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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

*NEIC **01** 00:05:16.0±1.4,22.01S×179.41W,h563km±14km, mb4.3/12,Error ellipse: s-maj=17.5km s-min=12.3km az=51.0*
*IDC **01** 00:05:17.9±2.9,21.92S×179.56W,h571km±29km,mb3.3/7, mb1 3.5/8,mb1mx3.4/14,mbtmp4.3/8,Error ellipse: s-maj=23.5km s-min=20.6km az=101.0*
ISC 01 00:05:15.7±1.5**,22.0S**±0.1×**179.5W**±0.1**,h569**km±17km**, n41,**σ1s**21**/29**,mb4.1**/18**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.35	169	Pn	P	00 07 07.2	-1.2
DZM	Mont Dzumac	13.03	267	P	P	00 08 07.4	+2.5
	0.8nm,0.3s,baz=110,slow=18,SNR=8.4						
URZ	Urewera	16.45	189	P	P	00 08 37.1	-1.2
	4.1nm,0.3s,baz=323,slow=4.0,SNR=9.6						
URZ				S	S	00 11 16.4	-5.4
	0.4nm,0.3s,baz=254,slow=23,SNR=4.2						
SNZO	South Karori	19.85	193	eP	P	00 09 11.0	+0.6
CTA	Charters Tower	31.97	267	eP	P	00 10 58.2	+0.9
	5.2nm,0.4s,mb4.4						
CTA	Charters Tower	31.97	267	P	P	00 10 58.3	+1.0
	6.8nm,0.4s,mb4.5,baz=91,slow=11,SNR=12						
CTAO	Charters Tower	31.97	267	eP	P	00 10 58.0	+0.7
	9.4nm,0.7s,mb4.4						
PMG	Port Moresby	34.36	286	eP	P	00 11 18.2	+0.9
	27nm,0.9s,mb4.8						
STKA	Stephens Creek	35.87	246	P	P	00 11 30.7	+1.0
	4.4nm,0.6s,mb4.2,baz=74,slow=7.9,SNR=6.3						
STKA	Stephens Creek	35.87	246	eP	P	00 11 28.3	-1.4
WB2	Warramunga Arr	43.01	264	eP	P	00 12 26.9	-0.4
WRA	Warramunga Arr	43.02	264	P	P	00 12 27.3	-0.1
	3.0nm,0.3s,mb4.3,baz=95,slow=7.8,SNR=119						
WRA				ScP		00 17 03.8	
	1.1nm,0.8s,baz=96,slow=3.9,SNR=5.7						
WRA				S	S	00 18 08.5	-4.4
	0.9nm,1.1s,baz=93,slow=15,SNR=3.2						
KAKA	Kakadu	46.62	273	eP	P	00 13 11.2	+16
	24nm,1.5s,mb4.5						
FITZ	Fitzroy Crossi	51.45	264	eP	P	00 13 31.0	-0.1
	5.7nm,0.8s,mb4.0						
MBWA	Marble Bar	56.16	259	eP	P	00 14 03.1	-1.0
	10nm,0.6s,mb4.2						
SBA	Scott Base	56.28	183	eP	P	00 14 05.8	+1.6
	7.4nm,1.0s,mb3.9						
VNDA	Vanda	56.28	185	P	P	00 14 05.4	+1.1
	1.4nm,0.7s,mb3.3,baz=26,slow=4.5,SNR=8.6						
CASY	Casey	62.00	205	eP	P	00 14 41.1	-1.3
	5.0nm,1.1s,mb3.9						
QSPA	South Pole Qui	68.06	180	eP	P	00 15 20.6	+0.6
	7.3nm,0.6s,mb4.4						
MAJO	Matsushiro	70.61	325	eP	P	00 15 34.8	-1.0
	11nm,1.1s,mb4.3						
KSM	Kuching	72.24	279	eP	P	00 15 42.8	-3.0
MAW	Mawson	79.67	200	P	P	00 16 26.0	+0.7
	1.2nm,0.8s,mb3.3,baz=147,slow=7.8,SNR=4.8						
MA2	Magadan	84.88	345	P	P	00 16 49.8	-1.8
	14nm,1.1s,mb4.4						
ENH	Enshi	85.73	305	P	P	00 16 56.9	+0.5
	15nm,0.9s,mb4.6						
SNAA	Sanae	86.53	179	P	P	00 16 58.3	-1.0
	4.0nm,1.2s,mb3.9						
TXAR	Lajitas Array	89.05	58	P	P	00 17 14.4	+2.3
	0.4nm,0.7s,mb3.4,baz=202,slow=6.7,SNR=4.6						
ILAR	Eielson Array	90.10	13	P	P	00 17 16.1	0.0
	0.6nm,0.7s,mb3.5,baz=230,slow=7.7,SNR=6.7						
MKAR	Makanchi Array	111.21	313	PKiKP		00 22 45.8	
	0.3nm,0.5s,baz=147,slow=1.7,SNR=5.7						
BVAR	Borovoye Array	119.32	319	PKP	PKPdf	00 23 01.4	+1.0
	1.2nm,0.3s,baz=124,slow=2.6,SNR=16						
ARCES	ARCESS Array B	130.14	349	PKP	PKPdf	00 23 22.6	+1.8
	2.2nm,0.9s,baz=20,slow=1.5,SNR=10						
FINES	FINESS Array B	136.81	342	PKP	PKPdf	00 23 36.5	+3.1
	0.5nm,0.4s,baz=90,slow=3.8,SNR=5.3						
FINES	FINESS Array B	136.81	342	PKP	PKPdf	00 23 36.5	+3.1
AKASG	Malin Array Be	143.62	329	PKP	PKPdf	00 23 45.9	+0.2
	2.9nm,0.4s,baz=39,slow=4.2,SNR=34						
SUW	Suwalki	143.72	337	ePKPdf	PKPdf	00 23 45.3	-0.4
EKA	Eskdalemuir Ar	146.62	4	PKPbc	PKPbc	00 23 54.2	+1.5
	1.6nm,0.8s,baz=0.5,slow=2.9,SNR=4.2						
BRTR	Keskin Array B	146.77	310	PKPbc	PKPbc	00 23 56.0	+2.4
	1.1nm,0.5s,baz=127,slow=4.4,SNR=6.6						
BRTR				PKPab	PKPab	00 23 59.4	-0.5
	0.8nm,0.5s,baz=45,slow=3.5,SNR=3.6						
KWP	Kalwaria	147.32	333	ePKPbc	PKPdf	00 23 57.4	+5.4
STHS	Stebnicka Huta	148.10	334	ePKP	PKPdf	00 23 57.6	+4.4
KECS	Kecovo	149.14	334	ePKP	PKPdf	00 23 56.7	+1.8
CLL	Collm	149.18	345	i PKP1	PKPdf	00 24 02.2	+7.4
CLL				ePKP2	PKPab	00 24 09.0	-0.1
GERES	GERESS Array B	151.23	342	PKPbc	PKPdf	00 24 06.6	+8.5
	0.7nm,0.4s,baz=26,slow=2.1,SNR=12						
GERES				PKPab	PKPab	00 24 17.9	+0.1
	0.5nm,0.5s,baz=34,slow=4.8,SNR=6.5						

IDC 01 00:25:28.9±3.4**,12.77N**×**92.30E,mb3.7**/4**,mb1 3.9**/4**, mb1mx3.6**/17**,mbtmp3.7**/4**,MS3.7**/1**,Ms1 3.7**/1**, ms1mx3.0**/15**,Error ellipse: s-maj=129.8km s-min=28.4km az=64.0,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.95	348	P	P	00 32 22.6	-2.1
	0.4nm,0.4s,baz=174,slow=7.8,SNR=6.3						
SONM	Songino Array	36.89	16	P	P	00 32 38.9	-2.2
	0.7nm,0.7s,baz=216,slow=7.2,SNR=5.3						
ZAL	Zalesovo	41.50	353	P	P	00 33 18.1	-1.2
	0.6nm,0.3s,baz=179,slow=3.7,SNR=3.3						
WRA	Warramunga Arr	52.61	128	P	P	00 34 45.0	-2.2
	0.4nm,0.7s,baz=305,slow=8.4,SNR=6.1						
KMBO	Kilima Mbogo	56.32	260	LR	LR	00 55 52.6	
	comp=Z,60nm,19.1s,baz=92,slow=32						

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*IDC **01** 00:27:09.7±2.4,49.63N×18.62E,mb1 3.4/4, mb1mx3.3/17,mbtmp3.3/4,ML3.1/4,Error ellipse: s-maj=36.1km s-min=10.0km az=138.0*
*MOS **01** 00:27:09.9±1.7,49.98N×18.48E,h10km,mb3.8/1,Error ellipse: s-maj=8.1km s-min=6.4km az=99.0*
*NEIC **01** 00:27:10.2±0.6,49.83N×18.44E,h5km,ML3.2(SZGRF), ML2.9(VIE),Error ellipse: s-maj=6.5km s-min=5.6km az=170.0*
*IPEC **01** 00:27:10.7±0.1,49.88N×18.48E,h10km±1km,ML2.4/4, Error ellipse: s-maj=1.2km s-min=0.7km az=170.0*
*BGR **01** 00:27:11.7±0.9,49.80N×18.31E,h1km,ML3.2/4,Error ellipse: s-maj=12.2km s-min=8.9km az=26.0*
*PRU **01** 00:27:11.5,49.87N×18.40E,Rockburst - Mine Doubrava Mining induced.*
*CSEM **01** 00:27:11.1±0.2,49.91N×18.40E,h2km,ML3.2/4,Error ellipse: s-maj=3.8km s-min=2.5km az=41.0,Mining induced.*
ISC 01 00:27:09.2±0.3**,49.88N**±0.02×**18.35E**±0.03**,n66,** σ**1s38**/119**,3C-2D,Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.14	253	ePG	Pg	00 27 15.3	+3.5
OKC				eSG	Sg	00 27 18.7	+5.1
	666nm,0.4s						
OKC	Ostrava-Krasne	0.14	253	ePg	Pg	00 27 15.2	+3.4
OKC				eSg	Sg	00 27 18.6	+5.0
RAC	Raciborz	0.23	335⇓	iPg	Pg	00 27 17.1	+3.4
RAC				eSg	Sg	00 27 22.3	+5.5
MORC	Moravsky Berou	0.53	259	ePg	Pg	00 27 21.8	+2.0
MORC				eSg	Sg	00 27 30.6	+3.8
MORC	Moravsky Berou	0.53	259	ePg	Pg	00 27 21.9	+2.2
MORC				eSg	Sg	00 27 29.5	+2.7
	78nm,0.3s						
OJC	Ojcow	1.00	69	ePg	Pg	00 27 27.8	-1.3
OJC				eSg	Sg	00 27 40.6	-1.8
JAVC	Velka Javorina	1.11	204	ePn	Pn	00 27 32.8	+1.0
VRAC	Vranov	1.27	244	Pg	Pg	00 27 35.4	+0.8
	31nm,0.3s,baz=67,slow=15,SNR=70						
VRAC				Lg		00 27 53.9	
	24nm,0.3s,baz=207,slow=5.6,SNR=13						
VRAC	Vranov	1.27	244	ePn	Pn	00 27 35.4	+1.2
VRAC				eSg	Sg	00 27 53.5	+1.9
	64nm,0.5s						
VRAC	Vranov	1.27	244	P	Pn	00 27 35.4	+1.2
VRAC				pmax	pmax		
	comp=Z,31nm,0.3s						
VRAC				pmax	pmax		
	comp=Z,24nm,0.3s						
KOLL	Kolacno	1.30	178	ePN	Pn	00 27 34.7	+0.2
KOLL				eSN	Sn	00 27 52.6	-0.3
NIE	Niedzica	1.36	109	ePg	Pg	00 27 34.6	-1.7
NIE				eSg	Sg	00 27 53.3	-1.1
DPC	Dobruska-Polom	1.39	291	ePG	Pg	00 27 37.2	+0.4
DPC				eSG	Sg	00 27 57.5	+2.2
	comp=Z,41nm,0.3s						
DPC	Dobruska-Polom	1.39	291	Pg	Pg	00 27 37.2	+0.4
DPC				eSg	Sg	00 27 56.8	+1.5
DPC				eS	Sg	00 27 57.5	+2.2
DPC	Dobruska-Polom	1.39	291	eP	Pg	00 27 37.2	+0.4
DPC				e		00 27 57.5	
DPC				smax			
	comp=N,41nm,0.3s						
VYHS	Vyhne	1.42	167	ePN	Pn	00 27 36.4	+0.1
VYHS				eSN	Sn	00 27 55.4	-0.6
VYHS	Vyhne	1.42	167	ePn	Pn	00 27 36.4	+0.1
VYHS				eSg	Sg	00 27 55.1	-1.4
SMOL	Smolenice	1.49	204	ePN	Pn	00 27 38.0	+0.7
SMOL				eSN	Sn	00 27 59.2	+1.5
KRUC	Moravsky	1.51	238	ePn	Pn	00 27 39.1	+1.5
KRUC				eSg	Sg	00 28 00.2	+0.7
	comp=N,28nm,0.3s						
UPC	Upice	1.63	294	ePG	Pg	00 27 41.8	+0.1
UPC				eSG	Sg	00 28 04.2	+0.9
KSP	Ksiaz	1.63	307	ePn	Pn	00 27 40.4	+1.1
KSP				ePg	Pg	00 27 44.0	+2.2
KSP				eSg	Sg	00 28 05.3	+1.8
KSP	Ksiaz	1.63	307	ePn	Pn	00 27 40.4	+1.1
KSP				ePg	Pg	00 27 41.6	-0.1
KSP				eSg	Sg	00 28 04.6	+1.1
KSP	Ksiaz	1.63	307	ePg	Pg	00 27 41.6	-0.1
KSP				eSg	Sg	00 28 04.6	+1.1
KSP	Ksiaz	1.63	307	eP	Pn	00 27 40.4	+1.1
KSP				e		00 28 04.6	
ZST	Bratislava	1.87	206	ePN	Pn	00 27 43.5	+0.8
ZST				eSN	Sn	00 28 08.1	+0.7
STHS	Stebnicka Huta	1.94	103	ePN	Pn	00 27 45.9	+2.2
STHS				eSN	Sn	00 28 13.1	+4.0
KECS	Kecovo	1.98	134	ePN	Pn	00 27 43.4	-0.9
KECS				eSN	Sn	00 28 09.7	-0.4
PSZ	Piszkesteto	2.21	152⇓	ePn	Pn	00 27 48.0	+0.4
PSZ				eSB	Sb	00 28 20.2	+2.5
PSZ	Piszkesteto	2.21	152	ePn	Pn	00 27 46.7	-0.8
PSZ	Piszkesteto	2.21	152	ePn	Pn	00 27 46.7	-0.9
PSZ				eS	Sb	00 28 20.2	+2.5
CRVS	Cervenica-Dubn	2.26	114	ePN	Pn	00 27 51.0	+2.8
CRVS				eSN	Sn	00 28 20.2	+3.0
PRU	Pruhonice	2.46	274	ePG	Pg	00 27 56.9	-1.4
PRU				eSG	Sg	00 28 29.2	-1.9
PVCC	Panska Ves	2.51	286	ePG	Pg	00 27 58.7	-0.6
KWP	Kalwaria	2.84	93	ePn	Pn	00 28 00.6	+4.0
KWP				eSg	Sg	00 28 49.0	+5.3
KWP	Kalwaria	2.84	93	ePn	Pn	00 28 00.6	+4.0
KWP				eSg	Sg	00 28 49.0	+5.3
BRG	Berggiesshubel	2.99	291	ePg	Pg	00 28 06.6	-2.3
BRG				eSg	Sg	00 28 47.6	-1.2
BRG	Berggiesshubel	2.99	291	P	Pn	00 28 06.6	+7.9
BRG				MLR	MLR		
	comp=N,309nm,15.1s						
BRG				MLR	MLR		
	comp=E,146nm,18.4s						
BRG				MLR	MLR		
	comp=Z,289nm,11.8s						
KHC	Kasperske Hory	3.20	258	ePN	Pn	00 28 01.5	-0.1
KHC				ePG	Pg	00 28 08.9	-4.1
KHC				eSN	Sn	00 28 40.0	-1.0
KHC				eSG	Sg	00 28 54.3	-1.3
KHC	Kasperske Hory	3.20	258	eP	Pn	00 28 01.5	-0.1
KHC				e		00 28 40.0	
GEC2	GERESS Array S	3.21	253	ePn	Pn	00 28 02.1	+0.3
GEC2				eSg	Sg	00 28 52.2	-3.7
GEC2	GERESS Array S	3.21	253	ePn	Pn	00 28 02.1	+0.3
GEC2				eSg	Sg	00 28 52.2	-3.7
GERES	GERESS Array B	3.21	253	Pn	Pn	00 28 02.3	+0.5
	comp=Z,0.5nm,0.3s,baz=65,slow=14,SNR=11						
GERES				Pg	Pg	00 28 10.9	-2.3
	comp=Z,2.4nm,0.3s,baz=65,slow=16,SNR=38						
GERES				Lg		00 28 53.0	
	comp=Z,3.9nm,0.3s,baz=72,slow=27,SNR=9.0						
GERES	GERESS Array B	3.21	253	Pg	Pg	00 28 10.9	-2.3
ARSA	Arzberg	3.23	217⇑	iPN	Pn	00 28 01.8	-0.3
ARSA				i SG	Sg	00 28 54.4	-2.2
	comp=Z,4.8nm,0.4s						
ARSA	Arzberg	3.23	217⇑	iPn	Pn	00 28 01.8	-0.4
FBE	Freiberg	3.36	290	Pg	Pg	00 28 12.8	-3.5
FBE				Sg	Sg	00 28 56.9	-4.2
MOA	Molln	3.37	235⇑	iPN	Pn	00 28 03.8	-0.3
MOA				i SG	Sg	00 28 59.5	-1.9
	comp=Z,18nm,0.7s						
GKP	Gorka Klasztor	3.47	349	ePn	Pn	00 28 06.6	+1.1
GKP				eSn	Sn	00 28 53.6	+5.7
GKP				eSg	Sg	00 29 13.0	+8.4
GKP	Gorka Klasztor	3.47	349	ePn	Pn	00 28 06.6	+1.1
GKP				eSn	Sn	00 28 53.6	+5.7
GKP				eSg	Sg	00 29 13.0	+8.4
WET	Wettzell	3.64	260	ePn	Pn	00 28 08.0	0.0
CLL	Collm	3.69	295	i PN	Pn	00 28 09.5	+0.8
CLL				i PG	Pg	00 28 20.6	-2.3
CLL				eSN	Sn	00 28 54.0	+0.4
CLL				eSG	Sg	00 29 13.0	+0.9
CLL	Collm	3.69	295	i Pg	Pg	00 28 20.6	-2.3
CLL				eS	Sn	00 28 54.0	+0.4
	comp=Z,500nm,17.8s						
CLL				Sg	Sg	00 29 08.9	-3.2
CLL	Collm	3.69	295	i P	Pn	00 28 09.5	+0.8
CLL				e		00 28 54.0	
CLL				MLR	MLR		
	comp=Z,500nm,17.8s						
TANN	Tannenbergstha	3.82	280	ePn	Pn	00 28 10.4	-0.1
ROTZ	Rotzenmuhle	3.98	271	eSg	Sg	00 29 16.9	-4.6
MOX	Moxa	4.39	283	i P	Pn	00 28 18.5	-0.1
MOX				Pg	Pg	00 28 35.0	-1.7
MOX				i		00 29 34.0	
MOX	Moxa	4.39	283	ePn	Pn	00 28 18.5	-0.1
MOX				ePg	Pg	00 28 34.6	-2.1
MOX				Sg	Sg	00 29 34.0	-1.2
GRA1	Grafenberg Arr	4.62	270	Sg	Sg	00 29 38.3	-4.7
GRF	Grafenberg Arr	4.62	270	eSg	Sg	00 29 38.3	-4.6
HFS	Hagfors	10.62	347	Pn	P	00 29 41.7	-3.7
	comp=Z,0.0nm,0.3s,baz=172,slow=20,SNR=3.0						
NOA	NORSAR Array B	11.89	343	Pn	P	00 29 58.3	-4.5
	comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=3.0						
FINES	FINESS Array B	12.37	18	Pn	P	00 30 03.8	-5.6
	comp=Z,0.3nm,0.3s,baz=197,slow=12,SNR=13						
KAF	Kangasniemi	13.03	17	ep	P	00 30 11.4	-6.8
JOF	Joensuu	14.87	24	ep	P	00 30 33.9	-8.2
ARCES	ARCESS Array B	20.02	7	Pn	P	00 31 40.9	-5.2
	comp=Z,1.3nm,0.9s,baz=193,slow=13,SNR=6.9						
ARCES	ARCESS Array B	20.02	7	P	P	00 31 40.9	-5.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,1.0s						

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*IDC **01** 00:28:03.8±12.0,17.07S×178.88W,h475km±145km, mb3.2/4,mb1 3.5/4,mb1mx3.2/12,mbtmp4.0/4,Error ellipse: s-maj=122.2km s-min=39.8km az=165.0*
ISC 01 00:27:56.4±1.4**,16.7S**±0.8×**179.0W**±0.4**,h400**km**,n9,** σ**0s19**/7**,mb3.5**/4**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.74	240	eP	P	00 34 45.3	-0.1
	5.6nm,1.0s,mb3.9						
STKA	Stephens Creek	38.74	240	P	P	00 34 45.5	+0.1
	3.1nm,0.5s,mb3.9,baz=67,slow=6.4,SNR=7.0						
WB2	Warramunga Arr	44.31	258	eP	P	00 35 30.1	-0.4
WRA	Warramunga Arr	44.33	258	P	P	00 35 30.8	+0.2
	2.3nm,0.8s,mb3.5,baz=90,slow=6.7,SNR=26						
ASPA	Alice Springs	44.61	253	eP	P	00 35 32.9	+0.2
TXAR	Lajitas Array	85.82	58	P	P	00 39 53.3	-0.1
	0.8nm,0.8s,mb3.5,baz=214,slow=6.4,SNR=9.4						
PDAR	Pinedale Array	86.86	44	P	P	00 39 58.1	+0.1
	0.4nm,0.6s,mb3.3,baz=236,slow=5.3,SNR=4.0						
BRTR	Keskin Array B	143.55	316	PKP	PKPdf	00 46 43.4	-0.8
	1.0nm,0.8s,baz=63,slow=2.8,SNR=5.1						
GERES	GERESS Array B	146.32	345	PKPbc	PKPbc	00 46 51.7	+1.3
	0.1nm,0.5s,baz=45,slow=1.9,SNR=3.8						

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*IDC **01** 00:35:46.6±9.6,13.75N×91.07W,mb3.9/3,mb1 4.1/4, mb1mx3.8/19,mbtmp3.8/4,ML3.6/1,Error ellipse: s-maj=195.3km s-min=52.0km az=180.0*
*CASC **01** 00:35:46.0±2.0,13.43N×92.12W,h20km±97km,MD4.5*
ISC 01 00:35:46.7±1.7**,13.2N**±0.2×**91.99W**±0.10**,h33**km**,n14,** σ**1s09**/12**,mb4.0**/3**,2D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.67	42	eP	P	00 36 13.0	-1.0
FUG				eS	S	00 36 33.9	-0.6
IXG	Ixpaco	1.78	57	eP	P	00 36 15.2	-0.5
IXG				eS	S	00 36 39.3	+1.9
TP2	Tecpan 2	1.84	31	eP	P	00 36 14.9	-1.4
TP2				eS	S	00 36 38.7	0.0
RTR	El Retiro	2.39	73	eP	Px	00 36 38.3	
RTR				eS	Sx	00 37 09.7	
SNJE	San Jose	2.42	74	eP	Px	00 36 38.8	
SNJE				eS	Sx	00 37 09.7	
BOQS	Boqueron	2.69	78⇓	eP	Px	00 36 38.1	
LFRS	El Faro	2.88	81	eP	Px	00 36 45.5	
LFRS				eS	Sx	00 37 20.6	
MRL	Marmol	2.90	50	eP	P	00 36 31.6	-0.1
MRL				eS	S	00 37 06.4	+0.6
LCBS	La Ceiba	2.97	81⇓	eP	Px	00 36 47.1	
LCBS				eS	Sx	00 37 23.9	
SNVI	San Vicente	3.10	82	eP	Px	00 36 52.9	
SNVI				eS	Sx	00 37 29.6	
TXAR	Lajitas Array	19.37	328	P	P	00 40 13.7	+1.2
	0.0nm,0.3s,baz=151,slow=10,SNR=8.8						
NVAR	Mina Array Bea	34.30	322	P	P	00 42 37.5	+5.3
	1.1nm,0.7s,mb3.9,baz=124,slow=9.4,SNR=6.6						
SCHQ	Schefferville	45.97	20	P	P	00 44 05.1	-3.4
	2.9nm,0.6s,mb4.4,baz=214,slow=6.9,SNR=9.2						
ILAR	Eielson Array	63.57	337	P	P	00 46 17.0	+0.8
	0.8nm,0.8s,mb3.8,baz=135,slow=3.8,SNR=4.7						

OTT 01 00:38:05.5±0.2**,72.87N**×**90.55W,h18**km**,MN2.8**/5**, Prince Regent Inlet, Nu 160km northeast from Fort Ross, Nu,Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	Resolute Bay	2.20	328	PN	Pn	00 38 40.5	-1.2
RES				SN	Sn	00 39 07.7	-1.0
RES				SG	Sn	00 39 13.3	+4.6
RES				Trac		00 39 20.5	
	comp=Z,8.6nm,0.1s						
PINU	Pond Inlet	3.74	87	SN	Sn	00 39 29.3	-19
PINU				LG		00 39 49.9	
GIFN	Gifford Fjord,	4.06	131	PN	Pn	00 39 06.0	-2.2
GIFN				SN	Sn	00 39 51.4	-4.5
GIFN				LG		00 40 07.9	
GIFN				Trac		00 40 09.6	
	comp=Z,7.2nm,0.2s						
LAIN	Lailor River,	4.42	145	PN	Pn	00 39 11.0	-2.4
LAIN				SN	Sn	00 40 01.5	-3.5
LAIN				LG		00 40 19.3	
LAIN				Trac		00 40 22.6	
	comp=Z,15nm,0.5s						
ILON	Igloolik, Nuna	4.51	137	LG		00 40 20.1	
ILON				Trac		00 40 26.1	
	comp=Z,10nm,0.2s						
SRLN	Sarcpa Lake, N	4.96	148	PN	Pn	00 39 18.9	-2.1
SRLN				SN	Sn	00 40 10.8	-7.7
SRLN				LG		00 40 38.1	
SRLN				Trac		00 40 45.6	
	comp=Z,4.5nm,0.3s						
GLWN	Glow Worm Lake	10.57	229	PN	P	00 40 34.5	-4.6
GLWN				SN	S	00 42 23.1	-15
GLWN				LG		00 43 21.2	
ACKN	Achilles Lake	10.70	233	PN	P	00 40 35.2	-5.6
ACKN				SN	S	00 42 25.1	-16
ACKN				LG		00 43 22.6	
YMBN	Yamba Lake	10.95	234	PN	P	00 40 38.5	-5.7
YMBN				SN	S	00 42 31.7	-16
YKW3	Yellowknife Ar	13.65	233	PN	P	00 41 13.2	-7.0
YKW3				SN	S	00 43 35.9	-16

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*MOS **01** 01:00:38.2±1.0,19.24N×121.26E,h33km,mb5.0/31, MS4.7/11,Error ellipse: s-maj=12.2km s-min=6.2km az=117.1*
*HRVD **01** 01:00:40.6±0.3,19.40N×120.98E,h30km,MW5.2/60, Centroid moment Tensor Solution. LP body waves: s50,c84;Mantle waves: s60,c118; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.24±.23; $M_{\theta\theta}$-0.30±.16; $M_{\phi\phi}$-4.93±.17; $M_{r\theta}$-2.22±.23; $M_{\theta\phi}$-2.77±.11; $M_{\phi r}$-4.08±.26; Best double couple: $M_0$7.379×10^{16} NP1: ϕ_s22°,δ26°,λ85°. NP2:ϕ_s208°,δ65°,λ92°. Principal axes: T 6.892, Plg70°, Azm123°; N .982, Plg2°, Azm27°; P -7.867, Plg19°, Azm296°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **01** 01:00:40.1±6.3,19.24N×121.24E,h31km±46km,mb4.2/19, mb1 4.4/21,mb1mx4.4/23,mbtmp4.4/21,ML4.3/2,MS4.4/18, Ms1 4.4/18,ms1mx4.3/24 Error ellipse: s-maj=24.9km s-min=11.7km az=73.0*
*NEIC **01** 01:00:40.6±0.8,19.23N×121.21E,h39km±7km,mb4.8/39, MS5.0/1,Error ellipse: s-maj=6.7km s-min=5.5km az=80.0*
*MAN **01** 01:00:41.1,19.27N×121.24E,h53km,mb4.9,ML3.8, MS3.9*
*BJI **01** 01:00:44.6,19.64N×120.72E,h38km,mB5.1,mb4.6, ML4.5,Ms4.7,Msz4.5*
ISC 01 01:00:41.2±0.4**,19.29N**±0.02×**121.18E**±0.04**,h56**km±4km**, h23**km±6.2km**:pP-P,n192,**σ**1s13**/197**,mb4.6**/70**,MS4.5**/30**, 5C-8D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	1.33	142	eP	P	01 01 03.6	-0.4
SGCP				eS	S	01 01 22.2	+1.3
BBP	Basco	1.36	33	eP	P	01 01 03.8	-0.7
BBP				eS	S	01 01 22.5	+0.8
APYP	Conner	1.42	178	eP	P	01 01 04.3	-1.0
APYP				eS	S	01 01 26.3	+3.1
CVP	Callao Caves	1.69	159⇓	iP	P	01 01 09.0	0.0
CVP				i S	S	01 01 30.0	+0.4
ABRA	Dolores	1.69	195	eP	P	01 01 07.8	-1.2
ABRA				eS	S	01 01 32.3	+2.6
CAUP	Cauayan	2.41	165	eP	P	01 01 21.1	+1.9
BCPH	Baguio City Da	2.95	191⇓	iP	P	01 01 27.3	+0.5
BCPH				i S	S	01 02 05.2	+4.0
BALP	Baler	3.55	174	eP	P	01 01 35.4	+0.1
BALP				eS	S	01 02 23.0	+6.7
SCZP	Santa Cruz	3.70	199	eP	P	01 01 39.9	+2.5
SCZP				eS	S	01 02 21.3	+1.2
PCPH	Palayan	3.71	181⇓	eP	P	01 01 38.0	+0.5
POLP	Polilio Island	4.59	171	eP	P	01 01 50.0	0.0
YHNB	Yeheng	5.36	2	ePn	P	01 01 59.3	-1.3
YHNB				eSn	S	01 02 56.5	-5.2
GQP	Guinayangan	5.49	167⇓	eP	P	01 02 00.8	-1.6
LUBP	Lubang	5.60	189	eP	P	01 02 04.1	+0.2
TATO	Taipei	5.66	3	eP	P	01 02 03.0	-1.8
	277nm,1.1s						
QZH	Quanzhou	6.12	337	P	P	01 02 05.7	-5.4
QZH				Smax			
	comp=N,270nm,0.7s						
QZH				Smax			
	comp=E,430nm,1.0s						
PVCP	Virac	6.34	153	eP	P	01 02 12.9	-1.3
SJMP	San Jose	6.79	181	eP	P	01 02 20.0	-0.6
BUSP	Coron	7.31	188	eP	P	01 02 21.4	-6.4
ENPP	El Nido	8.21	192	eP	P	01 02 37.3	-3.0
GZH	Guangzhou	8.23	299	P	P	01 02 34.0	-6.5
GZH				S	S	01 03 58.7	-14
GZH				Smax			
	comp=N,141nm,1.0s						
GZH				Smax			
	comp=E,161nm,1.0s						
JOW	Kunigami	9.94	40	Pn	P	01 03 00.5	-3.6
	comp=E,7.4nm,0.3s,baz=228,slow=11,SNR=12						
JOW				LR	LR	01 07 00.2	
	comp=E,2μm,20.9s,baz=168,slow=38						
QIZ	Qiongzhong	10.72	270	P	P	01 03 08.5	-6.2
QIZ				S	S	01 05 06.5	-7.6
QIZ				LR	LR		
	comp=E,3μm,15.0s						
QIZ				LR	LR		
	comp=Z,3μm,14.1s						
QIZ	Qiongzhong	10.72	270	ePn	P	01 03 07.8	-6.8
	comp=Z,32nm,0.7s						

QIZ eSn S 01 04 56.7 -17
SSE Sheshan 11.75 0 P P **01 03 26.8 -1.8**
SSE S S **01 05 40.5 +1.5**
SSE AMB AMB
comp=Z,39nm,0.7s
SSE AMB AMB
comp=Z,1μm,5.8s
SSE LR LR
comp=N,896nm,18.8s
SSE LR LR
comp=E,2μm,18.8s
SSE LR LR
comp=Z,2μm,23.3s
SSE Sheshan 11.75 0 P P **01 03 26.8 -1.8**
comp=Z,39nm,0.7s
SSE S S **01 05 40.5 +1.5**
BUKP Musuan 11.95 161 eP P **01 03 31.2 -0.1**
NJ2 Nanjing 12.88 351 eP P **01 03 44.1 +0.5**
NJ2 AP 01 03 47.9
NJ2 PP PP 01 03 54.3 +0.3
NJ2 S S **01 06 09.0 +3.0**
NJ2 XS 01 06 14.0
NJ2 AMB AMB
comp=Z,20nm,0.9s
NJ2 AMB AMB
comp=Z,480nm,5.0s
NJ2 LR LR
comp=N,4μm,16.4s
NJ2 LR LR
comp=E,5μm,17.9s
NJ2 LR LR
comp=Z,2μm,17.8s
KKM Kota Kinabalu 14.03 201 eP P **01 04 04.5 +5.7**
GYA Guiyang 15.16 301 ⇓iP P **01 04 09.4 -4.0**
GYA AP 01 04 13.6
GYA PP PP 01 04 23.6 -2.2
GYA AMB AMB
comp=Z,30nm,1.0s
GYA LR LR
comp=N,2μm,13.8s
GYA LR LR
comp=E,2μm,12.3s
GYA LR LR
comp=Z,3μm,13.1s
ENH Enshi 15.23 318 eP P **01 04 12.7 -1.6**
comp=Z,359nm,1.9s
JNU Nakatsue 16.28 30 Pn P **01 04 28.5 +1.0**
comp=Z,0.8nm,0.3s,baz=192,slow=15,SNR=6.7
JNU LR LR 01 11 43.5
comp=Z,690nm,19.4s,baz=211,slow=41
TIA Tai'an 17.23 349 eP P **01 04 42.5 +3.0**
KMI Kunming 18.03 292 P P **01 04 48.5 -1.0**
KMI AP 01 04 51.1
KMI XP 01 04 55.8
KMI PP PP 01 05 04.4 -0.5
KMI S S **01 08 06.4 +0.8**
KMI XS 01 08 11.6
KMI AMB AMB
comp=Z,23nm,1.1s
KMI AMB AMB
comp=Z,318nm,3.8s
KMI LR LR
comp=N,2μm,14.4s
KMI LR LR
comp=E,3μm,15.0s
KMI LR LR
comp=Z,3μm,16.3s
KMI Kunming 18.03 292 P P **01 04 48.5 -1.0**
comp=Z,23nm,1.1s
KMI pP 01 04 51.1
KMI sP 01 04 55.8
KMI PP PP 01 05 04.4 -0.5
KMI PPP PPP 01 05 13.5 -1.0
KMI S S **01 08 06.4 +0.8**
KMI sS 01 08 11.6
KMI SS SS 01 08 31.9 +1.5
KMI Kunming 18.03 292 P P **01 04 48.5 -1.0**
KMI S S **01 08 06.4 +0.8**
KMI pmax pmax
comp=Z,23nm,1.1s
XAN Xi'an 18.30 326 P P **01 04 51.7 -1.1**
XAN AMB AMB
comp=Z,27nm,2.1s
CD2 Chengdu 19.54 310 ⇓iP P **01 05 05.7 -1.2**
CD2 S S **01 08 36.9 -2.1**
CD2 XS 01 08 43.5
CD2 AMB AMB
comp=Z,40nm,1.3s
CD2 AMB AMB
comp=Z,640nm,7.3s
CD2 LR LR
comp=N,1μm,11.4s
CD2 LR LR
comp=Z,2μm,14.4s
KSM Kuching 20.66 212 P P **01 05 17.8 -1.0**
CBIJ Chichi jima 20.79 64 LR LR 01 11 54.7
comp=Z,784nm,20.4s,MS4.1,baz=189,slow=32
CHG Chiang Mai 21.03 272 ⇓P P **01 05 21.8 -0.7**
comp=Z,23nm,1.4s,mb4.3
SNY Shenyang 22.56 5 ⇓P P **01 05 38.4 +0.8**
SNY S S **01 09 35.1 -1.2**
SNY AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
SNY LR LR
comp=E,1μm,18.8s
SNY LR LR
comp=Z,950nm,15.5s,MS4.3
LZH Lanzhou 22.65 321 eP P **01 05 39.9 +1.4**
LZH AP 01 05 43.5
LZH S S **01 09 43.2 +5.2**
LZH XS 01 09 49.7
LZH AMB AMB
comp=Z,61nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,163nm,4.5s
LZH LR LR
comp=N,2μm,12.5s
LZH LR LR
comp=Z,2μm,16.3s,MS4.7
LZH Lanzhou 22.65 321 eP P **01 05 39.9 +1.4**
comp=Z,61nm,1.3s,mb4.9
LZH pP 01 05 43.5
LZH sP 01 05 45.0
LZH PP PP 01 05 48.6 -20
LZH S S **01 09 43.2 +5.2**
LZH sS 01 09 49.7
LZH SS SS 01 10 24.1 +0.5
LZH LR LR
comp=Z,2μm,16.3s,MS4.7
LZH Lanzhou 22.65 321 eP P **01 05 39.9 +1.4**
LZH 01 05 48.6
LZH S S **01 09 43.2 +5.2**
LZH SS SS 01 10 24.1 +0.5
LZH pmax pmax
comp=Z,61nm,1.3s,mb4.9
LZH MLR MLR
comp=Z,2μm,16.3s,MS4.7
MAJO Matsushiro 22.78 38 P P **01 05 40.3 +0.5**
comp=Z,26nm,1.1s,mb4.6
MAJO Matsushiro 22.78 38 P P **01 05 40.3 +0.5**
MAJO pmax pmax
comp=Z,26nm,1.1s,mb4.6
MAT Matsushiro 22.78 38 P P **01 05 38.6 -1.2**
MAT S S **01 09 48.0 +7.7**
MAT Matsushiro 22.78 38 eP P **01 05 39.0 -0.8**
comp=Z,28nm,1.2s,mb4.6
MAT eS S **01 09 44.0 +3.7**
MAT Matsushiro 22.78 38 eP P **01 05 39.0 -0.8**
MAT eS S **01 09 44.0 +3.7**
MAT pmax pmax
comp=Z,28nm,1.2s,mb4.6
HHC Hu-ho-hao-te 23.01 341 eP P **01 05 43.5 +1.5**
HHC AP 01 05 50.3
HHC PP PP 01 06 13.4 0.0
HHC PCP PcP 01 09 34.2 +2.4
HHC S S **01 09 45.8 +1.4**
HHC XS 01 09 55.6
HHC PCS 01 13 11.8
HHC AMB AMB
comp=Z,27nm,0.8s,mb4.7
HHC AMB AMB
comp=Z,527nm,4.4s
HHC LR LR
comp=N,2μm,16.9s
HHC LR LR
comp=E,1μm,23.2s
HHC LR LR
comp=Z,2μm,16.0s,MS4.7
GUMO Guam 23.40 100 LR LR 01 13 22.9
comp=Z,1μm,19.1s,MS4.4,baz=277,slow=33
KULM Kulim 24.37 238 P P **01 05 55.6 +0.2**
CN2 Changchun 24.70 7 eP P **01 06 01.7 +3.3**
CN2 eAP 01 06 08.7
CN2 eS S **01 10 22.4 +9.0**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
CN2 LR LR
comp=N,880nm,15.0s,MS4.7
CN2 LR LR
comp=E,1μm,15.0s,MS4.7
CN2 LR LR
comp=Z,1μm,15.0s,MS4.5
MDJ Mudanjiang 26.21 14 P P **01 06 13.8 +1.3**
MDJ PCP PcP 01 09 38.4 -0.3
MDJ S S **01 10 49.6 +11**
MDJ SCP 01 13 18.6
MDJ PCS 01 13 19.9
MDJ SCS ScS 01 17 08.8 +8.0
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.0
MDJ AMB AMB
comp=Z,113nm,5.5s
MDJ LR LR
comp=N,376nm,14.3s,MS4.5
MDJ LR LR
comp=E,973nm,18.2s,MS4.5
MDJ LR LR
comp=Z,1μm,18.2s,MS4.4
MDJ Mudanjiang 26.21 14 P P **01 06 17.6 +5.0**
comp=Z,17nm,1.0s,mb4.5
GTA Gaotai 27.24 322 eP P **01 06 22.7 +0.6**
GTA AP pP 01 06 28.4 -7.6
GTA XS 01 11 10.2
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.0
GTA AMB AMB
comp=Z,176nm,7.3s
GTA LR LR
comp=N,600nm,15.5s,MS4.5
GTA LR LR
comp=E,961nm,17.8s,MS4.5
GTA LR LR
comp=Z,1μm,15.4s,MS4.6
LSA Lhasa 29.15 297 eP P **01 06 40.8 +1.5**
LSA S S **01 11 30.6 +4.6**
LSA LR LR
comp=N,290nm,14.9s
LSA LR LR
comp=E,700nm,19.9s
LSA LR LR
comp=Z,710nm,20.9s
LSA Lhasa 29.15 297 eP P **01 06 40.7 +1.4**
comp=Z,7.5nm,0.8s,mb4.5
LSA Lhasa 29.15 297 eP P **01 06 40.7 +1.4**
LSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
HIA Hailar 29.93 358 P P **01 06 38.1 -7.9**
comp=Z,12nm,0.8s,mb4.7
HIA Hailar 29.93 358 P P **01 06 38.1 -7.9**
HIA pmax pmax
comp=Z,12nm,0.8s
ULN Ulaanbaatar 30.73 341 eP P **01 06 52.6 -0.6**
comp=Z,5.8nm,0.8s,mb4.5
ULN Ulaanbaatar 30.73 341 eP P **01 06 52.6 -0.6**
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SONM Songino Array 30.91 340 P P **01 06 55.2 +0.5**
comp=Z,2.5nm,0.8s,mb4.1,baz=163,slow=8.4,SNR=11
SONM LR LR 01 20 36.0
comp=Z,2μm,18.0s,MS4.7,baz=153,slow=39
KLR Kul'dur 31.05 13 eP P **01 06 56.1 +0.1**
YSS Yuzh-Sakhalins 32.76 28 P P **01 07 10.6 -0.3**
comp=Z,23nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 32.76 28 P P **01 07 10.6 -0.3**
YSS pmax pmax
comp=Z,23nm,0.9s,mb5.1
CIT Chita 33.21 351 eP P **01 07 19.0 +4.3**
PKI Pulchoki 33.75 291 eP P **01 07 19.6 -0.1**
comp=Z,22nm,0.9s,mb5.1
PKI Pulchoki 33.75 291 eP P **01 07 19.6 -0.1**
PKI pmax pmax
comp=Z,11nm,0.9s,mb4.8
KKN Kakani 33.89 291 eP P **01 07 20.6 -0.3**
comp=Z,34nm,1.0s,mb5.2
KKN Kakani 33.89 291 eP P **01 07 20.6 -0.3**
KKN pmax pmax
comp=Z,17nm,1.0s,mb4.9
DMN Daman 34.02 291 eP P **01 07 21.8 -0.2**
comp=Z,25nm,0.9s,mb5.1
ZAK Zakamensk 34.14 339 eP P **01 07 21.3 -1.4**
ZAK e 01 10 05.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
GKN Gorkha 34.48 292 eP P **01 07 25.4 -0.5**
comp=Z,21nm,0.7s,mb5.2
KOLN Koldanda 35.37 291 eP P **01 07 33.1 -0.4**
comp=Z,36nm,1.0s,mb5.3
MOY Mondy 36.00 339 eP P **01 07 41.9 +3.3**
WMQ Urumqi 37.18 319 P P **01 07 49.2 +0.6**
WMQ AP pP 01 07 56.2 -6.9
WMQ PP PP 01 09 18.0 +1.5
WMQ S S **01 13 38.0 +7.3**
WMQ XS 01 13 45.5
WMQ AMB AMB
comp=Z,13nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,253nm,5.0s
WMQ LR LR
comp=N,1μm,16.5s,MS4.9
WMQ LR LR
comp=E,932nm,14.6s,MS4.9
WMQ LR LR
comp=Z,722nm,17.4s,MS4.5
FITZ Fitzroy Crossi 37.42 173 eP P **01 07 48.6 -2.2**
comp=Z,8.2nm,0.9s,mb4.6
FITZ Fitzroy Crossi 37.42 173 P P **01 07 49.1 -1.8**
comp=Z,8.1nm,0.5s,mb4.8,baz=2.9,slow=8.9,SNR=16
FITZ PcP PcP 01 10 09.4 +0.3
comp=Z,9.5nm,0.7s,baz=0.5,slow=7.5,SNR=5.7
BOD Bodaibo 38.84 354 eP P **01 08 00.1 -2.1**
MBWA Marble Bar 40.23 182 eP P **01 08 11.8 -2.3**
comp=Z,14nm,1.0s,mb4.6
WRAB Tennant Creek 41.06 161 P P **01 08 18.4 -2.7**
comp=Z,12nm,0.9s,mb4.5
WRAB Tennant Creek 41.06 161 P P **01 08 18.4 -2.7**
WRAB pmax pmax
comp=Z,12nm,0.9s,mb4.5
WRA Warramunga Arr 41.07 161 P P **01 08 20.2 -0.9**
comp=Z,4.2nm,0.4s,mb4.4,baz=343,slow=9.2,SNR=42
MKAR Makanchi Array 41.95 320 P P **01 08 29.2 +1.1**
comp=Z,7.1nm,0.8s,mb4.3,baz=114,slow=7.9,SNR=42
MKAR LR LR 01 27 03.3
comp=Z,482nm,18.7s,MS4.4,baz=166,slow=38
PET Petropavlovsk 44.39 32 eP P **01 08 47.5 -0.4**
PET eS S **01 15 16.6 -1.2**
PET MLR MLR
comp=Z,200nm,18.0s,MS4.1
ZAL Zalesovo 44.40 330 P P **01 08 49.5 +1.5**
comp=Z,2.5nm,0.7s,mb4.0,baz=359,slow=7.1,SNR=12
ZAL LR LR 01 28 58.9
comp=Z,1μm,18.3s,MS4.9,baz=340,slow=38
ZAL Zalesovo 44.40 330 P P **01 08 49.5 +1.5**
ZAL LR LR 01 28 58.9
KURK Kurchatov 45.91 323 eP P **01 09 00.5 +0.5**
comp=Z,19nm,1.1s,mb4.9
KURK Kurchatov 45.91 323 eP P **01 09 00.5 +0.5**
KURK pmax pmax
comp=Z,19nm,1.1s,mb4.9
KKAR Karatay Array 48.55 311 iP P **01 09 21.8 +1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KLBR Kellerberrin 50.70 184 eP P **01 09 35.7 -1.7**
comp=Z,13nm,0.4s,mb5.2
VOSK Vostochnaya 51.07 323 P P **01 09 40.0 +0.1**
VOSK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BVA0 Borovoye Array 51.51 323 iP P **01 09 44.2 +1.0**
BVA0 pmax pmax
comp=Z,11nm,2.3s,mb4.4
BVAR Borovoye Array 51.51 323 P P **01 09 42.4 -0.8**
comp=Z,2.0nm,0.7s,mb4.2,baz=100,slow=9.0,SNR=9.8
BVAR PcP PcP 01 10 55.4 -1.5
comp=Z,1.4nm,0.6s,baz=100,slow=8.8,SNR=2.6
BRVK Borovoye 51.58 323 eP P **01 09 43.4 -0.4**
comp=Z,8.7nm,0.8s,mb4.7
BRVK Borovoye 51.58 323 eP P **01 09 43.4 -0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NWAO Narrogin (SRO) 52.06 184 P P **01 09 46.3 -1.4**
comp=Z,11nm,0.6s,mb5.0,baz=5.6,slow=6.6,SNR=19
NWAO Narrogin (SRO) 52.06 184 eP P **01 09 46.2 -1.5**
comp=Z,13nm,0.7s,mb5.0
NWAO Narrogin (SRO) 52.06 184 eP P **01 09 46.2 -1.4**
NWAO pmax pmax
comp=Z,13nm,0.7s
TIXI Tiksi 52.56 3 eP P **01 09 48.3 -2.5**
TIXI pmax pmax
comp=Z,18nm,1.5s,mb4.8
TIXI MLR MLR
comp=Z,404nm,15.0s,MS4.6
STKA Stephens Creek 54.51 159 eP P **01 10 04.3 -1.5**
comp=Z,6.9nm,1.1s,mb4.6
STKA Stephens Creek 54.51 159 P P **01 10 04.5 -1.3**
comp=Z,3.8nm,0.6s,mb4.6,baz=354,slow=7.5,SNR=15
STKA LR LR 01 34 59.8
comp=Z,260nm,18.6s,MS4.3,baz=11,slow=38
BILL Bilibino 56.28 19 eP P **01 10 18.0 -0.1**
BILL pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
AB31 Akbulak array 56.92 317 P P **01 10 22.9 0.0**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
SVE Sverdlovsk 58.02 326 eP P **01 10 30.8 +0.3**
SVE e pP 01 10 41.5 -4.3
SVE pmax pmax
comp=Z,25nm,2.2s,mb4.9
SVE MLR MLR
comp=N,100nm,12.0s,MS4.7
SVE MLR MLR
comp=E,300nm,12.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,12.0s,MS4.8
ARU Arti 59.05 325 eP P **01 10 37.0 -0.6**
comp=Z,8.1nm,0.7s,mb4.9
ARU Arti 59.05 325 ⇑iP P **01 10 37.3 -0.3**
ARU e 01 11 32.7
ARU e 01 12 44.2
ARU e 01 20 20.4
ARU pmax pmax
comp=Z,12nm,1.8s,mb4.6
ARU MLR MLR
comp=Z,500nm,17.0s,MS4.7
ARU MLR MLR
comp=N,100nm,15.0s,MS4.7
ARU MLR MLR
comp=E,400nm,17.0s,MS4.7
TAU Tasmania Unive 66.41 159 P P **01 11 27.6 +1.0**
comp=E,17nm,0.7s,mb5.2
TAU e 01 11 38.2
KIV Kislovodsk 68.70 311 eP P **01 11 41.0 0.0**
comp=E,16nm,0.8s,mb5.0
KIV Kislovodsk 68.70 311 eiP P **01 11 41.5 +0.5**
KIV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIV MLR MLR
comp=Z,300nm,16.0s,MS4.6
MOS Moscow 70.69 323 eP P **01 11 52.6 -0.2**
MOS e 01 12 15.1
MOS pmax pmax
comp=Z,33nm,0.9s,mb5.3
OBN Obninsk 71.35 323 eP P **01 11 58.3 +1.4**
OBN pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
APA Apatity 71.50 336 eP P **01 11 57.0 -0.5**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
MALT Malatya 72.76 305 eP P **01 12 05.9 +0.4**
comp=Z,7.0nm,1.0s,mb4.5
MCK McKinley 72.84 28 eP P **01 12 05.9 +0.4**
comp=Z,3.0nm,0.7s,mb4.3
JOF Joensuu 72.97 331 ep P **01 12 05.7 -0.5**
comp=Z,8.1nm,0.8s,mb4.7
ILAR Eielson Array 73.56 27 P P **01 12 09.0 -0.7**
comp=Z,0.6nm,0.8s,mb3.6,baz=306,slow=7.0,SNR=6.5
ILAR LR LR 01 45 12.0
comp=Z,78nm,20.4s,MS4.0,baz=172,slow=36
ARCES ARCESS Array B 74.06 339 P P **01 12 13.1 +0.5**
comp=Z,3.5nm,0.7s,mb4.4,baz=66,slow=7.5,SNR=14
ARCES LR LR 01 48 25.7
comp=Z,329nm,20.4s,MS4.6,baz=76,slow=39
KAF Kangasniemi 75.40 331 ep P **01 12 20.0 -0.3**
comp=Z,7.5nm,0.9s,mb4.6,baz=74,slow=5.4
KAF Kangasniemi 75.40 331 eP P **01 12 20.0 -0.3**
KAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
FINES FINESS Array B 75.67 330 P P **01 12 22.0 +0.1**
comp=Z,1.8nm,0.8s,mb4.1,baz=34,slow=6.9,SNR=8.4
FINES LR LR 01 48 29.3
comp=Z,354nm,18.7s,MS4.7,baz=230,slow=38
BRTR Keskin Array B 76.10 307 P P **01 12 25.2 +0.4**
comp=Z,0.4nm,0.5s,mb3.6,baz=135,slow=6.1,SNR=3.4
AKASG Malin Array Be 76.53 319 P P **01 12 26.4 -0.7**
comp=Z,2.1nm,0.7s,mb4.2,baz=61,slow=5.6,SNR=9.4
INK Inuvik 77.75 22 eP P **01 12 33.9 +0.5**
comp=Z,35nm,1.6s,mb5.0
INK Inuvik 77.75 22 eP P **01 12 33.9 +0.5**
INK pmax pmax
comp=Z,35nm,1.6s
SUW Suwalki 79.19 323 P P **01 12 36.1 -5.5**
comp=Z,34nm,1.0s,mb5.2
SUW Suwalki 79.19 323 P P **01 12 36.1 -5.5**
SUW pmax pmax
comp=Z,34nm,1.0s,mb5.2
KWP Kalwaria 80.85 319 eP P **01 12 50.6 0.0**
comp=Z,28nm,1.3s,mb5.0
KWP Kalwaria 80.85 319 eP P **01 12 50.6 0.0**
KWP pmax pmax
comp=Z,28nm,1.3s,mb5.0
OJC Ojcow 82.42 321 eP P **01 12 59.3 +0.6**
NB2 NORSAR Subarra 82.54 333 P P **01 12 58.3 -0.8**
comp=Z,1.6nm,0.8s,mb4.1,baz=64,slow=5.0
NB2 NORSAR Subarra 82.54 333 P P **01 12 58.3 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
NOA NORSAR Array B 82.54 333 P P **01 12 58.6 -0.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=64,slow=5.0,SNR=8.1
NOA LR LR 01 52 48.0
comp=Z,770nm,19.3s,MS5.1,baz=45,slow=38
DLBC Dease Lake 83.15 30 LR LR 01 50 30.9
comp=Z,152nm,20.2s,MS4.4,baz=138,slow=36
OKC Ostrava-Krasne 83.55 321 eP P **01 13 13.4 +8.9**
OKC AMS AMS 01 55 30.0
comp=Z,300nm,14.5s
DPC Dobruska-Polom 84.44 322 eP P **01 13 12.1 +3.2**
DPC AMS AMS 01 54 20.0
comp=Z,400nm,14.9s
UPC Upice 84.56 322 eP P **01 13 10.5 +1.0**
KMBO Kilima Mbogo 84.64 267 P P **01 13 13.1 +2.3**
comp=Z,2.4nm,0.9s,mb4.3,baz=53,slow=8.5,SNR=7.5
PVCC Panska Ves 85.39 322 AMS AMS 01 56 20.0
comp=Z,300nm,16.1s
PRU Pruhonice 85.63 322 eP P **01 13 15.7 +0.9**
PRU eS S 01 23 43.4 +2.5
PRU AMS AMS 01 54 40.0
comp=Z,300nm,15.6s
CASY Casey 85.69 184 eP P **01 13 15.9 +1.2**
CLL Collm 85.95 323 e*PP pP 01 13 24.0 -8.5
CLL e*SP sP 01 13 34.0 -4.5
CLL eS S 01 23 42.0 -2.0
KHC Kasperske Hory 86.56 321 eP P **01 13 26.0 +6.6**
KHC eS S 01 23 53.1 +3.2
KHC AMS AMS 01 55 40.0
comp=Z,200nm,13.1s
GERES GERESS Array B 86.61 321 P P **01 13 21.5 +1.8**
comp=Z,2.0nm,1.1s,mb4.3,baz=72,slow=4.2,SNR=7.5
GERES LR LR 01 57 51.0
comp=Z,272nm,18.6s,MS4.7,baz=65,slow=40
NKC Novy Kostel 86.74 322 eP P **01 13 28.9 +8.7**
NKC AMS AMS 01 55 10.0
YKA Yellowknife Ar 87.46 23 P P **01 13 24.4 +1.0**
comp=Z,8.0nm,0.8s,mb5.0,baz=313,slow=4.9,SNR=18
YKA LR LR 02 00 36.3
comp=Z,107nm,19.5s,MS4.3,baz=90,slow=41

YKA	Yellowknife Ar	87.46	23	P	P	01 13 24.4	+1.0
YKA				LR	LR	02 00 36.3	
CDF	Champ du Feu	90.58	322	eP	P	01 13 38.5	-0.1
BAIF	Baives	91.44	325	eP	P	01 13 42.4	-0.1
LPG	La Plagne	92.37	320	eP	P	01 13 47.2	+0.3
	comp=Z,4.9nm,0.8s,mb4.6						
LPG	La Plagne	92.37	320	eP	P	01 13 47.2	+0.3
LPG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
LPL	La Plagne	92.37	320	eP	P	01 13 46.9	0.0
	comp=Z,5.8nm,0.8s,mb4.6						
LPL	La Plagne	92.37	320	eP	P	01 13 46.9	0.0
LPL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
PGF	Pioggiola	92.42	317	eP	P	01 13 46.8	-0.4
	comp=Z,13nm,1.0s,mb4.9						
PGF	Pioggiola	92.42	317	eP	P	01 13 46.8	-0.4
PGF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
SBF	Sospel	92.77	318	eP	P	01 13 48.6	-0.2
LOR	Lormes	93.14	323	eP	P	01 13 49.7	-0.7
	comp=Z,30nm,1.9s,mb5.1						
LOR				eR			
	comp=Z,468nm,18.8s						
LOR	Lormes	93.14	323	eP	P	01 13 49.7	-0.7
LOR				pmax	pmax		
	comp=Z,15nm,1.9s,mb5.1						
LOR				MLR	MLR		
	comp=Z,470nm,18.8s,MS5.0						
FRF	La Foret Royal	93.42	319	eP	P	01 13 51.4	-0.3
	comp=Z,6.1nm,0.9s,mb4.7						
FRF	La Foret Royal	93.42	319	eP	P	01 13 51.4	-0.3
FRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.7						
SSF	Saint Saulge	93.46	323	eP	P	01 13 50.9	-0.9
LMR	La Mourre	93.62	318	eP	P	01 13 52.4	-0.3
SMRF	Simiane la Rot	93.87	319	eP	P	01 13 53.6	-0.2
	comp=Z,11nm,1.1s,mb4.9						
PPT	Papeete	94.97	107	eLR	LR	01 44 06.1	
	comp=Z,302nm,24.5s						
PPT	Papeete	94.97	107	LR	LR	01 51 41.1	
	comp=Z,285nm,19.6s,MS4.8,baz=305,slow=32						
MTLF	Montolieu	96.27	320	eP	P	01 14 04.6	-0.1
MAW	Mawson	96.50	199	LR	LR	01 53 49.3	
	comp=Z,113nm,18.6s,MS4.4,baz=236,slow=33						
TBI	Tubuai	96.87	112	eLR	LR	01 44 57.9	
VNDA	Vanda	99.48	172	P	P	01 14 20.3	+1.8
	comp=Z,0.3nm,0.5s,mb4.1,baz=313,slow=5.4,SNR=5.6						
VNDA				LR	LR	01 57 15.9	
	comp=Z,86nm,18.1s,MS4.3,baz=322,slow=34						
VNDA	Vanda	99.48	172	P	P	01 14 20.3	+1.8
VNDA				LR	LR	01 57 15.9	
NVAR	Mina Array Bea	99.99	43	P	P	01 14 23.6	+1.9
	comp=Z,0.3nm,0.7s,mb3.8,baz=276,slow=8.2,SNR=2.5						
TAOE	Nuku Hiva Isla	101.01	96	eLR	LR	01 46 56.2	
	comp=Z,4µm,37.9s						
EVO	Evora	105.33	321	eP	Pdif	01 14 45.2	-0.2
	comp=Z,12nm,1.2s						
EVO				eR			
	comp=Z,250nm,20.2s						
RKT	Rikitea	109.65	108	eLR	LR	01 50 54.0	
	comp=Z,210nm,27.8s						
TXAR	Lajitas Array	115.13	43	PKP	PKPdf	01 19 19.4	+2.8
	comp=Z,1.2nm,0.8s,baz=251,slow=0.8,SNR=9.8						
SNAA	Sanae	118.60	197	e	PKPdf	01 19 24.2	+1.8
SNAA	Sanae	118.60	197	ePKPdf	PKPdf	01 19 23.3	+0.9
SNAA				e		01 19 24.2	
VNA2	Neumayer--Watz	120.25	197	e	PKPdf	01 19 27.9	+2.3
VNA2	Neumayer--Watz	120.25	197	e	PKPdf	01 19 29.9	+4.3
VNA2	Neumayer--Watz	120.25	197	⇑iPKPdf	PKPdf	01 19 27.1	+1.5
VNA2				e		01 19 27.9	
VNA2				e		01 19 29.9	
VNA1	Neumayer--Stat	120.64	197	e	PKPdf	01 19 29.4	+3.0
VNA1	Neumayer--Stat	120.64	197	e	PKPdf	01 19 31.3	+4.9
VNA1	Neumayer--Stat	120.64	197	⇑iPKPdf	PKPdf	01 19 28.6	+2.2
VNA1				e		01 19 29.4	
VNA1				e		01 19 31.3	
VNA3	Neumayer Olymp	120.70	197	e	PKPdf	01 19 28.3	+1.8
VNA3	Neumayer Olymp	120.70	197	e	PKPdf	01 19 30.8	+4.3
VNA3	Neumayer Olymp	120.70	197	⇑iPKPdf	PKPdf	01 19 27.5	+1.0
VNA3				e		01 19 28.3	
VNA3				e		01 19 30.8	
SDV	Santo Domingo	149.68	24	PKP	PKPdf	01 20 24.0	+3.2
	comp=Z,17nm,0.8s,baz=330,slow=3.6,SNR=6.1						
SDV				PKPbc	PKPdf	01 20 27.9	+7.1
	comp=Z,17nm,0.8s,baz=342,slow=2.0,SNR=6.0						
SDV	Santo Domingo	149.68	24	ePKPdf	PKPdf	01 20 23.2	+2.4
SDV				ePKPbc	PKPdf	01 20 27.4	+6.6
SDV				ePKPab	PKPab	01 20 33.4	+0.4
ROSC	El Rosal	151.56	34	PKPbc	PKPdf	01 20 31.9	+8.2
	comp=Z,4.7nm,0.4s,baz=103,slow=19,SNR=4.6						

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*JSN **01** 01:09:29.5±1.4, 19.99N×73.91W, MD4.9*
*BJI **01** 01:09:30.2, 20.10N×73.30W, h35^{km}, mB5.0, Ms4.8, Msz4.7*
*NEIC **01** 01:09:30.3±0.8, 20.06N×73.31W, h35^{km}, mb4.2/4, Error ellipse: s-maj=16.2km s-min=12.4km az=50.0*
*IDC **01** 01:09:33.2±3.7, 19.93N×73.60W, h60^{km}±35^{km}, mb3.7/5, mb1 4.0/8, mb1mx3.6/22, mbtmp4.2/8, ML4.0/1, MS3.4/6, Ms1 3.4/6, ms1mx3.2/22, Error ellipse: s-maj=29.0km s-min=26.2km az=123.0*
ISC 01 01:09:27.6±0.5**, 19.71N**±0.08×**73.49W**±0.04**, h33^{km}, n35, σ1s23**/31**, mb4.0**/8**, MS3.6**/6**, 4C-1D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	Greenwich	3.47	243	eP	P	01 10 20.7	+0.1
HOJ	Hope	3.52	242	⇑eP	P	01 10 22.4	+1.1
STH	Stony Hill	3.54	243	⇓eP	P	01 10 21.4	-0.1
STH				eS	S	01 11 00.4	-2.4
BNJ	Bonny Gate	3.56	248	⇑eP	P	01 10 21.0	-0.8
PCJ	Portland Cotta	3.99	241	⇑eP	P	01 10 29.1	+1.2
PCJ				eS	S	01 11 13.1	-1.2
MCJ	Malvern	4.36	247	⇑eP	P	01 10 33.5	+0.3
MCJ				eS	S	01 11 20.4	-3.0
SJG	San Juan	7.12	102	P	P	01 11 17.2	+5.1
	4.1nm,0.3s,baz=273,slow=16,SNR=4.3						
SJG				S	S	01 12 30.9	-1.9
	5.6nm,0.3s,baz=347,slow=19,SNR=3.1						
SJG	San Juan	7.12	102	Pn	Pn	01 11 09.7	-2.6
	33nm,0.8s						
SJG				eSn	Sn	01 12 25.7	-7.2
SJG				S	S	01 12 30.9	-1.9
CPD	Cerro la Pandu	7.36	102	ePn	Pn	01 11 15.3	-0.3
CPD				eSn	Sn	01 12 29.4	-9.3
MTP	Monte Pirata	7.68	101	Pn	Pn	01 11 20.2	+0.2
SDV	Santo Domingo	11.11	165	P	P	01 12 11.4	+4.2
	0.9nm,0.3s,baz=39,slow=12,SNR=13						
SDV				LR	LR	01 16 45.3	
	comp=Z,157nm,21.2s,baz=38,slow=38						
SDV	Santo Domingo	11.11	165	eP	P	01 12 10.6	+3.4
	8.3nm,0.6s						
ROSC	El Rosal	14.79	183	P	P	01 13 03.7	+7.5
	0.5nm,0.3s,baz=81,slow=16,SNR=3.2						
BBSR	BB Station	14.87	30	eP	P	01 12 51.5	-5.8
BBSR				eS	S	01 15 18.2	-23
WVT	Waverly	20.65	325	P	P	01 14 06.8	-0.2
	5.5nm,0.8s						
SADO	Sadowa	25.43	351	LR	LR	01 24 26.2	
	comp=Z,88nm,19.4s,MS3.3,baz=292,slow=35						
TXAR	Lajitas Array	29.01	295	P	P	01 15 26.4	-0.2
	0.3nm,0.8s,mb3.0,baz=129,slow=8.0,SNR=3.9						
TXAR				pP	pP	01 15 38.2	+2.0
	0.9nm,0.9s,baz=124,slow=9.0,SNR=6.1						
TXAR				LR	LR	01 28 58.5	
	comp=Z,57nm,20.4s,MS3.2,baz=220,slow=40						
TXAR	Lajitas Array	29.01	295	P	P	01 15 26.4	-0.3
TXAR				pP	pP	01 15 38.2	+2.0
TXAR				LR	LR	01 28 58.5	
ULM	Lac du Bonnet	35.29	335	LR	LR	01 31 39.1	
	comp=Z,43nm,18.5s,MS3.2,baz=35,slow=38						
SCHQ	Schefferville	35.43	7	LR	LR	01 28 49.8	
	comp=Z,78nm,19.4s,MS3.5,baz=33,slow=33						
LPAZ	La Paz	36.16	171	LR	LR	01 32 43.5	
	comp=Z,79nm,19.0s,MS3.5,baz=89,slow=38						
LPAZ	La Paz	36.16	171	eP	P	01 16 30.4	+1.4
	3.1nm,1.0s,mb4.2						
LOHW	Long Hollow	39.10	316	P	P	01 16 53.1	-0.2
	3.3nm,0.8s,mb4.1						
RRI2	Red Ridge	39.46	315	P	P	01 17 00.7	+4.4
	7.2nm,1.1s,mb4.3						
NVAR	Mina Array Bea	42.91	306	pP	pP	01 17 38.4	+3.6
	0.8nm,0.8s,baz=102,slow=8.7,SNR=4.6						
PLCA	Paso Flores	60.19	177	P	P	01 19 37.0	+2.3
	2.0nm,0.9s,mb4.1,baz=332,slow=7.2,SNR=4.3						
ILAR	Eielson Array	65.28	333	pP	pP	01 20 19.4	+1.1
	0.8nm,0.9s,baz=92,slow=4.0,SNR=4.9						
DBIC	Dimbokro	67.69	91	P	P	01 20 25.5	+1.4
	3.7nm,0.9s,mb4.4,baz=265,slow=8.8,SNR=3.5						
ARCES	ARCESS Array B	74.81	21	P	P	01 21 05.6	-0.3
	2.0nm,0.8s,mb4.1,baz=279,slow=4.7,SNR=9.6						
ARCES				pP	pP	01 21 18.3	+2.1
	3.9nm,1.0s,baz=288,slow=4.8,SNR=2.8						
FINES	FINESS Array B	77.36	29	P	P	01 21 21.0	+0.5
	2.1nm,1.0s,mb4.0,baz=288,slow=6.0,SNR=4.3						
WMQ	Urumqi	114.47	15	ePKP	PKPdf	01 28 06.0	+1.7
LZH	Lanzhou	124.45	3	ePKP	PKPdf	01 28 24.5	+0.6
LZH				XPKP		01 28 39.5	
LZH				LR	LR		
	comp=E,149nm,18.2s						
LZH				LR	LR		
	comp=Z,273nm,20.0s,MS4.9						
SSE	Sheshan	127.56	344	ePKP	PKPdf	01 28 31.0	+1.0
WB2	Warramunga Arr	153.82	265	eP	PKPdf	01 29 24.8	+8.8
WRA	Warramunga Arr	153.83	265	PKPbc	PKPdf	01 29 25.5	+10
	comp=Z,0.5nm,0.3s,baz=21,slow=1.0,SNR=31						

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*IDC **01** 01:39:55.0±21.0, 52.07N×157.82E, mb3.5/3, mb1 4.0/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=602.5km s-min=117.0km az=98.0*
*KRSC **01** 01:40:05.2±1.1, 52.02N×158.71E, h47^{km}±7^{km}, ML3.8*
ISC 01 01:40:04.8±0.6**, 52.01N**±0.04×**158.71E**±0.08**, h62^{km}**±7^{km}**, n28, σ1s04**/53**, mb3.5**/3**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.44	344	iP	P	01 40 15.8	-0.7
RUS				iS	S	01 40 23.8	-1.3
GRL	Gorelyy	0.67	325	iP	P	01 40 19.3	+0.3
GRL				iS	S	01 40 30.4	+0.9
KRMR	Karymshinskiy	0.90	337	iP	P	01 40 22.1	+0.3
KRMR				iS	S	01 40 35.0	+0.5
PET	Petropavlovsk	1.02	358	iP	P	01 40 23.3	-0.2
PET				iS	S	01 40 36.3	-1.0
UGLR	Uglovaya	1.21	3	eP	P	01 40 26.1	+0.1
UGLR				eS	S	01 40 39.5	-2.2
NLC	Nalytchevo	1.23	18	iP	P	01 40 24.8	-1.5
NLC				eS	S	01 40 39.5	-2.8
MIPR	Malaya Ipel'ka	1.23	283	iP	P	01 40 26.8	+0.4
MIPR				eS	S	01 40 42.4	0.0
SMAR	Somma	1.26	2	eP	P	01 40 28.0	+1.2
SMAR				eS	S	01 40 45.0	+2.0
AVH	Avacha	1.26	1	eP	P	01 40 28.2	+1.4
AVH				eS	S	01 40 44.1	+1.0
KOK	Koryaka	1.29	358	eP	P	01 40 27.6	+0.4
KOK				eS	S	01 40 44.4	+0.7
PAU	Pauzhetka	1.30	246	iP	P	01 40 27.1	-0.3
PAU				iS	S	01 40 42.8	-1.2
PAU				Smax			
	710nm,0.8s						
APC	Apacha	1.32	315	iP	P	01 40 28.1	+0.3
APC				iS	S	01 40 43.1	-1.6
APC				Smax			
	140nm,0.7s						
SPN	Mys Shipunski	1.35	36	eP	P	01 40 28.7	+0.5
SPN				iS	S	01 40 45.0	-0.4
GNL	Ganaly	1.75	345	iP	P	01 40 34.3	+0.7
GNL				eS	S	01 40 55.1	+0.3
KII	Karymskiy	2.08	12	eP	P	01 40 39.7	+1.6
KII				eS	S	01 41 04.8	+2.0
ALID	Alaid	2.28	241	iP	P	01 40 40.8	-0.2
ALID				iS	S	01 41 08.2	+0.2
MKZ	Mys Kozlova	3.13	34	eP	P	01 40 54.0	+1.0
MKZ				eS	S	01 41 29.7	+0.3
KMNR	Kamenistaya	3.86	13	eP	P	01 41 03.5	+0.2
KMNR				eS	S	01 41 46.2	-1.6
ESO	Esso	3.93	360	eP	P	01 41 05.3	+1.2
ESO				eS	S	01 41 48.1	-1.2
KPT	Kopyto	4.07	12	P	P	01 41 07.1	+1.0
KPT				eS	S	01 41 51.8	-1.0
ZLN	Zelenaya	4.20	16	eP	P	01 41 08.4	+0.4
ZLN				eS	S	01 41 55.0	-1.3
KRSR	Krestovskiy	4.36	14	eP	P	01 41 10.8	+0.6
KRSR				eS	S	01 41 59.2	-1.0
SRDR	Sredinnyy	4.36	7	eP	P	01 41 11.4	+1.2
SRDR				eS	S	01 42 00.0	-0.2
KBTR	Krutoberegovo	4.85	28	eP	P	01 41 18.2	+1.1
KBTR				eS	S	01 42 12.4	-0.2
BKI	Bering	5.38	51	eP	P	01 41 21.3	-3.1
BKI				eS	S	01 42 17.0	-8.7
ILAR	Eielson Array	30.18	44	P	P	01 46 09.6	-1.3
	0.6nm,0.7s,mb3.4,baz=265,slow=7.1,SNR=11						
PDAR	Pinedale Array	58.80	59	P	P	01 49 58.1	-0.5
	0.3nm,0.6s,mb3.5,baz=270,slow=3.0,SNR=4.0						
TXAR	Lajitas Array	71.85	66	P	P	01 51 22.6	0.0
	0.4nm,0.7s,mb3.5,baz=306,slow=5.7,SNR=5.7						

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*NIED **01** 02:02:00, 36.30N×141.90E, h23^{km}, Mw4.1 Best double couple: $M_0$1.75×10^{15} NP1:ϕ_s17°, δ65°, λ86°. NP2:ϕ_s206°, δ26°, λ99°.*
*IDC **01** 02:02:49.3±0.7, 36.18N×141.81E, mb4.1/15, mb1 4.3/17, mb1mx4.2/23, mbtmp4.1/17, ML4.1/2, MS3.7/5, Ms1 3.7/5, ms1mx3.2/22, Error ellipse: s-maj=20.3km s-min=17.5km az=111.0*
*BJI **01** 02:02:52.2, 36.34N×141.99E, h38^{km}, mB4.9, mb4.6, Ms4.5, Msz4.1*
*JMA **01** 02:02:52.3±0.3, 36.29N×141.88E, h60^{km}, M4.0*
*NEIC **01** 02:02:54.5±0.5, 36.20N×141.89E, h35^{km}, mb4.6/17, MW4.1(NIED), Error ellipse: s-maj=12.4km s-min=7.9km az=167.0*
*MOS **01** 02:02:54.7±0.9, 36.59N×141.78E, h33^{km}, mb4.8/13, Error ellipse: s-maj=12.6km s-min=9.3km az=123.4*
ISC 01 02:02:52.5±0.4**, 36.28N**±0.03×**141.93E**±0.05**, h33^{km}**±.6^{km}**:pP-P, n81, σ1s18**/93**, mb4.3**/34**, MS3.9**/9**, 9C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.04	237	P	Pn	02 03 10.2	-0.8
CHOJ				S	Sn	02 03 25.0	+0.5
JHO	Hitachi	1.15	287	⇓P	Pn	02 03 11.6	-0.9
ONAJ	Iwakimizuishiy	1.23	312	⇓P	Pn	02 03 13.0	-0.6
JFK	Kawauchi	1.38	322	⇓P	Pn	02 03 15.4	-0.4
JFT	Otama	1.78	314	⇓P	Pn	02 03 22.0	+0.5
BSO1	Boso 1	1.80	206	P	Pn	02 03 21.1	-0.7
BSO1				S	Sn	02 03 44.9	+1.2
JMM	Marumori	1.83	330	⇑P	Pn	02 03 22.0	-0.2
BSO3	Boso 3	1.88	219	⇓P	Pn	02 03 22.6	-0.3
JAG	Ashikaga	2.01	275	⇑P	Pn	02 03 24.0	-0.8
JFY	Yanaizu	2.11	303	P	Pn	02 03 25.4	-0.9
JKT	Katashina	2.22	283	⇓P	Pn	02 03 28.2	+0.4
JIO	Ouri	2.22	348	⇑P	Pn	02 03 27.3	-0.5
JIO				S	Sn	02 03 53.9	-0.5
JOU	Okura	2.31	334	P	Pn	02 03 29.6	+0.4
MAJO	Matsushiro	3.02	276	ePn	Pn	02 03 39.3	+0.1
MAT	Matsushiro	3.02	276	P	Pn	02 03 39.3	+0.1
MAT				S	Sn	02 04 13.4	-1.2
MAT	Matsushiro	3.02	276	eP	Pn	02 03 39.0	-0.2
MAT				eS	Sn	02 04 17.0	+2.4
JHJ	Hachijo jima 2	3.62	210	Pn	Pn	02 03 45.8	-1.9
	52nm,0.3s,baz=144,slow=4.6,SNR=14						
JHJ				Sn	Sn	02 04 25.5	-4.2
	104nm,0.3s,baz=81,slow=23,SNR=9.4						
ASAJ	Asahikawa	7.84	4	Pn	Pn	02 04 45.0	-2.3
	2.5nm,0.3s,baz=216,slow=16,SNR=5.2						
ASAJ				Sn	Sn	02 06 12.2	-3.6
	1.5nm,0.3s,baz=62,slow=28,SNR=2.7						
ASAJ	Asahikawa	7.84	4	P	Pn	02 04 45.0	-2.3
ASAJ						02 06 12.2	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	Yuzh-Kuril'sk	8.31	20	P	P	02 04 54.2	+0.5
YUK				eS	Sn	02 06 16.5	-11
YUK				pmax	pmax		
	comp=Z,190nm,0.3s						
YUK				smax			
	comp=N,390nm,0.4s						
YUK				smax			
	comp=E,230nm,0.3s						
CBIJ	Chichi jima	9.16	179	Sn	Sn	02 06 36.7	-12
	comp=E,15nm,0.3s,baz=270,slow=20,SNR=4.3						
MDJ	Mudanjiang	12.55	315	P	P	02 05 51.5	0.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,80nm,5.3s						
SSE	Sheshan	18.01	259	eP	P	02 07 00.8	-1.3
SSE				AMB	AMB		
	comp=Z,16nm,0.7s						
SSE				AMB	AMB		
	comp=Z,512nm,4.0s						
SSE	Sheshan	18.01	259	eP	P	02 07 00.8	-1.3
	comp=Z,16nm,0.7s						
NJ2	Nanjing	19.55	264	eP	P	02 07 22.2	+1.9
NJ2				AP		02 07 30.9	
NJ2				XP		02 07 34.5	
NJ2				PP	PP	02 07 40.3	+2.2
NJ2				PPP	PPP	02 07 49.8	+2.7
NJ2				S	S	02 10 56.0	+2.7
NJ2				XS		02 11 09.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,460nm,4.6s						
NJ2				LR	LR		
	comp=N,5µm,15.6s						
NJ2				LR	LR		
	comp=E,2µm,15.4s						
NJ2				LR	LR		
	comp=Z,1µm,15.5s						
HHC	Hu-ho-hao-te	24.12	290	eP	P	02 08 09.8	+3.6
HHC				AP		02 08 19.1	
HHC				XP		02 08 22.8	
HHC				PP	PP	02 08 44.2	+3.3
HHC				PCP	PcP	02 11 50.3	+2.1
HHC				S	S	02 12 21.2	+2.6
HHC				XS		02 12 38.7	
HHC				SS	SS	02 13 12.8	+1.5
HHC				SCP		02 15 25.2	
HHC				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,143nm,4.4s						
HHC				LR	LR		
	comp=N,297nm,10.3s,MS4.4						
HHC				LR	LR		
	comp=E,605nm,10.3s,MS4.4						
HHC				LR	LR		
	comp=Z,162nm,9.5s						
ENH	Enshi	27.70	267	eP	P	02 08 37.8	-1.8
	comp=Z,9.2nm,0.6s,mb4.6						
ULN	Ulaanbaatar	28.13	305	eP	P	02 08 43.1	-0.2
	comp=Z,4.0nm,0.8s,mb4.1						
ULN	Ulaanbaatar	28.13	305	eP	P	02 08 43.1	-0.2
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
BOD	Bodaibo	28.39	328	eP	P	02 08 41.9	-3.7
SONM	Songino Array	28.56	305	P	P	02 08 47.0	-0.2
	comp=Z,7.4nm,0.8s,mb4.4,baz=106,slow=7.3,SNR=46						
LZH	Lanzhou	30.61	281	eP	P	02 09 07.5	+1.8
LZH				AP	pP	02 09 17.3	+1.9
LZH				XP	sP	02 09 21.5	+1.8
LZH				PP	PP	02 10 08.7	+2.3
LZH				eS	S	02 14 06.5	+2.0
LZH				XS		02 14 22.1	
LZH				AMB	AMB		
	comp=Z,25nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,83nm,5.2s						
LZH				LR	LR		
	comp=N,683nm,13.5s						
LZH				LR	LR		
	comp=Z,935nm,16.9s,MS4.5						
LZH	Lanzhou	30.61	281	eP	P	02 09 07.5	+1.8
	comp=Z,25nm,1.4s,mb4.8						
LZH				pP	pP	02 09 17.3	+1.9
LZH				sP	sP	02 09 21.5	+1.8
LZH				PP	PP	02 10 08.7	+2.3
LZH				eS	S	02 14 06.5	+2.0
LZH				sS		02 14 22.1	
LZH				LR	LR		
	comp=Z,940nm,16.9s,MS4.5						
ZAK	Zakamensk	31.07	309	eP	P	02 09 08.6	-0.9
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
GYA	Guiyang	31.52	262	⇑iP	P	02 09 12.5	-1.3
GYA				AP	pP	02 09 21.6	-1.9
GYA				XP	sP	02 09 25.8	-1.9
GYA				PP	PP	02 10 16.9	-1.4
GYA				S	S	02 14 16.6	-2.1
GYA				XS		02 14 32.4	
GYA				SCP		02 15 44.9	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				LR	LR		
	comp=N,240nm,15.4s,MS4.2						
GYA				LR	LR		
	comp=E,270nm,15.0s,MS4.2						
GYA				LR	LR		
	comp=Z,280nm,15.6s,MS4.0						
GTA	Gaotai	33.19	288	eP	P	02 09 26.6	-1.6
GTA				AP	pP	02 09 36.7	-1.3
GTA				XP	sP	02 09 40.2	-2.0
GTA				PP	PP	02 10 38.1	-1.6
GTA				PPP	PPP	02 10 53.5	-2.6
GTA				S	S	02 14 42.0	-2.6
GTA				XS		02 14 58.3	
GTA				SS	SS	02 16 42.9	-3.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
GTA				AMB	AMB		
	comp=Z,159nm,5.8s						
GTA				LR	LR		
	comp=N,239nm,12.0s						
GTA				LR	LR		
	comp=E,296nm,9.6s						
GTA				LR	LR		
	comp=Z,252nm,9.7s						
KMI	Kunming	35.27	263	⇑P	P	02 09 48.0	+1.7
KMI				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.2						
KMI	Kunming	35.27	263	⇑P	P	02 09 48.0	+1.7
	comp=Z,17nm,0.5s,mb5.2						
WMQ	Urumqi	41.56	298	P	P	02 10 39.9	+1.5
WMQ				AP	pP	02 10 49.7	+1.4
WMQ				XP	sP	02 10 53.9	+1.5
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,162nm,4.6s						
WMQ				LR	LR		
	comp=N,42nm,17.0s,MS3.5						
WMQ				LR	LR		
	comp=E,32nm,16.8s,MS3.5						
WMQ				LR	LR		
	comp=Z,77nm,17.8s,MS3.6						
LSA	Lhasa	42.70	276	P	P	02 10 49.5	+1.4
	comp=Z,7.6nm,0.8s,mb4.5						
LSA	Lhasa	42.70	276	P	P	02 10 49.5	+1.5
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
ZAL	Zalesovo	42.74	313	P	P	02 10 48.8	+0.8
	comp=Z,2.6nm,0.8s,mb4.0,baz=15,slow=7.1,SNR=12						
ZAL				LR	LR	02 30 04.1	
	comp=Z,66nm,19.1s,MS3.5,baz=285,slow=38						
MKAR	Makanchi Array	44.88	303	P	P	02 11 05.4	0.0
	comp=Z,4.9nm,0.8s,mb4.4,baz=87,slow=9.9,SNR=22						
MKAR				LR	LR	02 32 36.7	
	comp=Z,23nm,19.4s,MS3.1,baz=181,slow=40						
KURK	Kurchatov	46.73	309	eP	P	02 11 19.2	-0.7
	comp=Z,8.7nm,0.8s,mb4.7						
KURK	Kurchatov	46.73	309	eP	P	02 11 19.2	-0.8
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ILAR	Eielson Array	49.91	32	P	P	02 11 45.1	+0.6
	comp=Z,1.0nm,0.7s,mb4.0,baz=268,slow=6.5,SNR=12						
AAK	Ala-Archa	51.22	299	eP	P	02 11 56.0	+1.3
	comp=Z,2.2nm,0.5s,mb4.3						
AAK	Ala-Archa	51.22	299	eP	P	02 11 56.0	+1.2
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	Borovoye	51.45	313	eP	P	02 11 55.7	-0.6
	comp=Z,2.2nm,1.0s,mb4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRVK	Borovoye	51.45	313	eP	P	02 11 55.7	-0.6
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
INK	Inuvik	54.87	27	P	P	02 12 22.4	+0.9
	comp=Z,2.4nm,0.6s,mb4.4,baz=336,slow=7.3,SNR=5.2						
INK	Inuvik	54.87	27	eP	P	02 12 21.9	+0.3
	comp=Z,7.1nm,1.0s,mb4.7						
INK	Inuvik	54.87	27	eP	P	02 12 21.9	+0.3
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WRAB	Tennant Creek	56.36	189	P	P	02 12 30.6	-2.3
	comp=Z,9.3nm,1.2s,mb4.7						
WRAB	Tennant Creek	56.36	189	P	P	02 12 30.6	-2.4
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
WRA	Warramunga Arr	56.37	189	P	P	02 12 31.2	-1.8
	comp=Z,0.7nm,0.4s,mb4.0,baz=5.5,slow=7.3,SNR=26						
ARU	Arti	57.20	319	P	P	02 12 36.6	-1.9
	comp=Z,13nm,1.1s,mb4.9						
ARU	Arti	57.20	319	eP	P	02 12 37.7	-0.8
ARCES	ARCESS Array B	64.85	340	P	P	02 13 30.0	+0.1
	comp=Z,2.2nm,0.8s,mb4.2,baz=59,slow=7.1,SNR=11						
FINES	FINESS Array B	69.68	333	P	P	02 14 00.3	-0.1
	comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=5.7,SNR=6.1						
KIV	Kislovodsk	71.72	311	P	P	02 14 13.8	+0.7
	comp=Z,7.2nm,0.8s,mb4.7						
KIV	Kislovodsk	71.72	311	P	P	02 14 13.8	+0.7
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
FCC	Fort Churchill	74.49	27	P	P	02 14 27.3	-1.6
	comp=Z,22nm,1.1s,mb5.0						
FCC	Fort Churchill	74.49	27	P	P	02 14 27.3	-1.6
FCC				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
NB2	NORSAR Subarra	75.04	338	P	P	02 14 32.4	+0.3
	comp=Z,1.3nm,0.7s,mb4.0,baz=41,slow=5.8						
NB2	NORSAR Subarra	75.04	338	P	P	02 14 32.4	+0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	NORSAR Array B	75.04	338	P	P	02 14 32.6	+0.5
	comp=Z,2.4nm,0.8s,mb4.2,baz=39,slow=5.8,SNR=8.9						
NOA				LR	LR	02 49 47.3	
	comp=Z,46nm,20.4s,MS3.8,baz=15,slow=38						
NVAR	Mina Array Bea	75.11	53	P	P	02 14 35.0	+2.0
	comp=Z,0.6nm,0.7s,mb3.6,baz=280,slow=7.6,SNR=4.3						
AKASG	Malin Array Be	75.15	323	P	P	02 14 32.8	-0.1
	comp=Z,2.1nm,0.4s,mb4.4,baz=46,slow=6.1,SNR=14						
PDAR	Pinedale Array	77.90	46	P	P	02 14 50.0	+1.6
	comp=Z,0.5nm,0.6s,mb3.6,baz=275,slow=1.9,SNR=5.2						
BRTR	Keskin Array B	79.67	312	P	P	02 14 58.8	+0.6
	comp=Z,1.4nm,0.8s,mb4.0,baz=76,slow=3.9,SNR=6.1						
BRG	Berggiesshubel	81.92	330	i P	P	02 15 10.1	+0.3
	comp=Z,2.2nm,0.9s,mb4.1						
BRG	Berggiesshubel	81.92	330	i P	P	02 15 10.1	+0.4
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
CLL	Collm	81.96	330	⇑P	P	02 15 10.3	+0.3
	comp=Z,logA/T=0.8,mb4.5						
CLL				e*PP	pP	02 15 21.0	+0.5
CLL				e*SP	sP	02 15 27.0	+3.1
CLL				ePP	PP	02 18 02.0	-18
CLL	Collm	81.96	330	⇑iP	P	02 15 10.3	+0.3
	comp=Z,5.0nm,0.8s,mb4.5						
CLL				epP	pP	02 15 21.0	+0.5
CLL	Collm	81.96	330	⇑iP	P	02 15 10.3	+0.3
CLL				e*PP	pP	02 15 21.0	+0.5
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KHC	Kasperske Hory	83.41	329	eP	P	02 15 18.5	+1.0
GERES	GERESS Array B	83.57	329	P	P	02 15 19.1	+0.8
	comp=Z,0.8nm,0.6s,mb4.0,baz=45,slow=5.7,SNR=9.0						
GERES				LR	LR	02 55 54.4	
	comp=Z,36nm,18.1s,MS3.8,baz=198,slow=38						
PPT	Papeete	83.92	117	LR	LR	02 49 34.4	
	comp=Z,235nm,18.2s,MS4.6,baz=340,slow=33						
TXAR	Lajitas Array	90.25	53	P	P	02 15 52.8	+1.5
	comp=Z,0.4nm,0.8s,mb3.8,baz=270,slow=1.3,SNR=3.7						
LPAZ	La Paz	146.70	61	PKPbc	PKPbc	02 22 34.1	+3.0
	comp=Z,1.3nm,0.6s,baz=345,slow=3.4,SNR=9.1						

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*IDC **01** 02:27:07.0±1.6, 1.52N×96.33E, mb4.2/7, mb1 4.3/7, mb1mx4.0/17, mbtmp4.2/7, MS3.7/2, Ms1 3.7/2, ms1mx3.3/18, Error ellipse: s-maj=69.9km s-min=20.0km az=54.0*

*NEIC **01** 02:27:11.5±0.7, 1.62N×96.81E, h30^{km}, mb4.5/12, Error ellipse: s-maj=18.3km s-min=9.0km az=45.0*

ISC 01 02:27:11.6±4.7, **1.7N**±0.2×**96.9E**±0.2, **h45**^{km}±38^{km}**, n22,** σ**0**^{s}**84**/21**, mb4.4**/19**, MS3.7**/2**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.19	46	ePn	P	02 28 28.6	-0.1
KKM	Kota Kinabalu	19.75	77	P	P	02 31 40.1	-0.6
PKI	Pulchoki	28.00	338	eP	P	02 33 01.6	+1.0
	21nm,1.0s,mb4.7						
DMN	Daman	28.15	337	eP	P	02 33 02.2	+0.3
	9.4nm,0.5s,mb4.7						
KKN	Kakani	28.24	338	eP	P	02 33 02.6	-0.2
	10.0nm,0.6s,mb4.6						
GKN	Gorkha	28.68	337	eP	P	02 33 06.6	-0.1
	19nm,0.9s,mb4.8						
KOLN	Koldanda	28.90	335	eP	P	02 33 08.7	+0.1
	12nm,0.8s,mb4.7						
MBWA	Marble Bar	31.85	137	P	P	02 33 35.3	+0.5
	16nm,1.4s,mb4.7						
FITZ	Fitzroy Crossi	34.45	126	P	P	02 33 58.2	+0.8
	1.7nm,0.5s,mb4.2,baz=50,slow=7.2,SNR=4.6						
WRA	Warramunga Arr	42.55	122	P	P	02 35 09.4	+4.4
	1.9nm,0.7s,mb3.9,baz=300,slow=9.3,SNR=9.3						
WRAB	Tennant Creek	42.55	122	eP	P	02 35 03.2	-1.8
	15nm,1.3s,mb4.6						
AAK	Ala-Archa	45.44	337	P	P	02 35 20.1	-8.0
	8.7nm,1.6s,mb4.3						
MKAR	Makanchi Array	46.71	346	P	P	02 35 38.1	+0.1
	5.7nm,0.9s,mb4.5,baz=158,slow=8.0,SNR=20						
SONM	Songino Array	46.71	9	P	P	02 35 38.6	+0.7
	1.3nm,0.4s,mb4.2,baz=189,slow=9.5,SNR=18						
SONM				PcP	PcP	02 37 13.3	+1.9
	0.9nm,0.6s,baz=186,slow=2.8,SNR=5.2						
SONM				LR	LR	02 57 30.8	
	comp=Z,53nm,18.7s,MS3.5,baz=156,slow=39						
ULN	Ulaanbaatar	46.84	9	eP	P	02 35 39.0	0.0
	3.2nm,1.0s,mb4.2						
KURK	Kurchatov	51.25	345	eP	P	02 36 12.9	-0.1
	5.8nm,1.0s,mb4.5						
PMG	Port Moresby	51.26	103	eP	P	02 36 14.4	+0.9
	16nm,0.8s,mb5.0						
ZAL	Zalesovo	53.03	351	P	P	02 36 26.3	0.0
	3.7nm,0.7s,mb4.4,baz=300,slow=6.3,SNR=16						
BRVK	Borovoye	55.76	341	eP	P	02 36 44.3	-1.9
	5.5nm,1.1s,mb4.5						
KMBO	Kilima Mbogo	59.70	268	LR	LR	02 59 03.9	
	comp=Z,83nm,18.8s,MS3.9,baz=86,slow=32						
ARCES	ARCESS Array B	81.98	340	P	P	02 39 29.2	+1.3
	2.8nm,1.0s,mb4.2,baz=90,slow=6.1,SNR=5.3						
GERES	GERESS Array B	84.25	319	P	P	02 39 38.5	-1.4
	0.4nm,0.8s,mb3.6,baz=95,slow=12,SNR=2.6						

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*NNC **01** 02:28:33.6±7.7, 38.39N×71.38E, mpv3.7, Error ellipse: s-maj=90.7km s-min=26.9km az=166.0*

ISC 01 02:28:32.8±2.8**, 38.1N**±0.2×**71.5E**±0.1**, h100**^{km}**, n7,** σ**0**^{s}**82**/9**, 2C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.40	22	P	P	02 29 38.7	0.0
	SNR=28						
UCH	Uchtor	4.76	28	P	P	02 29 42.8	-0.8
	SNR=6.7						
EKS2	Erkin-Say	4.92	20	P	P	02 29 46.8	+1.1
	SNR=13						
AAK	Ala-Archa	5.11	26	P	P	02 29 48.0	-0.4
	SNR=8.6						
AAK	Ala-Archa	5.11	26	⇓P	P	02 29 47.7	-0.6
	5.3nm,0.4s						
AAK				⇑S	S	02 30 47.2	+0.7
	5.7nm,0.9s						
CHMS	Chumysh	5.52	26	P	P	02 29 53.0	-0.9
	SNR=5.8						
AB31	Akbulak array	13.95	327	⇓P	P	02 31 48.0	+1.2
	0.2nm,0.4s,baz=128,slow=11,SNR=7.3						
AB31				⇑S	S	02 34 18.7	-0.8
	0.8nm,0.7s,baz=124,slow=29						

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*NEIC **01** 02:45:55.6, 19.97N×100.40W, h61^{km}, MD3.7(MEX), After MEX.*

MEX 01 02:45:54.7±1.7**, 20.00N**×**100.45W, h74**^{km}±25^{km}**, MD3.8, Central Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOIG	Morelia	0.77	245	i P	P	02 46 09.4	-1.4
MOIG				i S	S	02 46 21.4	-1.3
YAIG	Yautepec	1.73	131	i P	P	02 46 20.7	-2.7
YAIG				i S	S	02 46 42.2	-2.4
YAIG	Yautepec	1.73	131	i P	P	02 46 20.7	-2.7
YAIG				i S	S	02 46 41.3	-3.3
PLIG	Platanillo	1.84	151	eP	P	02 46 22.3	-2.5
PLIG				i S	S	02 46 43.7	-3.3
PPM	Popocatepetl	1.96	118	i P	P	02 46 26.6	+0.1
PPM				i S	S	02 46 50.2	+0.3
CAIG	El Cayaco	2.95	177	i P	P	02 46 38.8	-1.5
CAIG				i S	S	02 47 11.4	-3.2
CAIG	El Cayaco	2.95	177	i P	P	02 46 40.3	-0.1
CAIG				i S	S	02 47 13.9	-0.7
ACX	Acapulco	3.16	171	i P	P	02 46 44.8	+1.4
ZAIG	Zacatecas	3.38	325	i P	P	02 46 43.6	-2.8
ZAIG				i S	S	02 47 22.0	-3.6
ZAIG	Zacatecas	3.38	325	i P	P	02 46 48.0	+1.5

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*NNC **01** 03:12:27.8±4.3, 43.89N×85.15E, h7^{km}±5^{km}, mpv4.7, Error ellipse: s-maj=38.8km s-min=17.3km az=127.0*

*LDG **01** 03:12:27.7±0.1, 44.00N×84.87E, h10^{km}, Mb4.6/23, Ms3.7/7, Error ellipse: s-maj=3.0km s-min=2.6km az=30.0*

*IDC **01** 03:12:29.7±2.8, 44.02N×85.21E, h12^{km}±16^{km}, mb4.4/24, mb1 4.6/27, mb1mx4.5/29, mbtmp4.5/27, ML4.5/3, MS3.9/19, Ms1 3.9/19, ms1mx3.8/32, Error ellipse: s-maj=14.7km s-min=11.4km az=55.0*

*BJI **01** 03:12:31.0, 44.03N×85.14E, h25^{km}, mB4.9, mb4.6, ML5.1, Ms4.3, Msz4.1*

*NEIC **01** 03:12:31.7±0.2, 43.98N×85.11E, mb4.7/66, MS3.7/4, Error ellipse: s-maj=4.7km s-min=3.0km az=47.0*

*MOS **01** 03:12:31.4±0.9, 44.13N×85.09E, h30^{km}, mb4.8/29, Error ellipse: s-maj=7.4km s-min=4.6km az=127.6*

ISC 01 03:12:27.9±0.1**, 44.04N**±0.02×**85.12E**±0.03**, h10**^{km}**, (h25**^{km}±5.3^{km}**:pP-P), n299,** σ**1**^{s}**03**/308**, mb4.7**/93**, MS4.0**/28**, 35C-26D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	Urumqi	1.87	96	⇓iP	Pn	03 13 06.0	+5.7
WMQ				S	Sn	03 13 33.1	+9.0
WMQ				Smax			
	comp=N,8μm,0.4s						
WMQ				Smax			
	comp=E,5μm,0.4s						
MK02	Makanchi Array	3.37	325	⇓PN	Pn	03 13 24.9	+3.2
MK02						03 13 33.7	
MK02						03 14 16.6	
MK31	Makanchi Array	3.40	325	⇓Pn	Pn	03 13 24.9	+2.8
	comp=E,47nm,0.5s,baz=131,slow=15,SNR=1385						
MK31				⇓Pg	Pg	03 13 33.7	-2.1
	comp=E,450nm,0.7s,baz=139,slow=16						
MK31				⇓Lg		03 14 16.6	
	comp=E,1μm,0.5s,baz=138,slow=29,SNR=13						
MK31	Makanchi Array	3.40	325	⇓Pn	Pn	03 13 24.9	+2.8
MK31				⇓Pg	Pg	03 13 33.6	-2.1
MK31				Lg		03 14 16.6	
MKAR	Makanchi Array	3.40	325	Pn	Pn	03 13 24.8	+2.7
	comp=E,16nm,0.3s,baz=145,slow=15,SNR=136						
MKAR				Pg	Pg	03 13 33.6	-2.2
	comp=E,169nm,0.3s,baz=133,slow=16,SNR=87						
MKAR				Lg		03 14 17.0	
	comp=E,1μm,0.3s,baz=137,slow=29,SNR=26						
MKAR				LR	LR	03 15 04.2	
	comp=E,1μm,18.7s,baz=176,slow=45						
MKAR	Makanchi Array	3.40	325	Pn	Pn	03 13 24.8	+2.7
MKAR				Pg	Pg	03 13 33.6	-2.2
MKAR				Lg		03 14 17.0	
MKAR				LR	LR	03 15 04.2	
MKAR	Makanchi Array	3.40	325	PN	Pn	03 13 24.9	+2.8
MKAR						03 14 17.3	
MKAR				pmax	pmax		
	comp=Z,100nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,289nm,0.3s						
AAA	Alma-Ata	5.98	265	i PN	Pn	03 14 01.1	+2.4
AAA				i S	Sn	03 15 13.8	+5.7
AAA				pmax	pmax		
	comp=Z,450nm,3.2s						
AAA				smax			
	comp=N,660nm,0.9s						
AAA				MLR	MLR		
	comp=Z,3μm,3.0s						
ULHL	Ulahol	6.74	258	P	Pn	03 14 10.2	+0.8
	SNR=59						
TKM2	Tokmak 2	7.02	264	P	Pn	03 14 15.6	+2.2
	SNR=17						
KZA	Kyzart	7.49	258	P	Pn	03 14 20.8	+0.9
	SNR=47						
KBK	Karagaybulak	7.55	263	P	Pn	03 14 21.8	+1.2
	SNR=43						
CHMS	Chumysh	7.61	266	P	Pn	03 14 21.4	-0.2
	SNR=10						
FRU	Bishkek	7.74	265	eP	Pn	03 14 24.6	+1.2
FRU				pmax	pmax		
	comp=Z,140nm,1.8s						
USP	Ospenovka	7.75	268	P	Pn	03 14 23.2	-0.2
	SNR=14						
AAK	Ala-Archa	7.88	263	P	Pn	03 14 26.4	+1.1
	SNR=20						
AAK	Ala-Archa	7.88	263	⇑Pn	Pn	03 14 25.7	+0.4
	comp=Z,33nm,0.6s						
AAK				⇑Lg		03 16 38.1	
	comp=Z,380nm,0.9s						
AAK	Ala-Archa	7.88	263	⇑Pn	Pn	03 14 25.7	+0.4
	comp=Z,33nm,0.6s						
AAK				Lg		03 16 38.1	
UCH	Uchtor	7.97	261	P	Pn	03 14 27.9	+1.4
	SNR=74						
KURK	Kurchatov	8.00	329	⇓Pn	Pn	03 14 26.2	-0.8
	comp=Z,17nm,0.9s						
KURK				⇑Lg		03 16 41.6	
	comp=Z,653nm,1.1s						
KURK	Kurchatov	8.00	329	⇓Pn	Pn	03 14 26.2	-0.8
KURK				Lg		03 16 41.6	
KSH	Kashi	8.20	240	P	P	03 14 33.2	+3.5
KSH				S	Sn	03 16 06.6	+3.2
KSH				Smax			
	comp=N,180nm,0.7s						
KSH				Smax			
	comp=E,710nm,1.3s						
EKS2	Erkin-Say	8.38	264	P	P	03 14 32.8	+0.4
	SNR=19						
AML	Almayashu	8.58	261	P	P	03 14 36.2	+1.1
	SNR=8.4						
ZAL	Zalesovo	9.91	359	Pn	P	03 14 52.9	-0.5
	comp=E,14nm,0.3s,baz=296,slow=9.7,SNR=91						
ZAL				Sn	Sn	03 16 39.7	-5.9
	comp=E,28nm,0.3s,baz=205,slow=9.4,SNR=8.5						
ZAL				Lg		03 17 45.1	
	comp=E,9.0nm,0.3s,baz=180,slow=8.7,SNR=8.3						
ZAL	Zalesovo	9.91	359	Pn	P	03 14 52.9	-0.5
ZAL				Sn	Sn	03 16 39.7	-5.9
ZAL				Lg		03 17 45.1	
KK31	Karatay Array	10.65	270	⇑Pn	P	03 15 03.0	-0.5
	comp=E,6.2nm,0.6s,baz=78,slow=14,SNR=89						
KK31				⇑Lg		03 18 03.6	
	comp=E,115nm,0.8s,baz=66,slow=29,SNR=7.8						
KK31	Karatay Array	10.65	270	⇑Pn	P	03 15 03.0	-0.5
	comp=E,6.2nm,0.6s						
KK31				Lg		03 18 03.6	
KKAR	Karatay Array	10.65	270	i P	P	03 15 03.2	-0.3
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR				pmax	pmax		
	comp=Z,171nm,1.0s						
NVS	Novosibirsk	10.88	354	eP	P	03 15 05.8	-0.8
NVS				eS	S	03 17 02.6	-6.9
GTA	Gaotai	11.91	108	eP	P	03 15 20.7	0.0
GTA				AP		03 15 26.2	
GTA				XP		03 15 30.3	
GTA				S	S	03 17 31.2	-3.4
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,352nm,4.2s						
GTA				LR	LR		
	comp=N,582nm,9.1s						
GTA				LR	LR		
	comp=E,425nm,6.8s						
GTA				LR	LR		
	comp=Z,241nm,6.2s						
VOSK	Vostochnaya	12.78	318	⇓Pn	P	03 15 30.2	-2.1
	comp=Z,22nm,0.7s						
VOSK				⇑Sn	S	03 17 45.4	-10
	comp=Z,16nm,0.5s						
VOSK				⇑Lg		03 19 13.8	
	comp=Z,234nm,1.2s						
VOSK	Vostochnaya	12.78	318	⇓Pn	P	03 15 30.2	-2.1
	comp=Z,22nm,0.7s						
VOSK				Sn	S	03 17 45.4	-10
VOSK				Lg		03 19 13.8	
MOY	Mondy	13.09	49	eP	P	03 15 31.5	-4.9
BVA0	Borovoye Array	13.25	318	Pn	P	03 15 36.9	-1.6
	comp=Z,2.5nm,0.7s,baz=121,slow=12,SNR=91						
BVA0				⇑Sn	S	03 17 56.5	-10
	comp=Z,2.1nm,0.6s						
BVA0				⇑Lg		03 19 26.0	
	comp=Z,25nm,1.1s,baz=129,slow=25,SNR=3.6						
BVA0	Borovoye Array	13.25	318	Pn	P	03 15 36.9	-1.6
	comp=Z,2.5nm,0.6s						
BVA0				Sn	S	03 17 56.5	-10
BVA0				Lg		03 19 26.0	
BVAR	Borovoye Array	13.25	318	Pn	P	03 15 36.9	-1.7
	comp=Z,3.7nm,0.3s,baz=114,slow=12,SNR=90						
BVAR				Sn	S	03 17 59.4	-7.6
	comp=Z,2.3nm,0.3s,baz=112,slow=23,SNR=3.6						
BVAR				Lg		03 19 25.5	
	comp=Z,1.8nm,0.3s,baz=114,slow=25,SNR=3.1						
BRVK	Borovoye	13.32	318	ePn	P	03 15 37.5	-1.9
	comp=Z,16nm,0.6s						
BRVK	Borovoye	13.32	318	eP	P	03 15 37.5	-2.0
BRVK				pmax	pmax		
	comp=Z,16nm,0.6s						
ZAK	Zakamensk	13.86	56	eP	P	03 15 47.6	+1.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHCP	Chirah Chowk	13.87	226	⇑P	P	03 15 45.6	-1.2
CEP	Cherat	14.47	230	⇑P	P	03 15 53.8	-0.8
CEP				S	S	03 18 30.0	-6.0
LSA	Lhasa	15.10	159	P	P	03 16 06.2	+3.3
LSA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
LSA	Lhasa	15.10	159	eP	P	03 16 05.7	+2.9
	comp=Z,20nm,0.7s						
LSA				e		03 16 11.2	
LSA	Lhasa	15.10	159	eP	P	03 16 05.7	+2.8
LSA				pmax	pmax		
	comp=Z,19nm,0.7s						
IRK	Irkutsk	15.15	50	eP	P	03 16 05.1	+1.6
IRK				pmax	pmax		
	comp=Z,301nm,0.2s						
SONM	Songino Array	15.27	68	Pn	P	03 16 07.4	+2.5
	comp=Z,0.6nm,0.3s,baz=265,slow=13,SNR=176						
SONM				Lg		03 20 30.4	
	comp=Z,0.4nm,0.3s,baz=267,slow=27,SNR=4.1						
SONM				LR	LR	03 22 43.8	
	comp=Z,658nm,18.7s,baz=105,slow=40						
THW	Thamme Wali	15.34	227	⇓P	P	03 16 03.2	-2.9
ULN	Ulaanbaatar	15.71	68	eP	P	03 16 11.3	+0.6
	comp=Z,47nm,1.2s						
ULN	Ulaanbaatar	15.71	68	eP	P	03 16 11.3	+0.6
ULN				pmax	pmax		
	comp=Z,47nm,1.2s						
GKN	Gorkha	16.01	182	eP	P	03 16 13.8	-0.9
	comp=Z,268nm,1.7s						
GUN	Gumba	16.11	178	eP	P	03 16 16.4	+0.4
	comp=Z,223nm,0.7s						
KKN	Kakani	16.22	180	eP	P	03 16 16.2	-1.2
	comp=Z,110nm,1.0s						
KKN	Kakani	16.22	180	eP	P	03 16 16.2	-1.2
KKN				pmax	pmax		
	comp=Z,55nm,1.0s						
KOLN	Koldanda	16.28	185	eP	P	03 16 15.8	-2.4
	comp=Z,35nm,0.8s						
LZH	Lanzhou	16.36	113	eP	P	03 16 26.0	+6.9
LZH				eS	S	03 19 26.8	+6.4
LZH				XS		03 19 36.7	
LZH				AMB	AMB		
	comp=Z,56nm,1.2s						
LZH				AMB	AMB		
	comp=Z,302nm,4.3s						
LZH				LR	LR		
	comp=N,1μm,8.2s						
LZH				LR	LR		
	comp=Z,2μm,10.3s						
LZH	Lanzhou	16.36	113	eP	P	03 16 27.0	+7.9
	comp=Z,56nm,1.2s						
LZH				pP		03 16 33.5	
LZH				sP		03 16 37.9	
LZH				PP	PP	03 16 41.5	+8.8
LZH				eS	S	03 19 26.8	+6.4
LZH				sS		03 19 36.7	
LZH				SS	SS	03 19 46.2	+6.1
LZH	Lanzhou	16.36	113	eP	P	03 16 27.0	+7.9
LZH				eS	S	03 19 26.8	+6.4
LZH				pmax	pmax		
	comp=Z,56nm,1.2s						
DMN	Daman	16.40	180	eP	P	03 16 18.8	-0.9
	comp=Z,223nm,1.6s						
PKI	Pulchoki	16.44	179	eP	P	03 16 19.2	-1.0
	comp=Z,326nm,1.6s						
PKI	Pulchoki	16.44	179	eP	P	03 16 19.2	-1.0
PKI				pmax	pmax		
	comp=Z,163nm,1.6s						
NDI	New Delhi	16.58	205	eP	P	03 16 18.0	-4.0
NDI				ex	x	03 19 13.0	
AB31	Akbulak array	18.02	296	⇑P	P	03 16 38.0	-1.9
	comp=Z,7.8nm,0.6s,baz=100,slow=14						
AB31				⇑Lg		03 21 55.1	
	comp=Z,42nm,0.9s						
AB31	Akbulak array	18.02	296	⇑P	P	03 16 38.0	-1.9
	comp=Z,7.8nm,0.6s						
AB31				Lg		03 21 55.0	
SHL	Shillong	19.23	161	i x	x	03 19 53.2	
AKTK	Aktyubinsk	19.42	299	⇓P	P	03 16 56.5	-0.3
AKTK				Lg		03 22 40.7	
AKTO	Aktyubinsk	19.42	299	⇓P	P	03 16 56.5	-0.3
	comp=Z,1.1nm,0.6s						
AKTO				⇓Lg		03 22 40.7	
	comp=Z,12nm,1.6s						
HHC	Hu-ho-hao-te	19.74	90	eP	P	03 17 01.3	+0.8
HHC				AP		03 17 08.4	
HHC				XP		03 17 12.0	
HHC				PP	PP	03 17 19.7	+0.8
HHC				S	S	03 20 35.9	-1.1
HHC				XS		03 20 45.4	
HHC				SS	SS	03 21 01.5	-3.0
HHC				PCP	PcP	03 21 20.5	+1.8
HHC				SCP		03 24 52.2	
HHC				PCS		03 24 56.9	
HHC				AMB	AMB		
	comp=Z,30nm,0.9s						
HHC				AMB	AMB		
	comp=Z,233nm,3.6s						
HHC				LR	LR		
	comp=N,400nm,5.1s						
HHC				LR	LR		
	comp=E,638nm,8.3s						
HHC				LR	LR		
	comp=Z,315nm,12.7s						
SVE	Sverdlovsk	20.04	318	eP	P	03 17 03.6	0.0
SVE				MLR	MLR		
	comp=N,400nm,8.0s						
SVE				MLR	MLR		
	comp=E,400nm,8.0s						
SVE				MLR	MLR		
	comp=Z,600nm,8.0s						
BOK	Bokaro	20.20	178	eP	P	03 17 05.0	-0.6
BOK				AMb	AMB	03 17 06.6	
	comp=Z,32nm,1.2s						
CIT	Chita	20.52	57	eP	P	03 17 09.0	+0.3
CIT				pmax	pmax		
	comp=Z,54nm,1.5s						
ARU	Arti	20.87	316	eP	P	03 17 11.6	-0.7
	comp=Z,41nm,0.4s						
ARU	Arti	20.87	316	⇓iP	P	03 17 11.9	-0.4
ARU				e		03 17 27.5	

ARU ePPP PPP 03 17 37.6 -6.1
ARU eS **S** **03 21 06.8 +6.7**
ARU eSS SS 03 21 28.5 -3.3
ARU eSSS SSS 03 21 39.2 -6.7
ARU pmax pmax
comp=Z,16nm,0.6s
XAN Xi'an 20.94 110 P **P** **03 17 15.8 +2.6**
BHPL Bhopal 21.69 199 eP **P** **03 17 20.3 -0.5**
BHPL AMb AMB 03 17 22.1
comp=Z,67nm,1.7s,mb4.8
BHPL ex x 03 22 03.9
BLSP Bilaspur 21.99 187 eP **P** **03 17 23.5 -0.3**
BLSP AMb AMB 03 17 27.1
comp=Z,69nm,1.5s,mb4.9
BLSP ex x 03 21 45.6
BOD Bodaibo 22.61 42 eP **P** **03 17 30.3 +0.7**
BOD e 03 17 39.3
BOD pmax pmax
comp=Z,23nm,1.2s,mb4.5
BOD pmax pmax
comp=Z,22nm,0.8s,mb4.6
NGP Nagpur 23.38 194 eP **P** **03 17 37.0 -0.5**
NGP AMb AMB 03 17 40.3
comp=Z,47nm,0.2s,mb5.5
ENH Enshi 23.68 117 P **P** **03 17 40.4 0.0**
comp=Z,12nm,0.7s,mb4.4
KMI Kunming 23.71 137 P **P** **03 17 42.3 +1.6**
KMI AP 03 17 49.3
KMI XP 03 17 54.9
KMI PP PP 03 18 16.8 +3.2
KMI S **S** **03 21 53.0 +0.8**
KMI SS SS 03 22 42.4 +1.3
KMI SSS SSS 03 22 59.4 +2.4
KMI AMB AMB
comp=Z,12nm,0.7s,mb4.4
KMI LR LR
comp=Z,134nm,21.8s,MS3.4
KMI Kunming 23.71 137 P **P** **03 17 42.3 +1.6**
comp=Z,12nm,0.7s,mb4.4
KMI pP 03 17 49.3
KMI sP 03 17 54.9
KMI PP PP 03 18 16.8 +3.2
KMI S **S** **03 21 53.0 +0.8**
KMI SS SS 03 22 42.4 +1.3
KMI SSS SSS 03 22 59.4 +2.4
KMI LR LR
comp=Z,130nm,21.8s,MS3.4
HIA Hailar 24.19 65 eP **P** **03 17 47.1 +2.0**
comp=Z,18nm,0.7s,mb4.6
HIA Hailar 24.19 65 eP **P** **03 17 47.1 +2.0**
HIA pmax pmax
comp=Z,18nm,0.7s
GYA Guiyang 24.72 128⇑ *i*P **P** **03 17 52.3 +1.8**
GYA AP 03 17 59.8
GYA XP 03 18 02.6
GYA PP PP 03 18 28.4 +1.4
GYA S **S** **03 22 09.2 -0.3**
GYA XS 03 22 28.7
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.7
GYA LR LR
comp=N,310nm,16.4s,MS4.1
GYA LR LR
comp=E,340nm,16.0s,MS4.1
GYA LR LR
comp=Z,380nm,16.6s,MS4.0
VIS Vishakhapatnam 26.28 184 eP **P** **03 18 05.4 +0.2**
VIS AMb AMB 03 18 06.7
comp=Z,26nm,0.8s,mb4.8
CN2 Changchun 28.85 76 eP **P** **03 18 29.0 +0.7**
CN2 eS **S** **03 23 15.0 -1.9**
CN2 LR LR
comp=N,390nm,17.0s,MS4.4
CN2 LR LR
comp=E,680nm,17.0s,MS4.4
CN2 LR LR
comp=Z,850nm,18.0s,MS4.4
NJ2 Nanjing 28.93 103 eP **P** **03 18 31.0 +1.8**
NJ2 AP pP 03 18 38.6 +6.5
NJ2 XP sP 03 18 41.3 +7.8
NJ2 PP PP 03 19 25.8 +3.1
NJ2 S **S** **03 23 19.0 +0.6**
NJ2 XS 03 23 31.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 LR LR
comp=Z,2μm,15.5s,MS4.8
GNI Garni 30.00 277 P **P** **03 18 39.5 +0.8**
comp=Z,5.1nm,0.5s,mb4.5,baz=4.1,slow=16,SNR=4.6
GNI LR LR 03 32 35.2
comp=Z,180nm,18.3s,MS3.8,baz=209,slow=40
GNI Garni 30.00 277 eP **P** **03 18 39.4 +0.7**
comp=Z,13nm,0.9s,mb4.7
GNI Garni 30.00 277 P **P** **03 18 39.5 +0.8**
GNI pmax pmax
comp=Z,5.0nm,0.5s
GNI MLR MLR
comp=Z,180nm,18.3s
KIV Kislovodsk 30.28 285 eP **P** **03 18 41.2 0.0**
KIV *i* 03 19 37.7
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
KIV MLR MLR
comp=Z,400nm,19.0s,MS4.1
SSE Sheshan 31.12 102 eP **P** **03 18 48.4 -0.2**
SSE AP pP 03 18 57.7 +6.1
SSE XP sP 03 19 01.7 +8.8
SSE PCP PcP 03 21 43.8 -0.2
SSE S **S** **03 23 54.2 +1.2**
SSE XS 03 24 07.3
SSE SCS ScS 03 29 20.7 -0.7
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,436nm,6.1s
SSE LR LR
comp=N,144nm,26.8s,MS3.6
SSE LR LR
comp=E,122nm,26.8s,MS3.6
SSE LR LR
comp=Z,146nm,18.4s
SSE Sheshan 31.12 102 eP **P** **03 18 48.4 -0.2**
comp=Z,39nm,0.7s,mb5.3
SSE pP pP 03 18 57.7 +6.1
SSE sP sP 03 19 01.7 +8.8
SSE PP PP 03 20 00.7 +10
SSE PcP PcP 03 21 43.8 -0.2
SSE S **S** **03 23 54.2 +1.2**
SSE sS 03 24 07.3
SSE SS SS 03 26 10.3 +33
SSE ScS ScS 03 29 20.7 -0.7
SSE LR LR
comp=Z,150nm,18.4s,MS3.7
ARQ Araqi 31.26 238 P **P** **03 18 51.4 +1.4**
SNR=17
BSY Bisya 31.29 236 ⇓P **P** **03 18 51.8 +1.5**
SNR=6.8
YAK Yakutsk 31.44 39 eP **P** **03 18 51.0 -0.1**
comp=Z,29nm,0.7s,mb5.2
YAK Yakutsk 31.44 39 eP **P** **03 18 51.0 -0.1**
YAK pmax pmax
comp=Z,29nm,0.7s,mb5.2
MDJ Mudanjiang 31.52 73 P **P** **03 18 51.7 -0.3**
MDJ AMB AMB
comp=Z,4.0nm,0.6s,mb4.4
MDJ AMB AMB
comp=Z,126nm,7.0s
MDJ LR LR
comp=N,53nm,16.5s,MS4.0
MDJ LR LR
comp=E,255nm,16.8s,MS4.0
MDJ LR LR
comp=Z,327nm,18.8s,MS4.0
KLR Kul'dur 32.03 64 eP **P** **03 18 53.0 -3.4**
KLR MLR MLR
comp=E,500nm,14.0s
QIZ Qiongzhong 32.41 132 eP **P** **03 18 59.1 -1.0**
comp=E,6.4nm,0.8s,mb4.5
OBN Obninsk 32.73 307 eP **P** **03 19 00.8 -1.6**
comp=E,24nm,0.5s,mb5.4
OBN Obninsk 32.73 307*c* *i*P **P** **03 19 02.0 -0.5**
OBN pmax pmax
comp=Z,18nm,0.6s,mb5.2
OBN MLR MLR
comp=Z,200nm,17.0s,MS3.9

BEST Besiri 33.37 275 *i*P **P** **03 19 05.1 -3.2**
ANN Anapa 33.69 288 eP **P** **03 19 21.7 +11**
ANN pmax pmax
comp=Z,54nm,1.0s,mb5.4
MARD Mardin 33.97 274 *i*P **P** **03 19 13.5 0.0**
HASS Wahat al Ahsa' 34.35 249 P **P** **03 19 15.9 -1.0**
TIXI Tiksi 34.70 23 eP **P** **03 19 16.4 -3.0**
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MALT Malatya 35.23 277 eP **P** **03 19 25.8 +1.5**
comp=Z,14nm,0.9s,mb4.9
MALT Malatya 35.23 277 eP **P** **03 19 25.8 +1.5**
MALT pmax pmax
comp=Z,14nm,0.9s,mb4.9
JOF Joensuu 35.82 321 ep **P** **03 19 28.7 -0.3**
comp=Z,9.1nm,0.4s,mb5.1
SIM Simferopol' 35.91 290 eP **P** **03 19 30.0 +0.1**
SIM pmax pmax
comp=Z,13nm,0.8s,mb4.9
SIM MLR MLR
comp=Z,150nm,19.6s,MS3.8
KAHT Ahir Dag 36.64 277 *i*P **P** **03 19 37.1 +1.0**
PALK Pallekele 36.83 187 eP **P** **03 19 37.7 -0.3**
comp=Z,20nm,1.1s,mb4.9
JNU Nakatsue 36.96 91 LR LR 03 36 21.1
comp=Z,193nm,18.4s,MS3.9,baz=136,slow=39
WHFO Wadi Hawf 37.04 235⇑P **P** **03 19 39.3 -0.5**
SNR=7.1
RBK Rabkut 37.11 234⇑P **P** **03 19 39.8 -0.6**
BALT Daday 37.54 285 *i*P **P** **03 19 42.0 -1.8**
AKASG Malin Array Be 37.65 300 P **P** **03 19 44.2 -0.3**
comp=Z,3.4nm,0.4s,mb4.4,baz=63,slow=8.5,SNR=13
ABTO Aybut 37.76 235⇓P **P** **03 19 44.6 -1.2**
ELDT Eldivan 37.91 283 *i*P **P** **03 19 46.1 -0.8**
VSU Vasula 38.00 313*c* *i*P **P** **03 19 47.8 +0.4**
BR131 Keskin Array S 38.06 282 eP **P** **03 19 48.6 +0.5**
comp=Z,5.3nm,0.5s,mb4.5
BRTR Keskin Array B 38.06 282 P **P** **03 19 48.9 +0.7**
comp=Z,5.9nm,0.5s,mb4.6,baz=87,slow=7.0,SNR=35
KAF Kangasniemi 38.10 319 ep **P** **03 19 48.3 +0.1**
comp=Z,7.2nm,0.3s,mb4.9,baz=91,slow=8.4
KAF Kangasniemi 38.10 319 eP **P** **03 19 48.3 +0.1**
KAF pmax pmax
comp=Z,7.0nm,0.3s,mb4.9
MZLS Mizel 38.16 252 P **P** **03 19 48.9 -0.2**
FINES FINESS Array B 38.21 318 P **P** **03 19 49.3 +0.2**
comp=Z,5.1nm,0.4s,mb4.6,baz=90,slow=9.9,SNR=97
FINES LR LR 03 36 17.0
comp=Z,162nm,19.0s,MS3.9,baz=87,slow=37
IDID Didziasalis 38.33 308 *i*P **P** **03 19 50.6 +0.4**
IDID AMb AMB 03 19 51.3
comp=Z,7.4nm,0.4s,mb4.8
HILS Ha'il 38.43 259 P **P** **03 19 51.5 +0.1**
IZAR Zarasai 38.54 309 *i*P **P** **03 19 52.5 +0.5**
IZAR AMb AMB 03 19 53.3
comp=Z,7.2nm,0.4s,mb4.7
KEV Kevo 38.55 332 ep **P** **03 19 52.6 +0.7**
comp=Z,2.9nm,0.4s,mb4.4
KEV Kevo 38.55 332 eP **P** **03 19 52.6 +0.7**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
IIGN Ignalina 38.61 308 *i*P **P** **03 19 53.5 +0.9**
IIGN AMb AMB 03 19 54.2
comp=Z,3.8nm,0.3s,mb4.6
ISAL Salakas 38.63 309 *i*P **P** **03 19 53.4 +0.6**
ISAL AMb AMB 03 19 54.1
comp=Z,7.7nm,0.4s,mb4.7
ARCES ARCESS Array B 39.03 331 P **P** **03 19 56.6 +0.7**
comp=Z,3.0nm,0.4s,mb4.3,baz=87,slow=8.1,SNR=70
ARCES LR LR 03 37 21.2
comp=Z,160nm,18.0s,MS3.9,baz=91,slow=38
ARE0 ARCESS Array S 39.03 331 eP **P** **03 19 56.5 +0.6**
ASF Jabal al Asfar 39.24 269 P **P** **03 19 59.3 +1.3**
comp=Z,15nm,0.8s,mb4.8,baz=286,slow=6.3,SNR=21
YSS Yuzh-Sakhalins 39.72 65 eP **P** **03 20 00.8 -1.1**
YSS pmax pmax
comp=Z,17nm,1.3s,mb4.6
AFFS 'Afif 39.75 254 P **P** **03 20 02.3 -0.1**
CFR Carcaliu 39.86 292⇑P **P** **03 20 01.0 -2.1**
CFR Carcaliu 39.86 292⇑*i*P **P** **03 20 01.0 -2.1**
ASAJ Asahikawa 40.55 69 LR LR 03 38 45.1
comp=Z,363nm,18.2s,MS4.3,baz=5.9,slow=39
SUW Suwalki 40.59 307 eP **P** **03 20 09.4 +0.5**
KULM Kulim 40.94 156 eP **P** **03 20 09.2 -3.0**
BURAR Bucovina Array 40.99 297⇓P **P** **03 20 13.2 +0.9**
BURAR Bucovina Array 40.99 297⇑P **P** **03 20 13.2 +0.8**
MLR Muntele Rosu 41.21 294 P **P** **03 20 15.7 +1.6**
comp=Z,5.2nm,0.7s,mb4.3,baz=147,slow=7.5,SNR=11
MLR Muntele Rosu 41.21 294⇓P **P** **03 20 15.4 +1.3**
MLR Muntele Rosu 41.21 294⇑*i*P **P** **03 20 15.5 +1.4**
MA2 Magadan 41.61 44*d* *i*P **P** **03 20 17.9 +0.8**
MA2 pmax pmax
comp=Z,26nm,1.7s,mb4.6
SEY Seymchan 41.97 39⇓*i*P **P** **03 20 21.1 +1.1**
KWP Kalwaria 41.98 300 eP **P** **03 20 21.7 +1.4**
ALWS Ilw as Safayha 42.12 267 P **P** **03 20 22.7 +1.0**
HAQS Haql 42.36 267 P **P** **03 20 24.5 +0.8**
TAYS Tayyib Ism 42.69 266 P **P** **03 20 27.2 +0.7**
STHS Stebnicka Huta 42.95 301 eP **P** **03 20 28.5 +0.2**
STHS *e* 03 20 47.6
CRVS Cervenica-Dubn 42.98 300 eP **P** **03 20 28.9 +0.4**
BLJS Baljurashi 43.42 251 P **P** **03 20 33.0 +0.5**
NIE Niedzica 43.52 301⇑*i*P **P** **03 20 34.4 +1.5**
OJC Ojcow 43.59 302 eP **P** **03 20 34.1 +0.7**
DJNS Zahran al Janu 43.65 246 P **P** **03 20 35.2 +0.9**
KECS Kecovo 43.72 300 eP **P** **03 20 35.3 +0.7**
LTHS Al Lith 43.97 252 P **P** **03 20 37.4 +0.5**
PSZ Piszkesteto 44.29 299 P **P** **03 20 38.8 -0.4**
comp=Z,4.0nm,0.6s,mb4.3
PSZ Piszkesteto 44.29 299 P **P** **03 20 38.8 -0.4**
PSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
HFS Hagfors 44.38 317 P **P** **03 20 39.9 +0.1**
comp=Z,3.4nm,0.4s,mb4.5,baz=98,slow=9.0,SNR=32
HFS LR LR 03 39 59.2
comp=Z,169nm,19.7s,MS4.0,baz=207,slow=37
OKC Ostrava-Krasne 44.72 302 eP **P** **03 20 43.5 +0.9**
MORC Moravsky Berou 45.11 302 eP **P** **03 20 46.3 +0.6**
comp=Z,7.3nm,0.9s,mb4.5
MORC Moravsky Berou 45.11 302 eP **P** **03 20 46.3 +0.6**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 45.38 319 P **P** **03 20 47.5 -0.2**
comp=Z,3.3nm,0.6s,mb4.3,baz=77,slow=7.9
NB2 NORSAR Subarra 45.38 319 P **P** **03 20 47.5 -0.2**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
NOA NORSAR Array B 45.38 319 P **P** **03 20 47.6 0.0**
comp=Z,3.7nm,0.5s,mb4.5,baz=77,slow=7.8,SNR=24
NOA LR LR 03 40 19.4
comp=Z,131nm,18.6s,MS3.9,baz=65,slow=37
KSP Ksiaz 45.51 304 eP **P** **03 20 49.6 +0.8**
SMOL Smolenice 45.62 301 eP **P** **03 20 50.8 +1.0**
DPC Dobruska-Polom 45.65 303 eP **P** **03 20 51.1 +1.1**
UPC Upice 45.79 304 eP **P** **03 20 52.1 +1.0**
IDI Anoyia 46.27 281 P **P** **03 20 55.6 +0.5**
comp=Z,4.1nm,0.3s,mb4.8,baz=348,slow=12,SNR=9.8
KKM Kota Kinabalu 46.63 135 P **P** **03 20 56.8 -1.5**
PVCC Panska Ves 46.64 304 eP **P** **03 20 58.9 +1.1**
PRU Pruhonice 46.85 303 eP **P** **03 21 00.0 +0.5**
BRG Berggiesshubel 46.89 305 eP **P** **03 21 00.2 +0.4**
comp=Z,4.2nm,0.8s,mb4.4
BRG *e* 03 21 09.4
BRG *i* 03 21 48.9
BRG LR LR
comp=Z,330nm,15.7s,MS4.4
BRG Berggiesshubel 46.89 305 eP **P** **03 21 00.2 +0.4**
BRG *e* 03 21 09.4
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRG MLR MLR
comp=Z,330nm,15.7s,MS4.4
CLL Collm 47.29 306 P **P** **03 21 03.4 +0.4**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 03 21 09.0 +3.0
CLL *i* *SP sP 03 21 12.2 +5.0
CLL *e*PCP PcP 03 22 33.0 -1.4
CLL Collm 47.29 306 *i* P **P** **03 21 03.4 +0.4**
comp=Z,14nm,0.8s,mb4.9
CLL *i* pP pP 03 21 09.0 +3.0
CLL *e*PcP PcP 03 22 33.0 -1.4
CLL Collm 47.29 306 *i* P **P** **03 21 03.4 +0.4**
CLL *i* *PP pP 03 21 09.0 +3.0
CLL *e* 03 22 33.0

CLL pmax pmax
comp=Z,14nm,0.8s,mb4.9
PET Petropavlovsk 47.50 52 eP **P** **03 21 02.5 -2.1**
PET eS **S** **03 27 49.1 -9.2**
PET MLR MLR
comp=Z,200nm,17.0s,MS4.2
KHC Kasperske Hory 47.76 303 eP **P** **03 21 07.3 +0.6**
PERS Pernice 47.78 299 *i*P **P** **03 21 07.1 +0.2**
GERES GERESS Array B 47.79 302 P **P** **03 21 07.5 +0.6**
comp=Z,1.0nm,0.4s,mb4.2,baz=58,slow=8.1,SNR=16
GERES LR LR 03 42 56.2
comp=Z,125nm,18.5s,MS3.9,baz=327,slow=38
BSEG Bad Segeberg 47.90 310 eP **P** **03 21 08.8 +1.1**
LEGS Legarje 47.94 298 *i*P **P** **03 21 08.2 +0.1**
WET Wettzell 48.17 303 eP **P** **03 21 10.6 +0.7**
comp=Z,4.0nm,0.8s,mb4.5
WET Wettzell 48.17 303 eP **P** **03 21 10.6 +0.7**
WET pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MOX Moxa 48.35 305 *i*P **P** **03 21 11.6 +0.3**
MOX Moxa 48.35 305 eP **P** **03 21 11.6 +0.3**
CLZ Clausthal 48.63 307 eP **P** **03 21 14.1 +0.8**
comp=Z,6.0nm,1.0s,mb4.6
CLZ Clausthal 48.63 307 eP **P** **03 21 14.1 +0.8**
CLZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KBA Koelnbreinsper 48.71 300⇓*i*P **P** **03 21 14.6 +0.5**
comp=Z,5.8nm,0.5s,mb4.9
KBA Koelnbreinsper 48.71 300⇓*i*P **P** **03 21 14.6 +0.5**
KBA pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
GRA1 Grafenberg Arr 48.96 304 eP **P** **03 21 17.1 +1.2**
comp=Z,11nm,0.9s,mb4.9
GRF Grafenberg Arr 48.96 304 eP **P** **03 21 17.1 +1.2**
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.9
WTTA Wattenberg 49.70 301⇑*i*P **P** **03 21 22.3 +0.6**
comp=Z,13nm,0.4s,mb5.3
WTTA Wattenberg 49.70 301⇑*i*P **P** **03 21 22.3 +0.6**
WTTA pmax pmax
comp=Z,13nm,0.4s,mb5.3
SQTA Sankt Quirin 49.98 301⇓*i*P **P** **03 21 24.1 +0.3**
comp=Z,13nm,0.4s,mb5.3
SQTA Sankt Quirin 49.98 301⇓*i*P **P** **03 21 24.1 +0.3**
SQTA pmax pmax
comp=Z,13nm,0.4s,mb5.3
MOTA Moosalm 49.99 301⇑*i*P **P** **03 21 24.1 +0.2**
comp=Z,5.6nm,0.7s,mb4.7
MOTA Moosalm 49.99 301⇑*i*P **P** **03 21 24.1 +0.2**
MOTA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
JMIC Jan Mayen 50.25 335 LR LR 03 43 58.9
comp=Z,59nm,19.6s,MS3.6,baz=256,slow=38
TNS Taunus Mts 50.38 306 eP **P** **03 21 27.4 +0.5**
comp=Z,6.0nm,1.0s,mb4.6
TNS Taunus Mts 50.38 306 eP **P** **03 21 27.4 +0.5**
TNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
DAVOX Davos 50.99 301 LR LR 03 45 00.8
comp=Z,93nm,18.5s,MS3.8,baz=272,slow=38
BFO Black Forest 51.25 304 eP **P** **03 21 34.2 +0.7**
comp=Z,4.0nm,0.8s,mb4.4
CDF Champ du Feu 51.85 304 eP **P** **03 21 37.4 -0.6**
HINF Hinteralfeld 52.37 304 eP **P** **03 21 41.4 -0.6**
comp=Z,3.5nm,0.5s,mb4.2
HAU Haudompre 52.59 304 eP **P** **03 21 43.3 -0.3**
comp=Z,5.0nm,0.6s,mb4.3
HAU eR
comp=Z,218nm,17.5s
MEZF Maizieres J'vi 53.13 305 eP **P** **03 21 47.4 -0.2**
comp=Z,27nm,0.8s,mb4.9
CABF La Chapelle 53.39 303 eP **P** **03 21 49.0 -0.6**
LPG La Plagne 53.51 301 eP **P** **03 21 51.0 +0.5**
comp=Z,47nm,0.8s,mb5.2
LPL La Plagne 53.51 301 eP **P** **03 21 51.0 +0.5**
comp=Z,40nm,0.5s,mb5.3
PGF Pioggiola 53.52 297 eP **P** **03 21 50.3 -0.3**
comp=Z,8.1nm,0.7s,mb4.5
SAOF Saorge 53.74 299 eP **P** **03 21 52.1 0.0**
BNI Bardonecchia 53.77 301 eP **P** **03 21 51.5 -0.8**
comp=Z,9.9nm,1.0s,mb4.7
AUTN L'Aution 53.81 299 eP **P** **03 21 52.2 -0.5**
MBDF Montbardon 53.87 300 eP **P** **03 21 52.5 -0.6**
comp=Z,13nm,0.7s,mb4.7
SBF Sospel 53.87 299 eP **P** **03 21 52.7 -0.4**
TOUF Mont Tournerai 53.92 299 eP **P** **03 21 50.8 -2.6**
ORIF Oris-en-Rattie 54.33 301 eP **P** **03 21 55.9 -0.6**
comp=Z,9.4nm,0.6s,mb4.6
ORIF eR
comp=Z,89nm,18.5s
LOR Lormes 54.42 304 eP **P** **03 21 56.0 -1.1**
LOR eR
comp=Z,73nm,19.0s
EKA Eskdalemuir Ar 54.49 315 P **P** **03 21 57.2 -0.2**
comp=Z,2.5nm,0.6s,mb4.3,baz=58,slow=7.1,SNR=13
FRF La Foret Royal 54.52 299 eP **P** **03 21 57.1 -0.8**
comp=Z,5.0nm,0.6s,mb4.5
LMR La Mourre 54.72 299 eP **P** **03 21 58.5 -0.9**
SSF Saint Saulge 54.73 304 eP **P** **03 21 57.9 -1.5**
comp=Z,2.5nm,0.4s,mb4.3
SMF Signal de Mont 54.73 303 eP **P** **03 21 58.6 -0.8**
comp=Z,8.3nm,0.6s,mb4.6
AVF Avril sur Loir 54.95 304 eP **P** **03 21 59.5 -1.6**
comp=Z,3.7nm,0.4s,mb4.4
SMRF Simiane la Rot 54.99 300 eP **P** **03 22 00.7 -0.6**
VIVF Saint-Julien-l 55.11 301 eP **P** **03 22 01.6 -0.6**
BGF Bois d'Agland 55.37 304 eP **P** **03 22 03.2 -0.9**
FX1 Attu Island--F 55.53 47 eP **P** **03 22 02.6 -2.5**
TCF Toulx Ste Croi 55.89 304 eP **P** **03 22 07.3 -0.5**
comp=Z,8.3nm,0.5s,mb4.7
LASF Ste Croix 56.01 301 eP **P** **03 22 08.1 -0.6**
comp=Z,12nm,0.8s,mb4.7
LDF La Druitiere 56.10 307 eP **P** **03 22 08.5 -0.8**
GRR Gorron 56.63 307 eP **P** **03 22 12.5 -0.6**
CAF Calviac 56.67 302 eP **P** **03 22 12.8 -0.6**
RJF Les Rejaudoux 56.81 303 eP **P** **03 22 13.4 -1.0**
comp=Z,5.2nm,0.6s,mb4.5
RJF eR
comp=Z,73nm,21.8s
MFF Saint Martin d 57.13 305 eP **P** **03 22 16.4 -0.3**
MTLF Montolieu 57.40 301 eP **P** **03 22 18.0 -0.7**
comp=Z,3.9nm,0.6s,mb4.3
LFF La Frestale 57.47 303 eP **P** **03 22 18.5 -0.6**
comp=Z,12nm,0.6s,mb4.8
SGMF Saint Gilles 57.67 308 eP **P** **03 22 19.7 -0.8**
ROSF Rostrenen 58.03 308 eP **P** **03 22 22.4 -0.6**
QUIF Quistinic 58.19 308 eP **P** **03 22 23.4 -0.7**
EPF Esparros 58.73 301 eP **P** **03 22 26.8 -1.1**
comp=Z,7.4nm,0.5s,mb4.7
ETSF Etsaut 59.35 302 eP **P** **03 22 32.0 -0.3**
comp=Z,3.2nm,0.5s,mb4.3
IMA Indian Mountai 61.31 23 eP **P** **03 22 45.2 -0.1**
comp=Z,45nm,1.1s,mb5.5
KMBO Kilima Mbogo 61.96 237 P **P** **03 22 49.6 -0.8**
comp=Z,0.8nm,0.4s,mb4.2,baz=44,slow=8.1,SNR=5.2
KMBO LR LR 03 52 03.6
comp=Z,125nm,18.0s,MS4.1,baz=97,slow=38
KMBO Kilima Mbogo 61.96 237 *i* P **P** **03 22 51.3 +0.9**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
ESDC Sonseca Array 63.30 300 P **P** **03 22 58.4 -0.5**
comp=Z,1.4nm,0.5s,mb4.4,baz=52,slow=6.5,SNR=17
ILAR Eielson Array 64.17 22 P **P** **03 23 03.9 -0.4**
comp=Z,3.6nm,0.7s,mb4.5,baz=317,slow=5.2,SNR=52
ILAR LR LR 03 54 60.0
comp=Z,127nm,19.0s,MS4.1,baz=0.9,slow=40
INK Inuvik 64.30 15 P **P** **03 23 05.1 +0.1**
comp=Z,3.6nm,0.6s,mb4.6,baz=17,slow=9.8,SNR=7.9
INK Inuvik 64.30 15 eP **P** **03 23 04.8 -0.1**
comp=Z,8.9nm,0.9s,mb4.8
INK Inuvik 64.30 15 P **P** **03 23 05.1 +0.1**
INK pmax pmax
comp=Z,4.0nm,0.6s
MCK McKinley 64.40 24 eP **P** **03 23 06.1 +0.4**
comp=Z,1.6nm,0.6s,mb4.2
SML Sawmill 66.06 25 eP **P** **03 23 16.1 -0.3**
EVO Evora 66.50 301 eP **P** **03 23 19.2 -0.4**
comp=Z,5.4nm,0.9s,mb4.2
EVO eR
comp=Z,74nm,17.0s
FITZ Fitzroy Crossi 72.09 140 eP **P** **03 23 53.8 -0.6**
comp=Z,4.4nm,0.7s,mb4.5
FITZ Fitzroy Crossi 72.09 140 P **P** **03 23 53.7 -0.7**
comp=Z,7.5nm,0.8s,mb4.7,baz=302,slow=3.4,SNR=10
YKA Yellowknife Ar 72.64 9 P **P** **03 23 57.0 +0.2**
comp=Z,5.8nm,0.9s,mb4.5,baz=338,slow=5.8,SNR=5.9

YKA				LR	LR	03 56 52.3	
	comp=Z,90nm,21.3s,MS4.0,baz=265,slow=37						
YKA	**Yellowknife Ar**	**72.64**	**9**	P	**P**	**03 23 57.0**	**+0.2**
YKA				LR	LR	03 56 52.3	
PMG	**Port Moresby**	**77.22**	**117**	*e*P	**P**	**03 24 25.2**	**+1.3**
	comp=Z,32nm,1.1s,mb5.2						
PMG	**Port Moresby**	**77.22**	**117**	*e*P	**P**	**03 24 25.2**	**+1.3**
PMG				pmax	pmax		
	comp=Z,31nm,1.1s						
WRAB	**Tennant Creek**	**77.97**	**133**	*e*P	**P**	**03 24 26.6**	**-1.4**
	comp=Z,6.3nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**77.97**	**133**	⇑*i*P	**P**	**03 24 27.5**	**-0.5**
WRA	**Warramunga Arr**	**77.98**	**133**	P	**P**	**03 24 27.4**	**-0.6**
	comp=Z,3.5nm,0.6s,mb4.5,baz=332,slow=5.1,SNR=51						
WB2	**Warramunga Arr**	**77.98**	**133**	⇑*i*P	**P**	**03 24 27.6**	**-0.4**
SCHQ	**Schefferville**	**78.65**	**344**	P	**P**	**03 24 31.4**	**+0.4**
	comp=Z,1.1nm,0.4s,mb4.1,baz=3.4,slow=7.4,SNR=9.0						
SCHQ				LR	LR	04 02 10.7	
	comp=Z,63nm,19.2s,MS4.0,baz=205,slow=38						
SCHQ	**Schefferville**	**78.65**	**344**	*e*P	**P**	**03 24 30.9**	**-0.1**
	comp=Z,7.2nm,1.1s,mb4.5						
KLBR	**Kellerberrin**	**80.96**	**152**	*e*P	**P**	**03 24 43.0**	**-0.9**
	comp=Z,25nm,1.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**82.01**	**153**	P	**P**	**03 24 48.5**	**-0.8**
	comp=Z,3.2nm,0.5s,mb4.5,baz=301,slow=5.9,SNR=4.9						
NWAO	**Narrogin (SRO)**	**82.01**	**153**	*e*P	**P**	**03 24 49.0**	**-0.4**
	comp=Z,31nm,1.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**82.01**	**153**	*e*P	**P**	**03 24 49.0**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,31nm,1.4s						
DBIC	**Dimbokro**	**85.40**	**275**	P	**P**	**03 25 06.5**	**-0.5**
	comp=Z,2.4nm,0.3s,mb4.8,baz=17,slow=3.3,SNR=13						
NEW	**Newport**	**86.02**	**15**	LR	LR	04 05 49.4	
	comp=Z,58nm,20.0s,MS4.0,baz=106,slow=37						
SADO	**Sadowa**	**90.47**	**349**	LR	LR	04 07 14.0	
	comp=Z,48nm,21.0s,MS3.9,baz=189,slow=36						
YBH	**Yreka Blue Hor**	**91.03**	**20**	LR	LR	04 07 04.4	
	comp=Z,78nm,18.9s,MS4.2,baz=340,slow=36						
STKA	**Stephens Creek**	**91.44**	**135**	P	**P**	**03 25 34.0**	**-1.3**
	comp=Z,1.4nm,0.5s,mb4.5,baz=281,slow=15,SNR=5.7						
STKA	**Stephens Creek**	**91.44**	**135**	*e*P	**P**	**03 25 33.4**	**-2.0**
NVAR	**Mina Array Bea**	**95.22**	**18**	P	**P**	**03 25 54.8**	**+2.1**
	comp=Z,0.1nm,0.3s,mb3.7,baz=2.6,slow=5.4,SNR=4.7						
VNA2	**Neumayer--Watz**	**131.66**	**206**	*e*	tx	03 35 06.1	
VNA2	**Neumayer--Watz**	**131.66**	**206**	*e*	tx	03 35 12.0	
VNA2	**Neumayer--Watz**	**131.66**	**206**	⇑*i*PKPdf	PKPdf	03 31 41.5	-1.6
VNA2				*e*		03 31 55.0	
VNA2				*e*		03 35 06.1	
VNA2				*e*		03 35 12.0	
VNA1	**Neumayer--Stat**	**131.86**	**207**	⇑*i*PKPdf	PKPdf	03 31 46.2	+2.7
VNA1				*e*		03 32 01.2	
VNA3	**Neumayer Olymp**	**132.45**	**206**	*e*	tx	03 35 07.3	
VNA3	**Neumayer Olymp**	**132.45**	**206**	*e*	tx	03 35 15.3	
VNA3	**Neumayer Olymp**	**132.45**	**206**	⇑*i*PKPdf	PKPdf	03 31 42.9	-1.7
VNA3				*e*		03 31 56.9	
VNA3				*e*		03 35 07.3	
VNA3				*e*		03 35 15.3	
LPAZ	**La Paz**	**144.25**	**312**	PKhKP		03 32 03.0	
	comp=Z,0.6nm,0.4s,baz=30,slow=3.7,SNR=7.0						
LPAZ	**La Paz**	**144.25**	**312**	PKP	PKPdf	03 32 03.0	-4.3
LPAZ	**La Paz**	**144.25**	**312**	*i* PKIKP	PKPdf	03 32 03.0	-4.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**144.96**	**288**	PKPbc	PKPbc	03 32 05.1	-0.4
	comp=Z,7.5nm,0.9s,baz=74,slow=3.2,SNR=11						
CPUP	**Villa Florida**	**144.96**	**288**	PKPbc	PKPbc	03 32 05.1	-0.4
CPUP	**Villa Florida**	**144.96**	**288**	PKIKP	PKPdf	03 32 05.1	-3.2
CPUP				pmax	pmax		
	comp=Z,8.0nm,0.9s						

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*IDC **01** 03:19:02.2±0.6, 14.94N×119.79E, mb4.2/10, mb1 4.4/10, mb1mx4.2/18, mbtmp4.2/10, MS3.7/3, Ms1 3.8/3, ms1mx3.3/23, Error ellipse: s-maj=55.6km s-min=15.8km az=69.0*
*MAN **01** 03:19:05.0, 15.04N×119.59E, h13km, mb4.6, ML3.5, MS3.4*
*MOS **01** 03:19:04.6±0.8, 14.84N×119.67E, h33km, mb4.8/9, Error ellipse: s-maj=35.3km s-min=12.3km az=112.4*
*NEIC **01** 03:19:08.8±0.3, 14.92N×119.76E, h50km, mb4.6/11, Error ellipse: s-maj=22.3km s-min=7.9km az=71.0*
ISC 01 03:19:02.3±0.4, **14.97N**±0.02×**119.41E**±0.04, **h10**km, **n65**, σ**1s35**/73, **mb4.4**/21, **MS3.7**/3, **4C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.94**	**31**	*e*P	**Pb**	**03 19 20.2**	**+0.1**
SCZP				*e*S	**Sb**	**03 19 30.2**	**-2.2**
NBP	**Mount Natib**	**1.00**	**103**	⇑*e*P	**Pb**	**03 19 20.8**	**-0.4**
LUBP	**Lubang**	**1.47**	**147**	*e*P	**Pn**	**03 19 30.1**	**+1.2**
NZB	**Bigte**	**1.64**	**93**	⇓*e*P	**Pn**	**03 19 30.2**	**-1.2**
PCPH	**Palayan**	**1.73**	**70**	⇓*e*P	**Pn**	**03 19 30.7**	**-2.0**
PCPH				*e*S	**Sn**	**03 19 49.0**	**-6.0**
ARP	**Angono**	**1.74**	**104**	⇑*e*P	**Pn**	**03 19 32.1**	**-0.7**
BCPH	**Baguio City Da**	**1.80**	**39**	⇓*e*P	**Pn**	**03 19 33.2**	**-0.5**
BCPH				*e*S	**Sn**	**03 19 56.2**	**-0.5**
LBPH	**Los Banos**	**1.89**	**115**	⇓*e*P	**Pn**	**03 19 36.1**	**+1.1**
BALP	**Baler**	**2.22**	**70**	*e*P	**Pn**	**03 19 38.6**	**-1.2**
BALP				*e*S	**Sn**	**03 20 02.2**	**-5.3**
POLP	**Polilio Island**	**2.46**	**95**	*e*P	**Pn**	**03 19 43.4**	**+0.4**
POLP				*e*S	**Sn**	**03 20 14.3**	**+0.9**
BOAC	**Boac**	**2.79**	**122**	*e*P	**Pn**	**03 19 48.4**	**+0.5**
ABRA	**Dolores**	**2.94**	**25**	*e*P	**Pn**	**03 19 51.1**	**+1.1**
ABRA				*e*S	**Sn**	**03 20 28.1**	**+2.3**
SJMP	**San Jose**	**2.99**	**146**	*e*P	**Pn**	**03 19 54.0**	**+3.2**
SJMP				*e*S	**Sn**	**03 20 27.3**	**+0.3**
CAUP	**Cauayan**	**3.04**	**49**	*e*P	**Pn**	**03 19 52.4**	**+1.0**
BUSP	**Coron**	**3.04**	**165**	*e*P	**Pn**	**03 19 53.6**	**+2.2**
BUSP				*e*S	**Sn**	**03 20 30.1**	**+1.8**
GQP	**Guinayangan**	**3.12**	**109**	⇑*e*P	**Pn**	**03 19 52.9**	**+0.3**
APYP	**Conner**	**3.37**	**31**	*e*P	**Pn**	**03 19 56.8**	**+0.7**
APYP				*e*S	**Sn**	**03 20 40.1**	**+3.5**
AUQP	**San Andres**	**3.56**	**117**	*e*P	**Pn**	**03 19 59.7**	**+0.9**
OTRP	**Odiongan**	**3.62**	**135**	*e*P	**Pn**	**03 20 01.6**	**+1.8**
ENPP	**El Nido**	**3.74**	**180**	*e*P	**Pn**	**03 20 03.1**	**+1.8**
ENPP				*e*S	**Sn**	**03 20 43.0**	**-2.9**
SGCP	**Mt. Cagua**	**4.12**	**37**	*e*P	**Pn**	**03 20 07.2**	**+0.5**
SGCP				*e*S	**Sn**	**03 20 54.6**	**-1.0**
CUYO	**Cuyo Island**	**4.38**	**159**	*e*P	**Pn**	**03 20 09.4**	**-1.0**
CUYO				*e*S	**Sn**	**03 20 54.8**	**-7.4**
PVCP	**Virac**	**4.79**	**106**	*e*P	**Pn**	**03 20 16.8**	**+0.5**
PPR	**Puerto Princes**	**5.20**	**187**	⇑*e*P	**Pn**	**03 20 20.4**	**-1.7**
PAGZ	**Pagadian**	**8.07**	**151**	*e*P	**P**	**03 20 59.2**	**-3.3**
BUKP	**Musuan**	**8.96**	**141**	*e*P	**P**	**03 21 17.0**	**+2.2**
GUMO	**Guam**	**24.70**	**90**	LR	LR	03 33 41.6	
	comp=Z,240nm,19.9s,MS3.7,baz=243,slow=36						
FITZ	**Fitzroy Crossi**	**33.43**	**169**	P	**P**	**03 25 42.8**	**-0.8**
	4.8nm,0.8s,mb4.5,baz=352,slow=4.3,SNR=3.9						
FITZ				PcP	PcP	03 28 24.5	-0.6
	7.9nm,1.0s,baz=322,slow=3.7,SNR=4.3						
SONM	**Songino Array**	**34.50**	**344**	P	**P**	**03 25 53.0**	**+0.4**
	1.8nm,0.8s,mb4.0,baz=162,slow=11,SNR=3.8						
KLR	**Kul'dur**	**35.63**	**14**	*e*P	**P**	**03 25 51.3**	**-11**
MBWA	**Marble Bar**	**35.90**	**179**	*e*P	**P**	**03 26 03.6**	**-1.2**
	12nm,1.0s,mb4.8						
PMG	**Port Moresby**	**36.65**	**130**	P	**P**	**03 26 02.6**	**-8.5**
	45nm,1.2s,mb5.2						
PMG	**Port Moresby**	**36.65**	**130**	P	**P**	**03 26 02.6**	**-8.5**
PMG				pmax	pmax		
	comp=Z,45nm,1.2s						
YSS	**Yuzh-Sakhalins**	**37.36**	**27**	*e*P	**P**	**03 26 15.1**	**-1.6**
	comp=Z,16nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**37.36**	**27**	*e*P	**P**	**03 26 15.1**	**-1.7**
YSS				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**37.66**	**157**	*e*P	**P**	**03 26 16.4**	**-3.2**
	comp=Z,16nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**37.66**	**157**	*e*P	**P**	**03 26 16.4**	**-3.2**
WRAB				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**37.67**	**157**	P	**P**	**03 26 16.6**	**-3.0**
	comp=Z,9.3nm,0.8s,mb4.6,baz=337,slow=9.4,SNR=24						
CTAO	**Charters Tower**	**43.70**	**142**	*e*P	**P**	**03 27 07.3**	**-2.2**
	comp=Z,7.2nm,0.9s,mb4.4						
CTAO	**Charters Tower**	**43.70**	**142**	*e*P	**P**	**03 27 07.3**	**-2.2**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**44.28**	**324**	P	**P**	**03 27 16.7**	**+2.8**
	comp=Z,1.1nm,0.8s,mb3.6,baz=153,slow=9.7,SNR=2.6						
MKAR				PcP	PcP	03 28 58.8	0.0
	comp=Z,1.4nm,0.8s,baz=104,slow=5.0,SNR=4.2						
ZAL	**Zalesovo**	**47.37**	**333**	LR	LR	03 48 48.5	
	comp=Z,52nm,18.4s,MS3.5,baz=95,slow=38						
KURK	**Kurchatov**	**48.45**	**326**	*e*P	**P**	**03 27 48.3**	**+1.5**
	comp=Z,4.5nm,0.8s,mb4.5						
KURK	**Kurchatov**	**48.45**	**326**	*e*P	**P**	**03 27 48.3**	**+1.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**51.20**	**156**	P	**P**	**03 28 05.9**	**-2.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=298,slow=14,SNR=4.8						
STKA	**Stephens Creek**	**51.20**	**156**	*e*P	**P**	**03 28 05.8**	**-2.4**
BRVK	**Borovoye**	**54.10**	**326**	P	**P**	**03 28 29.9**	**+0.5**
	comp=Z,7.2nm,1.1s,mb4.5						
BRVK	**Borovoye**	**54.10**	**326**	P	**P**	**03 28 29.9**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
TIXI	**Tiksi**	**56.95**	**4**	*e*P	**P**	**03 28 45.1**	**-4.7**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ARU	**Arti**	**61.64**	**327**	P	**P**	**03 29 22.0**	**-0.5**
	comp=Z,7.8nm,1.3s,mb4.7						
ARU	**Arti**	**61.64**	**327**	P	**P**	**03 29 22.0**	**-0.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
JOF	**Joensuu**	**75.94**	**332**	*e*p	**P**	**03 30 50.1**	**-0.7**
MCK	**McKinley**	**77.44**	**27**	*e*P	**P**	**03 30 58.1**	**-1.0**
	comp=Z,2.1nm,0.9s,mb4.1						
MCK	**McKinley**	**77.44**	**27**	*e*P	**P**	**03 30 58.1**	**-1.0**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ARCES	**ARCESS Array B**	**77.46**	**339**	P	**P**	**03 30 59.5**	**+0.4**
	comp=Z,3.0nm,0.9s,mb4.2,baz=79,slow=6.2,SNR=14						
ILAR	**Eielson Array**	**78.16**	**26**	P	**P**	**03 31 02.9**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=257,slow=5.0,SNR=8.8						
KAF	**Kangasniemi**	**78.35**	**331**	*e*p	**P**	**03 31 03.3**	**-0.8**
FINES	**FINESS Array B**	**78.58**	**331**	P	**P**	**03 31 06.7**	**+1.3**
	comp=Z,0.6nm,0.4s,mb3.8,baz=56,slow=6.9,SNR=11						
CASY	**Casey**	**81.28**	**184**	*e*P	**P**	**03 31 19.7**	**-0.1**
	comp=Z,4.7nm,0.9s,mb4.4						
NB2	**NORSAR Subarra**	**85.57**	**332**	P	**P**	**03 31 42.0**	**+0.3**
	comp=Z,2.3nm,0.7s,mb4.5,baz=69,slow=4.6						
NB2	**NORSAR Subarra**	**85.57**	**332**	P	**P**	**03 31 42.0**	**+0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**85.57**	**332**	P	**P**	**03 31 42.4**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.4,baz=70,slow=4.9,SNR=9.7						
NOA				LR	LR	04 16 36.0	
	comp=Z,47nm,18.1s,MS3.9,baz=55,slow=40						
GERES	**GERESS Array B**	**88.87**	**321**	P	**P**	**03 31 59.2**	**+1.1**
	comp=Z,0.9nm,0.8s,mb4.1,baz=45,slow=3.8,SNR=5.8						
TXAR	**Lajitas Array**	**119.43**	**43**	PKP	PKPdf	03 37 54.5	-1.2
	comp=Z,0.7nm,0.8s,baz=276,slow=0.6,SNR=8.2						
PLCA	**Paso Flores**	**152.90**	**163**	PKPbc	PKPdf	03 39 02.6	+7.0
	comp=Z,5.0nm,0.8s,baz=183,slow=3.6,SNR=14						

MAN 01 03:37:46.7, 10.52N×125.61E, h1km, mb3.9, ML2.7, MS2.3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.74**	**189**	*e*P	Pg	03 38 00.9	-0.7
SCPH				*e*S	Sg	03 38 19.6	+8.2
PLP	**Palo**	**0.89**	**316**	*e*P	Pg	03 38 02.4	-2.2
PLP				*e*S	Sg	03 38 11.7	-4.8
BESP	**Borongan**	**1.09**	**351**	*e*P	Pb	03 38 08.8	+0.7
BESP				*e*S	Sb	03 38 24.7	+2.1

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*NIED **01** 03:39:00, 26.50N×129.70E, h5km, Mw3.9 Best double couple: Mo8.8×10^14 NP1:φs86°, δ70°, λ-58°. NP2:φs205°, δ37°, λ-146°.*
*IDC **01** 03:39:57.1±1.2, 26.48N×129.70E, mb3.8/8, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, ML3.5/1, Error ellipse: s-maj=38.2km s-min=23.8km az=67.0*
*NEIC **01** 03:39:58.7±0.8, 26.47N×129.67E, h10km, mb4.1/3, Error ellipse: s-maj=17.8km s-min=14.3km az=87.0*
*JMA **01** 03:39:59.2±0.1, 26.48N×129.73E, h44km, M3.8*
ISC 01 03:39:58.6±1.7, **26.51N**±0.04×**129.70E**±0.03, **h24**km±14km, **n27**, σ**0s98**/40, **mb3.7**/10, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.32**	**284**	Pn	**Pn**	**03 40 22.4**	**+0.6**
	baz=120,slow=14						
JOW				Sn	**Sn**	**03 40 38.1**	**-0.6**
JOW	**Kunigami**	**1.32**	**284**	P	**Pn**	**03 40 22.2**	**+0.4**
JOW				S	**Sn**	**03 40 38.5**	**-0.2**
JTK	**Tokunoshima**	**1.44**	**332**	P	**Pn**	**03 40 24.0**	**+0.5**
JTK				S	**Sn**	**03 40 42.2**	**+0.4**
JMZ	**Minamidaito 2**	**1.53**	**116**	P	**Pn**	**03 40 24.2**	**-0.6**
JMZ				S	**Sn**	**03 40 42.4**	**-1.6**
JIH	**Iheya**	**1.64**	**289**	P	**Pn**	**03 40 27.0**	**+0.6**
JIH				S	**Sn**	**03 40 46.5**	**-0.4**
JJT2	**Tamagusuku 2**	**1.79**	**259**	P	**Pn**	**03 40 29.1**	**+0.5**
JJT2				S	**Sn**	**03 40 50.1**	**-0.7**
JZK	**Kikaishima**	**1.81**	**8**	P	**Pn**	**03 40 29.8**	**+0.9**
JZK				S	**Sn**	**03 40 51.9**	**+0.5**
NAH1	**Naha**	**1.83**	**261**	P	**Pn**	**03 40 29.8**	**+0.7**
NAH1				S	**Sn**	**03 40 50.9**	**-0.9**
JAM	**Amami Oshima**	**1.90**	**357**	P	**Pn**	**03 40 30.0**	**-0.1**
JAM				S	**Sn**	**03 40 51.5**	**-2.0**
JAGN	**Aguni-jima**	**2.21**	**273**	P	**Pn**	**03 40 35.0**	**+0.5**
JAGN				S	**Sn**	**03 41 00.6**	**-0.7**
JKE	**Kume jima 2**	**2.62**	**267**	P	**Pn**	**03 40 39.7**	**-0.8**
JKE				*e*S	**Sn**	**03 41 10.6**	**-1.3**
JNN	**Nakanoshima**	**3.32**	**3**	P	**Pn**	**03 40 50.2**	**-0.2**
JNN				*e*S	**Sn**	**03 41 26.6**	**-3.0**
JNU	**Nakatsue**	**6.67**	**9**	Pn	**Pn**	**03 41 37.3**	**-0.4**
	1.0nm,0.3s,baz=41,slow=35,SNR=4.7						
JNU				Sn	**Sn**	**03 42 50.0**	**-3.8**
SONM	**Songino Array**	**28.05**	**325**	P	**P**	**03 45 52.2**	**+2.1**
	0.2nm,0.4s,mb3.1,baz=112,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**42.34**	**311**	P	**P**	**03 47 53.3**	**+1.0**
	0.2nm,0.4s,mb3.1,baz=100,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**42.34**	**311**	P	**P**	**03 47 53.3**	**+1.0**
KURK	**Kurchatov**	**45.53**	**316**	*e*P	**P**	**03 48 18.0**	**0.0**
	1.5nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**46.39**	**174**	P	**P**	**03 48 25.4**	**+0.2**
	0.5nm,0.4s,mb3.8,baz=353,slow=8.2,SNR=9.7						
PMR	**Palmer**	**62.89**	**32**	P	**P**	**03 50 21.2**	**-3.6**
	11nm,0.9s,mb5.0						
INK	**Inuvik**	**68.11**	**23**	P	**P**	**03 50 53.6**	**-4.6**
FINES	**FINESS Array B**	**73.27**	**331**	P	**P**	**03 51 29.8**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=56,slow=6.9,SNR=8.0						
AKASG	**Malin Array Be**	**76.17**	**320**	P	**P**	**03 51 46.9**	**+0.6**
	0.1nm,0.3s,mb3.2,baz=56,slow=5.6,SNR=4.2						
AKASG	**Malin Array Be**	**76.17**	**320**	P	**P**	**03 51 46.9**	**+0.6**
BRTR	**Keskin Array B**	**77.90**	**308**	P	**P**	**03 51 57.5**	**+1.3**
	1.0nm,0.8s,mb3.8,baz=90,slow=6.2,SNR=4.7						
NB2	**NORSAR Subarra**	**79.64**	**334**	P	**P**	**03 52 05.4**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=50,slow=5.0						
NOA	**NORSAR Array B**	**79.64**	**334**	P	**P**	**03 52 05.5**	**+0.3**
	0.9nm,0.8s,mb3.7,baz=52,slow=5.0,SNR=3.6						
GERES	**GERESS Array B**	**85.77**	**323**	P	**P**	**03 52 38.5**	**+1.5**
	0.3nm,0.6s,mb3.7,baz=45,slow=3.8,SNR=4.5						

BJI 01 03:40:13.7, 24.78N×100.96E, h17km, ML3.7, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.65**	**78**	⇑PG	Pn	03 40 41.9	-0.4
KMI				SG	Sn	03 41 03.2	0.0
KMI				Smax			
	comp=N,216nm,0.8s						
KMI				Smax			
	comp=E,254nm,0.7s						
NANT	**Nan**	**5.96**	**182**	P	Pn	03 42 03.0	+20
CHG	**Chiang Mai**	**6.22**	**198**	PG	Pn	03 42 10.0	+23
CHG				SG	Sn	03 43 30.3	+32

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*CSEM **01** 03:45:40.9±0.4, 36.18N×21.71E, h2km, MD3.4, Error ellipse: s-maj=14.5km s-min=6.1km az=83.0*
*ATH **01** 03:45:42.4, 36.25N×21.67E, h19km±3km, MD3.4/5*
*NEIC **01** 03:45:42.4, 36.25N×21.67E, h19km, MD3.4(ATH), After ATH.*
*HLW **01** 03:45:48.5, 36.32N×22.56E, h33km, Mb3.3*
ISC 01 03:45:41.9±1.1, **36.19N**±0.05×**21.6E**±0.1, **h19**km, **n9**, σ**1s07**/13, **1C-3D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.02**	**15**	*e*PN	**Pn**	**03 46 00.4**	**-0.9**
ITM				*e*SN	**Sn**	**03 46 14.3**	**-0.8**
KYTH	**Kithira**	**1.17**	**85**	*e*PN	**Pn**	**03 46 03.7**	**+0.4**
VLI	**Veliai**	**1.20**	**64**	*e*PN	**Pn**	**03 46 03.9**	**+0.1**
VLI				*e*SN	**Sn**	**03 46 19.6**	**-0.1**
RLS	**Riolos of Patr**	**1.87**	**357**	*e*PN	**Pn**	**03 46 14.9**	**+1.6**
VAM	**Vamos**	**2.25**	**109**	*e*PN	**Pn**	**03 46 21.0**	**+2.1**
SLUM		**5.57**	**146**	⇑P	**Pn**	**03 47 05.6**	**-0.2**
HMAT	**Matruh**	**6.84**	**136**	⇓P	**Pn**	**03 47 21.6**	**-2.3**
SWA2		**7.65**	**154**	⇓P	**Pn**	**03 47 35.6**	**+0.5**
SWA2				S	**Sn**	**03 48 53.9**	**-8.3**
SWA1		**7.72**	**152**	⇓P	**Pn**	**03 47 35.9**	**-0.3**
SWA1				S	**Sn**	**03 48 55.3**	**-8.7**

WEL 01 04:13:51.5±0.4, **45.12S**×**167.45E**, **h116**km±3km, **ML3.5**/7, **1D, Error ellipse: s-maj=3.1km s-min=2.2km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**210**	*e*PN	P	04 14 08.0	-0.6
DCZ				SN	S	04 14 20.1	-1.4
MLZ	**Mavora Lakes**	**0.56**	**114**	*e*PN	P	04 14 09.3	-0.2
MLZ				SN	S	04 14 22.7	-0.5
MSZ	**Milford Sound**	**0.57**	**37**	PN	P	04 14 09.5	0.0
MSZ				SN	S	04 14 22.9	-0.4
WKZ	**Wanaka**	**1.15**	**76**	PN	P	04 14 14.9	-0.3
WKZ				SN	S	04 14 31.8	-1.0
EAZ	**Earnscleugh**	**1.32**	**95**	⇓PN	P	04 14 16.6	-0.5
EAZ				SN	S	04 14 34.6	-1.8
JCZ	**Jackson Bay**	**1.41**	**42**	*e*PN	P	04 14 17.1	-0.9
JCZ				*e*SN	S	04 14 36.0	-2.0
TUZ	**Tuapeka**	**1.75**	**119**	PN	P	04 14 21.6	-0.5
TUZ				SN	S	04 14 42.4	-2.7
LBZ	**Lake Benmore**	**2.08**	**70**	*e*PN	P	04 14 24.4	-1.9
LBZ				*e*SN	S	04 14 48.5	-4.0
ODZ	**Otahua Downs**	**2.27**	**89**	*e*PN	P	04 14 27.0	-1.7
ODZ				SN	S	04 14 53.1	-3.8

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*IDC **01** 04:18:49.0±1.8, 1.15N×97.20E, mb4.1/6, mb1 4.3/6, mb1mx3.9/16, mbtmp4.1/6, MS3.6/1, Ms1 3.6/1, ms1mx3.1/23, Error ellipse: s-maj=77.2km s-min=27.0km az=55.0*
*BJI **01** 04:18:50.8, 0.96N×97.40E, h37km, mb4.5, Msz3.7*
*MOS **01** 04:18:52.8±1.7, 1.21N×97.30E, h33km, mb4.6/7, Error ellipse: s-maj=36.6km s-min=13.2km az=107.4*
*NEIC **01** 04:18:53.8±0.8, 1.15N×97.26E, h30km, mb4.5/13, Error ellipse: s-maj=18.4km s-min=11.0km az=220.0*
ISC 01 04:18:52.9±0.8, **1.2N**±0.1×**97.33E**±0.09, **h33**km, **n36**, σ**0s96**/34, **mb4.4**/21, **MS3.6**/2, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.22**	**39**	*e*Pn	**Pn**	**04 20 11.2**	**+0.4**
SNG	**Songkhla**	**6.75**	**29**	P	**P**	**04 20 33.0**	**+0.7**
KKM	**Kota Kinabalu**	**19.44**	**75**	*e*P	**P**	**04 23 19.9**	**+0.3**
QIZ	**Qiongzhong**	**21.52**	**34**	*e*P	**P**	**04 23 35.2**	**-6.1**
	29nm,1.1s,mb4.6						
KMI	**Kunming**	**24.32**	**12**	P	**P**	**04 24 09.9**	**+1.0**
KMI				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
KMI				LR	LR		
	comp=Z,183nm,17.2s,MS3.6						
KMI	**Kunming**	**24.32**	**12**	P	**P**	**04 24 09.9**	**+1.0**
	comp=Z,20nm,1.3s,mb4.4						
KMI				LR	LR		
	comp=Z,180nm,17.2s,MS3.6						
PKI	**Pulchoki**	**28.58**	**337**	*e*P	**P**	**04 24 50.2**	**+1.9**
	comp=Z,16nm,0.9s,mb4.7						
PKI	**Pulchoki**	**28.58**	**337**	*e*P	**P**	**04 24 50.2**	**+1.9**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
GUN	**Gumba**	**28.71**	**339**	*e*P	**P**	**04 24 49.1**	**-0.3**
	comp=Z,21nm,0.7s,mb5.0						
DMN	**Daman**	**28.73**	**337**	*e*P	**P**	**04 24 51.0**	**+1.4**
	comp=Z,11nm,0.7s,mb4.7						
KKN	**Kakani**	**28.82**	**337**	*e*P	**P**	**04 24 49.8**	**-0.7**
	comp=Z,17nm,0.9s,mb4.8						
KKN	**Kakani**	**28.82**	**337**	*e*P	**P**	**04 24 49.8**	**-0.7**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
LSA	**Lhasa**	**28.92**	**349**	*e*P	**P**	**04 24 53.1**	**+1.8**
	comp=Z,6.2nm,0.9s,mb4.3						
LSA	**Lhasa**	**28.92**	**349**	*e*P	**P**	**04 24 53.1**	**+1.8**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
GKN	**Gorkha**	**29.27**	**337**	*e*P	**P**	**04 24 53.7**	**-0.7**
	comp=Z,10nm,0.4s,mb4.9						
KOLN	**Koldanda**	**29.49**	**335**	*e*P	**P**	**04 24 55.8**	**-0.6**
	comp=Z,14nm,0.8s,mb4.8						
ENH	**Enshi**	**31.10**	**21**	*e*P	**P**	**04 25 09.8**	**-1.0**
	comp=Z,29nm,1.0s,mb5.1						
ENH				*e*		04 25 15.1	
ENH				*e*		04 25 22.4	
XAN	**Xi'an**	**34.40**	**17**	P	**P**	**04 25 37.8**	**-1.5**
GTA	**Gaotai**	**38.07**	**3**	*e*P	**P**	**04 26 10.2**	**-0.1**
GTA				AP	pP	04 26 20.1	+0.1
GTA				XP	sP	04 26 24.5	+0.2
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**41.94**	**122**	P	**P**	**04 26 42.6**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.4,baz=305,slow=8.9,SNR=6.9						
WRAB	**Tennant Creek**	**41.94**	**122**	*e*P	**P**	**04 26 43.1**	**+0.5**
	comp=Z,4.8nm,0.9s,mb4.1						
WRAB	**Tennant Creek**	**41.94**	**122**	*e*P	**P**	**04 26 43.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
JNU	**Nakatsue**	**44.70**	**41**	LR	LR	04 46 11.5	
	comp=Z,69nm,18.6s,MS3.6,baz=329,slow=37						
AAK	**Ala-Archa**	**46.02**	**337**	P	**P**	**04 27 17.1**	**+1.7**
SONM	**Songino Array**	**47.08**	**8**	P	**P**	**04 27 23.0**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.3,baz=186,slow=8.7,SNR=27						
SONM				PcP	PcP	04 28 54.4	-1.1
	comp=Z,0.6nm,0.8s,baz=186,slow=6.4,SNR=2.9						
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	**P**	**04 27 24.2**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	**P**	**04 27 24.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**	**04 27 24.1**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.2,baz=158,slow=7.8,SNR=14						
ZAK	**Zakamensk**	**49.23**	**5**	*e*P	**P**	**04 27 39.8**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
KURK	**Kurchatov**	**51.80**	**345**	*e*P	**P**	**04 27 56.3**	**-3.4**
	comp=Z,2.1nm,0.8s,mb4.1						
KURK	**Kurchatov**	**51.80**	**345**	*e*P	**P**	**04 27 56.3**	**-3.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**53.54**	**351**	P	**P**	**04 28 12.4**	**-0.3**
	comp=Z,3.1nm,0.5s,mb4.5,baz=280,slow=7.1,SNR=11						
BOD	**Bodaibo**	**57.96**	**10**	*e*P	**P**	**04 28 42.8**	**-1.6**
ARCES	**ARCESS Array B**	**82.55**	**340**	P	**P**	**04 31 13.6**	**0.0**
	comp=Z,2.4nm,1.0s,mb4.2,baz=90,slow=4.5,SNR=2.9						
GERES	**GERESS Array B**	**84.88**	**319**	P	**P**	**04 31 25.9**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.7,baz=76,slow=5.5,SNR=3.4						
TXAR	**Lajitas Array**	**143.57**	**32**	PKP	PKPdf	04 38 24.6	-0.4
	comp=Z,0.3nm,0.8s,baz=270,slow=3.6,SNR=3.0						

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*BJI **01** 04:19:12.0, 24.21N×103.26E, h15km, ML3.6*
*PLV **01** 04:19:14.0±0.9, 24.11N×103.77E, h12km±6km, MD3.9*
ISC 01 04:19:10.9±0.9, **24.11N**±0.03×**103.72E**±0.07, **h10**km, **n8**, σ**1s42**/22, **Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.35**	**319**	PG	**Pn**	**04 19 32.3**	**-3.6**
KMI				SG	**Sn**	**04 19 47.8**	**-6.1**
KMI				Smax			
	comp=N,334nm,0.7s						
KMI				Smax			
	comp=E,349nm,0.8s						
BVV	**Ba Vi**	**3.36**	**153**	*e*PN	**Pn**	**04 20 06.8**	**+2.3**
BVV				*e*Pg	**Pg**	**04 20 19.3**	**+1.4**
BVV				*e*SG	**Sg**	**04 21 03.4**	**+0.8**
GYA	**Guiyang**	**3.55**	**48**	P	**Pn**	**04 20 07.2**	**-0.1**
GYA				PG	**Pg**	**04 20 22.8**	**+1.0**
GYA				S	**Sn**	**04 20 49.8**	**0.0**
GYA				SG	**Sg**	**04 21 08.2**	**-1.0**
GYA				Smax			
	comp=N,230nm,0.7s						
GYA				Smax			
	comp=E,230nm,0.8s						
HNV	**Hanoi**	**3.60**	**147**	*e*PN	**Pn**	**04 20 09.6**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNV				ePg	Pg	04 20 23.3	+0.5
HNV				eSG	Sg	04 21 10.8	+0.1
BGV	Bac-Giang	3.63	140	ePN	Pn	04 20 10.2	+1.7
BGV				ePG	Pg	04 20 22.9	-0.6
BGV				eSG	Sg	04 21 10.3	-1.6
YTV	Yen Tu	4.04	136	ePN	Pn	04 20 15.3	+1.2
YTV				ePG	Pg	04 20 31.1	-0.4
YTV				eSG	Sg	04 21 23.8	-1.6
DSV	Doi Son	4.08	149	ePN	Pn	04 20 16.0	+1.2
DSV				ePG	Pg	04 20 31.9	-0.4
DSV				eSG	Sg	04 21 24.0	-2.6
NANT	Nan	5.98	209	P	Pg	04 21 07.0	-3.3
	comp=E,112nm,0.7s						

*NEIC **01** 04:20:45.1, 18.05N×67.76W, h56km, MD3.5(RSPR), After RSPR.*

RSPR 01 04:20:45.1, 18.05N×67.76W, h56km±1km, MD3.5/12, MD3.5/12, 8C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPR	Mayaguez	0.61	75	eS	S	04 21 06.8	-0.9
MPR	Mayaguez	0.61	75	⇓eP	P	04 20 57.2	-0.8
MPR				eS	S	04 21 06.8	-0.9
CRPR	Cabo Rojo, PR	0.62	94	⇓eP	P	04 20 57.7	-0.5
CRPR	Cabo Rojo, PR	0.62	94	eS	S	04 21 06.8	-1.1
CRPR	Cabo Rojo, PR	0.62	94	⇑eP	P	04 20 57.7	-0.5
CRPR				eS	S	04 21 06.8	-1.1
MGP	Maguayo	0.64	94	⇑eP	P	04 20 58.1	-0.3
MGP				eS	S	04 21 07.3	-1.0
LSP	Las Mesas	0.65	79	⇑eP	P	04 20 57.8	-0.8
AGPR	Aguadilla, PR	0.74	56	⇑eP	P	04 20 58.5	-1.3
AGPR				eS	S	04 21 10.0	-0.6
LRS	Lares	0.90	75	⇑eP	P	04 21 00.5	-1.4
LRS				eS	S	04 21 13.6	-0.8
PORP	Portuguez	1.07	90	⇑eP	P	04 21 03.2	-1.0
PORP				eS	S	04 21 16.7	-1.6
SJG	San Juan	1.53	88	⇓eP	P	04 21 09.7	-1.0
SJG				eS	S	04 21 29.1	-0.6
CPD	Cerro la Pandu	1.75	90	⇓eP	P	04 21 12.7	-1.1
CPD				eS	S	04 21 33.4	-1.6
HUMP	Col San Antoni	1.82	87	⇑eP	P	04 21 13.2	-1.5
HUMP				eS	S	04 21 35.7	-0.9
CBYP	Canovanas	1.82	83	⇓eP	P	04 21 12.7	-2.0
CBYP				eS	S	04 21 34.8	-1.9
MTP	Monte Pirata	2.10	89	⇑eP	P	04 21 17.5	-1.1
MTP				eS	S	04 21 42.0	-1.4

*NNC **01** 04:21:55.8±1.4, 37.02N×70.73E, h244km±17km, mpv4.0, Error ellipse: s-maj=19.4km s-min=6.5km az=49.0*

ISC 01 04:21:52.0±2.5, 36.7N±0.1×70.6E±0.2, h179km±48km, n12, σ0^{s}60/15, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.90	23	P	P	04 23 18.5	0.0
	SNR=72						
UCH	Uchtor	6.27	28	P	P	04 23 22.9	-0.4
	SNR=19						
KK31	Karatay Array	6.36	360	P	P	04 23 24.9	+0.4
	11nm,0.6s,baz=168,slow=11,SNR=164						
KK31				⇑S	S	04 24 36.3	-0.2
	5.6nm,0.3s						
EKS2	Erkin-Say	6.41	22	P	P	04 23 25.2	0.0
	SNR=24						
KZA	Kyzart	6.44	33	P	P	04 23 27.5	+1.9
	SNR=7.0						
AAK	Ala-Archa	6.62	26	P	P	04 23 28.0	+0.1
	SNR=8.9						
AAK	Ala-Archa	6.62	26	⇓P	P	04 23 27.7	-0.2
	4.8nm,0.4s						
AAK				⇑S	S	04 24 42.4	-0.1
	9.4nm,0.7s						
KBK	Karagaybulak	6.80	28	P	P	04 23 30.5	+0.1
	SNR=6.1						
CHMS	Chumysh	7.03	26	P	P	04 23 33.1	-0.2
	SNR=5.0						
USP	Ospenovka	7.18	24	P	P	04 23 34.7	-0.6
	SNR=8.2						
TKM2	Tokmak 2	7.28	30	P	P	04 23 36.2	-0.4
	SNR=6.6						
AB31	Akbulak array	14.71	332	⇑P	P	04 25 11.7	-0.7
	0.4nm,0.3s,baz=147,slow=12,SNR=17						
AB31				⇑S	S	04 27 51.3	+0.5
	0.3nm,0.5s						

*IDC **01** 04:33:32.1±2.6, 9.47N×94.71E, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=99.8km s-min=28.6km az=59.0*

ISC 01 04:33:30.1±2.1, 9.1N±0.3×93.6E±0.4, h33km, n11, σ0^{s}89/11, mb3.9/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PKI	Pulchoki	19.92	338	eP	P	04 38 01.3	-0.6
	8.1nm,0.4s						
GUN	Gumba	20.07	340	eP	P	04 38 03.1	-0.4
DMN	Daman	20.07	338	eP	P	04 38 03.0	-0.5
	6.6nm,0.4s						
KKN	Kakani	20.17	338	eP	P	04 38 03.5	-1.0
GKN	Gorkha	20.60	337	eP	P	04 38 10.0	+0.9
	7.2nm,0.3s						
KOLN	Koldanda	20.82	334	eP	P	04 38 12.0	+0.7
	4.1nm,0.3s						
MKAR	Makanchi Array	38.77	348	P	P	04 40 56.4	+3.2
	1.2nm,0.6s,mb3.8,baz=169,slow=8.2,SNR=7.7						
SONM	Songino Array	40.10	13	P	P	04 41 04.2	0.0
	1.4nm,0.6s,mb3.9,baz=189,slow=8.5,SNR=15						
ZAL	Zalesovo	45.26	353	P	P	04 41 52.7	+6.5
	3.2nm,0.5s,mb4.5,baz=313,slow=3.9,SNR=7.9						
BVAR	Borovoye Array	47.65	341	P	P	04 42 11.4	+6.3
	1.3nm,0.7s,mb4.1,baz=143,slow=7.4,SNR=8.9						
WRA	Warramunga Arr	49.43	126	P	P	04 42 19.1	-0.2
	0.2nm,0.4s,mb3.5,baz=301,slow=9.8,SNR=4.7						

*NEIC **01** 04:35:37.6±0.8, 50.16N×19.12E, h5km, MG2.6(WAR), Error ellipse: s-maj=17.3km s-min=7.0km az=173.0*
*IPEC **01** 04:35:37.6±0.1, 50.13N×19.12E, h5km±1km, ML2.3/3, Error ellipse: s-maj=1.4km s-min=0.7km az=168.0*
*PRU **01** 04:35:38.0, 50.17N×19.06E*
*CSEM **01** 04:35:39.9±0.3, 50.14N×18.99E, h2km, ML3.0/8, Error ellipse: s-maj=6.7km s-min=2.9km az=7.0*
*VIE **01** 04:35:42.9±1.3, 49.88N×18.81E, h4km±8km, mb1.9/2, ML2.4/3, Error ellipse: s-maj=7.6km s-min=5.5km az=86.0, Suspected Mining induced.*

WAR 01 04:35:38.0, 50.11N×19.17E, h0km, ML2.6, 3C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.42	74	ePG	Pg	04 35 46.0	-0.4
OJC				eSG	Sg	04 35 52.0	0.0
OKC	Ostrava-Krasne	0.71	248	ePG	Pg	04 35 51.0	-1.2
OKC				eSG	Sg	04 36 00.7	-1.1
	32nm,0.4s						
OKC	Ostrava-Krasne	0.71	248	ePg	Pg	04 35 51.3	-0.9
OKC				Sg	Sg	04 36 00.7	-1.1
	32nm,0.4s						
NIE	Niedzica	1.01	132	ePG	Pg	04 35 57.0	-1.2
NIE				eSG	Sg	04 36 11.0	-0.7
NIE	Niedzica	1.01	132	ePg	Pg	04 35 57.1	-1.1
NIE				e		04 36 11.3	
NIE				eSg	Sg	04 36 12.9	+1.2
MORC	Moravsky Berou	1.10	253	ePg	Pg	04 35 58.0	-2.0
MORC				eSg	Sg	04 36 12.1	-2.6
MORC	Moravsky Berou	1.10	253	ePg	Pg	04 35 58.0	-2.0
MORC				eSg	Sg	04 36 12.2	-2.5
	55nm,0.3s						
STHS	Stebnicka Huta	1.51	116	ePN	Pn	04 36 07.1	+0.8
STHS				eSN	Sn	04 36 28.4	+1.4
JAVC	Velka Javorina	1.59	219	ePn	Pn	04 36 07.5	+0.1
KOLL	Kolacno	1.61	198	eSN	Sn	04 36 28.0	-1.5
VYHS	Vyhne	1.63	188	ePN	Pn	04 36 06.5	-1.5
VYHS				eSN	Sn	04 36 28.2	-1.8
VYHS	Vyhne	1.63	188	ePn	Pn	04 36 06.7	-1.3
VYHS				eSn	Sn	04 36 28.2	-1.8
KECS	Kecovo	1.84	152	ePN	Pn	04 36 11.3	+0.3
KECS				eSN	Sn	04 36 35.2	-0.1
DPC	Dobruska-Polom	1.85	279	ePG	Pg	04 36 09.3	-5.5
DPC				eSG	Sg	04 36 33.5	-6.0
	24nm,0.4s						
DPC	Dobruska-Polom	1.85	279	ePn	Pn	04 36 09.2	-1.9
DPC	Dobruska-Polom	1.85	279	Pg	Pg	04 36 09.3	-5.5
DPC				Sg	Sg	04 36 33.5	-6.0
	24nm,0.4s						
VRAC	Vranov	1.85	245	ePn	Pn	04 36 09.4	-1.9
VRAC				eSg	Sg	04 36 34.7	-5.0
	14nm,0.4s						
CRVS	Cervenica-Dubn	1.92	128	ePN	Pn	04 36 13.7	+1.5
CRVS				eSN	Sn	04 36 39.2	+1.9
SMOL	Smolenice	1.96	216	eSN	Sn	04 36 36.4	-2.0
KSP	Ksiaz	1.98	293	ePG	Pg	04 36 14.0	-3.6
KSP				eSN	Sn	04 36 39.0	+0.1
KRUC	Moravsky	2.09	241	eSg	Sg	04 36 42.3	-5.2
	17nm,0.4s						
PSZ	Piszkesteto	2.24	167	⇑ePg	Pg	04 36 21.2	-1.5
PSZ				eSB	Sb	04 36 48.7	+1.3
PSZ	Piszkesteto	2.24	167	ePn	Pn	04 36 16.2	-0.6
PSZ	Piszkesteto	2.24	167	ePn	Pn	04 36 16.2	-0.6
PSZ	Piszkesteto	2.24	167	⇑eP	Pn	04 36 21.2	+4.4
PSZ				eS	Sn	04 36 47.8	+2.3
PRU	Pruhonice	2.99	270	eSG	Sg	04 37 09.7	-7.7
	8.3nm,0.5s						
KHC	Kasperske Hory	3.77	257	ePN	Pn	04 36 36.5	-2.0
KHC				eSG	Sg	04 37 35.4	-8.0
	6.9nm,0.6s						
MOA	Molln	3.94	237	⇑iPg	Pg	04 36 53.5	-3.2
MOA				⇓iSg	Sg	04 37 42.3	-7.0
	comp=Z,4.0nm,0.4s						
CLL	Collm	4.10	289	i SG	Sg	04 37 47.3	-7.2
NKC	Novy Kostel	4.32	274	eSG	Sg	04 37 53.2	-8.7
	7.4nm,0.6s						

IDC 01 04:50:21.0±4.1, 11.83S×165.98E, h55km±35km, mb3.5/5, mb1 3.8/7, mb1mx3.6/15, mbtmp3.9/7, ML4.2/2, Error ellipse: s-maj=38.9km s-min=30.6km az=91.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.39	291	P	P	04 51 52.9	-1.8
	22nm,0.3s,baz=232,slow=12,SNR=2.9						
DZM	Mont Dzumac	10.19	178	P	P	04 52 44.7	-2.6
	0.4nm,0.3s,baz=342,slow=22,SNR=10.0						
STKA	Stephens Creek	30.04	225	P	P	04 56 26.0	-1.1
	1.7nm,0.7s,baz=24,slow=10.0,SNR=3.8						
WRA	Warramunga Arr	31.44	251	P	P	04 56 36.0	-3.6
	1.0nm,0.7s,baz=83,slow=8.9,SNR=10						
SONM	Songino Array	79.43	324	P	P	05 02 22.0	-1.1
	0.5nm,0.7s,baz=139,slow=5.8,SNR=3.4						
ILAR	Eielson Array	84.18	18	P	P	05 02 44.9	-2.4
	0.2nm,0.8s,baz=248,slow=4.9,SNR=3.0						
MKAR	Makanchi Array	94.25	317	P	P	05 03 35.6	+0.2
	0.4nm,0.5s,baz=104,slow=5.9,SNR=3.6						
ARCES	ARCESS Array B	117.15	345	PKP	PKPdf	05 08 59.3	-0.3
	1.3nm,0.9s,baz=72,slow=2.9,SNR=6.4						

*LDG **01** 05:28:20.8±0.1, 46.36N×6.26E, h10km, Md2.8/3, Ml3.0/28, Error ellipse: s-maj=1.2km s-min=0.9km az=117.0*
*ZUR **01** 05:28:20.7, 46.39N×6.32E, h-2km±4km, ML2.6/8*
*STR **01** 05:28:21.9±0.2, 46.43N×6.37E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ROM **01** 05:28:22.7±0.4, 46.29N×6.40E, h10km, Md2.6/6, Error ellipse: s-maj=6.3km s-min=3.3km az=179.0*
*GEN **01** 05:28:22.6, 46.34N×6.34E, h0km, ML2.0*
*NEIC **01** 05:28:22.6, 46.34N×6.34E, h0km, ML3.0(LDG), ML2.7(STR), ML2.6(ZUR), ML2.4(GEN), After GEN.*

CSEM 01 05:28:20.7±0.0, 46.36N×6.26E, h12km, ML3.0/26, 4C-2D, Error ellipse: s-maj=0.5km s-min=0.5km az=95.0, Switzerland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GIMEL	Gimel	0.17	1	⇓iPg	Pg	05 28 24.5	-0.3
CABF	La Chapelle	0.28	335	ePg	Pg	05 28 27.3	+0.6
CABF				eSg	Sg	05 28 30.3	-0.4
	1μm,0.7s						
AIGLE	Aigle	0.48	92	⇑iPg	Pg	05 28 30.2	-0.3
AIGLE				eSg	Sg	05 28 37.3	+0.2
EMV	Vieux Emosson	0.53	124	Pg	Pg	05 28 31.5	0.0
EMV				Sg	Sg	05 28 38.6	-0.2
EMV	Vieux Emosson	0.53	124	ePg	Pg	05 28 31.1	-0.4
EMV				Sg	Sg	05 28 38.6	-0.2
SALAN	Lac Salanfe	0.54	113	⇓iPg	Pg	05 28 31.2	-0.5
SALAN				eSg	Sg	05 28 39.4	+0.4
BRANT	Les Verrieres	0.60	14	⇑iPg	Pg	05 28 32.4	-0.4
GRYON	Gryon	0.60	100	i Sg	Sg	05 28 40.3	-0.7
GRYON	Gryon	0.60	100	ePg	Pg	05 28 32.2	-0.7
GRYON				i Sg	Sg	05 28 40.3	-0.7
TORNY	Torny	0.64	49	⇑iPg	Pg	05 28 33.1	-0.5
SENIN	Lac Senin	0.72	89	ePg	Pg	05 28 34.5	-0.7
SENIN				eS	Sb	05 28 44.4	+0.2
SENIN	Lac Senin	0.72	89	⇑iPg	Pg	05 28 34.5	-0.7
SENIN				eSg	Sg	05 28 44.4	-0.5
DIX	Grande Dixence	0.84	109	Pg	Pg	05 28 37.5	-0.2
DIX				Sg	Sg	05 28 48.6	-0.5
LPL	La Plagne	0.91	159	ePg	Pg	05 28 38.0	-0.9
LPL				eP		05 28 39.2	
LPL				eSg	Sg	05 28 49.8	-1.2
	39nm,0.3s						
LPG	La Plagne	0.93	158	ePg	Pg	05 28 38.5	-0.8
LPG				eP		05 28 39.7	
LPG				eSg	Sg	05 28 50.5	-1.3
	70nm,0.3s						
LKBD	Leukerbad	0.95	88	ePg	Pg	05 28 38.7	-1.0
LOMF	Lomont	1.06	21	Pg	Pg	05 28 41.1	-1.0
LSD	Ceresole Reale	1.10	145	P	Pb	05 28 42.2	+1.1
LSD				S	Sb	05 28 56.3	+1.1
LSD	Ceresole Reale	1.10	145	P	Pb	05 28 42.2	+1.1
LSD				S	Sb	05 28 56.3	+1.1
GDM	Grand'Maison	1.16	185	Pg	Pg	05 28 45.1	+1.1
GDM				Sg	Sg	05 29 02.3	+2.8
GRN	Grenoble	1.17	198	Pg	Pg	05 28 45.5	+1.3
GRN				Sg	Sg	05 29 02.6	+2.7
MMK	Mattmark	1.22	104	Pg	Pg	05 28 44.3	-0.9
MMK				Sg	Sg	05 29 02.5	+0.9
MCGN	Macugnaga	1.27	108	Pg	Pg	05 28 45.3	-0.8
MCGN				Sg	Sg	05 29 02.1	-0.9
	28nm,0.4s						
BNI	Bardonecchia	1.34	167	ePg	Pg	05 28 47.3	-0.2
BNI				eSg	Sg	05 29 04.5	-0.9
BNI	Bardonecchia	1.34	167	ePg	Pg	05 28 47.3	-0.2
BNI				eSg	Sg	05 29 04.5	-0.9
RSP	Reno Superiore	1.39	150	P	Pn	05 28 47.5	+1.4
RSP				S	Sb	05 29 03.9	+0.1
RSP	Reno Superiore	1.39	150	P	Pn	05 28 47.5	+1.4
RSP				S	Sb	05 29 03.9	+0.1
BBS	Basel-Blauen	1.40	37	Pg	Pg	05 28 47.4	-1.3
BBS				Sg	Sg	05 29 04.7	-2.7
ORX	Oropa	1.40	121	P	Pn	05 28 47.4	+1.2
ORX				S	Sb	05 29 03.7	-0.4
ORX	Oropa	1.40	121	P	Pn	05 28 47.4	+1.2
ORX				S	Sb	05 29 03.7	-0.3
ORO	Oropa	1.41	121	Pg	Pg	05 28 48.1	-0.7
	23nm,0.2s						
FENE	Fenestrelle	1.44	157	P	Pn	05 28 48.2	+1.5
FENE	Fenestrelle	1.44	157	P	Pn	05 28 48.2	+1.4
ORIF	Oris-en-Rattie	1.47	191	ePn	Pn	05 28 45.4	-1.7
ORIF				ePg	Pg	05 28 48.1	-1.9
ORIF				eSg	Sg	05 29 07.1	-2.5
	75nm,0.6s						
RRL	Cesana Torines	1.48	166	P	Pn	05 28 49.8	+2.4
RRL				S	Sb	05 29 08.3	+1.8
RRL	Cesana Torines	1.48	166	P	Pn	05 28 49.8	+2.4
RRL				S	Sb	05 29 08.3	+1.8
HINF	Hinteralfeld	1.51	15	ePn	Pn	05 28 46.4	-1.4
HINF				ePg	Pg	05 28 49.0	-2.0
HINF				eSg	Sg	05 29 08.1	-3.1
	67nm,0.2s						
MOF	Molkenrain	1.61	21	Pg	Pg	05 28 51.0	-1.9
MOF				Sg	Sg	05 29 10.1	-4.2
MOF	Molkenrain	1.61	21	Pn	Pn	05 28 48.3	-0.8
MOF				Pg	Pg	05 28 51.0	-1.9
MOF				Sg	Sg	05 29 10.1	-4.2
MOF	Molkenrain	1.61	21	Pg	Pg	05 28 51.0	-1.9
MOF				Sg	Sg	05 29 10.1	-4.2
HAU	Haudompre	1.65	2	ePn	Pn	05 28 48.2	-1.5
HAU				ePg	Pg	05 28 51.3	-2.4
HAU				eSn	Sn	05 29 07.9	-3.0
HAU				eSg	Sg	05 29 12.8	-2.9
	43nm,0.2s						
MBDF	Montbardon	1.67	167	ePn	Pn	05 28 48.2	-1.8
MBDF				ePg	Pg	05 28 52.0	-2.1
MBDF				eSn	Sn	05 29 08.6	-2.9
MBDF				eSg	Sg	05 29 14.1	-2.4
	22nm,0.5s						
BHB	Bricherasio	1.67	155	P	Pn	05 28 51.6	+1.6
BHB	Bricherasio	1.67	155	P	Pn	05 28 51.6	+1.5
SMF	Signal de Mont	1.70	281	ePn	Pn	05 28 48.5	-1.9
SMF				ePg	Pg	05 28 52.1	-2.5
SMF				eSg	Sg	05 29 14.2	-3.1
	31nm,0.2s						
VIVF	Saint-Julien-l	1.87	217	eP	Pn	05 28 53.3	+0.4
VIVF				ePg	Pg	05 28 55.7	-2.4
VIVF				eSn	Sn	05 29 13.3	-3.3
VIVF				eSg	Sg	05 29 19.7	-3.4
	40nm,0.3s						
PLDF	La Plantade	1.88	259	Pn	Pn	05 28 56.0	+3.0
LOR	Lormes	1.88	300	ePn	Pn	05 28 51.1	-2.0
LOR				ePg	Pg	05 28 55.7	-2.7
	baz=119						
LOR				eSg	Sg	05 29 20.7	-2.8
	21nm,0.3s						
LOR	Lormes	1.88	300	ePg	Pg	05 28 55.7	-2.7
LOR				eSg	Sg	05 29 20.7	-2.8
	10nm,0.3s						
FELD	Feldberg	1.93	37	Pg	Pg	05 28 57.0	-2.3
ECH	Echery	1.96	18	Pg	Pg	05 28 57.2	-2.6
ECH				Sn	Sn	05 29 16.9	-1.8
ECH				Sg	Sg	05 29 22.5	-3.4
ECH	Echery	1.96	18	Pn	Pn	05 28 53.0	-1.1
ECH				Pg	Pg	05 28 57.2	-2.6
ECH				Sn	Sn	05 29 16.9	-1.8
ECH				Sg	Sg	05 29 22.5	-3.4
ECH	Echery	1.96	18	Pg	Pg	05 28 57.2	-2.6
ECH				Sn	Sn	05 29 16.9	-1.8
ECH				Sg	Sg	05 29 22.5	-3.4
DOI	San Damiano	1.98	159	Pg	Pg	05 28 57.0	-3.3
	7.0nm,0.4s						
SSF	Saint Saulge	2.02	291	ePn	Pn	05 28 53.0	-2.1
SSF				ePg	Pg	05 28 58.3	-2.8
SSF				eSn	Sn	05 29 17.0	-3.4
SSF				eSg	Sg	05 29 24.4	-3.7
	11nm,0.3s						
SSF	Saint Saulge	2.02	291	ePg	Pg	05 28 58.3	-2.8
SSF				eSn	Sn	05 29 17.0	-3.4
SSF				eSg	Sg	05 29 24.4	-3.7
	5.3nm,0.3s						
SFTF	Sexfontaines	2.03	336	ePn	Pn	05 28 53.0	-2.1
	baz=148						
SFTF				ePg	Pg	05 28 58.4	-2.8
	baz=147						
SFTF				eSg	Sg	05 29 25.4	-2.8
	21nm,0.3s						
SFTF	Sexfontaines	2.03	336	ePg	Pg	05 28 58.4	-2.8
SFTF				eSg	Sg	05 29 25.4	-2.8
	10nm,0.3s						
AVF	Avril sur Loir	2.05	283	eP	Pn	05 28 55.7	+0.2
AVF				ePg	Pg	05 28 58.7	-3.0
AVF				eSn	Sn	05 29 17.4	-3.8
AVF				eSg	Sg	05 29 25.0	-4.1
	12nm,0.3s						
CDF	Champ du Feu	2.17	18	ePn	Pn	05 28 55.7	-1.4
CDF				ePg	Pg	05 29 01.0	-3.0
CDF				eSn	Sn	05 29 20.3	-3.8
CDF				eSg	Sg	05 29 28.6	-4.3
	15nm,0.3s						
WLS	Welschbruch	2.19	19	Pg	Pg	05 29 01.7	-2.7
WLS	Welschbruch	2.19	19	Pn	Pn	05 28 55.9	-1.5
WLS				Pg	Pg	05 29 01.7	-2.7
WLS	Welschbruch	2.19	19	Pg	Pg	05 29 01.7	-2.7
ENR	Entracque	2.28	159	P	Pn	05 29 00.3	+1.5
ENR	Entracque	2.28	159	P	Pn	05 29 00.3	+1.5
MEZF	Maizieres J'vi	2.30	339	ePn	Pn	05 28 56.7	-2.3
MEZF				ePg	Pg	05 29 03.0	-3.6
	baz=169						
MEZF				eSg	Sg	05 29 32.8	-4.4
	20nm,0.3s						
MEZF	Maizieres J'vi	2.30	339	ePg	Pg	05 29 03.0	-3.6
MEZF				eSg	Sg	05 29 32.8	-4.4
	9.9nm,0.3s						
RFYF	Reffroy	2.33	347	ePn	Pn	05 28 57.3	-2.2
RFYF				eSn	Sn	05 29 24.1	-4.2
RFYF				eSg	Sg	05 29 34.3	-4.2
	21nm,0.3s						
PYM	Petit Puy Mans	2.35	256	Pg	Pg	05 29 07.8	+0.2
ROB	Roburent	2.36	151	P	Pn	05 29 00.7	+0.8
ROB	Roburent	2.36	151	P	Pn	05 29 00.7	+0.8
BGF	Bois d'Agland	2.37	276	eP	Pn	05 29 00.4	+0.4
BGF				ePg	Pg	05 29 04.6	-3.4
BGF				eSn	Sn	05 29 24.9	-4.4
BGF				eSg	Sg	05 29 35.3	-4.4
	29nm,0.3s						
PCP	Pian Castagno	2.43	138	P	Pn	05 29 02.1	+1.2
SMRF	Simiane la Rot	2.43	192	ePn	Pn	05 28 58.5	-2.4
SMRF				ePg	Pg	05 29 05.8	-3.5
SMRF				eSg	Sg	05 29 37.1	-4.7
	6.7nm,0.5s						
HYF	Humbligny	2.65	291	ePn	Pn	05 29 01.5	-2.5
HYF				eSn	Sn	05 29 31.9	-4.5
TCF	Toulx Ste Croi	2.81	270	ePn	Pn	05 29 03.7	-2.6
TCF				ePg	Pg	05 29 12.8	-4.0
TCF				eSn	Sn	05 29 35.7	-4.7
TCF				eSg	Sg	05 29 49.0	-5.3
	13nm,0.5s						
FRF	La Foret Royal	2.81	174	ePn	Pn	05 29 03.7	-2.7
LASF	Ste Croix	2.85	218	ePn	Pn	05 29 05.2	-1.6
LASF				ePg	Pg	05 29 13.3	-4.3
LASF				eSg	Sg	05 29 50.3	-5.2
	33nm,0.5s						
LMR	La Mourre	3.03	177	ePn	Pn	05 29 07.4	-2.1
LMR				ePg	Pg	05 29 16.9	-4.3
LMR				eSn	Sn	05 29 41.0	-5.0
LMR				eSg	Sg	05 29 56.5	-5.1
	4.8nm,0.4s						
CAF	Calviac	3.27	246	ePn	Pn	05 29 10.4	-2.5
CAF				ePg	Pg	05 29 21.3	-4.8
CAF				eSn	Sn	05 29 49.8	-2.4
CAF				eSg	Sg	05 30 03.7	-6.1
	9.6nm,0.4s						
RJF	Les Rejaudoux	3.48	254	ePn	Pn	05 29 13.1	-2.8
RJF				eSg	Sg	05 30 10.0	-6.6
	14nm,0.5s						
MTLF	Montolieu	4.17	225	ePn	Pn	05 29 22.6	-3.0
MTLF				ePg	Pg	05 29 37.9	-6.0
MTLF				eSn	Sn	05 30 07.9	-6.9
MTLF				eSg	Sg	05 30 31.2	-8.3
	7.1nm,0.5s						
MFF	Saint Martin d	4.43	275	ePn	Pn	05 29 26.4	-3.0
MFF				eSn	Sn	05 30 14.5	-7.0
	2.6nm,0.3s						
GRR	Gorron	5.25	295	ePn	Pn	05 29 38.1	-2.8
EPF	Esparros	5.37	234	ePn	Pn	05 29 39.7	-3.0
EPF				eSg	Sg	05 31 11.9	-7.8
	5.4nm,0.5s						
ETSF	Etsaut	5.97	237	ePn	Pn	05 29 47.5	-3.6
ETSF				ePg	Pg	05 30 11.1	-8.8
ETSF				eSg	Sg	05 31 30.7	-8.8
	1.2nm,0.3s						

NNC 01 05:40:29.5±4.4, 37.33N×71.47E, h246km±97km, mpv3.5, 3C-3D, Error ellipse: s-maj=90.3km s-min=44.5km az=60.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.78	23	⇓P	P	05 41 52.0	-3.5
	1.4nm,0.6s						
AAK				⇓S	S	05 43 06.6	+4.0
	9.0nm,0.6s						
KK31	Karatay Array	5.81	353	⇓P	P	05 41 55.3	-0.5
	2.9nm,0.3s,baz=169,slow=12						
KK31				⇑S	S	05 43 03.7	+0.5
	6.5nm,0.4s,baz=177,slow=22,SNR=26						
AB31	Akbulak array	14.55	329	⇑P	P	05 43 45.0	-0.5
	0.4nm,0.4s,baz=142,slow=12,SNR=17						
AB31				⇑S	S	05 46 25.4	+4.6
	0.4nm,0.5s						

IDC 01 05:45:41.6±1.2**,76.12S**×**164.08E,mb3.9**/2**,mb1 4.2**/2**, mb1mx3.8**/10**,mbtmp3.9**/2**,Error ellipse: s-maj=58.9km s-min=15.0km az=102.0,Ross Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**1.50**	**199**	Pg	Pg	05 46 10.0	-1.5
	16nm,0.3s,baz=33,slow=18,SNR=1443						
VNDA				Lg		05 46 28.2	
	123nm,0.3s,baz=128,slow=19,SNR=39						
SNAA	**Sanae**	**32.21**	**188**	P	P	05 52 11.2	-1.5
	0.5nm,0.8s,baz=186,slow=7.9,SNR=4.4						
WRA	**Warramunga Arr**	**58.25**	**327**	P	P	05 55 37.3	-2.5
	3.2nm,0.9s,baz=171,slow=6.2,SNR=6.2						
ILAR	**Eielson Array**	**143.99**	**33**	PKP	PKPdf	06 05 15.6	-3.0
	0.6nm,0.9s,baz=210,slow=4.7,SNR=4.0						
GERES	**GERESS Array B**	**150.13**	**221**	PKPbc	PKPdf	06 05 32.3	+3.0
	2.1nm,0.7s,baz=153,slow=3.0,SNR=17						
SCHQ	**Schefferville**	**151.59**	**109**	PKPbc	PKPdf	06 05 35.5	+4.2
	3.6nm,0.9s,baz=203,slow=5.6,SNR=3.7						

*ISK **01** 05:47:07.5,37.13N×28.71E,h11km,MD3.2*
*NEIC **01** 05:47:07.0,37.13N×28.72E,h10km,MD3.2(ISK), MD3.0(ATH),After ISK.*
*CSEM **01** 05:47:07.4±0.1,37.18N×28.73E,h5km,MD3.2,Error ellipse: s-maj=2.6km s-min=1.5km az=179.0*
*ATH **01** 05:47:08.5,37.25N×28.67E,h22km±4km,MD3.0/4*
ISC 01 05:47:07.7±0.6**,37.14N**±0.03×**28.72E**±0.03**,h0**km±5km**, n28,**σ**0.96**/39**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.35**	**269**	PG	**Pg**	**05 47 15.1**	**+0.4**
YER				SG	**Sg**	**05 47 20.6**	**+1.3**
DALT	**Dalyan (Mudla)**	**0.38**	**190**	PG	**Pg**	**05 47 14.5**	**-0.8**
DNZL	**Cakiroluk**	**0.60**	**25**	*i* P	**Pg**	**05 47 19.2**	**-0.4**
DNZL				*i* S	**Sg**	**05 47 29.1**	**+1.3**
DENT	**Denizli**	**0.66**	**22**	PG	**Pg**	**05 47 20.3**	**-0.5**
DENT				SG	**Sg**	**05 47 31.0**	**+1.5**
GOLH	**Golhisar**	**0.68**	**82**	*i* P	**Pg**	**05 47 19.6**	**-1.6**
GOLH				*i* S	**Sg**	**05 47 31.6**	**+1.4**
MLSB	**Milas**	**0.77**	**282**	PG	**Pg**	**05 47 22.5**	**-0.5**
AYDN	**Tasoluk**	**0.85**	**308**	*i* P	**Pg**	**05 47 24.1**	**-0.5**
AYDN				*i* S	**Sg**	**05 47 36.0**	**+0.2**
BDRM	**Kayabasi**	**1.02**	**266**	*i* P	**Pb**	**05 47 28.2**	**+0.3**
BDRM				*i* S	**Sb**	**05 47 43.2**	**+1.5**
ELL	**Elmali**	**1.03**	**112**	PG	**Pg**	**05 47 28.1**	**-0.1**
ARG	**Arkhangelos**	**1.04**	**208**	*e*PN	**Pn**	**05 47 30.0**	**+0.7**
ARG				*e*SN	**Sn**	**05 47 45.5**	**+0.8**
BODT	**Bodrum**	**1.13**	**266**	PN	**Pn**	**05 47 29.3**	**-1.3**
AKAS	**Kas**	**1.15**	**142**	*i* P	**Pb**	**05 47 29.7**	**-0.4**
AKAS				*i* S	**Sb**	**05 47 50.7**	**+5.2**
KSL	**Kastellorizon**	**1.21**	**145**	*e*PN	**Pn**	**05 47 33.5**	**+1.8**
KHL	**Karahalli**	**1.34**	**28**	PN	**Pn**	**05 47 32.6**	**-0.9**
MANT	**Manisa**	**1.35**	**355**	*i* P	**Pb**	**05 47 32.7**	**-0.8**
MANT				*i* S	**Sb**	**05 47 52.4**	**+1.2**
BCK	**Bucak**	**1.52**	**77**	*e*PN	**Pn**	**05 47 35.9**	**-0.3**
TKTP	**Tekketepe**	**1.55**	**54**	*i* P	**Pn**	**05 47 36.9**	**+0.3**
TKTP				*i* S	**Sb**	**05 47 58.5**	**+1.4**
ANTB	**Antalya**	**1.56**	**98**	*e*PN	**Pn**	**05 47 36.4**	**-0.4**
ISP	**Isparta**	**1.58**	**63**	*e*PN	**Pn**	**05 47 36.5**	**-0.6**
SMG	**Samos**	**1.60**	**291**	*e*PN	**Pn**	**05 47 36.5**	**-0.8**
IZM	**Izmir**	**1.70**	**318**	*e*PN	**Pn**	**05 47 38.4**	**-0.4**
KDAG	**Bornova**	**1.71**	**318**	*i* P	**Pn**	**05 47 37.2**	**-1.6**
KDAG				*i* S	**Sb**	**05 47 57.2**	**-4.3**
BLCB	**Balcova**	**1.82**	**313**	*e*PN	**Pn**	**05 47 39.4**	**-1.0**
AKS	**Akhisar**	**1.88**	**338**	*e*PN	**Pn**	**05 47 40.7**	**-0.5**
KARP	**Karpathos**	**2.03**	**219**	*e*PN	**Pn**	**05 47 45.0**	**+1.5**
ALT	**Altintas**	**2.20**	**29**	*e*PN	**Pn**	**05 47 45.6**	**-0.3**
KONT	**Konya--Tatoy**	**3.00**	**73**	*e*PN	**Pn**	**05 47 56.8**	**-0.5**
HDMB	**Hadim**	**3.02**	**92**	*e*PN	**Pn**	**05 47 56.6**	**-0.9**

*NEIC **01** 05:49:33.1,59.97N×152.70W,h103km,MG3.9(AEIC), After AEIC.*
*IDC **01** 05:49:34.9±5.4,60.23N×152.61W,h122km±50km,mb3.9/4, mb1 4.0/9,mb1mx3.6/24,mbtmp4.3/9,Error ellipse: s-maj=46.2km s-min=22.1km az=44.0*
ISC 01 05:49:30.7±0.2**,59.97N**±0.02×**152.61W**±0.04**, h115**km±2km**,n111,**σ**0.81**/143**,mb4.3**/4**,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.21**	**283**	P	**P**	**05 49 47.1**	**+0.2**
IVE				S	**S**	**05 49 58.8**	**-0.2**
ILS	**Iliamna Low So**	**0.23**	**267**	P	**P**	**05 49 47.1**	**+0.2**
ILS				S	**S**	**05 49 59.1**	**0.0**
IVS	**Iliamna South**	**0.24**	**279**	P	**P**	**05 49 47.5**	**+0.6**
IVS				S	**S**	**05 49 59.1**	**0.0**
INE	**Iliamna NE**	**0.25**	**292**	P	**P**	**05 49 47.4**	**+0.4**
INE				S	**S**	**05 49 59.2**	**0.0**
OPT	**Oil Point**	**0.45**	**225**	P	**P**	**05 49 48.2**	**+0.2**
RSO	**Redoubt South**	**0.50**	**351**	P	**P**	**05 49 49.0**	**+0.7**
HOM	**Homer**	**0.58**	**122**	P	**P**	**05 49 49.9**	**+1.1**
HOM				S	**S**	**05 50 03.7**	**+1.2**
RDT	**Redoubt**	**0.61**	**9**	P	**P**	**05 49 49.6**	**+0.6**
RDT				S	**S**	**05 50 02.5**	**-0.4**
XLV	**Seldovia**	**0.69**	**139**	P	**P**	**05 49 50.2**	**+0.7**
AUL	**Augustine Lava**	**0.73**	**216**	P	**P**	**05 49 50.3**	**+0.4**
AUL				S	**S**	**05 50 04.2**	**-0.3**
AUE	**Augustine Isla**	**0.73**	**213**	P	**P**	**05 49 50.1**	**+0.2**
AUE				S	**S**	**05 50 02.5**	**-1.9**
AUP	**Augustine Pinn**	**0.74**	**214**	P	**P**	**05 49 50.4**	**+0.4**
AGU	**Augustine-Summ**	**0.74**	**215**	P	**P**	**05 49 50.4**	**+0.4**
AGU				S	**S**	**05 50 04.2**	**-0.5**
AUI	**Augustine Isla**	**0.76**	**214**	P	**P**	**05 49 50.4**	**+0.1**
AUI				S	**S**	**05 50 03.9**	**-1.1**
PDB	**Pedro Bay**	**0.82**	**258**	P	**P**	**05 49 50.9**	**+0.1**
PDB				S	**S**	**05 50 04.6**	**-1.3**
CNPM	**China Poot**	**0.82**	**122**	P	**P**	**05 49 51.9**	**+1.0**
CNPM				S	**S**	**05 50 06.9**	**+0.9**
CKL	**Chakachamna La**	**1.24**	**6**	P	**P**	**05 49 56.0**	**+0.8**
CKL				S	**S**	**05 50 14.5**	**+0.9**
SPU	**Mount Spurr**	**1.25**	**12**	P	**P**	**05 49 56.0**	**+0.7**
SPU				S	**S**	**05 50 13.6**	**-0.2**
BGL	**Barrier Glacie**	**1.30**	**5**	P	**P**	**05 49 56.9**	**+1.0**
SLKM	**Skilak Lake**	**1.30**	**65**	P	**P**	**05 49 56.9**	**+0.9**
SYI	**Shuyak Island**	**1.37**	**175**	P	**P**	**05 49 57.1**	**+0.3**
SYI				S	**S**	**05 50 15.8**	**-0.7**
BGM	**Big Mountain**	**1.45**	**248**	P	**P**	**05 49 57.2**	**-0.5**
BGM				S	**S**	**05 50 16.1**	**-1.9**
NCG	**North Capps Gl**	**1.45**	**9**	P	**P**	**05 49 58.6**	**+0.8**
VOGL	**Vogel Lake**	**1.49**	**45**	P	**P**	**05 50 00.4**	**+2.3**
SEW	**Seward**	**1.59**	**84**	P	**P**	**05 50 00.0**	**+0.7**
SEW				S	**S**	**05 50 20.2**	**-0.7**
KAPH	**Katmai Pasha**	**1.64**	**214**	P	**P**	**05 50 00.3**	**+0.3**
KAPH				S	**S**	**05 50 21.7**	**-0.3**
FIB	**Fire Island**	**1.70**	**44**	P	**P**	**05 50 02.4**	**+1.8**
MPA	**Moose Pass**	**1.70**	**71**	P	**P**	**05 50 01.6**	**+0.9**
MPA				S	**S**	**05 50 22.7**	**-0.5**
KAHG	**Katmai Hook Gl**	**1.79**	**215**	P	**P**	**05 50 02.0**	**+0.3**
KAHC	**Katmai Hardscr**	**1.81**	**224**	P	**P**	**05 50 02.2**	**+0.2**
KAHC				S	**S**	**05 50 24.4**	**-1.1**
SVW2	**Sparrevohn**	**1.85**	**309**	P	**P**	**05 50 02.2**	**-0.3**
KAIC	**Katmai Ikaglui**	**1.95**	**221**	P	**P**	**05 50 04.0**	**+0.2**
KDAK	**Kodiak Island**	**2.19**	**180**	P	**P**	**05 50 06.0**	**-1.0**
KDAK				S	**S**	**05 50 26.7**	**-7.6**
KABR	**Katmai Barrier**	**2.21**	**215**	P	**P**	**05 50 07.3**	**+0.1**
ACHA	**Angle Creek He**	**2.26**	**220**	P	**P**	**05 50 08.0**	**+0.2**
MGLS	**Mageik LS**	**2.26**	**220**	P	**P**	**05 50 08.2**	**+0.4**
PWL	**Port Wells**	**2.30**	**65**	P	**P**	**05 50 08.3**	**0.0**
ANCK	**Angle Creek**	**2.32**	**221**	P	**P**	**05 50 08.7**	**+0.1**
PMR	**Palmer**	**2.35**	**45**	P	**P**	**05 50 08.9**	**-0.2**
CAHL	**Cahill**	**2.38**	**217**	P	**P**	**05 50 09.8**	**+0.4**
CNTC	**Contact Creek**	**2.41**	**226**	P	**P**	**05 50 09.9**	**+0.1**
KJL	**Kejulik**	**2.46**	**220**	P	**P**	**05 50 11.1**	**+0.5**
GHO	**Glory Hole Cre**	**2.55**	**43**	P	**P**	**05 50 11.7**	**0.0**
GHO				S	**S**	**05 50 42.2**	**-0.5**
CUT	**Chulitna**	**2.69**	**24**	P	**P**	**05 50 14.0**	**+0.3**
SML	**Sawmill**	**2.79**	**47**	P	**P**	**05 50 14.7**	**-0.2**
GLI	**Glacier Island**	**2.88**	**69**	P	**P**	**05 50 16.9**	**+0.8**
HIN	**Hinchinbrook I**	**3.08**	**79**	P	**P**	**05 50 19.6**	**+0.8**
FID	**Port Fidalgo**	**3.14**	**73**	P	**P**	**05 50 20.1**	**+0.4**
FID				S	**S**	**05 50 53.8**	**-3.1**
SCM	**Sheep Creek Mo**	**3.18**	**52**	P	**P**	**05 50 20.2**	**-0.1**
SCM				S	**S**	**05 50 57.1**	**-0.7**
MID	**Middleton Isla**	**3.22**	**97**	P	**P**	**05 50 21.2**	**+0.4**
VLZ	**Valdez**	**3.31**	**67**	P	**P**	**05 50 22.6**	**+0.6**
VLZ				S	**S**	**05 50 58.7**	**-2.2**
HUR	**Hurricane**	**3.34**	**24**	P	**P**	05 50 23.2	+0.9
TT01	**Tatalina**	**3.37**	**332**	P	**P**	05 50 22.4	-0.4
EYAK	**Cordova Ski Ar**	**3.47**	**77**	P	**P**	05 50 24.7	+0.6
EYAK				S	**S**	05 51 03.4	-1.2
DIV	**Divide**	**3.57**	**68**	P	**P**	05 50 26.1	+0.6
DIV				S	**S**	05 51 04.9	-2.3
KLU	**Klutina**	**3.62**	**62**	P	**P**	05 50 25.8	-0.3
KLU				S	**S**	05 51 06.0	-2.3
KTH	**Kantishna Hill**	**3.68**	**12**	P	**P**	05 50 26.8	-0.1
RND	**Reindeer**	**3.88**	**26**	P	**P**	05 50 30.0	+0.3
TZL	**Tazlina**	**4.07**	**56**	P	**P**	05 50 32.2	0.0
BMRM	**Bremner River**	**4.08**	**72**	P	**P**	05 50 32.7	+0.2
BMRM				S	**S**	05 51 17.5	-2.1
MCK	**McKinley**	**4.16**	**23**	P	**P**	05 50 34.0	+0.6
SDG	**Sourdough**	**4.27**	**50**	P	**P**	05 50 34.6	-0.2
WACK	**Wrangell Chich**	**4.51**	**60**	P	**P**	05 50 38.2	0.0
PAX	**Paxson**	**4.56**	**46**	P	**P**	05 50 38.8	0.0
GLB	**Gilahina Butte**	**4.57**	**67**	P	**P**	05 50 38.5	-0.4
THY	**Trims Highway**	**4.75**	**40**	P	**P**	05 50 42.3	+0.8
CRQM	**Cirque**	**4.77**	**76**	P	**P**	05 50 42.7	+1.1
CHGN	**Chignik**	**4.80**	**222**	P	**P**	05 50 41.0	-1.1
WAX	**Waxell Ridge**	**4.89**	**80**	P	**P**	05 50 44.0	+0.7
WRH	**Wood River Hil**	**4.99**	**23**	P	**P**	05 50 44.4	-0.2
HDA	**Harding Lake**	**5.18**	**28**	P	**P**	05 50 47.0	-0.2
BALM	**Baldy**	**5.18**	**74**	P	**P**	05 50 47.9	+0.7
BALM				S	**S**	05 51 43.6	-2.7
MENT	**Mentasta**	**5.20**	**51**	P	**P**	05 50 47.1	-0.4
CCB	**Clear Creek Bu**	**5.20**	**23**	P	**P**	05 50 46.7	-0.7
COLA	**College**	**5.39**	**22**	P	**P**	05 50 49.9	-0.2
MDM	**Murphy Dome**	**5.40**	**20**	P	**P**	05 50 50.0	-0.2
YAH	**Yahtse**	**5.44**	**81**	P	**P**	05 50 51.9	+1.2
DOT	**Dot Lake**	**5.48**	**44**	P	**P**	05 50 51.3	+0.1
IL1	**Eielson Array**	**5.50**	**26**	P	**P**	05 50 51.2	-0.4
ILAR	**Eielson Array**	**5.50**	**26**	P	**P**	05 50 51.0	-0.6
	9.8nm,0.3s,baz=217,slow=14,SNR=446						
ILAR				S	**S**	05 51 51.4	-2.7
	2.4nm,0.3s,baz=231,slow=22,SNR=4.6						
IM3	**Indian Mountai**	**6.06**	**356**	P	**P**	05 50 58.6	-0.5
IMA	**Indian Mountai**	**6.14**	**356**	*e*P	**P**	05 50 59.7	-0.5
PCA	**Pinnacle**	**6.19**	**83**	P	**P**	05 51 01.9	+1.0
SDPT	**Sand Point**	**6.27**	**226**	P	**P**	05 51 00.7	-1.3
PRP	**Porcupine Dome**	**6.44**	**27**	P	**P**	05 51 04.4	0.0
BLHA	**Black Hill**	**6.62**	**234**	P	**P**	05 51 02.6	-4.2
PNL	**Peninsula**	**6.67**	**87**	P	**P**	05 51 07.8	+0.2
PN7A	**Pavlof North-7**	**6.78**	**232**	P	**P**	05 51 09.4	+0.3
DT1	**Dutton Round H**	**7.13**	**231**	P	**P**	05 51 13.9	+0.1
BALA	**Baldy Mountain**	**7.27**	**233**	P	**P**	05 51 15.7	0.0
COLD	**Coldfoot**	**7.36**	**7**	P	**P**	05 51 16.7	-0.3
DAWY	**Dawson**	**7.44**	**51**	P	**P**	05 51 17.9	-0.2
SSLW	**Shishaldin Wes**	**8.11**	**235**	P	**P**	05 51 26.7	-0.3
BM3	**Burnt Mountain**	**8.27**	**22**	P	**P**	05 51 28.1	-1.1
WESE	**West Dahl East**	**8.52**	**235**	P	**P**	05 51 32.1	-0.4
WHY	**Whitehorse**	**8.82**	**78**	P	**P**	05 51 37.4	+0.8
TNA	**Tin City**	**8.97**	**315**	P	**P**	05 51 38.9	+0.3
MTBL	**Makushin Table**	**9.75**	**238**	P	**P**	05 51 48.5	-0.3
NIKO	**Nikolski**	**11.37**	**239**	P	**P**	05 52 10.6	+0.1
DLBC	**Dease Lake**	**11.66**	**88**	P	**P**	05 52 18.5	+4.3
	2.8nm,0.3s,baz=255,slow=8.4,SNR=45						
DLBC				S	**S**	05 54 21.0	-1.5
	0.4nm,0.3s,baz=163,slow=19,SNR=4.0						
DLBC	**Dease Lake**	**11.66**	**88**	*e*P	**P**	05 52 17.4	+3.2
INK	**Inuvik**	**11.74**	**37**	P	**P**	05 52 16.4	+1.1
	0.4nm,0.3s,baz=255,slow=20,SNR=8.8						
INK	**Inuvik**	**11.74**	**37**	*e*P	**P**	05 52 15.6	+0.3
BBB	**Bella Bella**	**15.66**	**109**	P	**P**	05 53 10.7	+4.9
	0.1nm,0.3s,slow=19,SNR=2.9						
YKA	**Yellowknife Ar**	**18.28**	**66**	P	**P**	05 53 38.2	+0.7
	0.9nm,0.3s,baz=276,slow=10,SNR=9.1						
YKA	**Yellowknife Ar**	**18.28**	**66**	P	**P**	05 53 38.2	+0.7
SONM	**Songino Array**	**54.97**	**306**	P	**P**	05 58 52.2	+0.6
	1.8nm,0.5s,mb4.4,baz=48,slow=5.7,SNR=18						
ZAL	**Zalesovo**	**57.53**	**324**	P	**P**	05 59 09.7	0.0
	2.4nm,0.5s,mb4.5,baz=33,slow=2.7,SNR=5.8						
BVAR	**Borovoye Array**	**62.19**	**332**	P	**P**	05 59 41.1	-0.5
	2.1nm,0.5s,mb4.4,baz=30,slow=5.8,SNR=17						
MKAR	**Makanchi Array**	**64.58**	**322**	P	**P**	05 59 56.5	-0.7
	0.9nm,0.5s,mb3.9,baz=35,slow=6.4,SNR=10						
MKAR	**Makanchi Array**	**64.58**	**322**	P	**P**	05 59 56.5	-0.7

*IDC **01** 06:02:55.1±8.2,23.91S×179.79W,h510km±102km, mb3.5/5,mb1 3.6/6,mb1mx3.3/15,mbtmp4.4/6,Error ellipse: s-maj=63.3km s-min=28.5km az=9.0*
*NEIC **01** 06:03:00.2±3.2,24.32S×179.87W,h584km±36km,mb4.2/6, Error ellipse: s-maj=39.8km s-min=13.8km az=202.0*
ISC 01 06:03:00.9±4.9**,24.3S**±0.3×**180.0W**±0.2**,h606**km±59km**, n15,**σ**0.76**/16**,mb4.1**/9**,1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.14**	**189**	P	**P**	**06 06 00.3**	**-0.2**
	0.6nm,0.3s,baz=358,slow=10.0,SNR=4.2						
URZ				S	**S**	**06 08 32.5**	**+7.6**
	0.5nm,0.3s,baz=76,slow=22,SNR=6.9						
CTA	**Charters Tower**	**31.51**	**271**	⇓*i*P	**P**	**06 08 36.6**	**0.0**
	5.5nm,0.4s,mb4.5						
CTA	**Charters Tower**	**31.51**	**271**	P	**P**	**06 08 36.7**	**+0.1**
	7.8nm,0.4s,mb4.7,baz=90,slow=9.2,SNR=14						
CTAO	**Charters Tower**	**31.51**	**271**	*e*P	**P**	**06 08 36.4**	**-0.2**
	9.3nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**06 09 03.5**	**+1.1**
	0.9nm,0.3s,mb3.8,baz=117,slow=15,SNR=3.5						
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**06 09 03.5**	**+1.1**
WB2	**Warramunga Arr**	**42.40**	**267**	*e*P	**P**	**06 10 04.7**	**-0.8**
WRAB	**Tennant Creek**	**42.41**	**267**	*e*P	**P**	**06 10 04.9**	**-0.6**
	6.5nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**42.41**	**267**	P	**P**	**06 10 05.3**	**-0.3**
	4.1nm,0.5s,mb4.2,baz=102,slow=8.2,SNR=83						
FITZ	**Fitzroy Crossi**	**50.83**	**266**	*e*P	**P**	**06 11 10.0**	**+0.8**
	7.0nm,1.5s,mb3.9						
FITZ	**Fitzroy Crossi**	**50.83**	**266**	P	**P**	**06 11 10.3**	**+1.1**
	2.2nm,0.5s,mb3.9,baz=133,slow=5.5,SNR=8.2						
MBWA	**Marble Bar**	**55.34**	**260**	*e*P	**P**	**06 11 40.6**	**-0.3**
	3.1nm,0.8s,mb3.7						
PLCA	**Paso Flores**	**87.97**	**134**	P	**P**	**06 14 49.1**	**+0.4**
	2.7nm,1.1s,mb3.9						
EFI	**East Falkland**	**88.86**	**148**	P	**P**	**06 14 51.8**	**-0.8**
	50nm,1.1s,mb5.3						
TXAR	**Lajitas Array**	**90.61**	**58**	P	**P**	**06 15 01.4**	**+0.3**
	0.3nm,0.7s,mb3.3,baz=208,slow=7.0,SNR=6.0						

*IDC **01** 06:36:42.9±0.8,2.29N×128.89E,mb4.0/11,mb1 4.1/11, mb1mx4.1/18,mbtmp4.0/11,Error ellipse: s-maj=47.3km s-min=15.5km az=82.0*
*NEIC **01** 06:36:49.9±4.7,2.26N×128.88E,h52km±45km,mb4.3/2, Error ellipse: s-maj=29.3km s-min=12.3km az=82.0*
ISC 01 06:36:46.1±0.6**,2.28N**±0.08×**128.8E**±0.2**,h33**km**,n14,** σ**0.69**/14**,mb4.0**/12**,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.48**	**188**	P	**P**	**06 41 23.7**	**-0.3**
	5.8nm,0.7s,baz=17,slow=10,SNR=7.8						
WRAB	**Tennant Creek**	**22.75**	**166**	*e*P	**P**	**06 41 47.3**	**+0.5**
	7.9nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**22.75**	**166**	P	**P**	**06 41 47.4**	**+0.6**
	3.2nm,0.8s,mb3.8,baz=344,slow=10,SNR=6.9						
MJAR	**Matsushiro Arr**	**35.20**	**13**	P	**P**	**06 43 38.1**	**-1.2**
	1.7nm,0.7s,mb4.1,baz=182,slow=9.1,SNR=5.2						
STKA	**Stephens Creek**	**36.09**	**161**	P	**P**	**06 43 47.0**	**+0.1**
	2.0nm,0.7s,mb4.2,baz=314,slow=2.6,SNR=6.0						
STKA	**Stephens Creek**	**36.09**	**161**	*e*P	**P**	**06 43 46.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**36.67**	**196**	P	**P**	**06 43 50.6**	**-1.2**
	5.6nm,0.6s,mb4.6,baz=186,slow=6.4,SNR=5.6						
SONM	**Songino Array**	**49.32**	**340**	P	**P**	**06 45 34.7**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=143,slow=7.2,SNR=3.1						
MKAR	**Makanchi Array**	**59.89**	**325**	P	**P**	**06 46 52.1**	**+0.9**
	1.0nm,0.7s,mb4.0,baz=118,slow=8.4,SNR=9.3						
KURK	**Kurchatov**	**64.04**	**327**	P	**P**	**06 47 18.8**	**-0.1**
	2.6nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**69.63**	**327**	P	**P**	**06 47 54.6**	**+0.5**
	0.4nm,0.4s,mb3.7,baz=135,slow=6.3,SNR=4.3						
VNDA	**Vanda**	**81.75**	**173**	P	**P**	**06 49 02.6**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=322,slow=8.0,SNR=7.3						
ILAR	**Eielson Array**	**85.54**	**25**	P	**P**	**06 49 22.4**	**+0.5**
	0.2nm,0.6s,mb3.5,baz=250,slow=6.8,SNR=4.0						
ARCES	**ARCESS Array B**	**92.50**	**340**	P	**P**	**06 49 53.8**	**-1.0**
	2.0nm,0.8s,mb4.5,baz=90,slow=6.1,SNR=3.7						

IDC 01 07:19:45.3±1.3**,2.09N**×**128.22E,mb3.7**/5**,mb1 3.9**/5**, mb1mx3.8**/16**,mbtmp3.7**/5**,Error ellipse: s-maj=64.1km s-min=21.9km az=83.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.22**	**187**	P	P	07 24 22.8	-2.0
	3.6nm,0.7s,baz=358,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**22.70**	**165**	P	P	07 24 47.6	-2.5
	0.6nm,0.5s,baz=345,slow=10,SNR=4.6						
MJAR	**Matsushiro Arr**	**35.50**	**14**	P	P	07 26 44.6	-1.2
	1.7nm,0.6s,baz=180,slow=8.8,SNR=4.6						
SONM	**Songino Array**	**49.32**	**341**	P	P	07 28 35.2	-3.0
	0.3nm,0.6s,baz=153,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**59.74**	**325**	P	P	07 29 52.4	-1.9
	0.5nm,0.5s,baz=121,slow=8.1,SNR=4.9						

*BJI **01** 07:21:21.2,10.90N×86.20W,h43km,mB4.8,Ms4.8, Msz4.6*
*CASC **01** 07:21:24.2±2.7,10.75N×86.25W,h24km±6km,MD4.4, ML4.2,mb4.4(NEIC)*
*NEIC **01** 07:21:25.3±1.0,10.92N×86.16W,h43km±11km,mb4.4/32, MD4.4(CASC),Error ellipse: s-maj=13.1km s-min=7.0km az=58.0*
*IDC **01** 07:21:28.6±4.8,11.14N×85.89W,h66km±43km,mb3.9/13, mb1 4.1/13,mb1mx4.0/22,mbtmp4.2/13,MS3.7/12, Ms1 3.7/12,ms1mx3.6/27,Error ellipse: s-maj=26.5km s-min=11.6km az=60.0*
ISC 01 07:21:25.5±0.6**,10.83N**±0.05×**86.16W**±0.06**,h67**km±4km**, n126,**σ**1.18**/116**,mb4.2**/38**,10C-13D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.55**	**34**	⇓*e*P	**P**	**07 21 36.6**	**-2.0**
MADN	**Villa Maderas**	**0.84**	**47**	⇓*i*P	**P**	**07 21 41.9**	**-0.1**
VCR	**Vista de Mar**	**0.87**	**143**	⇓*i*P	**P**	**07 21 39.6**	**-2.8**
VCR	**Vista de Mar**	**0.87**	**143**	⇓*e*P	**P**	**07 21 39.6**	**-2.7**
CONN	**Concepcion**	**0.90**	**36**	⇓*i*P	**P**	**07 21 42.4**	**-0.4**
LIM1	**Limonal**	**0.90**	**98**	⇓*i*P	**P**	**07 21 41.7**	**-1.0**
LIM1				*e*S	**S**	**07 21 55.5**	**-0.1**
APON	**Apoyo**	**1.08**	**5**	⇓*e*P	**P**	**07 21 45.1**	**-0.1**
MASN	**Masaya**	**1.15**	**0**	⇑*e*P	**P**	**07 21 46.1**	**+0.1**
MASN				*e*S	**S**	**07 22 02.9**	**+1.5**
CRUN	**El Crucero**	**1.15**	**353**	⇑*i*P	**P**	**07 21 46.6**	**+0.5**
TICN	**Ticuantepe**	**1.20**	**357**	⇓*e*P	**P**	**07 21 47.1**	**+0.4**
MGAN	**Managua**	**1.31**	**356**	*e*P	**P**	**07 21 48.1**	**-0.3**
MGAN				*e*S	**S**	**07 22 06.4**	**+1.1**
MGAN				*i*		07 22 14.2	
	comp=E,4μm,0.4s						
XAVN	**Gruta Xavier**	**1.32**	**353**	⇑*e*P	**P**	**07 21 48.4**	**-0.1**
WILN	**Americas 2**	**1.32**	**359**	⇓*e*P	**P**	**07 21 48.6**	**+0.1**
WILN				*e*S	**S**	**07 22 06.3**	**+0.8**
COPN	**Copaltepe**	**1.41**	**343**	⇓*e*P	**P**	**07 21 49.0**	**-0.6**
JCR	**Jicaral**	**1.42**	**133**	⇑*e*P	**P**	**07 21 47.7**	**-2.1**
JCR				*e*S	**S**	**07 22 10.0**	**+2.2**
JCR	**Jicaral**	**1.42**	**133**	*e*P	**P**	**07 21 47.7**	**-2.1**
JCR				*e*S	**S**	**07 22 11.4**	**+3.6**
FORC	**Fortuna**	**1.51**	**104**	⇑*e*P	**P**	**07 21 50.9**	**-0.1**
FORC	**Fortuna**	**1.51**	**104**	*e*P	**P**	**07 21 50.8**	**-0.3**
MOMJ	**Momotombo**	**1.61**	**347**	⇓*e*P	**P**	**07 21 51.9**	**-0.5**
MIRN	**Miramar**	**1.69**	**341**	⇓*e*P	**P**	**07 21 52.8**	**-0.6**
PYTN	**Playitas**	**1.70**	**3**	*e*P	**P**	**07 21 53.8**	**+0.2**
PYTN				*e*S	**S**	**07 22 18.2**	**+3.8**
LEON	**Leon**	**1.73**	**336**	⇑*e*P	**P**	**07 21 53.6**	**-0.4**
LEON				*e*S	**S**	**07 22 14.0**	**-1.1**
CNGN	**Cerro Negro**	**1.74**	**342**	⇑*e*P	**P**	**07 21 53.7**	**-0.4**
CNGN				*e*S	**S**	**07 22 18.3**	**+3.0**
CGA2	**Cerro Gallo 2**	**1.85**	**116**	⇓*e*P	**P**	**07 21 55.7**	**0.0**
CGA2	**Cerro Gallo 2**	**1.85**	**116**	*e*P	**P**	**07 21 55.8**	**+0.1**
TEL3	**Telica 3**	**1.86**	**339**	⇑*e*P	**P**	**07 21 55.5**	**-0.2**
TELN	**Telica**	**1.88**	**340**	*e*P	**P**	**07 21 55.6**	**-0.4**
VPS2	**Volcan Poas 2**	**2.00**	**108**	*e*P	**P**	**07 21 57.3**	**-0.3**
VPS2	**Volcan Poas 2**	**2.00**	**108**	*e*P	**P**	**07 22 00.4**	**+2.8**
PRS1	**Puriscal**	**2.00**	**115**	*e*P	**P**	**07 21 57.6**	**-0.2**
PRS1	**Puriscal**	**2.00**	**115**	*e*P	**P**	**07 21 57.8**	**+0.1**
CRIN	**San Cristobal**	**2.05**	**335**	*e*P	**P**	**07 21 54.8**	**-3.7**
CRIN				*e*S	**S**	**07 22 24.9**	**+2.1**
SJS	**Escuela Geolog**	**2.25**	**113**	*e*P	**P**	**07 22 01.3**	**0.0**
SJS				*e*S	**S**	**07 22 28.3**	**+0.4**
SJS	**Escuela Geolog**	**2.25**	**113**	*e*P	**P**	**07 22 01.1**	**-0.2**
SJS				*e*S	**S**	**07 22 34.7**	**+6.8**
LCR2	**La Lucha 2**	**2.38**	**117**	⇑*e*P	**P**	**07 22 02.7**	**-0.4**
LCR2				*e*S	**S**	**07 22 33.4**	**+2.2**
LCR2	**La Lucha 2**	**2.38**	**117**	*e*P	**P**	**07 22 03.0**	**-0.1**
BUS	**Buena Vista**	**2.68**	**118**	⇑*e*P	**P**	**07 22 08.2**	**+0.8**
BUS	**Buena Vista**	**2.68**	**118**	*e*P	**P**	**07 22 08.9**	**+1.6**
BLLM	**Bellamira**	**3.30**	**322**	*e*P	Px	07 22 32.3	
BLLM				*e*S	Sx	07 23 13.1	
VSM	**San Miguel**	**3.31**	**322**	*e*P	Px	07 22 36.5	
VSM				*e*S	Sx	07 23 14.5	
LCBS	**La Ceiba**	**3.93**	**316**	*e*P	Px	07 22 39.9	
LCBS				*e*S	Sx	07 23 24.8	
LFRS	**El Faro**	**3.97**	**315**	*e*P	Px	07 22 40.3	
LFRS				*e*S	Sx	07 23 24.4	
BOQS	**Boqueron**	**4.20**	**314**	*e*P	Px	07 22 43.5	
BOQS				*e*S	Sx	07 23 31.5	
SNJE	**San Jose**	**4.52**	**312**	*e*P	Px	07 22 51.0	
SNJE				*e*S	Sx	07 23 42.0	
RTR	**El Retiro**	**4.57**	**312**	*e*P	Px	07 22 49.5	
RTR				*e*S	Sx	07 23 40.1	
ROSC	**El Rosal**	**13.13**	**116**	LR	LR	07 29 18.2	
	comp=E,175nm,20.8s,baz=222,slow=36						
SDV	**Santo Domingo**	**15.42**	**96**	P	**P**	**07 25 03.3**	**+2.8**
	comp=E,0.4nm,0.3s,baz=332,slow=3.7,SNR=6.8						
SDV	**Santo Domingo**	**15.42**	**96**	*e*P	**P**	**07 25 05.4**	**+4.9**
	comp=E,8.0nm,0.8s						
DWPF	**Disney**	**17.75**	**14**	*e*P	**P**	**07 25 26.7**	**-3.0**
	comp=E,13nm,0.9s						
SJG	**San Juan**	**20.67**	**67**	P	**P**	**07 26 01.3**	**-0.9**
	comp=E,6.7nm,0.4s,baz=270,slow=12,SNR=3.7						
SJG				LR	LR	07 32 51.3	
	comp=E,125nm,21.2s,baz=272,slow=34						
SJG	**San Juan**	**20.67**	**67**	P	**P**	**07 26 01.2**	**-1.0**
	comp=E,18nm,0.8s						
LRAL	**Lakeview Retre**	**22.11**	**358**	*e*P	**P**	**07 26 17.7**	**+1.1**
	comp=E,14nm,0.7s,mb4.4						
NATX	**Nacogdoches**	**22.26**	**341**	*e*P	**P**	**07 26 18.5**	**+0.5**
	comp=E,19nm,0.7s,mb4.5						
JSC	**Jenkinsville**	**23.77**	**10**	*e*P	**P**	**07 26 34.4**	**+1.7**
MYNC	**Murphy**	**24.20**	**4**	*e*P	**P**	**07 26 37.9**	**+1.0**
	comp=E,6.3nm,0.7s,mb4.0						
CPCT	**Cooper Cave**	**24.55**	**3**	*e*P	**P**	**07 26 41.3**	**+0.9**
LTX	**Lajitas**	**24.62**	**321**	*e*P	**P**	**07 26 42.8**	**+1.8**
	comp=E,11nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	**24.62**	**321**	P	**P**	**07 26 42.9**	**+1.8**
	comp=E,6.1nm,0.5s,mb4.3,baz=140,slow=9.7,SNR=127						
TXAR				PcP	PcP	07 30 20.4	+2.1
	comp=E,2.3nm,0.9s,baz=139,slow=5.3,SNR=8.8						
WVT	**Waverly**	**25.23**	**357**	*e*P	**P**	**07 26 46.4**	**-0.4**
	comp=E,3.1nm,0.6s,mb3.9						
WVT				*e*PcP	PcP	07 30 18.5	-1.0
ELN	**Prospectdale**	**26.73**	**10**	P	**P**	**07 26 58.5**	**-2.2**
WCI	**Wyandotte Cave**	**27.28**	**360**	*e*P	**P**	**07 27 04.5**	**-1.3**
	comp=E,12nm,0.8s,mb4.5						
MNTX	**Cornudas Mount**	**27.33**	**322**	*e*P	**P**	**07 27 05.1**	**-1.2**
	comp=E,4.2nm,0.9s,mb4.0						
CCM	**Cathedral Cave**	**27.49**	**351**	*e*P	**P**	**07 27 05.6**	**-2.0**
	comp=E,6.2nm,0.6s,mb4.3						
BLO	**Bloomington**	**28.23**	**359**	*e*P	**P**	**07 27 13.7**	**-0.5**
	comp=E,10nm,0.7s,mb4.5						
BBSR	**BB Station**	**29.17**	**39**	*e*P	**P**	**07 27 23.5**	**+0.8**
	comp=E,23nm,0.8s,mb4.9						
KSU1	**Kansas State U**	**29.66**	**343**	*e*P	**P**	**07 27 24.6**	**-2.4**
SAML	**Samuel**	**30.14**	**130**	*e*P	**P**	**07 27 31.4**	**-0.2**
	comp=E,9.4nm,0.8s,mb4.5						
SAML				*e*PcP	PcP	07 30 30.9	-0.6
ANMO	**Albuquerque**	**30.30**	**326**	P	**P**	**07 27 33.8**	**+1.0**
	comp=E,2.8nm,0.7s,mb4.0,baz=130,slow=4.8,SNR=16						
ANMO				LR	LR	07 43 48.2	
	comp=E,80nm,19.4s,baz=118,slow=44						
ANMO	**Albuquerque**	**30.30**	**326**	*e*P	**P**	**07 27 33.7**	**+0.9**
	comp=E,3.3nm,0.8s,mb4.0						
ANMO				*e*		07 27 43.4	
SDCO	**Great Sand Dun**	**31.94**	**330**	*e*P	**P**	**07 27 47.5**	**+0.5**
	comp=E,11nm,1.0s,mb4.6						
LPAZ	**La Paz**	**32.31**	**146**	P	**P**	**07 27 53.0**	**+2.4**
	comp=E,1.0nm,1.0s,mb3.5,baz=298,slow=12,SNR=2.6						
LPAZ				LR	LR	07 41 39.7	
	comp=E,111nm,18.9s,baz=301,slow=37						
SMCO	**Snowmass**	**33.77**	**330**	*e*P	**P**	**07 28 03.0**	**0.0**
PV01	**Paradox Valley**	**33.80**	**327**	*e*P	**P**	**07 28 04.6**	**+1.4**
PV01				*e*		07 28 13.8	
SADO	**Sadowa**	**34.35**	**9**	P	**P**	**07 28 06.3**	**-1.5**

	comp=E,4.1nm,0.6s,mb4.4,baz=193,slow=11,SNR=5.7						
SADO	Sadowa	34.35	9	P	P	07 28 06.3	-1.6
SRU	San Rafael	35.56	326	eP	P	07 28 18.5	+0.3
MSU	Marysvale	36.06	324	eP	P	07 28 24.6	+2.1
MSU				ePcP	PcP	07 30 50.1	+2.3
SIV	San Ignacio	36.42	137	P	P	07 28 27.9	+2.1
	comp=E,2.1nm,0.6s,mb4.3,baz=306,slow=11,SNR=16						
SIV				PcP	PcP	07 30 50.7	+1.6
	comp=E,4.1nm,0.7s,baz=288,slow=2.3,SNR=13						
PDAR	Pinedale Array	37.79	331	P	P	07 28 37.0	+0.1
	comp=E,1.4nm,0.6s,mb4.0,baz=121,slow=10,SNR=23						
PDAR				PcP	PcP	07 30 54.4	+1.4
	comp=E,1.3nm,0.6s,baz=133,slow=4.5,SNR=10.0						
HWUT	Hardware Ranch	37.91	328	eP	P	07 28 38.0	+0.1
	comp=E,4.3nm,0.7s,mb4.4						
BGU	Big Grassy Mou	38.20	326	eP	P	07 28 42.4	+2.1
SNOW	Snow King Moun	38.89	331	eP	P	07 28 45.6	-0.4
	comp=E,13nm,1.0s,mb4.7						
LOHW	Long Hollow	38.93	331	eP	P	07 28 45.6	-0.7
	comp=E,1.7nm,0.5s,mb4.1						
TPAW	Teton Pass	39.00	331	eP	P	07 28 47.1	+0.2
	comp=E,12nm,1.3s,mb4.6						
RRI2	Red Ridge	39.07	331	eP	P	07 28 47.9	+0.4
	comp=E,3.6nm,0.8s,mb4.2						
RRI2				ePcP	PcP	07 30 59.0	+2.1
IMW	Indian Meadow	39.30	331	eP	P	07 28 49.1	-0.4
	comp=E,2.6nm,0.7s,mb4.2						
FLWY	Flagg Ranch	39.33	332	eP	P	07 28 50.3	+0.6
NVAR	Mina Array Bea	39.75	319	PcP	PcP	07 31 01.9	+2.7
	comp=E,2.5nm,0.8s,baz=124,slow=4.6,SNR=3.6						
ULM	Lac du Bonnet	40.11	350	P	P	07 28 54.4	-1.7
	comp=E,6.7nm,0.7s,mb4.6,baz=156,slow=7.4,SNR=11						
ULM				PcP	PcP	07 31 00.8	+0.6
	comp=E,1.6nm,0.6s,baz=360,slow=2.0,SNR=3.5						
ULM				LR	LR	07 46 04.7	
	comp=E,52nm,21.7s,baz=359,slow=37						
ULM	Lac du Bonnet	40.11	350	eP	P	07 28 54.1	-2.0
	comp=E,5.3nm,0.7s,mb4.5						
GCMT	Greycliff	40.21	334	eP	P	07 28 56.9	-0.1
HLID	Hailey	40.78	328	eP	P	07 29 02.1	+0.5
	comp=E,2.6nm,0.6s,mb4.2						
MCMT	McKenzie Canyo	40.91	331	eP	P	07 29 04.1	+1.4
BOZ	Bozeman (W)	40.95	333	eP	P	07 29 03.1	+0.1
	comp=E,1.9nm,0.7s,mb4.0						
DLMT	Dillon	41.19	332	eP	P	07 29 05.3	+0.3
WVOR	Wild Horse Val	42.35	324	eP	P	07 29 14.5	-0.1
	comp=E,4.3nm,0.7s,mb4.3						
WVOR				ePcP	PcP	07 31 09.5	+1.9
CHMT	Chamberlain Mo	42.65	333	eP	P	07 29 17.3	+0.3
BMO	Blue Mountains	43.17	327	eP	P	07 29 20.5	-0.9
	comp=E,1.8nm,0.7s,mb3.9						
WALA	Waterton Lakes	44.56	334	eP	P	07 29 31.4	-1.0
CFAA	Coronel Fontan	45.55	158	P	P	07 29 44.1	+3.5
	comp=E,0.1nm,0.3s,mb3.0,baz=18,slow=19,SNR=2.2						
BDFB	Brasilia	46.02	124	P	P	07 29 45.4	+0.8
	comp=E,5.1nm,0.8s,mb4.3,baz=309,slow=6.5,SNR=8.0						
SCHQ	Schefferville	46.48	15	P	P	07 29 45.7	-1.9
	comp=E,3.1nm,0.5s,mb4.3,baz=235,slow=8.8,SNR=16						
SCHQ				LR	LR	07 50 00.5	
	comp=E,102nm,18.9s,baz=29,slow=37						
SCHQ	Schefferville	46.48	15	eP	P	07 29 45.2	-2.4
	comp=E,4.5nm,0.6s,mb4.4						
EDM	Edmonton	47.58	338	eP	P	07 29 54.9	-1.3
PLCA	Paso Flores	53.30	165	P	P	07 30 40.8	+0.8
	comp=E,1.0nm,0.7s,mb4.0,baz=281,slow=12,SNR=5.0						
PLCA	Paso Flores	53.30	165	eP	P	07 30 40.2	+0.3
	comp=E,3.0nm,0.8s,mb4.4						
YKA	Yellowknife Ar	55.50	344	LR	LR	07 59 02.6	
	comp=E,75nm,18.7s,baz=145,slow=41						
DLBC	Dease Lake	57.91	335	LR	LR	07 58 13.3	
	comp=E,97nm,19.4s,baz=111,slow=38						
DLBC	Dease Lake	57.91	335	eP	P	07 31 12.9	+0.1
INK	Inuvik	65.12	342	LR	LR	08 03 58.9	
	comp=E,92nm,18.8s,baz=120,slow=39						
INK	Inuvik	65.12	342	P	P	07 31 59.6	-1.5
	comp=E,3.9nm,1.0s,mb4.2						
ILAR	Eielson Array	68.00	336	P	P	07 32 18.8	-0.6
	comp=E,1.8nm,0.6s,mb4.1,baz=115,slow=4.4,SNR=36						
ILAR				LR	LR	08 04 57.0	
	comp=E,60nm,21.3s,baz=179,slow=38						
MCK	McKinley	68.46	335	P	P	07 32 21.2	-1.0
	comp=E,2.2nm,0.9s,mb4.0						
JMIC	Jan Mayen	75.80	19	LR	LR	08 05 52.8	
	comp=E,107nm,19.4s,baz=246,slow=35						
ESK	Eskdalemuir	77.17	36	P	P	07 33 11.2	-2.4
	comp=E,3.7nm,0.7s,mb4.2						
ESDC	Sonseca Array	77.19	52	P	P	07 33 12.6	-1.5
	comp=E,0.6nm,0.5s,mb3.6,baz=292,slow=5.5,SNR=4.4						
FINES	FINESS Array B	90.86	26	LR	LR	08 12 44.2	
	comp=E,69nm,18.5s,baz=18,slow=34						
MDJ	Mudanjiang	116.02	332	PKP	PKPdf	07 40 00.3	-0.7
SONM	Songino Array	120.54	350	PKP	PKPdf	07 40 12.3	+2.6
	comp=E,0.8nm,0.5s,baz=3.5,slow=1.0,SNR=10.0						
MKAR	Makanchi Array	121.72	9	PKP	PKPdf	07 40 13.8	+1.8
	comp=E,0.7nm,0.6s,baz=306,slow=2.7,SNR=8.4						
WMQ	Urumqi	125.33	5	ePKP	PKPdf	07 40 17.5	-1.5
SSE	Sheshan	130.74	329	ePKP	PKPdf	07 40 27.8	-2.0
LZH	Lanzhou	132.39	349	ePKP	PKPdf	07 40 33.4	+0.6
WRA	Warramunga Arr	140.00	252	PKhKP		07 40 43.9	
	comp=E,0.7nm,0.8s,baz=92,slow=2.1,SNR=4.9						
WRA				PKP	PKPdf	07 40 51.1	+3.9
	comp=E,2.0nm,0.8s,baz=94,slow=2.4,SNR=23						
FITZ	Fitzroy Crossi	148.41	253	PKPbc	PKPdf	07 41 09.0	+7.4
	comp=E,5.9nm,0.7s,baz=228,slow=0.6,SNR=6.2						
NWAO	Narrogin (SRO)	149.24	221	PKPbc	PKPdf	07 41 10.8	+8.2
	comp=E,7.5nm,1.0s,baz=68,slow=5.4,SNR=3.4						

*IDC **01** 07:26:27.6±2.2, 24.55N×94.75E, mb3.7/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=91.6km s-min=26.3km az=66.0*

*NEIC **01** 07:26:33.1±1.1, 24.59N×94.86E, h35^{km}, Error ellipse: s-maj=26.4km s-min=13.2km az=13.0*

ISC 01 07:26:37.5±2.7**, 25.2N**±0.3×**94.51E**±0.10**, h33**^{km}**, n8, σ0^{s}98**/11**, mb3.5**/3**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	Pulchoki	8.48	288	eP	P	07 28 41.5	+0.6
	3.8nm,0.2s						
PKI				eS	S	07 30 15.9	-0.7
KKN	Kakani	8.65	289	eP	P	07 28 43.6	+0.4
	8.3nm,0.2s						
KKN				eS	S	07 30 21.0	+0.3
DMN	Daman	8.75	288	eP	P	07 28 44.9	+0.2
	5.1nm,0.3s						
GKN	Gorkha	9.25	289	eP	P	07 28 52.5	+0.9
	19nm,0.5s						
KOLN	Koldanda	10.09	287	eP	P	07 29 00.6	-2.6
	7.1nm,0.5s						
KOLN				eS	S	07 30 52.2	-4.2
MKAR	Makanchi Array	23.62	339	P	P	07 31 47.1	+0.9
	1.8nm,0.5s,mb3.8,baz=147,slow=9.8,SNR=24						
SONM	Songino Array	24.43	20	P	P	07 31 53.4	-0.8
	0.2nm,0.5s,mb2.8,baz=198,slow=9.4,SNR=4.7						
WRA	Warramunga Arr	59.30	136	P	P	07 36 27.0	-12
	0.5nm,0.3s,mb4.1,baz=316,slow=8.0,SNR=17						

IDC 01 07:27:12.3±9.8**, 12.11N**×**92.61E, mb3.8**/3**, mb1 3.8**/3**, mb1mx3.6**/18**, mbtmp3.8**/3**, Error ellipse: s-maj=198.5km s-min=94.4km az=157.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	35.65	348	P	P	07 34 12.0	-2.1
	1.3nm,0.9s,baz=164,slow=8.8,SNR=6.8						
SONM	Songino Array	37.44	15	P	P	07 34 27.4	-1.7
	1.7nm,1.0s,baz=194,slow=7.8,SNR=6.2						
ARCES	ARCESS Array B	70.79	340	P	P	07 38 30.4	-1.9
	0.9nm,0.7s,baz=90,slow=6.1,SNR=4.8						

*IDC **01** 07:40:19.1±1.0, 5.90N×33.14W, mb3.8/11, mb1 4.0/11, mb1mx3.9/22, mbtmp3.8/11, MS3.7/7, Ms1 3.8/7, ms1mx3.5/20, Error ellipse: s-maj=39.1km s-min=16.7km az=135.0*

*NEIC **01** 07:40:20.3±0.4, 5.81N×33.10W, h10^{km}, mb4.4/5, Error ellipse: s-maj=14.4km s-min=7.3km az=119.0*

ISC 01 07:40:18.3±0.6**, 5.75N**±0.10×**33.0W**±0.1**, h10**^{km}**, n23, σ0^{s}68**/19**, mb3.9**/15**, MS3.8**/7**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	11.86	194	eP	P	07 43 09.6	-1.1
	49nm,1.4s						
BDFB	Brasilia	25.92	215	P	P	07 45 52.5	-0.2
	1.5nm,0.7s,mb3.7,baz=222,slow=26,SNR=3.2						
BDFB				LR	LR	07 54 55.1	
	comp=Z,202nm,19.4s,MS3.7,baz=238,slow=34						
SAML	Samuel	33.42	244	eP	P	07 46 59.4	-0.2
	2.5nm,0.8s,mb4.2						
SIV	San Ignacio	35.17	232	P	P	07 47 15.8	+1.1
	2.6nm,0.8s,mb4.2,baz=82,slow=9.1,SNR=17						
CPUP	Villa Florida	39.65	215	LR	LR	08 04 08.1	
	comp=Z,142nm,18.8s,MS3.8,baz=97,slow=36						
LPAZ	La Paz	41.06	237	P	P	07 48 05.8	+1.9
	2.9nm,0.7s,mb4.0,baz=69,slow=5.2,SNR=18						
LPAZ				LR	LR	08 04 34.6	
	comp=Z,84nm,18.9s,MS3.6,baz=96,slow=36						
LPAZ	La Paz	41.06	237	eP	P	07 48 05.3	+1.4
	6.0nm,0.9s,mb4.2						
LPAZ				LR	LR	08 04 34.5	
ESDC	Sonseca Array	42.73	34	P	P	07 48 18.3	+0.8
	0.1nm,0.2s,mb3.1,baz=233,slow=7.5,SNR=5.8						
SADO	Sadowa	55.86	322	LR	LR	08 08 58.2	
	comp=Z,50nm,18.6s,MS3.6,baz=160,slow=31						
SCHQ	Schefferville	55.97	337	P	P	07 49 58.4	-0.8
	3.5nm,1.0s,mb4.3,baz=108,slow=9.4,SNR=3.7						
PLCA	Paso Flores	57.66	213	LR	LR	08 15 08.0	
	comp=Z,142nm,19.4s,MS4.1,baz=17,slow=36						
GERES	GERESS Array B	58.31	34	P	P	07 50 15.4	-0.4
	0.3nm,0.3s,mb3.9,baz=231,slow=8.5,SNR=4.3						
NOA	NORSAR Array B	64.28	22	LR	LR	08 14 15.8	
	comp=Z,41nm,19.6s,MS3.6,baz=260,slow=32						
AKASG	Malin Array Be	68.20	37	P	P	07 51 20.6	-0.6
	0.4nm,0.4s,mb3.8,baz=252,slow=7.0,SNR=6.7						
BRTR	Keskin Array B	68.45	50	P	P	07 51 23.7	+0.8
	0.6nm,0.5s,mb3.9,baz=252,slow=7.8,SNR=4.8						
TXAR	Lajitas Array	70.33	299	P	P	07 51 33.9	-0.7
	0.5nm,0.6s,mb3.6,baz=116,slow=6.8,SNR=8.3						
TXAR	Lajitas Array	70.33	299	P	P	07 51 33.9	-0.7
PDAR	Pinedale Array	76.23	312	P	P	07 52 08.6	-0.3
	0.5nm,0.6s,mb3.6,baz=104,slow=4.7,SNR=6.5						
TPAW	Teton Pass	77.30	313	eP	P	07 52 14.7	-0.2
	5.6nm,1.3s,mb4.3						
IMW	Indian Meadow	77.32	314	eP	P	07 52 15.3	+0.3
	2.3nm,0.9s,mb4.1						
HWUT	Hardware Ranch	77.63	311	eP	P	07 52 16.8	0.0
	4.2nm,0.7s,mb4.5						
EDM	Edmonton	79.62	323	eP	P	07 52 27.4	0.0
ILAR	Eielson Array	94.73	337	P	P	07 53 40.9	-0.1
	0.2nm,0.6s,mb3.7,baz=42,slow=6.8,SNR=4.2						
ILAR				LR	LR	08 34 27.6	
	comp=Z,28nm,18.0s,MS3.8,baz=180,slow=34						

IDC 01 08:22:10.7±1.0**, 16.55S**×**175.08W, mb3.5**/5**, mb1 3.9**/5**, mb1mx3.8**/14**, mbtmp3.5**/5**, MS3.8**/4**, Ms1 3.8**/4**, ms1mx3.4**/14**, Error ellipse: s-maj=47.2km s-min=29.1km az=128.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	18.28	250	LR	LR	08 32 03.5	
	comp=Z,178nm,20.1s,baz=30,slow=32						
PPT	Papeete	24.40	96	eLR	LR	08 32 41.0	
	155nm,28.5s						
TBI	Tubuai	24.99	110	eLR	LR	08 33 01.0	
RPZ	Rata Peaks	29.53	201	LR	LR	08 38 15.8	
	comp=Z,264nm,20.9s,baz=222,slow=33						
TAOE	Nuku Hiva Isla	34.88	82	eLR	LR	08 37 28.6	
	634nm,30.5s						
CTA	Charters Tower	36.82	258	LR	LR	08 42 06.4	
	comp=Z,109nm,20.3s,baz=47,slow=32						
WRA	Warramunga Arr	48.02	258	P	P	08 30 51.2	-2.7
	0.4nm,0.6s,baz=96,slow=7.7,SNR=6.4						
VNDA	Vanda	62.08	186	P	P	08 32 33.1	-2.1
	0.4nm,0.6s,baz=39,slow=6.5,SNR=7.1						
VNDA				LR	LR	08 52 51.3	
	comp=Z,74nm,19.2s,baz=254,slow=30						
TXAR	Lajitas Array	82.59	57	P	P	08 34 36.5	-0.9
	0.3nm,0.9s,baz=243,slow=6.0,SNR=2.5						
ILAR	Eielson Array	83.88	12	P	P	08 34 43.0	-0.2
	0.4nm,0.6s,baz=231,slow=6.2,SNR=5.9						
PDAR	Pinedale Array	84.19	42	P	P	08 34 42.4	-2.9
	0.3nm,0.7s,baz=207,slow=4.0,SNR=3.9						
BRTR	Keskin Array B	145.98	319	PKPbc	PKPbc	08 41 52.9	+0.1
	0.9nm,0.8s,baz=90,slow=1.4,SNR=3.6						

MAN 01 08:50:34.4, 9.41N×**122.93E, h1**^{km}**, mb3.7, ML2.5, MS2.0, 2D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.31	103⇓	iP	Pg	08 50 40.9	+0.3
SNPH				i S	Sg	08 50 45.0	+0.2
DCPH	Dipolog City	0.93	153⇓	iP	Pg	08 50 51.5	-1.3
DCPH				i S	Sg	08 51 03.8	-1.4
GUIM	Jordan	1.25	345	eP	Pb	08 50 58.8	+0.4
GUIM				eS	Sb	08 51 16.7	+1.8
LLP	Lapu-Lapu	1.36	49	eP	Pb	08 50 59.5	-0.8
LLP				eS	Sb	08 51 15.2	-3.0
PAGZ	Pagadian	1.62	164	eP	Pn	08 51 03.8	-0.4
PAGZ				eS	Sb	08 51 23.5	-2.2
IPIL	Ipil	1.65	192	eP	Pn	08 51 05.4	+0.7
IPIL				eS	Sb	08 51 28.3	+1.7
MSLP	Maasin	2.04	69	eP	Pn	08 51 11.1	+0.9
MSLP				eS	Sn	08 51 39.6	+3.0
CUYO	Cuyo Island	2.36	307	eP	Pn	08 51 14.7	-0.1
CUYO				eS	Sn	08 51 44.9	+0.1

*IDC **01** 09:12:50.3±0.7, 59.32S×27.36W, mb4.3/9, mb1 4.4/10, mb1mx4.3/16, mbtmp4.3/10, ML4.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.4/15, Error ellipse: s-maj=22.7km s-min=17.5km az=25.0*

*NEIC **01** 09:12:52.5±0.4, 59.33S×27.20W, h20^{km}, mb4.9/10, Error ellipse: s-maj=14.4km s-min=8.0km az=52.0*

ISC 01 09:12:49.7±0.5**, 59.33S**±0.08×**27.2W**±0.2**, h10**^{km}**, n37, σ1^{s}10**/31**, mb4.6**/14**, MS3.5**/5**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.81	153⇑	i	P	09 16 06.6	-0.8
VNA3	Neumayer Olymp	13.94	156⇑	iP	P	09 16 07.6	-1.6
VNA3				e		09 17 02.5	
VNA2	Neumayer--Watz	14.21	153	e	P	09 16 13.2	+0.5
VNA2	Neumayer--Watz	14.21	153⇑	iP	P	09 16 11.8	-0.9
VNA2				e		09 16 13.2	
VNA2				e		09 17 05.6	
SNAA	Sanae	15.80	151⇑	i	P	09 16 33.1	-0.4
SNAA	Sanae	15.80	151	e	P	09 16 34.9	+1.4
SNAA	Sanae	15.80	151	Pn	P	09 16 33.2	-0.2
	0.8nm,0.3s,baz=316,slow=14,SNR=65						
SNAA				LR	LR	09 21 24.1	
	comp=Z,101nm,18.2s,baz=334,slow=32						
SNAA	Sanae	15.80	151	eP	P	09 16 31.6	-1.9
SNAA				e		09 16 34.9	
USHA	Ushuaia	22.56	263	P	P	09 17 50.2	-0.6
	5.8nm,0.9s,mb4.0,baz=108,slow=3.2,SNR=3.4						
USHA				LR	LR	09 24 31.7	
	comp=Z,157nm,19.0s,MS3.5,baz=319,slow=31						
TRQA	Tornquist	30.73	298	eP	P	09 19 06.7	-0.1
	10.0nm,1.1s,mb4.6						
PLCA	Paso Flores	32.70	285	P	P	09 19 23.9	-0.1
	2.6nm,0.9s,mb4.2,baz=131,slow=11,SNR=5.8						
PLCA				LR	LR	09 30 12.0	
	comp=Z,97nm,21.6s,MS3.5,baz=149,slow=32						
PLCA	Paso Flores	32.70	285	eP	P	09 19 22.1	-1.9
	15nm,1.5s,mb4.7						
PLCA				LR	LR	09 30 12.0	
MAW	Mawson	37.56	141	P	P	09 20 07.2	+1.9
	4.2nm,1.1s,mb4.1,baz=222,slow=7.6,SNR=4.3						
MAW				LR	LR	09 33 40.8	
	comp=Z,103nm,21.7s,MS3.6,baz=29,slow=33						
CPUP	Villa Florida	39.03	314	P	P	09 20 18.7	+0.7
	5.0nm,1.0s,mb4.2,baz=178,slow=11,SNR=4.9						
CPUP				LR	LR	09 35 25.8	
	comp=Z,81nm,19.1s,MS3.6,baz=132,slow=35						
CPUP	Villa Florida	39.03	314	eP	P	09 20 16.9	-1.1
	61nm,1.7s,mb5.0						
CPUP				LR	LR	09 35 25.8	
SBA	Scott Base	42.80	184	eP	P	09 20 50.2	+1.9
	28nm,2.0s,mb4.7						
VNDA	Vanda	43.29	183	P	P	09 20 53.7	+1.4
	1.3nm,0.6s,mb3.8,baz=188,slow=6.6,SNR=21						
VNDA	Vanda	43.29	183	P	P	09 20 53.7	+1.4
LVC	Limon Verde	47.00	303	eP	P	09 21 23.3	+0.7
	16nm,1.0s,mb4.9						
LBTB	Lobatse	50.05	71	P	P	09 21 46.8	+0.5
	10nm,1.1s,mb4.8,baz=204,slow=14,SNR=5.5						
LBTB	Lobatse	50.05	71	eP	P	09 21 46.1	-0.2
	26nm,1.3s,mb5.1						
TSUM	Tsumeb	51.36	59	P	P	09 21 57.8	+1.5
	8.9nm,1.2s,mb4.6,baz=187,slow=8.1,SNR=2.8						
TSUM	Tsumeb	51.36	59	P	P	09 21 53.4	-2.9
	11nm,1.2s,mb4.7						
LPAZ	La Paz	52.30	307	P	P	09 22 05.0	+1.5
	5.0nm,0.9s,mb4.5,baz=154,slow=5.8,SNR=18						
LPAZ				LR	LR	09 43 41.9	
	comp=Z,44nm,19.9s,MS3.5,baz=126,slow=35						
LPAZ	La Paz	52.30	307	eP	P	09 22 04.3	+0.9
	20nm,1.2s,mb4.9						
LPAZ				LR	LR	09 43 41.9	
SAML	Samuel	57.13	316	eP	P	09 22 37.5	-1.2
	33nm,1.2s,mb5.2						
LSZ	Lusaka	59.63	67	eP	P	09 22 55.8	-0.3
	11nm,1.3s,mb4.7						
DBIC	Dimbokro	68.17	24	P	P	09 23 52.4	+0.3
	14nm,1.3s,mb4.8,baz=175,slow=12,SNR=3.2						
DBIC	Dimbokro	68.17	24	P	P	09 23 52.0	-0.1
SDV	Santo Domingo	76.33	316	eP	P	09 24 40.6	+0.1
STKA	Stephens Creek	88.66	171	eP	P	09 25 42.9	-1.0
MOX	Moxa	114.07	26	eP	PKPdf	09 31 44.0	+13
INK	Inuvik	148.27	317	PKPbc	PKPdf	09 32 34.5	+0.7
	4.9nm,0.9s,baz=226,slow=1.1,SNR=6.8						
DAWY	Dawson	148.89	308	ePKPbc	PKPdf	09 32 36.4	+1.5
SONM	Songino Array	150.78	92	PKPbc	PKPdf	09 32 42.4	+4.0
	2.3nm,0.6s,baz=221,slow=2.9,SNR=18						
ULN	Ulaanbaatar	151.14	93	ePKPbc	PKPdf	09 32 43.1	+4.2
ILAR	Eielson Array	152.18	307	PKPbc	PKPdf	09 32 44.5	+4.6
	5.1nm,0.9s,baz=153,slow=2.3,SNR=26						

*IDC **01** 09:56:08.5±0.5, 2.78N×128.07E, mb4.6/20, mb1 4.7/20, mb1mx4.6/23, mbtmp4.6/20, MS3.9/16, Ms1 3.9/16, ms1mx3.8/30, Error ellipse: s-maj=28.0km s-min=11.1km az=80.0*

*BJI **01** 09:56:09.2, 2.10N×128.56E, h61^{km}, mB5.1, mb5.0, Ms4.9, Msz4.4*

*MOS **01** 09:56:13.0±1.2, 2.84N×128.29E, h45^{km}, mb5.0/31, Error ellipse: s-maj=14.5km s-min=6.9km az=111.1*

*NEIC **01** 09:56:14.0±1.3, 2.69N×128.30E, h42^{km}±12^{km}, mb4.9/53, MS4.0/4, Error ellipse: s-maj=9.5km s-min=5.4km az=73.0*

*HRVD **01** 09:56:15.8±0.6, 2.68N×128.17E, h15^{km}±3^{km}, MW4.7/43, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s43,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.30±.11; $M_{\theta\theta}$-1.13±.10; $M_{\phi\phi}$1.43±.12; $M_{r\theta}$-0.16±.29; $M_{\theta\phi}$-0.45±.09; $M_{\phi r}$-0.93±.47; Best double couple: $M_0$1.607×10^{16} NP1:ϕ_s123°, δ57°, λ180°. NP2: ϕ_s213°, δ90°, λ33°. Principal axes: T 1.877, Plg23°, Azm83°; N -.544, Plg57°, Azm213°; P -1.337, Plg22°, Azm343°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 09:56:12.3±0.8**, 2.68N**±0.04×**128.23E**±0.05**, h41**^{km}±6^{km}**, h57**^{km}±5.0^{km}**:pP-P, n181, σ1^{s}21**/197**, mb4.8**/73**, MS4.1**/24**, 14C-7D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	4.67	335	eP	P	09 57 24.3	+2.1
MATI				eS	S	09 58 21.4	+5.5
GSPH	General Santos	4.71	316	eP	P	09 57 22.1	-0.6
DAV	Davao City (W)	5.10	329	Pn	P	09 57 28.4	+0.1
	390nm,0.5s						
KCP	Kidapawan	5.32	324⇓	iP	P	09 57 37.8	+6.6
BUKP	Musuan	6.05	329	eP	P	09 57 43.0	+1.5
BUKP				eS	S	09 58 56.9	+6.4
BUTP	Butuan	6.77	338	eP	P	09 57 54.4	+2.8
BUTP				eS	S	09 59 17.5	+9.3
PAGZ	Pagadian	7.05	317	eP	P	09 57 53.6	-1.9
IPIL	Ipil	7.58	312	eP	P	09 58 00.8	-2.1
MSLP	Maasin	8.13	336	eP	P	09 58 07.6	-2.9
KKM	Kota Kinabalu	12.43	286	ePn	P	09 59 09.6	+0.2
KSM	Kuching	17.95	267	eP	P	10 00 22.1	+1.5
GUMO	Guam	19.70	56	LR	LR	10 08 11.3	
	comp=Z,56nm,18.7s,baz=250,slow=36						
FITZ	Fitzroy Crossi	20.80	187	P	P	10 00 51.7	-1.0
	12nm,0.8s,baz=6.2,slow=12,SNR=5.7						
FITZ				LR	LR	10 07 58.0	
	comp=Z,190nm,20.0s,MS3.5,baz=31,slow=34						
PMG	Port Moresby	22.36	123	P	P	10 01 14.2	+5.9
	19nm,0.8s,mb4.6,baz=17,slow=2.1,SNR=4.2						
PMG	Port Moresby	22.36	123	eP	P	10 01 07.6	-0.7
	47nm,1.0s,mb4.9						
PMG	Port Moresby	22.36	123	eP	P	10 01 07.6	-0.7
PMG				pmax	pmax		
	comp=Z,47nm,1.0s						
YHNB	Yeheng	22.84	344	eP	P	10 01 13.6	+0.6
TATO	Taipei	23.10	344	eP	P	10 01 16.2	+0.6
	comp=Z,55nm,0.7s,mb5.1						
WRAB	Tennant Creek	23.26	165	eP	P	10 01 16.3	-0.9
	comp=Z,257nm,1.3s,mb5.5						
WRAB	Tennant Creek	23.26	165	i P	P	10 01 19.2	+2.0
WRA	Warramunga Arr	23.27	165	P	P	10 01 18.4	+1.1
	comp=Z,30nm,0.8s,mb4.8,baz=344,slow=10.0,SNR=29						
WB2	Warramunga Arr	23.27	165	eP	P	10 01 18.4	+1.1
JOW	Kunigami	24.02	0	P	P	10 01 23.6	-0.9
	comp=Z,39nm,0.9s,mb4.8,baz=214,slow=3.9,SNR=5.1						
JOW				LR	LR	10 09 29.9	
	comp=Z,447nm,20.6s,MS3.9,baz=348,slow=34						
QIZ	Qiongzhong	24.24	313	P	P	10 01 27.4	+0.7
QIZ				S	S	10 05 39.2	-0.5
QIZ				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.5						
QIZ	Qiongzhong	24.24	313	P	P	10 01 27.4	+0.7
	comp=Z,24nm,1.1s,mb4.5						
QIZ				S	S	10 05 39.2	-0.5
GZH	Guangzhou	24.89	326	P	P	10 01 36.1	+3.1
MBWA	Marble Bar	25.11	199	eP	P	10 01 34.0	-1.0
	comp=Z,13nm,0.8s,mb4.5						
KKTK	Khon Kaen	28.44	300	P	P	10 02 04.3	-1.4
CTA	Charters Tower	28.72	143	eP	P	10 02 12.9	+4.7
	comp=Z,8.0nm,0.9s,mb4.5						
CTA	Charters Tower	28.72	143	P	P	10 02 11.2	+3.0
	comp=Z,5.6nm,0.9s,mb4.3,baz=309,slow=14,SNR=2.8						
CTA				LR	LR	10 15 12.6	
	comp=Z,309nm,18.4s,MS4.0,baz=134,slow=40						
CTA	Charters Tower	28.72	143	eP	P	10 02 12.9	+4.7
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	Charters Tower	28.72	143	P	P	10 02 09.3	+1.1
	comp=Z,18nm,1.0s,mb4.7						
CTAO	Charters Tower	28.72	143	P	P	10 02 09.3	+1.1
CTAO				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
SSE	Sheshan	29.04	347	eP	P	10 02 11.7	+0.8
SSE				AP	pP	10 02 27.7	+5.7
SSE				PCP	PcP	10 05 17.0	-1.7
SSE				S	S	10 07 01.5	+3.5
SSE				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
SSE				AMB	AMB		
	comp=Z,607nm,4.9s						
SSE	Sheshan	29.04	347	eP	P	10 02 11.7	+0.8
	comp=Z,19nm,1.0s,mb4.8						
SSE				pP	pP	10 02 27.7	+5.7
SSE				PcP	PcP	10 05 17.0	-1.7
SSE				S	S	10 07 01.5	+3.5
JNU	Nakatsue	30.39	4	P	P	10 02 22.1	-0.8
	comp=Z,12nm,0.9s,mb4.6,baz=188,slow=6.1,SNR=8.7						
JNU				LR	LR	10 12 48.3	
	comp=Z,204nm,21.7s,MS3.7,baz=201,slow=33						
NJ2	Nanjing	30.52	344	eP	P	10 02 25.6	+1.5
NJ2				PP	PP	10 03 26.0	+1.1
NJ2				S	S	10 07 21.0	-0.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,390nm,6.3s						
NJ2				LR	LR		
	comp=N,2μm,19.4s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,21.1s,MS4.8						
NJ2				LR	LR		
	comp=Z,610nm,29.4s						
NJ2	Nanjing	30.52	344	eP	P	10 02 25.6	+1.5
	comp=Z,10.0nm,0.8s,mb4.7						

NJ2 PP PP 10 03 26.0 +1.1
NJ2 S **S** **10 07 21.0 -0.5**
NJ2 LR LR
comp=Z,610nm,29.4s,MS4.1
WHN NANT Wuhan Nan 30.67 336 31.35 303 ⇑P **P**
comp=Z,100nm,0.4s
GYA Guiyang 31.42 321 ⇓*i*P **P** **10 02 31.6 -0.5**
GYA PP PP 10 03 36.5 -0.1
GYA PCP PcP 10 05 24.0 -0.9
GYA S **S** **10 07 33.9 -1.8**
GYA ScS ScS 10 12 56.1 -3.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA LR LR
comp=N,370nm,16.8s,MS4.3
GYA LR LR
comp=E,340nm,17.0s,MS4.3
GYA LR LR
comp=Z,320nm,16.6s,MS4.1
GYA Guiyang 31.42 321 ⇓*i*P **P** **10 02 31.6 -0.5**
comp=Z,20nm,0.8s,mb5.0
GYA PP PP 10 03 36.5 -0.1
GYA PcP PcP 10 05 24.0 -0.9
GYA S **S** **10 07 33.9 -1.8**
GYA ScS ScS 10 12 56.1 -3.5
GYA LR LR
comp=Z,320nm,16.6s,MS4.1
ENH Enshi 32.69 329 *e*P **P** **10 02 41.9 -1.2**
comp=Z,39nm,0.9s,mb5.3
ENH *e* pP 10 02 55.6 +1.3
CHG Chiang Mai 32.84 301 ⇑P **P** **10 02 44.3 -0.3**
comp=Z,12nm,0.8s,mb4.9
KMI Kunming 33.18 315 ⇑P **P** **10 02 49.1 +1.7**
KMI AP pP 10 03 03.9 +5.3
KMI PP PP 10 04 03.6 +4.4
KMI S **S** **10 08 04.9 +1.8**
KMI SS SS 10 10 09.4 +3.5
KMI AMB AMB
comp=Z,15nm,1.1s,mb4.8
KMI Kunming 33.18 315 ⇑P **P** **10 02 49.1 +1.7**
comp=Z,15nm,1.1s,mb4.8
KMI pP pP 10 03 03.9 +5.3
KMI PP PP 10 04 03.6 +4.4
KMI S **S** **10 08 04.9 +1.8**
KMI SS SS 10 10 09.4 +3.5
KMI Kunming 33.18 315 ⇑P **P** **10 02 49.1 +1.7**
KMI *PP pP 10 03 03.9 +5.3
KMI *SP sP 10 03 11.3 +7.4
KMI 10 04 03.6
KMI S **S** **10 08 04.9 +1.8**
KMI *SS 10 08 29.9
KMI SS SS 10 10 09.4 +3.5
KMI pmax pmax
comp=Z,15nm,1.1s,mb4.8
KMI MLR MLR
comp=Z,120nm,20.7s,MS3.6
HNR Honiara 33.82 111 LR LR 10 16 45.2
comp=Z,162nm,19.7s,MS3.8,baz=206,slow=36
TIA Tai'an 34.91 344 *e*P **P** **10 03 01.7 -0.5**
TIA AMB AMB
comp=Z,16nm,0.9s,mb5.0
TIA Tai'an 34.91 344 *e*P **P** **10 03 01.7 -0.5**
comp=Z,16nm,0.9s,mb5.0
MJAR Matsushiro Arr 34.94 14 P **P** **10 03 00.1 -2.3**
comp=Z,11nm,0.8s,mb4.8,baz=183,slow=9.1,SNR=35
MAJO Matsushiro 34.94 14 *e*P **P** **10 03 00.4 -2.1**
comp=Z,15nm,0.8s,mb5.0
MAJO Matsushiro 34.94 14 *e*P **P** **10 03 00.4 -2.0**
MAJO pmax pmax
comp=Z,15nm,0.8s,mb5.0
MAT Matsushiro 34.94 14 P **P** **10 02 59.9 -2.5**
MAT *eS **S** **10 08 31.0 +0.7**
MAT Matsushiro 34.94 14 *e*P **P** **10 03 00.0 -2.4**
comp=Z,11nm,0.7s,mb4.9
MAT Matsushiro 34.94 14 *e*P **P** **10 03 00.0 -2.4**
MAT pmax pmax
comp=Z,11nm,0.7s,mb4.9
KLBR Kellerberrin 35.50 195 *e*P **P** **10 03 04.0 -3.3**
comp=Z,9.9nm,0.6s,mb4.9
XAN Xi'an 36.03 332 P **P** **10 03 11.5 -0.2**
XAN AMB AMB
comp=Z,51nm,1.0s,mb5.4
XAN Xi'an 36.03 332 P **P** **10 03 11.5 -0.2**
comp=Z,51nm,1.0s,mb5.4
MUN Mundaring 36.30 197 *e*P **P** **10 03 11.2 -2.9**
CD2 Chengdu 36.37 323 P **P** **10 03 14.7 0.0**
STKA Stephens Creek 36.63 161 *e*P **P** **10 03 16.2 -0.6**
comp=Z,12nm,0.6s,mb4.9
STKA Stephens Creek 36.63 161 P **P** **10 03 17.6 +0.8**
comp=Z,11nm,0.7s,mb4.8,baz=339,slow=8.0,SNR=19
STKA LR LR 10 20 11.4
comp=Z,296nm,19.8s,MS4.1,baz=11,slow=39
NWAO Narrogin (SRO) 36.91 195 P **P** **10 03 19.0 -0.1**
comp=Z,5.7nm,0.5s,mb4.6,baz=59,slow=6.5,SNR=11
NWAO Narrogin (SRO) 36.91 195 *e*P **P** **10 03 17.8 -1.3**
comp=Z,7.4nm,0.8s,mb4.6
NWAO Narrogin (SRO) 36.91 195 *e*P **P** **10 03 17.8 -1.3**
NWAO pmax pmax
comp=Z,7.0nm,0.8s
SNY Shenyang 39.20 355 ⇓P **P** **10 03 42.8 +4.7**
SNY AMB AMB
comp=Z,10.0nm,0.4s,mb4.9
SNY Shenyang 39.20 355 ⇓P **P** **10 03 42.8 +4.7**
comp=Z,10.0nm,0.4s,mb4.9
LZH Lanzhou 40.17 329 *e*P **P** **10 03 47.5 +1.3**
LZH PP PP 10 05 25.3 +2.8
LZH S **S** **10 09 50.5 +0.6**
LZH AMB AMB
comp=Z,55nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,331nm,6.2s
LZH LR LR
comp=N,765nm,13.3s
LZH LR LR
comp=Z,1μm,17.1s,MS4.9
LZH Lanzhou 40.17 329 *e*P **P** **10 03 47.5 +1.3**
comp=Z,55nm,1.3s,mb5.1
LZH PP PP 10 05 25.3 +2.8
LZH S **S** **10 09 50.5 +0.6**
LZH LR LR
comp=Z,1μm,17.1s,MS4.9
LZH Lanzhou 40.17 329 *e*P **P** **10 03 47.5 +1.3**
LZH *PP pP 10 04 02.5 +4.8
LZH 10 05 25.3
LZH S **S** **10 09 50.5 +0.6**
LZH SS SS 10 12 44.3 +1.3
LZH pmax pmax
comp=Z,55nm,1.3s,mb5.1
LZH MLR MLR
comp=Z,1μm,17.1s,MS4.9
HHC Hu-ho-hao-te 40.87 341 *e*P **P** **10 03 54.8 +2.8**
HHC AP pP 10 04 10.1 +6.7
HHC PP PP 10 05 33.4 +3.9
HHC PCP PcP 10 05 52.4 -0.4
HHC S **S** **10 10 03.2 +2.9**
HHC SS SS 10 13 04.3 +6.2
HHC AMB AMB
comp=Z,12nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,137nm,6.3s
HHC LR LR
comp=N,255nm,13.0s,MS4.3
HHC LR LR
comp=E,223nm,16.1s,MS4.3
HHC LR LR
comp=Z,141nm,18.7s,MS3.9
HHC Hu-ho-hao-te 40.87 341 *e*P **P** **10 03 54.8 +2.8**
comp=Z,12nm,0.4s,mb4.9
HHC pP pP 10 04 10.1 +6.7
HHC PP PP 10 05 33.4 +3.9
HHC PcP PcP 10 05 52.4 -0.4
HHC S **S** **10 10 03.2 +2.9**
HHC SS SS 10 13 04.3 +6.2
HHC LR LR
comp=Z,140nm,18.7s,MS3.9
CN2 Changchun 41.02 357 *e*P **P** **10 03 55.3 +2.1**
MDJ Mudanjiang 41.78 1 P **P** **10 04 00.0 +0.5**
MDJ AMB AMB
comp=Z,19nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,96nm,4.3s
MDJ Mudanjiang 41.78 1 P **P** **10 04 00.0 +0.5**
comp=Z,19nm,1.0s,mb4.7
ASAJ Asahikawa 43.18 15 P **P** **10 04 11.7 +0.7**
comp=Z,15nm,0.6s,mb4.9,baz=211,slow=12,SNR=16
LSA Lhasa 44.25 311 P **P** **10 04 21.4 +1.6**
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.8
LSA Lhasa 44.25 311 P **P** **10 04 21.4 +1.6**
comp=Z,20nm,1.0s,mb4.8
LSA Lhasa 44.25 311 *e*P **P** **10 04 21.0 +1.2**
LSA pmax pmax
comp=Z,31nm,1.1s,mb5.0
GTA Gaotai 44.77 328 ⇓*i*P **P** **10 04 24.2 +0.4**
GTA AP pP 10 04 44.0 +8.7
GTA PP PP 10 06 10.5 +1.0
GTA S **S** **10 10 59.1 +1.8**
GTA SS SS 10 14 10.8 +0.9
GTA SCS ScS 10 14 11.9 -3.4
GTA AMB AMB
comp=Z,11nm,0.7s,mb4.8
GTA AMB AMB
comp=Z,161nm,8.9s
GTA LR LR
comp=N,176nm,18.5s,MS4.2
GTA LR LR
comp=E,215nm,17.4s,MS4.2
GTA LR LR
comp=Z,253nm,20.8s,MS4.1
GTA Gaotai 44.77 328 ⇓*i*P **P** **10 04 24.2 +0.4**
comp=Z,11nm,0.7s,mb4.8
GTA pP pP 10 04 44.0 +8.7
GTA PP PP 10 06 10.5 +1.0
GTA S **S** **10 10 59.1 +1.8**
GTA SS SS 10 14 10.8 +0.9
GTA ScS ScS 10 14 11.9 -3.4
GTA LR LR
comp=Z,250nm,20.8s,MS4.1
YSS Yuzh-Sakhalins 45.88 14 P **P** **10 04 29.5 -3.0**
comp=Z,18nm,0.6s,mb5.2
YSS LR LR
comp=Z,100nm,18.0s,MS3.8
YSS Yuzh-Sakhalins 45.88 14 *i* P **P** **10 04 32.9 +0.3**
YSS pmax pmax
comp=Z,19nm,1.3s,mb4.9
YSS MLR MLR
comp=Z,100nm,18.0s,MS3.8
KLR Kul'dur 46.48 3 *e*P **P** **10 04 33.0 -4.2**
PKI Pulchoki 47.79 305 *e*P **P** **10 04 47.6 -0.3**
comp=Z,16nm,0.7s,mb5.2
PKI Pulchoki 47.79 305 *e*P **P** **10 04 47.6 -0.3**
PKI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KKN Kakani 47.98 306 *e*P **P** **10 04 49.0 -0.4**
comp=Z,27nm,0.8s,mb5.3
KKN Kakani 47.98 306 *e*P **P** **10 04 49.0 -0.4**
KKN pmax pmax
comp=Z,14nm,0.8s,mb5.0
DMN Daman 48.05 305 *e*P **P** **10 04 49.8 -0.1**
comp=Z,33nm,0.8s,mb5.4
ULN Ulaanbaatar 48.58 341 *e*P **P** **10 04 53.3 -0.4**
comp=Z,8.0nm,0.7s,mb4.9
ULN Ulaanbaatar 48.58 341 *e*P **P** **10 04 53.3 -0.4**
ULN pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
GKN Gorkha 48.59 306 *e*P **P** **10 04 53.3 -0.8**
comp=Z,47nm,1.0s,mb5.5
SONM Songino Array 48.77 341 P **P** **10 04 54.8 -0.4**
comp=Z,2.7nm,0.6s,mb4.5,baz=152,slow=8.0,SNR=18
SONM LR LR 10 26 36.3
comp=Z,131nm,20.1s,MS3.9,baz=50,slow=38
KOLN Koldanda 49.35 305 *e*P **P** **10 04 59.8 -0.1**
comp=Z,92nm,0.8s,mb5.8
CIT Chita 50.68 348 *e*P **P** **10 05 10.9 +1.1**
HYB Hyderabad 50.88 290 *i* P **P** **10 05 11.0 -0.7**
HYB Hyderabad 50.88 290 *e*P **P** **10 05 11.0 -0.7**
ZAK Zakamensk 52.01 340 *e*P **P** **10 05 17.8 -2.0**
comp=Z,2.0nm,0.9s,mb4.0
ZAK *e* 10 06 30.9
ZAK Zakamensk 52.01 340 *e*P **P** **10 05 17.8 -2.0**
ZAK *e* 10 06 30.9
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
WMQ Urumqi 54.44 325 ⇑*i*P **P** **10 05 38.6 +0.7**
WMQ PCP PcP 10 06 42.0 +1.0
WMQ S **S** **10 13 12.0 +0.1**
WMQ SCS ScS 10 15 19.0 -1.2
WMQ AMB AMB
comp=Z,28nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,188nm,4.2s
WMQ LR LR
comp=N,456nm,23.0s,MS4.5
WMQ LR LR
comp=E,284nm,23.0s,MS4.5
WMQ LR LR
comp=Z,354nm,23.0s,MS4.4
WMQ Urumqi 54.44 325 ⇑*i*P **P** **10 05 38.6 +0.7**
comp=Z,28nm,0.8s,mb5.2
WMQ PcP PcP 10 06 42.0 +1.0
WMQ S **S** **10 13 12.0 +0.1**
WMQ ScS ScS 10 15 19.0 -1.2
WMQ LR LR
comp=Z,350nm,23.0s,MS4.4
BOD Bodaibo 56.12 351 *e*P **P** **10 05 47.3 -2.6**
YAK Yakutsk 59.22 1 ⇑*i*P **P** **10 06 10.9 -0.7**
comp=Z,21nm,0.7s,mb5.3
YAK Yakutsk 59.22 1*c* *i*P **P** **10 06 10.9 -0.7**
YAK pmax pmax
comp=Z,21nm,0.7s,mb5.3
MKAR Makanchi Array 59.27 325 P **P** **10 06 11.7 -0.4**
comp=Z,14nm,0.6s,mb5.1,baz=118,slow=8.3,SNR=96
MKAR LR LR 10 33 11.0
comp=Z,130nm,19.0s,MS4.1,baz=349,slow=38
MKAR Makanchi Array 59.27 325 *e*P **P** **10 06 11.6 -0.6**
MKAR pmax pmax
comp=Z,16nm,0.7s
MA2 Magadan 59.37 13 *e*P **P** **10 06 10.7 -2.0**
MA2 *e* 10 07 05.9
MA2 *e* 10 08 29.9
MA2 *eS **S** **10 14 09.3 -7.4**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KSH Kashi 59.84 315 *e*P **P** **10 06 16.6 +0.4**
KSH PP PP 10 08 29.3 -1.0
KSH *ePPP PPP 10 09 56.5 +0.3
KSH *eSCP 10 10 55.8
KSH *ePCS 10 11 02.4
KSH *eS **S** **10 14 21.6 -1.5**
KSH *eSCS ScS 10 15 56.5 -2.9
KSH *eSS SS 10 18 18.4 -2.3
KSH LR LR
comp=N,230nm,5.2s
KSH LR LR
comp=E,300nm,6.0s
KSH Kashi 59.84 315 *e*P **P** **10 06 16.6 +0.4**
KSH PP PP 10 08 29.3 -1.0
KSH *eScP 10 10 55.8
KSH *ePcS 10 11 02.4
KSH *eS **S** **10 14 21.6 -1.5**
KSH *eScS ScS 10 15 56.5 -2.9
KSH *eSS SS 10 18 18.4 -2.3
URZ Urewera 60.76 137 LR LR 10 32 20.5
comp=E,149nm,20.7s,MS4.1,baz=47,slow=36
TKM2 Tokmak 2 61.52 318 P **P** **10 06 27.9 +0.4**
SNR=8.4
UCH Uchtor 61.95 317 P **P** **10 06 31.1 +0.7**
SNR=12
AAK Ala-Archa 62.13 318 ⇑*i*P **P** **10 06 31.4 -0.3**
comp=E,8.0nm,1.3s,mb4.7
AAK Ala-Archa 62.13 318*c* *i*P **P** **10 06 31.4 -0.3**
AAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
ZAL Zalesovo 62.20 333 P **P** **10 06 30.5 -1.4**
comp=Z,4.6nm,1.0s,mb4.6,baz=353,slow=8.5,SNR=12
ZAL LR LR 10 34 42.2
comp=Z,98nm,20.5s,MS4.0,baz=273,slow=37
FX1 Attu Island--F 62.26 29 *e*P **P** **10 06 31.8 -0.6**
USP Ospenovka 62.39 318 P **P** **10 06 33.3 -0.1**
SNR=11
AML Almayashu 62.47 317 P **P** **10 06 34.6 +0.6**
SNR=9.4
EKS2 Erkin-Say 62.63 317 P **P** **10 06 35.5 +0.5**
SNR=8.0
SEY Seymchan 62.73 12 *i* P **P** **10 06 35.8 +0.4**
KURK Kurchatov 63.43 327 *e*P **P** **10 06 39.0 -1.1**
KURK pmax pmax
comp=Z,21nm,0.6s,mb5.4
NVS Novosibirsk 63.48 333 *e*P **P** **10 06 37.5 -2.9**
comp=Z,9.0nm,0.7s,mb5.0
NVS Novosibirsk 63.48 333 *e*P **P** **10 06 37.5 -2.9**
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
KKAR Karatay Array 65.02 317 *i* P **P** **10 06 50.2 -0.4**
comp=Z,5.0nm,0.8s,mb4.6
KKAR Karatay Array 65.02 317 *i* P **P** **10 06 50.2 -0.4**
KKAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VOSK Vostochnaya 68.56 327 P **P** **10 07 11.5 -1.3**
comp=Z,3.0nm,0.5s,mb4.5
VOSK Vostochnaya 68.56 327 P **P** **10 07 11.5 -1.3**
VOSK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
TIXI Tiksi 68.88 0 *i* P **P** **10 07 12.6 -1.9**
comp=Z,5.0nm,0.6s,mb4.6
TIXI Tiksi 68.88 0 *i* P **P** **10 07 12.6 -1.9**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BVA0 Borovoye Array 69.01 327 P **P** **10 07 14.7 -0.9**
comp=Z,1.0nm,0.9s,mb3.8
BVA0 Borovoye Array 69.01 327 P **P** **10 07 14.7 -0.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
BVAR Borovoye Array 69.01 327 P **P** **10 07 14.8 -0.8**
comp=Z,11nm,0.8s,mb4.9,baz=134,slow=7.4,SNR=35
BRVK Borovoye 69.08 327 *e*P **P** **10 07 15.1 -0.9**
comp=Z,12nm,1.0s,mb4.8
BRVK Borovoye 69.08 327 *e*P **P** **10 07 15.1 -0.9**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb4.8
CASY Casey 69.97 188 *e*P **P** **10 07 21.0 -0.2**
BILL Bilibino 70.19 14 *e*P **P** **10 07 22.9 +0.4**
comp=Z,18nm,1.6s,mb4.8
BILL Bilibino 70.19 14 *e*P **P** **10 07 22.9 +0.4**
BILL pmax pmax
comp=Z,18nm,1.6s,mb4.8
MIR Mirnyy 73.49 194 *e*P **P** **10 07 43.0 +0.8**
MIR pmax pmax
comp=Z,22nm,1.2s,mb5.0
ARU Arti 76.62 328 *e*P **P** **10 07 56.9 -3.4**
comp=Z,10nm,0.9s,mb4.8
ARU *e* pP 10 08 08.9 -3.6
ARU *e* 10 08 15.8
ARU *e* 10 10 53.4
ARU *eS S 10 17 43.4 +1.1
ARU *eSS SS 10 22 38.1 -3.0
ARU Arti 76.62 328 ⇑*i*P **P** **10 08 00.4 +0.1**
ARU *e* 10 08 08.9
ARU *e* 10 08 15.8
ARU *e* 10 10 53.4
ARU *eS S 10 17 43.4 +1.1
ARU *eSS SS 10 22 38.1 -3.0
ARU pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KDAK Kodiak Island 81.98 32 *e*P **P** **10 08 29.9 +0.7**
comp=Z,31nm,0.9s,mb5.2
VNDA Vanda 82.20 173 P **P** **10 08 31.7 +1.6**
comp=Z,3.6nm,0.9s,mb4.3,baz=313,slow=4.8,SNR=16
VNDA LR LR 10 40 46.2
comp=Z,111nm,19.8s,MS4.2,baz=318,slow=32
VNDA Vanda 82.20 173 P **P** **10 08 31.7 +1.6**
VNDA LR LR 10 40 46.2
IMA Indian Mountai 82.74 24 *e*P **P** **10 08 34.2 +1.2**
IMA pmax pmax
comp=Z,38nm,0.8s,mb5.5
SBA Scott Base 83.10 172 *e*P **P** **10 08 36.9 +2.3**
comp=Z,6.3nm,1.1s,mb4.6
SBA Scott Base 83.10 172 *e*P **P** **10 08 36.9 +2.2**
SBA pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MAW Mawson 83.29 201 *e*P **P** **10 08 36.2 +0.4**
comp=Z,3.2nm,0.9s,mb4.3
MAW Mawson 83.29 201 P **P** **10 08 36.7 +0.9**
comp=Z,3.5nm,1.0s,mb4.4,baz=56,slow=9.2,SNR=5.9
MAW Mawson 83.29 201 *e*P **P** **10 08 36.2 +0.4**
MAW pmax pmax
comp=Z,3.0nm,0.9s
GNI Garni 83.30 310 *i* P **P** **10 08 36.7 +0.3**
comp=Z,7.0nm,1.5s,mb4.5
GNI Garni 83.30 310 *i* P **P** **10 08 36.7 +0.3**
GNI pmax pmax
comp=Z,7.0nm,1.5s
PPT Papeete 83.37 108 LR LR 10 44 26.2
comp=Z,143nm,18.6s,MS4.4,baz=352,slow=35
PMR Palmer 84.15 28 *e*P **P** **10 08 48.8 +8.6**
comp=Z,19nm,1.2s,mb5.1
PMR Palmer 84.15 28 *e*P **P** **10 08 48.8 +8.6**
PMR pmax pmax
comp=Z,19nm,1.2s,mb5.1
MCK McKinley 84.44 26 *e*P **P** **10 08 41.6 0.0**
comp=Z,17nm,1.3s,mb5.0
MCK McKinley 84.44 26 *e*P **P** **10 08 41.6 0.0**
MCK pmax pmax
comp=Z,17nm,1.3s,mb5.0
SML Sawmill 84.55 28 *e*P **P** **10 08 42.9 +0.6**
KIV Kislovodsk 84.94 314 *e*P **P** **10 08 45.0 +0.4**
comp=Z,13nm,1.6s,mb4.8
KIV Kislovodsk 84.94 314 *e*P **P** **10 08 45.0 +0.4**
KIV pmax pmax
comp=Z,13nm,1.6s,mb4.8
ILAR Eielson Array 85.41 25 P **P** **10 08 46.1 -0.3**
comp=Z,0.6nm,0.5s,mb4.0,baz=251,slow=4.7,SNR=14
DIV Divide 85.74 29 *e*P **P** **10 08 49.7 +1.6**
comp=Z,113nm,1.1s
DAWY Dawson 88.66 26 *e*P **P** **10 09 02.7 +0.5**
OBN Obninsk 88.78 325 *e*P **P** **10 09 03.3 +0.4**
comp=Z,8.0nm,0.4s,mb5.4
OBN LR LR
comp=Z,100nm,21.0s,MS4.2
OBN Obninsk 88.78 325 *e*P **P** **10 09 03.3 +0.4**
OBN pmax pmax
comp=Z,8.0nm,0.4s,mb5.4
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.2
ASF Jabal al Asfar 89.72 302 P **P** **10 09 08.9 +0.9**
comp=Z,3.9nm,0.9s,mb4.7,baz=267,slow=3.0,SNR=4.0
INK Inuvik 90.59 22 *e*P **P** **10 09 10.3 -0.9**
comp=Z,2.2nm,0.8s,mb4.5
INK Inuvik 90.59 22 *e*P **P** **10 09 10.3 -0.9**
INK pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 91.02 269 P **P** **10 09 19.7 +5.2**
comp=Z,1.7nm,0.7s,mb4.5,baz=38,slow=20,SNR=3.3
BRTR Keskin Array B 91.84 310 P **P** **10 09 19.7 +2.0**
comp=Z,0.7nm,0.5s,mb4.2,baz=59,slow=8.4,SNR=2.7
ARCES ARCESS Array B 91.94 340 P **P** **10 09 16.1 -1.3**
comp=Z,3.8nm,0.8s,mb4.8,baz=90,slow=6.1,SNR=8.8
ARCES LR LR 10 55 49.3
comp=Z,67nm,19.1s,MS4.1,baz=342,slow=39
SYO Syowa Base 91.99 201 ⇑PcP PcP 10 09 20.8 +2.2
SYO Syowa Base 91.99 201 ⇑sP sP 10 09 43.8 +9.4
FINES FINESS Array B 93.46 332 P **P** **10 09 23.8 -0.8**
comp=Z,0.9nm,0.5s,mb4.4,baz=56,slow=6.9,SNR=7.0
FINES LR LR 10 52 53.7
comp=Z,68nm,19.5s,MS4.1,baz=65,slow=36
FINES FINESS Array B 93.46 332 P **P** **10 09 23.8 -0.8**
FINES LR LR 10 52 53.7
FINES FINESS Array B 93.46 332 *i* P **P** **10 09 24.6 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 99.64 332 LR LR 10 56 52.0
comp=Z,80nm,21.4s,MS4.2,baz=327,slow=37
PDAR Pinedale Array 111.15 42 PKKPbc 10 25 43.9
comp=Z,0.4nm,0.8s,baz=129,slow=5.8,SNR=3.6
PDAR PKKPab 10 25 49.9
comp=Z,0.3nm,0.5s,baz=90,slow=3.6,SNR=3.6
TXAR Lajitas Array 121.04 53 PKP PKPdf 10 15 03.9 +2.6
comp=Z,0.4nm,0.7s,baz=216,slow=1.4,SNR=7.4
PLCA Paso Flores 138.49 158 PKP PKPdf 10 15 37.9 +3.8
comp=Z,1.1nm,0.7s,baz=135,slow=1.4,SNR=3.7
LPAZ La Paz 158.98 131 PKP PKPdf 10 16 11.8 +5.2
comp=Z,1.3nm,1.0s,baz=314,slow=1.5,SNR=4.0
LPAZ PKPab PKPab 10 16 48.8 +3.3
comp=Z,1.3nm,0.8s,baz=170,slow=4.5,SNR=4.3

MAN 01 10:17:01.8, 5.67N×126.07E, h115km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.28	8	eP	P	10 17 26.6	-0.2
MATI				eS	S	10 17 52.6	+7.0
KCP	Kidapawan	1.65	324	eP	P	10 17 37.9	+6.7
KCP				i S	S	10 17 58.4	+5.1
BUKP	Musuan	2.41	336	eP	P	10 17 42.9	+1.9
BUKP				eS	S	10 18 10.9	+0.4
PAGZ	Pagadian	3.44	309	eP	P	10 17 54.9	+0.1
PAGZ				eS	S	10 18 34.9	-0.1
IPIL	Ipil	4.06	301	eP	P	10 18 03.4	+0.2

*NIED **01** 10:33:00,35.60N×140.10E,h65km,Mw3.5 Best double couple: M₀1.76×10[14] NP1:φs295°,δ67°,λ67°. NP2:φs162°, δ32°,λ133°.*

JMA 01 10:33:25.4±0.2**,35.64N×140.06E,h70**km±2km**,M3.1, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.25	152	P	P	10 33 36.8	+0.5
JCN				S	S	10 33 45.5	+1.1
TOK	Tokyo	0.25	281	P	P	10 33 36.8	+0.5
TOK				S	S	10 33 45.4	+1.0
JOD2	Odawara 2	0.88	245	P	P	10 33 42.2	-0.4
JOD2				S	S	10 33 54.3	-1.0
BSO3	Boso 3	0.91	156	P	P	10 33 41.9	-1.1
BSO3				S	S	10 33 55.7	-0.4
JAG	Ashikaga	0.93	328	P	P	10 33 43.4	+0.2
JAG				S	S	10 33 56.7	+0.3
JRY	Ryogami san	1.01	292	P	P	10 33 45.0	+0.7
JRY				S	S	10 33 58.9	+0.5
JIM2	Oshima 3	1.05	209	P	P	10 33 43.7	-1.2
JIM2				S	S	10 33 57.8	-1.5
BSO1	Boso 1	1.24	142	P	P	10 33 45.7	-1.6
BSO1				S	S	10 34 01.4	-2.2
JYN	Shimob	1.24	264	P	P	10 33 47.3	-0.1
JYN				S	S	10 34 03.7	0.0
JKT	Katashina	1.30	330	P	P	10 33 48.2	-0.1
JKT				S	S	10 34 05.5	+0.3
JIZS	Izushimoda	1.34	227	P	P	10 33 47.9	-0.8
JIZS				S	S	10 34 04.5	-1.5
MAT	Matsushiro	1.75	302	P	P	10 33 54.3	0.0
MAT				S	S	10 34 15.3	-0.2

*IDC **01** 10:39:06.2±0.7,2.64N×96.03E,mb4.4/16,mb1 4.5/16, mb1mx4.4/20,mbtmp4.4/16,Error ellipse: s-maj=34.1km s-min=15.7km az=49.0*
*BJI **01** 10:39:08.8,2.46N×96.08E,h37km,mB5.2,mb4.8,Ms4.2, Msz3.9*
*MOS **01** 10:39:09.2±1.1,2.68N×96.09E,h33km,mb5.0/20,Error ellipse: s-maj=17.7km s-min=7.2km az=106.6*
*NEIC **01** 10:39:10.5±0.4,2.61N×96.05E,h30km,mb4.8/21,Error ellipse: s-maj=10.7km s-min=7.3km az=35.0*

ISC 01 10:39:09.2±1.1**,2.59N**±0.06×**96.04E**±0.06**,h35**km±10km**, h33**km±2.0km**:pP-P,n91,**σ**1**ˢ**05**/99**,mb4.6**/55**,MS4.0**/10**, 5C-4D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.32	60	ePn	P	10 40 29.3	+1.0
KSM	Kuching	14.30	94	P	P	10 42 36.6	+5.2
KKTK	Khon Kaen	15.20	26	⇓P	P	10 42 47.1	+3.9
	556nm,0.5s						
NANT	Nan	16.75	15	P	P	10 43 03.0	+0.2
KKM	Kota Kinabalu	20.40	80	eP	P	10 43 46.0	0.0
QIZ	Qiongzhong	21.20	39	P	P	10 43 52.7	-1.4
QIZ				eS	S	10 47 42.0	-0.9
QIZ				LR	LR		
	comp=E,350nm,18.0s						
QIZ				LR	LR		
	comp=Z,360nm,15.9s,MS3.9						
QIZ	Qiongzhong	21.20	39	P	P	10 43 52.4	-1.7
	comp=Z,10nm,0.9s,mb4.2						
KMI	Kunming	23.32	15	P	P	10 44 17.6	+2.4
KMI				AP		10 44 26.8	
KMI				XP		10 44 31.3	
KMI				S	S	10 48 22.5	+1.0
KMI				XS		10 48 38.5	
KMI				SS	SS	10 49 10.9	+1.9
KMI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.5						
KMI				AMB	AMB		
	comp=Z,112nm,4.2s						
KMI				LR	LR		
	comp=Z,193nm,17.6s,MS3.6						
KMI	Kunming	23.32	15	P	P	10 44 17.6	+2.4
	comp=Z,16nm,0.8s,mb4.5						
KMI				pP		10 44 26.8	
KMI				sP		10 44 31.3	
KMI				S	S	10 48 22.5	+1.0
KMI				sS		10 48 38.5	
KMI				SS	SS	10 49 10.9	+1.9
GYA	Guiyang	25.83	22	⇓iP	P	10 44 39.2	-0.1
GYA				AP	pP	10 44 48.2	-0.9
GYA				XP	sP	10 44 52.5	-0.8
GYA				PP	PP	10 45 19.9	-0.3
GYA				S	S	10 49 04.1	0.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				LR	LR		
	comp=N,320nm,15.2s,MS4.1						
GYA				LR	LR		
	comp=E,340nm,15.4s,MS4.1						
GYA				LR	LR		
	comp=Z,310nm,15.0s,MS4.0						
PKI	Pulchoki	26.84	339	eP	P	10 44 49.4	+0.8
	comp=Z,56nm,1.1s,mb5.0						
PKI	Pulchoki	26.84	339	eP	P	10 44 49.4	+0.8
PKI				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.7						
DMN	Daman	26.99	338	eP	P	10 44 50.7	+0.7
	comp=Z,57nm,1.0s,mb5.1						
KKN	Kakani	27.09	339	eP	P	10 44 51.6	+0.7
	comp=Z,71nm,0.9s,mb5.2						
KKN	Kakani	27.09	339	eP	P	10 44 51.6	+0.7
KKN				pmax	pmax		
	comp=Z,36nm,0.9s,mb4.9						
LSA	Lhasa	27.36	351	P	P	10 44 54.8	+1.4
LSA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
LSA	Lhasa	27.36	351	eP	P	10 44 53.8	+0.4
	comp=Z,27nm,0.9s,mb4.8						
LSA	Lhasa	27.36	351	eP	P	10 44 53.8	+0.4
LSA				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.8						
GKN	Gorkha	27.52	338	⇑iP	P	10 44 55.5	+0.7
	comp=Z,114nm,1.0s,mb5.5						
KOLN	Koldanda	27.72	336	⇑iP	P	10 44 57.4	+0.8
	comp=Z,47nm,0.8s,mb5.2						
CD2	Chengdu	29.10	14	P	P	10 45 07.6	-1.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ENH	Enshi	30.34	23	eP	P	10 45 18.6	-1.3
	comp=Z,14nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	35.67	126	eP	P	10 46 06.4	0.0
	comp=Z,6.7nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	35.67	126	P	P	10 46 06.6	+0.2
	comp=Z,7.5nm,0.8s,mb4.7,baz=228,slow=2.6,SNR=7.0						
NJ2	Nanjing	36.33	34	eP	P	10 46 13.5	+1.7
NJ2				AP	pP	10 46 23.2	+1.2
NJ2				XP	sP	10 46 26.6	+0.1
NJ2				PP	PP	10 47 37.3	+1.8
NJ2				S	S	10 51 50.0	+0.3
NJ2				XS		10 52 06.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,680nm,5.0s						
NJ2				LR	LR		
	comp=N,1μm,16.0s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,16.3s,MS4.9						
NJ2				LR	LR		
	comp=Z,700nm,25.3s						
GTA	Gaotai	36.81	5	eP	P	10 46 15.3	-0.4
GTA				AP	pP	10 46 25.3	-0.7
GTA				XP	sP	10 46 30.1	-0.4
GTA				PP	PP	10 47 40.9	-0.8
GTA				S	S	10 51 55.7	-1.3
GTA				XS		10 52 11.6	
GTA				SS	SS	10 54 23.2	-2.8
GTA				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,157nm,7.0s						
GTA				LR	LR		
	comp=N,101nm,13.1s,MS4.0						
GTA				LR	LR		
	comp=E,158nm,14.7s,MS4.0						
GTA				LR	LR		
	comp=Z,192nm,9.7s						
SSE	Sheshan	36.98	37	eP	P	10 46 17.1	-0.2
SSE				AP	pP	10 46 25.0	-2.5
SSE				XP	sP	10 46 29.9	-2.1
SSE				PP	PP	10 47 41.0	-3.1
SSE				PCP	PcP	10 48 35.8	-2.5
SSE				S	S	10 52 01.6	+1.8
SSE				XS		10 52 17.4	
SSE				SCS	ScS	10 56 28.9	+1.8
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,306nm,5.0s						
SSE				LR	LR		
	comp=N,28nm,21.4s,MS3.5						
SSE				LR	LR		
	comp=E,89nm,21.4s,MS3.5						
SSE				LR	LR		
	comp=Z,97nm,20.7s,MS3.6						
SSE	Sheshan	36.98	37	eP	P	10 46 17.1	-0.2
	comp=Z,29nm,0.7s,mb5.2						
SSE				pP	pP	10 46 25.0	-2.5
SSE				sP	sP	10 46 29.9	-2.1
SSE				PP	PP	10 47 41.0	-3.1
SSE				PcP	PcP	10 48 35.8	-2.5
SSE				S	S	10 52 01.6	+1.8
SSE				sS		10 52 17.4	
SSE				SS	SS	10 54 45.8	+16
SSE				ScS	ScS	10 56 28.9	+1.8
KAKA	Kakadu	39.21	114	eP	P	10 46 51.2	+15
	comp=Z,19nm,1.4s,mb4.6						
HHC	Hu-ho-hao-te	40.59	18	⇑eP	P	10 46 48.8	+1.6
HHC				AP	pP	10 46 58.6	+1.1
HHC				XP	sP	10 47 02.6	+0.7
HHC				PP	PP	10 48 26.2	+2.2
HHC				PCP	PcP	10 48 53.2	+3.7
HHC				SCP		10 52 37.9	
HHC				PCS		10 52 41.5	
HHC				S	S	10 52 54.6	+0.5
HHC				XS		10 53 11.2	
HHC				SS	SS	10 55 49.4	-0.3
HHC				SCS	ScS	10 56 48.9	+1.1
HHC				AMB	AMB		
	comp=Z,25nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,109nm,4.3s						
HHC				LR	LR		
	comp=N,121nm,17.3s,MS4.2						
HHC				LR	LR		
	comp=E,245nm,18.2s,MS4.2						
HHC				LR	LR		
	comp=Z,173nm,23.8s						
WMQ	Urumqi	41.72	351	P	P	10 46 57.2	+0.7
WMQ				AP	pP	10 47 07.0	+0.1
WMQ				XP	sP	10 47 11.0	-0.3
WMQ				PCP	PcP	10 48 56.0	+2.7
WMQ				eS	S	10 53 11.0	+0.1
WMQ				XS		10 53 26.0	
WMQ				SS	SS	10 56 11.5	-0.5
WMQ				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,198nm,4.8s						
WMQ				LR	LR		
	comp=N,140nm,17.8s						
WMQ				LR	LR		
	comp=E,233nm,25.2s						
WMQ				LR	LR		
	comp=Z,135nm,18.9s,MS3.8						
WRA	Warramunga Arr	43.75	123	P	P	10 47 13.8	+0.4
	comp=Z,3.4nm,0.9s,mb4.1,baz=301,slow=8.8,SNR=16						
WRAB	Tennant Creek	43.75	123	P	P	10 47 10.1	-3.4
	comp=Z,13nm,1.0s,mb4.6						
WRAB	Tennant Creek	43.75	123	i P	P	10 47 14.0	+0.5
WB2	Warramunga Arr	43.76	123	eP	P	10 47 13.5	0.0
AAK	Ala-Archa	44.28	337	eP	P	10 47 18.5	+1.1
	comp=Z,6.6nm,0.9s,mb4.4						
AAK	Ala-Archa	44.28	337	d iP	P	10 47 18.3	+0.9
AAK				pmax	pmax		
	comp=Z,13nm,2.5s,mb4.2						
MKAR	Makanchi Array	45.63	347	P	P	10 47 28.3	+0.2
	comp=Z,12nm,0.7s,mb5.0,baz=162,slow=7.7,SNR=68						
SONM	Songino Array	45.95	10	P	P	10 47 30.7	+0.1
	comp=Z,8.4nm,0.6s,mb4.8,baz=191,slow=9.1,SNR=69						
SONM				PcP	PcP	10 49 07.9	+0.4
	comp=Z,2.9nm,0.7s,baz=198,slow=3.2,SNR=7.7						
ULN	Ulaanbaatar	46.09	10	eP	P	10 47 30.9	-0.9
	comp=Z,11nm,0.9s,mb4.8						
ULN	Ulaanbaatar	46.09	10	eP	P	10 47 30.9	-0.9
ULN				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
SNY	Shenyang	46.22	29	⇑P	P	10 47 31.7	-1.2
ZAK	Zakamensk	48.02	6	eP	P	10 47 46.9	+0.1
ZAK				e		10 49 15.5	
CN2	Changchun	48.62	28	eP	P	10 47 54.3	+2.7
KURK	Kurchatov	50.16	346	eP	P	10 48 03.1	-0.3
	comp=Z,7.3nm,0.6s,mb4.9						
KURK	Kurchatov	50.16	346	eP	P	10 48 03.1	-0.3
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
MDJ	Mudanjiang	51.24	30	P	P	10 48 12.2	+0.6
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,100nm,5.2s						
MDJ				LR	LR		
	comp=N,40nm,20.8s,MS3.6						
MDJ				LR	LR		
	comp=E,47nm,19.5s,MS3.6						
MDJ				LR	LR		
	comp=Z,57nm,20.8s,MS3.6						
CIT	Chita	51.39	14	eP	P	10 48 14.0	+1.4
MJAR	Matsushiro Arr	51.47	44	PcP	PcP	10 49 28.7	+1.1
	comp=Z,2.3nm,1.0s,baz=219,slow=3.7,SNR=5.2						
ZAL	Zalesovo	52.01	352	P	P	10 48 17.7	+0.4
	comp=Z,12nm,0.5s,mb5.1,baz=314,slow=5.7,SNR=37						
ZAL	Zalesovo	52.01	352	P	P	10 48 17.7	+0.4
ZAL	Zalesovo	52.01	352	i P	P	10 48 17.9	+0.7
ZAL				pmax	pmax		
	comp=Z,12nm,0.5s						
NVS	Novosibirsk	53.12	351	eP	P	10 48 23.4	-2.2
NVS				pmax	pmax		
	comp=N,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
VOSK	Vostochnaya	54.12	341	P	P	10 48 32.1	-0.9
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BVA0	Borovoye Array	54.57	341	i P	P	10 48 35.4	-0.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
BVAR	Borovoye Array	54.57	341	P	P	10 48 35.4	-0.9
	comp=Z,4.4nm,0.7s,mb4.6,baz=141,slow=9.5,SNR=23						
BRVK	Borovoye	54.63	341	eP	P	10 48 34.0	-2.7
	comp=Z,2.9nm,0.8s,mb4.4						
BRVK	Borovoye	54.63	341	eP	P	10 48 34.0	-2.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
STKA	Stephens Creek	55.14	132	eP	P	10 48 40.7	0.0
	comp=Z,3.8nm,0.8s,mb4.5						
STKA	Stephens Creek	55.14	132	P	P	10 48 41.0	+0.3
	comp=Z,1.8nm,0.7s,mb4.2,baz=257,slow=11,SNR=4.0						
KLR	Kul'dur	55.55	28	eP	P	10 48 40.0	-3.4
AB31	Akbulak array	55.75	332	i P	P	10 48 44.5	-0.4
AB31				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
BOD	Bodaibo	56.88	11	eP	P	10 48 49.8	-3.0
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
AKTO	Aktyubinsk	57.47	332	P	P	10 48 56.1	-1.0
AKTO				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
KMBO	Kilima Mbogo	58.89	267	P	P	10 49 09.0	+1.5
	comp=Z,0.7nm,0.4s,mb4.0,baz=48,slow=16,SNR=3.5						
YSS	Yuzh-Sakhalins	59.87	35	i P	P	10 49 12.4	-1.5
SVE	Sverdlovsk	60.98	339	eP	P	10 49 20.6	-0.7
SVE				e	pP	10 49 31.9	0.0
SVE				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.3						
SVE				MLR	MLR		
	comp=N,100nm,11.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,100nm,11.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,200nm,11.0s,MS4.5						
ARU	Arti	61.46	337	eP	P	10 49 22.9	-1.6
	comp=Z,8.3nm,0.8s,mb4.9						
ARU	Arti	61.46	337	⇑iP	P	10 49 23.5	-1.0
ARU				e		10 50 03.2	
ARU				eS	S	10 57 43.4	+1.8
ARU				eSS	SS	11 01 41.6	-2.6
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
KIV	Kislovodsk	62.51	319	i P	P	10 49 31.5	-0.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
YAK	Yakutsk	64.43	17	eP	P	10 49 42.4	-1.6
	comp=Z,39nm,0.9s,mb5.4						
YAK	Yakutsk	64.43	17	eP	P	10 49 43.0	-1.0
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
BRTR	Keskin Array B	67.33	312	P	P	10 50 02.8	-0.1
	comp=E,0.6nm,0.5s,mb3.9,baz=130,slow=4.7,SNR=3.4						
CASY	Casey	69.50	174	P	P	10 50 20.3	+4.4
	comp=E,5.7nm,1.1s,mb4.4						
OBN	Obninsk	70.84	328	⇓iP	P	10 50 24.0	-0.2
OBN				e		10 50 39.9	
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
TIXI	Tiksi	72.03	10	i P	P	10 50 29.9	-1.2
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
SEY	Seymchan	72.95	23	i P	P	10 50 36.9	+0.2
AKASG	Malin Array Be	73.46	322	P	P	10 50 39.4	-0.5
	comp=Z,3.0nm,0.7s,mb4.3,baz=90,slow=4.6,SNR=14						
AKASG	Malin Array Be	73.46	322	P	P	10 50 39.4	-0.5
MLR	Muntele Rosu	74.27	317	P	P	10 50 45.7	+1.0
	comp=Z,2.5nm,0.8s,mb4.2,baz=87,slow=8.6,SNR=3.8						
JOF	Joensuu	76.40	335	ep	P	10 50 55.2	-1.4
	comp=Z,1.2nm,0.6s,mb4.0						
FINES	FINESS Array B	78.24	333	P	P	10 51 06.8	0.0
	comp=Z,3.3nm,0.7s,mb4.4,baz=117,slow=8.5,SNR=12						
KAF	Kangasniemi	78.33	333	ep	P	10 51 07.0	-0.3
	comp=Z,4.4nm,0.9s,mb4.4,baz=104,slow=5.2						
KAF	Kangasniemi	78.33	333	eP	P	10 51 07.0	-0.3
KAF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BILL	Bilibino	80.29	21	eP	P	10 51 17.8	0.0
BILL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ARCES	ARCESS Array B	80.85	340	P	P	10 51 21.6	+0.8
	comp=Z,1.1nm,0.4s,mb4.1,baz=90,slow=4.9,SNR=9.3						
GERES	GERESS Array B	83.01	319	P	P	10 51 33.5	+1.2
	comp=Z,1.9nm,0.8s,mb4.2,baz=104,slow=5.5,SNR=15						
HFS	Hagfors	83.95	330	P	P	10 51 37.8	+1.0
	comp=Z,1.4nm,0.6s,mb4.3,baz=45,slow=4.2,SNR=4.4						
NOA	NORSAR Array B	85.24	331	P	P	10 51 43.5	+0.2
	comp=Z,1.0nm,0.7s,mb4.0,baz=100,slow=5.4,SNR=2.6						
NVAR	Mina Array Bea	128.32	34	PKP	PKPdf	10 58 16.1	+3.3
	comp=Z,0.5nm,0.7s,baz=287,slow=1.8,SNR=6.3						
TXAR	Lajitas Array	143.07	29	PKhKP		10 58 38.6	
	comp=Z,0.4nm,0.7s,baz=240,slow=1.0,SNR=6.3						

*IDC **01** 10:47:07.9±0.8,57.40S×25.34W,mb4.2/6,mb1 4.4/7, mb1mx4.2/13,mbtmp4.3/7,MS3.8/4,Ms1 3.7/4, ms1mx3.5/16,Error ellipse: s-maj=44.2km s-min=17.7km az=52.0*
*NEIC **01** 10:47:09.3±0.3,57.43S×25.21W,h10km,mb4.5/10,Error ellipse: s-maj=12.9km s-min=5.1km az=55.0*

ISC 01 10:47:09.0±6.3**,57.5S**±0.1×**25.5W**±0.3**,h17**km±46km**,n39, σ0ˢ91**/31**,mb4.3**/12**,MS4.0**/3**,4C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.12	158	e	P	10 50 44.7	+1.7
VNA1	Neumayer--Stat	15.12	158	e	P	10 50 54.4	+11
VNA1	Neumayer--Stat	15.12	158	⇑iP	P	10 50 42.6	-0.4
VNA1				e		10 50 44.7	
VNA1				e		10 50 54.4	
VNA3	Neumayer Olymp	15.33	161	e	P	10 50 47.1	+1.3
VNA3	Neumayer Olymp	15.33	161	e	P	10 50 56.2	+10
VNA3	Neumayer Olymp	15.33	161	e	tx	10 53 24.2	
VNA3	Neumayer Olymp	15.33	161	⇑iP	P	10 50 44.5	-1.3
VNA3				e		10 50 47.1	
VNA3				e		10 50 56.2	
VNA3				e		10 53 24.2	
VNA2	Neumayer--Watz	15.51	158	e	P	10 50 49.5	+1.3
VNA2	Neumayer--Watz	15.51	158	e	P	10 50 58.4	+10
VNA2	Neumayer--Watz	15.51	158	e	tx	10 53 29.6	
VNA2	Neumayer--Watz	15.51	158	⇑iP	P	10 50 47.2	-1.0
VNA2				e		10 50 49.5	
VNA2				e		10 50 58.4	
VNA2				e		10 53 29.6	
SNAA	Sanae	17.05	155	⇑i	P	10 51 06.7	-1.1
SNAA	Sanae	17.05	155	e	P	10 51 09.3	+1.5
SNAA	Sanae	17.05	155	e	P	10 51 16.3	+8.5
SNAA	Sanae	17.05	155	P	P	10 51 06.9	-0.8
	1.4nm,0.3s,baz=324,slow=13,SNR=32						
SNAA				LR	LR	10 56 00.7	
	comp=Z,68nm,21.6s,baz=19,slow=31						
SNAA	Sanae	17.05	155	eP	P	10 51 07.3	-0.5
SNAA				e		10 51 09.3	
SNAA				e		10 51 16.3	
SNAA				e		10 54 05.4	
EFI	East Falkland	19.62	273	eP	P	10 51 39.7	+0.5
	108nm,1.5s						
PMSA	Palmer Station	19.72	232	eP	P	10 51 39.9	-0.3
	11nm,0.8s						
TRQA	Tornquist	30.75	293	eP	P	10 53 24.8	-0.4
	1.2nm,0.5s,mb4.0						
PLCA	Paso Flores	33.18	281	P	P	10 53 44.6	-1.8
	0.6nm,0.5s,mb3.8,baz=148,slow=9.6,SNR=3.7						
PLCA				LR	LR	11 05 10.9	
	comp=Z,178nm,21.9s,MS3.7,baz=169,slow=33						
PLCA	Paso Flores	33.18	281	eP	P	10 53 43.9	-2.5
	2.2nm,0.9s,mb4.1						
PLCA				LR	LR	11 05 10.9	
MAW	Mawson	38.44	142	P	P	10 54 29.9	-1.0
	1.1nm,0.5s,mb3.9,baz=36,slow=6.3,SNR=9.9						
MAW				LR	LR	11 08 03.2	
	comp=Z,212nm,20.9s,MS3.9,baz=134,slow=33						
CPUP	Villa Florida	38.46	310	P	P	10 54 31.2	-0.2
	4.9nm,0.7s,mb4.4,baz=178,slow=10.0,SNR=9.5						
SBA	Scott Base	44.72	184	eP	P	10 55 22.3	+0.1
	2.9nm,0.9s,mb4.1						
BDFB	Brasilia	45.07	329	P	P	10 55 26.2	+0.5
	1.9nm,0.6s,mb4.1,baz=107,slow=11,SNR=2.4						
VNDA	Vanda	45.19	182	P	P	10 55 27.6	+1.8
	1.9nm,0.5s,mb4.2,baz=185,slow=7.0,SNR=22						
LVC	Limon Verde	46.82	299	eP	P	10 55 39.8	+0.3
	8.8nm,0.9s,mb4.7						
LPAZ	La Paz	51.96	304	P	P	10 56 19.9	+0.8
	5.6nm,0.4s,mb4.8,baz=123,slow=5.0,SNR=38						
LPAZ	La Paz	51.96	304	eP	P	10 56 19.4	+0.3
	6.7nm,0.5s,mb4.8						
CASY	Casey	52.24	159	eP	P	10 56 19.8	-0.7
	2.9nm,0.9s,mb4.2						
SAML	Samuel	56.47	314	eP	P	10 56 52.0	-0.2
	12nm,0.6s,mb5.1						
KMBO	Kilima Mbogo	74.70	67	LR	LR	11 27 31.3	
	comp=Z,137nm,19.0s,MS4.3,baz=88,slow=32						
SDV	Santo Domingo	75.68	314	eP	P	10 58 55.6	+0.7
	8.3nm,0.9s,mb4.7						
CART	Cartagena	96.92	19	P	P	11 00 34.6	-5.4
PDAR	Pinedale Array	121.89	300	PKP	PKPdf	11 06 03.3	-2.3
	0.2nm,0.4s,baz=112,slow=4.8,SNR=4.2						
BVAR	Borovoye Array	134.75	58	PKP	PKPdf	11 06 26.7	-3.0
	1.0nm,0.4s,baz=152,slow=2.4,SNR=4.6						
INK	Inuvik	147.50	319	PKPbc	PKPdf	11 06 51.2	-0.4
	1.4nm,0.4s,baz=169,slow=1.9,SNR=12						
SONM	Songino Array	149.86	88	PKPbc	PKPdf	11 06 58.4	+2.5
	1.1nm,0.5s,baz=218,slow=4.3,SNR=10						
ILAR	Eielson Array	151.76	309	PKPbc	PKPdf	11 07 02.5	+4.2

3.3nm,0.8s,baz=139,slow=1.7,SNR=20

JMA 01 10:47:40.6±0.2**, 44.10N**×**148.20E, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.93**	**248**	P	Pn	10 48 15.3	+0.3
NEM2				*e*S	Sn	10 48 40.2	0.0
JRA	**Rausu**	**2.23**	**267**	P	Pn	10 48 19.6	+0.4
JNK	**Nakash**	**2.57**	**260**	P	Pn	10 48 24.6	+0.4
JNK				*e*S	Sn	10 48 56.2	-0.4
JAK	**Akkeshi**	**2.78**	**248**	P	Pn	10 48 27.4	+0.3
JAK				*e*S	Sn	10 49 01.7	-0.1
JAR	**Ashorobuto**	**3.31**	**258**	P	Pn	10 48 36.0	+1.3
JAR				*e*S	Sn	10 49 16.4	+1.0
JCH	**Churui**	**3.83**	**249**	P	Pn	10 48 43.1	+1.0
JCH				*e*S	Sn	10 49 29.1	+0.7
JNBK	**Urakawa-nobuka**	**4.38**	**247**	P	Pn	10 48 50.1	+0.2
JNBK				*e*S	Sn	10 49 42.0	-0.4
JKB	**Kayabe**	**5.70**	**250**	P	Pn	10 49 08.1	-0.5
JKB				*e*S	Sn	10 50 13.0	-2.7
JOT	**Ohata**	**5.92**	**245**	P	Pn	10 49 10.8	-0.9
JOT				*e*S	Sn	10 50 17.4	-3.9
JANG	**Nango**	**6.20**	**235**	*e*S	Sn	10 50 23.5	-4.8

*IDC **01** 10:53:14.7±7.8, 5.67N×126.15E, h76km±71km, mb4.0/14, mb1 4.2/14, mb1mx4.0/20, mbtmp4.3/14, MS3.4/3, Ms1 3.4/3, ms1mx3.0/34, Error ellipse: s-maj=45.5km s-min=14.3km az=70.0*
*MAN **01** 10:53:15.0, 5.43N×126.28E, h55km, mb5.0, ML3.9, MS4.0*
*MOS **01** 10:53:17.7±1.2, 5.70N×126.45E, h125km, mb4.7/15, Error ellipse: s-maj=24.7km s-min=8.8km az=115.1*
*BJI **01** 10:53:18.1, 5.70N×126.50E, h115km, mB5.0, mb4.6*
*NEIC **01** 10:53:18.1±1.1, 5.69N×126.49E, h116km±9km, mb4.7/24, Error ellipse: s-maj=12.1km s-min=6.0km az=75.0*
ISC 01 10:53:16.1±0.6**, 5.63N**±0.04×**126.37E**±0.06**, h106**km±4km**, h109**km±1.8km**: pP-P, n102,** σ**1**s**23**/113**, mb4.6**/42**, 6C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.32**	**355**	*e*P	**P**	**10 53 39.8**	**-1.2**
MATI				*e*S	**S**	**10 53 59.5**	**-0.1**
GSPH	**General Santos**	**1.49**	**288**	⇑*i*P	**P**	**10 53 40.8**	**-2.2**
GSPH				*i* S	**S**	**10 53 59.9**	**-3.2**
DAV	**Davao City (W)**	**1.64**	**331**	*e*Pn	**P**	**10 53 45.4**	**+0.5**
KCP	**Kidapawan**	**1.87**	**317**	⇑*e*P	**P**	**10 53 52.2**	**+4.4**
KCP				*i* S	**S**	**10 54 15.5**	**+4.1**
BIPH	**Bislig**	**2.54**	**360**	⇑*e*P	**P**	**10 53 55.6**	**-1.2**
BIPH				*i* S	**S**	**10 54 24.3**	**-3.0**
BUKP	**Musuan**	**2.59**	**330**	*e*P	**P**	**10 53 57.6**	**+0.2**
BUKP				*e*S	**S**	**10 54 34.7**	**+6.3**
CTBH	**Cotabato--PC H**	**2.64**	**307**	⇑*e*P	**P**	**10 53 57.3**	**-0.8**
CTBH				*i* S	**S**	**10 54 28.8**	**-0.9**
CGP	**Cagayan de Oro**	**3.27**	**329**	⇓*e*P	**P**	**10 54 09.1**	**+2.4**
CGP				*e*S	**S**	**10 54 50.1**	**+5.3**
BUTP	**Butuan**	**3.40**	**347**	*e*P	**P**	**10 54 10.2**	**+1.6**
BUTP				*e*S	**S**	**10 54 52.8**	**+4.6**
PAGZ	**Pagadian**	**3.70**	**307**	*e*P	**P**	**10 54 12.1**	**-0.5**
SCPH	**Surigao**	**4.22**	**348**	*e*P	**P**	**10 54 21.9**	**+2.3**
SCPH				*e*S	**S**	**10 55 06.2**	**-1.9**
IPIL	**Ipil**	**4.34**	**300**	*e*P	**P**	**10 54 21.4**	**+0.1**
IPIL				*e*S	**S**	**10 55 09.8**	**-1.4**
MSLP	**Maasin**	**4.72**	**342**	*e*P	**P**	**10 54 27.3**	**+0.8**
MSLP				*e*S	**S**	**10 55 25.0**	**+4.5**
BESP	**Borongan**	**6.01**	**351**	*e*P	**P**	**10 54 45.9**	**+2.0**
BESP				*e*S	**S**	**10 56 00.5**	**+8.6**
GUIM	**Jordan**	**6.22**	**323**	*e*P	**P**	**10 54 50.0**	**+3.1**
CUYO	**Cuyo Island**	**7.42**	**315**	*e*P	**P**	**10 55 03.3**	**0.0**
ENPP	**El Nido**	**8.83**	**309**	*e*P	**P**	**10 55 23.6**	**+1.3**
KKM	**Kota Kinabalu**	**10.11**	**273**	*e*P	**P**	**10 55 42.9**	**+3.2**
KSM	**Kuching**	**16.55**	**256**	*e*P	**P**	**10 57 06.0**	**+2.7**
KAKA	**Kakadu**	**19.19**	**162**	*e*P	**P**	**10 57 51.4**	**+17**
	17nm,0.7s						
QIZ	**Qiongzhong**	**20.90**	**311**	*e*P	**P**	**10 57 52.3**	**+0.4**
	24nm,1.0s						
FITZ	**Fitzroy Crossi**	**23.59**	**182**	*e*P	**P**	**10 58 19.0**	**+0.8**
	4.5nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.59**	**182**	P	**P**	**10 58 19.0**	**+0.8**
	12nm,0.8s,mb4.3,baz=355,slow=12,SNR=25						
FITZ				LR	LR	11 08 42.5	
	comp=Z,134nm,18.5s,baz=275,slow=39						
SSE	**Sheshan**	**25.80**	**350**	*e*P	**P**	**10 58 39.4**	**+0.2**
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,477nm,4.8s						
SSE	**Sheshan**	**25.80**	**350**	*e*P	**P**	**10 58 39.4**	**+0.2**
	comp=Z,48nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**26.58**	**163**	*e*P	**P**	**10 58 46.3**	**-0.2**
	comp=Z,9.3nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**26.58**	**163**	*e*P	**P**	**10 58 46.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**26.59**	**163**	P	**P**	**10 58 46.1**	**-0.4**
	comp=Z,3.2nm,1.1s,mb3.8,baz=348,slow=9.9,SNR=21						
WB2	**Warramunga Arr**	**26.59**	**163**	*e*P	**P**	**10 58 49.5**	**+2.9**
MBWA	**Marble Bar**	**27.40**	**194**	*e*P	**P**	**10 58 53.4**	**-0.6**
	comp=Z,34nm,1.5s,mb4.7						
GYA	**Guiyang**	**27.98**	**320**	P	**P**	**10 59 04.2**	**+5.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
KMI	**Kunming**	**29.81**	**313**	P	**P**	**10 59 16.4**	**+0.9**
KMI				S	**S**	**11 04 04.8**	**+1.8**
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=Z,53nm,27.8s						
KMI	**Kunming**	**29.81**	**313**	P	**P**	**10 59 16.4**	**+0.9**
	comp=Z,15nm,1.1s,mb4.5						
KMI				S	**S**	**11 04 04.8**	**+1.8**
KMI				LR	LR		
	comp=Z,50nm,27.8s						
SNY	**Shenyang**	**36.13**	**356**	⇑P	**P**	**11 00 11.2**	**+1.3**
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
LZH	**Lanzhou**	**36.70**	**329**	*e*P	**P**	**11 00 16.8**	**+2.1**
LZH				AP	pP	11 00 42.2	+3.1
LZH				XP	sP	11 00 53.4	+1.8
LZH				PP	PP	11 01 45.8	+3.7
LZH				*e*S	**S**	**11 05 52.1**	**+2.4**
LZH				XS		11 06 35.7	
LZH				*e*SS	SS	11 08 26.5	+3.5
LZH				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,78nm,5.9s						
LZH	**Lanzhou**	**36.70**	**329**	*e*P	**P**	**11 00 16.8**	**+2.1**
	comp=Z,24nm,1.4s,mb4.9						
LZH				pP	pP	11 00 42.2	+3.1
LZH				sP	sP	11 00 53.4	+1.8
LZH				PP	PP	11 01 45.8	+3.7
LZH				*e*S	**S**	**11 05 52.1**	**+2.4**
LZH				sS		11 06 35.7	
LZH				*e*SS	SS	11 08 26.5	+3.5
LZH	**Lanzhou**	**36.70**	**329**	*e*P	**P**	**11 00 16.8**	**+2.1**
LZH				*PP	pP	11 00 42.2	+3.1
LZH						11 01 45.8	
LZH				*e*S	**S**	**11 05 52.1**	**+2.4**
LZH				*SS		11 06 35.7	
LZH				*e*SS	SS	11 08 26.5	+3.5
LZH				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
HHC	**Hu-ho-hao-te**	**37.50**	**341**	*e*P	**P**	**11 00 27.7**	**+6.4**
HHC				AP	pP	11 00 52.9	+7.2
HHC				XP	sP	11 01 05.8	+7.5
HHC				PCP	PcP	11 02 41.4	+3.4
HHC				SCS	ScS	11 10 25.2	+3.9
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,129nm,5.0s						
HHC				LR	LR		
	comp=N,248nm,17.8s						
HHC				LR	LR		
	comp=E,178nm,12.1s						
HHC				LR	LR		
	comp=Z,84nm,17.7s						
KLBR	**Kellerberrin**	**37.91**	**192**	*e*P	**P**	**11 00 24.5**	**-0.3**
	comp=Z,23nm,1.3s,mb4.9						
CN2	**Changchun**	**38.03**	**359**	*e*P	**P**	**11 00 26.6**	**+0.9**
MDJ	**Mudanjiang**	**38.94**	**4**	P	**P**	**11 00 34.5**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,156nm,5.9s						
MDJ	**Mudanjiang**	**38.94**	**4**	*e*P	**P**	**11 00 34.7**	**+1.5**
	comp=Z,7.2nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**39.31**	**192**	P	**P**	**11 00 36.9**	**+0.4**
	comp=Z,14nm,1.1s,mb4.7,baz=37,slow=8.0,SNR=4.6						
NWAO	**Narrogin (SRO)**	**39.31**	**192**	P	**P**	**11 00 36.5**	**0.0**
	comp=Z,18nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**39.31**	**192**	P	**P**	**11 00 36.5**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**40.02**	**160**	*e*P	**P**	**11 00 42.6**	**+0.3**
	comp=Z,1.4nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**11 00 43.1**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.3,baz=338,slow=6.7,SNR=5.4						
STKA	**Stephens Creek**	**40.02**	**160**	*e*P	**P**	**11 00 42.0**	**-0.3**
ASAJ	**Asahikawa**	**40.90**	**18**	LR	LR	11 18 51.1	
	comp=Z,42nm,19.4s,baz=169,slow=38						
LSA	**Lhasa**	**40.94**	**310**	*e*P	**P**	**11 00 51.3**	**+1.4**
	comp=Z,11nm,1.1s,mb4.6						
LSA	**Lhasa**	**40.94**	**310**	*e*P	**P**	**11 00 51.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
GTA	**Gaotai**	**41.30**	**328**	*e*P	**P**	**11 00 53.1**	**+0.3**
GTA				AP	pP	11 01 17.7	+0.3
GTA				XP	sP	11 01 31.6	+1.8
GTA				PP	PP	11 02 34.8	+2.1
GTA				PCP	PcP	11 02 50.0	-0.1
GTA				PPP	PPP	11 03 08.8	+4.0
GTA				S	**S**	**11 07 00.5**	**+1.8**
GTA				XS		11 07 47.9	
GTA				SS	SS	11 10 04.6	+3.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,97nm,5.8s						
GTA				LR	LR		
	comp=N,202nm,10.4s						
GTA				LR	LR		
	comp=E,188nm,12.0s						
GTA				LR	LR		
	comp=Z,74nm,12.0s						
HIA	**Hailar**	**43.85**	**354**	*e*P	**P**	**11 01 12.8**	**-0.7**
	comp=Z,18nm,1.2s,mb4.7						
HIA	**Hailar**	**43.85**	**354**	*e*P	**P**	**11 01 12.8**	**-0.6**
HIA				pmax	pmax		
	comp=Z,18nm,1.2s						
GUN	**Gumba**	**44.34**	**305**	*e*P	**P**	**11 01 18.1**	**+0.4**
PKI	**Pulchoki**	**44.60**	**304**	*e*P	**P**	**11 01 19.6**	**-0.2**
KKN	**Kakani**	**44.79**	**304**	*e*P	**P**	**11 01 20.9**	**-0.4**
DMN	**Daman**	**44.87**	**304**	*e*P	**P**	**11 01 22.0**	**+0.1**
	comp=Z,28nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**45.22**	**342**	*e*P	**P**	**11 01 24.5**	**+0.1**
	comp=Z,11nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**45.22**	**342**	*e*P	**P**	**11 01 24.5**	**+0.1**
ULN				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
GKN	**Gorkha**	**45.40**	**304**	*e*P	**P**	**11 01 25.7**	**-0.4**
	comp=Z,15nm,0.7s,mb4.8						
SONM	**Songino Array**	**45.40**	**341**	P	**P**	**11 01 25.9**	**+0.1**
	comp=Z,2.2nm,0.8s,mb3.9,baz=154,slow=7.6,SNR=14						
SONM				PcP	PcP	11 03 04.2	+0.4
	comp=Z,2.5nm,0.8s,baz=167,slow=3.4,SNR=8.9						
KOLN	**Koldanda**	**46.17**	**303**	*e*P	**P**	**11 01 31.9**	**-0.3**
	comp=Z,49nm,0.6s,mb5.4						
ZAK	**Zakamensk**	**48.63**	**340**	*e*P	**P**	**11 01 50.5**	**-0.6**
ZAK				*e*		11 03 15.1	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
WMQ	**Urumqi**	**50.98**	**324**	*e*P	**P**	**11 02 08.7**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,109nm,5.6s						
TAU	**Tasmania Unive**	**51.91**	**161**	P	**P**	**11 02 15.1**	**-1.1**
	comp=Z,60nm,1.3s,mb5.5						
BOD	**Bodaibo**	**52.95**	**352**	*e*P	**P**	**11 02 22.4**	**-1.3**
BOD				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
MKAR	**Makanchi Array**	**55.81**	**325**	P	**P**	**11 02 43.3**	**-1.4**
	comp=Z,4.2nm,0.5s,mb4.8,baz=122,slow=8.1,SNR=28						
MKAR				PcP	PcP	11 03 41.4	-0.8
	comp=Z,2.6nm,0.7s,baz=117,slow=5.4,SNR=6.4						
MKAR				LR	LR	11 28 11.3	
	comp=Z,31nm,18.7s,baz=180,slow=38						
MKAR	**Makanchi Array**	**55.81**	**325**	P	**P**	**11 02 43.3**	**-1.4**
MKAR				PcP	PcP	11 03 41.4	-0.8
MKAR				LR	LR	11 28 11.3	
YAK	**Yakutsk**	**56.34**	**2**	*e*P	**P**	**11 02 47.7**	**-0.5**
	comp=Z,39nm,0.9s,mb5.4						
YAK	**Yakutsk**	**56.34**	**2**	*e*P	**P**	**11 02 47.9**	**-0.4**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MA2	**Magadan**	**56.97**	**15**	P	**P**	**11 02 49.5**	**-3.3**
	comp=E,23nm,1.1s,mb5.1						
MA2	**Magadan**	**56.97**	**15**	P	**P**	**11 02 49.5**	**-3.2**
MA2				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
AAK	**Ala-Archa**	**58.73**	**317**	*e*P	**P**	**11 03 02.9**	**-2.3**
ZAL	**Zalesovo**	**58.75**	**333**	P	**P**	**11 03 04.1**	**-1.1**
	comp=Z,1.5nm,0.4s,mb4.4,baz=46,slow=9.8,SNR=3.2						
KURK	**Kurchatov**	**59.96**	**327**	*e*P	**P**	**11 03 11.8**	**-1.9**
	comp=Z,10nm,0.7s,mb5.0						
KURK	**Kurchatov**	**59.96**	**327**	*e*P	**P**	**11 03 11.8**	**-1.8**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BVAR	**Borovoye Array**	**65.55**	**327**	P	**P**	**11 03 49.1**	**-1.5**
	comp=Z,2.8nm,0.7s,mb4.2,baz=135,slow=8.4,SNR=16						
BRVK	**Borovoye**	**65.62**	**327**	*e*P	**P**	**11 03 49.4**	**-1.6**
	comp=Z,3.9nm,0.8s,mb4.3						
BRVK	**Borovoye**	**65.62**	**327**	*e*P	**P**	**11 03 49.4**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
CASY	**Casey**	**72.64**	**187**	*e*P	**P**	**11 04 34.3**	**+0.6**
ARU	**Arti**	**73.15**	**327**	*e*P	**P**	**11 04 35.0**	**-1.8**
	comp=Z,4.2nm,0.5s,mb4.5						
ARU	**Arti**	**73.15**	**327**	*e*P	**P**	**11 04 35.1**	**-1.8**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
MCK	**McKinley**	**82.64**	**27**	P	**P**	**11 05 28.8**	**0.0**
	comp=Z,4.2nm,1.1s,mb4.2						
ILAR	**Eielson Array**	**83.56**	**26**	P	**P**	**11 05 33.9**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.6,baz=253,slow=5.3,SNR=8.9						
OBN	**Obninsk**	**85.32**	**325**	*e*P	**P**	**11 05 42.2**	**-0.2**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
VNDA	**Vanda**	**85.34**	**173**	P	**P**	**11 05 44.1**	**+2.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=317,slow=5.6,SNR=8.9						
JOF	**Joensuu**	**87.34**	**333**	*e*p	**P**	**11 05 50.9**	**-1.2**
BRTR	**Keskin Array B**	**88.55**	**310**	P	**P**	**11 05 57.8**	**-0.6**
	comp=Z,1.9nm,1.0s,mb4.1,baz=117,slow=5.5,SNR=4.7						
ARCES	**ARCESS Array B**	**88.56**	**340**	P	**P**	**11 05 58.0**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=90,slow=6.2,SNR=12						
KAF	**Kangasniemi**	**89.76**	**332**	*e*p	**P**	**11 06 03.2**	**-0.3**
FINES	**FINESS Array B**	**90.00**	**332**	P	**P**	**11 06 04.2**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.2,baz=56,slow=6.9,SNR=9.9						
SYO	**Syowa Base**	**94.05**	**201**	⇑P	**P**	**11 06 17.0**	**-6.2**
NB2	**NORSAR Subarra**	**96.94**	**334**	P	**P**	**11 06 35.8**	**-0.7**
	comp=Z,0.7nm,0.7s,mb4.2,baz=68,slow=5.0						
NB2	**NORSAR Subarra**	**96.94**	**334**	P	**P**	**11 06 35.8**	**-0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**96.94**	**334**	P	**P**	**11 06 35.8**	**-0.7**
	comp=Z,1.0nm,0.9s,mb4.2,baz=67,slow=4.6,SNR=3.8						
LPG	**La Plagne**	**106.07**	**320**	*e*PKIKP		11 11 27.9	
LPL	**La Plagne**	**106.07**	**321**	*e*PKIKP		11 11 28.2	
MBDF	**Montbardon**	**106.39**	**320**	*e*PKIKP		11 11 28.9	
	comp=Z,6.0nm,1.0s						
LASF	**Ste Croix**	**108.55**	**320**	*e*PKIKP		11 11 32.4	
SJPF	**Ste Jean**	**112.23**	**321**	*e*PKIKP	PKPdf	11 11 40.0	+0.6
	comp=Z,4.3nm,0.8s						
LPAZ	**La Paz**	**162.27**	**128**	PKPab	PKPab	11 13 59.1	+3.3
	comp=Z,0.7nm,0.8s,baz=250,slow=4.2,SNR=3.5						

*MOS **01** 10:56:48.6±0.8, 32.09N×137.75E, h393km, mb4.1/8, Error ellipse: s-maj=20.9km s-min=10.1km az=109.0*
*JMA **01** 10:56:49.3±0.2, 32.21N×137.85E, h409km, M3.8*
*NEIC **01** 10:56:50.1±0.6, 32.16N×137.81E, h393km±4km, mb4.1/13, Error ellipse: s-maj=10.3km s-min=8.8km az=92.0*
*IDC **01** 10:56:50.7±0.8, 32.15N×137.75E, h396km±10km, mb3.5/9, mb1 3.6/12, mb1mx3.4/23, mbtmp4.3/12, Error ellipse: s-maj=24.6km s-min=14.7km az=72.0*
ISC 01 10:56:49.9±0.5**, 32.28N**±0.06×**137.83E**±0.07**, h404**km±3km**, n60,** σ**0**s**87**/72**, mb4.0**/20**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**1.66**	**358**	*e*S	**S**	**10 58 29.1**	**+1.4**
JHJ	**Hachijo jima 2**	**1.85**	**63**	P	**P**	**10 57 45.8**	**0.0**
	50nm,0.3s,baz=47,slow=3.8,SNR=72						
JHJ				S	**S**	**10 58 31.5**	**+2.0**
	47nm,0.3s,baz=72,slow=22,SNR=6.4						
JHJ2	**Mitsune**	**1.87**	**63**	P	**P**	**10 57 45.8**	**-0.1**
TK03	**Tokai 3**	**1.88**	**3**	*e*S	**S**	**10 58 31.1**	**+1.2**
JWZ	**Kozaga**	**2.17**	**306**	P	**P**	**10 57 47.3**	**-0.5**
JIE	**Ise**	**2.30**	**336**	P	**P**	**10 57 49.0**	**+0.4**
JIE				S	**S**	**10 58 34.6**	**-0.2**
JWY	**Kouya**	**2.69**	**316**	P	**P**	**10 57 51.8**	**+0.4**
JIM2	**Oshima 3**	**2.77**	**28**	P	**P**	**10 57 51.9**	**-0.1**
JOD2	**Odawara 2**	**3.15**	**19**	P	**P**	**10 57 56.3**	**+1.2**
JOD2				*e*S	**S**	**10 58 45.9**	**-0.5**
JAI	**Aioi**	**3.21**	**299**	P	**P**	**10 57 55.0**	**-0.6**
JYN	**Shimob**	**3.26**	**10**	P	**P**	**10 57 57.3**	**+1.3**
JGM	**Miyama**	**3.53**	**345**	P	**P**	**10 57 59.2**	**+0.8**
BSO1	**Boso 1**	**3.54**	**47**	P	**P**	**10 57 56.9**	**-1.6**
BSO1				S	**S**	**10 58 49.3**	**-3.1**
JWT	**Wachi**	**3.61**	**327**	P	**P**	**10 57 59.6**	**+0.5**
JWT				*e*S	**S**	**10 58 52.7**	**-0.8**
JMN	**Monobe**	**3.62**	**295**	P	**P**	**10 57 59.2**	**0.0**
JRY	**Ryogami san**	**3.83**	**13**	P	**P**	**10 58 01.8**	**+0.7**
JRY				*e*S	**S**	**10 58 57.0**	**-0.1**
JKG	**Kaga**	**4.17**	**343**	P	**P**	**10 58 05.0**	**+0.6**
MJAR	**Matsushiro Arr**	**4.26**	**4**	P	**P**	**10 58 05.2**	**-0.1**
	4.9nm,0.3s,baz=186,slow=10,SNR=75						
MJAR				S	**S**	**10 59 03.5**	**-0.9**
	1.3nm,0.3s,baz=297,slow=14,SNR=7.2						
MAJO	**Matsushiro**	**4.26**	**4**	*e*Pn	**P**	**10 58 05.4**	**+0.1**
MAJO				*e*S	**S**	**10 59 02.6**	**-1.8**
MAT	**Matsushiro**	**4.26**	**4**	P	**P**	**10 58 05.2**	**-0.1**
MAT				S	**S**	**10 59 03.5**	**-0.9**
MAT	**Matsushiro**	**4.26**	**4**	P	**P**	**10 58 05.3**	**0.0**
MAT				*e*S	**S**	**10 59 04.0**	**-0.4**
MAT	**Matsushiro**	**4.26**	**4**	*e*P	**P**	**10 58 05.0**	**-0.3**
MAT				*e*S	**S**	**10 59 04.0**	**-0.4**
JTO	**Tosashimizu**	**4.28**	**279**	P	**P**	**10 58 04.8**	**-0.7**
JHS	**Saijyo**	**4.77**	**306**	P	**P**	**10 58 10.6**	**+0.2**
JNU	**Nakatsue**	**5.92**	**280**	P	**P**	**10 58 22.2**	**-0.2**
	1.7nm,0.3s,baz=81,slow=11,SNR=23						
JMK	**Ichinoseki**	**7.20**	**22**	P	**P**	**10 58 36.9**	**+0.1**
JMK				S	**S**	**10 59 58.9**	**-2.2**
INCN	**Inchon**	**10.55**	**303**	*e*P	**P**	**10 59 14.8**	**-0.6**
	14nm,0.6s						
ASAJ	**Asahikawa**	**12.39**	**16**	P	**P**	**10 59 37.9**	**+1.5**
	0.6nm,0.3s,baz=252,slow=6.4,SNR=5.3						
ASAJ	**Asahikawa**	**12.39**	**16**	P	**P**	**10 59 37.9**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**13.89**	**335**	P	**P**	**10 59 47.6**	**-5.1**
	comp=Z,4.8nm,0.6s						
ULN	**Ulaanbaatar**	**27.99**	**313**	*e*P	**P**	**11 02 08.0**	**+0.8**
	comp=Z,3.9nm,0.5s,mb4.0						
ULN	**Ulaanbaatar**	**27.99**	**313**	*e*P	**P**	**11 02 08.0**	**+0.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
SONM	**Songino Array**	**28.39**	**312**	P	**P**	**11 02 11.3**	**+0.6**
	comp=Z,1.1nm,0.4s,mb3.6,baz=125,slow=9.0,SNR=11						
ZAK	**Zakamensk**	**31.24**	**316**	*e*P	**P**	**11 02 35.8**	**+0.4**
MKAR	**Makanchi Array**	**44.31**	**306**	P	**P**	**11 04 23.4**	**+0.2**
	comp=Z,4.1nm,0.6s,mb3.9,baz=88,slow=10,SNR=9.4						
PKI	**Pulchoki**	**45.31**	**278**	*e*P	**P**	**11 04 30.8**	**-0.4**
	comp=Z,14nm,0.7s,mb4.4						
PKI	**Pulchoki**	**45.31**	**278**	*e*P	**P**	**11 04 30.8**	**-0.4**
PKI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
KKN	**Kakani**	**45.34**	**279**	*e*P	**P**	**11 04 31.3**	**-0.2**
	comp=Z,36nm,0.8s,mb4.7						
KKN	**Kakani**	**45.34**	**279**	*e*P	**P**	**11 04 31.3**	**-0.2**
KKN				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
DMN	**Daman**	**45.55**	**278**	*e*P	**P**	**11 04 32.7**	**-0.4**
	comp=Z,14nm,0.5s,mb4.6						
GKN	**Gorkha**	**45.81**	**279**	*e*P	**P**	**11 04 34.8**	**-0.4**
	comp=Z,25nm,0.6s,mb4.7						
KURK	**Kurchatov**	**46.69**	**311**	*e*P	**P**	**11 04 41.1**	**-0.5**
	comp=Z,8.3nm,0.9s,mb4.1						
KURK	**Kurchatov**	**46.69**	**311**	*e*P	**P**	**11 04 41.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
KOLN	**Koldanda**	**46.76**	**279**	*e*P	**P**	**11 04 42.1**	**-0.4**
	comp=Z,21nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**50.27**	**301**	P	**P**	**11 05 04.5**	**-4.3**
	comp=Z,2.3nm,0.8s,mb3.6						
AAK	**Ala-Archa**	**50.27**	**301**	P	**P**	**11 05 04.6**	**-4.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
BVAR	**Borovoye Array**	**51.69**	**315**	P	**P**	**11 05 19.1**	**-0.1**
	comp=Z,1.8nm,0.3s,mb3.8,baz=100,slow=8.2,SNR=13						
WRAB	**Tennant Creek**	**52.02**	**184**	*e*P	**P**	**11 05 20.6**	**-1.5**
	comp=Z,8.2nm,1.1s,mb3.9						
WRAB	**Tennant Creek**	**52.02**	**184**	*e*P	**P**	**11 05 20.6**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb3.9						
WRA	**Warramunga Arr**	**52.03**	**184**	P	**P**	**11 05 20.7**	**-1.5**
	comp=Z,0.8nm,0.3s,mb3.4,slow=7.6,SNR=27						
MBWA	**Marble Bar**	**55.89**	**200**	P	**P**	**11 05 40.8**	**-9.0**
	comp=Z,21nm,1.4s,mb4.3						
ARU	**Arti**	**58.02**	**320**	*e*P	**P**	**11 06 03.5**	**-0.5**
	comp=Z,5.7nm,0.8s,mb4.0						
ARU	**Arti**	**58.02**	**320**	*e*P	**P**	**11 06 03.5**	**-0.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
ARCES	**ARCESS Array B**	**67.39**	**339**	P	**P**	**11 07 05.5**	**+1.1**
	comp=Z,1.3nm,0.5s,mb3.8,baz=66,slow=8.6,SNR=7.8						
FINES	**FINESS Array B**	**71.62**	**332**	P	**P**	**11 07 30.6**	**+0.7**
	comp=Z,2.9nm,0.4s,mb4.2,baz=57,slow=6.7,SNR=27						
AKASG	**Malin Array Be**	**76.21**	**322**	P	**P**	**11 07 56.7**	**+0.6**
	comp=Z,0.7nm,0.3s,mb3.7,baz=50,slow=5.9,SNR=11						
AKASG	**Malin Array Be**	**76.21**	**322**	P	**P**	**11 07 56.7**	**+0.6**
NB2	**NORSAR Subarra**	**77.38**	**336**	P	**P**	**11 08 03.2**	**+0.9**
	comp=Z,0.8nm,0.5s,mb3.6,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**77.38**	**336**	P	**P**	**11 08 03.2**	**+0.9**
	comp=Z,1.2nm,0.5s,mb3.8,baz=44,slow=5.5,SNR=4.6						
BRTR	**Keskin Array B**	**79.73**	**311**	P	**P**	**11 08 16.2**	**+0.9**
	comp=Z,1.7nm,0.7s,mb3.8,baz=124,slow=4.5,SNR=5.3						

IDC 01 11:09:01.3±1.2**, 10.50N**×**138.89E, mb3.6**/5**, mb1 3.9**/5**, mb1mx3.7**/17**, mbtmp3.6**/5**, Error ellipse: s-maj=58.7km s-min=24.2km az=84.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.58**	**188**	P	P	11 15 18.2	-1.0
	0.5nm,0.8s,baz=8.4,slow=9.9,SNR=3.9						
STKA	**Stephens Creek**	**42.22**	**177**	P	P	11 16 55.1	-2.7
	1.4nm,0.3s,baz=354,slow=14,SNR=4.0						
SONM	**Songino Array**	**46.16**	**330**	P	P	11 17 29.4	0.0
	0.4nm,0.7s,baz=135,slow=6.1,SNR=3.3						
MKAR	**Makanchi Array**	**59.76**	**318**	P	P	11 19 06.7	-3.8
	0.3nm,0.6s,baz=120,slow=12,SNR=2.3						
ILAR	**Eielson Array**	**73.85**	**25**	P	P	11 20 37.5	-1.8
	0.8nm,0.9s,baz=245,slow=5.5,SNR=6.0						

*IDC **01** 11:09:22.6±2.2, 45.79N×27.87W, mb3.7/9, mb1 3.9/9, mb1mx3.8/23, mbtmp3.7/9, MS3.7/14, Ms1 3.7/14, ms1mx3.5/39, Error ellipse: s-maj=73.0km s-min=19.6km az=177.0*
*NEIC **01** 11:09:24.5±1.3, 45.85N×27.82W, h10km, mb4.5/7, Error ellipse: s-maj=43.3km s-min=12.4km az=178.0*
*CSEM **01** 11:09:24.5±0.2, 45.85N×27.82W, h10km, mb4.5/6, Error ellipse: s-maj=12.7km s-min=2.7km az=179.0, After NEIC*
ISC 01 11:09:22.3±1.3**, 45.8N**±0.3×**27.8W**±0.1**, h10**km**, n33,** σ**1**s**12**/23**, mb4.0**/15**, MS3.6**/14**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESK	**Eskdalemuir**	**18.27**	**49**	*e*P	**P**	**11 13 35.7**	**-1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	24nm,1.4s						
DAVOX	Davos	25.94	74	LR	LR	11 24 40.7	
	comp=Z,97nm,18.2s,MS3.4,baz=266,slow=35						
SCHQ	Schefferville	26.21	304	LR	LR	11 23 39.8	
	comp=Z,129nm,19.1s,MS3.5,baz=102,slow=33						
NOA	NORSAR Array B	27.34	42	LR	LR	11 24 55.9	
	comp=Z,34nm,19.3s,MS2.9,baz=350,slow=34						
BRG	Berggiesshubel	27.98	64	eP	P	11 15 16.6	+1.9
	2.3nm,0.5s,mb4.1						
BRG	Berggiesshubel	27.98	64	eP	P	11 15 16.6	+1.8
	2.3nm,0.5s,mb4.1						
GERES	GERESS Array B	28.09	68	P	P	11 15 15.9	0.0
	0.3nm,0.2s,mb3.5,baz=293,slow=10,SNR=6.4						
GERES				LR	LR	11 25 11.4	
	comp=Z,103nm,19.2s,MS3.4,baz=310,slow=34						
VRAC	Vranov	29.89	67	LR	LR	11 27 17.8	
	comp=Z,132nm,18.4s,MS3.6,baz=287,slow=36						
MORC	Moravsky Berou	30.41	66	eP	P	11 15 36.5	-0.1
	11nm,1.6s,mb4.3						
MORC	Moravsky Berou	30.41	66	eP	P	11 15 36.5	-0.1
	11nm,1.6s,mb4.3						
PSZ	Piszkesteto	32.32	69	P	P	11 15 52.6	-0.8
	15nm,1.7s,mb4.5						
PSZ	Piszkesteto	32.32	69	P	P	11 15 52.6	-0.8
	15nm,1.7s,mb4.5						
FINES	FINESS Array B	34.49	43	P	P	11 16 12.4	+0.4
	2.3nm,0.9s,mb4.1,baz=90,slow=1.9,SNR=5.4						
FINES				LR	LR	11 29 42.4	
	comp=Z,51nm,18.2s,MS3.3,baz=106,slow=35						
KEV	Kevo	35.94	29	P	P	11 16 27.3	+2.9
	19nm,1.4s,mb4.8						
MLR	Muntele Rosu	37.02	70	LR	LR	11 31 47.1	
	comp=Z,80nm,18.5s,MS3.5,baz=290,slow=36						
AKASG	Malin Array Be	37.53	61	P	P	11 16 37.9	0.0
	0.7nm,0.6s,mb3.6,baz=277,slow=8.4,SNR=6.2						
DBIC	Dimbokro	43.72	146	LR	LR	11 33 15.0	
	comp=Z,119nm,19.9s,MS3.8,baz=316,slow=33						
ULM	Lac du Bonnet	44.31	302	LR	LR	11 34 17.8	
	comp=Z,145nm,19.9s,MS3.9,baz=40,slow=34						
BRTR	Keskin Array B	44.58	75	P	P	11 17 37.0	+1.0
	1.0nm,0.7s,mb3.8,baz=293,slow=9.4,SNR=4.7						
BRTR	Keskin Array B	44.58	75	P	P	11 17 37.0	+1.0
MALT	Malatya	48.51	74	P	P	11 18 06.0	-1.1
	3.2nm,0.9s,mb4.3						
MALT	Malatya	48.51	74	P	P	11 18 06.0	-1.1
	3.2nm,0.9s,mb4.3						
YKA	Yellowknife Ar	49.41	322	LR	LR	11 36 30.5	
	comp=Z,51nm,18.6s,MS3.5,baz=45,slow=33						
PDAR	Pinedale Array	56.13	299	P	P	11 19 02.1	-1.8
	0.4nm,0.9s,mb3.4,baz=68,slow=9.7,SNR=2.8						
PDAR				LR	LR	11 41 29.1	
	comp=Z,130nm,20.6s,MS4.0,baz=326,slow=34						
NEW	Newport	57.52	308	LR	LR	11 41 50.8	
	comp=Z,109nm,18.4s,MS4.0,baz=142,slow=34						
NEW	Newport	57.52	308	eP	P	11 19 14.1	+0.3
	12nm,1.5s,mb4.7						
NEW	Newport	57.52	308	eP	P	11 19 14.1	+0.3
	12nm,1.5s,mb4.7						
ILAR	Eielson Array	60.04	334	P	P	11 19 31.3	+0.2
	0.5nm,1.1s,mb3.5,baz=37,slow=4.5,SNR=3.8						
TXAR	Lajitas Array	60.15	283	P	P	11 19 33.0	+0.7
	0.6nm,1.0s,mb3.6,baz=90,slow=8.8,SNR=5.9						
TXAR				LR	LR	11 44 59.8	
	comp=Z,118nm,19.7s,MS4.0,baz=255,slow=36						
TXAR	Lajitas Array	60.15	283	P	P	11 19 33.0	+0.6
BBB	Bella Bella	60.94	316	LR	LR	11 44 44.5	
	comp=Z,75nm,18.1s,MS3.9,baz=250,slow=35						
MKAR	Makanchi Array	69.32	44	P	P	11 20 30.1	-1.5
	0.4nm,0.3s,mb3.8,baz=326,slow=4.4,SNR=6.7						
SONM	Songino Array	78.56	30	P	P	11 21 26.0	+1.0
	1.1nm,0.9s,mb3.8,baz=324,slow=5.4,SNR=6.2						

MAN 01 11:13:05.4, 13.78N×120.45E, h76km, mb3.8, ML2.6, MS2.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.20	256	eP	P	11 13 19.1	+2.4
LUBP				eS	S	11 13 27.2	+2.0
PGP	Puerto Galera	0.57	119	eP	P	11 13 20.9	+1.3
LBPH	Los Banos	0.80	63⇑	eP	P	11 13 23.2	+1.0
NBP	Mount Natib	0.95	358	eP	P	11 13 24.4	+0.5
SJMP	San Jose	1.47	153	eP	P	11 13 31.7	+1.0
SJMP				eS	S	11 13 50.1	+0.7
BUSP	Coron	1.79	188	eP	P	11 13 35.4	+0.5
BUSP				eS	S	11 13 57.1	+0.5
ENPP	El Nido	2.75	201	eP	P	11 13 48.4	0.0
CUYO	Cuyo Island	2.97	169	eP	P	11 13 50.9	-0.5

*BJI **01** 11:22:09.2, 23.90S×179.98E, h497km, mB5.1, mb4.6*
*NEIC **01** 11:22:10.2±0.1, 24.41S×179.89E, mb4.9/52, Error ellipse: s-maj=6.2km s-min=3.4km az=115.0*
*HRVD **01** 11:22:10.2±0.3, 24.55S×179.92E, h543km±1km, MW5.6/64, Centroid moment Tensor Solution. LP body waves: s64,c116; Half duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.86±.06; $M_{\theta\theta}$-2.02±.10; $M_{\phi\phi}$0.16±.11; $M_{r\theta}$-0.57±.11; $M_{\theta\phi}$-1.10±.09; $M_{\phi r}$-1.44±.10; Best double couple: $M_0$2.719×10^{17} NP1:ϕ_s94°,δ38°,λ135°. NP2: ϕ_s222°,δ64°,λ61°. Principal axes: T 2.684, Plg60°, Azm89°; N .075, Plg26°, Azm236°; P -2.753, Plg14°, Azm333°; nsta1 refers to body waves, cutoff=40s.*
*IDC **01** 11:22:11.2±0.3, 24.35S×179.86E, h520km±3km, mb4.2/24, mb1 4.3/25, mb1mx4.3/25, mbtmp5.0/25 Error ellipse: s-maj=9.0km s-min=7.5km az=175.0*
*MOS **01** 11:22:11.9±1.4, 24.36S×179.79E, h536km, mb5.2/4, Error ellipse: s-maj=20.5km s-min=16.0km az=33.6*
*STR **01** 11:23:32.5±0.0, 24.10S×178.50E, Mb4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 01 11:22:10.1±0.1, **24.46S**±0.02×**179.92E**±0.04, **h519**km, **h519**km±2.6km**:pP-P, n431, σ1s19**/266, **mb4.8**/78, **35C-9D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.15	158	P	P	11 23 41.4	+1.2
	1μm,0.3s,baz=85,slow=5.6,SNR=68						
RAO				S	S	11 24 53.7	+2.1
	1μm,0.3s,baz=271,slow=24,SNR=8.1						
RAO	Raoul Island	5.15	158	eP	P	11 23 41.9	+1.7
	4μm,0.3s						
RAO				eS	S	11 24 49.5	-2.1
OUZ	Omahuta	12.04	206	ePN	P	11 24 52.8	+3.1
OUZ	Omahuta	12.04	206	eP	P	11 24 52.8	+3.1
WCZ	Waipu Caves	12.41	202	ePN	P	11 24 56.4	+2.8
WCZ	Waipu Caves	12.41	202	eP	P	11 24 56.4	+2.9
DZM	Mont Dzumac	12.62	278	eP	P	11 24 54.7	-0.9
DZM				eS	S	11 27 09.7	+0.8
DZM	Mont Dzumac	12.62	278	P	P	11 24 57.3	+1.7
	11nm,0.3s,baz=87,slow=16,SNR=79						
DZM				S	S	11 27 15.6	+6.8
	baz=198,slow=23,SNR=8.1						
DZM	Mont Dzumac	12.62	278	eP	P	11 24 54.7	-0.9
DZM				eS	S	11 27 09.7	+0.8
NOUC	Port Laguerre	12.74	278	eP	P	11 24 59.4	+2.5
NOUC	Port Laguerre	12.74	278	eP	P	11 24 59.4	+2.5
KUZ	Kuaotunu	12.77	195	ePN	P	11 24 58.8	+1.6
KUZ				SN	S	11 27 17.2	+5.5
KUZ	Kuaotunu	12.77	195	eP	P	11 24 58.8	+1.6
KUZ				S	S	11 27 26.6	+15
MTAZ	Motutapu	13.02	198	ePN	P	11 25 02.1	+2.3
MTAZ	Motutapu	13.02	198	eP	P	11 25 01.1	+1.3
AFI	Afiamalu	13.09	38	P	P	11 24 57.0	-3.6
	8.2nm,0.3s,baz=35,slow=23,SNR=5.6						
AFI				S	S	11 27 09.4	-8.4
	2.5nm,0.3s,baz=45,slow=18,SNR=5.8						
MXZ	Matakaoa Point	13.13	186	ePN	P	11 24 59.2	-1.8
MXZ				SN	S	11 27 15.9	-2.6
MXZ	Matakaoa Point	13.13	186	eP	P	11 24 59.2	-1.8
MXZ				S	S	11 27 15.9	-2.6
OTAZ	Otara	13.17	198	PN	P	11 25 04.1	+2.9
OTAZ	Otara	13.17	198	P	P	11 25 04.1	+2.8
WTAZ	Waiatarua	13.25	199	ePN	P	11 25 04.3	+2.1
WTAZ	Waiatarua	13.25	199	eP	P	11 25 03.5	+1.3
PUZ	Puketiti	13.64	186	ePN	P	11 25 04.4	-1.8
PUZ				SN	S	11 27 25.6	-2.4
PUZ	Puketiti	13.64	186	eP	P	11 25 04.4	-1.8
MARZ	Manawahe	13.77	191	PN	P	11 25 09.1	+1.6
MARZ	Manawahe	13.77	191	P	P	11 25 09.1	+1.7
LIRZ	Lichensteins R	13.84	192	PN	P	11 25 09.2	+1.1
LIRZ	Lichensteins R	13.84	192	P	P	11 25 09.3	+1.2
EDRZ	Edgecumbe	13.87	191	PN	P	11 25 09.8	+1.3
EDRZ	Edgecumbe	13.87	191	P	P	11 25 09.8	+1.3
URZ	Urewera	13.96	189	P	P	11 25 07.3	-2.1
	20nm,0.3s,baz=22,slow=2.9,SNR=89						
URZ				S	S	11 27 34.7	+0.7
	21nm,0.3s,baz=114,slow=20,SNR=14						
URZ	Urewera	13.96	189	ePN	P	11 25 06.9	-2.5
URZ				SN	S	11 27 33.5	-0.4
URZ	Urewera	13.96	189	eP	P	11 25 06.9	-2.5
MWZ	Matawai	13.98	188	ePN	P	11 25 06.9	-2.7
MWZ				SN	S	11 27 37.0	+2.7
MWZ	Matawai	13.98	188	eP	P	11 25 07.4	-2.2
TAZ	Tarawera	14.04	191	PN	P	11 25 11.1	+0.9
TAZ	Tarawera	14.04	191	P	P	11 25 11.1	+0.9
UTU	Utuhina	14.04	192	PN	P	11 25 12.3	+2.1
UTU	Utuhina	14.04	192	P	P	11 25 12.3	+2.1
PATZ	Paeroa	14.22	192	PN	P	11 25 11.8	-0.3
PATZ	Paeroa	14.22	192	P	P	11 25 12.5	+0.4
KNZ	Kokohu	14.64	187	ePN	P	11 25 18.2	+1.9
KNZ	Kokohu	14.64	187	eP	P	11 25 15.8	-0.5
HIZ	Hauiti	14.66	196	ePN	P	11 25 17.8	+1.3
BKZ	Black Stump Fm	14.95	190	ePN	P	11 25 16.9	-2.4
BKZ	Black Stump Fm	14.95	190	eP	P	11 25 16.9	-2.5
CNZ	Chateau	15.15	193	PN	P	11 25 20.3	-1.1
CNZ	Chateau	15.15	193	P	P	11 25 20.3	-1.1
TUVZ	Tukino	15.20	193	PN	P	11 25 20.1	-1.8
TUVZ	Tukino	15.20	193	P	P	11 25 20.1	-1.8
VRZ	Vera Road	15.26	195	ePN	P	11 25 23.3	+0.9
VRZ	Vera Road	15.26	195	eP	P	11 25 22.7	+0.2
WNVZ	Wahianoa	15.27	193	PN	P	11 25 21.4	-1.1
WNVZ	Wahianoa	15.27	193	P	P	11 25 21.4	-1.1
PKVZ	Pokaka	15.29	194	PN	P	11 25 21.4	-1.2
RAEZ	Rainy Point	15.51	196	PN	P	11 25 27.3	+2.4
RAEZ	Rainy Point	15.51	196	P	P	11 25 27.3	+2.4
PKE	Pukeiti	15.53	197	PN	P	11 25 27.7	+2.6
PKE	Pukeiti	15.53	197	P	P	11 25 27.7	+2.6
NEZ	North Egmont	15.57	197	PN	P	11 25 28.2	+2.7
NEZ	North Egmont	15.57	197	P	P	11 25 28.2	+2.7
NWEZ	Newall Road	15.63	198	PN	P	11 25 29.4	+3.2
NWEZ	Newall Road	15.63	198	P	P	11 25 29.4	+3.3
NRZ	Ngariki Road	15.67	197	PN	P	11 25 30.1	+3.5
NRZ	Ngariki Road	15.67	197	P	P	11 25 30.1	+3.6
TSZ	Takapari Road	15.91	191	ePN	P	11 25 25.8	-3.1
TSZ	Takapari Road	15.91	191	eP	P	11 25 27.2	-1.6
MRZ	Mangatainoka R	16.56	192	ePN	P	11 25 32.4	-2.8
MRZ	Mangatainoka R	16.56	192	eP	P	11 25 33.0	-2.3
KIW	Kapiti Island	16.89	193	PN	P	11 25 36.8	-1.6
KIW	Kapiti Island	16.89	193	P	P	11 25 36.8	-1.6
DUWZ	D'Urville Isla	17.05	196	PN	P	11 25 39.8	-0.3
CAW	Cannon Point	17.09	193	PN	P	11 25 38.6	-1.8
CAW	Cannon Point	17.09	193	P	P	11 25 38.6	-1.8
MRW	Makara Radio	17.28	193	PN	P	11 25 41.5	-0.8
MRW	Makara Radio	17.28	193	P	P	11 25 41.5	-0.8
SNZO	South Karori	17.36	193	eP	P	11 25 42.4	-0.7
	266nm,0.7s						
QRZ	Quartz Range	17.45	199	ePN	P	11 25 44.9	+0.9
QRZ	Quartz Range	17.45	199	eP	P	11 25 44.9	+0.9
NNZ	Nelson	17.58	197	ePN	P	11 25 43.8	-1.4
NNZ				SN	S	11 28 37.8	-1.2
NNZ	Nelson	17.58	197	eP	P	11 25 44.8	-0.5
TUWZ	Tuamarina	17.64	195	PN	P	11 25 45.7	-0.2
THZ	Tophouse	18.22	197	ePN	P	11 25 50.5	-0.9
THZ				SN	S	11 28 48.6	-1.3
THZ	Tophouse	18.22	197	eP	P	11 25 51.7	+0.3
DSZ	Denniston Nort	18.52	199	ePN	P	11 25 54.5	+0.2
DSZ	Denniston Nort	18.52	199	eP	P	11 25 54.9	+0.6
WVZ	Waitaha Valley	20.05	200	ePN	P	11 26 08.2	-0.6
WVZ	Waitaha Valley	20.05	200	eP	P	11 26 08.2	-0.6
RPZ	Rata Peaks	20.54	199	P	P	11 26 12.9	-0.4
	170nm,0.6s,baz=348,slow=1.9,SNR=41						
RPZ				S	S	11 29 27.4	-1.7
	48nm,0.9s,baz=180,slow=20,SNR=4.7						
EAZ	Earnscleugh	22.44	200	eP	P	11 26 31.0	+0.2
HNR	Honiara	24.21	305	P	P	11 26 44.2	-2.8
	85nm,0.7s,mb5.5,baz=148,slow=13,SNR=4.6						
TBI	Tubuai	27.99	94	eP	P	11 27 19.4	-0.9
	89nm,0.8s,mb5.5						
CNB	Canberra Magne	28.51	241	eP	P	11 27 26.1	+1.3
	18nm,0.8s,mb4.7						
CNB				epP		11 28 53.3	
PAE	Paea	29.21	83	eP	P	11 27 29.3	-1.6
	192nm,1.3s,mb5.6						
PPT	Papeete	29.24	82	eP	P	11 27 29.9	-1.3
	110nm,1.3s,mb5.3						
PPT	Papeete	29.24	82	P	P	11 27 31.0	-0.2
	41nm,0.9s,mb5.1,baz=218,slow=9.2,SNR=3.8						
TVO	Taravao	29.47	83	eP	P	11 27 31.7	-1.5
	185nm,1.0s,mb5.7						
MEH	Mehetia	30.51	84	eP	P	11 27 40.3	-1.8
	126nm,1.3s,mb5.3						
CTA	Charters Tower	31.41	271	eP	P	11 27 50.1	+0.3
	26nm,0.3s,mb5.2						
CTA				epP		11 29 18.3	
CTA				i S	S	11 32 20.4	-0.9
CTA				e		11 35 04.6	
CTA	Charters Tower	31.41	271	P	P	11 27 50.2	+0.5
	34nm,0.3s,mb5.3,baz=95,slow=11,SNR=188						
CTA				S	S	11 32 20.3	-1.0
	3.1nm,0.6s,baz=221,slow=20,SNR=6.5						
CTA	Charters Tower	31.41	271	eP	P	11 27 50.1	+0.3
CTA				e		11 29 18.3	
CTA				i S	S	11 32 20.4	-0.9
CTA				e		11 35 04.6	
CTA				pmax	pmax		
	comp=Z,26nm,0.3s						
CTAO	Charters Tower	31.41	271	eP	P	11 27 50.1	+0.3
	comp=Z,36nm,0.3s,mb5.4						
PMOR	Pomariorio Ree	31.65	79	eP	P	11 27 50.4	-1.4
	comp=Z,133nm,1.2s,mb5.3						
PMOR				epP		11 29 25.2	
	comp=Z,74nm,1.4s						
VAH	Vaihoa	31.80	79	eP	P	11 27 51.1	-2.0
	comp=Z,94nm,1.0s,mb5.3						
TOO	Toolangi	32.09	238	eP	P	11 27 56.5	+1.2
	comp=Z,12nm,0.6s,mb4.6						
TOO				epP		11 29 33.6	
STKA	Stephens Creek	34.45	249	eP	P	11 28 16.1	+0.9
	comp=Z,9.6nm,0.6s,mb4.5						
STKA				epP		11 29 47.4	
STKA				e		11 30 35.1	
STKA	Stephens Creek	34.45	249	P	P	11 28 16.2	+1.0
	comp=Z,12nm,0.6s,mb4.6,baz=93,slow=9.6,SNR=30						
STKA				PcP	PcP	11 30 35.4	-1.2
	comp=Z,13nm,1.0s,baz=74,slow=4.7,SNR=4.5						
PMG	Port Moresby	34.61	290	P	P	11 28 16.3	-0.4
	comp=Z,49nm,0.8s,mb5.1,baz=94,slow=4.2,SNR=11						
PMG	Port Moresby	34.61	290	eP	P	11 28 16.5	-0.2
	comp=Z,26nm,0.6s,mb4.9						
PMG	Port Moresby	34.61	290d	iP	P	11 28 16.0	-0.7
TAOE	Nuku Hiva Isla	41.10	75	eP	P	11 29 07.9	-1.7
	comp=Z,1μm,1.3s						
RKT	Rikitea	41.16	98	eP	P	11 29 09.4	-0.6
	comp=Z,145nm,1.1s,mb5.4						
WB2	Warramunga Arr	42.29	267⇑	iP	P	11 29 18.3	-0.9
WB2				eSCP		11 34 04.3	
WB2				eS	S	11 34 58.4	-4.4
WRAB	Tennant Creek	42.29	267	eP	P	11 29 18.2	-1.0
	comp=Z,34nm,0.8s,mb4.9						
WRAB	Tennant Creek	42.29	267	i P	P	11 29 18.9	-0.3
WRA	Warramunga Arr	42.30	267	P	P	11 29 18.5	-0.8
	comp=Z,9.0nm,0.3s,mb4.8,baz=97,slow=8.3,SNR=134						
WRA				pP	pP	11 30 52.4	-2.2
	comp=Z,3.8nm,0.6s,baz=106,slow=8.0,SNR=2.4						
WRA				ScP		11 34 04.4	
	comp=Z,20nm,0.9s,baz=101,slow=4.1,SNR=21						
WRA				S	S	11 34 59.2	-3.8
	comp=Z,19nm,1.2s,baz=104,slow=14,SNR=16						
KAKA	Kakadu	46.29	276	eP	P	11 30 04.9	+14
	comp=Z,16nm,0.4s,mb4.9						
KAKA				ePP	PP	11 31 41.9	-3.8
KAKA				eS	S	11 36 06.9	+7.8
FITZ	Fitzroy Crossi	50.72	266⇑	iP	P	11 30 23.7	+0.1
	comp=Z,40nm,0.8s,mb4.8						
FITZ				ePP	pP	11 32 01.8	-1.4
FITZ				eS	S	11 36 59.1	-0.5
FITZ	Fitzroy Crossi	50.72	266	P	P	11 30 23.7	+0.1
	comp=Z,60nm,0.9s,mb4.9,baz=118,slow=4.4,SNR=38						
FITZ				pP	pP	11 32 02.9	-0.3
	comp=Z,56nm,1.0s,baz=147,slow=5.4,SNR=8.8						
FITZ				ScP		11 34 39.1	
	comp=Z,20nm,1.1s,baz=186,slow=2.4,SNR=3.1						
FITZ				S	S	11 36 58.1	-1.5
	comp=Z,15nm,1.2s,baz=172,slow=22,SNR=14						
SBA	Scott Base	53.82	183	eP	P	11 30 46.7	+1.5
	comp=Z,66nm,1.1s,mb4.9						
VNDA	Vanda	53.82	185	P	P	11 30 45.9	+0.7
	comp=Z,5.0nm,0.8s,mb3.9,baz=357,slow=7.8,SNR=31						
VNDA				PcP	PcP	11 31 42.8	0.0
	comp=Z,7.3nm,0.9s,baz=355,slow=6.4,SNR=7.0						
KLBR	Kellerberrin	54.71	248	eP	P	11 30 50.9	-1.1
	comp=Z,29nm,0.8s,mb4.6						
KLBR				epP	pP	11 32 31.9	-2.0
NWAO	Narrogin (SRO)	54.94	246	pP	pP	11 32 35.3	-0.4
	baz=27,slow=4.5						
MBWA	Marble Bar	55.21	260	eP	P	11 30 54.2	-1.4
	comp=Z,22nm,0.9s,mb4.4						
MUN	Mundaring	55.95	247	eP	P	11 30 59.9	-0.7
MUN				ePCP	PcP	11 31 50.5	-1.1
MUN				epP	pP	11 32 48.2	+5.0
CASY	Casey	59.58	206	eP	P	11 31 23.1	-1.6
CASY				i pP	pP	11 33 08.0	-1.5
QSPA	South Pole Qui	65.62	180	eP	P	11 32 04.7	+1.3
	comp=Z,168nm,1.1s,mb5.5						
MIR	Mirnyy	66.61	206d	iP	P	11 32 10.2	+0.5
MIR				pmax	pmax		
	comp=Z,52nm,1.2s,mb4.9						
KKM	Kota Kinabalu	69.00	287	eP	P	11 32 24.4	-0.7
KSM	Kuching	72.13	280	eP	P	11 32 43.3	-0.2
MJAR	Matsushiro Arr	72.32	326	P	P	11 32 42.7	-1.5
	comp=Z,3.5nm,0.7s,mb3.9,baz=161,slow=6.1,SNR=14						
MJAR				pP	pP	11 34 33.9	-0.6
	comp=Z,14nm,1.1s,baz=161,slow=5.9,SNR=14						
MAJO	Matsushiro	72.32	326	eP	P	11 32 41.2	-3.0
	comp=Z,8.1nm,0.8s,mb4.2						
MAT	Matsushiro	72.32	326	P	P	11 32 42.5	-1.7
MAT				S	S	11 41 21.0	-4.4
MAT	Matsushiro	72.32	326	eP	P	11 32 43.0	-1.2
	comp=Z,10nm,0.8s,mb4.3						
MAT				eS	S	11 41 21.0	-4.4
JNU	Nakatsue	73.90	319	P	P	11 32 53.0	-0.3
	comp=Z,9.7nm,1.0s,mb4.2,baz=98,slow=18,SNR=4.9						
JNU				pP	pP	11 34 41.5	-2.7
	comp=Z,1.3nm,0.3s,baz=150,slow=8.1,SNR=1.9						
MAW	Mawson	77.20	200⇑	iP	P	11 33 11.4	+0.7
	comp=Z,21nm,0.8s,mb4.6						
MAW	Mawson	77.20	200	P	P	11 33 11.6	+0.9
	comp=Z,31nm,0.9s,mb4.8,baz=120,slow=6.7,SNR=75						
MAW				pP	pP	11 35 01.8	-1.0
	comp=Z,3.5nm,0.9s,baz=144,slow=5.7,SNR=2.5						
PMSA	Palmer Station	78.42	157	eP	P	11 33 17.9	+0.5
	comp=Z,99nm,1.4s,mb5.0						
YSS	Yuzh-Sakhalins	78.61	335	eP	P	11 33 19.6	+0.9
	comp=Z,16nm,0.8s,mb4.4						
SSE	Sheshan	78.81	312	eP	P	11 33 19.6	-0.5
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,651nm,5.1s						
SSE	Sheshan	78.81	312	eP	P	11 33 19.6	-0.5
	comp=Z,37nm,0.7s,mb4.8						
PET	Petropavlovsk	79.35	347	eP	P	11 33 21.8	-0.6
PET				e*PP	pP	11 35 16.4	+1.1
PET				e		11 36 35.2	
PET				i S	S	11 42 38.0	-2.1
PET				eSP	SP	11 43 28.0	-2.1
PET				pmax	pmax		
	comp=Z,14nm,1.9s,mb4.0						
PET				pmax	pmax		
	comp=Z,100nm,14.5s						
PET				smax			
	comp=N,200nm,12.9s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
NJ2	Nanjing	80.97	311	eP	P	11 33 31.1	-0.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,850nm,5.4s						
USHA	Ushuaia	81.87	147	P	P	11 33 36.1	+0.7
	comp=Z,19nm,1.0s,mb4.5,baz=208,slow=3.9,SNR=6.1						
SAO	San Andreas Ge	82.21	44	eP	P	11 33 37.5	+0.1
	comp=Z,18nm,1.1s,mb4.4						
LRV	Little Rabbit	82.27	44	eP	P	11 33 37.8	+0.1
PTRM	Twissleman Ran	82.32	45	eP	P	11 33 38.6	+0.6
SYO	Syowa Base	82.45	193	⇓P	P	11 33 36.0	-2.0
SYO	Syowa Base	82.45	193	⇑P	pP	11 35 41.2	+9.3
SYO	Syowa Base	82.45	193	⇑P	pP	11 35 25.2	-6.7
MWC	Mount Wilson	82.89	48	eP	P	11 33 41.4	+0.4
BAR	Barrett	82.95	49	eP	P	11 33 40.7	-0.6
ISA	Isabella	83.46	46	eP	P	11 33 43.9	+0.1
	comp=Z,25nm,1.4s,mb4.5						
PFO	Pinyon Flat Ob	83.62	49	eP	P	11 33 45.2	+0.5
	comp=Z,37nm,1.3s,mb4.8						
CMB	Columbia Colle	83.66	43	eP	P	11 33 44.8	0.0
	comp=Z,35nm,1.1s,mb4.8						
WDC	Whiskeytown Da	83.93	40	eP	P	11 33 46.6	+0.6
	comp=Z,63nm,1.6s,mb4.9						
SNAA	Sanae	84.11	179	e	P	11 33 47.5	+1.3
SNAA	Sanae	84.11	179⇑	iP	pP	11 35 43.9	+3.4
SNAA	Sanae	84.11	179	e	sP	11 36 13.6	-19
SNAA	Sanae	84.11	179⇑	iP	P	11 33 46.0	-0.2
SNAA				e		11 33 47.5	
SNAA	Sanae	84.11	179	i P	P	11 33 46.2	0.0
CN2	Changchun	84.29	324	eP	P	11 33 48.7	+1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
VNA3	Neumayer Olymp	84.32	177	e	P	11 33 48.8	+1.6
VNA3	Neumayer Olymp	84.32	177⇑	iP	pP	11 35 46.1	+4.5
VNA3	Neumayer Olymp	84.32	177	e	sP	11 36 19.7	-14
VNA3	Neumayer Olymp	84.32	177⇑	iP	P	11 33 47.3	+0.1
VNA3				e		11 33 48.8	
DAC	Darwin (Calif)	84.40	46	eP	P	11 33 48.4	0.0
	comp=Z,29nm,1.6s,mb4.6						
MTUM	Tungsten Hills	84.40	45	eP	P	11 33 49.0	+0.7
YBH	Yreka Blue Hor	84.56	39	P	P	11 33 50.4	+1.4
	comp=Z,9.3nm,0.9s,mb4.3,baz=147,slow=3.0,SNR=9.3						
YBH				pP	pP	11 35 46.5	+3.0
	comp=Z,4.0nm,1.0s,baz=117,slow=2.3,SNR=3.0						
YBH	Yreka Blue Hor	84.56	39	eP	P	11 33 49.7	+0.6
	comp=Z,49nm,1.7s,mb4.8						
NVL	N'lazarevskaya	84.67	184⇓	iP	P	11 33 47.7	-1.2
NVL				e		11 36 36.8	
NVL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.1						
VNA2	Neumayer--Watz	84.74	178	e	P	11 33 50.6	+1.3
VNA2	Neumayer--Watz	84.74	178⇑	iP	pP	11 35 49.5	+5.7
VNA2	Neumayer--Watz	84.74	178	e	sP	11 36 22.6	-13
VNA2	Neumayer--Watz	84.74	178⇑	iP	P	11 33 49.6	+0.3
VNA2				e		11 33 50.6	
BEKR	Beckwourth	84.79	42	eP	P	11 33 50.5	+0.3
	comp=Z,108nm,2.1s,mb5.0						
LBCM	Butte Creek Ri	84.80	41	P	P	11 33 51.0	+0.8
VNA1	Neumayer--Stat	84.98	177⇑	iP	P	11 33 51.0	+0.6
VNA1	Neumayer--Stat	84.98	177⇑	iP	pP	11 35 51.6	+6.5
VNA1	Neumayer--Stat	84.98	177	e	sP	11 36 25.3	-12
HUMO	Hull Mountain	84.98	38	eP	P	11 33 51.5	+0.5
	comp=Z,149nm,2.0s,mb5.2						
BUOR	Burton Butte	85.18	39	P	P	11 33 53.4	+1.3
LDFC	Landfair	85.37	48	eP	P	11 33 54.1	+0.9
TPH	Tonopah	85.68	45	eP	P	11 33 55.0	+0.4
	comp=Z,16nm,1.1s,mb4.5						
NEN	Nelson	85.87	48	eP	P	11 33 55.8	+0.3
MOD	Modoc	86.07	40	eP	P	11 33 56.8	+0.5
	comp=Z,20nm,1.1s,mb4.7						
TUC	Tucson	86.91	52	eP	P	11 34 02.0	+1.4
	comp=Z,42nm,1.1s,mb5.0						
BMN	Battle Mountai	87.06	43	eP	P	11 34 01.4	+0.3
	comp=Z,87nm,1.9s,mb5.1						
WVOR	Wild Horse Val	87.38	41	eP	P	11 34 03.0	+0.5
	comp=Z,46nm,1.2s,mb5.0						
OCWA	Octopus Mounta	87.65	34	eP	P	11 34 04.3	+0.7
	comp=Z,46nm,1.1s,mb5.1						
PLCA	Paso Flores	87.93	134	P	P	11 34 06.8	+1.7
	comp=Z,7.8nm,0.9s,mb4.4,baz=225,slow=4.2,SNR=19						
PLCA				pP	pP	11 36 02.1	+1.5
	comp=Z,2.5nm,0.9s,baz=330,slow=4.4,SNR=4.2						
PLCA	Paso Flores	87.93	134	eP	P	11 34 06.5	+1.4
	comp=Z,91nm,1.7s,mb5.2						
ARUT	Antelope Range	87.99	47	eP	P	11 34 05.6	+0.1
SLKM	Skilak Lake	88.09	14	eP	P	11 34 05.1	-0.3
LON	Longmire	88.25	36	P	P	11 34 06.8	+0.3
ELK	Elko	88.47	43	eP	P	11 34 07.9	+0.2
	comp=Z,38nm,1.4s,mb4.9						
PGC	Sidney	88.61	34	eP	P	11 34 08.6	+0.5
	comp=Z,403nm,2.1s,mb5.9						
BBB	Bella Bella	88.78	29	P	P	11 34 09.2	+0.3
	comp=Z,14nm,0.8s,mb4.8,baz=255,slow=5.3,SNR=5.2						
EYAK	Cordova Ski Ar	89.20	16	eP	P	11 34 09.4	-1.2
MSU	Marysvale	89.22	47	eP	P	11 34 12.2	+0.9
KMI	Kunming	89.46	298	P	P	11 34 14.9	+2.2

KMI pP pP 11 36 11.7 +3.2
KMI sP sP 11 37 04.7 +4.7
KMI SKS SKS 11 43 53.3 +0.8
KMI S S 11 44 17.7 +0.3
KMI sS 11 47 48.9
KMI SS SS 11 50 34.3 +2.1
KMI LR LR
comp=Z,70nm,25.0s
BMO Blue Mountains 89.59 39 *e*P **P 11 34 12.6 -0.2**
comp=Z,44nm,1.7s,mb5.0
SEY Seymchan 89.80 348 *i* P **P 11 34 10.4 -2.9**
SEY i *P pP 11 36 06.7 -2.5
WTV Waterville 89.83 36 P **P 11 34 14.0 +0.2**
NLU North Lily Min 90.06 45 *e*P **P 11 34 15.6 +0.6**
TMUT Trail Mountain 90.28 46 *e*P **P 11 34 17.2 +1.2**
MPU Maple Canyon 90.38 46 *e*P **P 11 34 17.5 +1.0**
NOQ North Oquirrh 90.40 45 *e*P **P 11 34 17.1 +0.5**
SPUT South Promonto 90.54 44 *e*P **P 11 34 17.8 +0.5**
HLID Hailey 90.56 41 *e*P **P 11 34 18.0 +0.7**
comp=Z,5.6nm,0.9s,mb4.5
MNTX Cornudas Mount 90.59 55 *e*P **P 11 34 18.4 +0.7**
comp=Z,58nm,1.6s,mb5.3
HVU Hansel Valley 90.59 44 *e*P **P 11 34 17.9 +0.5**
SRU San Rafael 90.63 47 *e*P **P 11 34 18.2 +0.5**
CTU Camp Tracy 90.66 45 *e*P **P 11 34 18.1 +0.3**
LTX Lajitas 90.79 58 *e*P **P 11 34 19.7 +1.0**
comp=Z,8.4nm,0.7s,mb4.8
TXAR Lajitas Array 90.79 58 P **P 11 34 19.8 +1.1**
comp=Z,13nm,0.8s,mb4.9,baz=213,slow=6.4,SNR=189
TXAR pP pP 11 36 14.0 -0.7
comp=Z,0.7nm,0.8s,baz=243,slow=4.0,SNR=2.0
TXAR PKKPbc 11 51 42.0
comp=Z,0.4nm,0.5s,baz=90,slow=2.5,SNR=5.6
JLU Jordanelle 90.81 45 *e*P **P 11 34 18.5 +0.1**
DAU Daniels Canyon 90.83 45 *e*P **P 11 34 19.6 +1.0**
TCUT Toone Canyon 91.11 45 *e*P **P 11 34 18.8 -1.0**
MCK McKinley 91.24 13 *e*P **P 11 34 18.3 -1.6**
PV10 Paradox Valley 91.25 48 *e*P **P 11 34 20.9 +0.3**
HWUT Hardware Ranch 91.26 44 *e*P **P 11 34 20.5 0.0**
comp=Z,72nm,2.0s,mb5.2
ANMO Albuquerque 91.36 52 P **P 11 34 21.8 +0.7**
comp=Z,6.6nm,0.9s,mb4.6,baz=232,slow=5.3,SNR=23
ANMO pP pP 11 36 22.1 +4.8
comp=Z,5.0nm,1.1s,baz=203,slow=4.2,SNR=7.2
ANMO Albuquerque 91.36 52 *e*P **P 11 34 21.3 +0.2**
comp=Z,19nm,1.4s,mb4.8
ANMO Albuquerque 91.36 52c *i*P **P 11 34 21.6 +0.5**
PV01 Paradox Valley 91.45 48 *e*P **P 11 34 21.4 -0.1**
NEW Newport 91.69 37 P **P 11 34 22.2 -0.1**
comp=Z,0.9nm,0.6s,mb4.0,baz=287,slow=5.4,SNR=3.9
NEW Newport 91.69 37 P **P 11 34 20.0 -2.4**
comp=Z,7.8nm,1.3s,mb4.6
AHID Auburn Hatcher 92.17 43 *e*P **P 11 34 25.0 +0.4**
comp=Z,16nm,1.1s,mb5.0
MCMT McKenzie Canyo 92.19 41 *e*P **P 11 34 24.8 0.0**
RRI2 Red Ridge 92.34 43 *e*P **P 11 34 25.9 +0.5**
comp=Z,98nm,1.5s,mb5.2
DLBC Dease Lake 92.43 24 P **P 11 34 25.8 +0.3**
comp=Z,1.5nm,0.9s,mb4.0,baz=233,slow=8.2,SNR=3.1
DLBC Dease Lake 92.43 24 P **P 11 34 25.8 +0.3**
ILAR Eielson Array 92.59 14 P **P 11 34 24.7 -1.4**
comp=Z,1.4nm,0.6s,mb4.1,baz=229,slow=5.7,SNR=6.0
ILAR pP pP 11 36 20.2 -2.1
comp=Z,1.8nm,0.9s,baz=223,slow=6.9,SNR=4.3
DLMT Dillon 92.63 41 *e*P **P 11 34 27.0 +0.2**
BILL Bilibino 92.78 355 *e*P **P 11 34 26.7 -0.2**
BILL i *PP pP 11 36 28.5 +5.3
BILL i 11 38 18.1
BILL pmax pmax
comp=Z,20nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,200nm,21.0s
IMW Indian Meadow 92.86 43 *e*P **P 11 34 27.7 -0.2**
comp=Z,12nm,1.2s,mb4.8
LOHW Long Hollow 92.92 43 *e*P **P 11 34 27.9 -0.3**
comp=Z,29nm,1.7s,mb5.0
SMCO Snowmass 93.05 48 *e*P **P 11 34 28.8 -0.1**
QLMT Earthquake Lak 93.05 42 *e*P **P 11 34 29.3 +0.6**
FLWY Flagg Ranch 93.10 42 *e*P **P 11 34 29.1 +0.2**
PDAR Pinedale Array 93.14 44 P **P 11 34 29.1 -0.1**
comp=Z,3.0nm,0.8s,mb4.4,baz=222,slow=3.0,SNR=28
PDAR pP pP 11 36 23.4 -2.1
comp=Z,1.5nm,1.0s,baz=162,slow=2.9,SNR=2.8
BOZ Bozeman (W) 93.36 41 *e*P **P 11 34 29.9 -0.2**
comp=Z,1.7nm,0.8s,mb4.1
SDCO Great Sand Dun 93.38 50 *e*P **P 11 34 30.4 +0.1**
comp=Z,32nm,1.8s,mb5.0
LZH Lanzhou 93.66 308 *e*P **P 11 34 32.5 +0.8**
LZH PP PP 11 38 30.6 +3.3
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,73nm,7.9s
LZH Lanzhou 93.66 308 *e*P **P 11 34 32.5 +0.8**
comp=Z,28nm,1.5s,mb5.2
LZH pP pP 11 36 31.4 +3.3
LZH sP sP 11 37 24.7 +5.4
LZH PP PP 11 38 30.6 +3.3
DAWY Dawson 93.78 17 *e*P **P 11 34 30.0 -1.6**
WALA Waterton Lakes 93.89 37 *e*P **P 11 34 31.4 -1.1**
comp=Z,15nm,1.6s,mb4.9
YAK Yakutsk 95.07 339 *i* P **P 11 34 34.9 -2.5**
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
SONM Songino Array 97.48 319 P **P 11 34 48.8 0.0**
comp=Z,0.2nm,0.5s,baz=153,slow=3.3,SNR=3.9
SONM pP pP 11 36 44.1 -1.2
comp=Z,5.1nm,1.1s,baz=144,slow=2.2,SNR=4.1
SONM PP PP 11 38 48.1 -7.8
comp=Z,0.8nm,1.0s,baz=129,slow=9.2,SNR=2.8
SONM PKKPbc 11 51 24.3
comp=Z,1.1nm,0.6s,baz=280,slow=2.6,SNR=8.1
INK Inuvik 98.58 16 P **P 11 34 50.7 -2.6**
comp=Z,1.5nm,0.8s,mb4.4,baz=236,slow=6.1,SNR=3.5
INK Inuvik 98.58 16 *e*P **P 11 34 50.3 -3.0**
comp=Z,3.4nm,1.0s,mb4.6
WMQ Urumqi 108.04 310 PDIF 11 37 27.0
WMQ PP 11 41 58.0
WMQ SS 11 57 01.0
WMQ PP PP
comp=Z,43nm,10.4s
WMQ LR LR
comp=N,113nm,24.2s
WMQ LR LR
comp=E,226nm,24.1s
WMQ LR LR
comp=Z,143nm,20.4s
ZAL Zalesovo 112.35 320 PKiKP 11 39 46.4
comp=Z,1.3nm,0.4s,baz=242,slow=3.2,SNR=4.3
MKAR Makanchi Array 112.48 313 PKiKP 11 39 46.7
comp=Z,1.4nm,0.5s,baz=63,slow=2.7,SNR=13
MKAR PKKPbc 11 50 38.8
comp=Z,2.1nm,0.8s,baz=270,slow=3.6,SNR=12
MKAR PKKPab 11 50 48.7
comp=Z,2.8nm,0.8s,baz=288,slow=3.8,SNR=11
MKAR Makanchi Array 112.48 313 PKPdf PKPdf 11 39 46.7 +0.2
MKAR PKKPbc 11 50 38.8
MKAR PKKPab 11 50 48.7
MKAR Makanchi Array 112.48 313 *i* PKIKP PKPdf 11 39 46.6 +0.2
KURK Kurchatov 115.56 316 *e*PKIKP PKPdf 11 39 47.3 -5.0
AAK Ala-Archa 117.18 307 *i* PKIKP PKPdf 11 39 55.8 +0.1
BDFB Brasilia 118.55 125 PKP PKPdf 11 39 58.9 -0.1
comp=Z,3.3nm,0.5s,baz=177,slow=0.9,SNR=5.1
SJG San Juan 118.60 82 PKP PKPdf 11 39 58.9 -0.1
comp=Z,9.9nm,0.3s,baz=340,slow=19,SNR=4.0
KKAR Karatay Array 120.14 307 *i* PKIKP PKPdf 11 40 01.8 +0.3
KKAR pmax pmax
comp=Z,3.0nm,0.6s
VOSK Vostochnaya 120.45 318 PKIKP PKPdf 11 40 01.6 -0.2
VOSK pmax pmax
comp=Z,8.0nm,0.9s
BVA0 Borovoye Array 120.81 318 *i* PKIKP PKPdf 11 40 02.4 -0.1
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 120.81 318 PKP PKPdf 11 40 02.6 +0.1
comp=Z,6.4nm,0.6s,baz=135,slow=2.1,SNR=34
BVAR pPKP 11 42 05.5
comp=Z,3.5nm,0.9s,baz=135,slow=6.3,SNR=5.7
BVAR PKKPbc 11 50 10.2
comp=Z,0.8nm,0.6s,baz=315,slow=4.2,SNR=4.3
SCHQ Schefferville 122.95 39 PKP PKPdf 11 40 05.8 -0.8
comp=Z,3.0nm,0.8s,baz=252,slow=9.6,SNR=3.6
SVE Sverdlovsk 126.09 324⇓ *e*PKIKP PKPdf 11 40 18.0 +5.4
SVE *e* 11 42 16.5
SVE pmax pmax
comp=Z,40nm,2.0s
ARU Arti 127.29 323 *i* PKIKP PKPdf 11 40 15.6 +0.8
ARU *e* 11 42 22.9
LSZ Lusaka 131.82 218 *e*PKPdf PKPdf 11 40 24.0 -0.5
ARCES ARCESS Array B 132.42 348 PKhKP 11 40 14.7
comp=Z,0.8nm,0.6s,baz=63,slow=2.0,SNR=5.3
ARCES PKP PKPdf 11 40 24.9 +0.6
comp=Z,6.2nm,0.5s,baz=55,slow=1.7,SNR=32
ARCES pPKP 11 42 27.0
comp=Z,2.2nm,0.8s,baz=9.5,slow=7.4,SNR=2.3
ARCES SKPbc 11 43 00.2
comp=Z,13nm,1.0s,slow=2.4,SNR=11
ARCES ARCESS Array B 132.42 348 PKP 11 40 14.7
ARCES PKP PKPdf 11 40 24.9 +0.6
ARCES pPKP 11 42 27.0
ARCES SKPbc 11 43 00.2
KMBO Kilima Mbogo 135.76 240 PKP PKPdf 11 40 33.7 +1.7
comp=Z,4.7nm,1.0s,baz=83,slow=6.5,SNR=5.2
JOF Joensuu 136.23 340 *e*pkp PKPdf 11 40 30.4 -1.1
JOF Joensuu 136.23 340 *e*pkp 11 43 14.3
KAF Kangasniemi 138.35 342 *e*pkp PKPdf 11 40 30.5 -4.9
KAF Kangasniemi 138.35 342 *e*pkp 11 43 20.5
FINES FINESS Array B 138.95 341 PKhKP 11 40 25.8
comp=Z,1.7nm,0.5s,baz=45,slow=4.2,SNR=16
FINES PKP PKPdf 11 40 38.9 +2.4
comp=Z,2.3nm,0.4s,baz=68,slow=3.8,SNR=12
FINES pPKP 11 42 38.8
comp=Z,2.6nm,1.0s,baz=63,slow=3.1,SNR=2.3
FINES SKPbc 11 43 23.2
comp=Z,11nm,0.9s,baz=45,slow=2.7,SNR=13
FINES FINESS Array B 138.95 341 *i* PKHKP 11 40 27.0
FINES pmax pmax
comp=Z,2.0nm,0.5s
OBN Obninsk 139.21 328 *i* PKIKP PKPdf 11 40 35.8 -1.3
OBN pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 139.46 304 *i* PKIKP PKPdf 11 40 37.2 -0.8
KIV Kislovodsk 140.17 310⇑ *i* PKIKP PKPdf 11 40 39.8 +0.6
KIV pmax pmax
comp=Z,13nm,1.1s
MBAR Mbarara 141.10 235 *i* PKIKP PKPdf 11 40 41.7 0.0
NB2 NORSAR Subarra142.62 351 PKPabc PKPdf 11 40 40.0 -2.8
comp=Z,20nm,1.1s,baz=14,slow=2.9
NB2 NORSAR Subarra142.62 351 PKPabc 11 42 43.4
comp=Z,8.9nm,1.1s,baz=32,slow=2.5
NOA NORSAR Array B 142.62 351 PKhKP 11 40 40.5
comp=Z,6.7nm,0.8s,baz=16,slow=4.7,SNR=13
NOA pPKP 11 42 45.3
comp=Z,3.2nm,0.9s,baz=34,slow=2.2,SNR=5.6
NOA NORSAR Array B 142.62 351 PKP PKPdf 11 40 40.5 -2.3
NOA pPKP 11 42 45.3
ANN Anapa 143.49 313 *i* PKIKP PKPdf 11 40 43.8 -1.0
ANN pmax pmax
comp=Z,76nm,1.4s
KONO Kongsberg 144.19 352 *i* PKIKP PKPdf 11 40 45.7 +0.2
AKASG Malin Array Be 145.40 327 PKPbc PKPbc 11 40 48.9 -0.2
comp=Z,14nm,0.6s,baz=40,slow=3.7,SNR=50
AKASG pPKPbc 11 42 50.1
comp=Z,17nm,0.9s,baz=42,slow=4.0,SNR=8.1
AKASG SKPbc 11 43 39.8
comp=Z,2.9nm,0.8s,baz=49,slow=3.0,SNR=4.7
GZT Gaziantep 145.47 301 *i* P 11 42 55.7
SUW Suwalki 145.74 336 *e*PKP PKPdf 11 40 51.1 +2.7
SUW *e* 11 42 56.8
SUW Suwalki 145.74 336 *e*PKP PKPdf 11 40 51.1 +2.7
SUW *e* 11 42 56.8
QURS Qurayyt al Mil 146.36 290 P PKPdf 11 40 55.4 +5.2
QURS Qurayyt al Mil 146.36 290 P 11 42 55.9
QURS Qurayyt al Mil 146.36 290 P 11 42 55.9
BOYT Boyabat 146.40 309 *i* P 11 42 53.2
COBT Iskenderun 146.65 300 *i* P 11 42 54.0
ASF Jabal al Asfar 146.68 292 PKPbc PKPbc 11 40 55.4 +2.6
comp=Z,13nm,0.8s,baz=336,slow=1.1,SNR=12
ASF pPKPbc 11 42 54.8
comp=Z,7.3nm,0.8s,baz=322,slow=0.8,SNR=3.8
CTKT Corum 146.74 307 *i* P 11 42 54.3
TBKS Tabuk 147.04 285 P PKPdf 11 40 56.3 +5.2
TBKS Tabuk 147.04 285 P 11 42 55.3
TBKS Tabuk 147.04 285 P 11 42 55.3
AVNT Avonos 147.22 304 *i* P 11 42 56.5
CDAG Cicekdag 147.35 306 *i* P 11 42 55.5
BALT Daday 147.43 310 *i* P 11 42 56.1
JMQS Jabal Moqyreh 147.65 286 P PKPdf 11 40 58.0 +5.7
JMQS Jabal Moqyreh 147.65 286 P 11 42 58.6
JMQS Jabal Moqyreh 147.65 286 P 11 42 58.6
ELDT Eldivan 147.76 308 *i* P 11 43 03.0
BR131 Keskin Array S 147.85 306 *e*PKPdf PKPdf 11 40 52.8 +0.5
BR131 *e*PKPbc PKPdf 11 40 56.8 +4.5
BRTR Keskin Array B 147.85 306 PKP PKPdf 11 40 52.9 +0.6
comp=Z,7.9nm,0.7s,baz=153,slow=5.5,SNR=17
BRTR PKPbc PKPdf 11 40 57.1 +4.9
comp=Z,7.9nm,0.7s,baz=134,slow=3.4,SNR=22
BRTR pPKPbc 11 42 56.1
comp=Z,4.7nm,1.1s,baz=115,slow=2.4,SNR=5.7
JMOS Jabal al Moall 148.32 286 P PKPdf 11 40 59.6 +6.2
JMOS Jabal al Moall 148.32 286 P 11 43 02.6
JMOS Jabal al Moall 148.32 286 P 11 43 02.6
BDAS Al Bad' 148.32 285 P PKPdf 11 40 59.4 +6.0
BDAS Al Bad' 148.32 285 P 11 43 00.7
BDAS Al Bad' 148.32 285 P 11 43 00.7
ALWS Ilw as Safayha 148.36 287 P PKPdf 11 40 59.7 +6.3
ALWS Ilw as Safayha 148.36 287 P 11 43 03.6
ALWS Ilw as Safayha 148.36 287 P 11 43 03.6
GKP Gorka Klasztor 148.40 340 *e*PKP PKPdf 11 40 58.7 +6.0
GKP *e* 11 43 05.4
GKP Gorka Klasztor 148.40 340 *e*PKP PKPdf 11 40 58.7 +6.0
GKP *e* 11 43 05.4
HAQS Haql 148.48 286 P PKPdf 11 40 59.6 +6.0
HAQS Haql 148.48 286 P 11 43 03.4
HAQS Haql 148.48 286 P 11 43 03.4
TAYS Tayyib Ism 148.53 285 P PKPdf 11 41 00.0 +6.3
TAYS Tayyib Ism 148.53 285 P 11 43 03.1
TAYS Tayyib Ism 148.53 285 P 11 43 03.1
SGKT Sivrigoynuk 148.72 309 *i* P 11 42 59.5
EKA Eskdalemuir Ar 149.08 3 PKP PKPdf 11 40 54.1 +0.4
comp=Z,12nm,0.9s,baz=270,slow=0.7,SNR=3.7
EKA PKPbc PKPdf 11 40 59.2 +5.5
comp=Z,9.1nm,0.6s,baz=315,slow=2.0,SNR=35
EKA pPKPbc 11 43 02.5
comp=Z,9.9nm,0.8s,baz=53,slow=4.2,SNR=10
CFR Carcaliu 149.21 319 ⇓P PKPdf 11 40 59.7 +5.4
CFR Carcaliu 149.21 319⇑ *i* P PKPdf 11 40 59.7 +5.4
ERMK Ermenek 149.25 301 *i* P 11 43 06.3
CSS Prodhromos 149.28 298 *e*PKPbc PKPdf 11 41 00.7 +5.9
BURAR Bucovina Array 149.39 325 ⇓P PKPdf 11 41 01.6 +7.1
BURAR Bucovina Array 149.39 325⇑ *i* P PKPdf 11 41 01.6 +7.1
HENT Hendek 149.44 310 *i* P 11 43 01.2
BSEG Bad Segeberg 149.55 348 *e*PKPdf PKPdf 11 40 55.5 +0.9
BSEG *e*PKPbc PKPdf 11 41 01.0 +6.4
BSEG *e*pPKPbc 11 43 07.2
HARR Harsova 149.59 319⇑P PKPdf 11 41 01.3 +6.4
HARR Harsova 149.59 319⇑ *i* P PKPdf 11 41 01.3 +6.4
VRI Vrincioaia 149.64 321⇑P PKPdf 11 41 01.1 +6.1
VRI Vrincioaia 149.64 321⇑ *i* P PKPdf 11 41 01.1 +6.1
ESKT Eskisehir 149.96 307 *i* P 11 43 01.6
OJC Ojcow 150.01 334 *e*PKP PKPdf 11 41 02.3 +6.9
STHS Stebnicka Huta 150.02 332 *e*PKP PKPdf 11 41 02.6 +7.2
STHS Stebnicka Huta 150.02 332 *e*P 11 43 04.5
MLR Muntele Rosu 150.31 321 PKPbc PKPdf 11 41 02.9 +6.9
comp=Z,8.6nm,0.6s,baz=319,slow=6.3,SNR=14
MLR pPKPbc 11 43 02.7
comp=Z,5.3nm,0.9s,baz=45,slow=4.7,SNR=3.3
MLR Muntele Rosu 150.31 321 ⇓P PKPdf 11 41 02.9 +6.9
MLR Muntele Rosu 150.31 321⇑P PKPdf 11 41 02.9 +6.9
CRVS Cervenica-Dubn 150.31 331 *e*PKP PKPdf 11 41 04.0 +8.1
CRVS *e* 11 43 11.7
NIE Niedzica 150.42 333 *e*PKP PKPdf 11 41 04.3 +8.2
KSP Ksiaz 150.78 339 *e*PKP PKPdf 11 41 04.5 +8.0
KSP *e* 11 43 11.8
KSP Ksiaz 150.78 339 *e*PKP PKPdf 11 40 58.3 +1.8
KSP *e*PKPdf PKPdf 11 41 04.3 +7.8
KSP Ksiaz 150.78 339 *e*PKIKP PKPdf 11 40 58.3 +1.8
KSP *e* 11 43 05.5
TKTP Tekketepe 150.84 305 *i* P 11 43 05.1
VOIR 150.84 322⇑P PKPdf 11 41 04.4 +7.6
VOIR 150.84 322⇑ *i* P PKPdf 11 41 04.4 +7.6
ULDT Uludag 150.94 310 *i* P 11 43 05.1
OKC Ostrava-Krasne 150.96 335⇑ *e*PKPB PKPdf 11 41 04.6 +7.8
OKC Ostrava-Krasne 150.96 335 *e*PKPab 11 43 06.6
OKC *e*pPKP 11 43 12.6
OKC *e*x x 11 43 18.2
KECS Kecovo 151.06 331 *e*PKP PKPdf 11 41 05.3 +8.3
KECS Kecovo 151.06 331 *e*P 11 43 08.6
KECS *e* 11 43 13.7
GDZ Gediz 151.10 307 *i* P 11 43 10.0
UPC Upice 151.16 338 *e*PKPDF PKPdf 11 40 59.4 +2.3
UPC ⇑*e*PKPB PKPdf 11 41 05.1 +8.0
UPC Upice 151.16 338 *e*PKPab 11 43 07.6
UPC *e*pPKP 11 43 12.4
UPC *e*x x 11 43 20.5
DPC Dobruska-Polom 151.19 338 *e*PKPDF PKPdf 11 40 58.6 +1.4
DPC ⇑*e*PKPB PKPdf 11 41 05.4 +8.2
DPC Dobruska-Polom 151.19 338 *e*PKPab 11 43 07.8
DPC *e*x x 11 43 12.9
DPC *e*x x 11 43 19.9
DRGR 151.22 326⇑P PKPdf 11 41 04.3 +7.0
DRGR 151.22 326⇑ *i* P PKPdf 11 41 04.3 +7.0
WIT Witteveen 151.23 351 *e*PKP 11 43 12.4
MORC Moravsky Berou 151.23 336 *e*PKPdf PKPdf 11 40 57.7 +0.4
MORC *e*PKPbc PKPdf 11 41 04.9 +7.7
CLL Collm 151.37 343 *i* PKIKP PKPdf 11 40 58.6 +1.2
CLL *i* PKP1 PKPdf 11 41 05.2 +7.8
CLL *e* 11 41 12.0
CLL *i* PKP2 PKPab 11 41 15.5 -1.5
CLL *e* 11 41 49.0
CLL *i* *PPKP 11 43 07.3
CLL *i* *PKP 11 43 12.0
CLL *i* *PPKP2 11 43 19.0
CLL Collm 151.37 343⇑ *i* PKIKP PKPdf 11 40 58.6 +1.2
CLL *i* 11 41 15.5
CLL pmax pmax
comp=Z,52nm,0.8s
CLL pmax pmax
comp=Z,15nm,1.1s
BRG Berggiesshubel 151.49 341 *i* PKP PKPdf 11 40 59.4 +1.8
BRG Berggiesshubel 151.49 341 *i* PKIKP PKPdf 11 40 59.4 +1.8
BRG pmax pmax
comp=Z,28nm,1.7s
CLZ Clausthal 151.51 346 *e*PKIKP PKPdf 11 41 05.7 +8.1
PVCC Panska Ves 151.61 340 *e*PKPDF PKPdf 11 41 00.0 +2.3
PVCC ⇑*e*PKPB PKPdf 11 41 06.2 +8.5
PVCC Panska Ves 151.61 340 *e*PKPab 11 43 08.7
PVCC *e*pPKP 11 43 13.3
PVCC *e*x x 11 43 20.6
PSZ Piszkesteto 151.74 331 *e*PKPdf PKPdf 11 40 58.8 +0.8
PSZ *e*PKPdf PKPdf 11 41 05.5 +7.5
VYHS Vyhne 151.75 333 *e*PKP PKPdf 11 40 59.3 +1.3
VYHS *e* 11 41 05.9
VYHS Vyhne 151.75 333 *i* P 11 43 08.9
VYHS *e* 11 43 14.8
KOLL Kolacno 151.86 333 *e*P 11 43 09.2
KOLL *e* 11 43 14.0
DNZL Cakiroluk 151.91 305 *i* P 11 43 08.7
WTSB Winterswijk 152.04 351 PKP 11 43 13.3
comp=Z,131nm,1.4s
PRU Pruhonice 152.09 340⇑ *e*PKPB PKPdf 11 41 06.8 +8.4
PRU Pruhonice 152.09 340 *e*PKPab 11 43 09.4
PRU *e*pPKP 11 43 14.7
SMOL Smolenice 152.31 335 *e*PKP PKPdf 11 41 07.3 +8.5
SMOL Smolenice 152.31 335 *e*P 11 43 10.8
SMOL *e* 11 43 16.5
MOX Moxa 152.34 344 *i* P PKPdf 11 40 59.4 +0.7
MOX PP2 11 41 07.0
MOX *i* 11 43 10.0
MOX *e* 11 43 14.0
MOX *i* 11 43 23.0
MOX Moxa 152.34 344 *e*PKP PKPdf 11 40 51.8 -6.9
MOX *e* 11 43 10.5
MOX *e* 11 43 22.7
MOX Moxa 152.34 344 *e*PKIKP PKPdf 11 40 51.8 -6.9
MOX pmax pmax
comp=Z,69nm,1.6s
NKC Novy Kostel 152.49 342⇑ *e*PKPB PKPdf 11 41 07.8 +8.8
NKC Novy Kostel 152.49 342 *e*PKPab 11 43 10.5
NKC *e*pPKP 11 43 15.8
NKC *e*x x 11 43 24.0
ZST Bratislava 152.69 334 *e*P 11 43 12.0
KHC Kasperske Hory 153.14 340 *e*PKPDF PKPdf 11 41 01.1 +1.2
KHC ⇑*e*PKPB PKPdf 11 41 09.0 +9.1
KHC *e*PKPAB PKPab 11 41 24.0 -0.5
KHC Kasperske Hory 153.14 340 *e*PKPbc 11 43 03.9
KHC *e*pPKP 11 43 11.4
KHC *e*PKPab 11 43 18.3
KHC *e*x x 11 43 27.6
GRA1 Grafenberg Arr 153.31 344 *e*PKPdf PKPdf 11 41 01.1 +1.0
GRF Grafenberg Arr 153.31 344 *e*PKIKP PKPdf 11 41 01.1 +1.0
HGN Heimansgroeve 153.33 351 PKP 11 43 16.2
comp=Z,27nm,1.5s
HGN *e*x x 11 43 25.1
WET Wettzell 153.35 341 *e*PKPdf PKPdf 11 41 00.9 +0.7
WET *e*pPKPab 11 43 27.5
GEC2 GERESS Array S 153.35 339 *e*PKPdf PKPdf 11 41 01.1 +0.9
GEC2 *e*PKPbc PKPdf 11 41 09.7 +9.5
GERES GERESS Array B 153.35 339 PKP PKPdf 11 41 00.9 +0.7
comp=Z,1.3nm,0.9s,SNR=9.6
GERES PKPbc PKPdf 11 41 09.4 +9.2
comp=Z,3.4nm,0.8s,baz=90,slow=2.7,SNR=4.1
GERES PKPab PKPab 11 41 24.1 -1.3
comp=Z,1.0nm,0.6s,baz=45,slow=3.8,SNR=4.3
GERES pPKP 11 43 05.6
comp=Z,0.4nm,0.3s,slow=2.7,SNR=2.7
GERES pPKPbc 11 43 12.2
comp=Z,4.7nm,0.9s,baz=90,slow=1.3,SNR=6.6
DIVS Divcibare 154.46 325⇑ *i* PKP 11 43 12.2
LANF Langenberg 154.75 348 PKP 11 43 28.6
SKO Skopje 155.03 320 *e*PKIKP 11 43 08.5
SKO *i* PKP2 11 43 35.0
BFO Black Forest 155.27 347 *e*PKPdf PKPdf 11 41 03.1 +0.3
BFO *e*pPKPbc 11 43 20.1
WLS Welschbruch 155.38 348 PKP 11 43 29.9
LJU Ljubljana 155.46 335 *i* PKPdf PKPdf 11 41 04.1 +0.9
LJU *e* 11 43 11.5
LJU *e* 11 43 36.3
VISS Visnje 155.54 334 *e*PKPdf PKPdf 11 41 03.8 +0.6
VISS *e* 11 41 13.7
VISS *e* 11 43 08.0
VISS *e* 11 43 35.7
ECH Echery 155.61 348 PKP 11 43 31.8
BOJS Bojanci 155.62 333 *e*PKPdf PKPdf 11 41 04.3 +1.0
BOJS *i* 11 41 14.3
THEF They Montfort 155.80 350 PKP 11 43 31.0
MOF Molkenrain 155.96 348 PKP 11 43 30.9
LOMF Lomont 156.50 348 PKP 11 43 32.9
AGO Saint Agoulin 158.30 354 PKP 11 43 36.7
PLDF La Plantade 158.33 353 PKP 11 43 35.6
SAOF Saorge 159.54 344 PKP 11 43 38.5
AUTN L'Aution 159.57 344 PKP 11 43 38.4
TOUF Mont Tournerai 159.59 345 PKP 11 43 37.3
MVIF Mont Vial 159.73 345 PKP 11 43 38.9
REVF Revere 159.82 344 PKP 11 43 38.9
PCAB Cabril 161.57 19 *e*PKPdf PKPdf 11 41 11.7 +1.4
DBIC Dimbokro 161.73 165 PKP PKPdf 11 41 12.3 +1.0
comp=Z,9.6nm,1.0s,baz=140,slow=3.9,SNR=5.5
DBIC PKPab PKPab 11 42 02.2 -0.1
comp=Z,18nm,1.0s,baz=178,slow=4.0,SNR=7.2
DBIC Dimbokro 161.73 165 PKP PKPdf 11 41 12.3 +1.0
DBIC PKPab PKPab 11 42 02.2 -0.1
PVRL Vila Real 162.06 19 *e*PKPdf PKPdf 11 41 13.1 +2.3
MTE Manteigas 162.91 20 *e*PKPdf PKPdf 11 41 13.1 +1.4
PTOM Tomar 163.33 23 *e*PKPdf PKPdf 11 41 14.0 +1.8
PTOM *e*pPKPdf 11 43 22.4
PCBR Castelo Branco 163.45 20 *e*PKPdf PKPdf 11 41 14.0 +1.7
PCBR *e*pPKPdf 11 43 22.6
ESDC Sonseca Array 164.48 11 PKPab PKPab 11 42 13.7 +0.2
comp=Z,2.0nm,0.3s,baz=342,slow=4.1,SNR=10
ESDC pPKPab 11 44 11.8
comp=Z,0.1nm,0.3s,baz=347,slow=4.5,SNR=4.4
PBEJ Beja 164.94 24 *e*PKPdf PKPdf 11 41 15.4 +1.6
PBEJ *e*pPKPdf 11 43 24.3
MDT Midelt 170.77 25 PKP PKPdf 11 41 20.4 +2.6
comp=Z,6.4nm,1.0s,baz=336,slow=0.8,SNR=12
MDT PKPab PKPab 11 42 41.3 -0.1
comp=Z,1.8nm,0.9s,baz=285,slow=3.0,SNR=3.3
MDT pPKP 11 43 26.3
comp=Z,9.8nm,1.1s,baz=354,slow=1.4,SNR=9.2

*IDC **01** 11:29:13.1±4.2,55.49N×15.21E,mb1 3.2/5, mb1mx3.1/22,mbtmp3.1/5,ML3.2/4, Error ellipse: s-maj=49.1km s-min=19.5km az=169.0*
*HEL **01** 11:29:14.2±0.5,55.65N×15.34E,ML2.4,ML2.8(UPP), ML2.4(NAO),Explosion*
*BER **01** 11:29:15.1±4.2,55.67N×15.12E,ML2.4(NAO)*

15 **2005 SEP** **1d 11h**

*UPP **01** 11:29:15.8,55.80N×15.32E,ML2.8,Mining explosion.*
*CSEM **01** 11:29:17.5±0.5,55.97N×16.17E,h2km,ML2.8,Error ellipse: s-maj=9.4km s-min=5.2km az=11.0,Mining explosion.*
*NAO **01** 11:29:18.6±11.0,55.92N×15.27E,h21km±73km,ML2.4*
ISC 01 11:29:09.7±0.5,**55.85N**±0.04×**15.22E**±0.08,**n36**,σ1^{s}69/60, **Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSD	Bornholm Skovb	0.76	193	*i* P	Pg	11 29 24.7	-0.2
BSD				*i* S	Sg	11 29 32.9	-2.1
BSD				*i* S	Sg	11 29 34.1	-0.9
VXJU	Vaexsjoe	1.08	352	*e*P	Pb	11 29 36.8	+5.8
VXJU				*e*S	Sb	11 29 53.7	+8.2
OSKU	Oskarshamn	1.43	20	*e*P	Pn	11 29 42.9	+5.9
OSKU				*e*S	Sb	11 30 04.6	+9.0
OSKU	Oskarshamn	1.43	20	P	Pn	11 29 42.8	+5.9
OSKU				S	Sb	11 30 04.5	+8.9
COP	Copenhagen	1.58	265	*i* P	Pn	11 29 37.2	-1.9
COP				*e*S	Sb	11 30 01.7	+1.6
EKSU	Eksjoe	1.73	1	*e*P	Pn	11 29 48.8	+7.6
EKSU	Eksjoe	1.73	1	P	Pn	11 29 48.7	+7.6
VSTU	Vaestervik	1.95	21	*e*P	Pn	11 29 50.4	+6.0
LNKU	Linkoeping	2.38	4	*e*P	Pn	11 29 56.4	+5.8
ASKU	Askersund	3.06	356	*e*P	Pn	11 30 07.4	+7.2
HFS	Hagfors	4.37	350	*e*P	Pn	11 30 24.8	+6.0
HFS				*e*SG	Sg	11 31 34.1	-1.0
HFS	Hagfors	4.37	350	Pn	Pn	11 30 24.7	+5.9
	0.0nm,0.3s,baz=164,slow=14,SNR=9.1						
HFS				Lg		11 31 33.8	
	0.3nm,0.3s,baz=171,slow=28,SNR=6.0						
HFS	Hagfors	4.37	350	Pn	Pn	11 30 24.8	+6.0
	baz=163,slow=14						
HFS				Lg		11 31 34.1	
	baz=167,slow=28						
HFS	Hagfors	4.37	350	Pn	Pn	11 30 24.8	+6.0
	SNR=50						
HFS				Sg	Sg	11 31 34.0	-1.1
NB2	NORSAR Subarra	5.61	340	*e*P	Pn	11 30 39.0	+2.6
NB2				*e*SG	Sg	11 32 13.8	-2.6
NB2	NORSAR Subarra	5.61	340	Pn	Pn	11 30 39.0	+2.6
	baz=158,slow=14						
NB2				Lg		11 32 13.8	
	baz=179,slow=28						
NOA	NORSAR Array B	5.61	340	Pn	Pn	11 30 39.1	+2.8
	0.3nm,0.3s,baz=166,slow=13,SNR=2.3						
NOA				Lg		11 32 11.9	
	1.0nm,0.3s,baz=112,slow=16,SNR=3.9						
PVF	Pernaja	7.33	46	*e*P	Pn	11 31 02.3	+1.7
PVF				*e*S	Sn	11 32 22.4	-3.0
PVF				MSN		11 32 25.5	
	comp=Z,1.0nm,0.2s						
PVF	Pernaja	7.33	46	P	Pn	11 31 02.3	+1.7
PVF				S	Sn	11 32 22.4	-3.1
	comp=Z,1.0nm,0.2s						
FIA0	FINESS Array S	7.96	41	Pn	Pn	11 31 11.9	+2.5
	baz=215,slow=11						
FIA0				Sn	Sn	11 32 40.4	-0.9
	baz=224,slow=22						
FIA0				Lg		11 33 26.1	
	baz=239,slow=28						
FIA0	FINESS Array S	7.96	41	*e*P	Pn	11 31 11.4	+2.0
FIA0				*e*S	Sn	11 32 38.0	-3.3
FIA0	FINESS Array S	7.96	41	P	Pn	11 31 11.4	+2.0
FIA0				S	Sn	11 32 38.0	-3.3
FINES	FINESS Array B	7.96	41	Pn	Pn	11 31 11.7	+2.3
	comp=Z,0.4nm,0.3s,baz=225,slow=12,SNR=12						
FINES				Sn	Sn	11 32 40.4	-0.9
	comp=Z,0.3nm,0.3s,baz=233,slow=21,SNR=3.3						
VJF	Virojoki	8.03	49	*e*P	P	11 31 10.8	+0.4
VJF				*e*S	Sn	11 32 37.2	-5.8
VJF	Virojoki	8.03	49	P	P	11 31 10.7	+0.3
VJF				S	Sn	11 32 37.2	-5.8
KEF	Keuruu	8.05	34	*e*P	P	11 31 12.9	+2.2
KEF				*e*S	Sn	11 32 42.7	-0.8
KEF	Keuruu	8.05	34	P	P	11 31 12.8	+2.1
KEF				S	Sn	11 32 42.6	-0.9
KAF	Kangasniemi	8.49	38	*e*P	P	11 31 18.7	+1.9
KAF				*e*S	Sn	11 32 52.2	-2.2
KAF				MSN		11 32 56.8	
	comp=Z,0.4nm,0.2s						
KAF	Kangasniemi	8.49	38	P	P	11 31 18.6	+1.8
KAF				S	Sn	11 32 52.1	-2.3
	comp=Z,0.4nm,0.2s						
SUF	Sumiainen	8.86	35	*e*P	P	11 31 23.8	+1.8
SUF				*e*S	Sn	11 33 01.1	-2.6
SUF				MSN		11 33 07.3	
	comp=Z,0.4nm,0.3s						
SUF	Sumiainen	8.86	35	P	P	11 31 23.7	+1.8
SUF				S	Sn	11 33 01.1	-2.6
	comp=Z,0.4nm,0.3s						
EKA	Eskdalemuir Ar	10.41	275	Pn	P	11 31 42.0	-1.2
	comp=Z,0.1nm,0.3s,baz=92,slow=13,SNR=4.2						
JOF	Joensuu	10.81	43	*e*P	P	11 31 48.8	+0.1
JOF				*e*S	S	11 33 44.7	-7.0
ARA0	ARCESS Array S	14.48	15	Pn	P	11 32 36.6	-0.9
	baz=198,slow=16						
ARA0	ARCESS Array S	14.48	15	*e*P	P	11 32 36.6	-0.9
ARCES	ARCESS Array B	14.48	15	Pn	P	11 32 36.0	-1.6
	comp=Z,0.1nm,0.3s,baz=199,slow=13,SNR=6.8						

BJI 01 11:29:25.9,22.45N×118.03E,h11km,mB4.6,mb4.6, ML3.9,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	2.54	12	P	Pn	11 30 04.5	-3.2
QZH				Smax			
	comp=N,610nm,0.4s						
QZH				Smax			
	comp=E,2μm,0.6s						
GZH	Guangzhou	4.37	279	P	Pn	11 30 33.2	-0.6
GZH				S	Sn	11 31 19.8	-5.6
NJ2	Nanjing	9.59	4	*e*P	P	11 31 50.1	+3.1
NJ2				AP		11 31 52.8	
NJ2				XP		11 31 56.2	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
HHC	Hu-ho-hao-te	19.14	345	*e*P	P	11 33 53.8	+2.1
HHC				AMB	AMB		
	comp=Z,28nm,0.7s						
HHC				AMB	AMB		
	comp=Z,169nm,6.4s						

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*BJI **01** 11:30:09.5,24.17S×179.58E,h497km,mB4.7,mb4.8*
*NEIC **01** 11:30:10.6±0.8,24.38S×179.81E,h513km±9km,mb4.5/34, Error ellipse: s-maj=8.4km s-min=6.3km az=164.0*
*IDC **01** 11:30:10.3±1.4,24.36S×179.89E,h506km±15km, mb3.9/16,mb1 4.1/18,mb1mx4.0/20,mbtmp4.7/18,Error ellipse: s-maj=14.3km s-min=11.8km az=161.0*
ISC 01 11:30:08.9±0.8,**24.41S**±0.05×**179.77E**±0.06,**h503**km±9km, **h515**km±6.9km**:pP-P,n145,**σ**0**^{s}**98**/119,**mb4.4**/47,**8C-5D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.24	157	P	P	11 31 41.1	+2.1
	131nm,0.3s,baz=75,slow=16,SNR=6.9						
RAO				S	S	11 32 50.5	+0.1
	193nm,0.3s,baz=77,slow=23,SNR=6.3						
RAO	Raoul Island	5.24	157	*e*Pn	P	11 31 40.6	+1.5
RAO				*e*Sn	S	11 32 48.5	-2.0
DZM	Mont Dzumac	12.47	278	*e*P	P	11 32 58.1	+4.7
DZM	Mont Dzumac	12.47	278	P	P	11 32 58.2	+4.8
	3.0nm,0.3s,baz=86,slow=16,SNR=31						
AFI	Afiamalu	13.14	39	P	P	11 32 56.7	-3.6
	4.7nm,0.3s,baz=194,slow=24,SNR=6.8						
AFI				S	S	11 35 10.6	-7.6
	3.7nm,0.3s,baz=101,slow=19,SNR=5.2						
URZ	Urewera	13.99	189	P	P	11 33 09.8	+0.8
	11nm,0.3s,baz=3.3,slow=2.7,SNR=34						
URZ				S	S	11 35 35.5	+1.4
	3.6nm,0.3s,baz=257,slow=22,SNR=16						
URZ	Urewera	13.99	189	PN	P	11 33 06.5	-2.5
MWZ	Matawai	14.01	187	PN	P	11 33 07.2	-2.0
HIZ	Hauiti	14.66	195	PN	P	11 33 18.6	+2.8
TSZ	Takapari Road	15.93	191	*e*PN	P	11 33 28.4	-0.1
BFZ	Birch Farm	16.49	189	PN	P	11 33 33.8	-0.2
MRZ	Mangatainoka R	16.58	191	PN	P	11 33 34.6	-0.3
MTW	Mount Morrison	17.08	191	PN	P	11 33 39.5	-0.3
CAW	Cannon Point	17.11	192	PN	P	11 33 39.8	-0.3
SNZO	South Karori	17.37	193	*e*P	P	11 33 40.6	-2.1
	54nm,0.7s						
QRZ	Quartz Range	17.45	199	PN	P	11 33 44.5	+1.0
NNZ	Nelson	17.59	196	PN	P	11 33 45.2	+0.3
THZ	Tophouse	18.22	197	PN	P	11 33 51.1	+0.1
RPZ	Rata Peaks	20.54	198	P	P	11 34 12.6	-0.4
	25nm,0.5s,baz=47,slow=0.7,SNR=12						
HNR	Honiara	24.07	305	P	P	11 34 44.5	-0.9
	152nm,0.8s,baz=86,slow=4.5,SNR=3.4						
HNR	Honiara	24.07	305	*e*P	P	11 34 43.9	-1.6
CTA	Charters Tower	31.27	271	⇓*i*P	P	11 35 50.2	+1.7
	12nm,0.3s,mb4.8						
CTA	Charters Tower	31.27	271	P	P	11 35 50.3	+1.8
	21nm,0.4s,mb4.9,baz=98,slow=11,SNR=42						
CTAO	Charters Tower	31.27	271	*e*P	P	11 35 50.0	+1.6
	30nm,0.8s,mb4.8						
TAU	Tasmania Unive	32.43	227	P	P	11 35 56.8	-1.2
	54nm,1.3s,mb4.8						
STKA	Stephens Creek	34.34	249	⇓*i*P	P	11 36 15.7	+1.5
	4.4nm,0.5s,mb4.1						
STKA	Stephens Creek	34.34	249	P	P	11 36 15.8	+1.7
	4.3nm,0.5s,mb4.2,baz=91,slow=9.2,SNR=20						
STKA				ScP		11 41 33.4	
	1.2nm,0.7s,baz=45,slow=4.3,SNR=3.4						
STKA	Stephens Creek	34.34	249	*e*P	P	11 36 15.5	+1.3
PMG	Port Moresby	34.47	290	P	P	11 36 16.8	+1.4
	19nm,0.7s,mb4.6,baz=128,slow=5.7,SNR=3.9						
PMG	Port Moresby	34.47	290	*e*P	P	11 36 16.3	+0.9
	35nm,0.9s,mb4.8						
WB2	Warramunga Arr	42.16	267	⇓*i*P	P	11 37 18.4	+0.3
WB2				*e*SCP		11 42 05.3	
WB2				*e*S	S	11 42 57.9	-3.9
WRAB	Tennant Creek	42.16	267	*e*P	P	11 37 18.3	+0.1
	8.8nm,0.6s,mb4.4						
WRA	Warramunga Arr	42.17	267	P	P	11 37 18.5	+0.3
	7.2nm,0.4s,mb4.5,baz=98,slow=8.2,SNR=119						
WRA				ScP		11 42 05.3	
	7.9nm,1.0s,baz=103,slow=4.1,SNR=22						
WRA				S	S	11 42 59.6	-2.4
	2.9nm,1.0s,baz=101,slow=14,SNR=6.9						
KAKA	Kakadu	46.15	276	*e*P	P	11 38 05.0	+16
	12nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	50.59	266	*e*P	P	11 38 22.6	-0.1
	19nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	50.59	266	P	P	11 38 23.2	+0.5
	26nm,0.8s,mb4.6,baz=132,slow=5.4,SNR=13						
VNDA	Vanda	53.85	185	P	P	11 38 46.0	+0.5
	0.8nm,0.8s,baz=41,slow=6.2,SNR=3.8						
SBA	Scott Base	53.85	183	*e*P	P	11 38 46.5	+0.9
	7.7nm,1.0s,mb4.0						
MBWA	Marble Bar	55.08	260	*e*P	P	11 38 54.0	-0.9
	21nm,1.2s,mb4.3						
CASY	Casey	59.56	206	*e*P	P	11 39 23.6	-1.2
	3.9nm,0.5s,mb4.1						
KKM	Kota Kinabalu	68.86	287	P	P	11 40 24.4	0.0
KSM	Kuching	71.99	280	P	P	11 40 42.4	-0.5
MJAR	Matsushiro Arr	72.20	326	P	P	11 40 43.9	+0.1
	1.2nm,0.7s,mb3.5,baz=162,slow=3.8,SNR=5.1						
MAT	Matsushiro	72.20	326	P	P	11 40 43.1	-0.7
MAT	Matsushiro	72.20	326	*e*P	P	11 40 43.0	-0.8
MAW	Mawson	77.20	201	P	P	11 41 11.7	+0.7
	0.8nm,0.5s,mb3.5,baz=84,slow=3.7,SNR=9.3						
NIKO	Nikolski	77.69	7	*e*P	P	11 41 11.4	-2.6
PMSA	Palmer Station	78.52	157	P	P	11 41 17.7	-0.5
SSE	Sheshan	78.67	312	*e*P	P	11 41 19.9	+0.2
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,85nm,4.3s						
SSE	Sheshan	78.67	312	*e*P	P	11 41 19.9	+0.2
	comp=Z,24nm,0.7s,mb4.8						
NJ2	Nanjing	80.84	311	*e*P	P	11 41 29.0	-2.0
NJ2				AP	pP	11 43 24.0	+2.6
NJ2				PP	PP	11 44 47.0	+2.0
NJ2				S	S	11 50 53.0	-4.1
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,890nm,5.8s						
PTRM	Twissleman Ran	82.39	45	*e*P	P	11 41 38.5	-0.2
SYO	Syowa Base	82.47	193	⇓P	P	11 41 36.0	-2.4
SYO	Syowa Base	82.47	193	⇑PcP	PcP	11 41 40.8	-1.9
MDJ	Mudanjiang	82.58	326	P	P	11 41 41.1	+1.6
MDJ				AP	pP	11 43 31.6	+1.1
MDJ				S	S	11 51 17.4	+3.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,157nm,5.5s						
ISA	Isabella	83.53	46	*e*P	P	11 41 44.4	0.0
	comp=Z,21nm,1.5s,mb4.5						
PFO	Pinyon Flat Ob	83.70	49	*e*P	P	11 41 37.1	-8.3
	comp=Z,12nm,1.1s,mb4.3						
CMB	Columbia Colle	83.72	43	*e*P	P	11 41 45.1	-0.2
	comp=Z,18nm,1.0s,mb4.5						
SNAA	Sanae	84.16	179	⇑*i*P	P	11 41 46.0	-0.8
SNAA	Sanae	84.16	179	*e*	P	11 41 46.6	-0.2
SNAA	Sanae	84.16	179	*e*	P	11 41 47.3	+0.5
SNAA	Sanae	84.16	179	*e*	sP	11 44 27.2	-1.6
SNAA	Sanae	84.16	179	*e*P	P	11 41 46.1	-0.7
	comp=Z,2.1nm,0.8s,mb3.7						
CN2	Changchun	84.18	324	*e*P	P	11 41 50.2	+2.7
VNA3	Neumayer Olymp	84.38	177	⇑*i*P	P	11 41 47.4	-0.4
VNA3	Neumayer Olymp	84.38	177	*e*	P	11 41 48.2	+0.4
VNA3	Neumayer Olymp	84.38	177	*e*	P	11 41 49.1	+1.3
VNA3	Neumayer Olymp	84.38	177	*e*	sP	11 44 27.1	-2.8
GSC	Goldstone	84.42	47	*e*P	P	11 41 49.3	+0.4
YBH	Yreka Blue Hor	84.61	39	P	P	11 41 50.7	+1.0
	comp=Z,6.0nm,0.9s,mb4.2,baz=302,slow=2.4,SNR=6.2						
VNA2	Neumayer--Watz	84.79	178	⇑*i*P	P	11 41 49.8	-0.1
VNA2	Neumayer--Watz	84.79	178	*e*	P	11 41 50.4	+0.5
VNA2	Neumayer--Watz	84.79	178	*e*	P	11 41 51.6	+1.7
VNA2	Neumayer--Watz	84.79	178	*e*	sP	11 44 29.4	-2.6
BEKR	Beckwourth	84.85	42	*e*P	P	11 41 50.7	-0.2
	comp=Z,4.2nm,0.8s,mb4.1						
HUMO	Hull Mountain	85.03	39	*e*P	P	11 41 52.5	+0.8
	comp=Z,8.4nm,1.0s,mb4.3						
VNA1	Neumayer--Stat	85.03	177	⇑*i*P	P	11 41 48.0	-3.0
VNA1	Neumayer--Stat	85.03	177	*e*	P	11 41 48.4	-2.6
VNA1	Neumayer--Stat	85.03	177	*e*	P	11 41 49.3	-1.7
VNA1	Neumayer--Stat	85.03	177	*e*	sP	11 44 27.1	-6.1
NVAR	Mina Array Bea	85.26	44	P	P	11 41 53.3	+0.3
	comp=Z,4.0nm,0.8s,mb4.1,baz=225,slow=8.9,SNR=22						
TPH	Tonopah	85.75	45	*e*P	P	11 41 55.1	-0.1
	comp=Z,16nm,1.1s,mb4.6						
NEN	Nelson	85.94	48	*e*P	P	11 41 56.2	0.0
TUC	Tucson	86.99	53	*e*P	P	11 42 02.0	+0.7
	comp=Z,16nm,1.0s,mb4.7						
MA2	Magadan	87.02	346	*e*P	P	11 41 57.0	-3.7
	comp=Z,27nm,1.1s,mb4.9						
WVOR	Wild Horse Val	87.43	41	*e*P	P	11 42 03.5	+0.3
	comp=Z,16nm,1.1s,mb4.7						
PLCA	Paso Flores	88.06	134	P	P	11 42 06.8	+0.7
	comp=Z,2.3nm,1.1s,mb3.8,baz=202,slow=10,SNR=4.0						
PLCA	Paso Flores	88.06	134	*e*P	P	11 42 06.0	-0.1
	comp=Z,5.6nm,1.2s,mb4.2						
ELK	Elko	88.53	44	P	P	11 42 08.9	+0.6
	comp=Z,3.2nm,0.8s,mb4.2,baz=224,slow=4.3,SNR=17						
ELK	Elko	88.53	44	*e*P	P	11 42 07.8	-0.5
	comp=Z,6.3nm,1.0s,mb4.4						
PGC	Sidney	88.65	34	*e*P	P	11 42 08.7	+0.1
	comp=Z,57nm,1.3s,mb5.2						
MSU	Marysvale	89.29	47	*e*P	P	11 42 13.0	+1.0
KMI	Kunming	89.32	298	P	P	11 42 12.9	+0.5
KMI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.4						
BMO	Blue Mountains	89.64	39	*e*P	P	11 42 12.9	-0.5
	comp=Z,3.5nm,1.1s,mb4.1						
TMUT	Trail Mountain	90.34	46	*e*P	P	11 42 17.3	+0.6
HLID	Hailey	90.61	42	*e*P	P	11 42 18.4	+0.6
	comp=Z,5.1nm,1.0s,mb4.4						
MNTX	Cornudas Mount	90.67	55	*e*P	P	11 42 18.7	+0.2
	comp=Z,4.9nm,0.9s,mb4.4						
SRU	San Rafael	90.70	47	*e*P	P	11 42 18.6	+0.2
CTU	Camp Tracy	90.72	45	*e*P	P	11 42 18.7	+0.2
JLU	Jordanelle	90.87	45	*e*P	P	11 42 19.1	-0.1
JLU				*e*		11 42 28.0	
LTX	Lajitas	90.88	58	*e*P	P	11 42 19.6	+0.2
	comp=Z,7.6nm,0.8s,mb4.7						
TXAR	Lajitas Array	90.88	58	P	P	11 42 20.1	+0.6
	comp=Z,6.4nm,0.8s,mb4.6,baz=212,slow=6.4,SNR=70						
TXAR				PP	PP	11 46 09.6	+4.0
	comp=Z,0.4nm,1.0s,baz=225,slow=5.3,SNR=4.5						
DAU	Daniels Canyon	90.90	45	*e*P	P	11 42 20.3	+1.1
MCK	McKinley	91.23	13	P	P	11 42 18.7	-1.5
	comp=Z,1.4nm,0.8s,mb3.9						
PV10	Paradox Valley	91.32	48	*e*P	P	11 42 20.9	-0.3
HWUT	Hardware Ranch	91.33	44	*e*P	P	11 42 21.0	-0.3
	comp=Z,2.0nm,0.5s,mb4.3						
ANMO	Albuquerque	91.44	52	P	P	11 42 22.1	+0.2
	comp=Z,3.1nm,0.8s,mb4.3,baz=216,slow=5.1,SNR=12						
ANMO	Albuquerque	91.44	52	*e*P	P	11 42 21.5	-0.4
	comp=Z,8.3nm,1.3s,mb4.5						
PV01	Paradox Valley	91.52	48	*e*P	P	11 42 22.2	0.0
MCMT	McKenzie Canyo	92.25	41	*e*P	P	11 42 25.2	-0.2
RRI2	Red Ridge	92.39	43	*e*P	P	11 42 26.4	+0.3
	comp=Z,7.1nm,1.1s,mb4.5						
ILAR	Eielson Array	92.58	14	P	P	11 42 25.1	-1.4
	comp=Z,1.4nm,0.8s,mb4.0,baz=234,slow=4.9,SNR=14						
IMW	Indian Meadow	92.92	43	*e*P	P	11 42 28.3	-0.2
	comp=Z,4.8nm,1.1s,mb4.4						
SMCO	Snowmass	93.12	48	*e*P	P	11 42 29.6	+0.1
PDAR	Pinedale Array	93.20	44	P	P	11 42 29.4	-0.4
	comp=Z,1.7nm,0.7s,mb4.2,baz=210,slow=2.5,SNR=17						
PDAR				PP	PP	11 46 27.4	+3.9
	comp=Z,0.5nm,1.0s,baz=254,slow=11,SNR=4.3						
BOZ	Bozeman (W)	93.42	41	*e*P	P	11 42 30.5	-0.3
	comp=Z,3.3nm,1.2s,mb4.2						
SDCO	Great Sand Dun	93.45	50	*e*P	P	11 42 30.4	-0.7
	comp=Z,4.8nm,1.1s,mb4.4						
LZH	Lanzhou	93.53	308	*e*P	P	11 42 32.6	+1.1
LZH				AP	pP	11 44 28.1	+3.3
LZH				PP	PP	11 46 28.3	+2.1
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,73nm,7.6s						
MKAR	Makanchi Array	112.35	313	PKiKP		11 47 46.4	
	comp=Z,0.4nm,0.4s,baz=180,slow=1.4,SNR=4.8						
BVAR	Borovoye Array	120.69	319	PKP	PKPdf	11 48 02.9	+0.1
	comp=Z,2.2nm,0.6s,baz=87,slow=1.2,SNR=9.4						
ARCES	ARCESS Array B	132.34	348	PKP	PKPdf	11 48 24.6	-0.1
	comp=Z,2.5nm,0.6s,baz=43,slow=1.5,SNR=14						
FINES	FINESS Array B	138.86	341	SKPbc		11 51 24.0	
	comp=Z,1.9nm,0.8s,baz=27,slow=4.3,SNR=5.3						
NB2	NORSAR Subarra	142.56	351	PKPabc	PKPdf	11 48 40.3	-2.9
	comp=Z,1.7nm,0.6s,baz=11,slow=2.9						
NOA	NORSAR Array B	142.56	351	PKhKP		11 48 40.8	
	comp=Z,4.2nm,0.8s,baz=16,slow=4.7,SNR=9.6						
KONO	Kongsberg	144.12	351	PKPdf	PKPdf	11 48 44.9	-1.0
AKASG	Malin Array Be	145.29	327	PKPbc	PKPbc	11 48 49.0	-0.4
	comp=Z,2.8nm,0.4s,baz=42,slow=3.7,SNR=14						
ASF	Jabal al Asfar	146.54	292	PKPbc	PKPbc	11 48 56.1	+3.2
	comp=Z,1.8nm,0.5s,baz=160,slow=2.1,SNR=3.5						
BR131	Keskin Array S	147.72	306	*e*PKPdf	PKPdf	11 48 57.1	+4.5
BRTR	Keskin Array B	147.72	306	PKPbc	PKPdf	11 48 57.4	+4.8
	comp=Z,2.4nm,0.6s,baz=126,slow=3.8,SNR=8.4						
BRTR				pPKPbc		11 51 00.6	
	comp=Z,1.7nm,0.8s,baz=135,slow=3.5,SNR=5.2						
EKA	Eskdalemuir Ar	149.04	3	PKPbc	PKPdf	11 48 59.4	+5.1
	comp=Z,2.9nm,0.4s,baz=351,slow=3.2,SNR=21						
CFR	Carcaliu	149.09	319	⇑P	PKPdf	11 49 00.0	+5.4
BURAR	Bucovina Array	149.28	325	⇓P	PKPdf	11 49 03.0	+8.1
STHS	Stebnicka Huta	149.92	332	*e*PKP	PKPdf	11 49 03.2	+7.4
MLR	Muntele Rosu	150.19	321	PKPbc	PKPdf	11 49 03.8	+7.5
	comp=Z,2.9nm,0.4s,baz=323,slow=5.1,SNR=5.5						
MLR	Muntele Rosu	150.19	321	⇑P	PKPdf	11 49 03.2	+6.8
CRVS	Cervenica-Dubn	150.20	331	*e*PKP	PKPdf	11 49 00.6	+4.3
OKC	Ostrava-Krasne	150.86	335	*e*PKPbc	PKPdf	11 49 05.3	+8.1
UPC	Upice	151.07	338	*e*PKPbc	PKPdf	11 49 05.5	+8.0
DPC	Dobruska-Polom	151.10	338	*e*PKPbc	PKPdf	11 49 05.7	+8.1
CLL	Collm	151.28	343	⇑*i*PKP1	PKPdf	11 49 05.6	+7.8
PVCC	Panska Ves	151.52	340	*e*PKPbc	PKPdf	11 49 06.8	+8.7
PRU	Pruhonice	152.00	339	*e*PKPbc	PKPdf	11 49 07.5	+8.7
KHC	Kasperske Hory	153.05	340	*e*PKPdf	PKPdf	11 49 04.2	+3.9
GERES	GERESS Array B	153.26	339	PKPbc	PKPdf	11 49 09.8	+9.1
	comp=Z,0.2nm,0.3s,baz=270,slow=1.3,SNR=3.9						
GERES				PKPab	PKPab	11 49 25.3	-0.1
	comp=Z,0.4nm,0.2s,baz=27,slow=3.0,SNR=3.5						
GERES				pPKPbc		11 51 11.4	
	comp=Z,0.3nm,0.2s,baz=124,slow=3.5,SNR=3.5						
ESDC	Sonseca Array	164.46	11	PKPab	PKPab	11 50 13.0	-0.9
	comp=Z,0.1nm,0.3s,baz=345,slow=3.7,SNR=8.2						

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*BJI **01** 11:38:07.4,22.72N×118.14E,h15km,mB4.9,mb4.3, ML4.6,Ms4.1,Msz3.9*
*IDC **01** 11:38:08.5±1.0,22.74N×118.09E,mb3.9/7,mb1 4.1/7, mb1mx3.9/21,mbtmp4.0/7,Error ellipse: s-maj=41.1km s-min=19.0km az=61.0*
*NEIC **01** 11:38:10.3±0.4,22.74N×118.07E,h15km,mb4.1/3,Error ellipse: s-maj=9.4km s-min=8.3km az=156.0*
ISC 01 11:38:06.6±1.6,**22.82N**±0.05×**118.12E**±0.06,**h2**km±10km, **n24,**σ**1**^{s}**33**/28,**mb3.9**/11,**MS3.7**/1,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	2.16	11	P	Pn	11 38 45.0	+0.9
QZH				PG	Pg	11 38 49.5	-0.3
QZH				S	Sn	11 39 10.2	-1.7
QZH				SG	Sg	11 39 16.1	-2.5
QZH				Smax			
	comp=N,3μm,0.8s						
QZH				Smax			
	comp=E,7μm,0.4s						
NACB	Ninganchiao	3.46	66	*e*Pn	Pn	11 39 05.4	+2.7
NACB				*e*S	Sn	11 39 42.9	-2.1
YHNB	Yeheng	3.51	58	*e*Pn	Pn	11 39 03.9	+0.6
TATO	Taipei	3.76	54	*e*Pn	Pn	11 39 08.3	+1.4
GZH	Guangzhou	4.41	274	P	Pn	11 39 13.9	-2.2
GZH				Smax			
	comp=N,1μm,0.7s						
GZH				Smax			
	comp=E,1μm,0.9s						
QIZ	Qiongzhong	8.60	246	*e*P	P	11 40 14.0	-1.1
QIZ				LR	LR		
	comp=N,584nm,11.1s						
QIZ				LR	LR		
	comp=Z,361nm,12.2s						
QIZ	Qiongzhong	8.60	246	Pn	P	11 40 12.5	-2.6
NJ2	Nanjing	9.22	4	*e*P	P	11 40 23.5	-0.2
NJ2				AP		11 40 27.2	
NJ2				XP		11 40 29.9	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,850nm,4.8s						
NJ2				LR	LR		
	comp=N,2μm,8.4s						
NJ2				LR	LR		
	comp=E,2μm,5.5s						
NJ2				LR	LR		
	comp=Z,1μm,6.0s						
GYA	Guiyang	11.03	292	*e*P	P	11 40 50.0	+1.4
GYA				LR	LR		
	comp=N,480nm,6.0s						
GYA				LR	LR		
	comp=E,530nm,8.4s						
GYA				LR	LR		
	comp=Z,320nm,5.0s						
MJAR	Matsushiro Arr	22.12	47	P	P	11 43 06.8	+1.7
	comp=Z,1.1nm,0.7s,mb3.4,baz=224,slow=7.7,SNR=5.0						
GTA	Gaotai	22.71	321	*e*P	P	11 43 14.6	+3.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb3.9						
GTA				AMB	AMB		
	comp=Z,76nm,6.9s						
GTA				LR	LR		
	comp=N,141nm,11.2s,MS3.8						
GTA				LR	LR		
	comp=E,134nm,13.5s,MS3.8						
GTA				LR	LR		
	comp=Z,166nm,12.0s,MS3.7						
ULN	Ulaanbaatar	26.52	343	P	P	11 43 47.1	-0.2
	comp=Z,4.5nm,1.1s,mb3.9						
SONM	Songino Array	26.67	342	P	P	11 43 49.3	+0.6
	comp=Z,1.8nm,0.9s,mb3.6,baz=153,slow=9.9,SNR=8.4						
MKAR	Makanchi Array	37.43	319	P	P	11 45 24.2	+1.3
	comp=Z,1.8nm,0.9s,mb3.9,baz=111,slow=10,SNR=7.0						
MKAR	Makanchi Array	37.43	319	P	P	11 45 24.2	+1.2
ZAL	Zalesovo	39.93	330	P	P	11 45 44.5	+0.7
	comp=Z,1.2nm,0.4s,mb4.0,baz=337,slow=4.5,SNR=6.3						
ZAL	Zalesovo	39.93	330	P	P	11 45 44.5	+0.7
KURK	Kurchatov	41.39	322	*e*P	P	11 45 56.0	+0.3
	comp=Z,2.9nm,0.9s,mb3.9						
WRAB	Tennant Creek	45.35	158	*e*P	P	11 46 27.3	-1.0
	comp=Z,6.3nm,0.9s,mb4.5						
WRA	Warramunga Arr	45.35	158	P	P	11 46 27.4	-1.0
	comp=Z,2.6nm,0.8s,mb4.1,baz=341,slow=8.9,SNR=13						
BVAR	Borovoye Array	46.99	322	P	P	11 46 41.3	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=5.8,SNR=4.3						
CTA	Charters Tower	50.72	145	P	P	11 47 10.8	+0.7
	comp=Z,1.2nm,0.4s,mb4.2,baz=337,slow=8.5,SNR=3.2						
CTA	Charters Tower	50.72	145	P	P	11 47 10.8	+0.7
STKA	Stephens Creek	58.84	157	*e*P	P	11 48 07.8	-1.5

*NEIC **01** 11:44:35.8, 63.09N×143.61W, h1km, ML3.5(PMR), ML3.3(AEIC), After AEIC.*
*PGC **01** 11:44:35.9, 63.14N×143.30W, h1km, ML3.6/2, ML3.3/28(AEIC), 217km southwest of Dawson, Yt Eastern Alaska.*
ISC 01 11:44:33.4±0.3**, 63.17N**±0.02×**143.26W**±0.05**, h1**km**, n72, σ1ˢ16**/81**, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MENT	Mentasta	0.31	222	P	Pg	11 44 38.9	-0.7
MENT				S	Sg	11 44 41.7	-2.1
DOT	Dot Lake	0.60	324	P	Pg	11 44 47.1	+1.7
DOT				S	Sg	11 44 55.4	+1.9
DOT				Trac			
PAX	Paxson	1.02	260	Trac			
PAX	Paxson	1.02	260	P	Pb	11 44 51.9	-1.7
PAX				S	Sb	11 45 03.9	-3.5
PAX	Paxson	1.02	260	P	Pb	11 44 51.9	-1.7
PAX				S	Sb	11 45 03.9	-3.5
THY	Trims Highway	1.15	284	P	Pb	11 44 55.3	-0.5
THY				S	Sb	11 45 09.3	-1.8
THY				Trac			
WANC	Wrangell North	1.23	198	P	Pb	11 44 56.5	-0.6
SDG	Sourdough	1.23	239	P	Pb	11 44 55.5	-1.6
SDG				S	Sb	11 45 09.5	-3.8
WACK	Wrangell Chich	1.28	203	P	Pb	11 44 56.8	-1.3
DDM	Donnelly Dome	1.32	299	P	Pb	11 44 59.2	+0.5
TZL	Tazlina	1.51	223	P	Pn	11 45 01.0	-0.7
GLB	Gilahina Butte	1.75	189	P	Pn	11 45 04.8	-0.4
DAWY	Dawson	1.95	61	Pn	Pn	11 45 09.6	+1.6
DAWY				P		11 45 11.6	
DAWY				Pg	Pg	11 45 12.4	0.0
DAWY	Dawson	1.95	61	P	Pn	11 45 11.6	+3.5
HDA	Harding Lake	2.06	309	Trac			
HDA	Harding Lake	2.06	309	P	Pn	11 45 09.1	-0.4
KLU	Klutina	2.09	218	P	Pn	11 45 09.8	-0.2
BALM	Baldy	2.18	168	P	Pn	11 45 12.1	+0.7
IL1	Eielson Array	2.27	317	Trac			
IL1	Eielson Array	2.27	317	P	Pn	11 45 12.3	-0.3
BMRM	Bremner River	2.29	197	P	Pn	11 45 12.9	0.0
SCM	Sheep Creek Mo	2.31	236	Trac			
SCM	Sheep Creek Mo	2.31	236	P	Pn	11 45 13.4	+0.2
SCM				S	Sn	11 45 41.8	-0.9
DIV	Divide	2.36	211	P	Pn	11 45 14.2	+0.3
DIV				S	Sn	11 45 43.4	-0.5
DIV				Trac			
CTGM	Chitina Glacie	2.39	157	P	Pn	11 45 15.2	+0.9
CRQM	Cirque	2.42	179	P	Pn	11 45 16.8	+2.1
CCB	Clear Creek Bu	2.50	309	Trac			
CCB	Clear Creek Bu	2.50	309	P	Pn	11 45 14.6	-1.3
VLZ	Valdez	2.50	217	P	Pn	11 45 16.1	+0.2
VLZ				S	Sn	11 45 47.2	-0.2
WRH	Wood River Hil	2.51	304	Trac			
WRH	Wood River Hil	2.51	304	P	Pn	11 45 15.4	-0.6
PRP	Porcupine Dome	2.56	338	Trac			
PRP	Porcupine Dome	2.56	338	P	Pn	11 45 17.9	+1.2
PRP				P		11 45 17.9	
MCK	McKinley	2.61	285	P	Pn	11 45 18.3	+0.8
MCK				S	Sn	11 45 51.2	+1.0
MCK				Trac			
COLA	College	2.65	312	Trac			
COLA	College	2.65	312	P	Pn	11 45 16.8	-1.2
SML	Sawmill	2.72	242	P	Pn	11 45 20.0	+1.0
SML				S	Sn	11 45 53.0	0.0
WAX	Waxell Ridge	2.73	176	P	Pn	11 45 21.3	+2.0
FID	Port Fidalgo	2.86	213	P	Pn	11 45 22.9	+1.9
FID				S	Sn	11 45 57.5	+0.9
EYAK	Cordova Ski Ar	2.88	205	P	Pn	11 45 22.9	+1.6
YAH	Yahtse	2.91	165	P	Pn	11 45 23.4	+1.8
YAH				S	Sn	11 46 00.2	+2.5
BWN	Browne	2.94	293	P	Pn	11 45 21.6	-0.6
GHO	Glory Hole Cre	2.98	244	P	Pn	11 45 24.0	+1.3
PMR	Palmer	3.16	243	P	Pn	11 45 26.3	+1.1
PMR				Trac			
HIN	Hinchinbrook I	3.18	210	Trac			
HIN	Hinchinbrook I	3.18	210	P	Pn	11 45 26.3	+0.8
CUT	Chulitna	3.31	260	P	Pn	11 45 27.7	+0.3
PCA	Pinnacle	3.40	154	P	Pn	11 45 29.7	+1.0
PCA				Trac			
KTH	Kantishna Hill	3.47	280	P	Pn	11 45 30.4	+0.6
HYT	Haines Junctio	3.59	128	Pn	Pn	11 45 31.1	-0.3
HYT				Pg	Pg	11 45 39.9	-5.2
HYT				Sn	Sn	11 46 13.5	-1.7
HYT				Sg	Sg	11 46 27.1	-5.9
HYT				Trac		11 46 30.6	
	comp=Z,65nm,0.5s						
RC01	Rabbit Creek A	3.69	238	Trac			
RC01	Rabbit Creek A	3.69	238	P	Pn	11 45 32.1	-0.7
LTI	Latouche	3.83	217	P	Pn	11 45 35.3	+0.5
PNL	Peninsula	3.97	150	P	Pn	11 45 38.1	+1.3
PNL				Trac			
MID	Middleton Isla	4.04	203	P	Pn	11 45 37.8	+0.1
MID	Middleton Isla	4.04	203	P	Pn	11 45 37.8	+0.1
BM3	Burnt Mountain	4.31	353	Trac			
BM3	Burnt Mountain	4.31	353	P	Pn	11 45 42.5	+0.8
SPU	Mount Spurr	4.58	248	qP		11 45 43.5	
WHY	Whitehorse	4.69	119	Pn	Pn	11 45 46.5	-0.6
WHY				Pg	Pg	11 46 02.4	-4.7
WHY				Sn	Sn	11 46 41.2	-1.8
WHY				Sg	Sg	11 47 01.4	-8.3
WHY				Trac		11 47 08.5	
	comp=Z,26nm,0.5s						
COLD	Coldfoot	5.01	327	Trac			
COLD	Coldfoot	5.01	327	P	Pn	11 45 51.3	-0.3
IM3	Indian Mountai	5.33	307	Trac			
IM3	Indian Mountai	5.33	307	P	Pn	11 45 55.1	-1.0
IMA	Indian Mountai	5.34	308	*e*P	Pn	11 45 57.4	+1.2
TTA	Tatalina	5.80	273	*e*P	Pn	11 46 02.3	-0.5
TT01	Tatalina	5.81	273	Trac			
TT01	Tatalina	5.81	273	P	Pn	11 46 02.0	-0.9
INK	Inuvik	6.53	34	P	Pn	11 46 11.9	-1.1
INK				Pn	Pn	11 46 12.8	-0.2
INK				Sn	Sn	11 47 25.5	-3.6
INK				Sg	Sg	11 48 05.6	-5.3
INK				Trac		11 48 15.6	
	comp=Z,25nm,0.9s						
INK	Inuvik	6.53	34	*e*P	Pn	11 46 11.9	-1.1
DLBC	Dease Lake	8.02	120	Pn	P	11 46 32.1	-1.7
DLBC				Sg	Sg	11 48 44.0	-16
DLBC				Trac		11 49 03.7	
	comp=Z,10.0nm,0.6s						
FNBB	Fort Nelson	10.70	104	Pn	P	11 47 08.1	-2.6
FNBB				Sg	S	11 50 10.6	+58
FNBB				Trac		11 50 28.6	
	comp=Z,7.0nm,1.3s						

*JMA **01** 11:51:06.3, 33.22N×135.17E, h34km±1km, M3.6 Broadband fault plane solution: P waves. NP1:φs309°, δ32°, λ-146°. NP2:φs190°, δ73°, λ-62°. Principal axes: T Plg23°, Azm259°; N Plg26°, Azm1°; P Plg54°, Azm134°;*
ISC 01 11:51:06.2±1.8**, 33.2N**±0.1×**135.19E**±0.09**, h37**km±34km**, n6, σ0ˢ34**/10**, 4C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
JWZ	Kozaga	0.54	55	⇑P	P	11 51 17.4	+0.1
JWZ				S	S	11 51 25.3	0.0
JWM	Minabe	0.64	13	⇑P	P	11 51 19.0	+0.3
JWM				S	S	11 51 27.5	-0.3
JAI	Aioi	0.83	313	⇓P	P	11 51 21.6	+0.1
MRT2	Murotomisaki 2	0.89	281	⇑P	P	11 51 22.1	-0.2
JWY	Kouya	1.05	19	⇑P	P	11 51 25.2	+0.6
JWY				S	S	11 51 38.2	0.0
MAT	Matsushiro	4.14	36	P	P	11 52 07.9	-0.7
MAT				S	S	11 52 56.6	+0.1

KRSC 01 11:51:49.6±0.8**, 49.56N**×**156.82E, h32**km±12km**, ML4.2, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ALID	Alaid	1.54	329	*i* P	Pn	11 52 15.7	+0.4
ALID				*i* S	Sn	11 52 34.7	+0.3
PAU	Pauzhetka	1.91	360	*i* P	Pn	11 52 21.5	+0.9
PAU				*i* S	Sn	11 52 43.8	+0.1
PAU				Smax			
	1µm,0.3s						
MIPR	Malaya Ipel'ka	2.72	359	*i* P	Pn	11 52 32.6	+0.4
MIPR				*i* S	Sn	11 53 03.8	-0.5
RUS	Russkaya	3.07	20	*i* P	Pn	11 52 37.0	-0.1
RUS				*i* S	Sn	11 53 11.2	-1.9
GRL	Gorelyy	3.10	14	*i* P	Pn	11 52 38.5	+1.0
GRL				*i* S	Sn	11 53 13.9	0.0
APC	Apacha	3.38	3	*i* P	Pn	11 52 42.7	+1.2
APC				*e*S	Sn	11 53 21.0	+0.1
APC				Smax			
	20nm,0.5s						
KRMR	Karymshinskiy	3.38	14	*e*P	Pn	11 52 42.9	+1.4
KRMR				*e*S	Sn	11 53 22.7	+1.8
PET	Petropavlovsk	3.66	18	*i* P	Pn	11 52 45.7	+0.3
PET				*i* S	Sn	11 53 27.2	-0.7
UGLR	Uglovaya	3.86	18	*e*P	Pn	11 52 49.1	+0.7
UGLR				*e*S	Sn	11 53 32.6	-0.6
AVH	Avacha	3.90	17	*e*P	Pn	11 52 50.0	+1.1
AVH				*e*S	Sn	11 53 35.2	+1.1
KOK	Koryaka	3.91	16	*i* P	Pn	11 52 50.3	+1.3
KOK				*e*S	Sn	11 53 35.4	+1.1
SMAR	Somma	3.91	18	*e*P	Pn	11 52 49.6	+0.6
SMAR				*e*S	Sn	11 53 33.3	-1.1
SDLR	Sedlovina	3.94	18	*i* P	Pn	11 52 49.7	+0.2
SDLR				*e*S	Sn	11 53 33.6	-1.6
NLC	Nalytchevo	3.95	23	*i* P	Pn	11 52 48.3	-1.3
NLC				*i* S	Sn	11 53 31.4	-3.9
SPN	Mys Shipunski	4.07	28	P	Pn	11 52 51.6	+0.2
SPN				S	Sn	11 53 36.3	-2.3
SPN	Mys Shipunski	4.07	28	*i* P	Pn	11 52 51.7	+0.3
SPN				*i* S	Sn	11 53 36.3	-2.3
GNL	Ganaly	4.20	9	*e*P	Pn	11 52 53.9	+0.7
GNL				*e*S	Sn	11 53 41.6	-0.2
MKZ	Mys Kozlova	5.85	29	*e*P	Pn	11 53 15.2	-1.2
MKZ				*i* S	Sn	11 54 17.4	-5.8
ESO	Esso	6.48	9	*e*P	Pn	11 53 25.6	+0.3
ESO				*e*S	Sn	11 54 34.9	-4.0
KBTR	Krutoberegovo	7.58	26	*e*P	Pn	11 53 38.9	-1.9
KBTR				*e*S	Sn	11 54 59.1	-7.4
BKI	Bering	7.95	41	*e*P	Pn	11 53 43.2	-2.8
BKI				*i* S	Sn	11 55 06.3	-9.4
BKI				Smax			
	20nm,0.2s						

*CSEM **01** 12:32:53.7±0.2, 63.74N×20.38E, h2km, ML2.8, Error ellipse: s-maj=4.6km s-min=3.3km az=5.0, Mining explosion.*
*UPP **01** 12:32:54.7, 63.77N×20.39E, h0km, ML2.8, Mining explosion.*
HEL 01 12:32:55.3±0.1**, 63.77N**×**20.38E, ML1.3, ML2.8**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
UMAU	Umeaa	0.17	50	*i* P	Pg	12 32 58.1	-0.6
UMAU				*i* S	Sg	12 33 00.7	-0.4
HUSU	Husum	0.68	231	*i* P	Pg	12 33 07.4	-1.4
BREU	Bredtraesk	0.81	279	*i* P	Pg	12 33 09.7	-1.7
BURU	Burvik	0.92	28	*e*P	Pg	12 33 12.2	-1.6
BURU	Burvik	0.92	28	P	Pg	12 33 12.1	-1.7
VAF	Ylistaro	1.27	124	*e*P	Pb	12 33 18.4	-1.4
VAF				*e*S	Sb	12 33 35.2	-1.3
VAF	Ylistaro	1.27	124	P	Pb	12 33 18.3	-1.4
VAF				S	Sb	12 33 35.1	-1.4
SOLU	Sollefteaa	1.50	251	*e*P	Pn	12 33 22.1	-1.4
SOLU	Sollefteaa	1.50	251	P	Pn	12 33 22.0	-1.5
SJUU	Sjulsmark	1.82	16	*e*P	Pn	12 33 28.0	-0.2
SJUU	Sjulsmark	1.82	16	P	Pn	12 33 27.9	-0.2
KEF	Keuruu	2.61	126	*e*S	Sn	12 34 10.4	-1.9
OUL	Oulu	2.73	59	*e*S	Sn	12 34 08.0	-7.4
OUL				*e*SB	Sb	12 34 13.5	-5.5
SUF	Sumiainen	2.82	109	*e*P	Pn	12 33 40.1	-2.3
SUF				*e*S	Sn	12 34 14.9	-2.7
SUF				MSG		12 34 25.1	
	comp=Z,0.7nm,0.4s						
SUF	Sumiainen	2.82	109	P	Pn	12 33 40.1	-2.3
SUF				S	Sn	12 34 14.8	-2.8
	comp=Z,0.7nm,0.4s						
KAF	Kangasniemi	3.18	119	*e*P	Pn	12 33 45.6	-1.9
KAF				*e*S	Sn	12 34 24.6	-2.1
KAF				MSG		12 34 36.6	
	comp=Z,0.6nm,0.3s						
KAF	Kangasniemi	3.18	119	P	Pn	12 33 45.6	-2.0
KAF				S	Sn	12 34 24.6	-2.2
	comp=Z,0.6nm,0.3s						
FIA0	FINESS Array S	3.52	129	*e*P	Pn	12 33 51.1	-1.3
FIA0				*e*S	Sn	12 34 34.6	-0.8

*ISK **01** 12:42:16.6, 40.90N×31.62E, h8km, MD3.5, ML3.6*
*CSEM **01** 12:42:16.6, 40.90N×31.62E, h8km, MD3.5, After ISK*
ISC 01 12:42:17.0±0.4**, 40.91N**±0.03×**31.60E**±0.03**, h8**km**, n32, σ0ˢ81**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SGKT	Sivrigoynuk	0.48	134	*i* P	Pg	12 42 25.7	-1.0
SGKT				*i* S	Sg	12 42 31.9	-1.3
MDU	Mudurnu	0.53	213	*i* PG	Pg	12 42 27.4	-0.2
MDU				*i* SG	Sg	12 42 35.4	+0.6
HENT	Hendek	0.54	261	*i* P	Pg	12 42 26.4	-1.4
HENT				*i* S	Sg	12 42 33.8	-1.2
SAFT	Safranbolu	0.89	68	*i* PG	Pg	12 42 33.6	-1.2
GPA	Golpazari	1.16	238	*i* PN	Pn	12 42 38.7	-0.8
BORA	Eskisehir	1.35	221	*i* P	Pb	12 42 42.2	+0.1
BORA				*i* S	Sb	12 43 02.5	+3.2
LOD	Lodumlu	1.35	138	*i* PN	Pn	12 42 42.1	-0.1
ANTO	Ankara	1.38	138	PN	Pn	12 42 42.4	-0.3
ANTO				SN	Sn	12 43 01.3	0.0
ELDT	Eldivan	1.45	106	*i* P	Pn	12 42 43.0	-0.7
ELDT				*i* S	Sb	12 43 03.9	+1.5
HRT	Hereke	1.47	267	PN	Pn	12 42 44.2	+0.4
BALT	Daday	1.49	65	*i* P	Pn	12 42 43.6	-0.6
BALT				*i* S	Sb	12 43 04.2	+0.8
ESKT	Eskisehir	1.50	203	PN	Pn	12 42 44.5	+0.2
ESKT	Eskisehir	1.50	203	*i* P	Pn	12 42 44.0	-0.3
ESKT				*i* S	Sb	12 43 04.6	+0.9
CANT	Cankiri	1.57	100	PN	Pn	12 42 45.9	+0.6
YLV	Yalova	1.72	259	PN	Pn	12 42 47.6	+0.1
TOS	Tosya	1.84	85	PN	Pn	12 42 49.6	+0.4
ISK	Istanbul-Kandi	1.93	276	PN	Pn	12 42 50.9	+0.4
KIZT	Kizilcal	2.04	174	PN	Pn	12 42 51.8	-0.2
BZK	Bozkurt	2.09	59	PN	Pn	12 42 53.0	+0.2
ALT	Altintas	2.17	212	*e*PN	Pn	12 42 54.0	0.0
ORLT	Orhaneli	2.23	248	*e*PN	Pn	12 42 55.1	+0.3
KAMT	Kaman	2.23	133	*e*PN	Pn	12 42 54.9	0.0
CTT	Catalca	2.41	277	*e*PN	Pn	12 42 57.8	+0.5
KDHN	Kadinhani	2.42	170	*i* P	Pn	12 42 56.8	-0.6
KDHN				*i* S	Sn	12 43 34.0	+6.5
CORM	Corum	2.42	107	*e*PN	Pn	12 42 57.2	-0.4
GDZ	Gediz	2.44	223	*i* P	Pn	12 43 01.4	+3.6
GDZ				*i* S	Sn	12 43 35.3	+7.3
BYBT	Boyabat	2.46	76	*e*PN	Pn	12 42 58.4	+0.4
CDAG	Cicekdag	2.48	120	*i* P	Pn	12 42 57.6	-0.8
CDAG				*i* S	Sn	12 43 34.2	+5.0
BOYT	Boyabat	2.55	77	*i* P	Pn	12 43 02.7	+3.4
BOYT				*i* S	Sn	12 43 37.9	+7.0
DST	Dursunbey	2.62	241	*e*PN	Pn	12 43 00.3	0.0
AVNT	Avonos	3.29	129	*i* P	Pn	12 43 10.7	+0.8
EDRB	Edirne	3.77	286	*e*PN	Pn	12 43 17.3	+0.6

*IDC **01** 12:49:23.2±1.5, 33.27N×142.61E, mb3.4/3, mb1 3.6/5, mb1mx3.5/20, mbtmp3.4/5, Error ellipse: s-maj=32.0km s-min=29.2km az=83.0*
*JMA **01** 12:49:25.4±0.3, 33.38N×142.60E, h61km, M3.1*
ISC 01 12:49:26.0±2.1**, 33.38N**±0.07×**142.52E**±0.08**, h33**km±18km**, n18, σ0ˢ75**/23**, mb3.3**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
BSO1	Boso 1	1.81	315	P	Pn	12 49 55.5	+0.1
BSO1				S	Sn	12 50 17.5	+0.1
BSO2	Boso 2	2.00	314	*e*S	Sn	12 50 24.2	+1.7
BSO3	Boso 3	2.19	311	P	Pn	12 50 01.2	+0.3
JHJ2	Mitsune	2.28	264	P	Pn	12 50 02.7	+0.5
JHJ	Hachijo jima 2	2.30	264	Pn	Pn	12 50 02.8	+0.2
	26nm,0.3s,baz=88,slow=22,SNR=16						
JHJ				Sn	Sn	12 50 29.6	-0.4
	15nm,0.3s,baz=250,slow=23,SNR=7.3						
BSO4	Boso 4	2.42	312	P	Pn	12 50 04.6	+0.4
CHOJ	Chosi	2.69	330	P	Pn	12 50 07.8	-0.3
JOD2	Odawara 2	3.40	305	P	Pn	12 50 17.6	-0.6
JOD2				*e*S	Sn	12 50 58.3	+0.4
JYN	Shimob	3.91	304	P	Pn	12 50 25.4	+0.1
JYN				S	Sn	12 51 10.9	+0.3
JAG	Ashikaga	3.95	321	P	Pn	12 50 25.4	-0.5
JRY	Ryogami san	3.98	313	P	Pn	12 50 26.4	+0.1
MJAR	Matsushiro Arr	4.74	313	Pn	Pn	12 50 36.9	-0.3
	1.5nm,0.3s,baz=164,slow=15,SNR=14						
MJAR				Sn	Sn	12 51 30.7	-1.1
	0.4nm,0.3s,baz=133,slow=14,SNR=3.0						
MAT	Matsushiro	4.74	313	P	Pn	12 50 36.8	-0.4
MAT				S	Sn	12 51 30.1	-1.7
MAT	Matsushiro	4.74	313	P	Pn	12 50 37.4	+0.2
SONM	Songino Array	30.68	309	pP	pP	12 55 46.8	-2.6
	0.4nm,0.8s,baz=117,slow=10,SNR=5.2						
MKAR	Makanchi Array	46.90	305	P	P	12 57 56.8	+1.9
	0.3nm,0.4s,mb3.5,baz=90,slow=7.2,SNR=2.2						
MKAR				pP	pP	12 58 03.0	-1.8
	0.9nm,0.5s,baz=91,slow=9.4,SNR=6.2						
ILAR	Eielson Array	52.13	31	P	P	12 58 35.0	0.0
	0.3nm,0.9s,mb3.2,baz=243,slow=6.0,SNR=4.0						
WRA	Warramunga Arr	53.59	190	P	P	12 58 45.4	-0.9
	0.2nm,0.5s,mb3.3,baz=5.9,slow=7.5,SNR=6.4						

*IDC **01** 13:02:31.1±0.9, 10.91N×91.63E, mb4.0/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.0/9, Error ellipse: s-maj=43.7km s-min=17.4km az=59.0*
*NEIC **01** 13:02:35.8±0.6, 10.99N×91.82E, h30km, mb4.1/7, Error ellipse: s-maj=20.2km s-min=9.1km az=61.0*
ISC 01 13:02:33.5±0.8**, 10.88N**±0.09×**91.56E**±0.06**, h33**km**, n27, σ1ˢ29**/29**, mb4.1**/12**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PBA	Port Blair	1.39	56	*e*P	P	13 02 56.4	-0.5
PBA				*e*P		13 02 56.6	
PBA				*e*SG	S	13 03 13.8	-0.5
VIS	Vishakhapatnam	10.48	311	*e*P	P	13 05 02.1	-2.5
VIS				*i* x	x	13 05 12.2	
VIS				*e*S	S	13 06 49.6	-12
SALM	Salem	13.13	275	*e*S	S	13 07 57.0	-9.1
BLSP	Bilaspur	14.38	322	*e*P	P	13 05 55.0	-1.7
BLSP				AMb	AMB	13 06 01.6	
	comp=Z,11nm,0.6s						
BLSP				*e*x	x	13 08 26.2	
NGP	Nagpur	15.77	312	*e*P	P	13 06 11.9	-2.9
NGP				AMb	AMB	13 06 14.5	
	comp=Z,6.7nm,1.0s						
NGP				*e*S	S	13 09 01.0	-7.5
PKI	Pulchoki	17.59	342	*e*P	P	13 06 39.6	+1.9
	comp=Z,26nm,0.8s						
DMN	Daman	17.72	341	*e*P	P	13 06 40.0	+0.6
	comp=Z,21nm,0.7s						
KKN	Kakani	17.83	342	*e*P	P	13 06 43.1	+2.3
GKN	Gorkha	18.23	340	*e*P	P	13 06 47.8	+1.9
	comp=Z,9.6nm,0.3s						
BHPL	Bhopal	18.25	314	*e*x	x	13 06 58.5	
BHPL				AMb	AMB	13 07 03.4	
	comp=Z,3.9nm,0.5s						
BHPL				*e*x	x	13 10 07.1	
KOLN	Koldanda	18.39	337	*e*P	P	13 06 51.9	+4.0
	comp=Z,18nm,0.7s						
KOLN				*e*S	S	13 09 59.5	-9.1
LSA	Lhasa	18.73	359	P	P	13 06 51.0	-1.0
	comp=Z,9.7nm,1.1s						
ENH	Enshi	25.50	38	*e*P	P	13 07 58.6	-2.1
	comp=Z,14nm,0.6s,mb4.7						
MKAR	Makanchi Array	36.65	349	P	P	13 09 39.3	+0.5
	comp=Z,2.1nm,0.6s,mb4.1,baz=167,slow=8.3,SNR=14						
SONM	Songino Array	38.90	16	P	P	13 09 58.1	+0.6
	comp=Z,1.8nm,0.6s,mb4.0,baz=209,slow=7.7,SNR=16						
ULN	Ulaanbaatar	39.10	17	P	P	13 09 52.7	-6.6
	comp=Z,3.1nm,0.9s,mb4.0						
KURK	Kurchatov	41.12	347	P	P	13 10 16.1	+0.1
	comp=Z,3.6nm,1.0s,mb4.0						
ZAL	Zalesovo	43.28	354	P	P	13 10 34.5	+0.8
	comp=Z,1.4nm,0.5s,mb4.0,baz=70,slow=2.3,SNR=3.0						
FITZ	Fitzroy Crossi	44.28	130	P	P	13 10 42.6	+0.4
	comp=Z,5.2nm,0.7s,mb4.4,baz=342,slow=10,SNR=4.9						
FITZ				PcP	PcP	13 12 27.3	+0.5
	comp=Z,2.4nm,0.8s,baz=327,slow=4.7,SNR=3.3						
BVAR	Borovoye Array	45.35	342	P	P	13 10 50.7	+0.4
	comp=Z,0.8nm,0.6s,mb3.7,baz=162,slow=9.8,SNR=4.4						
WRA	Warramunga Arr	52.07	126	P	P	13 11 42.4	-0.3
	comp=Z,0.7nm,0.4s,mb4.0,baz=308,slow=8.2,SNR=12						
WRA				PcP	PcP	13 12 55.3	+0.7
	comp=Z,0.8nm,1.1s,baz=308,slow=3.2,SNR=4.7						
BRTR	Keskin Array B	58.56	310	P	P	13 12 29.9	+0.5
	comp=Z,0.6nm,0.4s,mb4.0,baz=117,slow=8.3,SNR=4.7						
STKA	Stephens Creek	64.01	133	*e*P	P	13 13 00.9	-5.4
FINES	FINESS Array B	68.88	332	P	P	13 13 37.4	+0.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=4.2,SNR=4.7						
ARCES	ARCESS Array B	71.59	340	P	P	13 13 53.7	+0.6
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=7.2,SNR=5.6						
ARCES	ARCESS Array B	71.59	340	P	P	13 13 53.7	+0.6
CFAA	Coronel Fontan	152.17	219	PKPbc	PKPdf	13 22 30.0	+11
	comp=Z,0.2nm,0.5s,baz=180,slow=5.3,SNR=3.6						

*IDC **01** 13:16:51.2±1.1, 36.11N×69.18E, mb4.0/9, mb1 4.2/11, mb1mx4.0/20, mbtmp4.0/11, ML4.0/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/29, Error ellipse: s-maj=24.9km s-min=19.2km az=43.0*
*BJI **01** 13:16:52.9, 36.51N×68.82E, h22km, mb4.7, ML4.4, Ms4.3, Msz4.3*
*NEIC **01** 13:16:53.0±0.7, 36.28N×69.12E, h10km, mb4.5/12, Error ellipse: s-maj=15.1km s-min=7.5km az=50.0*
*MOS **01** 13:16:55.3±1.3, 36.40N×69.19E, h33km, mb4.7/12, Error ellipse: s-maj=9.3km s-min=5.7km az=87.2*
*NNC **01** 13:17:04.7±5.2, 36.88N×69.00E, h114km±60km, mpv4.4, Error ellipse: s-maj=39.1km s-min=29.4km az=32.0*
ISC 01 13:16:57.4±0.6**, 36.46N**±0.03×**69.14E**±0.06**, h50**km±6km**, n98, σ1ˢ39**/115**, mb4.3**/21**, MS3.7**/11**, 15C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
CEP	Cherat	3.48	138	⇑P	P	13 17 52.5	+2.1
THW	Thamme Wali	4.24	149	⇑P	P	13 18 04.2	+3.0
SBDP	Sheikh Budin	4.38	161	P	P	13 18 03.5	+0.4
CHCP	Chirah Chowk	4.39	128	⇓P	P	13 18 04.2	+0.9
SARP	Sargodha	5.39	146	P	P	13 18 16.8	-0.5
SARP				S	S	13 19 18.0	-0.9
KSH	Kashi	6.20	58	⇓*i*P	P	13 18 30.1	+1.6
KSH				S	S	13 19 44.1	+5.2
KSH				Smax			
	comp=N,210nm,0.6s						
KSH				Smax			
	comp=E,210nm,0.4s						
AML	Almayashu	6.67	31	P	P	13 18 36.5	+1.3
	SNR=54						
KK31	Karatay Array	6.71	9	Pn	P	13 18 36.2	+0.4
	comp=E,20nm,0.7s,baz=182,slow=11,SNR=172						
KK31				⇑Sn	S	13 19 50.3	-1.5
	comp=E,36nm,0.4s,baz=196,slow=28						
KK31				⇑Lg		13 20 26.6	
	comp=E,77nm,0.8s,baz=191,slow=28,SNR=4.2						
KK31	Karatay Array	6.71	9	Pn	P	13 18 36.2	+0.4
	comp=E,20nm,0.6s						
KK31				Sn	S	13 19 50.3	-1.5
KK31				Lg		13 20 26.6	
KKAR	Karatay Array	6.71	9	*i* PN	P	13 18 36.2	+0.4
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
UCH	Uchtor	7.10	34	P	P	13 18 42.6	+1.4
	SNR=76						
EKS2	Erkin-Say	7.15	29	P	P	13 18 43.2	+1.3
	SNR=15						
KZA	Kyzart	7.34	38	P	P	13 18 45.2	+0.7
	SNR=59						
AAK	Ala-Archa	7.42	32	P	P	13 18 46.9	+1.3
	SNR=26						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.42	32	*e*Pn	P	13 18 45.8	+0.2
	comp=Z,44nm,0.6s						
AAK				*e*Sn	S	13 19 52.8	-16
AAK	Ala-Archa	7.42	32	*e*P	P	13 18 45.8	+0.2
AAK				pmax	pmax		
	comp=Z,44nm,0.6s						
KBK	Karagaybulak	7.64	34	P	P	13 18 50.1	+1.5
	SNR=10						
CHMS	Chumysh	7.83	32	P	P	13 18 51.9	+0.7
	SNR=33						
BHK	Bhakra	7.86	128	*e*x	x	13 18 59.0	
BHK				*e*S	S	13 20 11.0	-9.3
USP	Ospenovka	7.94	30	P	P	13 18 53.0	+0.1
	SNR=26						
ULHL	Ulahol	7.97	41	P	P	13 18 53.9	+0.6
	SNR=29						
TKM2	Tokmak 2	8.14	36	P	P	13 18 56.2	+0.6
	SNR=44						
KLP	Kalpa	9.02	120	*e*P	P	13 19 07.6	-0.1
KLP				*e*x	x	13 20 50.8	
KHET	Khetri	10.09	144	*e*P	P	13 19 24.1	+1.8
KHET				*e*S	S	13 21 06.5	-8.7
BHGR	Bahadurgarh	10.16	138	*e*P	P	13 19 21.4	-2.0
BHGR				*e*x	x	13 21 12.6	
NDI	New Delhi	10.32	136	*e*P	P	13 19 22.0	-3.6
NDI				*e*S	S	13 21 13.0	-7.8
AYAN	Aya Nagar	10.43	137	*e*P	P	13 19 23.5	-3.5
AYAN				*e*S	S	13 21 16.5	-6.9
SONA	Sohna	10.59	138	*e*P	P	13 19 25.3	-3.8
SONA				*e*x	x	13 21 21.0	
SONA				AML	AML	13 21 55.1	
	comp=N,17nm,0.4s						
SONA				AML	AML	13 21 55.1	
	comp=E,45nm,0.5s						
AJM	Ajmer	11.00	153	*e*P	P	13 19 36.0	+1.2
AGRA	Agra	11.86	138	*e*P	P	13 19 42.7	-3.7
AGRA				*e*S	S	13 21 49.3	-8.8
AGRA				AML	AML	13 23 30.5	
	comp=N,61nm,0.4s						
AGRA				AML	AML	13 23 31.3	
	comp=E,82nm,0.3s						
MK02	Makanchi Array	14.23	40	⇑P	P	13 20 16.3	-1.3
MK02				pmax	pmax		
	comp=Z,11nm,0.9s						
MK31	Makanchi Array	14.23	39	⇑Pn	P	13 20 16.3	-1.4
	comp=Z,11nm,0.9s,baz=222,slow=17,SNR=43						
MKAR	Makanchi Array	14.23	39	Pn	P	13 20 16.0	-1.6
	comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=22						
AB31	Akbulak array	14.44	335	⇑Pn	P	13 20 17.4	-2.9
	comp=Z,14nm,0.7s,baz=150,slow=12,SNR=134						
AB31				⇓Sn	S	13 22 50.4	-9.2
	comp=Z,3.0nm,0.5s						
KOLN	Koldanda	14.99	121	*e*P	P	13 20 24.0	-3.7
	comp=Z,26nm,0.6s						
GKN	Gorkha	15.58	118	*e*P	P	13 20 33.8	-1.4
	comp=Z,53nm,0.4s						
KURK	Kurchatov	15.79	23	Pn	P	13 20 33.5	-4.3
KURK				*e*P		13 20 34.4	
KURK				*e*		13 20 41.1	
AKTK	Aktyubinsk	16.11	334	⇓Pn	P	13 20 40.7	-1.0
AKTK				Sn	S	13 23 33.0	-5.4
AKTO	Aktyubinsk	16.11	334	⇓Pn	P	13 20 40.7	-1.0
	comp=Z,1.7nm,0.9s						
AKTO				⇓Sn	S	13 23 33.0	-5.4
	comp=Z,2.2nm,1.3s						
DMN	Daman	16.14	119	*e*P	P	13 20 38.0	-4.4
	comp=Z,49nm,0.6s						
KKN	Kakani	16.16	118	*e*P	P	13 20 39.3	-3.3
	comp=Z,76nm,0.6s						
KKN	Kakani	16.16	118	*e*P	P	13 20 39.3	-3.3
KKN				pmax	pmax		
	comp=Z,38nm,0.6s						
VOSK	Vostochnaya	16.31	4	⇑Pn	P	13 20 43.2	-1.1
	comp=Z,6.8nm,1.0s						
VOSK				⇓Sn	S	13 23 38.0	-5.1
	comp=Z,2.5nm,0.6s						
VOSK	Vostochnaya	16.31	4	⇑Pn	P	13 20 43.2	-1.1
	comp=Z,6.8nm,1.0s						
VOSK				Sn	S	13 23 38.0	-5.2
VOSK	Vostochnaya	16.31	4	⇑P	P	13 20 43.2	-1.1
VOSK						13 23 38.0	
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PKI	Pulchoki	16.38	118	*e*P	P	13 20 41.1	-4.3
	comp=Z,62nm,0.5s						
PKI	Pulchoki	16.38	118	*e*P	P	13 20 41.1	-4.3
PKI				pmax	pmax		
	comp=Z,31nm,0.5s						
BVA0	Borovoye Array	16.58	3	⇑Pn	P	13 20 45.5	-2.2
	comp=Z,1.2nm,0.9s,baz=173,slow=14,SNR=33						
BVA0				⇑Sn	S	13 23 42.7	-6.7
	comp=Z,1.3nm,1.1s						
BVA0	Borovoye Array	16.58	3	⇑Pn	P	13 20 45.5	-2.2
	comp=Z,1.2nm,0.9s						
BVA0				Sn	S	13 23 42.7	-6.7
BVA0	Borovoye Array	16.58	3	⇑P	P	13 20 45.5	-2.2
BVA0						13 23 42.7	
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	Borovoye Array	16.58	3	Pn	P	13 20 45.7	-2.0
	comp=Z,0.7nm,0.3s,baz=174,slow=9.6,SNR=12						
BVAR				Sn	S	13 23 47.8	-1.6
	comp=Z,0.6nm,0.3s,baz=176,slow=23,SNR=4.7						
BRVK	Borovoye	16.61	2	*e*P	P	13 20 45.7	-2.3
	comp=Z,6.0nm,0.7s						
BRVK	Borovoye	16.61	2	*e*P	P	13 20 45.7	-2.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GNI	Garni	19.48	288	*i* P	P	13 21 25.2	+2.4
GNI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	Lhasa	19.61	104	P	P	13 21 26.2	+1.8
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
LSA	Lhasa	19.61	104	*e*P	P	13 21 23.6	-0.8
	comp=Z,6.4nm,0.6s						
LSA	Lhasa	19.61	104	*e*P	P	13 21 23.6	-0.8
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZEI	Tsey	20.40	296	*e*P	P	13 21 31.9	-0.7
ZEI				*i* *PP		13 21 45.0	
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	Zalesovo	20.58	27	P	P	13 21 34.4	0.0
	comp=Z,6.8nm,0.4s,baz=251,slow=6.7,SNR=18						
ZAL				LR	LR	13 31 11.8	
	comp=Z,121nm,20.8s,MS3.2,baz=236,slow=41						
HYB	Hyderabad	20.72	154	*i* P	P	13 21 36.0	-0.1
NVS	Novosibirsk	20.78	23	⇑*i*P	P	13 21 35.4	-1.0
NVS				*e*		13 25 23.9	
NVS				pmax	pmax		
	comp=N,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NVS				smax			
	comp=N,21nm,1.5s						
NVS				smax			
	comp=E,12nm,1.3s						
SVE	Sverdlovsk	21.16	347	*e*P	P	13 21 51.0	+11
SVE				*e*		13 25 33.0	
SVE				MLR	MLR		
	comp=N,300nm,11.0s,MS4.0						
SVE				MLR	MLR		
	comp=E,200nm,11.0s,MS4.0						
SVE				MLR	MLR		
	comp=Z,500nm,11.0s,MS4.2						
ARU	Arti	21.21	344	*e*P	P	13 21 42.0	+1.2
	comp=Z,7.2nm,0.6s,mb4.2						
ARU	Arti	21.21	344	*e*P	P	13 21 42.0	+1.2
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
KIV	Kislovodsk	21.48	299	*e*P	P	13 21 43.4	-0.2
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
GTA	Gaotai	24.31	74	*e*P	P	13 22 14.2	+2.9
GTA				AP		13 22 21.1	
GTA				XP		13 22 25.0	
GTA				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.4						
GTA				LR	LR		
	comp=N,144nm,10.4s,MS4.1						
GTA				LR	LR		
	comp=E,329nm,10.4s,MS4.1						
GTA				LR	LR		
	comp=Z,182nm,8.9s						
ANN	Anapa	25.34	299	*e*P	P	13 22 22.0	+0.9
ANN				*e*		13 22 59.9	
ANN				pmax	pmax		
	comp=Z,34nm,1.2s,mb4.8						
ANN				MLR	MLR		
	comp=N,411nm,21.0s,MS4.0						
ANN				MLR	MLR		
	comp=E,299nm,21.0s,MS4.0						
ANN				MLR	MLR		
	comp=Z,297nm,21.0s,MS3.8						
ZAK	Zakamensk	28.15	50	*i* P	P	13 22 48.6	+1.8
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
OBN	Obninsk	29.00	320	*e*P	P	13 22 54.4	0.0
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
SONM	Songino Array	29.59	56	P	P	13 23 01.2	+1.5
	comp=Z,4.8nm,0.8s,mb4.2,baz=263,slow=8.8,SNR=29						
SONM				PcP	PcP	13 26 02.9	-0.8
	comp=Z,0.5nm,0.6s,baz=270,slow=4.3,SNR=3.0						
SONM				LR	LR	13 36 34.9	
	comp=Z,162nm,21.0s,MS3.6,baz=235,slow=40						
ULN	Ulaanbaatar	30.03	56	*e*P	P	13 23 04.8	+1.2
	comp=Z,5.8nm,0.8s,mb4.4						
ULN	Ulaanbaatar	30.03	56	*e*P	P	13 23 04.8	+1.2
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
AKASG	Malin Array Be	31.81	309	P	P	13 23 20.1	+0.8
	comp=Z,1.5nm,0.6s,mb4.0,baz=86,slow=7.2,SNR=8.3						
CIT	Chita	34.81	49	*e*P	P	13 23 45.8	+0.6
BOD	Bodaibo	36.33	40	*e*P	P	13 23 58.4	+0.4
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
FINES	FINESS Array B	36.69	327	P	P	13 24 02.4	+1.4
	comp=Z,0.6nm,0.5s,mb3.7,baz=117,slow=8.5,SNR=5.1						
ARCES	ARCESS Array B	40.61	338	P	P	13 24 33.7	+0.1
	comp=Z,1.3nm,0.8s,mb3.6,baz=114,slow=8.9,SNR=3.3						
ARCES				LR	LR	13 41 31.1	
	comp=Z,36nm,20.0s,MS3.2,baz=97,slow=36						
NJ2	Nanjing	40.96	81	*e*P	P	13 24 40.1	+3.3
NJ2				PP	PP	13 26 19.0	+4.3
NJ2				S	S	13 30 47.0	+2.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				LR	LR		
	comp=N,1µm,15.4s						
NJ2				LR	LR		
	comp=E,1µm,14.9s						
NJ2				LR	LR		
	comp=Z,840nm,15.8s,MS4.7						
GERES	GERESS Array B	41.73	305	LR	LR	13 43 55.2	
	comp=Z,54nm,19.0s,MS3.4,baz=350,slow=39						
KULM	Kulim	42.39	129	P	P	13 24 43.0	-5.8
SSE	Sheshan	43.16	81	*e*P	P	13 24 55.5	+0.6
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.1						
SSE	Sheshan	43.16	81	*e*P	P	13 24 55.5	+0.6
	comp=Z,28nm,0.7s,mb5.1						
NB2	NORSAR Subarra	43.51	323	P	P	13 24 57.8	+0.5
	comp=Z,3.7nm,0.9s,mb4.1,baz=99,slow=7.9						
NB2	NORSAR Subarra	43.51	323	P	P	13 24 57.8	+0.5
NB2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
NOA	NORSAR Array B	43.51	323	P	P	13 24 58.6	+1.3
	comp=Z,1.6nm,0.8s,mb3.8,baz=102,slow=8.0,SNR=5.5						
NOA				LR	LR	13 46 17.6	
	comp=Z,49nm,19.5s,MS3.4,baz=285,slow=40						
YAK	Yakutsk	44.87	36	*e*P	P	13 25 09.0	+0.8
	comp=Z,18nm,0.9s,mb4.9						
YAK	Yakutsk	44.87	36	*e*P	P	13 25 09.0	+0.8
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
TIXI	Tiksi	46.37	22	*e*P	P	13 25 17.9	-2.1
TIXI				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
MJAR	Matsushiro Arr	54.36	68	P	P	13 26 19.9	-1.4
	comp=Z,0.3nm,0.4s,mb3.5,baz=298,slow=10,SNR=4.3						
SEY	Seymchan	55.28	34	*i* P	P	13 26 28.3	+0.7
ILAR	Eielson Array	75.21	15	P	P	13 28 36.9	+1.0
	comp=Z,2.2nm,0.9s,mb4.1,baz=315,slow=5.1,SNR=16						
DAWY	Dawson	77.29	12	*e*P	P	13 28 48.9	+1.3
DAWY				*e*		13 28 58.0	
SML	Sawmill	77.47	17	*e*P	P	13 28 49.5	+0.9
WRA	Warramunga Arr	83.25	121	P	P	13 29 18.9	-1.3
	comp=Z,0.8nm,0.5s,mb4.0,baz=328,slow=4.4,SNR=27						
WRAB	Tennant Creek	83.25	121	*e*P	P	13 29 18.2	-2.0
	comp=Z,7.3nm,0.9s,mb4.7						
WRAB	Tennant Creek	83.25	121	*e*P	P	13 29 18.2	-2.0
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
HNR	Honiara	96.17	97	P	P	13 30 21.1	-0.4
	comp=Z,32nm,0.3s,baz=309,slow=6.5,SNR=3.3						
HNR	Honiara	96.17	97	P	P	13 30 21.1	-0.4
HNR				pmax	pmax		
	comp=Z,32nm,0.3s						

NEIC 01 13:48:25.0, 33.17N×115.62W, h4km, ML3.6(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLA	Glamis	0.68	100	*e*P	Pg	13 48 37.2	-1.3
PFO	Pinyon Flat Ob	0.82	302	*e*P	Pb	13 48 40.0	-1.6
BAR	Barrett	1.01	241	*e*P	Pb	13 48 42.5	-2.2
LDFC	Landfair	1.95	12	*e*P	Pn	13 48 58.6	-0.6
MWC	Mount Wilson	2.29	298	*e*Pn	Pn	13 49 00.2	-3.9
GSC	Goldstone	2.34	336	*e*Pn	Pn	13 49 03.0	-1.8
NEN	Nelson	2.56	14	*e*Pn	Pn	13 49 07.0	-0.9
DAC	Darwin (Calif)	3.50	333	*e*Pn	Pn	13 49 18.8	-2.5
TUC	Tucson	4.17	101	Pn	Pn	13 49 26.4	-4.4
PTRM	Twissleman Ran	4.53	304	Pn	Pn	13 49 31.9	-4.1
MTUM	Tungsten Hills	4.82	331	Pn	Pn	13 49 36.7	-3.4
TPH	Tonopah	5.07	346	Pn	Pn	13 49 41.8	-1.7
MSU	Marysvale	6.02	27	*e*Pn	Pn	13 49 53.7	-3.3
TMUT	Trail Mountain	7.08	29	Pn	Pn	13 50 06.6	-5.3
SRU	San Rafael	7.22	33	Pn	Pn	13 50 10.9	-3.0
PV10	Paradox Valley	7.45	44	Pn	Pn	13 50 18.5	+1.3
ELK	Elko	7.57	2	Pn	Pn	13 50 17.9	-0.8
PV01	Paradox Valley	7.58	47	Pn	Pn	13 50 13.5	-5.4

*ECX **01** 13:50:09.5±0.5, 33.17N×115.62W, h3km, ML3.9*
*NEIC **01** 13:50:09.3, 33.17N×115.63W, h4km, ML3.7(PAS), After PAS.*
ISC 01 13:50:08.7±0.8**, 33.15N**±0.03×**115.61W**±0.05**, h12**km±7km**, n22, σ0.65**/23**, 2C-6D, Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRK	Frink	0.25	356	⇓*i*P	Pg	13 50 13.9	-0.2
COK	Cook Ranch	0.32	197	⇓*i*P	Pg	13 50 16.1	+0.7
CRR	Carrizo Plain	0.40	228	⇓*i*P	Pg	13 50 16.9	-0.1
COA	Coachella	0.50	125	⇑*i*P	Pb	13 50 19.1	+0.2
SGL	Mount Signal	0.51	191	⇓*i*P	Pb	13 50 18.8	-0.2
YUH	Yuha Desert	0.57	207	⇓*i*P	Pb	13 50 19.8	-0.3
YAQ	Yaqui Meadows	0.62	272	⇑*i*P	Pb	13 50 20.6	-0.2
GLA	Glamis	0.67	99	*e*P	Pb	13 50 21.4	-0.4
RMX	La Rumorosa	0.68	215	*e*P	Pb	13 50 22.3	+0.4
RMX				*e*S	Sb	13 50 31.6	+0.8
RMX				⇓*e*		13 50 35.2	
	comp=E,6µm,0.4s						
PFO	Pinyon Flat Ob	0.84	303	*e*P	Pb	13 50 23.9	-0.7
BAR	Barrett	1.01	242	*e*P	Pb	13 50 27.3	-0.3
CBX	Cerro Bola	1.22	227	*e*P	Pb	13 50 30.4	-0.7
ENX	Ensenada	1.55	215	*e*P	Pn	13 50 36.6	+0.4
PBX	Punta Banda	1.69	214	*e*P	Pn	13 50 38.6	+0.3
LDFC	Landfair	1.96	12	*e*Pn	Pn	13 50 43.2	+1.0
SPX	San Pedro Mart	2.11	177	*e*P	Pn	13 50 43.6	-0.6
MWC	Mount Wilson	2.30	298	Pn	Pn	13 50 46.8	-0.2
GSC	Goldstone	2.36	336	Pn	Pn	13 50 46.9	-0.9
NEN	Nelson	2.57	14	Pn	Pn	13 50 51.3	+0.5
DAC	Darwin (Calif)	3.52	333	Pn	Pn	13 51 06.4	+2.1
TUC	Tucson	4.16	100	Pn	Pn	13 51 12.8	-0.6
PTRM	Twissleman Ran	4.55	305	Pn	Pn	13 51 18.4	-0.6

*BJI **01** 13:50:18.4, 32.95N×116.52W, h2km, mB5.5, mb4.7, Ms4.5, Msz4.4*
*ECX **01** 13:50:20.9±0.4, 33.16N×115.60W, h3km, ML4.4*
*NEIC **01** 13:50:20.2, 33.18N×115.63W, ML4.4(PAS), After PAS.*
NEIC Felt [IV] at Brawley and [II] at El Centro.
*IDC **01** 13:50:21.8±1.3, 33.45N×114.13W, mb4.0/5, mb1 4.1/10, mb1mx4.0/25, mbtmp3.9/10, ML3.8/4, MS4.0/21, Ms1 4.0/21, ms1mx3.8/36, Error ellipse: s-maj=25.3km s-min=16.7km az=68.0*
ISC 01 13:50:19.0±1.1**, 33.22N**±0.03×**115.61W**±0.03**, h8**km±9km**, n92, σ1.23**/73**, mb4.2**/6**, MS4.0**/20**, 1C, Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRR	Carrizo Plain	0.45	222		Pg	13 50 28.2	+0.2
YAQ	Yaqui Meadows	0.62	266	*e*P	Pb	13 50 32.3	+0.7
YAQ				*e*S	Sb	13 50 41.1	+0.9
GLA	Glamis	0.68	104	*e*P	Pb	13 50 32.4	-0.1
GLA	Glamis	0.68	104	*e*P	Pb	13 50 32.3	-0.3
RMX	La Rumorosa	0.73	213	*e*P	Pb	13 50 33.5	0.0
RMX				*e*S	Sb	13 50 42.9	-0.4
RMX				⇑*e*		13 50 46.3	
	comp=E,13µm,0.8s						
PFO	Pinyon Flat Ob	0.81	299	*e*P	Pb	13 50 35.0	+0.3
BAR	Barrett	1.04	239	*e*P	Pb	13 50 38.6	-0.2
CBX	Cerro Bola	1.27	225	*e*P	Pb	13 50 42.1	-0.5
LDFC	Landfair	1.90	12	P	Pn	13 50 54.2	+2.2
MWC	Mount Wilson	2.27	297	Pn	Pn	13 50 56.7	-0.7
GSC	Goldstone	2.30	335	Pn	Pn	13 50 58.2	+0.5
NEN	Nelson	2.51	14	Pn	Pn	13 51 04.2	+3.5
DAC	Darwin (Calif)	3.46	332	Pn	Pn	13 51 17.6	+3.4
TUC	Tucson	4.17	101	*e*Pn	Pn	13 51 24.4	+0.1
PTRM	Twissleman Ran	4.51	304	Pn	Pn	13 51 30.7	+1.5
MTUM	Tungsten Hills	4.78	330	Pn	Pn	13 51 33.3	+0.3
TPH	Tonopah	5.02	345	Pn	Pn	13 51 35.4	-1.0
LRV	Little Rabbit	5.48	307	Pn	Pn	13 51 42.8	-0.1
NVAR	Mina Array Bea	5.64	338	Pn	Pn	13 51 54.6	+9.5
	comp=E,2.5nm,0.3s,baz=159,slow=18,SNR=5.0						
NVAR				Lg		13 53 27.4	
	baz=134,slow=31,SNR=2.6						
SAO	San Andreas Ge	5.96	308	Pn	Pn	13 51 48.9	-0.6
MSU	Marysvale	5.97	27	Pn	Pn	13 51 51.4	+1.6
CMB	Columbia Colle	6.18	322	Pn	Pn	13 51 50.5	-2.3
TMUT	Trail Mountain	7.03	29	*e*Pn	Pn	13 52 05.7	+1.0
PAHR	Pah Rah Range	7.15	336	Pn	Pn	13 52 07.4	+0.9
SRU	San Rafael	7.17	34	*e*Pn	Pn	13 52 08.6	+1.9
NLU	North Lily Min	7.30	22	*e*Pn	Pn	13 52 09.2	+0.7
BMN	Battle Mountai	7.31	350	Pn	Pn	13 52 06.9	-1.8
PV10	Paradox Valley	7.41	44	Pn	Pn	13 52 09.9	-0.2
MPU	Maple Canyon	7.50	24	Pn	Pn	13 52 10.8	-0.5
ELK	Elko	7.52	2	Pn	Pn	13 52 11.6	0.0
	comp=E,0.3nm,0.3s,baz=199,slow=18,SNR=2.3						
ELK				Lg		13 54 10.5	
	comp=E,0.4nm,0.3s,baz=87,slow=17,SNR=1.9						
ELK				LR	LR	13 55 32.7	
	comp=E,1µm,18.3s,baz=182,slow=42						
ELK	Elko	7.52	2	*e*Pn	Pn	13 52 11.9	+0.3
OHCM	Honcut	7.73	324	Pn	Pn	13 52 14.5	0.0
ANMO	Albuquerque	7.78	75	Lg		13 53 48.5	
	baz=332,slow=6.4,SNR=3.3						
ANMO	Albuquerque	7.78	75	Pn	Pn	13 52 15.3	+0.1
DAU	Daniels Canyon	7.98	25	Pn	Pn	13 52 16.4	-1.7
CTU	Camp Tracy	8.07	21	Pn	P	13 52 21.5	+2.2
JLU	Jordanelle	8.09	23	Pn	P	13 52 20.6	+1.1
TCUT	Toone Canyon	8.57	22	Pn	P	13 52 26.3	+0.1
MNTX	Cornudas Mount	8.77	97	Pn	P	13 52 26.6	-2.4
HVU	Hansel Valley	8.84	14	Pn	P	13 52 30.5	+0.6
HWUT	Hardware Ranch	8.97	20	Pn	P	13 52 33.1	+1.4
SDCO	Great Sand Dun	9.40	58	Pn	P	13 52 37.1	-0.6
AHID	Auburn Hatcher	10.17	19	Pn	P	13 52 46.4	-1.9
YBH	Yreka Blue Hor	10.20	328	Pn	P	13 52 57.8	+9.1
	comp=E,0.1nm,0.3s,baz=156,slow=12,SNR=2.6						
YBH				Lg		13 55 49.6	
	comp=E,0.1nm,0.3s,baz=84,slow=18,SNR=2.2						
YBH				LR	LR	13 56 39.6	
	comp=E,609nm,19.3s,baz=152,slow=35						
PDAR	Pinedale Array	10.66	25	Pn	P	13 52 49.3	-5.6
	comp=E,0.1nm,0.3s,baz=208,slow=15,SNR=9.3						
PDAR				Lg		13 55 50.0	
	baz=192,slow=14,SNR=3.0						
RRI2	Red Ridge	10.66	17	Pn	P	13 52 50.1	-4.9
REDW	Red Top Meadow	10.79	19	Pn	P	13 52 57.4	+0.6
TPAW	Teton Pass	10.88	18	Pn	P	13 52 56.5	-1.6
TXAR	Lajitas Array	10.93	108	Pn	P	13 52 51.2	-7.4
	baz=284,slow=11,SNR=2.3						
TXAR				Lg		13 55 57.6	
	comp=E,0.1nm,0.3s,baz=298,slow=21,SNR=2.7						
TXAR				LR	LR	13 57 18.3	
	comp=E,1µm,20.1s,baz=290,slow=42						
LOHW	Long Hollow	11.09	19	Pn	P	13 52 58.8	-2.1
IMW	Indian Meadow	11.27	18	Pn	P	13 53 01.6	-1.8
MCMT	McKenzie Canyo	11.79	10	*e*Pn	P	13 53 08.6	-1.8
YMR	Madison River	11.99	16	Pn	P	13 53 12.9	-0.2
DLMT	Dillon	12.35	10	Pn	P	13 53 15.6	-2.3
CHMT	Chamberlain Mo	13.80	7	Pn	P	13 53 36.4	-0.7
NEW	Newport	15.07	356	Pn	P	13 53 57.8	+4.0
	comp=E,0.4nm,0.3s,baz=176,slow=12,SNR=2.6						
NEW	Newport	15.07	356	Pn	P	13 53 58.0	+4.2
LAO	LASA Array	15.24	25	Pn	P	13 53 57.3	+1.3
WALA	Waterton Lakes	15.88	4	Pn	P	13 54 03.3	-0.9
NATX	Nacogdoches	17.73	89	*e*Pn	P	13 54 28.8	+1.0
EDM	Edmonton	20.06	4	P	P	13 54 53.6	-1.7
FVM	French Village	21.00	70	P	P	13 55 03.9	-1.2
SLM	Saint Louis	21.22	68	P	P	13 55 09.8	+2.5
ULM	Lac du Bonnet	22.39	35	LR	LR	14 04 23.8	
	comp=E,141nm,21.4s,MS3.4,baz=36,slow=39						
WVT	Waverly	23.00	75	P	P	13 55 27.1	+1.9
DLBC	Dease Lake	27.03	343	P	P	13 56 07.3	+4.2
	comp=E,4.2nm,0.9s,mb4.0,baz=166,slow=3.9,SNR=6.6						
DLBC				LR	LR	14 06 58.1	
	comp=E,408nm,18.8s,MS4.0,baz=302,slow=37						
SADO	Sadowa	30.36	57	LR	LR	14 09 21.9	
	comp=E,520nm,20.4s,MS4.2,baz=89,slow=39						
INK	Inuvik	36.61	349	P	P	13 57 30.8	+3.7
	comp=E,4.5nm,1.1s,mb4.2,baz=133,slow=7.6,SNR=4.5						
ILAR	Eielson Array	36.90	338	P	P	13 57 33.9	+4.3
	comp=E,2.9nm,0.9s,mb4.1,baz=150,slow=6.3,SNR=17						
SCHQ	Schefferville	40.15	42	LR	LR	14 15 54.9	
	comp=E,83nm,18.5s,MS3.6,baz=262,slow=39						
ROSC	El Rosal	47.66	117	LR	LR	14 22 14.2	
	comp=E,80nm,18.1s,MS3.7,baz=219,slow=41						
FX1	Attu Island--F	53.33	314	LR	LR	14 17 11.9	
	comp=E,3.9nm,21.1s,baz=272,slow=30						
PPT	Papeete	60.02	218	LR	LR	14 20 18.4	
	comp=E,127nm,18.9s,MS4.1,baz=131,slow=30						
JMIC	Jan Mayen	64.25	20	LR	LR	14 27 49.2	
	comp=E,86nm,20.9s,MS3.9,baz=237,slow=35						
LPAZ	La Paz	66.91	130	LR	LR	14 30 18.5	
	comp=E,74nm,18.9s,MS3.9,baz=1.6,slow=36						
AFI	Afiamalu	71.16	238	LR	LR	14 27 55.7	
	comp=E,104nm,19.4s,MS4.1,baz=45,slow=31						
ARCES	ARCESS Array B	73.69	13	LR	LR	14 35 16.0	
	comp=E,102nm,18.6s,MS4.1,baz=254,slow=37						
NOA	NORSAR Array B	76.60	24	LR	LR	14 37 22.4	
	comp=E,50nm,19.0s,MS3.9,baz=115,slow=37						
FINES	FINESS Array B	80.67	18	LR	LR	14 38 44.6	
	comp=E,51nm,19.1s,MS3.9,baz=339,slow=36						
BDFB	Brasilia	80.69	115	LR	LR	14 42 14.6	
	comp=E,55nm,18.1s,MS4.0,baz=256,slow=39						
MJAR	Matsushiro Arr	82.24	309	LR	LR	14 35 12.8	
	comp=E,115nm,20.8s,MS4.2,baz=70,slow=32						
MDJ	Mudanjiang	82.50	319	P	P	14 02 43.0	-0.2
MDJ				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
MDJ				LR	LR		
	comp=N,9.0nm,16.1s						
MDJ				LR	LR		
	comp=E,50nm,24.8s						
MDJ				LR	LR		
	comp=Z,60nm,17.5s,MS4.0						
GERES	GERESS Array B	86.65	31	LR	LR	14 46 02.7	
	comp=Z,66nm,18.3s,MS4.1,baz=147,slow=39						
AKASG	Malin Array Be	90.86	21	P	P	14 03 24.5	+0.6
	comp=Z,0.2nm,0.3s,mb3.9,baz=331,slow=3.5,SNR=4.1						
AKASG	Malin Array Be	90.86	21	P	P	14 03 24.5	+0.6
SONM	Songino Array	90.96	333	P	P	14 03 29.4	+4.9
	comp=Z,0.2nm,0.4s,mb3.8,baz=27,slow=3.2,SNR=3.6						
SONM				LR	LR	14 43 23.1	
	comp=Z,115nm,21.0s,MS4.3,baz=283,slow=35						
ZAL	Zalesovo	91.42	348	LR	LR	14 48 48.2	
	comp=Z,138nm,19.2s,MS4.4,baz=200,slow=38						
SSE	Sheshan	96.52	314	*e*P	P	14 03 50.2	-0.2
MKAR	Makanchi Array	98.74	348	LR	LR	14 50 33.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,70nm,21.1s,MS4.1,baz=4.4,slow=37						
WMQ	Urumqi	100.43	343	eP	P	14 04 11.0	+3.2
LZH	Lanzhou	101.80	328	eP	P	14 04 12.6	-1.5
LZH				AP		14 04 15.7	
LZH				XP		14 04 17.3	
LZH				ePP	PP	14 08 25.2	-2.2
LZH				AMB	AMB		
	comp=Z,63nm,7.4s						
LZH				LR	LR		
	comp=N,201nm,16.0s						
LZH				LR	LR		
	comp=Z,275nm,18.5s,MS4.8						
MAW	Mawson	145.56	179	PKPbc	PKPbc	14 09 59.0	+1.6
	comp=Z,6.6nm,1.0s,baz=189,slow=5.7,SNR=7.4						

KRSC 01 14:08:13.1±0.4**,52.62N**×**159.92E,h56**^{km}±7^{km}**,ML3.8,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.48	7	i P	P	14 08 25.3	+0.7
SPN				i S	S	14 08 34.1	+1.1
NLC	Nalytchevo	0.65	328	i P	P	14 08 27.3	+0.7
NLC				i S	S	14 08 37.9	+1.3
PET	Petropavlovsk	0.87	298	i P	P	14 08 29.5	+0.1
PET				i S	S	14 08 41.4	-0.2
RUS	Russkaya	0.88	258	i P	P	14 08 29.2	-0.3
RUS				i S	S	14 08 40.8	-1.0
UGLR	Uglovaya	0.89	312	i P	P	14 08 30.6	+1.0
UGLR				i S	S	14 08 43.3	+1.3
SDLR	Sedlovina	0.91	317	i P	P	14 08 30.6	+0.7
SDLR				i S	S	14 08 43.5	+1.0
SMAR	Somma	0.94	314	eP	P	14 08 30.9	+0.6
SMAR				eS	S	14 08 43.6	+0.5
AVH	Avacha	0.96	313	i P	P	14 08 31.7	+1.0
AVH				i S	S	14 08 44.7	+0.9
KOK	Koryaka	1.03	311	eP	P	14 08 32.5	+0.9
KOK				eS	S	14 08 47.0	+1.7
KRMR	Karymshinskiy	1.11	282	i P	P	14 08 32.5	-0.2
KRMR				i S	S	14 08 46.6	-0.7
GRL	Gorelyy	1.13	267	i P	P	14 08 33.5	+0.5
GRL				i S	S	14 08 48.2	+0.5
KII	Karymskiy	1.45	349	i P	P	14 08 38.3	+0.8
KII				i S	S	14 08 57.2	+1.6
GNL	Ganaly	1.61	313	eP	P	14 08 40.3	+0.6
GNL				eS	S	14 08 59.7	+0.3
APC	Apacha	1.71	281	i P	P	14 08 41.6	+0.5
APC				i S	S	14 09 02.9	+1.1
APC				Smax			
	70nm,0.7s						
MIPR	Malaya Ipel'ka	1.97	261	eP	P	14 08 44.9	+0.2
MIPR				eS	S	14 09 08.7	+0.6
MKZ	Mys Kozlova	2.22	28	eP	P	14 08 47.9	-0.4
MKZ				eS	S	14 09 13.3	-1.2
PAU	Pauzhetka	2.24	240	eP	P	14 08 50.6	+2.0
PAU				eS	S	14 09 18.4	+3.3
PAU				Smax			
	70nm,0.3s						
SKR	Severo-Kuril's	3.06	232	eS	S	14 09 28.3	-7.6
KMNR	Kamenistaya	3.15	3	eP	P	14 09 01.8	+0.3
KMNR				eS	S	14 09 37.8	-0.3
ESO	Esso	3.39	348	i P	P	14 09 05.3	+0.4
ESO				eS	S	14 09 43.3	-0.8
KOZ	Kozyrevsk	3.44	360	eP	P	14 09 06.2	+0.5
KOZ				eS	S	14 09 45.1	-0.5
KBTR	Krutoberegovo	3.97	24	eP	P	14 09 13.5	+0.4
KBTR				eS	S	14 09 57.6	-1.3
BKI	Bering	4.42	52	eP	P	14 09 17.4	-1.9
BKI				eS	S	14 10 03.8	-6.2
BKI				Smax			
	10.0nm,0.3s						

*IDC **01** 14:13:06.3±1.8,30.72N×67.56E,mb3.9/5,mb1 4.0/6, mb1mx3.7/21,mbtmp3.9/6,ML4.1/1,Error ellipse: s-maj=47.5km s-min=29.2km az=60.0*
*NEIC **01** 14:13:07.8±1.8,30.21N×68.27E,h55^{km},mb3.8/3,Error ellipse: s-maj=31.9km s-min=10.4km az=220.0*
*MOS **01** 14:13:09.6±3.0,30.62N×68.55E,h33^{km},mb4.0/2,Error ellipse: s-maj=22.4km s-min=16.0km az=74.0*
ISC 01 14:13:04.2±4.2**,30.2N**±0.2×**68.2E**±0.2**,h31**^{km}±33^{km}**,n18,** σ**0**^{s}**99**/19**,mb3.8**/6**,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	13.35	20	eP	P	14 16 13.0	-1.2
	3.4nm,0.4s						
AAK	Ala-Archa	13.35	20	eP	P	14 16 13.0	-1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KOLN	Koldanda	13.68	97	eP	P	14 16 19.6	+0.9
	comp=Z,16nm,0.8s						
KOLN				eS	S	14 18 50.1	-0.4
GKN	Gorkha	14.52	95	eP	P	14 16 29.4	-0.3
	comp=Z,6.6nm,0.3s						
DMN	Daman	15.02	96	eP	P	14 16 36.6	+0.4
	comp=Z,4.0nm,0.4s						
KKN	Kakani	15.12	95	eP	P	14 16 36.7	-0.9
	comp=Z,12nm,0.6s						
KKN	Kakani	15.12	95	eP	P	14 16 36.7	-0.9
KKN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PKI	Pulchoki	15.29	96	eP	P	14 16 39.9	+0.2
	comp=Z,5.9nm,0.6s						
PKI	Pulchoki	15.29	96	eP	P	14 16 39.9	+0.2
PKI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	19.80	30	P	P	14 17 35.3	+0.1
	comp=Z,0.5nm,0.3s,baz=211,slow=11,SNR=20						
KURK	Kurchatov	21.89	18	eP	P	14 17 56.2	-0.2
	comp=Z,3.9nm,0.8s,mb3.9						
KURK	Kurchatov	21.89	18	eP	P	14 17 56.2	-0.2
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
BVAR	Borovoye Array	22.82	3	P	P	14 18 07.6	+2.0
	comp=Z,1.4nm,0.5s,mb3.7,baz=178,slow=11,SNR=9.2						
ZAL	Zalesovo	26.55	22	P	P	14 18 44.4	+3.3
	comp=Z,2.9nm,0.4s,mb4.2,baz=273,slow=6.2,SNR=6.4						
FINES	FINESS Array B	41.60	331	P	P	14 20 49.5	-1.2
	comp=Z,0.4nm,0.4s,mb3.4,baz=102,slow=13,SNR=3.0						
ARCES	ARCESS Array B	46.15	341	P	P	14 21 27.1	-0.3
	comp=Z,1.6nm,0.5s,mb4.2,baz=131,slow=7.7,SNR=17						
WRA	Warramunga Arr	80.81	119	P	P	14 25 26.3	+9.4
	comp=Z,0.6nm,1.0s,mb3.5,baz=326,slow=4.7,SNR=7.0						
WRA	Warramunga Arr	80.81	119	P	P	14 25 26.3	+9.4
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						

*NEIC **01** 14:13:06.6±0.9,24.07S×66.86W,h184^{km}±12^{km},mb3.9/4, Error ellipse: s-maj=21.3km s-min=10.0km az=94.0*
*IDC **01** 14:13:06.9±1.4,24.10S×66.86W,h179^{km}±22^{km},mb2.9/1, mb1 3.2/7,mb1mx3.2/18,mbtmp3.7/7,Error ellipse: s-maj=26.6km s-min=16.5km az=111.0*
ISC 01 14:13:05.8±0.8**,24.11S**±0.05×**66.9W**±0.1**,h194**^{km}±12^{km}**, n18,**σ**1**^{s}**23**/23**,mb3.7**/3**,3C,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.39	308	P	P	14 13 50.2	+1.6
	8.6nm,0.3s,baz=115,slow=7.7,SNR=110						
LVC				S	S	14 14 21.2	-0.4
	18nm,0.3s,baz=360,slow=21,SNR=42						
LVC	Limon Verde	2.39	308	ePn	P	14 13 49.9	+1.3
LVC				P		14 13 50.2	
LVC				eSn	S	14 14 15.2	-6.4
LVC				S	S	14 14 21.2	-0.4
CFAA	Coronel Fontan	7.57	189	P	P	14 14 53.5	-0.7
	0.1nm,0.3s,baz=9.5,slow=12,SNR=7.7						
CFAA				S	S	14 16 12.5	-6.4
	0.3nm,0.3s,baz=239,slow=15,SNR=9.6						
LPAZ	La Paz	7.87	351	P	P	14 14 59.4	+1.3
	0.4nm,0.3s,baz=157,slow=11,SNR=9.7						
LPAZ				S	S	14 16 26.4	+0.5
	0.1nm,0.3s,baz=343,slow=20,SNR=2.6						
LPAZ	La Paz	7.87	351	ePn	P	14 14 59.0	+0.9
LPAZ				S	S	14 16 26.4	+0.5
SIV	San Ignacio	9.74	35	P	P	14 15 22.3	-0.3
	0.8nm,0.3s,baz=213,slow=16,SNR=9.6						
TRQA	Tornquist	14.52	164	eP	P	14 16 21.5	-1.8
	2.4nm,0.6s						
SAML	Samuel	15.48	14	eP	P	14 16 33.6	-1.8
	1.1nm,0.8s						
PLCA	Paso Flores	16.86	190	P	P	14 16 51.5	-0.5
	0.1nm,0.3s,baz=15,slow=14,SNR=3.1						
PLCA	Paso Flores	16.86	190	P	P	14 16 51.5	-0.5
BDFB	Brasilia	19.62	68	P	P	14 17 22.2	+0.9
	0.9nm,0.3s,baz=251,slow=12,SNR=11						
SDV	Santo Domingo	32.99	353	P	P	14 19 22.4	-2.2
	5.9nm,0.9s,mb4.1						
VNA3	Neumayer Olymp	57.01	161	⇑i	P	14 22 34.2	+1.1
VNA1	Neumayer--Stat	57.21	160	⇑i	P	14 22 35.4	+1.0
VNA2	Neumayer--Watz	57.58	160	⇑i	P	14 22 38.3	+1.3
SNAA	Sanae	59.21	161	P	P	14 22 49.0	+0.7
	0.3nm,0.7s,mb3.0,baz=270,slow=10,SNR=5.3						
WVT	Waverly	63.10	341	P	P	14 23 12.9	-2.0
	2.4nm,0.8s,mb3.9						
WRA	Warramunga Arr	131.59	207	PKP	PKPdf	14 31 58.6	+2.4
	0.2nm,0.4s,baz=155,slow=1.9,SNR=8.3						

WEL 01 14:16:41.2±0.3**,37.61S**×**176.55E,h169**^{km}±3^{km}**,ML3.5**/15**, 1D,Error ellipse: s-maj=3.9km s-min=3.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.78	146	PN	P	14 17 06.0	-0.5
URZ				SN	S	14 17 25.7	-0.4
MWZ	Matawai	1.06	134	ePN	P	14 17 08.1	-0.3
MWZ				SN	S	14 17 29.4	0.0
MXZ	Matakaoa Point	1.39	89	PN	P	14 17 11.4	-0.1
MXZ				eSN	S	14 17 34.8	-0.1
PUZ	Puketiti	1.43	109	ePN	P	14 17 11.3	-0.6
PUZ				SN	S	14 17 34.6	-0.9
BKZ	Black Stump Fm	1.56	182	ePN	P	14 17 13.0	-0.2
BKZ				SN	S	14 17 36.7	-1.1
KNZ	Kokohu	1.66	148	PN	P	14 17 14.2	0.0
KNZ				SN	S	14 17 37.7	-2.1
CNZ	Chateau	1.77	206	PN	P	14 17 16.1	+0.7
WPVZ	Whakapapa	1.78	206	PN	P	14 17 15.9	+0.5
TUVZ	Tukino	1.80	203	PN	P	14 17 16.1	+0.5
DRZ	Dome Shelter	1.84	205	ePN	P	14 17 14.5	-1.5
MOVZ	Moawhango	1.90	199	PN	P	14 17 16.5	-0.2
MTVZ	Mangateitei	1.97	205	PN	P	14 17 17.7	+0.3
PXZ	Pawanui	2.43	174	⇓PN	P	14 17 22.2	-0.8
PXZ				SN	S	14 17 52.7	-2.4
WAZ	Wanganui	2.47	209	ePN	P	14 17 23.7	+0.3
WAZ				SN	S	14 17 56.7	+0.8
TSZ	Takapari Road	2.49	191	PN	P	14 17 22.6	-1.1
TSZ				SN	S	14 17 55.3	-1.0
MRZ	Mangatainoka R	3.14	194	PN	P	14 17 29.5	-2.2
KIW	Kapiti Island	3.49	201	PN	P	14 17 33.3	-2.9
MQZ	McQueen's Vall	6.77	205	eSN	S	14 19 24.9	-10

ISC 01 14:41:36.1±1.1**,37.06N**±0.07×**38.81E**±0.07**,h10**^{km}**,n6,** σ**1**^{s}**11**/9**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URFA	Urfa	0.38	1	i PG	Pg	14 41 42.6	-1.2
URFA				i SG	Sg	14 41 48.5	-0.5
GZT	Gaziantep	1.04	287	i P	Pb	14 41 55.7	0.0
GAZ	Gaziantep	1.29	275	PN	Pn	14 42 01.1	+1.0
ELZG	Elazig	1.44	5	i P	Pn	14 42 03.0	+0.7
ELZG				i S	Sb	14 42 22.0	+1.2
MARD	Mardin	1.59	80	i P	Pn	14 42 02.2	-2.2
MARD				i S	Sb	14 42 26.5	+1.3
PTK	Pertek	1.88	14	ePN	Pn	14 42 08.1	-0.6

*NEIC **01** 14:51:31.5,31.87S×69.65W,h140^{km},mb4.2/3, MD3.7(GUC),After GUC.*
GUC 01 14:51:31.5±0.8**,31.87S**×**69.65W,h140**^{km}±7^{km}**,MD3.7, ML3.8,8C-8D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZON	Zonda	0.89	69	⇓iP	P	14 51 53.7	-1.0
ZON				eS	S	14 52 09.0	-3.5
JACH	Jahuel	1.14	224	⇑iP	P	14 51 57.1	+0.2
JACH				i S	S	14 52 16.3	-0.1
MDZ	Mendoza	1.22	146	eP	P	14 51 55.0	-2.8
MDZ				i S	S	14 52 12.2	-5.7
PEL	Peldehue	1.54	214	i S	S	14 52 23.9	-0.1
FCH	Farellones	1.55	200	⇓iP	P	14 52 01.8	+0.5
FCH				i S	S	14 52 24.8	+0.7
FCH				AMP		14 52 26.2	
	comp=N,778nm,0.2s						
CHNG	Los Chungos	1.57	269	eP	P	14 52 01.8	+0.3
CHNG				i S	S	14 52 24.2	-0.3
CHNG				AMP		14 52 28.9	
	comp=E,266nm,0.6s						
ROCH	El Roble	1.59	226	⇑iP	P	14 52 01.9	+0.2
ROCH				i S	S	14 52 24.5	-0.4
PACH	Papudo	1.65	246	⇓iP	P	14 52 02.3	-0.1
PACH				i S	S	14 52 25.9	-0.2
CLCH	Cerro Calan	1.70	206	⇓iP	P	14 52 03.2	+0.3
CLCH				i S	S	14 52 26.9	0.0
CLCH				AMP		14 52 29.1	
	comp=E,2μm,0.7s						
CLCH				AMP		14 52 29.6	
	comp=E,2μm,0.8s						
DSCH	Colegio Aleman	1.71	207	⇓iP	P	14 52 03.5	+0.4
DSCH				i S	S	14 52 27.2	0.0
DSCH				AMP		14 52 28.8	
	comp=E,2μm,0.6s						
STL	Santa Lucia	1.77	208	eP	P	14 52 02.9	-0.9
STL				i S	S	14 52 27.7	-0.8
STL				AMP		14 52 28.9	
	comp=N,426nm,0.3s						
SAN	Santiago	1.79	208	i S	S	14 52 28.7	-0.3
SAN				AMP		14 52 29.9	
	comp=E,825nm,0.2s						
ANTU	Antumapu	1.89	206	i P	P	14 52 05.4	+0.3
ANTU				i S	S	14 52 31.2	+0.4
ANTU				AMP		14 52 32.2	
	comp=N,2μm,0.5s						
RCDM	Rinconada Maip	1.89	211	⇑iP	P	14 52 05.2	+0.2
RCDM				i S	S	14 52 31.1	+0.3
RCDM				AMP		14 52 32.0	
	comp=E,1μm,0.1s						
PCH	Pirque	1.89	202	⇓iP	P	14 52 05.5	+0.4
PCH				i S	S	14 52 31.7	+0.8
TLL	Tololo Astrono	1.96	329	⇑iP	P	14 52 06.7	+0.7
TLL				i S	S	14 52 33.1	+0.8
TLL				AMP		14 52 43.1	
	comp=E,414nm,0.4s						
LMEL	Las Melosas	2.03	193	eP	P	14 52 07.8	+1.1
LMEL				i S	S	14 52 36.0	+2.3
LMEL				AMP		14 52 42.5	
	comp=N,648nm,0.2s						
TACH	Talagante	2.08	211	⇑iP	P	14 52 07.2	-0.2
TACH				i S	S	14 52 34.3	-0.6
CHCH	Chadas Angostu	2.23	202	⇓iP	P	14 52 09.6	+0.3
CHCH				i S	S	14 52 38.4	+0.3
LCCH	Las Cruces	2.28	225	⇓iP	P	14 52 09.9	0.0
LCCH				i S	S	14 52 38.6	-0.7
CACH	El Canelo	2.38	199	⇑iP	P	14 52 11.8	+0.6
CACH				i S	S	14 52 42.2	+0.6
LSCH	La Serena	2.38	325	⇑iP	P	14 52 11.5	+0.2
LSCH				i S	S	14 52 41.0	-0.7
LSCH				AMP		14 52 41.6	
	comp=N,359nm,0.3s						
CICH	Cipreses	2.53	195	eP	P	14 52 12.7	-0.5
SFDO	San Fernando	2.97	202	⇑iP	P	14 52 18.3	-0.5
TRQA	Tornquist	8.82	137	ePn	P	14 53 32.1	-4.7
	comp=N,3.1nm,0.6s						
LVC	Limon Verde	9.24	4	eP	P	14 53 40.3	-2.2
	comp=N,7.0nm,1.0s						
CASY	Casey	82.17	180	P	P	15 03 39.4	+2.0
	comp=N,2.1nm,0.9s						

*IDC **01** 15:00:01.7±2.0,31.35S×177.33W,mb4.2/3,mb1 4.4/4, mb1mx4.0/15,mbtmp4.3/4,MS2.7/1,Ms1 2.7/1, ms1mx2.5/20,Error ellipse: s-maj=46.6km s-min=29.2km az=111.0*
ISC 01 14:59:57.8±2.4**,31.90S**±0.09×**176.6W**±0.4**,h33**^{km}**,n13,** σ**1**^{s}**32**/16**,mb4.2**/3**,1C,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.88	336	Pn	Pn	15 00 39.5	-3.1
	148nm,0.3s,baz=79,slow=12,SNR=16						
RAO				Sn	Sn	15 01 06.8	-10
	1μm,0.3s,baz=166,slow=21,SNR=13						
MXZ	Matakaoa Point	7.04	215	ePN	Pn	15 01 41.6	+0.2
PUZ	Puketiti	7.47	213	ePN	Pn	15 01 47.4	0.0
PUZ				SN	Sn	15 03 13.0	+1.1
MWZ	Matawai	8.03	215	ePN	P	15 01 54.8	-0.1
MWZ				eSN	Sn	15 03 25.6	-0.2
URZ	Urewera	8.18	217	Pn	P	15 01 56.3	-0.8
	0.6nm,0.3s,baz=303,slow=3.9,SNR=9.0						
URZ				Sn	Sn	15 03 28.2	-1.4
	3.1nm,0.3s,baz=295,slow=23,SNR=13						
URZ				LR	LR	15 04 44.9	
	comp=Z,53nm,21.2s,baz=353,slow=34						
URZ	Urewera	8.18	217	ePN	P	15 01 57.5	+0.4
URZ				eSN	Sn	15 03 27.6	-2.0
BKZ	Black Stump Fm	9.18	216	ePN	P	15 02 09.6	-1.4
CTA	Charters Tower	35.25	280	P	P	15 06 53.4	+1.9
	5.2nm,0.9s,mb4.5,baz=100,slow=11,SNR=4.2						
STKA	Stephens Creek	35.35	259	P	P	15 06 54.9	+2.6
	0.6nm,0.4s,mb3.9,baz=96,slow=12,SNR=4.3						
WB2	Warramunga Arr	45.37	273	⇑iP	P	15 08 16.1	+1.1
WRA	Warramunga Arr	45.38	273	P	P	15 08 15.4	+0.3
	2.2nm,0.6s,mb4.2,baz=111,slow=8.1,SNR=40						
FINES	FINESS Array B	146.97	340	PKPbc	PKPbc	15 19 42.0	+6.1
	1.6nm,0.7s,baz=135,slow=2.7,SNR=7.2						
AKASG	Malin Array Be	153.23	322	PKPbc	PKPdf	15 20 00.2	+16
	0.1nm,0.3s,baz=44,slow=2.1,SNR=3.0						
AKASG				PKPab	PKPab	15 20 08.2	+2.3
	0.8nm,0.6s,baz=46,slow=4.3,SNR=6.2						

MAN 01 15:07:16.1,9.37N×**123.11E,h13**^{km}**,mb3.9,ML2.7,MS2.3, 2D,Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.13	102	eP	Pg	15 07 20.8	+1.2
SNPH				i S	Sg	15 07 28.8	+6.9
DCPH	Dipolog City	0.82	163	⇓eP	Pb	15 07 31.3	-0.4
DCPH				i S	Sb	15 07 44.1	+1.8
LLP	Lapu-Lapu	1.27	42	⇓iP	Pb	15 07 39.7	+0.4
LLP				i S	Sb	15 07 56.6	+1.3
GUIM	Jordan	1.35	338	eP	Pn	15 07 39.0	-1.7
GUIM				eS	Sb	15 07 56.3	-1.4
PAGZ	Pagadian	1.54	170	eP	Pn	15 07 43.6	+0.1
PAGZ				eS	Sb	15 08 03.2	0.0
IPIL	Ipil	1.66	199	eP	Pn	15 07 44.7	-0.5
IPIL				eS	Sn	15 08 04.6	-1.8
MSLP	Maasin	1.89	66	eP	Pn	15 07 50.4	+2.0
MSLP				eS	Sn	15 08 19.2	+7.1

*NEIC **01** 15:10:55.3±0.7,31.17S×178.69W,h106^{km}±7^{km},mb4.5/5, Error ellipse: s-maj=14.1km s-min=8.1km az=104.0*
*IDC **01** 15:10:59.2±1.6,30.72S×178.75W,h144^{km}±17^{km},mb3.9/4, mb1 4.1/4,mb1mx3.8/12,mbtmp4.3/4,Error ellipse: s-maj=32.6km s-min=23.1km az=143.0*
ISC 01 15:10:54.4±0.7**,31.10S**±0.05×**179.0W**±0.1**,h93**^{km}±9^{km}**, n47,**σ**1**^{s}**19**/58**,mb4.2**/8**,3C-1D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.07	28	P	P	15 11 29.4	+1.3
	123nm,0.3s,baz=97,slow=17,SNR=6.6						
RAO				S	S	15 11 53.1	0.0
	850nm,0.3s,baz=286,slow=23,SNR=17						
RAO	Raoul Island	2.07	28	ePn	P	15 11 28.7	+0.5
RAO				S	S	15 11 53.1	0.0
MXZ	Matakaoa Point	6.82	198	ePN	P	15 12 33.8	+0.2
MXZ				SN	S	15 13 49.5	-0.8
MXZ	Matakaoa Point	6.82	198	eP	P	15 12 33.8	+0.2
PUZ	Puketiti	7.32	197	ePN	P	15 12 39.3	-1.0
PUZ				SN	S	15 13 55.6	-6.8
PUZ	Puketiti	7.32	197	eP	P	15 12 39.3	-1.0
MWZ	Matawai	7.76	201	ePN	P	15 12 45.7	-0.8
MWZ				SN	S	15 14 15.9	+2.5
MWZ	Matawai	7.76	201	eP	P	15 12 45.7	-0.7
URZ	Urewera	7.83	203	P	P	15 12 47.4	0.0
	1.6nm,0.3s,baz=270,slow=2.6,SNR=17						
URZ				S	S	15 14 16.6	+1.7
	9.3nm,0.3s,baz=136,slow=23,SNR=15						
URZ	Urewera	7.83	203	ePN	P	15 12 47.3	0.0
URZ				SN	S	15 14 17.2	+2.2
URZ	Urewera	7.83	203	eP	P	15 12 47.3	0.0
KNZ	Kokohu	8.36	198	ePN	P	15 12 53.9	-0.7
BKZ	Black Stump Fm	8.85	203	ePN	P	15 12 59.8	-1.4
BKZ				SN	S	15 14 39.9	-0.1
BKZ	Black Stump Fm	8.85	203	eP	P	15 13 00.0	-1.2
BKZ				S	S	15 14 39.9	-0.1
TSZ	Takapari Road	9.83	203	PN	P	15 13 10.3	-4.2
MRW	Makara Radio	11.31	205	SN	S	15 15 34.6	-4.7
NNZ	Nelson	11.82	209	SN	S	15 15 46.1	-5.3
THZ	Tophouse	12.47	209	PN	P	15 13 44.9	-4.8
THZ				SN	S	15 16 02.2	-4.7
RPZ	Rata Peaks	14.85	209	P	P	15 14 21.0	+0.5
	1.1nm,0.3s,baz=48,slow=20,SNR=4.8						
RPZ				S	S	15 16 55.3	-7.6
	0.9nm,0.3s,baz=289,slow=22,SNR=8.5						
RPZ	Rata Peaks	14.85	209	P	P	15 14 21.1	+0.5
RPZ				S	S	15 16 55.3	-7.7
CTA	Charters Tower	33.06	281	eP	P	15 17 24.2	+1.0
	5.8nm,0.6s,mb4.6						
CTAO	Charters Tower	33.06	281	eP	P	15 17 23.9	+0.7
	7.6nm,0.6s,mb4.7						
STKA	Stephens Creek	33.47	258	⇑iP	P	15 17 28.4	+1.7
	14nm,0.7s,mb4.9						
STKA	Stephens Creek	33.47	258	P	P	15 17 28.1	+1.4
	19nm,0.7s,mb5.0,baz=97,slow=10.0,SNR=53						
STKA	Stephens Creek	33.47	258	eP	P	15 17 28.2	+1.5
ASPA	Alice Springs	42.20	268	eP	P	15 18 39.7	-0.1
WB2	Warramunga Arr	43.24	273	⇓iP	P	15 18 47.8	-0.5
WRAB	Tennant Creek	43.25	273	eP	P	15 18 47.6	-0.7
	7.2nm,0.6s,mb4.6						
WRA	Warramunga Arr	43.25	273	P	P	15 18 47.9	-0.5
	4.6nm,0.5s,mb4.5,baz=112,slow=8.0,SNR=134						
SBA	Scott Base	47.28	184	eP	P	15 19 21.0	+1.3
	1.7nm,0.7s,mb3.9						
VNDA	Vanda	47.32	186	P	P	15 19 20.3	+0.3
	0.5nm,0.6s,mb3.4,baz=7.8,slow=5.3,SNR=5.2						
VNDA	Vanda	47.32	186	P	P	15 19 20.3	+0.3
CASY	Casey	54.12	208	eP	P	15 20 09.0	-2.6
	3.0nm,0.8s,mb4.4						
SNAA	Sanae	77.49	179	e	P	15 22 46.1	+5.4
SNAA	Sanae	77.49	179	e	P	15 22 50.7	+10
SNAA	Sanae	77.49	179	P	P	15 22 42.1	+1.4
SNAA				e		15 22 46.1	
SNAA				e		15 22 50.7	
VNA3	Neumayer Olymp	77.67	176	e	P	15 22 43.5	+1.8
VNA3	Neumayer Olymp	77.67	176	e	P	15 22 49.1	+7.4
VNA3	Neumayer Olymp	77.67	176	⇑iP	P	15 22 39.8	-1.9
VNA3				e		15 22 43.5	
VNA3				e		15 22 49.1	
VNA2	Neumayer--Watz	78.09	177	e	P	15 22 46.2	+2.2
VNA2	Neumayer--Watz	78.09	177	e	P	15 22 50.8	+6.8
VNA2	Neumayer--Watz	78.09	177	⇑iP	P	15 22 42.4	-1.6
VNA2				e		15 22 46.2	
VNA2				e		15 22 50.8	
VNA1	Neumayer--Stat	78.33	177	e	P	15 22 47.1	+1.8
VNA1	Neumayer--Stat	78.33	177	e	P	15 22 52.3	+7.0
VNA1	Neumayer--Stat	78.33	177	P	P	15 22 42.5	-2.8
VNA1				e		15 22 47.1	
VNA1				e		15 22 52.3	
NVAR	Mina Array Bea	89.34	43	P	P	15 23 38.4	-3.2
	0.6nm,0.8s,mb3.7,baz=232,slow=10,SNR=4.3						
FINES	FINESS Array B	145.49	339	PKPbc	PKPbc	15 30 17.6	-3.9
	0.9nm,0.4s,baz=47,slow=5.8,SNR=14						

*WAR **01** 15:34:31.7,50.26N×18.88E,h0^{km},ML2.4,Mining Induced*
*NEIC **01** 15:34:32.0±0.8,50.19N×18.90E,h5^{km},MG2.5(WAR), Error ellipse: s-maj=18.3km s-min=8.0km az=170.0*
*PRU **01** 15:34:32.7,50.25N×18.78E*
ISC 01 15:34:30.5±0.6**,50.28N**±0.04×**18.74E**±0.03**,n18,**σ**1**^{s}**49**/30**, 2D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.59	221	ePG	Pg	15 34 44.0	+1.8
OKC				eSG	Sg	15 34 52.1	+2.0
	13nm,0.2s						
OJC	Ojcow	0.68	95	ePG	Pg	15 34 43.0	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OJC				eSG	Sg	15 34 52.0	-1.2
MORC	Moravsky Berou	0.92	237	ePg	Pg	15 34 50.0	+1.0
MORC				eSg	Sg	15 35 02.0	+0.8
NIE	Niedzica	1.33	130	ePg	Pg	15 34 55.4	-1.8
NIE				eSg	Sg	15 35 12.8	-2.2
NIE				e		15 35 14.0	
DPC	Dobruska-Polom	1.55	273	ePG	Pg	15 35 00.9	-0.6
DPC				eSG	Sg	15 35 22.5	+0.3
	13nm,0.2s						
KSP	Ksiaz	1.66	291	ePG	Pg	15 35 04.0	+0.4
KSP				eSG	Sg	15 35 27.0	+1.2
UPC	Upice	1.76	278	ePG	Pg	15 35 05.2	-0.5
VYHS	Vyhne	1.79	178	ePN	Pn	15 35 02.4	-0.5
VYHS				eSN	Sn	15 35 27.1	+0.4
STHS	Stebnicka Huta	1.84	117	ePN	Pn	15 35 04.5	+0.9
STHS				eSN	Sn	15 35 30.4	+2.5
KECS	Kecovo	2.13	147	ePN	Pn	15 35 07.5	-0.3
KECS				eSN	Sn	15 35 36.3	+0.9
CRVS	Cervenica-Dubn	2.25	127	ePN	Pn	15 35 11.5	+2.0
CRVS				eSN	Sn	15 35 39.5	+1.2
PRU	Pruhonice	2.72	265	eSG	Sg	15 35 59.2	-1.8
	6.8nm,0.4s						
KHC	Kasperske Hory	3.54	253	eSN	Sn	15 36 09.5	-1.7
KHC				eSG	Sg	15 36 25.4	-3.1
	5.6nm,0.4s						
CLL	Collm	3.78	288	eSG	Sg	15 36 39.0	+2.5
MOA	Molln	3.82	232	i	Sn	15 36 05.1	-13
MOA	Molln	3.82	232	i SG	Sg	15 36 35.0	-2.7
	3.3nm,0.4s						
MOA	Molln	3.82	232	⇓iX	Sn	15 36 05.1	-13
MOA				⇓iSg	Sg	15 36 35.0	-2.7
	comp=Z,3.3nm,0.4s						
NKC	Novy Kostel	4.04	272	eSG	Sg	15 36 41.4	-3.6

WEL 01 16:01:22.9±0.4, 39.04S×175.03E, h227km±3km, ML3.7/15, 6C-2D, Error ellipse: s-maj=3.5km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.32	96	⇑PN	P	16 01 52.4	-0.5
PKVZ	Pokaka	0.35	136	⇑PN	P	16 01 52.6	-0.4
PKVZ				SN	S	16 02 15.8	-0.6
CNZ	Chateau	0.44	112	⇓PN	P	16 01 52.9	-0.3
WPVZ	Whakapapa	0.44	113	PN	P	16 01 53.0	-0.3
WTVZ	West Tongariro	0.44	100	PN	P	16 01 52.8	-0.4
FWVZ	Far West T-bar	0.46	118	PN	P	16 01 53.1	-0.2
NGZ	Ngauruhoe	0.47	107	PN	P	16 01 53.1	-0.2
MTVZ	Mangateitei	0.49	136	PN	P	16 01 53.0	-0.3
MTVZ				SN	S	16 02 16.3	-0.7
WNVZ	Wahianoa	0.53	123	PN	P	16 01 53.4	-0.1
TUVZ	Tukino	0.54	116	PN	P	16 01 53.4	-0.1
TUVZ				eSN	S	16 02 16.8	-0.5
HIZ	Hauiti	0.54	345	⇓PN	P	16 01 52.4	-1.2
HIZ				SN	S	16 02 16.8	-0.5
MOVZ	Moawhango	0.67	124	PN	P	16 01 53.5	-0.5
MOVZ				SN	S	16 02 16.4	-1.8
WAZ	Wanganui	0.72	183	PN	P	16 01 54.2	0.0
WAZ				SN	S	16 02 20.1	+1.5
NEZ	North Egmont	0.76	252	PN	P	16 01 54.1	-0.3
NWEZ	Newall Road	0.93	255	ePN	P	16 01 54.7	-0.6
BKZ	Black Stump Fm	1.15	97	⇑PN	P	16 01 56.0	-0.6
BKZ				SN	S	16 02 21.4	-1.5
TSZ	Takapari Road	1.25	145	⇑PN	P	16 01 57.3	-0.1
MRZ	Mangatainoka R	1.68	166	PN	P	16 01 59.9	-1.0
MRZ				SN	S	16 02 28.9	-1.3
PXZ	Pawanui	1.73	126	⇑PN	P	16 02 01.0	-0.4
URZ	Urewera	1.81	65	PN	P	16 01 59.8	-2.2
KIW	Kapiti Island	1.82	183	PN	P	16 02 01.1	-1.1
BFZ	Birch Farm	1.89	151	ePN	P	16 02 02.1	-0.7
DUWZ	D'Urville Isla	1.96	205	PN	P	16 02 02.1	-1.2
KNZ	Kokohu	2.06	90	PN	P	16 02 03.6	-0.8
CAW	Cannon Point	2.07	179	⇑PN	P	16 02 03.4	-1.1
MWZ	Matawai	2.08	71	PN	P	16 02 02.7	-1.8
MTW	Mount Morrison	2.15	170	PN	P	16 02 03.9	-1.4
MRW	Makara Radio	2.20	186	PN	P	16 02 04.3	-1.5
TCW	Tory Channel	2.25	195	PN	P	16 02 05.1	-1.2
WEL	Wellington	2.25	185	PN	P	16 02 04.8	-1.5
SNZO	South Karori	2.28	186	PN	P	16 02 05.1	-1.6

*CSEM **01** 16:42:38.1, 5.74N×94.67E, h10km, mb5.5*
*BJI **01** 16:42:38.4, 4.92N×94.76E, h40km, mB5.3, mb5.2, Ms4.8, Msz4.6*
*MOS **01** 16:42:38.3±0.8, 5.11N×94.88E, h33km, mb5.6/52, MS4.6/6, Error ellipse: s-maj=9.9km s-min=4.6km az=117.2*
*NEIC **01** 16:42:39.5±0.1, 5.07N×94.80E, h30km, mb5.3/76, MS4.4/7, Error ellipse: s-maj=5.0km s-min=3.6km az=207.0*
NEIC Felt [III] at Banda Aceh.
*HRVD **01** 16:42:39.5±0.3, 4.77N×94.63E, h51km, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s44,c70;Mantle waves: s50,c96; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.30±.17; $M_{\theta\theta}$-1.88±.12; $M_{\phi\phi}$-2.43±.15; $M_{r\theta}$2.17±.09; $M_{\theta\phi}$2.35±.09; $M_{\phi r}$-1.22±.12; Best double couple: $M_0$5.067×10^{16} NP1:ϕ_s328°,δ32°, λ106°. NP2:ϕ_s129°,δ60°,λ80°. Principal axes: T 5.017, Plg73°, Azm14°; N .09, Plg8°, Azm134°; P -5.117, Plg14°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **01** 16:42:42.6±0.5, 5.09N×94.85E, h53km±3km, mb4.7/28, mb1 4.8/28, mb1mx4.8/29, mbtmp5.0/28, MS4.2/19, Ms1 4.3/19, ms1mx4.2/25 Error ellipse: s-maj=13.3km s-min=9.4km az=59.0*

ISC 01 16:42:40.0±0.7, 5.03N±0.04×94.79E±0.03, h48km±6km, h45km±2.0km:pP-P, n417, σ1§03/402, mb5.2/139, MS4.4/44, 76C-10D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.84	87	eP	P	16 44 06.6	+0.5
SNG	Songkhla	6.17	69	P	P	16 44 12.0	+1.2
	416nm,1.0s						
PBA	Port Blair	6.89	343	eP	P	16 44 22.5	+1.6
PBA				eS	S	16 45 36.2	-2.6
NST	Nakhon Sawan	11.80	26	P	P	16 45 31.1	+2.6
KKTK	Khon Kaen	13.72	34	P	P	16 45 57.3	+3.3
	1µm,0.6s						
CHG	Chiang Mai	14.29	16	P	P	16 46 03.1	+1.7
	10nm,0.8s						
NANT	Nan	14.85	22	⇑P	P	16 46 03.1	-5.6
	51nm,0.8s						
CHRT	Chiangrai	15.53	18	P	P	16 46 18.0	+0.5
	474nm,1.1s						
KSM	Kuching	15.88	102	eP	P	16 46 24.0	+1.9
VIS	Vishakhapatnam	16.88	319	eP	P	16 46 34.5	0.0
VIS				AMb	AMB	16 46 38.0	
	comp=Z,31nm,0.5s						
VIS				ex	x	16 49 30.6	
SALM	Salem	17.68	293	eP	P	16 46 47.0	+2.4
SALM				ex	x	16 49 45.0	
HYB	Hyderabad	20.11	309	i P	P	16 47 12.5	-0.1
HYB				eS	S	16 50 48.0	-2.9
HYB	Hyderabad	20.11	309	eP	P	16 47 13.0	+0.4
HYB				eS	S	16 50 48.0	-2.9
QIZ	Qiongzhong	20.23	45	P	P	16 47 13.9	0.0
QIZ				XP		16 47 26.9	
QIZ				eS	S	16 50 55.2	+2.0
QIZ				SS	SS	16 51 24.8	+0.8
QIZ				AMB	AMB		
	comp=Z,27nm,1.2s						
QIZ				LR	LR		
	comp=N,1µm,17.8s,MS4.4						
QIZ				LR	LR		
	comp=E,890nm,16.6s,MS4.4						
QIZ				LR	LR		
	comp=Z,2µm,19.0s,MS4.4						
QIZ	Qiongzhong	20.23	45	eP	P	16 47 13.6	-0.3
	comp=Z,59nm,1.1s						
SHL	Shillong	20.61	353	eP	P	16 47 15.0	-2.8
SHL				ex	x	16 50 52.5	
BLSP	Bilaspur	20.96	325	eP	P	16 47 21.9	+0.4
BLSP				AMb	AMB	16 47 23.4	
	comp=Z,182nm,1.0s						
BLSP				ex	x	16 51 06.5	
KKM	Kota Kinabalu	21.34	86	eP	P	16 47 25.3	-0.1
KMI	Kunming	21.38	20	⇑P	P	16 47 27.7	+2.0
KMI				AP		16 47 36.2	
KMI				XP		16 47 39.8	
KMI				PP	PP	16 47 53.6	+3.0
KMI				PPP	PPP	16 48 01.3	+1.0
KMI				S	S	16 51 20.0	+4.8
KMI				XS		16 51 32.9	
KMI				SS	SS	16 51 56.5	+4.4
KMI				SSS	SSS	16 52 11.6	+4.1
KMI				AMB	AMB		
	comp=Z,61nm,1.3s,mb4.8						
KMI				AMB	AMB		
	comp=Z,143nm,3.1s						
KMI				LR	LR		
	comp=N,1µm,12.6s,MS4.6						
KMI				LR	LR		
	comp=E,1µm,13.6s,MS4.6						
KMI				LR	LR		
	comp=Z,1µm,24.8s						
KMI	Kunming	21.38	20	⇑P	P	16 47 27.7	+2.0
	comp=Z,61nm,1.3s,mb4.8						
KMI				pP		16 47 36.2	
KMI				sP		16 47 39.8	
KMI				PP	PP	16 47 53.6	+3.0
KMI				PPP	PPP	16 48 01.3	+1.0
KMI				S	S	16 51 20.0	+4.8
KMI				sS		16 51 32.9	
KMI				SS	SS	16 51 56.5	+4.4
KMI				SSS	SSS	16 52 11.6	+4.1
KMI				LR	LR		
	comp=Z,1µm,24.8s,MS4.2						
KMI	Kunming	21.38	20	⇑P	P	16 47 27.7	+2.0
KMI				*SP		16 47 39.8	
KMI						16 47 53.6	
KMI				S	S	16 51 20.0	+4.8
KMI				*SS		16 51 32.9	
KMI				SS	SS	16 51 56.5	+4.4
KMI				pmax	pmax		
	comp=Z,61nm,1.3s,mb4.8						
KMI				MLR	MLR		
	comp=Z,1µm,24.8s,MS4.2						
LATR	Latur	22.23	308	eP	P	16 47 36.7	+2.6
LATR				ex	x	16 51 30.0	
PKI	Pulchoki	24.13	339	eP	P	16 47 52.5	-0.2
	comp=Z,365nm,1.5s,mb5.6						
PKI	Pulchoki	24.13	339	eP	P	16 47 52.5	-0.2
PKI				pmax	pmax		
	comp=Z,182nm,1.5s,mb5.3						
GYA	Guiyang	24.14	27	⇑iP	P	16 47 53.9	+1.1
GYA				AP		16 48 03.2	
GYA				XP		16 48 07.6	
GYA				AMB	AMB		
	comp=Z,270nm,0.8s,mb5.7						
GYA				LR	LR		
	comp=N,2µm,16.2s,MS4.7						
GYA				LR	LR		
	comp=E,1µm,13.2s,MS4.7						
GYA				LR	LR		
	comp=Z,2µm,15.2s,MS4.8						
DMN	Daman	24.27	339	eP	P	16 47 54.0	-0.1
	comp=Z,168nm,0.9s,mb5.5						
KKN	Kakani	24.38	339	eP	P	16 47 54.8	-0.3
	comp=Z,385nm,1.2s,mb5.7						
KKN	Kakani	24.38	339	eP	P	16 47 54.8	-0.3
KKN				pmax	pmax		
	comp=Z,192nm,1.2s,mb5.4						
POO	Poona	24.46	305	ex	x	16 47 51.8	
POO				AMb	AMB	16 48 12.6	
	comp=Z,29nm,0.6s,mb4.9						
POO				ex	x	16 52 19.5	
BHPL	Bhopal	24.67	319	eP	P	16 47 59.4	+1.4
BHPL				ex	x	16 48 03.0	
BHPL				AMb	AMB	16 48 03.9	
	comp=Z,81nm,1.1s,mb5.2						
BHPL				eS	S	16 52 18.2	+4.7
LSA	Lhasa	24.78	352	P	P	16 47 59.3	+0.3
LSA				S	S	16 52 24.4	+9.1
LSA				XS		16 52 40.5	
LSA				LR	LR		
	comp=N,370nm,23.1s,MS4.0						
LSA				LR	LR		
	comp=E,430nm,25.5s,MS4.0						
LSA				LR	LR		
	comp=Z,770nm,25.5s,MS4.1						
LSA	Lhasa	24.78	352	eP	P	16 47 59.0	0.0
	comp=Z,79nm,0.6s,mb5.4						
LSA	Lhasa	24.78	352	eP	P	16 47 59.0	0.0
LSA				pmax	pmax		
	comp=Z,79nm,0.6s,mb5.4						
GKN	Gorkha	24.80	338	eP	P	16 47 59.6	+0.4
	comp=Z,474nm,1.1s,mb5.9						
KOLN	Koldanda	25.00	336	eP	P	16 48 01.9	+0.8
	comp=Z,384nm,0.8s,mb6.0						
CD2	Chengdu	27.09	17	P	P	16 48 19.7	-0.8
CD2				S	S	16 52 54.0	+0.6
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
CD2				LR	LR		
	comp=N,720nm,18.6s						
CD2				LR	LR		
	comp=Z,420nm,10.8s						
ENH	Enshi	28.68	27	eP	P	16 48 33.5	-1.4
	comp=Z,37nm,0.7s,mb5.2						
NDI	New Delhi	28.83	327	eP	P	16 48 35.0	-1.2
NDI				ex	x	16 53 47.0	
WHN	Wuhan	31.36	34	P	P	16 48 59.0	+0.4
XAN	Xi'an	31.71	23	P	P	16 49 00.7	-0.9
XAN				AP	pP	16 49 13.3	-0.8
XAN				AMB	AMB		
	comp=Z,170nm,1.0s,mb5.8						
XAN				LR	LR		
	comp=N,544nm,16.1s,MS4.5						
XAN				LR	LR		
	comp=E,515nm,15.9s,MS4.5						
XAN				LR	LR		
	comp=Z,1µm,17.6s,MS4.7						
LZH	Lanzhou	32.01	14	⇑P	P	16 49 03.0	-1.2
LZH				AP	pP	16 49 12.5	-4.3
LZH				XP	sP	16 49 16.2	-6.6
LZH				PP	PP	16 50 10.5	-0.9
LZH				PCP	PcP	16 51 52.3	-1.0
LZH				S	S	16 54 12.8	+1.4
LZH				XS		16 54 28.2	
LZH				SCP		16 55 32.5	
LZH				PCS		16 55 35.6	
LZH				SS	SS	16 56 07.5	+1.4
LZH				SCS	ScS	16 59 29.4	+0.7
LZH				AMB	AMB		
	comp=Z,58nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,271nm,5.5s						
LZH				LR	LR		
	comp=N,1µm,13.1s						
LZH				LR	LR		
	comp=Z,3µm,17.2s,MS5.0						
LZH	Lanzhou	32.01	14	⇑P	P	16 49 03.0	-1.2
	comp=Z,58nm,1.3s,mb5.2						
LZH				pP	pP	16 49 12.5	-4.3
LZH				sP	sP	16 49 16.2	-6.6
LZH				PP	PP	16 50 10.5	-0.9
LZH				PcP	PcP	16 51 52.3	-1.0
LZH				S	S	16 54 12.8	+1.4
LZH				sS		16 54 28.2	
LZH				ScP		16 55 32.5	
LZH				PcS		16 55 35.6	
LZH				SS	SS	16 56 07.5	+1.4
LZH				ScS	ScS	16 59 29.4	+0.7
LZH				LR	LR		
	comp=Z,3µm,17.2s,MS5.0						
LZH	Lanzhou	32.01	14	⇑P	P	16 49 03.0	-1.2
LZH				*PP	pP	16 49 12.5	-4.3
LZH				*SP	sP	16 49 16.2	-6.6
LZH						16 50 10.5	
LZH						16 51 52.3	
LZH				S	S	16 54 12.8	+1.4
LZH				*SS		16 54 28.2	
LZH				SS	SS	16 56 07.5	+1.4
LZH						16 59 29.4	
LZH				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.2						
LZH				MLR	MLR		
	comp=Z,3µm,17.2s,MS5.0						
GTA	Gaotai	34.52	7	⇑iP	P	16 49 25.4	-0.5
GTA				AP	pP	16 49 34.2	-4.4
GTA				XP	sP	16 49 37.9	-6.7
GTA				PP	PP	16 50 43.9	+0.8
GTA				PPP	PPP	16 51 01.7	+0.5
GTA				PCP	PcP	16 52 00.1	-0.2
GTA				S	S	16 54 53.3	+2.9
GTA				XS		16 55 09.2	
GTA				SCP		16 55 41.1	
GTA				SS	SS	16 57 07.3	+3.5
GTA				SCS	ScS	16 59 41.9	+0.2
GTA				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
GTA				AMB	AMB		
	comp=Z,269nm,7.3s						
GTA				LR	LR		
	comp=N,393nm,20.9s,MS4.2						
GTA				LR	LR		
	comp=E,362nm,22.0s,MS4.2						
GTA				LR	LR		
	comp=Z,457nm,22.4s,MS4.2						
NJ2	Nanjing	35.07	37	eP	P	16 49 31.3	+0.6
NJ2				AP	pP	16 49 40.3	-3.1
NJ2				XP	sP	16 49 44.1	-5.3
NJ2				PP	PP	16 50 49.8	-0.4
NJ2				PPP	PPP	16 51 07.8	-0.7
NJ2				S	S	16 55 01.0	+2.1
NJ2				XS		16 55 18.0	
NJ2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,490nm,4.6s						
NJ2				LR	LR		
	comp=N,2µm,14.4s,MS5.2						
NJ2				LR	LR		
	comp=E,2µm,14.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,1µm,14.4s,MS4.9						
MBWA	Marble Bar	35.72	138	eP	P	16 49 34.3	-2.0
	comp=Z,14nm,1.1s,mb4.8						
SSE	Sheshan	35.88	41	eP	P	16 49 37.2	-0.4
SSE				AP	pP	16 49 44.6	-5.7
SSE				PP	PP	16 50 59.9	0.0
SSE				PCP	PcP	16 52 02.6	-1.7
SSE				S	S	16 55 14.1	+2.7
SSE				XS		16 55 28.8	
SSE				SCS	ScS	16 59 52.5	+3.4
SSE				AMB	AMB		
	comp=Z,37nm,1.0s,mb5.3						
SSE				AMB	AMB		
	comp=Z,415nm,3.9s						
SSE				LR	LR		
	comp=N,147nm,20.1s,MS4.1						
SSE				LR	LR		
	comp=E,334nm,20.1s,MS4.1						
SSE				LR	LR		
	comp=Z,470nm,20.4s,MS4.2						
SSE	Sheshan	35.88	41	eP	P	16 49 37.2	-0.4
	comp=Z,37nm,1.0s,mb5.3						
SSE				pP	pP	16 49 44.6	-5.7
SSE				sP	sP	16 49 48.7	-7.5
SSE				PP	PP	16 50 59.9	0.0
SSE				PcP	PcP	16 52 02.6	-1.7
SSE				S	S	16 55 14.1	+2.7
SSE				sS		16 55 28.8	
SSE				SS	SS	16 57 52.3	+17
SSE				ScS	ScS	16 59 52.5	+3.4
SSE				LR	LR		
	comp=Z,470nm,20.4s,MS4.2						
TIA	Tai'an	37.20	31	⇑P	P	16 49 48.8	+0.1
TIA				AMB	AMB		
	comp=Z,63nm,0.9s,mb5.5						
FITZ	Fitzroy Crossi	38.13	128	eP	P	16 49 55.6	-1.0
	comp=Z,16nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	38.13	128	P	P	16 49 56.1	-0.5
	comp=Z,26nm,0.8s,mb5.0,baz=307,slow=3.7,SNR=16						
KSH	Kashi	38.32	336	⇑P	P	16 49 58.0	+0.1
KSH				eAP	pP	16 50 06.7	-4.0
KSH				eXP	sP	16 50 10.5	-6.0
KSH				ePP	PP	16 51 30.8	+1.3
KSH				ePPP	PPP	16 51 53.6	+1.2
KSH				ePCP	PcP	16 52 06.4	-5.3
KSH				eSCP		16 55 51.1	
KSH				S	S	16 55 52.4	+3.9
KSH				ePCS		16 55 55.6	
KSH				eXS		16 56 09.3	
KSH				eSCS	ScS	17 00 01.4	-1.3
KSH				AMB	AMB		
	comp=Z,350nm,5.8s						
KSH				LR	LR		
	comp=N,230nm,6.0s						
KSH				LR	LR		
	comp=E,190nm,4.8s						
JOW	Kunigami	38.60	52	P	P	16 50 01.2	+0.9
HHC	Hu-ho-hao-te	38.71	20	⇑P	P	16 50 02.0	+0.9
HHC				AP	pP	16 50 11.5	-2.4
HHC				XP	sP	16 50 14.8	-5.0
HHC				PP	PP	16 51 31.1	-2.9
HHC				PCP	PcP	16 52 10.4	-2.5
HHC				S	S	16 56 02.3	+7.8
HHC				XS		16 56 18.9	
HHC				SCS	ScS	17 00 08.5	+3.5
HHC				AMB	AMB		
	comp=Z,58nm,1.1s,mb5.2						
HHC				LR	LR		
	comp=N,891nm,23.8s,MS4.6						
HHC				LR	LR		
	comp=E,621nm,19.0s,MS4.6						
HHC				LR	LR		
	comp=Z,847nm,23.8s,MS4.5						
WMQ	Urumqi	39.13	352	⇑iP	P	16 50 05.2	+0.5
WMQ				AP	pP	16 50 14.6	-2.8
WMQ				XP	sP	16 50 17.4	-5.9
WMQ				S	S	16 56 02.5	+1.6
WMQ				XS		16 56 19.0	
WMQ				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,189nm,3.9s						
WMQ				LR	LR		
	comp=N,294nm,13.9s,MS4.5						
WMQ				LR	LR		
	comp=E,497nm,15.9s,MS4.5						
WMQ				LR	LR		
	comp=Z,303nm,15.1s,MS4.2						
ULHL	Ulahol	40.57	339	P	P	16 50 17.6	+1.0
	SNR=36						
KZA	Kyzart	40.79	338	P	P	16 50 19.9	+1.5
	SNR=11						
UCH	Uchtor	41.20	337	P	P	16 50 23.3	+1.5
	SNR=81						
KAKA	Kakadu	41.35	116	eP	P	16 50 38.5	+15
	comp=Z,14nm,0.6s,mb4.8						
TKM2	Tokmak 2	41.39	339	P	P	16 50 24.5	+1.1
	SNR=26						
KBK	Karagaybulak	41.41	338	P	P	16 50 25.1	+1.7
	SNR=61						
AML	Almayashu	41.45	336	P	P	16 50 25.3	+1.5
	SNR=152						
AAK	Ala-Archa	41.56	337	P	P	16 50 25.8	+1.1
	SNR=32						
AAK	Ala-Archa	41.56	337	eP	P	16 50 24.1	-0.6
	comp=Z,36nm,0.8s,mb5.0						
AAK	Ala-Archa	41.56	337	c iP	P	16 50 24.5	-0.2
AAK				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.1						
DL2	Dalian	41.58	32	P	P	16 50 26.2	+1.3
DL2				S	S	16 56 42.8	+5.4
DL2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.3						
DL2				LR	LR		
	comp=N,590nm,16.0s,MS4.6						
DL2				LR	LR		
	comp=E,220nm,14.5s,MS4.6						
DL2				LR	LR		
	comp=Z,530nm,19.7s						
FRU	Bishkek	41.68	338	eP	P	16 50 26.6	+0.9
FRU				e	pP	16 50 39.4	+0.8
FRU				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.2						
CHMS	Chumysh	41.77	338	P	P	16 50 27.1	+0.6
	SNR=19						
EKS2	Erkin-Say	41.86	337	P	P	16 50 28.6	+1.4
	SNR=52						
USP	Ospenovka	42.10	338	P	P	16 50 30.0	+0.8
	SNR=57						
MKAR	Makanchi Array	42.99	347	P	P	16 50 36.5	+0.1
	comp=Z,69nm,0.8s,mb5.5,baz=164,slow=8.8,SNR=434						

MKAR pP pP 16 50 49.5 +0.2
comp=Z,24nm,0.8s,baz=164,slow=8.8,SNR=7.9
MKAR LR LR 17 13 15.7
comp=Z,52nm,18.7s,MS3.5,baz=170,slow=43
MKAR Makanchi Array 42.99 347 P **P** **16 50 36.5 +0.1**
MKAR pP pP 16 50 49.5 +0.2
MKAR LR LR 17 13 15.7
NWAO Narrogin (SRO) 43.34 152 P **P** **16 50 38.9 -0.6**
comp=Z,8.3nm,1.0s,mb4.4,baz=350,slow=6.1,SNR=2.9
INCN Inchon 43.45 38 *eP* **P** **16 50 38.6 -1.7**
comp=Z,55nm,0.9s,mb5.3
JNU Nakatsue 43.70 46 P **P** **16 50 42.8 +0.4**
comp=Z,41nm,0.9s,mb5.2,baz=146,slow=7.3,SNR=29
SONM Songino Array 43.79 11 P **P** **16 50 42.5 -0.4**
comp=Z,34nm,0.8s,mb5.1,baz=190,slow=8.4,SNR=264
SONM PcP PcP 16 52 29.2 -0.2
comp=Z,17nm,0.9s,baz=191,slow=3.9,SNR=10
SONM pPcP 16 52 44.2
comp=Z,10nm,0.8s,baz=194,slow=3.3,SNR=5.7
SONM ScP 16 56 16.1
comp=Z,3.7nm,1.1s,baz=196,slow=3.8,SNR=7.5
SONM LR LR 17 11 31.9
comp=Z,407nm,19.4s,MS4.3,baz=195,slow=40
ULN Ulaanbaatar 43.95 12⇑ *iP* **P** **16 50 42.0 -2.2**
ULN Ulaanbaatar 43.95 12 *c iP* **P** **16 50 42.9 -1.3**
KS15 Wonju Array Si 44.19 39 *eP* **P** **16 50 45.8 -0.4**
SNY Shenyang 44.73 31⇑ **P** **P** **16 50 50.4 -0.1**
SNY AMB AMB
comp=Z,30nm,1.2s,mb5.0
SNY LR LR
comp=N,810nm,20.2s,MS4.7
SNY LR LR
comp=E,560nm,18.8s,MS4.7
SNY LR LR
comp=Z,930nm,19.4s,MS4.7
ZAK Zakamensk 45.76 8⇓ *iP* **P** **16 50 57.5 -1.1**
ZAK *e* pP 16 51 10.0 -1.5
ZAK *e* 16 52 36.3
ZAK *e* 16 52 51.4
ZAK pmax pmax
comp=Z,12nm,0.9s,mb4.8
ZAK pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WRA Warramunga Arr 46.12 124 P **P** **16 51 01.8 0.0**
comp=Z,66nm,0.9s,mb5.6,baz=303,slow=9.0,SNR=256
WRAB Tennant Creek 46.12 124 *eP* **P** **16 51 01.6 -0.4**
comp=Z,214nm,1.1s,mb6.0
WRAB Tennant Creek 46.12 124 *eP* **P** **16 51 01.6 -0.3**
WRAB pmax pmax
comp=Z,214nm,1.1s,mb6.0
WB2 Warramunga Arr 46.13 124⇑ *iP* **P** **16 51 01.9 0.0**
MOY Mondy 46.77 5 *eP* **P** **16 51 06.0 -0.5**
CN2 Changchun 47.11 30 *eP* **P** **16 51 09.2 -0.1**
CN2 *e*AP pP 16 51 18.5 -3.8
CN2 PCP PcP 16 52 40.1 -0.9
CN2 *e*S **S** **16 57 58.8 +1.6**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 LR LR
comp=N,390nm,17.0s,MS4.7
CN2 LR LR
comp=E,660nm,17.0s,MS4.7
CN2 LR LR
comp=Z,560nm,18.0s,MS4.6
KURK Kurchatov 47.51 346 *eP* **P** **16 51 12.7 +0.3**
comp=Z,167nm,1.2s,mb5.9
KURK Kurchatov 47.51 346 *eP* **P** **16 51 12.7 +0.3**
KURK pmax pmax
comp=Z,167nm,1.2s,mb5.9
IRK Irkutsk 47.71 8 *eP* **P** **16 51 12.8 -1.1**
IRK *e* 16 52 41.4
IRK pmax pmax
comp=Z,62nm,2.1s,mb5.3
HIA Hailar 48.89 22 *eP* **P** **16 51 22.4 -0.7**
comp=Z,18nm,0.6s,mb5.3
HIA Hailar 48.89 22 *eP* **P** **16 51 22.4 -0.7**
HIA pmax pmax
comp=Z,18nm,0.6s
CIT Chita 49.35 15 *eP* **P** **16 51 25.9 -0.8**
CIT *e* pP 16 51 39.4 -0.2
CIT *e* 16 52 48.9
CIT *e* 16 54 18.4
CIT pmax pmax
comp=Z,72nm,2.2s,mb5.3
ZAL Zalesovo 49.43 352 P **P** **16 51 27.6 +0.3**
comp=Z,33nm,0.7s,mb5.5,baz=302,slow=5.9,SNR=136
ZAL pP pP 16 51 41.2 +1.0
comp=Z,25nm,0.9s,baz=302,slow=7.8,SNR=10.0
ZAL S **S** **16 58 30.3 +0.6**
comp=Z,1.3nm,0.6s,baz=170,slow=19,SNR=5.9
ZAL LR LR 17 15 29.0
comp=Z,126nm,18.3s,MS4.0,baz=294,slow=40
ZAL Zalesovo 49.43 352 P **P** **16 51 27.6 +0.3**
ZAL pP pP 16 51 41.2 +1.0
ZAL S **S** **16 58 30.3 +0.6**
ZAL LR LR 17 15 29.0
MDJ Mudanjiang 49.82 32 P **P** **16 51 30.2 -0.1**
MDJ AMB AMB
comp=Z,110nm,1.6s,mb5.6
MDJ AMB AMB
comp=Z,202nm,4.7s
MDJ LR LR
comp=N,134nm,21.4s,MS4.3
MDJ LR LR
comp=E,303nm,21.4s,MS4.3
MDJ LR LR
comp=Z,440nm,22.8s,MS4.4
MDJ Mudanjiang 49.82 32 *eP* **P** **16 51 30.3 0.0**
comp=Z,38nm,1.1s,mb5.3
NVS Novosibirsk 50.53 351 *eP* **P** **16 51 33.6 -2.1**
NVS *e**PP pP 16 51 46.7 -2.0
NVS *eS* **S** **16 58 43.2 -1.7**
NVS pmax pmax
comp=N,27nm,0.8s
NVS pmax pmax
comp=E,17nm,0.8s
NVS pmax pmax
comp=Z,39nm,0.8s,mb5.4
NVS smax
comp=N,29nm,1.6s
NVS smax
comp=E,14nm,1.6s
MAJO Matsushiro 50.62 46 *eP* **P** **16 51 35.4 -1.2**
comp=E,14nm,0.8s,mb4.9
MAJO Matsushiro 50.62 46 *eP* **P** **16 51 35.4 -1.2**
MAJO pmax pmax
comp=Z,14nm,0.8s,mb4.9
MAT Matsushiro 50.62 46 P **P** **16 51 35.5 -1.1**
MAT *eS* **S** **16 58 48.6 +2.2**
MAT Matsushiro 50.62 46 *eP* **P** **16 51 36.0 -0.6**
comp=Z,19nm,0.8s,mb5.1
MAT S **S** **16 58 49.0 +2.6**
MAT Matsushiro 50.62 46 *eP* **P** **16 51 36.0 -0.6**
MAT S **S** **16 58 49.0 +2.6**
MAT pmax pmax
comp=Z,19nm,0.8s,mb5.1
MJAR Matsushiro Arr 50.62 46 P **P** **16 51 36.6 0.0**
comp=Z,9.6nm,0.8s,mb4.8,baz=244,slow=8.7,SNR=29
MJAR PcP PcP 16 52 53.6 -0.2
comp=Z,6.4nm,1.0s,baz=235,slow=4.3,SNR=5.9
MJAR pPcP 16 53 06.7
comp=Z,4.6nm,0.7s,baz=229,slow=3.0,SNR=5.2
MJAR LR LR 17 15 03.9
comp=Z,448nm,18.2s,MS4.5,baz=265,slow=38
BVAR Borovoye Array 51.87 342 P **P** **16 51 45.2 -0.6**
comp=Z,52nm,0.8s,mb5.5,baz=143,slow=7.4,SNR=293
BVAR S **S** **16 59 04.5 +1.1**
comp=Z,1.9nm,0.8s,baz=127,slow=15,SNR=5.6
BRVK Borovoye 51.94 341 *eP* **P** **16 51 45.2 -1.0**
comp=Z,42nm,0.9s,mb5.4
BRVK Borovoye 51.94 341 *eP* **P** **16 51 45.2 -1.0**
BRVK pmax pmax
comp=Z,42nm,0.9s,mb5.4
OPO Ambohidratompo 52.44 242 P **P** **16 51 51.8 +1.3**
comp=Z,4.7nm,1.1s,mb4.3,baz=45,slow=2.9,SNR=3.0
KLR Kul'dur 54.01 29 *eP* **P** **16 51 56.0 -5.7**
BHD Baghdad 54.59 308 *ex* x 16 52 02.5
BOD Bodaibo 54.76 12 *eP* **P** **16 52 04.9 -2.2**
BOD pmax pmax
comp=Z,28nm,1.1s,mb5.2
CTAO Charters Tower 56.38 118 *eP* **P** **16 52 18.4 -0.8**
comp=Z,10nm,0.9s,mb4.9
CTAO Charters Tower 56.38 118 *eP* **P** **16 52 18.4 -0.9**
CTAO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLNS Chul'man 56.88 19 *eP* **P** **16 52 19.9 -2.4**
CLNS *e* 16 53 14.0
CLNS *e*PPP PPP 16 55 45.4 -4.7
CLNS *eS* **S** **17 00 09.8 -0.8**
CLNS *e*PS PS 17 00 35.4 +5.5
CLNS *e* 17 02 08.8
CLNS pmax pmax
comp=Z,22nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,5.0nm,0.6s
CLNS smax
comp=N,9.0nm,0.9s
CLNS smax
comp=E,7.0nm,1.7s
CLNS MLR MLR
comp=Z,900nm,19.0s,MS4.9
CLNS MLR MLR
comp=N,900nm,22.0s,MS4.9
CLNS MLR MLR
comp=E,400nm,17.0s,MS4.9
GNI Garni 56.89 315 P **P** **16 52 22.8 +0.1**
comp=E,15nm,0.9s,mb5.0,baz=17,slow=4.4,SNR=13
GNI Garni 56.89 315 *eP* **P** **16 52 21.4 -1.2**
comp=E,34nm,1.0s,mb5.3
GNI Garni 56.89 315 *c iP* **P** **16 52 21.8 -0.9**
GNI pmax pmax
comp=Z,35nm,1.3s
TI2 Plekhanov 57.55 317⇑ *iP* **P** **16 52 23.2 -4.1**
TI2 pmax pmax
comp=Z,50nm,0.8s,mb5.6
TBLG Delisi 57.55 317 P **P** **16 52 26.8 -0.6**
STKA Stephens Creek 57.70 133⇑ *iP* **P** **16 52 27.8 -0.7**
comp=Z,10nm,1.0s,mb4.8
STKA Stephens Creek 57.70 133 P **P** **16 52 27.8 -0.7**
comp=Z,12nm,0.9s,mb4.9,baz=308,slow=6.0,SNR=14
STKA LR LR 17 16 55.1
comp=Z,323nm,21.6s,MS4.4,baz=131,slow=36
KMBO Kilima Mbogo 57.80 266 P **P** **16 52 31.1 +1.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=54,slow=15,SNR=4.3
KMBO LR LR 17 13 02.4
comp=Z,385nm,21.4s,MS4.5,baz=97,slow=31
SVE Sverdlovsk 58.27 339⇑ *eP* **P** **16 52 31.0 -1.1**
SVE *e* pP 16 52 45.0 -0.4
SVE *e* 16 53 26.0
SVE *e* 17 00 47.0
SVE *e* 17 04 27.0
SVE pmax pmax
comp=Z,120nm,1.3s,mb5.8
UMJS Umm Lajj 58.54 296 P **P** **16 52 36.0 +1.6**
ZEI Tsey 58.56 318 *eP* **P** **16 52 31.1 -3.2**
ZEI pmax pmax
comp=Z,19nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 58.64 37 *i* Pr **P** **16 52 34.4 -0.4**
YSS Yuzh-Sakhalins 58.64 37⇑ *iP* **P** **16 52 34.0 -0.8**
YSS *e* pP 16 52 46.0 -2.1
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.7
YSS MLR MLR
comp=Z,300nm,20.0s,MS4.4
MARD Mardin 58.72 311 *i* P **P** **16 52 32.8 -2.7**
ARU Arti 58.74 337 *eP* **P** **16 52 33.5 -1.9**
comp=Z,41nm,1.0s,mb5.4
ARU Arti 58.74 337⇑ *iP* **P** **16 52 34.1 -1.3**
ARU *e* 16 53 21.6
ARU *e* 16 54 43.9
ARU *eS* **S** **17 00 38.9 +3.8**
ARU *e*SS SS 17 04 31.7 +1.3
ARU pmax pmax
comp=Z,37nm,1.0s,mb5.4
ERZM Erzurum 59.19 314 *i* P **P** **16 52 37.6 -1.1**
QURS Qurayyt al Mil 59.78 303 P **P** **16 52 44.0 +1.1**
KIV Kislovodsk 59.86 319 *eP* **P** **16 52 41.6 -1.7**
comp=Z,48nm,1.0s,mb5.5
KIV Kislovodsk 59.86 319 *c iP* **P** **16 52 42.2 -1.1**
KIV *i* pP 16 52 55.7 -1.0
KIV pmax pmax
comp=Z,52nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,100nm,25.0s,MS3.9
GOF Gofitskoye 60.10 320⇓ *iP* **P** **16 52 43.9 -1.0**
GOF pmax pmax
comp=Z,42nm,1.0s,mb5.4
ASF Jabal al Asfar 60.32 304 P **P** **16 52 48.2 +1.5**
comp=Z,6.4nm,0.9s,mb4.7,baz=349,slow=2.2,SNR=5.9
ASF pP pP 16 53 02.6 +2.6
comp=Z,14nm,0.9s,baz=346,slow=3.8,SNR=6.4
MALT Malatya 60.80 311 *eP* **P** **16 52 49.2 -0.6**
comp=Z,22nm,1.2s,mb5.2
MALT *e* pP 16 52 58.9 -4.3
MALT Malatya 60.80 311 *eP* **P** **16 52 49.2 -0.6**
MALT *e* pP 16 52 58.9 -4.3
MALT pmax pmax
comp=Z,22nm,1.2s,mb5.2
BDAS Al Bad' **61.05 300** P **P** **16 52 51.2 -0.4**
GZT Gaziantep 61.16 310 *i* P **P** **16 52 50.8 -1.5**
JMOS Jabal al Moall 61.18 300 P **P** **16 52 52.1 -0.4**
HAQS Haql 61.32 300 P **P** **16 52 54.0 +0.6**
SOC Sochi 61.69 317 *eP* **P** **16 52 53.7 -2.0**
SOC *e* 16 53 37.2
SOC *e*PPP PPP 16 56 48.2 +5.3
SOC *eS* **S** **17 01 12.2 -0.9**
SOC *e* 17 02 34.9
SOC *e*SS SS 17 05 17.0 +0.3
SOC pmax pmax
comp=N,19nm,1.1s
SOC pmax pmax
comp=Z,39nm,1.1s,mb5.5
SOC pmax pmax
comp=E,9.0nm,1.0s
BHL Bhannes 61.75 306 *eP* **P** **16 52 57.1 +0.9**
KAHT Ahir Dag 61.77 310 *i* P **P** **16 52 56.4 +0.1**
YAK Yakutsk 62.48 18 *eP* **P** **16 52 58.4 -2.3**
comp=E,74nm,0.8s,mb5.9
YAK Yakutsk 62.48 18 *c iP* **P** **16 52 58.7 -2.0**
YAK *e**PP pP 16 53 11.5 -2.7
YAK *e* 16 53 36.4
YAK *e* 16 55 16.0
YAK *eS* **S** **17 01 20.1 -2.6**
YAK *e* 17 02 42.0
YAK *e*SSS SSS 17 08 08.4 -4.3
YAK pmax pmax
comp=Z,61nm,0.9s,mb5.7
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,21nm,1.2s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
YAK smax
comp=N,9.0nm,1.1s
YAK smax
comp=E,4.0nm,1.2s
YAK MLR MLR
comp=Z,514nm,15.0s,MS4.8
YAK MLR MLR
comp=N,317nm,16.0s,MS4.7
YAK MLR MLR
comp=E,209nm,15.0s,MS4.7
MEST Erdemli 63.59 308 *i* P **P** **16 53 07.0 -1.6**
AVNT Avonos 63.62 311 *i* P **P** **16 53 07.8 -0.8**
VRHR Novokhopersk 63.63 326 *eP* **P** **16 53 06.5 -2.0**
VRHR pmax pmax
comp=Z,60nm,0.8s,mb5.7
VRHR pmax pmax
comp=N,30nm,1.3s
VRHR pmax pmax
comp=E,20nm,0.7s
CSS Prodhromos 63.86 307 *eP* **P** **16 53 09.8 -0.5**
comp=E,31nm,1.2s,mb5.2
MBAR Mbarara 64.22 267 *eP* **P** **16 53 12.4 -0.5**
comp=E,25nm,1.3s,mb5.1
MBAR Mbarara 64.22 267⇑ *iP* **P** **16 53 13.5 +0.5**
MBAR *e* pP 16 53 25.5 -1.0
ERMK Ermenek 64.57 308 *i* P **P** **16 53 21.1 +6.2**
BR131 Keskin Array S 64.78 312 *eP* **P** **16 53 14.6 -1.5**
comp=E,32nm,1.0s,mb5.3
BRTR Keskin Array B 64.78 312 P **P** **16 53 15.1 -1.1**
comp=E,19nm,0.9s,mb5.1,baz=121,slow=7.2,SNR=73
VORD Divnogorie 64.90 325 *c iP* **P** **16 53 14.5 -2.2**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=Z,40nm,0.9s,mb5.5
VORD pmax pmax
comp=E,50nm,1.0s
VRSR Storozhevoye 65.06 325 *eP* **P** **16 53 16.1 -1.7**
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
VRSR pmax pmax
comp=E,30nm,0.9s
ELDT Eldivan 65.14 312 *i* P **P** **16 53 16.2 -2.2**
VOR Voronezh 65.27 326 *eP* **P** **16 53 17.5 -1.6**
VOR pmax pmax
comp=Z,80nm,1.3s,mb5.6
ISP Isparta 66.71 309 *eP* **P** **16 53 27.7 -0.8**
comp=Z,11nm,0.6s,mb5.1
ISP Isparta 66.71 309 *c iP* **P** **16 53 27.3 -1.2**
ESKT Eskisehir 66.82 311 *i* P **P** **16 53 26.7 -2.5**
TKTP Tekketepe 66.90 309 *i* P **P** **16 53 27.3 -2.4**
GDZ Gediz 67.76 310 *i* P **P** **16 53 32.7 -2.4**
MOS Moscow 67.83 329 *eP* **P** **16 53 33.2 -2.0**
MOS *e* pP 16 53 46.4 -2.5
MOS pmax pmax
comp=Z,78nm,0.9s,mb5.7
OBN Obninsk 68.12 328⇑ *iP* **P** **16 53 36.0 -1.0**
OBN Obninsk 68.12 328 *c iP* **P** **16 53 36.0 -1.0**
OBN *i* 16 54 00.9
OBN *i* S S 17 02 33.0 +1.1
OBN pmax pmax
comp=Z,81nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
ULDT Uludag 68.24 311 *i* P **P** **16 53 36.2 -1.8**
MA2 Magadan 68.98 27 *eP* **P** **16 53 41.0 -1.3**
comp=Z,38nm,1.1s,mb5.2
MA2 Magadan 68.98 27 *c iP* **P** **16 53 41.5 -0.8**
MA2 pmax pmax
comp=Z,50nm,1.3s,mb5.3
BTOK Tokmak 69.00 311 *i* P **P** **16 53 42.7 -0.1**
KDAG Bornova 69.33 309 *i* P **P** **16 53 42.0 -2.8**
TIXI Tiksi 69.88 11⇑ *iP* **P** **16 53 45.8 -1.8**
TIXI Tiksi 69.88 11 *eP* **P** **16 53 42.8 -4.8**
TIXI *eS* S 17 02 50.0 -2.5
TIXI pmax pmax
comp=Z,45nm,0.8s,mb5.5
TIXI MLR MLR
comp=Z,443nm,19.0s,MS4.7
HARR Harsova 70.11 316⇑ *iP* **P** **16 53 48.3 -1.1**
HARR Harsova 70.11 316⇑ *iP* **P** **16 53 48.3 -1.1**
PET Petropavlovsk 70.45 35⇓ *iP* **P** **16 53 50.5 -0.9**
PET *e* 16 56 25.0
PET pmax pmax
comp=Z,37nm,0.9s,mb5.3
PET MLR MLR
comp=Z,200nm,20.0s,MS4.4
IDI Anoyia 70.72 306 P **P** **16 53 54.0 +0.7**
comp=Z,22nm,0.8s,mb5.2,baz=108,slow=9.0,SNR=8.9
IDI pP pP 16 54 08.6 +1.6
comp=Z,36nm,0.8s,baz=115,slow=5.9,SNR=6.3
AKASG Malin Array Be 70.78 322 P **P** **16 53 51.9 -1.5**
comp=Z,11nm,0.7s,mb4.9,baz=91,slow=4.7,SNR=66
AKASG PP PP 16 56 30.6 -2.1
comp=Z,0.4nm,0.3s,baz=111,slow=8.1,SNR=4.1
AKASG Malin Array Be 70.78 322 P **P** **16 53 51.9 -1.5**
AKASG PP PP 16 56 30.6 -2.1
ISR Istrita 71.16 316⇓ **P** **P** **16 53 56.0 +0.2**
ISR Istrita 71.16 316⇑ *iP* **P** **16 53 56.0 +0.2**
VRI Vrincioaia 71.20 317⇓ *iP* **P** **16 53 56.7 +0.7**
VRI Vrincioaia 71.20 317⇑ *iP* **P** **16 53 56.7 +0.7**
VRI Vrincioaia 71.20 317 P **P** **16 53 56.5 +0.5**
SEY Seymchan 71.23 24⇑ *eP* **P** **16 53 55.0 -0.9**
MLR Muntele Rosu 71.65 316 P **P** **16 53 58.9 +0.2**
comp=Z,52nm,1.0s,mb5.4,baz=113,slow=2.2,SNR=51
MLR Muntele Rosu 71.65 316⇓ *iP* **P** **16 53 58.8 +0.1**
MLR Muntele Rosu 71.65 316⇑ *iP* **P** **16 53 58.9 +0.1**
MLR Muntele Rosu 71.65 316 P **P** **16 53 59.2 +0.5**
RZN Rozhen 71.82 312 *i* P **P** **16 53 59.5 -0.3**
SNX Sinaia 71.92 316⇓ *iP* **P** **16 53 59.5 -0.8**
SNX Sinaia 71.92 316⇑ *iP* **P** **16 53 59.5 -0.8**
VOIR 72.26 316⇓ *iP* **P** **16 54 00.7 -1.6**
VOIR 72.26 316⇑ *iP* **P** **16 54 00.7 -1.6**
MMB Musomiste 72.54 312 *i* P **P** **16 54 04.5 +0.4**
BURAR Bucovina Array 72.58 318⇓ *iP* **P** **16 54 04.6 +0.4**
BURAR Bucovina Array 72.58 318⇑ *iP* **P** **16 54 04.6 +0.4**
MNK Minsk 72.65 326 *eP* **P** **16 54 02.0 -2.5**
KKB Krupnik 73.06 312 *i* P **P** **16 54 06.3 -0.8**
VTS Vitosha 73.08 313 *i* P **P** **16 54 07.5 +0.3**
VTS Vitosha 73.08 313 P **P** **16 54 06.9 -0.3**
JOF Joensuu 73.68 335 *ep* **P** **16 54 08.6 -1.7**
comp=Z,22nm,1.0s,mb5.0
DRGR 74.11 317⇑ P **P** **16 54 12.4 -0.8**
DRGR 74.11 317⇑ *iP* **P** **16 54 12.4 -0.8**
DRGR 74.11 317 P **P** **16 54 12.8 -0.4**
SKO Skopje 74.29 312 *i* P **P** **16 54 13.0 -1.3**
VSU Vasula 74.35 330⇑ *eP* **P** **16 54 13.1 -1.2**
LVZ Lovozero 74.44 340 *i* P **P** **16 54 13.0 -1.6**
KWP Kalwaria 74.61 320 *eP* **P** **16 54 16.4 +0.4**
APA Apatity 74.72 340⇑ *iP* **P** **16 54 16.6 +0.3**
APA *i* pP 16 54 31.0 +0.9
APA *i* S S 17 03 52.0 +4.4
APA pmax pmax
comp=Z,39nm,1.0s,mb5.3
APA MLR MLR
comp=Z,800nm,6.0s
DZM Mont Dzumac 75.03 114 LR LR 17 27 53.4
comp=Z,115nm,19.1s,MS4.2,baz=230,slow=36
SUW Suwalki 75.18 325 *eP* **P** **16 54 18.9 -0.3**
CRVS Cervenica-Dubn 75.29 319 *eP* **P** **16 54 20.5 +0.6**
STHS Stebnicka Huta 75.51 320 *eP* **P** **16 54 21.6 +0.4**
STHS *es*P sP 16 54 35.9 -4.3
FINES FINESS Array B 75.51 332 P **P** **16 54 20.6 -0.4**
comp=Z,4.2nm,0.7s,mb4.5,baz=86,slow=6.0,SNR=37
FINES pP pP 16 54 35.7 +1.0
comp=Z,4.8nm,0.3s,baz=98,slow=6.7,SNR=11
FINES LR LR 17 31 39.4
comp=Z,115nm,19.9s,MS4.2,baz=273,slow=39
FINES FINESS Array B 75.51 332 P **P** **16 54 20.6 -0.4**
FINES pP pP 16 54 35.7 +1.0
FINES LR LR 17 31 39.4
KAF Kangasniemi 75.60 333 *ep* **P** **16 54 20.2 -1.2**
comp=Z,18nm,1.0s,mb5.0,baz=104,slow=5.3
KAF Kangasniemi 75.60 333 *eP* **P** **16 54 20.2 -1.2**
KAF pmax pmax
comp=Z,18nm,1.0s,mb5.0
KECS Kecovo 75.86 319 *i* P **P** **16 54 23.4 +0.2**
MAW Mawson 75.90 192 P **P** **16 54 24.3 +1.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=6.2,slow=11,SNR=4.8
MAW LR LR 17 22 02.0
comp=Z,273nm,21.5s,MS4.5,baz=164,slow=31
NIE Niedzica 76.11 320 *eP* **P** **16 54 25.7 +1.1**
PSZ Piszkesteto 76.17 318⇑ *eP* **P** **16 54 25.1 +0.1**
PSZ Piszkesteto 76.17 318 *eP* **P** **16 54 24.5 -0.5**
comp=Z,30nm,0.8s,mb5.3
PSZ Piszkesteto 76.17 318 P **P** **16 54 25.3 +0.3**
OJC Ojcow 76.56 320⇑ *iP* **P** **16 54 27.4 +0.3**
PKSM Moragy 76.81 316 P **P** **16 54 28.5 -0.1**
VYHS Vyhne 76.95 319 *i* P **P** **16 54 29.4 0.0**
SRO Srobarova 77.21 318 *eP* **P** **16 54 32.2 +1.3**
SRO *e* 16 54 37.5
SRO1 Iza 77.26 318 *eP* **P** **16 54 30.9 -0.2**
OKC Ostrava-Krasne 77.56 320 *eP* **P** **16 54 33.4 +0.7**
TIP Timpagrande 77.57 309 *eP* **P** **16 54 33.1 +0.2**
KEV Kevo 77.72 341 *ep* **P** **16 54 31.9 -1.3**
comp=Z,20nm,0.8s,mb5.1
KEV Kevo 77.72 341 *eP* **P** **16 54 31.9 -1.3**
KEV pmax pmax
comp=Z,20nm,0.8s,mb5.1
SMOL Smolenice 77.88 318 *eP* **P** **16 54 35.5 +1.0**
MORC Moravsky Berou 77.95 320 *eP* **P** **16 54 35.0 +0.2**
comp=Z,42nm,1.0s,mb5.3
MORC Moravsky Berou 77.95 320 P **P** **16 54 35.5 +0.7**
ZST Bratislava 78.06 318 *eP* **P** **16 54 36.1 +0.6**
ARCES ARCESS Array B 78.14 340 P **P** **16 54 35.6 +0.1**
comp=Z,14nm,0.8s,mb5.0,baz=100,slow=6.3,SNR=40

ARCES				pP	pP	16 54 50.1	+0.8
	comp=Z,4.9nm,0.7s,baz=90,slow=9.7,SNR=8.6						
ARCES				PP	PP	16 57 31.1	-3.2
	comp=Z,12nm,1.0s,baz=90,slow=4.9,SNR=6.6						
ARCES				LR	LR	17 35 36.5	
	comp=Z,165nm,19.0s,MS4.4,baz=273,slow=41						
ARE0	**ARCESS Array S**	**78.14**	**340**	eP	**P**	**16 54 35.3**	**-0.3**
BILL	**Bilibino**	**78.48**	**21**	eP	**P**	**16 54 36.4**	**-1.0**
	comp=Z,11nm,0.8s,mb4.8						
BILL	**Bilibino**	**78.48**	**21**	eP	**P**	**16 54 36.4**	**-1.0**
BILL				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
VRAC	**Vranov**	**78.51**	**319**	P	**P**	**16 54 38.2**	**+0.3**
	comp=Z,10nm,0.8s,mb4.8,baz=120,slow=5.9,SNR=14						
VRAC				pP	pP	16 54 53.6	+1.8
	comp=Z,3.2nm,0.4s,baz=125,slow=13,SNR=3.6						
VRAC	**Vranov**	**78.51**	**319**	P	**P**	**16 54 37.9**	**0.0**
GKP	**Gorka Klasztor**	**78.55**	**323**	eP	**P**	**16 54 38.4**	**+0.4**
VKA	**Vienna**	**78.59**	**318**	⇑iP	**P**	**16 54 38.9**	**+0.5**
	comp=Z,149nm,1.0s,mb5.9						
VKA	**Vienna**	**78.59**	**318**	⇑iP	**P**	**16 54 38.9**	**+0.5**
VKA				pmax	pmax		
	comp=Z,149nm,1.0s,mb5.9						
DPC	**Dobruska-Polom**	**78.79**	**320**	eP	**P**	**16 54 40.4**	**+0.9**
KSP	**Ksiaz**	**78.86**	**321**	eP	**P**	**16 54 41.1**	**+1.2**
KSP	**Ksiaz**	**78.86**	**321**	⇑eP	**P**	**16 54 40.5**	**+0.7**
CRES	**Cresnjev**	**78.98**	**316**	i P	**P**	**16 54 40.9**	**+0.3**
GROS	**Grobnik**	**79.00**	**316**	i P	**P**	**16 54 41.1**	**+0.4**
UPC	**Upice**	**79.00**	**320**	eP	**P**	**16 54 41.4**	**+0.8**
ARSA	**Arzberg**	**79.04**	**317**	⇑iP	**P**	**16 54 41.5**	**+0.6**
	comp=Z,100nm,1.4s,mb5.5						
BOJS	**Bojanci**	**79.10**	**315**	⇑eP	**P**	**16 54 41.4**	**+0.1**
	comp=Z,108nm,1.1s,mb5.7						
BOJS				e	pP	16 54 56.4	+1.3
VAE	**Valguarnera**	**79.33**	**307**	P	**P**	**16 54 44.7**	**+2.0**
	comp=Z,10nm,0.6s,mb4.9,baz=142,slow=4.7,SNR=3.9						
VISS	**Visnje**	**79.41**	**316**	⇑iP	**P**	**16 54 43.3**	**+0.4**
	comp=Z,86nm,1.1s,mb5.6						
LJU	**Ljubljana**	**79.64**	**316**	⇑iP	**P**	**16 54 44.9**	**+0.7**
	comp=Z,174nm,1.1s,mb5.9						
OBKA	**Obir**	**79.66**	**316**	⇑iP	**P**	**16 54 44.9**	**+0.6**
	comp=Z,112nm,1.6s,mb5.5						
PRU	**Pruhonice**	**79.90**	**320**	eP	**P**	**16 54 46.0**	**+0.5**
PVCC	**Panska Ves**	**79.92**	**320**	eP	**P**	**16 54 46.1**	**+0.5**
MOA	**Molln**	**79.93**	**318**	⇑iP	**P**	**16 54 45.8**	**+0.1**
	comp=Z,31nm,1.2s,mb5.1						
VOY	**Vojsko**	**80.08**	**316**	eP	**P**	**16 54 46.6**	**+0.1**
VOY				e	pP	16 55 01.3	+0.9
AQU	**L'Aquila**	**80.27**	**312**	eP	**P**	**16 54 47.7**	**+0.1**
	comp=Z,29nm,0.9s,mb5.2						
BRG	**Berggiesshubel**	**80.34**	**321**	i P	**P**	**16 54 48.3**	**+0.5**
	comp=Z,36nm,1.1s,mb5.2						
BRG	**Berggiesshubel**	**80.34**	**321**	i P	**P**	**16 54 48.3**	**+0.5**
BRG				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.2						
GEC2	**GERESS Array S**	**80.37**	**319**	eP	**P**	**16 54 48.7**	**+0.7**
	comp=Z,88nm,1.0s,mb5.6						
GEC2	**GERESS Array S**	**80.37**	**319**	eP	**P**	**16 54 48.7**	**+0.7**
GEC2				pmax	pmax		
	comp=Z,88nm,1.0s,mb5.6						
GERES	**GERESS Array B**	**80.37**	**319**	P	**P**	**16 54 48.6**	**+0.6**
	comp=Z,47nm,0.8s,mb5.5,baz=90,slow=5.3,SNR=276						
KHC	**Kasperske Hory**	**80.47**	**319**	eP	**P**	**16 54 48.8**	**+0.3**
KHC				pP	pP	16 55 02.5	+0.1
KHC	**Kasperske Hory**	**80.47**	**319**	eP	**P**	**16 54 48.8**	**+0.3**
KHC				e	pP	16 55 02.5	+0.1
KBA	**Koelnbreinsper**	**80.51**	**317**	⇑iP	**P**	**16 54 48.8**	**0.0**
	comp=Z,27nm,1.1s,mb5.1						
KBA	**Koelnbreinsper**	**80.51**	**317**	⇑iP	**P**	**16 54 48.8**	**0.0**
KBA				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
WET	**Wettzell**	**80.93**	**319**	eP	**P**	**16 54 51.5**	**+0.5**
	comp=Z,42nm,1.0s,mb5.3						
WET	**Wettzell**	**80.93**	**319**	eP	**P**	**16 54 51.5**	**+0.5**
WET				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.3						
CLL	**Collm**	**80.96**	**321**	⇑P	**P**	**16 54 51.1**	**0.0**
	comp=Z,logA/T=1.4,mb5.1						
CLL				i PCP	PcP	16 54 56.1	-1.7
CLL				i *PP	pP	16 55 00.4	-4.6
CLL				e	pP	16 55 07.0	+2.0
CLL				e		16 55 14.0	
CLL	**Collm**	**80.96**	**321**	⇑iP	**P**	**16 54 51.1**	**0.0**
	comp=Z,27nm,1.0s,mb5.1						
CLL				i PcP	PcP	16 54 56.1	-1.7
CLL				i pP	pP	16 55 00.4	-4.6
CLL	**Collm**	**80.96**	**321**	⇑iP	**P**	**16 54 51.1**	**0.0**
CLL				i *PP	pP	16 55 00.4	-4.6
CLL				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
HFS	**Hagfors**	**81.22**	**330**	P	**P**	**16 54 51.9**	**-0.4**
	comp=Z,5.4nm,0.6s,mb4.7,baz=112,slow=8.0,SNR=14						
HFS				pP	pP	16 55 07.6	+1.4
	comp=Z,3.2nm,0.3s,baz=123,slow=4.7,SNR=5.8						
NKC	**Novy Kostel**	**81.26**	**320**	eP	**P**	**16 54 53.5**	**+0.8**
WTTA	**Wattenberg**	**81.69**	**317**	⇑iP	**P**	**16 54 55.0**	**0.0**
	comp=Z,78nm,1.1s,mb5.5						
WTTA	**Wattenberg**	**81.69**	**317**	i P	**P**	**16 54 55.0**	**0.0**
	comp=Z,78nm,1.1s,mb5.5,SNR=23						
WTTA	**Wattenberg**	**81.69**	**317**	⇑iP	**P**	**16 54 55.0**	**0.0**
WTTA				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
WATA	**Walderalm**	**81.73**	**317**	⇑iP	**P**	**16 54 54.9**	**-0.3**
	comp=Z,27nm,1.0s,mb5.1						
WATA	**Walderalm**	**81.73**	**317**	⇑iP	**P**	**16 54 54.9**	**-0.3**
WATA				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
MOX	**Moxa**	**81.81**	**320**	i P	**P**	**16 54 55.9**	**+0.4**
	comp=Z,logA/T=1.4,mb5.1						
MOX	**Moxa**	**81.81**	**320**	eP	**P**	**16 54 55.9**	**+0.4**
	comp=Z,33nm,1.4s,mb5.1						
MOX	**Moxa**	**81.81**	**320**	eP	**P**	**16 54 55.9**	**+0.4**
MOX				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
FUR	**Furstenfeldbru**	**81.95**	**318**	eP	**P**	**16 54 56.4**	**+0.1**
	comp=Z,40nm,0.8s,mb5.4						
FUR	**Furstenfeldbru**	**81.95**	**318**	eP	**P**	**16 54 56.4**	**+0.1**
FUR				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
SQTA	**Sankt Quirin**	**81.98**	**317**	⇑iP	**P**	**16 54 56.5**	**0.0**
	comp=Z,28nm,0.9s,mb5.2						
SQTA	**Sankt Quirin**	**81.98**	**317**	⇑iP	**P**	**16 54 56.5**	**0.0**
SQTA				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
GRA1	**Grafenberg Arr**	**82.03**	**319**	eP	**P**	**16 54 57.6**	**+0.9**
	comp=Z,68nm,1.1s,mb5.5						
GRF	**Grafenberg Arr**	**82.03**	**319**	eP	**P**	**16 54 57.6**	**+0.9**
GRF				pmax	pmax		
	comp=Z,68nm,1.1s,mb5.5						
MOTA	**Moosalm**	**82.05**	**317**	⇑iP	**P**	**16 54 56.8**	**0.0**
	comp=Z,44nm,1.0s,mb5.3						
MOTA	**Moosalm**	**82.05**	**317**	⇑iP	**P**	**16 54 56.8**	**0.0**
MOTA				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
MAIM		**82.43**	**313**	P	**P**	**16 54 57.9**	**-1.0**
NB2	**NORSAR Subarra**	**82.51**	**331**	P	**P**	**16 54 58.0**	**-0.9**
	comp=Z,13nm,0.9s,mb5.0,baz=95,slow=5.3						
NB2	**NORSAR Subarra**	**82.51**	**331**	P	**P**	**16 54 58.0**	**-0.9**
NB2				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
NOA	**NORSAR Array B**	**82.51**	**331**	P	**P**	**16 54 58.2**	**-0.7**
	comp=Z,7.0nm,0.8s,mb4.7,baz=93,slow=5.4,SNR=16						
NOA				pP	pP	16 55 13.6	+0.8
	comp=Z,8.6nm,1.0s,baz=94,slow=5.8,SNR=6.5						
NOA				PP	PP	16 58 09.9	-0.5
	comp=Z,2.4nm,0.9s,baz=90,slow=7.8,SNR=3.4						
NOA				LR	LR	17 37 02.7	
	comp=Z,79nm,19.1s,MS4.1,baz=90,slow=40						
VALM		**82.61**	**314**	P	**P**	**16 55 00.4**	**+0.6**
CLZ	**Clausthal**	**82.62**	**321**	eP	**P**	**16 55 00.2**	**+0.5**
	comp=Z,38nm,1.0s,mb5.4						
CLZ	**Clausthal**	**82.62**	**321**	eP	**P**	**16 55 00.2**	**+0.5**
CLZ				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
HDH	**Heidenheim**	**82.67**	**318**	⇑eP	**P**	**16 55 00.1**	**+0.1**
BSEG	**Bad Segeberg**	**82.71**	**324**	eP	**P**	**16 55 00.7**	**+0.6**
BSEG				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6						
UBR	**Uberruh**	**82.73**	**317**	⇑eP	**P**	**16 55 00.5**	**+0.2**
GRAM		**82.74**	**314**	P	**P**	**16 55 00.9**	**+0.5**
DAVOX	**Davos**	**82.88**	**316**	P	**P**	**16 55 01.5**	**+0.4**
	comp=Z,56nm,0.8s,mb5.6,baz=112,slow=5.8,SNR=48						
DAVA	**Damuels**	**82.88**	**317**	⇓iP	**P**	**16 55 01.7**	**+0.6**
	comp=Z,82nm,1.3s,mb5.6						
CODM		**82.90**	**314**	P	**P**	**16 55 00.9**	**-0.3**
SYO	**Syowa Base**	**82.90**	**197**	⇑PcP	PcP	16 55 05.0	-0.9
SIND	**Sindeldorf**	**83.08**	**319**	⇑eP	**P**	**16 55 02.5**	**+0.5**
GUT	**Gutenstein**	**83.40**	**318**	⇑eP	**P**	**16 55 04.0**	**+0.3**
PGF	**Pioggiola**	**83.53**	**312**	eP	**P**	**16 55 05.1**	**+0.6**
	comp=Z,86nm,1.4s,mb5.4						
RPZ	**Rata Peaks**	**83.59**	**135**	LR	LR	17 30 01.8	
	comp=Z,450nm,21.1s,MS4.8,baz=9.6,slow=34						
TOD	**Tromm**	**83.60**	**319**	eP	**P**	**16 55 05.0**	**+0.3**
LBG	**Lerchenberg**	**83.61**	**318**	⇑eP	**P**	**16 55 05.1**	**+0.3**
SPAK	**Spaichingen**	**83.62**	**318**	eP	**P**	**16 55 05.5**	**+0.7**
SWS	**Schriesheim**	**83.67**	**319**	eP	**P**	**16 55 05.8**	**+0.8**
TNS	**Taunus Mts**	**83.83**	**320**	eP	**P**	**16 55 06.5**	**+0.7**
	comp=Z,33nm,1.0s,mb5.4						
TNS	**Taunus Mts**	**83.83**	**320**	eP	**P**	**16 55 06.5**	**+0.7**
TNS				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.4						
PCP	**Pian Castagno**	**83.83**	**314**	P	**P**	**16 55 05.3**	**-0.7**
BFO	**Black Forest**	**83.92**	**318**	eP	**P**	**16 55 06.4**	**0.0**
	comp=Z,24nm,0.9s,mb5.3						
FIN	**Finale Ligure**	**84.08**	**314**	P	**P**	**16 55 07.2**	**0.0**
FELD	**Feldberg**	**84.15**	**317**	eP	**P**	**16 55 07.8**	**+0.3**
KIZ	**Kirchzarten**	**84.20**	**318**	⇑eP	**P**	**16 55 07.8**	**0.0**
ORX	**Oropa**	**84.21**	**315**	P	**P**	**16 55 06.3**	**-1.6**
LANF	**Langenberg**	**84.26**	**319**	eP	**P**	**16 55 08.8**	**+0.8**
IMI	**Imperia**	**84.31**	**314**	P	**P**	**16 55 08.0**	**-0.4**
ROB	**Roburent**	**84.32**	**314**	P	**P**	**16 55 07.6**	**-0.8**
ABH	**Alteburg**	**84.41**	**320**	eP	**P**	**16 55 09.7**	**+0.9**
ABH	**Alteburg**	**84.41**	**320**	eP	**P**	**16 55 09.3**	**+0.5**
NEGI	**Negi**	**84.45**	**313**	P	**P**	**16 55 09.3**	**+0.1**
BBS	**Basel-Blauen**	**84.49**	**317**	eP	**P**	**16 55 09.3**	**+0.1**
SAOF	**Saorge**	**84.55**	**314**	eP	**P**	**16 55 10.2**	**+0.6**
WLS	**Welschbruch**	**84.57**	**318**	eP	**P**	**16 55 09.7**	**+0.1**
CDF	**Champ du Feu**	**84.62**	**318**	eP	**P**	**16 55 09.9**	**0.0**
	comp=Z,30nm,0.9s,mb5.1						
ENR	**Entracque**	**84.64**	**314**	P	**P**	**16 55 08.9**	**-1.1**
SBF	**Sospel**	**84.64**	**313**	eP	**P**	**16 55 10.5**	**+0.4**
	comp=Z,128nm,1.1s,mb5.7						
AUTN	**L'Aution**	**84.64**	**314**	eP	**P**	**16 55 10.9**	**+0.8**
REVF	**Revere**	**84.70**	**313**	eP	**P**	**16 55 11.2**	**+0.8**
ECH	**Echery**	**84.71**	**318**	eP	**P**	**16 55 10.7**	**+0.4**
STV	**Sta Anna Valdi**	**84.71**	**314**	P	**P**	**16 55 10.3**	**-0.2**
RSP	**Reno Superiore**	**84.73**	**315**	P	**P**	**16 55 09.8**	**-0.7**
MOF	**Molkenrain**	**84.73**	**317**	eP	**P**	**16 55 10.4**	**0.0**
TOUF	**Mont Tournerai**	**84.77**	**314**	eP	**P**	**16 55 11.7**	**+1.0**
LSD	**Ceresole Reale**	**84.79**	**315**	P	**P**	**16 55 11.3**	**+0.5**
MVIF	**Mont Vial**	**84.85**	**314**	eP	**P**	**16 55 12.0**	**+0.9**
FENE	**Fenestrelle**	**84.87**	**315**	P	**P**	**16 55 10.8**	**-0.4**
LOMF	**Lomont**	**84.96**	**317**	eP	**P**	**16 55 11.6**	**0.0**
CALN	**Calern**	**85.04**	**313**	eP	**P**	**16 55 13.2**	**+1.1**
LPG	**La Plagne**	**85.08**	**315**	eP	**P**	**16 55 13.0**	**+0.8**
	comp=Z,75nm,1.0s,mb5.5						
MBDF	**Montbardon**	**85.09**	**314**	eP	**P**	**16 55 12.3**	**0.0**
	comp=Z,33nm,1.1s,mb5.1						
BNI	**Bardonecchia**	**85.14**	**315**	eP	**P**	**16 55 12.4**	**-0.2**
	comp=Z,14nm,0.8s,mb5.2						
HAU	**Haudompre**	**85.26**	**318**	eP	**P**	**16 55 13.0**	**0.0**
	comp=Z,93nm,0.9s,mb5.6						
HAU				eR			
	comp=Z,87nm,20.8s						
THEF	**They Montfort**	**85.49**	**318**	eP	**P**	**16 55 14.4**	**+0.2**
OCF	**Saint Nazaire**	**86.14**	**314**	eP	**P**	**16 55 18.7**	**+1.2**
OG26	**St.-Nazaire-De**	**86.14**	**314**	eP	**P**	**16 55 18.7**	**+1.2**
BAIF	**Baives**	**86.56**	**320**	eP	**P**	**16 55 20.1**	**+0.8**
	comp=Z,64nm,1.0s,mb5.5						
COLF	**Collangettes**	**87.22**	**315**	eP	**P**	**16 55 23.5**	**+0.8**
SSF	**Saint Saulge**	**87.23**	**317**	eP	**P**	**16 55 23.3**	**+0.6**
	comp=Z,47nm,1.2s,mb5.3						
PLDF	**La Plantade**	**87.24**	**316**	eP	**P**	**16 55 24.5**	**+1.7**
AGO	**Saint Agoulin**	**87.57**	**316**	eP	**P**	**16 55 26.1**	**+1.7**
PYM	**Petit Puy Mans**	**87.68**	**316**	eP	**P**	**16 55 26.8**	**+1.9**
BGF	**Bois d'Agland**	**87.73**	**316**	eP	**P**	**16 55 25.9**	**+0.8**
RJF	**Les Rejaudoux**	**88.77**	**315**	eP	**P**	**16 55 31.2**	**+1.1**
	comp=Z,54nm,1.2s,mb5.5						
RJF				eR			
	comp=Z,100nm,21.8s						
JMIC	**Jan Mayen**	**89.59**	**341**	LR	LR	17 38 39.9	
	comp=Z,103nm,21.2s,MS4.2,baz=256,slow=38						
FLN	**La Foliniere**	**89.73**	**319**	eP	**P**	**16 55 35.2**	**+0.6**
	comp=Z,107nm,1.1s,mb5.8						
FLN				eR			
	comp=Z,91nm,21.2s						
VNDA	**Vanda**	**90.03**	**168**	P	**P**	**16 55 36.4**	**+1.0**
	comp=Z,2.0nm,1.0s,mb4.4,baz=310,slow=5.4,SNR=7.4						
VNDA				LR	LR	17 32 56.0	
	comp=Z,164nm,20.2s,MS4.5,baz=278,slow=34						
ETSF	**Etsaut**	**90.53**	**313**	eP	**P**	**16 55 39.7**	**+1.2**
	comp=Z,22nm,0.9s,mb5.2						
ESDC	**Sonseca Array**	**93.54**	**310**	P	**P**	**16 55 52.9**	**+0.5**
	comp=Z,0.7nm,0.5s,mb4.4,baz=85,slow=3.3,SNR=8.5						
IMA	**Indian Mountai**	**93.99**	**22**	eP	**P**	**16 55 54.7**	**+0.9**
	comp=Z,64nm,0.8s,mb6.1						
MDT	**Midelt**	**95.17**	**303**	LR	LR	17 39 59.2	
	comp=Z,224nm,20.5s,MS4.6,baz=345,slow=36						
BORG	**Borgarnes**	**96.28**	**337**	LR	LR	17 44 53.6	
	comp=Z,150nm,18.0s,MS4.5,baz=43,slow=39						
ILAR	**Eielson Array**	**97.11**	**22**	P	**P**	**16 56 07.2**	**-0.8**
	comp=Z,1.3nm,0.8s,mb4.4,baz=291,slow=4.1,SNR=13						
ILAR				PP	PP	17 00 01.9	-5.2
	comp=Z,1.1nm,1.0s,baz=299,slow=6.7,SNR=5.2						
ILAR				LR	LR	17 46 41.9	
	comp=Z,135nm,18.9s,MS4.5,baz=189,slow=40						
SNAA	**Sanae**	**97.15**	**198**	LR	LR	17 31 49.8	
	comp=Z,60nm,18.1s,MS4.1,baz=71,slow=30						
DBIC	**Dimbokro**	**98.97**	**278**	LR	LR	17 37 37.5	
	comp=Z,138nm,21.7s,MS4.4,baz=65,slow=33						
INK	**Inuvik**	**99.52**	**16**	eP	**P**	**16 56 18.2**	**-0.6**
	comp=Z,5.9nm,1.1s,mb4.9						
TBI	**Tubuai**	**115.60**	**113**	eLR	LR	17 36 07.1	
PPT	**Papeete**	**115.92**	**107**	eLR	LR	17 36 16.2	
	comp=Z,109nm,23.2s						
MSO	**Missoula**	**122.44**	**23**	ePKP	PKPdf	17 01 30.8	+0.4
MOD	**Modoc**	**123.40**	**31**	ePKP	PKPdf	17 01 34.2	+1.8
WVOR	**Wild Horse Val**	**123.84**	**29**	ePKP	PKPdf	17 01 35.1	+1.8
WVOR				LR	LR		
	comp=Z,182nm,19.0s,MS4.8						
ULM	**Lac du Bonnet**	**124.17**	**8**	PKP	PKPdf	17 01 34.2	+0.5
	comp=Z,2.7nm,0.6s,baz=344,slow=3.0,SNR=4.1						
ULM	**Lac du Bonnet**	**124.17**	**8**	PKP	PKPdf	17 01 34.2	+0.5
DLMT	**Dillon**	**124.18**	**23**	ePKP	PKPdf	17 01 35.7	+1.8
BOZ	**Bozeman (W)**	**124.31**	**22**	ePKP	PKPdf	17 01 35.3	+1.2
HLID	**Hailey**	**124.91**	**26**	ePKP	PKPdf	17 01 37.5	+2.1
LAO	**LASA Array**	**125.24**	**18**	ePKP	PKPdf	17 01 38.0	+2.1
ELK	**Elko**	**126.77**	**28**	ePKP	PKPdf	17 01 41.0	+1.9
NVAR	**Mina Array Bea**	**126.98**	**32**	PKP	PKPdf	17 01 42.3	+2.8
	comp=Z,4.0nm,0.8s,baz=303,slow=0.7,SNR=24						
PDAR	**Pinedale Array**	**127.55**	**23**	PKP	PKPdf	17 01 41.5	+1.0
	comp=Z,5.3nm,1.0s,baz=45,slow=2.1,SNR=18						
MTUM	**Tungsten Hills**	**127.62**	**34**	ePKP	PKPdf	17 01 42.8	+2.0
RKT	**Rikitea**	**128.78**	**116**	eLR	LR	17 42 13.8	
	comp=Z,132nm,28.2s						
RWWY	**Rawlins**	**129.35**	**21**	ePKP	PKPdf	17 01 45.1	+1.2
TMUT	**Trail Mountain**	**129.78**	**26**	ePKP	PKPdf	17 01 47.7	+2.9
MSU	**Marysvale**	**129.98**	**28**	ePKP	PKPdf	17 01 48.1	+2.9
NEN	**Nelson**	**130.89**	**32**	ePKP	PKPdf	17 01 50.0	+3.0
SDCO	**Great Sand Dun**	**133.44**	**22**	PFAKE		17 02 10.0	+18
SDCO				LR	LR		
	comp=Z,213nm,20.0s,MS4.9						
ANMO	**Albuquerque**	**135.48**	**25**	ePKP	PKPdf	17 01 57.9	+2.3
ANMO				LR	LR		
	comp=Z,153nm,19.0s,MS4.7						
ANMO	**Albuquerque**	**135.48**	**25**	i PKIKP	PKPdf	17 01 55.5	-0.1
MNTX	**Cornudas Mount**	**138.72**	**26**	ePKP	PKPdf	17 02 03.2	+1.5
WVT	**Waverly**	**138.98**	**3**	ePKP	PKPdf	17 02 03.8	+1.8
TXAR	**Lajitas Array**	**141.50**	**26**	PKhKP		17 02 02.9	
	comp=Z,0.9nm,0.6s,baz=156,slow=0.2,SNR=8.9						
TXAR				PKP	PKPdf	17 02 09.2	+2.5
	comp=Z,3.2nm,0.7s,baz=180,slow=1.3,SNR=17						
TXAR				PP	PP	17 05 10.6	-3.4
	comp=Z,0.7nm,1.0s,SNR=3.7						
TXAR				SKPbc		17 05 40.5	
	comp=Z,1.5nm,0.8s,baz=251,slow=1.6,SNR=5.2						
TXAR	**Lajitas Array**	**141.50**	**26**	PKP	PKPdf	17 02 09.2	+2.5
TXAR				PP	PP	17 05 10.6	-3.4
TXAR				SKPbc		17 05 40.5	
BDFB	**Brasilia**	**141.99**	**251**	PKP	PKPdf	17 02 10.8	+3.0
	comp=Z,1.3nm,0.4s,baz=155,slow=15,SNR=3.1						
PLCA	**Paso Flores**	**142.09**	**198**	PKhKP		17 02 05.3	
	comp=Z,1.4nm,0.8s,baz=220,slow=3.7,SNR=4.0						
PLCA				PKP	PKPdf	17 02 09.1	+1.7
	comp=Z,1.4nm,0.8s,baz=315,slow=1.4,SNR=3.1						
LRAL	**Lakeview Retre**	**142.11**	**2**	PKP	PKPdf	17 02 09.9	+2.3
CPUP	**Villa Florida**	**145.97**	**229**	PKPbc	PKPbc	17 02 17.1	+1.5
	comp=Z,9.5nm,0.9s,baz=122,slow=2.3,SNR=12						
DWPF	**Disney**	**146.85**	**354**	ePKP	PKPdf	17 02 18.9	+2.9
CFAA	**Coronel Fontan**	**149.14**	**209**	PKPbc	PKPdf	17 02 25.2	+5.6
	comp=Z,1.6nm,0.8s,baz=168,slow=2.2,SNR=25						
MTP	**Monte Pirata**	**149.94**	**320**	ePKPbc	PKPdf	17 02 27.8	+6.6
SJG	**San Juan**	**150.30**	**321**	PKPbc	PKPdf	17 02 28.5	+6.7
SJG	**San Juan**	**150.30**	**321**	ePKPbc	PKPdf	17 02 28.2	+6.4
SIV	**San Ignacio**	**153.93**	**243**	PKP	PKPdf	17 02 28.8	+1.8
	comp=Z,2.3nm,0.5s,baz=63,slow=2.3,SNR=16						
SIV				PKPbc	PKPdf	17 02 36.8	+10
	comp=Z,0.9nm,0.4s,baz=228,slow=8.5,SNR=3.5						
SIV				PKPab	PKPab	17 02 51.1	+0.3
	comp=Z,1.4nm,0.7s,baz=34,slow=4.2,SNR=3.7						
SDV	**Santo Domingo**	**159.94**	**314**	PKPab	PKPab	17 03 16.5	-0.2
	comp=Z,8.1nm,1.0s,baz=30,slow=5.1,SNR=4.3						

WEL 01 17:30:21.2±0.1**,40.43S**×**176.46E,h46**^{km}±2^{km}**,ML3.5**/5**, 3C-2D,Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.30**	**213**	⇑PN	P	17 30 29.8	-0.2
BFZ				SN	S	17 30 36.3	+0.2
PXZ	**Pawanui**	**0.51**	**38**	⇑PN	P	17 30 32.3	0.0
PXZ				SN	S	17 30 40.4	+0.2
TSZ	**Takapari Road**	**0.53**	**314**	⇓PN	P	17 30 30.3	-2.3
TSZ				SN	S	17 30 36.9	-3.8
MRZ	**Mangatainoka R**	**0.71**	**251**	PN	P	17 30 34.1	-0.7
MRZ				SN	S	17 30 43.9	-1.0
MTW	**Mount Morrison**	**1.02**	**225**	⇓PN	P	17 30 38.6	-0.7
MTW				SN	S	17 30 52.0	-0.9
TRWZ	**Traveller**	**1.13**	**211**	PN	P	17 30 40.4	-0.3
TRWZ				eSN	S	17 30 55.1	-0.3
MOVZ	**Moawhango**	**1.16**	**332**	PN	P	17 30 40.2	-1.0
MOVZ				SN	S	17 30 54.6	-1.5
CAW	**Cannon Point**	**1.25**	**237**	PN	P	17 30 41.5	-1.0
CAW				eSN	S	17 30 56.7	-1.8
KIW	**Kapiti Island**	**1.25**	**249**	PN	P	17 30 42.0	-0.6
KIW				eSN	S	17 30 57.2	-1.4
BKZ	**Black Stump Fm**	**1.26**	**1**	⇑PN	P	17 30 41.6	-1.2
BKZ				SN	S	17 30 57.3	-1.6
WNVZ	**Wahianoa**	**1.28**	**329**	PN	P	17 30 42.4	-0.6
WNVZ				SN	S	17 30 59.0	-0.4
MTVZ	**Mangateitei**	**1.29**	**324**	PN	P	17 30 42.5	-0.6
MTVZ				SN	S	17 30 58.9	-0.6
WAZ	**Wanganui**	**1.31**	**300**	ePN	P	17 30 43.2	-0.4
WAZ				SN	S	17 31 00.8	+0.7
TUVZ	**Tukino**	**1.31**	**332**	PN	P	17 30 43.0	-0.6
TUVZ				SN	S	17 30 59.7	-0.5
TRVZ	**Turoa**	**1.33**	**328**	PN	P	17 30 43.3	-0.5
TRVZ				SN	S	17 30 59.8	-0.8
MSWZ	**Moikau Station**	**1.34**	**223**	PN	P	17 30 42.5	-1.5
FWVZ	**Far West T-bar**	**1.36**	**329**	PN	P	17 30 43.7	-0.5
FWVZ				SN	S	17 31 00.6	-0.8
OTVZ	**Oturere**	**1.41**	**334**	PN	P	17 30 44.5	-0.3
OTVZ				SN	S	17 31 02.0	-0.4
WPVZ	**Whakapapa**	**1.41**	**330**	PN	P	17 30 43.8	-1.1
CNZ	**Chateau**	**1.42**	**330**	PN	P	17 30 44.0	-1.0
NGZ	**Ngauruhoe**	**1.42**	**332**	PN	P	17 30 44.5	-0.5
PKVZ	**Pokaka**	**1.42**	**323**	PN	P	17 30 44.4	-0.8
WTVZ	**West Tongariro**	**1.47**	**333**	PN	P	17 30 45.4	-0.4
MRW	**Makara Radio**	**1.55**	**239**	PN	P	17 30 45.5	-1.4
TWVZ	**Taurewa**	**1.57**	**330**	ePN	P	17 30 46.4	-0.7
RAEZ	**Rainy Point**	**1.96**	**305**	ePN	P	17 30 52.4	-0.2
MWZ	**Matawai**	**2.25**	**22**	PN	P	17 30 54.2	-2.6
MQZ	**McQueen's Vall**	**4.33**	**220**	eSN	S	17 32 07.1	-8.9

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*CSEM **01** 17:42:15.7±0.3,34.90N×3.63W,h5km,MD3.1,Error ellipse: s-maj=10.0km s-min=6.3km az=118.0*
*CNRM **01** 17:42:15.6,35.12N×3.66W,h6km,MD3.1*
*MDD **01** 17:42:17.2±0.4,35.05N×3.84W,mbLg2.2/7,Error ellipse: s-maj=4.8km s-min=2.7km az=66.0,PRXIMO*
*NEIC **01** 17:42:19.2,35.03N×3.70W,MG3.3(MDD),After MDD.*
ISC 01 17:42:16.9±0.6**,35.05N**±0.02×**3.81W**±0.04**,h8**^{km}±4^{km}**,n23,** σ1^{s}16/41**,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.10**	**154**	P	**Pg**	**17 42 18.5**	**-0.7**
TOU				S	**Sg**	**17 42 22.0**	**+1.2**
TOU	**Touzarine**	**0.10**	**154**	i P	**Pg**	**17 42 18.5**	**-0.7**
MPAL	**Palemas**	**0.21**	**328**	P	**Pg**	**17 42 20.0**	**-1.3**
MPAL				S	**Sg**	**17 42 24.0**	**-0.2**
EMEL	**Melilla**	**0.74**	**70**	P	**Pb**	**17 42 31.0**	**-0.6**
	139nm,0.1s,SNR=14						
EMEL				S	**Sg**	**17 42 41.1**	**-0.5**
	345nm,0.2s,SNR=8.8						
EMLI	**Melilla**	**0.74**	**70**	P	**Pb**	**17 42 31.0**	**-0.7**
	139nm,0.1s,SNR=14						
EMLI				S	**Sg**	**17 42 41.1**	**-0.6**
	345nm,0.2s,SNR=8.8						
ZAI	**Zaio**	**0.87**	**95**	i P	**Pb**	**17 42 30.0**	**-3.9**
TZK	**Tazeka**	**1.01**	**198**	i P	**Pb**	**17 42 36.0**	**-0.1**
TZK				i S	**Sb**	**17 42 50.0**	**+0.6**
EALB	**Alboran**	**1.09**	**35**	P	**Pb**	**17 42 38.3**	**+0.7**
	6.1nm,0.1s,SNR=8.6						
EALB				S	**Sb**	**17 42 51.8**	**+0.1**
	41nm,0.1s,SNR=8.4						
EALB	**Alboran**	**1.09**	**35**	P	**Pb**	**17 42 38.3**	**+0.7**
	6.1nm,0.1s,SNR=8.6						
EALB				S	**Sb**	**17 42 51.8**	**0.0**
	41nm,0.1s,SNR=8.4						
EMIJ	**Mijas**	**1.71**	**333**	S	**Sn**	**17 43 09.3**	**-0.1**
	4.4nm,0.3s,SNR=4.0						
EBER	**Berja**	**1.99**	**22**	P	**Pn**	**17 42 52.9**	**+1.6**
	1.0nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 43 15.4**	**-1.2**
	9.8nm,0.2s,SNR=6.2						
EBER	**Berja**	**1.99**	**22**	P	**Pn**	**17 42 52.9**	**+1.6**
	1.0nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 43 15.4**	**-1.2**
	9.8nm,0.2s,SNR=6.2						
EQUE	**Quentar**	**2.17**	**8**	P	**Pn**	**17 42 55.8**	**+1.9**
	0.8nm,0.2s,SNR=4.0						
EQUE				S	**Sn**	**17 43 20.3**	**-1.0**
	1.3nm,0.2s,SNR=4.0						
CZD	**Col de Zad**	**2.26**	**207**	i P	**Pn**	**17 42 53.0**	**-2.1**
CZD				i S	**Sn**	**17 43 23.0**	**-0.4**
EQES	**Quesada**	**2.81**	**12**	P	**Pn**	**17 43 05.6**	**+2.6**
	0.8nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**17 43 38.1**	**+0.6**
	2.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.81**	**12**	P	**Pn**	**17 43 05.6**	**+2.6**
	0.8nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**17 43 38.1**	**+0.6**
	2.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.17**	**349**	P	**Pn**	**17 43 10.5**	**+2.3**
	0.6nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**17 43 45.3**	**-1.4**
	0.5nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.17**	**349**	P	**Pn**	**17 43 10.4**	**+2.3**
EADA				S	**Sn**	**17 43 51.2**	**+4.5**
EADA	**Adamuz**	**3.17**	**349**	P	**Pn**	**17 43 10.5**	**+2.3**
	0.6nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**17 43 51.2**	**+4.5**
ECAB	**El Cabril**	**3.29**	**337**	S	**Sn**	**17 43 50.1**	**+0.6**
	0.6nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.57**	**320**	P	**Pn**	**17 43 13.7**	**-0.1**
	0.4nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**17 43 54.2**	**-2.4**
	0.2nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.57**	**320**	P	**Pn**	**17 43 14.8**	**+1.1**
EMIN				S	**Sn**	**17 43 55.3**	**-1.2**
EMIN	**Mina Concepcio**	**3.57**	**320**	P	**Pn**	**17 43 14.8**	**+1.1**

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*NEIC **01** 17:50:52.7,34.69S×70.74W,h109km,MD3.5(GUC),After GUC.*
GUC 01 17:50:52.7±0.8**,34.69S**×**70.74W,h109**^{km}±3^{km}**,MD3.5, ML3.3,7C-7D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.24**	**289**	⇓iP	P	17 51 08.3	+0.2
SFDO				i S	S	17 51 19.8	0.0
CICH	**Cipreses**	**0.46**	**36**	⇑iP	P	17 51 09.4	+0.1
CICH				i S	S	17 51 22.3	+0.6
NICH	**Los Niches**	**0.51**	**232**	⇑iP	P	17 51 09.7	+0.1
NICH				i S	S	17 51 22.0	-0.3
CACH	**El Canelo**	**0.58**	**12**	⇑iP	P	17 51 10.5	+0.4
CACH				i S	S	17 51 24.9	+1.6
CHCH	**Chadas Angostu**	**0.76**	**6**	⇓iP	P	17 51 11.6	-0.1
CHCH				i S	S	17 51 26.9	+1.0
LNV	**Longovilo**	**0.92**	**323**	⇑iP	P	17 51 13.1	-0.1

LNV				i S	S	17 51 28.5	-0.2
LMEL	Las Melosas	0.95	28⇑	iP	P	17 51 14.2	+0.6
LMEL				i S	S	17 51 30.1	+0.9
LMEL				AMP		17 51 35.3	
	comp=N,1µm,0.2s						
TACH	Talagante	1.05	351⇓	iP	P	17 51 14.6	0.0
TACH				i S	S	17 51 31.3	+0.2
PCH	Pirque	1.08	10⇓	iP	P	17 51 15.2	+0.2
PCH				i S	S	17 51 31.8	+0.1
ANTU	Antumapu	1.12	5⇓	iP	P	17 51 15.8	+0.4
ANTU				i S	S	17 51 32.8	+0.2
ANTU				AMP		17 51 33.5	
	comp=E,494nm,0.4s						
RCDM	Rinconada Maip	1.20	357	eP	P	17 51 16.3	-0.1
RCDM				i S	S	17 51 34.0	-0.2
RCDM				AMP		17 51 34.8	
	comp=E,2µm,0.2s						
STL	Santa Lucia	1.25	4	eP	P	17 51 16.3	-0.7
STL				i S	S	17 51 34.1	-1.1
STL				AMP		17 51 34.5	
	comp=E,227nm,0.5s						
DSCH	Colegio Aleman	1.30	6⇓	iP	P	17 51 17.4	-0.1
DSCH				i S	S	17 51 36.2	+0.1
DSCH				AMP		17 51 38.0	
	comp=N,712nm,0.5s						
CLCH	Cerro Calan	1.30	8⇑	iP	P	17 51 17.7	+0.2
CLCH				i S	S	17 51 36.4	+0.2
CLCH				AMP		17 51 37.7	
	comp=E,529nm,0.4s						
CLCH				AMP		17 51 38.2	
	comp=N,662nm,0.7s						
LCCH	Las Cruces	1.40	330	eP	P	17 51 18.6	0.0
LCCH				eS	S	17 51 37.9	-0.2
FCH	Farellones	1.41	15⇑	iP	P	17 51 19.0	+0.2
FCH				i S	S	17 51 39.2	+0.8
FCH				AMP		17 51 40.1	
	comp=N,439nm,0.2s						
PEL	Peldehue	1.54	2	i S	S	17 51 41.8	+0.6
JACH	Jahuel	2.01	4⇓	iP	P	17 51 26.4	+0.2
JACH				i S	S	17 51 51.4	+0.2

IDC 01 17:57:38.6±3.6**, 0.14N**×**97.60E, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.5**/16**, mbtmp3.5**/4**, Error ellipse: s-maj=145.9km s-min=29.2km az=54.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.14	121	P	P	18 05 24.7	-1.7
	0.2nm,0.5s,baz=303,slow=9.2,SNR=5.5						
SONM	Songino Array	48.12	8	P	P	18 06 20.7	-1.5
	0.3nm,0.4s,baz=190,slow=9.5,SNR=4.4						
MKAR	Makanchi Array	48.36	346	P	P	18 06 22.4	-1.7
	0.4nm,0.5s,baz=168,slow=9.2,SNR=6.8						
BVAR	Borovoye Array	57.38	341	P	P	18 07 27.7	-3.4
	0.1nm,0.4s,baz=117,slow=9.7,SNR=2.6						

*NEIC **01** 18:03:53.5±0.7, 30.74S×177.67W, h10km, mb4.5/5, Error ellipse: s-maj=19.2km s-min=12.6km az=93.0*
*IDC **01** 18:03:57.0±4.6, 30.95S×177.65W, h34km±33km, mb4.1/4, mb1 4.2/5, mb1mx4.0/14, mbtmp4.2/5, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx3.1/14, Error ellipse: s-maj=32.7km s-min=19.7km az=105.0*
ISC 01 18:03:57.1±1.0**, 31.03S**±0.05×**178.0W**±0.2**, h33km, n43, σ1s19**/39**, mb4.4**/9**, MS3.5**/1**, 1C-1D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.77	2	Pn	Pn	18 04 24.1	-1.8
	83nm,0.3s,baz=87,slow=23,SNR=7.3						
RAO				Sn	Sn	18 04 40.6	-6.9
	1µm,0.3s,baz=166,slow=22,SNR=20						
RAO				LR	LR	18 04 53.4	
	comp=Z,736nm,18.2s,baz=92,slow=33						
RAO	Raoul Island	1.77	2	ePn	Pn	18 04 19.8	-6.2
RAO				Sn	Sn	18 04 40.6	-6.9
RAO				LR	LR	18 04 53.4	
MXZ	Matakaoa Point	7.21	204	ePN	Pn	18 05 42.7	-0.2
PUZ	Puketiti	7.68	203	ePN	Pn	18 05 48.2	-1.4
PUZ				SN	Sn	18 07 18.1	+1.8
MWZ	Matawai	8.17	206	ePN	P	18 05 54.8	-1.4
MWZ				SN	Sn	18 07 28.9	+0.3
URZ	Urewera	8.27	208	Pn	P	18 05 56.7	-0.8
	0.4nm,0.3s,baz=24,slow=20,SNR=12						
URZ				Sn	Sn	18 07 31.1	+0.2
	3.4nm,0.3s,baz=257,slow=22,SNR=20						
KNZ	Kokohu	8.73	203	SN	Sn	18 07 42.0	-0.5
TSZ	Takapari Road	10.27	207	SN	S	18 08 16.7	-3.5
KIW	Kapiti Island	11.37	208	eSN	S	18 08 41.7	-5.5
TCW	Tory Channel	11.93	209	eSN	S	18 08 53.3	-7.3
TUWZ	Tuamarina	12.25	210	eSN	S	18 09 00.1	-8.3
MQZ	McQueen's Vall	14.67	208	eSN	S	18 09 53.9	-12
DZM	Mont Dzumac	16.52	299	LR	LR	18 12 13.2	
	comp=Z,61nm,19.0s,baz=140,slow=30						
CTA	Charters Tower	33.91	280	P	P	18 10 40.2	+1.0
	3.6nm,0.6s,mb4.5,baz=109,slow=12,SNR=6.8						
CTA				LR	LR	18 22 31.7	
	comp=Z,100nm,21.2s,MS3.5,baz=231,slow=33						
CTA	Charters Tower	33.91	280	P	P	18 10 40.2	+1.0
CTA				LR	LR	18 22 31.7	
CTAO	Charters Tower	33.91	280	eP	P	18 10 39.8	+0.7
	3.7nm,0.6s,mb4.5						
STKA	Stephens Creek	34.35	258⇓	iP	P	18 10 44.8	+1.9
	7.8nm,0.9s,mb4.6						
STKA	Stephens Creek	34.35	258	P	P	18 10 44.2	+1.3
	9.3nm,0.8s,mb4.8,baz=104,slow=12,SNR=21						
STKA	Stephens Creek	34.35	258	eP	P	18 10 44.7	+1.8
WB2	Warramunga Arr	44.12	273	eP	P	18 12 04.1	-0.2
WRAB	Tennant Creek	44.13	273	eP	P	18 12 03.8	-0.6
	11nm,0.9s,mb4.6						
WRA	Warramunga Arr	44.13	273	P	P	18 12 04.2	-0.2
	1.7nm,0.3s,mb4.2,baz=111,slow=8.1,SNR=86						
SBA	Scott Base	47.42	184	eP	P	18 12 35.1	+5.4
	3.5nm,1.0s,mb4.2						
VNDA	Vanda	47.48	186	P	P	18 12 29.1	-1.0
	0.5nm,0.6s,mb3.6,baz=341,slow=8.1,SNR=14						
CASY	Casey	54.59	208	eP	P	18 13 24.6	+0.5
	4.2nm,0.7s,mb4.6						
SNAA	Sanae	77.53	178		P	18 15 53.7	+3.1
SNAA	Sanae	77.53	178	eP	P	18 15 52.6	+2.0
	0.9nm,0.7s,mb3.8						
VNA3	Neumayer Olymp	77.68	176	e	P	18 15 59.9	+8.5
VNA3	Neumayer Olymp	77.68	176	e	P	18 16 07.7	+16
VNA3	Neumayer Olymp	77.68	176⇑	iP	P	18 15 53.6	+2.2
VNA3				e		18 15 59.9	
VNA3				e		18 16 07.7	
VNA2	Neumayer--Watz	78.12	177	e	P	18 16 02.7	+8.9
VNA2	Neumayer--Watz	78.12	177	e	P	18 16 08.7	+15
VNA2	Neumayer--Watz	78.12	177	eP	P	18 15 56.3	+2.5
VNA2				e		18 16 02.7	
VNA2				e		18 16 08.7	
EFI	East Falkland	82.26	147	eP	P	18 16 07.7	-8.5
	96nm,1.7s,mb5.5						
KULM	Kulim	85.33	279	P	P	18 16 28.5	-4.1
MKAR	Makanchi Array	118.18	310	PKP	PKPdf	18 22 39.5	-1.2
	0.1nm,0.3s,baz=90,slow=2.9,SNR=4.5						
KAF	Kangasniemi	145.14	340	ep	PKPdf	18 23 29.2	-1.2
FINES	FINESS Array B	145.73	340	PKPbc	PKPbc	18 23 31.9	-0.3
	2.5nm,0.5s,baz=57,slow=4.7,SNR=19						
NOA	NORSAR Array B	149.37	351	PKPbc	PKPdf	18 23 41.5	+4.1
	1.6nm,1.0s,baz=15,slow=4.1,SNR=3.3						
HFS	Hagfors	149.86	348	PKPbc	PKPdf	18 23 42.3	+4.1
	2.5nm,0.9s,baz=90,slow=10,SNR=4.1						
HFS				PKPab	PKPab	18 23 47.8	-2.9
	2.7nm,0.8s,baz=292,slow=8.0,SNR=3.7						
HFS	Hagfors	149.86	348	PKPbc	PKPdf	18 23 42.3	+4.1
HFS				PKPab	PKPab	18 23 47.8	-2.9
ASF	Jabal al Asfar	150.34	281	PKPbc	PKPdf	18 23 45.3	+5.5
	1.6nm,0.6s,baz=78,slow=11,SNR=1.9						
ASF				PKPab	PKPab	18 23 49.9	-3.8
	0.9nm,0.4s,baz=59,slow=21,SNR=2.3						
AKASG	Malin Array Be	151.80	322	PKPbc	PKPdf	18 23 48.5	+7.1
	1.8nm,0.6s,baz=51,slow=2.4,SNR=3.0						

MAN 01 18:10:47.9, 9.34N×**122.10E, h45km, mb3.9, ML2.6, MS2.2, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	1.12	90	eP	P	18 11 09.3	+1.8
SNPH				i S	S	18 11 21.0	-1.0
GUIM	Jordan	1.37	21	eP	P	18 11 11.2	+0.2
GUIM				eS	S	18 11 39.9	+12
DCPH	Dipolog City	1.45	121	eP	P	18 11 10.9	-1.3
DCPH				eS	S	18 11 24.4	-5.8
IPIL	Ipil	1.61	163	eP	P	18 11 14.8	+0.3
IPIL				eS	S	18 11 30.0	-4.1
PAGZ	Pagadian	1.95	139	eP	P	18 11 19.6	+0.3
PAGZ				eS	S	18 11 38.8	-3.8
BESP	Borongan	3.98	55	eS	S	18 12 38.7	+4.6

*NSSP **01** 18:17:03.7, 39.42N×44.50E, h14km, ML3.5*
*TIF **01** 18:17:05.7, 39.35N×44.63E, h10km±5km*
*IDC **01** 18:17:07.4±1.4, 39.40N×44.66E, mb3.7/5, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, ML3.6/3, MS3.4/4, Ms1 3.5/4, ms1mx3.0/23, Error ellipse: s-maj=17.9km s-min=12.4km az=104.0*
*CSEM **01** 18:17:07.2±0.1, 39.50N×44.51E, h10km, mb4.3/5, Ms4.2, Error ellipse: s-maj=2.2km s-min=1.8km az=56.0*
*ISK **01** 18:17:08.1, 39.35N×44.42E, h2km, ML4.2*
*BJI **01** 18:17:08.1, 39.60N×44.70E, h15km, mB4.9, mb4.6, Ms4.3, Msz4.1*
*THR **01** 18:17:08.4±0.5, 39.41N×44.66E, h7km±2km, ML3.5*
*TEH **01** 18:17:10.1, 39.05N×44.54E, h10km, Mn3.9*
*NEIC **01** 18:17:10.1±2.1, 39.56N×44.65E, h15km±11km, mb4.1/6, MS4.2/1, ML4.2(ISK), Error ellipse: s-maj=15.4km s-min=7.1km az=173.0*
*MOS **01** 18:17:11.6±1.1, 39.64N×44.55E, h33km, mb4.4/5, Error ellipse: s-maj=10.7km s-min=7.1km az=95.0*
ISC 01 18:17:07.6±0.2**, 39.44N**±0.02×**44.66E**±0.03**, h10km, n118, σ1s40**/139**, mb4.0**/13**, MS3.6**/6**, 2C-8D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	Maku	0.09	170	ePG	Pg	18 17 10.3	+0.2
MAKU				eSG	Sg	18 17 12.0	+0.2
CLDR	Caldiran	0.65	243	i PG	Pg	18 17 16.7	-4.0
CLDR				i SG	Sg	18 17 24.6	-4.8
VRNZ	Vardanashen	0.71	329	⇓P	Pb	18 17 20.8	-0.7
VRNZ				S	Sb	18 17 29.3	-1.8
GNI	Garni	0.71	5	Pg	Pg	18 17 22.1	+0.3
	242nm,0.3s,baz=27,slow=18,SNR=1428						
GNI				Lg		18 17 33.9	
	789nm,0.3s,baz=331,slow=19,SNR=29						
GNI	Garni	0.71	5	eP	Pb	18 17 21.9	+0.3
GNI	Garni	0.71	5	eP	Pb	18 17 21.9	+0.3
GNI				S	Sb	18 17 34.2	+3.1
GNI	Garni	0.71	5d	iPG	Pg	18 17 22.0	+0.1
PAAR	P'arak'ar	0.74	346	⇓P	Pb	18 17 21.8	-0.3
PAAR				S	Sb	18 17 32.5	+0.4
NPPZ	NPP	0.83	331	⇓P	Pb	18 17 23.0	-0.7
NPPZ				S	Sb	18 17 31.3	-3.4
ARUZ	Aruch	0.95	333	⇓P	Pb	18 17 24.9	-0.8
ARUZ				S	Sb	18 17 33.2	-4.9
AMBZ	Amberd	1.00	342	⇓P	Pb	18 17 26.3	-0.2
AMBZ				S	Sb	18 17 35.0	-4.4
IMRD	Marand	1.09	132	Pg	Pg	18 17 27.2	-2.1
GRS	Goris	1.30	86	⇓P	Pb	18 17 29.0	-2.7
GRS				S	Sb	18 17 48.0	-0.3
VANB	Van	1.30	230	PN	Pn	18 17 30.8	-1.1
TVAN	Van	1.34	228	i P	Pb	18 17 29.6	-2.6
TVAN				i S	Sb	18 17 49.1	-0.2
ISHB	Shabestar	1.37	147	Pg	Pg	18 17 31.0	-4.1
DIGO	Kars	1.39	315	i P	Pn	18 17 30.3	-2.8
DIGO				i S	Sb	18 17 52.7	+1.8
STE	Stepanavan	1.57	353	P	Pn	18 17 36.0	+0.3
ITBZ	Tabriz	1.67	136	Pg	Pg	18 17 37.0	-4.0
KARS	Kars	1.68	315	PN	Pn	18 17 38.8	+1.5
HKR	Hakkari	2.00	202	PN	Pn	18 17 42.1	+0.3
HAKT	HAKKARI	2.02	202	i P	Pn	18 17 40.9	-1.3
HAKT				i S	Sn	18 18 07.9	+0.2
IAZR	Azarshahr	2.04	149	Pn	Pn	18 17 42.1	-0.3
DGRG	David-gareji	2.08	15	P	Pn	18 17 45.0	+2.0
DGRG				S	Sn	18 18 17.0	+7.8
AKH	Akhalkalaki	2.16	336	P	Pn	18 17 46.4	+2.3
AKH				S	Sn	18 18 18.6	+7.4
MTA	Mtatsminda	2.25	2	P	Pn	18 17 47.3	+1.9
MTA				S	Sn	18 18 22.8	+9.2
SAMG	Sameba	2.26	3	P	Pn	18 17 46.1	+0.6
SAMG				S	Sn	18 18 18.1	+4.5
TBLG	Delisi	2.29	1	P	Pn	18 17 47.4	+1.4
TBLG				S	Sn	18 18 22.8	+8.3
TI2	Plekhanov	2.29	2	i P	Pn	18 17 44.6	-1.4
	40nm,0.8s						
TI2	Plekhanov	2.29	2	i PN	Pn	18 17 44.6	-1.4
TI2				i		18 18 25.0	
TI2				pmax	pmax		
	comp=Z,40nm,0.8s						
BKR	Bakuriani	2.46	339	P	Pn	18 17 50.3	+2.0
IBST	Bostanabad	2.46	134	Pn	Pn	18 17 49.1	+0.6
GOR	Gori	2.58	351	P	Pn	18 17 52.3	+2.2
GOR				S	Sg	18 18 32.3	-1.1
ERZM	Erzurum	2.59	281	i P	Pn	18 17 50.6	+0.3
ERZM				i S	Sn	18 18 27.0	+5.0
EZM	Erzurum	2.59	281	ePN	Pn	18 17 50.1	-0.2
GRMI	Germi	2.59	103	ePN	Pn	18 17 52.9	+2.6
GRMI				eSG	Sg	18 18 33.7	-0.1
GRMI				AML	AML	18 18 46.8	
	comp=N,331nm,0.7s						
SIRT	Sirnak	2.61	223	ePN	Pn	18 17 49.1	-1.4
ARTV	Artvin	2.72	311	i P	Pn	18 17 55.3	+3.1
ARTV				i S	Sn	18 18 33.4	+7.9
BNGL	BINGOL	2.77	261	i P	Pn	18 17 55.5	+2.5
BNGL				i S	Sn	18 18 34.6	+7.9
BTMT	Batman	2.77	244	ePN	Pn	18 17 54.3	+1.4
BEST	Besiri	3.07	241	i P	Pn	18 17 57.6	+0.4
BEST				i S	Sn	18 18 41.7	+7.3
ONI	Oni	3.27	344	P	Pn	18 18 05.9	+6.0
ONI				S	Sg	18 18 53.0	-3.5
ZEI	Tsey	3.38	350	ePn	Pn	18 18 00.2	-1.3
	comp=N,15nm,0.1s						
ZEI	Tsey	3.38	350	ePN	Pn	18 18 00.2	-1.3
ZEI				e		18 18 42.6	
ZEI				e		18 18 56.9	
ZEI				pmax	pmax		
	comp=Z,12nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,15nm,0.1s						
ZEI				smax			
	comp=N,31nm,0.1s						
ZEI				smax			
	comp=N,28nm,0.1s						
MSL	Mosul	3.38	202	ex	x	18 18 16.0	
MSL				ex	x	18 18 19.5	
MSL				ex	x	18 18 28.5	
MSL				ex	x	18 18 50.0	
MSL				ex	x	18 18 59.0	
MSL				i x	x	18 19 01.5	
MARD	Mardin	3.72	236	i P	Pn	18 18 02.6	-3.7
MARD				i S	Sn	18 19 01.9	+11
PTK	Pertek	4.13	264	ePN	Pn	18 18 12.4	+0.2
KELT	Kelkit	4.22	281	i P	Pn	18 18 21.0	+7.5
KELT				i S	Sn	18 19 20.4	+17
ELZG	Elazig	4.53	260	i P	Pn	18 18 27.8	+10
ELZG				i S	Sn	18 19 19.3	+8.2
KIV	Kislovodsk	4.75	342	P	Pn	18 18 18.6	-2.4
KIV	Kislovodsk	4.75	342	P	Pn	18 18 18.6	-2.4
KIV	Kislovodsk	4.75	342	ePN	Pn	18 18 20.3	-0.7
KIV				e		18 18 30.7	
KIV				i		18 18 40.9	
KIV						18 19 30.7	
KIV				pmax	pmax		
	comp=Z,11nm,1.6s						
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV				pmax	pmax		
	comp=Z,700nm,9.7s						
SNGE	Sanandaj	4.84	153	ePN	Pn	18 18 23.7	+1.5
SNGE				AML	AML	18 19 48.7	
	comp=N,24nm,0.9s						
ILIN	Laeen	4.87	157	Pn	Pn	18 18 24.2	+1.5
IDHR	Dehrash	4.93	163	Pn	Pn	18 18 26.0	+2.5
MALT	Malatya	5.00	259	P	Pn	18 18 23.0	-1.4
	comp=N,19nm,0.8s						
MALT	Malatya	5.00	259	P	Pn	18 18 23.0	-1.5
	comp=N,19nm,0.8s						
MALT	Malatya	5.00	259	PN	Pn	18 18 23.0	-1.5
MALT				pmax	pmax		
	comp=Z,19nm,0.8s						
URFA	Urfa	5.00	248	ePN	Pn	18 18 24.0	-0.5
SOC	Sochi	5.56	320	ePN	Pn	18 18 27.3	-5.1
SOC				e		18 19 30.7	
SOC				eSS	SS	18 19 47.9	-0.9
SOC				pmax	pmax		
	comp=N,19nm,1.2s						
SOC				pmax	pmax		
	comp=Z,12nm,1.2s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.9s						
SOC				MLR	MLR		
	comp=N,390nm,13.0s						
SOC				MLR	MLR		
	comp=E,274nm,13.0s						
SOC				MLR	MLR		
	comp=Z,425nm,13.0s						
IRAZ	Razeghan	5.81	132	Pn	Pn	18 18 37.1	+1.1
THKV	Tehran--Karaj	6.06	124	ePN	Pn	18 18 40.8	+1.3
BHD	Baghdad	6.16	182	ex	x	18 19 05.5	
BHD				ex	x	18 20 13.0	
BHD				ex	x	18 20 31.0	
BHD				ex	x	18 20 46.0	
ASAO	Ashtian	6.50	137	ePn	Pn	18 18 46.1	+0.4
IAFJ	Afjeh	6.64	120	Pn	Pn	18 18 43.8	-3.8
DAMV	Damavand	6.94	121	ePn	Pn	18 18 52.7	+0.8
IDMV	Damavand	7.01	121	Pn	Pn	18 18 50.1	-2.8
IVRN	Varamin	7.17	126	Lg		18 20 49.0	
IVRN	Varamin	7.17	126	Pn	Pn	18 18 52.2	-2.9
IFIR	Firoozkooh	7.46	118	Pn	Pn	18 18 56.7	-2.5
BR131	Keskin Array S	8.52	275	P	P	18 19 09.7	-4.2
BR131	Keskin Array S	8.52	275	P	P	18 19 09.7	-4.2
BRTR	Keskin Array B	8.52	275	Pn	P	18 19 14.2	+0.2
	comp=Z,0.2nm,0.3s,baz=105,slow=14,SNR=5.7						
NASN	Na'in	9.34	133	ePn	P	18 19 26.1	+0.7
NASN	Na'in	9.34	133	ePn	P	18 19 26.0	+0.7
	SNR=47						
ISP	Isparta	11.19	266	i P	P	18 19 43.6	-7.0
MLR	Muntele Rosu	15.07	300	Pn	P	18 20 42.8	+0.7
	comp=Z,0.1nm,0.3s,baz=125,slow=12,SNR=3.4						
AKASG	Malin Array Be	15.64	321	Pn	P	18 20 48.9	-0.7
	comp=Z,0.4nm,0.3s,baz=126,slow=11,SNR=12						
OBN	Obninsk	16.59	344	i P	P	18 20 59.6	-2.1
	comp=Z,200nm,15.0s						
OBN	Obninsk	16.59	344d	iP	P	18 20 59.6	-2.1
OBN				pmax	pmax		
	comp=Z,14nm,1.0s						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s						
ARU	Arti	19.32	24	eP	P	18 21 33.2	-2.1
	comp=Z,34nm,1.4s						
ARU	Arti	19.32	24	i P	P	18 21 34.3	-1.0
	comp=Z,16nm,1.0s						
ARU	Arti	19.32	24⇑	iP	P	18 21 34.3	-1.0
ARU				pmax	pmax		
	comp=Z,16nm,1.0s						
SVE	Sverdlovsk	20.31	26	eP	P	18 21 47.7	+1.5
	comp=Z,60nm,1.5s						
SVE	Sverdlovsk	20.31	26⇑	eP	P	18 21 47.7	+1.5
SVE				e		18 22 03.5	
SVE				pmax	pmax		
	comp=Z,60nm,1.5s						
SVE				MLR	MLR		
	comp=N,300nm,12.0s,MS4.0						
SVE				MLR	MLR		
	comp=E,200nm,12.0s,MS4.0						
SVE				MLR	MLR		
	comp=Z,400nm,12.0s,MS4.0						
BRVK	Borovoye	22.19	44	eP	P	18 22 04.6	-0.8
	comp=Z,2.8nm,0.8s,mb3.7						
BRVK	Borovoye	22.19	44	eP	P	18 22 04.6	-0.8
	comp=Z,2.8nm,0.8s,mb3.7						
BRVK	Borovoye	22.19	44	eP	P	18 22 04.6	-0.8
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
BVAR	Borovoye Array	22.23	44	P	P	18 22 06.4	+0.6
	comp=Z,3.5nm,0.8s,mb3.9,baz=243,slow=9.7,SNR=19						
VSU	Vasula	22.25	335	i P	P	18 22 04.7	-1.2
AAK	Ala-Archa	22.67	72	P	P	18 22 10.7	+0.5
	comp=Z,4.3nm,0.8s,mb3.9						
AAK	Ala-Archa	22.67	72	P	P	18 22 10.7	+0.5
	comp=Z,4.3nm,0.8s,mb3.9						
AAK	Ala-Archa	22.67	72	P	P	18 22 10.7	+0.5
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
FRU	Bishkek	22.76	72	P	P	18 22 14.0	+3.0
FRU				e		18 22 48.6	
GERES	GERESS Array B	23.98	303	P	P	18 22 24.6	+1.8
	comp=Z,0.5nm,0.6s,mb3.1,baz=98,slow=9.4,SNR=5.3						
KHC	Kasperske Hory	24.12	304	eP	P	18 22 24.5	+0.3
FINES	FINESS Array B	24.83	339	P	P	18 22 29.9	-1.0
	comp=Z,2.5nm,0.8s,mb3.8,baz=141,slow=12,SNR=6.7						
JOF	Joensuu	24.85	345	ep	P	18 22 29.8	-1.3
KAF	Kangasniemi	25.31	340	ep	P	18 22 34.2	-1.3
GRA1	Grafenberg Arr	25.74	305	eP	P	18 22 42.0	+2.4
	comp=Z,5.0nm,1.1s,mb4.0						
GRF	Grafenberg Arr	25.74	305	eP	P	18 22 42.0	+2.4
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
MKAR	Makanchi Array	28.22	63	P	P	18 23 02.4	0.0
	comp=Z,1.3nm,0.7s,mb3.7,baz=266,slow=10,SNR=17						
HFS	Hagfors	28.35	327	LR	LR	18 35 28.0	
	comp=Z,75nm,18.9s,MS3.3,baz=179,slow=39						
NOA	NORSAR Array B	29.87	327	LR	LR	18 36 13.6	
	comp=Z,52nm,18.8s,MS3.2,baz=125,slow=38						
WMQ	Urumqi	32.19	68	eP	P	18 23 38.5	+0.8
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,43nm,3.5s						
SONM	Songino Array	44.39	58	P	P	18 25 20.2	+0.4
	comp=Z,0.3nm,0.6s,mb3.2,baz=270,slow=8.6,SNR=2.9						
SONM				LR	LR	18 43 59.9	
	comp=Z,34nm,18.4s,MS3.3,baz=85,slow=36						
ULN	Ulaanbaatar	44.81	58	eP	P	18 25 23.1	-0.1
	comp=Z,2.7nm,0.9s,mb4.1						
ULN	Ulaanbaatar	44.81	58	eP	P	18 25 23.1	-0.1
	comp=Z,2.7nm,0.9s,mb4.1						
ULN	Ulaanbaatar	44.81	58	eP	P	18 25 23.1	-0.1
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
LZH	Lanzhou	46.18	75	eP	P	18 25 34.9	+0.7
LZH				AP	pP	18 25 38.2	+1.0
LZH				ePP	PP	18 27 22.7	-0.1
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,67nm,6.4s						
LZH				LR	LR		
	comp=N,175nm,15.6s						
LZH				LR	LR		
	comp=Z,273nm,18.3s,MS4.2						
LZH	Lanzhou	46.18	75	eP	P	18 25 34.9	+0.7
	comp=Z,31nm,1.5s,mb5.0						
LZH				pP	pP	18 25 38.2	+1.0
LZH				sP	sP	18 25 39.5	+1.1
LZH				ePP	PP	18 27 22.7	-0.1
LZH				LR	LR		
	comp=Z,270nm,18.3s,MS4.2						
LZH	Lanzhou	46.18	75	eP	P	18 25 34.9	+0.7
LZH				e		18 27 22.7	
LZH				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,270nm,18.3s,MS4.2						
TIXI	Tiksi	51.33	24	eP	P	18 26 12.0	-1.5
	comp=Z,3.0nm,0.9s,mb4.2						
TIXI	Tiksi	51.33	24	eP	P	18 26 12.0	-1.5
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CN2	Changchun	58.25	57	eP	P	18 27 03.0	-1.4
MDJ	Mudanjiang	60.54	55	P	P	18 27 17.3	-2.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,178nm,3.5s						
SSE	Sheshan	61.32	72	eP	P	18 27 23.5	-2.1
	comp=Z,26nm,0.7s						
ILAR	Eielson Array	75.73	5	LR	LR	19 04 27.4	
	comp=Z,34nm,19.8s,MS3.6,baz=176,slow=38						

*FUNV **01** 18:22:46.1, 10.57N×62.54W, h80km, MW2.6*
*TRN **01** 18:22:49.0, 10.94N×62.33W, h14km, MD2.9*

ISC 01 18:22:44.5±0.7**, 10.54N**±0.04×**62.62W**±0.03**, h88**km±7km**, n15, σ1^{s}06**/28**, 1C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.40	74	eP	P	18 22 58.5	+0.2
GUIV				eS	S	18 23 07.1	-1.7
GUNV	Guanoco	0.49	221	eS	S	18 23 10.9	+0.9
CRUV	Carupano	0.62	283	eP	P	18 23 01.7	+1.4
CRUV				eS	S	18 23 12.2	+0.2
ITEV	Isla Los Testi	0.96	328	eP	P	18 23 04.2	+0.5
ITEV				eS	S	18 23 17.2	-1.0
TRN	Trinidad (W)	1.20	85	⇑iP	P	18 23 07.4	+0.7
TRN				eS	S	18 23 21.4	-1.9
TBH	Brigand Hill	1.52	92	eP	P	18 23 13.2	+2.3
TBH				eS	S	18 23 31.3	+0.9
ORIV	Oritupano	1.65	208	eP	P	18 23 13.7	+1.1
ORIV				eS	S	18 23 34.2	+0.9
GRW	Mount Saint Ca	1.87	30	eP	P	18 23 14.5	-0.8
GRW				eS	S	18 23 32.2	-5.9
PCRV	Puerto La Cruz	2.02	260	eP	P	18 23 18.6	+1.2
PCRV				eS	S	18 23 40.8	-0.9
IBAV	Isla La Blanqu	2.31	304	eP	P	18 23 22.2	+0.8
IBAV				eS	S	18 23 48.9	0.0
GURV	El Guri	2.80	190	eP	P	18 23 28.3	0.0
GURV				eS	S	18 23 59.5	-1.5
MERV	Las Mercedes	3.84	251	eP	P	18 23 43.1	+0.4
MERV				eS	S	18 24 25.4	-1.5
LUEV	Luepa	4.80	166	eP	P	18 23 55.0	-0.9
CAOV	Caicara del Or	4.86	229	eP	P	18 23 56.5	-0.1
CAOV				eS	S	18 24 47.3	-4.7
BAUV	El Baul	5.58	254	eP	P	18 24 05.5	-1.0
BAUV				eS	S	18 25 05.3	-4.6

IDC 01 18:30:40.5±23.0, 36.37N×71.15E, h180km±207km, mb3.3/5, mb1 3.3/7, mb1mx3.0/20, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=169.3km s-min=25.1km az=36.0
MOS 01 18:30:45.5±1.4, 36.67N×71.35E, h233km, mb3.6/1, Error ellipse: s-maj=30.9km s-min=13.9km az=89.5
NEIC 01 18:30:46.1±4.5, 36.64N×71.46E, h227km±38km, mb3.6/3, Error ellipse: s-maj=45.0km s-min=20.8km az=212.0
NNC 01 18:30:49.3±18.0, 37.15N×69.79E, mpv3.0, Error ellipse: s-maj=633.3km s-min=139.4km az=95.0
ISC 01 18:30:49.5±3.0**, 37.0N**±0.2×**71.4E**±0.2**, h254**km±24km**, n23, σ0^{s}87**/25**, mb3.3**/6**, 1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.43	19	P	P	18 32 11.2	+0.1
	SNR=142						
UCH	Uchtor	5.75	24	P	P	18 32 15.6	+0.4
	SNR=42						
KZA	Kyzart	5.89	29	P	P	18 32 16.8	0.0
	SNR=11						
EKS2	Erkin-Say	5.95	17	P	P	18 32 17.4	-0.2
	SNR=20						
AAK	Ala-Archa	6.11	22	P	P	18 32 20.1	+0.4
	SNR=9.3						
AAK	Ala-Archa	6.11	22	ePn	P	18 32 18.9	-0.8
	8.8nm,0.6s						
AAK				eSn	S	18 33 11.8	-18
AAK	Ala-Archa	6.11	22	ePN	P	18 32 18.9	-0.8
AAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KK31	Karatay Array	6.13	354	P	P	18 32 19.0	-0.9
	comp=Z,0.5nm,0.3s,baz=180,slow=13,SNR=22						
KK31				⇓S	S	18 33 29.3	-1.3
	comp=Z,5.8nm,0.3s,baz=187,slow=26						
KBK	Karagaybulak	6.28	25	P	P	18 32 23.0	+1.2
	SNR=8.1						
ULHL	Ulahol	6.44	34	P	P	18 32 23.9	+0.1
	SNR=13						
USP	Ospenovka	6.70	20	P	P	18 32 27.2	+0.1
	SNR=8.1						
TKM2	Tokmak 2	6.74	27	P	P	18 32 28.2	+0.6
	SNR=19						
MKAR	Makanchi Array	12.71	36	P	P	18 33 42.3	-0.3
	comp=Z,0.2nm,0.3s,baz=221,slow=14,SNR=8.7						
KURK	Kurchatov	14.66	18	eP	P	18 34 06.9	+0.4
	comp=Z,1.1nm,0.6s						
KURK	Kurchatov	14.66	18	eP	P	18 34 06.9	+0.3
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	16.04	358	P	P	18 34 23.4	+0.7
	comp=Z,0.2nm,0.3s,baz=144,slow=13,SNR=4.7						
FINES	FINESS Array B	37.23	326	P	P	18 37 38.0	0.0
	comp=Z,0.3nm,0.3s,mb3.3,baz=117,slow=8.5,SNR=4.1						
MORC	Moravsky Berou	40.31	306	P	P	18 38 05.3	+1.9
	comp=Z,1.3nm,0.7s,mb3.5						
MORC	Moravsky Berou	40.31	306	P	P	18 38 05.3	+1.9
MORC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
ARCES	ARCESS Array B	40.80	337	P	P	18 38 07.8	+0.6
	comp=Z,1.6nm,0.8s,mb3.5,baz=100,slow=7.4,SNR=6.0						
HFS	Hagfors	42.86	322	P	P	18 38 23.6	-0.3
	comp=Z,2.4nm,0.8s,mb3.7,baz=112,slow=7.8,SNR=6.6						
NOA	NORSAR Array B	44.16	323	P	P	18 38 33.5	-0.8
	comp=Z,0.8nm,0.8s,mb3.1,baz=96,slow=8.1,SNR=3.4						
WRA	Warramunga Arr	82.00	122	P	P	18 42 39.7	-2.9
	comp=Z,0.5nm,1.1s,mb3.0,baz=324,slow=4.9,SNR=4.6						

NEIC 01 19:05:16.0±0.7, 21.86S×179.09W, h450km, mb4.3/9, Error ellipse: s-maj=19.1km s-min=16.0km az=73.0
IDC 01 19:05:35.6±10.0, 22.26S×179.92W, h649km±110km, mb3.2/5, mb1 3.4/5, mb1mx3.2/14, mbtmp4.4/5, Error ellipse: s-maj=77.1km s-min=29.4km az=69.0
ISC 01 19:05:22.7±5.6**, 22.1S**±0.2×**179.5W**±0.3**, h523**km±58km**, n29, σ0^{s}92**/22**, mb4.0**/14**, 1C-4D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	16.36	190	P	P	19 08 43.7	-2.1
	1.7nm,0.3s,baz=341,slow=6.4,SNR=9.2						
URZ				S	S	19 11 24.4	-5.6
	0.5nm,0.3s,baz=353,slow=22,SNR=4.8						
CTA	Charters Tower	32.02	267	P	P	19 11 08.8	+1.5
	4.9nm,0.4s,mb4.4,baz=100,slow=13,SNR=7.5						
CTAO	Charters Tower	32.02	267	eP	P	19 11 07.9	+0.6
	9.1nm,0.8s,mb4.4						
TOO	Toolangi	33.85	235	eP	P	19 11 23.7	+1.1
	8.9nm,0.7s,mb4.4						
STKA	Stephens Creek	35.88	246	⇓iP	P	19 11 40.7	+1.2
	5.2nm,0.4s,mb4.4						
STKA	Stephens Creek	35.88	246	P	P	19 11 40.8	+1.3
	6.9nm,0.4s,mb4.5,baz=93,slow=9.6,SNR=37						
STKA	Stephens Creek	35.88	246	eP	P	19 11 40.5	+1.0
WB2	Warramunga Arr	43.05	264	⇓iP	P	19 12 37.4	-0.1
WRAB	Tennant Creek	43.05	264	eP	P	19 12 37.2	-0.3
	17nm,1.1s,mb4.5						
WRA	Warramunga Arr	43.06	264	P	P	19 12 37.5	-0.1
	3.9nm,0.3s,mb4.4,baz=96,slow=8.1,SNR=312						
KAKA	Kakadu	46.68	273	⇓iP	P	19 13 21.7	+16
	7.7nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	51.49	264	⇑iP	P	19 13 41.5	-0.1
	5.4nm,0.3s,mb4.4						
KLBR	Kellerberrin	56.15	246	eP	P	19 14 13.3	-1.1
	59nm,1.9s,mb4.5						
SBA	Scott Base	56.18	183	P	P	19 14 15.2	+1.2
	0.9nm,0.7s,mb3.1						
VNDA	Vanda	56.19	185	P	P	19 14 14.6	+0.5
	0.6nm,0.8s,mb2.9,baz=344,slow=8.4,SNR=3.0						
MBWA	Marble Bar	56.19	259	eP	P	19 14 13.5	-1.3
	9.9nm,0.6s,mb4.2						
CASY	Casey	61.93	206	eP	P	19 14 51.1	-1.5
	2.2nm,0.6s,mb3.8						
QSPA	South Pole Qui	67.96	180	eP	P	19 15 30.5	+0.4
	1.7nm,0.5s,mb3.8						
KKM	Kota Kinabalu	68.88	286	eP	P	19 15 36.5	-0.2
MJAR	Matsushiro Arr	70.72	325	P	P	19 15 47.5	+0.2
	0.4nm,0.5s,mb3.2,baz=166,slow=6.6,SNR=4.3						
KSM	Kuching	72.31	279	eP	P	19 15 56.5	-0.4
MKAR	Makanchi Array	111.31	313	PKiKP		19 22 56.2	
	0.2nm,0.4s,baz=154,slow=1.4,SNR=9.3						
ARCES	ARCESS Array B	130.25	349	PKP	PKPdf	19 23 32.8	+0.2
	1.1nm,0.7s,baz=45,slow=3.4,SNR=3.9						
FINES	FINESS Array B	136.91	342	PKP	PKPdf	19 23 47.1	+2.1
	0.4nm,0.5s,SNR=5.9						
AKASG	Malin Array Be	143.73	329	PKP	PKPdf	19 23 56.9	-0.4
	1.7nm,0.3s,baz=40,slow=4.1,SNR=14						
BRTR	Keskin Array B	146.87	310	PKPbc	PKPbc	19 24 06.9	+1.7
	1.2nm,0.6s,baz=108,slow=3.9,SNR=4.9						
CLL	Collm	149.29	345	⇓iPKP1	PKPdf	19 24 12.9	+6.4
MOX	Moxa	150.23	346	eP	PKPdf	19 24 08.0	0.0
GERES	GERESS Array B	151.34	342	PKPbc	PKPdf	19 24 17.6	+7.9
	1.2nm,0.7s,baz=27,slow=3.0,SNR=8.7						
GERES				PKPab	PKPab	19 24 29.1	-0.2
	0.3nm,0.5s,slow=1.0,SNR=3.5						

IDC 01 19:21:50.1±1.4, 24.10N×126.67E, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=48.4km s-min=24.4km az=76.0
JMA 01 19:21:53.6±0.2, 24.31N×126.59E, h98km, M2.8
ISC 01 19:21:52.9±1.2**, 24.19N**±0.07×**126.69E**±0.05**, h36**km±14km**, n14, σ0^{s}89**/24**, mb3.4**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	1.30	296	P	P	19 22 16.0	+1.0
JOGS				eS	S	19 22 32.7	+1.3
JMJ	Miyako jima 2	1.42	296	P	P	19 22 17.3	+0.7
JMJ				eS	S	19 22 35.5	+1.2
JTJ	Tarama	1.87	284	P	P	19 22 23.1	0.0
JTJ				eS	S	19 22 45.7	0.0
JKE	Kume jima 2	2.12	2	P	P	19 22 27.0	+0.3
JKE				S	S	19 22 51.5	-0.6
JJT2	Tamagusuku 2	2.16	26	P	P	19 22 27.8	+0.6
JJT2				eS	S	19 22 52.9	-0.1
JIJ	Ishigaki jima	2.33	275	P	P	19 22 29.9	+0.2
JIJ				eS	S	19 22 55.2	-2.3
JKRS	Kuro-shima	2.45	272	P	P	19 22 31.5	+0.1
JKRS				eS	S	19 22 59.2	-1.2
IRIF	Iriomote-Funau	2.71	274	P	P	19 22 34.3	-0.8
IRIF				eS	S	19 23 06.1	-0.9
JOW	Kunigami	2.99	28	Pn	P	19 22 39.4	+0.3
	7.2nm,0.3s,baz=179,slow=14,SNR=26						
JOW				Sn	S	19 23 14.0	-0.1
	3.3nm,0.3s,baz=119,slow=28,SNR=4.2						
JOW	Kunigami	2.99	28	P	P	19 22 39.0	-0.1
JOW				eS	S	19 23 13.5	-0.6
JIH	Iheya	3.05	22	eS	S	19 23 14.2	-1.5
SONM	Songino Array	28.57	331	P	P	19 27 48.9	+1.3
	0.3nm,0.4s,mb3.3,baz=154,slow=7.9,SNR=6.1						
MKAR	Makanchi Array	41.90	314	P	P	19 29 42.4	+0.9
	0.3nm,0.5s,mb3.2,baz=104,slow=9.5,SNR=6.0						
WRA	Warramunga Arr	44.50	170	P	P	19 30 02.6	-0.3
	0.5nm,0.4s,mb3.6,baz=348,slow=9.0,SNR=12						

ATH 01 19:24:56.5, 37.78N×26.76E, h19km±1km, MD3.6/11
NEIC 01 19:24:56.4, 37.77N×26.75E, h19km, MD3.6(ATH), After ATH.
CSEM 01 19:24:57.5±0.1, 37.80N×26.83E, h15km, MD3.6, Error ellipse: s-maj=1.9km s-min=1.3km az=83.0
ISK 01 19:24:58.1, 37.83N×26.74E, h32km, MD3.5, ML3.6
ISC 01 19:24:56.4±0.6**, 37.80N**±0.02×**26.74E**±0.03**, h6**km±5km**, n36, σ1^{s}04**/56**, 2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.12	140	⇓iPB	Pb	19 25 00.7	0.0
SMG				eSB	Sb	19 25 02.8	-0.6
SMG	Samos	0.12	140	⇓iPb	Pb	19 25 00.7	0.0
SMG				eSb	Sb	19 25 02.6	-0.8
URLA	Izmir	0.57	349	iP	Pg	19 25 07.7	-0.1
URLA				iS	Sg	19 25 16.6	+1.2
BLCB	Balcova	0.63	22	iPG	Pg	19 25 10.2	+1.2
IZM	Izmir	0.72	35	iPG	Pg	19 25 11.9	+1.0
KDAG	Bornova	0.73	35	iP	Pg	19 25 10.8	-0.2
KDAG				iS	Sg	19 25 20.8	0.0
BODT	Bodrum	0.87	148	PG	Pg	19 25 14.1	+0.4
BODT				SG	Sg	19 25 26.6	+1.3
AYDN	Tasoluk	0.92	98	iP	Pb	19 25 14.8	+0.5
AYDN				iS	Sb	19 25 28.4	+1.9
BDRM	Kayabasi	0.93	142	iP	Pb	19 25 14.7	+0.2
BDRM				iS	Sb	19 25 28.2	+1.4
MLSB	Milas	0.97	121	PG	Pg	19 25 16.2	+0.5
MLSB				SG	Sg	19 25 28.7	+0.1
APE	Apeiranthos	1.21	233	ePN	Pn	19 25 19.8	0.0
APE				eSN	Sn	19 25 34.9	-1.7
APE	Apeiranthos	1.21	233	ePN	Pn	19 25 19.8	0.0
APE				eSN	Sn	19 25 36.2	-0.4
APE	Apeiranthos	1.21	233	ePn	Pn	19 25 19.8	0.0
APE				eSn	Sn	19 25 35.6	-1.0
AKS	Akhisar	1.37	38	PN	Pn	19 25 21.8	-0.3
YER	Yerkesik	1.40	118	PN	Pn	19 25 22.5	0.0
PRK	Paraskevi	1.49	346	ePN	Pn	19 25 24.1	+0.3
PRK				eSB	Sb	19 25 46.1	+3.0
AYVA	Ayvalik	1.50	359	iP	Pg	19 25 27.3	+0.9
AYVA				iS	Sg	19 25 48.3	+1.8
DENT	Denizli	1.82	91	ePN	Pn	19 25 27.7	-0.8
DALT	Dalyan (Mudla)	1.83	124	ePN	Pn	19 25 28.5	-0.2
DNZL	Cakiroluk	1.83	93	iP	Pn	19 25 29.7	+0.9
DNZL				iS	Sn	19 25 59.4	+6.9
ARG	Arkhangelos	1.93	145	ePN	Pn	19 25 30.4	+0.2
BALB	Balikesir	2.04	26	ePN	Pn	19 25 31.6	-0.1
BTOK	Tokmak	2.20	27	iP	Pg	19 25 39.4	-1.0
BTOK				iS	Sg	19 26 09.4	-0.4
CANB	Canakkale	2.23	6	ePN	Pn	19 25 33.4	-1.0
KARP	Karpathos	2.27	171	ePB	Pb	19 25 34.7	-2.8
GDZ	Gediz	2.51	58	iP	Pg	19 25 44.7	-1.8
GDZ				iS	Sg	19 26 19.2	-0.7
NPS	Neapolis	2.69	200	ePN	Pn	19 25 40.7	-0.3
TKTP	Tekketepe	2.84	84	iP	Pn	19 25 43.2	+0.1
TKTP				iS	Sg	19 26 36.5	+5.5
ULDT	Uludag	2.99	38	iP	Pg	19 25 54.0	-2.1
ULDT				iS	Sg	19 26 32.6	-3.4
VAM	Vamos	3.14	221	ePN	Pn	19 25 47.3	-0.2
VLI	Veliai	3.22	252	ePN	Pn	19 25 48.4	-0.1
RDO	Rodhopi	3.47	345	ePN	Pn	19 25 51.6	-0.5
ESKT	Eskisehir	3.65	61	iP	Pg	19 26 06.4	-2.8
ESKT				iS	Sg	19 26 58.6	+0.7
ITM	Ithomi	3.88	262	ePN	Pn	19 25 58.8	+0.9
NVR	Nevrokopi	4.18	329	ePN	Pn	19 26 01.9	-0.3
SGKT	Sivrigoynuk	4.97	55	iP	Pg	19 26 32.8	-2.9
SGKT				iS	Sg	19 27 37.7	-4.2

MAN 01 19:37:24.2, 5.58N×126.53E, h102km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.38	349	eP	P	19 37 49.5	-0.1
MATI				eS	S	19 38 09.1	+0.6
GSPH	General Santos	1.65	288	⇓eP	P	19 37 50.3	-2.5
GSPH				eS	S	19 38 09.6	-4.5
BUKP	Musuan	2.71	328	eP	P	19 38 07.3	+0.3
BUKP				eS	S	19 38 43.5	+4.5
BUTP	Butuan	3.48	345	eP	P	19 38 17.6	0.0
IPIL	Ipil	4.50	299	eP	P	19 38 27.0	-4.5
IPIL				eS	S	19 39 24.3	+1.3

NEIC 01 19:45:40.2, 63.10N×143.68W, h6km, ML2.5(AEIC), After AEIC.
PGC 01 19:45:40.0, 63.09N×143.52W, h1km, ML2.7/2**, ML2.5**/16(AEIC)**, 230km southwest of Dawson, Yt Eastern Alaska., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MENT	Mentasta	0.18	211	P	Pg	19 45 42.6	-0.9
MENT				S	Sg	19 45 46.3	+0.4
DOT	Dot Lake	0.61	337	P	Pg	19 45 51.1	-1.1
DOT				S	Sg	19 45 59.4	-0.9
DOT				Trac			
PAX	Paxson	0.90	263	P	Pg	19 45 55.7	-2.2
PAX				S	Sg	19 46 07.7	-2.1
PAX				Trac			
THY	Trims Highway	1.06	289	P	Pb	19 45 59.3	-1.5
THY				S	Sb	19 46 12.6	-2.4
THY				Trac			
SDG	Sourdough	1.09	240	P	Pb	19 45 59.1	-2.2
SDG				Trac			
TZL	Tazlina	1.37	221	P	Pb	19 46 04.5	-1.6
TZL				Trac			
GLB	Gilahina Butte	1.66	185	P	Pn	19 46 09.0	-1.4
KLU	Klutina	1.96	216	P	Pn	19 46 13.4	-1.2
KLU				S	Sn	19 46 38.7	-1.5
DAWY	Dawson	2.09	60	P	Pn	19 46 16.2	-0.3
DAWY				Pn	Pn	19 46 16.4	-0.1
BALM	Baldy	2.13	164	P	Pn	19 46 17.2	+0.1
SCM	Sheep Creek Mo	2.17	236	P	Pn	19 46 17.0	-0.7
SCM				S	Sn	19 46 45.8	+0.1
SCM				Trac			
BMRM	Bremner River	2.19	194	P	Pn	19 46 18.2	+0.2
DIV	Divide	2.23	209	P	Pn	19 46 18.8	+0.2
DIV				S	Sn	19 46 47.9	+0.6
DIV				Trac			
IL1	Eielson Array	2.25	320	P	Pn	19 46 16.0	-2.8
IL1				Trac			
VLZ	Valdez	2.37	215	P	Pn	19 46 19.9	-0.6
CTGM	Chitina Glacie	2.37	153	P	Pn	19 46 21.4	+0.8
CCB	Clear Creek Bu	2.46	311	P	Pn	19 46 18.4	-3.4
CCB				Trac			
WRH	Wood River Hil	2.46	306	P	Pn	19 46 20.1	-1.8
WRH				Trac			
SML	Sawmill	2.58	242	P	Pn	19 46 23.5	-0.1
COLA	College	2.62	315	P	Pn	19 46 22.5	-1.6
WAX	Waxell Ridge	2.67	173	P	Pn	19 46 25.5	+0.6
MDM	Murphy Dome	2.80	314	P	Pn	19 46 23.1	-3.6
MDM				Trac			
HYT	Haines Junctio	3.64	126	Pg	Pg	19 46 44.2	-8.4
HYT				Sg	Sg	19 47 30.7	-10
HYT				Trac		19 47 38.9	
	comp=Z,5.0nm,0.3s						
BM3	Burnt Mountain	4.37	354	P	Pn	19 46 46.3	-2.7
WHY	Whitehorse	4.76	117	Pn	Pn	19 46 51.3	-3.3
WHY				Sg	Sg	19 48 05.4	-13
WHY				Trac		19 48 09.8	
	comp=Z,3.0nm,0.4s						
COLD	Coldfoot	5.02	329	P	Pn	19 46 55.2	-3.0

NEIC 01 19:52:05.9, 17.49N×94.65W, h157km, MD4.0(MEX), After MEX.
MEX 01 19:52:05.9±1.7**, 17.49N×94.65W, h157**km±16km**, MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.45	209	iP	P	19 52 27.1	-1.1
CMIG				iS	S	19 52 41.9	-3.4
OXX	Oaxaca	2.02	259	iP	P	19 52 41.8	-0.2
OXX				iS	S	19 53 07.5	-2.3
VHO	Vista Hermosa	2.03	259	iP	P	19 52 41.2	-0.9
VHO				iS	S	19 53 07.6	-2.4
HUIG	Huatulco	2.21	219	iP	P	19 52 41.5	-2.8
HUIG				iS	S	19 53 09.7	-4.0
CCIG	Comitan	2.69	116	iP	P	19 52 50.1	-0.2
CCIG				iS	S	19 53 21.8	-2.4
LVIG	Laguna Verde	2.79	323	iP	P	19 52 48.0	-3.4
LVIG				iS	S	19 53 22.9	-3.5
PLIG	Platanillo	4.70	282	iP	P	19 53 15.1	-1.3
PLIG				iS	S	19 54 08.2	-2.5

NEIC 01 20:18:23.7±0.3, 6.59S×131.11E, h10km, mb4.4/15, Error ellipse: s-maj=10.9km s-min=5.7km az=74.0
IDC 01 20:18:23.4±1.1, 6.49S×130.92E, mb4.0/5, mb1 4.3/6, mb1mx4.1/13, mbtmp4.2/6, ML5.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/20, Error ellipse: s-maj=50.0km s-min=20.2km az=71.0
MOS 01 20:18:24.6±0.8, 6.70S×131.10E, h33km, mb4.5/6, Error ellipse: s-maj=26.0km s-min=12.4km az=112.7
ISC 01 20:18:28.7±2.6**, 6.85S**±0.08×**131.17E**±0.10**, h83**km±29km**, n41, σ0^{s}75**/45**, mb4.4**/17**, 1C, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	5.96	168	⇑iP	Px	20 20 15.8	
	14nm,0.2s						
KAKA				eS	Sx	20 21 22.9	
FITZ	Fitzroy Crossi	12.42	205	eP	P	20 21 23.2	-0.6
	16nm,0.4s						
FITZ				eS	S	20 23 34.2	-6.5
FITZ	Fitzroy Crossi	12.42	205	Pn	P	20 21 24.3	+0.5
	7.1nm,0.3s,baz=18,slow=9.7,SNR=88						
FITZ				Sn	S	20 23 33.4	-7.4
	8.5nm,0.3s,baz=184,slow=13,SNR=12						
WRAB	Tennant Creek	13.37	167	eP	P	20 21 36.7	+0.5
	16nm,0.7s						
WRAB				eS	S	20 23 59.4	-3.8
WRAB	Tennant Creek	13.37	167	eP	P	20 21 36.7	+0.4
WRAB				eS	S	20 23 59.4	-3.9
WRAB				pmax	pmax		
	comp=Z,16nm,0.7s						
WRA	Warramunga Arr	13.38	167	Pn	P	20 21 36.9	+0.6
	comp=Z,1.5nm,0.3s,baz=345,slow=15,SNR=53						
WRA				Sn	S	20 23 59.4	-4.0
	comp=Z,2.2nm,0.3s,baz=341,slow=19,SNR=9.1						
WB2	Warramunga Arr	13.38	167	eP	P	20 21 36.8	+0.4
WB2				eS	S	20 24 02.2	-1.3
PMG	Port Moresby	16.03	100	P	P	20 22 10.5	-0.1
	comp=Z,20nm,0.9s						
PMG	Port Moresby	16.03	100	P	P	20 22 10.5	-0.1
PMG				pmax	pmax		
	comp=Z,20nm,0.9s						
MBWA	Marble Bar	18.03	217	eP	P	20 22 36.1	+0.8
	comp=Z,6.5nm,0.7s						
KKM	Kota Kinabalu	19.66	310	eP	P	20 22 52.0	-1.7
CTA	Charters Tower	19.68	133	P	P	20 22 59.7	+5.9
	comp=Z,7.3nm,1.0s,baz=306,slow=13,SNR=3.8						
CTAO	Charters Tower	19.68	133	eP	P	20 22 59.6	+5.7
	comp=Z,11nm,1.0s						
CTAO	Charters Tower	19.68	133	eP	P	20 22 59.6	+5.8
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s						
STKA	Stephens Creek	26.74	160	eP	P	20 24 07.9	+5.4
	comp=Z,4.7nm,0.9s,mb4.0						
STKA	Stephens Creek	26.74	160	P	P	20 24 08.1	+5.6
	comp=Z,0.9nm,0.4s,mb3.6,baz=337,slow=12,SNR=8.8						
STKA	Stephens Creek	26.74	160	eP	P	20 24 07.6	+5.1
JOW	Kunigami	33.60	355	LR	LR	20 38 14.6	
	comp=Z,183nm,19.1s,baz=226,slow=36						
ENH	Enshi	42.37	332	eP	P	20 26 15.3	-1.2
	comp=Z,7.5nm,0.7s,mb4.5						
MJAR	Matsushiro Arr	43.66	8	P	P	20 26 26.8	-0.2
	comp=Z,0.9nm,0.7s,mb3.6,baz=185,slow=9.7,SNR=4.3						
MAJO	Matsushiro	43.66	8	eP	P	20 26 26.5	-0.5
	comp=Z,2.8nm,0.6s,mb4.2						
MAJO	Matsushiro	43.66	8	eP	P	20 26 26.5	-0.5
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
LSA	Lhasa	52.90	315	eP	P	20 27 39.3	+0.6
	comp=Z,4.6nm,0.9s,mb4.5						
LSA	Lhasa	52.90	315	eP	P	20 27 39.3	+0.6
LSA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
PKI	Pulchoki	55.91	310	eP	P	20 28 00.3	-0.4
	comp=Z,6.6nm,0.6s,mb4.9						
PKI	Pulchoki	55.91	310	eP	P	20 28 00.3	-0.4
PKI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KKN	Kakani	56.12	310	eP	P	20 28 01.6	-0.6
	comp=Z,3.9nm,0.4s,mb4.8						
DMN	Daman	56.16	310	eP	P	20 28 02.5	0.0
	comp=Z,26nm,1.4s,mb5.1						
GKN	Gorkha	56.72	310	eP	P	20 28 06.2	-0.3
	comp=Z,12nm,0.6s,mb5.1						
KOLN	Koldanda	57.40	309	eP	P	20 28 11.1	-0.2
	comp=Z,6.3nm,0.8s,mb4.7						
ULN	Ulaanbaatar	58.49	341	eP	P	20 28 19.1	+0.6
	comp=Z,2.9nm,0.7s,mb4.4						
ULN	Ulaanbaatar	58.49	341	eP	P	20 28 19.2	+0.7
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
SONM	Songino Array	58.67	341	P	P	20 28 19.6	-0.2
	comp=Z,0.6nm,0.7s,mb3.7,baz=153,slow=8.7,SNR=6.0						
CASY	Casey	61.04	189	eP	P	20 28 41.2	+5.5
	comp=Z,1.2nm,0.7s,mb4.0						
YAK	Yakutsk	68.68	359	eP	P	20 29 25.4	+0.4
	comp=Z,7.8nm,0.6s,mb4.7						
YAK	Yakutsk	68.68	359	eP	P	20 29 25.5	+0.4
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
MKAR	Makanchi Array	68.74	326	P	P	20 29 26.9	+1.1
	comp=Z,2.5nm,0.5s,mb4.3,baz=127,slow=7.9,SNR=57						
AAK	Ala-Archa	71.18	319	eP	P	20 29 41.4	+0.8
	comp=Z,1.9nm,0.8s,mb4.0						
AAK	Ala-Archa	71.18	319	eP	P	20 29 41.4	+0.8
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
KURK	Kurchatov	73.00	328	eP	P	20 29 52.1	+0.9
	comp=Z,1.8nm,1.0s,mb3.9						
KURK	Kurchatov	73.00	328	eP	P	20 29 52.1	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						

*IDC **01** 20:30:50.4±1.8, 9.42S×119.69E, mb4.1/3, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, ML4.0/2, Error ellipse: s-maj=136.7km s-min=20.2km az=57.0*
*NEIC **01** 20:30:56.1±2.1, 9.31S×119.95E, h39km±21km, mb4.2/6, Error ellipse: s-maj=19.5km s-min=13.7km az=220.0*
ISC 01 20:30:53.5±0.6**, 9.3S**±0.1×**119.9E**±0.1**, h33km, n16, σ0.78**/21**, mb4.2**/8**, 1C, Sumba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.36	148	⇑iP	P	20 33 21.6	-1.3
	3.4nm,0.3s						
FITZ				eS	S	20 35 06.2	-13
FITZ	Fitzroy Crossi	10.36	148	Pn	P	20 33 21.7	-1.3
	1.8nm,0.3s,baz=346,slow=11,SNR=31						
FITZ				Sn	S	20 35 06.5	-12
	9.3nm,0.3s,baz=184,slow=17,SNR=18						
MBWA	Marble Bar	11.78	181	eP	P	20 33 42.4	+0.2
MBWA				eS	S	20 35 40.2	-13
WRA	Warramunga Arr	17.49	129	P	P	20 34 57.1	+0.4
	0.3nm,0.3s,baz=300,slow=14,SNR=22						
WRA				S	S	20 37 54.5	-14
	0.6nm,0.3s,baz=300,slow=23,SNR=7.6						
WRAB	Tennant Creek	17.50	129	eP	P	20 34 56.6	0.0
	7.7nm,1.0s						
WB2	Warramunga Arr	17.50	129	eP	P	20 34 57.2	+0.5
WB2				eS	S	20 37 54.2	-14
CTAO	Charters Tower	27.60	116	P	P	20 36 40.3	+0.2
	11nm,1.1s,mb4.4						
STKA	Stephens Creek	30.14	141	eP	P	20 37 02.4	-0.3
	1.5nm,0.3s,mb4.2						
STKA	Stephens Creek	30.14	141	P	P	20 37 02.6	-0.1
	2.5nm,0.4s,mb4.3,baz=330,slow=7.8,SNR=13						
STKA	Stephens Creek	30.14	141	eP	P	20 37 01.8	-0.9
ULN	Ulaanbaatar	58.06	350	eP	P	20 40 45.2	-0.6
	2.1nm,1.0s,mb4.1						
SONM	Songino Array	58.15	349	P	P	20 40 46.5	+0.1
	1.2nm,0.8s,mb4.0,baz=164,slow=7.5,SNR=8.8						
MKAR	Makanchi Array	65.14	332	P	P	20 41 33.1	-0.3
	1.0nm,0.6s,mb4.0,baz=154,slow=6.9,SNR=23						
KURK	Kurchatov	69.67	333	eP	P	20 42 02.3	+0.6
	0.9nm,0.7s,mb3.8						
LSZ	Lusaka	89.23	255	P	P	20 43 47.4	-0.8
	4.2nm,0.9s,mb4.8						
SNAA	Sanae	90.94	195	P	P	20 43 57.3	+2.3
	1.7nm,1.0s,mb4.3						

*NEIC **01** 21:04:38.2, 41.59S×173.99E, h15km, ML3.9(WEL), After WEL.*
NEIC Felt in Blenheim.
WEL 01 21:04:38.0±0.1**, 41.59S**×**173.98E, h15km, ML3.9**/36**, 5C-2D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.15	212	PG	Pg	21 04 41.2	-0.8
BSWZ				SG	Sg	21 04 43.9	-0.8
BSWZ	Blackbirch Sta	0.15	212	P	Pb	21 04 41.2	-0.7
TUWZ	Tuamarina	0.16	350	PG	Pg	21 04 42.2	-0.1
TUWZ				SG	Sg	21 04 45.4	+0.4
CMWZ	Cape Campbell	0.24	132	⇓PG	Pg	21 04 43.7	+0.2
CMWZ				SG	Sg	21 04 48.3	+1.2
CMWZ	Cape Campbell	0.24	132	P	Pb	21 04 43.7	+0.2
TCW	Tory Channel	0.44	31	⇑P*	Pb	21 04 46.5	-0.4
TCW				SG	Sg	21 04 53.1	-0.2
NNZ	Nelson	0.58	309	⇓P*	Pb	21 04 49.1	-0.3
NNZ				S*	Sb	21 04 56.9	-0.3
NNZ	Nelson	0.58	309	P	Pb	21 04 49.1	-0.3
SNZO	South Karori	0.61	63	⇑P*	Pb	21 04 49.9	0.0
SNZO				SG	Sg	21 04 59.1	+0.2
SNZO	South Karori	0.61	63	P	Pb	21 04 49.9	0.0
MRW	Makara Radio	0.65	57	⇑P*	Pb	21 04 50.4	-0.2
MRW				SG	Sg	21 05 00.2	+0.1
MRW	Makara Radio	0.65	57	P	Pb	21 04 50.4	-0.2
WEL	Wellington	0.67	63	P*	Pb	21 04 50.9	+0.1
WEL				SG	Sg	21 05 00.9	+0.2
WEL	Wellington	0.67	63	P	Pb	21 04 50.9	+0.1
BHW	Baring Head	0.69	75	P*	Pb	21 04 51.5	+0.2
BHW				SG	Sg	21 05 01.3	-0.2
BHW	Baring Head	0.69	75	P	Pb	21 04 51.5	+0.2
DUWZ	D'Urville Isla	0.79	357	⇑P*	Pb	21 04 52.7	-0.2
DUWZ				SG	Sg	21 05 03.0	-1.7
THZ	Tophouse	0.82	257	eP*	Pb	21 04 52.7	-0.8
THZ				SG	Sg	21 05 05.2	-0.6
THZ	Tophouse	0.82	257	eP	Pb	21 04 52.7	-0.8
CAW	Cannon Point	0.95	60	P*	Pb	21 04 55.8	+0.2
MSWZ	Moikau Station	0.97	80	P*	Pb	21 04 56.6	+0.6
MSWZ				SG	Sg	21 05 10.2	-0.4
MSWZ	Moikau Station	0.97	80	P	Pb	21 04 56.6	+0.6
KIW	Kapiti Island	1.01	44	P*	Pb	21 04 56.2	-0.5
KIW				SG	Sg	21 05 10.3	-1.7
KIW	Kapiti Island	1.01	44	P	Pb	21 04 56.2	-0.5
PAWZ	Paruwai Farm	1.11	80	P*	Pb	21 04 58.2	-0.1
PAWZ				S*	Sb	21 05 14.3	+1.9
MTW	Mount Morrison	1.22	70	P*	Pb	21 04 59.9	-0.5
MTW				S*	Sb	21 05 17.7	+2.0
MTW	Mount Morrison	1.22	70	P	Pb	21 04 59.9	-0.5
TRWZ	Traveller	1.30	82	P*	Pb	21 05 00.7	-1.0
QRZ	Quartz Range	1.33	304	PN	Pn	21 05 02.0	-0.2
QRZ				SN	Sn	21 05 19.7	0.0
QRZ	Quartz Range	1.33	304	P	Pn	21 05 02.0	-0.2
MRZ	Mangatainoka R	1.52	53	⇑PN	Pn	21 05 04.4	-0.6
MRZ				S*	Sb	21 05 25.3	+0.8
MRZ	Mangatainoka R	1.52	53	P	Pn	21 05 04.4	-0.5
DSZ	Denniston Nort	1.64	264	ePN	Pn	21 05 06.4	-0.2
DSZ	Denniston Nort	1.64	264	eP	Pn	21 05 06.4	-0.2
LTZ	Lake Taylor	1.74	226	ePN	Pn	21 05 07.6	-0.5
LTZ	Lake Taylor	1.74	226	eP	Pn	21 05 07.6	-0.5
BFZ	Birch Farm	1.94	63	ePN	Pn	21 05 08.9	-1.9
BFZ	Birch Farm	1.94	63	eP	Pn	21 05 08.9	-2.0
WAZ	Wanganui	1.98	23	P	Pn	21 05 14.2	+2.7
TSZ	Takapari Road	2.14	45	PN	Pn	21 05 12.7	-1.2
TSZ	Takapari Road	2.14	45	P	Pn	21 05 12.7	-1.1
NRZ	Ngariki Road	2.25	359	P	Pn	21 05 18.2	+2.9
DFE	Dawson Falls	2.26	2	P	Pn	21 05 18.3	+2.8
NWEZ	Newall Road	2.31	358	P	Pn	21 05 17.6	+1.3
NEZ	North Egmont	2.32	2	P	Pn	21 05 18.8	+2.5
RAEZ	Rainy Point	2.32	8	P	Pn	21 05 19.2	+2.9
MQZ	McQueen's Vall	2.33	204	eP	Pn	21 05 13.0	-3.5
PKE	Pukeiti	2.39	0	P	Pn	21 05 19.2	+1.8
VRZ	Vera Road	2.53	14	P	Pn	21 05 20.8	+1.4
MOVZ	Moawhango	2.56	32	P	Pn	21 05 19.5	-0.3
WNVZ	Wahianoa	2.57	29	P	Pn	21 05 20.6	+0.6
DRZ	Dome Shelter	2.61	28	P	Pn	21 05 25.1	+4.6
FWVZ	Far West T-bar	2.62	28	P	Pn	21 05 21.3	+0.6
TUVZ	Tukino	2.65	29	P	Pn	21 05 21.9	+0.9
WPVZ	Whakapapa	2.67	27	P	Pn	21 05 23.9	+2.6
NGZ	Ngauruhoe	2.71	28	P	Pn	21 05 22.6	+0.7
TWVZ	Taurewa	2.75	24	P	Pn	21 05 22.9	+0.4
WTVZ	West Tongariro	2.76	27	P	Pn	21 05 23.0	+0.4
WVZ	Waitaha Valley	2.83	237	eP	Pn	21 05 24.1	+0.5
KATZ	Kakaramea	2.92	27	P	Pn	21 05 29.6	+4.7
RATZ	Rangitukua	3.04	27	P	Pn	21 05 32.0	+5.3
BKZ	Black Stump Fm	3.09	39	P	Pn	21 05 32.4	+5.1
HATZ	Hinemaiaia	3.14	32	P	Pn	21 05 33.2	+5.1
HIZ	Hauiti	3.14	13	P	Pn	21 05 28.5	+0.4
WATZ	Wairara	3.17	26	P	Pn	21 05 34.5	+6.0

*IPEC **01** 21:09:10.7±0.2, 51.56N×16.25E, ML1.5/2, Error ellipse: s-maj=1.6km s-min=0.9km az=29.0*
*WAR **01** 21:09:11.9, 51.52N×16.11E, h1km, ML2.2, Mining Induced*
*PRU **01** 21:09:11.6, 51.52N×16.17E*
*CSEM **01** 21:09:11.5±0.2, 51.52N×16.17E, h2km, ML2.6/4, Error ellipse: s-maj=3.9km s-min=1.7km az=22.0*
*VIE **01** 21:09:14.0±0.7, 51.32N×16.12E, mb1.8/2, ML2.1/3, Error ellipse: s-maj=4.7km s-min=4.2km az=62.0, Suspected Mining induced.*
*NEIC **01** 21:09:15.4±1.6, 51.31N×15.96E, h5km, ML2.5(VIE), Error ellipse: s-maj=17.9km s-min=8.2km az=31.0*
ISC 01 21:09:10.8±0.8**, 51.46N**±0.04×**16.09E**±0.05**, n25, σ1.39**/46**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	168	ePG	Pg	21 09 24.0	+0.7
KSP				eSG	Sg	21 09 34.0	+2.3
KSP	Ksiaz	0.63	168	ePg	Pg	21 09 24.5	+1.2
KSP				eSg	Sg	21 09 33.6	+1.9
UPC	Upice	0.95	183	ePG	Pg	21 09 30.8	+1.0
DPC	Dobruska-Polom	1.12	172	ePG	Pg	21 09 33.5	+0.4
DPC				eSG	Sg	21 09 49.4	+1.4
	4.0nm,0.2s						
DPC	Dobruska-Polom	1.12	172	Pg	Pg	21 09 33.5	+0.4
DPC				eSg	Sg	21 09 48.7	+0.7
PVCC	Panska Ves	1.34	227	ePG	Pg	21 09 38.0	+0.5
PVCC	Panska Ves	1.34	227	ePn	Pn	21 09 37.8	+1.0
PVCC	Panska Ves	1.34	227	Pg	Pg	21 09 38.0	+0.5
PVCC				eSg	Sg	21 09 57.0	+1.6
BRG	Berggiesshubel	1.47	248	Pg	Pg	21 09 39.6	-0.6
BRG				Sg	Sg	21 10 00.3	+0.4
BRG	Berggiesshubel	1.47	248	Pg	Pg	21 09 39.6	-0.7
BRG	Berggiesshubel	1.47	248	ePn	Pn	21 09 39.7	+1.0
BRG				Sg	Sg	21 10 00.3	+0.4
PRU	Pruhonice	1.77	214	ePG	Pg	21 09 45.7	-0.5
PRU				eSG	Sg	21 10 10.4	+0.7
	4.1nm,0.2s						
PRU	Pruhonice	1.77	214	ePn	Pn	21 09 43.7	+0.8
PRU	Pruhonice	1.77	214	ePg	Pg	21 09 45.7	-0.5
PRU				Sg	Sg	21 10 10.4	+0.7
	4.1nm,0.2s						
MORC	Moravsky Berou	1.92	151	ePn	Pn	21 09 45.2	+0.1
MORC				eSg	Sg	21 10 12.7	-2.0
	3.7nm,0.3s						
CLL	Collm	1.94	267	ePG	Pg	21 09 48.0	-1.6
CLL				eSG	Sg	21 10 14.0	-1.5
CLL	Collm	1.94	267	ePn	Pn	21 09 47.3	+1.9
CLL	Collm	1.94	267	ePg	Pg	21 09 48.0	-1.6
CLL				eSg	Sg	21 10 14.0	-1.5
OKC	Ostrava-Krasne	2.08	140	ePG	Pg	21 09 50.5	-1.9
OKC				eSG	Sg	21 10 18.0	-2.2
VRAC	Vranov	2.17	171	ePn	Pn	21 09 50.1	+1.4
VRAC				eSg	Sg	21 10 21.0	-2.2
	1.7nm,0.2s						
KRUC	Moravsky	2.41	175	ePn	Pn	21 09 53.4	+1.4
NKC	Novy Kostel	2.62	243	ePN	Pn	21 09 56.4	+1.4
NKC				ePG	Pg	21 10 01.2	-1.8
NKC				eSG	Sg	21 10 38.2	+0.3
	6.9nm,0.3s						
KHC	Kasperske Hory	2.83	216	ePN	Pn	21 09 58.7	+0.6
KHC				ePG	Pg	21 10 04.3	-3.1
KHC				eSN	Sn	21 10 35.2	+1.7
KHC				eSG	Sg	21 10 44.2	-0.9
MOX	Moxa	2.94	256	ePg	Pg	21 10 06.7	-2.8
MOX				eSg	Sg	21 10 46.3	-2.4
MOA	Molln	3.80	199	⇑iPn	Pn	21 10 12.2	+0.3
MOA				⇑iSg	Sg	21 11 15.7	-1.6
	comp=Z,1.8nm,0.4s						

*IDC **01** 21:57:43.5±1.3, 6.30N×93.25E, mb4.0/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, Error ellipse: s-maj=61.5km s-min=19.6km az=54.0*
*NEIC **01** 21:57:48.0±0.5, 6.41N×93.37E, h30km, mb4.2/5, Error ellipse: s-maj=18.1km s-min=6.5km az=53.0*
ISC 01 21:57:46.8±4.6**, 6.4N**±0.2×**93.4E**±0.3**, h34km**±39km**, n24, σ0.63**/23**, mb4.0**/13**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.28	98	ePn	P	21 59 33.0	-0.5
PKI	Pulchoki	22.42	341	eP	P	22 02 44.8	+0.8
DMN	Daman	22.55	340	eP	P	22 02 45.7	+0.3
KKN	Kakani	22.66	341	eP	P	22 02 46.2	-0.3
GKN	Gorkha	23.07	340	eP	P	22 02 50.9	+0.4
KOLN	Koldanda	23.23	337	eP	P	22 02 53.0	+0.9
LSA	Lhasa	23.31	355	eP	P	22 02 52.9	+0.1
	4.0nm,0.7s,mb4.0						
AAK	Ala-Archa	39.81	338	eP	P	22 05 17.3	-1.1
	2.1nm,0.8s,mb3.9						
FITZ	Fitzroy Crossi	40.03	128	P	P	22 05 21.1	+0.5
	5.7nm,0.9s,mb4.3,baz=348,slow=5.5,SNR=4.9						
MKAR	Makanchi Array	41.40	348	P	P	22 05 31.9	+0.4
	1.5nm,0.8s,mb3.7,baz=165,slow=8.6,SNR=17						
MKAR	Makanchi Array	41.40	348	P	P	22 05 31.9	+0.3
SONM	Songino Array	42.78	13	P	P	22 05 42.6	-0.3
	0.4nm,0.7s,mb3.3,baz=194,slow=10,SNR=4.2						
SONM				PcP	PcP	22 07 35.0	+0.6
	0.4nm,0.6s,baz=254,slow=1.2,SNR=3.4						
KURK	Kurchatov	45.90	347	eP	P	22 06 07.2	-0.7
	6.3nm,1.1s,mb4.5						
ZAL	Zalesovo	47.94	353	P	P	22 06 24.8	+0.8
	2.9nm,0.8s,mb4.4,baz=301,slow=8.9,SNR=17						
WRA	Warramunga Arr	48.00	124	P	P	22 06 25.1	+0.2
	2.2nm,0.8s,mb4.3,baz=304,slow=8.7,SNR=33						
WRAB	Tennant Creek	48.01	124	eP	P	22 06 25.2	+0.3
	26nm,1.3s,mb5.1						
CASY	Casey	73.53	173	P	P	22 09 17.8	0.0
	1.5nm,0.9s,mb3.9						
FINES	FINESS Array B	73.70	332	P	P	22 09 18.3	-0.6
	1.3nm,0.7s,mb4.0,baz=101,slow=9.7,SNR=7.0						
FINES	FINESS Array B	73.70	332	P	P	22 09 18.3	-0.6
KAF	Kangasniemi	73.80	333	ep	P	22 09 17.8	-1.6
ARCES	ARCESS Array B	76.43	340	P	P	22 09 34.4	0.0
	1.9nm,0.8s,mb4.1,baz=96,slow=9.1,SNR=4.4						
ARCES	ARCESS Array B	76.43	340	P	P	22 09 34.4	0.0
GERES	GERESS Array B	78.46	318	P	P	22 09 46.2	+0.1
	0.2nm,0.5s,mb3.3,baz=104,slow=5.5,SNR=7.8						
PDAR	Pinedale Array	126.82	21	PKP	PKPdf	22 16 50.8	+3.2
	0.5nm,0.5s,baz=315,slow=4.2,SNR=4.0						

*ATH **01** 22:12:08.4, 38.21N×20.70E, h12km±1km, MD3.5/11, ML3.8*
*NEIC **01** 22:12:08.3, 38.21N×20.70E, h12km, ML3.8(ATH), After ATH.*
*CSEM **01** 22:12:09.1±0.1, 38.24N×20.74E, h2km, ML3.8, Error ellipse: s-maj=2.2km s-min=1.2km az=171.0*
*THE **01** 22:12:11.4, 38.40N×20.77E, h3km, ML3.4*
*ROM **01** 22:12:15.5±1.7, 38.48N×20.06E, h12km, Md3.0/7, Ml2.7/4, Error ellipse: s-maj=27.4km s-min=5.9km az=54.0*
ISC 01 22:12:08.4±0.3**, 38.26N**±0.03×**20.72E**±0.03**, h10km, n47, σ1.23**/59**, 1D, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.13	229	ePG	Pg	22 12 11.4	-0.1
VLS				eSG	Sg	22 12 13.7	0.0
LKD	Levkas	0.45	353	ePg	Pg	22 12 17.4	0.0
RLS	Riolos of Patr	0.63	109	⇓iPG	Pg	22 12 20.1	-0.9
RLS				eSB	Sb	22 12 30.1	+0.6
EVR	Evrytania	1.08	52	ePG	Pg	22 12 29.2	-0.8
EVR				eSB	Sb	22 12 44.3	+1.7
EVR	Evrytania	1.08	52	ePg	Pg	22 12 28.8	-1.2
EVR				eSb	Sb	22 12 43.9	+1.3
IGT	Igoumenitsa	1.30	347	ePg	Pg	22 12 33.3	-1.1
IGT				eSg	Sg	22 12 50.8	-1.1
JAN	Janina	1.40	4	ePB	Pb	22 12 36.2	+2.1
JAN				eSB	Sb	22 12 55.0	+3.2
ITM	Ithomi	1.45	138	ePG	Pg	22 12 34.8	-2.5
ITM				eSB	Sb	22 12 55.0	+1.7
AGG	Agios Georgios	1.47	59	ePg	Pg	22 12 36.7	-1.2
AGG				eSg	Sg	22 12 56.0	-1.5
KEK	Kerkira	1.61	334	ePB	Pb	22 12 39.5	+1.6
KEK	Kerkira	1.61	334	Pn	Pn	22 12 39.8	+2.7
SRN	Sarande	1.71	341	i Sg	Sg	22 13 02.7	-2.6
LKR	Lokris	1.83	77	ePN	Pn	22 12 41.7	+1.4
NSAL	Nisos Salamina	2.20	98	ePB	Pb	22 12 46.2	-1.6
NSAL	Nisos Salamina	2.20	98	ePb	Pb	22 12 46.0	-1.8
KZN	Kozani	2.20	22	ePN	Pn	22 12 48.0	+2.5
NEO	Neokhori	2.22	61	ePB	Pb	22 12 47.0	-1.2
XOR	Xorichti	2.23	60	ePn	Pn	22 12 46.7	+0.8
VLI	Veliai	2.34	130	ePN	Pn	22 12 49.3	+1.7
MPAR	Parnis Oros	2.38	92	ePB	Pb	22 12 49.0	-2.0
ATH	Athens Observa	2.38	96	ePB	Pb	22 12 49.0	-2.0
FNA	Florina	2.57	11	ePn	Pn	22 12 51.8	+1.0
FNA				eSn	Sn	22 13 22.2	-0.2
LCI	Lecce	2.89	316	Pn	Pn	22 12 57.3	+1.9
PLG	Polygyros	2.99	44	ePN	Pn	22 12 57.4	+0.6
GRG	Griva	2.99	25	ePn	Pn	22 12 56.9	+0.1
TIP	Timpagrande	3.23	288	Pn	Pn	22 12 59.3	-0.9
	12nm,0.7s						
TIP	Timpagrande	3.23	288	ePn	Pn	22 12 58.7	-1.5
SOH	Sokhos	3.27	38	ePn	Pn	22 13 01.2	+0.5
SOH	Sokhos	3.27	38	ePn	Pn	22 13 01.2	+0.4
KNT	Kendrikon	3.35	29	ePn	Pn	22 13 02.3	+0.4
GRI	Girifalco	3.41	281	Pn	Pn	22 13 02.7	-0.1
	29nm,0.4s						
SRS	Serrai	3.61	37	ePn	Pn	22 13 05.8	+0.2
TDS	Terranova Siba	3.69	294	Pn	Pn	22 13 07.0	+0.3
	9.0nm,0.3s						
SKO	Skopje	3.75	8	ePn	Pn	22 13 18.0	+10
NOCI	Noci	3.79	313	Pn	Pn	22 13 06.9	-1.2
NOCI				Sn	Sn	22 13 48.5	-4.7
CEL	Celeste	3.79	271	Pn	Pn	22 13 06.8	-1.4
	21nm,0.4s						
LTRZ	Laterza	3.82	309	Pn	Pn	22 13 08.0	-0.5
CUC	Castrocucco	4.18	296	Pn	Pn	22 13 14.2	+0.4
	27nm,0.8s						
MGR	Morigerati	4.43	297	Pn	Pn	22 13 17.9	+0.7
	5.0nm,0.4s						
SLCN	Sala Consilina	4.48	300	Pn	Pn	22 13 18.4	+0.5
	11nm,0.4s						
RDO	Rodhopi	4.70	51	ePN	Pn	22 13 21.8	+0.7
MRLC	Muro Lucano	4.75	303	Pn	Pn	22 13 22.5	+0.7
	5.0nm,0.3s						
SGO	Sicignano	4.78	300	Pn	Pn	22 13 22.2	0.0
	9.0nm,0.3s						
CSSN	Cassano Irpino	5.11	302	Pn	Pn	22 13 27.1	+0.3
	7.0nm,0.3s						
RGNG	Rignano Grg	5.21	312	Pn	Pn	22 13 27.3	-1.0
CII	Carovilli	6.01	307	ePn	Pn	22 13 39.6	0.0
	10nm,0.6s						
CII				eSn	Sn	22 14 48.2	-1.2
CII	Carovilli	6.01	307	ePn	Pn	22 13 39.6	0.0
	10nm,0.6s						
CII				eSn	Sn	22 14 48.2	-1.1

*MOS **01** 22:23:00.4±0.8, 35.37N×135.99E, h351km, mb3.8/3, Error ellipse: s-maj=20.2km s-min=13.8km az=87.8*
*NEIC **01** 22:23:01.9±0.5, 35.41N×135.99E, h345km±5km, mb3.8/4, Error ellipse: s-maj=13.0km s-min=10.3km az=142.0*
*JMA **01** 22:23:02.3±0.1, 35.50N×135.92E, h341km±1km, M3.3*
*IDC **01** 22:23:02.7±0.7, 35.41N×135.96E, h352km±9km, mb3.1/7, mb1 3.2/11, mb1mx3.1/25, mbtmp3.8/11, Error ellipse: s-maj=17.7km s-min=12.4km az=74.0*
ISC 01 22:23:01.1±0.4**, 35.47N**±0.06×**136.01E**±0.06**, h349km**±3km**, n34, σ0.72**/49**, mb3.4**/10**, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFM	Mihama	0.06	344	P	P	22 23 45.5	+0.6
JFM				eS	S	22 24 18.8	-0.4
JWT	Wachi	0.53	250	P	P	22 23 45.8	+0.3
JWT				eS	S	22 24 19.2	-1.1
JGM	Miyama	0.62	68	P	P	22 23 46.2	+0.5
JGM				eS	S	22 24 19.6	-1.1
JKG	Kaga	0.85	18	P	P	22 23 46.6	+0.3
JIE	Ise	1.22	152	P	P	22 23 48.7	+0.8
JIE				eS	S	22 24 24.4	-0.2
JWZ	Kozaga	1.95	187	P	P	22 23 52.4	+0.2
JWZ				eS	S	22 24 31.6	-0.7
MAJO	Matsushiro	2.08	58	ePn	P	22 23 52.9	-0.3
MAT	Matsushiro	2.08	58	P	P	22 23 53.0	-0.2
MAT				S	S	22 24 34.3	+0.3
MAT	Matsushiro	2.08	58	eP	P	22 23 53.0	-0.2
MAT				eS	S	22 24 34.0	0.0
MJAR	Matsushiro Arr	2.08	58	P	P	22 23 54.0	+0.8
	4.7nm,0.3s,baz=231,slow=5.6,SNR=30						
MJAR				S	S	22 24 38.4	+4.4
	baz=155,slow=44,SNR=5.7						
JAI	Aioi	2.11	218	P	P	22 23 53.6	+0.2
JAI				eS	S	22 24 34.0	-0.3
JHS	Saijyo	2.41	260	P	P	22 23 55.8	+0.1
JHS				eS	S	22 24 38.5	0.0
JRY	Ryogami san	2.42	76	P	P	22 23 56.8	+1.0
JRY				eS	S	22 24 40.0	+1.3
JHJ	Hachijo jima 2	3.91	126	P	P	22 24 10.2	+0.8
	7.0nm,0.3s,baz=88,slow=22,SNR=2.2						
JHJ				S	S	22 25 07.6	+4.4
	32nm,0.3s,baz=85,slow=21,SNR=12						
BSO1	Boso 1	4.16	100	P	P	22 24 12.3	+0.2
BSO1				eS	S	22 25 06.3	-1.5
JNU	Nakatsue	4.85	243	P	P	22 24 20.0	+0.6
	7.1nm,0.3s,baz=188,slow=12,SNR=36						
ASAJ	Asahikawa	10.01	28	P	P	22 25 19.6	-0.3
	2.2nm,0.3s,baz=208,slow=14,SNR=5.4						
ASAJ				S	S	22 27 08.1	-1.8
	1.0nm,0.3s,baz=45,slow=29,SNR=7.1						
ASAJ	Asahikawa	10.01	28	P	P	22 25 19.7	-0.3
ASAJ				S	S	22 27 08.1	-1.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
MDJ	Mudanjiang	10.37	334	eP	P	22 25 24.4	+0.1
	comp=N,21nm,0.8s						
YSS	Yuzh-Sakhalins	12.54	22	P	P	22 25 51.1	+0.8
ULN	Ulaanbaatar	24.77	309	eP	P	22 27 53.8	+0.3
	comp=N,2.8nm,0.5s,mb3.8						
ULN	Ulaanbaatar	24.77	309	eP	P	22 27 53.8	+0.2
ULN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.8						
SONM	Songino Array	25.17	309	P	P	22 27 58.0	+0.7
	comp=Z,1.9nm,0.7s,mb3.4,baz=114,slow=8.9,SNR=17						
MKAR	Makanchi Array	41.27	303	P	P	22 30 14.6	+0.1
	comp=Z,0.8nm,0.6s,mb3.1,baz=88,slow=11,SNR=12						
KURK	Kurchatov	43.48	309	eP	P	22 30 31.4	-0.7
	comp=Z,2.6nm,0.6s,mb3.5						
KURK	Kurchatov	43.48	309	eP	P	22 30 31.4	-0.8
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.6						
ILAR	Eielson Array	53.13	31	P	P	22 31 46.0	+0.6
	comp=Z,0.5nm,0.6s,mb3.0,baz=259,slow=5.9,SNR=5.3						
ARU	Arti	54.63	318	P	P	22 31 55.2	-0.9
	comp=Z,1.6nm,0.6s,mb3.5						
ARU	Arti	54.63	318	P	P	22 31 55.2	-1.0
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
WRA	Warramunga Arr	55.13	182	P	P	22 31 58.9	-1.3
	comp=Z,0.4nm,0.3s,mb3.2,baz=0.1,slow=7.7,SNR=14						
ARCES	ARCESS Array B	63.88	338	P	P	22 32 58.6	+0.2
	comp=Z,0.7nm,0.5s,mb3.6,baz=52,slow=7.7,SNR=9.1						
FINES	FINESS Array B	68.10	331	P	P	22 33 24.8	-0.2
	comp=Z,0.9nm,0.8s,mb3.6,baz=50,slow=6.0,SNR=9.3						
NB2	NORSAR Subarra	73.86	335	P	P	22 33 59.1	-0.2
	comp=Z,0.5nm,0.4s,mb3.6,baz=44,slow=5.8						
NOA	NORSAR Array B	73.86	335	P	P	22 33 59.3	0.0
	comp=Z,0.6nm,0.5s,mb3.5,baz=45,slow=5.7,SNR=2.6						

IDC 01 22:39:16.2±14.0**, 13.74N**×**121.12E, h141km**±148km**, mb3.4**/6**, mb1 3.5**/6**, mb1mx3.3**/19**, mbtmp3.8**/6**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.8**/14**, Error ellipse: s-maj=115.5km s-min=23.6km az=66.0, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	23.75	53	LR	LR	22 51 39.9	
	comp=Z,242nm,21.8s,baz=125,slow=31						
WRA	Warramunga Arr	35.91	158	P	P	22 46 03.0	-1.8
	0.4nm,0.7s,baz=337,slow=9.3,SNR=1.9						
SONM	Songino Array	36.14	343	P	P	22 46 04.6	-1.7
	0.8nm,0.6s,baz=164,slow=9.2,SNR=9.5						
MKAR	Makanchi Array	46.24	323	P	P	22 47 27.2	-1.7
	0.9nm,0.5s,baz=130,slow=9.5,SNR=13						
ZAL	Zalesovo	49.21	332	P	P	22 47 49.9	-2.0
	1.3nm,0.4s,baz=281,slow=3.2,SNR=4.2						
BVAR	Borovoye Array	55.97	326	P	P	22 48 39.7	-2.3
	0.4nm,0.6s,baz=120,slow=12,SNR=4.3						
ARCES	ARCESS Array B	79.19	339	P	P	22 51 05.1	-1.4
	3.6nm,1.1s,baz=72,slow=5.7,SNR=4.0						

*BJI **01** 22:45:56.8, 48.71N×154.81E, h36km, mB4.8, mb4.5, Ms4.1, Msz3.8*
*SKHL **01** 22:45:57.1±0.6, 47.88N×155.33E, h47km±16km, mb5.8/2, msh5.8/1*
*NEIC **01** 22:45:58.9±0.2, 48.34N×154.79E, mb4.8/50, MS3.9/4, Error ellipse: s-maj=6.7km s-min=4.3km az=146.0*
*IDC **01** 22:45:58.3±5.0, 48.42N×154.68E, h29km±35km, mb4.1/23, mb1 4.3/25, mb1mx4.2/28, mbtmp4.3/25, ML4.0/2, MS3.6/12, Ms1 3.6/12, ms1mx3.3/40, Error ellipse: s-maj=16.2km s-min=11.7km az=149.0*
*MOS **01** 22:45:58.2±1.0, 48.33N×154.66E, h43km, mb5.0/30, Error*

ellipse: s-maj=10.1km s-min=5.4km az=99.3
ISC 01 22:45:55.2±1.5,**48.32N**±0.05×**154.86E**±0.06,**h22**km±10km, **h41**km±4.4km:**pP-P**,**n208**,σ1.00/214,**mb4.5**/73,**MS3.8**/16, **18C-8D**,**Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PET Petropavlovsk 5.29 26 *e*Pn **Pn 22 47 14.6 -0.5**
37nm,0.4s
PET *e*Sn **Sn 22 48 11.5 -4.7**
PET Petropavlovsk 5.29 26 *e*PN **Pn 22 47 15.3 +0.2**
PET pmax pmax
comp=Z,200nm,3.0s
PET MLR MLR
comp=Z,400nm,18.0s
PET MLR MLR
comp=Z,300nm,18.0s
KUR Kuril'sk 5.71 240⇑*i*P **Pn 22 47 21.9 +1.0**
KUR *e*P 22 47 21.9
KUR AMB AMB 22 47 22.9
comp=Z,99nm,0.5s
KUR AMB AMB 22 47 22.9
comp=Z,53nm,0.5s
KUR AMB AMB 22 47 22.9
comp=Z,312nm,0.5s
KUR AMB AMB 22 47 23.4
comp=Z,2µm,1.6s
KUR *e*S **Sn 22 48 26.0 -0.5**
KUR A 22 48 41.7
comp=Z,2µm,2.0s
KUR A 22 48 48.0
comp=Z,566nm,1.0s
KUR A 22 48 48.0
comp=Z,226nm,1.0s
KUR Kuril'sk 5.71 240⇑*i*PN **Pn 22 47 21.9 +1.0**
KUR *e*S **Sn 22 48 26.0 -0.5**
KUR pmax pmax
comp=N,100nm,0.5s
KUR pmax pmax
comp=E,50nm,0.5s
KUR pmax pmax
comp=Z,310nm,0.5s
KUR pmax pmax
comp=Z,2µm,1.6s
YUK Yuzh-Kuril'sk 7.57 239 *e*P **Pn 22 47 46.7 -0.4**
YUK AMB AMB 22 47 47.5
comp=Z,210nm,0.5s
YUK AMB AMB 22 47 47.5
comp=Z,690nm,0.5s
YUK AMB AMB 22 47 47.5
comp=Z,170nm,0.4s
YUK A 22 49 21.5
comp=Z,190nm,0.5s
YUK A 22 49 21.5
comp=Z,210nm,0.5s
YUK Yuzh-Kuril'sk 7.57 239 *e*PN **Pn 22 47 46.7 -0.4**
YUK S **Sn 22 49 20.5 +7.4**
YUK pmax pmax
comp=E,210nm,0.5s
YUK pmax pmax
comp=Z,690nm,0.5s
YUK pmax pmax
comp=N,170nm,0.4s
YUK smax
comp=N,190nm,0.5s
YUK smax
comp=E,210nm,0.5s
YSS Yuzh-Sakhalins 8.29 265 *e*P **P 22 48 00.0 +2.8**
YSS *e*S **Sn 22 49 31.7 +0.6**
YSS A 22 49 38.5
comp=E,50nm,0.6s
YSS *e*LQ 22 50 30.0
YSS *e*LR LR 22 50 46.0
YSS AMS AMS 22 51 23.0
comp=E,200nm,14.0s
YSS Yuzh-Sakhalins 8.29 265 *e*P **P 22 47 59.4 +2.3**
comp=E,88nm,1.1s
YSS Yuzh-Sakhalins 8.29 265 PN **P 22 48 00.0 +2.8**
YSS *e*S **Sn 22 49 31.7 +0.6**
YSS smax
comp=E,50nm,0.6s
YSS MLR MLR
comp=Z,200nm,14.0s
UGL Uglegorsk 8.50 280 PN **P 22 48 12.0 +12**
UGL pmax pmax
comp=Z,93nm,0.4s
UGL MLR MLR
comp=N,400nm,14.0s
UGL MLR MLR
comp=E,500nm,14.0s
UGL MLR MLR
comp=Z,500nm,14.0s
ASAJ Asahikawa 9.48 248 Pn **P 22 48 17.5 +3.9**
comp=Z,7.3nm,0.3s,baz=84,slow=13,SNR=28
ASAJ LR LR 22 51 29.4
comp=Z,323nm,21.1s,baz=356,slow=35
ASAJ Asahikawa 9.48 248 PN **P 22 48 17.5 +3.9**
ASAJ pmax pmax
comp=Z,7.0nm,0.3s
ASAJ MLR MLR
comp=Z,323nm,21.1s
MA2 Magadan 11.53 350 *e*P **P 22 48 41.4 -0.2**
comp=Z,20nm,0.9s
MA2 Magadan 11.53 350 *e*PN **P 22 48 43.4 +1.8**
MA2 pmax pmax
comp=Z,4.0nm,0.5s
FX1 Attu Island--F 12.49 62 Pn **P 22 48 52.6 -1.8**
comp=Z,2.2nm,0.3s,baz=166,slow=12,SNR=13
FX1 Sn **S 22 50 59.5 -14**
comp=Z,8.2nm,0.3s,baz=77,slow=19,SNR=8.7
FX1 Attu Island--F 12.49 62 *e*P **P 22 48 52.5 -2.0**
FX1 *e*S S 22 50 52.7 -21
TEY Ternei 12.96 262 *e*P **P 22 49 02.0 +1.3**
SEY Seymchan 14.72 356 *i* P **P 22 49 25.6 +2.0**
KLR Kul'dur 15.26 282 *e*P **P 22 49 32.0 +1.2**
MAJO Matsushiro 16.97 232 *e*P **P 22 49 48.4 -4.3**
comp=Z,12nm,0.7s
MAJO Matsushiro 16.97 232 *e*P **P 22 49 48.4 -4.4**
MAJO pmax pmax
comp=Z,12nm,0.7s
MAT Matsushiro 16.97 232 P **P 22 49 51.0 -1.8**
MAT Matsushiro 16.97 232 *e*P **P 22 49 51.0 -1.8**
comp=Z,11nm,0.8s
MAT Matsushiro 16.97 232 *e*P **P 22 49 51.0 -1.8**
MAT pmax pmax
comp=Z,11nm,0.8s
MJAR Matsushiro Arr 16.97 232 Pn **P 22 49 51.7 -1.1**
comp=Z,0.8nm,0.3s,baz=32,slow=13,SNR=25
MDJ Mudanjiang 17.77 267 P **P 22 50 02.8 +0.2**
MDJ AMB AMB
comp=Z,14nm,0.8s
MDJ Mudanjiang 17.77 267 *e*P **P 22 50 03.7 +1.0**
comp=Z,14nm,0.8s
JHJ Hachijo jima 2 18.95 222 LR LR 22 56 42.7
comp=Z,74nm,20.4s,baz=2.1,slow=34
YAK Yakutsk 19.70 323 P **P 22 50 25.4 -0.3**
comp=Z,77nm,1.4s
YAK Yakutsk 19.70 323 *i* P **P 22 50 25.9 +0.2**
YAK pmax pmax
comp=Z,17nm,0.6s
BILL Bilibino 20.61 12 *e*P **P 22 50 31.8 -3.4**
BILL Bilibino 20.61 12 *e*P **P 22 50 32.9 -2.3**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,200nm,20.0s,MS3.5
CN2 Changchun 20.84 269 *e*P **P 22 50 34.7 -3.0**
CN2 *e*AP 22 50 46.3
CN2 *e*S **S 22 54 30.1 +5.9**
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 AMB AMB
comp=Z,190nm,4.0s
CN2 LR LR
comp=N,270nm,13.0s,MS4.0
CN2 LR LR
comp=E,290nm,13.0s,MS4.0
CN2 LR LR
comp=Z,200nm,14.0s,MS3.6
KS15 Wonju Array Si 22.44 251 *e*P **P 22 50 54.6 +0.7**
JNU Nakatsue 23.54 239 P **P 22 51 07.0 +2.3**
comp=Z,4.8nm,0.5s,mb4.2,baz=292,slow=2.8,SNR=4.3
BOD Bodaibo 25.95 307 *e*P **P 22 51 40.1 +13**
TIXI Tiksi 26.32 342 *i* P **P 22 51 30.1 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.3s,mb4.0

ULN Ulaanbaatar 31.53 287 *e*P **P 22 52 15.7 -1.9**
comp=Z,2.4nm,0.8s,mb4.1
ULN Ulaanbaatar 31.53 287 *i* P **P 22 52 17.0 -0.7**
NJ2 Nanjing 31.59 252 *e*P **P 22 52 20.3 +1.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
IMA Indian Mountai 31.85 37 *e*P **P 22 52 19.4 -0.8**
comp=Z,24nm,0.8s,mb5.1
IMA Indian Mountai 31.85 37 *e*P **P 22 52 19.4 -0.9**
IMA pmax pmax
comp=Z,23nm,0.8s,mb5.1
SONM Songino Array 31.96 288 P **P 22 52 20.4 -1.0**
comp=Z,1.3nm,0.9s,mb3.8,baz=63,slow=9.7,SNR=9.2
SONM PcP PcP 22 55 10.4 -1.1
comp=Z,0.8nm,0.7s,baz=123,slow=2.6,SNR=5.9
SONM LR LR 23 06 24.0
comp=Z,173nm,18.9s,MS3.8,baz=13,slow=38
ZAK Zakamensk 33.12 293 P **P 22 52 30.5 -1.0**
ILAR Eielson Array 34.59 40 P **P 22 52 43.7 -0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=255,slow=7.8,SNR=19
ILAR LR LR 23 06 39.0
comp=Z,32nm,20.2s,MS3.1,baz=180,slow=36
KRAR Krasnoyarsk 37.61 306 *e*P **P 22 53 07.6 -2.1**
KRAR *i* 22 53 23.8
KRAR *e* 22 54 35.8
KRAR *e* 22 55 21.2
ENH Enshi 38.82 259 P **P 22 53 17.4 -2.7**
comp=Z,5.9nm,0.4s,mb4.7
LZH Lanzhou 39.03 271 *e*P **P 22 53 21.6 -0.2**
LZH AP pP 22 53 35.6 +7.1
LZH XP sP 22 53 41.7 +10
LZH *e*PP PP 22 54 55.8 +0.4
LZH *e*S **S 22 59 16.6 -2.7**
LZH XS 22 59 36.6
LZH *e*SS SS 23 02 01.0 -2.7
LZH AMB AMB
comp=Z,25nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,81nm,5.8s
LZH LR LR
comp=N,318nm,13.5s
LZH LR LR
comp=Z,493nm,17.6s,MS4.4
LZH Lanzhou 39.03 271 *e*P **P 22 53 21.6 -0.2**
comp=Z,25nm,1.4s,mb4.8
LZH pP pP 22 53 35.6 +7.1
LZH sP sP 22 53 41.7 +10
LZH *e*PP PP 22 54 55.8 +0.4
LZH *e*S **S 22 59 16.6 -2.7**
LZH sS 22 59 36.6
LZH *e*SS SS 23 02 01.0 -2.7
LZH LR LR
comp=Z,490nm,17.6s,MS4.4
LZH Lanzhou 39.03 271 *e*P **P 22 53 21.6 -0.2**
LZH *PP pP 22 53 35.6 +7.1
LZH *e* 22 54 55.8
LZH *e*S **S 22 59 16.6 -2.7**
LZH *e*SS SS 23 02 01.0 -2.7
LZH pmax pmax
comp=Z,25nm,1.4s,mb4.8
LZH MLR MLR
comp=Z,490nm,17.6s,MS4.4
INK Inuvik 39.70 34 P **P 22 53 27.7 +0.7**
comp=Z,3.2nm,0.5s,mb4.3,baz=289,slow=7.9,SNR=12
GTA Gaotai 39.91 278 *e*P **P 22 53 28.7 -0.3**
GTA AP pP 22 53 41.9 +6.1
GTA XP sP 22 53 48.9 +10
GTA PP PP 22 55 06.0 +1.4
GTA PPP PPP 22 55 32.2 +2.1
GTA S **S 22 59 29.5 -2.9**
GTA SS SS 23 02 22.9 0.0
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,108nm,5.7s
GTA LR LR
comp=N,174nm,12.2s,MS4.2
GTA LR LR
comp=E,124nm,11.8s,MS4.2
GTA LR LR
comp=Z,205nm,15.2s,MS4.1
ZAL Zalesovo 42.69 305 PcP PcP 22 55 43.6 -0.2
comp=Z,1.1nm,0.6s,baz=5.3,slow=1.4,SNR=6.4
ZAL LR LR 23 13 19.4
comp=Z,93nm,18.0s,MS3.7,baz=98,slow=39
DLBC Dease Lake 43.66 47 P **P 22 54 01.3 +1.9**
comp=Z,1.4nm,0.7s,mb3.8,baz=315,slow=11,SNR=4.6
DLBC LR LR 23 10 18.1
comp=Z,39nm,19.7s,MS3.3,baz=96,slow=33
WMQ Urumqi 45.47 291 *e*P **P 22 54 15.0 +0.8**
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.5
WMQ AMB AMB
comp=Z,102nm,6.2s
WMQ LR LR
comp=N,128nm,17.0s,MS4.0
WMQ LR LR
comp=E,69nm,14.6s,MS4.0
WMQ LR LR
comp=Z,119nm,20.4s
MKAR Makanchi Array 47.28 297 P **P 22 54 27.2 -1.2**
comp=Z,2.6nm,0.6s,mb4.3,baz=64,slow=7.7,SNR=28
MKAR LR LR 23 15 44.2
comp=Z,68nm,19.8s,MS3.6,baz=356,slow=38
KURK Kurchatov 47.49 303 *e*P **P 22 54 28.2 -1.8**
comp=Z,3.5nm,0.5s,mb4.5
KURK Kurchatov 47.49 303 *e*P **P 22 54 28.9 -1.2**
YKA Yellowknife Ar 48.96 38 P **P 22 54 41.6 +0.4**
comp=Z,3.3nm,0.8s,mb4.4,baz=293,slow=6.9,SNR=5.4
YKA Yellowknife Ar 48.96 38 P **P 22 54 41.7 +0.4**
BVAR Borovoye Array 50.78 309 P **P 22 54 53.5 -1.9**
comp=Z,1.4nm,0.4s,mb4.3,baz=59,slow=8.1,SNR=20
BVAR PcP PcP 22 56 11.0 -1.4
comp=Z,1.5nm,0.6s,baz=66,slow=4.0,SNR=6.5
BRVK Borovoye 50.82 309 *e*P **P 22 54 53.0 -2.6**
comp=Z,1.5nm,0.7s,mb4.0
LSA Lhasa 51.37 273 P **P 22 55 01.8 +1.7**
LSA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
LSA Lhasa 51.37 273 *e*P **P 22 55 01.6 +1.4**
comp=Z,10.0nm,0.6s,mb4.9
LSA Lhasa 51.37 273 *e*P **P 22 55 01.6 +1.5**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
AAK Ala-Archa 54.20 296 *e*P **P 22 55 19.0 -2.0**
comp=Z,1.9nm,0.7s,mb4.1
AAK Ala-Archa 54.20 296 *i* P **P 22 55 19.1 -1.9**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ARU Arti 54.66 317 *e*P **P 22 55 20.6 -3.6**
comp=Z,2.6nm,0.6s,mb4.4
ARU Arti 54.66 317⇓*i*P **P 22 55 22.7 -1.5**
ARU *e* 22 57 26.4
ARU *e*PPP PPP 22 58 36.5 -3.4
ARU *e*S **S 23 03 02.8 +1.7**
ARU *e*SS SS 23 06 45.7 +1.9
ARU pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
KKN Kakani 56.52 275 *e*P **P 22 55 37.9 -0.2**
comp=Z,16nm,0.5s,mb5.3
KKN Kakani 56.52 275 *e*P **P 22 55 37.9 -0.2**
KKN pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
PKI Pulchoki 56.58 275 *e*P **P 22 55 38.1 -0.4**
comp=Z,15nm,0.5s,mb5.2
PKI Pulchoki 56.58 275 *e*P **P 22 55 38.1 -0.4**
PKI pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
DMN Daman 56.75 275 *e*P **P 22 55 39.8 0.0**
comp=Z,45nm,0.7s,mb5.6
ARCES ARCESS Array B 56.76 341 P **P 22 55 37.8 -1.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=34,slow=7.3,SNR=5.7
ARCES LR LR 23 23 42.4
comp=Z,82nm,18.3s,MS3.9,baz=274,slow=40
GKN Gorkha 56.80 276 *e*P **P 22 55 39.7 -0.4**
comp=Z,27nm,0.5s,mb5.5
KOLN Koldanda 57.65 277 *e*P **P 22 55 45.8 -0.3**
comp=Z,14nm,0.5s,mb5.3
CHMT Chamberlain Mo 58.20 54 *e*P **P 22 55 49.3 -0.4**
SUMG Summit 59.05 5 *e*P **P 22 55 54.7 -0.5**
comp=Z,9.6nm,0.8s,mb4.9
HLID Hailey 59.66 57 P **P 22 55 59.5 -0.4**
comp=Z,1.4nm,0.6s,mb4.2
JOF Joensuu 60.45 334 *e*p **P 22 56 03.1 -1.9**
ELK Elko 60.99 60 P **P 22 56 09.5 +0.5**
comp=Z,0.3nm,0.3s,mb3.9,baz=321,slow=5.4,SNR=3.6

LAO LASA Array 62.04 50 P **P 22 56 13.0 -3.0**
comp=Z,11nm,0.8s,mb5.0
KAF Kangasniemi 62.52 336 *e*p **P 22 56 16.7 -2.2**
DUG Dugway 62.75 59 *e*P **P 22 56 20.7 0.0**
comp=Z,3.6nm,0.9s,mb4.5
DUG Dugway 62.75 59 *e*P **P 22 56 20.7 -0.1**
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
FINES FINESS Array B 63.12 335 P **P 22 56 21.6 -1.3**
comp=Z,1.6nm,0.6s,mb4.4,baz=37,slow=8.6,SNR=19
FINES LR LR 23 26 24.5
comp=Z,64nm,19.1s,MS3.8,baz=355,slow=38
FRB Frobisher Bay 63.18 20 LR LR 23 26 47.5
comp=Z,66nm,20.5s,MS3.8,baz=320,slow=39
KAKA Kakadu 63.94 204 *e*P **P 22 56 44.6 +16**
comp=Z,7.0nm,0.6s,mb4.9
ULM Lac du Bonnet 64.57 42 P **P 22 56 31.9 -0.6**
comp=Z,2.4nm,0.8s,mb4.3,baz=299,slow=12,SNR=4.3
OBN Obninsk 64.68 326 *e*P **P 22 56 31.0 -2.1**
OBN pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
SRU San Rafael 64.79 59 *e*P **P 22 56 33.4 -0.6**
PV10 Paradox Valley 66.14 59 *e*P **P 22 56 43.6 +0.8**
NB2 NORSAR Subarra 67.12 342 P **P 22 56 46.6 -2.0**
comp=Z,1.9nm,0.7s,mb4.2,baz=24,slow=6.2
NB2 NORSAR Subarra 67.12 342 P **P 22 56 46.6 -2.0**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
NOA NORSAR Array B 67.12 342 P **P 22 56 47.8 -0.8**
comp=Z,1.4nm,0.6s,mb4.2,baz=25,slow=6.3,SNR=7.6
NOA LR LR 23 30 10.0
comp=Z,53nm,18.3s,MS3.8,slow=40
HYB Hyderabad 68.14 272 *i* P **P 22 56 56.0 +0.3**
ANMO Albuquerque 70.01 60 P **P 22 57 07.5 +0.5**
comp=Z,1.7nm,0.6s,mb4.1,baz=325,slow=5.8,SNR=6.2
ANMO pP pP 22 57 18.8 +4.9
comp=Z,0.5nm,0.4s,baz=305,slow=8.0,SNR=5.3
WRAB Tennant Creek 70.37 200 *e*P **P 22 57 09.1 -0.3**
comp=Z,26nm,1.0s,mb5.1
WRAB Tennant Creek 70.37 200 *e*P **P 22 57 09.1 -0.3**
WRAB pmax pmax
comp=Z,26nm,1.0s,mb5.1
WB2 Warramunga Arr 70.38 200⇑*i*P **P 22 57 09.0 -0.5**
WRA Warramunga Arr 70.39 200 P **P 22 57 09.1 -0.4**
comp=Z,4.3nm,0.5s,mb4.6,baz=15,slow=6.3,SNR=66
KIV Kislovodsk 70.55 315 *i* P **P 22 57 08.3 -1.8**
AKASG Malin Array Be 70.89 327 P **P 22 57 11.1 -0.9**
comp=Z,0.7nm,0.4s,mb4.0,baz=33,slow=6.4,SNR=6.5
FITZ Fitzroy Crossi 71.08 209⇓*i*P **P 22 57 14.4 +0.6**
comp=Z,9.7nm,0.6s,mb4.9
FITZ Fitzroy Crossi 71.08 209 P **P 22 57 14.5 +0.8**
comp=Z,17nm,0.8s,mb5.1,baz=12,slow=2.6,SNR=19
SCHQ Schefferville 71.40 24 P **P 22 57 14.9 -0.1**
comp=Z,4.2nm,0.6s,mb4.5,baz=0.4,slow=6.5,SNR=11
KWP Kalwaria 74.07 330 *e*P **P 22 57 31.3 +0.5**
STHS Stebnicka Huta 74.74 331 *e*P **P 22 57 33.3 -1.3**
BURAR Bucovina Array 74.92 327 ⇑P **P 22 57 35.7 0.0**
BURAR Bucovina Array 74.92 327⇑*i*P **P 22 57 35.7 0.0**
OKC Ostrava-Krasne 75.36 333 *e*P **P 22 57 39.3 +1.2**
UPC Upice 75.40 334 *e*P **P 22 57 39.0 +0.6**
DPC Dobruska-Polom 75.45 334 *e*P **P 22 57 39.2 +0.5**
CLL Collm 75.52 336 ⇓P **P 22 57 38.8 -0.2**
comp=Z,logA/T=0.8,mb4.5
CLL Collm 75.52 336⇓*i*P **P 22 57 38.8 -0.2**
comp=Z,6.0nm,0.9s,mb4.5
CLL *e* 22 59 20.0
CLL Collm 75.52 336⇓*i*P **P 22 57 38.8 -0.2**
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MORC Moravsky Berou 75.59 333 *e*P **P 22 57 39.4 -0.1**
comp=Z,8.1nm,1.4s,mb4.5
MORC Moravsky Berou 75.59 333 *e*P **P 22 57 39.4 -0.1**
MORC pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
BRG Berggiesshubel 75.66 336 *i* P **P 22 57 39.5 -0.3**
comp=Z,3.5nm,0.9s,mb4.3
BRG Berggiesshubel 75.66 336 *i* P **P 22 57 39.5 -0.3**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TXAR Lajitas Array 75.70 62 P **P 22 57 41.1 +0.6**
comp=Z,3.7nm,0.7s,mb4.4,baz=295,slow=4.2,SNR=16
TXAR pP pP 22 57 52.5 +4.9
comp=Z,3.5nm,0.7s,baz=304,slow=4.5,SNR=9.5
PVCC Panska Ves 75.79 335 *e*P **P 22 57 40.9 +0.3**
CFR Carcaliu 75.88 324 ⇓P **P 22 57 40.1 -1.1**
CFR Carcaliu 75.88 324⇑*i*P **P 22 57 40.1 -1.1**
PRU Pruhonice 76.28 335 *e*P **P 22 57 43.5 +0.1**
VYHS Vyhne 76.33 332 *e*P **P 22 57 43.8 +0.1**
MLR Muntele Rosu 76.45 326 ⇓P **P 22 57 45.2 +0.8**
MLR Muntele Rosu 76.45 326⇑*i*P **P 22 57 45.2 +0.8**
MOX Moxa 76.49 337 *e*P **P 22 57 44.0 -0.5**
NKC Novy Kostel 76.64 336 *e*P **P 22 57 43.9 -1.5**
SMOL Smolenice 76.75 332 *e*P **P 22 57 47.0 +1.0**
KHC Kasperske Hory 77.33 335 *e*P **P 22 57 49.9 +0.7**
KHC x x 22 58 09.0
KHC Kasperske Hory 77.33 335 *e*P **P 22 57 49.9 +0.7**
KHC *e* 22 58 09.0
MSNY Massena 77.38 34 P **P 22 57 49.3 -0.3**
GRA1 Grafenberg Arr 77.46 337 *e*P **P 22 57 50.6 +0.7**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 77.46 337 *e*P **P 22 57 50.6 +0.7**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GERES GERESS Array B 77.55 335 P **P 22 57 50.8 +0.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=35,slow=5.8,SNR=32
GERES LR LR 23 35 03.1
comp=Z,57nm,18.3s,MS3.9,baz=148,slow=38
BRTR Keskin Array B 78.05 318 P **P 22 57 53.8 +0.4**
comp=Z,2.9nm,0.9s,mb4.2,baz=79,slow=4.0,SNR=10
MOA Molln 78.29 334⇑*i*P **P 22 57 54.9 +0.4**
comp=Z,4.5nm,0.8s,mb4.5
BAIF Baives 78.80 341 *e*P **P 22 57 57.2 -0.1**
PERS Pernice 79.13 333 *e*P **P 22 57 59.5 +0.3**
KBA Koelnbreinsper 79.26 334⇑*i*P **P 22 58 00.9 +1.1**
comp=Z,16nm,0.9s,mb4.9
KBA Koelnbreinsper 79.26 334⇑*i*P **P 22 58 00.9 +1.1**
KBA pmax pmax
comp=Z,16nm,0.9s,mb5.0
WATA Walderalm 79.52 336⇑*i*P **P 22 58 02.1 +0.8**
comp=Z,9.0nm,1.0s,mb4.7
WATA Walderalm 79.52 336⇑*i*P **P 22 58 02.1 +0.8**
WATA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WTTA Wattenberg 79.57 336⇑*i*P **P 22 58 02.6 +1.1**
comp=Z,16nm,1.0s,mb4.9
WTTA Wattenberg 79.57 336⇑*i*P **P 22 58 02.6 +1.1**
WTTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
CDF Champ du Feu 79.64 339 *e*P **P 22 58 02.1 +0.2**
MOTA Moosalm 79.64 336⇑*i*P **P 22 58 02.4 +0.5**
comp=Z,12nm,1.0s,mb4.8
MOTA Moosalm 79.64 336⇑*i*P **P 22 58 02.4 +0.5**
MOTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
GCIS Gornji Cirnik 79.67 332 *e*P **P 22 58 01.9 -0.2**
SQTA Sankt Quirin 79.73 336⇑*i*P **P 22 58 03.1 +0.7**
comp=Z,6.9nm,0.9s,mb4.6
SQTA Sankt Quirin 79.73 336⇑*i*P **P 22 58 03.1 +0.7**
SQTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DAVA Damuels 80.03 337⇓*i*P **P 22 58 04.5 +0.5**
comp=Z,8.1nm,0.9s,mb4.7
MEZF Maizieres J'vi 80.08 340 *e*P **P 22 58 04.5 +0.3**
HAU Haudompre 80.25 339 *e*P **P 22 58 05.1 0.0**
HAU *e*R
comp=Z,56nm,21.4s
STKA Stephens Creek 80.71 191 P **P 22 58 08.2 +0.2**
comp=Z,0.4nm,0.3s,mb3.8,baz=14,slow=3.2,SNR=3.9
FLN La Foliniere 80.98 344 *e*P **P 22 58 08.9 -0.1**
FLN *e*R
comp=Z,44nm,19.2s
LDF La Druitiere 81.07 343 *e*P **P 22 58 09.4 -0.1**
GRR Gorron 81.41 344 *e*P **P 22 58 11.5 +0.3**
comp=Z,20nm,1.0s,mb4.7
GRR Gorron 81.41 344 *e*P **P 22 58 11.5 +0.3**
GRR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LOR Lormes 81.51 340 *e*P **P 22 58 11.7 -0.1**
comp=Z,14nm,0.8s,mb4.6
LOR *e*R
comp=Z,57nm,22.0s
LOR Lormes 81.51 340 *e*P **P 22 58 11.7 -0.1**
LOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LOR MLR MLR

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,60nm,22.0s,MS3.9						
CABF	La Chapelle	81.61	339	eP	P	22 58 12.9	+0.6
SSF	Saint Saulge	81.78	341	eP	P	22 58 13.4	+0.2
	comp=Z,8.5nm,0.8s,mb4.4						
SSF	Saint Saulge	81.78	341	eP	P	22 58 13.4	+0.2
SSF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SGMF	Saint Gilles	81.84	345	eP	P	22 58 13.8	+0.3
ROSF	Rostrenen	81.88	345	eP	P	22 58 14.2	+0.5
AVF	Avril sur Loir	82.08	341	eP	P	22 58 15.0	+0.3
SMF	Signal de Mont	82.10	340	eP	P	22 58 15.4	+0.5
LPL	La Plagne	82.48	338	eP	P	22 58 18.2	+1.3
	comp=Z,19nm,0.9s,mb4.7						
LPL	La Plagne	82.48	338	eP	P	22 58 18.2	+1.3
LPL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
LPG	La Plagne	82.49	338	eP	P	22 58 18.3	+1.4
TCF	Toulx Ste Croi	82.80	341	eP	P	22 58 19.1	+0.6
	comp=Z,16nm,1.0s,mb4.7						
TCF	Toulx Ste Croi	82.80	341	eP	P	22 58 19.1	+0.6
TCF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
BNI	Bardonecchia	82.93	338	eP	P	22 58 19.1	-0.1
	comp=Z,4.2nm,0.8s,mb4.5						
BNI	Bardonecchia	82.93	338	eP	P	22 58 19.1	-0.1
BNI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MFF	Saint Martin d	82.98	343	eP	P	22 58 20.0	+0.5
ORIF	Oris-en-Rattie	83.25	338	eP	P	22 58 22.0	+1.1
	comp=Z,25nm,1.1s,mb4.9						
ORIF				eR			
	comp=Z,57nm,21.5s						
VIVF	Saint-Julien-l	83.60	339	eP	P	22 58 23.5	+0.9
	comp=Z,20nm,1.1s,mb4.9						
VIVF	Saint-Julien-l	83.60	339	eP	P	22 58 23.5	+0.9
VIVF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
HILS	Ha'il	83.80	305	P	P	22 58 25.0	+1.0
SBF	Sospel	83.84	337	eP	P	22 58 24.1	+0.3
	comp=Z,36nm,1.1s,mb5.1						
SBF	Sospel	83.84	337	eP	P	22 58 24.1	+0.3
SBF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1						
RJF	Les Rejaudoux	83.89	341	eP	P	22 58 24.4	+0.4
RJF				eR			
	comp=Z,57nm,19.5s						
CAF	Calviac	84.13	341	eP	P	22 58 26.3	+1.1
	comp=Z,21nm,1.2s,mb4.8						
CAF	Calviac	84.13	341	eP	P	22 58 26.3	+1.1
CAF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
SMRF	Simiane la Rot	84.21	338	eP	P	22 58 26.1	+0.4
FRF	La Foret Royal	84.33	337	eP	P	22 58 26.5	+0.2
	comp=Z,13nm,1.1s,mb4.7						
FRF	La Foret Royal	84.33	337	eP	P	22 58 26.5	+0.2
FRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
LFF	La Frestale	84.40	342	eP	P	22 58 27.5	+0.9
MZLS	Mizel	84.48	300	P	P	22 58 28.2	+0.7
LASF	Ste Croix	84.53	339	eP	P	22 58 27.8	+0.5
LMR	La Mourre	84.58	337	eP	P	22 58 28.0	+0.5
	comp=Z,34nm,1.0s,mb5.1						
LMR	La Mourre	84.58	337	eP	P	22 58 28.0	+0.5
LMR				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
PGF	Pioggiola	84.64	335	eP	P	22 58 27.9	0.0
	comp=Z,13nm,1.0s,mb4.7						
PGF	Pioggiola	84.64	335	eP	P	22 58 27.9	0.0
PGF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
MTLF	Montolieu	85.60	340	eP	P	22 58 32.8	+0.2
AFFS	'Afif	85.82	302	P	P	22 58 34.7	+0.6
NWAO	Narrogin (SRO)	87.60	211	P	P	22 58 42.0	-0.7
	comp=Z,26nm,1.3s,mb5.3						
NWAO	Narrogin (SRO)	87.60	211	P	P	22 58 42.0	-0.7
NWAO				pmax	pmax		
	comp=Z,26nm,1.3s						
ESDC	Sonseca Array	90.40	344	P	P	22 58 55.5	-0.3
	comp=Z,0.7nm,0.8s,mb4.0,baz=6.9,slow=4.5,SNR=4.6						
EVO	Evora	92.20	347	eP	P	22 59 04.4	+0.4
BDFB	Brasilia	142.38	38	PKP	PKPdf	23 05 27.5	-3.1
	comp=Z,1.5nm,0.5s,baz=104,slow=4.2,SNR=2.6						
CFAA	Coronel Fontan	143.53	79	PKhKP		23 05 26.1	
	comp=Z,0.2nm,0.4s,baz=357,slow=8.6,SNR=4.4						
CPUP	Villa Florida	146.66	60	PKPbc	PKPbc	23 05 36.0	+1.2
	comp=Z,3.0nm,0.8s,baz=358,slow=7.2,SNR=8.1						
PLCA	Paso Flores	147.15	94	PKPbc	PKPdf	23 05 37.9	-0.2
	comp=Z,4.3nm,0.9s,baz=276,slow=3.6,SNR=9.3						

CASC 01 22:51:31.2±2.8, 12.87N×90.37W, h4km±20km, MD4.4, 2C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.21	37	eP	Pb	22 52 16.1	+22
SBLS				eS	Sb	22 52 33.9	+24
RTR	El Retiro	1.24	35⇓	eP	Pb	22 52 16.9	+22
RTR				eS	Sb	22 52 35.8	+25
SNJE	San Jose	1.24	37	eP	Pb	22 52 16.5	+22
SNJE				eS	Sb	22 52 32.6	+21
IXG	Ixpaco	1.30	356⇑	eP	Pb	22 51 55.0	-0.8
IXG				eS	Sb	22 52 14.5	+1.7
RBDL	Robledal	1.41	28⇓	eP	Pn	22 52 19.3	+22
RBDL				eS	Sb	22 52 40.0	+24
SNVI	San Vicente	1.67	63	eP	Pn	22 52 21.4	+20
SNVI				eS	Sb	22 52 46.1	+23
TP2	Tecpan 2	2.01	342⇑	eP	Pn	22 52 05.9	-0.3
TP2				eS	Sn	22 52 33.2	+1.2
MRL	Marmol	2.28	17	eP	Pn	22 52 10.4	+0.2

NEIC ***01*** *22:58:09.9, 36.16S×71.98W, h95km, MD3.6(GUC), After GUC.*

GUC 01 22:58:09.9±0.6, 36.16S×71.98W, h95km±5km, MD3.6, ML3.4, 2C-5D, Central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI	Chillan	0.45	190⇓	iP	P	22 58 24.7	-0.3
CCHI				i S	S	22 58 36.4	+0.2
CCHI				AMP		22 58 37.3	
	comp=N,646nm,0.2s						
CCHI				AMP		22 58 37.5	
	comp=N,1μm,0.3s						
SFDO	San Fernando	1.73	27⇓	iP	P	22 58 39.2	0.0
SFDO				i S	S	22 59 01.4	+0.5
CICH	Cipreses	2.23	35⇑	iP	P	22 58 46.2	+0.2
CICH				i S	S	22 59 12.4	-0.4
LNV	Longovilo	2.25	12⇑	iP	P	22 58 46.9	+0.8
LNV				i S	S	22 59 14.5	+1.5
CACH	El Canelo	2.33	29	eP	P	22 58 47.2	-0.1
CACH				i S	S	22 59 15.4	+0.3
CHCH	Chadas Angostu	2.47	26	i S	S	22 59 18.5	-0.1
TACH	Talagante	2.64	19⇓	iP	P	22 58 51.1	-0.6
TACH				i S	S	22 59 22.6	-0.2
LCCH	Las Cruces	2.70	7	eP	P	22 58 52.0	-0.4
LMEL	Las Melosas	2.73	33⇓	iP	P	22 58 52.8	0.0
LMEL				i S	S	22 59 25.8	+0.9
LMEL				AMP		22 59 28.4	
	comp=N,105nm,0.2s						
PCH	Pirque	2.80	26	eP	P	22 58 53.5	-0.3
PCH				i S	S	22 59 26.8	0.0
RCDM	Rinconada Maip	2.83	20⇓	iP	P	22 58 54.0	-0.3
RCDM				i S	S	22 59 27.3	-0.2
RCDM				AMP		22 59 31.1	
	comp=E,260nm,0.2s						
CLCH	Cerro Calan	3.00	24	i S	S	22 59 31.2	-0.5
CLCH				AMP		22 59 33.5	
	comp=E,171nm,0.4s						
FCH	Farellones	3.15	27	eP	P	22 58 58.4	-0.2
FCH				i S	S	22 59 35.9	+0.6
FCH				AMP		22 59 38.9	
	comp=N,178nm,0.2s						

NEIC ***01*** *22:58:37.8±2.6, 22.29N×143.11E, h126km±23km, mb4.3/2, Error ellipse: s-maj=20.5km s-min=10.6km az=90.0*
MOS ***01*** *22:58:38.3±1.0, 22.32N×143.11E, h149km, mb4.3/2, Error ellipse: s-maj=31.9km s-min=12.5km az=104.1*
IDC ***01*** *22:58:39.6±2.3, 22.35N×143.14E, h139km±20km, mb3.6/13, mb1 3.8/15, mb1mx3.7/24, mbtmp4.0/15, Error ellipse: s-maj=22.7km s-min=12.4km az=93.0*

ISC 01 22:58:38.5±1.8, 22.32N±0.08×143.1E±0.2, h148km±16km, n25, σ1s05/24, mb3.8/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.82	350	P	P	22 59 52.1	+1.7
	48nm,0.3s,baz=274,slow=23,SNR=9.2						
CBIJ				S	S	23 00 44.8	-1.2
	18nm,0.3s,baz=302,slow=23,SNR=2.8						
MJAR	Matsushiro Arr	14.79	344	P	P	23 02 01.2	-0.1
	0.4nm,0.3s,baz=162,slow=9.4,SNR=5.5						
MAT	Matsushiro	14.79	344	P	P	23 02 01.0	-0.4
MAT	Matsushiro	14.79	344	eP	P	23 02 01.0	-0.4
SONM	Songino Array	38.80	320	P	P	23 05 51.6	+1.4
	0.2nm,0.3s,mb3.2,baz=124,slow=5.2,SNR=2.8						
SONM	Songino Array	38.80	320	P	P	23 05 51.7	+1.4
WRAB	Tennant Creek	42.85	192	eP	P	23 06 23.1	-0.7
	4.3nm,0.4s,mb4.4						
WRAB	Tennant Creek	42.85	192	eP	P	23 06 23.1	-0.8
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
WRA	Warramunga Arr	42.87	192	P	P	23 06 24.2	+0.2
	comp=Z,1.4nm,0.3s,mb4.0,baz=6.1,slow=7.6,SNR=48						
WRA				PcP	PcP	23 08 12.9	+0.2
	comp=Z,0.2nm,0.5s,baz=5.7,slow=3.6,SNR=5.3						
FITZ	Fitzroy Crossi	43.65	204	P	P	23 06 30.7	+0.5
	comp=Z,1.3nm,0.4s,mb4.0,baz=9.0,slow=6.5,SNR=7.0						
ZAL	Zalesovo	53.67	321	P	P	23 07 47.5	+0.6
	comp=Z,0.7nm,0.5s,mb3.6,baz=342,slow=8.6,SNR=2.7						
STKA	Stephens Creek	53.91	182	P	P	23 07 48.2	-0.7
	comp=Z,1.5nm,0.5s,mb3.9,baz=347,slow=9.3,SNR=6.2						
STKA	Stephens Creek	53.91	182	eP	P	23 07 46.3	-2.6
MKAR	Makanchi Array	54.21	312	P	P	23 07 51.4	+0.5
	comp=Z,0.2nm,0.5s,mb3.1,baz=88,slow=8.7,SNR=5.7						
KURK	Kurchatov	56.96	317	eP	P	23 08 08.1	-2.4
	comp=Z,1.4nm,0.8s,mb3.8						
KURK	Kurchatov	56.96	317	eP	P	23 08 08.1	-2.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
ILAR	Eielson Array	61.53	27	P	P	23 08 40.4	-1.4
	comp=Z,1.0nm,0.6s,mb3.8,baz=254,slow=5.4,SNR=10						
BVAR	Borovoye Array	62.14	319	P	P	23 08 46.1	+0.1
	comp=Z,1.4nm,0.4s,mb4.1,baz=96,slow=7.4,SNR=19						
INK	Inuvik	67.03	24	P	P	23 09 16.9	-0.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=298,slow=5.5,SNR=5.0						
YKA	Yellowknife Ar	75.95	28	P	P	23 10 10.7	+0.5
	comp=Z,2.1nm,0.5s,mb4.0,baz=292,slow=5.9,SNR=7.4						
ARCES	ARCESS Array B	78.30	341	P	P	23 10 23.6	+0.5
	comp=Z,2.1nm,0.8s,mb3.8,baz=63,slow=8.1,SNR=6.3						
FINES	FINESS Array B	82.58	334	P	P	23 10 45.5	-0.4
	comp=Z,0.4nm,0.5s,mb3.4,baz=53,slow=4.8,SNR=5.1						
NVAR	Mina Array Bea	82.83	52	P	P	23 10 49.6	+1.9
	comp=Z,1.5nm,0.7s,mb3.9,baz=270,slow=6.3,SNR=4.4						
PLCA	Paso Flores	146.24	131	PKPbc	PKPbc	23 18 04.8	+3.3
	comp=Z,0.7nm,0.5s,baz=252,slow=5.0,SNR=5.7						
LPAZ	La Paz	149.97	84	PKPbc	PKPdf	23 18 15.4	+8.5
	comp=Z,0.5nm,0.5s,baz=352,slow=4.8,SNR=4.2						

CASC 01 23:03:27.1±3.9, 14.96N×88.79W, h20km±78km, MD4.0, 1C-3D, Honduras

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRL	Marmol	0.87	277⇓	eP	Pb	23 03 40.3	-3.2
MRL				eS	Sb	23 03 56.4	+1.7
RBDL	Robledal	1.20	226	eP	Pn	23 04 06.5	+17
RBDL				eS	Sb	23 04 24.5	+20
BOQS	Boqueron	1.30	201	eP	Pn	23 04 06.5	+16
BOQS				eS	Sb	23 04 26.1	+19
LCBS	La Ceiba	1.30	188	eP	Pn	23 04 06.8	+16
LCBS				eS	Sb	23 04 25.9	+19
SNVI	San Vicente	1.33	182	eS	Sb	23 04 28.1	+20
SNJE	San Jose	1.34	216	eP	Pn	23 04 10.6	+20
SNJE				eS	Sb	23 04 27.6	+20
RTR	El Retiro	1.34	218	eP	Pn	23 04 10.9	+20
RTR				eS	Sb	23 04 28.4	+20
BLLM	Bellamira	1.60	160⇓	eP	Pn	23 04 13.3	+19
BLLM				eS	Sn	23 04 35.1	+20
VSM	San Miguel	1.60	162	eP	Pn	23 04 12.3	+18
VSM				eS	Sn	23 04 33.8	+19
IXG	Ixpaco	1.79	244⇑	eP	Pn	23 03 54.7	-2.6
IXG				eS	Sn	23 04 20.0	+0.4
CNCH	Conchagua	1.91	151⇓	eP	Pn	23 04 17.1	+18
CNCH				eS	Sn	23 04 41.4	+19
TP2	Tecpan 2	2.16	266	eP	Pn	23 04 03.8	+1.1
TP2				eS	Sn	23 04 33.7	+4.6

IDC ***01*** *23:11:54.5±0.9, 17.69S×167.92E, h28km±5km, mb3.9/9, mb1 4.1/10, mb1mx4.1/14, mbtmp4.1/10, ML3.9/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/35, Error ellipse: s-maj=30.1km s-min=18.3km az=92.0*
LDG ***01*** *23:11:55.6±0.2, 17.63S×166.08E, h10km, Mb5.0/2, Ms4.8/7, Error ellipse: s-maj=35.6km s-min=3.9km az=80.0*
NEIC ***01*** *23:11:56.1±0.4, 17.86S×167.72E, mb4.9/10, Error ellipse: s-maj=15.3km s-min=10.7km az=84.0*

ISC 01 23:11:52.1±6.0, 17.72S±0.10×167.9E±0.1, h23km±40km, h27km±.6km:pP-P, n53, σ0s61/40, mb4.4/18, MS3.7/4, 5C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.53	197	eP	Pn	23 13 01.1	-0.1
DZM				eS	Sn	23 13 47.7	-6.1
DZM	Mont Dzumac	4.53	197	Pn	Pn	23 13 01.5	+0.4
	5.7nm,0.3s,baz=56,slow=18,SNR=84						
DZM				Sn	Sn	23 13 52.9	-0.9
	15nm,0.3s,baz=118,slow=23,SNR=7.1						
DZM				LR	LR	23 14 37.4	
	comp=Z,1μm,21.4s,baz=209,slow=36						
DZM	Mont Dzumac	4.53	197	eP	Pn	23 13 01.1	-0.1
DZM				eS	Sn	23 13 47.7	-6.1
HNR	Honiara	11.28	316	LR	LR	23 18 36.1	
	comp=Z,317nm,18.1s,baz=129,slow=36						
HNR	Honiara	11.28	316	eP	P	23 14 24.9	-10
AFI	Afiamalu	19.94	82	LR	LR	23 22 14.5	
	comp=Z,274nm,21.6s,baz=293,slow=31						
CTA	Charters Tower	20.59	260	P	P	23 16 36.4	+4.1
	9.1nm,0.8s,baz=91,slow=13,SNR=6.5						
CTA				LR	LR	23 23 32.2	
	comp=Z,289nm,19.9s,MS3.6,baz=229,slow=34						
CTA	Charters Tower	20.59	260	P	P	23 16 36.4	+4.1
CTAO	Charters Tower	20.59	260	eP	P	23 16 36.5	+4.1
	11nm,0.9s						
URZ	Urewera	22.00	160	P	P	23 16 46.7	+0.1
	4.7nm,0.7s,mb4.0,baz=341,slow=7.6,SNR=4.9						
URZ				LR	LR	23 22 47.7	
	comp=Z,186nm,21.5s,MS3.5,baz=87,slow=30						
STKA	Stephens Creek	27.61	234⇑	iP	P	23 17 41.2	+1.2
	5.9nm,0.8s,mb4.3						
STKA	Stephens Creek	27.61	234	P	P	23 17 41.0	+0.9
	6.5nm,0.8s,mb4.3,baz=64,slow=6.6,SNR=14						
STKA				LR	LR	23 28 33.2	
	comp=Z,231nm,19.3s,MS3.8,baz=24,slow=36						
STKA	Stephens Creek	27.61	234	eP	P	23 17 40.6	+0.6
WRAB	Tennant Creek	31.78	261	eP	P	23 18 17.1	-0.1
	1.4nm,0.6s,mb4.0						
WRA	Warramunga Arr	31.79	261	P	P	23 18 16.4	-1.0
	1.2nm,0.8s,mb3.8,baz=80,slow=6.3,SNR=12						
WRA				PcP	PcP	23 21 07.3	-1.0
	0.7nm,0.7s,baz=81,slow=3.8,SNR=5.5						
WRA				pPcP		23 21 17.9	
	0.9nm,0.7s,baz=83,slow=3.1,SNR=5.9						
FITZ	Fitzroy Crossi	40.12	263	eP	P	23 19 29.0	+0.8
	29nm,0.8s,mb5.1						
MBWA	Marble Bar	45.40	258	eP	P	23 20 11.7	+0.6
	20nm,0.9s,mb4.9						
MBWA				e		23 20 23.2	
KLBR	Kellerberrin	47.22	243	eP	P	23 20 25.2	-0.2
	17nm,1.1s,mb4.9						
KSM	Kuching	59.78	282	P	P	23 21 57.3	-1.0
VNDA	Vanda	59.90	182	P	P	23 21 58.0	-0.3
	1.4nm,0.9s,mb4.0,baz=23,slow=9.8,SNR=5.4						
VNDA				LR	LR	23 41 50.5	
	comp=Z,86nm,21.8s,MS3.9,baz=129,slow=30						
VNDA	Vanda	59.90	182	P	P	23 21 58.0	-0.3
SBA	Scott Base	60.16	180	eP	P	23 22 00.1	0.0
	16nm,1.2s,mb4.9						
MJAR	Matsushiro Arr	60.81	333	P	P	23 22 04.3	-0.8
	0.5nm,0.3s,mb4.2,baz=180,slow=8.5,SNR=3.2						
MJAR				pP	pP	23 22 12.6	+0.4
	2.7nm,0.8s,baz=163,slow=7.9,SNR=3.8						
CASY	Casey	61.00	203	eP	P	23 22 04.9	-0.9
	3.8nm,0.7s,mb4.6						
QSPA	South Pole Qui	72.32	180	eP	P	23 23 17.4	0.0
	10nm,0.9s,mb4.8						
MAW	Mawson	79.34	202	P	P	23 23 57.6	+0.3
	2.0nm,1.0s,mb4.0,baz=334,slow=6.4,SNR=3.7						
ULN	Ulaanbaatar	84.88	324	eP	P	23 24 27.1	+0.7
	18nm,1.0s,mb5.2						
ULN				e	pP	23 24 36.0	+2.1
SONM	Songino Array	85.24	324	P	P	23 24 28.7	+0.5
	1.4nm,0.8s,mb4.1,baz=152,slow=5.4,SNR=11						
SONM				pP	pP	23 24 37.9	+2.2
	6.3nm,0.9s,baz=133,slow=2.0,SNR=24						
ILAR	Eielson Array	89.18	18	P	P	23 24 46.5	-0.5
	0.4nm,0.8s,mb3.8,baz=217,slow=4.5,SNR=3.8						
ILAR				pP	pP	23 24 55.5	+1.1
	0.6nm,0.7s,baz=230,slow=5.6,SNR=4.9						
SNAA	Sanae	90.61	183⇑	i	P	23 24 53.8	+0.3
SNAA	Sanae	90.61	183	e	P	23 25 04.0	+11
SNAA	Sanae	90.61	183	eP	P	23 24 53.1	-0.4
	4.7nm,1.0s,mb4.8						
SNAA				e		23 25 03.5	
SNAA				e		23 25 04.0	
VNA3	Neumayer Olymp	91.25	181	e	P	23 25 05.6	+9.2
VNA3	Neumayer Olymp	91.25	181⇑	iP	P	23 24 56.7	+0.3
VNA3				e	pP	23 25 05.6	+1.8
VNA2	Neumayer--Watz	91.52	182	e	P	23 25 06.7	+9.0
VNA2	Neumayer--Watz	91.52	182⇑	iP	P	23 24 58.4	+0.7
VNA2				e	pP	23 25 06.7	+1.6
VNA1	Neumayer--Stat	91.82	181	e	P	23 25 07.7	+8.7
VNA1	Neumayer--Stat	91.82	181⇑	iP	P	23 24 59.8	+0.8
VNA1				e	pP	23 25 07.7	+1.2
MKAR	Makanchi Array	99.75	316	P	P	23 25 35.8	0.0
	0.2nm,0.6s,mb3.7,baz=79,slow=7.3,SNR=3.4						
MKAR				pP	pP	23 25 45.5	+2.3
	0.4nm,0.6s,baz=93,slow=6.9,SNR=5.1						
GERES	GERESS Array B	142.55	332	PKP	PKPdf	23 31 26.7	-1.0
	0.1nm,0.4s,baz=135,slow=1.4,SNR=3.9						
TIP	Timpagrande	147.04	316	ePKPdf	PKPdf	23 31 32.1	-3.7
TIP				ePKPbc	PKPdf	23 31 36.2	+0.5
FLN	La Foliniere	147.62	346	ePKIKP	PKPdf	23 31 36.2	-0.2
	16nm,1.0s						
FLN				eR			
	379nm,19.0s						
SSF	Saint Saulge	148.03	340	ePKIKP	PKPdf	23 31 37.1	0.0
LPL	La Plagne	148.14	334	ePKIKP	PKPdf	23 31 38.1	+0.8
LPG	La Plagne	148.15	334	ePKIKP	PKPdf	23 31 38.2	+0.9
BNI	Bardonecchia	148.54	334	ePKPdf	PKPdf	23 31 32.7	-5.2
BNI				ePKPbc	PKPdf	23 31 38.5	+0.6
SGMF	Saint Gilles	148.56	348	ePKIKP	PKPdf	23 31 38.0	+0.1
	38nm,1.2s						
BGF	Bois d'Agland	148.69	340	ePKIKP	PKPdf	23 31 38.0	-0.2
ORIF	Oris-en-Rattie	148.97	335	ePKIKP	PKPdf	23 31 38.7	0.0
ORIF				eR			
	325nm,21.0s						
SBF	Sospel	149.16	332	ePKIKP	PKPdf	23 31 38.6	-0.4
	6.3nm,0.7s						
PGF	Pioggiola	149.41	328	ePKIKP	PKPdf	23 31 39.6	+0.1
	18nm,1.1s						
LASF	Ste Croix	150.48	336	ePKIKP	PKPdf	23 31 41.0	-0.1
	8.8nm,1.0s						
ETSF	Etsaut	153.05	341	ePKIKP	PKPdf	23 31 44.0	-0.8

ISC 01 23:31:31.2±1.5, 37.03N±0.09×28.23E±0.06, h10km, n15, σ0s89/28, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.12	21	i PG	Pg	23 31 32.7	-1.4
YER				i SG	Sg	23 31 35.9	-0.2
MLSB	Milas	0.45	307	ePG	Pg	23 31 40.5	+0.1
BDRM	Kayabasi	0.63	274	i P	Pb	23 31 44.2	+0.4
BDRM				i S	Sg	23 31 53.6	+1.2
BDRM	Kayabasi	0.63	274	i P	Pb	23 31 44.2	+0.4
BDRM				i S	Sg	23 31 53.6	+1.2
BDRM	Kayabasi	0.63	274	i P	Pb	23 31 44.2	+0.4
BDRM				i S	Sg	23 31 53.6	+1.2
BDRM	Kayabasi	0.63	274	i P	Pb	23 31 44.2	+0.4
BDRM				i S	Sg	23 31 53.6	+1.2
AYDN	Tasoluk	0.69	336	i P	Pb	23 31 44.2	-0.8
AYDN				i S	Sb	23 31 54.2	-0.1
AYDN	Tasoluk	0.69	336	i P	Pb	23 31 44.2	-0.8
AYDN				i S	Sb	23 31 54.2	-0.1
AYDN	Tasoluk	0.69	336	i P	Pb	23 31 44.2	-0.8
AYDN				i S	Sb	23 31 54.2	-0.1
AYDN	Tasoluk	0.69	336	i P	Pb	23 31 44.2	-0.8
AYDN				i S	Sb	23 31 54.2	-0.1
BODT	Bodrum	0.74	273	ePG	Pg	23 31 45.0	-1.1
DNZL	Cakiroluk	0.93	44	i P	Pb	23 31 49.1	+0.2
DNZL				i S	Sb	23 32 02.7	+1.6
DNZL	Cakiroluk	0.93	44	i P	Pb	23 31 49.1	+0.2
DNZL				i S	Sb	23 32 02.7	+1.6
DNZL	Cakiroluk	0.93	44	i P	Pb	23 31 49.1	+0.2
DNZL				i S	Sb	23 32 02.7	+1.6
DNZL	Cakiroluk	0.93	44	i P	Pb	23 31 49.1	+0.2
DNZL				i S	Sb	23 32 02.7	+1.6

IDC ***01*** *23:36:53.6±0.4, 10.35N×138.35E, mb4.8/28, mb1 4.9/28, mb1mx4.9/29, mbtmp4.8/28, MS4.3/19, Ms1 4.3/19, ms1mx4.2/31, Error ellipse: s-maj=21.0km s-min=10.2km az=84.0*
BJI ***01*** *23:36:54.2, 10.38N×138.55E, h15km, mB5.3, mb4.7, Ms5.0, Msz4.6*
NEIC ***01*** *23:36:55.1±0.2, 10.37N×138.43E, h10km, mb5.2/60, MS4.7/2, Error ellipse: s-maj=5.8km s-min=5.3km az=81.0*
HRVD ***01*** *23:36:55.1±0.2, 10.37N×138.40E, h12km, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s56,c94;Mantle waves: s67,c137; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.72±.01; Mθθ-0.05±.01; Mφφ0.77±.01; Mrθ0.02±.04; Mθφ-0.04±.01; Mφr0.30±.04; Best double couple: Mo.807×10^17 NP1: φs355°,δ34°,λ-94°. NP2:φs180°,δ56°,λ-87°. Principal axes: T .834, Plg11°, Azm268°; N -.055, Plg2°, Azm358°; P -.779, Plg79°, Azm100°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***01*** *23:36:57.0±1.1, 10.42N×138.39E, h33km, mb5.4/43, MS4.5/12 Error ellipse: s-maj=12.7km s-min=6.1km az=104.9*

ISC 01 23:36:57.9±0.2, 10.31N±0.03×138.35E±0.03, h39km, h39km±2.0km:pP-P, n280, σ1s12/266, mb5.0/107, MS4.5/37, 18C-11D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	7.16	62	LR	LR	23 40 47.3	
	comp=Z,4μm,20.7s,baz=240,slow=33						
MATI	Mati	12.41	255	eP	P	23 39 52.4	-2.5
BUTP	Butuan	12.62	265	eP	P	23 40 02.2	+4.5
DAV	Davao City (W)	13.03	257	P	P	23 40 03.9	+0.8
MSLP	Maasin	13.28	270	eP	P	23 39 58.3	-8.1
BUKP	Musuan	13.34	261	eP	P	23 40 16.9	+10
CNP	Catarman	13.60	281	eP	P	23 40 09.7	-0.9
PVCP	Virac	14.27	285	eP	P	23 40 16.0	-3.4
PAGZ	Pagadian	14.98	262	eP	P	23 40 29.9	+1.1
RCP	Roxas	15.37	276⇑	eP	P	23 40 40.3	+6.5
IPIL	Ipil	15.78	262	eP	P	23 40 38.4	-0.7
OTRP	Odiongan	16.14	279	eP	P	23 40 43.5	-0.2
BOAC	Boac	16.45	283	eP	P	23 40 43.9	-3.6
POLP	Polilio Island	16.61	287	eP	P	23 40 47.3	-2.2
SJMP	San Jose	17.03	279	eP	P	23 40 55.5	+0.7
CUYO	Cuyo Island	17.05	273	eP	P	23 40 54.0	-1.0
CAUP	Cauayan	17.36	294	eP	P	23 41 01.2	+2.3
CVP	Callao Caves	17.63	296	eP	P	23 41 01.0	-1.3
SGCP	Mt. Cagua	17.65	298	eP	P	23 41 03.8	+1.3
LUBP	Lubang	18.03	283	eP	P	23 41 01.8	-5.5
ENPP	El Nido	18.62	274	eP	P	23 41 14.9	+0.4
SCZP	Santa Cruz	18.76	289	eP	P	23 41 14.5	-1.8
JOW	Kunigami	18.99	331	LR	LR	23 47 32.8	
	comp=Z,1μm,18.3s,baz=88,slow=34						
BATP	Bataraza	20.32	268	eP	P	23 41 33.0	-0.5
TSM	Tawau	21.16	255	P	P	23 41 43.9	+1.7
PMG	Port Moresby	21.46	156	P	P	23 41 44.2	-0.8
	41nm,0.8s,mb4.8,baz=310,slow=8.0,SNR=7.8						
PMG	Port Moresby	21.46	156	eP	P	23 41 44.0	-1.0
	97nm,1.1s,mb5.0						
PMG	Port Moresby	21.46	156	eP	P	23 41 44.0	-1.1
PMG				pmax	pmax		
	comp=Z,97nm,1.1s						
YHNB	Yeheng	21.55	314	eP	P	23 41 49.0	+3.1
KKM	Kota Kinabalu	22.31	261	P	P	23 41 55.1	+1.5

KKM **Kota Kinabalu** **22.31 261** *e*P **P** **23 41 54.6 +1.0**
JHJ **Hachijo jima 2** **22.74 3** LR LR 23 50 16.0
comp=Z,910nm,18.2s,MS4.2,baz=213,slow=35
KAKA **Kakadu** **23.61 195** ⇓*i*P **P** **23 42 23.6 +17**
comp=Z,48nm,0.8s,mb5.0
JNU **Nakatsue** **23.72 344** P **P** **23 42 07.9 +0.6**
comp=Z,13nm,0.9s,mb4.3,baz=128,slow=13,SNR=9.9
QZH **Quanzhou** **23.75 310** P **P** **23 42 10.5 +2.9**
QZH S **S** **23 46 23.5 +6.5**
QZH AMB AMB
comp=Z,220nm,1.2s,mb5.5
QZH AMB AMB
comp=Z,3μm,4.3s
MJAR **Matsushiro Arr** **26.11 360** P **P** **23 42 28.2 -1.9**
comp=Z,1.8nm,0.5s,baz=182,slow=9.7,SNR=8.1
MJAR PcP PcP 23 45 56.8 -0.6
comp=Z,2.0nm,0.6s,baz=198,slow=2.7,SNR=5.4
MAJO **Matsushiro** **26.12 360** P **P** **23 42 26.3 -3.8**
comp=Z,21nm,1.5s,mb4.4
MAJO **Matsushiro** **26.12 360** P **P** **23 42 26.3 -3.8**
MAJO pmax pmax
comp=Z,21nm,1.5s,mb4.5
NJ2 **Nanjing** **28.16 323** *e*P **P** **23 42 48.6 -0.2**
NJ2 AP pP 23 42 59.1 -0.4
NJ2 PP PP 23 43 38.5 -1.4
NJ2 PPP PPP 23 43 50.6 -1.5
NJ2 S **S** **23 47 30.0 +0.1**
NJ2 XS 23 47 47.0
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
NJ2 AMB AMB
comp=Z,400nm,6.6s
NJ2 LR LR
comp=N,2μm,11.0s,MS5.2
NJ2 LR LR
comp=E,2μm,12.5s,MS5.2
NJ2 LR LR
comp=Z,830nm,14.4s,MS4.5
QIZ **Qiongzhong** **28.87 291** P **P** **23 42 54.8 -0.5**
QIZ XP sP 23 43 11.4 +0.4
QIZ S **S** **23 47 43.9 +2.5**
QIZ AMB AMB
comp=Z,16nm,1.9s,mb4.4
QIZ LR LR
comp=E,659nm,11.9s
QIZ LR LR
comp=Z,752nm,15.3s,MS4.4
QIZ **Qiongzhong** **28.87 291** *e*P **P** **23 42 53.8 -1.5**
comp=Z,32nm,1.3s,mb4.9
HNR **Honiara** **29.09 132** LR LR 23 52 38.6
comp=Z,425nm,20.1s,MS4.0,baz=112,slow=32
KSM **Kuching** **29.21 254** P **P** **23 42 57.6 -0.8**
WHN **Wuhan** **30.06 316** *e*P **P** **23 43 06.7 +1.0**
WRAB **Tennant Creek** **30.31 187** *e*P **P** **23 43 04.7 -3.3**
comp=Z,48nm,1.2s,mb5.1
WRAB **Tennant Creek** **30.31 187** *i* P **P** **23 43 07.8 -0.2**
WB2 **Warramunga Arr** **30.32 187** *e*P **P** **23 43 06.9 -1.2**
WRA **Warramunga Arr** **30.32 187** P **P** **23 43 06.6 -1.6**
comp=Z,9.5nm,0.8s,mb4.6,baz=5.4,slow=9.5,SNR=38
WRA PcP PcP 23 46 07.9 +0.1
comp=Z,4.7nm,0.7s,baz=356,slow=2.8,SNR=9.8
FITZ **Fitzroy Crossi** **30.89 204** *e*P **P** **23 43 11.7 -1.6**
comp=Z,20nm,0.9s,mb5.0
FITZ **Fitzroy Crossi** **30.89 204** P **P** **23 43 11.1 -2.2**
comp=Z,40nm,1.0s,mb5.2,baz=12,slow=8.9,SNR=12
FITZ PcP PcP 23 46 09.5 +0.2
comp=Z,21nm,1.0s,baz=48,slow=1.2,SNR=3.5
CTA **Charters Tower** **31.19 166** ⇑*i*P **P** **23 43 16.4 +0.5**
comp=Z,20nm,0.9s,mb4.9
CTA **Charters Tower** **31.19 166** P **P** **23 43 16.1 +0.3**
comp=Z,20nm,0.8s,mb5.0,baz=337,slow=12,SNR=12
CTA LR LR 23 54 18.2
comp=Z,485nm,19.0s,MS4.2,baz=147,slow=33
CTA **Charters Tower** **31.19 166** ⇑*i*P **P** **23 43 16.4 +0.5**
CTA pmax pmax
comp=Z,20nm,0.9s
CTAO **Charters Tower** **31.19 166** *e*P **P** **23 43 11.5 -4.4**
comp=Z,53nm,1.1s,mb5.3
CTAO **Charters Tower** **31.19 166** *e*P **P** **23 43 11.5 -4.4**
CTAO pmax pmax
comp=Z,53nm,1.1s,mb5.3
ENH **Enshi** **33.41 311** *e*P **P** **23 43 36.1 +1.0**
comp=Z,20nm,1.0s,mb5.0
ASAJ **Asahikawa** **33.88 5** LR LR 23 57 32.5
comp=Z,198nm,18.2s,MS3.9,baz=336,slow=37
SNY **Shenyang** **33.97 340** ⇓P **P** **23 43 41.1 +1.3**
SNY S **S** **23 49 08.7 +7.5**
SNY AMB AMB
comp=Z,20nm,1.5s,mb4.8
SNY LR LR
comp=N,850nm,16.1s,MS4.7
SNY LR LR
comp=E,590nm,13.9s,MS4.7
SNY LR LR
comp=Z,810nm,16.1s,MS4.5
MDJ **Mudanjiang** **35.01 349** P **P** **23 43 49.6 +0.9**
MDJ PP PP 23 45 10.0 +2.3
MDJ PCP PcP 23 46 19.5 -1.0
MDJ S **S** **23 49 20.7 +3.5**
MDJ SCP 23 50 01.8
MDJ PCS 23 50 06.7
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
MDJ AMB AMB
comp=Z,139nm,4.2s
MDJ LR LR
comp=N,301nm,7.4s
MDJ LR LR
comp=E,501nm,13.3s
MDJ LR LR
comp=Z,601nm,12.7s,MS4.5
CN2 **Changchun** **35.20 344** *e*P **P** **23 43 49.3 -1.0**
CN2 *e*S **S** **23 49 20.1 0.0**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,230nm,5.0s
CN2 LR LR
comp=N,1μm,12.0s,MS4.9
CN2 LR LR
comp=E,800nm,12.0s,MS4.9
CN2 LR LR
comp=Z,880nm,16.0s,MS4.6
KGM **Kluang** **35.76 259** P **P** **23 44 00.1 +4.7**
XAN **Xi'an** **35.83 316** P **P** **23 43 54.4 -1.4**
XAN AP pP 23 44 04.0 -2.8
XAN AMB AMB
comp=Z,16nm,1.4s,mb4.8
TIY **Taiyuan** **35.88 324** *e*P **P** **23 43 54.0 -2.2**
TIY S **S** **23 49 31.0 +0.4**
TIY LR LR
comp=N,892nm,13.0s
YSS **Yuzh-Sakhalins** **36.71 5** P **P** **23 44 04.0 +0.9**
YSS *e* pP 23 44 15.0 +0.9
YSS S **S** **23 49 45.0 +1.7**
YSS *e*SSS SSS 23 52 37.0 -5.4
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.4
YSS MLR MLR
comp=N,400nm,18.0s,MS4.5
YSS MLR MLR
comp=E,500nm,15.0s,MS4.5
KMI **Kunming** **36.84 298** P **P** **23 44 05.9 +1.5**
KMI XP sP 23 44 19.5 -0.9
KMI PP PP 23 45 33.0 +2.4
KMI PPP PPP 23 45 54.3 +3.6
KMI PCP PcP 23 46 26.3 +0.2
KMI S **S** **23 49 47.3 +1.7**
KMI SCP 23 50 07.7
KMI PCS 23 50 12.9
KMI SS SS 23 52 18.5 +3.5
KMI SSS SSS 23 52 50.0 +4.1
KMI SCS ScS 23 54 13.6 -0.6
KMI AMB AMB
comp=Z,9.0nm,1.4s,mb4.4
KMI AMB AMB
comp=Z,238nm,6.4s
KMI LR LR
comp=N,500nm,12.6s
KMI LR LR
comp=E,884nm,18.9s
KMI LR LR
comp=Z,1μm,20.0s
KMI **Kunming** **36.84 298** P **P** **23 44 05.9 +1.5**
comp=Z,9.0nm,1.4s,mb4.4
KMI pP pP 23 44 19.5 +4.1
KMI sP sP 23 44 25.7 +5.3
KMI PP PP 23 45 33.0 +2.4
KMI PPP PPP 23 45 54.3 +3.6
KMI PcP PcP 23 46 26.3 +0.2
KMI S **S** **23 49 47.3 +1.7**
KMI ScP 23 50 07.7
KMI sS 23 50 10.7
KMI PcS 23 50 12.9
KMI SS SS 23 52 18.5 +3.5
KMI SSS SSS 23 52 50.0 +4.1
KMI ScS ScS 23 54 13.6 -0.6
KMI LR LR
comp=Z,1μm,20.0s,MS4.7
KMI **Kunming** **36.84 298** P **P** **23 44 05.9 +1.5**
KMI *PP pP 23 44 19.5 +4.1
KMI 23 45 33.0
KMI PPP PPP 23 45 54.3 +3.6
KMI 23 46 26.3
KMI S **S** **23 49 47.3 +1.7**
KMI 23 50 07.7
KMI SS SS 23 52 18.5 +3.5
KMI SSS SSS 23 52 50.0 +4.1
KMI 23 54 13.6
KMI pmax pmax
comp=Z,9.0nm,1.4s,mb4.4
KMI MLR MLR
comp=Z,1μm,20.0s,MS4.7
IPM **Ipoh** **37.42 264** P **P** **23 44 09.6 +0.2**
KULM **Kulim** **37.66 265** P **P** **23 44 11.2 -0.2**
CD2 **Chengdu** **38.08 308** P **P** **23 44 15.9 +1.2**
CD2 PP PP 23 45 47.2 +1.8
CD2 PPP PPP 23 46 07.0 -0.8
CD2 S **S** **23 50 01.7 -2.7**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CD2 AMB AMB
comp=Z,170nm,6.0s
CD2 LR LR
comp=N,490nm,13.2s
CD2 LR LR
comp=Z,500nm,14.7s,MS4.5
KLR **Kul'dur** **39.19 353** *e*P **P** **23 44 20.0 -3.7**
KLR *e* 23 45 55.0
KLR *e*S **S** **23 50 20.5 -0.4**
LZH **Lanzhou** **40.44 315** *e*P **P** **23 44 34.8 +0.6**
LZH AP pP 23 44 46.7 +1.4
LZH S **S** **23 50 40.2 +0.4**
LZH XS 23 51 00.4
LZH AMB AMB
comp=Z,65nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,315nm,6.2s
LZH LR LR
comp=N,1μm,13.9s
LZH LR LR
comp=Z,2μm,17.2s,MS5.0
LZH **Lanzhou** **40.44 315** *e*P **P** **23 44 34.8 +0.6**
comp=Z,65nm,1.5s,mb5.1
LZH pP pP 23 44 46.7 +1.4
LZH sP sP 23 44 52.1 +1.9
LZH PP PP 23 46 22.6 +12
LZH S **S** **23 50 40.2 +0.4**
LZH sS 23 51 00.4
LZH SS SS 23 53 32.7 -2.0
LZH LR LR
comp=Z,2μm,17.2s,MS5.0
LZH **Lanzhou** **40.44 315** *e*P **P** **23 44 34.8 +0.6**
LZH *PP pP 23 44 46.7 +1.4
LZH *SP sP 23 44 52.1 +1.9
LZH S **S** **23 50 40.2 +0.4**
LZH *SS 23 51 00.4
LZH SS SS 23 53 32.7 -2.0
LZH pmax pmax
comp=Z,65nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,2μm,17.2s,MS5.0
HIA **Hailar** **41.82 342** *e*P **P** **23 44 44.9 -0.6**
comp=Z,12nm,1.0s,mb4.5
HIA **Hailar** **41.82 342** *e*P **P** **23 44 44.9 -0.6**
HIA pmax pmax
comp=Z,12nm,1.0s
STKA **Stephens Creek** **42.06 176** *e*P **P** **23 44 46.9 -0.8**
comp=Z,26nm,0.8s,mb4.9
STKA **Stephens Creek** **42.06 176** P **P** **23 44 47.9 +0.1**
comp=Z,32nm,0.8s,mb5.0,baz=344,slow=8.2,SNR=52
STKA LR LR 00 02 00.3
comp=Z,585nm,19.1s,MS4.5,baz=15,slow=36
DZM **Mont Dzumac** **42.37 140** P **P** **23 44 50.4 +0.1**
comp=Z,23nm,1.0s,mb4.8,baz=342,slow=7.8,SNR=7.6
SKR **Severo-Kuril's** **42.83 17** P **P** **23 44 46.3 -7.5**
SKR *ePPP PPP 23 47 14.7 +4.4
SKR *e*S **S** **23 51 13.7 -1.3**
SKR pmax pmax
comp=Z,50nm,0.7s,mb5.3
SKR smax
comp=N,1μm,10.0s
SKR smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=Z,1μm,16.0s,MS4.8
GTA **Gaotai** **44.87 317** *e*P **P** **23 45 11.2 +0.9**
GTA AP pP 23 45 19.4 -2.1
GTA XP sP 23 45 22.5 -3.8
GTA PCP PcP 23 46 53.1 +1.1
GTA PP PP 23 46 57.2 +1.0
GTA PPP PPP 23 47 38.1 +1.2
GTA SCP 23 50 41.1
GTA PCS 23 50 46.2
GTA S **S** **23 51 46.4 +1.7**
GTA XS 23 52 02.2
GTA SS SS 23 54 59.1 +1.5
GTA AMB AMB
comp=Z,15nm,2.0s,mb4.5
GTA AMB AMB
comp=Z,182nm,8.1s
GTA LR LR
comp=N,370nm,11.2s,MS4.8
GTA LR LR
comp=E,570nm,13.5s,MS4.8
GTA LR LR
comp=Z,626nm,14.7s,MS4.7
PET **Petropavlovsk** **45.64 17** *e*P **P** **23 45 14.1 -2.2**
PET *e*S **S** **23 52 01.9 +6.4**
PET pmax pmax
comp=Z,300nm,7.4s
PET pmax pmax
comp=Z,32nm,1.3s,mb5.1
PET pmax pmax
comp=Z,100nm,13.6s
PET smax
comp=N,300nm,19.7s
PET smax
comp=E,300nm,10.6s
PET smax
comp=E,200nm,13.0s
PET smax
comp=N,300nm,17.2s
PET MLR MLR
comp=Z,200nm,16.0s,MS4.2
PET MLR MLR
comp=Z,100nm,20.0s
ULN **Ulaanbaatar** **45.76 331** *e*P **P** **23 45 18.0 +0.6**
comp=Z,15nm,1.0s,mb4.9
ULN **Ulaanbaatar** **45.76 331** *e*P **P** **23 45 18.0 +0.6**
ULN pmax pmax
comp=Z,15nm,1.0s,mb4.9
SONM **Songino Array** **46.06 330** P **P** **23 45 20.6 +0.8**
comp=Z,7.2nm,1.1s,mb4.5,baz=111,slow=2.5,SNR=30
SONM PcP PcP 23 46 55.9 -0.2
comp=Z,4.4nm,0.9s,baz=154,slow=2.3,SNR=7.4
SONM LR LR 00 07 31.4
comp=Z,168nm,18.1s,MS4.0,baz=136,slow=40
CIT **Chita** **46.23 339** *e*P **P** **23 45 20.9 -0.1**
CIT *e* 23 46 55.7
CIT pmax pmax
comp=Z,111nm,2.5s,mb5.3
NWAO **Narrogin (SRO)** **47.48 204** P **P** **23 45 31.2 +0.1**
comp=Z,13nm,1.0s,mb4.8,baz=344,slow=4.9,SNR=5.6
NWAO PcP PcP 23 47 00.6 -0.7
comp=Z,13nm,0.7s,baz=35,slow=5.7,SNR=6.0
CLNS **Chul'man** **47.58 350** *e*P **P** **23 45 30.2 -1.4**
CLNS pmax pmax
comp=Z,13nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,18nm,1.4s
CLNS pmax pmax
comp=E,10.0nm,0.9s
LSA **Lhasa** **47.98 301** *e*P **P** **23 45 36.8 +1.7**
LSA **Lhasa** **47.98 301** *e*P **P** **23 45 36.5 +1.4**
comp=E,12nm,1.0s,mb4.9
LSA **Lhasa** **47.98 301** *e*P **P** **23 45 36.5 +1.4**
LSA pmax pmax
comp=Z,12nm,1.0s,mb4.9
TOO **Toolangi** **48.09 172** ⇑*i*P **P** **23 45 37.4 +1.5**
comp=Z,20nm,0.8s,mb5.2
TOO **Toolangi** **48.09 172** ⇑*i*P **P** **23 45 37.4 +1.5**
TOO pmax pmax
comp=Z,20nm,0.8s,mb5.2
ZAK **Zakamensk** **49.29 331** *i* P **P** **23 45 45.1 +0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
MA2 **Magadan** **50.05 8** *e*P **P** **23 45 49.1 -1.4**
comp=Z,54nm,1.5s,mb5.3
MA2 **Magadan** **50.05 8** *d*e P **P** **23 45 48.9 -1.7**
MA2 *e* 23 48 47.6
MA2 *e*S **S** **23 52 56.4 -1.1**
MA2 *e* 23 55 42.6
MA2 *e*SSS SSS 23 57 48.5 -10
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
FX1 **Attu Island--F** **50.87 26** P **P** **23 45 57.3 +0.4**
comp=Z,23nm,0.8s,mb5.2,baz=192,slow=5.6,SNR=5.1
FX1 LR LR 00 03 44.2
comp=Z,19nm,20.9s,baz=234,slow=32
FX1 **Attu Island--F** **50.87 26** P **P** **23 45 57.1 +0.2**
BOD **Bodaibo** **50.95 343** *e*P **P** **23 45 55.4 -2.1**
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MOY **Mondy** **51.22 331** *e*P **P** **23 45 59.3 -0.3**
MOY pmax pmax
comp=Z,101nm,2.4s,mb5.3
YAK **Yakutsk** **52.02 355** P **P** **23 46 02.0 -3.4**
comp=Z,79nm,1.0s,mb5.6
YAK **Yakutsk** **52.02 355** *c i*P **P** **23 46 04.4 -1.0**
YAK pmax pmax
comp=Z,93nm,1.3s,mb5.5
YAK MLR MLR
comp=Z,300nm,20.0s,MS4.3
PKI **Pulchoki** **52.53 297** *e*P **P** **23 46 10.0 +0.2**
comp=Z,94nm,1.4s,mb5.5
KKN **Kakani** **52.68 297** *e*P **P** **23 46 10.8 -0.1**
comp=Z,49nm,1.2s,mb5.3
DMN **Daman** **52.80 297** *e*P **P** **23 46 11.4 -0.4**
GKN **Gorkha** **53.27 297** *e*P **P** **23 46 15.3 0.0**
comp=Z,114nm,1.5s,mb5.6
SEY **Seymchan** **53.50 8** ⇑*e*P **P** **23 46 16.6 +0.1**
KOLN **Koldanda** **54.15 297** *e*P **P** **23 46 21.4 -0.4**
comp=Z,163nm,1.8s,mb5.7
WMQ **Urumqi** **54.95 317** ⇓*i*P **P** **23 46 27.6 +0.2**
WMQ AP pP 23 46 40.0 +1.2
WMQ PCP PcP 23 47 29.0 +0.2
WMQ PCS 23 51 25.0
WMQ S **S** **23 54 07.5 +2.9**
WMQ XS 23 54 25.0
WMQ AMB AMB
comp=Z,18nm,1.5s,mb4.9
WMQ AMB AMB
comp=Z,315nm,4.0s
WMQ LR LR
comp=N,363nm,14.6s,MS4.7
WMQ LR LR
comp=E,204nm,13.8s,MS4.7
WMQ LR LR
comp=Z,193nm,18.8s,MS4.2
HYB **Hyderabad** **58.30 284** *i* P **P** **23 46 52.0 +0.5**
HYB *e*S **S** **23 54 56.0 +6.8**
HYB **Hyderabad** **58.30 284** *e*P **P** **23 46 52.0 +0.5**
MKAR **Makanchi Array** **59.56 319** P **P** **23 47 00.3 +0.4**
comp=Z,15nm,1.0s,mb5.0,baz=108,slow=7.7,SNR=58
MKAR LR LR 00 13 54.0
comp=Z,247nm,19.0s,MS4.4,baz=254,slow=37
MKAR PKPPKP 00 16 32.0
comp=Z,0.7nm,1.0s,baz=270,slow=1.2,SNR=3.9
MKAR **Makanchi Array** **59.56 319** P **P** **23 47 00.3 +0.4**
MKAR LR LR 00 13 54.0
MKAR P'P' 00 16 32.0
URZ **Urewera** **60.37 145** P **P** **23 47 04.2 -1.4**
comp=Z,14nm,0.8s,mb5.1,baz=310,slow=3.5,SNR=12
BILL **Bilibino** **60.54 12** *e*P **P** **23 47 04.3 -2.0**
comp=Z,54nm,1.6s,mb5.4
BILL **Bilibino** **60.54 12** *d i*P **P** **23 47 04.7 -1.7**
BILL *i* 23 47 11.2
BILL *e* 23 49 18.6
BILL pmax pmax
comp=Z,59nm,2.5s,mb5.3
ZAL **Zalesovo** **60.72 327** LR LR 00 16 27.1
comp=Z,460nm,18.2s,MS4.7,baz=353,slow=39
RPZ **Rata Peaks** **61.45 154** P **P** **23 47 11.7 -1.1**
comp=Z,19nm,0.8s,mb5.3,baz=356,slow=1.7,SNR=6.9
TIXI **Tiksi** **61.57 357** *e*P **P** **23 47 09.1 -4.2**
TIXI *e*S **S** **23 55 26.0 -4.6**
TIXI pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
TIXI MLR MLR
comp=Z,164nm,15.0s,MS4.3
NVS **Novosibirsk** **61.93 327** *e*P **P** **23 47 12.9 -3.0**
NVS pmax pmax
comp=N,28nm,1.9s
NVS pmax pmax
comp=E,42nm,1.9s
NVS pmax pmax
comp=Z,62nm,1.9s,mb5.4
AJM **Ajmer** **62.00 294** ⇑*i*P **P** **23 47 16.0 -0.7**
KSH **Kashi** **62.25 309** *e*P **P** **23 47 20.1 +1.9**
KSH *e*AP pP 23 47 31.6 +1.8
KSH *e*PCP PcP 23 47 59.5 +1.9
KSH *e*PP PP 23 49 38.5 +1.0
KSH *e*PPP PPP 23 51 07.1 0.0
KSH *e*SCP 23 51 55.6
KSH *e*PCS 23 52 00.0
KSH *e*S **S** **23 55 38.7 -1.0**
KSH *e*XS 23 56 00.2
KSH *e*SCS ScS 23 57 04.0 +0.7
KSH *e*SS SS 23 59 45.0 0.0
KSH LR LR
comp=N,190nm,4.6s
KSH LR LR
comp=E,310nm,6.0s
ULHL **Ulahol** **62.55 312** P **P** **23 47 20.8 +0.5**
SNR=8.8
KURK **Kurchatov** **63.09 322** *e*P **P** **23 47 23.6 -0.1**
comp=E,60nm,0.8s,mb5.8
KURK **Kurchatov** **63.09 322** *e*P **P** **23 47 23.6 -0.1**
KURK pmax pmax
comp=Z,60nm,0.8s,mb5.8
KZA **Kyzart** **63.25 312** P **P** **23 47 26.9 +2.1**
SNR=15
CHMS **Chumysh** **63.78 313** P **P** **23 47 28.6 +0.2**
SNR=5.6
UCH **Uchtor** **63.81 312** P **P** **23 47 30.1 +1.5**
SNR=14
FRU **Bishkek** **63.84 313** P **P** **23 47 24.0 -4.8**
FRU pmax pmax
comp=Z,70nm,2.2s,mb5.3
AAK **Ala-Archa** **63.90 312** *e*P **P** **23 47 28.6 -0.5**
comp=Z,21nm,1.6s,mb4.9
AAK **Ala-Archa** **63.90 312** *e*P **P** **23 47 28.7 -0.4**
AAK pmax pmax
comp=Z,21nm,1.6s,mb4.9
USP **Ospenovka** **64.01 313** P **P** **23 47 30.4 +0.5**
SNR=11
AML **Almayashu** **64.39 312** P **P** **23 47 34.1 +1.7**
SNR=17
EKS2 **Erkin-Say** **64.42 312** P **P** **23 47 33.0 +0.5**
SNR=7.2
BRVK **Borovoye** **68.68 323** *e*P **P** **23 47 59.2 -0.1**
comp=Z,22nm,0.8s,mb5.2
BRVK **Borovoye** **68.68 323** *e*P **P** **23 47 59.2 -0.1**
BRVK pmax pmax
comp=Z,22nm,0.8s,mb5.1
SVW2 **Sparrevohn** **69.55 28** *e*P **P** **23 48 04.0 -0.5**
RSO **Redoubt South** **70.73 29** *e*P **P** **23 48 10.3 -1.4**
SPU **Mount Spurr** **71.23 29** P **P** **23 48 07.6 -7.1**
IMA **Indian Mountai** **71.77 23** *e*P **P** **23 48 18.3 +0.5**
comp=Z,19nm,1.1s,mb4.9
IMA **Indian Mountai** **71.77 23** *e*P **P** **23 48 18.3 +0.5**
IMA pmax pmax
comp=Z,19nm,1.1s,mb4.9
SLKM **Skilak Lake** **71.97 30** *e*P **P** **23 48 17.9 -1.2**
PMR **Palmer** **72.69 29** *e*P **P** **23 48 22.2 -1.1**

comp=Z,28nm,0.8s,mb5.2
PMR LR LR
comp=Z,400nm,21.0s,MS4.7
PMR Palmer 72.69 29 *e*P **P 23 48 22.2 -1.1**
PMR pmax pmax
comp=Z,28nm,0.8s,mb5.2
PMR MLR MLR
comp=Z,400nm,21.0s,MS4.7
ILAR Eielson Array 74.25 25 P **P 23 48 31.1 -1.3**
comp=Z,6.8nm,0.8s,mb4.7,baz=250,slow=6.3,SNR=59
SVE Sverdlovsk 74.71 326⇑ *e*P **P 23 48 34.5 -0.7**
SVE *e* 23 51 25.0
SVE *e*PS PS 23 58 50.0 +2.3
SVE pmax pmax
comp=Z,100nm,2.8s,mb5.2
SVE MLR MLR
comp=N,200nm,15.0s,MS4.8
SVE MLR MLR
comp=E,300nm,15.0s,MS4.8
SVE MLR MLR
comp=Z,200nm,15.0s,MS4.5
ARU Arti 75.83 326 *e*P **P 23 48 41.0 -0.7**
comp=Z,21nm,0.8s,mb5.1
ARU Arti 75.83 326⇓ *i*P **P 23 48 41.1 -0.5**
ARU *e* pP 23 48 53.4 0.0
ARU *e* 23 51 32.6
ARU *e*PPP PPP 23 53 14.7 -5.8
ARU *e*S S 23 58 22.3 +2.6
ARU *e*SS SS 00 03 14.4 -0.6
ARU *e*SSS SSS 00 06 33.8 +3.9
ARU pmax pmax
comp=Z,23nm,0.8s,mb5.2
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.8
ARU MLR MLR
comp=N,40nm,16.0s,MS4.7
ARU MLR MLR
comp=E,300nm,17.0s,MS4.7
PPT Papeete 76.37 111 *e*S S 23 58 21.1 -5.2
PPT *e*SS SS 00 03 02.6 -21
PPT *e*LR LR 00 11 48.6
comp=E,2µm,29.2s,baz=290
PPT Papeete 76.37 111 LR LR 00 15 26.3
comp=E,616nm,20.0s,MS4.9,baz=290,slow=30
BIDO Bidbid 77.06 292 P **P 23 48 50.8 +1.5**
SNR=6.2
PMOR Pomariorio Ree 77.27 108 *e*P **P 23 48 52.5 +1.9**
comp=E,118nm,1.4s,mb5.6
HOQ Hoqain 77.80 292 P **P 23 48 54.4 +1.0**
SNR=11
BSY Bisya 77.99 291 P **P 23 48 55.3 +0.9**
SNR=5.7
TBI Tubuai 78.08 117 *e*LR LR 00 12 35.5
comp=E,1µm,29.0s,baz=288
ARQ Araqi 78.55 292⇑ P **P 23 48 57.3 -0.1**
ASHO Ashiyiah 78.82 293⇑ P **P 23 48 59.2 +0.2**
CASY Casey 79.08 191 *e*P **P 23 48 58.9 -0.6**
comp=E,19nm,0.8s,mb5.1
INK Inuvik 79.81 22 P **P 23 49 02.2 -1.1**
comp=E,8.2nm,0.8s,mb4.7,baz=268,slow=6.3,SNR=23
INK PKKPbc 00 07 50.6
comp=E,0.7nm,0.6s,baz=51,slow=3.8,SNR=3.0
INK LR LR 00 25 20.4
comp=E,100nm,19.0s,MS4.2,baz=118,slow=36
INK Inuvik 79.81 22 *e*P **P 23 49 02.8 -0.6**
comp=E,34nm,1.4s,mb5.1
INK Inuvik 79.81 22 *e*P **P 23 49 02.8 -0.6**
INK pmax pmax
comp=Z,34nm,1.4s
RBK Rabkut 81.44 286⇓ P **P 23 49 11.6 -1.4**
WHFO Wadi Hawf 81.79 287⇓ P **P 23 49 13.0 -1.9**
DLBC Dease Lake 82.15 32 LR LR 00 20 52.0
comp=Z,146nm,21.5s,MS4.3,baz=277,slow=32
DLBC Dease Lake 82.15 32 *e*P **P 23 49 15.2 -0.7**
ABTO Aybut 82.31 286⇑ P **P 23 49 16.2 -1.3**
TAOE Nuku Hiva Isla 83.31 100 *e*LR LR 00 14 44.9
comp=Z,2µm,32.6s
MIR Mirnyy 83.46 197 *c i*P **P 23 49 23.2 +0.8**
MIR pmax pmax
comp=Z,34nm,1.2s,mb5.2
BBB Bella Bella 84.10 38 LR LR 00 22 08.0
comp=Z,234nm,20.8s,MS4.5,baz=237,slow=32
HASS Wahat al Ahsa' 84.48 294 P **P 23 49 29.9 +1.4**
HASS Wahat al Ahsa' 84.48 294 P **P 23 49 29.9 +1.4**
DGRG David-gareji 85.48 311 P **P 23 49 33.9 +0.8**
MTA Mtatsminda 85.87 311 P **P 23 49 34.9 0.0**
TI2 Plekhanov 85.89 312 *e*P **P 23 49 32.8 -2.3**
GNI Garni 86.17 310 *e*P **P 23 49 37.7 +1.2**
comp=Z,27nm,1.3s,mb5.3
GNI Garni 86.17 310⇑ *e*P **P 23 49 37.9 +1.4**
GNI pmax pmax
comp=Z,23nm,1.6s
VRHR Novokhopersk 86.25 321 *e*P **P 23 49 35.4 -1.2**
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.7s
ZEI Tsey 86.33 313 *e*P **P 23 49 36.0 -1.2**
ZEI *i* *PP pP 23 49 49.7 +0.5
ZEI pmax pmax
comp=Z,22nm,0.9s,mb5.4
GOF Gofitskoye 86.51 315⇑ *i*P **P 23 49 38.6 +0.6**
GOF pmax pmax
comp=Z,20nm,1.1s,mb5.3
ONI Oni 86.69 313 P **P 23 49 39.3 +0.4**
KIV Kislovodsk 86.97 314 *e*P **P 23 49 41.5 +1.1**
KIV Kislovodsk 86.97 314⇑ *i*P **P 23 49 41.0 +0.7**
KIV *e* pP 23 49 52.3 -0.1
KIV *e*S S 00 00 08.6 -5.7
KIV pmax pmax
comp=Z,11nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,100nm,22.0s,MS4.2
OCWA Octopus Mounta 87.43 42 *e*P **P 23 49 44.1 +1.6**
comp=Z,100nm,1.4s,mb5.9
MOS Moscow 87.53 326 *e*P **P 23 49 37.6 -5.1**
MOS pmax pmax
comp=Z,43nm,1.2s,mb5.5
KEV Kevo 87.59 341 *e*p **P 23 49 41.8 -0.9**
comp=Z,6.4nm,1.0s,mb4.8
KEV Kevo 87.59 341 *e*P **P 23 49 41.8 -0.9**
KEV pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
VRSR Storozhevoye 87.72 322 *e*P **P 23 49 43.0 -0.8**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
VRSR pmax pmax
comp=N,5.0nm,0.7s
VRSR pmax pmax
comp=E,4.0nm,0.8s
ARCES ARCESS Array B 88.16 341 P **P 23 49 44.8 -0.7**
comp=E,5.6nm,0.8s,mb4.8,baz=63,slow=8.1,SNR=12
ARE0 ARCESS Array S 88.16 341 *e*P **P 23 49 44.8 -0.6**
OBN Obninsk 88.28 326 *e*P **P 23 49 45.5 -0.8**
comp=E,23nm,1.0s,mb5.4
OBN Obninsk 88.28 326⇑ *i*P **P 23 49 45.9 -0.4**
OBN *i* 23 49 53.4
OBN *e*S 00 00 16.2
OBN *e*SS SS 00 06 13.6 -5.9
OBN pmax pmax
comp=Z,37nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.3
JOF Joensuu 88.50 334 *e*p **P 23 49 45.9 -1.3**
comp=Z,10nm,1.0s,mb5.1
YKA Yellowknife Ar 88.65 26 P **P 23 49 48.2 +0.3**
comp=Z,1.5nm,0.6s,mb4.5,baz=291,slow=4.5,SNR=8.1
YKA LR LR 00 30 18.4
comp=Z,179nm,19.4s,MS4.5,baz=270,slow=36
YKA Yellowknife Ar 88.65 26 P **P 23 49 48.2 +0.3**
YKA LR LR 00 30 18.4
VNDA Vanda 88.69 175 P **P 23 49 49.3 +1.4**
comp=Z,5.0nm,0.8s,mb4.9,baz=322,slow=5.6,SNR=27
VNDA LR LR 00 27 41.6
comp=Z,124nm,19.0s,MS4.3,baz=346,slow=34
MZLS Mizel 88.70 294 P **P 23 49 50.3 +1.2**
MZLS Mizel 88.70 294 P **P 23 49 50.3 +1.2**
SOC Sochi 89.15 314 *e*P **P 23 49 49.1 -1.7**
SOC *e* 23 53 17.8
SOC *e*PPP PPP 23 55 19.5 -3.2
SOC *e*S 00 00 14.4
SOC pmax pmax
comp=Z,16nm,1.0s,mb5.3
SOC pmax pmax
comp=N,17nm,0.9s
SOC pmax pmax
comp=E,20nm,1.0s
HUMO Hull Mountain 89.42 47 *e*P **P 23 49 53.3 +1.2**
comp=E,17nm,1.3s,mb5.2
SBA Scott Base 89.45 174 *e*P **P 23 49 53.1 +1.7**
comp=E,35nm,1.5s,mb5.5
SBA Scott Base 89.45 174 *e*P **P 23 49 53.1 +1.6**
SBA pmax pmax
comp=Z,35nm,1.5s,mb5.5
YBH Yreka Blue Hor 89.80 48 P **P 23 49 55.3 +1.4**
comp=Z,12nm,0.9s,mb5.2,baz=230,slow=2.7,SNR=15
YBH LR LR 00 22 25.2
comp=Z,188nm,21.6s,MS4.5,baz=248,slow=30
YBH Yreka Blue Hor 89.80 48 *e*P **P 23 49 55.1 +1.3**
comp=Z,11nm,1.2s,mb5.1
ANN Anapa 90.45 316 *e*P **P 23 49 55.5 -1.3**
ANN *e**PP pP 23 50 08.8 -0.2
ANN pmax pmax
comp=Z,54nm,1.0s,mb5.8
KAF Kangasniemi 90.96 334 *e*p **P 23 49 56.8 -2.0**
comp=Z,12nm,1.0s,mb5.2,baz=63,slow=4.4
KAF Kangasniemi 90.96 334 *e*P **P 23 49 56.8 -2.0**
KAF pmax pmax
comp=Z,12nm,1.0s,mb5.2
RKT Rikitea 90.97 113 *e*LR LR 00 18 24.0
comp=Z,810nm,31.0s
HILS Ha'il 91.07 298 P **P 23 50 01.8 +1.6**
HILS Ha'il 91.07 298 P **P 23 50 01.8 +1.6**
OHCM Honcut 91.29 50 *e*P **P 23 50 01.1 +0.2**
FINES FINESS Array B 91.33 334 P **P 23 49 59.6 -1.0**
comp=Z,4.6nm,0.8s,mb4.9,baz=64,slow=4.6,SNR=23
MALT Malatya 91.35 309 *e*P **P 23 50 00.4 -0.8**
comp=Z,5.5nm,1.0s,mb4.8
MALT Malatya 91.35 309 *e*P **P 23 50 00.4 -0.8**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
MOD Modoc 91.50 47 *e*P **P 23 50 02.4 +0.6**
comp=Z,26nm,1.3s,mb5.4
NEW Newport 91.87 40 P **P 23 50 03.6 +0.3**
comp=Z,6.1nm,1.0s,mb4.9,baz=289,slow=3.2,SNR=8.9
NEW LR LR 00 23 02.6
comp=Z,280nm,21.7s,MS4.7,baz=231,slow=30
NEW Newport 91.87 40 *e*P **P 23 50 03.8 +0.5**
comp=Z,10nm,1.4s,mb5.0
NEW *e* 23 50 31.7
NEW Newport 91.87 40 *e*P **P 23 50 03.8 +0.5**
NEW pmax pmax
comp=Z,11nm,1.4s
BEKR Beckwourth 91.99 49 *e*P **P 23 50 04.6 +0.5**
comp=Z,27nm,1.3s,mb5.4
BEKR *e* 23 50 33.5
DAG Danmarks Havn 92.04 355⇓ *i*P **P 23 50 03.1 -0.4**
comp=Z,3.7nm,0.8s,mb4.8
DAG Danmarks Havn 92.04 355⇓ *e*P **P 23 50 03.1 -0.4**
comp=Z,3.7nm,0.8s,mb4.8
DAG Danmarks Havn 92.04 355⇓ *e*P **P 23 50 03.1 -0.4**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
VSU Vasula 92.25 331⇑ *e*P **P 23 50 04.4 -0.4**
CMB Columbia Colle 92.45 51 *e*P **P 23 50 06.8 +0.5**
comp=Z,18nm,1.1s,mb5.3
EDM Edmonton 92.51 35 *e*P **P 23 50 06.6 +0.5**
WVOR Wild Horse Val 92.55 46 *e*P **P 23 50 07.2 +0.6**
comp=Z,14nm,1.1s,mb5.3
WVOR Wild Horse Val 92.55 46 *e*P **P 23 50 07.2 +0.6**
WVOR pmax pmax
comp=Z,14nm,1.1s,mb5.3
BMO Blue Mountains 92.78 44 *e*P **P 23 50 07.6 0.0**
comp=Z,30nm,1.4s,mb5.5
WALA Waterton Lakes 93.63 39 *e*P **P 23 50 12.6 +1.2**
comp=Z,23nm,1.4s,mb5.4
WALA *e* pP 23 50 23.1 -0.4
AKASG Malin Array Be 93.89 323 P **P 23 50 11.2 -1.2**
comp=Z,0.5nm,0.4s,mb4.3,baz=52,slow=4.2,SNR=11
NVAR Mina Array Bea 93.92 50 PKKPbc 00 07 18.1
comp=Z,0.6nm,0.7s,baz=126,slow=2.6,SNR=4.0
MAW Mawson 94.00 202 P **P 23 50 13.5 +0.9**
comp=Z,4.0nm,1.1s,mb4.8,baz=73,slow=4.2,SNR=5.6
MTUM Tungsten Hills 94.02 51 *e*P **P 23 50 13.8 +0.4**
MTUM *e* 23 50 41.2
BRTR Keskin Array B 94.56 312 P **P 23 50 15.8 0.0**
comp=Z,1.5nm,0.9s,mb4.4,baz=104,slow=5.5,SNR=4.6
CHMT Chamberlain Mo 94.79 41 *e*P **P 23 50 16.3 -0.3**
TPH Tonopah 94.84 50 *e*P **P 23 50 18.3 +1.1**
comp=Z,9.9nm,1.1s,mb5.2
HLID Hailey 95.16 44 *e*P **P 23 50 19.1 +0.6**
comp=Z,79nm,1.1s,mb6.1
ELK Elko 95.49 47 P **P 23 50 21.2 +1.2**
comp=Z,2.7nm,0.8s,mb4.7,baz=266,slow=6.1,SNR=12
ELK Elko 95.49 47 *e*P **P 23 50 19.9 -0.1**
comp=Z,19nm,1.6s,mb5.3
ELK *e* 23 50 50.6
DLMT Dillon 95.76 42 *e*P **P 23 50 21.4 +0.2**
HRY Holter Researc 95.77 41 *e*P **P 23 50 21.6 +0.5**
MCMT McKenzie Canyo 95.78 43 *e*P **P 23 50 21.7 +0.5**
MCMT *e* pP 23 50 33.1 -0.3
SUW Suwalki 95.94 328 *e*P **P 23 50 19.7 -2.0**
comp=Z,16nm,1.2s,mb5.3
SUW *e* 23 50 27.8
SUW Suwalki 95.94 328 *e*P **P 23 50 19.7 -2.0**
SUW *e* 23 50 27.8
SUW pmax pmax
comp=Z,16nm,1.2s,mb5.3
BOZ Bozeman (W) 96.29 42 *e*P **P 23 50 23.9 +0.4**
comp=Z,12nm,1.4s,mb5.1
QLMT Earthquake Lak 96.72 42 *e*P **P 23 50 26.6 +1.1**
PFO Pinyon Flat Ob 96.73 54 *e*P **P 23 50 26.1 +0.2**
comp=Z,2.8nm,1.1s,mb4.6
PFO Pinyon Flat Ob 96.73 54 *e*P **P 23 50 26.1 +0.2**
PFO pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
RRI2 Red Ridge 97.34 44 *e*P **P 23 50 29.2 +0.8**
comp=Z,5.2nm,0.8s,mb5.0
NEN Nelson 97.39 52 *e*P **P 23 50 29.4 +0.6**
DUG Dugway 97.42 47 *e*P **P 23 50 29.0 +0.2**
comp=Z,5.2nm,1.0s,mb4.9
DUG Dugway 97.42 47 *e*P **P 23 50 29.0 +0.2**
DUG pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
FLWY Flagg Ranch 97.49 43 *e*P **P 23 50 30.6 +1.6**
NOA NORSAR Array B 97.69 337 P **P 23 50 29.0 -0.5**
comp=Z,7.0nm,0.8s,mb4.2,baz=263,slow=18,SNR=2.8
HWUT Hardware Ranch 97.81 45 *e*P **P 23 50 30.6 0.0**
comp=Z,5.2nm,1.1s,mb5.0
BW06 Boulder Array 98.76 44 *e*P **P 23 50 39.6 +4.8**
comp=Z,2.1nm,0.6s,mb4.8
PDAR Pinedale Array 98.76 44 P **P 23 50 35.2 +0.4**
comp=Z,0.5nm,0.6s,mb4.2,baz=252,slow=4.7,SNR=4.2
PDAR LR LR 00 31 15.0
comp=Z,99nm,18.9s,MS4.3,baz=301,slow=33
QSPA South Pole Qui 100.17 180 *e*Pdif P 23 50 41.4 +1.0
comp=Z,9.3nm,1.1s
PV10 Paradox Valley 100.80 48 *e*Pdif P 23 50 43.5 -0.7
PV01 Paradox Valley 101.24 48 *e*Pdif P 23 50 44.0 -2.2
BRG Berggiesshubel 102.40 328 *e*P Pdif 23 50 51.0 0.0
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 102.40 328 *e*P Pdif 23 50 51.0 0.0
BRG pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 103.66 326 Pdiff Pdif 23 50 56.7 +0.1
comp=Z,0.5nm,0.7s,baz=63,slow=4.4,SNR=7.1
ANMO Albuquerque 104.04 50 *e*Pdif Pdif 23 50 59.1 +0.5
comp=Z,4.4nm,1.3s
ANMO Albuquerque 104.04 50 *e*P Pdif 23 50 59.1 +0.4
ANMO pmax pmax
comp=Z,4.0nm,1.3s
SNAA Sanae 114.28 193 PKP PKPdf 23 55 34.6 +1.7
comp=Z,0.6nm,0.8s,baz=14,slow=1.4,SNR=6.1
DBIC Dimbokro 139.66 293 PKP PKPdf 23 56 22.3 -0.3
comp=Z,8.6nm,1.1s,baz=194,slow=8.0,SNR=4.2
PLCA Paso Flores 140.38 145 PKhKP 23 56 22.1
comp=Z,1.6nm,0.9s,baz=295,slow=6.8,SNR=3.4
SJG San Juan 142.82 41 PKhKP 23 56 25.7
comp=Z,7.2nm,0.2s,baz=326,slow=19,SNR=4.5
CPD Cerro la Pandu 143.02 41 *e*PKPpre 23 56 24.7
ROSC El Rosal 144.13 67 PKP PKPdf 23 56 31.7 +1.1
comp=Z,6.8nm,0.5s,baz=96,slow=13,SNR=14
FCH Farellones 145.12 135 *i* P PKPdf 23 56 33.8 +2.1
SDV Santo Domingo 145.42 58 PKPbc PKPbc 23 56 34.6 +1.3
comp=Z,46nm,0.8s,baz=314,slow=3.0,SNR=50
SDV Santo Domingo 145.42 58 *e*PKPdf PKPdf 23 56 33.8 +1.1
NNA Nana 145.44 96 *e*PKPdf PKPdf 23 56 34.4 +1.6
NNA *e* 23 56 45.4
TRQA Tornquist 146.89 150 *e*PKPdf PKPdf 23 56 37.2 +2.7
CFAA Coronel Fontan 147.52 135 PKPbc PKPdf 23 56 40.3 +4.5
comp=Z,2.4nm,0.8s,baz=250,slow=3.0,SNR=29
LVC Limon Verde 151.20 119 *e*PKPbc PKPdf 23 56 50.8 +9.0
LPAZ La Paz 153.57 106 PKP PKPdf 23 56 49.1 +3.8
comp=Z,5.0nm,1.1s,baz=242,slow=4.0,SNR=10
LPAZ PKPbc PKPdf 23 56 56.0 +11
comp=Z,5.8nm,0.8s,baz=359,slow=2.9,SNR=20
LPAZ La Paz 153.57 106 *e*PKIKP PKPdf 23 56 48.9 +3.6
LPAZ *e* 23 56 56.2
LPAZ *e* 23 57 00.3
BDFB Brasilia 171.84 131 PKP PKPdf 23 57 05.3 +2.2
comp=Z,7.7nm,1.2s,baz=349,slow=5.2,SNR=3.9

JMA ***01*** *23:54:51.3±0.3,45.43N×144.02E,h301km±3km,M3.5*
SKHL ***01*** *23:54:51.0±0.1,45.55N×144.08E,h314km±9km,mb4.3/2, msh4.4/1*
IDC ***01*** *23:54:51.6±0.8,45.72N×144.00E,h283km±20km,mb3.1/7, mb1 3.3/8,mb1mx3.1/22,mbtmp3.7/8,Error ellipse: s-maj=42.9km s-min=17.2km az=169.0*

ISC 01 23:54:50.3±0.5,45.54N±0.06×144.1E±0.1,h298km±4km, n28,σ1§07/39,mb3.4/7,1C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**1.22**	**242**	P	**P**	**23 55 32.3**	**+0.5**
JSE				S	**S**	**23 56 03.8**	**-0.6**
JWK2	**Keihoku**	**1.56**	**263**	P	**P**	**23 55 34.9**	**+0.9**
JWK2				S	**S**	**23 56 09.6**	**+1.4**
JTKR	**Abashiri--Toko**	**1.57**	**185**	P	**P**	**23 55 34.8**	**+0.7**
JTKR				S	**S**	**23 56 08.4**	**+0.1**
JMP	**Maruseppu**	**1.62**	**199**	P	**P**	**23 55 34.8**	**+0.4**
JMP				S	**S**	**23 56 08.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**1.69**	**327**⇑ *i*P		**P**	**23 55 35.4**	**+0.5**
YSS				AMB	AMB	23 55 35.7	
	60nm,0.5s						
YSS				*e*S	**S**	**23 56 09.0**	**-0.7**
YSS				A		23 56 10.0	
	80nm,0.9s						
JRA	**Rausu**	**1.76**	**155**	P	**P**	**23 55 35.8**	**+0.4**
JRA				*e*S	**S**	**23 56 11.8**	**+1.2**
ASAJ	**Asahikawa**	**1.78**	**217**	P	**P**	**23 55 36.5**	**+1.0**
	14nm,0.3s,baz=1.6,slow=2.8,SNR=35						
ASAJ				S	**S**	**23 56 11.6**	**+0.8**
	baz=300,slow=20,SNR=2.3						
JKK2	**Kamakawa 2**	**1.93**	**210**	P	**P**	**23 55 37.5**	**+0.9**
JAR	**Ashorobuto**	**2.25**	**186**	P	**P**	**23 55 40.0**	**+0.6**
JAR				*e*S	**S**	**23 56 17.0**	**-0.6**
JHR	**Hokuryu**	**2.47**	**224**	P	**P**	**23 55 42.0**	**+0.7**
NEM2	**Nemuro 2**	**2.47**	**151**	P	**P**	**23 55 39.9**	**-1.4**
NEM2				*e*S	**S**	**23 56 17.5**	**-3.6**
JAK	**Akkeshi**	**2.58**	**170**	P	**P**	**23 55 41.5**	**-0.8**
JAK				*e*S	**S**	**23 56 20.3**	**-2.5**
JCH	**Churui**	**2.97**	**191**	P	**P**	**23 55 45.4**	**-0.6**
JCH				*e*S	**S**	**23 56 25.5**	**-4.0**
JNBK	**Urakawa-nobuka**	**3.40**	**197**	P	**P**	**23 55 50.1**	**-0.3**
JKB	**Kayabe**	**4.27**	**212**	P	**P**	**23 55 59.0**	**-0.9**
JOT	**Ohata**	**4.71**	**209**	P	**P**	**23 56 03.8**	**-1.1**
JOSM	**Okushiri--Mats**	**4.81**	**226**	P	**P**	**23 56 05.7**	**-0.3**
MJAR	**Matsushiro Arr**	**10.03**	**208**	P	**P**	**23 57 10.5**	**+1.0**
	0.4nm,0.3s,baz=20,slow=9.3,SNR=4.6						
EKMR	**Ekimchan**	**10.47**	**320**	*e*P	**P**	**23 57 11.5**	**-3.4**
EKMR				AMB	AMB	23 57 12.0	
	4.0nm,0.5s						
YASR	**Yasnyy**	**13.03**	**312**	*e*P	**P**	**23 57 44.2**	**-2.1**
YASR				AMB	AMB	23 57 45.0	
	3.0nm,0.6s						
BMKR	**Bomnak**	**13.39**	**319**	*e*P	**P**	**23 57 48.2**	**-2.5**
BMKR				AMB	AMB	23 57 49.8	
	8.0nm,0.8s						
SONM	**Songino Array**	**25.80**	**289**	P	**P**	**23 59 56.3**	**+0.4**
	0.9nm,0.6s,mb3.4,baz=84,slow=9.2,SNR=8.6						
ILAR	**Eielson Array**	**41.36**	**37**	P	**P**	**00 02 08.2**	**-0.4**
	0.4nm,0.5s,mb2.9,baz=268,slow=6.1,SNR=4.8						
MKAR	**Makanchi Array**	**41.84**	**295**	P	**P**	**00 02 13.2**	**+0.6**
	0.5nm,0.5s,mb3.0,baz=77,slow=9.0,SNR=11						
INK	**Inuvik**	**45.97**	**31**	P	**P**	**00 02 45.2**	**+0.1**
	0.6nm,0.3s,mb3.4,baz=261,slow=5.4,SNR=11						
FINES	**FINESS Array B**	**62.28**	**331**	P	**P**	**00 04 41.7**	**-0.6**
	0.7nm,0.5s,mb3.6,baz=50,slow=8.7,SNR=18						
NOA	**NORSAR Array B**	**67.13**	**337**	P	**P**	**00 05 14.3**	**+1.2**
	1.1nm,0.8s,mb3.6,baz=232,slow=11,SNR=2.7						
PDAR	**Pinedale Array**	**70.39**	**49**	P	**P**	**00 05 35.9**	**+2.5**
	0.8nm,0.4s,mb3.8,baz=180,slow=3.0,SNR=6.4						

CSEM ***02*** *00:21:45.7±0.1,72.76N×4.51E,h2km,mb4.3/8,Error ellipse: s-maj=4.7km s-min=3.3km az=70.0*
IDC ***02*** *00:21:46.5±0.8,72.33N×3.50E,mb3.6/10,mb1 3.9/14, mb1mx3.8/24,mbtmp3.7/14,ML3.6/4,MS3.8/10,Ms1 3.8/10, ms1mx3.5/32,Error ellipse: s-maj=20.9km s-min=13.1km az=44.0*
MOS ***02*** *00:21:47.1±2.0,72.59N×4.14E,h10km,mb4.4/9,Error ellipse: s-maj=29.7km s-min=6.7km az=95.9*
NEIC ***02*** *00:21:48.6±0.5,72.60N×4.06E,h10km,mb4.3/8,Error ellipse: s-maj=9.5km s-min=6.6km az=82.0*
BER ***02*** *00:21:49.1±1.7,72.68N×3.77E,h10km,ML3.1, ML3.1(NAO)*
NAO ***02*** *00:21:49.3±2.0,72.77N×4.26E,ML3.1*
HEL ***02*** *00:21:49.9±0.7,72.75N×4.14E,h10km,ML4.1, mb4.3(NEIC),ML3.1(BER)*

ISC 02 00:21:47.3±0.5,72.57N±0.05×4.5E±0.1,h10km,n86, σ1§43/97,mb3.8/17,MS3.7/6,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRO	**Tromso**	**5.53**	**115**	*e*P	**Pn**	**00 23 11.7**	**0.0**
SPA0	**Spitsbergen Ar**	**6.37**	**22**	Pn	**Pn**	**00 23 21.2**	**-2.3**
	baz=218,slow=16						
SPA0	**Spitsbergen Ar**	**6.37**	**22**	*e*P	**Pn**	**00 23 21.2**	**-2.3**
SPA0	**Spitsbergen Ar**	**6.37**	**22**	P	**Pn**	**00 23 21.2**	**-2.4**
KIF	**Kilpisjarvi**	**6.44**	**116**	*e*P	**Pn**	**00 23 25.6**	**+1.0**
KIF				*e*S	**Sn**	**00 24 37.6**	**-1.4**
KIF	**Kilpisjarvi**	**6.44**	**116**	P	**Pn**	**00 23 25.5**	**+0.9**
MELSS	**Ber_school_2**	**6.55**	**146**	*e*P	**Pn**	**00 23 25.6**	**-0.6**
MELSS				*e*S	**Sn**	**00 24 36.3**	**-5.5**
KBS	**Kingsbay**	**6.64**	**12**	*e*P	**Pn**	**00 23 24.2**	**-3.3**
STOK	**Stokkvaagen**	**6.93**	**150**	*e*P	**Pn**	**00 23 30.9**	**-0.6**
STOK				*e*S	**Sn**	**00 24 44.5**	**-6.7**
STOK				AML	AML	00 24 53.4	
	comp=Z,18nm,0.3s						
STOK	**Stokkvaagen**	**6.93**	**150**	P	**Pn**	**00 23 30.8**	**-0.7**
MOR8	**Moi Rana**	**7.31**	**147**	*e*P	**Pn**	**00 23 36.0**	**-0.7**
MOR8				*e*S	**Sn**	**00 24 53.0**	**-7.6**
MOR8				AML	AML	00 24 59.9	
	comp=Z,29nm,0.5s						
ARA0	**ARCESS Array S**	**7.46**	**104**	Pn	**Pn**	**00 23 39.4**	**+0.6**
	baz=307,slow=12						
ARA0				Sn	**Sn**	**00 25 02.8**	**-1.5**
	baz=308,slow=22						
ARA0	**ARCESS Array S**	**7.46**	**104**	*e*P	**Pn**	**00 23 39.4**	**+0.6**
ARA0				*e*S	**Sn**	**00 25 02.8**	**-1.5**
ARCES	**ARCESS Array B**	**7.46**	**104**	Pn	**Pn**	**00 23 39.5**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=317,slow=12,SNR=59						
ARCES				Sn	**Sn**	**00 25 02.6**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=310,slow=21,SNR=4.4						
ARCES				LR	LR	00 26 46.9	
	comp=Z,402nm,20.8s,baz=353,slow=39						
ARE0	**ARCESS Array S**	**7.46**	**104**	*e*Pn	**Pn**	**00 23 39.2**	**+0.4**
KEV	**Kevo**	**7.78**	**100**	*e*P	**Pn**	**00 23 42.8**	**-0.5**
KEV				*e*S	**Sn**	**00 25 08.8**	**-3.6**
NSS	**Namsos**	**8.51**	**158**	*e*P	**P**	**00 23 52.1**	**-1.5**
NSS				*e*S	**Sn**	**00 25 23.7**	**-7.0**
NSS				AML	AML	00 25 26.7	
	comp=Z,16nm,0.5s						
NSS	**Namsos**	**8.51**	**158**	*e*P	**P**	**00 23 52.1**	**-1.5**
NSS				*e*S	**Sn**	**00 25 21.8**	**-8.9**
NSS				AML	AML	00 25 26.7	
	comp=Z,16nm,0.5s						
NSS				*e*		00 25 26.7	
SGF	**Sodankyl**	**9.08**	**114**	*e*P	**P**	**00 24 01.6**	**+0.2**
SGF				*e*S	**Sn**	**00 25 40.8**	**-3.9**
SGF	**Sodankyl**	**9.08**	**114**	P	**P**	**00 24 01.5**	**+0.1**
KU4	**Liikasenvaara**	**10.69**	**113**	*e*P	**P**	**00 24 24.0**	**+0.7**
OUL	**Oulu**	**10.70**	**124**	*e*P	**P**	**00 24 24.9**	**+1.5**
APA0	**Apatity Array**	**10.82**	**103**	Pn	**P**	**00 24 24.8**	**-0.3**
	baz=313,slow=14						
APA0	**Apatity Array**	**10.82**	**103**	*e*P	**P**	**00 24 24.8**	**-0.3**
VAF	**Ylistaro**	**11.70**	**136**	*e*P	**P**	**00 24 36.1**	**-0.9**
NB2	**NORSAR Subarra**	**11.86**	**164**	Pn	**P**	**00 24 38.5**	**-0.9**
	baz=347,slow=14						

NB2 NORSAR Subarra 11.86 164 *e*P **P 00 24 38.5 -0.9**
NB2 NORSAR Subarra 11.86 164 P **P 00 24 38.4 -0.9**
NOA NORSAR Array B 11.86 164 Pn **P 00 24 35.0 -4.3**
comp=Z,0.3nm,0.3s,baz=346,slow=13,SNR=4.4
NOA Sn **S 00 26 41.0 -12**
comp=Z,0.4nm,0.3s,baz=283,slow=8.2,SNR=5.8
NOA LR LR 00 29 11.2
comp=Z,344nm,18.6s,baz=345,slow=38
NOA NORSAR Array B 11.86 164 Pn **P 00 24 35.0 -4.3**
KJN Kajaani 11.97 123 *e*P **P 00 24 41.5 +0.7**
SUF Sumiainen 12.75 130 *e*P **P 00 24 52.8 +1.6**
SUF MPN 00 24 53.9
comp=Z,4.9nm,0.7s
SUF *e*S **S 00 27 07.0 -7.3**
SUF Sumiainen 12.75 130 P **P 00 24 52.8 +1.6**
comp=Z,4.9nm,0.7s
KEF Keuruu 12.95 133 *e*P **P 00 24 54.0 +0.2**
KEF MPN 00 24 56.3
comp=Z,15nm,0.9s
HFS Hagfors 12.99 159 Pn **P 00 24 53.0 -1.5**
baz=354,slow=11
HFS Sn **S 00 27 10.2 -10**
baz=349,slow=28
HFS Hagfors 12.99 159 *e*P **P 00 24 53.0 -1.5**
HFS *e*S **S 00 27 10.2 -10**
HFS Hagfors 12.99 159 Pn **P 00 24 53.5 -1.0**
comp=Z,0.2nm,0.3s,baz=353,slow=12,SNR=29
HFS Sn **S 00 27 10.3 -10**
comp=Z,0.1nm,0.3s,baz=353,slow=25,SNR=7.1
HFS LR LR 00 29 38.1
comp=Z,436nm,19.0s,baz=302,slow=37
KAF Kangasniemi 13.32 131 *e*P **P 00 24 58.5 -0.2**
KAF MPN 00 25 00.4
comp=Z,2.0nm,0.6s
FIA0 FINESS Array S 13.86 132 Pn **P 00 25 05.0 -0.6**
baz=334,slow=14
FIA0 FINESS Array S 13.86 132 *e*P **P 00 25 05.9 +0.3**
FINES FINESS Array B 13.86 132 Pn **P 00 25 05.6 0.0**
comp=Z,0.3nm,0.3s,baz=334,slow=10,SNR=14
FINES Sn **S 00 27 31.4 -9.1**
comp=Z,0.3nm,0.3s,baz=345,slow=22,SNR=4.6
FINES LR LR 00 30 09.0
comp=Z,598nm,18.7s,baz=20,slow=36
JOF Joensuu 13.86 120 *e*P **P 00 25 05.2 -0.5**
JOF MPN 00 25 05.6
comp=Z,4.8nm,0.7s
PVF Pernaja 14.62 134 *e*P **P 00 25 17.2 +1.6**
PVF MPN 00 25 17.8
comp=Z,4.5nm,0.9s
EKA Eskdalemuir Ar 17.60 195 P **P 00 25 51.7 -2.1**
comp=Z,0.1nm,0.3s,baz=349,slow=8.5,SNR=5.5
CLZ Clausthal 20.96 170 *e*P **P 00 26 32.8 +0.3**
comp=Z,24nm,1.5s
CLZ Clausthal 20.96 170 *e*P **P 00 26 32.8 +0.3**
CLZ pmax pmax
comp=Z,24nm,1.5s
CLL Collm 21.66 165 P **P 00 26 42.0 +2.4**
CLL *e* 00 26 46.0
CLL *i* 00 26 54.9
CLL Collm 21.66 165 *e*P **P 00 26 46.0 +6.4**
comp=Z,17nm,1.5s,mb4.2
CLL Collm 21.66 165 *e*P **P 00 26 46.0 +6.4**
CLL pmax pmax
comp=Z,17nm,1.5s,mb4.2
OBN Obninsk 22.00 125 *e*P **P 00 26 44.7 +1.8**
comp=Z,7.0nm,1.1s,mb4.0
OBN Obninsk 22.00 125 *e*P **P 00 26 44.7 +1.8**
OBN pmax pmax
comp=Z,7.0nm,1.1s,mb4.0
BRG Berggiesshubel 22.17 164 P **P 00 26 44.1 -0.6**
comp=Z,6.6nm,1.2s,mb3.9
BRG Berggiesshubel 22.17 164 P **P 00 26 44.1 -0.5**
comp=Z,7.0nm,1.2s,mb4.0
BRG Berggiesshubel 22.17 164 P **P 00 26 44.1 -0.5**
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
MOX Moxa 22.23 168 *i* P **P 00 26 49.2 +4.0**
MOX L 00 43 57.0
GRA1 Grafenberg Arr 23.15 169 *e*P **P 00 26 56.2 +2.1**
comp=Z,55nm,2.1s,mb4.6
GRF Grafenberg Arr 23.15 169 *e*P **P 00 26 56.2 +2.1**
comp=Z,55nm,2.1s,mb4.6
GRF Grafenberg Arr 23.15 169 *e*P **P 00 26 56.2 +2.1**
GRF pmax pmax
comp=Z,55nm,2.1s,mb4.6
GRF Grafenberg Arr 23.15 169 *e*P **P 00 26 56.2 +2.1**
GRF pmax pmax
comp=Z,55nm,2.1s,mb4.6
WET Wettzell 23.80 166 *e*P **P 00 27 02.8 +2.3**
comp=Z,11nm,1.7s,mb4.0
WET Wettzell 23.80 166 *e*P **P 00 27 02.8 +2.3**
WET pmax pmax
comp=Z,11nm,1.7s,mb4.0
VRAC Vranov 23.96 160 P **P 00 26 59.7 -2.3**
comp=Z,2.4nm,0.4s,mb3.9,baz=315,slow=2.9,SNR=2.3
VRAC LR LR 00 36 28.5
comp=Z,182nm,21.3s,MS3.5,baz=34,slow=37
GEC2 GERESS Array S 24.16 165 *e*P **P 00 27 06.8 +2.8**
comp=Z,6.0nm,1.2s,mb3.9
GEC2 GERESS Array S 24.16 165 *e*P **P 00 27 06.8 +2.8**
GEC2 pmax pmax
comp=Z,6.0nm,1.2s,mb3.9
GERES GERESS Array B 24.16 165 P **P 00 27 06.4 +2.4**
comp=Z,1.6nm,0.8s,mb3.5,slow=8.0,SNR=15
BFO Black Forest 24.38 174 *e*P **P 00 27 08.2 +2.1**
comp=Z,12nm,1.6s,mb4.1
BFO Black Forest 24.38 174 *e*P **P 00 27 08.2 +2.1**
BFO pmax pmax
comp=Z,12nm,1.6s,mb4.1
AKASG Malin Array Be 24.50 140 P **P 00 27 08.5 +1.3**
comp=Z,1.3nm,0.5s,mb3.6,baz=340,slow=9.7,SNR=9.2
DAVOX Davos 25.99 172 LR LR 00 38 10.8
comp=Z,320nm,18.5s,MS3.9,baz=38,slow=38
FRB Frobisher Bay 26.74 289 LR LR 00 37 54.6
comp=Z,148nm,18.5s,MS3.6,baz=320,slow=36
ARU Arti 26.99 98 *e*P **P 00 27 35.0 +4.5**
MLR Muntele Rosu 28.95 148 LR LR 00 39 39.9
comp=Z,460nm,20.6s,MS4.1,baz=56,slow=37
GOF Gofitskoye 32.88 126 *e*P **P 00 28 24.0 +0.9**
BVAR Borovoye Array 33.46 89 P **P 00 28 30.2 +2.2**
comp=Z,1.1nm,0.8s,mb3.8,baz=307,slow=7.4,SNR=7.3
BRTR Keskin Array B 35.90 140 P **P 00 28 46.2 -2.9**
comp=Z,0.4nm,0.5s,mb3.6,baz=11,slow=7.3,SNR=2.2
ZAL Zalesovo 36.96 76 LR LR 00 49 35.4
comp=Z,72nm,20.7s,MS3.4,baz=14,slow=45
GNI Garni 37.93 126 LR LR 00 44 57.6
comp=Z,159nm,20.8s,MS3.8,baz=145,slow=37
BOD Bodaibo 41.27 50 *e*P **P 00 29 32.0 -1.6**
ILAR Eielson Array 41.58 342 P **P 00 29 34.8 -1.1**
comp=Z,0.5nm,0.7s,mb3.2,baz=9.8,slow=6.5,SNR=5.7
MKAR Makanchi Array 42.56 83 P **P 00 29 46.4 +2.2**
comp=Z,0.5nm,0.8s,mb3.3,baz=333,slow=11,SNR=4.8
MOY Mondy 43.55 64 *e*P **P 00 29 56.0 +3.8**
SONM Songino Array 48.49 62 P **P 00 30 34.8 +3.3**
comp=Z,0.2nm,0.6s,mb3.3,baz=333,slow=6.6,SNR=4.0
PDAR Pinedale Array 56.32 306 P **P 00 31 28.6 -1.5**
comp=Z,1.0nm,1.1s,mb3.8,baz=34,slow=5.3,SNR=4.4
MJAR Matsushiro Arr 66.58 39 P **P 00 32 39.0 -0.1**
comp=Z,1.0nm,0.5s,mb4.1,slow=5.0,SNR=4.9
TXAR Lajitas Array 67.50 296 P **P 00 32 43.0 -2.2**
comp=Z,0.4nm,0.7s,mb3.5,baz=71,slow=5.4,SNR=5.4
MAW Mawson 145.09 145 PKPbc PKPbc 00 41 24.7 +1.6
comp=Z,1.1nm,0.7s,baz=8.1,slow=7.1,SNR=4.6

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*IDC **02** 00:30:00.8±0.7, 2.76N×95.86E, mb4.3/14, mb1 4.4/14, mb1mx4.3/20, mbtmp4.3/14, MS4.1/6, Ms1 4.1/6, ms1mx3.6/27, Error ellipse: s-maj=28.3km s-min=15.3km az=49.0*
*MOS **02** 00:30:03.4±1.1, 2.67N×95.81E, h33km, mb5.0/19, Error ellipse: s-maj=18.5km s-min=7.7km az=101.8*
*BJI **02** 00:30:04.8, 2.38N×95.90E, h72km, mB5.1, mb4.9, Ms4.6, Msz4.3*
*NEIC **02** 00:30:07.3±1.9, 2.73N×95.89E, h50km±17km, mb4.8/15, Error ellipse: s-maj=13.8km s-min=6.6km az=51.0*
ISC 02 00:30:04.7±1.7**, 2.70N**±0.07×**95.93E**±0.07**, h41**km±15km**, n89,** σ1§**04**/89**, mb4.6**/47**, MS4.2**/14**, 1C-2D, Off west coast of northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KULM Kulim 5.37 61 *e*Pn **P 00 31 24.8 +0.5**
KKM Kota Kinabalu 20.49 80 *e*P **P 00 34 41.4 -0.6**
QIZ Qiongzhong 21.18 39 P **P 00 34 52.7 +3.7**
QIZ AMB AMB
comp=Z,24nm,1.4s,mb4.3
QIZ LR LR
comp=N,616nm,16.0s,MS4.3
QIZ LR LR
comp=E,789nm,15.5s,MS4.3
QIZ LR LR
comp=Z,458nm,18.4s,MS3.9
HYB Hyderabad 22.47 312 *i* P **P 00 35 04.0 +2.2**
HYB Hyderabad 22.47 312 *e*P **P 00 35 12.0 +10**
KMI Kunming 23.24 16 P **P 00 35 11.8 +2.4**
KMI PP PP 00 35 46.6 +5.6
KMI PPP PPP 00 35 57.2 +6.0
KMI PCP PcP 00 38 53.5 -4.4
KMI LR LR
comp=N,737nm,10.7s,MS4.4
KMI LR LR
comp=E,255nm,12.0s,MS4.4
KMI LR LR
comp=Z,756nm,13.0s,MS4.3
KMI Kunming 23.24 16 P **P 00 35 11.8 +2.4**
KMI pP 00 35 17.9
KMI sP 00 35 20.2
KMI PP PP 00 35 46.6 +5.6
KMI PPP PPP 00 35 57.2 +6.0
KMI PcP PcP 00 38 53.5 -4.4
KMI S **S 00 39 26.3 +12**
KMI sS 00 39 36.3
KMI SS SS 00 40 19.4 +17
KMI SSS SSS 00 40 35.4 +17
KMI LR LR
comp=Z,760nm,13.0s,MS4.3
KMI Kunming 23.24 16 P **P 00 35 11.8 +2.4**
KMI *SP 00 35 20.2
KMI 00 35 46.6
KMI 00 38 53.5
KMI SS SS 00 40 19.4 +17
KMI MLR MLR
comp=Z,760nm,13.0s,MS4.3
GYA Guiyang 25.77 23 P **P 00 35 33.7 0.0**
GYA S **S 00 40 05.7 +8.1**
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.3
GYA AMB AMB
comp=Z,150nm,5.0s
GYA LR LR
comp=N,1μm,14.3s,MS4.6
GYA LR LR
comp=E,830nm,13.2s,MS4.6
GYA LR LR
comp=Z,790nm,14.9s,MS4.4
PKI Pulchoki 26.70 339 *e*P **P 00 35 42.1 -0.1**
comp=Z,46nm,0.8s,mb5.0
PKI Pulchoki 26.70 339 *e*P **P 00 35 42.1 -0.1**
PKI pmax pmax
comp=Z,23nm,0.8s,mb4.8
DMN Daman 26.85 338 *e*P **P 00 35 43.5 -0.1**
comp=Z,20nm,0.6s,mb4.8
KKN Kakani 26.95 339 *e*P **P 00 35 44.5 0.0**
comp=Z,86nm,0.9s,mb5.3
KKN Kakani 26.95 339 *e*P **P 00 35 44.5 0.0**
KKN pmax pmax
comp=Z,43nm,0.9s,mb5.0
LSA Lhasa 27.23 351 P **P 00 35 48.0 +0.9**
LSA AMB AMB
comp=Z,20nm,1.4s,mb4.5
LSA Lhasa 27.23 351 *e*P **P 00 35 46.8 -0.3**
comp=Z,14nm,0.8s,mb4.6
LSA Lhasa 27.23 351 *e*P **P 00 35 46.8 -0.3**
LSA pmax pmax
comp=Z,14nm,0.8s,mb4.5
GKN Gorkha 27.38 338 *e*P **P 00 35 48.4 0.0**
comp=Z,114nm,1.0s,mb5.3
KOLN Koldanda 27.58 336 *e*P **P 00 35 50.1 -0.1**
comp=Z,72nm,1.0s,mb5.3
CD2 Chengdu 29.02 14 P **P 00 36 02.4 -0.7**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
ENH Enshi 30.28 24 *e*P **P 00 36 13.3 -1.1**
comp=Z,6.6nm,0.5s,mb4.6
WHN Wuhan 32.72 30 *e*P **P 00 36 37.0 +1.2**
XAN Xi'an 33.45 20 P **P 00 36 40.3 -1.8**
XAN AMB AMB
comp=Z,21nm,1.0s,mb5.0
FITZ Fitzroy Crossi 35.83 126 P **P 00 37 02.0 -0.6**
comp=Z,3.0nm,0.8s,mb4.3,baz=270,slow=6.1,SNR=3.5
GTA Gaotai 36.71 5 *e*P **P 00 37 08.9 -0.9**
GTA PP PP 00 38 37.8 +2.3
GTA PPP PPP 00 38 59.5 +3.8
GTA S **S 00 42 56.0 +6.1**
GTA AMB AMB
comp=Z,21nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,201nm,6.8s
GTA LR LR
comp=N,189nm,16.4s,MS4.2
GTA LR LR
comp=E,222nm,16.4s,MS4.2
GTA LR LR
comp=Z,247nm,14.4s,MS4.1
SSE Sheshan 36.96 37 P **P 00 37 04.4 -7.6**
comp=Z,36nm,0.7s,mb5.3
SSE pP pP 00 37 13.2 -10
SSE sP sP 00 37 17.1 -12
SSE S S 00 42 31.8 -22
SSE sS 00 42 46.8
SSE PcS 00 43 25.2
SSE LR LR
comp=Z,210nm,22.2s,MS3.9
HHC Hu-ho-hao-te 40.52 18 *e*P **P 00 37 42.8 +1.3**
HHC AP pP 00 37 56.3 +3.3
HHC PP PP 00 39 16.3 -2.1
HHC S **S 00 43 48.7 +1.3**
HHC AMB AMB
comp=Z,24nm,0.8s,mb4.9
HHC AMB AMB
comp=Z,272nm,6.2s
HHC LR LR
comp=N,588nm,15.5s,MS4.6
HHC LR LR
comp=E,383nm,16.7s,MS4.6
HHC LR LR
comp=Z,476nm,16.6s,MS4.4
WMQ Urumqi 41.59 351 ⇑*i*P **P 00 37 50.8 +0.4**
WMQ AMB AMB
comp=Z,14nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,269nm,5.8s
WMQ LR LR
comp=N,375nm,21.6s,MS4.3
WMQ LR LR
comp=E,282nm,20.4s,MS4.3
WMQ LR LR
comp=Z,222nm,21.6s,MS4.0
ULHL Ulahol 43.14 339 P **P 00 38 04.2 +1.2**
SNR=5.3
UCH Uchtor 43.78 337 P **P 00 38 09.8 +1.6**
SNR=7.2
WRA Warramunga Arr 43.90 123 P **P 00 38 09.6 +0.1**
comp=Z,2.8nm,0.9s,mb4.0,baz=301,slow=9.8,SNR=13
WRAB Tennant Creek 43.91 123 P **P 00 38 10.6 +1.0**
comp=Z,9.2nm,1.0s,mb4.5
WRAB Tennant Creek 43.91 123 P **P 00 38 10.6 +1.0**
WRAB pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
TKM2 Tokmak 2 43.96 338 P **P 00 38 11.1 +1.3**
SNR=5.4
KBK Karagaybulak 43.98 338 P **P 00 38 11.6 +1.7**
SNR=8.2
AML Almayashu 44.02 336 P **P 00 38 11.9 +1.6**
SNR=15
AAK Ala-Archa 44.13 337 *e*P **P 00 38 11.4 +0.3**
comp=Z,38nm,1.8s,mb4.8
AAK Ala-Archa 44.13 337 *i* P **P 00 38 11.3 +0.2**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
FRU Bishkek 44.26 337 P **P 00 38 12.2 +0.1**
EKS2 Erkin-Say 44.44 337 P **P 00 38 14.7 +1.1**
SNR=6.7
USP Ospenovka 44.67 338 P **P 00 38 15.5 +0.1**
SNR=16
MKAR Makanchi Array 45.50 347 P **P 00 38 21.7 -0.2**
comp=Z,6.1nm,0.4s,mb4.8,baz=160,slow=8.7,SNR=142
SONM Songino Array 45.86 10 P **P 00 38 25.1 +0.3**
comp=Z,6.0nm,0.6s,mb4.7,baz=191,slow=9.6,SNR=44
SONM PcP PcP 00 40 02.4 +0.4
comp=Z,2.1nm,0.7s,baz=181,slow=3.6,SNR=6.1
SONM LR LR 00 59 20.9
comp=Z,242nm,19.7s,MS4.2,baz=192,slow=38
ULN Ulaanbaatar 46.01 10 *e*P **P 00 38 25.4 -0.5**
comp=Z,7.0nm,0.9s,mb4.6
ULN Ulaanbaatar 46.01 10 *e*P **P 00 38 25.5 -0.5**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KKAR Karatay Array 46.16 334 *i* P **P 00 38 27.5 +0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SNY Shenyang 46.18 29 ⇓P **P 00 38 27.2 -0.2**
SNY AMB AMB
comp=Z,20nm,0.6s,mb5.2
ZAK Zakamensk 47.92 6 *e*P **P 00 38 40.5 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
KURK Kurchatov 50.03 346 *e*P **P 00 38 56.8 -0.5**
comp=Z,4.2nm,0.5s,mb4.7
KURK Kurchatov 50.03 346 *e*P **P 00 38 56.8 -0.4**
KURK pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
HIA Hailar 50.66 20 *e*P **P 00 39 02.5 +0.5**
comp=Z,4.9nm,0.3s,mb4.9
HIA Hailar 50.66 20 *e*P **P 00 39 02.5 +0.5**
HIA pmax pmax
comp=Z,5.0nm,0.3s
CIT Chita 51.31 14 *e*P **P 00 39 07.2 +0.3**
MJAR Matsushiro Arr 51.47 44 PcP PcP 00 40 22.4 0.0
comp=Z,1.8nm,0.8s,baz=236,slow=4.5,SNR=5.2
ZAL Zalesovo 51.89 352 P **P 00 39 11.0 -0.2**
comp=Z,5.7nm,0.5s,mb4.7,baz=320,slow=6.6,SNR=30
NVS Novosibirsk 53.00 351 *e*P **P 00 39 17.6 -1.9**
NVS *e* 00 42 22.2
NVS *e*S **S 00 46 45.3 +0.7**
NVS pmax pmax
comp=N,13nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s,mb4.7
NVS pmax pmax
comp=N,9.0nm,2.4s
NVS pmax pmax
comp=E,8.0nm,2.4s
NVS pmax pmax
comp=Z,18nm,2.4s,mb4.6
NVS smax
comp=N,16nm,1.9s
NVS smax
comp=E,14nm,1.9s
CTA Charters Tower 54.31 117 LR LR 01 03 10.9
comp=E,168nm,19.7s,MS4.1,baz=239,slow=37
BVAR Borovoye Array 54.43 341 P **P 00 39 28.8 -1.3**
comp=E,3.2nm,0.6s,mb4.4,baz=146,slow=9.4,SNR=28
BRVK Borovoye 54.49 341 *e*P **P 00 39 29.4 -1.1**
comp=E,5.6nm,1.1s,mb4.4
BRVK Borovoye 54.49 341 *e*P **P 00 39 29.4 -1.1**
BRVK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
STKA Stephens Creek 55.30 132 P **P 00 39 37.9 +1.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=301,slow=5.9,SNR=5.6
KLR Kul'dur 55.51 28 *e*P **P 00 39 34.7 -3.3**
AB31 Akbulak array 55.60 332 *i* P **P 00 39 37.7 -1.0**
AB31 pmax pmax
comp=Z,16nm,1.0s,mb5.0
BOD Bodaibo 56.79 11 *e*P **P 00 39 46.2 -0.8**
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
KMBO Kilima Mbogo 58.78 267 P **P 00 40 01.9 +0.2**
comp=Z,0.3nm,0.2s,mb3.9,baz=115,slow=10,SNR=2.4
KMBO LR LR 01 01 30.0
comp=Z,241nm,18.5s,MS4.3,baz=277,slow=32
GNI Garni 59.34 316 *i* P **P 00 40 12.1 +7.0**
GNI pmax pmax
comp=Z,21nm,2.0s
YSS Yuzh-Sakhalins 59.85 35 *i* P **P 00 40 04.5 -4.1**
YSS pmax pmax
comp=Z,35nm,1.7s,mb5.1
SVE Sverdlovsk 60.84 339 *e*P **P 00 40 14.0 -1.2**
SVE *e* 00 40 21.8
SVE *e* 00 52 32.0
SVE pmax pmax
comp=Z,20nm,1.2s,mb5.1
SVE MLR MLR
comp=N,100nm,13.0s,MS4.3
SVE MLR MLR
comp=E,100nm,13.0s,MS4.3
SVE MLR MLR
comp=Z,100nm,13.0s,MS4.2
ARU Arti 61.32 337 *e*P **P 00 40 15.7 -2.7**
comp=Z,5.3nm,0.8s,mb4.7
ARU Arti 61.32 337 ⇓*i*P **P 00 40 16.4 -2.0**
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
KIV Kislovodsk 62.35 319 *i* P **P 00 40 31.8 +6.3**
KIV pmax pmax
comp=Z,17nm,1.3s,mb5.0
YAK Yakutsk 64.35 17 *e*P **P 00 40 37.4 -0.9**
BRTR Keskin Array B 67.17 312 P **P 00 40 56.2 -0.5**
comp=Z,0.5nm,0.5s,mb3.8,baz=135,slow=12,SNR=3.0
OBN Obninsk 70.69 328 *i* P **P 00 41 20.9 +2.8**
OBN *e* 00 43 55.7
OBN *e*SS SS 00 54 55.0 -7.2
OBN pmax pmax
comp=Z,11nm,1.3s,mb4.6
TIXI Tiksi 71.95 10 *i* P **P 00 41 22.8 -2.6**
SEY Seymchan 72.89 24 *i* P **P 00 41 31.5 +0.4**
IDI Anoyia 73.00 306 P **P 00 41 32.1 -0.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=150,slow=15,SNR=2.5
AKASG Malin Array Be 73.30 322 P **P 00 41 32.4 -1.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=91,slow=5.0,SNR=3.1
FINES FINESS Array B 78.09 333 P **P 00 42 00.2 -0.6**
comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=5.1
FINES LR LR 01 21 04.4
comp=Z,104nm,19.8s,MS4.2,baz=308,slow=39
TIP Timpagrande 79.91 309 *e*P **P 00 42 09.9 -1.2**
BILL Bilibino 80.23 21 *i* P **P 00 42 13.0 +0.7**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ARCES ARCESS Array B 80.71 340 P **P 00 42 15.3 +0.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=94,slow=4.5,SNR=7.3
ARCES LR LR 01 23 33.7
comp=Z,87nm,19.0s,MS4.1,baz=272,slow=40
ARCES ARCESS Array B 80.71 340 P **P 00 42 15.3 +0.5**
ARCES LR LR 01 23 33.7
PERS Pernice 81.73 317 *e*P **P 00 42 24.9 +4.3**
VOJS Vojsko 82.54 316 *e*P **P 00 42 25.2 +0.4**
NOA NORSAR Array B 85.09 331 LR LR 01 25 16.1
comp=Z,56nm,18.7s,MS4.0,baz=100,slow=39
DAVOX Davos 85.34 317 P **P 00 42 39.4 +0.5**
comp=Z,2.9nm,0.8s,mb4.5,baz=23,slow=7.7,SNR=3.1
TXAR Lajitas Array 143.03 29 PKhKP 00 49 34.0
comp=Z,0.4nm,0.6s,baz=320,slow=0.5,SNR=5.8
CFAA Coronel Fontan 147.60 206 PKPbc PKPdf 00 49 48.4 +5.8
comp=Z,0.1nm,0.4s,baz=146,slow=7.3,SNR=3.2

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*CSEM **02** 00:35:20.7±0.4, 72.60N×3.23E, h4km±2km, mb4.5/44, Ms3.8, Error ellipse: s-maj=2.6km s-min=1.8km az=93.0*
*BJI **02** 00:35:21.4, 72.70N×3.80E, h10km, mb4.7, Ms4.4, Msz4.3*
*IDC **02** 00:35:21.2±0.7, 72.52N×3.34E, mb3.8/11, mb1 4.1/17, mb1mx4.0/27, mbtmp3.9/17, ML3.8/6, MS3.9/17, Ms1 3.9/17, ms1mx3.7/35, Error ellipse: s-maj=17.6km s-min=13.3km az=44.0*
*MOS **02** 00:35:22.1±1.1, 72.65N×3.52E, h10km, mb4.7/39, MS4.0/6, Error ellipse: s-maj=24.9km s-min=4.0km az=94.1*
*NEIC **02** 00:35:23.4±0.3, 72.66N×3.81E, h10km, mb4.5/35, Error ellipse: s-maj=7.2km s-min=5.6km az=72.0*
*BER **02** 00:35:24.8±2.7, 72.70N×4.23E, h11km, ML3.0, ML3.2(NAO)*
*NAO **02** 00:35:24.2±1.4, 72.89N×4.44E, ML3.2*
ISC 02 00:35:22.1±0.3**, 72.64N**±0.03×**3.5E**±0.1**, h10**km**, n211,** σ1§**25**/199**, mb4.3**/62**, MS4.0**/20**, 7C-11D, Norwegian Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JMIC Jan Mayen 4.12 252 Pn **Pn 00 36 23.6 -3.0**
7.8nm,0.3s,baz=214,slow=3.0,SNR=4.0
LOF Lofoten 5.64 139 *e*P **Pn 00 36 46.9 -1.2**
LOF AML AML 00 37 58.7
comp=Z,31nm,0.7s
LOF Lofoten 5.64 139 *e*P **Pn 00 36 45.5 -2.6**
TRO Tromso 5.83 114 *e*P **Pn 00 36 45.5 -5.2**

TRO eS Sn 00 37 46.2 -12
TRO AML AML 00 37 52.2
comp=Z,32nm,0.6s
SPA0 Spitsbergen Ar 6.42 24 Pn Pn 00 36 56.1 -3.0
baz=215,slow=16
KBS Kingsbay 6.64 14 Pn Pn 00 36 58.2 -3.9
MELSS Ber_school_2 6.78 144 eP Pn 00 36 59.7 -4.5
STOK Stokkvaagen 7.15 148 eP Pn 00 37 05.4 -3.9
KTK1 Kautokeino 7.41 110 eP Pn 00 37 09.2 -3.8
MOR8 Moi Rana 7.54 144 eP Pn 00 37 10.9 -3.8
MOR8 AML AML 00 38 34.6
comp=Z,22nm,0.8s
MOR8 Moi Rana 7.54 144 eP Pn 00 37 10.2 -4.6
ARA0 ARCESS Array S 7.76 103 Pn Pn 00 37 14.1 -3.8
baz=301,slow=12
ARA0 Sn Sn 00 38 38.8 -7.9
baz=311,slow=22
ARCES ARCESS Array B 7.76 103 Pn Pn 00 37 13.9 -3.9
comp=Z,1.3nm,0.3s,baz=324,slow=10,SNR=10.0
SCO Scoresbysund 8.32 267 *i* P P 00 37 22.8 -2.9
comp=Z,22nm,0.9s
SCO Scoresbysund 8.32 267 eP P 00 37 22.8 -2.9
comp=Z,22nm,0.9s
SCO Scoresbysund 8.32 267 eP P 00 37 22.8 -2.9
SCO pmax pmax
comp=Z,22nm,0.9s
NSS Namsos 8.70 155 eP P 00 37 27.2 -3.8
NSS AML AML 00 39 02.2
comp=Z,13nm,0.9s
APA0 Apatity Array 11.12 102 Pn P 00 37 58.6 -5.4
baz=318,slow=11
LVZ Lovozero 11.42 99 *i* P P 00 38 08.5 +0.4
comp=Z,18nm,1.3s
LVZ Lovozero 11.42 99 *i* P P 00 38 08.5 +0.4
LVZ pmax pmax
comp=Z,18nm,1.3s
NB2 NORSAR Subarra 12.02 162 Pn P 00 38 12.0 -4.2
baz=348,slow=14
NOA NORSAR Array B 12.02 162 Pn P 00 38 12.3 -4.0
comp=Z,0.5nm,0.3s,baz=346,slow=13,SNR=4.1
NOA Sn S 00 40 16.2 -15
comp=Z,0.3nm,0.3s,baz=284,slow=7.7,SNR=5.3
NOA LR LR 00 42 45.2
comp=Z,338nm,18.8s,slow=37
NOA NORSAR Array B 12.02 162 Pn P 00 38 12.3 -4.0
NOA Sn S 00 40 16.2 -15
HFS Hagfors 13.17 157 Pn P 00 38 27.6 -4.0
comp=Z,0.2nm,0.3s,baz=353,slow=12,SNR=28
HFS Sn S 00 40 46.6 -13
comp=Z,0.1nm,0.3s,baz=355,slow=18,SNR=4.4
HFS LR LR 00 43 11.8
comp=Z,652nm,18.7s,baz=307,slow=36
HFS Hagfors 13.17 157 Pn P 00 38 27.3 -4.3
baz=350,slow=14
HFS Sn S 00 40 46.2 -13
baz=349,slow=28
FIA0 FINESS Array S 14.12 131 Pn P 00 38 40.5 -3.5
baz=334,slow=11
FINES FINESS Array B 14.12 131 Pn P 00 38 40.7 -3.2
comp=Z,0.4nm,0.3s,baz=342,slow=12,SNR=17
FINES LR LR 00 43 43.1
comp=Z,638nm,19.4s,baz=157,slow=36
FINES FINESS Array B 14.12 131 Pn P 00 38 40.7 -3.2
FINES LR LR 00 43 43.1
VSU Vasula 16.96 135 *i* P P 00 39 19.6 -1.0
EKA Eskdalemuir Ar 17.60 193 P P 00 39 27.9 -0.8
comp=Z,0.1nm,0.3s,baz=4.4,slow=11,SNR=11
GKP Gorka Klasztor 20.31 156 eP P 00 40 00.5 0.0
SUW Suwalki 20.46 145 eP P 00 40 01.4 -0.8
SUW Suwalki 20.46 145 eP P 00 40 01.3 -0.9
WTSB Winterswijk 20.80 174⇓eP P 00 40 05.2 -0.5
comp=Z,35nm,1.7s
CLZ Clausthal 21.09 168 eP P 00 40 08.5 -0.1
comp=Z,27nm,1.2s,mb4.5
CLZ Clausthal 21.09 168 eP P 00 40 08.5 -0.1
CLZ pmax pmax
comp=Z,27nm,1.2s,mb4.5
CLL Collm 21.81 164 ⇓P P 00 40 16.9 +1.0
comp=Z,logA/T=1.3,mb4.5
CLL *i* 00 40 27.0
CLL *e* 00 40 42.0
CLL Collm 21.81 164⇓*i*P P 00 40 16.9 +1.0
comp=Z,27nm,1.3s,mb4.5
CLL *i* 00 40 27.0
CLL Collm 21.81 164⇓*i*P P 00 40 16.9 +1.0
CLL pmax pmax
comp=Z,27nm,1.3s,mb4.5
HGN Heimansgroeve 21.98 176⇓eP P 00 40 17.7 +0.1
comp=Z,27nm,1.4s,mb4.5
HGN *ex* x 00 40 42.7
MOS Moscow 21.99 122 eP P 00 40 14.4 -3.2
comp=Z,88nm,1.4s,mb5.0
MOS Moscow 21.99 122 eP P 00 40 14.4 -3.2
MOS pmax pmax
comp=Z,88nm,1.4s,mb5.0
OBN Obninsk 22.28 124 eP P 00 40 20.0 -0.6
OBN Obninsk 22.28 124 *i* P P 00 40 19.7 -0.9
comp=Z,64nm,1.7s,mb4.8
OBN *eS* S 00 44 22.9 +2.3
comp=Z,400nm,20.0s
OBN Obninsk 22.28 124 *i* P P 00 40 19.7 -0.9
OBN *eS* S 00 44 22.9 +2.3
OBN pmax pmax
comp=Z,64nm,1.7s,mb4.8
OBN MLR MLR
comp=Z,400nm,20.0s,MS3.8
BRG Berggiesshubel 22.32 162 eP P 00 40 21.3 +0.3
comp=Z,15nm,1.4s,mb4.2
BRG *e* 00 40 26.9
BRG Berggiesshubel 22.32 162 eP P 00 40 21.3 +0.3
BRG *e* 00 40 26.9
BRG pmax pmax
comp=Z,15nm,1.4s,mb4.2
MOX Moxa 22.36 166 *i* P P 00 40 22.8 +1.4
comp=Z,logA/T=1.4,mb4.6
MOX Moxa 22.36 166 eP P 00 40 22.8 +1.4
comp=Z,46nm,1.7s,mb4.6
MOX Moxa 22.36 166 eP P 00 40 22.8 +1.4
MOX pmax pmax
comp=Z,46nm,1.7s,mb4.6
TNS Taunus Mts 22.60 172 eP P 00 40 24.7 +1.1
comp=Z,15nm,1.3s,mb4.3
TNS Taunus Mts 22.60 172 eP P 00 40 24.7 +1.1
TNS pmax pmax
comp=Z,15nm,1.3s,mb4.3
GIVF Givet 22.62 178 eP P 00 40 23.5 -0.3
BAIF Baives 22.66 179 eP P 00 40 24.1 -0.1
comp=Z,92nm,1.6s,mb4.7
BAIF Baives 22.66 179 eP P 00 40 24.1 -0.1
BAIF pmax pmax
comp=Z,46nm,1.6s,mb4.7
PVCC Panska Ves 22.72 162 eP P 00 40 26.3 +1.5
NKC Novy Kostel 22.83 165 eP P 00 40 26.3 +0.4
UPC Upice 22.89 159 eP P 00 40 26.5 +0.1
DPC Dobruska-Polom 23.08 159 eP P 00 40 28.3 +0.1
PRU Pruhonice 23.25 162 eP P 00 40 30.9 +0.9
GRA1 Grafenberg Arr 23.28 167 eP P 00 40 32.2 +1.9
comp=Z,56nm,2.0s,mb4.7
GRF Grafenberg Arr 23.28 167 eP P 00 40 32.2 +1.9
comp=Z,56nm,2.0s,mb4.7
GRF Grafenberg Arr 23.28 167 eP P 00 40 32.2 +1.9
GRF pmax pmax
comp=Z,56nm,2.0s,mb4.7
GRF Grafenberg Arr 23.28 167 eP P 00 40 32.2 +1.9
GRF pmax pmax
comp=Z,56nm,2.0s,mb4.7
MORC Moravsky Berou 23.78 157 eP P 00 40 37.0 +1.9
comp=Z,34nm,1.8s,mb4.5
MORC Moravsky Berou 23.78 157 eP P 00 40 37.0 +1.9
comp=Z,34nm,1.8s,mb4.5
MORC Moravsky Berou 23.78 157 eP P 00 40 37.0 +1.9
MORC pmax pmax
comp=Z,34nm,1.8s,mb4.5
OKC Ostrava-Krasne 23.79 156 eP P 00 40 35.5 +0.3
WET Wettzell 23.95 165 eP P 00 40 38.6 +1.9
comp=Z,21nm,1.5s,mb4.3
WET Wettzell 23.95 165 eP P 00 40 38.6 +1.9
WET pmax pmax
comp=Z,21nm,1.5s,mb4.3
KHC Kasperske Hory 24.02 164 eP P 00 40 39.2 +1.8
VRAC Vranov 24.14 159 P P 00 40 38.6 0.0
comp=Z,2.8nm,0.7s,mb3.8,baz=353,slow=10,SNR=12
VRAC LR LR 00 50 20.9
comp=Z,352nm,20.3s,MS3.8,baz=17,slow=37
MEZF Maizieres J'vi 24.23 178 eP P 00 40 39.4 -0.1
GEC2 GERESS Array S 24.31 164 eP P 00 40 42.3 +2.0
comp=Z,20nm,1.5s,mb4.3
GEC2 GERESS Array S 24.31 164 eP P 00 40 42.3 +2.0
GEC2 pmax pmax
comp=Z,20nm,1.5s,mb4.3
GERES GERESS Array B 24.31 164 P P 00 40 41.6 +1.3
comp=Z,2.7nm,0.9s,mb3.7,slow=6.7,SNR=17
GERES LR LR 00 50 57.1
comp=Z,171nm,19.1s,MS3.5,baz=357,slow=39
CDF Champ du Feu 24.37 174 eP P 00 40 40.7 -0.1
BFO Black Forest 24.49 172 eP P 00 40 43.9 +1.9
comp=Z,29nm,1.4s,mb4.5
BFO Black Forest 24.49 172 eP P 00 40 43.9 +1.9
BFO pmax pmax
comp=Z,29nm,1.4s,mb4.5
ROSF Rostrenen 24.58 191 eP P 00 40 42.2 -0.7
STHS Stebnicka Huta 24.61 152 eP P 00 40 40.4 -2.8
KWP Kalwaria 24.62 149 eP P 00 40 44.8 +1.5
AKASG Malin Array Be 24.74 139 P P 00 40 43.2 -1.2
comp=Z,4.4nm,0.6s,mb4.1,baz=337,slow=9.6,SNR=26
AKASG Malin Array Be 24.74 139 P P 00 40 43.2 -1.2
HAU Haudompre 24.75 175 eP P 00 40 44.3 -0.2
HINF Hinteralfeld 24.95 175 eP P 00 40 46.1 -0.4
SMOL Smolenice 25.01 158 epP pP 00 40 48.3 -1.6
CRVS Cervenica-Dubn 25.15 151 epP pP 00 40 51.5 +0.3
VYHS Vyhne 25.20 156 eP P 00 40 48.9 +0.1
ZST Bratislava 25.29 158 eP P 00 40 47.9 -1.7
MOA Molln 25.35 163⇑*i*P P 00 40 50.5 +0.3
comp=Z,14nm,1.4s,mb4.3
KECS Kecovo 25.42 153 eP P 00 40 49.0 -1.9
LOR Lormes 25.45 179 eP P 00 40 50.7 -0.5
comp=Z,39nm,1.4s,mb4.5
LOR Lormes 25.45 179 eP P 00 40 50.7 -0.5
LOR pmax pmax
comp=Z,20nm,1.4s,mb4.5
DAVA Damuels 25.60 170⇑*i*P P 00 40 54.5 +1.9
comp=Z,16nm,1.3s,mb4.4
MOTA Moosalm 25.61 168⇓*i*P P 00 40 53.7 +1.0
comp=Z,12nm,1.2s,mb4.3
MOTA Moosalm 25.61 168⇓*i*P P 00 40 53.7 +1.0
MOTA pmax pmax
comp=Z,12nm,1.2s,mb4.3
SSF Saint Saulge 25.66 180 eP P 00 40 52.6 -0.6
comp=Z,20nm,1.4s,mb4.5
SSF Saint Saulge 25.66 180 eP P 00 40 52.6 -0.6
SSF pmax pmax
comp=Z,20nm,1.4s,mb4.5
WTTA Wattenberg 25.73 167⇑*i*P P 00 40 55.9 +2.1
comp=Z,20nm,1.7s,mb4.4
WTTA Wattenberg 25.73 167⇑*i*P P 00 40 55.9 +2.1
WTTA pmax pmax
comp=Z,21nm,1.7s,mb4.4
SQTA Sankt Quirin 25.75 168⇓*i*P P 00 40 55.4 +1.5
comp=Z,11nm,1.3s,mb4.2
SQTA Sankt Quirin 25.75 168⇓*i*P P 00 40 55.4 +1.5
SQTA pmax pmax
comp=Z,11nm,1.3s,mb4.2
AVF Avril sur Loir 25.93 180 eP P 00 40 54.8 -0.9
comp=Z,46nm,1.4s,mb4.5
AVF Avril sur Loir 25.93 180 eP P 00 40 54.8 -0.9
AVF pmax pmax
comp=Z,23nm,1.4s,mb4.5
VOR Voronezh 26.02 124 eP P 00 40 55.0 -1.4
comp=Z,40nm,1.7s,mb4.7
VOR Voronezh 26.02 124 eP P 00 40 55.0 -1.4
VOR *e* 00 41 04.0
VOR pmax pmax
comp=Z,40nm,1.7s,mb4.7
KBA Koelnbreinsper 26.04 165⇑*i*P P 00 40 59.0 +2.3
comp=Z,6.8nm,1.0s,mb4.1
KBA Koelnbreinsper 26.04 165⇑*i*P P 00 40 59.0 +2.3
KBA pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ARSA Arzberg 26.06 161⇑*i*P P 00 40 57.4 +0.5
comp=Z,4.6nm,1.1s,mb3.9
SMF Signal de Mont 26.08 180 eP P 00 40 56.6 -0.4
DAVOX Davos 26.11 170 LR LR 00 51 36.2
comp=Z,385nm,21.7s,MS3.9,baz=342,slow=38
CABF La Chapelle 26.14 176 eP P 00 40 57.5 -0.1
comp=Z,39nm,1.2s,mb4.5
CABF La Chapelle 26.14 176 eP P 00 40 57.5 -0.1
CABF pmax pmax
comp=Z,19nm,1.2s,mb4.5
BGF Bois d'Agland 26.17 181 eP P 00 40 57.2 -0.7
MFF Saint Martin d 26.18 186 eP P 00 40 57.5 -0.4
comp=Z,63nm,1.7s,mb4.6
MFF Saint Martin d 26.18 186 eP P 00 40 57.5 -0.4
MFF pmax pmax
comp=Z,32nm,1.7s,mb4.6
FRB Frobisher Bay 26.44 288 LR LR 00 50 47.9
comp=Z,173nm,18.9s,MS3.6,baz=326,slow=35
TCF Toulx Ste Croi 26.44 182 eP P 00 40 59.5 -0.9
comp=Z,28nm,1.4s,mb4.3
TCF Toulx Ste Croi 26.44 182 eP P 00 40 59.5 -0.9
TCF pmax pmax
comp=Z,14nm,1.4s,mb4.3
VRSR Storozhevoye 26.49 125 eP P 00 41 00.4 -0.4
comp=Z,40nm,1.2s,mb4.8
VRSR Storozhevoye 26.49 125 eP P 00 41 00.4 -0.4
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,40nm,1.2s
VRSR pmax pmax
comp=E,8.0nm,0.9s
VORD Divnogorie 26.75 125 eP P 00 41 02.8 -0.3
VORD pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.6s
LPL La Plagne 27.25 175 eP P 00 41 07.9 +0.1
LPG La Plagne 27.27 175 eP P 00 41 08.1 +0.1
ARU Arti 27.29 97 P P 00 41 09.0 +1.0
comp=E,4.3nm,0.6s,mb4.2
ARU Arti 27.29 97 P P 00 41 09.0 +1.0
comp=E,4.3nm,0.6s,mb4.2
ARU Arti 27.29 97 ePcP PcP 00 44 27.2 -0.9
ARU *eS* S 00 45 48.1 +2.5
ARU *e*ScS ScS 00 51 53.6 -3.7
ARU Arti 27.29 97 eP P 00 41 08.6 +0.6
ARU *e* 00 41 52.8
ARU *e* 00 44 27.2
ARU *eS* S 00 45 48.1 +2.5
ARU *e*SS SS 00 46 58.4 -3.1
ARU *e* 00 51 53.6
SVE Sverdlovsk 27.57 94 eP P 00 41 15.0 +4.4
SVE *e* 00 41 54.0
SVE *e* 00 42 16.0
SMRF Simiane la Rot 28.76 177 eP P 00 41 21.2 -0.3
MLR Muntele Rosu 29.17 147 P P 00 41 27.9 +2.8
comp=E,4.0nm,1.1s,mb4.0,baz=18,slow=11,SNR=2.2
MLR LR LR 00 53 22.6
comp=E,771nm,18.3s,MS4.4,baz=68,slow=37
EPF Esparros 29.73 185 eP P 00 41 29.5 -0.7
ETSF Etsaut 29.89 186 eP P 00 41 31.0 -0.6
comp=E,30nm,1.5s,mb4.5
ETSF Etsaut 29.89 186 eP P 00 41 31.0 -0.6
ETSF pmax pmax
comp=Z,15nm,1.5s,mb4.5
AQU L'Aquila 30.74 166 eP P 00 41 40.2 +1.0
comp=Z,26nm,1.5s,mb4.8
AQU L'Aquila 30.74 166 eP P 00 41 40.2 +1.1
comp=Z,26nm,1.5s,mb4.8
AQU L'Aquila 30.74 166 eP P 00 41 40.2 +1.1
AQU pmax pmax
comp=Z,26nm,1.5s,mb4.8
TIXI Tiksi 31.81 29 *i* P P 00 41 49.6 +1.3
comp=Z,9.0nm,1.3s,mb4.4
TIXI Tiksi 31.81 29 *i* P P 00 41 49.6 +1.3
TIXI pmax pmax
comp=Z,9.0nm,1.3s,mb4.4
SCHQ Schefferville 33.24 276 LR LR 00 54 11.2
comp=Z,144nm,18.7s,MS3.7,baz=81,slow=34
ESDC Sonseca Array 33.25 191 P P 00 41 59.3 -1.9
comp=Z,0.8nm,0.7s,mb3.8,baz=1.3,slow=9.5,SNR=9.2
BRVK Borovoye 33.69 89 eP P 00 42 04.8 0.0
comp=Z,1.7nm,0.9s,mb4.0
BRVK Borovoye 33.69 89 eP P 00 42 04.8 0.0
comp=Z,1.7nm,0.9s,mb4.0
BRVK Borovoye 33.69 89 eP P 00 42 04.8 0.0
BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 33.75 89 P P 00 42 04.7 -0.7
comp=Z,0.5nm,0.5s,mb3.7,baz=338,slow=8.0,SNR=4.0
SOC Sochi 33.76 129 ePcP PcP 00 44 40.9 -4.2
SOC eS S 00 47 23.0 -5.0
comp=Z,330nm,18.0s
SOC Sochi 33.76 129 eP P 00 42 04.5 -1.0
SOC *e* 00 43 15.8
SOC *e* 00 44 40.9
SOC *e*S S 00 47 23.0 -5.0
SOC pmax pmax
comp=N,13nm,1.1s
SOC pmax pmax
comp=E,11nm,1.1s
SOC pmax pmax
comp=Z,18nm,1.1s,mb4.9
SOC MLR MLR
comp=Z,330nm,18.0s,MS4.1
SOC MLR MLR
comp=N,373nm,17.0s,MS4.3
SOC MLR MLR
comp=E,266nm,17.0s,MS4.3
KIV Kislovodsk 34.12 126 *i* P P 00 42 07.5 -1.1
comp=E,400nm,22.0s
KIV Kislovodsk 34.12 126 *i* P P 00 42 07.5 -1.1
KIV pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
KIV MLR MLR
comp=Z,400nm,22.0s,MS4.1
BRTR Keskin Array B 36.15 139 P P 00 42 25.1 -0.9
comp=Z,1.2nm,0.7s,mb4.0,baz=333,slow=5.5,SNR=3.9
INK Inuvik 36.51 335 LR LR 00 58 12.7
comp=Z,144nm,18.6s,MS3.8,baz=222,slow=38
GNI Garni 38.21 125 LR LR 00 58 49.6
comp=Z,252nm,18.3s,MS4.1,baz=153,slow=37
GNI Garni 38.21 125 *i* P P 00 42 44.7 +1.4
comp=Z,20nm,1.7s,mb4.6
GNI Garni 38.21 125 *i* P P 00 42 44.7 +1.4
GNI pmax pmax
comp=Z,20nm,1.7s
KURK Kurchatov 38.24 83 eP P 00 42 43.5 +0.1
comp=Z,1.5nm,0.5s,mb4.0
KURK Kurchatov 38.24 83 eP P 00 42 43.5 0.0
comp=Z,1.5nm,0.5s,mb4.0
KURK Kurchatov 38.24 83 eP P 00 42 43.5 0.0
KURK pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
MALT Malatya 38.50 134 eP P 00 42 47.0 +1.2
comp=Z,1.9nm,0.7s,mb3.9
MALT Malatya 38.50 134 eP P 00 42 47.0 +1.2
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
YKA Yellowknife Ar 38.82 319 LR LR 00 58 43.5
comp=Z,254nm,19.6s,MS4.0,baz=25,slow=36
BILL Bilibino 39.11 10 *i* P P 00 42 51.4 +0.9
comp=Z,600nm,20.0s
BILL Bilibino 39.11 10 *i* P P 00 42 51.4 +0.9
BILL pmax pmax
comp=Z,24nm,1.3s,mb4.8
BILL MLR MLR
comp=Z,600nm,20.0s,MS4.4
MDT Midelt 40.12 191 LR LR 00 59 08.4
comp=Z,111nm,18.4s,MS3.7,baz=21,slow=36
ILAR Eielson Array 41.42 341 P P 00 43 10.2 +0.6
comp=Z,1.4nm,1.0s,mb3.5,baz=2.7,slow=6.8,SNR=8.0
BOD Bodaibo 41.45 49 eP P 00 43 07.8 -2.1
comp=Z,5.0nm,2.0s,mb3.8
BOD Bodaibo 41.45 49 eP P 00 43 07.8 -2.1
BOD pmax pmax
comp=Z,5.0nm,2.0s,mb3.8
MKAR Makanchi Array 42.84 82 P P 00 43 21.6 +0.3
comp=Z,1.3nm,1.0s,mb3.6,baz=333,slow=2.7,SNR=6.6
MKAR LR LR 01 04 42.2
comp=Z,103nm,18.8s,MS3.8,baz=13,slow=41
SEY Seymchan 43.06 20 *i* P P 00 43 24.0 +1.2
AAK Ala-Archa 44.28 92 *i* P P 00 43 33.1 +0.1
comp=Z,6.0nm,1.7s,mb4.0
AAK Ala-Archa 44.28 92 *i* P P 00 43 33.1 +0.1
AAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.0
ULM Lac du Bonnet 45.59 298 LR LR 01 02 22.8
comp=Z,203nm,20.0s,MS4.1,baz=338,slow=36
MA2 Magadan 46.16 22 *i* P P 00 43 50.2 +2.4
comp=Z,15nm,1.3s,mb4.8
MA2 Magadan 46.16 22 *i* P P 00 43 50.2 +2.4
MA2 pmax pmax
comp=Z,15nm,1.3s,mb4.8
SONM Songino Array 48.71 61 P P 00 44 08.4 +0.5
comp=Z,1.3nm,1.1s,mb3.9,baz=323,slow=7.4,SNR=5.1
GTA Gaotai 54.71 71 eP P 00 44 53.8 +0.6
GTA AP pP 00 45 01.0 +4.7
GTA XP sP 00 45 05.1 +7.6
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.4
IMW Indian Meadow 55.31 307 eP P 00 44 57.5 0.0
comp=Z,5.0nm,1.1s,mb4.5
IMW Indian Meadow 55.31 307 eP P 00 44 57.5 0.0
comp=Z,5.0nm,1.1s,mb4.5
PDAR Pinedale Array 56.04 305 P P 00 45 00.7 -2.1
comp=Z,0.8nm,0.9s,mb3.7,baz=45,slow=6.3,SNR=6.3
PDAR LR LR 01 07 50.4
comp=Z,72nm,20.0s,MS3.8,baz=58,slow=35
PDAR Pinedale Array 56.04 305 P P 00 45 00.6 -2.2
HLID Hailey 56.45 310 eP P 00 45 04.8 -0.9
comp=Z,7.3nm,1.5s,mb4.5
HLID Hailey 56.45 310 eP P 00 45 04.8 -0.9
comp=Z,7.3nm,1.5s,mb4.5
CN2 Changchun 57.11 47 eP P 00 45 10.1 -0.4
TMUT Trail Mountain 59.72 305 P P 00 45 29.8 +1.1
TMUT Trail Mountain 59.72 305 P P 00 45 29.8 +1.0
PV01 Paradox Valley 60.17 303 eP P 00 45 31.5 -0.3
PV01 Paradox Valley 60.17 303 eP P 00 45 31.5 -0.3
WMOK Wichita Mounta 60.77 293 eP P 00 45 35.0 -1.0
comp=Z,3.4nm,1.0s,mb4.4
WMOK Wichita Mounta 60.77 293 eP P 00 45 35.0 -1.0
WMOK pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
ANMO Albuquerque 62.64 300 *i* P P 00 45 48.7 +0.2
MTUM Tungsten Hills 63.31 311 eP P 00 45 53.6 +0.7
MTUM Tungsten Hills 63.31 311 eP P 00 45 53.7 +0.8
MJAR Matsushiro Arr 66.70 39 P P 00 46 13.7 -1.1
comp=Z,2.7nm,1.0s,mb4.2,baz=357,slow=5.0,SNR=4.9
NJ2 Nanjing 66.75 57 eP P 00 46 16.8 +1.7
NJ2 XP sP 00 46 27.1 +7.7
NJ2 PP PP 00 48 46.2 +2.2
NJ2 S S 00 55 05.0 -0.7
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
NJ2 LR LR
comp=Z,690nm,14.9s,MS5.0
TXAR Lajitas Array 67.21 295 P P 00 46 16.2 -1.8
comp=Z,1.1nm,1.0s,mb3.9,baz=45,slow=3.5,SNR=9.7
KMI Kunming 68.95 73 P P 00 46 30.5 +1.5
KMI AP pP 00 46 33.2 +1.1
KMI S S 00 55 31.6 -0.4
KMI SS SS 00 59 59.7 +0.3
KMI AMB AMB
comp=Z,8.0nm,0.5s,mb4.9
KMI LR LR
comp=Z,75nm,22.9s,MS3.9
KMI Kunming 68.95 73 P P 00 46 30.5 +1.5
comp=Z,8.0nm,0.5s,mb4.9
KMI pP pP 00 46 33.2 +1.1
KMI sP sP 00 46 34.3 +1.0
KMI S S 00 55 31.6 -0.4
KMI SS SS 00 59 59.7 +0.3
KMI LR LR
comp=Z,80nm,22.9s,MS3.9
KMI Kunming 68.95 73 P P 00 46 30.5 +1.5
comp=Z,8.0nm,0.5s,mb4.9
KMI S S 00 55 31.6 -0.4
comp=Z,80nm,22.9s
KMI Kunming 68.95 73 P P 00 46 30.5 +1.5
KMI *PP pP 00 46 33.2 +1.1
KMI *SP sP 00 46 34.3 +1.0
KMI S S 00 55 31.6 -0.4
KMI SS SS 00 59 59.7 +0.3
KMI pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
KMI MLR MLR
comp=Z,80nm,22.9s,MS3.9
JHJ Hachijo jima 2 70.32 38 LR LR 01 17 42.3
comp=Z,134nm,19.9s,MS4.2,baz=338,slow=36
VNA2 Neumayer--Watz 143.51 186 P PKPbc 00 54 52.5 -0.8
VNA3 Neumayer Olymp 143.90 187 *e* PKPbc 00 54 58.1 +3.6
VNA3 Neumayer Olymp 143.90 187 *e* PKPbc 00 55 03.0 +8.5
VNA3 Neumayer Olymp 143.90 187 *e* PKPbc 00 55 07.7 +13
VNA3 Neumayer Olymp 143.90 187⇓*i*PKPdf PKPdf 00 54 54.4 -4.1
VNA3 *e* 00 54 58.1
VNA3 *e* 00 55 03.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA3				e		00 55 07.7	
SNAA	Sanae	144.14	183	e	PKPbc	00 54 59.2	+4.0
SNAA	Sanae	144.14	183	e	PKPbc	00 55 04.6	+9.4
SNAA	Sanae	144.14	183	e	PKPbc	00 55 09.2	+14
SNAA	Sanae	144.14	183	PKP	PKPdf	00 54 54.8	-4.0
	comp=Z,1.6nm,1.1s,baz=12,slow=5.4,SNR=6.6						
SNAA	Sanae	144.14	183	⇓iPKPdf	PKPdf	00 54 55.7	-3.2
SNAA				e		00 54 59.2	
SNAA				e		00 55 04.6	
SNAA				e		00 55 09.2	
MAW	Mawson	145.32	145	PKPbc	PKPbc	00 54 58.3	-0.2
	comp=Z,2.9nm,1.0s,baz=327,slow=7.2,SNR=4.7						

*IDC **02** 00:36:57.4±1.0, 72.56N×3.73E, mb3.6/5, mb1 3.9/10, mb1mx3.8/23, mbtmp3.7/10, ML3.6/5, Error ellipse: s-maj=25.8km s-min=14.6km az=30.0*
*CSEM **02** 00:36:57.0±0.4, 72.56N×3.32E, mb4.0/2, Error ellipse: s-maj=6.2km s-min=5.6km az=51.0*
*NEIC **02** 00:36:58.8±0.7, 72.67N×4.02E, h10^{km}, mb4.0/2, Error ellipse: s-maj=12.0km s-min=8.7km az=78.0*
*BER **02** 00:36:59.9±3.5, 72.65N×3.75E, h15^{km}±40^{km}, ML2.8, ML2.8(NAO)*
*NAO **02** 00:37:00.5±2.3, 72.79N×4.43E, ML2.8*
ISC 02 00:36:56.3±0.7**, 72.63N**±0.06×**4.5E**±0.2**, h10**^{km}**, n32, σ1^{s}15**/36**, mb3.6**/6**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOF	Lofoten	5.45	142	eP	Pn	00 38 23.6	+4.1
LOF				eS	Sn	00 39 20.6	-2.4
LOF				AML	AML	00 39 28.0	
	comp=Z,16nm,0.3s						
LOF	Lofoten	5.45	142	eP	Pn	00 38 23.6	+4.1
LOF				eS	Sn	00 39 22.4	-0.7
TRO	Tromso	5.56	116	eP	Pn	00 38 21.7	+0.5
TRO				AML	AML	00 39 30.6	
	comp=Z,26nm,0.5s						
SPA0	Spitsbergen Ar	6.32	23	Pn	Pn	00 38 32.1	+0.2
	baz=214,slow=16						
KBS	Kingsbay	6.59	13	Pn	Pn	00 38 34.7	-0.9
MELSS	Ber_school_2	6.61	147	eS	Sn	00 39 44.5	-7.6
STOK	Stokkvaagen	6.99	150	eS	Sn	00 39 53.7	-8.0
STOK				AML	AML	00 40 03.9	
	comp=Z,9.8nm,0.5s						
MOR8	Moi Rana	7.36	147	eS	Sn	00 40 03.6	-7.4
MOR8				AML	AML	00 40 10.6	
	comp=Z,20nm,0.3s						
ARA0	ARCESS Array S	7.48	104	Pn	Pn	00 38 50.1	+2.0
	baz=310,slow=12						
ARA0				Sn	Sn	00 40 12.3	-1.6
	baz=307,slow=22						
ARCES	ARCESS Array B	7.48	104	Pn	Pn	00 38 49.6	+1.4
	comp=Z,1.0nm,0.3s,baz=310,slow=12,SNR=5.2						
ARCES				Sn	Sn	00 40 12.6	-1.3
	comp=Z,0.6nm,0.3s,baz=315,slow=26,SNR=2.6						
NSS	Namsos	8.57	158	eS	Sn	00 40 31.6	-10
NSS				AML	AML	00 40 38.1	
	comp=Z,8.8nm,0.9s						
APA0	Apatity Array	10.84	103	Pn	P	00 39 35.3	+0.9
	baz=314,slow=10						
NB2	NORSAR Subarra	11.92	164	Pn	P	00 39 49.5	+0.4
NOA	NORSAR Array B	11.92	164	Pn	P	00 39 48.4	-0.7
	comp=Z,0.3nm,0.3s,baz=347,slow=13,SNR=2.8						
HFS	Hagfors	13.05	159	Pn	P	00 40 03.4	-0.8
	baz=353,slow=14						
HFS	Hagfors	13.05	159	Pn	P	00 40 03.8	-0.4
	comp=Z,0.2nm,0.3s,baz=353,slow=12,SNR=8.7						
KAF	Kangasniemi	13.36	131	ep	P	00 40 09.0	+0.7
JOF	Joensuu	13.90	121	ep	P	00 40 14.6	-0.5
FIA0	FINESS Array S	13.90	133	Pn	P	00 40 16.6	+1.3
	baz=343,slow=12						
FIA0	FINESS Array S	13.90	133	Pn	P	00 40 16.5	+1.2
	SNR=55						
FINES	FINESS Array B	13.90	133	Pn	P	00 40 16.7	+1.4
	comp=Z,0.3nm,0.3s,baz=342,slow=12,SNR=8.4						
FINES	FINESS Array B	13.90	133	Pn	P	00 40 16.7	+1.4
EKA	Eskdalemuir Ar	17.65	194	P	P	00 41 02.9	-0.6
	comp=Z,0.1nm,0.3s,slow=9.2,SNR=3.9						
EKA	Eskdalemuir Ar	17.65	194	P	P	00 41 02.8	-0.7
CLL	Collm	21.72	165	P	P	00 41 50.0	+0.8
CLL				e		00 42 00.0	
GRA1	Grafenberg Arr	23.21	169	eP	P	00 42 08.2	+4.5
	comp=Z,5.0nm,1.1s,mb3.9						
GRF	Grafenberg Arr	23.21	169	eP	P	00 42 08.2	+4.5
	comp=Z,5.0nm,1.1s,mb3.9						
GERES	GERESS Array B	24.22	165	P	P	00 42 17.3	+3.7
	comp=Z,1.7nm,0.9s,mb3.5,slow=6.7,SNR=6.0						
AKASG	Malin Array Be	24.55	140	P	P	00 42 20.6	+3.9
	comp=Z,2.3nm,0.7s,mb3.8,baz=342,slow=9.8,SNR=4.2						
MKAR	Makanchi Array	42.56	83	P	P	00 44 57.0	+3.9
	comp=Z,0.6nm,0.8s,mb3.4,baz=315,slow=10,SNR=3.6						
PDAR	Pinedale Array	56.28	306	P	P	00 46 37.7	-1.0
	comp=Z,0.1nm,0.3s,mb3.3,baz=51,slow=5.8,SNR=2.7						
TXAR	Lajitas Array	67.47	296	P	P	00 47 53.2	-0.7
	comp=Z,0.6nm,1.1s,mb3.5,baz=38,slow=10,SNR=2.8						

*IDC **02** 00:49:48.3±0.7, 72.49N×3.46E, mb3.7/10, mb1 4.0/15, mb1mx3.9/24, mbtmp3.8/15, ML3.7/5, MS3.4/8, Ms1 3.4/8, ms1mx3.1/37, Error ellipse: s-maj=22.5km s-min=12.5km az=48.0*
*MOS **02** 00:49:48.6±1.5, 72.67N×4.17E, h10^{km}, mb4.3/19, Error ellipse: s-maj=29.1km s-min=5.2km az=93.8*
*NEIC **02** 00:49:50.1±0.4, 72.65N×3.95E, h10^{km}, mb4.2/18, Error ellipse: s-maj=8.1km s-min=6.2km az=88.0*
*NAO **02** 00:49:51.1±2.2, 72.77N×4.21E, ML3.0*
*BER **02** 00:49:52.1±2.9, 72.71N×4.18E, h10^{km}, ML2.9, ML3.0(NAO)*
*HEL **02** 00:49:52.9±0.8, 72.73N×4.53E, h10^{km}, ML4.1, mb4.2(NEIC), ML2.9(BER)*
*CSEM **02** 00:49:52.5±0.3, 72.52N×4.78E, h35^{km}, mb4.0/11, Error ellipse: s-maj=8.1km s-min=2.8km az=171.0*
ISC 02 00:49:49.4±0.5**, 72.57N**±0.05×**4.6E**±0.1**, h10**^{km}**, n107, σ1^{s}28**/129**, mb3.9**/30**, MS3.4**/4**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOF	Lofoten	5.39	141	eP	Pn	00 51 15.1	+3.3
LOF				eS	Sn	00 52 15.8	+1.2
LOF	Lofoten	5.39	141	eP	Pn	00 51 14.9	+3.1
LOF				eS	Sn	00 52 11.9	-2.8
TRO	Tromso	5.52	115	eP	Pn	00 51 13.6	0.0
TRO				eS	Sn	00 52 15.2	-2.6
TRO				AML	AML	00 52 17.0	
	comp=Z,31nm,0.5s						
TRO	Tromso	5.52	115	P	Pn	00 51 13.6	0.0
TRO				S	Sn	00 52 15.2	-2.7
	comp=Z,31nm,0.5s						
SPA0	Spitsbergen Ar	6.36	22	Pn	Pn	00 51 23.3	-2.1
	baz=206,slow=18						
SPA0	Spitsbergen Ar	6.36	22	eP	Pn	00 51 23.3	-2.1
KIF	Kilpisjarvi	6.43	116	eP	Pn	00 51 27.8	+1.3
KIF				eS	Sn	00 52 38.0	-2.8
MELSS	Ber_school_2	6.55	147	eP	Pn	00 51 27.9	-0.3
MELSS				eS	Sn	00 52 37.3	-6.5
KBS	Kingsbay	6.63	12	eP	Pn	00 51 26.0	-3.3
STOK	Stokkvaagen	6.93	151	eP	Pn	00 51 33.6	0.0
STOK				eS	Sn	00 52 48.3	-5.0
STOK				AML	AML	00 52 55.6	
	comp=Z,15nm,0.6s						
STOK	Stokkvaagen	6.93	151	P	Pn	00 51 33.5	0.0
STOK				S	Sn	00 52 48.2	-5.1
	comp=Z,15nm,0.6s						
MOR8	Moi Rana	7.30	147	eP	Pn	00 51 38.3	-0.5
MOR8				eS	Sn	00 52 57.4	-5.2
MOR8				AML	AML	00 53 02.1	
	comp=Z,17nm,0.8s						
MOR8	Moi Rana	7.30	147	P	Pn	00 51 38.3	-0.5
MOR8				S	Sn	00 52 57.3	-5.3
	comp=Z,17nm,0.8s						
ARA0	ARCESS Array S	7.44	104	Pn	Pn	00 51 41.1	+0.4
	baz=307,slow=10						
ARA0	ARCESS Array S	7.44	104	eP	Pn	00 51 41.1	+0.4
ARCES	ARCESS Array B	7.44	104	Pn	Pn	00 51 41.1	+0.4
	comp=Z,1.5nm,0.3s,baz=310,slow=12,SNR=75						
ARCES				LR	LR	00 54 37.2	
	comp=Z,132nm,19.1s,baz=264,slow=37						
ARE0	ARCESS Array S	7.44	104	ePn	Pn	00 51 40.3	-0.4
KEV	Kevo	7.76	100	eP	Pn	00 51 44.8	-0.4
KEV				eS	Sn	00 53 07.1	-7.0
NSS	Namsos	8.52	158	eP	P	00 51 54.6	-1.0
NSS				eS	Sn	00 53 24.3	-8.5
NSS				AML	AML	00 53 29.6	
	comp=Z,11nm,0.6s						
NSS	Namsos	8.52	158	P	P	00 51 54.6	-1.1
NSS				S	Sn	00 53 24.3	-8.5
	comp=Z,11nm,0.6s						
SGF	Sodankyl	9.06	114	eP	P	00 52 03.6	+0.3
SGF	Sodankyl	9.06	114	P	P	00 52 03.5	+0.2
KU4	Liikasenvaara	10.68	113	eP	P	00 52 26.1	+0.8
OUL	Oulu	10.69	124	eP	P	00 52 26.9	+1.4
OUL	Oulu	10.69	124	P	P	00 52 26.8	+1.4
APA0	Apatity Array	10.80	103	Pn	P	00 52 26.0	-0.9
	baz=315,slow=11						
APA0	Apatity Array	10.80	103	eP	P	00 52 26.0	-0.9
VAF	Ylistaro	11.69	136	eP	P	00 52 38.9	-0.1
VAF				MPN		00 52 39.4	
	comp=Z,6.9nm,0.8s						
VAF				eS	S	00 54 42.7	-8.0
VAF	Ylistaro	11.69	136	P	P	00 52 38.9	-0.1
	comp=Z,6.9nm,0.8s						
VAF				S	S	00 54 42.6	-8.1
NB2	NORSAR Subarra	11.87	164	Pn	P	00 52 40.2	-1.3
	baz=346,slow=12						
NB2	NORSAR Subarra	11.87	164	eP	P	00 52 40.2	-1.3
NOA	NORSAR Array B	11.87	164	Pn	P	00 52 38.7	-2.7
	comp=Z,0.3nm,0.3s,baz=346,slow=13,SNR=4.3						
NOA				Sn	S	00 54 43.4	-12
	comp=Z,0.3nm,0.3s,baz=304,slow=17,SNR=4.0						
NOA				LR	LR	00 56 51.9	
	comp=Z,128nm,20.1s,baz=345,slow=36						
NOA	NORSAR Array B	11.87	164	Pn	P	00 52 38.7	-2.7
NOA				Sn	S	00 54 43.4	-12
NOA				LR	LR	00 56 51.9	
KJN	Kajaani	11.96	124	eP	P	00 52 43.3	+0.6
KJN				MPN		00 52 45.0	
	comp=Z,5.3nm,0.4s						
KJN	Kajaani	11.96	124	P	P	00 52 43.3	+0.5
	comp=Z,5.3nm,0.4s						
SUF	Sumiainen	12.74	130	eP	P	00 52 53.7	+0.5
SUF				MPN		00 52 54.3	
	comp=Z,4.1nm,0.9s						
SUF				eS	S	00 55 09.4	-6.8
KEF	Keuruu	12.94	133	eP	P	00 52 56.2	+0.4
KEF				MPN		00 52 56.6	
	comp=Z,6.7nm,0.6s						
KEF				eS	S	00 55 15.1	-5.8
HFS	Hagfors	12.99	159	eP	P	00 52 55.2	-1.3
HFS				eS	S	00 55 12.5	-10
HFS	Hagfors	12.99	159	Pn	P	00 52 55.7	-0.8
	comp=Z,0.2nm,0.3s,baz=354,slow=13,SNR=25						
HFS				Sn	S	00 55 10.7	-11
	comp=Z,0.1nm,0.3s,baz=353,slow=24,SNR=8.6						
HFS				LR	LR	00 57 40.4	
	comp=Z,190nm,19.1s,baz=207,slow=36						
HFS	Hagfors	12.99	159	Pn	P	00 52 55.2	-1.3
	baz=342,slow=12						
HFS				Sn	S	00 55 12.5	-10
	baz=347,slow=28						
KAF	Kangasniemi	13.31	131	eP	P	00 53 00.9	+0.2
KAF				MPN		00 53 06.8	
	comp=Z,3.7nm,0.8s						
KAF				eS	S	00 55 21.3	-8.5
JOF	Joensuu	13.85	121	eP	P	00 53 07.3	-0.3
JOF				MPN		00 53 07.9	
	comp=Z,6.7nm,0.7s						
FIA0	FINESS Array S	13.85	133	Pn	P	00 53 07.7	0.0
	baz=336,slow=14						
FIA0				Sn	S	00 55 35.0	-7.5
	baz=326,slow=22						
FIA0	FINESS Array S	13.85	133	eP	P	00 53 08.4	+0.8
FINES	FINESS Array B	13.85	133	Pn	P	00 53 07.8	+0.2
	comp=Z,0.4nm,0.3s,baz=339,slow=11,SNR=21						
FINES				Sn	S	00 55 33.7	-8.7
	comp=Z,0.3nm,0.3s,baz=336,slow=24,SNR=5.0						
FINES				LR	LR	00 58 10.5	
	comp=Z,197nm,18.6s,baz=319,slow=36						
FINES	FINESS Array B	13.85	133	Pn	P	00 53 07.8	+0.2
FINES				Sn	S	00 55 33.7	-8.7
FINES				LR	LR	00 58 10.5	
EKA	Eskdalemuir Ar	17.61	195	P	P	00 53 54.4	-1.7
	comp=Z,0.1nm,0.3s,baz=9.5,slow=12,SNR=7.6						
CLL	Collm	21.66	166	P	P	00 54 45.0	+3.3
	comp=Z,logA/T=1.2,mb4.4						
CLL				i		00 54 50.6	
CLL				i PP	PP	00 55 02.3	-4.1
CLL	Collm	21.66	166	eP	P	00 54 45.0	+3.3
	comp=Z,32nm,1.9s,mb4.4						
CLL				i		00 55 02.3	
CLL	Collm	21.66	166	eP	P	00 54 45.0	+3.3
CLL				i		00 55 02.3	
CLL				pmax	pmax		
	comp=Z,32nm,1.9s,mb4.4						
MOS	Moscow	21.69	123	eP	P	00 54 39.7	-2.2
MOS				pmax	pmax		
	comp=Z,40nm,0.8s,mb4.9						
OBN	Obninsk	21.99	126	eP	P	00 54 47.0	+2.1
OBN				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.0						
BRG	Berggiesshubel	22.17	164	eP	P	00 54 49.9	+3.1
	comp=Z,4.6nm,1.0s,mb3.9						
BRG	Berggiesshubel	22.17	164	eP	P	00 54 49.9	+3.2
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
MOX	Moxa	22.23	168	i P	P	00 54 49.2	+1.9
MOX				e		00 54 58.0	
BAIF	Baives	22.59	181	eP	P	00 54 51.3	+0.5
	comp=Z,9.2nm,1.0s,mb3.9						
BAIF	Baives	22.59	181	eP	P	00 54 51.3	+0.5
BAIF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
GRA1	Grafenberg Arr	23.16	169	eP	P	00 54 59.0	+2.7
	comp=Z,17nm,1.5s,mb4.2						
GRF	Grafenberg Arr	23.16	169	eP	P	00 54 59.0	+2.7
	comp=Z,17nm,1.5s,mb4.2						
GRF	Grafenberg Arr	23.16	169	eP	P	00 54 59.0	+2.7
GRF				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.2						
GRF	Grafenberg Arr	23.16	169	eP	P	00 54 59.0	+2.7
GRF				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.2						
WET	Wettzell	23.81	166	eP	P	00 55 05.8	+3.2
	comp=Z,4.0nm,1.1s,mb3.8						
WET	Wettzell	23.81	166	eP	P	00 55 05.8	+3.2
WET				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
VRAC	Vranov	23.96	160	P	P	00 55 03.1	-1.0
	comp=Z,1.1nm,0.5s,mb3.6,baz=315,slow=4.3,SNR=2.2						
VRAC				LR	LR	01 05 04.0	
	comp=Z,77nm,18.3s,MS3.2,baz=38,slow=38						
FLN	La Foliniere	24.00	188	eP	P	00 55 04.7	+0.2
	comp=Z,55nm,1.4s,mb4.5						
FLN	La Foliniere	24.00	188	eP	P	00 55 04.7	+0.2
FLN				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.5						
MEZF	Maizieres J'vi	24.15	179	eP	P	00 55 06.1	+0.1
	comp=Z,6.8nm,0.6s,mb4.0						
LDF	La Druitiere	24.16	188	eP	P	00 55 05.1	-0.9
	comp=Z,8.5nm,0.9s,mb3.9						
LDF	La Druitiere	24.16	188	eP	P	00 55 05.1	-0.9
LDF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
GEC2	GERESS Array S	24.17	165	eP	P	00 55 08.5	+2.4
	comp=Z,4.0nm,1.0s,mb3.8						
GEC2	GERESS Array S	24.17	165	eP	P	00 55 08.5	+2.4
GEC2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
GERES	GERESS Array B	24.17	165	P	P	00 55 08.7	+2.6
	comp=Z,1.7nm,0.7s,mb3.6,slow=9.3,SNR=20						
AKASG	Malin Array Be	24.49	140	P	P	00 55 10.8	+1.6
	comp=Z,2.3nm,0.6s,mb3.8,baz=340,slow=9.7,SNR=11						
SGMF	Saint Gilles	24.61	191	eP	P	00 55 10.6	+0.1
LOR	Lormes	25.39	181	eP	P	00 55 17.6	-0.3
	comp=Z,7.1nm,0.8s,mb3.9						
LOR	Lormes	25.39	181	eP	P	00 55 17.6	-0.3
LOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
SSF	Saint Saulge	25.60	182	eP	P	00 55 19.5	-0.3
	comp=Z,2.0nm,0.8s,mb3.7						
SSF	Saint Saulge	25.60	182	eP	P	00 55 19.5	-0.3
SSF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
AVF	Avril sur Loir	25.87	182	eP	P	00 55 22.0	-0.4
	comp=Z,12nm,1.2s,mb4.0						
AVF	Avril sur Loir	25.87	182	eP	P	00 55 22.0	-0.4
AVF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0						
DAVOX	Davos	25.99	172	LR	LR	01 05 41.3	
	comp=Z,106nm,19.2s,MS3.4,baz=92,slow=37						
SMF	Signal de Mont	26.01	181	eP	P	00 55 22.9	-0.8
CABF	La Chapelle	26.05	178	eP	P	00 55 24.5	+0.4
	comp=Z,7.7nm,0.9s,mb4.0						
CABF	La Chapelle	26.05	178	eP	P	00 55 24.5	+0.4
CABF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BGF	Bois d'Agland	26.11	183	eP	P	00 55 24.4	-0.2
MFF	Saint Martin d	26.14	187	eP	P	00 55 24.2	-0.7
	comp=Z,9.6nm,0.9s,mb4.0						
MFF	Saint Martin d	26.14	187	eP	P	00 55 24.2	-0.7
MFF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
TCF	Toulx Ste Croi	26.39	184	eP	P	00 55 25.9	-1.3
	comp=Z,3.5nm,0.7s,mb3.7						
TCF	Toulx Ste Croi	26.39	184	eP	P	00 55 25.9	-1.3
TCF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
ARU	Arti	26.97	98	eP	P	00 55 35.2	+2.8
	comp=Z,6.5nm,0.8s,mb4.2						
ARU	Arti	26.97	98	eP	P	00 55 35.2	+2.8
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
LPL	La Plagne	27.16	177	eP	P	00 55 35.5	+1.3
LPG	La Plagne	27.18	177	eP	P	00 55 35.6	+1.2
SMRF	Simiane la Rot	28.68	178	eP	P	00 55 47.1	-0.9
	comp=Z,7.9nm,1.1s,mb4.1						
TIXI	Tiksi	31.72	30	eP	P	00 56 14.6	-0.2
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4						
BVAR	Borovoye Array	33.44	90	P	P	00 56 32.4	+2.4
	comp=Z,1.0nm,0.8s,mb3.8,baz=315,slow=8.4,SNR=7.6						
BRTR	Keskin Array B	35.90	140	P	P	00 56 52.1	+1.0
	comp=Z,1.8nm,1.0s,mb4.0,baz=333,slow=8.3,SNR=4.3						
INK	Inuvik	36.70	335	P	P	00 56 54.9	-2.7
	comp=Z,1.5nm,0.8s,mb3.9,baz=42,slow=14,SNR=2.1						
GNI	Garni	37.92	126	LR	LR	01 13 09.0	
	comp=Z,73nm,19.3s,MS3.5,baz=150,slow=37						
YKA	Yellowknife Ar	39.07	320	LR	LR	01 13 09.2	
	comp=Z,61nm,18.6s,MS3.5,baz=50,slow=36						
ILAR	Eielson Array	41.58	342	P	P	00 57 37.2	-0.7
	comp=Z,0.8nm,0.8s,mb3.4,baz=2.2,slow=6.4,SNR=11						
MKAR	Makanchi Array	42.54	83	P	P	00 57 46.9	+0.8
	comp=Z,0.4nm,0.7s,mb3.2,baz=315,slow=6.9,SNR=4.0						
PDAR	Pinedale Array	56.33	306	P	P	00 59 29.5	-2.6
	comp=Z,0.5nm,0.9s,mb3.6,baz=349,slow=7.6,SNR=5.5						
MJAR	Matsushiro Arr	66.56	39	P	P	01 00 41.1	0.0
	comp=Z,1.2nm,0.6s,mb4.1,baz=351,slow=5.9,SNR=4.2						
MJAR	Matsushiro Arr	66.56	39	P	P	01 00 41.1	0.0
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	67.52	296	P	P	01 00 44.0	-3.3
	comp=Z,0.3nm,0.7s,mb3.4,baz=31,slow=5.3,SNR=3.3						
SNAA	Sanae	144.09	184	PKP	PKPdf	01 09 21.9	-4.2
	comp=Z,0.2nm,0.8s,baz=94,slow=3.9,SNR=4.2						

IDC 02 01:04:09.4±7.1**, 0.21N**×**14.18W, mb3.8**/5**, mb1 4.0**/6**, mb1mx3.7**/23**, mbtmp3.9**/6**, ML4.2**/1**, Error ellipse: s-maj=207.5km s-min=55.3km az=163.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	11.30	55	Pn	P	01 06 51.8	-3.6
	1.7nm,0.3s,baz=230,slow=15,SNR=74						
DBIC				Sn	S	01 09 01.2	-2.5
	1.9nm,0.3s,baz=129,slow=20,SNR=4.0						
GERES	GERESS Array B	54.08	22	P	P	01 13 36.3	-1.9
	0.5nm,0.7s,baz=190,slow=8.1,SNR=6.3						
MLR	Muntele Rosu	57.29	33	P	P	01 13 59.8	-1.6
	1.1nm,0.8s,baz=192,slow=14,SNR=3.2						
BRTR	Keskin Array B	58.66	42	P	P	01 14 09.3	-1.7
	1.5nm,1.0s,baz=270,slow=1.4,SNR=3.9						
AKASG	Malin Array Be	62.30	30	P	P	01 14 32.4	-3.4
	0.2nm,0.3s,baz=225,slow=5.5,SNR=4.2						
FINES	FINESS Array B	68.29	20	P	P	01 15 11.9	-2.3
	0.7nm,0.8s,baz=225,slow=8.1,SNR=4.2						

*BJI **02** 01:08:17.8, 42.83N×140.15E, h181^{km}, mB4.5, mb4.7*
*MOS **02** 01:08:17.8±1.0, 42.65N×139.98E, h176^{km}, mb4.1/6, Error ellipse: s-maj=17.6km s-min=8.6km az=94.9*
*NEIC **02** 01:08:18.7±0.5, 42.64N×139.97E, h166^{km}±6^{km}, mb4.3/9, Error ellipse: s-maj=8.3km s-min=5.4km az=103.0*
*IDC **02** 01:08:18.2±1.1, 42.62N×140.00E, h160^{km}±10^{km}, mb3.6/14, mb1 3.7/16, mb1mx3.6/23, mbtmp4.0/16, Error ellipse: s-maj=13.8km s-min=12.5km az=118.0*
*JMA **02** 01:08:19.0±0.1, 42.60N×140.09E, h163^{km}±1^{km}, M3.7*
ISC 02 01:08:17.5±0.3**, 42.61N**±0.04×**140.04E**±0.06**, h171**^{km}±3^{km}**, n72, σ0^{s}80**/71**, mb3.9**/22**, 7C-10D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSH	Shimam	0.04	5	⇑P	P	01 08 40.8	+0.5
JSH				eS	S	01 08 57.5	-0.3
JYM2	Yakumo 2	0.55	153	⇓P	P	01 08 42.2	+0.4
JYM2				eS	S	01 08 59.4	-1.2
JOSM	Okushiri--Mats	0.67	219	⇑P	P	01 08 42.9	+0.5
JOSM				eS	S	01 09 01.0	-0.7
JNB	Noboribetsu	0.75	100	⇓P	P	01 08 42.9	0.0
JNB				eS	S	01 09 01.4	-1.0
JSK	Shakotan	0.81	23	⇑P	P	01 08 43.7	+0.5
JSK				eS	S	01 09 02.5	-0.6
JKB	Kayabe	1.03	134	⇓P	P	01 08 45.0	+0.3
JKB				eS	S	01 09 05.3	-0.4
JSR	Shiriuchi	1.11	165	⇓P	P	01 08 46.1	+0.7
JSR				eS	S	01 09 06.8	-0.2
JOT	Ohata	1.44	148	⇓P	P	01 08 48.5	+0.1
JHR	Hokuryu	1.68	47	P	P	01 08 51.9	+1.1
JBT2	Biratori 2	1.72	83	P	P	01 08 51.5	+0.2
JAB	Ashibetsu	1.83	60	⇓P	P	01 08 53.6	+1.1
JFR	Furan	1.96	73	P	P	01 08 54.3	+0.5
JTM	Tenmabayashi	1.98	157	⇓P	P	01 08 54.3	+0.3
JTM				eS	S	01 09 21.5	-0.6
JNBK	Urakawa-nobuka	2.03	98	P	P	01 08 54.7	0.0
JYG	Yagishiri	2.08	29	⇓P	P	01 08 55.8	+0.6
JKK2	Kamakawa 2	2.35	56	⇓P	P	01 08 59.2	+0.8
JKK2				eS	S	01 09 29.6	-0.3
ASAJ	Asahikawa	2.40	50	P	P	01 08 59.8	+0.8
	28nm,0.3s,baz=237,slow=11,SNR=48						
ASAJ				S	S	01 09 30.2	-0.7
	3.1nm,0.3s,baz=112,slow=29,SNR=12						
JCH	Churui	2.45	89	P	P	01 08 59.4	-0.2
JCH				eS	S	01 09 30.3	-1.8
YSS	Yuzh-Sakhalins	4.76	23	ePn	P	01 09 29.6	+0.8
YSS	Yuzh-Sakhalins	4.76	23	⇓iPN	P	01 09 29.8	+0.9
YSS				eS	S	01 10 24.9	+0.9
YSS				pmax	pmax		
	comp=Z,270nm,0.8s						
YSS				smax			
	comp=N,60nm,0.9s						
MAJO	Matsushiro	6.22	194	ePn	P	01 09 48.6	+0.6
	comp=N,28nm,0.7s						
MAJO	Matsushiro	6.22	194	ePN	P	01 09 48.6	+0.5
MAJO				pmax	pmax		
	comp=Z,29nm,0.7s						
MAT	Matsushiro	6.22	194	P	P	01 09 48.4	+0.3
MAT	Matsushiro	6.22	194	eP	P	01 09 48.0	-0.1
	comp=Z,20nm,0.7s						
MAT	Matsushiro	6.22	194	ePN	P	01 09 48.0	-0.1
MAT				pmax	pmax		
	comp=Z,21nm,0.7s						
MJAR	Matsushiro Arr	6.22	194	P	P	01 09 49.0	+0.9
	comp=Z,5.4nm,0.3s,baz=250,slow=30,SNR=23						
CN2	Changchun	10.72	281	eP	P	01 10 48.5	+1.2
MA2	Magadan	18.24	18	eP	P	01 12 17.9	-2.0
	comp=Z,8.6nm,0.6s						
MA2	Magadan	18.24	18	eP	P	01 12 17.9	-2.1
MA2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BOD	Bodaibo	22.36	322	eP	P	01 13 00.2	-1.3
BOD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
SONM	Songino Array	24.14	294	P	P	01 13 18.7	+0.1
	comp=Z,0.5nm,0.4s,mb3.4,baz=75,slow=8.4,SNR=6.5						
KMI	Kunming	35.20	252	P	P	01 14 57.2	+0.3
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.7						
KMI	Kunming	35.20	252	P	P	01 14 57.2	+0.3
	comp=Z,9.0nm,0.5s,mb4.7						
KMI				pP	pP	01 15 28.6	-5.0
ZAL	Zalesovo	37.55	307	P	P	01 15 16.9	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.4nm,0.4s,mb4.2,baz=26,slow=9.6,SNR=7.7						
MKAR	**Makanchi Array**	**40.47**	**296**	P	**P**	**01 15 40.8**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.6,baz=76,slow=10.0,SNR=8.2						
KURK	**Kurchatov**	**41.83**	**303**	*e*P	**P**	**01 15 51.4**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.0						
KURK	**Kurchatov**	**41.83**	**303**	*e*P	**P**	**01 15 51.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**45.45**	**35**	P	**P**	**01 16 21.1**	**+0.8**
	comp=Z,1.7nm,0.6s,mb3.8,baz=282,slow=7.8,SNR=13						
BVAR	**Borovoye Array**	**46.16**	**308**	P	**P**	**01 16 26.4**	**+0.3**
	comp=Z,3.0nm,0.4s,mb4.3,baz=73,slow=8.1,SNR=34						
BRVK	**Borovoye**	**46.22**	**308**	*e*P	**P**	**01 16 26.2**	**-0.4**
	comp=Z,1.0nm,0.4s,mb3.8						
BRVK	**Borovoye**	**46.22**	**308**	*e*P	**P**	**01 16 26.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ARU	**Arti**	**51.57**	**315**	*e*P	**P**	**01 17 07.2**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.0						
ARU	**Arti**	**51.57**	**315**	*e*P	**P**	**01 17 07.2**	**-0.3**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
KEV	**Kevo**	**57.88**	**338**	*e*p	**P**	**01 17 51.3**	**-1.6**
	comp=Z,2.4nm,0.5s,mb4.3						
KEV	**Kevo**	**57.88**	**338**	*e*P	**P**	**01 17 51.3**	**-1.6**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**58.43**	**338**	P	**P**	**01 17 56.0**	**-0.8**
	comp=Z,1.3nm,0.6s,mb3.9,baz=51,slow=8.2,SNR=12						
JOF	**Joensuu**	**60.58**	**330**	*e*p	**P**	**01 18 10.2**	**-1.4**
	comp=Z,1.9nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**62.45**	**186**	P	**P**	**01 18 23.4**	**-1.3**
	comp=Z,1.1nm,0.7s,mb3.8,baz=5.9,slow=6.9,SNR=17						
KAF	**Kangasniemi**	**62.90**	**331**	*e*p	**P**	**01 18 25.9**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.2,baz=48,slow=6.3						
KAF	**Kangasniemi**	**62.90**	**331**	*e*P	**P**	**01 18 25.9**	**-1.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**63.42**	**331**	P	**P**	**01 18 29.7**	**-0.8**
	comp=Z,2.2nm,0.5s,mb4.3,baz=50,slow=8.9,SNR=37						
HFS	**Hagfors**	**68.60**	**334**	P	**P**	**01 19 02.8**	**-0.4**
	comp=Z,0.7nm,0.3s,mb3.9,baz=41,slow=5.4,SNR=12						
NB2	**NORSAR Subarra**	**68.66**	**336**	P	**P**	**01 19 03.3**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.8,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**68.66**	**336**	P	**P**	**01 19 03.3**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.6,baz=38,slow=6.2,SNR=3.6						
AKASG	**Malin Array Be**	**69.29**	**321**	P	**P**	**01 19 07.2**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.6,baz=43,slow=8.1,SNR=5.6						
NVAR	**Mina Array Bea**	**72.52**	**54**	P	**P**	**01 19 28.4**	**+1.4**
STKA	**Stephens Creek**	**74.13**	**179**	P	**P**	**01 19 37.7**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.5,baz=141,slow=13,SNR=2.9						
PDAR	**Pinedale Array**	**74.53**	**46**	P	**P**	**01 19 39.2**	**+0.6**
	comp=Z,1.3nm,0.6s,mb3.7,baz=316,slow=1.9,SNR=8.0						
TXAR	**Lajitas Array**	**87.53**	**52**	P	**P**	**01 20 48.0**	**+1.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=303,slow=3.2,SNR=4.0						
MAW	**Mawson**	**124.07**	**207**	PKP	PKPdf	01 26 56.4	+1.9
	comp=Z,0.7nm,0.7s,baz=63,slow=2.3,SNR=4.4						
SNAA	**Sanae**	**145.70**	**200**	⇑*i*P	PKPdf	01 27 36.3	+2.4
SNAA	**Sanae**	**145.70**	**200**	*e*	PKPdf	01 27 37.3	+3.4
SNAA	**Sanae**	**145.70**	**200**	*e*	PKPdf	01 27 44.1	+10
SNAA	**Sanae**	**145.70**	**200**	*e*PKPdf	PKPdf	01 27 36.2	+2.3
VNA2	**Neumayer--Watz**	**147.30**	**199**	⇑*i*P	PKPdf	01 27 41.4	+4.8
VNA2	**Neumayer--Watz**	**147.30**	**199**	*e*	PKPdf	01 27 49.3	+13
VNA3	**Neumayer Olymp**	**147.61**	**198**	*e*	PKPdf	01 27 42.4	+5.3
VNA3	**Neumayer Olymp**	**147.61**	**198**	*e*	PKPdf	01 27 49.6	+13
VNA3	**Neumayer Olymp**	**147.61**	**198**	⇑*i*P	PKPdf	01 27 41.6	+4.5
VNA3				*e*		01 27 42.4	
VNA1	**Neumayer--Stat**	**147.70**	**199**	*e*	PKPdf	01 27 43.2	+6.0
VNA1	**Neumayer--Stat**	**147.70**	**199**	*e*	PKPdf	01 27 49.8	+13
VNA1	**Neumayer--Stat**	**147.70**	**199**	⇑*i*P	PKPdf	01 27 42.3	+5.0
VNA1				*e*		01 27 43.2	

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*BJI **02** 01:11:04.4, 0.24N×97.65E, h30km, mB5.1, mb4.8, Ms4.6, Msz4.2*
*IDC **02** 01:11:08.1±1.0, 0.96N×97.26E, mb4.2/13, mb1 4.4/13, mb1mx4.2/20, mbtmp4.2/13, Error ellipse: s-maj=53.3km s-min=17.2km az=51.0*
*NEIC **02** 01:11:12.8±0.5, 1.00N×97.29E, h30km, mb4.4/6, Error ellipse: s-maj=13.2km s-min=8.8km az=46.0*
ISC 02 01:11:12.7±4.5**, 1.1N**±0.1×**97.4E**±0.2**, h43**km±36km**, n27, σ0^{s}88**/27**, mb4.3**/21**, MS4.1**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**38**	*e*Pn	**P**	**01 12 31.3**	**-0.2**
KKM	**Kota Kinabalu**	**19.42**	**75**	*e*P	**P**	**01 15 39.7**	**+1.4**
KMI	**Kunming**	**24.48**	**12**	P	**P**	**01 16 30.7**	**+1.5**
KMI				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.4						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**01 16 30.7**	**+1.5**
	comp=Z,19nm,1.1s,mb4.4						
LSA	**Lhasa**	**29.10**	**349**	*e*P	**P**	**01 17 12.3**	**+0.6**
	comp=Z,5.1nm,0.7s,mb4.4						
ENH	**Enshi**	**31.24**	**20**	*e*P	**P**	**01 17 29.1**	**-1.6**
	comp=Z,14nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.68**	**126**	P	**P**	**01 17 51.0**	**-1.1**
	comp=Z,3.6nm,0.8s,mb4.4,baz=359,slow=5.3,SNR=2.7						
GTA	**Gaotai**	**38.23**	**3**	*e*P	**P**	**01 18 30.6**	**+0.3**
GTA				PP	PP	01 20 00.8	-0.8
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,122nm,5.3s						
GTA				LR	LR		
	comp=N,126nm,11.0s,MS4.1						
GTA				LR	LR		
	comp=E,147nm,14.5s,MS4.1						
GTA				LR	LR		
	comp=Z,166nm,13.3s,MS4.0						
WRA	**Warramunga Arr**	**41.79**	**122**	P	**P**	**01 18 59.9**	**-0.2**
	comp=Z,1.7nm,0.8s,mb3.7,baz=300,slow=8.9,SNR=4.6						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**01 19 43.5**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.3,baz=190,slow=9.9,SNR=22						
ULN	**Ulaanbaatar**	**47.37**	**9**	P	**P**	**01 19 44.4**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**47.43**	**346**	P	**P**	**01 19 45.4**	**+0.5**
	comp=Z,6.1nm,0.7s,mb4.6,baz=153,slow=8.1,SNR=43						
CN2	**Changchun**	**49.34**	**27**	*e*P	**P**	**01 19 56.5**	**-3.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KURK	**Kurchatov**	**51.98**	**345**	*e*P	**P**	**01 20 19.4**	**-0.3**
	comp=Z,6.0nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**53.11**	**132**	P	**P**	**01 20 29.1**	**+0.6**
	comp=Z,3.6nm,1.0s,mb4.2,baz=56,slow=21,SNR=3.3						
ZAL	**Zalesovo**	**53.72**	**351**	P	**P**	**01 20 33.0**	**+0.4**
	comp=Z,6.8nm,0.5s,mb4.8,baz=300,slow=4.4,SNR=20						
BVAR	**Borovoye Array**	**56.45**	**341**	P	**P**	**01 20 51.3**	**-1.1**
	comp=Z,3.6nm,0.6s,mb4.5,baz=143,slow=8.9,SNR=22						
BRVK	**Borovoye**	**56.51**	**341**	*e*P	**P**	**01 20 51.7**	**-1.2**
	comp=Z,1.7nm,0.6s,mb4.2						
AKASG	**Malin Array Be**	**75.49**	**322**	P	**P**	**01 22 53.7**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=94,slow=3.8,SNR=4.5						
AKASG	**Malin Array Be**	**75.49**	**322**	P	**P**	**01 22 53.7**	**-0.6**
MLR	**Muntele Rosu**	**76.31**	**317**	P	**P**	**01 22 59.2**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=187,slow=8.1,SNR=3.7						
FINES	**FINESS Array B**	**80.22**	**332**	P	**P**	**01 23 20.2**	**+0.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=108,slow=6.0,SNR=4.9						
ARCES	**ARCESS Array B**	**82.74**	**340**	P	**P**	**01 23 33.4**	**+0.3**
	comp=Z,3.1nm,1.0s,mb4.3,baz=128,slow=10,SNR=4.4						
ARCES	**ARCESS Array B**	**82.74**	**340**	P	**P**	**01 23 33.4**	**+0.3**
GERES	**GERESS Array B**	**85.05**	**319**	P	**P**	**01 23 46.2**	**+1.0**
	comp=Z,1.3nm,0.9s,mb4.0,baz=90,slow=5.3,SNR=9.5						
NB2	**NORSAR Subarra**	**87.23**	**331**	P	**P**	**01 23 56.2**	**+0.7**
	comp=Z,1.1nm,0.8s,mb4.1,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.23**	**331**	P	**P**	**01 23 56.1**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.3,baz=94,slow=4.9,SNR=5.6						

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*IDC **02** 01:12:41.8±1.8, 1.17N×97.54E, mb4.1/6, mb1 4.3/6, mb1mx3.9/18, mbtmp4.1/6, Error ellipse: s-maj=82.5km s-min=21.3km az=53.0*
*NEIC **02** 01:12:45.5±0.8, 0.99N×97.35E, h30km, mb4.4/4, Error ellipse: s-maj=21.2km s-min=13.2km az=56.0*
ISC 02 01:12:43.6±1.0**, 1.0N**±0.1×**97.4E**±0.2**, h30**km**, n11, σ0^{s}93**/11**, mb4.2**/10**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**38**	Pn	**Pn**	**01 14 04.8**	**+0.9**
LSA	**Lhasa**	**29.13**	**349**	*e*P	**P**	**01 18 45.6**	**+1.2**
	4.4nm,0.5s,mb4.4						
ENH	**Enshi**	**31.30**	**20**	*e*P	**P**	**01 19 02.3**	**-1.2**
	9.1nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.69**	**126**	P	**P**	**01 19 24.1**	**-0.4**
	3.0nm,0.6s,mb4.4,baz=321,slow=3.0,SNR=4.1						
WRA	**Warramunga Arr**	**41.80**	**122**	P	**P**	**01 20 33.1**	**+0.5**
	1.0nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=5.1						
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**01 21 15.1**	**-1.3**
	1.5nm,0.5s,mb4.2,baz=180,slow=4.3,SNR=6.5						
SONM				PcP	PcP	01 22 48.1	+0.6
	0.4nm,0.5s,baz=184,slow=4.4,SNR=4.3						
MKAR	**Makanchi Array**	**47.46**	**346**	P	**P**	**01 21 18.6**	**+0.8**
	4.3nm,0.7s,mb4.5,baz=156,slow=7.9,SNR=9.5						
KURK	**Kurchatov**	**52.01**	**345**	*e*P	**P**	**01 21 52.7**	**+0.1**
	3.6nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**56.48**	**341**	P	**P**	**01 22 24.5**	**-0.7**
	2.7nm,0.7s,mb4.4,baz=137,slow=9.6,SNR=8.4						
BRVK	**Borovoye**	**56.54**	**341**	*e*P	**P**	**01 22 24.6**	**-1.1**
	1.3nm,0.6s,mb4.1						
GERES	**GERESS Array B**	**85.06**	**319**	P	**P**	**01 25 19.0**	**+1.1**
	0.3nm,0.5s,mb3.6,baz=63,slow=3.0,SNR=3.7						

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*IDC **02** 01:15:40.2±0.7, 1.04N×97.33E, mb4.5/19, mb1 4.6/19, mb1mx4.5/23, mbtmp4.5/19, MS4.0/3, Ms1 3.9/3, ms1mx3.7/13, Error ellipse: s-maj=24.2km s-min=14.3km az=50.0*
*BJI **02** 01:15:41.8, 0.64N×97.65E, h42km, mB5.1, mb5.1, Ms4.6, Msz4.4*
*NEIC **02** 01:15:43.9±0.3, 1.04N×97.39E, mb4.7/23, Error ellipse: s-maj=9.0km s-min=6.0km az=48.0*
*MOS **02** 01:15:43.4±0.9, 1.06N×97.36E, h33km, mb4.9/26, Error ellipse: s-maj=15.3km s-min=6.8km az=101.7*
ISC 02 01:15:42.3±0.4**, 1.03N**±0.05×**97.42E**±0.05**, h26**km±1.5km**:pP-P, n105, σ0^{s}99**/119**, mb4.7**/64**, MS4.2**/16**, 4C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**37**	*e*Pn	**Pn**	**01 17 03.0**	**+0.7**
CHG	**Chiang Mai**	**17.74**	**5**	⇑P	**P**	**01 19 48.9**	**-0.5**
	16nm,0.8s						
KKM	**Kota Kinabalu**	**19.40**	**75**	*e*P	**P**	**01 20 08.9**	**-0.7**
QIZ	**Qiongzhong**	**21.64**	**33**	P	**P**	**01 20 31.9**	**-1.0**
QIZ				S	**S**	**01 24 27.7**	**+1.5**
QIZ				AMB	AMB		
	comp=Z,25nm,1.4s,mb4.5						
QIZ				LR	LR		
	comp=E,359nm,14.4s						
QIZ				LR	LR		
	comp=Z,256nm,14.8s,MS3.8						
KMI	**Kunming**	**24.50**	**12**	P	**P**	**01 21 02.8**	**+1.8**
KMI				AP		01 21 12.7	
KMI				XP		01 21 16.9	
KMI				PP	PP	01 21 41.3	+4.4
KMI				PPP	PPP	01 21 52.4	+5.0
KMI				PCP	PcP	01 24 38.1	-2.3
KMI				S	**S**	**01 25 21.9**	**+5.1**
KMI				XS		01 25 39.0	
KMI				SS	SS	01 26 22.0	+10
KMI				SSS	SSS	01 26 38.8	+10
KMI				SCP		01 28 12.6	
KMI				PCS		01 28 16.9	
KMI				AMB	AMB		
	comp=Z,41nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,170nm,4.1s						
KMI				LR	LR		
	comp=N,592nm,13.5s,MS4.4						
KMI				LR	LR		
	comp=E,538nm,15.0s,MS4.4						
KMI				LR	LR		
	comp=Z,786nm,14.6s,MS4.3						
KMI	**Kunming**	**24.50**	**12**	P	**P**	**01 21 02.8**	**+1.8**
	comp=Z,41nm,1.2s,mb4.7						
KMI				pP		01 21 12.7	
KMI				sP		01 21 16.9	
KMI				PP	PP	01 21 41.3	+4.4
KMI				PPP	PPP	01 21 52.4	+5.0
KMI				PcP	PcP	01 24 38.1	-2.3
KMI				S	**S**	**01 25 21.9**	**+5.1**
KMI				sS		01 25 39.0	
KMI				SS	SS	01 26 22.0	+10
KMI				SSS	SSS	01 26 38.8	+10
KMI				ScP		01 28 12.6	
KMI				PcS		01 28 16.9	
KMI				LR	LR		
	comp=Z,790nm,14.6s,MS4.3						
KMI	**Kunming**	**24.50**	**12**	P	**P**	**01 21 02.8**	**+1.8**
KMI				*PP		01 21 12.7	
KMI				*SP		01 21 16.9	
KMI						01 21 41.3	
KMI				PPP	PPP	01 21 52.4	+5.0
KMI						01 24 38.1	
KMI				S	**S**	**01 25 21.9**	**+5.1**
KMI				*SS		01 25 39.0	
KMI				SS	SS	01 26 22.0	+10
KMI				pmax	pmax		
	comp=Z,41nm,1.2s,mb4.7						
KMI				MLR	MLR		
	comp=Z,790nm,14.6s,MS4.3						
HYB	**Hyderabad**	**24.69**	**312**	*i* P	**P**	**01 21 13.5**	**+11**
GYA	**Guiyang**	**26.80**	**19**	⇓*i*P	**P**	**01 21 22.2**	**-0.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,250nm,6.9s						
GYA				LR	LR		
	comp=N,390nm,12.5s,MS4.4						
GYA				LR	LR		
	comp=E,560nm,12.8s,MS4.4						
GYA				LR	LR		
	comp=Z,540nm,10.5s,MS4.4						
PKI	**Pulchoki**	**28.79**	**337**	*e*P	**P**	**01 21 40.9**	**+0.4**
	comp=Z,18nm,0.7s,mb4.9						
PKI	**Pulchoki**	**28.79**	**337**	*e*P	**P**	**01 21 40.9**	**+0.4**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
DMN	**Daman**	**28.95**	**337**	*e*P	**P**	**01 21 42.6**	**+0.7**
	comp=Z,25nm,0.8s,mb5.0						
KKN	**Kakani**	**29.04**	**337**	*e*P	**P**	**01 21 43.2**	**+0.4**
	comp=Z,17nm,0.5s,mb5.0						
KKN	**Kakani**	**29.04**	**337**	*e*P	**P**	**01 21 43.2**	**+0.4**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**29.13**	**349**	P	**P**	**01 21 44.8**	**+1.2**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
LSA	**Lhasa**	**29.13**	**349**	*e*P	**P**	**01 21 44.6**	**+1.1**
	comp=Z,13nm,0.8s,mb4.7						
LSA	**Lhasa**	**29.13**	**349**	*e*P	**P**	**01 21 44.6**	**+1.0**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
GKN	**Gorkha**	**29.48**	**337**	*e*P	**P**	**01 21 46.9**	**+0.2**
	comp=Z,37nm,0.9s,mb5.1						
KOLN	**Koldanda**	**29.70**	**335**	*e*P	**P**	**01 21 49.3**	**+0.6**
	comp=Z,26nm,0.8s,mb5.0						
MBWA	**Marble Bar**	**31.02**	**137**	*e*P	**P**	**01 22 01.6**	**+1.1**
	comp=Z,5.0nm,1.0s,mb4.3						
ENH	**Enshi**	**31.26**	**20**	*e*P	**P**	**01 22 00.9**	**-1.6**
	comp=Z,40nm,0.8s,mb5.3						
ENH				*e*pP	pP	01 22 08.2	-1.8
FITZ	**Fitzroy Crossi**	**33.65**	**126**	P	**P**	**01 22 22.9**	**-0.5**
	comp=Z,5.4nm,0.7s,mb4.6,baz=335,slow=6.9,SNR=9.6						
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**01 22 29.7**	**-1.4**
XAN				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.2						
LZH	**Lanzhou**	**35.39**	**9**	*e*P	**P**	**01 22 37.9**	**-0.2**
LZH				AP	pP	01 22 47.4	+1.6
LZH				*e*PP	PP	01 23 57.8	-0.2
LZH				*e*S	**S**	**01 28 11.0**	**+0.7**
LZH				*e*SS	SS	01 30 30.1	+1.4
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,83nm,5.6s						
LZH				LR	LR		
	comp=N,405nm,13.2s						
LZH				LR	LR		
	comp=Z,837nm,17.5s,MS4.5						
LZH	**Lanzhou**	**35.39**	**9**	*e*P	**P**	**01 22 37.9**	**-0.2**
	comp=Z,27nm,1.5s,mb5.0						
LZH				pP	pP	01 22 44.5	-1.3
LZH				sP	sP	01 22 47.4	-1.6
LZH				*e*PP	PP	01 23 57.8	-0.2
LZH				*e*S	**S**	**01 28 11.0**	**+0.7**
LZH				sS		01 28 23.1	
LZH				*e*SS	SS	01 30 30.1	+1.4
LZH				LR	LR		
	comp=Z,840nm,17.5s,MS4.5						
LZH	**Lanzhou**	**35.39**	**9**	*e*P	**P**	**01 22 37.9**	**-0.2**
LZH				*SP	sP	01 22 47.4	-1.6
LZH				*e*		01 23 57.8	
LZH				*e*S	**S**	**01 28 11.0**	**+0.7**
LZH				*SS		01 28 23.1	
LZH				*e*SS	SS	01 30 30.1	+1.4
LZH				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,840nm,17.5s,MS4.5						
NJ2	**Nanjing**	**36.89**	**31**	*e*P	**P**	**01 22 52.9**	**+2.0**
NJ2				AP	pP	01 23 00.2	+1.7
NJ2				XP	sP	01 23 03.6	+1.8
NJ2				PP	PP	01 24 19.1	+2.1
NJ2				S	**S**	**01 28 35.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,370nm,4.3s						
NJ2				LR	LR		
	comp=N,730nm,18.5s,MS4.6						
NJ2				LR	LR		
	comp=E,660nm,18.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,660nm,22.2s,MS4.4						
SSE	**Sheshan**	**37.42**	**35**	P	**P**	**01 22 53.2**	**-2.2**
SSE				AP	pP	01 23 02.1	-0.9
SSE				XP	sP	01 23 06.0	-0.2
SSE				S	**S**	**01 28 35.1**	**-6.6**
SSE				SCS	ScS	01 33 06.5	+1.3
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,359nm,4.9s						
SSE				LR	LR		
	comp=N,111nm,20.5s,MS3.7						
SSE				LR	LR		
	comp=E,68nm,20.4s,MS3.7						
SSE				LR	LR		
	comp=Z,183nm,20.5s,MS3.9						
SSE	**Sheshan**	**37.42**	**35**	P	**P**	**01 22 53.2**	**-2.2**
	comp=Z,40nm,0.8s,mb5.3						
SSE				pP	pP	01 23 02.1	-0.9
SSE				sP	sP	01 23 06.0	-0.2
SSE				PP	PP	01 24 17.1	-6.4
SSE				S	**S**	**01 28 35.1**	**-6.6**
SSE				sS		01 28 50.3	
SSE				ScS	ScS	01 33 06.5	+1.3
SSE				LR	LR		
	comp=Z,180nm,20.5s,MS3.9						
GTA	**Gaotai**	**38.26**	**3**	P	**P**	**01 23 02.5**	**+0.2**
GTA				AP	pP	01 23 10.9	+0.9
GTA				XP	sP	01 23 15.4	+2.2
GTA				PP	PP	01 24 33.4	0.0
GTA				PPP	PPP	01 24 55.4	-0.3
GTA				S	**S**	**01 28 52.7**	**-1.6**
GTA				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,113nm,5.3s						
GTA				LR	LR		
	comp=N,121nm,11.4s,MS4.2						
GTA				LR	LR		
	comp=E,208nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=Z,176nm,13.7s,MS4.0						
JOW	**Kunigami**	**39.20**	**46**	P	**P**	**01 23 11.1**	**+0.8**
	comp=Z,36nm,0.8s,mb5.2,baz=213,slow=11,SNR=5.5						
HHC	**Hu-ho-hao-te**	**41.66**	**16**	*e*P	**P**	**01 23 31.1**	**+0.7**
HHC				AP	pP	01 23 40.0	+1.9
HHC				PP	PP	01 25 09.8	0.0
HHC				PCP	PcP	01 25 29.0	+1.4
HHC				SCP		01 29 15.1	
HHC				PCS		01 29 18.5	
HHC				S	**S**	**01 29 47.1**	**+1.9**
HHC				SS	SS	01 32 46.6	+0.8
HHC				SCS	ScS	01 33 31.8	+1.9
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,126nm,4.6s						
HHC				LR	LR		
	comp=N,430nm,22.6s						
HHC				LR	LR		
	comp=E,417nm,14.3s						
HHC				LR	LR		
	comp=Z,295nm,15.5s						
WRA	**Warramunga Arr**	**41.76**	**122**	P	**P**	**01 23 31.5**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.1,baz=301,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**41.76**	**122**	*e*P	**P**	**01 23 31.7**	**+0.1**
	comp=Z,5.1nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**41.76**	**122**	*e*P	**P**	**01 23 31.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**41.77**	**122**	*e*P	**P**	**01 23 31.5**	**-0.1**
WMQ	**Urumqi**	**43.48**	**350**	⇑*i*P	**P**	**01 23 46.5**	**+1.3**
WMQ				AP	pP	01 23 54.0	+1.1
WMQ				S	**S**	**01 30 13.0**	**+1.2**
WMQ				SS	SS	01 33 20.0	+0.7
WMQ				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,114nm,6.0s						
WMQ				LR	LR		
	comp=N,208nm,22.0s,MS4.1						
WMQ				LR	LR		
	comp=E,227nm,24.6s,MS4.1						
WMQ				LR	LR		
	comp=Z,183nm,22.4s,MS3.9						
JNU	**Nakatsue**	**44.79**	**41**	P	**P**	**01 23 56.0**	**0.0**
	comp=Z,8.1nm,0.3s,mb5.0,baz=180,slow=3.0,SNR=5.2						
ULHL	**Ulahol**	**45.23**	**338**	P	**P**	**01 24 00.2**	**+0.8**
	SNR=9.4						
KS15	**Wonju Array Si**	**45.83**	**34**	*e*P	**P**	**01 24 04.3**	**+0.1**
UCH	**Uchtor**	**45.89**	**336**	P	**P**	**01 24 05.8**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**46.06**	**338**	P	**P**	**01 24 07.3**	**+1.4**
	SNR=9.2						
KBK	**Karagaybulak**	**46.08**	**337**	P	**P**	**01 24 08.1**	**+2.0**
	SNR=7.3						
AML	**Almayashu**	**46.15**	**335**	P	**P**	**01 24 07.7**	**+1.1**
	SNR=8.2						
AAK	**Ala-Archa**	**46.24**	**337**	*e*P	**P**	**01 24 08.1**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**46.24**	**337**	*e*P	**P**	**01 24 08.1**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
EKS2	**Erkin-Say**	**46.55**	**336**	P	**P**	**01 24 11.2**	**+1.4**
	SNR=9.5						
USP	**Ospenovka**	**46.77**	**337**	P	**P**	**01 24 12.4**	**+0.8**
	SNR=18						
SNY	**Shenyang**	**46.95**	**27**	⇑P	**P**	**01 24 12.7**	**-0.3**
SNY				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
SONM	**Songino Array**	**47.27**	**8**	P	**P**	**01 24 15.9**	**+0.5**
	comp=Z,5.3nm,0.5s,mb4.7,baz=191,slow=9.5,SNR=31						
SONM				PcP	PcP	01 25 46.9	+0.2
	comp=Z,3.2nm,0.7s,baz=186,slow=3.7,SNR=6.4						
ULN	**Ulaanbaatar**	**47.39**	**9**	*e*P	**P**	**01 24 16.4**	**0.0**
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**47.39**	**9**	*i* P	**P**	**01 24 15.1**	**-1.3**
MKAR	**Makanchi Array**	**47.46**	**346**	P	**P**	**01 24 17.1**	**+0.2**
	comp=Z,16nm,0.7s,mb5.0,baz=162,slow=7.7,SNR=58						
MKAR				LR	LR	01 48 11.2	
	comp=Z,104nm,21.3s,MS3.8,baz=265,slow=41						
CN2	**Changchun**	**49.35**	**27**	*e*P	**P**	**01 24 30.7**	**-1.0**
CN2				*e*S	**S**	**01 31 35.6**	**+0.1**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
CN2				LR	LR		
	comp=N,340nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=E,240nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=Z,340nm,16.0s,MS4.4						
ZAK	**Zakamensk**	**49.42**	**5**	*e*P	**P**	**01 24 31.6**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**51.67**	**42**	P	**P**	**01 24 49.4**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=218,slow=6.4,SNR=6.4						
MJAR				LR	LR	01 46 53.0	
	comp=Z,153nm,18.9s,MS4.0,baz=140,slow=36						
HIA	**Hailar**	**51.73**	**18**	*e*P	**P**	**01 24 49.4**	**-0.3**
	comp=Z,16nm,0.8s,mb5.0						

HIA	Hailar	51.73	18	eP	P	01 24 49.4	-0.3
HIA				pmax	pmax		
	comp=Z,16nm,0.8s						
MDJ	Mudanjiang	51.91	29	P	P	01 24 51.3	+0.2
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,101nm,4.5s						
MDJ				LR	LR		
	comp=N,91nm,16.8s,MS4.0						
MDJ				LR	LR		
	comp=E,52nm,16.1s,MS4.0						
MDJ				LR	LR		
	comp=Z,143nm,16.8s,MS4.1						
KURK	Kurchatov	52.01	345	eP	P	01 24 51.3	-0.5
	comp=Z,14nm,0.9s,mb4.9						
KURK				epP	pP	01 24 57.6	-2.0
KURK	Kurchatov	52.01	345	eP	P	01 24 51.3	-0.5
KURK				e*PP	pP	01 24 57.6	-2.0
KURK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
CIT	Chita	52.59	12	eP	P	01 24 54.0	-2.1
CIT				pmax	pmax		
	comp=Z,26nm,3.4s						
STKA	Stephens Creek	53.08	132⇑	iP	P	01 25 01.0	+1.0
	comp=Z,5.7nm,0.9s,mb4.5						
STKA	Stephens Creek	53.08	132	P	P	01 25 00.7	+0.6
	comp=Z,6.4nm,0.9s,mb4.6,baz=300,slow=9.1,SNR=11						
STKA				LR	LR	01 49 25.3	
	comp=Z,159nm,19.5s,MS4.1,baz=311,slow=38						
ZAL	Zalesovo	53.75	351	P	P	01 25 04.6	0.0
	comp=Z,16nm,0.5s,mb5.2,baz=305,slow=5.7,SNR=33						
NVS	Novosibirsk	54.88	350	eP	P	01 25 11.0	-1.9
NVS				pmax	pmax		
	comp=N,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
VOSK	Vostochnaya	56.03	341	P	P	01 25 20.0	-1.3
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KLR	Kul'dur	56.31	26	eP	P	01 25 20.2	-3.1
BVAR	Borovoye Array	56.48	341	P	P	01 25 23.3	-1.1
	comp=Z,6.4nm,0.6s,mb4.8,baz=143,slow=7.4,SNR=39						
BRVK	Borovoye	56.54	341	eP	P	01 25 23.6	-1.4
	comp=Z,5.4nm,0.9s,mb4.6						
BRVK				epP	pP	01 25 29.9	-2.9
BRVK	Borovoye	56.54	341	eP	P	01 25 23.6	-1.3
BRVK				e*PP	pP	01 25 29.9	-2.9
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
AB31	Akbulak array	57.77	332	i P	P	01 25 32.5	-1.1
AB31				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
BOD	Bodaibo	58.13	10	eP	P	01 25 35.3	-0.8
BOD				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
YSS	Yuzh-Sakhalins	60.36	34	i P	P	01 25 51.9	+0.2
YSS				pmax	pmax		
	comp=Z,57nm,2.5s,mb5.2						
GNI	Garni	61.57	316	P	P	01 25 59.1	-0.8
	comp=Z,0.9nm,0.4s,mb4.3,baz=0.1,slow=24,SNR=3.1						
SVE	Sverdlovsk	62.92	338	eP	P	01 26 07.7	-1.0
SVE				e	pP	01 26 16.0	-0.7
SVE				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
ARU	Arti	63.42	337⇓	iP	P	01 26 10.4	-1.6
ARU				e		01 28 26.9	
ARU				eS	S	01 34 36.6	-5.0
ARU				eSS	SS	01 38 41.9	-8.5
ARU				eSSS	SSS	01 41 36.2	-0.7
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
KIV	Kislovodsk	64.58	319	i P	P	01 26 20.9	+1.1
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KIV				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
YAK	Yakutsk	65.52	16	i P	P	01 26 24.9	-0.6
YAK				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
BRTR	Keskin Array B	69.39	312	P	P	01 26 49.4	-0.9
	comp=Z,1.0nm,0.8s,mb3.8,baz=143,slow=6.2,SNR=4.3						
MA2	Magadan	71.39	26	eP	P	01 27 01.8	-0.2
	comp=Z,11nm,0.7s,mb4.9						
MA2	Magadan	71.39	26	i P	P	01 27 02.1	0.0
MA2				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.8						
PET	Petropavlovsk	72.25	34	eP	P	01 27 07.3	0.0
	comp=Z,9.6nm,0.4s,mb5.1						
PET	Petropavlovsk	72.25	34	i P	P	01 27 07.7	+0.4
PET				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
MAW	Mawson	72.60	193	P	P	01 27 10.5	+1.4
	comp=Z,5.9nm,1.3s,mb4.3,baz=22,slow=9.8,SNR=3.7						
OBN	Obninsk	72.88	328	i P	P	01 27 10.2	-0.8
OBN				i		01 27 21.6	
OBN				e		01 29 48.8	
OBN				eS	S	01 36 29.3	-5.0
OBN				pmax	pmax		
	comp=Z,24nm,2.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,24.0s,MS4.0						
TIXI	Tiksi	73.31	10	i P	P	01 27 12.6	-0.6
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SEY	Seymchan	73.83	23	i P	P	01 27 16.8	+0.5
AKASG	Malin Array Be	75.53	322	P	P	01 27 25.2	-1.1
	comp=Z,2.8nm,0.8s,mb4.2,baz=87,slow=4.7,SNR=11						
MLR	Muntele Rosu	76.34	317	P	P	01 27 31.2	+0.1
	comp=Z,3.0nm,0.9s,mb4.2,baz=100,slow=18,SNR=5.5						
JOF	Joensuu	78.39	335	ep	P	01 27 40.1	-1.9
	comp=Z,3.5nm,0.9s,mb4.3						
STHS	Stebnicka Huta	80.24	320	eP	P	01 27 51.8	-0.5
FINES	FINESS Array B	80.25	332	P	P	01 27 52.0	-0.1
	comp=Z,2.9nm,0.9s,mb4.2,baz=108,slow=6.0,SNR=10						
KAF	Kangasniemi	80.33	333	ep	P	01 27 51.8	-0.8
	comp=Z,2.7nm,0.7s,mb4.3,baz=100,slow=4.9						
KAF	Kangasniemi	80.33	333	eP	P	01 27 51.8	-0.8
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BILL	Bilibino	81.24	21	i P	P	01 27 59.0	+1.7
BILL				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
BILL				MLR	MLR		
	comp=Z,600nm,19.0s,MS5.0						
MORC	Moravsky Berou	82.67	320	eP	P	01 28 05.6	+0.5
	comp=Z,1.9nm,0.9s,mb4.1						
MORC	Moravsky Berou	82.67	320	eP	P	01 28 05.6	+0.6
MORC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ARCES	ARCESS Array B	82.77	340	P	P	01 28 05.5	+0.4
	comp=Z,5.0nm,0.9s,mb4.5,baz=99,slow=4.6,SNR=12						
GERES	GERESS Array B	85.08	319	P	P	01 28 17.9	+0.6
	comp=Z,2.8nm,0.9s,mb4.4,baz=90,slow=5.3,SNR=22						
KHC	Kasperske Hory	85.19	319	eP	P	01 28 18.0	+0.2
NB2	NORSAR Subarra	87.26	331	P	P	01 28 27.1	-0.6
	comp=Z,1.7nm,0.8s,mb4.3,baz=95,slow=4.6						
NB2	NORSAR Subarra	87.26	331	P	P	01 28 27.1	-0.6
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
NOA	NORSAR Array B	87.26	331	P	P	01 28 27.9	+0.2
	comp=Z,2.7nm,0.8s,mb4.5,baz=94,slow=4.9,SNR=8.6						
CPUP	Villa Florida	145.03	222	PKP	PKPdf	01 35 24.2	+1.3
	comp=Z,5.2nm,1.0s,baz=98,slow=7.1,SNR=5.1						

NEIC 02 01:27:18.6, 33.18N×115.63W, h5km, ML4.5(PAS), 1C, After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	Glamis	0.69	100⇑	eP	Pg	01 27 31.0	-1.3
PFO	Pinyon Flat Ob	0.81	302	eP	Pb	01 27 33.6	-1.3
BAR	Barrett	1.01	241	eP	Pb	01 27 36.7	-1.5
LDFC	Landfair	1.95	13	ePn	Pn	01 27 52.0	-0.7
MWC	Mount Wilson	2.28	298	ePn	Pn	01 27 55.4	-2.1
GSC	Goldstone	2.33	336	ePn	Pn	01 27 56.8	-1.4
NEN	Nelson	2.55	15	ePn	Pn	01 27 59.7	-1.6
DAC	Darwin (Calif)	3.49	333	ePn	Pn	01 28 11.4	-3.3
TUC	Tucson	4.17	101	ePn	Pn	01 28 20.8	-3.6
PTRM	Twissleman Ran	4.52	304	ePn	Pn	01 28 26.3	-3.1

*BJI **02** 01:27:17.5, 33.10N×115.89W, h7km, mB5.6, mb5.2, Ms4.9, Msz4.8*

*MOS **02** 01:27:17.0±1.0, 33.15N×115.61W, h10km, mb5.1/7, MS5.0/8, Error ellipse: s-maj=15.9km s-min=10.8km az=120.8*

*ECX **02** 01:27:19.0±0.6, 33.17N×115.62W, h3km±3km, ML5.1*

*NEIC **02** 01:27:19.8, 33.16N×115.64W, h10km, mb4.9/31, MS5.2/2, MW5.1(PAS), After PAS.*

NEIC Felt [VI] at Calipatria; [V] at Brawley and Niland; [IV] at El Centro, Imperial, Thermal, Westmorland and Winterhaven; [III] at Blythe, Calexico, Chula Vista, Holtville, La Mesa, Palm Springs and San Diego.

*HRVD **02** 01:27:19.8±0.2, 33.23N×115.52W, h12km, MW5.2/62, Centroid moment Tensor Solution. LP body waves: s40,c71; Mantle waves: s62,c133; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.65±.14; $M_{\theta\theta}$-4.73±.14; $M_{\phi\phi}$5.38±.13; $M_{r\theta}$1.98±.36; $M_{\theta\phi}$3.69±.12; $M_{\phi r}$-0.55±.36; Best double couple: $M_0$6.611×10^16 NP1: ϕ_s335°,δ76°,λ-167°. NP2:ϕ_s241°,δ77°,λ-14°. Principal axes: T 6.585, Plg1°, Azm288°; N .056, Plg71°, Azm20°; P -6.637, Plg19°, Azm198°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **02** 01:27:21.1±1.0, 33.32N×115.37W, mb4.1/9, mb1 4.4/15, mb1mx4.2/28, mbtmp4.1/15, ML4.0/5, MS4.7/26, Ms1 4.7/26, ms1mx4.7/30 Error ellipse: s-maj=18.6km s-min=9.8km az=53.0*

ISC 02 01:27:18.6±0.2, 33.21N±0.02×115.65W±0.03, h10km, n218, σ1.59/196, mb4.7/41, MS4.9/35, 7C-6D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRK	Frink	0.19	3⇓	iPD	Pg	01 27 23.2	+0.4
COK	Cook Ranch	0.36	190⇓	iP	Pg	01 27 25.5	-0.6
CRR	Carrizo Plain	0.42	220⇓	iP	Pg	01 27 26.3	-0.8
COA	Coachella	0.56	128⇑	iP	Pg	01 27 28.4	-1.5
SGL	Mount Signal	0.56	186⇓	iP	Pg	01 27 28.2	-1.7
YAQ	Yaqui Meadows	0.59	266⇑	iP	Pg	01 27 30.0	-0.4
RMX	La Rumorosa	0.70	211⇑	eP	Pb	01 27 31.8	-0.6
RMX				eS	Sb	01 27 41.1	-0.8
GLA	Glamis	0.71	102⇑	iP	Pb	01 27 30.9	-1.7
PFO	Pinyon Flat Ob	0.78	301	eP	Pb	01 27 34.7	+0.9
PFO	Pinyon Flat Ob	0.78	301	eP	Pb	01 27 34.0	+0.2
BAR	Barrett	1.01	239	eP	Pb	01 27 37.6	-0.1
CBX	Cerro Bola	1.23	224	eP	Pb	01 27 40.0	-1.5
CBX				eS	Sb	01 27 57.3	0.0
ENX	Ensenada	1.57	213	eP	Pn	01 27 46.0	-0.8
ENX				eS	Sb	01 28 07.9	+0.7
ENX			⇓	e		01 28 17.6	
	comp=N,26μm,0.6s						
PBX	Punta Banda	1.72	212⇑	eP	Pn	01 27 48.1	-0.7
PBX				eS	Sn	01 28 13.3	+2.2
PBX			⇓	e		01 28 31.4	
	comp=N,29μm,0.9s						
ECNX	Esteban Cantu	1.74	208⇑	eP	Pn	01 27 46.2	-2.9
ECNX				eS	Sn	01 28 08.7	-2.9
LDFC	Landfair	1.92	13	ePn	Pn	01 27 53.6	+1.9
SPX	San Pedro Mart	2.16	176	ePN	Pn	01 27 53.6	-1.6
MWC	Mount Wilson	2.25	297	ePn	Pn	01 27 56.4	0.0
NEN	Nelson	2.52	15	ePn	Pn	01 28 00.6	+0.3
DAC	Darwin (Calif)	3.45	333	ePn	Pn	01 28 12.8	-0.8
TUC	Tucson	4.20	101	ePn	Pn	01 28 21.9	-2.3
MTUM	Tungsten Hills	4.77	331	ePn	Pn	01 28 31.2	-1.1
ARUT	Antelope Range	4.91	21	ePn	Pn	01 28 34.1	-0.2
TPH	Tonopah	5.02	346	ePn	Pn	01 28 38.0	+2.2
LRV	Little Rabbit	5.46	308	Pn	Pn	01 28 41.5	-0.4
NVAR	Mina Array Bea	5.64	338	Pn	Pn	01 28 44.2	-0.3
	comp=N,1.3nm,0.3s,baz=169,slow=15,SNR=14						
NVAR				Pg	Pg	01 29 06.9	-4.2
	comp=N,9.9nm,0.3s,baz=162,slow=17,SNR=44						
NVAR				Lg		01 30 18.0	
	comp=N,2.5nm,0.3s,baz=180,slow=17,SNR=1.9						
SAO	San Andreas Ge	5.93	308	ePn	Pn	01 28 47.2	-1.5
MSU	Marysvale	6.00	27	ePn	Pn	01 28 49.9	+0.3
CMB	Columbia Colle	6.17	323	ePn	Pn	01 28 49.3	-2.7
TMUT	Trail Mountain	7.06	29	ePn	Pn	01 29 03.8	-0.7
SRU	San Rafael	7.20	34	ePn	Pn	01 29 04.5	-2.1
BMN	Battle Mountai	7.32	351	ePn	Pn	01 29 06.8	-1.4
NLU	North Lily Min	7.32	22	Pn	Pn	01 29 06.0	-2.2
DUG	Dugway	7.34	17	ePn	Pn	01 29 07.6	-0.8
PV10	Paradox Valley	7.45	44	ePn	Pn	01 29 09.4	-0.5
MPU	Maple Canyon	7.52	24	Pn	Pn	01 29 10.4	-0.6
ELK	Elko	7.53	2	Pn	Pn	01 29 10.5	-0.6
	comp=N,0.4nm,0.3s,baz=184,slow=9.9,SNR=6.2						
ELK				Pg	Pg	01 29 42.6	-6.3
	comp=N,2.9nm,0.3s,baz=181,slow=15,SNR=16						
ELK				Lg		01 31 16.3	
	baz=233,slow=20,SNR=2.4						
ELK	Elko	7.53	2	eP	Pn	01 29 09.9	-1.2
PV01	Paradox Valley	7.57	48	Pn	Pn	01 29 10.6	-1.1
BEKR	Beckwourth	7.65	332	ePn	Pn	01 29 11.4	-1.4
OHCM	Honcut	7.72	324	Pn	Pn	01 29 12.7	-1.0
NSHM	Saint Helena R	7.74	315	ePn	Pn	01 29 11.4	-2.7
ANMO	Albuquerque	7.82	75	Pn	Pn	01 29 13.5	-1.7
	baz=264,slow=12,SNR=18						
ANMO				Pg	Pg	01 29 44.1	-11
	baz=268,slow=11,SNR=13						
ANMO				Lg		01 31 26.1	
	baz=102,slow=18,SNR=4.8						
ANMO	Albuquerque	7.82	75	ePn	Pn	01 29 13.1	-2.1
ANMO	Albuquerque	7.82	75	i P	Pn	01 29 14.7	-0.5
ANMO				i S	Sn	01 30 39.2	-5.5
NOQ	North Oquirrh	7.95	20	Pn	Pn	01 29 14.3	-2.7
DAU	Daniels Canyon	8.01	25	ePn	P	01 29 16.4	-1.4
CTU	Camp Tracy	8.10	22	Pn	P	01 29 17.7	-1.3
JLU	Jordanelle	8.11	23	Pn	P	01 29 18.1	-1.1
SPUT	South Promonto	8.48	17	Pn	P	01 29 22.1	-2.3
TCUT	Toone Canyon	8.59	22	Pn	P	01 29 24.3	-1.6
MNTX	Cornudas Mount	8.81	97	ePn	P	01 29 25.3	-3.6
HVU	Hansel Valley	8.86	14	Pn	P	01 29 28.1	-1.5
HWUT	Hardware Ranch	8.99	20	ePn	P	01 29 28.6	-2.9
SMCO	Snowmass	9.20	47	Pn	P	01 29 32.0	-2.3
MOD	Modoc	9.43	338	Pn	P	01 29 36.0	-1.5
SDCO	Great Sand Dun	9.43	58	Pn	P	01 29 36.5	-1.1
WVOR	Wild Horse Val	9.51	346	Pn	P	01 29 37.5	-1.1
KHMM	Horse Mountain	10.01	322	Pn	P	01 29 47.6	+2.1
YBH	Yreka Blue Hor	10.19	329	Pn	P	01 29 56.2	+8.3
	comp=N,0.1nm,0.3s,baz=161,slow=13,SNR=3.1						
YBH				Lg		01 32 43.1	
	comp=N,0.1nm,0.3s,baz=77,slow=19,SNR=2.8						
YBH				LR	LR	01 33 39.4	
	comp=N,3μm,19.4s,baz=150,slow=37						
YBH	Yreka Blue Hor	10.19	329	Pn	P	01 29 56.2	+8.3
YBH				Lg		01 32 43.1	
YBH				LR	LR	01 33 39.4	
AHID	Auburn Hatcher	10.19	19	P	P	01 29 47.2	-0.8
HLID	Hailey	10.38	5	P	P	01 29 50.9	+0.3
ISCO	Idaho Springs	10.41	48	eP	P	01 29 49.0	-2.0
RRI2	Red Ridge	10.68	17	P	P	01 29 53.6	-1.1
PDAR	Pinedale Array	10.68	25	Pn	P	01 29 55.6	+0.9
	comp=N,0.2nm,0.3s,baz=210,slow=12,SNR=39						
PDAR				Lg		01 32 49.4	
	comp=N,0.1nm,0.3s,baz=157,slow=19,SNR=2.7						
PDAR				LR	LR	01 34 22.3	
	comp=N,8μm,19.4s,baz=214,slow=40						
RWWY	Rawlins	10.79	36	eP	P	01 29 52.1	-4.2
REDW	Red Top Meadow	10.81	19	P	P	01 30 12.5	+16
TPAW	Teton Pass	10.91	18	eP	P	01 29 58.8	+1.0
SNOW	Snow King Moun	10.93	19	P	P	01 29 59.5	+1.4
LTX	Lajitas	10.96	107	eP	P	01 29 54.8	-3.7
TXAR	Lajitas Array	10.96	107	Pn	P	01 29 56.2	-2.3
	comp=N,0.6nm,0.3s,baz=287,slow=13,SNR=32						
TXAR				Lg		01 33 01.8	
	comp=N,0.3nm,0.3s,baz=321,slow=17,SNR=3.5						
TXAR				LR	LR	01 34 54.3	
	comp=N,7μm,20.1s,baz=295,slow=42						
TXAR	Lajitas Array	10.96	107	Pn	P	01 29 56.2	-2.3
TXAR				Lg		01 33 01.8	
TXAR				LR	LR	01 34 54.3	
HUMO	Hull Mountain	11.01	331	P	P	01 29 56.8	-2.4
LOHW	Long Hollow	11.11	19	P	P	01 30 01.0	+0.4
IMW	Indian Meadow	11.29	18	eP	P	01 30 05.7	+2.7
FLWY	Flagg Ranch	11.52	18	P	P	01 30 06.0	-0.2
BMO	Blue Mountains	11.70	354	P	P	01 30 06.7	-1.9
MCMT	McKenzie Canyo	11.80	10	P	P	01 30 10.8	+0.8
YFT	Old Faithful	11.83	17	P	P	01 30 09.8	-0.6
YMR	Madison River	12.01	16	P	P	01 30 10.1	-2.7
LKWY	Lake	12.05	18	P	P	01 30 13.9	+0.5
QLMT	Earthquake Lak	12.06	15	P	P	01 30 13.2	-0.2
YNR	Norris Junctio	12.12	17	P	P	01 30 12.5	-1.8
DLMT	Dillon	12.37	10	P	P	01 30 15.5	-2.0
BOZ	Bozeman (W)	12.80	13	P	P	01 30 23.2	-0.2
HAWA	Hanford	13.50	348	P	P	01 30 31.1	-1.6
MSO	Missoula	13.67	5	P	P	01 30 35.4	+0.6
HRY	Holter Researc	13.80	11	P	P	01 30 35.5	-1.0
CHMT	Chamberlain Mo	13.81	7	P	P	01 30 36.5	-0.2
CBKS	Cedar Bluff	14.04	62	P	P	01 30 40.1	+0.4
	comp=N,57nm,1.3s						
WMOK	Wichita Mounta	14.09	79	eP	P	01 30 39.5	-0.9
	comp=N,12nm,0.9s						
NEW	Newport	15.08	356	Pn	P	01 30 58.6	+5.3
	comp=N,0.4nm,0.3s,baz=168,slow=12,SNR=13						
NEW				Lg		01 35 24.3	
	comp=N,0.1nm,0.3s,baz=263,slow=21,SNR=3.6						
NEW				LR	LR	01 36 43.0	
	comp=N,3μm,19.3s,baz=183,slow=38						
NEW	Newport	15.08	356	eP	P	01 30 57.0	+3.6
	comp=N,36nm,1.2s						
LAO	LASA Array	15.27	25	eP	P	01 30 57.5	+1.8
	comp=N,60nm,1.0s						
WALA	Waterton Lakes	15.89	4	P	P	01 31 05.8	+2.0
	comp=N,126nm,1.6s						
OCWA	Octopus Mounta	15.89	339	P	P	01 31 05.6	+1.7
	comp=N,28nm,1.4s						
KSU1	Kansas State U	16.45	64	P	P	01 31 12.4	+1.3
PGC	Sidney	16.50	342	eP	P	01 31 10.2	-1.4
	comp=N,73nm,1.2s						
DGMT	Dagmar	17.51	26	P	P	01 31 28.0	+3.7
	comp=N,38nm,0.6s						
NATX	Nacogdoches	17.77	89	P	P	01 31 29.1	+1.4
	comp=N,18nm,0.6s						
EDM	Edmonton	20.07	4	eP	P	01 31 54.5	-0.3
CCM	Cathedral Cave	20.40	69	eP	P	01 31 57.1	-1.2
	comp=N,71nm,1.5s						
BBB	Bella Bella	21.00	338	LR	LR	01 39 48.8	
	comp=N,2μm,18.4s,MS4.5,baz=160,slow=36						
FVM	French Village	21.03	70	eP	P	01 32 03.6	-1.2
	comp=N,136nm,1.6s,mb5.0						
SLM	Saint Louis	21.25	68	eP	P	01 32 06.7	-0.4
	comp=N,118nm,1.4s,mb5.0						
MET	Memphis--Engin	21.35	78	P	P	01 32 06.3	-1.8
PARMO	Parma	21.49	73	eP	P	01 32 09.4	0.0
OXF	Oxford	21.82	79	P	P	01 32 10.7	-2.1
	comp=N,57nm,1.1s,mb4.9						
ULM	Lac du Bonnet	22.42	35	P	P	01 32 19.9	+1.2
	comp=N,9.5nm,1.0s,mb4.2,baz=220,slow=16,SNR=4.6						
ULM				LR	LR	01 41 56.6	
	comp=N,2μm,19.3s,MS4.5,baz=40,slow=40						
ULM	Lac du Bonnet	22.42	35	eP	P	01 32 17.4	-1.3
	comp=N,23nm,1.1s,mb4.5						
WVT	Waverly	23.04	75	eP	P	01 32 25.2	+0.3
	comp=N,74nm,2.0s,mb4.8						
LRAL	Lakeview Retre	23.97	82	P	P	01 32 36.2	+2.2
	comp=N,19nm,1.4s,mb4.3						
BLO	Bloomington	24.19	67	eP	P	01 32 35.3	-0.8
	comp=N,54nm,1.2s,mb4.8						
CPCT	Cooper Cave	25.75	76	P	P	01 32 50.1	-0.9
ACSO	Alum Creek Sta	27.00	66	eP	P	01 33 02.0	-0.5
	comp=N,20nm,1.1s,mb4.6						
DLBC	Dease Lake	27.03	343	P	P	01 33 05.8	+3.3
	comp=N,5.1nm,0.9s,mb4.1,baz=146,slow=5.8,SNR=10						
DLBC				LR	LR	01 43 48.3	
	comp=N,2μm,20.3s,MS4.8,baz=156,slow=37						
DLBC	Dease Lake	27.03	343	P	P	01 33 03.7	+1.2
FWV	Forest Hill	28.63	71	eP	P	01 33 16.4	-0.9
ELN	Prospectdale	28.69	72	P	P	01 33 16.8	-1.0
YKA	Yellowknife Ar	29.31	1	LR	LR	01 45 17.7	
	comp=N,2μm,20.5s,MS4.6,baz=165,slow=37						
SDMD	Soldier's Deli	31.70	68	P	P	01 33 45.8	+1.3
SPU	Mount Spurr	36.51	331	P	P	01 34 27.7	+2.0
INK	Inuvik	36.61	349	P	P	01 34 28.7	+2.3
	comp=N,7.3nm,1.1s,mb4.4,baz=152,slow=9.1,SNR=9.8						
INK	Inuvik	36.61	349	P	P	01 34 25.6	-0.9
	comp=N,32nm,1.7s,mb4.9						
ILAR	Eielson Array	36.90	338	P	P	01 34 30.6	+1.7
	comp=N,4.1nm,1.0s,mb4.2,baz=154,slow=7.9,SNR=16						
ILAR				LR	LR	01 49 59.6	
	comp=N,885nm,18.7s,MS4.6,baz=183,slow=37						
IMA	Indian Mountai	39.91	337	eP	P	01 34 56.3	+2.2
SCHQ	Schefferville	40.18	42	LR	LR	01 51 44.6	
	comp=N,1μm,18.4s,MS4.7,baz=86,slow=37						
MTP	Monte Pirata	47.17	96	eP	P	01 35 53.2	-0.1
ROSC	El Rosal	47.68	117	LR	LR	02 00 46.7	
	comp=N,331nm,18.5s,MS4.3,baz=328,slow=42						
TAOE	Nuku Hiva Isla	47.89	214	eLR	LR	01 49 13.0	
	comp=N,4μm,26.4s,baz=33						
BILL	Bilibino	55.23	333	i P	P	01 36 52.0	-1.7
BILL				pmax	pmax		
	comp=Z,27nm,2.5s,mb4.8						
BILL				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.3						
RKT	Rikitea	58.97	201	eLR	LR	01 54 14.5	
	comp=Z,1μm,26.8s,baz=18						
PPT	Papeete	59.99	218	eLR	LR	01 54 51.8	
	comp=Z,1μm,25.2s,baz=26						
PPT	Papeete	59.99	218	LR	LR	01 58 56.7	
	comp=Z,597nm,18.1s,MS4.8,baz=359,slow=32						
PET	Petropavlovsk	61.81	317	eP	P	01 37 46.7	+7.0
PET				e		01 46 11.3	
SEY	Seymchan	61.87	329	i P	P	01 37 40.5	+0.5
TBI	Tubuai	64.82	214	eLR	LR	01 57 04.0	
	comp=Z,936nm,27.8s,baz=25						
TIXI	Tiksi	66.25	342	eP	P	01 38 07.3	-1.1
TIXI				eS	S	01 46 55.4	-0.6
TIXI				eSS	SS	01 51 10.4	-3.1
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,299nm,14.0s,MS4.7						
LPAZ	La Paz	66.93	130	LR	LR	02 04 56.2	
	comp=Z,386nm,20.6s,MS4.6,baz=69,slow=34						
YAK	Yakutsk	71.59	333	i P	P	01 38 39.8	-1.8
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
ARCES	ARCESS Array B	73.70	13	LR	LR	02 12 18.2	
	comp=Z,624nm,21.0s,MS4.9,baz=321,slow=37						
NOA	NORSAR Array B	76.62	24	P	P	01 39 14.0	+3.3
	comp=Z,1.3nm,0.8s,mb3.9,baz=299,slow=8.1,SNR=3.0						
HFS	Hagfors	78.12	23	LR	LR	02 13 04.7	
	comp=Z,668nm,20.2s,MS5.0,baz=328,slow=35						
ROSF	Rostrenen	78.87	39	eP	P	01 39 25.8	+2.5
FLN	La Foliniere	80.05	37	eP	P	01 39 32.5	+2.8
FLN				eR			
	comp=Z,850nm,17.8s						
GRR	Gorron	80.10	38	eP	P	01 39 32.5	+2.6
KAF	Kangasniemi	80.18	17	ep	P	01 39 33.2	+3.2
BOD	Bodaibo	80.21	336	eP	P	01 39 30.4	+0.1
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
FINES	FINESS Array B	80.69	18	P	P	01 39 35.1	+2.3
	comp=Z,1.7nm,0.9s,mb4.0,baz=329,slow=11,SNR=5.8						
FINES				LR	LR	02 15 54.6	
	comp=Z,401nm,18.3s,MS4.8,baz=327,slow=36						
BDFB	Brasilia	80.72	115	LR	LR	02 16 52.6	
	comp=Z,253nm,18.6s,MS4.6,baz=210,slow=37						
CPUP	Villa Florida	81.10	129	LR	LR	02 13 34.3	
	comp=Z,130nm,19.8s,MS4.3,baz=199,slow=34						
MFF	Saint Martin d	81.61	39	eP	P	01 39 40.3	+2.4
	comp=Z,68nm,1.7s,mb5.0						
MJAR	Matsushiro Arr	82.22	309	LR	LR	02 09 44.0	
	comp=Z,416nm,20.7s,MS4.8,baz=75,slow=31						
MDJ	Mudanjiang	82.48	319	P	P	01 39 42.1	-0.4
MDJ				AMB	AMB		
	comp=Z,12nm,1.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,72nm,4.1s						
MDJ				LR	LR		
	comp=N,112nm,28.8s,MS4.4						
MDJ				LR	LR		
	comp=E,238nm,28.8s,MS4.4						
MDJ				LR	LR		
	comp=Z,287nm,26.4s,MS4.5						
MEZF	Maizieres J'vi	82.97	35	eP	P	01 39 47.6	+2.7
TCF	Toulx Ste Croi	83.05	38	eP	P	01 39 47.6	+2.2
	comp=Z,14nm,1.2s,mb4.6						
SSF	Saint Saulge	83.19	37	eP	P	01 39 48.6	+2.5
LOR	Lormes	83.23	37	eP	P	01 39 48.9	+2.6
	comp=Z,41nm,1.4s,mb5.0						
LOR				eR			
	comp=Z,615nm,17.5s						
SJPF	Ste Jean	83.26	42	eP	P	01 39 48.7	+2.2
AVF	Avril sur Loir	83.30	37	eP	P	01 39 48.7	+2.1
RJF	Les Rejaudoux	83.34	39	eP	P	01 39 49.2	+2.3
RJF				eR			
	comp=Z,762nm,18.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SMF	Signal de Mont	83.64	37	eP	P	01 39 50.4	+2.0
ESDC	Sonseca Array	83.83	46	P	P	01 39 53.0	+3.5
	comp=Z,1.0nm,0.9s,mb3.9,baz=315,slow=4.2,SNR=5.1						
CAF	Calviac	83.88	39	eP	P	01 39 51.6	+2.0
	comp=Z,51nm,1.6s,mb5.1						
HAU	Haudompre	83.94	35	eP	P	01 39 52.3	+2.5
HAU				eR			
	comp=Z,975nm,18.0s						
CDF	Champ du Feu	84.10	34	eP	P	01 39 53.1	+2.5
	comp=Z,58nm,1.7s,mb5.1						
EPF	Esparros	84.19	41	eP	P	01 39 53.7	+2.5
HINF	Hinteralfeld	84.32	35	eP	P	01 39 54.2	+2.5
MOX	Moxa	84.43	31	iP	P	01 39 57.2	+5.0
	comp=Z,logA/T=1.2,mb5.1						
MOX				L		02 19 12.0	
MOX	Moxa	84.43	31	eP	P	01 39 57.2	+5.0
	comp=Z,25nm,1.6s,mb5.1						
MOX				LR	LR		
	comp=Z,1μm,18.0s,MS5.3						
MOX	Moxa	84.43	31	eP	P	01 39 57.2	+5.0
MOX				pmax	pmax		
	comp=Z,25nm,1.6s,mb5.1						
MOX				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.3						
CLL	Collm	84.51	30	P	P	01 39 57.1	+4.5
	comp=Z,logA/T=1.1,mb5.0						
PLCA	Paso Flores	84.53	147	LR	LR	02 11 17.2	
	comp=Z,306nm,18.0s,MS4.7,baz=154,slow=31						
CABF	La Chapelle	84.79	36	eP	P	01 39 57.4	+3.3
	comp=Z,73nm,1.5s,mb5.3						
GRA1	Grafenberg Arr	84.96	31	eP	P	01 40 00.4	+5.5
	comp=Z,28nm,1.8s,mb5.1						
GRA1				LR	LR		
	comp=Z,900nm,19.0s,MS5.2						
GRF	Grafenberg Arr	84.96	31	eP	P	01 40 00.4	+5.5
	comp=Z,28nm,1.8s,mb5.1						
GRF				LR	LR		
	comp=Z,900nm,19.0s,MS5.2						
GRF	Grafenberg Arr	84.96	31	eP	P	01 40 00.4	+5.5
GRF				pmax	pmax		
	comp=Z,28nm,1.8s,mb5.1						
GRF				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.2						
MTLF	Montolieu	85.02	40	eP	P	01 39 57.8	+2.4
	comp=Z,48nm,1.6s,mb5.1						
NKC	Novy Kostel	85.09	30	AMS	AMS	02 16 10.0	
	comp=Z,1μm,20.1s						
BRG	Berggiesshubel	85.23	29	eP	P	01 40 01.0	+4.8
	comp=Z,13nm,1.4s,mb4.9						
BRG				LR	LR		
	comp=Z,620nm,16.2s,MS5.1						
BRG	Berggiesshubel	85.23	29	eP	P	01 40 01.0	+4.8
BRG				MLR	MLR		
	comp=N,388nm,16.7s,MS5.0						
BRG				MLR	MLR		
	comp=E,424nm,17.2s,MS5.0						
BRG				MLR	MLR		
	comp=Z,616nm,16.2s,MS5.1						
CN2	Changchun	85.26	321	eP	P	01 39 55.0	-1.6
CN2				eS	S	01 50 24.3	-1.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,420nm,13.0s,MS5.1						
CN2				LR	LR		
	comp=E,210nm,13.0s,MS5.1						
CN2				LR	LR		
	comp=Z,310nm,25.0s						
VIVF	Saint-Julien-l	85.29	38	eP	P	01 39 59.1	+2.4
LASF	Ste Croix	85.40	39	eP	P	01 39 59.8	+2.6
	comp=Z,37nm,1.5s,mb5.0						
PVCC	Panska Ves	85.75	29	AMS	AMS	02 19 30.0	
	comp=Z,700nm,16.8s						
ORIF	Oris-en-Rattie	85.87	37	eP	P	01 40 02.1	+2.5
ORIF				eR			
	comp=Z,642nm,17.2s						
LPL	La Plagne	85.88	37	eP	P	01 40 02.6	+3.0
LPG	La Plagne	85.90	37	eP	P	01 40 02.9	+3.2
PRU	Pruhonice	86.15	30	AMS	AMS	02 20 20.0	
	comp=Z,600nm,17.0s						
SMRF	Simiane la Rot	86.37	38	eP	P	01 40 03.9	+1.8
KHC	Kasperske Hory	86.40	31	AMS	AMS	02 20 00.0	
	comp=Z,1μm,17.1s						
MBDF	Montbardon	86.45	37	eP	P	01 40 05.1	+2.6
DAVOX	Davos	86.50	34	LR	LR	02 18 02.9	
	comp=Z,570nm,19.2s,MS5.0,baz=309,slow=35						
DPC	Dobruska-Polom	86.60	28	AMS	AMS	02 19 00.0	
	comp=Z,400nm,15.7s						
GERES	GERESS Array B	86.67	31	P	P	01 40 07.5	+4.1
	comp=Z,0.3nm,0.7s,mb3.7,baz=342,slow=4.2,SNR=5.3						
GERES				LR	LR	02 20 23.0	
	comp=Z,724nm,18.1s,MS5.1,baz=320,slow=37						
FRF	La Foret Royal	87.21	38	eP	P	01 40 08.0	+1.8
LMR	La Mourre	87.30	38	eP	P	01 40 08.8	+2.2
	comp=Z,11nm,1.1s,mb4.7						
SBF	Sospel	87.40	37	eP	P	01 40 09.7	+2.6
VRAC	Vranov	87.52	29	LR	LR	02 18 01.2	
	comp=Z,468nm,18.7s,MS4.9,baz=191,slow=35						
OKC	Ostrava-Krasne	87.72	28	AMS	AMS	02 23 30.0	
	comp=Z,600nm,13.7s						
OBN	Obninsk	88.86	16	iP	P	01 40 13.8	0.0
OBN				eSS	SS	01 57 01.3	+6.6
OBN				pmax	pmax		
	comp=Z,27nm,2.5s,mb5.1						
OBN				MLR	MLR		
	comp=Z,800nm,20.0s,MS5.1						
ZAK	Zakamensk	89.93	336	eP	P	01 40 24.2	+5.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb4.0						
ARU	Arti	90.58	3	⇑iP	P	01 40 20.9	-0.9
ARU				e		01 43 56.0	
ARU				ePPP	PPP	01 45 53.3	-5.5
ARU				eS		01 50 49.3	
ARU				eSS	SS	01 57 19.3	-0.5
ARU				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.7						
ULN	Ulaanbaatar	90.68	333	iP	P	01 40 19.5	-3.0
AKASG	Malin Array Be	90.88	21	P	P	01 40 26.8	+3.5
	comp=Z,0.3nm,0.3s,mb4.2,baz=311,slow=3.6,SNR=9.0						
AKASG	Malin Array Be	90.88	21	P	P	01 40 26.8	+3.4
SONM	Songino Array	90.95	333	LR	LR	02 22 14.4	
	comp=Z,456nm,18.9s,MS4.9,baz=21,slow=36						
ZAL	Zalesovo	91.42	348	LR	LR	02 25 48.3	
	comp=Z,815nm,18.3s,MS5.2,baz=88,slow=38						
MLR	Muntele Rosu	94.28	26	LR	LR	02 25 51.0	
	comp=Z,1μm,18.1s,MS5.4,baz=157,slow=37						
SSE	Sheshan	96.50	314	P	P	01 40 49.8	+0.2
SSE				S	S	01 52 10.2	+3.4
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.8						
SSE				AMB	AMB		
	comp=Z,656nm,8.7s						
SSE				LR	LR		
	comp=N,84nm,24.7s,MS4.5						
SSE				LR	LR		
	comp=E,184nm,24.7s,MS4.5						
SSE				LR	LR		
	comp=Z,183nm,21.7s,MS4.5						
SSE	Sheshan	96.50	314	P	P	01 40 49.8	+0.2
	comp=Z,29nm,0.7s,mb5.8						
SSE				S	S	01 52 10.2	+3.4
SSE				LR	LR		
	comp=Z,180nm,21.7s,MS4.5						
NJ2	Nanjing	97.21	316	eP	P	01 40 52.8	0.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.4						
ANN	Anapa	98.59	19	eP	P	01 41 05.6	+6.9
ANN				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.6						
ANN				MLR	MLR		
	comp=N,660nm,21.0s,MS5.2						
ANN				MLR	MLR		
	comp=E,454nm,21.0s,MS5.2						
ANN				MLR	MLR		
	comp=Z,929nm,21.0s,MS5.3						
WMQ	Urumqi	100.43	343	eP	P	01 41 07.5	+0.4
WMQ				AP		01 41 12.5	
WMQ				XP		01 41 14.5	
WMQ				SKS	SKS	01 51 45.0	-4.6
WMQ				eS	S	01 52 40.0	+0.5
WMQ				SS	SS	01 59 39.5	+0.5
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,72nm,5.2s						
WMQ				LR	LR		
	comp=N,552nm,24.0s,MS5.2						
WMQ				LR	LR		
	comp=E,864nm,24.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,598nm,24.2s,MS5.0						
KIV	Kislovodsk	100.70	16	iP	P	01 41 06.3	-2.0
KIV				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KIV				MLR	MLR		
	comp=Z,400nm,21.0s,MS4.9						
LZH	Lanzhou	101.79	328	eP	P	01 41 10.0	-3.4
	comp=Z,28nm,1.5s						
LZH				pP		01 41 13.2	
LZH				sP		01 41 14.8	
LZH				ePP	PP	01 45 22.6	-4.0
LZH				SKS	SKS	01 51 47.4	-9.0
LZH				eS	S	01 52 46.0	-5.1
LZH				sS		01 52 54.3	
LZH				SS	SS	01 59 51.4	-6.9
LZH				LR	LR		
	comp=Z,610nm,18.0s,MS5.2						
MAW	Mawson	145.55	179	PKPbc	PKPbc	01 46 58.5	+1.8
	comp=Z,7.3nm,1.0s,baz=206,slow=4.8,SNR=10.0						

NEIC 02 01:30:32.2, 33.16N×115.66W, h4^{km}, ML3.8(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
GLA	Glamis	0.71	98	eP	Pg	01 30 43.0	-3.3
PFO	Pinyon Flat Ob	0.80	304	eP	Pg	01 30 46.5	-1.7
PFO				eS	Sg	01 30 57.2	-1.7
BAR	Barrett	0.97	241	eP	Pb	01 30 49.4	-1.8
MWC	Mount Wilson	2.26	299	Pn	Pn	01 31 10.8	-0.1
GSC	Goldstone	2.34	336	Pn	Pn	01 31 11.8	-0.2
SNCC	San Nicolas Is	3.24	273	Pn	Pn	01 31 21.9	-2.9
CMB	Columbia Colle	6.20	323	Pn	Pn	01 32 04.3	-2.4

*NNC **02** 01:31:02.8±4.0, 39.12N×69.55E, h9^{km}±13^{km}, mpv3.5, Error ellipse: s-maj=29.2km s-min=28.0km az=22.0*

ISC 02 01:30:59.2±2.5**, 38.6N**±0.1×**69.6E**±0.2**, h83**^{km}±54^{km}**, n11,** σ**0**^{s}**89**/14**, 5C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KK31	Karatay Array	4.52	8	Pn	P	01 32 07.5	+0.8
	3.2nm,0.5s,baz=174,slow=12,SNR=69						
KK31				⇑Sn	S	01 32 58.2	-0.1
	2.9nm,0.5s,baz=186,slow=29,SNR=4.0						
KK31				⇓Lg		01 33 11.8	
	2.8nm,0.4s,baz=193,slow=33,SNR=5.2						
AML	Almayashu	4.67	40	P	P	01 32 08.1	-0.8
	SNR=11						
EKS2	Erkin-Say	5.12	37	P	P	01 32 14.3	-0.6
	SNR=7.0						
UCH	Uchtor	5.18	44	P	P	01 32 16.3	+0.6
	SNR=6.7						
AAK	Ala-Archa	5.45	41	P	P	01 32 19.4	0.0
	SNR=7.9						
AAK	Ala-Archa	5.45	41	⇑Pn	P	01 32 18.7	-0.7
	4.2nm,0.4s						
AAK				⇑Sn	S	01 33 22.4	+1.0
	6.7nm,0.9s						
KZA	Kyzart	5.50	49	P	P	01 32 20.8	+0.6
	SNR=18						
KBK	Karagaybulak	5.70	43	P	P	01 32 22.9	0.0
	SNR=6.4						
USP	Ospenovka	5.92	37	P	P	01 32 23.3	-2.6
	SNR=12						
TKM2	Tokmak 2	6.23	45	P	P	01 32 30.2	-0.1
	SNR=10						
AB31	Akbulak array	12.70	330	⇑Pn	P	01 33 59.1	+1.3
	0.3nm,0.3s,baz=166,slow=22,SNR=4.3						
AB31				⇑Sn	S	01 36 16.9	-0.7
	0.6nm,0.5s,baz=159,slow=22,SNR=5.5						

*IDC **02** 01:44:19.1±6.2, 35.29S×106.46W, mb3.9/2, mb1 4.4/2, mb1mx3.8/14, mbtmp3.9/2, Error ellipse: s-maj=355.5km s-min=63.4km az=67.0*

NEIC 02 01:44:20.4±2.0**, 35.36S**×**106.35W, h10**^{km}**, mb4.3**/1**, 3C, Error ellipse: s-maj=192.0km s-min=17.2km az=80.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
VNA3	Neumayer Olymp	59.05	158		P	01 54 20.2	-2.3
VNA3	Neumayer Olymp	59.05	158	e	P	01 54 25.2	+2.7
VNA3	Neumayer Olymp	59.05	158	e	P	01 54 27.4	+4.9
VNA3	Neumayer Olymp	59.05	158	e	P	01 54 34.3	+12
VNA1	Neumayer--Stat	59.68	158	⇑i	P	01 54 26.2	-0.7
VNA1	Neumayer--Stat	59.68	158	e	P	01 54 31.2	+4.3
VNA1	Neumayer--Stat	59.68	158	e	P	01 54 40.3	+13
VNA2	Neumayer--Watz	59.86	158	⇑i	P	01 54 24.8	-3.2
VNA2	Neumayer--Watz	59.86	158	e	P	01 54 30.8	+2.8
VNA2	Neumayer--Watz	59.86	158	e	P	01 54 32.4	+4.4
VNA2	Neumayer--Watz	59.86	158	e	P	01 54 40.1	+12
SNAA	Sanae	60.92	159	⇑i	P	01 54 31.7	-3.6
SNAA	Sanae	60.92	159	e	P	01 54 37.0	+1.7
SNAA	Sanae	60.92	159	e	P	01 54 38.9	+3.6
SNAA	Sanae	60.92	159	eP	P	01 54 32.1	-3.1
	2.4nm,0.9s						
TXAR	Lajitas Array	64.39	3	P	P	01 54 56.6	-2.3
	0.8nm,1.0s,baz=190,slow=7.6,SNR=5.7						
PDAR	Pinedale Array	77.80	358	P	P	01 56 17.8	-1.6
	2.4nm,1.0s,baz=166,slow=6.1,SNR=13						
AKASG	Malin Array Be	144.67	50	PKP	PKPdf	02 03 57.2	-2.6
	0.2nm,0.3s,baz=276,slow=4.1,SNR=5.3						
BRTR	Keskin Array B	148.16	70	PKPbc	PKPdf	02 04 06.2	+0.2
	1.0nm,0.9s,baz=236,slow=5.2,SNR=3.7						

*ISK **02** 01:47:11.8, 36.49N×34.99E, h49^{km}, MD3.5*
*CSEM **02** 01:47:11.9±0.1, 36.53N×34.99E, h40^{km}, MD3.5, Error ellipse: s-maj=2.1km s-min=1.8km az=29.0*

ISC 02 01:47:12.2±0.5**, 36.44N**±0.04×**35.03E**±0.04**, h47**^{km}±10^{km}**, n19,** σ**0**^{s}**75**/27**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KRTS	Karatas	0.31	65	PG	P	01 47 21.2	0.0
KRTS				SG	S	01 47 28.7	+1.1
MERS	Mersin	0.59	316	PG	P	01 47 23.9	-0.5
MERS				SG	S	01 47 32.6	-0.7
MEST	Erdemli	0.73	282	iP	P	01 47 25.7	-0.5
MEST				iS	S	01 47 35.9	-0.6
CEYT	Ceyhan	0.81	45	PG	P	01 47 26.8	-0.6
KARA	Karaisali	0.82	1	PG	P	01 47 27.3	-0.2
KARA				SG	S	01 47 38.2	-0.5
HTY	Hatay	0.95	109	PG	P	01 47 30.6	+1.3
COBT	Iskenderun	0.99	85	iP	P	01 47 29.7	-0.2
COBT				iS	S	01 47 42.4	-0.7
IKL	Isikli	1.10	260	PN	P	01 47 31.2	-0.3
KOZT	Kozan	1.22	31	PN	P	01 47 32.5	-0.6
NIG	Nigde	1.70	349	ePN	P	01 47 39.6	-0.4
ERMK	Ermenek	1.71	277	iP	P	01 47 40.8	+0.6
ERMK				iS	S	01 48 02.6	+1.6
GAZ	Gaziantep	1.90	67	ePN	P	01 47 43.2	+0.4
HDMB	Hadim	2.11	285	ePN	P	01 47 45.7	-0.1
LEF	Lefka	2.18	233	ePN	P	01 47 46.8	0.0
HWQ	Hawqa	2.29	161	ePn	P	01 47 49.3	+1.0
HWQ				Sn	S	01 48 15.1	-0.3
AVNT	Avonos	2.34	357	iP	P	01 47 50.6	+1.6
AVNT				iS	S	01 48 24.7	+8.1
BHL	Bhannes	2.58	168	Sn	S	01 48 21.6	-1.3
BHL	Bhannes	2.58	168	Sn	S	01 48 21.5	-1.4
MATL	Matirih	2.96	175	ePn	P	01 47 57.9	0.0

*NEIC **02** 01:49:24.1, 39.28N×23.83E, h23^{km}, MD3.0(ATH), After ATH.*
*ATH **02** 01:49:25.3, 39.32N×23.69E, h22^{km}, MD3.0/4*
*CSEM **02** 01:49:25.1±0.3, 39.31N×23.76E, h5^{km}, ML2.6, Error ellipse: s-maj=8.4km s-min=3.0km az=119.0*
*THE **02** 01:49:25.7, 39.27N×23.71E, h12^{km}, ML2.6*

ISC 02 01:49:23.2±1.6**, 39.28N**±0.07×**23.8E**±0.1**, h7**^{km}±8^{km}**, n12,** σ**0**^{s}**98**/16**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
NEO	Neokhori	0.44	274	ePB	Pb	01 49 33.0	+0.2
NEO				eSB	Sb	01 49 38.7	-0.6
NEO	Neokhori	0.44	274	ePb	Pb	01 49 32.9	+0.1
NEO				eSb	Sb	01 49 41.1	+1.8
XOR	Xorichti	0.47	281	ePg	Pg	01 49 33.7	+1.0
LKR	Lokris	0.88	225	ePN	Pn	01 49 41.7	0.0
LKR				eSN	Sn	01 49 53.9	-0.9
OUR	Ouranopolis	1.06	8	ePg	Pg	01 49 45.7	+1.2
PLG	Polygyros	1.13	346	ePN	Pn	01 49 45.3	+0.1
AGG	Agios Georgios	1.17	258	ePg	Pg	01 49 46.0	-0.4
AGG				eSg	Sg	01 50 01.6	-0.4
SOH	Sokhos	1.58	348	ePg	Pg	01 49 52.3	-2.4
EVR	Evrytania	1.58	257	ePN	Pn	01 49 53.2	+1.4
SRS	Serrai	1.84	355	ePb	Pb	01 49 56.1	-0.7
GRG	Griva	1.99	328	ePb	Pb	01 49 58.3	-0.9
KNT	Kendrikon	2.00	340	ePn	Pn	01 49 58.6	+0.8

*NEIC **02** 02:09:53.4, 56.81N×155.40W, h40^{km}, ML3.5(AEIC), After AEIC.*
*IDC **02** 02:10:04.6±7.3, 58.13N×156.81W, h85^{km}±62^{km}, mb3.1/4, mb1 3.3/6, mb1mx3.1/22, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=51.6km s-min=22.8km az=32.0*

ISC 02 02:09:50.3±0.7**, 56.78N**±0.07×**155.3W**±0.1**, h72**^{km}±11^{km}**, n35,** σ**0**^{s}**74**/34**, mb3.5**/2**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
CAHL	Cahill	1.28	1	P	P	02 10 13.6	+0.7
KJL	Kejulik	1.29	354	P	P	02 10 13.7	+0.7
KABR	Katmai Barrier	1.37	8	P	P	02 10 14.9	+0.7
ANCK	Angle Creek	1.43	356	P	P	02 10 15.7	+0.7
ANCK				S	S	02 10 33.3	+0.1
MGLS	Mageik LS	1.44	0	P	P	02 10 14.8	-0.3
MGLS				S	S	02 10 31.3	-2.1
ANPK	Aniakchak Peak	1.54	274	P	P	02 10 16.9	+0.5
ANPB	Aniakchak Plen	1.63	272	P	P	02 10 18.4	+0.8
KDAK	Kodiak Island	1.80	55	P	P	02 10 21.3	+1.4
SDPT	Sand Point	3.22	246	P	P	02 10 40.1	+0.3
CNPM	China Poot	3.51	36	P	P	02 10 44.9	+1.1
BLHA	Black Hill	3.91	257	P	P	02 10 49.4	-0.1
HAG	Hague Volcano	3.97	251	P	P	02 10 50.6	+0.3
DOL	Dolgoi Island	4.02	249	P	P	02 10 50.8	-0.1
DRIA	Deer Island	4.31	248	P	P	02 10 54.5	-0.4
SVW2	Sparrevohn	4.34	358	P	P	02 10 55.1	-0.3
BALA	Baldy Mountain	4.48	252	P	P	02 10 57.8	+0.4
SEW	Seward	4.55	40	P	P	02 10 57.8	-0.5
LTI	Latouche	5.11	47	P	P	02 11 05.9	-0.2
TT01	Tatalina	6.16	357	P	P	02 11 20.4	-0.1
EYAK	Cordova Ski Ar	6.27	49	P	P	02 11 21.1	-1.0
VLZ	Valdez	6.38	43	P	P	02 11 23.2	-0.4
SCM	Sheep Creek Mo	6.51	36	P	P	02 11 25.2	-0.4
UNV	Unalaska Valle	7.02	250	P	P	02 11 31.0	-1.6
MTBL	Makushin Table	7.05	251	P	P	02 11 32.4	-0.6
MSW	Makushin Switc	7.13	251	P	P	02 11 33.5	-0.7
BALM	Baldy	7.96	52	P	P	02 11 44.9	-0.6
ILAR	Eielson Array	9.01	24	P	P	02 11 59.5	-0.4
	0.2nm,0.3s,baz=214,slow=13,SNR=7.9						
ILAR				S	S	02 13 32.1	-8.6
	0.1nm,0.3s,baz=227,slow=16,SNR=2.4						
INK	Inuvik	15.20	32	P	P	02 13 26.4	+4.8
	0.1nm,0.3s,baz=230,slow=7.9,SNR=3.3						
INK	Inuvik	15.20	32	P	P	02 13 26.4	+4.8
PDAR	Pinedale Array	32.05	96	P	pP	02 16 31.8	+2.5
	0.2nm,0.5s,baz=304,slow=6.5,SNR=2.4						
PDAR	Pinedale Array	32.05	96	P	pP	02 16 31.8	+2.5
TXAR	Lajitas Array	45.16	105	P	pP	02 18 21.0	+1.7
	0.4nm,0.8s,baz=333,slow=5.6,SNR=4.2						
TXAR	Lajitas Array	45.16	105	P	pP	02 18 21.0	+1.7
SONM	Songino Array	55.70	306	P	P	02 19 21.7	+0.7
	0.2nm,0.5s,mb3.4,baz=37,slow=7.2,SNR=2.5						
FINES	FINESS Array B	62.11	359	P	P	02 20 06.2	+0.9
	0.3nm,0.5s,mb3.6,slow=9.5,SNR=4.3						

*BER **02** 02:09:55.0±3.1, 72.58N×4.36E, ML2.1*
*NEIC **02** 02:09:55.2±3.1, 72.37N×4.69E, h10^{km}, Error ellipse: s-maj=39.4km s-min=15.9km az=139.0*
*IDC **02** 02:09:55.2±4.9, 72.13N×4.71E, mb3.4/3, mb1 3.5/7, mb1mx3.3/23, mbtmp3.4/7, ML3.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.9/24, Error ellipse: s-maj=67.8km s-min=26.3km az=154.0*

ISC 02 02:09:55.1±2.2**, 72.2N**±0.1×**5.1E**±0.4**, h7**^{km}±23^{km}**, n16,** σ**1**^{s}**03**/21**, mb3.3**/3**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
JMIC	Jan Mayen	4.49	261	LR	LR	02 12 08.8	
	comp=Z,313nm,20.3s,baz=151,slow=31						
LOF	Lofoten	4.99	141	eP	Pn	02 11 15.8	+3.5
LOF				eS	Sn	02 12 14.0	+3.0
LOF				AML	AML	02 12 20.8	
	comp=Z,5.2nm,0.7s						
TRO	Tromso	5.20	113	eP	Pn	02 11 14.6	-0.8
TRO				eS	Sn	02 12 17.1	+0.6
MELSS	Ber_school_2	6.14	146	eP	Pn	02 11 29.5	+0.9
MELSS				eS	Sn	02 12 39.2	-0.8
KTK1	Kautokeino	6.81	109	eP	Pn	02 11 39.1	+1.1
MOR8	Moi Rana	6.89	147	eP	Pn	02 11 39.9	+0.7
MOR8				eS	Sn	02 12 57.9	-0.9
MOR8				AML	AML	02 13 06.0	
	comp=Z,3.2nm,0.2s						
ARCES	ARCESS Array B	7.19	102	Pn	Pn	02 11 42.4	-0.9
	comp=Z,0.2nm,0.3s,baz=309,slow=12,SNR=18						
ARCES				Sn	Sn	02 13 05.8	-0.3
	comp=Z,0.1nm,0.3s,baz=307,slow=22,SNR=3.3						
ARCES	ARCESS Array B	7.19	102	Pn	Pn	02 11 42.4	-0.9
ARCES				Sn	Sn	02 13 05.8	-0.3
NSS	Namsos	8.10	159	eP	P	02 11 55.7	-0.4
NOA	NORSAR Array B	11.46	165	Pn	P	02 12 41.9	-0.1
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=2.3						
HFS	Hagfors	12.58	160	Pn	P	02 12 55.7	-1.5
	comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=11						
HFS	Hagfors	12.58	160	Pn	P	02 12 55.7	-1.5
FINES	FINESS Array B	13.47	132	Pn	P	02 13 08.4	-0.6
	comp=Z,0.2nm,0.3s,baz=333,slow=12,SNR=3.8						
GERES	GERESS Array B	23.76	166	P	P	02 15 10.1	+1.7
	comp=Z,0.7nm,0.8s,mb3.1,baz=346,slow=11,SNR=6.0						
AKASG	Malin Array Be	24.09	141	P	P	02 15 11.7	0.0
	comp=Z,0.2nm,0.4s,mb2.9,baz=340,slow=9.8,SNR=4.5						
BRTR	Keskin Array B	35.50	141	P	P	02 16 53.4	-0.7
	comp=Z,1.4nm,1.1s,mb3.8,baz=329,slow=8.4,SNR=3.4						

IDC 02 02:41:59.8±4.0**, 1.56N**×**97.58E, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.6**/17**, mbtmp3.8**/4**, Error ellipse: s-maj=155.5km s-min=27.4km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	Warramunga Arr	41.90	123	P	P	02 49 52.2	-1.8
	0.6nm,0.6s,baz=302,slow=9.2,SNR=3.7						
SONM	Songino Array	46.73	8	P	P	02 50 31.0	-1.5
	1.2nm,0.8s,baz=185,slow=8.8,SNR=8.0						
MKAR	Makanchi Array	46.99	346	P	P	02 50 32.1	-2.4
	1.0nm,0.7s,baz=160,slow=8.2,SNR=9.9						
ZAL	Zalesovo	53.26	351	P	P	02 51 20.4	-2.1
	1.2nm,0.3s,baz=293,slow=4.5,SNR=4.9						

*NEIC **02** 02:46:35.5, 33.15N×115.65W, h5^{km}, ML3.7(PAS), After PAS.*

ECX 02 02:46:35.9±0.6**, 33.16N**×**115.65W, h4**^{km}±2^{km}**, MD3.8, ML3.9, 3C-5D, Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
FRK	Frink	0.24	2	⇓iP	Pg	02 46 40.3	-0.5
COK	Cook Ranch	0.31	192	⇓iP	Pg	02 46 41.8	-0.3
CRR	Carrizo Plain	0.38	225	⇓iP	Pg	02 46 42.6	-0.9
SGL	Mount Signal	0.51	187	⇓iP	Pg	02 46 44.7	-1.4
COA	Coachella	0.53	123	⇑iP	Pg	02 46 45.4	-1.1
YAQ	Yaqui Meadows	0.59	271	⇑iP	Pg	02 46 46.4	-1.2
RMX	La Rumorosa	0.66	213	eP	Pg	02 46 47.9	-1.2
RMX				eS	Sg	02 46 56.8	-1.1
RMX				⇑e		02 46 58.2	
	comp=E,6μm,0.5s						
RMX				⇓e		02 46 58.6	
	comp=N,4μm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLA	Glamis	0.70	98	eP	Pg	02 46 48.0	-1.9
PFO	Pinyon Flat Ob	0.81	304	eP	Pg	02 46 50.1	-2.0
BAR	Barrett	0.98	241	eP	Pb	02 46 52.5	-2.6
CBX	Cerro Bola	1.20	226	eP	Pb	02 46 56.6	-2.2
CBX				eS	Sb	02 47 12.7	-1.8
ENX	Ensenada	1.53	214	eP	Pn	02 47 02.4	-1.8
ENX				eS	Sb	02 47 23.1	-1.1
PBX	Punta Banda	1.68	213	eP	Pn	02 47 04.5	-1.8
ECNX	Esteban Cantu	1.69	208	eP	Pn	02 47 02.3	-4.2
LDFC	Landfair	1.97	13	ePn	Pn	02 47 09.9	-0.5
SPX	San Pedro Mart	2.11	176	ePN	Pn	02 47 09.3	-3.1
MWC	Mount Wilson	2.27	299	ePn	Pn	02 47 11.8	-3.0
GSC	Goldstone	2.35	336	ePn	Pn	02 47 14.5	-1.3
NEN	Nelson	2.58	15	ePn	Pn	02 47 17.2	-1.9
DAC	Darwin (Calif)	3.50	333	ePn	Pn	02 47 28.5	-3.8
TUC	Tucson	4.19	100	ePn	Pn	02 47 37.5	-4.6
PTRM	Twissleman Ran	4.52	305	Pn	Pn	02 47 44.3	-2.4
MTUM	Tungsten Hills	4.82	331	Pn	Pn	02 47 48.5	-2.5
ARUT	Antelope Range	4.96	21	ePn	Pn	02 47 52.4	-0.6
TPH	Tonopah	5.07	346	Pn	Pn	02 47 53.4	-1.2
LRV	Little Rabbit	5.49	308	Pn	Pn	02 48 01.5	+1.0
SAO	San Andreas Ge	5.97	309	Pn	Pn	02 48 04.5	-2.7
MSU	Marysvale	6.04	27	Pn	Pn	02 48 07.7	-0.6
CMB	Columbia Colle	6.21	323	ePn	Pn	02 48 07.6	-3.1
SAC	San Andreas	7.08	311	Pn	Pn	02 48 18.9	-3.9
TMUT	Trail Mountain	7.10	29	Pn	Pn	02 48 21.4	-1.8
SRU	San Rafael	7.25	33	ePn	Pn	02 48 22.5	-2.7
DUG	Dugway	7.39	17	ePn	Pn	02 48 23.9	-3.3
PV10	Paradox Valley	7.48	44	Pn	Pn	02 48 25.6	-2.9
ELK	Elko	7.58	2	Pn	Pn	02 48 25.7	-4.3
PV01	Paradox Valley	7.61	47	ePn	Pn	02 48 28.1	-2.1
ANMO	Albuquerque	7.83	74	Pn	Pn	02 48 28.8	-4.6
JLU	Jordanelle	8.16	23	Pn	P	02 48 39.0	+1.0
MNTX	Cornudas Mount	8.80	97	eP	P	02 48 41.8	-5.1
HWUT	Hardware Ranch	9.04	20	Pn	P	02 48 48.0	-2.2

MAN 02 03:35:52.3, 9.79N×126.42E, h6km, mb4.2, ML3.0, MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.92	270	eP	Pb	03 36 09.9	-0.3
SCPH				eS	Sb	03 36 21.8	-0.6
BUTP	Butuan	1.13	224	eP	Pb	03 36 13.6	-0.3
BUTP				eS	Sb	03 36 29.9	+1.2
MSLP	Maasin	1.58	283	eP	Pn	03 36 20.8	-0.2
MSLP				eS	Sb	03 36 42.1	+0.5
BESP	Borongan	2.04	332	eP	Pn	03 36 26.8	-0.8
BESP				eS	Sn	03 36 55.8	+2.1
BUKP	Musuan	2.32	215	eP	Pn	03 36 32.1	+0.5
BUKP				eS	Sn	03 37 01.5	+0.7
PAGZ	Pagadian	3.57	238	eP	Pn	03 36 49.5	+0.2
PAGZ				eS	Sn	03 37 31.5	-0.9

CASC 02 03:50:08.5±1.7, 7.26N×82.12W, h144km±30km, MD4.0, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	Volcan	1.62	340	eS	S	03 51 05.1	+2.1
AZU2	Pedas	2.09	82	eP	P	03 50 44.6	-0.1
AZU2				eS	S	03 51 13.2	+0.7
BUS	Buena Vista	2.80	325	⇓eP	P	03 50 54.2	+0.4
BUS				eS	S	03 51 31.0	+2.8
LCR2	La Lucha 2	3.09	323	⇑eP	P	03 50 57.7	+0.2
LCR2				eS	S	03 51 36.5	+1.5
PRS1	Puriscal	3.47	321	eP	P	03 51 01.7	-0.8

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*IDC **02** 04:12:25.2±2.7, 2.10N×96.66E, mb4.0/5, mb1 4.1/5, mb1mx3.7/17, mbtmp4.0/5, Error ellipse: s-maj=108.5km s-min=27.0km az=56.0*

*NEIC **02** 04:12:29.5±1.1, 2.06N×96.62E, h30km, Error ellipse: s-maj=24.0km s-min=18.1km az=217.0*

ISC 02 04:12:27.8±1.5, 2.1N±0.2×96.6E±0.2, h30km, n7, σ0§22/7, mb4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.12	51	ePn	Pn	04 13 44.6	+0.1
WRA	Warramunga Arr	42.99	122	P	P	04 20 26.4	-0.1
	0.8nm,0.6s,mb3.6,baz=301,slow=9.3,SNR=3.8						
MKAR	Makanchi Array	46.25	346	P	P	04 20 52.0	-0.3
	1.8nm,0.7s,mb4.1,baz=163,slow=8.0,SNR=17						
MKAR	Makanchi Array	46.25	346	P	P	04 20 52.0	-0.3
SONM	Songino Array	46.35	9	P	P	04 20 53.0	0.0
	0.7nm,0.4s,mb3.9,baz=190,slow=9.2,SNR=10						
ZAL	Zalesovo	52.59	351	P	P	04 21 41.0	0.0
	1.8nm,0.4s,mb4.4,baz=318,slow=3.8,SNR=5.7						
ARCES	ARCESS Array B	81.52	340	P	P	04 24 44.0	+0.4
	0.9nm,0.8s,mb3.8,baz=90,slow=4.5,SNR=5.1						

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*CRAAG **02** 04:12:47.3, 36.81N×3.55E, Ml3.7*

*CSEM **02** 04:12:47.9±0.1, 36.80N×3.45E, h40km±4km, ML3.2/10, Error ellipse: s-maj=3.4km s-min=2.8km az=19.0*

*MDD **02** 04:12:48.2±0.6, 36.83N×3.55E, h4km±7km, mb4.1/15, Error ellipse: s-maj=7.0km s-min=4.5km az=2.0, PRXIMO*

*SFS **02** 04:12:51.0, 37.12N×3.37E*

*NEIC **02** 04:12:52.2, 37.12N×3.36E, MG4.2(MDD), After MDD.*

*LDG **02** 04:12:53.5±0.3, 37.07N×3.42E, h10km, Ml3.2/12, Error ellipse: s-maj=7.3km s-min=3.5km az=149.0*

ISC 02 04:12:46.8±0.3, 36.94N±0.03×3.47E±0.03, h10km, n87, σ1§32/111, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABMS	Boumerdes	0.19	178	P	Pg	04 12 49.6	-1.3
ABA	Alger-Bouzarea	0.38	249	P	Pg	04 12 56.2	+1.7
ADJB	Djebel Djouab	0.78	182	P	Pb	04 13 00.8	-1.2
EMHD	Djebel Mahouad	0.85	210	P	Pb	04 13 03.0	-0.1
AKF	Akfadou	0.93	109	P	Pb	04 13 03.7	-0.8
AKET	Djebel Ketaf	0.95	160	P	Pb	04 13 03.5	-1.4
SET	Setif	1.72	115	P	Pn	04 13 16.0	-1.0
CKHR	Kef el Ahmar	1.88	119	P	Pn	04 13 22.2	+2.8
DFRA	Djebel Bou Aff	1.97	101	P	Pn	04 13 19.9	-0.8
EIBI	Ibiza	2.68	322	P	Pn	04 13 32.3	+1.5
	4.7nm,0.1s,SNR=32						
EIBI				S	Sn	04 14 03.0	-0.7
	13nm,0.1s,SNR=9.8						
EIBI	Ibiza	2.68	322	P	Pn	04 13 32.3	+1.5
	4.7nm,0.1s,SNR=32						
EIBI				S	Sn	04 14 03.0	-0.6
	13nm,0.1s,SNR=9.8						
CAEH	'Ain El Ouahch	2.71	92	P	Pn	04 13 23.2	-8.1
ETOS	Mallorca	2.87	350	⇓P	Pn	04 13 34.6	+1.0
	8.5nm,0.1s,SNR=18						
ETOS				S	Sn	04 14 05.8	-2.7
	1.7nm,0.1s,SNR=4.7						
ETOS	Mallorca	2.87	350	P	Pn	04 13 34.6	+1.0
	8.5nm,0.1s,SNR=18						
ETOS				S	Sn	04 14 05.8	-2.7
	1.7nm,0.1s,SNR=4.7						
MAHO	Mahon	3.02	12	eP	Pn	04 13 34.7	-0.9
MAHO				eS	Sn	04 14 08.5	-3.7
EBEN	Beniarda	3.42	302	P	Pn	04 13 43.3	+2.0
	3.4nm,0.2s,SNR=7.9						
EBEN				S	Sn	04 14 22.2	-0.2
	0.7nm,0.1s,SNR=7.9						
EBEN	Beniarda	3.42	302	P	Pn	04 13 43.3	+2.0
EBEN				S	Sn	04 14 19.9	-2.4
EBEN	Beniarda	3.42	302	P	Pn	04 13 43.3	+2.0
	3.4nm,0.2s,SNR=7.9						
EBEN				S	Sn	04 14 19.9	-2.4
	0.7nm,0.1s,SNR=7.9						
EMUR	La Murta	3.86	285	P	Pn	04 13 49.0	+1.4
	2.4nm,0.3s,SNR=7.9						
EMUR				S	Sn	04 14 31.5	-2.1
	1.5nm,0.2s,SNR=7.9						
EMUR	La Murta	3.86	285	P	Pn	04 13 50.9	+3.3
EMUR				S	Sn	04 14 31.5	-2.1
ETOB	Tobarra	4.33	295	P	Pn	04 13 55.6	+1.4
	6.8nm,0.2s,SNR=26						
ETOB				S	Sn	04 14 43.0	-2.3
	1.1nm,0.2s,SNR=5.2						
ETOB	Tobarra	4.33	295	P	Pn	04 13 55.6	+1.4
ETOB				S	Sn	04 14 43.0	-2.3
ETOB	Tobarra	4.33	295	P	Pn	04 13 55.6	+1.4
	6.8nm,0.2s,SNR=26						
ETOB				S	Sn	04 14 43.0	-2.3
	1.1nm,0.2s,SNR=5.2						
ECHE	Chera	4.38	309	P	Pn	04 13 56.8	+1.7
	9.6nm,0.3s,SNR=29						
ECHE				S	Sn	04 14 44.6	-2.2
	0.7nm,0.1s						
ENIJ	Nijar	4.55	272	S	Sn	04 14 50.1	-0.9
	SNR=7.9						
EMOS	Mosqueruela	4.61	319	P	Pn	04 13 59.2	+1.0
	1.6nm,0.1s,SNR=26						
EMOS				S	Sn	04 14 51.0	-1.4
	0.7nm,0.1s,SNR=7.0						
EMOS	Mosqueruela	4.61	319	P	Pn	04 13 59.2	+1.0
EMOS				S	Sn	04 14 49.0	-3.4
EMOS	Mosqueruela	4.61	319	P	Pn	04 13 59.2	+1.0
	1.6nm,0.1s,SNR=26						
EMOS				S	Sn	04 14 49.0	-3.5
	0.7nm,0.1s,SNR=7.0						
ERTA	Horta de San J	4.70	330	P	Pn	04 14 00.3	+0.8
	0.5nm,0.2s,SNR=7.9						
ERTA				S	Sn	04 14 52.7	-2.1
	0.9nm,0.1s,SNR=7.9						
ERTA	Horta de San J	4.70	330	P	Pn	04 14 00.3	+0.8
ERTA				S	Sn	04 14 50.2	-4.6
ERTA	Horta de San J	4.70	330	P	Pn	04 14 00.3	+0.8
	0.5nm,0.2s,SNR=7.9						
ERTA				S	Sn	04 14 50.2	-4.6
	0.9nm,0.1s,SNR=7.9						
EPOB	Poblet	4.79	338	P	Pn	04 14 01.3	+0.6
	1.0nm,0.1s,SNR=8.1						
EPOB				S	Sn	04 14 55.6	-1.3
	1.1nm,0.1s						
EPOB	Poblet	4.79	338	P	Pn	04 14 01.3	+0.6
EPOB				S	Sn	04 14 52.8	-4.2
EPOB	Poblet	4.79	338	P	Pn	04 14 01.3	+0.6
	1.0nm,0.1s,SNR=8.1						
EPOB				S	Sn	04 14 52.8	-4.1
	1.1nm,0.1s						
EHUE	Huescar	4.91	282	P	Pn	04 14 04.5	+2.1
	0.2nm,0.1s,SNR=6.7						
EHUE				S	Sn	04 14 57.9	-2.2
	0.5nm,0.2s,SNR=5.7						
EVIA	Vianos	5.03	292	P	Pn	04 14 05.3	+1.1
	3.3nm,0.4s,SNR=7.9						
EVIA				S	Sx	04 14 59.8	
	1.1nm,0.2s,SNR=7.9						
EBER	Berja	5.10	271	P	Pn	04 14 06.6	+1.5
	0.4nm,0.2s,SNR=4.0						
EBER				S	Sx	04 15 01.9	
	0.0nm,0.1s,SNR=7.9						
EBER	Berja	5.10	271	P	Pn	04 14 07.4	+2.3
EBER				S	Sx	04 15 01.9	
EBER	Berja	5.10	271	S	Sn	04 15 02.0	-2.8
	SNR=7.9						
EMIR	Miracle	5.19	344	P	Pn	04 14 07.9	+1.4
	7.0nm,0.1s,SNR=23						
EMIR				S	Sx	04 15 04.0	
	3.1nm,0.1s,SNR=4.5						
EMIR	Miracle	5.19	344	P	Pn	04 14 07.9	+1.4
	7.0nm,0.1s,SNR=23						
EMIR				S	Sx	04 15 04.0	
	3.1nm,0.1s,SNR=4.5						
EQES	Quesada	5.28	281	P	Pn	04 14 09.6	+1.8
	5.3nm,0.4s,SNR=10.0						
EQES				S	Sx	04 15 09.2	
	4.1nm,0.3s						
EJON	La Jonquera	5.52	356	P	Pn	04 14 11.7	+0.6
	2.9nm,0.1s,SNR=12						
EJON				S	Sx	04 15 10.8	
	3.5nm,0.3s						
EJON	La Jonquera	5.52	356	P	Pn	04 14 11.7	+0.6
	2.9nm,0.1s,SNR=12						
SJAF	Saint Jean de	5.56	355	P	Pn	04 14 11.7	+0.1
FILF	Fillols	5.66	353	P	Pn	04 14 13.8	+0.7
EGRA	Graus	5.79	336	P	Pn	04 14 15.1	+0.2
	0.2nm,0.1s,SNR=7.9						
EGRA				S	Sx	04 15 18.5	
	0.2nm,0.2s,SNR=4.0						
EGRA	Graus	5.79	336	P	Pn	04 14 15.1	+0.2
EGRA				S	Sx	04 15 16.4	
CARF	Carcanieres	5.87	350	P	Pn	04 14 17.0	+1.0
SALF	Salau	6.08	344	P	Pn	04 14 20.1	+1.2
LPEF	Le Peyrat	6.12	349	P	Pn	04 14 21.5	+1.9
EBIE	Bielsa	6.29	337	P	Pn	04 14 22.1	+0.2
	1.1nm,0.3s,SNR=9.3						
EBIE				S	Sx	04 15 30.9	
	0.4nm,0.1s						
EBIE	Bielsa	6.29	337	P	Pn	04 14 22.1	+0.2
	1.1nm,0.3s,SNR=9.3						
ESDC	Sonseca Array	6.45	297	P	Pn	04 14 24.7	+0.4
	5.0nm,0.2s,baz=108,slow=14,SNR=49						
ESDC				S	Sx	04 15 33.9	
	0.4nm,0.3s,baz=114,slow=17,SNR=4.0						
ESDC	Sonseca Array	6.45	297	P	Pn	04 14 24.7	+0.4
ESDC				S	Sx	04 15 33.5	
ESLA	Sonseca Array	6.45	297	ePn	Pn	04 14 24.5	+0.2
MTLF	Montolieu	6.47	352	ePn	Pn	04 14 24.7	+0.2
MTLF				eSn	Sx	04 15 31.3	
	2.0nm,0.4s						
EADA	Adamuz	6.51	283	P	Pn	04 14 24.0	-1.1
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sx	04 15 35.3	
	0.2nm,0.1s,SNR=7.9						
EPF	Esparros	6.54	339	ePn	Pn	04 14 26.2	+0.7
EPF				eSn	Sx	04 15 36.5	
	4.2nm,0.4s						
ETSF	Etsaut	6.71	334	ePn	Pn	04 14 28.5	+0.6
ETSF				eSn	Sx	04 15 39.6	
	1.9nm,0.4s						
LMR	La Mourre	6.80	19	ePn	Pn	04 14 27.2	-1.9
LMR				eSn	Sx	04 15 39.3	
	2.6nm,0.2s						
PGF	Pioggiola	7.04	36	ePn	Pn	04 14 30.2	-2.3
PGF				eSn	Sx	04 15 43.9	
	4.8nm,0.4s						
FRF	La Foret Royal	7.05	19	ePn	Pn	04 14 30.5	-2.1
FRF				eSn	Sx	04 15 46.8	
	5.4nm,0.4s						
LASF	Ste Croix	7.14	2	ePn	Pn	04 14 32.6	-1.3
LASF				eSn	Sx	04 15 46.7	
	5.8nm,0.5s						
SJPF	Ste Jean	7.14	331	ePn	Pn	04 14 35.0	+1.0
SJPF				eSn	Sx	04 15 46.8	
	3.6nm,0.5s						
SMRF	Simiane la Rot	7.21	12	ePn	Pn	04 14 34.8	-0.1
SMRF				eSn	Sx	04 15 53.0	
	5.7nm,0.9s						
EALK	Alkurruntz	7.34	330	P	Pn	04 14 37.8	+1.1
	0.3nm,0.1s,SNR=7.9						
EALK				S	Sx	04 15 54.2	
	0.9nm,0.4s,SNR=7.9						
SBF	Sospel	7.55	22	ePn	Pn	04 14 39.2	-0.4
SBF				eSn	Sx	04 15 56.7	
	3.9nm,0.3s						
VIVF	Saint-Julien-l	7.96	6	ePn	Pn	04 14 44.7	-0.7
VIVF				eSn	Sx	04 16 07.7	
	1.5nm,0.3s						
CAF	Calviac	8.05	353	ePn	P	04 14 47.7	+1.0
	3.2nm,0.5s						
MBDF	Montbardon	8.17	17	ePn	P	04 14 48.7	+0.4
ORIF	Oris-en-Rattie	8.18	12	ePn	P	04 14 52.1	+3.7
ELAN	Lanestosa	8.22	322	P	P	04 14 50.4	+1.5
	0.5nm,0.1s,SNR=7.9						
ELAN	Lanestosa	8.22	322	P	P	04 14 53.4	+4.5
RJF	Les Rejaudoux	8.49	351	ePn	P	04 14 53.4	+0.7
LPG	La Plagne	8.90	15	ePn	P	04 14 59.4	+0.9
LPL	La Plagne	8.91	15	ePn	P	04 14 59.3	+0.7
ECAL	Calabor	9.34	305	P	P	04 15 04.5	0.0
	3.4nm,0.3s,SNR=9.8						
TCF	Toulx Ste Croi	9.39	355	ePn	P	04 15 04.6	-0.6
BGF	Bois d'Agland	9.62	357	ePn	P	04 15 07.6	-0.8
SMF	Signal de Mont	9.70	2	ePn	P	04 15 08.3	-1.2
AVF	Avril sur Loir	9.85	360	ePn	P	04 15 11.6	+0.1
CABF	La Chapelle	9.86	11	ePn	P	04 15 14.3	+2.6
HAU	Haudompre	11.26	10	ePn	P	04 15 30.7	-0.1
QUIF	Quistinic	12.01	338	ePn	P	04 15 40.1	-0.9
SGMF	Saint Gilles	12.14	341	ePn	P	04 15 42.2	-0.6
ROSF	Rostrenen	12.42	339	ePn	P	04 15 45.3	-1.2

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*BJI **02** 05:17:59.6, 3.34S×146.20E, h20km, mB5.2, mb4.8, Ms5.0, Msz4.8*

*IDC **02** 05:17:59.1±0.6, 3.26S×146.02E, mb4.4/12, mb1 4.6/15, mb1mx4.5/19, mbtmp4.5/15, ML4.1/3, MS4.7/15, Ms1 4.7/15, ms1mx4.7/16, Error ellipse: s-maj=20.5km s-min=11.1km az=96.0*

*NEIC **02** 05:18:01.0±0.3, 3.31S×145.97E, h10km, mb5.0/26, Error ellipse: s-maj=10.3km s-min=6.0km az=76.0*

*HRVD **02** 05:18:01.0±0.2, 3.38S×145.93E, h12km, MW5.3/75, Centroid moment Tensor Solution. LP body waves: s62,c119; Mantle waves: s75,c160; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09±.02; $M_{\theta\theta}$-0.17±.02; $M_{\phi\phi}$0.25±.02; $M_{r\theta}$-0.17±.05; $M_{\theta\phi}$1.13±.01; $M_{\phi r}$-0.13±.05; Best double couple: $M_0$1.168×10^{17} NP1: ϕ_s174°, δ81°, λ176°. NP2: ϕ_s265°, δ86°, λ9°. Principal axes: T 1.228, Plg9°, Azm130°; N -.118, Plg80°, Azm292°; P -1.109, Plg3°, Azm39°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **02** 05:18:02.5±1.7, 3.29S×146.01E, h33km, mb5.2/16 Error ellipse: s-maj=17.0km s-min=7.8km az=97.9*

ISC 02 05:17:58.4±1.3, 3.32S±0.03×145.96E±0.07, h3km±8km, h32km±1.5km:pP-P, n103, σ1§14/107, mb4.8/46, MS4.7/23, 4C-2D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.16	169	Pn	Pn	05 19 31.3	-1.2
	6.0nm,0.3s,baz=330,slow=5.5,SNR=17						
PMG				Sn	Sn	05 20 44.7	+0.4
	1.4nm,0.3s,baz=330,slow=16,SNR=3.5						
PMG	Port Moresby	6.16	169	ePn	Pn	05 19 31.9	-0.6
	101nm,0.9s						
PMG	Port Moresby	6.16	169	eP	Pn	05 19 31.9	-0.6
PMG				pmax	pmax		
	comp=Z,101nm,0.9s						
HNR	Honiara	15.16	114	Pn	P	05 21 36.4	+1.0
	comp=Z,11nm,0.3s,baz=212,slow=15,SNR=2.4						
HNR				LR	LR	05 26 30.8	
	comp=Z,3µm,21.1s,baz=287,slow=34						
KAKA	Kakadu	16.31	234	eP	P	05 22 02.7	+13
	comp=Z,72nm,0.7s						
CTA	Charters Tower	16.67	179	eP	P	05 21 57.1	+2.4
	comp=Z,23nm,1.6s						
CTA				eS	S	05 25 00.4	+0.7
CTA	Charters Tower	16.67	179	Pn	P	05 21 57.0	+2.3
	comp=Z,0.3nm,0.3s,baz=355,slow=12,SNR=6.4						
CTA	Charters Tower	16.67	179	eP	P	05 21 57.1	+2.4
CTA				eS	S	05 25 00.4	+0.7
CTA				pmax	pmax		
	comp=Z,23nm,1.6s						
CTAO	Charters Tower	16.67	179	eP	P	05 21 57.2	+2.5
	comp=Z,142nm,1.8s						
CTAO	Charters Tower	16.67	179	eP	P	05 21 57.2	+2.5
CTAO				pmax	pmax		
	comp=Z,142nm,1.8s						
GUMO	Guam	16.84	356	LR	LR	05 26 50.1	
	comp=Z,1µm,20.2s,baz=179,slow=32						
WRAB	Tennant Creek	20.02	214	eP	P	05 22 32.8	-2.6
	comp=Z,165nm,1.0s						
WRAB	Tennant Creek	20.02	214	eP	P	05 22 32.8	-2.6
WRAB				pmax	pmax		
	comp=Z,165nm,1.0s						
WB2	Warramunga Arr	20.03	214	⇑iP	P	05 22 33.1	-2.4
WB2				eS	S	05 26 12.8	-2.8
WRA	Warramunga Arr	20.04	214	P	P	05 22 33.2	-2.3
	comp=Z,65nm,1.0s,baz=37,slow=11,SNR=58						
WRA				S	S	05 26 24.6	+8.9
	comp=Z,6.8nm,1.1s,baz=33,slow=18,SNR=5.1						
FITZ	Fitzroy Crossi	24.74	232	eP	P	05 23 21.1	-1.5
	comp=Z,75nm,0.9s,mb5.2						
FITZ	Fitzroy Crossi	24.74	232	P	P	05 23 21.4	-1.2
	comp=Z,111nm,0.9s,mb5.4,baz=38,slow=5.7,SNR=24						
FITZ				LR	LR	05 33 42.3	
	comp=Z,3µm,18.8s,MS4.9,baz=68,slow=38						
DZM	Mont Dzumac	27.25	135	P	P	05 23 46.1	+0.2
	comp=Z,16nm,1.1s,mb4.5,baz=112,slow=19,SNR=3.6						
DZM				LR	LR	05 33 07.3	
	comp=Z,3µm,20.1s,MS4.8,baz=119,slow=33						
STKA	Stephens Creek	28.70	188	eP	P	05 24 00.0	+1.1
	comp=Z,8.0nm,0.6s,mb4.6						
STKA	Stephens Creek	28.70	188	P	P	05 23 59.4	+0.4
	comp=Z,8.0nm,0.9s,mb4.4,baz=1.4,slow=7.4,SNR=8.6						
STKA				LR	LR	05 35 42.4	
	comp=Z,2µm,19.9s,MS4.6,baz=6.9,slow=37						
FORT	Forrest	32.12	210	eP	P	05 24 32.6	+3.3
	comp=Z,22nm,0.6s,mb5.2						
KSM	Kuching	35.95	277	eP	P	05 25 04.2	+1.7
KLBR	Kellerberrin	38.67	220	eP	P	05 25 25.4	+0.3
	comp=Z,12nm,0.7s,mb4.7						
JNU	Nakatsue	38.95	340	P	P	05 25 27.6	+0.1
	comp=Z,8.9nm,0.8s,mb4.5,baz=143,slow=7.5,SNR=4.2						
NWAO	Narrogin (SRO)	39.88	219	P	P	05 25 35.0	-0.2
	comp=Z,17nm,1.1s,mb4.7,baz=52,slow=9.5,SNR=2.7						
NWAO	Narrogin (SRO)	39.88	219	eP	P	05 25 38.8	+3.6
	comp=Z,31nm,1.4s,mb4.8						
NWAO	Narrogin (SRO)	39.88	219	eP	P	05 25 38.8	+3.6
NWAO				pmax	pmax		
	comp=Z,31nm,1.4s						
MJAR	Matsushiro Arr	40.31	350	P	P	05 25 37.7	-1.0
	comp=Z,3.7nm,0.7s,mb4.2,baz=176,slow=7.8,SNR=10						
MAJO	Matsushiro	40.31	350	eP	P	05 25 38.8	+0.1
	comp=Z,15nm,0.9s,mb4.7						
MAJO	Matsushiro	40.31	350	eP	P	05 25 38.8	+0.1
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
MAT	Matsushiro	40.31	350	P	P	05 25 39.2	+0.5
MAT				S	S	05 31 46.0	-0.8
MAT	Matsushiro	40.31	350	eP	P	05 25 39.0	+0.3
	comp=Z,19nm,1.5s,mb4.6						
MAT				eS	S	05 31 46.0	-0.8
MAT	Matsushiro	40.31	350	eP	P	05 25 39.0	+0.3
MAT				eS	S	05 31 46.0	-0.8
MAT				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6						
SSE	Sheshan	41.58	327	P	P	05 25 49.0	-0.3
SSE				AP	pP	05 25 57.8	+7.5
SSE				XP	sP	05 26 01.8	+11
SSE				S	S	05 32 04.6	-1.2
SSE				XS		05 32 18.0	
SSE				SS	SS	05 35 10.8	+5.7
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,391nm,5.1s						
SSE				LR	LR		
	comp=N,841nm,20.0s,MS4.8						
SSE				LR	LR		
	comp=E,878nm,20.0s,MS4.8						
SSE				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
SSE	Sheshan	41.58	327	P	P	05 25 49.0	-0.3
	comp=Z,23nm,0.8s,mb4.9						
SSE				pP	pP	05 25 57.8	+7.5
SSE				sP	sP	05 26 01.8	+11
SSE				S	S	05 32 04.6	-1.2
SSE				sS		05 32 18.0	
SSE				SS	SS	05 35 10.8	+5.7
SSE				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
QIZ	Qiongzhong	41.90	303	P	P	05 25 52.9	+0.9
QIZ				S	S	05 32 12.0	+1.3
QIZ				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
QIZ				LR	LR		
	comp=E,550nm,21.0s						
QIZ				LR	LR		
	comp=Z,1µm,30.6s						
RAO	Raoul Island	42.89	131	LR	LR	05 41 59.4	
	comp=Z,629nm,19.2s,MS4.5,baz=77,slow=34						
NJ2	Nanjing	43.59	326	eP	P	05 26 07.9	+2.2
NJ2				AP	pP	05 26 17.8	+11
NJ2				XP	sP	05 26 21.7	+15
NJ2				PP	PP	05 27 51.8	+2.7
NJ2				S	S	05 32 34.0	-1.3
NJ2				XS		05 32 50.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,340nm,5.6s						
NJ2				LR	LR		
	comp=Z,2µm,21.0s,MS4.9						
KS15	Wonju Array Si	43.90	339	eP	P	05 26 08.7	+0.6
RPZ	Rata Peaks	45.96	155	LR	LR	05 44 19.5	
	comp=Z,562nm,19.5s,MS4.5,baz=326,slow=34						
GYA	Guiyang	48.16	310	⇑iP	P	05 26 43.1	+1.0
GYA				XP	sP	05 26 58.7	+15
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
GYA				LR	LR		
	comp=N,340nm,17.5s,MS4.6						

GYA LR LR
comp=E,480nm,17.9s,MS4.6
GYA LR LR
comp=Z,370nm,18.0s,MS4.4
ENH Enshi 48.27 316 P P 05 26 43.0 +0.1
comp=Z,4.4nm,0.5s,mb4.7
MDJ Mudanjiang 49.92 345 P P **05 26 57.9 +2.5**
MDJ AP pP 05 27 07.0 +11
MDJ XP sP 05 27 10.8 +14
MDJ PCP PcP 05 28 17.5 +1.5
MDJ PP PP 05 28 52.4 +1.1
MDJ SCP 05 32 10.9
MDJ PCS 05 32 14.2
MDJ S **S 05 34 06.7 +1.6**
MDJ SCS ScS 05 36 46.8 +1.9
MDJ AMB AMB
comp=Z,8.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,85nm,4.0s
MDJ LR LR
comp=N,203nm,20.3s
MDJ LR LR
comp=E,676nm,27.1s
MDJ LR LR
comp=Z,360nm,20.3s,MS4.4
CN2 Changchun 50.41 341 *e*P P **05 26 59.9 +0.8**
CN2 *e*AP pP 05 27 11.2 +11
CN2 *e*S **S 05 34 12.1 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
CN2 AMB AMB
comp=Z,220nm,6.0s
CN2 LR LR
comp=N,640nm,14.0s,MS4.9
CN2 LR LR
comp=E,530nm,14.0s,MS4.9
CN2 LR LR
comp=Z,920nm,19.0s,MS4.8
KMI Kunming 50.57 307 P P **05 27 02.1 +1.5**
KMI AP pP 05 27 10.2 +8.5
KMI XP sP 05 27 13.4 +11
KMI PP PP 05 28 59.5 +2.1
KMI PPP PPP 05 29 59.0 +4.2
KMI S **S 05 34 15.9 +1.6**
KMI PS PS 05 34 27.8 +5.4
KMI XS 05 34 29.3
KMI SS SS 05 37 48.2 +2.6
KMI SSS SSS 05 39 23.1 +5.9
KMI AMB AMB
comp=Z,18nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,230nm,6.4s
KMI LR LR
comp=N,443nm,22.4s,MS4.6
KMI LR LR
comp=E,421nm,21.0s,MS4.6
KMI LR LR
comp=Z,887nm,30.3s
KMI Kunming 50.57 307 P P **05 27 02.1 +1.5**
comp=Z,18nm,1.2s,mb4.9
KMI pP pP 05 27 10.2 +8.5
KMI sP sP 05 27 13.4 +11
KMI PP PP 05 28 59.5 +2.1
KMI PPP PPP 05 29 59.0 +4.2
KMI S **S 05 34 15.9 +1.6**
KMI PS PS 05 34 27.8 +5.4
KMI sS 05 34 29.3
KMI SS SS 05 37 48.2 +2.6
KMI SSS SSS 05 39 23.1 +5.9
KMI LR LR
comp=Z,890nm,30.3s,MS4.6
KMI Kunming 50.57 307 P P **05 27 02.1 +1.5**
KMI *SP sP 05 27 13.4 +11
KMI 05 28 59.5
KMI PPP PPP 05 29 59.0 +4.2
KMI S **S 05 34 15.9 +1.6**
KMI PS PS 05 34 27.8 +5.4
KMI *SS 05 34 29.3
KMI SS SS 05 37 48.2 +2.6
KMI SSS SSS 05 39 23.1 +5.9
KMI pmax pmax
comp=Z,18nm,1.2s,mb4.9
KMI MLR MLR
comp=Z,890nm,30.3s,MS4.6
KLR Kul'dur 53.77 348 *e*P P **05 27 20.8 -3.5**
LZH Lanzhou 55.52 319 *e*P P **05 27 37.1 -0.2**
LZH AP pP 05 27 47.5 +9.1
LZH XP sP 05 27 51.6 +13
LZH PP PP 05 29 43.4 +0.6
LZH *e*S **S 05 35 20.6 -0.9**
LZH XS 05 35 38.3
LZH SS SS 05 39 06.2 0.0
LZH AMB AMB
comp=Z,29nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,79nm,6.3s
LZH LR LR
comp=N,615nm,15.4s
LZH LR LR
comp=Z,737nm,17.9s,MS4.8
LZH Lanzhou 55.52 319 *e*P P **05 27 37.1 -0.2**
comp=Z,29nm,1.4s,mb5.1
LZH pP pP 05 27 47.5 +9.1
LZH sP sP 05 27 51.6 +13
LZH PP PP 05 29 43.4 +0.6
LZH *e*S **S 05 35 20.6 -0.9**
LZH sS 05 35 38.3
LZH SS SS 05 39 06.2 0.0
LZH LR LR
comp=Z,740nm,17.9s,MS4.8
GTA Gaotai 60.04 320 *e*P P **05 28 09.4 +0.4**
GTA AP pP 05 28 20.2 +10
GTA XP sP 05 28 25.1 +15
GTA PP PP 05 30 24.7 +1.3
GTA PPP PPP 05 31 51.8 +2.3
GTA S **S 05 36 21.4 +0.7**
GTA XS 05 36 35.4
GTA SS SS 05 40 17.5 -0.9
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,126nm,8.0s
GTA LR LR
comp=N,338nm,17.5s,MS4.7
GTA LR LR
comp=E,440nm,21.3s,MS4.7
GTA LR LR
comp=Z,652nm,24.3s,MS4.7
FX1 Attu Island--F 60.51 19 *e*P P **05 28 12.1 +0.1**
ULN Ulaanbaatar 61.28 331 *e*P P **05 28 17.6 +0.3**
comp=Z,21nm,1.4s,mb5.1
ULN Ulaanbaatar 61.28 331 ⇑*i*P P **05 28 17.8 +0.5**
SONM Songino Array 61.58 331 P P **05 28 19.0 -0.3**
comp=Z,1.4nm,0.6s,mb4.2,baz=146,slow=5.3,SNR=13
SONM LR LR 05 54 19.7
comp=Z,1μm,19.3s,MS5.0,baz=136,slow=35
CIT Chita 61.60 338 *e*P P **05 28 20.0 +0.5**
MA2 Magadan 62.82 3 *e*P P **05 28 27.5 0.0**
MA2 pmax pmax
comp=Z,30nm,1.9s,mb5.1
PPT Papeete 64.67 108 *e*S **S 05 37 15.1 -4.4**
PPT *e*LR LR 05 47 55.7
comp=Z,655nm,28.2s
PPT Papeete 64.67 108 LR LR 05 53 00.9
comp=Z,403nm,20.5s,MS4.6,baz=166,slow=32
ZAK Zakamensk 64.81 331 ⇑*i*P P **05 28 40.5 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
TBI Tubuai 65.38 114 *e*S S 05 37 23.8 -4.4
TBI *e*SS SS 05 41 44.8 +1.9
TBI *e*LQ 05 45 53.2
TBI *e*LR LR 05 48 25.7
comp=Z,1μm,38.8s
GUN Gumba 65.55 303 *e*P P **05 28 46.0 +0.1**
comp=Z,31nm,0.7s,mb5.4
PKI Pulchoki 65.84 302 *e*P P **05 28 47.5 -0.2**
comp=Z,77nm,1.4s,mb5.5
PKI Pulchoki 65.84 302 *e*P P **05 28 47.5 -0.2**
PKI pmax pmax
comp=Z,39nm,1.4s,mb5.2
KKN Kakani 66.02 302 *e*P P **05 28 48.5 -0.4**
comp=Z,30nm,0.7s,mb5.5
KKN Kakani 66.02 302 *e*P P **05 28 48.5 -0.4**
KKN pmax pmax
comp=Z,15nm,0.7s,mb5.1
DMN Daman 66.11 302 *e*P P **05 28 49.4 -0.1**
comp=Z,34nm,0.7s,mb5.5
BOD Bodaibo 66.13 342 *e*P P **05 28 46.1 -2.9**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.4
SEY Seymchan 66.25 3⇓*i*P P **05 28 49.8 +0.1**
GKN Gorkha 66.63 302 *e*P P **05 28 52.3 -0.4**
comp=Z,28nm,0.8s,mb5.4
KOLN Koldanda 67.44 302 *e*P P **05 28 57.7 -0.2**
comp=Z,33nm,0.9s,mb5.3
CASY Casey 67.56 195 *e*P P **05 28 56.0 -2.0**
comp=Z,4.9nm,0.8s,mb4.6
WMQ Urumqi 70.10 319 P P **05 29 15.2 +1.1**
WMQ AP pP 05 29 25.5 +10
WMQ PCP PcP 05 29 36.9 +0.6
WMQ S S 05 38 24.0 -0.4
WMQ SKS SKS 05 39 10.0 -5.3
WMQ SS SS 05 42 55.0 -0.4
WMQ AMB AMB
comp=Z,16nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,287nm,4.9s
WMQ LR LR
comp=N,457nm,16.6s,MS4.9
WMQ LR LR
comp=E,235nm,15.3s,MS4.9
WMQ LR LR
comp=Z,312nm,22.3s
MIR Mirnyy 72.93 200 *e*P P **05 29 33.0 +2.4**
MIR pmax pmax
comp=Z,24nm,1.4s,mb4.9
TAOE Nuku Hiva Isla 73.59 98 *e*LR LR 05 52 07.7
comp=Z,3μm,30.1s
VNDA Vanda 74.63 176 P P **05 29 39.5 -0.9**
comp=Z,1.3nm,0.7s,mb4.0,baz=322,slow=6.9,SNR=13
VNDA LR LR 06 01 19.0
comp=Z,402nm,21.7s,MS4.7,baz=345,slow=35
VNDA Vanda 74.63 176 P P **05 29 39.5 -0.9**
VNDA LR LR 06 01 19.0
MKAR Makanchi Array 74.79 320 P P **05 29 41.1 -0.6**
comp=Z,5.7nm,1.1s,mb4.4,baz=112,slow=6.5,SNR=17
MKAR LR LR 06 05 02.2
comp=Z,380nm,18.7s,MS4.7,baz=179,slow=38
TIXI Tiksi 75.66 354 *e*P P **05 29 44.6 -1.7**
TIXI pmax pmax
comp=Z,8.0nm,2.0s,mb4.3
TIXI MLR MLR
comp=Z,211nm,16.0s,MS4.5
ZAL Zalesovo 76.21 328 P P **05 29 49.3 -0.4**
comp=Z,1.3nm,0.3s,mb4.3,baz=211,slow=8.7,SNR=3.2
ZAL LR LR 06 03 18.2
comp=Z,1μm,18.8s,MS5.2,baz=355,slow=36
NVS Novosibirsk 77.43 328 *e*P P **05 29 53.9 -2.6**
NVS pmax pmax
comp=N,13nm,1.9s
NVS pmax pmax
comp=E,23nm,1.9s
NVS pmax pmax
comp=Z,24nm,1.9s,mb4.8
KURK Kurchatov 78.46 323 *e*P P **05 30 01.8 -0.4**
comp=Z,28nm,1.4s,mb5.0
KURK Kurchatov 78.46 323 *e*P P **05 30 01.8 -0.4**
KURK pmax pmax
comp=Z,28nm,1.4s,mb5.0
RKT Rikitea 78.65 113 *e*S S 05 39 55.7 -4.7
RKT *e*LR LR 05 54 26.1
comp=Z,1μm,32.5s
AAK Ala-Archa 78.73 314 *e*P P **05 30 03.4 -0.6**
AAK pmax pmax
comp=Z,8.0nm,2.6s,mb4.2
IMA Indian Mountai 81.44 21 *e*P P **05 30 17.4 -0.5**
comp=Z,13nm,1.0s,mb4.8
IMA Indian Mountai 81.44 21 *e*P P **05 30 17.4 -0.5**
IMA pmax pmax
comp=Z,13nm,1.0s,mb4.8
ILAR Eielson Array 83.45 23 P P **05 30 27.0 -1.3**
comp=Z,2.4nm,0.8s,mb4.3,baz=255,slow=5.9,SNR=21
ILAR LR LR 06 01 48.8
comp=Z,357nm,21.3s,MS4.7,baz=94,slow=32
BVAR Borovoye Array 84.01 324 P P **05 30 31.7 +0.3**
comp=Z,2.7nm,0.7s,mb4.5,baz=101,slow=7.6,SNR=11
BRVK Borovoye 84.08 324 *e*P P **05 30 31.7 -0.1**
comp=Z,14nm,1.4s,mb4.9
BRVK Borovoye 84.08 324 *e*P P **05 30 31.7 -0.1**
BRVK pmax pmax
comp=Z,14nm,1.4s,mb4.9
MAW Mawson 84.31 202 LR LR 06 04 52.7
comp=Z,436nm,21.3s,MS4.8,baz=76,slow=33
SYO Syowa Base 92.73 200 ⇓P P **05 31 12.5 -0.3**
BMO Blue Mountains 97.11 45 *e*P P **05 31 33.3 0.0**
comp=Z,3.7nm,1.2s,mb4.7
BMO Blue Mountains 97.11 45 *e*P P **05 31 33.3 -0.1**
BMO pmax pmax
comp=Z,4.0nm,1.2s,mb4.7
YKA Yellowknife Ar 97.29 28 LR LR 06 14 50.9
comp=Z,463nm,19.9s,MS5.0,baz=270,slow=35
PLCA Paso Flores 124.92 147 PKP PKPdf 05 37 02.5 -0.2
comp=Z,1.2nm,0.6s,baz=167,slow=3.6,SNR=4.7
LPAZ La Paz 141.07 121 PKhKP 05 37 28.7
comp=Z,0.7nm,0.6s,baz=230,slow=16,SNR=3.9
CPUP Villa Florida 142.90 144 PKP PKPdf 05 37 36.2 -0.3
comp=Z,1.6nm,0.9s,baz=270,slow=3.0,SNR=3.1
SDV Santo Domingo 143.22 80 *e*PKPdf PKPdf 05 37 35.2 -2.2
SAML Samuel 148.49 113 *e*PKPdf PKPdf 05 37 43.6 -2.7
SAML *e*PKPbc PKPdf 05 37 48.8 +2.5
DBIC Dimbokro 150.74 278 PKPbc PKPdf 05 37 54.1 +4.3
comp=Z,6.0nm,0.8s,baz=103,slow=4.6,SNR=6.5
BDFB Brasilia 156.63 144 PKPab PKPab 05 38 25.1 -2.1
comp=Z,4.6nm,1.0s,baz=234,slow=14,SNR=3.5

IDC ***02*** *05:37:32.0±0.7, 15.01S×173.71W, mb4.2/9, mb1 4.5/9, mb1mx4.4/14, mbtmp4.2/9, MS4.2/5, Ms1 4.2/5, ms1mx3.9/18, Error ellipse: s-maj=34.6km s-min=19.8km az=136.0*

NEIC ***02*** *05:37:33.8±0.4, 15.00S×173.61W, h10km, mb4.7/18, Error ellipse: s-maj=21.3km s-min=10.3km az=137.0*

ISC 02 05:37:35.4±0.4, 14.9S±0.1×173.9W±0.1, h33km, n88, σ0§79/46, mb4.4/27, MS4.5/5, 3C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.24**	**64**	Pn	**Pn**	**05 38 03.0**	**-8.1**
	24nm,0.3s,baz=56,slow=6.2,SNR=34						
AFI				Sn	**Sn**	**05 38 23.4**	**-15**
	74nm,0.3s,baz=357,slow=20,SNR=10						
AFI	**Afiamalu**	**2.24**	**64**	*e*Pn	**Pn**	**05 38 02.5**	**-8.7**
DZM	**Mont Dzumac**	**19.99**	**246**	LR	LR	05 48 35.1	
	comp=Z,799nm,19.1s,baz=209,slow=33						
HNR	**Honiara**	**26.18**	**279**	LR	LR	05 52 04.2	
	comp=Z,287nm,19.0s,MS3.8,baz=322,slow=33						
STKA	**Stephens Creek**	**43.91**	**239**	P	P	**05 45 40.6**	**-0.4**
	1.4nm,0.9s,mb3.7,baz=103,slow=23,SNR=2.9						
STKA				LR	LR	06 02 05.2	
	comp=Z,227nm,18.2s,MS4.1,baz=26,slow=34						
WRA	**Warramunga Arr**	**49.53**	**256**	P	P	**05 46 24.3**	**-1.1**
	1.1nm,0.6s,mb4.1,baz=92,slow=7.3,SNR=13						
FITZ	**Fitzroy Crossi**	**57.89**	**258**	LR	LR	06 10 37.8	
	comp=Z,310nm,19.3s,MS4.4,baz=99,slow=34						
VNDA	**Vanda**	**63.81**	**186**	P	P	**05 48 06.2**	**-0.1**
	0.9nm,1.0s,mb3.8,baz=357,slow=9.0,SNR=3.7						
MJAR	**Matsushiro Arr**	**68.29**	**320**	P	P	**05 48 36.9**	**+1.4**
	1.7nm,0.7s,mb4.2,baz=155,slow=6.2,SNR=5.5						
NVAR	**Mina Array Bea**	**74.26**	**42**	P	P	**05 49 11.3**	**0.0**
	2.7nm,0.8s,mb4.2,baz=224,slow=7.3,SNR=14						
NVAR	**Mina Array Bea**	**74.26**	**42**	P	P	**05 49 11.3**	**0.0**
MOD	**Modoc**	**75.01**	**38**	*e*P	P	**05 49 13.5**	**-2.0**
	11nm,1.4s,mb4.6						
TUC	**Tucson**	**76.42**	**51**	*e*P	P	**05 49 21.7**	**-2.1**
	7.2nm,1.4s,mb4.4						
ELK	**Elko**	**77.51**	**42**	*e*P	P	**05 49 28.1**	**-1.6**
	3.4nm,1.0s,mb4.2						
MSU	**Marysvale**	**78.39**	**45**	*e*P	P	**05 49 35.4**	**+0.8**
DUG	**Dugway**	**78.81**	**43**	*e*P	P	**05 49 35.9**	**-0.9**
	2.5nm,0.3s,mb4.1						
TMUT	**Trail Mountain**	**79.43**	**45**	*e*P	P	**05 49 41.0**	**+0.8**
HLID	**Hailey**	**79.53**	**40**	*e*P	P	**05 49 40.9**	**+0.2**
	4.5nm,0.9s,mb4.4						
SRU	**San Rafael**	**79.81**	**45**	*e*P	P	**05 49 42.4**	**+0.1**
JLU	**Jordanelle**	**79.91**	**43**	*e*P	P	**05 49 42.7**	**-0.1**
TCUT	**Toone Canyon**	**80.19**	**43**	*e*P	P	**05 49 44.5**	**+0.2**
MNTX	**Cornudas Mount**	**80.29**	**54**	*e*P	P	**05 49 44.8**	**-0.2**
	18nm,1.8s,mb4.7						
HWUT	**Hardware Ranch**	**80.33**	**42**	*e*P	P	**05 49 44.5**	**-0.5**
	5.6nm,1.2s,mb4.4						
LTX Lajitas 80.70 56 *e*P P **05 49 47.8 +0.5**
12nm,1.3s,mb4.7
TXAR Lajitas Array 80.70 56 P P **05 49 47.5 +0.3**
3.1nm,1.0s,mb4.2,baz=236,slow=4.5,SNR=20
PV01 Paradox Valley 80.71 47 *e*P P **05 49 47.2 +0.1**
ANMO Albuquerque 80.83 50 *e*P P **05 49 46.5 -1.3**
18nm,1.8s,mb4.7
MCMT McKenzie Canyo 81.15 39 *e*P P **05 49 49.4 +0.1**
RRI2 Red Ridge 81.35 41 *e*P P **05 49 50.4 0.0**
6.9nm,1.0s,mb4.5
DLMT Dillon 81.58 39 *e*P P **05 49 51.8 +0.3**
TPAW Teton Pass 81.66 41 *e*P P **05 49 52.3 +0.3**
7.3nm,1.0s,mb4.6
SNOW Snow King Moun 81.77 41 *e*P P **05 49 52.9 +0.4**
6.4nm,0.9s,mb4.5
IMW Indian Meadow 81.86 41 *e*P P **05 49 53.5 +0.5**
8.7nm,1.0s,mb4.6
LOHW Long Hollow 81.94 41 *e*P P **05 49 53.7 +0.3**
34nm,2.0s,mb4.9
ILAR Eielson Array 82.06 11 P P **05 49 53.0 -0.6**
1.8nm,1.0s,mb3.9,baz=204,slow=6.1,SNR=13
FLWY Flagg Ranch 82.11 40 *e*P P **05 49 55.2 +0.9**
BW06 Boulder Array 82.20 42 *e*P P **05 49 54.4 -0.4**
7.0nm,1.4s,mb4.4
PDAR Pinedale Array 82.20 42 P P **05 49 54.2 -0.6**
2.1nm,1.0s,mb4.0,baz=260,slow=3.2,SNR=13
SMCO Snowmass 82.29 46 *e*P P **05 49 55.9 +0.6**
BOZ Bozeman (W) 82.31 39 *e*P P **05 49 55.4 +0.1**
35nm,2.1s,mb4.9
SDCO Great Sand Dun 82.71 48 *e*P P **05 49 57.7 +0.2**
6.8nm,1.1s,mb4.6
RWWY Rawlins 83.25 44 *e*P P **05 50 00.3 +0.2**
12nm,0.9s,mb4.9
EDM Edmonton 85.31 32 *e*P P **05 50 11.8 +1.6**
MAW Mawson 88.11 199 P P **05 50 23.4 -0.1**
5.7nm,1.1s,mb4.7,baz=94,slow=8.7,SNR=6.2
PLCA Paso Flores 90.15 132 LR LR 06 20 21.9
comp=Z,186nm,19.2s,MS4.5,baz=190,slow=29
VNA3 Neumayer Olymp 93.37 175⇑*i* P **05 50 48.9 +0.9**
VNA3 Neumayer Olymp 93.37 175 *e* P **05 50 53.4 +5.4**
VNA2 Neumayer--Watz 93.86 176⇑*i* P **05 50 51.8 +1.6**
VNA2 Neumayer--Watz 93.86 176 *e* P **05 50 56.2 +6.0**
CLL Collm 143.29 353⇑*i*P PKPbc 05 57 12.7 +8.2
CLL LR LR
comp=Z,700nm,21.4s,MS5.4
BRG Berggiesshubel 143.59 352 *i* P PKPbc 05 57 13.3 +7.9
DPC Dobruska-Polom 143.71 349 *e*PKP PKPdf 05 57 07.3 +0.3
DPC AMS AMS 06 24 30.0
comp=Z,500nm,24.9s
MOX Moxa 144.09 354 *e*P PKPbc 05 57 10.0 +3.1
PRU Pruhonice 144.36 351 AMS AMS 06 25 10.0
comp=Z,400nm,29.2s
KECS Kecovo 144.50 344 *e*PKP PKPdf 05 57 09.3 +0.8
VYHS Vyhne 144.92 345 *e*PKP PKPdf 05 57 11.1 +1.9
KHC Kasperske Hory 145.34 351 *e*PKP PKPdf 05 57 11.2 +1.3
KHC pPKP 05 57 16.5
KHC AMS AMS 06 26 40.0
comp=Z,400nm,24.4s
BRTR Keskin Array B 145.51 321 PKPbc PKPbc 05 57 14.4 +3.3
comp=Z,5.8nm,1.0s,baz=117,slow=2.8,SNR=13
GERES GERESS Array B 145.60 351 PKPbc PKPbc 05 57 12.6 +1.5
comp=Z,4.0nm,1.0s,baz=27,slow=3.0,SNR=8.0
FLN La Foliniere 145.81 8 *e*PKP1 PKPbc 05 57 13.3 +1.7
LDF La Druitiere 146.02 7 *e*PKP1 PKPbc 05 57 13.9 +1.8
GRR Gorron 146.13 8 *e*PKP1 PKPbc 05 57 14.0 +1.7
CDF Champ du Feu 146.59 359 *e*PKP1 PKPbc 05 57 16.4 +3.0
comp=Z,14nm,0.9s
HAU Haudompre 147.01 360 *e*PKP1 PKPdf 05 57 17.7 +4.9
LOR Lormes 147.69 3 *e*PKP1 PKPdf 05 57 19.4 +5.5
SSF Saint Saulge 147.88 3 *e*PKP1 PKPdf 05 57 20.0 +5.8
comp=Z,50nm,1.4s
MFF Saint Martin d 147.98 8 *e*PKP1 PKPdf 05 57 19.7 +5.3
AVF Avril sur Loir 148.14 4 *e*PKP1 PKPdf 05 57 20.3 +5.7
SMF Signal de Mont 148.31 3 *e*PKP1 PKPdf 05 57 20.7 +5.8
comp=Z,10nm,0.8s
BGF Bois d'Agland 148.34 4 *e*PKP1 PKPdf 05 57 21.1 +6.2
CABF La Chapelle 148.40 0 *e*PKP1 PKPdf 05 57 21.5 +6.5
comp=Z,30nm,1.1s
TCF Toulx Ste Croi 148.55 5 *e*PKP1 PKPdf 05 57 21.5 +6.2
RJF Les Rejaudoux 149.46 6 *e*PKP1 PKPdf 05 57 23.7 +6.9
LPL La Plagne 149.50 359 *e*PKP1 PKPdf 05 57 24.9 +8.1
LPG La Plagne 149.51 359 *e*PKP1 PKPdf 05 57 25.3 +8.4
comp=Z,17nm,1.0s
CAF Calviac 149.89 6 *e*PKP1 PKPdf 05 57 24.9 +7.4
ORIF Oris-en-Rattie 150.10 0 *e*PKP1 PKPdf 05 57 26.2 +8.4
VIVF Saint-Julien-l 150.13 2 *e*PKP1 PKPdf 05 57 26.0 +8.1
MBDF Montbardon 150.28 359 *e*PKP1 PKPdf 05 57 26.7 +8.6
comp=Z,17nm,1.1s
LASF Ste Croix 150.87 3 *e*PKP1 PKPdf 05 57 27.9 +8.9
comp=Z,36nm,1.3s
SMRF Simiane la Rot 151.03 1 *e*PKP1 PKPdf 05 57 28.2 +9.0
comp=Z,73nm,1.7s
SJPF Ste Jean 151.20 11 *e*PKP1 PKPdf 05 57 28.1 +8.6
MTLF Montolieu 151.47 6 *e*PKP1 PKPdf 05 57 29.1 +9.2
ETSF Etsaut 151.53 10 *e*PKP1 PKPdf 05 57 29.1 +9.1
comp=Z,41nm,1.4s
LMR La Mourre 151.68 359 *e*PKP1 PKPdf 05 57 30.1 +10
EVO Evora 153.36 25 *e*PKIKP PKPdf 05 57 25.2 +2.4
comp=Z,12nm,1.0s
ESDC Sonseca Array 153.79 18 PKPab PKPab 05 57 46.6 -0.1
comp=Z,0.4nm,0.4s,baz=315,slow=2.1,SNR=4.9
LIC Lamto 166.03 127 *e*PKP2 PKPab 05 58 38.4 -1.8
comp=Z,49nm,1.3s

CASC 02 05:50:21.6±1.7, 12.18N×88.57W, h20km±9km, MD3.7, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.30**	**33**	*e*P	Pn	05 50 45.6	+0.7
LFRS	**El Faro**	**1.51**	**341**	*e*P	Pn	05 50 47.9	-0.1
LCBS	**La Ceiba**	**1.52**	**345**	*e*P	Pn	05 50 46.9	-1.2
CRIN	**San Cristobal**	**1.57**	**71**⇓*e*P		Pn	05 50 48.5	-0.2
CRIN				*e*S	Sn	05 51 09.8	+1.3
LEON	**Leon**	**1.65**	**82**	*e*P	Pn	05 50 49.1	-0.8
LEON				*e*S	Sn	05 51 11.0	+0.3
BOQS	**Boqueron**	**1.69**	**336**	*e*P	Pn	05 50 50.1	-0.4
BOQS				*e*S	Sn	05 51 13.0	+1.2
MIRN	**Miramar**	**1.83**	**82**⇓*e*P		Pn	05 50 51.2	-1.2
MIRN				*e*S	Sn	05 51 15.7	+0.5
COPN	**Copaltepe**	**1.93**	**90**	*e*P	Pn	05 50 52.6	-1.3
COPN				*e*S	Sn	05 51 17.8	+0.1
MOMJ	**Momotombo**	**1.99**	**83**	*e*P	Pn	05 50 54.3	-0.5
MOMJ				*e*S	Sn	05 51 20.2	+0.9
MGAN	**Managua**	**2.27**	**91**	*e*P	Pn	05 50 58.0	-0.7
MGAN				*e*S	Sn	05 51 25.2	-1.2
TICN	**Ticuantepe**	**2.29**	**93**	*e*P	Pn	05 50 58.5	-0.5
TICN				*e*S	Sn	05 51 26.5	-0.4
WILN	**Americas 2**	**2.33**	**90**	*e*P	Pn	05 50 58.6	-1.0
WILN				*e*S	Sn	05 51 26.7	-1.1

NEIC ***02*** *06:11:39.0±1.7, 7.23S×128.94E, h63km±16km, mb4.0/4, Error ellipse: s-maj=18.5km s-min=11.5km az=64.0*

IDC ***02*** *06:11:40.5±4.4, 7.29S×128.86E, h73km±38km, mb3.6/7, mb1 3.8/8, mb1mx3.8/13, mbtmp4.0/8, ML4.9/2, Error ellipse: s-maj=57.1km s-min=17.8km az=71.0*

ISC 02 06:11:38.8±3.6, 7.3S±0.2×128.9E±0.2, h77km±38km, n22, σ1§20/22, mb3.8/9, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.43**	**147**⇓*i*P		Px	06 13 33.8	
	49nm,0.3s						
KAKA				*e*S	Sx	06 14 41.8	
FITZ	**Fitzroy Crossi**	**11.22**	**196**	*e*P	P	**06 14 17.4**	**-0.8**
	32nm,0.2s						
FITZ				*e*S	**S**	**06 16 14.6**	**-7.9**
FITZ	**Fitzroy Crossi**	**11.22**	**196**	P	P	**06 14 17.7**	**-0.5**
	18nm,0.3s,baz=18,slow=9.5,SNR=173						
FITZ				S	**S**	**06 16 12.3**	**-10**
	7.0nm,0.3s,baz=353,slow=18,SNR=2.8						
WRAB	**Tennant Creek**	**13.65**	**158**	*e*Pn	P	**06 14 50.4**	**0.0**
	3.7nm,0.3s						
WRAB				*e*Sn	**S**	**06 17 09.8**	**-11**
WRA	**Warramunga Arr**	**13.65**	**158**	P	P	**06 14 50.1**	**-0.3**
	2.9nm,0.3s,baz=334,slow=13,SNR=124						
WRA				S	**S**	**06 17 11.7**	**-8.8**
	5.8nm,0.3s,baz=334,slow=23,SNR=12						
WB2	**Warramunga Arr**	**13.65**	**158**	*e*P	P	**06 14 50.5**	**0.0**
WB2				*e*S	**S**	**06 17 11.3**	**-9.4**
MBWA	**Marble Bar**	**16.41**	**212**	*e*P	P	**06 15 25.5**	**-0.2**
STKA	**Stephens Creek**	**27.19**	**156**	*e*P	P	**06 17 18.2**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.0nm,1.6s,mb3.6						
STKA	Stephens Creek	27.19	156	P	P	06 17 18.2	+0.9
	0.6nm,0.4s,mb3.5,baz=327,slow=11,SNR=3.2						
SONM	Songino Array	58.37	342	P	P	06 21 28.7	+0.3
	0.4nm,0.5s,mb3.7,baz=161,slow=7.2,SNR=4.0						
MKAR	Makanchi Array	67.86	327	P	P	06 22 31.2	+0.1
	1.1nm,0.3s,mb4.1,baz=121,slow=8.7,SNR=12						
MA2	Magadan	68.88	12	eP	P	06 22 34.4	-2.7
	2.6nm,0.5s,mb4.3						
ZAL	Zalesovo	71.35	334	P	P	06 22 51.9	-0.3
	1.0nm,0.4s,mb4.0,baz=2.1,slow=11,SNR=3.3						
KURK	Kurchatov	72.19	329	eP	P	06 22 57.7	+0.4
	4.6nm,0.9s,mb4.3						
VNDA	Vanda	72.31	173	P	P	06 22 57.2	-0.4
	0.2nm,0.3s,mb3.4,baz=314,slow=9.3,SNR=6.6						
VNDA	Vanda	72.31	173	eP	P	06 22 57.6	0.0
	0.3nm,0.3s,mb3.6						
MAW	Mawson	74.30	201	P	P	06 23 09.6	+0.3
	0.7nm,0.6s,mb3.5,baz=48,slow=8.6,SNR=7.6						
BVAR	Borovoye Array	77.72	328	P	P	06 23 28.9	+0.1
	0.5nm,0.5s,mb3.5,baz=117,slow=6.6,SNR=4.9						
TXAR	Lajitas Array	126.00	59	PKP	PKPdf	06 30 34.4	+1.6
	0.1nm,0.4s,baz=252,slow=3.9,SNR=3.9						
TXAR	Lajitas Array	126.00	59	PKP	PKPdf	06 30 34.4	+1.6
CPUP	Villa Florida	146.05	170	PKPbc	PKPbc	06 31 12.2	+1.4
	1.8nm,0.8s,baz=194,slow=8.3,SNR=5.3						
LPAZ	La Paz	151.15	144	PKPbc	PKPdf	06 31 27.1	+9.0
	0.7nm,0.5s,baz=135,slow=3.0,SNR=6.7						

MAN 02 06:30:26.0, 9.30N×125.67E, h7^{km}, mb3.8, ML2.5, MS2.0, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.34	189	eP	Pg	06 30 33.2	+0.4
BUTP				eS	Sg	06 30 39.7	+2.3
SCPH	Surigao	0.51	339	eP	Pg	06 30 36.3	0.0
SCPH				eS	Sg	06 30 43.8	+0.7
BUKP	Musuan	1.54	203	eP	Pn	06 30 53.3	-0.7

CSEM 02 06:37:07.4±0.1, 23.97N×36.43E, h40^{km}, ML3.1, Error ellipse: s-maj=4.1km s-min=3.0km az=80.0
SNSN 02 06:37:08.6, 24.14N×36.81E, h13^{km}, Ml3.1
HLW 02 06:37:08.8, 23.96N×36.37E, h18^{km}, Mb3.3
ISC 02 06:37:05.3±0.7, **24.00N**±0.04×**36.43E**±0.06, **h10^{km}, n22, σ0^{s}90**/29, **7C-6D, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HSHL	Bi'r Shalatayn	1.30	227	⇓eP	Pb	06 37 29.9	+0.4
HSHL				S	Sb	06 37 44.9	-1.1
HAGS	Hagol	1.37	286	⇑eP	Pn	06 37 31.5	+0.9
UMJS	Umm Lajj	1.47	33	P	Pn	06 37 30.7	-1.2
UMJS				S	Sb	06 37 47.3	-3.5
EMRS	Mersa Alam	1.77	305	⇓eP	Pn	06 37 36.9	+0.6
EMRS				S	Sn	06 37 57.6	-1.3
EMRS	Mersa Alam	1.77	305	P	Pn	06 37 36.8	+0.6
EMRS				S	Sn	06 37 57.6	-1.4
HADB		2.12	310	⇑eP	Pn	06 37 42.2	+0.8
HQSR		2.55	314	⇑P	Pn	06 37 47.9	+0.5
HEDF	Idfu	3.15	291	⇓eP	Pn	06 37 56.3	+0.2
HEDF				S	Sn	06 38 30.1	-4.0
HSFG		3.42	319	⇓eP	Pn	06 37 59.6	-0.1
HSFG				S	Sn	06 38 38.2	-2.6
HHRG	Al Ghardaqah	4.12	322	⇓eP	Pn	06 38 10.0	+0.3
TBKS	Tabuk	4.21	1	P	Pn	06 38 11.5	+0.5
TBKS				S	Sn	06 38 59.8	-1.1
BDAS	Al Bad'	4.57	345	P	Pn	06 38 16.9	+0.7
TR1		4.57	331	⇑eP	Pn	06 38 16.2	0.0
ZEIT		4.65	327	⇑P	Pn	06 38 16.9	-0.4
TAYS	Tayyib Ism	4.74	343	P	Pn	06 38 19.0	+0.4
TR2		5.00	331	⇓eP	Pn	06 38 22.3	+0.1
HKAT	Jabal Katrina	5.01	335	⇑eP	Pn	06 38 22.7	+0.3
HAQS	Haql	5.21	345	P	Pn	06 38 26.2	+1.0
LTHS	Al Lith	5.23	134	P	Pn	06 38 24.7	-0.8
JMOS	Jabal al Moall	5.28	347	P	Pn	06 38 27.2	+1.0
ALWS	Ilw as Safayha	5.43	347	P	Pn	06 38 29.3	+1.0
ASUT		5.54	309	⇑eP	Pn	06 38 29.6	-0.4

ECX 02 06:44:28.3±0.6, 33.18N×115.62W, h3^{km}, MD3.4, ML3.4
NEIC 02 06:44:28.0, 33.18N×115.62W, h5^{km}, ML3.4(PAS), After PAS.
IDC 02 06:44:36.3±2.2, 33.38N×115.00W, mb1 3.3/4, mb1mx3.2/24, mbtmp2.9/4, ML3.1/4, Error ellipse: s-maj=33.0km s-min=11.9km az=40.0
ISC 02 06:44:27.2±0.8, **33.20N**±0.03×**115.61W**±0.04, **h14^{km}**±7^{km}, **n36, σ0^{s}94**/41, **6C-4D, Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRK	Frink	0.20	353	⇓iP	Pg	06 44 32.5	+0.6
COK	Cook Ranch	0.36	196	⇓iP	Pg	06 44 34.9	+0.1
CRR	Carrizo Plain	0.44	224	⇑iP	Pb	06 44 35.8	-0.4
COA	Coachella	0.53	129	⇑iP	Pb	06 44 37.9	+0.2
SGL	Mount Signal	0.56	190	⇓iP	Pb	06 44 37.6	-0.6
YAQ	Yaqui Meadows	0.62	267	⇑iP	Pb	06 44 39.4	+0.1
GLA	Glamis	0.67	103	eP	Pb	06 44 40.1	0.0
RMX	La Rumorosa	0.72	214	⇑eP	Pb	06 44 41.2	+0.3
RMX				eS	Sb	06 44 50.6	+0.3
RMX				e		06 44 52.5	
	comp=N,2μm,0.2s						
PFO	Pinyon Flat Ob	0.82	300	⇑eP	Pb	06 44 42.9	+0.2
BAR	Barrett	1.03	240	eP	Pb	06 44 45.4	-1.0
CBX	Cerro Bola	1.25	225	eP	Pb	06 44 49.3	-0.8
CBX				eS	Sb	06 45 06.2	+0.3
ENX	Ensenada	1.59	214	⇑eP	Pn	06 44 55.5	+0.3
ENX				eS	Sn	06 45 16.3	+0.7
ENX				⇓e		06 45 29.8	
	comp=N,508nm,0.6s						
PBX	Punta Banda	1.73	213	eP	Pn	06 44 57.6	+0.4
LDFC	Landfair	1.92	12	ePn	Pn	06 44 59.4	-0.5
SPX	San Pedro Mart	2.15	177	eP	Pn	06 45 02.4	-0.9
MWC	Mount Wilson	2.28	297	ePn	Pn	06 45 05.2	+0.1
NEN	Nelson	2.52	14	ePn	Pn	06 45 09.4	+0.9
DAC	Darwin (Calif)	3.48	333	ePn	Pn	06 45 20.7	-1.4
TUC	Tucson	4.16	101	ePn	Pn	06 45 29.5	-2.3
PTRM	Twissleman Ran	4.52	304	Pn	Pn	06 45 37.7	+0.8
MTUM	Tungsten Hills	4.80	331	Pn	Pn	06 45 39.9	-0.9
ARUT	Antelope Range	4.91	21	Pn	Pn	06 45 41.8	-0.6
TPH	Tonopah	5.04	345	Pn	Pn	06 45 46.8	+2.5
NVAR	Mina Array Bea	5.66	338	Pn	Pn	06 46 04.3	+11
	comp=N,0.1nm,0.3s,baz=158,slow=15,SNR=5.3						
NVAR				Pg	Pg	06 46 13.3	-6.9
	comp=N,0.6nm,0.3s,baz=159,slow=17,SNR=23						
NVAR				Lg		06 47 31.9	
	baz=152,slow=25,SNR=2.1						
MSU	Marysvale	5.99	27	ePn	Pn	06 45 56.9	-0.7
CMB	Columbia Colle	6.20	322	Pn	Pn	06 46 00.9	+0.3
TMUT	Trail Mountain	7.04	29	Pn	Pn	06 46 12.1	-0.5
SRU	San Rafael	7.19	33	Pn	Pn	06 46 13.4	-1.2
PV10	Paradox Valley	7.42	44	ePn	Pn	06 46 18.4	+0.6
ELK	Elko	7.54	2	Pg	Pg	06 46 50.0	-7.6
	comp=N,0.3nm,0.3s,baz=195,slow=10,SNR=11						
ELK				Lg		06 48 27.6	
	comp=N,0.1nm,0.3s,baz=100,slow=19,SNR=2.3						
PV01	Paradox Valley	7.55	47	Pn	Pn	06 46 23.8	+4.2
ANMO	Albuquerque	7.79	75	Pn	Pn	06 46 24.4	+1.4
	baz=333,slow=4.5,SNR=2.6						
ANMO				Pg	Pg	06 46 48.4	-14
	baz=256,slow=12,SNR=6.0						
ANMO				Lg		06 48 30.2	
	slow=20,SNR=3.1						
ANMO	Albuquerque	7.79	75	Pn	Pn	06 46 25.4	+2.5
PDAR	Pinedale Array	10.67	25	Pn	P	06 47 08.9	+6.2
	comp=N,0.0nm,0.3s,baz=207,slow=14,SNR=7.1						
TXAR	Lajitas Array	10.92	107	Pn	P	06 47 08.8	+2.7
	comp=N,0.1nm,0.3s,baz=289,slow=13,SNR=7.3						
TXAR				Lg		06 50 14.6	
	comp=N,0.0nm,0.3s,baz=282,slow=27,SNR=4.2						
TXAR	Lajitas Array	10.92	107	Pn	P	06 47 08.8	+2.7
TXAR				Lg		06 50 14.6	

HLW 02 07:01:01.7, 34.98N×23.06E, h33^{km}, Mb3.4
ATH 02 07:01:03.2, 34.67N×24.87E, h55^{km}, MD3.3/3
CSEM 02 07:01:03.4±0.8, 34.53N×23.36E, h2^{km}, ML3.4, Error ellipse: s-maj=23.7km s-min=7.0km az=107.0
ISC 02 07:01:05.8±1.5, **34.9N**±0.1×**24.9E**±0.1, **h42^{km}**±44^{km}, **n8, σ1^{s}26**/13, **3C-1D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.64	95	eP	P	07 01 18.0	-0.4
GVD	Gavdhos	0.69	263	eP	P	07 01 17.4	-1.8
GVD				eS	S	07 01 27.8	-1.2
GVD	Gavdhos	0.69	263	eP	P	07 01 17.4	-1.8
GVD				eS	S	07 01 31.0	+2.0
VAM	Vamos	0.76	309	eP	P	07 01 21.0	+0.9
SLUM		3.44	176	⇓eP	P	07 01 59.9	+1.7
SLUM				S	S	07 02 41.9	+3.6
HMAT	Matruh	4.24	154	⇑iP	P	07 02 16.5	+6.9
SWA2		5.69	175	⇑P	P	07 02 29.5	-0.5
SWA2				S	S	07 03 33.4	-1.6
SWA1		5.69	173	⇑P	P	07 02 30.0	+0.1
SWA1				S	S	07 03 35.4	+0.5

IDC 02 07:06:09.9±1.9, **2.95S×142.26E, mb3.7**/4, **mb1 3.9**/5, **mb1mx3.7**/14, **mbtmp3.7**/5, **ML3.4**/1, **Error ellipse: s-maj=69.9km s-min=27.1km az=113.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.57	204	P	P	07 10 28.4	-2.1
	0.1nm,0.3s,baz=20,slow=12,SNR=9.9						
FITZ	Fitzroy Crossi	22.18	226	P	P	07 11 08.0	-1.5
	6.1nm,1.1s,baz=28,slow=13,SNR=3.9						
MKAR	Makanchi Array	72.16	321	P	P	07 17 36.6	-2.0
	0.5nm,0.9s,baz=101,slow=7.3,SNR=5.1						
BVAR	Borovoye Array	81.55	325	P	P	07 18 29.7	-1.1
	0.4nm,0.6s,baz=117,slow=6.4,SNR=3.1						
ILAR	Eielson Array	84.60	24	P	P	07 18 44.9	-1.3
	0.8nm,0.7s,baz=249,slow=5.3,SNR=8.1						

MAN 02 07:13:30.2, 12.22N×121.52E, h22^{km}, mb4.0, ML2.8, MS2.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJMP	San Jose	0.46	302	eP	Pb	07 13 39.9	+0.3
SJMP				eS	Sb	07 13 47.1	+1.1
OTRP	Odiongan	0.51	73	eP	Pb	07 13 41.2	+0.8
OTRP				eS	Sb	07 13 49.7	+2.3
KALP	Kalibo	0.96	124	eP	Sb	07 14 05.0	+4.7
BOAC	Boac	1.27	14	eP	Pn	07 13 53.0	+0.1
BOAC				eS	Sb	07 14 09.1	-0.3
BUSP	Coron	1.31	261	eP	Pn	07 13 54.3	+0.9
BUSP				eS	Sn	07 14 10.4	0.0
RCP	Roxas	1.36	118	⇑eP	Pn	07 13 55.9	+1.7
CUYO	Cuyo Island	1.44	200	eP	Pn	07 13 54.8	-0.5
CUYO				eS	Sn	07 14 15.8	+2.0
GUIM	Jordan	1.90	146	eP	Pn	07 14 01.1	-0.7
GUIM				eS	Sn	07 14 27.7	+2.5
LUBP	Lubang	1.96	321	eP	Pn	07 14 04.2	+1.6
LUBP				eS	Sn	07 14 28.4	+1.7
ENPP	El Nido	2.29	244	eP	Pn	07 14 06.8	-0.6
ENPP				eS	Sn	07 14 44.5	+9.3

IDC 02 07:23:57.0±0.6, 34.45S×72.26W, mb4.3/11, mb1 4.4/15, mb1mx4.3/19, mbtmp4.2/15, ML4.3/3, MS4.1/7, Ms1 4.1/7, ms1mx3.9/22, Error ellipse: s-maj=23.2km s-min=14.3km az=96.0
BJI 02 07:23:58.8, 34.60S×73.02W, h26^{km}, mB4.9, Ms5.0, Msz4.9
GUC 02 07:23:59.1±0.7, 34.52S×72.44W, h26^{km}±2^{km}, ML4.9
NEIC 02 07:23:59.1, 34.52S×72.44W, h26^{km}, mb4.8/39, ML4.9(GUC), After GUC.
NEIC Felt [III] at Constitucion and Talca; [II] at Curico.
ISC 02 07:23:59.7±0.2, **34.53S**±0.02×**72.44W**±0.03, **h28^{km}**, **h28^{km}**±.4^{km}**:pP-P, n141, σ0^{s}96**/137, **mb4.7**/45, **MS4.4**/4, **13C-8D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTCH	Constitucion	0.80	178	⇑iP	Pb	07 24 14.2	-0.7
CTCH				i S	Sb	07 24 25.0	-0.3
LNV	Longovilo	1.03	56	⇓iP	Pn	07 24 17.5	-0.9
NICH	Los Niches	1.10	115	⇑iP	Pn	07 24 18.8	-0.7
NICH				i S	Sn	07 24 33.0	-0.7
NICH				AMP		07 24 38.7	
	comp=Z,59μm,0.5s						
SFDO	San Fernando	1.18	94	⇓iP	Pn	07 24 20.0	-0.6
CNCO	Chanco	1.20	184	⇓iP	Pn	07 24 20.3	-0.5
CNCO				i S	Sn	07 24 36.0	-0.3
CNCO				AMP		07 24 36.6	
	comp=E,53μm,0.6s						
LCCH	Las Cruces	1.28	35	⇑iP	Pn	07 24 21.8	-0.2
TACH	Talagante	1.53	55	eP	Pn	07 24 24.8	-0.7
CACH	El Canelo	1.58	75	eP	Pn	07 24 26.7	+0.5
CHCH	Chadas Angostu	1.60	69	eP	Pn	07 24 26.4	-0.1
COCH	Cobquecura	1.62	190	⇓iP	Pn	07 24 26.6	-0.2
IHA	Instituto Hidr	1.65	24	eP	Pn	07 24 26.8	-0.4
CICH	Cipreses	1.69	83	⇓iP	Pn	07 24 28.3	+0.6
RCDM	Rinconada Maip	1.71	53	⇓iP	Pn	07 24 27.8	-0.4
SAN	Santiago	1.83	54	eP	Pn	07 24 29.6	-0.2
PCH	Pirque	1.84	61	eP	Pn	07 24 30.2	+0.2
STL	Santa Lucia	1.85	54	eP	Pn	07 24 29.5	-0.7
FSR	Penalolen	1.91	57	⇓iP	Pn	07 24 31.3	+0.4
FSR				i S	Sn	07 24 55.6	+1.4
FSR				AMP		07 25 16.8	
	comp=N,9μm,0.5s						
CLCH	Cerro Calan	1.95	55	⇑iP	Pn	07 24 31.7	+0.2
CLCH				i S	Sn	07 24 55.4	+0.1
CLCH				AMP		07 25 12.2	
	comp=N,14μm,0.6s						
SJCH	San Jose de Ma	1.95	63	eP	Pn	07 24 31.6	+0.1
SJCH				i S	Sn	07 24 56.6	+1.3
SJCH				AMP		07 25 02.5	
	comp=N,10μm,0.5s						
ROCH	El Roble	1.96	38	eP	Pn	07 24 32.1	+0.4
LMEL	Las Melosas	1.98	70	⇑iP	Pn	07 24 32.5	+0.6
LMEL				i S	Sn	07 24 57.9	+1.9
LMEL				AMP		07 25 04.6	
	comp=E,15μm,1.0s						
CCHI	Chillan	2.08	172	⇑iP	Pn	07 24 34.2	+0.7
CCHI				i S	Sn	07 24 59.9	+1.1
CCHI				AMP		07 25 06.8	
	comp=N,16μm,0.6s						
FCH	Farellones	2.16	57	⇑iP	Pn	07 24 34.7	+0.2
FCH				i S	Sn	07 25 02.4	+1.8
JACH	Jahuel	2.41	40	eP	Pn	07 24 37.9	-0.2
MDZ	Mendoza	3.42	62	eP	Pn	07 24 44.2	-8.2
MDZ				i S	Sn	07 25 01.3	-31
CMCH	Combarbala	3.56	20	eP	Pn	07 24 53.2	-1.3
ZON	Zonda	4.34	48	⇓iP	Pn	07 25 06.3	+0.7
ZON				eS	Sn	07 26 31.4	+35
CFAA	Coronel Fontan	4.58	52	Pn	Pn	07 25 06.5	-2.5
	comp=N,0.6nm,0.3s,baz=298,slow=7.4,SNR=52						
CFAA				Sn	Sn	07 26 05.8	+3.9
	comp=N,1.2nm,0.3s,baz=250,slow=17,SNR=3.4						
VLCH	Valdivia	5.30	187	eP	Pn	07 25 14.3	-4.8
PLCA	Paso Flores	6.37	167	Pn	Pn	07 25 33.1	-1.1
	comp=N,3.3nm,0.3s,baz=335,slow=13,SNR=96						
PLCA				Sn	Sn	07 26 57.0	+10
	comp=N,2.3nm,0.3s,baz=273,slow=17,SNR=1.9						
PLCA				LR	LR	07 28 30.9	
	comp=N,476nm,19.2s,baz=161,slow=43						
PLCA	Paso Flores	6.37	167	ePn	Pn	07 25 32.9	-1.3
	comp=N,65nm,0.7s						
PLCA				eSb	Sb	07 27 06.8	+0.7
TRQA	Tornquist	9.15	116	ePn	P	07 26 11.3	-1.7
	comp=N,76nm,1.0s						
LVC	Limon Verde	12.27	16	Pn	P	07 26 50.3	-5.3
	comp=N,0.4nm,0.3s,baz=166,slow=8.3,SNR=5.3						
LVC				Sn	S	07 29 09.9	-2.6
	comp=N,0.2nm,0.3s,baz=252,slow=20,SNR=3.3						
LVC				LR	LR	07 31 00.3	
	comp=N,227nm,21.4s,baz=17,slow=35						
LVC	Limon Verde	12.27	16	eP	P	07 26 51.6	-4.0
CPUP	Villa Florida	15.38	62	Pn	P	07 27 33.5	-3.0
	comp=N,0.1nm,0.3s,baz=255,slow=15,SNR=2.9						
CPUP				Sn	S	07 30 25.6	-0.7
	baz=234,slow=17,SNR=2.8						
CPUP				LR	LR	07 33 41.5	
	comp=N,650nm,19.9s,baz=261,slow=38						
ARE	Arequipa	18.02	3	eP	P	07 28 19.0	+9.1
LPAZ	La Paz	18.58	13	P	P	07 28 17.9	+1.1
	comp=N,0.3nm,0.3s,baz=187,slow=8.3,SNR=27						
LPAZ	La Paz	18.58	13	eP	P	07 28 17.5	+0.7
	comp=N,31nm,1.0s						
USHA	Ushuaia	20.49	173	P	P	07 28 38.0	+0.1
	comp=N,9.8nm,0.8s,baz=305,slow=7.3,SNR=7.0						
USHA				LR	LR	07 37 37.3	
	comp=N,637nm,19.3s,MS4.0,baz=333,slow=40						
SIV	San Ignacio	21.10	32	P	P	07 28 42.3	-2.1
	comp=N,5.6nm,0.6s,mb4.1,baz=211,slow=11,SNR=27						
SAML	Samuel	26.84	21	eP	P	07 29 40.0	+0.2
	comp=N,8.3nm,1.0s,mb4.2						
BDFB	Brasilia	28.91	56	P	P	07 29 55.0	-3.6
	comp=N,4.6nm,0.7s,mb4.3,baz=239,slow=7.0,SNR=4.8						
BDFB				LR	LR	07 42 31.6	
	comp=N,1μm,18.0s,MS4.5,baz=52,slow=39						
BAO	Brasilia Array	28.93	56	P	P	07 29 59.7	+1.0
SDV	Santo Domingo	43.22	3	eP	P	07 32 03.7	+3.5
	comp=N,11nm,0.9s,mb4.6						
VNA3	Neumayer Olymp	48.99	158	e	P	07 32 52.2	+6.9
VNA3	Neumayer Olymp	48.99	158	e	P	07 32 55.0	+10
VNA3	Neumayer Olymp	48.99	158	⇑iP	P	07 32 44.9	-0.4
VNA3				e	pP	07 32 52.2	-1.7
VNA3				e	pP	07 32 55.0	+1.1
VNA3				e		07 33 42.7	
VNA1	Neumayer--Stat	49.32	157	e	P	07 32 55.2	+7.4
VNA1	Neumayer--Stat	49.32	157	e	P	07 32 57.8	+10
VNA1	Neumayer--Stat	49.32	157	P	P	07 32 47.8	0.0
VNA1				e	pP	07 32 55.2	-1.2
VNA1				e	pP	07 32 57.8	+1.4
VNA1				e		07 33 48.2	
VNA2	Neumayer--Watz	49.65	157	e	P	07 32 56.1	+5.7
VNA2	Neumayer--Watz	49.65	157	e	P	07 32 59.9	+10
VNA2	Neumayer--Watz	49.65	157	⇑iP	P	07 32 50.1	-0.3
VNA2				e		07 32 56.1	
VNA2				e	pP	07 32 59.9	+0.9
VNA2				e		07 33 46.5	
SNAA	Sanae	51.22	158	e	P	07 33 08.7	+6.4
SNAA	Sanae	51.22	158	e	P	07 33 12.2	+10
SNAA	Sanae	51.22	158	P	P	07 33 01.6	-0.6
	comp=N,5.0nm,0.8s,mb4.5,baz=278,slow=6.5,SNR=56						
SNAA	Sanae	51.22	158	⇑iP	P	07 33 01.5	-0.8
SNAA				e	pP	07 33 08.7	-2.2
SNAA				e		07 33 12.2	
SNAA				e		07 33 51.6	
RKT	Rikitea	55.19	264	eLR	LR	07 49 22.2	
	comp=N,126nm,27.8s						
QSPA	South Pole Qui	55.70	180	⇑iP	P	07 33 35.8	+0.4
	comp=N,14nm,1.0s,mb5.0						
MAIT	Maitri	55.93	157	eP	P	07 33 36.4	-0.7
VNDA	Vanda	63.51	191	P	P	07 34 29.8	+0.7
	comp=N,1.0nm,0.7s,mb4.0,baz=126,slow=5.7,SNR=8.4						
VNDA	Vanda	63.51	191	eP	P	07 34 29.9	+0.8
	comp=N,4.1nm,1.1s,mb4.4						
SYO	Syowa Base	65.49	158	⇑P	P	07 34 37.0	-5.0
SYO	Syowa Base	65.49	158	⇑pP	pP	07 34 45.1	-5.7
TBI	Tubuai	66.87	257	eLR	LR	07 54 48.8	
	comp=N,260nm,26.8s						
GOGA	Godfrey	68.38	350	eP	P	07 34 59.8	-1.1
	comp=N,10nm,0.9s,mb4.8						
GOGA				epP	pP	07 35 08.2	-1.5
LRAL	Lakeview Retre	68.59	347	eP	P	07 35 01.1	-1.0
	comp=N,9.7nm,1.2s,mb4.6						
LRAL				epP	pP	07 35 09.9	-1.1
PPT	Papeete	69.84	262	eLR	LR	07 56 10.2	
	comp=N,182nm,26.0s						
PPT	Papeete	69.84	262	LR	LR	07 57 52.7	
	comp=N,227nm,18.4s,MS4.5,baz=112,slow=29						
TXAR	Lajitas Array	70.04	331	P	P	07 35 11.0	-0.1
	comp=N,1.0nm,0.7s,mb3.9,baz=154,slow=8.1,SNR=16						
MYNC	Murphy	70.10	350	eP	P	07 35 09.9	-1.5
	comp=N,20nm,1.1s,mb5.0						
MYNC				epP	pP	07 35 19.4	-0.8
OXF	Oxford	70.50	345	P	P	07 35 12.8	-1.0
	comp=N,39nm,0.9s,mb5.3						
OXF				epP	pP	07 35 21.5	-1.1
SWET	Sewanee	70.53	348	eP	P	07 35 11.7	-2.2
SWET				epP	pP	07 35 20.7	-2.1
CPCT	Cooper Cave	70.53	350	eP	P	07 35 14.9	+1.0
CPCT				epP	pP	07 35 21.8	-1.0
WVT	Waverly	71.75	347	eP	P	07 35 20.5	-0.9
	comp=N,44nm,0.8s,mb5.4						
WVT				e	pP	07 35 28.7	-1.5
ELN	Prospectdale	71.81	353	eP	P	07 35 20.6	-1.1
ELN				epP	pP	07 35 29.5	-1.1
MAW	Mawson	72.77	164	eP	P	07 35 26.2	-0.5
	comp=N,4.2nm,0.8s,mb4.4						
MAW	Mawson	72.77	164	P	P	07 35 26.5	-0.1
	comp=N,3.4nm,0.9s,mb4.3,baz=239,slow=3.4,SNR=6.9						
MNTX	Cornudas Mount	72.81	331	eP	P	07 35 26.5	-1.2
	comp=N,6.7nm,1.0s,mb4.5						
MNTX				epP	pP	07 35 35.6	-1.0
WMOK	Wichita Mounta	73.19	338	eP	P	07 35 27.9	-1.9
	comp=N,6.4nm,1.1s,mb4.5						
WMOK				epP	pP	07 35 37.2	-1.5
FVM	French Village	74.06	345	eP	P	07 35 34.6	-0.2
	comp=N,16nm,1.0s,mb4.9						
FVM				epP	pP	07 35 42.5	-1.2
CCM	Cathedral Cave	74.30	345	eP	P	07 35 35.6	-0.6
	comp=N,24nm,1.0s,mb5.1						
CCM				epP	pP	07 35 44.1	-1.0
SUR	Sutherland	74.86	119	LR	LR	08 01 51.0	
	comp=N,401nm,21.9s,MS4.7,baz=1.8,slow=30						
SUR	Sutherland	74.86	119	eP	P	07 35 40.4	+0.8
ACSO	Alum Creek Sta	75.03	352	eP	P	07 35 39.7	-0.7
	comp=N,30nm,1.1s,mb5.1						
ACSO				epP	pP	07 35 47.9	-1.4
TUC	Tucson	75.63	327	eP	P	07 35 44.8	+0.8
	comp=N,3.8nm,1.2s,mb4.2						
TUC				epP	pP	07 35 53.5	+0.6
DBIC	Dimbokro	75.67	71	P	P	07 35 43.6	-0.9
	comp=N,7.5nm,0.6s,mb4.8,baz=201,slow=6.6,SNR=14						
ANMO	Albuquerque	76.09	332	eP	P	07 35 46.6	+0.1
	comp=N,2.3nm,1.0s,mb4.1						
ANMO				epP	pP	07 35 56.2	+0.7
SDCO	Great Sand Dun	78.20	334	eP	P	07 35 58.7	+0.6
	comp=N,5.6nm,0.9s,mb4.5						
SDCO				epP	pP	07 36 07.9	+0.8
PFO	Pinyon Flat Ob	79.36	324	eP	P	07 36 01.4	-3.2
	comp=N,9.0nm,1.3s,mb4.5						
CASY	Casey	79.48	181	eP	P	07 36 05.2	+0.6
PV01	Paradox Valley	79.70	332	eP	P	07 36 05.0	-1.3
LDFC	Landfair	79.92	326	eP	P	07 36 08.4	+0.8
SMCO	Snowmass	80.00	333	eP	P	07 36 09.1	+1.1
SMCO				epP	pP	07 36 18.3	+1.4
ISCO	Idaho Springs	80.06	335	eP	P	07 36 07.2	-1.0
	comp=N,7.2nm,1.1s,mb4.5						
ISCO				epP	pP	07 36 17.3	+0.1
NEN	Nelson	80.26	326	eP	P	07 36 09.8	+0.5
NEN				epP	pP	07 36 19.2	+0.8
SRU	San Rafael	81.31	331	eP	P	07 36 15.3	+0.4
SRU				epP	pP	07 36 24.1	+0.2
ARUT	Antelope Range	81.41	328	eP	P	07 36 16.1	+0.7
MSU	Marysvale	81.48	330	eP	P	07 36 17.1	+1.3
MSU				epP	pP	07 36 25.9	+1.2
TMUT	Trail Mountain	81.75	331	eP	P	07 36 16.4	-0.6
TMUT				epP	pP	07 36 26.4	+0.3
RWWY	Rawlins	82.30	334	eP	P	07 36 20.5	+0.7
	comp=N,16nm,1.1s,mb4.9						
RWWY				epP	pP	07 36 29.4	+0.5
LBTB	Lobatse	82.38	115	eP	P	07 36 20.5	-0.2
	comp=N,7.4nm,0.7s,mb4.7						
JLU	Jordanelle	82.95	331	eP	P	07 36 24.0	+0.7
JLU				epP	pP	07 36 33.3	+0.9
DUG	Dugway	83.16	330	eP	P	07 36 25.6	+1.1
	comp=N,13nm,1.3s,mb4.8						
DUG				epP	pP	07 36 34.5	+1.1
TPH	Tonopah	83.34	326	eP	P	07 36 26.1	+0.7
	comp=N,18nm,1.1s,mb5.0						
HWUT	Hardware Ranch	83.86	332	eP	P	07 36 28.2	+0.3
	comp=N,12nm,1.0s,mb5.0						
HWUT				epP	pP	07 36 37.2	+0.2
SPUT	South Promonto	83.95	331	eP	P	07 36 28.6	+0.2
SPUT				epP	pP	07 36 37.6	+0.1
BW06	Boulder Array	84.09	333	eP	P	07 36 30.8	+1.8
	comp=N,2.5nm,0.9s,mb4.3						
BW06				epP	pP	07 36 38.4	+0.4
PDAR	Pinedale Array	84.09	333	P	P	07 36 29.6	+0.6
	comp=N,1.0nm,1.0s,mb3.9,baz=180,slow=4.4,SNR=5.4						
NVAR	Mina Array Bea	84.13	325	P	P	07 36 30.9	+1.5
	comp=N,1.0nm,0.7s,mb4.1,baz=140,slow=6.5,SNR=9.1						
HVU	Hansel Valley	84.48	331	eP	P	07 36 31.1	0.0
HVU				epP	pP	07 36 40.5	+0.4
ELK	Elko	84.64	329	eP	P	07 36 32.7	+0.9
	comp=N,6.4nm,1.0s,mb4.7						
ELK				epP	pP	07 36 41.5	+0.6
SNOW	Snow King Moun	85.13	333	eP	P	07 36 34.0	-0.2

	comp=N,11nm,1.3s,mb4.8						
SNOW				epP	pP	07 36 43.5	+0.2
LOHW	Long Hollow	85.20	333	eP	P	07 36 34.4	-0.1
	comp=N,6.2nm,1.3s,mb4.6						
LOHW				epP	pP	07 36 43.9	+0.3
TPAW	Teton Pass	85.23	333	eP	P	07 36 35.1	+0.5
	comp=N,3.6nm,0.8s,mb4.5						
TPAW				epP	pP	07 36 44.3	+0.6
RRI2	Red Ridge	85.25	333	eP	P	07 36 35.5	+0.7
	comp=N,4.7nm,0.9s,mb4.6						
RRI2				epP	pP	07 36 44.2	+0.3
IMW	Indian Meadow	85.57	333	eP	P	07 36 36.9	+0.5
	comp=N,7.5nm,1.0s,mb4.9						
IMW				epP	pP	07 36 45.9	+0.4
FLWY	Flagg Ranch	85.64	333	eP	P	07 36 37.4	+0.7
FLWY				epP	pP	07 36 46.2	+0.3
YMR	Madison River	86.24	334	eP	P	07 36 40.0	+0.3
YMR				epP	pP	07 36 49.4	+0.6
LAO	LASA Array	86.38	337	eP	P	07 36 40.3	0.0
	comp=N,20nm,1.0s,mb5.3						
LAO				epP	pP	07 36 49.3	-0.1
QLMT	Earthquake Lak	86.55	333	eP	P	07 36 43.0	+1.8
HLID	Hailey	86.64	331	eP	P	07 36 43.1	+1.5
	comp=N,8.2nm,1.1s,mb4.9						
HLID				epP	pP	07 36 51.6	+0.9
ULM	Lac du Bonnet	86.92	345	P	P	07 36 42.3	-0.6
	comp=N,3.2nm,0.9s,mb4.6,baz=159,slow=8.6,SNR=2.4						
ULM	Lac du Bonnet	86.92	345	eP	P	07 36 42.5	-0.4
	comp=N,23nm,1.1s,mb5.3						
BOZ	Bozeman (W)	87.32	334	eP	P	07 36 44.6	-0.3
	comp=N,2.8nm,1.0s,mb4.5						
DGMT	Dagmar	87.36	339	eP	P	07 36 45.3	+0.2
	comp=N,39nm,1.0s,mb5.6						
DGMT				epP	pP	07 36 54.7	+0.5
DLMT	Dillon	87.44	333	eP	P	07 36 44.5	-1.0
DLMT				epP	pP	07 36 55.6	+1.0
MOD	Modoc	87.82	326	eP	P	07 36 48.7	+1.3
	comp=N,6.4nm,0.9s,mb4.8						
MOD				epP	pP	07 36 58.0	+1.5
EDM	Edmonton	94.34	337	eP	P	07 37 17.7	+0.3
WRA	Warramunga Arr	120.14	209	PKP	PKPdf	07 42 48.9	-4.4
	comp=N,0.8nm,0.5s,baz=157,slow=1.7,SNR=22						
BRVK	Borovoye	147.83	43	ePKPbc	PKPdf	07 43 42.9	-0.4
BVAR	Borovoye Array	147.90	43	PKPbc	PKPdf	07 43 43.4	-0.1
	comp=N,0.8nm,0.5s,baz=264,slow=3.9,SNR=6.1						
AAK	Ala-Archa	153.05	63	ePKPbc	PKPdf	07 43 55.5	+3.8
AAK				ePKPab	PKPab	07 44 06.7	-1.2
MDJ	Mudanjiang	160.31	307	PKP	PKPdf	07 43 57.6	-3.2
WMQ	Urumqi	162.06	53	ePKP	PKPdf	07 43 58.5	-4.1
WMQ				APKP		07 44 09.0	
WMQ				XPKP		07 44 13.0	
WMQ				LR	LR		
	comp=N,108nm,23.8s						
WMQ				LR	LR		
	comp=E,113nm,23.5s						
WMQ				LR	LR		
	comp=Z,124nm,22.4s						
CN2	Changchun	163.35	309	ePKP	PKPdf	07 43 59.4	-4.5
KMI	Kunming	169.73	155	PKP	PKPdf	07 44 03.0	-6.3
KMI	Kunming	169.73	155	PKP	PKPdf	07 44 03.9	-5.4
NJ2	Nanjing	170.23	258	ePKP	PKPdf	07 44 04.2	-5.2
GYA	Guiyang	171.91	174	ePKP	PKPdf	07 44 10.1	-0.5
GYA				PP	PP		
	comp=Z,110nm,7.9s						
GYA				LR	LR		
	comp=N,240nm,21.4s						
GYA				LR	LR		
	comp=E,290nm,21.8s						
GYA				LR	LR		
	comp=Z,270nm,20.9s						
LZH	Lanzhou	176.59	62	ePKP	PKPdf	07 44 09.5	-2.4
LZH				APKP		07 44 18.6	
LZH				XPKP		07 44 20.7	
LZH				LR	LR		
	comp=N,189nm,18.5s						
LZH				LR	LR		
	comp=Z,445nm,20.3s						

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*IDC **02** 07:29:15.2±0.8, 7.49N×94.44E, mb4.0/9, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, Error ellipse: s-maj=28.9km s-min=21.6km az=73.0*

*NEIC **02** 07:29:19.9±0.5, 7.46N×94.42E, h30^{km}, mb4.3/10, Error ellipse: s-maj=15.0km s-min=8.8km az=51.0*

ISC 02 07:29:18.4±0.7**, 7.4N**±0.1×**94.5E**±0.1**, h33**^{km}**, n25,** σ**0**^{s}**84**/24**, mb4.2**/19**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.51	109	ePn	Pn	07 30 54.9	+0.3
PKI	Pulchoki	21.79	338	eP	P	07 34 10.8	+1.4
	12nm,0.6s,mb4.5						
DMN	Daman	21.94	337	eP	P	07 34 12.6	+1.7
KKN	Kakani	22.03	338	eP	P	07 34 11.6	-0.3
	12nm,0.5s,mb4.6						
LSA	Lhasa	22.37	352	eP	P	07 34 17.4	+2.2
	11nm,0.6s,mb4.5						
GKN	Gorkha	22.47	337	eP	P	07 34 15.9	-0.3
	14nm,0.5s,mb4.6						
KOLN	Koldanda	22.69	334	eP	P	07 34 18.5	0.0
	14nm,0.8s,mb4.4						
MKAR	Makanchi Array	40.58	347	P	P	07 36 56.0	-0.6
	4.4nm,0.7s,mb4.2,baz=167,slow=7.8,SNR=42						
SONM	Songino Array	41.52	12	P	P	07 37 05.2	+0.9
	0.5nm,0.8s,mb3.2,baz=200,slow=7.4,SNR=3.4						
ULN	Ulaanbaatar	41.69	13	eP	P	07 37 04.9	-0.8
	1.4nm,0.5s,mb3.9						
KURK	Kurchatov	45.11	346	eP	P	07 37 33.0	-0.4
	12nm,1.1s,mb4.6						
WRA	Warramunga Arr	47.75	125	P	P	07 37 54.7	+0.1
	0.9nm,0.9s,mb3.8,baz=305,slow=8.4,SNR=8.6						
WRA				PcP	PcP	07 39 23.2	-0.6
	0.2nm,0.4s,baz=313,slow=3.1,SNR=4.8						
BVAR	Borovoye Array	49.51	341	P	P	07 38 07.2	-0.6
	1.7nm,0.7s,mb4.2,baz=141,slow=9.5,SNR=11						
BVAR				PcP	PcP	07 39 29.8	+0.1
	0.9nm,0.5s,baz=140,slow=4.8,SNR=4.9						
BRVK	Borovoye	49.57	341	eP	P	07 38 07.5	-0.8
	1.2nm,0.6s,mb4.1						
KMBO	Kilima Mbogo	57.69	264	P	P	07 39 09.8	+1.1
	2.2nm,0.9s,mb4.2,baz=66,slow=13,SNR=5.6						
KMBO	Kilima Mbogo	57.69	264	P	P	07 39 09.8	+1.1
JOF	Joensuu	71.38	334	ep	P	07 40 35.8	-1.1
	2.0nm,0.5s,mb4.3						
FINES	FINESS Array B	73.25	332	P	P	07 40 47.2	-0.8
	2.0nm,0.5s,mb4.3,baz=80,slow=5.7,SNR=15						
KAF	Kangasniemi	73.32	333	ep	P	07 40 47.9	-0.5
	2.2nm,0.5s,mb4.3,baz=104,slow=5.6						
BOSA	Boshof	75.62	238	P	P	07 41 02.6	+0.2
	baz=72,slow=3.2						
ARCES	ARCESS Array B	75.78	340	P	P	07 41 02.3	-0.1
	1.1nm,0.7s,mb3.9,baz=90,slow=6.1,SNR=8.5						
GERES	GERESS Array B	78.36	318	P	P	07 41 16.9	-0.4
	0.4nm,0.2s,mb4.0,baz=90,slow=5.3,SNR=5.3						
NB2	NORSAR Subarra	80.27	331	P	P	07 41 26.7	-0.6
	0.9nm,0.6s,mb3.9,baz=98,slow=5.0						
NOA	NORSAR Array B	80.27	331	P	P	07 41 26.6	-0.7
	1.1nm,0.6s,mb3.9,baz=95,slow=4.9,SNR=4.2						
TXAR	Lajitas Array	139.49	25	PKP	PKPdf	07 48 45.6	+2.2
	0.1nm,0.4s,baz=188,slow=1.6,SNR=6.3						

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*CSEM **02** 07:42:21.3, 33.87N×25.88E, h2^{km}, mb4.7*

*CRAAG **02** 07:42:21.2, 33.85N×25.87E, Mb4.8*

*IDC **02** 07:42:22.9±0.5, 34.04N×25.82E, mb4.6/23, mb1 4.7/32, mb1mx4.7/35, mbtmp4.7/32, ML4.3/9, MS4.8/9, Ms1 4.8/9, ms1mx4.4/29, Error ellipse: s-maj=12.8km s-min=11.3km az=91.0*

*PDG **02** 07:42:23.9±0.2, 33.82N×24.97E, h12^{km}±1^{km}*

*MOS **02** 07:42:23.1±1.2, 34.03N×25.86E, h10^{km}, mb4.9/60, MS4.5/19, Error ellipse: s-maj=4.5km s-min=2.2km az=114.0*

*BJI **02** 07:42:24.4, 33.98N×25.64E, h26^{km}, mB5.2, mb4.9, Ms5.1, Msz5.0*

*PRU **02** 07:42:24.6, 34.19N×25.08E, M4.8*

*NEIC **02** 07:42:25.6±1.3, 34.01N×25.88E, h15^{km}±8^{km}, mb4.8/128, MS4.6/11, Error ellipse: s-maj=5.3km s-min=2.7km az=197.0*

*HRVD **02** 07:42:25.6±0.4, 33.94N×25.74E, h23^{km}±2^{km}, MW5.1/62, Centroid moment Tensor Solution. LP body waves: s33,c41;Mantle waves: s62,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.76±.30; $M_{\theta\theta}$-6.09±.27; $M_{\phi\phi}$5.33±.24; $M_{r\theta}$-0.69±.45; $M_{\theta\phi}$0.60±.26; $M_{\phi r}$-0.63±.46; Best double couple: $M_0$5.82×10^{16} NP1: ϕ_s138°, δ80°, λ178°. NP2: ϕ_s228°, δ88°, λ10°. Principal axes: T 5.456, Plg8°, Azm93°; N .729, Plg80°, Azm239°; P -6.183, Plg5°, Azm3°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*HLW **02** 07:42:26.3, 33.92N×25.98E, h16^{km}, Mb4.8*

*NIC **02** 07:42:27.2±0.2, 34.63N×25.78E, h25^{km}, mb5.0, ML4.6, MW4.1, Earthquake Eastern Mediterranean sea 146km S Kritsa.*

*THE **02** 07:42:37.5, 34.59N×25.40E, h19^{km}, ML4.5*

ISC 02 07:42:22.7±0.1**, 33.91N**±0.01×**25.90E**±0.01**, h10**^{km}**, (h16**^{km}±2.3^{km}**:pP-P), n795,** σ**1**^{s}**27**/847**, mb4.8**/143**, MS4.7**/40**, 53C-42D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.98	350	eP	Pb	07 42 42.0	+0.8
NPS	Neapolis	1.37	350	eP	Pb	07 42 49.4	+1.4
IDI	Anoyia	1.61	329	Pn	Pn	07 42 53.2	+1.9
	46nm,0.3s,baz=149,slow=17,SNR=107						
IDI				Sn	Sn	07 43 14.5	+2.2
	315nm,0.3s,baz=252,slow=20,SNR=13						
GVD	Gavdhos	1.76	302	eP	Pn	07 42 55.5	+1.9
GVD	Gavdhos	1.76	302	ePn	Pn	07 42 55.3	+1.7
KARP	Karpathos	1.93	32	eP	Pn	07 43 00.0	+4.0
VAM	Vamos	2.05	317	eP	Pn	07 42 59.8	+2.1
SLUM		2.48	194	⇓eP	Pn	07 43 05.3	+1.5
SLUM				S	Sn	07 43 33.6	-0.9
NISR	Nisiros	2.87	20	eP	Pn	07 43 12.3	+2.8
ARG	Arkhangelos	2.93	38	eP	Pn	07 43 14.0	+3.7
HMAT	Matruh	2.98	160	⇑eP	Pn	07 43 11.8	+0.8
HMAT				S	Sn	07 43 44.9	-2.3
APE	Apeiranthos	3.17	355	ePN	Px	07 42 14.5	
APE				eSN	Sx	07 42 50.9	
APE	Apeiranthos	3.17	355	eP	Pn	07 43 13.5	-0.1
APE	Apeiranthos	3.17	355	⇓iP	Pn	07 43 15.1	+1.5
KYTH	Kithira	3.33	316	eP	Pn	07 43 17.5	+1.5
BODT	Bodrum	3.35	20	ePN	Px	07 42 17.5	
BDRM	Kayabasi	3.39	21	iP	Pn	07 43 19.4	+2.6
BDRM				iS	Sn	07 43 54.4	-3.1
DABA	Dabaa	3.52	145	⇓eP	Pn	07 43 19.0	+0.3
DABA				S	Sn	07 43 57.4	-3.5
DALT	Dalyan (Mudla)	3.62	37	ePN	Px	07 42 21.9	
VLI	Veliai	3.71	320	eP	Pn	07 43 21.0	-0.3
KSL	Kastellorizon	3.76	52	⇓iP	Pn	07 43 24.5	+2.5
YER	Yerkesik	3.76	30	iSN	Sx	07 43 07.5	
AKAS	Kas	3.82	52	iP	Pn	07 43 24.7	+1.8
AKAS				iS	Sn	07 44 09.7	+1.3
SMG	Samos	3.86	11	eP	Pn	07 43 24.5	+1.0
AYDN	Tasoluk	4.07	23	iP	Pn	07 43 29.1	+2.6
AYDN				iS	Sn	07 44 15.4	+0.6
NAIG	Nisos Aigina	4.31	334	eP	Pn	07 43 30.5	+0.6
ATH	Athens Observa	4.42	337	eP	Pn	07 43 33.5	+2.0
PTL	Penteli	4.45	339	eP	Pn	07 43 32.0	+0.2
NSAL	Nisos Salamina	4.45	334	eP	Pn	07 43 32.0	+0.1
GOLH	Golhisar	4.46	41	iP	Pn	07 43 34.4	+2.4
URLA	Izmir	4.47	7	iP	Pn	07 43 32.2	0.0
DNZL	Cakiroluk	4.55	33	iP	Pn	07 43 35.3	+2.0
DNZL				iS	Sn	07 44 26.8	-0.2
BLCB	Balcova	4.56	11	ePN	Px	07 42 34.5	
MPAR	Parnis Oros	4.58	338	eP	Pn	07 43 34.0	+0.3
MGER	Gerania Oros	4.60	333	eP	Pn	07 43 33.5	-0.4
ITM	Ithomi	4.60	316	eP	Pn	07 43 34.0	0.0
DENT	Denizli	4.60	33	ePN	Px	07 42 35.8	
KDAG	Bornova	4.62	13	iP	Pn	07 43 34.8	+0.6
SWA1		4.64	182	⇑eP	Pn	07 43 35.1	+0.6
SWA1				S	Sn	07 44 25.4	-3.6
SWA2		4.67	185	⇑eP	Pn	07 43 35.3	+0.3
HBRG	Burj al ‘Arab	4.71	134	⇓P	Pn	07 43 35.7	+0.1
MANT	Manisa	5.05	24	iP	Pn	07 43 42.0	+1.6
MANT				iS	Sn	07 44 37.2	-2.3
AKS	Akhisar	5.19	17	iPN	Px	07 42 43.8	
BCK	Bucak	5.20	46	ePN	Px	07 42 44.8	
KHL	Karahalli	5.29	33	ePN	Px	07 42 44.7	
PRK	Paraskevi	5.33	3	eP	Pn	07 43 44.1	-0.2
PPCY	Paphos	5.41	78	P	Pn	07 43 45.8	+0.3
ISP	Isparta	5.42	42	ePN	Px	07 42 46.5	
ISP	Isparta	5.42	42	ePn	Pn	07 43 46.8	+1.3
	93nm,0.6s						
ISP	Isparta	5.42	42	ePn	Pn	07 43 46.8	+1.2
	93nm,0.6s						
ISP	Isparta	5.42	42	eP	Pn	07 43 46.8	+1.2
ISP				pmax	pmax		
	comp=Z,93nm,0.6s						
TKTP	Tekketepe	5.46	40	iP	Pn	07 43 47.2	+1.1
RLS	Riolos of Patr	5.48	320	eP	Pn	07 43 48.5	+2.1
ALFC	Alevga	5.66	75	P	Pn	07 43 48.5	-0.5
	comp=Z,26nm,0.3s						
ALFC				S	Sn	07 44 53.0	-1.9
NEO	Neokhori	5.80	339	eP	Pn	07 43 51.5	+0.6
SZAC	Souni-Zanaja	5.84	80	P	Pn	07 43 52.0	+0.6
	comp=Z,30nm,0.6s						
SZAC				S	Sn	07 44 58.2	-1.0
AGG	Agios Georgios	5.86	332	ePn	Pn	07 43 52.0	+0.3
AGG				eSn	Sn	07 44 49.7	-10
XOR	Xorichti	5.86	339	ePn	Pn	07 43 52.0	+0.1
LEF	Lefka	5.89	76	PN	Px	07 42 52.7	
LEF	Lefka	5.89	76	SN	Sx	07 44 00.5	
AANS		5.90	126	⇑eP	Pn	07 43 51.7	-0.6
AANS				S	Sn	07 44 54.2	-6.5
BALB	Balikesir	5.93	15	ePN	Px	07 42 53.3	
EVR	Evrytania	5.99	328	eP	Pn	07 43 55.0	+1.4
SQR		6.03	130	⇑eP	Pn	07 43 53.7	-0.5
VLS	Valsamata	6.05	316	eP	Pn	07 43 55.2	+0.7
FYM	Al Fayyum	6.07	132	⇑eP	Pn	07 43 54.4	-0.3
BTOK	Tokmak	6.08	16	iP	Pn	07 43 56.3	+1.4
AYT	Al ‘Ayyat	6.13	132	⇓eP	Pn	07 43 55.1	-0.5
AWBH		6.14	154	⇑eP	Pn	07 43 55.8	+0.1
ALT	Altintas	6.15	32	ePN	Px	07 42 57.1	
MAMC	Mammari	6.17	76	P	Pn	07 43 56.0	-0.1
HDMB	Hadim	6.18	59	ePN	Px	07 42 57.7	
CSS	Prodhromos	6.23	78	P	Pn	07 43 56.8	-0.1
	comp=Z,27nm,0.6s						
CSS				S	Sn	07 45 07.3	-1.7
CSS	Prodhromos	6.23	78	ePn	Pn	07 43 56.2	-0.8
CSS				eSn	Sn	07 44 59.2	-10
CSS	Prodhromos	6.23	78	ePn	Pn	07 43 56.2	-0.7
CSS	Prodhromos	6.23	78	P	Pn	07 43 56.8	-0.1
	comp=Z,27nm,0.6s						
CSS				S	Sn	07 45 07.3	-1.7
ERMK	Ermenek	6.35	63	iP	Pn	07 43 59.7	+1.1
LKD	Levkas	6.39	320	ePn	Pn	07 43 59.2	-0.1
KOT	Kottamia	6.41	127	⇑P	Pn	07 43 59.2	-0.4
HSAF	As Saff	6.44	130	⇑eP	Pn	07 43 59.6	-0.3
GLL	Jalalah	6.56	130	⇑eP	Pn	07 44 01.4	-0.3
ORLT	Orhaneli	6.57	20	ePN	Px	07 43 02.5	
OUR	Ouranopolis	6.59	347	ePn	Pn	07 44 02.5	+0.4
KONT	Konya--Tatoy	6.61	51	iPN	Px	07 43 03.0	
BNT	Bandirma	6.63	13	ePN	Px	07 43 03.4	
HBNS	Bani Suwayf	6.71	136	⇑eP	Pn	07 44 03.6	-0.1
ULDT	Uludag	6.73	22	iP	Pn	07 44 04.0	-0.1
PLG	Polygyros	6.74	344	eP	Pn	07 44 04.0	-0.2
IKL	Isikli	6.79	68	iPN	Px	07 43 05.2	
PHNC	Paralimni	6.80	79	P	Pn	07 44 05.8	+0.7
	comp=Z,32nm,0.6s						
PHNC				S	Sn	07 45 22.4	-1.0
KDHN	Kadinhani	6.81	46	iP	Pn	07 44 06.7	+1.5
MRMT	Marmara Adasi	6.81	11	ePN	Px	07 43 05.0	
ESKT	Eskisehir	6.86	34	iP	Pn	07 44 05.9	0.0
KIZT	Kizilcal	6.91	42	iPN	Px	07 43 08.0	
MEV	Metsovon	6.96	329	ePn	Pn	07 44 07.3	0.0
JAN	Janina	7.02	326	eP	Pn	07 44 10.4	+2.3
KZN	Kozani	7.18	334	eP	Pn	07 44 12.0	+1.6
SOH	Sokhos	7.19	344	ePn	Pn	07 44 11.1	+0.6
YLV	Yalova	7.20	22	ePN	Px	07 43 10.0	
RDO	Rodhopi	7.23	358	eP	Pn	07 44 11.5	+0.5
RDO	Rodhopi	7.23	358	P	Pn	07 44 11.9	+0.9
SRS	Serrai	7.42	346	ePn	Pn	07 44 14.1	+0.4
GRG	Griva	7.56	339	ePn	Pn	07 44 15.5	-0.2
KEK	Kerkira	7.58	322	eP	Pn	07 44 13.5	-2.5
NVR	Nevrokopi	7.60	348	eP	Pn	07 44 16.4	+0.2
KNT	Kendrikon	7.62	343	ePn	Pn	07 44 16.6	+0.1
MERS	Mersin	7.63	65	ePN	Px	07 43 17.8	
OFRI	‘Ofer	7.71	97	Pn	Pn	07 44 16.3	-1.5
FNA	Florina	7.75	334	ePn	Pn	07 44 18.2	-0.1
KZIT	Kziot	7.78	110	Pn	Pn	07 44 18.0	-0.8
KZIT				Sn	Sn	07 45 40.6	-7.2
HNTI	Hanita	7.79	94	Pn	Pn	07 44 18.2	-0.7
HNTI				Sn	Sn	07 45 41.6	-6.4
HNTI	Hanita	7.79	94	P	Pn	07 44 18.7	-0.2
RZN	Rozhen	7.82	353	eP	Pn	07 44 19.0	-0.3
SLTI	Sal’it	7.85	100	Pn	Pn	07 44 18.9	-0.8
SLTI	Sal’it	7.85	100	P	Pn	07 44 19.0	-0.7
MMB	Musomiste	7.86	348	eP	Pn	07 44 18.0	-1.8
HNKL	Nakhl	7.93	118	⇑eP	Pn	07 44 19.9	-0.9
RTMM	Retamin	7.95	109	Pn	Pn	07 44 20.8	-0.3
RTMM	Retamin	7.95	109	P	Pn	07 44 20.7	-0.4
EDRB	Edirne	7.95	5	ePN	Px	07 43 20.8	
MMC6	Mount Meron ar	7.98	94	Pn	Pn	07 44 21.0	-0.5
MMA0	Mount Meron ar	7.99	94	Pn	Pn	07 44 20.9	-0.8
MMA2	Mount Meron ar	7.99	94	Pn	Pn	07 44 21.2	-0.5
MASH	Mash‘abbe Sade	8.05	109	Pn	P	07 44 21.6	-0.9
BHL	Bhannes	8.11	87	ePn	P	07 44 23.3	0.0
BHL				Sn	Sn	07 45 47.3	-8.7
ANTO	Ankara	8.11	41	ePN	Px	07 43 23.1	
MMLI	Mount Malkishu	8.11	98	Pn	P	07 44 22.1	-1.3
MMLI	Mount Malkishu	8.11	98	P	P	07 44 22.5	-0.9
KSDI	Kefar Szold	8.18	92	Pn	P	07 44 23.2	-1.1
KSDI	Kefar Szold	8.18	92	P	P	07 44 23.3	-1.0
KRTS	Karatas	8.19	68	ePN	Px	07 43 24.8	
NIG	Nigde	8.20	57	ePN	Px	07 43 25.2	
KKB	Krupnik	8.25	345	eP	P	07 44 24.0	-1.3
SGKT	Sivrigoynuk	8.26	35	iP	P	07 44 26.1	+0.6
MZDA	Masada	8.39	105	Pn	P	07 44 26.0	-1.3
MZDA				Sn	Sn	07 45 55.2	-7.9
BRBR	Barbar	8.39	91	⇑iP	P	07 44 26.9	-0.4
BRBR				⇑iS	Sn	07 45 47.6	-15
KMTI	Karmit	8.40	114	Pn	P	07 44 26.9	-0.5
KMTI				Sn	Sn	07 45 56.3	-6.9
KMTI	Karmit	8.40	114	P	P	07 44 27.3	-0.1
KMTI				Sn	Sn	07 45 56.3	-6.9
BR131	Keskin Array S	8.49	45	ePn	P	07 44 29.8	+1.2
	comp=Z,9.7nm,0.5s						
BR131	Keskin Array S	8.49	45	ePn	P	07 44 29.8	+1.1
	comp=Z,9.7nm,0.5s						
BRTR	Keskin Array B	8.49	45	Pn	P	07 44 28.9	+0.3
	comp=Z,1.7nm,0.3s,baz=224,slow=14,SNR=43						
BRTR				Sn	Sn	07 46 02.1	-3.5
	comp=Z,0.5nm,0.3s,baz=220,slow=24,SNR=3.3						
PRNI	Paran	8.49	112	Pn	P	07 44 27.9	-0.8
PRNI				Sn	Sn	07 45 57.6	-8.0
PRNI	Paran	8.49	112	P	P	07 44 28.3	-0.4
PRNI				Sn	Sn	07 45 57.6	-8.0
ARNB	Al Arnab	8.50	74	⇑iP	P	07 44 27.8	-1.0
ARNB				⇑iS	Sn	07 45 49.9	-16
TCHB	Talchebab	8.52	96	⇑iP	P	07 44 28.9	-0.1
TCHB				⇑iS	Sn	07 45 51.6	-15
MKRJ	Makawir	8.53	103	Pn	P	07 44 28.4	-0.9
ZFRI	Zfri	8.54	111	Pn	P	07 44 28.3	-1.0
CEYT	Ceyhan	8.61	66	ePN	Px	07 43 29.4	
QASN	Qassioun	8.65	90	⇑iP	P	07 44 30.9	0.0
QASN				⇑iS	Sn	07 45 54.4	-15
SLNF	Slenfeh	8.66	76	⇑iP	P	07 44 29.7	-1.3
SLNF				⇑iS	Sn	07 45 52.5	-17
HRFI	Mount Harif	8.67	114	Pn	P	07 44 30.7	-0.4
HRFI				Sn	Sn	07 46 02.0	-7.9
BIDA	Albida	8.67	80	⇓iP	P	07 44 29.9	-1.3
BIDA				⇓iS	Sn	07 45 54.2	-16
HTY	Hatay	8.68	72	iPN	Px	07 43 31.0	
EIL	Elat	8.78	116	Pn	P	07 44 31.9	-0.8
EIL	Elat	8.78	116	P	P	07 44 32.0	-0.7
SKO	Skopje	8.78	338	ePn	P	07 44 29.0	-3.7
TOTH	TOTAH	8.79	91	⇓iP	P	07 44 32.6	-0.3
TOTH				⇓iS	Sn	07 45 58.4	-15
WRDH	Warideh	8.80	77	⇓iP	P	07 44 31.7	-1.2
WRDH				⇓iS	Sn	07 45 56.5	-17
KOZT	Kozan	8.82	63	ePN	Px	07 43 32.5	
HBST	Basata	8.87	119	⇓eP	P	07 44 33.0	-0.9
HDK1	Dakhla	8.88	159	⇑eP	P	07 44 33.8	-0.2
NUB		8.91	121	⇓eP	P	07 44 33.4	-1.1
BTCH	Batrach	8.92	73	⇓iP	P	07 44 33.4	-1.2
VTS	Vitosha	8.92	347	eP	P	07 44 33.0	-1.6
SOI	Samo	8.99	300	P	P	07 44 35.4	-0.2
TIP	Timpagrande	9.04	308	ePn	P	07 44 33.4	-2.9
TIP				eSn	Sn	07 46 02.9	-16
ALWS	Ilw as Safayha	9.06	118	P	P	07 44 35.6	-0.9
HDHB	Dhahab	9.07	122	⇓eP	P	07 44 36.2	-0.5
TR1		9.07	128	⇑P	P	07 44 36.1	-0.6
GRI	Girifalco	9.08	305	P	P	07 44 35.7	-1.1
HAQS	Haql	9.10	120	P	P	07 44 36.1	-1.0
SALA	Sala	9.14	95	⇑iP	P	07 44 37.5	-0.2
SALA				⇑iS	Sn	07 46 06.9	-15
JMOS	Jabal al Moall	9.17	119	P	P	07 44 37.2	-0.8
DRWC	Darouich	9.21	70	⇑iP	P	07 44 37.1	-1.5
DRWC				⇑iS	Sn	07 46 05.5	-18
SHRM		9.27	128	⇓P	P	07 44 38.6	-0.8
AKRG	Al Kharijah	9.28	153	⇑P	P	07 44 39.1	-0.5
GTR	Jabal at Tayr	9.30	153	⇓eP	P	07 44 39.3	-0.5
PRD	Provadia	9.35	7	eP	P	07 44 40.0	-0.5
TAYS	Tayyib Ism	9.35	122	P	P	07 44 39.3	-1.3
CORM	Corum	9.37	46	ePN	Px	07 43 40.8	
RABH	Abou Rabah	9.38	84	⇑iP	P	07 44 40.3	-0.7
ASF	Jabal al Asfar	9.39	98	Pn	P	07 44 40.5	-0.6
	comp=Z,10.0nm,0.3s,baz=154,slow=7.8,SNR=58						
ASF				Sn	Sn	07 46 23.4	-4.4
	comp=Z,13nm,0.3s,baz=54,slow=20,SNR=6.9						
BNN	Bunyan	9.41	56	iPN	Px	07 43 41.8	
MSI	Messina ING	9.41	300	P	P	07 44 40.5	-0.9
BARS	Barje	9.45	341	⇑iPn	P	07 44 43.5	+1.5
ROOS	tl_alroos	9.45	85	⇓iP	P	07 44 41.9	-0.1
ROOS				⇓iS	Sn	07 46 13.2	-16
TDS	Terranova Siba	9.58	310	P	P	07 44 43.0	-0.7
BDAS	Al Bad‘	9.59	122	P	P	07 44 42.8	-1.0
ULC	Ulcinj	9.60	329	⇑iPn	P	07 44 40.1	-3.9
ULC				eSn	Sn	07 46 21.6	-11
ZAPS	Zavoj/Pirot	9.72	346	⇓iPn	P	07 44 44.9	-0.7
ORI	Oriolo Calabro	9.74	312	P	P	07 44 44.4	-1.5
GAZ	Gaziantep	9.77	67	ePN	Px	07 43 45.0	
QURS	Qurayyt al Mil	9.95	102	P	P	07 44 50.2	+1.3
TTG	Podgorica	9.98	330	⇑iPn	P	07 44 45.6	-3.6
TTG				eSn	Sn	07 46 31.0	-11
VAE	Valguarnera	10.00	294	Pn	P	07 44 48.4	-1.1
	comp=Z,5.8nm,0.3s,baz=20,slow=1.8,SNR=17						
VAE				Sn	Sn	07 46 35.8	-7.1
	comp=Z,6.4nm,0.3s,baz=340,slow=19,SNR=2.7						
BUM	Brajici-Budva	10.03	329	⇑iPn	P	07 44 46.1	-3.7
BUM				eSn	S	07 46 32.1	-11
HSFG		10.08	134	⇑eP	P	07 44 50.6	-0.1
IVA	Berane	10.11	334	⇑iPn	P	07 44 48.2	-2.8
IVA				eSn	S	07 46 35.4	-10
IVA	Berane	10.11	334	⇑iPn	P	07 44 48.2	-2.8
IVA				eSn	S	07 46 35.3	-10
HCY	Herceg Novi	10.32	328	⇑iPn	P	07 44 49.8	-4.1
HCY				eSn	S	07 46 39.0	-12
NKY	Niksic	10.40	331	⇑iPn	P	07 44 50.9	-4.2
NKY				eSn	S	07 46 41.1	-12
CSLB	Castelbuono	10.41	296	P	P	07 44 53.1	-2.0
GIB	Gibilmanna	10.45	296	P	P	07 44 54.2	-1.5
FAVR	Favara	10.51	292	P	P	07 44 56.0	-0.5
BRY	Bratogost	10.67	329	⇑iPn	P	07 44 54.6	-4.0
BRY				eSn	S	07 46 47.5	-12
PLE	Pljevlja	10.69	334	⇑iPn	P	07 44 55.1	-3.8
PLE				eSn	S	07 46 49.5	-10
NVSS	Nova Varos 2	10.73	335	⇑iPn	P	07 44 56.0	-3.5
TBKS	Tabuk	10.74	119	P	P	07 44 59.7	0.0
GRUS	Gruza	10.75	339	iPn	P	07 44 58.1	-1.6
UPM	Unac-Piva	10.77	332	⇑iPn	P	07 44 55.9	-4.1
UPM				eSn	S	07 46 50.7	-11
HARR	Harsova	10.88	8	⇓P	P	07 45 04.0	+2.5
HARR	Harsova	10.88	8	⇑iP	P	07 45 04.0	+2.5
MALT	Malatya	11.04	63	ePn	P	07 45 02.5	-1.2
	comp=Z,26nm,0.9s						
MALT	Malatya	11.04	63	eP	P	07 45 02.5	-1.2
MALT				pmax	pmax		
	comp=Z,27nm,0.9s						
DIVS	Divcibare	11.16	337	⇑iPn	P	07 45 02.7	-2.7
CFR	Carcaliu	11.38	8	⇑iP	P	07 45 06.5	-1.9
PSB1	Pescosannita	11.43	313	P	P	07 45 08.8	-0.2
VOIR		11.53	357	⇓P	P	07 45 11.0	+0.6
VOIR		11.53	357	⇑iP	P	07 45 11.0	+0.6
MLR	Muntele Rosu	11.56	0	Pn	P	07 45 09.5	-1.3
	comp=Z,0.2nm,0.3s,baz=328,slow=1.9,SNR=4.9						
MLR	Muntele Rosu	11.56	0	⇓iP	P	07 45 12.6	+1.7
PTK	Pertek	11.95	62	ePN	Px	07 44 14.9	
VRI	Vrincioaia	11.96	3	⇑P	P	07 45 20.0	+3.8
VRI	Vrincioaia	11.96	3	⇑iP	P	07 45 20.1	+3.9
RFI	Roccamonfina	11.98	311	P	P	07 45 15.4	-1.1
CII	Carovilli	12.03	314	ePn	P	07 45 13.6	-3.5
	comp=Z,62nm,0.6s						

CII Carovilli 12.03 314 *e*Pn **P** 07 45 13.6 -3.6
comp=Z,62nm,0.6s
VVLD Villa Vallelon 12.53 313 P **P** 07 45 24.3 +0.4
SIM Simferopol' 12.71 27 P **P** 07 45 30.9 +4.6
SIM pmax pmax
comp=Z,260nm,17.0s
SIM MLR MLR
comp=Z,3µm,16.0s
AQU L'Aquila 12.95 314 *e*Pn **P** 07 45 32.0 +2.6
comp=Z,51nm,0.9s
AQU L'Aquila 12.95 314 *e*P **P** 07 45 32.0 +2.6
AQU pmax pmax
comp=Z,51nm,0.9s
UMJS Umm Lajj 13.16 128 P **P** 07 45 33.2 +0.9
NVLJ Novalja 13.63 325 *i* Pn **P** 07 45 34.3 -4.2
NVLJ *i* Sn **S** 07 47 55.1 -16
CING Cingoli 13.69 317 P **P** 07 45 38.6 -0.7
BURAR Bucovina Array 13.70 358 ⇓P **P** 07 45 49.8 +10
BURAR Bucovina Array 13.70 358 ⇑*i*P **P** 07 45 49.8 +10
ARV Arcevia 13.91 317 P **P** 07 45 43.8 +1.6
FSSB Fossombrone 14.13 318 P **P** 07 45 46.2 +1.2
BOJS Bojanci 14.17 328 *e*Pn **P** 07 45 41.0 -4.5
BOJS *e*Sn **S** 07 48 09.4 -14
SOC Sochi 14.45 44 *e*P **P** 07 45 50.1 +0.8
SOC *e* 07 48 33.9
SOC pmax pmax
comp=Z,24nm,1.0s
SOC pmax pmax
comp=N,11nm,0.7s
SOC pmax pmax
comp=E,34nm,1.0s
SOC MLR MLR
comp=Z,3µm,16.0s
SOC MLR MLR
comp=N,2µm,19.0s
SOC MLR MLR
comp=E,3µm,16.0s
KNDS Knezji Dol 14.58 326 *e*Pn **P** 07 45 48.4 -2.5
PSZ Piszkesteto 14.70 344 ⇑*e*P **P** 07 45 56.2 +3.7
PSZ Piszkesteto 14.70 344 *e*P **P** 07 45 52.2 -0.3
comp=E,22nm,0.9s
PSZ Piszkesteto 14.70 344 *e*P **P** 07 45 52.2 -0.3
comp=E,22nm,0.9s
PSZ Piszkesteto 14.70 344 *e*P **P** 07 45 52.2 -0.3
PSZ pmax pmax
comp=Z,22nm,0.9s
CEY Cerknica 14.72 327 *e*Pn **P** 07 45 48.6 -4.1
PGD Poggio Sodo 14.84 316 P **P** 07 45 56.0 +1.6
CSNT Castellina Chi 14.86 314 P **P** 07 45 55.3 +0.8
GRFL Gerfalco 14.87 313 P **P** 07 45 54.5 -0.1
LJU Ljubljana 14.91 328 *e*Pn **P** 07 45 56.1 +0.9
LJU *e*Sn **S** 07 48 28.5 -13
KECS Kecovo 15.11 346 *e*P **P** 07 46 01.9 +4.1
PERS Pernice 15.12 330 *e*Pn **P** 07 45 53.2 -4.8
HILS Ha'il 15.14 111 P **P** 07 46 00.2 +1.9
VOY Vojsko 15.19 326 *e*Pn **P** 07 45 55.4 -3.4
VOY *e* 07 46 04.0
VOY *e* 07 46 10.7
VOY *e*Sn **S** 07 48 33.4 -14
OBKA Obir 15.26 329 ⇑*i*Pn **P** 07 45 54.4 -5.4
OBKA *i* Sn **S** 07 48 31.5 -18
ABSA Djebel Ababsia 15.27 284 P **P** 07 46 10.0 +10
CMAH Djebel Manchou 15.34 285 P **P** 07 46 07.0 +6.1
BHD Baghdad 15.42 87 *ex* x 07 46 05.0
BHD *ex* x 07 46 06.5
BHD *ex* x 07 49 01.0
ARSA Arzberg 15.46 333 ⇑*i*PN **P** 07 45 58.9 -3.5
VYHS Vyhne 15.50 342 *e*P **P** 07 46 08.9 +6.0
ROBS Robic 15.52 326 *e*Pn **P** 07 46 00.6 -2.6
GSCL Gusciola 15.78 316 P **P** 07 46 07.1 +0.5
CAEH 'Ain El Ouahch 15.81 286 P **P** 07 46 13.5 +6.5
PGF Pioggiola 15.82 308 *e*P **P** 07 46 04.8 -2.2
comp=Z,162nm,1.2s
PGF Pioggiola 15.82 308 *e*P **P** 07 46 04.8 -2.2
PGF pmax pmax
comp=Z,81nm,1.2s
STHS Stebnicka Huta 15.87 349 *e*P **P** 07 46 13.0 +5.3
KWP Kalwaria 15.88 352 *e*P **P** 07 46 08.7 +0.8
CKFL Kef-Lekhel 15.89 284 P **P** 07 46 14.0 +6.0
LVV L'vov 15.96 356 *e*P **P** 07 46 06.0 -2.8
LVV *e*S **S** 07 49 03.0 -2.8
LVV MLR MLR
comp=Z,2µm,12.0s
NIE Niedzica 16.04 347 *e*P **P** 07 46 11.3 +1.5
CASM Ain Smara 16.07 284 P **P** 07 46 16.0 +5.7
KBA Koelnbreinsper 16.23 328 ⇑*i*Pn **P** 07 46 08.8 -3.4
KBA *i* Sn **S** 07 48 56.7 -15
ONI Oni 16.25 53 P **P** 07 46 14.2 +1.6
GNI Garni 16.27 62 Pn **P** 07 46 14.9 +2.1
comp=Z,2.5nm,0.3s,baz=96,slow=5.4,SNR=8.0
GNI Garni 16.27 62 *e*P **P** 07 46 16.3 +3.5
comp=Z,42nm,0.8s
GNI Garni 16.27 62 P **P** 07 46 14.9 +2.1
GNI pmax pmax
comp=Z,3.0nm,0.3s
CTI Castel Tesino 16.29 322 P **P** 07 46 13.1 +0.1
KIV Kislovodsk 16.44 47 *e*P **P** 07 46 17.9 +2.9
comp=Z,132nm,1.0s
KIV Kislovodsk 16.44 47 ⇓*i*P **P** 07 46 18.2 +3.3
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,1µm,16.0s
MOA Molln 16.44 331 ⇓*i*Pn **P** 07 46 12.1 -2.9
MOA *i* Sn **S** 07 49 01.1 -16
SEST Monte Rota 16.50 325 P **P** 07 46 17.5 +1.8
CMER Merouana 16.53 282 P **P** 07 46 22.0 +5.8
SAL Salo 16.59 319 P **P** 07 46 18.1 +1.3
ZEI Tsey 16.63 53 *e*P **P** 07 46 18.6 +1.2
TI2 Plekhanov 16.79 57 *i*P **P** 07 46 23.8 +4.3
MTA Mtatsminda 16.81 57 P **P** 07 46 21.1 +1.4
MTA S Sx 07 51 32.4
CKHR Kef el Ahmar 16.85 283 P **P** 07 46 24.0 +3.8
VRAC Vranov 16.86 339 Pn **P** 07 46 18.9 -1.4
comp=Z,0.4nm,0.3s,baz=170,slow=13,SNR=8.2
VRAC Sn **S** 07 49 30.8 +4.0
comp=Z,2.1nm,0.3s,baz=255,slow=18,SNR=3.1
MABI Malga Bissina 16.88 320 P **P** 07 46 21.7 +1.2
OJC Ojcow 16.90 346 *e*P **P** 07 46 19.4 -1.4
OJC *e*S **S** 07 49 39.1 +11
OJC MLR MLR 07 53 51.3
comp=Z,2µm,19.5s
OKC Ostrava-Krasne 16.91 343 *e*P **P** 07 46 20.2 -0.7
OKC AMS AMS 07 54 10.0
comp=Z,2µm,11.6s
SET Setif 16.94 284 P **P** 07 46 23.0 +1.6
AKASG Malin Array Be 16.95 7 Pn **P** 07 46 19.0 -2.5
comp=Z,11nm,0.3s,baz=196,slow=11,SNR=50
AKASG Sn **S** 07 49 34.4 +5.5
baz=190,slow=21,SNR=12
MORC Moravsky Berou 17.01 341 *e*P **P** 07 46 20.5 -1.7
comp=Z,22nm,0.9s
MORC Moravsky Berou 17.01 341 *e*P **P** 07 46 20.5 -1.7
comp=Z,22nm,0.9s
MORC Moravsky Berou 17.01 341 *e*P **P** 07 46 20.5 -1.7
MORC pmax pmax
comp=Z,22nm,0.9s
FIN Finale Ligure 17.13 312 P **P** 07 46 22.9 -0.7
FIN Finale Ligure 17.13 312 P **P** 07 46 23.0 -0.7
WTTA Wattenberg 17.15 325 ⇑*i*Pn **P** 07 46 21.4 -2.5
WTTA *i* Sn **S** 07 49 18.4 -15
IMI Imperia 17.18 311 P **P** 07 46 24.1 -0.2
IMI Imperia 17.18 311 P **P** 07 46 24.1 -0.2
WATA Walderalm 17.23 325 ⇑*i*Pn **P** 07 46 22.6 -2.3
WATA *i* Sn **S** 07 49 20.4 -15
BRMO Bormio 17.23 321 P **P** 07 46 26.5 +1.6
GOF Gofitskoye 17.25 45 ⇓*i*P **P** 07 46 26.9 +1.7
GOF pmax pmax
comp=Z,51nm,0.9s
SQTA Sankt Quirin 17.32 324 ⇓*i*PN **P** 07 46 24.1 -2.0
ROB Roburent 17.38 312 P **P** 07 46 26.8 0.0
SAOF Saorge 17.43 311 *e*P **P** 07 46 26.9 -0.5
SAOF Saorge 17.43 311 *e*P **P** 07 46 27.7 +0.3
SBF Sospel 17.44 310 *e*P **P** 07 46 25.4 -2.2
comp=Z,87nm,0.8s
SBF Sospel 17.44 310 *e*P **P** 07 46 25.4 -2.2
SBF pmax pmax
comp=Z,44nm,0.8s
MOTA Moosalm 17.46 325 ⇑*i*PN **P** 07 46 26.6 -1.2
GEC2 GERESS Array S 17.47 332 *e*P **P** 07 46 27.1 -0.8
comp=Z,20nm,0.9s
GEC2 GERESS Array S 17.47 332 *e*P **P** 07 46 27.1 -0.8
GEC2 pmax pmax
comp=Z,20nm,0.9s
GERES GERESS Array B 17.47 332 P **P** 07 46 26.7 -1.2
comp=Z,2.1nm,0.3s,baz=148,slow=11,SNR=40
GERES S **S** 07 49 43.0 +2.3
comp=Z,0.2nm,0.3s,baz=158,slow=22,SNR=2.2
AUTN L'Aution 17.51 311 *e*P **P** 07 46 29.1 +0.6
AUTN L'Aution 17.51 311 *e*P **P** 07 46 28.5 0.0
ENR Entracque 17.63 311 P **P** 07 46 29.2 -0.8
ENR Entracque 17.63 311 P **P** 07 46 29.2 -0.7
TOUF Mont Tournerai 17.63 310 *e*P **P** 07 46 30.7 +0.7
TOUF Mont Tournerai 17.63 310 *e*P **P** 07 46 30.6 +0.6
MVIF Mont Vial 17.64 310 *e*P **P** 07 46 30.4 +0.3
DAVOX Davos 17.69 321 P **P** 07 46 30.1 -0.5
comp=Z,1.2nm,0.3s,baz=143,slow=11,SNR=21
STV Sta Anna Valdi 17.70 311 P **P** 07 46 30.0 -0.7
STV Sta Anna Valdi 17.70 311 P **P** 07 46 30.0 -0.8
VDL Val di Lei 17.71 320 ⇑P **P** 07 46 32.8 +1.8
CALN Calern 17.74 309 *e*P **P** 07 46 31.7 +0.4
CALN Calern 17.74 309 *e*P **P** 07 46 31.3 0.0
KHC Kasperske Hory 17.75 333 *e*P **P** 07 46 31.8 +0.4
KHC pP 07 46 39.0
KHC x x 07 46 48.0
KHC AMS AMS 07 54 40.0
comp=Z,3µm,13.0s
KHC Kasperske Hory 17.75 333 *e*P **P** 07 46 31.8 +0.4
KHC *e* 07 46 39.0
KHC *e* 07 46 48.0
LMR La Mourre 17.80 308 *e*P **P** 07 46 30.3 -1.8
comp=Z,55nm,1.0s
LMR La Mourre 17.80 308 *e*P **P** 07 46 30.3 -1.8
LMR pmax pmax
comp=Z,28nm,1.0s
FRF La Foret Royal 17.81 308 *e*P **P** 07 46 30.3 -1.9
DPC Dobruska-Polom 17.87 340 *e*P **P** 07 46 31.7 -1.2
DPC AMS AMS 07 56 50.0
comp=Z,2µm,16.0s
DOI San Damiano 17.87 312 P **P** 07 46 32.5 -0.5
FUR Furstenfeldbru 17.97 327 *e*P **P** 07 46 34.8 +0.7
comp=Z,86nm,0.6s
FUR Furstenfeldbru 17.97 327 *e*P **P** 07 46 34.8 +0.7
FUR pmax pmax
comp=Z,86nm,0.6s
DAVA Damuels 18.02 323 ⇑*i*Pn **P** 07 46 34.5 -0.3
DAVA *i* Sn **S** 07 49 40.6 -13
ORO Oropa 18.03 316 P **P** 07 46 34.0 -0.9
ORX Oropa 18.03 316 P **P** 07 46 31.8 -3.2
BHB Bricherasio 18.03 313 P **P** 07 46 33.5 -1.5
BHB Bricherasio 18.03 313 P **P** 07 46 33.5 -1.5
WET Wettzell 18.03 331 *e*P **P** 07 46 35.1 +0.1
comp=Z,30nm,1.1s
WET Wettzell 18.03 331 *e*P **P** 07 46 35.1 +0.1
WET pmax pmax
comp=Z,30nm,1.1s
UPC Upice 18.10 339 *e*P **P** 07 46 34.6 -1.2
PRU Pruhonice 18.12 336 *e*P **P** 07 46 34.2 -1.8
PRU AMS AMS 07 54 00.0
comp=Z,2µm,17.5s
SURF Saint Ours 18.13 311 *e*P **P** 07 46 37.1 +0.9
UBR Uberruh 18.18 324 *e*P **P** 07 46 36.7 -0.1
UBR Uberruh 18.18 324 P **P** 07 46 38.6 +1.8
LLS Lnth-Limmern 18.19 320 ⇓P **P** 07 46 37.9 +1.0
RSP Reno Superiore 18.20 314 P **P** 07 46 34.0 -3.0
MCGN Macugnaga 18.21 317 P **P** 07 46 36.9 -0.3
PRA Prague 18.22 336 AMS AMS 07 55 00.0
MMK Mattmark 18.28 317 ⇓P **P** 07 46 38.3 +0.2
KSP Ksiaz 18.32 340 *e*P **P** 07 46 38.8 +0.3
KSP *e* 07 46 45.7
KSP *e*S **S** 07 50 03.0 +3.0
KSP Ksiaz 18.32 340 *e*P **P** 07 46 38.8 +0.3
KSP *e*S **S** 07 50 03.0 +3.0
LSD Ceresole Reale 18.42 314 P **P** 07 46 37.6 -2.2
LSD Ceresole Reale 18.42 314 P **P** 07 46 37.6 -2.2
MUO Muotathal 18.46 320 ⇓P **P** 07 46 41.2 +0.9
BNI Bardonecchia 18.50 313 *e*P **P** 07 46 40.4 -0.4
comp=Z,41nm,1.2s
BNI Bardonecchia 18.50 313 *e*P **P** 07 46 40.4 -0.4
comp=Z,41nm,1.2s
BNI Bardonecchia 18.50 313 *e*P **P** 07 46 40.4 -0.4
BNI pmax pmax
comp=Z,41nm,1.2s
PVCC Panska Ves 18.57 337 *e*P **P** 07 46 40.1 -1.5
PVCC AMS AMS 07 54 20.0
comp=Z,2µm,10.3s
WILA Wila 18.60 322 ⇑P **P** 07 46 42.5 +0.5
DIX Grande Dixence 18.61 316 ⇓P **P** 07 46 41.3 -0.9
LKBD Leukerbad 18.67 317 ⇓P **P** 07 46 42.1 -0.7
LPG La Plagne 18.68 314 *e*P **P** 07 46 40.9 -2.1
comp=Z,50nm,0.7s
LPG La Plagne 18.68 314 *e*P **P** 07 46 40.9 -2.1
LPG pmax pmax
comp=Z,25nm,0.7s
SMRF Simiane la Rot 18.69 308 *e*P **P** 07 46 41.3 -1.8
comp=Z,48nm,0.8s
SISB Singen-Sch Ber 18.75 322 P **P** 07 46 45.2 +1.4
HDH Heidenheim 18.76 326 *e*P **P** 07 46 43.1 -0.9
EMV Vieux Emosson 18.90 316 ⇑P **P** 07 46 45.4 -0.2
GDM Grand'Maison 18.92 312 *e*P **P** 07 46 46.0 +0.2
EMHD Djebel Mahouad 18.92 283 P **P** 07 46 46.0 +0.1
ORIF Oris-en-Rattie 18.93 311 *e*P **P** 07 46 44.2 -1.7
comp=Z,26nm,0.7s
ORIF *e*R
comp=Z,2µm,19.5s
GUT Gutenstein 18.93 323 *e*P **P** 07 46 44.8 -1.2
GUT Gutenstein 18.93 323 P **P** 07 46 45.5 -0.5
SLE Schleitheim 19.05 322 ⇑P **P** 07 46 46.5 -0.8
BRG Berggiesshubel 19.07 336 *e*P **P** 07 46 48.2 +0.6
comp=Z,14nm,1.0s
BRG *i* 07 47 01.4
BRG Berggiesshubel 19.07 336 *e*P **P** 07 46 48.2 +0.6
BRG Berggiesshubel 19.07 336 *e*P **P** 07 46 48.2 +0.6
BRG pmax pmax
comp=Z,14nm,1.0s
NKC Novy Kostel 19.07 333 *e*P **P** 07 46 46.9 -0.8
NKC AMS AMS 07 55 30.0
comp=Z,3µm,12.8s
SULZ Sulz-Cheisache 19.09 321 ⇓P **P** 07 46 47.9 0.0
GRA1 Grafenberg Arr 19.14 330 *e*P **P** 07 46 47.1 -1.3
comp=Z,48nm,1.1s
GRF Grafenberg Arr 19.14 330 *e*P **P** 07 46 47.1 -1.3
comp=Z,48nm,1.1s
GRF Grafenberg Arr 19.14 330 *e*P **P** 07 46 47.1 -1.3
GRF pmax pmax
comp=Z,48nm,1.1s
GRF Grafenberg Arr 19.14 330 *e*P **P** 07 46 47.1 -1.3
GRF pmax pmax
comp=Z,48nm,1.1s
MAK Makhachkala 19.14 56 *e*P **P** 07 46 50.2 +1.7
ETOS Mallorca 19.36 294 P **P** 07 46 52.8 +1.7
comp=Z,22nm,0.9s,SNR=6.2
FELD Feldberg 19.37 321 *e*P **P** 07 46 50.2 -0.9
STU Stuttgart 19.37 325 *e*P **P** 07 46 49.5 -1.7
comp=Z,59nm,0.8s
STU Stuttgart 19.37 325 *e*P **P** 07 46 49.5 -1.7
comp=Z,59nm,0.8s
STU Stuttgart 19.37 325 *e*P **P** 07 46 49.5 -1.7
STU pmax pmax
comp=Z,59nm,0.8s
BBS Basel-Blauen 19.37 320 *e*P **P** 07 46 50.8 -0.4
BBS Basel-Blauen 19.37 320 *e*P **P** 07 46 53.2 +2.0
KIZ Kirchzarten 19.46 321 *e*P **P** 07 46 51.5 -0.7
LBG Lerchenberg 19.49 324 *e*P **P** 07 46 52.5 0.0
BFO Black Forest 19.50 323 *e*P **P** 07 46 52.6 0.0
comp=Z,33nm,1.2s
BFO Black Forest 19.50 323 *e*P **P** 07 46 52.6 0.0
BFO pmax pmax
comp=Z,33nm,1.2s
MZLS Mizel 19.52 115 P **P** 07 46 57.5 +4.4
SIND Sindeldorf 19.59 327 *e*P **P** 07 46 52.7 -0.9
SIND Sindeldorf 19.59 327 P **P** 07 46 52.9 -0.7
VORD Divnogorie 19.65 26 *e*P **P** 07 46 54.6 +0.3
VORD *e*S **S** 07 50 37.6 +7.8
VORD pmax pmax
comp=Z,40nm,0.6s
VORD pmax pmax
comp=N,30nm,0.5s
VORD pmax pmax
comp=E,30nm,0.5s
VORD smax
comp=E,460nm,13.8s
VORD smax
comp=Z,570nm,10.6s
VORD smax
comp=N,680nm,11.9s
VIVF Saint-Julien-l 19.66 310 *e*P **P** 07 46 52.7 -1.8
comp=N,44nm,0.9s
VIVF Saint-Julien-l 19.66 310 *e*P **P** 07 46 52.7 -1.8
VIVF pmax pmax
comp=Z,22nm,0.9s
CABF La Chapelle 19.67 316 *e*P **P** 07 46 51.4 -3.2
comp=Z,66nm,0.8s
CABF La Chapelle 19.67 316 *e*P **P** 07 46 51.4 -3.2
CABF pmax pmax
comp=Z,33nm,0.8s
LOMF Lomont 19.68 319 *e*P **P** 07 46 56.2 +1.6
MOX Moxa 19.72 332 *i* P **P** 07 46 54.6 -0.5
comp=Z,logA/T=1.5
MOX *i* 07 47 03.0
MOX S **S** 07 50 33.0 +1.5
MOX L 07 58 30.0
MOX Moxa 19.72 332 P **P** 07 46 54.6 -0.5
comp=Z,27nm,0.9s
MOX *e* 07 47 03.2
MOX *e* 07 50 33.0
MOX Moxa 19.72 332 P **P** 07 46 54.6 -0.5
MOX *e* 07 50 33.0
MOX pmax pmax
comp=Z,27nm,0.9s
BLJS Baljurashi 19.74 131 P **P** 07 46 58.6 +3.1
CLL Collm 19.76 336 P **P** 07 46 54.8 -0.7
comp=Z,logA/T=1.2
CLL *i* *SP 07 47 01.3
CLL *i* PP PP 07 47 09.3 -4.7
CLL *i* 07 47 27.9
CLL *e*S **S** 07 50 27.0 -5.2
CLL Collm 19.76 336 *i* P **P** 07 46 54.8 -0.7
comp=Z,14nm,0.9s
CLL *i* 07 47 01.3
CLL *i* 07 47 09.3
CLL *e*S **S** 07 50 26.0 -6.2
CLL Collm 19.76 336 *i* P **P** 07 46 54.8 -0.7
CLL *e*S **S** 07 50 26.0 -6.2
CLL pmax pmax
comp=Z,14nm,0.9s
MOF Molkenrain 19.81 320 *e*P **P** 07 46 57.9 +1.8
MOF Molkenrain 19.81 320 *e*P **P** 07 46 58.5 +2.4
VRSR Storozhevoye 19.82 25 *e*P **P** 07 46 55.7 -0.5
VRSR *e*S **S** 07 50 41.3 +7.9
VRSR pmax pmax
comp=Z,10.0nm,0.7s
VRSR pmax pmax
comp=N,70nm,0.8s
VRSR pmax pmax
comp=E,70nm,0.8s
VRSR smax
comp=N,130nm,1.0s
VRSR smax
comp=Z,30nm,1.3s
VRSR smax
comp=E,70nm,0.8s
VRSR MLR MLR
comp=Z,1µm,18.0s
VRSR MLR MLR
comp=N,1µm,20.0s
VRSR MLR MLR
comp=E,680nm,19.0s
LASF Ste Croix 19.86 307 *e*P **P** 07 46 54.6 -2.1
comp=E,118nm,1.1s
HINF Hinteralfeld 19.94 320 *e*P **P** 07 46 54.8 -2.8
comp=E,47nm,0.8s
HINF Hinteralfeld 19.94 320 *e*P **P** 07 46 54.8 -2.8
HINF pmax pmax
comp=Z,24nm,0.8s
EJON La Jonquera 19.95 302 P **P** 07 46 56.9 -0.8
comp=Z,34nm,1.0s
EJON La Jonquera 19.95 302 P **P** 07 46 56.9 -0.9
comp=Z,34nm,1.0s,SNR=17
SJAF Saint Jean de 19.97 302 *e*P **P** 07 46 57.4 -0.5
ECH Echery 20.02 321 *e*P **P** 07 47 01.7 +3.3
WLS Welschbruch 20.05 322 *e*P **P** 07 47 01.3 +2.6
EBNR Beni Rached 20.07 284 P **P** 07 46 55.0 -4.0
CDF Champ du Feu 20.09 322 *e*P **P** 07 46 58.1 -1.0
comp=Z,65nm,0.9s
CDF Champ du Feu 20.09 322 *e*P **P** 07 46 58.1 -1.0
CDF pmax pmax
comp=Z,33nm,0.9s
SWS Schriesheim 20.10 326 *e*P **P** 07 47 00.2 +1.0
TOD Tromm 20.14 326 *e*P **P** 07 47 00.0 +0.4
TOD Tromm 20.14 326 *e*P **P** 07 47 03.1 +3.5
LANF Langenberg 20.19 324 *e*P **P** 07 47 02.9 +2.7
SUW Suwalki 20.19 355 *e*P **P** 07 46 59.2 -0.9
ECHA Ech Chlef 20.21 283 P **P** 07 46 59.0 -1.4
FILF Fillols 20.22 302 *e*P **P** 07 47 01.2 +0.7
VOR Voronezh 20.25 24 P **P** 07 47 01.0 +0.2
VOR *e* 07 47 31.0
VOR *e* 07 50 50.0
VOR pmax pmax
comp=N,90nm,1.8s
VOR pmax pmax
comp=E,110nm,1.8s
VOR pmax pmax
comp=Z,150nm,1.8s
KTD Kalmit 20.28 325 *e*P **P** 07 47 02.5 +1.4
KTD Kalmit 20.28 325 *e*P **P** 07 47 04.5 +3.4
ETRT Tiaret 20.29 281 P **P** 07 47 02.2 +0.9
HAU Haudompre 20.32 320 *e*P **P** 07 47 00.2 -1.4
comp=Z,134nm,0.9s
HAU *e*R
comp=Z,3µm,22.0s
HAU Haudompre 20.32 320 *e*P **P** 07 47 00.2 -1.4
HAU pmax pmax
comp=Z,67nm,0.9s
HAU MLR MLR
comp=Z,3µm,22.0s,MS4.6
LRDF Laroque-de-Fa 20.35 303 *e*P **P** 07 47 01.0 -0.9
EIBI Ibiza 20.38 292 P **P** 07 47 05.1 +2.9
comp=Z,88nm,1.7s
EIBI Ibiza 20.38 292 P **P** 07 47 05.1 +2.9
comp=Z,88nm,1.7s,SNR=7.9
EANR 'Ain N'Sour 20.43 283 P **P** 07 47 02.0 -0.7
RYDS Riyadh 20.52 113 P **P** 07 47 05.3 +1.5
VALF Valcebollere 20.56 301 *e*P **P** 07 47 03.7 -0.4
MNK Minsk 20.63 3 *e*P **P** 07 47 00.0 -4.7
VRHR Novokhopersk 20.64 29 *e*P **P** 07 47 05.9 +1.0
VRHR *e**SP 07 47 10.4
VRHR *e*S **S** 07 50 51.8 +1.3
VRHR pmax pmax
comp=Z,100nm,0.6s
VRHR pmax pmax
comp=N,60nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR smax
comp=E,120nm,0.7s
VRHR smax
comp=Z,10.0nm,0.7s
VRHR smax
comp=N,90nm,1.0s
VRHR MLR MLR
comp=Z,910nm,16.0s,MS4.2
VRHR MLR MLR
comp=N,730nm,13.0s
VRHR MLR MLR
comp=E,800nm,19.0s
THEF They Montfort 20.65 320 *e*P **P** 07 47 07.1 +2.1
MTLF Montolieu 20.70 304 *e*P **P** 07 47 04.2 -1.4
comp=E,37nm,1.1s
MTLF Montolieu 20.70 304 *e*P **P** 07 47 04.2 -1.4
MTLF pmax pmax
comp=Z,19nm,1.1s
TNS Taunus Mts 20.74 327 *e*P **P** 07 47 05.8 -0.1
comp=Z,29nm,0.9s
TNS Taunus Mts 20.74 327 *e*P **P** 07 47 05.8 -0.1
TNS pmax pmax
comp=Z,29nm,0.9s
PLDF La Plantade 20.82 312 *e*P **P** 07 47 08.6 +1.8
PLDF La Plantade 20.82 312 *e*P **P** 07 47 08.3 +1.5
ABH Alteburg 20.92 325 *e*P **P** 07 47 09.0 +1.3
ABH Alteburg 20.92 325 *e*P **P** 07 47 12.1 +4.4
EPOB Poblet 20.97 298 P **P** 07 47 07.6 -0.7
comp=Z,24nm,0.7s,SNR=14
SMF Signal de Mont 21.01 314 *e*P **P** 07 47 08.5 -0.2
PYM Petit Puy Mans 21.11 311 *e*P **P** 07 47 11.6 +1.9
PYM Petit Puy Mans 21.11 311 *e*P **P** 07 47 11.1 +1.4
CLZ Clausthal 21.15 333 *e*P **P** 07 47 07.8 -2.3
comp=Z,23nm,1.0s,mb4.5
CLZ Clausthal 21.15 333 *e*P **P** 07 47 07.8 -2.3
CLZ pmax pmax
comp=Z,23nm,1.0s,mb4.5
AGO Saint Agoulin 21.17 312 *e*P **P** 07 47 10.9 +0.6

FRNF Fournols 21.23 310 *e*P **P** 07 47 11.5 +0.5
SALF Salau 21.25 302 *e*P **P** 07 47 12.5 +1.4
LOR Lormes 21.31 315 *e*P **P** 07 47 10.8 -1.0
comp=Z,31nm,0.7s,mb4.5
LOR *e*R
comp=Z,3µm,22.8s
LOR Lormes 21.31 315 *e*P **P** 07 47 10.8 -1.0
LOR pmax pmax
comp=Z,15nm,0.7s,mb4.4
LOR MLR MLR
comp=Z,3µm,22.8s,MS4.6
MEZF Maizieres J'vi 21.32 319 *e*P **P** 07 47 10.8 -1.0
comp=Z,313nm,1.0s,mb5.3
MLS Moulis 21.37 302 *e*P **P** 07 47 14.5 +2.2
CAF Calviac 21.37 308 *e*P **P** 07 47 11.4 -1.0
comp=Z,42nm,0.9s,mb4.5
CAF Calviac 21.37 308 *e*P **P**
CAF pmax pmax
comp=Z,21nm,0.9s,mb4.5
AVF Avril sur Loir 21.38 314 *e*P **P** 07 47 11.6 -0.8
SSF Saint Saulge 21.42 314 *e*P **P** 07 47 12.4 -0.4
comp=Z,51nm,0.9s,mb4.5
SSF Saint Saulge 21.42 314 *e*P **P** 07 47 12.4 -0.4
SSF pmax pmax
comp=Z,26nm,0.9s,mb4.6
VERF Verneugheol 21.44 310 *e*P **P** 07 47 13.7 +0.7
ERTA Horta de San J 21.44 297 P **P** 07 47 13.0 -0.1
comp=Z,18nm,0.7s,mb4.5,SNR=9.7
WLF Walferdange 21.45 323 *e*P **P** 07 47 11.9 -1.2
comp=Z,94nm,0.9s,mb5.1
WLF Walferdange 21.45 323 *e*P **P** 07 47 11.9 -1.3
comp=Z,94nm,0.9s,mb5.1
WLF Walferdange 21.45 323 *e*P **P** 07 47 12.0 -1.2
WLF pmax pmax
comp=Z,94nm,0.9s,mb5.1
EBEN Beniarda 21.56 290 P **P** 07 47 18.6 +4.3
comp=Z,83nm,1.4s,mb5.0
EBEN Beniarda 21.56 290 P **P** 07 47 18.6 +4.3
comp=Z,83nm,1.4s,mb5.0,SNR=7.9
EGRA Graus 21.72 300 P **P** 07 47 15.7 -0.2
comp=Z,96nm,1.6s,mb5.0
EGRA Graus 21.72 300 P **P** 07 47 15.7 -0.2
comp=Z,96nm,1.6s,mb5.0,SNR=7.9
TCF Toulx Ste Croi 21.84 312 *e*P **P** 07 47 15.9 -1.2
comp=Z,79nm,1.2s,mb4.7
TCF Toulx Ste Croi 21.84 312 *e*P **P** 07 47 15.9 -1.2
TCF pmax pmax
comp=Z,39nm,1.2s,mb4.7
RJF Les Rejaudoux 21.88 309 *e*P **P** 07 47 17.0 -0.5
comp=Z,112nm,0.9s,mb5.0
RJF *e*R
comp=Z,915nm,19.2s
RJF Les Rejaudoux 21.88 309 *e*P **P** 07 47 17.0 -0.5
RJF pmax pmax
comp=Z,56nm,0.9s,mb5.0
RJF MLR MLR
comp=Z,920nm,19.3s,MS4.2
EPF Esparros 21.92 302 *e*P **P** 07 47 17.9 0.0
EMOS Mosqueruela 21.95 295 P **P** 07 47 20.3 +2.2
comp=Z,23nm,1.0s,mb4.6
EMOS Mosqueruela 21.95 295 P **P** 07 47 20.3 +2.1
comp=Z,23nm,1.0s,mb4.6,SNR=7.6
EBIE Bielsa 21.97 301 P **P** 07 47 19.1 +0.7
comp=Z,13nm,0.6s,mb4.5
EBIE Bielsa 21.97 301 P **P** 07 47 19.1 +0.7
comp=Z,13nm,0.6s,mb4.5,SNR=7.0
VIEF Viey 22.11 302 *e*P **P** 07 47 21.5 +1.8
LABF Labassere 22.11 302 *e*P **P** 07 47 22.8 +3.0
BUG Bochum--Univer 22.13 328 P **P** 07 47 20.8 +0.9
ESAC San Caprasio 22.19 298 P **P** 07 47 19.9 -0.7
comp=Z,22nm,0.5s,mb4.8
ESAC San Caprasio 22.19 298 P **P** 07 47 19.9 -0.7
comp=Z,22nm,0.5s,mb4.9,SNR=5.3
ECHE Chera 22.22 293 P **P** 07 47 22.6 +1.7
comp=Z,22nm,0.9s,mb4.6
ECHE Chera 22.22 293 P **P** 07 47 22.6 +1.7
comp=Z,22nm,0.9s,mb4.6,SNR=11
ECHE Chera 22.22 293 P **P** 07 47 22.6 +1.7
ECHE pmax pmax
comp=Z,22nm,0.9s,mb4.6
HGN Heimansgroeve 22.28 325 *e*P **P** 07 47 26.1 +4.7
comp=Z,37nm,1.8s,mb4.5
HGN *e*S **S** 07 51 31.9 +10
EMUR La Murta 22.31 288 P **P** 07 47 25.6 +3.8
comp=Z,35nm,1.1s,mb4.7
EMUR La Murta 22.31 288 P **P** 07 47 25.6 +3.8
comp=Z,35nm,1.1s,mb4.7,SNR=7.9
BEBN Eben Emael 22.42 325 P **P** 07 47 24.7 +1.9
OBN Obninsk 22.47 16 *e*P **P** 07 47 22.0 -1.3
comp=Z,52nm,0.5s,mb5.2
OBN LR LR
comp=Z,413nm,19.0s,MS3.9
OBN Obninsk 22.47 16 *e*P **P** 07 47 22.0 -1.3
comp=Z,52nm,0.5s,mb5.2
OBN Obninsk 22.47 16 *d i*P **P** 07 47 22.3 -1.0
OBN *e* 07 47 27.8
OBN *e*S **S** 07 51 32.7 +7.8
OBN pmax pmax
comp=Z,46nm,1.0s,mb4.9
OBN MLR MLR
comp=Z,2µm,15.0s,MS4.6
DOU Dourbes 22.51 322 P **P** 07 47 25.6 +1.9
ETSF Etsaut 22.52 301 *e*P **P** 07 47 24.2 +0.3
comp=Z,14nm,0.6s,mb4.3
ETSF Etsaut 22.52 301 *e*P **P** 07 47 24.2 +0.3
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
BSD Bornholm Skovb 22.55 343 *i*P **P** 07 47 32.9 +8.9
comp=Z,30nm,0.9s,mb4.7
BSD *i* 07 47 43.0
BSD *e* 07 47 51.8
BSD Bornholm Skovb 22.55 343 *e*P **P** 07 47 32.9 +8.9
comp=Z,30nm,0.9s,mb4.7
BSD *i* 07 47 43.0
BSD *e* 07 47 51.8
BSD Bornholm Skovb 22.55 343 *e*P **P** 07 47 32.9 +8.9
BSD *e* 07 47 51.8
BSD pmax pmax
comp=Z,30nm,0.9s,mb4.7
ETOB Tobarra 22.59 290 P **P** 07 47 26.4 +1.8
comp=Z,36nm,1.4s,mb4.6,SNR=4.6
BAIF Baives 22.69 322 *e*P **P** 07 47 26.5 +1.1
comp=Z,125nm,0.8s,mb5.1
BAIF Baives 22.69 322 *e*P **P** 07 47 26.5 +1.1
BAIF pmax pmax
comp=Z,63nm,0.8s,mb5.1
WTSB Winterswijk 22.71 328 *e*P **P** 07 47 27.0 +1.4
BSEG Bad Segeberg 22.85 336 *e*P **P** 07 47 25.5 -1.5
LARF Larrau 22.86 301 *e*P **P** 07 47 28.3 +1.1
SJPF Ste Jean 23.05 301 *e*P **P** 07 47 29.7 +0.7
comp=Z,58nm,0.9s,mb4.7
SJPF Ste Jean 23.05 301 *e*P **P** 07 47 29.7 +0.7
SJPF pmax pmax
comp=Z,29nm,0.9s,mb4.7
IPRE Itoiz 23.07 301 P **P** 07 47 29.1 -0.1
comp=Z,4.7nm,0.5s,mb4.2,SNR=5.4
ENIJ Nijar 23.07 286 P **P** 07 47 34.6 +5.3
comp=Z,50nm,0.7s,mb5.1,SNR=7.9
ENIJ Nijar 23.07 286 P **P** 07 47 34.6 +5.3
ENIJ pmax pmax
comp=Z,50nm,0.7s,mb5.0
EARA Aranguren 23.22 300 P **P** 07 47 31.5 +0.8
comp=Z,16nm,0.6s,mb4.6,SNR=5.0
EALK Alkurruntz 23.27 302 P **P** 07 47 31.4 +0.2
comp=Z,58nm,1.6s,mb4.8
EALK Alkurruntz 23.27 302 P **P** 07 47 31.4 +0.2
comp=Z,58nm,1.6s,mb4.8,SNR=4.8
MOS Moscow 23.29 17 *e*P **P** 07 47 29.7 -1.5
MOS *e*S **S** 07 51 39.5 0.0
MOS *e* 07 51 47.3
MOS pmax pmax
comp=Z,89nm,0.7s,mb5.3
MOS MLR MLR
comp=Z,2µm,14.0s,MS4.7
EVIA Vianos 23.34 290 P **P** 07 47 33.4 +1.6
comp=Z,19nm,0.6s,mb4.7
EVIA Vianos 23.34 290 P **P** 07 47 33.4 +1.5
comp=Z,19nm,0.6s,mb4.7,SNR=7.0
EVIA Vianos 23.34 290 P **P** 07 47 33.4 +1.5
EVIA pmax pmax
comp=Z,19nm,0.6s,mb4.7
EHUE Huescar 23.38 288 P **P** 07 47 35.5 +3.2
comp=Z,12nm,0.9s,mb4.3,SNR=7.5
EHUE Huescar 23.38 288 P **P** 07 47 35.5 +3.2
EHUE pmax pmax
comp=Z,12nm,0.9s,mb4.3

MFF Saint Martin d 23.45 310 *e*P **P** 07 47 34.3 +1.4
comp=Z,27nm,0.6s,mb4.5
MFF Saint Martin d 23.45 310 *e*P **P** 07 47 34.3 +1.4
MFF pmax pmax
comp=Z,14nm,0.6s,mb4.6
EBER Berja 23.62 285 P **P** 07 47 37.5 +2.9
comp=Z,21nm,0.7s,mb4.7
EBER Berja 23.62 285 P **P** 07 47 37.5 +2.9
comp=Z,21nm,0.7s,mb4.7,SNR=7.9
EQES Quesada 23.76 288 P **P** 07 47 37.7 +1.8
comp=Z,10nm,0.4s,mb4.6
EQES Quesada 23.76 288 P **P** 07 47 37.7 +1.7
comp=Z,10nm,0.4s,mb4.6,SNR=8.7
EGUA Guajares 24.16 285 P **P** 07 47 43.4 +3.4
comp=Z,5.4nm,1.0s,mb3.9
EGUA Guajares 24.16 285 P **P** 07 47 43.4 +3.5
comp=Z,5.4nm,1.0s,mb3.9,SNR=7.9
EGUA Guajares 24.16 285 P **P** 07 47 43.4 +3.5
EGUA pmax pmax
comp=Z,5.0nm,1.0s,mb3.9
LDF La Druitiere 24.30 315 *e*P **P** 07 47 40.6 -0.5
comp=Z,55nm,0.7s,mb4.8
LDF La Druitiere 24.30 315 *e*P **P** 07 47 40.6 -0.5
LDF pmax pmax
comp=Z,27nm,0.7s,mb4.8
EBAN Banos Encina 24.33 289 P **P** 07 47 43.9 +2.3
comp=Z,6.1nm,0.5s,mb4.3
EBAN Banos Encina 24.33 289 P **P** 07 47 43.9 +2.4
comp=Z,6.1nm,0.5s,mb4.3,SNR=6.4
EBAN Banos Encina 24.33 289 P **P** 07 47 43.9 +2.4
EBAN pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
ERON Agron 24.35 286 P **P** 07 47 46.4 +4.6
comp=Z,3.2nm,0.3s,mb4.3,SNR=6.3
ESDC Sonseca Array 24.53 292 P **P** 07 47 42.7 -0.8
comp=Z,3.3nm,0.6s,mb4.0,baz=84,slow=9.1,SNR=20
ESDC Sonseca Array 24.53 292 P **P** 07 47 44.2 +0.7
comp=Z,17nm,1.1s,mb4.5
ESDC Sonseca Array 24.53 292 P **P** 07 47 44.2 +0.7
comp=Z,17nm,1.1s,mb4.5,SNR=14
ESLA Sonseca Array 24.53 292 *e*P **P** 07 47 42.5 -1.0
comp=Z,13nm,1.1s,mb4.4
ESLA LR LR
comp=Z,6µm,22.0s,MS5.0
ESLA Sonseca Array 24.53 292 *e*P **P** 07 47 42.5 -1.0
comp=Z,13nm,1.1s,mb4.4
VSU Vasula 24.56 1 P **P** 07 47 43.3 -0.3
FLN La Foliniere 24.59 315 *e*P **P** 07 47 43.1 -0.8
comp=Z,18nm,0.4s,mb4.6
FLN *e*R
comp=Z,3µm,22.0s
FLN La Foliniere 24.59 315 *e*P **P** 07 47 43.1 -0.8
FLN pmax pmax
comp=Z,9.0nm,0.4s,mb4.7
FLN MLR MLR
comp=Z,3µm,22.0s,MS4.8
ELOJ Sierra Loja 24.62 286 P **P** 07 47 48.6 +4.2
comp=Z,4.5nm,0.5s,mb4.2
ELOJ Sierra Loja 24.62 286 P **P** 07 47 48.6 +4.2
comp=Z,4.5nm,0.5s,mb4.3,SNR=6.0
ELOJ Sierra Loja 24.62 286 P **P** 07 47 48.6 +4.2
ELOJ pmax pmax
comp=Z,5.0nm,0.5s,mb4.3
GRR Gorron 24.64 314 *e*P **P** 07 47 44.3 -0.2
comp=Z,37nm,0.7s,mb4.7
GRR Gorron 24.64 314 *e*P **P** 07 47 44.3 -0.2
GRR pmax pmax
comp=Z,18nm,0.7s,mb4.7
ELAN Lanestosa 24.65 301 P **P** 07 47 44.3 -0.3
comp=Z,18nm,0.9s,mb4.6,SNR=4.6
ELUQ Luque 24.71 287 P **P** 07 47 49.2 +4.0
comp=Z,7.7nm,0.3s,mb4.7
ELUQ Luque 24.71 287 P **P** 07 47 49.2 +4.0
comp=Z,7.7nm,0.3s,mb4.7,SNR=6.0
ELUQ Luque 24.71 287 P **P** 07 47 49.2 +4.0
ELUQ pmax pmax
comp=Z,8.0nm,0.3s,mb4.7
EADA Adamuz 24.95 289 P **P** 07 47 48.5 +0.9
comp=Z,5.1nm,0.7s,mb4.2
EADA Adamuz 24.95 289 P **P** 07 47 48.5 +1.0
comp=Z,5.1nm,0.7s,mb4.2,SNR=4.5
EMIJ Mijas 25.14 285 P **P** 07 47 49.5 +0.1
comp=Z,17nm,0.8s,mb4.6
EMIJ Mijas 25.14 285 P **P** 07 47 49.5 +0.1
comp=Z,17nm,0.8s,mb4.6,SNR=7.6
MUD Monsted U'grnd 25.31 338 *i*P **P** 07 47 53.3 +2.6
comp=Z,62nm,0.9s,mb5.1
MUD *i*S **S** 07 52 16.6 +2.7
comp=Z,780nm,18.0s
MUD Monsted U'grnd 25.31 338 *e*P **P** 07 47 53.3 +2.6
comp=Z,62nm,0.9s,mb5.1
MUD *i*S **S** 07 52 16.6 +2.7
MUD Monsted U'grnd 25.31 338 *e*P **P** 07 47 53.3 +2.6
MUD *i*S **S** 07 52 16.6 +2.7
MUD pmax pmax
comp=Z,62nm,0.9s,mb5.1
MDT Midelt 25.47 276 P **P** 07 47 52.7 +0.2
comp=Z,5.0nm,0.8s,mb4.1,baz=87,slow=13,SNR=12
SGMF Saint Gilles 25.61 313 *e*P **P** 07 47 52.2 -1.5
EJIF Jimena Fronter 25.71 285 P **P** 07 47 58.2 +3.5
comp=Z,6.7nm,0.5s,mb4.4
EJIF Jimena Fronter 25.71 285 P **P** 07 47 58.2 +3.5
comp=Z,6.7nm,0.5s,mb4.4,SNR=6.3
EJIF Jimena Fronter 25.71 285 P **P** 07 47 58.2 +3.5
EJIF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
QUIF Quistinic 25.86 311 *e*P **P** 07 47 55.8 -0.2
comp=Z,45nm,0.6s,mb4.9
QUIF Quistinic 25.86 311 *e*P **P** 07 47 55.8 -0.2
QUIF pmax pmax
comp=Z,23nm,0.6s,mb4.9
EARI Arriondas 25.93 300 P **P** 07 47 55.6 -1.1
comp=Z,6.6nm,0.6s,mb4.3
EARI Arriondas 25.93 300 P **P** 07 47 55.6 -1.1
comp=Z,6.6nm,0.6s,mb4.3,SNR=5.5
ESPR Espera 26.00 286 P **P** 07 48 00.4 +3.1
comp=Z,11nm,0.4s,mb4.7
ESPR Espera 26.00 286 P **P** 07 48 00.4 +3.0
comp=Z,11nm,0.4s,mb4.7,SNR=5.0
PUL Pulkovo 26.03 5 *e*P **P** 07 47 57.6 +0.2
PUL Pulkovo 26.03 5 *i*P **P** 07 47 58.6 +1.2
PUL *i*S **S** 07 52 17.5 -8.4
PUL pmax pmax
comp=Z,100nm,0.6s,mb5.5
PUL pmax pmax
comp=N,65nm,0.5s
PUL pmax pmax
comp=E,58nm,0.6s
PUL pmax pmax
comp=N,77nm,0.6s
PUL pmax pmax
comp=Z,129nm,0.6s,mb5.6
PUL pmax pmax
comp=E,59nm,0.5s
PUL MLR MLR
comp=Z,1µm,12.0s,MS4.6
PUL MLR MLR
comp=N,1µm,13.0s
ROSF Rostrenen 26.09 312 *e*P **P** 07 47 56.5 -1.6
comp=N,14nm,0.6s,mb4.4
ROSF Rostrenen 26.09 312 *e*P **P** 07 47 56.5 -1.6
ROSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
EMIN Mina Concepcio 26.61 288 P **P** 07 48 04.2 +1.1
comp=Z,11nm,0.8s,mb4.5
EMIN Mina Concepcio 26.61 288 P **P** 07 48 04.1 +1.1
comp=Z,11nm,0.8s,mb4.5,SNR=8.0
PBRG Braganca 26.83 297 *e*P **P** 07 48 04.4 -0.6
comp=Z,11nm,0.9s,mb4.4
ECAL Calabor 26.84 297 P **P** 07 48 04.9 -0.2
comp=Z,12nm,0.6s,mb4.6
ECAL Calabor 26.84 297 P **P** 07 48 04.9 -0.2
comp=Z,12nm,0.6s,mb4.6,SNR=7.8
EBAD Badajoz 26.87 290 P **P** 07 48 04.9 -0.5
comp=Z,12nm,0.9s,mb4.4
EBAD Badajoz 26.87 290 P **P** 07 48 04.9 -0.5
comp=Z,12nm,0.9s,mb4.4,SNR=8.5
EGRO El Granado 27.26 287 P **P** 07 48 11.7 +2.7
comp=Z,11nm,0.6s,mb4.6
MTE Manteigas 27.32 294 *e*P **P** 07 48 07.4 -2.1
comp=Z,13nm,1.3s,mb4.3
MTE *e*S **S** 07 52 46.6 -0.7
MTE *e*LQ 07 53 56.3
MTE *e*LR LR 07 55 53.5
comp=Z,1µm,18.0s
HFS Hagfors 27.43 347 P **P** 07 48 08.2 -2.1
comp=Z,15nm,0.8s,mb4.6,baz=135,slow=8.4,SNR=25

PBEJ Beja 27.55 288 *e*P **P** 07 48 13.1 +1.5
FINES FINESS Array B 27.55 0 P **P** 07 48 09.2 -2.1
comp=Z,8.1nm,0.4s,mb4.7,baz=161,slow=8.8,SNR=53
FINES FINESS Array B 27.55 0 *i*P **P** 07 48 09.3 -2.0
FINES pmax pmax
comp=Z,8.0nm,0.4s
EVO Evora 27.65 289 *e*P **P** 07 48 12.6 +0.1
comp=Z,14nm,0.7s,mb4.4
EVO *e*R
comp=Z,929nm,21.0s
PCAB Cabril 27.78 296 *e*P **P** 07 48 13.7 +0.1
KONO Kongsberg 27.90 342 *e*S **S** 07 52 56.6 +0.1
KAF Kangasniemi 28.22 0 *e*p **P** 07 48 15.4 -2.0
comp=Z,14nm,0.6s,mb4.8,baz=178,slow=9.3
KAF Kangasniemi 28.22 0 *e*P **P** 07 48 15.4 -2.0
KAF pmax pmax
comp=Z,14nm,0.6s,mb4.8
BLS5 Blasjo 28.58 339 *e*P **P** 07 48 20.9 +0.2
BLS5 AMb AMB 07 48 24.4
comp=Z,32nm,1.2s,mb4.9
BLS5 Blasjo 28.58 339 *e*P **P** 07 48 20.9 +0.2
comp=Z,32nm,1.2s,mb4.9
NAO01 NORSAR Array S 28.66 345 *e*P **P** 07 48 19.5 -1.8
comp=Z,27nm,0.7s,mb5.1
AKTO Aktyubinsk 28.67 45 P **P** 07 48 21.1 -0.5
AKTO S **S** 07 53 05.8 -3.1
AKTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
AKTO smax
comp=Z,17nm,2.2s
NB2 NORSAR Subarra 28.76 345 P **P** 07 48 19.6 -2.7
comp=Z,5.3nm,0.6s,mb4.5,baz=158,slow=10
NB2 NORSAR Subarra 28.76 345 P **P** 07 48 19.6 -2.7
baz=158,slow=11
NB2 NORSAR Subarra 28.76 345 P **P** 07 48 19.6 -2.7
NB2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
NOA NORSAR Array B 28.76 345 P **P** 07 48 19.8 -2.5
comp=Z,5.0nm,0.8s,mb4.3,baz=42,slow=20,SNR=18
ARQ Araqi 28.77 103 ⇓P **P** 07 48 24.9 +2.2
SNR=6.2
JOF Joensuu 29.23 5 *e*p **P** 07 48 24.2 -2.3
comp=Z,3.3nm,0.3s,mb4.5
HOQ Hoqain 29.29 102 ⇑P **P** 07 48 28.5 +1.0
EKA Eskdalemuir Ar 29.41 326 P **P** 07 48 26.5 -1.7
comp=Z,5.7nm,0.7s,mb4.4,baz=129,slow=9.2,SNR=19
AB31 Akbulak array 29.42 48 *i*P **P** 07 48 28.2 -0.1
ESK Eskdalemuir 29.43 326 *e*P **P** 07 48 28.1 -0.2
comp=Z,17nm,0.8s,mb4.8
ESK Eskdalemuir 29.43 326 *e*P **P** 07 48 28.1 -0.2
comp=Z,17nm,0.8s,mb4.8
ESK Eskdalemuir 29.43 326 *e*P **P** 07 48 28.1 -0.2
ESK pmax pmax
comp=Z,17nm,0.8s,mb4.8
BSY Bisya 29.60 104 P **P** 07 48 32.1 +1.9
SNR=7.1
BSYO Bisya 29.64 104 P **P** 07 48 32.1 +1.5
SNR=7.1
BER Bergen 29.69 339 *e*S **S** 07 53 31.5 +6.4
BER AMS AMS 08 03 02.0
comp=Z,686nm,19.2s,MS4.3
SMDO Samad 30.14 103 ⇑P **P** 07 48 35.7 +0.7
JMDO Jabal Madar 30.51 104 ⇑P **P** 07 48 39.8 +1.5
SNR=8.9
WBK Wadi Bani Khal 31.10 103 ⇓P **P** 07 48 45.3 +1.8
ARU Arti 31.71 35 *e*P **P** 07 48 47.2 -1.3
comp=Z,14nm,0.8s,mb4.8
ARU LR LR
comp=Z,154nm,20.0s,MS3.7
ARU Arti 31.71 35 ⇓*i*P **P** 07 48 48.8 +0.3
ARU *e* 07 49 51.6
ARU *e* 07 51 34.3
ARU *e*S **S** 07 54 02.4 +5.5
ARU *e*SS SS 07 55 45.1 -1.6
ARU *e*SSS SSS 07 56 06.8 -2.6
ARU pmax pmax
comp=Z,18nm,1.6s,mb4.7
ARU MLR MLR
comp=Z,600nm,17.0s,MS4.3
ARU MLR MLR
comp=N,500nm,18.5s,MS4.3
ARU MLR MLR
comp=E,300nm,16.0s,MS4.3
NSS Namsos 31.82 349 *e*P **P** 07 48 46.3 -3.0
NSS AMS AMS 08 03 54.3
comp=Z,1µm,16.0s,MS4.6
SVE Sverdlovsk 32.90 35 *e*P **P** 07 49 00.0 +1.1
SVE *e*S **S** 07 54 20.0 +4.5
SVE MLR MLR
comp=N,300nm,13.0s,MS4.5
SVE MLR MLR
comp=E,500nm,13.0s,MS4.5
SVE MLR MLR
comp=Z,900nm,13.0s,MS4.7
MOR8 Moi Rana 33.01 351 *e*P **P** 07 48 57.2 -2.5
MOR8 AMb AMB 07 49 07.3
comp=Z,33nm,1.6s,mb5.0
MOR8 Moi Rana 33.01 351 *e*P **P** 07 48 57.2 -2.5
comp=Z,33nm,1.6s,mb5.0
MELSS Ber_school_2 33.76 351 *e*P **P** 07 49 05.4 -0.9
APA Apatity 33.98 5 *i*P **P** 07 49 07.2 -1.0
comp=Z,18nm,0.6s,mb5.2
APA Apatity 33.98 5 ⇑*i*P **P** 07 49 07.2 -1.0
APA *e*S **S** 07 54 32.0 -0.1
APA pmax pmax
comp=Z,18nm,0.6s,mb5.2
APA MLR MLR
comp=Z,2µm,14.0s,MS4.9
LVZ Lovozero 34.40 6 *e*P **P** 07 49 11.3 -0.5
KTK1 Kautokeino 35.18 358 *e*P **P** 07 49 17.7 -0.7
KTK1 AMb AMB 07 49 22.8
comp=Z,47nm,1.4s,mb5.2
KTK1 Kautokeino 35.18 358 *e*P **P** 07 49 17.7 -0.7
comp=Z,47nm,1.4s,mb5.2
KTK1 Kautokeino 35.18 358 *e*P **P** 07 49 17.7 -0.8
comp=Z,47nm,1.4s,mb5.2,SNR=27
ARCES ARCESS Array B 35.68 360 P **P** 07 49 20.4 -2.3
comp=Z,7.7nm,0.5s,mb4.9,baz=180,slow=8.5,SNR=33
ARE0 ARCESS Array S 35.68 360 *e*P **P** 07 49 22.5 -0.2
ARE0 ARCESS Array S 35.68 360 *e*P **P** 07 49 22.5 -0.2
KKAR Karatay Array 35.73 62 *i*P **P** 07 49 24.3 +0.9
KKAR Karatay Array 35.73 62 *i*P **P** 07 49 24.2 +0.8
comp=Z,3.0nm,0.5s,mb4.5
KKAR Karatay Array 35.73 62 *i*P **P** 07 49 24.2 +0.8
KKAR pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KEV Kevo 35.90 1 *e*p **P** 07 49 22.9 -1.7
comp=Z,5.7nm,0.5s,mb4.8
KEV Kevo 35.90 1 *e*P **P** 07 49 22.9 -1.7
KEV pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
TRO Tromso 35.98 356 AMS AMS 08 05 51.7
comp=Z,1µm,19.1s,MS4.7
KMBO Kilima Mbogo 36.45 161 LR LR 08 05 10.3
comp=Z,79nm,18.9s,MS4.5,baz=330,slow=37
BRVK Borovoye 36.72 45 *e*P **P** 07 49 32.2 +0.5
comp=Z,16nm,0.9s,mb4.9
BRVK Borovoye 36.72 45 *e*P **P** 07 49 32.2 +0.5
BRVK pmax pmax
comp=Z,16nm,0.9s,mb4.8
BVA0 Borovoye Array 36.78 45 *i*P **P** 07 49 32.6 +0.5
comp=Z,5.0nm,1.1s,mb4.3
BVA0 Borovoye Array 36.78 45 *i*P **P** 07 49 32.6 +0.5
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
BVAR Borovoye Array 36.78 45 P **P** 07 49 32.6 +0.5
comp=Z,21nm,0.9s,mb5.0,baz=243,slow=6.6,SNR=50
VOSK Vostochnaya 37.06 46 *i*P **P** 07 49 34.9 +0.4
AAK Ala-Archa 38.68 62 *e*P **P** 07 49 48.8 +0.6
comp=Z,19nm,1.1s,mb4.7
AAK LR LR
comp=Z,111nm,20.0s,MS3.7
AAK Ala-Archa 38.68 62 *e*P **P** 07 49 48.8 +0.6
comp=Z,19nm,1.1s,mb4.7
AAK Ala-Archa 38.68 62 ⇑*i*P **P** 07 49 48.5 +0.3
AAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
FRU Bishkek 38.76 62 *e*P **P** 07 49 54.0 +5.2
DBIC Dimbokro 39.29 233 P **P** 07 49 52.6 -0.9
comp=Z,5.5nm,0.7s,mb4.4,baz=28,slow=9.8,SNR=11
DBIC Dimbokro 39.29 233 *e*P **P** 07 49 52.4 -1.2
comp=Z,19nm,1.1s,mb4.7
DBIC LR LR
comp=Z,2µm,20.0s,MS5.0
DBIC Dimbokro 39.29 233 P **P** 07 49 52.7 -0.9
DBIC pmax pmax

comp=Z,6.0nm,0.7s
LIC Lamto 39.73 233 *e*P P **07 49 56.3 -1.0**
comp=Z,13nm,0.8s,mb4.7
KSH Kashi 40.11 67 *e*P P **07 50 00.8 +0.7**
KSH *e*PP PP 07 51 34.9 -1.3
KSH *e*PCP PcP 07 52 07.2 +1.9
KSH *e*PCS 07 55 58.9
KSH *e*S **S** **07 56 06.4 +0.3**
KSH *e*SS SS 07 58 53.2 -4.0
KSH LR LR
comp=N,290nm,5.5s
KSH LR LR
comp=E,280nm,4.8s
JMIC Jan Mayen 41.45 344 AMS AMS 08 10 05.7
comp=Z,362nm,17.7s,MS4.3
KURK Kurchatov 41.50 50 *e*P P **07 50 11.8 +0.4**
comp=Z,29nm,0.9s,mb4.9
KURK Kurchatov 41.50 50 *e*P P **07 50 11.8 +0.4**
comp=Z,29nm,0.9s,mb4.9
KURK Kurchatov 41.50 50 *e*P P **07 50 11.8 +0.4**
KURK pmax pmax
comp=Z,29nm,0.9s,mb4.9
KHET Khetri 42.84 84 *e*P P **07 50 25.1 +2.4**
KHET AMb AMB 07 50 29.8
comp=Z,12nm,1.4s,mb4.4
AYAN Aya Nagar 43.78 83 *e*P P **07 50 32.9 +2.6**
AYAN AMb AMB 07 50 33.8
comp=Z,9.3nm,0.4s,mb4.9
MKAR Makanchi Array 43.96 56 P P **07 50 32.2 +0.8**
comp=Z,10nm,0.6s,mb4.8,baz=275,slow=6.5,SNR=93
MKAR LR LR 08 13 49.7
comp=Z,410nm,18.6s,MS4.4,baz=181,slow=43
MKAR Makanchi Array 43.96 56 P P **07 50 32.2 +0.7**
MKAR Makanchi Array 43.96 56 *i*P P **07 50 32.2 +0.7**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
ASOR Ausora 44.22 82 *e*P P **07 50 32.4 -1.4**
NVS Novosibirsk 44.55 44 *e*P P **07 50 36.1 0.0**
comp=Z,8.0nm,0.6s,mb4.7
NVS Novosibirsk 44.55 44 *e*P P **07 50 36.1 0.0**
NVS *e* 07 52 21.6
NVS *e*S **S** **07 57 10.8 -0.3**
NVS pmax pmax
comp=Z,35nm,0.8s,mb5.2
NVS pmax pmax
comp=N,8.0nm,0.6s
NVS pmax pmax
comp=E,15nm,0.8s
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,18nm,1.5s
NVS pmax pmax
comp=Z,27nm,1.5s,mb4.9
NVS smax
comp=N,25nm,1.8s
NVS smax
comp=E,7.0nm,1.6s
KBS Kingsbay 45.50 356 *e*P P **07 50 43.0 -0.5**
KBS AMS AMS 08 13 02.0
comp=Z,319nm,19.5s,MS4.3
BHPL Bhopal 46.06 89 *i*P P **07 50 50.8 +2.2**
BHPL AMb AMB 07 51 00.7
comp=Z,29nm,1.1s,mb5.1
DAG Danmarks Havn 47.40 347⇓*i*P P **07 51 01.2 +2.7**
comp=Z,2.7nm,0.7s,mb4.3
DAG Danmarks Havn 47.40 347⇓*i*P P **07 51 01.2 +2.7**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
WMQ Urumqi 48.11 59⇑*i*P P **07 51 05.7 +1.2**
WMQ PCP PcP 07 52 33.5 +1.0
WMQ PPP PPP 07 53 48.5 +1.7
WMQ PCS 07 56 28.0
WMQ S **S** **07 58 05.0 +3.0**
WMQ SCS ScS 08 00 57.0 +1.9
WMQ AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,56nm,3.8s
WMQ LR LR
comp=N,898nm,17.6s,MS4.9
WMQ LR LR
comp=E,674nm,16.0s,MS4.9
WMQ LR LR
comp=Z,845nm,23.8s
NGP Nagpur 48.33 91 *e*P P **07 51 08.1 +1.6**
KOLN Koldanda 49.37 81 *e*P P **07 51 15.4 +1.0**
comp=Z,36nm,0.9s,mb5.4
HYB Hyderabad 49.69 96 *i*P P **07 51 18.5 +1.5**
HYB Hyderabad 49.69 96 *e*P P **07 51 18.5 +1.5**
GKN Gorkha 50.13 80 *e*P P **07 51 20.6 +0.4**
comp=Z,36nm,0.7s,mb5.5
SUMG Summit 50.36 339 *e*P P **07 51 21.0 -0.4**
comp=Z,11nm,0.7s,mb5.0
SUMG Summit 50.36 339 *e*P P **07 51 21.0 -0.4**
comp=Z,11nm,0.7s,mb5.0
DMN Daman 50.66 80 *e*P P **07 51 24.8 +0.5**
comp=Z,102nm,1.0s,mb5.7
KKN Kakani 50.74 80 *e*P P **07 51 25.8 +0.9**
comp=Z,57nm,0.9s,mb5.5
KKN Kakani 50.74 80 *e*P P **07 51 25.8 +0.9**
KKN pmax pmax
comp=Z,29nm,0.9s,mb5.2
PKI Pulchoki 50.93 80 *e*P P **07 51 27.5 +1.2**
comp=Z,34nm,0.6s,mb5.4
PKI Pulchoki 50.93 80 *e*P P **07 51 27.5 +1.2**
PKI pmax pmax
comp=Z,17nm,0.6s,mb5.2
GUN Gumba 51.18 80 *e*P P **07 51 29.6 +1.4**
comp=Z,77nm,0.9s,mb5.7
BOK Bokaro 52.85 84 *i*P P **07 51 40.9 0.0**
BOK AMb AMB 07 51 43.2
comp=Z,12nm,0.4s,mb5.2
TSUM Tsumeb 53.41 190 P P **07 51 45.5 +0.4**
comp=Z,6.4nm,1.0s,mb4.5,baz=3.1,slow=8.4,SNR=5.1
TSUM LR LR 08 16 26.7
comp=Z,4μm,18.9s,MS5.5,baz=320,slow=38
VIS Vishakhapatnam 53.50 92 *e*P P **07 51 45.8 0.0**
MOY Mondy 55.41 47 *e*P P **07 51 57.6 -1.6**
ZAK Zakamensk 57.12 48 *e*P P **07 52 12.0 +0.5**
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
GTA Gaotai 58.02 61 *e*P P **07 52 17.9 -0.1**
GTA AP pP 07 52 22.9 +1.8
GTA PCP PcP 07 53 06.9 -2.9
GTA PP PP 07 54 29.2 +0.9
GTA PPP PPP 07 55 54.7 +4.1
GTA S **S** **08 00 19.4 +2.7**
GTA XS 08 00 36.5
GTA SS SS 08 04 13.6 +4.1
GTA AMB AMB
comp=Z,14nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,51nm,6.5s
GTA LR LR
comp=N,427nm,12.5s,MS5.0
GTA LR LR
comp=E,581nm,12.5s,MS5.0
GTA LR LR
comp=Z,510nm,17.9s
LBTB Lobatse 58.60 180 P P **07 52 22.2 0.0**
comp=Z,7.1nm,1.0s,mb4.6,baz=17,slow=12,SNR=4.7
LBTB Lobatse 58.60 180 P P **07 52 22.2 -0.1**
SONM Songino Array 59.81 50 P P **07 52 30.4 +0.1**
comp=Z,3.8nm,0.6s,mb4.6,baz=288,slow=8.1,SNR=11
ULN Ulaanbaatar 60.22 50 *e*P P **07 52 33.1 0.0**
comp=Z,8.8nm,0.8s,mb4.8
ULN Ulaanbaatar 60.22 50 *e*P P **07 52 33.1 0.0**
comp=Z,8.8nm,0.8s,mb4.8
ULN Ulaanbaatar 60.22 50 *e*P P **07 52 33.1 0.0**
ULN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BOD Bodaibo 61.06 38 *e*P P **07 52 37.5 -1.2**
BOD pmax pmax
comp=Z,13nm,1.0s,mb5.0
TIXI Tiksi 62.12 20 *e*P P **07 52 43.2 -2.5**
TIXI *e*S **S** **08 01 06.6 -2.5**
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
TIXI MLR MLR
comp=Z,307nm,14.0s,MS4.6
BOSA Boshof 62.19 181 P P **07 52 47.1 +0.4**
comp=Z,7.6nm,1.0s,mb4.8,baz=52,slow=4.1,SNR=6.1
BOSA LR LR 08 21 14.6
comp=Z,920nm,18.3s,MS5.0,baz=2.5,slow=37
BOSA Boshof 62.19 181 P P **07 52 47.1 +0.4**
BOSA LR LR 08 21 14.6
LZH Lanzhou 62.20 64 *e*P P **07 52 47.5 +0.8**
LZH AP pP 07 52 53.1 +3.2
LZH PP PP 07 55 06.7 +0.9
LZH *e*S **S** **08 01 11.2 +0.6**
LZH *e*SS SS 08 05 15.6 +0.1
LZH AMB AMB
comp=Z,29nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,78nm,6.2s
LZH LR LR
comp=N,574nm,15.2s
LZH LR LR
comp=Z,878nm,17.9s,MS5.0
LZH Lanzhou 62.20 64 *e*P P **07 52 47.5 +0.8**
comp=Z,29nm,1.5s,mb5.2
LZH pP pP 07 52 51.0 +1.1
LZH sP sP 07 52 53.1 +2.1
LZH PP PP 07 55 06.7 +0.9
LZH *e*S **S** **08 01 11.2 +0.6**
LZH sS 08 01 17.5
LZH *e*SS SS 08 05 15.6 +0.1
LZH LR LR
comp=Z,880nm,17.9s,MS5.0
LZH Lanzhou 62.20 64 *e*P P **07 52 47.5 +0.8**
comp=Z,29nm,1.5s,mb5.2
LZH pP pP 07 52 51.0 +1.1
LZH *e*S **S** **08 01 11.2 +0.6**
LZH Lanzhou 62.20 64 *e*P P **07 52 47.5 +0.8**
LZH *PP pP 07 52 51.0 +1.1
LZH *SP sP 07 52 53.1 +2.1
LZH 07 55 06.7
LZH *e*S **S** **08 01 11.2 +0.6**
LZH *e*SS SS 08 05 15.6 +0.1
LZH pmax pmax
comp=Z,29nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,880nm,17.9s,MS5.0
SCHQ Schefferville 64.53 320 P P **07 53 01.0 -0.7**
comp=Z,9.5nm,0.5s,mb5.0,baz=62,slow=4.8,SNR=14
SCHQ Schefferville 64.53 320 *e*P P **07 53 01.0 -0.7**
comp=Z,11nm,0.5s,mb5.2
SCHQ LR LR
comp=Z,440nm,20.0s,MS4.7
HHC Hu-ho-hao-te 65.82 56 *e*P P **07 53 10.8 +0.5**
HHC AP pP 07 53 15.7 +2.3
HHC PCP PcP 07 53 41.7 +0.4
HHC PP PP 07 55 38.3 +0.8
HHC SCP 07 57 41.9
HHC PCS 07 57 43.5
HHC S S 08 01 55.3 -0.2
HHC SCS ScS 08 03 01.9 -0.7
HHC SS SS 08 06 12.1 +0.6
HHC AMB AMB
comp=Z,15nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,132nm,4.5s
HHC LR LR
comp=N,413nm,26.2s,MS4.7
HHC LR LR
comp=E,409nm,22.6s,MS4.7
HHC LR LR
comp=Z,363nm,20.2s,MS4.6
KMI Kunming 66.04 75 P P **07 53 12.6 +0.7**
KMI AMB AMB
comp=Z,13nm,0.7s,mb5.1
KMI Kunming 66.04 75 P P **07 53 12.6 +0.7**
comp=Z,13nm,0.7s,mb5.1
YAK Yakutsk 66.65 30 *i*P P **07 53 13.3 -1.9**
HIA Hailar 67.47 45 *e*P P **07 53 21.8 +1.2**
comp=Z,8.0nm,0.6s,mb4.9
HIA Hailar 67.47 45 *e*P P **07 53 21.8 +1.2**
comp=Z,8.0nm,0.6s,mb4.9
HIA Hailar 67.47 45 *e*P P **07 53 21.8 +1.2**
HIA pmax pmax
comp=Z,8.0nm,0.6s
GYA Guiyang 68.54 72⇓*i*P P **07 53 28.0 +0.3**
GYA PP PP 07 56 01.6 +0.4
GYA SKS SKS 08 03 24.0 -3.6
GYA SS SS 08 06 53.8 -0.3
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA LR LR
comp=N,370nm,17.6s,MS4.8
GYA LR LR
comp=E,290nm,18.0s,MS4.8
GYA LR LR
comp=Z,270nm,18.4s,MS4.5
ENH Enshi 68.97 67 *e*P P **07 53 30.4 +0.2**
comp=Z,12nm,0.8s,mb4.9
ENH LR LR
comp=Z,609nm,21.0s,MS4.8
ENH Enshi 68.97 67 *e*P P **07 53 30.5 +0.2**
comp=Z,12nm,0.8s,mb4.9
CN2 Changchun 73.55 48 *e*P P **07 53 59.0 +1.5**
CN2 *e*AP pP 07 54 06.1 +5.4
CN2 *e*S S 08 03 28.5 +2.4
CN2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,540nm,14.0s,MS5.0
CN2 LR LR
comp=E,330nm,14.0s,MS5.0
BILL Bilibino 74.12 14 *e*P P **07 53 58.5 -1.8**
KLR Kul'dur 74.31 41 *e*P P **07 53 59.2 -2.6**
KULM Kulim 74.41 94 *e*P P **07 54 03.2 +0.1**
KULM Kulim 74.41 94 *e*P P **07 54 03.2 +0.1**
SEY Seymchan 74.48 22 *e*P P **07 54 03.2 +0.7**
NJ2 Nanjing 75.11 61 *e*P P **07 54 08.2 +1.4**
NJ2 AP pP 07 54 12.9 +2.9
NJ2 XP sP 07 54 15.2 +4.2
NJ2 PP PP 07 56 59.2 +2.0
NJ2 S S 08 03 45.0 +1.2
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,1μm,7.0s
NJ2 LR LR
comp=Z,2μm,18.1s,MS5.5
MDJ Mudanjiang 75.63 46 P P **07 54 09.9 +0.4**
MDJ AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
MDJ AMB AMB
comp=Z,72nm,4.9s
MDJ LR LR
comp=N,450nm,15.0s,MS4.9
MDJ LR LR
comp=E,236nm,16.1s,MS4.9
MDJ LR LR
comp=Z,629nm,16.1s,MS5.0
MA2 Magadan 76.35 25 *e*P P **07 54 14.3 +1.1**
comp=Z,15nm,0.8s,mb5.0
MA2 Magadan 76.35 25 *e*P P **07 54 14.3 +1.1**
comp=Z,15nm,0.8s,mb5.0
MA2 Magadan 76.35 25 *i*P P **07 54 13.1 -0.1**
INK Inuvik 76.94 352 P P **07 54 16.1 -0.3**
comp=Z,3.8nm,0.7s,mb4.4,baz=12,slow=11,SNR=8.5
INK Inuvik 76.94 352 *e*P P **07 54 16.0 -0.3**
comp=Z,4.4nm,0.6s,mb4.6
INK Inuvik 76.94 352 P P **07 54 16.1 -0.2**
INK pmax pmax
comp=Z,4.0nm,0.7s
YKW3 Yellowknife Ar 78.77 343 *e*P P **07 54 26.4 -0.1**
YKW3 Yellowknife Ar 78.77 343 *e*P P **07 54 26.4 -0.1**
YKA Yellowknife Ar 78.82 342 P P **07 54 26.8 0.0**
comp=Z,3.8nm,0.8s,mb4.4,baz=36,slow=5.8,SNR=9.5
YKA LR LR 08 32 26.9
comp=Z,425nm,18.5s,MS4.8,baz=65,slow=38
YKA Yellowknife Ar 78.82 342 P P **07 54 26.8 0.0**
YKA LR LR 08 32 26.9
ILAR Eielson Array 81.48 357 P P **07 54 42.0 +1.0**
comp=Z,3.5nm,0.8s,mb4.3,baz=354,slow=4.0,SNR=13
FWV Forest Hill 81.53 310 *e*P P **07 54 42.4 +0.6**
YSS Yuzh-Sakhalins 81.53 38 *e*P P **07 54 45.0 +3.4**
DAWY Dawson 81.66 354 *e*P P **07 54 42.8 +0.8**
ULM Lac du Bonnet 81.69 327 P P **07 54 42.0 -0.3**
comp=Z,2.7nm,0.6s,mb4.3,baz=23,slow=5.5,SNR=4.5
ULM LR LR 08 31 37.3
comp=Z,192nm,18.7s,MS4.5,baz=48,slow=36
ULM Lac du Bonnet 81.69 327 *e*P P **07 54 43.2 +0.8**
ASAJ Asahikawa 83.33 40 P P **07 54 50.8 -0.2**
comp=Z,6.6nm,0.8s,mb4.7,baz=315,slow=17,SNR=2.9
ASAJ Asahikawa 83.33 40 P P **07 54 50.8 -0.2**
ASAJ pmax pmax
comp=Z,7.0nm,0.8s
BLO Bloomington 84.10 314 *e*P P **07 54 54.9 -0.1**
comp=Z,14nm,0.7s,mb5.2
BLO Bloomington 84.10 314 *e*P P **07 54 54.9 -0.1**
BLO pmax pmax
comp=Z,14nm,0.7s,mb5.2
WCI Wyandotte Cave 84.56 313 *e*P P **07 54 58.0 +0.7**
comp=Z,11nm,0.9s,mb5.0
WCI LR LR
comp=Z,385nm,22.0s,MS4.7
WCI Wyandotte Cave 84.56 313 *e*P P **07 54 58.0 +0.7**
WCI pmax pmax
comp=Z,11nm,0.9s,mb5.0
WCI MLR MLR
comp=Z,385nm,22.0s,MS4.7
CPCT Cooper Cave 85.20 310 *e*P P **07 55 01.7 +1.1**
SPU Mount Spurr 85.23 359 *e*P P **07 55 02.7 +2.6**
MAT Matsushiro 85.70 48 P P **07 55 05.1 +2.1**
MAT Matsushiro 85.70 48 *e*P P **07 55 05.0 +2.0**
comp=Z,6.0nm,1.0s,mb4.8
MAT Matsushiro 85.70 48 *e*P P **07 55 05.0 +2.0**
MAT pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
MJAR Matsushiro Ar 85.70 48 P P **07 55 03.3 +0.3**
comp=Z,9.5nm,1.0s,mb5.0,baz=298,slow=4.9,SNR=17
BAO Brasilia Array 85.78 248 P P **07 55 01.0 -2.9**
BDFB Brasilia 85.80 248 P P **07 55 05.6 +1.6**
comp=Z,4.1nm,0.6s,mb4.8,baz=76,slow=11,SNR=7.7
BDFB LR LR 08 35 35.0
comp=Z,1μm,19.1s,MS5.3,baz=251,slow=37
DLBC Dease Lake 85.82 348 *e*P P **07 55 04.9 +1.8**
SWET Sewanee 86.24 310 *e*P P **07 55 03.7 -2.1**
EDM Edmonton 86.28 337 *e*P P **07 55 05.1 -0.4**
WVT Waverly 86.85 312 *e*P P **07 55 08.1 -0.6**
comp=Z,6.8nm,0.6s,mb5.0
FVM French Village 87.20 315 *e*P P **07 55 11.2 +0.8**
comp=Z,13nm,0.6s,mb5.3
CCM Cathedral Cave 87.63 315 *e*P P **07 55 12.8 +0.4**
comp=Z,10nm,0.6s,mb5.2
LRAL Lakeview Retre 88.31 309 *e*P P **07 55 16.2 +0.4**
comp=Z,11nm,0.7s,mb5.2
LAO LASA Array 88.92 329 *e*P P **07 55 19.2 +0.8**
comp=Z,15nm,0.8s,mb5.4
WALA Waterton Lakes 89.98 335 *e*P P **07 55 25.0 +1.7**
comp=Z,8.1nm,0.9s,mb5.0
CHMT Chamberlain Mo 91.55 333 P P **07 55 33.3 +2.7**
NEW Newport 91.77 336 *e*P P **07 55 31.7 +0.2**
comp=Z,4.1nm,0.7s,mb4.9
NEW Newport 91.77 336 *e*P P **07 55 31.7 +0.1**
NEW pmax pmax
comp=Z,4.0nm,0.7s
BOZ Bozeman (W) 91.98 332 P P **07 55 33.6 +1.0**
comp=Z,23nm,2.0s,mb5.2
BOZ Bozeman (W) 91.98 332 P P **07 55 33.6 +1.0**
BOZ pmax pmax
comp=Z,23nm,2.0s,mb5.2
PHWY Pilot Hill 92.81 326 *e*P P **07 55 37.3 +0.8**
IMW Indian Meadow 93.15 330 *e*P P **07 55 37.0 -1.0**
comp=Z,4.8nm,0.9s,mb4.9
TPAW Teton Pass 93.48 330 *e*P P **07 55 40.6 +1.1**
comp=Z,2.1nm,0.7s,mb4.7
BW06 Boulder Array 93.49 329 *e*P P **07 55 40.4 +0.8**
PDAR Pinedale Array 93.49 329 P P **07 55 39.3 -0.3**
comp=Z,0.4nm,0.8s,mb3.9,baz=72,slow=9.4,SNR=4.1
PDAR LR LR 08 39 23.0
comp=Z,450nm,21.2s,MS4.9,baz=42,slow=37
RRI2 Red Ridge 93.75 330 *e*P P **07 55 41.5 +0.7**
HWUT Hardware Ranch 95.29 329 P P **07 55 47.5 -0.4**
comp=Z,1.5nm,0.6s,mb4.6
SDCO Great Sand Dun 95.60 323 *e*P P **07 55 50.8 +1.4**
comp=Z,4.0nm,1.2s,mb4.7
CPUP Villa Florida 99.03 244 LR LR 08 43 05.5
comp=Z,616nm,18.7s,MS5.1,baz=331,slow=37
TXAR Lajitas Array 101.07 317 P P 07 56 15.2 +0.8
comp=Z,0.1nm,0.4s,baz=45,slow=5.1,SNR=2.5
TXAR PP PP 08 00 29.3 +3.5
comp=Z,0.4nm,0.9s,baz=45,slow=7.1,SNR=3.9
WRA Warramunga Arr 115.83 97 PKP PKPdf 08 01 06.9 -2.1
comp=Z,0.5nm,0.5s,baz=311,slow=1.8,SNR=14
WRAB Tennant Creek 115.83 97 *e*PKPdf PKPdf 08 01 07.4 -1.7
STKA Stephens Creek 126.77 107 PKP PKPdf 08 01 28.7 -1.1
comp=Z,1.0nm,0.5s,baz=54,slow=5.0,SNR=4.6
RPZ Rata Peaks 151.32 120 PKPbc PKPdf 08 02 19.3 +6.1
comp=Z,4.2nm,0.5s,baz=312,slow=8.5,SNR=8.2

NNC 02 08:01:31.6±1.6, 44.22N×82.00E, mpv3.2, 3C-3D, Error ellipse: s-maj=19.8km s-min=8.7km az=128.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**2.58**	**4**	⇑Pn	Pn	08 02 17.4	+2.1
	3.5nm,0.3s,baz=191,slow=14,SNR=183						
MK31				⇓Lg		08 02 52.8	
	26nm,0.6s,baz=187,slow=28,SNR=5.7						
AAK	**Ala-Archa**	**5.69**	**256**	Pg	Pg	08 03 16.4	-8.8
	1.8nm,0.5s						
AAK				⇑Lg		08 04 30.9	
	6.7nm,0.8s						
KURK	**Kurchatov**	**6.89**	**342**	⇓Pn	Pn	08 03 13.5	-2.8
	2.7nm,1.5s						
KURK				⇓Lg		08 05 13.0	
	3.3nm,0.6s						
VOSK	**Vostochnaya**	**11.21**	**323**	⇑Lg		08 07 26.8	
	2.7nm,0.9s						

CRAAG ***02*** *08:03:51.5, 2.56N×98.86E, Mb5.6*
BJI ***02*** *08:03:58.2, 1.79N×98.99E, h147km, mB5.2, mb5.0*
MOS ***02*** *08:03:59.6±0.8, 2.52N×98.97E, h111km, mb5.3/69, Error ellipse: s-maj=9.7km s-min=4.2km az=124.0*
NEIC ***02*** *08:04:05.0±0.1, 2.45N×98.92E, mb5.2/89, Error ellipse: s-maj=3.9km s-min=2.7km az=223.0*
NEIC Felt [III] at Sibolga.
HRVD ***02*** *08:04:05.0±0.2, 2.43N×98.91E, h149km±1km, MW5.5/71, Centroid moment Tensor Solution. LP body waves: s56,c108; Mantle waves: s71,c163; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.16±.03; $M_{\theta\theta}$-0.58±.03; $M_{\phi\phi}$ 1.74±.04; $M_{r\theta}$ 0.65±.02; $M_{r\phi}$ 0.63±.03; $M_{\theta\phi}$-0.92±.03; Best double couple: $M_0$1.999×10^{17} NP1: ϕ_s226°,δ43°,λ-36°. NP2:ϕ_s344°,δ67°,λ-127°. Principal axes: T 2.078, Plg14°, Azm100°; N -.163, Plg34°, Azm1°; P -1.919, Plg53°, Azm209°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***02*** *08:04:05.0±1.0, 2.47N×99.09E, h147km±7km, mb4.8/32, mb1 4.9/32, mb1mx4.9/32, mbtmp5.2/32, MS4.2/8, Ms1 4.2/8, ms1mx4.0/21 Error ellipse: s-maj=11.0km s-min=7.2km az=48.0*
ISC 02 08:04:03.5±0.1, 2.43N±0.03×98.92E±0.02, h146km, h146km±1.2km: pP-P, n580, c0 s98/497, mb5.1/144, 40C-108D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**3.00**	**44**	P	P	**08 04 52.9**	**+1.5**
KULM	**Kulim**	**3.33**	**31**	⇓*i*P	P	**08 04 57.0**	**+1.3**
KGM	**Kluang**	**4.41**	**95**	P	P	**08 05 11.0**	**+1.0**
SNG	**Songkhla**	**5.01**	**20**	P	P	**08 05 18.0**	**0.0**
	604nm,1.0s						
PKT	**Phuket**	**5.66**	**353**	P	P	**08 05 31.0**	**+4.4**
NNT	**Nongplab**	**10.13**	**5**	P	P	**08 06 26.8**	**+0.5**
KSM	**Kuching**	**11.42**	**95**	⇑*e*P	P	**08 06 45.6**	**+2.3**
KKTK	**Khon Kaen**	**14.35**	**15**	P	P	**08 07 23.0**	**+1.9**
	864nm,0.7s						
CHG	**Chiang Mai**	**16.29**	**0**	P	P	**08 07 47.2**	**+1.9**
	19nm,0.8s						
CHRT	**Chiangrai**	**17.36**	**3**	⇑P	P	**08 07 58.5**	**+0.1**
	166nm,1.1s						
KKM	**Kota Kinabalu**	**17.62**	**78**	P	P	**08 08 02.6**	**+1.1**
KKM	**Kota Kinabalu**	**17.62**	**78**	⇑*i*P	P	**08 08 02.4**	**+0.9**
PALK	**Pallekele**	**18.78**	**286**	*e*Pn	P	**08 08 15.5**	**+1.3**
	114nm,0.8s						
PALK				*e*S	S	**08 11 35.2**	**+0.1**
TSM	**Tawau**	**19.01**	**84**	P	P	**08 08 16.7**	**+0.1**
QIZ	**Qiongzhong**	**19.66**	**32**	⇑*i*P	P	**08 08 23.5**	**+0.1**
QIZ				AP		08 08 50.0	
QIZ				S	S	**08 11 54.7**	**+2.6**
QIZ				AMB	AMB		
	comp=Z,48nm,1.2s						
QIZ	**Qiongzhong**	**19.66**	**32**	⇑*i*P	P	**08 08 23.4**	**0.0**
	comp=Z,60nm,0.8s						

BATP Bataraza 19.82 71 eP P 08 08 25.6 +0.6
PPR Puerto Princes 21.00 69⇑iP P 08 08 37.7 +0.9
ENPP El Nido 22.13 66 eP P 08 08 49.3 +1.3
CAL Calcutta 22.48 334 ex x 08 09 22.5
CAL ex x 08 13 32.0
SALM Salem 22.49 295 eP P 08 08 54.0 +2.5
SALM ex x 08 13 00.0
IMP Imphal 22.74 348 ex x 08 09 07.0
KMI Kunming 22.86 9 P P 08 08 57.3 +2.2
KMI AP 08 09 26.8
KMI PP PP 08 09 33.8 +4.2
KMI S S 08 12 52.6 +2.6
KMI AMB AMB
comp=Z,27nm,0.9s,mb4.7
KMI LR LR
comp=N,2µm,12.4s
KMI LR LR
comp=E,717nm,11.6s
KMI LR LR
comp=Z,2µm,13.5s
KMI Kunming 22.86 9 P P 08 08 57.3 +2.2
comp=Z,27nm,0.9s,mb4.7
KMI pP 08 09 26.8
KMI PP PP 08 09 33.8 +4.2
KMI sP 08 09 44.3
KMI PPP PPP 08 09 46.6 +4.2
KMI PcP PcP 08 12 45.1 +2.1
KMI S S 08 12 52.6 +2.6
KMI sS 08 13 42.9
KMI SS SS 08 13 49.6 +2.0
KMI SSS SSS 08 14 09.1 -0.9
KMI ScP 08 16 08.0
KMI PcS 08 16 22.9
KMI LR LR
comp=Z,2µm,13.5s
KMI Kunming 22.86 9 P P 08 08 57.3 +2.2
KMI *PP 08 09 26.8
KMI 08 09 33.8
KMI 08 12 45.1
KMI S S 08 12 52.6 +2.6
KMI *SS 08 13 42.9
KMI pmax pmax
comp=Z,27nm,0.9s,mb4.7
KMI MLR MLR
comp=Z,2µm,13.5s
BUSP Coron 23.13 65 eP P 08 08 57.7 -0.1
SHL Shillong 23.98 344 eP P 08 09 06.0 +0.1
SHL ex x 08 13 08.0
SJMP San Jose 24.14 64 eP P 08 09 06.6 -0.8
OTRP Odiongan 24.92 65 eP P 08 09 14.1 -0.7
HYB Hyderabad 24.94 308 i P P 08 09 15.5 +0.5
comp=Z,80nm,1.0s,mb5.2
HYB epP 08 09 45.0
HYB ePP PP 08 10 02.0 +4.2
HYB esP 08 10 07.0
HYB e 08 13 19.5
HYB eS S 08 13 30.0 +4.8
HYB Hyderabad 24.94 308 eP P 08 09 15.5 +0.5
comp=Z,80nm,1.0s,mb5.2
HYB e 08 09 45.0
HYB e 08 10 01.0
HYB eS S 08 13 54.0 +29
HYB Hyderabad 24.94 308 eP P 08 09 15.5 +0.5
HYB e 08 10 01.0
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.2
PAGZ Pagadian 24.94 77 eP P 08 09 15.8 +0.7
GYA Guiyang 25.03 17⇓iP P 08 09 15.4 -0.3
GYA S S 08 13 24.9 -1.6
GYA SCS ScS 08 20 00.3 +1.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.6
GYA LR LR
comp=N,490nm,15.4s
GYA LR LR
comp=E,510nm,15.0s
GYA LR LR
comp=Z,460nm,14.8s
BLSP Bilaspur 25.49 322 eP P 08 09 20.6 +0.4
BLSP AMb AMB 08 09 22.1
comp=Z,77nm,1.0s,mb5.2
BLSP i x x 08 09 56.5
BLSP eS S 08 13 34.9 +0.6
BALP Baler 25.95 58 eP P 08 09 19.9 -4.5
ABRA Dolores 26.20 53 eP P 08 09 27.0 +0.3
BUKP Musuan 26.58 77 eP P 08 09 29.3 -1.0
LATR Latur 27.07 307 eP P 08 09 35.2 +0.6
LSA Lhasa 28.11 346 P P 08 09 44.4 +0.4
LSA Lhasa 28.11 346⇑eP P 08 09 44.2 +0.2
comp=Z,85nm,0.8s,mb5.5
LSA epP pP 08 10 16.6 +2.1
LSA ePcP PcP 08 12 54.0 -0.7
LSA Lhasa 28.11 346⇑eP P 08 09 44.2 +0.2
LSA e 08 12 54.0
LSA pmax pmax
comp=Z,85nm,0.8s,mb5.5
PKI Pulchoki 28.15 334 eP P 08 09 43.6 -0.7
comp=Z,24nm,0.6s,mb5.1
PKI Pulchoki 28.15 334 eP P 08 09 43.6 -0.7
PKI pmax pmax
comp=Z,12nm,0.6s,mb4.8
GUN Gumba 28.24 335 eP P 08 09 44.9 -0.3
comp=Z,80nm,0.6s,mb5.7
DMN Daman 28.32 333 eP P 08 09 44.9 -0.9
comp=Z,36nm,0.7s,mb5.2
KKN Kakani 28.39 334 eP P 08 09 45.7 -0.8
comp=Z,47nm,0.6s,mb5.4
KKN Kakani 28.39 334 eP P 08 09 45.7 -0.8
KKN pmax pmax
comp=Z,23nm,0.6s,mb5.1
CD2 Chengdu 28.70 9 P P 08 09 47.6 -1.6
GKN Gorkha 28.86 333 eP P 08 09 49.9 -0.8
comp=Z,18nm,0.3s,mb5.3
KOLN Koldanda 29.15 331⇑iP P 08 09 52.8 -0.5
comp=Z,136nm,0.6s,mb5.8
QZH Quanzhou 29.34 39 eP P 08 09 57.1 +2.1
QZH eS S 08 14 39.1 +2.8
QZH LR LR
comp=N,2µm,12.1s
QZH LR LR
comp=E,6µm,20.2s
QZH LR LR
comp=Z,4µm,11.2s
BHPL Bhopal 29.36 317 eP P 08 09 54.9 -0.3
BHPL eS S 08 14 34.7 -1.8
ENH Enshi 29.45 19 eP P 08 09 53.9 -2.1
comp=Z,55nm,1.0s,mb5.2
ENH epP pP 08 10 26.5 -0.2
MBWA Marble Bar 31.06 140 eP P 08 10 09.4 -0.8
AGRA Agra 31.81 323 eP P 08 10 15.8 -0.9
AGRA AMb AMB 08 10 16.0
comp=Z,63nm,0.3s,mb5.8
SONA Sohna 33.07 323 eP P 08 10 27.0 -0.6
SONA AMb AMB 08 10 28.5
comp=Z,68nm,1.0s,mb5.3
AYAN Aya Nagar 33.22 323 eP P 08 10 28.1 -0.7
AYAN AMb AMB 08 10 29.6
comp=Z,59nm,1.0s,mb5.3
FITZ Fitzroy Crossi 33.30 129⇓iP P 08 10 27.1 -2.5
comp=Z,273nm,0.8s,mb6.0
FITZ Fitzroy Crossi 33.30 129 P P 08 10 27.3 -2.3
comp=Z,335nm,0.8s,mb6.1,baz=306,slow=2.3,SNR=89
FITZ ScP 08 16 37.7
comp=Z,20nm,0.6s,baz=219,slow=1.3,SNR=13
KHET Khetri 33.73 321 eP P 08 10 32.7 -0.5
KHET eS S 08 15 45.1 +0.4
LZH Lanzhou 33.80 7 ⇑P P 08 10 39.0 +5.3
LZH AP pP 08 11 06.2 +0.9
LZH XP sP 08 11 26.0 +3.8
LZH PP PP 08 11 57.3 +5.3
LZH S S 08 15 52.1 +6.3
LZH XS 08 16 46.6
LZH SS SS 08 18 09.2 +6.8
LZH AMB AMB
comp=Z,59nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,317nm,5.6s
LZH Lanzhou 33.80 7 ⇑P P 08 10 39.0 +5.3
comp=Z,59nm,1.3s,mb5.2
LZH pP pP 08 11 06.2 +0.9
LZH sP sP 08 11 26.0 +3.8
LZH PP PP 08 11 57.3 +5.3
LZH PcP PcP 08 13 12.5 +2.9
LZH S S 08 15 52.1 +6.3
LZH ScP 08 16 45.7
LZH sS 08 16 46.6
LZH PcS 08 16 59.3
LZH SS SS 08 18 09.2 +6.8
LZH ScS ScS 08 20 43.5 +3.6
LZH Lanzhou 33.80 7 ⇑P P 08 10 39.0 +5.3
LZH *PP pP 08 11 06.2 +0.9
LZH 08 13 12.5
LZH S S 08 15 52.1 +6.3
LZH 08 20 43.5
LZH pmax pmax
comp=Z,59nm,1.3s,mb5.2
SSE Sheshan 35.44 34 P P 08 10 48.7 +1.1
SSE AP pP 08 11 20.9 +1.4
SSE PP PP 08 12 12.3 +0.2
SSE S S 08 16 13.2 +2.2
SSE XS 08 17 10.6
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,225nm,4.4s
SSE LR LR
comp=N,620nm,17.7s
SSE LR LR
comp=E,297nm,17.7s
SSE LR LR
comp=Z,753nm,16.5s
SSE Sheshan 35.44 34 P P 08 10 48.7 +1.1
comp=Z,26nm,0.7s,mb5.0
SSE pP pP 08 11 20.9 +1.4
SSE PP PP 08 12 12.3 +0.2
SSE S S 08 16 13.2 +2.2
SSE sS 08 17 10.6
SSE SS SS 08 18 54.5 +15
SSE LR LR
comp=Z,750nm,16.5s
JASL Jaisalmer 36.25 315 eP P 08 10 54.2 -0.3
KAKA Kakadu 36.52 115⇑iP P 08 11 11.2 +14
comp=Z,54nm,0.7s,mb5.3
GTA Gaotai 36.82 1 eP P 08 10 59.5 +0.3
GTA AP pP 08 11 32.2 +1.0
GTA XP sP 08 11 51.6 +3.3
GTA PP PP 08 12 31.6 +3.5
GTA PCP PcP 08 13 18.0 -0.5
GTA S S 08 16 33.5 +1.5
GTA SCP 08 16 47.3
GTA PCS 08 17 04.6
GTA XS 08 17 35.1
GTA SCS ScS 08 20 55.2 -1.1
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.3
GTA AMB AMB
comp=Z,98nm,6.8s
GTA LR LR
comp=N,380nm,17.9s
GTA LR LR
comp=E,260nm,19.4s
GTA LR LR
comp=Z,552nm,17.1s
MUN Mundaring 37.95 156 eP P 08 11 09.1 +0.4
KLBR Kellerberrin 38.27 154 eP P 08 11 11.1 -0.3
comp=Z,30nm,0.7s,mb5.0
NWAO Narrogin (SRO) 39.20 155 P P 08 11 19.1 +0.1
comp=Z,49nm,0.8s,mb5.2,baz=319,slow=8.8,SNR=37
NWAO ScP 08 16 58.6
comp=Z,8.2nm,0.7s,baz=16,slow=1.3,SNR=6.4
NWAO Narrogin (SRO) 39.20 155 eP P 08 11 19.0 0.0
comp=Z,61nm,1.0s,mb5.2
NWAO Narrogin (SRO) 39.20 155 eP P 08 11 19.0 0.0
NWAO pmax pmax
comp=Z,61nm,1.0s
HHC Hu-ho-hao-te 39.92 15 eP P 08 11 27.5 +2.6
HHC S S 08 17 19.7 +1.1
HHC AMB AMB
comp=Z,19nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,182nm,5.2s
HHC LR LR
comp=N,265nm,13.1s
HHC LR LR
comp=E,622nm,13.1s
WRA Warramunga Arr 41.26 124 P P 08 11 34.9 -1.2
comp=E,96nm,0.7s,mb5.6,baz=301,slow=9.2,SNR=227
WRA ScP 08 17 06.6
comp=E,7.2nm,0.8s,baz=312,slow=3.4,SNR=13
WRA S S 08 17 32.1 -6.5
comp=E,34nm,1.0s,baz=294,slow=17,SNR=22
WRA Warramunga Arr 41.26 124 P P 08 11 34.9 -1.2
WRA S S 08 17 32.1 -6.5
WRAB Tennant Creek 41.26 124 eP P 08 11 34.9 -1.3
comp=E,149nm,0.6s,mb5.8
WRAB Tennant Creek 41.26 124 eP P 08 11 34.9 -1.2
WRAB pmax pmax
comp=Z,149nm,0.6s,mb5.8
WB2 Warramunga Arr 41.27 124⇑iP P 08 11 34.9 -1.3
WMQ Urumqi 42.41 348⇑iP P 08 11 46.7 +1.4
WMQ AP pP 08 12 22.0 +4.2
WMQ XP sP 08 12 39.0 +4.1
WMQ PP PP 08 13 31.0 +2.9
WMQ S S 08 17 55.0 -0.3
WMQ XS 08 18 57.0
WMQ AMB AMB
comp=Z,60nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,214nm,5.0s
KSH Kashi 42.41 333 eP P 08 11 44.3 -1.1
KSH eAP pP 08 12 22.2 +4.3
KSH ePP PP 08 13 25.8 -2.4
KSH ePCP PcP 08 13 37.9 +1.5
KSH ePCS 08 17 28.1
KSH S S 08 17 51.8 -3.5
KSH eSCS ScS 08 21 29.5 +0.4
KSH AMB AMB
comp=Z,200nm,4.8s
KSH LR LR
comp=N,670nm,9.1s
KSH LR LR
comp=E,650nm,5.3s
JNU Nakatsue 42.76 41 P P 08 11 46.9 -1.4
comp=E,5.8nm,0.7s,mb4.3,baz=259,slow=6.0,SNR=4.4
JNU ScP 08 17 13.5
comp=E,13nm,1.0s,baz=121,slow=5.1,SNR=5.6
FORT Forrest 43.14 142 eP P 08 11 50.4 -1.0
comp=E,95nm,0.6s,mb5.6
WBK Wadi Bani Khal 43.63 301 P P 08 11 56.6 +1.2
SNR=10
KS15 Wonju Array Si 43.84 34 eP P 08 11 56.1 -0.9
KS15 epP pP 08 12 30.6 +1.0
JMDO Jabal Madar 44.29 300 ⇑P P 08 12 01.4 +0.7
SNR=18
ULHL Ulahol 44.55 336 P P 08 12 03.8 +1.2
SNR=17
SMDO Samad 44.58 301 ⇑P P 08 12 03.6 +0.6
SNR=27
BIDO Bidbid 44.69 301 P P 08 12 04.9 +1.1
SNR=41
KZA Kyzart 44.82 335 P P 08 12 06.3 +1.6
SNR=17
BSY Bisya 45.20 300 P P 08 12 08.9 +0.9
SNR=9.7
UCH Uchtor 45.26 334 P P 08 12 09.8 +1.6
SNR=28
TKM2 Tokmak 2 45.37 336 P P 08 12 09.7 +0.6
SNR=28
HOQ Hoqain 45.40 301 ⇓P P 08 12 10.6 +1.0
SNR=15
KBK Karagaybulak 45.42 335 P P 08 12 10.9 +1.5
SNR=24
AML Almayashu 45.54 334 P P 08 12 11.5 +1.1
SNR=15
AAK Ala-Archa 45.60 335 P P 08 12 12.5 +1.6
SNR=11
AAK Ala-Archa 45.60 335 eP P 08 12 11.0 +0.2
comp=E,28nm,1.0s,mb4.8
AAK eScP 08 17 24.9
AAK eS S 08 18 42.2 +1.0
AAK Ala-Archa 45.60 335 eP P 08 12 11.0 +0.1
AAK eS S 08 18 42.2 +1.0
AAK pmax pmax
comp=Z,27nm,1.0s,mb4.8
SONM Songino Array 45.69 7 P P 08 12 11.8 +0.3
comp=Z,6.8nm,0.6s,mb4.5,baz=192,slow=9.0,SNR=59
SONM PcP PcP 08 13 47.0 -0.5
comp=Z,14nm,0.9s,baz=197,slow=3.5,SNR=4.5
SONM ScP 08 17 25.2
comp=Z,8.9nm,0.9s,baz=193,slow=3.4,SNR=11
FRU Bishkek 45.71 335 eP P 08 12 12.5 +0.8
FRU eS S 08 18 44.5 +1.7
FRU pmax pmax
comp=Z,55nm,1.8s,mb4.9
FRU smax
comp=E,120nm,2.2s
CHMS Chumysh 45.79 335 P P 08 12 13.1 +0.7
SNR=8.6
ULN Ulaanbaatar 45.81 8 eP P 08 12 12.8 +0.3
comp=E,49nm,1.4s,mb5.0
ULN epP pP 08 12 46.3 +1.0
ULN eScP 08 17 24.9
ULN Ulaanbaatar 45.81 8 eP P 08 12 12.8 +0.4
ULN pmax pmax
comp=Z,49nm,1.4s,mb4.9
EKS2 Erkin-Say 45.93 334 P P 08 12 14.9 +1.4
SNR=25
ARQ Araqi 45.99 300 P P 08 12 14.9 +0.7
SNR=22
USP Ospenovka 46.11 335 P P 08 12 15.7 +0.8
SNR=13
RBK Rabkut 46.36 292 ⇑P P 08 12 16.9 -0.3
MKAR Makanchi Array 46.50 344 P P 08 12 18.0 +0.1
comp=Z,14nm,0.5s,mb4.8,baz=150,slow=6.8,SNR=128
MKAR ScP 08 17 28.8
comp=Z,3.5nm,0.9s,baz=135,slow=6.9,SNR=4.1
MKAR Makanchi Array 46.50 344 P P 08 12 18.0 +0.1
MKAR ScP 08 17 28.8
WHFO Wadi Hawf 46.86 292 ⇓P P 08 12 21.2 +0.1
SNR=9.7
ASHO Ashiyiah 46.87 302 ⇓P P 08 12 21.2 +0.1
SNR=7.3
ABTO Aybut 47.17 291 ⇓P P 08 12 23.4 -0.1
SNR=8.1
CN2 Changchun 47.45 26 eP P 08 12 23.4 -1.9
CN2 AP pP 08 12 58.3 -0.1
CN2 XP sP 08 13 17.8 +3.0
CN2 PP PP 08 14 16.6 -1.0
CN2 PPP PPP 08 15 09.6 -0.6
CN2 eS S 08 19 05.5 -1.9
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,250nm,6.0s
CN2 LR LR
comp=N,880nm,13.0s
CN2 LR LR
comp=E,440nm,13.0s
CN2 LR LR
comp=Z,1µm,13.0s
KKAR Karatay Array 47.76 332 i P P 08 12 27.1 -0.7
KKAR pmax pmax
comp=Z,1.0nm,0.3s
ZAK Zakamensk 47.93 4 eP P 08 12 29.2 +0.2
ZAK e 08 13 54.3
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s
MOY Mondy 49.10 2 eP P 08 12 39.5 +1.5
PMG Port Moresby 49.48 104 P P 08 12 40.8 -0.5
comp=Z,50nm,0.9s,mb5.1,baz=9.6,slow=2.5,SNR=6.3
PMG Port Moresby 49.48 104 eP P 08 12 40.6 -0.8
comp=Z,56nm,1.0s,mb5.2
PMG Port Moresby 49.48 104 eP P 08 12 40.6 -0.7
PMG pmax pmax
comp=Z,56nm,1.0s
MAJO Matsushiro 49.63 42 eP P 08 12 41.7 -0.6
comp=Z,6.3nm,0.8s,mb4.3
MAJO epP pP 08 13 15.5 -0.2
MAJO Matsushiro 49.63 42 eP P 08 12 41.7 -0.6
MAJO e*PP pP 08 13 15.5 -0.1
MAJO pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MAT Matsushiro 49.63 42 P P 08 12 41.3 -1.0
MAT Matsushiro 49.63 42 eP P 08 12 41.0 -1.3
comp=Z,4.8nm,0.7s,mb4.2
MAT LR LR
comp=Z,350nm,20.0s
MAT Matsushiro 49.63 42 eP P 08 12 41.0 -1.3
MAT pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MAT MLR MLR
comp=Z,350nm,20.0s
MJAR Matsushiro Arr 49.63 42 P P 08 12 41.6 -0.7
comp=Z,8.1nm,0.8s,mb4.4,baz=219,slow=6.7,SNR=22
MJAR PP PP 08 14 39.7 +1.2
comp=Z,5.3nm,1.0s,baz=244,slow=3.1,SNR=4.9
MJAR ScP 08 17 43.0
comp=Z,20nm,1.0s,baz=219,slow=5.5,SNR=26
MJAR Matsushiro Arr 49.63 42 P P 08 12 41.6 -0.7
MJAR PP PP 08 14 39.7 +1.2
MJAR ScP 08 17 43.0
HIA Hailar 49.95 18 eP P 08 12 43.8 -0.7
comp=Z,8.3nm,0.3s,mb4.8
HIA Hailar 49.95 18 eP P 08 12 43.8 -0.7
HIA pmax pmax
comp=Z,8.0nm,0.3s
MDJ Mudanjiang 49.97 28 P P 08 12 44.3 -0.4
MDJ PP PP 08 14 39.5 -2.3
MDJ SCP 08 17 43.9
MDJ PCS 08 17 59.5
MDJ S S 08 19 45.8 +3.2
MDJ AMB AMB
comp=Z,12nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,109nm,5.8s
MDJ LR LR
comp=N,740nm,17.6s
MDJ LR LR
comp=E,352nm,16.2s
MDJ LR LR
comp=Z,1µm,16.9s
CIT Chita 50.92 12 eP P 08 13 02.4 +11
CIT e 08 13 26.1
CIT e 08 14 43.3
CIT pmax pmax
comp=Z,81nm,1.7s,mb5.1
KURK Kurchatov 51.09 344⇓eP P 08 12 52.4 -0.7
comp=Z,18nm,0.8s,mb4.8
KURK Kurchatov 51.09 344⇓eP P 08 12 52.4 -0.7
KURK pmax pmax
comp=Z,18nm,0.8s,mb4.8
CTA Charters Tower 51.53 118 eP P 08 12 55.9 -1.0
comp=Z,15nm,0.8s,mb4.7
CTA Charters Tower 51.53 118 P P 08 12 55.8 -1.1
comp=Z,20nm,0.8s,mb4.8,baz=291,slow=9.1,SNR=14
CTA ScP 08 17 50.3
comp=Z,4.3nm,0.6s,baz=292,slow=5.8,SNR=7.8
CTA Charters Tower 51.53 118 eP P 08 12 55.9 -1.0
CTA pmax pmax
comp=Z,15nm,0.8s
CTAO Charters Tower 51.53 118 eP P 08 12 57.3 +0.4
comp=Z,20nm,0.9s,mb4.8
CTAO Charters Tower 51.53 118 eP P 08 12 57.3 +0.4
CTAO pmax pmax
comp=Z,20nm,0.9s,mb4.8
STKA Stephens Creek 52.92 134 eP P 08 13 05.4 -1.7
comp=Z,25nm,0.7s,mb5.0
STKA Stephens Creek 52.92 134 P P 08 13 05.6 -1.5
comp=Z,30nm,0.7s,mb5.2,baz=307,slow=7.6,SNR=58
STKA ScP 08 17 55.7
comp=Z,3.2nm,0.8s,baz=358,slow=11,SNR=3.1
STKA LR LR 08 36 05.0
comp=Z,172nm,21.7s,baz=290,slow=36
NVS Novosibirsk 53.79 349 eP P 08 13 11.3 -1.8
NVS eS S 08 20 31.6 -2.9
NVS e 08 22 40.4
NVS pmax pmax
comp=N,20nm,1.2s
NVS pmax pmax
comp=E,19nm,1.2s
NVS pmax pmax
comp=Z,30nm,1.2s,mb4.9
NVS pmax pmax
comp=N,27nm,1.9s
NVS pmax pmax
comp=E,16nm,1.9s

NVS pmax pmax
comp=Z,28nm,1.9s,mb4.7
NVS smax
comp=N,11nm,1.1s
NVS smax
comp=E,15nm,1.1s
KLR Kul'dur 54.40 26 *e*P **P** **08 13 14.7 -2.9**
KLR *e*S **S** **08 20 38.5 -4.2**
KLR pmax pmax
comp=E,36nm,0.9s
KLR pmax pmax
comp=Z,32nm,0.9s,mb5.0
KLR MLR MLR
comp=E,700nm,14.0s
OPO Ambohidratompo 54.99 245 P **P** **08 13 23.4 +1.0**
comp=E,57nm,0.9s,mb5.3,baz=59,slow=6.4,SNR=34
VOSK Vostochnaya 55.23 340 P **P** **08 13 21.5 -2.2**
VOSK pmax pmax
comp=Z,31nm,0.9s,mb5.0
KBD Kabd 55.42 304 *e*P **P** **08 13 25.0 -0.4**
KBD AMb AMB 08 13 26.6
comp=Z,583nm,0.9s
RDF Al-Radifah 55.46 304 *e*P **P** **08 13 24.4 -1.2**
RDF AMb AMB 08 13 25.3
comp=Z,184nm,0.6s,mb6.0
UMR Umm Al-Rimmam 55.52 305 *e*P **P** **08 13 25.3 -0.8**
UMR AMb AMB 08 13 26.8
comp=Z,234nm,0.7s,mb6.1
BVA0 Borovoye Array 55.69 340 *i* P **P** **08 13 25.1 -1.8**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
BVAR Borovoye Array 55.69 340 P **P** **08 13 25.4 -1.6**
comp=Z,11nm,0.5s,mb5.0,baz=142,slow=9.6,SNR=98
BRVK Borovoye 55.75 340⇓ *i*P **P** **08 13 25.8 -1.6**
comp=Z,7.4nm,0.5s,mb4.8
BRVK Borovoye 55.75 340⇓ *i*P **P** **08 13 25.8 -1.6**
BRVK pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
BOD Bodaibo 56.51 10 *e*P **P** **08 13 32.5 -0.2**
BOD *e* pP 08 14 04.4 -2.4
BOD pmax pmax
comp=Z,15nm,0.8s,mb4.9
BOD pmax pmax
comp=Z,26nm,1.4s,mb4.9
AB31 Akbulak array 57.27 331 *i* P **P** **08 13 36.7 -1.4**
AB31 pmax pmax
comp=Z,19nm,0.7s,mb5.0
YSS Yuzh-Sakhalins 58.38 34 *e*P **P** **08 13 45.2 -0.7**
comp=Z,57nm,1.0s,mb5.3
YSS *ep*P pP 08 14 19.8 -0.5
YSS Yuzh-Sakhalins 58.38 34 *e*P **P** **08 13 45.2 -0.7**
YSS *e**PP pP 08 14 19.8 -0.5
YSS pmax pmax
comp=Z,57nm,1.0s,mb5.4
TOO Toolangi 58.65 137 *e*P **P** **08 13 46.5 -1.5**
comp=Z,13nm,0.8s,mb4.8
TOO Toolangi 58.65 137 *e*P **P** **08 13 46.5 -1.5**
TOO pmax pmax
comp=Z,13nm,0.8s,mb4.8
AKTO Aktyubinsk 58.99 331 P **P** **08 13 47.6 -2.5**
AKTO pmax pmax
comp=Z,29nm,2.3s,mb4.7
BHD Baghdad 59.43 308 *ex* x 08 13 48.5
MSL Mosul 61.44 310 *ex* x 08 14 21.5
GNI Garni 61.63 315 P **P** **08 14 07.3 -0.9**
comp=Z,22nm,0.6s,mb5.1,baz=307,slow=1.5,SNR=12
GNI Garni 61.63 315⇓ *i*P **P** **08 14 07.2 -1.0**
comp=Z,33nm,0.8s,mb5.2
GNI Garni 61.63 315*d i*P **P** **08 14 07.7 -0.5**
GNI pmax pmax
comp=Z,58nm,1.5s
KMBO Kilima Mbogo 61.75 267 P **P** **08 14 10.1 +0.7**
comp=Z,44nm,0.9s,mb5.3,baz=64,slow=9.4,SNR=108
KMBO LR LR 08 39 16.5
comp=Z,305nm,18.2s,baz=280,slow=34
HNR Honiara 61.92 102 *e*P **P** **08 14 10.2 -0.3**
comp=Z,170nm,1.0s,mb5.8
HNR Honiara 61.92 102 *e*P **P** **08 14 10.2 -0.3**
HNR pmax pmax
comp=Z,170nm,1.0s,mb5.8
MTA Mtatsminda 62.20 317 P **P** **08 14 11.1 -0.9**
SVE Sverdlovsk 62.21 337⇓ *e*P **P** **08 14 11.0 -0.8**
SVE *e*S **S** **08 22 20.0 -3.9**
SVE *e* 09 14 49.0
SVE *e* 09 23 52.0
SVE pmax pmax
comp=Z,140nm,1.6s,mb5.5
SVE MLR MLR
comp=N,100nm,12.0s
SVE MLR MLR
comp=E,100nm,12.0s
SVE MLR MLR
comp=Z,200nm,12.0s
TBLG Delisi 62.26 317 P **P** **08 14 11.6 -0.8**
ARU Arti 62.75 336 *e*P **P** **08 14 13.5 -1.9**
comp=Z,89nm,1.4s,mb5.4
ARU Arti 62.75 336⇓ *i*P **P** **08 14 13.6 -1.8**
ARU *e* pP 08 14 50.9 +0.7
ARU *e* 08 16 30.8
ARU *e*PPP PPP 08 18 01.9 -6.2
ARU *e*S **S** **08 22 31.7 +1.1**
ARU *e* 08 23 50.7
ARU *e*SS SS 08 26 38.6 -1.3
ARU pmax pmax
comp=Z,37nm,1.0s,mb5.2
ZEI Tsey 63.24 317 *e*P **P** **08 14 16.1 -2.7**
ZEI *i**PP pP 08 14 54.0 +0.3
ZEI *i* 08 16 34.2
ZEI pmax pmax
comp=Z,54nm,0.8s,mb5.4
YAK Yakutsk 63.78 16 *e*P **P** **08 14 20.2 -1.8**
YAK Yakutsk 63.78 16 *e*P **P** **08 14 19.8 -2.2**
YAK *i**PP pP 08 14 43.0 -14
YAK *i* pP 08 14 53.6 -3.4
YAK *e*S **S** **08 22 43.4 0.0**
YAK *i**SS 08 23 27.9
YAK *i* 08 23 53.7
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.8
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK smax
comp=N,10.0nm,1.1s
YAK smax
comp=E,7.0nm,1.0s
KIV Kislovodsk 64.52 318⇓ *i*P **P** **08 14 25.9 -1.3**
comp=E,88nm,1.3s,mb5.4
KIV Kislovodsk 64.52 318⇓ *i*P **P** **08 14 25.9 -1.3**
KIV pmax pmax
comp=Z,88nm,1.3s,mb5.4
TBKS Tabuk 64.62 300 P **P** **08 14 28.2 +0.1**
GOF Gofitskoye 64.73 320⇑ *i*P **P** **08 14 27.2 -1.3**
GOF *i* pP 08 14 59.9 -3.6
GOF pmax pmax
comp=Z,40nm,0.9s,mb5.2
ASF Jabal al Asfar 65.18 304 P **P** **08 14 31.3 -0.4**
comp=Z,27nm,1.0s,mb5.0,baz=346,slow=4.6,SNR=21
MALT Malatya 65.60 311 *e*P **P** **08 14 33.6 -0.7**
comp=Z,693nm,2.5s,mb6.0
MALT Malatya 65.60 311 *e*P **P** **08 14 33.6 -0.7**
MALT pmax pmax
comp=Z,693nm,2.5s,mb6.0
BDAS Al Bad'i 65.91 300 P **P** **08 14 35.6 -0.8**
JMOS Jabal al Moall 66.05 301 P **P** **08 14 36.7 -0.5**
ALWS Ilw as Safayha 66.11 301 P **P** **08 14 35.4 -2.3**
TAYS Tayyib Ism 66.13 300 P **P** **08 14 37.5 -0.3**
HAQS Haql 66.18 301 P **P** **08 14 37.5 -0.6**
SOC Sochi 66.38 317*d i*P **P** **08 14 37.2 -1.9**
SOC *e* pP 08 15 09.1 -5.2
SOC *e*PPP PPP 08 18 49.0 +3.7
SOC *i* S S 08 23 12.4 -3.2
SOC *e* 08 24 18.2
SOC *e*SS SS 08 27 33.1 -3.2
SOC pmax pmax
comp=Z,86nm,0.7s,mb5.7
SOC pmax pmax
comp=N,10.0nm,0.6s
SOC pmax pmax
comp=E,18nm,0.6s
VRHR Novokhopersk 68.10 325*d i*P **P** **08 14 47.7 -2.0**
VRHR pmax pmax
comp=Z,160nm,0.6s,mb5.9
VRHR pmax pmax
comp=N,60nm,1.2s
VRHR pmax pmax
comp=E,40nm,0.7s
MBAR Mbarara 68.23 268⇓ *i*P **P** **08 14 50.6 -0.5**
comp=E,66nm,1.1s,mb5.3
MBAR Mbarara 68.23 268*d i*P **P** **08 14 50.8 -0.3**
ANN Anapa 68.34 318 *e*P **P** **08 14 46.9 -4.4**
ANN *e**PP pP 08 15 21.6 -5.0
ANN *e*S S 08 23 33.2 -5.7
ANN pmax pmax
comp=Z,46nm,1.2s,mb5.1
AVNT Avonos 68.42 311 *i* P **P** **08 15 07.2 +15**
CSS Prodhromos 68.71 307⇓ *i*P **P** **08 14 52.7 -1.0**
comp=Z,55nm,1.0s,mb5.2
MIR Mirnyy 68.95 183*d i*P **P** **08 14 55.2 +0.6**
MIR pmax pmax
comp=Z,125nm,1.4s,mb5.5
CASY Casey 69.06 175⇓ *i*P **P** **08 14 55.2 -0.1**
MA2 Magadan 69.49 25⇓ *i*P **P** **08 14 57.5 -0.6**
comp=Z,27nm,0.8s,mb5.0
MA2 Magadan 69.49 25⇓ *i*P **P** **08 14 57.5 -0.5**
MA2 pmax pmax
comp=Z,27nm,0.8s,mb5.0
VRSR Storozhevoye 69.55 325 *e*P **P** **08 14 56.5 -2.0**
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=Z,110nm,0.8s,mb5.6
VRSR pmax pmax
comp=E,30nm,0.7s
BR131 Keskin Array S 69.58 312⇓ *i*P **P** **08 14 57.3 -1.6**
comp=E,24nm,0.7s,mb5.0
BRTR Keskin Array B 69.58 312 P **P** **08 14 57.4 -1.5**
comp=E,27nm,0.7s,mb5.1,baz=130,slow=7.2,SNR=83
PET Petropavlovsk 70.26 34 *e*P **P** **08 15 02.4 -0.5**
comp=E,19nm,0.5s,mb5.1
PET Petropavlovsk 70.26 34⇑ *i*P **P** **08 15 02.8 0.0**
PET *e**PP pP 08 15 38.9 +0.6
PET *e*S S 08 23 58.1 -3.2
PET *e* 08 24 46.5
PET pmax pmax
comp=Z,57nm,0.6s,mb5.5
PET pmax pmax
comp=Z,200nm,4.8s
PET pmax pmax
comp=Z,200nm,4.5s
PET pmax pmax
comp=Z,200nm,5.8s
PET pmax pmax
comp=Z,37nm,1.0s,mb5.1
PET smax
comp=N,300nm,9.2s
PET smax
comp=E,200nm,5.8s
PET pmax pmax
comp=E,500nm,6.1s
PET pmax pmax
comp=E,400nm,8.2s
SIM Simferopol' 70.63 317⇓ *e*P **P** **08 15 04.3 -0.9**
SIM S S 08 24 02.9 -2.8
ISP Isparta 71.53 309⇓ *i*P **P** **08 15 10.2 -0.5**
TIXI Tiksi 71.69 10⇓ *i*P **P** **08 15 07.3 -3.8**
TIXI pmax pmax
comp=Z,55nm,1.1s,mb5.2
TKTP Tekketepe 71.72 309 *i* P **P** **08 15 09.4 -2.3**
HENT Hendek 71.87 312 *i* P **P** **08 15 10.4 -2.2**
SEY Seymchan 71.97 23⇑ *i*P **P** **08 15 13.2 +0.4**
LSZ Lusaka 72.11 253⇓ *i*P **P** **08 15 14.9 +0.5**
comp=Z,65nm,0.9s,mb5.4
LSZ Lusaka 72.11 253⇓ *i*P **P** **08 15 14.9 +0.5**
LSZ pmax pmax
comp=Z,65nm,0.9s,mb5.4
GOLH Golhisar 72.16 308 *i* P **P** **08 15 09.6 -4.7**
MOS Moscow 72.18 329⇑ *i*P **P** **08 15 12.1 -2.0**
MOS *e**PP pP 08 15 48.9 -1.0
MOS *e*S S 08 24 18.7 -4.4
MOS pmax pmax
comp=Z,200nm,1.0s,mb5.8
MOS pmax pmax
comp=Z,153nm,0.8s,mb5.8
MOS smax
comp=E,200nm,2.0s
OBN Obninsk 72.50 328*de*P **P** **08 15 14.8 -1.2**
OBN *e* 08 15 26.9
OBN *e* 08 17 56.1
OBN *e*S S 08 24 24.8 -1.9
OBN *e*SS SS 08 29 10.4 -0.3
OBN pmax pmax
comp=Z,152nm,1.5s,mb5.5
ULDT Uludag 73.04 311 *i* P **P** **08 15 17.1 -2.5**
MANT Manisa 73.17 309 *i* P **P** **08 15 19.7 -0.7**
BTOK Tokmak 73.80 311 *i* P **P** **08 15 22.9 -1.1**
KDAG Bornova 74.15 309 *i* P **P** **08 15 22.4 -3.6**
MAW Mawson 74.29 194⇓ *i*P **P** **08 15 27.1 +0.9**
comp=Z,74nm,0.9s,mb5.4
MAW Mawson 74.29 194 P **P** **08 15 27.3 +1.0**
comp=Z,98nm,0.9s,mb5.5,baz=25,slow=5.7,SNR=195
MAW LR LR 08 44 50.1
comp=Z,311nm,18.4s,baz=164,slow=33
MAW Mawson 74.29 194⇓ *i*P **P** **08 15 27.1 +0.9**
MAW pmax pmax
comp=Z,74nm,0.9s
CFR Carcaliu 74.79 316⇓ *i*P **P** **08 15 27.4 -2.1**
CFR Carcaliu 74.79 316⇑ *i*P **P** **08 15 27.4 -2.1**
AKASG Malin Array Be 75.35 322 P **P** **08 15 31.2 -1.4**
comp=Z,19nm,0.6s,mb4.9,baz=86,slow=4.6,SNR=79
IDI Anoyia 75.58 306 P **P** **08 15 33.8 -0.4**
comp=Z,28nm,0.8s,mb5.0,baz=90,slow=6.4,SNR=14
VRI Vrincioaia 75.90 317⇑ *i*P **P** **08 15 36.3 +0.5**
VRI Vrincioaia 75.90 317⇑ *i*P **P** **08 15 36.3 +0.5**
LBTB Lobatse 75.97 244⇓ *i*P **P** **08 15 37.3 +0.7**
comp=Z,106nm,1.0s,mb5.4
GVD Gavdhos 76.18 305 *e*P **P** **08 15 36.4 -1.1**
MLR Muntele Rosu 76.37 316 P **P** **08 15 38.4 0.0**
comp=Z,43nm,0.9s,mb5.1,baz=136,slow=1.5,SNR=46
MLR LR LR 08 50 38.9
comp=Z,122nm,21.8s,baz=307,slow=36
MLR Muntele Rosu 76.37 316 P **P** **08 15 38.5 +0.1**
BOSA Boshof 76.88 240 P **P** **08 15 42.1 +0.5**
comp=Z,41nm,0.7s,mb5.2,baz=85,slow=5.2,SNR=71
BOSA Boshof 76.88 240⇓ *i*P **P** **08 15 42.0 +0.4**
comp=Z,97nm,1.1s,mb5.3
BOSA Boshof 76.88 240⇓ *i*P **P** **08 15 42.0 +0.4**
BOSA pmax pmax
comp=Z,97nm,1.1s,mb5.3
VOIR 76.98 316⇑ *i*P **P** **08 15 41.2 -0.6**
VOIR 76.98 316⇑ *i*P **P** **08 15 41.2 -0.6**
MNK Minsk 77.11 326 *e*P **P** **08 15 39.0 -3.4**
BURAR Bucovina Array 77.25 318 P **P** **08 15 44.0 +0.7**
JOF Joensuu 77.78 334 *ep* **P** **08 15 44.3 -1.6**
comp=Z,25nm,0.8s,mb4.9
LVZ Lovozero 78.28 340*d i*P **P** **08 15 47.8 -0.7**
LVZ pmax pmax
comp=Z,60nm,1.4s,mb5.0
APA Apatity 78.60 339⇓ *i*P **P** **08 15 50.0 -0.2**
APA *i* S S 08 25 34.0 +0.8
APA *i* 08 25 50.0
APA pmax pmax
comp=Z,61nm,1.2s,mb5.1
VSU Vasula 78.67 329⇓ *i*P **P** **08 15 50.1 -0.7**
DRGR 78.80 317 P **P** **08 15 51.2 -0.5**
RPZ Rata Peaks 78.85 135 P **P** **08 15 51.6 -0.5**
comp=Z,16nm,0.6s,mb4.8,baz=160,slow=3.5,SNR=8.3
SKO Skopje 79.08 312 *i* P **P** **08 15 51.0 -2.3**
SKO *i* pP 08 16 27.0 -2.7
KWP Kalwaria 79.24 320 *eP* **P** **08 15 54.1 0.0**
SUW Suwalki 79.68 324 *eP* **P** **08 15 55.8 -0.5**
FINES FINESS Array B 79.72 332 P **P** **08 15 56.0 -0.4**
comp=Z,21nm,0.7s,mb4.9,baz=94,slow=6.0,SNR=110
FINES PKKPbc 08 34 42.0
comp=Z,0.7nm,0.6s,baz=270,slow=1.9,SNR=4.5
KAF Kangasniemi 79.78 333 *ep* **P** **08 15 55.6 -1.1**
comp=Z,35nm,0.7s,mb5.1,baz=101,slow=5.0
KAF Kangasniemi 79.78 333 *eP* **P** **08 15 55.6 -1.1**
KAF pmax pmax
comp=Z,35nm,0.7s,mb5.1
GRUS Gruza 79.82 314 *i* P **P** **08 15 56.6 -0.7**
CRVS Cervenica-Dubn 79.94 319 *eP* **P** **08 15 58.6 +0.8**
CRVS *e*S S 08 25 47.5 -0.2
STHS Stebnicka Huta 80.15 320 *i* P **P** **08 15 58.8 -0.2**
DIVS Divcibare 80.36 314⇑ *i*P **P** **08 15 59.7 -0.5**
KECS Kecovo 80.52 319 *i* P **P** **08 16 00.6 -0.4**
NIE Niedzica 80.75 320⇓ *eP* **P** **08 16 02.5 +0.3**
PSZ Piszkesteto 80.85 318⇓ *eP* **P** **08 16 02.6 -0.1**
PSZ Piszkesteto 80.85 318 *eP* **P** **08 16 02.1 -0.6**
comp=Z,65nm,1.6s,mb5.0
PSZ *ep*P pP 08 16 38.4 -0.8
PSZ Piszkesteto 80.85 318 *eP* **P** **08 16 02.1 -0.6**
PSZ *e**PP pP 08 16 38.4 -0.8
PSZ pmax pmax
comp=Z,65nm,1.6s,mb5.0
OJC Ojcow 81.18 320 *eP* **P** **08 16 04.2 -0.2**
SUR Sutherland 81.27 237 *eP* **P** **08 16 05.7 +0.4**
comp=Z,124nm,1.4s,mb5.3
PKSM Moragy 81.52 316 P **P** **08 16 06.1 -0.2**
KEV Kevo 81.53 340 *ep* **P** **08 16 04.0 -1.8**
comp=Z,18nm,0.9s,mb4.7
KEV Kevo 81.53 340 *eP* **P** **08 16 04.0 -1.8**
KEV pmax pmax
comp=Z,19nm,0.9s,mb4.7
VYHS Vyhne 81.61 319 *i* P **P** **08 16 06.2 -0.5**
VYHS *ep*P pP 08 16 42.3 -0.9
VYHS *e*S S 08 26 02.0 -3.0
VYHS *e* 08 27 02.8
SYO Syowa Base 81.69 198⇑ P **P** **08 16 06.5 -0.2**
ARCES ARCESS Array B 81.97 340 P **P** **08 16 08.0 -0.2**
comp=Z,10nm,0.5s,mb4.7,baz=99,slow=4.5,SNR=124
ARCES LR LR 08 55 21.5
comp=Z,207nm,21.6s,baz=104,slow=38
ARCES ARCESS Array B 81.97 340 P **P** **08 16 08.0 -0.2**
ARCES LR LR 08 55 21.4
ARE0 ARCESS Array S 81.97 340 *eP* **P** **08 16 07.8 -0.3**
OKC Ostrava-Krasne 82.20 320 *eP* **P** **08 16 09.7 0.0**
OKC *ep*P pP 08 16 45.6 -0.7
OKC *ex* x 08 25 57.3
OKC *ex* x 08 27 09.3
OKC Ostrava-Krasne 82.20 320 *eP* **P** **08 16 09.7 0.0**
OKC *e* 08 27 09.3
TIP Timpagrande 82.39 309⇓ *i*P **P** **08 16 10.9 0.0**
MORC Moravsky Berou 82.58 320⇓ *i*P **P** **08 16 11.7 +0.1**
comp=Z,31nm,1.0s,mb5.0
MORC *ep*P pP 08 16 48.0 -0.3
MORC Moravsky Berou 82.58 320⇓ *i*P **P** **08 16 11.7 +0.1**
MORC *e**PP pP 08 16 48.0 -0.3
MORC pmax pmax
comp=Z,31nm,1.0s,mb5.0
TSUM Tsumeb 82.62 250 P **P** **08 16 13.2 +0.8**
comp=Z,42nm,1.0s,mb5.1,baz=78,slow=4.4,SNR=35
TSUM Tsumeb 82.62 250 *eP* **P** **08 16 12.8 +0.4**
comp=Z,43nm,0.9s,mb5.2
ZST Bratislava 82.74 318 *eP* **P** **08 16 12.4 -0.1**
ZST *ep*P pP 08 16 47.4 -1.7
ZST *e*S S 08 26 15.6 -0.8
ZST *e* 08 27 17.8
ZST Bratislava 82.74 318 *eP* **P** **08 16 12.4 -0.1**
ZST *e*S S 08 26 15.6 -0.8
ZST *e* 08 27 17.8
VRAC Vranov 83.16 319 LR LR 08 54 38.8
comp=Z,77nm,21.2s,baz=83,slow=36
DPC Dobruska-Polom 83.41 320 *eP* **P** **08 16 16.3 +0.5**
DPC *ep*P pP 08 16 51.8 -0.7
KSP Ksiaz 83.47 321 *eP* **P** **08 16 16.7 +0.6**
KSP Ksiaz 83.47 321 *eP* **P** **08 16 16.3 +0.2**
KSP *e**PP pP 08 16 52.6 -0.2
UPC Upice 83.62 320 *eP* **P** **08 16 17.2 +0.3**
UPC *ep*P pP 08 16 53.2 -0.4
ARSA Arzberg 83.74 317⇓ *i*P **P** **08 16 17.8 +0.2**
comp=Z,58nm,1.5s,mb5.1
ARSA Arzberg 83.74 317⇑ *i*P pP 08 16 53.4 -0.9
comp=Z,43nm,1.7s
BOJS Bojanci 83.84 315 *eP* **P** **08 16 18.2 +0.1**
BOJS *i* pP pP 08 16 55.1 +0.3
BOJS *e* 08 17 08.0
BOJS *e* 08 26 25.6
PERS Pernice 83.99 316 *i* P **P** **08 16 18.9 +0.2**
PERS *i* pP pP 08 16 56.0 +0.4
VAE Valguarnera 84.17 307 P **P** **08 16 21.9 +1.9**
comp=Z,12nm,0.3s,mb5.2,baz=15,slow=20,SNR=5.2
LJU Ljubljana 84.37 316 *eP* **P** **08 16 21.2 +0.5**
LJU *i* pP pP 08 16 58.0 +0.5
LJU *e* 08 17 13.2
LJU *e* 08 26 29.7
LJU Ljubljana 84.37 316 *eP* **P** **08 16 21.2 +0.5**
LJU *i **PP pP 08 16 58.0 +0.5
LJU *e* 08 26 29.7
OBKA Obir 84.37 316⇓ *i*P **P** **08 16 21.1 +0.4**
comp=Z,224nm,3.5s
OBKA Obir 84.37 316⇓ *i*P pP 08 16 58.1 +0.5
comp=Z,167nm,3.1s
PRU Pruhonice 84.53 320 *eP* **P** **08 16 21.8 +0.4**
PRU *ep*P pP 08 16 58.3 0.0
PRU *e*SKS SKS 08 26 29.4 +1.6
PVCC Panska Ves 84.54 320 *eP* **P** **08 16 22.1 +0.6**
MOA Molln 84.62 318⇓ *i*P **P** **08 16 21.7 -0.2**
comp=Z,59nm,2.1s,mb5.0
VOY Vojsko 84.81 316 *eP* **P** **08 16 22.8 -0.1**
VOY *e* pP 08 16 59.2 -0.6
BRG Berggiesshubel 84.95 321 *i* P **P** **08 16 23.7 +0.2**
comp=Z,32nm,1.1s,mb5.0
BRG *i* pP 08 17 00.8 +0.4
BRG Berggiesshubel 84.95 321 *i* P **P** **08 16 23.7 +0.2**
BRG *i* pP 08 17 00.8 +0.4
BRG pmax pmax
comp=Z,32nm,1.1s,mb5.0
GEC2 GERESS Array S 85.03 319 *eP* **P** **08 16 24.4 +0.4**
comp=Z,58nm,1.3s,mb5.2
GEC2 GERESS Array S 85.03 319 *eP* **P** **08 16 24.4 +0.4**
GEC2 pmax pmax
comp=Z,58nm,1.3s,mb5.2
GERES GERESS Array B 85.03 319 P **P** **08 16 24.3 +0.3**
comp=Z,18nm,1.1s,mb4.7,baz=104,slow=5.5,SNR=65
AQU L'Aquila 85.06 312 *eP* **P** **08 16 24.0 -0.3**
comp=Z,58nm,1.1s,mb5.2
AQU L'Aquila 85.06 312 *eP* **P** **08 16 24.0 -0.3**
AQU pmax pmax
comp=Z,59nm,1.1s,mb5.2
ROBS Robic 85.08 316 *eP* **P** **08 16 23.9 -0.4**
ROBS *i* pP pP 08 17 00.9 -0.3
RUE Ruedersdorf 85.12 322 *eP* **P** **08 16 24.6 +0.3**
comp=Z,157nm,1.0s,mb5.7
KHC Kasperske Hory 85.12 319 *eP* **P** **08 16 24.4 0.0**
KHC *ep*P pP 08 17 00.9 -0.4
KHC *e*SKS SKS 08 26 31.1 -0.7
KHC *ex* x 08 27 33.7
KBA Koelnbreinsper 85.22 317⇓ *i*P **P** **08 16 24.4 -0.5**
comp=Z,22nm,1.4s,mb4.7
KBA Koelnbreinsper 85.22 317⇓ *i*P pP 08 17 01.4 -0.4
comp=Z,24nm,1.7s
KBA Koelnbreinsper 85.22 317⇓ *i*P **P** **08 16 24.4 -0.5**
KBA pmax pmax
comp=Z,22nm,1.4s,mb4.7
HFS Hagfors 85.53 300 P **P** **08 16 26.2 +0.1**
comp=Z,57nm,0.8s,mb5.3,baz=135,slow=4.2,SNR=69
CLL Collm 85.56 321⇓ *i*P **P** **08 16 26.6 +0.1**
comp=Z,logA/T=1.4,mb4.9
CLL *i **PP pP 08 17 03.1 -0.3
CLL *e* 08 27 42.0
CLL Collm 85.56 321⇓ *i*P **P** **08 16 26.6 +0.1**
comp=Z,32nm,1.3s,mb4.9
CLL *i* pP pP 08 17 03.1 -0.3
CLL Collm 85.56 321⇓ *i*P **P** **08 16 26.6 +0.1**
CLL *i **PP pP 08 17 03.1 -0.3
CLL pmax pmax
comp=Z,32nm,1.3s,mb4.9
WET Wettzell 85.58 319 *eP* **P** **08 16 26.9 +0.2**
comp=Z,28nm,1.0s,mb5.0
WET *ep*P pP 08 17 03.5 -0.1
WET *es*P sP 08 17 20.6 +1.1
WET Wettzell 85.58 319 *eP* **P** **08 16 26.9 +0.2**
WET *e**PP pP 08 17 03.5 -0.1
WET pmax pmax
comp=Z,28nm,1.0s,mb5.0
NKC Novy Kostel 85.89 320 *eP* **P** **08 16 28.4 +0.3**
WTTA Wattenberg 86.39 317⇓ *i*P **P** **08 16 30.3 -0.3**
comp=Z,49nm,1.2s,mb5.1
WTTA Wattenberg 86.39 317⇓ *i*P pP 08 17 06.4 -1.2
comp=Z,35nm,1.3s
WTTA Wattenberg 86.39 317⇓ *i*P **P** **08 16 30.3 -0.3**
WTTA pmax pmax
comp=Z,49nm,1.2s,mb5.1
MOX Moxa 86.43 320 *i* P **P** **08 16 30.9 +0.2**
comp=Z,logA/T=1.4,mb4.9
MOX Moxa 86.43 320 *eP* **P** **08 16 30.9 +0.2**
comp=Z,40nm,1.5s,mb4.9
MOX Moxa 86.43 320 *eP* **P** **08 16 30.9 +0.2**
MOX pmax pmax
comp=Z,40nm,1.5s,mb4.9
WATA Walderalm 86.43 317⇑ *i*P **P** **08 16 30.2 -0.6**
comp=Z,17nm,1.0s,mb4.7

WATA Walderalm 86.43 317⇑*iP* pP 08 17 06.8 -1.0
comp=Z,20nm,1.3s
WATA Walderalm 86.43 317⇑*iP* P 08 16 30.2 -0.6
WATA pmax pmax
comp=Z,17nm,1.0s,mb4.7
FUR Furstenfeldbru 86.63 318 *e*P P 08 16 31.6 -0.2
comp=Z,35nm,0.3s,mb5.7
FUR Furstenfeldbru 86.63 318 *e*P P 08 16 31.6 -0.2
FUR pmax pmax
comp=Z,35nm,0.3s,mb5.7
GRA1 Grafenberg Arr 86.67 319 *e*P P 08 16 32.7 +0.8
comp=Z,44nm,1.1s,mb5.2
GRA1 *e*pP pP 08 17 09.5 +0.6
GRF Grafenberg Arr 86.67 319 *e*P P 08 16 32.7 +0.8
comp=Z,44nm,1.1s,mb5.2
GRF *e*pP pP 08 17 09.5 +0.6
GRF Grafenberg Arr 86.67 319 *e*P P 08 16 32.7 +0.8
GRF *e**PP pP 08 17 09.5 +0.6
GRF pmax pmax
comp=Z,44nm,1.1s,mb5.2
GRF Grafenberg Arr 86.67 319 *e*P P 08 16 32.7 +0.8
GRF *e**PP pP 08 17 09.5 +0.6
GRF pmax pmax
comp=Z,44nm,1.1s,mb5.2
SQTA Sankt Quirin 86.68 317⇓*iP* P 08 16 31.8 -0.2
comp=Z,14nm,1.0s,mb4.8
SQTA Sankt Quirin 86.68 317⇑*iP* pP 08 17 08.5 -0.5
comp=Z,19nm,1.1s
SQTA Sankt Quirin 86.68 317⇓*iP* P 08 16 31.8 -0.2
SQTA pmax pmax
comp=Z,15nm,1.0s,mb4.8
VNDA Vanda 86.68 169 P P 08 16 31.9 +0.4
comp=Z,13nm,1.0s,mb4.7,baz=302,slow=5.1,SNR=46
VNDA Vanda 86.68 169 *e*P P 08 16 31.6 +0.2
comp=Z,27nm,1.2s,mb5.0
VNDA Vanda 86.68 169 *e*P P 08 16 31.6 +0.2
VNDA pmax pmax
comp=Z,27nm,1.2s
MOTA Moosalm 86.75 317⇑*iP* P 08 16 32.0 -0.4
comp=Z,25nm,1.0s,mb5.0
MOTA Moosalm 86.75 317⇓*iP* pP 08 17 09.0 -0.3
comp=Z,26nm,1.0s
MOTA Moosalm 86.75 317⇑*iP* P 08 16 32.0 -0.4
MOTA pmax pmax
comp=Z,25nm,1.0s,mb5.0
NB2 NORSAR Subarra 86.78 331 P P 08 16 32.1 -0.1
comp=Z,29nm,0.8s,mb5.2,baz=94,slow=4.6
NB2 NORSAR Subarra 86.78 331 P pP 08 17 08.0 -1.2
comp=Z,10nm,1.0s,baz=94,slow=4.8
NB2 NORSAR Subarra 86.78 331 P P 08 16 32.1 -0.1
baz=94,slow=4.6
NB2 NORSAR Subarra 86.78 331 P P 08 16 32.1 -0.1
NB2 pmax pmax
comp=Z,29nm,0.8s,mb5.2
NOA NORSAR Array B 86.78 331 P P 08 16 32.0 -0.2
comp=Z,21nm,0.8s,mb5.0,baz=93,slow=4.8,SNR=62
NAO01 NORSAR Array S 86.94 331⇓*eP* P 08 16 32.8 -0.1
comp=Z,30nm,1.0s,mb5.1
CLZ Clausthal 87.21 322 *e*P P 08 16 35.1 +0.7
comp=Z,89nm,1.2s,mb5.5
CLZ Clausthal 87.21 322 *e*P P 08 16 35.1 +0.7
CLZ pmax pmax
comp=Z,89nm,1.2s,mb5.5
BSEG Bad Segeberg 87.23 324 *e*P P 08 16 35.3 +0.8
SARO Sassorosso 87.26 314 P P 08 16 33.5 -1.4
FUORN Ofenpass 87.33 316⇓*iP* P 08 16 35.9 +0.7
HDH Heidenheim 87.34 318⇓*eP* P 08 16 34.9 -0.3
VALM 87.37 314 P P 08 16 36.0 +0.5
UBR Uberruh 87.42 317⇓*eP* P 08 16 35.6 0.0
BACM 87.50 314 P P 08 16 35.0 -1.0
BERNI Berninapass 87.50 316⇓*iP* P 08 16 36.7 +0.7
GRAM 87.50 314 P P 08 16 36.0 -0.1
DAVA Damuels 87.58 317⇑*iP* P 08 16 36.8 +0.4
comp=Z,56nm,1.2s,mb5.3
DAVA Damuels 87.58 317 *i*P P 08 16 36.8 +0.4
comp=Z,56nm,1.2s,mb5.2,SNR=13
DAVA Damuels 87.58 317⇓*iP* pP 08 17 14.0 +0.5
comp=Z,36nm,1.1s
DAVOX Davos 87.59 317 LR LR 09 04 55.4
comp=Z,74nm,19.7s,baz=268,slow=42
DAVOX Davos 87.59 317⇓*iP* P 08 16 37.0 +0.6
DAVOX Davos 87.59 317⇓*iP* P 08 16 37.1 +0.7
CODM 87.65 314 P P 08 16 36.4 -0.4
SIND Sindeldorf 87.73 319⇓*eP* P 08 16 37.5 +0.5
SBA Scott Base 87.78 169⇓*iP* P 08 16 37.9 +1.3
comp=Z,45nm,1.0s,mb5.2
SBA Scott Base 87.78 169⇓*iP* P 08 16 37.9 +1.2
SBA pmax pmax
comp=Z,45nm,1.0s,mb5.2
LIENZ Alp Oberkamor 87.84 317⇓*iP* P 08 16 38.1 +0.5
PLONS Plons 87.93 317⇓*iP* P 08 16 38.3 +0.3
GUT Gutenstein 88.08 318⇓*eP* P 08 16 38.9 +0.2
LLS Linth-Limmern 88.19 317⇓*iP* P 08 16 39.6 +0.3
MUGIO Muggio 88.19 316⇓*iP* P 08 16 38.4 -0.9
TOD Tromm 88.25 319⇓*eP* P 08 16 39.9 +0.4
TOD Tromm 88.25 319 *eP* P 08 16 39.6 +0.1
SPAK Spaichingen 88.30 318 *eP* P 08 16 40.2 +0.4
SPAK Spaichingen 88.30 318 *eP* P 08 16 40.1 +0.3
SWS Schriesheim 88.32 319 *eP* P 08 16 40.0 +0.2
PGF Pioggiola 88.32 312 *eP* P 08 16 39.4 -0.6
comp=Z,93nm,1.4s,mb5.1
PGF Pioggiola 88.32 312 *eP* P 08 16 39.4 -0.6
PGF pmax pmax
comp=Z,46nm,1.4s,mb5.1
MUO Muotathal 88.44 317⇓*iP* P 08 16 41.0 +0.6
TNS Taunus Mts 88.46 320 *eP* P 08 16 41.3 +0.8
comp=Z,77nm,1.0s,mb5.5
TNS Taunus Mts 88.46 320 *eP* P 08 16 41.3 +0.8
TNS pmax pmax
comp=Z,77nm,1.0s,mb5.5
PCP Pian Castagno 88.58 314 P P 08 16 41.2 0.0
BFO Black Forest 88.60 318 *eP* P 08 16 41.2 0.0
comp=Z,23nm,1.1s,mb5.0
BFO Black Forest 88.60 318 *eP* P 08 16 41.2 0.0
BFO pmax pmax
comp=Z,23nm,1.1s,mb5.0
KTD Kalmit 88.72 319 *eP* P 08 16 42.2 +0.5
HASLI Hasliberg 88.78 317⇓*iP* P 08 16 42.3 +0.2
FELD Feldberg 88.83 318 *eP* P 08 16 42.5 +0.2
FIN Finale Ligure 88.84 314 P P 08 16 41.9 -0.5
KIZ Kirchzarten 88.89 318⇓*eP* P 08 16 42.6 +0.1
LANF Langenberg 88.92 319 *eP* P 08 16 42.8 +0.1
MMK Mattmark 88.94 316⇓*iP* P 08 16 43.3 +0.5
ORX Oropa 88.94 315 P P 08 16 41.6 -1.2
ABH Alteburg 89.05 320⇓*eP* P 08 16 44.2 +1.0
ABH Alteburg 89.05 320 *eP* P 08 16 43.7 +0.5
BALST Balsthal 89.07 317⇓*iP* P 08 16 43.5 +0.1
ROB Roburent 89.08 314 P P 08 16 43.3 -0.2
IMI Imperia 89.08 314 P P 08 16 43.1 -0.4
LIBD Limburg 89.09 318 *eP* P 08 16 44.1 +0.6
LKBD Leukerbad 89.16 316⇓*iP* P 08 16 44.3 +0.5
BBS Basel-Blauen 89.19 317 *eP* P 08 16 44.0 +0.1
BBS Basel-Blauen 89.19 317 *eP* P 08 16 43.9 0.0
WLS Welschbruch 89.25 318 *eP* P 08 16 44.0 -0.2
CDF Champ du Feu 89.30 318 *eP* P 08 16 44.4 0.0
SAOF Saorge 89.32 314 *eP* P 08 16 45.1 +0.5
DIX Grande Dixence 89.32 316⇓*iP* P 08 16 45.7 +1.1
SENIN Lac Senin 89.38 316⇓*iP* P 08 16 45.5 +0.6
ECH Echery 89.39 318 *eP* P 08 16 44.3 -0.6
ENR Entracque 89.40 314 P P 08 16 44.4 -0.7
AUTN L'Aution 89.41 314 *eP* P 08 16 45.2 +0.1
SBF Sospel 89.41 314 *eP* P 08 16 45.4 +0.3
comp=Z,128nm,1.1s,mb5.5
SBF Sospel 89.41 314 *eP* P 08 16 45.4 +0.3
SBF pmax pmax
comp=Z,64nm,1.1s,mb5.5
MOF Molkenrain 89.42 318 *eP* P 08 16 45.2 +0.2
GRYON Gryon 89.52 316⇓*iP* P 08 16 46.0 +0.5
LSD Ceresole Reale 89.53 315 P P 08 16 45.8 +0.2
TOUF Mont Tournerai 89.54 314 *eP* P 08 16 46.4 +0.7
TORNY Torny 89.60 317⇓*iP* P 08 16 46.4 +0.5
MVIF Mont Vial 89.61 314 *eP* P 08 16 46.8 +0.8
SALAN Lac Salanfe 89.62 316⇓*iP* P 08 16 46.6 +0.6
AIGLE Aigle 89.62 316⇓*iP* P 08 16 46.4 +0.4
LOMF Lomont 89.66 317 *eP* P 08 16 45.6 -0.5
EMV Vieux Emosson 89.68 316⇓*iP* P 08 16 47.0 +0.7
ABSA Djebel Ababsia 89.75 306 P P 08 16 49.0 +2.1
CMAH Djebel Manchou 89.78 306 P P 08 16 48.5 +1.5
CALN Calern 89.81 314 *eP* P 08 16 47.2 +0.2
LPG La Plagne 89.81 315 *eP* P 08 16 47.6 +0.7
comp=Z,111nm,0.9s,mb5.5
LPG La Plagne 89.81 315 *eP* P 08 16 47.6 +0.7
LPG pmax pmax
comp=Z,56nm,0.9s,mb5.5

MBDF Montbardon 89.84 315 *eP* P 08 16 46.8 -0.3
comp=Z,29nm,1.0s,mb4.9
MBDF Montbardon 89.84 315 *eP* P 08 16 46.8 -0.3
MBDF pmax pmax
comp=Z,15nm,1.0s,mb4.9
BNI Bardonecchia 89.89 315 *eP* P 08 16 47.0 -0.3
comp=Z,26nm,0.9s,mb5.2
BNI Bardonecchia 89.89 315 *eP* P 08 16 47.0 -0.3
BNI pmax pmax
comp=Z,26nm,0.9s,mb5.2
BRANT Les Verrieres 89.92 317⇓*iP* P 08 16 47.9 +0.5
HAU Haudompre 89.94 318 *eP* P 08 16 47.6 +0.1
comp=Z,133nm,1.0s,mb5.5
HAU Haudompre 89.94 318 *eP* P 08 16 47.6 +0.1
HAU pmax pmax
comp=Z,66nm,1.0s,mb5.5
WLF Walferdange 89.97 320⇓*iP* P 08 16 48.5 +0.9
comp=Z,50nm,1.1s,mb5.3
WLF *ep*P pP 08 17 25.5 +0.7
WLF Walferdange 89.97 320⇓*iP* P 08 16 48.5 +1.0
WLF *e**PP pP 08 17 25.5 +0.7
WLF pmax pmax
comp=Z,50nm,1.1s,mb5.4
GIMEL Gimel 90.09 316⇓*iP* P 08 16 48.8 +0.6
THEF They Montfort 90.17 318 *eP* P 08 16 48.0 -0.5
CAEH 'Ain El Ouahch 90.22 307 P P 08 16 50.0 +0.9
CKFL Kef-Lekhel 90.35 306 P P 08 16 51.0 +1.3
CASM Ain Smara 90.54 306 P P 08 16 52.0 +1.4
OCF Saint Nazaire 90.90 314 *eP* P 08 16 52.8 +0.7
OG26 St.-Nazaire-De 90.90 314 *eP* P 08 16 52.8 +0.7
DFRA Djebel Bou Aff 91.02 306 P P 08 16 55.0 +2.2
CMER Merouana 91.06 306 P P 08 16 54.0 +0.9
BAIF Baives 91.19 320 *eP* P 08 16 53.8 +0.5
comp=Z,100nm,1.1s,mb5.5
BAIF Baives 91.19 320 *eP* P 08 16 53.8 +0.5
BAIF pmax pmax
comp=Z,50nm,1.1s,mb5.5
NVL N'lazarevskaya 91.31 199⇓*iP* P 08 16 55.2 +1.8
NVL *e* pP 08 17 29.3 -1.4
NVL pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MAIT Maitri 91.34 199⇓*iP* P 08 16 56.1 +2.6
SET Setif 91.43 306 P P 08 16 57.0 +2.3
SSF Saint Saulge 91.94 317 *eP* P 08 16 57.1 +0.3
comp=Z,74nm,1.2s,mb5.3
SSF Saint Saulge 91.94 317 *eP* P 08 16 57.1 +0.3
SSF pmax pmax
comp=Z,37nm,1.3s,mb5.2
COLF Collangettes 91.95 316 *eP* P 08 16 57.4 +0.5
PLDF La Plantade 91.96 316 *eP* P 08 16 58.5 +1.6
AGO Saint Agoulin 92.29 316 *eP* P 08 17 00.3 +1.9
QSPA South Pole Qui 92.36 180 *eP* P 08 16 59.1 +1.1
comp=Z,35nm,1.0s,mb5.3
PYM Petit Puy Mans 92.41 316 *eP* P 08 17 00.4 +1.4
BGF Bois d'Agland 92.44 317 *eP* P 08 16 59.3 +0.2
VERF Verneugheol 92.78 316 *eP* P 08 17 01.1 +0.4
LRDF Laroque-de-Fa 93.04 313 *eP* P 08 17 02.3 +0.3
FILF Fillols 93.06 313 *eP* P 08 17 03.3 +1.2
JMIC Jan Mayen 93.35 342 LR LR 09 01 21.7
comp=Z,91nm,19.6s,baz=72,slow=37
RJF Les Rejaudoux 93.50 315 *eP* P 08 17 04.6 +0.6
FLN La Foliniere 94.39 319 *eP* P 08 17 08.2 +0.3
EKA Eskdalemuir Ar 94.87 326 P P 08 17 10.3 +0.3
comp=Z,6.4nm,0.8s,mb4.9,baz=91,slow=5.5,SNR=11
ESK Eskdalemuir 94.90 326 *eP* P 08 17 10.2 0.0
comp=Z,7.0nm,0.8s,mb4.9
ESK Eskdalemuir 94.90 326 *eP* P 08 17 10.2 +0.1
ESK pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
ETSF Etsaut 95.30 313 *eP* P 08 17 12.4 +0.1
comp=Z,8.9nm,0.8s,mb4.8
ETSF Etsaut 95.30 313 *eP* P 08 17 12.4 +0.1
ETSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
SNAA Sanae 95.99 198 *e* P 08 17 18.9 +4.2
SNAA Sanae 95.99 198 *e* pP 08 17 55.6 +3.6
SNAA Sanae 95.99 198 *e* PP 08 21 04.6 -6.4
SNAA Sanae 95.99 198 P P 08 17 15.4 +0.8
comp=Z,1.8nm,0.8s,mb4.5,baz=124,slow=3.0,SNR=17
SNAA Sanae 95.99 198⇓*iP* P 08 17 15.7 +1.0
SNAA *e* pP 08 17 55.6 +3.6
SNAA *e* 08 21 04.6
SNAA *e* 08 21 51.0
SNAA Sanae 95.99 198 *eP* P 08 17 15.6 +0.9
VNA2 Neumayer--Watz 97.58 199 *e* P 08 17 26.2 +4.2
VNA2 Neumayer--Watz 97.58 199 *e* pP 08 18 07.2 +7.9
VNA2 Neumayer--Watz 97.58 199 *e* PP 08 21 21.2 -2.4
VNA2 Neumayer--Watz 97.58 199⇑*iP* P 08 17 23.5 +1.5
VNA2 *e* 08 18 07.2
VNA2 *e* 08 21 21.2
VNA2 *e* 08 21 59.2
ILAR Eielson Array 97.90 23 P P 08 17 22.4 -1.1
comp=Z,0.3nm,0.9s,baz=296,slow=5.5,SNR=4.6
ILAR PP PP 08 21 20.9 -5.4
comp=Z,0.8nm,1.0s,baz=316,slow=7.9,SNR=4.6
ILAR PKKPbc 08 33 56.8
comp=Z,3.0nm,0.8s,baz=151,slow=2.3,SNR=26
VNA1 Neumayer--Stat 97.93 199 *e* P 08 17 29.3 +5.8
VNA1 Neumayer--Stat 97.93 199 *e* pP 08 18 08.5 +7.6
VNA1 Neumayer--Stat 97.93 199 *e* PP 08 21 21.7 -4.7
VNA1 Neumayer--Stat 97.93 199⇑*iP* P 08 17 25.3 +1.8
VNA1 *e* 08 18 08.5
VNA1 *e* 08 21 21.7
VNA1 *e* 08 21 57.5
VNA3 Neumayer Olymp 98.21 198 *e* P 08 17 29.6 +4.8
VNA3 Neumayer Olymp 98.21 198 *e* pP 08 18 09.5 +7.4
VNA3 Neumayer Olymp 98.21 198 *e* PP 08 21 18.3 -10
VNA3 Neumayer Olymp 98.21 198⇑*iP* P 08 17 26.2 +1.4
VNA3 *e* 08 18 09.5
VNA3 *e* 08 21 18.3
VNA3 *e* 08 21 56.9
ESDC Sonseca Array 98.35 310 P P 08 17 26.7 +0.6
comp=Z,0.2nm,0.3s,mb4.0,baz=81,slow=4.5,SNR=6.4
YKA Yellowknife Ar 110.46 16 PKKPbc 08 33 19.2
comp=Z,2.3nm,0.8s,baz=137,slow=2.8,SNR=6.6
YKA PKKPab 08 33 30.4
comp=Z,1.1nm,0.6s,baz=146,slow=4.3,SNR=7.3
TBI Tubuai 110.79 114 *e*LR LR 08 55 24.6
comp=Z,329nm,29.0s
PPT Papeete 111.22 108 *e*PS PS 08 32 20.2 -15
PPT Papeete 111.22 108 *e*SS SS 08 38 37.1 +12
PPT *e*LR LR 08 55 39.6
comp=Z,299nm,24.5s
EDM Edmonton 118.32 21 *e*PKPdf PKPdf 08 22 34.2 +0.7
NEW Newport 120.57 27 *e*PKPdf PKPdf 08 22 39.1 +1.1
HAWA Hanford 120.75 30 *e*PKPdf PKPdf 08 22 39.8 +1.4
HAWA *ep*PKPdf 08 23 18.8
TAOE Nuku Hiva Isla 120.93 99 *e*LR LR 09 00 09.3
comp=Z,446nm,24.5s
WALA Waterton Lakes 121.37 25 *e*PKPdf PKPdf 08 22 40.3 +0.7
HUMO Hull Mountain 121.39 35 *e*PKPdf PKPdf 08 22 41.5 +1.7
SCHQ Schefferville 121.74 350 PKP PKPdf 08 22 41.0 +0.8
comp=Z,7.6nm,0.7s,baz=27,slow=5.2,SNR=6.7
MSO Missoula 123.07 26 *e*PKPdf PKPdf 08 22 43.6 +0.7
MSO *ep*PKPdf 08 23 21.9
CHMT Chamberlain Mo 123.31 26 *e*PKPdf PKPdf 08 22 44.2 +0.8
MOD Modoc 123.36 34 *e*PKPdf PKPdf 08 22 45.5 +1.8
WVOR Wild Horse Val 123.92 33 *e*PKPdf PKPdf 08 22 46.1 +1.4
WVOR *ep*PKPdf 08 23 25.3
WVOR *e*SKPdf 08 26 07.9
RKT Rikitea 123.95 116 *e*LR LR 09 01 32.3
comp=Z,234nm,28.2s
BEKR Beckwourth 124.64 36 *e*PKPdf PKPdf 08 22 47.8 +1.6
DLMT Dillon 124.80 27 *e*PKPdf PKPdf 08 22 48.1 +1.8
DLMT *e*SKPdf 08 26 09.9
BOZ Bozeman (W) 125.00 26 *e*PKPdf PKPdf 08 22 48.3 +1.6
BOZ *e*SKPdf 08 26 10.3
MCMT McKenzie Canyo 125.09 27 *e*PKPdf PKPdf 08 22 48.7 +1.7
HLID Hailey 125.31 29 *e*PKPdf PKPdf 08 22 49.4 +2.0
QLMT Earthquake Lak 125.73 26 *e*PKPdf PKPdf 08 22 50.9 +2.7
CMB Columbia Colle 125.78 38 *e*PKPdf PKPdf 08 22 49.7 +1.3
CMB *ep*PKPdf 08 23 28.6
ULM Lac du Bonnet 126.01 12 PKP PKPdf 08 22 49.1 +0.6
comp=Z,14nm,0.8s,baz=351,slow=2.7,SNR=17
ULM Lac du Bonnet 126.01 12 *e*PKPdf PKPdf 08 22 48.9 +0.3
YMR Madison River 126.06 26 *e*PKPdf PKPdf 08 22 51.4 +2.7
BMN Battle Mountai 126.07 34 *e*PKPdf PKPdf 08 22 49.9 +1.0
YFT Old Faithful 126.29 26 *e*PKPdf PKPdf 08 22 51.7 +2.5
LAO LASA Array 126.31 21 *e*PKPdf PKPdf 08 22 51.0 +1.8
LAO *e*SKPdf 08 26 12.8
IMW Indian Meadow 126.68 27 *e*PKPdf PKPdf 08 22 51.8 +1.8
NVAR Mina Array Bea 126.79 36 PKP PKPdf 08 22 52.6 +2.3
comp=Z,6.5nm,0.9s,baz=238,slow=0.3,SNR=40

NVAR SKPbc 08 25 56.5
comp=Z,5.7nm,0.9s,baz=268,slow=6.0,SNR=9.8
NVAR SKP 08 26 14.9
comp=Z,2.9nm,0.8s,baz=260,slow=4.2,SNR=5.2
NVAR PKKPbc 08 32 22.4
comp=Z,1.8nm,0.8s,baz=143,slow=4.5,SNR=11
ELK Elko 126.93 32 *e*PKPdf PKPdf 08 22 52.2 +1.7
ELK *ep*PKPdf 08 23 31.2
RRI2 Red Ridge 126.94 27 *e*PKPdf PKPdf 08 22 52.2 +1.8
RRI2 *e*SKPdf 08 26 14.3
TPAW Teton Pass 126.99 27 *e*PKPdf PKPdf 08 22 52.9 +2.3
LOHW Long Hollow 127.05 27 *e*PKPdf PKPdf 08 22 52.6 +1.9
SNOW Snow King Moun 127.10 27 *e*PKPdf PKPdf 08 22 52.4 +1.5
SNOW *e*SKPdf 08 26 13.3
MTUM Tungsten Hills 127.33 38 *e*PKPdf PKPdf 08 22 53.4 +2.0
PTRM Twissleman Ran 127.36 40 *e*PKPdf PKPdf 08 22 53.0 +1.5
PTRM *ep*PKPdf 08 23 32.6
HVU Hansel Valley 127.44 30 *e*PKPdf PKPdf 08 22 53.3 +1.7
HWUT Hardware Ranch 128.16 29 *e*PKPdf PKPdf 08 22 54.7 +1.7
BW06 Boulder Array 128.19 27 *e*PKPdf PKPdf 08 22 53.8 +0.9
PDAR Pinedale Array 128.19 27 PKP PKPdf 08 22 54.1 +1.1
comp=Z,2.7nm,0.7s,baz=343,slow=0.6,SNR=27
PDAR SKPbc 08 25 59.0
comp=Z,2.6nm,0.8s,baz=73,slow=0.5,SNR=7.0
PDAR SKP 08 26 16.9
comp=Z,1.5nm,0.9s,baz=332,slow=1.3,SNR=3.7
PDAR PKKPbc 08 32 17.4
comp=Z,0.5nm,0.8s,baz=135,slow=4.2,SNR=3.8
DUG Dugway 128.60 31 *e*PKPdf PKPdf 08 22 55.6 +1.8
CTU Camp Tracy 128.77 30 *e*PKPdf PKPdf 08 22 56.0 +1.8
NLU North Lily Min 129.16 31 *e*PKPdf PKPdf 08 22 56.8 +1.9
NLU *ep*PKPdf 08 23 35.6
RWWY Rawlins 130.09 26 *e*PKPdf PKPdf 08 22 57.4 +0.8
RWWY *e*SKPab 08 26 06.9
TMUT Trail Mountain 130.09 31 *e*PKPdf PKPdf 08 22 58.5 +1.8
TMUT *ep*PKPdf 08 23 37.7
TMUT *e*SKPab 08 26 07.6
MSU Marysvale 130.17 32 *e*PKPdf PKPdf 08 22 59.5 +2.7
MSU *e*SKPbc 08 26 08.5
SRU San Rafael 130.58 30 *e*PKPdf PKPdf 08 22 59.7 +2.0
SRU *e*SKPbc 08 26 08.6
NEN Nelson 130.70 37 *e*PKPdf PKPdf 08 22 60.0 +2.0
NEN *e*SKPbc 08 26 09.4
PHWY Pilot Hill 131.15 24 *e*PKPdf PKPdf 08 22 59.6 +1.0
PHWY *e*SKPbc 08 26 10.7
PV10 Paradox Valley 131.88 30 *e*PKPdf PKPdf 08 23 02.4 +2.2
PV10 *e*SKPab 08 26 15.4
SMCO Snowmass 132.24 27 *e*PKPdf PKPdf 08 23 02.2 +1.4
SMCO *e*SKPbc 08 26 15.1
SMCO *e*SKPab 08 26 17.2
PV01 Paradox Valley 132.31 29 *e*PKPdf PKPdf 08 23 02.1 +1.2
PV01 *e*SKPbc 08 26 15.5
SDCO Great Sand Dun 134.07 27 *e*PKPdf PKPdf 08 23 05.4 +1.2
BINY Binghamton 135.34 355 *e*PKPdf PKPdf 08 23 07.7 +1.3
TUC Tucson 135.44 37 *e*PKPdf PKPdf 08 23 07.3 +0.4
TUC *ep*PKPdf 08 23 48.0
ANMO Albuquerque 135.85 30 *e*PKPdf PKPdf 08 23 09.0 +1.4
ANMO *ep*PKPdf 08 23 48.5
KSU1 Kansas State U 136.27 18 *e*PKPdf PKPdf 08 23 08.9 +0.7
ACSO Alum Creek Sta 137.51 2 *e*PKPdf PKPdf 08 23 10.8 +0.3
MNTX Cornudas Mount 138.96 32 *e*PKPdf PKPdf 08 23 14.2 +0.8
WCI Wyandotte Cave 139.26 6 *e*PKPdf PKPdf 08 23 13.7 0.0
TRQA Tornquist 140.45 204 *e*PKPdf PKPdf 08 23 16.6 +0.7
PLCA Paso Flores 140.70 193 PKhKP 08 23 11.0
comp=Z,4.4nm,0.7s,baz=0.8,slow=2.7,SNR=4.0
PLCA PKP PKPdf 08 23 17.1 +0.8
comp=Z,7.3nm,0.9s,baz=181,slow=4.6,SNR=7.5
PLCA SKPbc 08 26 40.8
comp=Z,3.5nm,0.7s,baz=210,slow=3.8,SNR=7.6
LTX Lajitas 141.72 33 *e*PKPdf PKPdf 08 23 19.8 +1.4
LTX *e*SKPbc 08 26 43.1
TXAR Lajitas Array 141.72 33 PKhKP 08 23 15.5
comp=Z,5.7nm,0.7s,baz=270,slow=1.3,SNR=26
TXAR PKP PKPdf 08 23 20.1 +1.7
comp=Z,5.8nm,0.7s,baz=225,slow=1.3,SNR=30
TXAR SKPbc 08 26 43.5
comp=Z,7.2nm,0.7s,baz=232,slow=0.4,SNR=22
CPCT Cooper Cave 142.19 5 *e*PKPdf PKPdf 08 23 19.4 +0.4
GOGA Godfrey 144.29 3 *e*PKPdf PKPdf 08 23 22.3 -0.4
GOGA *e*SKPbc 08 26 49.4
LRAL Lakeview Retre 144.29 9 *e*PKPdf PKPdf 08 23 21.6 -1.1
LRAL *e*SKPbc 08 26 49.2
NHSC New Hope 144.65 359 *e*PKPdf PKPdf 08 23 23.3 0.0
RGRS Roger Stewart 144.85 359 *e*PKPdf PKPdf 08 23 23.9 +0.2
BAO Brasilia Array 144.86 246 PKPdf PKPdf 08 23 25.9 +1.7
BAO PKPdf PKPdf 08 23 27.0 +2.8
BDFB Brasilia 144.88 246 PKPbc PKPbc 08 23 25.6 +1.3
comp=Z,77nm,0.7s,baz=123,slow=2.6,SNR=121
BDFB SKPbc 08 26 51.6
comp=Z,18nm,1.1s,baz=64,slow=2.2,SNR=4.2
CCHI Chillan 144.99 193⇓*iP* PKPdf 08 23 25.6 +1.7
CPUP Villa Florida 147.06 222 PKPbc PKPdf 08 23 31.2 +3.6
comp=Z,70nm,0.9s,baz=144,slow=4.4,SNR=78
CPUP Villa Florida 147.06 222 *e*PKPdf PKPdf 08 23 28.8 +1.2
CPUP *e*PKPbc PKPdf 08 23 30.7 +3.1
CPUP *e*PKPab PKPab 08 23 33.5 -0.6
LMEL Las Melosas 147.13 197⇓*iP* PKPdf 08 23 31.9 +4.5
MDZ Mendoza 147.60 199 *eP* PKPdf 08 23 33.1 +4.8
FCH Farellones 147.64 197⇓*iP* PKPdf 08 23 33.3 +4.9
CLCH Cerro Calan 147.65 197⇓*iP* PKPdf 08 23 32.9 +4.5
ZON Zonda 148.76 201 *eP* PKPdf 08 23 40.7 +10
DWPF Disney 149.64 1 *e*PKPbc PKPdf 08 23 37.5 +5.8
CMCH Combarbala 149.86 197⇓*iP* PKPdf 08 23 33.3 +1.4
TLL Tololo Astrono 150.74 198⇓*iP* PKPdf 08 23 40.8 +7.5
TLL Tololo Astrono 150.74 198⇓*iP* PKPdf 08 23 40.8 +7.5
LVC Limon Verde 156.72 210 *e*PKPdf PKPdf 08 23 44.3 +2.5
LVC *e*PKPab PKPab 08 24 14.9 +0.5
SAML Samuel 161.06 249 *e*PKPdf PKPdf 08 23 48.5 +1.4
SAML *e*PKPab PKPab 08 24 32.5 -0.9
SAML *e*PP PP 08 28 15.9 -1.8
LPAZ La Paz 161.23 222 PKP PKPdf 08 23 49.9 +2.7
comp=Z,16nm,0.9s,baz=82,slow=1.9,SNR=48
LPAZ PKPab PKPab 08 24 35.4 +1.4
comp=Z,13nm,0.9s,baz=126,slow=4.2,SNR=14
LPAZ PP PP 08 28 15.5 -2.9
comp=Z,3.4nm,1.0s,baz=123,slow=4.8,SNR=5.8
LPAZ La Paz 161.23 222 *e*PKPdf PKPdf 08 23 49.7 +2.6
LPAZ *e*PKPab PKPab 08 24 34.8 +0.8
LPAZ *e*PP PP 08 28 16.0 -2.4
SDV Santo Domingo 164.68 317 *e*PKPdf PKPdf 08 23 51.6 +0.9
SDV *e*PKPab PKPab 08 24 48.7 -0.4
ROSC El Rosal 170.11 317 PKP PKPdf 08 23 56.6 +2.1
comp=Z,17nm,0.8s,baz=160,slow=3.8,SNR=15
ROSC PKPab PKPab 08 25 14.6 +1.7
comp=Z,6.4nm,0.7s,baz=310,slow=7.9,SNR=3.1

TRN **02** *08:04:10.3, 11.12N×62.64W, h35km, MD3.2*
FUNV **02** *08:04:11.2, 10.82N×62.63W, h90km, MW2.5*
ISC 02 08:04:09.3±0.9, 10.77N±0.06×62.67W±0.04, h96km±8km, n13, σ0.97/24, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUIV	**Guiria**	**0.45**	**105**	*eP*		**P**	**08 04 24.9**	**+0.4**
GUIV				*eS*		**S**	**08 04 35.9**	**0.0**
CRUV	**Carupano**	**0.56**	**261**	*eP*		**P**	**08 04 27.3**	**+1.9**
CRUV				*eS*		**S**	**08 04 37.1**	**-0.2**
ITEV	**Isla Los Testi**	**0.74**	**322**	*eP*		**P**	**08 04 27.2**	**+0.2**
ITEV				*eS*		**S**	**08 04 39.6**	**-0.6**
TRN	**Trinidad (W)**	**1.25**	**95**	*eP*		**P**	**08 04 32.1**	**-0.7**
TRN				*eS*		**S**	**08 04 47.4**	**-2.9**
TBH	**Brigand Hill**	**1.60**	**100**	*eP*		**P**	**08 04 37.8**	**+0.8**
TBH				*eS*		**S**	**08 04 57.8**	**+0.3**
GRW	**Mount Saint Ca**	**1.70**	**35**	*eP*		**P**	**08 04 33.4**	**-5.0**
GRW				*eS*		**S**	**08 04 51.1**	**-8.7**
ORIV	**Oritupano**	**1.83**	**203**	*eP*		**P**	**08 04 41.1**	**+1.0**
ORIV				*eS*		**S**	**08 05 03.4**	**+0.6**
GURV	**El Guri**	**3.01**	**188**	*eP*		**P**	**08 04 57.0**	**+0.8**
GURV				*eS*		**S**	**08 05 30.9**	**-0.6**
CUPV	**Cœpira**	**3.15**	**257**	*eP*		**P**	**08 04 58.0**	**0.0**
BIRV	**Birongo**	**3.55**	**266**	*eP*		**P**	**08 05 04.5**	**+0.9**
MERV	**Las Mercedes**	**3.88**	**247**	*eP*		**P**	**08 05 08.6**	**+0.6**
MERV				*eS*		**S**	**08 05 50.8**	**-1.8**
CAOV	**Caicara del Or**	**4.97**	**227**	*eP*		**P**	**08 05 21.9**	**-1.1**
CAOV				*eS*		**S**	**08 06 15.7**	**-3.9**
BAUV	**El Baul**	**5.59**	**252**	*eP*		**P**	**08 05 30.9**	**-0.6**
BAUV				*eS*		**S**	**08 06 29.7**	**-5.4**

GUC 02 08:14:57.3±0.5, 34.17S×72.30W, h44km±8km, MD3.5, 1D,

Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**74**	eP	P	08 15 12.1	+0.2
CHCH	**Chadas Angostu**	**1.39**	**81**	eP	P	08 15 21.1	+0.4
CACH	**El Canelo**	**1.41**	**88**	eP	P	08 15 21.7	+0.6
CACH				i S	S	08 15 41.0	+2.3
CICH	**Cipreses**	**1.57**	**96**	⇓iP	P	08 15 23.9	+0.8
CICH				i S	S	08 15 43.6	+1.2

*IDC **02** 09:00:27.0±2.8, 64.65N×31.43E, mb1 2.9/4, mb1mx2.8/22, mbtmp2.8/4, ML2.7/4, Error ellipse: s-maj=39.0km s-min=10.7km az=97.0*
*NAO **02** 09:00:28.2±1.8, 64.72N×30.89E, ML2.1*
*BER **02** 09:00:30.5±1.9, 64.71N×30.44E, ML2.1(NAO), Suspected explosion*
HEL 02 09:00:28.0±0.3**, 64.69N×30.76E, ML2.1, ML2.1**(NAO)**, Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.46**	**247**	eP	Pn	09 00 53.5	-2.1
KJN				eS	Sb	09 01 12.0	-2.7
KU4	**Liikasenvaara**	**1.75**	**344**	eP	Pn	09 00 58.6	-1.3
KU4				eS	Sn	09 01 22.3	-1.0
JOF	**Joensuu**	**1.79**	**172**	eP	Pn	09 00 59.4	-1.0
OUL	**Oulu**	**2.11**	**283**	eP	Pn	09 01 04.5	-0.5
OUL				eS	Sn	09 01 31.4	-0.9
OUL				MSG		09 01 35.4	
	comp=Z,18nm,0.1s						
SUF	**Sumiainen**	**2.85**	**228**	eP	Pn	09 01 15.6	+0.1
SUF				MSG		09 01 56.7	
	comp=Z,3.6nm,0.1s						
APA0	**Apatity Array**	**3.07**	**16**	Pn	Pn	09 01 17.5	-1.2
	baz=206,slow=16						
APA0				Sn	Sn	09 01 55.1	-1.6
	baz=198,slow=28						
APA0	**Apatity Array**	**3.07**	**16**	eP	Pn	09 01 17.5	-1.2
APA0				eS	Sn	09 01 55.1	-1.6
FIA0	**FINESS Array S**	**3.89**	**215**	eP	Pn	09 01 28.6	-1.7
FIA0				eSG		09 02 28.9	
FIA0	**FINESS Array S**	**3.89**	**215**	Pn	Pn	09 01 28.6	-1.7
	baz=24,slow=14						
FIA0				Lg		09 02 28.9	
	baz=27,slow=28						
FINES	**FINESS Array B**	**3.89**	**215**	Pn	Pn	09 01 28.6	-1.7
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=7.2						
FINES				Sn	Sn	09 02 28.7	+11
	comp=Z,0.9nm,0.3s,baz=35,slow=23,SNR=10						
ARA0	**ARCESS Array S**	**5.28**	**340**	Pn	Pn	09 01 46.8	-3.3
	baz=156,slow=14						
ARA0				Sn	Sn	09 02 46.8	-5.8
	baz=160,slow=28						
ARA0				Lg		09 03 10.4	
	baz=158,slow=37						
ARA0	**ARCESS Array S**	**5.28**	**340**	eP	Pn	09 01 46.8	-3.3
ARA0				eS	Sn	09 02 46.8	-5.8
ARA0				eSG		09 03 10.4	
ARCES	**ARCESS Array B**	**5.28**	**340**	Pn	Pn	09 01 46.7	-3.4
	comp=Z,0.4nm,0.3s,baz=154,slow=13,SNR=34						
ARCES				Sn	Sn	09 02 47.3	-5.3
	comp=Z,0.3nm,0.3s,baz=157,slow=21,SNR=5.5						
ARCES				Lg		09 03 16.1	
	comp=Z,0.5nm,0.3s,baz=156,slow=33,SNR=6.0						
HFS	**Hagfors**	**9.12**	**248**	Pn	P	09 02 40.0	-4.0
	baz=58,slow=12						
HFS	**Hagfors**	**9.12**	**248**	eP	P	09 02 40.0	-4.0
HFS	**Hagfors**	**9.12**	**248**	Pn	P	09 02 39.4	-4.5
	comp=Z,0.1nm,0.3s,baz=60,slow=12,SNR=6.4						
NB2	**NORSAR Subarra**	**9.63**	**257**	Pn	P	09 02 48.1	-2.6
	baz=57,slow=12						
NB2	**NORSAR Subarra**	**9.63**	**257**	eP	P	09 02 48.1	-2.6
NOA	**NORSAR Array B**	**9.63**	**257**	Pn	P	09 02 46.1	-4.6
	comp=Z,0.1nm,0.3s,baz=41,slow=15,SNR=2.5						

*HLW **02** 09:06:53.6, 35.60N×23.87E, h33^{km}, Mb3.0*
*CSEM **02** 09:06:57.4±0.3, 35.04N×23.99E, h10^{km}, ML3.0, Error ellipse: s-maj=7.5km s-min=4.5km az=79.0*
*ATH **02** 09:06:58.5, 35.16N×24.05E, h14^{km}±2^{km}, MD3.5/8*
*NEIC **02** 09:06:58.5, 35.16N×24.05E, h14^{km}, MD3.5(ATH), After ATH.*
ISC 02 09:06:57.4±0.6**, 35.10N**±0.04×**24.06E**±0.06**, h10**^{km}**, n15, σ1**^{s}**25**/17**, 4C-1D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.26**	**176**	ePB	**Pb**	**09 07 05.0**	**+1.3**
VAM	**Vamos**	**0.33**	**20**	⇑iPG	**Pg**	**09 07 04.3**	**+0.1**
VAM				eSG	**Sg**	**09 07 08.7**	**0.0**
NPS	**Neapolis**	**1.28**	**82**	ePG	**Pg**	**09 07 23.3**	**+0.3**
NPS				eSB	**Sb**	**09 07 39.9**	**+2.4**
XRY	**Khrisi**	**1.36**	**99**	ePG	**Pg**	**09 07 24.3**	**-0.3**
KYTH	**Kithira**	**1.45**	**325**	ePB	**Pb**	**09 07 25.0**	**+1.0**
VLI	**Veliai**	**1.86**	**331**	ePN	**Pn**	**09 07 30.5**	**+0.9**
APE	**Apeiranthos**	**2.30**	**31**	ePB	**Pb**	**09 07 37.2**	**-1.3**
NAIG	**Nisos Aigina**	**2.69**	**350**	ePB	**Pb**	**09 07 43.0**	**-2.3**
NAIG	**Nisos Aigina**	**2.69**	**350**	ePn	**Pn**	**09 07 42.0**	**+0.4**
ITM	**Ithomi**	**2.70**	**321**	ePN	**Pn**	**09 07 44.0**	**+2.3**
MPAR	**Parnis Oros**	**3.06**	**355**	ePB	**Pb**	**09 07 49.0**	**-2.6**
SLUM		**3.73**	**165**	⇑P	**Pn**	**09 07 56.5**	**+0.2**
SLUM				S	Sx	09 08 41.7	
HMAT	**Matruh**	**4.74**	**147**	⇓eP	**Pn**	**09 08 09.6**	**-1.1**
HMAT				S	Sx	09 09 05.8	
SWA2		**5.96**	**168**	⇑eP	**Pn**	**09 08 26.9**	**-1.0**
SWA2				S	Sx	09 09 35.6	
SWA1		**5.99**	**166**	⇑eP	**Pn**	**09 08 27.5**	**-0.8**
SWA1				S	Sx	09 09 35.7	

*NEIC **02** 09:35:36.2±1.2, 21.28S×178.07W, h500^{km}, mb4.3/7, Error ellipse: s-maj=57.2km s-min=16.1km az=153.0*
*IDC **02** 09:35:46.4±5.2, 20.67S×178.96W, h574^{km}±56^{km}, mb3.4/4, mb1 3.7/5, mb1mx3.3/14, mbtmp4.3/5, Error ellipse: s-maj=67.8km s-min=31.5km az=148.0*
ISC 02 09:35:49.4±4.0**, 21.0S**±0.4×**179.0W**±0.3**, h638**^{km}±46^{km}**, n24, σ0**^{s}**51**/14**, mb4.0**/10**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.59**	**263**	P	**P**	**09 38 43.2**	**-0.3**
	0.5nm,0.3s,baz=80,slow=19,SNR=8.1						
CTA	**Charters Tower**	**32.52**	**265**	eP	**P**	**09 41 32.6**	**+0.5**
	5.5nm,0.4s,mb4.4						
CTAO	**Charters Tower**	**32.52**	**265**	eP	**P**	**09 41 32.3**	**+0.3**
	4.5nm,0.3s,mb4.5						
PMG	**Port Moresby**	**34.55**	**284**	eP	**P**	**09 41 49.9**	**+0.9**
	6.7nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**36.73**	**245**	⇓iP	**P**	**09 42 07.2**	**+0.4**
	4.0nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**36.73**	**245**	P	**P**	**09 42 07.4**	**+0.6**
	8.3nm,0.8s,mb4.3,baz=91,slow=10,SNR=24						
WB2	**Warramunga Arr**	**43.60**	**263**	eP	**P**	**09 43 01.1**	**-0.5**
WRAB	**Tennant Creek**	**43.60**	**263**	eP	**P**	**09 43 01.1**	**-0.6**
	5.6nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**43.61**	**263**	P	**P**	**09 43 01.2**	**-0.5**
	4.3nm,0.5s,mb4.0,baz=97,slow=7.5,SNR=166						
KAKA	**Kakadu**	**47.06**	**272**	eP	**P**	**09 43 43.9**	**+16**
	6.5nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.04**	**263**	eP	**P**	**09 44 04.9**	**+0.6**
	13nm,1.6s,mb3.9						
MBWA	**Marble Bar**	**56.84**	**258**	eP	**P**	**09 44 37.4**	**-0.2**
	13nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	**88.11**	**58**	P	**P**	**09 47 35.9**	**+0.3**
	0.5nm,0.8s,mb3.2,baz=225,slow=3.5,SNR=6.8						
ILAR	**Eielson Array**	**89.00**	**13**	P	**P**	**09 47 38.3**	**-0.5**
	1.6nm,1.0s,mb3.7,baz=234,slow=5.3,SNR=7.6						
BVAR	**Borovoye Array**	**118.86**	**320**	PKP	PKPdf	09 53 28.3	+1.5
	0.5nm,0.4s,baz=135,slow=4.2,SNR=3.7						
ARCES	**ARCESS Array B**	**129.24**	**349**	PKP	PKPdf	09 53 48.3	+2.0
	1.5nm,0.9s,baz=46,slow=1.0,SNR=5.4						
AKASG	**Malin Array Be**	**142.99**	**330**	PKhKP		09 54 10.9	
	1.5nm,0.4s,baz=44,slow=5.2,SNR=5.0						
AKASG				PKP	PKPdf	09 54 15.8	+4.0
	0.4nm,0.3s,baz=63,slow=2.1,SNR=5.0						
MALT	**Malatya**	**143.48**	**307**	ePKPdf	PKPdf	09 54 14.8	+1.8
MBAR	**Mbarara**	**143.86**	**237**	ePKPdf	PKPdf	09 54 12.2	-2.2
BRTR	**Keskin Array B**	**146.47**	**311**	PKPbc	PKPbc	09 54 23.3	+3.2
	1.0nm,0.6s,baz=108,slow=3.9,SNR=5.3						
CLL	**Collm**	**148.32**	**346**	i PKP1	PKPdf	09 54 28.0	+7.3
PSZ	**Piszkesteto**	**149.12**	**335**	ePKPab	PKPab	09 54 36.5	-0.4
KHC	**Kasperske Hory**	**150.19**	**343**	ePKPbc	PKPdf	09 54 32.0	+8.4
GERES	**GERESS Array B**	**150.41**	**343**	PKPbc	PKPdf	09 54 32.7	+8.8
	1.0nm,0.7s,slow=1.3,SNR=9.5						
GERES				PKPab	PKPab	09 54 41.3	-0.9
	0.2nm,0.3s,baz=270,slow=3.9,SNR=3.6						

*IDC **02** 09:41:31.3±1.7, 35.97S×106.29W, mb3.9/5, mb1 4.3/5, mb1mx4.0/16, mbtmp3.9/5, MS3.6/6, Ms1 3.6/6, ms1mx3.3/21, Error ellipse: s-maj=56.5km s-min=24.8km az=20.0*
*NEIC **02** 09:41:36.5±0.7, 35.40S×105.79W, h10^{km}, mb4.3/4, Error ellipse: s-maj=24.6km s-min=14.8km az=59.0*
ISC 02 09:41:38.0±0.9**, 34.9S**±0.1×**105.5W**±0.2**, h10**^{km}**, n31, σ1**^{s}**09**/22**, mb3.9**/9**, MS3.6**/6**, 4C, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**31.18**	**95**	P	**P**	**09 47 58.8**	**-0.6**
	0.1nm,0.4s,mb3.0,baz=237,slow=14,SNR=3.3						
LPAZ	**La Paz**	**38.12**	**71**	P	**P**	**09 49 01.2**	**+2.2**
	0.6nm,0.7s,mb3.4,baz=225,slow=8.6,SNR=3.1						
LPAZ				LR	LR	10 01 12.3	
	comp=Z,51nm,20.0s,MS3.3,baz=298,slow=30						
LPAZ	**La Paz**	**38.12**	**71**	P	**P**	**09 49 01.4**	**+2.4**
	0.9nm,0.7s,mb3.6						
TBI	**Tubuai**	**39.84**	**275**	eLR	LR	09 59 47.0	
CPUP	**Villa Florida**	**41.95**	**92**	LR	LR	10 04 56.0	
	comp=Z,38nm,18.4s,MS3.3,baz=115,slow=33						
PPT	**Papeete**	**42.79**	**282**	eLQ		09 59 27.4	
PPT				eLR	LR	10 01 13.0	
	69nm,22.0s						
SIV	**San Ignacio**	**43.85**	**76**	P	**P**	**09 49 45.0**	**-1.3**
	0.8nm,0.8s,mb3.5,baz=237,slow=10,SNR=5.2						
ROSC	**El Rosal**	**49.17**	**43**	LR	LR	10 07 07.6	
	comp=Z,84nm,21.8s,MS3.7,baz=232,slow=30						
BDFB	**Brasilia**	**54.62**	**85**	LR	LR	10 12 25.6	
	comp=Z,69nm,20.1s,MS3.7,baz=6.8,slow=34						
VNA3	**Neumayer Olymp**	**59.24**	**158**	e	**P**	**09 51 41.4**	**0.0**
VNA3	**Neumayer Olymp**	**59.24**	**158**	e	**P**	**09 51 43.6**	**+2.2**
VNA3	**Neumayer Olymp**	**59.24**	**158**	⇑iP	**P**	**09 51 34.6**	**-6.8**
VNA3				e		09 51 41.4	
VNA3				e		09 51 43.6	
VNA1	**Neumayer--Stat**	**59.87**	**158**	e	**P**	**09 51 55.8**	**+10**
VNA1	**Neumayer--Stat**	**59.87**	**158**	⇑iP	**P**	**09 51 46.3**	**+0.5**
VNA1				e		09 51 55.8	
VNA2	**Neumayer--Watz**	**60.05**	**158**	e	**P**	**09 51 47.3**	**+0.3**
VNA2	**Neumayer--Watz**	**60.05**	**158**	e	**P**	**09 51 49.5**	**+2.5**
VNA2	**Neumayer--Watz**	**60.05**	**158**	⇑iP	**P**	**09 51 40.8**	**-6.2**
VNA2				e		09 51 47.3	
VNA2				e		09 51 49.5	
URZ	**Urewera**	**60.56**	**242**	LR	LR	10 11 14.2	
	comp=Z,118nm,19.6s,MS4.0,baz=53,slow=30						
SNAA	**Sanae**	**61.13**	**159**	⇑i	**P**	**09 51 49.0**	**-5.4**
SNAA	**Sanae**	**61.13**	**159**	e	**P**	**09 51 53.5**	**-0.9**
SNAA	**Sanae**	**61.13**	**159**	e	**P**	**09 51 56.8**	**+2.4**
SNAA	**Sanae**	**61.13**	**159**	LR	LR	10 13 46.4	
	comp=Z,35nm,21.6s,MS3.5,baz=256,slow=32						
SNAA	**Sanae**	**61.13**	**159**	eP	**P**	**09 51 53.0**	**-1.3**
	3.0nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**63.86**	**2**	P	**P**	**09 52 12.1**	**-0.9**
	0.7nm,0.9s,mb3.7,baz=180,slow=9.0,SNR=7.8						
NVAR	**Mina Array Bea**	**73.88**	**350**	P	**P**	**09 53 15.6**	**+0.7**
	2.4nm,0.8s,mb4.2,baz=165,slow=7.4,SNR=19						
DAU	**Daniels Canyon**	**75.08**	**355**	eP	**P**	**09 53 22.1**	**+0.3**
PDAR	**Pinedale Array**	**77.33**	**357**	P	**P**	**09 53 33.8**	**-0.6**
	2.8nm,0.9s,mb4.2,baz=153,slow=6.0,SNR=19						
MOD	**Modoc**	**77.58**	**349**	eP	**P**	**09 53 35.9**	**+0.2**
	1.3nm,0.6s,mb4.0						
TPAW	**Teton Pass**	**78.12**	**356**	eP	**P**	**09 53 38.7**	**0.0**
	4.8nm,1.1s,mb4.3						
BRTR	**Keskin Array B**	**147.29**	**69**	PKPbc	PKPdf	10 01 20.4	-1.9
	0.8nm,0.7s,baz=297,slow=5.5,SNR=3.6						
SONM	**Songino Array**	**153.01**	**308**	PKPbc	PKPdf	10 01 29.7	-1.0
	0.8nm,1.0s,baz=45,slow=4.1,SNR=2.4						
SONM				PKPab	PKPab	10 01 40.9	-7.9
	0.9nm,0.7s,baz=116,slow=1.8,SNR=4.6						

*NEIC **02** 10:08:47.9, 34.55S×72.43W, h14^{km}, ML3.2(GUC), After GUC.*
GUC 02 10:08:47.9±0.8**, 34.55S×72.43W, h14**^{km}±5^{km}**, MD4.0, ML3.2, 4C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.03**	**55**	eP	Pb	10 09 06.0	-1.0
LNV				i S	Sb	10 09 20.1	0.0
NICH	**Los Niches**	**1.09**	**115**	i P	Pb	10 09 07.7	-0.3
NICH				i S	Sb	10 09 21.7	-0.1
SFDO	**San Fernando**	**1.17**	**94**	⇑iP	Pb	10 09 08.5	-0.9
SFDO				i S	Sb	10 09 23.8	-0.4
CNCO	**Chanco**	**1.19**	**184**	⇓iP	Pb	10 09 09.2	-0.5
CNCO				i S	Sb	10 09 24.0	-0.7
CNCO				AMP		10 09 25.4	
	comp=E,987nm,0.4s						
LCCH	**Las Cruces**	**1.29**	**34**	⇑iP	Pb	10 09 10.2	-1.2
LCCH				i S	Sb	10 09 27.4	-0.2
TACH	**Talagante**	**1.53**	**55**	⇑iP	Pn	10 09 13.7	-1.3
TACH				i S	Sb	10 09 34.4	-0.2
CACH	**El Canelo**	**1.57**	**75**	⇓iP	Pn	10 09 15.9	+0.2
CACH				i S	Sn	10 09 37.0	+1.1
CHCH	**Chadas Angostu**	**1.59**	**68**	eP	Pn	10 09 15.0	-1.0
CHCH				i S	Sn	10 09 36.9	+0.4
CICH	**Cipreses**	**1.68**	**83**	⇑iP	Pn	10 09 16.8	-0.4
CICH				i S	Sn	10 09 38.2	-0.3
RCDM	**Rinconada Maip**	**1.71**	**52**	⇓iP	Pn	10 09 16.9	-0.7
RCDM				i S	Sn	10 09 38.5	-0.9
RCDM				AMP		10 09 43.0	
	comp=E,235nm,0.2s						
PCH	**Pirque**	**1.84**	**60**	eP	Pn	10 09 19.4	-0.1
PCH				i S	Sn	10 09 44.1	+1.4
DSCH	**Colegio Aleman**	**1.93**	**54**	eP	Pn	10 09 20.2	-0.5
DSCH				i S	Sn	10 09 45.8	+1.0
DSCH				AMP		10 09 51.7	
	comp=E,453nm,0.5s						
SJCH	**San Jose de Ma**	**1.95**	**63**	AMP		10 09 51.3	
	comp=N,209nm,0.3s						
CLCH	**Cerro Calan**	**1.95**	**54**	eP	Pn	10 09 20.5	-0.5
CLCH				i S	Sn	10 09 45.9	+0.5
CLCH				AMP		10 09 57.5	
	comp=N,238nm,0.8s						
LMEL	**Las Melosas**	**1.97**	**70**	eP	Pn	10 09 21.1	-0.2
LMEL				i S	Sn	10 09 46.7	+0.7
LMEL				AMP		10 09 49.9	
	comp=N,608nm,0.2s						
CCHI	**Chillan**	**2.07**	**172**	i S	Sn	10 09 48.7	+0.2
CCHI				AMP		10 09 57.0	
	comp=E,209nm,0.4s						
FCH	**Farellones**	**2.16**	**56**	AMP		10 09 59.0	
	comp=N,183nm,0.3s						
JACH	**Jahuel**	**2.41**	**40**	eP	Pn	10 09 28.0	+0.3

IDC 02 10:11:17.9±3.4**, 1.39N×97.32E, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/19**, mbtmp3.6**/4**, Error ellipse: s-maj=135.0km s-min=28.3km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.03**	**122**	P	P	10 19 11.4	-1.8
	0.4nm,0.5s,baz=303,slow=9.0,SNR=7.0						
SONM	**Songino Array**	**46.92**	**8**	P	P	10 19 50.9	-1.2
	1.0nm,0.8s,baz=186,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**47.09**	**346**	P	P	10 19 51.7	-1.7
	0.4nm,0.5s,baz=160,slow=9.0,SNR=5.0						
BVAR	**Borovoye Array**	**56.11**	**341**	P	P	10 20 58.2	-3.1
	0.4nm,0.6s,baz=143,slow=7.4,SNR=3.8						

*GRAL **02** 10:18:20.3±1.8, 33.38N×35.34E, h23^{km}, MD3.1*
*CSEM **02** 10:18:20.5±0.1, 33.42N×35.55E, h2^{km}, Mw3.2, Error ellipse: s-maj=2.1km s-min=1.4km az=141.0*
*GII **02** 10:18:22.3±0.4, 33.37N×35.49E, h4^{km}±5^{km}, ML3.1/6, Mw3.2/6*
ISC 02 10:18:21.0±0.4**, 33.43N**±0.02×**35.51E**±0.03**, h4**^{km}±3^{km}**, n28, σ0**^{s}**64**/45**, 6D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.16**	**293**	i Pg	**Pg**	**10 18 24.7**	**+0.4**
KSDI	**Kefar Szold**	**0.27**	**152**	Pg	**Pg**	**10 18 26.6**	**+0.3**
KSDI				Sg	**Sg**	**10 18 32.0**	**+2.1**
BRBR	**Barbar**	**0.37**	**92**	⇓iP	**Pg**	**10 18 28.2**	**-0.3**
MMC2	**Mount Meron ar**	**0.41**	**191**	Pg	**Pg**	**10 18 29.2**	**+0.1**
MMA0	**Mount Meron ar**	**0.42**	**192**	Pg	**Pg**	**10 18 29.4**	**0.0**
HNTI	**Hanita**	**0.44**	**219**	Pg	**Pg**	**10 18 29.8**	**-0.1**
HNTI				Sg	**Sg**	**10 18 37.2**	**+1.4**
BHL	**Bhannes**	**0.49**	**14**	i Pg	**Pg**	**10 18 29.9**	**-0.9**
BHL				i Sg	**Sg**	**10 18 37.9**	**+0.5**
QASN	**Qassioun**	**0.65**	**80**	⇑iP	**Pg**	**10 18 33.9**	**-0.1**
QASN				⇓iS	**Sg**	**10 18 43.5**	**+0.8**
TOTH	**TOTAH**	**0.77**	**95**	⇑iP	**Pg**	**10 18 36.0**	**-0.5**
TOTH				⇑iS	**Sg**	**10 18 46.3**	**-0.5**
TCHB	**Talchebab**	**0.85**	**153**	⇑iP	**Pb**	**10 18 37.8**	**-0.1**
TCHB				⇑iS	**Sg**	**10 18 49.0**	**-0.3**
OFRI	**'Ofer**	**0.92**	**209**	Pg	**Pg**	**10 18 39.0**	**-0.3**
OFRI	**'Ofer**	**0.92**	**209**	Pg	**Pg**	**10 18 38.9**	**-0.4**
HWQ	**Hawqa**	**0.93**	**23**	i Pg	**Pg**	**10 18 38.4**	**-1.1**
HWQ				i Sg	**Sg**	**10 18 52.5**	**+0.7**
HWQ	**Hawqa**	**0.93**	**23**	i Pg	**Pg**	**10 18 38.4**	**-1.1**
HWQ				i Sg	**Sg**	**10 18 52.5**	**+0.7**
MMLI	**Mount Malkishu**	**0.99**	**184**	Pg	**Pg**	**10 18 39.9**	**-0.8**
MARH	**Ras Al Marh**	**1.01**	**53**	⇓iP	**Pb**	**10 18 40.4**	**-0.2**
MARH				⇑iS	**Sb**	**10 18 54.5**	**+0.4**
SLTI	**Sal'it**	**1.25**	**199**	Pg	**Pg**	**10 18 44.5**	**-1.4**
SLTI				Sg	**Sg**	**10 19 02.5**	**0.0**
SLTI	**Sal'it**	**1.25**	**199**	Pg	**Pg**	**10 18 44.5**	**-1.4**
SLTI				Sg	**Sg**	**10 19 02.5**	**0.0**
SALA	**Sala**	**1.25**	**124**	⇑iP	**Pb**	**10 18 44.6**	**-0.2**
SALA				⇓iS	**Sb**	**10 19 01.6**	**+0.5**
ZALF	**Zalf**	**1.61**	**108**	⇑iP	**Pn**	**10 18 50.1**	**-0.3**
ZALF				⇓iS	**Sb**	**10 19 10.8**	**-0.8**
BIDA	**Albida**	**1.72**	**23**	⇑iP	**Pn**	**10 18 51.8**	**-0.2**
BIDA				⇑iS	**Sn**	**10 19 15.6**	**+1.0**
MKRJ	**Makawir**	**1.87**	**177**	Pn	**Pn**	**10 18 55.0**	**+0.9**
MZDA	**Masada**	**2.11**	**183**	Pn	**Pn**	**10 18 57.9**	**+0.3**
MZDA				Sn	**Sn**	**10 19 24.7**	**+0.1**
WRDH	**Warideh**	**2.21**	**20**	⇑iP	**Pn**	**10 18 59.1**	**+0.2**
WRDH				⇓iS	**Sn**	**10 19 26.8**	**-0.2**
MASH	**Mash'abbe Sade**	**2.50**	**194**	Pn	**Pn**	**10 19 03.5**	**+0.4**
KZIT	**Kziot**	**2.68**	**201**	Pn	**Pn**	**10 19 05.1**	**-0.6**
PRNI	**Paran**	**3.10**	**188**	Pn	**Pn**	**10 19 11.5**	**0.0**
PRNI				Sn	**Sn**	**10 19 49.2**	**-0.3**
KMTI	**Karmit**	**3.38**	**192**	Pn	**Pn**	**10 19 15.2**	**-0.4**

*CSEM **02** 10:33:46.0, 41.26N×63.83E, ML3.5, After NNC*
NNC 02 10:33:46.0±5.5**, 41.26N×63.83E, mpv3.5, 6C-6D, Error ellipse: s-maj=57.7km s-min=22.9km az=19.0, Northwestern Uzbekistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.29**	**67**	⇓Pn	Pn	10 35 07.0	-1.3
	8.4nm,0.8s,baz=247,slow=15,SNR=18						
KK31				⇓Sn	Sn	10 36 13.4	+2.4
	3.0nm,0.3s						
KK31				⇑Lg		10 36 33.0	
	9.9nm,0.4s,baz=243,slow=28,SNR=2.7						
AAK	**Ala-Archa**	**8.07**	**77**	⇑Pn	P	10 35 42.1	-5.2
	2.5nm,0.8s						
AAK				⇓Sn	Sn	10 37 21.3	+1.0
	3.7nm,0.5s						
AB31	**Akbulak array**	**8.46**	**342**	⇑Pn	P	10 35 47.4	-5.3
	0.4nm,0.3s,baz=147,slow=16,SNR=4.9						
AB31				⇓Sn	Sn	10 37 27.9	-2.0
	0.5nm,0.3s,baz=153,slow=24,SNR=5.2						
AKTO	**Aktyubinsk**	**10.03**	**338**	⇑Pn	P	10 36 09.4	-5.0
	0.2nm,0.3s						
AKTO				⇑Sn	S	10 38 03.4	-5.5
	0.4nm,0.7s						
BVA0	**Borovoye Array**	**12.58**	**18**	⇓Pn	P	10 36 50.0	+1.0
	0.5nm,1.2s,baz=208,slow=12,SNR=7.5						
BVA0				⇓Sn	S	10 39 12.0	+0.8
	0.2nm,0.5s						
MK31	**Makanchi Array**	**14.38**	**61**	⇑Pn	P	10 37 16.2	+3.4
	1.1nm,0.5s,baz=230,slow=7.8,SNR=9.2						

IDC 02 11:11:31.2±2.1**, 22.28S×179.98E, mb3.9**/3**, mb1 4.2**/3**, mb1mx3.8**/13**, mbtmp3.9**/3**, Error ellipse: s-maj=155.1km s-min=35.2km az=159.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.34**	**246**	P	P	11 18 27.1	-3.3
	1.4nm,0.8s,baz=90,slow=10.0,SNR=5.2						
WRA	**Warramunga Arr**	**42.52**	**264**	P	P	11 19 29.6	-0.8
	1.5nm,0.4s,baz=98,slow=8.3,SNR=78						
TXAR	**Lajitas Array**	**89.59**	**58**	P	P	11 24 31.1	-1.3
	0.3nm,0.7s,baz=202,slow=6.7,SNR=3.8						

*NEIC **02** 11:17:36.8±0.8, 19.75S×68.89W, h116^{km}±9^{km}, mb3.6/1, Error ellipse: s-maj=17.7km s-min=10.9km az=85.0*
*IDC **02** 11:17:36.6±1.1, 19.79S×68.89W, h116^{km}±13^{km}, mb4.0/1, mb1 3.9/4, mb1mx3.4/19, mbtmp4.1/4, Error ellipse: s-maj=48.9km s-min=8.3km az=98.0*
ISC 02 11:17:36.0±0.8**, 19.79S**±0.05×**68.9W**±0.1**, h126**^{km}±12^{km}**, n10, σ0**^{s}**59**/12**, mb4.2**/1**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.81**	**181**	P	**P**	**11 18 20.8**	**-0.1**
	23nm,0.3s,baz=0.5,slow=11,SNR=137						
LVC				S	**S**	**11 18 54.8**	**-0.1**
	33nm,0.3s,baz=34,slow=22,SNR=23						
LVC	**Limon Verde**	**2.81**	**181**	ePn	**P**	**11 18 20.6**	**-0.2**
LVC				S	**S**	**11 18 54.8**	**-0.1**
LPAZ	**La Paz**	**3.55**	**12**	P	**P**	**11 18 31.5**	**+0.8**
	5.5nm,0.3s,baz=197,slow=8.0,SNR=136						
LPAZ				S	**S**	**11 19 12.9**	**+0.4**
	0.4nm,0.3s,baz=180,slow=20,SNR=1.3						
LPAZ	**La Paz**	**3.55**	**12**	ePn	**P**	**11 18 31.1**	**+0.4**
LPAZ				S	**S**	**11 19 12.9**	**+0.4**
ARE	**Arequipa**	**4.13**	**323**	P	**P**	**11 18 38.0**	**-0.5**
SIV	**San Ignacio**	**8.34**	**64**	P	**P**	**11 19 34.2**	**-0.9**
	1.4nm,0.3s,baz=257,slow=11,SNR=34						
TRQA	**Tornquist**	**19.17**	**163**	P	**P**	**11 21 53.0**	**+1.0**
	1.7nm,0.5s						
YKA	**Yellowknife Ar**	**89.59**	**341**	P	**P**	**11 30 19.6**	**-0.4**
	1.0nm,0.5s,mb4.2,baz=135,slow=4.5,SNR=8.9						
WRA	**Warramunga Arr**	**134.43**	**211**	PKP	PKPdf	11 36 41.8	+1.8
	0.2nm,0.4s,baz=146,slow=1.7,SNR=11						
SONM	**Songino Array**	**151.76**	**7**	PKPbc	PKPdf	11 37 18.1	+9.2
	0.7nm,0.4s,baz=322,slow=2.2,SNR=6.2						

*NEIC **02** 12:36:20.1, 33.11S×72.11W, h15^{km}, ML2.6(GUC), After GUC.*
GUC 02 12:36:20.1±0.8**, 33.11S×72.11W, h15**^{km}±6^{km}**, MD3.7, ML2.6, 6C-7D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.58**	**129**	⇑iP	Pb	12 36 31.1	-0.4
LCCH				i S	Sb	12 36 38.6	-0.6
ROCH	**El Roble**	**0.94**	**82**	⇓iP	Pb	12 36 37.1	-0.4
ROCH				i S	Sb	12 36 49.9	+0.5
LNV	**Longovilo**	**1.03**	**145**	⇓iP	Pb	12 36 38.3	-0.7
LNV				i S	Sb	12 36 51.7	-0.3
TACH	**Talagante**	**1.12**	**119**	⇓iP	Pb	12 36 39.8	-0.9
TACH				i S	Sb	12 36 54.3	-0.6
RCDM	**Rinconada Maip**	**1.16**	**109**	⇑iP	Pb	12 36 40.1	-1.2
RCDM				i S	Sb	12 36 55.8	-0.1
RCDM				AMP		12 37 00.0	
	comp=N,227nm,0.1s						
CHNG	**Los Chungos**	**1.33**	**23**	⇓iP	Pb	12 36 43.0	-1.2
CHNG				i S	Sb	12 36 59.5	-1.3
CHNG				AMP		12 37 08.1	
	comp=N,53nm,0.2s						
JACH	**Jahuel**	**1.35**	**72**	eP	Pn	12 36 43.6	-0.9
JACH				i S	Sb	12 37 01.0	-0.4
CLCH	**Cerro Calan**	**1.35**	**103**	⇑iP	Pn	12 36 43.9	-0.6
CLCH				i S	Sb	12 37 01.9	+0.4
CLCH				AMP		12 37 03.2	
	comp=N,316nm,0.5s						
PCH	**Pirque**	**1.43**	**111**	⇓iP	Pn	12 36 45.2	-0.5
PCH				i S	Sb	12 37 03.6	-0.2
CHCH	**Chadas Angostu**	**1.47**	**124**	⇑iP	Pn	12 36 45.4	-0.8
CHCH				i S	Sb	12 37 04.4	-0.5
FCH	**Farellones**	**1.54**	**99**	⇓iP	Pn	12 36 47.0	-0.3
FCH				i S	Sb	12 37 07.8	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH				AMP		12 37 10.7	
	comp=E,185nm,0.2s						
CACH	**El Canelo**	**1.61**	**129**⇑	iP	Pn	12 36 48.5	+0.2
CACH				iS	Sn	12 37 09.2	+0.4
LMEL	**Las Melosas**	**1.76**	**115**	eP	Pn	12 36 50.3	0.0
LMEL				iS	Sn	12 37 13.2	+0.7
LMEL				AMP		12 37 17.7	
	comp=N,243nm,0.2s						
SFDO	**San Fernando**	**1.76**	**149**⇑	iP	Pn	12 36 50.2	-0.1
SFDO				iS	Sn	12 37 12.1	-0.4
CICH	**Cipreses**	**1.86**	**131**⇓	iP	Pn	12 36 51.2	-0.6
CICH				iS	Sn	12 37 15.4	+0.3

*IDC **02** 13:13:10.8±1.3, 25.53N×127.30E, mb3.8/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=31.3km s-min=21.9km az=113.0*
*JMA **02** 13:13:13.3±0.1, 25.47N×127.63E, h46^{km}±3^{km}, M3.4*
ISC 02 13:13:14.3±1.1**, 25.52N**±0.08×**127.62E**±0.08**, h44**^{km}±10^{km}**, n16,** σ**0**^{s}**70**/22**, mb3.6**/5**, MS3.4**/1**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.63**	**11**	P	**P**	**13 13 26.7**	**-0.2**
JJT2				S	**S**	**13 13 36.3**	**+0.3**
NAH1	**Naha**	**0.68**	**5**	P	**P**	**13 13 27.3**	**-0.3**
NAH1				S	**S**	**13 13 37.6**	**+0.2**
JKE	**Kume jima 2**	**1.10**	**317**	P	**P**	**13 13 33.3**	**-0.2**
JKE				S	**S**	**13 13 47.5**	**-0.2**
JAGN	**Aguni-jima**	**1.12**	**342**	P	**P**	**13 13 33.7**	**0.0**
JAGN				S	**S**	**13 13 49.5**	**+1.3**
JOW	**Kunigami**	**1.43**	**24**	Pn	**P**	**13 13 40.6**	**+2.3**
	72nm,0.3s,baz=188,slow=17,SNR=31						
JOW				Sn	**S**	**13 14 01.4**	**+5.2**
	48nm,0.3s,baz=180,slow=29,SNR=9.6						
JOW	**Kunigami**	**1.43**	**24**	P	**P**	**13 13 38.0**	**-0.3**
JIH	**Iheya**	**1.54**	**12**	P	**P**	**13 13 39.7**	**-0.1**
JIH				eS	**S**	**13 13 58.7**	**-0.1**
JTK	**Tokunoshima**	**2.55**	**28**	P	**P**	**13 13 53.7**	**-0.5**
JTJ	**Tarama**	**2.79**	**252**	P	**P**	**13 13 57.4**	**-0.1**
JMZ	**Minamidaito 2**	**3.26**	**84**	S	**S**	**13 14 36.8**	**-5.5**
JNU	**Nakatsue**	**8.09**	**20**	Pn	**P**	**13 15 10.8**	**-1.1**
	2.2nm,0.3s,baz=187,slow=15,SNR=15						
JNU				LR	LR	13 18 38.7	
	comp=Z,92nm,21.1s,baz=62,slow=40						
SONM	**Songino Array**	**27.86**	**329**	P	**P**	**13 19 00.5**	**-1.3**
	0.6nm,0.6s,mb3.4,baz=145,slow=8.9,SNR=5.3						
SONM				LR	LR	13 32 16.1	
	comp=Z,92nm,18.1s,MS3.4,baz=281,slow=41						
MKAR	**Makanchi Array**	**41.60**	**313**	P	**P**	**13 20 58.9**	**-0.6**
	0.5nm,0.5s,mb3.4,baz=103,slow=10,SNR=8.2						
WRA	**Warramunga Arr**	**45.66**	**171**	P	**P**	**13 21 33.7**	**+0.9**
	0.5nm,0.7s,mb3.6,baz=352,slow=8.4,SNR=4.7						
FINES	**FINESS Array B**	**73.21**	**331**	P	**P**	**13 24 42.6**	**+0.6**
	1.3nm,0.9s,mb3.9,baz=56,slow=6.9,SNR=5.2						
NOA	**NORSAR Array B**	**79.70**	**334**	P	**P**	**13 25 19.4**	**+0.8**
	1.0nm,0.8s,mb3.8,baz=56,slow=5.2,SNR=3.1						

*CSEM **02** 13:14:56.6±0.5, 37.78N×25.44W, h4^{km}, ML2.5, Error ellipse: s-maj=21.4km s-min=9.2km az=163.0, After PDA*
*PDA **02** 13:14:56.6±0.4, 37.78N×25.44W, h4^{km}±1^{km}, MD1.7, ML2.5, Error ellipse: s-maj=0.9km s-min=0.8km az=79.0*
SVSA 02 13:14:56.6±0.4**, 37.78N**×**25.44W, h4**^{km}±1^{km}**, MD1.7, ML2.5, Error ellipse: s-maj=0.9km s-min=0.8km az=79.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.01**	**345**	iP	Pg	13 14 57.9	+0.4
MESC				eS	Sg	13 14 59.0	+1.0
MESC	**Monte Escuro**	**0.01**	**345**	eS	Sg	13 14 59.0	+1.0
LFA	**Lagoa do Fogo**	**0.03**	**259**	iP	Pg	13 14 58.3	+0.6
VIF	**Vila Franca**	**0.03**	**178**	iP	Pg	13 14 58.2	+0.5
VIF				eS	Sg	13 14 59.5	+1.1
	3μm,0.2s						
VIF	**Vila Franca**	**0.03**	**178**	eS	Sg	13 14 59.5	+1.1
PCNG	**Congro**	**0.04**	**109**	iP	Pg	13 14 58.1	+0.4
PCNG				eS	Sg	13 14 59.5	+1.1
	2μm,0.3s						
PCNG	**Congro**	**0.04**	**109**	eS	Sg	13 14 59.5	+1.1
PMAT	**Coroa da Mata**	**0.04**	**327**	eP	Pg	13 14 58.2	+0.4
PMAT				eS	Sg	13 14 59.5	+0.9
PRCH	**Ribeira Ch**	**0.06**	**211**	eP	Pg	13 14 58.5	+0.5
PRCH				eS	Sg	13 14 59.8	+0.8
	1μm,0.2s						
PVER	**Pico Vermelho**	**0.06**	**287**	eP	Pg	13 14 58.0	-0.1
PVER				eS	Sg	13 14 59.3	+0.3
CMLA	**Cha da Macela**	**0.07**	**257**	eP	Pg	13 14 57.6	-0.6
CMLA				iS	Sg	13 14 59.4	+0.2
FRA1	**Furnas**	**0.08**	**118**	eP	Pg	13 14 59.0	+0.7
CML	**Cha da Macela**	**0.08**	**264**	eP	Pg	13 14 58.0	-0.5
CML				eS	Sg	13 14 59.8	+0.1
PFAD	**Fenais da Ajud**	**0.11**	**57**	iP	Pg	13 14 59.6	+0.6
MIRA	**Miradouro**	**0.13**	**87**	eP	Pg	13 14 58.9	-0.4
MIRA				eS	Sg	13 15 01.4	+0.3
FAC	**Faja de Cima**	**0.17**	**268**	eP	Pg	13 14 58.8	-1.2
FAC				eS	Sg	13 15 01.5	-0.8

*NEIC **02** 13:44:23.1, 19.03N×69.02W, h44^{km}, MD3.7(RSPR), After RSPR.*
RSPR 02 13:44:23.1, 19.03N×**69.02W, h44**^{km}±33^{km}**, MD3.7**/4**, MD3.7**/4**, 7C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.89**	**107**	eS	S	13 45 13.9	-2.3
LSP	**Las Mesas**	**2.02**	**114**⇑	eP	P	13 44 52.9	-2.4
CRPR	**Cabo Rojo, PR**	**2.07**	**119**⇑	eP	P	13 44 53.5	-2.6
CRPR				eS	S	13 45 19.6	-1.2
LRS	**Lares**	**2.18**	**109**⇑	eP	P	13 44 56.1	-1.6
LRS				eS	S	13 45 21.7	-1.9
AOPR	**Arecibo Observ**	**2.25**	**107**⇑	eP	P	13 44 57.3	-1.4
AOPR				eS	S	13 45 22.6	-2.8
PORP	**Portuguez**	**2.46**	**113**⇑	eP	P	13 45 00.5	-1.1
PORP				eS	S	13 45 28.2	-2.3
CBYP	**Canovanas**	**3.09**	**104**⇑	eP	P	13 45 08.7	-1.9
CBYP				eS	S	13 45 45.0	-1.6
MTP	**Monte Pirata**	**3.41**	**105**⇑	eP	P	13 45 13.0	-2.1
MTP				eS	S	13 45 52.1	-2.6

*IDC **02** 13:46:49.6±2.2, 1.95S×99.61E, mb4.0/7, mb1 4.1/7, mb1mx3.9/16, mbtmp4.0/7, Error ellipse: s-maj=104.2km s-min=20.5km az=52.0*
*NEIC **02** 13:46:55.1±1.2, 1.91S×99.67E, h35^{km}, mb4.2/2, Error ellipse: s-maj=58.6km s-min=9.2km az=51.0*
ISC 02 13:46:53.1±1.9**, 1.8S**±0.4×**99.7E**±0.5**, h33**^{km}**, n11,** σ**0**^{s}**71**/10**, mb4.0**/9**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**30.15**	**124**	P	**P**	**13 53 01.2**	**-1.3**
	3.7nm,0.8s,mb4.1,baz=297,slow=2.3,SNR=2.6						
WRA	**Warramunga Arr**	**38.33**	**120**	P	**P**	**13 54 12.9**	**+0.1**
	0.8nm,0.7s,mb3.6,baz=303,slow=9.0,SNR=13						
WRAB	**Tennant Creek**	**38.33**	**120**	eP	**P**	**13 54 13.5**	**+0.6**
	1.8nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**38.34**	**120**	eP	**P**	**13 54 13.3**	**+0.4**
SONM	**Songino Array**	**49.81**	**6**	P	**P**	**13 55 45.2**	**+0.4**
	0.6nm,0.6s,mb3.8,baz=188,slow=9.6,SNR=5.5						
MKAR	**Makanchi Array**	**50.79**	**345**	P	**P**	**13 55 52.6**	**+0.3**
	1.8nm,0.6s,mb4.2,baz=147,slow=8.8,SNR=15						
KURK	**Kurchatov**	**55.37**	**344**	eP	**P**	**13 56 26.0**	**-0.2**
	3.0nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**56.94**	**350**	P	**P**	**13 56 37.2**	**-0.3**
	1.5nm,0.7s,mb4.2,baz=310,slow=5.7,SNR=7.5						
BVAR	**Borovoye Array**	**59.93**	**340**	P	**P**	**13 56 57.2**	**-1.1**
	0.9nm,0.6s,mb4.0,baz=149,slow=8.6,SNR=6.2						
FINES	**FINESS Array B**	**83.83**	**332**	P	**P**	**13 59 21.4**	**+1.1**
	0.7nm,0.6s,mb4.0,baz=72,slow=6.0,SNR=5.2						
TXAR	**Lajitas Array**	**144.74**	**37**	PKP	PKPdf	14 06 29.3	+2.0
	0.3nm,0.3s,baz=179,slow=3.1,SNR=3.7						

*CSEM **02** 14:06:15.3±0.1, 39.92N×42.08E, h30^{km}, MD3.6, Error ellipse: s-maj=1.3km s-min=0.9km az=134.0*
*MOS **02** 14:06:35.2±1.6, 40.26N×43.11E, h10^{km}, mb3.7/1, Error ellipse: s-maj=22.4km s-min=11.2km az=85.2*
ISK 02 14:06:17.7, 40.03N×**42.09E, h5**^{km}**, MD3.6, 2C, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.57**	**258**	iP	Pg	14 06 28.7	-0.5
ERZM				iS	Sg	14 06 35.5	-1.3
EZM	**Erzurum**	**0.57**	**258**	iPG	Pg	14 06 29.5	+0.3
KARS	**Kars**	**0.96**	**53**	PG	Pg	14 06 36.4	-0.5
DIGO	**Kars**	**1.05**	**68**	iP	Pb	14 06 39.5	+1.5
DIGO				iS	Sb	14 06 56.9	+4.9
ARTV	**Artvin**	**1.16**	**354**	iP	Pb	14 06 41.9	+2.1
ARTV				iS	Sb	14 06 59.6	+4.6
BNGL	**BINGOL**	**1.30**	**214**	iP	Pb	14 06 40.6	-1.6
BNGL				iS	Sb	14 06 58.8	-0.3
CLDR	**Caldiran**	**1.67**	**122**	PG	Pg	14 06 50.0	-1.0
AKH	**Akhalkalaki**	**1.74**	**37**	P	Pn	14 06 53.8	+5.0
AKH				S	Sn	14 07 19.5	+7.8
VANB	**Van**	**1.75**	**144**	PG	Pg	14 06 50.8	-1.9
BTMT	**Batman**	**1.90**	**194**	PG	Pg	14 06 52.2	-3.3
GNI	**Garni**	**2.04**	**86**	iPg	Pg	14 06 59.0	+0.6
GNI	**Garni**	**2.04**	**86***c*	iPG	Pg	14 06 59.0	+0.6
GUMT	**Gumushane**	**2.04**	**283**	PG	Pg	14 06 55.3	-3.2
GUMT				SG	Sg	14 07 21.9	-3.8
KELT	**Kelkit**	**2.18**	**274**	iP	Pn	14 06 58.1	+3.0
KELT				iS	Sn	14 07 27.1	+4.3
PTK	**Pertek**	**2.38**	**242**	ePG	Pg	14 06 59.5	-5.7
GOR	**Gori**	**2.48**	**37**	P	Pn	14 07 07.7	+8.3
SIRT	**Sirnak**	**2.54**	**174**	ePG	Pg	14 07 01.0	-7.4
DIY	**Diyarbakir**	**2.58**	**215**	ePG	Pg	14 07 03.1	-6.1
TBLG	**Delisi**	**2.63**	**49**	P	Pn	14 07 05.0	+3.4
TBLG				S	Sn	14 07 46.6	+12
MTA	**Mtatsminda**	**2.64**	**50**	P	Pn	14 07 08.2	+6.5
MTA				S	Sn	14 07 46.5	+12
TI2	**Plekhanov**	**2.64**	**49**	iPn	Pn	14 07 10.2	+8.5
	30nm,0.2s						
TI2				iS	Sn	14 07 47.6	+13
	50nm,0.4s						
ONI	**Oni**	**2.75**	**21**	P	Pn	14 07 11.6	+8.4
ONI				S	Sn	14 07 51.6	+14
HKR	**Hakkari**	**2.77**	**152**	ePG	Pg	14 07 05.5	-7.4
DGRG	**David-gareji**	**2.87**	**59**	P	Pn	14 07 08.3	+3.3
DGRG				S	Sn	14 07 55.5	+15
MARD	**Mardin**	**2.90**	**201**	iP	Pn	14 07 09.2	+3.8
MARD				iS	Sn	14 07 46.9	+5.8
ZEI	**Tsey**	**3.06**	**26**	ePn	Pn	14 07 16.1	+8.5
	23nm,0.1s						
ZEI	**Tsey**	**3.06**	**26**	ePN	Pn	14 07 16.1	+8.5
ZEI				e		14 07 58.5	
ZEI				pmax	pmax		
	comp=Z,13nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,23nm,0.1s						
DIGR	**Digorskoe uzhe**	**3.08**	**21**	ePN	Pn	14 07 20.9	+13
DIGR				eS	Sn	14 07 24.9	-21
LACR	**Lac**	**3.25**	**30**	ePN	Pn	14 07 21.6	+11
LACR				eS	Sn	14 07 26.1	-24
KIV	**Kislovodsk**	**3.95**	**6**⇑	iPN	Pn	14 07 32.5	+12
SOC	**Sochi**	**3.97**	**334**	ePn	Pn	14 07 41.2	+21
	comp=Z,35nm,0.8s						
SOC				eSn	Sn	14 08 30.1	+22
	comp=Z,90nm,11.0s						
SOC	**Sochi**	**3.97**	**334**	ePN	Pn	14 07 41.2	+21
SOC				e		14 08 30.1	
SOC				pmax	pmax		
	comp=Z,24nm,0.7s						
SOC				pmax	pmax		
	comp=N,35nm,0.8s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,90nm,11.0s						
OBN	**Obninsk**	**15.54**	**348**	eP	P	14 10 16.1	+17
	comp=Z,3.0nm,0.7s						
OBN				eS	S	14 13 10.3	+18
OBN	**Obninsk**	**15.54**	**348**	eP	P	14 10 16.1	+17
OBN				e		14 13 10.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**29.72**	**63**	iP	P	14 12 33.1	+6.3

*NIED **02** 14:26:00, 38.40N×143.30E, h17^{km}, Mw4.6 Best double couple: $M_0$1.01×10^{16} NP1:ϕ_s22°, δ63°, λ88°. NP2:ϕ_s206°, δ27°, λ93°.*
*IDC **02** 14:26:32.2±0.8, 38.34N×143.17E, mb4.3/12, mb1 4.4/15, mb1mx4.3/23, mbtmp4.3/15, ML3.7/3, MS4.0/14, Ms1 4.0/14, ms1mx3.9/20, Error ellipse: s-maj=19.8km s-min=18.5km az=131.0*
*JMA **02** 14:26:33.5±0.2, 38.38N×143.26E, h30^{km}, M4.8*
JMA Felt I J1.
*BJI **02** 14:26:35.0, 38.53N×143.06E, h30^{km}, mB5.0, mb4.6, Ms4.6, Msz4.2*
*MOS **02** 14:26:37.4±0.9, 38.60N×142.88E, h33^{km}, mb4.8/28, Error ellipse: s-maj=10.1km s-min=6.1km az=111.7*
*NEIC **02** 14:26:38.3±0.3, 38.36N×143.08E, mb4.7/26, MW4.6(NIED), Error ellipse: s-maj=8.3km s-min=6.1km az=133.0*
ISC 02 14:26:35.7±0.7**, 38.40N**±0.04×**143.13E**±0.05**, h33**^{km}±4^{km}**, h40**^{km}±1.9^{km}**:pP-P, n150,** σ**1**^{s}**08**/158**, mb4.6**/51**, MS4.2**/28**, 8C-3D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.33**	**301**	P	**P**	**14 26 58.2**	**+0.2**
JIO	**Ouri**	**1.40**	**273**	P	**P**	**14 26 59.2**	**+0.2**
JIO				eS	**S**	**14 27 17.4**	**+0.9**
JMK	**Ichinoseki**	**1.59**	**291**	P	**P**	**14 27 02.1**	**+0.3**
JOM	**Ohasama**	**1.79**	**307**	P	**P**	**14 27 04.9**	**+0.3**
JMM	**Marumori**	**1.92**	**255**	P	**P**	**14 27 06.2**	**-0.3**
JMM				eS	**S**	**14 27 30.3**	**+0.7**
JOU	**Okura**	**1.94**	**270**	P	**P**	**14 27 07.4**	**+0.7**
JFK	**Kawauchi**	**2.06**	**241**	P	**P**	**14 27 07.9**	**-0.6**
JFK				eS	**S**	**14 27 33.0**	**-0.3**
JYK	**Kaneyama**	**2.23**	**284**	P	**P**	**14 27 11.4**	**+0.5**
JANG	**Nango**	**2.33**	**328**	P	**P**	**14 27 11.6**	**-0.8**
JANG				eS	**S**	**14 27 41.5**	**+1.3**
JFT	**Otama**	**2.38**	**249**	P	**P**	**14 27 13.6**	**+0.6**
JFT				eS	**S**	**14 27 43.1**	**+1.8**
JYS	**Shirataka**	**2.41**	**267**	P	**P**	**14 27 14.0**	**+0.4**
MAJO	**Matsushiro**	**4.33**	**246**	ePn	**P**	**14 27 41.4**	**+0.6**
MAT	**Matsushiro**	**4.33**	**246**	P	**P**	**14 27 41.5**	**+0.6**
MAT				eS	**S**	**14 28 30.9**	**0.0**
MAT	**Matsushiro**	**4.33**	**246**	eP	**P**	**14 27 42.0**	**+1.1**
MAT				S	**S**	**14 28 31.0**	**+0.1**
ASAJ	**Asahikawa**	**5.72**	**356**	Pn	**P**	**14 27 58.5**	**-1.9**
	2.7nm,0.3s,baz=226,slow=16,SNR=17						
ASAJ				Sn	**S**	**14 29 03.2**	**-2.7**
	4.0nm,0.3s,baz=100,slow=29,SNR=4.6						
ASAJ				LR	LR	14 31 00.3	
	comp=Z,2μm,19.6s,baz=16,slow=46						
ASAJ	**Asahikawa**	**5.72**	**356**	P	**P**	**14 27 58.6**	**-1.9**
ASAJ						14 29 03.3	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.6s						
JHJ	**Hachijo jima 2**	**5.93**	**208**	Pn	**P**	**14 28 01.2**	**-2.1**
	comp=Z,23nm,0.3s,baz=75,slow=23,SNR=11						
JHJ				Sn	**S**	**14 29 03.8**	**-7.3**
	comp=Z,59nm,0.3s,baz=74,slow=21,SNR=6.7						
JHJ				LR	LR	14 30 41.6	
	comp=Z,394nm,18.4s,baz=232,slow=42						
YUK	**Yuzh-Kuril'sk**	**5.99**	**19**	P	**P**	**14 27 58.5**	**-5.8**
YUK				iS	**S**	**14 29 02.9**	**-10**
YUK				pmax	pmax		
	comp=E,120nm,0.5s						
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				smax			
	comp=N,460nm,0.5s						
YUK				smax			
	comp=E,810nm,0.5s						
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
YSS	**Yuzh-Sakhalins**	**8.55**	**358**	ePn	**P**	**14 28 39.3**	**-0.8**
YSS	**Yuzh-Sakhalins**	**8.55**	**358**	eP	**P**	**14 28 39.6**	**-0.4**
YSS				S	**S**	**14 30 11.8**	**-4.6**
YSS				MLR	MLR		
	comp=Z,700nm,13.0s						
YSS				MLR	MLR		
	comp=N,600nm,12.0s						
JNU	**Nakatsue**	**11.26**	**246**	Pn	**P**	**14 29 15.0**	**-2.2**
	comp=N,0.2nm,0.3s,baz=102,slow=23,SNR=5.0						
JNU				LR	LR	14 33 58.9	
	comp=N,715nm,19.4s,baz=58,slow=40						
MDJ	**Mudanjiang**	**11.89**	**306**	P	**P**	**14 29 25.8**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,24nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,171nm,6.2s						
MDJ				LR	LR		
	comp=N,1μm,12.5s						
MDJ				LR	LR		
	comp=E,570nm,15.0s						
MDJ				LR	LR		
	comp=Z,1μm,15.3s						
MDJ	**Mudanjiang**	**11.89**	**306**	ePn	**P**	**14 29 25.5**	**-0.2**
	comp=Z,26nm,1.0s						
KLR	**Kul'dur**	**13.57**	**327**	eP	**P**	**14 29 41.8**	**-6.2**
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
SNY	**Shenyang**	**15.34**	**289**	⇓P	**P**	**14 30 10.5**	**-0.7**
SNY				AMB	AMB		
	comp=Z,20nm,2.1s						
SNY				LR	LR		
	comp=E,1μm,18.9s						
SNY				LR	LR		
	comp=Z,1μm,18.2s						
DL2	**Dalian**	**16.80**	**278**	P	**P**	**14 30 31.1**	**+1.3**
DL2				eS	**S**	**14 33 34.7**	**+0.4**
DL2				AMB	AMB		
	comp=Z,30nm,1.1s						
DL2				LR	LR		
	comp=N,320nm,13.8s						
DL2				LR	LR		
	comp=E,460nm,14.4s						
DL2				LR	LR		
	comp=Z,730nm,18.7s						
PET	**Petropavlovsk**	**18.14**	**31**	eP	**P**	**14 30 49.7**	**+3.2**
PET				eS	**S**	**14 34 09.2**	**+4.5**
PET				pmax	pmax		
	comp=Z,100nm,6.0s						
PET				MLR	MLR		
	comp=Z,200nm,18.0s						
SSE	**Sheshan**	**19.42**	**255**	P	**P**	**14 30 58.6**	**-3.2**
SSE				AP		14 31 13.0	
SSE				S	**S**	**14 34 33.2**	**-0.5**
SSE				AMB	AMB		
	comp=Z,32nm,0.8s						
SSE				AMB	AMB		
	comp=Z,260nm,6.8s						
SSE				LR	LR		
	comp=N,323nm,17.0s						
SSE				LR	LR		
	comp=E,213nm,17.0s						
SSE				LR	LR		
	comp=Z,348nm,16.6s						
SSE	**Sheshan**	**19.42**	**255**	P	**P**	**14 30 58.6**	**-3.2**
	comp=Z,32nm,0.8s						
SSE				pP		14 31 13.0	
SSE				sP		14 31 22.1	
SSE				S	**S**	**14 34 33.2**	**-0.5**
SSE				sS		14 34 58.3	
HIA	**Hailar**	**19.98**	**310**	eP	**P**	**14 31 04.3**	**-3.5**
	comp=Z,37nm,1.1s						
HIA	**Hailar**	**19.98**	**310**	eP	**P**	**14 31 04.3**	**-3.5**
HIA				pmax	pmax		
	comp=Z,37nm,1.1s						
TIA	**Tai'an**	**20.78**	**272**	eP	**P**	**14 31 13.0**	**-3.2**
NJ2	**Nanjing**	**20.79**	**260**	eP	**P**	**14 31 19.3**	**+3.0**
NJ2				XP		14 31 30.3	
NJ2				PP	PP	14 31 42.5	+3.9
NJ2				S	**S**	**14 35 03.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s						
NJ2				LR	LR		
	comp=N,3μm,23.8s						
NJ2				LR	LR		
	comp=E,1μm,16.9s						
NJ2				LR	LR		
	comp=Z,410nm,14.2s						
MA2	**Magadan**	**21.75**	**11**	eP	**P**	**14 31 25.8**	**0.0**
	comp=Z,37nm,1.4s,mb4.6						
MA2	**Magadan**	**21.75**	**11***c*	iP	**P**	**14 31 25.9**	**+0.1**
MA2				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
MA2				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
CLNS	**Chul'man**	**22.04**	**333**	eP	**P**	**14 31 27.4**	**-1.3**
CLNS				e		14 31 51.1	
CLNS				eS	**S**	**14 35 29.5**	**+4.7**
CLNS				eSS	SS	14 36 19.9	+16
CLNS				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,33nm,1.1s						
CLNS				pmax	pmax		
	comp=E,24nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.6						
CLNS				pmax	pmax		
	comp=N,30nm,1.0s						
CLNS				pmax	pmax		
	comp=E,38nm,1.1s						
CLNS				smax			
	comp=N,11nm,0.9s						
CLNS				smax			
	comp=Z,8.0nm,0.7s						
CLNS				smax			
	comp=E,7.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,500nm,16.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,500nm,16.0s,MS4.2						
HHC	**Hu-ho-hao-te**	**24.37**	**286**	eP	**P**	**14 31 49.2**	**-2.4**
HHC				AP		14 31 59.9	
HHC				XP		14 32 05.9	
HHC				PP	PP	14 32 23.1	-4.2
HHC				PCP	PcP	14 35 30.8	-1.0
HHC				S	**S**	**14 35 59.1**	**-7.0**
HHC				XS		14 36 16.9	
HHC				SCP		14 39 06.4	
HHC				PCS		14 39 11.1	
HHC				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.5						
HHC				AMB	AMB		
	comp=Z,139nm,5.0s						
HHC				LR	LR		
	comp=N,221nm,15.1s,MS4.6						
HHC				LR	LR		
	comp=E,1μm,13.2s,MS4.6						
HHC				LR	LR		
	comp=Z,1μm,15.1s,MS4.5						
CIT	**Chita**	**24.68**	**313**	eP	**P**	**14 31 53.4**	**-1.2**
CIT				pmax	pmax		
	comp=Z,138nm,1.5s,mb5.3						
GUMO	**Guam**	**24.76**	**176**	LR	LR	14 39 51.3	
	comp=Z,368nm,18.6s,MS3.9,baz=351,slow=32						
WHN	**Wuhan**	**24.91**	**260**	P	**P**	**14 31 56.2**	**-0.8**
YAK	**Yakutsk**	**25.07**	**345**	eP	**P**	**14 31 58.5**	**+0.4**
	comp=Z,26nm,0.8s,mb4.8						
YAK	**Yakutsk**	**25.07**	**345**	eP	**P**	**14 31 56.5**	**-1.6**
YAK				i *PP	pP	14 32 05.3	-2.2
YAK				e		14 32 33.0	
YAK				i		14 35 29.8	
YAK				eS	**S**	**14 36 24.1**	**+6.4**
YAK				iSS	SS	14 37 19.2	+1.3
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
YAK				smax			
	comp=N,5.0nm,1.1s						
YAK				smax			
	comp=E,6.0nm,1.2s						
YAK				MLR	MLR		

comp=Z,376nm,15.0s,MS4.0
YAK MLR MLR
comp=N,257nm,14.0s
SEY Seymchan 25.20 10*c* iP **P** **14 32 00.7 +1.3**
BOD Bodaibo 27.14 325 *e*P **P** **14 32 16.4 -1.0**
BOD pmax pmax
comp=Z,13nm,1.0s,mb4.4
ULN Ulaanbaatar 27.75 302 *e*P **P** **14 32 23.4 +0.3**
comp=Z,31nm,1.3s,mb4.8
ULN Ulaanbaatar 27.75 302*c* iP **P** **14 32 23.2 +0.1**
XAN Xi'an 27.84 272 P **P** **14 32 22.2 -1.9**
XAN AP pP 14 32 31.3 -2.3
XAN AMB AMB
comp=Z,15nm,1.3s,mb4.5
XAN LR LR
comp=N,218nm,15.9s,MS4.1
XAN LR LR
comp=E,390nm,17.2s,MS4.1
XAN LR LR
comp=Z,409nm,16.6s,MS4.1
SONM Songino Array 28.19 301 P **P** **14 32 27.6 +0.6**
comp=Z,15nm,1.2s,mb4.5,baz=112,slow=7.6,SNR=60
SONM LR LR 14 44 03.5
comp=Z,477nm,18.6s,MS4.1,baz=87,slow=37
ENH Enshi 28.82 264 *e*P **P** **14 32 31.8 -1.0**
comp=Z,36nm,1.1s,mb5.0
ENH *e* pP 14 32 43.3 +0.9
ZAK Zakamensk 30.52 306 *i*P **P** **14 32 47.0 -0.8**
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.6
LZH Lanzhou 31.20 278 ⇓P **P** **14 32 53.7 -0.2**
LZH AP pP 14 33 05.0 +1.4
LZH XP sP 14 33 10.7 +2.7
LZH *e*S **S** **14 37 54.0 -2.6**
LZH XS 14 38 14.7
LZH *e*SS SS 14 39 40.2 -3.2
LZH AMB AMB
comp=Z,26nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,71nm,5.4s
LZH LR LR
comp=N,489nm,13.0s
LZH LR LR
comp=Z,784nm,17.2s,MS4.4
LZH Lanzhou 31.20 278 ⇓P **P** **14 32 53.7 -0.2**
comp=Z,26nm,1.5s,mb4.8
LZH pP pP 14 33 05.0 +1.4
LZH sP sP 14 33 10.7 +2.7
LZH *e*S **S** **14 37 54.0 -2.6**
LZH sS 14 38 14.7
LZH *e*SS SS 14 39 40.2 -3.2
LZH LR LR
comp=Z,780nm,17.2s,MS4.4
BILL Bilibino 32.34 16 *e*P **P** **14 33 03.6 0.0**
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BILL MLR MLR
comp=Z,100nm,19.0s,MS3.5
GYA Guiyang 32.80 260 P **P** **14 33 06.2 -1.8**
GYA AP pP 14 33 18.1 +0.4
GYA XP sP 14 33 23.4 +1.3
GYA PP PP 14 34 15.2 -2.8
GYA S **S** **14 38 16.3 -5.4**
GYA XS 14 38 36.5
GYA AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
GYA LR LR
comp=N,270nm,16.2s,MS4.2
GYA LR LR
comp=E,310nm,16.4s,MS4.2
GYA LR LR
comp=Z,250nm,15.8s,MS4.0
GTA Gaotai 33.48 286 *e*P **P** **14 33 14.5 +0.7**
GTA AP pP 14 33 25.8 +2.3
GTA PP PP 14 34 27.1 +0.8
GTA PPP PPP 14 34 43.9 +0.6
GTA PCP PcP 14 35 55.0 +0.5
GTA S **S** **14 38 31.3 -0.9**
GTA SCS ScS 14 43 35.5 +0.7
GTA AMB AMB
comp=Z,14nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,147nm,6.8s
GTA LR LR
comp=N,265nm,15.2s,MS4.6
GTA LR LR
comp=E,885nm,15.6s,MS4.6
GTA LR LR
comp=Z,1μm,15.6s,MS4.7
KMI Kunming 36.52 261 P **P** **14 33 39.7 -0.1**
KMI AP pP 14 33 51.2 +1.6
KMI XP sP 14 33 55.8 +1.9
KMI PP PP 14 35 04.8 +0.4
KMI PPP PPP 14 35 25.4 +1.0
KMI S **S** **14 39 19.0 -0.2**
KMI XS 14 39 38.4
KMI SS SS 14 41 46.6 +0.6
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.7
KMI AMB AMB
comp=Z,203nm,5.6s
KMI LR LR
comp=N,339nm,14.4s,MS4.5
KMI LR LR
comp=E,395nm,14.4s,MS4.5
KMI LR LR
comp=Z,485nm,18.4s,MS4.3
KMI Kunming 36.52 261 P **P** **14 33 39.7 -0.1**
comp=Z,11nm,0.9s,mb4.7
KMI pP pP 14 33 51.2 +1.6
KMI sP sP 14 33 55.8 +1.9
KMI PP PP 14 35 04.8 +0.4
KMI PPP PPP 14 35 25.4 +1.0
KMI S **S** **14 39 19.0 -0.2**
KMI SS SS 14 41 46.6 +0.6
KMI SSS SSS 14 42 17.0 +1.4
KMI LR LR
comp=Z,490nm,18.4s,MS4.3
WMQ Urumqi 41.45 296 *e*P **P** **14 34 22.3 +1.6**
WMQ AP pP 14 34 34.5 +3.9
WMQ PCP PcP 14 36 22.0 +3.2
WMQ PPP PPP 14 36 32.5 +2.1
WMQ PCS 14 40 10.5
WMQ S **S** **14 40 34.0 +0.5**
WMQ SCS ScS 14 44 20.0 +0.4
WMQ AMB AMB
comp=Z,21nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,152nm,5.3s
WMQ LR LR
comp=N,664nm,12.2s,MS4.8
WMQ LR LR
comp=E,466nm,15.2s,MS4.8
WMQ LR LR
comp=Z,340nm,16.9s,MS4.3
ZAL Zalesovo 42.03 311 P **P** **14 34 26.0 +0.8**
comp=Z,3.7nm,0.9s,mb4.0,baz=23,slow=9.7,SNR=16
ZAL LR LR 14 52 35.4
comp=Z,120nm,20.5s,MS3.8,baz=20,slow=37
ZAL Zalesovo 42.03 311 P **P** **14 34 26.0 +0.8**
ZAL LR LR 14 52 35.4
NVS Novosibirsk 42.90 313 *e*P **P** **14 34 31.6 -0.7**
NVS pmax pmax
comp=Z,44nm,2.5s,mb4.8
NVS pmax pmax
comp=E,10.0nm,1.3s
LSA Lhasa 43.45 275 *e*P **P** **14 34 40.6 +3.4**
LSA Lhasa 43.45 275 P **P** **14 34 38.6 +1.4**
comp=E,7.3nm,0.8s,mb4.5
LSA Lhasa 43.45 275 P **P** **14 34 38.6 +1.4**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
MKAR Makanchi Array 44.56 301 P **P** **14 34 46.1 +0.2**
comp=Z,9.6nm,0.9s,mb4.6,baz=82,slow=8.6,SNR=35
KURK Kurchatov 46.17 307 *e*P **P** **14 34 58.5 -0.1**
comp=Z,28nm,0.9s,mb5.2
KURK Kurchatov 46.17 307 *e*P **P** **14 34 58.6 -0.1**
KURK pmax pmax
comp=Z,28nm,0.9s,mb5.2
ILAR Eielson Array 47.61 33 P **P** **14 35 09.7 -0.2**
comp=Z,1.3nm,0.8s,mb4.0,baz=267,slow=6.6,SNR=15
ILAR LR LR 14 55 40.5

comp=Z,65nm,19.9s,MS3.6,baz=173,slow=37
KKN Kakani 48.90 276 *e*P **P** **14 35 20.5 +0.2**
comp=Z,20nm,0.5s,mb5.4
KKN Kakani 48.90 276 *e*P **P** **14 35 20.5 +0.2**
KKN pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
PKI Pulchoki 48.90 275 *e*P **P** **14 35 20.1 -0.2**
DMN Daman 49.12 275 *e*P **P** **14 35 22.4 +0.4**
GKN Gorkha 49.30 276 *e*P **P** **14 35 23.3 -0.1**
comp=Z,45nm,0.9s,mb5.5
KOLN Koldanda 50.22 276 *e*P **P** **14 35 30.6 +0.1**
comp=Z,43nm,1.1s,mb5.4
VOSK Vostochnaya 50.39 311 P **P** **14 35 30.5 -0.9**
VOSK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BVA0 Borovoye Array 50.67 312 *i* P **P** **14 35 33.4 -0.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
BRVK Borovoye 50.72 312 *e*P **P** **14 35 33.9 -0.1**
comp=Z,3.7nm,0.9s,mb4.3
BRVK Borovoye 50.72 312 *e*P **P** **14 35 33.9 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AAK Ala-Archa 51.05 298 *e*P **P** **14 35 35.5 -1.0**
comp=Z,6.9nm,1.1s,mb4.5
AAK Ala-Archa 51.05 298*c* iP **P** **14 35 35.6 -0.9**
AAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
AAK MLR MLR
comp=Z,200nm,15.0s,MS4.3
KKAR Karatay Array 53.62 300 P **P** **14 35 55.2 -0.6**
KKAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SVE Sverdlovsk 55.03 318 *e*P **P** **14 36 05.7 -0.2**
SVE *e* pP 14 36 17.0 +1.0
SVE *e* 14 37 07.0
SVE *e* 14 47 28.0
SVE pmax pmax
comp=Z,24nm,1.5s,mb5.0
SVE MLR MLR
comp=N,300nm,15.0s,MS4.8
SVE MLR MLR
comp=E,500nm,15.0s,MS4.8
SVE MLR MLR
comp=Z,1μm,15.0s,MS5.0
ARU Arti 56.24 318 *e*P **P** **14 36 14.0 -0.6**
comp=Z,8.7nm,0.9s,mb4.8
ARU Arti 56.24 318⇑ *i*P **P** **14 36 14.1 -0.5**
ARU *e* 14 36 31.7
ARU *e* 14 38 18.2
ARU *e*PPP PPP 14 39 35.9 -2.5
ARU *e*S **S** **14 43 59.4 -0.9**
ARU *e*SS SS 14 47 49.6 +2.3
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,600nm,17.0s,MS4.8
ARU MLR MLR
comp=N,200nm,16.0s,MS4.6
ARU MLR MLR
comp=E,400nm,17.0s,MS4.6
AB31 Akbulak array 58.10 310 *i* P **P** **14 36 26.6 -1.3**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
WRAB Tennant Creek 58.61 190 *e*P **P** **14 36 33.0 +1.1**
comp=Z,20nm,0.9s,mb5.1
WRAB Tennant Creek 58.61 190*c* iP **P** **14 36 33.5 +1.7**
WB2 Warramunga Arr 58.62 190 *e*P **P** **14 36 29.9 -2.0**
WRA Warramunga Arr 58.62 190 P **P** **14 36 29.9 -1.9**
comp=Z,12nm,0.9s,mb4.9,baz=7.6,slow=6.9,SNR=52
AKTO Aktyubinsk 58.77 312 P **P** **14 36 32.0 -0.6**
AKTO pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
YKA Yellowknife Ar 61.94 31 LR LR 15 03 54.5
comp=Z,48nm,19.4s,MS3.7,baz=185,slow=36
ASPA Alice Springs 62.34 190 *e*P **P** **14 36 57.0 -0.2**
ARCES ARCESS Array B 63.20 340 P **P** **14 37 01.9 -0.4**
comp=Z,1.8nm,0.8s,mb4.3,baz=63,slow=8.1,SNR=9.5
ARCES LR LR 15 06 40.4
comp=Z,109nm,20.9s,MS4.0,baz=269,slow=38
JOF Joensuu 65.39 332 *e*p **P** **14 37 15.3 -1.2**
MOS Moscow 66.96 324 *e*P **P** **14 37 25.7 -0.8**
KAF Kangasniemi 67.71 333 *e*p **P** **14 37 20.9 -10**
OBN Obninsk 67.81 324*c* *i*P **P** **14 37 31.0 -0.9**
OBN *e**PP pP 14 37 45.4 +3.1
OBN pmax pmax
comp=Z,14nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.7
FINES FINESS Array B 68.23 333 P **P** **14 37 34.5 0.0**
comp=Z,3.9nm,0.8s,mb4.5,baz=72,slow=12,SNR=15
FINES LR LR 15 09 44.7
comp=Z,229nm,18.9s,MS4.4,baz=163,slow=38
SUMG Summit 69.31 1 *e*P **P** **14 37 42.0 +1.1**
comp=Z,6.0nm,0.8s,mb4.6
VSU Vasula 69.96 330*c* *i*P **P** **14 37 44.9 -0.2**
KIV Kislovodsk 71.03 311 *e*P **P** **14 37 53.3 +1.4**
comp=Z,12nm,0.9s,mb4.8
KIV Kislovodsk 71.03 311 *e*P **P** **14 37 53.3 +1.4**
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.8
NVAR Mina Array Bea 73.09 54 P **P** **14 38 06.3 +2.1**
comp=Z,0.1nm,0.3s,baz=355,slow=20,SNR=3.7
NVAR Mina Array Bea 73.09 54 P **P** **14 38 06.3 +2.1**
NB2 NORSAR Subarra 73.44 338 P **P** **14 38 05.7 -0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=39,slow=5.8
NB2 NORSAR Subarra 73.44 338 P **P** **14 38 05.7 -0.1**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 73.44 338 P **P** **14 38 06.1 +0.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=38,slow=5.9,SNR=14
NOA LR LR 15 11 59.3
comp=Z,137nm,21.0s,MS4.2,baz=20,slow=37
NOA NORSAR Array B 73.44 338 P **P** **14 38 06.1 +0.3**
NOA LR LR 15 11 59.3
AKASG Malin Array Be 74.04 323 P **P** **14 38 09.9 +0.5**
comp=Z,7.7nm,0.9s,mb4.6,baz=43,slow=5.9,SNR=31
PDAR Pinedale Array 75.74 46 P **P** **14 38 19.1 -0.4**
comp=Z,0.2nm,0.3s,mb3.5,baz=270,slow=3.6,SNR=2.4
MORC Moravsky Berou 79.95 328 *e*P **P** **14 38 43.3 +0.8**
comp=Z,2.4nm,1.0s,mb4.1
MORC Moravsky Berou 79.95 328 *e*P **P** **14 38 43.3 +0.8**
MORC pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
DPC Dobruska-Polom 80.01 329 *e*P **P** **14 38 44.5 +1.6**
DPC AMS AMS 15 16 40.0
comp=Z,300nm,18.7s
UPC Upice 80.02 329 *e*P **P** **14 38 42.8 -0.1**
PSZ Piszkesteto 80.32 325 *e*P **P** **14 38 45.5 +0.9**
comp=Z,6.2nm,0.9s,mb4.5
PSZ Piszkesteto 80.32 325 *e*P **P** **14 38 45.6 +1.0**
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 80.56 330 *e*P **P** **14 38 46.6 +0.8**
comp=Z,4.1nm,0.9s,mb4.4
BRG Berggiesshubel 80.56 330 *e*P **P** **14 38 46.6 +0.8**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLL Collm 80.58 331 P **P** **14 38 46.3 +0.4**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 14 38 57.9 +1.5
CLL *e*SP sP 14 39 04.0 +4.0
CLL Collm 80.58 331 *i* P **P** **14 38 46.3 +0.4**
comp=Z,11nm,1.0s,mb4.7
CLL *i* pP pP 14 38 57.9 +1.5
CLL Collm 80.58 331 *i* P **P** **14 38 46.3 +0.4**
CLL *i* *PP pP 14 38 57.9 +1.5
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
PVCC Panska Ves 80.58 330 *e*P **P** **14 38 47.3 +1.4**
PRU Pruhonice 81.02 329 *e*P **P** **14 38 49.5 +1.3**
PRU AMS AMS 15 17 40.0
comp=Z,200nm,12.4s
MOX Moxa 81.64 331 *e*P **P** **14 38 52.0 +0.6**
NKC Novy Kostel 81.65 331 *e*P **P** **14 38 53.4 +1.9**
KHC Kasperske Hory 82.08 329 *e*P **P** **14 38 55.2 +1.4**
KHC pP pP 14 39 05.5 +1.2
KHC AMS AMS 15 17 30.0
comp=Z,300nm,17.8s
KHC Kasperske Hory 82.08 329 *e*P **P** **14 38 55.2 +1.4**
KHC *e* pP 14 39 05.5 +1.2
KHC MLR MLR
comp=Z,300nm,17.8s,MS4.7
GERES GERESS Array B 82.25 329 LR LR 15 18 36.4
comp=Z,211nm,18.4s,MS4.5,baz=9.7,slow=38

GRA1 Grafenberg Arr 82.55 331 *e*P **P** **14 38 57.9 +1.7**
comp=Z,8.0nm,1.0s,mb4.7
GRA1 LR LR
comp=Z,100nm,20.0s,MS4.2
GRF Grafenberg Arr 82.55 331 *e*P **P** **14 38 57.9 +1.7**
comp=Z,8.0nm,1.0s,mb4.7
GRF LR LR
comp=Z,100nm,20.0s,MS4.2
GRF Grafenberg Arr 82.55 331 *e*P **P** **14 38 57.9 +1.7**
GRF pmax pmax
GRF MLR MLR
comp=Z,100nm,20.0s,MS4.2
GRF Grafenberg Arr 82.55 331 *e*P **P** **14 38 57.9 +1.7**
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
GRF MLR MLR
comp=Z,100nm,20.0s,MS4.2
ANMO Albuquerque 82.67 51 *e*P **P** **14 38 57.8 +0.7**
PPT Papeete 84.05 118 *e*LR LR 15 04 22.0
comp=Z,121nm,22.8s
PPT Papeete 84.05 118 LR LR 15 13 54.5
comp=Z,172nm,18.8s,MS4.5,baz=328,slow=34
TAOE Nuku Hiva Isla 85.20 105 *e*LR LR 15 04 55.6
comp=Z,467nm,24.8s
TBI Tubuai 88.08 122 *e*LR LR 15 06 13.0
comp=Z,282nm,41.0s
TXAR Lajitas Array 88.22 53 P **P** **14 39 25.7 +1.1**
comp=Z,0.2nm,0.3s,mb3.9,baz=25,slow=36,SNR=1.7
TXAR LR LR 15 17 17.7
comp=Z,51nm,19.2s,MS4.0,baz=190,slow=34
RKT Rikitea 98.02 113 *e*LR LR 15 10 51.2
comp=Z,110nm,24.0s
SNAA Sanae 142.45 197 P PKPdf 14 46 04.9 +1.1
SNAA Sanae 142.45 197 PKPdf 14 46 17.4 +14
VNA2 Neumayer--Watz 144.01 196 P PKPbc 14 46 06.9 +1.2
VNA2 Neumayer--Watz 144.01 196 PKPbc 14 46 10.3 +4.6
VNA2 Neumayer--Watz 144.01 196 PKPbc 14 46 14.7 +9.0
VNA3 Neumayer Olymp 144.23 195 P PKPbc 14 46 07.2 +0.9
VNA3 Neumayer Olymp 144.23 195 PKPbc 14 46 10.9 +4.6
VNA1 Neumayer--Stat 144.40 196 P PKPbc 14 46 05.0 -1.8
VNA1 Neumayer--Stat 144.40 196 PKPbc 14 46 11.7 +4.9
LPAZ La Paz 144.83 60 PKP PKPdf 14 46 12.4 +2.9
comp=Z,0.6nm,0.9s,baz=338,slow=5.4,SNR=2.4
LPAZ La Paz 144.83 60 PKIKP PKPdf 14 46 12.4 +2.9
LPAZ pmax pmax
comp=Z,1.0nm,0.9s

ISC 02 14:50:13.6±0.6, 39.71N±0.05×30.10E±0.04, h10km, n7, σ0.89/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**0.32**	**58**	*i* P		**Pg**	**14 50 20.6**	**+0.2**
BORA				*i* S		**Sg**	**14 50 24.9**	**0.0**
ESKT	**Eskisehir**	**0.61**	**108**	PG		**Pg**	**14 50 26.6**	**+0.6**
ESKT				SG		**Sg**	**14 50 35.8**	**+1.6**
ESKT	**Eskisehir**	**0.61**	**108**	*i* P		**Pb**	**14 50 25.3**	**-0.7**
ESKT				*i* S		**Sg**	**14 50 33.6**	**-0.6**
GDZ	**Gediz**	**0.78**	**218**	*i* P		**Pb**	**14 50 29.0**	**+0.2**
GDZ				*i* S		**Sb**	**14 50 39.7**	**+0.5**
ULDT	**Uludag**	**0.86**	**301**	*i* P		**Pb**	**14 50 30.5**	**+0.4**
ULDT				*i* S		**Sb**	**14 50 39.9**	**-1.5**
YLV	**Yalova**	**1.02**	**327**	*e*PG		**Pg**	**14 50 35.4**	**+1.3**
KIZT	**Kizilcal**	**1.61**	**120**	*e*PG		**Pg**	**14 50 44.3**	**-1.6**

*NEIC **02** 15:12:11.4, 38.01S×176.26E, h192km, MG4.1(WEL), After WEL.*

WEL 02 15:12:11.5±0.3, 38.00S×176.27E, h190km±3km, ML3.9/18, Error ellipse: s-maj=4.2km s-min=3.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**1.04**	**109**	PN	P		15 12 40.6	-0.2
MWZ				SN	S		15 13 03.1	-0.2
MWZ	**Matawai**	**1.04**	**109**	P	P		15 12 40.6	-0.1
MWZ				S	S		15 13 03.1	-0.2
BKZ	**Black Stump Fm**	**1.18**	**172**	PN	P		15 12 41.6	-0.2
BKZ				SN	S		15 13 03.8	-1.4
BKZ	**Black Stump Fm**	**1.18**	**172**	P	P		15 12 41.6	-0.2
WTVZ	**West Tongariro**	**1.23**	**205**	PN	P		15 12 42.2	-0.1
WTVZ	**West Tongariro**	**1.23**	**205**	P	P		15 12 42.2	-0.1
TWVZ	**Taurewa**	**1.25**	**211**	PN	P		15 12 42.0	-0.4
TWVZ	**Taurewa**	**1.25**	**211**	P	P		15 12 42.1	-0.4
NGZ	**Ngauruhoe**	**1.28**	**204**	PN	P		15 12 42.9	+0.2
NGZ				SN	S		15 13 08.0	+1.1
NGZ	**Ngauruhoe**	**1.28**	**204**	P	P		15 12 42.9	+0.2
CNZ	**Chateau**	**1.32**	**205**	PN	P		15 12 42.8	-0.3
CNZ	**Chateau**	**1.32**	**205**	P	P		15 12 42.9	-0.2
WPVZ	**Whakapapa**	**1.33**	**205**	PN	P		15 12 43.0	-0.1
WPVZ	**Whakapapa**	**1.33**	**205**	P	P		15 12 43.0	-0.1
TUVZ	**Tukino**	**1.35**	**201**	PN	P		15 12 43.1	-0.3
TUVZ				SN	S		15 13 07.3	-0.7
TUVZ	**Tukino**	**1.35**	**201**	P	P		15 12 43.2	-0.2
FWVZ	**Far West T-bar**	**1.37**	**204**	*e*PN	P		15 12 43.6	+0.1
FWVZ	**Far West T-bar**	**1.37**	**204**	*e*P	P		15 12 43.7	+0.2
WNVZ	**Wahianoa**	**1.42**	**202**	PN	P		15 12 43.8	-0.2
WNVZ	**Wahianoa**	**1.42**	**202**	P	P		15 12 43.8	-0.2
MOVZ	**Moawhango**	**1.46**	**196**	PN	P		15 12 43.7	-0.6
MOVZ	**Moawhango**	**1.46**	**196**	P	P		15 12 43.7	-0.6
PKVZ	**Pokaka**	**1.48**	**209**	PN	P		15 12 43.9	-0.6
KNZ	**Kokohu**	**1.50**	**133**	*e*PN	P		15 12 44.8	+0.1
KNZ				SN	S		15 13 09.7	-0.6
KNZ	**Kokohu**	**1.50**	**133**	*e*P	P		15 12 45.0	+0.3
MTVZ	**Mangateitei**	**1.52**	**204**	PN	P		15 12 44.4	-0.5
PUZ	**Puketiti**	**1.57**	**93**	*e*PN	P		15 12 44.8	-0.5
PUZ				SN	S		15 13 10.0	-1.4
PUZ	**Puketiti**	**1.57**	**93**	*e*P	P		15 12 44.9	-0.5
VRZ	**Vera Road**	**1.63**	**226**	PN	P		15 12 45.6	-0.4
VRZ	**Vera Road**	**1.63**	**226**	P	P		15 12 45.6	-0.3
MXZ	**Matakaoa Point**	**1.67**	**75**	PN	P		15 12 46.0	-0.3
MXZ				SN	S		15 13 12.5	-0.6
MXZ	**Matakaoa Point**	**1.67**	**75**	P	P		15 12 46.0	-0.3
RAEZ	**Rainy Point**	**1.95**	**228**	PN	P		15 12 49.3	+0.2
RAEZ	**Rainy Point**	**1.95**	**228**	P	P		15 12 49.3	+0.2
WAZ	**Wanganui**	**2.02**	**209**	PN	P		15 12 48.9	-0.9
WAZ	**Wanganui**	**2.02**	**209**	P	P		15 12 49.0	-0.8
TSZ	**Takapari Road**	**2.07**	**187**	PN	P		15 12 49.5	-0.8
TSZ				*e*SN	S		15 13 17.7	-2.6
TSZ	**Takapari Road**	**2.07**	**187**	P	P		15 12 49.6	-0.8
TSZ				S	S		15 13 20.3	0.0
PXZ	**Pawanui**	**2.08**	**167**	PN	P		15 12 50.1	-0.4
PXZ				SN	S		15 13 19.2	-1.3
NEZ	**North Egmont**	**2.12**	**233**	PN	P		15 12 51.1	+0.1
NEZ	**North Egmont**	**2.12**	**233**	P	P		15 12 51.1	+0.1
PKE	**Pukeiti**	**2.15**	**236**	PN	P		15 12 50.8	-0.4
PKE	**Pukeiti**	**2.15**	**236**	P	P		15 12 50.9	-0.4
BFZ	**Birch Farm**	**2.67**	**180**	*e*PN	P		15 12 56.0	-1.4
BFZ	**Birch Farm**	**2.67**	**180**	*e*P	P		15 12 56.0	-1.3
MRZ	**Mangatainoka R**	**2.71**	**191**	PN	P		15 12 55.8	-1.9
MRZ	**Mangatainoka R**	**2.71**	**191**	P	P		15 12 55.8	-1.9
KIW	**Kapiti Island**	**3.04**	**200**	PN	P		15 12 59.0	-2.7
KIW	**Kapiti Island**	**3.04**	**200**	P	P		15 12 59.0	-2.7
MTW	**Mount Morrison**	**3.21**	**190**	PN	P		15 13 01.0	-2.7
MTW	**Mount Morrison**	**3.21**	**190**	P	P		15 13 01.0	-2.7
CAW	**Cannon Point**	**3.24**	**196**	PN	P		15 13 01.5	-2.6
CAW	**Cannon Point**	**3.24**	**196**	P	P		15 13 01.5	-2.6
DUWZ	**D'Urville Isla**	**3.34**	**212**	PN	P		15 13 02.2	-3.1
TRWZ	**Traveller**	**3.42**	**187**	PN	P		15 13 03.7	-2.6
PAWZ	**Paruwai Farm**	**3.44**	**191**	PN	P		15 13 03.7	-2.9
MRW	**Makara Radio**	**3.44**	**200**	PN	P		15 13 03.6	-3.0
MRW	**Makara Radio**	**3.44**	**200**	P	P		15 13 03.6	-3.0
WEL	**Wellington**	**3.48**	**199**	PN	P		15 13 03.9	-3.1
WEL	**Wellington**	**3.48**	**199**	P	P		15 13 03.9	-3.2
MSWZ	**Moikau Station**	**3.50**	**193**	PN	P		15 13 04.3	-3.0
MSWZ	**Moikau Station**	**3.50**	**193**	P	P		15 13 04.3	-3.0
SNZO	**South Karori**	**3.52**	**200**	PN	P		15 13 04.3	-3.2
TCW	**Tory Channel**	**3.56**	**205**	PN	P		15 13 05.4	-2.6
BHW	**Baring Head**	**3.57**	**197**	PN	P		15 13 04.8	-3.3
BHW	**Baring Head**	**3.57**	**197**	P	P		15 13 04.8	-3.4
TUWZ	**Tuamarina**	**3.87**	**207**	PN	P		15 13 08.5	-3.4
NNZ	**Nelson**	**3.91**	**214**	*e*PN	P		15 13 08.6	-3.9
NNZ	**Nelson**	**3.91**	**214**	*e*P	P		15 13 08.6	-3.9
QRZ	**Quartz Range**	**4.04**	**225**	*e*PN	P		15 13 09.9	-4.3
QRZ	**Quartz Range**	**4.04**	**225**	*e*P	P		15 13 09.9	-4.3
BSWZ	**Blackbirch Sta**	**4.14**	**206**	PN	P		15 13 12.1	-3.3
BSWZ	**Blackbirch Sta**	**4.14**	**206**	P	P		15 13 12.1	-3.3
THZ	**Tophouse**	**4.56**	**214**	*e*PN	P		15 13 16.4	-4.4
THZ	**Tophouse**	**4.56**	**214**	*e*P	P		15 13 16.9	-3.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DSZ	**Denniston Nort**	**5.08**	**221**	*e*PN	P	15 13 22.7	-4.7
DSZ	**Denniston Nort**	**5.08**	**221**	*e*P	P	15 13 22.7	-4.7
LTZ	**Lake Taylor**	**5.67**	**211**	*e*PN	P	15 13 30.2	-4.8
LTZ	**Lake Taylor**	**5.67**	**211**	*e*P	P	15 13 30.2	-4.9
MQZ	**McQueen's Vall**	**6.32**	**205**	*e*PN	P	15 13 37.9	-5.7
MQZ	**McQueen's Vall**	**6.32**	**205**	*e*P	P	15 13 37.9	-5.7
ODZ	**Otahua Downs**	**8.20**	**209**	*e*PN	P	15 14 03.1	-5.1
ODZ	**Otahua Downs**	**8.20**	**209**	*e*P	P	15 14 03.2	-5.1

*NEIC **02** 15:14:10.6, 28.06N×16.25W, h7km, MN2.7(MDD), After MDD.*
NEIC Felt [II] at Arafo, Candelaria and Guimar.
*CSEM **02** 15:14:10.6±0.3, 28.06N×16.25W, h7km±2km, mb3.6/7, Error ellipse: s-maj=7.4km s-min=1.2km az=10.0, After MDD*
MDD 02 15:14:10.6±0.3**, 28.05N×16.25W, h7**km±2km**, mbLg2.6**/10**, 2C-1D, Error ellipse: s-maj=6.9km s-min=1.1km az=10.0, PRXIMO TT_MODEL: CANARY, Canary Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCAN	**Las Canadas**	**0.36**	**299**	⇑P	Pg	15 14 18.0	+0.1
	211nm,0.2s,SNR=18						
CCAN				S	Sg	15 14 23.2	+0.4
	172nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**0.36**	**299**	⇑P	Pg	15 14 18.0	+0.1
CCAN				S	Sg	15 14 21.1	-1.6
CCAN	**Las Canadas**	**0.36**	**299**	P	Pg	15 14 18.0	+0.1
	211nm,0.2s,SNR=18						
CCAN				S	Sg	15 14 21.1	-1.7
	SNR=7.9						
CRAJ	**Montana Rajada**	**0.38**	**305**	P	Pg	15 14 18.0	-0.2
	176nm,0.1s,SNR=34						
CRAJ				S	Sg	15 14 25.1	+1.7
	3µm,0.2s,SNR=4.0						
CRAJ	**Montana Rajada**	**0.38**	**305**	P	Pg	15 14 18.0	-0.2
	176nm,0.1s,SNR=34						
CRAJ				S	Sg	15 14 25.1	+1.8
	3µm,0.2s,SNR=4.0						
CICO	**Icod de los Vi**	**0.52**	**305**	P	Pg	15 14 20.2	-0.8
	11nm,0.1s,SNR=9.3						
CICO				S	Sg	15 14 27.8	-0.1
	14nm,0.2s,SNR=7.9						
CHIO	**Chio**	**0.54**	**291**	P	Pg	15 14 20.3	-1.1
	43nm,0.2s,SNR=17						
CHIO				S	Sg	15 14 29.3	+0.6
	193nm,0.2s,SNR=7.9						
GGC	**Guia Canaria**	**0.54**	**82**	P	Pg	15 14 21.0	-0.5
	SNR=7.9						
GGC				S	Sg	15 14 27.2	-1.6
	SNR=7.9						
EOSO	**Osorio**	**0.61**	**88**	⇓P	Pg	15 14 21.8	-1.1
	46nm,0.2s,SNR=18						
EOSO				S	Sg	15 14 28.9	-2.2
	140nm,0.2s,SNR=4.0						
EOSO	**Osorio**	**0.61**	**88**	P	Pg	15 14 21.8	-1.1
	46nm,0.2s,SNR=18						
EOSO				S	Sg	15 14 28.9	-2.2
	140nm,0.2s,SNR=4.0						
EGOM	**La Gomera**	**0.86**	**278**	P	Pb	15 14 24.6	-2.7
	7.2nm,0.1s,SNR=9.7						
EGOM				S	Sb	15 14 36.7	-2.1
	234nm,0.2s						
EGOM	**La Gomera**	**0.86**	**278**	P	Pb	15 14 24.6	-2.8
	7.2nm,0.1s,SNR=9.7						
EGOM				S	Sb	15 14 36.7	-2.1
	234nm,0.2s						
EHIG	**Higuera**	**1.47**	**291**	S	Sb	15 14 51.6	-4.9
	47nm,0.2s,SNR=4.0						
EHIG	**Higuera**	**1.47**	**291**	S	Sb	15 14 53.1	-3.4
	47nm,0.2s,SNR=4.0						
CHIE	**El Hierro**	**1.55**	**258**	S	Sb	15 14 52.5	-6.4
	5.8nm,0.2s,SNR=4.0						
CFTV	**Fuerteventura**	**1.94**	**79**	P	Pn	15 14 39.7	-4.6
	1.2nm,0.2s,SNR=7.9						
CFTV				S	Sn	15 15 02.7	-6.6
	9.3nm,0.2s,SNR=4.0						
CFTV	**Fuerteventura**	**1.94**	**79**	P	Pn	15 14 39.7	-4.6
CFTV				S	Sn	15 15 00.3	-8.9
EFAM	**Famara**	**2.62**	**65**	S	Sn	15 15 17.9	-8.5
	2.8nm,0.2s,SNR=4.0						

*IDC **02** 15:26:40.8±0.9, 5.63S×133.72E, mb4.0/4, mb1 4.3/8, mb1mx4.1/14, mbtmp4.2/8, ML3.8/4, Error ellipse: s-maj=46.8km s-min=20.2km az=63.0*
*NEIC **02** 15:26:48.0±0.9, 5.89S×133.57E, h45km, mb3.8/4, Error ellipse: s-maj=23.0km s-min=12.7km az=66.0*
ISC 02 15:26:47.9±1.2**, 6.17S**±0.08×**133.6E**±0.1**, h33**km**, n18, σ1ˢ02**/20**, mb3.9**/4**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.60**	**190**	*e*P	Px	15 28 46.2	
	22nm,0.6s						
KAKA				*e*S	Sx	15 30 05.7	
WRAB	**Tennant Creek**	**13.70**	**177**	*e*P	**P**	**15 30 02.4**	**+0.1**
	26nm,0.9s						
WRA	**Warramunga Arr**	**13.71**	**177**	Pn	**P**	**15 30 02.5**	**+0.1**
	0.7nm,0.3s,baz=356,slow=13,SNR=85						
WRA				Sn	**S**	**15 32 34.2**	**-0.3**
	1.2nm,0.3s,baz=354,slow=24,SNR=8.0						
WB2	**Warramunga Arr**	**13.71**	**177**	*e*P	**P**	**15 30 02.6**	**+0.2**
WB2				*i*		15 30 11.5	
WB2				*e*S	**S**	**15 32 32.9**	**-1.6**
PMG	**Port Moresby**	**13.78**	**104**	Pn	**P**	**15 29 56.6**	**-6.8**
	0.9nm,0.3s,baz=283,slow=11,SNR=4.2						
FITZ	**Fitzroy Crossi**	**14.19**	**213**	*e*P	**P**	**15 30 09.8**	**+1.0**
	4.6nm,0.3s						
FITZ				*e*S	**S**	**15 32 46.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.19**	**213**	Pn	**P**	**15 30 09.9**	**+1.1**
	0.2nm,0.3s,baz=22,slow=12,SNR=3.2						
FITZ				Sn	**S**	**15 32 45.9**	**-0.2**
	3.4nm,0.3s,baz=188,slow=16,SNR=7.1						
CTA	**Charters Tower**	**18.48**	**140**	*e*P	**P**	**15 31 03.7**	**+0.2**
	3.3nm,0.6s						
CTA	**Charters Tower**	**18.48**	**140**	P	**P**	**15 31 03.3**	**-0.2**
	0.5nm,0.3s,baz=311,slow=11,SNR=10						
CTAO	**Charters Tower**	**18.48**	**140**	*e*P	**P**	**15 31 03.8**	**+0.3**
	4.0nm,0.6s						
MBWA	**Marble Bar**	**20.08**	**221**	*e*P	**P**	**15 31 23.7**	**+2.2**
	3.8nm,0.8s						
KSM	**Kuching**	**24.49**	**287**	*e*P	**P**	**15 32 03.8**	**-1.9**
STKA	**Stephens Creek**	**26.64**	**165**	*e*P	**P**	**15 32 27.1**	**+1.5**
	4.0nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**26.64**	**165**	P	**P**	**15 32 25.6**	**0.0**
	0.9nm,0.5s,mb3.6,baz=348,slow=6.7,SNR=3.0						
MKAR	**Makanchi Array**	**69.56**	**325**	P	**P**	**15 37 49.6**	**-5.9**
	1.6nm,0.5s,mb4.2,baz=116,slow=7.7,SNR=18						
VNDA	**Vanda**	**72.85**	**174**	P	**P**	**15 38 14.4**	**-0.4**
	0.9nm,0.9s,mb3.7,baz=317,slow=8.6,SNR=5.0						
BVAR	**Borovoye Array**	**79.32**	**327**	P	**P**	**15 38 45.6**	**-6.2**
	0.8nm,0.7s,mb3.8,baz=120,slow=9.1,SNR=6.7						
LPAZ	**La Paz**	**148.99**	**136**	PKPbc	PKPdf	15 46 33.3	+3.9
	0.4nm,0.4s,baz=239,slow=5.9,SNR=3.3						

*BJI **02** 15:36:13.8, 19.28S×169.90E, h309km, mB4.7, mb4.7*
*IDC **02** 15:36:13.8±1.4, 19.06S×169.57E, h289km±12km, mb3.9/13, mb1 4.1/15, mb1mx4.1/18, mbtmp4.6/15, Error ellipse: s-maj=15.7km s-min=10.3km az=166.0*
*NEIC **02** 15:36:14.1±1.0, 19.09S×169.64E, h294km±10km, mb4.6/21, Error ellipse: s-maj=9.5km s-min=6.7km az=158.0*
ISC 02 15:36:13.8±1.0**, 19.17S**±0.08×**169.60E**±0.07**, h300**km±9km**, n67, σ1ˢ10**/66**, mb4.4**/31**, 3C-9D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.13**	**225**	*e*P	**P**	**15 37 22.2**	**+0.3**
DZM				*e*S	**S**	**15 38 15.1**	**-0.1**
DZM	**Mont Dzumac**	**4.13**	**225**	P	**P**	**15 37 22.3**	**+0.4**
	10nm,0.3s,baz=60,slow=19,SNR=102						
DZM				S	**S**	**15 38 14.9**	**-0.3**
	baz=320,slow=22,SNR=2.2						
DZM	**Mont Dzumac**	**4.13**	**225**	*e*P	**P**	**15 37 22.2**	**+0.3**
DZM				*e*S	**S**	**15 38 15.1**	**-0.1**
AFI	**Afiamalu**	**18.60**	**76**	P	**P**	**15 40 09.4**	**-2.0**
	4.3nm,0.3s,baz=277,slow=23,SNR=7.4						
URZ	**Urewera**	**20.12**	**163**	P	**P**	**15 40 28.1**	**+1.8**
	15nm,0.6s,baz=310,slow=1.7,SNR=22						
CTA	**Charters Tower**	**22.00**	**264**	⇓*i*P	**P**	**15 40 46.5**	**+1.8**
	7.4nm,0.8s,mb4.1						
CTA	**Charters Tower**	**22.00**	**264**	P	**P**	**15 40 46.4**	**+1.7**
	6.1nm,0.6s,mb4.1,baz=90,slow=12,SNR=9.7						
CTAO	**Charters Tower**	**22.00**	**264**	*e*P	**P**	**15 40 46.6**	**+1.9**
	9.2nm,0.7s,mb4.2						
SNZO	**South Karori**	**22.50**	**170**	*e*P	**P**	**15 40 49.5**	**+0.2**
CNB	**Canberra Magne**	**24.05**	**224**	⇓*i*P	**P**	**15 41 05.0**	**+1.1**
	17nm,0.5s,mb4.6						
TOO	**Toolangi**	**27.90**	**224**	⇓*i*P	**P**	**15 41 39.0**	**+0.3**
	5.5nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**28.17**	**238**	⇓*i*P	**P**	**15 41 41.2**	**+0.1**
	19nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**28.17**	**238**	P	**P**	**15 41 41.2**	**+0.1**
	20nm,0.7s,mb4.7,baz=63,slow=8.6,SNR=52						
WB2	**Warramunga Arr**	**33.19**	**263**	⇓*i*P	**P**	**15 42 23.2**	**-1.5**
WRAB	**Tennant Creek**	**33.19**	**263**	*e*P	**P**	**15 42 22.9**	**-1.9**
	7.9nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**33.20**	**263**	P	**P**	**15 42 23.4**	**-1.5**
	2.3nm,0.4s,mb4.1,baz=82,slow=5.9,SNR=116						
WRA				PcP	PcP	15 44 59.7	-0.5
	0.9nm,0.9s,baz=94,slow=2.4,SNR=4.3						
WRA				S	**S**	**15 47 21.1**	**-0.8**
	1.8nm,1.0s,baz=90,slow=16,SNR=8.1						
FITZ	**Fitzroy Crossi**	**41.58**	**264**	⇓*i*P	**P**	**15 43 34.6**	**0.0**
	16nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**41.58**	**264**	P	**P**	**15 43 34.6**	**0.0**
	26nm,0.8s,mb4.5,baz=119,slow=2.9,SNR=29						
MBWA	**Marble Bar**	**46.70**	**259**	*e*P	**P**	**15 44 14.7**	**-0.3**
	11nm,0.3s,mb4.7						
KLBR	**Kellerberrin**	**48.05**	**244**	⇓*i*P	**P**	**15 44 24.2**	**-1.1**
	13nm,0.5s,mb4.5						
NWAO	**Narrogin (SRO)**	**48.55**	**243**	P	**P**	**15 44 28.6**	**-0.5**
	12nm,0.7s,mb4.3,baz=99,slow=8.1,SNR=14						
MUN	**Mundaring**	**49.38**	**244**	*e*P	**P**	**15 44 35.0**	**-0.4**
VNDA	**Vanda**	**58.51**	**182**	P	**P**	**15 45 40.1**	**-0.4**
	1.8nm,0.5s,mb3.7,baz=353,slow=7.5,SNR=23						
VNDA	**Vanda**	**58.51**	**182**	*e*P	**P**	**15 45 39.9**	**-0.7**
	3.6nm,0.9s,mb3.8						
CASY	**Casey**	**60.33**	**204**	*e*P	**P**	**15 45 41.1**	**-12**
CASY	**Casey**	**60.33**	**204**	*e*P	**P**	**15 45 52.0**	**-1.0**
	5.6nm,0.6s,mb4.3						
KSM	**Kuching**	**61.69**	**283**	*e*P	**P**	**15 46 02.3**	**-0.5**
MAJO	**Matsushiro**	**62.85**	**332**	*e*P	**P**	**15 46 08.2**	**-1.8**
	4.3nm,0.5s,mb4.3						
NJ2	**Nanjing**	**70.39**	**316**	*e*P	**P**	**15 46 59.6**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
MDJ	**Mudanjiang**	**73.22**	**331**	P	**P**	**15 47 15.6**	**+1.7**
MDJ				AP	pP	15 48 29.9	+6.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,84nm,5.4s						
CN2	**Changchun**	**74.57**	**328**	*e*P	**P**	**15 47 22.3**	**+0.6**
GYA	**Guiyang**	**76.06**	**305**	*e*P	**P**	**15 47 31.0**	**+0.6**
GYA				S	S	15 56 47.0	-0.6
GYA				SKS	SKS	15 57 03.9	-3.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
KMI	**Kunming**	**78.52**	**302**	P	**P**	**15 47 45.2**	**+1.3**
KMI				PCP	PcP	15 47 53.0	+0.8
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.6						
KMI	**Kunming**	**78.52**	**302**	P	**P**	**15 47 45.2**	**+1.3**
	comp=Z,6.0nm,0.5s,mb4.6						
KMI				PcP	PcP	15 47 53.0	+0.8
MAW	**Mawson**	**78.63**	**202**	⇓*i*P	**P**	**15 47 44.3**	**+0.7**
	comp=Z,3.2nm,0.8s,mb4.1						
MAW	**Mawson**	**78.63**	**202**	P	**P**	**15 47 44.2**	**+0.6**
	comp=Z,3.4nm,0.7s,mb4.2,baz=121,slow=6.1,SNR=12						
LZH	**Lanzhou**	**82.93**	**312**	⇑P	**P**	**15 48 07.3**	**+0.7**
LZH				PP	PP	15 51 25.4	+2.4
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,67nm,7.4s						
LZH	**Lanzhou**	**82.93**	**312**	⇑P	**P**	**15 48 07.3**	**+0.7**
	comp=Z,22nm,1.4s,mb4.8						
LZH				pP	pP	15 49 26.2	+8.7
LZH				sP	sP	15 50 01.5	+13
LZH				PP	PP	15 51 25.4	+2.4
SYO	**Syowa Base**	**85.10**	**196**	⇑P	**P**	**15 48 15.0**	**-1.7**
KHMM	**Horse Mountain**	**85.92**	**44**	*e*P	**P**	**15 48 22.0**	**+0.6**
CMB	**Columbia Colle**	**86.86**	**48**	*e*P	**P**	**15 48 24.9**	**-1.1**
	comp=Z,10nm,0.9s,mb4.7						
YBH	**Yreka Blue Hor**	**87.01**	**44**	P	**P**	**15 48 27.2**	**+0.5**
	comp=Z,6.2nm,0.8s,mb4.5,baz=223,slow=0.4,SNR=13						
YBH	**Yreka Blue Hor**	**87.01**	**44**	*e*P	**P**	**15 48 26.6**	**0.0**
	comp=Z,12nm,1.3s,mb4.6						
ISA	**Isabella**	**87.17**	**51**	*e*P	**P**	**15 48 27.0**	**-0.5**
	comp=Z,8.5nm,0.8s,mb4.6						
HUMO	**Hull Mountain**	**87.28**	**43**	*e*P	**P**	**15 48 27.6**	**-0.3**
	comp=Z,9.1nm,0.9s,mb4.6						
GTA	**Gaotai**	**87.32**	**313**	*e*P	**P**	**15 48 28.6**	**+0.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**87.36**	**323**	P	**P**	**15 48 28.4**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.3,baz=146,slow=4.9,SNR=6.4						
MTUM	**Tungsten Hills**	**87.85**	**49**	*e*P	**P**	**15 48 31.3**	**+0.6**
NVAR	**Mina Array Bea**	**88.50**	**48**	P	**P**	**15 48 34.0**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.2,baz=212,slow=5.8,SNR=20						
NVAR	**Mina Array Bea**	**88.50**	**48**	P	**P**	**15 48 34.0**	**+0.2**
MOD	**Modoc**	**88.68**	**45**	*e*P	**P**	**15 48 34.0**	**-0.4**
	comp=Z,9.3nm,1.1s,mb4.5						
SNAA	**Sanae**	**89.25**	**182**		**P**	**15 48 35.9**	**-0.5**
SNAA	**Sanae**	**89.25**	**182**		**P**	**15 48 39.5**	**+3.1**
VNA3	**Neumayer Olymp**	**89.83**	**180**		**P**	**15 48 39.0**	**-0.2**
VNA3	**Neumayer Olymp**	**89.83**	**180**		**P**	**15 48 41.3**	**+2.1**
NEN	**Nelson**	**89.85**	**52**	*e*P	**P**	**15 48 39.6**	**-0.6**
WVOR	**Wild Horse Val**	**90.03**	**45**	*e*P	**P**	**15 48 40.5**	**-0.3**
	comp=Z,11nm,1.2s,mb4.5						
ILAR	**Eielson Array**	**90.06**	**17**	P	**P**	**15 48 38.4**	**-2.0**
	comp=Z,1.8nm,0.8s,mb4.0,baz=239,slow=5.5,SNR=13						
VNA2	**Neumayer--Watz**	**90.12**	**181**		**P**	**15 48 40.6**	**0.0**
VNA2	**Neumayer--Watz**	**90.12**	**181**		**P**	**15 48 44.1**	**+3.5**
PDAR	**Pinedale Array**	**96.32**	**47**	P	**P**	**15 49 11.1**	**+1.5**
	comp=Z,0.5nm,0.7s,mb3.8,baz=180,slow=1.5,SNR=5.2						
WMQ	**Urumqi**	**97.40**	**314**	⇓*i*P	**P**	**15 49 17.4**	**+2.9**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,143nm,5.6s						
MKAR	**Makanchi Array**	**101.92**	**315**	P	P	15 49 35.9	+1.1
	comp=Z,0.5nm,0.7s,baz=82,slow=8.6,SNR=4.9						
EKA	**Eskdalemuir Ar**	**143.48**	**353**	PKhKP		15 55 10.0	
	comp=Z,0.4nm,0.5s,slow=1.7,SNR=4.1						
KHC	**Kasperske Hory**	**144.43**	**333**	*e*PKP	PKPdf	15 55 14.0	-0.1
GERES	**GERESS Array B**	**144.59**	**332**	PKP	PKPdf	15 55 14.5	+0.1
	comp=Z,1.4nm,0.5s,baz=37,slow=4.9,SNR=12						
DAVOX	**Davos**	**147.82**	**333**	PKPbc	PKPdf	15 55 23.8	+4.0
	comp=Z,6.4nm,0.6s,baz=169,slow=2.2,SNR=6.7						

*MOS **02** 15:36:26.9±1.3, 23.67N×94.27E, h33km, mb4.1/6, Error ellipse: s-maj=21.1km s-min=8.7km az=117.2*
*BJI **02** 15:36:31.4, 23.77N×93.99E, h75km, mb4.2*
*NEIC **02** 15:36:31.7±0.6, 23.76N×94.24E, mb3.8/3, Error ellipse: s-maj=13.0km s-min=7.7km az=188.0*
*IDC **02** 15:36:32.8±0.9, 23.86N×94.22E, h64km±6km, mb3.7/9, mb1 3.8/9, mb1mx3.6/20, mbtmp3.9/9, Error ellipse: s-maj=31.9km s-min=15.3km az=63.0*
ISC 02 15:36:31.5±1.0**, 23.83N**±0.08×**94.00E**±0.06**, h66**km±11km**, h67**km±3.4km**:pP-P, n38, σ1ˢ15**/50**, mb3.9**/15**, 1C, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.38**	**337**	P	**P**	**15 38 06.8**	**+1.8**
LSA				S	**S**	**15 39 13.7**	**-3.5**
LSA				Smax			
	comp=N,30nm,0.6s						
LSA				Smax			
	comp=E,70nm,0.6s						
LSA	**Lhasa**	**6.38**	**337**	*e*Pn	**P**	**15 38 06.4**	**+1.4**
	comp=E,17nm,0.2s						
LSA				*e*Sn	**S**	**15 39 16.4**	**-0.7**
LSA	**Lhasa**	**6.38**	**337**	*e*P	**P**	**15 38 06.4**	**+1.4**
LSA				*e*		15 39 16.4	
LSA				pmax	pmax		
	comp=Z,17nm,0.2s						
CHRT	**Chiangrai**	**6.66**	**125**	⇑P	**P**	**15 38 08.0**	**-0.9**
	comp=Z,184nm,1.1s						
CHG	**Chiang Mai**	**6.79**	**136**	P	**P**	**15 38 10.6**	**-0.1**
PKI	**Pulchoki**	**8.60**	**298**	*e*Pn	**P**	**15 38 36.9**	**+1.4**
PKI				*e*Sn	**S**	**15 40 11.3**	**-0.6**
	comp=Z,157nm,0.5s						
PKI	**Pulchoki**	**8.60**	**298**	*e*Pn	**P**	**15 38 36.9**	**+1.4**
	comp=Z,79nm,0.5s						
PKI				*e*Sn	**S**	**15 40 11.3**	**-0.6**
PKI	**Pulchoki**	**8.60**	**298**	*e*P	**P**	**15 38 36.9**	**+1.4**
PKI				*e*		15 40 11.3	
PKI				pmax	pmax		
	comp=Z,79nm,0.5s						
KKN	**Kakani**	**8.79**	**299**	*e*Pn	**P**	**15 38 39.1**	**+0.9**
KKN				*e*Sn	**S**	**15 40 15.4**	**-1.3**
	comp=Z,158nm,0.4s						
KKN	**Kakani**	**8.79**	**299**	*e*Pn	**P**	**15 38 39.1**	**+0.9**
	comp=Z,79nm,0.4s						
KKN				*e*Sn	**S**	**15 40 15.4**	**-1.3**
KKN	**Kakani**	**8.79**	**299**	*e*P	**P**	**15 38 39.1**	**+0.9**
KKN				*e*		15 40 15.4	
KKN				pmax	pmax		
	comp=Z,79nm,0.4s						
DMN	**Daman**	**8.86**	**297**	*e*Pn	**P**	**15 38 40.2**	**+1.1**
DMN				*e*Sn	**S**	**15 40 17.7**	**-0.7**
	comp=Z,88nm,0.4s						
DMN	**Daman**	**8.86**	**297**	*e*Pn	**P**	**15 38 40.2**	**+1.1**
	comp=Z,44nm,0.4s						
DMN				*e*Sn	**S**	**15 40 17.7**	**-0.7**
GKN	**Gorkha**	**9.40**	**298**	*e*Pn	**P**	**15 38 46.8**	**+0.3**
GKN				*e*Sn	**S**	**15 40 29.3**	**-2.2**
	comp=Z,266nm,0.3s						
GKN	**Gorkha**	**9.40**	**298**	*e*Pn	**P**	**15 38 46.8**	**+0.3**
	comp=Z,133nm,0.3s						
GKN				*e*Sn	**S**	**15 40 29.3**	**-2.2**
KOLN	**Koldanda**	**10.16**	**295**	*e*Pn	**P**	**15 38 56.9**	**0.0**
KOLN				*e*Sn	**S**	**15 40 46.4**	**-3.7**
	comp=Z,102nm,0.5s						
KOLN	**Koldanda**	**10.16**	**295**	*e*Pn	**P**	**15 38 56.9**	**0.0**
	comp=Z,51nm,0.5s						
KOLN				*e*Sn	**S**	**15 40 46.4**	**-3.7**
ENH	**Enshi**	**15.21**	**62**	*e*Pn	**P**	**15 39 59.2**	**-4.6**
ENH				*e*P		15 40 03.9	
MK02	**Makanchi Array**	**24.75**	**341**	P	**P**	**15 41 49.3**	**+1.2**
MK02				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
AAK	**Ala-Archa**	**24.75**	**324**	*e*P	**P**	**15 41 50.4**	**+2.1**
	comp=Z,5.9nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**24.75**	**324**	*e*P	**P**	**15 41 50.4**	**+2.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**24.77**	**341**	P	**P**	**15 41 49.6**	**+1.3**
	comp=Z,2.3nm,0.5s,mb3.9,baz=151,slow=9.9,SNR=47						
MKAR				pP		15 42 02.7	
	comp=Z,1.1nm,0.5s,baz=153,slow=7.4,SNR=4.8						
MKAR				sP		15 42 11.4	
	comp=Z,1.5nm,0.7s,baz=164,slow=8.8,SNR=2.6						
SONM	**Songino Array**	**25.92**	**19**	P	**P**	**15 41 57.9**	**-1.2**
	comp=Z,1.0nm,0.6s,mb3.5,baz=195,slow=9.5,SNR=13						
SONM				pP	pP	15 42 12.5	-2.2
	comp=Z,0.5nm,0.7s,baz=206,slow=11,SNR=2.1						
SONM				sP	sP	15 42 20.7	-2.2
	comp=Z,0.7nm,0.7s,baz=208,slow=9.5,SNR=3.0						
ULN	**Ulaanbaatar**	**26.15**	**20**	*e*P	**P**	**15 42 00.1**	**-1.1**
	comp=Z,1.0nm,0.6s,mb3.4						
ULN	**Ulaanbaatar**	**26.15**	**20**	*e*P	**P**	**15 42 00.1**	**-1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
KURK	**Kurchatov**	**29.38**	**340**	*e*P	**P**	**15 42 30.3**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.8						
KURK	**Kurchatov**	**29.38**	**340**	*e*P	**P**	**15 42 30.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ZAL	**Zalesovo**	**30.86**	**349**	P	**P**	**15 42 44.1**	**+0.6**
	comp=Z,1.2nm,0.3s,mb4.1,baz=323,slow=7.4,SNR=6.5						
NVS	**Novosibirsk**	**32.00**	**348**	*e*P	**P**	**15 42 52.1**	**-1.4**
VOSK	**Vostochnaya**	**33.75**	**335**	P	**P**	**15 43 09.0**	**+0.4**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**34.21**	**335**	P	**P**	**15 43 13.1**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.9,baz=139,slow=12,SNR=8.8						
BVAR				pP	pP	15 43 29.1	+0.1
	comp=Z,0.5nm,0.4s,baz=143,slow=11,SNR=3.6						
AB31	**Akbulak array**	**36.81**	**322**	*i* P	**P**	**15 43 36.4**	**+1.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AKASG	**Malin Array Be**	**56.07**	**316**	P	**P**	**15 46 05.6**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=79,slow=6.9,SNR=6.0						
AKASG	**Malin Array Be**	**56.07**	**316**	P	**P**	**15 46 05.6**	**-0.4**
WRA	**Warramunga Arr**	**58.64**	**135**	P	**P**	**15 46 22.3**	**-2.2**
	comp=Z,1.6nm,0.4s,mb4.4,baz=321,slow=7.5,SNR=26						
WRA				pP	pP	15 46 41.4	-0.5
	comp=Z,1.2nm,0.7s,baz=325,slow=7.4,SNR=5.3						
FINES	**FINESS Array B**	**58.82**	**329**	P	**P**	**15 46 24.5**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.8,baz=90,slow=6.9,SNR=4.4						
NOA	**NORSAR Array B**	**65.99**	**328**	P	**P**	**15 47 12.7**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=85,slow=6.0,SNR=2.8						
BOSA	**Boshof**	**84.23**	**235**	P	**P**	**15 48 58.4**	**+1.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=89,slow=8.2,SNR=3.8						

*IDC **02** 15:54:00.0±0.8, 19.49S×177.28E, mb4.3/9, mb1 4.5/11, mb1mx4.4/15, mbtmp4.3/11, ML3.5/2, MS4.0/15, Ms1 4.0/15, ms1mx3.9/29, Error ellipse: s-maj=36.6km s-min=19.0km az=146.0*
*NEIC **02** 15:54:06.9±2.3, 19.57S×177.21E, h50km±20km, mb4.8/8, Error ellipse: s-maj=14.7km s-min=12.8km az=140.0*
ISC 02 15:54:06.5±4.2**, 19.4S**±0.2×**177.1E**±0.2**, h56**km±35km**, n76, σ0ˢ83**/37**, mb4.4**/16**, MS4.1**/11**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.27**	**253**	*e*P	**P**	**15 56 34.2**	**+0.4**
DZM	**Mont Dzumac**	**10.27**	**253**	Pn	**P**	**15 56 33.3**	**-0.5**
	0.2nm,0.3s,baz=87,slow=18,SNR=7.2						
DZM	**Mont Dzumac**	**10.27**	**253**	*e*P	**P**	**15 56 34.2**	**+0.4**
RAO	**Raoul Island**	**10.81**	**156**	LR	LR	15 59 16.2	
	comp=Z,643nm,18.8s,baz=305,slow=30						
AFI	**Afiamalu**	**12.03**	**65**	LR	LR	16 00 31.2	
	comp=Z,470nm,19.6s,baz=12,slow=33						
URZ	**Urewera**	**18.78**	**180**	P	**P**	**15 58 19.1**	**-4.6**
	0.3nm,0.3s,baz=11,slow=6.7,SNR=3.6						
URZ				LR	LR	16 03 41.3	
	comp=Z,793nm,20.2s,baz=357,slow=31						
HNR	**Honiara**	**19.29**	**299**	LR	LR	16 04 43.9	
	comp=Z,340nm,21.5s,baz=318,slow=33						
RPZ	**Rata Peaks**	**24.75**	**190**	LR	LR	16 07 56.5	
	comp=Z,296nm,18.7s,MS3.8,baz=159,slow=34						
CTA	**Charters Tower**	**28.97**	**263**	LR	LR	16 10 56.3	
	comp=Z,293nm,18.3s,MS3.9,baz=96,slow=35						
PMG	**Port Moresby**	**30.56**	**285**	LR	LR	16 11 43.0	
	comp=Z,295nm,18.1s,MS4.0,baz=255,slow=34						
PPT	**Papeete**	**31.68**	**92**	LR	LR	16 09 56.8	
	comp=Z,311nm,20.3s,MS4.0,baz=296,slow=30						
STKA	**Stephens Creek**	**34.13**	**242**	*e*P	**P**	**16 00 51.8**	**+3.6**
	5.1nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**34.13**	**242**	P	**P**	**16 00 48.5**	**+0.3**
	2.4nm,0.7s,mb4.2,baz=80,slow=7.4,SNR=6.2						
WB2	**Warramunga Arr**	**40.12**	**262**	*e*P	**P**	**16 01 38.0**	**-0.6**
WRAB	**Tennant Creek**	**40.13**	**262**	*e*P	**P**	**16 01 38.1**	**-0.5**
	18nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**40.14**	**262**	P	**P**	**16 01 38.2**	**-0.5**
	6.7nm,1.1s,mb4.3,baz=94,slow=8.5,SNR=17						
FITZ	**Fitzroy Crossi**	**48.55**	**263**	*e*P	**P**	**16 02 47.1**	**+0.8**
	15nm,1.2s,mb4.9						
FITZ	**Fitzroy Crossi**	**48.55**	**263**	P	**P**	**16 02 46.9**	**+0.5**
	34nm,1.2s,mb5.3,baz=152,slow=6.4,SNR=6.0						
MBWA	**Marble Bar**	**53.54**	**258**	*e*P	**P**	**16 03 23.8**	**-0.3**
	15nm,1.1s,mb4.8						
VNDA	**Vanda**	**58.62**	**184**	LR	LR	16 25 33.6	
	comp=Z,174nm,18.2s,MS4.2,baz=18,slow=32						
MAW	**Mawson**	**80.96**	**201**	P	**P**	**16 06 16.7**	**+0.5**
	1.4nm,0.8s,mb3.9,baz=310,slow=2.8,SNR=3.7						
MAW				LR	LR	16 39 54.3	
	comp=Z,165nm,21.7s,MS4.3,baz=237,slow=34						
MAW	**Mawson**	**80.96**	**201**	P	**P**	**16 06 16.7**	**+0.5**
MAW				LR	LR	16 39 54.3	
YBH	**Yreka Blue Hor**	**82.44**	**41**	P	**P**	**16 06 24.4**	**0.0**
	0.9nm,0.5s,mb4.0,baz=290,slow=14,SNR=3.3						
WVOR	**Wild Horse Val**	**85.37**	**42**	*e*P	**P**	**16 06 39.0**	**-0.1**
	6.0nm,1.1s,mb4.6						
BBB	**Bella Bella**	**85.74**	**30**	LR	LR	16 38 11.2	
	comp=Z,75nm,18.5s,MS4.1,baz=248,slow=31						
ELK	**Elko**	**86.73**	**45**	LR	LR	16 41 01.9	
	comp=Z,55nm,19.2s,MS4.0,baz=283,slow=33						
ELK	**Elko**	**86.73**	**45**	*e*P	**P**	**16 06 46.6**	**+0.9**
	2.5nm,1.1s,mb4.4						
ILAR	**Eielson Array**	**88.37**	**15**	P	**P**	**16 06 53.1**	**+0.1**
	1.2nm,0.9s,mb4.1,baz=238,slow=5.3,SNR=8.6						
DLBC	**Dease Lake**	**88.95**	**25**	LR	LR	16 38 21.8	
	comp=Z,143nm,20.7s,MS4.4,baz=46,slow=30						
SNAA	**Sanae**	**89.15**	**180**		**P**	**16 07 02.7**	**+6.1**

SNAA	Sanae	89.15	180		P	16 07 06.2	+10
SNAA	Sanae	89.15	180		P	16 07 11.8	+15
SNAA	Sanae	89.15	180	eP	P	16 06 56.9	+0.3
	2.6nm,1.1s,mb4.5						
VNA3	Neumayer Olymp	89.46	178		P	16 06 57.5	-0.6
VNA3	Neumayer Olymp	89.46	178		P	16 07 05.3	+7.2
VNA3	Neumayer Olymp	89.46	178		P	16 07 16.1	+18
VNA3	Neumayer Olymp	89.46	178		sP	16 07 19.5	-0.5
VNA2	Neumayer--Watz	89.85	179		P	16 06 58.0	-1.9
VNA2	Neumayer--Watz	89.85	179		P	16 07 00.6	+0.7
VNA2	Neumayer--Watz	89.85	179		P	16 07 08.4	+8.5
VNA2	Neumayer--Watz	89.85	179		P	16 07 19.4	+19
VNA1	Neumayer--Stat	90.10	178		P	16 07 02.0	+0.9
VNA1	Neumayer--Stat	90.10	178		P	16 07 16.7	+16
LTX	Lajitas	90.45	59	eP	P	16 07 02.3	-1.4
	8.6nm,1.0s,mb5.0						
TXAR	Lajitas Array	90.45	59	P	P	16 07 01.8	-1.9
	0.8nm,0.4s,mb4.4,baz=239,slow=5.3,SNR=12						
TXAR	Lajitas Array	90.45	59	P	P	16 07 01.8	-2.0
RRI2	Red Ridge	90.52	44	eP	P	16 07 04.4	+0.7
	3.8nm,1.0s,mb4.7						
PDAR	Pinedale Array	91.43	45	P	P	16 07 09.0	+1.0
	0.7nm,1.0s,mb4.0,baz=236,slow=5.3,SNR=3.5						
SONM	Songino Array	91.92	321	P	P	16 07 10.6	+0.5
	0.3nm,0.9s,mb3.6,baz=180,slow=1.4,SNR=2.4						
PLCA	Paso Flores	93.36	135	LR	LR	16 38 45.9	
	comp=Z,82nm,19.8s,MS4.2,baz=4.9,slow=29						
INK	Inuvik	94.50	16	LR	LR	16 41 54.4	
	comp=Z,96nm,21.7s,MS4.2,baz=9.0,slow=30						
BVAR	Borovoye Array	115.26	320	PKP	PKPdf	16 12 44.3	+2.6
	0.6nm,0.6s,baz=45,slow=2.1,SNR=5.1						
EKA	Eskdalemuir Ar	144.14	0	PKP	PKPdf	16 13 36.1	+0.5
	0.7nm,0.6s,baz=304,slow=3.0,SNR=4.0						
MLR	Muntele Rosu	144.70	324	PKP	PKPdf	16 13 40.6	+3.6
	1.6nm,0.5s,baz=336,slow=8.4,SNR=4.4						
UPC	Upice	145.51	338	ePKP	PKPdf	16 13 42.0	+3.8
DPC	Dobruska-Polom	145.54	338	ePKP	PKPdf	16 13 40.0	+1.8
CLL	Collm	145.78	342	i PKP1	PKPbc	16 13 40.5	+1.0
CLL				i		16 13 46.4	
CLL				i		16 14 00.2	
BRG	Berggiesshubel	145.88	341	eP	PKPdf	16 13 41.1	+2.3
PVCC	Panska Ves	145.98	340	ePKP	PKPdf	16 13 45.7	+6.7
PRU	Pruhonice	146.45	339	ePKP	PKPdf	16 13 42.7	+2.9
MOX	Moxa	146.76	343	i P	PKPdf	16 13 46.7	+6.4
NKC	Novy Kostel	146.89	342	ePKP	PKPdf	16 13 45.8	+5.2
KHC	Kasperske Hory	147.51	340	ePKP	PKPdf	16 13 45.2	+3.6
KHC				x	x	16 13 49.5	
KHC	Kasperske Hory	147.51	340	eP	PKPdf	16 13 45.2	+3.6
KHC				e		16 13 49.5	
GERES	GERESS Array B	147.72	339	PKPbc	PKPdf	16 13 46.4	+4.5
	1.4nm,0.7s,slow=2.9,SNR=11						
GRA1	Grafenberg Arr	147.73	343	ePKP	PKPdf	16 13 48.0	+6.1
GRF	Grafenberg Arr	147.73	343	ePKP	PKPdf	16 13 48.0	+6.1
GIVF	Givet	148.76	350	ePKIKP	PKPdf	16 13 48.2	+4.7
BAIF	Baives	148.90	351	ePKIKP	PKPdf	16 13 48.3	+4.5
	19nm,1.1s						
CDF	Champ du Feu	149.91	346	ePKIKP	PKPdf	16 13 50.4	+4.9
	8.2nm,0.8s						
HINF	Hinteralfeld	150.57	346	ePKIKP	PKPdf	16 13 51.0	+4.5
FLN	La Foliniere	150.66	357	ePKIKP	PKPdf	16 13 50.0	+3.4
DAVOX	Davos	150.75	342	PKPbc	PKPdf	16 13 55.3	+8.5
	5.7nm,0.6s,baz=328,slow=7.4,SNR=6.5						
LDF	La Druitiere	150.80	356	ePKIKP	PKPdf	16 13 50.3	+3.5
	18nm,1.0s						
SGMF	Saint Gilles	151.23	359	ePKIKP	PKPdf	16 13 51.0	+3.5
LOR	Lormes	151.67	350	ePKIKP	PKPdf	16 13 51.6	+3.5
	10nm,0.9s						

IDC 02 16:15:16.8±6.3**,7.84S**×**154.82E,h93**km±50km**,mb3.3**/4**, mb1 3.5**/5**,mb1mx3.4**/13**,mbtmp3.7**/5**,Error ellipse: s-maj=71.6km s-min=33.1km az=131.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.74	258	P	P	16 17 06.7	-1.8
	0.8nm,0.3s,baz=90,slow=8.1,SNR=3.7						
WRA	Warramunga Arr	23.20	237	P	P	16 20 16.2	-0.1
	0.9nm,0.8s,baz=62,slow=9.8,SNR=10						
SONM	Songino Array	69.95	328	P	P	16 26 18.6	-1.4
	0.3nm,0.5s,baz=106,slow=4.2,SNR=3.3						
MKAR	Makanchi Array	83.92	319	P	P	16 27 37.2	-0.6
	0.4nm,0.7s,baz=90,slow=4.9,SNR=4.7						
ILAR	Eielson Array	84.22	21	P	P	16 27 36.6	-2.2
	0.7nm,0.6s,baz=256,slow=5.5,SNR=7.0						

*NIED **02** 16:24:00,41.50N×142.00E,h53km,Mw5.0 Best double couple: $M_0$3.25×10^16 NP1:ϕ_s19°,δ71°,λ85°. NP2:ϕ_s214°, δ20°,λ104°.*

*BJI **02** 16:24:42.5,41.51N×141.98E,h79km,mB5.1,mb4.9, Ms4.4,Msz4.2*

*MOS **02** 16:24:42.7±0.8,41.60N×141.85E,h63km,mb5.3/73,Error ellipse: s-maj=8.2km s-min=4.2km az=110.8*

*JMA **02** 16:24:43.1±0.1,41.48N×141.98E,h64km±2km,M4.9 Broadband fault plane solution: P waves. NP1:ϕ_s196°, δ14°,λ79°. NP2:ϕ_s27°,δ76°,λ93°. Principal axes: T Plg59°, Azm301°; N Plg3°, Azm207°; P Plg31°, Azm115°;*

JMA Felt II J1.

*IDC **02** 16:24:43.9±0.5,41.43N×141.84E,h68km±3km,mb4.4/24, mb1 4.6/27,mb1mx4.6/28,mbtmp4.7/27,MS4.1/14, Ms1 4.1/14,ms1mx4.0/20 Error ellipse: s-maj=10.4km s-min=8.8km az=108.0*

*NEIC **02** 16:24:44.5±0.1,41.51N×141.91E,mb5.0/107, MW4.9(NIED),Error ellipse: s-maj=4.1km s-min=2.9km az=156.0*

NEIC Felt at Misawa, Honshu. Recorded [2 JMA] in the Urakawa-Shizunai area and [1 JMA] in the Chitose-Noboribetsu, Obihiro and Bekkai areas. Also recorded [2 JMA] in Aomori and Iwate; [1 JMA] in Miyagi Prefectures, Honshu.

*HRVD **02** 16:24:44.5±0.3,41.52N×142.06E,h65km±2km,MW5.0/56, Centroid moment Tensor Solution. LP body waves: s47,c75;Mantle waves: s56,c113; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.35±.17; $M_{\theta\theta}$-0.63±.15; $M_{\phi\phi}$-2.72±.14; $M_{r\theta}$1.43±.11; $M_{\theta\phi}$-1.43±.12; $M_{\phi r}$2.00±.10; Best double couple: $M_0$4.195×10^16 NP1: ϕ_s202°,δ27°,λ81°. NP2:ϕ_s32°,δ63°,λ95°. Principal axes: T 4.16, Plg72°, Azm313°; N .069, Plg4°, Azm210°; P -4.229, Plg18°, Azm118°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 16:24:42.9±0.2**,41.48N**±0.02×**141.93E**±0.03**,h70**km**, h70**km±.7km**:pP-P,n429,**σ**0.89**/437**,mb4.8**/158**,51C-15D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOT	Ohata	0.67	262	⇓P	P	16 24 57.8	+0.3
JOT				S	S	16 25 08.7	+0.2
JKB	Kayabe	0.78	301	⇓P	P	16 24 58.8	-0.1
JTM	Tenmabayashi	0.95	223	⇓P	P	16 25 01.4	+0.4
JTM				S	S	16 25 14.6	+0.1
JNBK	Urakawa-nobuka	1.01	38	⇑P	P	16 25 00.7	-1.0
JEM	Erimo	1.06	60	⇑P	P	16 25 01.8	-0.7
JEM				eS	S	16 25 15.9	-1.0
JSR	Shiriuchi	1.13	273	⇓P	P	16 25 03.8	+0.4
JANG	Nango	1.15	196	⇑P	P	16 25 03.3	-0.3
JANG				eS	S	16 25 18.0	-1.1
JNB	Noboribetsu	1.19	326	⇓P	P	16 25 03.7	-0.3
JBT2	Biratori 2	1.33	14	⇓P	P	16 25 06.1	-0.1
JEW	Eniwo	1.40	345	⇓P	P	16 25 06.8	-0.3
JCH	Churui	1.56	43	⇑P	P	16 25 09.0	-0.1
JCH				eS	S	16 25 27.7	-0.8
JFR	Furan	1.75	16	⇓P	P	16 25 11.3	-0.4
JOSM	Okushiri--Mats	1.93	289	⇓P	P	16 25 14.1	-0.1
JOSM				eS	S	16 25 38.1	+0.9
JOM	Ohasama	2.07	194	⇑P	P	16 25 16.2	+0.1
JOM				eS	S	16 25 40.9	+0.3
ASAJ	Asahikawa	2.68	10	P	P	16 25 25.2	+0.5
	119nm,0.3s,baz=222,slow=12,SNR=491						
ASAJ				S	S	16 25 58.2	+2.2
	166nm,0.3s,baz=168,slow=31,SNR=8.9						
ASAJ	Asahikawa	2.68	10	P	P	16 25 25.3	+0.6
ASAJ				S	S	16 25 58.2	+2.2
ASAJ				pmax	pmax		
	comp=Z,119nm,0.3s						
ASAJ				smax			
	comp=N,166nm,0.3s						
YSS	Yuzh-Sakhalins	5.50	6	ePn	P	16 26 04.2	+0.2
	comp=N,244nm,0.8s						
YSS	Yuzh-Sakhalins	5.50	6	αeP	P	16 26 03.8	-0.2
YSS				eS	S	16 27 06.0	-0.7
YSS				pmax	pmax		
	comp=N,120nm,1.0s						
YSS				pmax	pmax		
	comp=Z,110nm,1.0s						
YSS				pmax	pmax		
	comp=Z,300nm,0.9s						
YSS				pmax	pmax		
	comp=N,340nm,1.0s						
YSS				smax			
	comp=N,190nm,1.0s						
YSS				smax			
	comp=E,190nm,1.0s						
YSS				smax			
	comp=N,10µm,4.0s						
YSS				smax			
	comp=E,600nm,4.0s						
YSS				MLR	MLR		
	comp=N,1µm,14.0s						
YSS				MLR	MLR		
	comp=Z,1µm,14.0s						
MAJO	Matsushiro	5.72	212	ePn	P	16 26 08.1	+1.1
	comp=Z,151nm,0.7s						
MAJO	Matsushiro	5.72	212	eP	P	16 26 08.1	+1.1
MAJO				pmax	pmax		
	comp=Z,151nm,0.7s						
MAT	Matsushiro	5.72	212	P	P	16 26 08.2	+1.2
MAT				S	S	16 27 12.9	+0.8
MAT	Matsushiro	5.72	212	eP	P	16 26 08.0	+1.0
	comp=Z,82nm,1.0s						
MAT				eS	S	16 27 13.0	+0.9
MAT	Matsushiro	5.72	212	eP	P	16 26 08.0	+1.0
MAT				eS	S	16 27 13.0	+0.9
MAT				pmax	pmax		
	comp=Z,82nm,1.0s						
KUR	Kuril'sk	5.73	47	⇓iP	P	16 26 03.1	-4.0
KUR				eS	S	16 27 05.2	-7.0
KUR				pmax	pmax		
	comp=N,810nm,1.0s						
KUR				pmax	pmax		
	comp=E,380nm,1.0s						
KUR				pmax	pmax		
	comp=Z,1µm,1.0s						
KUR				pmax	pmax		
	comp=N,2µm,1.6s						
KUR				pmax	pmax		
	comp=E,2µm,1.6s						
KUR				pmax	pmax		
	comp=Z,2µm,1.6s						
KUR				smax			
	comp=N,840nm,0.5s						
KUR				smax			
	comp=E,620nm,0.5s						
KUR				smax			
	comp=N,5µm,2.0s						
KUR				smax			
	comp=E,3µm,2.0s						
JHJ	Hachijo jima 2	8.52	192	P	P	16 26 42.1	-3.7
	comp=E,25nm,0.3s,baz=94,slow=21,SNR=7.0						
JHJ				S	S	16 28 16.9	-4.4
	comp=E,30nm,0.3s,baz=67,slow=23,SNR=5.9						
MDJ	Mudanjiang	9.56	293	P	P	16 27 01.3	+1.4
MDJ				AMB	AMB		
	comp=Z,83nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,118nm,3.9s						
MDJ				LR	LR		
	comp=N,395nm,22.9s						
MDJ				LR	LR		
	comp=E,1µm,22.9s						
MDJ				LR	LR		
	comp=Z,2µm,25.8s						
MDJ	Mudanjiang	9.56	293	ePn	P	16 27 00.5	+0.6
	comp=Z,88nm,1.0s						
KLR	Kul'dur	10.54	321	eP	P	16 27 10.8	-2.4
KLR				e		16 29 15.5	
KLR				pmax	pmax		
	comp=E,90nm,1.4s						
KLR				pmax	pmax		
	comp=Z,48nm,1.4s						
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KS15	Wonju Array Si	11.58	254	ePn	P	16 27 29.6	+2.4
KS15				eSn	S	16 29 41.2	+5.7
JNU	Nakatsue	12.12	230	P	P	16 27 34.5	0.0
	comp=E,0.9nm,0.3s,baz=62,slow=18,SNR=7.2						
JNU				LR	LR	16 32 14.4	
	comp=E,513nm,21.4s,baz=43,slow=37						
CN2	Changchun	12.36	286	eP	P	16 27 39.2	+1.6
CN2				XP		16 28 00.4	
CN2				eS	S	16 29 54.7	+0.6
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,250nm,6.0s						
CN2				LR	LR		
	comp=N,590nm,16.0s						
CN2				LR	LR		
	comp=E,1µm,16.0s						
CN2				LR	LR		
	comp=Z,1µm,17.0s						
CBIJ	Chichi jima	14.36	179	LR	LR	16 32 47.2	
	comp=Z,504nm,21.6s,baz=328,slow=34						
DL2	Dalian	15.72	267	P	P	16 28 23.6	+2.3
DL2				S	S	16 31 20.6	+7.2
DL2				AMB	AMB		
	comp=Z,30nm,1.0s						
HIA	Hailar	17.38	304	eP	P	16 28 40.4	-1.7
	comp=Z,9.3nm,0.6s						
HIA	Hailar	17.38	304	eP	P	16 28 40.4	-1.6
HIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CLNS	Chul'man	18.89	330	eP	P	16 28 58.7	-1.4
CLNS				eS	S	16 32 27.2	+2.4
CLNS				pmax	pmax		
	comp=Z,32nm,0.6s						
CLNS				pmax	pmax		
	comp=N,21nm,0.7s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,36nm,1.2s						
CLNS				pmax	pmax		
	comp=N,45nm,1.0s						
CLNS				pmax	pmax		
	comp=E,42nm,1.5s						
CLNS				smax			
	comp=E,16nm,1.4s						
CLNS				smax			
	comp=Z,10.0nm,0.9s						
CLNS				smax			
	comp=N,12nm,1.3s						
CLNS				MLR	MLR		
	comp=N,500nm,15.0s						
CLNS				MLR	MLR		
	comp=Z,600nm,15.0s						
CLNS				MLR	MLR		
	comp=E,500nm,14.0s						
MA2	Magadan	18.93	14	eP	P	16 28 57.1	-3.4
	comp=E,66nm,1.0s						
MA2	Magadan	18.93	14	⇑iP	P	16 28 58.0	-2.5
MA2				pmax	pmax		
	comp=Z,52nm,1.7s						
MA2				MLR	MLR		
	comp=Z,300nm,20.0s						
SSE	Sheshan	19.63	245	P	P	16 29 12.1	+3.8
SSE				S	S	16 32 49.7	+9.0
SSE				AMB	AMB		
	comp=Z,226nm,6.2s						
SSE	Sheshan	19.63	245	P	P	16 29 12.1	+3.8
	comp=Z,45nm,0.8s						
SSE				S	S	16 32 49.7	+9.0
TIA	Tai'an	19.99	263	eP	P	16 29 09.6	-2.5
NJ2	Nanjing	20.69	250	eP	P	16 29 17.9	-1.5
NJ2				AP		16 29 34.0	
NJ2				PP	PP	16 29 43.2	+0.4
NJ2				S	S	16 33 00.0	-1.5
NJ2				XS		16 33 26.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,1µm,4.8s						
NJ2				LR	LR		
	comp=N,2µm,19.4s						
NJ2				LR	LR		
	comp=E,2µm,22.4s						
NJ2				LR	LR		
	comp=Z,670nm,15.2s						
YAK	Yakutsk	21.85	344	eP	P	16 29 26.5	-4.3
	comp=Z,49nm,0.6s,mb5.0						
YAK	Yakutsk	21.85	344	eP	P	16 29 26.5	-4.3
YAK				pmax	pmax		
	comp=Z,49nm,0.6s,mb5.0						
CIT	Chita	21.98	308	eP	P	16 29 29.4	-2.7
CIT				e		16 33 37.2	
CIT				pmax	pmax		
	comp=Z,45nm,2.5s,mb4.4						
SEY	Seymchan	22.36	13	eP	P	16 29 33.3	-2.5
HHC	Hu-ho-hao-te	22.82	279	eP	P	16 29 38.4	-1.9
HHC				AP		16 29 54.8	
HHC				XP		16 30 04.3	
HHC				PP	PP	16 30 08.7	-2.8
HHC				S	S	16 33 33.9	-6.3
HHC				SCP		16 37 01.9	
HHC				PCS		16 37 09.5	
HHC				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.3						
HHC				AMB	AMB		
	comp=Z,182nm,5.7s						
HHC				LR	LR		
	comp=N,274nm,14.1s						
HHC				LR	LR		
	comp=E,560nm,19.8s						
HHC				LR	LR		
	comp=Z,843nm,24.5s						
BOD	Bodaibo	24.11	322	eP	P	16 29 51.7	-1.0
BOD				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.6						
ULN	Ulaanbaatar	25.45	296	eP	P	16 30 04.5	-1.1
	comp=Z,20nm,0.9s,mb4.6						
ULN	Ulaanbaatar	25.45	296	⇑iP	P	16 30 04.9	-0.7
SONM	Songino Array	25.89	296	P	P	16 30 08.5	-1.3
	comp=Z,12nm,0.7s,mb4.4,baz=87,slow=7.3,SNR=87						
SONM				pP	pP	16 30 24.8	-1.2
	comp=Z,3.2nm,0.7s,baz=100,slow=9.0,SNR=3.7						
XAN	Xi'an	27.01	265	P	P	16 30 18.3	-1.9
XAN				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5						
IRK	Irkutsk	27.60	306	eP	P	16 30 24.3	-1.1
IRK				e		16 31 24.7	
IRK				pmax	pmax		
	comp=Z,46nm,1.7s,mb4.7						
GUMO	Guam	27.91	174	LR	LR	16 39 38.7	
	comp=Z,401nm,21.4s,baz=22,slow=32						
ZAK	Zakamensk	28.04	302	⇑iP	P	16 30 28.7	-0.7
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.1						
ENH	Enshi	28.41	257	eP	P	16 30 30.7	-2.2
	comp=Z,19nm,0.7s,mb4.7						
MOY	Mondy	29.56	304	eP	P	16 30 42.5	-0.4
MOY				pmax	pmax		
	comp=Z,52nm,1.7s,mb4.9						
BILL	Bilibino	29.66	18	⇑iP	P	16 30 40.9	-2.8
BILL				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.4						
LZH	Lanzhou	30.00	272	eP	P	16 30 45.0	-2.0
LZH				AP	pP	16 31 01.5	-2.2
LZH				XP	sP	16 31 10.6	-1.4
LZH				PP	PP	16 31 45.4	-1.7
LZH				eS	S	16 35 35.1	-3.5
LZH				eSS	SS	16 37 17.9	-2.1
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,108nm,5.2s						
LZH				LR	LR		
	comp=N,957nm,13.2s						
LZH				LR	LR		
	comp=Z,1µm,17.3s						
LZH	Lanzhou	30.00	272	eP	P	16 30 45.0	-2.0
	comp=Z,27nm,1.3s,mb4.7						
LZH				pP	pP	16 31 01.5	-2.2
LZH				sP	sP	16 31 10.6	-1.4
LZH				PP	PP	16 31 45.4	-1.7
LZH				eS	S	16 35 35.1	-3.5
LZH				sS		16 35 58.7	
LZH				eSS	SS	16 37 17.9	-2.1
LZH				LR	LR		
	comp=Z,1µm,17.3s						
LZH	Lanzhou	30.00	272	eP	P	16 30 45.0	-2.0
LZH				*PP	pP	16 31 01.5	-2.2
LZH				*SP	sP	16 31 10.6	-1.4
LZH						16 31 45.4	
LZH				eS	S	16 35 35.1	-3.5
LZH				*SS		16 35 58.7	
LZH				eSS	SS	16 37 17.9	-2.1
LZH				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.7						
LZH				MLR	MLR		
	comp=Z,1µm,17.3s						
TIXI	Tiksi	30.93	352	eP	P	16 30 47.8	-7.1
TIXI				eS	S	16 35 41.7	-11
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,103nm,14.0s						
GTA	Gaotai	31.89	280	eP	P	16 31 02.3	-1.2
GTA				AP	pP	16 31 19.4	-1.0
GTA				XP	sP	16 31 28.7	-0.2
GTA				PP	PP	16 32 10.9	-0.2
GTA				PPP	PPP	16 32 26.8	+0.3
GTA				PCP	PcP	16 33 53.1	+0.3
GTA				S	S	16 36 07.4	-0.8
GTA				XS		16 36 36.6	
GTA				SCP		16 37 29.6	
GTA				PCS		16 37 37.5	
GTA				SS	SS	16 38 02.2	-1.5
GTA				SCS	ScS	16 41 25.6	-0.2
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,92nm,8.4s						
GTA				LR	LR		
	comp=N,321nm,16.3s						
GTA				LR	LR		
	comp=E,473nm,16.4s						
GTA				LR	LR		
	comp=Z,638nm,24.0s						
CD2	Chengdu	32.33	263	P	P	16 31 05.0	-2.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
GYA	Guiyang	32.61	254	⇓iP	P	16 31 07.9	-2.0
GYA				AP	pP	16 31 25.8	-1.1
GYA				XP	sP	16 31 34.9	-0.5
GYA				PP	PP	16 32 18.3	-2.2
GYA				PCP	PcP	16 33 54.9	+0.1
GYA				S	S	16 36 14.8	-4.7
GYA				SCP		16 37 29.6	
GYA				SCS	ScS	16 41 28.0	-1.5
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
GYA				LR	LR		
	comp=N,370nm,16.4s						
GYA				LR	LR		
	comp=E,300nm,16.0s						
GYA				LR	LR		
	comp=Z,390nm,15.8s						
KMI	Kunming	36.24	256	P	P	16 31 41.9	+0.9
KMI				AP	pP	16 31 57.3	-0.9
KMI				XP	sP	16 32 03.9	-2.8
KMI				PP	PP	16 33 05.0	-0.6
KMI				PCP	PcP	16 34 08.3	+3.0
KMI				S	S	16 37 14.8	-0.8
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
KMI				LR	LR		
	comp=N,332nm,19.0s						
KMI				LR	LR		
	comp=E,342nm,20.2s						
KMI				LR	LR		
	comp=Z,351nm,20.9s						
KMI	Kunming	36.24	256	P	P	16 31 41.9	+0.9
	comp=Z,10.0nm,0.7s,mb4.8						
KMI				pP	pP	16 31 57.3	-0.9
KMI				sP	sP	16 32 03.9	-2.8
KMI				PP	PP	16 33 05.0	-0.6
KMI				PPP	PPP	16 33 25.2	-0.8
KMI				PcP	PcP	16 34 08.3	+3.0

KMI S S 16 37 14.8 -0.8
KMI sS 16 37 41.1
KMI SS SS 16 39 39.0 -4.2
KMI SSS SSS 16 40 08.8 -5.3
KMI LR LR
comp=Z,350nm,20.9s
KMI Kunming 36.24 256 P P **16 31 41.9 +0.9**
KMI *PP pP 16 31 57.3 -0.9
KMI *SP sP 16 32 03.9 -2.8
KMI 16 33 05.0
KMI PPP PPP 16 33 25.2 -0.8
KMI 16 34 08.3
KMI S S **16 37 14.8 -0.8**
KMI *SS 16 37 41.1
KMI SS SS 16 39 39.0 -4.2
KMI SSS SSS 16 40 08.8 -5.3
KMI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KMI MLR MLR
comp=Z,350nm,20.9s
ZAL Zalesovo 39.35 308 P P **16 32 06.8 +0.2**
comp=Z,13nm,0.8s,mb4.8,baz=24,slow=9.0,SNR=70
ZAL PcP PcP 16 34 14.3 -0.3
comp=Z,4.4nm,0.7s,baz=16,slow=3.2,SNR=3.2
ZAL S S **16 38 01.2 -1.3**
comp=Z,0.8nm,0.3s,baz=36,slow=16,SNR=2.6
ZAL LR LR 16 49 54.9
comp=Z,575nm,19.6s,baz=21,slow=38
ZAL Zalesovo 39.35 308 P P **16 32 06.8 +0.2**
ZAL PcP PcP 16 34 14.3 -0.3
ZAL S S **16 38 01.2 -1.3**
ZAL LR LR 16 49 54.9
WMQ Urumqi 39.36 292⇑*iP* P **16 32 07.4 +0.6**
WMQ AP pP 16 32 25.0 +0.9
WMQ XP sP 16 32 33.5 +1.1
WMQ PPP PPP 16 34 09.0 +1.9
WMQ SCP 16 37 56.0
WMQ S S **16 38 02.5 -0.3**
WMQ XS 16 38 35.0
WMQ SS SS 16 40 52.0 -0.2
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,203nm,4.0s
WMQ LR LR
comp=N,880nm,14.3s
WMQ LR LR
comp=E,238nm,14.2s
WMQ LR LR
comp=Z,983nm,17.6s
NVS Novosibirsk 40.17 310⇑*iP* P **16 32 12.4 -1.0**
NVS *eS* S **16 38 04.1 -11**
NVS pmax pmax
comp=Z,48nm,1.9s,mb5.0
NVS pmax pmax
comp=E,33nm,1.7s
NVS smax
comp=E,20nm,1.8s
CHRT Chiangrai 41.64 252⇑P P **16 32 27.0 +1.1**
comp=E,150nm,1.0s,mb5.7
MK02 Makanchi Array 42.23 298 P P **16 32 30.3 -0.1**
MK02 pmax pmax
comp=Z,38nm,1.1s,mb5.0
MKAR Makanchi Array 42.23 298 P P **16 32 30.4 0.0**
comp=Z,15nm,0.7s,mb4.8,baz=71,slow=11,SNR=71
LSA Lhasa 42.38 271 P P **16 32 33.6 +1.7**
LSA AMB AMB
comp=Z,20nm,1.3s,mb4.7
LSA LR LR
comp=N,80nm,15.6s
LSA LR LR
comp=E,370nm,27.6s
LSA LR LR
comp=Z,470nm,21.6s
LSA Lhasa 42.38 271 *eP* P **16 32 33.3 +1.4**
comp=Z,55nm,1.3s,mb5.1
LSA Lhasa 42.38 271 *eP* P **16 32 33.3 +1.4**
LSA pmax pmax
comp=Z,55nm,1.3s,mb5.1
IMA Indian Mountai 42.70 33 *eP* P **16 32 34.0 0.0**
comp=Z,106nm,1.0s,mb5.5
IMA Indian Mountai 42.70 33 *eP* P **16 32 34.0 +0.1**
IMA pmax pmax
comp=Z,106nm,1.0s,mb5.5
CHG Chiang Mai 42.93 251 P P **16 32 36.8 +0.3**
RSO Redoubt South 43.23 41 *eP* P **16 32 38.6 +0.2**
SPU Mount Spurr 43.51 40 *eP* P **16 32 40.8 +0.1**
KDAK Kodiak Island 43.60 45 *eP* P **16 32 40.7 -0.7**
comp=Z,32nm,0.9s,mb5.0
KURK Kurchatov 43.62 305⇑*iP* P **16 32 41.2 -0.4**
comp=Z,39nm,0.8s,mb5.2
KURK Kurchatov 43.62 305 P P **16 32 41.3 -0.4**
KURK pmax pmax
comp=Z,12nm,0.7s,mb4.7
ILAR Eielson Array 45.57 35 P P **16 32 56.7 -0.4**
comp=Z,37nm,1.0s,mb5.1,baz=270,slow=6.0,SNR=119
ILAR pP pP 16 33 14.1 -0.5
comp=Z,29nm,1.0s,baz=266,slow=4.5,SNR=9.6
ILAR LR LR 16 53 19.9
comp=Z,123nm,20.2s,baz=98,slow=38
VOSK Vostochnaya 47.70 309 P P **16 33 13.3 -0.7**
VOSK pmax pmax
comp=Z,20nm,1.1s,mb4.9
KKN Kakani 47.78 272 *eP* P **16 33 15.1 +0.1**
comp=Z,90nm,0.8s,mb5.6
KKN Kakani 47.78 272 *eP* P **16 33 15.1 +0.1**
KKN pmax pmax
comp=Z,45nm,0.8s,mb5.3
PKI Pulchoki 47.80 272 *eP* P **16 33 15.1 0.0**
comp=Z,35nm,0.7s,mb5.3
PKI Pulchoki 47.80 272 *eP* P **16 33 15.1 0.0**
PKI pmax pmax
comp=Z,17nm,0.7s,mb5.0
ULHL Ulahol 47.80 294 P P **16 33 15.2 +0.3**
SNR=7.6
BVA0 Borovoye Array 47.96 310 P P **16 33 15.3 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
BVAR Borovoye Array 47.96 310 P P **16 33 15.9 -0.2**
comp=Z,13nm,0.5s,mb5.0,baz=74,slow=8.4,SNR=140
BVAR S S **16 40 08.2 +0.8**
comp=Z,0.4nm,0.3s,baz=218,slow=43,SNR=2.7
TKM2 Tokmak 2 47.98 295 P P **16 33 17.1 +0.8**
SNR=38
DMN Daman 48.00 272 *eP* P **16 33 16.8 +0.1**
comp=Z,60nm,0.9s,mb5.4
BRVK Borovoye 48.01 310⇑*iP* P **16 33 16.3 -0.2**
comp=Z,18nm,1.0s,mb4.9
BRVK Borovoye 48.01 310⇑*iP* P **16 33 16.3 -0.2**
BRVK pmax pmax
comp=Z,18nm,1.0s,mb4.9
GKN Gorkha 48.15 273 *eP* P **16 33 17.6 -0.2**
comp=Z,23nm,0.4s,mb5.4
KBK Karagaybulak 48.53 295 P P **16 33 21.1 +0.5**
SNR=31
KZA Kyzart 48.54 294 P P **16 33 22.1 +1.4**
SNR=18
USP Ospenovka 48.60 296 P P **16 33 21.0 -0.1**
SNR=14
AAK Ala-Archa 48.84 295 P P **16 33 23.1 +0.1**
SNR=7.3
AAK Ala-Archa 48.84 295⇑*iP* P **16 33 21.8 -1.2**
comp=Z,7.4nm,0.6s,mb4.8
AAK Ala-Archa 48.84 295 P P **16 33 22.9 -0.1**
AAK pmax pmax
comp=Z,24nm,1.3s,mb5.0
KSM Kuching 48.97 224⇑*eP* P **16 33 24.8 +0.5**
KOLN Koldanda 49.05 273 *eP* P **16 33 24.6 -0.2**
comp=Z,138nm,1.2s,mb5.8
EKS2 Erkin-Say 49.32 295 P P **16 33 26.7 0.0**
SNR=23
AML Almayashu 49.59 295 P P **16 33 29.5 +0.8**
SNR=16
INK Inuvik 50.27 29 P P **16 33 33.6 -0.1**
comp=Z,32nm,0.5s,mb5.5,baz=303,slow=6.6,SNR=76
INK Inuvik 50.27 29⇑*iP* P **16 33 33.4 -0.3**
comp=Z,60nm,0.8s,mb5.6
INK Inuvik 50.27 29 P P **16 33 33.6 -0.1**
INK pmax pmax
comp=Z,32nm,0.5s
KKAR Karatay Array 51.34 297 *eP* P **16 33 41.4 -0.7**
KKAR pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KULM Kulim 51.48 237 *eP* P **16 33 43.0 -0.6**
SVE Sverdlovsk 52.14 317⇑*eP* P **16 33 47.7 -0.1**
SVE *e* pP 16 34 03.7 -2.0
SVE *eS* S **16 41 22.0 +17**
SVE *eSS* SS 16 44 48.0 +6.5
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.3
SVE MLR MLR
comp=N,300nm,14.0s
SVE MLR MLR
comp=E,500nm,14.0s
SVE MLR MLR
comp=Z,600nm,14.0s
ARU Arti 53.35 317 *eP* P **16 33 56.0 -0.9**
comp=Z,27nm,1.0s,mb5.2
ARU Arti 53.35 317⇓*iP* P **16 33 56.1 -0.8**
ARU *e* 16 35 00.6
ARU *e* 16 35 53.2
ARU *eS* S **16 41 16.9 -4.8**
ARU *eSS* SS 16 44 57.5 -4.2
ARU *eSSS* SSS 16 46 59.2 +4.1
ARU pmax pmax
comp=Z,30nm,1.6s,mb5.1
ARU MLR MLR
comp=Z,700nm,18.0s
ARU MLR MLR
comp=N,200nm,18.5s
ARU MLR MLR
comp=E,500nm,17.0s
DLBC Dease Lake 54.92 40 P P **16 34 08.8 +0.4**
comp=E,2.7nm,0.8s,mb4.3,baz=244,slow=11,SNR=6.4
DLBC Dease Lake 54.92 40 *eP* P **16 34 09.3 +1.0**
DLBC *e* pP 16 34 26.7 +0.4
AB31 Akbulak array 55.45 308 *iP* P **16 34 11.5 -0.8**
AB31 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
AKTO Aktyubinsk 56.06 310 P P **16 34 15.0 -1.7**
AKTO pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
APA Apatity 58.82 335⇑*iP* P **16 34 34.0 -1.8**
APA *i* 16 35 24.0
APA *eS* S **16 42 30.0 -4.1**
APA pmax pmax
comp=Z,109nm,2.0s,mb5.5
KEV Kevo 59.44 338 *ep* P **16 34 37.8 -2.3**
comp=Z,8.4nm,0.7s,mb4.9
KEV Kevo 59.44 338 *eP* P **16 34 37.8 -2.3**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
YKW3 Yellowknife Ar 59.75 31 *eP* P **16 34 41.2 -1.1**
YKW3 *ep* pP 16 35 00.5 0.0
YKA Yellowknife Ar 59.79 32 P P **16 34 41.6 -0.9**
comp=Z,3.8nm,0.8s,mb4.5,baz=306,slow=6.8,SNR=14
YKA Yellowknife Ar 59.79 32 P P **16 34 41.6 -1.0**
YKA pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 59.99 339 P P **16 34 42.8 -1.1**
comp=Z,2.2nm,0.5s,mb4.4,baz=59,slow=7.1,SNR=15
ARCES LR LR 17 05 32.3
comp=Z,194nm,18.6s,baz=62,slow=41
DAG Danmarks Havn 61.38 355⇑*iP* P **16 34 52.3 -1.0**
comp=Z,5.2nm,0.8s,mb4.6
DAG Danmarks Havn 61.38 355⇑*iP* P **16 34 52.3 -1.0**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CTAO Charters Tower 61.39 175 *eP* P **16 34 53.5 -0.6**
comp=Z,7.8nm,1.1s,mb4.7
CTAO Charters Tower 61.39 175 *eP* P **16 34 53.5 -0.5**
CTAO pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
WRAB Tennant Creek 61.51 188 *eP* P **16 34 52.6 -2.2**
comp=Z,21nm,0.9s,mb5.2
WRAB Tennant Creek 61.51 188 *eP* P **16 34 52.6 -2.2**
WRAB pmax pmax
comp=Z,21nm,0.9s,mb5.2
WB2 Warramunga Arr 61.52 188⇑*iP* P **16 34 52.8 -2.1**
WRA Warramunga Arr 61.52 188 P P **16 34 52.7 -2.2**
comp=Z,15nm,1.0s,mb5.0,baz=5.9,slow=6.9,SNR=100
JOF Joensuu 62.25 331 *ep* P **16 34 56.3 -2.9**
comp=Z,9.6nm,0.6s,mb5.0
MOS Moscow 63.94 322 *eP* P **16 35 04.6 -5.8**
MOS *e* 16 35 32.2
MOS pmax pmax
comp=Z,44nm,0.8s,mb5.3
KAF Kangasniemi 64.56 332 *ep* P **16 35 12.3 -2.0**
comp=Z,8.3nm,0.6s,mb4.7,baz=47,slow=6.2
KAF Kangasniemi 64.56 332 *eP* P **16 35 12.3 -2.0**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
VRHR Novokhopersk 64.70 317 *eP* P **16 35 13.3 -2.1**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
VRHR pmax pmax
comp=N,2.0nm,0.3s
VRHR pmax pmax
comp=E,2.0nm,0.3s
OBN Obninsk 64.80 322*c iP* P **16 35 15.0 -1.0**
OBN *e**PP pP 16 35 34.1 -0.4
OBN *e* 16 35 46.8
OBN *e* 16 37 35.7
OBN *eS* S **16 43 39.0 -11**
OBN pmax pmax
comp=Z,37nm,1.4s,mb5.0
OBN MLR MLR
comp=Z,300nm,15.0s
FINES FINESS Array B 65.08 332 P P **16 35 16.6 -1.1**
comp=Z,17nm,0.8s,mb5.0,baz=49,slow=8.1,SNR=63
FINES pP pP 16 35 33.8 -2.4
comp=Z,17nm,0.8s,baz=56,slow=6.9,SNR=8.4
FINES LR LR 17 05 57.2
comp=Z,363nm,20.3s,baz=213,slow=38
MBWA Marble Bar 65.64 203 *eP* P **16 35 20.4 -1.6**
comp=Z,23nm,1.4s,mb4.8
EDM Edmonton 65.64 40 *eP* P **16 35 20.7 -0.7**
VRSR Storozhevoye 65.87 318 *eP* P **16 35 22.3 -0.6**
VRSR pmax pmax
comp=Z,20nm,0.5s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 65.97 317 *eP* P **16 35 22.7 -0.8**
VORD pmax pmax
comp=Z,20nm,0.9s,mb5.0
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,4.0nm,0.4s
SUMG Summit 66.24 0 *eP* P **16 35 25.1 +0.1**
comp=E,22nm,0.7s,mb5.1
SUMG *ep* pP 16 35 43.2 -0.3
HAWA Hanford 66.48 48 *eP* P **16 35 26.8 -0.1**
comp=E,1.4nm,1.3s
HAWA *ep* pP 16 35 45.1 -0.4
NEW Newport 66.70 46 P P **16 35 27.4 -0.8**
comp=E,1.4nm,0.4s,mb4.2,baz=75,slow=17,SNR=3.9
NEW pP pP 16 35 46.5 -0.3
comp=E,9.6nm,0.9s,baz=302,slow=6.7,SNR=7.0
NEW Newport 66.70 46 *eP* P **16 35 27.5 -0.7**
comp=E,18nm,1.3s,mb4.8
NEW *ep* pP 16 35 46.6 -0.2
NEW Newport 66.70 46 *eP* P **16 35 27.5 -0.7**
NEW *e**PP pP 16 35 46.6 -0.2
NEW pmax pmax
comp=Z,18nm,1.3s
YBH Yreka Blue Hor 67.35 54 P P **16 35 31.9 -0.6**
comp=Z,2.3nm,0.6s,mb4.2,baz=199,slow=3.3,SNR=4.5
YBH Yreka Blue Hor 67.35 54 *eP* P **16 35 33.3 +0.9**
comp=Z,6.9nm,1.2s,mb4.4
YBH *ep* pP 16 35 52.6 +1.6
YBH Yreka Blue Hor 67.35 54 P P **16 35 31.9 -0.5**
YBH pmax pmax
comp=Z,2.0nm,0.6s
GOF Gofitskoye 67.47 311⇑*iP* P **16 35 32.9 -0.2**
GOF *i* pP 16 35 51.2 -0.5
GOF pmax pmax
comp=Z,66nm,1.3s,mb5.3
WDC Whiskeytown Da 68.13 55 *eP* P **16 35 37.1 -0.2**
comp=Z,12nm,1.0s,mb4.7
WDC Whiskeytown Da 68.13 55 *eP* P **16 35 37.1 -0.2**
WDC pmax pmax
comp=Z,12nm,1.0s,mb4.7
KIV Kislovodsk 68.33 310⇑*iP* P **16 35 38.8 +0.3**
comp=Z,91nm,1.1s,mb5.5
KIV Kislovodsk 68.33 310*c iP* P **16 35 38.9 +0.5**
KIV pmax pmax
comp=Z,107nm,1.3s,mb5.5
ZEI Tsey 68.33 308 *eP* P **16 35 36.8 -1.7**
ZEI *i* 16 38 07.6
ZEI pmax pmax
comp=Z,12nm,0.8s,mb4.8
BMO Blue Mountains 68.65 49 *eP* P **16 35 40.2 -0.2**
comp=Z,13nm,1.3s,mb4.6
BMO *ep* pP 16 35 59.2 +0.1
MOD Modoc 68.70 53 *eP* P **16 35 41.0 +0.2**
comp=Z,10nm,1.1s,mb4.6
MOD *ep* pP 16 35 58.9 -0.5
MNK Minsk 69.08 325 *eP* P **16 35 40.0 -2.9**
MSO Missoula 69.28 45 *eP* P **16 35 44.0 -0.3**
comp=Z,5.1nm,1.2s,mb4.2
MSO *ep* pP 16 36 03.0 0.0
WVOR Wild Horse Val 69.36 51 *eP* P **16 35 44.6 -0.2**
comp=Z,3.4nm,1.1s,mb4.1
WVOR *ep* pP 16 36 03.6 0.0
WVOR Wild Horse Val 69.36 51 *eP* P **16 35 44.6 -0.3**
WVOR *e**PP pP 16 36 03.6 0.0
WVOR pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
GNI Garni 69.40 306 *eP* P **16 35 46.2 +1.0**
comp=Z,48nm,1.4s,mb5.1
GNI Garni 69.40 306⇑*iP* P **16 35 46.3 +1.1**
GNI pmax pmax
comp=Z,41nm,1.5s
CHMT Chamberlain Mo 69.59 45 *eP* P **16 35 46.9 +0.7**
BEKR Beckwourth 69.90 54 *eP* P **16 35 48.1 0.0**
comp=Z,18nm,0.8s,mb5.0
BEKR *ep* pP 16 36 08.1 +1.2
NB2 NORSAR Subarra 70.25 337 P P **16 35 49.0 -0.9**
comp=Z,11nm,0.7s,mb4.8,baz=36,slow=6.2
NB2 NORSAR Subarra 70.25 337 P P **16 35 49.0 -0.9**
NB2 pmax pmax
comp=Z,11nm,0.7s,mb4.8
NOA NORSAR Array B 70.25 337 P P **16 35 49.2 -0.7**
comp=Z,11nm,0.8s,mb4.7,baz=37,slow=6.1,SNR=34
NOA pP pP 16 36 07.0 -1.7
comp=Z,11nm,0.8s,baz=37,slow=6.1,SNR=8.1
NOA LR LR 17 09 39.3
comp=Z,156nm,21.8s,baz=40,slow=38
NOA NORSAR Array B 70.25 337 P P **16 35 49.2 -0.7**
NOA pP pP 16 36 07.0 -1.7
NOA LR LR 17 09 39.3
SOC Sochi 70.25 311 *eP* P **16 35 49.8 -0.5**
SOC *e* pP 16 36 12.8 +3.8
SOC *e*PPP PPP 16 40 09.2 +0.5
SOC *eS* S 16 44 50.2 -5.1
SOC *e* 16 45 39.6
SOC *eSS* SS 16 49 20.5 -7.8
SOC *eSSS* SSS 16 52 38.2 +4.0
SOC pmax pmax
comp=N,20nm,0.9s
SOC pmax pmax
comp=E,18nm,0.9s
SOC pmax pmax
comp=Z,40nm,0.9s,mb5.2
HRY Holter Researc 70.47 45 *eP* P **16 35 51.5 0.0**
HRY *e* pP 16 36 10.1 -0.2
NAO01 NORSAR Array S 70.50 337 *eP* P **16 35 51.0 -0.4**
comp=Z,1.8nm,0.4s,mb4.2
ANN Anapa 70.76 313 *eP* P **16 35 52.0 -1.3**
ANN *e**PP pP 16 36 17.8 +5.7
ANN *eS* S 16 44 54.2 -6.9
ANN pmax pmax
comp=Z,62nm,1.7s,mb5.2
CMB Columbia Colle 71.00 56 *eP* P **16 35 54.6 -0.2**
comp=Z,11nm,1.1s,mb4.6
CMB *ep* pP 16 36 14.1 +0.4
CMB Columbia Colle 71.00 56 *eP* P **16 35 54.6 -0.3**
CMB *e**PP pP 16 36 14.1 +0.4
CMB pmax pmax
comp=Z,11nm,1.1s,mb4.6
AKASG Malin Array Be 71.04 322 P P **16 35 54.1 -0.7**
comp=Z,11nm,0.4s,mb5.0,baz=43,slow=6.3,SNR=49
AKASG pP pP 16 36 13.1 -0.6
comp=Z,8.5nm,0.7s,baz=42,slow=6.0,SNR=4.9
HLID Hailey 71.08 48 *eP* P **16 35 55.6 +0.3**
comp=Z,9.2nm,1.0s,mb4.6
MCMT McKenzie Canyo 71.14 47 *eP* P **16 35 55.4 -0.2**
BOZ Bozeman (W) 71.27 45 *eP* P **16 35 56.5 +0.1**
comp=Z,20nm,1.1s,mb4.9
BOZ *ep* pP 16 36 15.7 +0.6
BOZ Bozeman (W) 71.27 45 *eP* P **16 35 56.5 +0.2**
BOZ *e**PP pP 16 36 15.7 +0.6
BOZ pmax pmax
comp=Z,20nm,1.1s,mb4.9
BMN Battle Mountai 71.44 52 *eP* P **16 35 57.4 0.0**
comp=Z,7.7nm,1.1s,mb4.5
BMN *ep* pP 16 36 16.9 +0.7
BMN Battle Mountai 71.44 52 *eP* P **16 35 57.4 0.0**
BMN *e**PP pP 16 36 16.9 +0.6
BMN pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
QLMT Earthquake Lak 71.91 46 P P **16 36 00.5 +0.4**
ELK Elko 72.41 51 P P **16 36 03.9 +0.7**
comp=Z,1.1nm,0.7s,mb3.8,baz=328,slow=6.2,SNR=4.0
ELK Elko 72.41 51 *eP* P **16 36 03.7 +0.5**
comp=Z,4.1nm,1.0s,mb4.2
ELK *ep* pP 16 36 22.0 -0.1
ELK Elko 72.41 51 *eP* P **16 36 03.7 +0.5**
ELK *e**PP pP 16 36 22.0 0.0
ELK pmax pmax
comp=Z,4.0nm,1.0s
SIM Simferopol' 72.46 315⇓*eP* P **16 36 03.7 +0.3**
SIM pmax pmax
comp=Z,26nm,0.7s,mb5.2
RRI2 Red Ridge 72.94 47 *eP* P **16 36 07.3 +1.1**
comp=Z,30nm,1.2s,mb5.0
RRI2 *ep* pP 16 36 26.3 +1.2
STKA Stephens Creek 73.00 180 *eP* P **16 36 06.6 -0.2**
comp=Z,3.9nm,1.1s,mb4.2
STKA Stephens Creek 73.00 180 P P **16 36 06.0 -0.8**
comp=Z,4.6nm,1.0s,mb4.3,baz=333,slow=10,SNR=5.8
STKA LR LR 17 07 28.8
comp=Z,125nm,19.2s,baz=25,slow=35
TPAW Teton Pass 73.05 47 *eP* P **16 36 07.8 +1.0**
comp=Z,33nm,1.2s,mb5.0
TPAW *ep* pP 16 36 27.4 +1.7
LOHW Long Hollow 73.16 46 *eP* P **16 36 08.1 +0.6**
comp=Z,11nm,1.1s,mb4.6
BSD Bornholm Skovb 73.72 331⇑*iP* P **16 36 12.6 +2.1**
comp=Z,50nm,0.8s,mb5.3
BSD Bornholm Skovb 73.72 331⇑*iP* P **16 36 12.6 +2.1**
BSD pmax pmax
comp=Z,50nm,0.8s,mb5.3
HWUT Hardware Ranch 73.95 48 *eP* P **16 36 12.4 +0.2**
comp=Z,13nm,1.1s,mb4.6
HWUT *ep* pP 16 36 28.0 -3.1
UMR Umm Al-Rimmam 73.99 295 *eP* P **16 36 12.2 -0.5**
UMR AMb AMB 16 36 13.1
comp=Z,40nm,0.5s,mb5.4
MIB Mutribah 74.09 296 *eP* P **16 36 12.6 -0.6**
MIB AMb AMB 16 36 13.7
comp=Z,54nm,0.8s,mb5.3
DUG Dugway 74.17 50 *eP* P **16 36 13.7 +0.2**
comp=Z,7.4nm,0.8s,mb4.5
DUG *ep* pP 16 36 33.0 +0.6
DUG Dugway 74.17 50 *eP* P **16 36 13.7 +0.2**
DUG *e**PP pP 16 36 33.1 +0.7
DUG pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
KBD Kabd 74.24 295 *eP* P **16 36 13.8 -0.3**
KBD AMb AMB 16 36 21.2
comp=Z,96nm,0.5s,mb5.8
BW06 Boulder Array 74.29 47⇑*eP* P **16 36 14.1 0.0**
comp=Z,11nm,0.9s,mb4.6
PDAR Pinedale Array 74.29 46 P P **16 36 14.2 0.0**
comp=Z,5.0nm,0.9s,mb4.3,baz=289,slow=2.6,SNR=30
PDAR pP pP 16 36 33.0 -0.1
comp=Z,6.3nm,0.8s,baz=273,slow=1.6,SNR=8.1
PDAR LR LR 17 09 43.2
comp=Z,87nm,18.4s,baz=117,slow=36
QRN Al-Qurain 74.36 295 *eP* P **16 36 14.5 -0.3**
TCUT Toone Canyon 74.36 49 *eP* P **16 36 15.0 +0.4**
MALT Malatya 74.37 307 *eP* P **16 36 15.8 +1.1**
comp=Z,32nm,1.2s,mb4.9
MALT Malatya 74.37 307 *eP* P **16 36 15.8 +1.1**
MALT pmax pmax
comp=Z,32nm,1.2s,mb4.9
RDF Al-Radifah 74.50 295 *eP* P **16 36 15.0 -0.6**
RDF AMb AMB 16 36 16.1
comp=Z,73nm,0.6s,mb5.6
NLU North Lily Min 74.76 50 *eP* P **16 36 15.7 -1.1**
KWP Kalwaria 74.76 324 *eP* P **16 36 17.6 +0.9**
DAU Daniels Canyon 74.92 49 *eP* P **16 36 18.1 +0.3**
STHS Stebnicka Huta 75.56 325 *eP* P **16 36 21.9 +0.7**

STHS ep P pP 16 36 41.3 +1.1
OJC Ojcow 75.58 326 eP **P** **16 36 21.9 +0.6**
ULM Lac du Bonnet 75.59 34 P **P** **16 36 20.7 -0.6**
comp=Z,8.3nm,1.0s,mb4.4,baz=292,slow=6.1,SNR=4.8
ULM pP pP 16 36 40.5 +0.2
comp=Z,8.4nm,0.9s,baz=322,slow=5.7,SNR=5.5
ULM LR LR 17 11 07.3
comp=Z,74nm,21.5s,baz=322,slow=37
ULM Lac du Bonnet 75.59 34 eP **P** **16 36 20.8 -0.6**
comp=Z,11nm,1.0s,mb4.5
ULM ep P pP 16 36 40.5 +0.2
MSU Marysvale 75.66 51 eP **P** **16 36 22.8 +0.8**
CRVS Cervenica-Dubn 75.85 324 eP **P** **16 36 23.2 +0.3**
CRVS e 16 36 53.9
NEN Nelson 75.94 55 eP **P** **16 36 23.9 +0.2**
NIE Niedzica 75.96 325 eP **P** **16 36 24.4 +0.9**
SRU San Rafael 76.21 50 eP **P** **16 36 25.5 +0.3**
BR131 Keskin Array S 76.22 311 eP **P** **16 36 25.6 +0.4**
comp=Z,3.4nm,0.7s,mb4.2
BRTR Keskin Array B 76.22 311 P **P** **16 36 25.3 +0.1**
comp=Z,5.1nm,0.6s,mb4.4,baz=63,slow=3.2,SNR=17
BSEG Bad Segeberg 76.28 333 eP **P** **16 36 25.2 0.0**
KSP Ksiaz 76.54 328 eP **P** **16 36 27.2 +0.5**
KSP Ksiaz 76.54 328 eP **P** **16 36 26.0 -0.7**
KSP e*PP pP 16 36 44.5 -1.2
OKC Ostrava-Krasne 76.56 326 eP **P** **16 36 27.3 +0.4**
OKC epP pP 16 36 46.4 +0.5
OKC AMS AMS 17 12 30.0
comp=Z,300nm,13.4s
KECS Kecovo 76.59 324 eP **P** **16 36 27.0 -0.1**
KECS epP pP 16 36 46.2 +0.1
MORC Moravsky Berou 76.86 327 eP **P** **16 36 28.4 -0.1**
comp=Z,24nm,1.2s,mb4.8
MORC Moravsky Berou 76.86 327 eP **P** **16 36 28.4 -0.2**
MORC pmax pmax
comp=Z,25nm,1.2s,mb4.8
DPC Dobruska-Polom 76.91 328 eP **P** **16 36 29.6 +0.8**
DPC epP pP 16 36 48.8 +1.0
UPC Upice 76.91 328 eP **P** **16 36 29.3 +0.5**
PSZ Piszkesteto 77.28 324⇑ eP **P** **16 36 31.8 +0.9**
PSZ Piszkesteto 77.28 324 eP **P** **16 36 31.5 +0.5**
comp=Z,17nm,1.2s,mb4.7
PSZ Piszkesteto 77.28 324 eP **P** **16 36 31.5 +0.6**
PSZ pmax pmax
comp=Z,17nm,1.2s,mb4.7
VYHS Vyhne 77.30 325 eP **P** **16 36 31.8 +0.8**
VYHS e pP 16 36 47.1 -2.9
BRG Berggiesshubel 77.43 329 eP **P** **16 36 31.9 +0.2**
comp=Z,10nm,1.3s,mb4.4
BRG Berggiesshubel 77.43 329 eP **P** **16 36 31.9 +0.2**
BRG pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
CLL Collm 77.44 330⇑ P **P** **16 36 31.7 -0.1**
comp=Z,logA/T=1.2,mb4.7
CLL i PCP PcP 16 36 41.3 -1.0
CLL i *PP pP 16 36 51.1 +0.3
CLL i 16 37 15.5
CLL eSP SP 16 46 48.0 -7.7
CLL Collm 77.44 330⇑ iP **P** **16 36 31.7 -0.1**
comp=Z,16nm,0.9s,mb4.8
CLL i PcP PcP 16 36 41.3 -1.0
CLL i pP pP 16 36 51.1 +0.3
CLL LR LR
comp=Z,300nm,21.9s
CLL Collm 77.44 330⇑ iP **P** **16 36 31.7 -0.1**
CLL i 16 36 41.3
CLL i *PP pP 16 36 51.1 +0.3
CLL pmax pmax
comp=Z,16nm,0.9s,mb4.8
CLL MLR MLR
comp=Z,300nm,21.9s
PVCC Panska Ves 77.47 329 eP **P** **16 36 32.4 +0.5**
PV10 Paradox Valley 77.56 50 eP **P** **16 36 33.7 +1.0**
SMOL Smolenice 77.88 326 eP **P** **16 36 35.4 +1.2**
PRU Pruhonice 77.90 328 eP **P** **16 36 34.9 +0.6**
PRU epP pP 16 36 54.2 +0.9
CLZ Clausthal 77.97 332 eP **P** **16 36 35.0 +0.3**
comp=Z,18nm,0.9s,mb4.8
CLZ Clausthal 77.97 332 eP **P** **16 36 35.0 +0.3**
CLZ pmax pmax
comp=Z,18nm,0.9s,mb4.8
PV01 Paradox Valley 78.00 49 eP **P** **16 36 35.9 +0.8**
MOX Moxa 78.50 330 iP **P** **16 36 37.8 +0.2**
comp=Z,logA/T=1.2,mb4.7
MOX L 17 14 17.0
MOX Moxa 78.50 330 eP **P** **16 36 37.8 +0.2**
comp=Z,27nm,1.7s,mb4.7
MOX LR LR
comp=Z,200nm,21.0s
MOX Moxa 78.50 330 eP **P** **16 36 37.8 +0.2**
MOX pmax pmax
comp=Z,27nm,1.7s,mb4.7
MOX MLR MLR
comp=Z,200nm,21.0s
NKC Novy Kostel 78.52 330 eP **P** **16 36 38.1 +0.4**
KHC Kasperske Hory 78.97 328 eP **P** **16 36 40.5 +0.3**
KHC epP pP 16 36 59.8 +0.6
ESK Eskdalemuir 79.10 341 eP **P** **16 36 40.6 -0.2**
ESK epP pP 16 36 59.6 -0.2
GEC2 GERESS Array S 79.15 328 eP **P** **16 36 41.2 0.0**
comp=Z,9.0nm,1.1s,mb4.5
GEC2 GERESS Array S 79.15 328 eP **P** **16 36 41.2 0.0**
GEC2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
GERES GERESS Array B 79.15 328 P **P** **16 36 41.1 -0.1**
comp=Z,2.5nm,0.6s,mb4.2,baz=34,slow=4.8,SNR=25
GERES LR LR 17 15 16.5
comp=Z,120nm,18.3s,baz=46,slow=38
WET Wettzell 79.23 329 eP **P** **16 36 42.1 +0.5**
comp=Z,16nm,1.1s,mb4.8
WET Wettzell 79.23 329 eP **P** **16 36 42.1 +0.5**
WET pmax pmax
comp=Z,16nm,1.1s,mb4.8
MZLS Mizel 79.23 292 P **P** **16 36 42.5 +0.4**
HILS Ha'il 79.38 297 P **P** **16 36 43.7 +0.8**
GRA1 Grafenberg Arr 79.42 330 eP **P** **16 36 43.2 +0.5**
comp=Z,27nm,1.0s,mb5.0
GRA1 epP pP 16 37 03.0 +1.3
GRF Grafenberg Arr 79.42 330 eP **P** **16 36 43.2 +0.5**
comp=Z,27nm,1.0s,mb5.0
GRF epP pP 16 37 03.0 +1.3
GRF Grafenberg Arr 79.42 330 eP **P** **16 36 43.2 +0.5**
GRF e*PP pP 16 37 03.0 +1.3
GRF pmax pmax
comp=Z,27nm,1.0s,mb5.0
GRF Grafenberg Arr 79.42 330 eP **P** **16 36 43.2 +0.5**
GRF e*PP pP 16 37 03.0 +1.3
GRF pmax pmax
comp=Z,27nm,1.0s,mb5.0
QURS Qurayyt al Mil 79.63 303 P **P** **16 36 45.9 +1.7**
CSS Prodhromos 79.65 308 eP **P** **16 36 44.2 0.0**
comp=Z,28nm,0.9s,mb5.1
ARSA Arzberg 79.67 326⇑ iP **P** **16 36 44.7 +0.6**
comp=Z,55nm,2.8s,mb4.9
MOA Molln 79.72 327⇑ iP **P** **16 36 44.9 +0.6**
comp=Z,73nm,3.9s
TNS Taunus Mts 80.00 332 eP **P** **16 36 45.7 0.0**
comp=Z,22nm,1.5s,mb4.8
TNS Taunus Mts 80.00 332 eP **P** **16 36 45.7 0.0**
TNS pmax pmax
comp=Z,22nm,1.5s,mb4.8
SDCO Great Sand Dun 80.00 48 eP **P** **16 36 46.8 +0.7**
comp=Z,12nm,1.3s,mb4.6
PERS Pernice 80.33 326 eP **P** **16 36 48.0 +0.5**
TOD Tromm 80.39 331 eP **P** **16 36 48.1 +0.3**
HGN Heimansgroeve 80.41 333 eP **P** **16 36 47.4 -0.5**
comp=Z,19nm,1.7s,mb4.6
ABH Alteburg 80.60 332 eP **P** **16 36 49.1 +0.1**
OBKA Obir 80.67 326⇑ iP **P** **16 36 49.1 -0.3**
comp=Z,9.7nm,1.1s,mb4.5
TUC Tucson 80.68 55 eP **P** **16 36 50.7 +0.9**
comp=Z,3.0nm,1.0s,mb4.1
TUC epP pP 16 37 09.7 +0.9
TUC Tucson 80.68 55 eP **P** **16 36 50.7 +0.9**
TUC e*PP pP 16 37 09.7 +0.8
TUC pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
KBA Koelnbreinsper 80.71 327⇑ iP **P** **16 36 50.0 +0.4**
comp=Z,59nm,1.7s,mb5.1
KBA Koelnbreinsper 80.71 327⇑ iP **P** **16 36 50.0 +0.4**
KBA pmax pmax
comp=Z,59nm,1.7s,mb5.1
AFFS 'Afif 80.83 294 P **P** **16 36 51.2 +0.5**
STU Stuttgart 80.94 331 eP **P** **16 36 51.0 +0.2**
comp=Z,22nm,0.7s,mb5.1
SCHQ Schefferville 80.96 16 P **P** **16 36 50.9 +0.2**
comp=Z,9.7nm,1.0s,mb4.6,baz=324,slow=6.7,SNR=4.0
SKO Skopje 81.06 319 eP **P** **16 36 46.5 -5.0**
SKO i 16 36 52.2
BOJS Bojanci 81.17 325 i P **P** **16 36 52.1 +0.1**
BOJS e 16 37 02.0
BOJS e 16 38 50.1
WATA Walderalm 81.21 328⇑ iP **P** **16 36 52.9 +0.7**
comp=Z,33nm,1.6s,mb4.9
WATA Walderalm 81.21 328⇑ iP **P** **16 36 52.9 +0.7**
WATA pmax pmax
comp=Z,33nm,1.6s,mb4.9
WTTA Wattenberg 81.24 328⇑ iP **P** **16 36 53.1 +0.7**
comp=Z,82nm,2.3s,mb5.2
WTTA Wattenberg 81.24 328⇑ iP **P** **16 36 53.1 +0.7**
WTTA pmax pmax
comp=Z,82nm,2.3s,mb5.2
LANF Langenberg 81.27 331 eP **P** **16 36 52.7 +0.2**
ROBS Robic 81.31 327 eP **P** **16 36 51.9 -0.9**
GIVF Givet 81.35 334 eP **P** **16 36 53.1 +0.2**
MOTA Moosalm 81.39 329⇓ iP **P** **16 36 53.7 +0.6**
comp=Z,24nm,1.1s,mb4.9
MOTA Moosalm 81.39 329⇓ iP **P** **16 36 53.7 +0.6**
MOTA pmax pmax
comp=Z,24nm,1.1s,mb4.9
ANMO Albuquerque 81.43 51 eP **P** **16 36 54.7 +1.0**
comp=Z,12nm,1.6s,mb4.5
ANMO epP pP 16 37 13.2 +0.4
ANMO Albuquerque 81.43 51 eP **P** **16 36 54.7 +1.1**
ANMO e*PP pP 16 37 13.2 +0.4
ANMO pmax pmax
comp=Z,12nm,1.6s
SQTA Sankt Quirin 81.45 329⇑ iP **P** **16 36 54.0 +0.6**
comp=Z,19nm,1.3s,mb4.8
SQTA Sankt Quirin 81.45 329⇑ iP **P** **16 36 54.0 +0.6**
SQTA pmax pmax
comp=Z,19nm,1.3s,mb4.8
BAIF Baives 81.59 334 eP **P** **16 36 54.2 +0.1**
BFO Black Forest 81.62 331 eP **P** **16 36 54.4 +0.1**
comp=Z,35nm,1.5s,mb5.0
BFO Black Forest 81.62 331 eP **P** **16 36 54.4 +0.1**
BFO pmax pmax
comp=Z,35nm,1.5s,mb5.0
DAVA Damuels 81.91 329⇑ iP **P** **16 36 56.4 +0.6**
comp=Z,40nm,1.4s,mb5.1
WLS Welschbruch 81.91 331 eP **P** **16 36 56.0 +0.2**
CDF Champ du Feu 81.94 331 eP **P** **16 36 56.1 +0.1**
comp=Z,19nm,1.0s,mb4.6
CDF Champ du Feu 81.94 331 eP **P** **16 36 56.1 +0.1**
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
FELD Feldberg 82.12 331 eP **P** **16 36 57.1 +0.2**
KBRS Khaybar 82.12 297 P **P** **16 36 58.7 +1.3**
ECH Echery 82.14 331 eP **P** **16 36 57.1 +0.1**
TBKS Tabuk 82.26 301 P **P** **16 36 59.2 +1.2**
MOF Molkenrain 82.46 331 eP **P** **16 36 58.6 -0.1**
HAU Haudompre 82.61 332 eP **P** **16 36 59.7 +0.3**
HAU eR
comp=Z,231nm,22.5s
MEZF Maizieres J'vi 82.64 333 eP **P** **16 36 59.8 +0.2**
BBS Basel-Blauen 82.65 331 eP **P** **16 37 00.0 +0.4**
LOMF Lomont 82.99 331 eP **P** **16 37 01.5 +0.1**
BDAS Al Bad' 83.05 302 P **P** **16 37 03.1 +1.1**
UMJS Umm Lajj 83.80 298 P **P** **16 37 07.4 +1.5**
CABF La Chapelle 83.89 331 eP **P** **16 37 06.0 +0.2**
ORX Oropa 84.01 329 P **P** **16 37 06.0 -0.5**
LOR Lormes 84.11 333 eP **P** **16 37 07.2 +0.2**
comp=Z,28nm,0.9s,mb4.8
LOR eR
comp=Z,263nm,21.8s
LOR Lormes 84.11 333 eP **P** **16 37 07.2 +0.2**
LOR pmax pmax
comp=Z,14nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,260nm,21.8s
GRAM 84.14 328 P **P** **16 37 07.2 0.0**
FLN La Foliniere 84.21 336 eP **P** **16 37 07.5 +0.1**
FLN eR
comp=Z,243nm,22.2s
LDF La Druitiere 84.25 336 eP **P** **16 37 07.5 -0.1**
comp=Z,15nm,0.9s,mb4.5
LDF La Druitiere 84.25 336 eP **P** **16 37 07.5 -0.1**
LDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
CODM 84.31 328 P **P** **16 37 08.1 0.0**
BACM 84.32 327 P **P** **16 37 07.8 -0.2**
MNTX Cornudas Mount 84.38 52 eP **P** **16 37 09.4 +0.8**
comp=Z,5.5nm,0.9s,mb4.4
MNTX epP pP 16 37 27.9 0.0
SSF Saint Saulge 84.41 333 eP **P** **16 37 08.7 +0.2**
LSD Ceresole Reale 84.47 330 P **P** **16 37 09.9 +1.1**
BLJS Baljurashi 84.47 292 P **P** **16 37 11.0 +1.6**
AQU L'Aquila 84.49 324 eP **P** **16 37 09.8 +0.9**
comp=Z,15nm,0.8s,mb4.9
AQU L'Aquila 84.49 324 eP **P** **16 37 09.8 +0.8**
AQU pmax pmax
comp=Z,15nm,0.8s,mb4.9
DJNS Zahran al Janu 84.55 289 P **P** **16 37 11.6 +1.8**
LPL La Plagne 84.58 330 eP **P** **16 37 10.1 +0.8**
comp=Z,33nm,0.9s,mb5.0
LPG La Plagne 84.59 330 eP **P** **16 37 10.4 +1.0**
comp=Z,55nm,1.1s,mb5.1
CII Carovilli 84.60 323 eP **P** **16 37 10.1 +0.6**
comp=Z,31nm,1.2s,mb5.1
SMF Signal de Mont 84.66 332 eP **P** **16 37 10.1 +0.4**
comp=Z,96nm,1.4s,mb5.2
GRR Gorron 84.66 336 eP **P** **16 37 10.0 +0.3**
AVF Avril sur Loir 84.70 333 eP **P** **16 37 10.3 +0.4**
PCP Pian Castagno 84.71 329 P **P** **16 37 08.9 -1.1**
FENE Fenestrelle 84.87 330 P **P** **16 37 10.5 -0.3**
BNI Bardonecchia 85.00 330 eP **P** **16 37 12.0 +0.6**
comp=Z,12nm,0.9s,mb4.8
BNI Bardonecchia 85.00 330 eP **P** **16 37 12.0 +0.6**
BNI pmax pmax
comp=Z,12nm,0.9s,mb4.8
FIN Finale Ligure 85.12 329 P **P** **16 37 11.0 -1.0**
ROB Roburent 85.18 329 P **P** **16 37 11.1 -1.2**
MBDF Montbardon 85.23 330 eP **P** **16 37 12.8 +0.2**
comp=Z,20nm,0.8s,mb4.8
MBDF Montbardon 85.23 330 eP **P** **16 37 12.8 +0.2**
MBDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SGMF Saint Gilles 85.29 337 eP **P** **16 37 13.4 +0.6**
ORIF Oris-en-Rattie 85.41 330 eP **P** **16 37 14.0 +0.6**
comp=Z,33nm,1.0s,mb4.9
ORIF eR
comp=Z,196nm,22.5s
ROSF Rostrenen 85.42 338 eP **P** **16 37 14.1 +0.7**
comp=Z,95nm,1.3s,mb5.3
ROSF Rostrenen 85.42 338 eP **P** **16 37 14.1 +0.7**
ROSF pmax pmax
comp=Z,47nm,1.3s,mb5.3
TIP Timpagrande 85.48 320 eP **P** **16 37 14.3 +0.3**
IMI Imperia 85.49 329 P **P** **16 37 12.9 -1.0**
TCF Toulx Ste Croi 85.53 333 eP **P** **16 37 14.8 +0.8**
comp=Z,32nm,1.1s,mb4.8
TCF Toulx Ste Croi 85.53 333 eP **P** **16 37 14.8 +0.8**
TCF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SAOF Saorge 85.56 329 eP **P** **16 37 14.0 -0.2**
SBF Sospel 85.71 329 eP **P** **16 37 15.0 0.0**
comp=Z,50nm,1.0s,mb5.1
SBF Sospel 85.71 329 eP **P** **16 37 15.0 0.0**
SBF pmax pmax
comp=Z,25nm,1.0s,mb5.1
QUIF Quistinic 85.77 337 eP **P** **16 37 15.8 +0.7**
comp=Z,37nm,1.0s,mb5.0
QUIF Quistinic 85.77 337 eP **P** **16 37 15.8 +0.7**
QUIF pmax pmax
comp=Z,19nm,1.0s,mb5.0
MVIF Mont Vial 85.79 329 eP **P** **16 37 15.2 -0.2**
REVF Revere 85.84 329 eP **P** **16 37 15.4 -0.2**
WMOK Wichita Mounta 85.90 46 eP **P** **16 37 16.1 0.0**
comp=Z,11nm,1.0s,mb4.8
WMOK epP pP 16 37 35.8 +0.3
WMOK Wichita Mounta 85.90 46 eP **P** **16 37 16.1 0.0**
WMOK e*PP pP 16 37 35.8 +0.4
WMOK pmax pmax
comp=Z,11nm,1.0s,mb4.7
VIVF Saint-Julien-l 85.91 331 eP **P** **16 37 16.5 +0.6**
comp=Z,60nm,1.2s,mb5.1
VIVF Saint-Julien-l 85.91 331 eP **P** **16 37 16.5 +0.6**
VIVF pmax pmax
comp=Z,30nm,1.2s,mb5.1
CALN Calern 86.02 329 eP **P** **16 37 16.6 +0.2**
MFF Saint Martin d 86.03 335 eP **P** **16 37 17.4 +1.0**
comp=Z,50nm,1.0s,mb5.1
MFF Saint Martin d 86.03 335 eP **P** **16 37 17.4 +1.0**
MFF pmax pmax
comp=Z,25nm,1.0s,mb5.1
PGF Pioggiola 86.19 327 eP **P** **16 37 17.0 -0.3**
FRF La Foret Royal 86.27 329 eP **P** **16 37 17.8 +0.1**
comp=Z,30nm,1.2s,mb4.8
FRF La Foret Royal 86.27 329 eP **P** **16 37 17.8 +0.1**
FRF pmax pmax
comp=Z,15nm,1.2s,mb4.8
PPT Papeete 86.29 117 eLR LR 17 03 34.9
comp=Z,453nm,25.8s,baz=319
PPT Papeete 86.29 117 LR LR 17 09 26.8
comp=Z,475nm,19.4s,baz=320,slow=31
SMRF Simiane la Rot 86.33 330 eP **P** **16 37 18.5 +0.5**
LMR La Mourre 86.52 329 eP **P** **16 37 18.8 -0.1**
RJF Les Rejaudoux 86.62 333 eP **P** **16 37 20.2 +0.8**
comp=Z,46nm,1.1s,mb5.0
RJF eR
comp=Z,297nm,22.5s
RJF Les Rejaudoux 86.62 333 eP **P** **16 37 20.2 +0.8**
RJF pmax pmax
comp=Z,23nm,1.1s,mb5.0
RJF MLR MLR
comp=Z,300nm,22.5s
CAF Calviac 86.77 333 eP **P** **16 37 21.5 +1.4**
comp=Z,65nm,1.0s,mb5.2
CAF Calviac 86.77 333 eP **P** **16 37 21.5 +1.4**
CAF pmax pmax
comp=Z,32nm,1.0s,mb5.2
LASF Ste Croix 86.87 331 eP **P** **16 37 21.1 +0.5**
comp=Z,42nm,1.3s,mb4.9
TAOE Nuku Hiva Isla 86.88 105 eLR LR 17 03 49.4
comp=Z,909nm,25.1s
LTX Lajitas 87.10 53 eP **P** **16 37 22.5 +0.3**
comp=Z,7.0nm,0.7s,mb4.7
LTX epP pP 16 37 42.3 +0.8
LTX Lajitas 87.10 53 eP **P** **16 37 22.5 +0.4**
LTX e*PP pP 16 37 42.3 +0.8
LTX pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TXAR Lajitas Array 87.10 53 P **P** **16 37 23.1 +1.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=288,slow=4.0,SNR=13
TXAR pP pP 16 37 42.2 +0.7
comp=Z,5.9nm,0.7s,baz=289,slow=3.6,SNR=15
LFF La Frestale 87.21 334 eP **P** **16 37 23.4 +1.1**
MSNY Massena 87.82 25 eP **P** **16 37 25.6 +0.4**
MSNY epP pP 16 37 44.5 0.0
MTLF Montolieu 88.10 332 eP **P** **16 37 27.3 +0.7**
comp=Z,48nm,1.5s,mb5.0
MTLF Montolieu 88.10 332 eP **P** **16 37 27.3 +0.7**
MTLF pmax pmax
comp=Z,24nm,1.5s,mb5.0
EPF Esparros 89.03 333 eP **P** **16 37 31.5 +0.5**
ATD Arta Tunnel 89.15 285 LR LR 17 18 53.2
comp=Z,84nm,21.5s,baz=278,slow=36
ETSF Etsaut 89.45 333 eP **P** **16 37 34.0 +1.1**
comp=Z,28nm,1.1s,mb4.9
ETSF Etsaut 89.45 333 eP **P** **16 37 34.0 +1.1**
ETSF pmax pmax
comp=Z,14nm,1.1s,mb4.9
SJPF Ste Jean 89.48 334 eP **P** **16 37 33.7 +0.6**
comp=Z,19nm,1.0s,mb4.8
SJPF Ste Jean 89.48 334 eP **P** **16 37 33.7 +0.6**
SJPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TBI Tubuai 90.47 121 eLR LR 17 05 31.1
comp=Z,276nm,32.8s,baz=323
ESDC Sonseca Array 93.47 334 P **P** **16 37 52.1 +0.5**
comp=Z,1.7nm,0.6s,mb4.5,baz=31,slow=2.7,SNR=10.0
RKT Rikitea 100.05 112 eLR LR 17 09 56.9
comp=Z,362nm,29.0s,baz=299
KMBO Kilima Mbogo 101.72 279 P P 16 38 29.9 +0.3
comp=Z,1.6nm,0.8s,baz=49,slow=18,SNR=3.4
VNDA Vanda 119.37 175 PKP PKPdf 16 43 23.9 +0.6
comp=Z,0.5nm,0.9s,baz=334,slow=4.1,SNR=3.6
LBTB Lobatse 125.44 266 ePKPdf PKPdf 16 43 37.7 +1.6
LPAZ La Paz 143.95 55 PKP PKPdf 16 44 11.1 +0.7
comp=Z,0.9nm,0.8s,baz=5.8,slow=12,SNR=4.3
SNAA Sanae 145.10 199 P PKPdf 16 44 11.6 +0.7
SNAA Sanae 145.10 199 PKPdf 16 44 19.0 +8.1
SNAA Sanae 145.10 199 PKPdf 16 44 25.1 +14
SNAA Sanae 145.10 199 PKPdf 16 44 30.9 +20
SNAA Sanae 145.10 199 PKPdf 16 44 34.9 +24
SNAA Sanae 145.10 199 PKPdf 16 44 40.3 +29
VNA2 Neumayer--Watz 146.69 198⇑ iP PKPdf 16 44 16.8 +3.1
VNA2 Neumayer--Watz 146.69 198 PKPdf 16 44 19.8 +6.1
VNA2 Neumayer--Watz 146.69 198 PKPdf 16 44 36.6 +23
VNA2 Neumayer--Watz 146.69 198 PKPdf 16 44 40.8 +27
VNA2 Neumayer--Watz 146.69 198 PKPdf 16 44 47.0 +33
VNA3 Neumayer Olymp 146.95 196⇑ iP PKPdf 16 44 17.6 +3.5
VNA3 Neumayer Olymp 146.95 196 PKPdf 16 44 20.4 +6.3
VNA3 Neumayer Olymp 146.95 196 PKPdf 16 44 36.8 +23
VNA3 Neumayer Olymp 146.95 196 PKPdf 16 44 41.8 +28
VNA3 Neumayer Olymp 146.95 196 PKPdf 16 44 47.7 +34
VNA1 Neumayer--Stat 147.08 198 P PKPdf 16 44 18.8 +4.5
VNA1 Neumayer--Stat 147.08 198 PKPdf 16 44 37.6 +23
VNA1 Neumayer--Stat 147.08 198 PKPdf 16 44 47.1 +33
BAO Brasilia Array 152.85 21 PKPdf PKPdf 16 44 32.0 +7.2
BDFB Brasilia 152.85 21 PKPab PKPab 16 44 44.8 -0.9
comp=Z,3.6nm,0.6s,baz=28,slow=6.6,SNR=5.2

IDC 02 16:32:55.6±8.6, 8.04S×128.18E, h75km±85km, mb3.5/2, mb1 3.6/3, mb1mx3.4/12, mbtmpg3.8/3, ML4.0/1, Error ellipse: s-maj=170.0km s-min=35.2km az=61.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.25**	**138**	eP		Px	16 34 41.4	
KAKA	18nm,0.4s			eS		Sx	16 35 46.3	
FITZ	**Fitzroy Crossi**	**10.31**	**194**	eP		P	16 35 43.5	+21
FITZ	12nm,0.4s			eS		S	16 37 49.8	+32
WRA	**Warramunga Arr**	**13.25**	**154**	P		P	16 36 01.6	-0.4
WRA	0.8nm,0.3s,baz=330,slow=14,SNR=9.6			S		S	16 38 24.3	-3.7
WB2	1.6nm,0.3s,baz=333,slow=23,SNR=12 **Warramunga Arr**	**13.26**	**154**	eS		S	16 38 22.8	-5.3
STKA	**Stephens Creek**	**26.80**	**154**	P		P	16 38 29.1	-1.7
MKAR	0.7nm,0.6s,slow=10,SNR=3.0 **Makanchi Array**	**68.12**	**328**	P		P	16 43 47.6	-2.1
	0.6nm,0.5s,baz=116,slow=7.9,SNR=8.3							

*NEIC **02** 16:47:54.7, 32.25S×72.10W, h27km, ML3.0(GUC), After GUC.*

GUC 02 16:47:54.7±0.8, 32.25S×72.10W, h27km±4km, MD3.8, ML3.0, 1C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.63**	**55**⇓	iP		Pb	16 48 07.0	-0.1
CHNG				*i* S		Sb	16 48 16.0	+0.5
CHNG				AMP			16 48 17.6	
	comp=N,625nm,0.4s							
ILCH	**Illapel**	**1.00**	**53**	eP		Pn	16 48 12.2	-0.9
ILCH				*i* S		Sb	16 48 26.6	+0.5
ILCH				AMP			16 48 27.1	
	comp=E,554nm,0.4s							
ROCH	**El Roble**	**1.17**	**128**	eP		Pn	16 48 15.4	-0.2
ROCH				*i* S		Sn	16 48 30.4	-0.4
LCCH	**Las Cruces**	**1.31**	**160**⇓	iP		Pn	16 48 17.1	-0.4
LCCH				*i* S		Sn	16 48 34.5	+0.3
JACH	**Jahuel**	**1.35**	**109**⇓	iP		Pn	16 48 18.1	0.0
JACH				*i* S		Sn	16 48 35.4	+0.1
CMCH	**Combarbala**	**1.42**	**42**	eP		Pn	16 48 19.0	-0.2
CMCH				*i* S		Sn	16 48 38.0	+0.8
CMCH				AMP			16 48 45.6	
	comp=N,1μm,0.7s							
PEL	**Peldehue**	**1.50**	**127**	eP		Pn	16 48 20.5	+0.3
PEL				eS		Sn	16 48 39.9	+1.0
PEL				*i* S		Sn	16 48 40.1	+1.1
RCDM	**Rinconada Maip**	**1.65**	**139**⇑	iP		Pn	16 48 23.0	+0.6
RCDM				*i* S		Sn	16 48 44.3	+1.3
RCDM				AMP			16 48 45.3	
	comp=E,208nm,0.1s							
TACH	**Talagante**	**1.71**	**145**	eP		Pn	16 48 24.3	+1.0
TACH				*i* S		Sn	16 48 45.9	+1.4
CLCH	**Cerro Calan**	**1.75**	**131**	AMP			16 48 54.9	
	comp=E,202nm,0.5s							

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LNV	Longovilo	1.80	161	iS	Sn	16 48 48.3	+1.6
FCH	Farellones	1.87	126	eP	Pn	16 48 26.0	+0.4
FCH				iS	Sn	16 48 50.7	+2.2
FCH				AMP		16 48 52.2	
	comp=N,128nm,0.2s						
PCH	Pirque	1.92	136	eP	Pn	16 48 27.0	+0.8
PCH				iS	Sn	16 48 51.6	+2.0
LMEL	Las Melosas	2.26	136⇓	iP	Pn	16 48 32.1	+1.0
LMEL				iS	Sn	16 49 00.5	+2.1
LMEL				AMP		16 49 05.6	
	comp=N,141nm,0.3s						
TLL	Tololo Astrono	2.35	29	AMP		16 49 12.8	
	comp=N,281nm,0.5s						

*IDC **02** 16:58:23.5±2.0, 1.99N×96.53E, mb4.1/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.1/6, Error ellipse: s-maj=85.9km s-min=25.2km az=54.0*

*NEIC **02** 16:58:28.0±0.9, 2.07N×96.60E, h30^{km}, mb4.4/4, Error ellipse: s-maj=22.5km s-min=14.3km az=46.0*

ISC 02 16:58:26.2±1.0**, 2.1N**±0.1×**96.6E**±0.2**, h30**^{km}**, n12, σ0^{s}89**/12**, mb4.2**/10**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.13	52	ePn	Pn	16 59 43.4	+0.3
LZH	Lanzhou	34.48	10	eP	P	17 05 18.5	+4.7
	18nm,1.1s,mb4.9						
LZH				pP	pP	17 05 26.5	+3.8
WRA	Warramunga Arr	43.01	122	P	P	17 06 25.1	0.0
	1.4nm,0.6s,mb3.9,baz=300,slow=9.3,SNR=15						
WRAB	Tennant Creek	43.02	122	eP	P	17 06 25.2	+0.1
	1.8nm,0.5s,mb4.1						
MKAR	Makanchi Array	46.23	346	P	P	17 06 51.0	+0.4
	3.8nm,0.7s,mb4.5,baz=161,slow=6.9,SNR=33						
MKAR	Makanchi Array	46.23	346	P	P	17 06 51.0	+0.4
SONM	Songino Array	46.34	9	P	P	17 06 51.9	+0.4
	1.6nm,0.6s,mb4.2,baz=188,slow=9.7,SNR=16						
ZAL	Zalesovo	52.58	351	P	P	17 07 40.0	+0.7
	4.2nm,0.5s,mb4.6,baz=317,slow=6.0,SNR=15						
BRVK	Borovoye	55.28	341	eP	P	17 07 57.8	-1.4
	0.9nm,0.7s,mb3.9						
YAK	Yakutsk	64.73	17	eP	P	17 09 01.6	-2.2
	6.4nm,0.8s,mb4.7						
FINES	FINESS Array B	78.94	333	P	P	17 10 28.8	+0.4
	0.7nm,0.7s,mb3.7,baz=90,slow=7.6,SNR=3.8						
ARCES	ARCESS Array B	81.50	340	P	P	17 10 42.8	+0.9
	0.4nm,0.4s,mb3.7,baz=90,slow=5.4,SNR=10						

*IDC **02** 17:18:20.3±0.9, 1.95N×96.48E, mb4.1/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.1/10, Error ellipse: s-maj=34.9km s-min=16.9km az=53.0*

*NEIC **02** 17:18:24.8±0.5, 2.00N×96.56E, h30^{km}, mb4.1/1, Error ellipse: s-maj=13.6km s-min=9.6km az=48.0*

ISC 02 17:18:22.8±0.7**, 2.0N**±0.1×**96.6E**±0.1**, h30**^{km}**, n12, σ0^{s}59**/12**, mb4.1**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.22	51	ePn	Pn	17 19 40.6	-0.5
FITZ	Fitzroy Crossi	34.91	126	P	P	17 25 14.0	-0.3
	4.6nm,0.8s,mb4.5,baz=311,slow=3.9,SNR=3.0						
WRA	Warramunga Arr	43.00	122	P	P	17 26 22.3	+0.7
	1.2nm,0.6s,mb3.8,baz=300,slow=9.2,SNR=10						
MKAR	Makanchi Array	46.31	346	P	P	17 26 48.1	+0.2
	3.6nm,0.7s,mb4.4,baz=158,slow=6.5,SNR=29						
SONM	Songino Array	46.44	9	P	P	17 26 48.9	+0.1
	1.3nm,0.5s,mb4.1,baz=188,slow=9.8,SNR=14						
ZAL	Zalesovo	52.66	351	P	P	17 27 37.0	+0.4
	3.9nm,0.5s,mb4.6,baz=300,slow=2.8,SNR=18						
STKA	Stephens Creek	54.37	132	P	P	17 27 49.1	-0.2
	1.6nm,0.8s,mb4.0,baz=15,slow=11,SNR=4.1						
BVAR	Borovoye Array	55.29	341	P	P	17 27 55.2	-0.7
	1.2nm,0.7s,mb4.0,baz=135,slow=8.4,SNR=9.4						
BRVK	Borovoye	55.35	341	eP	P	17 27 55.5	-0.8
	0.9nm,0.5s,mb4.1						
KMBO	Kilima Mbogo	59.38	268	P	P	17 28 24.6	-0.7
	0.9nm,0.5s,mb4.0,baz=83,slow=22,SNR=3.7						
FINES	FINESS Array B	79.00	333	P	P	17 30 25.9	+0.6
	1.6nm,1.0s,mb3.9,baz=90,slow=3.8,SNR=4.4						
ARCES	ARCESS Array B	81.57	340	P	P	17 30 40.0	+1.1
	1.6nm,1.0s,mb3.9,baz=92,slow=5.7,SNR=12						

*NEIC **02** 17:51:46.0, 38.66S×175.88E, h143^{km}, MG3.9(WEL), After WEL.*

WEL 02 17:51:46.3±0.2**, 38.67S**×**175.87E, h140**^{km}±1^{km}**, ML3.8**/18**, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RATZ	Rangitukua	0.21	201	PN	P	17 52 05.4	-0.5
KATZ	Kakaramea	0.34	204	PN	P	17 52 05.8	-0.5
KATZ				SN	S	17 52 21.2	-0.4
KATZ	Kakaramea	0.34	204	P	P	17 52 05.9	-0.4
PATZ	Paeroa	0.42	47	PN	P	17 52 06.4	-0.3
PATZ	Paeroa	0.42	47	P	P	17 52 06.5	-0.2
KRVZ	Karewarewa	0.46	203	PN	P	17 52 06.4	-0.5
KRVZ				SN	S	17 52 21.9	-0.7
WTVZ	West Tongariro	0.50	206	PN	P	17 52 06.5	-0.5
WTVZ				SN	S	17 52 21.7	-1.2
WTVZ	West Tongariro	0.50	206	P	P	17 52 06.5	-0.5
OTVZ	Oturere	0.52	198	PN	P	17 52 06.9	-0.3
OTVZ				SN	S	17 52 22.9	-0.2
TWVZ	Taurewa	0.52	220	PN	P	17 52 06.7	-0.5
TWVZ	Taurewa	0.52	220	P	P	17 52 06.7	-0.5
NGZ	Ngauruhoe	0.55	202	PN	P	17 52 06.8	-0.5
NGZ				SN	S	17 52 23.2	-0.2
NGZ	Ngauruhoe	0.55	202	P	P	17 52 06.8	-0.5
UTU	Utuhina	0.55	27	PN	P	17 52 07.1	-0.3
UTU	Utuhina	0.55	27	P	P	17 52 07.1	-0.2
CNZ	Chateau	0.58	205	PN	P	17 52 07.1	-0.4
CNZ	Chateau	0.58	205	P	P	17 52 07.2	-0.3
WPVZ	Whakapapa	0.59	205	PN	P	17 52 07.0	-0.5
WPVZ	Whakapapa	0.59	205	P	P	17 52 07.2	-0.3
TUVZ	Tukino	0.62	196	PN	P	17 52 07.5	-0.2
TUVZ				SN	S	17 52 23.1	-1.0
TUVZ	Tukino	0.62	196	P	P	17 52 07.5	-0.2
FWVZ	Far West T-bar	0.64	203	PN	P	17 52 07.3	-0.5
FWVZ	Far West T-bar	0.64	203	P	P	17 52 07.4	-0.4
TAZ	Tarawera	0.67	49	PN	P	17 52 07.2	-0.8
TAZ	Tarawera	0.67	49	P	P	17 52 07.2	-0.8
WNVZ	Wahianoa	0.69	198	PN	P	17 52 07.9	-0.2
WNVZ	Wahianoa	0.69	198	P	P	17 52 07.9	-0.2
BKZ	Black Stump Fm	0.69	136	PN	P	17 52 07.9	-0.2
BKZ				SN	S	17 52 23.8	-1.2
BKZ	Black Stump Fm	0.69	136	P	P	17 52 08.0	-0.1
MOVZ	Moawhango	0.74	187	PN	P	17 52 07.9	-0.5
MOVZ				SN	S	17 52 23.0	-2.5
MOVZ	Moawhango	0.74	187	P	P	17 52 07.9	-0.6
PKVZ	Pokaka	0.74	213	PN	P	17 52 08.0	-0.5
PKVZ				SN	S	17 52 24.4	-1.1
LIRZ	Lichensteins R	0.78	32	PN	P	17 52 08.5	-0.2
LIRZ	Lichensteins R	0.78	32	P	P	17 52 08.5	-0.2
MTVZ	Mangateitei	0.78	203	PN	P	17 52 08.3	-0.4
HIZ	Hauiti	0.81	281	PN	P	17 52 08.2	-0.6
HIZ				SN	S	17 52 25.0	-1.2
HIZ	Hauiti	0.81	281	P	P	17 52 08.3	-0.6
VRZ	Vera Road	0.98	242	PN	P	17 52 09.8	-0.4
URZ	Urewera	1.06	68	PN	P	17 52 10.2	-0.7
URZ				SN	S	17 52 28.8	-0.9
URZ	Urewera	1.06	68	P	P	17 52 10.2	-0.7
WAZ	Wanganui	1.28	212	PN	P	17 52 12.6	-0.6
RAEZ	Rainy Point	1.30	241	PN	P	17 52 13.4	0.0
RAEZ	Rainy Point	1.30	241	P	P	17 52 13.4	0.0
MWZ	Matawai	1.34	76	PN	P	17 52 13.4	-0.4
MWZ	Matawai	1.34	76	P	P	17 52 13.5	-0.3
TSZ	Takapari Road	1.39	177	PN	P	17 52 13.7	-0.6
TSZ	Takapari Road	1.39	177	P	P	17 52 13.8	-0.5
MYRZ	Mayor Island	1.42	12	PN	P	17 52 14.4	-0.2
KNZ	Kokohu	1.45	105	PN	P	17 52 14.9	0.0
KNZ	Kokohu	1.45	105	P	P	17 52 14.9	-0.1
NEZ	North Egmont	1.51	246	PN	P	17 52 15.3	-0.3
NEZ	North Egmont	1.51	246	P	P	17 52 15.3	-0.3
DFE	Dawson Falls	1.52	244	PN	P	17 52 15.4	-0.4
PKE	Pukeiti	1.56	250	PN	P	17 52 15.4	-0.7
PKE	Pukeiti	1.56	250	P	P	17 52 15.4	-0.7
PXZ	Pawanui	1.56	151	PN	P	17 52 15.8	-0.4
NRZ	Ngariki Road	1.65	246	PN	P	17 52 16.0	-1.1
NRZ	Ngariki Road	1.65	246	P	P	17 52 16.0	-1.1
PUZ	Puketiti	1.97	73	ePN	P	17 52 20.3	-0.5
PUZ				SN	S	17 52 45.5	-1.8
PUZ	Puketiti	1.97	73	eP	P	17 52 20.3	-0.5
MRZ	Mangatainoka R	2.00	186	PN	P	17 52 19.6	-1.6
MRZ	Mangatainoka R	2.00	186	P	P	17 52 19.7	-1.5
BFZ	Birch Farm	2.03	172	PN	P	17 52 20.2	-1.3
BFZ	Birch Farm	2.03	172	P	P	17 52 20.3	-1.2
MXZ	Matakaoa Point	2.22	61	ePN	P	17 52 23.5	-0.4
MXZ	Matakaoa Point	2.22	61	eP	P	17 52 23.5	-0.4
KIW	Kapiti Island	2.31	198	PN	P	17 52 22.7	-2.4
KIW	Kapiti Island	2.31	198	P	P	17 52 22.8	-2.3
MTW	Mount Morrison	2.50	186	PN	P	17 52 24.9	-2.6
MTW	Mount Morrison	2.50	186	P	P	17 52 25.0	-2.6
CAW	Cannon Point	2.51	194	PN	P	17 52 25.2	-2.5
CAW	Cannon Point	2.51	194	P	P	17 52 25.3	-2.4
DUWZ	D'Urville Isla	2.61	215	PN	P	17 52 25.9	-3.0
MRW	Makara Radio	2.71	199	PN	P	17 52 27.2	-3.0
MRW	Makara Radio	2.71	199	P	P	17 52 27.4	-2.9
PAWZ	Paruwai Farm	2.73	187	PN	P	17 52 27.6	-2.9
TRWZ	Traveller	2.73	183	PN	P	17 52 27.7	-2.8
WEL	Wellington	2.75	198	PN	P	17 52 27.8	-2.9
WEL	Wellington	2.75	198	P	P	17 52 27.8	-2.9
MSWZ	Moikau Station	2.78	190	PN	P	17 52 28.2	-3.0
MSWZ	Moikau Station	2.78	190	P	P	17 52 28.2	-3.0
SNZO	South Karori	2.78	198	PN	P	17 52 28.0	-3.2
SNZO	South Karori	2.78	198	P	P	17 52 28.0	-3.2
TCW	Tory Channel	2.82	205	PN	P	17 52 28.8	-2.9
TCW	Tory Channel	2.82	205	P	P	17 52 28.8	-2.9
BHW	Baring Head	2.84	195	PN	P	17 52 28.7	-3.2
BHW	Baring Head	2.84	195	P	P	17 52 28.8	-3.1
TUWZ	Tuamarina	3.13	208	PN	P	17 52 32.1	-3.6
NNZ	Nelson	3.18	216	PN	P	17 52 32.9	-3.5
NNZ	Nelson	3.18	216	P	P	17 52 33.0	-3.4
QRZ	Quartz Range	3.36	229	ePN	P	17 52 34.7	-4.0
QRZ	Quartz Range	3.36	229	eP	P	17 52 34.7	-4.0
BSWZ	Blackbirch Sta	3.40	206	PN	P	17 52 35.8	-3.5
BSWZ	Blackbirch Sta	3.40	206	P	P	17 52 35.8	-3.5
THZ	Tophouse	3.83	215	ePN	P	17 52 41.0	-4.0
THZ	Tophouse	3.83	215	eP	P	17 52 41.3	-3.7
LTZ	Lake Taylor	4.94	213	ePN	P	17 52 54.5	-5.1
LTZ	Lake Taylor	4.94	213	eP	P	17 52 54.5	-5.1
MQZ	McQueen's Vall	5.59	205	PN	P	17 53 02.2	-6.1
MQZ	McQueen's Vall	5.59	205	P	P	17 53 02.2	-6.1
ODZ	Otahua Downs	7.47	210	ePN	P	17 53 27.8	-5.8
ODZ	Otahua Downs	7.47	210	eP	P	17 53 27.8	-5.8

WEL 02 18:10:22.3±0.3**, 40.20S**×**173.63E, h158**^{km}±2^{km}**, ML3.6**/12**, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.64	160	PN	P	18 10 45.7	0.0
DUWZ				SN	S	18 11 03.3	-0.4
NRZ	Ngariki Road	0.90	15	PN	P	18 10 47.2	0.0
NRZ				SN	S	18 11 05.3	-1.1
DFE	Dawson Falls	0.95	23	PN	P	18 10 47.8	+0.1
NEZ	North Egmont	1.00	21	PN	P	18 10 47.7	-0.3
NNZ	Nelson	1.03	190	PN	P	18 10 48.0	-0.2
NNZ				SN	S	18 11 07.0	-1.2
QRZ	Quartz Range	1.04	233	PN	P	18 10 47.8	-0.6
QRZ				SN	S	18 11 06.2	-2.2
PKE	Pukeiti	1.04	16	PN	P	18 10 48.1	-0.3
PKE				SN	S	18 11 08.1	-0.3
RAEZ	Rainy Point	1.09	33	PN	P	18 10 48.6	-0.2
TCW	Tory Channel	1.12	154	PN	P	18 10 49.4	+0.3
TCW				SN	S	18 11 09.6	-0.2
WAZ	Wanganui	1.14	67	PN	P	18 10 49.7	+0.4
WAZ				SN	S	18 11 10.6	+0.6
KIW	Kapiti Island	1.18	124	PN	P	18 10 49.6	-0.1
KIW				SN	S	18 11 08.7	-2.0
TUWZ	Tuamarina	1.25	169	PN	P	18 10 50.1	-0.3
TUWZ				SN	S	18 11 10.5	-1.4
MRW	Makara Radio	1.31	142	PN	P	18 10 50.9	0.0
MRW				SN	S	18 11 11.4	-1.6
SNZO	South Karori	1.38	144	PN	P	18 10 51.3	-0.2
SNZO				SN	S	18 11 12.3	-1.9
VRZ	Vera Road	1.39	39	PN	P	18 10 50.7	-1.0
VRZ				SN	S	18 11 12.5	-1.9
WEL	Wellington	1.39	142	PN	P	18 10 51.5	-0.2
CAW	Cannon Point	1.42	130	PN	P	18 10 51.9	-0.2
CAW				SN	S	18 11 13.4	-1.6
BSWZ	Blackbirch Sta	1.52	173	PN	P	18 10 53.0	0.0
BSWZ				SN	S	18 11 15.3	-1.5
BHW	Baring Head	1.53	142	PN	P	18 10 52.7	-0.5
MRZ	Mangatainoka R	1.56	108	ePN	P	18 10 53.2	-0.2
MRZ				SN	S	18 11 14.9	-2.6
PKVZ	Pokaka	1.61	56	PN	P	18 10 53.2	-0.8
PKVZ				SN	S	18 11 16.6	-1.8
MTVZ	Mangateitei	1.64	61	PN	P	18 10 53.5	-0.8
MTVZ				SN	S	18 11 17.1	-1.8
THZ	Tophouse	1.65	199	PN	P	18 10 53.7	-0.7
MTW	Mount Morrison	1.72	124	PN	P	18 10 54.7	-0.4
MTW				SN	S	18 11 18.2	-2.2
MSWZ	Moikau Station	1.73	135	PN	P	18 10 54.8	-0.4
WNVZ	Wahianoa	1.75	61	PN	P	18 10 54.7	-0.8
DRZ	Dome Shelter	1.76	59	PN	P	18 10 55.2	-0.3
FWVZ	Far West T-bar	1.76	58	PN	P	18 10 54.7	-0.9
WPVZ	Whakapapa	1.79	57	PN	P	18 10 54.9	-1.0
CNZ	Chateau	1.79	57	PN	P	18 10 55.0	-0.9
TSZ	Takapari Road	1.79	86	PN	P	18 10 55.2	-0.7
TWVZ	Taurewa	1.80	52	PN	P	18 10 54.8	-1.2
PAWZ	Paruwai Farm	1.80	131	PN	P	18 10 55.6	-0.5
MOVZ	Moawhango	1.82	65	PN	P	18 10 55.0	-1.3
TUVZ	Tukino	1.82	60	PN	P	18 10 55.5	-0.7
NGZ	Ngauruhoe	1.84	57	PN	P	18 10 55.4	-1.0
WTVZ	West Tongariro	1.86	55	PN	P	18 10 55.6	-1.1
OTVZ	Oturere	1.88	57	PN	P	18 10 56.1	-0.8
KRVZ	Karewarewa	1.91	55	PN	P	18 10 56.1	-1.1
HIZ	Hauiti	1.94	30	PN	P	18 10 56.1	-1.4
TRWZ	Traveller	1.97	128	PN	P	18 10 57.3	-0.6
KATZ	Kakaramea	2.01	53	PN	P	18 10 57.5	-0.9
BFZ	Birch Farm	2.06	104	ePN	P	18 10 58.3	-0.7
DSZ	Denniston Nort	2.07	221	ePN	P	18 10 57.9	-1.1
RATZ	Rangitukua	2.13	52	PN	P	18 10 58.9	-0.9
BKZ	Black Stump Fm	2.44	66	PN	P	18 11 01.7	-2.0
PXZ	Pawanui	2.49	87	ePN	P	18 11 02.9	-1.3
LTZ	Lake Taylor	2.77	201	ePN	P	18 11 06.2	-1.5
URZ	Urewera	3.33	55	PN	P	18 11 11.4	-3.5
KNZ	Kokohu	3.34	71	PN	P	18 11 12.4	-2.7
CRLZ	Canterbury Las	3.45	192	ePN	P	18 11 13.2	-3.3
MWZ	Matawai	3.56	60	PN	P	18 11 14.5	-3.4
MQZ	McQueen's Vall	3.58	191	ePN	P	18 11 14.5	-3.6
PUZ	Puketiti	4.18	61	PN	P	18 11 22.0	-4.0

*IDC **02** 18:22:46.0±0.9, 29.20N×139.25E, h413^{km}±13^{km}, mb3.1/11, mb1 3.3/13, mb1mx3.2/20, mbtmp3.9/13, Error ellipse: s-maj=21.3km s-min=15.7km az=70.0*

*JMA **02** 18:22:46.4±0.1, 29.34N×139.86E, h447^{km}, M3.7*

*NEIC **02** 18:22:48.0±1.7, 29.28N×139.27E, h434^{km}±15^{km}, mb3.8/2, Error ellipse: s-maj=20.4km s-min=18.3km az=154.0*

ISC 02 18:22:45.5±0.5**, 29.23N**±0.05×**139.2E**±0.1**, h420**^{km}±6^{km}**, n31, σ1^{s}01**/40**, mb3.4**/13**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.36	129	P	P	18 23 53.9	+0.2
	53nm,0.3s,baz=281,slow=23,SNR=11						
CBIJ				S	S	18 24 46.9	-0.5
	79nm,0.3s,baz=279,slow=24,SNR=9.1						
CBIJ	Chichi jima	3.36	129	P	P	18 23 53.8	+0.1
CBIJ				eS	S	18 24 47.1	-0.3
JHHJ	Haha-jima-NKT	3.67	134	P	P	18 23 56.5	+0.1
JHHJ				S	S	18 24 51.8	-0.4
JHJ	Hachijo jima 2	3.91	7	S	S	18 24 55.1	-0.8
	8.6nm,0.3s,baz=241,slow=23,SNR=3.1						
JIE	Ise	5.58	338	P	P	18 24 19.1	+4.0
BSO1	Boso 1	5.61	15	P	P	18 24 15.9	+0.5
BSO1				S	S	18 25 26.0	0.0
BSO3	Boso 3	5.66	11	S	S	18 25 27.6	+0.6
BSO4	Boso 4	5.82	9	S	S	18 25 30.8	+0.8
JNY	Yasuok	6.22	350	P	P	18 24 24.3	+2.4
JAO	Obara	6.25	345	P	P	18 24 25.1	+2.9
JHU	Hanno	6.60	0	P	P	18 24 26.0	-0.1
JHU				S	S	18 25 43.4	-2.1
JRY	Ryogami san	6.77	358	P	P	18 24 28.8	+0.8
JRY				S	S	18 25 48.4	-0.5
JAG	Ashikaga	7.18	1	P	P	18 24 31.6	-0.9
JAG				S	S	18 25 53.5	-3.4
MAT	Matsushiro	7.34	353	P	P	18 24 34.4	0.0
MAT				S	S	18 26 00.6	+0.3
MAT	Matsushiro	7.34	353	eP	P	18 24 34.0	-0.4
MAT				eS	S	18 25 59.0	-1.3
JHO	Hitachi	7.45	8	P	P	18 24 35.5	0.0
JNU	Nakatsue	8.14	301	P	P	18 24 46.8	+3.4
	0.4nm,0.3s,baz=64,slow=15,SNR=5.8						
ASAJ	Asahikawa	15.10	9	P	P	18 26 01.1	+1.0
	0.8nm,0.3s,baz=339,slow=5.7,SNR=6.8						
ENH	Enshi	25.82	280	eP	P	18 27 42.5	-0.1
	8.8nm,0.8s,mb4.2						
SONM	Songino Array	31.38	315	P	P	18 28 31.3	+0.3
	1.2nm,0.8s,mb3.3,baz=114,slow=5.8,SNR=9.6						
MKAR	Makanchi Array	47.12	308	P	P	18 30 38.9	-0.4
	0.8nm,0.7s,mb3.1,baz=82,slow=8.6,SNR=8.5						
WRA	Warramunga Arr	49.11	186	P	P	18 30 53.9	-0.8
	0.2nm,0.3s,mb2.9,baz=1.1,slow=7.6,SNR=10.0						
KURK	Kurchatov	49.64	313	eP	P	18 30 57.1	-1.1
	1.4nm,0.8s,mb3.3						
BVAR	Borovoye Array	54.71	316	P	P	18 31 34.5	-0.8
	1.4nm,0.5s,mb3.5,baz=88,slow=7.8,SNR=12						
ILAR	Eielson Array	57.11	29	P	P	18 31 50.5	-1.3
	0.8nm,0.5s,mb3.3,baz=260,slow=5.7,SNR=8.6						
ARCES	ARCESS Array B	70.67	340	P	P	18 33 18.2	0.0
	1.3nm,0.6s,mb3.7,baz=63,slow=8.1,SNR=13						
FINES	FINESS Array B	74.88	333	P	P	18 33 42.4	-0.2
	0.6nm,0.5s,mb3.5,baz=45,slow=5.4,SNR=8.8						
AKASG	Malin Array Be	79.36	323	P	P	18 34 06.8	-0.3
	0.8nm,0.7s,mb3.5,baz=51,slow=5.5,SNR=4.7						
NOA	NORSAR Array B	80.66	337	P	P	18 34 13.6	-0.1
	0.6nm,0.6s,mb3.5,baz=48,slow=4.9,SNR=3.3						
PDAR	Pinedale Array	84.50	44	P	P	18 34 34.3	+0.8
	0.4nm,0.8s,mb3.2,baz=49,slow=3.9,SNR=4.2						
TXAR	Lajitas Array	96.36	51	P	P	18 35 31.4	+2.2
	0.3nm,0.8s,mb3.5,baz=144,slow=17,SNR=4.0						

*NIED **02** 18:25:00, 24.00N×122.50E, h32^{km}, Mw4.3 Best double couple: $M_0$3.22×10^{15} NP1:ϕ_s68°, δ89°, λ77°. NP2:ϕ_s333°, δ13°, λ176°.*

*MOS **02** 18:25:16.5±0.8, 24.18N×122.79E, h33^{km}, mb4.8/13, Error ellipse: s-maj=19.9km s-min=7.3km az=124.2*

*BJI **02** 18:25:17.2, 24.19N×122.64E, h27^{km}, mB4.7, mb4.5, ML4.3, Ms4.2, Msz4.1*

*NEIC **02** 18:25:18.9±0.6, 24.08N×122.57E, h39^{km}±5^{km}, mb4.5/16, Error ellipse: s-maj=6.9km s-min=5.6km az=224.0*

*JMA **02** 18:25:18.3±0.2, 24.03N×122.49E, h32^{km}, M4.0*

*IDC **02** 18:25:19.6±3.1, 24.12N×122.62E, h44^{km}±29^{km}, mb4.1/19, mb1 4.2/21, mb1mx4.2/26, mbtmp4.3/21, ML3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=20.1km s-min=12.7km az=66.0*

ISC 02 18:25:19.0±0.5**, 24.09N**±0.05×**122.55E**±0.03**, h51**^{km}±4^{km}**, n99, σ1^{s}17**/109**, mb4.3**/34**, 2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.56	49	P	P	18 25 30.8	-0.3
YOJ				S	S	18 25 39.5	-0.4
NACB	Ninganchiao	0.87	275⇑	iPn	P	18 25 33.4	-1.8
HATJ	Hateruma jima	1.15	92	P	P	18 25 39.2	+0.2
HATJ				S	S	18 25 55.1	+1.1
YHNB	Yeheng	1.21	299	ePn	P	18 25 39.8	-0.2
TATO	Taipei	1.30	313	ePn	P	18 25 42.0	+0.6
JKRS	Kuro-shima	1.34	84	P	P	18 25 42.4	+0.5
JKRS				S	S	18 26 00.8	+1.9
JIJ	Ishigaki jima	1.48	79	P	P	18 25 43.8	0.0
JIJ				S	S	18 26 03.1	+0.9
JTJ	Tarama	2.04	74	P	P	18 25 53.7	+2.1
JTJ				eS	S	18 26 19.1	+3.2
QZH	Quanzhou	3.70	284⇑	iP	P	18 26 13.2	-2.0
QZH				S	S	18 26 53.7	-4.3
QZH				Smax			
	comp=N,800nm,0.4s						
QZH				Smax			
	comp=E,820nm,0.5s						
JKE	Kume jima 2	4.44	59	P	P	18 26 24.8	-0.8
JKE				eS	S	18 27 18.4	+1.9
JOW	Kunigami	5.85	61	P	P	18 26 43.1	-2.1
	comp=E,6.1nm,0.3s,baz=210,slow=27,SNR=5.5						
JOW				S	S	18 27 49.9	-2.1
	comp=E,2.3nm,0.3s,baz=116,slow=23,SNR=2.5						
SSE	Sheshan	7.08	350	P	P	18 27 01.1	-1.4
SSE				AMB	AMB		
	comp=Z,130nm,0.6s						
SSE				AMB	AMB		
	comp=Z,205nm,4.1s						
SSE	Sheshan	7.08	350	P	P	18 27 01.1	-1.4
	comp=Z,130nm,0.6s						
JNU	Nakatsue	11.59	37	P	P	18 28 01.6	-2.8
	comp=Z,0.3nm,0.3s,baz=220,slow=24,SNR=2.5						
JNU				LR	LR	18 32 52.1	
	comp=Z,224nm,19.0s,baz=96,slow=39						
GYA	Guiyang	14.56	283	P	P	18 28 43.8	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2	Chengdu	17.99	296	P	P	18 29 26.7	-0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KMI	Kunming	18.04	277	P	P	18 29 30.0	+2.2
KMI				AP		18 29 37.3	
KMI				XP		18 29 41.6	
KMI				PP	PP	18 29 45.8	+2.8
KMI				S	S	18 32 48.9	+4.7
KMI				XS		18 32 58.3	
KMI				SS	SS	18 33 09.9	+1.2
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s						
KMI				AMB	AMB		
	comp=Z,74nm,4.0s						
KMI				LR	LR		
	comp=N,409nm,13.4s						
KMI				LR	LR		
	comp=E,312nm,10.5s						
KMI				LR	LR		
	comp=Z,298nm,10.5s						
KMI	Kunming	18.04	277	P	P	18 29 30.0	+2.2
	comp=Z,5.0nm,0.9s						
KMI				pP		18 29 37.3	
KMI				sP		18 29 41.6	
KMI				PP	PP	18 29 45.8	+2.8
KMI				S	S	18 32 48.9	+4.7
KMI				sS		18 32 58.3	
KMI				SS	SS	18 33 09.9	+1.2
KMI	Kunming	18.04	277	P	P	18 29 30.0	+2.2
KMI				S	S	18 32 48.9	+4.7
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC	Hu-ho-hao-te	19.08	334	eP	P	18 29 41.2	+1.2
HHC				AP		18 29 47.0	
HHC				XP		18 29 51.0	
HHC				AMB	AMB		
	comp=Z,11nm,1.0s						
HHC				AMB	AMB		
	comp=Z,179nm,5.2s						
HHC				LR	LR		
	comp=N,422nm,14.1s						
HHC				LR	LR		
	comp=E,259nm,12.4s						
HHC				LR	LR		
	comp=Z,473nm,14.1s						
CN2	Changchun	19.80	6	eP	P	18 29 46.5	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
LZH	Lanzhou	20.08	311	eP	P	18 29 52.0	+1.1
LZH				AP		18 30 02.4	
LZH				XP		18 30 06.5	
LZH				AMB	AMB		
	comp=Z,29nm,1.5s						
LZH	Lanzhou	20.08	311	eP	P	18 29 52.0	+1.1
	comp=Z,29nm,1.5s						
LZH				pP		18 30 02.4	
LZH				sP		18 30 06.5	
GTA	Gaotai	24.54	314	eP	P	18 30 35.9	+0.8
GTA				AP		18 30 44.2	
GTA				XP		18 30 48.7	
GTA				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.6						
ASAJ	Asahikawa	25.85	34	P	P	18 30 45.2	-2.2
	comp=Z,5.3nm,0.4s,mb4.4,baz=275,slow=30,SNR=14						
ULN	Ulaanbaatar	26.73	336	eP	P	18 30 54.8	-0.8
	comp=Z,1.9nm,0.3s,mb4.1						
ULN	Ulaanbaatar	26.73	336	eP	P	18 30 54.8	-0.8

ULN				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.1						
SONM	**Songino Array**	**26.95**	**336**	P	**P**	**18 30 56.9**	**-0.7**
	comp=Z,1.6nm,0.4s,mb3.9,baz=153,slow=11,SNR=24						
SONM				PcP	PcP	18 34 18.3	-0.5
	comp=Z,0.5nm,0.5s,baz=160,slow=4.6,SNR=6.0						
YAK	**Yakutsk**	**38.23**	**5**	*e*P	**P**	**18 32 33.4**	**-2.1**
	comp=Z,9.3nm,0.7s,mb4.6						
YAK	**Yakutsk**	**38.23**	**5**	*e*P	**P**	**18 32 33.4**	**-2.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
MK02	**Makanchi Array**	**39.25**	**315**	P	**P**	**18 32 44.0**	**-0.1**
MK02				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
MKAR	**Makanchi Array**	**39.27**	**315**	P	**P**	**18 32 44.4**	**+0.1**
	comp=Z,6.6nm,0.6s,mb4.5,baz=93,slow=9.6,SNR=128						
MKAR				PcP	PcP	18 34 52.0	-1.0
	comp=Z,1.1nm,0.8s,baz=90,slow=4.9,SNR=3.8						
FITZ	**Fitzroy Crossi**	**42.05**	**176**	P	**P**	**18 33 05.7**	**-1.8**
	comp=Z,5.0nm,1.0s,mb4.1,baz=359,slow=12,SNR=4.1						
ULHL	**Ulahol**	**42.21**	**307**	P	**P**	**18 33 10.2**	**+1.6**
	SNR=15						
NVS	**Novosibirsk**	**42.26**	**327**	*e*P	**P**	**18 33 07.2**	**-1.6**
TKM2	**Tokmak 2**	**42.80**	**308**	P	**P**	**18 33 15.1**	**+1.7**
	SNR=22						
KZA	**Kyzart**	**42.91**	**307**	P	**P**	**18 33 16.7**	**+2.4**
	SNR=6.1						
KBK	**Karagaybulak**	**43.23**	**307**	P	**P**	**18 33 18.7**	**+1.8**
	SNR=6.9						
CHMS	**Chumysh**	**43.43**	**308**	P	**P**	**18 33 19.7**	**+1.2**
	SNR=7.0						
UCH	**Uchtor**	**43.47**	**307**	P	**P**	**18 33 21.4**	**+2.5**
	SNR=18						
AAK	**Ala-Archa**	**43.55**	**307**	*e*P	**P**	**18 33 19.3**	**-0.2**
	comp=Z,5.5nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**43.55**	**307**	*e*P	**P**	**18 33 19.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
AML	**Almayashu**	**44.06**	**306**	P	**P**	**18 33 25.8**	**+2.1**
	SNR=17						
EKS2	**Erkin-Say**	**44.08**	**307**	P	**P**	**18 33 25.2**	**+1.4**
	SNR=8.9						
WRAB	**Tennant Creek**	**45.24**	**164**	*e*P	**P**	**18 33 32.1**	**-1.3**
	comp=Z,2.1nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**45.24**	**164**	*e*P	**P**	**18 33 32.1**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**45.25**	**164**	P	**P**	**18 33 32.3**	**-1.2**
	comp=Z,2.8nm,0.6s,mb4.3,baz=345,slow=8.7,SNR=35						
WB2	**Warramunga Arr**	**45.25**	**164**	*e*P	**P**	**18 33 32.2**	**-1.3**
KKAR	**Karatay Array**	**46.52**	**307**	*e*P	**P**	**18 33 43.5**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BVAR	**Borovoye Array**	**48.53**	**320**	P	**P**	**18 33 58.3**	**-0.5**
	comp=Z,3.4nm,0.5s,mb4.7,baz=107,slow=7.9,SNR=31						
BVAR				PcP	PcP	18 35 23.5	-0.9
	comp=Z,1.7nm,0.7s,baz=118,slow=3.4,SNR=5.9						
HNR	**Honiara**	**49.44**	**128**	P	**P**	**18 34 05.7**	**-0.6**
	comp=Z,38nm,0.3s,baz=195,slow=7.3,SNR=8.7						
HNR	**Honiara**	**49.44**	**128**	P	**P**	**18 34 05.8**	**-0.5**
AB31	**Akbulak array**	**54.40**	**314**	*i* P	**P**	**18 34 42.3**	**-0.7**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ARU	**Arti**	**55.93**	**323**	P	**P**	**18 34 52.2**	**-1.8**
	comp=Z,3.8nm,0.4s,mb4.8						
ARU	**Arti**	**55.93**	**323**	P	**P**	**18 34 52.2**	**-1.8**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**58.56**	**161**	*e*P	**P**	**18 35 13.2**	**+0.3**
	comp=Z,3.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**58.56**	**161**	P	**P**	**18 35 12.7**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=306,slow=5.1,SNR=6.4						
ILAR	**Eielson Array**	**68.72**	**27**	P	**P**	**18 36 17.8**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=270,slow=4.9,SNR=8.0						
JOF	**Joensuu**	**69.40**	**331**	*e*p	**P**	**18 36 22.3**	**-0.9**
KEV	**Kevo**	**69.52**	**338**	*e*p	**P**	**18 36 22.0**	**-1.9**
ARCES	**ARCESS Array B**	**70.09**	**338**	P	**P**	**18 36 26.0**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=69,slow=6.9,SNR=13						
ARCES				PcP	PcP	18 36 48.6	-0.6
	comp=Z,0.8nm,0.5s,baz=63,slow=5.4,SNR=5.4						
MALT	**Malatya**	**71.08**	**304**	*e*P	**P**	**18 36 34.8**	**+1.0**
KAF	**Kangasniemi**	**71.85**	**331**	*e*p	**P**	**18 36 37.3**	**-0.7**
FINES	**FINESS Array B**	**72.15**	**330**	P	**P**	**18 36 39.9**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.4,baz=49,slow=6.1,SNR=45						
INK	**Inuvik**	**72.84**	**22**	*e*P	**P**	**18 36 43.1**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.0						
INK	**Inuvik**	**72.84**	**22**	*e*P	**P**	**18 36 43.1**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**73.76**	**319**	P	**P**	**18 36 48.8**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=58,slow=6.6,SNR=6.6						
ASF	**Jabal al Asfar**	**74.10**	**298**	P	**P**	**18 36 53.1**	**+1.2**
	comp=Z,1.1nm,0.3s,mb4.2,baz=357,slow=9.4,SNR=4.8						
BR131	**Keskin Array S**	**74.23**	**307**	*e*P	**P**	**18 36 52.5**	**+0.2**
	comp=Z,0.9nm,0.3s,mb4.2						
BRTR	**Keskin Array B**	**74.23**	**307**	P	**P**	**18 36 53.0**	**+0.7**
	comp=Z,2.8nm,0.6s,mb4.4,baz=124,slow=4.5,SNR=14						
MLR	**Muntele Rosu**	**77.61**	**314**	P	**P**	**18 37 12.6**	**+1.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=57,slow=1.0,SNR=3.3						
NB2	**NORSAR Subarra**	**78.88**	**332**	P	**P**	**18 37 17.2**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.2,baz=58,slow=5.3						
NB2	**NORSAR Subarra**	**78.88**	**332**	P	**P**	**18 37 17.2**	**-0.9**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**78.88**	**332**	P	**P**	**18 37 17.7**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=57,slow=5.5,SNR=9.9						
YKA	**Yellowknife Ar**	**82.57**	**23**	P	**P**	**18 37 36.9**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.4,baz=307,slow=5.1,SNR=9.8						
GERES	**GERESS Array B**	**83.70**	**321**	P	**P**	**18 37 44.5**	**+1.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=63,slow=6.0,SNR=15						
CDF	**Champ du Feu**	**87.55**	**323**	*e*P	**P**	**18 38 03.4**	**+0.9**
EKA	**Eskdalemuir Ar**	**88.38**	**332**	P	**P**	**18 38 06.5**	**+0.2**
	comp=Z,0.7nm,0.5s,mb4.1,baz=27,slow=3.7,SNR=7.4						
CABF	**La Chapelle**	**89.24**	**322**	*e*P	**P**	**18 38 11.0**	**+0.4**
LPG	**La Plagne**	**89.49**	**321**	*e*P	**P**	**18 38 12.5**	**+0.6**
	comp=Z,8.6nm,0.8s,mb4.8						
LPG	**La Plagne**	**89.49**	**321**	*e*P	**P**	**18 38 12.5**	**+0.6**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
LPL	**La Plagne**	**89.49**	**321**	*e*P	**P**	**18 38 12.6**	**+0.7**
	comp=Z,4.8nm,0.8s,mb4.6						
LPL	**La Plagne**	**89.49**	**321**	*e*P	**P**	**18 38 12.6**	**+0.7**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
MBDF	**Montbardon**	**89.92**	**320**	*e*P	**P**	**18 38 14.1**	**+0.2**
LOR	**Lormes**	**90.09**	**323**	*e*P	**P**	**18 38 14.7**	**+0.1**
NEW	**Newport**	**90.37**	**35**	P	**P**	**18 38 17.4**	**+1.5**
	comp=Z,4.8nm,0.8s,mb4.9,baz=282,slow=7.3,SNR=6.1						
SMF	**Signal de Mont**	**90.47**	**323**	*e*P	**P**	**18 38 16.7**	**+0.3**
	comp=Z,7.1nm,0.8s,mb4.8						
SMF	**Signal de Mont**	**90.47**	**323**	*e*P	**P**	**18 38 16.7**	**+0.3**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
AVF	**Avril sur Loir**	**90.65**	**323**	*e*P	**P**	**18 38 16.9**	**-0.4**
FRF	**La Foret Royal**	**90.66**	**319**	*e*P	**P**	**18 38 17.2**	**-0.2**
	comp=Z,14nm,1.2s,mb4.9						
FRF	**La Foret Royal**	**90.66**	**319**	*e*P	**P**	**18 38 17.2**	**-0.2**
FRF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.9						
SMRF	**Simiane la Rot**	**91.05**	**320**	*e*P	**P**	**18 38 19.1**	**-0.1**
LDF	**La Druitiere**	**91.37**	**326**	*e*P	**P**	**18 38 20.8**	**+0.2**
TCF	**Toulx Ste Croi**	**91.58**	**323**	*e*P	**P**	**18 38 21.8**	**+0.2**
CAF	**Calviac**	**92.50**	**322**	*e*P	**P**	**18 38 26.0**	**+0.2**
	comp=Z,7.8nm,0.9s,mb4.9						
CAF	**Calviac**	**92.50**	**322**	*e*P	**P**	**18 38 26.0**	**+0.2**
CAF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
RJF	**Les Rejaudoux**	**92.57**	**323**	*e*P	**P**	**18 38 26.3**	**+0.1**
SJPF	**Ste Jean**	**95.49**	**322**	*e*P	**P**	**18 38 39.4**	**-0.1**
EVO	**Evora**	**102.37**	**322**	*e*P	Pdif	18 39 10.5	-0.2

*BJI **02** 18:35:11.8, 10.48N×138.69E, h19km, mB5.8, mb5.3, Ms5.5, Msz5.3*

*IDC **02** 18:35:11.1±0.3, 10.36N×138.39E, mb5.4/29, mb1 5.3/31, mb1mx5.3/32, mbtmp5.3/31, ML5.0/2, MS5.0/15, Ms1 5.1/15, ms1mx4.9/21, Error ellipse: s-maj=11.6km s-min=5.6km az=79.0*

*NEIC **02** 18:35:12.7±0.1, 10.36N×138.32E, h10km, mb5.7/94, ME5.8, MS5.1/14, MW5.6, Error ellipse: s-maj=4.0km s-min=3.8km az=71.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.09; $M_{\theta\theta}$0.03; $M_{\phi\phi}$3.07; $M_{r\theta}$0.03; $M_{\theta\phi}$-0.88; $M_{\phi r}$-0.53; Best double couple: $M_0$3.2×10^{17} NP1:ϕ_s163°, δ40°, λ-93°. NP2:ϕ_s347°, δ50°, λ-87°. Principal axes: T 3.35, Plg5°, Azm75°; N -.21, Plg2°, Azm165°; P -3.14, Plg85°, Azm280°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

*HRVD **02** 18:35:12.7±0.1, 10.42N×138.42E, h12km, MW5.7/73, Centroid moment Tensor Solution. LP body waves: s70,c150; Mantle waves: s73,c256; Half duration: 1.7s Moment tensor: Scale 10^{17}Nm; M_{rr}-3.91±.04; $M_{\theta\theta}$0.01±.04; $M_{\phi\phi}$3.90±.04; $M_{r\theta}$0.84±.12; $M_{\theta\phi}$0.76±.03; $M_{\phi r}$0.50±.12; Best double couple: $M_0$4.098×10^{17} NP1:ϕ_s0°, δ41°, λ-106°. NP2:ϕ_s201°, δ51°, λ-77°. Principal axes: T 4.098, Plg5°, Azm282°; N .005, Plg10°, Azm12°; P -4.098, Plg79°, Azm167°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **02** 18:35:14.7±1.0, 10.34N×138.25E, h33km, mb6.0/62, MS5.3/27 Error ellipse: s-maj=8.8km s-min=4.9km az=112.7*

ISC 02 18:35:11.4±0.7, **10.37N**±0.03×**138.37E**±0.02, **h9**km±4km, **h17**km±1.7km**:pP-P, n657,** σ**1.15**/516, **mb5.6**/163, **MS5.2**/71, **50C-112D, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.12**	**63**	Pn	**Pn**	**18 36 56.7**	**-1.6**
	96nm,0.3s,baz=182,slow=22,SNR=8.1						
GUMO				Sn	**Sn**	**18 38 15.4**	**-4.8**
	43nm,0.3s,baz=59,slow=22,SNR=2.3						
GUMO				LR	LR	18 38 55.1	
	comp=Z,6μm,21.6s,baz=34,slow=32						
BIPH	**Bislig**	**12.05**	**261**⇑	*i*P	**P**	**18 38 06.6**	**+0.2**
MATI	**Mati**	**12.45**	**255**	*e*P	**P**	**18 38 11.1**	**-0.7**
BUTP	**Butuan**	**12.65**	**265**	*e*P	**P**	**18 38 14.3**	**-0.1**
BESP	**Borongan**	**12.76**	**277**	*e*P	**P**	**18 38 12.5**	**-3.4**
DAV	**Davao City (W)**	**13.06**	**256**	*e*P	**P**	**18 38 24.0**	**+4.0**
PLP	**Palo**	**13.18**	**275**	*e*P	**P**	**18 38 24.5**	**+3.0**
MSLP	**Maasin**	**13.30**	**270**	*e*P	**P**	**18 38 25.4**	**+2.3**
BUKP	**Musuan**	**13.37**	**260**	*e*P	**P**	**18 38 25.8**	**+1.7**
KCP	**Kidapawan**	**13.55**	**257**⇑	*e*P	**P**	**18 38 30.9**	**+4.4**
	67μm,1.0s						
CNP	**Catarman**	**13.60**	**280**	*e*P	**P**	**18 38 27.6**	**+0.4**
CGP	**Cagayan de Oro**	**13.63**	**263**⇓	*e*P	**P**	**18 38 31.7**	**+4.2**
LLP	**Lapu-Lapu**	**14.17**	**271**⇓	*e*P	**P**	**18 38 36.4**	**+1.7**
PVCP	**Virac**	**14.27**	**284**	*e*P	**P**	**18 38 36.0**	**0.0**
TBP	**Tagbilaran**	**14.30**	**269**	*e*P	**P**	**18 38 34.0**	**-2.4**
DCPH	**Dipolog City**	**14.92**	**264**⇑	*e*P	**P**	**18 38 47.2**	**+2.7**
SNPH	**Sibulan**	**14.95**	**267**⇑	*e*P	**P**	**18 38 44.9**	**0.0**
PAGZ	**Pagadian**	**15.01**	**262**	*e*P	**P**	**18 38 48.3**	**+2.6**
RCP	**Roxas**	**15.39**	**276**⇑	*e*P	**P**	**18 38 53.2**	**+2.6**
GUIM	**Jordan**	**15.52**	**272**	*e*P	**P**	**18 38 49.4**	**-2.9**
AUQP	**San Andres**	**15.64**	**282**	*e*P	**P**	**18 38 55.1**	**+1.2**
KALP	**Kalibo**	**15.79**	**276**	*e*P	**P**	**18 39 15.5**	**+20**
IPIL	**Ipil**	**15.81**	**262**	*e*P	**P**	**18 38 57.0**	**+0.9**
OTRP	**Odiongan**	**16.15**	**279**	*e*P	**P**	**18 39 01.5**	**+1.0**
BOAC	**Boac**	**16.46**	**282**	*e*P	**P**	**18 39 04.3**	**-0.1**
POLP	**Polilio Island**	**16.61**	**287**	*e*P	**P**	**18 39 03.5**	**-2.8**
CBIJ	**Chichi jima**	**17.02**	**12**	P	**P**	**18 39 12.1**	**+0.7**
	14nm,0.3s,baz=275,slow=22,SNR=3.0						
CBIJ				S	**S**	**18 42 14.7**	**-4.9**
	5.5nm,0.3s,baz=101,slow=23,SNR=2.2						
SJMP	**San Jose**	**17.04**	**279**	*e*P	**P**	**18 39 12.7**	**+1.0**
CUYO	**Cuyo Island**	**17.06**	**273**	*e*P	**P**	**18 39 10.7**	**-1.3**
BALP	**Baler**	**17.20**	**290**	*e*P	**P**	**18 39 14.2**	**+0.5**
ARP	**Angono**	**17.31**	**286**	*e*P	**P**	**18 39 17.5**	**+2.4**
CAUP	**Cauayan**	**17.35**	**294**	*e*P	**P**	**18 39 16.1**	**+0.6**
SGCP	**Mt. Cagua**	**17.64**	**298**	*e*P	**P**	**18 39 17.7**	**-1.5**
BUSP	**Coron**	**17.90**	**277**	*e*P	**P**	**18 39 23.0**	**+0.5**
LUBP	**Lubang**	**18.04**	**282**	*e*P	**P**	**18 39 26.8**	**+2.7**
NBP	**Mount Natib**	**18.05**	**286**	*e*P	**P**	**18 39 23.7**	**-0.7**
BCPH	**Baguio City Da**	**18.30**	**291**	*e*P	**P**	**18 39 28.8**	**+1.3**
ABRA	**Dolores**	**18.59**	**295**	*e*P	**P**	**18 39 31.7**	**+0.7**
ENPP	**El Nido**	**18.63**	**274**	*e*P	**P**	**18 39 32.5**	**+0.9**
BBP	**Basco**	**18.70**	**304**	*e*P	**P**	**18 39 34.4**	**+2.1**
SCZP	**Santa Cruz**	**18.76**	**289**	*e*P	**P**	**18 39 31.6**	**-1.5**
JOW	**Kunigami**	**18.94**	**331**	P	**P**	**18 39 37.3**	**+2.1**
	2.5nm,0.3s,baz=157,slow=14,SNR=12						
JOW				S	**S**	**18 43 07.0**	**+3.7**
	baz=359,slow=18,SNR=2.1						
JOW				LR	LR	18 45 06.6	
	comp=Z,4μm,20.7s,baz=156,slow=31						
PPR	**Puerto Princes**	**19.35**	**270**⇑	*i*P	**P**	**18 39 42.3**	**+2.2**
BATP	**Bataraza**	**20.34**	**267**	*e*P	**P**	**18 39 53.4**	**+2.5**
NACB	**Ninganchiao**	**21.06**	**313**	*e*P	**P**	**18 39 59.0**	**+0.7**
PMG	**Port Moresby**	**21.51**	**156**	P	**P**	**18 40 01.9**	**-1.0**
	106nm,0.8s,mb5.3,baz=344,slow=6.3,SNR=24						
PMG				S	**S**	**18 44 02.1**	**+5.6**
	28nm,1.0s,baz=113,slow=7.7,SNR=2.7						
PMG	**Port Moresby**	**21.51**	**156**	*e*P	**P**	**18 40 01.5**	**-1.4**
	475nm,1.4s,mb5.7						
PMG	**Port Moresby**	**21.51**	**156**	*e*P	**P**	**18 40 01.5**	**-1.4**
PMG				pmax	pmax		
	comp=Z,475nm,1.4s						
YHNB	**Yeheng**	**21.52**	**314**	*e*P	**P**	**18 40 04.5**	**+1.5**
TATO	**Taipei**	**21.63**	**314**	P	**P**	**18 40 05.5**	**+1.4**
	comp=Z,1μm,1.6s,mb6.1						
KKM	**Kota Kinabalu**	**22.34**	**261**⇓	*e*P	**P**	**18 40 12.0**	**+0.7**
JHJ	**Hachijo jima 2**	**22.68**	**3**	P	**P**	**18 40 11.6**	**-2.9**
	comp=Z,66nm,0.6s,mb5.3,baz=41,slow=22,SNR=2.6						
JHJ				S	**S**	**18 44 20.6**	**+2.7**
	comp=Z,47nm,0.5s,baz=52,slow=21,SNR=2.4						
JHJ				LR	LR	18 48 33.4	
	comp=Z,5μm,18.6s,MS5.0,baz=198,slow=35						
JNU	**Nakatsue**	**23.67**	**344**	P	**P**	**18 40 24.4**	**+0.2**
	comp=Z,61nm,0.7s,mb5.1,baz=115,slow=6.3,SNR=40						
JNU				S	**S**	**18 44 42.6**	**+7.2**
	comp=Z,19nm,1.1s,baz=125,slow=14,SNR=1.7						
JNU				LR	LR	18 47 57.1	
	comp=Z,2μm,18.7s,MS4.7,baz=156,slow=32						
KAKA	**Kakadu**	**23.68**	**195**⇓	*i*P	**P**	**18 40 40.2**	**+16**
	comp=Z,216nm,0.7s,mb5.7						
QZH	**Quanzhou**	**23.72**	**310**	*i* PR	**P**	**18 40 25.4**	**+0.6**
QZH				S	**S**	**18 44 47.0**	**+10**
QZH				AMB	AMB		
	comp=Z,810nm,1.6s,mb5.9						
QZH				AMB	AMB		
	comp=Z,10μm,7.0s						
QZH				LR	LR		
	comp=N,5μm,8.6s						
QZH				LR	LR		
	comp=E,5μm,10.4s						
QZH				LR	LR		
	comp=Z,7μm,15.6s						
HKC	**Hong Kong**	**26.03**	**300**⇑	*i*P	**P**	**18 40 50.0**	**+3.2**
HKC				*i* S	**S**	**18 45 26.0**	**+11**
MAJO	**Matsushiro**	**26.05**	**360**	*e*P	**P**	**18 40 43.9**	**-3.0**
	comp=Z,38nm,0.9s,mb4.9						
MAJO				*e*PcP	PcP	18 44 14.1	-1.4
MAJO				LR	LR		
	comp=Z,4μm,19.0s,MS5.0						
MAJO	**Matsushiro**	**26.05**	**360**	*e*P	**P**	**18 40 43.9**	**-3.0**
MAJO				*e*		18 44 14.1	
MAJO				pmax	pmax		
	comp=Z,38nm,0.9s,mb4.9						
MAJO				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.0						
MAT	**Matsushiro**	**26.05**	**360**	P	**P**	**18 40 43.5**	**-3.4**
MAT				S	**S**	**18 45 16.0**	**+0.2**
MAT	**Matsushiro**	**26.05**	**360**	*e*P	**P**	**18 40 44.0**	**-2.9**
	comp=Z,20nm,0.7s,mb4.8						
MAT				*e*S	**S**	**18 45 17.0**	**+1.2**
MAT				LR	LR		
	comp=Z,4μm,18.0s,MS5.0						
MAT	**Matsushiro**	**26.05**	**360**	*e*P	**P**	**18 40 44.0**	**-2.9**
MAT				*e*S	**S**	**18 45 17.0**	**+1.2**
MAT				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.8						
MAT				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.0						
SSE	**Sheshan**	**26.07**	**325**	P	**P**	**18 40 47.6**	**+0.5**
SSE				PCP	PcP	18 44 13.6	-2.0
SSE				S	**S**	**18 45 17.2**	**+1.1**
SSE				PCS		18 47 54.7	
SSE				AMB	AMB		
	comp=Z,101nm,1.3s,mb5.2						
SSE				AMB	AMB		
	comp=Z,1μm,7.0s						
SSE				LR	LR		
	comp=N,4μm,13.9s,MS5.2						
SSE				LR	LR		
	comp=E,3μm,13.9s,MS5.2						
SSE				LR	LR		
	comp=Z,7μm,16.2s,MS5.3						
SSE	**Sheshan**	**26.07**	**325**	P	**P**	**18 40 47.6**	**+0.5**
	comp=Z,101nm,1.3s,mb5.2						
SSE				sP	sP	18 41 03.6	+13
SSE				PcP	PcP	18 44 13.6	-2.0
SSE				S	**S**	**18 45 17.2**	**+1.1**
SSE				sS		18 45 36.5	
SSE				PcS		18 47 54.7	
SSE				LR	LR		
	comp=Z,7μm,16.2s,MS5.3						
GZH	**Guangzhou**	**27.04**	**301**	P	**P**	**18 40 55.7**	**-0.4**
GZH				S	**S**	**18 45 32.0**	**-0.1**
GZH				LR	LR		
	comp=N,2μm,13.7s,MS5.1						
GZH				LR	LR		
	comp=E,4μm,15.2s,MS5.1						
GZH				LR	LR		
	comp=Z,6μm,15.6s,MS5.3						
NJ2	**Nanjing**	**28.12**	**323**	*e*P	**P**	**18 41 06.1**	**+0.2**
NJ2				AP	pP	18 41 10.4	+2.0
NJ2				PP	PP	18 41 56.7	+0.6
NJ2				S	**S**	**18 45 50.0**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,980nm,7.4s						
NJ2				LR	LR		
	comp=N,10μm,15.7s,MS5.6						
NJ2				LR	LR		
	comp=E,7μm,17.4s,MS5.6						
NJ2				LR	LR		
	comp=Z,5μm,16.4s,MS5.2						
KS15	**Wonju Array Si**	**28.56**	**342**	*e*P	**P**	**18 41 08.2**	**-1.5**
QIZ	**Qiongzhong**	**28.87**	**291**	P	**P**	**18 41 12.6**	**-0.1**
QIZ				S	**S**	**18 46 01.8**	**+0.2**
QIZ				AMB	AMB		
	comp=Z,34nm,1.4s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,825nm,6.6s						
QIZ				LR	LR		
	comp=E,3μm,15.8s						
QIZ				LR	LR		
	comp=Z,4μm,15.8s,MS5.1						
QIZ	**Qiongzhong**	**28.87**	**291**	*e*P	**P**	**18 41 13.0**	**+0.3**
	comp=Z,195nm,1.8s,mb5.5						
INCN	**Inchon**	**28.99**	**340**	*e*P	**P**	**18 41 13.1**	**-0.6**
	comp=Z,30nm,0.8s,mb5.1						
HNR	**Honiara**	**29.12**	**132**	P	**P**	**18 41 13.3**	**-1.7**
	comp=Z,92nm,1.0s,mb5.5,baz=219,slow=8.4,SNR=2.4						
HNR				S	**S**	**18 46 07.4**	**+1.7**
	comp=Z,70nm,1.0s,baz=275,slow=17,SNR=2.0						
KSM	**Kuching**	**29.25**	**254**	*e*P	**P**	**18 41 14.9**	**-1.3**
KSM				*e*PcP	PcP	18 44 23.6	+0.2
WHN	**Wuhan**	**30.03**	**315**	*i* PR	**P**	**18 41 24.0**	**+1.0**
WHN				S	**S**	**18 46 25.0**	**+5.0**
WHN				AMB	AMB		
	comp=Z,2μm,6.4s						
WHN				LR	LR		
	comp=Z,10μm,15.0s,MS5.6						
WRAB	**Tennant Creek**	**30.37**	**187**⇓	*e*P	**P**	**18 41 23.8**	**-2.3**
	comp=Z,188nm,1.1s,mb5.7						
WRAB	**Tennant Creek**	**30.37**	**187**	P	**P**	**18 41 24.1**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,190nm,1.1s,mb5.7						
WB2	**Warramunga Arr**	**30.38**	**187**	*e*P	**P**	**18 41 24.6**	**-1.6**
WRA	**Warramunga Arr**	**30.38**	**188**	P	**P**	**18 41 24.1**	**-2.2**
	comp=Z,51nm,0.9s,mb5.2,baz=1.2,slow=9.5,SNR=97						
WRA				PcP	PcP	18 44 25.6	-0.6
	comp=Z,15nm,0.8s,baz=352,slow=2.8,SNR=8.8						
WRA				S	**S**	**18 46 26.2**	**+0.5**
	comp=Z,2.7nm,1.1s,baz=45,slow=26,SNR=4.2						
FITZ	**Fitzroy Crossi**	**30.96**	**204**⇓	*i*P	**P**	**18 41 28.5**	**-2.8**
	comp=Z,133nm,0.9s,mb5.8						
FITZ	**Fitzroy Crossi**	**30.96**	**204**	P	**P**	**18 41 28.6**	**-2.8**
	comp=Z,223nm,1.0s,mb6.0,baz=18,slow=8.1,SNR=70						
FITZ				PcP	PcP	18 44 26.8	-0.9
	comp=Z,61nm,1.0s,baz=57,slow=2.7,SNR=3.8						
FITZ				S	**S**	**18 46 36.6**	**+1.8**
	comp=Z,21nm,1.0s,baz=165,slow=16,SNR=1.5						
FITZ				LR	LR	18 53 39.0	
	comp=Z,2μm,18.2s,MS4.8,baz=67,slow=36						
CTA	**Charters Tower**	**31.25**	**166**⇑	*i*P	**P**	**18 41 34.3**	**+0.4**
	comp=Z,32nm,0.9s,mb5.2						
CTA	**Charters Tower**	**31.25**	**166**	P	**P**	**18 41 34.0**	**+0.1**
	comp=Z,32nm,0.8s,mb5.2,baz=336,slow=9.9,SNR=18						
CTA				PcP	PcP	18 44 28.2	-0.2
	comp=Z,3.8nm,0.7s,baz=124,slow=23,SNR=3.5						
CTA				S	**S**	**18 46 34.5**	**-4.7**
	comp=Z,3.4nm,0.9s,baz=41,slow=23,SNR=2.1						
CTA	**Charters Tower**	**31.25**	**166**⇑	*i*P	**P**	**18 41 34.3**	**+0.4**
CTA				pmax	pmax		
	comp=Z,32nm,0.9s						
CTAO	**Charters Tower**	**31.25**	**166**⇓	*i*P	**P**	**18 41 32.6**	**-1.3**
	comp=Z,168nm,1.4s,mb5.7						
CTAO				LR	LR		
	comp=Z,3μm,21.0s,MS5.0						
CTAO	**Charters Tower**	**31.25**	**166**⇓	*i*P	**P**	**18 41 32.6**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,168nm,1.4s,mb5.7						
CTAO				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.0						
DL2	**Dalian**	**32.11**	**335**	P	**P**	**18 41 41.8**	**+0.5**
DL2				PP	PP	18 42 44.0	-3.9
DL2				S	**S**	**18 46 55.2**	**+2.6**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
DL2				AMB	AMB		
	comp=Z,450nm,4.6s						
DL2				LR	LR		
	comp=N,2μm,16.4s,MS5.0						
DL2				LR	LR		
	comp=E,1μm,17.9s,MS5.0						
DL2				LR	LR		
	comp=Z,3μm,14.9s,MS5.0						
TIA	**Tai'an**	**32.13**	**327**	P	**P**	**18 41 40.5**	**-1.0**
TIA				S	**S**	**18 46 53.6**	**+0.7**
TIA				LR	LR		
	comp=E,2μm,15.5s						
ENH	**Enshi**	**33.38**	**311**	*e*P	**P**	**18 41 53.6**	**+1.1**
	comp=E,408nm,1.9s,mb6.0						
ASAJ	**Asahikawa**	**33.82**	**5**	P	**P**	**18 41 55.5**	**-0.5**
	comp=E,16nm,0.9s,mb5.0,baz=185,slow=13,SNR=5.7						
ASAJ				PcP	PcP	18 44 34.8	-0.5
	comp=E,7.4nm,0.8s,baz=234,slow=12,SNR=3.0						
ASAJ				S	**S**	**18 47 19.6**	**+0.5**
	comp=E,5.0nm,0.9s,baz=230,slow=19,SNR=2.1						
SNY	**Shenyang**	**33.92**	**340**	PR	**P**	**18 41 53.0**	**-4.0**
SNY				AP	pP	18 42 06.6	+7.1
SNY				XP	sP	18 42 09.7	+9.0
SNY				PP	PP	18 43 08.1	-2.4
SNY				PCP	PcP	18 44 35.7	+0.1
SNY				S	**S**	**18 47 18.5**	**-2.2**
SNY				SS	SS	18 49 25.8	-1.3
SNY				AMB	AMB		
	comp=Z,80nm,1.8s,mb5.3						
SNY				AMB	AMB		
	comp=Z,750nm,6.9s						
SNY				LR	LR		
	comp=N,4μm,15.9s,MS5.3						
SNY				LR	LR		
	comp=E,3μm,15.8s,MS5.3						
SNY				LR	LR		
	comp=Z,5μm,14.5s,MS5.4						
GYA	**Guiyang**	**33.94**	**302**⇓	*i*P	**P**	**18 41 57.8**	**+0.5**
GYA				AP	pP	18 42 05.6	+5.7
GYA				PP	PP	18 43 14.3	+3.4
GYA				PCP	PcP	18 44 35.8	0.0
GYA				S	**S**	**18 47 19.0**	**-2.1**
GYA				SS	SS	18 49 31.7	+4.0
GYA				AMB	AMB		
	comp=Z,40nm,1.4s,mb5.2						
GYA				AMB	AMB		
	comp=Z,800nm,7.2s						
GYA				LR	LR		
	comp=N,3μm,14.7s,MS5.3						
GYA				LR	LR		
	comp=E,3μm,13.5s,MS5.3						
GYA				LR	LR		
	comp=Z,3μm,15.5s,MS5.2						
MDJ	**Mudanjiang**	**34.95**	**349**	P	**P**	**18 42 06.7**	**+0.9**
MDJ				AP	pP	18 42 09.8	+1.4
MDJ				PP	PP	18 43 26.2	+2.4
MDJ				PCP	PcP	18 44 36.7	-1.8
MDJ				S	**S**	**18 47 37.0**	**+0.4**
MDJ				PCS		18 48 24.6	
MDJ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						

MDJ AMB AMB
comp=Z,342nm,6.3s
MDJ LR LR
comp=N,2μm,16.7s,MS5.0
MDJ LR LR
comp=E,1μm,15.2s,MS5.0
MDJ LR LR
comp=Z,3μm,15.2s,MS5.1
KKTK Khon Kaen 35.05 284 P **P** **18 42 06.0 -1.0**
comp=Z,309nm,0.7s,mb6.3
CN2 Changchun 35.14 344 ⇑P **P** **18 42 06.9 -0.5**
CN2 *e*AP pP 18 42 11.1 +1.1
CN2 PCP PcP 18 44 38.4 -0.7
CN2 *e*S **S** **18 47 42.5 +2.9**
CN2 AMB AMB
comp=Z,60nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,790nm,6.0s
CN2 LR LR
comp=N,6μm,15.0s,MS5.6
CN2 LR LR
comp=E,4μm,15.0s,MS5.6
CN2 LR LR
comp=Z,5μm,16.0s,MS5.4
KUR Kuril'sk 35.68 12 P **P** **18 42 07.8 -4.2**
KUR *e*S **S** **18 47 47.0 -0.9**
KUR pmax pmax
comp=N,2μm,6.0s
KUR pmax pmax
comp=E,2μm,6.0s
KUR pmax pmax
comp=Z,3μm,6.0s
KUR smax
comp=N,3μm,8.0s
KUR smax
comp=E,4μm,8.0s
KUR MLR MLR
comp=N,2μm,17.0s,MS5.2
KUR MLR MLR
comp=E,3μm,17.0s,MS5.2
KUR MLR MLR
comp=Z,2μm,17.0s,MS5.0
XAN Xi'an 35.80 316 P **P** **18 42 13.2 +0.1**
XAN AMB AMB
comp=Z,67nm,1.5s,mb5.3
XAN AMB AMB
comp=Z,515nm,6.1s
XAN LR LR
comp=N,1μm,15.8s,MS5.0
XAN LR LR
comp=E,2μm,16.7s,MS5.0
XAN LR LR
comp=Z,4μm,20.0s,MS5.1
TIY Taiyuan 35.84 324 ⇑P **P** **18 42 12.0 -1.4**
TIY S **S** **18 47 53.0 +2.5**
TIY LR LR
comp=N,3μm,12.0s
TIY LR LR
comp=Z,720nm,9.0s
MBWA Marble Bar 36.30 210 ⇓*i*P **P** **18 42 14.4 -3.0**
comp=Z,68nm,1.4s,mb5.4
MBWA *e*PcP PcP 18 44 41.5 -1.2
YSS Yuzh-Sakhalins 36.65 5 ⇓*i*P **P** **18 42 18.9 -1.2**
comp=Z,77nm,1.0s,mb5.5
YSS *e*PcP PcP 18 44 42.3 -1.1
YSS Yuzh-Sakhalins 36.65 5*d i*P **P** **18 42 19.0 -1.1**
YSS *i* 18 43 46.0
YSS *e*S **S** **18 48 00.0 -2.7**
YSS *e*SS SS 18 50 28.0 -1.1
YSS *e* 18 52 24.0
YSS pmax pmax
comp=Z,600nm,6.0s
YSS pmax pmax
comp=N,50nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.5
YSS smax
comp=N,800nm,9.0s
YSS smax
comp=E,1μm,7.0s
YSS MLR MLR
comp=N,1μm,15.0s,MS4.9
YSS MLR MLR
comp=Z,1μm,15.0s,MS4.9
YSS MLR MLR
comp=E,1μm,14.0s,MS4.9
KMI Kunming 36.83 298 P **P** **18 42 23.2 +1.3**
KMI PP PP 18 43 49.4 +2.0
KMI PPP PPP 18 44 10.1 +2.7
KMI PCP PcP 18 44 44.2 0.0
KMI S **S** **18 48 08.6 +2.9**
KMI SCP 18 48 30.0
KMI PCS 18 48 31.3
KMI SS SS 18 50 37.7 +4.4
KMI SSS SSS 18 51 08.3 +4.5
KMI SCS ScS 18 52 36.0 +0.3
KMI AMB AMB
comp=Z,33nm,1.8s,mb4.9
KMI AMB AMB
comp=Z,1μm,6.5s
KMI LR LR
comp=N,2μm,16.9s,MS5.3
KMI LR LR
comp=E,4μm,17.5s,MS5.3
KMI LR LR
comp=Z,6μm,17.1s,MS5.4
KMI Kunming 36.83 298 P **P** **18 42 23.2 +1.3**
comp=Z,33nm,1.8s,mb4.9
KMI sP sP 18 42 27.9 +2.3
KMI PP PP 18 43 49.4 +2.0
KMI PPP PPP 18 44 10.1 +2.7
KMI PcP PcP 18 44 44.2 0.0
KMI S **S** **18 48 08.6 +2.9**
KMI sS 18 48 13.9
KMI ScP 18 48 30.0
KMI PcS 18 48 31.3
KMI SS SS 18 50 37.7 +4.4
KMI SSS SSS 18 51 08.3 +4.5
KMI ScS ScS 18 52 36.0 +0.3
KMI LR LR
comp=Z,6μm,17.1s,MS5.4
KMI Kunming 36.83 298 P **P** **18 42 23.2 +1.3**
KMI 18 43 49.4
KMI PPP PPP 18 44 10.1 +2.7
KMI 18 44 44.2
KMI S **S** **18 48 08.6 +2.9**
KMI 18 52 36.0
KMI pmax pmax
comp=Z,33nm,1.8s,mb4.9
KMI MLR MLR
comp=Z,6μm,17.1s,MS5.4
SNG Songkhla 37.43 268 P **P** **18 42 27.0 0.0**
comp=Z,160nm,0.8s,mb5.9
KULM Kulim 37.69 265⇓*e*P **P** **18 42 28.3 -0.9**
KULM *e*PcP PcP 18 44 47.0 0.0
NNT Nongplab 37.91 277 P **P** **18 42 30.5 -0.5**
CD2 Chengdu 38.06 308 P **P** **18 42 33.3 +1.2**
CD2 PP PP 18 44 04.4 +2.2
CD2 S **S** **18 48 24.0 -0.4**
CD2 AMB AMB
comp=Z,60nm,1.4s,mb5.1
CD2 AMB AMB
comp=Z,1μm,6.4s
CD2 LR LR
comp=N,3μm,18.0s
CD2 LR LR
comp=Z,2μm,14.4s,MS5.2
HHC Hu-ho-hao-te 38.49 327 *e*P **P** **18 42 36.1 +0.4**
HHC AP pP 18 42 41.1 +2.8
HHC PP PP 18 44 07.4 +0.1
HHC PCP PcP 18 44 47.6 -1.6
HHC S **S** **18 48 31.1 +0.2**
HHC SCP 18 48 34.8
HHC PCS 18 48 36.8
HHC SS SS 18 51 12.9 +2.2
HHC SCS ScS 18 52 44.5 -0.4
HHC AMB AMB
comp=Z,40nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,1μm,6.2s
HHC LR LR
comp=N,3μm,15.5s,MS5.3
HHC LR LR
comp=E,3μm,16.7s,MS5.3
HHC LR LR
comp=Z,3μm,20.2s,MS5.2
CHG Chiang Mai 38.99 287 ⇓P **P** **18 42 41.0 +0.9**
comp=Z,55nm,1.4s,mb5.1
KLR Kul'dur 39.13 353 *e*P **P** **18 42 38.0 -2.9**
KLR *e*S **S** **18 48 38.5 -1.9**
KLR *e* 18 51 30.0
KLR pmax pmax
comp=E,64nm,1.0s
KLR pmax pmax
comp=Z,200nm,1.0s,mb5.8
KLR MLR MLR
comp=E,1μm,18.0s
LZH Lanzhou 40.41 315 ⇓P **P** **18 42 52.5 +0.9**
LZH AP pP 18 42 57.3 +3.1
LZH S **S** **18 49 00.5 +0.7**
LZH SS SS 18 51 53.2 +0.4
LZH AMB AMB
comp=Z,181nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,1μm,6.3s
LZH LR LR
comp=E,3μm,13.1s
LZH LR LR
comp=Z,4μm,17.5s,MS5.3
LZH Lanzhou 40.41 315 ⇓P **P** **18 42 52.5 +0.9**
comp=Z,181nm,1.5s,mb5.6
LZH pP pP 18 42 55.7 +1.5
LZH sP sP 18 42 57.3 +2.0
LZH PP PP 18 44 09.6 -19
LZH S **S** **18 49 00.5 +0.7**
LZH sS 18 49 07.4
LZH SS SS 18 51 53.2 +0.4
LZH LR LR
comp=Z,4μm,17.5s,MS5.3
LZH Lanzhou 40.41 315 ⇓P **P** **18 42 52.5 +0.9**
LZH S **S** **18 49 00.5 +0.7**
LZH SS SS 18 51 53.2 +0.4
LZH pmax pmax
comp=Z,181nm,1.5s,mb5.6
LZH MLR MLR
comp=Z,4μm,17.5s,MS5.3
HIA Hailar 41.76 342 *e*P **P** **18 43 03.0 +0.4**
comp=Z,69nm,1.0s,mb5.2
HIA Hailar 41.76 342 *e*P **P** **18 43 03.0 +0.4**
HIA pmax pmax
comp=Z,69nm,1.0s
FORT Forrest 42.10 193 ⇓*i*P **P** **18 43 05.0 -0.6**
comp=Z,568nm,0.9s,mb6.2
FORT *i* PCP PcP 18 45 00.6 -0.4
STKA Stephens Creek 42.12 176 ⇓*i*P **P** **18 43 04.9 -0.9**
comp=Z,63nm,0.9s,mb5.2
STKA *e*PP PP 18 44 43.4 -3.2
STKA Stephens Creek 42.12 176 P **P** **18 43 04.9 -0.9**
comp=Z,58nm,0.8s,mb5.3,baz=344,slow=8.1,SNR=103
STKA PP PP 18 44 46.8 +0.2
comp=Z,24nm,0.9s,baz=351,slow=11,SNR=3.6
STKA S **S** **18 49 26.1 +0.7**
comp=Z,3.9nm,1.0s,baz=161,slow=20,SNR=2.5
NOUC Port Laguerre 42.33 140 *e*P **P** **18 43 07.9 +0.2**
DZM Mont Dzumac 42.40 140 *e*P **P** **18 43 08.5 +0.3**
DZM Mont Dzumac 42.40 140 P **P** **18 43 07.9 -0.3**
comp=Z,89nm,1.0s,mb5.3,baz=354,slow=6.5,SNR=15
DZM PcP PcP 18 45 03.0 +0.8
comp=Z,20nm,1.0s,baz=288,slow=14,SNR=3.4
DZM S **S** **18 49 32.5 +2.9**
comp=Z,4.3nm,0.7s,baz=27,slow=20,SNR=2.9
SKR Severo-Kuril's 42.77 17 *e*P **P** **18 43 01.2 -10**
SKR *e* 18 44 56.0
SKR *e*PPP PPP 18 45 32.0 +5.7
SKR *e*S **S** **18 49 31.0 -3.5**
SKR *e*SSS SSS 18 53 32.0 +5.8
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR smax
comp=N,2μm,10.0s
SKR smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=N,1μm,16.0s,MS5.1
SKR MLR MLR
comp=E,1μm,16.0s,MS5.1
SKR MLR MLR
comp=Z,2μm,16.0s,MS5.1
PBA Port Blair 44.77 276 *e*P **P** **18 43 27.1 -0.5**
GTA Gaotai 44.83 317 ⇓*i*P **P** **18 43 28.4 +0.6**
GTA AP pP 18 43 33.1 +2.7
GTA PCP PcP 18 45 10.6 +0.5
GTA PP PP 18 45 14.0 +0.4
GTA PCS 18 49 04.6
GTA S **S** **18 50 02.6 -2.1**
GTA SS SS 18 53 15.0 -2.3
GTA SCS ScS 18 53 23.6 +0.4
GTA AMB AMB
comp=Z,58nm,1.8s,mb5.1
GTA AMB AMB
comp=Z,1μm,6.5s
GTA LR LR
comp=N,1μm,13.7s,MS5.3
GTA LR LR
comp=E,2μm,16.3s,MS5.3
GTA LR LR
comp=Z,2μm,19.0s,MS5.1
PET Petropavlovsk 45.57 17 ⇓*i*P **P** **18 43 32.6 -0.8**
comp=Z,187nm,1.3s,mb5.9
PET Petropavlovsk 45.57 17*d i*P **P** **18 43 32.9 -0.5**
PET *e*S **S** **18 50 12.4 -2.7**
PET *e*SS SS 18 53 25.0 -5.5
PET *e*SSS SSS 18 54 27.3 -4.6
PET pmax pmax
comp=Z,900nm,5.0s
PET pmax pmax
comp=Z,500nm,8.0s
PET pmax pmax
comp=N,92nm,1.2s
PET pmax pmax
comp=Z,124nm,1.2s,mb5.7
PET pmax pmax
comp=E,35nm,1.1s
PET smax
comp=N,500nm,6.6s
PET smax
comp=E,500nm,6.5s
PET smax
comp=N,1μm,16.7s
PET MLR MLR
comp=Z,900nm,17.0s,MS4.8
ULN Ulaanbaatar 45.72 331 ⇓*i*P **P** **18 43 35.1 +0.5**
comp=Z,78nm,1.3s,mb5.5
ULN *e*PcP PcP 18 45 12.9 -0.1
ULN Ulaanbaatar 45.72 331 *e*P **P** **18 43 25.9 -8.7**
ULN pmax pmax
comp=Z,78nm,1.2s,mb5.5
SONM Songino Array 46.01 330 P **P** **18 43 37.6 +0.6**
comp=Z,35nm,1.0s,mb5.3,baz=139,slow=8.0,SNR=143
SONM PcP PcP 18 45 13.5 -0.6
comp=Z,25nm,0.9s,baz=147,slow=2.5,SNR=13
SONM S **S** **18 50 24.2 +2.7**
comp=Z,0.3nm,0.8s,baz=105,slow=28,SNR=2.3
SONM LR LR 19 05 59.9
comp=Z,1μm,18.1s,MS4.8,baz=134,slow=40
KLBR Kellerberrin 46.16 205 *e*P **P** **18 43 36.8 -1.6**
comp=Z,55nm,1.0s,mb5.4
KLBR *i* PCP PcP 18 45 13.5 -1.4
KLBR *i* PP PP 18 45 25.1 -1.9
CIT Chita 46.17 339 *e*P **P** **18 43 38.5 +0.3**
CIT *e* 18 45 14.0
CIT *e* 18 50 26.4
CIT pmax pmax
comp=Z,321nm,2.0s,mb5.9
SHL Shillong 46.48 295 *e*P **P** **18 43 38.6 -2.4**
CNB Canberra Magne 46.61 168⇑*i*P **P** **18 43 43.0 +1.1**
comp=Z,161nm,1.3s,mb5.8
MUN Mundaring 47.15 206⇑*i*P **P** **18 43 44.9 -1.3**
MUN *i* PCP PcP 18 45 16.9 -1.4
MUN *i* PP PP 18 45 36.2 -0.5
CLNS Chul'man 47.52 350 *e*P **P** **18 43 48.7 -0.1**
NWAO Narrogin (SRO) 47.54 204 P **P** **18 43 48.0 -1.3**
comp=Z,33nm,0.8s,mb5.4,baz=36,slow=7.7,SNR=17
NWAO PcP PcP 18 45 18.8 -0.9
comp=Z,40nm,0.7s,baz=36,slow=3.5,SNR=9.0
NWAO S **S** **18 50 43.0 -0.4**
comp=Z,6.5nm,1.0s,baz=312,slow=19,SNR=2.1
NWAO Narrogin (SRO) 47.54 204 ⇓*i*P **P** **18 43 47.4 -1.9**
comp=Z,42nm,0.9s,mb5.5
NWAO *e*PcP PcP 18 45 18.4 -1.3
NWAO Narrogin (SRO) 47.54 204 ⇓*i*P **P** **18 43 47.4 -1.9**
NWAO *e* 18 45 18.4
NWAO pmax pmax
comp=Z,42nm,0.9s
LSA Lhasa 47.97 301 P **P** **18 43 54.8 +2.1**
LSA AP pP 18 44 00.6 +5.3
LSA PP PP 18 45 47.8 +3.7
LSA S **S** **18 50 54.2 +4.7**
LSA AMB AMB
comp=Z,30nm,2.0s,mb5.0
LSA AMB AMB
comp=Z,1μm,6.7s
LSA LR LR
comp=N,810nm,20.9s,MS5.0
LSA LR LR
comp=E,1μm,23.2s,MS5.0
LSA LR LR
comp=Z,2μm,30.1s
LSA Lhasa 47.97 301 *e*P **P** **18 43 54.5 +1.8**
comp=Z,133nm,1.6s,mb5.7
LSA Lhasa 47.97 301 *e*P **P** **18 43 54.5 +1.8**
LSA pmax pmax
comp=Z,133nm,1.6s,mb5.7
TOO Toolangi 48.16 172 *e*P **P** **18 43 55.2 +1.2**
comp=Z,91nm,1.4s,mb5.6
TOO Toolangi 48.16 172 *e*P **P** **18 43 55.2 +1.2**
TOO pmax pmax
comp=Z,91nm,1.4s,mb5.6
ZAK Zakamensk 49.24 331 ⇓*i*P **P** **18 44 02.2 0.0**
ZAK *e* 18 45 25.4
ZAK pmax pmax
comp=Z,34nm,1.1s,mb5.3
ZAK pmax pmax
comp=Z,19nm,1.3s,mb5.0
CAL Calcutta 49.28 291 *e*P **P** **18 43 59.0 -3.9**
CAL *e*S **S** **18 51 09.1 +1.1**
MA2 Magadan 49.98 8 ⇓*i*P **P** **18 44 06.2 -1.6**
comp=Z,84nm,1.3s,mb5.6
MA2 Magadan 49.98 8 ⇓*i*P **P** **18 44 06.2 -1.6**
MA2 pmax pmax
comp=Z,84nm,1.3s,mb5.6
IRK Irkutsk 50.06 333 *e*P **P** **18 44 07.8 -0.6**
IRK *e* 18 45 28.6
IRK pmax pmax
comp=Z,179nm,1.8s,mb5.8
BOD Bodaibo 50.90 343 *e*P **P** **18 44 14.5 -0.2**
BOD pmax pmax
comp=Z,62nm,1.0s,mb5.5
MOY Mondy 51.18 331 *e*P **P** **18 44 17.2 +0.2**
MOY pmax pmax
comp=Z,224nm,2.5s,mb5.7
YAK Yakutsk 51.95 355 ⇓*i*P **P** **18 44 21.2 -1.6**
comp=Z,307nm,0.8s,mb6.3
YAK *e*PcP PcP 18 45 33.9 -1.5
YAK Yakutsk 51.95 355 ⇓*i*P **P** **18 44 21.2 -1.5**
YAK *e* 18 45 33.9
YAK pmax pmax
comp=Z,307nm,0.8s,mb6.3
PKI Pulchoki 52.52 297 ⇓*i*P **P** **18 44 27.3 -0.2**
comp=Z,314nm,1.5s,mb6.0
PKI Pulchoki 52.52 297 ⇓*i*P **P** **18 44 27.3 -0.2**
PKI pmax pmax
comp=Z,157nm,1.5s,mb5.7
KKN Kakani 52.67 297 ⇓*i*P **P** **18 44 28.4 -0.2**
comp=Z,461nm,1.7s,mb6.1
KKN Kakani 52.67 297 ⇓*i*P **P** **18 44 28.4 -0.2**
KKN pmax pmax
comp=Z,231nm,1.7s,mb5.8
DMN Daman 52.79 297 ⇓*i*P **P** **18 44 29.5 0.0**
comp=Z,304nm,1.3s,mb6.1
GKN Gorkha 53.26 297 ⇓*i*P **P** **18 44 32.7 -0.3**
comp=Z,534nm,1.8s,mb6.2
SEY Seymchan 53.43 8 *i* Pr **P** **18 44 33.4 -0.3**
SEY Seymchan 53.43 8*d i*P **P** **18 44 33.3 -0.4**
VIS Vishakhapatnam 53.74 284 *e*P **P** **18 44 36.8 +0.2**
VIS AMb AMB 18 44 41.8
comp=Z,158nm,2.0s,mb5.6
KOLN Koldanda 54.14 297 ⇓*i*P **P** **18 44 39.3 -0.1**
comp=Z,830nm,2.0s,mb6.3
WMQ Urumqi 54.92 317 ⇓*i*P **P** **18 44 45.4 +0.5**
WMQ AP pP 18 44 50.0 +2.4
WMQ PCP PcP 18 45 47.0 +0.2
WMQ SCP 18 49 43.5
WMQ S **S** **18 52 27.0 +2.2**
WMQ SCS ScS 18 54 30.5 -0.5
WMQ SS SS 18 56 12.0 +3.9
WMQ AMB AMB
comp=Z,91nm,1.7s,mb5.5
WMQ AMB AMB
comp=Z,917nm,5.3s
WMQ LR LR
comp=N,3μm,15.0s,MS5.6
WMQ LR LR
comp=E,2μm,14.0s,MS5.6
WMQ LR LR
comp=Z,3μm,23.0s
BLSP Bilaspur 54.97 290 *e*P **P** **18 44 45.6 -0.1**
BLSP AMb AMB 18 44 49.8
comp=Z,146nm,1.6s,mb5.8
AFI Afiamalu 55.02 115 S **S** **18 52 33.3 +6.7**
comp=Z,24nm,0.8s,baz=294,slow=13,SNR=2.4
MDRS Chennai 56.88 279 *e*P **P** **18 44 58.8 -0.5**
MDRS AMb AMB 18 45 01.9
comp=Z,197nm,1.6s,mb5.9
PALK Pallekele 57.01 272 *e*P **P** **18 45 00.4 0.0**
comp=Z,115nm,1.6s,mb5.7
LGTI Lohaghat 57.27 298 *e*P **P** **18 45 02.5 +0.5**
LGTI *ex* x 18 45 51.5
PTH Pithoragarh 57.31 298 *e*P **P** **18 45 00.3 -2.0**
PTH *ex* x 18 45 47.9
NGP Nagpur 57.81 288 *e*P **P** **18 45 05.7 -0.2**
NGP AMb AMB 18 45 09.9
comp=Z,103nm,1.6s,mb5.6
HYB Hyderabad 58.30 284 *i* P **P** **18 45 09.0 -0.3**
HYB *e*S **S** **18 53 16.0 +6.0**
HYB Hyderabad 58.30 284 *e*P **P** **18 45 09.0 -0.3**
HYB *e*S **S** **18 53 16.0 +6.0**
KLP Kalpa 59.23 300 *e*P **P** **18 45 15.3 -0.4**
KLP AMb AMB 18 45 18.8
comp=Z,107nm,1.5s,mb5.6
BHPL Bhopal 59.36 291 *e*P **P** **18 45 16.5 -0.2**
BHPL AMb AMB 18 45 18.5
comp=Z,103nm,1.6s,mb5.6
MK02 Makanchi Array 59.50 319 P **P** **18 45 16.9 -0.4**
MK02 pmax pmax
comp=Z,637nm,1.6s,mb6.4
MKAR Makanchi Array 59.52 319 P **P** **18 45 17.3 -0.2**
comp=Z,38nm,0.7s,mb5.5,baz=100,slow=7.4,SNR=170
MKAR PcP PcP 18 46 03.9 -0.8
comp=Z,19nm,0.6s,baz=99,slow=5.6,SNR=8.8
MKAR PKPPKP 19 14 47.2
comp=Z,0.8nm,1.0s,baz=225,slow=1.7,SNR=4.6
MKAR PKP2bc 19 14 54.0
comp=Z,1.3nm,0.9s,baz=297,slow=2.7,SNR=8.6
MKAR Makanchi Array 59.52 319 P **P** **18 45 17.3 -0.2**
MKAR PcP PcP 18 46 03.9 -0.8
MKAR P'P' 19 14 47.2
MKAR ⇑*e* 19 14 54.0
SONA Sohna 59.92 297 *e*P **P** **18 45 18.3 -2.2**
SONA AMb AMB 18 45 22.5
comp=Z,67nm,2.0s,mb5.3
BILL Bilibino 60.47 12 *e*P **P** **18 45 22.8 -0.9**
comp=Z,184nm,1.5s,mb5.9
BILL Bilibino 60.47 12*d i*P **P** **18 45 22.0 -1.7**
BILL pmax pmax
comp=Z,153nm,1.7s,mb5.8
BILL MLR MLR
comp=Z,400nm,16.0s,MS4.7
KHET Khetri 61.03 296 *e*P **P** **18 45 26.4 -1.7**
KHET AMb AMB 18 45 30.4
comp=Z,82nm,0.2s,mb6.6
THN Thein Dam 61.47 301 *e*P **P** **18 45 29.1 -1.8**
TIXI Tiksi 61.51 357 *i* Pr **P** **18 45 29.3 -1.4**
TIXI Tiksi 61.51 357 *e*P **P** **18 45 26.6 -4.1**
TIXI *e*S **S** **18 53 40.0 -11**
TIXI pmax pmax
comp=Z,33nm,1.0s,mb5.4
TIXI MLR MLR
comp=Z,647nm,15.0s,MS4.9
NVS Novosibirsk 61.88 327 ⇓*i*P **P** **18 45 31.7 -1.8**
NVS *e*S **S** **18 53 53.5 -2.1**
NVS pmax pmax
comp=N,105nm,1.7s
NVS pmax pmax

comp=E,166nm,1.7s
NVS pmax pmax
comp=Z,217nm,1.7s,mb6.0
NVS smax
comp=E,89nm,2.8s
AJM Ajmer 61.99 294 ⇓*i*P **P 18 45 33.0 -1.6**
AKUT Akutan 61.99 33 *e*P **P 18 45 33.2 -1.0**
AKUT LR LR
comp=Z,2µm,21.0s,MS5.2
MNGI Mangalore 62.16 279 *e*P **P 18 45 35.6 -0.2**
MNGI AMb AMB 18 45 43.5
comp=Z,97nm,1.2s,mb5.8
KSH Kashi 62.23 309 *i*PR **P 18 45 37.7 +1.7**
KSH *e*AP pP 18 45 42.5 +3.8
KSH *e*PP PP 18 47 55.0 0.0
KSH *e*PCS 18 50 19.7
KSH *e*S **S 18 53 59.1 -1.0**
KSH *e*SCS ScS 18 55 26.0 +1.4
KSH *e*SS SS 18 58 03.5 -1.6
KSH AMB AMB
comp=Z,830nm,3.7s
KSH LR LR
comp=N,2µm,17.3s,MS5.5
KSH LR LR
comp=E,1µm,13.1s,MS5.5
AAA Alma-Ata 62.23 314 *i*P **P 18 45 36.2 +0.3**
AAA *i*S **S 18 54 03.9 +3.8**
AAA pmax pmax
comp=Z,1µm,6.7s
AAA smax
comp=E,2µm,9.1s
AAA MLR MLR
comp=Z,2µm,14.4s,MS5.3
ULHL Ulahol 62.53 312 P **P 18 45 38.3 +0.4**
SNR=41
KURK Kurchatov 63.05 322 ⇓*i*P **P 18 45 40.5 -0.8**
comp=Z,289nm,0.9s,mb6.4
KURK Kurchatov 63.05 322 ⇓*i*P **P 18 45 40.5 -0.7**
KURK pmax pmax
comp=Z,289nm,0.9s,mb6.4
TKM2 Tokmak 2 63.13 313 P **P 18 45 42.9 +1.0**
SNR=25
KZA Kyzart 63.22 312 P **P 18 45 44.6 +2.1**
SNR=31
HKL Haleakala 63.47 72 *e*P **P 18 45 45.3 +0.9**
KBK Karagaybulak 63.55 313 P **P 18 45 45.7 +1.0**
SNR=29
CHMS Chumysh 63.75 313 P **P 18 45 46.5 +0.5**
SNR=30
UCH Uchtor 63.78 312 P **P 18 45 47.4 +1.2**
SNR=58
FRU Bishkek 63.82 313 ⇓*i*P **P 18 45 46.0 -0.4**
FRU *e* 18 54 30.0
FRU pmax pmax
comp=Z,220nm,2.0s,mb5.8
FRU MLR MLR
comp=Z,2µm,16.0s,MS5.3
AAK Ala-Archa 63.87 312 P **P 18 45 47.7 +0.9**
SNR=8.6
AAK Ala-Archa 63.87 312 ⇓*i*P **P 18 45 45.8 -1.0**
comp=Z,24nm,1.1s,mb5.1
AAK Ala-Archa 63.87 312 ⇓*i*P **P 18 45 45.8 -1.0**
AAK pmax pmax
comp=Z,24nm,1.1s,mb5.1
USP Ospenovka 63.98 313 P **P 18 45 48.1 +0.6**
SNR=28
POHA Pohakuloa 64.18 73 *e*P **P 18 45 49.1 -0.1**
comp=Z,928nm,0.8s
AML Almayashu 64.37 312 P **P 18 45 50.7 +0.6**
SNR=38
EKS2 Erkin-Say 64.40 312 P **P 18 45 50.4 +0.2**
SNR=43
SDPT Sand Point 65.29 33 *e*P **P 18 45 55.0 -0.8**
SDPT LR LR
comp=Z,900nm,21.0s,MS4.9
CHGN Chignik 66.69 33 *e*P **P 18 46 03.6 -1.1**
KKAR Karatay Array 66.83 312 *i*P **P 18 46 05.3 -0.6**
VOSK Vostochnaya 68.16 323 *i*P **P 18 46 12.9 -1.1**
BVA0 Borovoye Array 68.57 323 *i*P **P 18 46 16.1 -0.5**
BVA0 pmax pmax
comp=Z,26nm,1.0s,mb5.1
BVAR Borovoye Array 68.57 323 P **P 18 46 16.5 -0.1**
comp=Z,103nm,0.8s,mb5.8,baz=112,slow=8.0,SNR=551
BVAR S S 18 55 19.1 +1.5
comp=Z,0.2nm,0.3s,baz=32,slow=46,SNR=2.2
BVAR PKPPKP 19 14 25.6
comp=Z,0.5nm,0.8s,baz=135,slow=2.0,SNR=2.8
BRVK Borovoye 68.64 323 ⇓*i*P **P 18 46 16.5 -0.5**
comp=Z,104nm,0.8s,mb5.8
BRVK Borovoye 68.64 323 P **P 18 46 15.0 -2.0**
BRVK pmax pmax
comp=Z,100nm,0.9s,mb5.8
SVW2 Sparrevohn 69.49 28 *e*P **P 18 46 22.1 0.0**
TTA Tatalina 69.83 26 *e*P **P 18 46 24.4 +0.3**
KDAK Kodiak Island 70.15 32 *e*P **P 18 46 26.4 +0.2**
KDAK LR LR
comp=Z,800nm,19.0s,MS5.0
RSO Redoubt South 70.67 29 *e*P **P 18 46 28.7 -0.6**
SPU Mount Spurr 71.17 29 *e*P **P 18 46 31.8 -0.5**
IMA Indian Mountai 71.70 23 *e*P **P 18 46 35.8 +0.4**
SLKM Skilak Lake 71.90 30 *e*P **P 18 46 35.8 -0.9**
PMR Palmer 72.63 29 *e*P **P 18 46 46.4 +5.4**
comp=Z,92nm,0.9s,mb5.7
PMR LR LR
comp=Z,1µm,21.0s,MS5.1
PMR Palmer 72.63 29 *e*P **P 18 46 46.4 +5.4**
PMR pmax pmax
comp=Z,92nm,0.9s,mb5.7
PMR MLR MLR
comp=Z,1µm,21.0s,MS5.1
ILAR Eielson Array 74.18 25 P **P 18 46 48.2 -1.8**
comp=Z,25nm,0.8s,mb5.2,baz=252,slow=6.3,SNR=202
ILAR S S 18 56 22.8 +0.7
comp=Z,0.2nm,0.5s,baz=44,slow=4.7,SNR=4.2
ILAR LR LR 19 17 14.9
comp=Z,1µm,21.1s,MS5.2,baz=266,slow=34
AB31 Akbulak array 74.67 318 *i*P **P 18 46 52.6 -0.5**
AB31 pmax pmax
comp=Z,67nm,1.0s,mb5.5
SVE Sverdlovsk 74.67 326 ⇓*i*P **P 18 46 52.5 -0.5**
SVE *e* 18 47 06.2
SVE *e* 18 49 34.0
SVE *e*S S 18 56 28.0 +0.2
SVE *e* 18 57 03.0
SVE pmax pmax
comp=Z,320nm,1.9s,mb5.9
SVE MLR MLR
comp=N,700nm,16.0s,MS5.6
SVE MLR MLR
comp=E,2µm,16.0s,MS5.6
SVE MLR MLR
comp=Z,2µm,16.0s,MS5.6
ARU Arti 75.79 326 ⇓*i*P **P 18 46 58.3 -1.0**
comp=Z,106nm,0.8s,mb5.8
AKTO Aktyubinsk 75.94 319 P **P 18 46 59.9 -0.5**
AKTO pmax pmax
comp=Z,82nm,2.0s,mb5.3
WBK Wadi Bani Khal 76.37 291 ⇑P **P 18 47 03.9 +0.6**
SNR=15
PPT Papeete 76.38 111 *e*P **P 18 47 05.0 +1.5**
comp=Z,91nm,1.3s,mb5.5
PPT Papeete 76.38 111 *e*SS SS 19 01 40.0 -4.6
PPT *e*LR LR 19 10 12.8
comp=Z,7µm,25.0s,baz=292
PPT Papeete 76.38 111 LR LR 19 12 55.1
comp=Z,3µm,21.7s,MS5.6,baz=251,slow=30
PAE Paea 76.40 111 *e*P **P 18 47 04.5 +0.9**
comp=Z,327nm,1.4s,mb6.1
TVO Taravao 76.73 111 *e*P **P 18 47 07.0 +1.6**
comp=Z,118nm,1.1s,mb5.7
DRV Dumont d'Urvil 76.84 179 P **P 18 47 05.0 -0.1**
DRV S S 18 57 04.0 +13
DRV L 19 07 00.0
BIDO Bidbid 77.06 292 P **P 18 47 07.8 +0.6**
SNR=29
SMDO Samad 77.17 291 ⇓P **P 18 47 08.4 +0.6**
SNR=9.2
JMDO Jabal Madar 77.19 291 P **P 18 47 08.4 +0.5**
SNR=9.2
PMOR Pomariorio Ree 77.28 108 *e*P **P 18 47 09.9 +1.4**
comp=Z,213nm,1.3s,mb5.9
VAH Vaihoa 77.58 108 *e*P **P 18 47 11.1 +0.9**
comp=Z,111nm,1.3s,mb5.7
HOQ Hoqain 77.79 292 P **P 18 47 11.7 +0.5**
SNR=41
BSY Bisya 77.98 291 ⇑P **P 18 47 12.2 -0.1**
SNR=14
TBI Tubuai 78.09 117 *e*SS SS 19 02 04.3 -5.9
TBI *e*LQ 19 08 12.4
TBI *e*LR LR 19 10 45.2
comp=Z,6µm,32.8s,baz=290
BANOM Banah 78.46 294 ⇑P **P 18 47 15.7 +0.9**
ARQ Araqi 78.54 292 P **P 18 47 15.7 +0.3**
SNR=63
ASHO Ashiyiah 78.81 293 P **P 18 47 17.3 +0.5**
SNR=12
CASY Casey 79.14 191 ⇓*i*P **P 18 47 16.7 -1.0**
SIT Sitka 79.37 34 *e*P **P 18 47 18.6 -0.6**
SIT LR LR
comp=Z,400nm,19.0s,MS4.8
SIT Sitka 79.37 34 P **P 18 47 20.3 +1.1**
SIT pmax pmax
comp=Z,98nm,1.2s,mb5.6
INK Inuvik 79.74 22 P **P 18 47 20.6 -0.4**
comp=Z,29nm,0.8s,mb5.2,baz=272,slow=6.5,SNR=39
INK S S 18 57 22.1 -0.3
comp=Z,2.6nm,1.0s,baz=345,slow=18,SNR=2.3
CRAG Craig 80.70 35 *e*P **P 18 47 27.4 +1.1**
CRAG LR LR
comp=Z,700nm,21.0s,MS5.0
RBK Rabkut 81.44 286 ⇑P **P 18 47 30.7 -0.2**
SNR=13
WHFO Wadi Hawf 81.79 287 ⇑P **P 18 47 32.4 -0.3**
SNR=15
ABTO Aybut 82.32 286 ⇑P **P 18 47 35.2 -0.2**
SNR=12
TAOE Nuku Hiva Isla 83.30 100 *e*SS SS 19 03 29.5 +1.3
TAOE *e*LR LR 19 13 02.8
comp=Z,10µm,32.3s,baz=296
MIR Mirnyy 83.53 197*c i*P **P 18 47 41.2 +0.5**
MIR pmax pmax
comp=Z,249nm,1.2s,mb6.2
MAK Makhachkala 83.65 312 *e*P **P 18 47 43.8 +1.9**
MAK *e*PPP PPP 18 52 46.0 -4.8
MAK *e* 18 57 59.8
MAK *e*S S 18 58 06.0 +2.9
MAK *e*PS PS 18 59 10.0 +13
MAK pmax pmax
comp=Z,510nm,1.7s,mb6.4
MAK pmax pmax
comp=Z,2µm,7.0s
MAK smax
comp=E,500nm,2.0s
MAK MLR MLR
comp=Z,1µm,15.0s,MS5.4
BBB Bella Bella 84.04 38 P **P 18 47 44.0 +0.3**
comp=Z,41nm,0.9s,mb5.5,baz=275,slow=3.4,SNR=6.6
BBB Bella Bella 84.04 38 P **P 18 47 44.0 +0.3**
KRNR Karanay 84.11 312 *e*P **P 18 47 43.4 -0.8**
KRNR *i*S S 18 57 57.2 -10
HASS Wahat al Ahsa' 84.47 294 P **P 18 47 46.2 -0.3**
DGRG David-gareji 85.45 311 P **P 18 47 50.8 -0.1**
LVZ Lovozero 85.57 338 *i*Pr **P 18 47 49.9 -1.0**
LVZ Lovozero 85.57 338*d i*P **P 18 47 49.8 -1.1**
LVZ pmax pmax
comp=Z,73nm,1.7s,mb5.6
LVZ MLR MLR
comp=Z,700nm,21.0s,MS5.0
SAMG Sameba 85.82 311 P **P 18 47 56.2 +3.4**
MTA Mtatsminda 85.84 311 P **P 18 47 53.3 +0.4**
MTA S S 18 58 24.5 -0.1
TI2 Plekhanov 85.86 312 *i*P **P 18 47 54.4 +1.4**
TI2 pmax pmax
comp=Z,30nm,0.4s,mb5.9
TBLG Delisi 85.87 312 P **P 18 47 52.7 -0.4**
TBLG Delisi 85.87 312 P **P 18 47 54.2 +1.1**
APA Apatity 86.12 338 ⇓*i*P **P 18 47 53.2 -0.5**
APA *e*S S 18 58 24.0 -2.7
APA *e*PS PS 18 59 26.0 -1.4
APA pmax pmax
comp=Z,32nm,0.7s,mb5.7
APA MLR MLR
comp=Z,2µm,16.0s,MS5.5
GNI Garni 86.15 310 P **P 18 47 55.8 +1.3**
comp=Z,4.3nm,0.4s,mb5.1,baz=159,slow=23,SNR=10
GNI S S 18 58 24.5 -3.2
comp=Z,1.1nm,0.3s,baz=335,slow=19,SNR=2.4
GNI Garni 86.15 310 *e*P **P 18 47 55.2 +0.7**
comp=Z,169nm,1.4s,mb6.1
GNI Garni 86.15 310*d i*P **P 18 47 54.6 +0.1**
GNI pmax pmax
comp=Z,156nm,1.7s
GNI MLR MLR
comp=Z,500nm,19.0s
VRHR Novokhopersk 86.22 321*d i*P **P 18 47 53.2 -1.4**
VRHR *e*SP sP 18 48 11.4 +13
VRHR *e* 18 58 18.5
VRHR *e*S S 18 58 26.1 -1.9
VRHR *e*SP SP 18 59 19.2 -8.5
VRHR *e*SS SS 19 04 01.3 -9.1
VRHR pmax pmax
comp=Z,130nm,0.7s,mb6.3
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR smax
comp=N,420nm,8.3s
VRHR smax
comp=Z,90nm,9.5s
VRHR smax
comp=E,260nm,11.7s
VRHR MLR MLR
comp=Z,630nm,16.0s,MS5.1
VRHR MLR MLR
comp=N,990nm,19.0s,MS5.3
VRHR MLR MLR
comp=E,580nm,18.0s,MS5.3
ZEI Tsey 86.30 313 *e*P **P 18 47 52.8 -2.4**
ZEI pmax pmax
comp=Z,76nm,1.0s,mb5.9
KBS Kingsbay 86.41 351 *e*P **P 18 47 53.6 -1.4**
KBS AMS AMS 19 38 05.6
comp=Z,391nm,16.9s,MS4.9
KBS Kingsbay 86.41 351 P **P 18 47 55.5 +0.5**
KBS pmax pmax
comp=Z,48nm,0.9s,mb5.7
GOF Gofitskoye 86.48 315 *e*P **P 18 47 55.5 -0.5**
GOF pmax pmax
comp=Z,57nm,1.0s,mb5.8
ONI Oni 86.66 313 P **P 18 47 57.4 +0.5**
BKR Bakuriani 86.78 312 P **P 18 47 57.2 -0.3**
AKH Akhalkalaki 86.85 311 P **P 18 47 59.2 +1.3**
KIV Kislovodsk 86.94 314 ⇓*e*P **P 18 47 57.8 -0.5**
comp=Z,46nm,0.9s,mb5.7
KIV Kislovodsk 86.94 314*d i*P **P 18 47 57.7 -0.6**
KIV *e*PP pP 18 48 10.3 +9.2
KIV pmax pmax
comp=Z,90nm,1.7s,mb5.7
KIV MLR MLR
comp=Z,600nm,18.0s,MS5.0
OTR Olympics--Tyee 87.19 42 P **P 18 48 01.4 +2.0**
OOW Octopus West 87.36 42 P **P 18 48 02.4 +2.2**
OCWA Octopus Mounta 87.37 42 ⇓*i*P **P 18 48 01.6 +1.3**
comp=Z,335nm,1.4s,mb6.4
OBC Olympics--Boni 87.37 42 P **P 18 48 02.1 +1.9**
RYDS Riyadh 87.38 294 P **P 18 48 00.7 -0.2**
HAKT HAKKARI 87.42 308 *i*P **P 18 47 58.1 -2.7**
MOS Moscow 87.49 326 *e*P **P 18 47 59.1 -1.5**
MOS *e* 18 48 11.7
MOS *e* 18 51 20.5
MOS *e*S S 18 58 33.2 -6.8
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.3
MOS pmax pmax
comp=Z,181nm,1.2s,mb6.2
MOS MLR MLR
comp=Z,3µm,20.5s,MS5.7
KEV Kevo 87.54 341 *ep* **P 18 47 58.8 -1.8**
comp=Z,24nm,0.8s,mb5.5
KEV Kevo 87.54 341 *e*P **P 18 47 58.8 -1.8**
KEV pmax pmax
comp=Z,24nm,0.8s,mb5.5
VOR Voronezh 87.56 322 P **P 18 48 00.0 -1.1**
VOR *e*PP pP 18 48 11.5 +7.7
VOR *e* 18 51 26.5
VOR pmax pmax
comp=Z,110nm,1.5s,mb5.9
VOR pmax pmax
comp=N,40nm,1.8s
VOR pmax pmax
comp=E,60nm,1.8s
VOR pmax pmax
comp=Z,60nm,1.6s,mb5.6
VOR pmax pmax
comp=E,70nm,1.4s
OSR Olympics--Salm 87.56 42 P **P 18 48 03.2 +2.1**
VORD Divnogorie 87.68 321 *i*P **P 18 48 00.3 -1.4**
VORD *e*SP sP 18 48 10.1 +4.8
VORD *e* 18 58 23.8
VORD *e*S S 18 58 43.4 +1.4
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=Z,60nm,0.8s,mb5.9
VORD pmax pmax
comp=E,80nm,0.6s
VORD smax
comp=E,210nm,8.4s
VORD smax
comp=Z,100nm,7.9s
VORD smax
comp=N,350nm,8.6s
VRSR Storozhevoye 87.69 322 *e*P **P 18 48 00.1 -1.6**
VRSR *e* 18 58 40.7
VRSR pmax pmax
comp=N,20nm,0.7s
VRSR pmax pmax
comp=Z,90nm,0.7s,mb6.1
VRSR pmax pmax
comp=E,30nm,0.6s
BHD Baghdad 87.69 303 *ex* x 18 47 59.0
BHD Baghdad 87.69 303 *ex* x 18 58 27.0
ARTV Artvin 88.05 311 *i*P **P 18 48 04.5 +0.8**
ARCES ARCESS Array B 88.11 341 P **P 18 48 02.2 -1.1**
comp=E,29nm,0.8s,mb5.5,baz=72,slow=7.6,SNR=80
ARCES S S 18 58 34.7 -11
comp=E,1.8nm,0.9s,slow=29,SNR=2.8
ARCES LR LR 19 35 28.1
comp=E,968nm,18.1s,MS5.3,baz=63,slow=41
AREO ARCESS Array S 88.11 341 ⇓*i*P **P 18 48 02.6 -0.7**
MSL Mosul 88.15 306 *ex* x 18 48 20.5
MSL Mosul 88.15 306 *ex* x 18 59 01.0
OBN Obninsk 88.23 326 ⇓*i*P **P 18 48 02.7 -1.5**
comp=E,270nm,1.4s,mb6.3
OBN LR LR
comp=Z,399nm,21.0s,MS4.8
OBN Obninsk 88.23 326*d i*P **P 18 48 02.9 -1.3**
OBN *e* 18 48 15.4
OBN *e* 18 51 29.1
OBN *e* 18 58 27.3
OBN pmax pmax
comp=Z,245nm,1.7s,mb6.2
OBN MLR MLR
comp=Z,1µm,16.0s,MS5.4
VDB Vedder Mountai 88.42 40 P **P 18 48 06.0 +0.7**
JOF Joensuu 88.46 334 *ep* **P 18 48 03.2 -1.9**
comp=Z,46nm,0.8s,mb5.8
MPOR Mary's Peak 88.51 45 P **P 18 48 07.6 +1.8**
KBO Bosley Butte 88.53 47 ⇓*i*P **P 18 48 07.0 +1.0**
YKA Yellowknife Ar 88.58 26 P **P 18 48 05.5 -0.2**
comp=Z,6.1nm,0.6s,mb5.1,baz=290,slow=4.5,SNR=38
YKA PKKPbc 19 05 46.3
comp=Z,1.3nm,0.7s,baz=117,slow=6,SNR=5.6
YKA LR LR 19 26 15.9
comp=Z,1µm,21.5s,MS5.3,baz=285,slow=35
COR Corvallis 88.66 45 ⇓*i*P **P 18 48 07.2 +0.6**
comp=Z,137nm,1.2s,mb6.2
COR Corvallis 88.66 45 P **P 18 48 08.3 +1.8**
COR pmax pmax
comp=Z,140nm,1.2s,mb6.2
MZLS Mizel 88.69 294 P **P 18 48 07.2 +0.1**
ERZM Erzurum 88.74 310 *i*P **P 18 48 05.7 -1.3**
VNDA Vanda 88.76 175 P **P 18 48 06.3 +0.1**
comp=Z,12nm,0.8s,mb5.3,baz=323,slow=5.7,SNR=56
VNDA PP PP 18 51 34.8 -2.8
comp=Z,8.3nm,1.1s,baz=336,slow=9.6,SNR=3.2
VNDA PKKPbc 19 05 47.6
comp=Z,0.6nm,0.9s,baz=234,slow=5.0,SNR=3.0
VNDA LR LR 19 30 34.0
comp=Z,758nm,18.9s,MS5.1,baz=347,slow=37
VNDA Vanda 88.76 175 P **P 18 48 06.3 0.0**
VNDA PP PP 18 51 34.8 -2.8
VNDA PKKPbc 19 05 47.6
VNDA LR LR 19 30 34.0
KRMB Red Mountain 88.92 48 ⇓*e*P **P 18 48 08.7 +0.9**
RPW Rockport 88.94 41 P **P 18 48 08.7 +0.9**
BNGL BINGOL 89.11 309 *i*P **P 18 48 11.4 +2.6**
SOC Sochi 89.12 314*c i*P **P 18 48 05.3 -3.4**
SOC *e* 18 51 46.9
SOC *e*PPP PPP 18 53 35.3 -5.0
SOC *e*S 18 58 30.6
SOC *e*SSS SSS 19 08 26.5 0.0
SOC pmax pmax
comp=N,73nm,1.3s
SOC pmax pmax
comp=Z,78nm,1.3s,mb5.9
SOC pmax pmax
comp=E,52nm,0.9s
SSOR Sweet Springs 89.19 45 P **P 18 48 10.2 +1.2**
KHMM Horse Mountain 89.19 49 ⇓*e*P **P 18 48 10.2 +1.1**
BEST Besiri 89.25 308 *i*P **P 18 48 09.5 +0.1**
VLMM Larch Mountain 89.31 44 P **P 18 48 10.9 +1.3**
BROR Big Rock Looko 89.33 45 P **P 18 48 10.7 +1.0**
WPW White Pass 89.36 43 P **P 18 48 11.0 +1.2**
HUMO Hull Mountain 89.36 47 ⇓*i*P **P 18 48 10.3 +0.4**
comp=E,85nm,1.3s,mb5.9
BBOR Butler Butte 89.50 47 P **P 18 48 11.7 +1.2**
SBA Scott Base 89.51 174 ⇓*e*P **P 18 48 11.0 +1.1**
comp=E,178nm,1.7s,mb6.1
SBA Scott Base 89.51 174 P **P 18 48 10.8 +0.9**
SBA pmax pmax
comp=Z,180nm,1.7s,mb6.1
KCPM Cahto Peak 89.57 50 ⇓*i*P **P 18 48 11.8 +0.8**
KIPM Iron Peak 89.62 50 *e*P **P 18 48 12.5 +1.3**
TWW Teanaway 89.70 42 P **P 18 48 13.4 +2.0**
YBH Yreka Blue Hor 89.75 48 ⇓*i*P **P 18 48 12.2 +0.5**
comp=Z,78nm,1.3s,mb5.9
YBH Yreka Blue Hor 89.75 48 P **P 18 48 13.2 +1.5**
YBH pmax pmax
comp=Z,78nm,1.2s
MARD Mardin 89.75 308 *i*P **P 18 48 09.8 -2.1**
VFP Flag Point 89.76 44 P **P 18 48 12.9 +1.2**
EBG Ellensburg 89.95 42 P **P 18 48 13.8 +1.3**
TRO Tromso 90.10 342 *e*P **P 18 48 11.2 -1.5**
TRO *e* 18 59 06.2
TRO AMS AMS 19 35 19.7
comp=Z,762nm,15.6s,MS5.2
LHEM Herd Peak 90.13 48 P **P 18 48 14.9 +1.4**
WDC Whiskeytown Da 90.14 49 ⇓*i*P **P 18 48 14.0 +0.4**
comp=Z,122nm,1.6s,mb6.0
WDC Whiskeytown Da 90.14 49 ⇓*i*P **P 18 48 14.0 +0.4**
WDC pmax pmax
comp=Z,122nm,1.6s,mb6.0
KELT Kelkit 90.26 311 *i*P **P 18 48 13.7 -0.5**
ANN Anapa 90.42 316*d i*P **P 18 48 13.1 -1.7**
ANN *e*PP pP 18 48 30.2 +13
ANN *e* 18 58 47.0
ANN *e* 18 59 07.1
ANN pmax pmax
comp=Z,183nm,1.0s,mb6.4
EPH Ephrata 90.47 42 P **P 18 48 15.7 +0.7**
NSHM Saint Helena R 90.58 51 *e*P **P 18 48 16.4 +0.8**
HAWA Hanford 90.78 43 ⇓*i*P **P 18 48 16.4 +0.1**
comp=Z,10nm,1.7s,mb4.9
KAF Kangasniemi 90.91 334 *ep* **P 18 48 14.4 -2.2**
comp=Z,43nm,0.7s,mb5.9,baz=63,slow=4.4
KAF Kangasniemi 90.91 334 *e*P **P 18 48 14.4 -2.2**
KAF pmax pmax
comp=Z,43nm,0.7s,mb5.9
LBCM Butte Creek Ri 90.96 48 P **P 18 48 18.5 +1.2**
RKT Rikitea 90.97 113 *e*PS PS 19 00 17.3 -8.4
RKT Rikitea 90.97 113 *e*SKSac 18 58 42.1
RKT *e*SS SS 19 05 18.1 -1.5
RKT *e*LR LR 19 17 04.8
comp=Z,4µm,31.8s,baz=291
HILS Ha'il 91.05 298 P **P 18 48 18.6 +0.5**
OHCM Honcut 91.23 50 *e*P **P 18 48 18.4 -0.2**
FINES FINESS Array B 91.29 334 P **P 18 48 17.3 -1.0**
comp=Z,25nm,0.6s,mb5.7,baz=90,slow=5.7,SNR=160
FINES LR LR 19 30 22.8
comp=Z,937nm,19.9s,MS5.2,baz=238,slow=36
MALT Malatya 91.33 309 ⇑*i*P **P 18 48 19.0 -0.1**
comp=Z,99nm,1.8s,mb5.8
MALT Malatya 91.33 309 ⇑*i*P **P 18 48 19.0 -0.1**

MALT pmax pmax
comp=Z,99nm,1.8s,mb5.8
DJNS Zahran al Janu 91.42 288 P P 18 48 21.2 +1.2
MOD Modoc 91.45 47⇓ iP P 18 48 19.8 +0.3
comp=Z,80nm,1.3s,mb5.9
NEW Newport 91.81 40⇓ iP P 18 48 20.7 -0.4
comp=Z,76nm,1.5s,mb5.8
NEW Newport 91.81 40⇓ iP P 18 48 20.7 -0.4
NEW pmax pmax
comp=Z,76nm,1.5s
SAO San Andreas Ge 91.89 52 eP P 18 48 20.8 -0.9
comp=Z,56nm,1.6s,mb5.7
SAO San Andreas Ge 91.89 52 eP P 18 48 20.8 -1.0
SAO pmax pmax
comp=Z,56nm,1.6s,mb5.6
BEKR Beckwourth 91.94 49⇓ eP P 18 48 22.0 +0.2
comp=Z,98nm,1.5s,mb5.9
DAG Danmarks Havn 91.98 355⇓ iP P 18 48 20.8 -0.5
comp=Z,24nm,0.9s,mb5.5
DAG Danmarks Havn 91.98 355⇓ iP P 18 48 20.8 -0.5
DAG pmax pmax
comp=Z,24nm,0.9s,mb5.5
VSU Vasula 92.21 331 i Pr P 18 48 21.6 -1.0
GZT Gaziantep 92.23 308 i P P 18 48 21.6 -1.7
CMB Columbia Colle 92.39 51⇓ iP P 18 48 24.3 +0.3
comp=Z,86nm,1.4s,mb5.9
CMB Columbia Colle 92.39 51⇓ iP P 18 48 24.3 +0.3
CMB pmax pmax
comp=Z,86nm,1.4s,mb5.9
SIM Simferopol' 92.64 316 eP P 18 48 24.4 -0.6
SIM Simferopol' 92.64 316⇑ eP P 18 48 24.3 -0.7
SIM e 18 52 07.1
SIM PS PS 19 00 51.1 +6.5
SIM pmax pmax
comp=Z,54nm,0.7s,mb6.1
KAHT Ahir Dag 92.69 309 i P P 18 48 25.5 +0.1
BMO Blue Mountains 92.72 44⇓ iP P 18 48 25.2 -0.1
comp=Z,36nm,1.0s,mb5.8
BMO Blue Mountains 92.72 44 P P 18 48 25.8 +0.5
BMO pmax pmax
comp=Z,36nm,1.0s,mb5.8
BLJS Baljurashi 92.79 291 P P 18 48 26.7 +0.5
BOYT Boyabat 93.12 313 iP P 18 48 25.9 -1.4
PTRM Twissleman Ran 93.14 53 eP P 18 48 27.6 +0.1
MNK Minsk 93.21 327⇑ iP P 18 48 24.0 -3.4
AKASG Malin Array Be 93.85 323 P P 18 48 28.4 -1.9
comp=Z,8.5nm,0.7s,mb5.3,baz=53,slow=4.4,SNR=52
AKASG PP PP 18 52 17.8 -1.1
comp=Z,0.4nm,0.5s,baz=59,slow=7.5,SNR=5.5
AKASG S 18 59 09.5
comp=Z,0.1nm,0.2s,baz=227,slow=36,SNR=2.7
AKASG PKKPbc 19 05 33.2
comp=Z,0.2nm,0.2s,baz=284,slow=2.1,SNR=5.9
AKASG Malin Array Be 93.85 323 P P 18 48 28.4 -1.9
AKASG PP PP 18 52 17.8 -1.1
AKASG S 18 59 09.5
AKASG PKKPbc 19 05 33.2
NVAR Mina Array Bea 93.86 50 PKKPbc 19 05 33.9
baz=112,slow=4.9
AVNT Avonos 93.91 310 i P P 18 48 29.7 -1.2
MTUM Tungsten Hills 93.97 51 eP P 18 48 31.3 +0.1
CDAG Cicekdag 94.03 311 i P P 18 48 29.4 -2.1
MAW Mawson 94.06 202⇑ iP P 18 48 31.3 +0.3
comp=Z,19nm,1.2s,mb5.4
MAW Mawson 94.06 202 P P 18 48 31.0 +0.1
comp=Z,21nm,1.0s,mb5.5,baz=66,slow=5.2,SNR=24
MAW Mawson 94.06 202 eP P 18 48 30.0 -1.0
ASF Jabal al Asfar 94.08 304 P P 18 48 32.1 +0.2
comp=Z,5.8nm,0.8s,mb5.0,baz=326,slow=2.4,SNR=9.6
BMN Battle Mountai 94.09 48⇓ iP P 18 48 32.2 +0.4
comp=Z,78nm,1.8s,mb5.8
BMN Battle Mountai 94.09 48 P P 18 48 33.1 +1.3
BMN pmax pmax
comp=Z,78nm,1.7s,mb5.9
BALT Daday 94.18 313 i P P 18 48 30.7 -1.4
MSO Missoula 94.31 41 eP P 18 48 31.9 -0.7
comp=Z,19nm,1.4s,mb5.3
BR131 Keskin Array S 94.54 312 eP P 18 48 31.9 -2.0
comp=Z,4.0nm,0.8s,mb4.9
BRTR Keskin Array B 94.54 312 P P 18 48 32.4 -1.4
comp=Z,4.3nm,0.8s,mb5.0,baz=99,slow=4.9,SNR=17
CHMT Chamberlain Mo 94.73 41 eP P 18 48 34.5 -0.1
TPH Tonopah 94.78 50⇓ iP P 18 48 35.0 0.0
comp=Z,30nm,1.1s,mb5.6
TPH Tonopah 94.78 50 P P 18 48 36.3 +1.3
TPH pmax pmax
comp=Z,30nm,1.1s,mb5.6
DAC Darwin (Calif) 95.02 52⇓ iP P 18 48 36.1 0.0
comp=Z,58nm,1.6s,mb5.8
DAC Darwin (Calif) 95.02 52⇓ iP P 18 48 36.1 0.0
DAC pmax pmax
comp=Z,58nm,1.6s,mb5.8
HLID Hailey 95.10 44⇓ iP P 18 48 36.3 0.0
comp=Z,90nm,1.7s,mb5.9
MWC Mount Wilson 95.23 54 eP P 18 48 37.8 +0.6
MWC Mount Wilson 95.23 54 P P 18 48 38.0 +0.8
NSS Namsos 95.23 340 AMS AMS 19 39 40.2
comp=Z,1μm,16.6s,MS5.4
ELK Elko 95.43 47⇓ iP P 18 48 37.9 0.0
comp=Z,48nm,1.5s,mb5.7
ELK Elko 95.43 47⇓ iP P 18 48 37.9 0.0
ELK pmax pmax
comp=Z,48nm,1.5s
HRY Holter Researc 95.71 41 eP P 18 48 39.5 +0.4
JMIC Jan Mayen 95.80 350 eP P 18 48 38.8 -0.1
JMIC AMS AMS 19 43 39.0
comp=Z,265nm,15.0s,MS4.8
SUW Suwalki 95.90 328 eP P 18 48 38.7 -1.0
SUW MLR MLR 19 35 08.6
comp=Z,1μm,20.4s,MS5.4
KDHN Kadinhani 96.03 311 i P P 18 48 38.8 -2.0
BOZ Bozeman (W) 96.23 42⇓ iP P 18 48 41.7 +0.2
comp=Z,48nm,1.6s,mb5.7
BOZ Bozeman (W) 96.23 42 P P 18 48 42.5 +1.0
BOZ pmax pmax
comp=Z,48nm,1.6s,mb5.7
CFR Carcaliu 96.56 318⇓ iP P 18 48 41.5 -1.4
CFR Carcaliu 96.56 318⇑ iP P 18 48 41.5 -1.4
QLMT Earthquake Lak 96.66 42 eP P 18 48 44.5 +1.1
PFO Pinyon Flat Ob 96.68 54⇓ eP P 18 48 43.7 -0.1
comp=Z,39nm,1.5s,mb5.6
PFO Pinyon Flat Ob 96.68 54⇓ eP P 18 48 43.7 -0.1
PFO pmax pmax
comp=Z,39nm,1.5s,mb5.6
BAR Barrett 96.78 55 eP P 18 48 43.9 -0.4
BORA Eskisehir 96.82 312 i P P 18 48 43.0 -1.2
HVU Hansel Valley 96.84 45⇓ eP P 18 48 44.6 +0.3
HVU Hansel Valley 96.84 45 P P 18 48 45.7 +1.4
YMR Madison River 97.03 42⇓ eP P 18 48 46.4 +1.4
HFS Hagfors 97.20 335 P P 18 48 43.7 -1.8
comp=Z,6.2nm,0.7s,mb5.2,baz=63,slow=3.3,SNR=14
YFT Old Faithful 97.20 42 eP P 18 48 47.5 +1.7
SUMG Summit 97.20 359 eP P 18 48 45.5 +0.3
comp=Z,33nm,1.8s,mb5.5
YNR Norris Junctio 97.20 42 eP P 18 48 48.3 +2.5
VRI Vrincioaia 97.22 319⇓ iP P 18 48 46.3 +0.4
VRI Vrincioaia 97.22 319⇑ iP P 18 48 46.3 +0.4
SPUT South Promonto 97.23 46⇓ iP P 18 48 45.3 -0.8
LVV L'vov 97.26 323 eP P 18 48 45.0 -1.0
LVV e 18 59 20.0
RRI2 Red Ridge 97.28 44⇓ iP P 18 48 46.5 +0.2
comp=Z,18nm,0.8s,mb5.6
NEN Nelson 97.33 52 eP P 18 48 46.6 -0.1
DUG Dugway 97.36 47⇓ iP P 18 48 46.7 0.0
comp=Z,24nm,1.3s,mb5.5
DUG Dugway 97.36 47⇓ iP P 18 48 46.7 0.0
DUG pmax pmax
comp=Z,24nm,1.3s,mb5.5
LKWY Lake 97.44 42 eP P 18 48 49.2 +2.3
comp=Z,73nm,1.5s,mb5.9
LKWY Lake 97.44 42 P P 18 48 50.1 +3.2
LKWY pmax pmax
comp=Z,73nm,1.5s,mb5.9
BURAR Bucovina Array 97.47 321⇓ iP P 18 48 46.4 -0.6
BURAR Bucovina Array 97.47 321⇑ iP P 18 48 46.4 -0.6
TPAW Teton Pass 97.48 43 eP P 18 48 47.9 +0.8
comp=Z,64nm,1.7s,mb5.8
NB2 NORSAR Subarra 97.64 337 P P 18 48 45.3 -2.1
comp=Z,2.2nm,0.6s,mb4.9,baz=52,slow=4.5
NB2 NORSAR Subarra 97.64 337 P P 18 48 45.3 -2.1
baz=52,slow=4.4
NB2 NORSAR Subarra 97.64 337 P P 18 48 45.3 -2.1
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.8
NOA NORSAR Array B 97.64 337 P P 18 48 45.8 -1.6
comp=Z,3.9nm,0.7s,mb5.0,baz=55,slow=4.6,SNR=9.6
NOA PP PP 18 52 41.9 -6.1
comp=Z,2.2nm,0.8s,baz=48,slow=7.9,SNR=7.4
NOA LR LR 19 34 46.0
comp=Z,675nm,19.7s,MS5.1,baz=65,slow=37
LOHW Long Hollow 97.67 43 eP P 18 48 48.1 +0.1
comp=Z,45nm,1.7s,mb5.7
HWUT Hardware Ranch 97.75 45⇓ iP P 18 48 48.3 -0.1
comp=Z,13nm,1.0s,mb5.4
MLR Muntele Rosu 97.87 319 P P 18 48 48.2 -0.6
comp=Z,3.0nm,0.7s,mb5.0,baz=356,slow=4.6,SNR=6.2
MLR LR LR 19 41 11.5
comp=Z,1μm,18.5s,MS5.4,baz=55,slow=40
MLR Muntele Rosu 97.87 319⇑ iP P 18 48 48.2 -0.6
MLR Muntele Rosu 97.87 319⇑ iP P 18 48 48.2 -0.7
CTU Camp Tracy 97.94 46 eP P 18 48 49.0 -0.3
NLU North Lily Min 97.97 47⇓ iP P 18 48 49.5 +0.1
KWP Kalwaria 98.11 324 eP P 18 48 49.1 -0.7
KWP MLR MLR 19 40 52.6
comp=Z,2μm,17.0s,MS5.6
JLU Jordanelle 98.19 46 eP P 18 48 50.4 0.0
MPU Maple Canyon 98.27 47 eP P 18 48 50.1 -0.7
DAU Daniels Canyon 98.40 46 eP P 18 48 52.0 +0.7
DAU Daniels Canyon 98.40 46 P P 18 48 52.4 +1.1
DAU e 18 49 10.2
MSU Marysvale 98.40 48 eP P 18 48 51.9 +0.5
MSU Marysvale 98.40 48 eP P 18 48 52.6 +1.2
BW06 Boulder Array 98.70 44 eP P 18 48 52.7 +0.1
comp=Z,6.1nm,1.0s,mb5.1
PDAR Pinedale Array 98.70 44 P P 18 48 52.5 -0.1
comp=Z,1.9nm,0.7s,mb4.7,baz=278,slow=1.5,SNR=24
PDAR PKKPbc 19 05 20.7
comp=Z,1.0nm,0.8s,baz=90,slow=3.0,SNR=7.7
PDAR LR LR 19 32 32.1
comp=Z,498nm,18.8s,MS5.0,baz=294,slow=35
UZH Uzhgorod 98.81 323 i P P 18 48 53.0 +0.1
UZH e 18 59 19.0
STHS Stebnicka Huta 99.06 324 eP P 18 48 54.0 -0.1
KONO Kongsberg 99.14 336 eP P 18 48 56.8 +2.6
CRVS Cervenica-Dubn 99.17 323 i P P 18 48 54.9 +0.3
LAO LASA Array 99.26 39 eP P 18 48 55.6 +0.5
comp=Z,79nm,1.5s,mb6.0
GKP Gorka Klasztor 99.35 329 eP P 18 48 54.6 -0.7
GKP MLR MLR 19 40 51.5
comp=Z,4μm,16.8s,MS6.0
DRGR 99.37 321⇑ iP P 18 48 54.2 -1.4
DRGR 99.37 321⇑ iP P 18 48 54.2 -1.3
SRU San Rafael 99.39 47 eP P 18 48 55.6 -0.3
SRU San Rafael 99.39 47 P P 18 48 57.1 +1.2
OJC Ojcow 99.51 325 eP P 18 48 55.3 -0.8
BSD Bornholm Skovb 99.51 331 i P P 18 48 55.6 -0.4
comp=Z,28nm,0.8s,mb5.7
BSD Bornholm Skovb 99.51 331 i P P 18 48 55.6 -0.4
BSD pmax pmax
comp=Z,28nm,0.8s,mb5.7
KECS Kecovo 99.94 323 eP P 18 48 57.9 -0.3
QSPA South Pole Qui 100.23 180 eP P 18 48 59.8 +1.0
comp=Z,29nm,1.2s
BER Bergen 100.27 338 AMS AMS 19 38 35.5
comp=Z,948nm,15.9s,MS5.4
COP Copenhagen 100.35 332 i P PP 18 53 08.3 -0.4
COP i 18 53 08.3
COP i S S 19 00 37.8 +5.7
comp=Z,830nm,18.0s
PSZ Piszkesteto 100.56 323 ePdif P 18 49 00.3 -0.6
OKC Ostrava-Krasne 100.62 325 ePDIF P 18 49 00.8 -0.4
OKC ePP PP 18 53 10.6 -0.5
OKC AMS AMS 19 40 10.0
comp=Z,2μm,16.8s
VYHS Vyhne 100.90 324 i P P 18 49 02.5 0.0
VYHS ePP PP 18 53 07.7 -5.6
MORC Moravsky Berou 100.99 325 ePdif P 18 49 02.4 -0.5
comp=Z,4.0nm,0.8s
KSP Ksiaz 101.12 327 eP P 18 49 03.0 -0.4
KSP MLR MLR 19 43 10.8
comp=Z,3μm,16.7s,MS5.8
KSP Ksiaz 101.12 327 eP P 18 49 03.2 -0.2
KSP ePP PP 18 53 07.0 -8.0
KSP eSP SP 19 02 19.0 +4.7
KSP eSS SS 19 07 28.0 -14
KSP LR LR
comp=Z,3μm,20.7s,MS5.8
KSP Ksiaz 101.12 327 eP P 18 49 03.2 -0.2
KSP e 18 53 07.0
KSP eSP SP 19 02 19.0 +4.7
KSP MLR MLR
comp=Z,3μm,20.7s,MS5.8
PV01 Paradox Valley 101.18 48 ePdif P 18 49 04.1 +0.1
MUD Monsted U'grnd 101.33 334 i P PP 18 53 21.0 +4.7
comp=Z,2μm,17.0s
DPC Dobruska-Polom 101.37 326 ePDIF P 18 49 04.4 -0.1
DPC ePP PP 18 53 14.5 -2.2
DPC AMS AMS 19 42 20.0
comp=Z,2μm,16.0s
UPC Upice 101.45 327 ePDIF P 18 49 04.5 -0.4
TUC Tucson 101.61 54 ePdif P 18 49 06.9 +0.8
comp=Z,5.2nm,1.2s
TUC Tucson 101.61 54 P P 18 49 07.4 +1.3
TUC pmax pmax
comp=Z,5.0nm,1.2s
SMOL Smolenice 101.70 324 eP P 18 49 06.4 +0.3
VRAC Vranov 101.76 325 P P 18 49 06.2 -0.2
comp=Z,8.4nm,0.8s,baz=80,slow=3.6,SNR=14
ZST Bratislava 102.05 324 eP Pdif 18 49 07.0 -0.7
PVCC Panska Ves 102.22 327 ePDIF Pdif 18 49 08.2 -0.2
PVCC AMS AMS 19 43 30.0
comp=Z,2μm,16.7s
DIVS Divcibare 102.29 320⇓ iP Pdif 18 49 08.3 -0.6
SKO Skopje 102.31 317 i P Pdif 18 49 08.5 -0.5
BRG Berggiesshubel 102.36 328 ePKP Pdif 18 49 08.8 -0.2
comp=Z,8.6nm,0.8s
BRG e 18 52 34.6
BRG e 18 54 11.0
BRG i 19 02 45.0
BRG SS SS 19 08 14.0 +15
BRG LR LR
comp=Z,3μm,16.3s,MS5.9
BRG Berggiesshubel 102.36 328 eP Pdif 18 49 08.8 -0.2
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG MLR MLR
comp=N,2μm,17.2s,MS5.7
BRG MLR MLR
comp=E,1μm,16.5s,MS5.7
BRG MLR MLR
comp=Z,3μm,16.3s,MS5.9
BSEG Bad Segeberg 102.38 332 ePdif Pdif 18 49 08.4 -0.6
BSEG ePP PP 18 53 22.3 -1.7
PRU Pruhonice 102.53 327 ePDIF Pdif 18 49 08.6 -1.2
PRU ePP PP 18 53 24.4 -0.9
PRU AMS AMS 19 43 10.0
comp=Z,2μm,16.1s
CLL Collm 102.60 328 i PDIF Pdif 18 49 08.8 -1.3
CLL e 18 51 17.0
CLL ePP PP 18 53 25.0 -0.9
CLL e 18 54 12.0
CLL ePS PS 19 02 36.0 +5.3
CLL ePPS PPS 19 03 21.0 -1.2
CLL ePKKP PKKP 19 05 10.0 -2.3
CLL eSSS 19 08 18.0
CLL Collm 102.60 328 i Pdif Pdif 18 49 08.8 -1.3
comp=Z,28nm,1.7s
CLL ePP PP 18 53 25.0 -0.9
CLL ePKKP PKKP 19 05 10.0 -2.3
CLL LR LR
comp=Z,4μm,17.5s,MS6.0
CLL Collm 102.60 328 i P Pdif 18 49 08.8 -1.3
CLL e 18 53 25.0
CLL pmax pmax
comp=Z,28nm,1.7s
CLL MLR MLR
comp=Z,4μm,17.5s,MS6.0
SYO Syowa Base 102.77 201 ⇓Pdiff Pdif 18 49 11.0 +0.6
ARSA Arzberg 103.45 324⇑ iP Pdif 18 49 13.9 0.0
comp=Z,12nm,1.4s
NKC Novy Kostel 103.51 328 ePDIF Pdif 18 49 13.5 -0.6
NKC AMS AMS 19 43 50.0
comp=Z,3μm,16.8s
KHC Kasperske Hory 103.53 326 ePDIF Pdif 18 49 13.4 -0.8
KHC ePP PP 18 53 24.0 -8.8
KHC AMS AMS 19 43 40.0
comp=Z,2μm,16.1s
KHC Kasperske Hory 103.53 326 eP Pdif 18 49 13.4 -0.8
KHC MLR MLR
comp=Z,2μm,16.1s,MS5.8
SDCO Great Sand Dun 103.56 47 ePdif Pdif 18 49 15.6 +1.0
comp=Z,6.9nm,1.5s
GEC2 GERESS Array S 103.62 326 ePdif Pdif 18 49 14.0 -0.6
GERES GERESS Array B 103.62 326 Pdiff Pdif 18 49 13.7 -0.8
comp=Z,3.3nm,0.7s,baz=45,slow=3.8,SNR=39
GERES PKKPbc 19 05 07.6
comp=Z,0.4nm,0.7s,baz=225,slow=1.9,SNR=4.8
CLZ Clausthal 103.62 330 ePdif Pdif 18 49 14.3 -0.2
MOX Moxa 103.70 328 i P Pdif 18 49 14.3 -0.6
comp=Z,logA/T=1.2
MOX PP PP 18 53 32.0 -2.0
MOX e 18 54 27.0
MOX PPS PPS 19 03 36.0 +0.2
MOX SS SS 19 08 39.0 +22
MOX LQ 19 18 09.0
MOX L 19 44 14.0
MOX Moxa 103.70 328 eP Pdif 18 49 14.3 -0.6
comp=Z,26nm,1.8s
MOX LR LR
comp=Z,2μm,18.0s,MS5.6
MOX Moxa 103.70 328 eP Pdif 18 49 14.3 -0.6
MOX pmax pmax
comp=Z,26nm,1.8s
MOX MLR MLR
comp=Z,2μm,18.0s,MS5.6
MOA Molln 103.85 325⇑ iP Pdif 18 49 15.8 +0.2
comp=Z,6.1nm,1.0s
ANMO Albuquerque 103.99 50⇑ ePdif Pdif 18 49 17.6 +1.1
comp=Z,10nm,1.5s
ANMO Albuquerque 103.99 50⇑ eP Pdif 18 49 18.7 +2.1
DOBS Dobrina 104.06 323 eP Pdif 18 49 16.1 -0.5
GRA1 Grafenberg Arr 104.47 328 ePdif Pdif 18 49 17.4 -0.9
GRA1 ePP PP 18 53 39.9 0.0
GRA1 eSP SP 19 02 50.9 +2.1
GRA1 eSS SS 19 08 33.8 +5.9
GRA1 LR LR
comp=Z,1μm,21.1s,MS5.4
GRF Grafenberg Arr 104.47 328 ePdif Pdif 18 49 17.4 -0.9
GRF ePP PP 18 53 39.9 0.0
GRF eSP SP 19 02 50.9 +2.1
GRF eSS SS 19 08 33.8 +5.9
GRF LR LR
comp=Z,1μm,21.1s,MS5.4
BOJS Bojanci 104.53 323 eP Pdif 18 49 18.4 -0.3
VISS Visnje 104.62 323 eP Pdif 18 49 18.5 -0.6
LJU Ljubljana 104.67 323 eP Pdif 18 49 18.6 -0.7
KBA Koelnbreinsper 104.80 325⇑ iP Pdif 18 49 17.9 -1.9
comp=Z,12nm,0.9s
JAVS Javornik 105.03 323 eP Pdif 18 49 20.4 -0.4
WTTA Wattenberg 105.65 325⇑ iP Pdif 18 49 23.6 0.0
comp=Z,18nm,1.6s
MNTX Cornudas Mount 106.10 53 ePKP 18 53 37.8
DAVA Damuels 106.61 326⇑ iP Pdif 18 49 27.8 0.0
comp=Z,7.5nm,1.1s
CDF Champ du Feu 107.31 328 ePKP2 Pdif 18 49 30.1 -0.7
GIVF Givet 107.44 331 ePKP2 Pdif 18 49 30.5 -0.9
HINF Hinteralfeld 107.90 328 ePKIKP 18 53 40.8
MEZF Maizieres J'vi 108.38 329 ePKP2 Pdif 18 49 33.4 -2.2
TXAR Lajitas Array 108.40 54 Pdif Pdif 18 49 37.5 +1.4
comp=Z,0.1nm,0.3s,baz=315,slow=3.5,SNR=6.0
TXAR PKiKP 18 53 41.5
comp=Z,0.8nm,0.8s,baz=185,slow=1.5,SNR=7.0
TXAR PKKPbc 19 04 53.6
comp=Z,0.6nm,0.6s,baz=129,slow=5.6,SNR=7.2
TXAR PKKP PKKP 19 05 06.2 +3.8
comp=Z,1.8nm,1.0s,baz=117,slow=5.6,SNR=8.3
TXAR Lajitas Array 108.40 54 Pdif Pdif 18 49 37.5 +1.4
TXAR PKPdf 18 53 41.5
TXAR PKKPbc 19 04 53.6
TXAR PKKP PKKP 19 05 06.2 +3.7
CABF La Chapelle 109.07 327 ePKIKP 18 53 43.3
LPL La Plagne 109.42 326 ePKIKP 18 53 44.1
comp=Z,16nm,1.2s
LPL La Plagne 109.42 326 ePKPab Pdif 18 49 38.4 -1.8
LPL ePKPdf 18 53 44.1
LPG La Plagne 109.42 326 ePKIKP 18 53 44.2
comp=Z,7.2nm,0.8s
LPG La Plagne 109.42 326 ePKPab Pdif 18 49 38.6 -1.6
LPG ePKPdf 18 53 44.2
BNI Bardonecchia 109.74 326 ePKP 18 53 44.0
WMOK Wichita Mounta 109.76 47 ePKP 18 53 44.3
LOR Lormes 109.80 329 ePKIKP 18 53 44.8
LOR eR
comp=Z,2μm,17.2s
MBDF Montbardon 109.89 325 ePKIKP 18 53 45.0
comp=Z,4.5nm,0.7s
MBDF Montbardon 109.89 325 ePKPab Pdif 18 49 39.6 -2.7
MBDF ePKPdf 18 53 45.0
PGF Pioggiola 109.92 323 ePKIKP 18 53 45.0
SSF Saint Saulge 110.12 329 ePKIKP PKPdf 18 53 45.4 -0.9
comp=Z,4.4nm,0.8s
SMF Signal de Mont 110.22 328 ePKIKP PKPdf 18 53 45.4 -1.2
SMF Signal de Mont 110.22 328 ePKPab Pdif 18 49 42.9 -0.8
SMF ePKPdf PKPdf 18 53 45.4 -1.2
ORIF Oris-en-Rattie 110.26 326 ePKIKP PKPdf 18 53 45.6 -1.1
ORIF eR
comp=Z,787nm,17.2s
ORIF Oris-en-Rattie 110.26 326 ePKPab Pdif 18 49 41.1 -2.8
ORIF ePKPdf PKPdf 18 53 45.6 -1.1
BGF Bois d'Agland 110.79 329 ePKIKP PKPdf 18 53 46.6 -1.1
FLN La Foliniere 110.86 332 ePKIKP PKPdf 18 53 46.5 -1.3
comp=Z,19nm,0.9s
FLN eR
comp=Z,1μm,17.8s
VIVF Saint-Julien-l 110.96 327 ePKIKP PKPdf 18 53 46.9 -1.2
TCF Toulx Ste Croi 111.30 329 ePKIKP PKPdf 18 53 47.7 -0.9
comp=Z,10.0nm,0.7s
LASF Ste Croix 111.91 326 ePKIKP PKPdf 18 53 49.1 -0.7
comp=Z,5.9nm,0.8s
LSZ Lusaka 111.99 258 ePKP PKPdf 18 53 50.0 -0.6
MFF Saint Martin d 112.25 330 ePKIKP PKPdf 18 53 49.4 -1.0
comp=Z,20nm,1.1s
CAF Calviac 112.30 328 ePKIKP PKPdf 18 53 49.9 -0.7
MTLF Montolieu 113.29 327 ePKIKP PKPdf 18 53 51.0 -1.7
comp=Z,6.4nm,0.9s
SNAA Sanae 114.35 193⇑ P PKPdf 18 53 52.5 -1.6
SNAA Sanae 114.35 193⇑ PKPdf 18 53 57.1 +3.0
SNAA Sanae 114.35 193⇑ PKPdf 18 54 09.5 +15
EPF Esparros 114.50 327 ePKIKP PKPdf 18 53 54.1 -0.9
LBTB Lobatse 114.88 247 ePKP PKPdf 18 53 54.4 -1.7
LBTB Lobatse 114.88 247 PKIKP PKPdf 18 53 55.1 -1.0
ETSF Etsaut 115.07 328 ePKIKP PKPdf 18 53 55.2 -0.9
comp=Z,10nm,0.7s
BOSA Boshof 115.14 243 PKP PKPdf 18 53 55.1 -1.5
comp=Z,4.5nm,0.9s,baz=23,slow=9.2,SNR=5.0
BOSA Boshof 115.14 243 ePKP PKPdf 18 53 54.6 -2.0
SJPF Ste Jean 115.27 328 ePKIKP PKPdf 18 53 55.7 -0.8
comp=Z,11nm,0.8s
ESAC San Caprasio 115.84 327 PKP PKPdf 18 53 56.6 -1.1
VNA2 Neumayer--Watz 115.87 192⇑ iP PKPdf 18 53 55.8 -1.3
VNA2 Neumayer--Watz 115.87 192 PKPdf 18 53 57.8 +0.7
VNA2 Neumayer--Watz 115.87 192 PKPdf 18 53 59.8 +2.7
VNA3 Neumayer Olymp 116.06 191 ⇑P PKPdf 18 53 55.9 -1.6
VNA3 Neumayer Olymp 116.06 191 ⇑ PKPdf 18 53 59.5 +2.0
VNA3 Neumayer Olymp 116.06 191 ⇑ PKPdf 18 54 03.0 +5.5
VNA1 Neumayer--Stat 116.27 192 ⇑P PKPdf 18 53 56.6 -1.3
VNA1 Neumayer--Stat 116.27 192 ⇑ PKPdf 18 53 58.3 +0.4
VNA1 Neumayer--Stat 116.27 192 ⇑ PKPdf 18 54 00.6 +2.7
VNA1 Neumayer--Stat 116.27 192 ⇑ PKPdf 18 54 05.2 +7.3
OXF Oxford 116.43 43 ePKPdf PKPdf 18 53 56.4 -2.6
OXF Oxford 116.43 43 PKIKP PKPdf 18 53 57.4 -1.6
WVT Waverly 116.51 41 ePKPdf PKPdf 18 53 55.9 -3.2
WVT Waverly 116.51 41 PKIKP PKPdf 18 53 57.1 -2.0
EMOS Mosqueruela 116.78 326 PKP PKPdf 18 53 59.4 -0.2
PLAL Pickwick Lake 117.04 42 ePKPdf PKPdf 18 53 56.8 -3.4
PLAL ePP PP 18 55 03.8 -7.9
ECHE Chera 117.59 325 PKP PKPdf 18 54 00.9 -0.2
ETOB Tobarra 118.57 325 PKP PKPdf 18 54 02.0 -1.1
LRAL Lakeview Retre 118.92 43 ePKPdf PKPdf 18 54 01.5 -2.4
STS Santiago 118.99 333 PKP PKPdf 18 54 02.7 -1.1
EVIA Vianos 119.11 326 PKP PKPdf 18 54 03.5 -0.6
ESDC Sonseca Array 119.17 327 PKP PKPdf 18 54 02.9 -1.3
comp=Z,1.9nm,0.7s,baz=21,slow=2.6,SNR=9.6
ESDC PP PP 18 55 20.0 -6.4
comp=Z,0.8nm,0.6s,baz=51,slow=8.2,SNR=2.8
ESDC PKKPbc 19 04 17.4
comp=Z,1.3nm,0.8s,baz=243,slow=3.3,SNR=5.9
MYNC Murphy 119.52 40 ePKPdf PKPdf 18 54 02.6 -2.3
MYNC Murphy 119.52 40 PKIKP PKPdf 18 54 03.6 -1.3
EHUE Huescar 119.74 325 PKP PKPdf 18 54 03.9 -1.3
PVRL Vila Real 119.86 331 ePKPdf PKPdf 18 54 04.3 -1.1
EQES Quesada 120.02 325 PKP PKPdf 18 54 04.2 -1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELN	Prospectdale	120.10	36	ePKPdf	PKPdf	18 54 03.0	-3.0
EBAN	Banos Encina	120.16	326	PKP	PKPdf	18 54 04.6	-1.5
MTE	Manteigas	120.45	330	ePKPdf	PKPdf	18 54 05.7	-0.9
MTE	Manteigas	120.45	330	ePP	PP	18 55 22.2	-12
MTE	Manteigas	120.45	330	eLR	LR	19 33 21.5	
	comp=Z,2µm,16.8s						
MTE	Manteigas	120.45	330	ePKPdf	PKPdf	18 54 05.2	-1.4
EBER	Berja	120.55	324	PKP	PKPdf	18 54 06.1	-0.9
EADA	Adamuz	120.59	327	PKP	PKPdf	18 54 05.6	-1.4
PCBR	Castelo Branco	120.85	330	ePKPdf	PKPdf	18 54 06.0	-1.5
ELUQ	Luque	120.85	326	PKP	PKPdf	18 54 06.1	-1.4
EGUA	Guajares	120.98	325	PKP	PKPdf	18 54 05.9	-1.9
ERON	Agron	120.98	325	PKP	PKPdf	18 54 05.7	-2.1
ELOJ	Sierra Loja	121.09	325	PKP	PKPdf	18 54 06.0	-2.0
ECAB	El Cabril	121.11	327	PKP	PKPdf	18 54 06.6	-1.5
EALB	Alboran	121.30	324	PKP	PKPdf	18 54 05.4	-3.0
EBAD	Badajoz	121.44	329	PKP	PKPdf	18 54 07.1	-1.5
PTOM	Tomar	121.48	330	ePKPdf	PKPdf	18 54 07.5	-1.2
JSC	Jenkinsville	121.81	38	ePKPdf	PKPdf	18 54 07.0	-2.5
JSC	Jenkinsville	121.81	38	PKIKP	PKPdf	18 54 08.5	-1.0
EMIJ	Mijas	121.85	325	PKP	PKPdf	18 54 06.6	-2.9
EMIN	Mina Concepcio	122.00	328	PKP	PKPdf	18 54 08.4	-1.3
ESPR	Espera	122.23	326	PKP	PKPdf	18 54 09.2	-1.0
PBEJ	Beja	122.43	329	ePKPdf	PKPdf	18 54 09.4	-1.1
EGRO	El Granado	122.60	328	PKP	PKPdf	18 54 09.8	-1.0
PTEO	Sao Teotonio	123.23	329	ePKPdf	PKPdf	18 54 11.1	-0.9
CFTV	Fuerteventura	133.14	326	PKP	PKPdf	18 54 31.3	0.0
DBIC	Dimbokro	139.66	293	PKhKP		18 54 34.0	
	comp=Z,7.5nm,0.7s,baz=97,slow=4.7,SNR=11						
DBIC				PKP	PKPdf	18 54 42.9	-0.8
	comp=Z,19nm,0.7s,baz=51,slow=1.5,SNR=19						
DBIC	Dimbokro	139.66	293	ePKPpre		18 54 34.5	
DBIC				ePKPdf	PKPdf	18 54 40.5	-3.2
DBIC				PKP	PKPdf	18 54 42.9	-0.8
DBIC	Dimbokro	139.66	293	PKIKP	PKPdf	18 54 36.6	-7.1
LIC	Lamto	140.00	293	ePKIKP	PKPdf	18 54 42.9	-1.4
	comp=Z,111nm,1.0s						
PLCA	Paso Flores	140.42	145	PKhKP		18 54 35.2	
	comp=Z,4.5nm,0.8s,baz=257,slow=4.1,SNR=5.7						
PLCA	Paso Flores	140.42	145	ePKPpre		18 54 36.4	
PLCA				ePKPdf	PKPdf	18 54 43.1	-1.3
MTP	Monte Pirata	143.15	40	ePKPpre		18 54 43.8	
SFDO	San Fernando	143.92	137	⇓iP	PKPbc	18 54 47.3	+0.5
ROSC	El Rosal	144.09	67	PKP	PKPdf	18 54 48.5	-3.0
	comp=Z,26nm,0.7s,baz=61,slow=21,SNR=28						
CICH	Cipreses	144.49	137	iP	PKPbc	18 54 49.4	+0.9
PCH	Pirque	144.83	136	⇓iP	PKPbc	18 54 50.6	+1.2
CLCH	Cerro Calan	144.94	135	⇓iP	PKPbc	18 54 50.6	+0.9
FCH	Farellones	145.15	135	⇓iP	PKPbc	18 54 51.5	+1.2
JACH	Jahuel	145.29	134	⇓iP	PKPbc	18 54 52.1	+1.5
SDV	Santo Domingo	145.37	57	ePKPdf	PKPdf	18 54 51.4	-2.3
SDV				ePKPbc	PKPbc	18 54 52.5	+1.1
NNA	Nana	145.43	96	ePKPbc	PKPbc	18 54 52.2	+0.7
MDZ	Mendoza	146.39	136	eP	PKPbc	18 54 45.3	-8.0
TRQA	Tornquist	146.93	150	ePKPbc	PKPbc	18 54 54.5	+0.1
TRQA				ePKPab	PKPab	18 54 56.3	-2.0
LZG	Guadaloupe-1	146.96	37	eP	PKPbc	18 54 54.1	-1.0
DEG	La Desirade	147.25	36	eP	PKPdf	18 54 53.8	-3.0
TBG	Guadaloupe-3	147.26	38	eP	PKPdf	18 54 54.5	-2.4
MGG	Marie-Galante	147.41	37	eP	PKPdf	18 54 55.5	-1.6
FDF	Fort de France	148.43	38	⇓eP	PKPdf	18 54 58.3	-0.4
ARE	Arequipa	150.35	105	eP	PKPdf	18 55 07.0	+5.2
LVC	Limon Verde	151.21	118	ePKPbc	PKPdf	18 55 08.4	+5.5
TRN	Trinidad (W)	151.32	44	eP	PKPdf	18 54 58.8	-4.5
TPR	Prospect	151.35	42	eP	PKPdf	18 55 03.7	+0.4
BOT	Bacolet	151.40	42	eP	PKPdf	18 55 04.4	+1.0
TPP	Pointe-a-Pierr	151.52	44	eP	PKPdf	18 55 00.9	-2.7
TBH	Brigand Hill	151.66	44	e	PKPdf	18 55 02.0	-1.8
LPAZ	La Paz	153.57	106	PKP	PKPdf	18 55 06.5	+0.2
	comp=Z,8.8nm,1.0s,baz=351,slow=1.3,SNR=31						
LPAZ	La Paz	153.57	106	PKP	PKPdf	18 55 06.5	+0.2
LPAZ				ePKPbc	PKPdf	18 55 13.6	+7.2
CPUP	Villa Florida	158.27	139	PKPab	PKPab	18 55 45.5	-0.5
	comp=Z,7.0nm,0.7s,baz=256,slow=3.2,SNR=8.2						
SAML	Samuel	158.71	88	ePKPdf	PKPdf	18 55 12.2	-1.0
SAML				ePKPab	PKPab	18 55 46.9	-1.4
BDFB	Brasilia	171.87	131	PKP	PKPdf	18 55 23.2	-0.9
	comp=Z,5.4nm,0.7s,baz=28,slow=1.2,SNR=6.4						

*IDC **02** 18:38:47.0±0.5, 10.39N×138.51E, mb4.7/17, mb1 4.8/17, mb1mx4.7/22, mbtmp4.7/17, Error ellipse: s-maj=29.7km s-min=12.8km az=78.0*
*NEIC **02** 18:38:48.6±0.2, 10.33N×138.44E, h10km, mb5.1/23, Error ellipse: s-maj=7.1km s-min=5.1km az=79.0*
*MOS **02** 18:38:50.3±0.9, 10.35N×138.38E, h33km, mb5.2/14, Error ellipse: s-maj=21.4km s-min=9.3km az=104.0*
ISC 02 18:38:46.0±8.9, **10.31N**±0.06×**138.35E**±0.09, **h4**km±55km, **n84, σ0s77**/68, **mb4.8**/42, **7C, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	21.46	156	P	P	18 43 36.7	-1.1
	34nm,1.0s,mb4.6,baz=19,slow=12,SNR=3.9						
PMG	Port Moresby	21.46	156	eP	P	18 43 36.7	-1.2
	72nm,1.0s,mb5.0						
PMG	Port Moresby	21.46	156	eP	P	18 43 36.7	-1.1
PMG				pmax	pmax		
	comp=Z,72nm,1.0s						
YHNB	Yeheng	21.55	314	eP	P	18 43 41.0	+2.4
KKM	Kota Kinabalu	22.31	261	eP	P	18 43 47.4	+1.0
JNU	Nakatsue	23.72	344	P	P	18 44 00.6	+0.5
	comp=Z,8.8nm,0.7s,mb4.3,baz=124,slow=8.6,SNR=4.7						
JNU				PcP	PcP	18 47 45.2	-0.8
	comp=Z,3.5nm,0.6s,baz=108,slow=5.0,SNR=3.6						
WRA	Warramunga Arr	30.32	187	P	P	18 45 01.7	+0.6
	comp=Z,5.9nm,0.8s,mb4.4,baz=3.3,slow=9.3,SNR=3.6						
WRA				PcP	PcP	18 48 00.9	-0.6
	comp=Z,3.0nm,0.7s,baz=348,slow=2.7,SNR=5.6						
CTA	Charters Tower	31.19	166	P	P	18 45 08.6	-0.2
	comp=Z,16nm,0.8s,mb4.9,baz=338,slow=12,SNR=6.4						
CTAO	Charters Tower	31.19	166	eP	P	18 45 08.6	-0.3
	comp=Z,18nm,0.8s,mb5.0						
CTAO	Charters Tower	31.19	166	eP	P	18 45 08.6	-0.2
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
KULM	Kulim	37.67	265	eP	P	18 46 04.2	-0.2
KLR	Kul'dur	39.18	353	eP	P	18 46 14.2	-2.6
HIA	Hailar	41.82	342	eP	P	18 46 38.6	+0.1
	comp=Z,7.5nm,0.8s,mb4.4						
HIA	Hailar	41.82	342	eP	P	18 46 38.6	+0.1
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
STKA	Stephens Creek	42.06	176	eP	P	18 46 40.0	-0.8
	comp=Z,22nm,0.8s,mb4.8						
STKA	Stephens Creek	42.06	176	P	P	18 46 40.5	-0.3
	comp=Z,27nm,0.8s,mb4.9,baz=356,slow=7.3,SNR=7.5						
DZM	Mont Dzumac	42.37	140	P	P	18 46 43.5	+0.1
	comp=Z,14nm,0.9s,mb4.6,baz=11,slow=11,SNR=6.0						
SONM	Songino Array	46.06	330	P	P	18 47 13.6	+0.8
	comp=Z,6.5nm,1.0s,mb4.5,baz=142,slow=10,SNR=4.6						
SONM				PcP	PcP	18 48 49.2	-0.5
	comp=Z,3.1nm,0.7s,baz=150,slow=2.6,SNR=5.4						
NWAO	Narrogin (SRO)	47.48	204	P	P	18 47 24.1	-0.2
	comp=Z,9.5nm,1.0s,mb4.7,baz=35,slow=17,SNR=6.2						
ZAK	Zakamensk	49.29	331	eP	P	18 47 37.9	-0.1
ZAK				e		18 49 02.3	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
YAK	Yakutsk	52.01	355	eP	P	18 47 57.6	-1.0
	comp=Z,45nm,0.7s,mb5.5						
YAK	Yakutsk	52.01	355	eP	P	18 47 57.1	-1.5
YAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,13nm,1.1s						
SEY	Seymchan	53.49	8	⇑iP	P	18 48 10.0	+0.4
HYB	Hyderabad	58.30	284	iP	P	18 48 45.0	+0.2
MKAR	Makanchi Array	59.56	319	P	P	18 48 53.4	+0.2
	comp=N,4.2nm,0.7s,mb4.6,baz=90,slow=5.8,SNR=6.7						
KURK	Kurchatov	63.09	322	eP	P	18 49 16.4	-0.5
	comp=N,25nm,0.8s,mb5.4						
KURK	Kurchatov	63.09	322	eP	P	18 49 16.5	-0.5
KURK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.4						
KKAR	Karatay Array	66.86	312	iP	P	18 49 41.5	0.0
KKAR				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
BVA0	Borovoye Array	68.61	323	iP	P	18 49 51.4	-0.9
BVA0				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
BVAR	Borovoye Array	68.61	323	P	P	18 49 52.2	-0.1
	comp=Z,14nm,0.8s,mb5.0,baz=101,slow=7.6,SNR=9.7						
BRVK	Borovoye	68.68	323	eP	P	18 49 52.2	-0.5
	comp=Z,12nm,0.8s,mb4.9						
BRVK	Borovoye	68.68	323	eP	P	18 49 52.2	-0.5
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
RSO	Redoubt South	70.73	29	eP	P	18 50 04.2	-1.0
ILAR	Eielson Array	74.24	25	P	P	18 50 24.3	-1.5
	comp=Z,6.1nm,0.8s,mb4.6,baz=247,slow=5.9,SNR=12						
AB31	Akbulak array	74.70	318	iP	P	18 50 28.2	-0.6
AB31				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ARU	Arti	75.83	326	eP	P	18 50 34.4	-0.7
	comp=Z,13nm,0.7s,mb5.0						
ARU	Arti	75.83	326	⇑iP	P	18 50 34.9	-0.2
CASY	Casey	79.08	191	eP	P	18 50 52.3	-0.6
	comp=Z,12nm,0.8s,mb4.9						
INK	Inuvik	79.80	22	P	P	18 50 56.0	-0.8
	comp=Z,5.9nm,0.8s,mb4.6,baz=285,slow=5.5,SNR=4.8						
INK	Inuvik	79.80	22	eP	P	18 50 56.1	-0.7
	comp=Z,5.0nm,0.7s,mb4.5						
INK	Inuvik	79.80	22	eP	P	18 50 56.1	-0.7
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAK	Makhachkala	83.68	312	P	P	18 51 10.0	-7.6
KIV	Kislovodsk	86.97	314	eP	P	18 51 43.9	+10
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0						
OCWA	Octopus Mounta	87.43	42	eP	P	18 51 37.5	+1.4
	comp=Z,46nm,1.1s,mb5.6						
ARCES	ARCESS Array B	88.16	341	P	P	18 51 38.5	-0.5
	comp=Z,3.4nm,0.8s,mb4.6,baz=79,slow=6.2,SNR=5.5						
OBN	Obninsk	88.28	326	eP	P	18 51 35.3	-4.6
OBN				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0						
YKA	Yellowknife Ar	88.65	26	P	P	18 51 41.7	+0.2
	comp=Z,1.3nm,0.6s,mb4.4,baz=288,slow=5.2,SNR=4.4						
VNDA	Vanda	88.70	175	P	P	18 51 42.2	+0.7
	comp=Z,9.0nm,1.1s,mb5.0,baz=334,slow=5.7,SNR=4.7						
KHMM	Horse Mountain	89.25	49	eP	P	18 51 46.0	+1.1
HUMO	Hull Mountain	89.42	47	eP	P	18 51 46.7	+1.0
	comp=Z,14nm,1.0s,mb5.2						
YBH	Yreka Blue Hor	89.80	48	eP	P	18 51 48.5	+1.0
	comp=Z,11nm,1.0s,mb5.1						
WDC	Whiskeytown Da	90.19	49	eP	P	18 51 49.7	+0.4
	comp=Z,16nm,1.3s,mb5.2						
WDC	Whiskeytown Da	90.19	49	eP	P	18 51 49.7	+0.4
WDC				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.2						
FINES	FINESS Array B	91.33	334	P	P	18 51 53.3	-0.7
	comp=Z,2.9nm,0.6s,mb4.8,baz=76,slow=7.9,SNR=9.6						
MOD	Modoc	91.50	47	eP	P	18 51 55.5	+0.2
	comp=Z,14nm,1.1s,mb5.2						
NEW	Newport	91.87	40	eP	P	18 51 56.8	0.0
	comp=Z,6.6nm,0.9s,mb5.0						
NEW	Newport	91.87	40	eP	P	18 51 56.8	0.0
NEW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BEKR	Beckwourth	91.99	49	eP	P	18 51 57.3	-0.3
	comp=Z,12nm,1.2s,mb5.1						
CMB	Columbia Colle	92.44	51	eP	P	18 51 59.4	-0.4
	comp=Z,11nm,1.2s,mb5.0						
CMB	Columbia Colle	92.44	51	eP	P	18 51 59.4	-0.3
CMB				pmax	pmax		
	comp=Z,11nm,1.2s,mb5.1						
HLID	Hailey	95.15	44	eP	P	18 52 12.7	+0.6
	comp=Z,4.7nm,0.9s,mb4.9						
ELK	Elko	95.48	47	eP	P	18 52 14.2	+0.5
	comp=Z,9.8nm,1.4s,mb5.0						
MCMT	McKenzie Canyo	95.78	43	eP	P	18 52 15.2	+0.3
RRI2	Red Ridge	97.34	44	eP	P	18 52 22.8	+0.8
	comp=Z,3.1nm,0.7s,mb4.8						
DUG	Dugway	97.41	47	eP	P	18 52 22.0	-0.4
	comp=Z,8.9nm,1.3s,mb5.0						
DUG	Dugway	97.41	47	eP	P	18 52 22.0	-0.4
DUG				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb5.0						
HWUT	Hardware Ranch	97.80	45	eP	P	18 52 24.6	+0.4
	comp=Z,5.9nm,1.1s,mb5.0						
PDAR	Pinedale Array	98.75	44	P	P	18 52 28.4	+0.1
	comp=Z,0.7nm,0.8s,mb4.2,baz=293,slow=1.3,SNR=3.8						
SNAA	Sanae	114.29	193	⇑	PKPdf	18 57 27.8	-1.0
VNA2	Neumayer--Watz	115.81	192		PKPdf	18 57 31.2	-0.7
VNA2	Neumayer--Watz	115.81	192		PKPdf	18 57 33.5	+1.6
VNA2	Neumayer--Watz	115.81	192		PKPdf	18 57 38.0	+6.1
VNA3	Neumayer Olymp	116.00	191	⇑	PKPdf	18 57 31.4	-0.8
VNA3	Neumayer Olymp	116.00	191	⇑	PKPdf	18 57 33.7	+1.5
VNA3	Neumayer Olymp	116.00	191	⇑	PKPdf	18 57 37.0	+4.8
VNA1	Neumayer--Stat	116.20	192	⇑	PKPdf	18 57 32.8	+0.2
DBIC	Dimbokro	139.66	293	PKP	PKPdf	18 58 17.8	-0.8
	comp=Z,3.8nm,0.7s,baz=340,slow=17,SNR=3.9						
SDV	Santo Domingo	145.42	58	ePKPdf	PKPdf	18 58 27.7	-1.1
NNA	Nana	145.44	96	ePKPdf	PKPdf	18 58 27.4	-1.3
TRQA	Tornquist	146.89	150	ePKPbc	PKPbc	18 58 30.8	+1.1
LVC	Limon Verde	151.20	119	ePKPbc	PKPdf	18 58 43.4	+5.6
LPAZ	La Paz	153.57	106	PKP	PKPdf	18 58 42.5	+1.2
	comp=Z,3.7nm,1.1s,baz=30,slow=2.8,SNR=3.3						
LPAZ				PKPbc	PKPdf	18 58 49.8	+8.5
	comp=Z,3.8nm,0.8s,baz=353,slow=6.5,SNR=4.7						
LPAZ	La Paz	153.57	106	ePKPdf	PKPdf	18 58 41.8	+0.5
LPAZ				ePKPbc	PKPdf	18 58 49.2	+8.0
SAML	Samuel	158.72	88	ePKPab	PKPab	18 59 22.7	-1.1

*NEIC **02** 18:52:51.5, 33.93S×72.39W, h31km, ML2.6(GUC), After GUC.*
GUC 02 18:52:51.5±0.9, **33.93S×72.39W, h31**km±4km, **MD3.5, ML2.6, 4C-6D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.81	92	⇓iP	Pn	18 53 06.4	-0.5
LNV				iS	Sb	18 53 18.0	+0.2
LCCH	Las Cruces	0.82	56	eP	Pn	18 53 07.6	+0.6
LCCH				iS	Sb	18 53 19.2	+1.2
TACH	Talagante	1.24	77	⇓iP	Pn	18 53 13.2	+0.2
TACH				iS	Sn	18 53 29.4	+0.6
SFDO	San Fernando	1.33	121	⇑iP	Pn	18 53 14.4	+0.2
RCDM	Rinconada Maip	1.39	72	⇑iP	Pn	18 53 15.6	+0.4
RCDM				iS	Sn	18 53 33.4	+0.7
RCDM				AMP		18 53 35.8	
	comp=N,142nm,0.1s						
CHCH	Chadas Angostu	1.45	90	⇓iP	Pn	18 53 16.6	+0.7
CHCH				eS	Sn	18 53 35.7	+1.7
CACH	El Canelo	1.50	97	⇓iP	Pn	18 53 17.6	+0.9
CACH				iS	Sn	18 53 38.3	+2.9
PCH	Pirque	1.59	79	⇓iP	Pn	18 53 19.4	+1.3
PCH				iS	Sn	18 53 39.4	+1.6
CLCH	Cerro Calan	1.64	71	eP	Pn	18 53 19.9	+1.3
CLCH				iS	Sn	18 53 40.5	+1.7
CLCH				AMP		18 53 41.9	
	comp=E,87nm,0.1s						
CICH	Cipreses	1.68	104	⇓iP	Pn	18 53 19.7	+0.4
LMEL	Las Melosas	1.82	88	⇑iP	Pn	18 53 22.6	+1.3
LMEL				iS	Sn	18 53 46.4	+2.9
LMEL				AMP		18 53 47.5	
	comp=N,151nm,0.2s						
FCH	Farellones	1.85	72	⇑iP	Pn	18 53 23.3	+1.6
FCH				iS	Sn	18 53 46.8	+2.5
FCH				AMP		18 53 48.0	
	comp=N,110nm,0.3s						

IDC 02 19:25:07.2±5.8, **10.16N×138.10E, mb3.6**/4, **mb1 3.7**/4, **mb1mx3.6**/17, **mbtmp3.6**/4, **Error ellipse: s-maj=285.5km s-min=29.3km az=78.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.14	187	P	P	19 31 19.1	-2.1
	0.7nm,0.8s,baz=5.4,slow=9.5,SNR=4.8						
SONM	Songino Array	46.07	331	P	P	19 33 33.7	-0.9
	0.6nm,0.9s,baz=153,slow=6.6,SNR=4.0						
MKAR	Makanchi Array	59.51	319	P	P	19 35 12.7	-1.9
	0.4nm,0.7s,baz=100,slow=8.8,SNR=5.1						
BVAR	Borovoye Array	68.58	323	P	P	19 36 10.9	-3.0
	0.8nm,0.7s,baz=104,slow=6.1,SNR=6.7						

IDC 02 19:29:30.1±1.2, **10.37N×138.78E, mb3.5**/5, **mb1 3.7**/5, **mb1mx3.6**/17, **mbtmp3.5**/5, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx3.1**/20, **Error ellipse: s-maj=60.8km s-min=23.8km az=83.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	21.34	157	LR	LR	19 42 43.5	
	comp=Z,115nm,20.3s,baz=324,slow=37						
WRA	Warramunga Arr	30.44	188	P	P	19 35 44.5	-2.4
	0.5nm,0.7s,baz=2.0,slow=9.4,SNR=5.8						
STKA	Stephens Creek	42.09	176	P	P	19 37 24.2	-1.5
	1.5nm,0.9s,baz=14,slow=8.3,SNR=2.8						
SONM	Songino Array	46.22	330	P	P	19 37 58.0	-0.7
	1.1nm,1.1s,baz=143,slow=7.2,SNR=4.3						
MKAR	Makanchi Array	59.79	318	P	P	19 39 36.8	-2.7
	0.2nm,0.6s,baz=98,slow=8.6,SNR=4.4						
ILAR	Eielson Array	74.01	25	P	P	19 41 07.0	-2.1
	0.4nm,0.7s,baz=242,slow=6.6,SNR=4.2						

*MOS **02** 19:40:00.1±0.7, 51.60N×16.22E, h10km, mb3.8/1, Error ellipse: s-maj=16.6km s-min=6.4km az=80.9*
*NEIC **02** 19:40:01.1±0.4, 51.54N×16.26E, h5km, ML3.6(SZGRF), ML3.1(VIE), ML2.9(CLL), Error ellipse: s-maj=5.6km s-min=4.0km az=88.0*
*IPEC **02** 19:40:01.6±0.3, 51.50N×16.28E, ML2.5/3, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*
*BGR **02** 19:40:02.7±0.7, 51.43N×16.17E, h1km, ML3.2/9, Error ellipse: s-maj=13.3km s-min=5.6km az=170.0*
*IDC **02** 19:40:02.8±0.6, 51.46N×16.00E, mb1 3.1/8, mb1mx3.1/24, mbtmp3.0/8, ML2.9/8, Error ellipse: s-maj=9.8km s-min=6.0km az=106.0*
*PRU **02** 19:40:03.2, 51.42N×16.16E*
*CSEM **02** 19:40:03.7±0.2, 51.41N×16.15E, h2km, ML3.4/5, Error ellipse: s-maj=4.1km s-min=2.5km az=23.0*
WAR 02 19:40:03.3, 51.45N×16.17E, h1km, ML2.8, 6C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	172	⇓iPG	Pg	19 40 14.4	-1.1
KSP				⇓eSG	Sg	19 40 22.4	-1.2
KSP	Ksiaz	0.61	172	ePg	Pg	19 40 14.2	-1.3
KSP				eSg	Sg	19 40 22.4	-1.2
UPC	Upice	0.95	186	ePG	Pg	19 40 20.3	-1.9
DPC	Dobruska-Polom	1.10	175	ePG	Pg	19 40 23.1	-2.2
DPC				eSG	Sg	19 40 37.6	-2.4
	51nm,0.3s						
DPC	Dobruska-Polom	1.10	175	ePg	Pg	19 40 23.1	-2.2
DPC				eSg	Sg	19 40 37.7	-2.3
DPC	Dobruska-Polom	1.10	175	eP	Pb	19 40 23.1	-1.7
DPC				e		19 40 37.6	
DPC				smax			
	comp=N,51nm,0.3s						
PVCC	Panska Ves	1.37	228	ePG	Pg	19 40 28.5	-2.1
PVCC	Panska Ves	1.37	228	ePn	Pn	19 40 28.4	-1.1
PVCC	Panska Ves	1.37	228	Pg	Pg	19 40 28.5	-2.1
PVCC				eSg	Sg	19 40 47.2	-1.6
BRG	Berggiesshubel	1.51	249	ePg	Pg	19 40 30.3	-3.2
BRG				eSg	Sg	19 40 51.7	-2.0
BRG	Berggiesshubel	1.51	249	Pn	Pn	19 40 30.0	-1.6
BRG				Pg	Pg	19 40 30.9	-2.6
BRG				Sg	Sg	19 40 51.6	-2.1
BRG	Berggiesshubel	1.51	249	Pn	Pn	19 40 30.0	-1.6
BRG	Berggiesshubel	1.51	249	Pg	Pg	19 40 30.9	-2.6
BRG				Sg	Sg	19 40 51.7	-2.0
PRU	Pruhonice	1.79	216	ePN	Pn	19 40 34.0	-1.6
PRU				ePG	Pg	19 40 35.4	-3.6
PRU				eSG	Sg	19 40 59.5	-3.3
PRU	Pruhonice	1.79	216	ePg	Pg	19 40 35.4	-3.6
PRU				eSg	Sg	19 40 59.5	-3.3
PRU	Pruhonice	1.79	216	eP	Pn	19 40 34.0	-1.6
PRU				e		19 40 59.5	
FBE	Freiberg	1.85	255	Sg	Sg	19 41 00.8	-4.0
MORC	Moravsky Berou	1.89	152	ePn	Pn	19 40 34.8	-2.2
MORC				eSn	Sn	19 40 59.6	-2.1
MORC	Moravsky Berou	1.89	152	ePn	Pn	19 40 34.8	-2.2
MORC				eSn	Sn	19 40 59.6	-2.2
MORC				eSg	Sg	19 41 00.8	-5.4
	comp=N,38nm,0.4s						
CLL	Collm	1.99	267	ePn	Pn	19 40 36.5	-1.9
CLL				eSg	Sg	19 41 06.5	-2.9
CLL	Collm	1.99	267	iPN	Pn	19 40 36.1	-2.3
CLL				iPG	Pg	19 40 39.1	-3.9
CLL				iSG	Sg	19 41 06.3	-3.2
CLL	Collm	1.99	267	iPg	Pg	19 40 39.1	-3.9
CLL				Sg	Sg	19 41 06.5	-3.0
CLL	Collm	1.99	267	iP	Pn	19 40 36.1	-2.3
CLL				i		19 41 06.3	
OKC	Ostrava-Krasne	2.05	141	ePN	Pn	19 40 38.2	-1.1
OKC				ePG	Pg	19 40 41.8	-2.4
OKC				eSG	Sg	19 41 06.0	-5.4
OKC	Ostrava-Krasne	2.05	141	ePg	Pg	19 40 41.8	-2.4
OKC				eSg	Sg	19 41 06.0	-5.4
OKC	Ostrava-Krasne	2.05	141	eP	Pn	19 40 38.2	-1.1
OKC				e		19 41 06.0	
VRAC	Vranov	2.16	173	Pn	Pn	19 40 39.7	-1.2
	comp=N,1.7nm,0.3s,baz=347,slow=13,SNR=12						
VRAC				Lg		19 41 09.6	
	comp=N,7.7nm,0.3s,baz=41,slow=17,SNR=11						
VRAC	Vranov	2.16	173	Pn	Pn	19 40 39.7	-1.2
VRAC				eSg	Sg	19 41 10.4	-4.8
	comp=N,16nm,0.3s						
VRAC	Vranov	2.16	173	P	Pn	19 40 39.7	-1.2
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VRAC				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KRUC	Moravsky	2.39	176	ePn	Pn	19 40 43.4	-0.8
KRUC				eSg	Sg	19 41 18.2	-4.8
	comp=Z,24nm,0.4s						
TANN	Tannenbergstha	2.56	248	ePn	Pn	19 40 45.0	-1.7
TANN				eSg	Sg	19 41 23.4	-5.2
NKC	Novy Kostel	2.65	244	ePN	Pn	19 40 46.2	-1.7
NKC				ePG	Pg	19 40 52.2	-4.0
NKC				eSG	Sg	19 41 27.8	-3.8
NKC	Novy Kostel	2.65	244	ePg	Pg	19 40 52.2	-4.0
NKC				eSg	Sg	19 41 27.8	-3.8
NKC	Novy Kostel	2.65	244	eP	Pn	19 40 46.2	-1.7
NKC				e		19 41 27.8	
GUNZ	Gunzen	2.66	247	ePn	Pn	19 40 46.5	-1.6
GUNZ				eSg	Sg	19 41 26.5	-5.3
KHC	Kasperske Hory	2.85	217	ePN	Pn	19 40 48.6	-2.2
KHC				ePG	Pg	19 40 54.9	-5.3
KHC				eSG	Sg	19 41 32.1	-6.1
KHC	Kasperske Hory	2.85	217	Pg	Pg	19 40 54.9	-5.3
KHC				Sg	Sg	19 41 32.1	-6.1
KHC	Kasperske Hory	2.85	217	eP	Pn	19 40 48.6	-2.2
KHC				e		19 41 32.1	
MOX	Moxa	2.98	256	ePn	Pn	19 40 51.0	-1.7
MOX	Moxa	2.98	256	Pg	Pg	19 41 00.0	-2.8
MOX				Sg	Sg	19 41 39.0	-3.6
MOX	Moxa	2.98	256	iPg	Pg	19 40 59.6	-3.2
MOX				iSg	Sg	19 41 39.2	-3.4
SMOL	Smolenice	3.05	164	ePG	Pg	19 41 01.4	-2.7
SMOL				eSG	Sg	19 41 42.4	-2.4
GEC2	GERESS Array S	3.05	212	ePn	Pn	19 40 52.4	-1.2
GERES	GERESS Array B	3.05	212	Pn	Pn	19 40 52.4	-1.2
	comp=Z,0.5nm,0.3s,baz=30,slow=13,SNR=16						
GERES				Pg	Pg	19 40 58.3	-5.8
	comp=Z,3.6nm,0.3s,baz=33,slow=16,SNR=50						
GERES				Lg		19 41 36.6	
	comp=Z,4.2nm,0.3s,baz=29,slow=24,SNR=7.8						
GERES	GERESS Array B	3.05	212	Pg	Pg	19 40 58.3	-5.9
WET	Wettzell	3.12	224	ePn	Pn	19 40 52.7	-1.9
VKA	Vienna	3.19	178	⇑iPG	Pg	19 41 02.4	-4.5
VKA				iSG	Sg	19 41 46.3	-3.1
ZST	Bratislava	3.31	169	eSG	Sg	19 41 49.9	-3.6
VYHS	Vyhne	3.42	149	eSG	Sg	19 41 54.3	-2.9
GRA1	Grafenberg Arr	3.61	243	ePn	Pn	19 40 59.7	-1.8
GRA1				eSg	Sg	19 41 56.5	-6.9
GRA1	Grafenberg Arr	3.61	243	Pn	Pn	19 40 59.7	-1.8
GRA1				Sg	Sg	19 41 56.5	-6.9
GRF	Grafenberg Arr	3.61	243	ePn	Pn	19 40 59.7	-1.8
GRF				eSg	Sg	19 41 56.5	-6.9
MOA	Molln	3.81	200	⇑iPN	Pn	19 41 02.0	-2.3
MOA				iSG	Sg	19 42 04.9	-5.1
	comp=Z,25nm,0.7s						
MOA	Molln	3.81	200	⇑iPn	Pn	19 41 02.0	-2.3
STHS	Stebnicka Huta	3.83	120	ePN	Pn	19 41 05.2	+0.5
STHS				ePG	Pg	19 41 18.4	-1.4
STHS				eSN	Sn	19 41 54.5	+3.5
STHS				eSG	Sg	19 42 09.6	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KECS	Kecovo	4.07	135	eSG	Sg	19 42 09.7	-9.1
ARSA	Arzberg	4.22	186	⇑iPN	Pn	19 41 07.0	-3.2
ARSA				i SG	Sg	19 42 14.5	-9.3
	comp=Z,21nm,0.8s						
ARSA	Arzberg	4.22	186	⇑iPn	Pn	19 41 07.0	-3.3
KBA	Koelnbreinsper	4.75	204	⇑iPN	Pn	19 41 14.1	-3.6
KBA				i SG	Sg	19 42 34.1	-7.2
	comp=Z,10nm,0.6s						
DAVOX	Davos	6.23	224	Pn	Pn	19 41 34.2	-4.4
	comp=Z,0.1nm,0.3s,baz=140,slow=23,SNR=2.0						
DAVOX				Sn	Sn	19 42 45.2	-6.2
	comp=Z,0.3nm,0.3s,baz=162,slow=21,SNR=2.8						
DAVOX				Lg		19 43 16.4	
	comp=Z,0.4nm,0.3s,baz=45,slow=21,SNR=2.4						
DAVOX	Davos	6.23	224	Sn	Sn	19 42 45.2	-6.3
AKASG	Malin Array Be	8.26	90	Pn	P	19 42 03.5	-3.6
	comp=Z,0.4nm,0.3s,baz=279,slow=12,SNR=3.3						
AKASG				Sn	Sn	19 43 31.4	-11
	comp=Z,0.5nm,0.3s,baz=275,slow=23,SNR=3.7						
AKASG				Lg		19 44 24.9	
	comp=Z,0.1nm,0.3s,baz=268,slow=30,SNR=2.5						
HFS	Hagfors	8.82	352	Pn	P	19 42 08.6	-6.2
	comp=Z,0.0nm,0.3s,baz=170,slow=16,SNR=3.9						
HFS				Sn	Sn	19 43 43.4	-13
	comp=Z,0.0nm,0.3s,baz=174,slow=26,SNR=2.3						
NOA	NORSAR Array B	10.00	346	Pn	P	19 42 23.9	-7.1
	comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=2.4						
FINES	FINESS Array B	11.41	25	Pn	P	19 42 42.2	-8.1
	comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=7.7						
FINES				Sn	S	19 44 44.6	-15
	comp=Z,0.1nm,0.3s,baz=211,slow=24,SNR=3.7						
FINES	FINESS Array B	11.41	25	Sn	S	19 44 44.6	-15
ARCES	ARCESS Array B	18.68	10	Pn	P	19 44 18.0	-6.5
	comp=Z,0.2nm,0.3s,baz=197,slow=13,SNR=7.1						

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*IDC **02** 19:53:44.4±15.0, 36.45N×71.18E, h196km±141km, mb3.3/4, mb1 3.3/7, mb1mx3.1/20, mbtmp3.8/7, Error ellipse: s-maj=101.9km s-min=21.5km az=34.0*
*MOS **02** 19:53:44.4±0.8, 36.46N×71.07E, h212km, mb3.7/1, Error ellipse: s-maj=35.2km s-min=12.8km az=87.7*
*NEIC **02** 19:53:45.5±3.8, 36.49N×71.20E, h206km±31km, mb4.1/2, Error ellipse: s-maj=37.9km s-min=17.3km az=215.0*
*NNC **02** 19:53:53.7±4.0, 37.17N×71.07E, h241km±46km, mpv3.7, Error ellipse: s-maj=41.3km s-min=23.5km az=13.0*
ISC 02 19:53:47.6±0.6**, 36.67N**±0.05×**71.2E**±0.1**, h234**km±9km**, n30,** σ**0.87**/35**, mb3.4**/5**, 6C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.89	169	⇑P	P	19 54 38.8	+0.5
CEP				S	S	19 55 13.0	-4.7
CHCP	Chirah Chowk	3.44	150	P	P	19 54 45.6	+1.0
THW	Thamme Wali	3.89	173	⇓P	P	19 54 50.0	+0.1
THW				S	S	19 55 35.0	-3.2
SARP	Sargodha	4.88	165	⇑P	P	19 55 01.8	-0.2
AML	Almayashu	5.78	19	P	P	19 55 13.5	+0.2
	SNR=76						
UCH	Uchtor	6.11	24	P	P	19 55 18.0	+0.5
	SNR=38						
EKS2	Erkin-Say	6.30	17	P	P	19 55 20.6	+0.7
	SNR=7.0						
KK31	Karatay Array	6.45	355	⇓P	P	19 55 20.8	-1.0
	0.8nm,0.3s,baz=174,slow=12,SNR=26						
KK31				⇓S	S	19 56 30.3	-5.1
	12nm,0.6s,baz=178,slow=17,SNR=14						
AAK	Ala-Archa	6.47	22	P	P	19 55 22.5	+0.4
	SNR=16						
AAK	Ala-Archa	6.47	22	⇑P	P	19 55 22.3	+0.3
	11nm,0.5s						
AAK				⇑S	S	19 56 34.3	-1.5
	27nm,0.8s						
AAK	Ala-Archa	6.47	22	ePn	P	19 55 21.4	-0.7
	17nm,0.6s						
AAK				eSn	S	19 56 34.1	-1.7
AAK	Ala-Archa	6.47	22	ePN	P	19 55 21.4	-0.6
AAK				pmax	pmax		
	comp=Z,17nm,0.6s						
KBK	Karagaybulak	6.64	25	P	P	19 55 25.6	+1.5
	SNR=8.6						
ULHL	Ulahol	6.79	33	P	P	19 55 26.3	+0.2
	SNR=17						
CHMS	Chumysh	6.88	22	P	P	19 55 27.2	0.0
	SNR=7.7						
TKM2	Tokmak 2	7.10	27	P	P	19 55 30.3	+0.3
	SNR=21						
MK09	Makanchi Array	13.03	36	⇑P	P	19 56 44.8	-0.5
	comp=Z,0.8nm,0.5s						
MKAR	Makanchi Array	13.05	36	P	P	19 56 44.9	-0.5
	comp=Z,0.4nm,0.3s,baz=221,slow=13,SNR=20						
AB31	Akbulak array	15.03	330	P	P	19 57 10.2	+0.4
	comp=Z,0.5nm,0.4s,baz=138,slow=10,SNR=13						
BVAR	Borovoye Array	16.37	358	P	P	19 57 25.7	+0.1
	comp=Z,0.2nm,0.3s,baz=180,slow=12,SNR=6.2						
BVAR	Borovoye Array	16.37	358	P	P	19 57 25.8	+0.2
AKTO	Aktyubinsk	16.73	329	⇑P	P	19 57 26.8	-2.9
	comp=Z,0.5nm,0.5s						
ZAL	Zalesovo	19.67	24	P	P	19 58 00.1	0.0
	comp=Z,0.5nm,0.3s,baz=260,slow=9.5,SNR=3.9						
ARU	Arti	21.53	341	P	P	19 58 19.7	+1.2
	comp=Z,1.3nm,0.6s,mb3.6						
ARU	Arti	21.53	341	P	P	19 58 19.7	+1.2
ARU				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
FINES	FINESS Array B	37.44	326	P	P	20 00 39.8	+0.1
	comp=Z,0.7nm,0.4s,mb3.6,baz=120,slow=8.6,SNR=14						
ARCES	ARCESS Array B	41.06	337	P	P	20 01 09.9	+0.5
	comp=Z,1.0nm,0.5s,mb3.5,baz=117,slow=8.2,SNR=20						
NB2	NORSAR Subarra	44.35	323	P	P	20 01 35.3	-0.5
	comp=Z,1.0nm,0.5s,mb3.4,baz=97,slow=7.9						
NOA	NORSAR Array B	44.35	323	P	P	20 01 35.6	-0.2
	comp=Z,1.2nm,0.5s,mb3.5,baz=96,slow=7.7,SNR=7.3						
WRA	Warramunga Arr	81.93	122	P	P	20 05 42.0	-0.5
	comp=Z,0.2nm,0.6s,mb2.9,baz=326,slow=4.8,SNR=5.4						

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*NEIC **02** 20:04:32.4±0.6, 43.76N×105.22W, ML3.1, Error ellipse: s-maj=8.3km s-min=6.3km az=135.0, Suspected Mining explosion.*
NEIC 0.0 [ ]. 65 km [40 miles] SSE of Gillette.
*IDC **02** 20:04:32.8±1.5, 43.89N×105.58W, mb3.7/1, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=47.8km s-min=8.3km az=149.0*
ISC 02 20:04:30.3±0.8**, 43.75N**±0.07×**105.18W**±0.10**, n20,** σ**0.87**/20**, mb4.5**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR	Pinedale Array	3.34	254	Pn	Pn	20 05 25.6	+0.6
	1.9nm,0.3s,baz=73,slow=17,SNR=36						
PDAR				Pg	Pg	20 05 31.8	-5.3
	6.7nm,0.3s,baz=71,slow=19,SNR=69						
PDAR				Lg		20 06 11.8	
	8.9nm,0.3s,baz=69,slow=33,SNR=14						
GCMT	Greycliff	3.79	304	P	Pn	20 05 31.4	+0.1
LOHW	Long Hollow	3.94	270	eP	Pn	20 05 34.4	+1.1
ISCO	Idaho Springs	3.96	185	eP	Pn	20 05 35.0	+1.3
SNOW	Snow King Moun	4.06	268	P	Pn	20 05 36.2	+1.2
YFT	Old Faithful	4.13	282	P	Pn	20 05 36.7	+0.6
TPAW	Teton Pass	4.20	268	eP	Pn	20 05 36.8	-0.2
RRI2	Red Ridge	4.48	267	eP	Pn	20 05 41.8	+0.7
DGMT	Dagmar	4.77	8	P	Pn	20 05 46.7	+1.5
BOZ	Bozeman (W)	4.97	295	eP	Pn	20 05 47.6	-0.4
HWUT	Hardware Ranch	5.17	248	eP	Pn	20 05 50.6	-0.3
HRY	Holter Researc	5.55	305	P	Pn	20 05 54.5	-1.7
SPUT	South Promonto	5.90	248	eP	Pn	20 06 00.8	-0.3
HVU	Hansel Valley	5.93	253	eP	Pn	20 06 00.6	-0.9
SRU	San Rafael	6.13	223	eP	Pn	20 06 03.3	-1.1
TMUT	Trail Mountain	6.34	228	eP	Pn	20 06 06.7	-0.7
ULM	Lac du Bonnet	9.09	41	Pn	P	20 06 45.0	-0.7
	1.0nm,0.3s,baz=232,slow=12,SNR=8.5						
NVAR	Mina Array Bea	11.23	246	Pn	P	20 07 15.0	-0.2
	0.1nm,0.3s,baz=58,slow=12,SNR=2.8						
TXAR	Lajitas Array	14.44	175	Pg	Px	20 09 06.0	
	0.0nm,0.3s,baz=21,slow=13,SNR=4.2						
ARCES	ARCESS Array B	61.39	18	P	P	20 14 49.3	-0.6
	4.6nm,1.2s,mb4.5,baz=337,slow=6.9,SNR=6.8						

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*NIED **02** 20:08:00, 37.20N×142.30E, h29km, Mw3.9 Best double couple: $M_0$8.75×10^14 NP1:ϕ_s10°, δ67°, λ93°. NP2:ϕ_s183°, δ23°, λ84°.*
*JMA **02** 20:08:58.9±0.2, 37.15N×142.27E, h21km±4km, M4.4*
JMA Felt I J1.
*IDC **02** 20:08:58.1±1.0, 37.11N×142.11E, mb4.0/10, mb1 4.1/12, mb1mx4.0/22, mbtmp4.0/12, ML3.7/2, MS3.5/2, Ms1 3.5/2, ms1mx3.2/22, Error ellipse: s-maj=27.6km s-min=18.5km az=92.0*
*MOS **02** 20:09:00.8±0.9, 37.18N×142.28E, h34km, mb4.2/4, Error ellipse: s-maj=15.7km s-min=10.9km az=126.2*
*BJI **02** 20:09:02.7, 37.10N×142.10E, h47km, mb4.2*
*NEIC **02** 20:09:04.8±1.9, 37.14N×142.10E, h48km±15km, mb4.4/5, Error ellipse: s-maj=17.1km s-min=15.2km az=80.0*
NEIC Recorded [1 JMA] in Fukushima Prefecture.
ISC 02 20:08:59.3±1.9**, 37.14N**±0.05×**142.29E**±0.07**, h24**km±13km**, n44,** σ**0.77**/49**, mb4.1**/17**, MS3.9**/1**, 1C-6D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	1.15	282	⇓P	Pn	20 09 19.3	-0.7
ONAJ	Iwakimizuishiy	1.19	269	⇓P	Pn	20 09 20.0	-0.6
JMM	Marumori	1.39	302	⇓P	Pn	20 09 22.9	-0.6
JMM				eS	Sn	20 09 40.5	-0.7
JIO	Ouri	1.51	331	⇓P	Pn	20 09 24.7	-0.5
JIO				eS	Sn	20 09 43.4	-0.8
JFT	Otama	1.60	284	⇓P	Pn	20 09 26.8	+0.3
JFT				eS	Sn	20 09 47.0	+0.5
JOU	Okura	1.78	314	⇓P	Pn	20 09 29.1	+0.1
JMK	Ichinoseki	2.00	335	⇑P	Pn	20 09 32.4	+0.3
JYS	Shirataka	2.07	302	P	Pn	20 09 34.0	+0.8
JFY	Yanaizu	2.08	278	P	Pn	20 09 34.1	+0.8
JYK	Kaneyama	2.34	320	P	Pn	20 09 37.1	+0.1
MAJO	Matsushiro	3.33	261	ePn	Pn	20 09 52.0	+0.9
MAT	Matsushiro	3.33	261	P	Pn	20 09 52.1	+1.0
MAT				eS	Sn	20 10 31.4	+1.1
MAT	Matsushiro	3.33	261	eP	Pn	20 09 52.0	+0.9
MAT				eS	Sn	20 10 36.0	+5.7
JHJ	Hachijo jima 2	4.51	208	Pn	Pn	20 10 07.5	-0.4
	26nm,0.3s,baz=234,slow=8.7,SNR=7.4						
JHJ				Sn	Sn	20 10 57.1	-3.1
	19nm,0.3s,baz=3.6,slow=21,SNR=2.3						
ASAJ	Asahikawa	6.97	2	Pn	Pn	20 10 41.9	-0.7
	1.0nm,0.3s,baz=132,slow=9.2,SNR=9.1						
ASAJ				Sn	Sn	20 11 54.8	-7.2
	0.8nm,0.3s,baz=172,slow=15,SNR=2.5						
ASAJ	Asahikawa	6.97	2	P	Pn	20 10 41.9	-0.7
ASAJ						20 11 54.8	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JNU	Nakatsue	10.17	250	Pn	P	20 11 26.6	-0.3
	comp=N,0.4nm,0.3s,baz=35,slow=22,SNR=4.4						
JNU				LR	LR	20 14 44.2	
	comp=N,128nm,19.2s,baz=347,slow=34						
QZH	Quanzhou	23.59	246	eP	P	20 14 28.3	+19
QZH				Smax			
	comp=N,120nm,0.6s						
QZH				Smax			
	comp=E,70nm,0.4s						
CIT	Chita	25.09	316	eP	P	20 14 24.0	+0.7
BOD	Bodaibo	27.82	327	eP	P	20 14 47.6	-0.8
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
ULN	Ulaanbaatar	27.88	304	eP	P	20 14 48.7	-0.3
	comp=Z,1.1nm,0.6s,mb3.7						
ULN	Ulaanbaatar	27.88	304	eP	P	20 14 48.7	-0.3
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ENH	Enshi	28.04	266	eP	P	20 14 49.7	-1.0
	comp=Z,5.8nm,0.7s,mb4.3						
SONM	Songino Array	28.31	304	P	P	20 14 52.7	-0.2
	comp=Z,2.6nm,0.8s,mb3.9,baz=98,slow=8.9,SNR=24						
ZAK	Zakamensk	30.75	308	eP	P	20 15 14.2	-0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
KMI	Kunming	35.67	262	P	P	20 15 58.1	+0.5
KMI				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.0						
KMI	Kunming	35.67	262	P	P	20 15 58.1	+0.5
	comp=Z,13nm,0.6s,mb5.0						
KMI				pP	pP	20 16 03.1	-1.7
KMI				sP	sP	20 16 05.3	-2.6
KMI	Kunming	35.67	262	P	P	20 15 58.1	+0.5
KMI				*SP	sP	20 16 05.3	-2.6
KMI				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
ZAL	Zalesovo	42.37	312	P	P	20 16 53.7	+0.7
	comp=Z,1.0nm,0.4s,mb3.8,baz=12,slow=9.3,SNR=6.5						
MKAR	Makanchi Array	44.66	302	P	P	20 17 11.4	-0.2
	comp=Z,1.7nm,0.6s,mb4.0,baz=77,slow=10,SNR=17						
KURK	Kurchatov	46.42	308	eP	P	20 17 25.5	0.0
	comp=Z,6.3nm,0.6s,mb4.7						
KURK	Kurchatov	46.42	308	eP	P	20 17 25.5	0.0
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
ILAR	Eielson Array	49.03	32	P	P	20 17 47.2	+1.5
	comp=Z,0.9nm,0.7s,mb3.9,baz=266,slow=6.4,SNR=12						
BVAR	Borovoye Array	51.02	312	P	P	20 18 02.1	+1.0
	comp=Z,0.4nm,0.3s,mb3.8,baz=77,slow=8.5,SNR=3.1						
WRA	Warramunga Arr	57.27	189	P	P	20 18 46.8	-0.7
	comp=Z,1.2nm,0.6s,mb4.1,baz=5.1,slow=7.3,SNR=23						
KAF	Kangasniemi	68.53	333	ep	P	20 19 59.3	-2.1
	comp=Z,1.1nm,0.4s,mb4.1,baz=49,slow=5.9						
KAF	Kangasniemi	68.53	333	eP	P	20 19 59.3	-2.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	69.05	333	P	P	20 20 04.7	+0.1
	comp=Z,1.4nm,0.7s,mb4.0,baz=68,slow=10,SNR=8.7						
FINES				LR	LR	20 51 22.6	
	comp=Z,75nm,19.5s,MS3.9,baz=54,slow=37						
NB2	NORSAR Subarra	74.36	338	P	P	20 20 36.7	+0.5
	comp=Z,0.8nm,0.6s,mb3.8,baz=39,slow=5.8						
NOA	NORSAR Array B	74.36	338	P	P	20 20 37.0	+0.8
	comp=Z,0.9nm,0.6s,mb3.9,baz=38,slow=5.9,SNR=4.8						
AKASG	Malin Array Be	74.64	323	P	P	20 20 38.1	+0.1
	comp=Z,1.2nm,0.3s,mb4.2,baz=47,slow=6.2,SNR=9.8						
GERES	GERESS Array B	82.99	329	P	P	20 21 24.4	+1.0
	comp=Z,0.4nm,0.6s,mb3.6,baz=45,slow=5.7,SNR=5.4						
LPAZ	La Paz	146.03	60	PKPbc	PKPbc	20 28 41.8	+4.1
	comp=Z,0.6nm,0.4s,baz=3.0,slow=8.8,SNR=4.5						
LPAZ	La Paz	146.03	60	PKP2	PKPab	20 28 41.8	+1.7
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						

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*NIED **02** 20:13:00, 25.10N×123.20E, h155km, Mw4.2 Best double couple: $M_0$1.99×10^15 NP1:ϕ_s303°, δ66°, λ-96°. NP2: ϕ_s139°, δ24°, λ-76°.*
*BJI **02** 20:13:25.0, 25.23N×123.21E, h130km, mB4.7, mb4.4*
*NEIC **02** 20:13:26.4±0.6, 25.08N×123.14E, h158km±7km, mb4.4/6, Error ellipse: s-maj=11.4km s-min=8.4km az=110.0*
*IDC **02** 20:13:26.1±2.5, 25.21N×123.34E, h158km±24km, mb3.7/7, mb1 3.7/8, mb1mx3.4/23, mbtmp4.2/8, Error ellipse: s-maj=23.0km s-min=12.3km az=71.0*
*JMA **02** 20:13:27.9±0.2, 25.08N×123.19E, h140km±3km, M4.4*
ISC 02 20:13:25.0±0.3**, 25.11N**±0.05×**123.23E**±0.04**, h160**km±3km**, n42,** σ**1.21**/60**, mb4.1**/10**, 2D, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.67	197	P	P	20 13 49.0	+0.3
YOJ				S	S	20 14 05.4	-1.6
IRIF	Iriomote-Funau	0.90	149	P	P	20 13 50.7	+0.6
IRIF				S	S	20 14 08.2	-1.2
JIJ	Ishigaki jima	1.12	131	P	P	20 13 52.7	+0.8
JIJ				S	S	20 14 11.5	-1.1
JKRS	Kuro-shima	1.12	140	P	P	20 13 53.2	+1.3
JKRS				S	S	20 14 12.3	-0.4
HATJ	Hateruma jima	1.17	153	P	P	20 13 53.5	+1.1
HATJ				S	S	20 14 12.7	-0.9
JTJ	Tarama	1.42	109	P	P	20 13 56.5	+1.7
JTJ				S	S	20 14 18.3	+0.4
TATO	Taipei	1.58	266	ePn	P	20 13 56.8	+0.4
YHNB	Yeheng	1.73	256	ePn	P	20 13 58.1	0.0
YHNB				eSn	S	20 14 21.6	-2.0
JMJ	Miyako jima 2	1.90	98	P	P	20 14 02.0	+2.1
JMJ				S	S	20 14 27.6	+0.8
JOGS	Gusukube	2.01	99	P	P	20 14 03.5	+2.4
JOGS				S	S	20 14 30.1	+1.1
JKE	Kume jima 2	3.43	69	P	P	20 14 19.9	+0.9
JKE				S	S	20 15 00.7	+0.3
JAGN	Aguni-jima	3.91	67	P	P	20 14 25.8	+0.7
JAGN				S	S	20 15 09.5	-1.9
NAH1	Naha	4.17	74	P	P	20 14 29.9	+1.3
NAH1				S	S	20 15 17.5	-0.1
JJT2	Tamagusuku 2	4.21	75	P	P	20 14 30.0	+1.0
JJT2				S	S	20 15 18.2	-0.2
JIH	Iheya	4.68	65	P	P	20 14 35.3	+0.2
JIH				S	S	20 15 27.3	-2.0
JOW	Kunigami	4.86	68	P	P	20 14 37.2	-0.3
JOW				S	S	20 15 29.9	-3.6
	26nm,0.3s,baz=132,slow=26,SNR=6.9						
JOW	Kunigami	4.86	68	P	P	20 14 37.0	-0.5
JOW				S	S	20 15 31.5	-2.1
JTK	Tokunoshima	5.78	61	P	P	20 14 48.7	-1.0
JTK				S	S	20 15 52.8	-2.7
JAM	Amami Oshima	6.58	59	P	P	20 14 59.0	-1.4
JMZ	Minamidaito 2	7.26	83	P	P	20 15 07.0	-2.5
JMZ				eS	S	20 16 23.2	-7.7
JNU	Nakatsue	10.41	38	P	P	20 15 53.5	+2.5
	0.9nm,0.3s,baz=23,slow=1.5,SNR=6.2						
INCN	Inchon	12.68	12	ePn	P	20 16 27.8	+7.3
	19nm,0.7s						
KS15	Wonju Array Si	12.92	17	ePn	P	20 16 27.0	+3.4
HHC	Hu-ho-hao-te	18.47	331	eP	P	20 17 33.5	+2.4
HHC				AMB	AMB		
	comp=Z,14nm,0.6s						
HHC				AMB	AMB		
	comp=Z,146nm,4.2s						
KMI	Kunming	18.55	274	P	P	20 17 35.5	+3.4
KMI				AMB	AMB		
	comp=Z,7.0nm,1.5s						
KMI				AMB	AMB		
	comp=Z,215nm,6.2s						
KMI	Kunming	18.55	274	P	P	20 17 35.5	+3.4
	comp=Z,7.0nm,1.5s						
CN2	Changchun	18.74	5	eP	P	20 17 34.7	+0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
KKM	Kota Kinabalu	20.11	201	eP	P	20 17 48.4	+0.2
ASAJ	Asahikawa	24.67	35	P	P	20 18 31.8	-0.5
	comp=Z,3.9nm,0.3s,mb4.4,baz=212,slow=15,SNR=15						
SONM	Songino Array	26.30	334	P	P	20 18 47.0	-0.4
	comp=Z,0.4nm,0.7s,mb3.2,baz=154,slow=9.1,SNR=4.8						
SONM				pP	pP	20 19 21.0	+0.9
	comp=Z,0.5nm,0.7s,baz=153,slow=6.3,SNR=5.1						
KSM	Kuching	26.60	210	eP	P	20 18 50.3	-0.2
MKAR	Makanchi Array	39.00	314	P	P	20 20 36.8	-0.5
	comp=Z,0.8nm,0.3s,mb3.8,baz=90,slow=8.9,SNR=22						
FITZ	Fitzroy Crossi	43.01	177	eP	P	20 21 09.9	-0.5
	comp=Z,8.3nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	43.01	177	P	P	20 21 10.0	-0.4
	comp=Z,6.1nm,0.5s,mb4.5,baz=21,slow=3.6,SNR=13						
WRAB	Tennant Creek	46.06	165	eP	P	20 21 34.8	+0.1
	comp=Z,5.6nm,0.3s,mb4.7						
WRA	Warramunga Arr	46.06	165	P	P	20 21 35.1	+0.3
	comp=Z,14nm,0.5s,mb4.8,baz=348,slow=8.9,SNR=155						
WB2	Warramunga Arr	46.07	165	⇓iP	P	20 21 35.1	+0.4
MBWA	Marble Bar	46.11	185	eP	P	20 21 33.5	-1.6
	comp=Z,2.6nm,0.5s,mb4.1						
BVAR	Borovoye Array	48.16	320	P	P	20 21 49.8	-0.8
	comp=Z,0.4nm,0.4s,mb3.4,baz=100,slow=9.0,SNR=4.8						
BVAR				ScP		20 26 52.9	
	comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=3.9						
STKA	Stephens Creek	59.32	162	⇓iP	P	20 23 12.1	-0.4
	comp=Z,3.6nm,0.6s,mb4.4						
STKA	Stephens Creek	59.32	162	P	P	20 23 12.1	-0.3
	comp=Z,4.8nm,0.6s,mb4.5,baz=338,slow=6.0,SNR=24						
FINES	FINESS Array B	71.59	330	P	P	20 24 29.1	-1.1
	comp=Z,0.5nm,0.7s,mb3.4,baz=56,slow=6.9,SNR=4.4						

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*GUC **02** 21:09:04.8±0.9, 32.04S×66.98W, h47km±999km, ML4.7*
*IDC **02** 21:09:04.3±3.6, 31.87S×67.65W, h21km±23km, mb3.2/2, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=38.7km s-min=25.3km az=39.0*
*NEIC **02** 21:09:07.5±0.8, 31.76S×67.38W, h45km±9km, mb3.8/2, Error ellipse: s-maj=11.4km s-min=9.1km az=175.0*
ISC 02 21:09:03.1±0.8**, 31.67S**±0.06×**67.13W**±0.05**, h33**km**, n39,** σ**1.03**/48**, mb3.5**/2**, 2C-3D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.94	274	Pg	P	21 09 15.6	-4.4
	12nm,0.3s,baz=142,slow=16,SNR=682						
CFAA				Lg		21 09 23.7	
	50nm,0.3s,baz=267,slow=13,SNR=60						
CFAA	Coronel Fontan	0.94	274	Pg	P	21 09 15.6	-4.4
CFAA				Lg		21 09 23.7	
ZON	Zonda	1.33	275	eP	P	21 09 25.6	+0.2
ZON				eS	S	21 09 41.7	-0.4
MDZ	Mendoza	1.89	230	⇓iP	P	21 09 31.0	-2.6
MDZ				i		21 09 49.1	
MDZ				i		21 09 52.0	
JACH	Jahuel	3.10	250	eP	P	21 09 50.7	-0.1
JACH				i S	S	21 10 27.4	+0.1
JACH	Jahuel	3.10	250	⇑iP	P	21 09 50.9	0.0
JACH				i S	S	21 10 27.4	+0.1
FCH	Farellones	3.14	237	eP	P	21 09 52.1	+0.8
FCH				i S	S	21 10 28.1	-0.1
FCH				AMP		21 10 31.3	
	comp=E,787nm,0.4s						
CMCH	Combarbala	3.34	277	eP	P	21 09 57.1	+2.8
CMCH				i S	S	21 10 37.6	+4.3
CMCH				AMP		21 10 43.9	
	comp=E,5µm,0.8s						
CMCH	Combarbala	3.34	277	⇑iP	P	21 09 54.5	+0.2
CMCH				eS	S	21 10 33.1	-0.3
PEL	Peldehue	3.35	243	eP	P	21 09 54.7	+0.4
PEL				eS	S	21 10 33.2	-0.2
CLCH	Cerro Calan	3.35	238	eP	P	21 09 54.5	+0.1
CLCH				i S	S	21 10 32.7	-0.9
CLCH				AMP		21 10 37.5	
	comp=N,1µm,0.8s						
LMEL	Las Melosas	3.38	229	eP	P	21 09 54.0	-0.8
LMEL				AMP		21 10 38.7	
	comp=N,778nm,0.2s						
LMEL	Las Melosas	3.38	229	eP	P	21 09 56.1	+1.3
LMEL				i S	S	21 10 35.6	+1.3
PCH	Pirque	3.45	235	eP	P	21 09 55.6	-0.2
PCH	Pirque	3.45	235	eP	P	21 09 56.9	+1.1
PCH				i S	S	21 10 37.1	+1.0
TLL	Tololo Astrono	3.49	294	eP	P	21 10 02.1	+5.7
TLL				i S	S	21 10 44.5	+7.4
ROCH	El Roble	3.53	247	eP	P	21 09 58.9	+2.0
RCDM	Rinconada Maip	3.59	239	eP	P	21 09 56.3	-1.5
RCDM	Rinconada Maip	3.59	239	eP	P	21 09 57.6	-0.2
RCDM				eS	S	21 10 39.2	-0.5
CHCH	Chadas Angostu	3.73	232	eP	P	21 09 58.9	-0.8
CHCH	Chadas Angostu	3.73	232	⇓iP	P	21 09 59.5	-0.2
TACH	Talagante	3.77	237	eP	P	21 09 58.1	-2.2
CACH	El Canelo	3.80	229	eP	P	21 09 59.9	-0.9
CACH	El Canelo	3.80	229	eP	P	21 10 01.4	+0.6
CACH				i S	S	21 10 46.1	+1.1
CICH	Cipreses	3.83	225	eP	P	21 09 59.8	-1.3
LCCH	Las Cruces	4.16	243	eP	P	21 10 06.3	+0.5
LCCH	Las Cruces	4.16	243	⇓iP	P	21 10 04.7	-1.1
TRQA	Tornquist	7.65	148	ePn	Pn	21 10 55.8	+0.7
	comp=N,8.3nm,0.5s						
PLCA	Paso Flores	9.46	196	Pn	P	21 11 19.1	-0.8
	comp=N,0.3nm,0.3s,baz=9.8,slow=14,SNR=5.9						
PLCA				Lg		21 13 47.1	
	comp=N,0.4nm,0.3s,baz=7.3,slow=6.8,SNR=4.1						
CPUP	Villa Florida	10.09	61	Pn	P	21 11 33.6	+4.8
	comp=N,0.4nm,0.3s,baz=249,slow=11,SNR=4.5						
LPAZ	La Paz	15.34	356	Pn	P	21 12 48.4	+10
	comp=N,0.3nm,0.3s,baz=185,slow=13,SNR=10						
LPAZ	La Paz	15.34	356	eP	P	21 12 45.7	+6.9
	comp=N,1.9nm,0.5s						
SNAA	Sanae	52.22	159	P	P	21 18 12.8	+0.3
	comp=N,0.2nm,0.4s,mb3.4,baz=273,slow=9.9,SNR=6.1						
SNAA	Sanae	52.22	159	eP	P	21 18 12.6	+0.1
	comp=N,1.1nm,0.5s,mb4.0						
TXAR	Lajitas Array	69.90	326	P	P	21 20 12.6	-0.3
	comp=N,0.2nm,0.5s,mb3.3,baz=170,slow=10,SNR=2.4						
WRA	Warramunga Arr	124.71	205	PKP	PKPdf	21 28 01.6	+1.6
	comp=N,0.3nm,0.6s,baz=158,slow=1.7,SNR=8.1						
ZAL	Zalesovo	150.02	34	PKPbc	PKPdf	21 28 55.1	+10
	comp=N,0.8nm,0.3s,baz=119,slow=4.8,SNR=4.5						
MKAR	Makanchi Array	152.13	48	PKPbc	PKPdf	21 28 59.0	+11
	comp=N,0.3nm,0.6s,baz=326,slow=4.4,SNR=3.8						
MKAR	Makanchi Array	152.13	48	PKPbc	PKPdf	21 28 59.0	+11

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*GUC **02** 21:11:58.4±0.5, 31.60S×67.30W, h15km, MD3.9, ML4.1*

*NEIC **02** 21:12:06.9±2.5, 31.80S×67.72W, h35km, ML4.1(GUC), Error ellipse: s-maj=35.1km s-min=13.4km az=105.0*

ISC 02 21:12:00.5±2.1**, 31.60S**±0.08×**67.3W**±0.1**, h33**km**, n9, σ0^{s}97**/14**, 1C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZON	**Zonda**	**1.21**	**272**	*e*P	**P**	**21 12 23.8**	**+2.7**
ZON				*e*S	**S**	**21 12 36.3**	**-0.3**
JACH	**Jahuel**	**3.02**	**248**	⇑*i*P	**P**	**21 12 46.2**	**-0.9**
JACH				*i* S	**S**	**21 13 22.9**	**+0.3**
CMCH	**Combarbala**	**3.22**	**277**	*e*P	**P**	**21 12 49.2**	**-0.8**
CMCH				*e*S	**S**	**21 13 28.1**	**+0.4**
PEL	**Peldehue**	**3.28**	**241**	*i* S	**S**	**21 13 29.2**	**+0.1**
CLCH	**Cerro Calan**	**3.29**	**236**	*i* S	**S**	**21 13 29.8**	**+0.3**
CLCH				AMP		21 13 36.4	
	comp=E,488nm,0.5s						
LMEL	**Las Melosas**	**3.34**	**227**	*e*P	**P**	**21 12 51.3**	**-0.3**
LMEL				*i* S	**S**	**21 13 31.2**	**+0.5**
LMEL				AMP		21 13 32.3	
	comp=N,260nm,0.5s						
PCH	**Pirque**	**3.40**	**233**	*e*P	**P**	**21 12 51.9**	**-0.7**
PCH				*i* S	**S**	**21 13 32.2**	**0.0**
CHNG	**Los Chungos**	**3.62**	**264**	*i* S	**S**	**21 13 36.5**	**-1.2**
CHNG				AMP		21 13 43.7	
	comp=N,274nm,0.4s						
ARE	**Arequipa**	**15.55**	**345**	P	**P**	**21 15 45.0**	**+5.9**

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*NEIC **02** 21:12:15.0±3.8, 6.63S×129.78E, h154km±35km, mb4.4/9, Error ellipse: s-maj=28.6km s-min=17.9km az=171.0*
*IDC **02** 21:12:17.5±4.1, 6.74S×129.60E, h190km±40km, mb3.7/4, mb1 4.0/7, mb1mx3.7/15, mbtmp4.5/7, Error ellipse: s-maj=28.4km s-min=19.5km az=55.0*

ISC 02 21:12:16.4±2.3**, 6.76S**±0.09×**129.80E**±0.10**, h186**km±24km**, n18, σ1^{s}19**/24**, mb4.0**/4**, 3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.46**	**156**	⇓*i*P	**P**	**21 14 08.1**	**+18**
	155nm,0.5s						
KAKA				*e*S	**S**	**21 15 18.8**	**+15**
FITZ	**Fitzroy Crossi**	**11.98**	**199**	*e*P	**P**	**21 15 03.4**	**+1.1**
	23nm,0.3s						
FITZ				*i* S	**S**	**21 17 12.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.98**	**199**	P	**P**	**21 15 03.5**	**+1.2**
	12nm,0.3s,baz=17,slow=9.6,SNR=68						
FITZ				S	**S**	**21 17 12.0**	**-0.7**
	22nm,0.3s,baz=191,slow=18,SNR=7.8						
WRAB	**Tennant Creek**	**13.82**	**162**	*e*Pn	**P**	**21 15 24.7**	**-1.0**
	33nm,0.3s						
WRAB				*e*P		21 15 30.3	
WRAB				*e*Sn	**S**	**21 17 53.4**	**-1.5**
WRA	**Warramunga Arr**	**13.83**	**162**	P	**P**	**21 15 25.2**	**-0.6**
	1.6nm,0.3s,baz=346,slow=12,SNR=55						
WRA				S	**S**	**21 17 57.0**	**+1.9**
	4.1nm,0.3s,baz=344,slow=22,SNR=13						
WB2	**Warramunga Arr**	**13.83**	**162**	*e*P	**P**	**21 15 24.9**	**-0.9**
WB2				*i*		21 15 30.8	
WB2				*e*S	**S**	**21 17 54.3**	**-0.8**
MBWA	**Marble Bar**	**17.32**	**213**	*e*P	**P**	**21 16 09.5**	**+1.2**
	17nm,0.9s						
PMG	**Port Moresby**	**17.39**	**100**	P	**P**	**21 16 09.7**	**+0.6**
	2.3nm,0.3s,baz=357,slow=18,SNR=6.7						
PMG	**Port Moresby**	**17.39**	**100**	*e*P	**P**	**21 16 09.6**	**+0.5**
	21nm,0.7s						
CTA	**Charters Tower**	**20.75**	**131**	*e*P	**P**	**21 16 45.6**	**+1.7**
	6.3nm,0.5s						
CTA	**Charters Tower**	**20.75**	**131**	P	**P**	**21 16 45.9**	**+2.0**
	8.1nm,0.5s,baz=316,slow=10,SNR=8.2						
CTAO	**Charters Tower**	**20.75**	**131**	*e*P	**P**	**21 16 45.4**	**+1.5**
	11nm,0.7s						
KLBR	**Kellerberrin**	**27.15**	**203**	⇓*i*P	**P**	**21 17 45.7**	**+1.2**
	4.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.31**	**158**	⇓*i*P	**P**	**21 17 46.2**	**+0.3**
	2.5nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**27.31**	**158**	P	**P**	**21 17 46.4**	**+0.5**
	2.9nm,0.4s,mb4.3,baz=340,slow=8.6,SNR=37						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**21 22 54.9**	**-2.1**
	0.7nm,0.4s,mb3.8,baz=108,slow=8.0,SNR=25						
MKAR				pP	pP	21 23 41.9	+0.6
	1.2nm,0.7s,baz=129,slow=7.8,SNR=6.7						
VNDA	**Vanda**	**72.71**	**173**	P	**P**	**21 23 24.1**	**-1.2**
	0.7nm,0.6s,mb3.6,baz=295,slow=5.4,SNR=8.5						
VNDA	**Vanda**	**72.71**	**173**	*e*P	**P**	**21 23 25.4**	**+0.1**
	0.6nm,0.5s,mb3.6						

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*IDC **02** 21:38:26.8±2.1, 10.68N×139.67E, mb4.1/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, Error ellipse: s-maj=127.2km s-min=20.9km az=77.0*
*NEIC **02** 21:38:28.3±1.4, 10.67N×139.66E, h10km, mb4.4/2, Error ellipse: s-maj=82.3km s-min=13.5km az=77.0*

ISC 02 21:38:31.0±1.8**, 10.5N**±0.2×**139.2E**±0.7**, h33**km**, n11, σ0^{s}56**/11**, mb4.1**/9**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.65**	**189**	P	**P**	**21 44 44.3**	**-0.5**
	0.9nm,0.6s,mb3.8,baz=10,slow=9.8,SNR=6.3						
STKA	**Stephens Creek**	**42.23**	**177**	P	**P**	**21 46 23.7**	**+0.7**
	2.5nm,0.7s,mb4.0,baz=7.8,slow=11,SNR=6.6						
STKA	**Stephens Creek**	**42.23**	**177**	P	**P**	**21 46 23.7**	**+0.7**
SONM	**Songino Array**	**46.27**	**330**	P	**P**	**21 46 56.3**	**+1.1**
	1.1nm,0.9s,mb3.8,baz=142,slow=7.8,SNR=7.5						
MKAR	**Makanchi Array**	**59.92**	**318**	P	**P**	**21 48 36.1**	**-0.2**
	1.0nm,0.9s,mb3.8,baz=98,slow=8.6,SNR=6.3						
KURK	**Kurchatov**	**63.41**	**322**	*e*P	**P**	**21 48 59.3**	**-0.3**
	2.3nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**68.91**	**323**	P	**P**	**21 49 34.6**	**0.0**
	2.2nm,0.6s,mb4.2,baz=108,slow=7.5,SNR=12						
BRVK	**Borovoye**	**68.98**	**323**	*e*P	**P**	**21 49 35.1**	**+0.1**
	1.7nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**88.21**	**341**	P	**P**	**21 51 18.8**	**-0.8**
	3.9nm,1.0s,mb4.6,baz=68,slow=6.5,SNR=4.6						
ARCES	**ARCESS Array B**	**88.21**	**341**	P	**P**	**21 51 18.8**	**-0.8**
FINES	**FINESS Array B**	**91.49**	**334**	P	**P**	**21 51 35.1**	**-0.1**
	1.5nm,1.0s,mb4.3,baz=27,slow=4.3,SNR=6.2						

MAN 02 21:39:04.0, 8.79N×122.98E, h1km, mb3.8, ML2.5, MS2.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.42**	**120**	⇓*i*P	Pg	21 39 11.9	-0.5
DCPH				*i* S	Sg	21 39 17.7	-0.2
SNPH	**Sibulan**	**0.60**	**25**	⇑*i*P	Pg	21 39 15.5	-0.4
SNPH				*i* S	Sg	21 39 22.9	-1.1
PAGZ	**Pagadian**	**1.02**	**157**	*e*P	Pb	21 39 24.5	+0.4
PAGZ				*e*S	Sb	21 39 37.9	+0.1
IPIL	**Ipil**	**1.08**	**202**	*e*P	Pb	21 39 25.3	+0.2
IPIL				*e*S	Sb	21 39 43.5	+3.9

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*MOS **02** 21:56:05.8±0.7, 36.91N×135.44E, h369km, mb3.5/4, Error ellipse: s-maj=24.1km s-min=16.5km az=122.6*
*NEIC **02** 21:56:07.0±0.5, 36.94N×135.47E, h364km±8km, mb3.6/5, Error ellipse: s-maj=15.4km s-min=11.4km az=149.0*
*JMA **02** 21:56:06.9±0.2, 36.94N×135.46E, h363km±2km, M3.2*
*IDC **02** 21:56:06.3±1.7, 36.97N×135.58E, h355km±20km, mb3.0/6, mb1 3.1/8, mb1mx2.9/23, mbtmp3.7/8, Error ellipse: s-maj=24.6km s-min=16.5km az=94.0*

ISC 02 21:56:05.9±0.4**, 36.91N**±0.07×**135.50E**±0.06**, h371**km±5km**, n36, σ0^{s}67**/49**, mb3.3**/11**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.92**	**133**	P	**P**	**21 56 53.9**	**0.0**
JKG				*e*S	**S**	**21 57 31.0**	**-0.5**
JJH	**Hakui**	**1.02**	**89**	P	**P**	**21 56 54.6**	**+0.4**
JKY	**Yasaka**	**1.32**	**194**	P	**P**	**21 56 55.7**	**+0.1**
JKY				*e*S	**S**	**21 57 33.7**	**-0.9**
JGM	**Miyama**	**1.56**	**141**	P	**P**	**21 56 57.0**	**+0.1**
JSZ	**Suzu**	**1.58**	**70**	P	**P**	**21 56 57.4**	**+0.4**
JWT	**Wachi**	**1.63**	**183**	P	**P**	**21 56 57.4**	**+0.1**
JWT				*e*S	**S**	**21 57 36.3**	**-1.2**
MAJO	**Matsushiro**	**2.20**	**99**	*e*Pn	**P**	**21 57 01.4**	**+0.4**
MAT	**Matsushiro**	**2.20**	**99**	P	**P**	**21 57 01.3**	**+0.3**
MAT				S	**S**	**21 57 45.4**	**+1.2**
MAT	**Matsushiro**	**2.20**	**99**	P	**P**	**21 57 01.3**	**+0.3**
MAT				*e*S	**S**	**21 57 45.8**	**+1.6**
MAT	**Matsushiro**	**2.20**	**99**	*e*P	**P**	**21 57 01.0**	**0.0**
JSD	**Sado**	**2.46**	**62**	P	**P**	**21 57 03.3**	**+0.4**
JSD				*e*S	**S**	**21 57 48.2**	**+0.6**
JIE	**Ise**	**2.70**	**158**	P	**P**	**21 57 05.3**	**+0.5**
JIE				*e*S	**S**	**21 57 51.0**	**0.0**
JHS	**Saijyo**	**2.72**	**226**	P	**P**	**21 57 05.0**	**+0.1**
JHS				*e*S	**S**	**21 57 50.6**	**-0.7**
JRY	**Ryogami san**	**2.88**	**107**	P	**P**	**21 57 06.1**	**-0.1**
JGT	**Gotsu**	**3.19**	**235**	P	**P**	**21 57 09.7**	**+0.8**
JOD2	**Odawara 2**	**3.34**	**119**	P	**P**	**21 57 10.9**	**+0.6**
JOD2				*e*S	**S**	**21 58 01.7**	**+0.8**
JMK	**Ichinoseki**	**4.96**	**64**	P	**P**	**21 57 26.4**	**-0.2**
JMK				*e*S	**S**	**21 58 29.7**	**-0.2**
BSO1	**Boso 1**	**4.99**	**115**	P	**P**	**21 57 25.8**	**-1.2**
BSO1				*e*S	**S**	**21 58 29.4**	**-1.1**
JNU	**Nakatsue**	**5.36**	**226**	P	**P**	**21 57 31.6**	**+0.6**
	0.5nm,0.3s,baz=91,slow=11,SNR=4.4						
ASAJ	**Asahikawa**	**8.99**	**35**	P	**P**	**21 58 13.1**	**+0.2**
	2.2nm,0.3s,baz=219,slow=12,SNR=12						
ASAJ				S	**S**	**21 59 50.2**	**-3.0**
	0.5nm,0.3s,baz=43,slow=29,SNR=4.4						
ASAJ	**Asahikawa**	**8.99**	**35**	P	**P**	**21 58 13.1**	**+0.2**
ASAJ				S	**S**	**21 59 50.2**	**-3.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ENH	**Enshi**	**22.62**	**261**	*e*P	**P**	**22 00 36.9**	**-0.4**
	comp=N,6.8nm,0.8s,mb3.9						
SONM	**Songino Array**	**23.98**	**306**	P	**P**	**22 00 49.1**	**-0.5**
	comp=N,0.6nm,0.8s,mb2.9,baz=111,slow=9.8,SNR=3.9						
MKAR	**Makanchi Array**	**40.16**	**301**	P	**P**	**22 03 08.8**	**+0.3**
	comp=N,0.6nm,0.5s,mb3.1,baz=77,slow=11,SNR=7.7						
KURK	**Kurchatov**	**42.27**	**308**	*e*P	**P**	**22 03 25.5**	**+0.1**
	comp=N,2.3nm,0.8s,mb3.4						
KURK	**Kurchatov**	**42.27**	**308**	*e*P	**P**	**22 03 25.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.3						
AAK	**Ala-Archa**	**46.35**	**297**	*e*P	**P**	**22 03 57.4**	**-0.3**
	comp=Z,0.9nm,0.4s,mb3.2						
AAK	**Ala-Archa**	**46.35**	**297**	*e*P	**P**	**22 03 57.4**	**-0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.3						
BVAR	**Borovoye Array**	**47.13**	**312**	P	**P**	**22 04 04.3**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.1,baz=124,slow=11,SNR=5.3						
MCK	**McKinley**	**51.36**	**33**	*e*P	**P**	**22 04 34.5**	**-0.8**
	comp=Z,1.4nm,0.4s,mb3.5						
MCK	**McKinley**	**51.36**	**33**	*e*P	**P**	**22 04 34.5**	**-0.7**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.4						
ARU	**Arti**	**53.28**	**318**	*e*P	**P**	**22 04 48.9**	**-0.6**
	comp=Z,1.8nm,0.5s,mb3.7						
ARU	**Arti**	**53.28**	**318**	*e*P	**P**	**22 04 48.9**	**-0.6**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
WRA	**Warramunga Arr**	**56.56**	**181**	P	**P**	**22 05 13.2**	**+0.1**
	comp=Z,0.4nm,0.9s,mb2.7,baz=359,slow=7.6,SNR=8.0						
ARCES	**ARCESS Array B**	**62.39**	**338**	P	**P**	**22 05 52.4**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.4,baz=76,slow=10.0,SNR=4.5						
FINES	**FINESS Array B**	**66.65**	**330**	P	**P**	**22 06 19.3**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.5,baz=63,slow=4.3,SNR=8.6						

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*IDC **02** 22:24:49.7±1.1, 4.12S×133.09E, mb3.9/5, mb1 4.0/6, mb1mx3.9/14, mbtmp4.0/6, ML4.5/2, MS3.9/4, Ms1 3.8/4, ms1mx3.4/22, Error ellipse: s-maj=55.7km s-min=19.0km az=73.0*
*NEIC **02** 22:24:53.8±0.8, 4.15S×133.20E, h30km, mb4.4/4, Error ellipse: s-maj=26.4km s-min=10.5km az=72.0*

ISC 02 22:24:53.3±3.2**, 4.20S**±0.06×**133.3E**±0.1**, h42**km±31km**, n17, σ1^{s}45**/21**, mb4.0**/6**, MS4.0**/3**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.50**	**185**	*e*P	**P**	**22 27 14.8**	**+18**
	23nm,0.5s						
KAKA				*e*S	**S**	**22 28 50.0**	**+18**
WRAB	**Tennant Creek**	**15.68**	**176**	*e*Pn	**P**	**22 28 32.9**	**-0.1**
	13nm,0.6s						
WRAB				*e*Sn	**S**	**22 31 24.1**	**-1.4**
WRA	**Warramunga Arr**	**15.69**	**176**	Pn	**P**	**22 28 32.8**	**-0.3**
	0.6nm,0.3s,baz=2.5,slow=13,SNR=27						
WRA				Sn	**S**	**22 31 28.1**	**+2.5**
	0.7nm,0.3s,baz=0.2,slow=23,SNR=6.3						
WB2	**Warramunga Arr**	**15.69**	**176**	*e*P	**P**	**22 28 32.9**	**-0.2**
WB2				*e*S	**S**	**22 31 24.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**15.70**	**208**	*e*P	**P**	**22 28 32.9**	**-0.4**
	14nm,0.3s						
FITZ				*e*S	**S**	**22 31 24.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**15.70**	**208**	Pn	**P**	**22 28 33.5**	**+0.2**
	10.0nm,0.3s,baz=22,slow=12,SNR=68						
FITZ				Sn	**S**	**22 31 25.9**	**-0.2**
	4.4nm,0.3s,baz=189,slow=16,SNR=9.9						
FITZ				LR	LR	22 35 30.0	
	comp=Z,113nm,18.9s,baz=49,slow=41						
CTA	**Charters Tower**	**20.25**	**142**	P	**P**	**22 29 28.4**	**+0.6**
	2.8nm,0.5s,baz=293,slow=5.7,SNR=5.7						
CTA	**Charters Tower**	**20.25**	**142**	P	**P**	**22 29 28.4**	**+0.6**
MBWA	**Marble Bar**	**21.38**	**217**	*e*P	**P**	**22 29 42.9**	**+3.5**
	14nm,0.9s,mb4.3						
KSM	**Kuching**	**23.61**	**283**	*e*P	**P**	**22 30 03.5**	**+1.9**
STKA	**Stephens Creek**	**28.63**	**165**	P	**P**	**22 30 49.4**	**+1.2**
	2.5nm,0.8s,mb4.0,baz=327,slow=8.1,SNR=3.0						
STKA				LR	LR	22 43 02.7	
	comp=Z,174nm,21.8s,MS3.6,baz=121,slow=38						
JHJ	**Hachijo jima 2**	**37.62**	**9**	LR	LR	22 43 46.8	
	comp=Z,632nm,21.9s,MS4.4,baz=277,slow=30						
AFI	**Afiamalu**	**55.02**	**104**	LR	LR	22 58 27.6	
	comp=Z,104nm,18.1s,MS4.0,baz=46,slow=37						
SONM	**Songino Array**	**56.92**	**339**	P	**P**	**22 34 34.9**	**-1.7**
	0.5nm,0.5s,mb3.8,baz=156,slow=7.9,SNR=6.7						
MKAR	**Makanchi Array**	**67.74**	**325**	P	**P**	**22 35 47.7**	**-1.0**
	1.3nm,0.5s,mb4.2,baz=117,slow=8.1,SNR=16						
KURK	**Kurchatov**	**71.89**	**327**	*e*P	**P**	**22 36 11.8**	**-2.1**
	5.0nm,1.2s,mb4.3						
BVAR	**Borovoye Array**	**77.48**	**327**	P	**P**	**22 36 47.9**	**+1.8**
	0.5nm,0.6s,mb3.6,baz=129,slow=9.2,SNR=4.5						

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*NIED **02** 22:28:00, 38.30N×143.30E, h23km, Mw4.6 Best double couple: $M_0$8.42×10^{15} NP1:ϕ_s22°, δ60°, λ86°. NP2:ϕ_s210°, δ30°, λ97°.*
*IDC **02** 22:28:58.4±0.6, 38.31N×143.16E, mb4.4/17, mb1 4.6/20, mb1mx4.5/26, mbtmp4.4/20, ML4.0/3, MS4.0/9, Ms1 4.0/9, ms1mx3.6/29, Error ellipse: s-maj=19.3km s-min=14.4km az=92.0*
*JMA **02** 22:28:59.6±0.1, 38.34N×143.31E, h32km, M4.8*
JMA Felt I J1.
*BJI **02** 22:29:01.7, 38.38N×143.13E, h40km, mB4.7, mb4.8, Ms4.5, Msz4.2*
*NEIC **02** 22:29:04.2±0.9, 38.33N×143.15E, h40km±7km, mb4.8/49, MW4.5(NIED), Error ellipse: s-maj=7.4km s-min=5.2km az=101.0*
*MOS **02** 22:29:04.2±0.7, 38.62N×142.90E, h37km, mb5.0/44, Error ellipse: s-maj=10.7km s-min=5.4km az=115.3*

ISC 02 22:29:01.3±0.3**, 38.30N**±0.03×**143.19E**±0.03**, h31**km**, h31**km±1.7km**:pP-P, n218, σ0^{s}94**/225**, mb4.7**/82**, MS4.2**/22**, 14C-4D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.42**	**304**	P	**Pn**	**22 29 24.8**	**-0.5**
OFUJ				*e*S	**Sn**	**22 29 43.2**	**+0.1**
JIO	**Ouri**	**1.46**	**277**	P	**Pn**	**22 29 25.8**	**0.0**
JIO				*e*S	**Sn**	**22 29 45.1**	**+1.1**
JMK	**Ichinoseki**	**1.68**	**293**	P	**Pn**	**22 29 28.8**	**-0.2**
JOM	**Ohasama**	**1.89**	**309**	P	**Pn**	**22 29 31.7**	**-0.3**
JOM				*e*S	**Sn**	**22 29 55.7**	**+0.8**
JMM	**Marumori**	**1.94**	**258**	P	**Pn**	**22 29 32.7**	**-0.1**
JMM				*e*S	**Sn**	**22 29 56.6**	**+0.3**
JOU	**Okura**	**1.99**	**273**	P	**Pn**	**22 29 33.9**	**+0.5**
JOU				*e*S	**Sn**	**22 29 59.7**	**+2.2**
JFK	**Kawauchi**	**2.06**	**244**	P	**Pn**	**22 29 34.0**	**-0.5**
JFK				*e*S	**Sn**	**22 29 59.5**	**+0.2**
JYK	**Kaneyama**	**2.30**	**286**	P	**Pn**	**22 29 38.1**	**+0.1**
JYK				*e*S	**Sn**	**22 30 06.8**	**+1.3**
JANG	**Nango**	**2.44**	**328**	P	**Pn**	**22 29 38.3**	**-1.6**
JANG				*e*S	**Sn**	**22 30 07.4**	**-1.7**
JNS	**Sasagawa**	**3.10**	**262**	P	**Pn**	**22 29 49.6**	**+0.4**
JNS				*e*S	**Sn**	**22 30 26.3**	**+0.7**
JAW	**Awa shima**	**3.10**	**274**	P	**Pn**	**22 29 50.0**	**+0.7**
MAJO	**Matsushiro**	**4.34**	**248**	*e*Pn	**Pn**	**22 30 07.3**	**+0.4**
MAT	**Matsushiro**	**4.34**	**248**	P	**Pn**	**22 30 07.6**	**+0.7**
MAT				*e*S	**Sn**	**22 30 55.3**	**-1.8**
MAT	**Matsushiro**	**4.34**	**248**	*e*P	**Pn**	**22 30 08.0**	**+1.1**
MAT				S	**Sn**	**22 31 04.0**	**+6.9**
ASAJ	**Asahikawa**	**5.83**	**356**	Pn	**Pn**	**22 30 25.6**	**-2.2**
	4.1nm,0.3s,baz=242,slow=8.1,SNR=14						
ASAJ				Sn	**Sn**	**22 31 29.1**	**-5.3**
	8.1nm,0.3s,baz=56,slow=31,SNR=3.9						
ASAJ				LR	LR	22 33 36.5	
	comp=Z,1μm,18.6s,baz=161,slow=48						
ASAJ	**Asahikawa**	**5.83**	**356**	P	**Pn**	**22 30 25.7**	**-2.2**
ASAJ						22 31 29.1	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.6s						
JHJ	**Hachijo jima 2**	**5.87**	**209**	Pn	**Pn**	**22 30 26.1**	**-2.4**
	comp=Z,15nm,0.3s,baz=58,slow=19,SNR=5.5						
JHJ				Sn	**Sn**	**22 31 30.5**	**-4.9**
	comp=Z,38nm,0.3s,baz=57,slow=23,SNR=5.7						
YUK	**Yuzh-Kuril'sk**	**6.07**	**19**	*e*P	**Pn**	**22 30 23.5**	**-7.8**
YUK				*i* S	**Sn**	**22 31 30.0**	**-10**
YUK				pmax	pmax		
	comp=Z,230nm,0.5s						
YUK				smax			
	comp=N,420nm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,3μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
KUR	**Kuril'sk**	**7.75**	**25**	*e*P	**Pn**	**22 30 49.0**	**-5.9**
KUR				pmax	pmax		
	comp=E,50nm,0.6s						
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.65**	**358**	*e*P	**P**	**22 31 05.2**	**-2.2**
JNU	**Nakatsue**	**11.26**	**246**	Pn	**P**	**22 31 41.3**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=63,slow=19,SNR=10						
JNU				LR	LR	22 36 25.2	
	comp=Z,450nm,19.9s,baz=57,slow=40						
JNU	**Nakatsue**	**11.26**	**246**	Pn	**P**	**22 31 41.3**	**-2.0**
JNU				LR	LR	22 36 25.2	
MDJ	**Mudanjiang**	**11.99**	**306**	P	**P**	**22 31 52.1**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,25nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,190nm,5.2s						
MDJ				LR	LR		
	comp=N,875nm,11.5s						
MDJ				LR	LR		
	comp=E,350nm,12.0s						
MDJ				LR	LR		
	comp=Z,1μm,16.6s						
MDJ	**Mudanjiang**	**11.99**	**306**	*e*Pn	**P**	**22 31 51.1**	**-1.9**
	comp=Z,40nm,1.0s						
KS15	**Wonju Array Si**	**12.13**	**271**	*e*Pn	**P**	**22 31 55.6**	**+0.7**
KLR	**Kul'dur**	**13.68**	**327**	*e*P	**P**	**22 32 08.8**	**-6.6**
KLR				MLR	MLR		
	comp=E,700nm,13.0s						
CN2	**Changchun**	**14.46**	**298**	*e*P	**P**	**22 32 28.1**	**+2.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,670nm,15.0s						
CN2				LR	LR		
	comp=E,630nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
SNY	**Shenyang**	**15.42**	**289**	⇑P	**P**	**22 32 38.7**	**+0.5**
SNY				S	**S**	**22 35 29.2**	**+0.8**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s						
SNY				LR	LR		
	comp=E,950nm,18.0s						
SNY				LR	LR		
	comp=Z,950nm,17.5s						
DL2	**Dalian**	**16.87**	**279**	P	**P**	**22 32 56.0**	**-0.6**
DL2				S	**S**	**22 35 50.3**	**-12**
DL2				AMB	AMB		
	comp=Z,30nm,1.1s						
DL2				LR	LR		
	comp=N,260nm,15.3s						
DL2				LR	LR		
	comp=E,390nm,13.6s						
DL2				LR	LR		
	comp=Z,710nm,16.0s						
HIA	**Hailar**	**20.09**	**311**	*e*P	**P**	**22 33 30.3**	**-4.6**
	comp=Z,36nm,0.9s						
HIA	**Hailar**	**20.09**	**311**	*e*P	**P**	**22 33 30.3**	**-4.6**
HIA				pmax	pmax		
	comp=Z,36nm,0.9s						
NJ2	**Nanjing**	**20.82**	**260**	*e*P	**P**	**22 33 43.1**	**+0.5**
NJ2				AP		22 33 52.0	
NJ2				XP		22 33 56.3	
NJ2				PP	PP	22 34 05.5	+0.6
NJ2				S	**S**	**22 37 25.0**	**-3.4**
NJ2				XS		22 37 40.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,480nm,4.4s						
NJ2				LR	LR		
	comp=N,2μm,25.0s						
NJ2				LR	LR		
	comp=E,2μm,17.0s						
NJ2				LR	LR		
	comp=Z,560nm,21.5s,MS3.9						
TIA	**Tai'an**	**20.84**	**272**	*e*P	**P**	**22 33 40.0**	**-2.8**
MA2	**Magadan**	**21.84**	**10**	*e*P	**P**	**22 33 52.5**	**-0.2**
	comp=Z,11nm,0.7s,mb4.4						
MA2	**Magadan**	**21.84**	**10**	*e*P	**P**	**22 33 52.5**	**-0.2**
MA2				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
CLNS	**Chul'man**	**22.15**	**333**	*e*P	**P**	**22 33 51.9**	**-3.9**
CLNS				*e*		22 34 09.3	
CLNS				*e*PPP	PPP	22 34 16.7	-16
CLNS				*e*S	**S**	**22 37 41.2**	**-12**
CLNS				*e*		22 37 58.1	
CLNS				pmax	pmax		
	comp=Z,42nm,0.7s,mb5.0						
CLNS				pmax	pmax		
	comp=N,22nm,0.9s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,33nm,1.4s,mb4.6						
CLNS				pmax	pmax		
	comp=N,24nm,0.8s						
CLNS				pmax	pmax		
	comp=E,17nm,0.8s						
CLNS				smax			
	comp=N,6.0nm,0.9s						
CLNS				smax			
	comp=E,10.0nm,0.9s						
CLNS				smax			
	comp=Z,8.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,200nm,11.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,500nm,15.0s,MS4.2						
YHNB	**Yeheng**	**22.97**	**240**	*e*P	**P**	**22 34 04.1**	**0.0**
HHC	**Hu-ho-hao-te**	**24.45**	**286**	*e*P	**P**	**22 34 16.5**	**-1.8**
HHC				AP		22 34 22.9	
HHC				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,109nm,6.7s						
HHC				LR	LR		
	comp=N,194nm,12.9s,MS4.5						
HHC				LR	LR		
	comp=E,998nm,13.9s,MS4.5						
HHC				LR	LR		
	comp=Z,867nm,13.9s,MS4.4						
CIT	**Chita**	**24.79**	**313**	*e*P	**P**	**22 34 19.8**	**-1.7**
CIT				*e*		22 34 37.9	
CIT				*e*		22 34 59.6	
WHN	**Wuhan**	**24.95**	**261**	⇑P	**P**	**22 34 22.6**	**-0.7**
YAK	**Yakutsk**	**25.18**	**345**	*e*P	**P**	**22 34 24.7**	**-0.3**
	comp=Z,28nm,0.6s,mb5.0						
YAK	**Yakutsk**	**25.18**	**345**	*e*P	**P**	**22 34 23.6**	**-1.5**
YAK				*i* *PP	pP	22 34 32.0	-2.2

YAK *i* 22 34 59.2
YAK *i* PPP PPP 22 35 06.6 -8.0
YAK *i* 22 38 02.0
YAK *e*S **S** **22 38 49.0 +3.6**
YAK *i* *SS 22 39 02.7
YAK *i* SS SS 22 39 37.4 -9.1
YAK *e*SSS SSS 22 39 59.1 -4.0
YAK *e* 22 45 18.0
YAK pmax pmax
comp=Z,14nm,0.8s,mb4.5
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=N,19nm,1.0s
YAK smax
comp=N,6.0nm,1.1s
YAK smax
comp=E,9.0nm,1.0s
YAK MLR MLR
comp=N,219nm,15.0s,MS3.8
YAK MLR MLR
comp=Z,310nm,15.0s,MS3.9
YAK MLR MLR
comp=E,112nm,16.0s,MS3.8
SEY Seymchan 25.29 10 *e*P **P** **22 34 26.5 +0.4**
BOD Bodaibo 27.25 325 *e*P **P** **22 34 43.1 -1.2**
BOD pmax pmax
comp=Z,20nm,0.7s,mb4.8
ULN Ulaanbaatar 27.85 302 *e*P **P** **22 34 49.9 0.0**
comp=Z,20nm,0.9s,mb4.7
ULN Ulaanbaatar 27.85 302 *e*P **P** **22 34 49.9 +0.1**
ULN pmax pmax
comp=Z,20nm,0.9s,mb4.8
XAN Xi'an 27.89 272 P **P** **22 34 49.4 -1.0**
XAN AP pP 22 34 56.2 -3.4
XAN AMB AMB
comp=Z,23nm,0.9s,mb4.8
SONM Songino Array 28.29 302 P **P** **22 34 53.8 0.0**
comp=Z,6.3nm,0.6s,mb4.4,baz=104,slow=8.9,SNR=51
SONM LR LR 22 46 39.1
comp=Z,347nm,18.0s,MS4.0,baz=124,slow=38
ENH Enshi 28.86 264 *e*P **P** **22 34 57.8 -1.3**
comp=Z,35nm,0.8s,mb5.1
ZAK Zakamensk 30.63 306⇑ *i*P **P** **22 35 14.1 -0.5**
ZAK pmax pmax
comp=Z,12nm,0.9s,mb4.7
LZH Lanzhou 31.27 278 ⇓P **P** **22 35 20.5 +0.1**
LZH AP pP 22 35 30.6 +0.9
LZH XP sP 22 35 34.5 +0.7
LZH PP PP 22 36 18.2 -5.7
LZH AMB AMB
comp=Z,31nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,65nm,4.7s
LZH LR LR
comp=N,443nm,13.0s
LZH LR LR
comp=Z,639nm,17.4s,MS4.3
LZH Lanzhou 31.27 278 ⇓P **P** **22 35 20.5 +0.1**
comp=Z,31nm,1.3s,mb5.0
LZH pP pP 22 35 30.6 +0.9
LZH sP sP 22 35 34.5 +0.7
LZH PP PP 22 36 18.2 -5.7
LZH LR LR
comp=Z,640nm,17.4s,MS4.3
BILL Bilibino 32.42 16⇑ *i*P **P** **22 35 30.0 -0.1**
BILL pmax pmax
comp=Z,7.0nm,0.4s,mb4.8
GYA Guiyang 32.83 260⇑ *i*P **P** **22 35 33.0 -1.2**
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 Chengdu 33.09 269 *e*P **P** **22 35 34.6 -1.8**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
GTA Gaotai 33.56 286 *e*P **P** **22 35 40.2 -0.2**
GTA AP pP 22 35 49.1 -0.6
GTA XP sP 22 35 53.0 -0.8
GTA AMB AMB
comp=Z,16nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,63nm,7.2s
GTA LR LR
comp=N,283nm,12.9s,MS4.5
GTA LR LR
comp=E,657nm,17.5s,MS4.5
GTA LR LR
comp=Z,796nm,16.3s,MS4.5
TIXI Tiksi 34.22 352 *e*P **P** **22 35 39.6 -6.2**
TIXI pmax pmax
comp=Z,16nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,151nm,14.0s,MS3.9
KMI Kunming 36.55 261 P **P** **22 36 05.8 -0.3**
KMI AP pP 22 36 15.7 +0.3
KMI XP sP 22 36 19.7 +0.3
KMI S **S** **22 41 42.8 -3.0**
KMI XS 22 42 05.7
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,90nm,6.2s
KMI LR LR
comp=N,281nm,16.4s,MS4.3
KMI LR LR
comp=E,307nm,14.8s,MS4.3
KMI LR LR
comp=Z,322nm,16.4s,MS4.2
KMI Kunming 36.55 261 P **P** **22 36 05.8 -0.3**
comp=Z,13nm,1.0s,mb4.7
KMI pP pP 22 36 15.7 +0.3
KMI sP sP 22 36 19.7 +0.3
KMI S **S** **22 41 42.8 -3.0**
KMI sS 22 42 05.7
KMI SS SS 22 44 17.9 +5.1
KMI LR LR
comp=Z,320nm,16.4s,MS4.2
KMI Kunming 36.55 261 P **P** **22 36 05.8 -0.3**
KMI *PP pP 22 36 15.7 +0.3
KMI *SP sP 22 36 19.7 +0.3
KMI S **S** **22 41 42.8 -3.0**
KMI SS SS 22 44 17.9 +5.1
KMI pmax pmax
comp=Z,13nm,1.0s,mb4.7
KMI MLR MLR
comp=Z,320nm,16.4s,MS4.2
WMQ Urumqi 41.54 296 P **P** **22 36 49.3 +2.0**
WMQ AP pP 22 36 59.0 +2.2
WMQ XP sP 22 37 03.0 +2.3
WMQ AMB AMB
comp=Z,28nm,0.9s,mb4.9
WMQ AMB AMB
comp=Z,330nm,5.5s
WMQ LR LR
comp=N,202nm,18.0s,MS4.2
WMQ LR LR
comp=E,258nm,18.0s,MS4.2
WMQ LR LR
comp=Z,259nm,19.0s,MS4.1
ZAL Zalesovo 42.13 311 P **P** **22 36 52.6 +0.6**
comp=Z,5.8nm,0.9s,mb4.2,baz=24,slow=8.6,SNR=21
ZAL PcP PcP 22 38 46.8 0.0
comp=Z,2.3nm,0.7s,baz=25,slow=4.8,SNR=3.4
ZAL LR LR 22 55 02.7
comp=Z,98nm,18.6s,MS3.7,baz=32,slow=37
NVS Novosibirsk 43.00 313 *e*P **P** **22 36 57.9 -1.2**
NVS pmax pmax
comp=Z,39nm,2.3s,mb4.7
NVS pmax pmax
comp=E,16nm,1.5s
LSA Lhasa 43.51 275 P **P** **22 37 07.4 +3.9**
LSA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
LSA Lhasa 43.51 275 *e*P **P** **22 37 05.5 +1.9**
comp=Z,7.3nm,0.6s,mb4.6
LSA Lhasa 43.51 275 *e*P **P** **22 37 05.5 +2.0**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
MK02 Makanchi Array 44.65 301 P **P** **22 37 12.3 -0.3**
MK02 pmax pmax
comp=Z,19nm,1.0s,mb4.9
MKAR Makanchi Array 44.66 301 P **P** **22 37 12.4 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=74,slow=8.8,SNR=24
KURK Kurchatov 46.27 307 *e*P **P** **22 37 24.6 -0.8**
comp=Z,48nm,0.8s,mb5.5
KURK Kurchatov 46.27 307 P **P** **22 37 24.8 -0.6**
KURK pmax pmax
comp=Z,21nm,0.9s,mb5.1
KSM Kuching 47.45 227 *e*P **P** **22 37 36.0 +0.8**
ILAR Eielson Array 47.67 33 P **P** **22 37 35.8 -0.4**
comp=Z,2.1nm,0.8s,mb4.2,baz=263,slow=6.7,SNR=18
KKN Kakani 48.96 276 *e*P **P** **22 37 46.8 +0.1**
comp=Z,57nm,0.5s,mb5.8
KKN Kakani 48.96 276 *e*P **P** **22 37 46.8 +0.1**
KKN pmax pmax
comp=Z,28nm,0.5s,mb5.5
PKI Pulchoki 48.97 275 *e*P **P** **22 37 46.6 -0.1**
DMN Daman 49.19 276 *e*P **P** **22 37 48.6 +0.2**
comp=Z,11nm,0.5s,mb5.2
GKN Gorkha 49.37 276 *e*P **P** **22 37 49.8 -0.1**
comp=Z,42nm,0.6s,mb5.7
HNR Honiara 50.00 158 LR LR 22 57 30.6
comp=Z,84nm,20.7s,MS3.7,baz=345,slow=34
TKM2 Tokmak 2 50.28 298 P **P** **22 37 57.2 +0.6**
SNR=12
KOLN Koldanda 50.29 277 *e*P **P** **22 37 56.7 -0.2**
comp=Z,30nm,0.7s,mb5.4
VOSK Vostochnaya 50.50 311 P **P** **22 37 57.0 -1.1**
VOSK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BVA0 Borovoye Array 50.77 312 *i* P **P** **22 37 59.6 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 50.77 312 P **P** **22 37 59.7 -0.5**
comp=Z,5.9nm,0.7s,mb4.6,baz=71,slow=7.7,SNR=23
BVAR PcP PcP 22 39 17.1 0.0
comp=Z,3.6nm,0.7s,baz=117,slow=3.3,SNR=6.0
KBK Karagaybulak 50.81 298 P **P** **22 38 01.1 +0.4**
SNR=16
BRVK Borovoye 50.83 312 *e*P **P** **22 37 59.7 -0.9**
comp=Z,5.3nm,0.8s,mb4.5
BRVK Borovoye 50.83 312 *e*P **P** **22 37 59.7 -0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
USP Ospenovka 50.92 299 P **P** **22 38 01.3 -0.2**
SNR=12
AAK Ala-Archa 51.14 298 *e*P **P** **22 38 02.0 -1.1**
comp=Z,3.6nm,0.7s,mb4.4
AAK Ala-Archa 51.14 298 *e*P **P** **22 38 02.0 -1.1**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
EKS2 Erkin-Say 51.63 298 P **P** **22 38 06.8 -0.1**
SNR=11
AML Almayashu 51.87 298 P **P** **22 38 09.5 +0.8**
SNR=15
KKAR Karatay Array 53.72 300 *i* P **P** **22 38 21.3 -1.1**
KKAR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SVE Sverdlovsk 55.14 318 *e*P **P** **22 38 32.3 -0.3**
SVE *e* pP 22 38 42.0 -0.3
SVE *e* 22 40 36.0
SVE *e*S **S** **22 46 22.0 +10**
SVE MLR MLR
comp=N,200nm,14.0s,MS4.8
SVE MLR MLR
comp=E,500nm,14.0s,MS4.8
SVE MLR MLR
comp=Z,700nm,14.0s,MS4.9
ARU Arti 56.35 318 *e*P **P** **22 38 40.3 -1.0**
comp=Z,16nm,0.8s,mb5.1
ARU Arti 56.35 318⇑ *i*P **P** **22 38 40.5 -0.8**
ARU *e* 22 39 37.8
ARU *e* 22 40 44.0
ARU *e*S **S** **22 46 25.9 -1.9**
ARU *e*SS SS 22 50 12.8 -2.4
ARU pmax pmax
comp=Z,14nm,0.8s,mb5.0
ARU MLR MLR
comp=N,200nm,17.0s,MS4.5
ARU MLR MLR
comp=E,300nm,17.0s,MS4.5
ARU MLR MLR
comp=Z,400nm,17.0s,MS4.6
DLBC Dease Lake 56.76 39 P **P** **22 38 45.8 +1.5**
comp=Z,1.0nm,0.4s,mb4.2,baz=338,slow=11,SNR=3.1
AB31 Akbulak array 58.20 310 P **P** **22 38 53.3 -1.2**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
FITZ Fitzroy Crossi 58.48 200 *e*P **P** **22 38 56.7 -0.2**
comp=Z,9.7nm,1.4s,mb4.6
FITZ Fitzroy Crossi 58.48 200 P **P** **22 38 57.2 +0.4**
comp=Z,5.8nm,0.6s,mb4.8,baz=131,slow=3.7,SNR=7.9
WRAB Tennant Creek 58.52 190 *e*P **P** **22 38 56.1 -1.0**
comp=Z,26nm,0.8s,mb5.3
WRAB Tennant Creek 58.52 190 *e*P **P** **22 38 56.1 -1.0**
WRAB pmax pmax
comp=Z,26nm,0.8s,mb5.3
WB2 Warramunga Arr 58.53 190⇓ *i*P **P** **22 38 56.3 -0.9**
WRA Warramunga Arr 58.53 190 P **P** **22 38 56.2 -1.0**
comp=Z,15nm,0.8s,mb5.1,baz=7.4,slow=7.0,SNR=103
KEV Kevo 62.76 339 *e*p **P** **22 39 21.8 -3.5**
comp=Z,7.1nm,0.9s,mb4.8
KEV Kevo 62.76 339 *e*P **P** **22 39 21.8 -3.5**
KEV pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ARCES ARCESS Array B 63.31 340 P **P** **22 39 28.3 -0.6**
comp=Z,2.2nm,0.8s,mb4.4,baz=56,slow=8.7,SNR=16
ARCES LR LR 23 10 04.5
comp=Z,96nm,18.7s,MS4.0,baz=254,slow=39
JOF Joensuu 65.51 332 *e*p **P** **22 39 41.5 -1.7**
comp=Z,4.2nm,0.7s,mb4.6
MOS Moscow 67.07 324 *e*P **P** **22 39 52.1 -1.2**
MOS pmax pmax
comp=Z,38nm,0.7s,mb5.5
MOS MLR MLR
comp=Z,500nm,16.4s,MS4.8
KAF Kangasniemi 67.82 333 *e*p **P** **22 39 56.2 -1.7**
comp=Z,4.3nm,0.8s,mb4.5,baz=47,slow=6.0
KAF Kangasniemi 67.82 333 *e*P **P** **22 39 56.2 -1.7**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
OBN Obninsk 67.92 324 *e*P **P** **22 39 58.0 -0.6**
comp=Z,21nm,1.0s,mb5.1
OBN Obninsk 67.92 324⇑ *i*P **P** **22 39 58.1 -0.6**
OBN *e* pP 22 40 06.9 -1.6
OBN *e* 22 42 25.1
OBN pmax pmax
comp=Z,26nm,1.1s,mb5.2
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.6
FINES FINESS Array B 68.35 333 P **P** **22 40 00.6 -0.7**
comp=Z,5.6nm,0.7s,mb4.7,baz=56,slow=6.9,SNR=32
FINES LR LR 23 12 11.1
comp=Z,167nm,18.5s,MS4.3,baz=42,slow=38
VORD Divnogorie 68.98 319 *e*P **P** **22 40 04.7 -0.6**
VORD pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,4.0nm,0.8s
SUMG Summit 69.41 1 *e*P **P** **22 40 08.0 +0.4**
comp=E,5.2nm,0.6s,mb4.6
STKA Stephens Creek 69.83 181 P **P** **22 40 10.1 -0.7**
comp=E,2.7nm,1.1s,mb4.1,slow=11,SNR=2.5
STKA LR LR 23 10 16.2
comp=E,84nm,18.7s,MS4.0,baz=25,slow=36
VSU Vasula 70.07 330⇑ *i*P **P** **22 40 11.4 -0.4**
GOF Gofitskoye 70.30 312⇓ *i*P **P** **22 40 13.7 +0.2**
GOF pmax pmax
comp=Z,26nm,0.8s,mb5.2
KIV Kislovodsk 71.14 311 *e*P **P** **22 40 19.0 +0.4**
comp=Z,19nm,0.9s,mb5.0
KIV Kislovodsk 71.14 311⇑ *i*P **P** **22 40 18.9 +0.3**
KIV pmax pmax
comp=Z,22nm,0.9s,mb5.1
NB2 NORSAR Subarra 73.56 338 P **P** **22 40 32.0 -0.4**
comp=Z,12nm,0.9s,mb4.8,baz=38,slow=5.8
NB2 NORSAR Subarra 73.56 338 P **P** **22 40 32.0 -0.4**
NB2 pmax pmax
comp=Z,12nm,0.9s,mb4.8
NOA NORSAR Array B 73.56 338 P **P** **22 40 32.4 -0.1**
comp=Z,7.5nm,0.8s,mb4.7,baz=38,slow=5.9,SNR=33
AKASG Malin Array Be 74.15 323 P **P** **22 40 36.1 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=44,slow=5.7,SNR=65
PDAR Pinedale Array 75.77 47 P **P** **22 40 46.8 +1.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=254,slow=1.8,SNR=8.1
MALT Malatya 77.10 309 *e*P **P** **22 40 54.4 +1.3**
comp=Z,6.3nm,0.8s,mb4.6
MALT Malatya 77.10 309 *e*P **P** **22 40 54.4 +1.3**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KWP Kalwaria 77.91 325 *e*P **P** **22 40 58.1 +0.7**
comp=Z,25nm,1.1s,mb5.1
KWP Kalwaria 77.91 325 *e*P **P** **22 40 58.1 +0.8**
KWP pmax pmax
comp=Z,25nm,1.1s,mb5.1
STHS Stebnicka Huta 78.72 326 *e*P **P** **22 41 03.1 +1.3**
STHS *e*pP pP 22 41 16.3 +4.5
OJC Ojcow 78.76 327 *e*P **P** **22 41 02.9 +0.9**
CRVS Cervenica-Dubn 79.00 325 *e*P **P** **22 41 04.0 +0.6**
BR131 Keskin Array S 79.06 312 *e*P **P** **22 41 04.1 +0.3**
comp=Z,0.6nm,0.5s,mb3.8
BRTR Keskin Array B 79.06 312 P **P** **22 41 04.5 +0.6**
comp=Z,2.3nm,0.9s,mb4.1,baz=26,slow=4.8,SNR=9.5
NIE Niedzica 79.14 326 *e*P **P** **22 41 05.2 +1.1**
BSEG Bad Segeberg 79.56 334 *e*P **P** **22 41 06.9 +0.7**
KECS Kecovo 79.75 325 *e* **P** **22 41 04.6 -2.8**
OKC Ostrava-Krasne 79.76 327 *e*P **P** **22 41 07.7 +0.3**
MORC Moravsky Berou 80.06 328 *e*P **P** **22 41 09.9 +0.9**
comp=Z,6.3nm,0.9s,mb4.5
MORC Moravsky Berou 80.06 328 *e*P **P** **22 41 09.9 +0.9**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
DPC Dobruska-Polom 80.12 329 *e*P **P** **22 41 10.7 +1.3**
UPC Upice 80.13 329 *e*P **P** **22 41 10.4 +1.0**
PSZ Piszkesteto 80.44 325 *e*P **P** **22 41 11.7 +0.6**
comp=Z,7.0nm,1.0s,mb4.5
PSZ Piszkesteto 80.44 325 *e*P **P** **22 41 11.7 +0.6**
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VYHS Vyhne 80.47 326 *e*P **P** **22 41 12.0 +0.8**
BRG Berggiesshubel 80.67 330 *e*P **P** **22 41 12.8 +0.5**
comp=Z,24nm,1.1s,mb5.0
BRG LR LR
comp=Z,280nm,19.8s,MS4.6
BRG Berggiesshubel 80.67 330 *e*P **P** **22 41 12.8 +0.6**
BRG pmax pmax
comp=Z,24nm,1.1s,mb5.0
BRG MLR MLR
comp=Z,280nm,19.8s,MS4.6
CLL Collm 80.69 331 P **P** **22 41 12.6 +0.3**
comp=Z,logA/T=1.0,mb4.7
CLL *i* PCP PcP 22 41 20.4 +1.0
CLL Collm 80.69 331 *i* P **P** **22 41 12.6 +0.3**
comp=Z,11nm,1.0s,mb4.7
CLL *i* 22 41 20.4
CLL Collm 80.69 331 *i* P **P** **22 41 12.6 +0.3**
CLL *i* 22 41 20.4
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
PVCC Panska Ves 80.69 330 *e*P **P** **22 41 13.2 +0.8**
PRU Pruhonice 81.13 329 *e*P **P** **22 41 15.3 +0.6**
PRU AMS AMS 23 21 40.0
comp=Z,200nm,12.4s
CLZ Clausthal 81.24 333 *e*P **P** **22 41 15.8 +0.6**
comp=Z,11nm,1.2s,mb4.7
CLZ Clausthal 81.24 333 *e*P **P** **22 41 15.8 +0.6**
CLZ pmax pmax
comp=Z,11nm,1.2s,mb4.7
SDCO Great Sand Dun 81.39 48 P **P** **22 41 17.0 +0.7**
comp=Z,4.5nm,1.3s,mb4.2
ZST Bratislava 81.45 327 *e*P **P** **22 41 16.7 +0.3**
MOX Moxa 81.75 331 *i* P **P** **22 41 18.7 +0.8**
KHC Kasperske Hory 82.19 329 *e*P **P** **22 41 20.8 +0.6**
KHC AMS AMS 23 20 30.0
comp=Z,200nm,20.9s
GEC2 GERESS Array S 82.37 329 *e*P **P** **22 41 21.9 +0.8**
comp=Z,28nm,2.5s,mb4.8
GEC2 GERESS Array S 82.37 329 *e*P **P** **22 41 21.9 +0.8**
GEC2 pmax pmax
comp=Z,28nm,2.5s,mb4.8
GERES GERESS Array B 82.37 329 P **P** **22 41 21.9 +0.8**
comp=Z,1.7nm,0.8s,mb4.0,baz=34,slow=4.8,SNR=16
GERES LR LR 23 21 03.5
comp=Z,149nm,18.9s,MS4.4,baz=217,slow=38
WET Wettzell 82.46 330 *e*P **P** **22 41 22.2 +0.6**
comp=Z,6.0nm,1.1s,mb4.4
WET Wettzell 82.46 330 *e*P **P** **22 41 22.2 +0.6**
WET pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GRA1 Grafenberg Arr 82.67 331 *e*P **P** **22 41 23.6 +0.9**
comp=Z,13nm,0.9s,mb5.0
GRF Grafenberg Arr 82.67 331 *e*P **P** **22 41 23.6 +0.9**
comp=Z,13nm,0.9s,mb5.0
GRF Grafenberg Arr 82.67 331 *e*P **P** **22 41 23.6 +0.9**
GRF pmax pmax
comp=Z,13nm,0.9s,mb5.0
GRF Grafenberg Arr 82.67 331 *e*P **P** **22 41 23.6 +0.9**
GRF pmax pmax
comp=Z,13nm,0.9s,mb5.0
ANMO Albuquerque 82.69 51 *e*P **P** **22 41 28.9 +5.8**
KBA Koelnbreinsper 83.91 328⇑ *i*P **P** **22 41 30.4 +1.3**
comp=Z,13nm,2.0s,mb4.7
KBA Koelnbreinsper 83.91 328⇑ *i*P **P** **22 41 30.4 +1.3**
KBA pmax pmax
comp=Z,13nm,2.0s,mb4.7
MOTA Moosalm 84.61 330⇑ *i*P **P** **22 41 33.2 +0.7**
comp=Z,6.1nm,1.1s,mb4.6
MOTA Moosalm 84.61 330⇑ *i*P **P** **22 41 33.2 +0.7**
MOTA pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
BFO Black Forest 84.88 332 *e*P **P** **22 41 34.5 +0.7**
comp=Z,11nm,1.1s,mb4.9
BFO Black Forest 84.88 332 *e*P **P** **22 41 34.5 +0.7**
BFO pmax pmax
comp=Z,11nm,1.1s,mb4.9
DAVA Damuels 85.14 330⇑ *i*P **P** **22 41 36.0 +0.8**
comp=Z,15nm,1.2s,mb5.0
CDF Champ du Feu 85.20 332 *e*P **P** **22 41 35.9 +0.5**
comp=Z,28nm,1.2s,mb5.0
CDF Champ du Feu 85.20 332 *e*P **P** **22 41 35.9 +0.5**
CDF pmax pmax
comp=Z,14nm,1.2s,mb5.0
HAU Haudompre 85.88 333 *e*P **P** **22 41 38.9 +0.1**
HAU *e*R
comp=Z,151nm,20.5s
MEZF Maizieres J'vi 85.92 334 *e*P **P** **22 41 39.6 +0.6**
LOR Lormes 87.39 334 *e*P **P** **22 41 46.2 0.0**
comp=Z,14nm,0.9s,mb4.9
LOR *e*R
comp=Z,138nm,17.8s
LOR Lormes 87.39 334 *e*P **P** **22 41 46.2 0.0**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
LOR MLR MLR
comp=Z,140nm,17.8s,MS4.4
FLN La Foliniere 87.52 337 *e*P **P** **22 41 47.0 +0.2**
FLN *e*R
comp=Z,162nm,18.2s
SSF Saint Saulge 87.69 334 *e*P **P** **22 41 48.0 +0.3**
comp=Z,5.1nm,0.8s,mb4.5
SSF Saint Saulge 87.69 334 *e*P **P** **22 41 48.0 +0.3**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
LPL La Plagne 87.83 331 *e*P **P** **22 41 49.2 +0.8**
comp=Z,12nm,1.1s,mb4.7
LPL La Plagne 87.83 331 *e*P **P** **22 41 49.2 +0.8**
LPL pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
LPG La Plagne 87.84 331 *e*P **P** **22 41 49.4 +1.0**
comp=Z,7.4nm,0.8s,mb4.7
LPG La Plagne 87.84 331 *e*P **P** **22 41 49.4 +1.0**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
GRR Gorron 87.96 337 *e*P **P** **22 41 49.3 +0.3**
comp=Z,28nm,1.2s,mb5.1
GRR Gorron 87.96 337 *e*P **P** **22 41 49.3 +0.3**
GRR pmax pmax
comp=Z,14nm,1.2s,mb5.1
AVF Avril sur Loir 87.98 334 *e*P **P** **22 41 49.5 +0.4**
comp=Z,21nm,1.1s,mb5.0
AVF Avril sur Loir 87.98 334 *e*P **P** **22 41 49.5 +0.4**
AVF pmax pmax
comp=Z,11nm,1.0s,mb5.0
TXAR Lajitas Array 88.23 53 P **P** **22 41 51.8 +1.0**
comp=Z,0.4nm,0.7s,mb3.7,baz=294,slow=3.0,SNR=6.1
MBDF Montbardon 88.48 331 *e*P **P** **22 41 51.8 +0.3**
ORIF Oris-en-Rattie 88.66 331 *e*P **P** **22 41 52.9 +0.5**
comp=Z,4.4nm,0.8s,mb4.6
ORIF *e*R
comp=Z,132nm,20.8s
TCF Toulx Ste Croi 88.81 334 *e*P **P** **22 41 53.3 +0.2**
MFF Saint Martin d 89.32 336 *e*P **P** **22 41 56.0 +0.5**
RJF Les Rejaudoux 89.90 334 *e*P **P** **22 41 58.2 -0.1**
RJF *e*R
comp=Z,147nm,21.2s
CAF Calviac 90.04 334 *e*P **P** **22 41 59.5 +0.6**
comp=Z,7.9nm,0.9s,mb4.8

CAF	**Calviac**	**90.04**	**334**	*e*P	**P**	**22 41 59.5**	**+0.6**
CAF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
MTLF	**Montolieu**	**91.36**	**333**	*e*P	**P**	**22 42 05.3**	**+0.3**
EVO	**Evora**	**99.08**	**338**	*e*P	**P**	**22 42 40.6**	**+0.3**
EVO				*e*R			
	comp=Z,80nm,20.5s						
SNAA	**Sanae**	**142.37**	**197**		PKPdf	22 48 27.6	-7.2
SNAA	**Sanae**	**142.37**	**197**		PKPdf	22 48 34.5	-0.3
SNAA	**Sanae**	**142.37**	**197**		PKPdf	22 48 38.0	+3.2
SNAA	**Sanae**	**142.37**	**197**		PKPdf	22 48 41.4	+6.6
VNA2	**Neumayer--Watz**	**143.93**	**196**	P	PKPbc	22 48 34.4	+3.1
VNA2	**Neumayer--Watz**	**143.93**	**196**		PKPbc	22 48 38.6	+7.3
VNA2	**Neumayer--Watz**	**143.93**	**196**		PKPbc	22 48 43.8	+12
VNA2	**Neumayer--Watz**	**143.93**	**196**		PKPbc	22 48 48.7	+17
VNA3	**Neumayer Olymp**	**144.15**	**195**	P	PKPbc	22 48 34.4	+2.4
VNA3	**Neumayer Olymp**	**144.15**	**195**		PKPbc	22 48 39.3	+7.3
VNA3	**Neumayer Olymp**	**144.15**	**195**		PKPbc	22 48 44.1	+12
VNA3	**Neumayer Olymp**	**144.15**	**195**		PKPbc	22 48 48.2	+16
VNA1	**Neumayer--Stat**	**144.32**	**196**	P	PKPbc	22 48 35.3	+2.8
VNA1	**Neumayer--Stat**	**144.32**	**196**		PKPbc	22 48 40.7	+8.2
VNA1	**Neumayer--Stat**	**144.32**	**196**		PKPbc	22 48 47.0	+15
VNA1	**Neumayer--Stat**	**144.32**	**196**		PKPbc	22 48 49.4	+17

*NNC **02** 22:39:36.7±4.7, 37.87N×72.29E, h209^{km}±71^{km}, mpv3.4, Error ellipse: s-maj=52.3km s-min=29.5km az=25.0*

*IDC **02** 22:40:10.9±18.0, 39.44N×73.07E, h351^{km}±145^{km}, mb3.1/1, mb1 2.9/4, mb1mx2.6/21, mbtmp3.6/4, Error ellipse: s-maj=206.5km s-min=119.6km az=9.0*

ISC 02 22:39:29.0±2.4**, 37.5N**±0.1×**72.0E**±0.2**, h33^{km}, n7, σ1§48**/10**, mb3.6**/1**, 3C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.50**	**19**	⇓P	**P**	**22 40 51.4**	**+0.7**
	7.0nm,0.6s						
AAK				⇑S	**S**	**22 41 52.4**	**-1.3**
	12nm,0.7s						
KK31	**Karatay Array**	**5.76**	**349**	⇑P	**P**	**22 40 56.2**	**+1.9**
	0.6nm,0.3s,baz=156,slow=10,SNR=43						
KK31				⇓S	**S**	**22 42 00.2**	**+0.1**
	1.8nm,0.3s,baz=171,slow=24,SNR=13						
MKAR	**Makanchi Array**	**12.03**	**36**	P	**P**	**22 42 28.3**	**+7.4**
	0.2nm,0.3s,baz=214,slow=10,SNR=9.3						
AB31	**Akbulak array**	**14.69**	**327**	⇑P	**P**	**22 42 54.9**	**-1.2**
	0.6nm,0.6s,baz=127,slow=13,SNR=7.7						
AB31				⇓S	**S**	**22 45 29.6**	**-8.9**
	0.4nm,0.5s,baz=139,slow=24,SNR=2.9						
BVAR	**Borovoye Array**	**15.61**	**356**	P	**P**	**22 43 10.5**	**+2.5**
	0.3nm,0.3s,baz=159,slow=9.3,SNR=8.5						
ZAL	**Zalesovo**	**18.68**	**24**	P	**P**	**22 43 42.0**	**-4.6**
	0.4nm,0.3s,baz=283,slow=6.8,SNR=3.7						
ARCES	**ARCESS Array B**	**40.59**	**337**	P	**P**	**22 47 04.8**	**-1.9**
	1.4nm,0.9s,mb3.6,baz=108,slow=7.7,SNR=5.6						

*NIED **02** 22:47:00, 38.40N×143.20E, h14^{km}, Mw3.5 Best double couple: $M_0$2.04×10^{14} NP1:ϕ_s15°, δ72°, λ85°. NP2:ϕ_s210°, δ18°, λ104°.*

JMA 02 22:47:59.0±0.1**, 38.37N×143.18E, h32^{km}, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.38**	**301**	P	Pn	22 48 22.8	+0.4
JIO	**Ouri**	**1.44**	**274**	P	Pn	22 48 23.7	+0.4
JIO				*e*S	Sn	22 48 42.1	+0.9
JMK	**Ichinoseki**	**1.64**	**291**	P	Pn	22 48 26.7	+0.6
JOM	**Ohasama**	**1.84**	**307**	P	Pn	22 48 29.6	+0.6
JOM				*e*S	Sn	22 48 51.7	+0.4
JMM	**Marumori**	**1.95**	**256**	P	Pn	22 48 30.5	0.0
JMM				*e*S	Sn	22 48 53.8	-0.3
JOU	**Okura**	**1.98**	**271**	P	Pn	22 48 31.7	+0.8
JOU				*e*S	Sn	22 48 55.8	+0.9
JFK	**Kawauchi**	**2.08**	**242**	P	Pn	22 48 32.1	-0.3
JFK				*e*S	Sn	22 48 56.7	-0.8
JYK	**Kaneyama**	**2.28**	**285**	P	Pn	22 48 36.1	+0.9
JYK				*e*S	Sn	22 49 02.9	+0.4
JFT	**Otama**	**2.40**	**250**	P	Pn	22 48 37.9	+0.9
JFT				*e*S	Sn	22 49 06.3	+0.6
JYS	**Shirataka**	**2.46**	**267**	P	Pn	22 48 38.6	+0.8
JYS				*e*S	Sn	22 49 07.5	+0.5
MAT	**Matsushiro**	**4.36**	**247**	P	Pn	22 49 05.5	+0.7
MAT				*e*S	Sn	22 49 57.8	+2.7

*IDC **02** 23:16:11.7±2.1, 3.33S×142.94E, mb3.7/3, mb1 4.0/4, mb1mx3.8/12, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=78.0km s-min=28.2km az=115.0*

NEIC 02 23:16:17.3±1.3**, 3.31S×142.84E, h35^{km}, mb4.1**/2**, Error ellipse: s-maj=55.0km s-min=16.4km az=109.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.48**	**206**	*e*P	P	23 20 30.3	-2.5
	16nm,1.1s						
WB2	**Warramunga Arr**	**18.49**	**206**	*e*P	P	23 20 32.2	-0.6
WRA	**Warramunga Arr**	**18.50**	**206**	P	P	23 20 29.8	-3.1
	0.2nm,0.3s,baz=24,slow=12,SNR=16						
FITZ	**Fitzroy Crossi**	**22.36**	**228**	*e*P	P	23 21 12.0	-1.9
	4.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.36**	**228**	P	P	23 21 12.2	-1.7
	3.7nm,0.5s,baz=18,slow=12,SNR=12						
MKAR	**Makanchi Array**	**72.80**	**321**	P	P	23 27 42.9	-1.4
	0.3nm,0.7s,baz=110,slow=7.7,SNR=3.0						
ILAR	**Eielson Array**	**84.69**	**24**	P	P	23 28 47.0	-1.6
	0.5nm,0.8s,baz=248,slow=4.9,SNR=4.2						

*NEIC **02** 23:30:23.8±1.6, 51.55N×16.12E, h5^{km}, ML2.6(VIE), ML2.3(BRG), ML2.0(CLL), Error ellipse: s-maj=16.1km s-min=6.7km az=204.0*

*IPEC **02** 23:30:23.3±0.3, 51.60N×16.20E, ML1.5/3, Error ellipse: s-maj=2.0km s-min=1.6km az=34.0*

*WAR **02** 23:30:24.7, 51.56N×16.10E, h1^{km}, ML2.5, Mining Induced*

*PRU **02** 23:30:24.6, 51.52N×16.11E*

*CSEM **02** 23:30:24.0±0.2, 51.56N×16.12E, h0^{km}, ML2.6/3, Error ellipse: s-maj=3.7km s-min=2.2km az=16.0*

*VIE **02** 23:30:27.5±0.5, 51.28N×16.25E, mb1.8/3, ML2.2/3, Error ellipse: s-maj=3.4km s-min=2.9km az=82.0, Suspected Mining induced.*

ISC 02 23:30:22.6±0.8**, 51.50N**±0.04×**16.10E**±0.04**, n22, σ1§30**/45**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**170**	*e*PG	**Pg**	**23 30 38.0**	**+2.2**
KSP				*e*SG	**Sg**	**23 30 46.0**	**+1.3**
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**23 30 37.9**	**+2.1**
KSP				*e*Sg	**Sg**	**23 30 47.5**	**+2.8**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**23 30 43.9**	**+1.6**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**23 30 46.6**	**+1.0**
DPC				*e*SG	**Sg**	**23 31 02.1**	**+1.1**
	19nm,0.6s						
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*Pg	**Pg**	**23 30 46.6**	**+1.0**
DPC				*e*Sg	**Sg**	**23 31 02.3**	**+1.3**
PVCC	**Panska Ves**	**1.37**	**226**	*e*PG	**Pg**	**23 30 51.0**	**+1.1**
PVCC	**Panska Ves**	**1.37**	**226**	*e*Pg	**Pg**	**23 30 50.9**	**+1.0**
PVCC				*e*Sg	**Sg**	**23 31 09.9**	**+1.7**
BRG	**Berggiesshubel**	**1.50**	**246**	Pg	**Pg**	**23 30 52.6**	**+0.2**
BRG				Sg	**Sg**	**23 31 13.2**	**+0.8**
BRG	**Berggiesshubel**	**1.50**	**246**	Pg	**Pg**	**23 30 52.6**	**+0.2**
BRG				Sg	**Sg**	**23 31 13.2**	**+0.9**
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	**Pg**	**23 30 58.0**	**-0.6**
PRU				*e*SG	**Sg**	**23 31 22.4**	**-0.3**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**23 30 57.8**	**+0.5**
MORC				*e*Sg	**Sg**	**23 31 27.2**	**-0.2**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**23 30 57.8**	**+0.6**
MORC				*e*Sg	**Sg**	**23 31 27.2**	**-0.3**
CLL	**Collm**	**1.95**	**266**	*i* PN	**Pn**	**23 30 57.3**	**0.0**
CLL				*i* PG	**Pg**	**23 31 00.1**	**-1.4**
CLL				*i* SG	**Sg**	**23 31 26.3**	**-1.2**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pg**	**23 31 04.3**	**-0.4**
OKC				*e*SG	**Sg**	**23 31 30.7**	**-2.1**
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**23 31 02.9**	**+1.9**
VRAC				*e*Sg	**Sg**	**23 31 36.0**	**-0.2**
	3.4nm,0.3s						
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**23 31 05.9**	**+1.6**
KRUC				*e*Sg	**Sg**	**23 31 42.7**	**-1.2**
	1.7nm,0.2s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**23 31 08.0**	**+0.9**
NKC				*e*PG	**Pg**	**23 31 14.4**	**-0.8**
NKC				*e*SG	**Sg**	**23 31 49.1**	**-1.3**
NKC	**Novy Kostel**	**2.64**	**243**	*e*Pg	**Pg**	**23 31 14.4**	**-0.8**
NKC				*e*Sg	**Sg**	**23 31 49.1**	**-1.3**
OJC	**Ojcow**	**2.67**	**117**	*e*PG	**Pg**	**23 31 14.0**	**-1.8**
OJC				*e*SG	**Sg**	**23 31 50.0**	**-1.4**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**23 31 11.7**	**+1.3**
KHC				*e*PG	**Pg**	**23 31 17.3**	**-2.5**
KHC				*e*SG	**Sg**	**23 31 55.9**	**-2.1**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*Pg	**Pg**	**23 31 17.3**	**-2.5**
KHC				*e*Sg	**Sg**	**23 31 55.9**	**-2.1**
MOA	**Molln**	**3.84**	**199**	⇑*i*Pn	**Pn**	**23 31 25.0**	**+0.8**
MOA				⇑*i*Sg	**Sg**	**23 32 28.8**	**-1.6**
	comp=Z,2.3nm,0.4s						

*NEIC **02** 23:50:16.3, 37.31S×176.54E, h248^{km}, MG4.1(WEL), After WEL.*

WEL 02 23:50:16.3±0.1**, 37.32S×176.55E, h249^{km}**±1^{km}**, ML4.1**/17**, Error ellipse: s-maj=2.0km s-min=1.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.03**	**155**	PN	P	23 50 51.3	-0.3
URZ				SN	S	23 51 18.7	-0.4
MWZ	**Matawai**	**1.27**	**143**	PN	P	23 50 53.1	-0.1
MWZ				SN	S	23 51 21.3	-0.5
MWZ	**Matawai**	**1.27**	**143**	P	P	23 50 53.1	-0.1
MXZ	**Matakaoa Point**	**1.42**	**100**	PN	P	23 50 54.0	-0.3
MXZ				SN	S	23 51 23.2	-0.5
MXZ	**Matakaoa Point**	**1.42**	**100**	P	P	23 50 54.0	-0.2
PUZ	**Puketiti**	**1.55**	**119**	*e*PN	P	23 50 54.9	-0.3
PUZ				SN	S	23 51 24.2	-1.2
PUZ	**Puketiti**	**1.55**	**119**	*e*P	P	23 50 54.9	-0.3
BKZ	**Black Stump Fm**	**1.84**	**181**	PN	P	23 50 57.4	-0.2
BKZ				SN	S	23 51 29.3	-0.3
BKZ	**Black Stump Fm**	**1.84**	**181**	P	P	23 50 57.4	-0.2
KNZ	**Kokohu**	**1.91**	**153**	PN	P	23 50 57.9	-0.3
KNZ	**Kokohu**	**1.91**	**153**	P	P	23 50 57.9	-0.3
WTVZ	**West Tongariro**	**1.94**	**203**	PN	P	23 50 58.6	+0.1
TWVZ	**Taurewa**	**1.95**	**206**	PN	P	23 50 58.9	+0.4
TWVZ	**Taurewa**	**1.95**	**206**	P	P	23 50 58.9	+0.4
OTVZ	**Oturere**	**1.97**	**200**	PN	P	23 50 59.2	+0.6
CNZ	**Chateau**	**2.03**	**203**	PN	P	23 50 59.4	+0.2
TUVZ	**Tukino**	**2.07**	**200**	PN	P	23 50 59.8	+0.2
TUVZ	**Tukino**	**2.07**	**200**	P	P	23 50 59.8	+0.2
WNVZ	**Wahianoa**	**2.14**	**200**	PN	P	23 51 00.3	+0.1
WNVZ	**Wahianoa**	**2.14**	**200**	P	P	23 51 00.3	0.0
MOVZ	**Moawhango**	**2.17**	**196**	PN	P	23 51 00.1	-0.6
MOVZ	**Moawhango**	**2.17**	**196**	P	P	23 51 00.1	-0.5
PKVZ	**Pokaka**	**2.18**	**205**	PN	P	23 51 00.7	0.0
MTVZ	**Mangateitei**	**2.23**	**202**	PN	P	23 51 01.2	+0.1
PXZ	**Pawanui**	**2.72**	**175**	*e*PN	P	23 51 05.2	-0.9
WAZ	**Wanganui**	**2.72**	**206**	*e*PN	P	23 51 05.8	-0.3
WAZ	**Wanganui**	**2.72**	**206**	*e*P	P	23 51 05.8	-0.4
TSZ	**Takapari Road**	**2.77**	**189**	PN	P	23 51 05.5	-1.2
TSZ	**Takapari Road**	**2.77**	**189**	P	P	23 51 05.5	-1.2
BFZ	**Birch Farm**	**3.36**	**184**	*e*PN	P	23 51 11.9	-1.3
BFZ	**Birch Farm**	**3.36**	**184**	*e*P	P	23 51 11.9	-1.3
MRZ	**Mangatainoka R**	**3.42**	**192**	PN	P	23 51 12.1	-1.8
KIW	**Kapiti Island**	**3.76**	**199**	PN	P	23 51 15.3	-2.4
KIW	**Kapiti Island**	**3.76**	**199**	P	P	23 51 15.3	-2.5
MTW	**Mount Morrison**	**3.92**	**192**	PN	P	23 51 16.7	-2.9
MTW	**Mount Morrison**	**3.92**	**192**	P	P	23 51 16.7	-2.9
CAW	**Cannon Point**	**3.95**	**196**	PN	P	23 51 17.5	-2.5
CAW	**Cannon Point**	**3.95**	**196**	P	P	23 51 17.5	-2.5
DUWZ	**D'Urville Isla**	**4.03**	**210**	PN	P	23 51 18.4	-2.6
TRWZ	**Traveller**	**4.12**	**189**	PN	P	23 51 19.7	-2.4
PAWZ	**Paruwai Farm**	**4.15**	**192**	PN	P	23 51 19.8	-2.5
MRW	**Makara Radio**	**4.16**	**200**	PN	P	23 51 19.7	-2.7
MSWZ	**Moikau Station**	**4.21**	**193**	PN	P	23 51 20.0	-3.0
MSWZ	**Moikau Station**	**4.21**	**193**	P	P	23 51 20.0	-3.1
SNZO	**South Karori**	**4.23**	**199**	PN	P	23 51 20.5	-2.9
SNZO	**South Karori**	**4.23**	**199**	P	P	23 51 20.5	-2.8
TCW	**Tory Channel**	**4.27**	**204**	PN	P	23 51 21.1	-2.6
BHW	**Baring Head**	**4.28**	**197**	PN	P	23 51 21.0	-2.9
BHW	**Baring Head**	**4.28**	**197**	P	P	23 51 21.0	-2.9
TUWZ	**Tuamarina**	**4.57**	**205**	PN	P	23 51 24.4	-3.0
NNZ	**Nelson**	**4.60**	**211**	PN	P	23 51 24.3	-3.5
NNZ	**Nelson**	**4.60**	**211**	P	P	23 51 24.3	-3.5
QRZ	**Quartz Range**	**4.69**	**221**	*e*PN	P	23 51 25.1	-3.8
QRZ	**Quartz Range**	**4.69**	**221**	*e*P	P	23 51 25.1	-3.8
BSWZ	**Blackbirch Sta**	**4.85**	**204**	PN	P	23 51 28.0	-2.8
BSWZ	**Blackbirch Sta**	**4.85**	**204**	P	P	23 51 28.0	-2.8
THZ	**Tophouse**	**5.25**	**211**	*e*PN	P	23 51 31.8	-4.0
THZ	**Tophouse**	**5.25**	**211**	*e*P	P	23 51 31.8	-3.9
LTZ	**Lake Taylor**	**6.36**	**210**	*e*PN	P	23 51 45.3	-4.3
LTZ	**Lake Taylor**	**6.36**	**210**	*e*P	P	23 51 45.3	-4.3
MQZ	**McQueen's Vall**	**7.03**	**204**	*e*PN	P	23 51 53.2	-4.9
MQZ	**McQueen's Vall**	**7.03**	**204**	*e*P	P	23 51 53.2	-4.9
ODZ	**Otahua Downs**	**8.90**	**208**	PN	P	23 52 17.7	-4.1

*IDC **03** 00:06:10.7±1.2, 5.26N×125.56E, mb4.0/6, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, Error ellipse: s-maj=102.3km s-min=18.7km az=70.0*

*NEIC **03** 00:06:15.5±1.6, 5.48N×126.27E, h37^{km}±16^{km}, mb4.0/2, Error ellipse: s-maj=73.1km s-min=9.2km az=70.0*

ISC 03 00:06:14.7±2.1**, 5.5N**±0.2×**126.3E**±0.6**, h46^{km}**±19^{km}**, n13, σ0§57**/13**, mb4.0**/6**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.73**	**335**	P	**P**	**00 06 42.9**	**+0.1**
KAKA	**Kakadu**	**19.08**	**161**	*e*P	**P**	**00 10 53.4**	**+17**
	9.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.45**	**182**	*e*P	**P**	**00 11 21.5**	**+0.5**
	2.3nm,0.3s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.45**	**182**	P	**P**	**00 11 21.3**	**+0.3**
	3.0nm,0.4s,mb4.1,baz=354,slow=10,SNR=19						
WRAB	**Tennant Creek**	**26.48**	**163**	P	**P**	**00 11 49.5**	**-0.2**
WRA	**Warramunga Arr**	**26.48**	**163**	P	**P**	**00 11 49.0**	**-0.8**
	1.4nm,0.3s,mb4.0,baz=333,slow=11,SNR=50						
WB2	**Warramunga Arr**	**26.48**	**163**	*e*P	**P**	**00 11 49.5**	**-0.3**
STKA	**Stephens Creek**	**39.91**	**160**	*e*P	**P**	**00 13 46.8**	**+0.8**
	1.8nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**39.91**	**160**	P	**P**	**00 13 47.2**	**+1.2**
	1.8nm,0.5s,mb4.1,baz=328,slow=9.1,SNR=8.6						
MKAR	**Makanchi Array**	**55.88**	**325**	P	**P**	**00 15 50.3**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=117,slow=7.6,SNR=12						
MKAR				PcP	PcP	00 16 46.6	-1.7
	0.4nm,0.5s,baz=129,slow=4.2,SNR=4.3						
KURK	**Kurchatov**	**60.04**	**327**	*e*P	**P**	**00 16 18.6**	**-0.6**
ARCES	**ARCESS Array B**	**88.66**	**340**	P	**P**	**00 19 04.7**	**+0.8**
	0.9nm,0.8s,mb4.1,baz=80,slow=5.5,SNR=3.6						
FINES	**FINESS Array B**	**90.09**	**332**	P	**P**	**00 19 10.2**	**-0.5**
	0.9nm,1.0s,mb4.0,baz=72,slow=6.0,SNR=4.7						

SKHL 03 00:26:58.1±0.3**, 48.85N×141.59E, h10^{km}, mb4.2**/5**, msh4.1**/2**, 1C-1D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.39**	**54**	⇓*i*Pg	Pg	00 27 06.0	-0.1
UGL				*i* Pg	Pg	00 27 06.0	-0.1
UGL				AMB	AMB	00 27 07.6	
	978nm,0.4s						
UGL				AMB	AMB	00 27 07.6	
	2μm,0.4s						
UGL				AMB	AMB	00 27 07.6	
	2μm,0.4s						
UGL				*e*Sg	Sg	00 27 11.5	+0.1
UGL				A		00 27 14.5	
	11μm,0.5s						
UGL				A		00 27 14.5	
	13μm,0.5s						
UGL				A		00 27 14.5	
	65μm,0.5s						
UGL				A		00 27 14.5	
	38μm,0.6s						
UGL				A		00 27 14.5	
	24μm,0.6s						
YSS	**Yuzh-Sakhalins**	**2.05**	**157**	⇑*e*Pb	Pb	00 27 33.2	-1.9
YSS				AMB	AMB	00 27 34.0	
	50nm,0.5s						
YSS				*i* Pg	Pg	00 27 38.8	-0.3
YSS				AMB	AMB	00 27 39.0	
	47nm,0.6s						
YSS				*i* Sb	Sb	00 27 58.5	-2.1
YSS				A		00 27 59.5	
	170nm,0.8s						
YSS				*e*Sg	Sg	00 28 07.0	+0.5
YSS				A		00 28 08.5	
	390nm,0.6s						
YSS				A		00 28 09.0	
	500nm,2.0s						
TYV	**Tymovskoe**	**2.13**	**18**	*e*Pn	Pn	00 27 33.0	-1.2
TYV				*e*Pg	Pg	00 27 39.9	-0.8
TYV				AMB	AMB	00 27 42.0	
	39nm,0.6s						
TYV				*e*Sg	Sg	00 28 09.3	+0.2
TYV				A		00 28 12.0	
	19nm,0.7s						
TYV				A		00 28 12.0	
	80nm,0.7s						
TYV				A		00 28 27.0	
	600nm,2.0s						
GRNR	**Gornyy**	**3.86**	**302**	*e*Pg	Pg	00 28 14.4	-0.8
GRNR				*e*Sg	Sg	00 29 07.0	+0.4
GRNR				A		00 29 08.2	
	120nm,1.0s						
NKL	**Nikolayevsk**	**4.34**	**353**	*e*Pn	Pn	00 28 08.0	+2.2
NKL				*e*Pg	Pg	00 28 23.7	-1.1
NKL				*e*Sg	Sg	00 29 24.0	+1.2
NKL				A		00 29 30.9	
	97nm,1.0s						
TEY	**Ternei**	**5.12**	**224**	*e*Pg	Pg	00 28 39.0	-1.3
TEY				AMB	AMB	00 28 42.9	
	17nm,0.6s						
TEY				*e*Sg	Sg	00 29 49.1	+0.5
TEY				A		00 29 50.0	
	43nm,1.0s						
KLR	**Kul'dur**	**6.48**	**277**	*e*rx	rx	00 29 18.9	
KLR				*e*Sg	Sg	00 30 34.8	+0.9
EKMR	**Ekimchan**	**6.90**	**311**	*e*Pg	Pg	00 29 13.5	-2.4
EKMR				AMB	AMB	00 29 19.7	
	3.0nm,0.5s						
EKMR				*e*Sg	Sg	00 30 48.9	+1.1
EKMR				A		00 30 50.1	
	27nm,0.7s						
EKMR				A		00 30 50.1	
	18nm,0.7s						
EKMR				A		00 30 50.1	
	12nm,0.7s						
YASR	**Yasnyy**	**9.65**	**303**	*e*P	P	00 29 23.0	+3.0
YASR				*e*rx	rx	00 31 26.7	
BMKR	**Bomnak**	**9.83**	**311**	*e*rx	rx	00 32 02.9	
BMKR				*e*rx	rx	00 32 27.5	
ZEA	**Zeya**	**10.22**	**304**	*e*rx	rx	00 32 24.5	
ZEA				*e*rx	rx	00 32 32.4	
KROS	**Kirovskiy**	**10.66**	**307**	*e*rx	rx	00 32 49.0	

*HLW **03** 01:17:56.1, 34.76N×21.83E, h22^{km}, Mb3.6*

*IDC **03** 01:17:59.8±3.4, 34.59N×22.25E, mb3.6/3, mb1 3.6/8, mb1mx3.5/27, mbtmp3.5/8, ML3.5/5, MS3.8/2, Ms1 3.7/2, ms1mx2.8/28, Error ellipse: s-maj=54.0km s-min=14.9km az=6.0*

*NEIC **03** 01:18:03.7±1.6, 34.89N×22.37E, h10^{km}, mb3.5/1, Error ellipse: s-maj=29.0km s-min=8.4km az=193.0*

ISC 03 01:17:59.0±1.7**, 34.28N**±0.04×**22.08E**±0.06**, h13^{km}**±12^{km}**, n41, σ1§35**/46**, mb3.5**/3**, MS3.7**/2**, 2C-5D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.75**	**71**	*e*P	**Pn**	**01 18 31.0**	**+1.6**
GVD	**Gavdhos**	**1.75**	**71**	*e*P	**Pn**	**01 18 30.7**	**+1.3**
VAM	**Vamos**	**2.08**	**56**	⇑*i*P	**Pn**	**01 18 33.0**	**-1.1**
KYTH	**Kithira**	**2.15**	**21**	*e*P	**Pn**	**01 18 37.0**	**+1.9**
IDI	**Anoyia**	**2.52**	**66**	Pg	**Pn**	**01 18 42.1**	**+1.6**
	8.6nm,0.3s,baz=232,slow=16,SNR=125						
IDI				Lg		01 19 12.8	
	8.0nm,0.3s,baz=346,slow=17,SNR=6.3						
VLI	**Veliai**	**2.54**	**16**	⇑*i*P	**Pn**	**01 18 42.5**	**+1.9**
ITM	**Ithomi**	**2.90**	**358**	*e*P	**Pn**	**01 18 46.5**	**+0.7**
NPS	**Neapolis**	**3.07**	**70**	*e*P	**Pn**	**01 18 51.0**	**+2.8**
RLS	**Riolos of Patr**	**3.81**	**353**	*e*P	**Pn**	**01 19 00.0**	**+1.3**
SLUM		**3.83**	**136**	⇓*i*P	**Pn**	**01 18 59.7**	**+0.7**
SLUM				S	**Sn**	**01 19 46.0**	**+1.7**
APE	**Apeiranthos**	**3.96**	**44**	*e*P	**Pn**	**01 19 01.0**	**+0.2**
VLS	**Valsamata**	**4.08**	**343**	*e*P	**Pn**	**01 19 01.7**	**-0.8**
KARP	**Karpathos**	**4.36**	**72**	*e*P	**Pn**	**01 19 08.0**	**+1.4**
LKR	**Lokris**	**4.43**	**9**	*e*P	**Pn**	**01 19 07.0**	**-0.5**
EVR	**Evrytania**	**4.64**	**357**	*e*P	**Pn**	**01 19 11.5**	**+1.0**
NEO	**Neokhori**	**5.11**	**10**	*e*P	**Pn**	**01 19 16.0**	**-1.1**
HMAT	**Matruh**	**5.29**	**125**	⇓P	**Pn**	**01 19 19.4**	**-0.2**
HMAT				S	**Sn**	**01 20 20.5**	**-0.7**
KEK	**Kerkira**	**5.73**	**342**	*e*P	**Pn**	**01 19 25.0**	**-0.9**
SWA2		**5.78**	**149**	⇓*i*P	**Pn**	**01 19 27.2**	**+0.6**
SWA2				S	**Sn**	**01 20 34.2**	**+0.6**
SWA1		**5.88**	**147**	⇑*e*P	**Pn**	**01 19 28.6**	**+0.6**
SWA1				S	**Sn**	**01 20 35.8**	**-0.1**
TIP	**Timpagrande**	**6.50**	**320**	*e*P	**Pn**	**01 19 34.3**	**-2.4**
VAE	**Valguarnera**	**7.00**	**299**	Pn	**Pn**	**01 19 45.0**	**+1.3**
	0.7nm,0.3s,baz=1.7,slow=14,SNR=5.0						
VAE				Sn	**Sn**	**01 21 05.4**	**+1.5**
	1.7nm,0.3s,baz=271,slow=24,SNR=2.6						
HBRG	**Burj al 'Arab**	**7.53**	**117**	⇓P	**Pn**	**01 19 49.8**	**-1.4**
HBRG				S	**Sn**	**01 21 12.8**	**-4.4**
SKO	**Skopje**	**7.70**	**356**	*e*Pn	**Pn**	**01 20 08.5**	**+15**
HNAT	**Natroun**	**8.60**	**120**	⇑P	**P**	**01 20 05.4**	**-0.8**
GLL	**Jalalah**	**9.43**	**117**	⇓P	**P**	**01 20 16.4**	**-1.2**
AMAG	**Maghara**	**10.07**	**108**	P	**P**	**01 20 24.5**	**-2.0**
BRTR	**Keskin Array B**	**10.72**	**56**	Pn	**P**	**01 20 31.4**	**-3.9**
	0.1nm,0.3s,baz=347,slow=23,SNR=3.3						
ASF	**Jabal al Asfar**	**12.59**	**95**	Pn	**P**	**01 20 56.8**	**-3.9**
	0.3nm,0.3s,baz=168,slow=19,SNR=3.7						
ASF				Sn	**S**	**01 23 21.6**	**-0.1**
	0.2nm,0.3s,baz=33,slow=22,SNR=3.5						
MALT	**Malatya**	**13.79**	**68**	P	**P**	**01 21 12.7**	**-3.8**
	4.7nm,0.9s						
GERES	**GERESS Array B**	**15.83**	**339**	Pn	**P**	**01 21 41.2**	**-1.9**
	0.1nm,0.3s,baz=172,slow=30,SNR=2.4						
KHC	**Kasperske Hory**	**16.13**	**340**	*e*P	**P**	**01 21 40.5**	**-6.4**
KHC				x	x	01 22 00.4	
KHC				x	x	01 22 15.5	
DPC	**Dobruska-Polom**	**16.61**	**347**	*e*P	**P**	**01 21 54.3**	**+1.3**
UPC	**Upice**	**16.82**	**347**	*e*P	**P**	**01 22 03.8**	**+8.1**
AKASG	**Malin Array Be**	**17.23**	**15**	Pn	**P**	**01 21 55.5**	**-5.2**
	1.3nm,0.3s,baz=205,slow=12,SNR=4.7						
CLL	**Collm**	**18.25**	**342**	*e*P	**P**	**01 22 20.0**	**+6.4**
	5.0nm,1.2s						
MDT	**Midelt**	**22.28**	**274**	LR	LR	01 34 39.8	
	comp=Z,176nm,19.1s,MS3.5,baz=56,slow=45						
HFS	**Hagfors**	**26.45**	**351**	P	**P**	**01 23 35.0**	**-2.1**
	0.6nm,0.5s,mb3.4,baz=162,slow=9.4,SNR=5.7						
FINES	**FINESS Array B**	**27.31**	**4**	P	**P**	**01 23 43.0**	**-2.0**
	0.4nm,0.5s,mb3.2,baz=180,slow=8.3,SNR=5.1						
ARCES	**ARCESS Array B**	**35.36**	**2**	P	**P**	**01 24 54.3**	**-1.6**
	0.8nm,0.6s,mb3.9,baz=189,slow=9.7,SNR=8.4						
BOSA	**Boshof**	**62.62**	**177**	LR	LR	01 58 29.2	
	comp=Z,89nm,19.3s,MS4.0,baz=175,slow=39						

*LDG **03** 01:24:09.2±0.5, 49.63N×87.95E, h10^{km}, Mb4.5/12, Ms3.1/1, Error ellipse: s-maj=30.7km s-min=3.0km az=70.0*

*BJI **03** 01:24:10.8, 49.93N×88.02E, h10^{km}, mB4.8, mb4.5, ML5.0, Ms4.4, Msz3.9*

*IDC **03** 01:24:10.7±0.8, 49.85N×88.18E, mb3.9/11, mb1 4.2/14, mb1mx4.1/23, mbtmp4.0/14, ML4.3/3, MS4.0/2, Ms1 4.0/2, ms1mx3.3/20, Error ellipse: s-maj=12.8km s-min=11.0km az=106.0*

*MOS **03** 01:24:11.6±1.4, 49.80N×87.93E, h15^{km}, mb4.7/9, Error ellipse: s-maj=8.7km s-min=5.8km az=116.8*

*NEIC **03** 01:24:12.0±0.5, 49.92N×88.18E, h10^{km}, mb4.3/14, Error ellipse: s-maj=9.1km s-min=8.5km az=189.0*

*NNC **03** 01:24:13.6±2.3, 49.98N×87.76E, mpv4.8, Error ellipse: s-maj=21.3km s-min=11.0km az=58.0*

ISC 03 01:24:11.1±0.3**, 49.93N**±0.03×**87.92E**±0.05**, h10^{km}, n100, σ1§21**/125**, mb4.3**/29**, MS4.5**/1**, 11C-9D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.43**	**333**	*i* PG	**Pg**	**01 24 21.8**	**+1.8**
AKAR				*e*S	**Sg**	**01 24 29.2**	**+3.3**
ARTR	**Artybash**	**1.91**	**348**	*e*PN	**Pg**	**01 24 49.5**	**+0.2**

ARTR eS Sg 01 25 15.2 +0.4
UKR Ust'-Kan 2.25 298 ePN Pg 01 24 53.9 -2.2
UKR eS Sg 01 25 25.6 -0.5
TASR Tashtagol 2.83 359 ePN Pb 01 25 01.8 +0.4
TASR eS Sb 01 25 42.1 +5.8
ELT Yel'tsovka 3.50 343 ePN Pb 01 25 10.8 -2.0
ELT eS Sb 01 25 59.6 +4.1
CERR Cheremushki 3.65 35 ePN Pb 01 25 20.0 +4.5
CERR eS Sb 01 26 05.4 +5.3
ZAL Zalesovo 4.45 335 Pn Pn 01 25 23.1 +2.7
20nm,0.3s,baz=319,slow=11,SNR=173
ZAL Pg Pg 01 25 34.2 -5.8
37nm,0.3s,baz=331,slow=11,SNR=34
ZAL Sn Sn 01 26 17.2 +4.3
24nm,0.3s,baz=279,slow=5.2,SNR=7.5
ZAL Lg 01 26 33.5
35nm,0.3s,baz=241,slow=18,SNR=5.2
ZAL Zalesovo 4.45 335 Pn Pn 01 25 23.1 +2.7
ZAL Pg Pg 01 25 34.2 -5.8
ZAL Sn Sn 01 26 17.2 +4.3
ZAL Lg 01 26 33.5
MKAR Makanchi Array 4.89 232 Pn Pn 01 25 28.6 +2.1
17nm,0.3s,baz=67,slow=11,SNR=441
MKAR Pg Pg 01 25 42.1 -6.7
74nm,0.3s,baz=51,slow=16,SNR=43
MKAR Sn Sn 01 26 25.4 +1.4
61nm,0.3s,baz=56,slow=26,SNR=7.2
MKAR Lg 01 26 44.0
94nm,0.3s,baz=49,slow=28,SNR=15
MKAR LR LR 01 27 23.3
comp=Z,6μm,21.3s,baz=108,slow=39
MKAR Makanchi Array 4.89 232 Pn Pn 01 25 28.6 +2.1
MKAR Pg Pg 01 25 42.1 -6.7
MKAR Sn Sn 01 26 25.4 +1.4
MKAR Lg 01 26 44.0
MKAR LR LR 01 27 23.3
MK02 Makanchi Array 4.90 232 ⇑Pn Pn 01 25 28.6 +1.9
27nm,0.3s,baz=55,slow=12
MK02 ⇑Pg Pg 01 25 42.0 -6.9
226nm,0.7s,baz=47,slow=16
MK02 ⇑Lg 01 26 47.0
726nm,0.6s,baz=46,slow=28
MK02 Makanchi Array 4.90 232 ⇑Pn Pn 01 25 28.6 +1.9
27nm,0.3s
MK02 Makanchi Array 4.90 232 PN Pn 01 25 28.6 +1.9
MK02 eP 01 25 42.0
NVS Novosibirsk 5.69 332 ePN Pn 01 25 38.4 +0.6
NVS e 01 25 56.9
NVS eS Sg 01 27 11.9 -8.7
KURK Kurchatov 6.01 281 ⇑Pn Pn 01 25 43.7 +1.4
47nm,0.7s
KURK ⇓Sn Sn 01 26 52.8 +0.8
142nm,0.7s
KURK ⇑Lg 01 27 19.5
301nm,0.6s
KURK Kurchatov 6.01 281 ⇑Pn Pn 01 25 43.7 +1.3
KURK Sn Sn 01 26 52.8 +0.8
KURK Lg 01 27 19.5
KURK Kurchatov 6.01 281 PN Pn 01 25 43.6 +1.3
KURK 01 26 52.8
KURK pmax pmax
comp=Z,33nm,0.7s
KURK smax
comp=Z,99nm,0.7s
KURK pmax pmax
comp=Z,181nm,0.6s
KRAR Krasnoyarsk 6.78 24 ePN Pn 01 25 52.1 -1.1
KRAR e 01 26 14.5
KRAR i 01 27 43.9
KRAR pmax pmax
comp=N,134nm,0.4s
KRAR pmax pmax
comp=N,152nm,0.5s
KRAR smax
comp=N,577nm,0.7s
VOSK Vostochnaya 10.96 291 ⇓Pn P 01 26 49.1 -1.9
comp=N,4.8nm,0.5s
VOSK ⇑Sn S 01 28 52.6 -2.2
comp=N,16nm,0.7s
VOSK ⇑Lg 01 29 57.9
comp=N,87nm,1.1s
VOSK Vostochnaya 10.96 291 ⇓Pn P 01 26 49.1 -1.9
comp=N,4.8nm,0.4s
VOSK Sn S 01 28 52.5 -2.2
VOSK Lg 01 29 57.9
TKM2 Tokmak 2 11.02 235 P P 01 26 49.8 -2.0
SNR=9.2
BVA0 Borovoye Array 11.36 293 Pn P 01 26 55.2 -1.2
comp=N,2.1nm,0.6s,baz=107,slow=14,SNR=51
BVA0 ⇓Sn S 01 29 01.2 -3.3
comp=N,4.2nm,0.7s,baz=148,slow=64,SNR=4.0
BVA0 Borovoye Array 11.36 293 Pn P 01 26 55.2 -1.2
comp=N,2.1nm,0.6s
BVA0 Sn S 01 29 01.2 -3.3
BVA0 Borovoye Array 11.36 293 P P 01 26 55.2 -1.3
BVA0 01 29 01.2
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 11.36 293 Pn P 01 26 55.3 -1.2
comp=Z,3.4nm,0.3s,baz=106,slow=14,SNR=29
BVAR Sn S 01 28 59.3 -5.2
comp=Z,4.1nm,0.3s,baz=99,slow=22,SNR=11
USP Ospenovka 11.38 239 P P 01 26 56.0 -0.7
SNR=14
BRVK Borovoye 11.43 293 eP P 01 26 56.9 -0.5
comp=Z,12nm,0.8s
BRVK Borovoye 11.43 293 eP P 01 26 56.9 -0.5
BRVK pmax pmax
comp=Z,12nm,0.8s
KBK Karagaybulak 11.54 236 P P 01 26 59.6 +0.6
SNR=8.9
KZA Kyzart 11.79 233 P P 01 27 03.4 +1.0
SNR=5.8
AAK Ala-Archa 11.80 237 P P 01 27 03.3 +0.8
SNR=6.8
AAK Ala-Archa 11.80 237 ⇑P P 01 27 03.0 +0.5
comp=Z,11nm,0.8s
AAK ⇓Lg 01 30 23.5
comp=Z,38nm,1.0s
EKS2 Erkin-Say 12.18 239 P P 01 27 06.5 -1.1
SNR=8.4
SONM Songino Array 12.34 93 Pn P 01 27 08.6 -1.1
comp=Z,0.2nm,0.3s,baz=282,slow=14,SNR=23
SONM Pg P 01 27 53.0 +43
comp=Z,0.3nm,0.3s,baz=285,slow=16,SNR=3.3
SONM Lg 01 30 37.8
comp=Z,0.6nm,0.3s,baz=272,slow=32,SNR=6.6
SONM LR LR 01 31 58.5
comp=Z,229nm,18.5s,baz=341,slow=38
AML Almayashu 12.58 237 P P 01 27 17.9 +4.9
SNR=14
ULN Ulaanbaatar 12.76 92 eP P 01 27 15.1 -0.2
GTA Gaotai 13.48 137 eP P 01 27 26.2 +1.3
GTA AP 01 27 33.1
GTA XP 01 27 37.3
GTA AMB AMB
comp=Z,3.0nm,0.7s
GTA LR LR
comp=N,571nm,9.9s
GTA LR LR
comp=E,1μm,11.4s
GTA LR LR
comp=Z,375nm,8.4s
KK31 Karatay Array 13.78 247 Pn P 01 27 25.6 -3.1
comp=Z,7.1nm,0.5s,baz=54,slow=12,SNR=83
KKAR Karatay Array 13.78 247 eP P 01 27 25.6 -3.1
KKAR e 01 29 55.1
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR smax
comp=Z,12nm,0.8s
KKAR pmax pmax
comp=Z,26nm,0.7s
BOD Bodaibo 17.20 53 eP P 01 28 09.6 -3.2
BOD pmax pmax
comp=Z,7.0nm,1.1s
SVE Sverdlovsk 17.60 304 eP P 01 28 14.0 -3.7
SVE MLR MLR
comp=N,300nm,12.0s
SVE MLR MLR
comp=E,100nm,12.0s
SVE MLR MLR
comp=Z,400nm,12.0s
LZH Lanzhou 18.03 134 eP P 01 28 23.5 +0.2
LZH AP 01 28 26.6
LZH XP 01 28 28.0
LZH PP PP 01 28 40.5 +2.3
LZH AMB AMB
comp=Z,29nm,1.5s
LZH AMB AMB
comp=Z,76nm,4.1s
LZH LR LR
comp=E,627nm,8.2s
LZH LR LR
comp=Z,1μm,11.5s
LZH Lanzhou 18.03 134 eP P 01 28 23.5 +0.2
comp=Z,29nm,1.5s
LZH pP 01 28 26.6
LZH sP 01 28 28.0
LZH PP PP 01 28 40.5 +2.3
LZH Lanzhou 18.03 134 eP P 01 28 23.5 +0.2
LZH pmax pmax
comp=Z,29nm,1.5s
AB31 Akbulak array 18.11 279 ⇓P P 01 28 23.9 -0.4
comp=Z,7.7nm,0.9s,baz=54,slow=12
AB31 Akbulak array 18.11 279 ⇓P P 01 28 23.9 -0.4
comp=Z,7.7nm,0.9s
AB31 Akbulak array 18.11 279 ⇓P P 01 28 23.9 -0.4
AB31 pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 18.66 302 eP P 01 28 29.9 -1.0
comp=Z,11nm,0.7s
ARU Arti 18.66 302 ⇓iP P 01 28 30.8 -0.1
ARU eS S 01 32 01.2 +5.3
ARU pmax pmax
comp=Z,7.0nm,0.7s
GKN Gorkha 22.04 188 eP P 01 29 10.9 +3.4
comp=Z,21nm,0.7s,mb4.7
KKN Kakani 22.20 186 eP P 01 29 10.2 +1.1
comp=Z,34nm,0.7s,mb4.9
KOLN Koldanda 22.38 190 eP P 01 29 10.5 -0.4
comp=Z,12nm,0.6s,mb4.5
DMN Daman 22.40 187 eP P 01 29 10.5 -0.6
comp=Z,22nm,0.8s,mb4.6
PKI Pulchoki 22.41 186 eP P 01 29 10.5 -0.7
comp=Z,17nm,0.6s,mb4.6
YAK Yakutsk 25.80 46 i P P 01 29 43.4 -0.2
GYA Guiyang 27.53 141 P P 01 30 03.1 +3.3
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
NJ2 Nanjing 29.10 116 eP P 01 30 09.1 -4.8
NJ2 AP pP 01 30 18.9 +2.0
NJ2 XP sP 01 30 23.1 +4.9
NJ2 PP PP 01 31 02.3 -5.8
NJ2 S S 01 34 57.0 -7.3
NJ2 XS 01 35 12.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,490nm,6.0s
NJ2 LR LR
comp=N,4μm,25.4s,MS5.1
NJ2 LR LR
comp=E,3μm,21.5s,MS5.1
NJ2 LR LR
comp=Z,410nm,24.8s,MS4.0
GOF Gofitskoye 30.36 278 eP P 01 30 23.8 -1.2
OBN Obninsk 31.08 300 ⇑iP P 01 30 35.4 +4.2
OBN e 01 31 44.7
OBN eS S 01 35 30.7 -4.6
OBN pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
SSE Sheshan 31.16 115 P P 01 30 28.6 -3.6
SSE AMB AMB
comp=Z,23nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,413nm,7.2s
SSE Sheshan 31.16 115 P P 01 30 28.6 -3.6
comp=Z,23nm,0.8s,mb5.1
ANN Anapa 34.04 281 eP P 01 30 57.3 +0.1
FINES FINESS Array B 35.34 313 P P 01 31 08.6 +0.4
comp=Z,0.5nm,0.6s,mb3.7,baz=63,slow=8.5,SNR=7.6
AKASG Malin Array Be 36.63 294 P P 01 31 18.9 -0.3
comp=Z,2.6nm,0.5s,mb4.3,baz=58,slow=9.2,SNR=9.0
BR131 Keskin Array S 39.04 276 eP P 01 31 40.5 +1.0
comp=Z,1.5nm,0.5s,mb4.0
BRTR Keskin Array B 39.04 276 P P 01 31 40.4 +0.8
comp=Z,1.6nm,0.5s,mb4.0,baz=85,slow=6.6,SNR=13
MLR Muntele Rosu 40.89 288 P P 01 31 56.2 +1.5
comp=Z,1.2nm,0.4s,mb3.9,baz=32,slow=15,SNR=4.9
HFS Hagfors 41.53 313 P P 01 32 01.3 +1.6
comp=Z,2.5nm,0.7s,mb4.0,baz=80,slow=8.8,SNR=7.9
OJC Ojcow 42.31 298 eP P 01 32 07.5 +1.3
NB2 NORSAR Subarra 42.36 315 P P 01 32 06.3 -0.1
comp=Z,1.8nm,0.6s,mb3.9,baz=64,slow=7.9
NB2 NORSAR Subarra 42.36 315 P P 01 32 06.3 -0.1
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
NOA NORSAR Array B 42.36 315 P P 01 32 06.9 +0.5
comp=Z,1.6nm,0.8s,mb3.7,baz=66,slow=7.7,SNR=6.1
CLL Collm 45.60 302 P P 01 32 34.0 +1.2
CLL ePP PP 01 34 22.0 +1.8
KHC Kasperske Hory 46.37 299 eP P 01 32 50.5 +12
GERES GERESS Array B 46.45 299 P P 01 32 41.1 +1.6
comp=Z,0.4nm,0.8s,mb3.4,baz=333,slow=11,SNR=2.5
CDF Champ du Feu 50.28 301 eP P 01 33 09.5 +0.2
MEZF Maizieres J'vi 51.45 302 eP P 01 33 18.3 +0.1
comp=Z,13nm,0.8s,mb4.6
EKA Eskdalemuir Ar 51.73 313 P P 01 33 19.9 -0.4
comp=Z,1.1nm,0.5s,mb4.0,baz=67,slow=6.3,SNR=7.5
LPG La Plagne 52.25 298 eP P 01 33 24.6 +0.3
comp=Z,6.3nm,0.8s,mb4.3
LPG La Plagne 52.25 298 eP P 01 33 24.6 +0.3
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LPL La Plagne 52.25 299 eP P 01 33 24.5 +0.2
comp=Z,2.3nm,0.5s,mb4.1
LPL La Plagne 52.25 299 eP P 01 33 24.5 +0.2
LPL pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
MBDF Montbardon 52.69 298 eP P 01 33 27.8 +0.2
comp=Z,12nm,0.8s,mb4.6
MBDF Montbardon 52.69 298 eP P 01 33 27.8 +0.2
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SBF Sospel 52.83 296 eP P 01 33 28.3 -0.3
comp=Z,6.3nm,0.7s,mb4.4
SBF Sospel 52.83 296 eP P 01 33 28.3 -0.3
SBF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SSF Saint Saulge 53.14 302 eP P 01 33 30.8 -0.1
comp=Z,6.4nm,0.9s,mb4.2
SSF Saint Saulge 53.14 302 eP P 01 33 30.8 -0.1
SSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
FRF La Foret Royal 53.47 297 eP P 01 33 32.7 -0.6
VIVF Saint-Julien-l 53.81 299 eP P 01 33 35.9 +0.1
LDF La Druitiere 54.17 305 eP P 01 33 38.2 -0.2
comp=Z,20nm,1.1s,mb4.7
LDF La Druitiere 54.17 305 eP P 01 33 38.2 -0.2
LDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
FLN La Foliniere 54.26 305 eP P 01 33 38.9 -0.2
comp=Z,18nm,0.9s,mb4.7
FLN La Foliniere 54.26 305 eP P 01 33 38.9 -0.2
FLN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TCF Toulx Ste Croi 54.31 302 eP P 01 33 39.3 -0.2
LASF Ste Croix 54.75 299 eP P 01 33 42.3 -0.4
comp=Z,6.2nm,1.0s,mb4.3
ILAR Eielson Array 58.00 24 P P 01 34 05.3 -0.4
comp=Z,0.7nm,0.6s,mb3.9,baz=320,slow=5.3,SNR=9.3
ESDC Sonseca Array 62.04 299 P P 01 34 34.7 +0.9
comp=Z,1.1nm,0.6s,mb4.2,baz=46,slow=7.6,SNR=5.1
WRA Warramunga Arr 80.77 136 P P 01 36 24.5 -1.8
comp=Z,1.0nm,0.7s,mb3.9,baz=342,slow=6.0,SNR=10
CPUP Villa Florida 144.41 298 PKP PKPdf 01 43 46.6 -3.7
comp=Z,2.5nm,0.7s,baz=54,slow=5.7,SNR=4.8

NEIC 03 01:42:20.3, 16.05N×96.23W, h54km, MD3.5(MEX), After MEX.

MEX 03 01:42:20.3±0.7, 16.05N×96.23W, h54km±15km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.30	157	i P	P	01 42 28.6	-1.3
HUIG				i S	S	01 42 35.0	-2.0
VHO	Vista Hermosa	1.12	335	eP	P	01 42 37.7	-2.4
VHO				i S	S	01 42 52.0	-2.7
OXX	Oaxaca	1.13	335	eP	P	01 42 39.0	-1.1
OXX				i S	S	01 42 53.0	-1.9
CMIG	Matias Romero	1.66	51	i P	P	01 42 44.8	-2.8
CMIG				i S	S	01 43 05.3	-2.5

MAN 03 01:52:15.7, 9.51N×126.04E, h1km, mb3.9, ML2.6, MS2.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.61	297	eP	Pg	01 52 27.2	-0.5
SCPH				eS	Sg	01 52 32.6	-3.3
BUTP	Butuan	0.68	218	eP	Pg	01 52 29.1	-0.1
BUTP				eS	Sg	01 52 38.7	+0.6
BUKP	Musuan	1.89	211	eP	Pn	01 52 49.2	-0.1
BUKP				eS	Sn	01 53 14.4	+0.3

IDC 03 02:15:37.6±0.8, 8.22N×144.50E, mb4.4/11, mb1 4.5/11, mb1mx4.3/18, mbtmp4.4/11, MS4.0/19, Ms1 4.0/19, ms1mx4.0/27, Error ellipse: s-maj=34.3km s-min=18.9km az=72.0
MOS 03 02:15:39.9±1.1, 8.08N×144.57E, h33km, mb5.0/8, Error ellipse: s-maj=25.5km s-min=13.8km az=109.6
BJI 03 02:15:45.0, 8.19N×144.55E, h74km, mB5.2, mb5.0, Ms4.6, Msz4.3
NEIC 03 02:15:46.9±4.5, 8.11N×144.43E, h74km±41km, mb4.7/6, Error ellipse: s-maj=15.9km s-min=8.4km az=66.0
ISC 03 02:15:43.5±7.0, 8.09N±0.10×144.4E±0.1, h58km±63km, n58, σ0.73/44, mb4.6/31, MS4.1/17, 1D, Eastern Caroline Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
GUMO Guam 5.48 5 LR LR 02 18 27.1
comp=Z,776nm,18.4s,baz=204,slow=32
PMG Port Moresby 17.60 171 LR LR 02 25 12.6
comp=Z,720nm,19.8s,baz=177,slow=32
CBIJ Chichi jima 19.02 354 LR LR 02 26 05.5
comp=Z,719nm,21.4s,baz=152,slow=33
HNR Honiara 23.30 138 LR LR 02 28 35.4
comp=Z,288nm,20.5s,MS3.7,baz=348,slow=33
KAKA Kakadu 23.84 210 eP P 02 21 07.8 +15
27nm,1.2s,mb4.6
JOW Kunigami 24.11 323 LR LR 02 29 00.7
comp=Z,488nm,21.8s,MS3.9,baz=98,slow=33
JNU Nakatsue 27.87 335 P P 02 21 29.0 -1.0
12nm,0.8s,mb4.6,baz=82,slow=11,SNR=6.0
CTA Charters Tower 28.06 176 LR LR 02 30 46.6
comp=Z,311nm,21.9s,MS3.9,baz=203,slow=32
WRAB Tennant Creek 29.55 199 eP P 02 21 44.3 -0.8
11nm,1.0s,mb4.5
WRAB Tennant Creek 29.55 199 eP P 02 21 44.3 -0.8
WRAB pmax pmax
comp=Z,11nm,1.0s,mb4.5
WB2 Warramunga Arr 29.56 199 eP P 02 21 45.0 -0.2
WRA Warramunga Arr 29.57 199 P P 02 21 44.8 -0.5
comp=Z,2.4nm,0.7s,mb4.0,baz=22,slow=9.8,SNR=25
FITZ Fitzroy Crossi 31.94 215 LR LR 02 33 40.0
comp=Z,48nm,19.5s,MS3.2,baz=87,slow=34
DZM Mont Dzumac 36.96 145 P P 02 22 50.4 +1.3
comp=Z,13nm,1.1s,mb4.7,baz=315,slow=14,SNR=3.5
ENH Enshi 39.41 309 eP P 02 23 09.6 +0.2
GYA Guiyang 40.18 302 P P 02 23 17.9 +2.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
HHC Hu-ho-hao-te 43.76 324 eP P 02 23 45.9 +0.8
HHC AP pP 02 24 01.7 +1.6
HHC AMB AMB
comp=Z,12nm,0.8s,mb4.7
HHC AMB AMB
comp=Z,145nm,6.0s
HHC LR LR
comp=N,290nm,13.1s,MS4.5
HHC LR LR
comp=E,269nm,14.3s,MS4.5
HHC LR LR
comp=Z,236nm,16.7s,MS4.2
CD2 Chengdu 44.17 307 P P 02 23 48.6 +0.1
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
LZH Lanzhou 46.26 313 eP P 02 24 06.1 +1.0
LZH AP pP 02 24 20.1 -0.1
LZH XP sP 02 24 28.0 +1.0
LZH AMB AMB
comp=Z,25nm,1.5s,mb4.9
LZH Lanzhou 46.26 313 eP P 02 24 06.1 +1.0
comp=Z,25nm,1.5s,mb4.9
LZH pP pP 02 24 20.1 -0.1
LZH sP sP 02 24 28.0 +1.0
LZH Lanzhou 46.26 313 eP P 02 24 06.1 +1.0
LZH *PP pP 02 24 20.1 -0.1
LZH pmax pmax
comp=Z,25nm,1.5s,mb4.9
GTA Gaotai 50.59 315 eP P 02 24 39.1 +0.4
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
ULN Ulaanbaatar 50.69 328 eP P 02 24 39.5 +0.2
comp=Z,20nm,0.7s,mb5.2
ULN Ulaanbaatar 50.69 328 eP P 02 24 39.5 +0.2
ULN pmax pmax
comp=Z,20nm,0.7s,mb5.2
SONM Songino Array 51.02 328 P P 02 24 42.3 +0.5
comp=Z,9.3nm,0.7s,mb4.8,baz=139,slow=9.3,SNR=76
SONM LR LR 02 47 36.6
comp=Z,186nm,18.3s,MS4.1,baz=242,slow=38
SONM Songino Array 51.02 328 P P 02 24 42.3 +0.5
SONM LR LR 02 47 36.6
ZAK Zakamensk 54.20 329 ⇓iP P 02 25 04.9 -0.5
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BOD Bodaibo 54.88 341 eP P 02 25 06.6 -3.7
BOD pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
GUN Gumba 58.48 298 eP P 02 25 36.8 +0.5
comp=Z,19nm,0.7s,mb5.2
PKI Pulchoki 58.85 297 eP P 02 25 38.8 0.0
comp=Z,4.9nm,0.5s,mb4.8
KKN Kakani 58.99 297 eP P 02 25 39.7 -0.1
comp=Z,16nm,0.8s,mb5.1
DMN Daman 59.12 297 eP P 02 25 40.9 +0.2
comp=Z,13nm,0.7s,mb5.1
GKN Gorkha 59.58 298 eP P 02 25 43.8 -0.1
comp=Z,12nm,0.6s,mb5.1
KOLN Koldanda 60.47 297 eP P 02 25 50.1 +0.1
comp=Z,16nm,0.8s,mb5.1
WMQ Urumqi 60.66 316 eP P 02 25 50.4 -0.7
MKAR Makanchi Array 65.17 318 P P 02 26 20.9 0.0
comp=Z,1.8nm,0.7s,mb4.2,baz=80,slow=7.4,SNR=14
MKAR LR LR 02 54 36.6
comp=Z,85nm,19.4s,MS4.0,baz=1.2,slow=36
ZAL Zalesovo 65.85 326 P P 02 26 24.9 -0.2
comp=Z,1.7nm,0.6s,mb4.2,baz=23,slow=7.1,SNR=5.8
ZAL LR LR 02 58 22.5
comp=Z,90nm,18.9s,MS4.0,baz=106,slow=39
NVS Novosibirsk 67.02 327 eP P 02 26 30.9 -1.5
NVS pmax pmax
comp=Z,16nm,1.8s,mb4.8
NVS pmax pmax
comp=E,7.0nm,1.2s
KURK Kurchatov 68.52 321 eP P 02 26 40.7 -1.1
comp=E,9.2nm,0.8s,mb4.8
KURK Kurchatov 68.52 321 eP P 02 26 40.7 -1.1
KURK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PPT Papeete 70.01 112 LR LR 02 52 52.9
comp=Z,260nm,19.5s,MS4.5,baz=282,slow=32
ILAR Eielson Array 73.72 25 P P 02 27 11.6 -1.2
comp=Z,1.2nm,0.9s,mb3.8,baz=249,slow=4.1,SNR=11
ILAR LR LR 02 54 43.2
comp=Z,128nm,20.7s,MS4.2,baz=177,slow=32
BVAR Borovoye Array 73.96 323 P P 02 27 14.7 +0.3
comp=Z,3.7nm,0.6s,mb4.5,baz=113,slow=7.7,SNR=30
DAWY Dawson 76.74 26 eP P 02 27 30.0 -0.1
ARU Arti 81.01 326 eP P 02 27 53.5 +0.1
comp=Z,3.3nm,0.7s,mb4.4
ARU Arti 81.01 326 eP P 02 27 53.6 +0.1
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
VNDA Vanda 86.05 176 LR LR 03 05 37.0
comp=Z,80nm,19.1s,MS4.1,baz=343,slow=35
YBH Yreka Blue Hor 86.83 48 LR LR 03 00 34.2
comp=Z,103nm,20.3s,MS4.2,baz=326,slow=31
YKA Yellowknife Ar 87.93 27 P P 02 28 28.6 +0.8
comp=Z,1.0nm,0.8s,mb4.1,baz=291,slow=5.3,SNR=3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YKA				LR	LR	03 03 22.3	
	comp=Z,153nm,21.2s,MS4.4,baz=270,slow=33						
CMB	Columbia Colle	89.16	52	eP	P	02 28 34.2	-0.1
BMO	Blue Mountains	90.19	45	P	P	02 28 39.8	+0.8
ARCES	ARCESS Array B	92.14	342	P	P	02 28 47.6	+0.1
	comp=Z,0.9nm,0.6s,mb4.3,baz=76,slow=3.7,SNR=4.1						
ARCES				LR	LR	03 13 39.0	
	comp=Z,87nm,20.0s,MS4.2,baz=307,slow=38						
HLID	Hailey	92.50	46	eP	P	02 28 49.9	+0.2
	comp=Z,3.7nm,1.2s,mb4.7						
MAW	Mawson	94.20	202	LR	LR	03 08 29.6	
	comp=Z,65nm,20.8s,MS4.1,baz=238,slow=34						
FINES	FINESS Array B	95.92	335	P	P	02 29 04.0	-0.8
	comp=Z,0.9nm,0.7s,mb4.3,baz=63,slow=4.3,SNR=7.8						
FINES				LR	LR	03 14 14.1	
	comp=Z,80nm,19.9s,MS4.2,baz=33,slow=37						
PDAR	Pinedale Array	96.14	45	LR	LR	03 07 28.0	
	comp=Z,80nm,19.2s,MS4.2,baz=115,slow=32						
LVC	Limon Verde	144.90	118	PKP	PKPdf	02 35 15.4	+0.5
DBIC	Dimbokro	146.01	295	PKPbc	PKPbc	02 35 20.5	+2.3
	comp=Z,4.6nm,0.8s,baz=28,slow=3.1,SNR=10.0						

IDC 03 02:30:08.1±2.2, 32.92N×142.54E, mb3.6/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.7/4, ML3.6/1, MS3.8/2, Ms1 3.8/2, ms1mx3.2/33, Error ellipse: s-maj=52.4km s-min=28.4km az=50.0
JMA 03 02:30:10.8±0.4, 33.11N×142.63E, h75^{km}, M3.7
ISC 03 02:30:10.7±1.9, 33.07N±0.09×142.6E±0.1, h34^{km}±17^{km}, n12, σ0^{s}85/13, mb3.6/3, MS4.2/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.08	320	P	P	02 30 43.9	+0.1
BSO1				eS	S	02 31 09.7	+0.9
JHJ2	Mitsune	2.34	272	P	P	02 30 48.3	+0.7
JHJ	Hachijo jima 2	2.37	272	Pn	P	02 30 48.1	+0.1
	34nm,0.3s,baz=258,slow=22,SNR=6.9						
JHJ				Sn	S	02 31 15.8	-0.4
	73nm,0.3s,baz=81,slow=23,SNR=9.0						
BSO3	Boso 3	2.45	315	P	P	02 30 49.5	+0.3
JHO	Hitachi	3.91	335	P	P	02 31 08.8	-1.1
JAG	Ashikaga	4.23	323	P	P	02 31 14.2	-0.3
MAT	Matsushiro	5.01	315	P	P	02 31 26.4	+0.9
MAT				S	S	02 32 21.1	-1.9
GUMO	Guam	19.50	173	LR	LR	02 39 42.0	
	comp=Z,203nm,20.1s,baz=291,slow=30						
SONM	Songino Array	30.93	309	P	P	02 36 26.9	+0.5
	0.7nm,0.8s,mb3.5,baz=113,slow=11,SNR=2.8						
MKAR	Makanchi Array	47.13	305	P	P	02 38 42.3	+1.0
	0.7nm,0.8s,mb3.7,baz=90,slow=7.3,SNR=5.0						
WRA	Warramunga Arr	53.30	190	P	P	02 39 27.6	-1.2
	0.8nm,0.8s,mb3.7,baz=7.2,slow=7.6,SNR=6.9						
DAVOX	Davos	89.83	330	LR	LR	03 24 55.4	
	comp=Z,77nm,18.9s,MS4.2,baz=180,slow=37						

IDC 03 02:31:38.0±1.3, 63.15N×143.73W, mb3.7/2, mb1 3.9/5, mb1mx3.6/21, mbtmp3.6/5, ML3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/27, Error ellipse: s-maj=26.9km s-min=10.4km az=39.0
NEIC 03 02:31:40.1, 63.08N×143.61W, h1^{km}, ML3.8(PMR), ML3.4(AEIC), After AEIC.
PGC 03 02:31:40.8, 63.09N×143.48W, h1^{km}, ML3.9/2, ML3.4/26(AEIC), 228km southwest of Dawson, Yt Eastern Alaska.
ISC 03 02:31:38.2±0.3, 63.13N±0.02×143.35W±0.05, h1^{km}, n65, σ1^{s}16/83, mb3.8/2, Central Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DOT	Dot Lake	0.61	329	P	Pg	02 31 51.6	+1.2
DOT				S	Sg	02 31 59.5	+1.0
DOT				Trac			
PAX	Paxson	0.98	261	P	Pb	02 31 56.2	-1.4
PAX				S	Sg	02 32 06.9	-3.9
PAX				Trac			
THY	Trims Highway	1.12	286	P	Pb	02 31 59.6	-0.5
THY				S	Sb	02 32 13.9	-1.1
SDG	Sourdough	1.17	240	P	Pb	02 31 59.5	-1.4
SDG				S	Sb	02 32 14.2	-2.3
WANC	Wrangell North	1.18	197	P	Pb	02 32 00.3	-0.8
WANC				S	Sb	02 32 15.7	-1.1
DDM	Donnelly Dome	1.30	301	P	Pb	02 32 03.6	+0.3
TZL	Tazlina	1.45	222	P	Pn	02 32 04.9	-0.7
TZL				S	Sb	02 32 23.7	-1.0
GLB	Gilahina Butte	1.71	187	P	Pn	02 32 08.9	-0.5
DAWY	Dawson	2.00	60	P	Pn	02 32 16.5	+2.9
KLU	Klutina	2.04	217	P	Pn	02 32 13.9	-0.1
KLU				S	Sn	02 32 39.2	-1.3
HDA	Harding Lake	2.05	310	P	Pn	02 32 13.3	-0.9
HDA				Trac			
BALM	Baldy	2.16	167	P	Pn	02 32 16.3	+0.5
BMRM	Bremner River	2.25	196	P	Pn	02 32 17.5	+0.4
BMRM				Trac			
SCM	Sheep Creek Mo	2.26	237	P	Pn	02 32 17.3	+0.1
SCM				S	Sn	02 32 45.3	-0.9
ILAR	Eielson Array	2.27	318	Pg	Pg	02 32 16.2	-7.3
	8.4nm,0.3s,baz=144,slow=12,SNR=835						
ILAR				Lg		02 32 50.5	
	176nm,0.3s,baz=133,slow=30,SNR=46						
DIV	Divide	2.31	211	P	Pn	02 32 18.0	+0.1
DIV				S	Sn	02 32 47.4	0.0
DIV				Trac			
CTGM	Chitina Glacie	2.37	155	P	Pn	02 32 19.2	+0.3
CRQM	Cirque	2.39	177	P	Pn	02 32 20.3	+1.2
CRQM	Cirque	2.39	177	P	Pn	02 32 20.3	+1.2
VLZ	Valdez	2.45	216	P	Pn	02 32 19.8	-0.1
WRH	Wood River Hil	2.50	305	P	Pn	02 32 19.6	-0.9
RND	Reindeer	2.50	279	P	Pn	02 32 21.9	+1.3
RND				S	Sn	02 32 52.7	+0.4
MCK	McKinley	2.58	286	P	Pn	02 32 22.4	+0.6
MCK				S	Sn	02 32 56.6	+2.3
MCK				Trac			
SML	Sawmill	2.67	242	P	Pn	02 32 24.0	+1.0
SML				S	Sn	02 32 56.4	-0.1
WAX	Waxell Ridge	2.70	175	P	Pn	02 32 25.3	+1.8
SGAM	Sherman Glacie	2.78	199	P	Pn	02 32 25.7	+1.0
FID	Port Fidalgo	2.81	213	P	Pn	02 32 26.3	+1.2
EYAK	Cordova Ski Ar	2.83	205	P	Pn	02 32 26.6	+1.2
CFI	College Fiord	2.85	229	P	Pn	02 32 26.9	+1.2
GLI	Glacier Island	2.87	220	P	Pn	02 32 26.2	+0.3
YAH	Yahtse	2.88	164	P	Pn	02 32 27.4	+1.3
GHO	Glory Hole Cre	2.93	245	P	Pn	02 32 28.2	+1.4
GHO	Glory Hole Cre	2.93	245	P	Pn	02 32 28.2	+1.4
PMR	Palmer	3.10	243	P	Pn	02 32 30.3	+1.0
PMR				Trac			
HIN	Hinchinbrook I	3.13	210	P	Pn	02 32 30.4	+0.8
HIN				Trac			
CUT	Chulitna	3.26	260	P	Pn	02 32 32.6	+1.0
PCA	Pinnacle	3.39	153	P	Pn	02 32 35.8	+2.5
PCA				Trac			
KTH	Kantishna Hill	3.44	280	P	Pn	02 32 35.4	+1.4
KTH				Trac			
HYT	Haines Junctio	3.60	127	P	Pn	02 32 36.6	+0.2
HYT				Pg	Pg	02 32 45.1	-5.1
HYT				Sg	Sg	02 33 33.8	-4.4
HYT				Trac		02 33 40.7	
	comp=Z,76nm,0.5s						
FIB	Fire Island	3.76	241	P	Pn	02 32 37.1	-1.4
LTI	Latouche	3.77	217	P	Pn	02 32 38.5	-0.4
PNL	Peninsula	3.96	150	P	Pn	02 32 44.6	+3.2
PNL				Trac			
SLKM	Skilak Lake	4.19	234	P	Pn	02 32 42.9	-1.7
SEW	Seward	4.21	226	P	Pn	02 32 45.4	+0.4
SEW				Trac			
BM3	Burnt Mountain	4.34	354	Trac			
BM3	Burnt Mountain	4.34	354	P	Pn	02 32 46.8	0.0
SPU	Mount Spurr	4.53	248	qP		02 32 48.5	
WHY	Whitehorse	4.71	118	P	Pn	02 32 51.7	-0.5
WHY				Pg	Pg	02 33 06.8	-5.5
WHY				Sg	Sg	02 34 05.5	-10
WHY				Trac		02 34 14.2	
	comp=Z,83nm,0.8s						
RSO	Redoubt South	5.20	243	qP		02 32 57.6	
IM01	Indian Mountai	5.31	307	P	Pn	02 32 58.5	-2.1
IMA	Indian Mountai	5.33	308	eP	Pn	02 33 00.4	-0.5
TTA	Tatalina	5.77	274	P	Pn	02 33 06.8	-0.2
TT01	Tatalina	5.77	273	P	Pn	02 33 06.4	-0.7
SVW2	Sparrevohn	6.09	256	eP	Pn	02 33 12.7	+1.1
INK	Inuvik	6.58	34	Pn	Pn	02 33 17.8	-0.7
	1.0nm,0.3s,baz=13,slow=16,SNR=23						
INK				Sn	Sn	02 34 29.8	-5.4
	2.7nm,0.3s,baz=212,slow=13,SNR=4.1						
INK				Lg		02 35 08.4	
	2.5nm,0.3s,baz=111,slow=17,SNR=5.8						
INK				LR	LR	02 36 01.8	
	comp=Z,69nm,19.6s,baz=12,slow=40						
INK	Inuvik	6.58	34	P	Pn	02 33 17.1	-1.5
INK				Pn	Pn	02 33 17.2	-1.3
INK				Sn	Sn	02 34 31.2	-4.1
INK				Sg	Sg	02 35 08.8	-8.6
INK				Trac		02 35 19.8	
	comp=Z,55nm,0.9s						
INK	Inuvik	6.58	34	eP	Pn	02 33 17.1	-1.5
DLBC	Dease Lake	8.03	120	Pn	P	02 33 38.1	-0.8
	0.3nm,0.3s,baz=337,slow=20,SNR=4.8						
DLBC				Lg		02 35 49.8	
	0.5nm,0.3s,baz=50,slow=22,SNR=12						
DLBC	Dease Lake	8.03	120	Pn	P	02 33 37.0	-1.9
DLBC				Sg	Sg	02 35 49.8	-16
DLBC				Trac		02 36 16.2	
	comp=Z,30nm,1.0s						
FNBB	Fort Nelson	10.73	104	P	P	02 34 13.6	-2.3
FNBB				Sg	S	02 37 14.8	+57
FNBB				Trac		02 37 38.4	
	comp=Z,7.0nm,0.7s						
YKW3	Yellowknife Ar	13.09	80	P	P	02 34 42.4	-5.3
YKA	Yellowknife Ar	13.11	80	Pn	P	02 34 45.3	-2.7
	0.1nm,0.3s,baz=288,slow=14,SNR=5.7						
YKA	Yellowknife Ar	13.11	80	Pn	P	02 34 45.3	-2.7
PDAR	Pinedale Array	28.27	120	P	P	02 37 35.8	+1.2
	0.5nm,0.8s,mb3.4,baz=315,slow=6.3,SNR=4.8						
AKASG	Malin Array Be	66.36	5	P	P	02 42 29.1	-0.9
	0.9nm,0.6s,mb4.2,baz=356,slow=6.6,SNR=8.4						

MAN 03 02:34:08.0, 13.48N×120.20E, h3^{km}, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.73	88	eP	Pg	02 34 22.6	0.0
PGP				eS	Sg	02 34 33.5	+1.2
NBP	Mount Natib	1.28	9⇑	eP	Pb	02 34 31.8	-0.5
NBP				eS	Sb	02 34 44.9	-4.1
SJMP	San Jose	1.35	138	eP	Pb	02 34 33.3	-0.2
SJMP				eS	Sb	02 34 51.8	+0.7

IDC 03 02:39:25.4±2.8, 10.41S×161.36E, h78^{km}±21^{km}, mb3.7/4, mb1 3.9/5, mb1mx3.7/14, mbtmp4.0/5, MS3.2/1, Ms1 3.2/1, ms1mx2.9/19, Error ellipse: s-maj=35.9km s-min=21.0km az=57.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.70	305	P	P	02 39 52.6	-1.1
	76nm,0.3s,baz=153,slow=7.1,SNR=13						
HNR				S	S	02 40 14.6	-0.1
	215nm,0.3s,baz=144,slow=11,SNR=7.5						
DZM	Mont Dzumac	12.58	158	P	P	02 42 21.5	-1.3
	0.4nm,0.3s,baz=70,slow=19,SNR=20						
CTA	Charters Tower	17.45	235	LR	LR	02 48 20.1	
	comp=Z,82nm,21.2s,baz=231,slow=31						
WRA	Warramunga Arr	27.71	247	P	P	02 45 06.6	-2.0
	1.6nm,0.6s,baz=75,slow=9.3,SNR=8.9						
SONM	Songino Array	75.65	325	P	P	02 51 02.7	-1.2
	1.4nm,0.6s,baz=142,slow=5.4,SNR=8.6						
ILAR	Eielson Array	84.33	20	P	P	02 51 48.6	-1.1
	0.6nm,0.8s,baz=252,slow=4.2,SNR=4.4						
MKAR	Makanchi Array	90.13	318	P	P	02 52 16.3	-1.9
	0.4nm,0.5s,baz=104,slow=5.9,SNR=3.7						

CSEM 03 03:03:40.2±0.7, 38.57N×28.83W, h15^{km}, ML1.9, Error ellipse: s-maj=9.2km s-min=5.1km az=59.0, After PDA
PDA 03 03:03:40.2±0.7, 38.57N×28.83W, h15^{km}, MD2.9, ML1.9, Error ellipse: s-maj=9.2km s-min=5.1km az=59.0
SVSA 03 03:03:40.2±0.7, 38.57N×28.83W, h15^{km}, MD2.9, ML1.9, Error ellipse: s-maj=9.2km s-min=5.1km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.10	81	eP	Pb	03 03 43.3	0.0
PCED	Cedros	0.12	58	eP	Pb	03 03 43.4	-0.2
PCED				eS	Sb	03 03 45.4	-0.4
	63nm,0.1s						
HOR	Horta	0.16	104	eP	Pb	03 03 43.6	-0.8
HOR				eS	Sb	03 03 46.7	-0.4
PICO	Pico	0.32	101	eP	Pb	03 03 45.7	-1.4
PICO				eS	Sb	03 03 50.2	-1.6

NEIC 03 03:08:30.4, 35.44S×178.81E, h187^{km}, MG3.7(WEL), After WEL.
WEL 03 03:08:30.1±0.6, 35.29S×178.75E, h163^{km}±17^{km}, ML3.7/5, Error ellipse: s-maj=11.8km s-min=11.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.30	189	PN	P	03 09 09.8	-0.1
MXZ				SN	S	03 09 39.6	-1.0
MXZ	Matakaoa Point	2.30	189	P	P	03 09 09.8	-0.1
MXZ				S	S	03 09 40.5	0.0
PUZ	Puketiti	2.81	188	PN	P	03 09 15.6	-0.6
PUZ				eSN	S	03 09 50.2	-1.3
PUZ	Puketiti	2.81	188	P	P	03 09 15.7	-0.5
MWZ	Matawai	3.19	197	ePN	P	03 09 20.9	-0.2
MWZ				SN	S	03 09 59.8	-0.5
MWZ	Matawai	3.19	197	eP	P	03 09 20.9	-0.2
URZ	Urewera	3.24	203	ePN	P	03 09 21.4	-0.3
URZ				eSN	S	03 10 01.0	-0.4
URZ	Urewera	3.24	203	eP	P	03 09 21.4	-0.3
KNZ	Kokohu	3.82	193	ePN	P	03 09 27.4	-1.8
KNZ	Kokohu	3.82	193	eP	P	03 09 27.4	-1.7
BKZ	Black Stump Fm	4.27	204	ePN	P	03 09 33.4	-1.5
BKZ	Black Stump Fm	4.27	204	eP	P	03 09 32.8	-2.1
THZ	Tophouse	7.92	214	PN	P	03 10 20.0	-3.3
THZ				eSN	S	03 11 46.9	-4.7

SOF 03 03:15:57.2, 41.48N×23.76E, h18^{km}, MD2.5
CSEM 03 03:15:57.8±0.1, 41.56N×23.79E, h12^{km}, ML3.0, Error ellipse: s-maj=4.8km s-min=2.6km az=95.0
ATH 03 03:15:58.2, 41.55N×23.80E, h13^{km}, MD3.2/3
THE 03 03:15:59.5, 41.48N×23.70E, h17^{km}, ML3.0
ISC 03 03:15:57.9±0.6, 41.53N±0.03×23.73E±0.05, h13^{km}, n12, σ0^{s}90/18, 1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMB	Musomiste	0.06	358	i Pg	Pg	03 16 00.8	+0.3
NVR	Nevrokopi	0.21	152	ePG	Pg	03 16 02.8	+0.1
NVR				eSG	Sg	03 16 06.1	+0.2
SRS	Serrai	0.43	194	ePg	Pg	03 16 07.2	+0.4
SRS				eSg	Sg	03 16 12.8	0.0
KNT	Kendrikon	0.73	240	ePg	Pg	03 16 12.7	0.0
KNT				eSg	Sg	03 16 22.2	-0.3
SOH	Sokhos	0.77	202	ePg	Pg	03 16 12.8	-0.6
SOH				eSg	Sg	03 16 23.2	-0.5
PGB	Panagyurishte	1.07	18	i P	Pb	03 16 17.7	0.0
VTS	Vitosha	1.13	340	i P	Pb	03 16 19.6	+0.8
PLG	Polygyros	1.18	191⇓	iPN	Pn	03 16 20.5	+0.4
PLG				eSB	Sb	03 16 36.8	+2.2
OUR	Ouranopolis	1.21	171	ePg	Pg	03 16 20.5	-1.8
KDZ	Kurdzhali	1.27	84	i P	Pb	03 16 20.0	-1.2
RDO	Rodhopi	1.41	105	ePB	Pb	03 16 24.0	+0.3
RDO				eSB	Sb	03 16 42.9	+1.4
ALN	Alexandroupoli	1.86	109	ePb	Pb	03 16 29.7	-1.6

MAN 03 03:25:30.0, 9.01N×125.59E, h23^{km}, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.05	142	eP	Pb	03 25 34.4	+0.4
SCPH	Surigao	0.78	353	eP	Pb	03 25 44.5	-0.2
SCPH				eS	Sb	03 25 53.5	-1.3
CGP	Cagayan de Oro	1.04	238⇑	iP	Pb	03 25 49.3	+0.1
CGP				i S	Sb	03 26 03.1	+0.7
BUKP	Musuan	1.24	205	eP	Pn	03 25 55.5	+3.4
BUKP				eS	Sb	03 26 15.1	+7.0
PAGZ	Pagadian	2.47	242	eP	Pn	03 26 10.1	+0.4
PAGZ				eS	Sn	03 26 38.9	-0.6

IDC 03 03:41:04.6±6.4, 35.33N×22.53E, mb3.6/4, mb1 3.6/5, mb1mx3.4/23, mbtmp3.6/5, ML2.5/1, Error ellipse: s-maj=116.3km s-min=15.8km az=19.0
ATH 03 03:41:11.9, 35.44N×22.88E, h27^{km}±2^{km}, MD3.6/5
NEIC 03 03:41:11.6, 35.42N×22.85E, h26^{km}, MD3.6(ATH), After ATH.
CSEM 03 03:41:11.4±0.1, 35.20N×22.74E, h30^{km}, MD3.6, Error ellipse: s-maj=5.1km s-min=2.3km az=64.0
HLW 03 03:41:12.8, 35.51N×23.43E, h24^{km}, Mb3.2
ISC 03 03:41:11.0±0.7, 35.20N±0.05×22.8E±0.1, h77^{km}±9^{km}, n24, σ1^{s}19/27, mb3.4/4, 5C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	Kithira	1.10	11	ePN	P	03 41 28.5	-2.9
GVD	Gavdhos	1.13	108	P	P	03 41 31.5	-0.2
GVD	Gavdhos	1.13	108	P	P	03 41 31.5	-0.2
VAM	Vamos	1.18	79	ePN	P	03 41 32.9	+0.5
VLI	Veliai	1.52	5	ePN	P	03 41 36.1	-1.0
IDI	Anoyia	1.73	86	Pg	P	03 41 41.1	+1.4
	8.8nm,0.3s,baz=268,slow=14,SNR=86						
IDI				Lg		03 42 05.1	
	11nm,0.3s,baz=288,slow=19,SNR=6.4						
ITM	Ithomi	2.10	341	ePN	P	03 41 44.7	-0.1
NPS	Neapolis	2.32	88	ePN	P	03 41 49.0	+1.1
RLS	Riolos of Patr	3.05	340	ePN	P	03 41 57.7	-0.4
EVR	Evrytania	3.79	348	ePN	P	03 42 08.6	+0.1
EVR	Evrytania	3.79	348	ePn	P	03 42 09.0	+0.5
SLUM		4.22	151⇑	eP	P	03 42 15.6	+1.2
SLUM				S	S	03 43 01.5	-1.2
HMAT	Matruh	5.46	137⇓	eP	P	03 42 30.6	-0.8
HMAT				S	S	03 43 27.7	-5.9
HMAT	Matruh	5.46	137	P	P	03 42 30.6	-0.9
SWA2		6.35	158⇑	eP	P	03 42 45.6	+1.7
SWA1		6.41	156⇑	eP	P	03 42 46.8	+2.0
SWA1				S	S	03 43 55.2	-2.0
AWBH		8.61	141	⇑P	P	03 43 14.8	0.0
BRTR	Keskin Array B	9.74	59	Pn	P	03 43 29.7	-0.6
	0.0nm,0.3s,baz=243,slow=13,SNR=2.8						
AMAG	Maghara	9.87	114⇑	eP	P	03 43 28.8	-3.2
KHC	Kasperske Hory	15.49	337	eP	P	03 44 47.5	+1.5
HFS	Hagfors	25.64	349	P	P	03 46 34.6	-0.2
	0.7nm,0.4s,mb3.4,baz=159,slow=12,SNR=8.6						
FINES	FINESS Array B	26.35	4	P	P	03 46 40.4	-0.9
	1.0nm,1.0s,mb3.2,baz=180,slow=7.6,SNR=4.1						
ARCES	ARCESS Array B	34.43	2	P	P	03 47 52.0	-0.6
	0.8nm,0.7s,mb3.6,baz=180,slow=8.5,SNR=5.8						
MKAR	Makanchi Array	45.38	56	P	P	03 49 24.4	+1.2
	0.3nm,0.4s,mb3.3,baz=280,slow=8.0,SNR=3.7						

IDC 03 03:51:26.2±1.4, 1.25N×96.63E, mb4.1/7, mb1 4.2/7, mb1mx3.9/17, mbtmp4.1/7, Error ellipse: s-maj=54.7km s-min=26.1km az=48.0
NEIC 03 03:51:31.5±0.9, 1.51N×96.91E, h30^{km}, mb4.6/2, Error ellipse: s-maj=21.3km s-min=15.4km az=48.0
ISC 03 03:51:29.7±0.9, 1.5N±0.1×96.9E±0.1, h30^{km}, n13, σ0^{s}88/12, mb4.2/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.27	45	eP	Pn	03 52 48.1	-0.5
LZH	Lanzhou	34.97	10	eP	P	03 58 20.1	-1.4
	30nm,1.7s,mb5.0						
LZH				pP	pP	03 58 28.0	-2.4
WRA	Warramunga Arr	42.45	122	P	P	03 59 24.0	0.0
	0.7nm,0.5s,mb3.6,baz=302,slow=9.0,SNR=7.9						
WRAB	Tennant Creek	42.46	122	eP	P	03 59 24.4	+0.3
SONM	Songino Array	46.84	9	P	P	03 59 59.9	+1.0
	3.9nm,0.7s,mb4.4,baz=188,slow=8.7,SNR=21						
MKAR	Makanchi Array	46.85	346	P	P	04 00 00.1	+1.1
	4.4nm,0.7s,mb4.5,baz=158,slow=6.5,SNR=38						
ULN	Ulaanbaatar	46.98	9	eP	P	04 00 00.4	+0.4
	1.4nm,0.5s,mb4.2						
ZAL	Zalesovo	53.17	351	P	P	04 00 48.1	+0.8
	3.0nm,0.5s,mb4.5,baz=341,slow=6.1,SNR=10						
BRTR	Keskin Array B	68.68	312	P	P	04 02 32.5	-0.3
	0.6nm,0.6s,mb3.7,baz=115,slow=9.3,SNR=3.3						
AKASG	Malin Array Be	74.82	322	P	P	04 03 07.3	-1.8
	0.9nm,0.6s,mb3.9,baz=88,slow=5.0,SNR=4.6						
AKASG	Malin Array Be	74.82	322	P	P	04 03 07.3	-1.8
FINES	FINESS Array B	79.57	333	P	P	04 03 35.5	+0.2
	1.1nm,0.9s,mb3.8,baz=117,slow=4.3,SNR=6.0						
CLL	Collm	84.99	321	e*PP	pP	04 04 11.0	-2.2

CSEM 03 03:59:13.0±0.7, 77.89N×19.74E, h10^{km}, ML3.1, Error ellipse: s-maj=34.5km s-min=3.1km az=48.0
NAO 03 03:59:17.1±2.7, 77.64N×17.48E, h10^{km}±37^{km}, ML2.9
BER 03 03:59:19.7±3.0, 77.78N×17.91E, h10^{km}, MD2.8, ML2.3, ML2.9(NAO)
HEL 03 03:59:18.0±0.9, 77.65N×17.44E, h10^{km}, ML3.1, MD3.0(BER), ML2.9(NAO), Svalbard region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	0.58	338	i P	Pg	03 59 27.6	-2.1
SPA0				i S	Sg	03 59 34.9	-2.6
SPA0	Spitsbergen Ar	0.58	338	P	Pg	03 59 27.6	-2.1
	baz=140,slow=18						
SPA0				S	Sg	03 59 34.9	-2.6
	baz=142,slow=37						
HSP	Hornsund	0.77	214	eP	Pb	03 59 35.8	+2.9
HSP				eS	Sb	03 59 48.2	+5.0
KBS	Kingsbay	1.71	321	Pn	Pn	03 59 47.7	-0.4
KBS				Lg		04 00 10.9	
KBS	Kingsbay	1.71	321	eP	Pn	03 59 47.8	-0.3
KBS				eS	Sn	04 00 09.5	-0.6
KBS				AML	AML	04 00 16.4	
	comp=Z,180nm,0.4s						
KBS	Kingsbay	1.71	321	eP	Pn	03 59 47.8	-0.3
	SNR=50						
KBS				eS	Sn	04 00 09.5	-0.6
	comp=Z,180nm,0.4s,SNR=50						
HOPEN	Hopen	2.05	120	eP	Pn	03 59 52.9	-0.1
HOPEN				eS	Sn	04 00 17.1	-1.7
HOPEN				eSg	Sg	04 00 22.6	-3.7
HOPEN				AML	AML	04 00 24.9	
	comp=N,17nm,0.1s						
KEV	Kevo	8.36	157	eP	P	04 01 18.0	-4.1
KEV				MPN		04 01 19.9	
	comp=Z,0.7nm,0.3s						
KEV				eS	Sn	04 02 46.2	-11
KEV	Kevo	8.36	157	P	P	04 01 18.0	-4.1
	comp=Z,0.7nm,0.3s						
KEV				S	Sn	04 02 46.2	-11
ARA0	ARCESS Array S	8.46	160	Pn	P	04 01 18.6	-4.9
	baz=356,slow=12						
ARA0				Sn	Sn	04 02 48.0	-12
	baz=1.2,slow=22						
ARA0	ARCESS Array S	8.46	160	eP	P	04 01 19.9	-3.6
ARA0				eS	Sn	04 02 48.7	-11
ARA0	ARCESS Array S	8.46	160	P	P	04 01 19.9	-3.6
ARA0				S	Sn	04 02 48.0	-12
	SNR=47						
KIF	Kilpisjarvi	8.74	172	eP	P	04 01 25.1	-2.3
KIF				eS	Sn	04 02 57.5	-10
KIF	Kilpisjarvi	8.74	172	P	P	04 01 25.1	-2.4
KIF				S	Sn	04 02 57.4	-10
SGF	Sodankyl	10.59	161	eP	P	04 01 48.0	-4.7
SGF				MPN		04 01 50.0	
	comp=Z,0.8nm,0.4s						
SGF				eS	S	04 03 37.7	-15
SGF	Sodankyl	10.59	161	P	P	04 01 47.9	-4.8
	comp=Z,0.8nm,0.4s						
SGF				S	S	04 03 37.6	-15
KU4	Liikasenvaara	11.90	156	eP	P	04 02 04.5	-6.0
KU4				eS	S	04 04 09.1	-15
OUL	Oulu	12.89	164	eS	S	04 04 33.6	-15

IDC 03 04:11:32.4±12.0, 4.96N×92.46E, mb3.8/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1,

ms1mx2.9/15, Error ellipse: s-maj=355.1km s-min=82.9km az=121.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.59**	**350**	P	P	04 19 30.6	-1.2
	0.7nm,0.4s,baz=170,slow=7.5,SNR=12						
ZAL	**Zalesovo**	**49.23**	**354**	P	P	04 20 21.0	-3.4
	1.7nm,0.5s,baz=276,slow=6.0,SNR=3.6						
GNI	**Garni**	**55.32**	**316**	LR	LR	04 46 24.7	
	comp=Z,25nm,18.8s,baz=10,slow=38						
FINES	**FINESS Array B**	**74.51**	**333**	P	P	04 23 13.4	-0.9
	0.5nm,0.7s,baz=98,slow=9.8,SNR=3.5						
ARCES	**ARCESS Array B**	**77.43**	**341**	P	P	04 23 29.5	-1.2
	1.2nm,0.8s,baz=107,slow=6.7,SNR=6.5						
GERES	**GERESS Array B**	**78.88**	**319**	P	P	04 23 37.3	-1.9
	0.1nm,0.3s,baz=17,slow=36,SNR=2.4						

*MOS **03** 04:41:38.1±0.7, 36.28N×70.83E, h187km, mb3.6/1, Error ellipse: s-maj=32.8km s-min=13.4km az=86.0*
*NEIC **03** 04:41:39.4±3.4, 36.29N×70.98E, h184km±25km, mb3.3/1, Error ellipse: s-maj=31.9km s-min=16.6km az=209.0*
*IDC **03** 04:41:43.2±7.7, 36.42N×71.08E, h216km±66km, mb3.2/6, mb1 3.4/9, mb1mx3.2/20, mbtmp3.8/9, Error ellipse: s-maj=49.0km s-min=22.0km az=30.0*
*NNC **03** 04:41:48.7±3.5, 37.00N×70.95E, h214km±33km, mpv3.8, Error ellipse: s-maj=32.6km s-min=19.2km az=6.0*
ISC 03 04:41:43.3±2.2**, 36.6N**±0.2×**71.0E**±0.1**, h221**km±16km**, n28, σ0.57/30, mb3.2**/6**, 4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.88**	**20**	P	**P**	**04 43 10.3**	**+0.2**
	SNR=96						
UCH	**Uchtor**	**6.22**	**25**	P	**P**	**04 43 15.0**	**+0.5**
	SNR=27						
KZA	**Kyzart**	**6.36**	**30**	P	**P**	**04 43 16.2**	**0.0**
	SNR=15						
EKS2	**Erkin-Say**	**6.40**	**19**	P	**P**	**04 43 16.9**	**+0.2**
	SNR=7.0						
KK31	**Karatay Array**	**6.49**	**357**	⇑P	**P**	**04 43 17.8**	**-0.1**
	1.1nm,0.3s,baz=178,slow=13,SNR=32						
KK31				S	**S**	**04 44 27.7**	**-4.0**
	7.9nm,0.5s,baz=175,slow=22,SNR=19						
AAK	**Ala-Archa**	**6.58**	**23**	P	**P**	**04 43 19.4**	**+0.4**
	SNR=19						
AAK	**Ala-Archa**	**6.58**	**23**	⇓P	**P**	**04 43 19.3**	**+0.3**
	8.5nm,0.3s						
AAK				⇓S	**S**	**04 44 32.7**	**-1.0**
	17nm,0.8s						
AAK	**Ala-Archa**	**6.58**	**23**	*e*PN	**P**	**04 43 17.9**	**-1.1**
ULHL	**Ulahol**	**6.92**	**34**	P	**P**	**04 43 23.5**	**+0.1**
	SNR=13						
CHMS	**Chumysh**	**6.99**	**23**	P	**P**	**04 43 24.6**	**+0.3**
	SNR=6.1						
USP	**Ospenovka**	**7.16**	**21**	P	**P**	**04 43 26.7**	**+0.2**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.21**	**28**	P	**P**	**04 43 27.4**	**+0.2**
	SNR=22						
MK31	**Makanchi Array**	**13.19**	**36**	P	**P**	**04 44 43.4**	**+0.1**
	0.6nm,0.5s,baz=222,slow=16,SNR=6.0						
MKAR	**Makanchi Array**	**13.19**	**36**	P	**P**	**04 44 43.1**	**-0.2**
	0.3nm,0.3s,baz=225,slow=15,SNR=6.6						
AB31	**Akbulak array**	**14.99**	**331**	⇑P	**P**	**04 45 05.0**	**-0.4**
	0.3nm,0.3s,baz=140,slow=12,SNR=14						
VOSK	**Vostochnaya**	**16.11**	**360**	⇑P	**P**	**04 45 18.5**	**-0.4**
	3.5nm,1.4s						
BVA0	**Borovoye Array**	**16.41**	**359**	P	**P**	**04 45 23.1**	**+0.5**
	0.8nm,1.6s,baz=156,slow=11,SNR=9.9						
BVAR	**Borovoye Array**	**16.41**	**359**	P	**P**	**04 45 23.2**	**+0.5**
	0.6nm,0.3s,baz=158,slow=10,SNR=8.8						
AKTO	**Aktyubinsk**	**16.69**	**330**	⇑P	**P**	**04 45 25.3**	**-0.6**
	0.4nm,0.5s						
ZAL	**Zalesovo**	**19.79**	**25**	P	**P**	**04 45 58.9**	**+0.8**
	1.1nm,0.3s,baz=271,slow=4.2,SNR=3.2						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**04 48 36.6**	**+0.4**
	0.7nm,0.4s,mb3.6,baz=112,slow=10,SNR=11						
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**04 49 06.9**	**+0.7**
	1.5nm,0.6s,mb3.6,baz=117,slow=8.1,SNR=13						
NB2	**NORSAR Subarra**	**44.30**	**323**	P	**P**	**04 49 32.0**	**-0.4**
	0.7nm,0.7s,mb3.1,baz=93,slow=7.9						
NB2	**NORSAR Subarra**	**44.30**	**323**	P	**P**	**04 49 32.0**	**-0.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.2						
NOA	**NORSAR Array B**	**44.30**	**323**	P	**P**	**04 49 32.3**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.2,baz=96,slow=7.8,SNR=5.0						
ILAR	**Eielson Array**	**74.66**	**16**	P	**P**	**04 52 59.4**	**-0.2**
	comp=Z,0.1nm,0.6s,mb2.6,baz=309,slow=5.5,SNR=4.1						
YKA	**Yellowknife Ar**	**81.13**	**3**	P	**P**	**04 53 35.0**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.3,baz=352,slow=5.3,SNR=5.7						
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**04 53 38.9**	**-1.4**
	comp=Z,0.4nm,0.6s,mb3.2,baz=325,slow=5.1,SNR=7.2						

*ZUR **03** 04:50:13.5, 45.20N×7.51E, h1km, ML2.5/9*
*ROM **03** 04:50:14.5±0.2, 45.32N×7.42E, h34km±3km, Md2.9/9, Ml2.6/3, Error ellipse: s-maj=5.0km s-min=4.0km az=170.0*
*CSEM **03** 04:50:15.3±0.1, 45.13N×7.54E, ML2.8/13, Error ellipse: s-maj=2.2km s-min=1.6km az=110.0*
*STR **03** 04:50:16.3±0.3, 45.09N×7.69E, h10km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*VIE **03** 04:50:16.3±1.2, 45.13N×7.38E, h10km, mb2.7/1, ML2.9/1, Error ellipse: s-maj=20.7km s-min=3.1km az=152.0*
*GEN **03** 04:50:16.4, 45.09N×7.34E, ML2.0*
*LDG **03** 04:50:16.1±0.2, 45.16N×7.53E, h2km, Md2.8/3, Ml2.9/24, Error ellipse: s-maj=4.0km s-min=2.4km az=95.0*
*NEIC **03** 04:50:16.1, 45.16N×7.53E, h2km, ML3.0(STR), ML2.9(LDG), ML2.7(GEN), ML2.6(ROM), After LDG.*
ISC 03 04:50:14.0±0.3**, 45.20N**±0.01×**7.47E**±0.03**, h10**km**, n77, σ1.35/113, 5C-8D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONC	**Moncucco Torin**	**0.35**	**112**	Pg	**Pg**	**04 50 25.1**	**+3.9**
	809nm,0.4s						
ORO	**Oropa**	**0.56**	**40**	Pg	**Pg**	**04 50 25.8**	**+0.6**
	234nm,0.2s						
BNI	**Bardonecchia**	**0.58**	**255**	⇑*i*Pg	**Pg**	**04 50 26.8**	**+1.0**
	155nm,0.3s						
LPG	**La Plagne**	**0.59**	**300**	*e*Pg	**Pg**	**04 50 26.2**	**+0.3**
LPG				*e*Sg	**Sg**	**04 50 32.4**	**-1.4**
	193nm,0.2s						
LPL	**La Plagne**	**0.61**	**301**	*e*Pg	**Pg**	**04 50 26.7**	**+0.4**
LPL				*e*Sg	**Sg**	**04 50 33.9**	**-0.6**
	211nm,0.2s						
MBDF	**Montbardon**	**0.69**	**226**	*e*Pg	**Pg**	**04 50 29.0**	**+1.1**
MBDF				*e*Sg	**Sg**	**04 50 38.1**	**+0.9**
	249nm,0.2s						
MCGN	**Macugnaga**	**0.84**	**25**	Pg	**Pg**	**04 50 30.5**	**-0.3**
MCGN				Sg	**Sg**	**04 50 40.8**	**-1.2**
	99nm,0.2s						
SURF	**Saint Ours**	**0.86**	**213**	Pg	**Pg**	**04 50 31.9**	**+0.6**
DIX	**Grande Dixence**	**0.88**	**357**	Pg	**Pg**	**04 50 31.2**	**-0.4**
DIX				Sg	**Sg**	**04 50 41.4**	**-2.0**
DIX	**Grande Dixence**	**0.88**	**357**	⇑*i*P*P		05 50 31.2	
DIX				*i* S*S		05 50 41.4	
MMK	**Mattmark**	**0.92**	**22**	Pg	**Pg**	**04 50 32.1**	**-0.3**
MMK				Sg	**Sg**	**04 50 43.1**	**-1.6**
MMK	**Mattmark**	**0.92**	**22**	⇑*i*P*P		05 50 31.9	
MMK				*i* S*S		05 50 43.1	
EMV	**Vieux Emosson**	**0.95**	**335**	Pg	**Pg**	**04 50 33.1**	**0.0**
EMV				Sg	**Sg**	**04 50 44.5**	**-1.3**
EMV	**Vieux Emosson**	**0.95**	**335**	*i* P*P		05 50 33.0	
STV2	**Anna di Valdie**	**0.96**	**186**	P	**Pb**	**04 50 32.3**	**0.0**
STV2				S	**Sb**	**04 50 43.0**	**-1.9**
STV2	**Anna di Valdie**	**0.96**	**186**	P	**Pb**	**04 50 32.3**	**-0.1**
SALAN	**Lac Salanfe**	**1.00**	**340**	⇓*i*P*P		05 50 34.0	
SALAN				*e*S*S		05 50 46.1	
SALAN	**Lac Salanfe**	**1.00**	**340**	⇓*i*P	**Pb**	**04 50 34.0**	**+1.0**
GRYON	**Gryon**	**1.08**	**347**	⇑*i*P*P		05 50 35.1	
GRYON	**Gryon**	**1.08**	**347**	⇑*i*P	**Pb**	**04 50 35.1**	**+0.8**
FIN	**Finale Ligure**	**1.12**	**152**	Pg	**Pg**	**04 50 36.9**	**+0.3**
	44nm,0.4s						
VAI	**Varese**	**1.13**	**53**	Pg	**Pg**	**04 50 35.8**	**-0.8**
VAI				Sg	**Sg**	**04 50 50.0**	**-1.7**
ORIF	**Oris-en-Rattie**	**1.16**	**256**	*e*Pg	**Pg**	**04 50 37.4**	**+0.1**
ORIF				*e*Sg	**Sg**	**04 50 51.8**	**-1.1**
	121nm,0.3s						
SENIN	**Lac Senin**	**1.17**	**354**	⇓*i*P*P		05 50 36.6	
SENIN	**Lac Senin**	**1.17**	**354**	⇓*i*P	**Pb**	**04 50 36.6**	**+0.8**
LKBD	**Leukerbad**	**1.19**	**5**	*e*P*P		05 50 37.0	
LKBD	**Leukerbad**	**1.19**	**5**	*e*P	**Pb**	**04 50 37.0**	**+0.8**
AIGLE	**Aigle**	**1.19**	**342**	⇓*i*Pn	**Pn**	**04 50 37.7**	**+0.9**
AIGLE	**Aigle**	**1.19**	**342**	⇓*i*P	**Pn**	**04 50 37.7**	**+0.9**
TOUF	**Mont Tournerai**	**1.20**	**188**	Pg	**Pg**	**04 50 36.8**	**-1.3**
AUTN	**L'Aution**	**1.21**	**182**	Pg	**Pg**	**04 50 36.9**	**-1.3**
SAOF	**Saorge**	**1.22**	**177**	Pg	**Pg**	**04 50 36.9**	**-1.5**
IMI	**Imperia**	**1.33**	**167**	Pg	**Pg**	**04 50 39.8**	**-0.8**
	14nm,0.1s						
SBF	**Sospel**	**1.34**	**181**	*e*Pg	**Pg**	**04 50 38.8**	**-2.1**
SBF				*e*Sg	**Sg**	**04 50 57.0**	**-1.8**
	106nm,0.3s						
NEGI	**Negi**	**1.37**	**173**	P	**Pn**	**04 50 39.3**	**0.0**
NEGI				S	**Sb**	**04 50 53.8**	**-2.9**
NEGI	**Negi**	**1.37**	**173**	P	**Pn**	**04 50 39.3**	**+0.1**
NEGI				S	**Sb**	**04 50 53.8**	**-2.8**
REVF	**Revere**	**1.47**	**183**	Pn	**Pn**	**04 50 41.4**	**+0.7**
CALN	**Calern**	**1.51**	**196**	Pn	**Pn**	**04 50 42.4**	**+1.1**
HASLI	**Hasliberg**	**1.62**	**17**	*e*Pn	**Pn**	**04 50 45.2**	**+2.3**
HASLI	**Hasliberg**	**1.62**	**17**	*e*P	**Pn**	**04 50 45.2**	**+2.3**
CABF	**La Chapelle**	**1.71**	**326**	*e*Pn	**Pn**	**04 50 46.0**	**+1.9**
CABF				*e*Sn	**Sn**	**04 51 07.8**	**+1.6**
	25nm,0.3s						
FRF	**La Foret Royal**	**1.75**	**200**	*e*Sg	**Sg**	**04 51 09.0**	**-3.2**
	34nm,0.3s						
SMRF	**Simiane la Rot**	**1.83**	**228**	*e*Pn	**Pn**	**04 50 48.6**	**+2.7**
SMRF				*e*Pg	**Pg**	**04 50 50.6**	**0.0**
SMRF				*e*Sg	**Sg**	**04 51 15.5**	**+0.5**
	19nm,0.4s						
LMR	**La Mourre**	**1.99**	**201**	*e*Pn	**Pn**	**04 50 49.6**	**+1.4**
LMR				*e*Pg	**Pg**	**04 50 51.1**	**-2.8**
LMR				*e*Sg	**Sg**	**04 51 16.3**	**-4.2**
	24nm,0.2s						
VIVF	**Saint-Julien-l**	**2.02**	**261**	*e*Pn	**Pn**	**04 50 50.6**	**+2.1**
VIVF				*e*Pg	**Pg**	**04 50 53.6**	**-0.7**
VIVF				*e*Sn	**Sn**	**04 51 14.8**	**+0.8**
	19nm,0.4s						
LOMF	**Lomont**	**2.19**	**348**	Pn	**Pn**	**04 50 53.6**	**+2.5**
BBS	**Basel-Blauen**	**2.26**	**1**	Pn	**Pn**	**04 50 54.1**	**+2.1**
HINF	**Hinteralfeld**	**2.65**	**351**	*e*Pn	**Pn**	**04 50 58.7**	**+1.1**
HINF				*e*Sg	**Sg**	**04 51 36.7**	**-5.5**
	21nm,0.4s						
MOF	**Molkenrain**	**2.66**	**355**	Pn	**Pn**	**04 50 59.1**	**+1.4**
DAVA	**Damuels**	**2.67**	**38**	⇓*i*Pn	**Pn**	**04 51 01.6**	**+3.7**
DAVA				⇓*i*Sn	**Sn**	**04 51 34.1**	**+3.5**
PLDF	**La Plantade**	**2.81**	**287**	Pn	**Pn**	**04 51 02.8**	**+2.9**
LASF	**Ste Croix**	**2.82**	**248**	*e*Pn	**Pn**	**04 51 01.2**	**+1.2**
LASF				*e*Sn	**Sn**	**04 51 33.2**	**-1.1**
	4.4nm,0.3s						
PGF	**Pioggiola**	**2.88**	**157**	*e*Pn	**Pn**	**04 51 00.0**	**-0.8**
PGF				*e*Sn	**Sn**	**04 51 31.9**	**-3.9**
	3.0nm,0.3s						
HAU	**Haudompre**	**2.91**	**345**	*e*Pn	**Pn**	**04 51 02.1**	**+0.8**
HAU				*e*Sn	**Sn**	**04 51 34.5**	**-2.1**
HAU				*e*Sg	**Sg**	**04 51 46.3**	**-4.6**
	16nm,0.4s						
SMF	**Signal de Mont**	**2.92**	**301**	*e*Pn	**Pn**	**04 51 02.9**	**+1.5**
SMF				*e*Sg	**Sg**	**04 51 47.0**	**-4.1**
	9.1nm,0.3s						
LBL	**Lubilhac**	**2.99**	**272**	Pn	**Pn**	**04 51 04.8**	**+2.4**
WLS	**Welschbruch**	**3.21**	**359**	Pn	**Pn**	**04 51 05.9**	**+0.3**
CDF	**Champ du Feu**	**3.21**	**358**	*e*Pn	**Pn**	**04 51 05.7**	**+0.1**
CDF				*e*Pg	**Pg**	**04 51 17.0**	**-1.2**
CDF				*e*Sn	**Sn**	**04 51 43.6**	**-0.7**
CDF				*e*Sg	**Sg**	**04 51 55.3**	**-5.7**
	16nm,0.5s						
LOR	**Lormes**	**3.25**	**311**	*e*Pn	**Pn**	**04 51 07.2**	**+1.1**
LOR				*e*Sn	**Sn**	**04 51 44.2**	**-1.1**
LOR				*e*Sg	**Sg**	**04 51 55.5**	**-6.7**
	5.6nm,0.3s						
AVF	**Avril sur Loir**	**3.28**	**300**	*e*Pn	**Pn**	**04 51 07.4**	**+0.8**
AVF				*e*Sg	**Sg**	**04 51 58.3**	**-5.0**
	6.1nm,0.3s						
SSF	**Saint Saulge**	**3.33**	**305**	*e*Pn	**Pn**	**04 51 08.4**	**+1.2**
SSF				*e*Sn	**Sn**	**04 51 45.7**	**-1.5**
SSF				*e*Sg	**Sg**	**04 52 03.0**	**-1.8**
	2.0nm,0.3s						
SFTF	**Sexfontaines**	**3.44**	**332**	*e*Pn	**Pn**	**04 51 09.5**	**+0.7**
SFTF				*e*Sg	**Sg**	**04 52 05.3**	**-3.2**
	13nm,0.4s						
BGF	**Bois d'Agland**	**3.50**	**294**	*e*Pn	**Pn**	**04 51 10.8**	**+1.1**
BGF				*e*Sg	**Sg**	**04 52 07.0**	**-3.7**
	12nm,0.4s						
RFYF	**Reffroy**	**3.69**	**339**	*e*Pn	**Pn**	**04 51 13.8**	**+1.4**
RFYF				*e*Pg	**Pg**	**04 51 24.6**	**-3.1**
RFYF				*e*Sn	**Sn**	**04 51 55.1**	**-1.3**
	5.2nm,0.3s						
MEZF	**Maizieres J'vi**	**3.69**	**334**	*e*Pn	**Pn**	**04 51 12.9**	**+0.5**
MEZF				*e*Sn	**Sn**	**04 51 54.6**	**-1.9**
	12nm,0.5s						
TCF	**Toulx Ste Croi**	**3.84**	**288**	*e*Pn	**Pn**	**04 51 15.5**	**+1.0**
TCF				*e*Sn	**Sn**	**04 51 57.8**	**-2.4**
TCF				*e*Sg	**Sg**	**04 52 16.3**	**-5.6**
	4.2nm,0.5s						
CAF	**Calviac**	**3.84**	**268**	*e*Pn	**Pn**	**04 51 16.1**	**+1.6**
HYF	**Humbligny**	**3.94**	**303**	*e*Pn	**Pn**	**04 51 17.9**	**+2.0**
RJF	**Les Rejaudoux**	**4.21**	**273**	*e*Pn	**Pn**	**04 51 20.1**	**+0.4**
MTLF	**Montolieu**	**4.21**	**246**	*e*Pn	**Pn**	**04 51 19.4**	**-0.4**
MTLF				*e*Sn	**Sn**	**04 52 06.8**	**-2.8**
	1.7nm,0.4s						
LFF	**La Frestale**	**4.78**	**269**	*e*Pn	**Pn**	**04 51 27.6**	**-0.2**
BAIF	**Baives**	**5.33**	**337**	*e*Pn	**Pn**	**04 51 35.8**	**+0.1**
MFF	**Saint Martin d**	**5.50**	**287**	*e*Pn	**Pn**	**04 51 39.6**	**+1.6**
LDF	**La Druitiere**	**6.21**	**306**	*e*Pn	**Pn**	**04 51 47.2**	**-0.9**
ETSF	**Etsaut**	**6.23**	**251**	*e*Pn	**Pn**	**04 51 48.1**	**-0.2**
GRR	**Gorron**	**6.54**	**302**	*e*Pn	**Pn**	**04 51 52.5**	**-0.3**
SGMF	**Saint Gilles**	**7.54**	**297**	*e*Pn	**Pn**	**04 52 05.3**	**-1.4**

CASC 03 05:14:24.5±2.5**, 9.86N**×**84.53W, h6**km±7km**, MD3.7, ML3.0, 9C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.17**	**22**	⇓*i*P	Pg	05 14 29.1	+1.1
PRS1	**Puriscal**	**0.25**	**60**	⇓*i*P	Pg	05 14 28.9	-0.6
LAJ	**Bijagual**	**0.40**	**90**	⇑*i*P	Pg	05 14 29.5	-3.1
VPS2	**Volcan Poas 2**	**0.43**	**41**	⇑*i*P	Pg	05 14 33.6	+0.4
SJS	**Escuela Geolog**	**0.47**	**81**	⇓*i*P	Pg	05 14 34.1	+0.1
SJS				*e*S	Sg	05 14 40.7	+0.3
LCR2	**La Lucha 2**	**0.53**	**103**	⇑*i*P	Pg	05 14 34.5	-0.6
JCR	**Jicaral**	**0.57**	**269**	⇑*e*P	Pg	05 14 36.1	+0.1
JCR				*e*S	Sg	05 14 44.6	+0.9
FORC	**Fortuna**	**0.62**	**347**	⇑*i*P	Pg	05 14 37.1	+0.2
BUS	**Buena Vista**	**0.82**	**112**	⇑*e*P	Pb	05 14 39.6	-1.1
LIM1	**Limonal**	**1.10**	**319**	⇑*e*P	Pb	05 14 44.6	-0.9
LIM1				*e*S	Sb	05 14 59.6	-0.3
VCR	**Vista de Mar**	**1.12**	**284**	⇑*e*P	Pb	05 14 45.1	-0.7
VCR				*e*S	Sb	05 15 00.8	+0.3
LIO	**Limon**	**1.48**	**84**	⇑*i*P	Pn	05 14 50.6	-1.2
LIO				*e*S	Sb	05 15 11.2	+0.2
MADN	**Villa Maderas**	**1.83**	**327**	*e*P	Pn	05 14 57.0	+0.2
MADN				*e*S	Sn	05 15 22.3	+1.8
MADN				*i*		05 15 24.0	
	comp=Z,167nm,0.6s						
SSNN	**San Juan del S**	**1.92**	**318**	⇓*e*P	Pn	05 14 58.7	+0.5
SSNN				*e*S	Sn	05 15 25.7	+2.7
CONN	**Concepcion**	**2.01**	**328**	⇓*e*P	Pn	05 14 59.7	+0.3
CONN				*e*S	Sn	05 15 26.5	+1.4

IDC 03 05:22:53.3±7.2**, 22.24N**×**142.85E, h379**km±76km**, mb3.2**/7**, mb1 3.4**/7**, mb1mx3.2**/19**, mbtmp4.0**/7**, 1D, Error ellipse: s-maj=35.2km s-min=14.3km az=81.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.73**	**320**	P	P	05 29 41.2	-2.4
	0.5nm,0.5s,baz=136,slow=8.6,SNR=3.1						
WB2	**Warramunga Arr**	**42.74**	**192**	⇓*i*P	P	05 30 13.8	-2.7
WRA	**Warramunga Arr**	**42.74**	**192**	P	P	05 30 14.0	-2.6
	0.7nm,0.3s,baz=12,slow=8.6,SNR=50						
FITZ	**Fitzroy Crossi**	**43.49**	**204**	P	P	05 30 22.0	-0.4
	4.2nm,0.7s,baz=24,slow=8.4,SNR=3.8						
MKAR	**Makanchi Array**	**54.11**	**312**	P	P	05 31 41.8	-0.7
	0.9nm,0.4s,baz=81,slow=10.0,SNR=8.7						
ILAR	**Eielson Array**	**61.70**	**27**	P	P	05 32 33.0	-1.1
	0.3nm,0.6s,baz=272,slow=4.7,SNR=3.4						
ARCES	**ARCESS Array B**	**78.31**	**341**	P	P	05 34 11.8	-1.4
	3.4nm,0.9s,baz=45,slow=5.1,SNR=4.7						
FINES	**FINESS Array B**	**82.56**	**334**	P	P	05 34 33.8	-1.7
	0.4nm,0.3s,baz=53,slow=4.7,SNR=8.4						
PLCA	**Paso Flores**	**146.34**	**131**	PKPbc	PKPbc	05 41 50.6	+0.9
	1.0nm,0.5s,baz=239,slow=5.9,SNR=7.2						
LPAZ	**La Paz**	**150.19**	**84**	PKPbc	PKPdf	05 41 59.9	+4.9
	0.7nm,0.7s,baz=211,slow=2.3,SNR=4.7						

*IDC **03** 06:00:14.9±0.6, 15.86S×172.32W, mb4.5/13, mb1 4.7/14, mb1mx4.6/21, mbtmp4.6/14, MS4.0/12, Ms1 4.0/12, ms1mx3.8/22, Error ellipse: s-maj=26.0km s-min=14.4km az=130.0*
*BJI **03** 06:00:25.2, 15.80S×172.50W, h81km, mB4.9, mb4.6, Ms4.6, Msz4.7*
*NEIC **03** 06:00:25.2±0.2, 15.80S×172.54W, mb4.6/30, Error ellipse: s-maj=9.9km s-min=4.5km az=135.0*
ISC 03 06:00:23.4±0.2**, 15.81S**±0.07×**172.54W**±0.07**, h79**km**, h79**km±1.6km**:pP-P, n181, σ0.80/96, mb4.5**/45**, 15C-8D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**21**	Pn	**P**	**06 00 50.3**	**-5.9**
	416nm,0.3s,baz=12,slow=3.3,SNR=316						
AFI				Sn	**S**	**06 01 13.4**	**-7.1**
	1μm,0.3s,baz=37,slow=14,SNR=17						
AFI				LR	LR	06 01 41.4	
	comp=Z,3μm,20.3s,baz=99,slow=43						
AFI	**Afiamalu**	**2.03**	**21**	⇑*e*P	**P**	**06 00 50.3**	**-6.0**
RAO	**Raoul Island**	**14.27**	**199**	Pn	**P**	**06 03 34.0**	**-8.9**
	69nm,0.3s,baz=93,slow=18,SNR=3.8						
RAO				Sn	**S**	**06 06 06.1**	**-13**
	85nm,0.3s,baz=102,slow=21,SNR=4.2						
RAO				LR	LR	06 07 14.5	
	comp=Z,121nm,21.5s,baz=90,slow=29						
DZM	**Mont Dzumac**	**20.82**	**249**	P	**P**	**06 04 59.7**	**-0.9**
	3.6nm,0.6s,baz=80,slow=19,SNR=5.2						
DZM				LR	LR	06 10 50.7	
	comp=Z,196nm,19.2s,baz=66,slow=30						
PPT	**Papeete**	**22.06**	**98**	*e*LQ		06 09 01.1	
PPT				*e*LR	LR	06 09 52.6	
	671nm,26.2s,baz=261						
PPT	**Papeete**	**22.06**	**98**	LR	LR	06 11 19.7	
	comp=Z,364nm,18.4s,baz=256,slow=30						
TBI	**Tubuai**	**22.98**	**113**	*e*LQ		06 09 30.0	
TBI				*e*LR	LR	06 10 24.5	
	1μm,27.0s,baz=282						
URZ	**Urewera**	**24.15**	**200**	P	**P**	**06 05 34.9**	**+1.7**
	36nm,0.5s,mb5.0,baz=338,slow=2.9,SNR=55						
HNR	**Honiara**	**27.57**	**280**	LR	LR	06 15 39.1	
	comp=Z,570nm,20.6s,baz=117,slow=33						
RPZ	**Rata Peaks**	**31.12**	**203**	P	**P**	**06 06 40.3**	**+3.7**
	7.8nm,0.3s,mb4.9,baz=346,slow=2.3,SNR=4.1						
TAOE	**Nuku Hiva Isla**	**32.35**	**82**	*e*LR	LR	06 14 35.7	
	1μm,29.9s						
RKT	**Rikitea**	**36.08**	**108**	*e*LR	LR	06 16 25.8	
	463nm,27.0s,baz=275						
CNB	**Canberra Magne**	**39.16**	**233**	*e*P	**P**	**06 07 48.7**	**+3.6**
	12nm,0.9s,mb4.7						
CTA	**Charters Tower**	**39.37**	**258**	*e*P	**P**	**06 07 46.2**	**-0.7**
	1.8nm,0.4s,mb4.2						
PMG	**Port Moresby**	**39.80**	**274**	P	**P**	**06 07 52.7**	**+2.1**
	28nm,0.9s,mb5.1,baz=154,slow=7.0,SNR=3.9						
TOO	**Toolangi**	**42.85**	**231**	*e*P	**P**	**06 08 15.7**	**+0.2**
	13nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**44.56**	**241**	*e*P	**P**	**06 08 27.6**	**-1.7**
	13nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**44.56**	**241**	P	**P**	**06 08 29.1**	**-0.2**
	16nm,0.9s,mb4.8,baz=74,slow=7.6,SNR=26						
STKA				LR	LR	06 24 09.6	
	comp=Z,92nm,20.5s,baz=246,slow=32						
WB2	**Warramunga Arr**	**50.55**	**257**	⇑*i*P	**P**	**06 09 15.3**	**-1.0**
WRAB	**Tennant Creek**	**50.55**	**257**	*e*P	**P**	**06 09 14.5**	**-1.7**
	27nm,1.1s,mb5.2						
WRA	**Warramunga Arr**	**50.56**	**257**	P	**P**	**06 09 15.8**	**-0.5**
	3.5nm,0.4s,mb4.7,baz=97,slow=6.7,SNR=75						
KAKA	**Kakadu**	**53.30**	**266**	⇑*i*P	**P**	**06 09 53.9**	**+17**
	21nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**58.94**	**258**	*e*P	**P**	**06 10 17.8**	**+0.7**
	12nm,1.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**58.94**	**258**	P	**P**	**06 10 17.6**	**+0.5**
	5.8nm,0.6s,mb4.8,baz=170,slow=3.7,SNR=9.7						
FITZ				LR	LR	06 31 30.0	
	comp=Z,83nm,20.0s,baz=97,slow=32						
SBA	**Scott Base**	**62.91**	**185**	*e*P	**P**	**06 10 42.6**	**-0.7**
	10.0nm,0.9s,mb4.8						
VNDA	**Vanda**	**63.05**	**186**	P	**P**	**06 10 43.4**	**-0.9**
	1.6nm,0.9s,mb4.0,baz=2.1,slow=6.0,SNR=9.2						
VNDA	**Vanda**	**63.05**	**186**	*e*P	**P**	**06 10 43.0**	**-1.3**
	5.2nm,1.0s,mb4.4						
KLBR	**Kellerberrin**	**64.78**	**242**	*e*P	**P**	**06 10 56.0**	**-0.2**
	14nm,0.7s,mb4.9						
MUN	**Mundaring**	**66.07**	**242**	*e*P	**P**	**06 11 04.9**	**+0.5**
JHJ	**Hachijo jima 2**	**66.63**	**317**	LR	LR	06 37 25.3	
	comp=Z,147nm,19.6s,baz=303,slow=33						
CASY	**Casey**	**70.38**	**205**	P	**P**	**06 11 29.0**	**-1.5**
CMB	**Columbia Colle**	**72.53**	**41**	*e*P	**P**	**06 11 43.2**	**-0.7**
	9.8nm,0.9s,mb4.6						
JNU	**Nakatsue**	**72.69**	**313**	P	**P**	**06 11 47.9**	**+3.0**
	5.2nm,0.7s,mb4.5,baz=117,slow=4.5,SNR=4.2						
WDC	**Whiskeytown Da**	**72.79**	**38**	*e*P	**P**	**06 11 45.2**	**-0.1**
CHGN	**Chignik**	**72.81**	**8**	*e*P	**P**	**06 11 42.6**	**-2.5**
MTUM	**Tungsten Hills**	**73.29**	**42**	*e*P	**P**	**06 11 48.6**	**+0.3**
YBH	**Yreka Blue Hor**	**73.43**	**37**	*e*P	**P**	**06 11 48.4**	**-0.6**
BEKR	**Beckwourth**	**73.65**	**39**	*e*P	**P**	**06 11 50.0**	**-0.4**
	8.2nm,0.9s,mb4.5						
HUMO	**Hull Mountain**	**73.85**	**36**	*e*P	**P**	**06 11 51.6**	**+0.2**
	3.1nm,0.9s,mb4.0						
TPH	**Tonopah**	**74.57**	**42**	*e*P	**P**	**06 11 55.6**	**-0.1**
	8.7nm,0.9s,mb4.5						
NEN	**Nelson**	**74.82**	**46**	*e*P	**P**	**06 11 56.9**	**-0.3**
MOD	**Modoc**	**74.93**	**38**	*e*P	**P**	**06 11 57.4**	**-0.4**
	10nm,0.9s,mb4.6						
KDAK	**Kodiak Island**	**75.16**	**11**	*e*P	**P**	**06 11 59.2**	**+0.5**
KDAK				LR	LR		
	comp=Z,200nm,23.0s						
TUC	**Tucson**	**76.01**	**50**	*e*P	**P**	**06 12 04.0**	**-0.1**
	comp=Z,5.7nm,0.9s,mb4.3						
ELK	**Elko**	**77.34**	**41**	*e*P	**P**	**06 12 11.1**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.2						
RSO	**Redoubt South**	**77.66**	**10**	*e*P	**P**	**06 12 12.6**	**-0.1**
SVW2	**Sparrevohn**	**77.84**	**8**	*e*P	**P**	**06 12 13.7**	**+0.1**
MSU	**Marysvale**	**78.14**	**44**	*e*P	**P**	**06 12 16.5**	**+0.8**
HAWA	**Hanford**	**78.14**	**34**	*e*P	**P**	**06 12 15.6**	**0.0**
	comp=Z,0.5nm,1.1s						
HAWA				*e*pP	pP	06 12 38.2	+1.4
SLKM	**Skilak Lake**	**78.15**	**11**	*e*P	**P**	**06 12 15.8**	**+0.4**
BMO	**Blue Mountains**	**78.45**	**37**	*e*P	**P**	**06 12 16.9**	**-0.5**
	comp=Z,1.3nm,0.9s,mb3.7						
BMO				*e*pP	pP	06 12 37.9	-0.6
SPU	**Mount Spurr**	**78.46**	**10**	*e*P	**P**	**06 12 16.6**	**-0.5**
DUG	**Dugway**	**78.60**	**42**	*e*P	**P**	**06 12 18.1**	**-0.1**
	comp=Z,5.6nm,1.1s,mb4.3						
EYAK	**Cordova Ski Ar**	**79.09**	**13**	*e*P	**P**	**06 12 20.4**	**-0.1**
TMUT	**Trail Mountain**	**79.19**	**44**	*e*P	**P**	**06 12 22.1**	**+0.5**
PMR	**Palmer**	**79.36**	**11**	*e*P	**P**	**06 12 21.9**	**-0.1**
HLID	**Hailey**	**79.42**	**39**	*e*P	**P**	**06 12 22.9**	**+0.2**
	comp=Z,9.8nm,1.0s,mb4.6						
HVU	**Hansel Valley**	**79.46**	**41**	*e*P	**P**	**06 12 22.7**	**-0.2**
HVU				*e*pP	pP	06 12 44.4	+0.2
SRU	**San Rafael**	**79.55**	**44**	*e*P	**P**	**06 12 23.5**	**0.0**
DIV	**Divide**	**79.61**	**13**	*e*P	**P**	**06 12 23.0**	**-0.3**
	comp=Z,99nm,0.9s,mb5.6						
JLU	**Jordanelle**	**79.70**	**43**	*e*P	**P**	**06 12 24.1**	**-0.2**
DAU	**Daniels Canyon**	**79.73**	**43**	*e*P	**P**	**06 12 24.2**	**-0.2**
MNTX	**Cornudas Mount**	**79.81**	**53**	*e*P	**P**	**06 12 24.6**	**-0.4**
	comp=Z,3.8nm,0.9s,mb4.2						
MDJ	**Mudanjiang**	**79.86**	**322**	P	**P**	**06 12 26.3**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,96nm,6.3s						
MDJ				LR	LR		
	comp=N,146nm,27.0s						
MDJ				LR	LR		
	comp=E,93nm,22.3s						
MDJ				LR	LR		
	comp=Z,122nm,24.7s						
TCUT	**Toone Canyon**	**79.99**	**42**	*e*P	**P**	**06 12 25.9**	**+0.1**
TCUT				*e*pP	pP	06 12 47.9	+0.8
HWUT	**Hardware Ranch**	**80.14**	**42**	*e*P	**P**	**06 12 26.2**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	**80.15**	**56**	P	**P**	**06 12 27.1**	**+0.1**
	comp=Z,2.5nm,1.0s,mb4.0,baz=225,slow=7.1,SNR=16						
PV10	**Paradox Valley**	**80.20**	**46**	*e*P	**P**	**06 12 26.9**	**-0.1**
ANMO	**Albuquerque**	**80.43**	**50**	*e*P	**P**	**06 12 28.3**	**+0.1**
	comp=Z,2.0nm,1.0s,mb3.9						

ANMO				*e*pP	pP	06 12 46.6	-2.9
NEW	**Newport**	**80.58**	**34**	*e*P	**P**	**06 12 28.1**	**-0.7**
NEW				*e*pP	pP	06 12 50.3	+0.2
MCMT	**McKenzie Canyo**	**81.06**	**38**	*e*P	**P**	**06 12 31.4**	**+0.1**
MCMT				*e*pP	pP	06 12 52.9	+0.3
NJ2	**Nanjing**	**81.08**	**307**	*e*P	**P**	**06 12 33.8**	**+2.0**
NJ2				PP	PP	06 15 40.9	+1.5
NJ2				S	S	06 22 35.0	+1.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,82nm,5.2s						
NJ2				LR	LR		
	comp=Z,370nm,17.1s						
RRI2	**Red Ridge**	**81.20**	**40**	*e*P	**P**	**06 12 32.5**	**+0.3**
	comp=Z,3.6nm,0.9s,mb4.2						
RRI2				*e*pP	pP	06 12 51.1	-2.4
MCK	**McKinley**	**81.37**	**10**	*e*P	**P**	**06 12 32.6**	**0.0**
	comp=Z,14nm,1.1s,mb4.7						
TPAW	**Teton Pass**	**81.51**	**40**	*e*P	**P**	**06 12 34.0**	**+0.3**
	comp=Z,10nm,1.3s,mb4.5						
TPAW				*e*pP	pP	06 12 56.4	+1.3
SNOW	**Snow King Moun**	**81.61**	**40**	*e*P	**P**	**06 12 34.4**	**+0.1**
	comp=Z,6.5nm,0.8s,mb4.5						
MENT	**Mentasta**	**81.67**	**13**	*e*P	**P**	**06 12 34.4**	**+0.2**
THY	**Trims Highway**	**81.67**	**12**	*e*P	**P**	**06 12 34.4**	**+0.2**
QLMT	**Earthquake Lak**	**81.91**	**39**	*e*P	**P**	**06 12 36.9**	**+1.0**
QLMT				*e*pP	pP	06 12 58.5	+1.4
CN2	**Changchun**	**81.94**	**320**	*e*P	**P**	**06 12 42.5**	**+6.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CHMT	**Chamberlain Mo**	**81.96**	**37**	*e*P	**P**	**06 12 35.5**	**-0.5**
CHMT				*e*pP	pP	06 12 57.4	0.0
BW06	**Boulder Array**	**82.02**	**41**	*e*P	**P**	**06 12 35.9**	**-0.5**
	comp=Z,9.6nm,1.6s,mb4.4						
BW06				*e*pP	pP	06 12 56.6	-1.2
PDAR	**Pinedale Array**	**82.02**	**41**	P	**P**	**06 12 36.6**	**+0.2**
	comp=Z,1.4nm,0.8s,mb3.8,baz=243,slow=3.3,SNR=12						
PDAR				LR	LR	06 42 01.0	
	comp=Z,65nm,18.4s,baz=258,slow=31						
SDCO	**Great Sand Dun**	**82.38**	**47**	*e*P	**P**	**06 12 38.2**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.1						
COLA	**College**	**82.61**	**10**	*e*P	**P**	**06 12 38.7**	**-0.3**
HRY	**Holter Researc**	**82.67**	**37**	*e*P	**P**	**06 12 39.7**	**+0.1**
ILAR	**Eielson Array**	**82.69**	**11**	P	**P**	**06 12 39.5**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.3,baz=228,slow=6.2,SNR=49						
GCMT	**Greycliff**	**83.47**	**39**	*e*P	**P**	**06 12 44.5**	**+0.7**
DAWY	**Dawson**	**83.61**	**14**	*e*P	**P**	**06 12 44.8**	**+0.8**
USHA	**Ushuaia**	**85.11**	**146**	LR	LR	06 40 15.0	
	comp=Z,269nm,21.4s,baz=48,slow=28						
EDM	**Edmonton**	**85.40**	**31**	*e*P	**P**	**06 12 53.4**	**+0.2**
MAW	**Mawson**	**87.67**	**198**	P	**P**	**06 13 03.9**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=104,slow=7.8,SNR=4.6						
MAW				LR	LR	06 46 44.4	
	comp=Z,165nm,20.3s,baz=260,slow=32						
PLCA	**Paso Flores**	**88.62**	**132**	LR	LR	06 42 15.1	
	comp=Z,128nm,21.0s,baz=334,slow=28						
GYA	**Guiyang**	**88.97**	**298**	P	**P**	**06 13 14.8**	**+3.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
YKA	**Yellowknife Ar**	**90.14**	**23**	P	**P**	**06 13 15.8**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.3,baz=234,slow=4.2,SNR=6.2						
SYO	**Syowa Base**	**92.36**	**191**	⇑P	**P**	**06 13 25.2**	**-0.6**
SYO	**Syowa Base**	**92.36**	**191**	⇑pP	pP	06 13 46.5	-1.1
VNA3	**Neumayer Olymp**	**92.37**	**175**	⇑*i*P	**P**	**06 13 26.6**	**+0.8**
VNA3				*e*		06 13 38.4	
SNAA	**Sanae**	**92.45**	**177**		**P**	**06 13 32.9**	**+6.7**
SNAA	**Sanae**	**92.45**	**177**	P	**P**	**06 13 26.3**	**+0.1**
SNAA				P		06 13 32.9	
VNA2	**Neumayer--Watz**	**92.88**	**175**	⇑*i*P	**P**	**06 13 29.4**	**+1.2**
VNA2				*e*		06 13 41.2	
VNA1	**Neumayer--Stat**	**93.07**	**175**	⇑*i*P	**P**	**06 13 30.4**	**+1.3**
VNA1				*e*		06 13 42.4	
LZH	**Lanzhou**	**94.14**	**306**	⇓P	**P**	**06 13 32.5**	**-2.2**
LZH				AP	pP	06 14 03.5	+7.0
LZH				*e*PP	PP	06 17 23.5	-1.2
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,55nm,7.7s						
LZH				LR	LR		
	comp=N,163nm,15.4s						
LZH				LR	LR		
	comp=Z,293nm,18.5s						
LZH	**Lanzhou**	**94.14**	**306**	⇓P	**P**	**06 13 32.5**	**-2.2**
	comp=Z,25nm,1.5s,mb5.3						
LZH				pP	pP	06 13 54.9	-1.6
LZH				sP	sP	06 14 03.5	-1.1
LZH				*e*PP	PP	06 17 23.5	-1.2
LZH				LR	LR		
	comp=Z,290nm,18.5s						
ARCES	**ARCESS Array B**	**125.13**	**352**	PKP	PKPdf	06 19 16.2	+1.8
	comp=Z,3.3nm,1.0s,baz=90,slow=1.2,SNR=3.6						
FINES	**FINESS Array B**	**132.52**	**348**	PKP	PKPdf	06 19 29.8	+1.1
	comp=Z,1.2nm,0.9s,slow=1.4,SNR=3.7						
BOSA	**Boshof**	**132.60**	**201**	PKP	PKPdf	06 19 32.3	+2.5
	comp=Z,5.5nm,1.0s,baz=72,slow=5.7,SNR=3.8						
OJC	**Ojcow**	**144.26**	**346**	*e*PKP	PKPdf	06 19 50.8	+0.7
CLL	**Collm**	**144.31**	**354**	⇓*i*PKIKP	PKPdf	06 19 50.6	+0.4
	comp=Z,logA/T=0.7						
CLL	**Collm**	**144.31**	**354**	⇓*i*P	PKPbc	06 19 50.6	+0.9
CLL				*e*		06 20 04.0	
BRG	**Berggiesshubel**	**144.64**	**353**	*i*P	PKPbc	06 19 51.6	+0.9
STHS	**Stebnicka Huta**	**144.65**	**344**	*e*PKP	PKPdf	06 19 52.5	+1.7
STHS				*e*		06 19 56.5	
UPC	**Upice**	**144.71**	**351**	*e*PKP	PKPdf	06 19 52.4	+1.5
MALT	**Malatya**	**144.74**	**315**	*e*PKP	PKPdf	06 19 54.2	+2.9
DPC	**Dobruska-Polom**	**144.81**	**350**	*e*PKP	PKPdf	06 19 53.1	+2.0
PVCC	**Panska Ves**	**144.90**	**352**	*e*PKP	PKPdf	06 19 53.1	+1.9
OKC	**Ostrava-Krasne**	**144.97**	**348**	*e*PKP	PKPdf	06 19 53.6	+2.2
BURAR	**Bucovina Array**	**145.06**	**339**	⇓*i*P	PKPdf	06 19 54.5	+2.9
CRVS	**Cervenica-Dubn**	**145.07**	**344**	*e*PKP	PKPdf	06 19 53.9	+2.3
CRVS				*e*		06 20 03.5	
CRVS				*e*		06 20 10.2	
MOX	**Moxa**	**145.10**	**355**	⇓*i*P	PKPdf	06 19 53.4	+1.8
	comp=Z,logA/T=1.1						
MORC	**Moravsky Berou**	**145.15**	**349**	*e*PKP	PKPdf	06 19 53.4	+1.7
NKC	**Novy Kostel**	**145.43**	**354**	*e*PKP	PKPdf	06 19 54.8	+2.7
PRU	**Pruhonice**	**145.43**	**352**	*e*PKP	PKPdf	06 19 54.9	+2.7
KECS	**Kecovo**	**145.71**	**345**	*e*PKP	PKPdf	06 19 56.1	+3.4
KECS				*e*		06 20 05.3	
GIVF	**Givet**	**145.73**	**3**	*e*PKP1	PKPbc	06 19 55.5	+2.0
BAIF	**Baives**	**145.74**	**4**	*e*PKP1	PKPbc	06 19 55.7	+2.1
	comp=Z,52nm,1.1s						
VRAC	**Vranov**	**145.77**	**349**	PKPbc	PKPbc	06 19 56.5	+2.8
	comp=Z,7.7nm,1.0s,baz=38,slow=3.8,SNR=11						
VYHS	**Vyhne**	**146.10**	**346**	*e*PKP	PKPdf	06 19 57.1	+3.8
VYHS				*e*		06 20 09.4	
VYHS				*e*		06 20 18.7	
PSZ	**Piszkesteto**	**146.38**	**345**	*e*PKP	PKPdf	06 19 58.0	+4.2
ROSF	**Rostrenen**	**146.38**	**13**	*e*PKP1	PKPbc	06 19 56.4	+1.2
KHC	**Kasperske Hory**	**146.40**	**353**	*e*PKP	PKPdf	06 19 57.8	+4.0
KHC				x	x	06 20 12.5	
KHC	**Kasperske Hory**	**146.40**	**353**	*e*P	PKPdf	06 19 57.8	+4.0
KHC				*e*		06 20 12.5	
WET	**Wettzell**	**146.47**	**354**	*e*PKPbc	PKPbc	06 19 58.1	+2.8
FLN	**La Foliniere**	**146.50**	**10**	*e*PKP1	PKPbc	06 19 57.3	+1.9
MLR	**Muntele Rosu**	**146.59**	**336**	PKPbc	PKPbc	06 19 58.9	+3.2
	comp=Z,6.3nm,0.8s,baz=353,slow=1.3,SNR=5.3						
MLR	**Muntele Rosu**	**146.59**	**336**	⇑*i*P	PKPdf	06 19 59.4	+5.1
MLR	**Muntele Rosu**	**146.59**	**336**	⇑*i*P	PKPdf	06 19 59.4	+5.1
DRGR		**146.61**	**341**	⇓*i*P	PKPdf	06 19 57.7	+3.4
SGMF	**Saint Gilles**	**146.61**	**12**	*e*PKP1	PKPbc	06 19 57.5	+1.8
	comp=Z,47nm,1.1s						
GEC2	**GERESS Array S**	**146.66**	**352**	*e*PKPbc	PKPbc	06 19 58.5	+2.7
GERES	**GERESS Array B**	**146.66**	**352**	PKPbc	PKPbc	06 19 58.4	+2.6
	comp=Z,3.0nm,0.8s,baz=27,slow=3.0,SNR=20						
LDF	**La Druitiere**	**146.72**	**9**	*e*PKP1	PKPbc	06 19 58.1	+2.2
	comp=Z,22nm,1.0s						
GRR	**Gorron**	**146.80**	**10**	*e*PKP1	PKPbc	06 19 58.4	+2.3
	comp=Z,53nm,1.2s						
QUIF	**Quistinic**	**146.81**	**13**	*e*PKP1	PKPbc	06 19 58.3	+2.2
	comp=Z,70nm,1.3s						
SRO	**Srobarova**	**146.85**	**347**	*e*	PKPdf	06 19 54.0	-0.7
VOIR		**146.97**	**337**	⇓*i*P	PKPdf	06 20 00.6	+5.7
BR131	**Keskin Array S**	**147.00**	**321**	*e*PKPbc	PKPdf	06 19 59.5	+4.3
BRTR	**Keskin Array B**	**147.00**	**321**	PKPbc	PKPdf	06 19 59.8	+4.6
	comp=Z,5.7nm,1.0s,baz=135,slow=1.7,SNR=12						
CDF	**Champ du Feu**	**147.49**	**0**	*e*PKP1	PKPdf	06 20 00.7	+5.0
	comp=Z,29nm,1.1s						
MOA	**Molln**	**147.56**	**351**	⇑*i*P	PKPdf	06 20 01.1	+5.3
FUR	**Furstenfeldbru**	**147.59**	**355**	*e*PKPbc	PKPdf	06 20 01.5	+5.7
HAU	**Haudompre**	**147.88**	**1**	*e*PKP1	PKPdf	06 20 01.9	+5.6
	comp=Z,28nm,1.0s						
ARSA	**Arzberg**	**147.95**	**350**	⇑*i*P	PKPdf	06 20 01.9	+5.5
HINF	**Hinteralfeld**	**148.08**	**1**	*e*PKP1	PKPdf	06 20 02.4	+5.8
KBA	**Koelnbreinsper**	**148.44**	**352**	⇑*i*P	PKPdf	06 20 03.5	+6.3
WTTA	**Wattenberg**	**148.45**	**355**	⇑*i*P	PKPdf	06 20 03.5	+6.3
LOR	**Lormes**	**148.49**	**5**	*e*PKP1	PKPdf	06 20 03.5	+6.2
	comp=Z,29nm,1.1s						
DAVA	**Damuels**	**148.55**	**357**	⇑*i*P	PKPdf	06 20 03.9	+6.5
MFF	**Saint Martin d**	**148.65**	**10**	*e*PKP1	PKPdf	06 20 03.4	+5.8
SSF	**Saint Saulge**	**148.67**	**5**	*e*PKP1	PKPdf	06 20 03.8	+6.2
	comp=Z,30nm,1.1s						
AVF	**Avril sur Loir**	**148.93**	**5**	*e*PKP1	PKPdf	06 20 04.3	+6.3
	comp=Z,21nm,1.1s						
DAVOX	**Davos**	**149.06**	**357**	PKPbc	PKPdf	06 20 04.0	+5.8
	comp=Z,3.2nm,0.6s,baz=280,slow=6.1,SNR=4.5						
SMF	**Signal de Mont**	**149.11**	**5**	*e*PKP1	PKPdf	06 20 04.9	+6.6
CABF	**La Chapelle**	**149.27**	**2**	*e*PKP1	PKPdf	06 20 05.6	+7.0
	comp=Z,44nm,1.1s						
TCF	**Toulx Ste Croi**	**149.30**	**7**	*e*PKP1	PKPdf	06 20 05.2	+6.6
	comp=Z,12nm,0.9s						
RJF	**Les Rejaudoux**	**150.18**	**8**	*e*PKP1	PKPdf	06 20 07.6	+7.5
LPL	**La Plagne**	**150.38**	**1**	*e*PKP1	PKPdf	06 20 09.2	+8.8
LPG	**La Plagne**	**150.40**	**1**	*e*PKP1	PKPdf	06 20 09.1	+8.7
	comp=Z,24nm,1.1s						
LFF	**La Frestale**	**150.41**	**10**	*e*PKP1	PKPdf	06 20 08.0	+7.6
CAF	**Calviac**	**150.62**	**8**	*e*PKP1	PKPdf	06 20 08.8	+8.1
	comp=Z,12nm,1.0s						
BNI	**Bardonecchia**	**150.84**	**1**	*e*PKPbc	PKPdf	06 20 09.2	+8.1
VIVF	**Saint-Julien-l**	**150.95**	**4**	*e*PKP1	PKPdf	06 20 09.7	+8.5
ORIF	**Oris-en-Rattie**	**150.96**	**2**	*e*PKP1	PKPdf	06 20 10.0	+8.8
MBDF	**Montbardon**	**151.17**	**1**	*e*PKP1	PKPdf	06 20 10.4	+8.8
LASF	**Ste Croix**	**151.66**	**5**	*e*PKP1	PKPdf	06 20 11.4	+9.1
	comp=Z,17nm,1.0s						
SJPF	**Ste Jean**	**151.79**	**14**	*e*PKP1	PKPdf	06 20 11.5	+9.0
SMRF	**Simiane la Rot**	**151.88**	**3**	*e*PKP1	PKPdf	06 20 12.4	+10
	comp=Z,19nm,1.0s						
ETSF	**Etsaut**	**152.15**	**13**	*e*PKP1	PKPdf	06 20 12.5	+9.4
MTLF	**Montolieu**	**152.20**	**8**	*e*PKP1	PKPdf	06 20 12.4	+9.3
LMR	**La Mourre**	**152.56**	**2**	*e*PKP1	PKPdf	06 20 13.0	+9.4
PGF	**Pioggiola**	**153.32**	**357**	*e*PKP1	PKPdf	06 20 14.5	+10

*BJI **03** 06:02:31.1, 33.20N×25.25E, h40^{km}, mB5.1, mb4.7, Msz4.4*
*HLW **03** 06:02:32.9, 34.26N×25.68E, h23^{km}, Mb4.1*
*MOS **03** 06:02:32.1±1.6, 33.88N×25.78E, h10^{km}, mb4.6/28, Error ellipse: s-maj=6.2km s-min=3.1km az=114.8*
*IDC **03** 06:02:32.6±0.8, 33.91N×25.85E, mb4.2/16, mb1 4.3/24, mb1mx4.3/30, mbtmp4.3/24, ML4.3/7, MS4.0/4, Ms1 4.0/4, ms1mx3.4/25, Error ellipse: s-maj=17.3km s-min=13.6km az=174.0*
*CRAAG **03** 06:02:35.0, 33.90N×25.96E, Mb4.3*
*NEIC **03** 06:02:38.0±0.8, 33.96N×25.88E, h41^{km}±7^{km}, mb4.3/60, Error ellipse: s-maj=9.0km s-min=4.3km az=182.0*
*CSEM **03** 06:02:40.8, 34.09N×25.99E, h60^{km}, mb4.5*
ISC 03 06:02:35.8±0.3**, 33.93N**±0.02×**25.87E**±0.02**, h37**^{km}±3^{km}**, n344,** σ1§**40**/354**, mb4.4**/68**, MS3.8**/11**, 23C-12D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.96**	**351**	*e*P	**P**	**06 02 52.0**	**-0.9**
NPS	**Neapolis**	**1.35**	**351**	*e*P	**P**	**06 03 00.1**	**+1.6**
IDI	**Anoyia**	**1.58**	**329**	Pn	**P**	**06 03 03.6**	**+1.8**
	19nm,0.3s,baz=161,slow=16,SNR=73						
IDI				Sn	**S**	**06 03 25.9**	**+4.7**
	62nm,0.3s,baz=300,slow=20,SNR=8.3						
GVD	**Gavdhos**	**1.73**	**302**	*e*P	**P**	**06 03 05.5**	**+1.5**
GVD	**Gavdhos**	**1.73**	**302**	*e*P	**P**	**06 03 05.1**	**+1.1**
KARP	**Karpathos**	**1.93**	**33**	*e*P	**P**	**06 03 09.8**	**+3.0**
VAM	**Vamos**	**2.02**	**317**	*e*P	**P**	**06 03 09.0**	**+0.9**
SLUM		**2.49**	**193**	⇑P	**P**	**06 03 15.5**	**+0.7**
SLUM				S	**S**	**06 03 45.7**	**+1.4**
ARG	**Arkhangelos**	**2.94**	**38**	*e*P	**P**	**06 03 23.6**	**+2.4**
HMAT	**Matruh**	**3.01**	**160**	⇓P	**P**	**06 03 23.2**	**+1.0**
HMAT				S	**S**	**06 03 59.9**	**+2.5**
APE	**Apeiranthos**	**3.15**	**355**	*e*P	Px	06 02 24.0	
APE	**Apeiranthos**	**3.15**	**355**	*e*P	**P**	**06 03 23.0**	**-1.2**
APE	**Apeiranthos**	**3.15**	**355**	*i* P	**P**	**06 03 24.4**	**+0.2**
KYTH	**Kithira**	**3.31**	**316**	*e*P	**P**	**06 03 27.0**	**+0.6**
BODT	**Bodrum**	**3.34**	**20**	*e*P	Px	06 02 24.9	
BDRM	**Kayabasi**	**3.38**	**22**	*i* P	**P**	**06 03 29.3**	**+1.8**
DABA	**Dabaa**	**3.55**	**144**	⇓P	**P**	**06 03 30.9**	**+1.0**
DALT	**Dalyan (Mudla)**	**3.62**	**38**	*e*P	Px	06 02 29.9	
VLI	**Veliai**	**3.68**	**320**	*e*P	**P**	**06 03 31.1**	**-0.6**
MLSB	**Milas**	**3.70**	**24**	*e*P	Px	06 02 31.7	
YER	**Yerkesik**	**3.75**	**31**	*e*P	Px	06 02 34.4	
KSL	**Kastellorizon**	**3.77**	**53**	*e*P	**P**	**06 03 33.0**	**+0.1**
AKAS	**Kas**	**3.83**	**52**	*i* P	**P**	**06 03 35.2**	**+1.4**
SMG	**Samos**	**3.85**	**11**	*e*P	**P**	**06 03 33.5**	**-0.7**
NAIG	**Nisos Aigina**	**4.29**	**334**	*e*P	**P**	**06 03 40.5**	**+0.2**
ELL	**Elmali**	**4.34**	**48**	*e*P	Px	06 02 40.8	
ATH	**Athens Observa**	**4.40**	**337**	*e*P	**P**	**06 03 40.5**	**-1.4**
PTL	**Penteli**	**4.42**	**339**	*e*P	**P**	**06 03 42.0**	**-0.3**
NSAL	**Nisos Salamina**	**4.43**	**334**	*e*P	**P**	**06 03 43.0**	**+0.7**
GOLH	**Golhisar**	**4.46**	**41**	*i* P	**P**	**06 03 43.2**	**+0.4**
BLCB	**Balcova**	**4.55**	**12**	*e*P	Px	06 02 31.9	
MPAR	**Parnis Oros**	**4.56**	**338**	*e*P	**P**	**06 03 44.0**	**-0.2**
ITM	**Ithomi**	**4.57**	**316**	*e*P	**P**	**06 03 43.6**	**-0.7**
MGER	**Gerania Oros**	**4.57**	**333**	*e*P	**P**	**06 03 46.0**	**+1.6**
DENT	**Denizli**	**4.60**	**33**	*e*P	Px	06 02 36.8	
IZM	**Izmir**	**4.60**	**14**	*e*P	Px	06 02 45.7	
SWA1		**4.65**	**182**	⇓P	**P**	**06 03 45.2**	**-0.3**
SWA1				S	**S**	**06 04 38.7**	**-0.3**
SWA2		**4.68**	**184**	⇑P	**P**	**06 03 45.8**	**-0.1**
HBRG	**Burj al ‘Arab**	**4.74**	**134**	⇑P	**P**	**06 03 47.0**	**+0.2**
ANTB	**Antalya**	**4.90**	**51**	*e*P	Px	06 02 24.0	
LKR	**Lokris**	**5.25**	**335**	*e*P	**P**	**06 03 53.3**	**-0.6**
ISP	**Isparta**	**5.42**	**43**	*e*P	**P**	**06 03 58.4**	**+2.1**
RLS	**Riolos of Patr**	**5.45**	**320**	*e*P	**P**	**06 03 57.5**	**+0.8**
TKTP	**Tekketepe**	**5.46**	**40**	*i* P	**P**	**06 03 56.8**	**0.0**
HMYD	**Mayadein**	**5.88**	**133**	⇓P	**P**	**06 04 02.9**	**+0.2**
HNAT	**Natroun**	**5.88**	**135**	⇓P	**P**	**06 04 03.3**	**+0.5**
AANS		**5.93**	**126**	⇑P	**P**	**06 04 03.2**	**-0.2**
VLS	**Valsamata**	**6.02**	**316**	*e*P	**P**	**06 04 04.5**	**-0.2**
FYM	**Al Fayyum**	**6.10**	**132**	⇓P	**P**	**06 04 06.1**	**+0.3**
AYT	**Al ‘Ayyat**	**6.16**	**132**	⇑P	**P**	**06 04 06.6**	**0.0**
CSS	**Prodhromos**	**6.25**	**78**	*e*P	**P**	**06 04 06.9**	**-1.0**
	65nm,0.8s						
CSS	**Prodhromos**	**6.25**	**78**	*e*P	**P**	**06 04 06.9**	**-1.0**
	65nm,0.8s						
ERMK	**Ermenek**	**6.36**	**63**	*i* P	**P**	**06 04 10.6**	**+1.1**
GLL	**Jalalah**	**6.59**	**130**	⇓P	**P**	**06 04 12.6**	**-0.2**
PLG	**Polygyros**	**6.72**	**344**	*e*P	**P**	**06 04 13.3**	**-1.3**
ULDT	**Uludag**	**6.73**	**22**	*i* P	**P**	**06 04 07.3**	**-7.4**
HBNS	**Bani Suwayf**	**6.74**	**136**	⇓P	**P**	**06 04 14.8**	**0.0**
KDHN	**Kadinhani**	**6.82**	**46**	*i* P	**P**	**06 04 15.0**	**-0.9**
ESKT	**Eskisehir**	**6.86**	**34**	*i* P	**P**	**06 04 17.4**	**+0.8**
AMAG	**Maghara**	**7.02**	**116**	⇑P	**P**	**06 04 17.6**	**-1.2**
RDO	**Rodhopi**	**7.21**	**358**	*e*P	**P**	**06 04 23.0**	**+1.6**
MEST	**Erdemli**	**7.27**	**66**	*i* P	**P**	**06 04 22.6**	**+0.4**
KEK	**Kerkira**	**7.55**	**322**	*e*P	**P**	**06 04 22.8**	**-3.4**
NVR	**Nevrokopi**	**7.58**	**348**	*e*P	**P**	**06 04 25.9**	**-0.6**
OFRI	**‘Ofer**	**7.74**	**97**	Pn	**P**	**06 04 27.6**	**-1.2**
RZN	**Rozhen**	**7.80**	**354**	*i* P	**P**	**06 04 30.0**	**+0.4**
KZIT	**Kziot**	**7.81**	**110**	Pn	**P**	**06 04 28.3**	**-1.4**
KZIT				Sn	**S**	**06 05 50.4**	**-7.5**
HNTI	**Hanita**	**7.81**	**94**	Pn	**P**	**06 04 30.0**	**+0.2**
HNTI				Sn	**S**	**06 05 51.9**	**-6.1**
MMB	**Musomiste**	**7.83**	**348**	*i* P	**P**	**06 04 29.0**	**-1.1**
SLTI	**Sal’it**	**7.88**	**100**	Pn	**P**	**06 04 29.1**	**-1.5**
SLTI				Sn	**S**	**06 05 53.5**	**-6.0**
HNKL	**Nakhl**	**7.96**	**118**	⇑P	**P**	**06 04 30.1**	**-1.7**
HNKL				S	**S**	**06 05 57.8**	**-3.8**
MASH	**Mash‘abbe Sade**	**8.08**	**109**	Pn	**P**	**06 04 32.9**	**-0.5**
ASUT		**8.15**	**142**	⇑P	**P**	**06 04 33.4**	**-1.0**
ASUT		**8.15**	**142**	P	**P**	**06 04 33.3**	**-1.1**
KSDI	**Kefar Szold**	**8.20**	**92**	Pn	**P**	**06 04 33.9**	**-1.3**
KSDI				Sn	**S**	**06 06 02.7**	**-4.9**
KKB	**Krupnik**	**8.23**	**345**	*i* P	**P**	**06 04 37.0**	**+1.5**
SGKT	**Sivrigoynuk**	**8.26**	**35**	*i* P	**P**	**06 04 37.1**	**+1.1**
MZDA	**Masada**	**8.42**	**105**	Pn	**P**	**06 04 37.2**	**-1.0**
MZDA				Sn	**S**	**06 06 05.2**	**-7.9**
BR131	**Keskin Array S**	**8.50**	**45**	*e*P	**P**	**06 04 37.4**	**-1.9**
	4.8nm,0.7s						
BR131	**Keskin Array S**	**8.50**	**45**	*e*P	**P**	**06 04 37.4**	**-1.9**
	4.8nm,0.7s						
BRTR	**Keskin Array B**	**8.50**	**45**	Pn	**P**	**06 04 39.1**	**-0.2**
	0.4nm,0.3s,baz=224,slow=12,SNR=13						
PRNI	**Paran**	**8.52**	**112**	Pn	**P**	**06 04 38.7**	**-0.9**
PRNI				Sn	**S**	**06 06 08.2**	**-7.4**
MKRJ	**Makawir**	**8.56**	**103**	Pn	**P**	**06 04 39.0**	**-1.2**
ZFRI	**Zfri**	**8.57**	**111**	Pn	**P**	**06 04 38.7**	**-1.6**
HRFI	**Mount Harif**	**8.70**	**114**	Pn	**P**	**06 04 41.3**	**-0.7**
HRFI				Sn	**S**	**06 06 12.3**	**-7.6**
SKO	**Skopje**	**8.76**	**338**	*e*Pn	**P**	**06 04 36.0**	**-6.9**
EIL	**Elat**	**8.81**	**116**	Pn	**P**	**06 04 42.5**	**-1.2**
EIL				Sn	**S**	**06 06 16.1**	**-6.8**
COBT	**Iskenderun**	**8.88**	**70**	*i* P	**P**	**06 04 42.5**	**-2.1**
ZEIT		**8.93**	**130**	⇑P	**P**	**06 04 45.2**	**-0.1**
TIP	**Timpagrande**	**9.01**	**308**	*e*P	**P**	**06 04 42.7**	**-3.7**
ASF	**Jabal al Asfar**	**9.42**	**98**	Pn	**P**	**06 04 49.7**	**-2.3**
	1.3nm,0.3s,baz=162,slow=7.5,SNR=7.2						
ASF				Sn	**S**	**06 06 31.4**	**-6.4**
	1.2nm,0.3s,baz=232,slow=23,SNR=5.2						
VAE	**Valguarnera**	**9.97**	**294**	Pn	**P**	**06 04 58.4**	**-1.2**
	2.7nm,0.3s,baz=178,slow=1.4,SNR=9.0						
VAE				Sn	**S**	**06 06 45.9**	**-5.5**
	1.6nm,0.3s,baz=21,slow=2.5,SNR=4.0						
VAE	**Valguarnera**	**9.97**	**294**	Pn	**P**	**06 04 58.4**	**-1.2**
VAE				Sn	**S**	**06 06 46.0**	**-5.4**
GZT	**Gaziantep**	**10.11**	**67**	*i* P	**P**	**06 04 56.4**	**-5.2**
CII	**Carovilli**	**12.00**	**314**	*e*P	**P**	**06 05 19.1**	**-8.1**
	18nm,0.6s						
KELT	**Kelkit**	**12.36**	**56**	*i* P	**P**	**06 05 29.2**	**-2.8**
KECS	**Kecovo**	**15.09**	**346**	*e*PN	**P**	**06 06 17.7**	**+10**
VOY	**Vojsko**	**15.16**	**326**	*e*(Pn)	**P**	**06 06 06.1**	**-2.7**
VOY				*e*		06 06 13.3	
VOY				*e*		06 06 18.7	
OBKA	**Obir**	**15.23**	**329**	⇑*i*PN	**P**	**06 06 05.5**	**-4.2**
CRVS	**Cervenica-Dubn**	**15.32**	**349**	*e*PN	**P**	**06 06 15.3**	**+4.5**
ARSA	**Arzberg**	**15.44**	**333**	⇑*i*PN	**P**	**06 06 07.8**	**-4.5**
ARSA	**Arzberg**	**15.44**	**333**	⇑*i*Pn	**P**	**06 06 07.8**	**-4.6**
VYHS	**Vyhne**	**15.47**	**342**	*e*PN	**P**	**06 06 17.5**	**+4.7**
PGF	**Pioggiola**	**15.79**	**308**	*e*P	**P**	**06 06 18.2**	**+1.3**
	56nm,1.0s						
PGF	**Pioggiola**	**15.79**	**308**	*e*P	**P**	**06 06 18.2**	**+1.3**
PGF				pmax	pmax		
	comp=Z,28nm,1.0s						
STHS	**Stebnicka Huta**	**15.85**	**349**	*e*PN	**P**	**06 06 23.1**	**+5.4**
KBA	**Koelnbreinsper**	**16.20**	**328**	⇑*i*PN	**P**	**06 06 18.9**	**-3.2**
KBA	**Koelnbreinsper**	**16.20**	**328**	⇑*i*Pn	**P**	**06 06 18.9**	**-3.2**
GNI	**Garni**	**16.29**	**62**	Pn	**P**	**06 06 24.6**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=359,slow=7.5,SNR=3.4						
GNI	**Garni**	**16.29**	**62**	*e*P	**P**	**06 06 24.8**	**+1.6**
GNI				pmax	pmax		
	comp=Z,19nm,1.7s						
GNI				MLR	MLR		
	comp=Z,400nm,22.0s						
MOA	**Molln**	**16.42**	**331**	⇑*i*PN	**P**	**06 06 21.9**	**-2.9**
KIV	**Kislovodsk**	**16.44**	**48**	*e*P	**P**	**06 06 26.2**	**+1.0**
	comp=Z,45nm,0.8s						
KIV	**Kislovodsk**	**16.44**	**48**	*ce*P	**P**	**06 06 28.5**	**+3.3**
KIV				*e*S	**S**	**06 09 29.4**	**+3.5**
KIV				pmax	pmax		
	comp=Z,63nm,1.2s						
KIV				MLR	MLR		
	comp=Z,100nm,23.0s						
VRAC	**Vranov**	**16.84**	**339**	Pn	**P**	**06 06 31.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=161,slow=9.9,SNR=5.2						
AKASG	**Malin Array Be**	**16.94**	**7**	Pn	**P**	**06 06 31.9**	**+0.5**
	comp=Z,3.3nm,0.3s,baz=197,slow=11,SNR=43						
MORC	**Moravsky Berou**	**16.99**	**341**	*e*P	**P**	**06 06 29.3**	**-2.8**
	comp=Z,6.0nm,0.8s						
MORC	**Moravsky Berou**	**16.99**	**341**	*e*P	**P**	**06 06 29.3**	**-2.7**
	comp=Z,6.0nm,0.8s						
MORC	**Moravsky Berou**	**16.99**	**341**	*e*P	**P**	**06 06 29.3**	**-2.7**
MORC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WTTA	**Wattenberg**	**17.12**	**325**	⇑*i*PN	**P**	**06 06 32.4**	**-1.3**
WTTA				*i*		06 08 33.6	
WTTA	**Wattenberg**	**17.12**	**325**	⇑*i*Sn	**S**	**06 09 38.0**	**-3.3**
WATA	**Walderalm**	**17.20**	**325**	⇑*i*PN	**P**	**06 06 34.3**	**-0.4**
GOF	**Gofitskoye**	**17.25**	**45**	⇑*i*P	**P**	**06 06 37.7**	**+2.3**
SAOF	**Saorge**	**17.40**	**311**	*e*P	**P**	**06 06 38.4**	**+1.2**
SBF	**Sospel**	**17.41**	**310**	*e*P	**P**	**06 06 38.9**	**+1.5**
MOTA	**Moosalm**	**17.43**	**325**	⇓*i*PN	**P**	**06 06 36.5**	**-1.1**
GEC2	**GERESS Array S**	**17.45**	**332**	*e*P	**P**	**06 06 39.5**	**+1.8**
	comp=Z,9.0nm,0.7s						
GEC2	**GERESS Array S**	**17.45**	**332**	*e*P	**P**	**06 06 39.5**	**+1.8**
GEC2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GERES	**GERESS Array B**	**17.45**	**332**	P	**P**	**06 06 37.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=144,slow=12,SNR=20						
AUTN	**L’Aution**	**17.48**	**311**	*e*P	**P**	**06 06 39.9**	**+1.7**
TOUF	**Mont Tournerai**	**17.60**	**310**	*e*P	**P**	**06 06 41.5**	**+1.7**
MVIF	**Mont Vial**	**17.61**	**310**	*e*P	**P**	**06 06 41.7**	**+1.9**
DAVOX	**Davos**	**17.66**	**321**	P	**P**	**06 06 41.8**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=4.5,slow=8.7,SNR=8.6						
CALN	**Calern**	**17.71**	**309**	*e*P	**P**	**06 06 43.4**	**+2.3**
KHC	**Kasperske Hory**	**17.73**	**333**	*e*P	**P**	**06 06 42.0**	**+0.8**
KHC				pP		06 06 49.0	
KHC				x	x	06 07 09.0	
KHC				*e*x	x	06 08 39.1	
KHC	**Kasperske Hory**	**17.73**	**333**	*e*P	**P**	**06 06 42.0**	**+0.8**
KHC				*e*		06 06 49.0	
KHC				*e*		06 07 09.0	
KHC				*e*		06 08 39.1	
LMR	**La Mourre**	**17.77**	**308**	*e*P	**P**	**06 06 42.0**	**+0.1**
	comp=Z,25nm,1.0s						
LMR	**La Mourre**	**17.77**	**308**	*e*P	**P**	**06 06 42.0**	**+0.1**
LMR				pmax	pmax		
	comp=Z,13nm,1.0s						
FRF	**La Foret Royal**	**17.78**	**308**	*e*P	**P**	**06 06 42.3**	**+0.3**
	comp=Z,14nm,0.9s						
FRF	**La Foret Royal**	**17.78**	**308**	*e*P	**P**	**06 06 42.3**	**+0.3**
FRF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DPC	**Dobruska-Polom**	**17.85**	**340**	*e*P	**P**	**06 06 42.1**	**-0.6**
DPC				*e*x	x	06 08 39.3	
FUR	**Furstenfeldbru**	**17.94**	**327**	*e*P	**P**	**06 06 43.8**	**-0.1**
DAVA	**Damuels**	**17.99**	**323**	⇑*i*PN	**P**	**06 06 44.7**	**+0.1**
WET	**Wettzell**	**18.01**	**331**	*e*P	**P**	**06 06 44.8**	**+0.1**
UPC	**Upice**	**18.08**	**339**	*e*P	**P**	**06 06 46.0**	**+0.4**
PRU	**Pruhonice**	**18.09**	**336**	*e*P	**P**	**06 06 42.3**	**-3.5**
PRU				AMS	AMS	06 14 30.0	
TAVF	**Tavernes**	**18.19**	**308**	*e*P	**P**	**06 06 48.3**	**+1.2**
MBDF	**Montbardon**	**18.25**	**312**	*e*P	**P**	**06 06 48.1**	**+0.3**
	comp=Z,93nm,1.0s						
MBDF	**Montbardon**	**18.25**	**312**	*e*P	**P**	**06 06 48.1**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,46nm,1.0s						
BERF	**Bertagne**	**18.31**	**307**	*e*P	**P**	**06 06 49.7**	**+1.1**
PUYF	**Puyloubier**	**18.39**	**307**	*e*P	**P**	**06 06 50.6**	**+1.0**
STOF	**St-Etienne Org**	**18.45**	**309**	*e*P	**P**	**06 06 51.1**	**+0.7**
BNI	**Bardonecchia**	**18.47**	**313**	*e*P	**P**	**06 06 49.2**	**-1.4**
	comp=Z,10nm,0.9s						
BNI	**Bardonecchia**	**18.47**	**313**	*e*P	**P**	**06 06 49.2**	**-1.4**
	comp=Z,10nm,0.9s						
BNI	**Bardonecchia**	**18.47**	**313**	*e*P	**P**	**06 06 49.2**	**-1.4**
BNI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GELF	**Grande-Etoile**	**18.51**	**307**	*e*P	**P**	**06 06 51.8**	**+0.7**
LPG	**La Plagne**	**18.66**	**314**	*e*P	**P**	**06 06 52.5**	**-0.3**
	comp=Z,17nm,0.8s						
LPG	**La Plagne**	**18.66**	**314**	*e*P	**P**	**06 06 52.5**	**-0.3**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SMRF	**Simiane la Rot**	**18.66**	**308**	*e*P	**P**	**06 06 52.0**	**-0.9**
	comp=Z,19nm,0.9s						
LPL	**La Plagne**	**18.68**	**314**	*e*P	**P**	**06 06 52.7**	**-0.4**
	comp=Z,14nm,0.8s						
LPL	**La Plagne**	**18.68**	**314**	*e*P	**P**	**06 06 52.7**	**-0.4**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PRAF	**Pradon**	**18.85**	**308**	*e*P	**P**	**06 06 56.3**	**+1.1**
EMHD	**Djebel Mahouad**	**18.89**	**283**	P	**P**	**06 07 03.0**	**+7.3**
ORIF	**Oris-en-Rattie**	**18.90**	**311**	*e*P	**P**	**06 06 55.2**	**-0.5**
	comp=Z,11nm,0.9s						
ORIF				*e*R			
	comp=Z,283nm,21.8s						
BRG	**Berggiesshubel**	**19.05**	**336**	*e*P	**P**	**06 06 59.1**	**+1.7**
	comp=Z,4.7nm,1.1s						
BRG	**Berggiesshubel**	**19.05**	**336**	*e*P	**P**	**06 06 59.0**	**+1.6**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GRA1	**Grafenberg Arr**	**19.11**	**330**	*e*P	**P**	**06 06 57.9**	**-0.2**
	comp=Z,28nm,0.9s						
GRF	**Grafenberg Arr**	**19.11**	**330**	*e*P	**P**	**06 06 57.9**	**-0.2**
	comp=Z,28nm,0.9s						
GRF	**Grafenberg Arr**	**19.11**	**330**	*e*P	**P**	**06 06 57.9**	**-0.2**
GRF				pmax	pmax		
	comp=Z,28nm,0.9s						
GRF	**Grafenberg Arr**	**19.11**	**330**	*e*P	**P**	**06 06 57.9**	**-0.2**
GRF				pmax	pmax		

comp=Z,28nm,0.9s
BBS Basel-Blauen 19.34 320 *e*P **P** **06 07 03.4 +2.7**
STU Stuttgart 19.34 325 *e*P **P** **06 06 59.2 -1.5**
comp=Z,28nm,0.8s
STU Stuttgart 19.34 325 *e*P **P** **06 06 59.2 -1.5**
STU pmax pmax
comp=Z,28nm,0.8s
BFO Black Forest 19.47 323 *e*P **P** **06 07 02.3 +0.2**
VIVF Saint-Julien-l 19.63 310 *e*P **P** **06 07 02.3 -1.6**
CABF La Chapelle 19.64 316 *e*P **P** **06 07 02.7 -1.3**
comp=Z,17nm,0.6s
CABF La Chapelle 19.64 316 *e*P **P** **06 07 02.7 -1.3**
CABF pmax pmax
comp=Z,8.0nm,0.6s
VORD Divnogorie 19.64 26 *e*P **P** **06 07 03.9 -0.1**
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,50nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
MOX Moxa 19.70 332 *i* P **P** **06 07 03.4 -1.2**
MOX SS SS 06 10 51.0 -16
MOX L 06 16 20.0
MOX Moxa 19.70 332 P **P** **06 07 03.4 -1.2**
MOX *e* 06 10 51.0
CLL Collm 19.73 336 P **P** **06 07 05.2 +0.3**
comp=Z,logA/T=0.9
CLL *i* *PP 06 07 10.9
CLL *e*PP PP 06 07 19.0 -4.7
CLL *e*S **S** **06 10 42.0 +1.9**
CLL Collm 19.73 336 *i* P **P** **06 07 05.2 +0.3**
comp=Z,8.0nm,1.1s
CLL *i* 06 07 10.9
CLL Collm 19.73 336 *i* P **P** **06 07 05.2 +0.3**
CLL pmax pmax
comp=Z,8.0nm,1.1s
MOF Molkenrain 19.78 320 *e*P **P** **06 07 07.6 +2.1**
VRSR Storozhevoye 19.81 25 *e*P **P** **06 07 05.1 -0.7**
comp=Z,6.0nm,0.5s
VRSR Storozhevoye 19.81 25 *e*P **P** **06 07 05.1 -0.7**
VRSR pmax pmax
comp=Z,4.0nm,0.7s
VRSR pmax pmax
comp=N,6.0nm,0.5s
VRSR pmax pmax
comp=E,6.0nm,0.7s
LASF Ste Croix 19.83 307 *e*P **P** **06 07 04.5 -1.6**
comp=E,44nm,1.0s
HINF Hinteralfeld 19.91 320 *e*P **P** **06 07 05.6 -1.3**
comp=E,9.7nm,0.5s
HINF Hinteralfeld 19.91 320 *e*P **P** **06 07 05.6 -1.3**
HINF pmax pmax
comp=Z,5.0nm,0.5s
EJON La Jonquera 19.93 302 P **P** **06 07 06.7 -0.4**
comp=Z,15nm,0.8s
EJON La Jonquera 19.93 302 P **P** **06 07 06.7 -0.4**
comp=Z,15nm,0.8s,SNR=7.9
SJAF Saint Jean de 19.94 302 *e*P **P** **06 07 07.9 +0.6**
EBNR Beni Rached 20.04 284 P **P** **06 07 06.0 -2.4**
CDF Champ du Feu 20.06 322 *e*P **P** **06 07 06.9 -1.6**
ECHA Ech Chlef 20.18 283 P **P** **06 07 07.0 -2.8**
FILF Fillols 20.19 302 *e*P **P** **06 07 12.5 +2.6**
ECHF Ech Chlef 20.20 283 P **P** **06 07 07.0 -3.0**
ETRT Tiaret 20.26 281 P **P** **06 07 11.0 +0.3**
HAU Haudompre 20.30 320 *e*P **P** **06 07 09.4 -1.6**
comp=Z,58nm,0.8s
HAU *e*R
comp=Z,184nm,19.0s
HAU Haudompre 20.30 320 *e*P **P** **06 07 09.4 -1.6**
HAU pmax pmax
comp=Z,29nm,0.8s
HAU MLR MLR
comp=Z,180nm,19.0s,MS3.5
LRDF Laroque-de-Fa 20.32 303 *e*P **P** **06 07 13.9 +2.6**
EANR 'Ain N'Sour 20.40 283 P **P** **06 07 09.0 -3.1**
VALF Valcebollere 20.53 301 *e*P **P** **06 07 14.0 +0.6**
VRHR Novokhopersk 20.64 29 *e*P **P** **06 07 15.2 +0.7**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,50nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s
MTLF Montolieu 20.68 304 *e*P **P** **06 07 12.8 -2.1**
TNS Taunus Mts 20.71 327 *e*P **P** **06 07 15.7 +0.4**
EMIR Miracle 20.75 300 P **P** **06 07 14.4 -1.3**
comp=Z,28nm,3.2s
EMIR Miracle 20.75 300 P **P** **06 07 14.4 -1.3**
comp=Z,28nm,3.2s,SNR=7.9
EPOB Poblet 20.94 298 P **P** **06 07 15.8 -1.9**
comp=Z,8.7nm,0.7s
EPOB Poblet 20.94 298 P **P** **06 07 15.8 -1.9**
comp=Z,8.7nm,0.7s,SNR=6.4
CLZ Clausthal 21.12 333 *e*P **P** **06 07 18.6 -0.9**
SALF Salau 21.22 302 *e*P **P** **06 07 22.1 +1.7**
LOR Lormes 21.29 315 *e*P **P** **06 07 19.3 -1.8**
comp=Z,11nm,0.6s,mb4.0
LOR *e*R
comp=Z,193nm,20.2s
LOR Lormes 21.29 315 *e*P **P** **06 07 19.3 -1.8**
LOR pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
LOR MLR MLR
comp=Z,190nm,20.3s,MS3.5
MEZF Maizieres J'vi 21.29 319 *e*P **P** **06 07 19.4 -1.7**
comp=Z,150nm,1.1s,mb4.9
CAF Calviac 21.34 308 *e*P **P** **06 07 19.5 -2.2**
comp=Z,30nm,1.1s,mb4.2
CAF Calviac 21.34 308 *e*P **P** **06 07 19.5 -2.2**
CAF pmax pmax
comp=Z,15nm,1.1s,mb4.2
AVF Avril sur Loir 21.35 314 *e*P **P** **06 07 20.2 -1.5**
comp=Z,8.2nm,0.6s,mb3.9
AVF Avril sur Loir 21.35 314 *e*P **P** **06 07 20.2 -1.5**
AVF pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
SSF Saint Saulge 21.39 314 *e*P **P** **06 07 20.7 -1.4**
comp=Z,9.1nm,0.8s,mb4.2
SSF Saint Saulge 21.39 314 *e*P **P** **06 07 20.7 -1.4**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
ERTA Horta de San J 21.41 297 P **P** **06 07 22.6 +0.1**
comp=Z,6.1nm,0.7s,mb4.0
ERTA Horta de San J 21.41 297 P **P** **06 07 22.5 +0.1**
comp=Z,6.1nm,0.7s,mb4.0,SNR=4.5
WLF Walferdange 21.43 323 *e*P **P** **06 07 21.9 -0.6**
comp=Z,34nm,0.9s,mb4.7
WLF Walferdange 21.43 323 *e*P **P** **06 07 21.9 -0.6**
comp=Z,34nm,0.9s,mb4.7
WLF Walferdange 21.43 323 *e*P **P** **06 07 21.9 -0.6**
WLF pmax pmax
comp=Z,34nm,0.9s,mb4.7
EBEN Beniarda 21.53 290 P **P** **06 07 28.8 +5.1**
comp=Z,43nm,3.1s
EBEN Beniarda 21.53 290 P **P** **06 07 28.8 +5.2**
comp=Z,43nm,3.1s,SNR=7.9
EGRA Graus 21.69 300 P **P** **06 07 25.2 0.0**
comp=Z,7.8nm,0.8s,mb4.2
EGRA Graus 21.69 300 P **P** **06 07 25.2 0.0**
comp=Z,7.8nm,0.8s,mb4.2,SNR=5.6
RJF Les Rejaudoux 21.85 309 *e*P **P** **06 07 24.7 -2.0**
comp=Z,47nm,0.9s,mb4.6
RJF *e*R
comp=Z,105nm,19.0s
RJF Les Rejaudoux 21.85 309 *e*P **P** **06 07 24.7 -2.0**
RJF pmax pmax
comp=Z,24nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,110nm,19.0s,MS3.3
EPF Esparros 21.89 302 *e*P **P** **06 07 25.1 -2.1**
EMOS Mosqueruela 21.92 295 P **P** **06 07 30.4 +3.0**
comp=Z,43nm,2.4s,mb4.5
EMOS Mosqueruela 21.92 295 P **P** **06 07 30.4 +2.9**
comp=Z,43nm,2.4s,mb4.5,SNR=7.9
EBIE Bielsa 21.94 301 P **P** **06 07 26.9 -0.7**
comp=Z,8.3nm,0.8s,mb4.2
EBIE Bielsa 21.94 301 P **P** **06 07 26.9 -0.8**
comp=Z,8.3nm,0.8s,mb4.2,SNR=5.7
ECHE Chera 22.19 293 P **P** **06 07 32.4 +2.1**
comp=Z,11nm,0.8s,mb4.3
ECHE Chera 22.19 293 P **P** **06 07 32.4 +2.2**
comp=Z,11nm,0.8s,mb4.3,SNR=6.1
ECHE Chera 22.19 293 P **P** **06 07 32.4 +2.2**
ECHE pmax pmax
comp=Z,11nm,0.8s,mb4.3

LFF La Frestale 22.22 307 *e*P **P** **06 07 27.9 -2.6**
HGN Heimansgroeve 22.25 325‖ *e*P **P** **06 07 34.3 +3.6**
comp=Z,15nm,1.3s,mb4.3
HGN *e*S **S** **06 11 39.7 +11**
GIVF Givet 22.37 323 *e*P **P** **06 07 29.9 -2.0**
OBN Obninsk 22.46 16 *e*P **P** **06 07 31.5 -1.2**
OBN Obninsk 22.46 16 *de*P **P** **06 07 34.0 +1.2**
OBN *e* 06 08 00.0
OBN *e*S **S** **06 11 42.3 +10**
OBN pmax pmax
comp=Z,13nm,0.4s,mb4.7
OBN MLR MLR
comp=Z,300nm,18.0s,MS3.8
ETSF Etsaut 22.49 301 *e*P **P** **06 07 31.0 -2.2**
BAIF Baives 22.66 322 *e*P **P** **06 07 33.6 -1.1**
comp=Z,44nm,0.7s,mb4.7
BAIF Baives 22.66 322 *e*P **P** **06 07 33.6 -1.1**
BAIF pmax pmax
comp=Z,22nm,0.7s,mb4.7
WTSB Winterswijk 22.68 328 *e*P **P** **06 07 36.5 +1.6**
comp=Z,22nm,1.7s,mb4.3
WTSB *e*S **S** **06 11 42.3 +6.2**
SJPF Ste Jean 23.02 301 *e*P **P** **06 07 35.9 -2.4**
MOS Moscow 23.28 17 *e*P **P** **06 07 39.3 -1.4**
MOS *e*P 06 07 47.7
EVIA Vianos 23.31 290 P **P** **06 07 46.3 +5.1**
comp=Z,15nm,1.1s,mb4.3,SNR=7.0
EVIA Vianos 23.31 290 P **P** **06 07 46.3 +5.1**
EVIA pmax pmax
comp=Z,15nm,1.1s,mb4.3
EHUE Huescar 23.35 288 P **P** **06 07 46.5 +5.0**
comp=Z,4.9nm,0.7s,mb4.0
EHUE Huescar 23.35 288 P **P** **06 07 46.5 +4.9**
comp=Z,4.9nm,0.7s,mb4.0,SNR=7.4
EHUE Huescar 23.35 288 P **P** **06 07 46.5 +4.9**
EHUE pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
MFF Saint Martin d 23.43 310 *e*P **P** **06 07 39.9 -2.3**
EBER Berja 23.59 285 P **P** **06 07 51.2 +7.3**
comp=Z,7.8nm,0.7s,mb4.2
EBER Berja 23.59 285 P **P** **06 07 51.2 +7.3**
comp=Z,7.8nm,0.7s,mb4.3,SNR=4.6
EQES Quesada 23.73 288 P **P** **06 07 46.6 +1.3**
comp=Z,11nm,0.8s,mb4.3
EQES Quesada 23.73 288 P **P** **06 07 46.6 +1.3**
comp=Z,11nm,0.8s,mb4.4,SNR=7.2
LDF La Druitiere 24.27 315 *e*P **P** **06 07 48.0 -2.4**
comp=Z,16nm,0.8s,mb4.2
LDF La Druitiere 24.27 315 *e*P **P** **06 07 48.0 -2.4**
LDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
ESDC Sonseca Array 24.50 292 P **P** **06 07 54.0 +1.2**
comp=Z,2.6nm,0.8s,mb3.8,baz=88,slow=9.2,SNR=8.2
ESDC Sonseca Array 24.50 292 P **P** **06 07 55.2 +2.4**
comp=Z,4.5nm,1.0s,mb4.0
ESDC Sonseca Array 24.50 292 P **P** **06 07 55.2 +2.4**
comp=Z,4.5nm,1.0s,mb4.0,SNR=5.2
ESLA Sonseca Array 24.50 292 *e*P **P** **06 07 53.2 +0.4**
comp=Z,11nm,1.3s,mb4.2
VSU Vasula 24.55 1 *c i*P **P** **06 07 53.6 +0.6**
FLN La Foliniere 24.56 315 *e*P **P** **06 07 50.7 -2.5**
FLN *e*R
comp=Z,179nm,20.8s
GRR Gorron 24.61 314 *e*P **P** **06 07 51.2 -2.5**
EADA Adamuz 24.92 289 P **P** **06 08 00.9 +4.0**
comp=Z,3.4nm,0.9s,mb3.9
EADA Adamuz 24.92 289 P **P** **06 08 00.9 +4.1**
comp=Z,3.4nm,0.9s,mb3.9,SNR=4.5
EMIJ Mijas 25.12 285 P **P** **06 08 01.7 +3.0**
comp=Z,10nm,0.8s,mb4.4
EMIJ Mijas 25.12 285 P **P** **06 08 01.7 +3.0**
comp=Z,10nm,0.8s,mb4.4,SNR=5.0
MDT Midelt 25.44 276 P **P** **06 08 02.1 +0.3**
comp=Z,2.0nm,0.9s,mb3.7,baz=90,slow=9.3,SNR=6.3
MDT LR LR 06 20 06.8
comp=Z,170nm,20.4s,MS3.5,baz=179,slow=42
ECAB El Cabril 25.59 288 P **P** **06 08 06.4 +3.2**
comp=Z,4.0nm,0.7s,mb4.1
ECAB El Cabril 25.59 288 P **P** **06 08 06.4 +3.3**
comp=Z,4.0nm,0.7s,mb4.1,SNR=6.3
QUIF Quistinic 25.83 311 *e*P **P** **06 08 02.2 -3.1**
comp=Z,56nm,1.0s,mb4.7
QUIF Quistinic 25.83 311 *e*P **P** **06 08 02.2 -3.1**
QUIF pmax pmax
comp=Z,28nm,1.0s,mb4.8
ESPR Espera 25.97 286 P **P** **06 08 09.8 +3.1**
comp=Z,11nm,1.0s,mb4.3
ESPR Espera 25.97 286 P **P** **06 08 09.8 +3.1**
comp=Z,11nm,1.0s,mb4.3,SNR=4.9
EMIN Mina Concepcio 26.58 288 P **P** **06 08 14.2 +1.8**
comp=Z,13nm,4.6s
EMIN Mina Concepcio 26.58 288 P **P** **06 08 14.1 +1.7**
comp=Z,13nm,4.6s,SNR=7.9
ECAL Calabor 26.81 297 P **P** **06 08 13.4 -1.0**
comp=Z,51nm,2.6s,mb4.6
ECAL Calabor 26.81 297 P **P** **06 08 13.4 -1.0**
comp=Z,51nm,2.6s,mb4.6,SNR=7.9
EBAD Badajoz 26.84 290 P **P** **06 08 16.6 +2.0**
comp=Z,4.6nm,0.5s,mb4.3
EBAD Badajoz 26.84 290 P **P** **06 08 16.6 +1.9**
comp=Z,4.6nm,0.5s,mb4.3,SNR=5.5
EGRO El Granado 27.23 287 P **P** **06 08 22.0 +3.7**
comp=Z,3.3nm,0.9s,mb3.9,SNR=5.7
HFS Hagfors 27.41 347 P **P** **06 08 18.0 -1.7**
comp=Z,2.0nm,0.4s,mb4.0,baz=124,slow=11,SNR=17
FINES FINESS Array B 27.53 0 P **P** **06 08 19.1 -1.7**
comp=Z,1.9nm,0.4s,mb4.1,baz=159,slow=10,SNR=30
KAF Kangasniemi 28.21 0 *ep* **P** **06 08 25.5 -1.3**
comp=Z,4.0nm,0.5s,mb4.3
KAF Kangasniemi 28.21 0 *e*P **P** **06 08 25.5 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
NAO01 NORSAR Array S 28.63 345 *e*P **P** **06 08 28.9 -1.8**
comp=Z,11nm,0.8s,mb4.6
NB2 NORSAR Subarra 28.74 345 P **P** **06 08 30.2 -1.4**
comp=Z,2.3nm,0.6s,mb4.1,baz=147,slow=10
NB2 NORSAR Subarra 28.74 345 P **P** **06 08 30.2 -1.4**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
NOA NORSAR Array B 28.74 345 P **P** **06 08 29.7 -1.9**
comp=Z,3.7nm,0.9s,mb4.1,baz=152,slow=8.7,SNR=7.8
JOF Joensuu 29.21 5 *ep* **P** **06 08 33.5 -2.3**
comp=Z,1.7nm,0.5s,mb4.0
EKA Eskdalemuir Ar 29.39 326 P **P** **06 08 37.5 +0.1**
comp=Z,6.6nm,1.0s,mb4.3,baz=139,slow=8.9,SNR=6.7
ARU Arti 31.71 35‖ *i*P **P** **06 08 58.2 +0.2**
ARU *e*PPP PPP 06 10 08.7 -10
ARU *e* 06 11 49.6
ARU *e*S **S** **06 14 04.4 +0.4**
ARU pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
ARU MLR MLR
comp=Z,100nm,18.0s,MS3.5
ARU MLR MLR
comp=N,50nm,19.0s,MS3.4
ARU MLR MLR
comp=E,60nm,17.0s,MS3.4
SVE Sverdlovsk 32.90 35 *e*P **P** **06 09 08.8 +0.4**
SVE *e* 06 10 19.2
ARCES ARCESS Array B 35.66 360 P **P** **06 09 31.2 -0.7**
comp=E,2.1nm,0.6s,mb4.3,baz=185,slow=9.0,SNR=20
KEV Kevo 35.89 1 *ep* **P** **06 09 31.5 -2.4**
comp=E,1.3nm,0.4s,mb4.2
KEV Kevo 35.89 1 *e*P **P** **06 09 31.5 -2.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KMBO Kilima Mbogo 36.47 161 LR LR 06 25 10.5
comp=Z,159nm,18.6s,MS3.8,baz=112,slow=37
BRVK Borovoye 36.73 45 *e*P **P** **06 09 41.7 +0.6**
comp=Z,5.4nm,0.9s,mb4.4
BRVK Borovoye 36.73 45 *e*P **P** **06 09 41.7 +0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
BVAR Borovoye Array 36.78 45 P **P** **06 09 43.1 +1.5**
comp=Z,6.1nm,0.9s,mb4.4,baz=243,slow=6.6,SNR=25
AAK Ala-Archa 38.69 62 *e*P **P** **06 09 59.1 +1.5**
AAK pmax pmax
comp=Z,5.0nm,1.7s,mb4.0
AAK MLR MLR
comp=Z,100nm,19.0s,MS3.7
DBIC Dimbokro 39.28 233 P **P** **06 10 02.2 -0.6**
comp=Z,5.4nm,0.9s,mb4.2,baz=98,slow=7.1,SNR=3.7
DBIC LR LR 06 28 31.2
comp=Z,312nm,19.4s,MS4.2,baz=22,slow=40
DBIC Dimbokro 39.28 233 P **P** **06 10 02.2 -0.6**
DBIC LR LR 06 28 31.2

LIC Lamto 39.72 233 *e*P **P** **06 10 01.0 -5.5**
comp=Z,136nm,1.8s,mb5.1
MKAR Makanchi Array 43.97 56 P **P** **06 10 42.2 +1.2**
comp=Z,3.1nm,0.6s,mb4.2,baz=281,slow=6.2,SNR=32
MKAR Makanchi Array 43.97 56 *i* P **P** **06 10 42.4 +1.4**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
NVS Novosibirsk 44.55 44⇑ *i*P **P** **06 10 46.5 +1.0**
NVS *e*S **S** **06 17 15.6 -2.5**
NVS pmax pmax
comp=Z,13nm,1.0s,mb4.7
NVS pmax pmax
comp=E,11nm,1.1s
NVS smax
comp=N,11nm,1.8s
ZAL Zalesovo 45.43 45 P **P** **06 10 53.6 +1.0**
comp=N,4.0nm,0.4s,mb4.6,baz=184,slow=7.0,SNR=9.9
ZAL Zalesovo 45.43 45 *i* P **P** **06 10 54.2 +1.6**
ZAL pmax pmax
comp=Z,4.0nm,0.4s
WMQ Urumqi 48.12 59 *e*P **P** **06 11 17.0 +3.1**
KOLN Koldanda 49.39 81 *e*P **P** **06 11 25.8 +1.9**
comp=Z,13nm,1.0s,mb4.9
GKN Gorkha 50.15 80 *e*P **P** **06 11 31.5 +1.8**
comp=Z,12nm,0.7s,mb5.0
SUMG Summit 50.34 339 *e*P **P** **06 11 29.8 -0.8**
comp=Z,13nm,1.1s,mb4.9
DMN Daman 50.69 80 *e*P **P** **06 11 35.8 +2.0**
comp=Z,15nm,0.9s,mb4.9
KKN Kakani 50.76 80 *e*P **P** **06 11 36.2 +1.8**
comp=Z,14nm,0.7s,mb5.0
PKI Pulchoki 50.95 80 *e*P **P** **06 11 37.5 +1.7**
ZAK Zakamensk 57.12 48 *e*P **P** **06 12 22.4 +1.6**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
GTA Gaotai 58.03 61 *e*P **P** **06 12 28.4 +1.1**
GTA AP pP 06 12 36.3 -2.0
GTA XP sP 06 12 40.3 -2.4
GTA AMB AMB
comp=Z,4.0nm,1.3s,mb4.3
SONM Songino Array 59.82 50 P **P** **06 12 39.7 +0.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=286,slow=9.4,SNR=7.5
BOD Bodaibo 61.06 38 *e*P **P** **06 12 47.1 -0.9**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
TIXI Tiksi 62.11 20 *e*P **P** **06 12 57.2 +2.4**
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
BOSA Boshof 62.20 181 LR LR 06 44 07.1
comp=Z,204nm,18.0s,MS4.3,baz=5.5,slow=40
LZH Lanzhou 62.22 64 *e*P **P** **06 12 59.1 +3.1**
LZH AP pP 06 13 10.0 +2.9
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.1
LZH Lanzhou 62.22 64 *e*P **P** **06 12 59.1 +3.1**
comp=Z,22nm,1.5s,mb5.1
LZH pP pP 06 13 10.0 +2.9
LZH Lanzhou 62.22 64 *e*P **P** **06 12 59.1 +3.1**
LZH pmax pmax
comp=Z,22nm,1.5s,mb5.1
SCHQ Schefferville 64.51 320 P **P** **06 13 11.7 +1.0**
comp=Z,4.4nm,0.5s,mb4.7,baz=55,slow=7.3,SNR=7.7
SCHQ Schefferville 64.51 320 *e*P **P** **06 13 09.8 -0.9**
SCHQ P 06 13 11.7
HHC Hu-ho-hao-te 65.83 56 *e*P **P** **06 13 21.2 +1.7**
HHC XP sP 06 13 41.6 +6.7
HHC AMB AMB
comp=Z,14nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,134nm,6.0s
HHC LR LR
comp=Z,258nm,19.0s,MS4.5
BILL Bilibino 74.11 14 *i* P **P** **06 14 08.7 -0.6**
SSE Sheshan 77.32 61 P **P** **06 14 26.9 -1.5**
SSE AMB AMB
comp=Z,362nm,8.3s
YKA Yellowknife Ar 78.80 342 P **P** **06 14 38.1 +2.2**
comp=Z,1.5nm,0.7s,mb4.0,baz=32,slow=5.0,SNR=4.7
ILAR Eielson Array 81.47 357 P **P** **06 14 51.8 +1.7**
comp=Z,0.9nm,0.9s,mb3.7,baz=358,slow=2.6,SNR=4.0
DAWY Dawson 81.64 354 P **P** **06 14 50.9 -0.1**
BDFB Brasilia 85.79 248 P **P** **06 15 14.8 +1.9**
comp=Z,1.4nm,0.7s,mb4.3,baz=127,slow=5.1,SNR=2.8
BDFB Brasilia 85.79 248 P **P** **06 15 14.8 +1.9**
BDFB pmax pmax
comp=Z,1.0nm,0.7s
FVM French Village 87.17 315 P **P** **06 15 20.0 +0.8**
comp=Z,5.8nm,0.8s,mb4.9
LRAL Lakeview Retre 88.28 309 *e*P **P** **06 15 26.0 +1.4**
comp=Z,13nm,1.1s,mb5.1
WRA Warramunga Arr 115.86 97 PKP PKPdf 06 21 17.0 +2.0
comp=Z,0.3nm,0.6s,baz=314,slow=1.8,SNR=6.4

IDC ***03*** *06:04:28.5±0.7,33.99N×25.78E,mb4.3/17,mb1 4.4/22, mb1mx4.4/26,mbtmp4.3/22,ML4.3/5,MS3.7/2,Ms1 3.7/2, ms1mx3.2/31,Error ellipse: s-maj=16.3km s-min=15.0km az=66.0*

MOS ***03*** *06:04:28.4±1.2,33.99N×25.88E,h10km,mb4.7/6,Error ellipse: s-maj=11.7km s-min=5.9km az=96.6*

CSEM ***03*** *06:04:30.8±0.1,34.00N×25.92E,h30km,mb4.7/5,Error ellipse: s-maj=3.2km s-min=1.7km az=24.0*

NEIC ***03*** *06:04:34.3±0.8,34.02N×25.86E,h40km±6km, mb4.5/9, Error ellipse: s-maj=8.7km s-min=5.4km az=198.0*

ISC 03 06:04:30.3±1.5,33.97N±0.06×25.93E±0.05,h23km±11km, n103,σ1§08/109,mb4.4/29,MS3.6/2,2C-1D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.57**	**327**	Pn	**Pn**	**Pn**	**06 04 58.8**	**+1.7**
	32nm,0.3s,baz=153,slow=18,SNR=4.7							
IDI				Sn	**Sn**	**Sn**	**06 05 19.5**	**+2.7**
	70nm,0.3s,baz=107,slow=19,SNR=4.9							
GVD	**Gavdhos**	**1.75**	**300**	*e*P	**Pn**	**Pn**	**06 05 00.5**	**+0.8**
GVD	**Gavdhos**	**1.75**	**300**	*e*P	**Pn**	**Pn**	**06 05 00.5**	**+0.8**
CSS	**Prodhromos**	**6.20**	**79**	*e*P	**Pn**	**Pn**	**06 06 03.8**	**+1.0**
SART	**Tekirdag**	**6.78**	**8**	*i* P	**Pn**	**Pn**	**06 06 27.2**	**+16**
OFRI	**'Ofer**	**7.70**	**98**	P	**Pn**	**Pn**	**06 06 23.5**	**-0.5**
OFRI				S	**Sn**	**Sn**	**06 07 46.8**	**-4.6**
HNTI	**Hanita**	**7.77**	**94**	P	**Pn**	**Pn**	**06 06 24.7**	**-0.3**
HNTI				S	**Sn**	**Sn**	**06 07 48.5**	**-4.7**
KZIT	**Kziot**	**7.79**	**111**	P	**Pn**	**Pn**	**06 06 25.2**	**+0.1**
KZIT				S	**Sn**	**Sn**	**06 07 48.0**	**-5.5**
SLTI	**Sal'it**	**7.84**	**100**	P	**Pn**	**Pn**	**06 06 25.5**	**-0.4**
RTMM	**Retamin**	**7.95**	**109**	P	**Pn**	**Pn**	**06 06 27.2**	**-0.2**
MASH	**Mash'abbe Sade**	**8.05**	**109**	P	**P**	**P**	**06 06 28.7**	**-0.1**
MMLI	**Mount Malkishu**	**8.11**	**98**	P	**P**	**P**	**06 06 29.3**	**-0.3**
MZDA	**Masada**	**8.39**	**106**	P	**P**	**P**	**06 06 33.7**	**+0.2**
BR131	**Keskin Array S**	**8.44**	**45**	*e*P	**P**	**P**	**06 06 33.8**	**-0.4**
BR131	**Keskin Array S**	**8.44**	**45**	*e*P	**P**	**P**	**06 06 33.8**	**-0.4**
BRTR	**Keskin Array B**	**8.44**	**45**	Pn	**P**	**P**	**06 06 34.8**	**+0.6**
	0.5nm,0.3s,baz=215,slow=13,SNR=5.3							
PRNI	**Paran**	**8.50**	**113**	P	**P**	**P**	**06 06 35.1**	**0.0**
MKRJ	**Makawir**	**8.53**	**104**	P	**P**	**P**	**06 06 35.1**	**-0.4**
ZFRI	**Zfri**	**8.54**	**111**	P	**P**	**P**	**06 06 34.7**	**-1.0**
ASF	**Jabal al Asfar**	**9.38**	**98**	Pn	**P**	**P**	**06 06 47.1**	**-0.1**
	3.6nm,0.3s,baz=318,slow=20,SNR=8.8							
ASF				Sn	**Sn**	**Sn**	**06 08 28.8**	**-4.3**
	1.3nm,0.3s,baz=38,slow=19,SNR=2.4							
CII	**Carovilli**	**12.00**	**314**	P	**P**	**P**	**06 07 22.7**	**-0.3**
CII	**Carovilli**	**12.00**	**314**	P	**P**	**P**	**06 07 22.7**	**-0.3**
VOY	**Vojsko**	**15.15**	**326**	*e*(Sn)	**P**	**P**	**06 08 04.3**	**-0.1**
CRVS	**Cervenica-Dubn**	**15.28**	**349**	*e*Sn	**P**	**P**	**06 08 10.2**	**+4.0**
STHS	**Stebnicka Huta**	**15.82**	**349**	*e*Sn	**P**	**P**	**06 08 14.2**	**+1.1**
KBA	**Koelnbreinsper**	**16.18**	**328**	*i* Sn	**P**	**P**	**06 08 15.0**	**-2.8**
MOA	**Molln**	**16.40**	**331**	*i* Sn	**P**	**P**	**06 08 19.2**	**-1.3**
VRAC	**Vranov**	**16.81**	**338**	Pn	**P**	**P**	**06 08 26.7**	**+0.9**
	0.3nm,0.3s,baz=150,slow=16,SNR=2.6							
AKASG	**Malin Array Be**	**16.89**	**7**	Pn	**P**	**P**	**06 08 26.2**	**-0.5**
	8.2nm,0.3s,baz=198,slow=11,SNR=25							
AKASG				Sn	**S**	**S**	**06 11 44.8**	**+12**
	0.5nm,0.3s,baz=198,slow=20,SNR=7.6							
AKASG	**Malin Array Be**	**16.89**	**7**	Pn	**P**	**P**	**06 08 26.2**	**-0.5**
AKASG				Sn	**S**	**S**	**06 11 44.8**	**+12**
MORC	**Moravsky Berou**	**16.96**	**341**	*e*P	**P**	**P**	**06 08 26.3**	**-1.3**
	6.2nm,0.9s							
MORC	**Moravsky Berou**	**16.96**	**341**	*e*P	**P**	**P**	**06 08 26.3**	**-1.3**
	6.2nm,0.9s							
MORC	**Moravsky Berou**	**16.96**	**341**	*e*P	**P**	**P**	**06 08 26.3**	**-1.3**
MORC				pmax	pmax			
	comp=Z,6.0nm,0.9s							

WATA Walderalm 17.19 325⇓iX P 06 08 31.3 +0.8
MOTA Moosalm 17.42 324⇑iX P 06 08 33.6 +0.2
GEC2 GERESS Array S 17.43 332 eP P 06 08 34.0 +0.6
GERES GERESS Array B 17.43 332 P P 06 08 33.2 -0.2
comp=Z,0.6nm,0.3s,baz=149,slow=12,SNR=6.2
DAVOX Davos 17.65 321 P P 06 08 37.9 +1.7
comp=Z,0.3nm,0.3s,baz=137,slow=19,SNR=3.0
DAVOX Davos 17.65 321 P P 06 08 37.9 +1.7
DAVA Damuels 17.98 322⇑iX P 06 08 43.8 +3.4
GRA1 Grafenberg Arr 19.09 330 eP P 06 08 55.0 +1.1
comp=Z,30nm,1.1s
GRF Grafenberg Arr 19.09 330 eP P 06 08 55.0 +1.1
comp=Z,30nm,1.1s
GRF Grafenberg Arr 19.09 330 eP P 06 08 55.0 +1.1
GRF pmax pmax
comp=Z,30nm,1.1s
GRF Grafenberg Arr 19.09 330 eP P 06 08 55.0 +1.1
GRF pmax pmax
comp=Z,30nm,1.1s
BFO Black Forest 19.46 323 eP P 06 08 58.7 +0.6
VORD Divnogorie 19.58 26 eP P 06 08 59.6 +0.1
VORD pmax pmax
comp=Z,30nm,0.6s
VORD pmax pmax
comp=N,80nm,0.9s
VORD pmax pmax
comp=E,30nm,0.7s
MOX Moxa 19.68 332 i P P 06 09 04.0 +3.4
CLL Collm 19.71 335 P P 06 08 59.0 -1.9
CLL e*PP 06 09 06.0
SUW Suwalki 20.13 355 eP P 06 09 03.9 -1.5
comp=E,113nm,0.7s
SUW Suwalki 20.13 355 eP P 06 09 03.9 -1.5
comp=E,113nm,0.7s
SUW Suwalki 20.13 355 eP P 06 09 03.9 -1.5
SUW pmax pmax
comp=Z,113nm,0.7s
TNS Taunus Mts 20.70 327 eP P 06 09 12.5 +1.2
CLZ Clausthal 21.10 332 eP P 06 09 15.9 +0.5
WLF Walferdange 21.42 323 eP P 06 09 17.0 -1.6
comp=Z,17nm,0.8s,mb4.4
WLF Walferdange 21.42 323 eP P 06 09 17.0 -1.6
comp=Z,17nm,0.8s,mb4.4
WLF Walferdange 21.42 323 eP P 06 09 17.0 -1.6
WLF pmax pmax
comp=Z,17nm,0.8s,mb4.4
BSEG Bad Segeberg 22.81 336 eP P 06 09 31.3 -1.1
ESDC Sonseca Array 24.53 292 P P 06 09 49.1 -0.2
comp=Z,1.2nm,0.5s,mb3.7,baz=81,slow=8.9,SNR=4.2
HFS Hagfors 27.37 347 P P 06 10 14.3 -1.2
comp=Z,2.4nm,0.4s,mb4.0,baz=180,slow=8.9,SNR=9.7
HFS LR LR 06 20 57.5
comp=Z,111nm,18.5s,MS3.5,baz=30,slow=36
HFS Hagfors 27.37 347 P P 06 10 14.3 -1.2
HFS LR LR 06 20 57.5
FINES FINESS Array B 27.49 0 P P 06 10 14.8 -1.7
comp=Z,1.7nm,0.4s,mb3.9,baz=171,slow=10.0,SNR=8.6
FINES PcP PcP 06 13 34.4 -0.6
comp=Z,0.5nm,0.4s,baz=135,slow=2.0,SNR=3.6
KAF Kangasniemi 28.16 0 ep P 06 10 20.7 -1.9
comp=Z,6.7nm,0.6s,mb4.5,baz=174,slow=9.0
KAF Kangasniemi 28.16 0 eP P 06 10 20.7 -1.9
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
NAO01 NORSAR Array S 28.60 345 eP P 06 10 25.3 -1.3
comp=Z,12nm,0.9s,mb4.6
NAO01 NORSAR Array S 28.60 345 eP P 06 10 25.3 -1.3
comp=Z,12nm,0.9s,mb4.6
NB2 NORSAR Subarra 28.71 345 P P 06 10 26.3 -1.2
comp=Z,3.2nm,1.0s,mb4.0,baz=145,slow=9.3
NB2 NORSAR Subarra 28.71 345 P P 06 10 26.3 -1.2
NB2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
NOA NORSAR Array B 28.71 345 P P 06 10 25.8 -1.8
comp=Z,2.6nm,0.9s,mb3.9,baz=151,slow=8.6,SNR=4.4
JOF Joensuu 29.17 5 ep P 06 10 28.9 -2.8
comp=Z,1.6nm,0.4s,mb4.1
EKA Eskdalemuir Ar 29.37 326 P P 06 10 32.7 -0.9
comp=Z,1.7nm,0.7s,mb3.9,baz=117,slow=9.5,SNR=3.3
ARCES ARCESS Array B 35.62 360 P P 06 11 26.8 -1.1
comp=Z,2.3nm,0.4s,mb4.5,baz=181,slow=8.5,SNR=14
KEV Kevo 35.84 1 ep P 06 11 28.7 -1.1
comp=Z,7.9nm,0.7s,mb4.8
KEV Kevo 35.84 1 eP P 06 11 28.7 -1.1
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BRVK Borovoye 36.67 45 eP P 06 11 37.2 +0.3
BRVK Borovoye 36.67 45 eP P 06 11 37.2 +0.3
BVAR Borovoye Array 36.72 45 P P 06 11 37.4 0.0
comp=Z,1.6nm,0.5s,mb4.1,baz=233,slow=7.4,SNR=5.4
DBIC Dimbokro 39.34 233 P P 06 11 58.6 -1.2
comp=Z,4.0nm,0.8s,mb4.2,baz=89,slow=13,SNR=3.2
MKAR Makanchi Array 43.91 56 P P 06 12 37.9 +1.1
comp=Z,5.2nm,0.6s,mb4.5,baz=257,slow=7.8,SNR=13
NVS Novosibirsk 44.49 44 eP P 06 12 42.2 +0.8
comp=Z,13nm,0.9s,mb4.7
NVS Novosibirsk 44.49 44 eP P 06 12 42.2 +0.8
NVS pmax pmax
comp=Z,13nm,0.9s,mb4.7
NVS pmax pmax
comp=E,5.0nm,0.8s
ZAL Zalesovo 45.37 45 P P 06 12 49.4 +1.0
comp=E,6.9nm,0.4s,mb4.8,baz=204,slow=6.4,SNR=5.9
ZAL LR LR 06 33 32.0
comp=E,108nm,18.6s,MS3.8,baz=198,slow=38
ZAL Zalesovo 45.37 45 P P 06 12 49.3 +0.9
KOLN Koldanda 49.34 81 eP P 06 13 20.5 +0.6
comp=E,8.3nm,0.8s,mb4.8
HYB Hyderabad 49.68 96 i P P 06 13 24.0 +1.4
GKN Gorkha 50.10 80 eP P 06 13 26.8 +1.1
comp=E,14nm,0.7s,mb5.1
SUMG Summit 50.31 339 eP P 06 13 26.2 -0.5
SUMG Summit 50.31 339 eP P 06 13 26.2 -0.5
DMN Daman 50.64 80 eP P 06 13 31.0 +1.2
comp=E,8.3nm,0.5s,mb5.0
KKN Kakani 50.71 80 eP P 06 13 31.5 +1.2
comp=E,10nm,0.4s,mb5.1
PKI Pulchoki 50.90 80 eP P 06 13 32.7 +0.9
comp=E,14nm,0.8s,mb4.9
ZAK Zakamensk 57.06 48 eP P 06 14 18.0 +1.2
SONM Songino Array 59.75 50 P P 06 14 36.8 +1.2
comp=E,1.7nm,0.5s,mb4.3,baz=286,slow=7.8,SNR=7.4
BOD Bodaibo 61.00 38 eP P 06 14 42.3 -1.6
comp=E,3.0nm,0.6s,mb4.6
BOD Bodaibo 61.00 38 eP P 06 14 42.3 -1.6
BOD pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
BOSA Boshof 62.25 181 P P 06 14 52.7 -0.1
comp=Z,2.6nm,0.8s,mb4.4,baz=13,slow=3.3,SNR=6.1
SCHQ Schefferville 64.50 320 P P 06 15 06.7 -0.5
comp=Z,4.5nm,0.6s,mb4.7,baz=50,slow=5.5,SNR=7.6
YKA Yellowknife Ar 78.77 342 P P 06 16 31.9 -0.2
comp=Z,0.6nm,0.5s,mb3.8,baz=29,slow=5.3,SNR=3.4
ILAR Eielson Array 81.42 357 P P 06 16 46.1 -0.1
comp=Z,0.8nm,0.8s,mb3.7,baz=352,slow=3.3,SNR=4.0
DAWY Dawson 81.60 354 eP P 06 16 47.9 +0.8
BDFB Brasilia 85.84 248 P P 06 17 10.8 +1.1
comp=Z,2.7nm,0.7s,mb4.6,baz=54,slow=5.5,SNR=5.6
PDAR Pinedale Array 93.44 329 P P 06 17 45.1 +0.1
comp=Z,0.4nm,0.8s,mb3.9,baz=76,slow=3.7,SNR=3.0
PDAR Pinedale Array 93.44 329 P P 06 17 45.1 +0.1
WRA Warramunga Arr 115.82 97 PKP PKPdf 06 23 12.8 -3.1
comp=Z,0.5nm,0.5s,baz=313,slow=1.7,SNR=12

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*MOS **03** 06:05:10.4±1.1, 0.01S×29.75E, h10^{km}, mb4.7/5, Error ellipse: s-maj=14.4km s-min=7.7km az=98.4*
*IDC **03** 06:05:11.7±0.6, 0.10N×29.74E, mb4.3/19, mb1 4.4/20, mb1mx4.3/27, mbtmp4.3/20, ML4.2/1, MS3.6/2, Ms1 3.5/2, ms1mx3.2/23, Error ellipse: s-maj=27.2km s-min=13.0km az=92.0*
*NEIC **03** 06:05:12.8±0.4, 0.06N×29.90E, h10^{km}, mb4.4/7, Error ellipse: s-maj=12.2km s-min=7.4km az=67.0*
ISC 03 06:05:11.1±0.4, **0.09N**±0.06×**29.87E**±0.09, **h10**^{km}, **n50**, σ1^{s}**04**/46, **mb4.3**/23, **MS3.4**/2, **5C-2D, Zaire**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MBAR Mbarara 1.11 128 eP Pb 06 05 31.2 -0.7
KMBO Kilima Mbogo 7.48 99 Pn Pn 06 07 02.0 -0.9
3.9nm,0.3s,baz=256,slow=18,SNR=37
KMBO Lg 06 09 01.7
8.0nm,0.3s,baz=242,slow=20,SNR=5.8
LSZ Lusaka 15.36 186 Pn P 06 08 47.0 -2.8
3.4nm,0.6s
LSZ Lusaka 15.36 186 P P 06 08 47.0 -2.8
LSZ pmax pmax
comp=Z,3.0nm,0.6s
TSUM Tsumeb 22.65 211 P P 06 10 14.4 +0.5
comp=Z,1.2nm,0.7s,mb3.4,baz=39,slow=6.5,SNR=3.7
TSUM Tsumeb 22.65 211 eP P 06 10 14.7 +0.8
comp=Z,16nm,1.8s,mb4.2
LBTB Lobatse 25.30 189 P P 06 10 41.6 +2.1
comp=Z,7.3nm,0.7s,mb4.3,baz=14,slow=9.1,SNR=8.9
LBTB LR LR 06 20 08.5
comp=Z,92nm,18.7s,MS3.3,baz=8.2,slow=36
BOSA Boshof 28.88 188 P P 06 11 12.4 +0.1
comp=Z,2.5nm,0.6s,mb4.1,baz=39,slow=3.5,SNR=5.0
BOSA LR LR 06 23 02.2
comp=Z,134nm,19.8s,MS3.5,baz=32,slow=37
BRTR Keskin Array B 39.59 5 P P 06 12 46.4 +1.9
comp=Z,5.0nm,0.8s,mb4.3,baz=181,slow=9.6,SNR=17
GNI Garni 42.11 17 P P 06 13 07.5 +2.3
comp=Z,3.6nm,0.3s,mb4.5,baz=350,slow=24,SNR=3.3
MLR Muntele Rosu 45.34 356 P P 06 13 32.7 +1.4
comp=Z,5.8nm,0.7s,mb4.5,baz=169,slow=7.4,SNR=6.3
MLR Muntele Rosu 45.34 356⇓iP P 06 13 32.6 +1.4
MLR Muntele Rosu 45.34 356⇑iP P 06 13 32.6 +1.4
VOIR 45.35 355⇑iP P 06 13 32.0 +0.7
DRGR 46.93 353⇓iP P 06 13 44.0 +0.2
DRGR 46.93 353⇑iP P 06 13 44.0 +0.2
BURAR Bucovina Array 47.51 356⇑iP P 06 13 49.7 +1.4
BURAR Bucovina Array 47.51 356⇑iP P 06 13 49.6 +1.3
KECS Kecovo 48.88 352 eP P 06 13 58.8 -0.2
VYHS Vyhne 49.15 350 eP P 06 13 59.0 -2.1
CRVS Cervenica-Dubn 49.16 353 eP P 06 14 01.0 -0.1
BNI Bardonecchia 49.26 338 eP P 06 14 01.3 -0.7
comp=Z,3.0nm,0.6s,mb4.5
BNI Bardonecchia 49.26 338 eP P 06 14 01.3 -0.6
BNI pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
DAVOX Davos 49.69 342 P P 06 14 05.0 -0.2
comp=Z,4.6nm,0.7s,mb4.6,baz=124,slow=15,SNR=5.1
ESDC Sonseca Array 50.05 326 P P 06 14 07.4 -0.7
comp=Z,2.1nm,0.9s,mb4.2,baz=130,slow=7.6,SNR=5.6
VRAC Vranov 50.34 349 P P 06 14 10.2 0.0
comp=Z,3.4nm,0.6s,mb4.5,baz=130,slow=5.6,SNR=4.8
AKASG Malin Array Be 50.42 359 P P 06 14 10.3 -0.5
comp=Z,1.6nm,0.6s,mb4.2,baz=184,slow=6.8,SNR=7.8
AKASG Malin Array Be 50.42 359 P P 06 14 10.3 -0.5
GERES GERESS Array B 50.53 346 P P 06 14 11.5 -0.1
comp=Z,3.1nm,0.7s,mb4.3,baz=165,slow=7.8,SNR=18
MORC Moravsky Berou 50.61 350 eP P 06 14 11.7 -0.6
comp=Z,2.5nm,0.6s,mb4.3
MORC Moravsky Berou 50.61 350 eP P 06 14 11.7 -0.5
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KHC Kasperske Hory 50.83 346 eP P 06 14 13.5 -0.4
ARU Arti 60.75 18 eP P 06 15 24.6 -0.6
FINES FINESS Array B 61.26 358 P P 06 15 28.2 -0.4
comp=Z,2.8nm,0.7s,mb4.5,baz=162,slow=6.0,SNR=10
EKA Eskdalemuir Ar 61.29 339 P P 06 15 28.4 -0.5
comp=Z,0.6nm,0.5s,mb4.0,baz=141,slow=5.3,SNR=3.5
KAF Kangasniemi 61.92 358 ep P 06 15 32.2 -0.9
comp=Z,8.6nm,0.6s,mb5.1,baz=174,slow=6.5
KAF Kangasniemi 61.92 358 eP P 06 15 32.2 -0.9
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
NB2 NORSAR Subarra 62.45 350 P P 06 15 35.6 -1.1
comp=Z,20nm,2.0s,mb4.9,baz=159,slow=6.5
NB2 NORSAR Subarra 62.45 350 P P 06 15 35.6 -1.1
NB2 pmax pmax
comp=Z,20nm,2.0s,mb4.9
NOA NORSAR Array B 62.45 350 P P 06 15 35.8 -0.9
comp=Z,1.8nm,0.8s,mb4.3,baz=160,slow=6.6,SNR=5.7
JOF Joensuu 62.68 1 ep P 06 15 37.1 -1.1
comp=Z,2.1nm,0.7s,mb4.4
MKAR Makanchi Array 65.16 37 P P 06 15 55.1 +0.5
comp=Z,1.4nm,0.8s,mb4.0,baz=252,slow=3.8,SNR=4.2
ARCES ARCESS Array B 69.38 358 P P 06 16 20.4 -0.5
comp=Z,4.6nm,0.6s,mb4.6,baz=169,slow=6.2,SNR=22
ZAL Zalesovo 70.06 31 P P 06 16 26.3 +1.1
comp=Z,1.4nm,0.3s,mb4.4,baz=312,slow=1.8,SNR=3.9
MAW Mawson 71.34 167 P P 06 16 33.2 +0.4
comp=Z,1.4nm,0.8s,mb3.9,baz=259,slow=16,SNR=3.3
SONM Songino Array 80.90 42 P P 06 17 29.1 +2.0
comp=Z,0.4nm,0.3s,mb3.8,baz=248,slow=4.0,SNR=4.9
ILAR Eielson Array 115.24 358 PKP PKPdf 06 23 53.0 -2.6
comp=Z,0.3nm,0.7s,baz=355,slow=5.1,SNR=4.0
PDAR Pinedale Array 123.94 325 PKP PKPdf 06 24 11.1 -2.0
comp=Z,0.5nm,0.8s,baz=117,slow=3.3,SNR=5.2
TXAR Lajitas Array 126.92 308 PKP PKPdf 06 24 16.9 -2.1
comp=Z,0.6nm,0.9s,baz=162,slow=4.0,SNR=5.6
TXAR Lajitas Array 126.92 308 PKP PKPdf 06 24 16.9 -2.2

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*NEIC **03** 06:10:39.0, 15.98N×97.59W, h16^{km}, MD4.1(MEX), After MEX.*
MEX 03 06:10:38.7±0.8, **15.97N**×**97.60W**, **h18**^{km}±34^{km}, **MD4.1**, **Near coast of Oaxaca**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.66 309 i P Pb 06 10 49.3 -2.0
PNIG i S Sb 06 10 57.4 -2.5
VHO Vista Hermosa 1.37 37 i P Pn 06 10 59.7 -3.5
VHO i S Sb 06 11 15.9 -4.8
OXX Oaxaca 1.39 37 i P Pn 06 11 00.5 -2.9
OXX i S Sb 06 11 16.5 -4.5
HUIG Huatulco 1.45 98 i P Pn 06 11 01.3 -3.0
HUIG i S Sb 06 11 17.5 -5.4
ACX Acapulco 2.40 292 eP Pn 06 11 19.0 +1.2
ACX i S Sn 06 11 45.5 -1.5
CAIG El Cayaco 2.77 293 i P Pn 06 11 21.2 -2.0
CAIG i S Sn 06 11 52.2 -4.4
CMIG Matias Romero 2.83 67 i P Pn 06 11 19.9 -4.2
CMIG i S Sn 06 11 53.0 -5.0
PLIG Platanillo 3.02 323 eP Pn 06 11 24.5 -2.2
PLIG i S Sn 06 11 57.9 -4.8
PLIG Platanillo 3.02 323 eP Pn 06 11 25.3 -1.4
PLIG i S Sn 06 11 57.9 -4.8
YAIG Yautepec 3.20 334 i P Pn 06 11 24.7 -4.5
YAIG i S Sn 06 12 01.4 -5.8
YAIG Yautepec 3.20 334 i P Pn 06 11 27.8 -1.5
YAIG i S Sn 06 12 05.5 -1.8
PPM Popocatepetl 3.23 342 eP Pn 06 11 30.0 +0.3

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*FUNV **03** 06:18:55.5, 10.77N×62.31W, h78^{km}, MW2.5*
*TRN **03** 06:18:56.5, 10.83N×62.31W, h75^{km}, MD2.9*
*NEIC **03** 06:18:56.5, 10.83N×62.31W, h75^{km}, MD2.9(TRN), After TRN.*
ISC 03 06:18:54.0±0.7, **10.74N**±0.04×**62.39W**±0.03, **h87**^{km}±8^{km}, **n13**, σ1^{s}**10**/24, **2D, Near coast of Venezuela**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUIV Guiria 0.19 119 eP P 06 19 07.0 +0.4
GUIV eS S 06 19 14.7 -1.3
CRUV Carupano 0.83 266 eP P 06 19 13.6 +1.7
CRUV eS S 06 19 25.7 +0.5
ITEV Isla Los Testi 0.95 310 eP P 06 19 14.1 +0.9
ITEV eS S 06 19 27.4 -0.2
TRN Trinidad (W) 0.97 95⇓iP P 06 19 14.2 +0.8
TRN eS S 06 19 26.1 -2.0
TPP Pointe-a-Pierr 1.01 114 eP P 06 19 15.9 +2.0
TPP eS S 06 19 29.9 +1.0
TBH Brigand Hill 1.32 101⇓iP P 06 19 18.9 +1.1
TBH eS S 06 19 35.2 -0.4
GRW Mount Saint Ca 1.58 27 eP P 06 19 21.2 0.0
GRW eS S 06 19 40.1 -1.1
TPR Prospect 1.65 74 eP P 06 19 22.1 +0.2
TPR eS S 06 19 42.1 -0.4
BOT Bacolet 1.70 75 eP P 06 19 22.6 -0.1
ORIV Oritupano 1.94 211 eS S 06 19 50.2 +1.0
GURV El Guri 3.04 193 eP P 06 19 40.7 -0.3
GURV eS S 06 20 14.8 -1.7
BIRV Birongo 3.82 266 eP P 06 19 52.5 +0.6
BIRV eS S 06 20 33.2 -2.7
CAOV Caicara del Or 5.15 229 eP P 06 20 09.4 -0.8
CAOV eS S 06 21 05.0 -3.9

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*NEIC **03** 06:24:49.0, 19.40N×68.92W, h98^{km}, MD4.0(RSPR), After RSPR.*
RSPR 03 06:24:49.0, **19.40N**×**68.92W**, **h98**^{km}±17^{km}, **MD4.0**/10, **8C-2D, North Atlantic Ocean**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AGPR Aguadilla, PR 1.95 118⇑eP P 06 25 20.7 -0.5
AGPR eS S 06 25 44.7 -0.4
MPR Mayaguez 2.06 125 eS S 06 25 47.2 -0.6
LSP Las Mesas 2.12 125⇑eP P 06 25 21.9 -1.7
LSP eS S 06 25 49.7 +0.4
CRPR Cabo Rojo, PR 2.21 129⇑eP P 06 25 22.9 -1.9
CRPR eS S 06 25 51.5 +0.1
MGP Maguayo 2.22 128⇓eP P 06 25 23.2 -1.8
MGP eS S 06 25 51.6 -0.1
LRS Lares 2.25 119⇑eP P 06 25 24.5 -0.9
LRS eS S 06 25 52.7 +0.1
PORP Portuguez 2.54 121⇑eP P 06 25 29.1 -0.3
PORP eS S 06 25 59.0 -0.7
SJG San Juan 2.92 116⇑eP P 06 25 34.2 -0.4
SJG eS S 06 26 07.4 -1.5
CBYP Canovanas 3.11 111⇑eP P 06 25 36.9 -0.4
CBYP eS S 06 26 12.0 -1.5
HUMP Col San Antoni 3.17 113⇑eP P 06 25 37.0 -1.0
HUMP eS S 06 26 14.6 -0.3
MTP Monte Pirata 3.44 112⇓eP P 06 25 40.5 -1.2
MTP eS S 06 26 20.9 -0.8
MASC Masc 5.06 280 eP P 06 26 04.1 +0.2
baz=152
MASC eS S 06 27 02.6 +1.0
comp=N,236nm,0.0s
comp=E,281nm,0.0s

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*IDC **03** 06:30:02.3±0.6, 10.30N×138.51E, mb4.4/12, mb1 4.5/12, mb1mx4.4/18, mbtmp4.4/12, MS3.9/3, Ms1 3.9/3, ms1mx3.5/23, Error ellipse: s-maj=34.9km s-min=15.0km az=82.0*
*BJI **03** 06:30:03.1, 10.89N×139.11E, h2^{km}, mB5.3, mb4.7, Ms4.6, Msz4.2*
*NEIC **03** 06:30:03.7±0.3, 10.29N×138.45E, h10^{km}, mb4.8/15, Error ellipse: s-maj=11.2km s-min=7.0km az=83.0*
*MOS **03** 06:30:05.1±1.1, 10.30N×138.49E, h33^{km}, mb5.0/17, Error ellipse: s-maj=23.9km s-min=8.8km az=106.0*
ISC 03 06:30:05.5±0.4, **10.27N**±0.06×**138.37E**±0.09, **h33**^{km}, **n72**, σ0^{s}**95**/67, **mb4.7**/39, **MS4.1**/6, **1C-3D, Western Caroline Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 7.16 62 LR LR 06 34 06.9
comp=Z,1μm,21.5s,baz=211,slow=35
YHNB Yeheng 21.59 314 eP P 06 34 54.9 +0.3
KAKA Kakadu 23.58 195 eP P 06 35 31.8 +18
14nm,0.7s,mb4.5
JNU Nakatsue 23.77 344 P P 06 35 17.1 +1.1
8.9nm,0.7s,mb4.3,baz=114,slow=8.2,SNR=4.0
SSE Sheshan 26.15 325 P P 06 35 38.8 +0.1
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,629nm,7.8s
SSE LR LR
comp=N,68nm,17.5s,MS3.5
SSE LR LR
comp=E,110nm,17.5s,MS3.5
SSE LR LR
comp=Z,149nm,17.1s,MS3.6
MAJO Matsushiro 26.16 360 P P 06 35 37.6 -1.1
HNR Honiara 29.05 132 LR LR 06 45 55.6
comp=Z,89nm,18.2s,MS3.4,baz=324,slow=33
WRAB Tennant Creek 30.27 188 eP P 06 36 15.4 -0.5
WRA Warramunga Arr 30.28 188 P P 06 36 15.4 -0.6
comp=Z,1.6nm,0.7s,mb3.9,baz=3.4,slow=9.4,SNR=15
WRA PcP PcP 06 39 17.0 +0.9
comp=Z,1.4nm,1.1s,baz=358,slow=3.0,SNR=6.7
FITZ Fitzroy Crossi 30.86 204 eP P 06 36 19.2 -2.0
comp=Z,7.0nm,0.9s,mb4.5
FITZ Fitzroy Crossi 30.86 204 P P 06 36 19.9 -1.4
comp=Z,6.3nm,0.7s,mb4.5,baz=2.6,slow=11,SNR=4.4
CD2 Chengdu 38.12 308 eP P 06 37 29.0 +5.7
HHC Hu-ho-hao-te 38.58 327 eP P 06 37 32.8 +5.8
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,94nm,8.2s
HHC LR LR
comp=Z,308nm,16.7s,MS4.2
KLR Kul'dur 39.23 353 eP P 06 37 29.8 -2.5
LZH Lanzhou 40.48 315 eP P 06 37 45.0 +2.2
LZH AP pP 06 37 50.1 -2.6
LZH XP sP 06 37 52.5 -4.3
LZH AMB AMB
comp=Z,19nm,1.4s,mb4.6
LZH LR LR
comp=N,245nm,13.5s
LZH LR LR
comp=Z,297nm,17.2s,MS4.2
LZH Lanzhou 40.48 315 eP P 06 37 45.0 +2.2
comp=Z,19nm,1.4s,mb4.6
LZH pP pP 06 37 50.1 -2.6
LZH sP sP 06 37 52.5 -4.3
LZH LR LR
comp=Z,300nm,17.2s,MS4.2
LZH Lanzhou 40.48 315 eP P 06 37 45.0 +2.2
LZH *SP sP 06 37 52.5 -4.3
LZH pmax pmax
comp=Z,19nm,1.4s,mb4.6
LZH MLR MLR
comp=Z,300nm,17.2s,MS4.2
HIA Hailar 41.86 342 eP P 06 37 54.0 -0.1
FORT Forrest 41.99 193 eP P 06 37 56.0 +0.5
comp=Z,21nm,0.7s,mb4.9
STKA Stephens Creek 42.02 176 eP P 06 37 56.1 +0.5
comp=Z,5.6nm,0.8s,mb4.2
STKA Stephens Creek 42.02 176 P P 06 37 56.0 +0.3
comp=Z,7.2nm,0.8s,mb4.3,baz=347,slow=8.7,SNR=10
GTA Gaotai 44.91 317 eP P 06 38 20.8 +1.9
GTA AP pP 06 38 28.1 -0.7
GTA XP sP 06 38 31.8 -1.1
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb4.0
ULN Ulaanbaatar 45.81 331 eP P 06 38 26.6 +0.6
comp=Z,7.1nm,1.1s,mb4.5
ULN Ulaanbaatar 45.81 331 eP P 06 38 26.6 +0.6
ULN pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
SONM Songino Array 46.10 330 P P 06 38 29.5 +1.2
comp=Z,4.3nm,1.0s,mb4.3,baz=118,slow=3.4,SNR=18
SONM PcP PcP 06 40 04.5 -0.1
comp=Z,2.2nm,0.9s,baz=136,slow=2.7,SNR=4.3
CIT Chita 46.27 339 eP P 06 38 30.9 +1.3
LSA Lhasa 48.02 301 eP P 06 38 52.8 +9.2
ZAK Zakamensk 49.34 331 eP P 06 38 53.3 -0.2
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BOD Bodaibo 50.99 343 eP P 06 39 04.6 -1.5
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
YAK Yakutsk 52.06 355 eP P 06 39 13.0 -0.9
YAK Yakutsk 52.06 355 eP P 06 39 12.2 -1.8
YAK pmax pmax
comp=Z,18nm,0.9s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
SEY Seymchan 53.54 8⇑iP P 06 39 25.6 +0.6
MKAR Makanchi Array 59.60 319 P P 06 40 08.9 +0.4
comp=E,6.3nm,0.9s,mb4.6,baz=93,slow=6.9,SNR=36
ZAL Zalesovo 60.77 327 P P 06 40 16.6 +0.3
comp=E,1.5nm,0.4s,mb4.4,baz=193,slow=13,SNR=8.1
TIXI Tiksi 61.61 357 eP P 06 40 17.1 -4.7
TIXI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
NVS Novosibirsk 61.97 327⇓iP P 06 40 23.5 -1.0
NVS pmax pmax
comp=Z,28nm,2.2s,mb5.0
NVS pmax pmax
comp=E,28nm,2.5s
KURK Kurchatov 63.13 322 eP P 06 40 32.0 -0.2
comp=E,24nm,0.9s,mb5.3
KURK Kurchatov 63.13 322 eP P 06 40 32.0 -0.3
KURK pmax pmax
comp=Z,24nm,0.9s,mb5.3
BRVK Borovoye 68.72 323 eP P 06 41 08.1 +0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,8.8nm,0.9s,mb4.7						
BRVK	Borovoye	68.72	323	eP	P	06 41 08.1	+0.2
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
SML	Sawmill	73.13	28	eP	P	06 41 33.5	-0.8
MCK	McKinley	73.21	26	eP	P	06 41 34.1	-0.6
	comp=Z,11nm,1.0s,mb4.8						
MCK	McKinley	73.21	26	eP	P	06 41 34.1	-0.6
MCK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
EYAK	Cordova Ski Ar	74.18	30	eP	P	06 41 39.7	-0.7
DIV	Divide	74.24	29	eP	P	06 41 40.6	-0.1
	comp=Z,53nm,1.1s,mb5.4						
ILAR	Eielson Array	74.28	25	P	P	06 41 39.8	-1.1
	comp=Z,3.5nm,0.8s,mb4.3,baz=253,slow=6.3,SNR=37						
THY	Trims Highway	74.56	27	eP	P	06 41 42.8	+0.3
SVE	Sverdlovsk	74.76	326	eP	P	06 41 44.0	+0.2
SVE				e		06 42 05.0	
SVE				e		06 46 22.0	
SVE				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
SVE				MLR	MLR		
	comp=N,200nm,15.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,200nm,15.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.5						
ARU	Arti	75.88	326	eP	P	06 41 50.0	-0.2
	comp=Z,7.6nm,0.8s,mb4.7						
ARU	Arti	75.88	326	⇓iP	P	06 41 50.1	-0.1
ARU				e		06 44 42.3	
ARU				ePPP	PPP	06 46 30.2	+1.0
ARU				eS	S	06 51 34.6	+5.5
ARU				eSS	SS	06 56 27.6	+3.2
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
PPT	Papeete	76.34	111	LR	LR	07 12 35.2	
	comp=Z,174nm,18.1s,MS4.4,baz=37,slow=34						
DAWY	Dawson	77.44	27	eP	P	06 41 59.2	+0.3
DLBC	Dease Lake	82.18	32	eP	P	06 42 25.0	+0.6
KIV	Kislovodsk	87.01	314	eP	P	06 43 02.2	+13
KIV				eS	S	06 53 26.7	+3.1
KIV				ePS	PS	06 54 54.2	+24
KIV				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.2						
KEV	Kevo	87.64	341	ep	P	06 42 49.7	-1.6
	comp=Z,8.2nm,0.9s,mb5.0						
KEV	Kevo	87.64	341	eP	P	06 42 49.7	-1.6
KEV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
ARCES	ARCESS Array B	88.21	341	P	P	06 42 53.9	-0.1
	comp=Z,4.5nm,0.9s,mb4.7,baz=68,slow=6.5,SNR=8.0						
OBN	Obninsk	88.32	326	⇓eP	P	06 42 53.6	-1.3
OBN				e		06 46 23.2	
OBN				eS	S	06 53 18.1	-18
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.2						
JOF	Joensuu	88.55	334	ep	P	06 42 54.8	-1.0
	comp=Z,5.6nm,0.9s,mb4.9						
VNDA	Vanda	88.65	175	P	P	06 42 57.6	+1.6
	comp=Z,1.1nm,1.0s,mb4.2,baz=331,slow=3.8,SNR=4.6						
HUMO	Hull Mountain	89.43	47	eP	P	06 43 01.6	+1.1
	comp=Z,3.7nm,1.0s,mb4.7						
YBH	Yreka Blue Hor	89.81	48	eP	P	06 43 03.5	+1.2
	comp=Z,4.0nm,1.0s,mb4.7						
KAF	Kangasniemi	91.00	334	ep	P	06 43 06.5	-0.9
	comp=Z,3.6nm,0.8s,mb4.8,baz=61,slow=4.5						
KAF	Kangasniemi	91.00	334	eP	P	06 43 06.5	-0.9
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
FINES	FINESS Array B	91.38	334	P	P	06 43 08.6	-0.5
	comp=Z,1.3nm,0.6s,mb4.5,baz=90,slow=7.6,SNR=11						
MOD	Modoc	91.52	47	eP	P	06 43 11.2	+1.0
	comp=Z,7.0nm,1.3s,mb4.8						
CMB	Columbia Colle	92.46	51	eP	P	06 43 15.4	+0.7
	comp=Z,4.3nm,1.1s,mb4.7						
CMB	Columbia Colle	92.46	51	eP	P	06 43 15.4	+0.7
CMB				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
EDM	Edmonton	92.53	35	eP	P	06 43 15.1	+0.5
PDAR	Pinedale Array	98.77	44	P	P	06 43 43.7	+0.5
	comp=Z,0.4nm,0.8s,mb4.0,baz=304,slow=3.3,SNR=4.1						
LVC	Limon Verde	151.16	119	PKPbc	PKPdf	06 49 59.6	+9.5
	comp=Z,4.0nm,1.0s,baz=284,slow=3.2,SNR=4.6						
LPAZ	La Paz	153.54	106	PKPbc	PKPdf	06 50 04.8	+11
	comp=Z,2.1nm,1.0s,baz=356,slow=5.9,SNR=9.4						

*ATH **03** 06:30:45.3, 38.25N×26.20E, h33km±1km, MD3.1/3*
*ISK **03** 06:30:46.4, 38.37N×26.80E, h22km, MD3.1*
*CSEM **03** 06:30:46.7±0.1, 38.41N×26.85E, h25km, MD3.1, Error ellipse: s-maj=1.8km s-min=1.5km az=121.0*
ISC 03 06:30:45.6±0.5**, 38.38N**±0.03×**26.68E**±0.03**, h7**km±3km**, n20, σ1§02**/32**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.07	254	i P	Pg	06 30 47.8	+0.2
URLA				i S	Sg	06 30 49.8	+0.9
BLCB	Balcova	0.28	89	PG	Pg	06 30 51.1	-0.3
BLCB				SG	Sg	06 30 55.7	+0.5
IZM	Izmir	0.46	88	PG	Pg	06 30 54.9	+0.1
IZM				SG	Sg	06 31 00.8	-0.1
KDAG	Bornova	0.46	87	i P	Pg	06 30 54.0	-0.8
KDAG				i S	Sg	06 31 02.0	+0.9
SMG	Samos	0.68	170	ePN	Pn	06 31 00.0	-1.3
SMG				eSN	Sn	06 31 11.0	-1.2
PRK	Paraskevi	0.92	340	ePN	Pn	06 31 04.1	-0.7
PRK				eSN	Sn	06 31 18.0	-0.3
AYVA	Ayvalik	0.93	0	i P	Pb	06 31 04.2	+0.7
AYVA				i S	Sb	06 31 17.9	+2.1
AKS	Akhisar	1.01	60	ePG	Pg	06 31 04.8	-1.1
AKS				eSG	Sg	06 31 17.7	-1.8
AYDN	Tasoluk	1.19	127	i P	Pb	06 31 08.3	+0.3
AYDN				i S	Sb	06 31 23.9	+0.6
MLSB	Milas	1.39	141	ePN	Pn	06 31 10.5	-0.9
BODT	Bodrum	1.41	159	ePN	Pn	06 31 10.5	-1.2
BDRM	Kayabasi	1.44	155	i P	Pn	06 31 13.2	+1.0
BDRM				i S	Sb	06 31 32.9	+2.1
EZN	Ezine	1.47	349	ePN	Pn	06 31 12.2	-0.4
MANT	Manisa	1.48	85	i P	Pn	06 31 13.9	+1.2
MANT				i S	Sb	06 31 33.6	+1.9
BALB	Balikesir	1.56	36	ePN	Pn	06 31 13.5	-0.4
APE	Apeiranthos	1.60	215	ePN	Pn	06 31 15.0	+0.6
CANB	Canakkale	1.66	10	ePN	Pn	06 31 15.7	+0.4
YER	Yerkesik	1.77	134	ePN	Pn	06 31 15.6	-1.4
DST	Dursunbey	1.95	50	ePN	Pn	06 31 18.2	-1.2
TKTP	Tekketepe	2.88	96	i P	Pn	06 31 41.0	+8.2
TKTP				i S	Sn	06 32 18.9	+11

*IDC **03** 06:31:47.1±1.5, 24.24S×67.04W, h154km±22km, mb4.2/1, mb1 3.6/6, mb1mx3.4/18, mbtmp4.0/6, Error ellipse: s-maj=25.5km s-min=16.6km az=103.0*
*GUC **03** 06:31:48.6±0.8, 24.34S×67.47W, h165km±17km, ML3.5*
ISC 03 06:31:47.1±0.8**, 24.33S**±0.07×**67.3W**±0.1**, h180**km±16km**, n14, σ1§29**/20**, mb4.5**/1**, 5C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.62	331	⇑iP	P	06 32 21.2	+0.6
SPCH				i S	S	06 32 46.6	+0.2
SPCH				AMP		06 32 49.1	
	comp=N,250nm,0.6s						
LVC	Limon Verde	2.24	319	P	P	06 32 28.3	+1.1
	comp=N,12nm,0.3s,baz=142,slow=6.5,SNR=203						
LVC				S	S	06 32 58.0	-0.2
	comp=N,33nm,0.3s,baz=2.6,slow=18,SNR=48						
LVC	Limon Verde	2.24	319	⇑iP	P	06 32 28.3	+1.0
LVC				i S	S	06 32 58.0	-0.2
LVC				AMP		06 33 01.6	
	comp=E,194nm,0.7s						
CPN1	Cerro Paranal	2.81	263	eP	P	06 32 35.0	+1.0
CPN1				i S	S	06 33 09.9	-0.2
CPN1				AMP		06 33 11.9	
	comp=E,283nm,0.5s						
ANCH	Antofagasta	2.88	282	⇑iP	P	06 32 35.9	+1.0
ANCH				i S	S	06 33 10.7	-1.0
CRCH	Chaqaral	3.59	235	⇑iP	P	06 32 44.0	+0.4
CRCH				i S	S	06 33 26.3	-1.0
CPCH	Copiapo	4.06	221	⇑iP	P	06 32 47.0	-2.7
CPCH				i S	S	06 33 34.8	-3.1
CFAA	Coronel Fontan	7.29	186	P	P	06 33 32.8	+0.8
	comp=E,0.0nm,0.3s,baz=5.1,slow=11,SNR=2.1						
LPAZ	La Paz	8.04	355	P	P	06 33 42.0	+0.2
	comp=E,0.6nm,0.3s,baz=185,slow=11,SNR=15						
SIV	San Ignacio	10.17	36	P	P	06 34 06.0	-3.7
	comp=E,0.4nm,0.3s,baz=216,slow=16,SNR=21						
PLCA	Paso Flores	16.58	189	P	P	06 35 32.3	+1.7
	comp=E,0.1nm,0.3s,baz=342,slow=12,SNR=2.4						
BDFB	Brasilia	20.09	68	P	P	06 36 05.4	-3.1
	comp=E,0.6nm,0.3s,baz=242,slow=9.8,SNR=12						
USHA	Ushuaia	30.48	181	P	P	06 37 45.7	+0.7
	comp=E,7.8nm,0.8s,mb4.5,baz=12,slow=19,SNR=8.0						
MKAR	Makanchi Array	146.97	40	PKPbc	PKPbc	06 51 10.2	+2.5
	comp=E,0.2nm,0.5s,baz=311,slow=3.3,SNR=3.9						

IDC 03 06:39:12.9±1.1**, 10.36N**×**138.60E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.7**/17**, mbtmp3.7**/5**, MS4.0**/1**, Ms1 4.0**/1**, ms1mx3.1**/24**, Error ellipse: s-maj=63.7km s-min=24.3km az=88.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOW	Kunigami	19.06	331	LR	LR	06 49 55.1	
	comp=Z,422nm,19.9s,baz=110,slow=34						
WRA	Warramunga Arr	30.41	188	P	P	06 45 26.7	-2.6
	0.5nm,0.6s,baz=3.2,slow=9.6,SNR=12						
STKA	Stephens Creek	42.10	176	P	P	06 47 07.2	-1.3
	1.5nm,0.7s,baz=6.3,slow=9.2,SNR=3.7						
MKAR	Makanchi Array	59.68	319	P	P	06 49 20.1	-1.4
	0.4nm,0.6s,baz=90,slow=8.5,SNR=3.7						
ILAR	Eielson Array	74.09	25	P	P	06 50 50.7	-1.7
	0.3nm,0.8s,baz=241,slow=5.8,SNR=5.2						
FINES	FINESS Array B	91.39	334	P	P	06 52 19.6	-2.2
	0.7nm,0.6s,baz=79,slow=7.1,SNR=4.9						

IDC 03 06:39:33.9±4.2**, 2.47N**×**97.37E, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.5**/17**, mbtmp3.6**/3**, Error ellipse: s-maj=159.9km s-min=30.3km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.57	123	P	P	06 47 31.8	-1.7
	0.3nm,0.4s,baz=301,slow=9.1,SNR=5.3						
SONM	Songino Array	45.86	8	P	P	06 47 57.9	-1.7
	0.3nm,0.4s,baz=202,slow=7.8,SNR=3.2						
MKAR	Makanchi Array	46.06	346	P	P	06 47 59.4	-1.9
	1.0nm,0.7s,baz=162,slow=7.7,SNR=8.9						

*ECX **03** 06:53:52.2±0.5, 32.50N×116.83W, h14km±3km, MD3.8, ML3.9*
*NEIC **03** 06:53:52.2, 32.52N×116.85W, h15km, ML3.9(ECX), ML3.8(PAS), After PAS.*
NEIC Felt at Mexicali and Tijuana. Felt [IV] at Imperial Beach and Tecate; [III] at Alpine, Bonita, Chula Vista, Coronado, El Cajon, Escondido, Fallbrook, Jamul, Lakeside, La Mesa, Lemon Grove, National City, Poway, Ramona, San Diego, Santee, San Ysidro, Spring Valley and Valley Center, California.
*IDC **03** 06:53:52.3±3.7, 32.56N×116.73W, mb1 3.9/3, mb1mx3.5/22, mbtmp3.4/3, ML3.8/2, Error ellipse: s-maj=57.3km s-min=14.9km az=51.0*
ISC 03 06:53:50.8±0.6**, 32.52N**±0.02×**116.88W**±0.05**, h19**km±6km**, n32, σ0§89**/42**, 3C-8D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAR	Barrett	0.24	47	⇑iP	Pb	06 53 56.7	+0.2
BAR				i S	Sb	06 54 00.4	+0.1
BAR	Barrett	0.24	47	⇓eP	Pb	06 53 56.1	-0.4
BAR				eS	Sb	06 53 59.7	-0.6
CBX	Cerro Bola	0.27	138	⇓eP	Pb	06 53 56.9	-0.1
CBX				eS	Sb	06 54 00.6	-0.5
ENX	Ensenada	0.66	164	⇓eP	Pb	06 54 03.7	+0.3
ENX				eS	Sb	06 54 12.1	0.0
ENX				⇑e		06 54 16.8	
	comp=N,6μm,1.1s						
CCX	Cicese	0.67	164	⇓eP	Pb	06 54 04.0	+0.3
CCX				eS	Sb	06 54 12.5	0.0
DVTC	Desert V Tower	0.67	78	⇑iP	Pb	06 54 03.7	0.0
DVTC				eS	Sb	06 54 12.4	-0.1
RMX	La Rumorosa	0.68	83	⇓eP	Pb	06 54 04.5	+0.6
RMX				eS	Sb	06 54 13.0	+0.2
RMX				⇓e		06 54 13.2	
	comp=E,6μm,0.2s						
PBX	Punta Banda	0.78	170	⇓eP	Pb	06 54 05.9	+0.4
ECNX	Esteban Cantu	0.89	164	⇓eP	Pb	06 54 04.0	-3.4
ECNX				eS	Sb	06 54 12.5	-6.3
PFO	Pinyon Flat Ob	1.15	18	eP	Pb	06 54 12.3	+0.6
PFO				eS	Sb	06 54 26.7	+0.4
GLA	Glamis	1.81	72	eP	Pn	06 54 21.2	-0.3
SPX	San Pedro Mart	1.90	140	eP	Pn	06 54 23.6	+0.9
SPX				eS	Sn	06 54 47.0	+0.7
MWC	Mount Wilson	1.97	330	ePn	Pn	06 54 23.8	+0.1
SNCC	San Nicolas Is	2.34	289	ePn	Pn	06 54 28.3	-0.7
GSC	Goldstone	2.78	1	ePn	Pn	06 54 36.4	+1.1
LDFC	Landfair	2.95	30	ePn	Pn	06 54 37.8	0.0
ISA	Isabella	3.41	338	ePn	Pn	06 54 43.7	-0.5
NEN	Nelson	3.55	28	ePn	Pn	06 54 46.5	+0.2
DAC	Darwin (Calif)	3.80	351	ePn	Pn	06 54 50.4	+0.7
MTUM	Tungsten Hills	5.02	344	ePn	Pn	06 55 07.0	-0.1
TUC	Tucson	5.16	91	ePn	Pn	06 55 06.8	-2.3
LRV	Little Rabbit	5.18	320	Pn	Pn	06 55 08.2	-1.2
TPH	Tonopah	5.55	357	Pn	Pn	06 55 15.3	+0.7
ARUT	Antelope Range	5.97	27	Pn	Pn	06 55 18.9	-1.5
NVAR	Mina Array Bea	6.01	349	Pn	Pn	06 55 23.0	+1.9
	baz=173,slow=15						
NVAR				Lg		06 57 00.8	
	baz=172,slow=34,SNR=3.0						
NVAR	Mina Array Bea	6.01	349	Pn	Pn	06 55 23.0	+1.9
NVAR				Lg		06 57 00.8	
MSU	Marysvale	7.11	31	Pn	Pn	06 55 36.3	-0.1
ELK	Elko	8.32	9	Pn	P	06 55 52.3	-1.1
PV01	Paradox Valley	8.80	48	Pn	P	06 55 58.2	-1.9
PDAR	Pinedale Array	11.76	27	Pn	P	06 56 43.8	+3.1
	comp=E,0.0nm,0.3s,baz=215,slow=11,SNR=6.5						
TXAR	Lajitas Array	11.78	102	Pn	P	06 56 41.7	+0.8
	comp=E,0.5nm,0.3s,baz=282,slow=13,SNR=36						
TXAR	Lajitas Array	11.78	102	Pn	P	06 56 41.7	+0.8

*IDC **03** 07:00:14.8±1.1, 15.13N×95.06W, mb3.8/9, mb1 4.1/10, mb1mx3.9/24, mbtmp3.8/10, ML3.5/1, MS4.1/3, Ms1 4.1/3, ms1mx3.4/27, Error ellipse: s-maj=66.2km s-min=16.3km az=58.0*
*NEIC **03** 07:00:16.8±0.5, 15.26N×94.77W, h10km, mb4.1/7, MD4.6(MEX), Error ellipse: s-maj=10.4km s-min=6.8km az=199.0*
*MEX **03** 07:00:20.9±1.1, 15.36N×94.77W, h20km±29km, MD4.6*
ISC 03 07:00:18.5±0.8**, 15.34N**±0.06×**94.78W**±0.03**, h34**km±7km**, n44, σ1§25**/56**, mb3.8**/13**, MS4.1**/3**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.35	289	i P	P	07 00 41.0	-0.2
HUIG				i S	S	07 00 56.7	-1.5
SCX	San Cristobal	2.49	56	i P	P	07 00 59.0	+1.6
SCX				i S	S	07 01 25.0	-1.9
OXX	Oaxaca	2.55	313	i P	P	07 01 00.5	+2.1
VHO	Vista Hermosa	2.55	313	i P	P	07 00 59.9	+1.5
VHO				i S	S	07 01 29.3	+0.7
TUIG	Tuzandepetl	2.70	7	i P	P	07 00 59.5	-1.0
TUIG				eS	S	07 01 31.2	-1.3
CCIG	Comitan	2.71	69	i P	P	07 01 01.4	+0.7
CCIG				i S	S	07 01 32.2	-0.3
PNIG	Pinotepa	3.39	288	i P	P	07 01 10.6	+0.3
PNIG				i S	S	07 01 47.7	-2.3
SCIG		4.98	43	i P	P	07 01 30.9	-2.0
SCIG				i S	S	07 02 26.2	-3.9
RBDL	Robledal	5.07	103	eP	P	07 01 46.9	+13
RTR	El Retiro	5.17	105	eP	P	07 01 47.6	+12
RTR				eS	S	07 02 50.4	+16
ACX	Acapulco	5.17	288	i P	P	07 01 35.0	-0.5
ACX				eS	S	07 02 27.0	-7.8
SNJE	San Jose	5.21	106	eP	P	07 01 47.7	+12
PPM	Popocatepetl	5.22	316	eP	P	07 01 39.0	+2.7
PPM				i S	S	07 02 40.7	+4.5
PLIG	Platanillo	5.45	305	i S	S	07 02 40.7	-1.2
CAIG	El Cayaco	5.54	289	i P	P	07 01 40.7	-0.1
CAIG				i S	S	07 02 42.7	-1.5
CAIG	El Cayaco	5.54	289	i P	P	07 01 40.7	-0.1
CAIG				i S	S	07 02 40.7	-3.5
LFRS	El Faro	5.79	106	eP	P	07 01 58.6	+14
LFRS				eS	S	07 03 05.1	+15
LCBS	La Ceiba	5.86	106	eP	P	07 01 58.9	+14
MOIG	Morelia	7.49	306	i P	P	07 02 08.2	+0.2
MOIG	Morelia	7.49	306	i P	P	07 02 11.1	+3.0
ZAIG	Zacatecas	10.43	316	i P	P	07 02 50.4	+1.5
ZAIG	Zacatecas	10.43	316	i P	P	07 02 51.2	+2.3
TXAR	Lajitas Array	16.16	331	Pn	P	07 04 05.9	+1.2
	0.0nm,0.3s,baz=156,slow=13,SNR=17						
TXAR				LR	LR	07 10 24.3	
	comp=Z,47nm,20.2s,baz=320,slow=38						
MNTX	Cornudas Mount	18.95	331	P	P	07 04 39.6	+0.1
	6.5nm,1.2s						
WMOK	Wichita Mounta	19.65	350	eP	P	07 04 46.3	-1.0
	9.2nm,0.9s						
GOGA	Godfrey	20.71	28	eP	P	07 04 59.9	+1.5
	11nm,1.2s						
ANMO	Albuquerque	22.18	334	P	P	07 05 14.6	+1.4
	2.5nm,0.9s,mb3.6,baz=149,slow=11,SNR=12						
TUC	Tucson	22.31	322	eP	P	07 05 15.3	+0.8
	4.3nm,0.9s,mb3.9						
SDCO	Great Sand Dun	24.26	339	eP	P	07 05 35.1	+1.5
	5.6nm,1.1s,mb3.9						
PV01	Paradox Valley	25.77	334	eP	P	07 05 48.3	+0.3
NEN	Nelson	27.05	322	P	P	07 05 59.5	-0.3
BW06	Boulder Array	30.14	338	P	P	07 06 27.2	-0.2
PDAR	Pinedale Array	30.14	338	P	P	07 06 26.9	-0.5
	0.6nm,0.8s,mb3.4,baz=135,slow=4.2,SNR=6.0						
NVAR	Mina Array Bea	30.96	322	P	P	07 06 35.9	+1.1
	1.2nm,0.9s,mb3.7,baz=135,slow=9.5,SNR=7.6						
SNOW	Snow King Moun	31.18	337	eP	P	07 06 36.6	0.0
	11nm,1.0s,mb4.6						
HLID	Hailey	32.75	333	eP	P	07 06 50.4	0.0
	2.5nm,1.0s,mb4.1						
MCMT	McKenzie Canyo	33.14	336	eP	P	07 06 54.3	+0.5
YBH	Yreka Blue Hor	35.68	323	LR	LR	07 23 42.1	
	comp=Z,148nm,18.3s,MS3.8,baz=165,slow=39						
LPAZ	La Paz	40.98	139	P	P	07 08 00.2	+0.1
	0.4nm,0.7s,mb3.1,baz=304,slow=11,SNR=3.5						
LPAZ				LR	LR	07 23 29.1	
	comp=Z,88nm,20.2s,MS3.6,baz=219,slow=34						
SIV	San Ignacio	45.57	132	P	P	07 08 36.3	-1.1
	1.1nm,1.0s,mb3.7,baz=317,slow=13,SNR=6.9						
INK	Inuvik	58.41	344	P	P	07 10 11.1	-1.8
	0.9nm,0.8s,mb3.9,baz=97,slow=6.7,SNR=3.8						
INK				LR	LR	07 38 43.5	
	comp=Z,708nm,19.4s,MS4.8,baz=102,slow=39						
PLCA	Paso Flores	60.15	159	P	P	07 10 24.6	-0.6
	1.4nm,0.7s,mb4.1,baz=304,slow=6.9,SNR=4.0						
ILAR	Eielson Array	60.57	337	P	P	07 10 25.6	-2.2
	0.6nm,0.9s,mb3.7,baz=154,slow=4.2,SNR=7.6						
EKA	Eskdalemuir Ar	78.45	36	P	P	07 12 21.2	+3.8
	2.5nm,0.9s,mb4.1,baz=264,slow=6.4,SNR=4.5						

KRSC 03 07:06:06.7±0.4**, 49.10N**×**156.44E, h21**km±8km**, ML3.9, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.60	353	eP	Pn	07 06 31.0	-3.2
SKR				i S	Sn	07 06 52.3	-2.0
ALID	Alaid	1.86	342	eP	Pn	07 06 38.9	+1.0
ALID				eS	Sn	07 07 01.4	+0.4
PAU	Pauzhetka	2.38	6	eP	Pn	07 06 45.2	-0.2
PAU				i S	Sn	07 07 12.9	-1.3
PAU				Smax			
	220nm,0.3s						
RUS	Russkaya	3.59	21	eP	Pn	07 07 01.7	-0.8
RUS				i S	Sn	07 07 41.1	-3.7
GRL	Gorelyy	3.61	16	eP	Pn	07 07 02.3	-0.5
GRL				eS	Sn	07 07 41.9	-3.4
APC	Apacha	3.86	6	eP	Pn	07 07 07.7	+1.4
APC				eS	Sn	07 07 51.5	-0.1
PET	Petropavlovsk	4.17	19	eP	Pn	07 07 11.7	+0.9
PET				eS	Sn	07 07 58.1	-1.4
UGLR	Uglovaya	4.38	19	eP	Pn	07 07 15.7	+1.9
UGLR				eS	Sn	07 08 05.2	+0.4
AVH	Avacha	4.41	18	eP	Pn	07 07 15.2	+0.9
AVH				eS	Sn	07 08 03.7	-2.0
KOK	Koryaka	4.42	17	eP	Pn	07 07 14.9	+0.6
KOK				eS	Sn	07 08 04.0	-1.8
SMAR	Somma	4.42	19	eP	Pn	07 07 15.7	+1.3
SMAR				eS	Sn	07 08 05.3	-0.7
SDLR	Sedlovina	4.46	19	eP	Pn	07 07 14.2	-0.7
SDLR				eS	Sn	07 08 03.4	-3.4
SPN	Mys Shipunski	4.60	28	eP	Pn	07 07 17.1	+0.3
SPN				eS	Sn	07 08 07.6	-2.7
GNL	Ganaly	4.70	11	eP	Pn	07 07 18.8	+0.5
GNL				eS	Sn	07 08 11.0	-1.8

*NIED **03** 07:06:00, 45.60N×151.80E, h14km, Mw5.2 Best double couple: M0 7.89×10^16 NP1:φs38°, δ57°, λ73°. NP2:φs247°, δ37°, λ114°.*
*SKHL **03** 07:06:54.3±0.3, 45.40N×152.22E, h37km±3km, mb6.1/7, mbh6.4/3, Ms5.2/6, msh5.5/4*
*CSEM **03** 07:06:56.5, 45.72N×150.82E, h10km, mb5.5*
*BJI **03** 07:06:58.4, 45.68N×151.51E, h30km, mB5.5, mb5.2, Ms5.2, Msz4.9*
*MOS **03** 07:06:59.6±1.0, 45.64N×151.57E, h43km, mb5.3/64, MS5.0/32, Error ellipse: s-maj=7.0km s-min=4.1km az=103.1*
*NEIC **03** 07:07:00.8±0.2, 45.57N×151.75E, mb5.2/114, MS4.8/127, Error ellipse: s-maj=4.9km s-min=2.8km az=172.0*
*HRVD **03** 07:07:00.8±0.2, 45.59N×151.95E, h20km, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s51,c90;Mantle waves: s63,c128; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.64±.02; $M_{\theta\theta}$-0.39±.02; $M_{\phi\phi}$-0.24±.01; $M_{r\theta}$0.21±.03; $M_{\theta\phi}$-0.45±.01; $M_{\phi r}$0.56±.03; Best double couple: M_0.934×10^{17} NP1: ϕ_s250°, δ30°, λ126°. NP2:ϕ_s30°, δ66°, λ71°. Principal axes: T .911, Plg64°, Azm269°; N .046, Plg17°, Azm38°; P -.957, Plg19°, Azm134°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 07:07:02.1±3.2, 45.60N×151.72E, h61km±28km, mb4.2/23, mb1 4.4/25, mb1mx4.4/26, mbtmp4.6/25, ML4.5/2, MS4.8/21, Ms1 4.8/21, ms1mx4.6/37 Error ellipse: s-maj=15.2km s-min=12.0km az=153.0*
ISC 03 07:06:59.6±0.2**, 45.54N**±0.04×**151.74E**±0.03**, h49**km**, h49**km±2.4km**:pP-P, n641, σ1§04**/565**, mb5.1**/163**, MS4.8**/165**, 63C-13D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.74	265	eP	P	07 07 39.0	-3.2
KUR				i P		07 07 39.0	
KUR				AMB	AMB	07 07 42.0	
	3μm,2.0s						
KUR				AMB	AMB	07 07 42.0	
	10μm,2.0s						
KUR				AMB	AMB	07 07 42.0	
	8μm,2.0s						
KUR				AMB	AMB	07 07 44.2	
	270nm,0.6s						
KUR				AMB	AMB	07 07 44.2	
	230nm,0.6s						
KUR				AMB	AMB	07 07 44.2	
	760nm,0.6s						
KUR				i S	S	07 08 12.3	-2.1
KUR				A		07 08 21.2	
	14μm,1.0s						
KUR				A		07 08 21.2	
	7μm,1.0s						
KUR				A		07 08 48.0	
	46μm,2.0s						
KUR				A		07 08 48.0	
	22μm,2.0s						
KUR	Kuril'sk	2.74	265	⇑iPN	P	07 07 39.0	-3.2
KUR				i S	S	07 08 12.3	-2.1
KUR				pmax	pmax		
	comp=N,3μm,2.0s						
KUR				pmax	pmax		
	comp=E,10μm,2.0s						
KUR				pmax	pmax		
	comp=Z,8μm,2.0s						

KUR pmax pmax
comp=N,270nm,0.6s
KUR pmax pmax
comp=E,230nm,0.6s
KUR pmax pmax
comp=Z,760nm,0.6s
KUR smax
comp=N,14μm,1.0s
KUR smax
comp=E,7μm,1.0s
YUK Yuzh-Kuril'sk 4.45 252 *e*P **P 07 08 03.5 -2.8**
YUK AMB AMB 07 08 08.8
comp=E,2μm,3.0s
YUK AMB AMB 07 08 08.8
comp=E,5μm,3.0s
YUK AMB AMB 07 08 08.8
comp=E,5μm,3.0s
YUK *i* S **S** **07 09 01.0 +3.7**
YUK A 07 09 06.5
comp=E,2μm,0.5s
YUK A 07 09 06.5
comp=E,4μm,0.5s
YUK A 07 09 10.0
comp=E,15μm,1.0s
YUK A 07 09 10.0
comp=E,20μm,2.0s
YUK Yuzh-Kuril'sk 4.45 252 *e*PN **P 07 08 03.5 -2.8**
YUK *i* S **S** **07 09 01.0 +3.7**
YUK pmax pmax
comp=E,5μm,2.0s
YUK pmax pmax
comp=Z,5μm,2.0s
YUK pmax pmax
comp=N,2μm,3.0s
YUK smax
comp=N,2μm,0.5s
YUK smax
comp=E,4μm,0.5s
YUK smax
comp=N,20μm,2.0s
YUK smax
comp=E,15μm,1.0s
SKR Severo-Kuril's 5.92 28 *e*P **P 07 08 22.0 -4.8**
SKR AMB AMB 07 08 26.9
comp=E,2μm,4.0s
SKR AMB AMB 07 08 26.9
comp=E,2μm,4.0s
SKR AMB AMB 07 08 26.9
comp=E,1μm,4.0s
SKR AMB AMB 07 08 26.9
comp=E,150nm,0.5s
SKR AMB AMB 07 08 26.9
comp=E,230nm,0.5s
SKR AMB AMB 07 08 26.9
comp=E,390nm,0.5s
SKR sP 07 08 36.5
SKR ⇓*e*S **S** **07 09 28.0 -6.3**
SKR A 07 09 41.0
comp=E,3μm,9.0s
SKR A 07 09 41.0
comp=E,5μm,9.0s
SKR A 07 09 41.0
comp=E,3μm,9.0s
SKR A 07 09 41.0
comp=E,4μm,9.0s
SKR A 07 09 41.0
comp=E,5μm,9.0s
SKR A 07 09 41.0
comp=E,3μm,9.0s
SKR A 07 09 58.5
comp=E,2μm,0.2s
SKR A 07 09 58.5
comp=E,900nm,0.2s
SKR A 07 09 58.5
comp=E,600nm,0.2s
SKR AMS AMS 07 11 03.0
comp=E,5μm,13.0s
SKR AMS AMS 07 11 03.0
comp=E,14μm,13.0s
SKR AMS AMS 07 11 03.0
comp=E,9μm,13.0s
SKR AMS AMS 07 11 03.0
comp=E,5μm,13.0s
SKR AMS AMS 07 11 03.0
comp=E,14μm,13.0s
SKR AMS AMS 07 11 03.0
comp=E,9μm,13.0s
SKR Severo-Kuril's 5.92 28 *e*PN **P 07 08 22.0 -4.8**
SKR pmax pmax
comp=N,150nm,0.5s
SKR pmax pmax
comp=E,230nm,0.5s
SKR pmax pmax
comp=Z,390nm,0.5s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR MLR MLR
comp=Z,9μm,12.0s
SKR MLR MLR
comp=N,5μm,14.0s
SKR MLR MLR
comp=E,14μm,14.0s
YSS Yuzh-Sakhalins 6.39 286 *i* P **P 07 08 34.2 +0.8**
YSS *i* P 07 08 34.2
YSS AMB AMB 07 08 36.6
comp=E,170nm,1.0s
YSS AMB AMB 07 08 38.0
comp=E,800nm,4.0s
YSS AMB AMB 07 08 38.0
comp=E,1μm,4.0s
YSS pP 07 08 44.6
YSS sP 07 08 48.0
YSS *i* S **S** **07 09 47.5 +1.6**
YSS A 07 09 52.0
comp=E,280nm,0.7s
YSS AMS AMS 07 11 00.0
comp=E,17μm,17.0s
YSS AMS AMS 07 11 00.0
comp=E,14μm,17.0s
YSS AMS AMS 07 11 00.0
comp=E,8μm,16.0s
YSS AMS AMS 07 11 00.0
comp=E,20μm,16.0s
YSS AMS AMS 07 11 00.0
comp=E,10μm,16.0s
YSS AMS AMS 07 11 00.0
comp=E,15μm,16.0s
YSS Yuzh-Sakhalins 6.39 286 *e*P **P 07 08 33.2 -0.2**
comp=E,156nm,0.4s
YSS Yuzh-Sakhalins 6.39 286α *i*PN **P 07 08 34.2 +0.8**
YSS *i* S **S** **07 09 47.5 +1.6**
YSS pmax pmax
comp=Z,170nm,1.0s
YSS pmax pmax
comp=E,1μm,4.0s
YSS pmax pmax
comp=Z,800nm,4.0s
YSS smax
comp=E,300nm,0.7s
YSS MLR MLR
comp=N,8μm,16.0s
YSS MLR MLR
comp=E,14μm,17.0s
YSS MLR MLR
comp=Z,17μm,17.0s
ASAJ Asahikawa 6.65 261 P **P 07 08 37.4 +0.2**
comp=Z,15nm,0.3s,baz=88,slow=15,SNR=25
ASAJ S **S** **07 10 05.7 +13**
comp=Z,4.1nm,0.3s,baz=149,slow=12,SNR=1.8
ASAJ LR LR 07 11 22.4
comp=Z,12μm,18.5s,baz=74,slow=39
UGL Uglegorsk 7.46 302 ⇓*i*P **P 07 08 51.0 +2.6**
UGL *e*P 07 08 51.0
UGL AMB AMB 07 08 51.3
comp=Z,54nm,0.5s
UGL *e*S **S** **07 10 13.7 +1.1**
UGL A 07 10 17.5
comp=Z,241nm,0.8s
UGL A 07 10 17.5
comp=Z,591nm,0.8s
UGL AMS AMS 07 11 47.0
comp=Z,6μm,15.0s
UGL AMS AMS 07 11 47.0
comp=Z,18μm,15.0s
UGL AMS AMS 07 11 47.0
comp=Z,19μm,15.0s
UGL Uglegorsk 7.46 302 ⇓*i*PN **P 07 08 51.0 +2.6**
UGL *e*S **S** **07 10 13.7 +1.1**
UGL pmax pmax
comp=Z,54nm,0.5s
UGL smax
comp=N,241nm,0.8s
UGL smax
comp=E,591nm,0.8s
UGL MLR MLR
comp=N,6μm,15.0s
UGL MLR MLR
comp=E,18μm,15.0s
UGL MLR MLR
comp=Z,19μm,15.0s
TYV Tymovskoe 8.07 315⇑*e*P **P 07 08 54.2 -2.6**
TYV AMB AMB 07 08 58.0
comp=Z,1μm,3.0s
TYV AMB AMB 07 08 58.0
comp=Z,36nm,0.7s
TYV *e*S **S** **07 10 27.0 -0.6**
TYV A 07 10 28.0
comp=Z,600nm,2.0s
TYV A 07 10 29.5
comp=Z,104nm,0.7s
TYV A 07 10 29.5
comp=Z,80nm,0.7s
TYV AMS AMS 07 12 17.0
comp=Z,6μm,15.0s
TYV AMS AMS 07 12 17.0
comp=Z,16μm,17.0s
TYV AMS AMS 07 12 17.0
comp=Z,9μm,16.0s
PET Petropavlovsk 8.74 29 *e*P **P 07 09 04.0 -2.1**
comp=E,86nm,0.8s
PET Petropavlovsk 8.74 29 *e*PN **P 07 09 07.2 +1.1**
PET MLR MLR
comp=Z,3μm,15.0s
PET MLR MLR
comp=Z,3μm,16.0s
OKH Okha 9.84 328 AMS AMS 07 13 58.4
comp=Z,6μm,13.0s
OKH AMS AMS 07 13 58.4
comp=Z,7μm,15.0s
OKH AMS AMS 07 13 58.4
comp=Z,8μm,15.0s
NKL Nikolayevsk 10.48 321 *e*P **P 07 09 24.0 -5.8**
NKL AMB AMB 07 09 28.0
comp=Z,2μm,3.0s
NKL AMB AMB 07 09 28.0
comp=Z,900nm,5.0s
NKL AMB AMB 07 09 29.0
comp=Z,2μm,2.5s
NKL AMB AMB 07 09 29.0
comp=Z,500nm,2.2s
NKL AMS AMS 07 13 58.0
comp=Z,4μm,17.0s
NKL AMS AMS 07 13 58.0
comp=Z,10μm,17.0s
NKL AMS AMS 07 13 58.0
comp=Z,4μm,20.0s
TEY Ternei 10.68 273 *e*P **P 07 09 31.5 -1.1**
TEY AMS AMS 07 13 44.0
comp=Z,4μm,18.0s
TEY AMS AMS 07 13 44.0
comp=Z,5μm,18.0s
TEY AMS AMS 07 13 44.0
comp=Z,9μm,18.0s
GRNR Gornyy 11.48 303 *e*P **P 07 09 40.0 -3.4**
GRNR AMB AMB 07 09 44.0
comp=Z,160nm,1.0s
GRNR AMB AMB 07 09 44.0
comp=Z,320nm,1.0s
GRNR AMB AMB 07 09 44.0
comp=Z,250nm,1.0s
MAJO Matsushiro 13.59 233 *e*P **P 07 10 06.9 -4.5**
comp=Z,43nm,0.8s
MAJO Matsushiro 13.59 233 *e*P **P 07 10 06.9 -4.5**
MAJO pmax pmax
comp=Z,43nm,0.8s
MAT Matsushiro 13.59 233 P **P 07 10 10.7 -0.7**
MAT S **S** **07 12 41.1 -0.6**
MAT Matsushiro 13.59 233 *e*P **P 07 10 11.0 -0.4**
comp=Z,6.8nm,0.7s
MAT *e*S **S** **07 12 48.0 +6.3**
MAT Matsushiro 13.59 233 *e*P **P 07 10 11.0 -0.4**
MAT *e*S **S** **07 12 48.0 +6.3**
MAT pmax pmax
comp=Z,7.0nm,0.7s
KLR Kul'dur 14.03 292 *e*P **P 07 10 15.3 -1.7**
KLR AMB AMB 07 10 21.2
comp=Z,240nm,1.2s
KLR AMB AMB 07 10 21.2
comp=Z,73nm,1.2s
KLR *e*rx rx 07 16 02.5
KLR Kul'dur 14.03 292 *e*P **P 07 10 15.3 -1.7**
KLR pmax pmax
comp=E,240nm,1.2s
KLR pmax pmax
comp=E,73nm,1.2s
KLR MLR MLR
comp=E,6μm,16.0s
MA2 Magadan 14.07 358 *e*P **P 07 10 16.1 -1.4**
comp=E,59nm,0.9s
MA2 Magadan 14.07 358 *e*P **P 07 10 18.5 +1.0**
MA2 pmax pmax
comp=Z,30nm,0.8s
MA2 pmax pmax
comp=N,30nm,1.1s
EKMR Ekimchan 14.36 308 *e*P **P 07 10 17.3 -4.0**
EKMR AMB AMB 07 10 30.0
comp=N,21nm,0.8s
EKMR AMB AMB 07 10 30.0
comp=N,16nm,0.8s
EKMR AMB AMB 07 10 30.0
comp=N,45nm,0.8s
MDJ Mudanjiang 15.67 275 P **P** **07 10 36.6 -1.8**
MDJ S **S** **07 13 28.9 -1.6**
MDJ PCP PcP 07 15 37.3 -0.6
MDJ SCP 07 19 07.7
MDJ PCS 07 19 12.6
MDJ SCS ScS 07 22 46.6 +2.7
MDJ AMB AMB
comp=Z,69nm,1.2s
MDJ AMB AMB
comp=Z,564nm,9.1s
MDJ LR LR
comp=N,1μm,13.1s
MDJ LR LR
comp=E,4μm,15.3s
MDJ LR LR
comp=Z,6μm,16.4s
MDJ Mudanjiang 15.67 275 *e*P **P 07 10 36.9 -1.4**
comp=Z,110nm,1.0s
FX1 Attu Island--F 15.77 55 P **P 07 10 39.0 -0.6**
comp=Z,4.1nm,0.3s,baz=333,slow=7.2,SNR=12
FX1 S **S** **07 13 18.5 -14**
comp=Z,1.6nm,0.3s,baz=94,slow=18,SNR=2.9
FX1 Attu Island--F 15.77 55 *e*P **P 07 10 38.0 -1.6**
YASR Yasnyy 17.23 305 *e*P **P 07 10 54.4 -3.6**
YASR AMB AMB 07 11 01.5
comp=Z,8.0nm,0.9s
YASR AMB AMB 07 11 01.5
comp=Z,40nm,0.9s
YASR AMB AMB 07 11 01.5
comp=Z,60nm,0.9s
BMKR Bomnak 17.24 310 *e*P **P 07 10 55.0 -3.1**
BMKR AMB AMB 07 11 02.5
comp=Z,440nm,1.1s
SEY Seymchan 17.43 1 *i*P **P 07 10 59.0 -1.5**
ZEA Zeya 17.78 306 *e*P **P 07 11 00.5 -4.4**
ZEA AMB AMB 07 11 05.0
comp=Z,300nm,6.0s
ZEA AMB AMB 07 11 05.0
comp=Z,1μm,6.0s
ZEA AMB AMB 07 11 05.0
comp=Z,1μm,6.0s
ZEA AMB AMB 07 11 06.9
comp=Z,130nm,1.3s
ZEA AMB AMB 07 11 06.9
comp=Z,190nm,1.3s
ZEA AMB AMB 07 11 06.9
comp=Z,250nm,1.3s
ZEA sP 07 11 19.0
ZEA *e*S **S** **07 14 20.0 +1.3**
ZEA A 07 14 29.0
comp=Z,900nm,9.0s
ZEA AMS AMS 07 18 18.0
comp=Z,2μm,16.0s
ZEA AMS AMS 07 18 18.0
comp=Z,5μm,16.0s
ZEA AMS AMS 07 18 18.0
comp=Z,7μm,16.0s
KROS Kirovskiy 18.16 308 *i*P **P 07 11 07.5 -2.1**
KROS AMB AMB 07 11 12.8
comp=Z,50nm,0.9s
KROS AMB AMB 07 11 12.8
comp=Z,60nm,0.9s
KROS AMB AMB 07 11 12.8
comp=Z,70nm,0.9s
KROS pP 07 11 15.9
CN2 Changchun 18.75 274 *e*P **P 07 11 14.0 -2.8**
CN2 *e*XP 07 11 30.3
CN2 AMB AMB
comp=Z,70nm,0.8s
CN2 AMB AMB
comp=Z,700nm,8.0s
CN2 LR LR
comp=N,2μm,16.0s
CN2 LR LR
comp=E,6μm,16.0s
CN2 LR LR
comp=Z,6μm,18.0s
KS15 Wonju Array Si 19.56 254 *e*P **P 07 11 24.0 -2.0**
CLNS Chul'man 20.12 314 *e*P **P 07 11 28.9 -2.9**
CLNS *e*S **S** **07 15 02.9 -7.1**
CLNS pmax pmax
comp=Z,52nm,0.7s
CLNS pmax pmax
comp=N,22nm,0.8s
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS smax
comp=E,53nm,1.4s
CLNS smax
comp=Z,25nm,0.9s
CLNS smax
comp=N,37nm,1.2s
CLNS MLR MLR
comp=Z,6μm,15.0s,MS5.0
CLNS MLR MLR
comp=N,5μm,16.0s,MS5.0
CLNS MLR MLR
comp=E,4μm,16.0s,MS5.0
JNU Nakatsue 20.28 240 P **P 07 11 34.5 +0.9**
comp=E,22nm,0.7s,baz=72,slow=12,SNR=9.1
JNU LR LR 07 20 01.8
comp=E,3μm,20.6s,MS4.6,baz=35,slow=38
INCN Inchon 20.39 256 *e*P **P 07 11 34.8 +0.1**
comp=E,119nm,0.9s
INCN LR LR
comp=Z,2μm,19.0s,MS4.6
SNY Shenyang 20.65 270 ⇑P **P 07 11 36.1 -1.3**
SNY S **S** **07 15 28.3 +7.9**
SNY AMB AMB
comp=Z,90nm,1.6s
SNY AMB AMB
comp=Z,770nm,8.8s
SNY LR LR
comp=E,4μm,14.7s
SNY LR LR
comp=Z,5μm,14.7s,MS5.0
YAK Yakutsk 20.86 330 *e*P **P 07 11 36.0 -3.3**
comp=Z,342nm,0.9s
YAK LR LR
comp=Z,2μm,20.0s,MS4.4
YAK Yakutsk 20.86 330 *e*P **P 07 11 44.2 +4.9**
YAK *e* 07 11 59.0
YAK *e*S **S** **07 15 23.3 -0.9**
YAK pmax pmax
comp=Z,173nm,1.0s
YAK pmax pmax
comp=N,88nm,1.2s
YAK pmax pmax
comp=E,109nm,1.2s
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=N,58nm,1.2s
YAK pmax pmax
comp=E,74nm,1.1s
YAK smax
comp=N,18nm,1.1s
YAK smax
comp=Z,17nm,1.3s
YAK smax
comp=E,31nm,1.0s
YAK MLR MLR
comp=Z,875nm,18.0s,MS4.2
YAK MLR MLR
comp=N,2μm,15.0s,MS4.6
YAK MLR MLR
comp=E,1μm,16.0s,MS4.6
HIA Hailar 21.88 291 *e*P **P 07 11 48.8 -0.9**
comp=E,35nm,1.0s,mb4.7
HIA LR LR
comp=Z,5μm,19.0s,MS5.0
HIA Hailar 21.88 291 *e*P **P 07 11 48.8 -0.9**
HIA pmax pmax
comp=Z,35nm,1.0s
HIA MLR MLR
comp=Z,5μm,19.0s
DL2 Dalian 23.17 264 P **P 07 12 02.7 +0.3**
DL2 XP 07 12 18.4
DL2 S **S** **07 16 14.6 +8.1**
DL2 AMB AMB
comp=Z,40nm,1.2s,mb4.7
DL2 AMB AMB
comp=Z,380nm,5.7s
DL2 LR LR
comp=N,580nm,15.0s,MS4.3
DL2 LR LR
comp=E,520nm,14.1s,MS4.3
DL2 LR LR
comp=Z,730nm,16.6s,MS4.2
BILL Bilibino 23.79 14 PFAKE 07 12 20.0 +12
BILL LR LR
comp=Z,3μm,19.0s,MS4.8
BILL Bilibino 23.79 14 *i*P **P 07 12 08.4 +0.4**
BILL *e* 07 12 35.6
BILL *e*SS SS 07 17 03.6 -5.5
BILL pmax pmax
comp=Z,26nm,0.8s,mb4.7
BILL MLR MLR
comp=Z,5μm,17.0s,MS5.0
CIT Chita 25.75 298 *e*P **P 07 12 26.6 -0.4**
CIT pmax pmax
comp=Z,58nm,1.5s,mb4.9
BOD Bodaibo 26.05 312 *e*P **P 07 12 25.7 -4.0**
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.4
SSE Sheshan 27.77 249 P **P 07 12 43.1 -2.7**
SSE AP pP 07 12 59.3 +0.9
SSE S **S** **07 17 20.6 -2.8**
SSE PCS 07 19 40.5
SSE AMB AMB
comp=Z,56nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,600nm,6.8s
SSE LR LR
comp=N,1μm,23.1s,MS4.6
SSE LR LR
comp=E,1μm,23.1s,MS4.6
SSE LR LR
comp=Z,1μm,19.3s,MS4.5
SSE Sheshan 27.77 249 P **P 07 12 43.1 -2.7**
comp=Z,56nm,0.7s,mb5.3
SSE pP pP 07 12 59.3 +0.9
SSE sP sP 07 13 07.4 +2.9
SSE S **S** **07 17 20.6 -2.8**
SSE sS 07 17 49.8
SSE PcS 07 19 40.5
SSE LR LR
comp=Z,1μm,19.3s,MS4.5
UNV Unalaska Valle 27.91 57 PFAKE 07 13 00.0 +13
UNV LR LR
comp=Z,2μm,20.0s,MS4.8
TIXI Tiksi 28.37 345 PFAKE 07 13 00.0 +9.2
TIXI LR LR
comp=Z,2μm,19.0s,MS4.7
TIXI Tiksi 28.37 345 *e*P **P 07 12 44.7 -6.1**
TIXI *e*S **S** **07 17 26.5 -6.0**
TIXI pmax pmax

TIXI MLR MLR
comp=Z,18nm,1.4s,mb4.5
comp=Z,1μm,14.0s,MS4.7
NJ2 Nanjing 28.73 254 *e*P **P** **07 12 55.9 +1.5**
NJ2 AP pP 07 13 07.5 +0.5
NJ2 PP PP 07 13 50.4 +2.1
NJ2 S **S** **07 17 41.0 +2.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,482nm,4.2s
NJ2 LR LR
comp=N,8μm,21.1s,MS5.4
NJ2 LR LR
comp=E,7μm,20.2s,MS5.4
NJ2 LR LR
comp=Z,4μm,15.8s,MS5.1
WAKE Wake Island 28.96 150 PFAKE 07 13 10.0 +14
WAKE LR LR
comp=Z,1μm,21.0s,MS4.5
HHC Hu-ho-hao-te 29.44 275 ⇑P **P** **07 13 00.8 +0.2**
HHC AP pP 07 13 12.7 -0.6
HHC XP sP 07 13 18.2 -1.2
HHC PP PP 07 13 58.2 +0.8
HHC PCP PcP 07 16 06.6 +1.0
HHC S **S** **07 17 47.6 -2.2**
HHC XS 07 18 08.4
HHC SS SS 07 19 20.9 -3.8
HHC SCP 07 19 43.1
HHC PCS 07 19 49.3
HHC SCS ScS 07 23 37.0 +1.9
HHC AMB AMB
comp=Z,76nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,410nm,6.1s
HHC LR LR
comp=N,1μm,13.5s,MS5.3
HHC LR LR
comp=E,5μm,12.5s,MS5.3
HHC LR LR
comp=Z,5μm,14.6s,MS5.3
TNA Tin City 29.57 33 PFAKE 07 13 10.0 +8.6
TNA LR LR
comp=Z,978nm,20.0s,MS4.4
MIDW Midway 29.91 115 PFAKE 07 13 20.0 +15
MIDW LR LR
comp=Z,1μm,19.0s,MS4.6
ULN Ulaanbaatar 30.41 291 PFAKE 07 13 20.0 +11
ULN LR LR
comp=Z,3μm,20.0s,MS5.0
ULN Ulaanbaatar 30.41 291 *i* P **P** **07 13 07.8 -1.3**
SONM Songino Array 30.85 291 P **P** **07 13 12.2 -0.8**
comp=Z,6.8nm,0.8s,mb4.5,baz=75,slow=7.4,SNR=44
SONM LR LR 07 26 41.4
comp=Z,4μm,18.1s,MS5.1,baz=80,slow=38
TATO Taipei 31.82 240 PFAKE 07 13 30.0 +8.2
TATO LR LR
comp=Z,3μm,19.0s,MS5.0
ZAK Zakamensk 32.34 296 *e*P **P** **07 13 23.5 -2.5**
ZAK *e* 07 16 15.8
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
SVW2 Sparrevohn 34.02 44 *e*P **P** **07 13 41.5 +1.0**
XAN Xi'an 34.47 266 P **P** **07 13 44.2 -0.4**
XAN AP pP 07 13 49.6 -8.0
XAN AMB AMB
comp=Z,43nm,1.5s,mb5.2
IMA Indian Mountai 35.35 35 *e*P **P** **07 13 52.4 +0.6**
KDAK Kodiak Island 35.61 49 *e*P **P** **07 13 52.1 -2.0**
comp=Z,54nm,0.9s,mb5.5
KDAK LR LR
comp=Z,384nm,21.0s,MS4.1
SPU Mount Spurr 35.74 44 *e*P **P** **07 13 54.5 -0.6**
ENH Enshi 36.21 260 *e*P **P** **07 13 57.8 -1.6**
comp=Z,97nm,1.3s,mb5.6
ENH LR LR
comp=Z,1μm,19.0s,MS4.8
FIB Fire Island 36.65 44 PFAKE 07 14 10.0 +7.2
FIB LR LR
comp=Z,2μm,20.0s,MS4.8
LZH Lanzhou 36.98 272 ⇑*i*P **P** **07 14 07.0 +1.2**
LZH AP pP 07 14 20.3 +1.4
LZH PP PP 07 15 33.2 +0.3
LZH S **S** **07 19 46.9 -0.2**
LZH XS 07 20 09.3
LZH SS SS 07 22 17.5 -0.7
LZH AMB AMB
comp=Z,66nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,271nm,6.4s
LZH LR LR
comp=E,1μm,12.8s
LZH LR LR
comp=Z,2μm,17.0s,MS4.9
LZH Lanzhou 36.98 272 ⇑*i*P **P** **07 14 07.0 +1.2**
comp=Z,66nm,1.5s,mb5.2
LZH pP pP 07 14 20.3 +1.4
LZH sP sP 07 14 26.1 +1.1
LZH PP PP 07 15 33.2 +0.3
LZH S **S** **07 19 46.9 -0.2**
LZH sS 07 20 09.3
LZH SS SS 07 22 17.5 -0.7
LZH LR LR
comp=Z,2μm,17.0s,MS4.9
LZH Lanzhou 36.98 272 ⇑*i*P **P** **07 14 07.0 +1.2**
LZH *PP pP 07 14 20.3 +1.4
LZH *SP sP 07 14 26.1 +1.1
LZH 07 15 33.2
LZH S **S** **07 19 46.9 -0.2**
LZH *SS 07 20 09.3
LZH SS SS 07 22 17.5 -0.7
LZH pmax pmax
comp=Z,66nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,2μm,17.0s,MS4.9
PMR Palmer 37.13 43 PFAKE 07 14 20.0 +13
PMR LR LR
comp=Z,1μm,19.0s,MS4.6
MCK McKinley 37.19 39 *e*P **P** **07 14 05.3 -2.1**
comp=Z,4.9nm,0.9s,mb4.3
MCK LR LR
comp=Z,721nm,19.0s,MS4.5
MCK McKinley 37.19 39 P **P** **07 14 08.6 +1.3**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
SML Sawmill 37.51 42 *e*P **P** **07 14 08.4 -1.5**
SML Sawmill 37.51 42 P **P** **07 14 09.6 -0.4**
KRAR Krasnoyarsk 37.56 308 *e*P **P** **07 14 07.2 -3.3**
KRAR *e* 07 15 33.5
KRAR *e* 07 16 24.0
ILAR Eielson Array 38.09 38 P **P** **07 14 13.5 -1.3**
comp=Z,6.9nm,1.1s,mb4.3,baz=267,slow=8.0,SNR=15
GTA Gaotai 38.22 280 ⇑P **P** **07 14 16.9 +0.7**
GTA AP pP 07 14 29.0 -0.3
GTA XP sP 07 14 34.1 -1.2
GTA PP PP 07 15 47.8 +0.3
GTA PPP PPP 07 16 11.8 +1.4
GTA PCP PcP 07 16 31.8 +1.4
GTA S **S** **07 20 07.5 +1.5**
GTA SCP 07 20 15.2
GTA PCS 07 20 18.2
GTA XS 07 20 27.3
GTA SS SS 07 22 47.2 +0.7
GTA SCS ScS 07 24 25.4 +4.4
GTA AMB AMB
comp=Z,104nm,1.2s,mb5.4
GTA AMB AMB
comp=Z,587nm,7.2s
GTA LR LR
comp=N,1μm,15.6s,MS5.2
GTA LR LR
comp=E,2μm,14.1s,MS5.2
GTA LR LR
comp=Z,3μm,14.1s,MS5.3
GZH Guangzhou 38.32 247 P **P** **07 14 17.0 -0.1**
GZH S **S** **07 20 09.1 +1.5**
GZH LR LR
comp=N,2μm,21.8s,MS5.0
GZH LR LR
comp=E,764nm,20.8s,MS5.0
GZH LR LR
comp=Z,2μm,23.3s,MS4.7
DIV Divide 38.78 43 *e*P **P** **07 14 20.2 -0.4**
comp=Z,24nm,0.7s,mb5.0
DIV LR LR
comp=Z,2μm,19.0s,MS5.0
KWAJ Kwajalein Atol 39.08 155 PFAKE 07 14 40.0 +16
KWAJ LR LR
comp=Z,331nm,21.0s,MS4.1
MENT Mentasta 39.58 40 *e*P **P** **07 14 28.7 +1.5**
CD2 Chengdu 39.83 266 P **P** **07 14 30.1 +0.5**
CD2 AP pP 07 14 42.7 -0.1
CD2 PP PP 07 16 01.2 -4.2
CD2 PPP PPP 07 16 28.2 -3.1
CD2 S **S** **07 20 29.7 -0.6**
CD2 XS 07 20 47.1
CD2 AMB AMB
comp=Z,60nm,1.5s,mb5.1
CD2 LR LR
comp=N,720nm,15.0s
CD2 LR LR
comp=Z,1μm,16.2s,MS4.9
GYA Guiyang 40.52 258 ⇑*i*P **P** **07 14 35.2 -0.2**
GYA AP pP 07 14 47.4 -1.2
GYA XP sP 07 14 52.9 -1.6
GYA PP PP 07 16 12.7 +0.2
GYA PCP PcP 07 16 38.3 +0.5
GYA SCP 07 20 21.7
GYA S **S** **07 20 42.7 +2.0**
GYA XS 07 21 01.4
GYA SS SS 07 23 37.8 +1.1
GYA SCS ScS 07 24 35.3 +0.7
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,240nm,6.6s
GYA LR LR
comp=N,1μm,17.0s,MS4.9
GYA LR LR
comp=E,1μm,17.0s,MS4.9
GYA LR LR
comp=Z,1μm,18.5s,MS4.8
ZAL Zalesovo 42.56 306 P **P** **07 14 51.3 -0.5**
comp=Z,1.9nm,0.5s,mb4.1,baz=61,slow=7.1,SNR=3.8
ZAL LR LR 07 34 45.2
comp=Z,3μm,21.7s,MS5.1,baz=45,slow=39
NVS Novosibirsk 43.17 308 *e*P **P** **07 14 55.1 -1.7**
NVS *e*PPP PPP 07 16 39.3 -36
NVS *e* 07 24 52.4
NVS pmax pmax
comp=Z,29nm,2.3s,mb4.6
NVS pmax pmax
comp=E,37nm,2.5s
INK Inuvik 43.18 32 P **P** **07 14 56.5 -0.2**
comp=E,8.6nm,0.7s,mb4.6,baz=299,slow=8.1,SNR=20
INK Inuvik 43.18 32 *e*P **P** **07 14 55.6 -1.0**
comp=E,23nm,0.9s,mb4.9
INK Inuvik 43.18 32 P **P** **07 14 56.6 -0.1**
INK pmax pmax
comp=Z,23nm,1.0s
QIZ Qiongzhong 43.49 247 P **P** **07 15 02.7 +2.9**
QIZ S **S** **07 21 28.3 +3.8**
QIZ LR LR
comp=N,905nm,20.3s,MS4.9
QIZ LR LR
comp=E,1μm,20.3s,MS4.9
QIZ LR LR
comp=Z,1μm,16.9s,MS4.9
QIZ Qiongzhong 43.49 247 PFAKE 07 15 10.0 +10
QIZ LR LR
comp=Z,1μm,21.0s,MS4.8
KMI Kunming 44.08 260 P **P** **07 15 04.6 +0.1**
KMI AP pP 07 15 16.5 -1.3
KMI XP sP 07 15 21.2 -2.4
KMI PP PP 07 16 50.8 +1.7
KMI SCP 07 20 33.8
KMI PCS 07 20 38.5
KMI S **S** **07 21 38.5 +5.5**
KMI SCS ScS 07 24 55.7 -0.5
KMI AMB AMB
comp=Z,28nm,2.0s,mb4.7
KMI AMB AMB
comp=Z,406nm,5.0s
KMI LR LR
comp=N,1μm,18.6s,MS4.9
KMI LR LR
comp=E,859nm,17.3s,MS4.9
KMI LR LR
comp=Z,1μm,18.6s,MS4.8
KMI Kunming 44.08 260 P **P** **07 15 04.6 +0.1**
comp=Z,28nm,2.0s,mb4.7
KMI pP pP 07 15 16.5 -1.3
KMI sP sP 07 15 21.2 -2.4
KMI PP PP 07 16 50.8 +1.7
KMI ScP 07 20 33.8
KMI PcS 07 20 38.5
KMI S **S** **07 21 38.5 +5.5**
KMI sS 07 21 58.8
KMI SS SS 07 24 51.8 +8.9
KMI ScS ScS 07 24 55.7 -0.5
KMI SSS SSS 07 25 51.2 +12
KMI LR LR
comp=Z,1μm,18.6s,MS4.8
KMI Kunming 44.08 260 P **P** **07 15 04.6 +0.1**
KMI *PP pP 07 15 16.5 -1.3
KMI *SP sP 07 15 21.2 -2.4
KMI 07 16 50.8
KMI S **S** **07 21 38.5 +5.5**
KMI *SS 07 21 58.8
KMI 07 24 55.7
KMI pmax pmax
comp=Z,28nm,2.0s,mb4.7
KMI MLR MLR
comp=Z,1μm,18.6s,MS4.8
WMQ Urumqi 44.48 292 P **P** **07 15 08.1 +0.7**
WMQ AP pP 07 15 20.5 -0.2
WMQ XP sP 07 15 26.0 -0.6
WMQ PPP PPP 07 17 34.5 +2.0
WMQ SCP 07 20 42.0
WMQ S **S** **07 21 41.0 +2.5**
WMQ XS 07 21 58.0
WMQ SCS ScS 07 25 00.4 +1.9
WMQ AMB AMB
comp=Z,40nm,0.7s,mb5.3
WMQ AMB AMB
comp=Z,510nm,4.2s
WMQ LR LR
comp=N,2μm,16.5s,MS5.3
WMQ LR LR
comp=E,2μm,15.0s,MS5.3
WMQ LR LR
comp=Z,1μm,18.2s,MS4.8
SIT Sitka 44.89 48 PFAKE 07 15 20.0 +9.5
SIT LR LR
comp=Z,718nm,20.0s,MS4.6
MK02 Makanchi Array 46.65 298 P **P** **07 15 22.6 -2.0**
MK02 pmax pmax
comp=Z,19nm,0.9s,mb5.0
MKAR Makanchi Array 46.65 298 P **P** **07 15 22.9 -1.8**
comp=Z,5.4nm,0.6s,mb4.6,baz=68,slow=7.7,SNR=39
MKAR Makanchi Array 46.65 298 *i* P **P** **07 15 23.2 -1.5**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
DLBC Dease Lake 47.12 45 *e*P **P** **07 15 29.0 +0.8**
KURK Kurchatov 47.24 304 *e*P **P** **07 15 26.5 -2.8**
comp=Z,20nm,0.8s,mb5.1
KURK LR LR
comp=Z,141nm,19.0s,MS4.0
KURK Kurchatov 47.24 304 P **P** **07 15 26.9 -2.3**
KURK pmax pmax
comp=Z,20nm,0.9s,mb5.0
LSA Lhasa 49.38 273 P **P** **07 15 47.7 +1.5**
LSA SCS ScS 07 25 34.7 +4.2
LSA AMB AMB
comp=Z,20nm,0.8s,mb5.2
LSA AMB AMB
comp=Z,200nm,8.1s
LSA LR LR
comp=N,350nm,15.6s,MS5.0
LSA LR LR
comp=E,1μm,14.7s,MS5.0
LSA LR LR
comp=Z,2μm,16.5s,MS5.1
LSA Lhasa 49.38 273 *e*P **P** **07 15 47.5 +1.3**
comp=Z,26nm,0.6s,mb5.4
LSA LR LR
comp=Z,1μm,21.0s,MS4.8
LSA Lhasa 49.38 273 *e*P **P** **07 15 47.5 +1.3**
LSA pmax pmax
comp=Z,26nm,0.6s,mb5.4
LSA MLR MLR
comp=Z,1μm,21.0s,MS4.8
POHA Pohakuloa 50.22 103 PFAKE 07 16 00.0 +7.3
POHA LR LR
comp=Z,9μm,20.0s,MS5.8
VOSK Vostochnaya 50.70 309 P **P** **07 15 52.4 -3.5**
VOSK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BRVK Borovoye 50.93 310 *e*P **P** **07 15 54.9 -2.7**
comp=Z,2.9nm,0.6s,mb4.4
BRVK LR LR
comp=Z,434nm,20.0s,MS4.5
BRVK Borovoye 50.93 310 P **P** **07 15 55.4 -2.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
NST Nakhon Sawan 52.30 253 P **P** **07 16 08.0 -0.4**
YKA Yellowknife Ar 52.46 36 P **P** **07 16 07.9 -1.1**
comp=Z,3.0nm,0.6s,mb4.4,baz=300,slow=7.1,SNR=11
YKA LR LR 07 42 07.5
comp=Z,444nm,18.8s,MS4.5,baz=250,slow=40
ULHL Ulahol 52.61 295 P **P** **07 16 10.8 +0.4**
SNR=6.3
TKM2 Tokmak 2 52.67 296 P **P** **07 16 11.2 +0.3**
SNR=18
CHMS Chumysh 53.16 297 P **P** **07 16 14.4 -0.2**
SNR=7.1
USP Ospenovka 53.18 297 P **P** **07 16 13.7 -1.0**
SNR=55
KBK Karagaybulak 53.22 296 P **P** **07 16 15.2 +0.3**
SNR=8.8
KZA Kyzart 53.33 296 P **P** **07 16 16.0 +0.3**
SNR=45
FRU Bishkek 53.33 297 *e*P **P** **07 16 15.8 0.0**
FRU pmax pmax
comp=Z,150nm,2.2s,mb5.5
FRU MLR MLR
comp=Z,3μm,17.0s,MS5.4
AAK Ala-Archa 53.51 296 P **P** **07 16 17.2 +0.1**
SNR=14
AAK Ala-Archa 53.51 296 *e*P **P** **07 16 15.6 -1.5**
comp=Z,23nm,0.8s,mb5.2
AAK LR LR
comp=Z,609nm,19.0s,MS4.7
AAK Ala-Archa 53.51 296 P **P** **07 16 16.8 -0.3**
AAK pmax pmax
comp=Z,21nm,0.9s,mb5.1
EKS2 Erkin-Say 53.95 297 P **P** **07 16 20.5 +0.2**
SNR=36
GUN Gumba 54.15 275 *e*P **P** **07 16 22.0 0.0**
comp=Z,389nm,1.2s,mb6.2
KSH Kashi 54.23 292 P **P** **07 16 23.5 +1.1**
KSH *e*AP pP 07 16 36.6 +0.6
KSH *e*XP sP 07 16 41.6 -0.1
KSH *e*PCP PcP 07 17 27.7 +1.5
KSH *e*PP PP 07 18 26.4 +0.5
KSH *e*PPP PPP 07 19 35.1 -2.0
KSH *e*SCP 07 21 20.0
KSH *e*PCS 07 21 26.0
KSH *e*S **S** **07 23 53.5 -0.9**
KSH *e*XS 07 24 15.0
KSH *e*SCS ScS 07 26 06.1 +2.3
KSH AMB AMB
comp=Z,500nm,5.0s
KSH LR LR
comp=N,1μm,12.9s,MS5.4
KSH LR LR
comp=E,2μm,15.0s,MS5.4
AML Almayashu 54.28 296 P **P** **07 16 23.2 +0.4**
SNR=10
KKN Kakani 54.64 275 *e*P **P** **07 16 25.7 +0.1**
comp=E,114nm,0.7s,mb6.0
PKI Pulchoki 54.69 275 *e*P **P** **07 16 25.7 -0.2**
comp=E,215nm,1.2s,mb6.1
PMG Port Moresby 54.85 186 PFAKE 07 16 40.0 +13
PMG LR LR
comp=Z,638nm,22.0s,MS4.7
DMN Daman 54.88 275 *e*P **P** **07 16 27.3 0.0**
comp=Z,289nm,1.1s,mb6.2
GKN Gorkha 54.96 276 *e*P **P** **07 16 27.9 0.0**
comp=Z,257nm,0.8s
OCWA Octopus Mounta 54.98 55 PFAKE 07 16 40.0 +12
OCWA LR LR
comp=Z,619nm,20.0s,MS4.7
HNR Honiara 55.22 170 PFAKE 07 16 40.0 +10
HNR LR LR
comp=Z,606nm,20.0s,MS4.7
ARU Arti 55.26 318 *e*P **P** **07 16 26.4 -3.3**
comp=Z,26nm,0.8s,mb5.3
ARU LR LR
comp=Z,256nm,20.0s,MS4.3
ARU Arti 55.26 318 ⇑*i*P **P** **07 16 26.8 -2.8**
ARU *e* 07 17 27.1
ARU *e* 07 18 28.1
ARU *e*PPP PPP 07 19 41.5 -7.5
ARU *e*S **S** **07 24 03.6 -4.3**
ARU *e*SS SS 07 27 50.0 -2.4
ARU pmax pmax
comp=Z,18nm,0.7s,mb5.2
ARU MLR MLR
comp=N,1μm,17.0s,MS5.2
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.2
ARU MLR MLR
comp=E,1μm,16.5s,MS5.2
KKAR Karatay Array 55.74 299 *i* P **P** **07 16 32.3 -1.1**
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
KOLN Koldanda 55.83 276 *e*P **P** **07 16 34.3 +0.1**
comp=Z,155nm,0.9s,mb6.1
BOK Bokaro 56.72 271 *e*P **P** **07 16 32.8 -7.8**
BOK AMb AMB 07 16 43.5
comp=Z,43nm,1.5s,mb5.3
COR Corvallis 57.20 58 PFAKE 07 17 00.0 +16
COR LR LR
comp=Z,691nm,21.0s,MS4.7
DAG Danmarks Havn 57.81 357 ⇓*i*P **P** **07 16 45.9 -1.7**
comp=Z,13nm,1.0s,mb4.9
DAG Danmarks Havn 57.81 357 ⇓*e*P **P** **07 16 45.9 -1.7**
comp=Z,13nm,1.0s,mb4.9
DAG Danmarks Havn 57.81 357 ⇓*e*P **P** **07 16 45.9 -1.7**
DAG pmax pmax
comp=Z,13nm,1.0s,mb4.9
EDM Edmonton 57.84 45 *e*P **P** **07 16 47.0 -1.2**
EDM Edmonton 57.84 45 P **P** **07 16 47.3 -0.8**
KEV Kevo 58.16 340 *e*P **P** **07 16 47.3 -2.8**
comp=Z,6.6nm,0.5s,mb4.9
KEV LR LR
comp=Z,884nm,19.0s,MS4.9
KEV Kevo 58.16 340 *e*P **P** **07 16 47.3 -2.8**
KEV pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
KEV MLR MLR
comp=Z,884nm,19.0s,MS4.9
SNG Songkhla 58.26 245 P **P** **07 16 52.0 +0.4**
HAWA Hanford 58.38 54 *e*P **P** **07 16 52.4 +0.4**
comp=Z,1.6nm,1.3s
HAWA LR LR
comp=Z,35nm,19.0s
AB31 Akbulak array 58.46 310 *i* P **P** **07 16 50.0 -2.5**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
HUMO Hull Mountain 58.51 60 *e*P **P** **07 16 52.4 -0.6**
comp=Z,2.7nm,1.1s,mb4.2
HUMO LR LR
comp=Z,405nm,20.0s,MS4.5
NEW Newport 58.67 51 *e*P **P** **07 16 54.2 +0.2**
comp=Z,15nm,1.1s,mb4.9
NEW LR LR
comp=Z,493nm,21.0s,MS4.6
NEW Newport 58.67 51 P **P** **07 16 54.7 +0.7**
NEW pmax pmax
comp=Z,15nm,1.1s
ARCES ARCESS Array B 58.68 341 P **P** **07 16 52.2 -1.5**
comp=Z,7.7nm,0.8s,mb4.8,baz=54,slow=7.1,SNR=20
ARCES PcP PcP 07 17 42.7 -0.3
comp=Z,6.8nm,0.8s,baz=53,slow=4.5,SNR=4.9
ARCES LR LR 07 48 23.2
comp=Z,733nm,18.1s,MS4.8,baz=32,slow=42
ARCES ARCESS Array B 58.68 341 P **P** **07 16 52.2 -1.5**
ARCES PcP PcP 07 17 42.7 -0.3
ARCES LR LR 07 48 23.2
ARE0 ARCESS Array S 58.68 341 *e*P **P** **07 16 52.0 -1.7**
AKTO Aktyubinsk 58.82 312 P **P** **07 16 52.7 -2.2**
YBH Yreka Blue Hor 59.17 60 *e*P **P** **07 16 58.0 +0.5**
comp=Z,7.3nm,1.1s,mb4.6

YBH LR LR
comp=Z,446nm,21.0s,MS4.6
YBH Yreka Blue Hor 59.17 60 P **P** **07 16 59.6 +2.1**
YBH pmax pmax
comp=Z,7.0nm,1.1s
NDI New Delhi 59.70 281 *e*P **P** **07 17 00.0 -1.4**
WDC Whiskeytown Da 59.94 61 *e*P **P** **07 17 02.1 -0.8**
comp=Z,9.8nm,0.9s,mb4.8
WDC LR LR
comp=Z,274nm,19.0s,MS4.4
WDC Whiskeytown Da 59.94 61 P **P** **07 17 03.3 +0.4**
WDC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WALA Waterton Lakes 59.95 49 *e*P **P** **07 17 02.7 -0.1**
comp=Z,18nm,1.0s,mb5.1
TRO Tromso 60.05 343 *e*P **P** **07 17 00.3 -3.0**
TRO *e*S **S** **07 25 07.5 -3.1**
TRO AMS AMS 07 46 46.0
comp=Z,460nm,16.1s,MS4.7
BLSP Bilaspur 60.43 272 *e*P **P** **07 17 08.1 +1.6**
MOD Modoc 60.53 59 *e*P **P** **07 17 06.3 -0.5**
comp=Z,21nm,1.3s,mb5.1
MOD LR LR
comp=Z,490nm,19.0s,MS4.7
HOPS Hopland 60.55 63 PFAKE 07 17 20.0 +13
HOPS LR LR
comp=Z,577nm,20.0s,MS4.7
KAKA Kakadu 60.55 202 *e*P **P** **07 17 22.2 +15**
comp=Z,18nm,0.9s,mb5.2
KAKA *e* pP 07 17 35.4 +14
BMO Blue Mountains 60.55 55 *e*P **P** **07 17 06.0 -1.0**
comp=Z,17nm,1.4s,mb5.0
BMO LR LR
comp=Z,488nm,22.0s,MS4.6
WVOR Wild Horse Val 61.21 58 *e*P **P** **07 17 09.5 -1.9**
comp=Z,9.3nm,0.9s,mb4.9
WVOR LR LR
comp=Z,493nm,20.0s,MS4.7
WVOR Wild Horse Val 61.21 58 P **P** **07 17 13.9 +2.5**
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
MSO Missoula 61.26 51 *e*P **P** **07 17 10.8 -0.9**
comp=Z,17nm,1.1s,mb5.1
MSO LR LR
comp=Z,222nm,19.0s,MS4.3
OHCM Honcut 61.33 62 *e*P **P** **07 17 11.3 -1.0**
CHMT Chamberlain Mo 61.59 51 *e*P **P** **07 17 11.5 -2.4**
BEKR Beckwourth 61.71 61 *e*P **P** **07 17 13.9 -0.9**
comp=Z,29nm,1.4s,mb5.2
SUMG Summit 61.97 3 *e*P **P** **07 17 15.4 -0.8**
comp=Z,70nm,0.8s,mb5.8
JOF Joensuu 61.99 333 *e*p **P** **07 17 13.6 -2.8**
comp=Z,10nm,0.7s,mb5.1
LOF Lofoten 62.40 344 *e*P **P** **07 17 19.6 +0.5**
FCC Fort Churchill 62.80 32 *e*P **P** **07 17 19.9 -1.9**
CMB Columbia Colle 62.80 63 *e*P **P** **07 17 21.4 -0.8**
comp=Z,12nm,1.1s,mb4.9
CMB LR LR
comp=Z,399nm,20.0s,MS4.6
CMB Columbia Colle 62.80 63 P **P** **07 17 22.1 -0.1**
CMB pmax pmax
comp=Z,12nm,1.1s,mb4.9
AJM Ajmer 62.86 281 *i* P **P** **07 17 20.0 -2.7**
JMIC Jan Mayen 62.91 353 LR LR 07 42 15.4
comp=Z,232nm,18.9s,MS4.4,baz=277,slow=34
JMIC Jan Mayen 62.91 353 AMS AMS 07 50 55.9
comp=Z,208nm,13.8s,MS4.5
SAO San Andreas Ge 62.92 64 PFAKE 07 17 30.0 +7.0
SAO LR LR
comp=Z,185nm,19.0s,MS4.3
HLID Hailey 62.98 55 *e*P **P** **07 17 22.8 -0.6**
comp=Z,9.3nm,1.1s,mb4.8
HLID LR LR
comp=Z,511nm,22.0s,MS4.7
BHPL Bhopal 63.00 276 *e*P **P** **07 17 23.0 -0.7**
BHPL AMb AMB 07 17 31.6
comp=Z,96nm,1.0s,mb5.9
MCMT McKenzie Canyo 63.09 53 *e*P **P** **07 17 23.5 -0.5**
NGP Nagpur 63.23 273 *e*P **P** **07 17 23.6 -1.6**
NGP AMb AMB 07 17 27.1
comp=Z,56nm,1.6s,mb5.4
BOZ Bozeman (W) 63.25 51 *e*P **P** **07 17 24.2 -0.9**
comp=Z,11nm,0.8s,mb5.0
BOZ LR LR
comp=Z,391nm,20.0s,MS4.6
BOZ Bozeman (W) 63.25 51 P **P** **07 17 24.8 -0.3**
BOZ pmax pmax
comp=Z,11nm,0.8s,mb5.0
BMN Battle Mountai 63.27 59 *e*P **P** **07 17 24.6 -0.6**
comp=Z,7.2nm,0.6s,mb5.0
BMN LR LR
comp=Z,368nm,19.0s,MS4.6
BMN Battle Mountai 63.27 59 P **P** **07 17 25.5 +0.2**
BMN pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
NVAR Mina Array Bea 63.85 61 P **P** **07 17 29.0 0.0**
comp=Z,5.8nm,0.8s,mb4.7,baz=291,slow=7.7,SNR=37
QLMT Earthquake Lak 63.87 52 *e*P **P** **07 17 28.7 -0.4**
MOR8 Moi Rana 63.88 342 *e*P **P** **07 17 26.1 -2.7**
MOR8 AMb AMB 07 17 29.9
comp=Z,62nm,2.1s,mb5.3
MOR8 Moi Rana 63.88 342 *e*P **P** **07 17 26.1 -2.7**
comp=Z,62nm,2.1s,mb5.3
KAF Kangasniemi 64.13 335 *e*p **P** **07 17 28.0 -2.4**
comp=Z,16nm,0.7s,mb5.2,baz=38,slow=6.2
KAF Kangasniemi 64.13 335 *e*P **P** **07 17 28.0 -2.4**
KAF pmax pmax
comp=Z,16nm,0.7s,mb5.2
GCMT Greycliff 64.23 50 *e*P **P** **07 17 30.7 -0.6**
ELK Elko 64.26 57 *e*P **P** **07 17 30.3 -1.3**
comp=Z,4.1nm,0.9s,mb4.5
ELK LR LR
comp=Z,625nm,20.0s,MS4.8
ELK Elko 64.26 57 P **P** **07 17 32.3 +0.7**
ELK pmax pmax
comp=Z,4.0nm,0.9s
MTUM Tungsten Hills 64.36 62 *e*P **P** **07 17 32.5 +0.1**
PTRM Twissleman Ran 64.39 65 *e*P **P** **07 17 32.4 -0.1**
YFT Old Faithful 64.44 52 *e*P **P** **07 17 32.5 -0.2**
LKWY Lake 64.61 52 PFAKE 07 17 50.0 +16
LKWY LR LR
comp=Z,858nm,19.0s,MS5.0
FINES FINESS Array B 64.72 334 P **P** **07 17 32.1 -2.1**
comp=Z,17nm,0.7s,mb5.2,baz=45,slow=8.1,SNR=87
FINES LR LR 07 48 35.4
comp=Z,732nm,19.5s,MS4.9,baz=175,slow=39
TPH Tonopah 64.73 61 *e*P **P** **07 17 34.1 -0.6**
comp=Z,16nm,1.0s,mb5.0
TPH LR LR
comp=Z,354nm,19.0s,MS4.6
TPH Tonopah 64.73 61 P **P** **07 17 35.1 +0.3**
TPH pmax pmax
comp=Z,16nm,1.0s,mb5.0
RRI2 Red Ridge 64.88 53 *e*P **P** **07 17 35.6 +0.1**
comp=Z,27nm,0.8s,mb5.3
MOS Moscow 64.89 325 *e*P **P** **07 17 33.9 -1.5**
MOS *e* pP 07 17 48.8 -0.6
MOS pmax pmax
comp=Z,50nm,0.7s,mb5.7
TPAW Teton Pass 64.99 53 *e*P **P** **07 17 36.4 +0.1**
comp=Z,38nm,1.1s,mb5.3
HVU Hansel Valley 65.04 55 *e*P **P** **07 17 36.5 -0.2**
HVU Hansel Valley 65.04 55 P **P** **07 17 40.4 +3.7**
LOHW Long Hollow 65.11 53 *e*P **P** **07 17 37.1 +0.1**
comp=Z,28nm,1.3s,mb5.1
SNOW Snow King Moun 65.12 53 *e*P **P** **07 17 37.6 +0.5**
comp=Z,19nm,1.1s,mb5.0
DGMT Dagmar 65.34 45 PFAKE 07 17 50.0 +12
DGMT LR LR
comp=Z,760nm,20.0s,MS4.9
AHID Auburn Hatcher 65.37 53 PFAKE 07 17 50.0 +11
AHID LR LR
comp=Z,410nm,20.0s,MS4.6
LAO LASA Array 65.48 48 *e*P **P** **07 17 39.1 -0.2**
comp=Z,14nm,0.8s,mb5.0
LAO LR LR
comp=Z,649nm,19.0s,MS4.8
ISA Isabella 65.48 64 *e*P **P** **07 17 38.0 -1.6**
comp=Z,16nm,1.2s,mb4.9
ISA LR LR
comp=Z,65nm,19.0s,MS3.9
ISA Isabella 65.48 64 *e*P **P** **07 17 38.0 -1.6**
ISA pmax pmax
comp=Z,16nm,1.2s,mb4.9
ISA MLR MLR
comp=Z,65nm,19.0s,MS3.9

CTAO Charters Tower 65.50 186 PFAKE 07 17 50.0 +10
CTAO LR LR
comp=Z,446nm,21.0s,MS4.6
DAC Darwin (Calif) 65.64 62 PFAKE 07 17 50.0 +9.4
DAC LR LR
comp=Z,361nm,22.0s,MS4.5
OBN Obninsk 65.76 325 PFAKE 07 17 50.0 +9.0
OBN LR LR
comp=Z,155nm,19.0s,MS4.2
OBN Obninsk 65.76 325 *i* P **P** **07 17 39.3 -1.7**
OBN *e*S S 07 26 22.5 +0.4
OBN pmax pmax
comp=Z,13nm,0.6s,mb5.1
OBN MLR MLR
comp=Z,800nm,14.0s,MS5.1
NSS Namsos 65.83 342 AMS AMS 07 50 30.3
comp=Z,857nm,19.4s,MS5.0
HWUT Hardware Ranch 65.85 55 *e*P **P** **07 17 41.3 -0.6**
comp=Z,5.8nm,0.8s,mb4.7
HWUT LR LR
comp=Z,464nm,22.0s,MS4.6
DUG Dugway 66.03 57 *e*P **P** **07 17 42.3 -0.8**
comp=Z,9.1nm,0.9s,mb4.8
DUG LR LR
comp=Z,415nm,20.0s,MS4.6
DUG Dugway 66.03 57 P **P** **07 17 43.1 0.0**
DUG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
HYB Hyderabad 66.06 271 *i* P **P** **07 17 43.0 -0.6**
HYB Hyderabad 66.06 271 *e*P **P** **07 17 43.0 -0.6**
BW06 Boulder Array 66.24 53 *e*P **P** **07 17 43.3 -1.0**
comp=Z,8.7nm,0.9s,mb4.8
BW06 LR LR
comp=Z,362nm,21.0s,MS4.6
PDAR Pinedale Array 66.24 53 P **P** **07 17 43.3 -1.0**
comp=Z,2.1nm,0.8s,mb4.2,baz=287,slow=1.6,SNR=15
PDAR LR LR 07 44 33.3
comp=Z,299nm,21.6s,MS4.5,baz=339,slow=34
SNCC San Nicolas Is 66.35 66 PFAKE 07 18 00.0 +15
SNCC LR LR
comp=Z,596nm,19.0s,MS4.8
JLU Jordanelle 66.57 55 *e*P **P** **07 17 46.9 +0.5**
NLU North Lily Min 66.62 56 *e*P **P** **07 17 46.7 0.0**
MWC Mount Wilson 66.66 64 *e*P **P** **07 17 47.0 -0.1**
MWC Mount Wilson 66.66 64 P **P** **07 17 50.3 +3.2**
VSU Vasula 66.84 332 *i* P **P** **07 17 46.5 -1.3**
WRAB Tennant Creek 67.05 198 *e*P **P** **07 17 50.0 +0.2**
comp=Z,27nm,1.2s,mb5.2
WRAB LR LR
comp=Z,236nm,22.0s,MS4.4
WRAB Tennant Creek 67.05 198 *i* P **P** **07 17 50.5 +0.7**
WB2 Warramunga Arr 67.06 198 *e*P **P** **07 17 48.3 -1.5**
WRA Warramunga Arr 67.06 198 P **P** **07 17 48.3 -1.6**
comp=Z,6.0nm,0.9s,mb4.6,baz=17,slow=6.7,SNR=19
ARUT Antelope Range 67.22 59 *e*P **P** **07 17 50.5 -0.1**
ARUT Antelope Range 67.22 59 P **P** **07 17 52.5 +2.0**
MSU Marysvale 67.50 58 *e*P **P** **07 17 52.4 +0.1**
MSU Marysvale 67.50 58 P **P** **07 17 53.0 +0.7**
FITZ Fitzroy Crossi 67.63 207 *e*P **P** **07 17 52.6 -0.8**
comp=Z,9.4nm,0.9s,mb4.8
AFI Afiamalu 67.75 141 PFAKE 07 18 10.0 +16
AFI LR LR
comp=Z,979nm,20.0s,MS5.0
NEN Nelson 67.75 61 *e*P **P** **07 17 53.4 -0.6**
LDFC Landfair 67.96 62 *e*P **P** **07 17 55.0 -0.2**
ULM Lac du Bonnet 68.06 40 P **P** **07 17 54.1 -1.5**
comp=Z,1.6nm,0.5s,mb4.3,baz=287,slow=10,SNR=5.4
ULM LR LR 07 49 54.7
comp=Z,374nm,19.9s,MS4.6,baz=336,slow=38
PFO Pinyon Flat Ob 68.07 64 *e*P **P** **07 17 55.7 -0.2**
comp=Z,11nm,1.4s,mb4.7
PFO LR LR
comp=Z,104nm,20.0s,MS4.1
PFO Pinyon Flat Ob 68.07 64 *e*P **P** **07 17 55.7 -0.3**
PFO pmax pmax
comp=Z,11nm,1.4s,mb4.7
PFO MLR MLR
comp=Z,104nm,20.0s,MS4.1
SRU San Rafael 68.08 56 *e*P **P** **07 17 55.1 -0.8**
SRU San Rafael 68.08 56 P **P** **07 17 56.1 +0.2**
MOL Molde 68.49 343 *e*P **P** **07 18 00.1 +2.0**
MOL AMb AMB 07 18 01.6
comp=Z,62nm,1.7s,mb5.4
MOL Molde 68.49 343 *e*P **P** **07 18 00.1 +2.0**
comp=Z,62nm,1.7s,mb5.4
DZM Mont Dzumac 68.61 165 LR LR 07 45 17.5
comp=Z,514nm,19.3s,MS4.8,baz=27,slow=33
POO Poona 68.61 275 *e*P **P** **07 17 58.3 -1.2**
POO AMb AMB 07 18 02.5
comp=Z,38nm,1.3s,mb5.2
NB2 NORSAR Subarra 69.06 341 P **P** **07 18 00.3 -1.3**
comp=Z,178nm,1.7s,mb5.7,baz=27,slow=6.2
NB2 NORSAR Subarra 69.06 341 P **P** **07 18 00.3 -1.3**
baz=27,slow=6.5
NOA NORSAR Array B 69.06 341 P **P** **07 18 00.5 -1.1**
comp=Z,8.4nm,0.6s,mb4.8,baz=28,slow=6.2,SNR=46
KAD Karad 69.20 274 *e*P **P** **07 18 02.1 -1.1**
KAD AMb AMB 07 18 05.9
comp=Z,46nm,1.5s,mb5.2
NAO01 NORSAR Array S 69.31 341 *e*P **P** **07 18 01.4 -1.7**
comp=Z,54nm,1.3s,mb5.3
NAO01 LR LR
comp=Z,678nm,20.0s,MS4.9
PV10 Paradox Valley 69.44 56 *e*P **P** **07 18 04.5 +0.2**
BORG Borgarnes 69.92 357 *e*P **P** **07 18 06.7 -0.1**
GOF Gofitskoye 69.99 314⇓ *i* P **P** **07 18 06.4 -1.2**
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.4
ISCO Idaho Springs 70.43 53 *e*P **P** **07 18 10.3 0.0**
comp=Z,18nm,1.3s,mb4.8
ISCO LR LR
comp=Z,579nm,21.0s,MS4.8
ISCO Idaho Springs 70.43 53 P **P** **07 18 10.9 +0.6**
ISCO pmax pmax
comp=Z,18nm,1.2s,mb4.9
KONO Kongsberg 70.67 341 *e*P **P** **07 18 11.4 0.0**
KONO *e*S S 07 27 20.9 +0.5
KONO Kongsberg 70.67 341 *e*P **P** **07 18 13.0 +1.6**
KONO MLR MLR
comp=Z,477nm,21.0s,MS4.7
ASK Askoy 70.87 343 *e*P **P** **07 18 12.8 +0.2**
ASK AMb AMB 07 18 15.1
comp=Z,283nm,1.7s,mb5.9
ASK Askoy 70.87 343 *e*P **P** **07 18 12.8 +0.2**
comp=Z,283nm,1.7s,mb5.9
BER Bergen 70.93 343 *e*P **P** **07 18 12.8 -0.2**
BER *e*P 07 18 13.1
BER *e*S S 07 27 27.1 +3.6
BER AMS AMS 07 57 05.1
comp=Z,310nm,16.1s,MS4.7
KIV Kislovodsk 70.95 314 *e*P **P** **07 18 13.4 0.0**
comp=Z,50nm,0.8s,mb5.5
KIV LR LR
comp=Z,153nm,19.0s,MS4.3
KIV Kislovodsk 70.95 314*c i*P **P** **07 18 13.1 -0.3**
KIV *e* 07 20 47.6
KIV pmax pmax
comp=Z,87nm,1.2s,mb5.6
KIV MLR MLR
comp=Z,2μm,17.0s,MS5.4
PALK Pallekele 71.58 261 PFAKE 07 18 30.0 +12
PALK LR LR
comp=Z,150nm,20.0s,MS4.2
SUW Suwalki 71.59 331 *e*P **P** **07 18 16.4 -0.7**
SUW MLR MLR 07 57 27.6
comp=Z,700nm,19.2s,MS4.9
MNGI Mangalore 71.73 270 *ex* x 07 26 27.8
SDCO Great Sand Dun 71.91 54 *e*P **P** **07 18 19.2 0.0**
comp=Z,46nm,0.6s,mb5.6
SDCO LR LR
comp=Z,438nm,19.0s,MS4.7
AKASG Malin Array Be 72.01 326 P **P** **07 18 17.9 -1.7**
comp=Z,10.0nm,0.6s,mb5.0,baz=34,slow=6.2,SNR=62
AKASG Malin Array Be 72.01 326 *i* P **P** **07 18 18.8 -0.8**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
TUC Tucson 72.49 62 *e*P **P** **07 18 22.2 -0.6**
comp=Z,5.1nm,1.1s,mb4.4
TUC LR LR
comp=Z,242nm,19.0s,MS4.5
TUC Tucson 72.49 62 P **P** **07 18 22.9 +0.2**
TUC pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GNI Garni 72.57 310 *e*P **P** **07 18 23.6 +0.6**
GNI Garni 72.57 310 LR LR 07 53 41.4
comp=Z,1μm,19.6s,MS5.1,baz=308,slow=39

GNI Garni 72.57 310 *e*P **P** **07 18 24.6 +1.6**
comp=Z,131nm,1.4s,mb5.7
GNI LR LR
comp=Z,1μm,19.0s,MS5.2
GNI Garni 72.57 310 P **P** **07 18 25.4 +2.3**
GNI pmax pmax
comp=Z,130nm,1.4s
SOC Sochi 72.71 315 *e*P **P** **07 18 23.6 -0.2**
SOC *e*S S 07 27 40.8 -3.4
SOC *e* 07 28 25.2
SOC pmax pmax
comp=Z,56nm,0.7s,mb5.6
SOC pmax pmax
comp=N,24nm,0.9s
SOC pmax pmax
comp=E,108nm,1.3s
SOC MLR MLR
comp=N,1μm,19.0s,MS5.3
SOC MLR MLR
comp=E,1μm,19.0s,MS5.3
SOC MLR MLR
comp=Z,2μm,19.0s,MS5.3
ANN Anapa 72.92 317 *e*P **P** **07 18 24.7 -0.3**
ANN *e**PP pP 07 18 43.7 +4.5
ANN pmax pmax
comp=Z,101nm,1.6s,mb5.5
ANMO Albuquerque 73.29 57 P **P** **07 18 26.9 -0.5**
comp=Z,0.7nm,0.5s,baz=290,slow=9.5,SNR=4.0
ANMO Albuquerque 73.29 57 *e*P **P** **07 18 27.5 +0.1**
comp=Z,2.7nm,0.8s,mb4.2
ANMO LR LR
comp=Z,331nm,20.0s,MS4.6
ANMO Albuquerque 73.29 57 P **P** **07 18 29.0 +1.6**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
CLDR Caldiran 73.74 310 *e*P **P** **07 18 30.0 +0.1**
WAR Warsaw 73.79 331 *e*P **P** **07 18 30.1 +0.2**
GKP Gorka Klasztor 74.16 334 *e*P **P** **07 18 31.7 -0.3**
GKP MLR MLR 07 54 24.6
comp=Z,1μm,20.3s,MS5.2
CBKS Cedar Bluff 74.36 50 PFAKE 07 18 50.0 +16
CBKS LR LR
comp=Z,488nm,21.0s,MS4.8
SIM Simferopol' 74.36 319 P **P** **07 18 33.3 -0.1**
SIM S S 07 28 09.8 +7.1
SIM pmax pmax
comp=Z,110nm,14.0s
SIM MLR MLR
comp=Z,960nm,16.0s,MS5.2
EZM Erzurum 74.55 312 *e*P **P** **07 18 36.4 +1.8**
LVV L'vov 74.72 328 *e*P **P** **07 18 35.9 +0.5**
LVV *e*S S 07 28 04.0 -2.5
SCHQ Schefferville 74.79 22 P **P** **07 18 35.8 +0.1**
comp=Z,3.4nm,0.9s,mb4.3,baz=318,slow=10,SNR=3.7
SCHQ LR LR 07 55 29.7
comp=Z,376nm,19.4s,MS4.7,baz=329,slow=39
KIS Kishinev 75.09 324*c i*P **P** **07 18 37.0 -0.6**
KIS *e* 07 18 45.0
KIS *e* 07 29 10.0
KIS pmax pmax
comp=Z,800nm,1.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS MLR MLR
comp=N,2μm,15.0s
KIS MLR MLR
comp=E,1μm,19.0s
KIS MLR MLR
comp=Z,2μm,16.0s
GUMT Gumushane 75.12 313 *e*P **P** **07 18 39.2 +1.3**
KWP Kalwaria 75.36 329 *e*P **P** **07 18 39.9 +0.8**
KWP MLR MLR 07 52 57.9
comp=Z,1μm,21.4s,MS5.1
KWP Kalwaria 75.36 329 *e*P **P** **07 18 39.8 +0.8**
BSEG Bad Segeberg 75.59 338 *e*P **P** **07 18 40.1 -0.2**
RUE Ruedersdorf 75.90 335 *e*P **P** **07 18 42.1 0.0**
OJC Ojcow 75.91 330 *e*P **P** **07 18 42.3 +0.1**
BURAR Bucovina Array 76.06 326⇑ *i*P **P** **07 18 43.5 +0.4**
BURAR Bucovina Array 76.06 326⇑ *i*P **P** **07 18 43.5 +0.5**
STHS Stebnicka Huta 76.07 329 *e*P **P** **07 18 44.0 +0.9**
MNTX Cornudas Mount 76.21 59 *e*P **P** **07 18 43.7 -0.6**
comp=Z,6.4nm,1.0s,mb4.5
MNTX LR LR
comp=Z,374nm,19.0s,MS4.7
MSL Mosul 76.25 308 *i* x x 07 19 02.0
PTK Pertek 76.33 312 *e*P **P** **07 18 35.1 -10**
UZH Uzhgorod 76.34 328 *e*P **P** **07 18 44.0 -0.7**
UZH *e*S S 07 28 26.0 +1.6
NIE Niedzica 76.40 330 *e*P **P** **07 18 46.1 +1.1**
CRVS Cervenica-Dubn 76.42 329 *e*P **P** **07 18 45.0 -0.1**
TLCR 76.53 322 P **P** **07 18 46.1 +0.3**
KSP Ksiaz 76.55 333 *e*P **P** **07 18 45.9 +0.2**
KSP MLR MLR 07 55 38.6
comp=Z,2μm,21.3s,MS5.3
KSP Ksiaz 76.55 333⇑ *e*P **P** **07 18 45.9 +0.1**
KSP MLR MLR
comp=Z,2μm,21.3s,MS5.4
RAC Raciborz 76.57 331 *e*P **P** **07 18 46.7 +0.8**
RAC MLR MLR 07 55 55.6
comp=Z,700nm,21.0s,MS5.0
DIY Diyarbakir 76.63 311 *e*P **P** **07 18 40.9 -5.6**
SVSK Karacayir 76.79 314 *e*P **P** **07 18 46.7 -0.7**
OKC Ostrava-Krasne 76.80 331⇑ *i*P **P** **07 18 47.4 +0.2**
OKC AMS AMS 07 57 10.0
comp=Z,700nm,17.4s
CFR Carcaliu 76.83 323⇓ *i*P **P** **07 18 46.8 -0.7**
CFR Carcaliu 76.83 323⇑ *i*P **P** **07 18 46.8 -0.7**
VRI Vrincioaia 76.87 324⇑ *i*P **P** **07 18 48.8 +1.1**
UPC Upice 76.93 333⇑ *i*P **P** **07 18 47.6 -0.3**
DPC Dobruska-Polom 76.96 333⇑ *i*P **P** **07 18 48.5 +0.4**
DPC AMS AMS 07 56 40.0
comp=Z,1μm,17.3s
MORC Moravsky Berou 77.05 332 *e*P **P** **07 18 48.4 -0.3**
comp=Z,127nm,1.6s,mb5.6
MORC Moravsky Berou 77.05 332 P **P** **07 18 49.1 +0.5**
KECS Kecovo 77.13 329 *e*P **P** **07 18 49.2 +0.1**
CLL Collm 77.16 335⇑ *i*P **P** **07 18 48.8 -0.4**
comp=Z,logA/T=1.9,mb5.6
CLL *e*S S 07 28 34.0 +0.7
CLL Collm 77.16 335⇑ *i*P **P** **07 18 48.8 -0.4**
comp=Z,113nm,1.5s,mb5.6
CLL *i* 07 18 54.2
CLL *e*S S 07 28 34.0 +0.7
CLL LR LR
comp=Z,900nm,18.0s,MS5.1
CLL Collm 77.16 335⇑ *i*P **P** **07 18 48.8 -0.4**
CLL *i* 07 18 54.2
CLL *e*S S 07 28 34.0 +0.7
CLL pmax pmax
comp=Z,113nm,1.5s,mb5.6
CLL MLR MLR
comp=Z,900nm,18.0s,MS5.1
MYA Malataya 77.25 312 *e*P **P** **07 18 51.4 +1.4**
BRG Berggiesshubel 77.26 334 *e*P **P** **07 18 49.5 -0.2**
comp=Z,54nm,1.6s,mb5.2
BRG S S 07 28 37.0 +2.7
BRG LR LR
comp=Z,700nm,17.2s,MS5.0
BRG Berggiesshubel 77.26 334 *e*P **P** **07 18 49.5 -0.3**
BRG S S 07 28 37.0 +2.7
BRG pmax pmax
comp=Z,54nm,1.6s,mb5.2
BRG MLR MLR
comp=Z,700nm,17.2s,MS5.0
MALT Malatya 77.26 312 *e*P **P** **07 18 50.5 +0.5**
MALT Malatya 77.26 312 *e*P **P** **07 18 50.8 +0.7**
comp=Z,93nm,1.7s,mb5.4
MALT Malatya 77.26 312 P **P** **07 18 51.8 +1.7**
MALT pmax pmax
comp=Z,93nm,1.7s,mb5.4
ESK Eskdalemuir 77.30 346 PFAKE 07 19 00.0 +10
ESK LR LR
comp=Z,103nm,19.0s,MS4.2
PVCC Panska Ves 77.36 334⇑ *i*P **P** **07 18 50.5 +0.1**
PVCC AMS AMS 07 57 30.0
comp=Z,900nm,14.9s
CLZ Clausthal 77.44 337 *e*P **P** **07 18 51.3 +0.5**
comp=Z,108nm,1.4s,mb5.6
CLZ Clausthal 77.44 337 *e*P **P** **07 18 51.3 +0.5**
CLZ pmax pmax
comp=Z,108nm,1.4s,mb5.6
MLR Muntele Rosu 77.49 324⇓ *i*P **P** **07 18 52.1 +0.9**
MLR Muntele Rosu 77.49 324⇑ *i*P **P** **07 18 52.1 +0.9**
STKA Stephens Creek 77.60 189 *e*P **P** **07 18 51.9 -0.2**
comp=Z,4.3nm,1.1s,mb4.3

STKA *i* pP 07 19 07.2 +0.9
STKA Stephens Creek 77.60 189 P **P** **07 18 52.0 0.0**
comp=Z,3,9nm,0.8s,mb4.4,baz=336,slow=7.9,SNR=5.9
STKA LR LR 07 52 51.6
comp=Z,378nm,19.6s,MS4.7,baz=20,slow=35
VYHS Vyhne 77.70 330 *eP* **P** **07 18 52.6 +0.3**
URFA Urfa 77.71 311 *eP* **P** **07 18 52.8 +0.2**
DRGR 77.71 327⇓*iP* **P** **07 18 51.8 -0.5**
DRGR 77.71 327⇑*iP* **P** **07 18 51.8 -0.6**
DRGR 77.71 327 P **P** **07 18 51.9 -0.4**
BHD Baghdad 77.71 305 *ex* x 07 19 50.5
VRAC Vranov 77.77 332 P **P** **07 18 53.3 +0.7**
PSZ Piszkesteto 77.82 329⇑*eP* **P** **07 18 53.7 +0.8**
PSZ Piszkesteto 77.82 329 *eP* **P** **07 18 52.4 -0.5**
comp=Z,149nm,1.8s,mb5.6
PSZ Piszkesteto 77.82 329 P **P** **07 18 53.9 +1.0**
PRU Pruhonice 77.84 333⇑*iP* **P** **07 18 53.2 +0.2**
PRU AMS AMS 07 56 50.0
comp=Z,1μm,19.2s
WMOK Wichita Mounta 77.85 53 *eP* **P** **07 18 52.5 -0.9**
comp=Z,4.7nm,0.9s,mb4.4
WMOK LR LR
comp=Z,455nm,20.0s,MS4.8
WMOK Wichita Mounta 77.85 53 P **P** **07 18 54.0 +0.6**
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VOIR 77.90 325⇑*iP* **P** **07 18 54.4 +1.0**
MOX Moxa 78.16 335⇑*iP* **P** **07 18 54.7 0.0**
comp=Z,logA/T=1.7,mb5.4
MOX pP pP 07 19 11.0 +2.1
MOX S S 07 28 56.0 +12
MOX SS SS 07 34 32.0 +43
MOX L 07 58 07.0
MOX Moxa 78.16 335⇑*iP* **P** **07 18 54.7 0.0**
comp=Z,103nm,1.9s,mb5.4
MOX *e* pP 07 19 10.7 +1.8
MOX LR LR
comp=Z,600nm,19.0s,MS4.9
MOX Moxa 78.16 335⇑*iP* **P** **07 18 54.7 0.0**
MOX *e* pP 07 19 10.7 +1.8
MOX pmax pmax
comp=Z,103nm,1.9s,mb5.4
MOX MLR MLR
comp=Z,600nm,19.0s,MS4.9
SMOL Smolenice 78.17 331 *eP* **P** **07 18 55.5 +0.7**
NKC Novy Kostel 78.28 335⇑*iP* **P** **07 18 55.6 +0.2**
WTSB Winterswijk 78.29 339⇑*eP* **P** **07 18 55.2 -0.1**
comp=Z,58nm,1.8s,mb5.2
ZST Bratislava 78.56 331 *eP* **P** **07 18 57.7 +0.7**
BR131 Keskin Array S 78.60 316 *eP* **P** **07 18 57.7 +0.3**
comp=Z,8.3nm,0.9s,mb4.7
BR131 LR LR
comp=Z,793nm,19.0s,MS5.1
BRTR Keskin Array B 78.60 316 P **P** **07 18 58.0 +0.6**
comp=Z,6.9nm,0.9s,mb4.6,baz=90,slow=2.5,SNR=26
KHC Kasperske Hory 78.90 333⇑*iP* **P** **07 18 59.3 +0.5**
KHC AMS AMS 07 57 30.0
comp=Z,1μm,15.7s
ANTO Ankara 78.90 317 P **P** **07 19 00.5 +1.5**
LTX Lajitas 78.93 59 *eP* **P** **07 18 58.4 -1.0**
comp=Z,7.3nm,0.9s,mb4.6
LTX *e* pP 07 19 11.3 -2.3
LTX LR LR
comp=Z,422nm,19.0s,MS4.8
LTX Lajitas 78.93 59 P **P** **07 18 59.7 +0.3**
LTX pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TXAR Lajitas Array 78.93 59 P **P** **07 18 59.2 -0.2**
comp=Z,5.6nm,0.8s,mb4.5,baz=301,slow=4.2,SNR=46
WET Wettzell 79.11 334 *eP* **P** **07 19 00.2 +0.2**
comp=Z,88nm,1.5s,mb5.5
WET Wettzell 79.11 334 *eP* **P** **07 19 00.2 +0.2**
WET pmax pmax
comp=Z,88nm,1.5s,mb5.5
GEC2 GERESS Array S 79.11 333 *eP* **P** **07 19 00.2 +0.2**
comp=Z,49nm,1.6s,mb5.2
GEC2 GERESS Array S 79.11 333 *eP* **P** **07 19 00.2 +0.2**
GEC2 pmax pmax
comp=Z,49nm,1.6s,mb5.2
GERES GERESS Array B 79.11 333 P **P** **07 19 00.1 +0.1**
comp=Z,2.4nm,0.5s,mb4.4,baz=34,slow=4.8,SNR=29
GERES LR LR 08 00 54.1
comp=Z,777nm,18.1s,MS5.1,baz=237,slow=41
GRA1 Grafenberg Arr 79.12 335 *eP* **P** **07 19 00.7 +0.7**
comp=Z,167nm,1.6s,mb5.7
GRA1 LR LR
comp=Z,800nm,20.0s,MS5.0
GRF Grafenberg Arr 79.12 335 *eP* **P** **07 19 00.7 +0.7**
comp=Z,167nm,1.6s,mb5.7
GRF LR LR
comp=Z,800nm,20.0s,MS5.0
GRF Grafenberg Arr 79.12 335 *eP* **P** **07 19 00.7 +0.7**
GRF pmax pmax
comp=Z,167nm,1.6s,mb5.7
GRF MLR MLR
comp=Z,800nm,20.0s,MS5.0
GRF Grafenberg Arr 79.12 335 *eP* **P** **07 19 00.7 +0.7**
GRF pmax pmax
comp=Z,167nm,1.6s,mb5.7
GRF MLR MLR
comp=Z,800nm,20.0s,MS5.0
SOP Sopron 79.19 331⇑*eP* **P** **07 19 01.3 +0.9**
CCM Cathedral Cave 79.36 46 *eP* **P** **07 19 00.5 -1.1**
comp=Z,12nm,1.1s,mb4.8
CCM LR LR
comp=Z,480nm,20.0s,MS4.8
CCM Cathedral Cave 79.36 46 P **P** **07 19 02.2 +0.6**
CCM pmax pmax
comp=Z,12nm,1.1s,mb4.7
RAO Raoul Island 79.39 153 LR LR 07 49 22.2
comp=Z,617nm,20.6s,MS4.9,baz=88,slow=32
SLM Saint Louis 79.41 45 *eP* **P** **07 19 01.9 +0.1**
TNS Taunus Mts 79.44 337 *eP* **P** **07 19 01.9 +0.2**
comp=Z,80nm,1.6s,mb5.4
TNS Taunus Mts 79.44 337 *eP* **P** **07 19 01.9 +0.2**
TNS pmax pmax
comp=Z,80nm,1.6s,mb5.4
HGN Heimansgroeve 79.61 339⇑*eP* **P** **07 19 02.6 0.0**
comp=Z,61nm,1.6s,mb5.3
HGN *e*PP PP 07 22 00.7 -4.5
HGN *e*S S 07 29 06.0 +6.6
PKSM Moragy 79.72 329 P **P** **07 19 03.2 -0.2**
MOA Molln 79.81 332⇑*iP* **P** **07 19 04.2 +0.4**
comp=Z,144nm,2.3s,mb5.5
FVM French Village 79.82 45 *eP* **P** **07 19 04.0 -0.1**
comp=Z,20nm,1.3s,mb4.9
FVM French Village 79.82 45 P **P** **07 19 06.9 +2.8**
FVM pmax pmax
comp=Z,20nm,1.3s,mb4.9
TOD Tromm 79.89 337⇑*eP* **P** **07 19 04.5 +0.3**
TOD Tromm 79.89 337 *eP* **P** **07 19 04.4 +0.2**
SIND Sindeldorf 79.90 336⇑*eP* **P** **07 19 04.3 +0.1**
ARSA Arzberg 79.91 331⇑*iP* **P** **07 19 04.9 +0.6**
comp=Z,144nm,2.0s,mb5.6
ARSA Arzberg 79.91 331 *i* P **P** **07 19 04.9 +0.6**
comp=Z,144nm,2.0s,mb5.5,SNR=15
ABH Alteburg 79.99 337⇑*eP* **P** **07 19 04.8 +0.1**
SWS Schriesheim 80.03 337 *eP* **P** **07 19 05.3 +0.4**
BEO Belgrade 80.22 327⇑*iP* **P** **07 19 06.4 +0.3**
HASS Wahat al Ahsa' 80.31 296 P **P** **07 19 07.1 +0.2**
KTD Kalmit 80.35 337 *eP* **P** **07 19 06.9 +0.2**
HDH Heidenheim 80.41 335⇑*eP* **P** **07 19 07.1 +0.1**
FUR Furstenfeldbru 80.47 334 *eP* **P** **07 19 07.7 +0.4**
comp=Z,205nm,1.9s,mb5.7
FUR Furstenfeldbru 80.47 334 *eP* **P** **07 19 07.7 +0.4**
FUR pmax pmax
comp=Z,205nm,1.9s,mb5.7
BOLS Boljevac 80.47 326 *i* P **P** **07 19 06.9 -0.5**
GIVF Givet 80.50 339 *eP* **P** **07 19 07.3 -0.1**
STU Stuttgart 80.54 336 *eP* **P** **07 19 07.2 -0.4**
WLF Walferdange 80.56 338 *eP* **P** **07 19 07.8 0.0**
comp=Z,96nm,1.7s,mb5.5
WLF Walferdange 80.56 338 P **P** **07 19 09.6 +1.9**
WLF pmax pmax
comp=Z,96nm,1.7s,mb5.5
PERS Pernice 80.58 331 *eP* **P** **07 19 08.1 +0.2**
GROS Grobnik 80.61 331 *eP* **P** **07 19 08.2 +0.2**
BAIF Baives 80.69 339 *eP* **P** **07 19 08.4 0.0**
comp=Z,114nm,1.6s,mb5.2
BAIF Baives 80.69 339 *eP* **P** **07 19 08.4 0.0**
BAIF pmax pmax
comp=Z,57nm,1.6s,mb5.2
LANF Langenberg 80.74 337 *eP* **P** **07 19 08.9 +0.2**
LBG Lerchenberg 80.75 336 *eP* **P** **07 19 09.0 +0.2**
KBA Koelnbreinsper 80.78 333⇑*iP* **P** **07 19 09.5 +0.5**
comp=Z,167nm,1.8s,mb5.7
KBA Koelnbreinsper 80.78 333⇑*iP* **P** **07 19 09.5 +0.5**
KBA pmax pmax
comp=Z,167nm,1.8s,mb5.7
KDZ Kurdzhali 80.85 322 *eP* **P** **07 19 11.0 +1.6**
GRUS Gruza 80.91 326 *eP* **P** **07 19 08.5 -1.2**
VTS Vitosha 81.00 324 *i* P **P** **07 19 11.0 +0.8**
VTS Vitosha 81.00 324 P **P** **07 19 10.9 +0.7**
DIVS Divcibare 81.01 327⇓*iP* **P** **07 19 10.0 -0.3**
WATA Walderalm 81.11 334⇑*iP* **P** **07 19 11.3 +0.6**
comp=Z,92nm,1.6s,mb5.5
WATA Walderalm 81.11 334⇑*iP* **P** **07 19 11.3 +0.6**
WATA pmax pmax
comp=Z,92nm,1.6s,mb5.5
RZN Rozhen 81.12 323 *eP* **P** **07 19 12.0 +1.1**
WTTA Wattenberg 81.16 334⇑*iP* **P** **07 19 11.9 +0.9**
comp=Z,242nm,1.9s,mb5.8
WTTA Wattenberg 81.16 334 *i* P **P** **07 19 11.9 +0.9**
comp=Z,242nm,1.9s,mb5.8,SNR=9.7
WTTA Wattenberg 81.16 334⇑*iP* **P** **07 19 11.9 +0.9**
WTTA pmax pmax
comp=Z,242nm,1.9s,mb5.8
CRES Cresnjev 81.17 331 *eP* **P** **07 19 10.9 -0.2**
BFO Black Forest 81.18 336 *eP* **P** **07 19 11.3 +0.2**
comp=Z,66nm,1.6s,mb5.3
BFO Black Forest 81.18 336 *eP* **P** **07 19 11.3 +0.2**
BFO pmax pmax
comp=Z,66nm,1.6s,mb5.3
PARMO Parma 81.19 46 *eP* **P** **07 19 12.4 +1.0**
GUT Gutenstein 81.19 336⇓*eP* **P** **07 19 11.4 +0.3**
MOTA Moosalm 81.25 334⇑*iP* **P** **07 19 12.1 +0.7**
comp=Z,112nm,1.6s,mb5.5
MOTA Moosalm 81.25 334⇑*iP* **P** **07 19 12.1 +0.7**
MOTA pmax pmax
comp=Z,112nm,1.6s,mb5.5
UBR Uberruh 81.25 335 *eP* **P** **07 19 11.9 +0.5**
SPAK Spaichingen 81.26 336 *eP* **P** **07 19 12.0 +0.5**
SPAK Spaichingen 81.26 336 *eP* **P** **07 19 11.8 +0.3**
LJU Ljubljana 81.30 331 *eP* **P** **07 19 11.3 -0.4**
SQTA Sankt Quirin 81.33 334⇑*iP* **P** **07 19 12.6 +0.8**
comp=Z,106nm,1.6s,mb5.5
SQTA Sankt Quirin 81.33 334⇑*iP* **P** **07 19 12.6 +0.8**
SQTA pmax pmax
comp=Z,106nm,1.6s,mb5.5
TAOE Nuku Hiva Isla 81.37 112 *e*LR LR 07 44 14.8
comp=Z,2μm,25.4s
WLS Welschbruch 81.38 337 *eP* **P** **07 19 12.4 +0.3**
CDF Champ du Feu 81.40 337 *eP* **P** **07 19 12.3 +0.1**
comp=Z,59nm,1.1s,mb5.1
CDF Champ du Feu 81.40 337 *eP* **P** **07 19 12.3 +0.1**
CDF pmax pmax
comp=Z,30nm,1.1s,mb5.1
BOJS Bojanci 81.53 331 *eP* **P** **07 19 12.9 0.0**
LIBD Limburg 81.55 337 *eP* **P** **07 19 13.3 +0.3**
ACSO Alum Creek Sta 81.55 39 PFAKE 07 19 20.0 +6.8
ACSO LR LR
comp=Z,140nm,20.0s,MS4.3
ECH Echery 81.61 337 *eP* **P** **07 19 13.5 +0.2**
MMB Musomiste 81.61 323 *i* P **P** **07 19 14.0 +0.5**
NVSS Nova Varos 2 81.62 327⇓*iP* **P** **07 19 12.4 -1.1**
KIZ Kirchzarten 81.64 336 *eP* **P** **07 19 13.2 -0.2**
WCI Wyandotte Cave 81.64 42 *eP* **P** **07 19 12.7 -0.9**
comp=Z,9.9nm,0.9s,mb4.7
WCI LR LR
comp=Z,591nm,20.0s,MS4.9
WCI Wyandotte Cave 81.64 42 P **P** **07 19 13.6 -0.1**
WCI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DAVA Damuels 81.67 335⇑*iP* **P** **07 19 14.1 +0.5**
comp=Z,107nm,1.8s,mb5.5
FELD Feldberg 81.69 336 *eP* **P** **07 19 13.9 +0.2**
PQI Presque Isle 81.73 26 PFAKE 07 19 30.0 +16
PQI LR LR
comp=Z,6μm,20.0s
UTMT University of 81.88 45 *eP* **P** **07 19 14.2 -0.7**
comp=Z,48nm,0.6s,mb5.6
MEZF Maizieres J'vi 81.91 338 *eP* **P** **07 19 15.2 +0.4**
THEF They Montfort 81.92 338 *eP* **P** **07 19 15.2 +0.3**
MOF Molkenrain 81.95 337 *eP* **P** **07 19 15.3 +0.2**
NCB Newcomb 81.98 32 PFAKE 07 19 30.0 +15
NCB LR LR
comp=Z,593nm,19.0s,MS5.0
HINF Hinteralfeld 82.06 337 *eP* **P** **07 19 15.5 -0.1**
BBS Basel-Blauen 82.20 336 *eP* **P** **07 19 16.6 +0.3**
SKO Skopje 82.24 325 *i* P **P** **07 19 17.7 +1.0**
PPT Papeete 82.24 125 *e*S S 07 29 24.8 -2.5
PPT *e*LR LR 07 44 29.2
comp=Z,1μm,23.2s,baz=325
PPT Papeete 82.24 125 LR LR 07 49 03.2
comp=Z,752nm,19.4s,MS5.1,baz=299,slow=31
NATX Nacogdoches 82.36 52 PFAKE 07 19 30.0 +12
NATX LR LR
comp=Z,492nm,19.0s,MS4.9
LOMF Lomont 82.49 337 *eP* **P** **07 19 17.9 +0.1**
WVT Waverly 82.56 45 *eP* **P** **07 19 17.4 -1.0**
comp=Z,6.8nm,1.0s,mb4.6
WVT LR LR
comp=Z,459nm,19.0s,MS4.9
WVT Waverly 82.56 45 P **P** **07 19 18.0 -0.5**
WVT pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ASF Jabal al Asfar 82.73 309 P **P** **07 19 19.7 +0.3**
comp=Z,5.5nm,0.8s,mb4.6,baz=143,slow=10,SNR=6.8
ASF LR LR 08 01 40.1
comp=Z,609nm,19.3s,MS5.0,baz=262,slow=40
BINY Binghamton 82.83 34 PFAKE 07 19 30.0 +10
BINY LR LR
comp=Z,717nm,19.0s,MS5.1
FLN La Foliniere 82.99 342 *eP* **P** **07 19 20.7 +0.3**
comp=Z,25nm,0.7s,mb5.0
FLN *e*R
comp=Z,570nm,20.5s
FLN La Foliniere 82.99 342 *eP* **P** **07 19 20.7 +0.3**
FLN pmax pmax
comp=Z,12nm,0.7s,mb5.0
FLN MLR MLR
comp=Z,570nm,20.5s,MS4.9
OXF Oxford 83.04 47 *eP* **P** **07 19 20.6 -0.3**
comp=Z,23nm,1.0s,mb5.2
OXF LR LR
comp=Z,412nm,19.0s,MS4.8
OXF Oxford 83.04 47 P **P** **07 19 24.0 +3.1**
OXF pmax pmax
comp=Z,23nm,1.0s,mb5.2
WVL Waterville 83.07 28 PFAKE 07 19 30.0 +9.2
WVL LR LR
comp=Z,3μm,20.0s,MS5.7
LDF La Druitiere 83.07 342 *eP* **P** **07 19 21.1 +0.3**
QURS Qurayyt al Mil 83.09 308 P **P** **07 19 23.2 +1.9**
PLAL Pickwick Lake 83.35 46 PFAKE 07 19 30.0 +7.5
PLAL LR LR
comp=Z,468nm,20.0s,MS4.9
LOR Lormes 83.36 339 *eP* **P** **07 19 22.5 +0.2**
comp=Z,40nm,0.9s,mb5.2
LOR *e*R
comp=Z,1μm,21.2s
LOR Lormes 83.36 339 *eP* **P** **07 19 22.5 +0.2**
LOR pmax pmax
comp=Z,20nm,0.9s,mb5.2
LOR MLR MLR
comp=Z,1μm,21.3s,MS5.2
CABF La Chapelle 83.38 337 *eP* **P** **07 19 23.0 +0.7**
MCWV Mont Chateau 83.39 38 P **P** **07 19 23.8 +1.2**
MCWV LR LR
comp=Z,533nm,20.0s,MS4.9
GRR Gorron 83.43 342 *eP* **P** **07 19 23.0 +0.4**
comp=Z,31nm,0.8s,mb5.1
GRR Gorron 83.43 342 *eP* **P** **07 19 23.0 +0.4**
GRR pmax pmax
comp=Z,15nm,0.8s,mb5.1
HILS Ha'il 83.55 303 P **P** **07 19 25.2 +1.5**
SSF Saint Saulge 83.64 339 *eP* **P** **07 19 24.1 +0.5**
comp=Z,83nm,1.5s,mb5.3
SSF Saint Saulge 83.64 339 *eP* **P** **07 19 24.1 +0.5**
SSF pmax pmax
comp=Z,41nm,1.5s,mb5.3
EMMW East Machias 83.66 27 PFAKE 07 19 40.0 +16
EMMW LR LR
comp=Z,3μm,21.0s,MS5.6
SGMF Saint Gilles 83.92 343 *eP* **P** **07 19 24.9 0.0**
AVF Avril sur Loir 83.94 339 *eP* **P** **07 19 25.6 +0.5**
SMF Signal de Mont 83.94 338 *eP* **P** **07 19 25.7 +0.6**
MZLS Mizel 83.96 298 P **P** **07 19 26.9 +1.2**
ROSF Rostrenen 83.98 344 *eP* **P** **07 19 26.0 +0.7**
comp=Z,66nm,1.0s,mb5.4
ROSF Rostrenen 83.98 344 *eP* **P** **07 19 26.0 +0.7**
ROSF pmax pmax
comp=Z,33nm,1.0s,mb5.4
LPL La Plagne 84.20 336 *eP* **P** **07 19 27.8 +1.4**
comp=Z,119nm,1.4s,mb5.5
LPL La Plagne 84.20 336 *eP* **P** **07 19 27.8 +1.4**
LPL pmax pmax
comp=Z,59nm,1.4s,mb5.5
LPG La Plagne 84.21 336 *eP* **P** **07 19 28.0 +1.5**
comp=Z,162nm,1.4s,mb5.7
LPG La Plagne 84.21 336 *eP* **P** **07 19 28.0 +1.5**
LPG pmax pmax
comp=Z,81nm,1.4s,mb5.7
HRV Harvard--Oak R 84.22 31 PFAKE 07 19 40.0 +13
HRV LR LR
comp=Z,470nm,20.0s,MS4.9
SWET Sewanee 84.22 44 *eP* **P** **07 19 25.2 -1.6**
BGF Bois d'Agland 84.28 339 *eP* **P** **07 19 27.4 +0.6**
VLC Villacollemand 84.33 333 *eP* **P** **07 19 27.7 +0.5**
comp=Z,12nm,0.9s,mb5.0
QUIF Quistinic 84.36 343 *eP* **P** **07 19 27.4 +0.2**
BNI Bardonecchia 84.64 336 *eP* **P** **07 19 29.5 +0.9**
comp=Z,40nm,1.4s,mb5.3
BNI Bardonecchia 84.64 336 P **P** **07 19 30.1 +1.4**
BNI pmax pmax
comp=Z,40nm,1.3s,mb5.4
TCF Toulx Ste Croi 84.69 339 *eP* **P** **07 19 29.4 +0.5**
CPCT Cooper Cave 84.72 43 *eP* **P** **07 19 28.8 -0.5**
GRN Grenoble 84.73 337 *eP* **P** **07 19 30.4 +1.3**
MBDF Montbardon 84.91 336 *eP* **P** **07 19 30.7 +0.7**
comp=Z,26nm,0.7s,mb5.1
MBDF Montbardon 84.91 336 *eP* **P** **07 19 30.7 +0.7**
MBDF pmax pmax
comp=Z,13nm,0.7s,mb5.2
AQU L'Aquila 84.93 330 *eP* **P** **07 19 30.3 +0.2**
comp=Z,22nm,0.9s,mb5.3
AQU L'Aquila 84.93 330 P **P** **07 19 31.7 +1.5**
AQU pmax pmax
comp=Z,22nm,1.0s,mb5.2
MFF Saint Martin d 84.96 341 *eP* **P** **07 19 31.6 +1.4**
comp=Z,40nm,0.9s,mb5.2
MFF Saint Martin d 84.96 341 *eP* **P** **07 19 31.6 +1.4**
MFF pmax pmax
comp=Z,20nm,0.9s,mb5.2
ORIF Oris-en-Rattie 84.99 336 *eP* **P** **07 19 31.7 +1.3**
comp=Z,38nm,0.7s,mb5.4
ORIF *e*R
comp=Z,907nm,20.0s
ELN Prospectdale 85.01 39 *eP* **P** **07 19 30.1 -0.7**
COLF Collangettes 85.03 338 *eP* **P** **07 19 31.7 +1.1**
SURF Saint Ours 85.12 336 *eP* **P** **07 19 32.2 +1.1**
CII Carovilli 85.17 329 *eP* **P** **07 19 31.4 +0.1**
comp=Z,93nm,1.7s,mb5.6
BLA Blacksburg 85.17 39 PFAKE 07 19 40.0 +8.5
BLA LR LR
comp=Z,599nm,20.0s,MS5.0
MYNC Murphy 85.21 43 PFAKE 07 19 40.0 +8.2
MYNC LR LR
comp=Z,934nm,22.0s,MS5.1
SAOF Saorge 85.35 335 *eP* **P** **07 19 32.7 +0.5**
VIVF Saint-Julien-l 85.38 337 *eP* **P** **07 19 33.5 +1.2**
comp=Z,15nm,0.7s,mb4.9
VIVF Saint-Julien-l 85.38 337 *eP* **P** **07 19 33.5 +1.2**
VIVF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
AUTN L'Aution 85.38 335 *eP* **P** **07 19 33.1 +0.7**
AFFS 'Afif 85.39 300 P **P** **07 19 34.0 +1.1**
TOUF Mont Tournerai 85.42 335 *eP* **P** **07 19 33.2 +0.6**
LRAL Lakeview Retre 85.44 46 PFAKE 07 19 40.0 +7.1
LRAL LR LR
comp=Z,590nm,21.0s,MS5.0
OCF Saint Nazaire 85.46 337 *eP* **P** **07 19 34.3 +1.6**
OG26 St.-Nazaire-De 85.46 337 *eP* **P** **07 19 34.3 +1.6**
SBF Sospel 85.50 335 *eP* **P** **07 19 33.2 +0.2**
MVIF Mont Vial 85.56 335 *eP* **P** **07 19 33.5 +0.3**
REVF Revere 85.64 335 *eP* **P** **07 19 34.0 +0.4**
CBN Corbin 85.66 37 PFAKE 07 19 50.0 +16
CBN LR LR
comp=Z,599nm,20.0s,MS5.0
CALN Calern 85.77 335 *eP* **P** **07 19 35.1 +0.8**
RJF Les Rejaudoux 85.78 339 *eP* **P** **07 19 35.6 +1.3**
RJF *e*R
comp=Z,1μm,22.0s
JMQS Jabal Moqyreh 85.81 308 P **P** **07 19 36.2 +1.4**
ALWS Ilw as Safayha 85.93 309 P **P** **07 19 37.1 +1.7**
SMRF Simiane la Rot 85.94 336 *eP* **P** **07 19 36.2 +1.1**
CAF Calviac 86.00 339 *eP* **P** **07 19 36.2 +0.8**
comp=Z,60nm,1.3s,mb5.4
CAF Calviac 86.00 339 *eP* **P** **07 19 36.2 +0.8**
CAF pmax pmax
comp=Z,30nm,1.3s,mb5.4
FRF La Foret Royal 86.01 335 *eP* **P** **07 19 35.8 +0.3**
JMOS Jabal al Moall 86.02 308 P **P** **07 19 37.3 +1.5**
TAVF Tavernes 86.13 336 *eP* **P** **07 19 37.3 +1.3**
HAQS Haql 86.20 308 P **P** **07 19 37.9 +1.1**
PRAF Pradon 86.21 336 *eP* **P** **07 19 38.2 +1.8**
PGF Pioggiola 86.22 333 *eP* **P** **07 19 36.9 +0.4**
comp=Z,21nm,0.8s,mb5.1
PGF Pioggiola 86.22 333 *eP* **P** **07 19 36.9 +0.4**
PGF pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
KBRS Khaybar 86.24 303 P **P** **07 19 38.3 +1.3**
LMR La Mourre 86.26 335 *eP* **P** **07 19 37.2 +0.5**
PUYF Puyloubier 86.31 336 *eP* **P** **07 19 38.3 +1.4**
LFF La Frestale 86.31 340 *eP* **P** **07 19 38.5 +1.6**
comp=Z,33nm,0.8s,mb5.3
LFF La Frestale 86.31 340 *eP* **P** **07 19 38.5 +1.6**
LFF pmax pmax
comp=Z,16nm,0.8s,mb5.3
LASF Ste Croix 86.32 337 *eP* **P** **07 19 37.8 +0.8**
TIP Timpagrande 86.47 327 *eP* **P** **07 19 37.7 -0.2**
URZ Urewera 86.49 160 LR LR 07 52 29.4
comp=Z,553nm,19.4s,MS5.0,baz=31,slow=32
BERF Bertagne 86.52 336 *eP* **P** **07 19 39.0 +1.1**
GELF Grande-Etoile 86.53 336 *eP* **P** **07 19 39.2 +1.2**
GOGA Godfrey 86.88 43 PFAKE 07 19 50.0 +10
GOGA LR LR
comp=Z,440nm,20.0s,MS4.9
TBI Tubuai 86.89 128 *e*S S 07 30 10.8 -2.1
TBI *e*LR LR 07 46 04.2
comp=Z,791nm,31.2s,baz=325
MTLF Montolieu 87.44 338 *eP* **P** **07 19 42.9 +0.5**
FILF Fillols 88.08 338 *eP* **P** **07 19 47.4 +1.9**
MLS Moulis 88.09 339 *eP* **P** **07 19 45.5 0.0**
EPF Esparros 88.21 339 *eP* **P** **07 19 47.1 +1.0**
RESF Ens 88.42 339 *eP* **P** **07 19 47.8 +0.7**
ETSF Etsaut 88.55 340 *eP* **P** **07 19 49.1 +1.3**
NHSC New Hope 88.69 41 PFAKE 07 20 00.0 +11
NHSC LR LR
comp=Z,588nm,22.0s,MS5.0
SNZO South Karori 88.88 163 PFAKE 07 20 00.0 +11
SNZO LR LR
comp=Z,482nm,20.0s,MS4.9
RPZ Rata Peaks 90.52 166 LR LR 07 57 56.8
comp=Z,411nm,18.4s,MS4.9,baz=4.1,slow=34
DWPF Disney 92.22 45 PFAKE 07 20 20.0 +15
DWPF LR LR
comp=Z,403nm,21.0s,MS4.8
ESDC Sonseca Array 92.41 341 P **P** **07 20 05.0 -0.9**
comp=Z,0.2nm,0.3s,baz=358,slow=2.7,SNR=5.9
ESLA Sonseca Array 92.41 341 PFAKE 07 20 20.0 +14
ESLA LR LR
comp=Z,3μm,21.0s,MS5.7
ATD Arta Tunnel 94.69 292 LR LR 08 08 43.7
comp=Z,460nm,18.4s,MS5.0,baz=329,slow=39
RKT Rikitea 95.26 118 *e*PS PS 07 33 02.3 +5.1
RKT Rikitea 95.26 118 *e*SKSac 07 30 47.7
RKT *e*SS SS 07 38 00.9 +1.7
RKT *e*LR LR 07 50 07.3
comp=Z,620nm,30.8s,baz=315
BBSR BB Station 95.71 30 PFAKE 07 20 30.0 +9.0
BBSR LR LR
comp=Z,506nm,20.0s,MS5.0
CMLA Cha da Macela 97.04 358 PFAKE 07 20 40.0 +13
CMLA LR LR
comp=Z,3μm,22.0s,MS5.8
MSEY Mahe Island 97.70 271 PFAKE 07 20 40.0 +9.5
MSEY LR LR
comp=Z,93nm,20.0s,MS4.3
SJG San Juan 107.92 38 PFAKE 07 25 30.0
SJG LR LR
comp=Z,292nm,19.0s,MS4.9
MBAR Mbarara 111.67 293 PFAKE 07 25 40.0 +11
MBAR LR LR

	comp=Z,149nm,19.0s,MS4.6						
SDV	**Santo Domingo**	**113.82**	**47**	PFAKE		07 25 50.0	+17
SDV				LR	LR		
	comp=Z,287nm,19.0s,MS4.9						
CASY	**Casey**	**115.89**	**197**	PFAKE		07 25 50.0	+14
CASY				LR	LR		
	comp=Z,759nm,21.0s,MS5.3						
VNDA	**Vanda**	**122.95**	**177**	PKP	PKPdf	07 25 49.5	0.0
	comp=Z,0.6nm,0.6s,baz=297,slow=2.9,SNR=4.5						
VNDA	**Vanda**	**122.95**	**177**	PKIKP	PKPdf	07 25 49.5	+0.1
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DBIC	**Dimbokro**	**123.95**	**332**	PFAKE		07 26 10.0	+17
DBIC				LR	LR		
	comp=Z,343nm,20.0s,MS5.0						
LSZ	**Lusaka**	**124.13**	**284**	PFAKE		07 26 10.0	+17
LSZ				LR	LR		
	comp=Z,493nm,20.0s,MS5.2						
NNA	**Nana**	**127.00**	**67**	PFAKE		07 26 10.0	+11
NNA				LR	LR		
	comp=Z,51nm,22.0s,MS4.2						
SAML	**Samuel**	**132.79**	**50**	PFAKE		07 26 20.0	+10
SAML				LR	LR		
	comp=Z,207nm,21.0s,MS4.8						
TSUM	**Tsumeb**	**134.04**	**289**	PFAKE		07 26 20.0	+8.1
TSUM				LR	LR		
	comp=Z,424nm,21.0s,MS5.1						
LPAZ	**La Paz**	**135.75**	**62**	PKP	PKPdf	07 26 16.6	+1.6
	comp=Z,1.5nm,0.8s,baz=38,slow=9.3,SNR=8.2						
LPAZ	**La Paz**	**135.75**	**62**	PKP	PKPdf	07 26 16.6	+1.6
LPAZ				LR	LR		
	comp=Z,222nm,20.0s,MS4.9						
LVC	**Limon Verde**	**139.88**	**69**	PKP	PKPdf	07 26 23.8	+1.4
	comp=Z,2.1nm,0.8s,baz=235,slow=4.9,SNR=3.1						
LVC	**Limon Verde**	**139.88**	**69**	PKP	PKPdf	07 26 23.8	+1.4
LVC				LR	LR		
	comp=Z,392nm,21.0s,MS5.1						
RCBR	**Riachuelo**	**139.88**	**12**	PFAKE		07 26 40.0	+17
RCBR				LR	LR		
	comp=Z,188nm,20.0s,MS4.8						
SUR	**Sutherland**	**140.24**	**272**	PFAKE		07 26 40.0	+17
SUR				LR	LR		
	comp=Z,249nm,19.0s,MS5.0						
BDFB	**Brasilia**	**145.88**	**35**	PKPbc	PKPbc	07 26 35.1	+1.1
	comp=Z,3.8nm,0.7s,baz=267,slow=4.8,SNR=5.3						
BDFB	**Brasilia**	**145.88**	**35**	PKP2	PKPab	07 26 35.1	-1.2
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BAO	**Brasilia Array**	**145.88**	**35**	PKPdf	PKPdf	07 26 35.0	+2.0
CFAA	**Coronel Fontan**	**146.15**	**80**	PKPbc	PKPbc	07 26 34.7	+0.5
	comp=Z,0.3nm,0.7s,baz=338,slow=6.7,SNR=6.4						
CFAA	**Coronel Fontan**	**146.15**	**80**	PKPbc	PKPbc	07 26 34.7	+0.5
NVL	**N'lazarevskaya**	**148.14**	**204**	⇓*i*PKP2	PKPab	07 26 53.4	+10
NVL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PLCA	**Paso Flores**	**149.04**	**96**	PKPbc	PKPdf	07 26 42.9	+5.4
	comp=Z,2.8nm,0.9s,baz=289,slow=4.5,SNR=6.8						
PLCA	**Paso Flores**	**149.04**	**96**	PKP2	PKPab	07 26 42.9	-5.2
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CPUP	**Villa Florida**	**149.90**	**60**	PKPbc	PKPdf	07 26 44.5	+5.1
	comp=Z,6.0nm,0.8s,baz=1.1,slow=2.6,SNR=12						
CPUP	**Villa Florida**	**149.90**	**60**	PKHKP		07 26 44.5	
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SNAA	**Sanae**	**151.13**	**196**	⇑*i*	PKPdf	07 26 46.3	+6.5
SNAA	**Sanae**	**151.13**	**196**	*e*	PKPdf	07 26 53.8	+14
SNAA	**Sanae**	**151.13**	**196**	*e*	PKPdf	07 26 58.5	+19
SNAA	**Sanae**	**151.13**	**196**	*e*	PKPdf	07 27 11.1	+31
SNAA	**Sanae**	**151.13**	**196**	PKPbc	PKPdf	07 26 46.3	+6.5
	comp=Z,1.5nm,0.8s,baz=176,slow=1.3,SNR=37						
SNAA	**Sanae**	**151.13**	**196**	PKP	PKPdf	07 26 42.8	+2.9
SNAA				⇑*i*P		07 26 46.3	
SNAA				*e*		07 26 53.8	
SNAA				*e*		07 26 58.5	
SNAA				*e*		07 27 11.1	
SNAA	**Sanae**	**151.13**	**196**	PKIKP	PKPdf	07 26 46.3	+6.5
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNA2	**Neumayer--Watz**	**152.59**	**195**	*e*	PKPdf	07 26 57.7	+16
VNA2	**Neumayer--Watz**	**152.59**	**195**	*e*	PKPdf	07 27 01.7	+20
VNA2	**Neumayer--Watz**	**152.59**	**195**	*e*	PKPdf	07 27 14.0	+32
VNA2	**Neumayer--Watz**	**152.59**	**195**	⇑*i*P	PKPdf	07 26 50.0	+8.0
VNA2				*e*		07 26 57.7	
VNA2				*e*		07 27 01.7	
VNA2				*e*		07 27 14.0	
VNA3	**Neumayer Olymp**	**152.70**	**193**	*e*	PKPdf	07 26 57.6	+15
VNA3	**Neumayer Olymp**	**152.70**	**193**	*e*	PKPdf	07 27 02.1	+20
VNA3	**Neumayer Olymp**	**152.70**	**193**	*e*	PKPdf	07 27 14.7	+33
VNA3	**Neumayer Olymp**	**152.70**	**193**	⇑*i*P	PKPdf	07 26 49.9	+7.8
VNA3				*e*		07 26 57.6	
VNA3				*e*		07 27 02.1	
VNA3				*e*		07 27 14.7	
VNA1	**Neumayer--Stat**	**152.98**	**195**	*e*	PKPdf	07 26 59.3	+17
VNA1	**Neumayer--Stat**	**152.98**	**195**	*e*	PKPdf	07 27 03.9	+21
VNA1	**Neumayer--Stat**	**152.98**	**195**	*e*	PKPdf	07 27 17.3	+35
VNA1	**Neumayer--Stat**	**152.98**	**195**	⇑*i*P	PKPdf	07 26 51.7	+9.2
VNA1				*e*		07 26 59.3	
VNA1				*e*		07 27 03.9	
VNA1				*e*		07 27 17.3	

NNC 03 07:47:10.3±11.0**, 36.59N×70.66E, h83**^{km}±283^{km}**, mpv3.8, 3C-1D, Error ellipse: s-maj=89.7km s-min=77.5km az=148.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.50**	**359**	P	P	07 48 43.9	-1.3
	2.0nm,0.2s,baz=184,slow=13,SNR=111						
KK31				⇓S	S	07 49 58.3	-0.3
	1.3nm,0.5s,baz=183,slow=25,SNR=3.6						
AAK	**Ala-Archa**	**6.72**	**25**	⇑P	P	07 48 46.3	-1.9
	2.4nm,0.4s						
AAK				⇑S	S	07 50 00.0	-3.9
	8.1nm,0.9s						
AB31	**Akbulak array**	**14.87**	**332**	⇑P	P	07 50 36.3	-0.9
	0.4nm,0.3s,baz=171,slow=11,SNR=23						

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*IDC **03** 07:53:28.6±1.0, 2.26N×126.95E, mb4.1/6, mb1 4.3/6, mb1mx4.0/15, mbtmp4.1/6, Error ellipse: s-maj=89.4km s-min=13.7km az=71.0*

*NEIC **03** 07:53:30.5±0.6, 2.29N×126.90E, h10^{km}, mb4.3/4, Error ellipse: s-maj=56.1km s-min=9.3km az=71.0*

ISC 03 07:53:32.5±0.8**, 2.1N**±0.2×**126.3E**±0.5**, h33**^{km}**, n12, σ0^{s}49**/13**, mb4.3**/7**, 1D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.07**	**182**	*e*P	**P**	**07 58 07.1**	**+1.1**
	4.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.07**	**182**	P	**P**	**07 58 05.4**	**-0.6**
	5.4nm,0.5s,baz=359,slow=7.9,SNR=9.4						
WRAB	**Tennant Creek**	**23.26**	**161**	*e*P	**P**	**07 58 38.0**	**-0.1**
	7.1nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**23.26**	**161**	P	**P**	**07 58 38.2**	**+0.1**
	4.7nm,0.7s,mb4.0,baz=345,slow=9.7,SNR=48						
WRA				S	**S**	**08 02 49.7**	**+5.4**
	0.5nm,0.7s,baz=332,slow=20,SNR=3.2						
WB2	**Warramunga Arr**	**23.27**	**161**	⇓*i*P	**P**	**07 58 38.3**	**+0.1**
STKA	**Stephens Creek**	**36.75**	**158**	*e*P	**P**	**08 00 38.7**	**-0.1**
	3.2nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**36.75**	**158**	P	**P**	**08 00 38.3**	**-0.5**
	2.7nm,0.7s,mb4.2,baz=340,slow=11,SNR=8.3						
SONM	**Songino Array**	**48.72**	**342**	P	**P**	**08 02 16.2**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=166,slow=5.9,SNR=5.2						
MKAR	**Makanchi Array**	**58.68**	**326**	P	**P**	**08 03 29.3**	**+0.2**
	1.0nm,0.3s,mb4.3,baz=109,slow=8.0,SNR=16						
KURK	**Kurchatov**	**62.91**	**328**	*e*P	**P**	**08 03 56.9**	**-0.9**
	3.1nm,0.5s,mb4.7						
ARCES	**ARCESS Array B**	**91.84**	**340**	P	**P**	**08 06 38.5**	**+0.4**
	1.6nm,0.8s,mb4.4,baz=63,slow=4.0,SNR=2.4						
ARCES	**ARCESS Array B**	**91.84**	**340**	P	**P**	**08 06 38.5**	**+0.3**

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*THR **03** 07:53:55.2±0.4, 37.51N×56.60E, h15^{km}, ML4.0*

*IDC **03** 07:54:05.1±1.7, 37.03N×55.66E, mb3.9/7, mb1 4.1/10, mb1mx3.8/23, mbtmp3.9/10, Error ellipse: s-maj=42.2km s-min=17.7km az=177.0*

*CSEM **03** 07:54:06.1±0.1, 37.13N×55.67E, h12^{km}, ML4.2, Error ellipse: s-maj=4.5km s-min=1.8km az=166.0*

*NEIC **03** 07:54:07.3±0.4, 37.13N×55.67E, h10^{km}, mb3.7/3, ML4.2(TEH), Error ellipse: s-maj=7.5km s-min=4.9km az=162.0*

*MOS **03** 07:54:08.2±2.3, 37.23N×55.62E, h33^{km}, mb4.4/1, Error ellipse: s-maj=12.8km s-min=11.7km az=127.9*

*NNC **03** 07:54:09.1±14.0, 37.28N×55.26E, h32^{km}±137^{km}, Error ellipse: s-maj=136.0km s-min=58.0km az=65.0*

*TEH **03** 07:54:09.7, 36.90N×55.73E, h10^{km}, Mn4.2*

ISC 03 07:54:06.2±0.3**, 37.32N**±0.04×**55.62E**±0.04**, h10**^{km}**, n62, σ1^{s}29**/65**, mb4.1**/13**, 6C-1D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**1.91**	**235**	Pn	**Pn**	**07 54 39.3**	**+0.2**
ISFR	**Esferayen**	**1.92**	**97**	Pn	**Pn**	**07 54 42.5**	**+3.2**
IGLO	**Galoogah**	**1.98**	**240**	Pn	**Pn**	**07 54 34.4**	**-5.7**
IANJ	**Anjiloo**	**2.30**	**217**	Pn	**Pn**	**07 54 43.3**	**-1.4**
IQHU	**Quchan**	**2.35**	**95**	Pn	**Pn**	**07 54 46.8**	**+1.3**
IKRD	**Kardeh**	**2.39**	**102**	Pn	**Pg**	**07 54 57.7**	**+3.9**
ISHM	**Shahmirzad**	**2.40**	**232**	Pn	**Pn**	**07 54 47.0**	**+0.8**
IPAY	**Payeh**	**2.84**	**107**	Pn	**Pn**	**07 54 51.9**	**-0.6**
IFIR	**Firoozkooh**	**2.85**	**235**	Pn	**Pn**	**07 54 53.0**	**+0.4**
IFIR				Sn	**Sn**	**07 55 25.4**	**-1.9**
ILAS	**Lasjerd**	**2.88**	**229**	Pn	**Pn**	**07 54 53.1**	**0.0**
IPRN	**Paran-Amol**	**2.91**	**249**	Pn	**Pn**	**07 54 52.6**	**-0.9**
IMOG	**Moghan**	**3.23**	**111**	Pn	**Pn**	**07 54 57.4**	**-0.5**
MHI	**Mashhad**	**3.25**	**107**	Pn	**Pn**	**07 54 57.6**	**-0.7**
IDMV	**Damavand**	**3.37**	**240**	Pn	**Pn**	**07 55 00.8**	**+0.8**
DAMV	**Damavand**	**3.38**	**241**	*e*PN	**Pn**	**07 55 00.9**	**+0.7**
DAMV				AML	AML	07 56 04.7	
	comp=N,278nm,0.8s						
IAFJ	**Afjeh**	**3.46**	**246**	Pn	**Pn**	**07 55 02.3**	**+1.0**
IMYA	**Miamay**	**3.73**	**104**	Pn	**Pn**	**07 55 04.8**	**-0.3**
IVRN	**Varamin**	**3.91**	**235**	Pn	**Pn**	**07 55 06.8**	**-0.8**
IVRN				Lg		07 56 06.4	
THKV	**Tehran--Karaj**	**4.06**	**251**	*e*PN	**Pn**	**07 55 10.2**	**+0.5**
IMHD	**Mahdasht**	**4.31**	**249**	Pn	**Pn**	**07 55 14.3**	**+1.0**
QAM	**Qamsar**	**4.61**	**223**	Pn	**Pn**	**07 55 20.0**	**+2.4**
IRAZ	**Razeghan**	**4.97**	**249**	Pn	**Pn**	**07 55 28.8**	**+6.1**
NASN	**Na'in**	**5.06**	**208**	*e*PN	**Pn**	**07 55 20.7**	**-3.3**
NASN				AML	AML	07 57 06.6	
	comp=N,46nm,0.6s						
ICHK	**Chekchek**	**5.16**	**191**	Pn	**Pn**	**07 55 21.1**	**-4.2**
ASAO	**Ashtian**	**5.31**	**240**	*e*PN	**Pn**	**07 55 27.3**	**-0.2**
ASAO				AML	AML	07 56 57.7	
	comp=N,38nm,0.7s						
IBAF	**Bafgh**	**5.71**	**180**	Pn	**Pn**	**07 55 28.8**	**-4.4**
IMEH	**Mehriz**	**5.97**	**188**	Pn	**Pn**	**07 55 32.3**	**-4.5**
GRMI	**Germi**	**6.27**	**286**	*e*PN	**Pn**	**07 55 39.4**	**-1.7**
SNGE	**Sanandaj**	**7.04**	**254**	*e*Pn	**Pn**	**07 55 51.1**	**-0.8**
GNI	**Garni**	**8.96**	**292**	Pn	**P**	**07 56 18.4**	**-0.2**
	comp=N,0.7nm,0.3s,baz=42,slow=11,SNR=5.6						
KIV	**Kislovodsk**	**11.84**	**308**	*e*P	**P**	**07 56 55.6**	**-2.5**
KIV	**Kislovodsk**	**11.84**	**308**	⇑*e*P	**P**	**07 56 55.8**	**-2.3**
KIV				pmax	pmax		
	comp=Z,12nm,0.7s						
GOF	**Gofitskoye**	**12.22**	**313**	*e*P	**P**	**07 57 00.5**	**-2.7**
AB31	**Akbulak array**	**12.34**	**13**	⇑P	**P**	**07 57 04.0**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=195,slow=12,SNR=18						
AB31				⇑S	**S**	**07 59 19.9**	**-3.5**
	comp=Z,4.7nm,0.7s,baz=203,slow=26,SNR=9.3						
KK31	**Karatay Array**	**12.76**	**58**	P	**P**	**07 57 07.8**	**-2.6**
	comp=Z,1.4nm,0.5s,baz=239,slow=15,SNR=16						
AKTO	**Aktyubinsk**	**13.23**	**7**	⇓P	**P**	**07 57 16.4**	**-0.2**
	comp=Z,2.9nm,1.4s						
AKTO				⇑S	**S**	**07 59 43.0**	**-1.8**
	comp=Z,1.8nm,1.1s						
AAK	**Ala-Archa**	**15.41**	**64**	*e*P	**P**	**07 57 40.7**	**-4.5**
	comp=Z,2.7nm,0.9s						
AAK	**Ala-Archa**	**15.41**	**64**	*i* P	**P**	**07 57 41.2**	**-4.0**
BRTR	**Keskin Array B**	**17.36**	**285**	P	**P**	**07 58 11.2**	**+1.1**
	baz=117,slow=9.7,SNR=5.2						
BRVK	**Borovoye**	**18.77**	**28**	*e*P	**P**	**07 58 26.6**	**-0.9**
	comp=Z,3.3nm,0.8s						
BRVK	**Borovoye**	**18.77**	**28**	*e*P	**P**	**07 58 26.6**	**-0.9**
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**18.77**	**28**	*e*P	**P**	**07 58 26.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VOSK	**Vostochnaya**	**18.79**	**30**	⇑P	**P**	**07 58 27.8**	**+0.2**
	comp=Z,5.8nm,1.2s						
BVA0	**Borovoye Array**	**18.79**	**29**	⇑P	**P**	**07 58 28.0**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=199,slow=9.2,SNR=51						
BVAR	**Borovoye Array**	**18.79**	**29**	P	**P**	**07 58 26.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=220,slow=11,SNR=6.8						
ARU	**Arti**	**19.22**	**5**	*i* P	**P**	**07 58 36.1**	**+3.3**
KURK	**Kurchatov**	**21.18**	**43**	*e*P	**P**	**07 58 54.7**	**+0.9**
	comp=Z,13nm,1.2s,mb4.1						
KURK	**Kurchatov**	**21.18**	**43**	*e*P	**P**	**07 58 54.7**	**+0.9**
KURK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.1						
MK31	**Makanchi Array**	**21.86**	**56**	P	**P**	**07 59 01.6**	**+0.8**
	comp=Z,1.6nm,0.7s,mb3.6,baz=244,slow=11,SNR=16						
MK31	**Makanchi Array**	**21.86**	**56**	P	**P**	**07 59 01.5**	**+0.7**
	SNR=16						
MKAR	**Makanchi Array**	**21.86**	**56**	P	**P**	**07 59 01.2**	**+0.4**
	comp=Z,1.9nm,0.6s,mb3.7,baz=248,slow=13,SNR=14						
AKASG	**Malin Array Be**	**23.07**	**314**	P	**P**	**07 59 12.8**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.6,baz=119,slow=9.9,SNR=12						
MLR	**Muntele Rosu**	**23.61**	**300**	P	**P**	**07 59 19.2**	**+1.3**
	comp=Z,2.3nm,0.6s,mb3.8,baz=101,slow=5.2,SNR=3.5						
IDI	**Anoyia**	**24.80**	**275**	P	**P**	**07 59 30.1**	**+0.6**
	comp=Z,17nm,0.9s,mb4.6,baz=84,slow=19,SNR=3.2						
GKN	**Gorkha**	**26.05**	**102**	*e*P	**P**	**07 59 41.8**	**+0.4**
	comp=Z,12nm,0.6s,mb4.6						
ZAL	**Zalesovo**	**26.05**	**41**	P	**P**	**07 59 43.2**	**+2.0**
	comp=Z,1.2nm,0.3s,mb3.9,baz=300,slow=21,SNR=3.3						
DMN	**Daman**	**26.61**	**103**	*e*P	**P**	**07 59 45.8**	**-0.7**
	comp=Z,16nm,0.9s,mb4.6						
KKN	**Kakani**	**26.66**	**102**	*e*P	**P**	**07 59 48.5**	**+1.5**
	comp=Z,11nm,0.5s,mb4.6						
PKI	**Pulchoki**	**26.86**	**103**	*e*P	**P**	**07 59 48.6**	**-0.2**
	comp=Z,18nm,0.8s,mb4.7						
GERES	**GERESS Array B**	**32.32**	**304**	P	**P**	**08 00 39.4**	**+2.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=98,slow=6.9,SNR=4.1						
CLL	**Collm**	**33.05**	**309**	P	**P**	**08 00 46.0**	**+2.3**
WRA	**Warramunga Arr**	**93.32**	**112**	P	**P**	**08 07 20.0**	**-2.7**
	comp=Z,0.3nm,0.8s,mb3.8,baz=317,slow=3.9,SNR=4.6						

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*NIED **03** 08:10:00, 45.70N×151.80E, h11^{km}, Mw4.6 Best double couple: $M_0$8.17×10^{15} NP1:ϕ_s43°, δ59°, λ77°. NP2:ϕ_s247°, δ34°, λ110°.*

*SKHL **03** 08:10:13.8±0.7, 45.38N×152.10E, h35^{km}±1^{km}, mb4.6/5, Ms4.4/1, msh5.5/2*

*MOS **03** 08:10:19.3±1.0, 45.59N×151.68E, h35^{km}, mb5.0/35, Error ellipse: s-maj=8.5km s-min=6.0km az=101.8*

*BJI **03** 08:10:21.0, 45.60N×151.58E, h46^{km}, mB4.9, mb4.9, Ms4.4, Msz4.1*

*NEIC **03** 08:10:22.7±0.9, 45.63N×151.65E, h48^{km}±9^{km}, mb4.8/42, Error ellipse: s-maj=10.8km s-min=4.8km az=177.0*

*IDC **03** 08:10:22.3±0.6, 45.61N×151.70E, h49^{km}±5^{km}, mb4.0/20, mb1 4.3/22, mb1mx4.2/28, mbtmp4.3/22, MS4.0/5, Ms1 4.0/5, ms1mx3.5/25, Error ellipse: s-maj=18.6km s-min=11.9km az=157.0*

ISC 03 08:10:21.2±0.3**, 45.63N**±0.06×**151.65E**±0.05**, h49**^{km}±2.2^{km}**:pP-P, n202, σ1^{s}00**/202**, mb4.7**/71**, MS4.1**/12**, 14C-4D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.69**	**263**	*e*P	**P**	**08 11 00.5**	**-2.6**
KUR				AMB	AMB	08 11 03.5	
	110nm,0.8s						
KUR				AMB	AMB	08 11 03.5	
	190nm,0.8s						
KUR				*i* S	**S**	**08 11 35.0**	**+0.3**
KUR				A		08 11 48.3	
	710nm,0.8s						
KUR				A		08 11 48.3	
	350nm,0.8s						
KUR				A		08 12 09.0	
	5µm,2.5s						
KUR				A		08 12 09.0	
	4µm,2.5s						
KUR	**Kuril'sk**	**2.69**	**263**	PN	**P**	**08 11 00.5**	**-2.6**
KUR				*i* S	**S**	**08 11 35.0**	**+0.3**
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,190nm,0.8s						
KUR				smax			
	comp=N,710nm,0.8s						
KUR				smax			
	comp=E,350nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**4.41**	**251**	*e*P	**P**	**08 11 24.5**	**-3.0**
YUK				*e*S	**S**	**08 12 18.0**	**-0.2**
YUK				A		08 12 32.0	
	comp=E,2µm,2.0s						
YUK				A		08 12 32.0	
	comp=E,3µm,2.0s						
YUK				A		08 12 34.7	
	comp=E,230nm,0.5s						
YUK				A		08 12 34.7	
	comp=E,380nm,0.5s						
SKR	**Severo-Kuril's**	**5.88**	**29**	*e*P	**P**	**08 11 42.5**	**-5.3**
SKR				AMB	AMB	08 11 45.0	
	comp=E,110nm,0.5s						
SKR				sP		08 11 55.9	
SKR				A		08 13 09.5	
	comp=E,250nm,0.9s						
SKR				A		08 13 09.5	
	comp=E,350nm,0.9s						
SKR				AMS	AMS	08 14 24.0	
	comp=E,1µm,14.0s						
SKR				AMS	AMS	08 14 24.0	
	comp=E,2µm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.30**	**285**	⇑*e*P	**P**	**08 11 55.0**	**+1.1**
YSS				AMB	AMB	08 11 56.0	
	comp=E,40nm,0.9s						
YSS				AMS	AMS	08 14 38.0	
	comp=E,1µm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.30**	**285**	*e*Pn	**P**	**08 11 55.4**	**+1.5**
	comp=E,35nm,0.8s						
ASAJ	**Asahikawa**	**6.61**	**260**	P	**P**	**08 11 58.6**	**+0.4**
	comp=E,3.4nm,0.3s,baz=98,slow=17,SNR=14						
ASAJ				LR	LR	08 14 43.8	
	comp=E,1µm,18.8s,baz=20,slow=39						
ASAJ	**Asahikawa**	**6.61**	**260**	PN	**P**	**08 11 58.6**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1µm,18.8s						
TYV	**Tymovskoe**	**7.96**	**314**	*e*P	**P**	**08 12 15.8**	**-1.2**
TYV				AMB	AMB	08 12 17.0	
	comp=Z,33nm,0.9s						
PET	**Petropavlovsk**	**8.70**	**29**	*e*PN	**P**	**08 12 25.0**	**-2.1**
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
MAJO	**Matsushiro**	**13.59**	**233**	Pn	**P**	**08 13 33.1**	**0.0**
	comp=Z,16nm,0.8s						
MAJO	**Matsushiro**	**13.59**	**233**	P	**P**	**08 13 33.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s						
MAT	**Matsushiro**	**13.59**	**233**	P	**P**	**08 13 31.1**	**-2.0**
MAT	**Matsushiro**	**13.59**	**233**	P	**P**	**08 13 31.0**	**-2.1**
KLR	**Kul'dur**	**13.94**	**292**	*e*P	**P**	**08 13 34.8**	**-2.7**
EKMR	**Ekimchan**	**14.26**	**308**	*e*P	**P**	**08 13 36.2**	**-5.5**
EKMR				AMB	AMB	08 13 46.9	
	comp=Z,5.0nm,0.7s						
MDJ	**Mudanjiang**	**15.60**	**274**	P	**P**	**08 13 59.2**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,34nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,154nm,6.2s						
MDJ				LR	LR		
	comp=N,227nm,20.1s						
MDJ				LR	LR		
	comp=E,123nm,28.0s						
MDJ				LR	LR		
	comp=Z,353nm,16.5s						
MDJ	**Mudanjiang**	**15.60**	**274**	Pn	**P**	**08 13 59.2**	**0.0**
	comp=Z,34nm,0.9s						
FX1	**Attu Island--F**	**15.77**	**55**	P	**P**	**08 14 00.6**	**-0.7**
	comp=Z,2.9nm,0.3s,baz=184,slow=10.0,SNR=7.7						
FX1	**Attu Island--F**	**15.77**	**55**	P	**P**	**08 14 00.6**	**-0.7**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SEY	**Seymchan**	**17.35**	**1**	*i* P	**P**	**08 14 15.5**	**-5.5**
ZEA	**Zeya**	**17.68**	**306**	*e*P	**P**	**08 14 22.1**	**-3.2**
ZEA				AMB	AMB	08 14 26.7	
	comp=Z,28nm,1.4s						
ZEA				AMS	AMS	08 21 40.0	
	comp=Z,600nm,15.0s						
ZEA				AMS	AMS	08 21 40.0	
	comp=Z,700nm,15.0s						
KROS	**Kirovskiy**	**18.06**	**308**	*e*P	**P**	**08 14 29.4**	**-0.6**
KROS				AMB	AMB	08 14 31.1	
	comp=Z,11nm,0.7s						
CN2	**Changchun**	**18.69**	**274**	*e*P	**P**	**08 14 34.9**	**-2.8**
CN2				AMB	AMB		
	comp=Z,30nm,0.7s						
CN2				LR	LR		
	comp=N,350nm,14.0s						
CN2				LR	LR		
	comp=E,470nm,14.0s						
CN2				LR	LR		
	comp=Z,590nm,16.0s						
CLNS	**Chul'man**	**20.02**	**314**	*e*P	**P**	**08 14 52.1**	**-0.2**
CLNS				*e*		08 15 00.9	
CLNS				*e*PPP	PPP	08 15 08.6	-13
CLNS				*e*S	**S**	**08 18 22.2**	**-7.5**
CLNS				*e*		08 19 05.8	
CLNS				pmax	pmax		
	comp=N,16nm,0.8s						
CLNS				pmax	pmax		
	comp=E,18nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,30nm,0.8s						
CLNS				smax			
	comp=N,6.0nm,0.8s						
CLNS				smax			
	comp=Z,6.0nm,0.8s						
CLNS				smax			
	comp=E,9.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,400nm,16.0s,MS4.0						
CLNS				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.0						
CLNS				MLR	MLR		
	comp=E,400nm,15.0s,MS4.0						
JNU	**Nakatsue**	**20.27**	**239**	P	**P**	**08 14 54.6**	**-0.5**
	comp=E,11nm,0.8s,baz=159,slow=30,SNR=4.6						
JNU				LR	LR	08 23 21.7	
	comp=E,328nm,18.3s,MS3.7,baz=218,slow=38						
JNU	**Nakatsue**	**20.27**	**239**	P	**P**	**08 14 54.6**	**-0.5**
JNU				LR	LR	08 23 21.7	
YAK	**Yakutsk**	**20.75**	**330**	*e*P	**P**	**08 15 05.6**	**+5.7**
YAK				pmax	pmax		
	comp=Z,21nm,1.1s						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
BILL	**Bilibino**	**23.72**	**14**	⇑*i*P	**P**	**08 15 29.6**	**+0.6**
BILL				*i* S	PcP	08 19 08.0	-5.7
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BILL				MLR	MLR		
	comp=Z,300nm,16.0s,MS3.9						
SSE	**Sheshan**	**27.75**	**249**	P	**P**	**08 16 13.7**	**+6.5**
	comp=Z,36nm,0.7s,mb5.1						
SSE				sP	sP	08 16 38.6	+13
SSE				S	**S**	**08 20 49.4**	**+4.8**
SSE				sS		08 21 18.2	
SSE				LR	LR		
	comp=Z,150nm,18.9s,MS3.6						
HHC	**Hu-ho-hao-te**	**29.37**	**275**	⇑P	**P**	**08 16 22.0**	**+0.4**
HHC				PP	PP	08 17 18.0	-0.1
HHC				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.0						
HHC				AMB	AMB		
	comp=Z,96nm,4.2s						
HHC				LR	LR		
	comp=N,299nm,16.7s,MS4.3						
HHC				LR	LR		
	comp=E,491nm,15.5s,MS4.3						
HHC				LR	LR		
	comp=Z,523nm,16.7s,MS4.2						
ULN	**Ulaanbaatar**	**30.32**	**291**	*i* P	**P**	**08 16 29.6**	**-0.4**
SONM	**Songino Array**	**30.76**	**291**	P	**P**	**08 16 32.9**	**-1.0**
	comp=Z,2.5nm,0.8s,mb4.1,baz=79,slow=7.8,SNR=18						
SONM				LR	LR	08 30 02.9	
	comp=Z,348nm,18.3s,MS4.0,baz=67,slow=38						
ZAK	**Zakamensk**	**32.25**	**296**	*e*P	**P**	**08 16 45.6**	**-1.3**
LZH	**Lanzhou**	**36.91**	**272**	⇑P	**P**	**08 17 28.0**	**+1.1**
LZH				AP	pP	08 17 42.0	+2.0
LZH				XP	sP	08 17 47.5	+1.5

LZH AMB AMB
comp=Z,29nm,1.4s,mb4.9
LZH Lanzhou 36.91 272 ⇑P **P** **08 17 24.9 -2.0**
LZH *PP pP 08 17 42.0 +2.0
LZH pmax pmax
comp=Z,21nm,1.3s,mb4.8
KRAR Krasnoyarsk 37.46 308 *eP* **P** **08 17 27.5 -3.8**
KRAR *e* 08 19 54.1
SML Sawmill 37.48 43 *eP* **P** **08 17 30.5 -0.9**
ILAR Eielson Array 38.06 38 P **P** **08 17 34.6 -1.6**
comp=Z,1.4nm,1.0s,mb3.6,baz=266,slow=7.1,SNR=6.2
GTA Gaotai 38.15 280 *eP* **P** **08 17 38.4 +1.2**
GTA AP pP 08 17 45.7 -4.6
GTA AMB AMB
comp=Z,29nm,0.9s,mb5.0
CD2 Chengdu 39.77 265 P **P** **08 17 51.6 +0.8**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
ZAL Zalesovo 42.47 306 LR LR 08 38 06.1
comp=Z,281nm,19.6s,MS4.2,baz=50,slow=39
INK Inuvik 43.14 32 P **P** **08 18 16.4 -1.6**
comp=Z,1.9nm,0.7s,mb4.0,baz=293,slow=3.1,SNR=8.5
INK Inuvik 43.14 32 *eP* **P** **08 18 17.1 -1.0**
comp=Z,2.4nm,0.8s,mb4.0
INK Inuvik 43.14 32 *eP* **P** **08 18 17.1 -0.9**
INK pmax pmax
comp=Z,2.0nm,0.8s
KMI Kunming 44.04 259 P **P** **08 18 26.1 +0.3**
KMI AP pP 08 18 38.8 -0.2
KMI XP sP 08 18 43.5 -1.4
KMI PP PP 08 20 08.8 -1.5
KMI S **S** **08 24 48.5 -5.5**
KMI SS SS 08 28 05.5 +1.7
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,71nm,3.6s
KMI LR LR
comp=N,299nm,10.9s,MS4.5
KMI LR LR
comp=E,212nm,14.2s,MS4.5
KMI LR LR
comp=Z,298nm,7.4s
KMI Kunming 44.04 259 P **P** **08 18 26.1 +0.3**
comp=Z,10.0nm,1.0s,mb4.5
KMI pP pP 08 18 38.8 -0.2
KMI sP sP 08 18 43.5 -1.4
KMI PP PP 08 20 08.8 -1.5
KMI S **S** **08 24 48.5 -5.5**
KMI SS SS 08 28 05.5 +1.7
KMI Kunming 44.04 259 P **P** **08 18 26.1 +0.3**
KMI *PP pP 08 18 38.8 -0.2
KMI 08 20 08.8
KMI S **S** **08 24 48.5 -5.5**
KMI SS SS 08 28 05.5 +1.7
KMI pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
MKAR Makanchi Array 46.56 298 P **P** **08 18 44.3 -1.3**
comp=Z,1.9nm,0.7s,mb4.1,baz=72,slow=7.7,SNR=11
MKAR Makanchi Array 46.56 298 *i P* **P** **08 18 45.8 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
DLBC Dease Lake 47.11 45 P **P** **08 18 50.5 +0.8**
comp=Z,4.3nm,0.9s,mb4.4,baz=282,slow=10,SNR=12
DLBC Dease Lake 47.11 45 *eP* **P** **08 18 50.1 +0.3**
DLBC *e*pP pP 08 19 04.2 +1.2
KURK Kurchatov 47.14 304 *eP* **P** **08 18 48.5 -1.7**
comp=Z,2.6nm,0.6s,mb4.3
KURK Kurchatov 47.14 304 *eP* **P** **08 18 48.5 -1.6**
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BVAR Borovoye Array 50.79 310 P **P** **08 19 15.9 -2.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=45,slow=8.4,SNR=5.4
YKA Yellowknife Ar 52.43 36 P **P** **08 19 28.6 -1.8**
comp=Z,3.8nm,0.9s,mb4.3,baz=298,slow=7.3,SNR=7.3
YKA Yellowknife Ar 52.43 36 P **P** **08 19 28.7 -1.7**
ULHL Ulahol 52.52 295 P **P** **08 19 32.4 +1.0**
SNR=15
TKM2 Tokmak 2 52.58 296 P **P** **08 19 30.3 -1.5**
SNR=6.1
USP Ospenovka 53.09 297 P **P** **08 19 35.8 +0.2**
SNR=22
KZA Kyzart 53.24 295 P **P** **08 19 38.1 +1.4**
SNR=11
AAK Ala-Archa 53.42 296 P **P** **08 19 38.7 +0.5**
SNR=6.8
AAK Ala-Archa 53.42 296 *eP* **P** **08 19 36.9 -1.2**
comp=Z,10nm,0.8s,mb4.8
AAK Ala-Archa 53.42 296 *i P* **P** **08 19 37.2 -0.9**
AAK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
AAK MLR MLR
comp=Z,300nm,26.0s,MS4.2
EKS2 Erkin-Say 53.86 297 P **P** **08 19 41.7 +0.4**
SNR=18
GUN Gumba 54.08 275 *eP* **P** **08 19 44.4 +1.2**
comp=Z,21nm,0.7s,mb5.2
KKN Kakani 54.58 275 *eP* **P** **08 19 47.6 +0.8**
comp=Z,32nm,0.7s,mb5.4
PKI Pulchoki 54.62 275 *eP* **P** **08 19 46.5 -0.6**
comp=Z,21nm,1.0s,mb5.1
DMN Daman 54.81 275 *eP* **P** **08 19 48.4 -0.1**
comp=Z,38nm,0.8s,mb5.5
GKN Gorkha 54.90 276 *eP* **P** **08 19 50.3 +1.2**
comp=Z,46nm,0.9s,mb5.5
ARU Arti 55.15 317 ⇓*iP* **P** **08 19 48.9 -1.7**
ARU *e* 08 20 50.5
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ARU MLR MLR
comp=Z,200nm,17.0s,MS4.3
ARU MLR MLR
comp=N,100nm,16.0s,MS4.1
ARU MLR MLR
comp=E,100nm,16.0s,MS4.1
KOLN Koldanda 55.76 276 *eP* **P** **08 19 55.3 -0.1**
comp=E,38nm,0.9s,mb5.4
EDM Edmonton 57.83 45 *eP* **P** **08 20 08.2 -1.5**
KEV Kevo 58.06 340 *ep* **P** **08 20 09.4 -1.7**
comp=E,3.8nm,0.5s,mb4.7
KEV Kevo 58.06 340 *eP* **P** **08 20 09.4 -1.7**
KEV pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ARCES ARCESS Array B 58.58 341 P **P** **08 20 13.8 -0.9**
comp=Z,0.6nm,0.3s,mb4.1,baz=62,slow=7.3,SNR=14
WVOR Wild Horse Val 61.21 58 *eP* **P** **08 20 32.8 -0.4**
comp=Z,5.6nm,1.1s,mb4.6
WVOR Wild Horse Val 61.21 58 *eP* **P** **08 20 32.8 -0.3**
WVOR pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
MSO Missoula 61.26 51 *eP* **P** **08 20 32.7 -0.7**
comp=Z,2.7nm,0.9s,mb4.4
OHCM Honcut 61.35 62 *eP* **P** **08 20 34.0 -0.1**
JOF Joensuu 61.89 333 *ep* **P** **08 20 34.1 -3.3**
comp=Z,3.6nm,0.6s,mb4.7
SUMG Summit 61.89 3 *eP* **P** **08 20 36.8 -0.5**
comp=Z,16nm,0.8s,mb5.2
BOZ Bozeman (W) 63.25 51 *eP* **P** **08 20 46.1 -0.6**
comp=Z,3.5nm,0.7s,mb4.6
BOZ Bozeman (W) 63.25 51 *eP* **P** **08 20 46.1 -0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
NVAR Mina Array Bea 63.86 61 P **P** **08 20 50.5 -0.3**
baz=291,slow=7.7
NVAR pP pP 08 21 04.2 -0.3
baz=286,slow=6.6
KAF Kangasniemi 64.03 335 *ep* **P** **08 20 49.7 -1.7**
comp=Z,7.5nm,0.7s,mb4.8
KAF Kangasniemi 64.03 335 *eP* **P** **08 20 49.7 -1.7**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
FINES FINESS Array B 64.62 334 P **P** **08 20 54.0 -1.2**
comp=Z,8.3nm,0.7s,mb4.9,baz=45,slow=8.1,SNR=40
FINES LR LR 08 52 06.4
comp=Z,68nm,18.8s,MS3.9,baz=11,slow=39
TPH Tonopah 64.75 61 *eP* **P** **08 20 56.1 -0.4**
comp=Z,9.4nm,1.1s,mb4.7
TPH Tonopah 64.75 61 *eP* **P** **08 20 56.1 -0.4**
TPH pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
RRI2 Red Ridge 64.87 53 *eP* **P** **08 20 57.3 +0.1**
comp=Z,6.8nm,0.8s,mb4.7
TPAW Teton Pass 64.99 53 *eP* **P** **08 20 58.2 +0.3**
comp=Z,7.7nm,1.0s,mb4.7
SNOW Snow King Moun 65.11 53 *eP* **P** **08 20 59.1 +0.3**
comp=Z,7.0nm,1.1s,mb4.6

OBN Obninsk 65.66 325 *eP* **P** **08 21 00.7 -1.3**
OBN *e* 08 23 30.9
DUG Dugway 66.04 57 *eP* **P** **08 21 04.4 -0.3**
comp=Z,9.1nm,1.2s,mb4.7
DUG *e* pP 08 21 18.2 -0.4
DUG Dugway 66.04 57 *eP* **P** **08 21 04.4 -0.3**
DUG *e* pP 08 21 18.2 -0.5
DUG pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
PDAR Pinedale Array 66.23 53 P **P** **08 21 05.3 -0.6**
comp=Z,1.8nm,1.0s,mb4.1,baz=315,slow=2.1,SNR=8.9
PDAR pP pP 08 21 18.3 -1.5
comp=Z,1.0nm,0.7s,baz=270,slow=1.5,SNR=5.4
WRA Warramunga Arr 67.13 198 P **P** **08 21 09.8 -2.1**
comp=Z,2.4nm,1.1s,mb4.2,baz=15,slow=6.5,SNR=6.2
WRA pP pP 08 21 25.2 -0.6
comp=Z,2.4nm,1.0s,baz=16,slow=6.5,SNR=7.2
ARUT Antelope Range 67.22 59 *eP* **P** **08 21 12.3 0.0**
ARUT *e* pP 08 21 25.7 -0.5
NEN Nelson 67.76 61 *eP* **P** **08 21 15.8 +0.1**
NB2 NORSAR Subarra 68.95 341 P **P** **08 21 21.4 -1.2**
comp=Z,27nm,1.4s,mb5.0,baz=27,slow=6.2
NB2 NORSAR Subarra 68.95 341 P **P** **08 21 21.4 -1.2**
baz=26,slow=6.5
NB2 NORSAR Subarra 68.95 341 P **P** **08 21 21.4 -1.2**
NB2 pmax pmax
comp=Z,27nm,1.4s,mb5.0
NOA NORSAR Array B 68.95 341 P **P** **08 21 21.8 -0.8**
comp=Z,5.1nm,0.7s,mb4.5,baz=28,slow=6.2,SNR=17
PV10 Paradox Valley 69.44 56 *eP* **P** **08 21 26.3 +0.3**
PV01 Paradox Valley 69.87 56 *eP* **P** **08 21 28.4 -0.2**
GOF Gofitskoye 69.89 314 ⇑*iP* **P** **08 21 28.0 -0.6**
GOF pmax pmax
comp=Z,20nm,1.3s,mb4.9
KIV Kislovodsk 70.85 314 *eP* **P** **08 21 35.1 +0.6**
comp=Z,15nm,0.7s,mb5.0
KIV Kislovodsk 70.85 314 ⇓*eP* **P** **08 21 35.4 +1.0**
KIV pmax pmax
comp=Z,16nm,0.7s,mb5.1
KIV MLR MLR
comp=Z,200nm,16.0s,MS4.5
AKASG Malin Array Be 71.91 326 P **P** **08 21 39.8 -0.8**
comp=Z,6.8nm,0.7s,mb4.7,baz=34,slow=6.2,SNR=27
GNI Garni 72.47 310 P **P** **08 21 45.7 +1.5**
comp=Z,3.5nm,0.4s,mb4.6,baz=172,slow=16,SNR=4.1
GNI Garni 72.47 310 *i P* **P** **08 21 46.4 +2.2**
GNI pmax pmax
comp=Z,16nm,0.9s
GNI MLR MLR
comp=Z,100nm,17.0s
KWP Kalwaria 75.26 328 *eP* **P** **08 22 01.0 +0.9**
comp=Z,40nm,0.9s,mb5.3
KWP Kalwaria 75.26 328 *eP* **P** **08 22 01.0 +0.9**
KWP pmax pmax
comp=Z,40nm,0.9s,mb5.3
OJC Ojcow 75.80 330 *eP* **P** **08 22 03.4 +0.2**
BURAR Bucovina Array 75.96 326 ⇓*iP* **P** **08 22 04.5 +0.4**
BURAR Bucovina Array 75.96 326 ⇑*iP* **P** **08 22 04.5 +0.4**
STHS Stebnicka Huta 75.97 329 *i P* **P** **08 22 05.7 +1.5**
MNTX Cornudas Mount 76.21 59 *eP* **P** **08 22 06.5 +0.6**
comp=Z,3.0nm,1.0s,mb4.2
CRVS Cervenica-Dubn 76.32 329 *eP* **P** **08 22 06.7 +0.5**
OKC Ostrava-Krasne 76.69 331 *eP* **P** **08 22 09.1 +0.8**
UPC Upice 76.82 333 *eP* **P** **08 22 09.5 +0.5**
DPC Dobruska-Polom 76.86 332 *eP* **P** **08 22 09.9 +0.7**
MORC Moravsky Berou 76.95 331 *eP* **P** **08 22 10.2 +0.5**
comp=Z,15nm,1.0s,mb4.9
MORC Moravsky Berou 76.95 331 *eP* **P** **08 22 10.2 +0.5**
MORC pmax pmax
comp=Z,15nm,1.0s,mb4.9
KECS Kecovo 77.02 329 *eP* **P** **08 22 10.5 +0.3**
CLL Collm 77.06 335 P **P** **08 22 10.0 -0.3**
comp=Z,logA/T=1.2,mb4.9
CLL *e*SP sP 08 22 31.0 +1.2
CLL Collm 77.06 335 *i P* **P** **08 22 10.0 -0.3**
comp=Z,15nm,1.0s,mb4.9
CLL *e* 08 22 31.0
CLL Collm 77.06 335 *i P* **P** **08 22 10.0 -0.3**
CLL pmax pmax
comp=Z,15nm,1.0s,mb4.9
BRG Berggiesshubel 77.15 334 *eP* **P** **08 22 11.0 +0.2**
comp=Z,6.4nm,1.0s,mb4.5
BRG Berggiesshubel 77.15 334 *eP* **P** **08 22 11.0 +0.1**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MALT Malatya 77.16 312 *eP* **P** **08 22 11.3 +0.2**
comp=Z,2.6nm,0.7s,mb4.3
MALT Malatya 77.16 312 *eP* **P** **08 22 11.3 +0.1**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
EKA Eskdalemuir Ar 77.18 346 P **P** **08 22 10.6 -0.3**
comp=Z,1.9nm,0.7s,mb4.1,baz=1.1,slow=5.6,SNR=5.8
PVCC Panska Ves 77.26 334 *eP* **P** **08 22 12.0 +0.5**
MLR Muntele Rosu 77.39 324 P **P** **08 22 13.5 +1.2**
comp=Z,7.3nm,0.8s,mb4.7,baz=137,slow=5.0,SNR=3.4
MLR Muntele Rosu 77.39 324 ⇓*iP* **P** **08 22 13.6 +1.3**
MLR Muntele Rosu 77.39 324 ⇑*iP* **P** **08 22 13.6 +1.3**
VYHS Vyhne 77.60 330 *i P* **P** **08 22 14.1 +0.7**
DRGR 77.61 327 ⇑*iP* **P** **08 22 12.5 -0.9**
PSZ Piszkesteto 77.71 329 *eP* **P** **08 22 14.7 +0.7**
comp=Z,13nm,1.3s,mb4.7
PSZ Piszkesteto 77.71 329 *eP* **P** **08 22 14.7 +0.7**
PSZ pmax pmax
comp=Z,13nm,1.3s,mb4.7
PRU Pruhonice 77.74 333 *eP* **P** **08 22 14.1 0.0**
VOIR 77.80 325 ⇑*iP* **P** **08 22 15.5 +1.0**
NKC Novy Kostel 78.17 335 *eP* **P** **08 22 12.0 -4.5**
SRO Srobarova 78.36 330 *e* **P** **08 22 09.5 -8.1**
SRO Srobarova 78.36 330 *i P* **P** **08 22 09.5 -8.1**
ZST Bratislava 78.45 331 *eP* **P** **08 22 19.0 +0.9**
BRTR Keskin Array B 78.50 316 P **P** **08 22 19.4 +0.9**
comp=Z,5.3nm,1.1s,mb4.4,baz=135,slow=1.7,SNR=10.0
KHC Kasperske Hory 78.80 333 *eP* **P** **08 22 20.4 +0.5**
TXAR Lajitas Array 78.94 59 P **P** **08 22 20.6 -0.5**
comp=Z,1.4nm,0.7s,mb4.0,baz=306,slow=3.9,SNR=20
TXAR pP pP 08 22 34.3 -1.0
comp=Z,3.2nm,0.7s,baz=282,slow=2.7,SNR=14
GERES GERESS Array B 79.01 333 P **P** **08 22 21.6 +0.5**
comp=Z,1.1nm,0.5s,mb4.0,baz=45,slow=5.7,SNR=11
GRA1 Grafenberg Arr 79.02 335 *eP* **P** **08 22 21.0 -0.1**
comp=Z,29nm,1.5s,mb5.0
GRF Grafenberg Arr 79.02 335 *eP* **P** **08 22 21.0 -0.1**
comp=Z,29nm,1.5s,mb5.0
GRF Grafenberg Arr 79.02 335 *eP* **P** **08 22 21.0 -0.1**
GRF pmax pmax
comp=Z,29nm,1.5s,mb5.0
GRF Grafenberg Arr 79.02 335 *eP* **P** **08 22 21.0 -0.1**
GRF pmax pmax
comp=Z,29nm,1.5s,mb5.0
STU Stuttgart 80.43 336 *eP* **P** **08 22 28.8 0.0**
CDF Champ du Feu 81.30 337 *eP* **P** **08 22 33.5 +0.2**
MEZF Maizieres J'vi 81.81 338 *eP* **P** **08 22 36.5 +0.5**
HAU Haudompre 81.92 337 *eP* **P** **08 22 36.5 -0.1**
LOR Lormes 83.26 339 *eP* **P** **08 22 43.6 +0.2**
comp=Z,10nm,0.8s,mb4.6
LOR Lormes 83.26 339 *eP* **P** **08 22 43.6 +0.2**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
GRR Gorron 83.33 342 *eP* **P** **08 22 44.3 +0.6**
comp=Z,13nm,0.7s,mb4.7
GRR Gorron 83.33 342 *eP* **P** **08 22 44.3 +0.6**
GRR pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
SSF Saint Saulge 83.54 339 *eP* **P** **08 22 45.4 +0.6**
AVF Avril sur Loir 83.83 339 *eP* **P** **08 22 46.8 +0.6**
SMF Signal de Mont 83.84 338 *eP* **P** **08 22 47.0 +0.7**
comp=Z,27nm,1.0s,mb5.0
SMF Signal de Mont 83.84 338 *eP* **P** **08 22 47.0 +0.7**
SMF pmax pmax
comp=Z,14nm,1.0s,mb5.0
ROSF Rostrenen 83.88 343 *eP* **P** **08 22 47.4 +1.0**
LPL La Plagne 84.09 336 *eP* **P** **08 22 49.0 +1.4**
comp=Z,17nm,1.0s,mb4.8
LPL La Plagne 84.09 336 *eP* **P** **08 22 49.0 +1.4**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LPG La Plagne 84.11 336 *eP* **P** **08 22 49.3 +1.6**
comp=Z,22nm,1.1s,mb4.9
LPG La Plagne 84.11 336 *eP* **P** **08 22 49.3 +1.6**
LPG pmax pmax
comp=Z,11nm,1.1s,mb4.9
BNI Bardonecchia 84.53 336 *eP* **P** **08 22 51.4 +1.6**
BNI *e* pP 08 23 05.2 +1.1
BNI *e* 08 23 11.7
TCF Toulx Ste Croi 84.59 339 *eP* **P** **08 22 51.0 +1.0**
comp=Z,18nm,1.1s,mb4.8
TCF Toulx Ste Croi 84.59 339 *eP* **P** **08 22 51.0 +1.0**
TCF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
MBDF Montbardon 84.81 336 *eP* **P** **08 22 52.2 +1.0**
comp=Z,9.1nm,0.8s,mb4.6
MBDF Montbardon 84.81 336 *eP* **P** **08 22 52.2 +1.0**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
MFF Saint Martin d 84.86 341 *eP* **P** **08 22 52.4 +1.0**
comp=Z,12nm,0.8s,mb4.8
MFF Saint Martin d 84.86 341 *eP* **P** **08 22 52.4 +1.0**
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 84.89 336 *eP* **P** **08 22 52.7 +1.1**
comp=Z,12nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.89 336 *eP* **P** **08 22 52.7 +1.1**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
VIVF Saint-Julien-l 85.28 337 *eP* **P** **08 22 54.5 +1.0**
RJF Les Rejaudoux 85.68 339 *eP* **P** **08 22 56.4 +0.9**
SMRF Simiane la Rot 85.84 336 *eP* **P** **08 22 57.0 +0.7**
comp=Z,5.9nm,0.7s,mb4.6
CAF Calviac 85.90 339 *eP* **P** **08 22 57.4 +0.9**
FRF La Foret Royal 85.91 335 *eP* **P** **08 22 57.1 +0.5**
PGF Pioggiola 86.11 333 *eP* **P** **08 22 58.0 +0.4**
comp=Z,10nm,0.9s,mb4.8
PGF Pioggiola 86.11 333 *eP* **P** **08 22 58.0 +0.4**
PGF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
LMR La Mourre 86.16 335 *eP* **P** **08 22 58.5 +0.7**
comp=Z,21nm,1.0s,mb5.0
LMR La Mourre 86.16 335 *eP* **P** **08 22 58.5 +0.7**
LMR pmax pmax
comp=Z,11nm,1.0s,mb5.0
LASF Ste Croix 86.22 337 *eP* **P** **08 22 58.9 +0.8**
comp=Z,8.9nm,0.9s,mb4.7
MTLF Montolieu 87.34 338 *eP* **P** **08 23 04.3 +0.7**
comp=Z,7.4nm,0.8s,mb4.7
MTLF Montolieu 87.34 338 *eP* **P** **08 23 04.3 +0.7**
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
EPF Esparros 88.11 339 *eP* **P** **08 23 08.2 +0.9**
SNAA Sanae 151.19 196 ⇑*i* PKPdf 08 30 07.4 +5.8
SNAA Sanae 151.19 196 *e* PKPdf 08 30 23.6 +22
SNAA Sanae 151.19 196 *e* PKPdf 08 30 32.1 +31
SNAA Sanae 151.19 196 PKPbc PKPdf 08 30 07.7 +6.2
comp=Z,0.3nm,0.5s,baz=175,slow=6.2,SNR=18
SNAA pPKPbc 08 30 23.2
comp=Z,0.4nm,0.6s,baz=193,slow=4.3,SNR=3.3
SNAA Sanae 151.19 196 ⇑*iP* PKPdf 08 30 07.4 +5.8
SNAA *e* 08 30 23.6
SNAA *e* 08 30 32.1
VNA2 Neumayer--Watz 152.66 195 ⇑*iP* PKPdf 08 30 11.2 +7.5
VNA2 *e* 08 30 27.3
VNA2 *e* 08 30 35.9
VNA3 Neumayer Olymp 152.77 193 ⇑*iP* PKPdf 08 30 11.1 +7.2
VNA3 *e* 08 27.2

IDC 03 08:11:34.4±1.1, 2.08N×97.87E, h26km±5km, mb3.9/7, mb1 4.0/7, mb1mx3.8/18, mbtmp4.1/7, Error ellipse: s-maj=44.5km s-min=15.9km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.94**	**123**	P	P	08 19 23.2	-2.0
	1.0nm,0.7s,baz=300,slow=9.1,SNR=9.7						
WRA				pP	pP	08 19 30.9	-1.9
	1.0nm,0.5s,baz=301,slow=9.1,SNR=7.9						
SONM	**Songino Array**	**46.17**	**8**	P	P	08 19 58.6	-0.3
	4.3nm,0.8s,baz=187,slow=8.5,SNR=20						
SONM				pP	pP	08 20 06.2	-0.4
	2.6nm,0.7s,baz=193,slow=9.0,SNR=8.7						
MKAR	**Makanchi Array**	**46.56**	**345**	P	P	08 19 59.5	-2.6
	4.3nm,0.8s,baz=149,slow=7.1,SNR=14						
MKAR				pP	pP	08 20 06.5	-3.2
	3.2nm,0.7s,baz=143,slow=6.1,SNR=7.6						
ZAL	**Zalesovo**	**52.80**	**350**	P	P	08 20 46.2	-3.6
	1.6nm,0.3s,baz=335,slow=7.1,SNR=5.2						
ZAL				pP	pP	08 20 55.8	-2.0
	3.0nm,0.6s,baz=298,slow=7.6,SNR=3.1						
STKA	**Stephens Creek**	**53.45**	**133**	P	P	08 20 51.2	-3.7
	1.8nm,1.0s,baz=349,slow=5.2,SNR=3.2						
BVAR	**Borovoye Array**	**55.65**	**340**	P	P	08 21 06.3	-4.4
	1.4nm,0.7s,baz=169,slow=7.3,SNR=5.2						
GERES	**GERESS Array B**	**84.60**	**319**	P	P	08 24 07.1	+0.1
	0.9nm,0.9s,baz=112,slow=7.2,SNR=2.9						
CPUP	**Villa Florida**	**146.10**	**222**	PKPbc	PKPbc	08 31 12.3	-0.9
	3.3nm,0.8s,baz=109,slow=4.0,SNR=4.2						
CFAA	**Coronel Fontan**	**147.84**	**203**	PKPbc	PKPdf	08 31 18.7	-0.9
	0.4nm,0.6s,baz=154,slow=3.4,SNR=5.5						

*SOF **03** 08:12:44.9, 40.85N×22.43E, h18km, MD2.6*
*THE **03** 08:12:45.4, 40.83N×22.51E, h17km, ML2.4*
*CSEM **03** 08:12:45.2±0.1, 40.80N×22.50E, h18km±1km, ML2.4, Error ellipse: s-maj=4.4km s-min=2.0km az=167.0*

ISC 03 08:12:44.6±0.9, 40.79N±0.09×22.50E±0.05, h8km±11km, n8, ⌀0s47/11, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THE	**Thessaloniki**	**0.39**	**114**	*e*Pg	**Pg**	**08 12 53.1**	**+0.7**
KNT	**Kendrikon**	**0.48**	**39**	*e*Pg	**Pg**	**08 12 54.5**	**+0.2**
KNT				*e*Sg	**Sg**	**08 13 01.2**	**+0.5**
FNA	**Florina**	**0.85**	**270**	*e*Pg	**Pg**	**08 13 01.1**	**-0.6**
FNA				*e*Sg	**Sg**	**08 13 13.5**	**+0.3**
SRS	**Serrai**	**0.89**	**68**	*e*Pg	**Pg**	**08 13 02.2**	**-0.2**
SRS				*e*Sg	**Sg**	**08 13 13.8**	**-0.5**
KKB	**Krupnik**	**1.16**	**22**	*i P*	**Pb**	**08 13 06.0**	**-0.6**
MMB	**Musomiste**	**1.22**	**49**	*i P*	**Pb**	**08 13 07.7**	**+0.1**
VTS	**Vitosha**	**1.88**	**16**	*i P*	**Pn**	**08 13 18.0**	**+0.6**
RZN	**Rozhen**	**1.90**	**61**	*eP*	**Pg**	**08 13 22.0**	**-0.5**

*NEIC **03** 08:22:10.2, 29.17S×70.16W, h97km, After GUC.*

GUC 03 08:22:10.2±1.0, 29.17S×70.16W, h97km±21km, ML3.8, 3C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.79**	**318**	⇓*iP*	P	08 22 28.9	+0.4
VACH				*i* S	S	08 22 42.0	0.0
VACH				AMP		08 22 44.1	
	comp=N,11μm,0.2s						
TLL	**Tololo Astrono**	**1.14**	**209**	⇑*iP*	P	08 22 33.8	+1.4
TLL				*i* S	S	08 22 50.6	+1.7
TLL				AMP		08 22 53.1	
	comp=E,1μm,0.6s						
LSCH	**La Serena**	**1.20**	**232**	⇑*iP*	P	08 22 33.2	+0.1
LSCH				*i* S	S	08 22 49.6	-0.5
LSCH				AMP		08 22 50.8	
	comp=E,2μm,0.4s						
CPCH	**Copiapo**	**1.81**	**355**	*eP*	P	08 22 40.6	-0.1
CMCH	**Combarbala**	**2.12**	**200**	⇓*iP*	P	08 22 44.8	0.0
CMCH				*i* S	S	08 23 10.8	+0.3
CMCH				AMP		08 23 12.8	
	comp=N,1μm,0.8s						
CRCH	**Chaqaral**	**2.84**	**352**	⇑*iP*	P	08 22 53.8	-1.0
CRCH				AMP		08 23 33.0	
	comp=E,220nm,0.9s						
CHNG	**Los Chungos**	**2.94**	**203**	*eP*	P	08 22 55.3	-0.8
CHNG				*i* S	S	08 23 30.0	-0.5
CHNG				AMP		08 23 35.9	
	comp=N,94nm,0.5s						

IDC 03 08:22:38.0±3.2, 2.26N×97.19E, h25km±7km, mb3.5/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=118.6km s-min=22.3km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.62**	**123**	P	P	08 30 32.2	-2.1
	0.2nm,0.4s,baz=301,slow=9.2,SNR=5.1						
WRA				pP	pP	08 30 40.4	-1.5
	0.3nm,0.7s,baz=303,slow=9.1,SNR=2.2						
SONM	**Songino Array**	**46.09**	**9**	P	P	08 31 00.3	-1.5
	1.2nm,0.8s,baz=194,slow=9.6,SNR=6.3						
SONM				pP	pP	08 31 07.8	-1.6
	0.8nm,0.6s,baz=194,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**46.21**	**346**	P	P	08 31 00.6	-2.2

1.0nm,0.7s,baz=153,slow=8.1,SNR=8.7
MKAR pP pP 08 31 08.4 -2.1
0.8nm,0.6s,baz=143,slow=6.1,SNR=4.9

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*BJI **03** 09:29:24.7, 51.97N×175.74E, h17km, mB5.2, mb4.9, Ms4.5, Msz4.2*
*MOS **03** 09:29:26.4±1.2, 51.78N×176.37E, h47km, mb5.0/46, Error ellipse: s-maj=9.9km s-min=5.7km az=103.2*
*NEIC **03** 09:29:27.2±0.3, 51.69N×176.32E, mb4.6/51, ML5.1(PMR), ML5.0(AEIC), Error ellipse: s-maj=7.7km s-min=3.5km az=186.0*
*IDC **03** 09:29:28.1±2.0, 51.77N×176.46E, h50km±16km, mb4.3/20, mb1 4.5/20, mb1mx4.4/24, mbtmp4.6/20, MS4.1/22, Ms1 4.1/22, ms1mx4.0/27, Error ellipse: s-maj=15.7km s-min=10.7km az=170.0*
ISC 03 09:29:25.1±0.3**, 51.65N**±0.05×**176.33E**±0.03**, h41km, h41km**±3.3km**:pP-P, n256,** σ1s**15**/238**, mb4.7**/90**, MS4.1**/31**, 20C-10D, Rat Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SMY Shemya 1.75 309 P **P 09 29 55.5 +1.9**
SMY S **S 09 30 15.3 +0.6**
FX1 Attu Island--F 2.30 304 P **P 09 30 02.0 +0.5**
860nm,0.3s,baz=189,slow=9.3,SNR=74
FX1 S **S 09 30 32.5 +3.7**
baz=315,slow=1.4
FX1 LR LR 09 30 55.3
comp=Z,2μm,20.7s,baz=322,slow=38
FX1 Attu Island--F 2.30 304 P **P 09 30 02.1 +0.6**
FX1 S **S 09 30 31.6 +2.8**
KIMD Kanaga Island 4.00 86 P **P 09 30 27.1 +1.5**
KIMD S **S 09 31 14.1 +2.1**
KIKV Kanaga Island 4.04 84 P **P 09 30 27.7 +1.5**
KIWB Kanaga Island 4.06 85 *e*P **P 09 30 24.4 -2.0**
KINC Kanaga Island 4.07 84 P **P 09 30 27.8 +1.2**
KIRH Kanaga Island 4.09 84 P **P 09 30 28.6 +1.7**
ADAG Mount Adagdak 4.40 83 P **P 09 30 32.4 +1.2**
GSTD Great Sitkin T 4.68 82 P **P 09 30 37.4 +2.1**
GSTD S **S 09 31 30.3 +1.3**
GSMY Great Sitkin M 4.74 82 P **P 09 30 37.9 +1.9**
GSTR Great Sitkin T 4.74 82 P **P 09 30 37.8 +1.8**
ATKA Atka Island 5.89 81 P **P 09 30 53.5 +1.4**
UNV Unalaska Valle 10.64 71 P **P 09 31 58.6 +0.8**
PET Petropavlovsk 10.90 284 *e*P **P 09 32 00.0 -1.5**
PET *e*S **S 09 33 55.3 -7.8**
PET pmax pmax
comp=Z,36nm,1.3s
PET smax
comp=E,52nm,1.1s
PET MLR MLR
comp=Z,200nm,15.0s
CHGN Chignik 15.53 63 *e*P **P 09 33 02.0 -0.4**
MA2 Magadan 16.39 309 P **P 09 33 12.3 -1.0**
comp=Z,24nm,0.8s
MA2 Magadan 16.39 309 *i* P **P 09 33 13.7 +0.4**
MA2 pmax pmax
comp=Z,25nm,1.0s
MA2 MLR MLR
comp=Z,400nm,13.0s
SEY Seymchan 17.05 321 *i* P **P 09 33 22.0 +0.3**
BILL Bilibino 17.15 347 *e*P **P 09 33 21.9 -1.1**
comp=Z,27nm,0.8s
BILL Bilibino 17.15 347⇓*e*P **P 09 33 22.3 -0.6**
BILL pmax pmax
comp=Z,66nm,1.3s
BILL MLR MLR
comp=Z,1μm,21.0s
SVW2 Sparrevohn 18.06 48 *e*P **P 09 33 36.5 +2.2**
KDAK Kodiak Island 18.86 59 *e*P **P 09 33 42.6 -1.4**
RSO Redoubt South 19.22 51 *e*P **P 09 33 48.7 +0.6**
SPU Mount Spurr 19.72 49 *e*P **P 09 33 54.3 +0.6**
SLKM Skilak Lake 20.45 51 *e*P **P 09 34 00.7 -0.7**
IMA Indian Mountai 20.89 35 *e*P **P 09 34 06.3 +0.5**
PMR Palmer 21.19 49 *e*P **P 09 34 09.0 +0.1**
PMR LR LR
comp=Z,500nm,19.0s,MS3.9
SML Sawmill 21.61 48 *e*P **P 09 34 12.6 -0.5**
MCK McKinley 21.82 43 *e*P **P 09 34 15.7 +0.5**
comp=Z,11nm,0.8s,mb4.3
YSS Yuzh-Sakhalins 22.27 271⇑*e*P **P 09 34 23.5 +3.8**
YSS *e* 09 34 38.0
YSS *e*S **S 09 38 25.0 +7.9**
YSS *e*SS SS 09 39 00.0 +1.1
YSS pmax pmax
comp=Z,20nm,0.8s,mb4.6
EYAK Cordova Ski Ar 22.65 52 *e*P **P 09 34 22.8 -0.4**
DIV Divide 22.70 51 *e*P **P 09 34 23.7 -0.1**
comp=Z,253nm,1.2s,mb5.5
ILAR Eielson Array 22.99 41 P **P 09 34 25.4 -1.1**
comp=Z,3.7nm,0.6s,mb4.0,baz=247,slow=9.2,SNR=36
ILAR ScP 09 41 48.5
comp=Z,1.2nm,1.0s,baz=288,slow=4.0,SNR=5.7
ILAR LR LR 09 43 15.4
comp=Z,295nm,20.0s,MS3.7,baz=273,slow=36
THY Trims Highway 23.12 45 *e*P **P 09 34 28.3 +0.5**
ASAJ Asahikawa 23.68 265 P **P 09 34 37.0 +3.5**
comp=Z,27nm,0.7s,mb4.8,baz=69,slow=5.3,SNR=19
ASAJ Asahikawa 23.68 265 P **P 09 34 37.0 +3.6**
ASAJ pmax pmax
comp=Z,27nm,0.7s
MENT Mentasta 23.93 46 *e*P **P 09 34 37.7 +2.0**
YAK Yakutsk 26.94 311 *e*P **P 09 35 02.3 -1.8**
comp=Z,46nm,0.7s,mb5.1
YAK Yakutsk 26.94 311 *i* P **P 09 35 02.6 -1.5**
YAK pmax pmax
comp=Z,87nm,1.2s,mb5.2
YAK MLR MLR
comp=Z,200nm,15.0s,MS3.8
KLR Kul'dur 28.16 283 *e*P **P 09 35 12.3 -3.1**
INK Inuvik 29.01 36 P **P 09 35 22.4 -0.3**
comp=Z,1.9nm,0.5s,mb4.1,baz=56,slow=4.6,SNR=21
INK ScP 09 42 07.0
comp=Z,3.5nm,1.1s,baz=184,slow=6.6,SNR=3.4
INK LR LR 09 47 28.4
comp=Z,258nm,20.0s,MS3.8,baz=43,slow=37
INK Inuvik 29.01 36 *e*P **P 09 35 22.1 -0.5**
comp=Z,14nm,1.1s,mb4.6
INK Inuvik 29.01 36 P **P 09 35 22.4 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK pmax pmax
comp=N,4.0nm,1.1s
INK MLR MLR
comp=Z,258nm,20.0s
DLBC Dease Lake 30.74 56 *e*P **P 09 35 37.8 -0.3**
MDJ Mudanjiang 31.52 276 P **P 09 35 43.1 -2.1**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.4
MDJ AMB AMB
comp=Z,127nm,6.0s
MDJ LR LR
comp=N,184nm,27.5s,MS3.6
MDJ LR LR
comp=E,70nm,28.6s,MS3.6
MDJ LR LR
comp=Z,62nm,17.6s
CN2 Changchun 34.50 277 *e*P **P 09 36 10.9 -0.1**
BOD Bodaibo 35.35 305⇓*i*P **P 09 36 16.8 -1.3**
BOD pmax pmax
comp=Z,31nm,0.7s,mb5.3
YKW3 Yellowknife Ar 37.21 46 *e*P **P 09 36 31.8 -2.0**
YKA Yellowknife Ar 37.24 46 P **P 09 36 34.0 0.0**
comp=Z,2.4nm,0.4s,mb4.3,baz=279,slow=9.4,SNR=19
YKA LR LR 09 52 58.4
comp=Z,271nm,19.9s,MS4.0,baz=300,slow=38
YKA Yellowknife Ar 37.24 46 P **P 09 36 34.0 0.0**
YKA LR LR 09 52 58.4
CIT Chita 37.71 296 *e*P **P 09 36 37.8 -0.3**
CIT *e* 09 36 56.0
CIT pmax pmax
comp=Z,44nm,1.8s,mb4.9
HAWA Hanford 41.18 71 *e*P **P 09 37 06.9 0.0**
comp=Z,0.4nm,0.8s
EDM Edmonton 41.31 59 *e*P **P 09 37 07.3 -0.5**
YBH Yreka Blue Hor 41.83 79 *e*P **P 09 37 10.4 -1.8**
comp=Z,6.8nm,0.9s,mb4.3
YBH Yreka Blue Hor 41.83 79 *e*P **P 09 37 10.4 -1.8**
YBH pmax pmax
comp=Z,7.0nm,0.9s
MOD Modoc 43.20 77 *e*P **P 09 37 22.9 -0.6**
comp=Z,4.4nm,0.7s,mb4.3
ULN Ulaanbaatar 43.38 294 *e*P **P 09 37 25.3 +0.5**
comp=Z,6.9nm,0.7s,mb4.5
ULN Ulaanbaatar 43.38 294*c i*P **P 09 37 25.5 +0.6**
SONM Songino Array 43.78 294 P **P 09 37 28.8 +0.8**
comp=Z,9.5nm,0.7s,mb4.7,baz=60,slow=8.6,SNR=82
SONM LR LR 09 58 17.7
comp=Z,183nm,18.4s,MS4.0,baz=74,slow=40
WVOR Wild Horse Val 43.90 75 *e*P **P 09 37 29.4 +0.3**
comp=Z,4.6nm,0.7s,mb4.3
WVOR Wild Horse Val 43.90 75 *e*P **P 09 37 29.5 +0.4**
WVOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
OHCM Honcut 44.01 81 *e*P **P 09 37 29.0 -1.0**
MSO Missoula 44.20 67 *e*P **P 09 37 30.3 -1.2**
comp=Z,1.8nm,0.7s,mb3.9
CHMT Chamberlain Mo 44.55 67 *e*P **P 09 37 33.0 -1.3**
SSE Sheshan 44.97 265 P **P 09 37 36.4 -1.5**
SSE AMB AMB
comp=Z,39nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,648nm,6.7s
SSE Sheshan 44.97 265 P **P 09 37 36.4 -1.5**
comp=Z,39nm,0.8s,mb5.3
CMB Columbia Colle 45.48 82 *e*P **P 09 37 42.1 +0.3**
comp=Z,2.4nm,0.4s,mb4.4
CMB Columbia Colle 45.48 82 *e*P **P 09 37 42.1 +0.2**
CMB pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
GUMO Guam 45.62 225 LR LR 09 53 36.2
comp=Z,210nm,19.4s,MS4.1,baz=93,slow=32
HLID Hailey 45.77 72 *e*P **P 09 37 43.0 -1.0**
comp=Z,5.4nm,1.1s,mb4.4
NJ2 Nanjing 45.77 268 *e*P **P 09 37 45.5 +1.3**
NJ2 PP PP 09 39 33.8 +1.8
NJ2 S **S 09 44 27.0 +2.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,1μm,6.6s
NJ2 LR LR
comp=N,2μm,16.1s,MS5.2
NJ2 LR LR
comp=E,1μm,18.0s,MS5.2
NJ2 LR LR
comp=Z,850nm,17.2s,MS4.8
MCMT McKenzie Canyo 45.96 69 *e*P **P 09 37 44.1 -1.4**
BOZ Bozeman (W) 46.19 68 *e*P **P 09 37 46.4 -1.0**
comp=Z,3.8nm,0.7s,mb4.4
BOZ Bozeman (W) 46.19 68 *e*P **P 09 37 46.4 -0.9**
BOZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ELK Elko 46.95 75 *e*P **P 09 37 52.8 -0.6**
comp=Z,2.6nm,0.5s,mb4.4
ELK Elko 46.95 75 *e*P **P 09 37 52.8 -0.6**
ELK pmax pmax
comp=Z,3.0nm,0.5s
MTUM Tungsten Hills 47.03 81 *e*P **P 09 37 54.6 +0.5**
PTRM Twissleman Ran 47.11 84 *e*P **P 09 37 55.7 +1.0**
RRI2 Red Ridge 47.72 70 *e*P **P 09 37 58.3 -1.1**
comp=Z,1.5nm,0.5s,mb4.3
DUG Dugway 48.75 74 *e*P **P 09 38 07.0 -0.4**
comp=Z,8.1nm,1.0s,mb4.7
DUG Dugway 48.75 74 *e*P **P 09 38 07.0 -0.4**
DUG pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BW06 Boulder Array 49.10 70 *e*P **P 09 38 08.6 -1.4**
comp=Z,3.7nm,0.8s,mb4.5
PDAR Pinedale Array 49.10 70 P **P 09 38 08.9 -1.1**
comp=Z,1.7nm,0.5s,mb4.3,baz=329,slow=3.5,SNR=21
JLU Jordanelle 49.31 73 P **P 09 38 11.2 -0.6**
MWC Mount Wilson 49.38 84 *e*P **P 09 38 12.7 +0.3**
MWC *e*pP pP 09 38 23.9 -0.2
MSU Marysvale 50.19 76 *e*P **P 09 38 18.2 -0.3**
LDFC Landfair 50.63 81 *e*P **P 09 38 22.1 +0.2**
SRU San Rafael 50.80 74 *e*P **P 09 38 21.8 -1.4**
BAR Barrett 51.27 84 *e*P **P 09 38 26.0 -0.8**
ZAL Zalesovo 51.61 311 P **P 09 38 27.8 -1.3**
comp=Z,2.0nm,0.4s,mb4.4,baz=60,slow=8.3,SNR=6.6
ZAL LR LR 10 01 51.4
comp=Z,187nm,19.2s,MS4.1,baz=322,slow=38
ZAL Zalesovo 51.61 311 P **P 09 38 27.8 -1.3**
ZAL LR LR 10 01 51.4
ZAL Zalesovo 51.61 311 *i* P **P 09 38 30.1 +1.1**
ZAL pmax pmax
comp=Z,2.0nm,0.4s
NVS Novosibirsk 51.78 313 *i* P **P 09 38 28.5 -1.8**
NVS pmax pmax
comp=Z,11nm,0.7s,mb4.9
NVS pmax pmax
comp=E,10.0nm,0.9s
ULM Lac du Bonnet 52.04 54 P **P 09 38 30.8 -1.5**
comp=E,2.0nm,0.4s,mb4.4,baz=314,slow=7.5,SNR=11
ULM LR LR 10 01 15.9
comp=E,204nm,19.3s,MS4.2,baz=333,slow=37
PV10 Paradox Valley 52.17 74 *e*P **P 09 38 32.9 -0.5**
PV01 Paradox Valley 52.60 74 *e*P **P 09 38 37.0 +0.3**
GTA Gaotai 52.62 289 *e*P **P 09 38 37.4 +0.6**
GTA AP pP 09 38 48.5 -0.1
GTA XP sP 09 38 53.1 -0.4
GTA PP PP 09 40 38.8 +1.6
GTA S **S 09 46 02.3 +2.8**
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,115nm,6.9s
GTA LR LR
comp=N,200nm,12.5s,MS4.4
GTA LR LR
comp=E,193nm,17.5s,MS4.4
GTA LR LR
comp=Z,156nm,11.8s
SUMG Summit 53.72 12 *e*P **P 09 38 43.8 -0.7**
comp=Z,9.2nm,0.6s,mb4.9
SDCO Great Sand Dun 54.69 72 *e*P **P 09 38 51.2 -0.9**
comp=Z,3.6nm,1.1s,mb4.3
ANMO Albuquerque 55.99 75 LR LR 10 04 00.3
comp=Z,85nm,18.2s,MS3.9,slow=37
ANMO Albuquerque 55.99 75 *i* P **P 09 39 00.5 -1.0**
KURK Kurchatov 56.59 311 *e*P **P 09 39 04.7 -0.9**
comp=Z,42nm,0.8s,mb5.5
KURK Kurchatov 56.59 311 *e*P **P 09 39 04.7 -0.9**
KURK pmax pmax
comp=Z,42nm,0.8s,mb5.5
WMQ Urumqi 56.60 300⇑*i*P **P 09 39 05.7 -0.1**
WMQ AP pP 09 39 18.6 +0.8
WMQ PCP PcP 09 40 02.0 +0.3
WMQ SCP 09 43 59.0
WMQ *e*S **S 09 46 51.5 -1.5**
WMQ XS 09 47 11.0
WMQ SS SS 09 50 39.0 -2.5
WMQ AMB AMB
comp=Z,16nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,131nm,5.2s
WMQ LR LR
comp=N,518nm,25.4s,MS4.7
WMQ LR LR
comp=E,586nm,26.2s,MS4.7
WMQ LR LR
comp=Z,498nm,22.2s,MS4.6
KEV Kevo 56.85 348 *e*p **P 09 39 06.1 -1.2**
comp=Z,1.2nm,0.3s,mb4.4
KEV Kevo 56.85 348 *e*P **P 09 39 06.1 -1.2**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 57.25 348 P **P 09 39 08.7 -1.4**
comp=Z,9.3nm,0.7s,mb4.9,baz=24,slow=8.6,SNR=49
ARCES LR LR 10 03 01.9
comp=Z,197nm,20.9s,MS4.2,baz=62,slow=35
ARE0 ARCESS Array S 57.25 348 *e*P **P 09 39 07.5 -2.7**
GYA Guiyang 57.27 272 P **P 09 39 11.8 +1.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
MKAR Makanchi Array 57.44 306 P **P 09 39 10.2 -1.5**
comp=Z,7.3nm,0.6s,mb4.9,baz=46,slow=7.4,SNR=68
MKAR LR LR 10 04 45.5
comp=Z,257nm,20.4s,MS4.3,baz=46,slow=37
MKAR Makanchi Array 57.44 306 *i* P **P 09 39 10.4 -1.3**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MK02 Makanchi Array 57.45 306 P **P 09 39 10.1 -1.7**
MK02 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VOSK Vostochnaya 58.63 317 P **P 09 39 18.5 -1.4**
VOSK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BRVK Borovoye 58.69 317 *e*P **P 09 39 18.8 -1.5**
comp=Z,16nm,0.7s,mb5.2
BRVK Borovoye 58.69 317 P **P 09 39 19.1 -1.2**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MNTX Cornudas Mount 58.88 77 *e*P **P 09 39 21.2 -0.8**
comp=Z,5.8nm,1.0s,mb4.6
KMI Kunming 60.67 274 P **P 09 39 31.9 -2.5**
KMI AP pP 09 39 46.6 +0.2
KMI S **S 09 47 47.2 +1.0**
KMI SS SS 09 51 44.6 -1.7
KMI AMB AMB
comp=Z,8.0nm,0.5s,mb5.1
KMI AMB AMB
comp=Z,307nm,7.4s
KMI LR LR
comp=Z,81nm,22.9s,MS3.8
KMI Kunming 60.67 274 P **P 09 39 31.9 -2.5**
comp=Z,8.0nm,0.5s,mb5.1
KMI pP pP 09 39 46.6 +0.2
KMI sP sP 09 39 51.6 +0.4
KMI S **S 09 47 47.2 +1.0**
KMI sS 09 48 06.2
KMI SS SS 09 51 44.6 -1.7
KMI LR LR
comp=Z,80nm,22.9s,MS3.8
KMI Kunming 60.67 274 P **P 09 39 31.9 -2.5**
KMI *PP pP 09 39 46.6 +0.2
KMI *SP sP 09 39 51.6 +0.4
KMI S **S 09 47 47.2 +1.0**
KMI *SS 09 48 06.2
KMI SS SS 09 51 44.6 -1.7
KMI pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
KMI MLR MLR
comp=Z,80nm,22.9s,MS3.8
WMOK Wichita Mounta 60.70 70 *e*P **P 09 39 32.8 -1.6**
comp=Z,2.1nm,0.5s,mb4.5
WMOK Wichita Mounta 60.70 70 *e*P **P 09 39 32.8 -1.6**
WMOK pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
ARU Arti 60.71 326 *e*P **P 09 39 33.5 -0.7**
comp=Z,28nm,0.9s,mb5.4
ARU Arti 60.71 326*c i*P **P 09 39 34.1 -0.1**
ARU pmax pmax
comp=Z,20nm,0.8s,mb5.3
LTX Lajitas 61.60 78 *e*P **P 09 39 40.5 0.0**
comp=Z,5.7nm,0.4s,mb5.0
LTX Lajitas 61.60 78 *e*P **P 09 39 40.5 -0.1**
LTX pmax pmax
comp=Z,6.0nm,0.4s,mb5.1
TXAR Lajitas Array 61.60 78 P **P 09 39 40.0 -0.6**
comp=Z,4.7nm,0.4s,mb5.0,baz=303,slow=5.3,SNR=180
TXAR LR LR 10 06 51.8
comp=Z,75nm,18.0s,MS3.9,baz=20,slow=36
SCHQ Schefferville 61.62 36 P **P 09 39 39.7 -0.6**
comp=Z,4.0nm,0.7s,mb4.6,baz=302,slow=5.6,SNR=6.1
SCHQ LR LR 10 05 43.3
comp=Z,101nm,20.4s,MS4.0,baz=341,slow=35
SCHQ Schefferville 61.62 36 P **P 09 39 39.7 -0.6**
SCHQ LR LR 10 05 43.3
JOF Joensuu 62.49 343 *e*p **P 09 39 44.4 -1.7**
comp=Z,8.5nm,0.5s,mb5.1
KAF Kangasniemi 64.11 345 *e*p **P 09 39 54.7 -1.9**
comp=Z,2.5nm,0.5s,mb4.5,baz=17,slow=5.9
KAF Kangasniemi 64.11 345 *e*P **P 09 39 54.7 -1.9**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
AAK Ala-Archa 64.31 307 *e*P **P 09 39 57.1 -1.1**
comp=Z,6.0nm,0.8s,mb4.7
AAK Ala-Archa 64.31 307*c i*P **P 09 39 57.3 -0.9**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LSA Lhasa 64.46 286 P **P 09 40 01.2 +1.8**
LSA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
LSA Lhasa 64.46 286 *e*P **P 09 40 00.2 +0.8**
comp=Z,11nm,0.6s,mb5.1
LSA Lhasa 64.46 286 *e*P **P 09 40 00.2 +0.8**
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.1
FINES FINESS Array B 64.78 345 P **P 09 39 59.4 -1.5**
comp=Z,3.9nm,0.6s,mb4.6,baz=11,slow=9.3,SNR=35
FINES LR LR 10 09 26.4
comp=Z,109nm,21.8s,MS4.0,baz=151,slow=37
FINES FINESS Array B 64.78 345 *i* P **P 09 39 59.7 -1.2**
FINES pmax pmax
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 65.64 322 P **P 09 40 06.6 -0.1**
AKTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
PMG Port Moresby 65.81 212 LR LR 10 04 48.9
comp=Z,124nm,21.5s,MS4.1,baz=33,slow=32
AB31 Akbulak array 65.83 320 *i* P **P 09 40 07.5 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KKAR Karatay Array 65.91 309 *i* P **P 09 40 08.1 -0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
WVT Waverly 65.93 62 *e*P **P 09 40 07.2 -1.5**
comp=Z,7.4nm,1.0s,mb4.7
WVT Waverly 65.93 62 *e*P **P 09 40 07.2 -1.5**
WVT pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
OXF Oxford 66.24 64 *e*P **P 09 40 09.1 -1.6**
comp=Z,22nm,0.9s,mb5.2
OXF Oxford 66.24 64 *e*P **P 09 40 09.1 -1.6**
OXF pmax pmax
comp=Z,22nm,0.9s,mb5.2
NB2 NORSAR Subarra 67.03 352 P **P 09 40 14.5 -0.7**
comp=Z,13nm,0.8s,mb5.0,baz=10.0,slow=6.2
NB2 NORSAR Subarra 67.03 352 P **P 09 40 14.5 -0.7**
NB2 pmax pmax
comp=Z,13nm,0.8s,mb5.0
NOA NORSAR Array B 67.03 352 P **P 09 40 14.5 -0.7**
comp=Z,10nm,0.8s,mb4.9,baz=11,slow=6.4,SNR=40
NOA LR LR 10 09 45.7
comp=Z,67nm,20.4s,MS3.9,baz=340,slow=36
VSU Vasula 67.48 343 *i* P **P 09 40 17.4 -0.7**
SWET Sewanee 67.64 61 *e*P **P 09 40 16.8 -2.7**
OBN Obninsk 68.47 336⇓*i*P **P 09 40 24.2 -0.1**
OBN pmax pmax
comp=Z,19nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.6
MYNC Murphy 68.73 60 *e*P **P 09 40 24.2 -2.1**
comp=Z,12nm,1.0s,mb4.8
MYNC *e*pP pP 09 40 36.7 -1.9
ELN Prospectdale 68.90 57 *e*P **P 09 40 25.6 -1.7**
KKN Kakani 69.35 289 *e*P **P 09 40 31.1 +0.8**
comp=Z,33nm,0.7s,mb5.4
PKI Pulchoki 69.44 289 *e*P **P 09 40 31.5 +0.7**
comp=Z,32nm,0.6s,mb5.4
GKN Gorkha 69.57 289 *e*P **P 09 40 32.2 +0.6**
comp=Z,37nm,0.7s,mb5.4
DMN Daman 69.59 289 *e*P **P 09 40 32.7 +1.0**
comp=Z,25nm,0.7s,mb5.3
KOLN Koldanda 70.35 290 *e*P **P 09 40 36.9 +0.5**
comp=Z,16nm,0.7s,mb5.1
JSC Jenkinsville 70.87 59 *e*P **P 09 40 36.6 -2.8**
TAOE Nuku Hiva Isla 70.92 134 *e*LR LR 10 01 58.1
comp=Z,840nm,24.3s
VORD Divnogorie 71.48 333 *e*P **P 09 40 42.4 -0.3**
VORD pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=E,10μm,0.9s
AKASG Malin Array Be 74.28 339 P **P 09 40 58.9 -0.1**
comp=E,3.8nm,0.4s,mb4.7,baz=23,slow=6.2,SNR=19
AKASG Malin Array Be 74.28 339 P **P 09 40 58.9 -0.2**
KAKA Kakadu 74.51 225 *e*P **P 09 41 18.0 +17**
comp=E,8.7nm,0.6s,mb4.9
PPT Papeete 75.08 146 *e*LR LR 10 03 52.9
comp=E,323nm,23.2s,baz=341
PPT Papeete 75.08 146 LR LR 10 05 24.5
comp=E,272nm,21.2s,MS4.5,baz=337,slow=29
OJC Ojcow 76.56 345 *e*P **P 09 41 12.9 +0.7**
KIV Kislovodsk 76.67 328⇑*e*P **P 09 41 13.8 +0.9**
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
DPC Dobruska-Polom 76.97 347 *e*P **P 09 41 14.9 +0.4**
STHS Stebnicka Huta 77.09 344 *e*P **P 09 41 16.4 +1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	77.20	346	eP	P	09 41 16.3	+0.5
MORC	Moravsky Berou	77.35	346	eP	P	09 41 16.5	-0.1
CRVS	Cervenica-Dubn	77.55	343	eP	P	09 41 17.7	0.0
PRU	Pruhonice	77.56	348	epP	pP	09 41 28.8	-1.3
ANN	Anapa	77.58	331	eP	P	09 41 13.9	-4.1
ANN				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
VRAC	Vranov	77.94	347	LR	LR	10 16 57.5	
	comp=Z,138nm,19.6s,MS4.3,baz=24,slow=37						
BURAR	Bucovina Array	78.06	340	⇓iP	P	09 41 21.4	+0.9
BURAR	Bucovina Array	78.06	340	⇑iP	P	09 41 21.4	+0.8
KECS	Kecovo	78.13	344	eP	P	09 41 21.8	+0.9
KECS				epP	pP	09 41 33.5	+0.2
VYHS	Vyhne	78.39	345	eP	P	09 41 23.1	+0.7
VYHS				e	pP	09 41 33.9	-0.8
BAIF	Baives	78.44	355	eP	P	09 41 23.1	+0.5
KHC	Kasperske Hory	78.52	349	eP	P	09 41 23.6	+0.5
SMOL	Smolenice	78.59	346	eP	P	09 41 25.2	+1.7
GERES	GERESS Array B	78.79	348	P	P	09 41 24.8	+0.3
	comp=Z,1.0nm,0.7s,mb3.9,baz=18,slow=4.2,SNR=8.8						
GERES				LR	LR	10 16 15.1	
	comp=Z,99nm,21.1s,MS4.1,baz=354,slow=36						
GNI	Garni	79.31	324	LR	LR	10 21 15.2	
	comp=Z,257nm,19.5s,MS4.6,baz=164,slow=39						
DRGR		79.35	342	⇓iP	P	09 41 27.7	+0.1
DRGR		79.35	342	⇑iP	P	09 41 27.7	+0.1
CFR	Carcaliu	79.72	338	⇓iP	P	09 41 31.1	+1.4
CFR	Carcaliu	79.72	338	⇑iP	P	09 41 31.1	+1.4
MLR	Muntele Rosu	79.92	339	⇑iP	P	09 41 33.0	+2.3
LDF	La Druitiere	80.09	358	eP	P	09 41 31.0	-0.6
ARSA	Arzberg	80.11	347	⇑iP	P	09 41 32.9	+1.2
	comp=Z,4.3nm,1.1s,mb4.3						
VOIR		80.17	340	⇑iP	P	09 41 33.6	+1.5
WRAB	Tennant Creek	80.18	220	eP	P	09 41 31.6	-1.0
	comp=Z,26nm,1.2s,mb5.0						
WRAB	Tennant Creek	80.18	220	eP	P	09 41 31.6	-1.0
WRAB				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
WB2	Warramunga Arr	80.18	220	⇓iP	P	09 41 32.8	+0.1
WRA	Warramunga Arr	80.19	220	P	P	09 41 32.9	+0.3
	comp=Z,4.2nm,0.6s,mb4.6,baz=30,slow=5.8,SNR=68						
TBI	Tubuai	80.49	148	eLR	LR	10 06 23.7	
	comp=Z,304nm,25.5s						
KBA	Koelnbreinsper	80.57	348	⇑iP	P	09 41 35.6	+1.4
	comp=Z,17nm,0.8s,mb5.0						
KBA	Koelnbreinsper	80.57	348	⇑iP	P	09 41 35.6	+1.4
KBA				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
WTTA	Wattenberg	80.59	349	⇑iP	P	09 41 35.4	+1.1
	comp=Z,9.8nm,0.8s,mb4.8						
WTTA	Wattenberg	80.59	349	⇑iP	P	09 41 35.4	+1.1
WTTA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
PERS	Pernice	80.77	347	eP	P	09 41 36.2	+1.0
HYB	Hyderabad	81.24	287	iP	P	09 41 39.5	+1.2
LOR	Lormes	81.25	355	eP	P	09 41 38.0	+0.3
	comp=Z,11nm,0.9s,mb4.5						
LOR				eR			
	comp=Z,87nm,19.2s						
LOR	Lormes	81.25	355	eP	P	09 41 38.0	+0.3
LOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
LOR				MLR	MLR		
	comp=Z,90nm,19.3s,MS4.1						
DAVOX	Davos	81.26	351	LR	LR	10 15 18.2	
	comp=Z,94nm,22.0s,MS4.1,baz=86,slow=34						
ROBS	Robic	81.37	348	eP	P	09 41 38.3	-0.1
SSF	Saint Saulge	81.47	355	eP	P	09 41 39.5	+0.6
CABF	La Chapelle	81.76	353	eP	P	09 41 41.2	+0.8
TCF	Toulx Ste Croi	82.31	356	eP	P	09 41 43.5	+0.3
FITZ	Fitzroy Crossi	82.31	228	⇓iP	P	09 41 44.9	+1.1
	comp=Z,13nm,0.9s,mb4.8						
FITZ	Fitzroy Crossi	82.31	228	P	P	09 41 45.0	+1.2
	comp=Z,16nm,0.7s,mb5.1,baz=19,slow=4.8,SNR=19						
LPL	La Plagne	82.80	353	eP	P	09 41 47.4	+1.7
	comp=Z,4.9nm,0.8s,mb4.3						
LPL	La Plagne	82.80	353	eP	P	09 41 47.4	+1.7
LPL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
LPG	La Plagne	82.81	353	eP	P	09 41 47.7	+1.9
	comp=Z,11nm,0.9s,mb4.6						
LPG	La Plagne	82.81	353	eP	P	09 41 47.7	+1.9
LPG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
BNI	Bardonecchia	83.26	353	eP	P	09 41 49.6	+1.5
	comp=Z,7.3nm,0.8s,mb4.8						
BNI	Bardonecchia	83.26	353	eP	P	09 41 49.6	+1.5
BNI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BRTR	Keskin Array B	83.35	332	P	P	09 41 49.9	+1.2
	comp=Z,1.6nm,0.5s,mb4.3,baz=52,slow=2.5,SNR=6.6						
ORIF	Oris-en-Rattie	83.46	353	eP	P	09 41 50.3	+1.2
	comp=Z,11nm,0.9s,mb4.6						
ORIF				eR			
	comp=Z,82nm,19.0s						
MBDF	Montbardon	83.58	353	eP	P	09 41 50.8	+1.2
	comp=Z,10nm,0.8s,mb4.7						
MBDF	Montbardon	83.58	353	eP	P	09 41 50.8	+1.2
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
VIVF	Saint-Julien-l	83.60	354	eP	P	09 41 50.8	+1.0
SMRF	Simiane la Rot	84.42	353	eP	P	09 41 55.0	+1.1
FRF	La Foret Royal	84.75	352	eP	P	09 41 56.8	+1.3
	comp=Z,13nm,0.8s,mb4.8						
FRF	La Foret Royal	84.75	352	eP	P	09 41 56.8	+1.3
FRF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
MTLF	Montolieu	85.25	356	eP	P	09 41 58.2	+0.2
	comp=Z,6.1nm,0.8s,mb4.5						
MTLF	Montolieu	85.25	356	eP	P	09 41 58.2	+0.2
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
PGF	Pioggiola	85.54	351	eP	P	09 42 00.5	+1.0
	comp=Z,20nm,0.7s,mb5.1						
PGF	Pioggiola	85.54	351	eP	P	09 42 00.5	+1.0
PGF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.2						
SJPF	Ste Jean	85.59	358	eP	P	09 41 59.0	-0.7
RKT	Rikitea	85.80	136	eLR	LR	10 08 52.0	
	comp=Z,230nm,39.0s						
STKA	Stephens Creek	88.60	209	⇓iP	P	09 42 16.1	+1.5
	comp=Z,3.1nm,1.4s,mb4.5						
STKA	Stephens Creek	88.60	209	P	P	09 42 15.6	+1.1
	comp=Z,2.2nm,0.6s,mb4.7,baz=4.6,slow=3.8,SNR=7.0						
STKA				LR	LR	10 21 55.7	
	comp=Z,155nm,18.4s,MS4.5,baz=205,slow=36						
DBIC	Dimbokro	121.90	1	PKP	PKPdf	09 48 16.6	+1.4
	comp=Z,3.9nm,0.8s,baz=315,slow=1.4,SNR=8.0						
LIC	Lamto	122.34	2	ePKIKP	PKPdf	09 48 16.5	+0.5
	comp=Z,34nm,1.2s						
VNDA	Vanda	129.22	184	PKP	PKPdf	09 48 30.1	+2.5
	comp=Z,0.6nm,0.8s,baz=305,slow=1.8,SNR=3.6						
CFAA	Coronel Fontan	129.51	93	PKP	PKPdf	09 48 31.3	+1.9
	comp=Z,0.1nm,0.5s,baz=18,slow=3.2,SNR=4.9						
CFAA				SKPbc		09 51 49.1	
	comp=Z,0.2nm,0.8s,baz=276,slow=3.6,SNR=6.4						
CPUP	Villa Florida	132.56	79	PKP	PKPdf	09 48 38.5	+3.2
	comp=Z,0.9nm,0.6s,baz=270,slow=1.0,SNR=2.5						
PLCA	Paso Flores	133.97	104	PKP	PKPdf	09 48 40.0	+2.4
	comp=Z,1.4nm,0.7s,baz=255,slow=4.4,SNR=6.5						
MAW	Mawson	144.84	218	⇓iP	PKPdf	09 48 57.4	+1.4
	comp=Z,11nm,0.5s						
MAW	Mawson	144.84	218	PKP	PKPdf	09 48 57.5	+1.4
	comp=Z,24nm,0.7s,baz=76,slow=3.7,SNR=68						
MAW	Mawson	144.84	218	PKIKP	PKPdf	09 48 57.5	+1.5
MAW				pmax	pmax		
	comp=Z,24nm,0.7s						
LBTB	Lobatse	145.29	309	ePKP	PKPdf	09 49 00.4	+2.2
BOSA	Boshof	148.44	306	PKPbc	PKPdf	09 49 09.5	+6.3
	comp=Z,1.6nm,0.5s,baz=56,slow=5.2,SNR=9.0						
SNAA	Sanae	159.91	181	⇑iP	PKPab	09 49 58.9	-0.6
SNAA	Sanae	159.91	181	e		09 50 10.5	
SNAA	Sanae	159.91	181	PKPab	PKPab	09 49 58.6	-0.9
	comp=Z,0.8nm,0.9s,baz=210,slow=6.1,SNR=7.8						
SNAA	Sanae	159.91	181	PKP2	PKPab	09 49 58.6	-0.9
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNA3	Neumayer Olymp	160.15	174	⇑iP	PKPab	09 50 00.7	+0.1
VNA3	Neumayer Olymp	160.15	174	e		09 50 10.8	
VNA2	Neumayer--Watz	160.58	176	⇑iP	PKPab	09 50 02.7	+0.3
VNA1	Neumayer--Stat	160.82	175	⇑iP		09 50 04.0	

*NIED **03** 09:50:00,33.10N×142.60E,h8km,Mw4.1 Best double couple: $M_0$1.72×10^15 NP1:φs182°,δ69°,λ-101°. NP2: φs32°,δ23°,λ-63°.*
*IDC **03** 09:50:50.1±0.6,33.03N×142.61E,mb4.2/14,mb1 4.3/15, mb1mx4.3/22,mbtmp4.2/15,ML4.0/1,MS3.3/4,Ms1 3.3/4, ms1mx3.1/24,Error ellipse: s-maj=18.9km s-min=18.1km az=134.0*
*NEIC **03** 09:50:51.1±5.0,33.01N×142.58E,h7km±30km,mb4.5/3, MW4.1(NIED),Error ellipse: s-maj=11.8km s-min=9.8km az=136.0*
*JMA **03** 09:50:52.6±0.3,33.10N×142.61E,h66km,M4.4*
ISC 03 09:50:52.0±1.7,**33.13N**±0.05×**142.54E**±0.05,**h21**km±12km,**n47,σ0.99**/55,**mb4.2**/16,**MS4.1**/1,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.00	320	P	Pn	09 51 25.4	+0.2
BSO1				S	Sn	09 51 51.2	+1.4
JHJ2	Mitsune	2.29	270	P	Pn	09 51 29.7	+0.4
JHJ2				S	Sn	09 51 57.7	+0.6
JHJ	Hachijo jima 2	2.31	270	Pn	Pn	09 51 29.8	+0.1
	86nm,0.3s,baz=217,slow=7.6,SNR=37						
JHJ				Sn	Sn	09 51 57.0	-0.8
	203nm,0.3s,baz=81,slow=22,SNR=11						
JHJ				LR	LR	09 52 01.0	
	comp=Z,744nm,21.2s,baz=122,slow=30						
BSO3	Boso 3	2.37	315	P	Pn	09 51 31.3	+0.8
BSO3				S	Sn	09 52 00.1	+0.9
BSO4	Boso 4	2.60	316	P	Pn	09 51 35.0	+1.2
BSO4				S	Sn	09 52 06.6	+1.5
JIM2	Oshima 3	3.03	302	P	Pn	09 51 39.6	-0.3
JOD2	Odawara 2	3.56	308	P	Pn	09 51 46.9	-0.6
JHU	Hanno	3.82	316	P	Pn	09 51 51.1	0.0
JHU				S	Sn	09 52 35.4	-0.6
JHO	Hitachi	3.83	336	P	Pn	09 51 49.8	-1.5
JYN	Shimob	4.06	307	P	Pn	09 51 55.7	+1.1
JYN				S	Sn	09 52 43.1	+1.0
JAG	Ashikaga	4.15	323	P	Pn	09 51 55.7	-0.1
JAG				S	Sn	09 52 42.4	-2.0
JRY	Ryogami san	4.16	315	P	Pn	09 51 56.4	+0.5
JRY				S	Sn	09 52 43.4	-1.1
MAJO	Matsushiro	4.93	315	ePn	Pn	09 52 07.1	+0.3
	17nm,0.5s						
MAJO				eSn	Sn	09 53 02.6	-1.3
MAT	Matsushiro	4.93	315	P	Pn	09 52 07.1	+0.3
MAT				S	Sn	09 53 02.3	-1.6
MAT	Matsushiro	4.93	315	P	Pn	09 52 07.3	+0.5
MAT				S	Sn	09 53 02.6	-1.3
MAT	Matsushiro	4.93	315	eP	Pn	09 52 07.0	+0.2
MAT				eS	Sn	09 53 02.0	-1.9
JMM	Marumori	4.94	344	P	Pn	09 52 04.4	-2.5
JMM				S	Sn	09 52 58.7	-5.4
JNU	Nakatsue	9.78	273	LR	LR	09 55 40.9	
	comp=Z,73nm,20.3s,baz=96,slow=30						
ASAJ	Asahikawa	10.97	0	Pn	P	09 53 26.1	-4.7
	2.9nm,0.3s,baz=213,slow=7.9,SNR=20						
ASAJ				LR	LR	09 57 48.8	
	comp=Z,88nm,20.0s,baz=149,slow=38						
ENH	Enshi	28.20	273	eP	P	09 56 44.4	-0.9
	3.4nm,0.4s,mb4.3						
SONM	Songino Array	30.85	309	P	P	09 57 10.2	+1.5
	0.9nm,0.6s,mb3.8,baz=113,slow=9.1,SNR=6.8						
ZAL	Zalesovo	45.29	315	PcP	PcP	10 00 49.9	0.0
	1.5nm,0.5s,baz=354,slow=1.6,SNR=3.8						
MKAR	Makanchi Array	47.05	305	P	P	09 59 24.3	+0.5
	1.5nm,0.6s,mb4.1,baz=83,slow=9.8,SNR=12						
KURK	Kurchatov	49.12	311	eP	P	09 59 39.8	0.0
	4.4nm,0.7s,mb4.6						
SML	Sawmill	51.63	34	eP	P	09 59 58.2	-0.6
ILAR	Eielson Array	52.33	31	P	P	10 00 03.3	-0.8
	1.9nm,0.6s,mb4.2,baz=263,slow=6.0,SNR=53						
WRA	Warramunga Arr	53.35	190	P	P	10 00 10.5	-1.8
	2.6nm,0.7s,mb4.3,baz=7.5,slow=7.6,SNR=23						
WRA				PcP	PcP	10 01 20.0	+0.4
	0.6nm,0.6s,baz=6.2,slow=4.3,SNR=5.4						
INK	Inuvik	57.46	26	P	P	10 00 41.6	+0.3
	2.2nm,0.6s,mb4.4,baz=305,slow=2.5,SNR=17						
INK	Inuvik	57.46	26	eP	P	10 00 41.4	+0.1
	2.2nm,0.7s,mb4.3						
STKA	Stephens Creek	64.67	181	P	P	10 01 28.6	-2.0
	2.0nm,0.8s,mb4.2,baz=333,slow=12,SNR=4.9						
YKA	Yellowknife Ar	66.73	30	P	P	10 01 43.0	-0.3
	1.2nm,0.7s,mb4.0,baz=300,slow=6.2,SNR=4.2						
YKA	Yellowknife Ar	66.73	30	P	P	10 01 43.0	-0.3
FINES	FINESS Array B	72.70	333	P	P	10 02 19.7	-0.1
	3.7nm,0.9s,mb4.3,baz=63,slow=8.5,SNR=9.4						
FINES	FINESS Array B	72.70	333	P	P	10 02 19.7	-0.1
NB2	NORSAR Subarra	78.14	338	P	P	10 02 51.1	+0.4
	1.2nm,0.6s,mb4.0,baz=40,slow=5.6						
NOA	NORSAR Array B	78.14	338	P	P	10 02 50.9	+0.2
	2.8nm,0.8s,mb4.2,baz=39,slow=5.5,SNR=8.3						
PDAR	Pinedale Array	79.74	45	P	P	10 03 00.8	+1.0
	0.7nm,0.8s,mb3.6,baz=270,slow=3.0,SNR=6.5						
PPT	Papeete	82.06	117	LR	LR	10 35 45.1	
	comp=Z,79nm,19.8s,MS4.1,baz=247,slow=33						
BRTR	Keskin Array B	82.15	313	P	P	10 03 13.4	+0.9
	0.8nm,0.5s,mb4.0,baz=72,slow=4.6,SNR=2.8						
PV10	Paradox Valley	82.65	49	eP	P	10 03 16.3	+1.1
ASF	Jabal al Asfar	84.47	305	P	P	10 03 25.1	+0.5
	2.1nm,0.4s,mb4.6,baz=103,slow=2.8,SNR=3.1						
ANMO	Albuquerque	86.38	50	P	P	10 03 34.0	0.0
	0.4nm,0.4s,mb4.0,baz=307,slow=5.1,SNR=4.4						
ANMO	Albuquerque	86.38	50	P	P	10 03 34.0	0.0
TXAR	Lajitas Array	91.75	53	P	P	10 04 00.7	+1.2
	0.8nm,0.8s,mb4.1,baz=304,slow=3.2,SNR=12						
LPAZ	La Paz	147.64	66	PKPbc	PKPdf	10 10 38.2	+1.3
	1.3nm,0.5s,baz=15,slow=6.9,SNR=10.0						
LVC	Limon Verde	150.39	77	PKPbc	PKPdf	10 10 41.9	+0.8
	2.9nm,0.9s,baz=259,slow=5.8,SNR=3.3						
SIV	San Ignacio	152.67	57	PKPbc	PKPdf	10 10 49.4	+4.8
	1.4nm,0.6s,baz=278,slow=4.9,SNR=7.5						
SIV				PKPab	PKPab	10 10 59.3	-1.3
	2.6nm,1.0s,baz=259,slow=5.2,SNR=6.7						

*IDC **03** 09:53:17.9±5.8,35.28N×20.67E,mb3.6/4,mb1 3.6/6, mb1mx3.5/23,mbtmp3.6/6,ML2.5/1,Error ellipse: s-maj=102.3km s-min=29.8km az=28.0*
*CSEM **03** 09:53:28.7±0.2,35.88N×21.30E,h60km,MD3.5,Error ellipse: s-maj=6.0km s-min=2.0km az=47.0*
*ATH **03** 09:53:31.8,36.25N×21.49E,h28km±2km,MD3.5/9*
*NEIC **03** 09:53:31.8,36.25N×21.48E,h28km,mb3.4/1, MD3.5(ATH),After ATH.*
ISC 03 09:53:27.1±1.4,**35.88N**±0.10×**21.2E**±0.1,**h33**km,**n23, σ1.39**/28,**mb3.5**/4,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ITM	Ithomi	1.42	24	ePN	Pn	09 53 51.1	+0.1
KYTH	Kithira	1.53	74	ePN	Pn	09 53 55.3	+2.8
VLI	Veliai	1.62	58	ePN	Pn	09 53 56.1	+2.2
VLI				eSN	Sn	09 54 12.5	-1.3
VLI	Veliai	1.62	58	ePn	Pn	09 53 56.4	+2.5
VLI				eSn	Sn	09 54 12.5	-1.3
RLS	Riolos of Patr	2.19	5	ePB	Pb	09 54 03.1	-2.7
VLS	Valsamata	2.35	348	ePN	Pn	09 54 06.3	+2.0
VLS				eSN	Sn	09 54 33.0	+0.7
VLS	Valsamata	2.35	348	ePn	Pn	09 54 06.0	+1.7
VLS				eSn	Sn	09 54 33.0	+0.7
NAIG	Nisos Aigina	2.62	44	ePB	Pb	09 54 09.0	-4.2
NAIG	Nisos Aigina	2.62	44	ePb	Pb	09 54 09.8	-3.4
NSAL	Nisos Salamina	2.71	41	ePN	Pn	09 54 09.5	+0.1
NSAL	Nisos Salamina	2.71	41	ePn	Pn	09 54 09.0	-0.4
MPAR	Parnis Oros	3.04	41	ePN	Pn	09 54 13.7	-0.3
MPAR	Parnis Oros	3.04	41	ePn	Pn	09 54 13.5	-0.5
IDI	Anoyia	3.05	100	Pn	Pn	09 54 14.4	+0.1
	0.4nm,0.3s,baz=336,slow=10.0,SNR=2.6						
IDI				Sn	Sn	09 54 55.5	+5.5
	3.9nm,0.3s,baz=294,slow=22,SNR=8.1						
EVR	Evrytania	3.07	9	ePN	Pn	09 54 15.5	+1.0
LKR	Lokris	3.11	27	ePN	Pn	09 54 15.6	+0.5
AKASG	Malin Array Be	15.91	19	Pn	P	09 57 10.9	+1.1
	1.1nm,0.3s,baz=207,slow=8.8,SNR=5.2						
FINES	FINESS Array B	25.77	5	P	P	09 58 55.5	-0.8
	0.4nm,0.5s,mb3.2,baz=143,slow=9.5,SNR=4.9						
FINES	FINESS Array B	25.77	5	P	P	09 58 55.5	-0.8
NB2	NORSAR Subarra	25.98	349	P	P	09 58 56.6	-1.6
	0.6nm,0.6s,mb3.3,baz=156,slow=9.3						
NOA	NORSAR Array B	25.98	349	P	P	09 58 57.6	-0.6
	0.9nm,0.7s,mb3.4,baz=162,slow=9.7,SNR=3.9						
ARCES	ARCESS Array B	33.80	3	P	P	10 00 06.2	-1.5
	1.1nm,0.7s,mb3.9,baz=175,slow=10.0,SNR=3.2						
MKAR	Makanchi Array	46.07	57	P	P	10 01 47.9	-1.5
	0.2nm,0.3s,mb3.5,baz=270,slow=4.3,SNR=4.1						

*NEIC **03** 09:53:33.3,15.77N×95.55W,h44km,MD4.5(MEX),After MEX.*
MEX 03 09:53:33.5±1.1,**15.83N×95.54W,h40**km±20km,**MD4.4,1D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.55	264	iP	P	09 53 42.8	-2.1
HUIG				iS	S	09 53 51.2	-1.8
HUIG	Huatulco	0.55	264	eP	P	09 53 42.8	-2.1
HUIG				eS	S	09 53 50.9	-2.1
CMIG	Matias Romero	1.41	27	iP	P	09 53 54.4	-2.7
CMIG				iS	S	09 54 11.3	-3.4
OXX	Oaxaca	1.69	318	eP	P	09 54 00.0	-1.1
OXX				iS	S	09 54 23.5	+1.9
VHO	Vista Hermosa	1.69	318	eP	P	09 53 59.8	-1.3
VHO				eS	S	09 54 20.4	-1.2
TUIG	Tuzandepetl	2.44	26	eP	P	09 54 09.6	-2.2
TUIG				eS	S	09 54 37.8	-2.9
PNIG	Pinotepa	2.55	283	eP	P	09 54 11.1	-2.2
PNIG				⇓eS	S	09 54 38.9	-4.5
SCX	San Cristobal	2.94	72	eP	P	09 54 18.0	-0.9
SCX				iS	S	09 55 00.0	+6.8
CCIG	Comitan	3.31	82	eP	P	09 54 21.8	-2.3
CCIG				eS	S	09 54 58.9	-3.7
ACX	Acapulco	4.33	284	iP	P	09 54 35.0	-3.6
PPM	Popocatepetl	4.37	318	eP	P	09 54 42.5	+3.4
YAIG	Yautepec	4.52	312	iP	P	09 54 40.8	-0.5
YAIG				eS	S	09 55 28.5	-4.9
PLIG	Platanillo	4.57	305	iP	P	09 54 41.4	-0.6
PLIG				eS	S	09 55 30.8	-3.7
MOIG	Morelia	6.61	306	iS	S	09 56 23.4	-2.1

*JMA **03** 10:18:23.9±0.4,33.14N×142.62E,h75km,M3.1*
*IDC **03** 10:18:27.8±4.6,33.07N×142.33E,h47km±45km,mb3.1/3, mb1 3.4/4,mb1mx3.2/20,mbtmp3.4/4,ML3.2/1,Error ellipse: s-maj=36.4km s-min=27.9km az=102.0*
ISC 03 10:18:24.0±1.4,**33.17N**±0.06×**142.65E**±0.08,**h35**km±15km,**n17,σ0.83**/24,**mb3.4**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.03	317	P	P	10 18 56.5	+0.1
BSO1				eS	S	10 19 22.5	+1.7
BSO2	Boso 2	2.23	316	eS	S	10 19 26.3	+0.5
JHJ2	Mitsune	2.37	269	P	P	10 19 01.3	-0.1
JHJ2				eS	S	10 19 29.7	+0.1
JHJ	Hachijo jima 2	2.40	270	P	P	10 19 02.1	+0.4
	17nm,0.3s,baz=90,slow=20,SNR=9.3						
JHJ				S	S	10 19 25.6	-4.6
	27nm,0.3s,baz=73,slow=19,SNR=3.9						
BSO3	Boso 3	2.41	313	P	P	10 19 02.2	+0.3
BSO3				eS	S	10 19 30.5	+0.1
BSO4	Boso 4	2.64	314	P	P	10 19 06.3	+1.1
JIM2	Oshima 3	3.09	301	eS	S	10 19 47.0	-0.7
JOD2	Odawara 2	3.61	306	P	P	10 19 18.6	-0.4
JOD2				eS	S	10 20 01.1	+0.1
JYN	Shimob	4.11	306	eS	S	10 20 14.5	+0.8
JAG	Ashikaga	4.18	322	P	P	10 19 27.1	+0.1
JAG				eS	S	10 20 13.6	-1.7
JRY	Ryogami san	4.20	314	eS	S	10 20 15.9	+0.1
JMM	Marumori	4.92	343	P	P	10 19 36.7	-0.9
MAT	Matsushiro	4.96	314	eS	S	10 20 33.7	-1.4
JMK	Ichinoseki	5.88	349	P	P	10 19 50.5	-0.6
JMK				eS	S	10 20 52.4	-5.9
MKAR	Makanchi Array	47.10	305	P	P	10 26 54.5	+0.2
	0.2nm,0.6s,mb3.2,baz=90,slow=8.6,SNR=3.5						
ILAR	Eielson Array	52.25	31	P	P	10 27 34.9	+1.4
	0.3nm,0.6s,mb3.4,baz=258,slow=6.4,SNR=7.2						
WRA	Warramunga Arr	53.41	190	P	P	10 27 41.6	-1.1
	0.7nm,0.8s,mb3.6,baz=6.8,slow=7.6,SNR=9.6						

*NNC **03** 10:38:03.8±4.8,36.84N×70.57E,h192km±46km,mpv4.5, Error ellipse: s-maj=42.3km s-min=25.0km az=7.0*
ISC 03 10:38:01.3±2.5,**36.7N**±0.2×**70.5E**±0.2,**h194**km±30km,**n15, σ0.71**/17,**6C-3D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.94	24	P	P	10 39 28.6	+0.2
	SNR=159						
UCH	Uchtor	6.31	28	P	P	10 39 33.5	+0.2
	SNR=28						
KK31	Karatay Array	6.37	0	⇓P	P	10 39 34.1	0.0
	18nm,0.2s,baz=177,slow=13,SNR=271						
KK31				⇑S	S	10 40 45.1	-1.1
	7.0nm,0.2s,baz=178,slow=22,SNR=6.7						
EKS2	Erkin-Say	6.44	22	P	P	10 39 35.3	+0.3
	SNR=5.4						
KZA	Kyzart	6.49	33	P	P	10 39 35.1	-0.5
	SNR=9.1						
AAK	Ala-Archa	6.65	26	P	P	10 39 38.1	+0.3
	SNR=14						
AAK	Ala-Archa	6.65	26	⇑P	P	10 39 37.8	0.0
	7.8nm,0.4s						
AAK				⇑S	S	10 40 54.4	+1.5
	6.7nm,0.9s						
CHMS	Chumysh	7.07	26	P	P	10 39 43.1	-0.1
	SNR=8.5						
USP	Ospenovka	7.22	24	P	P	10 39 44.8	-0.4
	SNR=7.4						
TKM2	Tokmak 2	7.32	31	P	P	10 39 46.3	-0.2
	SNR=38						
MK31	Makanchi Array	13.35	37	⇑P	P	10 41 03.8	-0.4
	0.3nm,0.3s,baz=208,slow=11,SNR=5.7						
AB31	Akbulak array	14.69	332	⇑P	P	10 41 22.5	+1.7
	0.5nm,0.3s,baz=146,slow=13,SNR=16						
VOSK	Vostochnaya	16.00	1	⇓P	P	10 41 35.9	-1.1
	2.8nm,1.2s						
BVA0	Borovoye Array	16.30	360	⇑P	P	10 41 40.9	+0.3
	0.4nm,1.1s,slow=0.1,SNR=5.6						
AKTO	Aktyubinsk	16.38	331	⇓P	P	10 41 41.4	-0.3
	0.7nm,0.9s						

*IDC **03** 10:49:06.6±1.0,12.46N×88.23W,mb4.2/8,mb1 4.5/8, mb1mx4.2/20,mbtmp4.2/8,MS4.0/17,Ms1 4.0/17, ms1mx3.8/28,Error ellipse: s-maj=46.2km s-min=19.9km az=57.0*
*CASC **03** 10:49:09.1±2.6,12.03N×88.73W,h32km±19km,MD4.7, ML4.0,mb4.5(NEIC)*
*NEIC **03** 10:49:14.0±1.3,12.36N×88.43W,h60km±14km,mb4.5/18, Error ellipse: s-maj=11.1km s-min=7.0km az=75.0*
ISC 03 10:49:09.3±0.7,**12.05N**±0.05×**88.72W**±0.03,**h46**km±7km,**n91,σ1.00**/84,**mb4.5**/24,**MS4.0**/17,**8C-4D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	San Miguel	1.44	17	⇑eP	Px	10 49 46.1	
VSM				eS	Sx	10 50 04.9	
BLLM	Bellamira	1.47	19	eP	Px	10 49 46.3	
BLLM				eS	Sx	10 50 05.9	
SNVI	San Vicente	1.56	356	eP	Px	10 49 47.4	
SNVI				eS	Sx	10 50 08.3	
LFRS	El Faro	1.60	348	⇑eP	Px	10 49 47.4	
LFRS				eS	Sx	10 50 08.6	
CRIN	San Cristobal	1.75	68	eP	P	10 49 37.8	0.0
CRIN				eS	S	10 50 00.9	+1.9
BOQS	Boqueron	1.77	342	⇑eP	Px	10 49 50.5	
BOQS				eS	Sx	10 50 15.2	
LEON	Leon	1.82	78	eP	P	10 49 38.5	-0.3
LEON				eS	S	10 50 02.2	+1.5
TEL3	Telica 3	1.90	74	eP	P	10 49 39.6	-0.3
TEL3				eS	S	10 50 04.4	+1.6
TELN	Telica	1.92	73	eS	S	10 50 04.5	+1.3
MIRN	Miramar	2.00	78	eP	P	10 49 41.0	-0.3
MIRN				eS	S	10 50 06.3	+1.2
SNJE	San Jose	2.01	335	⇑eP	Px	10 49 54.0	
SNJE				eS	Sx	10 50 18.1	
CNGN	Cerro Negro	2.02	77	eP	P	10 49 42.0	+0.4
CNGN				eS	S	10 50 06.2	+0.5
RTR	El Retiro	2.05	334	eP	Px	10 49 55.8	
RTR				eS	Sx	10 50 23.6	
COPN	Copaltepe	2.08	86	eP	P	10 49 42.5	0.0
COPN				eS	S	10 50 06.2	-1.0
MOMJ	Momotombo	2.16	80	⇓eP	P	10 49 43.1	-0.4
MOMJ				eS	S	10 50 10.6	+1.4
RBDL	Robledal	2.26	335	eP	Px	10 49 58.5	

RBDL				eS	Sx	10 50 27.3	
XAVN	**Gruta Xavier**	**2.34**	**87**	⇑eP	**P**	**10 49 46.5**	**+0.3**
XAVN				eS	**S**	**10 50 13.9**	**+0.1**
CRUN	**El Crucero**	**2.37**	**91**	eP	**P**	**10 49 45.5**	**-1.0**
MGAN	**Managua**	**2.42**	**87**	⇓eP	**P**	**10 49 46.9**	**-0.4**
MGAN				eS	**S**	**10 50 15.6**	**-0.2**
MGAN				i		10 50 18.9	
	comp=N,1μm,0.8s						
TICN	**Ticuantepe**	**2.43**	**90**	⇓eP	**P**	**10 49 47.7**	**+0.3**
TICN				eS	**S**	**10 50 17.8**	**+1.7**
WILN	**Americas 2**	**2.48**	**87**	⇑eP	**P**	**10 49 47.7**	**-0.4**
WILN				eS	**S**	**10 50 17.3**	**+0.1**
APON	**Apoyo**	**2.60**	**93**	⇑eP	**P**	**10 49 49.7**	**-0.1**
APON				eS	**S**	**10 50 18.7**	**-1.6**
PYTN	**Playitas**	**2.65**	**79**	⇓eP	**P**	**10 49 49.4**	**-1.1**
PYTN				eS	**S**	**10 50 20.1**	**-1.4**
IXG	**Ixpaco**	**2.71**	**322**	eP	**P**	**10 49 50.6**	**-0.9**
IXG				eS	**S**	**10 50 23.6**	**+0.4**
SSNN	**San Juan del S**	**2.91**	**105**	eP	**P**	**10 49 54.0**	**-0.2**
SSNN				eS	**S**	**10 50 27.1**	**-1.2**
CONN	**Concepcion**	**3.06**	**99**	eP	**P**	**10 49 56.7**	**+0.2**
CONN				eS	**S**	**10 50 31.3**	**-0.8**
MRL	**Marmol**	**3.15**	**343**	eP	**P**	**10 50 02.0**	**+4.4**
MRL				eS	**S**	**10 50 33.6**	**-0.7**
JCR	**Jicaral**	**4.16**	**121**	eP	**P**	**10 50 11.6**	**-0.3**
FORC	**Fortuna**	**4.27**	**111**	eP	**P**	**10 50 12.3**	**-1.2**
CGA2	**Cerro Gallo 2**	**4.63**	**115**	eP	**P**	**10 50 19.1**	**+0.4**
PRS1	**Puriscal**	**4.79**	**115**	eP	**P**	**10 50 21.3**	**+0.5**
LAJ	**Bijagual**	**5.01**	**115**	eP	**P**	**10 50 19.5**	**-4.3**
LCR2	**La Lucha 2**	**5.17**	**116**	eP	**P**	**10 50 26.0**	**0.0**
BUS	**Buena Vista**	**5.46**	**116**	⇑eP	**P**	**10 50 30.9**	**+0.7**
SOR	**Soroa**	**11.99**	**26**	eP	**P**	**10 51 59.8**	**-0.5**
PAYG	**Puerto Ayora**	**12.73**	**187**	Pn	**P**	**10 52 17.4**	**+7.2**
	comp=N,54nm,1.2s						
ROSC	**El Rosal**	**15.91**	**115**	Pn	**P**	**10 52 60.0**	**+8.2**
	comp=N,0.9nm,0.3s,baz=278,slow=22,SNR=7.0						
NATX	**Nacogdoches**	**20.37**	**345**	eP	**P**	**10 53 43.8**	**-0.9**
	comp=N,29nm,0.7s						
LRAL	**Lakeview Retre**	**20.95**	**4**	eP	**P**	**10 53 49.6**	**-1.1**
	comp=N,19nm,0.9s						
GOGA	**Godfrey**	**21.80**	**12**	eP	**P**	**10 53 58.7**	**-0.5**
	comp=N,19nm,0.9s,mb4.5						
LTX	**Lajitas**	**22.13**	**323**	eP	**P**	**10 54 03.7**	**+1.2**
	comp=N,15nm,1.2s,mb4.3						
TXAR	**Lajitas Array**	**22.13**	**323**	P	**P**	**10 54 03.6**	**+1.2**
	comp=N,2.9nm,0.9s,mb3.7,baz=146,slow=11,SNR=30						
OXF	**Oxford**	**22.37**	**358**	eP	**P**	**10 54 04.2**	**-0.6**
	comp=N,38nm,1.1s,mb4.7						
JSC	**Jenkinsville**	**23.16**	**16**	eP	**P**	**10 54 13.0**	**+0.5**
JSC				e		10 54 30.1	
SWET	**Sewanee**	**23.20**	**6**	eP	**P**	**10 54 11.1**	**-1.9**
MYNC	**Murphy**	**23.30**	**10**	eP	**P**	**10 54 14.2**	**+0.3**
	comp=N,28nm,1.3s,mb4.5						
WMOK	**Wichita Mounta**	**24.37**	**340**	eP	**P**	**10 54 23.7**	**-0.7**
	comp=N,14nm,1.2s,mb4.3						
MNTX	**Cornudas Mount**	**24.87**	**324**	eP	**P**	**10 54 29.5**	**+0.3**
	comp=N,26nm,1.8s,mb4.5						
MNTX				esP		10 54 56.2	
CCM	**Cathedral Cave**	**26.00**	**355**	eP	**P**	**10 54 38.8**	**-1.0**
	comp=N,33nm,0.8s,mb4.9						
WCI	**Wyandotte Cave**	**26.16**	**4**	eP	**P**	**10 54 39.5**	**-1.9**
	comp=N,15nm,0.8s,mb4.6						
TUC	**Tucson**	**28.60**	**318**	eP	**P**	**10 55 05.4**	**+1.9**
	comp=N,4.0nm,1.0s,mb4.1						
SDCO	**Great Sand Dun**	**29.67**	**332**	eP	**P**	**10 55 13.6**	**+0.6**
	comp=N,11nm,1.3s,mb4.4						
SDCO				ePcP	PcP	10 58 19.5	+2.9
ISCO	**Idaho Springs**	**31.43**	**335**	eP	**P**	**10 55 29.2**	**+0.7**
	comp=N,6.4nm,1.2s,mb4.3						
ISCO				ePcP	PcP	10 58 22.9	+1.7
PV10	**Paradox Valley**	**31.87**	**329**	eP	**P**	**10 55 32.1**	**-0.3**
PV10				ePcP	PcP	10 58 24.7	+2.3
SAML	**Samuel**	**32.85**	**128**	eP	**P**	**10 55 40.8**	**-0.4**
	comp=N,9.4nm,1.1s,mb4.6						
SRU	**San Rafael**	**33.19**	**328**	P	**P**	**10 55 44.5**	**+0.6**
NEN	**Nelson**	**33.32**	**319**	eP	**P**	**10 55 45.9**	**+0.9**
DAU	**Daniels Canyon**	**34.53**	**329**	eP	**P**	**10 55 55.9**	**+0.5**
LPAZ	**La Paz**	**34.74**	**144**	LR	LR	11 10 50.6	
	comp=N,184nm,19.7s,MS3.8,baz=313,slow=38						
LPAZ	**La Paz**	**34.74**	**144**	P	**P**	**10 55 53.7**	**-3.8**
PDAR	**Pinedale Array**	**35.56**	**333**	P	**P**	**10 56 05.4**	**+1.3**
	comp=N,0.6nm,0.6s,mb3.7,baz=121,slow=8.6,SNR=5.1						
PDAR				PcP	PcP	10 58 34.4	+1.6
	comp=N,0.7nm,0.8s,baz=153,slow=3.3,SNR=3.9						
SNOW	**Snow King Moun**	**36.64**	**333**	eP	**P**	**10 56 13.0**	**-0.3**
	comp=N,18nm,1.2s,mb4.8						
TPAW	**Teton Pass**	**36.75**	**333**	eP	**P**	**10 56 13.8**	**-0.4**
	comp=N,12nm,1.1s,mb4.7						
RRI2	**Red Ridge**	**36.81**	**332**	P	**P**	**10 56 15.9**	**+1.3**
	comp=N,16nm,1.5s,mb4.6						
ELK	**Elko**	**36.88**	**326**	LR	LR	11 14 20.0	
	comp=N,152nm,18.7s,MS3.8,baz=268,slow=41						
PTRM	**Twissleman Ran**	**36.90**	**315**	eP	**P**	**10 56 17.4**	**+1.8**
NVAR	**Mina Array Bea**	**37.20**	**320**	P	**P**	**10 56 19.9**	**+1.9**
	comp=N,3.2nm,1.0s,mb4.1,baz=127,slow=9.0,SNR=15						
YMR	**Madison River**	**37.69**	**334**	eP	**P**	**10 56 21.6**	**-0.4**
ULM	**Lac du Bonnet**	**38.55**	**353**	P	**P**	**10 56 27.3**	**-1.8**
	comp=N,13nm,1.1s,mb4.6,baz=177,slow=8.5,SNR=6.9						
ULM				LR	LR	11 13 19.5	
	comp=N,169nm,18.6s,MS3.9,baz=150,slow=38						
MCMT	**McKenzie Canyo**	**38.65**	**332**	eP	**P**	**10 56 31.4**	**+1.4**
MCMT				esP	sP	10 56 55.6	+7.5
PQI	**Presque Isle**	**38.69**	**23**	eP	**P**	**10 56 28.6**	**-1.7**
	comp=N,27nm,0.4s,mb5.3						
SIV	**San Ignacio**	**39.04**	**135**	P	**P**	**10 56 34.9**	**+1.4**
	comp=N,6.9nm,0.9s,mb4.4,baz=314,slow=9.6,SNR=23						
YBH	**Yreka Blue Hor**	**41.88**	**321**	LR	LR	11 15 51.7	
	comp=N,123nm,19.0s,MS3.8,baz=143,slow=38						
NEW	**Newport**	**43.18**	**332**	LR	LR	11 20 41.7	
	comp=N,219nm,18.6s,MS4.1,baz=15,slow=44						
EDM	**Edmonton**	**45.54**	**339**	eP	**P**	**10 57 25.6**	**-0.6**
SCHQ	**Schefferville**	**46.03**	**17**	P	**P**	**10 57 27.8**	**-2.3**
	comp=N,13nm,1.0s,mb4.8,baz=199,slow=8.1,SNR=6.2						
SCHQ				LR	LR	11 17 52.8	
	comp=N,261nm,19.9s,MS4.2,baz=204,slow=38						
BDFB	**Brasilia**	**48.78**	**123**	LR	LR	11 20 31.4	
	comp=N,86nm,20.7s,MS3.7,baz=179,slow=39						
CPUP	**Villa Florida**	**48.85**	**142**	LR	LR	11 19 45.7	
	comp=N,166nm,18.1s,MS4.1,baz=133,slow=38						
BBB	**Bella Bella**	**51.03**	**330**	LR	LR	11 22 48.0	
	comp=N,85nm,19.0s,MS3.8,baz=247,slow=40						
YKA	**Yellowknife Ar**	**53.68**	**345**	P	**P**	**10 58 27.5**	**-1.0**
	comp=N,8.7nm,1.1s,mb4.6,baz=142,slow=7.4,SNR=13						
YKA				LR	LR	11 22 38.9	
	comp=N,126nm,21.9s,MS3.9,baz=115,slow=38						
PLCA	**Paso Flores**	**55.14**	**163**	LR	LR	11 19 50.4	
	comp=N,74nm,18.5s,MS3.8,baz=7.0,slow=33						
DLBC	**Dease Lake**	**55.75**	**335**	LR	LR	11 28 55.6	
	comp=N,172nm,18.0s,MS4.2,baz=288,slow=43						
INK	**Inuvik**	**63.22**	**343**	LR	LR	11 28 47.5	
	comp=N,147nm,21.1s,MS4.1,baz=291,slow=38						
ILAR	**Eielson Array**	**65.89**	**336**	P	**P**	**10 59 52.2**	**-0.1**
	comp=N,3.7nm,1.1s,mb4.3,baz=137,slow=4.2,SNR=13						
ILAR				LR	LR	11 34 26.1	
	comp=N,102nm,18.1s,MS4.1,baz=0.4,slow=41						
NIKO	**Nikolski**	**74.55**	**322**	eP	**P**	**11 00 37.6**	**-7.4**
NOA	**NORSAR Array B**	**84.32**	**29**	LR	LR	11 42 33.7	
	comp=N,82nm,18.3s,MS4.2,baz=285,slow=38						
GERES	**GERESS Array B**	**89.04**	**40**	LR	LR	11 38 15.2	
	comp=N,95nm,19.2s,MS4.2,baz=86,slow=33						
FINES	**FINESS Array B**	**90.88**	**26**	LR	LR	11 43 30.9	
	comp=N,47nm,18.7s,MS4.0,baz=335,slow=36						
SONM	**Songino Array**	**118.89**	**348**	PKP	PKPdf	11 07 57.4	+4.5
	comp=N,0.7nm,0.8s,baz=315,slow=2.0,SNR=3.6						
WRA	**Warramunga Arr**	**137.97**	**254**	PKP	PKPdf	11 08 34.8	+4.8
	comp=N,0.7nm,1.0s,baz=89,slow=1.5,SNR=4.6						
FITZ	**Fitzroy Crossi**	**146.32**	**255**	PKPbc	PKPbc	11 08 50.7	+4.8
	comp=N,6.6nm,0.9s,baz=102,slow=2.4,SNR=4.0						

*NNC **03** 11:08:32.6±12.0, 39.24N×75.87E, h21^{km}±66^{km}, mpv3.4, Error ellipse: s-maj=131.4km s-min=85.5km az=73.0*
*BJI **03** 11:08:34.1, 40.42N×77.15E, h20^{km}, ML3.5*
ISC 03 11:08:29.3±2.5**, 40.0N**±0.1×**77.7E**±0.2**, h10**^{km}**, n12, σ0^{s}77**/15**, 5C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.38**	**251**	⇑PG	**Pg**	**11 08 57.4**	**+0.5**
KSH				SG	**Sg**	**11 09 15.0**	**-0.3**
KSH				Smax			
	comp=N,730nm,0.6s						
KSH				Smax			
	comp=E,790nm,0.6s						
ULHL	**Ulahol**	**2.50**	**335**	P	**Pn**	**11 09 10.1**	**-0.6**
	SNR=24						
KZA	**Kyzart**	**2.77**	**320**	P	**Pn**	**11 09 14.3**	**-0.3**
	SNR=54						
UCH	**Uchtor**	**3.27**	**314**	P	**Pn**	**11 09 20.8**	**-0.8**
	SNR=18						
TKM2	**Tokmak 2**	**3.32**	**333**	P	**Pn**	**11 09 22.6**	**+0.3**
	SNR=16						
KBK	**Karagaybulak**	**3.36**	**324**	P	**Pn**	**11 09 25.7**	**+2.8**
	SNR=25						
AAK	**Ala-Archa**	**3.56**	**319**	P	**Pn**	**11 09 30.8**	**+5.0**
	SNR=27						
AAK	**Ala-Archa**	**3.56**	**319**	⇓Pn	**Pn**	**11 09 25.7**	**-0.1**
	comp=E,55nm,0.9s						
AAK				⇑Sn	**Sn**	**11 10 08.7**	**+0.3**
	comp=E,137nm,1.1s						
CHMS	**Chumysh**	**3.72**	**325**	P	**Pn**	**11 09 27.5**	**-0.5**
	SNR=22						
EKS2	**Erkin-Say**	**3.96**	**314**	P	**Pn**	**11 09 31.6**	**+0.1**
	SNR=12						
USP	**Ospenovka**	**4.04**	**325**	P	**Pn**	**11 09 27.4**	**-5.3**
	SNR=5.3						
KK31	**Karatay Array**	**6.20**	**302**	⇑Pn	**Pn**	**11 09 56.5**	**-6.7**
	comp=E,0.8nm,0.6s,baz=131,slow=12,SNR=5.1						
KK31				⇑Pg	**Pg**	**11 10 13.8**	**-19**
	comp=E,1.8nm,0.6s,baz=137,slow=16,SNR=8.1						
KK31				⇑Lg		11 11 31.6	
	comp=E,5.0nm,0.7s,baz=120,slow=26,SNR=6.0						

IDC 03 11:10:09.6±3.2**, 1.01N**×**97.54E, mb3.8**/5**, mb1 4.0**/5**, mb1mx3.7**/18**, mbtmp3.8**/5**, Error ellipse: s-maj=131.5km s-min=26.4km az=54.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.65**	**122**	P	P	11 17 59.9	-1.8
	0.4nm,0.9s,baz=304,slow=9.2,SNR=7.5						
SONM	**Songino Array**	**47.27**	**8**	P	P	11 18 45.7	-0.8
	0.5nm,0.5s,baz=190,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**47.51**	**346**	P	P	11 18 46.9	-1.5
	1.6nm,0.5s,baz=158,slow=7.9,SNR=15						
ZAL	**Zalesovo**	**53.79**	**351**	P	P	11 19 32.9	-3.2
	1.8nm,0.4s,baz=90,slow=4.0,SNR=2.9						
BVAR	**Borovoye Array**	**56.54**	**341**	P	P	11 19 53.3	-2.8
	0.2nm,0.3s,baz=162,slow=9.1,SNR=3.5						

*NEIC **03** 11:23:39.6, 34.25S×69.53W, h13^{km}, ML2.8(GUC), After GUC.*
GUC 03 11:23:39.6±0.6**, 34.25S**×**69.53W, h13**^{km}±3^{km}**, MD3.5, ML2.8, 6C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.69**	**306**	⇓iP	Pb	11 23 52.4	-0.6
LMEL				iS	Sb	11 24 02.3	+0.1
LMEL				AMP		11 24 03.6	
	comp=N,1μm,0.3s						
CICH	**Cipreses**	**0.74**	**265**	⇑iP	Pb	11 23 53.3	-0.5
CICH				iS	Sb	11 24 04.5	+0.8
CACH	**El Canelo**	**0.90**	**278**	⇓iP	Pb	11 23 55.9	-0.7
CACH				iS	Sb	11 24 08.3	+0.1
CHCH	**Chadas Angostu**	**0.99**	**289**	⇑iP	Pb	11 23 57.8	-0.3
CHCH				iS	Sb	11 24 11.3	+0.5
PCH	**Pirque**	**1.04**	**307**	eP	Pb	11 23 58.7	-0.2
PCH				iS	Sb	11 24 13.7	+1.5
FCH	**Farellones**	**1.12**	**325**	⇑iP	Pb	11 23 60.0	-0.4
FCH				iS	Sb	11 24 15.7	+1.0
FCH				AMP		11 24 17.8	
	comp=E,158nm,0.3s						
CLCH	**Cerro Calan**	**1.20**	**315**	⇑iP	Pb	11 24 01.7	0.0
CLCH				iS	Sb	11 24 18.6	+1.6
CLCH				AMP		11 24 20.2	
	comp=N,920nm,0.6s						
SFDO	**San Fernando**	**1.28**	**253**	⇑iP	Pb	11 24 02.9	-0.2
SFDO				iS	Sb	11 24 20.9	+1.7
RCDM	**Rinconada Maip**	**1.31**	**305**	eP	Pb	11 24 03.6	0.0
RCDM				iS	Sb	11 24 21.8	+1.7
RCDM				AMP		11 24 22.6	
	comp=N,222nm,0.3s						
TACH	**Talagante**	**1.32**	**297**	eP	Pb	11 24 03.7	0.0
TACH				iS	Sb	11 24 21.9	+1.5
MDZ	**Mendoza**	**1.48**	**23**	eP	Pn	11 24 05.5	-0.6
MDZ				iS	Sb	11 24 28.4	+3.4
LNV	**Longovilo**	**1.59**	**280**	⇓iP	Pn	11 24 07.9	+0.2
LNV				iS	Sn	11 24 29.6	+1.4
ROCH	**El Roble**	**1.78**	**315**	eP	Pn	11 24 11.7	+1.4
ROCH				iS	Sn	11 24 36.0	+3.0
JACH	**Jahuel**	**1.80**	**330**	⇑iP	Pn	11 24 12.2	+1.5
JACH				eS	Sn	11 24 36.5	+2.9
LCCH	**Las Cruces**	**1.87**	**294**	eP	Pn	11 24 12.7	+1.1
LCCH				eS	Sn	11 24 38.3	+3.1

*NEIC **03** 11:25:34.2, 34.27S×69.50W, h14^{km}, ML2.7(GUC), After GUC.*
GUC 03 11:25:34.2±0.6**, 34.27S**×**69.50W, h14**^{km}±3^{km}**, MD3.5, ML2.7, 7C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.72**	**306**	⇓iP	Pb	11 25 47.4	-0.6
LMEL				iS	Sb	11 25 57.7	+0.2
LMEL				AMP		11 25 58.6	
	comp=N,901nm,0.5s						
CICH	**Cipreses**	**0.76**	**266**	⇑iP	Pb	11 25 48.4	-0.4
CICH				iS	Sb	11 25 59.5	+0.8
CACH	**El Canelo**	**0.92**	**279**	⇓iP	Pb	11 25 50.9	-0.6
CACH				iS	Sb	11 26 03.7	+0.3
CHCH	**Chadas Angostu**	**1.01**	**289**	⇑iP	Pb	11 25 52.8	-0.3
CHCH				iS	Sb	11 26 06.8	+0.8
PCH	**Pirque**	**1.06**	**307**	eP	Pb	11 25 53.7	-0.2
PCH				iS	Sb	11 26 08.7	+1.3
FCH	**Farellones**	**1.15**	**325**	⇑iP	Pb	11 25 54.9	-0.4
FCH				iS	Sb	11 26 11.0	+1.0
FCH				AMP		11 26 12.9	
	comp=E,124nm,0.6s						
CLCH	**Cerro Calan**	**1.23**	**315**	⇑iP	Pb	11 25 56.8	+0.1
CLCH				iS	Sb	11 26 13.9	+1.7
CLCH				AMP		11 26 15.2	
	comp=N,780nm,0.6s						
SFDO	**San Fernando**	**1.29**	**254**	⇑iP	Pb	11 25 57.9	0.0
RCDM	**Rinconada Maip**	**1.34**	**305**	eP	Pb	11 25 58.7	+0.1
RCDM				iS	Sb	11 26 16.9	+1.5
RCDM				AMP		11 26 17.5	
	comp=E,260nm,0.1s						
TACH	**Talagante**	**1.34**	**297**	⇑iP	Pn	11 25 58.8	+0.1
TACH				iS	Sb	11 26 17.2	+1.6
LNV	**Longovilo**	**1.61**	**281**	⇑iP	Pn	11 26 02.7	+0.1
LNV				iS	Sn	11 26 24.7	+1.4
JACH	**Jahuel**	**1.83**	**330**	eP	Pn	11 26 07.3	+1.7
LCCH	**Las Cruces**	**1.89**	**294**	⇓iP	Pn	11 26 07.9	+1.3
LCCH				iS	Sn	11 26 33.8	+3.4
TRQA	**Tornquist**	**7.16**	**124**	eP	Pn	11 27 18.6	-2.6
	comp=E,13nm,0.6s						

*IDC **03** 11:32:47.9±32.0, 0.65N×97.21E, mb4.0/4, mb1 4.1/4, mb1mx3.7/17, mbtmp4.0/4, Error ellipse: s-maj=639.0km s-min=120.6km az=169.0*
ISC 03 11:33:18.5±3.0**, 4.3N**±0.5×**96.4E**±0.7**, h33**^{km}**, n5, σ1^{s}41**/5**, mb4.0**/4**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.05**	**346**	P	**P**	**11 41 26.6**	**+1.5**
	1.2nm,0.7s,mb3.8,baz=152,slow=7.1,SNR=10						
SONM	**Songino Array**	**44.23**	**10**	P	**P**	**11 41 25.9**	**-0.5**
	1.6nm,0.8s,mb3.8,baz=186,slow=8.9,SNR=10						
WB2	**Warramunga Arr**	**44.43**	**124**	⇑iP	**P**	**11 41 28.5**	**+0.1**
ZAL	**Zalesovo**	**50.38**	**351**	P	**P**	**11 42 14.9**	**+0.4**
	1.5nm,0.5s,mb4.3,baz=344,slow=4.9,SNR=7.4						
BVAR	**Borovoye Array**	**53.07**	**341**	P	**P**	**11 42 33.2**	**-1.5**
	1.9nm,0.9s,mb4.0,baz=180,slow=7.2,SNR=6.1						

*NEIC **03** 11:37:03.8, 35.26N×31.23E, h25^{km}, ML3.0(NIC), After NIC.*
*NIC **03** 11:37:03.8±0.3, 35.26N×31.23E, h25^{km}, ML3.0, MW3.2*
*CSEM **03** 11:37:04.9±0.7, 35.30N×31.57E, h15^{km}, Mw3.2, Error ellipse: s-maj=15.3km s-min=8.8km az=58.0*
*ISK **03** 11:37:06.1, 35.29N×31.67E, h19^{km}, MD3.3*
ISC 03 11:37:05.5±1.8**, 35.3N**±0.1×**31.6E**±0.1**, h6**^{km}±12^{km}**, n9, σ0^{s}90**/15**, 1C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.74**	**128**	⇑iP	**Pg**	**11 37 20.5**	**+0.2**
ALFC	**Alevga**	**0.81**	**103**	P	**Pg**	**11 37 22.1**	**+0.4**
	14nm,0.2s						
ALFC				S	**Sg**	**11 37 37.0**	**+4.5**
LEF	**Lefka**	**1.05**	**102**	PG	**Pg**	**11 37 25.1**	**-1.4**
LEF				SG	**Sg**	**11 37 40.8**	**+0.3**
MAMC	**Mammari**	**1.31**	**97**	P	**Pb**	**11 37 29.7**	**-0.3**
CSS	**Prodhromos**	**1.44**	**105**	P	**Pn**	**11 37 30.7**	**-1.5**
	1.0nm,0.3s						
CSS				S	**Sb**	**11 37 52.1**	**+1.3**
ERMK	**Ermenek**	**1.66**	**38**	iP	**Pn**	**11 37 35.9**	**+0.6**
ERMK				iS	**Sb**	**11 38 03.2**	**+6.1**
HDMB	**Hadim**	**1.76**	**23**	PN	**Pn**	**11 37 37.1**	**+0.4**
IKL	**Isikli**	**1.89**	**61**	PN	**Pn**	**11 37 38.9**	**+0.3**
IKL				SN	**Sn**	**11 38 01.6**	**-1.4**
MEST	**Erdemli**	**2.38**	**58**	iP	**Pn**	**11 37 46.6**	**+0.9**
MEST				iS	**Sn**	**11 38 10.9**	**-4.6**

*IDC **03** 11:41:13.4±0.8, 24.67S×177.39W, mb4.0/8, mb1 4.3/8, mb1mx4.2/13, mbtmp4.0/8, MS3.3/3, Ms1 3.3/3, ms1mx3.0/21, Error ellipse: s-maj=35.8km s-min=23.4km az=140.0*
*NEIC **03** 11:41:34.8±7.8, 24.75S×177.59W, h175^{km}±69^{km}, mb4.4/1, Error ellipse: s-maj=20.2km s-min=13.4km az=86.0*
ISC 03 11:41:17.7±0.6**, 24.7S**±0.1×**177.5W**±0.1**, h33**^{km}**, n26, σ1^{s}01**/20**, mb4.1**/9**, MS3.2**/1**, 5C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.28**	**198**	LR	LR	11 48 30.9	
	comp=Z,63nm,19.0s,baz=17,slow=30						
DZM	**Mont Dzumac**	**15.00**	**277**	LR	LR	11 49 11.1	
	comp=Z,157nm,19.6s,baz=29,slow=32						
HNR	**Honiara**	**26.33**	**301**	LR	LR	11 55 28.1	
	comp=Z,74nm,19.0s,MS3.2,baz=334,slow=32						
CTAO	**Charters Tower**	**33.79**	**270**	eP	**P**	**11 47 59.5**	**+0.7**
	9.1nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**44.64**	**266**	⇑iP	**P**	**11 49 29.2**	**0.0**
WRA	**Warramunga Arr**	**44.65**	**266**	P	**P**	**11 49 29.4**	**+0.1**
	3.6nm,0.8s,mb4.2,baz=103,slow=8.0,SNR=21						
FITZ	**Fitzroy Crossi**	**53.06**	**265**	P	**P**	**11 50 33.9**	**-0.3**
	6.2nm,0.9s,mb4.6,baz=176,slow=13,SNR=3.8						
VNDA	**Vanda**	**53.79**	**185**	P	**P**	**11 50 37.5**	**-1.3**
	0.8nm,0.9s,mb3.6,baz=6.3,slow=9.2,SNR=3.9						
MAW	**Mawson**	**77.80**	**200**	P	**P**	**11 53 12.3**	**-0.6**
	2.4nm,0.7s,mb4.2,baz=110,slow=5.2,SNR=10.0						
NVAR	**Mina Array Bea**	**83.75**	**43**	P	**P**	**11 53 45.5**	**+0.6**
	0.5nm,0.7s,mb3.8,baz=234,slow=9.4,SNR=4.9						
NVAR	**Mina Array Bea**	**83.75**	**43**	P	**P**	**11 53 45.5**	**+0.6**
SNAA	**Sanae**	**83.82**	**178**	⇑i	**P**	**11 53 43.5**	**-1.0**
SNAA	**Sanae**	**83.82**	**178**	e	**P**	**11 53 45.6**	**+1.1**
VNA3	**Neumayer Olymp**	**83.94**	**176**	e	**P**	**11 53 46.9**	**+1.8**
VNA3	**Neumayer Olymp**	**83.94**	**176**	⇑iP	**P**	**11 53 44.2**	**-0.9**
VNA3				e		11 53 46.9	
VNA2	**Neumayer--Watz**	**84.38**	**177**	e	**P**	**11 53 49.7**	**+2.4**
VNA2	**Neumayer--Watz**	**84.38**	**177**	⇑iP	**P**	**11 53 46.9**	**-0.4**
VNA2				e		11 53 49.7	
VNA1	**Neumayer--Stat**	**84.61**	**176**	⇑i	**P**	**11 53 48.3**	**-0.2**
VNA1	**Neumayer--Stat**	**84.61**	**176**	e	**P**	**11 53 51.1**	**+2.6**
TXAR	**Lajitas Array**	**88.91**	**57**	P	**P**	**11 54 10.8**	**+0.5**
	0.7nm,1.1s,mb3.9,baz=217,slow=6.3,SNR=4.0						
TXAR	**Lajitas Array**	**88.91**	**57**	P	**P**	**11 54 10.8**	**+0.5**
PDAR	**Pinedale Array**	**91.68**	**43**	P	**P**	**11 54 23.1**	**+0.1**
	0.5nm,0.8s,mb3.9,baz=225,slow=2.1,SNR=5.2						
ILAR	**Eielson Array**	**92.28**	**13**	P	**P**	**11 54 23.3**	**-1.9**
	0.4nm,0.8s,mb3.8,baz=203,slow=6.9,SNR=4.8						
BVAR	**Borovoye Array**	**122.56**	**318**	PKP	PKPdf	12 00 08.9	-0.9
	0.3nm,0.4s,baz=127,slow=7.2,SNR=2.6						
AKASG	**Malin Array Be**	**146.87**	**328**	PKPbc	PKPbc	12 00 56.1	+0.1
	1.1nm,0.6s,baz=43,slow=4.0,SNR=6.5						
CLL	**Collm**	**152.24**	**346**	ePKP1	PKPdf	12 01 11.0	+8.2
CLL				ePKP2	PKPab	12 01 20.0	-1.8

*NEIC **03** 11:48:19.9±2.0, 2.04N×124.82E, h248^{km}±19^{km}, mb4.5/7, Error ellipse: s-maj=23.8km s-min=6.8km az=68.0*
*IDC **03** 11:48:22.7±2.9, 1.97N×124.78E, h276^{km}±29^{km}, mb3.6/10, mb1 3.8/11, mb1mx3.6/20, mbtmp4.3/11, Error ellipse: s-maj=34.8km s-min=8.9km az=70.0*
ISC 03 11:48:19.5±2.3**, 2.05N**±0.10×**124.8E**±0.2**, h262**^{km}±22^{km}**, n24, σ0^{s}68**/26**, mb4.0**/16**, 1C, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.45**	**295**	ePn	**P**	**11 50 32.2**	**+0.5**
KAKA	**Kakadu**	**16.50**	**153**	eP	Px	11 52 12.7	
	21nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.04**	**178**	eP	**P**	**11 52 33.0**	**-1.1**
	12nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.04**	**178**	P	**P**	**11 52 33.3**	**-0.8**
	7.1nm,0.3s,baz=5.4,slow=9.7,SNR=40						
MBWA	**Marble Bar**	**23.59**	**192**	eP	**P**	**11 53 08.3**	**-0.3**
	6.9nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**23.77**	**157**	eP	**P**	**11 53 10.2**	**0.0**
	8.3nm,0.8s,mb4.1						
WRAB				eS	**S**	**11 57 04.8**	**+0.9**
WRA	**Warramunga Arr**	**23.77**	**157**	P	**P**	**11 53 10.0**	**-0.2**
	3.4nm,0.6s,mb3.9,baz=330,slow=11,SNR=52						
WRA				S	**S**	**11 57 03.7**	**-0.3**
	1.4nm,0.7s,baz=337,slow=16,SNR=4.9						
WB2	**Warramunga Arr**	**23.77**	**157**	eP	**P**	**11 53 09.9**	**-0.3**
WB2				eS	**S**	**11 57 03.9**	**-0.2**
FORT	**Forrest**	**32.79**	**175**	⇑iP	**P**	**11 54 29.9**	**-0.5**
	9.8nm,0.5s,mb4.6						
KLBR	**Kellerberrin**	**34.12**	**191**	eP	**P**	**11 54 41.7**	**0.0**
	14nm,1.1s,mb4.4						
MUN	**Mundaring**	**34.81**	**193**	eP	**P**	**11 54 47.5**	**0.0**
NWAO	**Narrogin (SRO)**	**35.51**	**191**	P	**P**	**11 54 53.7**	**+0.2**
	3.1nm,0.3s,mb4.3,baz=8.0,slow=9.2,SNR=18						
NWAO	**Narrogin (SRO)**	**35.51**	**191**	P	**P**	**11 54 53.7**	**+0.2**
STKA	**Stephens Creek**	**37.31**	**156**	P	**P**	**11 55 09.2**	**+0.7**
	2.6nm,0.6s,mb3.8,baz=314,slow=9.2,SNR=5.5						
SONM	**Songino Array**	**48.31**	**343**	P	**P**	**11 56 38.0**	**+1.5**
	1.9nm,0.7s,mb3.5,baz=160,slow=9.2,SNR=15						
MKAR	**Makanchi Array**	**57.87**	**327**	P	**P**	**11 57 45.5**	**-0.6**
	6.4nm,0.4s,mb4.4,baz=122,slow=8.5,SNR=54						
ZAL	**Zalesovo**	**61.24**	**334**	P	**P**	**11 58 08.9**	**0.0**
	1.9nm,0.5s,mb3.9,baz=14,slow=4.2,SNR=6.5						
KURK	**Kurchatov**	**62.15**	**329**	eP	**P**	**11 58 14.2**	**-0.8**
	9.6nm,0.6s,mb4.6						
URZ	**Urewera**	**62.66**	**135**	P	**P**	**11 58 18.8**	**+0.2**
	2.0nm,0.3s,mb4.2,baz=180,slow=20,SNR=4.9						
BVAR	**Borovoye Array**	**67.70**	**328**	P	**P**	**11 58 49.9**	**-0.5**
	1.6nm,0.7s,mb3.9,baz=143,slow=7.4,SNR=10						
BRVK	**Borovoye**	**67.77**	**328**	eP	**P**	**11 58 50.0**	**-0.8**
	1.8nm,0.8s,mb3.9						
MAW	**Mawson**	**81.52**	**200**	P	**P**	**12 00 10.7**	**+1.9**
	0.8nm,0.6s,mb3.6,baz=108,slow=6.4,SNR=3.9						
VNDA	**Vanda**	**82.02**	**172**	P	**P**	**12 00 11.3**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=313,slow=7.1,SNR=4.4						
VNDA	**Vanda**	**82.02**	**172**	P	**P**	**12 00 11.3**	**+0.1**

*IDC **03** 12:05:50.6±1.1, 1.55N×97.74E, mb4.2/5, mb1 4.4/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=46.3km s-min=20.5km az=64.0*
*NEIC **03** 12:05:54.6±0.9, 1.34N×97.46E, h30^{km}, mb4.4/1, Error ellipse: s-maj=26.7km s-min=17.4km az=83.0*
ISC 03 12:05:51.4±1.4**, 1.2N**±0.1×**97.3E**±0.2**, h33**^{km}**, n10, σ0^{s}84**/7**, mb4.3**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.29**	**40**	Pn	**Pn**	**12 07 09.7**	**-0.6**
KMI	**Kunming**	**24.37**	**12**	P	**P**	**12 11 09.8**	**+1.9**
	12nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**33.88**	**126**	P	**P**	**12 12 33.0**	**-0.5**
	5.5nm,0.9s,mb4.5,baz=342,slow=3.2,SNR=4.0						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**12 13 42.1**	**+0.6**
	1.6nm,0.6s,mb3.8,baz=302,slow=9.1,SNR=24						
SONM	**Songino Array**	**47.13**	**8**	P	**P**	**12 14 22.2**	**-0.1**
	2.2nm,0.7s,mb4.2,baz=187,slow=8.4,SNR=17						
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**12 14 22.9**	**-0.5**
	2.5nm,0.6s,mb4.4,baz=160,slow=8.3,SNR=28						
ZAL	**Zalesovo**	**53.56**	**351**	P	**P**	**12 15 10.8**	**-0.5**
	3.0nm,0.5s,mb4.5,baz=306,slow=4.8,SNR=8.6						
TXAR	**Lajitas Array**	**143.64**	**32**	PKhKP		12 25 22.8	
	0.1nm,0.5s,baz=193,slow=0.4,SNR=3.8						
CPUP	**Villa Florida**	**145.04**	**222**	PKPbc	PKPbc	12 25 30.6	+4.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2.1nm,0.7s,baz=145,slow=6.2,SNR=3.0						
CFAA	**Coronel Fontan**	**146.79**	**203**	PKPbc	PKPbc	12 25 37.3	+6.8
	0.4nm,0.5s,baz=144,slow=2.3,SNR=6.8						

IDC ***03*** *12:23:17.0±3.6, 49.96N×88.90E, h31km±19km, mb3.6/1, mb1 3.9/3, mb1mx3.4/20, mbtmp3.9/3, Error ellipse: s-maj=41.7km s-min=10.8km az=104.0*

NNC ***03*** *12:23:19.9±5.1, 49.97N×88.06E, h13km±24km, mpv3.9, Error ellipse: s-maj=41.2km s-min=23.1km az=85.0*

ISC 03 12:23:17.6±1.6**, 49.99N**±0.06×**88.0E**±0.2**, h10km, n8, σ1s47**/17**, mb3.8**/1**, 6C-6D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**4.41**	**335**	Pn	**Pn**	**12 24 27.8**	**+1.6**
	3.2nm,0.3s,baz=328,slow=9.7,SNR=13						
ZAL				Pg	**Pg**	**12 24 39.7**	**-6.0**
	2.7nm,0.3s,baz=329,slow=7.8,SNR=7.2						
ZAL				Sn	**Sn**	**12 25 19.2**	**+1.0**
	4.7nm,0.3s,baz=228,slow=24,SNR=5.9						
ZAL				Lg		12 25 35.8	
	8.5nm,0.3s,baz=34,slow=13,SNR=7.1						
MK31	**Makanchi Array**	**4.96**	**232**	⇑Pn	**Pn**	**12 24 36.3**	**+2.3**
	11nm,0.5s,baz=59,slow=12,SNR=155						
MK31				⇑Pg	**Pg**	**12 24 50.6**	**-6.0**
	23nm,0.8s,baz=56,slow=17,SNR=7.2						
MK31				⇓Sn	**Sn**	**12 25 32.7**	**+0.6**
	8.0nm,0.4s,baz=45,slow=26,SNR=7.1						
MK31				⇓Lg		12 25 57.4	
	34nm,0.7s,baz=59,slow=30,SNR=5.3						
MKAR	**Makanchi Array**	**4.96**	**232**	Pn	**Pn**	**12 24 36.2**	**+2.2**
	6.7nm,0.3s,baz=55,slow=13,SNR=73						
MKAR				Pg	**Pg**	**12 24 51.9**	**-4.8**
	6.7nm,0.3s,baz=60,slow=17,SNR=16						
MKAR				Sn	**Sn**	**12 25 37.4**	**+5.2**
	10.0nm,0.3s,baz=54,slow=27,SNR=11						
MKAR				Lg		12 25 57.3	
	9.5nm,0.3s,baz=59,slow=32,SNR=9.7						
KURK	**Kurchatov**	**6.03**	**280**	⇓Pn	**Pn**	**12 24 49.2**	**+0.1**
	3.3nm,0.7s						
KURK				⇑Sn	**Sn**	**12 25 59.9**	**+0.8**
	3.5nm,0.6s						
KURK				⇑Lg		12 26 33.0	
	13nm,0.7s						
VOSK	**Vostochnaya**	**10.97**	**291**	⇓Pn	**P**	**12 25 56.4**	**-1.3**
	2.4nm,1.2s						
VOSK				⇓Sn	**S**	**12 28 02.0**	**+0.5**
	2.3nm,1.0s						
BVA0	**Borovoye Array**	**11.37**	**292**	⇑Pn	**P**	**12 26 02.7**	**-0.3**
	0.4nm,0.9s,baz=107,slow=14,SNR=6.7						
BVA0				⇑Sn	**S**	**12 28 08.9**	**-2.3**
	0.5nm,0.8s,baz=103,slow=22,SNR=3.2						
KK31	**Karatay Array**	**13.84**	**247**	⇓Pn	**P**	**12 26 33.3**	**-2.7**
	0.7nm,0.6s,baz=55,slow=12,SNR=9.0						
FINES	**FINESS Array B**	**35.32**	**313**	P	**P**	**12 30 12.9**	**-1.6**
	1.2nm,0.9s,mb3.8,baz=76,slow=7.9,SNR=4.0						

BJI 03 12:24:05.8, 33.06N×104.68E, h21km, mb4.5, ML3.8, Ms3.6, Msz3.6, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.28**	**200**	P	Pn	12 24 43.6	+0.5
CD2				PG	Pn	12 24 49.2	+6.1
CD2				S	Sn	12 25 14.0	+3.2
CD2				SG	Sn	12 25 18.0	+7.2
CD2				Smax			
	comp=N,472nm,0.7s						
CD2				Smax			
	comp=E,589nm,0.7s						
LZH	**Lanzhou**	**3.10**	**347**	PG	Pn	12 24 57.8	+3.1
LZH				SG	Sn	12 25 37.0	+5.5
LZH				Smax			
	comp=N,521nm,1.1s						
LZH				Smax			
	comp=E,615nm,1.0s						
LZH				LR	LR		
	comp=E,892nm,7.6s						
LZH				LR	LR		
	comp=Z,935nm,8.7s						
XAN	**Xi'an**	**3.67**	**73**	P	Pn	12 25 01.9	-0.9
XAN				PG	Pn	12 25 11.6	+8.8
XAN				S	Sn	12 25 51.1	+5.0
XAN				SG	Sn	12 26 00.3	+14
XAN				Smax			
	comp=N,340nm,0.6s						
XAN				Smax			
	comp=E,306nm,0.7s						
GYA	**Guiyang**	**6.80**	**165**	P	Pn	12 25 46.6	-0.4
GYA				PG	Pn	12 26 03.7	+17
GYA				S	Sn	12 27 01.6	-3.0
GYA				Smax			
	comp=N,50nm,0.9s						
GYA				Smax			
	comp=E,50nm,0.9s						
GTA	**Gaotai**	**7.46**	**330**	PG	Pn	12 26 20.5	+24
GTA				SG	Sn	12 28 01.7	+41
GTA				Smax			
	comp=N,8.0nm,0.8s						
GTA				Smax			
	comp=E,15nm,0.9s						
NJ2	**Nanjing**	**12.00**	**91**	*e*P	P	12 26 57.8	-1.0
NJ2				AP		12 27 01.3	
NJ2				PP	PP	12 27 07.8	-0.5
NJ2				S	S	12 29 13.0	-0.1
NJ2				XS		12 29 19.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						

IDC ***03*** *12:38:20.2±0.4, 49.81S×8.83W, mb5.3/19, mb1 5.3/19, mb1mx5.3/19, mbtmp5.3/19, MS5.0/15, Ms1 5.0/15, ms1mx5.0/16, Error ellipse: s-maj=16.1km s-min=13.3km az=22.0*

MOS ***03*** *12:38:21.0±1.0, 49.84S×8.73W, h10km, mb5.6/28, MS5.1/11, Error ellipse: s-maj=19.6km s-min=8.9km az=88.5*

BJI ***03*** *12:38:22.0, 49.90S×9.00W, h10km, mB5.8, Ms5.7, Msz5.4*

NEIC ***03*** *12:38:22.0±0.1, 49.93S×8.96W, h10km, mb5.4/75, MS5.2/32, MW5.5, Error ellipse: s-maj=7.1km s-min=5.3km az=113.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.60; $M_{\theta\theta}$1.96; $M_{\phi\phi}$0.63; $M_{r\theta}$-0.33; $M_{\theta\phi}$-1.09; $M_{\phi r}$-0.21; Best double couple: $M_0$2.6×10^{17} NP1:ϕ_s307°, δ43°, λ-79°. NP2:ϕ_s112°, δ47°, λ-100°. Principal axes: T 2.58, Plg2°, Azm209°; N .06, Plg7°, Azm119°; P -2.65, Plg82°, Azm314°;*

HRVD ***03*** *12:38:22.0±0.1, 50.00S×8.55W, h12km, MW5.7/71, Centroid moment Tensor Solution. LP body waves: s71,c158; Mantle waves: s69,c158; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.69±.06; $M_{\theta\theta}$1.84±.07; $M_{\phi\phi}$1.84±.06; $M_{r\theta}$-0.95±.18; $M_{\theta\phi}$-2.25±.05; $M_{\phi r}$-0.75±.15; Best double couple: $M_0$4.088×10^{17} NP1: ϕ_s332°, δ47°, λ-65°. NP2:ϕ_s118°, δ49°, λ-114°. Principal axes: T 4.093, Plg1°, Azm225°; N -.02, Plg18°, Azm134°; P -4.083, Plg72°, Azm318°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 12:38:21.3±0.2**, 49.89S**±0.04×**9.03W**±0.08**, h10km, n412, σ0s93**/207**, mb5.4**/91**, MS5.1**/53**, 9C-6D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**20.83**	**179**	P	**P**	**12 43 05.8**	**+0.7**
VNA1	**Neumayer--Stat**	**20.83**	**179**		**P**	**12 43 07.8**	**+2.7**
VNA1	**Neumayer--Stat**	**20.83**	**179**		**P**	**12 43 09.5**	**+4.4**
VNA1	**Neumayer--Stat**	**20.83**	**179**		**P**	**12 43 11.9**	**+6.8**
VNA1	**Neumayer--Stat**	**20.83**	**179**		**P**	**12 43 14.6**	**+9.5**
VNA1	**Neumayer--Stat**	**20.83**	**179**		**P**	**12 43 20.0**	**+15**
VNA1	**Neumayer--Stat**	**20.83**	**179**	S	**S**	**12 46 55.9**	**+3.3**
VNA1	**Neumayer--Stat**	**20.83**	**179**	P	**P**	**12 43 07.8**	**+2.7**
VNA2	**Neumayer--Watz**	**21.12**	**179**	P	**P**	**12 43 08.1**	**0.0**
VNA2	**Neumayer--Watz**	**21.12**	**179**		**P**	**12 43 10.3**	**+2.2**
VNA2	**Neumayer--Watz**	**21.12**	**179**		**P**	**12 43 12.5**	**+4.4**
VNA2	**Neumayer--Watz**	**21.12**	**179**		**P**	**12 43 13.7**	**+5.6**
VNA2	**Neumayer--Watz**	**21.12**	**179**		**P**	**12 43 15.3**	**+7.2**
VNA2	**Neumayer--Watz**	**21.12**	**179**		**P**	**12 43 22.6**	**+15**
VNA2	**Neumayer--Watz**	**21.12**	**179**		**P**	**12 43 28.0**	**+20**
VNA3	**Neumayer Olymp**	**21.43**	**181**	P	**P**	**12 43 11.3**	**+0.1**
VNA3	**Neumayer Olymp**	**21.43**	**181**		**P**	**12 43 14.5**	**+3.3**
VNA3	**Neumayer Olymp**	**21.43**	**181**		**P**	**12 43 17.8**	**+6.6**
VNA3	**Neumayer Olymp**	**21.43**	**181**		**P**	**12 43 21.5**	**+10**
SNAA	**Sanae**	**22.04**	**175**	P	**P**	**12 43 17.6**	**+0.3**
SNAA	**Sanae**	**22.04**	**175**		**P**	**12 43 19.3**	**+2.0**
SNAA	**Sanae**	**22.04**	**175**		**P**	**12 43 20.5**	**+3.2**
SNAA	**Sanae**	**22.04**	**175**		**P**	**12 43 24.4**	**+7.1**
SNAA	**Sanae**	**22.04**	**175**		**P**	**12 43 33.0**	**+16**
SNAA	**Sanae**	**22.04**	**175**		Px	12 43 42.4	
SNAA	**Sanae**	**22.04**	**175**	S	**S**	**12 47 20.4**	**+5.1**
SNAA	**Sanae**	**22.04**	**175**	S	**S**	**12 47 22.7**	**+7.4**
SNAA	**Sanae**	**22.04**	**175**	P	**P**	**12 43 16.5**	**-0.8**
	28nm,0.9s,mb4.7,baz=351,slow=9.4,SNR=90						
SNAA				PcP	PcP	12 47 13.4	-2.7
	4.9nm,0.8s,baz=48,slow=1.8,SNR=4.7						
SNAA				LR	LR	12 48 48.5	
	comp=Z,809nm,21.1s,MS4.1,baz=351,slow=28						
MAIT	**Maitri**	**23.08**	**163**	*e*P	**P**	**12 43 22.1**	**-5.3**
MAIT				*e*S	**S**	**12 47 38.6**	**+4.6**
NVL	**N'lazarevskaya**	**23.09**	**162**	⇓*i*P	**P**	**12 43 27.7**	**+0.1**
NVL				*i* *PP		12 43 35.5	
NVL				*e*		12 43 51.4	
NVL				*i* S	**S**	**12 47 41.2**	**+7.0**
NVL				pmax	pmax		
	comp=Z,17nm,1.6s						
NVL				MLR	MLR		
	comp=Z,150nm,15.3s						
SYO	**Syowa Base**	**30.06**	**147**	⇑P	**P**	**12 44 28.0**	**-4.2**
SYO	**Syowa Base**	**30.06**	**147**	⇓pP	pP	12 44 30.8	-4.4
EFI	**East Falkland**	**30.59**	**248**	PFAKE		12 44 50.0	+13
EFI				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
PMSA	**Palmer Station**	**32.01**	**221**	*e*P	**P**	**12 44 50.1**	**+0.7**
	comp=Z,121nm,0.9s,mb5.7						
PMSA				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
BOSA	**Boshof**	**33.57**	**64**	P	**P**	**12 45 00.5**	**-2.9**
	comp=Z,18nm,0.8s,mb5.0,baz=218,slow=8.3,SNR=22						
BOSA				LR	LR	12 56 07.0	
	comp=Z,8μm,18.9s,MS5.4,baz=229,slow=32						
BOSA	**Boshof**	**33.57**	**64**	*e*P	**P**	**12 45 00.4**	**-3.1**
	comp=Z,71nm,1.4s,mb5.4						
BOSA				LR	LR		
	comp=Z,8μm,21.0s,MS5.4						
BOSA	**Boshof**	**33.57**	**64**	*e*P	**P**	**12 45 00.4**	**-3.0**
BOSA				pmax	pmax		
	comp=Z,71nm,1.4s,mb5.4						
BOSA				MLR	MLR		
	comp=Z,8μm,21.0s,MS5.4						
USHA	**Ushuaia**	**35.66**	**239**	P	**P**	**12 45 21.5**	**+0.4**
	comp=Z,116nm,0.9s,mb5.8,baz=81,slow=7.3,SNR=43						
USHA				LR	LR	12 56 22.0	
	comp=Z,2μm,21.1s,MS4.8,baz=72,slow=30						
LBTB	**Lobatse**	**36.52**	**60**	*e*P	**P**	**12 45 26.3**	**-2.4**
	comp=Z,89nm,1.4s,mb5.4						
LBTB				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
LBTB	**Lobatse**	**36.52**	**60**	*e*P	**P**	**12 45 26.3**	**-2.4**
LBTB				pmax	pmax		
	comp=Z,89nm,1.4s,mb5.4						
LBTB				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.1						
TSUM	**Tsumeb**	**37.27**	**44**	*e*P	**P**	**12 45 32.0**	**-2.9**
	comp=Z,42nm,0.8s,mb5.3						
CAM4	**Nova Friburgo**	**38.05**	**304**	*e*P	**P**	**12 45 42.4**	**+0.9**
CAM4				*i*		12 45 47.9	
CAM4				*i*		12 45 55.2	
CAM4				*i*		12 46 02.6	
LPA	**La Plata**	**38.38**	**274**	*c e*P	**P**	**12 45 44.0**	**-0.2**
LPA				*e*PP	PP	12 47 11.0	-4.4
LPA				*e*PP	PP	12 47 23.0	+7.6
LPA				*e*S	**S**	**12 51 38.0**	**-0.5**
LPA				*e*PCS		12 51 46.0	
LPA				*e*SS	SS	12 54 26.0	+8.3
	comp=Z,4μm,21.0s						
MAW	**Mawson**	**38.60**	**144**	*e*P	**P**	**12 45 44.6**	**-1.1**
	comp=Z,42nm,0.9s,mb5.2						
MAW				*e*S	**S**	**12 51 37.3**	**-4.2**
MAW	**Mawson**	**38.60**	**144**	P	**P**	**12 45 45.1**	**-0.6**
	comp=Z,60nm,1.0s,mb5.3,baz=259,slow=7.7,SNR=26						
MAW				PcP	PcP	12 47 56.5	-2.1
	comp=Z,11nm,1.0s,baz=268,slow=6.8,SNR=6.4						
MAW				LR	LR	12 58 37.0	
	comp=Z,1μm,21.5s,MS4.8,baz=266,slow=32						
MAW	**Mawson**	**38.60**	**144**	*e*P	**P**	**12 45 44.6**	**-1.1**
MAW				*e*S	**S**	**12 51 37.3**	**-4.2**
MAW				pmax	pmax		
	comp=Z,42nm,0.9s						
QSPA	**South Pole Qui**	**40.36**	**180**	PFAKE		12 46 10.0	+10
QSPA				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
PLCA	**Paso Flores**	**43.11**	**258**	P	**P**	**12 46 23.6**	**+0.7**
	comp=Z,11nm,0.9s,mb4.6,baz=130,slow=9.2,SNR=19						
PLCA				PcP	PcP	12 48 12.2	-1.2
	comp=Z,15nm,1.1s,baz=146,slow=5.7,SNR=4.9						
PLCA				LR	LR	13 04 03.6	
	comp=Z,3μm,18.1s,MS5.2,baz=124,slow=36						
PLCA	**Paso Flores**	**43.11**	**258**	*e*P	**P**	**12 46 22.5**	**-0.5**
	comp=Z,12nm,0.9s,mb4.6						
PLCA	**Paso Flores**	**43.11**	**258**	*e*P	**P**	**12 46 22.5**	**-0.5**
PLCA				pmax	pmax		
	comp=Z,12nm,0.9s						
CPUP	**Villa Florida**	**43.73**	**284**	P	**P**	**12 46 27.7**	**-0.6**
	comp=Z,50nm,0.9s,mb5.3,baz=148,slow=9.8,SNR=78						
CPUP				PcP	PcP	12 48 14.4	-1.4
	comp=Z,39nm,0.9s,baz=169,slow=5.0,SNR=9.6						
CPUP				LR	LR	13 01 18.9	
	comp=Z,2μm,21.9s,MS5.0,baz=167,slow=31						
CPUP	**Villa Florida**	**43.73**	**284**	*e*P	**P**	**12 46 27.6**	**-0.7**
	comp=Z,69nm,0.9s,mb5.4						
CPUP				*e*PcP	PcP	12 48 14.0	-1.8
CPUP	**Villa Florida**	**43.73**	**284**	*e*P	**P**	**12 46 27.6**	**-0.7**
CPUP				*e*		12 48 14.0	
CPUP				pmax	pmax		
	comp=Z,69nm,0.9s						
LSZ	**Lusaka**	**45.83**	**54**	*e*P	**P**	**12 46 42.8**	**-2.4**
	comp=Z,17nm,0.8s,mb5.0						
LSZ	**Lusaka**	**45.83**	**54**	P	**P**	**12 46 42.9**	**-2.3**
LSZ				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
BAO	**Brasilia Array**	**46.47**	**303**	P	**P**	**12 46 50.0**	**-0.2**
BDFB	**Brasilia**	**46.48**	**303**	P	**P**	**12 46 50.2**	**-0.1**
	comp=Z,74nm,1.0s,mb5.6,baz=138,slow=6.7,SNR=49						
BDFB				LR	LR	13 02 18.9	
	comp=Z,3μm,19.0s,MS5.3,baz=357,slow=31						
CFAA	**Coronel Fontan**	**47.14**	**270**	P	**P**	**12 46 55.1**	**-0.3**
	comp=Z,22nm,1.0s,baz=134,slow=8.1,SNR=139						
CFAA				PcP	PcP	12 48 26.1	-1.4
	comp=Z,7.0nm,0.8s,baz=138,slow=2.8,SNR=7.4						
CFAA				LR	LR	13 06 02.9	
	comp=Z,133nm,18.9s,baz=126,slow=35						
FCH	**Farellones**	**47.36**	**266**	⇑*i*P	**P**	**12 46 58.1**	**+1.0**
CLCH	**Cerro Calan**	**47.48**	**266**	⇑*i*P	**P**	**12 46 58.7**	**+0.7**
CMCH	**Combarbala**	**49.21**	**268**	⇑*i*P	**P**	**12 47 11.6**	**+0.1**
RCBR	**Riachuelo**	**49.39**	**324**	*e*P	**P**	**12 47 12.0**	**-1.1**
	comp=Z,70nm,0.9s,mb5.7						
RCBR				*e*		12 47 18.4	
TLL	**Tololo Astrono**	**49.74**	**269**	⇓*i*P	**P**	**12 47 15.8**	**+0.2**
MIR	**Mirnyy**	**49.84**	**149**	*e*P	**P**	**12 47 14.0**	**-1.8**
MIR				pmax	pmax		
	comp=Z,299nm,2.8s,mb5.8						
SBA	**Scott Base**	**52.50**	**179**	*e*P	**P**	**12 47 35.3**	**-0.6**
	comp=Z,87nm,1.1s,mb5.6						
SBA				*e*		12 47 43.1	
SBA	**Scott Base**	**52.50**	**179**	*e*P	**P**	**12 47 35.3**	**-0.6**
SBA				*e*		12 47 43.1	
SBA				pmax	pmax		
	comp=Z,87nm,1.1s,mb5.6						
VNDA	**Vanda**	**52.73**	**178**	P	**P**	**12 47 36.8**	**-0.9**
	comp=Z,44nm,1.1s,mb5.3,baz=205,slow=7.6,SNR=75						
VNDA				LR	LR	13 08 23.3	
	comp=Z,2μm,18.8s,MS5.2,baz=182,slow=34						
VNDA	**Vanda**	**52.73**	**178**	*e*P	**P**	**12 47 36.8**	**-0.9**
	comp=Z,61nm,1.2s,mb5.4						
VNDA	**Vanda**	**52.73**	**178**	*e*P	**P**	**12 47 36.8**	**-0.9**
VNDA				pmax	pmax		
	comp=Z,61nm,1.2s						
LVC	**Limon Verde**	**53.74**	**278**	P	**P**	**12 47 45.9**	**+0.1**
	comp=Z,252nm,0.9s,mb6.2,baz=131,slow=4.9,SNR=149						
LVC				LR	LR	13 07 58.3	
	comp=Z,2μm,21.1s,MS5.1,baz=160,slow=33						
LVC	**Limon Verde**	**53.74**	**278**	*e*P	**P**	**12 47 46.0**	**+0.2**
	comp=Z,284nm,0.9s,mb6.2						
LVC				*e*PcP	PcP	12 48 50.9	-0.9
SIV	**San Ignacio**	**53.74**	**290**	P	**P**	**12 47 44.9**	**-1.0**
	comp=Z,46nm,0.9s,mb5.4,baz=144,slow=7.3,SNR=160						
SIV				PcP	PcP	12 48 50.3	-1.6
	comp=Z,13nm,0.8s,baz=111,slow=7.5,SNR=5.3						
CASY	**Casey**	**55.36**	**155**	⇑*i*P	**P**	**12 47 55.7**	**-1.4**
LIC	**Lamto**	**55.99**	**5**	*e*P	**P**	**12 48 00.0**	**-2.3**
	comp=Z,227nm,1.0s,mb5.9						
DBIC	**Dimbokro**	**56.45**	**5**	P	**P**	**12 48 03.0**	**-2.5**
	comp=Z,54nm,0.9s,mb5.6,baz=168,slow=7.8,SNR=23						
DBIC				LR	LR	13 05 43.9	
	comp=Z,934nm,21.9s,MS4.8,baz=153,slow=29						
DBIC	**Dimbokro**	**56.45**	**5**	*e*P	**P**	**12 48 03.2**	**-2.3**
	comp=Z,78nm,1.0s,mb5.7						
DBIC	**Dimbokro**	**56.45**	**5**	P	**P**	**12 48 03.3**	**-2.2**
DBIC				pmax	pmax		
	comp=Z,78nm,1.0s						
LPAZ	**La Paz**	**57.89**	**283**	P	**P**	**12 48 14.8**	**-0.9**
	comp=Z,35nm,0.8s,mb5.5,baz=127,slow=6.3,SNR=94						
LPAZ				LR	LR	13 11 01.9	
	comp=Z,2μm,21.9s,MS5.2,baz=137,slow=34						
LPAZ	**La Paz**	**57.89**	**283**	*e*P	**P**	**12 48 14.2**	**-1.6**
	comp=Z,40nm,0.8s,mb5.5						
LPAZ				*e*PcP	PcP	12 49 06.6	-1.4
LPAZ				*e*PP	PP	12 50 21.9	-3.9
LPAZ	**La Paz**	**57.89**	**283**	*e*P	**P**	**12 48 14.2**	**-1.5**
LPAZ				*e*		12 49 06.6	
LPAZ				*e*		12 50 21.9	
LPAZ				pmax	pmax		
	comp=Z,40nm,0.8s						
MBAR	**Mbarara**	**59.66**	**48**	*e*P	**P**	**12 48 25.0**	**-3.1**
	comp=Z,30nm,1.1s,mb5.2						
MBAR				*e*		12 53 28.4	
MBAR	**Mbarara**	**59.66**	**48**	P	**P**	**12 48 25.2**	**-2.9**
MBAR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
SAML	**Samuel**	**60.53**	**293**	*e*P	**P**	**12 48 32.1**	**-1.9**
	comp=Z,110nm,0.9s,mb6.0						
DRV	**Dumont d'Urvil**	**61.40**	**166**	P	**P**	**12 48 40.0**	**+0.7**
DRV				S	**S**	**12 57 05.0**	**+6.6**
DRV				SS	SS	13 01 02.0	+1.4
DRV				R		13 08 00.0	
KMBO	**Kilima Mbogo**	**62.49**	**55**	P	**P**	**12 48 48.6**	**+1.3**
	comp=Z,5.9nm,1.0s,mb4.7,baz=227,slow=7.3,SNR=9.1						
KMBO				LR	LR	13 14 21.6	
	comp=Z,3μm,18.7s,MS5.5,baz=245,slow=35						
KMBO	**Kilima Mbogo**	**62.49**	**55**	*i* P	**P**	**12 48 48.9**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NNA	**Nana**	**66.65**	**279**	*e*P	**P**	**12 49 13.6**	**-0.7**
	comp=Z,121nm,0.9s,mb5.9						
RPN	**Rapa Nui**	**75.95**	**245**	LR	LR	13 17 05.7	
	comp=Z,650nm,20.2s,MS4.9,baz=315,slow=31						
EOSO	**Osorio**	**77.83**	**354**	P	**P**	**12 50 20.6**	**+0.3**
	comp=Z,83nm,0.8s,mb5.7						
CFTV	**Fuerteventura**	**78.08**	**355**	P	**P**	**12 50 20.9**	**-0.9**
	comp=Z,22nm,0.9s,mb5.1						
ROSC	**El Rosal**	**78.16**	**292**	P	**P**	**12 50 22.0**	**-0.4**
	comp=Z,7.2nm,0.5s,mb4.9,baz=239,slow=13,SNR=11						
ROSC				LR	LR	13 21 55.9	
	comp=Z,2μm,19.6s,MS5.3,baz=194,slow=33						
SDV	**Santo Domingo**	**79.23**	**298**	P	**P**	**12 50 27.6**	**-0.6**
	comp=Z,29nm,0.9s,mb5.2,baz=224,slow=0.8,SNR=16						
SDV	**Santo Domingo**	**79.23**	**298**	*e*P	**P**	**12 50 27.7**	**-0.6**
	comp=Z,33nm,0.9s,mb5.3						
MTP	**Monte Pirata**	**84.04**	**307**	*e*P	**P**	**12 50 51.6**	**-1.7**
CPD	**Cerro la Pandu**	**84.18**	**307**	*e*P	**P**	**12 50 49.8**	**-4.3**
SJG	**San Juan**	**84.36**	**307**	P	**P**	**12 50 53.8**	**-1.2**
	comp=Z,34nm,0.8s,mb5.5,baz=292,slow=11,SNR=17						
SJG	**San Juan**	**84.36**	**307**	*e*P	**P**	**12 50 53.3**	**-1.6**
	comp=Z,46nm,0.9s,mb5.6						
SJG	**San Juan**	**84.36**	**307**	P	**P**	**12 50 53.5**	**-1.4**
SJG				pmax	pmax		
	comp=Z,51nm,1.0s						
TAU	**Tasmania Unive**	**85.29**	**163**	*e*P	**P**	**12 50 58.1**	**-0.9**
	comp=Z,17nm,0.8s,mb5.2						
TAU				LR	LR		
	comp=Z,305nm,20.0s,MS4.7						
TAU	**Tasmania Unive**	**85.29**	**163**	P	**P**	**12 51 01.2**	**+2.2**
TAU				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2						
EMIJ	**Mijas**	**86.16**	**3**	P	**P**	**12 51 03.4**	**-0.1**
	comp=Z,28nm,1.0s,mb5.4						
ESPR	**Espera**	**86.43**	**3**	P	**P**	**12 51 05.5**	**+0.7**
	comp=Z,67nm,0.9s,mb5.9						
EBER	**Berja**	**86.58**	**5**	P	**P**	**12 51 06.7**	**+1.1**
	comp=Z,24nm,0.8s,mb5.5						
ERON	**Agron**	**86.66**	**4**	P	**P**	**12 51 07.0**	**+1.0**
	comp=Z,20nm,0.8s,mb5.4						
ENIJ	**Nijar**	**86.70**	**5**	P	**P**	**12 51 07.0**	**+0.9**
	comp=Z,9.7nm,0.9s,mb5.0						
AFFS	**'Afif**	**86.76**	**46**	P	**P**	**12 51 07.5**	**+0.8**
ELOJ	**Sierra Loja**	**86.77**	**4**	P	**P**	**12 51 06.6**	**+0.2**
	comp=Z,18nm,0.8s,mb5.3						
EGRO	**El Granado**	**87.06**	**1**	P	**P**	**12 51 09.2**	**+1.3**
	comp=Z,40nm,0.9s,mb5.7						
PTEO	**Sao Teotonio**	**87.06**	**0**	*e*P	**P**	**12 51 08.0**	**+0.1**
	comp=Z,99nm,0.9s,mb6.0						
ELUQ	**Luque**	**87.18**	**4**	P	**P**	**12 51 08.1**	**-0.4**
	comp=Z,30nm,0.9s,mb5.5						
BDAS	**Al Bad'**	**87.27**	**38**	P	**P**	**12 51 11.5**	**+2.4**
EMIN	**Mina Concepcio**	**87.31**	**2**	P	**P**	**12 51 10.0**	**+0.9**
	comp=Z,44nm,0.9s,mb5.7						
EQES	**Quesada**	**87.48**	**5**	P	**P**	**12 51 09.6**	**-0.3**
	comp=Z,17nm,0.8s,mb5.3						
EHUE	**Huescar**	**87.52**	**5**	P	**P**	**12 51 10.0**	**0.0**
	comp=Z,12nm,0.8s,mb5.2						
EHUE	**Huescar**	**87.52**	**5**	P	**P**	**12 51 10.0**	**-0.1**
EHUE				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.2						
PBEJ	**Beja**	**87.55**	**1**	*e*P	**P**	**12 51 10.2**	**0.0**
	comp=Z,53nm,1.0s,mb5.7						
EMUR	**La Murta**	**87.63**	**6**	P	**P**	**12 51 11.7**	**+1.1**
	comp=Z,34nm,0.9s,mb5.6						
ECAB	**El Cabril**	**87.65**	**3**	P	**P**	**12 51 11.2**	**+0.5**
	comp=Z,4.6nm,0.9s,mb4.7						
HAQS	**Haql**	**87.76**	**37**	P	**P**	**12 51 08.1**	**-3.4**
EADA	**Adamuz**	**87.77**	**4**	P	**P**	**12 51 11.6**	**+0.3**
	comp=Z,32nm,0.9s,mb5.5						
EBAN	**Banos Encina**	**87.80**	**4**	P	**P**	**12 51 11.3**	**-0.1**
	comp=Z,22nm,0.8s,mb5.4						
EBAN	**Banos Encina**	**87.80**	**4**	P	**P**	**12 51 11.3**	**-0.1**
EBAN				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.4						
MZLS	**Mizel**	**87.89**	**48**	P	**P**	**12 51 13.0**	**+0.8**
EBAD	**Badajoz**	**88.29**	**2**	P	**P**	**12 51 14.2**	**+0.5**
	comp=Z,42nm,1.0s,mb5.6						
EVIA	**Vianos**	**88.34**	**5**	P	**P**	**12 51 14.3**	**+0.3**
	comp=Z,38nm,1.0s,mb5.6						
EVIA	**Vianos**	**88.34**	**5**	P	**P**	**12 51 14.3**	**+0.3**
EVIA				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.6						
PLOU	**Loures**	**88.40**	**360**	*e*P	**P**	**12 51 15.1**	**+0.8**
	comp=Z,110nm,1.0s,mb6.0						
ETOB	**Tobarra**	**88.41**	**6**	P	**P**	**12 51 15.7**	**+1.4**
	comp=Z,12nm,0.9s,mb5.1						
CMLA	**Cha da Macela**	**88.49**	**347**	PFAKE		12 51 30.0	+15
CMLA				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
PTOM	**Tomar**	**89.13**	**0**	*e*P	**P**	**12 51 18.6**	**+0.8**
	comp=Z,42nm,1.3s,mb5.6						
ESDC	**Sonseca Array**	**89.30**	**4**	P	**P**	**12 51 18.2**	**-0.4**
	comp=Z,18nm,0.9s,mb5.4,baz=181,slow=4.6,SNR=89						
PCBR	**Castelo Branco**	**89.36**	**1**	*e*P	**P**	**12 51 18.2**	**-0.6**
	comp=Z,58nm,1.1s,mb5.8						
ECHE	**Chera**	**89.39**	**6**	P	**P**	**12 51 20.0**	**+1.1**
	comp=Z,16nm,0.9s,mb5.4						
ECHE	**Chera**	**89.39**	**6**	P	**P**	**12 51 20.0**	**+1.0**
ECHE				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.4						
MTE	**Manteigas**	**89.92**	**1**	*e*P	**P**	**12 51 18.3**	**-3.1**
	comp=Z,77nm,1.2s,mb5.9						
MTE	**Manteigas**	**89.92**	**1**	*e*P	**P**	**12 51 21.0**	**-0.4**
	comp=Z,77nm,1.2s,mb5.9						
MTE	**Manteigas**	**89.92**	**1**	*e*S	S	13 02 11.4	-0.3
MTE	**Manteigas**	**89.92**	**1**	*e*LR	LR	13 21 04.3	
	comp=Z,739nm,18.0s						
MTE	**Manteigas**	**89.92**	**1**	*e*P	**P**	**12 51 20.8**	**-0.6**
	comp=Z,48nm,1.0s,mb5.8						
TOO	**Toolangi**	**90.05**	**160**	*e*P	**P**	**12 51 23.5**	**+1.4**
	comp=Z,7.2nm,1.0s,mb5.0						
TOO	**Toolangi**	**90.05**	**160**	*e*P	**P**	**12 51 23.5**	**+1.4**
TOO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
EMOS	**Mosqueruela**	**90.19**	**7**	P	**P**	**12 51 23.6**	**+0.9**
	comp=Z,17nm,0.9s,mb5.4						
PVRL	**Vila Real**	**90.79**	**1**	*e*P	**P**	**12 51 25.2**	**-0.2**
	comp=Z,24nm,1.3s,mb5.4						
ERTA	**Horta de San J**	**90.84**	**7**	P	**P**	**12 51 26.3**	**+0.7**

comp=Z,49nm,1.0s,mb5.8
FORT Forrest 91.11 144 *e*P P 12 51 26.3 -0.8
comp=Z,18nm,0.8s,mb5.4
EPOB Poblet 91.30 8 P P 12 51 28.0 +0.2
comp=Z,26nm,0.9s,mb5.6
PBRG Braganca 91.34 2 *e*P P 12 51 27.8 -0.1
comp=Z,38nm,1.1s,mb5.6
ELOB Lobios 91.38 1 P P 12 51 29.1 +0.9
comp=Z,22nm,0.9s,mb5.5
ECAL Calabor 91.47 2 P P 12 51 28.8 +0.2
comp=Z,14nm,0.9s,mb5.3
ESAC San Caprasio 91.54 6 P P 12 51 29.5 +0.6
comp=Z,65nm,0.9s,mb6.0
EMIR Miracle 91.89 8 P P 12 51 30.9 +0.4
comp=Z,42nm,0.9s,mb5.8
EGRA Graus 92.07 7 P P 12 51 32.1 +0.8
comp=Z,31nm,1.0s,mb5.6
VALF Valcebollere 92.42 8 *e*P P 12 51 33.1 +0.2
EBIE Bielsa 92.55 7 P P 12 51 34.4 +1.0
comp=Z,5.1nm,0.8s,mb5.0
EJON La Jonquera 92.55 9 P P 12 51 33.9 +0.4
comp=Z,6.6nm,0.8s,mb5.1
SJAF Saint Jean de 92.58 9 *e*P P 12 51 33.7 +0.1
FILF Fillols 92.63 9 *e*P P 12 51 33.5 -0.3
RESF Ens 92.68 7 *e*P P 12 51 34.4 +0.3
SALF Salau 92.70 8 *e*P P 12 51 34.6 +0.4
ETSF Etsaut 92.70 6 *e*P P 12 51 34.0 -0.2
comp=Z,36nm,0.9s,mb5.5
VIEF Viey 92.73 7 *e*P P 12 51 34.6 +0.3
ELAN Lanestosa 92.87 4 P P 12 51 35.3 +0.4
comp=Z,36nm,0.9s,mb5.8
SJPF Ste Jean 92.87 6 *e*P P 12 51 34.8 -0.2
comp=Z,81nm,1.4s,mb5.7
REYF Montagne du Re 92.89 6 *e*P P 12 51 35.5 +0.5
MLS Moulis 92.89 7 *e*P P 12 51 34.9 -0.1
LABF Labassere 92.90 7 *e*P P 12 51 35.0 -0.1
EPF Esparros 92.90 7 *e*P P 12 51 35.5 +0.4
comp=Z,46nm,1.1s,mb5.5
EALK Alkurruntz 92.96 5 P P 12 51 34.9 -0.5
comp=Z,13nm,0.9s,mb5.4
RKT Rikitea 92.97 228 *e*PS PS 13 03 49.2 -8.4
RKT Rikitea 92.97 228 *e*SS SS 13 08 55.5 -1.8
RKT *e*LR LR 13 21 31.6
comp=Z,3µm,35.2s,baz=150
MTLF Montolieu 93.37 8 *e*P P 12 51 36.4 -0.8
comp=Z,33nm,1.0s,mb5.4
PGF Pioggiola 93.40 13 *e*P P 12 51 36.8 -0.6
comp=Z,28nm,1.4s,mb5.2
LMR La Mourre 93.83 11 *e*P P 12 51 38.6 -0.8
PUYF Puyloubier 93.93 11 *e*P P 12 51 40.3 +0.5
FRF La Foret Royal 94.07 11 *e*P P 12 51 39.7 -0.8
comp=Z,23nm,1.2s,mb5.2
LASF Ste Croix 94.26 9 *e*P P 12 51 41.3 0.0
comp=Z,25nm,1.0s,mb5.3
CALN Calern 94.29 11 *e*P P 12 51 42.3 +0.8
SMRF Simiane la Rot 94.35 11 *e*P P 12 51 41.7 0.0
MVIF Mont Vial 94.47 12 *e*P P 12 51 43.2 +0.9
STKA Stephens Creek 94.51 155 P P 12 51 41.6 -1.1
comp=Z,3.2nm,0.9s,mb4.8,baz=271,slow=2.0,SNR=4.4
STKA LR LR 13 30 37.5
comp=Z,520nm,21.7s,MS5.0,baz=303,slow=33
STKA Stephens Creek 94.51 155 *e*P P 12 51 39.3 -3.4
TOUF Mont Tournerai 94.60 12 *e*P P 12 51 44.2 +1.3
AUTN L'Aution 94.60 12 *e*P P 12 51 43.9 +1.0
SAOF Saorge 94.61 12 *e*P P 12 51 43.9 +1.0
LFF La Frestale 94.83 7 *e*P P 12 51 44.1 +0.2
comp=Z,55nm,1.0s,mb5.6
CAF Calviac 94.93 8 *e*P P 12 51 44.3 -0.1
comp=Z,40nm,1.0s,mb5.5
CAF Calviac 94.93 8 *e*P P 12 51 44.3 -0.1
CAF pmax pmax
comp=Z,20nm,1.0s,mb5.5
VIVF Saint-Julien-l 95.12 10 *e*P P 12 51 45.1 -0.1
MBDF Montbardon 95.24 11 *e*P P 12 51 46.0 +0.2
comp=Z,15nm,1.0s,mb5.0
MBDF Montbardon 95.24 11 *e*P P 12 51 46.0 +0.2
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
RJF Les Rejaudoux 95.26 7 *e*P P 12 51 45.9 0.0
comp=Z,42nm,1.0s,mb5.5
RJF *e*R
comp=Z,722nm,20.0s
RJF Les Rejaudoux 95.26 7 *e*P P 12 51 45.9 0.0
RJF pmax pmax
comp=Z,21nm,1.0s,mb5.5
RJF MLR MLR
comp=Z,720nm,20.0s,MS5.1
SKO Skopje 95.31 22 *e*P P 12 51 40.0 -6.2
ORIF Oris-en-Rattie 95.32 11 *e*P P 12 51 46.1 0.0
ORIF *e*R
comp=Z,561nm,17.2s
LPG La Plagne 95.99 11 *e*P P 12 51 49.3 +0.1
comp=Z,18nm,1.0s,mb5.2
LPG La Plagne 95.99 11 *e*P P 12 51 49.3 +0.1
LPG pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
LPL La Plagne 96.01 11 *e*P P 12 51 49.3 0.0
comp=Z,6.6nm,0.8s,mb4.8
LPL La Plagne 96.01 11 *e*P P 12 51 49.3 0.0
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
TCF Toulx Ste Croi 96.29 8 *e*P P 12 51 50.6 0.0
comp=Z,26nm,1.1s,mb5.3
TCF Toulx Ste Croi 96.29 8 *e*P P 12 51 50.6 0.0
TCF pmax pmax
comp=Z,13nm,1.1s,mb5.3
MFF Saint Martin d 96.42 6 *e*P P 12 51 51.2 +0.1
comp=Z,26nm,1.0s,mb5.3
MFF Saint Martin d 96.42 6 *e*P P 12 51 51.2 +0.1
MFF pmax pmax
comp=Z,13nm,1.0s,mb5.3
BRTR Keskin Array B 96.82 32 P P 12 51 53.6 +0.5
comp=Z,2.6nm,1.0s,mb4.6,baz=169,slow=6.3,SNR=7.0
BRTR PP PP 12 55 49.9 -0.9
comp=Z,5.5nm,0.9s,baz=180,slow=9.9,SNR=10
AVF Avril sur Loir 96.90 9 *e*P P 12 51 53.0 -0.3
comp=Z,22nm,1.4s,mb5.1
AVF Avril sur Loir 96.90 9 *e*P P 12 51 53.0 -0.3
AVF pmax pmax
comp=Z,11nm,1.4s,mb5.1
CABF La Chapelle 97.01 10 *e*P P 12 51 52.2 -1.6
SSF Saint Saulge 97.18 9 *e*P P 12 51 54.4 -0.1
comp=Z,18nm,1.1s,mb5.1
SSF Saint Saulge 97.18 9 *e*P P 12 51 54.4 -0.1
SSF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
LOR Lormes 97.42 9 *e*P P 12 51 54.9 -0.7
LOR *e*R
comp=Z,690nm,21.5s
LDF La Druitiere 98.40 6 *e*P P 12 51 59.9 -0.1
BFO Black Forest 98.98 12 *e*P P 12 52 01.5 -1.1
BFO *e*PP PP 12 56 02.1 -4.8
TBI Tubuai 99.07 216 *e*PS PS 13 04 52.3 -11
TBI Tubuai 99.07 216 *e*SS SS 13 10 10.8 -12
TBI *e*LR LR 13 24 17.6
comp=Z,1µm,26.5s,baz=148
BAIF Baives 100.22 9 *e*P P 12 52 07.9 -0.3
comp=Z,23nm,1.2s
BAIF Baives 100.22 9 *e*P P 12 52 07.9 -0.3
BAIF pmax pmax
comp=Z,11nm,1.2s
GERES GERESS Array B 100.28 15 P P 12 52 08.6 +0.1
comp=Z,0.6nm,0.7s,baz=214,slow=4.8,SNR=4.0
KHC Kasperske Hory 100.54 15 *ex* x 12 55 28.0
KHC *e*PP PP 12 56 15.5 -3.8
KHC AMS AMS 13 32 50.0
comp=Z,500nm,19.6s
GRA1 Grafenberg Arr 100.71 13 *e*P P 12 52 09.2 -1.3
GRA1 *e*PP PP 12 56 13.9 -6.8
GRA1 *e*SP SP 13 05 34.7 +16
GRA1 *e*SS SS 13 10 43.7 -1.4
GRA1 LR LR
comp=Z,300nm,20.6s,MS4.8
GRF Grafenberg Arr 100.71 13 *e*P P 12 52 09.2 -1.3
GRF *e*PP PP 12 56 13.9 -6.8
GRF *e*SP SP 13 05 34.7 +16
GRF *e*SS SS 13 10 43.7 -1.4
GRF LR LR
comp=Z,300nm,20.6s,MS4.8
GRF Grafenberg Arr 100.71 13 *e*P P 12 52 09.2 -1.3
GRF *e* 12 56 13.9
GRF *e*SS SS 13 10 43.7 -1.4
GRF MLR MLR
comp=Z,300nm,20.6s,MS4.8
GRF Grafenberg Arr 100.71 13 *e*P P 12 52 09.2 -1.3
GRF *e* 12 56 13.9
GRF *e*SS SS 13 10 43.7 -1.4
GRF MLR MLR
comp=Z,300nm,20.6s,MS4.8
NKC Novy Kostel 101.43 14 *e*PP PP 12 56 19.5 -6.5
PRU Pruhonice 101.53 15 *e*PP PP 12 56 19.3 -7.4
PRU AMS AMS 13 35 10.0
comp=Z,400nm,20.6s
DPC Dobruska-Polom 102.19 16 *e*PP PP 12 56 21.2 -10
SOC Sochi 102.36 34 *e*P Pdif 12 52 22.8 +4.8
SOC *e* 12 56 28.5
SOC *e* 13 03 44.2
SOC pmax pmax
comp=Z,48nm,1.3s
SOC pmax pmax
comp=N,10.0nm,0.4s
SOC pmax pmax
comp=E,23nm,0.9s
CLL Collm 102.56 14 *e*PP PP 12 56 25.0 -9.4
CLL *e**SPP 12 56 43.0
CLL *e*PPP PPP 12 58 49.0 +2.6
CLL *e* 13 02 52.0
CLL *e* 13 04 07.0
CLL *e*PS PS 13 05 36.0 -3.1
CLL *e* 13 05 48.0
CLL *e*PPS PPS 13 06 30.0 -0.5
CLL *e*SS SS 13 11 10.0 -0.8
CLL *e*SSS SSS 13 14 46.0 -19
WRA Warramunga Arr 103.28 145 PKiKP 12 56 40.0
comp=E,2.1nm,0.9s,baz=231,slow=2.1,SNR=8.7
WRA PKKPbc 13 08 15.1
comp=E,0.7nm,0.8s,baz=21,slow=3.0,SNR=6.6
KIV Kislovodsk 103.78 36 PFAKE 12 52 40.0 +16
KIV LR LR
comp=Z,140nm,19.0s,MS4.5
PPT Papeete 104.34 219 *e*LQ 13 22 10.4
PPT Papeete 104.34 219 *e*PS PS 13 05 54.7 -3.4
PPT Papeete 104.34 219 *e*SKSac 13 03 06.0
PPT *e*SS SS 13 11 40.1 +4.6
PPT *e*LR LR 13 26 39.1
comp=Z,3µm,28.8s,baz=151
AKASG Malin Array Be 105.40 24 PP PP 12 56 50.5 -5.3
comp=Z,0.3nm,0.2s,baz=204,slow=7.1,SNR=9.2
MUD Monsted U'grnd 107.05 10 *i* P PP 12 57 07.3 -0.9
MUD *i* 13 00 05.7
MUD *i* 13 07 18.3
comp=Z,260nm,18.0s
TAOE Nuku Hiva Isla 107.68 231 *e*PS PS 13 06 15.7 -16
TAOE Nuku Hiva Isla 107.68 231 *e*SS SS 13 12 31.7 +10
TAOE *e*LR LR 13 28 25.6
comp=Z,5µm,25.3s
LBNH Lisbon 108.57 318 PFAKE 12 57 00.0
LBNH LR LR
comp=Z,687nm,21.0s,MS5.2
PLAL Pickwick Lake 109.54 301 PFAKE 12 57 00.0
PLAL LR LR
comp=Z,771nm,19.0s,MS5.3
OBN Obninsk 111.36 26‖ *e*P Pdif 12 52 41.5 -16
OBN *e* 12 57 39.8
OBN *e*SS SKS 13 03 39.9 -0.3
OBN *i* PS PS 13 07 02.3 -3.8
OBN *e*SS SS 13 13 05.2 -4.4
OBN pmax pmax
comp=Z,3.0nm,0.4s
KOLN Koldanda 112.32 73 *e*P PKPdf 12 56 56.1 -4.0
comp=Z,24nm,0.8s
GKN Gorkha 113.12 74 *e*P PKPdf 12 56 57.8 -3.9
DMN Daman 113.14 74 *e*P PKPdf 12 56 55.7 -6.1
comp=Z,5.2nm,0.3s
PKI Pulchoki 113.30 75 *e*P PKPdf 12 56 57.9 -4.2
comp=Z,21nm,1.1s
KKN Kakani 113.37 74 *e*P PKPdf 12 56 58.9 -3.4
comp=Z,16nm,0.9s
FINES FINESS Array B 114.50 18 PKP PKPdf 12 57 00.5 -3.0
comp=Z,0.6nm,0.5s,SNR=5.0
TXAR Lajitas Array 114.67 287 PKP PKPdf 12 57 01.8 -2.9
comp=Z,3.6nm,0.8s,baz=159,slow=3.6,SNR=46
TXAR PKKPab 13 07 40.4
comp=Z,1.7nm,1.0s,baz=270,slow=2.7,SNR=6.7
SCHQ Schefferville 115.01 327 PFAKE 12 57 10.0 +5.3
SCHQ LR LR
comp=Z,812nm,21.0s,MS5.3
MNTX Cornudas Mount 117.38 287 *e*PKPdf PKPdf 12 57 05.4 -4.5
MNTX LR LR
comp=Z,393nm,22.0s,MS5.0
PMG Port Moresby 117.39 153 PFAKE 12 57 20.0 +10
PMG LR LR
comp=Z,575nm,20.0s,MS5.2
AAK Ala-Archa 117.44 56 *e*PKPdf PKPdf 12 57 05.8 -4.0
AAK Ala-Archa 117.44 56 PKiKP PKPdf 12 57 06.0 -3.7
LSA Lhasa 118.38 77 PFAKE 12 57 20.0 +8.1
LSA LR LR
comp=Z,753nm,19.0s,MS5.3
ARU Arti 119.81 36 PFAKE 12 57 20.0 +6.1
ARU LR LR
comp=Z,114nm,22.0s,MS4.5
ARU Arti 119.81 36 *i* PKIKP PKPdf 12 57 10.9 -3.0
ARU *e* 12 58 33.2
ARU *e* 13 04 20.1
ARU *e*SP SP 13 08 21.3 -1.6
ARU *e*SS SS 13 14 52.3 -8.2
ARU MLR MLR
comp=Z,500nm,24.0s,MS5.1
ARU MLR MLR
comp=N,300nm,23.0s,MS5.0
ARU MLR MLR
comp=E,200nm,22.5s,MS5.0
ARU Arti 119.81 36 PKIKP PKPdf 12 57 15.3 +1.4
HNR Honiara 120.14 167 PKP PKPdf 12 57 12.4 -3.2
comp=E,41nm,0.7s,baz=180,slow=8.1,SNR=2.3
ANMO Albuquerque 120.25 289 PKP PKPdf 12 57 12.4 -2.9
comp=E,8.2nm,0.8s,baz=144,slow=6.6,SNR=39
ANMO Albuquerque 120.25 289 *e*PKPdf PKPdf 12 57 12.3 -3.1
ANMO Albuquerque 120.25 289 *i* PKIKP PKPdf 12 57 12.6 -2.8
SVE Sverdlovsk 120.90 37 *e*PKIKP PKPdf 12 57 11.7 -4.5
SVE *e* 12 58 40.6
SVE *e* 13 04 18.0
SVE MLR MLR
comp=E,200nm,18.0s
SVE MLR MLR
comp=Z,500nm,18.0s,MS5.2
TUC Tucson 121.15 284 *e*PKPdf PKPdf 12 57 14.6 -2.6
TUC Tucson 121.15 284 PKIKP PKPdf 12 57 14.2 -3.1
TUC Tucson 121.15 284 *e*PKIKP PKPdf 12 57 14.6 -2.7
SDCO Great Sand Dun 121.52 292 *e*P PKPdf 12 57 15.1 -2.8
SDCO *e*PP PP 12 58 46.4 -4.5
ARCES ARCESS Array B 121.77 14 PKP PKPdf 12 57 12.9 -4.7
comp=Z,2.4nm,0.7s,SNR=9.5
ARCES PP PP 12 58 47.8 -4.2
comp=Z,4.6nm,0.9s,baz=166,slow=5.0,SNR=5.7
KMI Kunming 122.64 89 Pdif Pdif 12 53 48.7 +0.9
KMI PKP PKPdf 12 57 18.3 -1.9
KMI sPKP 12 57 22.7
KMI PP PP 12 58 59.9 +0.8
KMI PKS PKS 13 00 53.6 +0.7
KMI PPP PPP 13 01 36.7 +0.9
KMI SKS SKS 13 04 27.8 +5.9
KMI SKKS 13 05 49.8
KMI SS SS 13 15 38.6 +0.5
KMI LR LR
comp=Z,640nm,40.1s,MS5.0
KMI Kunming 122.64 89 P Pdif 12 53 48.7 +0.9
KMI 12 57 18.3
KMI 12 57 22.7
KMI 12 58 59.9
KMI PPP PPP 13 01 36.7 +0.9
KMI 13 04 27.8
KMI SS SS 13 15 38.6 +0.5
KMI MLR MLR
comp=Z,640nm,40.1s,MS5.0
QIZ Qiongzhong 122.86 100 PFAKE 12 57 30.0 +9.3
QIZ LR LR
comp=Z,591nm,19.0s,MS5.3
ISCO Idaho Springs 122.92 294 *e*P PKPdf 12 57 16.8 -3.6
PV01 Paradox Valley 123.61 291 *e*PKPdf PKPdf 12 57 19.3 -2.6
SUMG Summit 123.89 350 *e*PKPdf PKPdf 12 57 18.0 -3.6
PV10 Paradox Valley 124.05 291 *e*PKPdf PKPdf 12 57 19.9 -2.8
ULM Lac du Bonnet 124.19 309 PKP PKPdf 12 57 18.3 -4.4
comp=Z,6.3nm,0.9s,baz=269,slow=2.1,SNR=8.4
ULM PP PP 12 59 08.6 -0.6
comp=Z,3.3nm,0.8s,baz=124,slow=11,SNR=3.6
ULM Lac du Bonnet 124.19 309 *e*PKPdf PKPdf 12 57 18.1 -4.6
ULM LR LR
comp=Z,926nm,22.0s,MS5.4
MKAR Makanchi Array 124.36 56 PKP PKPdf 12 57 19.4 -3.6
comp=Z,5.5nm,0.9s,baz=252,slow=3.8,SNR=33
MKAR PP PP 12 59 05.6 -4.6
comp=Z,1.9nm,0.9s,baz=256,slow=5.0,SNR=3.6
MKAR PKKPbc 13 07 02.8
comp=Z,0.8nm,0.8s,baz=45,slow=6.1,SNR=5.4
KURK Kurchatov 124.88 51 *e*PKPdf PKPdf 12 57 20.2 -3.7
SRU San Rafael 125.41 291 *e*PKPdf PKPdf 12 57 22.2 -3.0
SRU *e*PP PP 12 59 13.0 -4.1
SRU San Rafael 125.41 291 PKIKP PKPdf 12 57 22.4 -2.8
WMQ Urumqi 125.52 62 PKP PKPdf 12 57 23.2 -2.1
WMQ PP PP 12 59 19.0 +1.3
WMQ PKS PKS 13 00 58.5 +0.7
WMQ PPP PPP 13 02 00.0 +1.2
WMQ SKS SKS 13 04 32.0 +1.9
WMQ SKKS 13 06 10.0
WMQ SS SS 13 16 16.0 +2.6
WMQ PP PP
comp=Z,122nm,4.7s
WMQ LR LR
comp=N,1µm,25.4s,MS5.6
WMQ LR LR
comp=E,927nm,24.3s,MS5.6
WMQ LR LR
comp=Z,1µm,27.8s,MS5.5
PFO Pinyon Flat Ob 125.58 282 *e*PKPdf PKPdf 12 57 23.4 -2.3
PFO Pinyon Flat Ob 125.58 282 PKIKP PKPdf 12 57 23.5 -2.2
LDFC Landfair 125.68 284 *e*P PKPdf 12 57 22.1 -3.8
NEN Nelson 125.88 285 *e*PKPdf PKPdf 12 57 23.5 -2.7
TMUT Trail Mountain 125.94 290 *e*PKPdf PKPdf 12 57 24.1 -2.2
TMUT *e* 12 57 30.2
TMUT *e*PP PP 12 59 16.9 -3.9
MSU Marysvale 126.04 289 *e*PKPdf PKPdf 12 57 24.1 -2.3
MSU *e*PP PP 12 59 17.0 -4.5
GYA Guiyang 126.11 91‖ *i*PKP PKPdf 12 57 24.5 -2.4
GYA PKS PKS 13 00 59.8 +0.4
GYA SKS SKS 13 04 30.5 -1.9
GYA PP PP
comp=Z,210nm,6.4s
GYA LR LR
comp=N,490nm,20.4s,MS5.4
GYA LR LR
comp=E,610nm,20.0s,MS5.4
GYA LR LR
comp=Z,520nm,20.8s,MS5.2
ARUT Antelope Range 126.36 288 *e*PKPdf PKPdf 12 57 24.1 -2.9
ARUT *e*PP PP 12 59 20.4 -3.0
ARUT Antelope Range 126.36 288 PKIKP PKPdf 12 57 25.9 -1.1
DAG Danmarks Havn 126.54 357‖ *i*P PKPdf 12 57 23.7 -2.6
comp=Z,3.4nm,0.9s
DAG Danmarks Havn 126.54 357‖ *e*PKIKP PKPdf 12 57 23.7 -2.6
MPU Maple Canyon 126.65 291 *e*PKPdf PKPdf 12 57 25.2 -2.2
MPU *e* 12 57 32.4
DAU Daniels Canyon 126.67 292 *e*PKPdf PKPdf 12 57 24.7 -2.8
DAU Daniels Canyon 126.67 292 PKIKP PKPdf 12 57 25.4 -2.1
NLU North Lily Min 126.88 291 *e*P PKPdf 12 57 25.2 -2.7
NLU *e* 12 57 33.6
JLU Jordanelle 126.90 292 *e*PKPdf PKPdf 12 57 25.8 -2.2
JLU *e*PP PP 12 59 21.1 -5.5
MWC Mount Wilson 127.00 281 *e*PKPdf PKPdf 12 57 23.8 -4.5
MWC Mount Wilson 127.00 281 PKIKP PKPdf 12 57 26.1 -2.2
PDAR Pinedale Array 127.09 295 PKiKP 12 57 14.5
comp=Z,0.5nm,0.8s,baz=270,slow=5.9,SNR=6.2
PDAR PKP PKPdf 12 57 24.8 -3.5
comp=Z,8.9nm,0.9s,baz=117,slow=3.3,SNR=8.0
PDAR PP PP 12 59 22.8 -4.9
comp=Z,2.9nm,0.9s,baz=131,slow=5.1,SNR=5.2
PDAR Pinedale Array 127.09 295 PKP PKPdf 12 57 24.8 -3.5
PDAR PP PP 12 59 22.8 -4.9
CTU Camp Tracy 127.13 292 *e*PKPdf PKPdf 12 57 26.3 -2.1
CTU *e* 12 59 24.3
TCUT Toone Canyon 127.19 292 *e*PKPdf PKPdf 12 57 26.4 -2.1
DGMT Dagmar 127.45 303 *e*PKPdf PKPdf 12 57 25.8 -3.0
DGMT *e* 12 57 33.0
DGMT *e*PP PP 12 59 28.5 -1.6
DUG Dugway 127.47 290 *e*PKPdf PKPdf 12 57 26.9 -2.3
DUG *e*PP PP 12 59 27.6 -2.9
LAO LASA Array 127.52 301 *e*PKPdf PKPdf 12 57 25.1 -3.9
HWUT Hardware Ranch 127.58 293 *e*PKPdf PKPdf 12 57 26.6 -2.8
AHID Auburn Hatcher 128.00 294 PFAKE 12 57 40.0 +10
AHID LR LR
comp=Z,594nm,20.0s,MS5.3
LOHW Long Hollow 128.21 295 *e*PKPdf PKPdf 12 57 27.2 -3.3
LOHW *e*PP PP 12 59 32.4 -3.2
SNOW Snow King Moun 128.21 295 *e*PKPdf PKPdf 12 57 28.1 -2.4
SNOW PP PP 12 59 33.6 -2.0
HVU Hansel Valley 128.41 292 *e*PKPdf PKPdf 12 57 28.4 -2.5
HVU *e*PP PP 12 59 32.9 -4.1
HVU Hansel Valley 128.41 292 PKIKP PKPdf 12 57 29.1 -1.8
RRI2 Red Ridge 128.47 294 *e*PKPdf PKPdf 12 57 28.6 -2.4
YFT Old Faithful 128.84 296 *e*PKPdf PKPdf 12 57 29.8 -1.9
YFT *e*PP PP 12 59 36.8 -3.1
PTRM Twissleman Ran 129.27 281 *e*PKPdf PKPdf 12 57 32.1 -0.7
ELK Elko 129.28 290 PKP PKPdf 12 57 30.9 -1.7
comp=Z,27nm,0.9s,baz=278,slow=3.4,SNR=5.1
ELK Elko 129.28 290 *e*PKIKP PKPdf 12 57 30.7 -1.9
ELK *e* 12 57 37.6
MTUM Tungsten Hills 129.28 284 *e*PKPdf PKPdf 12 57 29.8 -2.9
QLMT Earthquake Lak 129.40 296 *e*PKPdf PKPdf 12 57 30.8 -2.0
NVS Novosibirsk 129.56 49‖ *i*PKIKP PKPdf 12 57 29.1 -3.6
NVS pmax pmax
comp=Z,41nm,2.1s
NVS pmax pmax
comp=N,6.0nm,1.3s
ZAL Zalesovo 129.84 50 PKP PKPdf 12 57 28.9 -4.3
comp=N,2.6nm,0.3s,baz=228,slow=3.8,SNR=12
BOZ Bozeman (W) 129.98 297 *e*PKPdf PKPdf 12 57 31.4 -2.4
BOZ *e*PP PP 12 59 43.0 -3.9
GTA Gaotai 130.09 73 PKP PKPdf 12 57 29.8 -4.4
GTA XPKP 12 57 35.2
GTA PP PP 12 59 47.8 -0.1
GTA PPP 13 01 03.9
GTA SKKS 13 06 35.4
GTA SS SS 13 17 12.3 +1.9
GTA PP PP
comp=Z,183nm,8.0s
GTA LR LR
comp=N,414nm,18.6s,MS5.2
GTA LR LR
comp=E,332nm,21.3s,MS5.2
GTA LR LR
comp=Z,518nm,17.1s,MS5.3
MCMT McKenzie Canyo 130.23 295 *e*PKPdf PKPdf 12 57 33.1 -1.3
LRV Little Rabbit 130.26 281 *e*PKPdf PKPdf 12 57 31.1 -3.5
LRV *e* 12 57 40.1
BMN Battle Mountai 130.31 288 *e*PKPdf PKPdf 12 57 31.7 -2.9
BMN Battle Mountai 130.31 288 PKIKP PKPdf 12 57 33.2 -1.4
HLID Hailey 130.43 293 *e*PKPdf PKPdf 12 57 32.5 -2.3
HLID PP PP 12 59 44.9 -5.2
ENH Enshi 130.51 89 PFAKE 12 57 40.0 +4.7
ENH LR LR
comp=Z,725nm,19.0s,MS5.4
LZH Lanzhou 130.61 79 PKP PKPdf 12 57 31.2 -4.1
LZH XPKP 12 57 35.8
LZH *e*PP PP 12 59 50.5 -1.0
LZH PKS PKS 13 01 05.1 -2.4
LZH SKKS 13 06 40.6
LZH SS SS 13 17 15.2 -1.4
LZH PP PP
comp=Z,417nm,9.2s
LZH LR LR
comp=E,974nm,18.1s
LZH LR LR
comp=Z,1µm,20.0s,MS5.6
LZH Lanzhou 130.61 79 PKP PKPdf 12 57 31.2 -4.1
LZH pPKP 12 57 34.5
LZH sPKP 12 57 35.8
LZH *e*PP PP 12 59 50.5 -1.0
LZH PKS PKS 13 01 05.1 -2.4
LZH SKKS 13 06 40.6
LZH SS SS 13 17 15.2 -1.4
LZH LR LR
comp=Z,1µm,20.0s,MS5.6
LZH Lanzhou 130.61 79 PKIKP PKPdf 12 57 31.2 -4.1
LZH 12 57 34.5
LZH 12 57 35.8
LZH *e* 12 59 50.5
LZH SS SS 13 17 15.2 -1.4
LZH MLR MLR
comp=Z,1µm,20.0s,MS5.6
SAO San Andreas Ge 130.74 282 *e*PKPdf PKPdf 12 57 34.0 -1.5
CMB Columbia Colle 130.84 284 PKPdf PKPdf 12 57 32.8 -2.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMB	**Columbia Colle**	**130.84**	**284**	PKIKP	PKPdf	12 57 34.7	-1.0
CHMT	**Chamberlain Mo**	**131.62**	**297**	*e*PKPdf	PKPdf	12 57 34.4	-2.5
CHMT				*e*PP	PP	12 59 53.1	-4.7
BEKR	**Beckwourth**	**131.92**	**286**	*e*PKPdf	PKPdf	12 57 35.0	-2.7
MSO	**Missoula**	**131.97**	**297**	*e*PKPdf	PKPdf	12 57 34.7	-2.9
MSO				*e*PP	PP	12 59 56.3	-3.5
OHCM	**Honcut**	**132.31**	**284**	*e*PKPdf	PKPdf	12 57 35.7	-2.7
OHCM				*e*PP	PP	12 59 57.6	-4.4
WVOR	**Wild Horse Val**	**132.33**	**289**	*e*PKPdf	PKPdf	12 57 35.1	-3.3
WVOR				*e*		13 01 04.2	
XAN	**Xi'an**	**132.58**	**85**	PKP	PKPdf	12 57 36.0	-3.1
MOD	**Modoc**	**133.05**	**288**	*e*PKPdf	PKPdf	12 57 37.6	-2.1
WDC	**Whiskeytown Da**	**133.69**	**285**	*e*PKPdf	PKPdf	12 57 37.6	-3.3
WDC	**Whiskeytown Da**	**133.69**	**285**	PKIKP	PKPdf	12 57 38.9	-2.0
KCPM	**Cahto Peak**	**133.83**	**283**	*e*PKPdf	PKPdf	12 57 38.5	-2.7
YBH	**Yreka Blue Hor**	**134.45**	**286**	PKP	PKPdf	12 57 38.4	-3.9
	comp=Z,3.6nm,0.7s,baz=88,slow=3.0,SNR=10						
YBH				PP	PP	13 00 09.0	-6.9
	comp=Z,4.4nm,1.1s,baz=125,slow=2.4,SNR=2.7						
YBH	**Yreka Blue Hor**	**134.45**	**286**	*e*PKPdf	PKPdf	12 57 39.0	-3.3
YBH				*e*PP	PP	13 00 08.6	-7.3
YBH	**Yreka Blue Hor**	**134.45**	**286**	PKIKP	PKPdf	12 57 39.2	-3.1
NEW	**Newport**	**134.56**	**297**	PKP	PKPdf	12 57 38.6	-3.7
	comp=Z,2.8nm,0.9s,baz=123,slow=3.5,SNR=6.3						
NEW				PP	PP	13 00 12.8	-3.5
	comp=Z,6.7nm,1.1s,baz=127,slow=3.2,SNR=6.6						
NEW	**Newport**	**134.56**	**297**	*e*PKPdf	PKPdf	12 57 38.6	-3.7
NEW				*e*PP	PP	13 00 11.0	-5.3
NEW	**Newport**	**134.56**	**297**	PKIKP	PKPdf	12 57 38.8	-3.5
KHMM	**Horse Mountain**	**134.60**	**285**	*e*P	PKPdf	12 57 40.9	-1.7
EDM	**Edmonton**	**134.88**	**305**	*e*PKPdf	PKPdf	12 57 39.8	-3.0
EDM				*e*PP	PP	13 00 12.0	-6.1
EDM	**Edmonton**	**134.88**	**305**	PKIKP	PKPdf	12 57 40.5	-2.3
HAWA	**Hanford**	**135.02**	**293**	PFAKE		12 57 50.0	+6.7
HAWA				LR	LR		
	comp=Z,46nm,21.0s,MS4.2						
HUMO	**Hull Mountain**	**135.08**	**287**	*e*PKPdf	PKPdf	12 57 35.7	-7.8
HUMO				LR	LR		
	comp=Z,380nm,19.0s,MS5.1						
COR	**Corvallis**	**136.35**	**289**	*e*PKPdf	PKPdf	12 57 44.1	-1.6
COR	**Corvallis**	**136.35**	**289**	PKIKP	PKPdf	12 57 44.3	-1.4
NJ2	**Nanjing**	**137.73**	**95**	*e*PKP	PKPdf	12 57 45.1	-3.5
NJ2				PP	PP	13 00 35.0	-1.5
NJ2				PKS	PKS	13 01 20.0	-0.5
NJ2				SKS	SKS	13 04 50.0	-8.5
NJ2				PP	PP		
	comp=Z,600nm,9.0s						
NJ2				LR	LR		
	comp=Z,4μm,26.4s,MS6.0						
ZAK	**Zakamensk**	**137.99**	**62**	*e*PKIKP	PKPdf	12 57 41.6	-7.0
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**138.30**	**79**	*e*PKP	PKPdf	12 57 50.4	+1.0
HHC				PKS	PKS	13 01 25.0	+3.7
HHC				SKS	SKS	13 04 54.3	-4.8
HHC				PP	PP		
	comp=Z,299nm,7.1s						
HHC				LR	LR		
	comp=N,421nm,16.7s,MS5.4						
HHC				LR	LR		
	comp=E,411nm,18.2s,MS5.4						
HHC				LR	LR		
	comp=Z,593nm,19.0s,MS5.3						
SSE	**Sheshan**	**138.60**	**98**	PKP	PKPdf	12 57 49.0	-1.3
SSE				SS	SS	13 18 56.7	+3.8
SSE				LR	LR		
	comp=N,158nm,15.8s,MS5.0						
SSE				LR	LR		
	comp=E,132nm,15.8s,MS5.0						
SSE				LR	LR		
	comp=Z,390nm,21.6s						
SSE	**Sheshan**	**138.60**	**98**	PKP	PKPdf	12 57 49.9	-0.4
SSE				SS	SS	13 18 56.7	+3.8
SSE				LR	LR		
	comp=Z,390nm,21.6s,MS5.1						
SONM	**Songino Array**	**138.65**	**67**	PKhKP		12 57 38.8	
	comp=Z,0.9nm,0.8s,baz=225,slow=3.0,SNR=5.3						
SONM				PKP	PKPdf	12 57 46.7	-3.1
	comp=Z,5.4nm,0.9s,baz=239,slow=1.2,SNR=14						
SONM				PP	PP	13 00 37.9	-4.0
	comp=Z,1.2nm,1.0s,baz=259,slow=7.6,SNR=3.6						
SONM	**Songino Array**	**138.65**	**67**	PKIKP	PKPdf	12 57 46.7	-3.2
SONM						13 00 37.9	
ULN	**Ulaanbaatar**	**139.05**	**67**	*e*PKPdf	PKPdf	12 57 42.5	-8.1
ULN	**Ulaanbaatar**	**139.05**	**67**	PKIKP	PKPdf	12 57 49.6	-1.0
YKA	**Yellowknife Ar**	**139.13**	**317**	PKhKP		12 57 35.9	
	comp=Z,2.2nm,0.8s,baz=104,slow=3.2,SNR=9.1						
YKA				PKP	PKPdf	12 57 45.0	-5.3
	comp=Z,14nm,1.0s,baz=102,slow=3.3,SNR=8.4						
YKA				PP	PP	13 00 38.6	-5.7
	comp=Z,0.9nm,0.8s,baz=113,slow=5.4,SNR=4.2						
YKA	**Yellowknife Ar**	**139.13**	**317**	PKP	PKPdf	12 57 45.0	-5.3
YKA				PP	PP	13 00 38.6	-5.7
YKW3	**Yellowknife Ar**	**139.15**	**317**	*e*PKPdf	PKPdf	12 57 43.4	-7.0
DL2	**Dalian**	**143.69**	**88**	PKP	PKPdf	12 57 54.1	-4.7
CIT	**Chita**	**144.57**	**64**	*e*PKIKP	PKPdf	12 57 56.0	-4.0
CIT				pmax	pmax		
	comp=Z,210nm,2.4s						
DLBC	**Dease Lake**	**145.47**	**307**	PKPbc	PKPbc	12 57 59.2	+0.3
	comp=Z,51nm,1.0s,baz=117,slow=2.4,SNR=76						
DLBC				PP	PP	13 01 21.8	-0.6
	comp=Z,5.6nm,1.0s,baz=72,slow=3.2,SNR=4.2						
DLBC	**Dease Lake**	**145.47**	**307**	*e*PKPdf	PKPdf	12 57 58.8	-2.6
INCN	**Inchon**	**146.11**	**94**	*e*PKPdf	PKPdf	12 58 01.1	-2.0
BOD	**Bodaibo**	**146.40**	**54**	*e*PKIKP	PKPdf	12 57 58.2	-4.8
CRAG	**Craig**	**146.45**	**301**	*e*P	PKPbc	12 58 02.6	+1.2
CRAG				LR	LR		
	comp=Z,500nm,21.0s,MS5.3						
SNY	**Shenyang**	**146.50**	**85**	⇑PKP	PKPdf	12 58 02.2	-1.5
KS15	**Wonju Array Si**	**146.89**	**95**	*e*PKPbc	PKPbc	12 58 03.1	+0.2
HIA	**Hailar**	**147.31**	**71**	*e*P	PKPdf	12 58 01.4	-3.3
HIA				LR	LR		
	comp=Z,578nm,20.0s,MS5.4						
INK	**Inuvik**	**147.59**	**325**	PKPbc	PKPdf	12 58 03.5	-1.2
	comp=Z,44nm,0.9s,baz=69,slow=3.3,SNR=82						
INK	**Inuvik**	**147.59**	**325**	*e*PKPdf	PKPdf	12 58 01.0	-3.6
INK				*e*PKPbc	PKPdf	12 58 04.4	-0.2
INK	**Inuvik**	**147.59**	**325**	PKIKP	PKPdf	12 58 01.4	-3.2
SIT	**Sitka**	**147.99**	**304**	*e*PKPdf	PKPdf	12 58 01.1	-4.5
SIT				*e*PKPbc	PKPdf	12 58 06.7	+1.2
SIT	**Sitka**	**147.99**	**304**	PKP2	PKPab	12 58 07.1	-3.3
CN2	**Changchun**	**148.66**	**83**	*e*PKP	PKPdf	12 58 07.6	+0.5
CN2				PP	PP	13 01 45.2	+3.9
CN2				PP	PP		
	comp=Z,370nm,8.0s						
CN2				LR	LR		
	comp=N,750nm,17.0s,MS5.6						
CN2				LR	LR		
	comp=E,430nm,17.0s,MS5.6						
CN2				LR	LR		
	comp=Z,780nm,19.0s,MS5.5						
DAWY	**Dawson**	**150.37**	**317**	*e*PKPdf	PKPdf	12 58 06.4	-2.8
DAWY				*e*PKPbc	PKPdf	12 58 11.2	+2.1
DAWY				*e*PKPab	PKPab	12 58 18.6	-1.4
TIXI	**Tiksi**	**151.09**	**26**	PFAKE		12 58 20.0	+10
TIXI				LR	LR		
	comp=Z,369nm,21.0s,MS5.2						
TIXI	**Tiksi**	**151.09**	**26**	*i* PKIKP	PKPdf	12 58 11.5	+1.5
TIXI				*e*SS	SS	13 21 08.9	-5.1
TIXI				*e*SSS	SSS	13 26 55.5	-3.0
TIXI				pmax	pmax		
	comp=Z,20nm,0.9s						
JHJ	**Hachijo jima 2**	**151.53**	**114**	PKPbc	PKPdf	12 58 16.5	+4.6
	comp=Z,128nm,0.7s,baz=251,slow=23,SNR=3.6						
MDJ	**Mudanjiang**	**151.69**	**85**	PKP	PKPdf	12 58 09.2	-2.5
MDJ				PKS	PKS	13 01 43.7	+1.6
MDJ				PP	PP	13 01 56.0	-2.4
MDJ				SKS	SKS	13 05 17.0	-1.5
MDJ				SS	SS	13 21 23.2	+1.8
MDJ				PP	PP		
	comp=Z,268nm,5.2s						
MDJ				LR	LR		
	comp=N,131nm,20.6s,MS5.0						
MDJ				LR	LR		
	comp=E,255nm,23.5s,MS5.0						
MDJ				LR	LR		
	comp=Z,369nm,22.0s,MS5.2						
MDJ	**Mudanjiang**	**151.69**	**85**	PFAKE		12 58 20.0	+8.3
MDJ				LR	LR		
	comp=Z,567nm,21.0s,MS5.3						
CLNS	**Chul'man**	**152.10**	**58**	*e*PKIKP	PKPdf	12 58 07.2	-4.7
CLNS				pmax	pmax		
	comp=Z,38nm,0.8s						
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
MENT	**Mentasta**	**152.41**	**315**	*e*P	PKPdf	12 58 14.4	+2.2
MAJO	**Matsushiro**	**152.89**	**107**	*e*PKPdf	PKPdf	12 58 09.9	-3.8
MAJO				*e*PKPbc	PKPdf	12 58 18.3	+4.6
MAJO				*e*PKPab	PKPab	12 58 25.3	-6.2
ILAR	**Eielson Array**	**153.46**	**320**	PKP	PKPdf	12 58 09.8	-3.9
	comp=E,2.1nm,0.9s,baz=287,slow=1.2,SNR=20						
ILAR				PKPbc	PKPdf	12 58 18.9	+5.3
	comp=E,3.5nm,0.8s,baz=118,slow=2.3,SNR=20						
ILAR				PKPab	PKPab	12 58 32.0	-0.9
	comp=E,20nm,0.9s,baz=140,slow=1.9,SNR=42						
ILAR				PP	PP	13 02 04.2	-3.9
	comp=E,1.8nm,1.0s,baz=89,slow=2.7,SNR=5.2						
ILAR	**Eielson Array**	**153.46**	**320**	PKIKP	PKPdf	12 58 09.8	-3.8
ILAR						12 58 32.1	
ILAR						13 02 04.2	
DIV	**Divide**	**153.57**	**312**	*e*PKPdf	PKPdf	12 58 11.1	-2.7
DIV				*e*PKPbc	PKPdf	12 58 19.1	+5.2
DIV				*e*PKPab	PKPab	12 58 32.5	-1.0
EYAK	**Cordova Ski Ar**	**153.60**	**310**	*e*PKPbc	PKPdf	12 58 19.9	+5.9
EYAK				*e*PKPab	PKPab	12 58 32.9	-0.8
YAK	**Yakutsk**	**154.38**	**46**	*e*PKPdf	PKPdf	12 58 09.8	-5.1
YAK				*e*PKPbc	PKPdf	12 58 19.9	+5.0
YAK				*e*PKPab	PKPab	12 58 32.8	-4.2
YAK	**Yakutsk**	**154.38**	**46**	*e*PKIKP	PKPdf	12 58 09.9	-5.0
YAK				*e*		12 58 32.8	
MCK	**McKinley**	**154.58**	**318**	*e*PKPdf	PKPdf	12 58 10.3	-4.9
MCK				*e*PKPbc	PKPdf	12 58 22.2	+7.0
MCK				*e*PKPab	PKPab	12 58 34.2	-3.5
MCK	**McKinley**	**154.58**	**318**	PKIKP	PKPdf	12 58 12.1	-3.0
SML	**Sawmill**	**154.70**	**314**	*e*PKPdf	PKPdf	12 58 13.2	-2.1
SML				*e*PKPab	PKPab	12 58 37.7	-0.6
SML	**Sawmill**	**154.70**	**314**	PKIKP	PKPdf	12 58 13.4	-2.0
KLR	**Kul'dur**	**154.74**	**76**	*e*PKIKP	PKPdf	12 58 10.3	-5.5
PMR	**Palmer**	**155.11**	**313**	*e*P	PKPdf	12 58 12.3	-3.6
PMR				*e*PKPbc	PKPdf	12 58 20.3	+4.4
PMR				*e*PKPab	PKPab	12 58 29.8	-10
PMR				LR	LR		
	comp=Z,400nm,20.0s,MS5.2						
PMR	**Palmer**	**155.11**	**313**	PKIKP	PKPdf	12 58 20.5	+4.6
IMA	**Indian Mountai**	**155.72**	**325**	*e*PKPdf	PKPdf	12 58 12.8	-3.8
IMA				*e*PKPab	PKPab	12 58 42.3	-0.2
IMA	**Indian Mountai**	**155.72**	**325**	PKIKP	PKPdf	12 58 13.0	-3.6
SPU	**Mount Spurr**	**156.57**	**313**	*e*PKPdf	PKPdf	12 58 13.1	-4.7
SPU				*e*PKPab	PKPab	12 58 44.8	-1.5
RSO	**Redoubt South**	**157.05**	**311**	*e*PKPdf	PKPdf	12 58 14.5	-4.0
RSO				*e*PKPab	PKPab	12 58 47.4	-1.0
KDAK	**Kodiak Island**	**157.33**	**304**	PFAKE		12 58 30.0	+11
KDAK				LR	LR		
	comp=Z,169nm,19.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**161.09**	**88**	*e*PKIKP	PKPdf	12 58 22.0	-1.6
YSS				*e*		12 59 03.0	
YSS				*e*		13 02 46.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.1s						
UNV	**Unalaska Valle**	**165.55**	**295**	PFAKE		12 58 40.0	+12
UNV				LR	LR		
	comp=Z,2μm,20.0s						

*NIED **03** 12:52:00,24.00N×122.00E,h5^{km},Mw4.3 Best double couple: Mo2.88×10^{15} NP1:φs52°,δ71°,λ-87°. NP2:φs223°, δ19°,λ-98°.*
*JMA **03** 12:52:14.1±0.6,23.95N×121.96E,M3.5*
*BJI **03** 12:52:15.3,24.90N×121.93E,h17^{km},mb4.3,ML4.2, Ms4.1*
ISC 03 12:52:16.5±0.7,**24.75N**±0.08×**121.88E**±0.05,**h33**^{km}**,n7,** σ**0**§**81**/12,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.07**	**106**	P	**P**	**12 52 35.3**	**+0.1**
YOJ				S	**S**	**12 52 50.2**	**+1.1**
IRIF	**Iriomote-Funau**	**1.74**	**104**	P	**P**	**12 52 44.4**	**-0.3**
IRIF				*e*S	**S**	**12 53 07.0**	**+1.1**
JKRS	**Kuro-shima**	**2.01**	**104**	*e*S	**S**	**12 53 12.2**	**-0.6**
JIJ	**Ishigaki jima**	**2.10**	**100**	P	**P**	**12 52 50.2**	**+0.3**
JIJ				*e*S	**S**	**12 53 13.1**	**-2.0**
QZH	**Quanzhou**	**2.99**	**274**	P	**P**	**12 53 03.1**	**+0.5**
QZH				S	**S**	**12 53 37.3**	**-0.4**
QZH				Smax			
	comp=N,1μm,0.8s						
QZH				Smax			
	comp=E,580nm,1.0s						
NJ2	**Nanjing**	**7.74**	**341**	*e*P	**P**	**12 54 09.1**	**-0.5**
NJ2				AP		12 54 12.2	
NJ2				XP		12 54 15.9	
NJ2				S	**S**	**12 55 37.4**	**+0.4**
NJ2				XS		12 55 42.5	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				Smax			
	comp=N,190nm,1.0s						
NJ2				Smax			
	comp=E,190nm,0.9s						
NJ2				LR	LR		
	comp=N,2μm,15.7s						
NJ2				LR	LR		
	comp=E,780nm,15.9s						
LSA	**Lhasa**	**27.72**	**287**	P	**P**	**12 58 09.2**	**+5.2**

*NEIC **03** 13:00:02.9±0.4,23.36S×70.22W,mb4.4/11,Error ellipse: s-maj=10.5km s-min=6.8km az=89.0*
NEIC Felt [II] at Antofagasta, Mejillones and Tocopilla.
*IDC **03** 13:00:02.1±0.5,23.28S×70.20W,h36^{km}±3^{km},mb4.2/11, mb1 4.3/13,mb1mx4.2/18,mbtmp4.4/13,ML3.9/1,MS3.7/1, Ms1 3.6/1,ms1mx3.2/21,Error ellipse: s-maj=18.9km s-min=12.7km az=70.0*
*GUC **03** 13:00:03.9±1.0,23.62S×69.99W,h39^{km}±7^{km},ML4.7*
ISC 03 13:00:01.1±0.7,**23.32S**±0.04×**70.10W**±0.06,**h39**^{km}±7^{km}, **h36**^{km}±.6^{km}**:pP-P,n78,**σ**1**§**27**/65,**mb4.4**/19,**MS3.5**/1,**3C-3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.46**	**218**	⇑*i*P	**P**	**13 00 13.4**	**+2.2**
ANCH				*i* S	**S**	**13 00 19.0**	**+0.7**
ANCH				AMP		13 00 19.7	
	comp=E,68μm,0.2s						
LVC	**Limon Verde**	**1.30**	**57**	Pg	**P**	**13 00 28.9**	**+5.7**
	comp=E,2μm,0.3s,baz=242,slow=12						
LVC				Lg		13 00 48.0	
	comp=E,5μm,0.3s,baz=235,slow=11,SNR=18						
LVC	**Limon Verde**	**1.30**	**57**	⇓*i*P	**P**	**13 00 29.0**	**+5.8**
LVC				*i* S	**S**	**13 00 48.1**	**+8.4**
LVC				AMP		13 00 49.2	
	comp=N,33μm,0.5s						
LVC	**Limon Verde**	**1.30**	**57**	*e*P	**P**	**13 00 28.4**	**+5.1**
LVC				*e*S	**S**	**13 00 46.5**	**+6.8**
CPN1	**Cerro Paranal**	**1.33**	**192**	⇓*i*P	**P**	**13 00 23.5**	**0.0**
CPN1				*i* S	**S**	**13 00 38.6**	**-1.7**
CPN1				AMP		13 00 43.3	
	comp=E,21μm,0.3s						
CRCH	**Chaqaral**	**3.05**	**189**	*e*P	**P**	**13 00 45.8**	**-2.3**
CRCH				*i* S	**S**	**13 01 19.3**	**-4.4**
CRCH				AMP		13 01 31.0	
	comp=E,5μm,0.6s						
CPCH	**Copiapo**	**4.03**	**183**	*e*P	**P**	**13 00 59.4**	**-2.6**
CPCH				*i* S	**S**	**13 01 44.8**	**-3.7**
ARE	**Arequipa**	**6.95**	**349**	⇓*i*P	**P**	**13 01 40.9**	**-2.1**
ARE				*e*S	**S**	**13 02 57.0**	**-4.7**
LPAZ	**La Paz**	**7.24**	**15**	Pn	**P**	**13 01 49.7**	**+2.7**
	comp=E,18nm,0.3s,baz=207,slow=7.0,SNR=183						
LPAZ	**La Paz**	**7.24**	**15**	*e*Pn	**P**	**13 01 49.9**	**+2.8**
	comp=E,154nm,0.5s						
CFAA	**Coronel Fontan**	**8.41**	**169**	Pn	**P**	**13 02 00.7**	**-2.7**
	comp=E,0.2nm,0.3s,baz=343,slow=17,SNR=13						
CFAA				Sn	**S**	**13 03 46.2**	**+8.0**
	comp=E,0.5nm,0.3s,baz=168,slow=20,SNR=5.2						
SIV	**San Ignacio**	**11.20**	**51**	Pn	**P**	**13 02 41.2**	**-0.6**
	comp=E,6.9nm,0.3s,baz=257,slow=11,SNR=62						
SIV				Sn	**S**	**13 04 45.6**	**-1.1**
	baz=239,slow=17,SNR=3.8						
CPUP	**Villa Florida**	**11.98**	**107**	Pn	**P**	**13 02 54.5**	**+2.2**
	comp=E,0.3nm,0.3s,baz=275,slow=15,SNR=5.3						
CPUP	**Villa Florida**	**11.98**	**107**	P	**P**	**13 02 54.2**	**+2.0**
	comp=E,6.7nm,0.7s						
SAML	**Samuel**	**15.75**	**26**	*e*P	**P**	**13 03 41.9**	**0.0**
	comp=E,15nm,0.8s						
TRQA	**Tornquist**	**16.25**	**157**	*e*P	**P**	**13 03 50.1**	**+2.0**
	comp=E,15nm,0.8s						
PLCA	**Paso Flores**	**17.36**	**181**	P	**P**	**13 04 03.3**	**+1.2**
	comp=E,0.1nm,0.3s,baz=344,slow=12,SNR=3.7						
BDFB	**Brasilia**	**22.16**	**74**	P	**P**	**13 04 56.0**	**+0.8**
	comp=E,8.0nm,0.6s,mb4.3,baz=264,slow=9.0,SNR=8.0						
BDFB					pP	13 05 05.7	
	comp=E,13nm,0.9s,baz=242,slow=13,SNR=5.3						
BDFB				LR	LR	13 14 58.9	
	comp=E,203nm,20.0s,MS3.5,baz=27,slow=40						
BAO	**Brasilia Array**	**22.18**	**74**	P	**P**	**13 04 55.0**	**-0.5**
SJG	**San Juan**	**41.36**	**6**	P	**P**	**13 07 43.4**	**-1.8**
	comp=E,11nm,0.3s,mb4.9,baz=270,slow=3.0,SNR=12						
SJG	**San Juan**	**41.36**	**6**	*e*P	**P**	**13 07 42.8**	**-2.4**
	comp=E,17nm,0.8s,mb4.7						
VNA3	**Neumayer Olymp**	**58.72**	**161**		**P**	**13 09 57.1**	**+0.1**
VNA3	**Neumayer Olymp**	**58.72**	**161**		**P**	**13 10 07.5**	**+11**
VNA3	**Neumayer Olymp**	**58.72**	**161**		**P**	**13 10 12.9**	**+16**
VNA3	**Neumayer Olymp**	**58.72**	**161**		Px	13 10 18.1	
VNA3	**Neumayer Olymp**	**58.72**	**161**		Px	13 10 24.1	
VNA3	**Neumayer Olymp**	**58.72**	**161**		PcP	13 10 47.2	+0.9
VNA1	**Neumayer--Stat**	**58.95**	**160**		**P**	**13 09 59.0**	**+0.4**
VNA1	**Neumayer--Stat**	**58.95**	**160**		**P**	**13 10 09.3**	**+11**
VNA2	**Neumayer--Watz**	**59.31**	**160**		**P**	**13 10 01.2**	**+0.1**
VNA2	**Neumayer--Watz**	**59.31**	**160**		**P**	**13 10 11.7**	**+11**
VNA2	**Neumayer--Watz**	**59.31**	**160**		**P**	**13 10 16.7**	**+16**
VNA2	**Neumayer--Watz**	**59.31**	**160**		Px	13 10 25.9	
VNA2	**Neumayer--Watz**	**59.31**	**160**		PcP	13 10 47.3	-1.3
SWET	**Sewanee**	**60.12**	**345**	*e*P	**P**	**13 10 04.2**	**-2.9**
SNAA	**Sanae**	**60.93**	**160**		**P**	**13 10 11.3**	**-0.9**
SNAA	**Sanae**	**60.93**	**160**		**P**	**13 10 21.9**	**+10**
SNAA	**Sanae**	**60.93**	**160**		PcP	13 10 49.6	-5.5
SNAA	**Sanae**	**60.93**	**160**	P	**P**	**13 10 11.6**	**-0.6**
	comp=E,0.9nm,0.5s,mb4.1,baz=280,slow=8.4,SNR=18						
SNAA				pP	pP	13 10 22.3	-1.3
	comp=E,2.5nm,0.6s,baz=284,slow=7.0,SNR=16						
SNAA	**Sanae**	**60.93**	**160**	P	**P**	**13 10 11.3**	**-0.9**
TXAR	**Lajitas Array**	**61.51**	**327**	P	**P**	**13 10 16.0**	**-0.6**
	comp=E,1.5nm,0.8s,mb4.2,baz=149,slow=8.1,SNR=13						
TXAR				sP	sP	13 10 30.6	-2.0
	comp=E,1.1nm,0.7s,baz=150,slow=8.2,SNR=8.0						
FVM	**French Village**	**63.90**	**342**	*e*P	**P**	**13 10 30.5**	**-1.9**
	comp=E,14nm,0.6s,mb5.2						
SDCO	**Great Sand Dun**	**69.26**	**331**	*e*P	**P**	**13 11 06.8**	**+0.5**
	comp=E,7.2nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**70.31**	**73**	P	**P**	**13 11 13.3**	**+0.3**
	comp=E,5.2nm,0.8s,mb4.5,baz=244,slow=7.1,SNR=5.5						
DBIC				pP	pP	13 11 24.9	+0.1
	comp=E,8.4nm,0.7s,baz=240,slow=6.9,SNR=4.6						
DBIC	**Dimbokro**	**70.31**	**73**	P	**P**	**13 11 13.3**	**+0.3**
DBIC				pP	pP	13 11 24.9	+0.1
SRU	**San Rafael**	**72.71**	**328**	*e*P	**P**	**13 11 27.6**	**+0.5**
MSU	**Marysvale**	**73.07**	**327**	*e*P	**P**	**13 11 30.1**	**+0.9**
ARUT	**Antelope Range**	**73.17**	**325**	*e*P	**P**	**13 11 30.6**	**+0.8**
DUG	**Dugway**	**74.67**	**327**	*e*P	**P**	**13 11 39.4**	**+0.9**
	comp=E,3.1nm,0.9s,mb4.2						
VNDA	**Vanda**	**74.87**	**190**	pP	pP	13 11 50.5	-0.1
	comp=E,2.0nm,0.8s,baz=120,slow=6.3,SNR=8.5						
PDAR	**Pinedale Array**	**75.15**	**331**	P	**P**	**13 11 40.4**	**-0.7**
	comp=E,0.7nm,0.4s,mb3.9,baz=125,slow=7.4,SNR=15						
HWUT	**Hardware Ranch**	**75.15**	**329**	*e*P	**P**	**13 11 41.3**	**+0.1**
	comp=E,3.1nm,0.6s,mb4.4						
HWUT				*e*	pP	13 11 52.5	-0.4
SYO	**Syowa Base**	**75.19**	**159**	⇑P	**P**	**13 11 39.6**	**-1.3**
SYO	**Syowa Base**	**75.19**	**159**	⇑PcP	PcP	13 11 50.3	-4.3
LOHW	**Long Hollow**	**76.28**	**331**	*e*P	**P**	**13 11 48.0**	**+0.5**
	comp=E,1.8nm,0.6s,mb4.2						
LOHW				*e*	pP	13 11 58.6	-0.7
RRI2	**Red Ridge**	**76.40**	**330**	*e*P	**P**	**13 11 48.8**	**+0.5**
	comp=E,4.2nm,0.7s,mb4.5						
ULM	**Lac du Bonnet**	**76.72**	**343**	P	**P**	**13 11 48.5**	**-1.4**
	comp=E,3.2nm,0.5s,mb4.5,baz=166,slow=4.7,SNR=12						
ULM				sP	sP	13 12 03.8	-2.1
	comp=E,1.3nm,0.4s,baz=160,slow=7.0,SNR=2.0						
MCMT	**McKenzie Canyo**	**78.24**	**330**	*e*P	**P**	**13 11 59.7**	**+1.2**
MOD	**Modoc**	**79.78**	**324**	*e*P	**P**	**13 12 07.7**	**+0.7**
	comp=E,2.6nm,0.8s,mb4.2						
MOD				*e*	pP	13 12 19.0	+0.3
BMO	**Blue Mountains**	**80.36**	**328**	*e*P	**P**	**13 12 10.6**	**+0.6**
	comp=E,2.1nm,0.6s,mb4.2						
BMO				*e*	pP	13 12 21.7	-0.1
YBH	**Yreka Blue Hor**	**80.98**	**323**	P	**P**	**13 12 12.8**	**-0.5**
	comp=E,1.7nm,0.8s,mb4.0,baz=90,slow=8.1,SNR=6.9						
MAW	**Mawson**	**82.91**	**164**	P	**P**	**13 12 23.3**	**+0.6**
	comp=E,1.9nm,0.5s,mb4.4,baz=198,slow=6.2,SNR=15						
MAW				pP	pP	13 12 34.3	-0.2
	comp=E,7.5nm,0.7s,baz=216,slow=7.1,SNR=15						
BOSA	**Boshof**	**83.56**	**118**	P	**P**	**13 12 27.6**	**+0.7**
	comp=E,2.1nm,0.5s,mb4.5,baz=263,slow=4.5,SNR=14						
YKA	**Yellowknife Ar**	**92.53**	**341**	P	**P**	**13 13 08.8**	**-0.3**
	comp=E,1.6nm,0.7s,mb4.6,baz=140,slow=4.3,SNR=5.9						
WRA	**Warramunga Arr**	**130.83**	**211**	PKP	PKPdf	13 19 10.2	+0.9
	comp=E,1.1nm,0.7s,baz=154,slow=1.7,SNR=27						
WRA				pPKP		13 19 21.6	
	comp=E,2.2nm,0.8s,baz=152,slow=1.7,SNR=10						
ZAL	**Zalesovo**	**144.06**	**25**	PKP	PKPdf	13 19 33.0	+0.8
	comp=E,3.1nm,0.7s,baz=211,slow=3.0,SNR=14						
EKS2	**Erkin-Say**	**144.44**	**48**	P	PKPbc	13 19 35.3	+2.4
	SNR=7.8						
AML	**Almayashu**	**144.57**	**49**	P	PKPbc	13 19 36.0	+2.7
	SNR=9.3						
USP	**Ospenovka**	**144.71**	**47**	P	PKPbc	13 19 35.3	+1.7
	SNR=7.0						
AAK	**Ala-Archa**	**144.94**	**48**	P	PKPdf	13 19 37.1	+2.9
	SNR=11						
AAK	**Ala-Archa**	**144.94**	**48**	*e*PKPbc	PKPbc	13 19 35.8	+1.5
CHMS	**Chumysh**	**144.98**	**47**	P	PKPdf	13 19 36.4	+2.2
	SNR=6.3						
UCH	**Uchtor**	**145.11**	**49**	P	PKPdf	13 19 38.0	+3.5
	SNR=27						
TKM2	**Tokmak 2**	**145.58**	**47**	P	PKPdf	13 19 38.7	+3.5
	SNR=6.1						
KZA	**Kyzart**	**145.67**	**49**	P	PKPdf	13 19 39.8	+4.3
	SNR=11						
ULHL	**Ulahol**	**146.29**	**48**	P	PKPdf	13 19 40.2	+3.7
	SNR=8.8						
MKAR	**Makanchi Array**	**147.75**	**37**	PKPbc	PKPdf	13 19 41.1	+2.4
	comp=E,7.5nm,0.8s,baz=315,slow=1.7,SNR=37						
SONM	**Songino Array**	**155.38**	**6**	PKPab	PKPab	13 20 17.5	-0.4
	comp=E,1.0nm,0.8s,baz=344,slow=2.8,SNR=5.2						

MDD 03 13:08:06.1±2.3,**37.02N**×**10.89W,h19**^{km}±85^{km}**,mb3.7**/8, **Error ellipse: s-maj=97.7km s-min=15.3km az=55.0, PRXIMO,Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.81**	**73**	*e*Pn	Pn	13 08 35.3	-1.5
PTEO				*e*Sn	Sn	13 08 56.7	-2.6
	4.6nm,0.2s						
PTEO	**Sao Teotonio**	**1.81**	**73**	Pn	Pn	13 08 35.3	-1.5
PTEO				Sn	Sn	13 08 56.7	-2.6
	2.3nm,0.2s						
PLOU	**Loures**	**2.31**	**36**	*e*Pn	Pn	13 08 42.4	-1.6
PLOU				*e*Sn	Sn	13 09 10.0	-2.2
	9.9nm,0.1s						
PLOU	**Loures**	**2.31**	**36**	Pn	Pn	13 08 42.4	-1.6
PLOU				Sn	Sn	13 09 10.0	-2.2
	4.9nm,0.1s						
PBEJ	**Beja**	**2.61**	**66**	*e*Sn	Sn	13 09 15.7	-3.9
	2.1nm,0.1s						
PBEJ	**Beja**	**2.61**	**66**	Sn	Sn	13 09 15.7	-3.9
	1.1nm,0.1s						
EGRO	**El Granado**	**2.77**	**78**	P	Pn	13 08 48.9	-1.6
	0.8nm,0.1s,SNR=12						
EGRO				S	Sn	13 09 19.5	-4.2
	0.9nm,0.3s,SNR=6.0						
EMIN	**Mina Concepcio**	**3.44**	**76**	P	Pn	13 08 57.7	-2.4
	0.8nm,0.1s,SNR=15						
EMIN				S	Sn	13 09 35.5	-5.3
	0.8nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.52**	**59**	P	Pn	13 08 58.9	-2.4
	0.8nm,0.2s,SNR=7.5						
EBAD				S	Sn	13 09 37.6	-5.2
	3.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.89**	**43**	*e*Sn	Sn	13 09 47.5	-4.5
	1.7nm,0.1s						
PCBR	**Castelo Branco**	**3.89**	**43**	Sn	Sn	13 09 47.5	-4.5
	0.9nm,0.1s						
ESPR	**Espera**	**4.04**	**91**	P	Pn	13 09 06.1	-2.4
	1.7nm,0.1s,SNR=7.2						
ESPR				S	Sn	13 09 51.2	-4.7
	4.0nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**4.47**	**75**	P	Pn	13 09 12.0	-2.8
	0.7nm,0.1s,SNR=14						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ECAB				S	Sn	13 10 00.0	-7.0
	1.5nm,0.4s,SNR=7.9						
EADA	Adamuz	5.14	75	P	Pn	13 09 20.9	-3.3
	1.0nm,0.2s,SNR=7.7						
EADA				S	Sn	13 10 16.6	-7.2
	0.8nm,0.1s,SNR=7.9						
ELOB	Lobios	5.31	23	P	Pn	13 09 22.6	-4.0
	0.7nm,0.1s,SNR=4.8						
ELOB				S	Sn	13 10 19.8	-8.2
	1.8nm,0.1s,SNR=7.9						
ECAL	Calabor	5.87	32	P	Pn	13 09 31.5	-2.9
	0.7nm,0.3s,SNR=7.9						
ECAL				S	Sn	13 10 33.5	-8.5
	3.2nm,0.4s,SNR=7.9						

MAN 03 14:12:14.3, 12.33N×125.93E, h6km, mb4.1, ML2.9, MS2.6, Samar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.87	213	eP	Pb	14 12 30.9	-0.4
BESP				eS	Sb	14 12 42.7	-0.3
CNP	Catarman	1.25	278	eP	Pb	14 12 37.5	-0.3
CNP				eS	Sb	14 12 55.5	+1.6
PLP	Palo	1.48	219	eP	Pn	14 12 43.0	+1.4
PLP				eS	Sb	14 12 57.7	-3.1
PVCP	Virac	2.14	306	eP	Pn	14 12 50.7	-0.2
PVCP				eS	Sn	14 13 23.0	+4.9
MSLP	Maasin	2.42	206	eP	Pn	14 12 55.0	0.0
MSLP				eS	Sn	14 13 23.2	-2.0

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*IDC **03** 14:25:17.9±6.8, 42.55N×145.70E, h84km±40km, mb3.2/6, mb1 3.5/7, mb1mx3.4/20, mbtmp3.6/7, Error ellipse: s-maj=104.5km s-min=24.8km az=176.0*
*JMA **03** 14:25:22.9±0.1, 43.15N×145.44E, h85km±1km, M3.6*
ISC 03 14:25:21.4±0.7, **43.15N**±0.07×**145.45E**±0.07, **h95**km±4km, **n16**, σ0^{s}**79**/26, **mb3.3**/6, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.30	45	P	P	14 25 35.8	+0.4
NEM2				eS	S	14 25 45.2	-0.8
JAK	Akkeshi	0.57	254	P	P	14 25 37.6	+0.2
JAK				eS	S	14 25 48.7	-0.5
JNK	Nakash	0.69	310	P	P	14 25 38.4	0.0
JNK				eS	S	14 25 49.9	-1.1
JRA	Rausu	0.82	343	P	P	14 25 40.5	+0.8
JRA				eS	S	14 25 53.5	+0.2
JOB	Onbets	1.21	259	P	P	14 25 44.8	+0.6
JOB				eS	S	14 26 01.0	-0.2
JAR	Ashorobuto	1.23	277	P	P	14 25 45.2	+0.6
JAR				eS	S	14 26 01.4	-0.4
JTKR	Abashiri--Toko	1.39	307	P	P	14 25 47.2	+0.8
JTKR				eS	S	14 26 04.5	-0.4
JCH	Churui	1.62	251	P	P	14 25 49.7	+0.4
JCH				eS	S	14 26 09.7	-0.3
JMP	Maruseppu	1.74	300	P	P	14 25 51.8	+1.0
JMP				eS	S	14 26 13.2	+0.6
ASAJ	Asahikawa	2.28	296	P	P	14 25 59.5	+1.3
	46nm,0.3s,baz=184,slow=4.3,SNR=284						
ASAJ				S	S	14 26 24.2	-1.2
	4.5nm,0.3s,baz=78,slow=9.7,SNR=8.8						
SONM	Songino Array	27.56	293	P	P	14 31 00.9	-0.3
	0.6nm,0.7s,mb3.2,baz=68,slow=8.0,SNR=4.2						
ILAR	Eielson Array	42.70	36	P	P	14 33 10.8	+0.9
	0.3nm,0.6s,mb3.2,baz=267,slow=9.1,SNR=6.2						
MKAR	Makanchi Array	43.76	298	P	P	14 33 19.3	+0.5
	0.1nm,0.4s,mb2.9,baz=77,slow=9.1,SNR=2.2						
FINES	FINESS Array B	64.84	332	P	P	14 35 50.4	-1.5
	0.4nm,0.5s,mb3.5,baz=53,slow=9.5,SNR=7.2						
PDAR	Pinedale Array	71.24	49	P	P	14 36 28.2	-3.7
	0.4nm,0.5s,mb3.5,baz=315,slow=2.6,SNR=2.3						
TXAR	Lajitas Array	84.01	55	P	P	14 37 41.3	-1.1
	0.5nm,0.9s,mb3.3,baz=297,slow=2.8,SNR=4.0						

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*PRU **03** 15:00:33.1, 51.46N×16.09E*
*CSEM **03** 15:00:33.5±0.4, 51.45N×16.09E, h2km, ML2.8/2, Error ellipse: s-maj=6.2km s-min=3.9km az=8.0*
*VIE **03** 15:00:34.7±0.5, 51.29N×16.12E, mb2.0/2, ML2.5/3, Error ellipse: s-maj=3.6km s-min=3.0km az=80.0, Suspected Mining induced.*
WAR 03 15:00:32.6, 51.53N×16.14E, h1km, ML2.6, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	172	ePG	Pg	15 00 45.0	-1.5
KSP				eSG	Sg	15 00 54.0	-1.8
UPC	Upice	1.03	185	ePG	Pg	15 00 51.4	-1.7
DPC	Dobruska-Polom	1.19	174	ePG	Pg	15 00 54.0	-2.3
DPC				eSG	Sg	15 01 09.4	-2.8
	9.8nm,0.2s						
PVCC	Panska Ves	1.41	225	ePG	Pg	15 00 58.4	-2.4
PRU	Pruhonice	1.85	214	ePG	Pg	15 01 05.9	-3.6
PRU				eSG	Sg	15 01 29.9	-4.2
MORC	Moravsky Berou	1.97	152	ePn	Pn	15 01 05.6	-1.9
MORC				eSg	Sg	15 01 34.0	-4.2
CLL	Collm	1.98	265	i PN	Pn	15 01 05.2	-2.4
CLL				i PG	Pg	15 01 08.3	-3.8
CLL				i SG	Sg	15 01 35.5	-2.9
VRAC	Vranov	2.24	172	ePn	Pn	15 01 09.4	-2.0
VRAC				eSg	Sg	15 01 40.8	-6.5
OJC	Ojcow	2.66	118	ePG	Pg	15 01 23.0	-2.8
OJC				eSG	Sg	15 01 57.0	-4.3
NKC	Novy Kostel	2.67	242	eSG	Sg	15 01 56.6	-5.0
KHC	Kasperske Hory	2.91	215	ePN	Pn	15 01 18.9	-2.0
KHC				ePG	Pg	15 01 24.2	-6.5
KHC				eSN	Sn	15 01 53.5	-3.5
KHC				eSG	Sg	15 02 02.2	-7.3
MOX	Moxa	2.99	254	i P	Pn	15 01 19.1	-2.9
MOX				Pg	Pg	15 01 28.0	-4.2
MOX				Sg	Sg	15 02 08.0	-4.0
MOA	Molln	3.88	199	⇑i Pn	Pn	15 01 32.4	-2.3
MOA				⇑i Sg	Sg	15 02 35.2	-6.6
	comp=Z,4.3nm,0.4s						
STHS	Stebnicka Huta	3.89	121	ePN	Pg	15 01 44.4	-5.8
STHS				eSG	Sg	15 02 35.9	-6.1

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*IDC **03** 15:09:59.5±1.5, 23.62S×64.51W, mb3.3/1, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML4.3/4, MS3.4/9, Ms1 3.4/9, ms1mx3.4/9, Error ellipse: s-maj=31.9km s-min=27.7km az=57.0*
ISC 03 15:10:01.5±3.6, **23.43S**±0.09×**64.44W**±0.09, **h23**km±35km, **n12**, σ1^{s}**17**/8, **mb3.2**/1, **MS3.6**/3, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	4.20	280	Pn	Pn	15 11 05.6	-0.3
	1.7nm,0.3s,baz=60,slow=5.3,SNR=16						
LVC				LR	LR	15 12 13.4	
	comp=Z,199nm,19.2s,baz=273,slow=32						
CPUP	Villa Florida	7.07	116	Pn	Pn	15 11 45.6	-0.8
	1.4nm,0.3s,baz=313,slow=15,SNR=22						
CPUP				LR	LR	15 14 55.4	
	comp=Z,505nm,20.5s,baz=306,slow=42						
LPAZ	La Paz	7.91	333	Pn	Pn	15 11 59.4	+1.3
	0.7nm,0.3s,baz=158,slow=5.5,SNR=13						
LPAZ				Sn	Sn	15 13 26.5	-1.3
	0.3nm,0.3s,baz=174,slow=12,SNR=2.3						
LPAZ				LR	LR	15 14 50.2	
	comp=Z,77nm,21.9s,baz=333,slow=36						
SIV	San Ignacio	8.05	24	Pn	P	15 12 00.1	+0.1
	6.7nm,0.3s,baz=222,slow=12,SNR=80						
SIV				Sn	Sn	15 13 31.4	+0.1
	4.8nm,0.3s,baz=255,slow=15,SNR=3.9						
CFAA	Coronel Fontan	8.82	202	Pn	P	15 12 05.1	-5.6
	0.1nm,0.3s,baz=14,slow=13,SNR=7.9						
CFAA				LR	LR	15 16 00.3	
	comp=Z,71nm,20.9s,baz=39,slow=42						
BDFB	Brasilia	17.30	66	LR	LR	15 20 49.7	
	comp=Z,182nm,18.2s,baz=69,slow=37						
PLCA	Paso Flores	18.01	195	LR	LR	15 20 50.0	
	comp=Z,155nm,20.9s,baz=8.1,slow=36						
ROSC	El Rosal	29.72	340	LR	LR	15 29 16.4	
	comp=Z,147nm,19.6s,MS3.6,baz=200,slow=39						
USHA	Ushuaia	31.50	184	LR	LR	15 31 09.5	
	comp=Z,238nm,21.6s,MS3.8,baz=242,slow=41						
TXAR	Lajitas Array	64.62	322	LR	LR	15 47 06.4	
	comp=Z,28nm,19.1s,MS3.5,baz=315,slow=34						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDAR	Pinedale Array	77.89	328	P	P	15 22 00.0	+0.8
	0.2nm,0.7s,mb3.2,baz=162,slow=5.7,SNR=2.6						
MKAR	Makanchi Array	144.58	41	PKP	PKPdf	15 29 36.6	-4.0
	0.7nm,0.8s,baz=315,slow=1.7,SNR=5.4						

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*IDC **03** 15:29:51.5±1.2, 26.57N×129.77E, mb3.9/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=35.3km s-min=22.7km az=68.0*
*JMA **03** 15:29:53.7±0.1, 26.59N×129.81E, h34km, M3.5*
ISC 03 15:29:53.1±2.0, **26.57N**±0.05×**129.80E**±0.04, **h22**km±16km, **n18**, σ0^{s}**70**/24, **mb3.8**/6, **1C**, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOW	Kunigami	1.39	281	Pn	Pn	15 30 17.7	+0.3
	249nm,0.3s,baz=115,slow=16,SNR=92						
JOW				Sn	Sn	15 30 33.5	-1.7
	109nm,0.3s,baz=120,slow=27,SNR=11						
JTK	Tokunoshima	1.42	328	P	Pn	15 30 17.8	-0.1
JTK				S	Sn	15 30 36.5	+0.4
JMZ	Minamidaito 2	1.48	120	P	Pn	15 30 19.0	+0.2
JMZ				eS	Sn	15 30 36.6	-1.0
JIH	Iheya	1.70	286	P	Pn	15 30 22.2	+0.4
JIH				S	Sn	15 30 43.2	+0.1
JAM	Amami Oshima	1.84	355	P	Pn	15 30 24.2	+0.4
JAM				S	Sn	15 30 45.9	-0.7
JJT2	Tamagusuku 2	1.89	257	P	Pn	15 30 25.4	+0.9
NAH1	Naha	1.93	259	P	Pn	15 30 25.4	+0.3
NAH1				eS	Sn	15 30 48.3	-0.5
JAGN	Aguni-jima	2.29	271	P	Pn	15 30 30.5	+0.2
JKE	Kume jima 2	2.71	265	P	Pn	15 30 35.3	-1.0
JNU	Nakatsue	6.59	8	Pn	Pn	15 31 30.4	-0.9
	2.7nm,0.3s,baz=12,slow=31,SNR=15						
SONM	Songino Array	28.05	325	P	P	15 35 45.7	+1.0
	0.4nm,0.4s,mb3.4,baz=145,slow=11,SNR=8.4						
MKAR	Makanchi Array	42.36	311	P	P	15 37 47.0	-0.2
	0.5nm,0.6s,mb3.3,baz=100,slow=9.6,SNR=8.1						
WRA	Warramunga Arr	46.45	174	P	P	15 38 20.4	0.0
	2.0nm,0.4s,mb4.4,baz=353,slow=8.4,SNR=46						
WB2	Warramunga Arr	46.45	174	⇑i P	P	15 38 20.6	+0.2
WB2				i		15 38 29.8	
FINES	FINESS Array B	73.25	331	P	P	15 41 23.4	-0.6
	0.8nm,0.4s,mb4.0,baz=60,slow=6.3,SNR=20						
NB2	NORSAR Subarra	79.62	334	P	P	15 42 00.3	+0.5
	0.5nm,0.5s,mb3.7,baz=50,slow=5.6						
NOA	NORSAR Array B	79.62	334	P	P	15 42 00.9	+1.1
	0.6nm,0.7s,mb3.6,baz=45,slow=4.8,SNR=4.2						
GERES	GERESS Array B	85.77	323	P	P	15 42 32.9	+1.2
	0.4nm,0.7s,mb3.8,baz=60,slow=7.9,SNR=3.5						

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*IDC **03** 15:44:42.4±1.2, 12.75N×95.30E, mb3.7/9, mb1 3.9/9, mb1mx3.7/19, mbtmp3.7/9, Error ellipse: s-maj=47.7km s-min=23.3km az=54.0*
*NEIC **03** 15:44:46.7±1.2, 12.25N×94.75E, h30km, mb4.1/4, Error ellipse: s-maj=36.1km s-min=21.1km az=51.0*
ISC 03 15:44:44.4±1.0, **12.0N**±0.2×**94.7E**±0.2, **h30**km, **n20**, σ1^{s}**19**/20, **mb3.8**/12, **1C**, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PKI	Pulchoki	17.78	332	eP	P	15 48 56.8	+5.3
	8.2nm,0.6s						
LSA	Lhasa	17.91	350	P	P	15 48 51.0	-2.2
	4.9nm,0.6s						
DMN	Daman	17.95	331	eP	P	15 48 58.8	+5.1
KKN	Kakani	18.02	332	eP	P	15 48 58.9	+4.3
	17nm,1.0s						
GKN	Gorkha	18.50	331	eP	P	15 49 02.6	+2.1
	11nm,0.5s						
KOLN	Koldanda	18.83	328	eP	P	15 49 06.0	+1.6
	11nm,0.6s						
LZH	Lanzhou	25.34	17	⇑P	P	15 50 11.2	+0.7
	29nm,1.3s,mb4.7						
LZH				pP	pP	15 50 16.5	-2.7
LZH				sP	sP	15 50 19.6	-3.6
MKAR	Makanchi Array	36.23	345	P	P	15 51 40.5	-6.2
	0.4nm,0.8s,mb3.4,baz=163,slow=7.7,SNR=3.2						
SONM	Songino Array	37.02	13	P	P	15 51 46.6	-6.8
	0.2nm,0.5s,mb3.2,baz=190,slow=8.8,SNR=2.8						
KS15	Wonju Array Si	38.99	44	P	P	15 52 10.3	+0.3
KURK	Kurchatov	40.78	344	eP	P	15 52 24.7	+0.1
	3.8nm,1.0s,mb4.0						
ZAL	Zalesovo	42.56	351	P	P	15 52 35.2	-4.0
	0.6nm,0.4s,mb3.7,baz=162,slow=16,SNR=2.3						
ZAL	Zalesovo	42.56	351	P	P	15 52 35.2	-4.0
BVAR	Borovoye Array	45.31	339	P	P	15 52 58.4	-3.0
	0.5nm,0.6s,mb3.5,baz=243,slow=40,SNR=3.6						
WRA	Warramunga Arr	50.28	129	P	P	15 53 41.1	+0.5
	2.0nm,0.8s,mb4.2,baz=307,slow=8.3,SNR=19						
ARU	Arti	52.36	336	eP	P	15 53 55.5	-0.3
	1.3nm,0.6s,mb4.0						
BRTR	Keskin Array B	60.24	309	P	P	15 54 52.1	-0.3
	1.2nm,0.7s,mb4.0,baz=125,slow=5.9,SNR=3.2						
FINES	FINESS Array B	69.36	331	P	P	15 55 50.3	-0.9
	0.8nm,0.6s,mb3.8,baz=90,slow=1.9,SNR=4.5						
GERES	GERESS Array B	75.17	318	P	P	15 56 25.4	-0.5
	0.4nm,0.6s,mb3.6,baz=54,slow=12,SNR=4.0						
NOA	NORSAR Array B	76.44	330	P	P	15 56 33.2	+0.4
	0.7nm,0.8s,mb3.7,baz=90,slow=5.8,SNR=3.3						

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*IDC **03** 15:50:43.9±4.0, 4.19S×77.79W, h96km±37km, mb3.8/7, mb1 3.9/10, mb1mx3.8/22, mbtmp4.1/10, MS3.0/1, Ms1 3.0/1, ms1mx2.5/22, Error ellipse: s-maj=42.7km s-min=15.8km az=68.0*
*NEIC **03** 15:50:44.1±2.2, 4.20S×77.74W, h101km±20km, mb4.0/3, Error ellipse: s-maj=25.0km s-min=8.1km az=73.0*
ISC 03 15:50:43.5±2.9, **4.19S**±0.08×**77.7W**±0.2, **h110**km±27km, **n32**, σ0^{s}**88**/28, **mb4.1**/7, **Northern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	9.61	21	P	P	15 53 01.2	+1.0
	1.4nm,0.3s,baz=167,slow=18,SNR=1.8						
SDV	Santo Domingo	14.79	29	P	P	15 54 07.3	-1.0
	0.3nm,0.3s,baz=24,slow=5.4,SNR=2.4						
SAML	Samuel	15.21	109	eP	P	15 54 04.5	-9.1
	4.8nm,0.6s						
LPAZ	La Paz	15.29	143	P	P	15 54 15.1	+0.5
	0.2nm,0.3s,baz=324,slow=7.0,SNR=3.8						
LPAZ	La Paz	15.29	143	eP	P	15 54 14.5	-0.1
	2.8nm,0.6s						
LVC	Limon Verde	20.21	156	P	P	15 55 10.1	-1.8
	1.7nm,0.6s,baz=328,slow=9.5,SNR=3.4						
LVC				LR	LR	16 03 38.4	
	comp=Z,45nm,19.8s,baz=74,slow=38						
SJG	San Juan	24.93	27	P	P	15 55 58.1	0.0
	10.0nm,0.3s,mb4.7,baz=312,slow=17,SNR=4.7						
CPD	Cerro la Pandu	24.97	27	eP	P	15 55 58.9	+0.3
MTP	Monte Pirata	25.19	28	eP	P	15 56 00.3	-0.2
CPUP	Villa Florida	29.44	140	P	P	15 56 40.0	+0.8
	2.0nm,0.8s,mb3.8,baz=62,slow=8.2,SNR=4.1						
TXAR	Lajitas Array	41.59	325	P	P	15 58 22.0	-0.4
	0.6nm,0.6s,mb3.5,baz=146,slow=9.0,SNR=8.9						
ANMO	Albuquerque	47.38	328	P	P	15 59 09.5	+0.9
ANMO	Albuquerque	47.38	328	P	P	15 59 09.5	+0.9
SDCO	Great Sand Dun	49.05	331	eP	P	15 59 21.6	+0.1
	7.4nm,1.4s,mb4.4						
PV01	Paradox Valley	50.90	329	eP	P	15 59 35.5	-0.1
ULM	Lac du Bonnet	56.44	346	P	P	16 00 13.9	-2.1
	2.4nm,0.6s,mb4.4,baz=143,slow=7.3,SNR=3.8						
YKA	Yellowknife Ar	72.17	343	P	P	16 01 58.3	+0.4
	0.9nm,0.6s,mb3.8,baz=142,slow=6.2,SNR=4.4						
VNA3	Neumayer Olymp	79.10	162		P	16 02 37.1	+0.1
VNA3	Neumayer Olymp	79.10	162		P	16 02 41.0	+4.0
VNA3	Neumayer Olymp	79.10	162		P	16 02 46.1	+9.1
VNA1	Neumayer--Stat	79.34	161		P	16 02 39.0	+0.7
VNA1	Neumayer--Stat	79.34	161		P	16 02 43.6	+5.3
VNA2	Neumayer--Watz	79.70	162		P	16 02 40.7	+0.5
VNA2	Neumayer--Watz	79.70	162		P	16 02 44.0	+3.8
VNA2	Neumayer--Watz	79.70	162		P	16 02 48.6	+8.4
SNAA	Sanae	81.31	162		P	16 02 48.6	-0.2
SNAA	Sanae	81.31	162		P	16 02 53.2	+4.4
ILAR	Eielson Array	85.03	336	P	P	16 03 07.9	+0.2
	1.4nm,0.9s,mb3.9,baz=133,slow=3.6,SNR=9.1						
ZAL	Zalesovo	128.39	13	PKP	PKPdf	16 09 39.6	+2.2
	0.6nm,0.3s,baz=16,slow=3.4,SNR=4.1						
MKAR	Makanchi Array	134.17	19	PKP	PKPdf	16 09 50.4	+1.8
	0.2nm,0.4s,baz=294,slow=2.9,SNR=6.9						
SONM	Songino Array	136.37	356	PKP	PKPdf	16 09 54.3	+1.8
	0.4nm,0.6s,slow=1.4,SNR=3.8						
WRA	Warramunga Arr	140.40	232	PKP	PKPdf	16 10 00.8	+0.1
	0.4nm,0.5s,baz=123,slow=2.3,SNR=5.5						

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*CSEM **03** 16:35:31.2±0.1, 36.88N×3.64E, h2km, ML3.4, Error ellipse: s-maj=2.9km s-min=2.1km az=59.0*
*NEIC **03** 16:35:32.8±0.4, 36.87N×3.62E, h5km, ML3.4(ALG), Error ellipse: s-maj=5.6km s-min=3.8km az=74.0*
*MDD **03** 16:35:33.7±1.2, 36.85N×3.56E, h4km±12km, mb3.8/6, Error ellipse: s-maj=13.4km s-min=6.6km az=35.0, PRXIMO*
*CRAAG **03** 16:35:33.2, 36.80N×3.53E, Ml3.4*
ISC 03 16:35:32.1±0.6, **36.95N**±0.04×**3.58E**±0.07, **h10**km, **n37**, σ1^{s}**28**/59, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABMS	Boumerdes	0.21	202	P	Pg	16 35 35.2	-1.5
ABA	Alger-Bouzarea	0.46	252	P	Pg	16 35 41.8	+0.3
ADJB	Djebel Djouab	0.80	188	P	Pb	16 35 46.5	-1.1
EMHD	Djebel Mahouad	0.90	214	P	Pb	16 35 50.0	+0.7
AKET	Djebel Ketaf	0.93	165	P	Pb	16 35 49.6	-0.3
ATAF	Djebel Tarf	1.21	152	P	Pb	16 35 54.1	-0.5
SET	Setif	1.64	116	P	Pn	16 36 06.0	+4.8
EBNR	Beni Rached	1.78	249	P	Pn	16 36 05.0	+1.9
DFRA	Djebel Bou Aff	1.89	102	P	Pn	16 36 10.8	+6.1
ECHA	Ech Chlef	1.95	247	P	Pn	16 36 10.0	+4.3
ECHF	Ech Chlef	1.97	247	P	Pn	16 36 10.0	+4.1
EANR	'Ain N'Sour	2.23	244	P	Pn	16 36 14.0	+4.3
EIBI	Ibiza	2.73	320	P	Pn	16 36 18.2	+1.4
	1.9nm,0.1s,SNR=8.0						
EIBI				S	Sn	16 36 48.9	-1.2
	3.0nm,0.2s,SNR=8.2						
EIBI	Ibiza	2.73	320	P	Pn	16 36 18.2	+1.4
EIBI				S	Sn	16 36 46.2	-3.9
EIBI	Ibiza	2.73	320	P	Pn	16 36 18.2	+1.5
	1.9nm,0.1s,SNR=8.0						
EIBI				S	Sn	16 36 46.2	-3.9
	3.0nm,0.2s,SNR=8.2						
ETOS	Mallorca	2.88	348	P	Pn	16 36 20.1	+1.2
	2.4nm,0.1s,SNR=40						
ETOS				S	Sn	16 36 54.2	+0.3
	1.8nm,0.1s,SNR=7.9						
ETOS	Mallorca	2.88	348	P	Pn	16 36 20.1	+1.2
ETOS				S	Sn	16 36 52.0	-2.0
ETOS	Mallorca	2.88	348	P	Pn	16 36 20.1	+1.2
	2.4nm,0.1s,SNR=40						
ETOS				S	Sn	16 36 52.0	-2.0
	1.8nm,0.1s,SNR=7.9						
CMAH	Djebel Manchou	3.10	95	P	Pn	16 36 21.6	-0.4
EBEN	Beniarda	3.49	301	P	Pn	16 36 28.1	+0.5
	0.3nm,0.1s,SNR=7.9						
EBEN				S	Sn	16 37 07.3	-2.0
	0.6nm,0.1s,SNR=7.9						
EBEN	Beniarda	3.49	301	P	Pn	16 36 28.1	+0.5
EBEN				S	Sn	16 37 05.1	-4.2
EBEN	Beniarda	3.49	301	P	Pn	16 36 28.1	+0.6
	0.3nm,0.1s,SNR=7.9						
EBEN				S	Sn	16 37 05.1	-4.2
	0.6nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.40	294	P	Pn	16 36 41.6	+1.1
	1.0nm,0.1s,SNR=7.9						
ETOB				S	Sn	16 37 31.4	-1.1
	0.7nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.40	294	P	Pn	16 36 41.6	+1.1
ETOB				S	Sn	16 37 27.6	-5.0
ETOB	Tobarra	4.40	294	P	Pn	16 36 41.7	+1.1
	1.0nm,0.1s,SNR=7.9						
ETOB				S	Sn	16 37 27.5	-5.0
	0.7nm,0.1s,SNR=7.9						
ECHE	Chera	4.45	308	P	Pn	16 36 42.2	+1.0
	1.3nm,0.2s,SNR=9.5						
ECHE				S	Sn	16 37 31.4	-2.2
	0.3nm,0.2s,SNR=7.9						
ECHE	Chera	4.45	308	P	Pn	16 36 42.2	+1.0
ECHE				S	Sn	16 37 28.4	-5.2
ECHE	Chera	4.45	308	P	Pn	16 36 42.2	+1.0
	1.3nm,0.2s,SNR=9.5						
ECHE				S	Sn	16 37 28.4	-5.3
	0.3nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.66	318	P	Pn	16 36 44.6	+0.4
	0.4nm,0.2s,SNR=7.9						
EMOS				S	Sn	16 37 36.0	-3.0
	0.3nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.66	318	P	Pn	16 36 44.6	+0.4
EMOS				S	Sn	16 37 32.9	-6.1
EMOS	Mosqueruela	4.66	318	P	Pn	16 36 44.6	+0.4
	0.4nm,0.2s,SNR=7.9						
EMOS				S	Sn	16 37 36.0	-3.0
	0.3nm,0.2s,SNR=7.9						
EPOB	Poblet	4.81	337	P	Pn	16 36 48.6	+2.2
	0.4nm,0.1s,SNR=7.9						
EPOB				S	Sn	16 37 41.8	-1.1
	0.3nm,0.1s,SNR=7.9						
EPOB	Poblet	4.81	337	P	Pn	16 36 47.5	+1.2
EPOB				S	Sn	16 37 36.5	-6.3
EPOB	Poblet	4.81	337	P	Pn	16 36 43.0	-3.3
	0.4nm,0.1s,SNR=7.9						
EPOB				S	Sn	16 37 36.5	-6.3
	0.3nm,0.1s,SNR=7.9						
EQES	Quesada	5.37	281	P	Pn	16 36 53.6	-0.6
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	16 37 50.6	-6.2
	0.4nm,0.1s,SNR=7.9						
EQES	Quesada	5.37	281	P	Pn	16 36 53.6	-0.6
	0.3nm,0.1s,SNR=7.9						
EJON	La Jonquera	5.52	355	P	Pn	16 36 57.1	+0.8
	1.2nm,0.1s,SNR=7.9						

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*NEIC **03** 16:48:07.5, 16.94N×94.13W, h148km, MD3.8(MEX), After MEX.*
MEX 03 16:48:07.5±1.0, **16.94N×94.13W**, **h148**km±14km, **MD3.8**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.73	282	i P	P	16 48 29.1	-1.3
CMIG				i S	S	16 48 44.8	-3.2
HUIG	Huatulco	2.22	239	i P	P	16 48 43.1	-2.6
HUIG				i S	S	16 49 12.9	-2.0
OXX	Oaxaca	2.48	274	eP	P	16 48 48.0	-0.9
OXX				i S	S	16 49 18.0	-2.6
VHO	Vista Hermosa	2.49	273	i P	P	16 48 47.4	-1.7
VHO				i S	S	16 49 18.2	-2.6

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*BJI **03** 16:55:59.1, 4.74S×102.79E, h103km, mB5.4, mb5.0*
*NEIC **03** 16:56:08.3±0.1, 3.80S×102.70E, mb5.0/39, Error ellipse: s-maj=6.5km s-min=4.3km az=55.0*
NEIC Felt [III] at Bengkulu.
*HRVD **03** 16:56:08.3±0.6, 3.86S×102.56E, h101km±5km, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s15,c16;Mantle waves: s43,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.98±.14; $M_{\theta\theta}$-0.09±.15; $M_{\phi\phi}$-1.89±.17; $M_{r\theta}$0.73±.09; $M_{\theta\phi}$-1.74±.11; $M_{\phi r}$-0.42±.15; Best double couple: $M_0$2.702×10^{16} NP1:ϕ_s185°,δ52°,λ51°. NP2:ϕ_s57°,δ52°,λ128°. Principal axes: T 2.453, Plg61°, Azm31°; N .493, Plg29°, Azm212°; P -2.95, Plg0°, Azm121°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 16:56:08.1±0.4, 3.77S×102.81E, h107km±3km, mb4.6/28, mb1 4.7/28, mb1mx4.7/28, mbtmp5.0/28, MS3.9/4, Ms1 3.9/4, ms1mx3.5/15 Error ellipse: s-maj=13.8km s-min=6.6km az=48.0*
*MOS **03** 16:56:08.6±0.9, 3.69S×102.80E, h118km, mb5.2/40, Error ellipse: s-maj=11.0km s-min=5.7km az=113.3*
ISC 03 16:56:06.8±0.2, **3.81S**±0.04×**102.70E**±0.04, **h103**km, **h103**km±1.4km**:pP-P**, **n291**, σ1^{s}**05**/251, **mb5.1**/106, **38C-13D**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSM	Kuching	9.24	56	ePn	P	16 58 22.7	+4.1
KULM	Kulim	9.27	347	eP	P	16 58 19.8	+0.9
SNG	Songkhla	11.11	349	P	P	16 58 45.0	+1.3
	46nm,0.8s						
KKM	Kota Kinabalu	16.67	54	eP	P	16 59 58.7	+3.1
NST	Nakhon Sawan	19.52	353	⇑P		17 01 02.3	
	58nm,1.0s						
BATP	Bataraza	19.58	50	eP	P	17 00 31.4	+2.1
CHG	Chiang Mai	22.78	351	⇑P	P	17 01 11.0	+10

65nm,1.3s,mb4.8
IPIL Ipil 22.93 60 *e*P **P 17 01 06.1 +3.2**
CUYO Cuyo Island 23.34 51 *e*P **P 17 01 09.8 +3.1**
BUSP Coron 23.44 48 *e*P **P 17 01 10.6 +2.9**
PAGZ Pagadian 23.66 61 *e*P **P 17 01 11.2 +1.3**
QIZ Qiongzhong 23.76 17 *e*P **P 17 01 12.1 +1.3**
QIZ Qiongzhong 23.76 17 *e*P **P 17 01 13.0 +2.2**
62nm,1.6s,mb4.7
MBWA Marble Bar 23.91 138 *e*P **P 17 01 13.3 +1.1**
31nm,0.7s,mb4.7
SJMP San Jose 24.42 48 *e*P **P 17 01 19.6 +2.4**
LUBP Lubang 24.64 45 *e*P **P 17 01 20.9 +1.6**
OTRP Odiongan 25.04 50 *e*P **P 17 01 23.7 +0.6**
RCP Roxas 25.11 52⇑*e*P **P 17 01 26.0 +2.2**
BUKP Musuan 25.15 62 *e*P **P 17 01 26.0 +1.8**
BOAC Boac 25.60 48 *e*P **P 17 01 30.9 +2.5**
MATI Mati 25.83 66 *e*P **P 17 01 30.4 -0.1**
POLP Polilio Island 26.51 46 *e*P **P 17 01 29.0 -7.7**
FITZ Fitzroy Crossi 26.57 124 *e*P **P 17 01 36.9 -0.4**
26nm,0.7s,mb4.9
FITZ *i* PCP PcP 17 04 59.5 -0.1
FITZ *e*S **S 17 06 00.2 -2.1**
FITZ Fitzroy Crossi 26.57 124 P **P 17 01 37.1 -0.3**
32nm,0.8s,mb4.9,baz=304,slow=2.7,SNR=28
FITZ PcP PcP 17 04 58.0 -1.5
21nm,0.8s,baz=247,slow=1.9,SNR=4.0
FITZ S **S 17 05 59.7 -2.7**
12nm,1.0s,baz=201,slow=20,SNR=5.1
CAUP Cauayan 27.96 42 *e*P **P 17 01 50.1 +0.1**
VIS Vishakhapatnam 28.68 319 *e*P **P 17 01 58.8 +2.3**
VIS AMb AMB 17 01 59.7
comp=Z,22nm,0.7s,mb4.9
KMI Kunming 28.76 0 P **P 17 01 57.8 +0.8**
KMI AMB AMB
comp=Z,17nm,0.9s,mb4.7
KMI Kunming 28.76 0 P **P 17 01 57.8 +0.8**
comp=Z,17nm,0.9s,mb4.7
GYA Guiyang 30.33 7⇓*i*P **P 17 02 11.8 +0.8**
GYA PCP PcP 17 05 08.5 -0.3
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
KAKA Kakadu 30.70 109⇓*i*P **P 17 02 28.1 +14**
comp=Z,7.5nm,0.6s,mb4.6
SHL Shillong 31.03 341 *e*P **P 17 02 17.0 -0.1**
NWAO Narrogin (SRO) 32.00 157 P **P 17 02 25.4 -0.1**
comp=Z,8.2nm,0.9s,mb4.5,baz=315,slow=10.0,SNR=3.7
BLSP Bilaspur 32.70 323 *e*P **P 17 02 32.8 +1.1**
BLSP AMb AMB 17 02 33.8
comp=Z,53nm,1.7s,mb5.1
NGP Nagpur 33.95 318 *e*P **P 17 02 44.0 +1.6**
ENH Enshi 34.50 10 *e*P **P 17 02 47.0 -0.1**
comp=Z,27nm,0.7s,mb5.2
CD2 Chengdu 34.54 2 P **P 17 02 47.3 -0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
WRA Warramunga Arr 34.76 120 P **P 17 02 48.1 -1.2**
comp=Z,16nm,0.5s,mb5.1,baz=301,slow=9.1,SNR=287
WRA pP pP 17 03 12.1 -0.9
comp=Z,4.5nm,0.6s,baz=319,slow=10,SNR=1.6
WRA PcP PcP 17 05 19.5 -1.5
comp=Z,6.9nm,0.7s,baz=296,slow=2.6,SNR=7.8
WRA S **S 17 08 05.7 -5.5**
comp=Z,11nm,1.1s,baz=291,slow=16,SNR=9.9
WRA Warramunga Arr 34.76 120 P **P 17 02 48.2 -1.2**
WRA *PP pP 17 03 12.1 -0.9
WRA 17 05 19.5
WRA S **S 17 08 05.7 -5.5**
WRAB Tennant Creek 34.77 120 *e*P **P 17 02 48.8 -0.6**
comp=Z,29nm,0.6s,mb5.3
WRAB Tennant Creek 34.77 120 *e*P **P 17 02 48.8 -0.6**
WRAB pmax pmax
comp=Z,29nm,0.6s,mb5.3
WB2 Warramunga Arr 34.77 120⇑*i*P **P 17 02 48.6 -0.9**
WB2 *i* PCP PcP 17 05 20.6 -0.4
WB2 *e*S **S 17 08 07.1 -4.3**
LSA Lhasa 35.11 342 P **P 17 02 52.3 +0.1**
LSA AMB AMB
comp=Z,20nm,1.2s,mb4.8
LSA Lhasa 35.11 342 *e*P **P 17 02 52.5 +0.3**
comp=Z,12nm,0.5s,mb5.0
LSA Lhasa 35.11 342 *e*P **P 17 02 52.5 +0.3**
LSA pmax pmax
comp=Z,12nm,0.5s,mb5.0
PKI Pulchoki 35.37 333 *e*P **P 17 02 54.1 -0.4**
comp=Z,11nm,0.3s,mb5.2
DMN Daman 35.55 333 *e*P **P 17 02 56.0 0.0**
comp=Z,21nm,0.3s,mb5.5
KKN Kakani 35.62 333 *e*P **P 17 02 56.4 -0.2**
comp=Z,32nm,0.4s,mb5.6
FORT Forrest 35.94 141 *e*P **P 17 02 59.9 +0.6**
comp=Z,15nm,0.6s,mb5.1
GKN Gorkha 36.10 332 *e*P **P 17 03 00.6 0.0**
comp=Z,45nm,0.3s,mb5.9
KOLN Koldanda 36.40 331 *e*P **P 17 03 03.4 +0.2**
comp=Z,135nm,0.8s,mb5.9
BHPL Bhopal 36.48 319 *e*P **P 17 03 04.7 +0.8**
BHPL AMb AMB 17 03 06.6
comp=Z,24nm,0.6s,mb5.3
XAN Xi'an 38.10 8 P **P 17 03 17.7 +0.4**
XAN AMB AMB
comp=Z,41nm,1.0s,mb5.2
NJ2 Nanjing 38.83 22 *e*P **P 17 03 20.9 -2.5**
NJ2 AP pP 17 03 52.2 +4.9
NJ2 PP PP 17 04 55.2 -2.2
NJ2 XS 17 10 00.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,332nm,4.5s
NJ2 LR LR
comp=N,2μm,18.0s
NJ2 LR LR
comp=E,2μm,18.4s
NJ2 LR LR
comp=Z,9μm,18.0s
SSE Sheshan 38.93 26 P **P 17 03 21.5 -2.8**
SSE AMB AMB
comp=Z,28nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,712nm,8.1s
SSE Sheshan 38.93 26 P **P 17 03 21.5 -2.8**
comp=Z,28nm,0.9s,mb5.1
LZH Lanzhou 39.70 1⇑P **P 17 03 31.8 +1.2**
LZH AP pP 17 03 52.1 -2.5
LZH XP sP 17 04 04.2 -2.5
LZH PCP PcP 17 05 35.7 -0.2
LZH AMB AMB
comp=Z,35nm,1.3s,mb5.0
LZH Lanzhou 39.70 1⇑P **P 17 03 31.8 +1.2**
comp=Z,35nm,1.3s,mb5.0
LZH pP pP 17 03 52.1 -2.5
LZH sP sP 17 04 04.2 -2.5
LZH PcP PcP 17 05 35.7 -0.2
LZH Lanzhou 39.70 1⇑P **P 17 03 31.8 +1.2**
LZH 17 05 35.7
LZH pmax pmax
comp=Z,35nm,1.3s,mb5.0
SONA Sohna 40.30 324 *e*P **P 17 03 36.6 +1.1**
KALG Kalgarh 40.30 327 *ex* x 17 03 08.7
BISR Bishrakh 40.33 325 *e*P **P 17 03 36.6 +0.8**
BISR AMb AMB 17 03 38.4
comp=Z,100nm,0.6s,mb5.8
NDI New Delhi 40.54 324 *e*P **P 17 03 37.0 -0.6**
KHET Khetri 40.93 322 *e*P **P 17 03 41.0 +0.2**
KHET AMb AMB 17 03 43.6
comp=Z,46nm,0.8s,mb5.4
KLP Kalpa 42.16 328 *e*P **P 17 03 51.5 +0.6**
KLP AMb AMB 17 03 51.7
comp=Z,45nm,0.7s,mb5.3
GTA Gaotai 43.09 357 P **P 17 03 58.9 +0.5**
GTA AMB AMB
comp=Z,36nm,0.6s,mb5.3
GTA AMB AMB
comp=Z,245nm,7.6s
GTA LR LR
comp=N,221nm,11.8s
GTA LR LR
comp=E,220nm,12.2s
GTA LR LR
comp=Z,202nm,11.4s
PMG Port Moresby 44.48 99 P **P 17 04 09.0 -0.9**
comp=Z,12nm,0.7s,mb4.7,baz=298,slow=8.7,SNR=3.6
PMG Port Moresby 44.48 99 *e*P **P 17 04 09.0 -1.0**
HHC Hu-ho-hao-te 45.18 9 *e*P **P 17 04 16.3 +1.2**
HHC AMB AMB
comp=Z,48nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,133nm,5.6s
HHC LR LR
comp=N,266nm,15.0s
HHC LR LR
comp=E,262nm,9.9s
HHC LR LR
comp=Z,255nm,14.9s
JNU Nakatsue 45.39 34 P **P 17 04 16.2 -0.8**
comp=Z,18nm,0.9s,mb4.8,baz=190,slow=3.3,SNR=5.3
CTA Charters Tower 45.40 115⇑*i*P **P 17 04 16.8 -0.3**
comp=Z,25nm,0.9s,mb4.9
CTA Charters Tower 45.40 115 P **P 17 04 16.3 -0.9**
comp=Z,34nm,0.9s,mb5.1,baz=288,slow=9.1,SNR=26
CTA pP pP 17 04 41.3 -0.1
comp=Z,9.8nm,0.9s,baz=293,slow=9.8,SNR=3.0
CTA Charters Tower 45.40 115⇑*i*P **P 17 04 16.8 -0.3**
CTA pmax pmax
comp=Z,25nm,0.9s
CTAO Charters Tower 45.40 115 *e*P **P 17 04 16.6 -0.6**
comp=Z,44nm,1.0s,mb5.1
CTAO Charters Tower 45.40 115 *e*P **P 17 04 16.6 -0.5**
CTAO pmax pmax
comp=Z,44nm,1.0s,mb5.1
STKA Stephens Creek 45.94 132⇑*i*P **P 17 04 21.4 +0.1**
comp=Z,9.0nm,0.6s,mb4.7
STKA *i* PCP PcP 17 05 56.6 -0.4
STKA *e*S **S 17 10 50.7 -6.6**
STKA Stephens Creek 45.94 132 P **P 17 04 20.7 -0.6**
comp=Z,14nm,0.7s,mb4.8,baz=306,slow=8.1,SNR=28
STKA pP pP 17 04 46.0 +0.3
comp=Z,14nm,0.7s,baz=295,slow=8.8,SNR=5.2
STKA PcP PcP 17 05 56.1 -0.9
comp=Z,8.7nm,0.6s,baz=323,slow=6.4,SNR=3.4
WMQ Urumqi 49.30 346⇑*i*P **P 17 04 47.4 +0.1**
WMQ S **S 17 11 43.0 -1.3**
WMQ AMB AMB
comp=Z,89nm,0.9s,mb5.7
WMQ AMB AMB
comp=Z,187nm,3.6s
WMQ LR LR
comp=N,167nm,25.6s
WMQ LR LR
comp=E,150nm,22.0s
WMQ LR LR
comp=Z,109nm,23.2s
SONM Songino Array 51.53 3 P **P 17 05 04.4 +0.2**
comp=Z,86nm,0.8s,mb5.8,baz=182,slow=9.0,SNR=501
SONM PcP PcP 17 06 15.6 -1.4
comp=Z,12nm,0.6s,baz=185,slow=4.0,SNR=19
SONM ScP 17 10 03.3
comp=Z,0.7nm,0.8s,baz=181,slow=4.1,SNR=3.5
ULN Ulaanbaatar 51.60 4 *e*P **P 17 05 05.0 +0.3**
comp=Z,49nm,0.9s,mb5.5
ULN *e*PcP PcP 17 06 16.3 -1.0
ULN Ulaanbaatar 51.60 4 *e*P **P 17 05 05.0 +0.3**
ULN *e* 17 06 16.3
ULN pmax pmax
comp=Z,49nm,0.9s,mb5.5
CN2 Changchun 51.63 21 *e*P **P 17 05 04.1 -0.9**
CN2 *e*AP pP 17 05 29.8 0.0
CN2 PCP PcP 17 06 16.4 -1.0
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
ULHL Ulahol 51.75 335 P **P 17 05 05.5 -0.4**
SNR=28
KZA Kyzart 52.03 334 P **P 17 05 08.0 -0.1**
SNR=38
MAJO Matsushiro 52.05 36 *e*P **P 17 05 06.4 -1.9**
comp=Z,15nm,0.8s,mb5.1
MAJO Matsushiro 52.05 36 *e*P **P 17 05 06.4 -1.8**
MAJO pmax pmax
comp=Z,15nm,0.8s,mb5.1
MAT Matsushiro 52.05 36 P **P 17 05 06.7 -1.5**
MAT Matsushiro 52.05 36 *e*P **P 17 05 07.0 -1.2**
comp=Z,16nm,1.0s,mb5.0
MAT Matsushiro 52.05 36 *e*P **P 17 05 07.0 -1.2**
MAT pmax pmax
comp=Z,16nm,1.0s,mb5.0
UCH Uchtor 52.48 334 P **P 17 05 11.4 +0.1**
SNR=20
TKM2 Tokmak 2 52.57 335 P **P 17 05 11.6 -0.5**
SNR=79
KBK Karagaybulak 52.63 334 P **P 17 05 12.6 0.0**
SNR=24
AML Almayashu 52.77 333 P **P 17 05 13.4 -0.1**
SNR=22
AAK Ala-Archa 52.81 334 P **P 17 05 13.6 -0.3**
SNR=9.8
AAK Ala-Archa 52.81 334 *e*P **P 17 05 12.6 -1.3**
comp=Z,18nm,1.0s,mb5.1
AAK Ala-Archa 52.81 334 *e*P **P 17 05 12.6 -1.3**
AAK pmax pmax
comp=Z,18nm,1.0s,mb5.1
FRU Bishkek 52.92 334⇑*i*P **P 17 05 13.5 -1.2**
FRU pmax pmax
comp=Z,70nm,1.2s,mb5.6
CHMS Chumysh 53.00 334 P **P 17 05 14.2 -1.0**
SNR=9.8
EKS2 Erkin-Say 53.15 334 P **P 17 05 16.1 -0.3**
SNR=124
USP Ospenovka 53.32 335 P **P 17 05 16.7 -1.0**
SNR=35
MKAR Makanchi Array 53.51 343 P **P 17 05 17.5 -1.5**
comp=Z,24nm,0.6s,mb5.4,baz=146,slow=8.3,SNR=265
MKAR S **S 17 12 42.0 0.0**
comp=Z,0.7nm,0.9s,baz=72,slow=3.8,SNR=4.2
MDJ Mudanjiang 53.89 24 P **P 17 05 21.5 -0.2**
MDJ AMB AMB
comp=Z,11nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,137nm,6.5s
ZAK Zakamensk 53.98 0⇑*i*P **P 17 05 22.1 -0.2**
ZAK *e* 17 06 25.1
ZAK pmax pmax
comp=Z,13nm,0.8s,mb5.0
ZAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
HIA Hailar 54.89 14 *e*P **P 17 05 27.9 -1.1**
comp=Z,15nm,1.1s,mb4.9
HIA Hailar 54.89 14 *e*P **P 17 05 27.9 -1.1**
HIA pmax pmax
comp=Z,15nm,1.1s
KKAR Karatay Array 55.00 332 *i* P **P 17 05 27.8 -2.1**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
MOY Mondy 55.28 359 *e*P **P 17 05 31.9 +0.1**
MOY pmax pmax
comp=Z,40nm,2.3s,mb5.0
CIT Chita 56.38 8 *e*P **P 17 05 39.6 0.0**
CIT *e* 17 06 17.1
CIT pmax pmax
comp=Z,66nm,1.2s,mb5.5
KURK Kurchatov 58.11 342⇑*i*P **P 17 05 50.3 -1.5**
comp=Z,76nm,0.9s,mb5.7
KURK Kurchatov 58.11 342⇑*i*P **P 17 05 50.3 -1.5**
KURK pmax pmax
comp=Z,76nm,0.9s,mb5.7
KLR Kul'dur 58.53 22 *e*P **P 17 05 51.0 -3.8**
KLR pmax pmax
comp=E,28nm,0.9s
KLR pmax pmax
comp=Z,32nm,0.9s,mb5.3
ZAL Zalesovo 59.45 348 P **P 17 05 59.8 -1.2**
comp=Z,43nm,0.9s,mb5.5,baz=306,slow=5.8,SNR=179
ZAL pP pP 17 06 26.0 -0.5
comp=Z,5.7nm,0.8s,baz=289,slow=6.5,SNR=2.0
NVS Novosibirsk 60.63 347⇑P **P 17 06 06.3 -2.8**
NVS *e* 17 06 49.6
NVS *i* S **S 17 14 10.9 -4.5**
NVS pmax pmax
comp=N,28nm,1.4s
NVS pmax pmax
comp=Z,40nm,1.4s,mb5.3
NVS pmax pmax
comp=E,19nm,1.3s
NVS smax
comp=N,15nm,1.7s
NVS smax
comp=E,19nm,1.7s
YSS Yuzh-Sakhalins 61.63 30⇑*e*P **P 17 06 15.2 -0.7**
comp=E,94nm,0.9s,mb5.8
YSS Yuzh-Sakhalins 61.63 30*c* *i*P **P 17 06 15.4 -0.6**
YSS pmax pmax
comp=Z,91nm,0.8s,mb5.9
KAMS Al Khamasin 61.84 295 P **P 17 06 16.8 -0.9**
KBD Kabd 62.06 306 *e*P **P 17 06 18.7 -0.4**
RDF Al-Radifah 62.09 306 *e*P **P 17 06 19.4 +0.2**
RDF AMb AMB 17 06 20.6
comp=Z,67nm,1.0s,mb5.6
BOD Bodaibo 62.10 7 *e*P **P 17 06 17.6 -1.3**
BOD pmax pmax
comp=Z,48nm,0.8s,mb5.6
DJNS Zahran al Janu 62.11 292 P **P 17 06 21.2 +1.7**
UMR Umm Al-Rimmam 62.19 306 *e*P **P 17 06 19.6 -0.4**
UMR AMb AMB 17 06 20.7
comp=Z,109nm,0.6s,mb6.0
BVA0 Borovoye Array 62.82 339 P **P 17 06 21.6 -2.2**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BVAR Borovoye Array 62.82 339 P **P 17 06 21.6 -2.2**
comp=Z,26nm,0.5s,mb5.4,baz=144,slow=9.0,SNR=232
BVAR pP pP 17 06 46.8 -2.7
comp=Z,3.9nm,0.5s,baz=138,slow=8.8,SNR=2.6
BVAR PcP PcP 17 06 59.6 -1.3
comp=Z,6.2nm,0.7s,baz=144,slow=7.7,SNR=4.9
BRVK Borovoye 62.88 339⇑*i*P **P 17 06 22.2 -2.0**
comp=Z,17nm,0.6s,mb5.2
BRVK Borovoye 62.88 339⇑*i*P **P 17 06 22.2 -2.0**
BRVK pmax pmax
comp=Z,17nm,0.6s,mb5.2
CLNS Chul'man 63.09 13 *e*P **P 17 06 24.5 -1.0**
CLNS pmax pmax
comp=N,24nm,0.8s
CLNS pmax pmax
comp=Z,52nm,0.8s,mb5.5
CLNS pmax pmax
comp=E,13nm,0.7s
DZM Mont Dzumac 64.27 113 P **P 17 06 32.7 -1.1**
comp=E,3.3nm,0.4s,mb4.5,baz=355,slow=21,SNR=10
BLJS Baljurashi 64.43 294 P **P 17 06 36.6 +1.7**
AB31 Akbulak array 64.52 330 P **P 17 06 33.3 -1.7**
AB31 pmax pmax
comp=Z,43nm,0.7s,mb5.4
KMBO Kilima Mbogo 65.43 270 P **P 17 06 41.0 -0.5**
comp=Z,2.7nm,0.9s,mb4.1,baz=56,slow=9.8,SNR=6.2
KMBO LR LR 17 29 13.4
comp=Z,69nm,21.3s,baz=93,slow=30
KMBO Kilima Mbogo 65.43 270 *i* P **P 17 06 42.6 +1.2**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
GNI Garni 68.69 316 P **P 17 07 01.1 -0.3**
comp=Z,16nm,0.7s,mb4.9,baz=314,slow=6.2,SNR=8.4
GNI Garni 68.69 316 *e*P **P 17 07 01.5 +0.1**
comp=Z,16nm,0.7s,mb5.0
GNI Garni 68.69 316 *i* P **P 17 07 01.1 -0.3**
GNI pmax pmax
comp=Z,13nm,0.7s
DGRG David-gareji 68.81 317 P **P 17 07 01.7 -0.4**
YAK Yakutsk 68.83 13⇑*i*P **P 17 07 00.1 -1.8**
comp=Z,131nm,0.6s,mb5.9
YAK Yakutsk 68.83 13*c* *i*P **P 17 07 00.3 -1.6**
YAK pmax pmax
comp=Z,141nm,0.7s,mb5.9
MAW Mawson 69.23 195 P **P 17 07 04.1 -0.2**
comp=Z,3.1nm,0.8s,mb4.2,baz=7.5,slow=5.3,SNR=7.4
MAW pP pP 17 07 29.1 -1.4
comp=Z,4.7nm,0.9s,baz=10.0,slow=5.3,SNR=5.7
MAW LR LR 17 30 35.8
comp=Z,62nm,18.4s,baz=246,slow=30
TI2 Plekhanov 69.35 317⇑*i*P **P 17 07 01.8 -3.7**
SVE Sverdlovsk 69.38 337⇑*i*P **P 17 07 04.5 -0.9**
SVE *e* pP 17 07 31.3 -0.2
SVE pmax pmax
comp=Z,80nm,1.5s,mb5.3
ARU Arti 69.94 336 *e*P **P 17 07 07.5 -1.3**
comp=Z,33nm,0.7s,mb5.3
ARU Arti 69.94 336⇑*i*P **P 17 07 07.6 -1.2**
ARU *e* pP 17 07 30.6 -4.4
ARU *e* 17 09 39.9
ARU *e*PPP PPP 17 11 22.0 -4.6
ARU *e*S S 17 16 05.8 -3.4
ARU *e*SS SS 17 20 33.2 -8.5
ARU pmax pmax
comp=Z,58nm,1.4s,mb5.2
KIV Kislovodsk 71.67 319⇑*e*P **P 17 07 18.7 -0.6**
comp=Z,20nm,0.9s,mb5.0
KIV Kislovodsk 71.67 319*c* *i*P **P 17 07 18.8 -0.6**
KIV *e*S S 17 16 24.8 -4.4
KIV *e*SS SS 17 21 04.4 -4.3
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.0
JMQS Jabal Moqyreh 71.78 302 P **P 17 07 20.8 +0.5**
RPZ Rata Peaks 71.80 135 P **P 17 07 19.0 -1.1**
comp=Z,14nm,0.7s,mb4.9,baz=347,slow=1.7,SNR=7.8
RPZ pP pP 17 07 47.2 +0.7
comp=Z,15nm,1.0s,baz=214,slow=20,SNR=1.9
ASF Jabal al Asfar 71.83 305 P **P 17 07 20.2 -0.3**
comp=Z,14nm,0.9s,mb4.8,baz=334,slow=2.9,SNR=11
ASF pP pP 17 07 48.2 +1.4
comp=Z,6.6nm,0.8s,baz=38,slow=4.3,SNR=3.1
GOF Gofitskoye 71.90 320⇓*i*P **P 17 07 28.5 +7.8**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.0
MBAR Mbarara 71.96 271 *i* P **P 17 07 21.9 +0.3**
BDAS Al Bad' 72.32 301 P **P 17 07 23.7 +0.2**
JMOS Jabal al Moall 72.50 302 P **P 17 07 24.9 +0.4**
MALT Malatya 72.54 312 *e*P **P 17 07 24.7 0.0**
comp=Z,17nm,1.3s,mb4.7
MALT Malatya 72.54 312 *e*P **P 17 07 24.7 0.0**
MALT pmax pmax
comp=Z,17nm,1.3s,mb4.7
TAYS Tayyib Ism 72.55 301 P **P 17 07 25.3 +0.4**
PET Petropavlovsk 73.45 31 *i* P **P 17 07 28.7 -0.9**
PET pmax pmax
comp=Z,123nm,0.6s,mb5.9
MA2 Magadan 73.59 23 *e*P **P 17 07 30.2 -0.1**
comp=Z,68nm,1.0s,mb5.3
MA2 Magadan 73.59 23 *e*P **P 17 07 30.2 -0.1**
MA2 pmax pmax
comp=Z,68nm,1.0s,mb5.3
VRHR Novokhopersk 75.34 325 *e*P **P 17 07 39.3 -1.2**
VRHR pmax pmax
comp=Z,60nm,0.7s,mb5.4
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR pmax pmax
comp=E,40nm,0.7s
URZ Urewera 75.42 128 P **P 17 07 40.3 -1.0**
comp=E,3.7nm,0.6s,mb4.3,baz=66,slow=6.0,SNR=5.8
ANN Anapa 75.47 318 *e*P **P 17 07 47.4 +6.0**
ANN *e**PP pP 17 08 21.9 +14
ANN *e* 17 17 11.2
ANN pmax pmax
comp=Z,45nm,1.0s,mb5.2
SEY Seymchan 76.31 21*c* *i*P **P 17 07 45.6 -0.2**
BR131 Keskin Array S 76.52 312 *e*P **P 17 07 46.3 -1.2**
comp=Z,12nm,0.8s,mb4.7
BR131 pP pP 17 08 11.5 -2.7
BRTR Keskin Array B 76.52 312 P **P 17 07 45.9 -1.6**
comp=Z,15nm,0.8s,mb4.8,baz=133,slow=7.3,SNR=80
BRTR pP pP 17 08 13.1 -1.1
comp=Z,6.4nm,0.9s,baz=136,slow=7.3,SNR=3.2
VORD Divnogorie 76.62 324 *e*P **P 17 07 46.5 -1.3**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
VORD pmax pmax
comp=E,10.0nm,0.5s
LBTB Lobatse 76.71 245 LR LR 17 41 47.6
comp=E,67nm,18.0s,baz=296,slow=36
LBTB Lobatse 76.71 245 *e*P **P 17 07 49.0 +0.2**
VRSR Storozhevoye 76.78 325 *e*P **P 17 07 47.9 -0.8**
VRSR pmax pmax
comp=Z,30nm,0.8s,mb5.1
VRSR pmax pmax
comp=N,8.0nm,0.5s
VRSR pmax pmax
comp=E,20nm,0.7s
SYO Syowa Base 77.05 199⇓⇓P **P 17 07 49.0 -0.8**
BOSA Boshof 77.16 242 P **P 17 07 51.0 -0.3**
comp=E,8.3nm,0.8s,mb4.5,baz=106,slow=4.0,SNR=12
BOSA pP pP 17 08 18.2 +0.2
comp=E,6.3nm,0.8s,baz=78,slow=7.5,SNR=4.1
BOSA LR LR 17 38 20.2
comp=E,118nm,18.0s,baz=272,slow=33
BOSA Boshof 77.16 242 *e*P **P 17 07 51.9 +0.5**
comp=E,11nm,0.9s,mb4.6
BOSA Boshof 77.16 242 *e*P **P 17 07 51.9 +0.6**
BOSA pmax pmax
comp=Z,11nm,0.9s,mb4.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	77.23	8	c iP	P	17 07 49.0	-1.8
TIXI				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.0						
SIM	Simferopol'	77.74	317	eP	P	17 07 53.8	-0.4
SIM				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.0						
OBN	Obninsk	79.75	328	⇑eP	P	17 08 04.4	-0.4
	comp=Z,22nm,0.6s,mb5.2						
OBN	Obninsk	79.75	328	c iP	P	17 08 04.5	-0.4
OBN				e*PP	pP	17 08 31.9	+0.3
OBN				e		17 11 07.6	
OBN				eS	S	17 17 54.0	-3.5
OBN				pmax	pmax		
	comp=Z,91nm,1.8s,mb5.3						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
VNDA	Vanda	79.88	169	P	P	17 08 05.2	0.0
	comp=Z,7.1nm,1.0s,mb4.5,baz=301,slow=5.3,SNR=30						
VNDA				pP	pP	17 08 32.4	+0.4
	comp=Z,7.5nm,1.2s,baz=327,slow=7.1,SNR=3.5						
VNDA	Vanda	79.88	169	eP	P	17 08 05.5	+0.2
	comp=Z,12nm,1.2s,mb4.6						
VNDA	Vanda	79.88	169	eP	P	17 08 05.5	+0.3
VNDA				pmax	pmax		
	comp=Z,12nm,1.2s						
SBA	Scott Base	80.97	169	eP	P	17 08 12.3	+1.3
	comp=Z,9.4nm,0.8s,mb4.7						
SBA	Scott Base	80.97	169	eP	P	17 08 12.3	+1.3
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
CFR	Carcaliu	81.88	316	⇓iP	P	17 08 15.4	-0.9
CFR	Carcaliu	81.88	316	⇑iP	P	17 08 15.4	-0.9
AKASG	Malin Array Be	82.55	322	P	P	17 08 18.2	-1.4
	comp=Z,11nm,0.8s,mb4.8,baz=85,slow=4.9,SNR=42						
AKASG				pP	pP	17 08 47.0	+0.3
	comp=Z,3.6nm,0.7s,baz=88,slow=4.6,SNR=4.0						
AKASG				PP	PP	17 11 29.7	-2.0
	comp=Z,0.2nm,0.3s,baz=95,slow=6.1,SNR=4.3						
AKASG	Malin Array Be	82.55	322	P	P	17 08 18.2	-1.4
AKASG				pP	pP	17 08 47.0	+0.3
AKASG				PP	PP	17 11 29.7	-2.0
VRI	Vrincioaia	83.00	317	⇓iP	P	17 08 23.2	+1.2
VRI	Vrincioaia	83.00	317	⇑iP	P	17 08 23.2	+1.2
MLR	Muntele Rosu	83.46	316	⇓iP	P	17 08 25.3	+1.0
MLR	Muntele Rosu	83.46	316	⇑iP	P	17 08 25.3	+1.0
BILL	Bilibino	83.92	20	⇓iP	P	17 08 26.2	+0.1
BILL				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.7						
VOIR		84.06	316	⇓iP	P	17 08 27.5	+0.1
VOIR		84.06	316	⇑iP	P	17 08 27.5	+0.1
TSUM	Tsumeb	84.15	251	eP	P	17 08 29.6	+1.1
	comp=Z,17nm,1.4s,mb4.7						
BURAR	Bucovina Array	84.39	318	⇓iP	P	17 08 30.6	+1.6
BURAR	Bucovina Array	84.39	318	⇑iP	P	17 08 30.6	+1.6
JOF	Joensuu	85.00	334	ep	P	17 08 31.9	+0.3
	comp=Z,16nm,0.8s,mb5.0						
LVZ	Lovozero	85.41	339	i P	P	17 08 32.4	-1.1
LVZ				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
APA	Apatity	85.73	339	⇓iP	P	17 08 34.8	-0.3
APA				pmax	pmax		
	comp=Z,51nm,1.5s,mb5.2						
DRGR		85.91	317	⇑iP	P	17 08 36.6	+0.1
VSU	Vasula	85.92	329	c iP	P	17 08 36.4	+0.1
SUW	Suwalki	86.91	324	eP	P	17 08 41.1	-0.1
FINES	FINESS Array B	86.96	332	P	P	17 08 41.4	+0.1
	comp=Z,6.5nm,0.7s,mb4.7,baz=96,slow=5.9,SNR=66						
FINES				pP	pP	17 09 07.8	-0.7
	comp=Z,1.7nm,0.6s,baz=108,slow=6.0,SNR=2.6						
KAF	Kangasniemi	87.01	333	ep	P	17 08 41.8	+0.3
	comp=Z,19nm,0.7s,mb5.1,baz=98,slow=4.3						
KAF	Kangasniemi	87.01	333	eP	P	17 08 41.8	+0.3
KAF				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
CRVS	Cervenica-Dubn	87.09	319	eP	P	17 08 43.1	+0.9
CRVS				ePP	PP	17 12 07.9	-1.2
STHS	Stebnicka Huta	87.31	320	eP	P	17 08 44.5	+1.2
STHS				epP	pP	17 09 11.2	+0.7
KECS	Kecovo	87.67	319	eP	P	17 08 45.3	+0.3
KECS				epP	pP	17 09 12.3	0.0
NIE	Niedzica	87.91	320	eP	P	17 08 47.5	+1.4
PSZ	Piszkesteto	87.98	318	eP	P	17 08 46.9	+0.4
	comp=Z,18nm,1.4s,mb4.9						
PSZ	Piszkesteto	87.98	318	eP	P	17 08 46.9	+0.4
PSZ				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
OJC	Ojcow	88.36	320	eP	P	17 08 48.7	+0.5
KEV	Kevo	88.62	340	ep	P	17 08 48.5	-0.5
	comp=Z,24nm,0.7s,mb5.3						
KEV	Kevo	88.62	340	eP	P	17 08 48.5	-0.5
KEV				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.3						
VYHS	Vyhne	88.75	319	eP	P	17 08 50.3	+0.2
ARCES	ARCESS Array B	89.08	340	P	P	17 08 51.1	0.0
	comp=Z,23nm,0.8s,mb5.3,baz=90,slow=4.9,SNR=48						
ARE0	ARCESS Array S	89.08	340	eP	P	17 08 51.1	-0.1
TIP	Timpagrande	89.23	309	eP	P	17 08 53.6	+1.0
OKC	Ostrava-Krasne	89.36	320	eP	P	17 08 53.6	+0.6
MORC	Moravsky Berou	89.75	320	eP	P	17 08 55.4	+0.6
	comp=Z,5.7nm,0.8s,mb4.8						
MORC				pP	pP	17 09 22.4	+0.3
MORC	Moravsky Berou	89.75	320	eP	P	17 08 55.4	+0.6
MORC				*PP	pP	17 09 22.5	+0.3
MORC				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
ZST	Bratislava	89.87	318	eP	P	17 08 56.3	+0.9
DPC	Dobruska-Polom	90.59	320	eP	P	17 08 59.7	+1.0
GOLS	Golise	90.68	316	eP	P	17 09 00.0	+0.8
GOLS				epP	pP	17 09 27.2	+0.5
UPC	Upice	90.80	320	eP	P	17 09 00.0	+0.3
PERS	Pernice	91.08	316	i P	P	17 09 01.7	+0.6
SNAA	Sanae	91.26	198	P	P	17 09 03.2	+1.8
SNAA	Sanae	91.26	198	⇓iP	P	17 09 03.6	+2.2
LJU	Ljubljana	91.44	316	eP	P	17 09 03.5	+0.7
LJU				epP	pP	17 09 30.6	+0.4
PRU	Pruhonice	91.70	320	eP	P	17 09 04.4	+0.5
PVCC	Panska Ves	91.72	320	eP	P	17 09 04.4	+0.5
CADS	Cadrg	92.00	316	eP	P	17 09 05.3	-0.1
BRG	Berggiesshubel	92.14	321	i P	P	17 09 06.7	+0.8
	comp=Z,5.6nm,0.8s,mb4.8						
BRG	Berggiesshubel	92.14	321	i P	P	17 09 06.7	+0.8
BRG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
GERES	GERESS Array B	92.18	319	P	P	17 09 06.0	-0.1
	comp=Z,1.6nm,0.6s,mb4.4,baz=106,slow=3.1,SNR=19						
GERES				pP	pP	17 09 33.1	-0.5
	comp=Z,1.5nm,0.9s,baz=108,slow=4.2,SNR=3.7						
KHC	Kasperske Hory	92.27	319	eP	P	17 09 06.5	0.0
CLL	Collm	92.75	321	eP	P	17 09 15.0	+6.3
HFS	Hagfors	92.78	330	P	P	17 09 07.9	-0.7
	comp=Z,8.2nm,0.6s,mb5.2,baz=126,slow=5.6,SNR=21						
VNA2	Neumayer--Watz	92.89	198	P	P	17 09 11.1	+2.2
NKC	Novy Kostel	93.06	320	eP	P	17 09 04.4	-5.7
VNA1	Neumayer--Stat	93.26	198	P	P	17 09 11.9	+1.4
VNA3	Neumayer Olymp	93.46	197	P	P	17 09 09.6	-1.9
GRA1	Grafenberg Arr	93.83	319	ePKP	P	17 09 14.1	+0.5
GRF	Grafenberg Arr	93.83	319	ePKP	P	17 09 14.1	+0.5
NB2	NORSAR Subarra	94.03	331	P	P	17 09 13.8	-0.4
	comp=Z,4.5nm,0.8s,mb4.8,baz=95,slow=5.0						
NB2	NORSAR Subarra	94.03	331	P	P	17 09 13.8	-0.4
NB2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
NOA	NORSAR Array B	94.03	331	P	P	17 09 13.3	-0.9
	comp=Z,3.3nm,0.7s,mb4.8,baz=93,slow=4.6,SNR=22						
NOA				PP	PP	17 13 00.8	-3.3
	comp=Z,2.1nm,1.0s,baz=96,slow=7.4,SNR=3.1						
DAVOX	Davos	94.68	316	P	P	17 09 18.1	+0.6
	comp=Z,1.9nm,0.5s,mb4.8,baz=169,slow=21,SNR=3.3						
ILAR	Eielson Array	102.05	24	PKKPbc		17 25 54.0	
	comp=Z,0.8nm,0.9s,baz=135,slow=2.6,SNR=5.7						
YKA	Yellowknife Ar	115.27	18	PKP	PKPdf	17 14 36.0	0.0
	comp=Z,1.2nm,0.8s,baz=323,slow=0.5,SNR=5.1						
HAWA	Hanford	123.99	34	ePKPdf	PKPdf	17 14 55.0	+1.7
MOD	Modoc	126.06	39	ePKPdf	PKPdf	17 14 59.3	+1.9
MSO	Missoula	126.71	31	⇓ePKPdf	PKPdf	17 14 59.5	+1.0
WVOR	Wild Horse Val	126.80	38	ePKPdf	PKPdf	17 15 00.4	+1.7
MCMT	McKenzie Canyo	128.61	32	ePKPdf	PKPdf	17 15 04.7	+2.4
BOZ	Bozeman (W)	128.69	30	ePKPdf	PKPdf	17 15 04.2	+1.9
QLMT	Earthquake Lak	129.35	31	ePKPdf	PKPdf	17 15 06.2	+2.5
ULM	Lac du Bonnet	131.13	16	PKP	PKPdf	17 15 07.0	+0.2
	comp=Z,2.2nm,0.6s,baz=77,slow=3.4,SNR=3.2						
HWUT	Hardware Ranch	131.46	34	PKPdf	PKPdf	17 15 08.8	+1.0
DUG	Dugway	131.65	37	ePKPdf	PKPdf	17 15 11.5	+3.4
PDAR	Pinedale Array	131.76	32	PKP	PKPdf	17 15 08.9	+0.7
	comp=Z,1.6nm,0.9s,baz=270,slow=1.5,SNR=10						
PDAR				SKPbc		17 18 22.8	
	comp=Z,2.8nm,0.9s,baz=17,slow=1.8,SNR=13						
PFO	Pinyon Flat Ob	133.01	46	ePKPdf	PKPdf	17 15 15.3	+4.3
NEN	Nelson	133.05	43	ePKPdf	PKPdf	17 15 12.1	+1.1
MSU	Marysvale	133.09	38	ePKPdf	PKPdf	17 15 14.2	+3.2
TMUT	Trail Mountain	133.17	36	ePKPdf	PKPdf	17 15 14.6	+3.6
PLCA	Paso Flores	135.25	187	PKP	PKPdf	17 15 15.8	+1.0
	comp=Z,2.2nm,0.9s,baz=215,slow=21,SNR=3.3						
CCM	Cathedral Cave	143.61	19	ePKPdf	PKPdf	17 15 27.7	-2.1
CPUP	Villa Florida	144.34	212	PKP	PKPdf	17 15 31.6	+0.1
	comp=Z,36nm,0.9s,baz=132,slow=4.8,SNR=51						
CPUP	Villa Florida	144.34	212	ePKIKP	PKPdf	17 15 32.1	+0.6
LTX	Lajitas	144.37	42	ePKPdf	PKPdf	17 15 32.3	+0.8
TXAR	Lajitas Array	144.37	42	PKP	PKPdf	17 15 32.1	+0.6
	comp=Z,15nm,0.6s,baz=277,slow=0.7,SNR=219						
TXAR				pPKP		17 16 00.8	
	comp=Z,2.9nm,0.6s,baz=270,slow=2.5,SNR=2.6						
WCI	Wyandotte Cave	144.77	12	ePKPab	PKPab	17 15 32.0	-1.3
WCI				epPKPdf		17 15 59.9	
BAO	Brasilia Array	145.15	236	P	PKPdf	17 15 35.0	+1.8
BDFB	Brasilia	145.16	236	PKPbc	PKPbc	17 15 35.0	+1.3
	comp=Z,15nm,0.6s,baz=116,slow=3.0,SNR=20						
BDFB				pPKPbc		17 16 01.9	
	comp=Z,7.9nm,0.6s,baz=150,slow=5.0,SNR=3.6						
GLAT	Glass	145.86	17	ePKPdf	PKPdf	17 15 35.8	+1.9
GNAR	Gosnell	145.91	19	ePKPdf	PKPdf	17 15 36.1	+2.2
UTMT	University of	145.91	17	ePKPdf	PKPdf	17 15 35.9	+1.9
HBAR	Harrisburg	146.08	20	ePKPdf	PKPdf	17 15 36.5	+2.2
HALT	Halls	146.18	18	ePKPdf	PKPdf	17 15 36.4	+2.0
FWV	Forest Hill	146.23	5	ePKPdf	PKPdf	17 15 35.9	+1.4
WVT	Waverly	146.40	16	ePKPdf	PKPdf	17 15 37.2	+2.4
ELN	Prospectdale	146.59	5	ePKPdf	PKPdf	17 15 37.4	+2.3
BLA	Blacksburg	146.63	5	ePKPdf	PKPdf	17 15 37.2	+2.1
TZTN	Tazewell	146.92	9	ePKPdf	PKPdf	17 15 38.3	+2.7
PLAL	Pickwick Lake	147.41	17	ePKPdf	PKPdf	17 15 39.0	+2.5
OXF	Oxford	147.44	19	ePKPbc	PKPdf	17 15 39.7	+3.1
SWET	Sewanee	147.74	13	ePKPdf	PKPdf	17 15 39.1	+2.1
NATX	Nacogdoches	147.76	28	ePKPbc	PKPdf	17 15 41.7	+4.5
CPCT	Cooper Cave	147.81	11	ePKPbc	PKPdf	17 15 40.9	+3.8
MYNC	Murphy	148.25	11	ePKPbc	PKPdf	17 15 42.3	+4.4
JSC	Jenkinsville	149.46	6	ePKPbc	PKPdf	17 15 45.5	+5.7
LRAL	Lakeview Retre	149.54	16	ePKPbc	PKPdf	17 15 45.2	+5.2
GOGA	Godfrey	149.99	10	ePKPbc	PKPdf	17 15 46.6	+5.9
GOGA				ePKPab	PKPab	17 15 52.2	-1.8
LPAZ	La Paz	158.07	204	PKPbc	PKPdf	17 16 07.5	+15
	comp=Z,51nm,0.5s,baz=270,slow=10,SNR=221						

*NEIC **03** 17:03:11.6±1.5, 16.71S×174.64W, h157km±13km, mb4.1/1, Error ellipse: s-maj=31.5km s-min=14.6km az=137.0*
*IDC **03** 17:03:11.2±2.6, 16.70S×174.70W, h149km±24km, mb3.4/5, mb1 3.8/6, mb1mx3.7/13, mbtmp4.0/6, MS2.8/1, Ms1 2.8/1, ms1mx2.4/11, Error ellipse: s-maj=39.6km s-min=18.6km az=137.0*
ISC 03 17:03:09.2±2.0**, 16.7S**±0.2×**174.6W**±0.2**, h150**km±19km**, n16,** σ1s**17**/12**, mb3.6**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.90	45	P	P	17 04 11.1	+2.1
	39nm,0.3s,baz=111,slow=2.1,SNR=54						
AFI				S	S	17 04 53.3	-1.6
	45nm,0.3s,baz=43,slow=22,SNR=15						
AFI				LR	LR	17 05 17.4	
	comp=Z,128nm,20.4s,baz=260,slow=32						
AFI	Afiamalu	3.90	45	P	P	17 04 11.1	+2.1
AFI				S	S	17 04 53.3	-1.6
AFI				LR	LR	17 05 17.4	
STKA	Stephens Creek	42.38	241	P	P	17 10 50.6	+0.1
	5.3nm,0.8s,mb4.2,baz=83,slow=9.0,SNR=8.8						
STKA	Stephens Creek	42.38	241	eP	P	17 10 50.6	0.0
WRA	Warramunga Arr	48.42	258	P	P	17 11 37.7	-0.8
	0.6nm,0.4s,mb3.6,baz=96,slow=7.6,SNR=12						
VNDA	Vanda	61.97	186	P	P	17 13 14.8	-0.5
	0.3nm,0.7s,mb3.3,baz=20,slow=6.6,SNR=4.3						
VNDA	Vanda	61.97	186	P	P	17 13 14.8	-0.5
TXAR	Lajitas Array	82.30	56	P	P	17 15 17.1	+1.3
	0.2nm,0.6s,mb2.9,baz=225,slow=7.1,SNR=3.9						
ANMO	Albuquerque	82.52	50	eP	P	17 15 15.7	-1.2
	2.9nm,0.8s,mb4.1						
ANMO				ePcP	PcP	17 15 24.1	+2.3
ILAR	Eielson Array	83.94	12	P	P	17 15 24.0	+0.7
	0.6nm,0.5s,mb3.5,baz=230,slow=5.9,SNR=9.5						
ARCES	ARCESS Array B	125.72	351	PKP	PKPdf	17 21 53.3	+0.8
	2.0nm,0.8s,slow=2.4,SNR=3.6						
KMBO	Kilima Mbogo	143.92	244	PKP	PKPdf	17 22 28.5	+0.8
	1.2nm,0.6s,baz=48,slow=14,SNR=5.3						
CLL	Collm	144.94	352	i PKIKP	PKPdf	17 22 29.9	+1.5
	logA/T=0.6						
BRG	Berggiesshubel	145.23	350	i P	PKPdf	17 22 30.9	+2.1
BRTR	Keskin Array B	146.40	319	PKPbc	PKPbc	17 22 34.7	+2.1
	1.3nm,0.7s,baz=101,slow=3.2,SNR=5.7						
GERES	GERESS Array B	147.23	350	PKPbc	PKPdf	17 22 36.9	+4.7
	1.6nm,0.9s,baz=18,slow=4.2,SNR=8.7						

*NEIC **03** 17:11:29.2, 16.46N×98.94W, h19km, MD3.9(MEX), After MEX.*
MEX 03 17:11:29.5±0.8**, 16.47N×98.94W, h31**km±14km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.79	96	i P	Pn	17 11 42.4	-2.1
PNIG				i S	Sb	17 11 52.6	-2.4
PNIG	Pinotepa	0.79	96	eP	Pn	17 11 41.7	-2.8
PNIG				i S	Sb	17 11 52.6	-2.4
ACX	Acapulco	1.01	293	i P	Pn	17 11 45.0	-2.8
ACX				i S	Sn	17 11 57.0	-4.0
CAIG	El Cayaco	1.39	294	eP	Pn	17 11 51.3	-1.9
CAIG				i S	Sn	17 12 08.1	-2.6
CAIG	El Cayaco	1.39	294	eP	Pn	17 11 50.9	-2.3
CAIG				i S	Sn	17 12 08.6	-2.1
PLIG	Platanillo	1.98	344	eP	Pn	17 11 59.1	-2.5
PLIG				eS	Sn	17 12 22.6	-3.1
VHO	Vista Hermosa	2.20	74	eP	Pn	17 12 00.8	-3.9
VHO				eS	Sn	17 12 26.5	-4.6
OXX	Oaxaca	2.21	74	i P	Pn	17 12 01.5	-3.4
YAIG	Yautepec	2.38	357	eP	Pn	17 12 04.9	-2.4
YAIG				i S	Sn	17 12 30.9	-4.8
CMIG	Matias Romero	3.94	80	eP	Pn	17 12 25.9	-3.5
CMIG				i S	Sn	17 13 11.7	-3.4

*NEIC **03** 17:18:15.8, 32.68S×71.68W, h21km, ML3.2(GUC), After GUC.*
GUC 03 17:18:15.8±0.7**, 32.68S×71.68W, h21**km±12km**, MD3.7, ML3.2, 9C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.35	174	⇑iP	Pb	17 18 23.4	0.0
IHA				i S	Sb	17 18 29.0	+0.5
ROCH	El Roble	0.64	118	⇑iP	Pb	17 18 28.2	+0.1
ROCH				i S	Sb	17 18 37.2	+0.6
LCCH	Las Cruces	0.80	173	eP	Pb	17 18 30.3	-0.7
LCCH				i S	Sb	17 18 41.3	-0.1
CHNG	Los Chungos	0.81	11	⇑iP	Pb	17 18 30.6	-0.3
CHNG				i S	Sb	17 18 41.5	+0.1
CHNG				AMP		17 18 43.3	
	comp=E,429nm,0.4s						
JACH	Jahuel	0.92	91	⇑iP	Pb	17 18 32.4	-0.6
JACH				i S	Sb	17 18 45.3	+0.6
PEL	Peldehue	0.96	119	⇑iP	Pb	17 18 33.3	-0.3
PEL				i S	Sb	17 18 46.1	+0.2
RCDM	Rinconada Maip	1.09	138	eP	Pb	17 18 34.9	-1.0
RCDM				i S	Sb	17 18 49.4	-0.4
RCDM				AMP		17 18 52.0	
	comp=N,1µm,0.2s						
ILCH	Illapel	1.12	23	eP	Pb	17 18 36.0	-0.4
ILCH				i S	Sb	17 18 50.6	0.0
ILCH				AMP		17 18 55.3	
	comp=N,798nm,0.2s						
STL	Santa Lucia	1.16	131	eP	Pn	17 18 35.5	-1.4
STL				i S	Sb	17 18 51.3	-0.3
STL				AMP		17 18 53.5	
	comp=N,305nm,0.4s						
TACH	Talagante	1.16	148	⇓iP	Pn	17 18 36.1	-0.8
TACH				i S	Sb	17 18 50.9	-0.8
DSCH	Colegio Aleman	1.18	128	⇑iP	Pn	17 18 36.6	-0.6
DSCH				i S	Sb	17 18 52.1	-0.2
DSCH				AMP		17 18 53.2	
	comp=E,2µm,0.4s						
CLCH	Cerro Calan	1.20	127	⇓iP	Pn	17 18 36.9	-0.7
CLCH				i S	Sb	17 18 53.0	+0.2
CLCH				AMP		17 18 58.4	
	comp=E,650nm,0.3s						
ANTU	Antumapu	1.25	136	eP	Pn	17 18 38.0	-0.3
ANTU				i S	Sb	17 18 54.6	+0.3
ANTU				AMP		17 18 57.3	
	comp=N,780nm,0.4s						
LNV	Longovilo	1.30	170	eP	Pn	17 18 37.2	-1.7
LNV				i S	Sb	17 18 54.5	-1.1
FCH	Farellones	1.34	119	⇓iP	Pn	17 18 39.1	-0.4
FCH				i S	Sn	17 18 56.9	+0.1
FCH				AMP		17 18 58.7	
	comp=N,622nm,0.2s						
PCH	Pirque	1.36	134	eP	Pn	17 18 39.4	-0.4
SJCH	San Jose de Ma	1.47	131	i P	Pn	17 18 40.4	-1.0
SJCH				i S	Sn	17 19 00.1	-0.1
SJCH				AMP		17 19 03.9	
	comp=E,361nm,0.4s						
CHCH	Chadas Angostu	1.52	146	eP	Pn	17 18 42.0	-0.1
CMCH	Combarbala	1.60	21	⇑iP	Pn	17 18 43.1	-0.2
CMCH				i S	Sn	17 19 04.1	+0.5
CMCH				AMP		17 19 08.2	
	comp=E,2µm,0.7s						
CACH	El Canelo	1.70	148	⇓iP	Pn	17 18 45.5	+0.9
LMEL	Las Melosas	1.70	134	⇑iP	Pn	17 18 45.0	+0.3
LMEL				i S	Sn	17 19 07.4	+1.4
LMEL				AMP		17 19 10.7	
	comp=N,898nm,0.2s						
CICH	Cipreses	1.95	148	⇑iP	Pn	17 18 48.5	+0.2
CICH				i S	Sn	17 19 14.0	+1.7
TLL	Tololo Astrono	2.61	17	AMP		17 19 39.2	
	comp=E,267nm,0.4s						

MAN 03 17:19:48.2, 9.77N×126.44E, h1km, mb4.4, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.94	271	eP	Pg	17 20 06.5	-0.4
SCPH				eS	Sg	17 20 17.5	-1.9
BUTP	Butuan	1.13	226	eP	Pb	17 20 09.5	-0.7
BUTP				eS	Sb	17 20 23.9	-1.4
MSLP	Maasin	1.60	283	eP	Pn	17 20 17.8	0.0
MSLP				eS	Sb	17 20 37.8	-1.1
PLP	Palo	2.00	314	eP	Pn	17 20 28.1	+4.6
PLP				eS	Sn	17 20 49.5	0.0
BESP	Borongan	2.07	332	eP	Pn	17 20 24.8	+0.2
BESP				eS	Sn	17 20 51.3	-0.1
BUKP	Musuan	2.31	216	eP	Pn	17 20 28.4	+0.3
BUKP				eS	Sn	17 20 54.7	-2.9
DCPH	Dipolog City	3.27	249	⇓iP	Pn	17 20 41.3	-0.3
DCPH				eS	Sn	17 21 17.2	-4.5
PAGZ	Pagadian	3.57	238	eP	Pn	17 20 46.2	+0.2
IPIL	Ipil	4.30	243	eP	Pn	17 20 57.1	+0.8
IPIL				eS	Sn	17 21 45.2	-2.6

*CSEM **03** 17:37:04.5±0.1, 36.03N×53.71E, h2km, ML3.2, Error ellipse: s-maj=4.1km s-min=2.1km az=110.0*
*TEH **03** 17:37:06.2, 36.11N×53.64E, h10km, Mn3.2*
*THR **03** 17:37:06.8±0.5, 35.97N×53.77E, h14km±7km, ML3.0*
ISC 03 17:37:05.4±0.9**, 36.04N**±0.04×**53.67E**±0.06**, h2**km±6km**, n24,** σ1s**13**/26**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKIA	Kiasar	0.17	3	Pg	Pg	17 37 08.6	-0.1
IGLO	Galoogah	0.30	332	Pg	Sg	17 37 14.9	-0.6
ISHM	Shahmirzad	0.39	233	Pg	Pg	17 37 13.6	+0.5
IANJ	Anjiloo	0.61	161	Pg	Pg	17 37 17.9	+0.4
IFIR	Firoozkooh	0.85	242	Pg	Pg	17 37 22.0	-0.3
IFIR				Sg	Sg	17 37 33.2	-0.3
ILAS	Lasjerd	0.88	222	Pg	Pg	17 37 22.4	-0.5
IPRN	Paran-Amol	1.18	280	Pg	Pb	17 37 26.3	-1.7
IDMV	Damavand	1.41	251	Pg	Pg	17 37 31.9	-1.6
DAMV	Damavand	1.44	254	ePG	Pg	17 37 34.3	+0.1
DAMV				eSG	Sg	17 37 54.8	+1.4
DAMV				AML	AML	17 37 59.7	
	comp=N,312nm,0.4s						
IAFJ	Afjeh	1.60	264	Pg	Pn	17 37 35.1	+0.3
IAFJ	Afjeh	1.60	264	Sg	Sb	17 37 55.4	-0.5
IVRN	Varamin	1.90	237	Pn	Pn	17 37 40.2	+1.2
IVRN	Varamin	1.90	237	Sn	Sn	17 38 02.3	-1.5
THKV	Tehran--Karaj	2.27	268	ePN	Pn	17 37 47.2	+2.9
IRAZ	Razeghan	3.11	259	Pn	Pn	17 37 59.6	+3.2
IKLH	Kalahroud	3.22	213	Pn	Pn	17 37 57.7	-0.2
NASN	Na'in	3.31	193	ePN	Pn	17 37 59.9	+0.6
NASN	Na'in	3.31	193	ePn	Pn	17 37 59.8	+0.6
	SNR=52						
IZEF	Zefreh	3.33	200	Pn	Pn	17 37 58.9	-0.5
ASAO	Ashtian	3.33	245	ePN	Pn	17 38 01.2	+1.7
ASAO				AML	AML	17 39 01.6	
	comp=N,24nm,0.6s						
ASAO	Ashtian	3.33	245	ePn	Pn	17 38 01.2	+1.7
	SNR=52						
IGAR	Garneh	3.98	198	Pn	Pn	17 38 06.4	-2.3
IPIR	Pirpir	4.06	215	Pn	Pn	17 38 09.4	-0.5
SNGE	Sanandaj	5.24	261	ePn	Pn	17 38 27.7	+1.1

*CASC **03** 17:43:58.2±1.9, 12.22N×88.62W, h36km±999km, MD4.6, ML4.2, mb4.7(NEIC)*
*IDC **03** 17:44:00.4±3.7, 12.52N×88.13W, h49km±36km, mb4.1/19, mb1 4.3/21, mb1mx4.2/29, mbtmp4.4/21, ML3.2/2, MS3.9/10, Ms1 3.9/10, ms1mx3.6/35, Error ellipse: s-maj=24.7km s-min=10.4km az=59.0*
*NEIC **03** 17:44:01.6±1.1, 12.38N×88.20W, h61km±10km, mb4.7/39, Error ellipse: s-maj=10.6km s-min=5.9km az=46.0*
ISC 03 17:43:58.1±0.5**, 12.21N**±0.04×**88.60W**±0.03**, h46**km±4km**, n132,** σ1s**15**/141**, mb4.6**/51**, MS3.9**/9**, 14C-13D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	San Miguel	1.25	14	⇑eP	P	17 44 19.6	0.0
BLLM	Bellamira	1.28	16	⇑eP	P	17 44 19.7	-0.2
BLLM				eS	S	17 44 38.5	+2.4
CNCH	Conchagua	1.30	35	⇑eP	P	17 44 19.5	-0.7
SNVI	San Vicente	1.42	350	⇑eP	P	17 44 21.4	-0.6
SNVI				eS	S	17 44 39.0	-0.7
LFRS	El Faro	1.48	342	⇑eP	P	17 44 21.8	-1.0
LCBS	La Ceiba	1.49	345	⇑eP	P	17 44 22.1	-0.8
LBRS	Las Brisas	1.58	344	⇑eP	P	17 44 23.8	-0.4
CRIN	San Cristobal	1.59	72	eP	P	17 44 25.0	+0.6
SNET	Serv Nac Est T	1.60	337	⇓eP	P	17 44 22.9	-1.6
CAHU	Cacacuatique	1.60	14	⇓eP	P	17 44 24.7	+0.2
LFU	La Fuente	1.61	342	eP	P	17 44 24.6	-0.1
BOQS	Boqueron	1.66	336	⇑eP	P	17 44 24.8	-0.6
BOQS				eS	S	17 44 45.9	+0.4
LEON	Leon	1.68	83	⇑eP	P	17 44 24.8	-0.8
TEL3	Telica 3	1.75	78	eP	P	17 44 26.4	-0.2
TELN	Telica	1.77	77	⇓eP	P	17 44 26.7	-0.2
TELN				eS	S	17 44 50.5	+2.3
MIRN	Miramar	1.85	83	⇑eP	P	17 44 28.0	-0.1
SBLS	San Blas	1.91	328	eP	P	17 44 28.2	-0.6
SNJE	San Jose	1.92	329	⇑eP	P	17 44 28.5	-0.5
COPN	Copaltepe	1.96	91	⇓eP	P	17 44 29.4	-0.1
COPN				eS	S	17 44 54.0	+1.0
RTR	El Retiro	1.97	329	eP	P	17 44 29.4	-0.2
RTR				eS	S	17 44 54.0	+0.8
MOMJ	Momotombo	2.02	84	eP	P	17 44 30.5	+0.1
MOMJ				eS	S	17 44 56.1	+1.6
RBDL	Robledal	2.17	331	⇓eP	P	17 44 32.5	-0.1
RBDL				eS	S	17 44 57.5	-0.9
XAVN	Gruta Xavier	2.22	91	⇓eP	P	17 44 33.6	+0.4
XAVN				eS	S	17 45 00.3	+0.7
CRUN	El Crucero	2.26	95	⇑eP	P	17 44 33.9	+0.1
MGAN	Managua	2.30	91	⇓eP	P	17 44 34.2	-0.2
MGAN				eS	S	17 45 01.7	+0.2
MGAN				i		17 45 02.7	
	comp=N,2µm,0.5s						
TICN	Ticuantepe	2.32	94	⇓eP	P	17 44 35.3	+0.6
TICN				eS	S	17 45 02.7	+0.6
WILN	Americas 2	2.35	91	⇓eP	P	17 44 35.5	+0.3
WILN				eS	S	17 45 03.7	+0.7
MASN	Masaya	2.40	95	eP	P	17 44 36.0	+0.1
MASN				eS	S	17 45 04.7	+0.5
APON	Apoyo	2.49	96	⇓eP	P	17 44 37.1	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
APON				eS	S	17 45 07.6	+1.2
PYTN	Playitas	2.50	82⇑	eP	P	17 44 36.8	-0.5
PYTN				eS	S	17 45 06.4	-0.4
SSNN	San Juan del S	2.84	108	eP	P	17 44 41.9	-0.2
SSNN				eS	S	17 45 13.8	-1.6
CONN	Concepcion	2.98	102	eP	P	17 44 43.1	-0.9
CONN				eS	S	17 45 17.7	-1.1
MADN	Villa Maderas	3.10	105⇑	eP	P	17 44 45.0	-0.8
VCR	Vista de Mar	3.57	125⇓	eP	P	17 44 51.6	-0.9
CGA2	Cerro Gallo 2	4.60	118	eP	P	17 45 07.5	+0.4
PRS1	Puriscal	4.75	117	eP	P	17 45 09.7	+0.6
LCR2	La Lucha 2	5.13	118⇓	eP	P	17 45 15.5	+1.0
CCIG	Comitan	5.31	320	i P	P	17 45 17.2	+0.2
BUS	Buena Vista	5.43	119⇓	eP	P	17 45 19.7	+1.0
OXX	Oaxaca	9.24	303	eP	P	17 46 14.5	+2.9
VHO	Vista Hermosa	9.24	303	i P	P	17 46 15.9	+4.3
SOR	Soroa	11.79	26	eP	P	17 46 48.3	+1.8
ROSC	El Rosal	15.88	116	P	P	17 47 38.9	-1.3
	comp=N,0.4nm,0.3s,baz=270,slow=20,SNR=2.1						
ROSC				LR	LR	17 53 59.3	
	comp=N,230nm,19.5s,baz=354,slow=38						
ZAIG	Zacatecas	16.95	310	i P	P	17 47 59.5	+5.8
SDV	Santo Domingo	17.96	99	P	P	17 48 03.3	-3.0
	comp=N,0.7nm,0.3s,baz=317,slow=4.9,SNR=8.2						
SDV	Santo Domingo	17.96	99	P	P	17 48 03.3	-3.0
SDV				pPn		17 48 07.3	
NATX	Nacogdoches	20.25	345	eP	P	17 48 32.6	+0.3
	comp=N,129nm,1.2s						
LRAL	Lakeview Retre	20.78	4	eP	P	17 48 38.0	+0.2
	comp=N,31nm,1.0s						
GOGA	Godfrey	21.62	12	eP	P	17 48 46.2	-0.1
	comp=N,41nm,1.0s,mb4.8						
LTX	Lajitas	22.07	323	eP	P	17 48 52.5	+1.7
	comp=N,21nm,0.9s,mb4.6						
TXAR	Lajitas Array	22.07	323	P	P	17 48 51.5	+0.8
	comp=N,12nm,0.8s,mb4.4,baz=150,slow=10,SNR=144						
TXAR				PcP	PcP	17 52 49.9	+1.7
	comp=N,1.8nm,1.2s,baz=153,slow=4.0,SNR=4.2						
TXAR				LR	LR	17 59 24.1	
	comp=N,205nm,20.1s,MS3.5,baz=230,slow=42						
NHSC	New Hope	22.18	19	eP	P	17 48 52.3	+0.5
	comp=N,116nm,1.2s,mb5.2						
OXF	Oxford	22.22	358	eP	P	17 48 52.9	+0.8
	comp=N,28nm,0.8s,mb4.7						
SJG	San Juan	22.43	72	P	P	17 48 50.1	-4.3
	comp=N,6.8nm,0.7s,mb4.2,baz=328,slow=19,SNR=2.7						
PLAL	Pickwick Lake	22.68	1	eP	P	17 48 55.5	-1.2
	comp=N,22nm,1.2s,mb4.5						
SWET	Sewanee	23.03	6	eP	P	17 48 58.9	-1.3
MYNC	Murphy	23.12	9	eP	P	17 49 01.7	+0.6
	comp=N,26nm,1.0s,mb4.6						
HALT	Halls	23.61	358	eP	P	17 49 05.2	-0.6
HALT				pP		17 49 18.0	
WVT	Waverly	23.83	2	eP	P	17 49 07.5	-0.4
	comp=N,6.1nm,0.8s,mb4.1						
GLAT	Glass	23.96	359	eP	P	17 49 08.4	-0.9
WMOK	Wichita Mounta	24.26	339	eP	P	17 49 11.4	-0.7
	comp=N,30nm,1.1s,mb4.6						
TZTN	Tazewell	24.65	10	eP	P	17 49 12.4	-3.5
MNTX	Cornudas Mount	24.81	324	eP	P	17 49 17.3	-0.2
	comp=N,37nm,1.5s,mb4.7						
SIUC	Southern Illin	25.41	359	eP	P	17 49 22.2	-0.9
	comp=N,35nm,0.8s,mb4.9						
CCM	Cathedral Cave	25.85	355	eP	P	17 49 25.8	-1.4
	comp=N,59nm,1.0s,mb5.1						
ELN	Prospectdale	25.89	14	eP	P	17 49 22.1	-5.5
BLA	Blacksburg	25.96	15	eP	P	17 49 27.5	-0.7
	comp=N,9.2nm,0.8s,mb4.4						
WCI	Wyandotte Cave	26.00	4	eP	P	17 49 26.4	-2.2
	comp=N,17nm,0.8s,mb4.6						
FWV	Forest Hill	26.21	14	eP	P	17 49 28.4	-2.2
ANMO	Albuquerque	27.85	327	P	P	17 49 45.9	+0.3
	comp=N,2.1nm,0.7s,mb3.9,baz=134,slow=14,SNR=6.5						
ANMO	Albuquerque	27.85	327	eP	P	17 49 48.3	+2.7
	comp=N,21nm,1.8s,mb4.5						
ACSO	Alum Creek Sta	28.35	9	eP	P	17 49 48.1	-1.9
	comp=N,12nm,0.9s,mb4.5						
TUC	Tucson	28.56	318	eP	P	17 49 56.8	+4.8
	comp=N,11nm,1.3s,mb4.4						
SDCO	Great Sand Dun	29.59	332	eP	P	17 50 02.1	+1.1
	comp=N,19nm,1.0s,mb4.8						
ISCO	Idaho Springs	31.33	334	eP	P	17 50 17.7	+1.2
	comp=N,14nm,0.9s,mb4.8						
PV01	Paradox Valley	31.37	329	eP	P	17 50 18.6	+1.7
PV10	Paradox Valley	31.80	329	eP	P	17 50 22.0	+1.4
SAML	Samuel	32.86	129	eP	P	17 50 28.6	-1.5
	comp=N,13nm,1.1s,mb4.8						
SRU	San Rafael	33.11	328	eP	P	17 50 34.2	+2.2
NEN	Nelson	33.27	319	eP	P	17 50 34.5	+1.1
SADO	Sadowa	33.45	12	P	P	17 50 30.4	-4.4
	comp=N,4.0nm,0.5s,mb4.6,baz=219,slow=9.6,SNR=3.9						
SADO				LR	LR	18 04 21.0	
	comp=N,120nm,18.9s,MS3.6,baz=32,slow=37						
MSU	Marysvale	33.57	325	eP	P	17 50 36.0	0.0
MPU	Maple Canyon	34.36	328	eP	P	17 50 43.0	+0.2
DAU	Daniels Canyon	34.46	329	eP	P	17 50 45.8	+2.2
LPAZ	La Paz	34.80	144	P	P	17 50 47.8	+1.0
	comp=N,1.4nm,0.9s,mb3.9,baz=272,slow=6.9,SNR=4.4						
DUG	Dugway	35.11	327	eP	P	17 50 50.5	+1.3
	comp=N,7.4nm,1.1s,mb4.5						
BW06	Boulder Array	35.47	333	eP	P	17 50 53.4	+1.1
	comp=N,24nm,0.4s,mb5.5						
BW06				e	pP	17 51 02.0	-2.5
PDAR	Pinedale Array	35.47	333	P	P	17 50 52.6	+0.4
	comp=N,2.5nm,0.9s,mb4.2,baz=121,slow=8.6,SNR=15						
PDAR				PcP	PcP	17 53 21.5	+0.2
	comp=N,1.5nm,0.8s,baz=180,slow=2.7,SNR=4.2						
HWUT	Hardware Ranch	35.51	330	eP	P	17 50 53.0	+0.4
	comp=N,8.6nm,0.5s,mb4.9						
AHID	Auburn Hatcher	36.17	331	eP	P	17 50 59.7	+1.6
	comp=N,12nm,0.6s,mb5.0						
SNOW	Snow King Moun	36.55	333	eP	P	17 51 01.9	+0.5
	comp=N,12nm,0.3s,mb5.2						
LOHW	Long Hollow	36.60	333	eP	P	17 51 02.2	+0.4
	comp=N,22nm,0.5s,mb5.2						
TPAW	Teton Pass	36.66	332	eP	P	17 51 03.5	+1.2
	comp=N,22nm,0.5s,mb5.2						
RRI2	Red Ridge	36.72	332	eP	P	17 51 04.1	+1.4
	comp=N,8.1nm,0.5s,mb4.8						
ELK	Elko	36.82	325	P	P	17 51 04.2	+0.6
	comp=N,2.7nm,0.9s,mb4.1,baz=127,slow=4.3,SNR=9.2						
ELK				PcP	PcP	17 53 26.0	+0.7
	comp=N,0.7nm,0.5s,baz=338,slow=7.8,SNR=5.0						
ELK	Elko	36.82	325	eP	P	17 51 04.9	+1.2
	comp=N,4.8nm,1.0s,mb4.3						
QLMT	Earthquake Lak	37.93	333	eP	P	17 51 12.4	-0.5
ULM	Lac du Bonnet	38.40	352	P	P	17 51 14.5	-2.2
	comp=N,19nm,0.8s,mb4.9,baz=168,slow=8.2,SNR=21						
ULM				LR	LR	18 08 37.8	
	comp=N,157nm,20.3s,MS3.8,baz=260,slow=39						
ULM	Lac du Bonnet	38.40	352	eP	P	17 51 14.4	-2.3
	comp=N,33nm,1.1s,mb5.0						
DGMT	Dagmar	38.42	343	eP	P	17 51 16.8	-0.1
	comp=N,43nm,0.6s,mb5.3						
MCMT	McKenzie Canyo	38.56	332	eP	P	17 51 19.9	+1.8
BOZ	Bozeman (W)	38.66	334	eP	P	17 51 21.2	+2.3
	comp=N,8.8nm,0.9s,mb4.5						
SIV	San Ignacio	39.07	135	P	P	17 51 23.2	+0.6
	comp=N,9.9nm,0.8s,mb4.6,baz=312,slow=9.2,SNR=42						
LVC	Limon Verde	39.62	151	P	P	17 51 27.1	0.0
	comp=N,2.6nm,0.9s,mb4.0,baz=287,slow=11,SNR=2.6						
LVC				LR	LR	18 07 28.1	
	comp=N,75nm,18.1s,MS3.6,baz=207,slow=36						
WVOR	Wild Horse Val	39.84	325	eP	P	17 51 31.6	+2.8
	comp=N,5.5nm,1.0s,mb4.2						
CHMT	Chamberlain Mo	40.35	334	eP	P	17 51 34.8	+1.8
MSO	Missoula	40.59	333	eP	P	17 51 34.7	-0.3
	comp=N,8.6nm,1.3s,mb4.2						
BMO	Blue Mountains	40.75	328	eP	P	17 51 34.8	-1.5
	comp=N,2.2nm,0.9s,mb3.8						
YBH	Yreka Blue Hor	41.83	321	LR	LR	18 12 12.8	
	comp=N,241nm,18.1s,MS4.1,baz=321,slow=40						
NEW	Newport	43.09	332	LR	LR	18 15 01.1	
	comp=N,224nm,18.1s,MS4.1,baz=120,slow=43						
RPN	Rapa Nui	43.98	207	LR	LR	18 05 20.1	
	comp=N,221nm,18.6s,MS4.1,baz=17,slow=29						
EDM	Edmonton	45.43	339	eP	P	17 52 13.0	-1.2
SCHQ	Schefferville	45.84	17	P	P	17 52 14.6	-2.8
	comp=N,21nm,1.0s,mb5.0,baz=210,slow=6.3,SNR=9.6						
SCHQ	Schefferville	45.84	17	P	P	17 52 14.6	-2.8
BDFB	Brasilia	48.77	124	P	P	17 52 38.7	-2.2
	comp=N,3.2nm,0.7s,mb4.5,baz=288,slow=7.2,SNR=4.5						
BBB	Bella Bella	50.96	330	LR	LR	18 18 29.4	
	comp=N,186nm,18.0s,MS4.2,baz=95,slow=41						
FRB	Frobisher Bay	53.37	11	P	P	17 53 12.1	-3.0
	comp=N,10nm,0.9s,mb4.8,baz=190,slow=9.1,SNR=6.1						
YKA	Yellowknife Ar	53.56	345	P	P	17 53 14.5	-2.0
	comp=N,10nm,1.0s,mb4.7,baz=139,slow=7.7,SNR=22						
YKA	Yellowknife Ar	53.56	345	P	P	17 53 14.5	-2.0
PLCA	Paso Flores	55.26	163	P	P	17 53 28.7	-0.5
	comp=N,5.1nm,0.8s,mb4.6,baz=331,slow=7.7,SNR=9.1						
PLCA	Paso Flores	55.26	163	eP	P	17 53 28.9	-0.3
	comp=N,5.6nm,0.8s,mb4.7						
DLBC	Dease Lake	55.65	335	P	P	17 53 31.6	-0.1
	comp=N,4.7nm,0.9s,mb4.5,baz=124,slow=5.9,SNR=9.6						
DLBC	Dease Lake	55.65	335	eP	P	17 53 31.4	-0.4
INK	Inuvik	63.10	343	P	P	17 54 19.9	-3.1
	comp=N,7.9nm,1.0s,mb4.8,baz=159,slow=7.4,SNR=11						
INK	Inuvik	63.10	343	eP	P	17 54 20.6	-2.4
	comp=N,14nm,1.2s,mb5.0						
ILAR	Eielson Array	65.79	336	P	P	17 54 38.5	-2.0
	comp=N,4.3nm,1.0s,mb4.4,baz=127,slow=4.1,SNR=24						
ILAR				PP	PP	17 57 01.0	-6.9
	comp=N,0.5nm,0.9s,baz=108,slow=5.7,SNR=3.7						
SUMG	Summit	67.10	15	eP	P	17 54 46.5	-2.2
	comp=N,10nm,1.0s,mb4.8						
ESDC	Sonseca Array	78.22	52	P	P	17 55 50.7	-4.1
	comp=N,0.3nm,0.5s,mb3.5,baz=290,slow=7.1,SNR=4.8						
AFI	Afiamalu	86.42	255	LR	LR	18 25 37.7	
	comp=N,105nm,20.6s,MS4.2,baz=64,slow=29						
SONM	Songino Array	118.75	349	PKP	PKPdf	18 02 44.2	+2.7
	comp=N,0.5nm,0.6s,baz=349,slow=2.4,SNR=5.5						
WRA	Warramunga Arr	138.13	254	PKP	PKPdf	18 03 20.3	+1.2
	comp=N,0.7nm,0.9s,baz=95,slow=1.7,SNR=5.2						
FITZ	Fitzroy Crossi	146.48	256	PKPbc	PKPbc	18 03 37.8	+2.6
	comp=N,3.7nm,0.7s,baz=165,slow=4.2,SNR=4.4						

ISC 03 17:55:37.2±1.8**, 43.20N**±0.09×**14.8E**±0.3**, h10**km**, n13, σ0.91**/21**, 6C-4D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	1.37	1	i Pn	Pn	17 56 01.9	-0.6
NVLJ				i Sn	Sn	17 56 22.1	+1.4
BOJS	Bojanci	2.33	7	ePn	Pn	17 56 15.9	-0.3
BOJS				i Sn	Sn	17 56 45.5	+0.3
VISS	Visnje	2.61	0	i Pn	Pn	17 56 20.1	-0.1
VISS				eSn	Sn	17 56 54.0	+1.8
LEGS	Legarje	2.77	7	ePn	Pn	17 56 22.6	0.0
OBKA	Obir	3.32	357⇓	iPN	Pn	17 56 30.3	-0.1
OBKA				i SN	Sn	17 57 09.5	-0.8
OBKA				i SG	Sg	17 57 24.7	-3.1
	8.3nm,0.5s						
OBKA	Obir	3.32	357⇓	iPn	Pn	17 56 30.3	-0.1
OBKA	Obir	3.32	357⇑	iSn	Sn	17 57 09.5	-0.8
OBKA			⇓	iSg	Sg	17 57 26.6	-1.2
	comp=Z,8.3nm,0.5s						
KBA	Koelnbreinsper	4.02	345⇑	iPN	Pn	17 56 41.0	+0.7
KBA				i SN	Sn	17 57 28.9	+0.8
KBA	Koelnbreinsper	4.02	345⇑	iPn	Pn	17 56 41.0	+0.7
KBA	Koelnbreinsper	4.02	345⇓	iSn	Sn	17 57 28.9	+0.8
MOA	Molln	4.67	355⇑	iPN	Pn	17 56 49.1	-0.5
MOA				i SN	Sn	17 57 43.4	-1.1
MOA	Molln	4.67	355⇑	iPn	Pn	17 56 49.1	-0.5
MOA	Molln	4.67	355⇑	iSn	Sn	17 57 43.4	-1.1

*CASC **03** 17:56:11.8±2.2, 12.27N×88.51W, h15km±156km, MD4.6, ML4.1, mb4.7(NEIC)*

*NEIC **03** 17:56:17.4±1.0, 12.38N×88.40W, h75km±10km, mb4.7/39, Error ellipse: s-maj=9.1km s-min=6.0km az=48.0*

*IDC **03** 17:56:17.6±4.0, 12.71N×88.14W, h63km±34km, mb4.1/19, mb1 4.3/21, mb1mx4.2/27, mbtmp4.4/21, ML3.2/2, MS4.1/19, Ms1 4.1/19, ms1mx4.0/31, Error ellipse: s-maj=25.4km s-min=12.4km az=44.0*

ISC 03 17:56:14.2±0.6**, 12.30N**±0.05×**88.42W**±0.04**, h62**km±6km**, n133, σ1.06**/126**, mb4.6**/55**, 3C-6D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.40	73⇑	eP	P	17 56 38.3	+0.2
LEON	Leon	1.50	85	eP	P	17 56 38.4	-1.1
TEL3	Telica 3	1.57	80	eP	P	17 56 39.6	-0.8
TELN	Telica	1.58	79	eP	P	17 56 40.3	-0.3
TELN				eS	S	17 57 01.4	+1.2
MIRN	Miramar	1.68	85⇑	eP	P	17 56 41.1	-0.7
CNGN	Cerro Negro	1.70	83⇓	eP	P	17 56 41.5	-0.7
COPN	Copaltepe	1.79	94⇓	eP	P	17 56 42.6	-0.8
COPN				eS	S	17 57 08.8	+3.6
MOMJ	Momotombo	1.84	86	eP	P	17 56 44.0	-0.2
MOMJ				eS	S	17 57 10.6	+4.3
XAVN	Gruta Xavier	2.06	94⇓	eP	P	17 56 46.4	-0.7
XAVN				i		17 57 26.5	
	comp=Z,2μm,0.6s						
CRUN	El Crucero	2.10	98	eP	P	17 56 46.1	-1.7
MGAN	Managua	2.13	94⇑	eP	P	17 56 47.4	-0.8
MGAN				eS	S	17 57 15.4	+1.9
TICN	Ticuantepe	2.16	97⇓	eP	P	17 56 48.4	-0.2
TICN				eS	S	17 57 16.3	+2.2
WILN	Americas 2	2.19	93⇓	eP	P	17 56 48.6	-0.4
WILN				eS	S	17 57 17.0	+2.1
MASN	Masaya	2.24	98	eP	P	17 56 49.9	+0.1
MASN				eS	S	17 57 20.2	+4.0
PYTN	Playitas	2.32	84	eP	P	17 56 50.6	-0.3
APON	Apoyo	2.34	99	eP	P	17 56 50.7	-0.4
SSNN	San Juan del S	2.71	112	eP	P	17 56 55.2	-1.2
CONN	Concepcion	2.83	105⇓	eP	P	17 56 56.9	-1.2
CONN				eS	S	17 57 31.2	0.0
CONN				i		17 57 33.0	
	comp=Z,1μm,0.5s						
MADN	Villa Maderas	2.96	107	eP	P	17 56 58.7	-1.3
CGA2	Cerro Gallo 2	4.50	120	eP	P	17 57 22.3	+0.8
PRS1	Puriscal	4.65	119	eP	P	17 57 24.2	+0.7
PRS1				eS	S	17 58 16.4	-0.3
LCR2	La Lucha 2	5.03	120	eP	P	17 57 28.8	-0.1
BUS	Buena Vista	5.33	120	eP	P	17 57 33.7	+0.7
CMIG	Matias Romero	7.86	308	i P	P	17 58 08.0	-0.1
CMIG				i S	S	17 59 37.4	+1.0
OXX	Oaxaca	9.33	302	eP	P	17 58 27.5	-0.8
SOR	Soroa	11.64	26	eP	P	17 59 01.5	+1.8
PAYG	Puerto Ayora	13.02	188	eP	P	17 59 19.5	+1.4
ROSC	El Rosal	15.77	117	P	P	17 59 57.2	+3.3
	comp=Z,0.7nm,0.3s,baz=287,slow=19,SNR=3.0						
ROSC				LR	LR	18 06 13.8	
	comp=Z,261nm,19.2s,baz=340,slow=38						
ROSC	El Rosal	15.77	117	P	P	17 59 57.2	+3.3
ROSC				LR	LR	18 06 13.8	
ZAIG	Zacatecas	17.02	310	i P	P	18 00 13.9	+4.4
SDV	Santo Domingo	17.81	99	P	P	18 00 19.1	-0.4
	comp=Z,0.3nm,0.3s,baz=288,slow=12,SNR=7.6						
SDV	Santo Domingo	17.81	99	eP	P	18 00 21.5	+2.1
	comp=Z,16nm,0.8s						
NATX	Nacogdoches	20.20	344	eP	P	18 00 46.6	+0.2
	comp=Z,68nm,0.8s						
LRAL	Lakeview Retre	20.68	3	eP	P	18 00 52.1	+0.8
	comp=Z,43nm,1.0s						
GOGA	Godfrey	21.50	11	eP	P	18 01 00.7	+1.2
	comp=Z,48nm,1.0s,mb4.8						
NHSC	New Hope	22.04	19	eP	P	18 01 05.5	+0.6
	comp=Z,86nm,1.0s,mb5.1						
TXAR	Lajitas Array	22.10	322	P	P	18 01 05.7	+0.2
	comp=Z,22nm,0.7s,mb4.7,baz=146,slow=9.2,SNR=248						
TXAR				PcP	PcP	18 05 04.1	+1.9
	comp=Z,0.9nm,0.8s,baz=135,slow=3.8,SNR=5.0						
TXAR				LR	LR	18 11 15.9	
	comp=Z,204nm,20.0s,baz=225,slow=41						
TXAR	Lajitas Array	22.10	322	P	P	18 01 05.7	+0.2
TXAR				PcP	PcP	18 05 04.1	+1.9
TXAR				LR	LR	18 11 15.8	
LTX	Lajitas	22.10	322	eP	P	18 01 06.1	+0.6
	comp=Z,34nm,0.8s,mb4.8						
LTX				eP		18 01 06.2	
LTX				epP		18 01 21.4	
OXF	Oxford	22.13	358	eP	P	18 01 06.4	+0.6
	comp=Z,70nm,1.0s,mb5.0						
OXF				epPn		18 01 22.0	
SJG	San Juan	22.25	72	P	P	18 01 07.2	+0.2
	comp=Z,6.7nm,0.4s,mb4.4,baz=11,slow=21,SNR=4.3						
PLAL	Pickwick Lake	22.58	1	eP	P	18 01 10.5	+0.2
	comp=Z,13nm,0.6s,mb4.5						
JSC	Jenkinsville	22.83	15	eP	P	18 01 14.8	+2.0
SWET	Sewanee	22.93	5	eP	P	18 01 13.1	-0.5
MYNC	Murphy	23.00	9	eP	P	18 01 15.7	+1.3
	comp=Z,20nm,0.9s,mb4.6						
HBAR	Harrisburg	23.24	355	eP	P	18 01 17.4	+0.7
WVT	Waverly	23.73	1	eP	P	18 01 21.4	0.0
	comp=Z,32nm,1.5s,mb4.5						
WMOK	Wichita Mounta	24.24	339	eP	P	18 01 25.4	-0.9
	comp=Z,32nm,1.0s,mb4.7						
TZTN	Tazewell	24.53	9	eP	P	18 01 29.3	+0.1
MNTX	Cornudas Mount	24.83	324	eP	P	18 01 31.2	-0.9
	comp=Z,11nm,0.8s,mb4.5						
SIUC	Southern Illin	25.32	359	eP	P	18 01 36.1	-0.6
	comp=Z,60nm,1.0s,mb5.1						
ELN	Prospectdale	25.76	14	eP	P	18 01 41.4	+0.6
CCM	Cathedral Cave	25.77	355	eP	P	18 01 39.9	-1.0
	comp=Z,67nm,0.9s,mb5.2						
CCM				ePcP	PcP	18 05 10.5	+0.6
WCI	Wyandotte Cave	25.89	4	eP	P	18 01 41.1	-0.9
	comp=Z,29nm,0.8s,mb4.8						
FWV	Forest Hill	26.08	14	eP	P	18 01 43.7	-0.1
ANMO	Albuquerque	27.86	327	P	P	18 01 59.9	-0.2
	comp=Z,2.0nm,1.0s,mb3.7,baz=132,slow=12,SNR=4.8						
ANMO				PcP	PcP	18 05 16.8	+1.9
	comp=Z,2.5nm,0.9s,baz=143,slow=5.1,SNR=3.5						
ANMO	Albuquerque	27.86	327	eP	P	18 02 02.2	+2.1
	comp=Z,3.6nm,0.6s,mb4.2						
ACSO	Alum Creek Sta	28.23	9	eP	P	18 02 02.1	-1.3
	comp=Z,11nm,0.9s,mb4.5						
TUC	Tucson	28.60	318	eP	P	18 02 11.2	+4.4
	comp=Z,7.3nm,0.9s,mb4.4						
SDCO	Great Sand Dun	29.58	332	eP	P	18 02 17.0	+1.5
	comp=Z,20nm,0.9s,mb4.9						
ISCO	Idaho Springs	31.32	334	eP	P	18 02 31.9	+1.1
	comp=Z,17nm,0.9s,mb4.9						
SAML	Samuel	32.79	129	eP	P	18 02 43.0	-0.9
	comp=Z,7.4nm,0.9s,mb4.6						
NEN	Nelson	33.31	319	eP	P	18 02 49.2	+1.1
SADO	Sadowa	33.32	12	P	P	18 02 46.1	-2.0
	comp=Z,8.0nm,0.6s,mb4.8,baz=218,slow=10,SNR=5.8						
ARUT	Antelope Range	33.81	323	P	P	18 02 51.5	-1.0
MPU	Maple Canyon	34.37	328	eP	P	18 02 59.3	+2.1
DAU	Daniels Canyon	34.47	328	eP	P	18 02 58.3	+0.3
LPAZ	La Paz	34.78	144	P	P	18 03 08.0	+7.1
	comp=Z,1.2nm,0.8s,mb3.9,baz=350,slow=11,SNR=3.9						
LPAZ				LR	LR	18 17 57.3	
	comp=Z,152nm,18.2s,baz=288,slow=37						
DUG	Dugway	35.12	327	eP	P	18 03 04.4	+0.8
	comp=Z,8.5nm,1.1s,mb4.6						
BW06	Boulder Array	35.46	333	eP	P	18 03 07.3	+0.8
	comp=Z,6.0nm,0.9s,mb4.5						
PDAR	Pinedale Array	35.46	333	P	P	18 03 06.1	-0.3
	comp=Z,3.9nm,0.8s,mb4.4,baz=129,slow=9.5,SNR=18						
PDAR				PcP	PcP	18 05 37.1	+1.9
	comp=Z,1.9nm,0.8s,baz=146,slow=5.3,SNR=8.6						
PDAR	Pinedale Array	35.46	333	P	P	18 03 06.1	-0.3
PDAR				PcP	PcP	18 05 37.1	+1.9
HWUT	Hardware Ranch	35.51	330	eP	P	18 03 07.5	+0.6
	comp=Z,12nm,1.0s,mb4.8						
AHID	Auburn Hatcher	36.17	331	eP	P	18 03 12.9	+0.4
	comp=Z,17nm,0.9s,mb5.0						
HVU	Hansel Valley	36.25	329	eP	P	18 03 17.5	+4.3
SNOW	Snow King Moun	36.55	332	eP	P	18 03 16.1	+0.5
	comp=Z,32nm,0.8s,mb5.2						
LOHW	Long Hollow	36.60	333	eP	P	18 03 15.9	-0.2
	comp=Z,11nm,0.9s,mb4.7						
TPAW	Teton Pass	36.66	332	eP	P	18 03 17.8	+1.2
	comp=Z,20nm,0.8s,mb5.0						
RRI2	Red Ridge	36.72	332	eP	P	18 03 17.0	-0.1
	comp=Z,10nm,0.6s,mb4.8						
ELK	Elko	36.84	325	P	P	18 03 18.2	+0.1
	comp=Z,2.6nm,0.7s,mb4.2,baz=137,slow=6.6,SNR=13						
ELK				PcP	PcP	18 05 41.2	+1.9
	comp=Z,2.6nm,0.8s,baz=142,slow=0.9,SNR=7.0						
ELK	Elko	36.84	325	P	P	18 03 18.2	+0.1
ELK				eP		18 03 19.1	
ELK				PcP	PcP	18 05 41.2	+1.9
QLMT	Earthquake Lak	37.92	333	eP	P	18 03 27.9	+0.8
ULM	Lac du Bonnet	38.33	352	P	P	18 03 28.2	-2.3
	comp=Z,27nm,0.7s,mb5.1,baz=169,slow=8.5,SNR=33						
ULM				LR	LR	18 20 05.7	
	comp=Z,233nm,20.9s,baz=223,slow=38						
ULM	Lac du Bonnet	38.33	352	P	P	18 03 28.2	-2.3
ULM				LR	LR	18 20 05.7	
HLID	Hailey	38.37	329	eP	P	18 03 31.7	+0.8
	comp=Z,2.9nm,0.6s,mb4.2						
DGMT	Dagmar	38.38	343	eP	P	18 03 30.7	-0.2
	comp=Z,67nm,0.6s,mb5.5						
MCMT	McKenzie Canyo	38.56	332	eP	P	18 03 31.9	-0.5
BOZ	Bozeman (W)	38.65	334	eP	P	18 03 33.5	+0.4
	comp=Z,8.2nm,0.6s,mb4.6						
HRY	Holter Researc	39.58	335	eP	P	18 03 41.6	+0.8
WVOR	Wild Horse Val	39.87	324	eP	P	18 03 43.1	-0.2
	comp=Z,4.0nm,0.7s,mb4.3						
CHMT	Chamberlain Mo	40.34	334	eP	P	18 03 47.0	-0.2
MOD	Modoc	40.50	323	eP	P	18 03 47.1	-1.4
	comp=Z,6.6nm,1.2s,mb4.1						
MSO	Missoula	40.58	333	eP	P	18 03 49.6	+0.5
	comp=Z,6.7nm,1.0s,mb4.2						
BMO	Blue Mountains	40.76	328	eP	P	18 03 51.6	+1.0
	comp=Z,3.5nm,0.9s,mb4.0						
YBH	Yreka Blue Hor	41.86	321	P	P	18 03 59.7	-0.1
	comp=Z,1.4nm,0.9s,mb3.6,baz=142,slow=12,SNR=3.2						
WALA	Waterton Lakes	42.29	335	eP	P	18 04 04.7	+1.6
	comp=Z,6.9nm,0.8s,mb4.3						
NEW	Newport	43.09	332	P	P	18 04 10.1	+0.4
	comp=Z,2.3nm,0.7s,mb4.0,baz=128,slow=14,SNR=4.5						
EDM	Edmonton	45.41	339	eP	P	18 04 27.8	-0.5
SCHQ	Schefferville	45.70	17	P	P	18 04 29.1	-1.4
	comp=Z,26nm,0.9s,mb5.2,baz=190,slow=4.5,SNR=14						
SCHQ				LR	LR	18 24 33.1	
	comp=Z,484nm,18.8s,baz=151,slow=38						
SCHQ	Schefferville	45.70	17	eP	P	18 04 29.0	-1.6
	comp=Z,37nm,0.9s,mb5.3						
SCHQ				P		18 04 29.1	
SCHQ				LR	LR	18 24 33.1	
FCC	Fort Churchill	46.57	356	eP	P	18 04 34.4	-3.0
BDFB	Brasilia	48.68	124	P	P	18 04 54.8	+0.4
	comp=Z,5.1nm,0.8s,mb4.6,baz=288,slow=6.4,SNR=5.9						
BDFB				LR	LR	18 27 17.6	
	comp=Z,316nm,19.0s,baz=145,slow=38						
CPUP	Villa Florida	48.88	142	P	P	18 04 58.4	+2.5
	comp=Z,1.5nm,0.7s,mb4.1,baz=345,slow=12,SNR=3.8						
CPUP				LR	LR	18 27 01.9	
	comp=Z,218nm,18.0s,baz=134,slow=38						
FRB	Frobisher Bay	53.25	11	P	P	18 05 25.9	-2.6
	comp=Z,21nm,0.8s,mb5.1,baz=192,slow=14,SNR=9.2						
YKA	Yellowknife Ar	53.51	345	P	P	18 05 28.8	-1.5
	comp=Z,9.4nm,0.8s,mb4.7,baz=140,slow=7.7,SNR=30						
YKA	Yellowknife Ar	53.51	345	P	P	18 05 28.8	-1.5
YKW3	Yellowknife Ar	53.57	345	eP	P	18 05 29.0	-1.8
PLCA	Paso Flores	55.30	164	LR	LR	18 26 09.9	
	comp=Z,114nm,19.0s,baz=145,slow=32						
DLBC	Dease Lake	55.64	335	P	P	18 05 46.2	+0.3
	comp=Z,7.9nm,0.8s,mb4.8,baz=117,slow=3.1,SNR=17						
INK	Inuvik	63.06	343	LR	LR	18 35 08.4	
	comp=Z,219nm,19.4s,baz=325,slow=37						
INK	Inuvik	63.06	343	eP	P	18 06 35.1	-1.9
	comp=Z,18nm,1.1s,mb5.1						
ILAR	Eielson Array	65.77	336	P	P	18 06 53.5	-1.0
	comp=Z,4.3nm,1.0s,mb4.4,baz=126,slow=4.3,SNR=26						
ILAR				PP	PP	18 09 18.9	-3.3
	comp=Z,0.6nm,0.9s,baz=105,slow=8.0,SNR=4.4						
ILAR				LR	LR	18 38 05.4	
	comp=Z,150nm,19.1s,baz=168,slow=38						
ILAR	Eielson Array	65.77	336	P	P	18 06 53.5	-1.0
ILAR				PP	PP	18 09 18.9	-3.3
ILAR				LR	LR	18 38 05.4	
SUMG	Summit	66.97	15	eP	P	18 07 00.9	-1.1
	comp=Z,6.2nm,0.8s,mb4.7						
BORG	Borgarnes	69.25	25	LR	LR	18 35 24.4	
	comp=Z,108nm,19.1s,baz=16,slow=34						
JMIC	Jan Mayen	75.16	19	LR	LR	18 39 15.3	
	comp=Z,84nm,20.2s,baz=56,slow=34						
ESDC	Sonseca Array	78.03	52	P	P	18 08 06.1	-1.7
	comp=Z,0.4nm,0.6s,mb3.5,baz=284,slow=4.7,SNR=6.1						
MDT	Midelt	78.29	59	LR	LR	18 39 41.4	
	comp=Z,158nm,19.8s,baz=189,slow=33						
NOA	NORSAR Array B	83.96	29	P	P	18 08 38.1	-0.4
	comp=Z,0.6nm,0.7s,mb3.8,baz=285,slow=5.1,SNR=2.7						
NOA				LR	LR	18 45 02.6	
	comp=Z,64nm,19.6s,baz=310,slow=35						
HFS	Hagfors	85.38	29	LR	LR	18 42 28.0	
	comp=Z,81nm,21.4s,baz=266,slow=33						
ARCES	ARCESS Array B	86.63	19	P	P	18 08 49.9	-1.6
	comp=Z,2.2nm,0.9s,mb4.4,baz=342,slow=3.8,SNR=4.3						
ARCES	ARCESS Array B	86.63	19	P	P	18 08 49.9	-1.6
DAVOX	Davos	86.75	43	LR	LR	18 45 09.5	
	comp=Z,132nm,18.2s,baz=263,slow=34						
GERES	GERESS Array B	88.67	40	LR	LR	18 46 16.0	
	comp=Z,170nm,19.8s,baz=162,slow=34						
VRAC	Vranov	90.33	39	LR	LR	18 49 36.4	
	comp=Z,239nm,18.0s,baz=264,slow=36						
FINES	FINESS Array B	90.52	26	LR	LR	18 53 39.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,81nm,20.0s,baz=195,slow=38						
SONM	Songino Array	118.70	349	PKP	PKPdf	18 14 58.6	+3.2
	comp=Z,0.5nm,0.5s,baz=334,slow=1.2,SNR=5.6						
MATP	Matopo	119.24	107	PKP	PKPdf	18 14 59.8	+2.7
	comp=Z,2.0nm,0.9s,baz=350,slow=6.1,SNR=2.7						
MKAR	Makanchi Array	120.59	7	PKP	PKPdf	18 15 01.0	+1.9
	comp=Z,1.0nm,0.8s,baz=330,slow=2.9,SNR=8.8						
WRA	Warramunga Arr	138.31	254	PKhKP		18 15 33.2	
	comp=Z,1.1nm,1.0s,baz=86,slow=2.6,SNR=7.0						
WRA				PKP	PKPdf	18 15 37.5	+4.1
	comp=Z,1.2nm,0.7s,baz=88,slow=2.0,SNR=8.0						
FITZ	Fitzroy Crossi	146.66	256	PKPbc	PKPbc	18 15 52.7	+3.2
	comp=Z,5.8nm,0.8s,baz=202,slow=7.9,SNR=5.3						
HYB	Hyderabad	147.79	24	i PKP	PKPdf	18 15 55.0	+5.1
HYB	Hyderabad	147.79	24	eP	PKPdf	18 15 55.0	+5.1

*NEIC **03** 18:25:59.8±6.8, 20.88S×179.20W, h634km±62km, mb4.1/1, Error ellipse: s-maj=104.3km s-min=38.3km az=139.0*
*IDC **03** 18:26:03.4±3.4, 20.70S×179.55W, h662km±42km, mb3.0/3, mb1 3.3/4, mb1mx3.0/12, mbtmp4.2/4, Error ellipse: s-maj=94.8km s-min=20.6km az=158.0*
ISC 03 18:26:02.9±3.0**, 20.7S**±0.6×**179.5W**±0.4**, h681**km±34km**, n20, σ0^{s}29**/9**, mb3.9**/5**, 2C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.13	262	P	P	18 28 52.3	+0.1
	0.6nm,0.3s,baz=80,slow=17,SNR=7.0						
STKA	Stephens Creek	36.40	244	P	P	18 32 15.3	-0.1
	0.6nm,0.5s,mb3.4,baz=88,slow=16,SNR=3.0						
WB2	Warramunga Arr	43.13	263	⇓iP	P	18 33 09.0	0.0
WRAB	Tennant Creek	43.13	263	eP	P	18 33 08.6	-0.5
	201nm,3.2s						
WRA	Warramunga Arr	43.14	263	P	P	18 33 09.0	-0.1
	2.4nm,0.3s,mb4.1,baz=97,slow=7.6,SNR=35						
WRA				S	S	18 38 50.2	0.0
	0.3nm,0.6s,baz=98,slow=12,SNR=5.4						
KAKA	Kakadu	46.54	272	⇑iP	P	18 33 52.5	+17
	3.1nm,0.2s,mb4.3						
FITZ	Fitzroy Crossi	51.57	263	⇑iP	P	18 34 12.4	+0.6
	21nm,2.0s,mb4.0						
ILAR	Eielson Array	88.84	13	P	P	18 37 47.9	0.0
	0.6nm,0.5s,mb3.6,baz=214,slow=4.9,SNR=5.2						
MKAR	Makanchi Array	110.29	314	PKiKP		18 43 21.1	
	0.2nm,0.4s,baz=90,slow=2.9,SNR=5.9						
ARCES	ARCESS Array B	128.85	349	PKP	PKPdf	18 43 56.0	+1.0
	1.6nm,0.7s,baz=117,slow=2.7,SNR=8.3						
FINES	FINESS Array B	135.55	343	PKP	PKPdf	18 44 11.0	+3.3
	0.3nm,0.4s,baz=133,slow=1.6,SNR=6.2						
FINES	FINESS Array B	135.55	343	PKP	PKPdf	18 44 11.0	+3.3
HFS	Hagfors	139.50	350	PKhKP		18 44 09.9	
	0.7nm,0.4s,baz=61,slow=3.7,SNR=14						
AKASG	Malin Array Be	142.48	330	PKP	PKPdf	18 44 20.2	0.0
	3.3nm,0.4s,baz=41,slow=4.2,SNR=41						
EKA	Eskdalemuir Ar	145.32	4	PKPbc	PKPbc	18 44 28.5	+2.2
	2.3nm,0.8s,slow=3.3,SNR=5.3						
ASF	Jabal al Asfar	145.59	297	PKPbc	PKPbc	18 44 31.5	+3.8
	1.6nm,0.6s,baz=235,slow=8.6,SNR=3.6						
BRTR	Keskin Array B	145.90	311	PKPbc	PKPbc	18 44 31.4	+3.2
	1.2nm,0.6s,baz=135,slow=3.5,SNR=5.6						
CLL	Collm	147.91	345	ePKP1	PKPdf	18 44 36.0	+6.6
KHC	Kasperske Hory	149.76	343	ePKPbc	PKPdf	18 44 40.0	+7.6
GERES	GERESS Array B	149.98	342	PKPbc	PKPdf	18 44 41.1	+8.4
	1.2nm,0.7s,baz=45,slow=1.9,SNR=12						

MAN 03 18:46:35.2, 13.29N×120.63E, h13km, mb3.8, ML2.6, MS2.1, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.38	56	eP	Pg	18 46 42.6	-0.5
PGP				eS	Sg	18 46 47.5	-1.0
LUBP	Lubang	0.58	320	eP	Pb	18 46 47.0	+0.4
LUBP				eS	Sb	18 46 55.0	+0.6
SJMP	San Jose	0.95	150	eP	Pb	18 46 53.4	+0.3
SJMP				eS	Sb	18 47 07.2	+1.8
LBPH	Los Banos	1.01	32	⇓eP	Pb	18 46 55.2	+1.1
BOAC	Boac	1.20	82	eP	Pb	18 46 56.7	-0.5
BOAC				eS	Sb	18 47 12.6	+0.2
BUSP	Coron	1.35	198	eP	Pn	18 46 59.4	-0.4
BUSP				eS	Sb	18 47 17.4	+0.7
OTRP	Odiongan	1.64	124	eP	Pn	18 47 03.8	-0.2
OTRP				eS	Sn	18 47 25.3	+0.3
POLP	Polilio Island	1.91	42	eP	Pn	18 47 08.1	+0.2
ENPP	El Nido	2.38	210	eP	Pn	18 47 13.5	-1.1
ENPP				eS	Sn	18 47 40.1	-3.7
CUYO	Cuyo Island	2.46	171	eP	Pn	18 47 13.5	-2.2

*NEIC **03** 18:52:11.5, 33.09S×72.68W, h28km, ML3.2(GUC), After GUC.*
GUC 03 18:52:11.5±0.8**, 33.09S×72.68W, h28**km±2km**, MD3.6, ML3.2, 7C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	1.00	113	⇓iP	Pn	18 52 29.7	-0.1
LCCH				i S	Sb	18 52 43.0	-0.1
LNV	Longovilo	1.37	130	⇓iP	Pn	18 52 34.6	-0.4
LNV				i S	Sn	18 52 51.1	-1.2
ROCH	El Roble	1.40	86	eP	Pn	18 52 36.5	+0.9
CHNG	Los Chungos	1.56	40	⇑iP	Pn	18 52 37.9	+0.1
CHNG				i S	Sn	18 52 58.1	+0.9
CHNG				AMP		18 53 00.2	
	comp=E,115nm,0.3s						
TACH	Talagante	1.56	112	eP	Pn	18 52 38.1	+0.3
TACH				i S	Sn	18 52 58.1	+0.9
RCDM	Rinconada Maip	1.62	105	eP	Pn	18 52 39.1	+0.5
RCDM				i S	Sn	18 52 59.7	+1.0
RCDM				AMP		18 53 02.6	
	comp=N,281nm,0.4s						
JACH	Jahuel	1.80	78	⇑iP	Pn	18 52 41.7	+0.5
JACH				i S	Sn	18 53 05.8	+2.5
CLCH	Cerro Calan	1.82	100	⇓iP	Pn	18 52 42.8	+1.3
CLCH				i S	Sn	18 53 06.3	+2.5
CLCH				AMP		18 53 07.8	
	comp=E,302nm,0.3s						
PCH	Pirque	1.89	107	⇑iP	Pn	18 52 43.7	+1.2
PCH				i S	Sn	18 53 07.5	+2.0
FCH	Farellones	2.01	98	⇑iP	Pn	18 52 45.9	+1.6
FCH				i S	Sn	18 53 11.6	+2.8
FCH				AMP		18 53 13.3	
	comp=N,177nm,0.2s						
CACH	El Canelo	2.02	121	i P	Pn	18 52 45.4	+1.1
LMEL	Las Melosas	2.20	111	⇑iP	Pn	18 52 48.1	+1.1
LMEL				i S	Sn	18 53 15.0	+1.5
LMEL				AMP		18 53 19.8	
	comp=N,207nm,0.2s						
CICH	Cipreses	2.25	124	⇑iP	Pn	18 52 48.5	+0.8
CICH				i S	Sn	18 53 16.3	+1.6
CMCH	Combarbala	2.38	37	⇑iP	Pn	18 52 50.0	+0.5
CMCH				i S	Sn	18 53 19.3	+1.3
CMCH				AMP		18 53 22.6	
	comp=E,592nm,0.5s						
TLL	Tololo Astrono	3.32	29	⇓iP	Pn	18 53 03.4	+0.5
TLL				eS	Sn	18 53 42.8	+1.0
TLL				AMP		18 53 48.3	
	comp=N,106nm,0.5s						

*NIED **03** 19:27:00, 37.80N×141.80E, h44km, Mw3.7 Best double couple: M$_0$3.93×10^{14} NP1:φ$_s$10°, δ70°, λ98°. NP2:φ$_s$168°, δ21°, λ69°.*
*IDC **03** 19:27:41.9±1.7, 37.75N×141.78E, mb3.7/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=54.0km s-min=23.1km az=83.0*
*JMA **03** 19:27:47.5±0.1, 37.79N×141.75E, h40km±2km, M3.7*
ISC 03 19:27:46.5±1.2**, 37.78N**±0.05×**141.8E**±0.1**, h47**km±10km**, n18, σ0^{s}69**/25**, mb3.6**/4**, 10D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.77	331	⇓P	P	19 28 01.5	+0.3
JIO				S	S	19 28 10.9	-1.0
JMM	Marumori	0.82	276	⇓P	P	19 28 02.0	+0.2
JMM				S	S	19 28 12.3	-0.8
JFK	Kawauchi	0.86	242	⇓P	P	19 28 02.5	+0.1
JFK				S	S	19 28 12.8	-1.3
ONAJ	Iwakimizuishiy	1.06	231	⇓P	P	19 28 05.4	+0.2
ONAJ				S	S	19 28 17.9	-1.2
JOU	Okura	1.08	303	⇓P	P	19 28 06.0	+0.4
JOU				S	S	19 28 19.5	-0.2
JFT	Otama	1.21	258	⇓P	P	19 28 08.3	+1.0
JFT				S	S	19 28 23.2	+0.4
JMK	Ichinoseki	1.26	338	⇓P	P	19 28 08.8	+0.7
JYS	Shirataka	1.46	288	⇓P	P	19 28 11.3	+0.4
JYK	Kaneyama	1.62	315	⇓P	P	19 28 13.6	+0.4
JFY	Yanaizu	1.72	258	P	P	19 28 15.5	+0.9
JOM	Ohasama	1.74	346	P	P	19 28 15.7	+0.8
JYA	Atsumi	1.85	297	⇓P	P	19 28 16.8	+0.4
MAT	Matsushiro	3.14	248	P	P	19 28 35.6	+0.8
ASAJ	Asahikawa	6.36	5	Pn	P	19 29 18.8	-1.2
	0.4nm,0.3s,baz=235,slow=12,SNR=5.3						
ASAJ				Sn	S	19 30 31.6	-0.6
	0.4nm,0.3s,baz=324,slow=19,SNR=3.0						
SONM	Songino Array	27.65	303	P	P	19 33 31.5	-0.2
	0.5nm,0.7s,mb3.2,baz=96,slow=7.9,SNR=4.7						
MKAR	Makanchi Array	44.00	302	P	P	19 35 51.1	+0.3
	0.7nm,0.9s,mb3.4,baz=96,slow=7.6,SNR=6.9						
WRA	Warramunga Arr	57.84	188	P	P	19 37 35.2	-0.6
	0.7nm,0.4s,mb4.0,baz=5.6,slow=7.2,SNR=39						
FINES	FINESS Array B	68.31	332	P	P	19 38 43.7	-0.5
	1.0nm,0.8s,mb3.9,baz=31,slow=8.1,SNR=3.3						

*IDC **03** 19:51:02.1±2.1, 36.17N×136.94E, h256km±21km, mb3.2/10, mb1 3.4/12, mb1mx3.3/24, mbtmp3.9/12, Error ellipse: s-maj=19.2km s-min=14.6km az=99.0*
*NEIC **03** 19:51:03.5, 36.18N×136.99E, h273km, mb3.6/3, After JMA.*
*JMA **03** 19:51:03.5±0.1, 36.18N×136.99E, h273km±1km, M3.5*
ISC 03 19:51:02.5±0.4**, 36.20N**±0.08×**137.0E**±0.1**, h278**km±4km**, n29, σ0^{s}74**/36**, mb3.4**/11**, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.29	86	P	P	19 51 38.5	+0.1
JGN				eS	S	19 52 05.7	-0.7
JKG	Kaga	0.51	279	P	P	19 51 39.3	+0.4
JGM	Miyama	0.54	201	P	P	19 51 39.1	+0.2
JGM				eS	S	19 52 06.6	-0.8
MAJO	Matsushiro	1.07	71	ePn	P	19 51 41.2	+0.2
MAT	Matsushiro	1.07	71	P	P	19 51 41.2	+0.1
MAT				S	S	19 52 11.4	+0.2
MAT	Matsushiro	1.07	71	eP	P	19 51 41.0	-0.1
MAT				eS	S	19 52 11.0	-0.2
JWT	Wachi	1.56	234	P	P	19 51 44.5	+0.3
JIE	Ise	1.82	186	P	P	19 51 46.8	+0.7
JIE				S	S	19 52 20.4	+0.3
JSD	Sado	2.11	29	P	P	19 51 49.0	+0.5
JWY	Kouya	2.27	210	P	P	19 51 50.7	+0.7
JWY				S	S	19 52 26.9	-0.1
JNS	Sasagawa	2.48	49	P	P	19 51 52.3	+0.3
JNU	Nakatsue	5.88	240	P	P	19 52 29.8	-0.5
	0.9nm,0.3s,baz=128,slow=30,SNR=6.1						
ASAJ	Asahikawa	9.01	27	P	P	19 53 07.3	-1.9
	9.4nm,0.3s,baz=225,slow=10,SNR=86						
ASAJ				S	S	19 54 43.6	-5.1
	0.6nm,0.3s,baz=252,slow=20,SNR=4.7						
SONM	Songino Array	25.34	307	P	P	19 56 04.1	-1.7
	0.2nm,0.7s,mb2.7,baz=113,slow=11,SNR=3.0						
MKAR	Makanchi Array	41.52	302	P	P	19 58 25.2	+0.9
	0.5nm,0.6s,mb2.9,baz=85,slow=10,SNR=9.7						
MKAR	Makanchi Array	41.52	302	P	P	19 58 25.2	+0.9
BVAR	Borovoye Array	48.48	312	P	P	19 59 20.0	+1.1
	0.2nm,0.3s,mb3.0,baz=117,slow=3.3,SNR=3.7						
BVAR				PcP	PcP	20 00 40.4	-0.4
	0.7nm,0.7s,baz=76,slow=2.3,SNR=5.7						
ILAR	Eielson Array	52.10	32	P	P	19 59 46.5	+0.7
	0.4nm,0.5s,mb3.0,baz=252,slow=5.6,SNR=6.6						
ARU	Arti	54.59	318	P	P	20 00 03.8	-0.2
WRAB	Tennant Creek	55.88	183	eP	P	20 00 12.8	-0.8
	1.9nm,0.3s,mb4.0						
WRA	Warramunga Arr	55.89	183	P	P	20 00 13.0	-0.7
	1.4nm,0.3s,mb3.8,baz=0.1,slow=7.6,SNR=59						
INK	Inuvik	56.74	26	P	P	20 00 19.3	+0.2
	1.9nm,0.7s,mb3.6,baz=332,slow=2.5,SNR=6.5						
INK	Inuvik	56.74	26	eP	P	20 00 19.2	+0.2
	0.9nm,0.5s,mb3.5						
ARCES	ARCESS Array B	63.48	339	P	P	20 01 04.8	+0.3
	1.5nm,0.8s,mb3.7,baz=51,slow=7.5,SNR=8.1						
FINES	FINESS Array B	67.84	331	P	P	20 01 32.5	+0.4
	1.4nm,0.7s,mb3.8,baz=77,slow=7.0,SNR=14						
NB2	NORSAR Subarra	73.52	336	P	P	20 02 05.6	-0.5
	0.5nm,0.6s,mb3.3,baz=42,slow=5.3						
NOA	NORSAR Array B	73.52	336	P	P	20 02 06.4	+0.3
	0.9nm,0.7s,mb3.5,baz=42,slow=5.9,SNR=4.6						
MALT	Malatya	74.41	306	eP	P	20 02 10.3	-1.4
GERES	GERESS Array B	81.46	326	P	P	20 02 50.9	+1.3
	0.3nm,0.6s,mb3.2,baz=34,slow=4.8,SNR=4.1						

*NEIC **03** 20:02:21.9±1.1, 23.42S×179.94E, h550km, mb4.5/4, Error ellipse: s-maj=39.2km s-min=22.6km az=174.0*
*IDC **03** 20:02:29.9±11.0, 23.51S×179.54E, h645km±151km, mb2.9/4, mb1 3.2/4, mb1mx3.0/10, mbtmp3.9/4, Error ellipse: s-maj=65.6km s-min=30.7km az=57.0*
ISC 03 20:02:25.6±1.2**, 23.7S**±0.3×**179.7E**±0.2**, h600**km**, n12, σ0^{s}55**/10**, mb3.9**/7**, 1C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.20	270	⇓iP	P	20 07 59.8	+0.8
	6.5nm,0.4s,mb4.6						
CTAO	Charters Tower	31.20	270	eP	P	20 07 59.8	+0.8
	7.4nm,0.4s,mb4.7						
STKA	Stephens Creek	34.56	248	P	P	20 08 26.1	-0.8
	1.4nm,0.6s,mb3.8,baz=98,slow=10,SNR=4.3						
STKA	Stephens Creek	34.56	248	eP	P	20 08 26.5	-0.5
WB2	Warramunga Arr	42.14	266	⇓iP	P	20 09 28.1	-0.4
WRAB	Tennant Creek	42.14	266	eP	P	20 09 28.0	-0.5
	5.7nm,0.5s,mb4.4						
WRA	Warramunga Arr	42.15	266	P	P	20 09 28.3	-0.3
	4.4nm,0.5s,mb4.2,baz=97,slow=8.2,SNR=144						
KAKA	Kakadu	46.02	275	⇑iP	Px	20 10 15.3	
	9.6nm,0.9s						
FITZ	Fitzroy Crossi	50.58	266	eP	P	20 10 33.3	+0.9
	11nm,1.5s,mb4.1						
VNDA	Vanda	54.60	185	P	P	20 11 00.5	+0.3
	0.2nm,0.3s,mb2.9,baz=41,slow=11,SNR=4.0						
TXAR	Lajitas Array	90.53	58	P	P	20 14 25.9	-0.1
	0.3nm,0.7s,mb3.4,baz=202,slow=6.7,SNR=5.0						
HFS	Hagfors	142.26	349	PKP	PKPdf	20 20 48.7	-1.1
	2.1nm,1.0s,baz=27,slow=3.2,SNR=4.7						

GUC 03 20:12:58.9±1.0**, 22.18S×68.71W, h119**km±7km**, ML3.8, 1C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.48	204	eP	P	20 13 17.0	+0.3
LVC				i S	S	20 13 31.5	+1.4
LVC				AMP		20 13 32.8	
	comp=E,4μm,0.2s						
SPCH	San Pedro de A	0.87	147	⇓iP	P	20 13 20.4	+0.5
SPCH				i S	S	20 13 37.2	+1.7
SPCH				AMP		20 13 53.2	
	comp=N,1μm,0.7s						
ANCH	Antofagasta	2.17	226	⇑iP	P	20 13 35.8	+0.8
ANCH				i S	S	20 14 02.8	+0.5
ANCH				AMP		20 14 14.0	
	comp=N,852nm,0.6s						
CPN1	Cerro Paranal	2.90	212	eP	P	20 13 45.5	+0.9
CPN1				i S	S	20 14 20.8	+1.5
CPN1				AMP		20 14 31.4	
	comp=E,384nm,0.3s						

*IDC **03** 20:21:20.6±0.8, 42.75S×83.08W, mb4.1/10, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, ML4.1/2, MS4.9/18, Ms1 4.9/18, ms1mx4.9/19, Error ellipse: s-maj=26.9km s-min=16.3km az=108.0*
*BJI **03** 20:21:24.9, 43.00S×82.90W, h10km, mB5.3, Ms5.6, Msz5.4*
*NEIC **03** 20:21:25.0±0.5, 43.00S×82.86W, h10km, mb4.9/15, MS5.0/9, Error ellipse: s-maj=15.9km s-min=12.0km az=81.0*
*HRVD **03** 20:21:25.0±0.1, 43.03S×83.00W, h15km, MW5.6/67, Centroid moment Tensor Solution. LP body waves: s67,c133;Mantle waves: s67,c141; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.15±.04; M$_{\theta\theta}$0.81±.04; M$_{\phi\phi}$-0.95±.04; M$_{r\theta}$0.17±.10; M$_{\theta\phi}$-2.49±.04; M$_{\phi r}$0.15±.12; Best double couple: M$_0$2.649×10^{17} NP1:φ$_s$170°, δ86°, λ-2°. NP2:φ$_s$260°, δ88°, λ-176°. Principal axes: T 2.568, Plg1°, Azm35°; N .162, Plg86°, Azm290°; P -2.731, Plg4°, Azm125°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 20:21:22.4±0.4**, 43.04S**±0.06×**82.75W**±0.08**, h10**km**, n91, σ1^{s}75**/50**, mb4.6**/22**, MS5.0**/23**, 1C-1D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	9.38	80	Pn	P	20 23 41.3	+0.5
	0.8nm,0.3s,baz=261,slow=11,SNR=19						
PLCA				Sn	Sn	20 25 25.8	-1.6
	0.3nm,0.3s,baz=212,slow=17,SNR=2.9						
PLCA				LR	LR	20 26 43.6	
	comp=Z,11μm,19.3s,baz=255,slow=34						
PLCA	Paso Flores	9.38	80	ePn	P	20 23 41.7	+0.9
	27nm,1.1s						
PLCA				eS	Sn	20 25 26.4	-1.1
USHA	Ushuaia	15.05	147	Pn	P	20 25 00.4	+3.7
	0.1nm,0.3s,baz=294,slow=7.8,SNR=3.6						
USHA				LR	LR	20 30 10.5	
	comp=Z,6μm,18.6s,baz=296,slow=34						
CFAA	Coronel Fontan	16.20	50	Pn	P	20 25 09.1	-2.7
	0.1nm,0.3s,baz=208,slow=13,SNR=9.1						
CFAA				Sn	S	20 28 12.7	+1.3
	0.0nm,0.3s,baz=335,slow=19,SNR=3.8						
CFAA				LR	LR	20 30 21.2	
	comp=Z,2μm,20.9s,baz=218,slow=33						
CFAA	Coronel Fontan	16.20	50	Pn	P	20 25 09.1	-2.7
CFAA				Sn	S	20 28 12.7	+1.3
CFAA				LR	LR	20 30 21.2	
TRQA	Tornquist	16.54	79	eP	P	20 25 19.1	+3.2
	33nm,1.2s						
LPA	La Plata	20.88	75	ceP	P	20 26 09.0	+1.9
LPA	La Plata	20.88	75	eP	P	20 26 11.0	+3.9
LPA				esP		20 26 17.0	
LPA				ePP	PP	20 26 25.0	-4.5
LPA				eS	S	20 30 02.0	+7.0
LVC	Limon Verde	23.39	34	P	P	20 26 29.6	-2.5
	5.9nm,0.8s,mb4.1,baz=230,slow=5.0,SNR=3.7						
LVC				LR	LR	20 33 29.5	
	comp=Z,6μm,20.3s,MS5.0,baz=188,slow=31						
LVC	Limon Verde	23.39	34	eP	P	20 26 30.5	-1.7
	191nm,1.8s,mb5.2						
CPUP	Villa Florida	26.58	59	P	P	20 27 02.0	-0.5
	18nm,0.9s,mb4.6,baz=261,slow=8.7,SNR=7.3						
CPUP				LR	LR	20 37 29.5	
	comp=Z,10μm,18.6s,MS5.4,baz=248,slow=36						
CPUP	Villa Florida	26.58	59	eP	P	20 27 02.7	+0.2
	28nm,1.1s,mb4.7						
CPUP				LR	LR		
	comp=Z,11μm,19.0s,MS5.4						
RPN	Rapa Nui	26.78	298	LR	LR	20 34 10.4	
	comp=Z,1μm,21.2s,MS4.4,baz=169,slow=29						
LPAZ	La Paz	29.44	30	P	P	20 27 24.8	-3.7
	comp=Z,7.1nm,1.1s,mb4.3,baz=159,slow=7.0,SNR=14						
LPAZ				LR	LR	20 37 32.1	
	comp=Z,1μm,18.8s,MS4.6,baz=164,slow=33						
LPAZ	La Paz	29.44	30	P	P	20 27 24.8	-3.7
LPAZ				eP	pP	20 27 28.0	-3.4
LPAZ				LR	LR	20 37 32.1	
SAML	Samuel	38.03	32	eP	P	20 28 40.6	-2.1
	comp=Z,24nm,1.2s,mb4.8						
SAML				LR	LR		
	comp=Z,3μm,19.0s,MS5.1						
BDFB	Brasilia	40.30	58	P	P	20 28 59.8	-1.7
	comp=Z,17nm,1.0s,mb4.7,baz=213,slow=6.2,SNR=9.7						
BDFB				LR	LR	20 46 13.4	
	comp=Z,7μm,19.2s,MS5.5,baz=221,slow=37						
BAO	Brasilia Array	40.32	58	P	P	20 29 05.5	+3.9
VNA3	Neumayer Olymp	44.56	154		pP	20 29 41.3	+2.7
VNA3	Neumayer Olymp	44.56	154		Px	20 29 43.7	
VNA3	Neumayer Olymp	44.56	154		Px	20 29 47.8	
VNA3	Neumayer Olymp	44.56	154		Px	20 29 55.5	
VNA3	Neumayer Olymp	44.56	154		Px	20 30 04.3	
VNA3	Neumayer Olymp	44.56	154	P	P	20 29 35.1	-0.5
VNA3				P		20 29 41.3	
VNA1	Neumayer--Stat	45.05	153		Px	20 29 47.8	
VNA1	Neumayer--Stat	45.05	153		Px	20 29 54.2	
VNA1	Neumayer--Stat	45.05	153		Px	20 30 02.3	
VNA2	Neumayer--Watz	45.32	153		pP	20 29 44.3	-0.4
VNA2	Neumayer--Watz	45.32	153		Px	20 29 50.7	
VNA2	Neumayer--Watz	45.32	153		Px	20 29 53.9	
VNA2	Neumayer--Watz	45.32	153		Px	20 30 02.2	
VNA2	Neumayer--Watz	45.32	153		Px	20 30 06.2	
VNA2	Neumayer--Watz	45.32	153	P	P	20 29 39.2	-2.5
VNA2				P		20 29 44.3	
SNAA	Sanae	46.70	155		P	20 29 54.6	+2.0
SNAA	Sanae	46.70	155		Px	20 29 59.8	
SNAA	Sanae	46.70	155		Px	20 30 05.6	
SNAA	Sanae	46.70	155		Px	20 30 11.4	
SNAA	Sanae	46.70	155		Px	20 30 16.1	
SNAA	Sanae	46.70	155	P	P	20 29 53.9	+1.2
	comp=Z,1.6nm,0.9s,mb3.9,baz=267,slow=6.0,SNR=10						
SNAA	Sanae	46.70	155	P	P	20 29 54.6	+2.0
QSPA	South Pole Qui	47.20	180	eP	P	20 29 57.5	+1.0
	comp=Z,12nm,1.1s,mb4.7						
QSPA				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
RKT	Rikitea	47.24	278	eS	S	20 36 44.3	-5.3
RKT				eLQ		20 41 12.2	
RKT				eLR	LR	20 43 02.2	
	comp=Z,1μm,34.0s,baz=128						
ROSC	El Rosal	48.28	11	LR	LR	20 48 42.9	
	comp=Z,3μm,18.7s,MS5.3,baz=191,slow=34						
VNDA	Vanda	53.46	194	P	P	20 30 43.4	-0.9
	comp=Z,0.9nm,1.1s,mb3.6,baz=195,slow=4.6,SNR=3.2						
VNDA				LR	LR	20 49 36.1	
	comp=Z,2μm,19.4s,MS5.2,baz=122,slow=32						
TBI	Tubuai	57.70	267	eS	S	20 39 07.2	-5.1
TBI				eLQ		20 45 16.9	
TBI				eLR	LR	20 47 58.8	
	comp=Z,574nm,27.0s						
SYO	Syowa Base	60.46	160	⇓P	P	20 31 33.0	-1.1
PPT	Papeete	61.37	272	eS	S	20 39 56.3	-3.5
PPT				eSS	SS	20 43 54.9	-7.0
PPT				eLQ		20 46 58.6	
PPT				eLR	LR	20 49 24.3	
	comp=Z,464nm,22.8s,baz=131						
PPT	Papeete	61.37	272	LR	LR	20 50 51.6	
	comp=Z,398nm,18.4s,MS4.6,baz=316,slow=29						
SJG	San Juan	62.73	18	P	P	20 31 48.1	-2.0
	comp=Z,8.9nm,0.8s,mb5.0						
MAW	Mawson	66.66	166	P	P	20 32 14.1	-0.6
	comp=Z,3.9nm,0.9s,mb4.4,baz=220,slow=8.0,SNR=8.4						
MAW				LR	LR	21 00 20.4	
	comp=Z,510nm,18.6s,MS4.8,baz=204,slow=35						
TXAR	Lajitas Array	74.54	341	P	P	20 32 59.6	-3.5
	comp=Z,1.7nm,1.1s,mb3.9,baz=170,slow=7.6,SNR=4.9						
TXAR				LR	LR	21 00 09.3	
	comp=Z,812nm,19.9s,MS5.0,baz=135,slow=31						
NATX	Nacogdoches	75.23	350	P	P	20 33 08.5	+1.5
	comp=Z,53nm,1.8s,mb5.2						
MNTX	Cornudas Mount	77.22	340	PFAKE		20 33 30.0	+12
MNTX				LR	LR		
	comp=Z,714nm,20.0s,MS5.0						
MYNC	Murphy	77.75	359	eP	P	20 33 23.8	+2.7
	comp=Z,11nm,1.0s,mb4.8						
SWET	Sewanee	77.94	357	eP	P	20 33 23.3	+1.2
WMOK	Wichita Mounta	78.78	347	eP	P	20 33 27.8	+1.0
	comp=Z,25nm,1.6s,mb4.9						
ANMO	Albuquerque	80.58	340	eP	P	20 33 35.0	-1.4
	comp=Z,9.9nm,1.1s,mb4.7						
ANMO				LR	LR		
	comp=Z,394nm,19.0s,MS4.8						
CCM	Cathedral Cave	81.08	353	eP	P	20 33 39.5	+0.5
	comp=Z,14nm,0.8s,mb4.9						
BOSA	Boshof	82.83	123	P	P	20 33 49.0	+0.7
	comp=Z,3.7nm,0.9s,mb4.4,baz=216,slow=10,SNR=7.0						
BOSA				LR	LR	21 04 45.7	
	comp=Z,903nm,21.3s,MS5.1,baz=225,slow=31						
BOSA	Boshof	82.83	123	P	P	20 33 49.0	+0.7
BOSA				LR	LR	21 04 45.7	
LBTB	Lobatse	85.61	120	PFAKE		20 34 20.0	+18
LBTB				LR	LR		
	comp=Z,857nm,20.0s,MS5.1						
DBIC	Dimbokro	85.74	77	LR	LR	21 11 04.3	
	comp=Z,576nm,19.8s,MS5.0,baz=208,slow=35						
DBIC	Dimbokro	85.74	77	PFAKE		20 34 20.0	+17
DBIC				LR	LR		
	comp=Z,665nm,20.0s,MS5.0						
TPH	Tonopah	86.60	333	eP	P	20 34 09.6	+2.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,13nm,1.1s,mb5.1						
DUG	Dugway	87.20	337	eP	P	20 34 12.2	+2.4
	comp=Z,9.8nm,1.3s,mb4.9						
BW06	Boulder Array	88.75	341	PFAKE		20 34 30.0	+13
BW06				LR	LR		
	comp=Z,309nm,20.0s,MS4.7						
PDAR	Pinedale Array	88.75	341	P	P	20 34 15.1	-2.1
	comp=Z,0.5nm,0.8s,mb3.9,baz=63,slow=3.3,SNR=5.4						
PDAR				LR	LR	21 10 36.0	
	comp=Z,267nm,18.6s,MS4.7,baz=150,slow=33						
HLID	Hailey	90.77	338	eP	P	20 34 27.0	+0.4
	comp=Z,5.4nm,1.2s,mb4.8						
HLID				LR	LR		
	comp=Z,486nm,20.0s,MS4.9						
MCMT	McKenzie Canyo	91.51	339	eP	P	20 34 32.7	+2.7
YBH	Yreka Blue Hor	91.74	331	eP	P	20 34 33.7	+2.6
	comp=Z,6.0nm,1.2s,mb4.8						
STKA	Stephens Creek	95.09	217	LR	LR	21 07 42.1	
	comp=Z,664nm,21.7s,MS5.1,baz=105,slow=29						
SCHQ	Schefferville	98.44	9	LR	LR	21 18 06.6	
	comp=Z,170nm,21.0s,MS4.5,baz=234,slow=35						
THY	Trims Highway	117.23	333	ePKPdf	PKPdf	20 40 10.3	+0.2
MOX	Moxa	124.05	50	eP	PKPdf	20 40 30.0	+6.3
NKC	Novy Kostel	124.33	51	AMS	AMS	21 31 40.0	
	comp=Z,500nm,17.8s						
GERES	GERESS Array B	124.40	53	PKP	PKPdf	20 40 24.5	0.0
	comp=Z,0.8nm,0.7s,baz=225,slow=1.9,SNR=9.2						
KHC	Kasperske Hory	124.46	52	ePKP	PKPdf	20 40 29.0	+4.4
KHC				x	x	20 40 38.5	
KHC				AMS	AMS	21 30 00.0	
	comp=Z,700nm,20.0s						
KHC	Kasperske Hory	124.46	52	eP	PKPdf	20 40 29.0	+4.4
KHC				e		20 40 38.5	
PRU	Pruhonice	125.41	52	AMS	AMS	21 26 10.0	
	comp=Z,500nm,25.3s						
TREC	Trest	125.65	53	AMS	AMS	21 29 10.0	
	comp=Z,1μm,24.7s						
PVCC	Panska Ves	125.67	51	AMS	AMS	21 32 40.0	
	comp=Z,500nm,18.4s						
OKC	Ostrava-Krasne	127.44	53	AMS	AMS	21 30 00.0	
	comp=Z,400nm,22.7s						
ARU	Arti	152.05	48	PKPbc	PKPdf	20 41 23.5	+10
YAK	Yakutsk	153.06	326	ePKPbc	PKPdf	20 41 24.8	+10
CN2	Changchun	159.54	282	ePKP	PKPdf	20 41 25.2	+1.7
CN2				PP	PP	20 45 48.1	+5.0
CN2				SS	SS	21 05 51.9	+4.3
CN2				PP	PP		
	comp=Z,310nm,6.0s						
CN2				LR	LR		
	comp=N,650nm,18.0s,MS5.6						
CN2				LR	LR		
	comp=E,470nm,18.0s,MS5.6						
CN2				LR	LR		
	comp=Z,540nm,21.0s,MS5.4						
BVAR	Borovoye Array	159.56	51	PKP	PKPdf	20 41 18.1	-5.1
	comp=Z,0.1nm,0.4s,baz=288,slow=4.6,SNR=2.5						
KMI	Kunming	161.57	196	PKP	PKPdf	20 41 27.0	+0.9
KMI	Kunming	161.57	196	PKP	PKPdf	20 41 27.6	+1.5
KMI				pPKP		20 41 41.3	
KMI				sPKP		20 41 48.1	
ZAL	Zalesovo	166.35	33	PKP	PKPdf	20 41 27.8	-2.0
	comp=Z,0.8nm,0.5s,baz=143,slow=3.9,SNR=4.8						
ZAL	Zalesovo	166.35	33	PKP	PKPdf	20 41 27.8	-2.0
MKAR	Makanchi Array	168.75	65	PKP	PKPdf	20 41 28.8	-2.8
	comp=Z,0.2nm,0.8s,SNR=2.2						
MKAR				PKPab	PKPab	20 42 43.2	+2.2
	comp=Z,1.4nm,0.8s,baz=288,slow=3.8,SNR=12						

MAN 03 20:21:43.0, 9.00N×126.68E, h32km, mb4.3, ML3.1, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.04	268	eP	Pn	20 22 00.1	-1.5
BUTP				eS	Sn	20 22 14.3	-0.8
SCPH	Surigao	1.40	304	eP	Pn	20 22 06.8	+0.1
SCPH				eS	Sn	20 22 24.0	-0.3
BUKP	Musuan	1.95	235	eP	Pn	20 22 15.3	+0.8
BUKP				eS	Sn	20 22 41.5	+3.4
MATI	Mati	2.08	192	eP	Pn	20 22 15.3	-1.2
MATI				eS	Sn	20 22 41.6	0.0
PAGZ	Pagadian	3.46	251	eP	Pn	20 22 36.3	+0.3

WEL 03 20:30:57.7±0.2, 39.82S×174.59E, h130km±2km, ML3.5/7, 4C-1D, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.31	78	PN	P	20 31 16.7	+0.7
WAZ				SN	S	20 31 30.2	+0.2
RAEZ	Rainy Point	0.55	344	PN	P	20 31 17.3	0.0
DFE	Dawson Falls	0.62	323	PN	P	20 31 17.8	+0.1
NEZ	North Egmont	0.67	325	PN	P	20 31 18.1	+0.1
NRZ	Ngariki Road	0.70	313	PN	P	20 31 18.2	-0.1
VRZ	Vera Road	0.70	11	⇓PN	P	20 31 18.0	-0.4
VRZ				SN	S	20 31 33.2	-0.8
PKE	Pukeiti	0.78	323	PN	P	20 31 18.2	-0.7
PKE				SN	S	20 31 33.7	-1.2
NWEZ	Newall Road	0.78	314	PN	P	20 31 17.7	-1.1
MTVZ	Mangateitei	0.81	58	⇑PN	P	20 31 19.0	-0.1
MTVZ				SN	S	20 31 34.4	-1.0
WNVZ	Wahianoa	0.92	58	PN	P	20 31 20.1	0.0
WNVZ				SN	S	20 31 35.9	-1.2
WPVZ	Whakapapa	0.96	51	PN	P	20 31 20.2	-0.3
WPVZ				SN	S	20 31 36.4	-1.4
CNZ	Chateau	0.97	51	PN	P	20 31 20.2	-0.3
MOVZ	Moawhango	0.99	66	ePN	P	20 31 19.8	-1.0
MOVZ				eSN	S	20 31 36.1	-2.2
TUVZ	Tukino	0.99	57	PN	P	20 31 20.7	0.0
TUVZ				SN	S	20 31 37.7	-0.6
NGZ	Ngauruhoe	1.01	51	PN	P	20 31 20.7	-0.4
NGZ				SN	S	20 31 37.7	-1.0
WTVZ	West Tongariro	1.05	48	PN	P	20 31 20.9	-0.4
WTVZ				SN	S	20 31 37.9	-1.4
KIW	Kapiti Island	1.07	167	PN	P	20 31 21.4	-0.1
KIW				SN	S	20 31 39.0	-0.7
TSZ	Takapari Road	1.08	103	PN	P	20 31 21.5	-0.2
TSZ				SN	S	20 31 39.2	-0.7
DUWZ	D'Urville Isla	1.11	207	⇑PN	P	20 31 21.7	-0.3
MRZ	Mangatainoka R	1.13	138	ePN	P	20 31 22.0	-0.2
MRZ				SN	S	20 31 39.6	-1.2
KATZ	Kakaramea	1.20	46	PN	P	20 31 22.6	-0.4
HIZ	Hauiti	1.32	9	PN	P	20 31 23.0	-1.3
HIZ				SN	S	20 31 42.6	-1.9
CAW	Cannon Point	1.34	164	PN	P	20 31 24.2	-0.2
MRW	Makara Radio	1.41	177	PN	P	20 31 25.1	-0.2
MRW				SN	S	20 31 43.9	-2.4
TCW	Tory Channel	1.41	190	PN	P	20 31 25.1	-0.2
TCW				SN	S	20 31 44.1	-2.2
SNZO	South Karori	1.49	177	PN	P	20 31 25.7	-0.5
SNZO				SN	S	20 31 46.0	-1.8
MTW	Mount Morrison	1.51	153	PN	P	20 31 25.8	-0.6
BKZ	Black Stump Fm	1.61	67	ePN	P	20 31 26.4	-1.1
BKZ				SN	S	20 31 47.6	-2.7
MSWZ	Moikau Station	1.67	163	PN	P	20 31 27.5	-0.7
MSWZ				SN	S	20 31 48.6	-2.9
NNZ	Nelson	1.67	213	⇑PN	P	20 31 27.3	-0.9
NNZ				SN	S	20 31 50.0	-1.4
TUWZ	Tuamarina	1.68	197	PN	P	20 31 27.5	-0.9
TUWZ				SN	S	20 31 48.9	-2.8
PAWZ	Paruwai Farm	1.69	158	PN	P	20 31 27.8	-0.6
PAWZ				SN	S	20 31 49.0	-2.7
QRZ	Quartz Range	1.87	237	PN	P	20 31 28.6	-1.9
QRZ				SN	S	20 31 52.5	-3.0
BSWZ	Blackbirch Sta	1.97	196	PN	P	20 31 31.1	-0.7
THZ	Tophouse	2.33	213	⇑PN	P	20 31 34.8	-1.5
THZ				SN	S	20 32 03.2	-2.4
KHZ	Kahutara	2.71	197	ePN	P	20 31 40.0	-1.4
DSZ	Denniston Nort	2.86	227	ePN	P	20 31 40.8	-2.5
DSZ				SN	S	20 32 14.2	-3.8
MQZ	McQueen's Vall	4.15	200	ePN	P	20 31 56.4	-4.0

CASC 03 20:32:25.6±2.3, 12.37N×88.57W, h21km±32km, MD4.1, ML2.9, 3C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	San Miguel	1.09	15	eP	Pb	20 32 45.3	-0.2
VSM				eS	Sb	20 33 00.9	+1.6
BLLM	Bellamira	1.11	17	eP	Pb	20 32 46.3	+0.4
BLLM				eS	Sb	20 33 01.9	+2.0
CNCH	Conchagua	1.15	38	eP	Pn	20 32 46.2	-0.4
SNVI	San Vicente	1.26	348	⇓eP	Pn	20 32 47.9	-0.3
SNVI				eP		20 32 49.2	
SNVI				eS	Sb	20 33 05.4	+1.1
LFRS	El Faro	1.33	339	⇑eP	Pn	20 32 48.2	-1.1
LCBS	La Ceiba	1.33	343	eP	Pn	20 32 48.5	-0.7
CRIN	San Cristobal	1.52	77	eP	Pn	20 32 52.0	+0.2
LEON	Leon	1.64	88	eP	Pn	20 32 54.4	+0.8
TEL3	Telica 3	1.69	83	eP	Pn	20 32 54.1	-0.3
TELN	Telica	1.71	82	eP	Pn	20 32 53.2	-1.4
MIRN	Miramar	1.81	88	eP	Pn	20 32 56.0	-0.1
CNGN	Cerro Negro	1.83	86	eP	Pn	20 32 54.9	-1.4
RTR	El Retiro	1.84	325	⇑eP	Pn	20 32 56.4	-0.2
COPN	Copaltepe	1.94	95	eP	Pn	20 32 55.6	-2.3
COPN				eS	Sn	20 33 21.9	0.0
COPN				i		20 33 23.3	
	comp=Z,114nm,0.5s						
RBDL	Robledal	2.04	328	⇑eP	Pn	20 32 59.3	-0.2
TICN	Ticuantepe	2.31	98	eP	Pn	20 33 02.3	-0.9

NIED 03 20:37:00, 43.50N×147.10E, h68km, Mw3.8 Best double couple: $M_0$5.08×10^{14} NP1:ϕ_s82°, δ73°, λ111°. NP2:ϕ_s209°, δ27°, λ40°.
MOS 03 20:37:27.8±2.0, 43.48N×147.32E, h33km, mb4.1/1, Error ellipse: s-maj=19.2km s-min=11.3km az=110.3
JMA 03 20:37:33.2±0.2, 43.50N×147.06E, h51km±4km, M4.1
NEIC 03 20:37:34.6±2.0, 43.56N×146.89E, h76km±17km, mb3.8/1, Error ellipse: s-maj=16.6km s-min=12.3km az=107.0
IDC 03 20:37:36.5±3.3, 43.62N×146.97E, h92km±30km, mb3.4/11, mb1 3.6/11, mb1mx3.5/21, mbtmp3.7/11, Error ellipse: s-maj=20.7km s-min=18.4km az=99.0
ISC 03 20:37:31.6±0.8, 43.61N±0.06×147.15E±0.08, h64km±7km, n36, $\sigma 1^s 12$/50, mb3.7/11, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.02	295	⇓iPN	P	20 37 49.1	-1.3
YUK				i S	S	20 38 02.0	-2.3
YUK				pmax	pmax		
	comp=N,380nm,0.3s						
YUK				pmax	pmax		
	comp=E,570nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,0.5s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,4μm,0.5s						
YUK				smax			
	comp=N,10μm,0.5s						
YUK				smax			
	comp=E,8μm,0.5s						
NEM2	Nemuro 2	1.05	257	P	P	20 37 50.8	0.0
NEM2				eS	S	20 38 03.9	-1.1
JRA	Rausu	1.50	283	P	P	20 37 57.8	+0.8
JRA				eS	S	20 38 16.3	+0.5
KUR	Kuril'sk	1.70	17	ePN	P	20 37 58.7	-1.0
KUR				i S	S	20 38 18.4	-2.0
KUR				pmax	pmax		
	comp=N,70nm,0.4s						
KUR				pmax	pmax		
	comp=Z,100nm,0.4s						
KUR				smax			
	comp=N,460nm,0.5s						
KUR				smax			
	comp=E,780nm,0.5s						
JNK	Nakash	1.77	270	P	P	20 38 00.9	+0.3
JNK				eS	S	20 38 21.1	-0.8
JAK	Akkeshi	1.89	252	P	P	20 38 02.2	-0.1
JAK				eS	S	20 38 23.8	-1.2
JTKR	Abashiri--Toko	2.37	280	P	P	20 38 10.4	+1.3
JTKR				eS	S	20 38 38.9	+1.8
JAR	Ashorobuto	2.48	264	P	P	20 38 11.4	+0.8
JAR				eS	S	20 38 39.5	-0.2
JOB	Onbets	2.52	255	P	P	20 38 11.6	+0.4
JOB				eS	S	20 38 40.3	-0.5
JMP	Maruseppu	2.77	280	P	P	20 38 16.1	+1.4
JCH	Churui	2.95	252	P	P	20 38 17.1	-0.1
JCH				eS	S	20 38 49.2	-2.3
JKK2	Kamakawa 2	3.20	276	P	P	20 38 22.4	+1.6
ASAJ	Asahikawa	3.33	280	P	P	20 38 24.4	+1.8
	comp=E,1.6nm,0.3s,baz=77,slow=13,SNR=12						
ASAJ				S	S	20 39 07.3	+6.2
	comp=E,2.4nm,0.3s,baz=179,slow=30,SNR=3.8						
ASAJ	Asahikawa	3.33	280	PN	P	20 38 24.4	+1.8
ASAJ				S	S	20 39 07.4	+6.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
JEM	Erimo	3.34	243	P	P	20 38 24.2	+1.5
JEM				eS	S	20 39 01.0	-0.4
JFR	Furan	3.35	264	P	P	20 38 24.3	+1.4
JFR				eS	S	20 39 01.7	0.0
JNBK	Urakawa-nobuka	3.49	249	P	P	20 38 24.5	-0.3
JSE	Soyaes	3.54	294	P	P	20 38 26.6	+1.0
YSS	Yuzh-Sakhalins	4.56	319	ePn	P	20 38 40.5	+0.7
YSS	Yuzh-Sakhalins	4.56	319	⇑iPN	P	20 38 41.0	+1.2
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
INCN	Inchon	16.73	256	ePn	P	20 41 19.8	-3.3
SONM	Songino Array	28.52	293	P	P	20 43 21.8	-1.1
	comp=Z,0.2nm,0.4s,mb3.2,baz=100,slow=8.8,SNR=2.5						
SONM	Songino Array	28.52	293	P	P	20 43 21.9	-1.1
GUMO	Guam	29.98	184	P	P	20 43 35.9	-0.3
	comp=Z,127nm,0.5s,baz=20,slow=21,SNR=3.6						
ILAR	Eielson Array	41.60	36	P	P	20 45 15.2	+0.9
	comp=Z,1.0nm,0.8s,mb3.5,baz=274,slow=7.3,SNR=8.5						
MKAR	Makanchi Array	44.65	298	P	P	20 45 39.8	+0.5
	comp=Z,0.5nm,0.5s,mb3.6,baz=77,slow=11,SNR=11						
INK	Inuvik	46.52	30	P	P	20 45 55.0	+1.1
	comp=Z,2.9nm,0.4s,mb4.5,baz=287,slow=6.0,SNR=18						
BVAR	Borovoye Array	49.59	309	P	P	20 46 17.8	-0.1
	comp=Z,0.2nm,0.3s,mb3.6,baz=72,slow=9.1,SNR=3.9						
ARCES	ARCESS Array B	59.38	340	P	P	20 47 27.5	-1.5
	comp=Z,2.5nm,0.9s,mb4.2,baz=34,slow=6.5,SNR=4.5						
WRA	Warramunga Arr	64.32	193	P	P	20 48 01.9	-0.9
	comp=Z,0.4nm,0.8s,mb3.5,baz=8.9,slow=6.8,SNR=6.0						
FINES	FINESS Array B	65.00	333	P	P	20 48 05.0	-1.5
	comp=Z,0.8nm,0.5s,mb4.0,baz=43,slow=9.1,SNR=15						
NB2	NORSAR Subarra	69.73	339	P	P	20 48 35.6	-0.5
	comp=Z,0.6nm,0.5s,mb3.8,baz=31,slow=6.2						
NB2	NORSAR Subarra	69.73	339	P	P	20 48 35.6	-0.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	NORSAR Array B	69.73	339	P	P	20 48 35.5	-0.6
	comp=Z,0.8nm,0.5s,mb3.9,baz=31,slow=6.3,SNR=5.3						
GERES	GERESS Array B	79.28	331	P	P	20 49 31.0	-0.3
	comp=Z,0.2nm,0.5s,mb3.4,baz=31,slow=5.7,SNR=4.3						
TXAR	Lajitas Array	82.73	56	P	P	20 49 51.4	+1.6
	comp=Z,0.2nm,0.5s,mb3.4,baz=304,slow=4.7,SNR=6.1						

NIED 03 20:38:00, 36.40N×138.10E, h5km, Mw3.5 Best double couple: $M_0$2.17×10^{14} NP1:ϕ_s337°, δ80°, λ14°. NP2:ϕ_s244°, δ76°, λ169°.
JMA 03 20:38:37.2, 36.40N×138.05E, h5km±1km, M3.3, 2C-3D Broadband fault plane solution: P waves. NP1:ϕ_s160°, δ71°, λ-1°. NP2:ϕ_s251°, δ89°, λ-161°. Principal axes: T Plg12°, Azm24°; N Plg71°, Azm255°; P Plg14°, Azm117°; Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.04	81	⇓P	Pg	20 38 38.5	+0.1
JNG				S	Sg	20 38 39.6	+0.4
MAT	Matsushiro	0.19	42	⇑P	Pg	20 38 40.8	-0.3
MAT				S	Sg	20 38 43.6	-0.1
MAT	Matsushiro	0.19	42	P	Pg	20 38 40.9	-0.2
JGK	Kuni	0.50	71	⇓P	Pg	20 38 47.1	-0.2
JGK				eS	Sg	20 38 54.2	+0.2
JNT	Takato	0.53	172	⇑P	Pg	20 38 47.3	-0.5
JNT				eS	Sg	20 38 54.7	-0.2
JTT	Ttatey	0.61	290	⇓P	Pg	20 38 49.1	-0.4

CSEM 03 20:43:32.3±1.0, 38.72N×29.01W, h4km±6km, ML2.5 Error ellipse: s-maj=12.8km s-min=6.2km az=45.0, After PDA
PDA 03 20:43:32.3±1.0, 38.72N×29.01W, h4km±6km, MD3.1, ML2.5, Error ellipse: s-maj=12.8km s-min=6.2km az=45.0
SVSA 03 20:43:32.3±1.0, 38.72N×29.01W, h4km±6km, MD3.1, ML2.5, Error ellipse: s-maj=12.8km s-min=6.2km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTCA	Ponta do Capel	0.21	129	eS	Sg	20 43 39.3	-0.1
PCED	Cedros	0.26	110	i P	Pg	20 43 37.0	-0.4
PCED				eS	Sg	20 43 40.5	-0.4
	192nm,0.1s						
PCED	Cedros	0.26	110	eS	Sg	20 43 40.5	-0.4
CALA	Caldeira	0.28	120	eP	Pg	20 43 37.9	+0.1
CALA				eS	Sg	20 43 41.1	-0.4
PICO	Pico	0.50	115	eP	Pg	20 43 41.2	-1.2
PICO				eS	Sg	20 43 47.8	-1.3
PAMA	Santo Amaro	0.65	93	eP	Pg	20 43 43.0	-2.3
PAMA				eS	Sg	20 43 51.9	-2.0
PMAN	Manadas	0.72	96	erx	Pg	20 43 47.4	+0.6

BJI 03 20:59:56.9, 4.09N×95.17E, h54km, mB5.4, mb4.9, Ms5.1, Msz4.4
MOS 03 21:00:00.4±0.9, 4.84N×95.16E, h33km, mb5.2/29, Error ellipse: s-maj=13.6km s-min=6.0km az=119.2
NEIC 03 21:00:04.2±0.2, 4.75N×95.14E, mb5.0/24, Error ellipse: s-maj=8.0km s-min=5.1km az=207.0
HRVD 03 21:00:04.2±1.0, 4.42N×94.79E, h60km±3km, MW5.0/27, Centroid moment Tensor Solution. LP body waves: s12,c15;Mantle waves: s27,c31; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.03±.54; $M_{\theta\theta}$-2.96±.49; $M_{\phi\phi}$-0.06±.67; $M_{r\theta}$1.33±.23; $M_{\theta\phi}$3.61±.32; $M_{\phi r}$0.30±.31; Best double couple: $M_0$4.66×10^{16} NP1:ϕ_s335°, δ49°, λ138°. NP2:ϕ_s96°, δ60°, λ49°. Principal axes: T 3.815, Plg55°, Azm312°; N 1.697, Plg34°, Azm119°; P -5.505, Plg6°, Azm213°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
IDC 03 21:00:04.3±0.5, 4.80N×95.13E, h54km±3km, mb4.3/17, mb1 4.4/17, mb1mx4.3/22, mbtmp4.6/17, MS4.0/7, Ms1 4.0/7, ms1mx3.8/22 Error ellipse: s-maj=18.3km s-min=10.6km az=49.0
ISC 03 21:00:02.5±0.3, 4.67N±0.05×95.15E±0.04, h56km, h56km±1.2km:pP-P, n168, $\sigma 1^s 10$/164, mb4.8/67, MS4.2/13, 19C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.51	83	ePn	P	21 01 24.7	+0.8
KULM				eSn	S	21 02 26.2	-0.6
SNG	Songkhla	5.98	65	P	P	21 01 31.0	+0.6
	396nm,1.0s						
NNT	Nongplab	9.07	30	P	P	21 02 15.0	+1.7
NST	Nakhon Sawan	11.98	24	P	P	21 02 56.0	+3.2
	42nm,0.5s						
CHG	Chiang Mai	14.53	14	⇑P	P	21 03 32.5	+5.9
	31nm,0.8s						
PALK	Pallekele	14.60	281	P	P	21 03 26.1	-1.5
KSM	Kuching	15.46	101	eP	P	21 03 43.4	+4.7
CHRT	Chiangrai	15.76	16	⇑P	P	21 03 44.5	+2.0
VIS	Vishakhapatnam	17.38	319	eP	P	21 04 00.1	-2.7
VIS				AMb	AMB	21 04 31.6	
	comp=Z,27nm,1.1s						
VIS				eS	S	21 07 01.6	-11
HYB	Hyderabad	20.61	309	i P	P	21 04 40.0	+0.4
HYB	Hyderabad	20.61	309	eP	P	21 04 40.0	+0.4
SHL	Shillong	21.01	352	eP	P	21 04 50.0	+6.4
SHL				i P		21 04 50.2	
SHL				AMb	AMB	21 04 52.1	
	comp=Z,93nm,0.3s,mb5.7						
KMI	Kunming	21.60	19	P	P	21 04 51.4	+1.9
KMI				pP		21 05 02.9	
NGP	Nagpur	22.64	318	eP	P	21 05 02.1	+2.2
KAD	Karad	24.07	303	ex	x	21 05 39.0	
KAD				AMb	AMB	21 05 45.6	
	comp=Z,42nm,0.5s,mb5.1						
KAD				ex	x	21 09 44.5	
GYA	Guiyang	24.30	26	P	P	21 05 18.3	+2.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
PKI	Pulchoki	24.59	339	eP	P	21 05 19.4	+0.6
	comp=Z,8.1nm,0.5s,mb4.5						
DMN	Daman	24.73	338	eP	P	21 05 20.5	+0.3
	comp=Z,6.4nm,0.3s,mb4.6						
KKN	Kakani	24.84	339	eP	P	21 05 20.9	-0.3
	comp=Z,43nm,1.0s,mb4.9						
BHPL	Bhopal	25.17	319	eP	P	21 05 26.2	+1.7
BHPL				AMb	AMB	21 05 43.1	
	comp=Z,23nm,1.6s,mb4.5						
BHPL				ePP	PP	21 06 00.6	-3.4
BHPL				ex	x	21 10 24.6	
LSA	Lhasa	25.18	352	P	P	21 05 25.8	+1.4
LSA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
LSA	Lhasa	25.18	352	eP	P	21 05 24.7	+0.2
	comp=Z,213nm,0.2s,mb6.3						
LSA	Lhasa	25.18	352	eP	P	21 05 24.7	+0.3
LSA				pmax	pmax		
	comp=Z,213nm,0.2s,mb6.3						
GKN	Gorkha	25.27	338	eP	P	21 05 25.3	0.0
	comp=Z,27nm,0.3s,mb5.3						
KOLN	Koldanda	25.47	336	eP	P	21 05 27.4	+0.2
	comp=Z,42nm,0.6s,mb5.2						
CD2	Chengdu	27.33	16	P	P	21 05 43.4	-0.9
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
ENH	Enshi	28.83	26	P	P	21 05 56.1	-1.7
	comp=Z,17nm,1.0s,mb4.7						
XAN	Xi'an	31.90	22	P	P	21 06 23.5	-1.4
XAN				AMB	AMB		
	comp=Z,41nm,1.0s,mb5.2						
GTA	Gaotai	34.84	6	eP	P	21 06 49.3	-0.9
GTA				AP	pP	21 07 01.9	-2.6
GTA				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,186nm,6.8s						
GTA				LR	LR		
	comp=N,272nm,12.9s,MS4.3						
GTA				LR	LR		
	comp=E,281nm,12.6s,MS4.3						
GTA				LR	LR		
	comp=Z,381nm,12.2s,MS4.3						
NJ2	Nanjing	35.14	36	eP	P	21 06 52.4	-0.5
NJ2				PP	PP	21 08 11.5	-1.5
NJ2				S	S	21 12 21.0	0.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,552nm,5.2s						
NJ2				LR	LR		
	comp=N,2μm,19.2s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,19.1s,MS5.0						
NJ2				LR	LR		
	comp=Z,3μm,17.2s,MS5.1						
SSE	Sheshan	35.92	40	P	P	21 06 56.7	-2.8
SSE				S	S	21 12 32.6	-0.3
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,733nm,7.5s						
SSE				LR	LR		
	comp=Z,195nm,22.1s,MS3.8						
SSE	Sheshan	35.92	40	P	P	21 06 56.7	-2.8
	comp=Z,42nm,0.7s,mb5.5						
SSE				pP	pP	21 07 05.5	-8.4
SSE				sP	sP	21 07 09.4	-11
SSE				S	S	21 12 32.6	-0.3
SSE				sS		21 12 47.3	
SSE				PcS		21 13 11.4	
SSE				LR	LR		
	comp=Z,200nm,22.1s,MS3.8						
FITZ	Fitzroy Crossi	37.63	128	⇑iP	P	21 07 13.6	-0.4
	comp=Z,9.6nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	37.63	128	P	P	21 07 13.3	-0.7
	comp=Z,12nm,0.6s,mb4.8,baz=334,slow=6.6,SNR=15						
FITZ				PcP	PcP	21 09 31.9	+0.8
	comp=Z,2.6nm,0.4s,baz=342,slow=6.4,SNR=4.5						
WMQ	Urumqi	39.54	352	eP	P	21 07 29.5	-0.1
WMQ				AMB	AMB		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,10.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,195nm,6.7s						
KAKA	Kakadu	40.88	115	eP	P	21 07 57.1	+16
	comp=Z,5.0nm,0.4s,mb4.5						
ULHL	Ulahol	41.03	338	P	P	21 07 43.0	+1.1
	SNR=45						
KZA	Kyzart	41.26	337	P	P	21 07 45.4	+1.6
	SNR=5.4						
UCH	Uchtor	41.67	337	P	P	21 07 48.9	+1.6
	SNR=47						
TKM2	Tokmak 2	41.85	338	P	P	21 07 49.9	+1.1
	SNR=23						
KBK	Karagaybulak	41.87	338	P	P	21 07 50.6	+1.8
	SNR=48						
AML	Almayashu	41.92	336	P	P	21 07 50.8	+1.6
	SNR=37						
AAK	Ala-Archa	42.02	337	P	P	21 07 52.0	+1.9
	SNR=17						
AAK	Ala-Archa	42.02	337⇑	eP	P	21 07 50.4	+0.3
	comp=Z,50nm,1.1s,mb5.0						
AAK	Ala-Archa	42.02	337⇑	eP	P	21 07 50.4	+0.3
AAK				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.0						
FRU	Bishkek	42.15	337	eP	P	21 07 52.2	+1.1
FRU				pmax	pmax		
	comp=Z,74nm,1.8s,mb5.0						
CHMS	Chumysh	42.23	338	P	P	21 07 52.5	+0.7
	SNR=14						
EKS2	Erkin-Say	42.33	336	P	P	21 07 54.0	+1.4
	SNR=32						
USP	Ospenovka	42.56	338	P	P	21 07 55.4	+0.9
	SNR=83						
MKAR	Makanchi Array	43.41	347	P	P	21 08 00.9	-0.5
	comp=Z,6.9nm,0.3s,mb4.8,baz=162,slow=8.5,SNR=236						
MKAR				PcP	PcP	21 09 49.3	-0.2
	comp=Z,0.5nm,0.3s,baz=184,slow=3.3,SNR=3.8						
MKAR				LR	LR	21 29 01.7	
	comp=Z,117nm,20.5s,MS3.8,baz=352,slow=40						
JNU	Nakatsue	43.69	45	P	P	21 08 04.2	+0.3
	comp=Z,2.7nm,0.4s,mb4.3,baz=109,slow=37,SNR=3.4						
SONM	Songino Array	44.07	11	P	P	21 08 05.5	-1.3
	comp=Z,2.7nm,0.9s,mb4.0,baz=191,slow=8.4,SNR=17						
SONM				PcP	PcP	21 09 51.2	-0.6
	comp=Z,2.2nm,0.5s,baz=200,slow=3.9,SNR=14						
SONM				pPcP		21 10 06.4	
	comp=Z,0.7nm,0.4s,baz=203,slow=3.6,SNR=3.7						
SONM				LR	LR	21 29 01.4	
	comp=Z,88nm,19.6s,MS3.7,baz=248,slow=40						
ULN	Ulaanbaatar	44.23	11	iP	P	21 08 06.4	-1.6
WRA	Warramunga Arr	45.63	124	P	P	21 08 20.1	+0.6
	comp=Z,22nm,0.6s,mb5.3,baz=302,slow=9.4,SNR=273						
WRA	Warramunga Arr	45.63	124	iP	P	21 08 20.3	+0.8
WRA				pmax	pmax		
	comp=Z,23nm,0.6s						
WRAB	Tennant Creek	45.63	124	eP	P	21 08 20.3	+0.8
	comp=Z,109nm,1.1s,mb5.7						
WRAB	Tennant Creek	45.63	124	eP	P	21 08 20.3	+0.7
WRAB				pmax	pmax		
	comp=Z,109nm,1.1s,mb5.7						
WB2	Warramunga Arr	45.64	124⇑	iP	P	21 08 20.3	+0.7
ZAK	Zakamensk	46.06	7	eP	P	21 08 21.3	-1.3
ZAK				e		21 09 56.0	
CN2	Changchun	47.24	30	eP	P	21 08 31.5	-0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
KURK	Kurchatov	47.94	346⇑	eP	P	21 08 36.9	-0.5
	comp=Z,9.2nm,0.8s,mb4.9						
KURK	Kurchatov	47.94	346⇑	eP	P	21 08 36.9	-0.4
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
HIA	Hailar	49.09	21	eP	P	21 08 45.8	-0.4
	comp=Z,6.3nm,0.6s,mb4.8						
HIA	Hailar	49.09	21	eP	P	21 08 45.8	-0.4
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZAL	Zalesovo	49.83	352	P	P	21 08 51.0	-0.8
	comp=Z,5.3nm,0.4s,mb4.9,baz=302,slow=5.6,SNR=21						
ZAL	Zalesovo	49.83	352	iP	P	21 08 51.5	-0.4
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MDJ	Mudanjiang	49.93	32	P	P	21 08 53.1	+0.3
MDJ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,231nm,7.3s						
MDJ	Mudanjiang	49.93	32	eP	P	21 08 53.1	+0.3
	comp=Z,15nm,0.9s,mb5.0						
NVS	Novosibirsk	50.94	351	eP	P	21 08 57.3	-3.0
NVS				iS	S	21 16 20.5	+9.1
NVS				pmax	pmax		
	comp=N,11nm,1.4s						
NVS				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
NVS				pmax	pmax		
	comp=E,7.0nm,1.3s						
NVS				smax			
	comp=N,15nm,1.9s						
BVAR	Borovoye Array	52.32	341	P	P	21 09 09.6	-1.1
	comp=N,16nm,0.7s,mb5.1,baz=143,slow=7.4,SNR=95						
BVAR				pP	pP	21 09 24.5	-1.1
	comp=N,6.2nm,0.6s,baz=142,slow=8.6,SNR=7.9						
BRVK	Borovoye	52.38	341⇑	eP	P	21 09 10.1	-1.0
	comp=N,24nm,0.9s,mb5.1						
BRVK	Borovoye	52.38	341⇑	eP	P	21 09 10.1	-1.1
BRVK				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
PMG	Port Moresby	53.68	105	P	P	21 09 20.9	-0.4
	comp=Z,7.6nm,0.7s,mb4.7,baz=14,slow=17,SNR=3.8						
PMG	Port Moresby	53.68	105	P	P	21 09 21.0	-0.3
KLR	Kul'dur	54.15	29	eP	P	21 09 20.2	-4.1
BOD	Bodaibo	55.03	12	eP	P	21 09 28.9	-1.7
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
CTA	Charters Tower	55.90	118	P	P	21 09 38.7	+1.3
	comp=Z,5.4nm,1.0s,mb4.5,baz=259,slow=16,SNR=3.2						
STKA	Stephens Creek	57.20	133	P	P	21 09 45.4	-1.1
	comp=Z,1.2nm,0.4s,mb4.2,baz=309,slow=0.5,SNR=4.6						
STKA				pP	pP	21 10 02.9	+1.3
	comp=Z,1.7nm,0.5s,baz=311,slow=3.8,SNR=3.2						
STKA				LR	LR	21 33 52.8	
	comp=Z,134nm,21.2s,MS4.0,baz=207,slow=35						
STKA	Stephens Creek	57.20	133	P	P	21 09 45.9	-0.6
GNI	Garni	57.39	315	iP	P	21 09 46.0	-1.8
GNI				pmax	pmax		
	comp=Z,22nm,1.3s						
KMBO	Kilima Mbogo	58.13	266	P	P	21 09 52.3	-1.0
	comp=Z,0.2nm,0.3s,mb3.7,baz=61,slow=19,SNR=1.5						
YSS	Yuzh-Sakhalins	58.71	36⇓	eP	P	21 09 57.0	+0.2
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.7						
SVE	Sverdlovsk	58.73	339⇑	eP	P	21 09 56.0	-0.8
SVE				e	pP	21 10 09.0	-3.0
SVE				e		21 18 16.0	
SVE				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4						
ARU	Arti	59.21	337	eP	P	21 09 58.6	-1.5
	comp=Z,30nm,1.3s,mb5.2						
ARU	Arti	59.21	337⇑	iP	P	21 09 58.9	-1.2
ARU				e		21 10 42.6	
ARU				e		21 12 08.4	
ARU				ePPP	PPP	21 13 33.0	-5.2
ARU				eS	S	21 18 06.6	+4.7
ARU				eSS	SS	21 21 59.5	+0.9
ARU				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
KIV	Kislovodsk	60.36	319	eP	P	21 10 00.7	-7.6
	comp=Z,11nm,0.9s,mb4.9						
KIV	Kislovodsk	60.36	319⇓	eP	P	21 10 06.4	-1.9
KIV				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
KIV				MLR	MLR		
	comp=Z,200nm,24.0s,MS4.2						
GOF	Gofitskoye	60.60	320	eP	P	21 10 06.8	-3.1
MALT	Malatya	61.30	311	eP	P	21 10 14.6	-0.2
	comp=Z,3.9nm,1.0s,mb4.5						
MALT	Malatya	61.30	311	eP	P	21 10 14.6	-0.1
MALT				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
YAK	Yakutsk	62.71	18	eP	P	21 10 21.3	-2.5
	comp=Z,11nm,0.4s,mb5.3						
YAK	Yakutsk	62.71	18	iP	P	21 10 21.2	-2.6
YAK				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.1						
VRHR	Novokhopersk	64.12	326	eP	P	21 10 31.0	-2.2
VRHR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
VRHR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
BR131	Keskin Array S	65.28	312	eP	P	21 10 39.9	-1.0
	comp=E,9.3nm,0.9s,mb4.8						
BR131				epP	pP	21 10 55.3	-1.1
BRTR	Keskin Array B	65.28	312	P	P	21 10 39.8	-1.1
	comp=E,6.6nm,0.8s,mb4.7,baz=132,slow=7.3,SNR=28						
BRTR				pP	pP	21 10 55.4	-1.0
	comp=E,5.0nm,0.8s,baz=121,slow=7.1,SNR=12						
VORD	Divnogorie	65.39	325	eP	P	21 10 39.4	-2.0
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
VORD				pmax	pmax		
	comp=N,20nm,1.3s						
VORD				pmax	pmax		
	comp=E,20nm,0.7s						
VRSR	Storozhevoye	65.55	325	eP	P	21 10 40.6	-1.9
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,9.0nm,1.9s						
MOS	Moscow	68.32	329	eP	pP	21 11 12.1	-3.2
MOS				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.5						
OBN	Obninsk	68.61	328	eP	P	21 11 00.3	-1.3
	comp=Z,33nm,1.4s,mb5.1						
OBN	Obninsk	68.61	328	deP	P	21 11 00.8	-0.8
OBN				e		21 13 35.6	
OBN				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.1						
TIXI	Tiksi	70.16	11	eP	P	21 11 06.3	-4.5
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KIS	Kishinev	70.56	318	eP	pP	21 11 26.0	-3.2
KIS				e		21 21 12.0	
CFR	Carcaliu	70.58	316⇓	iP	P	21 11 12.9	-0.9
CFR	Carcaliu	70.58	316⇑	iP	P	21 11 12.9	-0.9
AKASG	Malin Array Be	71.28	322	P	P	21 11 16.3	-1.6
	comp=Z,1.4nm,0.4s,mb4.3,baz=88,slow=4.7,SNR=18						
AKASG				pP	pP	21 11 31.5	-2.0
	comp=Z,0.5nm,0.3s,baz=80,slow=6.2,SNR=2.5						
SEY	Seymchan	71.41	24	iP	P	21 11 17.6	-0.9
VRI	Vrincioaia	71.70	317⇑	iP	P	21 11 21.4	+0.9
MLR	Muntele Rosu	72.16	316⇑	iP	P	21 11 23.9	+0.7
BURAR	Bucovina Array	73.08	318⇓	iP	P	21 11 29.9	+1.2
BURAR	Bucovina Array	73.08	318⇑	iP	P	21 11 29.9	+1.2
JOF	Joensuu	74.15	335	ep	P	21 11 33.4	-1.2
	comp=Z,4.2nm,0.4s,mb4.7						
DRGR		74.61	317⇓	iP	P	21 11 37.6	0.0
DRGR		74.61	317⇑	iP	P	21 11 37.6	0.0
BOSA	Boshof	74.77	239	P	P	21 11 40.6	+1.7
	comp=Z,1.0nm,0.7s,mb3.9,slow=8.1,SNR=2.9						
BOSA				LR	LR	21 39 38.7	
	comp=Z,182nm,19.9s,MS4.4,baz=20,slow=32						
APA	Apatity	75.18	340	iP	P	21 11 40.5	+0.1
APA				i	pP	21 11 56.0	-0.1
APA				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
MAW	Mawson	75.63	192	LR	LR	21 38 16.0	
	comp=Z,132nm,21.0s,MS4.2,baz=151,slow=30						
SUW	Suwalki	75.68	325	eP	P	21 11 42.8	-0.7
	comp=Z,47nm,1.2s,mb5.3						
SUW	Suwalki	75.68	325	eP	P	21 11 42.8	-0.7
SUW				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.3						
CRVS	Cervenica-Dubn	75.79	319	eP	P	21 11 44.7	+0.5
CRVS				e	pP	21 12 02.0	+2.0
FINES	FINESS Array B	75.99	332	P	P	21 11 44.8	-0.4
	comp=Z,3.4nm,0.3s,mb4.8,baz=100,slow=5.0,SNR=141						
FINES				pP	pP	21 11 58.8	-2.1
	comp=Z,2.2nm,0.4s,baz=89,slow=5.9,SNR=5.7						
STHS	Stebnicka Huta	76.01	320	eP	P	21 11 46.7	+1.2
STHS				e	pP	21 11 59.9	-1.3
KAF	Kangasniemi	76.08	333	ep	P	21 11 44.7	-0.9
	comp=Z,5.5nm,0.4s,mb4.8,baz=104,slow=5.2						
KAF	Kangasniemi	76.08	333	eP	P	21 11 44.7	-0.9
KAF				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
KECS	Kecovo	76.36	319	eP	P	21 11 47.6	+0.1
KECS				epP	pP	21 12 03.4	+0.1
NIE	Niedzica	76.61	320⇑	iP	P	21 11 49.6	+0.7
PSZ	Piszkesteto	76.67	318⇓	iP	P	21 11 49.9	+0.6
PSZ	Piszkesteto	76.67	318	eP	P	21 11 49.7	+0.4
	comp=Z,8.8nm,0.8s,mb4.7						
PSZ				epP	pP	21 12 05.3	+0.2
PSZ	Piszkesteto	76.67	318	eP	P	21 11 49.7	+0.4
PSZ				e*PP	pP	21 12 05.3	+0.3
PSZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
OJC	Ojcow	77.06	320⇑	iP	P	21 11 51.7	+0.3
VYHS	Vyhne	77.45	319	eP	P	21 11 54.0	+0.4
VYHS				e	pP	21 12 13.2	+3.8
OKC	Ostrava-Krasne	78.06	320	eP	P	21 11 56.5	-0.4
OKC				epP	pP	21 12 12.5	-0.2
KEV	Kevo	78.17	341	ep	P	21 11 56.2	-0.9
	comp=Z,2.8nm,0.4s,mb4.5						
KEV	Kevo	78.17	341	eP	P	21 11 56.2	-0.9
KEV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
MORC	Moravsky Berou	78.45	320	eP	P	21 11 59.0	0.0
	comp=Z,21nm,1.4s,mb4.9						
MORC				epP	pP	21 12 15.0	+0.1
MORC	Moravsky Berou	78.45	320	eP	P	21 11 59.0	-0.1
MORC				e*PP	pP	21 12 15.0	+0.2
MORC				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
ZST	Bratislava	78.57	318	eP	P	21 12 00.8	+1.1
ZST				epP	pP	21 12 16.2	+0.7
ARCES	ARCESS Array B	78.60	340	P	P	21 11 59.6	+0.1
	comp=Z,4.1nm,0.3s,mb4.8,baz=99,slow=6.8,SNR=128						
ARCES				pP	pP	21 12 13.9	-1.4
	comp=Z,2.1nm,0.5s,baz=102,slow=5.6,SNR=3.1						
ARE0	ARCESS Array S	78.60	340	eP	P	21 11 59.5	+0.1
DPC	Dobruska-Polom	79.29	320	eP	P	21 12 04.6	+0.9
DPC				epP	pP	21 12 20.6	+1.1
UPC	Upice	79.50	320	eP	P	21 12 05.1	+0.3
UPC				epP	pP	21 12 21.3	+0.7
LEGS	Legarje	79.59	316	eP	P	21 12 05.6	+0.3
TREC	Trest	79.73	319	eP	P	21 12 06.3	+0.2
TREC				epP	pP	21 12 21.5	-0.4
PERS	Pernice	79.78	316	iP	P	21 12 07.1	+0.7
LJU	Ljubljana	80.14	316	eP	P	21 12 09.2	+0.9
LJU				e	pP	21 12 28.6	+4.4
PRU	Pruhonice	80.40	320	eP	P	21 12 09.6	0.0
PVCC	Panska Ves	80.42	320	eP	P	21 12 10.2	+0.5
PVCC				epP	pP	21 12 25.7	+0.1
BRG	Berggiesshubel	80.84	321	eP	P	21 12 12.4	+0.5
	comp=Z,5.6nm,1.0s,mb4.5						
BRG				e	pP	21 12 28.8	+1.0
BRG				LR	LR		
	comp=Z,410nm,20.1s,MS4.8						
BRG	Berggiesshubel	80.84	321	eP	P	21 12 12.4	+0.4
BRG				e	pP	21 12 28.8	+1.0
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BRG				MLR	MLR		
	comp=Z,410nm,20.1s,MS4.8						
GERES	GERESS Array B	80.87	319	P	P	21 12 12.5	+0.4
	comp=Z,2.3nm,0.4s,mb4.5,baz=90,slow=5.3,SNR=53						
GERES				pP	pP	21 12 28.6	+0.6
	comp=Z,4.9nm,0.9s,baz=104,slow=5.5,SNR=6.6						
KHC	Kasperske Hory	80.97	319	eP	P	21 12 13.0	+0.3
KHC				epP	pP	21 12 28.0	-0.5
CLL	Collm	81.46	321	P	P	21 12 15.3	+0.1
CLL				e*PP	pP	21 12 32.0	+0.9
CLL	Collm	81.46	321	iP	P	21 12 15.3	+0.1
CLL				e		21 12 23.0	
NKC	Novy Kostel	81.76	320	eP	P	21 12 17.3	+0.6
MOX	Moxa	82.31	320	eP	P	21 12 20.0	+0.4
MOX				pP	pP	21 12 38.0	+2.5
GRA1	Grafenberg Arr	82.53	319	eP	P	21 12 21.6	+0.9
	comp=Z,30nm,1.9s,mb5.0						
GRF	Grafenberg Arr	82.53	319	eP	P	21 12 21.6	+0.9
	comp=Z,30nm,1.9s,mb5.0						
GRF	Grafenberg Arr	82.53	319	eP	P	21 12 21.6	+0.9
GRF				pmax	pmax		
	comp=Z,30nm,1.9s,mb5.0						
GRF	Grafenberg Arr	82.53	319	eP	P	21 12 21.6	+0.9
GRF				pmax	pmax		
	comp=Z,30nm,1.9s,mb5.0						
NB2	NORSAR Subarra	83.00	331	P	P	21 12 22.6	-0.2
	comp=Z,7.3nm,1.1s,mb4.6,baz=98,slow=5.3						
NB2	NORSAR Subarra	83.00	331	P	P	21 12 22.6	-0.2
NB2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
NOA	NORSAR Array B	83.00	331	P	P	21 12 22.7	-0.1
	comp=Z,3.7nm,0.9s,mb4.4,baz=94,slow=5.2,SNR=7.0						
NOA				pP	pP	21 12 38.0	-0.8
	comp=Z,1.2nm,0.8s,baz=94,slow=5.5,SNR=2.5						
VNDA	Vanda	89.61	168	LR	LR	21 52 29.9	
	comp=Z,84nm,18.6s,MS4.2,baz=95,slow=35						
DBIC	Dimbokro	99.36	278	LR	LR	21 58 32.8	
	comp=Z,65nm,20.1s,MS4.1,baz=37,slow=35						
PDAR	Pinedale Array	127.73	23	PKP	PKPdf	21 19 03.3	+1.1
	comp=Z,1.6nm,1.0s,slow=1.5,SNR=10						
PDAR				pPKP		21 19 20.1	
	comp=Z,0.8nm,0.9s,SNR=3.0						
ANMO	Albuquerque	135.65	26	PKP	PKPdf	21 19 19.8	+2.5
	comp=Z,0.7nm,0.7s,baz=253,slow=2.3,SNR=3.8						
TXAR	Lajitas Array	141.66	27	PKhKP		21 19 23.8	
	comp=Z,0.2nm,0.3s,baz=297,slow=0.5,SNR=14						
CPUP	Villa Florida	146.00	228	PKPbc	PKPbc	21 19 39.0	+2.0
	comp=Z,3.4nm,0.9s,baz=133,slow=5.2,SNR=5.2						
CPUP				pPKPbc		21 19 54.7	
	comp=Z,6.2nm,0.8s,baz=145,slow=3.2,SNR=7.1						
LPAZ	La Paz	159.94	234	PKP	PKPdf	21 19 58.4	+2.4
	comp=Z,0.9nm,0.9s,baz=38,slow=3.0,SNR=2.6						

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*IDC **03** 21:16:44.6$\pm$4.6, 13.06N$\times$87.84W, mb3.8/3, mb1 4.2/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=102.5km s-min=83.3km az=49.0*

*CASC **03** 21:16:48.1$\pm$2.4, 12.02N$\times$88.45W, h26$^{km}\pm$17^{km}, MD4.2, ML3.6*

ISC 03 21:16:46.2$\pm$1.2**, 11.99N**$\pm$0.07$\times$**88.57W**$\pm$0.07**, h72**$^{km}\pm$15^{km}**, n27,** $\sigma 1^{s}.10$/34**, mb3.7**/3**, 5C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.47	29	eP	Px	21 17 06.9	
CNCH				eS	Sx	21 17 25.0	
SNVI	San Vicente	1.64	351	eP	Px	21 17 09.0	
SNVI				eS	Sx	21 17 29.6	
CRIN	San Cristobal	1.64	64	eP	P	21 17 12.8	-0.8
LEON	Leon	1.69	75	eP	P	21 17 13.1	-1.2
LFRS	El Faro	1.69	343	eP	Px	21 17 09.6	
LFRS				eS	Sx	21 17 32.5	
LCBS	La Ceiba	1.70	346⇑	eP	Px	21 17 09.2	
LCBS				eS	Sx	21 17 31.7	
TEL3	Telica 3	1.78	71	eP	P	21 17 14.6	-0.8
TEL3				eS	S	21 17 37.7	+0.7
MIRN	Miramar	1.87	76	eP	P	21 17 16.0	-0.7
MIRN				eS	S	21 17 39.5	+0.4
COPN	Copaltepe	1.94	84⇑	eP	P	21 17 17.0	-0.6
COPN				eS	S	21 17 41.3	+0.5
MOMJ	Momotombo	2.02	78⇑	eP	P	21 17 18.6	-0.2
MOMJ				eS	S	21 17 45.1	+2.1
XAVN	Gruta Xavier	2.20	86⇑	eP	P	21 17 22.0	+0.8
XAVN				eS	S	21 17 45.7	-1.5
MGAN	Managua	2.27	86	eP	P	21 17 22.1	-0.2
MGAN				eS	S	21 17 48.9	-0.3
MGAN				i		21 17 49.9	
	comp=E,566nm,0.4s						
TICN	Ticuantepe	2.29	89	eP	P	21 17 22.9	+0.4
TICN				eS	S	21 17 51.2	+1.7
WILN	Americas 2	2.33	86	eS	S	21 17 51.0	+0.3
RBDL	Robledal	2.38	333	eP	Px	21 17 20.2	
RBDL				eS	Sx	21 17 49.5	
APON	Apoyo	2.45	91⇑	eP	P	21 17 24.5	-0.3
SSNN	San Juan del S	2.75	104	eP	P	21 17 30.0	+0.9
SSNN				eS	S	21 18 01.4	+0.2
CONN	Concepcion	2.91	98⇓	eP	P	21 17 31.0	-0.3
CONN				eS	S	21 18 04.5	-0.7
MADN	Villa Maderas	3.03	101	eP	P	21 17 32.5	-0.4
MADN				eS	S	21 18 06.7	-1.4
JCR	Jicaral	4.00	122	eP	P	21 17 47.7	+1.2
JCR				eS	S	21 18 31.4	-1.1
LAJ	Bijagual	4.85	115	eP	P	21 17 55.4	-2.9
LCR2	La Lucha 2	5.01	116⇓	eP	P	21 18 03.3	+2.8
LCR2				eS	S	21 18 57.2	-0.4
BUS	Buena Vista	5.31	117⇓	eP	P	21 18 07.3	+2.7
BUS				eS	S	21 19 05.6	+0.6
TXAR	Lajitas Array	22.26	323	P	P	21 21 39.8	+1.6
	comp=E,1.8nm,0.7s,mb3.5,baz=145,slow=12,SNR=22						
ULM	Lac du Bonnet	38.62	352	P	P	21 24 02.0	-1.9
	comp=E,2.8nm,0.8s,mb4.2,baz=185,slow=11,SNR=2.9						
ILAR	Eielson Array	66.00	336	P	P	21 27 27.1	+0.1
	comp=E,0.5nm,0.9s,mb3.3,baz=117,slow=4.0,SNR=5.1						
WRA	Warramunga Arr	138.09	254	PKP	PKPdf	21 36 16.0	+12
	comp=E,0.3nm,0.7s,baz=90,slow=2.4,SNR=6.1						

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*IDC **03** 21:24:50.7$\pm$1.7, 12.92N$\times$87.65W, mb4.0/3, mb1 4.2/3, mb1mx3.6/19, mbtmp4.0/3, Error ellipse: s-maj=107.2km s-min=24.8km az=55.0*

*CASC **03** 21:24:54.7$\pm$3.1, 12.12N$\times$88.47W, h20$^{km}\pm$32^{km}, MD4.2, ML3.5*

ISC 03 21:24:53.5$\pm$1.4**, 12.1N**$\pm$0.1$\times$**88.60W**$\pm$0.07**, h39**$^{km}\pm$18^{km}**, n23,** $\sigma 0^{s}.56$/21**, mb3.9**/3**, 4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLLM	Bellamira	1.40	15⇓	eP	Px	21 25 14.6	
BLLM				eS	Sx	21 25 28.7	
CNCH	Conchagua	1.41	32⇓	eP	Px	21 25 14.4	
CNCH				eS	Sx	21 25 32.5	
SNVI	San Vicente	1.54	351	eP	Px	21 25 16.4	
SNVI				eS	Sx	21 25 36.7	
LFRS	El Faro	1.60	344	eP	Px	21 25 16.7	
LFRS				eS	Sx	21 25 34.7	
CRIN	San Cristobal	1.64	68	eP	P	21 25 20.8	+0.4
CRIN				eS	S	21 25 40.3	-0.1
LEON	Leon	1.70	78	eP	P	21 25 20.8	-0.5
LEON				eS	S	21 25 42.2	+0.1
BOQS	Boqueron	1.78	338⇓	eP	Px	21 25 19.7	
BOQS				eS	Sx	21 25 41.1	
TEL3	Telica 3	1.78	74	eP	P	21 25 22.6	+0.2
TEL3				eS	S	21 25 44.2	+0.1
MIRN	Miramar	1.88	79	eP	P	21 25 23.2	-0.6
CNGN	Cerro Negro	1.91	77	eP	P	21 25 26.1	+2.0
COPN	Copaltepe	1.97	87	eP	P	21 25 24.7	-0.3
COPN				eS	S	21 25 48.7	0.0
SNJE	San Jose	2.03	331	eP	Px	21 25 23.5	
SNJE				eS	Sx	21 25 47.1	
MOMJ	Momotombo	2.04	80	eP	P	21 25 25.5	-0.6
MOMJ				eS	S	21 25 51.1	+0.6
RTR	El Retiro	2.08	331	eP	Px	21 25 24.3	
RTR				eS	Sx	21 25 51.9	
RBDL	Robledal	2.29	333	eP	Px	21 25 27.9	
RBDL				eS	Sx	21 25 56.8	
MGAN	Managua	2.30	88	eP	P	21 25 29.6	-0.2
MGAN				eS	S	21 25 56.6	-0.6
MGAN				i		21 25 57.8	
	comp=N,424nm,0.4s						
TICN	Ticuantepe	2.32	91	eP	P	21 25 30.4	+0.3
TICN				eS	S	21 25 57.3	-0.2
WILN	Americas 2	2.36	88	eP	P	21 25 30.6	-0.1
WILN				eS	S	21 25 58.3	-0.3
CONN	Concepcion	2.96	100⇓	eP	Px	21 25 48.5	
CONN				eS	Sx	21 26 10.8	
TXAR	Lajitas Array	22.17	323	P	P	21 29 47.3	-0.4
	comp=N,2.1nm,0.7s,mb3.7,baz=146,slow=12,SNR=38						
ULM	Lac du Bonnet	38.53	353	P	P	21 32 09.0	-4.8
	comp=N,2.8nm,0.6s,mb4.2,baz=143,slow=13,SNR=4.4						
SIV	San Ignacio	38.98	135	P	P	21 32 18.4	+0.4
	comp=N,1.3nm,0.6s,mb3.8,baz=319,slow=9.9,SNR=8.8						
WRA	Warramunga Arr	138.09	254	PKP	PKPdf	21 44 22.3	+7.1
	comp=N,0.2nm,0.6s,baz=85,slow=2.5,SNR=7.6						

IDC 03 21:28:55.1$\pm$6.2**, 4.63N**$\times$**96.32E, mb3.9**/7**, mb1 4.0**/7**, mb1mx3.7**/18**, mbtmp3.9**/7**, Error ellipse: s-maj=151.0km s-min=64.8km az=135.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	43.72	346	P	P	21 37 03.5	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2.2nm,0.7s,baz=161,slow=8.4,SNR=24						
SONM	Songino Array	43.91	10	P	P	21 37 03.1	-2.1
	2.0nm,0.8s,baz=190,slow=9.0,SNR=17						
SONM				pP	pP	21 37 11.2	+6.0
	0.8nm,0.5s,baz=190,slow=9.9,SNR=5.4						
ZAL	Zalesovo	50.05	351	P	P	21 37 51.0	-2.4
	1.0nm,0.4s,baz=142,slow=2.2,SNR=4.5						
BVAR	Borovoye Array	52.74	341	P	P	21 38 09.6	-4.3
	0.6nm,0.7s,baz=143,slow=7.4,SNR=5.9						
FINES	FINESS Array B	76.57	332	P	P	21 40 47.5	-1.3
	0.4nm,0.5s,baz=90,slow=9.5,SNR=6.5						
ARCES	ARCESS Array B	79.03	340	P	P	21 41 01.8	-0.5
	1.8nm,0.8s,baz=90,slow=6.3,SNR=5.4						
GERES	GERESS Array B	81.67	319	P	P	21 41 14.9	-1.8
	0.3nm,0.8s,baz=127,slow=4.9,SNR=4.4						

MAN 03 21:51:18.6, 12.22N×125.49E, mb3.7, ML2.5, MS2.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.62	185	*e*P	Pg	21 51 30.9	-0.1
BESP				*e*S	Sg	21 51 41.7	+2.5
PLP	Palo	1.17	206	*e*P	Pb	21 51 41.9	+0.6
PLP				*e*S	Sb	21 51 58.7	+1.9
PVCP	Virac	1.89	316	*e*P	Pn	21 51 52.1	-0.2

NEIC 03 21:54:41.9, 40.77N×125.95W, h5^{km}, MD2.9(NCEDC), 3C-2D, After NCEDC., Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	Horse Mountain	1.69	86	*e*P	Pn	21 55 10.1	-2.1
KHMM				*e*S	Sn	21 55 30.8	-3.7
KRMB	Red Mountain	1.72	63	P	Pn	21 55 10.3	-2.3
KSXB	Camp Six Broad	1.89	55	P	Pn	21 55 12.4	-2.7
KBO	Bosley Butte	1.94	41	⇑P	Pn	21 55 12.1	-3.8
KIPM	Iron Peak	2.12	116	*e*P	Pn	21 55 16.5	-1.9
KIPM				*e*S	Sn	21 55 40.3	-5.0
KTRM	Thompson Ridge	2.25	59	⇓P	Pn	21 55 18.1	-2.2
YBH	Yreka Blue Hor	2.63	67	⇑P	Pn	21 55 24.8	-0.9
HUMO	Hull Mountain	2.90	50	⇑P	Pn	21 55 26.6	-3.0
LHEM	Herd Peak	2.94	72	P	Pn	21 55 30.1	-0.1
DBO	Dodson Butte	3.10	40	P	Pn	21 55 28.5	-3.9
BUOR	Burton Butte	3.17	60	⇓P	Pn	21 55 32.9	-0.4
BBOR	Butler Butte	3.23	48	P	Pn	21 55 31.7	-2.6
VSP	Spence Mountai	3.39	61	P	Pn	21 55 35.7	-0.8
HSO	Harness Mounta	3.48	37	P	Pn	21 55 33.6	-4.3
HOG	Hogback Mounta	3.51	64	P	Pn	21 55 37.2	-1.0
HBO	Huckleberry Mo	4.09	40	P	Pn	21 55 43.2	-3.2
IRO	Indian Ridge	4.24	39	P	Pn	21 55 45.1	-3.5
BROR	Big Rock Looko	4.35	35	P	Pn	21 55 46.9	-3.2
MOD	Modoc	4.40	73	P	Pn	21 55 49.0	-1.9
FRIS	Frissel Point	4.47	38	P	Pn	21 55 48.3	-3.5
SDCO	Great Sand Dun	16.12	94	*e*P	P	21 58 22.1	-8.6

IDC 03 22:14:20.7±5.0, 15.34S×176.28W, mb4.2/5, mb1 4.3/5, mb1mx3.9/14, mbtmp4.2/5, Error ellipse: s-maj=106.7km s-min=43.2km az=47.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.56	193	P	P	22 19 34.1	+0.3
	1.7nm,0.3s,baz=17,slow=18,SNR=3.6						
STKA	Stephens Creek	41.67	239	*e*P	P	22 22 09.8	-3.0
	2.1nm,0.6s						
STKA	Stephens Creek	41.67	239	P	P	22 22 10.0	-2.8
	3.6nm,0.8s,baz=83,slow=10,SNR=14						
WRA	Warramunga Arr	47.15	257	P	P	22 22 55.3	-1.8
	0.6nm,0.5s,baz=94,slow=7.5,SNR=24						
FITZ	Fitzroy Crossi	55.50	258	P	P	22 23 58.8	-1.4
	3.1nm,0.6s,baz=143,slow=5.1,SNR=3.8						
MAW	Mawson	86.95	199	P	P	22 27 06.7	-1.8
	0.7nm,0.7s,baz=161,slow=5.5,SNR=6.3						

IDC 03 22:24:36.5±0.8, 20.38S×174.00W, mb3.9/8, mb1 4.2/10, mb1mx4.1/17, mbtmp4.0/10, ML3.7/2, MS3.7/1, Ms1 3.7/1, ms1mx3.0/21, Error ellipse: s-maj=34.5km s-min=18.7km az=143.0

ISC 03 22:24:40.1±0.7, 20.5S±0.2×174.0W±0.1, h33^{km}, n15, σ0.40/10, mb4.0/8, MS3.5/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	18.26	262	P	P	22 28 53.4	+0.6
	0.1nm,0.3s,baz=84,slow=19,SNR=2.5						
URZ	Urewera	19.29	202	P	P	22 29 05.4	+0.5
	0.4nm,0.3s,baz=74,slow=7.4,SNR=5.2						
PPT	Papeete	23.30	87	LR	LR	22 37 04.0	
	comp=Z,157nm,18.6s,MS3.5,baz=262,slow=32						
STKA	Stephens Creek	41.14	245	P	P	22 32 22.9	-0.1
	1.7nm,0.6s,mb3.9,baz=90,slow=6.1,SNR=5.2						
WRA	Warramunga Arr	48.27	261	P	P	22 33 20.1	-0.2
	1.1nm,0.5s,mb4.1,baz=98,slow=7.6,SNR=21						
FITZ	Fitzroy Crossi	56.70	261	P	P	22 34 22.4	-0.8
	7.6nm,1.1s,mb4.6,baz=162,slow=3.2,SNR=3.4						
VNDA	Vanda	58.27	186	P	P	22 34 33.0	-0.5
	0.8nm,1.0s,mb3.7,baz=340,slow=5.5,SNR=3.8						
TXAR	Lajitas Array	83.96	56	P	P	22 37 08.8	+0.1
	0.6nm,0.8s,mb3.8,baz=217,slow=6.3,SNR=7.4						
ANMO	Albuquerque	84.54	50	P	P	22 37 11.7	+0.2
	0.8nm,0.8s,mb3.9,baz=211,slow=5.9,SNR=3.6						
PDAR	Pinedale Array	86.45	42	P	P	22 37 20.9	+0.2
	0.6nm,0.9s,mb3.8,baz=243,slow=3.3,SNR=4.3						
ILAR	Eielson Array	87.54	11	P	P	22 37 25.4	0.0
	0.6nm,0.7s,mb4.0,baz=229,slow=5.7,SNR=6.1						
AKASG	Malin Array Be	144.72	334	PKP	PKPdf	22 44 13.3	-0.1
	1.6nm,0.5s,baz=38,slow=4.3,SNR=10						
BRTR	Keskin Array B	149.53	315	PKPbc	PKPdf	22 44 27.6	+5.9
	0.4nm,0.4s,baz=24,slow=4.1,SNR=3.1						
KHC	Kasperske Hory	150.79	350	*e*P	PKPdf	22 44 27.0	+3.7
GERES	GERESS Array B	151.05	349	PKPbc	PKPdf	22 44 31.1	+7.5
	1.0nm,1.0s,baz=63,slow=3.0,SNR=4.6						

MAN 03 22:37:52.6, 12.63N×123.43E, h21^{km}, mb3.8, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.19	36	*e*P	Pn	22 38 13.7	-0.5
CNP	Catarman	1.21	96	*e*P	Pn	22 38 13.7	-0.8
CNP				*e*S	Sb	22 38 30.1	+0.2
RCP	Roxas	1.26	212	⇑*e*P	Pn	22 38 13.8	-1.3
RCP				*e*S	Sb	22 38 30.3	-0.9
OTRP	Odiongan	1.40	259	*e*P	Pn	22 38 16.2	-1.0
OTRP				*e*S	Sn	22 38 35.3	+0.1
GUIM	Jordan	2.16	203	*e*P	Pn	22 38 28.6	+0.6
GUIM				*e*S	Sn	22 38 56.3	+1.9

STR 03 22:38:22.7±0.1, 43.01N×0.20E, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

MDD 03 22:38:23.1±0.2, 43.04N×0.22E, h10^{km}, mbLg1.5/14, Error ellipse: s-maj=2.3km s-min=1.7km az=0.0, PRXIMO

LDG 03 22:38:22.7±0.0, 43.03N×0.21E, h13^{km}, Md2.6/2, Ml2.1/6, 1C, Error ellipse: s-maj=0.9km s-min=0.6km az=155.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.10	278	Pg	Pg	22 38 26.0	+0.3
LABF				Sg	Sg	22 38 28.4	+0.6
LABF	Labassere	0.10	278	P	Pg	22 38 26.0	+0.3
LABF				S	Sg	22 38 28.4	+0.6
EPF	Esparros	0.10	92	*e*Pg	Pg	22 38 25.9	+0.1
EPF				*e*Sg	Sg	22 38 28.0	+0.2
	142nm,0.2s						
VIEF	Viey	0.20	222	Pg	Pg	22 38 27.3	0.0
VIEF				Sg	Sg	22 38 30.5	+0.1
VIEF	Viey	0.20	222	P	Pg	22 38 27.3	0.0
VIEF				S	Sg	22 38 30.5	+0.1
RESF	Ens	0.25	156	Pg	Pg	22 38 28.0	-0.1
RESF				Sg	Sg	22 38 32.0	+0.2
RESF	Ens	0.25	156	P	Pg	22 38 28.1	-0.1
RESF				S	Sg	22 38 31.9	+0.1
EBIE	Bielsa	0.35	187	⇑Pg	Pg	22 38 29.8	-0.3
	9.0nm,0.1s,SNR=18						
EBIE				Lg		22 38 34.6	
	62nm,0.1s,SNR=7.9						
MELF	Melles	0.44	111	P	Pg	22 38 30.9	-0.8
MELF				S	Sg	22 38 36.3	-1.5
REYF	Montagne du Re	0.44	275	Pg	Pg	22 38 31.3	-0.5
REYF				Sg	Sg	22 38 37.9	+0.1
REYF	Montagne du Re	0.44	275	P	Pg	22 38 31.4	-0.3
REYF				S	Sg	22 38 37.9	+0.1
ETSF	Etsaut	0.58	257	*e*Pg	Pg	22 38 33.8	-0.7
ETSF				*e*Sg	Sg	22 38 41.1	-1.2
	48nm,0.3s						
FDAF	Les Forges d'A	0.61	249	Pg	Pg	22 38 34.3	-0.7
FDAF				Sg	Sg	22 38 42.6	-0.7
FDAF	Les Forges d'A	0.61	249	P	Pb	22 38 34.3	-0.3
FDAF				S	Sb	22 38 42.6	-0.2
MLS	Moulis	0.66	96	P	Pb	22 38 35.0	-0.5
MLS				S	Sb	22 38 42.9	-1.4
SALF	Salau	0.77	110	Pg	Pg	22 38 37.4	-0.9
SALF	Salau	0.77	110	P	Pb	22 38 37.4	-0.1
SALF				S	Sb	22 38 47.3	-0.3
LARF	Larrau	0.87	271	S	Sb	22 38 51.4	+0.8
SJPF	Ste Jean	1.05	275	*e*Pg	Pg	22 38 42.5	-1.3
SJPF				*e*Sg	Sg	22 38 55.5	-2.4
	6.6nm,0.3s						
EALK	Alkurruntz	1.27	279	Pg	Pg	22 38 46.7	-1.4
	0.3nm,0.1s,SNR=8.3						
EALK				Lg		22 39 03.5	
	2.0nm,0.1s,SNR=7.9						
EARA	Aranguren	1.34	259	Pg	Pg	22 38 49.4	-0.1
	SNR=7.9						
EARA				Lg		22 39 07.1	
	SNR=4.0						
ESAC	San Caprasio	1.40	201	Pg	Pg	22 38 49.8	-1.0
	21nm,0.2s,SNR=18						
ESAC				Lg		22 39 08.7	
	16nm,0.2s,SNR=7.9						
EMIR	Miracle	1.49	138	Pg	Pg	22 38 51.3	-1.1
	1.6nm,0.1s,SNR=6.9						
EMIR				Lg		22 39 10.7	
	1.8nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.50	78	*e*Pg	Pg	22 38 50.5	-2.3
MTLF				*e*Sn	Sn	22 39 06.3	-2.8
MTLF				*e*Sg	Sg	22 39 10.1	-2.8
	4.8nm,0.3s						
EPOB	Poblet	1.80	159	Pn	Pn	22 38 54.2	+0.4
	0.4nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	22 38 56.4	-2.4
	SNR=7.9						
EPOB				Lg		22 39 19.6	
	7.0nm,0.2s,SNR=7.9						
LFF	La Frestale	1.94	11	*e*Pn	Pn	22 38 53.8	-2.0
LFF				*e*Pg	Pg	22 38 58.8	-2.8
LFF				*e*Sg	Sg	22 39 24.2	-3.3
	4.6nm,0.3s						
EJON	La Jonquera	2.06	106	Lg		22 39 30.2	
	0.9nm,0.2s,SNR=7.9						
ERTA	Horta de San J	2.08	177	Pg	Pg	22 39 01.0	-3.2
	SNR=7.9						
ERTA				Lg		22 39 28.0	
	1.6nm,0.1s,SNR=7.9						
CAF	Calviac	2.32	35	*e*Pn	Pn	22 38 59.0	-2.2
CAF				*e*Pg	Pg	22 39 05.7	-3.4
CAF				*e*Sg	Sg	22 39 36.2	-3.8
	2.0nm,0.2s						
RJF	Les Rejaudoux	2.46	22	*e*Pn	Pn	22 39 00.8	-2.4
RJF				*e*Pg	Pg	22 39 08.2	-3.6
RJF				*e*Sg	Sg	22 39 39.9	-4.7
	1.2nm,0.2s						
EMOS	Mosqueruela	2.72	191	Pg	Pg	22 39 13.4	-3.6
	SNR=7.9						
EMOS				Lg		22 39 48.8	
	0.3nm,0.1s,SNR=7.9						
LASF	Ste Croix	2.85	67	*e*Pn	Pn	22 39 06.3	-2.5
LASF				*e*Pg	Pg	22 39 15.5	-4.2
LASF				*e*Sg	Sg	22 39 52.2	-5.5
	1.8nm,0.3s						
MFF	Saint Martin d	3.58	356	*e*Pn	Pn	22 39 16.1	-3.0
MFF				*e*Pg	Pg	22 39 28.8	-5.3
HYF	Humbligny	4.57	21	*e*Pn	Pn	22 39 29.7	-3.5
QUIF	Quistinic	5.43	335	*e*Pn	Pn	22 39 41.2	-4.1

IDC 03 23:04:51.6±0.9, 23.96S×66.68W, h199^{km}±9^{km}, mb3.3/3, mb1 3.5/10, mb1mx3.4/19, mbtmp3.8/10, Error ellipse: s-maj=15.6km s-min=11.8km az=68.0

NEIC 03 23:04:52.3±0.5, 23.94S×66.60W, h199^{km}±9^{km}, mb3.9/4, Error ellipse: s-maj=10.8km s-min=8.6km az=92.0

GUC 03 23:04:54.4±0.6, 23.97S×67.07W, h210^{km}±12^{km}, ML3.9

ISC 03 23:04:51.0±0.5, 23.97S±0.05×66.70W±0.07, h209^{km}±7^{km}, n27, σ1.33/31, mb3.5/4, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.73	307	⇑*i*P	P	23 05 30.6	+2.6
SPCH				*i* S	S	23 05 57.5	+1.0
SPCH				AMP		23 06 00.6	
	comp=E,234nm,0.5s						
LVC	Limon Verde	2.44	303	P	P	23 05 36.8	+1.5
	comp=E,82nm,0.3s,baz=130,slow=6.2,SNR=666						
LVC				S	S	23 06 09.8	+0.3
	comp=E,28nm,0.3s,baz=259,slow=21,SNR=9.8						
LVC	Limon Verde	2.44	303	⇑*i*P	P	23 05 36.8	+1.6
LVC				*i* S	S	23 06 09.6	+0.2
LVC				AMP		23 06 10.8	
	comp=E,243nm,0.6s						
LVC	Limon Verde	2.44	303	*e*P	P	23 05 36.8	+1.5
LVC				S	S	23 06 07.8	-1.7
ANCH	Antofagasta	3.41	274	⇑*i*P	P	23 05 47.3	+0.8
ANCH				*i* S	S	23 06 27.1	-2.4
CPN1	Cerro Paranal	3.45	258	⇑*i*P	P	23 05 48.1	+1.2
CPN1				*i* S	S	23 06 29.4	-0.9
CPN1				AMP		23 06 32.7	
	comp=E,985nm,0.6s						
CFAA	Coronel Fontan	7.73	190	P	P	23 06 41.5	-0.1
	comp=E,0.2nm,0.3s,baz=16,slow=13,SNR=20						
CFAA				S	S	23 08 05.3	-2.7
	comp=E,0.6nm,0.3s,baz=118,slow=23,SNR=19						
LPAZ	La Paz	7.75	350	P	P	23 06 42.2	+0.4
	comp=E,0.9nm,0.3s,baz=171,slow=9.5,SNR=17						
LPAZ				S	S	23 08 06.4	-2.2
	comp=E,0.5nm,0.3s,baz=268,slow=18,SNR=6.5						
LPAZ	La Paz	7.75	350	*e*Pn	P	23 06 42.2	+0.3
	comp=E,1.9nm,0.4s						
CPUP	Villa Florida	8.81	107	P	P	23 06 56.0	+0.4
	comp=E,0.2nm,0.3s,baz=287,slow=13,SNR=12						
CPUP	Villa Florida	8.81	107	P	P	23 06 56.0	+0.4
SIV	San Ignacio	9.53	35	P	P	23 07 03.4	-1.6
	comp=E,0.9nm,0.3s,baz=215,slow=14,SNR=17						
TRQA	Tornquist	14.61	165	*e*P	P	23 08 10.1	+0.9
	comp=E,2.2nm,0.4s						
SAML	Samuel	15.30	13	*e*P	P	23 08 16.5	-1.4
	comp=E,4.6nm,0.8s						
PLCA	Paso Flores	17.03	190	P	P	23 08 37.2	-1.0
	comp=E,0.1nm,0.3s,baz=340,slow=15,SNR=2.3						
PLCA	Paso Flores	17.03	190	P	P	23 08 37.2	-1.0
BDFB	Brasilia	19.42	68	P	P	23 09 03.1	-0.1
	comp=E,1.2nm,0.3s,baz=246,slow=11,SNR=20						
BAO	Brasilia Array	19.44	68	P	P	23 09 03.5	0.0
TXAR	Lajitas Array	63.81	324	P	P	23 15 02.1	-1.1
	comp=E,0.2nm,0.4s,mb3.1,baz=158,slow=6.7,SNR=7.6						
PDAR	Pinedale Array	77.26	329	P	P	23 16 24.3	+0.6
	comp=E,0.4nm,0.6s,mb3.2,baz=130,slow=6.2,SNR=3.9						
HLID	Hailey	80.21	327	*e*P	P	23 16 41.8	+2.2
	comp=E,3.0nm,1.0s,mb3.9						
MCMT	McKenzie Canyo	80.38	329	*e*P	P	23 16 42.5	+2.0
YKA	Yellowknife Ar	94.19	340	P	P	23 17 46.2	-0.5
	comp=E,0.3nm,0.5s,mb3.6,baz=140,slow=4.7,SNR=6.0						
WRA	Warramunga Arr	131.78	207	PKP	PKPdf	23 23 42.2	+2.2
	comp=E,0.2nm,0.3s,baz=152,slow=1.9,SNR=9.7						
ZAL	Zalesovo	143.23	28	PKP	PKPdf	23 24 02.5	+2.8
	comp=E,1.2nm,0.4s,baz=353,slow=1.6,SNR=3.9						
MKAR	Makanchi Array	146.32	40	PKPbc	PKPbc	23 24 08.0	+1.3
	comp=E,1.2nm,0.6s,baz=323,slow=2.6,SNR=16						
SONM	Songino Array	155.55	11	PKPab	PKPab	23 24 48.7	+0.3
	comp=E,0.3nm,0.6s,baz=334,slow=4.8,SNR=3.5						

NEIC 03 23:05:06.0, 34.40S×148.65E, h4^{km}, ML3.5(AUST), After AUST.

NEIC Felt at Young.

AUST 03 23:05:06.5, 34.40S×148.65E, h4^{km}, ML3.5, 1C, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	Young	0.24	295	⇑*i*P	Pg	23 05 11.4	+0.1
YNG				*e*S	Sg	23 05 14.5	0.0
	7µm,0.6s						
YNG				*e*RG		23 05 17.4	
CNB	Canberra Magne	1.08	148	*e*P	Pb	23 05 26.7	-0.8
CNB				*i* S	Sb	23 05 40.8	-1.0
RIV	Riverview	2.15	75	*e*P	Pn	23 05 43.2	-0.5
RIV				*e*S	Sn	23 06 12.8	+1.6
MGCD	Mangrove Creek	2.36	60	*e*P	Pn	23 05 48.5	+1.8
MGCD				*e*S	Sn	23 06 17.2	+0.7
	556nm,0.3s						
MILA	Mila	2.68	171	*e*P	Pn	23 05 51.0	-0.2
MILA				*e*S	Sn	23 06 26.5	+2.0
	103nm,0.2s						
CMSA	Cobar Meteorol	3.79	318	*e*P	Pn	23 06 05.0	-2.0
CMSA				*e*S	Sn	23 06 51.0	-1.6
	36nm,0.2s						
TOO	Toolangi	4.07	218	*e*P	Pn	23 06 10.7	-0.3
TOO				*e*S	Sn	23 06 58.2	-1.6
	23nm,0.5s						
STKA	Stephens Creek	6.43	291	*e*P	Pn	23 06 41.4	-3.0
STKA				*e*S	Sn	23 07 53.0	-6.2
	11nm,0.8s						
STKA	Stephens Creek	6.43	291	*e*P	Pn	23 06 41.4	-3.0
	11nm,0.8s						
STKA				*e*S	Sn	23 07 53.0	-6.2

IDC 03 23:28:29.2±2.7, 56.59N×161.42E, mb3.6/3, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=79.1km s-min=19.6km az=38.0

KRSC 03 23:28:34.9±1.0, 56.33N×161.61E, h85^{km}±2^{km}, ML4.1

MOS 03 23:28:34.6±0.8, 56.37N×161.67E, h75^{km}, mb4.0/2, Error ellipse: s-maj=25.8km s-min=10.6km az=81.9

ISC 03 23:28:35.5±0.4, 56.31N±0.03×161.66E±0.05, h83^{km}±3^{km}, n44, σ0.91/81, mb3.6/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVLR	Shiveluch	0.36	318	*e*P	P	23 28 50.0	+1.4
SVLR				*e*S	S	23 29 00.3	+1.8
CIRR	Tsirk	0.55	250	*i* P	P	23 28 49.7	-0.4
CIRR				*i* S	S	23 29 00.0	-1.0
ZLN	Zelenaya	0.56	239	*i* P	P	23 28 50.1	-0.2
ZLN				*i* S	S	23 29 00.8	-0.4
KLY	Klyuchi	0.56	271	*i* P	P	23 28 48.5	-1.8
KLY				*i* S	S	23 28 58.2	-3.1
KBG	Krutoberegovo	0.58	95	*i* P	P	23 28 50.2	-0.3
KBG				*i* S	S	23 29 03.7	+2.1
KBG				Smax			
	10µm,0.8s						
LGNR	Loginova	0.59	248	*i* P	P	23 28 50.5	-0.1
LGNR				*i* S	S	23 29 01.2	-0.5
KRSR	Krestovskiy	0.62	262	*i* P	P	23 28 50.1	-0.8
KRSR				*i* S	S	23 29 00.7	-1.5
KBTR	Krutoberegovo	0.65	98	P	P	23 28 51.7	+0.5
KBTR				S	S	23 29 03.8	+1.0
KBTR	Krutoberegovo	0.65	98	*i* P	P	23 28 51.5	+0.3
KBTR				*i* S	S	23 29 03.8	+1.0
KPT	Kopyto	0.88	248	*i* P	P	23 28 53.5	0.0
KPT				*i* S	S	23 29 07.0	-0.1
KMNR	Kamenistaya	0.97	236	*i* P	P	23 28 55.0	+0.3
KMNR				*i* S	S	23 29 09.6	+0.5
KOZR	Kozyr	1.02	257	PN	P	23 28 55.5	+0.3
KOZR				S	S	23 29 10.7	+0.7
KOZ	Kozyrevsk	1.03	257	P	P	23 28 55.5	+0.2
KOZ				S	S	23 29 10.7	+0.4
KOZ	Kozyrevsk	1.03	257	*i* P	P	23 28 55.5	+0.2
KOZ				*i* S	S	23 29 10.6	+0.3
SRDR	Sredinnyy	1.08	271	*i* P	P	23 28 56.1	+0.1
SRDR				*i* S	S	23 29 11.1	-0.3
TUMR	Tumrok	1.34	220	*i* P	P	23 28 59.9	+0.5
TUMR				*i* S	S	23 29 18.2	+1.2
ESO	Esso	1.70	258	*i* P	P	23 29 04.1	0.0
ESO				*e*S	S	23 29 25.3	+0.2
ESO				Smax			
	220nm,1.1s						
MKZ	Mys Kozlova	1.76	179	P	P	23 29 04.1	-0.7
MKZ				S	S	23 29 24.9	-1.5
MKZ	Mys Kozlova	1.76	179	*i* P	P	23 29 04.2	-0.6
MKZ				*e*S	S	23 29 25.2	-1.2
KII	Karymskiy	2.61	210	*e*P	P	23 29 16.4	-0.1
KII				*e*S	S	23 29 46.4	-0.8
BKI	Bering	2.68	113	*e*P	P	23 29 17.3	-0.2
BKI				*e*S	S	23 29 47.9	-1.0
BKI				Smax			
	130nm,0.2s						
OSSR	Ossora	3.04	14	*i* P	P	23 29 21.6	-1.0
OSSR				*e*S	S	23 29 57.0	-1.1
OSSR				Smax			
	110nm,0.7s						
SPN	Mys Shipunski	3.35	197	P	P	23 29 26.3	-0.6
SPN				S	S	23 30 04.2	-1.6
SPN	Mys Shipunski	3.35	197	*e*P	P	23 29 25.9	-1.0
SPN				*e*S	S	23 30 03.9	-1.9
GNL	Ganaly	3.38	221	*i* P	P	23 29 27.7	+0.4
GNL				*e*S	S	23 30 06.3	-0.2
NLC	Nalytchevo	3.42	204	P	P	23 29 27.6	-0.2
NLC				S	S	23 30 06.3	-1.1
NLC	Nalytchevo	3.42	204	*i* P	P	23 29 27.5	-0.3
NLC				*i* S	S	23 30 06.3	-1.1
SMAR	Somma	3.47	210	*e*P	P	23 29 29.9	+1.4
SMAR				*e*S	S	23 30 09.3	+0.6
AVH	Avacha	3.49	210	*e*P	P	23 29 29.4	+0.6
AVH				*e*S	S	23 30 08.8	-0.3
KOK	Koryaka	3.49	211	*e*P	P	23 29 30.2	+1.4
KOK				*e*S	S	23 30 10.3	+1.1
UGLR	Uglovaya	3.51	209	*e*P	P	23 29 30.3	+1.2
UGLR				*e*S	S	23 30 10.7	+1.0
PET	Petropavlovsk	3.73	209	*e*P	P	23 29 33.0	+0.9
PET				*e*S	S	23 30 15.2	+0.2
KRMR	Karymshinskiy	4.04	212	*e*P	P	23 29 37.6	+1.1
KRMR				*e*S	S	23 30 22.7	-0.2
APC	Apacha	4.28	220	*i* P	P	23 29 40.5	+0.7
APC				*e*S	S	23 30 28.4	-0.4
RUS	Russkaya	4.30	207	P	P	23 29 39.9	-0.1
RUS				S	S	23 30 27.1	-2.1
RUS	Russkaya	4.30	207	*e*P	P	23 29 39.7	-0.3
RUS				*e*S	S	23 30 27.0	-2.2
GRL	Gorelyy	4.31	211	*e*P	P	23 29 41.2	+1.1
GRL				*e*S	S	23 30 29.8	+0.3
FX1	Attu Island--F	7.51	112	Pn	P	23 30 23.0	-1.3
	1.4nm,0.3s,baz=161,slow=17,SNR=5.7						
FX1	Attu Island--F	7.51	112	PN	P	23 30 23.0	-1.3
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	Eielson Array	25.97	50	P	P	23 34 02.4	+1.0
	comp=Z,0.4nm,0.6s,mb3.0,baz=260,slow=7.7,SNR=4.9						
ZAK	Zakamensk	34.42	285	*e*P	P	23 35 07.0	-9.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
FINES	FINESS Array B	57.53	337	P	P	23 38 17.9	0.0
	comp=Z,0.4nm,0.4s,mb3.8,baz=37,slow=9.5,SNR=7.3						
NOA	NORSAR Array B	60.70	344	P	P	23 38 39.1	-0.6
	comp=Z,0.9nm,0.7s,mb3.9,baz=18,slow=6.9,SNR=4.7						
NOA	NORSAR Array B	60.70	344	P	P	23 38 39.2	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 03 23:42:43.9±1.4, 11.54N×143.13E, mb3.8/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=54.5km s-min=29.4km az=95.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.46	196	P	P	23 49 16.0	-2.3
	0.4nm,0.8s,baz=1.8,slow=9.5,SNR=5.2						
MKAR	Makanchi Array	61.80	317	P	P	23 53 04.8	-2.1
	0.5nm,0.7s,baz=98,slow=8.3,SNR=5.7						
BVAR	Borovoye Array	70.49	322	P	P	23 54 00.7	-1.5
	1.6nm,0.4s,baz=104,slow=8.1,SNR=8.3						
ILAR	Eielson Array	71.14	25	P	P	23 54 03.6	-2.3
	0.5nm,0.5s,baz=247,slow=6.2,SNR=7.4						

IDC 04 00:00:25.4±2.0, 10.15N×91.54E, mb3.9/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, MS3.8/5, Ms1 3.8/5, ms1mx3.4/29, Error ellipse: s-maj=88.9km s-min=18.0km az=62.0

BJI 04 00:00:29.4, 10.57N×91.76E, h11^{km}, mb4.2

*NEIC **04** 00:00:30.7±0.8, 10.30N×91.78E, h30km, mb4.4/5, Error ellipse: s-maj=25.5km s-min=8.4km az=58.0*

ISC 04 00:00:27.7±0.8**, 10.15N**±0.10×**91.6E**±0.1**, h30**km**, n31, σ0.91**/28**, mb4.1**/15**, MS3.8**/5**, 1C-2D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	10.23	118	P	P	00 02 55.0	-0.8
PKI	Pulchoki	18.27	342	eP	P	00 04 40.8	-0.2
	17nm,0.7s						
DMN	Daman	18.40	342	eP	P	00 04 42.0	-0.5
	28nm,0.8s						
KKN	Kakani	18.51	342	eP	P	00 04 44.1	+0.2
GKN	Gorkha	18.91	341	eP	P	00 04 48.2	-0.5
	31nm,0.7s						
GKN				eS	S	00 08 06.8	-8.2
KOLN	Koldanda	19.06	338	eP	P	00 04 47.5	-3.0
	47nm,1.1s						
LSA	Lhasa	19.45	359	P	P	00 04 54.4	-0.6
LSA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
LSA	Lhasa	19.45	359	eP	P	00 04 55.2	+0.2
GYA	Guiyang	21.62	39	P	P	00 05 18.1	+0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
CD2	Chengdu	23.57	27	⇑iP	P	00 05 39.0	+2.2
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
ENH	Enshi	26.08	37	P	P	00 05 57.7	-3.0
	comp=Z,14nm,1.0s,mb4.5						
LZH	Lanzhou	28.13	21	eP	P	00 06 19.1	-0.2
LZH				AP	pP	00 06 29.5	+1.4
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.5						
LZH	Lanzhou	28.13	21	eP	P	00 06 19.1	-0.2
	comp=Z,21nm,1.5s,mb4.5						
LZH				pP	pP	00 06 29.5	+1.4
GTA	Gaotai	30.05	13	eP	P	00 06 37.3	+0.7
GTA				AP	pP	00 06 43.5	-1.9
GTA				XP	sP	00 06 47.1	-2.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.1						
MKAR	Makanchi Array	37.36	350	P	P	00 07 39.6	+0.2
	comp=Z,1.0nm,0.7s,mb3.8,baz=168,slow=8.4,SNR=10						
MKAR				PcP	PcP	00 09 58.8	+0.2
	comp=Z,0.3nm,0.6s,baz=162,slow=4.6,SNR=4.1						
SONM	Songino Array	39.59	16	P	P	00 07 58.8	+0.6
	comp=Z,0.8nm,0.5s,mb3.7,baz=199,slow=9.8,SNR=8.6						
KURK	Kurchatov	41.82	348	eP	P	00 08 16.3	-0.1
	comp=Z,8.0nm,1.6s,mb4.1						
FITZ	Fitzroy Crossi	43.83	130	P	P	00 08 32.9	-0.3
	comp=Z,4.1nm,0.8s,mb4.2,baz=342,slow=5.8,SNR=4.5						
FITZ				LR	LR	00 26 16.8	
	comp=Z,80nm,19.8s,MS3.6,baz=299,slow=35						
FITZ	Fitzroy Crossi	43.83	130	P	P	00 08 32.9	-0.3
FITZ				LR	LR	00 26 16.8	
ZAL	Zalesovo	44.00	354	P	P	00 08 34.3	+0.1
	comp=Z,0.7nm,0.7s,mb3.5,baz=282,slow=9.6,SNR=7.2						
BVAR	Borovoye Array	46.04	342	P	P	00 08 50.0	-0.4
	comp=Z,0.4nm,0.5s,mb3.6,baz=143,slow=7.2,SNR=3.7						
BRVK	Borovoye	46.10	342	eP	P	00 08 50.7	-0.2
	comp=Z,0.7nm,0.7s,mb3.7						
ATD	Arta Tunnel	47.81	276	LR	LR	00 27 05.7	
	comp=Z,80nm,18.1s,MS3.7,baz=203,slow=34						
WRA	Warramunga Arr	51.66	125	P	P	00 09 34.5	+0.2
	comp=Z,3.5nm,0.8s,mb4.3,baz=307,slow=8.4,SNR=41						
WRAB	Tennant Creek	51.66	125	eP	P	00 09 34.2	-0.2
	comp=Z,4.3nm,0.8s,mb4.4						
WB2	Warramunga Arr	51.67	125	⇓iP	P	00 09 34.5	+0.1
KMBO	Kilima Mbogo	55.18	261	LR	LR	00 30 06.7	
	comp=Z,81nm,19.6s,MS3.8,baz=97,slow=32						
ANN	Anapa	57.74	317	⇓iP	P	00 10 20.5	+2.2
STKA	Stephens Creek	63.52	133	P	P	00 10 58.1	+0.2
	comp=Z,0.8nm,0.4s,mb4.1,baz=318,slow=8.6,SNR=3.8						
ARCES	ARCESS Array B	72.27	340	LR	LR	00 44 47.7	
	comp=Z,69nm,19.0s,MS4.0,baz=33,slow=37						
BOSA	Boshof	74.66	237	LR	LR	00 43 48.7	
	comp=Z,88nm,18.7s,MS4.1,baz=327,slow=35						

*IDC **04** 00:09:55.6±2.3, 26.18S×177.53W, h110km±20km, mb3.8/9, mb1 4.2/12, mb1mx4.1/16, mbtmp4.3/12, MS3.6/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=22.4km s-min=16.9km az=129.0*

*NEIC **04** 00:09:56.4±1.4, 26.23S×177.38W, h124km±12km, mb4.7/7, Error ellipse: s-maj=15.3km s-min=11.4km az=117.0*

ISC 04 00:09:55.5±1.3**, 26.24S**±0.08×**177.5W**±0.1**, h125**km±11km**, n43, σ1.11**/34**, mb4.3**/15**, 3C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.02	187	P	P	00 10 43.9	+0.7
	244nm,0.3s,baz=94,slow=23,SNR=12						
RAO				S	S	00 11 19.2	-0.1
	350nm,0.3s,baz=105,slow=22,SNR=14						
RAO	Raoul Island	3.02	187	eP	P	00 10 44.2	+1.0
RAO				S	S	00 11 19.2	-0.1
URZ	Urewera	12.82	199	P	P	00 12 54.5	+0.4
	0.5nm,0.3s,baz=79,slow=22,SNR=3.5						
URZ				S	S	00 14 57.9	-16
	1.6nm,0.3s,baz=206,slow=7.7,SNR=3.8						
AFI	Afiamalu	13.39	25	P	P	00 12 59.1	-2.5
	14nm,0.3s,baz=155,slow=6.5,SNR=14						
AFI				S	S	00 15 14.9	-13
	1.4nm,0.3s,baz=30,slow=22,SNR=3.1						
DZM	Mont Dzumac	15.23	282	LR	LR	00 16 58.3	
	comp=Z,94nm,21.8s,baz=185,slow=28						
CTA	Charters Tower	33.81	273	eP	P	00 16 29.8	+2.1
	4.2nm,0.4s,mb4.6						
CTAO	Charters Tower	33.81	273	eP	P	00 16 29.8	+2.1
	4.8nm,0.5s,mb4.6						
STKA	Stephens Creek	36.04	251	P	P	00 16 47.4	+0.8
	1.5nm,0.9s,mb3.9,baz=83,slow=12,SNR=2.7						
WB2	Warramunga Arr	44.53	268	eP	P	00 17 56.3	-0.3
WRA	Warramunga Arr	44.55	268	P	P	00 17 56.2	-0.5
	4.5nm,0.6s,mb4.3,baz=106,slow=7.9,SNR=30						
WRA				PcP	PcP	00 19 37.9	-0.3
	1.4nm,1.0s,baz=114,slow=3.8,SNR=3.8						
FORT	Forrest	47.67	251	⇓iP	P	00 18 19.7	-1.5
	9.9nm,0.8s,mb4.7						
KAKA	Kakadu	48.80	276	eP	P	00 18 47.0	+17
	8.2nm,0.3s,mb5.1						
SBA	Scott Base	52.20	184	eP	P	00 18 55.5	+0.4
	24nm,1.3s,mb5.1						
VNDA	Vanda	52.26	186	P	P	00 18 56.2	+0.6
	2.6nm,0.8s,mb4.3,baz=353,slow=8.5,SNR=14						
VNDA	Vanda	52.26	186	P	P	00 18 56.2	+0.6
FITZ	Fitzroy Crossi	52.93	266	⇓iP	P	00 19 01.1	-0.2
	13nm,1.0s,mb4.9						
FITZ	Fitzroy Crossi	52.93	266	P	P	00 19 00.9	-0.4
	19nm,1.0s,mb5.1,baz=148,slow=6.0,SNR=9.4						
QSPA	South Pole Qui	63.85	180	eP	P	00 20 14.4	-1.9
	18nm,1.3s,mb4.7						
MAW	Mawson	76.35	200	P	P	00 21 31.5	-0.4
	1.5nm,0.5s,mb4.0,baz=130,slow=8.4,SNR=10						
SNAA	Sanae	82.29	178		pP	00 22 47.9	+12
SNAA	Sanae	82.29	178	eP	P	00 22 02.3	-1.6
	8.6nm,1.1s,mb4.5						
VNA3	Neumayer Olymp	82.41	176	e	P	00 22 04.0	-0.5
VNA3	Neumayer Olymp	82.41	176	⇑iP	P	00 22 03.1	-1.4
VNA3				e		00 22 04.0	
VNA3				e		00 22 42.8	
VNA2	Neumayer--Watz	82.85	177	e	P	00 22 06.8	+0.1
VNA2	Neumayer--Watz	82.85	177	e	pP	00 22 45.8	+7.1
VNA2	Neumayer--Watz	82.85	177	⇑iP	P	00 22 05.9	-0.8
VNA2				e		00 22 06.8	
VNA2				e		00 22 45.8	
VNA1	Neumayer--Stat	83.08	176	e	P	00 22 08.2	+0.3
VNA1	Neumayer--Stat	83.08	176	e	pP	00 22 44.3	+4.4
VNA1	Neumayer--Stat	83.08	176	⇑iP	P	00 22 07.3	-0.6
VNA1				e		00 22 08.2	
VNA1				e	pP	00 22 44.3	+4.4
NVAR	Mina Array Bea	84.89	43	P	P	00 22 18.6	+1.0
	1.1nm,0.9s,mb3.8,baz=217,slow=9.0						
TXAR	Lajitas Array	89.77	57	P	P	00 22 43.0	+1.8
	0.3nm,0.5s,mb3.7,baz=243,slow=6.0,SNR=5.0						
TXAR	Lajitas Array	89.77	57	P	P	00 22 43.0	+1.8
ANMO	Albuquerque	90.63	51	P	P	00 22 46.3	+1.2
	0.4nm,0.4s,mb3.9,baz=229,slow=4.4,SNR=2.9						
PDAR	Pinedale Array	92.81	43	P	P	00 22 55.8	+0.8
	0.1nm,0.3s,mb3.6,baz=225,slow=2.1,SNR=4.2						
ILAR	Eielson Array	93.79	13	LR	LR	01 00 12.9	
	comp=Z,60nm,19.3s,baz=1.5,slow=32						
MKAR	Makanchi Array	115.40	312	PKP	PKPdf	00 28 22.6	+0.3
	0.6nm,0.8s,baz=73,slow=2.3,SNR=5.1						
BVAR	Borovoye Array	123.69	318	PKP	PKPdf	00 28 39.2	+1.0
	0.9nm,0.7s,baz=63,slow=6.6,SNR=5.6						
ARCES	ARCESS Array B	134.62	349	PKP	PKPdf	00 29 00.1	+1.6
	5.0nm,1.0s,baz=315,slow=3.4,SNR=5.4						
FINES	FINESS Array B	141.37	342	PKhKP		00 29 07.1	
	0.4nm,0.6s,baz=45,slow=5.4,SNR=6.7						
FINES				PKP	PKPdf	00 29 13.5	+2.6
	0.7nm,0.7s,baz=70,slow=2.5,SNR=3.7						
NB2	NORSAR Subarra	144.71	353	PKPabc	PKPdf	00 29 16.8	+0.1
	12nm,1.0s,baz=17,slow=4.0						
NOA	NORSAR Array B	144.71	353	PKP	PKPdf	00 29 17.1	+0.4
	6.9nm,1.0s,baz=11,slow=2.3,SNR=11						
AKASG	Malin Array Be	148.16	327	PKPbc	PKPdf	00 29 26.6	+3.8
	2.8nm,0.8s,baz=40,slow=2.9,SNR=12						
BRTR	Keskin Array B	150.78	305	PKPbc	PKPdf	00 29 34.1	+6.9
	1.6nm,0.9s,baz=180,slow=1.2,SNR=6.1						
BRTR				PKPab	PKPab	00 29 43.5	+0.7
	2.2nm,0.9s,baz=56,slow=8.9,SNR=5.9						

IDC 04 00:24:15.6±4.3**, 5.41N**×**94.98E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/18**, mbtmp3.4**/3**, Error ellipse: s-maj=155.3km s-min=30.7km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.66	347	P	P	00 32 13.8	-1.9
	0.2nm,0.5s,baz=162,slow=7.7,SNR=5.5						
SONM	Songino Array	43.39	11	P	P	00 32 20.0	-1.6
	0.4nm,0.7s,baz=190,slow=8.8,SNR=3.6						
WRA	Warramunga Arr	46.17	124	P	P	00 32 42.4	-1.8
	0.6nm,0.6s,baz=303,slow=9.3,SNR=5.7						

*NEIC **04** 00:26:58.6, 37.93S×176.75E, h153km, MG4.0(WEL), After WEL.*

WEL 04 00:26:58.8±0.2**, 37.91S**×**176.74E, h150**km±2km**, ML4.1**/15**, 13C-2D, Error ellipse: s-maj=1.3km s-min=1.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARZ	Manawahe	0.09	213	PN	P	00 27 18.9	-0.2
MARZ	Manawahe	0.09	213	P	P	00 27 18.9	-0.2
EDRZ	Edgecumbe	0.20	180	PN	P	00 27 18.5	-0.9
EDRZ	Edgecumbe	0.20	180	P	P	00 27 19.2	-0.2
LIRZ	Lichensteins R	0.30	251	PN	P	00 27 18.9	-0.8
LIRZ	Lichensteins R	0.30	251	P	P	00 27 18.9	-0.8
MKRZ	Makatiti	0.32	223	PN	P	00 27 20.1	+0.3
MKRZ	Makatiti	0.32	223	P	P	00 27 20.1	+0.3
TAZ	Tarawera	0.37	209	⇓PN	P	00 27 19.9	-0.1
TAZ	Tarawera	0.37	209	P	P	00 27 19.9	-0.1
TGRZ	Tauranga	0.42	295	⇑PN	P	00 27 19.5	-0.7
TGRZ				SN	S	00 27 35.6	-1.0
TGRZ	Tauranga	0.42	295	P	P	00 27 19.6	-0.6
URZ	Urewera	0.46	140	PN	P	00 27 19.6	-0.7
URZ				SN	S	00 27 35.4	-1.6
URZ	Urewera	0.46	140	P	P	00 27 19.6	-0.8
UTU	Utuhina	0.51	238	PN	P	00 27 20.5	-0.1
UTU	Utuhina	0.51	238	P	P	00 27 20.5	-0.1
PATZ	Paeroa	0.60	219	⇑PN	P	00 27 21.0	-0.1
PATZ	Paeroa	0.60	219	P	P	00 27 21.0	-0.1
MWZ	Matawai	0.75	125	PN	P	00 27 21.6	-0.4
MWZ	Matawai	0.75	125	P	P	00 27 21.6	-0.4
TOZ	Tahuroa Road	1.00	280	⇑PN	P	00 27 23.5	-0.1
TOZ				SN	S	00 27 42.5	-0.3
TOZ	Tahuroa Road	1.00	280	P	P	00 27 23.5	-0.1
HATZ	Hinemaiaia	1.10	207	PN	P	00 27 24.5	-0.2
HATZ				SN	S	00 27 44.6	0.0
HATZ	Hinemaiaia	1.10	207	P	P	00 27 24.5	-0.2
WATZ	Wairara	1.12	224	⇑PN	P	00 27 24.8	0.0
WATZ	Wairara	1.12	224	P	P	00 27 24.8	-0.1
PUZ	Puketiti	1.21	98	PN	P	00 27 25.3	-0.4
PUZ				SN	S	00 27 44.8	-1.6
PUZ	Puketiti	1.21	98	P	P	00 27 25.4	-0.3
RATZ	Rangitukua	1.22	218	⇑PN	P	00 27 25.7	-0.1
RATZ	Rangitukua	1.22	218	P	P	00 27 25.7	-0.1
BKZ	Black Stump Fm	1.27	189	⇑PN	P	00 27 25.9	-0.4
BKZ				SN	S	00 27 46.5	-1.0
BKZ	Black Stump Fm	1.27	189	P	P	00 27 25.9	-0.4
RITZ	Rihia Road	1.27	213	PN	P	00 27 26.3	0.0
RITZ	Rihia Road	1.27	213	P	P	00 27 26.3	0.0
MXZ	Matakaoa Point	1.29	75	PN	P	00 27 26.2	-0.3
MXZ				SN	S	00 27 46.7	-1.2
MXZ	Matakaoa Point	1.29	75	P	P	00 27 26.2	-0.3
KNZ	Kokohu	1.33	147	⇑PN	P	00 27 27.1	+0.2
KATZ	Kakaramea	1.34	217	⇑PN	P	00 27 26.8	-0.3
KATZ	Kakaramea	1.34	217	P	P	00 27 26.8	-0.2
MKAZ	Moumakai	1.48	302	⇓PN	P	00 27 28.0	-0.5
MKAZ	Moumakai	1.48	302	P	P	00 27 28.0	-0.5
WTVZ	West Tongariro	1.50	216	⇑PN	P	00 27 28.3	-0.4
WTVZ	West Tongariro	1.50	216	P	P	00 27 28.3	-0.4
OTVZ	Oturere	1.51	214	⇑PN	P	00 27 28.6	-0.1
OTVZ				SN	S	00 27 51.4	-0.5
TWVZ	Taurewa	1.55	221	PN	P	00 27 28.7	-0.5
TWVZ	Taurewa	1.55	221	P	P	00 27 28.7	-0.4
NGZ	Ngauruhoe	1.55	215	PN	P	00 27 29.0	-0.2
NGZ	Ngauruhoe	1.55	215	P	P	00 27 29.0	-0.2
CNZ	Chateau	1.59	216	PN	P	00 27 29.1	-0.5
CNZ	Chateau	1.59	216	P	P	00 27 29.1	-0.5
WPVZ	Whakapapa	1.60	215	PN	P	00 27 29.2	-0.5
WPVZ	Whakapapa	1.60	215	P	P	00 27 29.6	-0.1
HIZ	Hauiti	1.60	247	PN	P	00 27 29.6	-0.1
HIZ				SN	S	00 27 51.4	-2.2
HIZ	Hauiti	1.60	247	P	P	00 27 29.6	-0.1
TUVZ	Tukino	1.60	212	⇑PN	P	00 27 29.5	-0.2
TUVZ	Tukino	1.60	212	P	P	00 27 29.5	-0.2
FWVZ	Far West T-bar	1.64	214	PN	P	00 27 29.9	-0.2
FWVZ	Far West T-bar	1.64	214	P	P	00 27 29.9	-0.2
DRZ	Dome Shelter	1.65	214	PN	P	00 27 30.0	-0.2
DRZ	Dome Shelter	1.65	214	P	P	00 27 30.1	-0.1
WNVZ	Wahianoa	1.68	212	⇑PN	P	00 27 30.1	-0.4
WNVZ	Wahianoa	1.68	212	P	P	00 27 30.1	-0.4
MOVZ	Moawhango	1.68	207	⇑PN	P	00 27 29.7	-0.9
MOVZ				SN	S	00 27 53.2	-1.9
OTAZ	Otara	1.73	303	PN	P	00 27 30.4	-0.8
OTAZ	Otara	1.73	303	P	P	00 27 30.8	-0.4
PKVZ	Pokaka	1.76	218	PN	P	00 27 30.9	-0.6
MTVZ	Mangateitei	1.78	214	PN	P	00 27 31.1	-0.5
MTAZ	Motutapu	1.84	307	PN	P	00 27 31.9	-0.4
MTAZ	Motutapu	1.84	307	P	P	00 27 31.9	-0.4
VRZ	Vera Road	1.97	231	ePN	P	00 27 33.5	-0.4
VRZ	Vera Road	1.97	231	eP	P	00 27 33.5	-0.4
WTAZ	Waiatarua	1.98	299	PN	P	00 27 33.4	-0.5
WTAZ	Waiatarua	1.98	299	P	P	00 27 33.4	-0.5
PXZ	Pawanui	2.12	177	PN	P	00 27 34.9	-0.8
PXZ				eSN	S	00 28 02.9	-1.2
TSZ	Takapari Road	2.23	196	PN	P	00 27 35.5	-1.6
WAZ	Wanganui	2.30	216	PN	P	00 27 36.7	-1.2
WAZ	Wanganui	2.30	216	P	P	00 27 36.9	-1.0
BFZ	Birch Farm	2.79	188	PN	P	00 27 42.1	-2.1
BFZ	Birch Farm	2.79	188	P	P	00 27 42.1	-2.1
MRZ	Mangatainoka R	2.89	198	PN	P	00 27 42.9	-2.5
MRZ	Mangatainoka R	2.89	198	P	P	00 27 42.9	-2.5
KIW	Kapiti Island	3.27	205	P	P	00 27 47.0	-3.3
MTW	Mount Morrison	3.38	196	P	P	00 27 48.1	-3.7
CAW	Cannon Point	3.45	201	P	P	00 27 49.1	-3.5
MRW	Makara Radio	3.67	205	P	P	00 27 51.6	-3.9
MSWZ	Moikau Station	3.69	198	P	P	00 27 51.8	-3.9
WEL	Wellington	3.70	204	P	P	00 27 52.2	-3.7
SNZO	South Karori	3.74	204	P	P	00 27 52.3	-4.2
BHW	Baring Head	3.78	202	P	P	00 27 52.9	-4.1
TCW	Tory Channel	3.81	209	P	P	00 27 53.6	-3.7
NNZ	Nelson	4.20	217	P	P	00 27 58.4	-4.1
QRZ	Quartz Range	4.37	227	eP	P	00 28 00.3	-4.5
BSWZ	Blackbirch Sta	4.39	209	P	P	00 28 01.0	-4.0
THZ	Tophouse	4.85	216	P	P	00 28 06.8	-4.3
KHZ	Kahutara	5.13	208	P	P	00 28 09.8	-4.9
DSZ	Denniston Nort	5.40	223	eP	P	00 28 14.7	-3.6
LTZ	Lake Taylor	5.95	214	eP	P	00 28 20.6	-5.0
MQZ	McQueen's Vall	6.57	207	eP	P	00 28 27.3	-6.7
LBZ	Lake Benmore	8.14	215	eP	P	00 28 49.3	-5.7
ODZ	Otahua Downs	8.47	211	eP	P	00 28 53.9	-5.5
TUZ	Tuapeka	9.62	211	eP	P	00 29 09.9	-4.6

*IDC **04** 00:49:31.5±8.4, 15.81S×168.13E, h220km±54km, mb3.3/4, mb1 3.5/5, mb1mx3.3/15, mbtmp3.9/5, Error ellipse: s-maj=79.7km s-min=25.1km az=31.0*

ISC 04 00:49:30.6±4.4**, 15.8S**±0.3×**168.1E**±0.2**, h233**km±29km**, n10, σ0.79**/11**, mb3.6**/4**, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.46	194	eP	P	00 51 03.3	-1.6
DZM	Mont Dzumac	6.46	194	P	P	00 51 05.3	+0.4
	3.8nm,0.3s,baz=27,slow=12,SNR=41						
DZM				S	S	00 52 18.4	-0.2
	baz=88,slow=20,SNR=1.8						
NOUC	Port Laguerre	6.52	195	eP	P	00 51 06.4	+0.7
URZ	Urewera	23.75	162	P	P	00 54 23.4	+0.2
	5.4nm,0.4s,mb4.5,baz=342,slow=7.3,SNR=5.4						
STKA	Stephens Creek	28.98	232	P	P	00 55 11.3	+0.5
	0.5nm,0.3s,mb3.6,baz=75,slow=12,SNR=3.5						
WRA	Warramunga Arr	32.40	258	P	P	00 55 40.4	-0.3
	0.4nm,0.5s,mb3.2,baz=85,slow=7.7,SNR=13						
VNDA	Vanda	61.84	182	P	P	00 59 26.8	+0.1
	0.4nm,0.6s,mb3.2,baz=4.4,slow=6.4,SNR=6.2						
VNA3	Neumayer Olymp	93.19	181	⇑i	P	01 02 19.1	+0.1
VNA2	Neumayer--Watz	93.46	181	⇑i	P	01 02 20.7	+0.5
VNA1	Neumayer--Stat	93.76	181		P	01 02 18.4	-3.1

*IDC **04** 00:59:01.1±2.2, 4.50N×96.80E, mb4.0/6, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, Error ellipse: s-maj=97.6km s-min=21.9km az=65.0*

*NEIC **04** 00:59:06.2±1.0, 4.60N×97.04E, h30km, mb4.1/1, Error ellipse: s-maj=23.9km s-min=14.4km az=65.0*

ISC 04 00:59:04.4±1.1**, 4.6N**±0.1×**97.1E**±0.2**, h30**km**, n9, σ0.77**/9**, mb3.9**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	3.62	79	eP	Pn	01 00 00.3	+0.5
SNG	Songkhla	4.33	54	P	Pn	01 00 09.0	-1.0
	32nm,1.0s						
FITZ	Fitzroy Crossi	36.10	130	P	P	01 06 05.1	-0.8
	2.7nm,0.7s,mb4.3,baz=331,slow=10,SNR=3.0						
NWAO	Narrogin (SRO)	41.96	154	P	P	01 06 53.8	-0.7
	25nm,1.1s,mb4.8,baz=165,slow=4.9,SNR=3.2						
SONM	Songino Array	43.78	9	P	P	01 07 10.5	+1.3
	0.2nm,0.4s,mb3.2,baz=188,slow=10,SNR=3.1						
MKAR	Makanchi Array	43.91	345	P	P	01 07 09.4	-0.7
	0.5nm,0.7s,mb3.3,baz=162,slow=7.7,SNR=5.6						
WRA	Warramunga Arr	44.02	125	P	P	01 07 11.9	+0.5
	1.3nm,0.6s,mb3.8,baz=303,slow=9.2,SNR=18						
WRAB	Tennant Creek	44.02	125	eP	P	01 07 11.8	+0.4
	2.9nm,0.8s,mb4.1						
STKA	Stephens Creek	55.77	134	P	P	01 08 41.6	+0.5
	1.2nm,0.7s,mb4.0,baz=323,slow=5.1,SNR=4.2						

*TEH **04** 00:59:40.0, 30.66N×56.88E, h10km, Mn3.1*

*THR **04** 00:59:40.1±0.5, 30.72N×56.87E, h14km±6km, ML2.9*

*CSEM **04** 00:59:40.1, 30.72N×56.87E, h14km, ML2.9, After THR*

ISC 04 00:59:39.1±0.8**, 30.79N**±0.05×**56.83E**±0.10**, h10**km**, n16, σ1.36**/20**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	0.81	184	ePG	Pg	00 59 54.1	-1.2
KRBR				eSG	Sg	01 00 05.0	-1.1
KRBR				AML	AML	01 00 08.2	
	comp=N,445nm,0.1s						
KRBR	Kerman	0.81	184	ePg	Pg	00 59 54.2	-1.2
	SNR=90						
KRBR				eSg	Sg	01 00 05.0	-1.2
	comp=N,445nm,0.1s,SNR=90						
IBAF	Bafgh	1.34	307	Pg	Pg	01 00 04.0	-2.0
IMEH	Mehriz	1.99	288	Pn	Pn	01 00 14.9	+1.6
ICHK	Chekchek	2.53	306	Pn	Pn	01 00 20.9	0.0
ISAD	Sadrabad	2.91	293	Pn	Pn	01 00 27.2	+0.7
IPAR	Pars	3.40	255	Pn	Pn	01 00 34.9	+1.5
BNDS	Bandar-Abbas	3.43	190	ePN	Pn	01 00 34.5	+0.7
BNDS				AML	AML	01 01 35.3	
	comp=N,23nm,0.8s						
ISRV	Sarvestan	3.51	247	Pn	Pn	01 00 40.7	+5.7
ZHSF	Zahedan	3.61	108	ePN	Pn	01 00 37.1	+0.7
ZHSF				AML	AML	01 01 38.7	
	comp=N,20nm,0.6s						
NASN	Na'in	3.97	301	ePN	Pn	01 00 43.8	+2.4
NASN				eSG	Sg	01 01 45.6	-5.6
NASN				AML	AML	01 01 50.5	
	comp=N,21nm,0.5s						
NASN	Na'in	3.97	301	ePn	Pn	01 00 43.8	+2.4
	SNR=52						
NASN				eSg	Sg	01 01 45.6	-5.6
	comp=N,21nm,0.5s,SNR=90						
IMOK	Mook	3.97	245	Pn	Pn	01 00 45.9	+4.4
IFIR	Firoozkooh	5.92	326	Pn	Pn	01 01 08.8	-0.3
IFIR	Firoozkooh	5.92	326	Sn	Sn	01 02 14.5	-3.3
IDMV	Damavand	6.24	321	Pn	Pn	01 01 12.8	-0.8

*IDC **04** 01:39:04.6±5.1, 10.54S×165.94E, h178km±47km, mb3.6/8, mb1 3.8/9, mb1mx3.7/16, mbtmp4.1/9, Error ellipse: s-maj=35.1km s-min=21.0km az=152.0*

*NEIC **04** 01:39:05.1±2.1, 10.54S×165.92E, h183km±19km, mb4.0/1, Error ellipse: s-maj=16.4km s-min=12.1km az=176.0*

ISC 04 01:39:06.2±3.1**, 10.7S**±0.2×**165.9E**±0.1**, h205**km±28km**, n17, σ0.54**/17**, mb3.8**/8**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.37	177	P	P	01 41 43.7	-0.1
	6.9nm,0.3s,baz=57,slow=19,SNR=23						
DZM				S	S	01 43 42.7	-4.9
	0.2nm,0.3s,baz=138,slow=20,SNR=1.9						
NOUC	Port Laguerre	11.39	178	eP	P	01 41 44.5	+0.3
NOUC	Port Laguerre	11.39	178	eP	P	01 41 44.5	+0.3
CTA	Charters Tower	21.12	241	P	P	01 43 36.3	+0.3
	3.1nm,0.8s,mb3.9,baz=69,slow=14,SNR=3.7						
CTAO	Charters Tower	21.12	241	eP	P	01 43 36.0	+0.1
	6.0nm,1.1s,mb4.0						
STKA	Stephens Creek	30.84	223	P	P	01 45 04.6	-0.7
	2.8nm,0.6s,mb4.0,baz=52,slow=12,SNR=9.2						
STKA	Stephens Creek	30.84	223	eP	P	01 45 05.3	0.0
WRA	Warramunga Arr	31.77	249	P	P	01 45 12.8	-0.7
	0.6nm,0.4s,mb3.5,baz=84,slow=8.6,SNR=22						
WRA				PcP	PcP	01 47 59.6	-0.2
	0.2nm,0.6s,baz=81,slow=3.3,SNR=5.2						
FITZ	Fitzroy Crossi	39.64	255	P	P	01 46 20.0	+0.2
	3.2nm,0.7s,mb3.9,baz=100,slow=9.2,SNR=3.9						
VNDA	Vanda	66.89	181	eP	P	01 49 37.3	-0.6
SBA	Scott Base	67.19	180	eP	P	01 49 39.8	0.0
ILAR	Eielson Array	83.09	18	P	P	01 51 09.5	-0.4
	0.9nm,0.7s,mb3.6,baz=231,slow=5.5,SNR=13						
MAW	Mawson	85.14	202	P	P	01 51 21.2	+1.1
	1.4nm,0.9s,mb3.7,baz=124,slow=3.6,SNR=4.5						
NVAR	Mina Array Bea	85.65	50	P	P	01 51 23.1	-0.1
	1.6nm,1.0s,mb3.7,baz=238,slow=8.5,SNR=5.4						
MKAR	Makanchi Array	93.34	317	P	P	01 51 59.7	+0.5
	0.5nm,0.7s,mb3.6,baz=117,slow=5.4,SNR=4.0						
MKAR	Makanchi Array	93.34	317	P	P	01 51 59.7	+0.5
ARCES	ARCESS Array B	116.00	346	PKP	PKPdf	01 57 24.7	+0.4
	3.1nm,0.9s,baz=50,slow=1.5,SNR=6.0						

*ATH **04** 01:52:35.7, 38.92N×20.11E, h22km±2km, MD3.2/4*

*THE **04** 01:52:35.9, 38.94N×20.11E, h10km, ML2.8*

*NEIC **04** 01:52:35.7, 38.92N×20.11E, h22km, MD3.2(ATH), After ATH.*

*CSEM **04** 01:52:36.3±0.2, 38.94N×20.16E, h7km, ML2.8, Error ellipse: s-maj=5.1km s-min=2.2km az=74.0*

ISC 04 01:52:34.1±1.1**, 38.89N**±0.04×**20.01E**±0.08**, h8**km±6km**, n12, σ1.00**/20**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	Levkas	0.53	110	ePg	Pg	01 52 44.1	-0.6
IGT	Igoumenitsa	0.69	21	ePg	Pg	01 52 47.2	-0.7
IGT				eSg	Sg	01 52 56.6	-0.5
KEK	Kerkira	0.84	349	ePN	Pn	01 52 51.7	-0.2
KEK				eSN	Sn	01 53 04.0	-0.5
VLS	Valsamata	0.84	147	ePN	Pn	01 52 51.9	-0.1
VLS				eSN	Sn	01 53 04.3	-0.4
SRN	Sarande	0.99	360	i Pg	Pg	01 52 54.6	+0.8
SRN				i Sg	Sg	01 53 08.9	+1.8
JAN	Janina	1.00	40	ePB	Pb	01 52 52.8	-0.5
JAN				eSN	Sn	01 53 06.5	-2.2
MEV	Metsovon	1.30	46	ePg	Pg	01 52 58.6	-1.4
LSK	Leskovik	1.34	20	i Pg	Pg	01 52 59.1	-1.7
LSK				i Sg	Sg	01 53 19.9	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EVR	Evrytania	1.40	88	ePN	Pn	01 53 00.9	+0.9
EVR				eSN	Sn	01 53 19.5	+0.7
RLS	Riolos of Patr	1.41	126	ePN	Pn	01 53 01.2	+1.0
AGG	Agios Georgios	1.81	85	ePb	Pb	01 53 07.7	+0.6
AGG				eSb	Sb	01 53 30.4	+0.5
FNA	Florina	2.16	29	ePn	Pn	01 53 12.0	+1.1

MAN 04 02:07:26.8,11.80N×125.59E,h46km,mb4.1,ML2.8, MS2.5,1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.25	218	eP	P	02 07 31.4	-3.7
BESP				eS	S	02 07 39.1	-1.9
PLP	Palo	0.87	224	eP	P	02 07 44.4	+1.6
PLP				eS	S	02 07 51.9	-2.8
CNP	Catarman	1.15	308	eP	P	02 07 46.6	-0.1
CNP				eS	S	02 08 05.4	+3.9
MSLP	Maasin	1.81	204	eP	P	02 07 57.5	+1.5
MSLP				eS	S	02 08 25.7	+7.8
SCPH	Surigao	2.01	183	⇓eP	P	02 07 53.7	-5.2
PVCP	Virac	2.27	322	eP	P	02 08 04.6	+2.0
BUKP	Musuan	3.93	188	eP	P	02 08 28.7	+2.5

CSEM 04 02:22:22.1±0.1,35.90N×26.86E,h80km,Mw3.7,Error ellipse: s-maj=1.6km s-min=1.4km az=35.0
ISK 04 02:22:23.9,36.08N×26.66E,h87km,MD3.6
ATH 04 02:22:23.3,36.01N×26.68E,h89km±2km
NEIC 04 02:22:23.3,36.01N×26.69E,h90km,After ATH.
IDC 04 02:22:24.2±1.1,35.89N×26.58E,h107km±25km,mb3.5/4, mb1 3.5/10,mb1mx3.3/26,mbtmp3.7/10,Error ellipse: s-maj=32.8km s-min=17.1km az=3.0
HLW 04 02:22:28.6,35.47N×26.96E,h20km,Mb3.9
NIC 04 02:22:28.2±0.2,36.87N×27.63E,h36km,mb4.5,ML4.0, MW3.3
PRU 04 02:22:38.1,36.68N×25.16E,h10km
ISC 04 02:22:22.5±0.2,35.91N±0.02×26.77E±0.02,h100km±3km, n101,σ1§12/149,mb3.6/4,9C-9D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.48	138	eP	P	02 22 39.9	+1.6
KARP				eS	S	02 22 51.0	+0.9
ARG	Arkhangelos	1.14	74	⇓iP	P	02 22 46.4	+1.5
ARG				eS	S	02 23 02.0	+0.4
ARG	Arkhangelos	1.14	74	⇓iP	P	02 22 46.4	+1.5
ARG				eS	S	02 23 02.3	+0.7
NPS	Neapolis	1.14	236	⇓iP	P	02 22 45.6	+0.7
NPS				eS	S	02 23 01.0	-0.6
NPS	Neapolis	1.14	236	⇓iP	P	02 22 46.0	+1.1
NPS				eS	S	02 23 01.2	-0.4
BODT	Bodrum	1.23	20	i PN	P	02 22 45.5	-0.5
BODT				i SN	S	02 23 00.7	-2.8
BDRM	Kayabasi	1.28	25	i P	P	02 22 46.9	+0.4
BDRM				i S	S	02 23 02.9	-1.6
XRY	Khrisi	1.35	221	eP	P	02 22 48.5	+1.1
APE	Apeiranthos	1.53	320	i PN	P	02 22 48.5	-1.1
APE				i SN	S	02 23 06.0	-3.7
APE	Apeiranthos	1.53	320	⇑iP	P	02 22 49.3	-0.3
APE				eS	S	02 23 07.3	-2.4
APE	Apeiranthos	1.53	320	⇑iP	P	02 22 49.3	-0.3
APE				i Sn	S	02 23 06.0	-3.7
APE				eS	S	02 23 07.3	-2.4
MLSB	Milas	1.60	30	i PN	P	02 22 51.4	+0.9
MLSB				i SN	S	02 23 10.6	-0.6
IDI	Anoyia	1.65	249	P	P	02 22 51.9	+0.8
	65nm,0.3s,baz=3.9,slow=6.1,SNR=1152						
IDI				S	S	02 23 11.1	-1.2
	97nm,0.3s,baz=304,slow=18,SNR=27						
YER	Yerkesik	1.73	44	i PN	P	02 22 53.7	+1.7
YER				i SN	S	02 23 14.0	+0.1
DALT	Dalyan (Mudla)	1.73	60	i PN	P	02 22 53.4	+1.3
SMG	Samos	1.80	2	⇑iP	P	02 22 52.8	-0.1
SMG				eS	S	02 23 14.4	-1.1
AYDN	Tasoluk	1.96	27	i P	P	02 22 56.3	+1.2
AYDN				i S	S	02 23 17.3	-1.8
VAM	Vamos	2.15	257	eP	P	02 22 58.0	+0.3
VAM				eS	S	02 23 23.3	-0.5
KSL	Kastellorizon	2.29	83	eP	P	02 23 01.0	+1.4
AKAS	Kas	2.32	81	i P	P	02 23 00.3	+0.3
AKAS				i S	S	02 23 27.3	-0.5
GVD	Gavdhos	2.44	245	eP	P	02 23 03.0	+1.4
GVD				eS	S	02 23 23.0	-7.7
GVD	Gavdhos	2.44	245	eP	P	02 23 03.0	+1.4
URLA	Izmir	2.45	357	i P	P	02 23 00.3	-1.4
BLCB	Balcova	2.48	5	i PN	P	02 23 02.2	0.0
IZM	Izmir	2.52	9	i PN	P	02 23 02.9	+0.3
DNZL	Cakiroluk	2.55	45	i P	P	02 23 04.2	+1.1
DNZL				i S	S	02 23 30.0	-3.5
DENT	Denizli	2.59	44	i PN	P	02 23 04.7	+1.1
GOLH	Golhisar	2.61	59	i P	P	02 23 04.6	+0.7
GOLH				i S	S	02 23 34.9	0.0
ELL	Elmali	2.67	71	i PN	P	02 23 06.9	+2.2
ELL				i SN	S	02 23 37.9	+1.6
MANT	Manisa	2.95	28	i P	P	02 23 09.1	+0.5
MANT				i S	S	02 23 41.0	-2.2
KYTH	Kithira	3.05	278	eP	P	02 23 09.5	-0.4
VLI	Veliai	3.20	286	⇓iP	P	02 23 11.6	-0.4
VLI				eS	S	02 23 46.5	-2.9
VLI	Veliai	3.20	286	⇓iP	P	02 23 11.6	-0.4
VLI				eS	S	02 23 46.2	-3.2
KHL	Karahalli	3.26	42	i PN	P	02 23 13.6	+0.7
PRK	Paraskevi	3.36	353	eP	P	02 23 13.5	-0.6
BCK	Bucak	3.44	62	i PN	P	02 23 16.7	+1.4
TKTP	Tekketepe	3.55	52	i P	P	02 23 16.5	-0.3
ISP	Isparta	3.56	56	ePN	P	02 23 18.2	+1.2
ISP	Isparta	3.56	56	eP	P	02 23 17.2	+0.2
ISP	Isparta	3.56	56	eP	P	02 23 17.2	+0.2
ISP	Isparta	3.56	56	ePn	P	02 23 18.2	+1.2
ITM	Ithomi	4.10	289	eP	P	02 23 24.6	+0.3
ITM				eS	S	02 24 08.9	-2.6
ITM	Ithomi	4.10	289	eP	P	02 23 24.8	+0.5
ITM				eS	S	02 24 08.9	-2.6
SLUM		4.59	197	⇓P	P	02 23 31.3	+0.3
SLUM				S	S	02 24 16.7	-6.9
PPCY	Paphos	4.67	101	P	P	02 23 32.0	0.0
HDMB	Hadim	4.73	75	PN	P	02 23 34.2	+1.3
HMAT	Matruh	4.81	177	⇑P	P	02 23 33.6	-0.4
HMAT				S	S	02 24 20.5	-8.4
ALFC	Alevga	4.81	97	P	P	02 23 33.3	-0.7
	14nm,0.2s						
ALFC				S	S	02 24 23.7	-5.3
ESKT	Eskisehir	4.84	41	PN	P	02 23 34.2	-0.3
KONT	Konya--Tatoy	4.92	64	PN	P	02 23 36.1	+0.6
ERMK	Ermenek	5.01	80	i P	P	02 23 38.0	+1.1
KIZT	Kizilcal	5.03	52	PN	P	02 23 37.4	+0.3
SZAC	Souni-Zanaja	5.13	101	P	P	02 23 38.7	+0.4
	12nm,0.1s						
SZAC				S	S	02 24 33.4	-3.3
MAMC	Mammari	5.31	96	P	P	02 23 40.5	-0.3
CSS	Prodhromos	5.44	98	P	P	02 23 41.6	-0.9
	2.3nm,0.3s						
CSS				S	S	02 24 39.9	-4.5
HBRG	Burj al ‘Arab	5.91	153	⇑P	P	02 23 48.5	-0.4
HBRG				S	S	02 24 46.2	-10
PHNC	Paralimni	5.99	97	P	P	02 23 50.3	+0.2
	2.9nm,0.6s						
PHNC				S	S	02 24 54.8	-3.2
MEST	Erdemli	6.00	81	i P	P	02 23 51.0	+0.9
BR131	Keskin Array S	6.64	53	eP	P	02 23 59.6	+0.5
	1.3nm,0.4s						
BR131	Keskin Array S	6.64	53	eP	P	02 23 59.6	+0.5
	1.3nm,0.4s						
BRTR	Keskin Array B	6.64	53	P	P	02 24 00.1	+1.1
	0.5nm,0.3s,baz=226,slow=16,SNR=12						
BRTR				S	S	02 25 12.2	-1.6
	0.2nm,0.3s,baz=218,slow=25,SNR=3.1						
BRTR	Keskin Array B	6.64	53	P	P	02 24 00.2	+1.1
BRTR				S	S	02 25 12.1	-1.7
SWA1		6.69	188	⇑P	P	02 23 59.9	+0.2
SWA1				S	S	02 25 06.0	-9.0
SWA2		6.74	190	⇓P	P	02 24 00.3	-0.2
AYT	Al ‘Ayyat	7.20	148	⇑P	P	02 24 06.5	-0.3
KOT	Kottamia	7.32	143	P	P	02 24 07.5	-1.0
KOT				S	S	02 25 20.6	-10
HNTI	Hanita	7.49	110	Sn	S	02 25 29.4	-5.2
BHL	Bhannes	7.56	103	ePn	P	02 24 08.8	-3.0
BHL				Sn	S	02 25 28.0	-8.5
MMA0	Mount Meron ar	7.69	110	Pn	P	02 24 13.2	-0.2
COBT	Iskenderun	7.69	83	i P	P	02 24 12.1	-1.3
MMA2	Mount Meron ar	7.69	110	Pn	P	02 24 13.6	+0.1
HWQ	Hawqa	7.69	100	ePn	P	02 24 12.5	-1.0
HWQ				Sn	S	02 25 34.2	-5.5
SLTI	Sal’it	7.77	116	Sn	S	02 25 35.6	-6.0
AWBH		7.78	166	⇑P	P	02 24 13.8	-0.8
KSDI	Kefar Szold	7.82	108	Pn	P	02 24 15.1	-0.1
KSDI				Sn	S	02 25 37.6	-5.0
KZIT	Kziot	8.09	126	Pn	P	02 24 17.8	-1.1
KZIT				Sn	S	02 25 42.2	-7.2
MASH	Mash‘abbe Sade	8.29	124	Pn	P	02 24 20.9	-0.7
MASH				Sn	S	02 25 46.9	-7.4
MZDA	Masada	8.51	120	Pn	P	02 24 24.3	-0.2
MZDA				Sn	S	02 25 53.6	-5.9
MKRJ	Makawir	8.57	118	Pn	P	02 24 25.6	+0.3
PRNI	Paran	8.85	126	Pn	P	02 24 27.7	-1.4
PRNI				Sn	S	02 26 00.7	-7.1
HRFI	Mount Harif	9.08	128	Pn	P	02 24 31.1	-1.1
HRFI				Sn	S	02 26 06.7	-6.7
ASF	Jabal al Asfar	9.19	111	P	P	02 24 35.0	+1.3
	0.4nm,0.3s,baz=94,slow=21,SNR=4.3						
ASF				S	S	02 26 14.5	-1.6
	0.8nm,0.3s,baz=261,slow=23,SNR=7.7						
EIL	Elat	9.28	130	Pn	P	02 24 33.8	-1.1
VAE	Valguarnera	10.05	283	P	P	02 24 44.0	-1.2
	0.3nm,0.3s,baz=247,slow=21,SNR=8.0						
VAE				S	S	02 26 25.2	-12
	2.6nm,0.3s,baz=181,slow=16,SNR=7.6						
HDK1	Dakhla	10.57	167	⇓P	P	02 24 53.5	+1.1
AKRG	Al Kharijah	10.85	162	⇑P	P	02 24 56.4	+0.3
AKASG	Malin Array Be	14.89	6	P	P	02 25 51.0	+2.3
	1.3nm,0.3s,baz=195,slow=11,SNR=8.6						
AKASG	Malin Array Be	14.89	6	P	P	02 25 51.0	+2.2
VRAC	Vranov	15.32	334	P	P	02 25 55.8	+1.6
	0.6nm,0.3s,baz=143,slow=12,SNR=13						
MORC	Moravsky Berou	15.41	337	eP	P	02 25 57.6	+2.3
GERES	GERESS Array B	16.11	327	P	P	02 26 04.8	+0.7
	0.1nm,0.3s,baz=144,slow=12,SNR=6.3						
DPC	Dobruska-Polom	16.30	336	eP	P	02 26 07.2	+0.7
KHC	Kasperske Hory	16.37	328	eP	P	02 26 07.8	+0.4
PRU	Pruhonice	16.65	331	eP	P	02 26 10.4	-0.4
FINES	FINESS Array B	25.56	359	P	P	02 27 43.0	-0.4
	2.5nm,1.1s,mb3.6,baz=157,slow=11,SNR=3.1						
HFS	Hagfors	25.67	345	P	P	02 27 43.1	-1.3
	0.6nm,0.6s,mb3.2,baz=159,slow=12,SNR=6.0						
ARCES	ARCESS Array B	33.69	359	P	P	02 28 53.6	-2.0
	2.0nm,0.9s,mb4.0,baz=174,slow=8.2,SNR=2.4						
ARCES	ARCESS Array B	33.69	359	P	P	02 28 53.6	-2.0
DBIC	Dimbokro	41.06	232	P	P	02 29 58.3	+0.6
DBIC	Dimbokro	41.06	232	P	P	02 29 58.3	+0.5
MKAR	Makanchi Array	42.27	57	P	P	02 30 08.8	+1.6
	0.9nm,0.4s,mb3.8,baz=274,slow=7.9,SNR=10						

NEIC 04 02:29:17.2±0.5,15.11N×93.17W,mb4.5/25,MD4.6(MEX), Error ellipse: s-maj=10.0km s-min=7.1km az=211.0
IDC 04 02:29:18.1±0.7,15.33N×92.86W,h71km±6km,mb3.9/16, mb1 4.2/17,mb1mx4.0/27,mbtmp4.3/17,MS3.6/11, Ms1 3.6/11,ms1mx3.4/30,Error ellipse: s-maj=36.3km s-min=9.8km az=58.0
CASC 04 02:29:18.8±2.5,15.52N×93.12W,h13km±660km,MD4.7, mb4.5(NEIC)
MEX 04 02:29:20.1±0.9,15.19N×93.47W,h39km±39km,MD4.6
ISC 04 02:29:16.9±0.3,15.15N±0.04×93.36W±0.03,h80km±4km, h70km±2.7km:pP-P,n100,σ1§35/122,mb4.4/34,5C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.63	46	eP	P	02 29 45.5	+1.1
CCIG				i S	S	02 30 04.7	-0.1
CCIG	Comitan	1.63	46	eP	P	02 29 45.8	+1.4
CCIG				eS	S	02 30 05.1	+0.3
SCX	San Cristobal	1.73	24	i P	P	02 29 47.0	+1.3
SCX				i S	S	02 30 08.0	+1.1
TP2	Tecpan 2	2.29	99	⇓eP	P	02 29 53.7	+0.2
TP2				eS	S	02 30 19.3	-1.3
CMIG	Matias Romero	2.42	323	eP	P	02 29 55.7	+0.4
CMIG				eS	S	02 30 22.1	-1.8
FUG	Fuego 3	2.54	106	⇓eP	P	02 29 56.5	-0.4
HUIG	Huatulco	2.72	283	eP	P	02 29 58.3	-1.1
HUIG				eS	S	02 30 27.4	-3.8
IXG	Ixpaco	2.98	109	⇑eP	P	02 30 02.3	-0.7
IXG				eS	S	02 30 38.6	+0.9
TUIG	Tuzandepetl	3.04	341	eP	P	02 30 04.1	+0.1
TUIG				eS	S	02 30 36.8	-2.6
MRL	Marmol	3.55	91	⇑eP	P	02 30 09.9	-1.0
MRL				eS	S	02 30 46.8	-5.1
RBDL	Robledal	3.70	106	eP	P	02 30 13.8	+0.7
RBDL				eS	S	02 30 57.8	+1.9
OXX	Oaxaca	3.76	301	i P	P	02 30 16.0	+2.1
OXX				i S	S	02 30 56.5	-0.7
VHO	Vista Hermosa	3.76	301	eP	P	02 30 13.9	-0.1
VHO				eS	S	02 30 53.7	-3.6
RTR	El Retiro	3.81	109	eP	P	02 30 15.2	+0.6
RTR				eS	S	02 30 59.7	+1.3
SBLS	San Blas	3.85	109	eP	P	02 30 15.4	+0.3
SBLS				eS	S	02 30 59.1	-0.3
SNJE	San Jose	3.85	109	eP	P	02 30 15.7	+0.5
SNJE				eS	S	02 30 59.1	-0.4
BOQS	Boqueron	4.20	109	⇑eP	P	02 30 20.9	+0.9
BOQS				eS	S	02 31 07.6	-0.5
LBRS	Las Brisas	4.41	108	eP	P	02 30 24.4	+1.5
LFRS	El Faro	4.43	109	eP	P	02 30 24.0	+0.7
LFRS				eS	S	02 31 13.8	-0.2
LCBS	La Ceiba	4.50	109	eP	P	02 30 24.6	+0.5
LCBS				eS	S	02 31 15.3	-0.4
SNVI	San Vicente	4.64	109	eP	P	02 30 27.3	+1.2
PNIG	Pinotepa	4.75	286	eP	P	02 30 27.7	+0.1
PNIG				eS	S	02 31 18.0	-3.9
VSM	San Miguel	5.22	108	eP	P	02 30 35.3	+1.2
VSM				eS	S	02 31 32.8	-0.8
BLLM	Bellamira	5.25	108	eP	P	02 30 35.2	+0.7
BLLM				eS	S	02 31 34.0	-0.3
LVIG	Laguna Verde	5.40	328	eP	P	02 30 35.0	-1.6
LVIG				i S	S	02 31 34.3	-3.7
CNCH	Conchagua	5.67	108	eP	P	02 30 40.7	+0.4
CNCH				eS	S	02 31 44.8	0.0
ACX	Acapulco	6.53	286	eP	P	02 30 51.5	-0.7
YAIG	Yautepec	6.59	305	eP	P	02 30 53.6	+0.6
YAIG				i S	S	02 32 05.5	-1.8
CRIN	San Cristobal	6.59	111	eP	P	02 30 52.7	-0.5
CRIN				eS	S	02 32 07.0	-0.5
TEL3	Telica 3	6.83	111	⇑eP	P	02 30 54.6	-1.8
LEON	Leon	6.85	113	eP	P	02 30 55.8	-0.9
CAIG	El Cayaco	6.90	287	i S	S	02 32 14.0	-1.0
MIRN	Miramar	7.00	112	⇑eP	P	02 30 57.1	-1.6
COPN	Copaltepe	7.21	113	eP	P	02 30 59.6	-2.0
XAVN	Gruta Xavier	7.46	113	eP	P	02 31 04.7	-0.3
TICN	Ticuantepe	7.59	113	eP	P	02 31 07.7	+0.9
MOIG	Morelia	8.72	302	i P	P	02 31 24.7	+2.4
SFJM	Santa Fe	10.63	301	eP	P	02 31 51.0	+2.7
ZAIG	Zacatecas	11.54	312	i P	P	02 32 03.2	+2.8
ZAIG	Zacatecas	11.54	312	i P	P	02 32 03.5	+3.1
NATX	Nacogdoches	16.58	356	P	P	02 33 01.8	-3.9
	19nm,0.7s						
LTX	Lajitas	17.02	328	eP	P	02 33 13.8	+2.6
	45nm,1.2s						
TXAR	Lajitas Array	17.02	328	P	P	02 33 14.0	+2.8
	0.2nm,0.3s,baz=151,slow=11,SNR=92						
TXAR				LR	LR	02 42 16.8	
	comp=Z,40nm,18.0s,baz=130,slow=45						
LRAL	Lakeview Retre	18.72	17	eP	P	02 33 29.3	-2.4
	14nm,0.9s						
OXF	Oxford	19.61	10	eP	P	02 33 38.6	-2.7
	110nm,1.2s						
OXF				eS	S	02 37 02.9	-10
MNTX	Cornudas Mount	19.80	328	eP	P	02 33 44.0	+0.6
	11nm,1.0s						
WMOK	Wichita Mounta	20.11	347	eP	P	02 33 44.1	-2.6
	28nm,1.3s						
WMOK				eS	S	02 37 04.3	-19
GOGA	Godfrey	20.27	25	eP	P	02 33 45.9	-2.5
	20nm,0.9s						
GOGA				eS	S	02 37 28.4	+2.2
WVT	Waverly	21.47	12	eP	P	02 33 58.3	-2.2
	11nm,0.8s,mb4.2						
WVT				eS	S	02 37 44.7	-4.0
NHSC	New Hope	21.51	31	P	P	02 34 00.6	-0.3
	84nm,1.1s,mb5.0						
JSC	Jenkinsville	21.96	28	P	P	02 34 03.6	-1.6
CCM	Cathedral Cave	22.89	4	eP	P	02 34 13.0	-1.4
	12nm,0.8s,mb4.3						
ANMO	Albuquerque	22.97	332	P	P	02 34 17.8	+2.6
	12nm,1.0s,mb4.2,baz=146,slow=11,SNR=31						
ANMO	Albuquerque	22.97	332	eP	P	02 34 17.5	+2.3
	12nm,1.0s,mb4.2						
TZTN	Tazewell	23.03	21	eP	P	02 34 17.6	+1.8
TZTN				e		02 34 35.0	
SDV	Santo Domingo	23.07	103	P	P	02 34 15.3	-1.0
	4.5nm,0.6s,mb4.0,baz=343,slow=11,SNR=5.4						
TUC	Tucson	23.31	320	eP	P	02 34 21.7	+3.2
	32nm,1.4s,mb4.5						
WCI	Wyandotte Cave	23.82	14	P	P	02 34 21.1	-2.2
	5.0nm,0.8s,mb3.9						
SDCO	Great Sand Dun	24.94	337	eP	P	02 34 36.3	+2.0
	33nm,1.3s,mb4.6						
ISCO	Idaho Springs	26.80	339	eP	P	02 34 52.6	+1.1
	4.5nm,0.8s,mb4.0						
NEN	Nelson	28.05	321	eP	P	02 34 59.0	-3.8
HWUT	Hardware Ranch	30.71	333	eP	P	02 35 27.4	+0.9
	4.4nm,0.8s,mb4.2						
BW06	Boulder Array	30.84	336	eP	P	02 35 27.7	+0.2
	3.5nm,1.0s,mb4.0						
PDAR	Pinedale Array	30.84	336	P	P	02 35 28.1	+0.6
	2.6nm,0.9s,mb4.0,baz=128,slow=10.0,SNR=19						
AHID	Auburn Hatcher	31.46	335	eP	P	02 35 34.3	+1.3
	30nm,1.4s,mb4.8						
ELK	Elko	31.82	328	eP	P	02 35 38.1	+1.9
	4.0nm,1.0s,mb4.1						
SNOW	Snow King Moun	31.90	336	eP	P	02 35 38.1	+1.3
	74nm,0.9s,mb5.4						
NVAR	Mina Array Bea	31.95	321	P	P	02 35 39.9	+2.5
	6.1nm,0.7s,mb4.4,baz=129,slow=9.7,SNR=55						
NVAR				pP	pP	02 35 57.0	+0.8
	7.5nm,0.8s,baz=130,slow=9.9,SNR=12						
LOHW	Long Hollow	31.96	336	eP	P	02 35 37.5	+0.2
	20nm,0.9s,mb4.9						
TPAW	Teton Pass	32.00	335	eP	P	02 35 38.9	+1.3
	32nm,1.1s,mb5.0						
RRI2	Red Ridge	32.03	335	eP	P	02 35 38.3	+0.4
	41nm,1.2s,mb5.0						
RRI2				e	pP	02 35 56.4	-0.4
QLMT	Earthquake Lak	33.31	336	eP	P	02 35 51.6	+2.6
HLID	Hailey	33.54	332	eP	P	02 35 51.9	+0.9
	5.6nm,1.0s,mb4.3						
MCMT	McKenzie Canyo	33.87	335	eP	P	02 35 55.7	+1.8
MCMT				e	pP	02 36 12.5	-0.4
BOZ	Bozeman (W)	34.07	337	eP	P	02 35 53.1	-2.4
	20nm,1.3s,mb4.8						
ULM	Lac du Bonnet	35.07	357	P	P	02 36 00.9	-3.1
	1.5nm,0.6s,mb4.0,baz=113,slow=3.9,SNR=4.6						
ULM				LR	LR	02 53 03.9	
	comp=Z,80nm,19.8s,baz=28,slow=41						
MSO	Missoula	35.95	336	eP	P	02 36 11.3	-0.3
	14nm,1.4s,mb4.7						
SAML	Samuel	38.31	127	eP	P	02 36 27.9	-3.7
NEW	Newport	38.39	334	LR	LR	02 55 20.5	
	comp=Z,47nm,19.5s,baz=131,slow=41						
LPAZ	La Paz	39.95	140	P	P	02 36 44.7	-0.5
	0.7nm,0.6s,mb3.6,baz=21,slow=14,SNR=4.5						
LPAZ	La Paz	39.95	140	P	P	02 36 44.7	-0.5
SIV	San Ignacio	44.43	133	P	P	02 37 20.1	-1.8
	1.9nm,0.5s,mb4.1,baz=309,slow=7.6,SNR=17						
SIV				pP	pP	02 37 38.6	-2.8
	3.1nm,0.7s,baz=303,slow=8.0,SNR=6.8						
LVC	Limon Verde	44.52	147	P	P	02 37 23.4	+0.9
	2.3nm,0.9s,mb3.9,baz=226,slow=10,SNR=3.5						
SCHQ	Schefferville	44.62	22	LR	LR	02 57 09.1	
	comp=Z,128nm,19.5s,baz=276,slow=38						
YKA	Yellowknife Ar	49.62	347	P	P	02 38 01.1	-0.8
	3.7nm,0.6s,mb4.5,baz=153,slow=7.3,SNR=28						
YKA				LR	LR	02 59 44.3	
	comp=Z,53nm,21.6s,baz=210,slow=37						
YKA	Yellowknife Ar	49.62	347	P	P	02 38 01.1	-0.8
YKA				LR	LR	02 59 44.3	
DLBC	Dease Lake	51.07	336	P	P	02 38 15.1	+2.0
	6.3nm,0.8s,mb4.7,baz=138,slow=6.3,SNR=20						
DLBC				pP	pP	02 38 31.0	-2.0
	11nm,0.9s,baz=134,slow=4.9,SNR=11						
DLBC	Dease Lake	51.07	336	P	P	02 38 15.1	+2.0
DLBC				pP	pP	02 38 31.0	-2.0
CFAA	Coronel Fontan	52.37	153	P	P	02 38 22.2	-0.9
	0.5nm,0.7s,mb3.7,baz=323,slow=5.6,SNR=11						
CPUP	Villa Florida	54.11	139	LR	LR	03 04 14.1	
	comp=Z,71nm,18.3s,baz=302,slow=39						
INK	Inuvik	58.97	344	P	P	02 39 09.8	-0.3
	20nm,1.0s,mb5.1,baz=128,slow=7.5,SNR=64						
PLCA	Paso Flores	59.49	160	P	P	02 39 13.1	-1.0
	3.9nm,1.1s,mb4.3,baz=307,slow=7.8,SNR=3.5						
ILAR	Eielson Array	61.27	337	P	P	02 39 25.4	-0.4
	2.5nm,0.8s,mb4.3,baz=110,slow=4.3,SNR=21						
ILAR				pP	pP	02 39 43.4	-3.1
	6.4nm,1.0s,baz=131,slow=4.5,SNR=12						
ILAR				LR	LR	03 06 25.4	
	comp=Z,31nm,20.5s,baz=17,slow=36						
PPT	Papeete	64.25	242	LR	LR	03 02 35.3	
	comp=Z,161nm,19.2s,baz=356,slow=31						
NOA	NORSAR Array B	83.77	28	LR	LR	03 17 41.1	
	comp=Z,37nm,19.2s,baz=305,slow=35						
ARCES	ARCESS Array B	85.46	18	P	P	02 41 46.1	-0.4
	1.5nm,0.5s,mb4.2,baz=298,slow=4.2,SNR=13						
DAVOX	Davos	87.90	42	LR	LR	03 18 47.7	
	comp=Z,60nm,18.1s,baz=262,slow=34						
FINES	FINESS Array B	90.02	25	P	P	02 42 08.0	-0.5
	0.7nm,0.7s,mb3.9,baz=315,slow=5.4,SNR=4.5						
FINES				LR	LR	03 22 48.0	
	comp=Z,48nm,18.6s,baz=204,slow=36						
FINES	FINESS Array B	90.02	25	P	P	02 42 08.0	-0.5
FINES				LR	LR	03 22 48.0	
WRA	Warramunga Arr	134.38	257	PKP	PKPdf	02 48 28.0	+1.3
	0.5nm,0.8s,baz=85,slow=2.9,SNR=6.5						

CSEM 04 02:45:42.9±0.5,27.02N×53.27E,h30km,ML3.4,Error ellipse: s-maj=13.2km s-min=3.4km az=40.0
TEH 04 02:45:43.7,27.04N×53.15E,h7km,Mn3.4
THR 04 02:45:43.1±0.6,27.04N×53.27E,h34km±9km,ML3.2
IDC 04 02:46:04.6±30.0,29.96N×52.96E,mb3.6/5,mb1 3.6/6, mb1mx3.3/21,mbtmp3.5/6,ML3.4/1,Error ellipse: s-maj=555.7km s-min=44.1km az=174.0
ISC 04 02:45:41.3±1.1,27.01N±0.07×53.2E±0.1,h10km,n22, σ1§01/22,mb3.5/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.28	352	ePG	Pg	02 46 06.6	-0.4
GHIR				eSG	Sg	02 46 23.4	-0.7
GHIR				AML	AML	02 46 26.2	
	comp=N,607nm,0.3s						
IMOK	Mook	2.07	348	Pn	Pn	02 46 18.1	+1.5
ISRV	Sarvestan	2.36	358	Pn	Pg	02 46 29.6	+1.1
BNDS	Bandar-Abbas	2.68	81	ePN	Pn	02 46 24.9	-0.4
IPAR	Pars	2.82	357	Pn	Pn	02 46 28.4	+1.0
KRBR	Kerman	4.32	46	ePN	Pn	02 46 48.2	-0.3
KRBR				AML	AML	02 48 09.4	
	comp=N,16nm,0.7s						
IMEH	Mehriz	4.54	16	Pn	Pn	02 46 52.7	+1.0
IBAF	Bafgh	5.01	24	Pn	Pn	02 46 59.3	+0.9
ICHK	Chekchek	5.32	11	Pn	Pn	02 47 02.9	+0.1
NASN	Na’in	5.78	357	ePN	Pn	02 47 08.6	-0.6
IZEF	Zefreh	5.91	353	Pn	Pn	02 47 00.5	-11
IPIR	Pirpir	6.00	341	Pn	Pn	02 47 06.1	-6.2
IKLH	Kalahroud	6.44	348	Pn	Pn	02 47 09.4	-9.2
IVRN	Varamin	8.06	351	Pn	P	02 47 39.3	-2.0
IVRN	Varamin	8.06	351	Lg		02 49 53.7	
IRAZ	Razeghan	8.82	342	Sn	Sn	02 49 23.3	-9.1
BRTR	Keskin Array B	20.62	313	P	P	02 50 24.0	+0.6
	comp=N,0.1nm,0.3s,baz=130,slow=11,SNR=3.9						
BVAR	Borovoye Array	28.98	22	P	P	02 51 42.4	-0.6
	comp=N,0.3nm,0.7s,mb3.1,baz=214,slow=5.2,SNR=2.3						
AKASG	Malin Array Be	29.88	329	P	P	02 51 50.0	-1.2
	comp=N,0.3nm,0.4s,mb3.4,baz=136,slow=7.9,SNR=4.9						
FINES	FINESS Array B	38.95	340	P	P	02 53 08.0	-1.0
	comp=N,0.3nm,0.3s,mb3.5,baz=141,slow=7.0,SNR=14						
HFS	Hagfors	42.64	332	P	P	02 53 41.2	+2.0
	comp=N,0.9nm,0.6s,mb3.7,baz=108,slow=9.4,SNR=4.3						
ARCES	ARCESS Array B	45.52	347	P	P	02 54 01.6	-0.8
	comp=N,2.0nm,0.9s,mb4.0,baz=157,slow=9.2,SNR=6.2						

GUC 04 03:25:29.0±0.7,31.92S×67.30W,h10km,MD4.4,ML4.6
NEIC 04 03:25:30.4±1.6,31.90S×67.54W,h14km±11km,mb4.0/3, Error ellipse: s-maj=10.7km s-min=8.4km az=93.0

IDC 04 03:25:30.1±2.5, 32.00S×67.70W, h12^{km}±15^{km}, mb3.8/4, mb1 4.0/9, mb1mx3.9/17, mbtmp3.9/9, ML3.7/2, Error ellipse: s-maj=19.8km s-min=17.1km az=31.0

ISC 04 03:25:28.8±0.4, 31.87S±0.04×67.28W±0.04, h10^{km}, n55, σ1^{s}20/73, mb3.9/7, 3C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.86	288	Pg	Pg	03 25 41.8	-4.3
	16nm,0.3s,baz=118,slow=17,SNR=993						
CFAA				Lg		03 25 50.7	
	43nm,0.3s,baz=27,slow=22,SNR=77						
CFAA	Coronel Fontan	0.86	288	Pg	Pg	03 25 41.8	-4.3
CFAA				Lg		03 25 50.7	
ZON	Zonda	1.24	285	eP	Pb	03 25 51.8	0.0
ZON				eS	Sb	03 26 06.1	-1.6
MDZ	Mendoza	1.67	232	eP	Pn	03 25 57.8	-0.5
MDZ				e		03 26 02.6	
MDZ				iS	Sn	03 26 18.8	-1.2
JACH	Jahuel	2.92	253	⇑iP	Pn	03 26 17.5	+1.3
JACH				iS	Sn	03 26 53.4	+1.6
JACH	Jahuel	2.92	253	⇑iP	Pn	03 26 17.5	+1.3
JACH				iS	Sn	03 26 54.0	+2.2
FCH	Farellones	2.93	239	eP	Pn	03 26 17.1	+0.8
FCH				iS	Sn	03 26 53.2	+1.3
FCH				AMP		03 26 55.9	
	comp=E,1μm,0.5s						
CLCH	Cerro Calan	3.14	240	eP	Pn	03 26 18.9	-0.5
CLCH				iS	Sn	03 26 55.4	-2.0
PEL	Peldehue	3.15	245	eP	Pn	03 26 19.0	-0.4
PEL	Peldehue	3.15	245	⇓iP	Pn	03 26 22.4	+2.9
PEL				S	Sn	03 27 00.3	+2.9
LMEL	Las Melosas	3.16	231	eP	Pn	03 26 19.6	0.0
LMEL				iS	Sn	03 27 01.9	+4.3
LMEL				AMP		03 27 03.6	
	comp=E,1μm,0.5s						
LMEL	Las Melosas	3.16	231	⇑iP	Pn	03 26 22.9	+3.4
LMEL				iS	Sn	03 27 02.5	+4.9
DSCH	Colegio Aleman	3.17	240	eP	Pn	03 26 19.3	-0.4
DSCH				eS	Sn	03 26 58.1	+0.1
DSCH				AMP		03 27 07.3	
	comp=N,2μm,0.5s						
DSCH	Colegio Aleman	3.17	240	⇓iP	Pn	03 26 23.3	+3.6
DSCH				iS	Sn	03 27 02.4	+4.4
PCH	Pirque	3.24	237	eP	Pn	03 26 20.2	-0.5
CMCH	Combarbala	3.26	281	⇓iP	Pn	03 26 20.9	0.0
CMCH				iS	Sn	03 27 00.5	+0.3
RCDM	Rinconada Maip	3.39	241	eP	Pn	03 26 22.6	-0.2
RCDM				iS	Sn	03 27 03.2	-0.3
RCDM				AMP		03 27 09.9	
	comp=N,565nm,0.8s						
TLL	Tololo Astrono	3.47	298	eP	Pn	03 26 25.0	+1.0
TLL				iS	Sn	03 27 07.2	+1.5
TLL				AMP		03 27 13.4	
	comp=N,2μm,0.6s						
TLL	Tololo Astrono	3.47	298	eP	Pn	03 26 28.5	+4.5
TLL				iS	Sn	03 27 11.2	+5.6
CHCH	Chadas Angostu	3.51	233	eP	Pn	03 26 25.2	+0.7
CHCH	Chadas Angostu	3.51	233	P	Pn	03 26 25.5	+0.9
CHCH				iS	Sn	03 27 09.7	+3.1
SCR	San Cristobal	3.54	242	eP	Pn	03 26 21.2	-3.8
SCR				iS	Sn	03 27 00.2	-7.1
SCR				AMP		03 27 05.8	
	comp=E,416nm,0.3s						
TACH	Talagante	3.56	239	eP	Pn	03 26 24.8	-0.5
CACH	El Canelo	3.58	230	eP	Pn	03 26 28.3	+2.8
CHNG	Los Chungos	3.59	269	eP	Pn	03 26 24.9	-0.8
CHNG				iS	Sn	03 27 08.8	0.0
CHNG				AMP		03 27 15.1	
	comp=N,1μm,0.5s						
CICH	Cipreses	3.60	226	eP	Pn	03 26 26.1	+0.3
IHA	Instituto Hidr	3.87	252	eP	Pn	03 26 30.1	+0.5
LCCH	Las Cruces	3.96	245	eP	Pn	03 26 29.6	-1.3
LNV	Longovilo	4.05	238	eP	Pn	03 26 31.2	-1.0
SFDO	San Fernando	4.16	228	eP	Pn	03 26 33.2	-0.6
TRQA	Tornquist	7.55	146	eP	Pn	03 27 22.0	+0.5
	comp=N,18nm,0.8s						
PLCA	Paso Flores	9.23	196	Pn	P	03 27 41.8	-3.2
	comp=N,0.3nm,0.3s,baz=58,slow=17,SNR=9.2						
PLCA				Lg		03 30 08.4	
	comp=N,0.3nm,0.3s,baz=42,slow=7.0,SNR=2.8						
LVC	Limon Verde	9.34	351	Pn	P	03 27 45.5	-0.9
	comp=N,0.4nm,0.3s,baz=151,slow=9.8,SNR=5.1						
LVC				Sn	Sn	03 29 28.6	-3.9
	comp=N,0.4nm,0.3s,baz=99,slow=17,SNR=2.7						
LVC				Lg		03 30 27.8	
	comp=N,0.6nm,0.3s,baz=308,slow=15,SNR=4.9						
LVC	Limon Verde	9.34	351	eP	P	03 27 45.1	-1.3
LVC				Sn	Sn	03 29 28.6	-3.9
LVC				Lg		03 30 27.8	
CPUP	Villa Florida	10.30	60	Pn	P	03 28 00.8	+1.0
	comp=N,0.5nm,0.3s,baz=245,slow=10,SNR=11						
CPUP				Lg		03 31 10.1	
	comp=N,1.0nm,0.3s,baz=347,slow=19,SNR=3.2						
CPUP	Villa Florida	10.30	60	eP	P	03 28 01.0	+1.2
CPUP				Lg		03 31 10.1	
LPAZ	La Paz	15.53	357	Pn	P	03 29 10.7	+1.1
	comp=N,0.1nm,0.3s,baz=175,slow=12,SNR=2.8						
LPAZ	La Paz	15.53	357	eP	P	03 29 15.3	+5.7
SIV	San Ignacio	16.79	21	Pn	P	03 29 27.8	+2.2
	comp=N,0.1nm,0.3s,baz=194,slow=12,SNR=6.7						
SAML	Samuel	23.12	10	eP	P	03 30 36.4	+0.3
	comp=N,4.7nm,1.1s,mb3.8						
BDFB	Brasilia	23.85	52	P	P	03 30 48.3	+5.2
	comp=N,3.3nm,0.8s,mb3.8,baz=299,slow=5.2,SNR=5.1						
VNA3	Neumayer Olymp	49.86	159	⇓i	P	03 34 23.2	-0.5
VNA3	Neumayer Olymp	49.86	159	e	P	03 34 27.4	+3.7
VNA1	Neumayer--Stat	50.10	158	⇓i	P	03 34 25.5	0.0
VNA1	Neumayer--Stat	50.10	158	e	P	03 34 30.8	+5.3
VNA2	Neumayer--Watz	50.46	158	⇓i	P	03 34 27.8	-0.5
VNA2	Neumayer--Watz	50.46	158	e	P	03 34 32.5	+4.2
TXAR	Lajitas Array	70.00	327	P	P	03 36 41.0	-1.7
	comp=N,0.5nm,0.7s,mb3.6,baz=150,slow=8.3,SNR=7.8						
MNTX	Cornudas Mount	72.79	327	eP	P	03 36 56.3	-3.1
	comp=N,1.0nm,0.7s,mb3.9						
MAW	Mawson	74.03	162	P	P	03 37 05.1	-0.8
	comp=N,1.9nm,0.6s,mb4.2,baz=236,slow=10,SNR=4.4						
LBTB	Lobatse	79.50	113	eP	P	03 37 37.2	-0.2
PDAR	Pinedale Array	83.80	330	P	P	03 37 59.4	-0.1
	comp=N,0.5nm,0.6s,mb3.8,baz=135,slow=2.6,SNR=6.5						
HLID	Hailey	86.57	328	eP	P	03 38 12.9	-0.3
	comp=N,1.0nm,0.8s,mb4.1						
WRA	Warramunga Arr	124.47	205	PKP	PKPdf	03 44 28.0	-3.8
	comp=N,0.5nm,0.5s,baz=172,slow=1.6,SNR=26						
MKAR	Makanchi Array	152.35	49	PKPbc	PKPdf	03 45 25.5	+4.8
	comp=N,0.9nm,0.7s,baz=297,slow=2.7,SNR=6.7						
MKAR				PKPab	PKPab	03 45 38.6	+1.7
	comp=N,0.6nm,0.7s,baz=284,slow=2.4,SNR=3.3						

JMA 04 04:26:04.4±0.5, 31.57N×140.94E, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	3.08	1	P	Pn	04 26 55.4	+0.2
BSO1				eS	Sn	04 27 34.0	+0.8
BSO2	Boso 2	3.18	357	S	Sn	04 27 37.8	+2.0
BSO3	Boso 3	3.24	354	P	Pn	04 26 58.0	+0.5
BSO3				eS	Sn	04 27 36.6	-0.8
BSO4	Boso 4	3.45	352	eS	Sn	04 27 43.6	+1.0
JYO	Yokosk	3.80	344	eS	Sn	04 27 52.0	+0.5
JOD2	Odawara 2	4.00	338	eS	Sn	04 27 57.4	+0.9
JHU	Hanno	4.49	343	eS	Sn	04 28 06.8	-2.2
JAG	Ashikaga	5.00	346	eS	Sn	04 28 19.9	-1.9
JHO	Hitachi	5.04	357	P	Pn	04 27 24.1	+1.1

NEIC 04 04:27:22.6±0.9, 30.87S×178.75W, h218^{km}±10^{km}, mb3.9/1, Error ellipse: s-maj=26.2km s-min=12.6km az=114.0

IDC 04 04:27:22.6±1.1, 30.87S×178.90W, h208^{km}±10^{km}, mb3.6/3, mb1 3.7/4, mb1mx3.4/13, mbtmp4.1/4, Error ellipse: s-maj=35.6km s-min=14.2km az=120.0

ISC 04 04:27:22.1±0.8, 30.84S±0.08×179.2W±0.2, h200^{km}, n13, σ1^{s}04/12, mb3.7/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.93	35	P	P	04 28 00.3	+0.1
	26nm,0.3s,baz=217,slow=20,SNR=3.0						
RAO				S	S	04 28 29.2	-0.4
	69nm,0.3s,baz=75,slow=20,SNR=3.6						
URZ	Urewera	8.01	201	P	P	04 29 17.8	+1.6
	1.3nm,0.3s,baz=307,slow=6.8,SNR=14						
URZ				S	S	04 30 45.8	+0.4
	2.6nm,0.3s,baz=266,slow=22,SNR=19						
SNZO	South Karori	11.55	204	eP	P	04 30 02.1	0.0
SNZO				eS	S	04 32 05.3	-2.6
CTA	Charters Tower	32.87	281	P	P	04 33 39.3	+0.1
	1.9nm,0.5s,mb3.9,baz=91,slow=8.1,SNR=3.8						
CTAO	Charters Tower	32.87	281	eP	P	04 33 39.8	+0.5
	1.9nm,0.6s,mb3.8						
STKA	Stephens Creek	33.39	258	P	P	04 33 44.7	+1.2
	1.8nm,0.5s,mb3.8,baz=97,slow=10.0,SNR=7.8						
STKA	Stephens Creek	33.39	258	eP	P	04 33 45.3	+1.8
WB2	Warramunga Arr	43.09	273	eP	P	04 35 03.5	-0.7
WRA	Warramunga Arr	43.10	273	P	P	04 35 03.3	-1.0
	0.9nm,0.4s,mb3.5,baz=111,slow=8.0,SNR=42						
KAF	Kangasniemi	144.62	340	epkp	PKPdf	04 46 32.3	-1.5
	baz=42,slow=3.2						
FINES	FINESS Array B	145.20	339	PKPbc	PKPbc	04 46 34.5	-0.9
	1.7nm,0.6s,baz=56,slow=5.0,SNR=17						
NOA	NORSAR Array B	149.02	350	PKPbc	PKPdf	04 46 43.7	+2.6
	0.9nm,0.9s,baz=36,slow=10.0,SNR=2.5						
NOA	NORSAR Array B	149.02	350	PKPbc	PKPdf	04 46 43.7	+2.6

CSEM 04 04:33:08.2, 40.79N×38.35E, h32^{km}, MD3.5, After ISK

ISK 04 04:33:08.2, 40.79N×38.35E, h32^{km}, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRSN	GIRESUNGRSN	0.15	336	iP	Pn	04 33 14.1	+0.1
GRSN				iS	Sn	04 33 18.6	+1.0
GUMT	Gumushane	0.92	110	iPG	Pn	04 33 25.2	+0.1
GUMT				iSG	Sn	04 33 37.2	-0.1
KELT	Kelkit	0.94	132	iP	Pn	04 33 24.2	-1.1
KELT				iS	Sn	04 33 35.8	-2.0
MACK	Trabzon	1.09	81	iP	Pn	04 33 30.1	+2.7
MACK				iS	Sn	04 33 46.3	+4.8
SVSK	Karacayir	1.35	230	PN	Pn	04 33 30.8	-0.4
SVSK				SN	Sn	04 33 47.7	-0.4
TOKT	Tokat	1.45	252	PN	Pn	04 33 33.3	+0.7
SVST	Sivas	1.47	227	iP	Pn	04 33 33.3	+0.4
SVST				iS	Sn	04 33 54.1	+2.8
KVT	Kavak	1.77	280	PN	Pn	04 33 36.3	-0.8
KVT				SN	Sn	04 33 58.5	-0.2
PTK	Pertek	2.06	157	PN	Pn	04 33 41.2	-0.1
ELZG	Elazig	2.34	168	iP	Pn	04 33 46.3	+1.0
ELZG				iS	Sn	04 34 16.0	+2.7
MYA	Malataya	2.46	179	PN	Pn	04 33 47.6	+0.5
EZM	Erzurum	2.47	110	ePN	Pn	04 33 47.9	+0.7
ERZM	Erzurum	2.47	110	iP	Pn	04 33 53.1	+5.9
ERZM				iS	Sn	04 34 25.5	+8.9
MALT	Malatya	2.47	179	PN	Pn	04 33 47.4	+0.2
YOZ	Yozgat	2.59	245	PN	Pn	04 33 49.3	+0.4
BOYT	Boyabat	2.68	285	iP	Pn	04 33 54.7	+4.6
BOYT				iS	Sn	04 34 19.3	-2.6
CTKT	Corum	2.71	268	iP	Pn	04 33 56.4	+5.8
CTKT				iS	Sn	04 34 34.1	+11
BNN	Bunyan	2.73	226	PN	Pn	04 33 51.9	+1.0
ARTV	Artvin	2.74	81	iP	Pn	04 33 49.4	-1.7
ARTV				iS	Sn	04 34 30.6	+7.2
CORM	Corum	2.90	259	ePN	Pn	04 33 53.4	+0.1
AVNT	Avonos	3.36	234	iP	Pn	04 34 02.4	+2.6
AVNT				iS	Sn	04 34 52.1	+13
KAMT	Kaman	3.83	250	ePN	Pn	04 34 07.2	+0.7

NEIC 04 04:42:16.6±0.5, 23.97S×66.78W, h200^{km}±8^{km}, Error ellipse: s-maj=11.0km s-min=9.2km az=122.0

IDC 04 04:42:16.6±1.1, 23.91S×66.74W, h193^{km}±13^{km}, mb3.6/1, mb1 3.4/6, mb1mx3.1/17, mbtmp3.7/6, Error ellipse: s-maj=18.7km s-min=16.5km az=48.0

GUC 04 04:42:17.3±0.6, 24.03S×67.12W, h216^{km}±24^{km}, ML3.1

ISC 04 04:42:15.5±0.6, 23.99S±0.05×66.87W±0.08, h210^{km}±12^{km}, n18, σ1^{s}09/24, mb3.5/1, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.63	311	⇑iP	P	04 42 53.7	+2.2
SPCH				AMP		04 43 27.4	
	comp=N,74nm,0.3s						
LVC	Limon Verde	2.32	306	P	P	04 43 00.0	+1.5
	comp=N,18nm,0.3s,baz=124,slow=5.6,SNR=140						
LVC				S	S	04 43 32.4	+0.6
	comp=N,9.5nm,0.3s,baz=278,slow=24,SNR=21						
LVC	Limon Verde	2.32	306	⇑iP	P	04 43 00.0	+1.5
LVC				iS	S	04 43 32.4	+0.7
LVC				AMP		04 43 33.8	
	comp=E,94nm,0.5s						
LVC	Limon Verde	2.32	306	⇑iP	P	04 42 60.0	+1.5
LVC				eS	S	04 43 31.0	-0.8
LVC				S	S	04 43 32.4	+0.6
ANCH	Antofagasta	3.26	275	⇑iP	P	04 43 10.1	+1.0
ANCH				iS	S	04 43 49.9	-0.8
CPN1	Cerro Paranal	3.29	258	eP	P	04 43 10.6	+1.1
CPN1				iS	S	04 43 50.2	-1.2
CRCH	Chaqaral	4.13	235	⇑iP	P	04 43 20.0	+0.2
CRCH				iS	S	04 44 07.7	-2.0
CFAA	Coronel Fontan	7.68	189	P	P	04 44 05.6	+0.2
	comp=E,0.1nm,0.3s,baz=14,slow=10,SNR=17						
LPAZ	La Paz	7.75	351	P	P	04 44 06.5	+0.2
	comp=E,0.1nm,0.3s,baz=133,slow=6.1,SNR=4.9						
LPAZ				S	S	04 45 31.8	-1.1
	comp=E,0.1nm,0.3s,baz=220,slow=7.9,SNR=2.2						
CPUP	Villa Florida	8.95	107	P	P	04 44 21.4	-0.5
	comp=E,0.1nm,0.3s,baz=289,slow=14,SNR=3.6						
SIV	San Ignacio	9.64	35	P	P	04 44 28.9	-2.0
	comp=E,0.2nm,0.3s,baz=210,slow=12,SNR=10						
SAML	Samuel	15.37	14	P	P	04 45 42.3	-0.7
BDFB	Brasilia	19.57	68	P	P	04 46 29.1	-0.1
	comp=E,0.6nm,0.3s,baz=246,slow=11,SNR=12						
BAO	Brasilia Array	19.59	68	P	P	04 46 30.0	+0.5
YKA	Yellowknife Ar	94.16	340	P	P	04 55 11.9	+1.1
	comp=E,0.3nm,0.6s,mb3.5,baz=132,slow=4.5,SNR=4.5						
YKA	Yellowknife Ar	94.16	340	P	P	04 55 11.9	+1.1
WRA	Warramunga Arr	131.69	207	PKP	PKPdf	05 01 06.2	+2.0
	comp=E,0.1nm,0.3s,baz=153,slow=2.0,SNR=7.5						
MKAR	Makanchi Array	146.44	40	PKPbc	PKPbc	05 01 35.0	+3.7
	comp=E,0.5nm,0.6s,baz=306,slow=4.5,SNR=5.6						

IDC 04 04:47:04.8±5.5, 19.98S×177.07W, h427^{km}±52^{km}, mb3.8/3, mb1 3.8/4, mb1mx3.2/15, mbtmp4.5/4, Error ellipse: s-maj=50.6km s-min=22.3km az=80.0

NEIC 04 04:47:11.6±1.5, 20.29S×177.22W, h500^{km}, mb4.2/4, Error ellipse: s-maj=32.5km s-min=25.5km az=52.0

ISC 04 04:47:00.3±5.3, 19.8S±0.2×177.2W±0.3, h383^{km}±54^{km}, n14, σ0^{s}61/13, mb4.0/5, 3C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	19.08	194	P	P	04 50 56.9	-0.1
	0.7nm,0.3s,baz=328,slow=9.8,SNR=5.7						
URZ				S	S	04 54 08.5	0.0
	0.4nm,0.3s,baz=73,slow=19,SNR=3.7						
CTA	Charters Tower	34.33	263	⇓iP	P	04 53 15.7	+1.7
	6.3nm,0.5s,mb4.2						
CTA	Charters Tower	34.33	263	P	P	04 53 15.4	+1.4
	8.6nm,0.5s,mb4.3,baz=98,slow=10,SNR=25						
CTAO	Charters Tower	34.33	263	⇓eP	P	04 53 15.5	+1.5
	8.3nm,0.8s,mb4.1						
STKA	Stephens Creek	38.79	243	⇓iP	P	04 53 51.1	+0.1
	1.7nm,0.6s,mb3.5						
STKA	Stephens Creek	38.79	243	P	P	04 53 51.0	0.0
	2.1nm,0.6s,mb3.7,baz=90,slow=8.2,SNR=9.9						
WB2	Warramunga Arr	45.45	261	⇓iP	P	04 54 44.3	-0.3
WRA	Warramunga Arr	45.46	261	P	P	04 54 43.8	-0.9
	4.6nm,0.3s,mb4.3,baz=97,slow=7.6,SNR=309						
KAKA	Kakadu	48.73	270	⇑iP	P	04 55 27.3	+17
	4.2nm,0.3s,mb4.2						
FITZ	Fitzroy Crossi	53.88	262	eP	P	04 55 47.5	-0.4
	2.9nm,0.4s,mb3.9						
VNA3	Neumayer Olymp	88.81	176	⇑i	P	04 59 12.1	0.0
VNA2	Neumayer--Watz	89.26	177	⇑i	P	04 59 14.5	+0.3
AKASG	Malin Array Be	142.74	332	PKP	PKPdf	05 05 48.2	0.0
	0.7nm,0.4s,baz=38,slow=3.6,SNR=4.9						
AKASG	Malin Array Be	142.74	332	PKP	PKPdf	05 05 48.2	0.0

MOS 04 05:08:57.8±0.9, 40.52N×32.84E, h10^{km}, mb4.1/5, Error ellipse: s-maj=12.6km s-min=7.1km az=122.5

ISK 04 05:08:58.5, 40.57N×33.02E, h8^{km}, MD4.0, ML4.0

IDC 04 05:08:58.9±0.8, 40.60N×33.25E, mb3.7/4, mb1 3.8/8, mb1mx3.6/22, mbtmp3.7/8, ML3.6/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/35, Error ellipse: s-maj=22.2km s-min=7.3km az=66.0

NEIC 04 05:08:59.1±0.4, 40.57N×33.00E, h10^{km}, mb3.9/9, ML4.0(ISK), Error ellipse: s-maj=8.9km s-min=5.6km az=55.0

CSEM 04 05:09:00.4±0.0, 40.59N×33.00E, h40^{km}, mb4.2/6, Error ellipse: s-maj=1.6km s-min=1.0km az=27.0

ISC 04 05:08:57.7±0.5, 40.64N±0.02×32.98E±0.02, h5^{km}±4^{km}, n107, σ1^{s}20/132, mb3.9/8, MS3.0/1, 5C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELDT	Eldivan	0.37	113	iP	Pg	05 09 04.4	-0.7
CANT	Cankiri	0.49	93	iPG	Pg	05 09 08.2	+0.7
SAFT	Safranbolu	0.64	340	iPG	Pg	05 09 12.7	+2.1
SGKT	Sivrigoynuk	0.71	265	iP	Pg	05 09 12.4	+0.5
LOD	Lodumlu	0.76	193	iPG	Pg	05 09 12.3	-0.7
LOD				iSG	Sg	05 09 23.3	+0.1
ANTO	Ankara	0.78	191	iPG	Pg	05 09 12.3	-1.0
TOS	Tosya	0.89	63	iPG	Pg	05 09 15.6	+0.1
BALT	Daday	0.95	19	iP	Pb	05 09 17.1	+0.8
BALT				iS	Sb	05 09 27.4	-1.6
BR131	Keskin Array S	1.04	151	⇑eP	Pb	05 09 17.1	-0.8
BR131				eS	Sb	05 09 29.9	-1.7
BR131	Keskin Array S	1.04	151	⇑eP	Pb	05 09 17.1	-0.7
BR131				eS	Sb	05 09 29.9	-1.7
BRTR	Keskin Array B	1.04	151	Pg	Pg	05 09 16.1	-2.4
	205nm,0.3s,baz=324,slow=15,SNR=1487						
BRTR				Lg		05 09 30.5	
	423nm,0.3s,baz=326,slow=22,SNR=38						
BRTR	Keskin Array B	1.04	151	Pg	Pg	05 09 16.1	-2.4
BRTR				S	Sb	05 09 30.5	-1.1
CORM	Corum	1.34	109	iPN	Pn	05 09 23.6	+0.5
CORM				iSN	Sn	05 09 41.2	-0.3
MDU	Mudurnu	1.36	263	iPN	Pn	05 09 25.2	+1.8
MDU				iSN	Sn	05 09 43.8	+1.8
CTKT	Corum	1.38	90	iP	Pb	05 09 22.8	-0.8
CTKT				iS	Sb	05 09 40.2	-1.2
KAMT	Kaman	1.38	156	iPN	Pn	05 09 23.3	-0.5
BYBT	Boyabat	1.59	58	iPN	Pn	05 09 27.9	+1.2
HENT	Hendek	1.59	277	iP	Pn	05 09 28.1	+1.3
HENT				iS	Sb	05 09 44.7	-3.0
BOYT	Boyabat	1.65	61	iP	Pn	05 09 27.7	+0.1
BOYT				iS	Sb	05 09 50.1	+0.7
KIZT	Kizilcal	1.95	206	iPN	Pn	05 09 32.0	+0.2
ESKT	Eskisehir	1.98	236	iP	Pn	05 09 31.9	-0.3
ESKT				iS	Sn	05 09 57.3	-0.4
ESKT	Eskisehir	1.98	236	iPn	Pn	05 09 33.0	+0.7
YOZ	Yozgat	2.05	118	iPN	Pn	05 09 33.9	+0.6
GPA	Golpazari	2.07	261	iPN	Pn	05 09 35.3	+1.7
BORA	Eskisehir	2.08	250	iP	Pn	05 09 35.7	+2.0
KDHN	Kadinhani	2.21	198	iP	Pn	05 09 34.7	-1.0
KDHN				iS	Sn	05 10 08.8	+5.1
AVNT	Avonos	2.35	141	iP	Pn	05 09 38.5	+0.9
AVNT				iS	Sn	05 10 11.2	+4.0
KVT	Kavak	2.37	78	PN	Pn	05 09 39.2	+1.3
HRT	Hereke	2.52	275	PN	Pn	05 09 41.4	+1.3
ALT	Altintas	2.71	235	PN	Pn	05 09 43.8	+1.0
KONT	Konya--Tatoy	2.73	190	PN	Pn	05 09 43.1	+0.1
TOKT	Tokat	2.74	95	PN	Pn	05 09 43.1	0.0
YLV	Yalova	2.75	270	PN	Pn	05 09 44.2	+0.9
NIG	Nigde	2.82	153	PN	Pn	05 09 44.4	+0.1
BNN	Bunyan	2.84	128	PN	Pn	05 09 44.4	-0.2
ULDT	Uludag	2.98	262	iP	Pn	05 09 46.6	0.0
ULDT				iS	Sg	05 10 36.3	-0.5
ISK	Istanbul-Kandi	3.01	280	PN	Pn	05 09 47.9	+0.9
GDZ	Gediz	3.10	241	iP	Pn	05 09 48.9	+0.5
GDZ				iS	Sg	05 10 38.7	-2.4
SVSK	Karacayir	3.16	102	PN	Pn	05 09 49.7	+0.6
SVST	Sivas	3.16	105	iP	Pn	05 09 51.4	+2.2
SVST				iS	Sg	05 10 38.0	-5.0
ORLT	Orhaneli	3.18	261	PN	Pn	05 09 50.3	+0.9
TKTP	Tekketepe	3.31	219	iP	Pn	05 09 50.5	-0.8
TKTP				iS	Sg	05 10 49.8	+1.8
ISP	Isparta	3.38	215	PN	Pn	05 09 52.6	+0.3
ISP	Isparta	3.38	215	eP	Pn	05 09 52.2	-0.1
DST	Dursunbey	3.49	254	ePN	Pn	05 09 55.7	+1.8
KHL	Karahalli	3.53	230	PN	Pn	05 09 55.6	+1.1
HDMB	Hadim	3.69	186	ePN	Pn	05 09 56.9	+0.3
KARA	Karaisali	3.74	154	ePN	Pn	05 09 56.9	-0.4
KOZT	Kozan	3.85	144	ePN	Pn	05 09 58.9	-0.1
BTOK	Tokmak	3.89	259	iP	Pg	05 10 12.1	-3.3
BTOK				iS	Sg	05 11 03.9	-3.3
MERS	Mersin	3.95	162	ePN	Pn	05 10 00.5	+0.1
MANT	Manisa	4.03	239	iP	Pn	05 10 02.0	+0.4
MANT				iS	Pb	05 10 10.4	+1.3
BALB	Balikesir	4.03	257	ePN	Pn	05 10 01.8	+0.2
MEST	Erdemli	4.14	167	iP	Pn	05 10 04.9	+1.8
MEST				iS	Px	05 10 07.5	
CEYT	Ceyhan	4.21	148	ePN	Pn	05 10 03.8	-0.3
SIM	Simferopol'	4.39	11	eP	Pn	05 10 08.0	+1.3
	28nm,0.9s						
SIM				eS	Sn	05 10 59.0	+0.1
	130nm,16.1s						
SIM	Simferopol'	4.39	11	eP	Pn	05 10 08.0	+1.3
SIM				eS	Sn	05 10 59.0	+0.1
SIM				pmax	pmax		
	comp=Z,28nm,0.9s						
SIM				MLR	MLR		
	comp=Z,130nm,16.1s						
MALT	Malatya	4.81	117	ePn	Pn	05 10 12.5	-0.1
MALT				ePg	Pg	05 10 25.8	-8.0
MALT				S	Sb	05 11 26.9	+5.9
GZT	Gaziantep	4.84	131	iP	Pn	05 10 13.5	+0.5
IZM	Izmir	4.95	245	ePN	Pn	05 10 15.1	+0.5
GUMT	Gumushane	4.96	90	ePN	Pn	05 10 14.9	+0.3
HTY	Hatay	5.14	150	ePN	Pn	05 10 17.6	+0.3
CFR	Carcaliu	5.77	324	⇓iP	Pn	05 10 31.2	+5.1
CFR	Carcaliu	5.77	324	⇑iP	Pn	05 10 31.2	+5.1
MLR	Muntele Rosu	7.08	316	Pn	Pn	05 10 47.3	+2.8
	comp=Z,0.3nm,0.3s,baz=148,slow=23,SNR=3.3						
MLR				Sn	Sn	05 12 09.8	+3.5
	comp=Z,0.3nm,0.3s,baz=341,slow=14,SNR=2.4						
MLR				LR	LR	05 14 23.0	
	comp=Z,68nm,19.3s,baz=305,slow=45						
MLR	Muntele Rosu	7.08	316	⇓iP	Pb	05 10 55.7	-5.4
VOIR		7.53	312	⇓iP	Pn	05 10 59.6	+8.6
KIV	Kislovodsk	7.92	62	eP	Pb	05 11 14.3	-1.3
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s						
IDI	Anoyia	8.32	233	Pn	P	05 11 02.1	+0.1
	comp=Z,0.5nm,0.3s,baz=45,slow=11,SNR=2.1						
BURAR	Bucovina Array	8.93	324	⇑iP	P	05 11 10.6	+0.2
BURAR	Bucovina Array	8.93	324	⇑iP	P	05 11 10.6	+0.2
AKASG	Malin Array Be	10.40	347	Pn	P	05 11 27.6	-3.0
	comp=Z,2.5nm,0.3s,baz=165,slow=12,SNR=7.9						
AKASG				Sn	S	05 13 23.3	-5.4
	comp=Z,1.0nm,0.3s,baz=158,slow=24,SNR=3.7						
VRAC	Vranov	14.46	312	LR	LR	05 18 05.2	
	comp=Z,34nm,18.9s,baz=301,slow=37						
OBN	Obninsk	14.68	8	eP	P	05 12 30.4	+2.6
OBN				eS	S	05 15 19.1	+7.1
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GERES	GERESS Array B	15.94	307	Pn	P	05 12 47.8	+3.6
	comp=Z,0.1nm,0.3s,baz=111,slow=11,SNR=9.3						
MBDF	Montbardon	19.66	291	eP	P	05 13 28.8	-1.4
LPG	La Plagne	19.73	293	eP	P	05 13 30.0	-1.0
	comp=Z,11nm,1.3s						
LPG	La Plagne	19.73	293	eP	P	05 13 30.0	-1.0
LPG				pmax	pmax		
	comp=Z,6.0nm,1.3s						
FRF	La Foret Royal	19.73	287	eP	P	05 13 29.3	-1.7
LPL	La Plagne	19.75	293	eP	P	05 13 29.8	-1.3
	comp=Z,5.4nm,0.8s						
LPL	La Plagne	19.75	293	eP	P	05 13 29.8	-1.3
LPL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CDF	Champ du Feu	19.84	302	eP	P	05 13 30.9	-1.3
	comp=Z,9.3nm,1.0s						
CDF	Champ du Feu	19.84	302	eP	P	05 13 30.9	-1.3
CDF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HINF	Hinteralfeld	19.99	300	eP	P	05 13 32.5	-1.3
CABF	La Chapelle	20.31	296	eP	P	05 13 35.3	-1.9
	comp=Z,35nm,1.4s						
CABF	La Chapelle	20.31	296	eP	P	05 13 35.3	-1.9
CABF				pmax	pmax		
	comp=Z,18nm,1.4s						
HAU	Haudompre	20.36	300	eP	P	05 13 35.9	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES	FINESS Array B	21.26	351	P	P	05 13 46.6	-0.3
	comp=Z,1.4nm,0.6s,mb3.5,baz=153,slow=10,SNR=8.5						
MEZF	Maizieres J'vi	21.31	301	*e*P	P	05 13 46.5	-0.9
KAF	Kangasniemi	21.89	352	*e*p	P	05 13 52.6	-0.6
	comp=Z,5.9nm,0.8s,mb4.1,baz=136,slow=5.3						
KAF	Kangasniemi	21.89	352	*e*P	P	05 13 52.6	-0.6
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
LOR	Lormes	21.91	297	*e*P	P	05 13 52.1	-1.4
	comp=Z,8.7nm,0.9s,mb3.9						
LOR	Lormes	21.91	297	*e*P	P	05 13 52.1	-1.4
LOR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
SSF	Saint Saulge	22.12	297	*e*P	P	05 13 54.2	-1.4
BAIF	Baives	22.19	305	*e*P	P	05 13 55.2	-1.1
JOF	Joensuu	22.34	358	*e*p	P	05 13 56.2	-1.5
HFS	Hagfors	22.91	335	P	P	05 14 04.9	+1.7
	comp=Z,3.9nm,0.8s,mb3.9,baz=153,slow=13,SNR=7.4						
HFS				LR	LR	05 25 23.5	
	comp=Z,56nm,19.4s,MS3.0,baz=25,slow=43						
TCF	Toulx Ste Croi	22.95	295	*e*P	P	05 14 02.5	-1.3
NB2	NORSAR Subarra	24.40	334	P	P	05 14 18.7	+1.0
	comp=Z,2.8nm,0.9s,mb3.7,baz=137,slow=10						
NB2	NORSAR Subarra	24.40	334	P	P	05 14 18.7	+1.0
	comp=Z,2.8nm,0.9s,mb3.7						
NB2	NORSAR Subarra	24.40	334	P	P	05 14 18.7	+1.0
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
NOA	NORSAR Array B	24.40	334	P	P	05 14 18.2	+0.5
	comp=Z,1.8nm,0.8s,mb3.6,baz=135,slow=11,SNR=5.6						
ETSF	Etsaut	25.03	286	*e*P	P	05 14 22.3	-1.6
	comp=Z,10nm,1.1s,mb4.0						
ETSF	Etsaut	25.03	286	*e*P	P	05 14 22.3	-1.6
ETSF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
SGMF	Saint Gilles	26.31	299	*e*P	P	05 14 34.7	-1.1
	comp=Z,65nm,1.4s,mb4.7						
SGMF	Saint Gilles	26.31	299	*e*P	P	05 14 34.7	-1.1
SGMF				pmax	pmax		
	comp=Z,33nm,1.4s,mb4.7						
MKAR	Makanchi Array	35.68	63	P	P	05 15 58.9	+0.2
	comp=Z,0.6nm,0.8s,mb3.6,baz=259,slow=6.2,SNR=4.7						

*CSEM **04** 05:12:18.4±0.1, 37.79N×25.44W, h2^{km}, ML2.5, Error ellipse: s-maj=6.5km s-min=2.9km az=17.0, After PDA*
*PDA **04** 05:12:18.4±0.5, 37.79N×25.44W, h2^{km}, MD1.7, ML2.5, Error ellipse: s-maj=0.9km s-min=0.6km az=51.0*
SVSA 04 05:12:18.4±0.5**, 37.79N×25.44W, h2**^{km}**, MD1.7, ML2.5, Error ellipse: s-maj=0.9km s-min=0.6km az=51.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESC	Monte Escuro	0.01	305	*i* P	Pg	05 12 19.3	+0.5
MESC				*e*S	Sg	05 12 20.4	+1.3
MESC	Monte Escuro	0.01	305	*e*S	Sg	05 12 20.4	+1.3
PMAT	Coroa da Mata	0.04	317	*e*P	Pg	05 12 19.6	+0.4
PMAT				*e*S	Sg	05 12 20.5	+0.7
LFA	Lagoa do Fogo	0.04	243	*i* P	Pg	05 12 19.8	+0.5
PCNG	Congro	0.04	123	*i* P	Pg	05 12 19.8	+0.5
PCNG				*e*S	Sg	05 12 21.2	+1.3
	3µm,0.2s						
PCNG	Congro	0.04	123	*e*S	Sg	05 12 21.2	+1.3
VIF	Vila Franca	0.04	180	*i* P	Pg	05 12 19.9	+0.5
VIF				*e*S	Sg	05 12 21.4	+1.4
	2µm,0.1s						
VIF	Vila Franca	0.04	180	*e*S	Sg	05 12 21.4	+1.4
PRCH	Ribeira Ch	0.07	207	*i* P	Pg	05 12 20.3	+0.5
PRCH				*e*S	Sg	05 12 21.9	+1.1
	2µm,0.4s						
PRCH	Ribeira Ch	0.07	207	*e*S	Sg	05 12 21.9	+1.1
CMLA	Cha da Macela	0.07	249	*e*P	Pg	05 12 20.5	+0.6
CMLA				*e*S	Sg	05 12 21.9	+1.0
FRA1	Furnas	0.08	125	*i* P	Pg	05 12 20.7	+0.6
CML	Cha da Macela	0.09	257	*i* P	Pg	05 12 20.7	+0.5
PFAD	Fenais da Ajud	0.10	62	*i* P	Pg	05 12 21.2	+0.7
MIRA	Miradouro	0.13	92	*e*P	Pg	05 12 21.7	+0.7
FAC	Faja de Cima	0.17	264	*e*P	Pg	05 12 22.6	+0.8
PDA	Ponta Delgada	0.18	256	*e*S	Sg	05 12 27.0	+2.5
PSAN	Santo Antonio	0.23	285	*e*P	Pg	05 12 23.8	+0.7
PFET	Feteiras	0.28	276	*e*P	Pg	05 12 24.4	+0.4
SET2	Ginetes	0.29	281	*e*P	Pg	05 12 24.9	+0.6
SET4	Mosteiros	0.30	287	*e*P	Pg	05 12 24.9	+0.6
PSMN	Pico do Norte,	0.84	159	*e*P	Pg	05 12 32.8	-2.4
PSMN				*e*S	Sg	05 12 43.7	-2.7

*IDC **04** 05:15:20.3±0.6, 55.75S×123.36W, mb4.1/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.1/9, MS4.0/9, Ms1 4.0/9, ms1mx3.8/22, Error ellipse: s-maj=28.0km s-min=17.6km az=153.0*
*NEIC **04** 05:15:22.4±0.4, 55.74S×123.43W, h10^{km}, mb4.4/3, Error ellipse: s-maj=16.4km s-min=12.6km az=147.0*
ISC 04 05:15:20.3±0.5**, 55.7S**±0.1×**123.3W**±0.2**, h10**^{km}**, (h7**^{km}±.4^{km}**:pP-P), n58, σ1**^{s}**07**/29**, mb4.2**/10**, MS4.1**/9**, 3C-1D, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
USHA	Ushuaia	30.59	112	LR	LR	05 29 56.9	
	comp=Z,460nm,21.7s,MS4.1,baz=293,slow=29						
VNDA	Vanda	33.16	203	P	P	05 21 58.9	+0.5
	1.3nm,1.0s,mb3.8,baz=75,slow=11,SNR=4.4						
TBI	Tubuai	37.65	319	*e*LR	LR	05 32 26.3	
	548nm,30.5s,baz=158						
URZ	Urewera	42.76	268	LR	LR	05 36 33.5	
	comp=Z,218nm,21.8s,MS4.0,baz=238,slow=30						
PPT	Papeete	43.00	322	*e*S	S	05 29 46.0	-0.4
PPT				*e*LQ		05 33 10.9	
PPT				*e*LR	LR	05 34 55.4	
	493nm,26.2s,baz=162						
VNA3	Neumayer Olymp	45.02	155	*e*	P	05 23 39.3	+2.3
VNA3	Neumayer Olymp	45.02	155	*e*	P	05 23 50.6	+14
VNA3	Neumayer Olymp	45.02	155	⇑*i*P	P	05 23 37.2	+0.2
VNA3				*e*	pP	05 23 39.3	-0.7
VNA3				*e*		05 23 50.6	
CFAA	Coronel Fontan	45.07	81	P	P	05 23 37.4	-0.6
	0.2nm,1.0s,baz=249,slow=11,SNR=2.9						
VNA1	Neumayer--Stat	45.76	155	*e*	P	05 23 46.8	+3.9
VNA1	Neumayer--Stat	45.76	155	*e*	P	05 23 58.4	+15
VNA1	Neumayer--Stat	45.76	155	P	P	05 23 44.2	+1.3
VNA1				*e*	pP	05 23 46.8	+0.9
VNA1				*e*		05 23 58.4	
VNA2	Neumayer--Watz	45.77	156	*e*	P	05 23 45.7	+2.7
VNA2	Neumayer--Watz	45.77	156	*e*	P	05 23 58.0	+15
VNA2	Neumayer--Watz	45.77	156	⇑*i*P	P	05 23 43.5	+0.5
VNA2				*e*	pP	05 23 45.7	-0.3
VNA2				*e*		05 23 58.0	
SNAA	Sanae	46.25	158	*e*	P	05 23 48.7	+1.9
SNAA	Sanae	46.25	158	*e*	P	05 23 59.8	+13
SNAA	Sanae	46.25	158	P	P	05 23 46.4	-0.4
	1.0nm,0.9s,mb3.7,baz=231,slow=7.5,SNR=9.1						
SNAA	Sanae	46.25	158	⇑*i*P	P	05 23 46.7	-0.1
SNAA				*e*	pP	05 23 48.7	-1.1
SNAA				*e*		05 23 59.8	
TAOE	Nuku Hiva Isla	48.61	338	*e*LR	LR	05 37 39.0	
	1µm,29.2s						
LVC	Limon Verde	51.73	73	P	P	05 24 31.0	+1.2
	2.5nm,0.8s,mb4.2,baz=348,slow=3.7,SNR=3.6						
SYO	Syowa Base	54.94	173	⇓P	P	05 24 50.6	-2.3
CPUP	Villa Florida	55.23	86	P	P	05 24 54.3	-1.4
	3.5nm,1.0s,mb4.3,baz=153,slow=2.3,SNR=4.6						
CPUP				LR	LR	05 44 16.6	
	comp=Z,81nm,18.0s,MS3.8,baz=67,slow=31						
CPUP	Villa Florida	55.23	86	*e*P	P	05 24 54.1	-1.6
	4.9nm,1.1s,mb4.5						
CPUP				LR	LR	05 44 16.6	
AFI	Afiamalu	55.85	299	LR	LR	05 45 06.2	
	comp=Z,71nm,18.3s,MS3.8,baz=169,slow=32						
MAW	Mawson	56.89	183	P	P	05 25 06.2	-0.8
	3.1nm,1.0s,mb4.3,baz=192,slow=11,SNR=5.6						
MAW				LR	LR	05 48 24.6	
	comp=Z,184nm,18.2s,MS4.2,baz=351,slow=35						
LPAZ	La Paz	57.33	70	P	P	05 25 11.1	+0.4
	2.6nm,0.9s,mb4.2,baz=195,slow=7.6,SNR=6.3						
LPAZ				LR	LR	05 43 57.9	
	comp=Z,82nm,19.5s,MS3.8,baz=251,slow=30						
LPAZ	La Paz	57.33	70	*e*P	P	05 25 11.2	+0.5
	6.3nm,1.2s,mb4.5						
LPAZ				LR	LR	05 43 57.9	
DZM	Mont Dzumac	60.95	273	LR	LR	05 46 53.1	
	comp=Z,201nm,19.7s,MS4.3,baz=207,slow=31						
SAML	Samuel	66.07	70	*e*P	P	05 26 08.4	-1.1
	1.6nm,0.7s,mb4.2						
CTA	Charters Tower	73.87	258	P	P	05 26 57.5	+0.5
	3.8nm,0.8s,mb4.4,baz=165,slow=5.8,SNR=5.9						
WB2	Warramunga Arr	80.44	249	*e*P	P	05 27 33.2	-0.3
WRA	Warramunga Arr	80.44	249	P	P	05 27 33.4	-0.1
	4.6nm,0.8s,mb4.5,baz=145,slow=4.9,SNR=45						
WRAB	Tennant Creek	80.45	249	*e*P	P	05 27 33.4	-0.2
WRAB				*e*		05 27 41.7	
PMG	Port Moresby	82.03	265	LR	LR	05 57 59.7	
	comp=Z,92nm,19.9s,MS4.1,baz=177,slow=31						
TXAR	Lajitas Array	86.38	17	P	P	05 28 05.0	+1.4
	0.4nm,0.9s,mb3.7,baz=190,slow=7.6,SNR=5.6						
BOSA	Boshof	91.81	153	LR	LR	06 04 27.5	
	comp=Z,137nm,20.2s,MS4.4,baz=48,slow=32						
ILAR	Eielson Array	121.53	348	PKP	PKPdf	05 34 14.2	-1.9
	0.6nm,1.0s,baz=180,slow=2.7,SNR=3.9						
PKI	Pulchoki	145.07	228	*e*P	PKPbc	05 34 58.9	+1.1
	34nm,1.2s						
DMN	Daman	145.24	228	*e*P	PKPbc	05 34 59.2	+1.0
	43nm,0.9s						
KKN	Kakani	145.32	228	*e*P	PKPbc	05 34 59.9	+1.5
	35nm,1.0s						
GKN	Gorkha	145.78	228	*e*P	PKPbc	05 35 00.7	+1.2
	31nm,1.1s						
SMRF	Simiane la Rot	145.80	88	*e*PKIKP	PKPdf	05 35 01.0	-0.2
	8.4nm,1.0s						
LMR	La Mourre	145.93	90	*e*PKIKP	PKPdf	05 35 01.6	+0.1
KOLN	Koldanda	146.00	226	*e*P	PKPbc	05 35 01.5	+1.4
	21nm,1.1s						
AVF	Avril sur Loir	146.24	83	*e*PKIKP	PKPdf	05 35 02.0	+0.1
SMF	Signal de Mont	146.43	83	*e*PKIKP	PKPdf	05 35 02.4	+0.2
	14nm,1.1s						
ORIF	Oris-en-Rattie	146.55	87	*e*PKIKP	PKPdf	05 35 03.3	+0.8
LOR	Lormes	146.80	82	*e*PKIKP	PKPdf	05 35 02.8	0.0
	19nm,1.1s						
PGF	Pioggiola	146.84	93	*e*PKIKP	PKPdf	05 35 03.2	+0.1
	12nm,1.1s						
MBDF	Montbardon	146.94	88	*e*PKIKP	PKPdf	05 35 04.2	+1.0
EKA	Eskdalemuir Ar	147.06	65	PKPbc	PKPdf	05 35 02.1	-0.9
	1.4nm,0.7s,baz=243,slow=1.9,SNR=4.9						
LPG	La Plagne	147.39	87	*e*PKIKP	PKPdf	05 35 05.0	+1.1
LPL	La Plagne	147.39	87	*e*PKIKP	PKPdf	05 35 04.6	+0.7
SONM	Songino Array	148.84	277	PKPbc	PKPdf	05 35 08.5	+2.4
	1.0nm,0.8s,baz=135,slow=2.0,SNR=3.1						
GERES	GERESS Array B	153.19	87	PKPbc	PKPdf	05 35 18.9	+6.3
	0.9nm,0.8s,baz=180,slow=2.7,SNR=8.8						
MKAR	Makanchi Array	161.73	251	PKPab	PKPab	05 36 05.5	-2.4
	0.4nm,0.7s,baz=153,slow=2.7,SNR=3.8						
MKAR	Makanchi Array	161.73	251	PKPab	PKPab	05 36 05.5	-2.4

*IDC **04** 05:24:38.6±0.6, 30.26S×177.81W, mb4.5/10, mb1 4.6/13, mb1mx4.5/18, mbtmp4.4/13, ML3.6/3, MS3.8/14, Ms1 3.8/14, ms1mx3.7/28, Error ellipse: s-maj=19.4km s-min=14.4km az=103.0*
*BJI **04** 05:24:40.6, 30.30S×177.90W, h10^{km}, mB5.6, mb4.9, Msz4.5*
*NEIC **04** 05:24:40.6±0.4, 30.33S×177.91W, h10^{km}, mb5.0/8, MS4.1/1, Error ellipse: s-maj=13.2km s-min=7.6km az=99.0*
ISC 04 05:24:38.6±2.1**, 30.49S**±0.04×**178.00W**±0.10**, h4**^{km}±13^{km}**, n96, σ1**^{s}**21**/66**, mb4.7**/15**, MS3.9**/13**, 5C-3D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.23	3	Pn	Pn	05 25 00.2	-2.3
	620nm,0.3s,baz=267,slow=23,SNR=28						
RAO				Sn	Sn	05 25 14.1	-5.7
	4µm,0.3s,baz=91,slow=21,SNR=27						
RAO				LR	LR	05 25 23.7	
	comp=Z,2µm,18.3s,baz=333,slow=44						
RAO	Raoul Island	1.23	3	*e*P	Pb	05 25 01.6	-0.4
RAO				*e*S	Sb	05 25 13.5	-4.6
MXZ	Matakaoa Point	7.70	202	*e*PN	Pn	05 26 34.0	-0.1
MXZ				SN	Sn	05 28 00.8	-1.9
MXZ	Matakaoa Point	7.70	202	*e*P	Pn	05 26 34.7	+0.6
PUZ	Puketiti	8.18	201	PN	P	05 26 40.3	-0.5
PUZ				SN	Sn	05 28 11.5	-3.2
PUZ	Puketiti	8.18	201	P	P	05 26 40.8	0.0
WCZ	Waipu Caves	8.41	228	*e*PN	P	05 26 53.9	+10
WCZ	Waipu Caves	8.41	228	*e*P	P	05 26 53.9	+10
MWZ	Matawai	8.66	204	*e*PN	P	05 26 46.3	-1.2
MWZ				SN	Sn	05 28 27.0	+0.3
MWZ	Matawai	8.66	204	*e*P	P	05 26 47.7	+0.2
URZ	Urewera	8.74	206	Pn	P	05 26 48.0	-0.7
	0.9nm,0.3s,baz=59,slow=23,SNR=16						
URZ				Sn	Sn	05 28 28.2	-0.6
	19nm,0.3s,baz=225,slow=23,SNR=24						
URZ	Urewera	8.74	206	*e*PN	P	05 26 47.9	-0.9
URZ				SN	Sn	05 28 29.1	+0.2
URZ	Urewera	8.74	206	*e*P	P	05 26 48.5	-0.2
KNZ	Kokohu	9.23	202	PN	P	05 26 54.7	-0.7
KNZ				SN	Sn	05 28 35.9	-4.9
KNZ	Kokohu	9.23	202	P	P	05 26 54.7	-0.7
BFZ	Birch Farm	11.20	203	SN	S	05 29 22.9	-6.3
MRZ	Mangatainoka R	11.42	205	SN	S	05 29 25.4	-9.2
SNZO	South Karori	12.31	207	*e*Sn	S	05 29 49.9	-6.4
	59nm,0.7s						
THZ	Tophouse	13.43	211	PN	P	05 27 53.5	+1.0
THZ	Tophouse	13.43	211	P	P	05 27 53.5	+1.0
MQZ	McQueen's Vall	15.14	207	SN	S	05 30 50.3	-14
RPZ	Rata Peaks	15.81	210	Pn	P	05 28 24.7	+1.1
	0.5nm,0.3s,baz=346,slow=8.3,SNR=2.3						
RPZ				Sn	S	05 31 08.1	-12
	1.9nm,0.3s,baz=163,slow=21,SNR=3.6						
DZM	Mont Dzumac	16.27	297	Pn	P	05 28 29.5	0.0
	0.1nm,0.3s,baz=342,slow=20,SNR=1.9						
DZM				LR	LR	05 33 31.2	
	comp=Z,410nm,20.9s,baz=209,slow=33						
AFI	Afiamalu	17.47	21	LR	LR	05 34 08.6	
	comp=Z,142nm,20.2s,baz=156,slow=33						
TBI	Tubuai	26.37	81	*e*LR	LR	05 36 31.7	
	527nm,27.5s,baz=246						
PPT	Papeete	28.88	70	*e*LR	LR	05 37 38.0	
	534nm,27.0s,baz=240						
CTA	Charters Tower	33.81	279	⇑*i*P	P	05 31 25.5	+1.5
	10nm,1.0s,mb4.7						
CTA	Charters Tower	33.81	279	P	P	05 31 24.7	+0.7
	9.3nm,0.6s,mb4.9,baz=104,slow=11,SNR=19						
CTA				LR	LR	05 43 19.9	
	comp=Z,280nm,21.0s,MS4.0,baz=98,slow=33						
CTAO	Charters Tower	33.81	279	*e*P	P	05 31 24.7	+0.7
	14nm,0.9s,mb4.9						
CTAO				LR	LR		
	comp=Z,353nm,20.0s,MS4.1						
STKA	Stephens Creek	34.46	257	⇓*i*P	P	05 31 31.7	+2.2
	comp=Z,19nm,0.7s,mb5.1						
STKA	Stephens Creek	34.46	257	P	P	05 31 31.1	+1.7
	comp=Z,24nm,0.8s,mb5.2,baz=90,slow=9.3,SNR=43						
STKA				LR	LR	05 43 52.7	
	comp=Z,282nm,19.6s,MS4.0,baz=293,slow=33						
PMG	Port Moresby	38.65	295	LR	LR	05 45 33.2	
	comp=Z,89nm,19.0s,MS3.6,baz=179,slow=32						
RKT	Rikitea	38.91	90	*e*LR	LR	05 42 21.5	
	comp=Z,357nm,30.5s						
TAOE	Nuku Hiva Isla	41.34	67	*e*LR	LR	05 43 23.8	
	comp=Z,1µm,31.4s						
WB2	Warramunga Arr	44.09	272	*e*P	P	05 32 49.0	-0.7
WRAB	Tennant Creek	44.10	272	*e*P	P	05 32 49.1	-0.6
	comp=Z,32nm,0.8s,mb5.1						
WRA	Warramunga Arr	44.10	272	P	P	05 32 48.9	-0.9
	comp=Z,20nm,0.8s,mb4.9,baz=110,slow=8.1,SNR=157						
SBA	Scott Base	47.95	184	*e*P	P	05 33 23.1	+3.4
	comp=Z,15nm,1.1s,mb4.9						
VNDA	Vanda	48.01	186	P	P	05 33 21.1	+1.0
	comp=Z,0.8nm,0.7s,mb3.9,baz=28,slow=6.3,SNR=4.2						
VNDA				LR	LR	05 51 08.1	
	comp=Z,38nm,18.1s,MS3.4,baz=359,slow=33						
VNDA	Vanda	48.01	186	*e*P	P	05 33 23.4	+3.3
FITZ	Fitzroy Crossi	52.36	270	P	P	05 33 53.7	-0.4
	comp=Z,9.3nm,0.7s,mb4.8,baz=173,slow=6.6,SNR=9.9						
CASY	Casey	55.06	208	*e*P	P	05 34 13.1	-0.3
	comp=Z,6.5nm,0.7s,mb4.8						
QSPA	South Pole Qui	59.62	180	*e*P	P	05 34 47.4	+1.9
	comp=Z,15nm,0.8s,mb5.1						
MAW	Mawson	72.23	201	P	P	05 36 06.8	+0.5
	comp=Z,1.9nm,0.6s,mb4.2,baz=104,slow=10,SNR=11						
MAW				LR	LR	06 06 59.5	
	comp=Z,64nm,19.8s,MS3.9,baz=86,slow=35						
SYO	Syowa Base	77.03	193	⇓P	P	05 36 32.0	-1.8
SYO	Syowa Base	77.03	193	⇓X		05 36 49.4	
SNAA	Sanae	78.07	178	⇑*i*P	P	05 36 40.4	+1.0
SNAA				*e*		05 36 56.8	
VNA3	Neumayer Olymp	78.22	176	*e*	P	05 36 47.2	+6.9
VNA3	Neumayer Olymp	78.22	176	*e*	P	05 36 56.8	+17
VNA3	Neumayer Olymp	78.22	176	⇑*i*P	P	05 36 40.8	+0.5
VNA3				*e*		05 36 47.2	
VNA3				*e*		05 36 56.8	
VNA2	Neumayer--Watz	78.65	177	*e*	P	05 36 50.6	+8.0
VNA2	Neumayer--Watz	78.65	177	*e*	P	05 37 00.0	+17
VNA2	Neumayer--Watz	78.65	177	⇑*i*P	P	05 36 43.6	+1.0
VNA2				*e*		05 36 50.6	
VNA2				*e*		05 37 00.0	
VNA1	Neumayer--Stat	78.88	177	*e*	P	05 36 51.3	+7.4
VNA1	Neumayer--Stat	78.88	177	*e*	P	05 37 01.5	+18
VNA1	Neumayer--Stat	78.88	177	⇑*i*P	P	05 36 45.2	+1.3
VNA1				*e*		05 36 51.3	
VNA1				*e*		05 37 01.5	
PLCA	Paso Flores	82.45	133	P	P	05 37 03.9	+0.5
	comp=Z,6.5nm,1.1s,mb4.5,baz=208,slow=4.3,SNR=6.1						
NVAR	Mina Array Bea	88.30	43	P	P	05 37 31.1	-1.4
	comp=Z,1.4nm,0.7s,mb4.3,baz=226,slow=10,SNR=14						
CN2	Changchun	90.21	323	*e*P	P	05 37 43.6	+2.2
ELK	Elko	91.60	43	P	P	05 37 47.2	-0.7
	comp=Z,0.3nm,0.3s,mb4.2,baz=169,slow=19,SNR=3.2						
ELK				LR	LR	06 14 44.0	
	comp=Z,68nm,19.0s,MS4.1,baz=285,slow=33						
ELK	Elko	91.60	43	P	P	05 37 47.2	-0.7
ELK				LR	LR	06 14 44.0	
TXAR	Lajitas Array	92.43	57	P	P	05 37 50.8	-1.3
	comp=Z,0.6nm,1.0s,mb3.9,baz=217,slow=6.3,SNR=4.9						
TXAR				LR	LR	06 13 16.0	
	comp=Z,50nm,18.2s,MS4.0,baz=270,slow=32						
ANMO	Albuquerque	93.63	51	LR	LR	06 09 43.0	
	comp=Z,46nm,20.9s,MS3.9,baz=156,slow=29						
KMI	Kunming	93.86	297	P	P	05 38 00.4	+1.7
KMI				AP	pP	05 38 04.8	+4.7
KMI				XP	sP	05 38 06.8	+6.3
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb5.3						
KMI				AMB	AMB		
	comp=Z,251nm,4.1s						
KMI				LR	LR		
	comp=Z,112nm,14.6s,MS4.5						
KMI	Kunming	93.86	297	P	P	05 38 00.4	+1.7
	comp=Z,7.0nm,0.6s,mb5.3						
KMI				pP	pP	05 38 04.8	+4.7
KMI				sP	sP	05 38 06.8	+6.3
KMI				LR	LR		
	comp=Z,110nm,14.6s,MS4.5						
DLBC	Dease Lake	97.20	23	LR	LR	06 14 06.0	
	comp=Z,62nm,18.9s,MS4.1,baz=30,slow=31						
ILAR	Eielson Array	98.01	13	LR	LR	06 18 43.0	
	comp=Z,51nm,18.9s,MS4.0,baz=1.8,slow=33						
LPAZ	La Paz	98.11	114	LR	LR	06 13 15.5	
	comp=Z,22nm,21.8s,MS3.6,baz=343,slow=30						
CPUP	Villa Florida	99.93	128	LR	LR	06 16 08.9	
	comp=Z,47nm,21.1s,MS4.0,baz=276,slow=31						
MKAR	Makanchi Array	117.83	310	PKP	PKPdf	05 43 24.7	-3.7
	comp=Z,0.5nm,0.7s,baz=117,slow=1.1,SNR=5.8						
BVAR	Borovoye Array	126.47	316	PKP	PKPdf	05 43 41.6	-3.3
	comp=Z,3.8nm,0.8s,baz=90,slow=1.5,SNR=8.6						
ARCES	ARCESS Array B	138.68	348	PKP	PKPdf	05 44 05.0	-2.4
	comp=Z,2.3nm,0.8s,baz=59,slow=5.3,SNR=3.3						
JOF	Joensuu	142.50	338	*e*pkp	PKPdf	05 44 08.8	-5.5
KAF	Kangasniemi	144.63	340	*e*pkp	PKPdf	05 44 11.5	-6.5
	baz=147,slow=3.1						
FINES	FINESS Array B	145.23	340	PKPbc	PKPbc	05 44 15.2	-1.9
	comp=Z,8.6nm,0.7s,baz=63,slow=4.3,SNR=30						
NB2	NORSAR Subarra	148.84	351	PKPabc	PKPdf	05 44 25.2	+0.2
	comp=Z,3.7nm,0.8s,baz=17,slow=2.6						
NB2	NORSAR Subarra	148.84	351	PKPab	PKPdf	05 44 25.2	+0.2
NOA	NORSAR Array B	148.84	351	PKP	PKPdf	05 44 21.8	-3.3
	comp=Z,1.7nm,0.9s,baz=215,slow=23,SNR=3.2						
NOA				PKPbc	PKPdf	05 44 26.2	+1.2
	comp=Z,6.5nm,0.8s,baz=16,slow=4.3,SNR=15						
MALT	Malatya	149.10	295	*e*PKPbc	PKPdf	05 44 31.0	+4.8
ASF	Jabal al Asfar	150.22	282	PKPbc	PKPdf	05 44 32.5	+4.4
	comp=Z,6.4nm,0.8s,baz=232,slow=0.7,SNR=7.7						
JMQS	Jabal Moqyreh	150.59	276	P	PKPdf	05 44 35.4	+6.6
BDAS	Al Bad'	151.16	274	P	PKPdf	05 44 36.3	+6.7
JMOS	Jabal al Moall	151.30	276	P	PKPdf	05 44 36.4	+6.5
ALWS	Ilw as Safayha	151.37	276	P	PKPdf	05 44 37.0	+7.0
AKASG	Malin Array Be	151.37	323	PKPbc	PKPdf	05 44 32.5	+3.2
	comp=Z,5.8nm,0.7s,baz=50,slow=2.2,SNR=19						
AKASG				PKPab	PKPab	05 44 43.2	-0.3
	comp=Z,1.7nm,0.6s,baz=48,slow=2.8,SNR=4.2						
TAYS	Tayyib Ism	151.39	274	P	PKPdf	05 44 36.8	+6.8
HAQS	Haql	151.44	276	P	PKPdf	05 44 37.1	+7.0
SUW	Suwalki	151.96	333	PKPdf	PKPdf	05 44 30.6	+0.6
BRTR	Keskin Array B	152.64	298	PKPbc	PKPdf	05 44 36.2	+4.8
	comp=Z,2.9nm,0.9s,baz=117,slow=2.8,SNR=8.5						
BRTR				PKPab	PKPab	05 44 48.9	-0.3
	comp=Z,1.0nm,0.8s,baz=84,slow=4.1,SNR=3.2						
CLL	Collm	157.65	342	*i* PKP2	PKPab	05 45 10.0	-0.1
KHC	Kasperske Hory	159.41	338	*e*P	PKPab	05 45 18.0	+0.3
GERES	GERESS Array B	159.62	337	PKPab	PKPab	05 45 18.0	-0.6
	comp=Z,0.8nm,0.7s,baz=18,slow=4.2,SNR=8.6						
MBDF	Montbardon	165.30	346	*e*P	PKPab	05 45 43.5	+0.1
	comp=Z,6.2nm,0.9s						
SBF	Sospel	165.97	344	*e*P	PKPab	05 45 45.5	-0.9
	comp=Z,16nm,0.8s						
FRF	La Foret Royal	166.44	345	*e*P	PKPab	05 45 48.3	-0.2
	comp=Z,7.3nm,0.9s						
LMR	La Mourre	166.68	346	*e*P	PKPab	05 45 49.6	+0.1
	comp=Z,5.0nm,0.8s						

IDC 04 05:38:52.6±1.7**, 6.96S×155.56E, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.7**/13**, mbtmp3.7**/4**, MS2.6**/1**, Ms1 2.6**/1**, ms1mx2.5**/23**, Error ellipse: s-maj=51.4km s-min=36.3km az=122.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.99	120	LR	LR	05 41 58.0	
	comp=Z,72nm,20.3s,baz=303,slow=37						
WRA	Warramunga Arr	24.30	236	P	P	05 44 12.1	-0.9
	0.7nm,0.9s,baz=59,slow=9.2,SNR=6.1						
FITZ	Fitzroy Crossi	31.18	246	P	P	05 45 13.7	-2.2
	2.1nm,0.7s,baz=55,slow=12,SNR=3.9						
SONM	Songino Array	69.61	327	P	P	05 50 04.5	-1.3
	0.4nm,0.7s,baz=135,slow=4.1,SNR=3.4						
MKAR	Makanchi Array	83.75	319	P	P	05 51 23.6	-1.5
	0.6nm,0.7s,baz=100,slow=6.2,SNR=6.3						
BDFB	Brasilia	147.60	134	PKPbc	PKPdf	05 58 39.1	0.0
	2.6nm,0.7s,baz=215,slow=4.4,SNR=4.9						

MAN 04 05:45:15.0, 16.88N×120.73E, h19^{km}**, mb3.8, ML2.6, MS2.1, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.51	196	⇑*i*P	Pb	05 45 24.1	-1.1
BCPH				*i* S	Sb	05 45 32.0	-0.1
ABRA	Dolores	0.77	359	*e*P	Pb	05 45 30.2	+0.7
ABRA				*e*S	Sb	05 45 42.9	+3.4
CVP	Callao Caves	1.33	52	*e*P	Pn	05 45 37.0	-1.8
PCPH	Palayan	1.35	165	⇓*e*P	Pn	05 45 38.9	-0.3
PCPH				*e*S	Sb	05 45 54.5	-2.0
BALP	Baler	1.39	144	*e*P	Pn	05 45 35.4	-4.3
BALP				*e*S	Sb	05 45 52.1	-5.4
SGCP	Mt. Cagua	1.85	43	*e*P	Pn	05 45 46.0	-0.3

*IDC **04** 05:48:48.0±0.7, 11.78N×125.83E, mb4.1/11, mb1 4.2/11, mb1mx4.1/19, mbtmp4.1/11, MS3.7/3, Ms1 3.8/3, ms1mx3.3/27, Error ellipse: s-maj=47.7km s-min=16.1km az=73.0*
*MAN **04** 05:48:48.4, 11.91N×126.04E, h4^{km}, mb4.8, ML3.7, MS3.7*
*NEIC **04** 05:48:49.5±0.5, 11.78N×125.85E, h10^{km}, mb4.4/4, Error ellipse: s-maj=33.4km s-min=9.9km az=73.0*
ISC 04 05:48:47.2±0.5**, 11.94N**±0.04×**126.12E**±0.04**, h4**^{km}**, n37, σ1**^{s}**04**/43**, mb4.1**/14**, MS3.8**/3**, 3C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.75	243	*e*P	Pg	05 49 01.4	-0.7
BESP				*e*S	Sg	05 49 09.0	-3.1
CNP	Catarman	1.53	292	*e*P	Pn	05 49 15.5	+0.1
CNP				*e*S	Sb	05 49 35.3	-0.1
MSLP	Maasin	2.18	215	*e*P	Pn	05 49 26.6	+1.8
MSLP				*e*S	Sn	05 49 54.8	+2.2
SCPH	Surigao	2.23	196	⇓*e*P	Pn	05 49 25.3	-0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	Virac	2.52	311	eP	Pn	05 49 29.8	+0.1
LLP	Lapu-Lapu	2.66	233	⇑eP	Pn	05 49 31.6	+0.1
LLP				eS	Sn	05 50 04.9	+0.2
BUTP	Butuan	3.00	189	eP	Pn	05 49 36.6	+0.2
TBP	Tagbilaran	3.15	225	eP	Pn	05 49 40.0	+1.4
TBP				eS	Sn	05 50 17.5	+0.4
RCP	Roxas	3.33	264	⇑eP	Pn	05 49 40.9	-0.2
RCP				eS	Sn	05 50 20.4	-1.2
GUIM	Jordan	3.70	250	eP	Pn	05 49 46.8	+0.4
GUIM				eS	Sn	05 50 31.8	+0.7
KALP	Kalibo	3.71	266	⇑eP	Pn	05 49 46.9	+0.3
SNPH	Sibulan	3.84	228	eP	Pn	05 49 47.5	-0.8
OTRP	Odiongan	4.03	276	eP	Pn	05 49 50.7	-0.4
BUKP	Musuan	4.17	195	eP	Pn	05 49 53.7	+0.6
BOAC	Boac	4.44	290	eP	Pn	05 49 57.5	+0.7
FITZ	Fitzroy Crossi	29.86	181	P	P	05 54 56.7	-1.5
	4.7nm,0.5s,mb4.4,baz=6.2,slow=17,SNR=8.3						
WRAB	Tennant Creek	32.70	166	eP	P	05 55 20.9	-2.1
	2.5nm,0.8s,mb4.2						
WRA	Warramunga Arr	32.70	166	P	P	05 55 20.6	-2.5
	0.6nm,0.5s,mb3.8,baz=346,slow=9.1,SNR=12						
SONM	Songino Array	39.41	339	P	P	05 56 20.6	+0.8
	0.6nm,0.5s,mb3.6,baz=155,slow=9.5,SNR=5.4						
STKA	Stephens Creek	46.02	162	⇓iP	P	05 57 13.8	0.0
	4.3nm,0.6s,mb4.6						
STKA	Stephens Creek	46.02	162	P	P	05 57 13.2	-0.6
	4.7nm,0.6s,mb4.6,baz=344,slow=8.2,SNR=22						
MKAR	Makanchi Array	50.62	322	P	P	05 57 49.2	-0.1
	2.7nm,0.8s,mb4.2,baz=117,slow=8.7,SNR=23						
MKAR	Makanchi Array	50.62	322	P	P	05 57 49.2	-0.1
KURK	Kurchatov	54.62	325	eP	P	05 58 19.0	-0.1
	17nm,1.3s,mb4.9						
ILAR	Eielson Array	78.01	26	P	P	06 00 49.5	+1.3
	0.2nm,0.5s,mb3.3,baz=257,slow=6.2,SNR=4.2						
JOF	Joensuu	81.65	333	ep	P	06 01 07.6	-0.1
KEV	Kevo	82.02	340	ep	P	06 01 07.7	-1.8
ARCES	ARCESS Array B	82.58	340	P	P	06 01 12.8	+0.4
	2.8nm,0.9s,mb4.3,baz=83,slow=6.2,SNR=12						
ARCES				LR	LR	06 45 35.0	
	comp=Z,50nm,18.1s,MS3.9,baz=41,slow=41						
INK	Inuvik	82.79	22	P	P	06 01 15.2	+1.6
	0.9nm,0.7s,mb3.9,baz=316,slow=10,SNR=4.2						
INK	Inuvik	82.79	22	eP	P	06 01 15.4	+1.8
KAF	Kangasniemi	84.09	332	ep	P	06 01 20.9	+0.7
	1.4nm,0.8s,mb4.1,baz=60,slow=4.8						
FINES	FINESS Array B	84.36	332	P	P	06 01 22.0	+0.4
	0.6nm,0.4s,mb4.1,baz=63,slow=5.7,SNR=19						
FINES				LR	LR	06 41 50.2	
	comp=Z,42nm,21.1s,MS3.8,baz=352,slow=38						
FINES	FINESS Array B	84.36	332	P	P	06 01 22.0	+0.4
FINES				LR	LR	06 41 50.2	
BRTR	Keskin Array B	84.36	309	P	P	06 01 20.6	-1.5
	0.6nm,0.4s,mb4.1,baz=124,slow=5.2,SNR=3.5						
AKASG	Malin Array Be	85.18	321	P	P	06 01 25.7	-0.3
	1.1nm,0.4s,mb4.3,baz=60,slow=4.8,SNR=8.8						
AKASG	Malin Array Be	85.18	321	P	P	06 01 25.7	-0.3
NOA	NORSAR Array B	91.20	334	LR	LR	06 46 02.8	
	comp=Z,33nm,18.3s,MS3.8,baz=240,slow=38						

*ATH **04** 05:57:10.5,38.93N×21.61E,h14km,MD3.4/12,ML3.3*
*THE **04** 05:57:10.9,38.89N×21.57E,h10km,ML3.2*
*NEIC **04** 05:57:10.4,38.92N×21.59E,h14km,ML3.3(ATH),After ATH.*
*CSEM **04** 05:57:11.1±0.1,38.90N×21.57E,h2km,ML3.2,Error ellipse: s-maj=1.8km s-min=1.5km az=26.0*
ISC 04 05:57:10.8±0.4**,38.94N**±0.03×**21.57E**±0.04**,h10**km**,n26,** σ**0ˢ94**/32**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.18	96	ePG	Pg	05 57 14.4	-0.5
AGG	Agios Georgios	0.60	82	ePg	Pg	05 57 22.3	-0.5
LKD	Levkas	0.76	253	ePg	Pg	05 57 24.9	-1.1
RLS	Riolos of Patr	0.88	185	ePB	Pb	05 57 27.1	-0.6
RLS				eSB	Sb	05 57 39.2	-0.1
MEV	Metsovon	0.89	343	ePg	Pg	05 57 28.2	-0.4
MEV	Metsovon	0.89	343	ePg	Pg	05 57 28.2	-0.4
JAN	Janina	0.91	322	ePB	Pb	05 57 28.2	-0.1
VLS	Valsamata	1.08	226	ePb	Pb	05 57 29.9	-1.3
VLS				eSb	Sb	05 57 46.3	+1.2
IGT	Igoumenitsa	1.13	302	ePg	Pg	05 57 32.7	-0.8
LKR	Lokris	1.15	104	ePN	Pn	05 57 31.6	-1.3
LKR				eSB	Sb	05 57 47.5	+0.4
LKR	Lokris	1.15	104	ePn	Pn	05 57 31.6	-1.3
LKR				eSb	Sb	05 57 48.0	+0.9
XOR	Xorichti	1.33	71	ePg	Pg	05 57 36.2	-1.3
NEO	Neokhori	1.34	73	ePB	Pb	05 57 35.4	-0.1
KZN	Kozani	1.38	6	ePB	Pb	05 57 36.5	+0.3
KZN				eSB	Sb	05 57 55.9	+2.2
KEK	Kerkira	1.58	300	ePB	Pb	05 57 40.7	+1.0
MGER	Gerania Oros	1.63	125	ePB	Pb	05 57 40.5	0.0
ITM	Ithomi	1.78	171	ePN	Pn	05 57 42.6	+0.7
NSAL	Nisos Salamina	1.81	124	ePN	Pn	05 57 43.0	+0.7
FNA	Florina	1.85	355	ePb	Pb	05 57 44.4	0.0
FNA	Florina	1.85	355	ePb	Pb	05 57 44.3	0.0
MPAR	Parnis Oros	1.87	114	ePN	Pn	05 57 43.5	+0.3
NAIG	Nisos Aigina	1.91	127	ePG	Pg	05 57 45.0	-4.0
ATH	Athens Observa	1.94	119	ePN	Pn	05 57 44.9	+0.7
ATH				eSN	Sn	05 58 09.4	+0.6
PLG	Polygyros	2.04	45	ePb	Pb	05 57 44.9	-2.6
KNT	Kendrikon	2.44	24	ePn	Pn	05 57 52.1	+0.7
VLI	Veliai	2.46	154	ePN	Pn	05 57 53.0	+1.3

OTT 04 06:07:06.4±1.4**,61.34N**×**60.35W,h18**km**,ML2.7**/4**, LAlbertaRADOR Sea Seismic Zone. 245km east from Resolution Island, Nu,Davis Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRB	Frobisher Bay	4.50	306	PN	Pn	06 08 14.2	-1.1
FRB				SN	Sn	06 09 02.7	-5.1
FRB				Trac		06 09 03.8	
	comp=Z,7.3nm,0.5s						
KUQ	Kuujjuuaa	5.21	235	PN	Pn	06 08 23.3	-2.1
KUQ				SN	Sn	06 09 17.9	-7.9
KUQ				Trac		06 09 18.0	
	comp=Z,0.8nm,0.2s						
SFJD	Kangerlussuaq	7.08	33	PN	Pn	06 08 38.7	-13
SFJD				SN	Sn	06 10 04.3	-8.3
SCHQ	Schefferville	7.38	211	PN	Pn	06 08 52.8	-3.2
SCHQ				SN	Sn	06 10 12.3	-7.7
SCHQ				Trac		06 10 15.7	
	comp=Z,1.2nm,0.6s						
LG4Q	La Grande 4	10.68	230	PN	P	06 09 36.1	-5.4
LG4Q				SN	S	06 11 29.6	-12
LG4Q				Trac		06 11 29.9	
	comp=Z,0.2nm,0.2s						
ILON	Igloolik, Nuna	11.97	321	PN	P	06 09 54.1	-4.9
ILON				SN	S	06 11 58.2	-15
ILON				Trac		06 12 08.2	
	comp=Z,0.8nm,0.3s						
SRLN	Sarcpa Lake, N	12.05	317	PN	P	06 09 54.7	-5.3
SRLN				SN	S	06 11 59.1	-16
SRLN				Trac		06 12 03.0	
	comp=Z,4.3nm,1.1s						
GIFN	Gifford Fjord,	12.26	324	PN	P	06 09 57.4	-5.5
GIFN				SN	S	06 12 04.7	-15
LAIN	Lailor River,	12.37	319	PN	P	06 09 58.6	-5.7
LAIN				SN	S	06 12 06.4	-16
LAIN				Trac		06 12 10.2	
	comp=Z,1.4nm,0.6s						
QILN	Qililugaq Expl	12.53	306	PN	P	06 10 00.5	-6.0
QILN				SN	S	06 12 09.6	-17
WEMQ	Wemindji, Queb	12.62	237	PN	P	06 10 01.6	-6.2
WEMQ				SN	S	06 12 08.6	-20
AP3N	Apex site 3 Nu	12.82	319	PN	P	06 10 04.7	-5.7
AP3N				SN	S	06 12 16.9	-17
SILO	Sutton Inlier	14.69	253	PN	P	06 10 29.4	-5.4

*IDC **04** 06:45:27.6±1.2,6.57S×130.82E,mb4.1/5,mb1 4.3/7, mb1mx4.1/13,mbtmp4.2/7,ML4.3/2,MS4.1/1,Ms1 4.1/1, ms1mx3.2/15,Error ellipse: s-maj=81.4km s-min=20.8km az=74.0*
*NEIC **04** 06:45:31.8±7.6,6.61S×130.80E,h28km±57km,mb4.1/2, Error ellipse: s-maj=25.5km s-min=17.6km az=217.0*
ISC 04 06:45:30.4±0.7**,6.64S**±0.07×**130.8E**±0.2**,h33**km**,n13,** σ**0ˢ52**/14**,mb4.1**/6**,MS4.0**/1**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.46	203	Pn	P	06 48 27.4	-0.9
	4.9nm,0.3s,baz=19,slow=9.4,SNR=48						
FITZ				Sn	S	06 50 37.2	-10
	3.5nm,0.3s,baz=8.3,slow=9.1,SNR=6.4						
WRAB	Tennant Creek	13.66	166	eP	P	06 48 44.6	+0.4
	6.2nm,0.6s						
WRA	Warramunga Arr	13.66	166	Pn	P	06 48 43.7	-0.6
	0.6nm,0.3s,baz=343,slow=13,SNR=42						
WRA				Sn	S	06 51 06.3	-10
	2.9nm,0.3s,baz=344,slow=20,SNR=16						
MBWA	Marble Bar	17.98	216	eP	P	06 49 40.4	+0.8
	9.0nm,0.8s						
STKA	Stephens Creek	27.06	160	P	P	06 51 12.4	+0.5
	0.7nm,0.7s,mb3.3,baz=324,slow=17,SNR=2.9						
JOW	Kunigami	33.36	356	LR	LR	07 03 15.4	
	comp=Z,301nm,21.0s,MS4.0,baz=139,slow=32						
ULN	Ulaanbaatar	58.17	341	eP	P	06 55 23.6	+0.1
SONM	Songino Array	58.36	341	P	P	06 55 24.5	-0.3
	0.7nm,0.5s,mb3.9,baz=161,slow=7.1,SNR=7.2						
MKAR	Makanchi Array	68.37	326	P	P	06 56 31.2	+0.5
	5.2nm,0.4s,mb4.9,baz=118,slow=8.4,SNR=44						
MKAR	Makanchi Array	68.37	326	P	P	06 56 31.2	+0.5
ZAL	Zalesovo	71.62	333	P	P	06 56 50.5	+0.2
	1.1nm,0.3s,mb4.2,baz=351,slow=4.5,SNR=4.2						
KURK	Kurchatov	72.63	328	eP	P	06 56 56.3	-0.1
	1.5nm,0.5s,mb4.2						
BVAR	Borovoye Array	78.19	328	P	P	06 57 27.5	-0.6
	0.7nm,0.5s,mb3.9,baz=122,slow=9.4,SNR=5.1						

*NEIC **04** 06:52:00.6±0.6,22.89S×66.30W,h241km±8km,Error ellipse: s-maj=10.3km s-min=8.0km az=89.0*
*IDC **04** 06:52:00.6±0.9,22.83S×66.28W,h238km±12km,mb2.7/2, mb1 3.2/7,mb1mx3.1/18,mbtmp3.6/7,Error ellipse: s-maj=17.3km s-min=14.9km az=100.0*
ISC 04 06:51:59.8±0.6**,22.91S**±0.06×**66.28W**±0.09**, h248**km±10km**,n17,**σ**0ˢ70**/22**,mb2.8**/2**,1C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.44	276	P	P	06 52 48.0	+1.3
	62nm,0.3s,baz=97,slow=5.8,SNR=733						
LVC				S	S	06 53 23.3	+0.2
	12nm,0.3s,baz=256,slow=20,SNR=14						
LVC	Limon Verde	2.44	276	⇑iP	P	06 52 48.0	+1.3
LVC				S	S	06 53 23.3	+0.2
LPAZ	La Paz	6.81	345	P	P	06 53 38.3	-0.4
	0.7nm,0.3s,baz=155,slow=11,SNR=20						
LPAZ				S	S	06 54 55.9	-0.2
	0.5nm,0.3s,baz=286,slow=20,SNR=8.0						
LPAZ	La Paz	6.81	345	eP	P	06 53 39.4	+0.7
LPAZ				eS	S	06 54 52.5	-3.6
LPAZ				S	S	06 54 55.9	-0.2
ARE	Arequipa	8.07	322	P	P	06 53 54.0	-0.7
SIV	San Ignacio	8.45	36	P	P	06 53 58.6	-1.0
	1.3nm,0.3s,baz=222,slow=8.9,SNR=54						
CPUP	Villa Florida	8.83	115	P	P	06 54 04.5	+0.1
	0.1nm,0.3s,baz=9.2,slow=19,SNR=3.0						
CFAA	Coronel Fontan	8.84	191	P	P	06 54 03.8	-0.6
	0.0nm,0.3s,baz=351,slow=9.9,SNR=12						
CFAA				S	S	06 55 36.5	-5.6
	0.1nm,0.3s,baz=153,slow=20,SNR=16						
TRQA	Tornquist	15.54	167	eP	P	06 55 26.9	-0.9
PLCA	Paso Flores	18.13	190	P	P	06 55 56.4	+0.4
	0.1nm,0.3s,baz=7.4,slow=14,SNR=3.0						
PLCA	Paso Flores	18.13	190	P	P	06 55 55.1	-0.8
BDFB	Brasilia	18.69	70	P	P	06 56 02.1	+0.3
	0.4nm,0.3s,baz=251,slow=12,SNR=10						
BAO	Brasilia Array	18.71	70	P	P	06 56 03.0	+1.0
SNAA	Sanae	60.16	161	eP	P	07 01 43.7	+0.6
TXAR	Lajitas Array	63.18	324	P	P	07 02 03.5	-0.2
	0.1nm,0.7s,mb2.6,baz=157,slow=14,SNR=2.9						
ESDC	Sonseca Array	85.15	43	P	P	07 04 09.6	+0.2
	0.1nm,0.3s,mb3.0,baz=225,slow=6.3,SNR=4.1						
MKAR	Makanchi Array	145.27	39	PKPbc	PKPbc	07 11 09.1	+0.8
	0.4nm,0.5s,baz=281,slow=6.2,SNR=5.1						

*IDC **04** 06:59:10.6±2.3,11.54S×66.22E,mb3.9/5,mb1 4.0/5, mb1mx3.7/17,mbtmp3.9/5,MS3.6/3,Ms1 3.5/3, ms1mx3.4/16,Error ellipse: s-maj=76.3km s-min=34.0km az=51.0*
NEIC 04 06:59:12.0±1.6**,11.54S**×**66.16E,h10**km**,mb4.6**/1**,Error ellipse: s-maj=56.7km s-min=21.4km az=51.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	30.50	288	LR	LR	07 15 01.1	
	comp=Z,63nm,19.5s,baz=98,slow=31						
BOSA	Boshof	41.76	240	LR	LR	07 22 16.0	
	comp=Z,132nm,18.8s,baz=169,slow=33						
MAW	Mawson	56.05	182	LR	LR	07 28 01.6	
	comp=Z,50nm,18.9s,baz=47,slow=31						
MKAR	Makanchi Array	59.84	13	P	P	07 09 16.6	-3.5
	0.5nm,0.6s,baz=208,slow=8.1,SNR=5.1						
WRA	Warramunga Arr	65.78	107	P	P	07 09 57.6	-2.5
	0.9nm,0.8s,baz=274,slow=5.6,SNR=8.8						
WRAB	Tennant Creek	65.80	107	eP	P	07 09 58.3	-1.7
	4.1nm,0.9s						
ZAL	Zalesovo	67.12	12	P	P	07 10 06.4	-1.6
	0.8nm,0.5s,baz=232,slow=14,SNR=3.0						
SONM	Songino Array	69.07	28	P	P	07 10 18.7	-1.5
	1.4nm,0.8s,baz=216,slow=6.9,SNR=10.0						
AKASG	Malin Array Be	69.83	336	P	P	07 10 22.8	-2.1
	0.6nm,0.6s,baz=138,slow=5.6,SNR=4.0						
PDAR	Pinedale Array	148.67	354	PKPbc	PKPdf	07 19 00.1	+1.1
	0.9nm,0.7s,baz=68,slow=2.8,SNR=9.8						

MAN 04 07:19:08.4,15.00N×**119.72E,h7**km**,mb4.0,ML2.8,MS2.5, 1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NBP	Mount Natib	0.72	111	iP	Pg	07 19 22.5	-0.3
SCZP	Santa Cruz	0.80	13	eP	Pb	07 19 24.0	-0.1
SCZP				eS	Sb	07 19 34.4	-0.5
LUBP	Lubang	1.35	158	eP	Pb	07 19 32.3	-1.5
LUBP				eS	Sb	07 19 55.1	+4.0
PCPH	Palayan	1.44	67	eP	Pn	07 19 33.3	-1.8
PCPH				eS	Sb	07 19 53.6	0.0
ARP	Angono	1.46	108	⇓eP	Pn	07 19 33.9	-1.4
LBPH	Los Banos	1.64	121	eP	Pn	07 19 37.8	-0.1
BALP	Baler	1.94	67	eP	Pn	07 19 41.5	-0.6
BALP				eS	Sn	07 20 07.4	+0.5
POLP	Polilio Island	2.16	97	eP	Pn	07 19 46.1	+0.7
CAUP	Cauayan	2.80	46	eP	Pn	07 19 55.9	+1.4
ABRA	Dolores	2.80	20	eP	Pn	07 19 54.2	-0.3
ABRA				eS	Sn	07 20 30.1	+1.1
SJMP	San Jose	2.86	152	eP	Pn	07 19 56.3	+0.9

*IDC **04** 07:35:16.0±0.6,1.31N×97.09E,mb4.4/14,mb1 4.5/14, mb1mx4.3/19,mbtmp4.4/14,MS4.1/4,Ms1 4.0/4, ms1mx3.6/18,Error ellipse: s-maj=34.0km s-min=14.5km az=57.0*
*BJI **04** 07:35:19.3,0.86N×97.36E,h51km,mB5.2,mb5.0,Ms4.9, Msz4.7*
*MOS **04** 07:35:19.1±1.2,1.27N×97.06E,h33km,mb4.9/23,Error ellipse: s-maj=17.5km s-min=7.3km az=102.3*
*NEIC **04** 07:35:20.7±0.4,1.29N×97.16E,h30km,mb4.6/14,Error ellipse: s-maj=12.2km s-min=8.8km az=52.0*
ISC 04 07:35:18.8±0.4**,1.25N**±0.06×**97.18E**±0.06**,h30**km**, h30**km±1.7km**:pP-P,n94,**σ**1ˢ17**/92**,mb4.7**/57**,MS4.5**/14**, 4C-4D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.30	41	⇑iP	Pn	07 36 38.8	+0.8
KKTK	Khon Kaen	15.99	20	P	P	07 39 06.0	+2.5
PALK	Pallekele	17.48	290	eP	P	07 39 23.3	+1.0
CHG	Chiang Mai	17.54	6	P	P	07 39 22.2	-0.8
KKM	Kota Kinabalu	19.58	75	eP	P	07 39 46.6	-0.9
QIZ	Qiongzhong	21.59	34	eP	P	07 40 09.1	+0.8
	10nm,0.8s,mb4.3						
KMI	Kunming	24.33	12	P	P	07 40 37.6	+2.2
KMI				AP		07 40 50.4	
KMI				PP	PP	07 41 12.8	+2.0
KMI				S	S	07 44 54.1	+4.5
KMI				AMB	AMB		
	comp=Z,58nm,1.4s,mb4.8						
KMI				AMB	AMB		
	comp=Z,487nm,8.5s						
KMI				LR	LR		
	comp=N,2μm,14.9s,MS4.7						
KMI				LR	LR		
	comp=E,803nm,15.3s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,14.5s,MS4.7						
KMI	Kunming	24.33	12	P	P	07 40 37.6	+2.2
	comp=Z,58nm,1.4s,mb4.8						
KMI				pP		07 40 50.4	
KMI				sP		07 40 54.9	
KMI				PP	PP	07 41 12.8	+2.0
KMI				S	S	07 44 54.1	+4.5
KMI				sS		07 45 10.6	
KMI				SS	SS	07 45 47.3	+3.4
KMI				LR	LR		
	comp=Z,2μm,14.5s,MS4.7						
GYA	Guiyang	26.67	19	⇓iP	P	07 40 57.6	+0.3
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
GYA				AMB	AMB		
	comp=Z,340nm,7.2s						
GYA				LR	LR		
	comp=N,1μm,12.6s						
GYA				LR	LR		
	comp=E,1μm,9.9s						
GYA				LR	LR		
	comp=Z,1μm,12.6s,MS4.7						
PKI	Pulchoki	28.50	338	eP	P	07 41 14.6	+0.7
	comp=Z,38nm,1.0s,mb5.0						
GUN	Gumba	28.63	339	eP	P	07 41 16.3	+1.3
	comp=Z,77nm,0.8s,mb5.5						
DMN	Daman	28.65	337	eP	P	07 41 15.9	+0.7
	comp=Z,31nm,0.8s,mb5.1						
KKN	Kakani	28.75	338	eP	P	07 41 16.9	+0.8
	comp=Z,60nm,1.0s,mb5.3						
LSA	Lhasa	28.87	349	P	P	07 41 20.9	+3.8
LSA	Lhasa	28.87	349	eP	P	07 41 19.3	+2.1
	comp=Z,10nm,0.8s,mb4.6						
LSA	Lhasa	28.87	349	eP	P	07 41 19.3	+2.2
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
GKN	Gorkha	29.18	337	eP	P	07 41 20.9	+0.9
	comp=Z,72nm,1.0s,mb5.3						
KOLN	Koldanda	29.40	335	eP	P	07 41 22.0	0.0
	comp=Z,48nm,0.9s,mb5.2						
CD2	Chengdu	30.15	11	eP	P	07 41 28.4	-0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
ENH	Enshi	31.14	21	eP	P	07 41 35.1	-2.2
	comp=Z,26nm,0.6s,mb5.2						
MBWA	Marble Bar	31.35	137	eP	P	07 41 40.6	+1.3
FITZ	Fitzroy Crossi	33.97	126	eP	P	07 42 01.8	-0.4
	comp=Z,3.9nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	33.97	126	P	P	07 42 01.5	-0.7
	comp=Z,8.0nm,0.8s,mb4.7,baz=340,slow=7.7,SNR=11						
XAN	Xi'an	34.42	17	P	P	07 42 05.0	-0.9
XAN				AMB	AMB		
	comp=Z,27nm,0.9s,mb5.2						
LZH	Lanzhou	35.21	9	eP	P	07 42 12.0	-0.6
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,78nm,6.2s						
LZH				LR	LR		
	comp=E,428nm,13.5s						
LZH				LR	LR		
	comp=Z,512nm,17.3s,MS4.3						
LZH	Lanzhou	35.21	9	eP	P	07 42 12.0	-0.6
	comp=Z,31nm,1.5s,mb5.0						
LZH				pP	pP	07 42 20.5	-0.9
LZH				sP	sP	07 42 25.0	-0.2
LZH				PP	PP	07 43 49.2	+17
LZH				LR	LR		
	comp=Z,510nm,17.3s,MS4.3						
LZH	Lanzhou	35.21	9	eP	P	07 42 12.0	-0.6
LZH				*PP	pP	07 42 20.5	-0.9
LZH				*SP	sP	07 42 25.0	-0.2
LZH						07 43 49.2	
LZH				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,510nm,17.3s,MS4.3						
NJ2	Nanjing	36.83	32	eP	P	07 42 27.0	+0.7
NJ2				AP	pP	07 42 36.6	+1.4
NJ2				XP	sP	07 42 40.6	+1.6
NJ2				PP	PP	07 43 53.9	+1.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,630nm,4.8s						
NJ2				LR	LR		
	comp=N,1μm,15.9s,MS4.8						
NJ2				LR	LR		
	comp=E,520nm,12.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,730nm,10.8s,MS4.7						
SSE	Sheshan	37.38	35	eP	P	07 42 29.0	-1.9
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,668nm,9.4s						
SSE	Sheshan	37.38	35	eP	P	07 42 29.0	-1.9
	comp=Z,23nm,0.7s,mb5.1						
GTA	Gaotai	38.05	3	eP	P	07 42 36.4	-0.1
GTA				PP	PP	07 44 05.6	-1.4
GTA				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,196nm,7.6s						
GTA				LR	LR		
	comp=N,553nm,12.2s,MS4.7						
GTA				LR	LR		
	comp=E,439nm,12.2s,MS4.7						
GTA				LR	LR		
	comp=Z,696nm,11.0s,MS4.7						
HHC	Hu-ho-hao-te	41.51	17	eP	P	07 43 06.1	+0.9
HHC				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,368nm,9.3s						
HHC				LR	LR		
	comp=N,764nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=E,730nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=Z,786nm,15.5s,MS4.7						
WRA	Warramunga Arr	42.08	122	P	P	07 43 10.5	+0.4
	comp=Z,5.7nm,0.6s,mb4.4,baz=302,slow=9.1,SNR=105						
WRAB	Tennant Creek	42.08	122	eP	P	07 43 10.2	+0.1
	comp=Z,7.8nm,0.6s,mb4.5						
WRAB	Tennant Creek	42.08	122	eP	P	07 43 10.3	+0.2
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
WB2	Warramunga Arr	42.09	122	⇓iP	P	07 43 10.8	+0.6
WMQ	Urumqi	43.22	350	P	P	07 43 21.0	+1.9
WMQ				AP	pP	07 43 29.0	+1.0
WMQ				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,199nm,5.4s						
WMQ				LR	LR		
	comp=N,513nm,21.6s,MS4.5						
WMQ				LR	LR		
	comp=E,461nm,23.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,598nm,20.0s,MS4.5						
ULHL	Ulahol	44.94	338	P	P	07 43 34.2	+1.2
	SNR=5.7						
UCH	Uchtor	45.59	336	P	P	07 43 39.9	+1.7
	SNR=11						
TKM2	Tokmak 2	45.76	338	P	P	07 43 40.8	+1.3
	SNR=5.4						
AAK	Ala-Archa	45.94	337	eP	P	07 43 42.6	+1.7
	comp=Z,8.0nm,1.1s,mb4.6						
AAK	Ala-Archa	45.94	337	⇓iP	P	07 43 41.9	+0.9
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
EKS2	Erkin-Say	46.26	336	P	P	07 43 44.7	+1.3
	SNR=9.0						
USP	Ospenovka	46.48	337	P	P	07 43 46.2	+1.0
	SNR=17						
SONM	Songino Array	47.08	8	P	P	07 43 50.1	+0.2
	comp=Z,10nm,0.8s,mb4.8,baz=188,slow=8.8,SNR=67						
SONM				PcP	PcP	07 45 22.2	+0.3

*MOS **04** 07:39:14.0±1.0,55.24N×161.89E,h17km,mb5.0/47,Error ellipse: s-maj=10.7km s-min=4.9km az=91.6*
*KRSC **04** 07:39:16.5±1.3,55.05N×162.43E,h69km±6km,ML5.5*
*BJI **04** 07:39:17.2,55.16N×162.10E,h70km,mB5.0,mb4.5,Ms4.4,Msz4.4*
*NEIC **04** 07:39:20.9±0.8,55.18N×161.87E,h60km±6km,mb4.8/75,Error ellipse: s-maj=5.7km s-min=4.3km az=166.0*

ISC 04 07:39:19.8±0.3,55.10N±0.02×162.10E±0.05,h68km±2km, n298,σ1§16/320,mb4.6/104**,18C-4D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
MKZ	**Mys Kozlova**	**0.58**	**202**	*i* P		**P**	**07**	**39**	**29.2**	**-4.3**
TUMR	**Tumrok**	**1.14**	**280**	*i* P		**P**	**07**	**39**	**39.5**	**-0.7**
TUMR				*e*S		**S**	**07**	**39**	**57.0**	**+1.6**
ZLN	**Zelenaya**	**1.18**	**322**	*i* P		**P**	**07**	**39**	**40.8**	**0.0**
ZLN				*e*S		**S**	**07**	**39**	**58.6**	**+2.1**
KBTR	**Krutoberegovo**	**1.19**	**20**	P		**P**	**07**	**39**	**38.8**	**-2.1**
KBTR	**Krutoberegovo**	**1.19**	**20**	*i* P		**P**	**07**	**39**	**38.4**	**-2.5**
KBTR				*e*S		**S**	**07**	**39**	**54.6**	**-2.0**
KBG	**Krutoberegovo**	**1.21**	**16**	*i* P		**P**	**07**	**39**	**39.2**	**-2.0**
KBG				*i* S		**S**	**07**	**39**	**58.2**	**+1.0**
KBG				Smax						
	24μm,0.8s									
KMNR	**Kamenistaya**	**1.25**	**303**	*i* P		**P**	**07**	**39**	**41.5**	**-0.3**
KMNR				*e*S		**S**	**07**	**40**	**00.0**	**+1.9**
LGNR	**Loginova**	**1.27**	**322**	*i* P		**P**	**07**	**39**	**42.2**	**+0.1**
LGNR				*i* S		**S**	**07**	**40**	**01.0**	**+2.4**
CIRR	**Tsirk**	**1.28**	**324**	*i* P		**P**	**07**	**39**	**41.9**	**-0.3**
KPT	**Kopyto**	**1.38**	**310**	*i* P		**P**	**07**	**39**	**43.1**	**-0.5**
KPT				*e*S		**S**	**07**	**40**	**02.5**	**+1.3**
KRSR	**Krestovskiy**	**1.42**	**323**	*i* P		**P**	**07**	**39**	**43.5**	**-0.7**
KRSR				*e*S		**S**	**07**	**40**	**03.0**	**+0.8**
KLY	**Klyuchi**	**1.47**	**327**	P		**P**	**07**	**39**	**43.1**	**-1.7**
KLY				S		**S**	**07**	**40**	**03.6**	**+0.3**
KLY	**Klyuchi**	**1.47**	**327**	*i* P		**P**	**07**	**39**	**43.0**	**-1.8**
KLY				*i* S		**S**	**07**	**40**	**03.7**	**+0.4**
SVLR	**Shiveluch**	**1.56**	**342**	*i* P		**P**	**07**	**39**	**42.7**	**-3.4**
SVLR				*e*S		**S**	**07**	**40**	**04.0**	**-1.5**
KOZR	**Kozyr**	**1.58**	**309**	PN		**P**	**07**	**39**	**46.6**	**+0.2**
KOZ	**Kozyrevsk**	**1.59**	**308**	P		**P**	**07**	**39**	**46.6**	**+0.2**
KOZ				S		**S**	**07**	**40**	**08.8**	**+2.7**
KOZ	**Kozyrevsk**	**1.59**	**308**	*i* P		**P**	**07**	**39**	**46.6**	**+0.2**
KOZ				*e*S		**S**	**07**	**40**	**08.7**	**+2.6**
SRDR	**Sredinnyy**	**1.82**	**313**	*i* P		**P**	**07**	**39**	**49.4**	**-0.2**
SRDR				*e*S		**S**	**07**	**40**	**13.0**	**+1.5**
KII	**Karymskiy**	**1.88**	**236**	P		**P**	**07**	**39**	**49.1**	**-1.2**
KII	**Karymskiy**	**1.88**	**236**	*i* P		**P**	**07**	**39**	**49.2**	**-1.1**
KII				*e*S		**S**	**07**	**40**	**12.8**	**0.0**
ESO	**Esso**	**2.10**	**295**	*i* P		**P**	**07**	**39**	**53.0**	**-0.5**
ESO				*e*S		**S**	**07**	**40**	**19.8**	**+1.3**
ESO				Smax						
	3μm,1.1s									
BKI	**Bering**	**2.23**	**86**	*i* P		**P**	**07**	**39**	**51.5**	**-3.7**
BKI				*i* S		**S**	**07**	**40**	**15.3**	**-6.2**
BKI				Smax						
	1μm,0.9s									
SPN	**Mys Shipunski**	**2.35**	**212**	P		**P**	**07**	**39**	**53.5**	**-3.5**
SPN	**Mys Shipunski**	**2.35**	**212**	*i* P		**P**	**07**	**39**	**53.6**	**-3.4**
SPN				*i* S		**S**	**07**	**40**	**20.7**	**-3.9**
NLC	**Nalytchevo**	**2.52**	**221**	*i* P		**P**	**07**	**39**	**57.5**	**-1.9**
NLC				*e*S		**S**	**07**	**40**	**27.6**	**-1.4**
SDLR	**Sedlovina**	**2.63**	**227**	*e*P		**P**	**07**	**40**	**00.3**	**-0.6**
SDLR				*e*S		**S**	**07**	**40**	**33.1**	**+1.4**
SMAR	**Somma**	**2.67**	**228**	*i* P		**P**	**07**	**40**	**00.7**	**-0.9**
SMAR				*i* S		**S**	**07**	**40**	**32.6**	**-0.2**
AVH	**Avacha**	**2.70**	**228**	*i* P		**P**	**07**	**40**	**01.2**	**-0.7**
AVH				*i* S		**S**	**07**	**40**	**33.9**	**+0.4**
UGLR	**Uglovaya**	**2.70**	**227**	*i* P		**P**	**07**	**40**	**01.3**	**-0.7**
UGLR				*i* S		**S**	**07**	**40**	**33.8**	**+0.3**
KOK	**Koryaka**	**2.72**	**230**	*e*P		**P**	**07**	**40**	**02.9**	**+0.6**
KOK				*e*S		**S**	**07**	**40**	**36.5**	**+2.4**
GNL	**Ganaly**	**2.81**	**242**	*i* P		**P**	**07**	**40**	**03.1**	**-0.4**
GNL				*e*S		**S**	**07**	**40**	**38.2**	**+2.0**
PET	**Petropavlovsk**	**2.91**	**226**	P		**P**	**07**	**40**	**04.6**	**-0.3**
PET				S		**S**	**07**	**40**	**39.1**	**+0.4**
PET	**Petropavlovsk**	**2.91**	**226**	*i* P		**P**	**07**	**40**	**04.2**	**-0.7**
PET				*i* S		**S**	**07**	**40**	**38.6**	**-0.1**
PET	**Petropavlovsk**	**2.91**	**226**	*e*P		**P**	**07**	**40**	**03.8**	**-1.0**
PET				*e*S		**S**	**07**	**40**	**33.7**	**-5.0**
KRMR	**Karymshinskiy**	**3.27**	**228**	*i* P		**P**	**07**	**40**	**10.1**	**+0.2**
KRMR				*i* S		**S**	**07**	**40**	**48.5**	**+0.8**
RUS	**Russkaya**	**3.42**	**220**	P		**P**	**07**	**40**	**11.0**	**-1.0**
RUS				S		**S**	**07**	**40**	**50.3**	**-1.2**
RUS	**Russkaya**	**3.42**	**220**	*e*P		**P**	**07**	**40**	**10.4**	**-1.6**
RUS				*e*S		**S**	**07**	**40**	**49.8**	**-1.7**
GRL	**Gorelyy**	**3.49**	**225**	*i* P		**P**	**07**	**40**	**13.8**	**+0.7**
GRL				*i* S		**S**	**07**	**40**	**54.2**	**+0.8**
APC	**Apacha**	**3.64**	**235**	*i* P		**P**	**07**	**40**	**15.9**	**+0.8**
APC				*e*S		**S**	**07**	**40**	**58.8**	**+1.7**
APC				Smax						
	1μm,0.7s									
OSSR	**Ossora**	**4.20**	**7**	*e*P		**P**	**07**	**40**	**20.3**	**-2.6**
OSSR				*e*S		**S**	**07**	**41**	**07.4**	**-3.6**
OSSR				Smax						
	290nm,0.9s									
MIPR	**Malaya Ipel'ka**	**4.25**	**231**	*i* P		**P**	**07**	**40**	**24.3**	**+0.7**
MIPR				*e*S		**S**	**07**	**41**	**13.3**	**+0.9**
PAU	**Pauzhetka**	**4.83**	**223**	*e*P		**P**	**07**	**40**	**32.3**	**+0.6**
PAU				*e*S		**S**	**07**	**41**	**26.9**	**+0.1**
PAU				Smax						
	1μm,0.9s									
SKR	**Severo-Kuril's**	**5.71**	**222**	*e*PN		**P**	**07**	**40**	**40.0**	**-3.9**
SKR				pmax	pmax					
	comp=E,310nm,1.0s									
SKR				pmax	pmax					
	comp=N,80nm,0.9s									
SKR				pmax	pmax					
	comp=E,80nm,0.9s									
FX1	**Attu Island--F**	**6.89**	**104**	Pn		**P**	**07**	**40**	**55.2**	**-5.1**
	comp=E,39nm,0.3s,baz=336,slow=6.7,SNR=1.6									
FX1				Sn		**S**	**07**	**42**	**07.3**	**-11**
	comp=E,25nm,0.3s,baz=180,slow=20,SNR=5.9									
MA2	**Magadan**	**7.59**	**311**	P		**P**	**07**	**41**	**06.8**	**-3.2**
	comp=E,19nm,0.7s									
MA2	**Magadan**	**7.59**	**311**	*e*PN		**P**	**07**	**41**	**11.5**	**+1.5**
SEY	**Seymchan**	**9.31**	**331**	*e*PN		**P**	**07**	**41**	**34.4**	**+0.9**
BILL	**Bilibino**	**13.13**	**7**	*e*P		**P**	**07**	**42**	**23.7**	**-1.0**
BILL	**Bilibino**	**13.13**	**7**	*e*PN		**P**	**07**	**42**	**27.0**	**+2.3**
BILL				*e*S		**S**	**07**	**44**	**52.6**	**+3.1**
BILL				pmax	pmax					
	comp=Z,29nm,1.3s									
BILL				MLR	MLR					
	comp=Z,500nm,16.0s									
YSS	**Yuzh-Sakhalins**	**14.61**	**244**	P		**P**	**07**	**42**	**45.5**	**+1.6**
	comp=Z,19nm,0.6s									
YSS	**Yuzh-Sakhalins**	**14.61**	**244**	*e*P		**P**	**07**	**42**	**45.0**	**+1.1**
YSS				MLR	MLR					
	comp=Z,500nm,19.0s									
YSS				MLR	MLR					
	comp=N,400nm,17.0s									
ASAJ	**Asahikawa**	**16.68**	**237**	Pn		**P**	**07**	**43**	**07.7**	**-2.6**
	comp=N,2.1nm,0.3s,baz=35,slow=5.5,SNR=12									
ASAJ	**Asahikawa**	**16.68**	**237**	P		**P**	**07**	**43**	**07.7**	**-2.5**
ASAJ				pmax	pmax					
	comp=Z,2.0nm,0.3s									
YAK	**Yakutsk**	**18.12**	**306**	*e*P		**P**	**07**	**43**	**26.7**	**-1.3**
	comp=Z,31nm,0.6s									
YAK	**Yakutsk**	**18.12**	**306**	*i*P		**P**	**07**	**43**	**26.5**	**-1.4**
YAK				pmax	pmax					
	comp=Z,29nm,0.6s									
YAK				MLR	MLR					
	comp=Z,500nm,21.0s									
KLR	**Kul'dur**	**19.42**	**265**	*e*P		**P**	**07**	**43**	**40.2**	**-2.7**
CLNS	**Chul'man**	**20.73**	**290**	*e*P		**P**	**07**	**43**	**56.9**	**+0.3**
CLNS				*e*PP			07	44	03.3	
CLNS				*e*PPP		PPP	07	44	18.6	-12
CLNS				*e*S		**S**	**07**	**47**	**45.0**	**+5.8**
CLNS				*e*			07	47	54.8	
CLNS				*e*SS		SS	07	48	21.7	+7.3
CLNS				*e*			07	55	19.5	
CLNS				pmax	pmax					
	comp=Z,11nm,0.7s									
CLNS				pmax	pmax					
	comp=N,8.0nm,0.9s									
CLNS				pmax	pmax					
	comp=E,7.0nm,0.8s									
CLNS				smax						
	comp=N,159nm,11.5s									
CLNS				smax						
	comp=Z,44nm,11.7s									
CLNS				smax						
	comp=E,133nm,15.4s									
CLNS				MLR	MLR					
	comp=Z,300nm,12.0s									
CLNS				MLR	MLR					
	comp=N,100nm,13.0s									
CLNS				MLR	MLR					
	comp=E,300nm,14.0s									
TIXI	**Tiksi**	**21.80**	**332**	*e*P		**P**	**07**	**44**	**04.1**	**-3.1**
TIXI				*e*S		**S**	**07**	**47**	**57.3**	**-1.7**
TIXI				pmax	pmax					
	comp=Z,25nm,0.7s,mb4.7									
TIXI				MLR	MLR					
	comp=Z,84nm,10.0s									
MDJ	**Mudanjiang**	**23.23**	**257**	P		**P**	**07**	**44**	**19.3**	**-1.8**
MDJ				AMB	AMB					
	comp=Z,8.0nm,1.0s,mb4.0									
MDJ				AMB	AMB					
	comp=Z,419nm,8.7s									
MDJ				LR	LR					
	comp=N,149nm,21.8s									
MDJ				LR	LR					
	comp=E,307nm,21.8s									
MDJ				LR	LR					
	comp=Z,215nm,20.4s									
MDJ	**Mudanjiang**	**23.23**	**257**	*e*P		**P**	**07**	**44**	**19.2**	**-1.9**
	comp=Z,7.0nm,0.5s,mb4.2									
IMA	**Indian Mountai**	**23.77**	**45**	*e*P		**P**	**07**	**44**	**27.4**	**+1.2**
	comp=Z,62nm,0.8s,mb5.0									
IMA	**Indian Mountai**	**23.77**	**45**	*e*P		**P**	**07**	**44**	**27.4**	**+1.2**
IMA				pmax	pmax					
	comp=Z,62nm,0.8s,mb5.0									
SPU	**Mount Spurr**	**24.52**	**57**	*e*P		**P**	**07**	**44**	**35.5**	**+2.0**
MAJO	**Matsushiro**	**24.72**	**231**	*e*P		**P**	**07**	**44**	**36.1**	**+0.3**
	comp=Z,27nm,0.7s,mb4.8									
MAJO	**Matsushiro**	**24.72**	**231**	*e*P		**P**	**07**	**44**	**36.1**	**+0.3**
MAJO				pmax	pmax					
	comp=Z,27nm,0.7s,mb4.8									
MAJO	**Matsushiro**	**24.72**	**231**	*e*P		**P**	**07**	**44**	**36.1**	**+0.3**
MAJO				pmax	pmax					
	comp=Z,27nm,0.7s,mb4.8									
MAT	**Matsushiro**	**24.72**	**231**	P		**P**	**07**	**44**	**36.5**	**+0.7**
MAT	**Matsushiro**	**24.72**	**231**	*e*P		**P**	**07**	**44**	**37.0**	**+1.2**
	comp=Z,25nm,0.9s,mb4.7									
MAT	**Matsushiro**	**24.72**	**231**	*e*P		**P**	**07**	**44**	**37.0**	**+1.2**
MAT				pmax	pmax					
	comp=Z,25nm,0.9s,mb4.6									
MAT	**Matsushiro**	**24.72**	**231**	*e*P		**P**	**07**	**44**	**37.0**	**+1.2**
MAT				pmax	pmax					
	comp=Z,25nm,0.9s,mb4.6									
SLKM	**Skilak Lake**	**25.50**	**58**	*e*P		**P**	**07**	**44**	**44.5**	**+1.7**
MCK	**McKinley**	**25.74**	**51**	*e*P		**P**	**07**	**44**	**44.2**	**-0.9**
BOD	**Bodaibo**	**26.27**	**296**	*e*P		**P**	**07**	**44**	**50.6**	**+0.6**
BOD				pmax	pmax					
	comp=Z,6.0nm,0.7s,mb4.1									
ILAR	**Eielson Array**	**26.58**	**48**	P		**P**	**07**	**44**	**50.9**	**-1.9**
	comp=Z,3.4nm,0.9s,mb3.9,baz=266,slow=8.4,SNR=34									
INK	**Inuvik**	**31.56**	**40**	P		**P**	**07**	**45**	**36.0**	**-1.3**
	comp=Z,6.1nm,0.6s,mb4.5,baz=291,slow=6.6,SNR=28									
INK				PcP	PcP		07	48	27.9	-0.7
	comp=Z,0.7nm,0.5s,baz=291,slow=3.8,SNR=4.2									
INK	**Inuvik**	**31.56**	**40**	*e*P		**P**	**07**	**45**	**36.9**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.3									
INK	**Inuvik**	**31.56**	**40**	P		**P**	**07**	**45**	**36.0**	**-1.3**
INK							07	48	27.9	
INK				pmax	pmax					
	comp=Z,6.0nm,0.6s									
ULN	**Ulaanbaatar**	**34.24**	**281**	*e*P		**P**	**07**	**45**	**59.2**	**-1.5**
SONM	**Songino Array**	**34.62**	**282**	P		**P**	**07**	**46**	**02.4**	**-1.5**
	comp=Z,0.9nm,0.7s,mb3.7,baz=44,slow=7.9,SNR=3.7									
SONM				PcP	PcP		07	48	36.5	-0.8
	comp=Z,2.7nm,0.7s,baz=66,slow=1.8,SNR=12									
ZAK	**Zakamensk**	**35.00**	**287**	*e*P		**P**	**07**	**46**	**07.6**	**+0.4**
DLBC	**Dease Lake**	**35.92**	**56**	*e*P		**P**	**07**	**46**	**16.8**	**+1.9**
SSE	**Sheshan**	**37.52**	**247**	*e*P		**P**	**07**	**46**	**23.6**	**-5.0**
SSE				AMB	AMB					
	comp=Z,31nm,0.9s,mb5.1									
SSE				AMB	AMB					
	comp=Z,383nm,8.7s									
SSE	**Sheshan**	**37.52**	**247**	*e*P		**P**	**07**	**46**	**23.6**	**-5.0**
	comp=Z,31nm,0.9s,mb5.1									
NJ2	**Nanjing**	**38.03**	**251**	*e*P		**P**	**07**	**46**	**29.6**	**-3.2**
NJ2				AP	pP		07	46	52.1	+2.3
NJ2				PP	PP		07	48	01.9	-1.8
NJ2				S	**S**		**07**	**52**	**14.0**	**-5.9**
NJ2				XS			07	52	51.0	
NJ2				AMB	AMB					
	comp=Z,10.0nm,0.9s,mb4.7									
NJ2				AMB	AMB					
	comp=Z,420nm,5.4s									
NJ2				LR	LR					
	comp=N,1μm,23.7s									
NJ2				LR	LR					
	comp=E,1μm,18.1s									
NJ2				LR	LR					
	comp=Z,840nm,16.8s									
YKA	**Yellowknife Ar**	**40.89**	**45**	P		**P**	**07**	**46**	**56.2**	**0.0**
	comp=Z,9.0nm,0.6s,mb4.8,baz=300,slow=7.8,SNR=36									
ZAL	**Zalesovo**	**42.72**	**302**	LR		LR	08	07	22.9	
	comp=Z,232nm,20.0s,baz=122,slow=40									
NVS	**Novosibirsk**	**42.97**	**304**	*e*P		**P**	**07**	**47**	**06.8**	**-6.4**
NVS				*e*			07	49	00.5	
GTA	**Gaotai**	**43.57**	**276**	*e*P		**P**	**07**	**47**	**16.8**	**-1.5**
GTA				AMB	AMB					
	comp=Z,5.0nm,0.8s,mb4.3									
EDM	**Edmonton**	**46.63**	**55**	*e*P		**P**	**07**	**47**	**43.0**	**+0.5**
WMQ	**Urumqi**	**47.43**	**289**	*e*P		**P**	**07**	**47**	**47.7**	**-1.2**
WMQ				AMB	AMB					
	comp=Z,14nm,0.7s,mb4.8									
WMQ				AMB	AMB					
	comp=Z,310nm,5.6s									
KURK	**Kurchatov**	**47.69**	**301**	*e*P		**P**	**07**	**47**	**48.5**	**-2.4**
	comp=Z,10nm,0.6s,mb4.8									
KURK	**Kurchatov**	**47.69**	**301**	*e*P		**P**	**07**	**47**	**48.5**	**-2.3**
KURK				pmax	pmax					
	comp=Z,10.0nm,0.6s,mb4.8									
MKAR	**Makanchi Array**	**48.36**	**295**	P		**P**	**07**	**47**	**52.7**	**-3.4**
	comp=Z,1.1nm,0.4s,mb4.0,baz=60,slow=6.2,SNR=12									
MKAR				LR	LR		08	09	35.7	
	comp=Z,262nm,19.5s,slow=38									
BVA0	**Borovoye Array**	**50.08**	**308**	*i* P		**P**	**07**	**48**	**06.7**	**-2.5**
BVAR	**Borovoye Array**	**50.08**	**308**	P		**P**	**07**	**48**	**06.6**	**-2.6**
	comp=Z,4.6nm,0.5s,mb4.6,baz=58,slow=7.4,SNR=18									
BVAR				PcP	PcP		07	49	26.5	-1.8
	comp=Z,3.3nm,0.8s,baz=63,slow=3.3,SNR=5.3									
MOD	**Modoc**	**50.46**	**71**	*e*P		**P**	**07**	**48**	**13.7**	**+1.4**
	comp=Z,2.3nm,0.8s,mb4.2									
KEV	**Kevo**	**51.29**	**342**	*e*p		**P**	**07**	**48**	**16.2**	**-2.0**
HRY	**Holter Researc**	**51.62**	**61**	*e*P		**P**	**07**	**48**	**21.5**	**+0.5**
SVE	**Sverdlovsk**	**51.63**	**317**	*e*P		**P**	**07**	**48**	**18.6**	**-2.3**
ARCES	**ARCESS Array B**	**51.74**	**342**	P		**P**	**07**	**48**	**19.4**	**-2.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=34,slow=8.7,SNR=8.2									
ARCES				PcP	PcP		07	49	33.0	-1.2
	comp=Z,3.9nm,0.8s,baz=34,slow=4.4,SNR=6.8									
SUMG	**Summit**	**51.82**	**8**	*e*P		**P**	**07**	**48**	**21.8**	**-0.4**
	comp=Z,2.3nm,1.3s,mb5.0									
KMI	**Kunming**	**52.34**	**260**	P		**P**	**07**	**48**	**25.4**	**-1.3**
KMI				AP	pP		07	48	43.0	-1.1
KMI				XP	sP		07	48	50.8	-1.0
KMI				S	**S**		**07**	**55**	**44.5**	**-0.9**
KMI				SS	SS		07	59	18.8	-3.5
KMI				AMB	AMB					
	comp=Z,10.0nm,0.5s,mb5.1									
KMI				AMB	AMB					
	comp=Z,145nm,7.6s									
KMI				LR	LR					
	comp=N,420nm,13.6s									
KMI				LR	LR					
	comp=E,579nm,10.2s									
KMI				LR	LR					
	comp=Z,525nm,10.9s									
KMI	**Kunming**	**52.34**	**260**	P		**P**	**07**	**48**	**25.4**	**-1.3**
	comp=Z,10.0nm,0.5s,mb5.1									
KMI				pP	pP		07	48	43.0	-1.1
KMI				sP	sP		07	48	50.8	-1.0
KMI				S	**S**		**07**	**55**	**44.5**	**-0.9**
KMI				SS	SS		07	59	18.8	-3.5
KMI				LR	LR					
	comp=Z,520nm,10.9s									
KMI	**Kunming**	**52.34**	**260**	P		**P**	**07**	**48**	**25.4**	**-1.3**
KMI				S	**S**		**07**	**55**	**44.5**	**-0.9**
KMI				SS	SS		07	59	18.8	-3.5
KMI				pmax	pmax					
	comp=Z,10.0nm,0.5s,mb5.1									
KMI				MLR	MLR					
	comp=Z,520nm,10.9s									

*IDC **04** 07:39:12.2±0.5,55.19N×161.86E,mb4.5/21,mb1 4.7/23, mb1mx4.7/25,mbtmp4.5/23,ML4.5/2,MS3.9/11,Ms1 3.9/11, ms1mx3.7/26,Error ellipse: s-maj=15.4km s-min=12.0km az=176.0*

MCMT McKenzie Canyo 52.40 63 *e*P **P 07 48 27.4 +0.6**
HLID Hailey 52.46 66 *e*P **P 07 48 27.6 +0.3**
ARU Arti 52.72 317 *e*P **P 07 48 26.6 -2.5**
QLMT Earthquake Lak 53.12 63 *e*P **P 07 48 31.9 -0.4**
NVAR Mina Array Bea 53.98 73 P **P 07 48 39.5 +0.8**
comp=Z,2.2nm,0.9s,mb4.2,baz=284,slow=9.5,SNR=14
TPAW Teton Pass 54.31 63 *e*P **P 07 48 42.3 +1.3**
comp=Z,3.8nm,0.7s,mb4.5
LOHW Long Hollow 54.40 63 *e*P **P 07 48 41.8 +0.1**
comp=Z,6.2nm,1.0s,mb4.6
LAO LASA Array 54.41 58 *e*P **P 07 48 41.9 +0.2**
comp=Z,21nm,1.0s,mb5.1
AAK Ala-Archa 55.25 296 P **P 07 48 43.9 -3.9**
comp=Z,5.4nm,0.8s,mb4.6
AAK Ala-Archa 55.25 296 *e*P **P 07 48 44.9 -3.0**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AAK MLR MLR
comp=Z,200nm,18.0s
HWUT Hardware Ranch 55.33 66 *e*P **P 07 48 49.6 +1.2**
comp=Z,5.2nm,0.8s,mb4.6
BW06 Boulder Array 55.54 63 *e*P **P 07 48 50.1 +0.2**
comp=Z,19nm,1.5s,mb4.9
PDAR Pinedale Array 55.54 63 P **P 07 48 49.9 -0.1**
comp=Z,4.4nm,0.8s,mb4.6,baz=334,slow=3.6,SNR=50
DUG Dugway 55.68 68 *e*P **P 07 48 52.2 +1.1**
comp=Z,5.6nm,0.8s,mb4.7
DUG Dugway 55.68 68 *e*P **P 07 48 52.2 +1.2**
DUG pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
JOF Joensuu 56.24 335 *e*p **P 07 48 53.0 -1.7**
MPU Maple Canyon 56.44 67 *e*P **P 07 48 57.9 +1.4**
ULM Lac du Bonnet 56.60 49 P **P 07 48 56.9 -0.5**
comp=Z,3.1nm,0.7s,mb4.5,baz=318,slow=7.6,SNR=8.7
ULM LR LR 08 14 24.5
comp=Z,80nm,20.1s,baz=348,slow=37
KKAR Karatay Array 56.94 299 *i* P **P 07 48 57.9 -2.1**
KKAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
AB31 Akbulak array 57.39 311 *i* P **P 07 49 01.0 -2.1**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
SRU San Rafael 57.68 67 *e*P **P 07 49 05.8 +0.6**
KAF Kangasniemi 58.10 337 *e*p **P 07 49 06.2 -1.6**
comp=Z,1.3nm,0.4s,mb4.3,baz=27,slow=6.6
KAF Kangasniemi 58.10 337 *e*P **P 07 49 06.2 -1.6**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
LDFC Landfair 58.17 73 *e*P **P 07 49 09.6 +0.9**
FINES FINESS Array B 58.74 337 P **P 07 49 10.7 -1.6**
comp=Z,2.2nm,0.4s,mb4.5,baz=39,slow=8.6,SNR=31
FINES LR LR 08 20 28.4
comp=Z,79nm,18.0s,baz=164,slow=42
CHG Chiang Mai 59.46 259 P **P 07 49 17.2 -0.6**
ISCO Idaho Springs 59.73 63 *e*P **P 07 49 20.5 +1.1**
comp=Z,4.8nm,0.3s,mb5.0
ISCO Idaho Springs 59.73 63 *e*P **P 07 49 20.5 +1.1**
ISCO pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
GUN Gumba 59.85 276 *e*P **P 07 49 19.8 -0.6**
comp=Z,16nm,0.4s,mb5.4
KKN Kakani 60.29 277 *e*P **P 07 49 22.1 -1.3**
comp=Z,12nm,0.4s,mb5.3
PKI Pulchoki 60.38 276 *e*P **P 07 49 22.7 -1.3**
comp=Z,16nm,0.9s,mb5.1
GKN Gorkha 60.49 277 *e*P **P 07 49 23.1 -1.7**
DMN Daman 60.53 277 *e*P **P 07 49 24.4 -0.6**
comp=Z,17nm,0.7s,mb5.2
KOLN Koldanda 61.26 278 *e*P **P 07 49 28.3 -1.7**
comp=Z,18nm,0.7s,mb5.2
SDCO Great Sand Dun 61.33 65 *e*P **P 07 49 31.1 +0.8**
comp=Z,3.4nm,1.1s,mb4.3
OBN Obninsk 61.45 328 *e*P **P 07 49 28.6 -2.3**
OBN *e* 07 50 12.5
OBN pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
OBN MLR MLR
comp=Z,200nm,20.0s
NB2 NORSAR Subarra 61.94 344 P **P 07 49 32.6 -1.4**
comp=Z,28nm,1.4s,mb5.1,baz=19,slow=6.5
NB2 NORSAR Subarra 61.94 344 P **P 07 49 32.6 -1.4**
baz=19,slow=6.9
NB2 NORSAR Subarra 61.94 344 P **P 07 49 32.6 -1.4**
NB2 pmax pmax
comp=Z,28nm,1.4s,mb5.1
NOA NORSAR Array B 61.94 344 P **P 07 49 32.1 -2.0**
comp=Z,4.2nm,0.7s,mb4.6,baz=19,slow=6.8,SNR=13
NOA LR LR 08 19 36.6
comp=Z,47nm,18.6s,slow=39
ANMO Albuquerque 62.95 67 ⇓*i*P **P 07 49 41.7 +0.5**
SCHQ Schefferville 63.32 29 P **P 07 49 41.6 -1.8**
comp=Z,8.0nm,0.8s,mb4.7,baz=342,slow=6.4,SNR=10
SCHQ LR LR 08 18 27.4
comp=Z,64nm,20.4s,baz=123,slow=37
MNTX Cornudas Mount 66.02 69 *e*P **P 07 50 01.9 +0.9**
comp=Z,4.6nm,1.1s,mb4.2
AKASG Malin Array Be 67.49 330 P **P 07 50 08.3 -1.6**
comp=Z,3.3nm,0.5s,mb4.4,baz=27,slow=6.8,SNR=12
AKASG Malin Array Be 67.49 330 *i* P **P 07 50 09.0 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIV Kislovodsk 68.77 318 *d i*P **P 07 50 14.8 -3.2**
KIV *e*S S 07 59 12.2 -2.6
KIV pmax pmax
comp=Z,11nm,1.4s,mb4.5
KIV MLR MLR
comp=Z,200nm,24.0s
TXAR Lajitas Array 68.79 69 P **P 07 50 19.0 +0.6**
comp=Z,3.3nm,0.6s,mb4.3,baz=298,slow=4.5,SNR=67
TXAR LR LR 08 17 52.6
comp=Z,53nm,22.0s,baz=160,slow=34
TXAR Lajitas Array 68.79 69 P **P 07 50 19.0 +0.6**
TXAR LR LR 08 17 52.6
BSEG Bad Segeberg 68.87 343 *e*P **P 07 50 18.4 -0.1**
KSP Ksiaz 70.65 338 *e*P **P 07 50 29.2 -0.1**
STHS Stebnicka Huta 70.82 334 *e*P **P 07 50 31.2 +0.8**
CLZ Clausthal 70.87 342 *e*P **P 07 50 30.7 0.0**
comp=Z,12nm,1.1s,mb4.6
CLZ Clausthal 70.87 342 *e*P **P 07 50 30.7 0.0**
CLZ pmax pmax
comp=Z,12nm,1.1s,mb4.6
CLL Collm 70.89 340 ⇑P **P 07 50 30.3 -0.5**
comp=Z,logA/T=1.2,mb4.8
CLL *i* *PP pP 07 50 44.5 -4.7
CLL Collm 70.89 340 ⇑*i*P **P 07 50 30.3 -0.5**
comp=Z,16nm,1.1s,mb4.8
CLL *i* pP 07 50 44.5 -4.7
CLL Collm 70.89 340 ⇑*i*P **P 07 50 30.3 -0.5**
CLL pmax pmax
comp=Z,16nm,1.1s,mb4.8
UPC Upice 71.02 338 *e*P **P 07 50 32.0 +0.4**
DPC Dobruska-Polom 71.10 338 *e*P **P 07 50 32.2 +0.1**
BRG Berggiesshubel 71.11 339 *e*P **P 07 50 32.2 +0.1**
comp=Z,8.7nm,1.0s,mb4.5
BRG Berggiesshubel 71.11 339 *e*P **P 07 50 32.2 +0.1**
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
GNI Garni 71.15 314 LR LR 08 26 37.7
comp=Z,126nm,20.7s,baz=21,slow=40
GNI Garni 71.15 314 *e*P **P 07 50 31.5 -1.1**
GNI pmax pmax
comp=Z,11nm,1.5s
GNI MLR MLR
comp=Z,100nm,23.0s
MORC Moravsky Berou 71.37 337 *e*P **P 07 50 33.6 -0.1**
comp=Z,3.8nm,1.1s,mb4.1
MORC Moravsky Berou 71.37 337 *e*P **P 07 50 33.6 -0.1**
MORC pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
MOX Moxa 71.79 341 *i* P **P 07 50 35.8 -0.4**
comp=Z,logA/T=1.1,mb4.7
MOX Moxa 71.79 341 *e*P **P 07 50 35.8 -0.4**
comp=Z,16nm,1.3s,mb4.7
MOX Moxa 71.79 341 *e*P **P 07 50 35.8 -0.4**
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.7
PRU Pruhonice 71.83 339 *e*P **P 07 50 36.5 +0.1**
KECS Kecovo 71.87 334 *e*PP **P 07 50 30.7 -6.0**
NKC Novy Kostel 72.02 340 *e*P **P 07 50 38.0 +0.4**
KAKA Kakadu 72.03 211 *e*P **P 07 50 55.4 +17**
comp=Z,11nm,0.7s,mb4.8
AFI Afiamalu 72.20 153 LR LR 08 15 58.7
comp=Z,89nm,19.9s,baz=338,slow=30
VYHS Vyhne 72.27 335 *e*P **P 07 50 39.1 +0.1**
TREC Trest 72.28 338 *e*P **P 07 50 38.2 -0.9**
SMOL Smolenice 72.58 336 *e*P **P 07 50 40.2 -0.6**

TNS Taunus Mts 72.76 343 *e*P **P 07 50 41.9 +0.1**
GRA1 Grafenberg Arr 72.77 341 *e*P **P 07 50 42.2 +0.3**
comp=Z,16nm,1.1s,mb4.8
GRF Grafenberg Arr 72.77 341 *e*P **P 07 50 42.2 +0.3**
comp=Z,16nm,1.1s,mb4.8
GRF Grafenberg Arr 72.77 341 *e*P **P 07 50 42.2 +0.3**
GRF pmax pmax
comp=Z,16nm,1.1s,mb4.8
GRF Grafenberg Arr 72.77 341 *e*P **P 07 50 42.2 +0.3**
GRF pmax pmax
comp=Z,16nm,1.1s,mb4.8
KHC Kasperske Hory 72.84 339 *e*P **P 07 50 43.1 +0.8**
ZST Bratislava 72.95 336 *e*P **P 07 50 44.4 +1.5**
WET Wettzell 72.97 339 *e*P **P 07 50 43.6 +0.6**
comp=Z,13nm,1.2s,mb4.6
WET Wettzell 72.97 339 *e*P **P 07 50 43.6 +0.6**
WET pmax pmax
comp=Z,13nm,1.2s,mb4.6
GEC2 GERESS Array S 73.09 339 *e*P **P 07 50 43.8 +0.1**
comp=Z,10.0nm,1.2s,mb4.5
GEC2 GERESS Array S 73.09 339 *e*P **P 07 50 43.8 +0.1**
GEC2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
GERES GERESS Array B 73.09 339 P **P 07 50 43.7 0.0**
comp=Z,3.0nm,0.9s,mb4.1,baz=20,slow=5.4,SNR=14
FUR Furstenfeldbru 74.22 340 *e*P **P 07 50 50.9 +0.5**
comp=Z,33nm,1.6s,mb4.8
FUR Furstenfeldbru 74.22 340 *e*P **P 07 50 50.9 +0.5**
FUR pmax pmax
comp=Z,33nm,1.6s,mb4.8
BFO Black Forest 74.61 342 *e*P **P 07 50 52.1 -0.5**
CDF Champ du Feu 74.71 343 *e*P **P 07 50 52.9 -0.3**
comp=Z,14nm,0.8s,mb4.4
CDF Champ du Feu 74.71 343 *e*P **P 07 50 52.9 -0.3**
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
KBA Koelnbreinsper 74.84 338 ⇑*i*P **P 07 50 55.2 +1.2**
comp=Z,24nm,1.3s,mb4.8
KBA Koelnbreinsper 74.84 338 ⇑*i*P **P 07 50 55.2 +1.2**
KBA pmax pmax
comp=Z,24nm,1.3s,mb4.8
MEZF Maizieres J'vi 74.98 344 *e*P **P 07 50 55.1 +0.4**
WTTA Wattenberg 75.01 340 ⇑*i*P **P 07 50 55.9 +1.0**
comp=Z,28nm,1.4s,mb4.8
WTTA Wattenberg 75.01 340 ⇑*i*P **P 07 50 55.9 +1.0**
WTTA pmax pmax
comp=Z,28nm,1.4s,mb4.8
MOTA Moosalm 75.04 340 ⇑*i*P **P 07 50 55.7 +0.6**
comp=Z,9.8nm,1.1s,mb4.5
MOTA Moosalm 75.04 340 ⇑*i*P **P 07 50 55.7 +0.6**
MOTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
SQTA Sankt Quirin 75.14 340 ⇑*i*P **P 07 50 56.6 +0.9**
comp=Z,18nm,1.3s,mb4.6
SQTA Sankt Quirin 75.14 340 ⇑*i*P **P 07 50 56.6 +0.9**
SQTA pmax pmax
comp=Z,18nm,1.3s,mb4.6
HAU Haudompre 75.26 343 *e*P **P 07 50 55.9 -0.4**
HAU *e*R
comp=Z,110nm,20.0s
FLN La Foliniere 75.48 348 *e*P **P 07 50 56.1 -1.5**
comp=Z,21nm,0.9s,mb4.6
FLN *e*R
comp=Z,124nm,22.8s
FLN La Foliniere 75.48 348 *e*P **P 07 50 56.1 -1.5**
FLN pmax pmax
comp=Z,11nm,0.9s,mb4.6
FLN MLR MLR
comp=Z,120nm,22.8s
BRTR Keskin Array B 75.81 321 P **P 07 50 59.5 -0.1**
comp=Z,2.7nm,0.6s,mb4.2,baz=50,slow=3.4,SNR=7.4
CTA Charters Tower 76.10 195 *e*P **P 07 51 02.3 +0.7**
comp=Z,2.8nm,0.9s,mb4.0
CTA *i* 07 51 12.5
CTA Charters Tower 76.10 195 *e*P **P 07 51 02.3 +0.7**
CTA *i* 07 51 12.5
CTA pmax pmax
comp=Z,3.0nm,0.9s
LOR Lormes 76.37 345 *e*P **P 07 51 02.5 -0.2**
comp=Z,8.3nm,0.8s,mb4.2
LOR *e*R
comp=Z,104nm,22.8s
LOR Lormes 76.37 345 *e*P **P 07 51 02.5 -0.2**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
LOR MLR MLR
comp=Z,100nm,22.8s
SSF Saint Saulge 76.62 345 *e*P **P 07 51 04.0 -0.1**
comp=Z,5.3nm,0.7s,mb4.1
SSF Saint Saulge 76.62 345 *e*P **P 07 51 04.0 -0.1**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
CABF La Chapelle 76.66 343 *e*P **P 07 51 04.8 +0.5**
comp=Z,20nm,1.1s,mb4.5
CABF La Chapelle 76.66 343 *e*P **P 07 51 04.8 +0.5**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
AVF Avril sur Loir 76.91 345 *e*P **P 07 51 05.6 -0.1**
TCF Toulx Ste Croi 77.57 346 *e*P **P 07 51 09.7 +0.3**
LPL La Plagne 77.61 343 *e*P **P 07 51 10.6 +1.0**
LPG La Plagne 77.63 343 *e*P **P 07 51 10.8 +1.1**
comp=Z,32nm,1.1s,mb4.7
LPG La Plagne 77.63 343 *e*P **P 07 51 10.8 +1.1**
LPG pmax pmax
comp=Z,16nm,1.1s,mb4.7
ORIF Oris-en-Rattie 78.34 343 *e*P **P 07 51 14.4 +0.8**
comp=Z,12nm,0.9s,mb4.3
ORIF *e*R
comp=Z,100nm,20.2s
MBDF Montbardon 78.37 342 *e*P **P 07 51 14.3 +0.5**
comp=Z,13nm,1.0s,mb4.3
MBDF Montbardon 78.37 342 *e*P **P 07 51 14.3 +0.5**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
WRAB Tennant Creek 78.39 207 ⇑*i*P **P 07 51 13.9 -0.5**
WB2 Warramunga Arr 78.40 207 ⇑*i*P **P 07 51 14.9 +0.5**
WB2 *i* 07 51 25.1
WRA Warramunga Arr 78.40 207 P **P 07 51 13.9 -0.5**
comp=Z,5.3nm,0.8s,mb4.3,baz=20,slow=6.0,SNR=62
VIVF Saint-Julien-l 78.60 344 *e*P **P 07 51 15.5 +0.5**
CAF Calviac 78.92 346 *e*P **P 07 51 17.3 +0.5**
SBF Sospel 79.09 342 *e*P **P 07 51 17.8 0.0**
FITZ Fitzroy Crossi 79.22 215 *e*P **P 07 51 19.8 +0.8**
comp=Z,8.1nm,0.6s,mb4.7
FITZ *i* 07 51 30.5
FITZ Fitzroy Crossi 79.22 215 P **P 07 51 19.1 +0.1**
comp=Z,10nm,0.6s,mb4.9,baz=50,slow=1.4,SNR=16
LASF Ste Croix 79.48 344 *e*P **P 07 51 20.4 +0.5**
FRF La Foret Royal 79.52 342 *e*P **P 07 51 20.1 0.0**
LMR La Mourre 79.77 342 *e*P **P 07 51 21.3 -0.1**
comp=Z,17nm,1.1s,mb4.5
LMR La Mourre 79.77 342 *e*P **P 07 51 21.3 -0.1**
LMR pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
PGF Pioggiola 80.06 340 *e*P **P 07 51 23.2 +0.1**
comp=Z,16nm,0.8s,mb4.6
PGF Pioggiola 80.06 340 *e*P **P 07 51 23.2 +0.1**
PGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
MTLF Montolieu 80.45 345 *e*P **P 07 51 25.3 +0.2**
EPF Esparros 81.02 347 *e*P **P 07 51 28.4 +0.3**
EALK Alkurruntz 81.07 348 P **P 07 51 28.1 -0.2**
comp=Z,5.1nm,0.7s,mb4.5
SJPF Ste Jean 81.14 348 *e*P **P 07 51 28.9 +0.2**
comp=Z,23nm,1.2s,mb4.6
SJPF Ste Jean 81.14 348 *e*P **P 07 51 28.9 +0.2**
SJPF pmax pmax
comp=Z,11nm,1.2s,mb4.6
ASF Jabal al Asfar 81.22 315 LR LR 08 32 02.7
comp=Z,95nm,19.1s,baz=78,slow=39
ETSF Etsaut 81.27 347 *e*P **P 07 51 29.8 +0.4**
comp=Z,6.7nm,0.6s,mb4.3
ETSF Etsaut 81.27 347 *e*P **P 07 51 29.8 +0.4**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ELAN Lanestosa 81.27 349 P **P 07 51 30.0 +0.5**
comp=Z,24nm,1.3s,mb4.9
EARI Arriondas 81.38 351 P **P 07 51 29.9 -0.1**
comp=Z,61nm,2.1s,mb5.1
EBIE Bielsa 81.38 347 P **P 07 51 31.3 +1.3**
comp=Z,1.9nm,0.5s,mb4.2
EPON Pontenova 81.52 352 P **P 07 51 30.4 -0.3**
comp=Z,42nm,1.5s,mb5.0
EMAZ Mazaricos 82.03 353 P **P 07 51 31.2 -2.2**
comp=Z,60nm,1.7s,mb5.2
ESAC San Caprasio 82.41 347 P **P 07 51 36.5 +1.1**
comp=Z,8.1nm,0.6s,mb4.7
EPOB Poblet 82.56 346 P **P 07 51 37.0 +0.9**
comp=Z,17nm,2.2s,mb4.5
ECAL Calabor 82.87 352 P **P 07 51 37.2 -0.4**
comp=Z,3.2nm,0.5s,mb4.4
ERTA Horta de San J 83.06 346 P **P 07 51 38.9 +0.3**
comp=Z,29nm,2.4s,mb4.7
PPT Papeete 83.16 134 LR LR 08 23 24.7
comp=Z,136nm,19.9s,baz=305,slow=32
HILS Ha'il 83.31 309 P **P 07 51 41.7 +1.5**
EMOS Mosqueruela 83.75 347 P **P 07 51 43.8 +1.7**
comp=Z,27nm,2.1s,mb4.7
ETOS Mallorca 83.86 344 P **P 07 51 45.7 +3.1**
comp=Z,32nm,1.4s,mb5.0
ALWS Ilw as Safayha 84.48 316 P **P 07 51 46.9 +0.9**
JMQS Jabal Moqyreh 84.53 315 P **P 07 51 47.8 +1.6**
JMOS Jabal al Moall 84.59 315 P **P 07 51 47.6 +1.1**
HAQS Haql 84.76 316 P **P 07 51 48.2 +0.8**
TBKS Tabuk 84.83 314 P **P 07 51 49.0 +1.2**
ESDC Sonseca Array 84.85 349 P **P 07 51 48.3 +0.7**
comp=Z,8.7nm,0.7s,mb4.8,baz=1.7,slow=4.5,SNR=50
ESDC Sonseca Array 84.85 349 P **P 07 51 48.9 +1.4**
comp=Z,8.1nm,0.7s,mb4.8
ESLA Sonseca Array 84.85 349 *e*P **P 07 51 48.7 +1.1**
comp=Z,6.0nm,1.1s,mb4.4
TAYS Tayyib Ism 85.23 315 P **P 07 51 50.2 +0.5**
EBEN Beniarda 85.35 346 P **P 07 51 51.7 +1.6**
comp=Z,41nm,2.6s,mb4.9
ETOB Tobarra 85.58 347 P **P 07 51 52.3 +1.1**
comp=Z,8.9nm,0.9s,mb4.7
EBAD Badajoz 86.05 351 P **P 07 51 49.4 -4.1**
comp=Z,24nm,2.0s,mb4.8
EMUR La Murta 86.33 347 P **P 07 51 55.8 +0.9**
comp=Z,14nm,3.4s
EADA Adamuz 86.40 350 P **P 07 51 55.1 -0.2**
comp=Z,21nm,2.4s,mb4.7
ECAB El Cabril 86.58 350 P **P 07 51 55.4 -0.7**
comp=Z,14nm,1.7s,mb4.6
EQES Quesada 86.60 348 P **P 07 51 57.5 +1.3**
comp=Z,15nm,2.1s,mb4.6
EMIN Mina Concepcio 87.00 351 P **P 07 51 59.0 +0.8**
comp=Z,2.4nm,0.6s,mb4.3
EGRO El Granado 87.30 352 P **P 07 51 59.6 0.0**
comp=Z,3.5nm,0.6s,mb4.5
ESPR Espera 87.82 350 P **P 07 52 02.5 +0.3**
comp=Z,20nm,2.4s,mb4.7
EMIJ Mijas 88.01 349 P **P 07 52 02.8 -0.3**
comp=Z,3.8nm,0.5s,mb4.7
STKA Stephens Creek 88.40 197 P **P 07 52 06.0 +1.0**
comp=Z,1.1nm,0.7s,mb4.0,baz=336,slow=6.7,SNR=5.8
VNDA Vanda 132.35 180 PKP PKPdf 07 58 27.3 +2.5
comp=Z,0.4nm,0.7s,baz=314,slow=5.4,SNR=3.6
BDFB Brasilia 134.29 42 PKP PKPdf 07 58 30.6 +0.7
comp=Z,1.3nm,0.7s,baz=169,slow=5.2,SNR=2.4
BOSA Boshof 139.33 293 PKP PKPdf 07 58 38.9 0.0
comp=Z,1.7nm,0.5s,baz=99,slow=3.9,SNR=2.8
MAW Mawson 142.29 218 PKP PKPdf 07 58 42.2 -0.6
comp=Z,1.1nm,0.8s,baz=96,slow=9.2,SNR=4.2
PLCA Paso Flores 142.83 90 PKP PKPdf 07 58 47.8 +3.2
comp=Z,1.3nm,0.8s,baz=16,slow=11,SNR=3.2
QSPA South Pole Qui 144.85 180 *e*P PKPdf 07 58 48.2 +1.2
SYO Syowa Base 151.00 219 ⇓P PKPdf 07 59 04.2 +7.0
USHA Ushuaia 151.50 111 PKP PKPdf 07 59 01.7 +3.3
comp=Z,12nm,1.2s,baz=4.1,slow=14,SNR=2.4
USHA PKPbc PKPdf 07 59 06.7 +8.4
comp=Z,18nm,1.2s,baz=233,slow=7.9,SNR=3.0
USHA Ushuaia 151.50 111 PKP PKPdf 07 59 01.7 +3.3
USHA PKPbc PKPdf 07 59 06.7 +8.4
SNAA Sanae 162.15 196 ⇑*i*P PKPdf 07 59 48.1 +37
SNAA Sanae 162.15 196 *e* 08 00 21.1
SNAA Sanae 162.15 196 *e* PKPab 08 00 33.0 +32
VNA3 Neumayer Olymp 163.40 189 ⇑*i*P PKPdf 07 59 48.2 +36
VNA3 Neumayer Olymp 163.40 189 *e* PKPab 08 00 36.9 +31
VNA2 Neumayer--Watz 163.46 192 ⇑*i*P PKPdf 07 59 50.6 +38
VNA2 Neumayer--Watz 163.46 192 *e* PKPab 08 00 40.3 +34
VNA1 Neumayer--Stat 163.82 192 ⇑*i*P PKPdf 07 59 52.2 +39

MOS ***04*** *08:16:23.8±0.9,39.98N×71.40E,h33km,mb4.3/4,Error ellipse: s-maj=14.3km s-min=7.2km az=82.8*
NEIC ***04*** *08:16:24.6±0.8,40.04N×71.40E,mb4.3/3,Error ellipse: s-maj=12.9km s-min=9.7km az=199.0*
IDC ***04*** *08:16:24.8±1.4,40.05N×71.49E,h24km±6km,mb3.6/9, mb1 3.9/11,mb1mx3.7/20,mbtmp3.8/11,ML3.8/2,Error ellipse: s-maj=23.8km s-min=15.8km az=179.0*
NNC ***04*** *08:16:29.4±3.9,40.40N×71.56E,h33km±18km,mpv4.0, Error ellipse: s-maj=33.8km s-min=17.3km az=30.0*

ISC 04 08:16:24.5±0.4,40.20N±0.04×71.26E±0.06,h24km, h24km±.7km:pP-P,n56,σ1⅓38/66,mb3.8/12,16C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=127	**2.67**	**43**	P	**Pn**	**08 17 08.1**	**+1.0**
KK31	**Karatay Array** 10nm,0.5s,baz=165,slow=32,SNR=3.6	**2.96**	**349**	⇑Pn	**Pn**	**08 17 13.7**	**+2.6**
KK31	48nm,0.3s			⇑Pg	**Pn**	**08 17 20.1**	**+9.0**
KK31	38nm,0.3s			⇓Sn	**Sn**	**08 17 50.6**	**+4.3**
KK31	70nm,0.2s,baz=165,slow=32,SNR=3.6			⇓Lg		08 18 00.8	
KK31	**Karatay Array**	**2.96**	**349**	⇑Pn	**Pn**	**08 17 13.7**	**+2.6**
KK31				⇑Pg	**Pn**	**08 17 20.1**	**+9.0**
KK31				Sn	**Sn**	**08 17 50.6**	**+4.3**
KK31				Lg		08 18 00.8	
KK31	**Karatay Array**	**2.96**	**349**	*e*PN	**Pn**	**08 17 13.7**	**+2.6**
KK31				P		08 17 20.1	
KK31				S	**Sn**	**08 18 00.8**	**+15**
KKAR	**Karatay Array**	**2.96**	**349**	PN	**Pn**	**08 17 13.7**	**+2.6**
KKAR						08 17 50.3	
KKAR	comp=Z,19nm,0.2s			pmax	pmax		
KKAR	comp=Z,46nm,0.2s			smax			
EKS2	**Erkin-Say** SNR=29	**3.11**	**37**	P	**Pn**	**08 17 14.7**	**+1.4**
UCH	**Uchtor** SNR=57	**3.19**	**49**	P	**Pn**	**08 17 15.4**	**+1.0**
AAK	**Ala-Archa** SNR=37	**3.44**	**44**	P	**Pn**	**08 17 19.1**	**+1.1**
AAK	**Ala-Archa** comp=Z,37nm,0.4s	**3.44**	**44**	⇑Pn	**Pn**	**08 17 19.1**	**+1.0**
AAK	comp=Z,276nm,0.6s			⇑Lg		08 18 08.8	
KZA	**Kyzart** SNR=68	**3.55**	**57**	P	**Pn**	**08 17 20.3**	**+0.7**
FRU	**Bishkek**	**3.65**	**43**	*e*PN	**Pn**	**08 17 22.0**	**+1.1**
FRU				*e*		08 17 32.0	
FRU				*e*		08 18 11.0	
FRU				*e*S	**Sn**	**08 18 16.0**	**+12**
FRU	comp=Z,190nm,1.4s			pmax	pmax		
FRU	comp=N,880nm,1.6s			smax			
KBK	**Karagaybulak** SNR=19	**3.71**	**47**	P	**Pn**	**08 17 23.7**	**+1.9**
CHMS	**Chumysh** SNR=33	**3.83**	**42**	P	**Pn**	**08 17 24.8**	**+1.2**
USP	**Ospenovka** SNR=110	**3.91**	**37**	P	**Pn**	**08 17 25.2**	**+0.5**
TKM2	**Tokmak 2** SNR=272	**4.24**	**49**	P	**Pn**	**08 17 30.2**	**+0.7**
ULHL	**Ulahol** SNR=24	**4.28**	**60**	P	**Pn**	**08 17 29.5**	**-0.5**
CEP	**Cherat**	**6.38**	**175**	⇑P	**Pn**	**08 18 00.5**	**+0.9**
CEP				S	**Sn**	**08 19 14.0**	**+1.4**
CHCP	**Chirah Chowk**	**6.72**	**166**	P	**Pn**	**08 18 05.1**	**+0.7**
THW	**Thamme Wali**	**7.40**	**177**	P	**Pn**	**08 18 12.8**	**-1.1**
MK02	**Makanchi Array**	**10.37**	**47**	⇑P	**P**	**08 18 52.3**	**-2.6**
MK02	comp=Z,3.0nm,0.4s			pmax	pmax		
MK31	**Makanchi Array** comp=Z,2.5nm,0.5s,baz=228,slow=14,SNR=31	**10.37**	**47**	⇑Pn	**P**	**08 18 52.3**	**-2.7**
MK31	comp=Z,12nm,0.9s,baz=234,slow=26,SNR=4.1			⇑Lg		08 21 46.1	
MK31	**Makanchi Array** comp=Z,2.5nm,0.4s	**10.37**	**47**	⇑Pn	**P**	**08 18 52.3**	**-2.7**
MK31				Lg		08 21 46.1	
MKAR	**Makanchi Array** comp=Z,1.1nm,0.3s,baz=231,slow=14,SNR=34	**10.37**	**47**	Pn	**P**	**08 18 52.4**	**-2.6**
MKAR	comp=Z,0.5nm,0.3s,baz=236,slow=26,SNR=6.0			Lg		08 21 43.8	
MKAR	**Makanchi Array**	**10.37**	**47**	Pn	**P**	**08 18 52.4**	**-2.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR				Lg		08 21 43.8	
KURK	**Kurchatov**	**11.71**	**24**	⇑Lg		08 22 29.5	
	comp=Z,19nm,1.0s						
KURK	**Kurchatov**	**11.71**	**24**	*e*P	**P**	**08 19 08.9**	**-4.3**
AB31	**Akbulak array**	**12.10**	**322**	⇑P	**P**	**08 19 15.9**	**-2.6**
	comp=Z,4.0nm,0.6s,baz=136,slow=12,SNR=4.0						
AB31				⇑S	**S**	**08 21 21.8**	**-12**
	comp=Z,1.9nm,0.3s,baz=143,slow=21,SNR=8.7						
AB31	**Akbulak array**	**12.10**	**322**	⇑P	**P**	**08 19 15.9**	**-2.6**
	comp=Z,4.0nm,0.6s						
AB31				S	**S**	**08 21 21.8**	**-12**
VOSK	**Vostochnaya**	**12.53**	**359**	⇓P	**P**	**08 19 26.0**	**+1.8**
	comp=Z,2.3nm,0.8s						
VOSK	**Vostochnaya**	**12.53**	**359**	⇓P	**P**	**08 19 26.0**	**+1.8**
	comp=Z,2.3nm,0.8s						
VOSK	**Vostochnaya**	**12.53**	**359**	⇓P	**P**	**08 19 26.0**	**+1.8**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVA0	**Borovoye Array**	**12.85**	**358**	⇓P	**P**	**08 19 29.1**	**+0.7**
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**12.85**	**358**	Pn	**P**	**08 19 25.5**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=170,slow=12,SNR=7.4						
BVAR				Lg		08 23 14.0	
	comp=Z,0.4nm,0.3s,baz=156,slow=25,SNR=3.1						
BRVK	**Borovoye**	**12.88**	**357**	*e*P	**P**	**08 19 28.2**	**-0.7**
	comp=Z,1.9nm,0.6s						
BRVK	**Borovoye**	**12.88**	**357**	*e*P	**P**	**08 19 28.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTK	**Aktyubinsk**	**13.82**	**322**	⇓P	**P**	**08 19 41.6**	**+0.4**
AKTK				S	**S**	**08 22 06.9**	**-7.9**
AKTO	**Aktyubinsk**	**13.82**	**322**	⇓P	**P**	**08 19 41.6**	**+0.4**
	comp=Z,1.2nm,0.8s						
AKTO				⇑S	**S**	**08 22 06.9**	**-7.9**
	comp=Z,0.5nm,0.7s						
ZAL	**Zalesovo**	**16.51**	**29**	Pn	**P**	**08 20 15.2**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=274,slow=8.6,SNR=4.7						
ZAL				Lg		08 25 07.3	
	comp=Z,0.4nm,0.3s,baz=8.1,slow=14,SNR=2.5						
NVS	**Novosibirsk**	**16.70**	**25**	*e*P	**P**	**08 20 14.9**	**-3.5**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LSA	**Lhasa**	**19.34**	**117**	*e*P	**P**	**08 20 46.5**	**-4.5**
	comp=Z,5.9nm,0.3s						
LSA	**Lhasa**	**19.34**	**117**	*e*P	**P**	**08 20 46.5**	**-4.5**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ZAK	**Zakamensk**	**24.55**	**55**	*e*P	**P**	**08 21 42.5**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
SONM	**Songino Array**	**26.22**	**61**	P	**P**	**08 21 57.8**	**-1.4**
	comp=Z,1.3nm,0.8s,mb3.5,baz=273,slow=8.7,SNR=8.6						
AKASG	**Malin Array Be**	**30.91**	**304**	P	**P**	**08 22 41.1**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.6,baz=75,slow=8.0,SNR=2.4						
BOD	**Bodaibo**	**32.42**	**43**	*e*P	**P**	**08 22 52.3**	**-2.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
FINES	**FINESS Array B**	**34.59**	**323**	P	**P**	**08 23 13.6**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=101,slow=9.7,SNR=12						
FINES				pP	pP	08 23 20.4	+0.1
	comp=Z,1.2nm,0.5s,baz=101,slow=9.0,SNR=3.8						
ARCES	**ARCESS Array B**	**37.83**	**336**	P	**P**	**08 23 41.0**	**+0.3**
	comp=Z,1.1nm,0.5s,mb3.9,baz=112,slow=9.1,SNR=24						
GERES	**GERESS Array B**	**41.05**	**302**	P	**P**	**08 24 08.8**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.2,baz=63,slow=6.6,SNR=3.6						
GERES				pP	pP	08 24 16.4	+1.7
	comp=Z,0.5nm,0.5s,baz=63,slow=9.0,SNR=2.6						
NB2	**NORSAR Subarra**	**41.60**	**321**	P	**P**	**08 24 11.3**	**-0.5**
	comp=Z,3.3nm,1.1s,mb3.9,baz=89,slow=7.4						
NB2	**NORSAR Subarra**	**41.60**	**321**	P	**P**	**08 24 11.3**	**-0.5**
NB2				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
NOA	**NORSAR Array B**	**41.60**	**321**	P	**P**	**08 24 12.0**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.4,baz=103,slow=7.7,SNR=2.4						
NOA				pP	pP	08 24 18.8	-0.1
	comp=Z,0.6nm,0.4s,baz=107,slow=7.9,SNR=2.9						
INK	**Inuvik**	**70.23**	**10**	*e*P	**P**	**08 27 36.2**	**-0.8**
	comp=Z,2.7nm,0.6s,mb4.3						
INK	**Inuvik**	**70.23**	**10**	*e*P	**P**	**08 27 36.2**	**-0.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**71.18**	**16**	P	**P**	**08 27 41.1**	**-1.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=323,slow=4.7,SNR=13						
YKA	**Yellowknife Ar**	**77.55**	**3**	P	**P**	**08 28 18.8**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=352,slow=5.7,SNR=5.9						
WRA	**Warramunga Arr**	**83.79**	**122**	P	**P**	**08 28 50.8**	**-2.6**
	comp=Z,1.3nm,0.7s,mb4.2,baz=324,slow=4.8,SNR=19						

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*IDC **04** 08:18:18.8±1.8, 2.26N×96.09E, mb4.3/8, mb1 4.4/8, mb1mx4.0/19, mbtmp4.3/8, Error ellipse: s-maj=84.5km s-min=18.9km az=54.0*
*NEIC **04** 08:18:23.5±0.6, 2.35N×96.20E, h30^{km}, mb4.4/3, Error ellipse: s-maj=15.3km s-min=7.9km az=46.0*
ISC 04 08:18:23.7±6.6**, 2.4N**±0.2×**96.3E**±0.3**, h46**^{km}±51^{km}**, n16, σ0^{s}65**/16**, mb4.3**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.20**	**57**	*e*P	**P**	**08 19 41.2**	**+0.3**
KKM	**Kota Kinabalu**	**20.19**	**79**	*e*P	**P**	**08 22 56.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**35.38**	**126**	P	**P**	**08 25 16.8**	**-0.5**
	3.1nm,0.5s,mb4.5,baz=339,slow=5.0,SNR=3.7						
FITZ	**Fitzroy Crossi**	**35.38**	**126**	P	**P**	**08 25 16.8**	**-0.5**
WRA	**Warramunga Arr**	**43.45**	**123**	P	**P**	**08 26 24.7**	**+0.3**
	0.7nm,0.6s,mb3.6,baz=297,slow=9.3,SNR=16						
WRAB	**Tennant Creek**	**43.46**	**123**	*e*P	**P**	**08 26 24.9**	**+0.5**
	2.8nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**43.46**	**123**	*e*P	**P**	**08 26 24.7**	**+0.2**
MKAR	**Makanchi Array**	**45.85**	**347**	P	**P**	**08 26 43.7**	**+0.5**
	6.0nm,0.7s,mb4.7,baz=165,slow=8.0,SNR=23						
SONM	**Songino Array**	**46.07**	**9**	P	**P**	**08 26 45.5**	**+0.5**
	3.5nm,0.5s,mb4.5,baz=191,slow=9.6,SNR=30						
SONM				PcP	PcP	08 28 22.2	+1.0
	0.6nm,0.5s,baz=198,slow=3.5,SNR=3.8						
ULN	**Ulaanbaatar**	**46.22**	**10**	*e*P	**P**	**08 26 46.7**	**+0.6**
	2.4nm,0.5s,mb4.4						
KURK	**Kurchatov**	**50.39**	**345**	*e*P	**P**	**08 27 17.8**	**-0.7**
	8.1nm,1.3s,mb4.6						
ZAL	**Zalesovo**	**52.21**	**351**	P	**P**	**08 27 32.5**	**+0.4**
	5.4nm,0.5s,mb4.8,baz=284,slow=3.5,SNR=7.8						
BVAR	**Borovoye Array**	**54.81**	**341**	P	**P**	**08 27 51.0**	**-0.3**
	2.3nm,0.6s,mb4.4,baz=150,slow=8.6,SNR=8.8						
BRVK	**Borovoye**	**54.87**	**341**	*e*P	**P**	**08 27 50.5**	**-1.3**
FINES	**FINESS Array B**	**78.50**	**333**	P	**P**	**08 30 21.1**	**-0.4**
	2.9nm,1.1s,mb4.1,baz=90,slow=9.5,SNR=3.3						
ARCES	**ARCESS Array B**	**81.09**	**340**	P	**P**	**08 30 36.1**	**+0.9**
	2.0nm,0.8s,mb4.1,baz=90,slow=4.9,SNR=7.1						

ISC 04 08:51:43.6±1.1**, 38.31N**±0.05×**26.59E**±0.07**, h10**^{km}**, n7, σ0^{s}76**/14**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.05**	**4**	*i* P	**Pg**	**08 51 45.3**	**-0.4**
URLA				*i* S	**Sg**	**08 51 47.7**	**+0.6**
BLCB	**Balcova**	**0.36**	**78**	PG	**Pg**	**08 51 50.7**	**-0.4**
BLCB				SG	**Sg**	**08 51 56.3**	**+0.2**
IZM	**Izmir**	**0.54**	**80**	PG	**Pg**	**08 51 53.5**	**-1.0**
IZM				SG	**Sg**	**08 52 02.4**	**+0.7**
KDAG	**Bornova**	**0.54**	**80**	*i* P	**Pg**	**08 51 53.0**	**-1.5**
KDAG				*i* S	**Sg**	**08 52 01.1**	**-0.7**
AYDN	**Tasoluk**	**1.21**	**122**	*i* P	**Pb**	**08 52 06.3**	**+0.2**
AYDN				*i* S	**Sb**	**08 52 21.4**	**-0.2**
BDRM	**Kayabasi**	**1.42**	**151**	*i* P	**Pn**	**08 52 10.7**	**+1.1**
BDRM				*i* S	**Sb**	**08 52 27.4**	**-0.3**
MANT	**Manisa**	**1.56**	**83**	*i* P	**Pn**	**08 52 11.9**	**+0.4**
MANT				*i* S	**Sb**	**08 52 33.0**	**+1.3**

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*IDC **04** 09:30:34.5±1.7, 12.19N×87.64W, mb3.7/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=223.6km s-min=23.4km az=51.0*
*CASC **04** 09:30:40.6±2.4, 12.09N×87.68W, h26^{km}±7^{km}, MD4.1*
ISC 04 09:30:39.1±0.9**, 12.02N**±0.05×**87.72W**±0.04**, h20**^{km}±7^{km}**, n38, σ0^{s}98**/50**, mb3.7**/3**, 8C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.90**	**64**	⇑*e*P	**Pb**	**09 30 55.8**	**0.0**
CRIN	**San Cristobal**	**0.94**	**44**	⇓*e*P	**Pb**	**09 30 56.6**	**+0.1**
TEL3	**Telica 3**	**1.01**	**57**	⇑*e*P	**Pb**	**09 30 57.3**	**-0.5**
TELN	**Telica**	**1.04**	**56**	⇓*e*P	**Pb**	**09 30 57.8**	**-0.5**
MIRN	**Miramar**	**1.07**	**67**	⇑*e*P	**Pb**	**09 30 58.4**	**-0.3**
CNGN	**Cerro Negro**	**1.10**	**64**	*e*P	**Pb**	**09 30 57.9**	**-1.4**
COPN	**Copaltepe**	**1.11**	**82**	⇓*e*P	**Pb**	**09 30 59.5**	**0.0**
COPN				*e*S	**Sb**	**09 31 17.0**	**+3.4**
MOMJ	**Momotombo**	**1.21**	**71**	⇑*e*P	**Pn**	**09 31 00.2**	**-0.9**
CNCH	**Conchagua**	**1.25**	**355**	⇑*e*P	**Pn**	**09 31 02.8**	**+1.1**
CNCH				*e*S	**Sb**	**09 31 18.0**	**+0.3**
XAVN	**Gruta Xavier**	**1.36**	**85**	⇓*e*P	**Pn**	**09 31 03.3**	**-0.1**
CRUN	**El Crucero**	**1.39**	**91**	*e*P	**Pn**	**09 31 04.2**	**+0.5**
CRUN				*e*S	**Sn**	**09 31 21.6**	**+0.1**
MGAN	**Managua**	**1.44**	**85**	*e*P	**Pn**	**09 31 04.2**	**-0.2**
MGAN				*e*S	**Sn**	**09 31 22.1**	**-0.8**
TICN	**Ticuantepe**	**1.45**	**89**	*e*P	**Pn**	**09 31 04.8**	**+0.2**
VSM	**San Miguel**	**1.50**	**339**	*e*P	**Pn**	**09 31 06.6**	**+1.4**
BLLM	**Bellamira**	**1.50**	**340**	*e*P	**Pn**	**09 31 06.2**	**+1.0**
BLLM				*e*S	**Sn**	**09 31 23.4**	**-1.0**
WILN	**Americas 2**	**1.50**	**85**	⇑*e*P	**Pn**	**09 31 05.0**	**-0.3**
WILN				*e*S	**Sn**	**09 31 26.0**	**+1.6**
MASN	**Masaya**	**1.53**	**91**	*e*P	**Pn**	**09 31 05.2**	**-0.6**
APON	**Apoyo**	**1.62**	**94**	⇑*e*P	**Pn**	**09 31 06.8**	**-0.1**
APON				*e*S	**Sn**	**09 31 29.5**	**+2.1**
PYTN	**Playitas**	**1.70**	**72**	*e*P	**Pn**	**09 31 06.7**	**-1.5**
SNVI	**San Vicente**	**1.92**	**325**	*e*P	**Pn**	**09 31 11.7**	**+0.4**
SNVI				*e*S	**Sn**	**09 31 35.2**	**+0.1**
SSNN	**San Juan del S**	**1.97**	**112**	⇑*e*P	**Pn**	**09 31 11.6**	**-0.4**
SSNN				*e*S	**Sn**	**09 31 35.4**	**-0.9**
LCBS	**La Ceiba**	**2.04**	**323**	*e*P	**Pn**	**09 31 13.4**	**+0.4**
LCBS				*e*S	**Sn**	**09 31 37.5**	**-0.6**
LFRS	**El Faro**	**2.06**	**321**	*e*P	**Pn**	**09 31 13.6**	**+0.3**
LFRS				*e*S	**Sn**	**09 31 38.2**	**-0.5**
CONN	**Concepcion**	**2.10**	**102**	*e*P	**Pn**	**09 31 13.4**	**-0.4**
MADN	**Villa Maderas**	**2.22**	**106**	*e*P	**Pn**	**09 31 15.0**	**-0.6**
BOQS	**Boqueron**	**2.29**	**318**	*e*P	**Pn**	**09 31 17.1**	**+0.5**
BOQS				*e*S	**Sn**	**09 31 44.2**	**-0.2**
VCR	**Vista de Mar**	**2.78**	**132**	*e*P	**Pn**	**09 31 22.7**	**-0.9**
JCR	**Jicaral**	**3.35**	**130**	⇓*e*P	**Pn**	**09 31 30.9**	**-0.7**
CGA2	**Cerro Gallo 2**	**3.76**	**122**	*e*P	**Pn**	**09 31 38.7**	**+1.2**
VPS2	**Volcan Poas 2**	**3.87**	**118**	*e*P	**Pn**	**09 31 41.1**	**+2.0**
PRS1	**Puriscal**	**3.91**	**121**	*e*P	**Pn**	**09 31 40.6**	**+1.0**
LAJ	**Bijagual**	**4.13**	**121**	*e*P	**Pn**	**09 31 40.0**	**-2.8**
LCR2	**La Lucha 2**	**4.29**	**121**	*e*P	**Pn**	**09 31 46.4**	**+1.3**
BUS	**Buena Vista**	**4.60**	**122**	⇓*i*P	**Pn**	**09 31 50.7**	**+1.4**
BUS				*e*S	**Sn**	**09 32 42.7**	**-0.2**
TXAR	**Lajitas Array**	**22.74**	**322**	P	**P**	**09 35 37.6**	**-3.8**
	3.3nm,0.8s,mb3.8,baz=135,slow=10,SNR=37						
PDAR	**Pinedale Array**	**36.03**	**332**	P	**P**	**09 37 36.6**	**-4.4**
	0.4nm,0.9s,mb3.4,baz=117,slow=6.0,SNR=3.5						
SIV	**San Ignacio**	**38.34**	**136**	P	**P**	**09 37 58.0**	**-2.8**
	1.6nm,0.7s,mb3.9,baz=333,slow=12,SNR=16						
WRA	**Warramunga Arr**	**138.90**	**253**	PKP	PKPdf	09 50 02.5	-6.8
	0.1nm,0.6s,baz=92,slow=1.4,SNR=4.5						

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*IDC **04** 09:45:46.1±1.4, 33.00N×142.68E, mb3.6/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=45.5km s-min=27.1km az=74.0*
*JMA **04** 09:45:50.4±0.6, 33.17N×142.48E, h72^{km}, M3.2*
*NEIC **04** 09:45:52.1±1.0, 33.00N×142.45E, h40^{km}, mb4.6/2, Error ellipse: s-maj=36.1km s-min=15.6km az=53.0*
ISC 04 09:45:50.0±1.5**, 33.12N**±0.07×**142.50E**±0.09**, h35**^{km}±13^{km}**, n20, σ0^{s}92**/27**, mb3.8**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.98**	**321**	P	**P**	**09 46 21.8**	**+0.1**
BSO1				*e*S	**S**	**09 46 45.2**	**-0.4**
JHJ2	**Mitsune**	**2.25**	**270**	P	**P**	**09 46 26.2**	**+0.6**
JHJ2				S	**S**	**09 46 52.9**	**+0.5**
JHJ	**Hachijo jima 2**	**2.28**	**271**	Sn	**S**	**09 46 52.9**	**-0.3**
	43nm,0.3s,baz=98,slow=23,SNR=6.3						
BSO3	**Boso 3**	**2.35**	**316**	P	**P**	**09 46 27.4**	**+0.4**
BSO3				*e*S	**S**	**09 46 56.2**	**+1.2**
BSO4	**Boso 4**	**2.59**	**317**	P	**P**	**09 46 31.2**	**+0.8**
JOD2	**Odawara 2**	**3.54**	**308**	P	**P**	**09 46 43.1**	**-0.9**
JYN	**Shimob**	**4.04**	**307**	P	**P**	**09 46 51.6**	**+0.6**
JAG	**Ashikaga**	**4.14**	**324**	P	**P**	**09 46 51.9**	**-0.6**
JRY	**Ryogami san**	**4.14**	**315**	P	**P**	**09 46 52.3**	**-0.2**
JRY				S	**S**	**09 47 39.2**	**-1.2**
MAJO	**Matsushiro**	**4.91**	**315**	*e*P	**P**	**09 47 03.0**	**-0.3**
MAT	**Matsushiro**	**4.91**	**315**	P	**P**	**09 47 04.1**	**+0.7**
MAT				S	**S**	**09 47 59.3**	**-0.4**
MAT	**Matsushiro**	**4.91**	**315**	P	**P**	**09 47 03.2**	**-0.2**
MAT				*e*S	**S**	**09 47 58.5**	**-1.2**
MAT	**Matsushiro**	**4.91**	**315**	*e*P	**P**	**09 47 04.0**	**+0.6**
MAT				*e*S	**S**	**09 47 59.0**	**-0.7**
ASAJ	**Asahikawa**	**10.98**	**0**	Pn	**P**	**09 48 23.9**	**-3.8**
	0.8nm,0.3s,baz=152,slow=16,SNR=5.6						
SONM	**Songino Array**	**30.83**	**309**	P	**P**	**09 52 06.0**	**+1.2**
	0.4nm,0.6s,mb3.4,baz=124,slow=9.2,SNR=3.2						
LZH	**Lanzhou**	**31.82**	**286**	*e*P	**P**	**09 52 10.0**	**-3.6**
	34nm,1.6s,mb4.9						
LZH				pP	pP	09 52 25.5	+1.9
MKAR	**Makanchi Array**	**47.03**	**305**	P	**P**	**09 54 20.7**	**+1.0**
	0.4nm,0.6s,mb3.6,baz=88,slow=11,SNR=3.6						
KURK	**Kurchatov**	**49.11**	**311**	*e*P	**P**	**09 54 35.6**	**-0.2**
	2.1nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**53.34**	**190**	P	**P**	**09 55 06.1**	**-2.1**
	0.4nm,0.6s,mb3.5,baz=6.4,slow=7.6,SNR=9.6						
TXAR	**Lajitas Array**	**91.78**	**53**	P	**P**	**09 58 56.5**	**+0.9**
	0.1nm,0.7s,mb3.3,baz=304,slow=3.3,SNR=3.6						

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*NIED **04** 10:06:00, 33.50N×132.10E, h38^{km}, Mw4.2 Best double couple: $M_0$2.4×10^{15} NP1:ϕ_s146°, δ82°, λ-95°. NP2:ϕ_s359°, δ10°, λ-57°.*
*NEIC **04** 10:06:24.8±0.4, 33.52N×131.97E, mb4.2/4, Error ellipse: s-maj=9.2km s-min=7.3km az=156.0*
NEIC Felt at Hiroshima and Iwakuni, Honshu. Recorded [3 JMA] in Ehime and [1 JMA] in Kochi Prefectures, Shikoku. Recorded [2 JMA] in Fukuoka and [1 JMA] in Kumamoto, Miyazaki and Oita Prefectures. Also recorded [2 JMA] in Hiroshima, Okayama and Yamaguchi Prefectures, Honshu.
*JMA **04** 10:06:24.3, 33.50N×132.10E, h54^{km}, M4.3 Broadband fault plane solution: P waves. NP1:ϕ_s170°, δ50°, λ-125°. NP2:ϕ_s37°, δ51°, λ-56°. Principal axes: T Plg1°, Azm104°; N Plg26°, Azm194°; P Plg64°, Azm12°;*
JMA Felt III J1.
*IDC **04** 10:06:24.7±0.5, 33.55N×131.99E, h61^{km}±4^{km}, mb3.7/12, mb1 4.0/13, mb1mx3.8/22, mbtmp4.0/13, MS3.3/1, Ms1 3.3/1, ms1mx3.0/22 Error ellipse: s-maj=13.1km s-min=6.6km az=146.0*
ISC 04 10:06:23.2±0.3**, 33.50N**±0.04×**132.07E**±0.04**, h62**^{km}±3^{km}**, h60**^{km}±2.1^{km}**:pP-P, n35, σ0^{s}98**/48**, mb4.0**/17**, 6C-3D, Shikoku**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.34**	**81**	⇓P	**P**	**10 06 34.0**	**0.0**
JNA				S	**S**	**10 06 40.9**	**-1.0**
JKI	**Kunimi**	**0.44**	**287**	⇑P	**P**	**10 06 35.4**	**+0.6**
JKI				S	**S**	**10 06 43.3**	**0.0**
JUS	**Usuki**	**0.51**	**212**	⇓P	**P**	**10 06 36.1**	**+0.5**
JUS				S	**S**	**10 06 44.6**	**0.0**
UWA2	**Uwa jima 2**	**0.55**	**122**	⇓P	**P**	**10 06 35.9**	**0.0**
UWA2				S	**S**	**10 06 44.6**	**-0.6**
JHM	**Kurahashi**	**0.74**	**31**	⇑P	**P**	**10 06 38.6**	**+0.4**
JHM				S	**S**	**10 06 49.5**	**+0.2**
JKU	**Kubokawa**	**0.85**	**103**	⇑P	**P**	**10 06 39.7**	**+0.1**
JKU				S	**S**	**10 06 51.6**	**-0.2**
JET	**Tanbara**	**0.86**	**71**	⇑P	**P**	**10 06 39.9**	**+0.2**
JET				S	**S**	**10 06 51.6**	**-0.4**
JTO	**Tosashimizu**	**0.89**	**136**	⇑P	**P**	**10 06 40.2**	**+0.1**
JTO				S	**S**	**10 06 52.4**	**-0.2**
JNU	**Nakatsue**	**1.07**	**250**	P	**P**	**10 06 43.4**	**+0.9**
	215nm,0.3s,baz=65,slow=8.7,SNR=811						
JNU				S	**S**	**10 06 57.3**	**+0.5**
	320nm,0.3s,baz=270,slow=14,SNR=42						
JHT	**Toyohira**	**1.19**	**14**	⇑P	**P**	**10 06 45.1**	**+0.9**
JHT				S	**S**	**10 07 00.9**	**+1.1**
KS15	**Wonju Array Si**	**5.21**	**320**	*e*P	**P**	**10 07 40.2**	**-0.2**
KS15				*e*S	**S**	**10 08 37.2**	**-2.6**
MAJO	**Matsushiro**	**5.88**	**57**	*e*P	**P**	**10 07 49.7**	**0.0**
	17nm,0.4s						
MAT	**Matsushiro**	**5.88**	**57**	P	**P**	**10 07 49.9**	**+0.2**
MAT				S	**S**	**10 08 52.9**	**-3.6**
MAT	**Matsushiro**	**5.88**	**57**	*e*P	**P**	**10 07 50.0**	**+0.3**
	11nm,0.5s						
MAT				*e*S	**S**	**10 08 53.0**	**-3.5**
ASAJ	**Asahikawa**	**13.39**	**35**	P	**P**	**10 09 30.4**	**-1.6**
	0.3nm,0.3s,baz=159,slow=8.3,SNR=5.9						
ASAJ				LR	LR	10 14 00.5	
	comp=Z,155nm,21.3s,baz=99,slow=34						
SONM	**Songino Array**	**24.03**	**314**	P	**P**	**10 11 33.6**	**+0.5**
	1.4nm,0.7s,mb3.5,baz=135,slow=9.9,SNR=11						
SONM				pP		10 11 48.3	
	1.9nm,0.7s,baz=126,slow=10.0,SNR=8.1						
SONM				sP		10 11 54.4	
	1.9nm,0.6s,baz=128,slow=9.8,SNR=6.4						
MKAR	**Makanchi Array**	**39.66**	**305**	P	**P**	**10 13 49.3**	**-1.2**
	0.3nm,0.8s,mb3.1,baz=99,slow=9.0,SNR=2.4						
MKAR				pP	pP	10 14 04.6	-1.6
	0.4nm,0.6s,baz=102,slow=8.3,SNR=3.5						
MKAR				ScP		10 19 37.0	
	0.6nm,0.8s,baz=117,slow=2.7,SNR=4.1						
BVAR	**Borovoye Array**	**47.37**	**314**	P	**P**	**10 14 51.3**	**-1.4**
	0.8nm,0.6s,mb3.8,baz=79,slow=7.3,SNR=4.0						
BVAR				pP	pP	10 15 07.6	-1.1
	0.5nm,0.4s,baz=90,slow=10,SNR=3.0						
BVAR	**Borovoye Array**	**47.37**	**314**	P	**P**	**10 14 51.3**	**-1.4**
BVAR				pP	pP	10 15 07.6	-1.1
FITZ	**Fitzroy Crossi**	**51.68**	**188**	P	**P**	**10 15 25.6**	**-0.6**
	6.4nm,0.8s,mb4.6,baz=16,slow=7.3,SNR=4.4						
WRA	**Warramunga Arr**	**53.19**	**177**	P	**P**	**10 15 36.2**	**-1.3**
	0.3nm,0.4s,mb3.6,baz=354,slow=7.8,SNR=9.3						
WRA				pP	pP	10 15 53.8	+0.1
	0.3nm,0.4s,baz=354,slow=8.1,SNR=2.8						
WRA				sP	sP	10 15 59.2	-1.6
	0.3nm,0.4s,baz=354,slow=7.7,SNR=2.2						
ILAR	**Eielson Array**	**56.49**	**31**	P	**P**	**10 16 00.2**	**-0.6**
	1.1nm,0.7s,mb4.0,baz=266,slow=5.9,SNR=14						
ILAR				pP	pP	10 16 17.4	+0.2
	0.9nm,0.8s,baz=290,slow=8.7,SNR=5.3						
INK	**Inuvik**	**60.91**	**25**	*e*P	**P**	**10 16 31.2**	**-0.3**
	2.0nm,0.7s,mb4.4						
ARCES	**ARCESS Array B**	**64.50**	**338**	P	**P**	**10 16 52.8**	**-2.3**
	2.5nm,0.9s,mb4.2,baz=63,slow=8.1,SNR=5.4						
STKA	**Stephens Creek**	**65.65**	**171**	P	**P**	**10 17 02.8**	**-0.4**
	1.9nm,0.9s,mb4.1,baz=326,slow=3.6,SNR=4.1						
STKA				pP	pP	10 17 17.8	-2.2
	1.3nm,0.7s,baz=313,slow=7.9,SNR=3.0						
FINES	**FINESS Array B**	**68.21**	**330**	P	**P**	**10 17 17.4**	**-1.3**
	0.6nm,0.5s,mb3.9,baz=35,slow=5.6,SNR=7.9						
YKA	**Yellowknife Ar**	**70.55**	**27**	P	**P**	**10 17 33.5**	**+0.4**
	0.4nm,0.7s,mb3.4,baz=295,slow=6.1,SNR=4.3						
YKA				pP	pP	10 17 49.7	-0.4
	0.8nm,0.7s,baz=310,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**70.55**	**27**	P	**P**	**10 17 33.5**	**+0.4**
YKA				pP	pP	10 17 49.7	-0.4
HLID	**Hailey**	**82.25**	**42**	*e*P	**P**	**10 18 40.0**	**+0.9**
	1.8nm,0.7s,mb4.1						
BOZ	**Bozeman (W)**	**82.42**	**39**	*e*P	**P**	**10 18 41.7**	**+1.7**
	2.8nm,0.7s,mb4.3						
BW06	**Boulder Array**	**85.45**	**41**	*e*P	**P**	**10 18 56.5**	**+1.3**
	1.0nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**85.45**	**41**	P	**P**	**10 18 57.1**	**+1.9**
	0.9nm,0.7s,mb4.0,baz=333,slow=2.1,SNR=11						
ULM	**Lac du Bonnet**	**86.45**	**29**	P	**P**	**10 19 01.2**	**+1.3**
	4.7nm,0.8s,mb4.8,baz=308,slow=6.2,SNR=6.5						
ULM				pP	pP	10 19 17.1	-0.3
	1.6nm,0.7s,baz=19,slow=3.3,SNR=2.4						
TXAR	**Lajitas Array**	**98.22**	**47**	P	**P**	**10 19 57.0**	**+2.0**
	0.2nm,0.5s,mb3.9,baz=307,slow=4.5,SNR=3.6						
TXAR	**Lajitas Array**	**98.22**	**47**	P	**P**	**10 19 57.0**	**+2.0**

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*JMA **04** 10:08:29.4±0.5, 33.12N×142.43E, h78^{km}, M3.7*
*NEIC **04** 10:08:30.9±0.6, 33.01N×142.56E, mb4.6/1, Error ellipse: s-maj=17.4km s-min=10.8km az=59.0*
*IDC **04** 10:08:31.0±0.9, 33.04N×142.47E, h35^{km}±6^{km}, mb3.7/9, mb1 3.8/10, mb1mx3.7/20, mbtmp3.9/10, ML3.7/1, MS4.2/1, Ms1 4.2/1, ms1mx3.1/23, Error ellipse: s-maj=21.1km s-min=18.9km az=86.0*
ISC 04 10:08:29.3±0.6**, 33.09N**±0.05×**142.46E**±0.07**, h37**^{km}**, h37**^{km}±1.3^{km}**:pP-P, n31, σ0^{s}94**/36**, mb3.9**/10**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.99**	**322**	P	**P**	**10 09 01.2**	**+0.1**
BSO1				S	**S**	**10 09 24.5**	**-0.5**
JHJ2	**Mitsune**	**2.22**	**271**	P	**P**	**10 09 04.7**	**+0.3**
JHJ	**Hachijo jima 2**	**2.25**	**271**	Pn	**P**	**10 09 04.8**	**-0.1**
	54nm,0.3s,baz=261,slow=20,SNR=8.2						
JHJ				Sn	**S**	**10 09 31.6**	**0.0**
	126nm,0.3s,baz=88,slow=22,SNR=11						
BSO3	**Boso 3**	**2.35**	**317**	P	**P**	**10 09 06.5**	**+0.2**
BSO3				*e*S	**S**	**10 09 36.5**	**+2.2**
BSO4	**Boso 4**	**2.59**	**318**	P	**P**	**10 09 09.9**	**+0.2**
KTR	**Katsuura**	**2.71**	**320**	S	**S**	**10 09 43.3**	**-0.2**
TATJ	**Tateyama 2**	**2.88**	**313**	*e*S	**S**	**10 09 48.5**	**+0.8**
CHOJ	**Chosi**	**2.92**	**334**	*e*S	**S**	**10 09 47.7**	**-1.0**
JIM2	**Oshima 3**	**3.00**	**304**	P	**P**	**10 09 14.5**	**-1.0**
JIZS	**Izushimoda**	**3.39**	**300**	S	**S**	**10 09 59.6**	**-1.1**
JOD2	**Odawara 2**	**3.54**	**309**	P	**P**	**10 09 22.7**	**-0.5**
JYN	**Shimob**	**4.03**	**308**	P	**P**	**10 09 30.8**	**+0.6**
JRY	**Ryogami san**	**4.14**	**316**	S	**S**	**10 10 19.6**	**0.0**
JAG	**Ashikaga**	**4.14**	**324**	P	**P**	**10 09 31.2**	**-0.6**
MAJO	**Matsushiro**	**4.91**	**316**	P	**P**	**10 09 44.7**	**+2.0**
MAT	**Matsushiro**	**4.91**	**316**	P	**P**	**10 09 43.4**	**+0.8**
MAT				S	**S**	**10 10 37.5**	**-1.5**
MAT	**Matsushiro**	**4.91**	**316**	*e*P	**P**	**10 09 43.0**	**+0.4**
MAT				*e*S	**S**	**10 10 38.0**	**-1.0**
JMM	**Marumori**	**4.95**	**345**	P	**P**	**10 09 40.3**	**-3.0**
JMM				S	**S**	**10 10 33.4**	**-6.7**
ASAJ	**Asahikawa**	**11.01**	**1**	Pn	**P**	**10 11 03.1**	**-4.2**
	1.4nm,0.3s,baz=213,slow=11,SNR=8.1						
JOW	**Kunigami**	**13.78**	**247**	LR	LR	10 16 12.0	
	comp=Z,1µm,21.5s,baz=308,slow=34						
SONM	**Songino Array**	**30.82**	**309**	P	**P**	**10 14 45.1**	**+1.3**
	0.9nm,0.6s,mb3.8,baz=110,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**47.02**	**305**	P	**P**	**10 16 59.5**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=89,slow=9.6,SNR=11						
MKAR	**Makanchi Array**	**47.02**	**305**	P	**P**	**10 16 59.5**	**+0.7**
KURK	**Kurchatov**	**49.10**	**311**	*e*P	**P**	**10 17 14.9**	**+0.1**
	4.8nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**52.40**	**31**	P	**P**	**10 17 39.2**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=262,slow=6.1,SNR=5.1						
ILAR				pP	pP	10 17 50.4	-0.2
	0.2nm,0.5s,baz=261,slow=6.6,SNR=2.2						
WRA	**Warramunga Arr**	**53.30**	**190**	P	**P**	**10 17 45.3**	**-1.8**
	0.9nm,0.5s,mb4.0,baz=5.6,slow=7.6,SNR=17						
WRA				PcP	PcP	10 18 54.6	+0.3
	0.3nm,0.5s,baz=7.5,slow=4.2,SNR=5.5						
FITZ	**Fitzroy Crossi**	**53.38**	**200**	P	**P**	**10 17 47.1**	**-0.6**
	2.2nm,0.6s,mb4.3,baz=11,slow=5.2,SNR=3.7						
FINES	**FINESS Array B**	**72.70**	**333**	P	**P**	**10 19 55.1**	**+0.4**
	0.9nm,0.9s,mb3.7,baz=90,slow=13,SNR=3.7						
AKASG	**Malin Array Be**	**77.95**	**323**	P	**P**	**10 20 24.9**	**-0.1**
	0.1nm,0.3s,mb3.3,baz=49,slow=4.9,SNR=4.7						
AKASG				pP	pP	10 20 36.8	+0.6
	0.4nm,0.4s,baz=45,slow=5.4,SNR=2.7						
NOA	**NORSAR Array B**	**78.15**	**338**	P	**P**	**10 20 26.6**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=40,slow=5.6,SNR=3.0						
NOA				pP	pP	10 20 37.1	-0.1
	0.7nm,0.6s,baz=31,slow=4.2,SNR=1.6						
TXAR	**Lajitas Array**	**91.82**	**53**	P	**P**	**10 21 36.0**	**+1.1**
	0.2nm,0.6s,mb3.6,baz=290,slow=2.5,SNR=3.7						
TXAR				pP	pP	10 21 47.4	+0.9
	0.2nm,0.7s,baz=243,slow=2.0,SNR=2.7						

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*ISK **04** 10:09:45.5, 37.82N×27.13E, h2^{km}, MD3.2*
*ATH **04** 10:09:46.1, 37.82N×27.23E, h16^{km}±5^{km}, MD3.2/3*
*CSEM **04** 10:09:46.2±0.1, 37.85N×27.23E, h5^{km}, MD3.2, Error ellipse: s-maj=2.6km s-min=1.8km az=96.0*
ISC 04 10:09:46.7±0.4**, 37.83N**±0.02×**27.17E**±0.03**, h5**^{km}**, n19, σ0^{s}86**/29**, 1D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.29**	**246**	⇓*i*PB	**Pb**	**10 09 53.5**	**-0.4**
SMG				*e*SB	**Sb**	**10 09 57.9**	**-0.8**
BLCB	**Balcova**	**0.57**	**350**	*i* PG	**Pg**	**10 09 57.6**	**-0.4**
BLCB				*i* SG	**Sg**	**10 10 05.7**	**+0.1**
IZM	**Izmir**	**0.57**	**7**	*i* PG	**Pg**	**10 09 57.7**	**-0.5**
AYDN	**Tasoluk**	**0.59**	**106**	*i* P	**Pg**	**10 09 58.3**	**-0.1**
AYDN				*i* S	**Sg**	**10 10 05.3**	**-0.9**
URLA	**Izmir**	**0.70**	**320**	*i* P	**Pg**	**10 09 59.6**	**-1.0**
URLA				*i* S	**Sg**	**10 10 09.6**	**-0.4**
MLSB	**Milas**	**0.72**	**138**	PG	**Pg**	**10 10 00.3**	**-0.7**
BODT	**Bodrum**	**0.77**	**172**	PG	**Pg**	**10 10 00.9**	**-1.2**
BDRM	**Kayabasi**	**0.79**	**164**	*i* P	**Pg**	**10 10 02.1**	**-0.3**
BDRM				*i* S	**Sg**	**10 10 14.6**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YER	Yerkesik	1.12	128	PN	Pn	10 10 08.3	-0.6
AKS	Akhisar	1.17	25	PN	Pn	10 10 09.0	-0.6
MANT	Manisa	1.28	58	*i* P	Pb	10 10 11.4	+0.6
MANT				*i* S	Sb	10 10 25.6	-1.8
DENT	Denizli	1.48	92	*e*PN	Pn	10 10 14.9	+0.9
DNZL	Cakiroluk	1.49	95	*i* P	Pn	10 10 14.6	+0.3
DNZL				*i* S	Sb	10 10 34.6	+1.0
APE	Apeiranthos	1.51	240	*e*PN	Pn	10 10 14.4	-0.1
APE				*e*SN	Sn	10 10 35.1	+0.4
APE	Apeiranthos	1.51	240	*e*PN	Pn	10 10 15.1	+0.6
AYVA	Ayvalik	1.53	346	*i* P	Pn	10 10 16.0	+1.3
AYVA				*i* S	Sb	10 10 38.2	+3.6
DALT	Dalyan (Mudla)	1.57	132	*e*PN	Pn	10 10 16.1	+0.7
PRK	Paraskevi	1.58	334	*e*PN	Pn	10 10 15.7	+0.2
PRK				*e*SN	Sn	10 10 37.9	+1.3
KHL	Karahalli	1.92	74	*e*PN	Pn	10 10 21.0	+0.6

IDC ***04*** *10:18:25.9±10.0, 36.46N×71.18E, h58km±91km, mb3.3/4, mb1 3.6/6, mb1mx3.3/19, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=67.3km s-min=26.1km az=32.0*
MOS ***04*** *10:18:26.8±1.5, 36.52N×71.12E, h85km, mb3.9/1, Error ellipse: s-maj=42.1km s-min=15.5km az=73.3*
NEIC ***04*** *10:18:27.4±5.0, 36.48N×71.20E, h72km±37km, mb3.5/1, Error ellipse: s-maj=44.2km s-min=23.4km az=209.0*
NNC ***04*** *10:18:33.8±5.6, 37.27N×71.06E, mpv3.9, Error ellipse: s-maj=73.8km s-min=35.1km az=137.0*
ISC 04 10:18:32.7±2.5**, 36.9N**±0.1×**71.2E**±0.2**, h119**km±20km**, n19,** σ1s**00**/21**, mb3.5**/4**, 3C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.53	20	P	P	10 19 54.0	+0.1
	SNR=24						
UCH	Uchtor	5.87	25	P	P	10 19 59.4	+0.9
	SNR=8.6						
EKS2	Erkin-Say	6.05	18	P	P	10 20 01.3	+0.4
	SNR=8.1						
KK31	Karatay Array	6.18	355	P	P	10 20 01.7	-1.1
	4.4nm,0.5s,baz=175,slow=12,SNR=68						
KK31				⇑S	S	10 21 11.2	-1.5
	12nm,0.5s,baz=193,slow=26,SNR=3.6						
AAK	Ala-Archa	6.22	23	P	P	10 20 03.9	+0.5
	SNR=10.0						
AAK	Ala-Archa	6.22	23	⇑P	P	10 20 03.6	+0.2
	4.4nm,0.3s						
AAK				⇑S	S	10 21 13.8	+0.2
	15nm,0.6s						
AAK	Ala-Archa	6.22	23	*e*P	P	10 20 02.4	-1.0
	11nm,0.3s						
AAK	Ala-Archa	6.22	23	*e*PN	P	10 20 02.4	-0.9
AAK				pmax	pmax		
	comp=Z,11nm,0.3s						
CHMS	Chumysh	6.64	23	P	P	10 20 09.4	+0.4
	SNR=8.1						
USP	Ospenovka	6.81	21	P	P	10 20 11.2	-0.1
	SNR=10						
TKM2	Tokmak 2	6.86	28	P	P	10 20 12.4	+0.3
	SNR=8.8						
MKAR	Makanchi Array	12.84	36	P	P	10 21 31.3	-0.3
	comp=Z,0.1nm,0.3s,baz=224,slow=14,SNR=6.8						
KURK	Kurchatov	14.76	19	*e*P	P	10 21 59.4	+3.1
	comp=Z,3.6nm,1.2s						
KURK	Kurchatov	14.76	19	*e*P	P	10 21 59.4	+3.1
KURK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ZAL	Zalesovo	19.43	25	P	P	10 22 51.0	-0.8
	comp=Z,1.2nm,0.3s,baz=219,slow=5.1,SNR=4.5						
SONM	Songino Array	27.95	56	P	P	10 24 13.9	+0.3
	comp=Z,0.3nm,0.5s,mb3.1,baz=264,slow=9.5,SNR=2.9						
ARCES	ARCESS Array B	40.81	337	P	P	10 26 04.5	+1.2
	comp=Z,1.4nm,0.8s,mb3.9,baz=113,slow=9.2,SNR=7.8						
NOA	NORSAR Array B	44.14	323	P	P	10 26 31.3	+0.9
	comp=Z,0.5nm,0.6s,mb3.4,baz=94,slow=7.6,SNR=2.8						
WRA	Warramunga Arr	82.08	122	P	P	10 30 38.9	-2.5
	comp=Z,0.4nm,0.6s,mb3.5,baz=323,slow=5.0,SNR=11						

JMA ***04*** *10:49:38.0±0.5, 33.14N×142.63E, h84km, M2.9*
IDC ***04*** *10:49:42.5±7.6, 32.36N×140.79E, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=259.3km s-min=25.8km az=68.0*
ISC 04 10:49:37.8±1.5**, 33.34N**±0.07×**142.9E**±0.1**, h53**km±17km**, n16,** σ1s**06**/24**, mb3.8**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.04	311	P	P	10 50 11.2	+0.8
BSO1				*e*S	S	10 50 36.1	+1.4
BSO3	Boso 3	2.44	308	P	P	10 50 16.5	+0.4
BSO3				*e*S	S	10 50 45.3	+0.6
JHJ2	Mitsune	2.56	266	P	P	10 50 15.4	-2.4
BSO4	Boso 4	2.66	309	P	P	10 50 20.0	+0.7
JOD2	Odawara 2	3.67	303	P	P	10 50 32.1	-1.3
JAG	Ashikaga	4.16	319	P	P	10 50 40.6	+0.2
JYN	Shimob	4.17	302	P	P	10 50 40.6	+0.1
JYN				S	S	10 51 28.7	+0.3
JRY	Ryogami san	4.22	310	P	P	10 50 41.9	+0.7
JRY				S	S	10 51 29.0	-0.7
JMM	Marumori	4.82	340	P	P	10 50 50.1	+0.4
JMM				*e*S	S	10 51 43.7	-1.2
MAT	Matsushiro	4.98	311	P	P	10 50 52.4	+0.5
MAT				S	S	10 51 47.4	-1.5
MAT	Matsushiro	4.98	311	P	P	10 50 53.0	+1.1
MAT				S	S	10 51 47.1	-1.8
JMK	Ichinoseki	5.76	347	P	P	10 51 03.0	+0.3
JMK				S	S	10 52 07.4	-0.9
SONM	Songino Array	30.93	309	P	P	10 55 55.0	+3.4
	0.5nm,0.6s,mb3.5,baz=113,slow=9.3,SNR=3.9						
MKAR	Makanchi Array	47.15	305	P	P	10 58 09.5	+3.0
	0.6nm,0.7s,mb3.6,baz=90,slow=8.5,SNR=7.5						
WRA	Warramunga Arr	53.60	190	P	P	10 58 55.3	-0.6
	0.6nm,0.6s,mb3.7,baz=4.4,slow=7.6,SNR=12						
FITZ	Fitzroy Crossi	53.73	200	P	P	10 58 56.4	-0.5
	3.7nm,0.8s,mb4.3,baz=349,slow=8.6,SNR=3.1						

NIED ***04*** *10:51:00, 33.10N×142.50E, h5km, Mw4.3 Best double couple: $M_0$3.68×10^15 NP1:ϕ_s200°, δ69°, λ-89°. NP2:ϕ_s16°, δ21°, λ-93°.*
JMA ***04*** *10:51:06.1±0.3, 33.09N×142.49E, h83km, M4.3*
BJI ***04*** *10:51:07.2, 33.31N×142.75E, h49km, mB4.9, mb4.4, Ms4.8, Msz4.3*
NEIC ***04*** *10:51:08.8±0.3, 33.07N×142.49E, mb4.6/21, MW4.3(NIED), Error ellipse: s-maj=8.1km s-min=6.4km az=190.0*
IDC ***04*** *10:51:08.7±0.7, 33.03N×142.52E, h36km±4km, mb4.1/18, mb1 4.3/20, mb1mx4.2/25, mbtmp4.3/20, ML4.2/2, MS3.7/10, Ms1 3.7/10, ms1mx3.5/32, Error ellipse: s-maj=15.6km s-min=13.8km az=162.0*
MOS ***04*** *10:51:08.5±0.8, 33.49N×142.55E, h33km, mb4.8/21, Error ellipse: s-maj=13.7km s-min=6.4km az=114.4*
ISC 04 10:51:07.4±0.3**, 33.13N**±0.04×**142.42E**±0.04**, h39**km**, h39**km±1.3km**:pP-P, n143,** σ1s**07**/139**, mb4.5**/51**, MS4.0**/10**, 6C-9D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.94	322	S	S	10 52 03.1	+1.2
JHJ2	Mitsune	2.18	270	P	P	10 51 42.2	+0.2
JHJ	Hachijo jima 2	2.21	271	Pn	P	10 51 42.1	-0.3
	185nm,0.3s,baz=86,slow=17,SNR=9.5						
JHJ				Sn	S	10 52 07.5	-1.3
	399nm,0.3s,baz=48,slow=22,SNR=6.7						
JHJ				LR	LR	10 52 16.1	
	comp=Z,1µm,20.8s,baz=308,slow=30						
BSO3	Boso 3	2.30	317	P	P	10 51 43.9	+0.1
BSO3				S	S	10 52 13.2	+2.1
BSO4	Boso 4	2.54	318	P	P	10 51 47.8	+0.7
BSO4				S	S	10 52 17.2	+0.1
KTR	Katsuura	2.67	320	P	P	10 51 49.0	0.0
KTR				S	S	10 52 21.2	+0.8
JIM2	Oshima 3	2.95	303	P	P	10 51 52.0	-1.0
JIM2				S	S	10 52 27.9	+0.4
JOD2	Odawara 2	3.49	309	P	P	10 51 59.5	-1.1
JOD2				S	S	10 52 42.3	+1.1
JYN	Shimob	3.98	308	P	P	10 52 07.0	-0.7
JYN				S	S	10 52 56.3	+2.5
JRY	Ryogami san	4.09	316	P	P	10 52 08.2	-1.0
JRY				S	S	10 52 54.2	-2.3
JAG	Ashikaga	4.10	324	P	P	10 52 08.4	-0.9
JAG				S	S	10 52 54.9	-1.7
MAJO	Matsushiro	4.86	316	*e*P	P	10 52 19.6	-0.5
MAT	Matsushiro	4.86	316	P	P	10 52 19.5	-0.6
MAT				S	S	10 53 15.1	-0.7
MAT	Matsushiro	4.86	316	P	P	10 52 19.6	-0.5
MAT				S	S	10 53 15.0	-0.8
MAT	Matsushiro	4.86	316	*e*P	P	10 52 20.0	-0.1
MAT				*e*S	S	10 53 15.0	-0.8
JMM	Marumori	4.91	345	P	P	10 52 17.7	-3.1
JMM				S	S	10 53 11.6	-5.6
JIE	Ise	4.92	286	P	P	10 52 21.1	+0.2
JNS	Sasagawa	5.32	333	P	P	10 52 24.9	-1.6
JNS				S	S	10 53 24.8	-2.7
JGM	Miyama	5.37	300	P	P	10 52 27.3	+0.2
JMK	Ichinoseki	5.89	351	P	P	10 52 30.9	-3.6
JMK				S	S	10 53 35.1	-6.7
CBIJ	Chichi jima	6.01	182	Sn	S	10 53 34.3	-10
	99nm,0.3s,baz=285,slow=23,SNR=6.8						
JNU	Nakatsue	9.68	273	Pn	P	10 53 27.1	-0.1
	1.5nm,0.3s,baz=66,slow=2.7,SNR=6.6						
JNU				LR	LR	10 56 47.5	
	comp=Z,612nm,20.3s,baz=113,slow=35						
ASAJ	Asahikawa	10.98	1	Pn	P	10 53 40.1	-4.8
	2.9nm,0.3s,baz=209,slow=12,SNR=20						
ASAJ				Sn	S	10 55 34.4	-13
	0.8nm,0.3s,baz=38,slow=19,SNR=4.1						
ASAJ				LR	LR	10 57 56.0	
	comp=Z,110nm,21.7s,baz=170,slow=37						
ASAJ	Asahikawa	10.98	1	P	P	10 53 40.2	-4.7
ASAJ						10 55 34.4	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,110nm,21.7s						
YSS	Yuzh-Sakhalins	13.81	1	*e*P	P	10 54 17.5	-5.3
YSS				pmax	pmax		
	comp=Z,27nm,1.3s						
CN2	Changchun	17.00	314	*e*P	P	10 55 06.4	+2.6
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
KLR	Kul'dur	17.95	337	*e*P	P	10 55 15.0	-0.6
SSE	Sheshan	18.10	269	*e*P	P	10 55 20.5	+2.9
SSE				AMB	AMB		
	comp=Z,32nm,0.7s						
SSE				AMB	AMB		
	comp=Z,639nm,6.8s						
SSE	Sheshan	18.10	269	*e*P	P	10 55 20.5	+2.9
	comp=Z,32nm,0.7s						
GUMO	Guam	19.57	173	LR	LR	11 01 09.6	
	comp=Z,138nm,21.8s,baz=24,slow=31						
NJ2	Nanjing	19.88	273	*e*P	P	10 55 43.4	+5.2
NJ2				PP	PP	10 56 05.7	+8.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,300nm,5.2s						
NJ2				LR	LR		
	comp=N,900nm,19.3s						
NJ2				LR	LR		
	comp=E,1µm,16.8s						
NJ2				LR	LR		
	comp=Z,1µm,18.2s						
HIA	Hailar	23.34	320	*e*P	P	10 56 13.3	+0.4
WHN	Wuhan	23.96	271	⇓P	P	10 56 19.0	0.0
WHN				AP		10 56 29.5	
ENH	Enshi	28.10	273	*e*P	P	10 56 57.4	-0.3
	comp=Z,8.3nm,0.7s,mb4.5						
CIT	Chita	28.15	321	*e*P	P	10 57 02.5	+4.6
CIT				pmax	pmax		
	comp=Z,27nm,3.5s						
YAK	Yakutsk	30.06	348	*i* P	P	10 57 09.2	-5.6
ULN	Ulaanbaatar	30.36	310	*e*P	P	10 57 18.4	+0.8
	comp=Z,15nm,1.2s,mb4.6						
ULN	Ulaanbaatar	30.36	310	*e*P	P	10 57 18.7	+1.0
SEY	Seymchan	30.49	9	*e*P	P	10 57 17.6	-1.1
SONM	Songino Array	30.77	309	P	P	10 57 22.6	+1.2
	comp=Z,2.9nm,0.7s,mb4.2,baz=115,slow=8.4,SNR=15						
SONM				LR	LR	11 08 55.5	
	comp=Z,176nm,19.1s,MS3.7,baz=88,slow=34						
BOD	Bodaibo	31.30	331	*e*P	P	10 57 33.6	+7.7
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
ZAK	Zakamensk	33.43	313	*e*P	P	10 57 46.8	+2.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
GTA	Gaotai	34.67	293	*e*P	P	10 57 56.0	+0.7
GTA				AP	pP	10 58 07.6	+1.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
BILL	Bilibino	37.57	14	⇓*i*P	P	10 58 17.8	-1.7
BILL				*e*	pP	10 58 30.2	-0.2
BILL				*e*SS	SS	11 06 33.6	-7.0
BILL				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.7						
TIXI	Tiksi	39.26	353	*i* P	P	10 58 27.4	-6.2
WMQ	Urumqi	43.44	301	*e*P	P	10 59 11.5	+3.3
ZAL	Zalesovo	45.22	315	P	P	10 59 24.1	+1.7
	comp=Z,1.2nm,0.4s,mb4.1,baz=72,slow=3.8,SNR=3.7						
ZAL				PcP	PcP	11 01 02.2	-0.2
	comp=Z,1.4nm,0.4s,baz=244,slow=5.4,SNR=3.8						
NVS	Novosibirsk	46.19	316	*i* P	P	10 59 37.2	+7.2
MKAR	Makanchi Array	46.97	305	P	P	10 59 37.0	+0.7
	comp=Z,6.5nm,0.7s,mb4.7,baz=89,slow=9.7,SNR=17						
MKAR				pP	pP	10 59 48.9	+1.5
	comp=Z,4.8nm,0.6s,baz=91,slow=9.2,SNR=12						
MKAR				LR	LR	11 19 00.7	
	comp=Z,105nm,21.4s,MS3.8,baz=152,slow=36						
PKI	Pulchoki	49.00	279	*e*P	P	10 59 52.0	-0.4
KKN	Kakani	49.03	280	*e*P	P	10 59 52.7	+0.1
	comp=Z,9.4nm,0.6s,mb5.0						
KURK	Kurchatov	49.05	311	*e*P	P	10 59 51.9	-0.5
	comp=Z,18nm,0.8s,mb5.2						
KURK	Kurchatov	49.05	311	*e*P	P	10 59 51.9	-0.5
KURK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
DMN	Daman	49.24	280	*e*P	P	10 59 54.2	0.0
	comp=Z,39nm,1.3s,mb5.3						
GKN	Gorkha	49.48	280	*e*P	P	10 59 56.3	+0.2
	comp=Z,18nm,0.6s,mb5.3						
KOLN	Koldanda	50.42	280	*e*P	P	11 00 03.6	+0.3
	comp=Z,31nm,1.2s,mb5.2						
SML	Sawmill	51.70	34	*e*P	P	11 00 11.4	-1.0
ILAR	Eielson Array	52.39	31	P	P	11 00 16.4	-1.2
	comp=Z,2.2nm,0.6s,mb4.3,baz=262,slow=6.3,SNR=31						
ILAR				pP	pP	11 00 27.6	-1.1
	comp=Z,1.6nm,0.7s,baz=264,slow=6.0,SNR=6.7						
AAK	Ala-Archa	53.15	301	*e*P	P	11 00 23.5	0.0
	comp=Z,2.3nm,0.6s,mb4.3						
AAK	Ala-Archa	53.15	301	⇓*i*P	P	11 00 24.7	+1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WRAB	Tennant Creek	53.32	189	⇑*i*P	P	11 00 22.8	-2.3
WB2	Warramunga Arr	53.33	189	⇓*i*P	P	11 00 22.7	-2.5
WB2				*i* PCP	PcP	11 01 32.1	-0.2
WRA	Warramunga Arr	53.33	189	P	P	11 00 22.5	-2.7
	comp=Z,10nm,0.6s,mb5.0,baz=7.6,slow=7.7,SNR=71						
WRA				PcP	PcP	11 01 32.2	-0.2
	comp=Z,2.9nm,0.6s,baz=2.4,slow=4.1,SNR=9.2						
FITZ	Fitzroy Crossi	53.40	200	⇓*i*P	P	11 00 24.5	-1.3
	comp=Z,14nm,0.6s,mb5.1						
VOSK	Vostochnaya	53.55	314	P	P	11 00 26.0	-0.4
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BVA0	Borovoye Array	53.85	315	*i* P	P	11 00 28.1	-0.5
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BVAR	Borovoye Array	53.85	315	P	P	11 00 28.1	-0.5
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=7.4,SNR=7.5						
BVAR				pP	pP	11 00 39.3	-0.6
	comp=Z,4.0nm,0.8s,baz=90,slow=7.4,SNR=11						
BVAR				PcP	PcP	11 01 33.9	+0.1
	comp=Z,1.6nm,0.7s,baz=90,slow=3.0,SNR=3.9						
BRVK	Borovoye	53.91	315	*e*P	P	11 00 28.8	-0.3
	comp=Z,2.7nm,0.8s,mb4.2						
BRVK				*e*pP	pP	11 00 39.5	-0.9
BRVK	Borovoye	53.91	315	*e*P	P	11 00 28.8	-0.3
BRVK				*e**PP	pP	11 00 39.5	-0.8
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KKAR	Karatay Array	55.86	303	*i* P	P	11 00 43.2	-0.2
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
INK	Inuvik	57.51	26	P	P	11 00 54.3	-0.5
	comp=Z,2.8nm,0.6s,mb4.5,baz=302,slow=4.9,SNR=16						
ARU	Arti	59.86	320	⇑*i*P	P	11 01 10.5	-0.8
ARU				*e*		11 01 56.0	
ARU				*e*		11 03 22.4	
ARU				*e*PPP	PPP	11 04 46.5	-4.7
ARU				*e*S	S	11 09 15.1	-3.3
ARU				*e*		11 10 50.2	
ARU				*e*SS	SS	11 13 09.0	-7.1
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
AB31	Akbulak array	61.13	312	*i* P	P	11 01 19.4	-0.6
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
DLBC	Dease Lake	61.22	37	P	P	11 01 21.2	+0.7
	comp=Z,1.4nm,0.7s,mb4.2,baz=314,slow=11,SNR=4.7						
STKA	Stephens Creek	64.66	181	⇓*i*P	P	11 01 42.2	-1.4
	comp=Z,3.4nm,0.6s,mb4.5						
STKA	Stephens Creek	64.66	181	P	P	11 01 42.2	-1.4
	comp=Z,5.2nm,0.8s,mb4.6,baz=351,slow=7.4,SNR=11						
YKA	Yellowknife Ar	66.78	29	P	P	11 01 55.7	-0.9
	comp=Z,2.0nm,0.8s,mb4.2,baz=306,slow=6.6,SNR=7.8						
JOF	Joensuu	69.80	333	*e*p	P	11 02 14.4	-0.9
OBN	Obninsk	71.73	324	*e*P	P	11 02 26.8	-0.3
OBN				*i* *PP	pP	11 02 47.0	+8.2
OBN				*e*S	S	11 11 38.0	-5.0
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
YBH	Yreka Blue Hor	72.10	52	P	P	11 02 30.0	+0.5
	comp=Z,1.5nm,0.8s,mb4.0,baz=5.3,slow=4.9,SNR=3.1						
KAF	Kangasniemi	72.16	334	*e*p	P	11 02 29.0	-0.5
	comp=Z,2.9nm,0.6s,mb4.4,baz=49,slow=5.7						
KAF	Kangasniemi	72.16	334	*e*P	P	11 02 29.0	-0.5
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
NEW	Newport	72.37	44	P	P	11 02 31.4	+0.4
	comp=Z,3.7nm,0.9s,mb4.3,baz=330,slow=4.2,SNR=6.9						
FINES	FINESS Array B	72.66	333	P	P	11 02 32.6	+0.2
	comp=Z,3.3nm,0.8s,mb4.3,baz=63,slow=4.3,SNR=11						
FINES				pP	pP	11 02 44.3	+0.2
	comp=Z,2.4nm,0.7s,baz=45,slow=8.1,SNR=5.4						
KIV	Kislovodsk	74.11	312*c*	*i*P	P	11 02 42.7	+1.4
KIV				*i* *PP	pP	11 03 01.5	+8.5
KIV				*e*S	S	11 12 07.9	-2.3
KIV				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
GNI	Garni	74.73	308	*e*P	P	11 02 47.4	+2.4
GNI				pmax	pmax		
	comp=Z,13nm,1.3s						
AKASG	Malin Array Be	77.90	323	P	P	11 03 02.8	+0.1
	comp=Z,1.8nm,0.6s,mb4.2,baz=46,slow=5.7,SNR=9.3						
AKASG				pP	pP	11 03 14.0	-0.3
	comp=Z,1.8nm,0.6s,baz=49,slow=5.9,SNR=5.5						
AKASG	Malin Array Be	77.90	323	P	P	11 03 02.8	+0.1
AKASG				pP	pP	11 03 14.0	-0.3
NB2	NORSAR Subarra	78.11	338	P	P	11 03 03.9	+0.3
	comp=Z,2.3nm,0.6s,mb4.3,baz=40,slow=5.6						
NB2	NORSAR Subarra	78.11	338	P	P	11 03 03.9	+0.3
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	NORSAR Array B	78.11	338	P	P	11 03 03.7	+0.2
	comp=Z,3.4nm,0.7s,mb4.4,baz=39,slow=5.6,SNR=11						
NOA				pP	pP	11 03 15.2	0.0
	comp=Z,2.6nm,0.7s,baz=39,slow=5.6,SNR=5.2						
TPAW	Teton Pass	78.57	45	*e*P	P	11 03 07.7	+1.2
	comp=Z,2.8nm,0.9s,mb4.2						
LAO	LASA Array	79.39	41	*e*P	P	11 03 11.7	+0.8
	comp=Z,8.4nm,1.0s,mb4.6						
BW06	Boulder Array	79.82	45	*e*P	P	11 03 13.1	-0.2
	comp=Z,1.4nm,0.9s,mb3.9						
PDAR	Pinedale Array	79.82	45	P	P	11 03 13.7	+0.4
	comp=Z,1.1nm,0.7s,mb3.9,baz=290,slow=2.0,SNR=15						
KIS	Kishinev	80.41	320	*e*P	P	11 03 10.0	-6.4
KIS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.9						
SRU	San Rafael	81.36	49	*e*P	P	11 03 22.3	+0.7
BORG	Borgarnes	81.62	353	LR	LR	11 44 25.4	
	comp=Z,42nm,18.3s,MS3.8,baz=219,slow=39						
BRTR	Keskin Array B	82.08	313	P	P	11 03 26.4	+1.2
	comp=Z,1.3nm,0.6s,mb4.0,baz=116,slow=3.0,SNR=4.8						
BRTR				pP	pP	11 03 37.9	+0.8
	comp=Z,2.8nm,0.8s,baz=89,slow=3.9,SNR=6.2						
PPT	Papeete	82.15	117	LR	LR	11 33 40.0	
	comp=Z,93nm,20.4s,MS4.1,baz=320,slow=31						
ISCO	Idaho Springs	83.98	46	*e*P	P	11 03 36.2	+1.3
	comp=Z,2.4nm,0.6s,mb4.5						
ISCO	Idaho Springs	83.98	46	*e*P	P	11 03 36.2	+1.3
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
BRG	Berggiesshubel	84.84	330	*i* P	P	11 03 39.9	+0.9
	comp=Z,3.4nm,0.7s,mb4.6						
BRG	Berggiesshubel	84.84	330	*i* P	P	11 03 39.9	+1.0
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
CLL	Collm	84.90	331	⇓P	P	11 03 39.7	+0.5
	comp=Z,logA/T=0.9,mb4.8						
CLL				*e*PCP	PcP	11 03 45.0	+2.1
CLL				*i* *PP	pP	11 03 50.5	-0.6
CLL	Collm	84.90	331	⇓*i*P	P	11 03 39.7	+0.5
	comp=Z,7.0nm,0.9s,mb4.8						
CLL				*i*	pP	11 03 50.5	-0.6
CLL	Collm	84.90	331	⇓*i*P	P	11 03 39.7	+0.5
CLL				*i*	pP	11 03 50.5	-0.6
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
SDCO	Great Sand Dun	85.33	47	*e*P	P	11 03 42.9	+1.2
	comp=Z,2.4nm,0.8s,mb4.4						
MOX	Moxa	85.97	331	*e*P	P	11 03 44.0	-0.5
ANMO	Albuquerque	86.46	50	LR	LR	11 41 45.8	
	comp=Z,55nm,19.4s,MS4.0,baz=125,slow=35						
ANMO	Albuquerque	86.46	50	⇑*i*P	P	11 03 48.4	+1.1
GERES	GERESS Array B	86.47	329	LR	LR	11 48 53.8	
	comp=Z,61nm,18.1s,MS4.0,baz=124,slow=40						
LOR	Lormes	91.73	333	*e*P	P	11 04 12.0	0.0
TXAR	Lajitas Array	91.83	53	P	P	11 04 13.7	+0.8
	comp=Z,1.3nm,0.6s,mb4.4,baz=306,slow=3.1,SNR=29						
LPL	La Plagne	92.03	331	*e*P	P	11 04 14.0	+0.6
SSF	Saint Saulge	92.03	333	*e*P	P	11 04 12.7	-0.7
LPG	La Plagne	92.04	331	*e*P	P	11 04 14.2	+0.8
	comp=Z,6.2nm,0.8s,mb4.7						
LPG	La Plagne	92.04	331	*e*P	P	11 04 14.2	+0.8
LPG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
SMF	Signal de Mont	92.25	333	*e*P	P	11 04 14.1	-0.3
AVF	Avril sur Loir	92.32	333	*e*P	P	11 04 15.1	+0.4
	comp=Z,6.0nm,0.7s,mb4.7						
AVF	Avril sur Loir	92.32	333	*e*P	P	11 04 15.1	+0.4
AVF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.7						
MBDF	Montbardon	92.65	330	*e*P	P	11 04 16.8	+0.5
	comp=Z,2.9nm,0.6s,mb4.6						
MBDF	Montbardon	92.65	330	*e*P	P	11 04 16.8	+0.5
MBDF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.4						
ORIF	Oris-en-Rattie	92.87	331	*e*P	P	11 04 17.7	+0.4
ETSF	Etsaut	97.09	334	*e*P	P	11 04 36.4	-0.1
SJPF	Ste Jean	97.15	334	*e*P	P	11 04 36.9	+0.1
	comp=Z,21nm,1.4s,mb5.1						
SJPF	Ste Jean	97.15	334	*e*P	P	11 04 36.9	+0.1
SJPF				pmax	pmax		
	comp=Z,11nm,1.4s,mb5.1						
BOSA	Boshof	126.58	257	PKP	PKPdf	11 10 09.0	+2.0
	comp=Z,6.2nm,1.1s,baz=141,slow=1.1,SNR=4.7						
DBIC	Dimbokro	129.68	316	PKP	PKPdf	11 10 14.7	+1.4
	comp=Z,2.4nm,0.7s,baz=8.1,slow=7.1,SNR=3.0						
VNA2	Neumayer--Watz	138.77	195	⇑*i*P	PKPdf	11 10 31.0	+2.3
VNA2	Neumayer--Watz	138.77	195	*e*	PKPdf	11 10 34.5	+5.8
VNA2	Neumayer--Watz	138.77	195	*e*	PKPdf	11 10 45.7	+17
VNA2	Neumayer--Watz	138.77	195	*e*	PKPdf	11 10 53.2	+24
VNA2	Neumayer--Watz	138.77	195	*e*	PKPdf	11 11 01.0	+32
VNA3	Neumayer Olymp	138.98	193	⇑*i*P	PKPdf	11 10 30.4	+1.3
VNA3	Neumayer Olymp	138.98	193	*e*	PKPdf	11 10 33.0	+3.9
VNA3	Neumayer Olymp	138.98	193	*e*	PKPdf	11 10 43.7	+15
VNA3	Neumayer Olymp	138.98	193	*e*	PKPdf	11 10 52.3	+23
VNA3	Neumayer Olymp	138.98	193	*e*	PKPdf	11 11 00.4	+31
SAML	Samuel	146.28	50	*e*PKPdf	PKPdf	11 10 44.9	+1.5
SAML				pPKPdf		11 10 56.5	
LPAZ	La Paz	147.74	66	PKPbc	PKPdf	11 10 48.0	+2.4
	comp=Z,3.8nm,0.7s,baz=333,slow=3.0,SNR=13						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**152.69**	**116**	PKPbc	PKPdf	11 11 01.9	+9.4
	comp=Z,2.0nm,0.8s,baz=228,slow=5.0,SNR=3.7						
SIV	**San Ignacio**	**152.76**	**57**	PKP	PKPdf	11 10 55.9	+2.5
	comp=Z,1.4nm,0.8s,baz=232,slow=1.7,SNR=6.8						
SIV				PKPbc	PKPdf	11 11 02.2	+8.8
	comp=Z,4.0nm,0.8s,baz=241,slow=0.3,SNR=18						
SIV				PKPab	PKPab	11 11 12.7	-1.2
	comp=Z,2.3nm,0.7s,baz=306,slow=5.3,SNR=7.4						

IDC 04 10:52:29.8±3.8**, 29.60S×176.45W, mb4.1**/1**, mb1 4.1**/1**, mb1mx3.7**/11**, mbtmp4.1**/1**, Error ellipse: s-maj=195.5km s-min=49.0km az=148.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.98**	**256**	P	P	10 59 32.4	-2.0
	1.9nm,0.6s,baz=100,slow=12,SNR=7.5						
BVAR	**Borovoye Array**	**126.76**	**316**	PKP	PKPdf	11 11 35.1	-1.8
	0.4nm,0.6s,baz=45,slow=4.1,SNR=2.8						
FINES	**FINESS Array B**	**144.83**	**341**	PKP	PKPdf	11 12 06.8	-3.1
	1.1nm,0.6s,baz=63,slow=4.3,SNR=13						
AKASG	**Malin Array Be**	**151.45**	**325**	PKPbc	PKPdf	11 12 25.2	+4.3
	0.9nm,0.5s,baz=43,slow=2.7,SNR=6.0						
AKASG				PKPab	PKPab	11 12 33.2	-2.6
	1.0nm,0.5s,baz=45,slow=2.7,SNR=6.4						

NNC 04 11:20:44.6±2.7**, 38.18N×71.81E, h295km**±38km**, mpv3.1, 3C-2D, Error ellipse: s-maj=35.9km s-min=19.3km az=23.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.90**	**24**	⇑P	P	11 22 00.6	-0.7
	3.5nm,0.7s						
AAK				⇑S	S	11 23 02.6	+1.3
	2.6nm,0.8s						
KK31	**Karatay Array**	**5.02**	**349**	⇓P	P	11 22 02.4	-0.3
	0.7nm,0.3s,baz=166,slow=12,SNR=15						
KK31				⇓S	S	11 23 04.6	+0.7
	11nm,0.7s,baz=166,slow=21,SNR=23						
AB31	**Akbulak array**	**13.99**	**326**	P	P	11 23 59.2	+6.9
	0.1nm,0.3s,baz=132,slow=13,SNR=7.2						
AB31				⇑S	S	11 26 25.4	+4.0
	0.4nm,0.4s,slow=0.1,SNR=5.9						

*CSEM **04** 11:25:14.5±0.2, 41.35N×19.82E, h2km, MD3.1, Error ellipse: s-maj=4.6km s-min=1.7km az=113.0*
*TIR **04** 11:25:15.5, 41.46N×19.76E, h18km, Ml2.4*
*ROM **04** 11:25:16.4±0.4, 41.23N×19.59E, h12km, Md2.9/9, Ml2.7/2, Error ellipse: s-maj=5.3km s-min=4.4km az=131.0*
*NEIC **04** 11:25:18.1, 41.56N×19.74E, h11km, MD3.1(PDG), MD2.9(ROM), After PDG.*
*PDG **04** 11:25:18.1±0.2, 41.56N×19.74E, h11km*
ISC 04 11:25:15.4±0.5**, 41.44N**±0.02×**19.74E**±0.04**, h11km**±3km**, n31, σ1^{s}05**/45**, 8C-3D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.13**	**132**	*i* Pg	**Pg**	**11 25 19.0**	**+0.3**
TIR				*i* Sg	**Sg**	**11 25 22.0**	**+1.2**
QSH	**Qafa e Shtames**	**0.15**	**56**	*i* Pg	**Pg**	**11 25 20.5**	**+1.5**
QSH				*i* Sg	**Sg**	**11 25 34.5**	**+13**
ULC	**Ulcinj**	**0.64**	**326**	⇑*i*Pg	**Pg**	**11 25 28.9**	**+0.5**
ULC				*e*Sg	**Sg**	**11 25 38.0**	**+1.0**
BCI	**Bajram Curri**	**0.96**	**15**	*i* Pg	**Pg**	**11 25 34.2**	**-0.6**
BCI				*i* Sg	**Sg**	**11 25 47.6**	**-0.1**
TTG	**Podgorica**	**1.05**	**341**	⇑*i*Pg	**Pg**	**11 25 35.9**	**-0.7**
TTG				*e*Sg	**Sg**	**11 25 50.7**	**0.0**
PVY	**Plav**	**1.17**	**9**	⇑*i*Pg	**Pg**	**11 25 37.7**	**-1.2**
PVY				*e*Sg	**Sg**	**11 25 54.4**	**-0.2**
HCY	**Herceg Novi**	**1.37**	**318**	⇓*i*Pg	**Pg**	**11 25 41.7**	**-1.2**
HCY				*e*Sg	**Sg**	**11 26 01.9**	**+0.7**
SKO	**Skopje**	**1.38**	**67**	⇑*i*Pn	**Pn**	**11 25 40.9**	**+0.1**
	comp=Z,0.1nm,0.5s						
SKO				*i* Sn	**Sn**	**11 25 58.0**	**-1.2**
SKO				Lg		11 26 00.0	
	comp=Z,0.2nm,0.5s						
IVA	**Berane**	**1.44**	**5**	⇑*i*Pg	**Pg**	**11 25 42.6**	**-1.6**
IVA				*e*Sg	**Sg**	**11 26 03.5**	**0.0**
NKY	**Niksic**	**1.48**	**339**	⇓*i*Pg	**Pg**	**11 25 43.3**	**-1.8**
NKY				*e*Sg	**Sg**	**11 26 04.7**	**-0.2**
LCI	**Lecce**	**1.65**	**229**	Pn	**Pn**	**11 25 44.2**	**-0.5**
BRY	**Bratogost**	**1.71**	**329**	⇑*i*Pn	**Pn**	**11 25 46.8**	**+1.3**
BRY				*e*Sn	**Sn**	**11 26 10.6**	**+3.1**
KEK	**Kerkira**	**1.72**	**178**	Pn	**Pn**	**11 25 45.5**	**-0.2**
UPM	**Unac-Piva**	**1.87**	**341**	⇓*i*Pn	**Pn**	**11 25 49.5**	**+1.8**
UPM				*e*Sn	**Sn**	**11 26 14.6**	**+3.0**
PLE	**Pljevlja**	**1.91**	**352**	⇑*i*Pn	**Pn**	**11 25 49.9**	**+1.5**
PLE				*e*Sn	**Sn**	**11 26 15.3**	**+2.7**
BRT	**Bari-Castellan**	**1.99**	**255**	Pn	**Pn**	**11 25 50.1**	**+0.6**
	comp=Z,36nm,0.2s						
NOCI	**Noci**	**2.12**	**253**	Pn	**Pn**	**11 25 51.1**	**-0.3**
	comp=Z,50nm,0.6s						
LTRZ	**Laterza**	**2.36**	**250**	Pn	**Pn**	**11 25 54.8**	**0.0**
SG1	**Sgolgore (BA)**	**2.38**	**257**	*e*Pn	**Pn**	**11 25 54.6**	**-0.6**
BBLS	**Bajina Basta -**	**2.44**	**354**	*i* P	**Pn**	**11 25 57.8**	**+1.8**
GRUS	**Gruza**	**2.56**	**16**	*e*P	**Pn**	**11 25 57.1**	**-0.5**
DIVS	**Divcibare**	**2.67**	**4**	⇑*i*P	**Pn**	**11 25 53.7**	**-5.5**
MRLC	**Muro Lucano**	**3.28**	**259**	Pn	**Pn**	**11 26 08.9**	**+1.0**
	comp=Z,9.0nm,0.7s						
MCRV	**Calabrutti - M**	**3.51**	**261**	Pn	**Pn**	**11 26 10.9**	**-0.3**
	comp=Z,13nm,0.3s						
CSSN	**Cassano Irpino**	**3.60**	**262**	Pn	**Pn**	**11 26 12.3**	**-0.2**
	comp=Z,7.0nm,0.2s						
SGG	**Gregorio Mates**	**4.03**	**271**	Pn	**Pn**	**11 26 17.5**	**-1.1**
CII	**Carovilli**	**4.08**	**276**	Pn	**Pn**	**11 26 20.1**	**+0.8**
	comp=Z,5.0nm,0.3s						
NVLJ	**Novalja**	**4.74**	**313**	*i* Pn	**Pn**	**11 26 27.4**	**-1.3**
NVLJ				*i* Sg	**Sn**	**11 27 20.4**	**-4.0**
BOJS	**Bojanci**	**5.21**	**323**	*e*Pn	**Pn**	**11 26 34.5**	**-0.8**
VISS	**Visnje**	**5.63**	**323**	*i* Pn	**Pn**	**11 26 40.3**	**-0.9**
PDKS	**Podkum**	**5.76**	**325**	*i* Pn	**Pn**	**11 26 41.8**	**-1.3**

*NEIC **04** 11:27:48.0, 34.39S×72.27W, h33km, ML2.6(GUC), After GUC.*
GUC 04 11:27:48.0±0.8**, 34.39S×72.27W, h33km**±3km**, MD3.6, ML2.6, 2C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.83**	**59**	⇓*i*P	P	11 28 03.4	+0.1
LNV				*i* S	S	11 28 14.8	+0.3
NICH	**Los Niches**	**1.05**	**126**	⇓*i*P	P	11 28 06.9	+0.4
NICH				*i* S	S	11 28 20.7	+0.6
SFDO	**San Fernando**	**1.06**	**102**	⇑*i*P	P	11 28 07.0	+0.4
SFDO				*i* S	S	11 28 21.0	+0.7
LCCH	**Las Cruces**	**1.08**	**33**	*e*P	P	11 28 07.6	+0.8
TACH	**Talagante**	**1.33**	**57**	⇓*i*P	P	11 28 11.1	+0.7
CACH	**El Canelo**	**1.41**	**79**	*e*P	P	11 28 12.7	+1.1
CACH				*i* S	S	11 28 32.5	+3.4
CHCH	**Chadas Angostu**	**1.42**	**72**	⇓*i*P	P	11 28 13.0	+1.3
RCDM	**Rinconada Maip**	**1.51**	**54**	⇓*i*P	P	11 28 13.7	+0.7
RCDM				*i* S	S	11 28 32.9	+1.1
RCDM				AMP		11 28 37.8	
	comp=E,119nm,0.1s						
CICH	**Cipreses**	**1.53**	**88**	⇑*i*P	P	11 28 14.6	+1.3
CICH				*i* S	S	11 28 32.9	+0.6
PCH	**Pirque**	**1.65**	**63**	*i* P	P	11 28 16.1	+1.2
PCH				*i* S	S	11 28 37.7	+2.5
CLCH	**Cerro Calan**	**1.75**	**56**	*e*P	P	11 28 17.2	+0.8
CLCH				*e*S	S	11 28 40.3	+2.5
CLCH				AMP		11 28 52.5	
	comp=E,69nm,0.5s						
LMEL	**Las Melosas**	**1.80**	**73**	*e*P	P	11 28 18.7	+1.5
LMEL				*i* S	S	11 28 42.1	+3.1
LMEL				AMP		11 28 46.2	
	comp=N,160nm,0.2s						
FCH	**Farellones**	**1.96**	**58**	*e*P	P	11 28 20.4	+1.0
FCH				*i* S	S	11 28 45.7	+2.6
FCH				AMP		11 28 54.6	
	comp=N,57nm,0.1s						

*NEIC **04** 11:42:05.5±2.7, 24.31N×94.32E, h62km±23km, Error ellipse: s-maj=44.2km s-min=20.4km az=57.0*
*IDC **04** 11:42:11.5±20.0, 24.38N×94.38E, h118km±195km, mb3.2/5, mb1 3.3/5, mb1mx3.1/20, mbtmp3.5/5, Error ellipse: s-maj=76.0km s-min=23.1km az=49.0*
ISC 04 11:42:06.6±2.4**, 24.3N**±0.2×**94.0E**±0.1**, h92km**±23km**, n12, σ1^{s}08**/14**, mb3.3**/5**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.97**	**336**	*e*P	**P**	**11 43 33.0**	**-1.0**
PKI	**Pulchoki**	**8.39**	**295**	*e*P	**P**	**11 44 08.2**	**+1.1**
	9.4nm,0.4s						
PKI				*e*S	**S**	**11 45 39.6**	**-1.3**
KKN	**Kakani**	**8.57**	**296**	*e*P	**P**	**11 44 10.1**	**+0.5**
	13nm,0.2s						
KKN				*e*S	**S**	**11 45 43.1**	**-2.4**
DMN	**Daman**	**8.65**	**295**	*e*P	**P**	**11 44 11.3**	**+0.6**
	8.0nm,0.3s						
GKN	**Gorkha**	**9.18**	**296**	*e*P	**P**	**11 44 18.3**	**+0.5**
	33nm,0.4s						
KOLN	**Koldanda**	**9.96**	**293**	*e*P	**P**	**11 44 28.8**	**+0.3**
	5.2nm,0.2s						
MKAR	**Makanchi Array**	**24.36**	**340**	P	**P**	**11 47 18.3**	**+1.3**
	0.7nm,0.5s,mb3.2,baz=159,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**24.36**	**340**	P	**P**	**11 47 18.3**	**+1.3**
SONM	**Songino Array**	**25.51**	**20**	P	**P**	**11 47 26.8**	**-1.2**
	0.3nm,0.6s,mb2.9,baz=207,slow=8.4,SNR=7.0						
BVAR	**Borovoye Array**	**33.81**	**334**	P	**P**	**11 48 42.9**	**+1.2**
	0.4nm,0.5s,mb3.5,baz=129,slow=9.2,SNR=2.8						
WRA	**Warramunga Arr**	**58.96**	**135**	P	**P**	**11 51 57.5**	**-1.4**
	0.2nm,0.3s,mb3.6,baz=322,slow=7.4,SNR=12						
NOA	**NORSAR Array B**	**65.61**	**328**	P	**P**	**11 52 43.1**	**+0.5**
	0.3nm,0.5s,mb3.4,baz=102,slow=4.1,SNR=2.4						

*NEIC **04** 11:54:00.0±2.5, 35.43N×140.08E, h59km±20km, mb4.3/2, Error ellipse: s-maj=31.8km s-min=15.3km az=88.0*
*JMA **04** 11:54:00.9±0.1, 35.63N×140.14E, h66km±2km, M3.0*
*IDC **04** 11:54:01.2±2.1, 35.54N×140.16E, h70km±22km, mb3.3/5, mb1 3.5/7, mb1mx3.4/22, mbtmp3.7/7, Error ellipse: s-maj=34.5km s-min=15.8km az=93.0*
ISC 04 11:54:00.1±0.5**, 35.56N**±0.04×**140.16E**±0.06**, h77km**±4km**, n24, σ0^{s}54**/31**, mb3.8**/7**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.14**	**166**	P	**P**	**11 54 11.6**	**+0.3**
JCN				S	**S**	**11 54 20.0**	**+0.4**
TOK	**Tokyo**	**0.35**	**292**	P	**P**	**11 54 11.8**	**-0.7**
BSO3	**Boso 3**	**0.81**	**159**	P	**P**	**11 54 17.1**	**+0.2**
JOD2	**Odawara 2**	**0.92**	**252**	P	**P**	**11 54 18.4**	**+0.2**
JOD2				*e*S	**S**	**11 54 31.0**	**-0.9**
JIM2	**Oshima 3**	**1.03**	**216**	P	**P**	**11 54 19.4**	**-0.1**
JIM2				S	**S**	**11 54 33.3**	**-0.8**
JAG	**Ashikaga**	**1.04**	**327**	P	**P**	**11 54 19.3**	**-0.4**
BSO1	**Boso 1**	**1.12**	**143**	P	**P**	**11 54 21.0**	**+0.3**
BSO1				*e*S	**S**	**11 54 36.3**	**+0.1**
JRY	**Ryogami san**	**1.12**	**295**	P	**P**	**11 54 21.3**	**+0.6**
JYN	**Shimob**	**1.32**	**268**	P	**P**	**11 54 23.7**	**+0.2**
JIZS	**Izushimoda**	**1.34**	**232**	P	**P**	**11 54 23.8**	**0.0**
JKT	**Katashina**	**1.42**	**329**	P	**P**	**11 54 24.7**	**0.0**
MAJO	**Matsushiro**	**1.86**	**302**	*e*P	**P**	**11 54 30.2**	**-0.5**
MAT	**Matsushiro**	**1.86**	**302**	P	**P**	**11 54 31.1**	**+0.4**
MAT				S	**S**	**11 54 54.3**	**+1.1**
MAT	**Matsushiro**	**1.86**	**302**	*e*P	**P**	**11 54 31.0**	**+0.3**
MAT				*e*S	**S**	**11 54 54.0**	**+0.8**
JHJ	**Hachijo jima 2**	**2.45**	**187**	P	**P**	**11 54 39.7**	**+0.8**
	27nm,0.3s,baz=71,slow=22,SNR=1.8						
JHJ				S	**S**	**11 55 07.7**	**0.0**
	44nm,0.3s,baz=233,slow=20,SNR=4.1						
ASAJ	**Asahikawa**	**8.75**	**12**	P	**P**	**11 56 04.7**	**-1.2**
	0.4nm,0.3s,baz=222,slow=12,SNR=1.6						
JOW	**Kunigami**	**13.37**	**233**	P	**P**	**11 57 03.2**	**-4.7**
	32nm,0.3s,baz=17,slow=19,SNR=3.6						
SONM	**Songino Array**	**27.81**	**307**	P	**P**	**11 59 43.7**	**-0.2**
	0.3nm,0.6s,mb3.0,baz=104,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**44.06**	**303**	P	**P**	**12 02 02.8**	**+0.9**
	0.6nm,0.5s,mb3.6,baz=93,slow=9.7,SNR=6.4						
KURK	**Kurchatov**	**46.06**	**309**	P	**P**	**12 02 17.7**	**0.0**
	2.4nm,0.3s,mb4.4						
ILAR	**Eielson Array**	**51.28**	**32**	P	**P**	**12 02 57.5**	**-0.3**
	0.5nm,0.8s,mb3.6,baz=271,slow=7.9,SNR=6.1						
WRAB	**Tennant Creek**	**55.46**	**187**	*e*P	**P**	**12 03 29.4**	**+0.1**
	0.9nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**55.47**	**187**	P	**P**	**12 03 28.5**	**-0.9**
	0.6nm,0.4s,mb4.0,baz=0.6,slow=7.5,SNR=12						
NOA	**NORSAR Array B**	**75.15**	**337**	P	**P**	**12 05 35.5**	**+0.4**
	1.0nm,0.9s,mb3.5,baz=54,slow=2.2,SNR=2.3						

*IDC **04** 12:09:32.4±0.7, 3.75N×32.20W, mb4.1/19, mb1 4.3/19, mb1mx4.2/27, mbtmp4.1/19, MS3.8/4, Ms1 3.8/4, ms1mx3.5/21, Error ellipse: s-maj=25.2km s-min=13.4km az=143.0*
*NEIC **04** 12:09:33.7±0.4, 3.68N×32.17W, h10km, mb4.4/9, Error ellipse: s-maj=11.7km s-min=7.7km az=127.0*
ISC 04 12:09:32.6±0.5**, 3.79N**±0.08×**32.21W**±0.08**, h10km, n57, σ1^{s}03**/57**, mb4.1**/27**, MS3.8**/4**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.24**	**201**	*e*P	**P**	**12 11 58.2**	**-4.6**
RCBR				*e*S	**S**	**12 13 45.3**	**-14**
BAO	**Brasilia Array**	**24.83**	**219**	P	**P**	**12 14 57.0**	**+0.4**
BDFB	**Brasilia**	**24.85**	**219**	P	**P**	**12 14 56.1**	**-0.7**
	4.4nm,0.7s,mb4.1,baz=58,slow=8.5,SNR=6.2						
BDFB				LR	LR	12 23 44.8	
	comp=Z,197nm,19.2s,MS3.6,baz=176,slow=34						
DBIC	**Dimbokro**	**27.39**	**83**	P	**P**	**12 15 18.6**	**-1.8**
	3.9nm,0.8s,mb4.0,baz=242,slow=11,SNR=4.4						
DBIC				LR	LR	12 24 14.5	
	comp=Z,144nm,18.0s,MS3.6,baz=237,slow=32						
DBIC	**Dimbokro**	**27.39**	**83**	*e*P	**P**	**12 15 18.5**	**-1.9**
SAML	**Samuel**	**33.37**	**248**	*e*P	**P**	**12 16 13.6**	**+0.1**
	5.1nm,1.0s,mb4.4						
SIV	**San Ignacio**	**34.66**	**235**	P	**P**	**12 16 24.8**	**+0.2**
	6.8nm,0.8s,mb4.6,baz=93,slow=10,SNR=37						
SJG	**San Juan**	**36.13**	**296**	P	**P**	**12 16 35.7**	**-1.4**
	2.1nm,0.3s,mb4.5,baz=31,slow=5.9,SNR=4.1						
SDV	**Santo Domingo**	**38.50**	**279**	P	**P**	**12 16 58.2**	**+1.1**
	4.0nm,0.2s,mb4.8,baz=93,slow=2.3,SNR=4.5						
SDV	**Santo Domingo**	**38.50**	**279**	*e*P	**P**	**12 16 57.6**	**+0.6**
CPUP	**Villa Florida**	**38.57**	**218**	P	**P**	**12 16 57.5**	**-0.1**
	3.0nm,0.9s,mb4.0,baz=62,slow=15,SNR=4.8						
CPUP				LR	LR	12 32 21.1	
	comp=Z,228nm,18.7s,MS4.0,baz=244,slow=36						
CPUP	**Villa Florida**	**38.57**	**218**	P	**P**	**12 16 57.5**	**-0.1**
CPUP				LR	LR	12 32 21.1	
MDT	**Midelt**	**38.73**	**39**	P	**P**	**12 17 00.1**	**+1.2**
	2.8nm,1.1s,mb3.9,baz=214,slow=6.9,SNR=4.5						
LPAZ	**La Paz**	**40.73**	**240**	P	**P**	**12 17 15.6**	**+0.1**
	1.9nm,0.7s,mb3.9,baz=77,slow=17,SNR=6.7						
LPAZ				LR	LR	12 33 04.8	
	comp=Z,147nm,21.5s,MS3.8,baz=53,slow=35						
LPAZ	**La Paz**	**40.73**	**240**	*e*P	**P**	**12 17 16.5**	**+1.0**
	2.4nm,0.8s,mb3.9						
ROSC	**El Rosal**	**42.01**	**273**	P	**P**	**12 17 27.6**	**+1.5**
	5.8nm,0.7s,mb4.3,baz=90,slow=21,SNR=8.7						
ESDC	**Sonseca Array**	**43.93**	**32**	P	**P**	**12 17 42.4**	**+0.9**
	0.6nm,0.7s,mb3.4,baz=214,slow=9.3,SNR=5.3						
ESLA	**Sonseca Array**	**43.93**	**32**	*e*P	**P**	**12 17 43.0**	**+1.6**
	1.3nm,1.2s,mb3.5						
SWET	**Sewanee**	**58.59**	**309**	*e*P	**P**	**12 19 31.3**	**-0.9**
LRAL	**Lakeview Retre**	**58.74**	**307**	*e*P	**P**	**12 19 32.9**	**-0.4**
	7.4nm,1.1s,mb4.6						
GERES	**GERESS Array B**	**59.47**	**33**	P	**P**	**12 19 36.1**	**-2.0**
	1.3nm,0.9s,mb4.0,baz=263,slow=7.9,SNR=2.8						
WVT	**Waverly**	**60.35**	**310**	*e*P	**P**	**12 19 42.8**	**-1.5**
NOA	**NORSAR Array B**	**65.79**	**22**	P	**P**	**12 20 19.1**	**-0.8**
	1.3nm,1.0s,mb3.9,baz=209,slow=8.2,SNR=3.6						
AKASG	**Malin Array Be**	**69.26**	**37**	P	**P**	**12 20 43.1**	**+1.2**
	0.3nm,0.4s,mb3.6,baz=250,slow=6.3,SNR=6.8						
FINES	**FINESS Array B**	**71.96**	**25**	P	**P**	**12 20 58.3**	**+0.2**
	0.9nm,0.8s,mb3.7,baz=225,slow=12,SNR=2.3						
TXAR	**Lajitas Array**	**71.99**	**299**	P	**P**	**12 20 58.8**	**-0.1**
	1.0nm,0.7s,mb3.9,baz=125,slow=7.3,SNR=16						
PMSA	**Palmer Station**	**72.31**	**194**	*e*P	**P**	**12 20 56.9**	**-3.2**
	6.7nm,0.6s,mb4.8						
MNTX	**Cornudas Mount**	**73.70**	**302**	*e*P	**P**	**12 21 08.0**	**-1.0**
	2.4nm,1.0s,mb4.1						
VNA1	**Neumayer--Stat**	**75.99**	**172**		**P**	**12 21 22.2**	**+0.9**
VNA1	**Neumayer--Stat**	**75.99**	**172**		**P**	**12 21 26.3**	**+5.0**
VNA1	**Neumayer--Stat**	**75.99**	**172**		**P**	**12 21 30.9**	**+10**
VNA1	**Neumayer--Stat**	**75.99**	**172**		**P**	**12 21 34.6**	**+13**
VNA3	**Neumayer Olymp**	**76.35**	**173**		**P**	**12 21 23.4**	**+0.1**
VNA3	**Neumayer Olymp**	**76.35**	**173**		**P**	**12 21 27.2**	**+3.9**
VNA3	**Neumayer Olymp**	**76.35**	**173**		**P**	**12 21 32.1**	**+8.8**
VNA3	**Neumayer Olymp**	**76.35**	**173**		**P**	**12 21 35.3**	**+12**
VNA2	**Neumayer--Watz**	**76.36**	**172**		**P**	**12 21 23.2**	**-0.2**
VNA2	**Neumayer--Watz**	**76.36**	**172**		**P**	**12 21 25.8**	**+2.4**
VNA2	**Neumayer--Watz**	**76.36**	**172**		**P**	**12 21 31.6**	**+8.2**
VNA2	**Neumayer--Watz**	**76.36**	**172**		**P**	**12 21 36.3**	**+13**
VNA2	**Neumayer--Watz**	**76.36**	**172**		**P**	**12 21 41.7**	**+18**
SNAA	**Sanae**	**77.71**	**171**		**P**	**12 21 29.9**	**-0.9**
SNAA	**Sanae**	**77.71**	**171**		**P**	**12 21 32.4**	**+1.6**
SNAA	**Sanae**	**77.71**	**171**		**P**	**12 21 38.5**	**+7.7**
SNAA	**Sanae**	**77.71**	**171**		**P**	**12 21 42.7**	**+12**
SNAA	**Sanae**	**77.71**	**171**		**P**	**12 21 47.0**	**+16**
PDAR	**Pinedale Array**	**78.15**	**313**	P	**P**	**12 21 32.9**	**-0.9**
	0.7nm,0.6s,mb3.7,baz=74,slow=6.6,SNR=7.0						
TUC	**Tucson**	**78.33**	**302**	*e*P	**P**	**12 21 35.9**	**+0.9**
	2.7nm,1.0s,mb4.1						
HWUT	**Hardware Ranch**	**79.53**	**311**	*e*P	**P**	**12 21 41.5**	**+0.2**
	4.9nm,0.9s,mb4.4						
ARUT	**Antelope Range**	**80.76**	**308**	*e*P	**P**	**12 21 49.1**	**+1.1**
EDM	**Edmonton**	**81.67**	**323**	*e*P	**P**	**12 21 52.3**	**-0.1**
YKA	**Yellowknife Ar**	**83.14**	**332**	P	**P**	**12 21 59.2**	**-0.7**
	1.3nm,0.7s,mb4.1,baz=98,slow=5.5,SNR=7.1						
YKA	**Yellowknife Ar**	**83.14**	**332**	P	**P**	**12 21 59.2**	**-0.7**
NVAR	**Mina Array Bea**	**84.60**	**308**	P	**P**	**12 22 08.7**	**+0.9**
	1.2nm,0.8s,mb4.1,baz=130,slow=2.7,SNR=8.3						
MOD	**Modoc**	**86.07**	**312**	*e*P	**P**	**12 22 16.0**	**+0.9**
	4.3nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**96.85**	**337**	P	**P**	**12 23 04.0**	**-0.8**
	1.0nm,0.8s,mb4.3,baz=51,slow=3.4,SNR=9.5						
STKA	**Stephens Creek**	**151.46**	**169**	PKPbc	PKPdf	12 29 27.4	+3.2
	1.9nm,1.0s,baz=45,slow=1.4,SNR=2.9						

*IDC **04** 12:13:34.8±0.6, 17.11S×176.78W, mb4.6/13, mb1 4.8/15, mb1mx4.8/18, mbtmp4.6/15, ML4.0/1, MS5.1/21, Ms1 5.0/21, ms1mx5.0/25, Error ellipse: s-maj=26.7km s-min=14.5km az=132.0*
*BJI **04** 12:13:38.6, 17.10S×176.80W, h25km, mB5.8, mb5.0, Ms5.6, Msz5.3*
*NEIC **04** 12:13:38.6±0.2, 17.11S×176.78W, mb5.4/62, MS5.4/7, MW5.6, Error ellipse: s-maj=9.0km s-min=4.1km az=143.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.09; $M_{\theta\theta}$-3.38; $M_{\phi\phi}$3.47; $M_{r\theta}$-0.35; $M_{\theta\phi}$0.16; $M_{\phi r}$-0.79; Best double couple: $M_0$3.5×10^{17} NP1:ϕ_s136°, δ77°, λ176°. NP2:ϕ_s227°, δ86°, λ13°. Principal axes: T 3.65, Plg12°, Azm92°; N -.23, Plg76°, Azm245°; P -3.42, Plg6°, Azm1°;*
*HRVD **04** 12:13:38.7±0.1, 17.12S×176.72W, h12km, MW5.6/75, Centroid moment Tensor Solution. LP body waves: s62,c137;Mantle waves: s75,c179; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.11±.04; $M_{\theta\theta}$-2.60±.04; $M_{\phi\phi}$2.72±.04; $M_{r\theta}$-0.26±.11; $M_{\theta\phi}$-1.81±.04; $M_{\phi r}$0.59±.11; Best double couple: $M_0$3.277×10^{17} NP1: ϕ_s28°, δ82°, λ6°. NP2:ϕ_s297°, δ84°, λ172°. Principal axes: T 3.395, Plg10°, Azm253°; N -.23, Plg80°, Azm81°; P -3.159, Plg1°, Azm343°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **04** 12:13:39.6±1.7, 17.17S×176.80W, h33km, mb5.4/30, MS5.4/14 Error ellipse: s-maj=13.0km s-min=10.3km az=72.1*
*CSEM **04** 12:13:45.3, 16.46S×178.02W, h33km, mb5.6*
ISC 04 12:13:36.8±0.2**, 17.21S**±0.06×**176.75W**±0.05**, h24km, h24km**±2.0km**:pP-P, n389, σ1^{s}12**/186**, mb5.2**/88**, MS5.2**/38**, 19C-10D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.80**	**56**	Pn	**Pn**	**12 15 00.1**	**-3.7**
	0.9nm,0.3s,baz=223,slow=18,SNR=3.5						
AFI				Sn	**Sn**	**12 16 04.4**	**-6.1**
	1.4nm,0.3s,baz=96,slow=23,SNR=2.0						
AFI				LR	LR	12 16 49.9	
	comp=Z,24µm,21.2s,baz=235,slow=34						
AFI	**Afiamalu**	**5.80**	**56**	*e*P	**Pn**	**12 14 59.4**	**-4.4**
	124nm,0.9s						
AFI	**Afiamalu**	**5.80**	**56**	*e*P	**Pn**	**12 14 59.4**	**-4.4**
AFI				pmax	pmax		
	comp=Z,124nm,0.9s						
RAO	**Raoul Island**	**12.04**	**185**	LR	LR	12 20 25.9	
	comp=Z,16µm,21.1s,baz=5.4,slow=34						
DZM	**Mont Dzumac**	**16.55**	**250**	Pn	**P**	**12 17 30.1**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=104,slow=17,SNR=12						
NOUC	**Port Laguerre**	**16.69**	**250**	*e*P	**P**	**12 17 32.4**	**+1.5**
NOUC	**Port Laguerre**	**16.69**	**250**	*e*P	**P**	**12 17 32.4**	**+1.5**
URZ	**Urewera**	**21.65**	**193**	P	**P**	**12 18 26.3**	**-1.4**
	comp=Z,44nm,1.0s,mb4.8,baz=20,slow=6.2,SNR=20						
URZ				LR	LR	12 25 09.7	
	comp=Z,7µm,21.6s,MS5.0,baz=209,slow=32						
HNR	**Honiara**	**23.94**	**286**	LR	LR	12 27 12.3	
	comp=Z,3µm,18.6s,MS4.8,baz=114,slow=34						
PPT	**Papeete**	**25.93**	**95**	*e*LQ		12 24 11.7	
PPT				*e*LR	LR	12 25 19.9	
	comp=Z,19µm,27.2s,baz=261						
PPT	**Papeete**	**25.93**	**95**	LR	LR	12 26 38.6	
	comp=Z,4µm,21.0s,MS5.0,baz=264,slow=30						
TBI	**Tubuai**	**26.29**	**108**	*e*LQ		12 24 22.0	
TBI				*e*LR	LR	12 25 35.9	
	comp=Z,11µm,28.2s,baz=280						
RPZ	**Rata Peaks**	**28.37**	**199**	P	**P**	**12 19 31.9**	**+0.6**
	comp=Z,9.1nm,0.7s,mb4.5,baz=349,slow=5.2,SNR=4.2						
CNB	**Canberra Magne**	**35.11**	**232**	*e*P	**P**	**12 20 30.8**	**+0.3**
	comp=Z,112nm,1.3s,mb5.6						
CTA	**Charters Tower**	**35.13**	**259**	*e*P	**P**	**12 20 29.9**	**-1.0**
	comp=Z,31nm,0.8s,mb5.3						
CTA	**Charters Tower**	**35.13**	**259**	P	**P**	**12 20 29.9**	**-0.9**
	comp=Z,30nm,0.8s,mb5.3,baz=92,slow=11,SNR=35						
CTA	**Charters Tower**	**35.13**	**259**	*e*P	**P**	**12 20 29.9**	**-1.0**
CTA				pmax	pmax		
	comp=Z,31nm,0.8s						
CTAO	**Charters Tower**	**35.13**	**259**	*e*P	**P**	**12 20 29.4**	**-1.5**
	comp=Z,52nm,0.9s,mb5.5						
CTAO	**Charters Tower**	**35.13**	**259**	*e*P	**P**	**12 20 29.4**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.5						
PMG	**Port Moresby**	**35.92**	**278**	LR	LR	12 31 17.4	
	comp=Z,2µm,19.8s,MS4.8,baz=63,slow=30						
TAOE	**Nuku Hiva Isla**	**36.56**	**82**	*e*S	**S**	**12 26 26.2**	**+2.8**
TAOE				*e*LQ		12 29 14.6	
TAOE				*e*LR	LR	12 30 11.7	
	comp=Z,22µm,28.2s,baz=255						
TOO	**Toolangi**	**38.84**	**231**	*e*P	**P**	**12 21 02.2**	**+0.3**
	comp=Z,46nm,1.1s,mb5.1						
TOO	**Toolangi**	**38.84**	**231**	*e*P	**P**	**12 21 02.2**	**+0.3**
TOO				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.1						
RKT	**Rikitea**	**39.55**	**106**	*e*S	**S**	**12 27 11.3**	**+2.4**
RKT				*e*LR	LR	12 31 41.3	
	comp=Z,8µm,28.0s,baz=272						
STKA	**Stephens Creek**	**40.35**	**241**	*e*P	**P**	**12 21 14.5**	**0.0**
	comp=Z,19nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**40.35**	**241**	P	**P**	**12 21 14.6**	**+0.1**
	comp=Z,28nm,1.1s,mb4.9,baz=72,slow=6.9,SNR=3.2						
STKA				LR	LR	12 36 48.0	
	comp=Z,3µm,19.0s,MS5.1,baz=69,slow=34						
WB2	**Warramunga Arr**	**46.31**	**259**	*e*P	**P**	**12 22 01.1**	**-1.8**
WRAB	**Tennant Creek**	**46.31**	**259**	*e*P	**P**	**12 22 00.9**	**-2.1**
	comp=Z,66nm,1.3s,mb5.4						
WRAB	**Tennant Creek**	**46.31**	**259**	*d i*P	**P**	**12 22 01.5**	**-1.4**
WRA	**Warramunga Arr**	**46.32**	**259**	P	**P**	**12 22 01.0**	**-2.0**
	comp=Z,9.3nm,0.9s,mb4.7,baz=93,slow=7.4,SNR=43						
KAKA	**Kakadu**	**49.19**	**268**	*e*P	**P**	**12 22 41.6**	**+16**
	comp=Z,32nm,1.1s,mb5.3						
FORT	**Forrest**	**51.74**	**244**	*e*P	**P**	**12 22 43.8**	**-0.9**
	comp=Z,32nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**54.71**	**260**	*e*P	**P**	**12 23 05.9**	**-1.0**
	comp=Z,27nm,1.2s,mb5.2						
FITZ	**Fitzroy Crossi**	**54.71**	**260**	LR	LR	12 45 23.3	
	comp=Z,7µm,19.0s,MS5.8,baz=71,slow=35						
DRV	**Dumont d'Urvil**	**56.84**	**199**	S	**S**	**12 31 26.0**	**+14**
DRV				L		12 37 00.0	
DRV				R		12 41 00.0	
MBWA	**Marble Bar**	**59.78**	**255**	*e*P	**P**	**12 23 40.0**	**-2.8**
	comp=Z,44nm,1.2s,mb5.4						
KLBR	**Kellerberrin**	**60.56**	**243**	*e*P	**P**	**12 23 46.2**	**-1.8**
	comp=Z,123nm,1.2s,mb5.9						
NWAO	**Narrogin (SRO)**	**60.94**	**242**	LR	LR	12 50 10.9	
	comp=Z,2µm,18.7s,MS5.4,baz=89,slow=36						
SBA	**Scott Base**	**61.22**	**184**	*e*P	**P**	**12 23 52.3**	**+0.5**
	comp=Z,41nm,1.3s,mb5.4						
SBA	**Scott Base**	**61.22**	**184**	*e*P	**P**	**12 23 52.3**	**+0.5**
SBA				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.4						
VNDA	**Vanda**	**61.28**	**185**	P	**P**	**12 23 52.4**	**+0.2**

comp=Z,2.4nm,1.0s,mb4.3,baz=358,slow=5.0,SNR=5.7
VNDA LR LR 12 45 08.2
comp=Z,1µm,21.5s,MS5.0,baz=18,slow=31
VNDA Vanda 61.28 185 *eP* **P 12 23 51.8 -0.5**
comp=Z,17nm,1.4s,mb5.0
VNDA Vanda 61.28 185 *eP* **P 12 23 51.8 -0.5**
VNDA pmax pmax
comp=Z,17nm,1.4s
JHJ Hachijo jima 2 65.02 320 LR LR 12 50 23.5
comp=Z,794nm,18.3s,MS5.0,baz=113,slow=34
CASY Casey 67.43 205 *eP* **P 12 24 35.1 +2.7**
CASY Casey 67.43 205 *eP* **P 12 24 31.6 -0.8**
comp=Z,70nm,1.3s,mb5.5
MAT Matsushiro 68.31 322 P P **12 24 40.6 +2.2**
MAT Matsushiro 68.31 322 *eP* **P 12 24 41.0 +2.6**
comp=Z,35nm,1.3s,mb5.2
MAT Matsushiro 68.31 322 *eP* **P 12 24 41.0 +2.6**
MAT pmax pmax
comp=Z,35nm,1.3s,mb5.2
JOW Kunigami 69.02 308 LR LR 12 48 29.8
comp=Z,2µm,20.5s,MS5.3,baz=14,slow=30
KKM Kota Kinabalu 70.12 283 *eP* **P 12 24 48.1 -1.8**
JNU Nakatsue 70.75 315 LR LR 12 51 23.6
comp=Z,516nm,20.5s,MS4.8,baz=138,slow=32
QSPA South Pole Qui 72.84 180 *eP* **P 12 25 05.9 +0.8**
comp=Z,68nm,1.2s,mb5.5
PET Petropavlovsk 73.10 345 *eP* **P 12 25 13.0 +6.0**
PET *e* 12 27 58.7
PET *e*S S 12 34 35.4 +3.6
PET *e*PPS PPS 12 35 19.1 -2.2
PET pmax pmax
comp=Z,200nm,5.8s
PET smax
comp=N,300nm,14.3s
PET MLR MLR
comp=Z,500nm,21.0s,MS4.8
YSS Yuzh-Sakhalins 73.52 332 *eP* **P 12 25 13.6 +4.0**
YSS *e*PS PS 12 35 08.0 -4.8
YSS *e*SSS SSS 12 42 39.0 +6.0
YSS pmax pmax
comp=Z,60nm,1.3s,mb5.4
KSM Kuching 74.17 277 *eP* **P 12 25 12.9 -1.2**
MIR Mirnyy 74.46 205 *eP* **P 12 25 19.0 +4.3**
MIR pmax pmax
comp=Z,67nm,1.4s,mb5.4
SAO San Andreas Ge 74.83 43 P **P 12 25 17.1 -0.3**
comp=Z,81nm,1.8s,mb5.3
PTRM Twissleman Ran 75.01 45 *eP* **P 12 25 16.5 -2.0**
MWC Mount Wilson 75.70 47 *eP* **P 12 25 20.9 -1.5**
BAR Barrett 75.87 49 *eP* **P 12 25 19.2 -4.3**
ISA Isabella 76.19 45 *eP* **P 12 25 25.2 0.0**
comp=Z,99nm,2.8s,mb5.2
ISA Isabella 76.19 45 *eP* **P 12 25 25.2 0.0**
ISA pmax pmax
comp=Z,99nm,2.8s,mb5.2
CMB Columbia Colle 76.25 43 *eP* **P 12 25 24.7 -0.8**
comp=Z,20nm,1.2s,mb4.9
CMB Columbia Colle 76.25 43 *eP* **P 12 25 24.7 -0.8**
CMB pmax pmax
comp=Z,20nm,1.2s,mb4.9
OHCM Honcut 76.31 41 *eP* **P 12 25 25.1 -0.6**
WDC Whiskeytown Da 76.39 39 *eP* **P 12 25 26.2 0.0**
comp=Z,36nm,1.4s,mb5.1
WDC Whiskeytown Da 76.39 39 *eP* **P 12 25 26.2 0.0**
WDC pmax pmax
comp=Z,36nm,1.4s,mb5.1
PFO Pinyon Flat Ob 76.51 48 *eP* **P 12 25 26.2 -0.8**
comp=Z,25nm,1.3s,mb5.0
PFO Pinyon Flat Ob 76.51 48 *eP* **P 12 25 26.2 -0.8**
PFO pmax pmax
comp=Z,25nm,1.3s,mb5.0
SSE Sheshan 76.53 309 *eP* **P 12 25 25.7 -1.5**
SSE AP pP 12 25 35.4 +0.7
SSE XP sP 12 25 39.1 +1.9
SSE S S 12 35 03.1 -7.1
SSE SCS ScS 12 35 39.2 +1.1
SSE AMB AMB
comp=Z,39nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,640nm,8.2s
SSE LR LR
comp=N,964nm,37.9s,MS4.9
SSE LR LR
comp=E,726nm,37.9s,MS4.9
SSE LR LR
comp=Z,944nm,34.8s,MS4.9
SSE Sheshan 76.53 309 *eP* **P 12 25 25.7 -1.5**
comp=Z,39nm,0.8s,mb5.4
SSE pP pP 12 25 35.4 +0.7
SSE sP sP 12 25 39.1 +1.9
SSE PP PP 12 28 12.5 -8.4
SSE S S 12 35 03.1 -7.1
SSE sS 12 35 20.9
SSE ScS ScS 12 35 39.2 +1.1
SSE SS SS 12 39 55.6 -13
SSE LR LR
comp=Z,940nm,34.8s,MS4.9
YBH Yreka Blue Hor 76.99 38 *eP* **P 12 25 28.7 -0.8**
comp=Z,24nm,1.2s,mb5.0
MTUM Tungsten Hills 77.06 44 *eP* **P 12 25 29.3 -0.7**
DAC Darwin (Calif) 77.13 45 *eP* **P 12 25 28.8 -1.6**
comp=Z,48nm,1.8s,mb5.1
BEKR Beckwourth 77.32 41 *eP* **P 12 25 30.8 -0.6**
comp=Z,28nm,1.3s,mb5.0
HUMO Hull Mountain 77.38 38 *eP* **P 12 25 30.6 -1.1**
comp=Z,33nm,1.4s,mb5.1
NVAR Mina Array Bea 77.83 43 P **P 12 25 34.5 +0.4**
comp=Z,10nm,0.9s,mb4.7,baz=226,slow=8.8,SNR=20
LDFC Landfair 78.22 47 *eP* **P 12 25 36.3 -0.1**
TPH Tonopah 78.35 44 *eP* **P 12 25 36.9 -0.2**
comp=Z,52nm,1.5s,mb5.2
TPH Tonopah 78.35 44 *eP* **P 12 25 36.9 -0.2**
TPH pmax pmax
comp=Z,52nm,1.5s,mb5.2
MOD Modoc 78.54 39 *eP* **P 12 25 37.5 -0.5**
comp=Z,33nm,1.4s,mb5.1
MDJ Mudanjiang 78.54 324 P **P 12 25 43.2 +5.2**
MDJ XP sP 12 25 54.9 +6.9
MDJ PP PP 12 28 41.3 +3.6
MDJ S S 12 35 40.2 +8.6
MDJ AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,410nm,6.2s
MDJ LR LR
comp=N,281nm,19.7s,MS4.9
MDJ LR LR
comp=E,502nm,18.4s,MS4.9
MDJ LR LR
comp=Z,786nm,19.7s,MS5.0
MDJ Mudanjiang 78.54 324 P **P 12 25 38.1 +0.2**
comp=Z,73nm,1.6s,mb5.4
NEN Nelson 78.70 47 *eP* **P 12 25 38.3 -0.7**
NJ2 Nanjing 78.73 309 *eP* **P 12 25 38.7 -0.6**
NJ2 AP pP 12 25 49.1 +2.3
NJ2 XP sP 12 25 53.0 +3.6
NJ2 S S 12 35 26.0 -7.9
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,570nm,5.4s
NJ2 LR LR
comp=N,1µm,19.5s
NJ2 LR LR
comp=E,2µm,25.6s
NJ2 LR LR
comp=Z,1µm,23.8s,MS5.2
BMN Battle Mountai 79.63 42 *eP* **P 12 25 42.0 -2.0**
comp=Z,41nm,1.4s,mb5.2
WVOR Wild Horse Val 79.86 40 *eP* **P 12 25 44.6 -0.5**
comp=Z,38nm,1.4s,mb5.1
WVOR Wild Horse Val 79.86 40 *eP* **P 12 25 44.6 -0.6**
WVOR pmax pmax
comp=Z,38nm,1.4s,mb5.1
OCWA Octopus Mounta 79.92 33 P **P 12 25 43.9 -1.5**
comp=Z,53nm,1.3s,mb5.3
TUC Tucson 80.02 52 *eP* **P 12 25 46.7 +0.4**
comp=Z,39nm,1.4s,mb5.2
TUC Tucson 80.02 52 *eP* **P 12 25 46.7 +0.4**
TUC pmax pmax
comp=Z,39nm,1.4s,mb5.1
KLR Kul'dur 80.33 329 *eP* **P 12 25 49.7 +2.2**
CN2 Changchun 80.45 322 *eP* **P 12 25 49.3 +1.0**
CN2 *e*S S 12 35 53.7 +2.0
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,330nm,4.0s
CN2 LR LR
comp=N,310nm,18.0s,MS4.8
CN2 LR LR
comp=E,220nm,18.0s,MS4.8
CN2 LR LR
comp=Z,270nm,19.0s,MS4.6
PGC Sidney 80.86 33 *eP* **P 12 25 47.5 -2.8**
comp=Z,47nm,1.1s,mb5.3
MA2 Magadan 80.95 344 *eP* **P 12 25 52.8 +2.2**
MA2 pmax pmax
comp=Z,37nm,1.7s,mb5.0
ELK Elko 81.07 43 *eP* **P 12 25 51.5 -0.1**
comp=Z,16nm,1.3s,mb4.8
ELK Elko 81.07 43 *eP* **P 12 25 51.5 -0.1**
ELK pmax pmax
comp=Z,16nm,1.3s
WHN Wuhan 81.48 306 *eP* **P 12 25 57.9 +3.9**
TTA Tatalina 81.52 9 *eP* **P 12 25 57.9 +4.4**
HAWA Hanford 81.60 36 *eP* **P 12 25 54.0 -0.3**
comp=Z,2.8nm,1.3s
DIV Divide 81.92 15 *eP* **P 12 25 55.2 -0.4**
comp=Z,115nm,1.2s,mb5.7
MSU Marysvale 81.97 46 *eP* **P 12 25 57.2 +0.8**
BMO Blue Mountains 82.01 38 *eP* **P 12 25 56.0 -0.4**
comp=Z,30nm,1.4s,mb5.0
DUG Dugway 82.38 44 *eP* **P 12 25 58.6 +0.2**
comp=Z,24nm,1.5s,mb4.9
DUG Dugway 82.38 44 *eP* **P 12 25 58.6 +0.2**
DUG pmax pmax
comp=Z,24nm,1.5s,mb4.9
TMUT Trail Mountain 83.01 45 *eP* **P 12 26 02.6 +0.8**
HLID Hailey 83.07 40 *eP* **P 12 26 01.9 -0.1**
comp=Z,21nm,1.1s,mb5.1
MPU Maple Canyon 83.07 45 *eP* **P 12 26 03.1 +1.0**
HVU Hansel Valley 83.19 43 *eP* **P 12 26 01.9 -0.8**
CTU Camp Tracy 83.33 44 *eP* **P 12 26 03.6 +0.3**
SRU San Rafael 83.39 46 *eP* **P 12 26 03.9 +0.2**
SEY Seymchan 83.46 346 *c iP* **P 12 26 03.2 -0.4**
DAU Daniels Canyon 83.52 44 *iP* **P 12 26 04.3 -0.1**
TCUT Toone Canyon 83.76 44 *eP* **P 12 26 06.0 +0.4**
MNTX Cornudas Mount 83.88 54 *eP* **P 12 26 05.8 -0.6**
comp=Z,38nm,1.4s,mb5.3
HWUT Hardware Ranch 83.89 43 *eP* **P 12 26 05.8 -0.4**
comp=Z,48nm,1.7s,mb5.3
THY Trims Highway 83.91 13 P **P 12 26 05.3 -0.5**
NEW Newport 84.02 35 P **P 12 26 08.0 +1.3**
comp=Z,11nm,1.2s,mb4.8
LTX Lajitas 84.28 57 *eP* **P 12 26 08.6 +0.1**
comp=Z,38nm,1.4s,mb5.3
TXAR Lajitas Array 84.28 57 P **P 12 26 09.4 +0.9**
comp=Z,7.4nm,1.1s,mb4.7,baz=236,slow=4.2,SNR=20
TXAR LR LR 12 55 32.0
comp=Z,2µm,21.2s,MS5.5,baz=260,slow=30
ANMO Albuquerque 84.42 51 *eP* **P 12 26 09.4 +0.3**
comp=Z,36nm,1.3s,mb5.3
ANMO Albuquerque 84.42 51 *eP* **P 12 26 09.4 +0.3**
ANMO pmax pmax
comp=Z,36nm,1.3s
KULM Kulim 84.52 277 *eP* **P 12 26 09.8 -0.2**
DLBC Dease Lake 84.57 23 P **P 12 26 09.7 +0.3**
MCMT McKenzie Canyo 84.68 40 *eP* **P 12 26 10.4 +0.3**
AHID Auburn Hatcher 84.76 42 *eP* **P 12 26 11.2 +0.6**
comp=Z,50nm,1.4s,mb5.5
IMA Indian Mountai 84.82 9 *eP* **P 12 26 09.8 -0.5**
comp=Z,193nm,1.4s,mb6.0
ILAR Eielson Array 84.86 12 P **P 12 26 09.4 -1.1**
comp=Z,7.4nm,1.1s,mb4.7,baz=227,slow=5.9,SNR=27
ILAR LR LR 12 56 38.1
comp=Z,748nm,21.9s,MS5.0,baz=230,slow=30
RRI2 Red Ridge 84.90 42 *eP* **P 12 26 11.7 +0.5**
comp=Z,80nm,1.4s,mb5.7
MAW Mawson 85.05 199 *eP* **P 12 26 11.7 +0.3**
comp=Z,3.8nm,0.9s,mb4.5
MAW Mawson 85.05 199 P **P 12 26 11.6 +0.2**
comp=Z,3.5nm,1.0s,mb4.4,baz=117,slow=5.8,SNR=6.1
MAW LR LR 13 00 43.9
comp=Z,2µm,20.6s,MS5.4,baz=346,slow=33
MAW Mawson 85.05 199 *eP* **P 12 26 11.7 +0.3**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MSO Missoula 85.06 38 *eP* **P 12 26 11.6 -0.3**
comp=Z,21nm,1.4s,mb5.1
SNG Songkhla 85.12 279 P **P 12 26 14.0 +1.0**
comp=Z,42nm,0.8s,mb5.6
ENH Enshi 85.20 304 *eP* **P 12 26 13.6 +0.6**
comp=Z,163nm,1.4s,mb6.0
TPAW Teton Pass 85.21 42 *eP* **P 12 26 12.8 +0.1**
comp=Z,47nm,1.4s,mb5.4
SNOW Snow King Moun 85.32 42 *eP* **P 12 26 14.0 +0.7**
comp=Z,73nm,1.4s,mb5.6
LOHW Long Hollow 85.49 42 *eP* **P 12 26 14.5 +0.3**
comp=Z,32nm,1.5s,mb5.2
CHMT Chamberlain Mo 85.51 38 *eP* **P 12 26 14.1 -0.1**
QLMT Earthquake Lak 85.56 40 *eP* **P 12 26 15.5 +1.0**
YFT Old Faithful 85.75 41 *eP* **P 12 26 17.2 +1.8**
PDAR Pinedale Array 85.76 43 P **P 12 26 15.1 -0.5**
comp=Z,3.8nm,0.9s,mb4.6,baz=220,slow=3.3,SNR=21
PDAR LR LR 13 00 21.7
comp=Z,291nm,18.3s,MS4.7,baz=251,slow=33
YMR Madison River 85.77 41 *eP* **P 12 26 16.4 +0.8**
BOZ Bozeman (W) 85.84 40 *eP* **P 12 26 15.7 -0.2**
comp=Z,42nm,1.4s,mb5.5
BILL Bilibino 85.91 354 P **P 12 26 14.4 -1.2**
comp=Z,17nm,0.6s,mb5.5
BILL Bilibino 85.91 354 *c iP* **P 12 26 19.7 +4.0**
BILL *e*S S 12 36 37.8 -8.2
BILL pmax pmax
comp=Z,51nm,1.0s,mb5.7
KKTK Khon Kaen 85.97 288 P **P 12 26 17.0 -0.1**
YNR Norris Junctio 85.97 41 *eP* **P 12 26 19.4 +2.9**
DAWY Dawson 85.99 16 *eP* **P 12 26 15.9 -0.2**
LKWY Lake 86.07 41 P **P 12 26 18.4 +1.4**
comp=Z,64nm,1.6s,mb5.6
GYA Guiyang 86.08 299 P **P 12 26 20.9 +3.4**
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.9
WALA Waterton Lakes 86.24 36 *eP* **P 12 26 16.9 -0.9**
comp=Z,42nm,1.4s,mb5.5
HIA Hailar 86.73 324 *eP* **P 12 26 20.2 0.0**
comp=Z,52nm,1.5s,mb5.5
HIA Hailar 86.73 324 *eP* **P 12 26 20.2 +0.1**
HIA pmax pmax
comp=Z,52nm,1.5s
XAN Xi'an 87.10 307 P **P 12 26 23.0 +0.6**
XAN AP pP 12 26 28.6 -1.4
XAN AMB AMB
comp=Z,30nm,1.1s,mb5.4
NNT Nongplab 87.61 284 P **P 12 26 27.0 +1.8**
HHC Hu-ho-hao-te 87.92 314 *eP* **P 12 26 28.2 +2.1**
HHC AP pP 12 26 34.6 +0.9
HHC XP sP 12 26 37.2 +1.0
HHC PP PP 12 30 00.1 +5.2
HHC SKS SKS 12 36 54.0 -4.0
HHC S S 12 37 13.0 +7.1
HHC XS 12 37 24.9
HHC AMB AMB
comp=Z,17nm,1.5s,mb5.0
HHC AMB AMB
comp=Z,625nm,7.5s
HHC LR LR
comp=N,563nm,17.8s,MS5.3
HHC LR LR
comp=E,945nm,20.2s,MS5.3
HHC LR LR
comp=Z,1µm,22.6s,MS5.3
NST Nakhon Sawan 88.20 287 P **P 12 26 30.0 +2.0**
CLNS Chul'man 88.28 332 *eP* **P 12 26 25.5 -1.9**
CLNS pmax pmax
comp=Z,23nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,4.0nm,0.7s
EDM Edmonton 88.72 33 *eP* **P 12 26 29.1 -0.4**
KMI Kunming 88.93 297 P **P 12 26 32.9 +1.6**
KMI AP pP 12 26 38.1 -0.8
KMI PP PP 12 30 03.6 +0.3
KMI PPP PPP 12 32 02.3 +0.1
KMI SKS SKS 12 36 59.2 -5.4
KMI S S 12 37 17.2 +1.6
KMI sS 12 37 24.9
KMI PS PS 12 38 24.1 -1.6
KMI SS SS 12 43 11.6 -0.1
KMI SSS SSS 12 46 44.7 -0.9
KMI LR LR
comp=Z,960nm,23.1s,MS5.2
KMI Kunming 88.93 297 P **P 12 26 32.9 +1.6**
KMI *SP sP 12 26 39.6 -1.8
KMI 12 30 03.6
KMI PPP PPP 12 32 02.3 +0.1
KMI 12 36 59.2
KMI S S 12 37 17.2 +1.6
KMI PS PS 12 38 24.1 -1.6
KMI SS SS 12 43 11.6 -0.1
KMI SSS SSS 12 46 44.7 -0.9
KMI pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
KMI MLR MLR
comp=Z,960nm,23.1s,MS5.2
YAK Yakutsk 89.53 338 *eP* **P 12 26 35.1 +1.9**
YAK pmax pmax
comp=Z,15nm,1.0s,mb5.3
LAO LASA Array 89.65 40 *eP* **P 12 26 34.9 +0.8**
comp=Z,30nm,1.2s,mb5.5
CD2 Chengdu 90.03 302 *eP* **P 12 26 37.0 +0.6**
CD2 AMB AMB
comp=Z,20nm,1.3s,mb5.3
SYO Syowa Base 90.18 192 ⇓ P **P 12 26 34.0 -2.1**
SYO Syowa Base 90.18 192 ⇓ *P* P 12 26 41.8 -2.0
CHG Chiang Mai 90.26 290 P **P 12 26 41.4 +3.8**
PLCA Paso Flores 90.66 133 LR LR 12 58 38.7
comp=Z,379nm,18.7s,MS4.9,baz=131,slow=30
SNAA Sanae 91.25 178 **P 12 26 55.2 +14**
SNAA Sanae 91.25 178 **P 12 26 59.2 +18**
SNAA Sanae 91.25 178 Px 12 27 08.0
SNAA Sanae 91.25 178 ⇑ *iP* **P 12 26 45.2 +4.2**
SNAA P 12 26 55.2
SNAA P 12 26 59.2
SNAA P 12 27 08.0
VNA3 Neumayer Olymp 91.33 176 **P 12 26 46.4 +5.0**
VNA3 Neumayer Olymp 91.33 176 **P 12 26 49.8 +8.4**
VNA3 Neumayer Olymp 91.33 176 **P 12 26 54.4 +13**
VNA3 Neumayer Olymp 91.33 176 Px 12 27 06.6
VNA3 Neumayer Olymp 91.33 176 Px 12 27 14.6
VNA3 Neumayer Olymp 91.33 176 ⇑ *iP* **P 12 26 42.9 +1.5**
VNA3 P 12 26 46.4
VNA3 P pP 12 26 49.8 +0.8
VNA3 P 12 26 54.4
VNA3 P 12 27 06.6
CIT Chita 91.51 325 *eP* **P 12 26 43.2 +0.6**
CIT pmax pmax
comp=Z,65nm,1.5s,mb5.7
DGMT Dagmar 91.65 39 *eP* **P 12 26 44.4 +1.1**
comp=Z,66nm,1.3s,mb5.8
LZH Lanzhou 91.73 307 *eP* **P 12 26 48.5 +4.5**
LZH AP pP 12 26 57.6 +5.9
LZH XP sP 12 27 01.7 +7.6
LZH *e*PP PP 12 30 22.3 -3.1
LZH SKS SKS 12 37 15.6 -5.4
LZH *e*S S 12 37 39.8 -0.7
LZH XS 12 37 54.5
LZH AMB AMB
comp=Z,39nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,156nm,7.3s
LZH LR LR
comp=E,935nm,16.2s
LZH LR LR
comp=Z,1µm,18.7s,MS5.4
LZH Lanzhou 91.73 307 *eP* **P 12 26 48.5 +4.5**
comp=Z,39nm,1.5s,mb5.5
LZH pP pP 12 26 57.6 +5.9
LZH sP sP 12 27 01.7 +7.6
LZH *e*PP PP 12 30 22.3 -3.1
LZH SKS SKS 12 37 15.6 -5.4
LZH *e*S S 12 37 39.8 -0.7
LZH sS 12 37 54.5
LZH SS SS 12 43 44.2 -7.4
LZH LR LR
comp=Z,1µm,18.7s,MS5.4
VNA2 Neumayer--Watz 91.78 177 **P 12 26 48.8 +5.3**
VNA2 Neumayer--Watz 91.78 177 **P 12 26 52.6 +9.1**
VNA2 Neumayer--Watz 91.78 177 Px 12 27 12.1
VNA2 Neumayer--Watz 91.78 177 ⇑ *iP* **P 12 26 44.8 +1.3**
VNA2 P 12 26 48.8
VNA2 P pP 12 26 52.6 +1.5
VNA2 P 12 27 12.1
VNA1 Neumayer--Stat 92.00 176 **P 12 26 50.7 +6.2**
VNA1 Neumayer--Stat 92.00 176 **P 12 26 54.3 +10**
VNA1 Neumayer--Stat 92.00 176 Px 12 27 12.2
VNA1 Neumayer--Stat 92.00 176 P **P 12 26 45.9 +1.4**
VNA1 P 12 26 50.7
VNA1 P pP 12 26 54.3 +2.2
VNA1 P 12 27 12.2
NVL N'lazarevskaya 92.05 183 ⇓ *iP* **P 12 26 48.5 +3.8**
NVL *i* *PP pP 12 26 57.2 +4.9
NVL *e**SP sP 12 27 01.5 +6.7
NVL *e* 12 30 26.9
NVL pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
YKA Yellowknife Ar 93.04 24 P **P 12 26 48.5 -0.9**
comp=Z,0.3nm,0.7s,baz=55,slow=5.4,SNR=3.2
YKA LR LR 13 02 06.2
comp=Z,664nm,19.8s,baz=265,slow=31
YKA Yellowknife Ar 93.04 24 P **P 12 26 48.5 -0.9**
YKA LR LR 13 02 06.2
ULN Ulaanbaatar 93.66 319 *eP* **P 12 26 52.3 -0.4**
comp=Z,16nm,1.3s,mb5.3
ULN Ulaanbaatar 93.66 319 *eP* **P 12 26 52.3 -0.3**
ULN pmax pmax
comp=Z,15nm,1.3s,mb5.3
BOD Bodaibo 93.85 330 *eP* **P 12 26 52.0 -1.2**
BOD pmax pmax
comp=Z,8.0nm,1.6s,mb4.9
SONM Songino Array 94.06 319 P **P 12 26 53.6 -0.9**
comp=Z,1.1nm,0.8s,mb4.3,baz=138,slow=7.2,SNR=6.8
SONM LR LR 13 09 00.2
comp=Z,533nm,18.9s,MS5.0,baz=114,slow=35
GTA Gaotai 95.81 309 *eP* **P 12 27 05.8 +3.0**
GTA AP pP 12 27 11.5 +1.1
GTA XP sP 12 27 14.7 +1.9
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,147nm,6.5s
GTA LR LR
comp=N,576nm,17.1s,MS5.2
GTA LR LR
comp=E,559nm,20.5s,MS5.2
GTA LR LR
comp=Z,877nm,26.2s
TIXI Tiksi 95.89 345 *eP* **P 12 27 02.8 +0.5**
TIXI *e* 12 30 57.7
TIXI *e*S SKS 12 37 33.8 -9.4
TIXI *e*PS PS 12 39 34.9 -8.2
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
TIXI MLR MLR
comp=Z,591nm,16.0s,MS5.2
ZAK Zakamensk 96.85 321 *eP* **P 12 27 07.2 0.0**
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb4.1
ULM Lac du Bonnet 97.36 40 LR LR 13 09 59.6
comp=Z,305nm,18.2s,MS4.8,baz=283,slow=35
MKAR Makanchi Array 109.79 314 Pdiff Pdif 12 28 03.0 -1.7
comp=Z,0.1nm,0.4s,baz=180,slow=1.4,SNR=2.4

MKAR				PKiKP		12 32 09.3	
	comp=Z,0.5nm,0.9s,baz=90,slow=2.9,SNR=2.6						
AAK	**Ala-Archa**	**115.17**	**309**	*i* PKIKP	PKPdf	12 32 20.3	-0.6
ARU	**Arti**	**123.14**	**327**	*i* PKIKP	PKPdf	12 32 35.6	-0.4
ARU				*e*		12 39 44.6	
ARCES	**ARCESS Array B**	**125.90**	**351**	PKP	PKPdf	12 32 38.2	-2.8
	comp=Z,4.1nm,0.8s,baz=297,slow=2.7,SNR=6.6						
FINES	**FINESS Array B**	**132.94**	**345**	PKP	PKPdf	12 32 51.1	-3.5
	comp=Z,1.4nm,0.8s,baz=270,slow=1.9,SNR=5.1						
MOS	**Moscow**	**133.53**	**334**	*e*PKIKP	PKPdf	12 33 00.4	+4.6
MOS				MLR	MLR		
	comp=Z,1μm,18.6s,MS5.6						
OBN	**Obninsk**	**134.39**	**334**	*i* PKIKP	PKPdf	12 32 58.7	+1.2
OBN				*e*		12 40 03.7	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,1μm,23.0s,MS5.5						
TI2	**Plekhanov**	**136.96**	**313**	*e*PKIKP	PKPdf	12 33 02.0	-0.5
ZEI	**Tsey**	**137.13**	**315**	*e*PKIKP	PKPdf	12 32 58.8	-4.0
KIV	**Kislovodsk**	**137.44**	**317**	*i* PKIKP	PKPdf	12 33 05.7	+2.3
KIV				*e*		12 40 09.9	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GNI	**Garni**	**137.53**	**311**	*i* PKIKP	PKPdf	12 33 04.9	+1.2
SOC	**Sochi**	**139.52**	**318**	*i* PKIKP	PKPdf	12 33 16.6	+9.4
SOC				MLR	MLR		
	comp=Z,913nm,23.0s,MS5.5						
SOC				MLR	MLR		
	comp=N,354nm,20.0s,MS5.3						
SOC				MLR	MLR		
	comp=E,412nm,22.0s,MS5.3						
ANN	**Anapa**	**140.30**	**321**	*i* PKIKP	PKPdf	12 33 05.0	-3.6
ANN				*e*		12 40 14.9	
ANN				pmax	pmax		
	comp=Z,73nm,1.4s						
AKASG	**Malin Array Be**	**140.66**	**334**	PKP	PKPdf	12 33 07.5	-1.6
	comp=Z,3.3nm,0.8s,baz=32,slow=2.3,SNR=8.1						
KELT	**Kelkit**	**141.40**	**314**	*i* P	PKPdf	12 33 04.8	-5.9
KMBO	**Kilima Mbogo**	**141.86**	**245**	PKP	PKPdf	12 33 11.4	-0.9
	comp=Z,1.3nm,0.8s,baz=166,slow=7.7,SNR=3.1						
KMBO	**Kilima Mbogo**	**141.86**	**245**	*i* PKIKP	PKPdf	12 33 18.4	+6.1
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SIM	**Simferopol'**	**142.15**	**324**	*i* PKIKP	PKPdf	12 33 12.0	+0.2
SIM				pmax	pmax		
	comp=Z,20nm,6.8s						
KIS	**Kishinev**	**143.56**	**330**	*e*PKIKP	PKPdf	12 33 10.0	-4.1
KIS				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.6						
KIS				MLR	MLR		
	comp=Z,1μm,20.0s						
GZT	**Gaziantep**	**143.78**	**311**	*i* P	PKPbc	12 33 10.3	+1.0
KWP	**Kalwaria**	**144.04**	**338**	*e*PKPdf	PKPdf	12 33 10.8	-4.0
KAHT	**Ahir Dag**	**144.16**	**311**	*i* P	PKPbc	12 33 11.7	+1.3
CTKT	**Corum**	**144.17**	**317**	*i* P	PKPbc	12 33 04.7	-5.6
OJC	**Ojcow**	**144.48**	**342**	*e*PKP	PKPdf	12 33 13.1	-2.6
BALT	**Daday**	**144.57**	**319**	*i* P	PKPbc	12 33 14.3	+2.9
BURAR	**Bucovina Array**	**144.71**	**334**	⇓*i*P	PKPbc	12 33 16.9	+5.3
BURAR	**Bucovina Array**	**144.71**	**334**	⇑*i*P	PKPbc	12 33 16.9	+5.3
STHS	**Stebnicka Huta**	**144.72**	**340**	*e*PKP	PKPdf	12 33 12.6	-3.5
STHS				*e*SKSDF		12 40 24.6	
KSP	**Ksiaz**	**144.86**	**346**	*e*PKP	PKPdf	12 33 12.4	-3.9
KSP				*e*PKPdf	PKPdf	12 33 15.9	-0.4
KSP				LR	LR		
	comp=Z,2μm,22.4s,MS5.8						
KSP	**Ksiaz**	**144.86**	**346**	*e*PKIKP	PKPdf	12 33 12.4	-3.9
KSP				MLR	MLR		
	comp=Z,2μm,22.4s,MS5.8						
KSP	**Ksiaz**	**144.86**	**346**	*i* PKIKP	PKPdf	12 33 15.9	-0.4
KSP				MLR	MLR		
	comp=Z,2μm,22.4s,MS5.8						
CDAG	**Cicekdag**	**144.96**	**316**	*i* P	PKPbc	12 33 12.6	+0.1
NIE	**Niedzica**	**145.02**	**340**	*e*PKP	PKPdf	12 33 13.3	-3.4
AVNT	**Avonos**	**145.05**	**314**	*i* P	PKPbc	12 33 12.8	0.0
COBT	**Iskenderun**	**145.08**	**310**	*i* P	PKPbc	12 33 13.1	+0.2
CRVS	**Cervenica-Dubn**	**145.09**	**339**	*e*PKP	PKPdf	12 33 13.9	-2.9
CLL	**Collm**	**145.10**	**349**	*e*PKIKP	PKPdf	12 33 13.0	-3.7
CLL				*e**PPKP		12 33 20.0	
CLL				*i*		12 33 24.8	
CLL				*i*		12 33 28.7	
ELDT	**Eldivan**	**145.12**	**318**	*i* P	PKPbc	12 33 13.4	+0.4
CFR	**Carcaliu**	**145.20**	**329**	⇓*i*P	PKPbc	12 33 13.1	+0.1
CFR	**Carcaliu**	**145.20**	**329**	⇑*i*PKP2	PKPab	12 33 13.1	-1.2
WTSB	**Winterswijk**	**145.21**	**356**	*e*PKP	PKPdf	12 33 16.5	-0.3
UPC	**Upice**	**145.24**	**346**	*e*PKP	PKPdf	12 33 13.5	-3.5
OKC	**Ostrava-Krasne**	**145.30**	**343**	*e*PKP	PKPdf	12 33 12.4	-4.7
OKC				AMS	AMS	13 35 10.0	
	comp=Z,1μm,21.2s						
DPC	**Dobruska-Polom**	**145.31**	**345**	*e*PKP	PKPdf	12 33 14.0	-3.1
DPC				AMS	AMS	13 35 40.0	
	comp=Z,700nm,18.8s						
BRG	**Berggiesshubel**	**145.34**	**348**	*e*P	PKPbc	12 33 14.9	+1.8
BRG				*i*		12 33 22.8	
BRG				LR	LR		
	comp=Z,1μm,26.8s,MS5.5						
BR131	**Keskin Array S**	**145.39**	**317**	*e*PKP	PKPdf	12 33 14.5	-3.1
BRTR	**Keskin Array B**	**145.39**	**317**	PKPbc	PKPbc	12 33 14.7	+1.1
	comp=Z,10.0nm,0.9s,baz=128,slow=2.1,SNR=16						
MORC	**Moravsky Berou**	**145.52**	**344**	*e*PKPdf	PKPdf	12 33 14.2	-3.2
PVCC	**Panska Ves**	**145.54**	**347**	*e*PKP	PKPdf	12 33 14.6	-2.9
PVCC				AMS	AMS	13 37 30.0	
	comp=Z,800nm,19.8s						
ANTO	**Ankara**	**145.87**	**317**	P	PKPbc	12 33 17.5	+2.7
SGKT	**Sivrigoynuk**	**145.94**	**319**	*i* P	PKPbc	12 33 13.6	-1.4
MOX	**Moxa**	**145.98**	**350**	*i* P	PKPbc	12 33 15.8	+1.1
	comp=Z,logA/T=1.6						
MOX				L		12 39 13.0	
MOX	**Moxa**	**145.98**	**350**	*e*PKP2	PKPab	12 33 15.8	-1.3
MOX				MLR	MLR		
	comp=Z,400nm,20.0s,MS5.2						
MLR	**Muntele Rosu**	**146.02**	**331**	⇓*i*P	PKPbc	12 33 16.5	+1.5
MLR	**Muntele Rosu**	**146.02**	**331**	⇑*i*PKP2	PKPab	12 33 16.5	-1.0
PRU	**Pruhonice**	**146.06**	**347**	*e*PKP	PKPdf	12 33 15.9	-2.5
PRU				AMS	AMS	13 36 00.0	
	comp=Z,1μm,22.1s						
ASF	**Jabal al Asfar**	**146.16**	**302**	PKPbc	PKPbc	12 33 18.2	+2.4
	comp=Z,10nm,0.9s,baz=1.0,slow=1.8,SNR=7.2						
VRAC	**Vranov**	**146.20**	**344**	P	PKPbc	12 33 17.3	+2.0
NKC	**Novy Kostel**	**146.24**	**349**	*e*PKP	PKPdf	12 33 16.7	-2.0
NKC				AMS	AMS	13 26 50.0	
	comp=Z,1μm,29.7s						
NKC	**Novy Kostel**	**146.24**	**349**	*e*PKIKP	PKPdf	12 33 14.6	-4.1
NKC				MLR	MLR		
	comp=Z,800nm,19.8s,MS5.5						
VYHS	**Vyhne**	**146.30**	**341**	*e*PKP	PKPdf	12 33 17.3	-1.6
DRGR		**146.39**	**336**	⇑*i*P	PKPbc	12 33 15.8	0.0
HGN	**Heimansgroeve**	**146.46**	**357**	*e*PKP	PKPdf	12 33 21.5	+2.4
	comp=Z,60nm,1.7s						
PSZ	**Piszkesteto**	**146.47**	**340**	⇑*e*pPKP/A		12 33 22.0	
PSZ	**Piszkesteto**	**146.47**	**340**	*e*PKP2	PKPab	12 33 17.4	-1.7
VOIR		**146.48**	**332**	⇑*i*P	PKPbc	12 33 27.0	+11
VOIR		**146.48**	**332**	⇑*i*P	PKPbc	12 33 27.0	+11
TREC	**Trest**	**146.49**	**345**	*e*PKP	PKPdf	12 33 16.8	-2.4
BHL	**Bhannes**	**146.56**	**306**	*e*P	PKPbc	12 33 20.6	+4.0
MEST	**Erdemli**	**146.58**	**311**	*i* P	PKPbc	12 33 19.4	+2.8
MENF	**Mencas**	**146.72**	**1**	PKP	PKPdf	12 33 21.0	+1.5
KSDI	**Kefar Szold**	**146.81**	**305**	P	PKPbc	12 33 23.8	+6.6
GRA1	**Grafenberg Arr**	**146.96**	**350**	*e*PKPbc	PKPbc	12 33 25.9	+8.9
GRA1				LR	LR		
	comp=Z,700nm,19.8s,MS5.5						
GRF	**Grafenberg Arr**	**146.96**	**350**	*e*PKP	PKPdf	12 33 25.9	+6.0
GRF				LR	LR		
	comp=Z,700nm,19.8s,MS5.5						
KDHN	**Kadinhani**	**147.03**	**316**	*i* P	PKPdf	12 33 18.8	-1.6
KHC	**Kasperske Hory**	**147.07**	**347**	*e*PKP	PKPdf	12 33 19.0	-1.1
KHC				x	x	12 33 21.5	
KHC				AMS	AMS	13 38 50.0	
	comp=Z,900nm,22.7s						
KHC	**Kasperske Hory**	**147.07**	**347**	*e*PKP	PKPdf	12 33 19.0	-1.1
KHC				*e*		12 33 21.5	
KHC				LR	LR		
	comp=Z,900nm,22.7s,MS5.5						
KHC	**Kasperske Hory**	**147.07**	**347**	*e*PKP2	PKPab	12 33 19.0	-2.4
KHC				MLR	MLR		
	comp=Z,900nm,22.7s,MS5.5						
MMA0	**Mount Meron ar**	**147.07**	**305**	P	PKPdf	12 33 24.9	+4.2
ZST	**Bratislava**	**147.08**	**343**	*e*PKP	PKPdf	12 33 22.0	+1.8
ZST				*e*		12 33 29.5	
SRO1	**Iza**	**147.14**	**341**	*e*PKP	PKPdf	12 33 22.4	+2.1
GIVF	**Givet**	**147.16**	**358**	*e*PKIKP	PKPdf	12 33 22.2	+1.9
BAIF	**Baives**	**147.22**	**359**	*e*PKIKP	PKPdf	12 33 22.1	+1.8
	comp=Z,31nm,1.1s						
ABH	**Alteburg**	**147.22**	**355**	PKP	PKPdf	12 33 23.0	+2.6
HNTI	**Hanita**	**147.23**	**305**	P	PKPdf	12 33 22.5	+1.6
MMLI	**Mount Malkishu**	**147.26**	**304**	P	PKPdf	12 33 21.5	+0.5
ESKT	**Eskisehir**	**147.31**	**318**	*i* P	PKPdf	12 33 15.8	-5.1
GERES	**GERESS Array B**	**147.32**	**347**	PKPbc	PKPdf	12 33 20.4	-0.1
	comp=Z,7.5nm,1.0s,baz=315,slow=1.9,SNR=20						
BORA	**Eskisehir**	**147.34**	**319**	*i* P	PKPdf	12 33 21.8	+0.9
TOD	**Tromm**	**147.37**	**353**	PKP	PKPdf	12 33 22.6	+2.0
ERMK	**Ermenek**	**147.43**	**312**	*i* P	PKPdf	12 33 21.9	+0.8
WLF	**Walferdange**	**147.54**	**356**	*e*PKPdf	PKPdf	12 33 18.1	-2.8
SLTI	**Sal'it**	**147.63**	**304**	P	PKPdf	12 33 22.2	+0.6
MBAR	**Mbarara**	**147.65**	**240**	*e*PKPbc	PKPdf	12 33 21.3	-0.9
MZDA	**Masada**	**147.67**	**302**	P	PKPdf	12 33 22.3	+0.6
SOP	**Sopron**	**147.70**	**343**	*e*pPKP/F		12 33 23.8	
CSS	**Prodhromos**	**147.89**	**309**	*e*PKPab	PKPab	12 33 24.6	-0.4
ZFRI	**Zfri**	**148.05**	**300**	P	PKPdf	12 33 23.4	+1.1
LANF	**Langenberg**	**148.09**	**354**	PKP	PKPdf	12 33 27.3	+5.5
MOA	**Molln**	**148.13**	**346**	⇑*i*P	PKPdf	12 33 22.5	+0.6
STU	**Stuttgart**	**148.15**	**353**	*e*PKPdf	PKPdf	12 33 19.7	-2.2
PRNI	**Paran**	**148.25**	**300**	P	PKPdf	12 33 23.8	+1.2
HRFI	**Mount Harif**	**148.32**	**300**	P	PKPdf	12 33 24.9	+2.1
PKSM	**Moragy**	**148.38**	**339**	P	PKPdf	12 33 23.3	+1.0
ARSA	**Arzberg**	**148.38**	**344**	⇑*i*P	PKPdf	12 33 23.2	+0.9
FLN	**La Foliniere**	**148.38**	**5**	*e*PKIKP	PKPdf	12 33 24.5	+2.3
	comp=Z,76nm,1.2s						
FLN				*e*R			
	comp=Z,649nm,20.5s						
TKTP	**Tekketepe**	**148.48**	**317**	*i* P	PKPdf	12 33 22.2	-0.6
EIL	**Elat**	**148.49**	**299**	P	PKPdf	12 33 24.3	+1.3
ROSF	**Rostrenen**	**148.50**	**8**	*e*PKIKP	PKPdf	12 33 24.8	+2.4
	comp=Z,41nm,1.2s						
KMTI	**Karmit**	**148.56**	**300**	P	PKPdf	12 33 24.3	+1.2
LDF	**La Druitiere**	**148.58**	**4**	*e*PKIKP	PKPdf	12 33 24.8	+2.2
	comp=Z,29nm,1.0s						
SGMF	**Saint Gilles**	**148.67**	**7**	*e*PKIKP	PKPdf	12 33 24.9	+2.2
WLS	**Welschbruch**	**148.70**	**355**	PKP	PKPdf	12 33 26.5	+3.7
CDF	**Champ du Feu**	**148.71**	**355**	*e*PKIKP	PKPdf	12 33 24.8	+2.0
GRR	**Gorron**	**148.72**	**5**	*e*PKIKP	PKPdf	12 33 24.8	+2.0
	comp=Z,75nm,1.2s						
MEZF	**Maizieres J'vi**	**148.75**	**358**	*e*PKIKP	PKPdf	12 33 23.3	+0.5
	comp=Z,240nm,1.6s						
ECH	**Echery**	**148.91**	**355**	PKP	PKPdf	12 33 26.7	+3.6
QUIF	**Quistinic**	**148.93**	**8**	*e*PKIKP	PKPdf	12 33 25.0	+1.9
THEF	**They Montfort**	**148.98**	**356**	PKP	PKPdf	12 33 29.3	+6.1
PERS	**Pernice**	**149.05**	**344**	*e*PKPdf	PKPdf	12 33 23.4	0.0
PERS				*e*		12 33 29.1	
KBA	**Koelnbreinsper**	**149.07**	**347**	⇑*i*P	PKPdf	12 33 23.4	0.0
FELD	**Feldberg**	**149.17**	**354**	PKP	PKPdf	12 33 28.0	+4.5
WATA	**Walderalm**	**149.18**	**349**	⇑*i*P	PKPdf	12 33 21.2	-2.4
ZAPS	**Zavoj/Pirot**	**149.24**	**332**	⇑*i*PKP	PKPdf	12 33 24.8	+1.0
WTTA	**Wattenberg**	**149.24**	**349**	⇓*i*P	PKPdf	12 33 20.5	-3.2
MOTA	**Moosalm**	**149.26**	**350**	⇑*i*P	PKPdf	12 33 21.0	-2.7
MOF	**Molkenrain**	**149.27**	**355**	PKP	PKPdf	12 33 29.9	+6.2
HINF	**Hinteralfeld**	**149.33**	**355**	*e*PKIKP	PKPdf	12 33 25.9	+2.1
SQTA	**Sankt Quirin**	**149.36**	**349**	⇓*i*P	PKPdf	12 33 21.4	-2.5
VTS	**Vitosha**	**149.51**	**330**	P	PKPdf	12 33 30.4	+6.1
DAVA	**Damuels**	**149.51**	**351**	*i* P	PKPdf	12 33 26.5	+2.4
	SNR=11						
BBS	**Basel-Blauen**	**149.62**	**354**	PKP	PKPdf	12 33 28.9	+4.6
DIVS	**Divcibare**	**149.70**	**336**	⇑*i*PKP	PKPdf	12 33 26.1	+1.6
LJU	**Ljubljana**	**149.75**	**344**	*e*PKPdf	PKPdf	12 33 26.2	+1.6
LJU				*e*		12 33 30.9	
LJU				*i*		12 33 35.1	
VOY	**Vojsko**	**149.93**	**345**	*e*PKPdf	PKPdf	12 33 25.8	+1.0
VOY				*e*		12 33 34.8	
BARS	**Barje**	**149.97**	**332**	⇓*i*PKP	PKPdf	12 33 22.7	-2.2
AYVA	**Ayvalik**	**149.98**	**322**	*i* P	PKPdf	12 33 36.9	+12
JAVS	**Javornik**	**150.01**	**345**	*e*PKPdf	PKPdf	12 33 28.8	+3.9
LOR	**Lormes**	**150.02**	**359**	*e*PKIKP	PKPdf	12 33 26.7	+1.8
	comp=Z,48nm,1.4s						
LOR				*e*R			
	comp=Z,979nm,22.8s						
BOJS	**Bojanci**	**150.06**	**343**	*e*PKPdf	PKPdf	12 33 26.8	+1.7
BOJS				*e*		12 33 32.9	
BOJS				*i*		12 33 36.3	
SSF	**Saint Saulge**	**150.23**	**360**	*e*PKIKP	PKPdf	12 33 27.1	+1.9
	comp=Z,31nm,1.1s						
LCHF	**La Chataignera**	**150.44**	**6**	PKP	PKPdf	12 33 32.1	+6.5
MFF	**Saint Martin d**	**150.56**	**5**	*e*PKIKP	PKPdf	12 33 27.3	+1.5
CABF	**La Chapelle**	**150.59**	**356**	*e*PKIKP	PKPdf	12 33 28.0	+2.2
	comp=Z,35nm,1.0s						
SMF	**Signal de Mont**	**150.64**	**359**	*e*PKIKP	PKPdf	12 33 27.9	+2.0
BGF	**Bois d'Agland**	**150.73**	**1**	*e*PKIKP	PKPdf	12 33 28.1	+2.1
SKO	**Skopje**	**150.81**	**331**	*e*P	PKPdf	12 33 30.0	+3.7
TCF	**Toulx Ste Croi**	**150.99**	**1**	*e*PKIKP	PKPdf	12 33 28.4	+2.0
	comp=Z,12nm,0.9s						
ORX	**Oropa**	**151.39**	**353**	P	PKPdf	12 33 30.5	+3.4
LPL	**La Plagne**	**151.63**	**355**	*e*PKIKP	PKPdf	12 33 29.6	+2.2
LPG	**La Plagne**	**151.64**	**355**	*e*PKIKP	PKPdf	12 33 29.7	+2.3
LSD	**Ceresole Reale**	**151.65**	**354**	P	PKPdf	12 33 32.0	+4.6
COLF	**Collangettes**	**151.77**	**359**	PKP	PKPdf	12 33 32.6	+5.0
RSP	**Reno Superiore**	**151.94**	**354**	P	PKPdf	12 33 32.7	+4.8
RJF	**Les Rejaudoux**	**151.95**	**3**	*e*PKIKP	PKPdf	12 33 29.6	+1.7
	comp=Z,39nm,1.3s						
RJF				*e*R			
	comp=Z,1μm,22.5s						
GRN	**Grenoble**	**151.97**	**356**	PKP	PKPdf	12 33 34.7	+6.8
FENE	**Fenestrelle**	**152.08**	**354**	P	PKPdf	12 33 32.3	+4.2
BNI	**Bardonecchia**	**152.09**	**355**	*e*PKPbc	PKPdf	12 33 32.6	+4.5
GRAM		**152.20**	**350**	P	PKPdf	12 33 33.2	+4.9
ORIF	**Oris-en-Rattie**	**152.29**	**356**	*e*PKIKP	PKPdf	12 33 30.3	+1.9
ORIF				*e*R			
	comp=Z,1μm,22.5s						
VALM		**152.31**	**349**	P	PKPdf	12 33 33.9	+5.4
CODM		**152.34**	**350**	P	PKPdf	12 33 33.6	+5.1
PCP	**Pian Castagno**	**152.39**	**352**	P	PKPdf	12 33 32.7	+4.2
MBDF	**Montbardon**	**152.41**	**355**	*e*PKIKP	PKPdf	12 33 30.7	+2.1
VIVF	**Saint-Julien-l**	**152.41**	**358**	*e*PKIKP	PKPdf	12 33 30.6	+2.0
SARO	**Sassorosso**	**152.44**	**349**	P	PKPdf	12 33 34.3	+5.6
VINC	**Vinca**	**152.53**	**349**	P	PKPdf	12 33 34.4	+5.7
SURF	**Saint Ours**	**152.65**	**354**	PKP	PKPdf	12 33 36.4	+7.5
MAIM		**152.68**	**349**	P	PKPdf	12 33 35.3	+6.3
ROB	**Roburent**	**152.72**	**353**	P	PKPdf	12 33 34.3	+5.3
STV2	**Anna di Valdie**	**152.83**	**354**	P	PKPdf	12 33 33.9	+4.7
SAOF	**Saorge**	**153.06**	**353**	PKP	PKPdf	12 33 37.6	+8.1
AUTN	**L'Aution**	**153.06**	**353**	PKP	PKPdf	12 33 39.4	+10
TOUF	**Mont Tournerai**	**153.07**	**354**	PKP	PKPdf	12 33 37.8	+8.3
IMI	**Imperia**	**153.09**	**353**	P	PKPdf	12 33 34.4	+4.9
SBF	**Sospel**	**153.19**	**353**	*e*PKIKP	PKPdf	12 33 31.5	+1.8
LASF	**Ste Croix**	**153.21**	**359**	*e*PKIKP	PKPdf	12 33 31.7	+2.0
	comp=Z,29nm,1.2s						
TAVF	**Tavernes**	**153.57**	**355**	PKP	PKPdf	12 33 39.7	+10
FRF	**La Foret Royal**	**153.57**	**354**	*e*PKIKP	PKPdf	12 33 32.1	+1.9
PUYF	**Puyloubier**	**153.68**	**356**	PKP	PKPdf	12 33 34.5	+4.1
LMR	**La Mourre**	**153.81**	**355**	*e*PKIKP	PKPdf	12 33 32.2	+1.7
	comp=Z,12nm,0.9s						
GELF	**Grande-Etoile**	**153.84**	**356**	PKP	PKPdf	12 33 37.7	+7.1
MTLF	**Montolieu**	**153.94**	**2**	*e*PKIKP	PKPdf	12 33 32.6	+1.9
	comp=Z,21nm,1.3s						
PGF	**Pioggiola**	**154.27**	**350**	*e*PKIKP	PKPdf	12 33 32.9	+1.7
	comp=Z,22nm,1.3s						
ESDC	**Sonseca Array**	**156.75**	**14**	PKP	PKPdf	12 33 33.6	-1.0
	comp=Z,0.2nm,0.3s,baz=333,slow=3.3,SNR=6.3						
ESDC				PKPab	PKPab	12 33 60.0	-2.1
	comp=Z,0.8nm,0.8s,baz=332,slow=2.9,SNR=4.1						

*CSEM **04** 12:32:04.7±0.3, 24.71N×39.02E, h10km, ML3.6, Error ellipse: s-maj=16.1km s-min=8.2km az=66.0, After SNSN*

SNSN 04 12:32:04.7, 24.71N×39.02E, h10km, Ml3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HILS	**Ha'il**	**3.65**	**43**	P	Pn	12 33 01.7	-0.7
LTHS	**Al Lith**	**4.60**	**163**	P	Pn	12 33 16.4	+0.4
LTHS				S	Sn	12 34 09.1	-1.0
JMQS	**Jabal Moqyreh**	**5.02**	**327**	P	Pn	12 33 17.2	-4.6
JMQS				S	Sn	12 34 21.1	+0.5
BDAS	**Al Bad'**	**5.10**	**317**	P	Pn	12 33 22.4	-0.7
TAYS	**Tayyib Ism**	**5.33**	**317**	P	Pn	12 33 24.7	-1.6
JMOS	**Jabal al Moall**	**5.65**	**323**	P	Pn	12 33 27.3	-3.5
ALWS	**Ilw as Safayha**	**5.78**	**323**	P	Pn	12 33 28.4	-4.3

MAN 04 12:40:24.6, 8.64N×123.02E, h79km, mb3.7, ML2.4, MS1.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.34**	**100**	*e*P	P	12 40 38.6	+1.6
DCPH				*i* S	S	12 40 48.2	+1.8
SNPH	**Sibulan**	**0.73**	**17**	*e*P	P	12 40 42.0	+1.4
IPIL	**Ipil**	**0.96**	**207**	*e*P	P	12 40 44.2	+1.0
IPIL				*e*S	S	12 40 58.3	+1.0
GUIM	**Jordan**	**2.02**	**348**	*e*P	P	12 40 57.3	+0.1
GUIM				*e*S	S	12 41 21.8	+0.5

*NEIC **04** 12:42:57.8±1.3, 7.41S×128.39E, h100km±12km, mb4.3/9, Error ellipse: s-maj=13.3km s-min=7.0km az=54.0*

*IDC **04** 12:42:58.6±3.6, 7.46S×128.21E, h105km±32km, mb3.8/8, mb1 4.0/9, mb1mx3.9/14, mbtmp4.3/9, Error ellipse: s-maj=38.5km s-min=14.1km az=66.0*

ISC 04 12:42:55.6±1.9**, 7.34S**±0.08×**128.4E**±0.1**, h99**km±19km**, n40, σ0.80**/35**, mb4.3**/17**, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.64**	**144**	*e*P	Px	12 44 52.4	
	135nm,0.3s						
KAKA				*e*S	Sx	12 46 02.1	
FITZ	**Fitzroy Crossi**	**11.04**	**194**	P	**P**	**12 45 31.2**	**-0.5**
	21nm,0.3s,baz=15,slow=9.5,SNR=193						
FITZ				S	**S**	**12 47 23.2**	**-10**
	9.7nm,0.3s,baz=173,slow=18,SNR=2.6						
WRAB	**Tennant Creek**	**13.77**	**156**	*e*P	**P**	**12 46 07.3**	**-0.5**
	26nm,0.6s						
WRAB				*e*S	**S**	**12 48 28.9**	**-10**
WRA	**Warramunga Arr**	**13.77**	**156**	P	**P**	**12 46 07.4**	**-0.4**
	6.4nm,0.3s,baz=321,slow=14,SNR=117						
WRA				S	**S**	**12 48 29.2**	**-9.5**
	7.5nm,0.3s,baz=321,slow=25,SNR=12						
WB2	**Warramunga Arr**	**13.78**	**156**	*e*P	**P**	**12 46 07.3**	**-0.6**
WB2				*e*S	**S**	**12 48 31.6**	**-7.2**
MBWA	**Marble Bar**	**16.11**	**211**	*e*P	**P**	**12 46 38.5**	**+0.9**
	10nm,0.5s						
KKM	**Kota Kinabalu**	**18.04**	**317**	P	**P**	**12 47 01.3**	**-0.1**
KSM	**Kuching**	**20.09**	**295**	*e*P	**P**	**12 47 24.6**	**+0.9**
CTA	**Charters Tower**	**21.42**	**128**	P	**P**	**12 47 40.0**	**+2.9**
	1.8nm,0.6s,mb3.6,baz=324,slow=13,SNR=5.8						
CTAO	**Charters Tower**	**21.42**	**128**	*e*P	**P**	**12 47 39.5**	**+2.4**
	1.9nm,0.7s,mb3.5						
FORT	**Forrest**	**23.32**	**181**	*e*P	**P**	**12 47 57.4**	**+1.8**
	8.4nm,0.7s,mb4.2						
FORT				*e*		12 48 16.8	
KLBR	**Kellerberrin**	**26.10**	**201**	*e*P	**P**	**12 48 22.5**	**+0.4**
	18nm,1.1s,mb4.4						
KLBR				*e*		12 48 52.9	
MUN	**Mundaring**	**27.03**	**203**	*e*P	**P**	**12 48 34.2**	**+3.6**
MUN				*e*		12 49 03.7	
STKA	**Stephens Creek**	**27.32**	**155**	⇑*i*P	**P**	**12 48 33.4**	**+0.1**
	2.9nm,0.5s,mb4.1						
STKA				*e*		12 49 02.6	
STKA	**Stephens Creek**	**27.32**	**155**	P	**P**	**12 48 33.5**	**+0.2**
	2.9nm,0.5s,mb4.1,baz=324,slow=9.2,SNR=24						
NWAO	**Narrogin (SRO)**	**27.50**	**201**	*e*P	**P**	**12 48 34.4**	**-0.5**
KULM	**Kulim**	**30.43**	**294**	*e*P	**P**	**12 49 01.4**	**+0.2**
PKI	**Pulchoki**	**54.18**	**312**	*e*P	**P**	**12 52 12.6**	**-0.7**
	9.5nm,0.6s,mb5.0						
KKN	**Kakani**	**54.39**	**312**	*e*P	**P**	**12 52 14.3**	**-0.6**
	14nm,0.6s,mb5.2						
DMN	**Daman**	**54.42**	**312**	*e*P	**P**	**12 52 15.0**	**-0.1**
	25nm,0.9s,mb5.2						
GKN	**Gorkha**	**54.98**	**312**	*e*P	**P**	**12 52 18.7**	**-0.5**
	20nm,0.4s						
KOLN	**Koldanda**	**55.63**	**311**	*e*P	**P**	**12 52 23.6**	**-0.3**
	20nm,0.7s,mb5.3						
SONM	**Songino Array**	**58.29**	**343**	P	**P**	**12 52 43.5**	**+1.1**
	1.0nm,0.5s,mb4.1,baz=164,slow=6.9,SNR=12						
CASY	**Casey**	**60.13**	**188**	*e*P	**P**	**12 52 53.1**	**-1.8**
	1.3nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**67.67**	**328**	P	**P**	**12 53 44.2**	**0.0**
	2.6nm,0.6s,mb4.3,baz=128,slow=7.2,SNR=20						
MKAR	**Makanchi Array**	**67.67**	**328**	P	**P**	**12 53 44.2**	**0.0**
ZAL	**Zalesovo**	**71.21**	**334**	P	**P**	**12 54 06.0**	**+0.3**
	1.4nm,0.3s,mb4.2,baz=321,slow=4.7,SNR=8.1						
KURK	**Kurchatov**	**72.01**	**329**	*e*P	**P**	**12 54 10.3**	**-0.2**
	11nm,0.9s,mb4.7						
VNDA	**Vanda**	**72.30**	**173**	P	**P**	**12 54 11.4**	**-0.5**
	0.4nm,0.4s,mb3.6,baz=320,slow=10,SNR=6.8						
MAW	**Mawson**	**74.07**	**201**	P	**P**	**12 54 22.5**	**+0.2**
	1.1nm,0.8s,mb3.7,baz=79,slow=3.1,SNR=4.9						
BVAR	**Borovoye Array**	**77.53**	**328**	P	**P**	**12 54 42.2**	**+0.1**
	2.0nm,0.6s,mb4.0,baz=119,slow=5.5,SNR=14						
BRVK	**Borovoye**	**77.60**	**328**	*e*P	**P**	**12 54 42.4**	**-0.1**
	1.4nm,0.7s,mb3.8						
MOX	**Moxa**	**112.51**	**322**	PP2		13 00 59.0	
TXAR	**Lajitas Array**	**126.44**	**59**	PKP	PKPdf	13 01 49.5	+1.7
	0.1nm,0.3s,baz=198,slow=2.9,SNR=3.8						
DBIC	**Dimbokro**	**133.65**	**272**	PKP	PKPdf	13 02 03.5	+1.6
	3.3nm,0.9s,baz=60,slow=1.7,SNR=5.6						
LVC	**Limon Verde**	**145.73**	**151**	PKPbc	PKPbc	13 02 26.1	+1.9
	3.2nm,0.8s,baz=264,slow=9.2,SNR=2.8						
CPUP	**Villa Florida**	**146.06**	**171**	PKPbc	PKPbc	13 02 25.9	+0.9
	2.2nm,0.8s,baz=168,slow=3.0,SNR=4.5						
CPUP	**Villa Florida**	**146.06**	**171**	PKPbc	PKPbc	13 02 25.9	+0.9
LPAZ	**La Paz**	**151.37**	**145**	PKPbc	PKPdf	13 02 41.2	+8.7
	1.3nm,0.4s,baz=177,slow=8.5,SNR=13						
LPAZ				PKPab	PKPab	13 02 50.6	+1.1
	1.7nm,0.6s,baz=247,slow=1.6,SNR=8.9						
LPAZ	**La Paz**	**151.37**	**145**	PKPbc	PKPdf	13 02 41.2	+8.7
LPAZ				PKPab	PKPab	13 02 50.6	+1.1

*NEIC **04** 13:39:26.2±1.5, 21.95S×176.99W, h159km±13km, mb4.6/20, Error ellipse: s-maj=11.5km s-min=6.7km az=132.0*

*IDC **04** 13:39:26.6±2.9, 21.97S×176.91W, h159km±26km, mb4.3/13, mb1 4.4/15, mb1mx4.4/19, mbtmp4.7/15, Error ellipse: s-maj=18.4km s-min=11.6km az=137.0*

*MOS **04** 13:39:38.1±1.9, 14.87S×179.69E, h118km, mb5.3/2, Error ellipse: s-maj=26.3km s-min=14.4km az=172.6*

ISC 04 13:39:23.0±1.8**, 22.01S**±0.07×**177.01W**±0.09**, h138**km±16km**, n175, σ0.79**/60**, mb4.5**/27**, 18C-22D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.47**	**33**	P	**P**	**13 41 36.7**	**-0.4**
	5.1nm,0.3s,baz=223,slow=15,SNR=9.8						
AFI				S	**S**	**13 43 09.5**	**-12**
	5.3nm,0.3s,baz=114,slow=21,SNR=3.2						
AFI	**Afiamalu**	**9.47**	**33**	*e*P	**P**	**13 41 36.6**	**-0.5**
AFI				*e*S	**S**	**13 43 10.8**	**-11**
URZ	**Urewera**	**16.97**	**196**	P	**P**	**13 43 13.0**	**-0.3**
	2.8nm,0.3s,baz=26,slow=2.6,SNR=18						
URZ				S	**S**	**13 46 09.5**	**-6.5**
	1.9nm,0.3s,baz=292,slow=24,SNR=9.0						
RPZ	**Rata Peaks**	**23.80**	**202**	P	**P**	**13 44 24.7**	**+0.7**
	10nm,0.6s,mb4.6,baz=64,slow=23,SNR=8.9						
CTA	**Charters Tower**	**34.29**	**266**	⇑*i*P	**P**	**13 46 00.1**	**+2.0**
	16nm,0.4s,mb5.1						
CTA	**Charters Tower**	**34.29**	**266**	P	**P**	**13 45 59.7**	**+1.6**
	26nm,0.6s,mb5.2,baz=96,slow=10,SNR=54						
CTA	**Charters Tower**	**34.29**	**266**	⇑*i*P	**P**	**13 46 00.1**	**+2.0**
CTA				pmax	pmax		
	comp=Z,16nm,0.4s						
CTAO	**Charters Tower**	**34.29**	**266**	*e*P	**P**	**13 45 59.8**	**+1.8**
	comp=Z,28nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**34.29**	**266**	*e*P	**P**	**13 45 59.8**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.0						
PMG	**Port Moresby**	**36.59**	**284**	P	**P**	**13 46 18.9**	**+1.3**
	comp=Z,34nm,0.8s,mb5.0,baz=74,slow=1.2,SNR=9.2						
PMG	**Port Moresby**	**36.59**	**284**	*e*P	**P**	**13 46 19.1**	**+1.5**
STKA	**Stephens Creek**	**37.99**	**246**	⇓*i*P	**P**	**13 46 30.1**	**+0.9**
	comp=Z,8.4nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**37.99**	**246**	P	**P**	**13 46 30.1**	**+0.9**
	comp=Z,11nm,0.5s,mb4.7,baz=94,slow=9.7,SNR=76						
STKA				PcP	PcP	13 48 41.7	-0.8
	comp=Z,4.1nm,0.7s,baz=112,slow=3.1,SNR=4.7						
WB2	**Warramunga Arr**	**45.31**	**263**	*e*P	**P**	**13 47 28.6**	**-0.4**
WRAB	**Tennant Creek**	**45.31**	**263**	*e*P	**P**	**13 47 28.8**	**-0.2**
	comp=Z,16nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**45.31**	**263**	*c* *i*P	**P**	**13 47 28.9**	**-0.1**
WRA	**Warramunga Arr**	**45.32**	**263**	P	**P**	**13 47 29.0**	**-0.1**
	comp=Z,3.8nm,0.4s,mb4.4,baz=92,slow=5.9,SNR=198						
WRA				PcP	PcP	13 49 05.2	-1.6
	comp=Z,1.6nm,0.8s,baz=97,slow=3.9,SNR=5.7						
WRA				S	**S**	**13 53 50.8**	**-7.5**
	comp=Z,0.3nm,0.7s,baz=100,slow=14,SNR=3.3						
WRA	**Warramunga Arr**	**45.32**	**263**	P	**P**	**13 47 29.0**	**-0.1**
WRA				S	**S**	**13 53 50.8**	**-7.5**
KAKA	**Kakadu**	**48.94**	**272**	⇓*i*P	**P**	**13 48 14.1**	**+17**
	comp=Z,14nm,0.3s,mb5.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FORT	Forrest	49.56	248	eP	P	13 48 00.5	-1.4
	comp=Z,48nm,0.6s,mb5.3						
FITZ	Fitzroy Crossi	53.75	263⇑	iP	P	13 48 33.1	-0.4
	comp=Z,14nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	53.75	263	P	P	13 48 33.2	-0.3
	comp=Z,17nm,0.5s,mb5.0,baz=113,slow=3.6,SNR=48						
SBA	Scott Base	56.43	184	eP	P	13 48 53.5	+1.4
	comp=Z,8.2nm,1.0s,mb4.5						
VNDA	Vanda	56.50	185	P	P	13 48 52.7	+0.1
	comp=Z,1.5nm,0.6s,mb4.0,baz=7.5,slow=6.7,SNR=8.7						
VNDA	Vanda	56.50	185	eP	P	13 48 52.6	+0.1
	comp=Z,3.5nm,1.1s,mb4.1						
MBWA	Marble Bar	58.44	258	eP	P	13 49 05.1	-1.7
	comp=Z,10.0nm,0.8s,mb4.7						
CASY	Casey	63.00	206⇓	iP	P	13 49 36.3	-0.8
QSPA	South Pole Qui	68.07	180⇓	iP	P	13 50 09.4	+0.2
	comp=Z,14nm,0.7s,mb4.8						
CMB	Columbia Colle	79.95	42	eP	P	13 51 17.8	-0.5
	comp=Z,2.9nm,0.9s,mb3.9						
MAW	Mawson	80.46	200⇓	iP	P	13 51 20.7	+0.3
	comp=Z,7.4nm,0.6s,mb4.5						
MAW	Mawson	80.46	200	P	P	13 51 20.8	+0.3
	comp=Z,9.3nm,0.6s,mb4.6,baz=136,slow=5.6,SNR=52						
YBH	Yreka Blue Hor	80.90	38	P	P	13 51 23.7	+0.4
	comp=Z,5.1nm,0.6s,mb4.3,baz=183,slow=2.7,SNR=10						
YBH	Yreka Blue Hor	80.90	38	eP	P	13 51 23.6	+0.4
	comp=Z,6.7nm,1.0s,mb4.2						
HUMO	Hull Mountain	81.32	37	eP	P	13 51 26.1	+0.6
	comp=Z,7.2nm,1.1s,mb4.2						
NVAR	Mina Array Bea	81.49	43	P	P	13 51 26.7	+0.3
	comp=Z,2.0nm,0.7s,mb3.9,baz=230,slow=9.2,SNR=12						
MOD	Modoc	82.39	39	eP	P	13 51 30.8	-0.2
	comp=Z,3.0nm,0.9s,mb3.9						
TUC	Tucson	83.19	51	eP	P	13 51 35.8	+0.5
	comp=Z,3.3nm,0.9s,mb4.1						
WVOR	Wild Horse Val	83.70	39	eP	P	13 51 37.5	0.0
	comp=Z,7.9nm,1.0s,mb4.4						
OOW	Octopus West	84.05	33	P	P	13 51 40.6	+1.4
SYO	Syowa Base	85.46	192	⇑P	P	13 51 43.5	-2.2
SNAA	Sanae	86.48	178	P	P	13 51 49.7	-0.9
TMUT	Trail Mountain	86.55	45	eP	P	13 51 52.6	+0.8
VNA3	Neumayer Olymp	86.58	176	P	P	13 51 51.3	+0.2
HLID	Hailey	86.87	40	eP	P	13 51 53.1	0.0
	comp=Z,3.8nm,1.4s,mb4.0						
SRU	San Rafael	86.91	46	eP	P	13 51 52.9	-0.5
VNA2	Neumayer--Watz	87.03	177⇑	iP	P	13 51 53.6	+0.3
TXAR	Lajitas Array	87.10	57	P	P	13 51 55.0	+0.3
	comp=Z,2.2nm,1.0s,mb3.9,baz=208,slow=5.6,SNR=14						
VNA1	Neumayer--Stat	87.25	176	P	P	13 51 54.9	+0.5
ANMO	Albuquerque	87.63	51⇓	iP	P	13 51 56.8	-0.2
MCMT	McKenzie Canyo	88.51	40	eP	P	13 52 01.3	+0.3
PDAR	Pinedale Array	89.43	43	P	P	13 52 04.8	-0.5
	comp=Z,1.4nm,0.9s,mb3.9,baz=207,slow=3.3,SNR=9.2						
IMA	Indian Mountai	89.58	9	eP	P	13 52 05.3	-0.2
	comp=Z,34nm,1.0s,mb5.2						
ILAR	Eielson Array	89.58	12	P	P	13 52 04.3	-1.2
	comp=Z,4.9nm,0.9s,mb4.4,baz=229,slow=6.0,SNR=27						
BOZ	Bozeman (W)	89.68	40	eP	P	13 52 05.9	-0.5
	comp=Z,13nm,1.5s,mb4.6						
HRY	Holter Researc	90.13	39	eP	P	13 52 08.5	-0.1
KURK	Kurchatov	115.72	317	ePKPdf	PKPdf	13 57 48.1	-0.7
BVAR	Borovoye Array	120.82	320	PKP	PKPdf	13 57 58.3	-0.4
	comp=Z,6.5nm,0.4s,baz=122,slow=2.0,SNR=45						
OPO	Ambohidratompo	120.87	230	PKP	PKPdf	13 58 00.4	+0.9
	comp=Z,1.9nm,0.8s,baz=82,slow=15,SNR=2.6						
BRVK	Borovoye	120.88	320	ePKPdf	PKPdf	13 57 58.1	-0.6
BOSA	Boshof	125.28	204	PKP	PKPdf	13 58 08.3	+0.4
	comp=Z,4.9nm,1.1s,baz=27,slow=2.3,SNR=3.0						
BOSA	Boshof	125.28	204	PKP	PKPdf	13 58 08.3	+0.4
ARU	Arti	126.96	325	i PKIKP	PKPdf	13 58 10.5	+0.2
ARU				e		14 05 19.5	
KEV	Kevo	130.12	349	epkp	PKPdf	13 58 15.6	-0.5
ARCES	ARCESS Array B	130.56	350	PKP	PKPdf	13 58 16.6	-0.4
	comp=Z,3.3nm,0.4s,baz=5.7,slow=1.2,SNR=52						
JOF	Joensuu	134.84	342	epkp	PKPdf	13 58 24.9	-0.2
KAF	Kangasniemi	136.85	344	epkp	PKPdf	13 58 29.3	+0.6
	baz=34,slow=2.1						
FINES	FINESS Array B	137.47	344	PKhKP		13 58 17.9	
	comp=Z,0.4nm,0.5s,baz=45,slow=2.7,SNR=5.0						
FINES				PKP	PKPdf	13 58 28.9	-1.1
	comp=Z,2.4nm,0.7s,baz=39,slow=3.3,SNR=9.4						
FINES	FINESS Array B	137.47	344	i PKHKP		13 58 18.4	
OBN	Obninsk	138.52	331⇑	iPKIKP	PKPdf	13 58 31.3	-0.7
OBN				e		14 05 37.4	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NB2	NORSAR Subarra	140.58	354	PKPabc	PKPdf	13 58 27.8	-7.8
	comp=Z,2.0nm,0.7s,baz=20,slow=4.0						
NOA	NORSAR Array B	140.58	354	PKhKP		13 58 28.4	
	comp=Z,2.2nm,0.8s,baz=23,slow=3.8,SNR=5.4						
NOA				PKP	PKPdf	13 58 35.6	0.0
	comp=Z,0.9nm,0.6s,baz=14,slow=3.7,SNR=3.2						
KIV	Kislovodsk	140.66	313	ePKIKP	PKPdf	13 58 34.5	-1.7
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV	Kislovodsk	140.66	313	i PKIKP	PKPdf	13 58 38.0	+1.8
ANN	Anapa	143.76	317	i PKHKP		13 58 34.7	
ANN				e		14 05 38.8	
ANN				pmax	pmax		
	comp=Z,46nm,1.3s						
HILS	Ha'il	144.44	287	P	PKPbc	13 58 43.6	+0.6
AKASG	Malin Array Be	144.78	331	PKP	PKPdf	13 58 41.8	-1.4
	comp=Z,6.1nm,0.5s,baz=41,slow=4.1,SNR=58						
MBAR	Mbarara	144.82	234	ePKP	PKPdf	13 58 44.0	-0.4
MUD	Monsted U'grnd	145.30	354⇓	iP	PKPdf	13 58 44.3	+0.4
	comp=Z,51nm,1.1s						
MUD	Monsted U'grnd	145.30	354⇓	iPKIKP	PKPdf	13 58 44.3	+0.4
MUD				pmax	pmax		
	comp=Z,51nm,1.1s						
COP	Copenhagen	145.64	351	i P	PKPdf	13 58 45.3	+0.8
	comp=Z,14nm,0.5s						
COP	Copenhagen	145.64	351	i PKIKP	PKPdf	13 58 45.3	+0.8
COP				pmax	pmax		
	comp=Z,14nm,0.5s						
BSD	Bornholm Skovb	145.75	348	i P	PKPdf	13 58 45.8	+1.1
	comp=Z,47nm,0.7s						
BSD	Bornholm Skovb	145.75	348	i PKIKP	PKPdf	13 58 45.8	+1.1
BSD				pmax	pmax		
	comp=Z,47nm,0.7s						
BSEG	Bad Segeberg	147.64	352	ePKIKP	PKPdf	13 58 51.3	+3.5
DCN	Croghan	147.75	12	eP	PKPdf	13 58 49.8	+1.8
DLF	Lyons Farm	147.93	11	eP	PKPdf	13 58 50.2	+1.9
BR131	Keskin Array S	148.53	311	ePKPbc	PKPdf	13 58 53.6	+3.8
BRTR	Keskin Array B	148.53	311	PKPbc	PKPdf	13 58 53.8	+4.0
	comp=Z,4.1nm,0.6s,baz=142,slow=4.7,SNR=14						
BURAR	Bucovina Array	148.82	330⇑	iP	PKPdf	13 58 55.5	+5.5
OJC	Ojcow	148.90	339⇓	ePKP	PKPdf	13 58 54.6	+4.6
CFR	Carcaliu	149.04	324⇓	iP	PKPdf	13 58 54.4	+4.0
CFR	Carcaliu	149.04	324⇑	iP	PKPdf	13 58 54.4	+4.0
WIT	Witteveen	149.12	356	ePKiKP		13 58 56.1	
	comp=Z,175nm,0.9s						
VRI	Vrincioaia	149.33	327⇑	iP	PKPdf	13 58 55.9	+5.1
VRI	Vrincioaia	149.33	327	PKIKP	PKPdf	13 58 56.1	+5.3
KSP	Ksiaz	149.40	343	ePKP	PKPdf	13 58 56.4	+5.7
NIE	Niedzica	149.40	338⇓	iPKP	PKPdf	13 58 56.6	+5.8
CRVS	Cervenica-Dubn	149.40	336	ePKP	PKPdf	13 58 56.2	+5.4
CRVS				e		13 59 07.5	
HARR	Harsova	149.47	324⇓	iP	PKPdf	13 58 55.6	+4.6
HARR	Harsova	149.47	324⇑	iP	PKPdf	13 58 55.6	+4.6
JMQS	Jabal Moqyreh	149.59	290	P	PKPdf	13 58 49.1	-2.6
CLZ	Clausthal	149.68	351	ePKIKP	PKPdf	13 58 56.7	+5.6
CLL	Collm	149.73	347⇓	iPKP1	PKPdf	13 58 56.9	+5.7
CLL				i PKP2	PKPab	13 59 00.7	-3.4
CLL				e		13 59 12.0	
CLL	Collm	149.73	347⇓	iPKIKP	PKPdf	13 58 56.9	+5.7
CLL				pmax	pmax		
	comp=Z,51nm,1.0s						
OKC	Ostrava-Krasne	149.76	340	ePKPbc	PKPdf	13 58 56.9	+5.6
UPC	Upice	149.78	343	ePKPbc	PKPdf	13 58 57.1	+5.8
DPC	Dobruska-Polom	149.84	343	ePKPbc	PKPdf	13 58 57.4	+6.0
ISR	Istrita	149.93	326⇑	iP	PKPdf	13 58 56.8	+5.1
BRG	Berggiesshubel	149.94	346⇓	iP	PKPdf	13 58 57.6	+6.0
BRG	Berggiesshubel	149.94	346⇓	iPKIKP	PKPdf	13 58 57.6	+6.1
BRG				pmax	pmax		
	comp=Z,36nm,1.1s						
WTSB	Winterswijk	149.95	355	ePKiKP		13 58 57.0	
	comp=Z,40nm,1.1s						
MLR	Muntele Rosu	149.99	327⇓	iP	PKPdf	13 58 57.2	+5.4
MLR	Muntele Rosu	149.99	327⇑	iP	PKPdf	13 58 57.2	+5.4
MLR	Muntele Rosu	149.99	327	PKIKP	PKPdf	13 58 57.3	+5.5
MORC	Moravsky Berou	150.00	341	ePKPbc	PKPdf	13 58 57.5	+5.9
MORC	Moravsky Berou	150.00	341	PKIKP	PKPdf	13 58 58.1	+6.4
KECS	Kecovo	150.12	336	ePKP	PKPdf	13 58 58.0	+6.1
KECS				e		13 59 13.6	
PVCC	Panska Ves	150.12	345	ePKPbc	PKPdf	13 58 58.1	+6.3
JMOS	Jabal al Moall	150.23	291	P	PKPdf	13 58 59.3	+6.6
ALWS	Ilw as Safayha	150.25	291	P	PKPdf	13 58 59.3	+6.6
BDAS	Al Bad'	150.31	289	P	PKPdf	13 58 59.1	+6.3
VOIR		150.48	328⇑	iP	PKPdf	13 58 59.0	+6.5
VOIR		150.48	328⇑	iP	PKPdf	13 58 59.0	+6.5
TAYS	Tayyib Ism	150.50	289	P	PKPdf	13 58 59.9	+6.8
DRGR		150.57	332⇑	iP	PKPdf	13 58 57.8	+5.2
DRGR		150.57	332	PKIKP	PKPdf	13 58 57.9	+5.3
PRU	Pruhonice	150.63	345	ePKPbc	PKPdf	13 58 59.0	+6.4
MOX	Moxa	150.63	349	ePKIKP	PKPdf	13 58 59.0	+6.4
MOX				pmax	pmax		
	comp=Z,21nm,1.1s						
VRAC	Vranov	150.70	342	PKIKP	PKPdf	13 58 59.4	+6.7
VYHS	Vyhne	150.70	338	ePKP	PKPdf	13 58 59.2	+6.4
VYHS				e		13 59 15.0	
KOLL	Kolacno	150.77	339	ePKP	PKPdf	13 58 59.9	+7.0
PSZ	Piszkesteto	150.81	336⇓	iPKP/F		13 58 59.3	
PSZ	Piszkesteto	150.81	336	ePKPbc	PKPdf	13 58 59.0	+6.0
PSZ	Piszkesteto	150.81	336	PKIKP	PKPdf	13 58 59.6	+6.7
NKC	Novy Kostel	150.87	347	ePKPbc	PKPdf	13 58 59.8	+6.8
NKC	Novy Kostel	150.87	347	ePKIKP	PKPdf	13 58 58.1	+5.1
TREC	Trest	151.02	343	ePKPbc	PKPdf	13 59 00.3	+7.1
SMOL	Smolenice	151.15	340	ePKP	PKPdf	13 58 59.8	+6.4
HGN	Heimansgroeve	151.21	356	ePKiKP		13 59 00.0	
	comp=Z,10.0nm,1.2s						
TNS	Taunus Mts	151.52	353	ePKIKP	PKPdf	13 59 00.8	+6.9
ZST	Bratislava	151.53	340	ePKP	PKPdf	13 59 01.5	+7.5
ISP	Isparta	151.54	310	ePKPbc	PKPdf	13 59 00.2	+5.8
ISP	Isparta	151.54	310d	iPKIKP	PKPdf	13 59 00.1	+5.7
GRF	Grafenberg Arr	151.62	349	ePKIKP	PKPdf	13 59 01.5	+7.4
KHC	Kasperske Hory	151.66	345	ePKPbc	PKPdf	13 59 01.4	+7.2
KHC				PKPab	PKPab	13 59 10.5	-1.7
KHC	Kasperske Hory	151.66	345	i PKIKP	PKPdf	13 59 00.8	+6.6
WET	Wettzell	151.81	346	ePKIKP	PKPdf	13 59 01.5	+7.1
GEC2	GERESS Array S	151.90	345	ePKIKP	PKPdf	13 59 01.5	+7.0
GERES	GERESS Array B	151.90	345	PKP	PKPdf	13 58 55.4	+0.8
	comp=Z,0.3nm,0.5s,baz=63,slow=4.4,SNR=2.9						
GERES				PKPbc	PKPdf	13 59 01.9	+7.4
	comp=Z,11nm,0.8s,baz=45,slow=1.9,SNR=40						
GERES				PKPab	PKPab	13 59 13.8	+0.5
	comp=Z,1.0nm,0.6s,baz=45,slow=6.9,SNR=4.8						
GIVF	Givet	151.93	357	ePKP1	PKPdf	13 59 01.7	+7.2
	comp=Z,24nm,0.8s						
BAIF	Baives	151.99	358	ePKP1	PKPdf	13 59 02.0	+7.4
MOA	Molln	152.67	343⇓	iP	PKPdf	13 59 03.4	+7.7
PKSM	Moragy	152.70	336	PKIKP	PKPdf	13 59 03.5	+7.7
ARSA	Arzberg	152.86	341⇑	iP	PKPdf	13 59 03.8	+7.8
FUR	Furstenfeldbru	153.07	348	ePKP2	PKPdf	13 59 04.4	+8.2
FLN	La Foliniere	153.16	5	ePKP1	PKPdf	13 59 03.8	+7.5
	comp=Z,9.5nm,0.6s						
ROSF	Rostrenen	153.26	9	ePKP1	PKPdf	13 59 04.3	+7.8
	comp=Z,14nm,0.7s						
LDF	La Druitiere	153.36	5	ePKP1	PKPdf	13 59 04.6	+8.0
BFO	Black Forest	153.39	352	ePKP2	PKPdf	13 59 04.9	+8.2
CDF	Champ du Feu	153.43	354	ePKP1	PKPdf	13 59 05.1	+8.4
	comp=Z,3.3nm,0.5s						
SGMF	Saint Gilles	153.44	8	ePKP1	PKPdf	13 59 04.2	+7.5
	comp=Z,25nm,0.9s						
GRR	Gorron	153.50	6	ePKP1	PKPdf	13 59 04.8	+8.0
	comp=Z,15nm,0.7s						
MEZF	Maizieres J'vi	153.51	357	ePKP1	PKPdf	13 59 05.3	+8.5
KBA	Koelnbreinsper	153.63	344⇓	iP	PKPdf	13 59 05.8	+8.8
WTTA	Wattenberg	153.85	347⇓	iP	PKPdf	13 59 06.2	+8.9
MOTA	Moosalm	153.89	347⇑	iP	PKPdf	13 59 06.1	+8.7
HAU	Haudompre	153.92	355	ePKP1	PKPdf	13 59 05.9	+8.5
HINF	Hinteralfeld	154.07	354	ePKP1	PKPdf	13 59 06.4	+8.8
LJU	Ljubljana	154.25	341	ePKPbc	PKPdf	13 59 06.8	+8.9
VISS	Visnje	154.37	341	ePKPbc	PKPdf	13 59 07.3	+9.3
BOJS	Bojanci	154.51	340	ePKPbc	PKPdf	13 59 07.8	+10
LOR	Lormes	154.79	359	ePKP1	PKPdf	13 59 08.9	+10
	comp=Z,2.3nm,0.4s						
SSF	Saint Saulge	155.00	359	ePKP1	PKPdf	13 59 08.9	+10
	comp=Z,8.3nm,0.9s						
AVF	Avril sur Loir	155.28	359	ePKP1	PKPdf	13 59 09.3	+10
CABF	La Chapelle	155.33	355	ePKP1	PKPdf	13 59 09.5	+10
	comp=Z,16nm,1.1s						

SKHL 04 14:04:40.8±0.1**, 52.55N**×**142.54E, h10**km**, mb3.9**/5**,**
Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	Okha	1.03	13	ePg	Pg	14 05 02.2	+0.8
OKH				AMB	AMB	14 05 02.8	
	200nm,0.8s						
OKH				i Sg	Sg	14 05 17.2	+2.0
OKH				eSg	Sg	14 05 17.2	+2.0
OKH				A		14 05 18.3	
	1µm,0.5s						
OKH				A		14 05 18.3	
	700nm,0.5s						
NKL	Nikolayevsk	1.28	299	ePg	Pg	14 05 06.0	-0.4
NKL				AMB	AMB	14 05 07.0	
	47nm,0.3s						
NKL				eSg	Sg	14 05 23.5	0.0
NKL				A		14 05 28.8	
	170nm,0.4s						
NKL				A		14 05 28.8	
	180nm,0.4s						
TYV	Tymovskoe	1.69	178	ePn	Pn	14 05 11.0	+0.3
TYV				ePb	Pb	14 05 13.0	+1.4
TYV				AMB	AMB	14 05 13.5	
	9.0nm,0.3s						
TYV				ePg	Pg	14 05 14.6	0.0
TYV				AMB	AMB	14 05 17.2	
	12nm,0.3s						
TYV				eSg	Sg	14 05 37.8	+0.6
TYV				A		14 05 40.0	
	32nm,0.6s						
GRNR	Gornyy	4.21	247	ePb	Pb	14 05 55.0	+0.4
GRNR				ePg	Pg	14 06 04.0	-0.8
GRNR				AMB	AMB	14 06 05.3	
	20nm,0.9s						
GRNR				eSn	Sn	14 06 32.0	-4.3
GRNR				eSb	Sb	14 06 44.0	-1.8
GRNR				eSg	Sg	14 07 01.5	+0.6
GRNR				A		14 07 05.5	
	32nm,0.8s						
EKMR	Ekimchan	5.84	279	ePg	Pg	14 06 36.2	-1.2
EKMR				AMB	AMB	14 06 43.5	
	8.0nm,0.6s						
EKMR				eSg	Sg	14 07 56.3	+1.0
EKMR				A		14 08 00.5	
	16nm,0.6s						
EKMR				A		14 08 00.5	
	14nm,0.6s						
BMKR	Bomnak	8.43	290	erx	rx	14 09 09.0	
YASR	Yasnyy	8.83	281	erx	rx	14 08 21.7	
YASR				erx	rx	14 09 30.7	
ZEA	Zeya	9.27	283	erx	rx	14 09 48.8	

*IDC **04** 14:23:34.7±0.5, 1.36N×126.29E, mb4.5/18, mb1 4.6/19, mb1mx4.6/20, mbtmp4.5/19, ML5.0/1, MS4.0/6, Ms1 4.0/6, ms1mx3.7/21, Error ellipse: s-maj=25.0km s-min=11.7km az=70.0*

*BJI **04** 14:23:38.0, 1.30N×126.30E, h29km, mB5.3, mb4.8, Ms4.6, Msz4.4*

*NEIC **04** 14:23:39.0±0.2, 1.32N×126.28E, mb4.8/23, MS4.4/2, Error ellipse: s-maj=12.6km s-min=5.6km az=74.0*

NEIC Felt [II] at Tondano, Indonesia.

*MOS **04** 14:23:39.3±1.1, 1.33N×126.29E, h48km, mb4.9/18, Error ellipse: s-maj=17.2km s-min=7.0km az=112.4*

ISC 04 14:23:39.2±1.0**, 1.29N**±0.04×**126.25E**±0.08**, h47**km±9km**,**
n116, σ1§**17**/105**, mb4.8**/53**, MS4.2**/8**, 3C-2D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	4.94	345⇓	eP	P	14 24 53.0	+0.2
GSPH				i S	S	14 25 46.2	-3.0
MATI	Mati	5.62	0	eP	P	14 25 01.6	-0.7
BUKP	Musuan	6.65	350	eP	P	14 25 18.2	+1.5
PAGZ	Pagadian	7.11	336	eP	P	14 25 21.7	-1.5
IPIL	Ipil	7.42	331	eP	P	14 25 27.0	-0.5
BUTP	Butuan	7.65	355	eP	P	14 25 33.9	+3.3
SCPH	Surigao	8.47	355⇓	eP	P	14 25 45.0	+3.0
KKM	Kota Kinabalu	11.07	295	eP	P	14 26 20.5	+2.8
BATP	Bataraza	11.24	312	eP	P	14 26 25.6	+5.6
KSM	Kuching	15.94	271	eP	P	14 27 26.1	+4.2
FITZ	Fitzroy Crossi	19.28	182	eP	P	14 28 01.2	-1.7
	17nm,0.4s						
FITZ	Fitzroy Crossi	19.28	182	P	P	14 28 01.4	-1.6
	3.4nm,0.3s,baz=12,slow=7.7,SNR=34						
WRAB	Tennant Creek	22.54	160	eP	P	14 28 36.3	-0.2
	121nm,0.9s,mb5.3						
WRAB	Tennant Creek	22.54	160	eP	P	14 28 36.3	-0.2
WRAB				pmax	pmax		
	comp=Z,121nm,0.9s,mb5.3						
WRA	Warramunga Arr	22.55	160	P	P	14 28 36.3	-0.3
	comp=Z,26nm,0.4s,mb5.0,baz=339,slow=11,SNR=236						
WB2	Warramunga Arr	22.55	160⇑	iP	P	14 28 35.9	-0.7
WB2				eS	S	14 32 39.8	+3.8
MBWA	Marble Bar	23.21	196	eP	P	14 28 42.3	-0.7
	comp=Z,11nm,0.6s,mb4.5						
PMG	Port Moresby	23.38	117	P	P	14 28 43.7	-1.1
	comp=Z,7.3nm,0.8s,mb4.2,baz=346,slow=8.3,SNR=3.6						
KULM	Kulim	25.86	279	eP	P	14 29 01.5	-7.0
CTA	Charters Tower	28.92	138	eP	P	14 29 36.3	+0.1
	comp=Z,4.7nm,1.0s,mb4.2						
CTA	Charters Tower	28.92	138	P	P	14 29 36.5	+0.3
	comp=Z,3.8nm,0.6s,mb4.3,baz=333,slow=9.2,SNR=7.3						
CTA	Charters Tower	28.92	138	eP	P	14 29 36.3	+0.1
CTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CTAO	Charters Tower	28.92	138	eP	P	14 29 36.0	-0.3
	comp=Z,6.8nm,0.9s,mb4.4						
CTAO	Charters Tower	28.92	138	eP	P	14 29 36.0	-0.2
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
GYA	Guiyang	31.32	325	P	P	14 29 57.8	+0.3
GYA				PCP	PcP	14 32 51.8	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
FORT	Forrest	31.94	177	eP	P	14 30 02.8	-0.1
	comp=Z,32nm,0.5s,mb5.4						
KMI	Kunming	32.81	318	P	P	14 30 12.3	+1.8
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				LR	LR		
	comp=N,446nm,20.5s						
KMI				LR	LR		
	comp=E,452nm,14.1s						
KMI				LR	LR		
	comp=Z,658nm,19.8s,MS4.3						
KMI	Kunming	32.81	318	P	P	14 30 12.3	+1.8
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				pP	pP	14 30 18.8	-4.1
KMI				S	S	14 34 49.6	-34
KMI				LR	LR		
	comp=Z,660nm,19.8s,MS4.3						
ENH	Enshi	32.92	333	eP	P	14 30 08.7	-2.8
	comp=Z,6.5nm,0.5s,mb4.8						
KLBR	Kellerberrin	33.68	193	eP	P	14 30 18.6	+0.6
	comp=Z,13nm,0.5s,mb5.1						
MUN	Mundaring	34.43	195	eP	P	14 30 24.9	+0.5
NWAO	Narrogin (SRO)	35.08	193	P	P	14 30 30.1	+0.1
	comp=Z,4.9nm,0.4s,mb4.8,baz=5.3,slow=7.6,SNR=10						
STKA	Stephens Creek	36.05	158	eP	P	14 30 37.8	-0.5
	comp=Z,11nm,0.7s,mb4.9						
STKA	Stephens Creek	36.05	158	P	P	14 30 38.5	+0.3
	comp=Z,12nm,0.5s,mb5.0,baz=332,slow=8.6,SNR=38						
MAT	Matsushiro	36.78	16	P	P	14 30 44.1	-0.2
MAT	Matsushiro	36.78	16	eP	P	14 30 44.0	-0.3
	comp=Z,10.0nm,1.0s,mb4.6						
MAT	Matsushiro	36.78	16	eP	P	14 30 44.0	-0.3
MAT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
LZH	Lanzhou	40.38	332	eP	P	14 31 15.0	+0.8
LZH				AP	pP	14 31 25.6	-1.3
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,79nm,6.6s						
LZH				LR	LR		
	comp=E,526nm,15.5s						
LZH				LR	LR		
	comp=Z,689nm,18.3s,MS4.5						
LZH	Lanzhou	40.38	332	eP	P	14 31 15.0	+0.8
	comp=Z,33nm,1.5s,mb4.8						
LZH				pP	pP	14 31 25.6	-1.3
LZH				sP	sP	14 31 29.5	-3.1
LZH				PP	PP	14 33 18.7	+28
LZH				LR	LR		
	comp=Z,690nm,18.3s,MS4.5						
LZH	Lanzhou	40.38	332	eP	P	14 31 15.0	+0.8
LZH				*SP	sP	14 31 29.5	-3.1
LZH						14 33 18.7	
LZH				pmax	pmax		
	comp=Z,33nm,1.5s,mb4.8						
LZH				MLR	MLR		
	comp=Z,690nm,18.3s,MS4.5						
SNY	Shenyang	40.42	357	⇑P	P	14 31 16.7	+2.1
CN2	Changchun	42.33	359	eP	P	14 31 32.9	+2.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
MDJ	Mudanjiang	43.24	3	P	P	14 31 38.1	+0.4
MDJ				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,397nm,7.4s						
MDJ	Mudanjiang	43.24	3	eP	P	14 31 37.3	-0.4
	comp=Z,12nm,0.8s,mb4.7						
LSA	Lhasa	43.72	314	P	P	14 31 43.2	+1.4
LSA	Lhasa	43.72	314	eP	P	14 31 41.8	0.0
	comp=Z,7.4nm,0.6s,mb4.6						
LSA	Lhasa	43.72	314	eP	P	14 31 41.8	0.0
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
GTA	Gaotai	44.95	331	eP	P	14 31 51.6	+0.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
ASAJ	Asahikawa	45.05	17	P	P	14 31 52.7	+0.5
	comp=Z,5.0nm,0.4s,mb4.7,baz=222,slow=11,SNR=17						
DZM	Mont Dzumac	45.57	123	P	P	14 31 56.3	-0.4
	comp=Z,4.9nm,0.8s,mb4.5,baz=293,slow=13,SNR=5.9						
PKI	Pulchoki	47.02	307	eP	P	14 32 07.2	-0.9
	comp=Z,8.4nm,0.6s,mb4.9						
KKN	Kakani	47.22	308	eP	P	14 32 08.6	-1.0
	comp=Z,6.7nm,0.4s,mb4.9						
DMN	Daman	47.28	307	eP	P	14 32 09.5	-0.6
	comp=Z,17nm,0.9s,mb5.0						
YSS	Yuzh-Sakhalins	47.70	15	eP	P	14 32 14.3	+1.1
	comp=Z,8.8nm,0.4s,mb5.1						
YSS	Yuzh-Sakhalins	47.70	15⇑	iP	P	14 32 14.8	+1.6
GKN	Gorkha	47.82	308	eP	P	14 32 12.8	-1.6
	comp=Z,6.7nm,0.4s,mb5.0						
KLR	Kul'dur	47.99	5	eP	P	14 32 12.0	-3.4
HIA	Hailar	48.12	354	eP	P	14 32 15.9	-0.4
	comp=Z,8.4nm,0.8s,mb4.8						
HIA	Hailar	48.12	354	eP	P	14 32 15.9	-0.5
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KOLN	Koldanda	48.55	307	eP	P	14 32 19.2	-0.8
	comp=Z,35nm,0.7s,mb5.5						
SONM	Songino Array	49.45	342	P	P	14 32 27.2	+0.5
	comp=Z,2.1nm,0.7s,mb4.3,baz=156,slow=8.6,SNR=17						
SONM				PcP	PcP	14 33 49.0	+0.4
	comp=Z,3.1nm,0.8s,baz=162,slow=3.6,SNR=8.4						
SONM				LR	LR	14 55 56.8	
	comp=Z,93nm,21.2s,MS3.8,baz=148,slow=39						
CIT	Chita	51.66	350	eP	P	14 32 44.3	+0.9
ZAK	Zakamensk	52.66	342	eP	P	14 32 53.3	+2.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
WMQ	Urumqi	54.45	326	eP	P	14 33 04.0	-0.2
CLNS	Chul'man	55.39	359	eP	P	14 33 08.9	-1.9
CLNS				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.7s						
BOD	Bodaibo	57.19	352	eP	P	14 33 23.3	-0.5
BOD				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
MKAR	Makanchi Array	59.29	326	P	P	14 33 38.0	-0.5
	comp=Z,4.4nm,0.3s,mb4.9,baz=120,slow=7.5,SNR=66						
MKAR				PcP	PcP	14 34 26.0	0.0
	comp=Z,6.6nm,0.8s,baz=124,slow=4.4,SNR=8.8						
MKAR				LR	LR	14 59 36.6	
	comp=Z,222nm,21.1s,MS4.3,baz=179,slow=36						
MKAR	Makanchi Array	59.29	326	P	P	14 33 38.0	-0.5
MKAR				PcP	PcP	14 34 26.0	0.0
MKAR				LR	LR	14 59 36.6	
YAK	Yakutsk	60.64	2	eP	P	14 33 46.2	-1.3
	comp=Z,36nm,0.8s,mb5.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YAK	**Yakutsk**	**60.64**	**2**	*e*P	**P**	**14 33 46.9**	**-0.7**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
AAK	**Ala-Archa**	**61.85**	**319**	*e*P	**P**	**14 33 55.5**	**-0.4**
	comp=N,6.7nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**61.85**	**319**	*e*P	**P**	**14 33 55.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**62.54**	**334**	P	**P**	**14 33 59.6**	**-0.9**
	comp=Z,2.6nm,0.5s,mb4.7,baz=333,slow=5.2,SNR=11						
KURK	**Kurchatov**	**63.54**	**328**	*e*P	**P**	**14 34 05.6**	**-1.5**
	comp=Z,32nm,0.7s,mb5.5						
KURK	**Kurchatov**	**63.54**	**328**	*e*P	**P**	**14 34 05.6**	**-1.5**
KURK				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.5						
NVS	**Novosibirsk**	**63.82**	**334**	*e*P	**P**	**14 34 06.7**	**-2.2**
KKAR	**Karatay Array**	**64.69**	**318**	*i* P	**P**	**14 34 14.7**	**0.0**
CASY	**Casey**	**68.36**	**187**	*e*P	**P**	**14 34 38.4**	**+0.9**
VOSK	**Vostochnaya**	**68.64**	**328**	P	**P**	**14 34 37.9**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BVA0	**Borovoye Array**	**69.10**	**328**	*i* P	**P**	**14 34 41.9**	**-0.4**
BRVK	**Borovoye**	**69.17**	**328**	*e*P	**P**	**14 34 41.1**	**-1.6**
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**69.17**	**328**	*e*P	**P**	**14 34 41.2**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
AB31	**Akbulak array**	**73.73**	**321**	*i* P	**P**	**14 35 09.9**	**-0.2**
AKTO	**Aktyubinsk**	**75.27**	**322**	P	**P**	**14 35 18.5**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,26nm,2.6s,mb4.7						
SVE	**Sverdlovsk**	**75.78**	**329**	*e*P	**P**	**14 35 23.2**	**+1.4**
SVE				pmax	pmax		
	comp=Z,100nm,2.5s,mb5.3						
ARU	**Arti**	**76.73**	**328**	*e*P	**P**	**14 35 26.4**	**-0.8**
VNDA	**Vanda**	**81.09**	**173**	P	**P**	**14 35 51.8**	**+1.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=323,slow=5.9,SNR=9.7						
MAW	**Mawson**	**81.32**	**200**	*e*P	**P**	**14 35 53.9**	**+2.1**
	comp=Z,1.4nm,0.6s,mb4.1						
MAW	**Mawson**	**81.32**	**200**	P	**P**	**14 35 53.6**	**+1.7**
	comp=Z,1.4nm,0.6s,mb4.1,baz=90,slow=6.5,SNR=12						
MAW				LR	LR	15 07 43.3	
	comp=Z,91nm,21.2s,MS4.1,baz=245,slow=32						
MAW	**Mawson**	**81.32**	**200**	*e*P	**P**	**14 35 53.9**	**+2.1**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZEI	**Tsey**	**83.50**	**313**	*e*P	**P**	**14 36 04.3**	**+0.7**
ZEI				*i*		14 39 12.4	
ZEI				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**84.46**	**314**	*e*P	pP	14 36 23.4	+1.1
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
IMA	**Indian Mountai**	**84.79**	**24**	*e*P	**P**	**14 36 11.2**	**+1.6**
	comp=Z,13nm,0.6s,mb5.2						
IMA	**Indian Mountai**	**84.79**	**24**	*e*P	**P**	**14 36 11.2**	**+1.7**
IMA				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.2						
ILAR	**Eielson Array**	**87.50**	**25**	P	**P**	**14 36 22.4**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.3,baz=240,slow=5.1,SNR=28						
OBN	**Obninsk**	**88.77**	**325**	*e*P	**P**	**14 36 30.0**	**+0.9**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
KMBO	**Kilima Mbogo**	**89.02**	**269**	P	**P**	**14 36 33.0**	**+1.8**
	comp=Z,1.8nm,0.8s,mb4.4,baz=39,slow=6.5,SNR=4.8						
JOF	**Joensuu**	**91.11**	**333**	*e*p	**P**	**14 36 39.6**	**-0.3**
BRTR	**Keskin Array B**	**91.19**	**310**	P	**P**	**14 36 40.7**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.3,baz=122,slow=5.7,SNR=4.7						
ARCES	**ARCESS Array B**	**92.55**	**340**	P	**P**	**14 36 46.2**	**-0.2**
	comp=Z,5.3nm,0.7s,mb5.1,baz=79,slow=5.9,SNR=17						
AKASG	**Malin Array Be**	**93.47**	**321**	P	**P**	**14 36 50.8**	**-0.2**
	comp=Z,0.3nm,0.4s,mb4.1,baz=68,slow=4.1,SNR=7.2						
KAF	**Kangasniemi**	**93.52**	**332**	*e*p	**P**	**14 36 51.9**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.9,baz=55,slow=4.5						
KAF	**Kangasniemi**	**93.52**	**332**	*e*P	**P**	**14 36 51.9**	**+0.9**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.9						
FINES	**FINESS Array B**	**93.74**	**332**	P	**P**	**14 36 53.5**	**+1.6**
	comp=Z,2.0nm,0.7s,mb4.7,baz=72,slow=6.0,SNR=11						
FINES				LR	LR	15 22 09.8	
	comp=Z,104nm,18.9s,MS4.3,baz=292,slow=38						
MLR	**Muntele Rosu**	**96.31**	**316**	LR	LR	15 25 47.1	
	comp=Z,127nm,18.6s,MS4.4,baz=66,slow=39						
IDI	**Anoyia**	**98.52**	**306**	LR	LR	15 21 08.1	
	comp=Z,30nm,21.8s,MS3.8,baz=44,slow=35						
NOA	**NORSAR Array B**	**100.74**	**333**	P	P	14 37 23.7	-0.1
	comp=Z,1.0nm,0.7s,baz=68,slow=4.6,SNR=3.6						
PDAR	**Pinedale Array**	**113.49**	**42**	PKiKP		14 42 16.0	
	comp=Z,0.2nm,0.5s,baz=270,slow=1.5,SNR=4.0						
SCHQ	**Schefferville**	**123.03**	**9**	PKP	PKPdf	14 42 33.0	+2.4
	comp=Z,5.7nm,1.1s,baz=351,slow=13,SNR=3.9						
TXAR	**Lajitas Array**	**123.45**	**53**	PKP	PKPdf	14 42 35.0	+2.9
	comp=Z,1.0nm,0.7s,baz=225,slow=1.8,SNR=18						
WCI	**Wyandotte Cave**	**130.54**	**34**	*e*PKPdf	PKPdf	14 42 47.5	+2.0
PLCA	**Paso Flores**	**137.89**	**161**	PKP	PKPdf	14 43 03.9	+4.7
	comp=Z,2.2nm,0.9s,baz=321,slow=6.5,SNR=4.0						
CFAA	**Coronel Fontan**	**146.89**	**157**	PKPbc	PKPbc	14 43 20.6	+3.8
	comp=Z,1.7nm,0.7s,baz=214,slow=3.9,SNR=30						
CPUP	**Villa Florida**	**154.87**	**172**	PKPbc	PKPdf	14 43 39.7	+12
	comp=Z,2.3nm,0.9s,baz=146,slow=3.2,SNR=4.8						
LPAZ	**La Paz**	**159.44**	**137**	PKP	PKPdf	14 43 37.9	+4.6
	comp=Z,1.4nm,0.8s,baz=247,slow=1.2,SNR=7.3						
LPAZ	**La Paz**	**159.44**	**137**	*e*PKPdf	PKPdf	14 43 37.7	+4.4
LPAZ				PKP	PKPdf	14 43 37.9	+4.6

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*IDC **04** 14:53:36.6±1.0, 22.14S×175.98W, mb3.9/6, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, ML4.3/1, Error ellipse: s-maj=38.2km s-min=21.0km az=125.0*
*NEIC **04** 14:53:40.0±0.7, 22.13S×175.90W, h25km, mb4.5/2, Error ellipse: s-maj=23.0km s-min=11.7km az=121.0*
ISC 04 14:53:39.0±0.8**, 22.1S**±0.1×**175.9W**±0.2**, h33km, n13, σ1.11**/14**, mb4.1**/8**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.02**	**26**	Pn	**P**	**14 55 48.2**	**-1.7**
	1.6nm,0.3s,baz=31,slow=19,SNR=3.0						
AFI				Sn	**Sn**	**14 57 19.1**	**-12**
	1.0nm,0.3s,baz=71,slow=24,SNR=3.3						
AFI	**Afiamalu**	**9.02**	**26**	*e*P	**P**	**14 55 48.0**	**-1.9**
	28nm,0.9s						
AFI				Sn	**Sn**	**14 57 19.1**	**-12**
URZ	**Urewera**	**17.21**	**199**	P	**P**	**14 57 37.0**	**-1.4**
	1.2nm,0.3s,baz=314,slow=4.7,SNR=7.9						
RPZ	**Rata Peaks**	**24.14**	**204**	P	**P**	**14 58 53.4**	**+0.5**
	5.7nm,0.5s,mb4.2,baz=328,slow=18,SNR=6.0						
CTAO	**Charters Tower**	**35.31**	**266**	*e*P	**P**	**15 00 34.3**	**+1.1**
	6.6nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.91**	**246**	P	**P**	**15 01 02.8**	**-0.5**
	1.8nm,0.5s,mb4.0,baz=99,slow=10,SNR=11						
STKA	**Stephens Creek**	**38.91**	**246**	*e*P	**P**	**15 01 03.5**	**+0.2**
WRAB	**Tennant Creek**	**46.33**	**263**	*e*P	**P**	**15 02 03.2**	**-0.7**
	1.5nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**46.34**	**263**	P	**P**	**15 02 03.5**	**-0.4**
	1.0nm,0.3s,mb4.2,baz=95,slow=8.3,SNR=103						
VNDA	**Vanda**	**56.53**	**186**	P	**P**	**15 03 20.2**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=18,slow=10,SNR=3.6						
TXAR	**Lajitas Array**	**86.27**	**56**	P	**P**	**15 06 20.1**	**+1.1**
	0.5nm,0.8s,mb3.8,baz=198,slow=7.9,SNR=5.7						
ILAR	**Eielson Array**	**89.43**	**12**	P	**P**	**15 06 35.3**	**+2.0**
	0.2nm,0.6s,mb3.6,baz=208,slow=3.3,SNR=4.5						
AKASG	**Malin Array Be**	**145.33**	**332**	PKPbc	PKPbc	15 13 17.2	+3.5
	0.7nm,0.4s,baz=42,slow=4.0,SNR=7.6						

KRSC 04 15:10:21.6±0.5**, 52.75N**×**160.27E, h8**km±2km**, ML3.8, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.38**	**337**	*i* P	Pg	15 10 30.7	+1.4
SPN				*i* S	Sg	15 10 37.1	+2.6
NLC	**Nalytchevo**	**0.70**	**307**	*i* P	Pb	15 10 36.1	+0.5
NLC				*i* S	Sg	15 10 47.1	+2.0
UGLR	**Uglovaya**	**0.99**	**298**	*e*P	Pb	15 10 41.2	+0.7
UGLR				*e*S	Sb	15 10 55.5	+2.0
SDLR	**Sedlovina**	**0.99**	**303**	*e*P	Pb	15 10 41.0	+0.4
SDLR				*e*S	Sb	15 10 55.7	+2.1
PET	**Petropavlovsk**	**1.02**	**286**	*e*P	Pb	15 10 41.5	+0.5
PET				*e*S	Sb	15 10 55.9	+1.5
SMAR	**Somma**	**1.03**	**301**	*e*P	Pb	15 10 42.1	+0.9
SMAR				*e*S	Sb	15 10 57.2	+2.6
AVH	**Avacha**	**1.06**	**300**	*e*P	Pb	15 10 42.7	+0.9
AVH				*e*S	Sb	15 10 59.3	+3.7
RUS	**Russkaya**	**1.12**	**254**	*i* P	Pb	15 10 43.1	+0.3
RUS				*i* S	Sb	15 10 58.9	+1.6
KOK	**Koryaka**	**1.13**	**299**	*e*P	Pb	15 10 43.4	+0.5
KOK				*e*S	Sb	15 10 59.6	+2.1
KRMR	**Karymshinskiy**	**1.30**	**274**	*e*P	Pb	15 10 46.7	+0.8
KRMR				*e*S	Sb	15 11 04.6	+2.0
GRL	**Gorelyy**	**1.35**	**262**	*e*P	Pb	15 10 47.3	+0.5
GRL				*e*S	Sb	15 11 06.1	+2.0
KII	**Karymskiy**	**1.38**	**339**	*e*P	Pn	15 10 46.9	-0.3
KII				*e*S	Sb	15 11 04.8	-0.1
GNL	**Ganaly**	**1.69**	**305**	*e*P	Pn	15 10 52.2	+0.5
GNL				*e*S	Sn	15 11 14.6	+0.9
APC	**Apacha**	**1.90**	**277**	*e*P	Pn	15 10 56.7	+2.1
APC				*e*S	Sn	15 11 21.4	+2.5
APC				Smax			
	70nm,0.7s						
MKZ	**Mys Kozlova**	**2.01**	**25**	*e*P	Pn	15 10 55.4	-0.8
MKZ				*e*S	Sn	15 11 19.9	-1.8
MIPR	**Malaya Ipel'ka**	**2.20**	**259**	*e*P	Pn	15 11 00.7	+1.8
MIPR				*e*S	Sn	15 11 28.9	+2.3
KMNR	**Kamenistaya**	**3.01**	**360**	*e*P	Pn	15 11 11.1	+0.5
KMNR				*e*S	Sn	15 11 46.9	-0.4
KPT	**Kopyto**	**3.22**	**360**	*e*P	Pn	15 11 15.4	+1.8
KPT				*e*S	Sn	15 11 54.4	+1.8
ESO	**Esso**	**3.31**	**345**	*e*P	Pn	15 11 14.9	+0.1
ESO				*e*S	Sn	15 11 54.2	-0.6
KOZ	**Kozyrevsk**	**3.32**	**356**	*e*P	Pn	15 11 14.5	-0.5
KOZ				*e*S	Sn	15 11 53.2	-1.9
KLY	**Klyuchi**	**3.58**	**3**	*e*P	Pn	15 11 20.4	+1.8
KLY				*e*S	Sn	15 12 03.1	+1.5
KBTR	**Krutoberegovo**	**3.77**	**22**	*e*P	Pn	15 11 22.2	+0.9
KBTR				*e*S	Sn	15 12 07.0	+0.6
BKI	**Bering**	**4.17**	**52**	*e*S	Sn	15 12 12.6	-3.9

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*ATH **04** 15:33:17.0, 37.89N×20.14E, h11km±2km, MD3.6/6*
*NEIC **04** 15:33:17.1, 37.90N×20.15E, h9km, MD3.6(ATH), After ATH.*
*CSEM **04** 15:33:19.3±1.8, 37.95N×20.19E, h26km±12km, MD3.6, Error ellipse: s-maj=45.4km s-min=16.8km az=52.0*
ISC 04 15:33:16.9±1.1**, 37.88N**±0.07×**20.08E**±0.06**, h10km, n12, σ1.54**/17**, 2D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.50**	**54**	⇓*i*PB	**Pb**	**15 33 25.8**	**-1.5**
VLS	**Valsamata**	**0.50**	**54**	⇓*i*Pb	**Pb**	**15 33 25.9**	**-1.4**
VLS				*e*Sb	**Sb**	**15 33 31.5**	**-2.9**
RLS	**Riolos of Patr**	**1.11**	**81**	*e*PN	**Pn**	**15 33 37.5**	**-1.0**
RLS				*e*SB	**Sb**	**15 33 51.6**	**-0.5**
ITM	**Ithomi**	**1.63**	**115**	*e*PB	**Pb**	**15 33 46.8**	**+0.2**
ITM				*e*SB	**Sb**	**15 34 08.5**	**+1.3**
EVR	**Evrytania**	**1.71**	**52**	*e*PB	**Pb**	**15 33 48.4**	**+0.4**
EVR				*e*SB	**Sb**	**15 34 11.2**	**+1.8**
KEK	**Kerkira**	**1.84**	**353**	*e*PN	**Pn**	**15 33 50.2**	**+1.3**
KEK				*e*SN	**Sn**	**15 34 15.3**	**+2.9**
JAN	**Janina**	**1.87**	**19**	*e*PN	**Pn**	**15 33 51.0**	**+1.7**
JAN	**Janina**	**1.87**	**19**	*e*Pg	**Pg**	**15 33 51.5**	**-2.8**
SG1	**Sgolgore (BA)**	**3.96**	**319**	*e*Pn	**Pn**	**15 34 19.8**	**+0.8**
SKO	**Skopje**	**4.21**	**14**	*e*Pn	**Pn**	**15 34 31.0**	**+8.3**
BOJS	**Bojanci**	**8.42**	**336**	*i* Pn	**P**	**15 35 19.9**	**-2.0**
CEY	**Cerknica**	**8.91**	**334**	*e*Pn	**P**	**15 35 27.2**	**-1.5**

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*MOS **04** 16:09:32.6±1.1, 33.60N×25.26E, h10km, mb4.1/5, Error ellipse: s-maj=27.6km s-min=12.0km az=83.6*
*HLW **04** 16:09:38.2, 34.15N×25.80E, h21km, Mb3.3*
*IDC **04** 16:09:39.4±6.0, 33.54N×25.17E, h60km±37km, mb3.6/6, mb1 3.6/10, mb1mx3.4/23, mbtmp3.7/10, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/26, Error ellipse: s-maj=55.0km s-min=26.2km az=37.0*
*CSEM **04** 16:09:39.2±0.1, 33.93N×25.63E, h35km, mb3.9/5, Error ellipse: s-maj=8.2km s-min=3.0km az=88.0*
ISC 04 16:09:41.2±0.6**, 33.85N**±0.04×**25.75E**±0.10**, h67km**±10km**, n26, σ1.33**/29**, mb3.7**/7**, 4C-3D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.60**	**334**	P	**P**	**16 10 07.8**	**-0.2**
	3.9nm,0.3s,baz=171,slow=15,SNR=18						
IDI				S	**S**	**16 10 29.6**	**+1.8**
	14nm,0.3s,baz=288,slow=20,SNR=7.2						
SLUM		**2.39**	**191**	⇓P	**P**	**16 10 19.5**	**+0.6**
SLUM				S	**S**	**16 10 49.2**	**+2.1**
HMAT	**Matruh**	**2.97**	**157**	⇑P	**P**	**16 10 26.9**	**-0.2**
HMAT				S	**S**	**16 11 02.3**	**+0.6**
SWA1		**4.57**	**180**	⇑P	**P**	**16 10 49.2**	**-0.2**
SWA1				S	**S**	**16 11 41.6**	**-0.1**
SWA2		**4.59**	**183**	⇓P	**P**	**16 10 49.7**	**-0.1**
HBRG	**Burj al 'Arab**	**4.76**	**132**	⇑P	**P**	**16 10 50.7**	**-1.4**
HNAT	**Natroun**	**5.90**	**134**	⇑P	**P**	**16 11 06.2**	**-1.7**
GLL	**Jalalah**	**6.62**	**128**	⇓P	**P**	**16 11 16.1**	**-1.9**
BRTR	**Keskin Array B**	**8.63**	**45**	P	**P**	**16 11 47.4**	**+1.8**
	0.1nm,0.3s,baz=215,slow=14,SNR=2.5						
MLR	**Muntele Rosu**	**11.63**	**1**	LR	LR	16 17 40.2	
	comp=Z,75nm,20.3s,baz=29,slow=40						
VRAC	**Vranov**	**16.88**	**339**	P	**P**	**16 13 31.9**	**-2.3**
	0.2nm,0.3s,baz=83,slow=17,SNR=2.2						
AKASG	**Malin Array Be**	**17.04**	**8**	P	**P**	**16 13 36.2**	**+0.1**
	1.4nm,0.3s,baz=199,slow=11,SNR=9.9						
AKASG	**Malin Array Be**	**17.04**	**8**	P	**P**	**16 13 36.2**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**17.47**	**333**	P	**P**	**16 13 40.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=144,slow=12,SNR=5.3						
OBN	**Obninsk**	**22.57**	**16**	*e*P	**P**	**16 14 37.4**	**+1.0**
	comp=Z,2.0nm,0.7s,mb3.6						
OBN	**Obninsk**	**22.57**	**16**	*e*P	**P**	**16 14 37.4**	**+1.0**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6						
HFS	**Hagfors**	**27.46**	**347**	P	**P**	**16 15 21.7**	**-0.9**
	comp=Z,1.3nm,0.7s,mb3.6,baz=135,slow=8.4,SNR=4.4						
HFS	**Hagfors**	**27.46**	**347**	P	**P**	**16 15 21.7**	**-1.0**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**27.61**	**0**	P	**P**	**16 15 22.7**	**-1.3**
	comp=Z,0.4nm,0.3s,mb3.4,baz=164,slow=9.8,SNR=12						
ARCES	**ARCESS Array B**	**35.74**	**360**	P	**P**	**16 16 33.8**	**-1.2**
	comp=Z,3.2nm,0.9s,mb4.3,baz=186,slow=9.2,SNR=8.0						
ARCES	**ARCESS Array B**	**35.74**	**360**	P	**P**	**16 16 33.8**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**44.11**	**55**	P	**P**	**16 17 46.2**	**+1.9**
	comp=Z,1.0nm,0.6s,mb3.8,baz=277,slow=6.7,SNR=16						
MKAR	**Makanchi Array**	**44.11**	**55**	P	**P**	**16 17 46.2**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**45.56**	**45**	P	**P**	**16 17 57.4**	**+1.6**
	comp=Z,1.1nm,0.4s,mb3.9,baz=213,slow=6.6,SNR=3.9						
ZAL	**Zalesovo**	**45.56**	**45**	P	**P**	**16 17 57.4**	**+1.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**59.95**	**50**	P	**P**	**16 19 44.7**	**+2.1**
	comp=Z,0.2nm,0.5s,mb3.4,baz=288,slow=7.3,SNR=4.5						

MAN 04 16:11:20.4, 17.73N×119.31E, h1km, mb4.6, ML3.5, MS3.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.34**	**93**	*e*P	Pb	16 11 45.1	-1.0
ABRA				*e*S	Sb	16 12 03.8	+0.3
BCPH	**Baguio City Da**	**1.81**	**138**	*i* P	Pn	16 11 52.9	-0.2
	19μm,94.0s						
BCPH				*i* S	Sn	16 12 17.0	+0.1
SCZP	**Santa Cruz**	**2.03**	**163**	*e*P	Pn	16 11 56.0	-0.1
CVP	**Callao Caves**	**2.39**	**90**	*e*P	Pn	16 12 01.0	-0.4
CVP				*e*S	Sn	16 12 31.0	-0.8
CAUP	**Cauayan**	**2.52**	**108**	*e*P	Pn	16 12 05.0	+1.7
BALP	**Baler**	**2.94**	**132**	*e*P	Pn	16 12 08.8	-0.3
LUBP	**Lubang**	**4.07**	**167**	*e*P	Pn	16 12 25.9	+0.6

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*IDC **04** 16:29:28.2±0.9, 33.07N×142.51E, mb3.8/9, mb1 4.0/11, mb1mx3.9/21, mbtmp3.9/11, ML3.9/2, Error ellipse: s-maj=22.0km s-min=21.3km az=167.0*
*JMA **04** 16:29:31.7±0.3, 33.10N×142.49E, h79km, M3.7*
*NEIC **04** 16:29:33.7±0.7, 32.89N×142.33E, h45km, mb4.6/1, Error ellipse: s-maj=22.8km s-min=14.5km az=54.0*
ISC 04 16:29:31.2±1.8**, 33.08N**±0.06×**142.48E**±0.06**, h30km**±14km**, n30, σ0.80**/43**, mb3.8**/10**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.00**	**322**	P	**Pn**	**16 30 04.1**	**+0.4**
BSO1				S	**Sn**	**16 30 28.2**	**+0.2**
BSO2	**Boso 2**	**2.19**	**320**	S	**Sn**	**16 30 33.1**	**+0.2**
JHJ2	**Mitsune**	**2.23**	**271**	P	**Pn**	**16 30 07.6**	**+0.6**
JHJ2				S	**Sn**	**16 30 35.2**	**+1.4**
JHJ	**Hachijo jima 2**	**2.26**	**272**	Pn	**Pn**	**16 30 07.0**	**-0.4**
	32nm,0.3s,baz=93,slow=19,SNR=4.8						
JHJ				Sn	**Sn**	**16 30 35.0**	**+0.4**
	92nm,0.3s,baz=38,slow=22,SNR=6.9						
BSO3	**Boso 3**	**2.37**	**317**	P	**Pn**	**16 30 09.2**	**+0.3**
BSO3				S	**Sn**	**16 30 38.3**	**+1.0**
BSO4	**Boso 4**	**2.60**	**318**	P	**Pn**	**16 30 13.0**	**+0.7**
BSO4				S	**Sn**	**16 30 44.3**	**+1.1**
KTR	**Katsuura**	**2.73**	**320**	P	**Pn**	**16 30 14.6**	**+0.5**
KTR				S	**Sn**	**16 30 46.4**	**0.0**
JIM2	**Oshima 3**	**3.01**	**304**	S	**Sn**	**16 30 52.7**	**-0.9**
JIZS	**Izushimoda**	**3.41**	**300**	P	**Pn**	**16 30 23.5**	**-0.2**
JIZS				S	**Sn**	**16 31 02.2**	**-1.4**
JOD2	**Odawara 2**	**3.55**	**309**	P	**Pn**	**16 30 24.7**	**-1.0**
JYN	**Shimob**	**4.05**	**308**	P	**Pn**	**16 30 33.5**	**+0.7**
JYN				S	**Sn**	**16 31 19.3**	**-0.5**
JRY	**Ryogami san**	**4.16**	**316**	P	**Pn**	**16 30 34.0**	**-0.3**
JRY				S	**Sn**	**16 31 22.6**	**+0.1**
JAG	**Ashikaga**	**4.16**	**324**	P	**Pn**	**16 30 33.7**	**-0.7**
MAJO	**Matsushiro**	**4.92**	**316**	*e*P	**Pn**	**16 30 44.8**	**-0.4**
MAT	**Matsushiro**	**4.92**	**316**	P	**Pn**	**16 30 44.7**	**-0.5**
MAT				S	**Sn**	**16 31 40.2**	**-1.7**
MAT	**Matsushiro**	**4.92**	**316**	P	**Pn**	**16 30 45.8**	**+0.6**
MAT				S	**Sn**	**16 31 40.3**	**-1.6**
MAT	**Matsushiro**	**4.92**	**316**	*e*P	**Pn**	**16 30 45.0**	**-0.2**
MAT				*e*S	**Sn**	**16 31 40.0**	**-1.9**
ASAJ	**Asahikawa**	**11.02**	**0**	Pn	**P**	**16 32 05.3**	**-4.6**
	1.4nm,0.3s,baz=186,slow=9.0,SNR=19						
ASAJ				Sn	**S**	**16 34 01.2**	**-12**
	0.2nm,0.3s,baz=62,slow=17,SNR=3.4						
SONM	**Songino Array**	**30.84**	**309**	P	**P**	**16 35 47.4**	**+0.6**
	0.8nm,0.6s,mb3.8,baz=112,slow=9.3,SNR=8.2						
MKAR	**Makanchi Array**	**47.04**	**305**	P	**P**	**16 38 01.8**	**+0.1**
	1.0nm,0.6s,mb3.9,baz=91,slow=10,SNR=16						
KURK	**Kurchatov**	**49.12**	**311**	*e*P	**P**	**16 38 17.4**	**-0.4**
	5.6nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**52.40**	**31**	P	**P**	**16 38 41.5**	**-1.1**
	0.5nm,0.7s,mb3.5,baz=258,slow=6.2,SNR=7.7						
WRAB	**Tennant Creek**	**53.29**	**190**	*e*P	**P**	**16 38 44.0**	**-5.8**
WRA	**Warramunga Arr**	**53.30**	**190**	P	**P**	**16 38 47.9**	**-1.9**
	1.5nm,0.6s,mb4.1,baz=7.0,slow=7.7,SNR=28						
WRA				PcP	PcP	16 39 57.5	+0.4
	0.5nm,0.5s,baz=3.0,slow=4.2,SNR=6.3						
FINES	**FINESS Array B**	**72.72**	**333**	P	**P**	**16 40 57.8**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=72,slow=6.0,SNR=4.6						
NVAR	**Mina Array Bea**	**76.67**	**53**	P	**P**	**16 41 22.0**	**+1.0**
	0.4nm,0.8s,mb3.4,baz=315,slow=6.3,SNR=3.7						
AKASG	**Malin Array Be**	**77.97**	**323**	P	**P**	**16 41 27.8**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=33,slow=4.7,SNR=4.2						
NB2	**NORSAR Subarra**	**78.16**	**338**	P	**P**	**16 41 29.2**	**+0.5**
	0.2nm,0.7s,mb3.2,baz=46,slow=5.8						
NOA	**NORSAR Array B**	**78.16**	**338**	P	**P**	**16 41 28.7**	**0.0**
	1.6nm,0.8s,mb4.0,baz=39,slow=5.8,SNR=4.1						
TXAR	**Lajitas Array**	**91.82**	**53**	P	**P**	**16 42 39.1**	**+1.3**
	0.2nm,0.6s,mb3.6,baz=315,slow=3.8,SNR=2.6						

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*LDG **04** 16:33:35.6±0.2, 45.15N×7.43E, h2km, Md2.5/2, Ml2.5/7, Error ellipse: s-maj=4.8km s-min=2.1km az=69.0*
*ROM **04** 16:33:35.7±0.3, 45.09N×7.27E, h12km, Md2.3/5, Ml2.1/2, Error ellipse: s-maj=4.3km s-min=3.1km az=150.0*
*CSEM **04** 16:33:35.4±0.1, 45.13N×7.42E, h10km, ML2.5/7, Error ellipse: s-maj=2.4km s-min=1.7km az=84.0*
*STR **04** 16:33:36.7±1.4, 45.07N×7.52E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **04** 16:33:36.1, 45.11N×7.35E, h11km, ML2.7(GEN), ML2.5(LDG), ML2.2(STR), After GEN.*
*GEN **04** 16:33:36.1, 45.11N×7.35E, h11km, ML2.0*
ISC 04 16:33:35.2±0.3**, 45.10N**±0.02×**7.37E**±0.03**, h10km, n44, σ0.92**/82**, 1D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSP	**Reno Superiore**	**0.09**	**303**	P	**Pg**	**16 33 38.6**	**+0.8**
RSP				S	**Sg**	**16 33 40.3**	**+0.8**
RSP	**Reno Superiore**	**0.09**	**303**	P	**Pg**	**16 33 38.6**	**+0.8**
RSP				S	**Sg**	**16 33 40.3**	**+0.8**
FENE	**Fenestrelle**	**0.23**	**252**	P	**Pg**	**16 33 40.7**	**+0.6**
FENE				S	**Sg**	**16 33 43.8**	**+0.5**
FENE	**Fenestrelle**	**0.23**	**252**	P	**Pg**	**16 33 40.7**	**+0.6**
BHB	**Bricherasio**	**0.27**	**196**	P	**Pg**	**16 33 42.1**	**+1.2**
BHB				S	**Sg**	**16 33 45.8**	**+1.2**
LSD	**Ceresole Reale**	**0.39**	**337**	P	**Pg**	**16 33 43.9**	**+0.8**
LSD	**Ceresole Reale**	**0.39**	**337**	P	**Pg**	**16 33 43.9**	**+0.8**
MONC	**Moncucco Torin**	**0.40**	**94**	Pg	**Pg**	**16 33 45.9**	**+2.5**
MONC				Sg	**Sg**	**16 33 54.1**	**+5.3**
	160nm,0.4s						
RRL	**Cesana Torines**	**0.45**	**246**	P	**Pg**	**16 33 44.6**	**+0.3**
RRL				S	**Sg**	**16 33 50.5**	**0.0**
RRL	**Cesana Torines**	**0.45**	**246**	P	**Pg**	**16 33 44.6**	**+0.2**
RRL				S	**Sg**	**16 33 50.5**	**0.0**
BNI	**Bardonecchia**	**0.49**	**264**	⇓*i*Pg	**Pg**	**16 33 45.8**	**+0.7**
BNI				Sg	**Sg**	**16 33 51.9**	**+0.1**
MBDF	**Montbardon**	**0.56**	**229**	*e*Pg	**Pg**	**16 33 47.3**	**+0.7**
MBDF				*e*Sg	**Sg**	**16 33 55.1**	**+0.9**
	57nm,0.2s						
LPG	**La Plagne**	**0.59**	**313**	*e*Pg	**Pg**	**16 33 47.4**	**+0.3**
LPG				*e*Sg	**Sg**	**16 33 54.4**	**-0.6**
	59nm,0.2s						
DOI	**San Damiano**	**0.60**	**188**	Pg	**Pg**	**16 33 47.3**	**-0.1**
DOI				Sg	**Sg**	**16 33 56.1**	**+0.6**
	62nm,0.2s						
LPL	**La Plagne**	**0.61**	**313**	*e*Pg	**Pg**	**16 33 47.8**	**+0.3**
LPL				*e*Sg	**Sg**	**16 33 55.0**	**-0.7**
	62nm,0.3s						
ORO	**Oropa**	**0.68**	**39**	Pg	**Pg**	**16 33 49.8**	**+0.9**
	34nm,0.2s						
ORX	**Oropa**	**0.69**	**39**	P	**Pb**	**16 33 49.1**	**+0.3**
ORX				S	**Sb**	**16 33 57.5**	**-0.5**
ORX	**Oropa**	**0.69**	**39**	P	**Pb**	**16 33 49.1**	**+0.3**
ORX				S	**Sb**	**16 33 57.5**	**-0.5**
SURF	**Saint Ours**	**0.73**	**213**	Pg	**Pg**	**16 33 50.6**	**+0.6**
SURF				Sg	**Sg**	**16 34 00.7**	**+0.9**
STV2	**Anna di Valdie**	**0.86**	**182**	P	**Pb**	**16 33 51.1**	**-0.6**
STV2				S	**Sb**	**16 34 02.7**	**-0.3**
STV2	**Anna di Valdie**	**0.86**	**182**	P	**Pb**	**16 33 51.1**	**-0.6**
STV2				S	**Sb**	**16 34 02.7**	**-0.3**
ENR	**Entracque**	**0.88**	**177**	P	**Pb**	**16 33 51.5**	**-0.6**
ENR				S	**Sb**	**16 34 03.0**	**-0.5**
ENR	**Entracque**	**0.88**	**177**	P	**Pb**	**16 33 51.5**	**-0.5**
ENR				S	**Sb**	**16 34 03.0**	**-0.6**
ROB	**Roburent**	**0.88**	**156**	P	**Pb**	**16 33 52.5**	**+0.4**
ROB				S	**Sb**	**16 34 04.0**	**+0.2**
ROB	**Roburent**	**0.88**	**156**	P	**Pb**	**16 33 52.5**	**+0.3**
ROB				S	**Sb**	**16 34 04.0**	**+0.2**
DIX	**Grande Dixence**	**0.98**	**2**	Pg	**Pg**	**16 33 54.8**	**0.0**
PCP	**Pian Castagno**	**1.01**	**123**	P	**Pb**	**16 33 54.9**	**+0.6**
PCP				S	**Sb**	**16 34 07.8**	**+0.4**
PCP	**Pian Castagno**	**1.01**	**123**	P	**Pb**	**16 33 54.9**	**+0.6**
PCP				S	**Sb**	**16 34 07.8**	**+0.4**
ORIF	**Oris-en-Rattie**	**1.07**	**261**	*e*Pg	**Pg**	**16 33 56.7**	**+0.1**
ORIF				*e*Sg	**Sg**	**16 34 11.3**	**+0.4**
	14nm,0.3s						
TOUF	**Mont Tournerai**	**1.09**	**184**	Pg	**Pg**	**16 33 57.7**	**+0.6**
AUTN	**L'Aution**	**1.11**	**178**	Pg	**Pg**	**16 33 56.5**	**-0.9**
AUTN				Sg	**Sg**	**16 34 13.1**	**+0.9**
SAOF	**Saorge**	**1.12**	**173**	Pg	**Pg**	**16 33 55.4**	**-2.3**
SAOF				Sg	**Sg**	**16 34 13.1**	**+0.4**
OG25	**Le Caire**	**1.18**	**232**	Pg	**Pg**	**16 34 02.3**	**+3.6**
OG25				Sg	**Sg**	**16 34 17.9**	**+3.4**
MVIF	**Mont Vial**	**1.22**	**187**	Pg	**Pg**	**16 34 00.3**	**+0.8**
MVIF				Sg	**Sg**	**16 34 15.9**	**+0.2**
SBF	**Sospel**	**1.24**	**178**	*e*Pg	**Pg**	**16 33 59.8**	**-0.2**
SBF				*e*Sg	**Sg**	**16 34 16.4**	**-0.2**
	13nm,0.4s						
IMI	**Imperia**	**1.25**	**162**	P	**Pb**	**16 33 57.7**	**-0.7**
IMI				S	**Sb**	**16 34 12.3**	**-2.1**
IMI	**Imperia**	**1.25**	**162**	P	**Pb**	**16 33 57.7**	**-0.7**
IMI				S	**Sb**	**16 34 12.3**	**-2.1**
NEGI	**Negi**	**1.28**	**169**	P	**Pb**	**16 33 57.6**	**-1.3**
CALN	**Calern**	**1.39**	**194**	Pg	**Pg**	**16 34 02.4**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FRF	La Foret Royal	1.62	199	ePn	Pn	16 34 05.2	+1.1
FRF				ePg	Pg	16 34 07.2	-0.5
FRF				eSg	Sg	16 34 28.0	-1.4
	7.6nm,0.2s						
SMRF	Simiane la Rot	1.71	229	ePg	Pg	16 34 08.8	-0.5
SMRF				eSg	Sg	16 34 31.8	-0.2
	6.8nm,0.3s						
CABF	La Chapelle	1.75	330	ePg	Pg	16 34 08.0	-2.3
CABF				eSg	Sg	16 34 30.4	-3.3
	5.5nm,0.4s						
LMR	La Mourre	1.87	200	ePg	Pg	16 34 11.1	-1.5
LMR				eSg	Sg	16 34 36.3	-1.3
	12nm,0.4s						
VIVF	Saint-Julien-l	1.93	264	ePn	Pn	16 34 08.3	-0.1
VIVF				ePg	Pg	16 34 12.7	-1.0
VIVF				eSg	Sg	16 34 38.3	-1.1
	2.2nm,0.3s						

*IDC **04** 16:42:19.0±6.6, 50.94N×157.61E, mb3.6/3, mb1 4.0/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=464.7km s-min=32.6km az=133.0*
*MOS **04** 16:42:24.2±0.6, 50.78N×157.99E, h44^{km}, mb4.0/1, Error ellipse: s-maj=99.5km s-min=12.2km az=76.3*
*KRSC **04** 16:42:26.4±0.6, 50.90N×158.00E, h42^{km}±19^{km}, ML4.2*
ISC 04 16:42:26.0±0.9, **50.86N**±0.06×**157.97E**±0.09, **h58**^{km}±12^{km}, **n28**, σ**0^{s}97**/51, **mb3.6**/3, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.95	310	i P	P	16 42 43.5	0.0
PAU				i S	S	16 42 55.6	-0.9
PAU				Smax			
	2µm,0.7s						
ALID	Alaid	1.54	271	i P	P	16 42 51.8	+0.2
ALID				eS	S	16 43 09.8	-0.8
MIPR	Malaya Ipel'ka	1.61	332	i P	P	16 42 52.8	+0.2
MIPR				eS	S	16 43 12.6	+0.3
RUS	Russkaya	1.61	12	i P	P	16 42 52.0	-0.7
RUS				i S	S	16 43 11.1	-1.3
GRL	Gorelyy	1.69	2	i P	P	16 42 54.2	+0.4
GRL				i S	S	16 43 14.2	-0.2
KRMR	Karymshinskiy	1.97	3	i P	P	16 42 58.4	+0.7
KRMR				i S	S	16 43 21.6	+0.4
APC	Apacha	2.13	347	i P	P	16 43 00.2	+0.3
APC				eS	S	16 43 25.0	-0.1
APC				Smax			
	100nm,1.1s						
PET	Petropavlovsk	2.21	11	i P	P	16 43 01.0	0.0
PET				i S	S	16 43 26.3	-0.8
UGLR	Uglovaya	2.41	12	i P	P	16 43 04.5	+0.6
UGLR				eS	S	16 43 33.0	+0.8
AVH	Avacha	2.45	11	i P	P	16 43 05.5	+1.0
AVH				i S	S	16 43 33.6	+0.3
NLC	Nalytchevo	2.46	20	i P	P	16 43 03.3	-1.4
NLC				i S	S	16 43 30.8	-2.8
KOK	Koryaka	2.47	9	i P	P	16 43 06.4	+1.7
KOK				i S	S	16 43 34.9	+1.2
SDLR	Sedlovina	2.48	13	eP	P	16 43 05.9	+0.9
SDLR				eS	S	16 43 34.5	+0.4
SPN	Mys Shipunski	2.57	29	P	P	16 43 06.2	0.0
SPN				S	S	16 43 35.3	-1.1
SPN	Mys Shipunski	2.57	29	eP	P	16 43 06.2	0.0
SPN				eS	S	16 43 35.5	-0.9
GNL	Ganaly	2.84	360	i P	P	16 43 10.7	+0.7
GNL				eS	S	16 43 44.1	+1.0
KII	Karymskiy	3.31	15	eP	P	16 43 18.1	+1.5
KII				eS	S	16 43 56.2	+1.3
MKZ	Mys Kozlova	4.35	30	P	P	16 43 30.0	-1.2
MKZ				S	S	16 44 17.3	-3.8
MKZ	Mys Kozlova	4.35	30	eP	P	16 43 30.1	-1.1
MKZ				eS	S	16 44 17.1	-4.0
KMNR	Kamenistaya	5.09	15	eP	P	16 43 41.5	0.0
KMNR				eS	S	16 44 36.2	-3.4
ESO	Esso	5.09	5	eP	P	16 43 41.9	+0.3
ESO				eS	S	16 44 37.3	-2.4
KBTR	Krutoberegovo	6.08	26	P	P	16 43 54.6	-0.8
KBTR	Krutoberegovo	6.08	26	i P	P	16 43 54.5	-0.9
KBTR				i S	S	16 44 59.2	-5.3
BKI	Bering	6.49	45	eP	P	16 43 57.0	-4.1
BKI				eS	S	16 45 03.3	-11
PDAR	Pinedale Array	59.79	58	P	P	16 52 27.4	+0.3
	0.2nm,0.3s,mb3.6,baz=309,slow=5.8,SNR=5.2						
TXAR	Lajitas Array	72.75	65	P	P	16 53 49.9	+0.3
	0.6nm,0.7s,mb3.7,baz=305,slow=5.7,SNR=8.2						
TXAR	Lajitas Array	72.75	65	P	P	16 53 49.9	+0.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	73.50	203	P	P	16 53 53.4	-0.8
	comp=Z,0.3nm,0.5s,mb3.5,baz=18,slow=6.1,SNR=6.3						

*IDC **04** 17:12:51.0±2.7, 35.78N×44.94E, mb3.5/3, mb1 3.9/5, mb1mx3.6/18, mbtmp3.6/5, ML4.5/1, Error ellipse: s-maj=38.8km s-min=34.3km az=13.0*
*ISK **04** 17:12:55.5, 36.43N×44.97E, h5^{km}, MD4.1, ML3.9*
*CSEM **04** 17:12:58.7±0.1, 36.74N×45.17E, h25^{km}, ML3.4, Error ellipse: s-maj=4.9km s-min=2.2km az=28.0*
*NEIC **04** 17:12:59.3±0.7, 36.84N×45.18E, h10^{km}, ML4.0(ISK), Error ellipse: s-maj=14.5km s-min=6.1km az=189.0*
*MOS **04** 17:12:59.4±1.4, 36.45N×45.02E, h33^{km}, mb3.8/1, Error ellipse: s-maj=29.7km s-min=18.4km az=130.1*
*THR **04** 17:13:01.8±1.3, 36.80N×45.58E, h14^{km}±13^{km}, ML2.9*
*TEH **04** 17:13:06.7, 37.16N×45.67E, h24^{km}, Mn3.4*
ISC 04 17:12:57.3±0.5, **36.62N**±0.05×**45.17E**±0.05, **h10**^{km}, **n41**, σ**1^{s}42**/47, **mb3.4**/3, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAZR	Azarshahr	1.24	31	Pg	Pb	17 13 10.7	-10
HKR	Hakkari	1.49	310	PN	Pn	17 13 24.3	0.0
HKR				SN	Sn	17 13 45.8	+1.9
HKR	Hakkari	1.49	310	Pn	Pn	17 13 24.4	+0.1
HKR				Sg	Sg	17 13 49.4	+2.3
HKR	Hakkari	1.49	310	ePn	Pn	17 13 24.3	0.0
HKR				Sg	Sg	17 13 49.3	+2.3
MSL	Mosul	1.71	260	ex	x	17 13 47.0	
MSL				i x	x	17 14 09.0	
MSL				i x	x	17 14 11.0	
IBST	Bostanabad	1.75	51	Pn	Pn	17 13 26.4	-1.5
ITBZ	Tabriz	1.79	25	Pn	Pn	17 13 27.2	-1.3
IMRD	Marand	2.13	11	Pn	Pn	17 13 32.6	-0.8
IDHR	Dehrash	2.15	152	Pn	Sn	17 14 11.4	+11
ILIN	Laeen	2.23	139	Pn	Sn	17 14 15.1	+12
SNGE	Sanandaj	2.33	130	ePg	Pg	17 13 41.4	-2.4
SNGE				eSg	Sg	17 14 12.1	-2.9
SIRT	Sirnak	2.36	293	PN	Pn	17 13 36.2	-0.4
VANB	Van	2.43	325	PN	Pn	17 13 38.3	+0.6
VANB				SN	Sn	17 14 11.0	+3.3
VANB	Van	2.43	325	Pn	Pn	17 13 38.3	+0.6
CLDR	Caldiran	2.71	339	PN	Pn	17 13 43.8	+2.1
CLDR	Caldiran	2.71	339	Pn	Pn	17 13 43.8	+2.2
GRMI	Germi	3.07	44	ePN	Pn	17 13 47.5	+0.7
GRMI				AML	AML	17 14 04.1	
	comp=Z,35nm,0.6s						
GRMI				eSG	Sg	17 14 26.4	-13
BTMT	Batman	3.33	299	PN	Pn	17 13 51.9	+1.4
BHD	Baghdad	3.40	191	ex	x	17 14 09.0	
BHD				ex	x	17 14 55.0	
GNI	Garni	3.54	355	PN	Pn	17 13 56.4	+2.9
GNI	Garni	3.54	355	Pn	Pg	17 14 01.4	-6.5
	comp=Z,2.2nm,0.3s,baz=186,slow=3.2,SNR=13						
GNI				Sn	Sg	17 14 53.9	-1.3
	comp=Z,1.2nm,0.3s,baz=46,slow=20,SNR=3.7						
GNI	Garni	3.54	355	eP	Pn	17 13 55.6	+2.1
IRAZ	Razeghan	4.04	106	Pn	Pn	17 14 06.7	+6.1
ASAO	Ashtian	4.46	116	ePN	Pn	17 14 09.1	+2.5
ASAO				eSG	Sg	17 15 14.2	-12
THKV	Tehran--Karaj	4.66	97	ePN	Pn	17 14 10.3	+0.9
PTK	Pertek	5.11	298	ePN	Pn	17 14 15.5	-0.3
URFA	Urfa	5.15	281	ePN	Pn	17 14 14.1	-2.2
IAFJ	Afjeh	5.34	96	Pn	Pn	17 14 20.1	+1.1
IAFJ				Lg		17 15 43.7	
DAMV	Damavand	5.59	98	ePn	Pn	17 14 22.8	+0.2
DAMV				AML	AML	17 16 07.6	
	comp=N,7.0nm,0.5s						
MALT	Malatya	5.63	290	P	Pn	17 14 21.8	-1.2
	comp=N,9.5nm,0.6s						
MALT				eS		17 15 56.8	
MALT	Malatya	5.63	290	P	Pn	17 14 21.8	-1.2
	comp=N,9.5nm,0.6s						
MALT	Malatya	5.63	290	P	Pn	17 14 21.8	-1.2
MALT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
IDMV	Damavand	5.65	99	Pn	Pn	17 14 24.6	+1.2
IFIR	Firoozkooh	6.21	97	Pn	Pn	17 14 31.7	+0.4
ISP	Isparta	11.76	280	ePN	P	17 15 55.5	+7.5
ISP	Isparta	11.76	280	eP	P	17 15 48.0	0.0
	comp=Z,20nm,0.7s						
ISP	Isparta	11.76	280	eP	P	17 15 48.1	+0.1
ISP				pmax	pmax		
	comp=Z,20nm,0.7s						
MLR	Muntele Rosu	16.96	307	P	P	17 16 55.0	-1.2
	comp=Z,0.3nm,0.3s,baz=135,slow=8.3,SNR=6.6						
GERES	GERESS Array B	25.95	308	P	P	17 18 29.3	-2.1
	comp=Z,0.3nm,0.5s,mb3.0,baz=112,slow=7.2,SNR=5.6						
MKAR	Makanchi Array	29.27	58	P	P	17 19 00.8	-0.8
	comp=Z,0.2nm,0.6s,mb3.0,baz=270,slow=7.2,SNR=3.7						
ARCES	ARCESS Array B	34.67	348	P	P	17 19 47.0	-1.7
	comp=Z,1.8nm,0.8s,mb4.0,baz=153,slow=10,SNR=5.8						

*NEIC **04** 17:34:13.4, 16.45N×100.41W, h20^{km}, MD3.8(MEX), After MEX.*
MEX 04 17:34:13.5±0.9, **16.45N**×**100.40W**, **h20**^{km}±83^{km}, **MD3.8**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.61	12	eP	Pb	17 34 23.2	-2.1
CAIG				eS	Sb	17 34 30.9	-2.5
ACX	Acapulco	0.62	48	i P	Pb	17 34 23.5	-2.1
ACX				i S	Sb	17 34 31.0	-2.9
PLIG	Platanillo	2.12	24	i P	Pn	17 34 45.8	-2.6
PLIG				i S	Sn	17 35 09.8	-4.6
YAIG	Yautepec	2.72	28	eP	Pn	17 34 55.4	-1.6
YAIG				i S	Sn	17 35 25.6	-4.1
PPM	Popocatepetl	3.10	33	eP	Pn	17 35 09.0	+6.4
MOIG	Morelia	3.30	347	i S	Sn	17 35 38.2	-6.1

*IDC **04** 17:44:27.5±0.9, 49.73S×125.36E, mb4.2/7, mb1 4.4/8, mb1mx4.3/13, mbtmp4.3/8, ML2.2/1, MS3.8/1, Ms1 3.8/1, ms1mx3.3/12, Error ellipse: s-maj=36.9km s-min=17.4km az=103.0*
*NEIC **04** 17:44:29.1±0.4, 49.78S×125.54E, h10^{km}, mb4.5/11, Error ellipse: s-maj=18.1km s-min=7.5km az=100.0*
ISC 04 17:44:26.8±0.5, **49.75S**±0.06×**125.5E**±0.2, **h10**^{km}, **n36**, σ**0^{s}95**/34, **mb4.6**/15, **MS3.7**/1, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.89	337	P	P	17 48 36.4	-0.8
	0.4nm,0.3s,baz=168,slow=9.1,SNR=6.1						
NWAO	Narrogin (SRO)	17.89	337	eP	P	17 48 39.3	+2.0
	16nm,0.8s						
CASY	Casey	18.28	199	eP	P	17 48 41.0	-0.9
	15nm,1.4s						
FORT	Forrest	19.05	7	eP	P	17 48 51.1	-0.4
	35nm,0.8s						
STKA	Stephens Creek	21.54	40	eP	P	17 49 18.6	+0.4
	7.7nm,0.9s,mb4.1						
STKA	Stephens Creek	21.54	40	P	P	17 49 18.7	+0.5
	6.2nm,1.1s,mb4.0,baz=190,slow=11,SNR=9.0						
WRA	Warramunga Arr	30.57	17	P	P	17 50 42.0	-0.7
	1.8nm,0.8s,mb4.0,baz=194,slow=8.1,SNR=12						
WB2	Warramunga Arr	30.57	17	eP	P	17 50 42.7	-0.1
WRAB	Tennant Creek	30.58	17	eP	P	17 50 41.0	-1.9
	10nm,1.0s,mb4.6						
VNDA	Vanda	31.08	166	P	P	17 50 47.1	+0.3
	5.7nm,0.8s,mb4.5,baz=313,slow=8.8,SNR=36						
VNDA				LR	LR	18 01 42.6	
	comp=Z,164nm,19.3s,MS3.7,baz=321,slow=33						
VNDA	Vanda	31.08	166	eP	P	17 50 46.8	0.0
	12nm,0.9s,mb4.7						
VNDA				LR	LR	18 01 42.6	
FITZ	Fitzroy Crossi	31.57	0	eP	P	17 50 52.8	+1.2
	8.4nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	31.57	0	P	P	17 50 51.3	-0.3
	9.7nm,0.8s,mb4.7,baz=182,slow=8.5,SNR=6.2						
SBA	Scott Base	32.11	165	P	P	17 50 56.1	+0.4
	8.8nm,0.9s,mb4.6						
CTA	Charters Tower	33.91	37	eP	P	17 51 13.2	+1.2
	5.8nm,0.9s,mb4.5						
CTA	Charters Tower	33.91	37	P	P	17 51 12.8	+0.9
	6.6nm,0.9s,mb4.5,baz=201,slow=12,SNR=7.1						
CTAO	Charters Tower	33.91	37	eP	P	17 51 13.0	+1.0
	8.4nm,0.9s,mb4.7						
SNAA	Sanae	53.51	198		P	17 53 48.9	-0.1
SNAA	Sanae	53.51	198		P	17 53 54.9	+5.9
SNAA	Sanae	53.51	198		P	17 54 02.3	+13
SNAA	Sanae	53.51	198	P	P	17 53 48.5	-0.5
	1.8nm,1.0s,mb3.9,baz=141,slow=8.4,SNR=14						
VNA2	Neumayer--Watz	55.00	197		P	17 54 00.1	+0.2
VNA2	Neumayer--Watz	55.00	197		P	17 54 06.8	+6.9
VNA2	Neumayer--Watz	55.00	197		P	17 54 13.9	+14
VNA3	Neumayer Olymp	55.16	196		P	17 54 01.1	0.0
VNA3	Neumayer Olymp	55.16	196		P	17 54 07.6	+6.5
VNA3	Neumayer Olymp	55.16	196		P	17 54 14.4	+13
KMI	Kunming	77.23	339	P	P	17 56 24.4	+1.8
	4.0nm,1.6s,mb4.1						
PKI	Pulchoki	84.82	325	eP	P	17 57 02.7	+0.1
	38nm,1.3s,mb5.3						
DMN	Daman	84.97	325	eP	P	17 57 03.2	-0.1
	31nm,1.4s,mb5.2						
KKN	Kakani	85.06	325	eP	P	17 57 02.9	-0.9
	18nm,0.9s,mb5.2						
GKN	Gorkha	85.50	325	eP	P	17 57 05.6	-0.4
	18nm,0.9s,mb5.2						
KOLN	Koldanda	85.68	324	eP	P	17 57 05.8	-1.1
	15nm,0.9s,mb5.2						
KMBO	Kilima Mbogo	88.00	271	P	P	17 57 20.3	+1.8
	0.9nm,0.7s,mb4.1,baz=52,slow=19,SNR=3.4						
YKA	Yellowknife Ar	145.51	45	PKPbc	PKPbc	18 04 06.0	+1.5
	0.7nm,0.7s,baz=275,slow=3.0,SNR=3.7						
YKA	Yellowknife Ar	145.51	45	PKPbc	PKPbc	18 04 06.0	+1.5

*IDC **04** 18:05:38.7±2.0, 33.02N×142.66E, mb3.4/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=49.3km s-min=26.9km az=72.0*
*JMA **04** 18:05:43.0±0.3, 33.15N×142.51E, h77^{km}, M3.4*
ISC 04 18:05:42.2±1.3, **33.13N**±0.06×**142.56E**±0.08, **h36**^{km}±15^{km}, **n16**, σ**0^{s}85**/24, **mb3.4**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.01	320	P	P	18 06 14.9	+0.5
BSO1				S	S	18 06 39.3	+0.8
JHJ2	Mitsune	2.30	270	P	P	18 06 19.1	+0.5
JHJ2				S	S	18 06 46.2	+0.2
JHJ	Hachijo jima 2	2.33	270	Pn	P	18 06 18.5	-0.5
	19nm,0.3s,baz=253,slow=19,SNR=3.2						
JHJ				Sn	S	18 06 46.1	-0.6
	56nm,0.3s,baz=90,slow=20,SNR=5.2						
BSO3	Boso 3	2.38	315	P	P	18 06 20.2	+0.4
BSO3				S	S	18 06 48.0	0.0
BSO4	Boso 4	2.62	316	P	P	18 06 24.0	+0.9
JOD2	Odawara 2	3.58	307	P	P	18 06 36.4	-0.4
JOD2				S	S	18 07 17.3	-1.1
JYN	Shimob	4.08	306	P	P	18 06 44.0	+0.2
JYN				S	S	18 07 30.9	-0.1
JAG	Ashikaga	4.17	323	P	P	18 06 44.8	-0.3
JAG				S	S	18 07 32.1	-1.1
JRY	Ryogami san	4.17	315	P	P	18 06 45.4	+0.2
JRY				S	S	18 07 33.4	0.0
JMM	Marumori	4.94	344	P	P	18 06 56.8	+0.7
MAT	Matsushiro	4.94	315	P	P	18 06 56.9	+0.8
JMK	Ichinoseki	5.91	350	P	P	18 07 08.7	-0.9
ASAJ	Asahikawa	10.97	0	Pn	P	18 08 16.8	-3.0
	0.5nm,0.3s,baz=237,slow=20,SNR=7.4						
SONM	Songino Array	30.87	309	P	P	18 11 58.6	+1.4
	0.2nm,0.6s,mb3.1,baz=98,slow=10,SNR=2.8						
MKAR	Makanchi Array	47.07	305	P	P	18 14 13.2	+1.2
	0.3nm,0.6s,mb3.4,baz=90,slow=9.7,SNR=4.4						
WRA	Warramunga Arr	53.35	190	P	P	18 14 59.0	-1.5
	0.4nm,0.5s,mb3.6,baz=5.6,slow=7.5,SNR=11						

*IDC **04** 18:06:33.7±3.0, 7.61N×74.10W, h96^{km}±19^{km}, mb3.7/3, mb1 3.8/5, mb1mx3.4/22, mbtmp4.1/5, Error ellipse: s-maj=40.0km s-min=10.0km az=128.0*
*NEIC **04** 18:06:35.4±1.8, 7.46N×73.96W, h112^{km}±12^{km}, mb3.7/3, Error ellipse: s-maj=33.0km s-min=14.9km az=123.0*
ISC 04 18:06:34.4±3.3, **7.5N**±0.2×**74.0W**±0.3, **h121**^{km}±13^{km}, **n10**, σ**1^{s}10**/13, **mb3.9**/3, **1C**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.68	188	P	P	18 07 16.8	-0.5
	24nm,0.3s,baz=66,slow=3.1,SNR=60						
ROSC				S	S	18 07 50.2	+0.4
	33nm,0.3s,baz=237,slow=21,SNR=16						
SDV	Santo Domingo	3.56	67	P	P	18 07 29.7	+0.6
	20nm,0.3s,baz=283,slow=5.8,SNR=44						
SDV				S	S	18 08 10.3	-0.4
	71nm,0.3s,baz=70,slow=17,SNR=5.7						
SDV	Santo Domingo	3.56	67	⇑ ePn	P	18 07 29.6	+0.5
SDV				S	S	18 08 10.3	-0.4
SDV				eS	S	18 08 10.5	-0.3
SAML	Samuel	19.57	147	eP	P	18 10 53.9	-1.4
	2.0nm,0.6s						
LPAZ	La Paz	24.35	166	P	P	18 11 43.1	+0.6
	0.6nm,0.3s,mb3.3,baz=329,slow=6.5,SNR=3.7						
LPAZ	La Paz	24.35	166	eP	P	18 11 43.9	+1.4
	0.6nm,0.4s,mb3.3						
BDFB	Brasilia	34.50	132	P	P	18 13 16.3	+3.3
	4.5nm,1.0s,mb4.2,baz=321,slow=13,SNR=3.4						
PLCA	Paso Flores	48.12	177	P	P	18 15 03.1	-0.9
	2.1nm,0.7s,mb4.0,baz=351,slow=9.8,SNR=5.6						
PLCA	Paso Flores	48.12	177	eP	P	18 15 03.1	-0.9
	4.7nm,1.0s,mb4.3						
WRA	Warramunga Arr	149.93	243	PKPbc	PKPdf	18 26 13.5	+7.3
	0.8nm,0.5s,baz=108,slow=2.5,SNR=16						

*ISK **04** 18:14:35.5, 38.61N×25.38E, h40^{km}, MD3.3*
*ATH **04** 18:14:37.7, 38.77N×25.56E, h41^{km}±1^{km}, MD3.4/10, ML3.4*
*THE **04** 18:14:37.3, 38.62N×25.65E, h20^{km}, ML3.6*
*NEIC **04** 18:14:37.8, 38.75N×25.59E, h38^{km}, MD3.5(ATH), After ATH.*
*CSEM **04** 18:14:37.7±0.1, 38.69N×25.63E, h40^{km}, ML3.4, Error ellipse: s-maj=2.3km s-min=1.4km az=16.0*
ISC 04 18:14:37.9±0.3, **38.76N**±0.03×**25.58E**±0.03, **h33**^{km}, **n47**, σ**0^{s}86**/57, **5C-1D**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.73	48	⇑ iP	P	18 14 52.5	+0.8
URLA	Izmir	0.89	116	i P	P	18 14 52.3	-1.7
URLA				i S	S	18 15 23.7	+18
BLCB	Balcova	1.21	108	PN	Pn	18 14 58.4	-0.3
BLCB				SN	Sn	18 15 14.8	+0.7
EZN	Ezine	1.21	28	PN	Pn	18 14 59.0	+0.2
LOS	Limnos	1.23	342	ePg	P	18 14 59.7	+0.9
IZM	Izmir	1.37	105	PN	Pn	18 15 00.9	-0.2
KDAG	Bornova	1.37	105	i P	P	18 15 00.0	-0.9
KDAG				i S	S	18 15 05.5	-13
AOS	Alonnisos	1.38	288	ePg	P	18 15 00.7	-0.4
AOS				eSg	S	18 15 18.7	+0.3
SMG	Samos	1.44	136	eP	P	18 15 03.0	+1.1
PTL	Penteli	1.52	243	eP	P	18 15 02.8	-0.2
MPAR	Parnis Oros	1.57	248	eP	P	18 15 04.5	+0.8
ATH	Athens Observa	1.66	242	eP	P	18 15 05.8	+0.8
APE	Apeiranthos	1.69	181	PN	Pn	18 15 01.5	-4.1
APE	Apeiranthos	1.69	181	ePn	Pn	18 15 05.0	-0.6
CANB	Canakkale	1.70	42	PN	Pn	18 15 07.1	+1.3
AKS	Akhisar	1.75	85	PN	Pn	18 15 06.7	+0.2
LPK	Lapseki	1.85	29	ePN	Pn	18 15 09.0	+1.0
NSAL	Nisos Salamina	1.87	244	eP	P	18 15 09.0	+1.0
PAIG	Paliouri	1.88	309	ePn	Pn	18 15 08.6	+0.3
PAIG				eSn	Sn	18 15 31.0	0.0
NEO	Neokhori	1.91	287	eP	P	18 15 09.0	+0.4
NEO	Neokhori	1.91	287	ePb	Pb	18 15 11.0	-1.0
NAIG	Nisos Aigina	1.92	239	eP	P	18 15 09.5	+0.7
NAIG	Nisos Aigina	1.92	239	ePn	Pn	18 15 10.0	+1.0
XOR	Xorichti	1.95	289	ePn	Pn	18 15 08.7	-0.7
XOR				eSn	Sn	18 15 32.0	-1.0
MGER	Gerania Oros	1.98	248	eP	P	18 15 10.5	+0.9
BALB	Balikesir	2.00	63	ePN	Pn	18 15 10.4	+0.4
OUR	Ouranopolis	2.00	322	ePn	Pn	18 15 09.5	-0.5
OUR				eSn	Sn	18 15 34.3	+0.2
AYDN	Tasoluk	2.12	120	i P	P	18 15 17.0	+5.4
AYDN				i S	S	18 15 44.4	+7.4
BTOK	Tokmak	2.15	62	i P	P	18 15 19.9	+7.8
BTOK				i S	S	18 15 50.8	+13
ALN	Alexandroupoli	2.17	9	ePn	Pn	18 15 12.5	0.0
ALN				eSn	Sn	18 15 37.6	-0.8
BODT	Bodrum	2.18	140	ePN	Pn	18 15 09.8	-2.9
RDO	Rodhopi	2.38	359	eP	P	18 15 16.0	+0.6
BNT	Bandirma	2.41	48	ePN	Pn	18 15 16.5	+0.5
AGG	Agios Georgios	2.55	277	ePn	Pn	18 15 16.4	-1.4
YER	Yerkesik	2.69	126	ePN	Pn	18 15 18.2	-1.7
SRS	Serrai	2.81	328	ePn	Pn	18 15 20.9	-0.7
RZN	Rozhen	3.00	348	P	P	18 15 24.2	0.0
KNT	Kendrikon	3.16	320	ePn	Pn	18 15 25.5	-1.1
MMB	Musomiste	3.16	334	P	P	18 15 25.5	-1.0
KKB	Krupnik	3.64	329	P	P	18 15 35.0	+1.7
PGB	Panagyurishte	3.94	345	eP	P	18 15 37.0	-0.5
VTS	Vitosha	4.23	336	P	P	18 15 42.2	+0.5
VOIR		6.69	357	⇑ iP	P	18 16 15.6	-0.7
VOIR		6.69	357	⇑ iP	P	18 16 15.6	-0.7
MLR	Muntele Rosu	6.73	2	⇓ iP	P	18 16 16.8	-0.1
MLR	Muntele Rosu	6.73	2	⇑ iP	P	18 16 16.8	-0.1
MLR	Muntele Rosu	6.73	2	⇑ iP	P	18 16 16.8	-0.1

*NEIC **04** 18:19:07.5±4.3, 29.98N×138.98E, h302^{km}±42^{km}, mb4.0/1, Error ellipse: s-maj=27.5km s-min=20.9km az=84.0*
*JMA **04** 18:19:14.7±0.2, 29.95N×139.61E, h437^{km}, M3.8*
*IDC **04** 18:19:16.8±1.8, 29.93N×138.84E, h401^{km}±20^{km}, mb3.1/7, mb1 3.3/8, mb1mx3.0/21, mbtmp3.9/8, Error ellipse: s-maj=28.4km s-min=15.0km az=78.0*
ISC 04 18:19:14.9±0.6, **29.93N**±0.06×**139.2E**±0.2, **h409**^{km}±9^{km}, **n24**, σ**1^{s}18**/32, **mb3.3**/7, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.22	9	P	P	18 20 22.6	+1.6
JHJ	Hachijo jima 2	3.22	9	P	P	18 20 22.8	+1.7
	32nm,0.3s,baz=90,slow=20,SNR=5.8						
CBIJ	Chichi jima	3.86	136	P	P	18 20 26.8	+0.1
CBIJ				S	S	18 21 20.3	-2.8
JHHJ	Haha-jima-NKT	4.21	141	P	P	18 20 29.0	-1.1
JHHJ				S	S	18 21 29.2	+0.1
BSO1	Boso 1	4.95	17	P	P	18 20 38.4	+0.9
BSO1				S	S	18 21 42.6	+0.4
BSO3	Boso 3	4.99	13	P	P	18 20 38.9	+1.1
BSO3				S	S	18 21 43.4	+0.6
BSO4	Boso 4	5.14	11	S	S	18 21 46.6	+0.9
JOD2	Odawara 2	5.32	359	P	P	18 20 42.4	+1.1
JHU	Hanno	5.91	1	P	P	18 20 47.4	-0.1
JHU				S	S	18 21 59.2	-1.0
JRY	Ryogami san	6.08	358	P	P	18 20 50.1	+0.8
JRY				S	S	18 22 03.6	0.0
JYT	Yasato	6.34	7	P	P	18 20 51.3	-0.9
JYT				S	S	18 22 05.7	-3.1
JAG	Ashikaga	6.48	2	P	P	18 20 53.1	-0.7
JAG				S	S	18 22 09.3	-2.4
JHO	Hitachi	6.76	9	P	P	18 20 57.1	+0.2
JHO				S	S	18 22 15.4	-2.0
JFK	Kawauchi	7.55	10	P	P	18 21 05.8	0.0
JMK	Ichinoseki	9.15	10	P	P	18 21 25.4	+1.3
YSS	Yuzh-Sakhalins	17.22	8	eP	P	18 22 48.2	-3.4
	2.9nm,0.5s						
SONM	Songino Array	30.86	315	P	P	18 24 54.1	-2.6
	0.4nm,0.4s,mb3.1,baz=121,slow=8.9,SNR=6.1						
MKAR	Makanchi Array	46.66	308	P	P	18 27 06.2	+0.1
	0.2nm,0.3s,mb2.9,baz=86,slow=9.2,SNR=8.6						
WRA	Warramunga Arr	49.80	186	P	P	18 27 30.3	+0.1
	1.2nm,0.2s,mb3.8,baz=0.8,slow=7.8,SNR=92						
WRA				PcP	PcP	18 28 45.3	+1.1
	0.1nm,0.6s,baz=359,slow=3.9,SNR=4.6						
BVAR	Borovoye Array	54.19	316	P	P	18 28 01.6	-0.3
	1.0nm,0.5s,mb3.4,baz=97,slow=7.1,SNR=9.4						
INK	Inuvik	61.57	25	P	P	18 28 53.5	+1.5
	1.0nm,0.9s,mb3.4,baz=270,slow=13,SNR=2.2						
ARCES	ARCESS Array B	70.00	340	P	P	18 29 44.2	-0.5
	2.1nm,0.9s,mb3.6,baz=74,slow=8.8,SNR=4.1						
FINES	FINESS Array B	74.25	333	P	P	18 30 10.1	+0.7
	0.3nm,0.4s,mb3.3,baz=63,slow=3.1,SNR=5.7						
LPAZ	La Paz	151.52	68	eP	PKPdf	18 38 21.5	+6.5

*IDC **04** 19:06:08.3±0.8, 12.93N×92.41E, mb4.1/16, mb1 4.2/16, mb1mx4.1/22, mbtmp4.1/16, Error ellipse: s-maj=37.5km s-min=14.6km az=52.0*
*MOS **04** 19:06:10.7±0.8, 12.86N×92.35E, h30km, mb4.5/4, Error ellipse: s-maj=25.1km s-min=10.4km az=107.2*
*NEIC **04** 19:06:14.7±3.1, 13.01N×92.53E, h43km±27km, mb4.2/4, Error ellipse: s-maj=19.0km s-min=7.6km az=51.0*
ISC 04 19:06:13.6±1.6**, 12.94N**±0.09×**92.4E**±0.1**, h53**km±15km**, n41, σ0.s76**/41**, mb4.1**/22**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**9.94**	**300**	*e*P	**P**	**19 08 34.3**	**-2.2**
VIS				*e*S	**S**	**19 10 13.8**	**-14**
VIS				AML	AML	19 10 17.5	
	comp=N,111nm,0.6s						
VIS				AML	AML	19 10 18.8	
	comp=Z,86nm,0.6s						
KULM	**Kulim**	**11.15**	**132**	*e*P	**P**	**19 08 54.3**	**+1.3**
PALK	**Pallekele**	**12.80**	**245**	*e*P	**P**	**19 09 07.7**	**-7.4**
BLSP	**Bilaspur**	**13.37**	**314**	*e*P	**P**	**19 09 28.1**	**+5.5**
BLSP				*e*S	**S**	**19 11 37.2**	**-13**
BLSP				AML	AML	19 11 57.9	
	comp=E,22nm,0.2s						
BLSP				AML	AML	19 11 59.7	
	comp=N,21nm,0.3s						
PKI	**Pulchoki**	**15.95**	**337**	*e*P	**P**	**19 09 56.9**	**+0.8**
	comp=N,13nm,0.8s						
DMN	**Daman**	**16.10**	**336**	*e*P	**P**	**19 09 57.8**	**-0.2**
	comp=N,14nm,0.6s						
KKN	**Kakani**	**16.20**	**337**	*e*P	**P**	**19 09 59.7**	**+0.5**
GKN	**Gorkha**	**16.64**	**335**	*e*P	**P**	**19 10 05.3**	**+0.6**
LSA	**Lhasa**	**16.72**	**356**	*e*P	**P**	**19 10 05.5**	**-0.2**
	comp=N,3.2nm,0.6s						
LSA	**Lhasa**	**16.72**	**356**	*e*P	**P**	**19 10 05.5**	**-0.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KOLN	**Koldanda**	**16.88**	**332**	*e*P	**P**	**19 10 07.8**	**0.0**
	comp=Z,21nm,0.7s						
KOLN				*e*S	**S**	**19 13 02.1**	**-10**
BHPL	**Bhopal**	**17.51**	**308**	*e*S	**S**	**19 13 35.8**	**+9.2**
BHPL				AMb	AMB	19 13 38.1	
	comp=N,5.2nm,0.5s						
KAD	**Karad**	**18.09**	**286**	*e*x	x	19 13 28.1	
KAD				*i* x	x	19 13 41.9	
POO	**Poona**	**18.68**	**290**	*e*x	x	19 13 24.9	
ENH	**Enshi**	**23.40**	**40**	*e*P	**P**	**19 11 18.0**	**-0.6**
	comp=N,11nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**34.80**	**348**	P	**P**	**19 13 01.2**	**0.0**
	comp=N,3.6nm,0.8s,mb4.4,baz=164,slow=8.7,SNR=34						
SONM	**Songino Array**	**36.70**	**16**	P	**P**	**19 13 17.5**	**+0.2**
	comp=N,1.6nm,0.7s,mb4.0,baz=203,slow=7.8,SNR=14						
ULN	**Ulaanbaatar**	**36.91**	**16**	*e*P	**P**	**19 13 18.4**	**-0.6**
ZAK	**Zakamensk**	**38.39**	**11**	*e*P	**P**	**19 13 28.0**	**-3.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
KURK	**Kurchatov**	**39.31**	**346**	*e*P	**P**	**19 13 38.8**	**-0.2**
	comp=Z,4.3nm,1.0s,mb4.1						
KURK	**Kurchatov**	**39.31**	**346**	*e*P	**P**	**19 13 38.8**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**41.34**	**353**	P	**P**	**19 13 56.2**	**+0.5**
	comp=Z,2.0nm,0.9s,mb3.7,baz=304,slow=6.6,SNR=8.0						
BVAR	**Borovoye Array**	**43.66**	**341**	P	**P**	**19 14 15.1**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.7,baz=124,slow=11,SNR=6.1						
FITZ	**Fitzroy Crossi**	**45.03**	**133**	P	**P**	**19 14 25.6**	**-0.6**
	comp=Z,4.1nm,0.5s,mb4.6,baz=165,slow=18,SNR=13						
BOD	**Bodaibo**	**47.70**	**15**	*e*P	**P**	**19 14 46.3**	**-0.4**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
KIV	**Kislovodsk**	**52.46**	**316**	*e*P	**P**	**19 15 23.4**	**+0.2**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**52.66**	**128**	P	**P**	**19 15 24.3**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=310,slow=7.7,SNR=24						
WRA				PcP	PcP	19 16 35.2	+0.8
	comp=Z,0.2nm,0.6s,baz=311,slow=3.2,SNR=5.6						
WRAB	**Tennant Creek**	**52.66**	**128**	*e*P	**P**	**19 15 24.9**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**52.66**	**128**	*e*P	**P**	**19 15 24.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**57.87**	**309**	P	**P**	**19 16 02.2**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=112,slow=6.7,SNR=6.7						
AKASG	**Malin Array Be**	**63.15**	**321**	P	**P**	**19 16 37.2**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.9,baz=80,slow=5.6,SNR=5.5						
MLR	**Muntele Rosu**	**64.39**	**314**	P	**P**	**19 16 48.1**	**+1.7**
	comp=Z,2.4nm,0.8s,mb4.3,baz=116,slow=3.0,SNR=6.3						
STKA	**Stephens Creek**	**64.86**	**135**	P	**P**	**19 16 49.7**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=284,slow=8.3,SNR=3.1						
FINES	**FINESS Array B**	**67.45**	**332**	P	**P**	**19 17 05.5**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=7.6,SNR=8.0						
ARCES	**ARCESS Array B**	**69.94**	**340**	P	**P**	**19 17 21.5**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=117,slow=8.1,SNR=4.6						
GERES	**GERESS Array B**	**72.93**	**317**	P	**P**	**19 17 40.2**	**+1.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=11						
HFS	**Hagfors**	**73.24**	**329**	P	**P**	**19 17 41.1**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=124,slow=5.3,SNR=5.3						
NB2	**NORSAR Subarra**	**74.50**	**330**	P	**P**	**19 17 48.1**	**+0.1**
	comp=Z,1.6nm,0.7s,mb4.1,baz=90,slow=5.6						
NOA	**NORSAR Array B**	**74.50**	**330**	P	**P**	**19 17 48.2**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=89,slow=5.7,SNR=5.1						
ILAR	**Eielson Array**	**90.72**	**22**	P	**P**	**19 19 11.5**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.9,baz=303,slow=4.6,SNR=5.0						
PPT	**Papeete**	**120.27**	**103**	*e*LR	LR	19 24 26.6	
	comp=Z,81nm,25.0s						

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*BJI **04** 19:12:50.1, 20.70S×178.50W, h581km, mB4.8, mb4.3*
*NEIC **04** 19:12:51.1±2.0, 20.73S×178.48W, h581km±23km, mb4.2/13, Error ellipse: s-maj=16.4km s-min=14.2km az=144.0*
*IDC **04** 19:12:51.3±1.8, 20.91S×178.40W, h588km±19km, mb3.7/13, mb1 3.8/15, mb1mx3.7/19, mbtmp4.6/15, Error ellipse: s-maj=21.8km s-min=12.1km az=153.0*
ISC 04 19:12:42.9±1.4**, 20.67S**±0.10×**178.37W**±0.09**, h491**km±17km**, n66, σ0.s96**/36**, mb4.0**/23**, 2C-9D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.21**	**44**	P	**P**	**19 14 46.4**	**-6.7**
AFI				*e*S	**S**	**19 16 36.0**	**-0.7**
DZM	**Mont Dzumac**	**14.21**	**262**	P	**P**	**19 15 51.0**	**+5.3**
	1.0nm,0.3s,baz=116,slow=15,SNR=9.0						
URZ	**Urewera**	**17.96**	**192**	P	**P**	**19 16 23.5**	**+0.5**
	1.9nm,0.3s,baz=30,slow=1.9,SNR=6.6						
CTA	**Charters Tower**	**33.13**	**265**	⇓*i*P	**P**	**19 18 40.4**	**+1.6**
	8.2nm,0.4s,mb4.5						
CTA	**Charters Tower**	**33.13**	**265**	P	**P**	**19 18 40.2**	**+1.4**
	11nm,0.4s,mb4.6,baz=93,slow=11,SNR=21						
CTAO	**Charters Tower**	**33.13**	**265**	*e*P	**P**	**19 18 40.3**	**+1.5**
	6.6nm,0.6s,mb4.2						
PMG	**Port Moresby**	**35.04**	**283**	P	**P**	**19 18 56.5**	**+1.5**
	13nm,0.8s,mb4.4,baz=217,slow=2.2,SNR=6.5						
PMG	**Port Moresby**	**35.04**	**283**	*e*P	**P**	**19 18 56.4**	**+1.4**
	26nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**37.40**	**244**	⇓*i*P	**P**	**19 19 15.7**	**+1.4**
	3.1nm,1.1s,mb3.6						
STKA	**Stephens Creek**	**37.40**	**244**	P	**P**	**19 19 15.8**	**+1.5**
	2.9nm,0.6s,mb3.9,baz=82,slow=10,SNR=16						
WB2	**Warramunga Arr**	**44.22**	**262**	⇓*i*P	**P**	**19 20 08.9**	**-0.3**
WRAB	**Tennant Creek**	**44.22**	**262**	*e*P	**P**	**19 20 09.0**	**-0.3**
	25nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**44.23**	**262**	P	**P**	**19 20 08.9**	**-0.4**
	4.6nm,0.3s,mb4.4,baz=97,slow=7.6,SNR=532						
WRA				PcP	PcP	19 21 40.2	-3.7
	2.6nm,1.0s,baz=98,slow=5.4,SNR=4.6						
WRA				S	**S**	**19 25 59.8**	**-7.0**
	1.5nm,1.0s,baz=97,slow=13,SNR=6.2						
FORT	**Forrest**	**48.91**	**247**	*e*P	**P**	**19 20 44.1**	**-0.9**
	7.5nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.66**	**263**	⇓*i*P	**P**	**19 21 12.0**	**-0.7**
	5.0nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.66**	**263**	P	**P**	**19 21 12.2**	**-0.5**
	7.5nm,0.3s,mb4.5,baz=124,slow=2.1,SNR=35						
MBWA	**Marble Bar**	**57.48**	**258**	*e*P	**P**	**19 21 44.9**	**-1.4**
	4.3nm,0.6s,mb4.0						
KLBR	**Kellerberrin**	**57.67**	**245**	*e*P	**P**	**19 21 46.3**	**-1.2**
	17nm,0.9s,mb4.4						
SBA	**Scott Base**	**57.68**	**184**	*e*P	**P**	**19 21 48.2**	**+1.2**
	0.9nm,0.6s,mb3.3						
VNDA	**Vanda**	**57.71**	**185**	*e*P	**P**	**19 21 47.6**	**+0.4**
NWAO	**Narrogin (SRO)**	**57.98**	**243**	P	**P**	**19 21 48.9**	**-0.8**
	10nm,1.0s,mb4.1,baz=135,slow=10.0,SNR=4.3						
MUN	**Mundaring**	**58.94**	**244**	*e*P	**P**	**19 21 55.6**	**-0.4**
ASAJ	**Asahikawa**	**73.71**	**332**	P	**P**	**19 23 28.1**	**+0.7**
	10nm,0.8s,mb4.4,baz=211,slow=9.7,SNR=9.3						
MDJ	**Mudanjiang**	**80.46**	**325**	P	**P**	**19 24 03.4**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,137nm,6.2s						
YBH	**Yreka Blue Hor**	**80.64**	**39**	P	**P**	**19 24 05.9**	**+1.0**
	comp=Z,2.4nm,0.7s,mb3.8,baz=161,slow=2.4,SNR=6.9						
HUMO	**Hull Mountain**	**81.04**	**38**	*e*P	**P**	**19 24 07.7**	**+0.8**
	comp=Z,5.6nm,1.3s,mb3.9						
MAW	**Mawson**	**81.29**	**200**	P	**P**	**19 24 05.3**	**-2.4**
	comp=Z,0.2nm,0.3s,mb3.2,baz=47,slow=7.3,SNR=3.7						
HLID	**Hailey**	**86.68**	**41**	*e*P	**P**	**19 24 35.1**	**+0.4**
	comp=Z,1.9nm,1.0s,mb3.8						
TXAR	**Lajitas Array**	**87.44**	**57**	P	**P**	**19 24 39.3**	**+0.7**
	comp=Z,1.4nm,0.8s,mb3.7,baz=218,slow=6.8,SNR=15						
ILAR	**Eielson Array**	**88.56**	**13**	P	**P**	**19 24 41.3**	**-1.7**
	comp=Z,2.4nm,0.8s,mb4.0,baz=222,slow=5.2,SNR=16						
KMI	**Kunming**	**89.12**	**297**	P	**P**	**19 24 47.6**	**+1.0**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.3						
BW06	**Boulder Array**	**89.32**	**43**	*e*P	**P**	**19 24 46.7**	**-0.5**
	comp=Z,1.3nm,1.0s,mb3.7						
PDAR	**Pinedale Array**	**89.32**	**43**	P	**P**	**19 24 46.9**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=217,slow=2.3,SNR=15						
SONM	**Songino Array**	**95.65**	**319**	P	**P**	**19 25 16.4**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.6,baz=133,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**111.06**	**313**	PKiKP		19 30 17.8	
	comp=Z,0.3nm,0.4s,baz=186,slow=0.8,SNR=11						
BVAR	**Borovoye Array**	**118.98**	**320**	PKP	PKPdf	19 30 32.9	-1.8
	comp=Z,1.2nm,0.3s,baz=121,slow=2.6,SNR=21						
ARCES	**ARCESS Array B**	**129.03**	**349**	PKP	PKPdf	19 30 52.4	-1.4
	comp=Z,1.0nm,0.6s,baz=94,slow=1.6,SNR=13						
FINES	**FINESS Array B**	**135.84**	**343**	PKhKP		19 30 53.6	
	comp=Z,1.3nm,0.9s,baz=27,slow=4.3,SNR=4.5						
FINES				PKP	PKPdf	19 31 06.2	-0.4
	comp=Z,0.7nm,0.6s,baz=93,slow=4.0,SNR=7.7						
AKASG	**Malin Array Be**	**142.99**	**331**	PKP	PKPdf	19 31 16.0	-3.5
	comp=Z,9.6nm,0.7s,baz=40,slow=4.8,SNR=17						
AKASG				SKPbc		19 34 04.5	
	comp=Z,0.5nm,0.6s,baz=55,slow=1.6,SNR=4.8						
MALT	**Malatya**	**143.76**	**307**	*e*PKP	PKPdf	19 31 20.6	-0.6
MUD	**Monsted U'grnd**	**143.83**	**353**	⇑*i*P	PKPbc	19 31 19.6	-0.7
	comp=Z,22nm,1.0s						
BSD	**Bornholm Skovb**	**144.18**	**347**	*i* P	PKPbc	19 31 19.1	-2.3
	comp=Z,22nm,0.9s						
BR131	**Keskin Array S**	**146.69**	**312**	*e*P	PKPdf	19 31 27.7	+1.4
BRTR	**Keskin Array B**	**146.69**	**312**	PKPbc	PKPbc	19 31 27.9	-0.4
	comp=Z,3.0nm,0.7s,baz=136,slow=5.3,SNR=12						
BURAR	**Bucovina Array**	**147.04**	**330**	⇓*i*P	PKPdf	19 31 30.2	+3.6
OJC	**Ojcow**	**147.19**	**338**	*e*PKP	PKPdf	19 31 29.5	+2.8
CFR	**Carcaliu**	**147.22**	**324**	⇓*i*P	PKPdf	19 31 29.0	+2.1
STHS	**Stebnicka Huta**	**147.33**	**336**	*e*PKP	PKPdf	19 31 30.7	+3.7
STHS				*e*		19 31 34.4	
VRI	**Vrincioaia**	**147.52**	**326**	⇑*i*P	PKPdf	19 31 30.9	+3.5
UPC	**Upice**	**148.13**	**343**	*e*PKPbc	PKPdf	19 31 31.8	+3.6
UPC				*e*PKPab	PKPab	19 31 37.5	-1.7
CLL	**Collm**	**148.15**	**346**	⇓*i*PKP1	PKPdf	19 31 32.0	+3.8
CLL				*i* PKP2	PKPab	19 31 36.3	-2.9
DPC	**Dobruska-Polom**	**148.18**	**342**	*e*PKPbc	PKPdf	19 31 28.8	+0.5
BRG	**Berggiesshubel**	**148.34**	**345**	*i* P	PKPdf	19 31 32.7	+4.2
BRG				*e*		19 31 37.9	
KECS	**Kecovo**	**148.38**	**336**	*e*PKP	PKPdf	19 31 33.2	+4.5
KECS				*e*		19 31 38.1	
PVCC	**Panska Ves**	**148.50**	**344**	*e*PKPbc	PKPdf	19 31 32.8	+4.0
DRGR		**148.79**	**332**	⇓*i*P	PKPdf	19 31 32.6	+3.2
VYHS	**Vyhne**	**148.99**	**338**	*e*PKP	PKPdf	19 31 34.1	+4.5
VYHS				*e*		19 31 41.3	
PRU	**Pruhonice**	**149.00**	**344**	*e*PKPbc	PKPdf	19 31 33.6	+4.0
MOX	**Moxa**	**149.07**	**348**	*e*PKP	PKPdf	19 31 34.4	+4.7
NKC	**Novy Kostel**	**149.28**	**346**	*e*PKPbc	PKPdf	19 31 34.6	+4.5
NKC				*e*PKPab	PKPab	19 31 41.3	-2.6
SMOL	**Smolenice**	**149.46**	**339**	*e*	PKPdf	19 31 33.2	+2.8
SMOL	**Smolenice**	**149.46**	**339**	*e*PKP	PKPdf	19 31 36.1	+5.7
KHC	**Kasperske Hory**	**150.04**	**344**	*e*PKPbc	PKPdf	19 31 36.7	+5.4
KHC				*e*PKPab	PKPab	19 31 45.0	-2.0
GERES	**GERESS Array B**	**150.27**	**344**	PKPbc	PKPdf	19 31 36.9	+5.2
	comp=Z,3.1nm,0.8s,baz=45,slow=1.9,SNR=26						
GERES				PKPab	PKPab	19 31 46.1	-1.9
	comp=Z,0.7nm,0.7s,baz=333,slow=3.0,SNR=4.7						
WTTA	**Wattenberg**	**152.25**	**345**	⇓*i*P	PKPdf	19 31 41.5	+6.9
ESDC	**Sonseca Array**	**160.46**	**13**	PKPab	PKPab	19 32 29.9	-1.8
	comp=Z,0.9nm,0.8s,baz=330,slow=5.5,SNR=5.3						

WEL 04 19:39:57.0±0.8**, 36.36S**×**178.08E, h155**km±6km**, ML4.4**/8**, 1C, Error ellipse: s-maj=5.4km s-min=4.5km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.22**	**172**	PN	P	19 40 24.0	-0.3
MXZ				SN	S	19 40 44.6	-0.9
PUZ	**Puketiti**	**1.72**	**175**	PN	P	19 40 29.4	-0.1
PUZ				SN	S	19 40 53.1	-1.6
KUZ	**Kuaotunu**	**1.94**	**258**	⇑PN	P	19 40 31.6	-0.4
MWZ	**Matawai**	**2.02**	**193**	PN	P	19 40 33.0	+0.1
EDRZ	**Edgecumbe**	**2.05**	**211**	PN	P	19 40 34.1	+0.8
URZ	**Urewera**	**2.05**	**202**	PN	P	19 40 33.1	-0.2
TAZ	**Tarawera**	**2.25**	**213**	PN	P	19 40 35.4	-0.4
PATZ	**Paeroa**	**2.49**	**215**	PN	P	19 40 39.7	+0.9
KNZ	**Kokohu**	**2.68**	**187**	PN	P	19 40 40.2	-0.9
KNZ				SN	S	19 41 13.1	-1.9
BKZ	**Black Stump Fm**	**3.08**	**204**	PN	P	19 40 45.5	-0.7
HIZ	**Hauiti**	**3.35**	**229**	PN	P	19 40 50.7	+1.0
WTVZ	**West Tongariro**	**3.39**	**215**	PN	P	19 40 50.1	-0.1
OTVZ	**Oturere**	**3.39**	**214**	PN	P	19 40 50.4	+0.2
NGZ	**Ngauruhoe**	**3.43**	**214**	PN	P	19 40 50.8	0.0
CNZ	**Chateau**	**3.48**	**215**	PN	P	19 40 52.0	+0.7
WPVZ	**Whakapapa**	**3.48**	**215**	PN	P	19 40 51.5	+0.1
TUVZ	**Tukino**	**3.48**	**213**	PN	P	19 40 51.8	+0.4
FWVZ	**Far West T-bar**	**3.52**	**214**	PN	P	19 40 52.0	+0.1
WNVZ	**Wahianoa**	**3.56**	**213**	PN	P	19 40 51.9	-0.5

PRE 04 20:17:53.7±3.1**, 27.27S**×**30.97E, h5**km**, ML3.6, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWL	**Newcastle**	**1.01**	**243**	*e*P	Pb	20 18 12.7	-0.6
NWL				*e*S	Sb	20 18 27.3	+0.5
NWL				AML	AML	20 18 33.8	
	comp=Z,4µm,0.6s						
BFT	**Belfast (SA)**	**1.78**	**332**	*e*P	Pn	20 19 01.2	+36
BFT				*e*S	Sn	20 19 05.6	+17
SLR	**Silverton**	**2.85**	**302**	*e*P	Pn	20 18 40.0	-0.7
SLR				*e*S	Sn	20 19 14.1	-1.8
SLR				AML	AML	20 19 27.6	
	comp=Z,42nm,0.3s						
SEK	**Senekal**	**3.15**	**250**	*e*S	Sn	20 19 21.9	-1.5
SEK				AML	AML	20 19 37.9	
	comp=Z,445nm,0.8s						
PRYS	**Parys**	**3.24**	**275**	*e*P	Pn	20 18 45.5	-0.7
PRYS				*e*S	Sn	20 19 23.3	-2.4
PRYS				AML	AML	20 19 36.8	
	comp=Z,61nm,0.3s						
MSNA	**Messina**	**4.98**	**350**	*e*P	Pn	20 19 09.7	-1.2
MSNA				*e*S	Sn	20 20 06.5	-3.1
MSNA				AML	AML	20 20 16.9	
	comp=Z,41nm,0.1s						
BOSA	**Boshof**	**5.23**	**254**	*e*P	Pn	20 19 13.1	-1.4
BOSA				*e*S	Sn	20 20 13.7	-2.4
PKA	**Prieska**	**7.62**	**250**	*e*P	Pn	20 19 41.2	-6.9
CVNA	**Calvinia**	**10.64**	**244**	*e*P	P	20 20 21.6	-8.3

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*NEIC **04** 20:25:16.1±1.3, 18.56S×177.86W, h603km±16km, mb4.3/4, Error ellipse: s-maj=56.9km s-min=13.0km az=154.0*
*IDC **04** 20:25:16.4±2.0, 18.63S×177.82W, h606km±27km, mb3.5/7, mb1 3.6/9, mb1mx3.4/17, mbtmp4.5/9, Error ellipse: s-maj=54.0km s-min=16.1km az=154.0*
ISC 04 20:25:15.8±1.5**, 18.6S**±0.4×**177.9W**±0.2**, h617**km±20km**, n18, σ1.s04**/18**, mb4.2**/9**, 1C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.46**	**53**	P	**P**	**20 27 10.5**	**-0.5**
	3.7nm,0.3s,baz=217,slow=20,SNR=5.9						
AFI	**Afiamalu**	**7.46**	**53**	*e*P	**P**	**20 27 10.2**	**-0.8**
DZM	**Mont Dzumac**	**15.12**	**254**	P	**P**	**20 28 26.5**	**+1.7**
	0.3nm,0.3s,baz=84,slow=19,SNR=4.0						
CTA	**Charters Tower**	**33.85**	**261**	⇓*i*P	**P**	**20 31 10.7**	**+0.2**
	9.7nm,0.7s,mb4.5						
CTA	**Charters Tower**	**33.85**	**261**	P	**P**	**20 31 10.7**	**+0.2**
	10nm,0.6s,mb4.7,baz=94,slow=9.7,SNR=24						
CTAO	**Charters Tower**	**33.85**	**261**	*e*P	**P**	**20 31 10.5**	**0.0**
	9.7nm,0.6s,mb4.6						
PMG	**Port Moresby**	**35.07**	**280**	P	**P**	**20 31 22.4**	**+1.7**
	21nm,1.0s,mb4.7,baz=130,slow=6.2,SNR=6.0						
PMG	**Port Moresby**	**35.07**	**280**	*e*P	**P**	**20 31 22.1**	**+1.4**
	27nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**38.77**	**242**	⇓*i*P	**P**	**20 31 50.8**	**+0.1**
	4.7nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**38.77**	**242**	P	**P**	**20 31 51.1**	**+0.4**
	3.3nm,0.4s,mb4.2,baz=78,slow=7.8,SNR=14						
WB2	**Warramunga Arr**	**45.01**	**260**	*e*P	**P**	**20 32 39.0**	**-1.0**
WRAB	**Tennant Creek**	**45.01**	**260**	*e*P	**P**	**20 32 38.8**	**-1.2**
	8.0nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**45.02**	**260**	P	**P**	**20 32 39.2**	**-0.9**
	5.6nm,0.4s,mb4.5,baz=98,slow=6.6,SNR=260						
KAKA	**Kakadu**	**48.08**	**269**	⇑*i*P	**P**	**20 33 19.6**	**+16**
	6.3nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.43**	**261**	*e*P	**P**	**20 33 41.0**	**-0.9**
	3.8nm,0.5s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.43**	**261**	P	**P**	**20 33 41.3**	**-0.6**
	5.1nm,0.5s,mb4.1,baz=84,slow=1.5,SNR=9.8						
TXAR	**Lajitas Array**	**85.91**	**57**	P	**P**	**20 36 54.9**	**+1.6**
	0.6nm,0.7s,mb3.3,baz=223,slow=7.1,SNR=8.1						
ILAR	**Eielson Array**	**86.41**	**13**	P	**P**	**20 36 54.4**	**-0.4**
	0.3nm,0.4s,mb3.3,baz=231,slow=5.8,SNR=4.3						

WEL 04 20:54:36.7±0.3**, 38.11S**×**176.29E, h149**km±2km**, ML4.1**/16**, 8C, Error ellipse: s-maj=2.3km s-min=1.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.67**	**104**	PN	P	20 54 58.6	-0.7
URZ				SN	S	20 55 15.8	-0.8
RATZ	**Rangitukua**	**0.86**	**208**	PN	P	20 55 00.8	+0.3
MWZ	**Matawai**	**1.00**	**104**	PN	P	20 55 01.8	+0.2
MWZ				SN	S	20 55 20.4	-0.3
BKZ	**Black Stump Fm**	**1.07**	**171**	⇑PN	P	20 55 02.1	-0.1
BKZ				SN	S	20 55 21.6	-0.2
WTVZ	**West Tongariro**	**1.15**	**208**	PN	P	20 55 02.9	0.0
OTVZ	**Oturere**	**1.17**	**205**	PN	P	20 55 03.4	+0.3
TWVZ	**Taurewa**	**1.17**	**214**	PN	P	20 55 03.1	0.0
NGZ	**Ngauruhoe**	**1.20**	**206**	PN	P	20 55 03.6	+0.1
CNZ	**Chateau**	**1.24**	**208**	PN	P	20 55 03.5	-0.3
WPVZ	**Whakapapa**	**1.24**	**208**	⇑PN	P	20 55 03.9	0.0
TUVZ	**Tukino**	**1.26**	**203**	⇑PN	P	20 55 04.1	+0.1
FWVZ	**Far West T-bar**	**1.28**	**206**	PN	P	20 55 03.9	-0.4
DRZ	**Dome Shelter**	**1.30**	**206**	PN	P	20 55 05.0	+0.6
WNVZ	**Wahianoa**	**1.33**	**204**	⇑PN	P	20 55 04.7	-0.1
MOVZ	**Moawhango**	**1.37**	**198**	⇑PN	P	20 55 04.5	-0.7
KNZ	**Kokohu**	**1.42**	**131**	PN	P	20 55 05.6	-0.1
KNZ				*e*SN	S	20 55 26.5	-1.5
MTVZ	**Mangateitei**	**1.43**	**206**	⇑PN	P	20 55 05.4	-0.4
PUZ	**Puketiti**	**1.55**	**89**	SN	S	20 55 28.6	-1.9
VRZ	**Vera Road**	**1.57**	**229**	⇑PN	P	20 55 07.2	-0.1
MXZ	**Matakaoa Point**	**1.69**	**72**	SN	S	20 55 33.2	+0.1
WAZ	**Wanganui**	**1.94**	**211**	PN	P	20 55 10.5	-0.9
TSZ	**Takapari Road**	**1.97**	**187**	PN	P	20 55 10.4	-1.3
PXZ	**Pawanui**	**1.98**	**167**	PN	P	20 55 10.9	-0.9
PXZ				SN	S	20 55 37.5	-1.3
PKE	**Pukeiti**	**2.10**	**238**	PN	P	20 55 13.2	-0.2
BFZ	**Birch Farm**	**2.57**	**181**	PN	P	20 55 16.9	-2.4
MRZ	**Mangatainoka R**	**2.61**	**192**	⇑PN	P	20 55 17.1	-2.6
KIW	**Kapiti Island**	**2.95**	**201**	PN	P	20 55 20.8	-3.3

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*IDC **04** 21:28:51.3±0.9, 35.70S×179.32W, mb4.6/3, mb1 4.6/6, mb1mx4.3/13, mbtmp4.5/6, ML4.5/1, MS4.0/8, Ms1 4.0/8, ms1mx3.6/24, Error ellipse: s-maj=29.5km s-min=24.3km az=144.0*
*NEIC **04** 21:28:59.6±3.8, 35.83S×179.74W, h49km±28km, mb4.7/8, Error ellipse: s-maj=35.2km s-min=15.1km az=57.0*
ISC 04 21:28:51.7±0.9**, 35.65S**±0.05×**179.4W**±0.1**, h10**km**, n57, σ1.s32**/50**, mb4.6**/8**, MS4.0**/6**, 1D, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.69**	**224**	PN	**Pn**	**21 29 36.8**	**+1.0**
MXZ				SN	**Sn**	**21 30 09.5**	**+0.8**
MXZ				T		21 32 30.5	
PUZ	**Puketiti**	**3.09**	**218**	PN	**Pn**	**21 29 42.9**	**+1.3**
PUZ				SN	**Sn**	**21 30 19.9**	**+1.0**
MWZ	**Matawai**	**3.67**	**222**	PN	**Pn**	**21 29 50.9**	**+1.2**
MWZ				SN	**Sn**	**21 30 33.3**	**-0.2**
URZ	**Urewera**	**3.85**	**226**	Pn	**Pn**	**21 29 52.8**	**+0.4**
	33nm,0.3s,baz=25,slow=4.8,SNR=42						
URZ				Sn	**Sn**	**21 30 38.1**	**-0.1**
	34nm,0.3s,baz=141,slow=22,SNR=12						
URZ	**Urewera**	**3.85**	**226**	PN	**Pn**	**21 29 53.2**	**+0.8**
URZ				SN	**Sn**	**21 30 37.8**	**-0.4**
MYRZ	**Mayor Island**	**3.91**	**244**	PN	**Pn**	**21 29 54.1**	**+0.9**
KNZ	**Kokohu**	**4.12**	**214**	*e*PN	**Pn**	**21 29 56.1**	**0.0**
KNZ				SN	**Sn**	**21 30 44.3**	**-0.7**
LIRZ	**Lichensteins R**	**4.15**	**234**	PN	**Pn**	**21 29 58.0**	**+1.4**
TAZ	**Tarawera**	**4.20**	**231**	PN	**Pn**	**21 29 59.1**	**+1.7**
PATZ	**Paeroa**	**4.45**	**231**	PN	**Pn**	**21 30 02.1**	**+1.2**
BKZ	**Black Stump Fm**	**4.83**	**222**	PN	**Pn**	**21 30 06.0**	**-0.2**
BKZ				SN	**Sn**	**21 31 00.0**	**-2.8**
CNZ	**Chateau**	**5.39**	**227**	PN	**Pn**	**21 30 14.6**	**+0.4**
MOVZ	**Moawhango**	**5.41**	**225**	PN	**Pn**	**21 30 13.7**	**-0.7**
WNVZ	**Wahianoa**	**5.44**	**226**	PN	**Pn**	**21 30 14.4**	**-0.5**
OUZ	**Omahuta**	**5.78**	**272**	*e*PN	**Pn**	**21 30 20.1**	**+0.5**
BFZ	**Birch Farm**	**6.11**	**213**	SN	**Sn**	**21 31 30.1**	**-4.9**
RAO	**Raoul Island**	**6.49**	**11**	LR	LR	21 32 27.8	
	comp=Z,854nm,21.4s,baz=111,slow=33						
KIW	**Kapiti Island**	**6.89**	**219**	SN	**Sn**	**21 31 48.4**	**-6.1**
SNZO	**South Karori**	**7.33**	**218**	*e*P	**Pn**	**21 30 30.0**	**-11**
SNZO				*e*S	**Sn**	**21 31 57.1**	**-8.4**
TCW	**Tory Channel**	**7.47**	**220**	SN	**Sn**	**21 32 01.1**	**-8.1**
TUWZ	**Tuamarina**	**7.80**	**220**	SN	**Sn**	**21 32 09.1**	**-8.4**
THZ	**Tophouse**	**8.60**	**222**	PN	**P**	**21 30 50.1**	**-9.0**
THZ				SN	**Sn**	**21 32 25.8**	**-11**
KHZ	**Kahutara**	**8.73**	**217**	PN	**P**	**21 30 58.0**	**-3.1**
KHZ				SN	**Sn**	**21 32 29.6**	**-11**
MQZ	**McQueen's Vall**	**10.13**	**215**	SN	**S**	**21 33 01.7**	**-13**
RPZ	**Rata Peaks**	**10.93**	**220**	Pn	**P**	**21 31 26.6**	**-4.6**
	0.8nm,0.3s,baz=3.4,slow=17,SNR=3.7						
RPZ				Sn	**S**	**21 33 22.9**	**-12**
	2.8nm,0.3s,baz=348,slow=19,SNR=13						
DZM	**Mont Dzumac**	**18.35**	**314**	P	**P**	**21 33 09.4**	**+1.3**
	0.6nm,0.3s,baz=109,slow=15,SNR=8.4						
DZM				LR	LR	21 38 58.4	
	comp=Z,691nm,19.2s,baz=137,slow=33						
TBI	**Tubuai**	**28.64**	**73**	*e*LR	LR	21 41 55.8	
	212nm,24.2s,baz=238						
PPT	**Papeete**	**31.96**	**64**	*e*LR	LR	21 43 30.0	
	186nm,26.0s,baz=237						
PPT	**Papeete**	**31.96**	**64**	LR	LR	21 46 12.2	
	comp=Z,149nm,18.1s,MS3.7,baz=292,slow=33						
STKA	**Stephens Creek**	**32.54**	**265**	*e*P	**P**	**21 35 25.7**	**+0.7**
	2.0nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**32.54**	**265**	P	**P**	**21 35 25.1**	**+0.1**
	2.4nm,0.8s,mb4.2,baz=118,slow=17,SNR=7.8						
STKA				LR	LR	21 47 06.2	
	comp=Z,207nm,18.9s,MS3.9,baz=204,slow=34						
CTA	**Charters Tower**	**33.92**	**288**	*e*P	**P**	**21 35 36.8**	**-0.4**
	7.9nm,0.8s,mb4.7						
CTA	**Charters Tower**	**33.92**	**288**	P	**P**	**21 35 37.0**	**-0.2**
	3.1nm,0.5s,mb4.5,baz=102,slow=10,SNR=8.3						
CTAO	**Charters Tower**	**33.92**	**288**	*e*P	**P**	**21 35 36.4**	**-0.8**
	11nm,0.9s,mb4.8						
PMG	**Port Moresby**	**40.14**	**302**	LR	LR	21 50 32.9	
	comp=Z,189nm,20.6s,MS3.9,baz=125,slow=32						
SBA	**Scott Base**	**42.73**	**184**	*e*P	**P**	**21 36 49.1**	**-1.0**
	1.6nm,0.8s,mb3.8						
VNDA	**Vanda**	**42.77**	**186**	P	**P**	**21 36 52.2**	**+1.7**
	0.5nm,0.8s,baz=354,slow=5.4,SNR=3.7						
VNDA	**Vanda**	**42.77**	**186**	P	**P**	**21 36 50.4**	**-0.1**
WB2	**Warramunga Arr**	**43.44**	**278**	⇓*i*P	**P**	**21 36 55.2**	**-1.4**
WRAB	**Tennant Creek**	**43.45**	**278**	*e*P	**P**	**21 36 55.4**	**-1.3**
	24nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**43.45**	**278**	P	**P**	**21 36 55.4**	**-1.3**
	15nm,0.5s,mb4.9,baz=120,slow=7.6,SNR=232						
FITZ	**Fitzroy Crossi**	**51.44**	**275**	*e*P	**P**	**21 37 57.7**	**-1.6**
	11nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**54.48**	**180**	P	**P**	**21 38 22.1**	**+1.1**
	4.8nm,0.6s,mb4.6						
MBWA	**Marble Bar**	**54.71**	**268**	*e*P	**P**	**21 38 19.2**	**-4.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	4.5nm,0.6s,mb4.7						
MAW	**Mawson**	**67.02**	**202**	LR	LR	22 06 30.3	
	comp=Z,95nm,19.4s,MS4.0,baz=247,slow=34						
USHA	**Ushuaia**	**72.24**	**145**	LR	LR	22 05 31.7	
	comp=Z,150nm,21.8s,MS4.2,baz=119,slow=30						
LVC	**Limon Verde**	**92.35**	**120**	LR	LR	22 14 22.8	
	comp=Z,84nm,18.1s,MS4.2,baz=215,slow=30						
MKAR	**Makanchi Array**	**120.19**	**308**	PKP	PKPdf	21 47 43.2	-2.5
	0.3nm,0.6s,baz=83,slow=2.6,SNR=5.7						
ARCES	**ARCESS Array B**	**143.43**	**346**	PKP	PKPdf	21 48 24.1	-4.2
	3.1nm,0.8s,baz=63,slow=2.7,SNR=9.1						
JOF	**Joensuu**	**146.78**	**335**	*e*pkp	PKPdf	21 48 33.6	-0.8
KAF	**Kangasniemi**	**149.01**	**337**	*e*pkp	PKPdf	21 48 39.6	+1.6
	baz=44,slow=2.5						
FINES	**FINESS Array B**	**149.58**	**336**	PKPbc	PKPdf	21 48 41.8	+2.9
	3.5nm,0.6s,baz=45,slow=5.4,SNR=30						
DBIC	**Dimbokro**	**150.72**	**169**	PKPbc	PKPdf	21 48 46.8	+4.6
	3.1nm,0.9s,baz=187,slow=6.5,SNR=3.3						
DBIC				PKPab	PKPab	21 48 52.2	-1.7
	4.0nm,0.6s,baz=235,slow=3.8,SNR=5.2						
BRTR	**Keskin Array B**	**153.66**	**289**	PKPbc	PKPdf	21 48 53.6	+8.0
	1.2nm,0.7s,baz=143,slow=6.2,SNR=4.0						
BRTR				PKPab	PKPab	21 49 02.7	-2.9
	1.5nm,0.7s,baz=147,slow=4.1,SNR=5.0						
NB2	**NORSAR Subarra**	**153.71**	**348**	PKPabc	PKPdf	21 48 51.9	+6.9
	1.4nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**153.71**	**348**	PKPbc	PKPdf	21 48 51.8	+6.8
	0.8nm,0.6s,baz=15,slow=4.0,SNR=5.2						
NOA				PKPab	PKPab	21 49 02.9	-2.2
	1.4nm,0.7s,baz=25,slow=3.4,SNR=5.7						
AKASG	**Malin Array Be**	**154.51**	**315**	PKPbc	PKPdf	21 48 52.9	+6.5
	0.7nm,0.4s,baz=49,slow=2.9,SNR=3.2						
AKASG				PKPab	PKPab	21 49 09.0	+0.3
	0.7nm,0.5s,baz=46,slow=2.7,SNR=3.4						

SKHL ***04*** *21:33:11.3±0.4, 54.34N×142.36E, h10^{km}, mb5.5/1, Ms4.3/5, msh4.9/1*
SKHL Felt (IV-V) at Nyvrovo, (II) at Okha.
MOS ***04*** *21:33:15.5±1.1, 54.20N×143.04E, h10^{km}, mb4.7/5, MS3.6/9, Error ellipse: s-maj=12.4km s-min=6.7km az=90.9*
MOS Felt (IV) at Nivrovo; (II) at Okha.
BJI ***04*** *21:33:16.9, 54.10N×143.00E, h10^{km}, mB5.4, mb4.7, Ms4.8, Msz4.4*
NEIC ***04*** *21:33:17.0±0.5, 54.08N×142.98E, h10^{km}, mb4.3/5, Error ellipse: s-maj=11.1km s-min=9.2km az=137.0*
NEIC Felt [IV] at Nyvrovo and [II] at Okha.
IDC ***04*** *21:33:23.1±4.1, 53.96N×142.95E, h60^{km}±40^{km}, mb3.7/13, mb1 3.8/15, mb1mx3.8/21, mbtmp3.9/15, ML3.7/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/25, Error ellipse: s-maj=20.0km s-min=17.7km az=159.0*
ISC 04 21:33:15.6±0.3**, 54.19N**±0.03×**143.04E**±0.08**, h10**^{km}**, n83,** σ**1**^{s}**26**/90**, mb4.1**/22**, MS3.9**/10**, 2C-1D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.64**	**186**	*e*Pg	**Pg**	**21 33 27.9**	**-0.6**
OKH				*i* Pg	**Pg**	**21 33 27.9**	**-0.6**
OKH				AMB	AMB	21 33 29.0	
	3µm,0.4s						
OKH				*i* Sg	**Sg**	**21 33 39.5**	**+2.4**
OKH				A		21 33 42.1	
	18µm,0.5s						
OKH	**Okha**	**0.64**	**186**	*i* PN	**Pg**	**21 33 28.0**	**-0.5**
OKH				*i* S	**Sg**	**21 33 39.7**	**+2.6**
OKH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
OKH				smax			
	comp=N,18nm,0.5s						
NKL	**Nikolayevsk**	**1.75**	**234**	*i* Pg	**Pg**	**21 33 41.2**	**-9.3**
NKL				AMB	AMB	21 33 41.6	
	comp=N,46nm,0.8s						
NKL				AMB	AMB	21 33 41.6	
	comp=N,66nm,0.8s						
NKL				*e*Sg	**Sg**	**21 34 02.1**	**-12**
NKL				A		21 34 06.1	
	comp=N,2µm,0.5s						
NKL				A		21 34 06.1	
	comp=N,3µm,0.5s						
NKL				AMS	AMS	21 35 22.0	
	comp=N,4µm,6.0s						
NKL				AMS	AMS	21 35 22.0	
	comp=N,5µm,6.0s						
TYV	**Tymovskoe**	**3.34**	**184**	*e*Pn	**Pn**	**21 34 06.5**	**-2.4**
TYV				*e*Pb	**Pb**	**21 34 14.0**	**-0.5**
TYV				*e*Pg	**Pg**	**21 34 20.0**	**-2.2**
TYV				AMB	AMB	21 34 28.0	
	comp=N,500nm,2.0s						
TYV				AMB	AMB	21 34 28.0	
	comp=N,149nm,0.8s						
TYV				*e*Sg	**Sg**	**21 35 09.0**	**+2.3**
TYV				A		21 35 17.5	
	comp=N,372nm,0.9s						
TYV				A		21 35 39.0	
	comp=N,2µm,4.0s						
TYV				A		21 35 39.0	
	comp=N,2µm,4.0s						
TYV				AMS	AMS	21 36 39.0	
	comp=N,2µm,9.0s						
TYV				AMS	AMS	21 36 39.0	
	comp=N,3µm,9.0s						
UGL	**Uglegorsk**	**5.15**	**187**	*e*rx	rx	21 35 16.0	
UGL				*e*Sg	**Sg**	**21 36 12.0**	**+4.9**
UGL				A		21 36 23.5	
	comp=N,186nm,0.7s						
GRNR	**Gornyy**	**5.30**	**232**	*e*Pn	**Pn**	**21 34 31.4**	**-5.3**
GRNR				AMB	AMB	21 34 31.9	
	comp=N,57nm,0.5s						
GRNR				AMB	AMB	21 34 31.9	
	comp=N,36nm,0.5s						
GRNR				*e*Pg	**Pg**	**21 34 50.2**	**-11**
GRNR				AMB	AMB	21 34 54.1	
	comp=N,96nm,0.8s						
GRNR				*e*Sg	**Sg**	**21 36 00.5**	**-11**
GRNR				A		21 36 03.0	
	comp=N,17nm,0.3s						
GRNR				A		21 36 03.0	
	comp=N,54nm,0.3s						
EKMR	**Ekimchan**	**6.11**	**264**	*e*Pg	**Pg**	**21 35 02.3**	**-15**
EKMR				AMB	AMB	21 35 16.9	
	comp=N,27nm,0.6s						
EKMR				AMB	AMB	21 35 16.9	
	comp=N,26nm,0.6s						
EKMR				AMB	AMB	21 35 16.9	
	comp=N,32nm,0.6s						
EKMR				*e*Sn	**Sn**	**21 35 42.6**	**-16**
EKMR				*e*Sg	**Sg**	**21 36 20.0**	**-19**
EKMR				A		21 36 29.4	
	comp=N,300nm,0.6s						
EKMR				A		21 36 29.4	
	comp=N,110nm,0.6s						
EKMR				A		21 36 29.4	
	comp=N,160nm,0.6s						
MA2	**Magadan**	**6.86**	**35**	*e*P	**Pn**	**21 34 56.2**	**-2.6**
	comp=N,24nm,0.6s						
MA2	**Magadan**	**6.86**	**35***c*	*e*PN	**Pn**	**21 34 56.9**	**-1.9**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.24**	**182**	*e*Pn	**Pn**	**21 35 04.0**	**-0.1**
YSS				AMB	AMB	21 35 05.0	
	comp=Z,40nm,0.5s						
YSS				*e*Sn	**Sn**	**21 36 33.1**	**+5.8**
YSS				AMS	AMS	21 38 46.0	
	comp=Z,500nm,13.0s						
YSS				AMS	AMS	21 38 46.0	
	comp=Z,600nm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.24**	**182**	P	**Pn**	**21 35 00.2**	**-4.0**
	comp=Z,30nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.24**	**182**	*e*PN	**Pn**	**21 35 04.0**	**-0.1**
YSS				*e*		21 36 39.3	
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
YSS				MLR	MLR		
	comp=Z,600nm,12.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
BMKR	**Bomnak**	**8.29**	**279**	*e*rx	rx	21 35 15.9	
BMKR				*e*S	**Sn**	**21 36 40.0**	**-14**
KLR	**Kul'dur**	**8.58**	**239**	*e*rx	rx	21 35 24.3	
KLR				*e*rx	rx	21 37 38.5	
KLR				AMS	AMS	21 38 12.0	
	comp=N,2µm,8.0s						
KLR	**Kul'dur**	**8.58**	**239**	*e*PN	**P**	**21 35 24.3**	**+1.4**
KLR				MLR	MLR		
	comp=E,2µm,8.5s						
YASR	**Yasnyy**	**8.97**	**270**	*e*rx	rx	21 36 07.4	
YASR				*e*S	**Sn**	**21 36 55.9**	**-15**
ZEA	**Zeya**	**9.32**	**274**	*e*rx	rx	21 35 31.8	
ZEA				*e*rx	rx	21 36 22.9	
ZEA				*e*rx	rx	21 37 58.1	
ZEA				AMS	AMS	21 39 19.0	
	comp=E,1µm,10.0s						
ZEA				AMS	AMS	21 39 19.0	
	comp=E,800nm,10.0s						
ZEA				AMS	AMS	21 39 19.0	
	comp=E,900nm,10.0s						
PET	**Petropavlovsk**	**9.36**	**91**	*e*P	**P**	**21 35 33.7**	**+0.2**
	comp=E,51nm,0.4s						
PET	**Petropavlovsk**	**9.36**	**91**	*e*PN	**P**	**21 35 33.8**	**+0.2**
PET				pmax	pmax		
	comp=Z,105nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,13.0s						
KROS	**Kirovskiy**	**9.40**	**278**	*e*rx	rx	21 35 29.9	
KROS				*e*S	**Sn**	**21 37 07.6**	**-13**
KROS				*e*rx	rx	21 37 47.4	
SEY	**Seymchan**	**10.03**	**25**	*e*PN	**P**	**21 35 42.1**	**-0.5**
TEY	**Ternei**	**10.06**	**207**	*e*rx	rx	21 38 32.0	
ASAJ	**Asahikawa**	**10.08**	**182**	P	**P**	**21 35 42.1**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=78,slow=20,SNR=2.3						
ASAJ				LR	LR	21 40 38.4	
	comp=Z,507nm,18.5s,baz=6.1,slow=44						
ASAJ	**Asahikawa**	**10.08**	**182**	PN	**P**	**21 35 42.2**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,507nm,18.5s						
YAK	**Yakutsk**	**10.55**	**324**	*e*PN	**P**	**21 36 01.9**	**+12**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,400nm,11.0s						
CLNS	**Chul'man**	**10.62**	**292**	*e*PN	**P**	**21 35 48.6**	**-2.2**
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,600nm,12.0s						
CLNS				MLR	MLR		
	comp=N,600nm,13.0s						
CLNS				MLR	MLR		
	comp=E,500nm,13.0s						
CN2	**Changchun**	**15.49**	**235**	*e*P	**P**	**21 37 01.4**	**+5.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
BOD	**Bodaibo**	**16.57**	**294**	*e*P	**P**	**21 37 07.9**	**-1.4**
BOD				pmax	pmax		
	comp=Z,11nm,1.6s						
BILL	**Bilibino**	**17.68**	**29**	*e*P	**P**	**21 37 23.8**	**+0.7**
BILL				*e*S	**S**	**21 40 38.5**	**+0.5**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,600nm,18.0s						
CIT	**Chita**	**17.78**	**275**	*e*P	**P**	**21 37 25.4**	**+0.9**
MJAR	**Matsushiro Arr**	**17.96**	**193**	P	**P**	**21 37 26.6**	**-0.2**
	baz=354,slow=11,SNR=3.3						
MJAR				LR	LR	21 42 52.3	
	comp=Z,199nm,21.3s,baz=240,slow=32						
TIXI	**Tiksi**	**18.58**	**346**	*e*P	**P**	**21 37 34.2**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s						
TIXI				MLR	MLR		
	comp=Z,200nm,17.0s						
ULN	**Ulaanbaatar**	**23.31**	**269**	*e*P	**P**	**21 38 25.0**	**+0.9**
ULN	**Ulaanbaatar**	**23.31**	**269**⇓	*i*P	**P**	**21 38 26.7**	**+2.5**
SONM	**Songino Array**	**23.71**	**270**	P	**P**	**21 38 29.2**	**+1.1**
	comp=Z,3.6nm,0.7s,mb3.9,baz=56,slow=9.2,SNR=38						
SONM				LR	LR	21 48 44.5	
	comp=Z,150nm,18.8s,MS3.5,baz=62,slow=39						
ZAK	**Zakamensk**	**24.39**	**277**	*e*P	**P**	**21 38 36.1**	**+1.5**
MOY	**Mondy**	**25.20**	**282**	*e*P	**P**	**21 38 45.9**	**+3.5**
SSE	**Sheshan**	**27.90**	**223**	*e*P	**P**	**21 39 05.2**	**-2.3**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,926nm,7.2s						
SSE	**Sheshan**	**27.90**	**223**	*e*P	**P**	**21 39 05.2**	**-2.3**
	comp=Z,37nm,0.7s,mb5.1						
NJ2	**Nanjing**	**28.05**	**228**	*e*P	**P**	**21 39 08.1**	**-0.7**
NJ2				AP	pP	21 39 15.1	+3.3
NJ2				PP	PP	21 39 57.9	-0.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,330nm,7.6s						
NJ2				LR	LR		
	comp=N,2µm,11.9s,MS5.0						
NJ2				LR	LR		
	comp=E,1µm,10.7s,MS5.0						
NJ2				LR	LR		
	comp=Z,1µm,13.3s,MS4.6						
GTA	**Gaotai**	**32.50**	**261**	*e*P	**P**	**21 39 49.5**	**+1.2**
GTA				AP	pP	21 39 54.2	+3.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**33.34**	**294**	LR	LR	21 54 40.2	
	comp=Z,163nm,18.1s,MS3.8,baz=269,slow=38						
ILAR	**Eielson Array**	**35.23**	**44**	P	**P**	**21 40 13.4**	**+1.8**
	comp=Z,3.3nm,0.9s,mb4.3,baz=276,slow=8.9,SNR=17						
KURK	**Kurchatov**	**38.20**	**292**	*e*P	**P**	**21 40 36.7**	**-0.1**
	comp=Z,11nm,1.5s,mb4.4						
KURK	**Kurchatov**	**38.20**	**292**	*e*P	**P**	**21 40 36.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.4						
MKAR	**Makanchi Array**	**38.26**	**285**	P	**P**	**21 40 37.2**	**-0.2**
	comp=Z,5.2nm,0.9s,mb4.3,baz=58,slow=7.9,SNR=42						
MKAR				LR	LR	21 56 55.8	
	comp=Z,314nm,20.8s,MS4.1,baz=359,slow=37						
MKAR	**Makanchi Array**	**38.26**	**285**	P	**P**	**21 40 37.2**	**-0.2**
MKAR				LR	LR	21 56 55.8	
INK	**Inuvik**	**39.10**	**36**	P	**P**	**21 40 44.9**	**+0.7**
	comp=Z,2.0nm,0.8s,mb3.9,baz=299,slow=8.0,SNR=4.8						
INK	**Inuvik**	**39.10**	**36**	*e*P	**P**	**21 40 44.1**	**-0.1**
	comp=Z,2.9nm,0.9s,mb4.0						
INK	**Inuvik**	**39.10**	**36**	*e*P	**P**	**21 40 44.1**	**-0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**45.20**	**285**	*e*P	**P**	**21 41 33.3**	**-0.8**
	comp=Z,4.7nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**45.20**	**285***c*	*i*P	**P**	**21 41 34.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	**48.56**	**335**	P	**P**	**21 42 00.6**	**+0.3**
	comp=Z,1.6nm,0.9s,mb4.1,baz=40,slow=7.0,SNR=3.4						
YKA	**Yellowknife Ar**	**48.84**	**37**	LR	LR	22 05 26.7	
	comp=Z,83nm,18.5s,MS3.8,baz=280,slow=39						
FINES	**FINESS Array B**	**54.45**	**328**	P	**P**	**21 42 43.3**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=29,slow=10,SNR=13						
FINES				LR	LR	22 07 54.0	
	comp=Z,91nm,19.5s,MS3.9,baz=50,slow=38						
OBN	**Obninsk**	**55.50**	**318**	*e*P	**P**	**21 42 52.1**	**-0.4**
OBN				*e*		21 43 50.4	
OBN				*e*		21 44 54.1	
OBN				*e*S	**S**	**21 50 33.2**	**-2.6**
OBN				pmax	pmax		
	comp=Z,32nm,2.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.0						
NOA	**NORSAR Array B**	**58.94**	**335**	P	**P**	**21 43 17.9**	**+1.2**
	comp=Z,0.9nm,0.8s,mb3.9,baz=33,slow=6.6,SNR=3.7						
NOA				LR	LR	22 10 59.7	
	comp=Z,65nm,18.7s,MS3.8,baz=25,slow=38						
NOA	**NORSAR Array B**	**58.94**	**335**	P	**P**	**21 43 17.9**	**+1.2**
NOA				LR	LR	22 10 59.7	
KIV	**Kislovodsk**	**61.10**	**306**	*e*P	**P**	**21 43 30.5**	**-1.3**
KIV				*e*		21 44 13.7	
KIV				*e*SS	SS	21 55 49.5	-0.8
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
AKASG	**Malin Array Be**	**61.74**	**319**	P	**P**	**21 43 35.1**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.9,baz=34,slow=7.1,SNR=9.7						
HLID	**Hailey**	**62.44**	**53**	*e*P	**P**	**21 43 41.4**	**+0.6**
	comp=Z,0.9nm,0.9s,mb3.9						
GNI	**Garni**	**62.96**	**302**	*i* P	**P**	**21 43 44.1**	**-0.2**
ULM	**Lac du Bonnet**	**64.82**	**37**	LR	LR	22 17 19.3	
	comp=Z,34nm,19.0s,MS3.6,baz=352,slow=40						
PDAR	**Pinedale Array**	**65.30**	**51**	P	**P**	**21 43 59.8**	**+0.4**
	comp=Z,1.3nm,1.0s,mb3.9,baz=333,slow=3.3,SNR=5.9						
STHS	**Stebnicka Huta**	**65.77**	**323**	*e*P	**P**	**21 44 02.5**	**+0.2**
STHS				*e*		21 44 22.5	
DPC	**Dobruska-Polom**	**66.67**	**326**	*e*P	**P**	**21 44 09.1**	**+1.1**
KECS	**Kecovo**	**66.82**	**322**	*e*	**P**	**21 44 04.6**	**-4.5**
PVCC	**Panska Ves**	**67.08**	**327**	*e*P	**P**	**21 44 11.6**	**+0.9**
VYHS	**Vyhne**	**67.40**	**323**	*e*	**P**	**21 44 08.4**	**-4.3**
PRU	**Pruhonice**	**67.56**	**327**	*e*P	**P**	**21 44 14.4**	**+0.7**
TREC	**Trest**	**67.85**	**326**	*e*P	**P**	**21 44 16.6**	**+1.1**
NKC	**Novy Kostel**	**68.00**	**328**	*e*P	**P**	**21 44 11.6**	**-4.9**
ZST	**Bratislava**	**68.25**	**324**	*e*	**P**	**21 44 15.8**	**-2.3**
KHC	**Kasperske Hory**	**68.61**	**327**	*e*P	**P**	**21 44 21.1**	**+0.8**
BRTR	**Keskin Array B**	**68.63**	**309**	P	**P**	**21 44 22.2**	**+1.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=117,slow=3.2,SNR=3.3						
GERES	**GERESS Array B**	**68.82**	**327**	P	**P**	**21 44 21.1**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.7,slow=2.7,SNR=6.6						
ANMO	**Albuquerque**	**73.01**	**54**	*e*P	**P**	**21 44 46.1**	**-0.9**
WRAB	**Tennant Creek**	**74.19**	**188**	*i* P	**P**	**21 44 54.9**	**+0.8**
WRA	**Warramunga Arr**	**74.20**	**189**	P	**P**	**21 44 51.0**	**-3.1**
	comp=Z,0.8nm,0.9s,mb3.7,baz=7.8,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**74.20**	**189**	P	**P**	**21 44 51.1**	**-3.1**
TXAR	**Lajitas Array**	**78.97**	**55**	P	**P**	**21 45 25.6**	**+4.8**
	comp=Z,0.6nm,1.1s,mb3.4,baz=288,slow=2.9,SNR=3.2						
ESDC	**Sonseca Array**	**82.30**	**335**	P	**P**	**21 45 39.7**	**+1.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=20,slow=5.1,SNR=4.8						
CFAA	**Coronel Fontan**	**148.27**	**57**	PKPbc	PKPdf	21 53 02.6	+1.6
	comp=Z,0.3nm,0.7s,baz=294,slow=7.2,SNR=4.1						

NEIC ***04*** *22:07:45.8±1.2, 40.98S×74.94W, h25^{km}, mb4.4/1, Error ellipse: s-maj=19.7km s-min=18.7km az=61.0*
IDC ***04*** *22:07:48.8±7.9, 40.83S×74.79W, h37^{km}±59^{km}, mb3.2/3, mb1 3.6/5, mb1mx3.5/16, mbtmp3.4/5, MS3.1/1, Ms1 3.1/1, ms1mx2.5/13, Error ellipse: s-maj=56.7km s-min=38.4km az=49.0*
ISC 04 22:07:48.1±3.9**, 40.84S**±0.10×**74.7W**±0.2**, h52**^{km}±35^{km}**, n9,** σ**1**^{s}**36**/11**, mb3.6**/3**, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.13**	**89**	Pn	**P**	**22 08 37.3**	**+1.1**
	2.5nm,0.3s,baz=271,slow=11,SNR=51						
PLCA				Sn	**S**	**22 09 12.8**	**+0.2**
	2.0nm,0.3s,baz=238,slow=20,SNR=4.2						
PLCA				LR	LR	22 10 06.5	
	comp=Z,319nm,20.1s,baz=193,slow=43						
PLCA	**Paso Flores**	**3.13**	**89**	*e*Pn	**P**	**22 08 36.5**	**+0.3**
PLCA				Sn	**S**	**22 09 12.8**	**+0.2**
PLCA				LR	LR	22 10 06.5	
TRQA	**Tornquist**	**10.20**	**78**	*e*P	**P**	**22 10 14.5**	**0.0**
CFAA	**Coronel Fontan**	**10.57**	**31**	Pn	**P**	**22 10 16.9**	**-2.7**
	0.3nm,0.3s,baz=200,slow=11,SNR=18						
CFAA				Sn	**S**	**22 12 16.2**	**-1.3**
	0.0nm,0.3s,baz=356,slow=15,SNR=4.9						
CPUP	**Villa Florida**	**20.39**	**50**	P	**P**	**22 12 24.6**	**+1.5**
	1.6nm,0.7s,baz=238,slow=13,SNR=3.8						
LPAZ	**La Paz**	**25.11**	**15**	P	**P**	**22 13 11.6**	**+1.9**
	0.3nm,0.5s,mb3.1,baz=184,slow=11,SNR=2.9						
SNAA	**Sanae**	**46.15**	**155**	*e*P	**P**	**22 16 06.7**	**-2.1**
	6.1nm,1.2s,mb4.4						
TXAR	**Lajitas Array**	**74.81**	**334**	P	**P**	**22 19 24.9**	**+0.2**
	0.4nm,0.8s,mb3.4,baz=157,slow=9.5,SNR=4.9						
MKAR	**Makanchi Array**	**162.37**	**63**	PKPab	PKPab	22 28 33.1	+0.1
	0.6nm,0.8s,baz=270,slow=3.6,SNR=6.0						

IDC ***04*** *22:11:51.0±13.0, 32.86N×142.50E, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=493.7km s-min=32.9km az=67.0*
JMA ***04*** *22:11:53.7±0.6, 33.23N×142.33E, M3.5*
ISC 04 22:11:55.5±1.5**, 33.14N**±0.10×**142.5E**±0.1**, h46**^{km}±15^{km}**, n15,** σ**1**^{s}**33**/24**, mb3.5**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.95**	**321**	P	**P**	**22 12 26.5**	**-0.2**
BSO1				*e*S	**S**	**22 12 50.5**	**+0.5**
JHJ2	**Mitsune**	**2.21**	**270**	P	**P**	**22 12 31.2**	**+0.7**
BSO3	**Boso 3**	**2.31**	**316**	P	**P**	**22 12 31.8**	**-0.2**
BSO3				*e*S	**S**	**22 13 00.8**	**+1.4**
BSO4	**Boso 4**	**2.55**	**317**	P	**P**	**22 12 36.2**	**+0.9**
BSO4				*e*S	**S**	**22 13 07.8**	**+2.5**
JIM2	**Oshima 3**	**2.96**	**303**	*e*S	**S**	**22 13 14.0**	**-1.8**
JOD2	**Odawara 2**	**3.50**	**308**	P	**P**	**22 12 49.1**	**+0.2**
JOD2				*e*S	**S**	**22 13 27.2**	**-2.3**
JYN	**Shimob**	**4.00**	**307**	*e*S	**S**	**22 13 41.3**	**-0.7**
JRY	**Ryogami san**	**4.10**	**315**	P	**P**	**22 12 57.6**	**+0.3**
JRY				*e*S	**S**	**22 13 44.8**	**+0.2**
JAG	**Ashikaga**	**4.10**	**324**	P	**P**	**22 12 58.0**	**+0.6**
JAG				*e*S	**S**	**22 13 42.5**	**-2.2**
MAT	**Matsushiro**	**4.87**	**315**	P	**P**	**22 13 09.0**	**+0.8**
MAT				S	**S**	**22 14 03.9**	**-0.1**
MAT	**Matsushiro**	**4.87**	**315**	P	**P**	**22 13 08.6**	**+0.4**
MAT				*e*S	**S**	**22 14 04.1**	**+0.1**
JMK	**Ichinoseki**	**5.89**	**351**	P	**P**	**22 13 19.5**	**-2.9**
JMK				*e*S	**S**	**22 14 21.7**	**-7.8**
SONM	**Songino Array**	**30.79**	**309**	P	**P**	**22 18 10.5**	**+1.7**
	0.3nm,0.4s,mb3.4,baz=116,slow=9.2,SNR=3.2						
MKAR	**Makanchi Array**	**46.99**	**305**	P	**P**	**22 20 24.9**	**+1.3**
	0.3nm,0.6s,mb3.4,baz=84,slow=9.1,SNR=6.1						
WRA	**Warramunga Arr**	**53.34**	**190**	P	**P**	**22 21 10.2**	**-2.4**
	0.6nm,0.7s,mb3.6,baz=8.0,slow=7.6,SNR=5.2						

GUC ***04*** *22:24:29.8±0.8, 36.27S×71.66W, h84^{km}±7^{km}, ML4.9*
NEIC ***04*** *22:24:29.1±0.3, 36.32S×71.63W, mb4.7/2, Error ellipse: s-maj=9.7km s-min=4.7km az=96.0*
NEIC Felt [III] at Cauquenes, Linares, San Javier and Talca; [II] at Chillan, Curico and San Carlos.
IDC ***04*** *22:24:29.9±0.7, 36.31S×71.43W, h86^{km}±5^{km}, mb3.9/8, mb1 4.0/13, mb1mx3.8/21, mbtmp4.2/13, MS3.2/2, Ms1 3.1/2, ms1mx2.5/18, Error ellipse: s-maj=23.4km s-min=9.4km az=96.0*
ISC 04 22:24:28.6±0.4**, 36.29S**±0.03×**71.63W**±0.08**, h92**^{km}±5^{km}**, h84**^{km}±1.4^{km}**:pP-P, n73,** σ**0**^{s}**95**/72**, mb4.2**/8**, 5C-8D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.48**	**229**⇑	*i*P	**P**	**22 24 43.7**	**+0.1**
CCHI				*i* S	**S**	**22 24 54.4**	**-0.4**
CCHI				AMP		22 24 55.7	
	comp=N,90µm,0.4s						
CNCO	**Chanco**	**0.92**	**307**⇓	*i*P	**P**	**22 24 47.8**	**0.0**
CNCO				*i* S	**S**	**22 25 01.6**	**-0.5**
CNCO				AMP		22 25 03.9	
	comp=N,22µm,0.5s						
CTCH	**Constitucion**	**1.15**	**326**	*e*P	**P**	**22 24 50.8**	**+0.2**
CTCH				*i* S	**S**	**22 25 06.7**	**-0.3**
CTCH				AMP		22 25 12.8	
	comp=E,169µm,0.6s						
NICH	**Los Niches**	**1.32**	**14**⇓	*i*P	**P**	**22 24 53.0**	**+0.3**
NICH				*i* S	**S**	**22 25 10.9**	**+0.3**
NICH				AMP		22 25 13.9	
	comp=Z,13µm,0.3s						
SFDO	**San Fernando**	**1.74**	**17**⇑	*i*P	**P**	**22 24 58.5**	**+0.4**
CICH	**Cipreses**	**2.20**	**27**⇑	*i*P	**P**	**22 25 05.9**	**+1.7**
CACH	**El Canelo**	**2.32**	**22**⇓	*i*P	**P**	**22 25 06.6**	**+0.7**
LNV	**Longovilo**	**2.33**	**4**⇓	*i*P	**P**	**22 25 06.1**	**0.0**
CHCH	**Chadas Angostu**	**2.48**	**19**⇑	*i*P	**P**	**22 25 08.1**	**0.0**
TACH	**Talagante**	**2.69**	**12**⇑	*i*P	**P**	**22 25 10.5**	**-0.5**
LMEL	**Las Melosas**	**2.70**	**26**⇓	*i*P	**P**	**22 25 12.4**	**+1.3**
PCH	**Pirque**	**2.81**	**19**	*e*P	**P**	**22 25 12.7**	**0.0**
ANTU	**Antumapu**	**2.83**	**17**	*e*P	**P**	**22 25 13.1**	**+0.2**
ANTU				*i* S	**S**	**22 25 46.2**	**+0.1**
ANTU				AMP		22 26 04.8	
	comp=E,3µm,0.8s						
SJCH	**San Jose de Ma**	**2.84**	**22**	*e*P	**P**	**22 25 13.5**	**+0.5**
SJCH				*i* S	**S**	**22 25 47.1**	**+0.8**
RCDM	**Rinconada Maip**	**2.87**	**14**	*e*P	**P**	**22 25 12.8**	**-0.7**
RCDM				*i* S	**S**	**22 25 46.1**	**-1.1**
RCDM				AMP		22 25 50.1	
	comp=E,2µm,0.1s						
STL	**Santa Lucia**	**2.96**	**16**	*e*P	**P**	**22 25 13.2**	**-1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DSCH	Colegio Aleman	3.01	17	eP	P	22 25 15.1	-0.3
CLCH	Cerro Calan	3.02	18	⇓iP	P	22 25 15.4	-0.1
CLCH				iS	S	22 25 50.4	-0.4
CLCH				AMP		22 26 12.7	
	comp=N,4μm,0.8s						
FCH	Farellones	3.15	21	⇓iP	P	22 25 17.7	+0.4
FCH				iS	S	22 25 54.4	+0.3
VLCH	Valdivia	3.74	199	eP	P	22 25 21.6	-3.8
MDZ	Mendoza	4.10	35	eP	P	22 25 38.7	+8.4
MDZ				e		22 25 57.7	
PLCA	Paso Flores	4.52	170	P	P	22 25 36.4	+0.3
	comp=N,8.0nm,0.3s,baz=334,slow=11,SNR=160						
PLCA				S	S	22 26 24.0	-3.8
	comp=N,3.7nm,0.3s,baz=265,slow=23,SNR=2.8						
PLCA	Paso Flores	4.52	170	eP	P	22 25 36.1	0.0
PLCA				S	S	22 26 24.0	-3.8
PMCH	Puerto Montt	5.29	190	eP	P	22 25 49.8	+3.2
ZON	Zonda	5.33	28	eP	P	22 25 50.4	+3.2
CFAA	Coronel Fontan	5.46	32	P	P	22 25 47.7	-1.2
	comp=N,2.2nm,0.3s,baz=210,slow=14,SNR=143						
CFAA				S	S	22 26 48.2	-2.7
	comp=N,1.0nm,0.3s,baz=116,slow=19,SNR=6.2						
CFAA	Coronel Fontan	5.46	32	P	P	22 25 47.7	-1.2
CFAA				S	S	22 26 48.2	-2.7
TRQA	Tornquist	7.90	106	eP	P	22 26 21.7	-0.8
LVC	Limon Verde	13.83	11	P	P	22 27 41.4	-0.3
	comp=N,0.8nm,0.3s,baz=208,slow=8.5,SNR=9.2						
LVC	Limon Verde	13.83	11	eP	P	22 27 41.0	-0.7
CPUP	Villa Florida	15.73	55	P	P	22 28 06.8	+0.8
	comp=N,0.2nm,0.3s,baz=249,slow=12,SNR=5.1						
CPUP				LR	LR	22 34 46.9	
	comp=N,65nm,19.3s,baz=198,slow=40						
CPUP	Villa Florida	15.73	55	eP	P	22 28 07.2	+1.2
CPUP				LR	LR	22 34 46.9	
USHA	Ushuaia	18.68	174	P	P	22 28 41.5	-0.1
	comp=N,0.3nm,0.3s,baz=352,slow=13,SNR=5.0						
LPAZ	La Paz	20.16	10	P	P	22 28 59.0	+1.2
	comp=N,4.7nm,0.8s,baz=189,slow=7.5,SNR=18						
LPAZ	La Paz	20.16	10	eP	P	22 28 58.6	+0.8
SIV	San Ignacio	22.29	28	P	P	22 29 19.9	+0.8
	comp=N,2.7nm,0.7s,mb3.7,baz=221,slow=9.3,SNR=22						
SIV				pP		22 29 36.2	
	comp=N,2.5nm,0.7s,baz=219,slow=15,SNR=4.1						
BDFB	Brasilia	29.41	52	P	P	22 30 22.9	-2.6
	comp=N,3.6nm,0.7s,mb4.1,baz=214,slow=11,SNR=6.2						
BDFB				LR	LR	22 44 12.6	
	comp=N,52nm,19.1s,baz=139,slow=40						
VNA3	Neumayer Olymp	47.12	157		P	22 32 53.5	+0.8
VNA3	Neumayer Olymp	47.12	157		P	22 32 55.4	+2.7
VNA3	Neumayer Olymp	47.12	157		P	22 32 58.3	+5.6
VNA3	Neumayer Olymp	47.12	157		P	22 33 08.8	+16
VNA3	Neumayer Olymp	47.12	157		pP	22 33 20.1	+5.2
VNA3	Neumayer Olymp	47.12	157		sP	22 33 31.4	+6.0
VNA1	Neumayer--Stat	47.45	156		P	22 32 56.1	+0.9
VNA1	Neumayer--Stat	47.45	156		P	22 32 59.6	+4.4
VNA1	Neumayer--Stat	47.45	156		sP	22 33 29.8	+1.9
VNA2	Neumayer--Watz	47.78	156		P	22 32 58.4	+0.6
VNA2	Neumayer--Watz	47.78	156		P	22 33 00.6	+2.8
VNA2	Neumayer--Watz	47.78	156		P	22 33 03.1	+5.3
VNA2	Neumayer--Watz	47.78	156		P	22 33 11.7	+14
VNA2	Neumayer--Watz	47.78	156		pP	22 33 21.7	+1.6
SNAA	Sanae	49.35	157		P	22 33 09.5	-0.4
SNAA	Sanae	49.35	157		P	22 33 13.6	+3.7
SNAA	Sanae	49.35	157		P	22 33 20.7	+11
SNAA	Sanae	49.35	157		pP	22 33 33.0	+0.7
SNAA	Sanae	49.35	157		sP	22 33 40.0	-2.7
SNAA	Sanae	49.35	157	P	P	22 33 09.9	0.0
	comp=N,0.7nm,0.3s,mb4.0,baz=282,slow=5.9,SNR=17						
SNAA				pP	pP	22 33 31.2	-1.1
	comp=N,1.4nm,0.9s,baz=280,slow=8.5,SNR=4.6						
SNAA	Sanae	49.35	157	P	P	22 33 09.5	-0.4
SYO	Syowa Base	63.62	158	⇓P	P	22 34 48.5	-2.9
MAW	Mawson	70.90	163	P	P	22 35 36.5	-0.5
	comp=N,1.6nm,0.5s,mb4.1,baz=230,slow=7.0,SNR=3.7						
TXAR	Lajitas Array	71.89	331	P	P	22 35 44.1	+0.5
	comp=N,0.6nm,0.6s,mb3.6,baz=155,slow=9.0,SNR=6.8						
TXAR				pP	pP	22 36 05.7	-1.9
	comp=N,0.7nm,0.7s,baz=140,slow=9.8,SNR=4.2						
DBIC	Dimbokro	75.61	70	P	P	22 36 05.0	-0.4
	comp=N,7.7nm,0.6s,mb4.6,baz=199,slow=6.0,SNR=26						
DBIC				pP	pP	22 36 27.4	-2.3
	comp=N,3.8nm,0.7s,baz=177,slow=7.0,SNR=3.1						
DBIC	Dimbokro	75.61	70	eP	P	22 36 04.7	-0.7
	comp=N,6.6nm,0.6s,mb4.5						
DBIC				pP	pP	22 36 27.4	-2.3
BOSA	Boshof	78.72	117	P	P	22 36 22.6	+0.1
	comp=N,7.8nm,0.7s,mb4.6,baz=258,slow=5.6,SNR=14						
LBTB	Lobatse	81.05	114	eP	P	22 36 34.7	-0.3
	comp=N,5.4nm,0.6s,mb4.5						
WRA	Warramunga Arr	118.92	208	PKP	PKPdf	22 43 07.2	+0.5
	comp=N,0.1nm,0.5s,baz=160,slow=1.6,SNR=3.9						
WRA				pPKP		22 43 33.4	
	comp=N,0.6nm,1.0s,baz=164,slow=1.7,SNR=2.8						
BVAR	Borovoye Array	148.68	46	PKPbc	PKPdf	22 44 06.5	+6.2
	comp=N,1.1nm,0.5s,baz=284,slow=6.1,SNR=8.3						
BVAR				pPKPbc		22 44 30.3	
	comp=N,1.0nm,0.5s,baz=253,slow=2.2,SNR=4.5						
KOLN	Koldanda	157.39	105	eP	PKPab	22 44 46.6	-1.3
	comp=N,23nm,1.3s						
MKAR	Makanchi Array	157.93	54	PKPab	PKPab	22 44 48.9	-0.7
	comp=N,0.6nm,0.7s,baz=288,slow=4.0,SNR=6.9						
GKN	Gorkha	158.31	106	eP	PKPab	22 44 50.8	-1.0
	comp=N,8.0nm,0.7s						
DMN	Daman	158.49	107	eP	PKPab	22 44 51.9	-0.7
	comp=N,21nm,1.1s						
PKI	Pulchoki	158.70	108	eP	PKPab	22 44 54.0	+0.5
KKN	Kakani	158.71	107	eP	PKPab	22 44 53.0	-0.5
	comp=N,11nm,0.6s						

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*NEIC **04** 23:01:59.7±1.7, 25.18S×111.89W, h10km, mb4.3/1, Error ellipse: s-maj=62.8km s-min=17.3km az=48.0*
*IDC **04** 23:02:01.5±1.9, 24.49S×111.57W, mb3.8/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.8/6, ML3.6/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/22, Error ellipse: s-maj=67.0km s-min=24.7km az=47.0*
ISC 04 23:02:00.9±1.9**, 24.5S**±0.3×**111.7W**±0.4**, h10km, n17, σ0.39/11, mb3.9/6, MS3.7/4, Easter Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.33	141	Pn	Pn	23 02 54.2	-0.1
	6.8nm,0.3s,baz=321,slow=18,SNR=6.1						
RPN				LR	LR	23 03 34.2	
	comp=Z,754nm,19.3s,baz=317,slow=28						
RPN				Sn	Sn	23 03 49.0	+15
	2.4nm,0.3s,baz=343,slow=19,SNR=3.5						
RPN	Rapa Nui	3.33	141	P	Pn	23 02 45.9	-8.3
RPN				LR	LR	23 03 34.2	
RPN				Sn	Sn	23 03 49.0	+15
RKT	Rikitea	21.37	269	eLR	LR	23 11 45.1	
	272nm,24.8s						
TBI	Tubuai	34.50	264	eLR	LR	23 17 50.1	
	265nm,34.8s						
PPT	Papeete	35.97	274	eLR	LR	23 18 31.0	
	121nm,28.8s						
PPT	Papeete	35.97	274	LR	LR	23 19 20.6	
	comp=Z,182nm,19.5s,MS3.9,baz=164,slow=29						
LPAZ	La Paz	41.48	87	P	P	23 09 50.0	+0.1
	0.2nm,0.4s,mb3.1,baz=258,slow=14,SNR=2.4						
LPAZ				LR	LR	23 23 25.6	
	comp=Z,56nm,18.3s,MS3.5,baz=290,slow=31						
SIV	San Ignacio	48.00	90	P	P	23 10 42.3	-0.1
	1.0nm,1.0s,mb3.8,baz=215,slow=7.4,SNR=3.5						
CPUP	Villa Florida	48.80	104	LR	LR	23 27 21.3	
	comp=Z,63nm,18.8s,MS3.6,baz=305,slow=31						
BDFB	Brasilia	59.99	94	LR	LR	23 34 14.1	
	comp=Z,78nm,18.7s,MS3.9,baz=214,slow=32						
NVAR	Mina Array Bea	62.93	354	P	P	23 12 30.3	+0.4
	2.4nm,0.8s,mb4.4,baz=186,slow=9.1,SNR=13						
PDAR	Pinedale Array	66.98	2	P	P	23 12 55.2	-0.8
	0.7nm,0.8s,mb3.7,baz=196,slow=6.6,SNR=5.4						
HLID	Hailey	67.80	358	eP	P	23 13 01.5	+0.4
	2.9nm,1.3s,mb4.2						
YKA	Yellowknife Ar	86.75	359	P	P	23 14 46.0	0.0
	1.4nm,0.9s,mb4.2,baz=174,slow=5.0,SNR=4.9						
YKA	Yellowknife Ar	86.75	359	P	P	23 14 46.0	0.0
BRTR	Keskin Array B	147.17	54	PKPbc	PKPdf	23 21 46.7	+1.4
	2.2nm,0.9s,baz=232,slow=2.8,SNR=6.1						
ZAL	Zalesovo	148.14	341	PKPbc	PKPdf	23 21 48.1	+1.8
	1.1nm,0.4s,baz=6.1,slow=2.9,SNR=6.3						

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*LDG **04** 23:17:09.7±0.1, 43.06N×0.03W, h6km, Md3.2/2, Ml3.0/19, Error ellipse: s-maj=1.0km s-min=0.8km az=176.0*
*NEIC **04** 23:17:09.7, 43.06N×0.03W, h6km, ML3.0(LDG), ML2.7(STR), MN2.4(MDD), After LDG.*
*MDD **04** 23:17:09.9±0.2, 43.05N×0.02W, h8km±2km, mbLg2.2/21, Error ellipse: s-maj=2.1km s-min=1.6km az=2.0, PRXIMO*
*CSEM **04** 23:17:09.7±0.0, 43.07N×0.03W, h5km, ML2.9/22, Error ellipse: s-maj=0.8km s-min=0.7km az=158.0*
STR 04 23:17:09.7±0.1**, 43.01N×0.02W, h5km±1km, Ml2.7, 2C, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.08	61	Pg	Pg	23 17 11.9	+0.4
LABF				Sg	Sg	23 17 13.8	+1.1
LABF	Labassere	0.08	61	P	Pg	23 17 12.0	+0.5
LABF				S	Sg	23 17 13.4	+0.7
VIEF	Viey	0.13	166	Pg	Pg	23 17 13.1	+0.6
VIEF				Sg	Sg	23 17 15.2	+0.9
VIEF	Viey	0.13	166	P	Pg	23 17 13.1	+0.6
VIEF				S	Sg	23 17 15.3	+1.1
EPF	Esparros	0.27	85	ePg	Pg	23 17 15.0	-0.1
EPF				eSg	Sg	23 17 18.8	+0.2
	339nm,0.2s						
REYF	Montagne du Re	0.28	282	Pg	Pg	23 17 15.0	-0.4
REYF				Sg	Sg	23 17 19.1	0.0
REYF	Montagne du Re	0.28	282	P	Pg	23 17 15.0	-0.3
REYF				S	Sg	23 17 19.1	0.0
RESF	Ens	0.33	127	Pg	Pg	23 17 16.5	+0.1
RESF				Sg	Sg	23 17 21.0	+0.1
RESF	Ens	0.33	127	P	Pg	23 17 16.5	+0.1
RESF				S	Sg	23 17 21.6	+0.7
EBIE	Bielsa	0.34	160	⇑Pg	Pg	23 17 16.8	+0.2
	14nm,0.1s,SNR=18						
EBIE				Lg		23 17 21.7	
	318nm,0.1s,SNR=7.5						
EBIE	Bielsa	0.34	160	Pg	Pg	23 17 16.8	+0.2
	14nm,0.1s,SNR=18						
EBIE				Lg		23 17 21.7	
	318nm,0.1s,SNR=7.5						
ETSF	Etsaut	0.41	254	ePg	Pg	23 17 17.8	-0.2
ETSF				eSg	Sg	23 17 23.2	-0.3
	198nm,0.2s						
FDAF	Les Forges d'A	0.45	245	Pg	Pg	23 17 18.4	-0.2
FDAF				Sg	Sg	23 17 24.6	0.0
FDAF	Les Forges d'A	0.45	245	P	Pg	23 17 18.4	-0.2
FDAF				S	Sg	23 17 24.7	+0.1
MELF	Melles	0.59	103	P	Pg	23 17 20.9	-0.6
MELF				S	Sg	23 17 28.4	-0.9
ORDF	Ordiarp	0.70	287	Pg	Pg	23 17 23.1	-0.6
ORDF				Sg	Sg	23 17 33.2	+0.1
ORDF	Ordiarp	0.70	287	P	Pg	23 17 23.3	-0.5
LARF	Larrau	0.71	273	Pg	Pg	23 17 23.8	-0.1
LARF				Sg	Sg	23 17 33.0	-0.4
MLS	Moulis	0.82	93	Pg	Pg	23 17 25.3	-0.8
MLS				Sg	Sg	23 17 36.7	-0.3
EGRA	Graus	0.85	163	⇑Pg	Pg	23 17 26.4	-0.3
	3.8nm,0.2s,SNR=18						
EGRA				Lg		23 17 39.5	
	9.7nm,0.1s,SNR=4.0						
SJPF	Ste Jean	0.89	277	ePg	Pg	23 17 26.3	-1.2
SJPF				ePn	Pn	23 17 27.1	-1.6
SJPF				eSg	Sg	23 17 38.0	-1.3
	36nm,0.2s						
SJPF	Ste Jean	0.89	277	Pg	Pg	23 17 26.3	-1.2
SJPF				Lg		23 17 38.0	
	18nm,0.2s						
SALF	Salau	0.92	105	Pg	Pg	23 17 27.0	-1.2
SALF				Sg	Sg	23 17 39.7	-0.8
OSSF	Osses	0.94	286	Pg	Pg	23 17 26.8	-1.7
OSSF				Sg	Sg	23 17 40.2	-0.9
IPRE	Itoiz	1.00	259	Pg	Pg	23 17 29.7	0.0
	2.6nm,0.1s,SNR=7.9						
IPRE				Lg		23 17 43.3	
	18nm,0.3s,SNR=8.2						
EALK	Alkurruntz	1.11	281	Pg	Pg	23 17 30.0	-1.8
	1.0nm,0.1s,SNR=24						
EALK				Lg		23 17 45.1	
	18nm,0.2s,SNR=5.0						
EARA	Aranguren	1.17	259	Pg	Pg	23 17 32.4	-0.7
	2.2nm,0.1s,SNR=6.9						
EARA				Lg		23 17 48.8	
	17nm,0.2s,SNR=12						
ESAC	San Caprasio	1.33	195	Pg	Pg	23 17 36.0	-0.3
	27nm,0.1s,SNR=52						
ESAC				Lg		23 17 54.4	
	188nm,0.2s,SNR=27						
ESAC	San Caprasio	1.33	195	Pg	Pg	23 17 36.0	-0.3
	27nm,0.1s,SNR=52						
EMIR	Miracle	1.58	133	Pn	Pn	23 17 39.6	+1.0
	6.4nm,0.1s,SNR=45						
EMIR				Lg		23 18 01.7	
	19nm,0.1s,SNR=12						
EMIR	Miracle	1.58	133	Pn	Pn	23 17 39.6	+1.0
	6.4nm,0.1s,SNR=45						
CARF	Carcanieres	1.59	100	Pg	Pg	23 17 40.2	-1.3
CARF				Sg	Sg	23 18 01.0	-1.7
VALF	Valcebollere	1.62	111	Pg	Pg	23 17 40.8	-1.3
VALF				Sg	Sg	23 18 03.2	-0.5
MTLF	Montolieu	1.67	78	ePn	Pn	23 17 38.0	-1.8
MTLF				ePg	Pg	23 17 40.8	-2.2
MTLF				eSg	Sg	23 18 02.0	-3.3
	34nm,0.3s						
EPOB	Poblet	1.85	153	Pn	Pn	23 17 42.6	+0.3
	0.2nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	23 17 44.4	-2.2
	1.9nm,0.1s,SNR=20						
EPOB				Lg		23 18 08.6	
	34nm,0.2s,SNR=22						
EPOB	Poblet	1.85	153	Pn	Pn	23 17 42.6	+0.3
	0.2nm,0.1s,SNR=7.9						
EPOB	Poblet	1.85	153	Pg	Pg	23 17 44.4	-2.2
	1.9nm,0.1s,SNR=20						
FILF	Fillols	1.95	102	Pg	Pg	23 17 44.9	-3.8
FILF				Sg	Sg	23 18 10.4	-4.3
LFF	La Frestale	2.01	16	ePn	Pn	23 17 41.7	-2.9
LFF				ePg	Pg	23 17 46.2	-3.5
LFF				eSg	Sg	23 18 11.4	-5.1
	42nm,0.3s						
ERTA	Horta de San J	2.07	173	Pn	Pn	23 17 43.0	-2.5
	0.3nm,0.1s,SNR=4.0						
ERTA				Pg	Pg	23 17 48.4	-2.6
	2.2nm,0.2s,SNR=11						
ERTA				Lg		23 18 14.6	
	12nm,0.1s,SNR=16						
ERTA	Horta de San J	2.07	173	Pn	Pn	23 17 43.0	-2.5
ERTA				Pg	Pg	23 17 48.4	-2.6
ERTA				Lg		23 18 15.4	
ERTA	Horta de San J	2.07	173	Pn	Pn	23 17 43.0	-2.5
	0.3nm,0.1s,SNR=4.0						
ERTA	Horta de San J	2.07	173	Pg	Pg	23 17 48.4	-2.6
	2.2nm,0.2s,SNR=11						
EJON	La Jonquera	2.21	104	Pn	Pn	23 17 49.0	+1.4
	0.3nm,0.1s,SNR=4.0						
EJON				Pg	Pg	23 17 51.9	-2.0
	0.9nm,0.1s,SNR=7.5						
EJON				Sn	Sn	23 18 14.3	-1.4
	2.2nm,0.2s,SNR=7.9						
EJON				Lg		23 18 21.7	
	9.6nm,0.2s,SNR=13						
EJON	La Jonquera	2.21	104	Pn	Pn	23 17 49.0	+1.4
EJON				Pg	Pg	23 17 52.6	-1.3
EJON				Sn	Sn	23 18 17.7	+2.0
EJON				Lg		23 18 21.7	
EJON	La Jonquera	2.21	104	Pn	Pn	23 17 49.0	+1.4
	0.3nm,0.1s,SNR=4.0						
EJON	La Jonquera	2.21	104	Pg	Pg	23 17 52.6	-1.3
	0.9nm,0.1s,SNR=7.5						
CAF	Calviac	2.44	37	ePn	Pn	23 17 47.1	-3.7
CAF				ePg	Pg	23 17 54.0	-4.3
CAF				eSg	Sg	23 18 25.5	-5.3
	13nm,0.2s						
ELAN	Lanestosa	2.51	276	Sn	Sn	23 18 19.8	-3.4
	3.1nm,0.2s,SNR=4.0						
RJF	Les Rejaudoux	2.55	25	ePn	Pn	23 17 49.0	-3.4
RJF				ePg	Pg	23 17 56.2	-4.3
RJF				eSg	Sg	23 18 28.3	-6.2
	20nm,0.2s						
EMOS	Mosqueruela	2.67	187	Pn	Pn	23 17 53.2	-0.9
	0.2nm,0.1s,SNR=7.8						
EMOS				Pg	Pg	23 18 00.6	-2.4
	1.2nm,0.1s,SNR=11						
EMOS				Sn	Sn	23 18 24.2	-2.9
	1.3nm,0.1s,SNR=7.9						
EMOS				Lg		23 18 36.0	
	3.7nm,0.2s,SNR=7.5						
EMOS	Mosqueruela	2.67	187	Pn	Pn	23 17 55.3	+1.2
EMOS				Pg	Pg	23 18 01.5	-1.4
EMOS				Sn	Sn	23 18 26.3	-0.9
EMOS				Lg		23 18 33.1	
EMOS	Mosqueruela	2.67	187	Pn	Pn	23 17 55.3	+1.2
	0.2nm,0.1s,SNR=7.8						
EMOS	Mosqueruela	2.67	187	Pg	Pg	23 18 01.5	-1.4
	1.2nm,0.1s,SNR=11						
EMOS				Sn	Sn	23 18 26.3	-0.8
	1.3nm,0.1s,SNR=7.9						
LASF	Ste Croix	3.01	68	ePn	Pn	23 17 56.0	-3.0
LASF				ePg	Pg	23 18 05.2	-4.7
LASF				eSg	Sg	23 18 44.5	-5.5
	16nm,0.4s						
ECHE	Chera	3.49	192	Pg	Pg	23 18 15.9	-3.5
	0.3nm,0.1s,SNR=4.0						
ECHE				Lg		23 18 59.9	
	1.3nm,0.2s,SNR=4.0						
MFF	Saint Martin d	3.59	359	ePn	Pn	23 18 03.4	-3.9
MFF				ePg	Pg	23 18 15.3	-6.1
MFF				eSn	Sn	23 18 42.5	-8.1
MFF				eSg	Sg	23 19 00.4	-8.9
	9.2nm,0.3s						
TCF	Toulx Ste Croi	3.64	25	ePn	Pn	23 18 04.1	-3.9
TCF				ePg	Pg	23 18 15.9	-6.5
TCF				eSn	Sn	23 18 43.0	-8.9
TCF				eSg	Sg	23 19 02.6	-8.4
	5.2nm,0.2s						
VIVF	Saint-Julien-l	3.86	60	ePn	Pn	23 18 07.6	-3.4
VIVF				ePg	Pg	23 18 20.6	-6.2
VIVF				eSg	Sg	23 19 10.1	-8.1
	5.8nm,0.3s						
ETOS	Mallorca	3.88	146	Pn	Pn	23 18 10.1	-1.2
	0.3nm,0.1s,SNR=4.0						
ETOS				Sn	Sn	23 18 54.8	-3.1
	0.4nm,0.1s,SNR=7.9						
ETOS	Mallorca	3.88	146	Pn	Pn	23 18 10.1	-1.2
	0.3nm,0.1s,SNR=4.0						
ETOS				Sn	Sn	23 18 54.8	-3.0
	0.4nm,0.1s,SNR=7.9						
BGF	Bois d'Agland	4.09	29	ePn	Pn	23 18 10.5	-3.8
BGF				ePg	Pg	23 18 24.4	-7.0
BGF				eSg	Sg	23 19 16.6	-9.3
	22nm,0.3s						
EIBI	Ibiza	4.11	165	Pn	Pn	23 18 13.3	-1.4
	0.1nm,0.1s,SNR=4.0						
EIBI				Sn	Sn	23 18 58.3	-5.5
	1.1nm,0.1s,SNR=4.0						
EIBI	Ibiza	4.11	165	Pn	Pn	23 18 15.8	+1.2
EIBI				Sn	Sn	23 18 58.3	-5.5
EIBI	Ibiza	4.11	165	Pn	Pn	23 18 15.8	+1.2
	0.1nm,0.1s,SNR=4.0						
EIBI				Sn	Sn	23 18 58.3	-5.4
	1.1nm,0.1s,SNR=4.0						
SMRF	Simiane la Rot	4.18	75	eSg	Sg	23 19 20.5	-8.5
	2.7nm,0.4s						
EBEN	Beniarda	4.30	182	Pn	Pn	23 18 15.4	-1.9
	SNR=4.0						
EBEN	Beniarda	4.30	182	Pn	Pn	23 18 18.0	+0.6
	SNR=4.0						
ESDC	Sonseca Array	4.46	223	Pn	Pn	23 18 17.8	-1.8
	1.2nm,0.2s,baz=42,slow=13,SNR=13						
ESDC				Pg	Pg	23 18 31.5	-7.3
	0.5nm,0.2s,baz=39,slow=14,SNR=3.8						
ESDC				Sn	Sn	23 19 07.1	-5.5
	1.9nm,0.2s,baz=42,slow=24,SNR=6.5						
ESDC				Lg		23 19 31.5	
	1.0nm,0.4s,baz=47,slow=29,SNR=4.0						
ESDC	Sonseca Array	4.46	223	Pn	Pn	23 18 17.8	-1.8
	1.2nm,0.2s,SNR=13						
ESDC	Sonseca Array	4.46	223	Pg	Pg	23 18 31.5	-7.3
	0.5nm,0.2s,SNR=3.8						
ESDC				Sn	Sn	23 19 07.1	-5.5
	1.9nm,0.2s,SNR=6.5						
ESLA	Sonseca Array	4.46	223	Pn	Pn	23 18 16.4	-3.2
ESLA				eSn	Sn	23 19 08.5	-4.2
ESLA	Sonseca Array	4.46	223	Pn	Pn	23 18 16.4	-3.2
ESLA				eSn	Sn	23 19 08.5	-4.2
AVF	Avril sur Loir	4.47	31	ePn	Pn	23 18 15.4	-4.4
AVF				eSg	Sg	23 19 27.6	-11
	4.7nm,0.4s						
ETOB	Tobarra	4.51	195	Pn	Pn	23 18 19.6	-0.7
	0.1nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	23 19 09.1	-4.8
	0.1nm,0.1s,SNR=7.9						
ETOB				Lg		23 19 36.6	
	0.2nm,0.2s,SNR=4.0						
ETOB	Tobarra	4.51	195	Pn	Pn	23 18 19.6	-0.7
ETOB				Sn	Sn	23 19 09.1	-4.8
ETOB				Lg		23 19 38.1	
ETOB	Tobarra	4.51	195	Pn	Pn	23 18 19.6	-0.7
	0.1nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	23 19 09.1	-4.8
	0.1nm,0.1s,SNR=7.9						
SMF	Signal de Mont	4.55	36	ePn	Pn	23 18 17.0	-3.9
SMF				ePg	Pg	23 18 33.3	-7.3
SMF				eSg	Sg	23 19 31.6	-10
	4.1nm,0.3s						
HYF	Humbligny	4.66	23	ePn	Pn	23 18 18.0	-4.3
HYF				eSg	Sg	23 19 33.1	-12
SSF	Saint Saulge	4.76	30	ePn	Pn	23 18 19.6	-4.2
SSF				eSg	Sg	23 19 37.2	-11
	1.0nm,0.2s						
FRF	La Foret Royal	4.90	81	eSg	Sg	23 19 44.2	-8.6
	2.0nm,0.3s						
LOR	Lormes	5.07	31	ePn	Pn	23 18 23.5	-4.6
LOR				eSg	Sg	23 19 47.7	-11
	4.6nm,0.4s						
ECAL	Calabor	5.08	260	Pn	Pn	23 18 26.7	-1.7
	1.0nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	23 19 22.1	-6.2
	2.6nm,0.2s,SNR=7.9						
ECAL				Lg		23 19 51.5	
	1.6nm,0.3s,SNR=4.0						
ECAL	Calabor	5.08	260	Pn	Pn	23 18 26.7	-1.7
ECAL				Sn	Sn	23 19 23.8	-4.4
ECAL				Lg		23 19 51.5	
ECAL	Calabor	5.08	260	Pn	Pn	23 18 26.7	-1.7
ECAL				Sn	Sn	23 19 23.8	-4.5
EPON	Pontenova	5.22	276	Pn	Pn	23 18 27.7	-2.7
	0.8nm,0.2s,SNR=4.0						
EPON	Pontenova	5.22	276	Pn	Pn	23 18 29.9	-0.4
EPON	Pontenova	5.22	276	Pn	Pn	23 18 30.0	-0.4
EMUR	La Murta	5.25	191	Pn	Pn	23 18 29.6	-1.1
	0.1nm,0.1s,SNR=4.0						
EMUR	La Murta	5.25	191	Pn	Pn	23 18 29.6	-1.1
QUIF	Quistinic	5.38	337	ePn	Pn	23 18 28.1	-4.5
QUIF				eSn	Sn	23 19 25.2	-11
GRR	Gorron	5.41	354	ePn	Pn	23 18 27.9	-5.1
GRR				eSn	Sn	23 19 26.8	-10
	1.7nm,0.3s						
SGMF	Saint Gilles	5.54	342	ePn	Pn	23 18 29.7	-5.1
SGMF				eSn	Sn	23 19 29.0	-11
LDF	La Druitiere	5.58	359	ePn	Pn	23 18 29.9	-5.6
LDF				eSn	Sn	23 19 30.0	-11
LDF				eSg	Sg	23 20 02.9	-13
	2.2nm,0.3s						
EBAN	Banos Encina	5.62	212	Pn	Pn	23 18 32.8	-3.2
	0.4nm,0.1s,SNR=4.0						
EBAN	Banos Encina	5.62	212	Pn	Pn	23 18 36.3	+0.2
EBAN	Banos Encina	5.62	212	Pn	Pn	23 18 36.3	+0.3
FLN	La Foliniere	5.76	357	ePn	Pn	23 18 32.6	-5.4
FLN				eSn	Sn	23 19 34.7	-11
ROSF	Rostrenen	5.79	338	ePn	Pn	23 18 33.3	-5.1
ROSF				eSn	Sn	23 19 35.1	-11
EADA	Adamuz	5.95	217	Pn	Pn	23 18 39.5	-1.2
	0.1nm,0.1s,SNR=7.9						
EADA				Sn	Sn	23 19 44.0	-6.1
	0.1nm,0.1s,SNR=4.0						
EADA				Lg		23 20 22.8	
	SNR=4.0						
EADA	Adamuz	5.95	217	Pn	Pn	23 18 39.5	-1.2
EADA				Sn	Sn	23 19 44.0	-6.1
EADA				Lg		23 20 18.6	
EADA	Adamuz	5.95	217	Pn	Pn	23 18 39.5	-1.1
EADA				Sn	Sn	23 19 44.0	-6.1

NNC 04 23:20:59.8±5.0**, 37.70N×71.51E, h197km±81km, mpv3.5, 3C-1D, Error ellipse: s-maj=57.1km s-min=31.8km az=25.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.43	24	⇓P	P	23 22 19.1	-1.3
	1.9nm,0.6s						
AAK				⇑S	S	23 23 23.6	+0.7
	5.5nm,0.7s						
KK31	Karatay Array	5.45	352	⇑P	P	23 22 19.7	-0.8
	4.6nm,0.3s,baz=177,slow=12,SNR=189						
KK31				S	S	23 23 23.6	+0.3
	8.1nm,0.7s,baz=166,slow=18,SNR=15						
AB31	Akbulak array	14.26	328	P	P	23 24 14.6	+0.8
	0.3nm,0.3s,baz=159,slow=9.9,SNR=24						
AB31				⇑S	S	23 26 48.8	+1.6
	0.7nm,0.6s,baz=168,slow=16,SNR=4.9						

*NEIC **04** 23:56:59.9, 25.70S×70.69W, h45km, After GUC.*
GUC 04 23:56:59.9±1.2**, 25.70S×70.69W, h45**km±5km**, ML3.6, 1C-4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	Chaqaral	0.65	175	⇑*i*P	P	23 57 13.2	+0.4
CRCH				*i* S	S	23 57 22.1	0.0
CRCH				AMP		23 57 22.5	
	comp=E,9μm,0.4s						
CPN1	Cerro Paranal	1.10	14	⇓*i*P	P	23 57 21.4	+2.4
CPN1				*i* S	S	23 57 37.0	+3.6
CPN1				AMP		23 57 41.5	
	comp=E,1μm,0.5s						
CPCH	Copiapo	1.68	170	⇓*i*P	P	23 57 28.3	+0.9
CPCH				*i* S	S	23 57 48.8	+1.0
ANCH	Antofagasta	2.02	7	⇓*i*P	P	23 57 32.7	+0.4
ANCH				*i* S	S	23 57 57.3	+0.9
ANCH				AMP		23 57 57.9	
	comp=E,605nm,0.1s						
VACH	Vallenar	2.87	181	⇓*i*P	P	23 57 43.2	-1.0
VACH				*i* S	S	23 58 15.4	-2.4
LVC	Limon Verde	3.48	28	*e*P	P	23 57 56.2	+3.3
LVC				*i* S	S	23 58 37.6	+4.4
LVC				AMP		23 59 04.0	
	comp=E,151nm,0.6s						
BAO	Brasilia Array	23.44	69	P	P	00 02 06.5	+0.4

*CRAAG **04** 23:57:45.0, 2.09N×122.99E, Mb6.3*
*DHMR **04** 23:57:49.3±2.6, 3.05N×123.04E, h10km, mb6.0*
*BJI **04** 23:58:27.0, 2.24N×123.70E, h443km, mB5.7, mb5.9*
*MOS **04** 23:58:31.3±0.8, 3.03N×123.21E, h420km, mb5.9/35, Error ellipse: s-maj=12.8km s-min=5.7km az=118.1*
*NEIC **04** 23:58:34.9±0.1, 3.00N×123.07E, mb5.8/101, ME5.2, MW6.0, Error ellipse: s-maj=4.7km s-min=3.5km az=57.0 Broadband fault plane solution: P waves. NP1:φs50°, δ70°, λ170°. NP2:φs143°, δ81°, λ20°. Principal axes: T Plg21°, Azm8°; N Plg0°, Azm0°; P Plg7°, Azm275°; Moment Tensor Solution. s20 Moment tensor: Scale 10^18 Nm; Mrr0.31; Mθθ0.85; Mφφ-1.15; Mrθ0.46; Mθφ-0.21; Mφr-0.10; Best double couple: Mo1.2×10^18 NP1:φs47°, δ68°, λ160°. NP2:φs145°, δ71°, λ23°. Principal axes: T 1.13, Plg30°, Azm7°; N .05, Plg60°, Azm181°; P -1.18, Plg2°, Azm275°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Manado and Tondano, Indonesia.
*HRVD **04** 23:58:34.9±0.2, 3.05N×123.32E, h454km±1km, MW6.0/68, Centroid moment Tensor Solution. LP body waves: s68,c164;Mantle waves: s55,c72; Half duration: 2s4 Moment tensor: Scale 10^18Nm; Mrr0.20±.01; Mθθ0.81±.01; Mφφ-1.01±.01; Mrθ0.51±.01; Mθφ-0.31±.01; Mφr-0.13±.01; Best double couple: Mo1.108×10^18 NP1:φs50°, δ68°, λ160°. NP2:φs148°, δ71°, λ23°. Principal axes: T 1.153, Plg29°, Azm10°; N -.086, Plg61°, Azm185°; P -1.062, Plg2°, Azm279°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*IDC **04** 23:58:35.6±0.4, 3.01N×123.27E, h450km±3km, mb5.3/36, mb1 5.3/36, mb1mx5.3/37, mbtmp6.0/36 Error ellipse: s-maj=8.0km s-min=4.6km az=81.0*
ISC 04 23:58:32.9±0.1**, 2.94N**±0.02×**123.18E**±0.03**, h436**km**, h436**km±3.2km**:pP-P, n743,** σ1s05/508**, mb5.7**/170**, 117C-46D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	3.59	29	⇑*i*P	P	23 59 48.5	+4.3
GSPH				*i* S	S	00 00 50.7	+10
CTBH	Cotabato--PC H	4.39	14	⇑*i*P	P	23 59 54.1	+2.8
CTBH				*i* S	S	00 00 58.8	+5.8
KCP	Kidapawan	4.47	25	⇑*e*P	P	23 59 59.5	+7.4
KCP				*i* S	S	00 01 08.9	+14
KCP	Kidapawan	4.47	25	*e*P	P	00 00 07.6	+15
KCP				*i* S	S	00 01 09.8	+15
DAV	Davao City (W)	4.75	30	⇑*e*P	P	23 59 58.6	+3.8
TSM	Tawau	5.46	284	P	P	00 00 05.3	+3.4
DCPH	Dipolog City	5.61	2	⇑*e*P	P	00 00 07.1	+3.7
CGP	Cagayan de Oro	5.68	15	⇓*i*P	P	00 00 06.0	+1.8
BIPH	Bislig	6.10	31	⇑*i*P	P	00 00 09.0	+0.5
BIPH				*e*S	S	00 01 21.1	-2.9
SNPH	Sibulan	6.36	1	*e*P	P	00 00 14.0	+2.6
TBP	Tagbilaran	6.74	6	*e*P	P	00 00 18.0	+2.5
TBP				*i* S	S	00 01 24.5	-12
SCPH	Surigao	7.18	19	⇓*e*P	P	00 00 22.1	+1.9
LLP	Lapu-Lapu	7.37	6	⇑*e*P	P	00 00 24.0	+1.7
LLP				*e*S	S	00 01 50.9	+2.0
KKM	Kota Kinabalu	7.59	294	P	P	00 00 27.7	+2.9
BATP	Bataraza	7.90	318	*e*P	P	00 00 30.1	+1.9
PLP	Palo	8.37	12	*e*P	P	00 00 37.9	+4.5
RCP	Roxas	8.58	357	⇑*e*P	P	00 00 36.1	+0.4
KALP	Kalibo	8.72	355	⇑*e*P	P	00 00 46.4	+9.0
PGP	Puerto Galera	10.72	348	⇓*e*P	P	00 01 02.2	+2.2
GQP	Guinayangan	10.92	356	⇓*e*P	P	00 01 02.9	+0.8
LBPH	Los Banos	11.32	350	⇑*e*P	P	00 01 08.1	+1.5
ARP	Angono	11.70	350	*e*P	P	00 01 11.3	+0.6
NZB	Bigte	12.02	350	*e*P	P	00 01 14.8	+0.5
NBP	Mount Natib	12.04	347	*e*P	P	00 01 14.3	-0.2
PCPH	Palayan	12.71	351	⇑*i*P	P	00 01 21.4	-0.4
BCPH	Baguio City Da	13.60	349	⇑*i*P	P	00 01 36.8	+5.4
CVP	Callao Caves	14.73	355	⇑*e*P	P	00 01 44.0	+0.8
KAKA	Kakadu	18.07	150	⇑*i*P	P	00 02 35.2	+18
	2μm,0.6s						
KAKA				*i* S	S	00 05 40.9	+23
KAKA				*i* SCP		00 09 38.3	
KAKA				*e*SCS	ScS	00 13 19.2	+17
KGM	Kluang	19.86	268	P	P	00 02 37.0	+2.7
QIZ	Qiongzhong	20.64	322	P	P	00 02 42.9	+1.2
QIZ				S	S	00 06 03.7	+1.5
QIZ				AMB	AMB		
	comp=Z,307nm,0.8s						
QIZ				AMB	AMB		
	comp=Z,1μm,8.2s						
FITZ	Fitzroy Crossi	21.05	173	⇑*i*P	P	00 02 46.7	+1.1
	comp=Z,786nm,0.6s,mb6.3						
FITZ				*e*S	S	00 06 10.7	+1.6
FITZ	Fitzroy Crossi	21.05	173	P	P	00 02 46.7	+1.1
	comp=Z,1μm,0.7s,mb6.3,baz=4.6,slow=7.3,SNR=725						
FITZ				S	S	00 06 08.7	-0.4
	comp=Z,472nm,0.9s,baz=152,slow=17,SNR=3.3						
TATO	Taipei	21.97	356	⇑*i*P	P	00 02 53.7	-0.5
	comp=Z,1μm,0.6s,mb6.5						
IPM	Ipoh	22.16	275	P	P	00 02 57.2	+1.1
GZH	Guangzhou	22.18	335	P	P	00 03 00.8	+4.6
GZH				S	S	00 06 32.8	+4.9
GZH				AMB	AMB		
	comp=Z,387nm,0.9s,mb5.8						
QZH	Quanzhou	22.32	349	⇑*i*P	P	00 02 57.7	+0.2
QZH				S	S	00 06 29.9	-0.3
QZH				AMB	AMB		
	comp=Z,2μm,0.8s,mb6.5						
KULM	Kulim	22.59	277	⇓*i*P	P	00 03 00.7	+0.6
SNG	Songkhla	22.86	281	P	P	00 03 03.0	+0.4
	comp=Z,1μm,1.0s,mb6.2						
GUMO	Guam	23.91	62	P	P	00 03 10.3	-1.8
	comp=Z,137nm,0.5s,mb5.6,baz=164,slow=7.4,SNR=6.0						
KKTK	Khon Kaen	24.04	305	⇓P	P	00 03 13.0	-0.2
	comp=Z,4μm,0.4s						
MBWA	Marble Bar	24.18	188	⇑*i*P	P	00 03 14.6	0.0
	comp=Z,46nm,0.8s,mb5.0						
JOW	Kunigami	24.25	11	P	P	00 03 15.6	+0.5
	comp=Z,281nm,0.6s,mb5.8,baz=105,slow=16,SNR=7.2						
NNT	Nongplab	25.10	294	P	P	00 03 22.9	+0.1
WRAB	Tennant Creek	25.24	155	*c i*P	P	00 03 23.4	-0.6
WRA	Warramunga Arr	25.24	155	P	P	00 03 23.4	-0.7
	comp=Z,506nm,0.3s,mb6.4,baz=336,slow=9.7,SNR=825						
WRA				pP		00 04 38.0	
	comp=Z,68nm,0.8s,baz=331,slow=9.7,SNR=1.9						
WRA				sP	sP	00 05 36.0	+6.3
	comp=Z,193nm,0.8s,baz=333,slow=11,SNR=4.1						
WRA				S	S	00 07 14.1	-3.5
	comp=Z,132nm,0.8s,baz=334,slow=16,SNR=5.6						
WRA				ScP		00 09 38.8	
	comp=Z,95nm,0.8s,baz=338,slow=3.2,SNR=9.6						
WRA				ScS	ScS	00 13 26.4	-2.7
	comp=Z,12nm,1.0s,baz=270,slow=3.3,SNR=4.2						
WRA				PKiKP		00 14 22.6	
	comp=Z,2.4nm,0.6s,baz=319,slow=1.3,SNR=5.6						
WRA	Warramunga Arr	25.24	155	P	P	00 03 23.4	-0.7
WRA				pP		00 04 38.0	
WRA				sP	sP	00 05 36.0	+6.3
WRA				S	S	00 07 14.1	-3.5
WRA				ScP		00 09 38.8	
WRA				ScS	ScS	00 13 26.4	-2.7
WRA	Warramunga Arr	25.24	155	P	P	00 03 23.4	-0.7
WRA				S	S	00 07 14.1	-3.6
WRA						00 13 26.4	
WB2	Warramunga Arr	25.25	155	⇑*i*P	P	00 03 23.4	-0.7
WB2				*i* sP	sP	00 05 24.8	-4.9
WB2				*e*S	S	00 07 12.3	-5.4
WB2				*e*SCS	ScS	00 13 26.0	-3.1
PKT	Phuket	25.38	283	P	P	00 03 29.0	+3.7
NST	Nakhon Sawan	25.98	301	⇑P	P	00 03 31.5	+0.8
	comp=Z,379nm,0.8s,mb5.9						
PMG	Port Moresby	26.86	117	P	P	00 03 38.2	-0.3
	comp=Z,584nm,0.7s,mb6.1,baz=316,slow=6.9,SNR=150						
PMG				ScP		00 09 44.9	
	comp=Z,60nm,1.0s,baz=290,slow=3.8,SNR=4.6						
PMG	Port Moresby	26.86	117	⇓*i*P	P	00 03 37.7	-0.9
	comp=Z,678nm,0.8s,mb6.1						
PMG	Port Moresby	26.86	117	⇓*i*P	P	00 03 37.7	-0.9
PMG				pmax	pmax		
	comp=Z,678nm,0.8s						
SSE	Sheshan	28.07	356	⇓P	P	00 03 49.6	+0.6
SSE				AP		00 05 07.1	
SSE				XP	sP	00 05 57.0	+0.6
SSE				S	S	00 08 02.6	+0.5
SSE				XS		00 10 24.8	
SSE				AMB	AMB		
	comp=Z,712nm,0.7s,mb6.1						
SSE				AMB	AMB		
	comp=Z,2μm,7.3s						
SSE	Sheshan	28.07	356	⇓P	P	00 03 49.6	+0.6
	comp=Z,712nm,0.7s,mb6.1						
SSE				pP		00 05 07.1	
SSE				sP	sP	00 05 57.0	+0.6
SSE				S	S	00 08 02.6	+0.5
SSE				sS		00 10 24.8	
SSE				ScS	ScS	00 13 44.1	+2.7
SSE				LR	LR		
	comp=Z,3μm,25.2s						
GYA	Guiyang	28.25	327	⇓*i*P	P	00 03 50.8	+0.2
GYA				AP		00 05 11.9	
GYA				XP	sP	00 05 57.0	-1.1
GYA				PCP	PcP	00 06 50.8	-0.4
GYA				S	S	00 08 04.3	-0.6
GYA				SCP		00 09 47.0	
GYA				PCS		00 10 32.1	
GYA				SCS	ScS	00 13 39.9	-2.4
GYA				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,930nm,5.7s						
CHG	Chiang Mai	28.48	305	⇓P	P	00 03 53.7	+1.0
	comp=Z,150nm,1.0s,mb5.3						
WHN	Wuhan	28.70	344	⇓*i*P	P	00 03 57.0	+2.5
WHN				S	S	00 08 12.3	+0.4
WHN				AMB	AMB		
	comp=Z,446nm,0.7s,mb5.9						
NJ2	Nanjing	29.24	352	*e*P	P	00 04 00.9	+1.6
NJ2				AP		00 05 14.7	
NJ2				S	S	00 08 22.0	+1.6
NJ2				AMB	AMB		
	comp=Z,1μm,0.8s,mb6.3						
NJ2				AMB	AMB		
	comp=Z,2μm,5.0s						
KMI	Kunming	29.56	320	P	P	00 04 02.3	+0.2
KMI				AP		00 05 18.7	
KMI				PP	PP	00 05 23.5	+3.5
KMI				PCP	PcP	00 06 55.5	+0.9
KMI				S	S	00 08 26.2	+0.8
KMI				SCP		00 09 53.3	
KMI				AMB	AMB		
	comp=Z,123nm,1.8s,mb4.9						
KMI				AMB	AMB		
	comp=Z,793nm,3.4s						
KMI	Kunming	29.56	320	P	P	00 04 02.3	+0.2
	comp=Z,123nm,1.8s,mb4.9						
KMI				pP		00 05 18.7	
KMI				PP	PP	00 05 23.5	+3.5
KMI				PPP	PPP	00 05 43.4	-7.6
KMI				sP	sP	00 06 07.7	-2.6
KMI				PcP	PcP	00 06 55.5	+0.9
KMI				S	S	00 08 26.2	+0.8
KMI				ScP		00 09 53.3	
KMI				PcS		00 10 37.8	
KMI				sS		00 10 43.0	
KMI				SS	SS	00 10 49.4	-1.7
KMI				SSS	SSS	00 11 22.0	-7.2
KMI				LR	LR		
	comp=Z,3μm,18.0s						
KMI	Kunming	29.56	320	P	P	00 04 02.3	+0.2
KMI				*SP	sP	00 06 07.7	-2.6
KMI						00 06 55.5	
KMI				S	S	00 08 26.2	+0.8
KMI				*SS		00 10 43.0	
KMI				pmax	pmax		
	comp=Z,123nm,1.8s,mb4.9						
KMI				MLR	MLR		
	comp=Z,3μm,18.0s						
ENH	Enshi	30.12	336	*e*P	P	00 04 07.7	+0.8
	comp=Z,586nm,0.8s,mb6.0						
CBIJ	Chichi jima	30.14	35	P	P	00 04 05.5	-1.5
	comp=Z,3μm,0.6s,baz=209,slow=2.1,SNR=66						
CBIJ				S	S	00 08 28.7	-5.6
	comp=Z,825nm,0.7s,baz=221,slow=21,SNR=20						
JNU	Nakatsue	30.88	13	P	P	00 04 12.5	-0.9
	comp=Z,141nm,0.8s,mb5.4,baz=157,slow=3.7,SNR=41						
JNU				ScP		00 09 56.8	
	comp=Z,22nm,0.8s,baz=333,slow=4.5,SNR=3.8						
CTA	Charters Tower	32.20	136	⇓*i*P	P	00 04 31.7	+6.9
	comp=Z,71nm,0.8s,mb5.0						
CTA				*i* PP	PP	00 05 52.6	+3.2
CTA				*e*S	S	00 09 03.7	-2.7
CTA				*i* SCP		00 10 02.8	
CTA				*e*SS	SS	00 11 39.7	-5.8
CTA	Charters Tower	32.20	136	⇓*i*P	P	00 04 31.7	+6.9
CTA				*i*	pP	00 05 52.6	+8.2
CTA				*e*S	S	00 09 03.7	-2.7
CTA				*e*SS	SS	00 11 39.7	-5.8
CTA				pmax	pmax		
	comp=Z,71nm,0.8s						
CTAO	Charters Tower	32.20	136	P	P	00 04 25.9	+1.1
CTAO				S	S	00 09 06.3	-0.1
CTAO				ScP		00 10 02.6	
CTAO	Charters Tower	32.20	136	⇓*e*P	P	00 04 25.6	+0.8
CD2	Chengdu	33.32	329	⇓*i*P	P	00 04 35.1	+0.9
CD2				AP	pP	00 05 52.2	-2.2
CD2				PP	PP	00 06 04.5	+3.2
CD2				XP	sP	00 06 41.3	-2.1
CD2				S	S	00 09 20.9	-2.6
CD2				AMB	AMB		
	comp=Z,170nm,1.0s,mb5.3						
CD2				AMB	AMB		
	comp=Z,830nm,4.2s						
TIA	Tai'an	33.58	351	⇓P	P	00 04 36.2	-0.1
TIA				AMB	AMB		
	comp=Z,486nm,0.8s,mb5.9						
XAN	Xi'an	33.68	338	P	P	00 04 37.9	+0.8
XAN				S	S	00 09 25.3	-3.6
XAN				AMB	AMB		
	comp=Z,874nm,0.7s,mb6.2						
XAN				AMB	AMB		
	comp=Z,268nm,3.9s						
JHJ	Hachijo jima 2	33.81	26	P	P	00 04 38.0	-0.3
	comp=Z,312nm,0.4s,mb6.0,baz=216,slow=19,SNR=5.7						
JHJ				S	S	00 09 30.2	-0.8
	comp=Z,395nm,0.6s,baz=58,slow=19,SNR=5.9						
FORT	Forrest	33.85	172	⇑*i*P	P	00 04 39.2	+0.6
	comp=Z,1μm,0.5s,mb6.4						
FORT				*i* S	S	00 09 29.7	-1.9
FORT				*i* SCP		00 10 08.1	
INCN	Inchon	34.52	5	*e*P	P	00 04 44.2	-0.1
	comp=Z,134nm,0.6s,mb5.5						
KS15	Wonju Array Si	34.61	7	*e*P	P	00 04 45.8	+0.9
KLBR	Kellerberrin	34.72	188	⇑*i*P	P	00 04 46.3	+0.3
	comp=Z,122nm,0.4s,mb5.6						
KLBR				*i* S	S	00 09 42.0	-2.9
KLBR				*e*SCP		00 10 10.9	
MUN	Mundaring	35.35	190	⇑*i*P	P	00 04 51.8	+0.6
MUN				*i* S	S	00 09 54.7	+0.3
DL2	Dalian	35.83	358	⇑*i*P	P	00 04 55.2	+0.1
DL2				PP	PP	00 06 32.0	+4.7
DL2				S	S	00 09 58.0	-3.5
DL2				SCP		00 10 13.9	
DL2				SS	SS	00 12 56.7	+0.8
DL2				AMB	AMB		
	comp=Z,1μm,0.6s,mb6.3						
DL2				AMB	AMB		
	comp=Z,1μm,6.0s						
NWAO	Narrogin (SRO)	36.11	188	P	P	00 04 58.5	+0.9
	comp=Z,227nm,0.8s,mb5.6,baz=17,slow=8.1,SNR=105						
NWAO				PP	PP	00 06 34.7	+4.4
	comp=Z,129nm,1.0s,baz=32,slow=14,SNR=6.0						
NWAO				S	S	00 10 04.5	-1.4
	comp=Z,50nm,1.2s,baz=135,slow=20,SNR=5.5						
NWAO				ScP		00 10 15.7	
	comp=Z,59nm,1.1s,baz=249,slow=7.0,SNR=3.0						
MAT	Matsushiro	36.20	21	P	P	00 04 56.7	-1.6
MAT				S	S	00 10 01.2	-5.9
MAT	Matsushiro	36.20	21	*e*P	P	00 04 57.0	-1.3
	comp=Z,351nm,0.8s,mb5.7						
MAT				*e*S	S	00 10 01.0	-6.1
MAT	Matsushiro	36.20	21	*e*P	P	00 04 57.0	-1.3
MAT				*e*S	S	00 10 01.0	-6.1
MAT				pmax	pmax		
	comp=Z,351nm,0.8s,mb5.7						
MJAR	Matsushiro Arr	36.20	21	P	P	00 04 57.4	-0.9
	comp=Z,442nm,0.7s,mb5.9,baz=193,slow=9.3,SNR=573						
MJAR				S	S	00 10 02.5	-4.6
	comp=Z,4.8nm,0.9s,baz=194,slow=5.0,SNR=3.3						
MJAR				ScP		00 10 15.9	
	comp=Z,51nm,0.9s,baz=192,slow=3.9,SNR=12						
LZH	Lanzhou	37.51	334	⇑*i*P	P	00 05 11.5	+2.4
LZH				AP	pP	00 06 32.3	+1.2
LZH				PP	PP	00 06 51.2	+5.3
LZH				XP	sP	00 07 20.3	+0.6
LZH				SCP		00 10 22.1	
LZH				S	S	00 10 27.0	+0.2
LZH				SCS	ScS	00 14 33.5	+2.9
LZH				AMB	AMB		
	comp=Z,834nm,1.5s,mb5.8						
LZH				AMB	AMB		
	comp=Z,3μm,6.2s						
LZH	Lanzhou	37.51	334	⇑*i*P	P	00 05 11.5	+2.4
	comp=Z,834nm,1.5s,mb5.8						
LZH				pP	pP	00 06 32.3	+1.2
LZH				PP	PP	00 06 51.2	+5.3
LZH				sP	sP	00 07 20.3	+0.6
LZH				PcP	PcP	00 07 21.5	+4.3
LZH				ScP		00 10 22.1	
LZH				S	S	00 10 27.0	+0.2
LZH				sS		00 12 50.6	
LZH				SS	SS	00 13 26.7	-0.4
LZH				ScS	ScS	00 14 33.5	+2.9
SHL	Shillong	37.56	310	*e*P	P	00 05 12.0	+2.4
SHL				*e*x	x	00 10 20.0	
HNR	Honiara	38.65	109	P	P	00 05 18.4	-0.2
	comp=Z,402nm,0.5s,mb6.0,baz=210,slow=2.3,SNR=9.6						
HNR	Honiara	38.65	109	*e*P	P	00 05 19.0	+0.4
	comp=Z,443nm,0.8s,mb5.8						
SNY	Shenyang	38.72	0	⇑P	P	00 05 18.5	-0.5
SNY				PP	PP	00 07 06.4	+7.7
SNY				S	S	00 10 39.3	-5.2
SNY				AMB	AMB		
	comp=Z,540nm,0.6s,mb6.0						
STKA	Stephens Creek	38.80	155	⇑*i*P	P	00 05 20.9	+1.2
	comp=Z,538nm,0.6s,mb6.0						
STKA				*e*S	S	00 10 43.4	-2.4
STKA	Stephens Creek	38.80	155	P	P	00 05 20.9	+1.2
	comp=Z,645nm,0.7s,mb6.1,baz=327,slow=7.8,SNR=767						
STKA				PP	PP	00 06 54.5	-5.2
	comp=Z,101nm,0.8s,baz=346,slow=12,SNR=2.3						
STKA				S	S	00 10 44.8	-1.0
	comp=Z,214nm,1.0s,baz=224,slow=21,SNR=12						
CAL	Calcutta	39.00	303	*i* P	P	00 05 23.4	+2.0
CAL				*e*x	x	00 06 47.0	
CAL				*e*x	x	00 10 51.1	
CAL				*e*x	x	00 14 13.3	
HHC	Hu-ho-hao-te	39.17	346	⇑P	P	00 05 23.5	+0.8
HHC				AP	pP	00 06 49.7	+4.5
HHC				S	S	00 10 49.9	-1.3
HHC				AMB	AMB		
	comp=Z,243nm,0.6s,mb5.7						
HHC				AMB	AMB		
	comp=Z,2μm,5.4s						
LSA	Lhasa	40.38	315	P	P	00 05 34.8	+2.2
LSA				S	S	00 11 08.3	-0.7
LSA				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.1						
LSA				AMB	AMB		
	comp=Z,570nm,4.5s						
LSA	Lhasa	40.38	315	⇓*i*P	P	00 05 34.6	+2.0
	comp=Z,321nm,0.6s,mb5.8						
CN2	Changchun	40.74	3	⇑P	P	00 05 34.1	-1.3
CN2				*e*AP	pP	00 06 58.7	+0.2
CN2				PP	PP	00 07 17.7	-1.0
CN2				*e*XP	sP	00 07 48.1	+1.2
CN2				SCP		00 10 31.8	
CN2				*e*S	S	00 11 11.5	-2.6
CN2				SS	SS	00 14 29.7	+2.1
CN2				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.1						
CN2				AMB	AMB		
	comp=Z,1μm,7.0s						
VIS	Vishakhapatnam	41.73	293	*e*P	P	00 05 44.9	+1.1
VIS				AMb	AMB	00 05 46.9	
	comp=Z,268nm,1.0s,mb5.5						
MDJ	Mudanjiang	41.89	7	P	P	00 05 45.0	+0.3
MDJ				AP	pP	00 07 10.6	+2.5
MDJ				PCP	PcP	00 07 31.0	-0.3
MDJ				PP	PP	00 07 34.5	+3.9
MDJ				SCP		00 10 36.4	
MDJ				S	S	00 11 30.3	-0.4
MDJ				SCS	ScS	00 14 56.6	0.0
MDJ				AMB	AMB		
	comp=Z,1μm,1.0s,mb6.1						
MDJ				AMB	AMB		
	comp=Z,1μm,4.4s						
GTA	Gaotai	42.06	333	⇓*i*P	P	00 05 47.5	+1.4
GTA				AP	pP	00 07 16.9	+7.3
GTA				PCP	PcP	00 07 32.2	+0.2
GTA				PP	PP	00 07 36.5	+4.1
GTA				SCP		00 10 37.6	
GTA				PCS		00 11 23.0	
GTA				S	S	00 11 32.1	-1.1
GTA				XS		00 14 10.8	
GTA				SCS	ScS	00 14 55.0	-2.7
GTA				AMB	AMB		
	comp=Z,808nm,0.6s,mb6.2						
GTA				AMB	AMB		
	comp=Z,2μm,7.2s						
PALK	Pallekele	42.51	278	*e*P	P	00 05 49.4	-0.6
	comp=Z,163nm,1.0s,mb5.3						
PKI	Pulchoki	43.59	308	*e*P	P	00 05 58.9	+0.5
	comp=Z,221nm,0.6s,mb5.7						
KKN	Kakani	43.79	308	*e*P	P	00 06 00.4	+0.4
	comp=Z,189nm,0.5s,mb5.7						
DMN	Daman	43.85	308	*e*P	P	00 06 00.8	+0.4
	comp=Z,433nm,0.9s,mb5.8						
BLSP	Bilaspur	44.15	299	*e*P	P	00 06 03.1	+0.2
BLSP				*e*x	x	00 07 54.8	
GKN	Gorkha	44.40	308	*e*P	P	00 06 04.8	0.0
	comp=Z,243nm,0.6s,mb5.7						
ASAJ	Asahikawa	44.46	20	P	P	00 06 05.5	+0.4
	comp=Z,948nm,0.7s,mb6.2,baz=234,slow=9.8,SNR=417						
ASAJ				S	S	00 12 04.9	-2.4
	comp=Z,4.8nm,0.6s,baz=128,slow=19,SNR=6.6						
KWAJ	Kwajalein Atol	44.56	80	*e*P	P	00 06 08.0	+1.8
KOLN	Koldanda	45.11	307	*e*P	P	00 06 10.9	+0.5
	comp=Z,764nm,0.7s,mb6.2						
CNB	Canberra Magne	45.28	149	⇓*i*P	P	00 06 13.1	+1.5

comp=Z,622nm,1.0s,mb5.9
TOO Toolangi 45.32 155⇑ *i* P **P** **00 06 13.4 +1.6**
comp=Z,241nm,0.7s,mb5.6
TOO *e* S **S** **00 12 23.6 +4.2**
WAKE Wake Island 45.47 66 *e* P **P** **00 06 13.6 +0.4**
comp=Z,294nm,1.3s,mb5.5
YUK Yuzh-Kuril'sk 45.58 23⇑ *i* P **P** **00 06 11.0 -2.8**
YUK *e* PPP PP 00 08 03.0 -3.2
YUK pmax pmax
comp=N,4μm,2.0s
YUK pmax pmax
comp=E,2μm,2.0s
YUK pmax pmax
comp=Z,5μm,2.0s,mb6.5
YUK pmax pmax
comp=N,600nm,0.8s
YUK pmax pmax
comp=E,370nm,0.8s
YUK pmax pmax
comp=Z,750nm,0.8s,mb6.1
HYB Hyderabad 46.07 291⇓ *i* P **P** **00 06 18.0 +0.1**
comp=Z,900nm,1.0s,mb6.0
HYB *e* 00 06 33.5
HYB *e* 00 07 03.5
HYB *e* pP pP 00 07 35.5 -7.4
HYB *e* PP PP 00 08 16.0 +4.8
HYB *e* 00 09 30.0
HYB *e* ScP 00 10 53.0
HYB *e* S **S** **00 12 26.0 -4.2**
HYB *e* ScS ScS 00 15 22.0 -1.5
HYB *e* SS SS 00 16 08.0 +8.8
HYB Hyderabad 46.07 291⇓ *e* P **P** **00 06 18.0 +0.1**
comp=Z,900nm,1.0s,mb6.0
HYB *e* S **S** **00 12 30.0 -0.2**
HIA Hailar 46.25 357 *e* P **P** **00 06 18.7 -0.2**
comp=Z,781nm,0.7s,mb6.2
TRD Trivandrum 46.29 279 *e* P **P** **00 06 19.7 0.0**
TRD AMb AMB 00 06 21.9
comp=Z,606nm,1.0s,mb5.9
KLR Kul'dur 46.70 8⇓ *i* P **P** **00 06 18.2 -4.1**
KLR pmax pmax
comp=E,180nm,1.8s
KLR pmax pmax
comp=Z,320nm,1.8s,mb5.3
ULN Ulaanbaatar 46.87 345 *c i* P **P** **00 06 24.2 +0.5**
SONM Songino Array 47.01 345 P **P** **00 06 25.4 +0.6**
comp=Z,630nm,0.7s,mb6.0,baz=160,slow=8.2,SNR=1702
SONM ScP 00 10 58.2
comp=Z,12nm,0.8s,baz=150,slow=4.5,SNR=3.4
SONM S **S** **00 12 41.6 -1.4**
comp=Z,6.9nm,0.9s,baz=135,slow=4.1,SNR=3.2
YSS Yuzh-Sakhalins 47.02 18 *e* P **P** **00 06 24.2 -0.7**
comp=Z,184nm,0.6s,mb5.6
YSS Yuzh-Sakhalins 47.02 18 *a i* P **P** **00 06 23.8 -1.1**
YSS *e* *PP pP 00 07 48.0 -2.3
YSS *e* 00 08 21.7
YSS *e* *SP sP 00 08 28.3 -10
YSS *e* S **S** **00 12 38.0 -5.2**
YSS *e* 00 15 24.0
YSS pmax pmax
comp=N,190nm,0.9s
YSS pmax pmax
comp=E,60nm,0.9s
YSS pmax pmax
comp=Z,260nm,0.9s,mb5.6
YSS smax
comp=E,900nm,7.0s
YSS MLR MLR
comp=Z,500nm,16.0s
BHPL Bhopal 48.63 299 *e* P **P** **00 06 37.4 +0.1**
BHPL *ex* x 00 06 39.4
BHPL AMb AMB 00 06 39.5
comp=Z,531nm,0.4s,mb6.2
NOUC Port Laguerre 48.93 123 *e* P **P** **00 06 40.9 +1.2**
NOUC Port Laguerre 48.93 123 *e* P **P** **00 06 40.9 +1.2**
DZM Mont Dzumac 49.04 123⇓ *e* P **P** **00 06 41.8 +1.3**
KAD Karad 50.13 290 *e* P **P** **00 06 47.6 -1.1**
KAD AMb AMB 00 06 49.7
comp=Z,258nm,0.7s,mb5.7
ZAK Zakamensk 50.18 344⇑ *i* P **P** **00 06 49.0 +0.3**
ZAK *e* 00 13 27.0
ZAK pmax pmax
comp=Z,164nm,0.8s,mb5.4
ZAK pmax pmax
comp=Z,16nm,0.9s
ZAK pmax pmax
comp=Z,7.0nm,1.2s
TAU Tasmania Unive 50.58 157 *e* P **P** **00 06 52.4 +0.6**
comp=Z,77nm,0.8s,mb5.0
NDI New Delhi 50.63 305 *e* P **P** **00 06 49.5 -2.8**
NDI *e* S **S** **00 13 29.5 -3.3**
POO Poona 50.68 292 *e* P **P** **00 06 51.5 -1.3**
POO AMb AMB 00 06 55.6
comp=Z,340nm,1.3s,mb5.4
WMQ Urumqi 51.41 327⇓ *i* P **P** **00 06 58.5 +0.7**
WMQ PCP PcP 00 08 07.0 +1.7
WMQ AP pP 00 08 22.0 -3.1
WMQ PP PP 00 09 03.0 +2.9
WMQ S **S** **00 13 42.0 -1.1**
WMQ SCS ScS 00 16 03.0 +3.9
WMQ AMB AMB
comp=Z,514nm,0.7s,mb5.9
WMQ AMB AMB
comp=Z,2μm,3.6s
IRK Irkutsk 51.60 345⇑ *i* P **P** **00 06 58.3 -0.8**
IRK *e* S **S** **00 13 46.6 +1.0**
IRK pmax pmax
comp=Z,638nm,2.3s,mb5.4
DGAR Diego Garcia 51.65 258 *e* P **P** **00 06 58.1 -1.9**
comp=Z,1μm,1.0s,mb6.0
MOY Mondy 51.99 343 *e* P **P** **00 07 03.8 +1.8**
MOY pmax pmax
comp=Z,850nm,1.9s,mb5.7
AJM Ajmer 52.02 302 *i* P **P** **00 07 01.0 -1.6**
CLNS Chul'man 53.76 1⇑ *i* P **P** **00 07 14.6 -0.1**
CLNS Chul'man 53.76 1 *c i* P **P** **00 07 14.6 -0.1**
CLNS *e* 00 08 11.9
CLNS *e* S **S** **00 14 07.6 -6.8**
CLNS *e* 00 16 08.7
CLNS pmax pmax
comp=N,282nm,0.9s
CLNS pmax pmax
comp=E,180nm,0.9s
CLNS pmax pmax
comp=Z,664nm,0.9s,mb5.9
CLNS pmax pmax
comp=Z,62nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,40nm,0.7s
CLNS pmax pmax
comp=E,14nm,0.6s
CLNS smax
comp=N,28nm,0.8s
CLNS smax
comp=Z,6.0nm,0.9s
CLNS smax
comp=E,37nm,1.1s
CLNS MLR MLR
comp=N,500nm,15.0s
CLNS MLR MLR
comp=Z,700nm,15.0s
CLNS MLR MLR
comp=E,700nm,13.0s
BOD Bodaibo 55.20 354 *e* P **P** **00 07 24.4 -0.5**
BOD *e* 00 14 30.2
BOD pmax pmax
comp=Z,511nm,0.9s,mb5.8
BHUJ Bhuj 55.52 296 *e* P **P** **00 07 27.2 -0.4**
KSH Kashi 56.14 317 *i* PR 00 07 33.2
KSH S **S** **00 14 45.3 -0.6**
KSH *e* SCS ScS 00 16 35.9 +3.2
KSH AMB AMB
comp=Z,1μm,2.0s,mb5.9
MKAR Makanchi Array 56.24 327 P **P** **00 07 32.5 +0.2**
comp=Z,572nm,0.5s,mb6.2,baz=122,slow=9.0,SNR=1941
MKAR PcP PcP 00 08 23.3 -0.5
comp=Z,71nm,0.7s,baz=124,slow=4.4,SNR=4.2
MKAR ScP 00 11 38.4
comp=Z,15nm,0.5s,baz=122,slow=5.3,SNR=4.3
MKAR S **S** **00 14 47.5 +0.4**
comp=Z,15nm,0.8s,baz=126,slow=12,SNR=7.2
MKAR ScS ScS 00 16 30.3 -3.0
comp=Z,4.6nm,0.8s,baz=173,slow=12,SNR=2.9
MKAR PKPPKP 00 37 19.6
comp=Z,2.8nm,0.9s,baz=315,slow=2.0,SNR=5.7
MKAR Makanchi Array 56.24 327 P PcP 00 07 32.5 -0.5
MKAR ScP 00 11 38.5
MKAR S **S** **00 14 47.5 +0.4**
MKAR ScS ScS 00 16 30.3 -3.0
MKAR P'P' 00 37 19.6
MKAR Makanchi Array 56.24 327 *e* P **P** **00 07 32.0 -0.3**
MKAR pmax pmax
comp=Z,107nm,0.4s
FUNA Funafuti 57.00 102 *e* P **P** **00 07 39.0 +1.0**
ULHL Ulahol 57.28 320 P **P** **00 07 42.0 +2.5**
SNR=76
AAA Alma-Ata 57.36 321 *i* P **P** **00 07 40.6 +0.6**
AAA *i* S **S** **00 15 03.2 +1.6**
AAA pmax pmax
comp=Z,1μm,1.8s,mb5.9
AAA smax
comp=E,4μm,12.8s
AAA MLR MLR
comp=Z,980nm,15.5s
KZA Kyzart 57.84 319 P **P** **00 07 45.0 +1.7**
SNR=107
PET Petropavlovsk 57.87 24 *e* P **P** **00 07 41.7 -1.6**
comp=Z,340nm,0.6s,mb5.8
PET Petropavlovsk 57.87 24⇑ *i* P **P** **00 07 42.8 -0.5**
PET *e* 00 08 29.3
PET *e* *SP sP 00 10 00.1 +0.3
PET *i* S **S** **00 15 07.5 -0.6**
PET *e* SP SP 00 15 22.1 -1.0
PET *e* 00 16 43.1
PET *e* SS SS 00 19 10.7 +1.0
PET *e* SSS SSS 00 21 55.6 +3.0
PET pmax pmax
comp=Z,2μm,5.8s
PET pmax pmax
comp=N,241nm,0.7s
PET pmax pmax
comp=Z,533nm,0.7s,mb6.0
PET pmax pmax
comp=E,202nm,0.8s
PET pmax pmax
comp=N,300nm,16.7s
PET pmax pmax
comp=Z,700nm,14.4s
PET pmax pmax
comp=Z,200nm,13.3s
PET smax
comp=E,2μm,9.4s
PET smax
comp=E,1μm,13.9s
TKM2 Tokmak 2 58.03 320 P **P** **00 07 46.2 +1.7**
SNR=36
KBK Karagaybulak 58.32 320 P **P** **00 07 47.4 +0.8**
SNR=227
UCH Uchtor 58.40 319 P **P** **00 07 48.3 +1.2**
SNR=370
AAK Ala-Archa 58.60 320 P **P** **00 07 48.9 +0.5**
SNR=126
AAK Ala-Archa 58.60 320 *e* Pn **P** **00 07 48.2 -0.2**
AAK Ala-Archa 58.60 320 P **P** **00 07 49.1 +0.7**
AAK pmax pmax
comp=Z,587nm,1.4s,mb5.7
CHMS Chumysh 58.61 320 P **P** **00 07 49.3 +0.9**
SNR=15
FRU Bishkek 58.62 320⇓ *i* P **P** **00 07 48.0 -0.5**
FRU *i* S **S** **00 15 18.0 +0.2**
FRU pmax pmax
comp=Z,520nm,2.0s,mb5.5
FRU smax
comp=N,6μm,6.0s
AML Almayashu 58.89 319 P **P** **00 07 51.3 +1.0**
SNR=526
USP Ospenovka 58.90 320 P **P** **00 07 50.6 +0.2**
EKS2 Erkin-Say 59.08 319 P **P** **00 07 52.3 +0.7**
SNR=386
YAK Yakutsk 59.15 4 *e* P **P** **00 07 51.0 -0.9**
comp=N,1μm,0.8s,mb6.2
YAK Yakutsk 59.15 4 *d i* P **P** **00 07 51.1 -0.7**
YAK *i* 00 08 30.9
YAK *i* *PP pP 00 09 15.8 -7.0
YAK *e* 00 10 05.4
YAK *i* S **S** **00 15 21.7 -2.6**
YAK *i* 00 16 51.9
YAK pmax pmax
comp=Z,482nm,0.9s,mb5.8
YAK pmax pmax
comp=N,160nm,1.0s
YAK pmax pmax
comp=E,58nm,1.0s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,11nm,1.0s
YAK smax
comp=N,16nm,0.9s
YAK smax
comp=Z,8.0nm,0.8s
YAK smax
comp=E,24nm,1.0s
ZAL Zalesovo 59.74 335 P **P** **00 07 55.2 -0.6**
comp=E,194nm,0.5s,mb5.8,baz=349,slow=5.7,SNR=337
ZAL S **S** **00 15 29.4 -2.4**
comp=E,43nm,1.0s,baz=192,slow=19,SNR=21
ZAL ScS ScS 00 16 53.9 -5.1
comp=E,8.5nm,1.0s,baz=107,slow=20,SNR=2.7
ZAL Zalesovo 59.74 335 *i* P **P** **00 07 55.2 -0.6**
ZAL pmax pmax
comp=Z,194nm,0.5s
MA2 Magadan 60.38 16⇑ *e* P **P** **00 07 59.9 -0.1**
comp=Z,759nm,0.6s,mb6.3
MA2 *e* PcP PcP 00 08 40.1 +0.1
MA2 Magadan 60.38 16 *c i* P **P** **00 08 00.3 +0.3**
MA2 *e* *PP pP 00 09 26.8 -4.8
MA2 *e* S **S** **00 15 31.4 -8.3**
MA2 *e* 00 15 59.4
MA2 *e* 00 17 02.6
MA2 pmax pmax
comp=N,200nm,0.9s
MA2 pmax pmax
comp=Z,500nm,0.9s,mb5.9
MA2 pmax pmax
comp=E,50nm,0.7s
KURK Kurchatov 60.55 329⇓ *e* P **P** **00 08 01.0 -0.3**
comp=E,1μm,0.5s,mb6.6
NVS Novosibirsk 61.02 335 *i* P **P** **00 08 02.7 -1.6**
NVS *i* 00 08 40.8
NVS *i* PPP PPP 00 11 57.7 -1.1
NVS *i* S **S** **00 15 38.2 -10**
NVS *i* 00 17 02.0
NVS pmax pmax
comp=Z,530nm,0.8s,mb6.0
NVS pmax pmax
comp=N,255nm,0.6s
NVS pmax pmax
comp=E,324nm,0.6s
NVS smax
comp=N,833nm,2.3s
NVS smax
comp=E,677nm,1.6s
KKAR Karatay Array 61.43 318 *i* P **P** **00 08 06.8 -0.4**
KKAR Karatay Array 61.43 318 *i* P **P** **00 08 06.7 -0.5**
KKAR pmax pmax
comp=Z,88nm,0.6s,mb5.4
MIDW Midway 61.84 60 *e* P **P** **00 08 10.4 +0.2**
comp=Z,169nm,1.0s,mb5.5
SEY Seymchan 63.64 14⇑ *i* P **P** **00 08 21.4 +0.1**
SEY Seymchan 63.64 14 *c i* P **P** **00 08 21.3 0.0**
SNZO South Karori 64.24 139 *e* P **P** **00 08 24.2 -1.3**
comp=Z,341nm,0.9s,mb5.9
URZ Urewera 64.44 135 P **P** **00 08 27.1 +0.2**
comp=Z,137nm,0.5s,mb5.8,baz=303,slow=2.7,SNR=78
URZ S **S** **00 16 29.5 -0.7**
comp=Z,3.2nm,0.4s,baz=114,slow=19,SNR=3.6
MCQ Macquarie Isla 64.45 158⇑ *i* P **P** **00 08 28.3 +1.7**
SMY Shemya 64.96 31 *e* P **P** **00 08 29.6 -0.2**
comp=Z,449nm,0.8s,mb6.2
WBK Wadi Bani Khal 65.10 293⇑ P **P** **00 08 30.4 -0.9**
SNR=52
VOSK Vostochnaya 65.62 328 *i* P **P** **00 08 33.1 -0.9**
VOSK Vostochnaya 65.62 328 P **P** **00 08 33.0 -1.0**
VOSK pmax pmax
comp=Z,107nm,0.6s,mb5.7
JMDO Jabal Madar 65.86 293⇑ P **P** **00 08 35.0 -1.1**
SNR=98
BIDO Bidbid 65.99 294⇑ P **P** **00 08 35.9 -0.9**
SNR=176
SMDO Samad 66.00 294⇑ P **P** **00 08 35.6 -1.3**
SNR=62
BVA0 Borovoye Array 66.08 328 *i* P **P** **00 08 36.3 -0.6**
BVA0 pmax pmax
comp=Z,28nm,0.8s,mb4.9
BVAR Borovoye Array 66.08 328 P **P** **00 08 36.4 -0.5**
comp=Z,121nm,0.4s,mb5.9,baz=128,slow=10.0,SNR=579
BVAR S S 00 16 47.1 -2.4
comp=Z,6.8nm,0.9s,baz=108,slow=9.1,SNR=7.6
BRVK Borovoye 66.15 328 *e* P **P** **00 08 36.8 -0.5**
BRVK *e* 00 08 42.6
AFI Afiamalu 66.61 106 *e* P **P** **00 08 42.4 +1.6**
comp=Z,319nm,0.9s,mb6.0
BSY Bisya 66.74 293⇑ P **P** **00 08 40.5 -1.0**
SNR=88
HOQ Hoqain 66.74 294⇑ P **P** **00 08 40.3 -1.1**
SNR=33
ARQ Araqi 67.43 294⇓ *i* P **P** **00 08 44.8 -0.9**
SNR=65
BANOM Banah 67.95 297⇓ P **P** **00 08 47.5 -1.3**
SNR=23
ASHO Ashiyiah 68.01 295⇓ P **P** **00 08 48.2 -1.1**
SNR=103
MSEY Mahe Island 68.06 264 *e* P **P** **00 08 48.8 -0.9**
comp=Z,281nm,1.2s,mb5.8
TIXI Tiksi 68.71 2⇑ *i* P **P** **00 08 50.0 -2.7**
TIXI Tiksi 68.71 2 *e* P **P** **00 08 46.6 -6.1**
TIXI *e* 00 11 27.5
TIXI pmax pmax
comp=Z,300nm,0.8s,mb6.0
TIXI pmax pmax
comp=N,62nm,0.7s
TIXI pmax pmax
comp=E,19nm,0.8s
TIXI pmax pmax
comp=Z,662nm,1.3s,mb6.1
TIXI MLR MLR
comp=Z,543nm,16.0s
RBK Rabkut 69.07 288⇑ P **P** **00 08 54.6 -1.1**
SNR=32
WHFO Wadi Hawf 69.51 288⇑ P **P** **00 08 56.8 -1.5**
SNR=80
CASY Casey 69.66 185⇑ *i* P **P** **00 08 58.4 0.0**
ABTO Aybut 69.93 287⇑ P **P** **00 08 59.5 -1.4**
SNR=33
GSTR Great Sitkin T 70.06 35 *e* P **P** **00 09 00.8 -0.3**
AB31 Akbulak array 70.54 322 *i* P **P** **00 09 03.5 -0.5**
AB31 Akbulak array 70.54 322 P **P** **00 09 03.5 -0.5**
AB31 pmax pmax
comp=Z,31nm,0.4s,mb5.2
BILL Bilibino 71.25 16 *e* P **P** **00 09 07.3 -0.6**
comp=Z,71nm,0.8s,mb5.2
BILL Bilibino 71.25 16 *c i* P **P** **00 09 06.8 -1.0**
BILL *e* 00 09 22.5
BILL *e* S S 00 17 49.0 -0.2
BILL pmax pmax
comp=Z,60nm,1.0s,mb5.1
BILL MLR MLR
comp=Z,600nm,19.0s
AKTO Aktyubinsk 72.09 322 P **P** **00 09 12.8 -0.3**
AKTO pmax pmax
comp=Z,29nm,0.5s,mb5.1
MIR Mirnyy 72.61 192 *c i* P **P** **00 09 16.8 +1.0**
MIR pmax pmax
comp=Z,137nm,1.6s,mb5.2
SVE Sverdlovsk 72.80 329 *e* P **P** **00 09 17.0 0.0**
SVE *e* 00 09 30.2
SVE *e* pP 00 10 53.4 +0.7
SVE *e* 00 12 04.0
SVE *e* S S 00 18 00.0 -6.7
SVE pmax pmax
comp=Z,2μm,2.5s,mb6.2
ARU Arti 73.73 328⇑ *i* P **P** **00 09 21.8 -0.6**
ARU *e* 00 09 33.8
ARU *e* 00 12 13.3
ARU *e* PPP PPP 00 14 01.6 -0.7
ARU *e* S S 00 18 11.6 -5.3
ARU *e* SS SS 00 23 08.2 -6.0
ARU pmax pmax
comp=Z,263nm,0.7s,mb6.0
HASS Wahat al Ahsa' 73.81 295 P **P** **00 09 22.6 -0.9**
MUKL Al Mukalla 73.92 284⇓ *e* P **P** **00 09 23.9 -0.3**
NIKO Nikolski 74.51 36 *e* P **P** **00 09 26.1 -0.7**
QRN Al-Qurain 75.67 299 *e* P **P** **00 09 33.1 -0.7**
QRN AMb AMB 00 09 34.7
comp=Z,1μm,0.6s,mb6.7
KBD Kabd 75.90 299 *e* P **P** **00 09 35.2 +0.1**
KBD AMb AMB 00 09 36.8
comp=Z,2μm,0.7s,mb6.8
UMR Umm Al-Rimmam 75.91 300 *e* P **P** **00 09 34.5 -0.6**
UMR AMb AMB 00 09 36.2
comp=Z,896nm,0.7s,mb6.5
RDF Al-Radifah 76.00 299 *e* P **P** **00 09 35.5 -0.2**
RDF AMb AMB 00 09 37.4
comp=Z,748nm,0.6s,mb6.5
UNV Unalaska Valle 76.10 35 *e* P **P** **00 09 35.3 -0.4**
comp=Z,543nm,0.7s,mb6.3
MIB Mutribah 76.26 300 *e* P **P** **00 09 36.2 -0.9**
MIB AMb AMB 00 09 37.9
comp=Z,2μm,0.6s,mb6.8
RYDS Riyadh 76.52 294 P **P** **00 09 37.9 -0.7**
BDHA Al Bayda' 77.28 284⇓ *e* P **P** **00 09 43.5 +0.6**
BDHA AMb AMB 00 09 44.2
comp=Z,90nm,0.8s,mb5.4
MAK Makhachkala 77.52 313 *e* P **P** **00 09 50.5 +6.8**
LBOS 77.58 283⇓ *e* P **P** **00 09 45.3 +0.7**
LBOS AMb AMB 00 09 46.1
comp=Z,244nm,1.1s,mb5.7
OPO Ambohidratompo 77.69 250 P **P** **00 09 45.1 0.0**
comp=Z,51nm,0.7s,mb5.2,baz=78,slow=5.0
MZLS Mizel 77.82 294 P **P** **00 09 45.5 -0.2**
DHBB Dhamar BB 78.42 284⇓ *e* P **P** **00 09 50.1 +1.1**
TNA Tin City 78.70 23 *e* P **P** **00 09 50.5 +0.9**
comp=Z,51nm,1.0s,mb5.1
DGRG David-gareji 78.92 312 P **P** **00 09 51.3 +0.1**
BHD Baghdad 79.03 303 *i* x x 00 09 48.5
BHD *i* x x 00 09 54.0
BHD *ex* x 00 19 07.0
BHD *ex* x 00 19 19.0
HAJJ Hajjah 79.18 285⇓ *e* P **P** **00 09 54.0 +1.0**
DJNS Zahran al Janu 79.24 287 P **P** **00 09 54.3 +1.0**
GNI Garni 79.27 310 P **P** **00 09 54.6 +1.5**
comp=Z,54nm,0.6s,mb5.4,baz=334,slow=2.7,SNR=57
GNI S S 00 19 19.9 +3.6
comp=Z,6.9nm,0.9s,baz=17,slow=20,SNR=3.0
GNI Garni 79.27 310 *e* P **P** **00 09 53.9 +0.8**
comp=Z,144nm,0.8s,mb5.7
GNI Garni 79.27 310 *d i* P **P** **00 09 53.6 +0.5**
GNI pmax pmax
comp=Z,376nm,1.7s
SAMG Sameba 79.36 312 P **P** **00 09 52.7 -0.8**
MTA Mtatsminda 79.38 312 P **P** **00 09 54.3 +0.7**
TI2 Plekhanov 79.41 312⇓ *i* P **P** **00 09 51.0 -2.8**
TI2 *i* S S 00 19 13.0 -4.7
TI2 pmax pmax
comp=Z,50nm,0.8s,mb5.2
AFFS 'Afif 79.83 294 P **P** **00 09 56.8 +0.4**
ATD Arta Tunnel 79.95 281 S S 00 19 25.5 +1.8
comp=Z,1.3nm,0.5s,baz=294,slow=19,SNR=2.0
MSL Mosul 80.27 306 *i* x x 00 10 15.0
MSL *ex* x 00 12 02.5
MSL *ex* x 00 12 38.0
MSL *ex* x 00 13 38.0
MSL *ex* x 00 19 38.0
AKH Akhalkalaki 80.32 311 P **P** **00 09 59.7 +1.1**
BKR Bakuriani 80.34 312 P **P** **00 09 58.8 +0.1**
ONI Oni 80.45 313 P **P** **00 10 00.6 +1.4**
GOF Gofitskoye 80.96 315⇑ *i* P **P** **00 10 01.9 +0.1**
GOF *i* S S 00 19 31.0 -2.4
GOF pmax pmax
comp=Z,220nm,1.3s,mb5.7
GOF smax
comp=N,50nm,1.4s
GOF smax
comp=E,40nm,1.4s
HILS Ha'il 81.00 297 P **P** **00 10 03.3 +0.9**
BLJS Baljurashi 81.09 290 P **P** **00 10 04.2 +1.3**
KIV Kislovodsk 81.12 314⇓ *i* P **P** **00 10 02.9 +0.3**
KIV *i* *PP pP 00 11 39.9 -0.7
KIV *e* 00 13 17.1
KIV *e* S S 00 19 35.1 +0.1
KIV pmax pmax
comp=Z,186nm,1.2s,mb5.7

KIV MLR MLR
comp=Z,300nm,19.0s
MAW Mawson 81.80 200 ⇑*i*P **P 00 10 06.5 +0.8**
comp=Z,28nm,1.0s,mb4.9
MAW Mawson 81.80 200 P **P 00 10 06.1 +0.4**
comp=Z,41nm,1.0s,mb5.1,baz=59,slow=6.7,SNR=39
MAW pP pP 00 11 45.4 +1.6
comp=Z,14nm,0.9s,baz=37,slow=12,SNR=2.3
MAW sP sP 00 12 33.2 +4.8
comp=Z,12nm,0.9s,baz=39,slow=6.5,SNR=1.4
MAW S S 00 19 41.1 -0.3
comp=Z,12nm,1.2s,baz=150,slow=20,SNR=7.0
MAW PKKPbc 00 28 33.8
comp=Z,6.0nm,0.5s,baz=181,slow=2.7,SNR=15
LTHS Al Lith 82.20 290 P **P 00 10 09.6 +1.0**
VRHR Novokhopersk 82.41 321*d*/P **P 00 10 08.5 -0.6**
VRHR *e**PP pP 00 11 40.1 -7.2
VRHR *e*S S 00 19 42.1 -5.7
VRHR pmax pmax
comp=Z,380nm,0.5s,mb6.4
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,240nm,1.2s
VRHR smax
comp=N,480nm,1.0s
VRHR smax
comp=Z,110nm,3.1s
VRHR smax
comp=E,410nm,1.2s
VNDA Vanda 83.11 172 P **P 00 10 13.3 +1.2**
comp=E,21nm,0.7s,mb5.0,baz=316,slow=6.2,SNR=175
VNDA pP pP 00 11 52.0 +1.4
comp=E,6.3nm,0.7s,baz=339,slow=10,SNR=1.8
VNDA sP sP 00 12 40.1 +5.0
comp=E,33nm,0.8s,baz=334,slow=6.8,SNR=5.3
VNDA S S 00 19 50.2 -4.1
comp=E,3.5nm,1.1s,baz=189,slow=23,SNR=6.2
VNDA Vanda 83.11 172 *e*P **P 00 10 12.5 +0.4**
comp=E,22nm,0.7s,mb5.0
SOC Sochi 83.24 313 *e*P **P 00 10 11.9 -1.5**
SOC *e**SP sP 00 12 31.9 -4.5
SOC *e* 00 13 35.8
SOC *e*S S 00 19 51.1 -5.1
SOC pmax pmax
comp=Z,268nm,1.3s,mb5.8
SOC pmax pmax
comp=N,19nm,0.7s
SOC pmax pmax
comp=E,57nm,0.9s
SOC MLR MLR
comp=Z,379nm,15.0s
SOC MLR MLR
comp=N,339nm,20.0s
SOC MLR MLR
comp=E,385nm,16.0s
KBRS Khaybar 83.25 295 P **P 00 10 15.3 +1.5**
VORD Divnogorie 83.87 321*d*/P **P 00 10 16.1 -0.3**
VORD pmax pmax
comp=Z,450nm,0.6s,mb6.4
VORD pmax pmax
comp=N,120nm,0.5s
VORD pmax pmax
comp=E,260nm,0.7s
VOR Voronezh 83.97 322 *e*P **P 00 10 16.3 -0.6**
VOR *e* 00 13 40.0
VOR *e* 00 19 53.0
VOR *e*S S 00 19 58.5 -4.6
VOR pmax pmax
comp=Z,2μm,1.5s,mb6.5
VOR pmax pmax
comp=N,130nm,1.3s
VOR pmax pmax
comp=E,850nm,1.5s
VOR smax
comp=N,630nm,1.8s
VOR smax
comp=E,1μm,1.8s
VOR smax
comp=Z,330nm,1.8s
SBA Scott Base 84.06 172 *e*P **P 00 10 18.8 +1.9**
comp=Z,5.7nm,0.6s
MALT Malatya 84.07 308 *e*P **P 00 10 18.3 +0.6**
comp=Z,108nm,0.6s,mb5.8
RSO Redoubt South 84.53 30 *e*P **P 00 10 19.3 -0.1**
IMA Indian Mountai 84.54 24 *e*P **P 00 10 20.1 +0.8**
comp=Z,304nm,0.6s,mb6.2
SPU Mount Spurr 84.91 29 *e*P **P 00 10 20.5 -0.8**
ANN Anapa 84.92 315⇓*i*/P **P 00 10 20.5 -1.2**
ANN *i*S S 00 20 08.9 -3.5
ANN pmax pmax
comp=Z,1200μm,1.3s
QURS Qurayyt al Mil 84.94 301 P **P 00 10 23.0 +0.9**
UMJS Umm Lajj 85.02 295 P **P 00 10 23.5 +0.8**
MOS Moscow 85.08 326 *e*P **P 00 10 18.1 -4.1**
MOS *e**PP pP 00 11 52.7 -8.4
MOS *e*S S 00 19 59.3
MOS pmax pmax
comp=Z,2μm,1.8s,mb6.6
MOS pmax pmax
comp=Z,1μm,1.7s,mb6.4
ASF Jabal al Asfar 85.30 302 P **P 00 10 25.1 +1.2**
comp=Z,404nm,1.0s,mb6.1,baz=337,slow=4.6,SNR=327
ASF pP pP 00 12 04.9 +2.1
comp=Z,10nm,0.9s,baz=153,slow=4.5,SNR=1.4
TBKS Tabuk 85.65 298 P **P 00 10 26.6 +0.9**
OBN Obninsk 85.66 325 *e*P **P 00 10 24.8 -0.2**
comp=Z,303nm,0.6s,mb6.2
OBN Obninsk 85.66 325*c*/P **P 00 10 24.9 -0.1**
OBN *e**PP pP 00 12 02.7 -1.4
OBN *e* 00 13 50.6
OBN *i*S 00 20 06.0
OBN *e*SS SS 00 26 08.1 -3.1
OBN pmax pmax
comp=Z,1μm,1.7s,mb6.3
OBN MLR MLR
comp=Z,400nm,15.0s
FKH Fakeheh 85.69 304 *e*P **P 00 10 26.8 +1.0**
SLKM Skilak Lake 85.78 30 *e*P **P 00 10 24.9 -0.6**
KMBO Kilima Mbogo 85.99 269 P **P 00 10 28.9 +1.3**
comp=Z,151nm,1.1s,mb5.6,baz=65,slow=6.0,SNR=146
KMBO pP pP 00 12 08.6 +1.9
comp=Z,9.6nm,1.0s,baz=73,slow=8.5,SNR=1.8
BHL Bhannes 86.32 304 *e*P **P 00 10 29.4 +0.7**
KSDI Kefar Szold 86.33 303 P **P 00 10 29.4 +0.6**
PMR Palmer 86.33 29 *e*P **P 00 10 28.5 +0.4**
comp=Z,65nm,0.8s,mb5.4
MKRJ Makawir 86.38 301 P **P 00 10 29.9 +0.8**
MCK McKinley 86.45 26 *e*P **P 00 10 27.9 -0.7**
comp=Z,87nm,0.8s,mb5.5
MMLI Mount Malkishu 86.54 302 P **P 00 10 30.8 +1.0**
MZDA Masada 86.62 301 P **P 00 10 30.6 +0.4**
SML Sawmill 86.72 28 *e*P **P 00 10 28.2 -1.7**
HNTI Hanita 86.74 303 P **P 00 10 31.3 +0.5**
ZFRI Zfri 86.80 300 P **P 00 10 31.6 +0.5**
SLTI Sal'it 86.87 302 P **P 00 10 31.9 +0.5**
JMOS Jabal al Moall 86.89 299 P **P 00 10 32.2 +0.6**
OFRI 'Ofer 86.91 302 P **P 00 10 31.9 +0.3**
BDAS Al Bad' 86.92 298 P **P 00 10 32.4 +0.7**
ALWS Ilw as Safayha 86.93 299 P **P 00 10 32.5 +0.7**
PRNI Paran 86.95 300 P **P 00 10 32.5 +0.6**
EIL Elat 87.02 299 P **P 00 10 32.6 +0.4**
TAYS Tayyib Ism 87.12 298 P **P 00 10 33.4 +0.7**
MASH Mash'abbe Sade 87.12 301 P **P 00 10 32.8 +0.1**
RTMM Retamin 87.21 301 P **P 00 10 33.1 +0.1**
SIM Simferopol' 87.28 315*d*/P **P 00 10 32.0 -1.0**
SIM *i*S S 00 20 30.0 -4.5
SIM pmax pmax
comp=Z,149nm,1.0s,mb5.7
SIM MLR MLR
comp=Z,470nm,21.5s
ILAR Eielson Array 87.34 25 P **P 00 10 31.2 -1.6**
comp=Z,20nm,0.5s,mb5.1,baz=264,slow=4.4,SNR=270
ILAR PP PP 00 14 03.4 -2.4
comp=Z,7.5nm,0.9s,baz=258,slow=6.5,SNR=4.7
ILAR ScS ScS 00 20 32.4 -6.6
comp=Z,1.3nm,1.0s,baz=288,slow=8.6,SNR=5.7
ILAR PKKP PKKP 00 28 16.5 +49
comp=Z,0.6nm,0.6s,baz=356,slow=1.2,SNR=6.1
ILAR PKKPbc 00 28 21.6
comp=Z,1.0nm,0.8s,baz=67,slow=1.2,SNR=7.5
KZIT Kziot 87.46 301 P **P 00 10 34.3 +0.1**
PHNC Paralimni 87.63 305 P **P 00 10 34.9 -0.1**
BR131 Keskin Array S 87.78 309 *e*P **P 00 10 34.7 -0.9**
comp=Z,40nm,0.9s,mb5.1
BRTR Keskin Array B 87.78 309 P **P 00 10 35.0 -0.6**
comp=Z,23nm,0.7s,mb5.0,baz=134,slow=4.1,SNR=100
BRTR pP pP 00 12 17.7 +2.6
comp=Z,7.3nm,1.0s,baz=135,slow=6.1,SNR=2.1
BRTR PP PP 00 14 10.1 0.0
comp=Z,6.4nm,0.9s,baz=105,slow=9.5,SNR=4.4
THY Trims Highway 87.88 27 *e*P **P 00 10 35.5 +0.2**
DIV Divide 87.96 29 *e*P **P 00 10 35.9 0.0**
comp=Z,263nm,0.7s,mb6.1
PPT Papeete 88.25 108 *e*S S 00 20 44.1 0.0
PPT *e*SS SS 00 26 47.8 -1.6
JOF Joensuu 88.26 333 *e*p **P 00 10 35.4 -1.8**
comp=Z,87nm,0.6s,mb5.7
JOF Joensuu 88.26 333 *e*P **P 00 10 35.4 -1.8**
JOF pmax pmax
comp=Z,87nm,0.6s,mb5.7
PAE Paea 88.26 108 *e*P **P 00 10 39.8 +1.6**
comp=Z,279nm,1.3s,mb5.8
MAMC Mammari 88.29 305 P **P 00 10 38.3 +0.3**
TVO Taravao 88.58 108 *e*P **P 00 10 41.0 +1.3**
comp=Z,203nm,1.2s,mb5.7
TBI Tubuai 88.73 113 *e*P **P 00 10 41.7 +1.3**
comp=Z,226nm,1.1s,mb5.8
TBI Tubuai 88.73 113 *e*S S 00 20 48.9 +0.6
TBI *e*SS SS 00 26 58.5 +2.6
ALFC Alevga 88.80 305 P **P 00 10 39.7 -0.7**
comp=Z,2.6nm,0.6s
ALFC Alevga 88.80 305 *e*P **P 00 10 39.7 -0.7**
PPCY Paphos 89.02 305 P **P 00 10 40.9 -0.6**
KEV Kevo 89.41 340 *e*p **P 00 10 39.6 -2.8**
comp=Z,31nm,0.9s,mb5.0
KEV Kevo 89.41 340 *e*P **P 00 10 39.6 -2.8**
KEV pmax pmax
comp=Z,31nm,0.9s,mb5.0
ARCES ARCESS Array B 89.95 340 P **P 00 10 44.0 -0.9**
comp=Z,46nm,0.7s,mb5.4,baz=84,slow=5.8,SNR=148
ARCES ScS ScS 00 20 52.5 -7.9
comp=Z,6.6nm,0.9s,baz=53,slow=9.0,SNR=3.4
ARE0 ARCESS Array S 89.95 340 *e*P **P 00 10 44.3 -0.6**
AKASG Malin Array Be 90.26 321 P **P 00 10 45.9 -0.8**
comp=Z,13nm,0.5s,mb5.0,baz=73,slow=4.1,SNR=168
AKASG ScS ScS 00 20 56.6 -6.8
comp=Z,5.7nm,0.9s,baz=87,slow=8.9,SNR=7.1
AKASG Malin Array Be 90.26 321 P **P 00 10 45.9 -0.8**
AKASG ScS ScS 00 20 56.6 -6.8
ISP Isparta 90.33 308 *e*P **P 00 10 46.2 -1.2**
comp=Z,31nm,0.6s,mb5.3
SYO Syowa Base 90.42 201 ⇑P **P 00 10 46.0 -1.1**
SYO Syowa Base 90.42 201 ⇑pP pP 00 12 32.8 +5.7
KAF Kangasniemi 90.64 332 *e*p **P 00 10 46.1 -2.1**
comp=Z,77nm,0.6s,mb5.7,baz=79,slow=4.2
KAF Kangasniemi 90.64 332 *e*P **P 00 10 46.1 -2.1**
KAF pmax pmax
comp=Z,77nm,0.6s,mb5.7
MNK Minsk 90.74 324 *i*P **P 00 10 47.0 -1.9**
KTK1 Kautokeino 90.84 339 *e*P **P 00 10 47.9 -1.1**
KTK1 AMb AMB 00 10 52.5
comp=Z,76nm,1.3s,mb5.4
KTK1 Kautokeino 90.84 339 *e*P **P 00 10 47.9 -1.1**
comp=Z,76nm,1.3s,mb5.4
FINES FINESS Array B 90.84 332 P **P 00 10 48.6 -0.5**
comp=Z,26nm,0.5s,mb5.3,baz=56,slow=6.9,SNR=179
FINES ScS ScS 00 21 02.2 -5.7
comp=Z,4.5nm,0.8s,baz=83,slow=15,SNR=5.6
FINES FINESS Array B 90.84 332 P **P 00 10 48.6 -0.5**
FINES ScS ScS 00 21 02.2 -5.8
FINES FINESS Array B 90.84 332 *i*P **P 00 10 48.6 -0.6**
FINES pmax pmax
comp=Z,26nm,0.5s
KIS Kishinev 90.85 317α*i*P **P 00 10 48.0 -1.6**
KIS *e* 00 14 35.0
KIS *e* 00 16 42.0
KIS *i* 00 20 35.0
KIS *i*S S 00 21 00.0 -6.6
KIS *e*PS PS 00 23 10.0 -8.9
KIS pmax pmax
comp=Z,200nm,1.0s,mb5.9
KIS pmax pmax
comp=Z,300nm,1.0s,mb6.1
KIS MLR MLR
comp=Z,600nm,19.0s
KIS MLR MLR
comp=Z,500nm,19.0s
VSU Vasula 90.89 329⇑*i*P **P 00 10 48.9 -0.6**
VSU Vasula 90.89 329*c*/P **P 00 10 48.9 -0.6**
TLCR 91.01 315⇑/P **P 00 10 50.1 -0.3**
TLCR 91.01 315⇑/P **P 00 10 50.1 -0.2**
IDID Didziasalis 91.27 325 *e*P **P 00 10 51.2 -0.1**
IDID AMb AMB 00 10 53.7
comp=Z,69nm,1.1s,mb5.4
IDID *e*PP PP 00 14 35.2 -1.9
CFR Carcaliu 91.49 315⇑/P **P 00 10 51.5 -1.1**
CFR Carcaliu 91.49 315⇑/P **P 00 10 51.5 -1.0**
IIGN Ignalina 91.56 325 *e*P **P 00 10 52.9 +0.2**
ISAL Salakas 91.59 326 *e*P **P 00 10 52.7 -0.1**
ISAL AMb AMB 00 10 55.0
comp=Z,39nm,1.2s,mb5.2
ISAL *e*pP pP 00 12 33.2 +0.2
PSN Preselentsi 91.61 314 P **P 00 10 53.0 -0.2**
HARR Harsova 91.69 315⇑/P **P 00 10 52.6 -0.9**
HARR Harsova 91.69 315⇑/P **P 00 10 52.6 -0.9**
INK Inuvik 92.19 21 *e*P **P 00 10 54.9 -0.4**
comp=Z,40nm,0.6s,mb5.5
TRO Tromso 92.20 340 *e*P **P 00 10 53.9 -1.4**
TRO AMb AMB 00 11 16.0
comp=Z,82nm,1.9s,mb5.3
TRO Tromso 92.20 340 *e*P **P 00 10 53.9 -1.4**
comp=Z,82nm,1.9s,mb5.3
PRD Provadia 92.22 313 P **P 00 10 56.0 0.0**
VRI Vrincioaia 92.40 316⇑/P **P 00 10 56.9 +0.1**
VRI Vrincioaia 92.40 316⇑/P **P 00 10 56.9 +0.1**
MBAR Mbarara 92.46 270 *e*P **P 00 10 56.7 -1.2**
comp=Z,17nm,1.0s,mb4.9
QSPA South Pole Qui 92.85 180⇓*i*P **P 00 11 00.4 +2.3**
comp=Z,55nm,1.3s,mb5.3
JMB Yambol 92.90 313 *e*P **P 00 10 59.0 -0.2**
MLR Muntele Rosu 92.99 316 P **P 00 10 59.6 +0.1**
comp=Z,54nm,1.0s,mb5.4,baz=48,slow=1.1,SNR=61
MLR PP PP 00 14 48.8 -2.2
comp=Z,14nm,0.9s,baz=149,slow=9.4,SNR=4.6
MLR Muntele Rosu 92.99 316⇑/P **P 00 10 59.7 +0.2**
BURAR Bucovina Array 93.21 316⇑/P **P 00 11 01.3 +0.8**
BURAR Bucovina Array 93.21 318⇑/P **P 00 11 01.3 +0.8**
ALN Alexandroupoli 93.48 311 *e*P **P 00 11 00.8 -1.1**
SUW Suwalki 93.51 324 *e*P **P 00 11 01.6 0.0**
SUW *e*PP PP 00 14 54.4 -0.4
SUW *e*S S 00 21 26.1 -3.1
SUW Suwalki 93.51 324 *e*P **P 00 11 01.6 -0.1**
SUW *e* 00 14 54.4
SUW *e*S S 00 21 26.1 -3.2
VOIR 93.62 316⇑/P **P 00 11 02.6 +0.2**
VOIR 93.62 316⇑/P **P 00 11 02.6 +0.2**
ZIMR 93.64 314⇑/P **P 00 11 02.3 -0.2**
ZIMR 93.64 314⇑/P **P 00 11 02.3 -0.2**
LVV L'vov 93.67 320 *i*P **P 00 11 02.0 -0.5**
PVL Pavlikeni 93.72 313 P **P 00 11 03.0 +0.1**
DIM Dimitrovgrad 93.72 312 *e*P **P 00 11 02.0 -0.9**
KDZ Kurdzhali 93.86 312 P **P 00 11 03.0 -0.6**
RZN Rozhen 94.38 312 P **P 00 11 05.0 -0.9**
KWP Kalwaria 94.55 320 *e*P **P 00 11 07.0 +0.5**
comp=Z,500nm,1.4s,mb6.3
KWP *e*PP PP 00 15 01.3 -1.4
KWP *e*SKS SKS 00 20 57.3 -1.3
KWP *e*S S 00 21 38.3 0.0
KWP Kalwaria 94.55 320 *e*PP PP 00 15 01.3 -1.3
KWP *e*SKS SKS 00 20 57.3 -1.4
KWP *e*S S 00 21 38.3 +0.1
KWP Kalwaria 94.55 320 *e*P **P 00 11 07.0 +0.5**
KWP *e* 00 15 01.3
KWP *e* 00 20 57.3
KWP *e*S S 00 21 38.3 +0.1
KWP pmax pmax
comp=Z,500nm,1.4s,mb6.3
PGB Panagyurishte 94.66 313 P **P 00 11 06.3 -0.9**
MOR8 Moi Rana 94.81 337 *e*P **P 00 11 05.2 -2.1**
MOR8 AMb AMB 00 11 14.1
comp=Z,61nm,1.8s,mb5.3
MOR8 Moi Rana 94.81 337 *e*P **P 00 11 05.2 -2.1**
comp=Z,61nm,1.8s,mb5.3
MELSS Ber_school_2 94.86 338 *e*P **P 00 11 06.2 -1.3**
UZH Uzhgorod 94.99 319 *i*P **P 00 11 10.0 +1.5**
DRGR 95.03 317⇑/P **P 00 11 08.2 -0.5**
DRGR 95.03 317⇑/P **P 00 11 08.2 -0.5**
IDI Anoyia 95.08 306 P **P 00 11 08.4 -0.9**
comp=Z,13nm,0.4s,mb5.3,baz=63,slow=4.5
WAR Warsaw 95.11 323 *e*P **P 00 11 09.4 +0.5**
comp=Z,500nm,2.2s,mb6.2
WAR *e*SKS SKS 00 21 02.1 +0.5
WAR *e*S S 00 21 43.3 +0.3
WAR Warsaw 95.11 323 *e*P **P 00 11 09.5 +0.5**
comp=Z,0.5nm,2.2s
WAR *e*SKS SKS 00 21 02.1 +0.5
WAR *e*S S 00 21 43.3 +0.3
WAR Warsaw 95.11 323 *e*P **P 00 11 09.5 +0.5**
WAR *e* 00 21 02.1
WAR *e*S S 00 21 43.3 +0.3
WAR pmax pmax
comp=Z,500nm,2.2s,mb6.2
OUR Ouranopolis 95.11 311 *e*P **P 00 11 08.1 -1.2**
MMB Musomiste 95.12 312 P **P 00 11 08.0 -1.3**
SRS Serrai 95.29 312 *e*P **P 00 11 08.4 -1.7**
VTS Vitosha 95.35 313 P **P 00 11 10.0 -0.3**
MATP Matopo 95.39 250 P **P 00 11 10.9 -0.1**
comp=Z,57nm,0.8s,mb5.6,baz=97,slow=5.0,SNR=69
MATP PP PP 00 15 04.7 -4.9
comp=Z,54nm,1.1s,baz=96,slow=7.6,SNR=11
MATP PKKPbc 00 28 03.6
baz=356,slow=1.5
PAIG Paliouri 95.40 310 *e*P **P 00 11 12.0 +1.3**
CRVS Cervenica-Dubn 95.48 320 *e*P **P 00 11 11.6 +0.8**
SOH Sokhos 95.52 311 *e*P **P 00 11 08.1 -3.0**
STHS Stebnicka Huta 95.53 320 *e*P **P 00 11 11.6 +0.7**
KKB Krupnik 95.56 312 P **P 00 11 10.2 -1.1**
LSZ Lusaka 95.57 255 *e*P **P 00 11 10.6 -1.3**
comp=Z,31nm,0.8s,mb5.5
ZAPS Zavoj/Pirot 95.67 314⇓*i*P **P 00 11 10.6 -1.1**
KNT Kendrikon 95.81 312 *e*P **P 00 11 11.0 -1.4**
THE Thessaloniki 95.84 311 *e*P **P 00 11 10.0 -2.6**
XOR Xorichti 95.86 310 *e*P **P 00 11 10.6 -2.1**
BOLS Boljevac 96.05 314⇑/P **P 00 11 12.4 -1.0**
NIE Niedzica 96.12 320⇑/P **P 00 11 14.4 +0.7**
KECS Kecovo 96.20 319 *e*P **P 00 11 13.9 -0.1**
KECS *e*PP PP 00 15 12.9 -2.3
DLBC Dease Lake 96.23 30 *e*P **P 00 11 14.7 +0.7**
OJC Ojcow 96.28 321 *e*P **P 00 11 14.6 +0.2**
OJC *e*S S 00 21 49.9 -3.0
OJC MLR MLR 00 54 23.3
comp=Z,500nm,21.1s
OJC Ojcow 96.28 321 *e*P **P 00 11 14.6 +0.2**
OJC MLR MLR
comp=Z,500nm,21.1s
NSS Namsos 96.33 336 *e*P **P 00 11 11.8 -2.4**
AGG Agios Georgios 96.57 310 *e*P **P 00 11 13.7 -2.3**
PSZ Piszkesteto 96.70 319⇑/P **P 00 11 16.3 0.0**
PSZ *i*PP PP 00 15 22.2 +3.0
PSZ Piszkesteto 96.70 319 *e*P **P 00 11 15.9 -0.4**
comp=Z,72nm,1.4s,mb5.6
SKO Skopje 96.75 313 *i*P **P 00 11 15.3 -1.4**
FNA Florina 97.00 312 *e*P **P 00 11 15.5 -2.4**
HFS Hagfors 97.04 332 P **P 00 11 16.5 -1.1**
comp=Z,10nm,0.3s,mb5.4,baz=99,slow=4.4,SNR=104
HFS PP PP 00 15 17.7 -3.9
comp=Z,10nm,0.6s,baz=63,slow=9.9,SNR=3.7
HFS SKKP 00 30 51.4
comp=Z,1.3nm,0.6s,baz=162,slow=4.6,SNR=6.3
GKP Gorka Klasztor 97.12 324 *e*P **P 00 11 18.6 +0.5**
comp=Z,300nm,1.7s,mb6.2
GKP *e*SKS SKS 00 21 12.5 +0.4
GKP *e*S S 00 22 07.8 +7.9
GKP Gorka Klasztor 97.12 324 *e*P **P 00 11 18.6 +0.5**
comp=Z,0.3nm,1.7s
GKP *e*SKS SKS 00 21 12.5 +0.4
GKP *e*S S 00 22 07.8 +7.9
GKP Gorka Klasztor 97.12 324 *e*P **P 00 11 18.6 +0.5**
GKP *e* 00 21 12.5
GKP *e*S S 00 22 07.8 +7.9
GKP pmax pmax
comp=Z,300nm,1.7s,mb6.2
VYHS Vyhne 97.27 319 *e*P **P 00 11 18.9 0.0**
VYHS *e*PP PP 00 15 25.6 +1.9
RAC Raciborz 97.32 321 *e*P **P 00 11 19.9 +0.8**
DIVS Divcibare 97.40 315⇑/P **P 00 11 19.1 -0.5**
OKC Ostrava-Krasne 97.40 321 *e*P **P 00 11 19.5 0.0**
OKC *e*x x 00 15 35.4
DAG Danmarks Havn 97.54 352⇑/P **P 00 11 18.9 -0.7**
comp=Z,22nm,0.7s,mb5.5
DAG Danmarks Havn 97.54 352⇑/P **P 00 11 18.9 -0.7**
DAG pmax pmax
comp=Z,22nm,0.7s,mb5.5
SRO Srobarova 97.76 319 *e*P **P 00 11 21.4 +0.2**
SRO *e*PP PP 00 15 26.5 -1.1
MORC Moravsky Berou 97.80 321 *e*P **P 00 11 21.2 -0.1**
comp=Z,66nm,1.4s,mb5.7
NB2 NORSAR Subarra 97.89 333 P **P 00 11 19.7 -1.7**
comp=Z,29nm,1.0s,mb5.5,baz=72,slow=4.5
NB2 NORSAR Subarra 97.89 333 P **P 00 11 19.7 -1.7**
baz=72,slow=4.4
NOA NORSAR Array B 97.89 333 P **P 00 11 20.0 -1.5**
comp=Z,16nm,0.9s,mb5.3,baz=69,slow=4.6,SNR=52
NOA PP PP 00 15 23.7 -4.6
comp=Z,4.5nm,0.7s,baz=66,slow=7.3,SNR=4.7
BSD Bornholm Skovb 97.94 327⇑/P **P 00 11 21.7 -0.1**
comp=Z,68nm,0.9s,mb5.9
BSD *e* 00 15 25.3
BSD Bornholm Skovb 97.94 327⇑/P **P 00 11 21.7 -0.1**
BSD *e* 00 15 25.3
BSD pmax pmax
comp=Z,68nm,0.9s,mb5.9
LBTB Lobatse 98.10 245 P **P 00 11 22.5 -0.8**
comp=Z,15nm,1.0s,mb5.2,baz=111,slow=5.1,SNR=9.5
LBTB PP PP 00 15 24.7 -6.0
comp=Z,24nm,1.0s,baz=95,slow=8.0,SNR=8.1
KSP Ksiaz 98.31 322 *e*P **P 00 11 24.3 +0.7**
comp=Z,300nm,1.7s,mb6.2
KSP *e*SKS SKS 00 21 15.1 -3.1
KSP *e* 00 22 10.7
KSP Ksiaz 98.31 322⇑*e*Pdif **P 00 11 24.1 +0.5**
KSP *e*Sdif 00 22 09.0
KSP *e*SS SS 00 29 07.0 -2.5
KSP *e* 00 38 52.0
BOSA Boshof 98.35 242 P **P 00 11 24.5 +0.2**
comp=Z,7.4nm,1.1s,mb4.8,baz=80,slow=5.8,SNR=4.4
BOSA PP PP 00 15 25.3 -7.1
comp=Z,4.7nm,0.8s,baz=117,slow=2.3,SNR=3.6
BOSA PKKP PKKP 00 27 54.7 +45
comp=Z,2.7nm,0.5s,baz=244,slow=4.3,SNR=9.4
BOSA Boshof 98.35 242 P **P 00 11 24.5 +0.2**
BOSA PP PP 00 15 25.3 -7.1
BOSA PKKP PKKP 00 27 54.7 +45
DPC Dobruska-Polom 98.42 322 *e*P **P 00 11 24.6 +0.5**
DPC *e*x x 00 22 07.5
ZST Bratislava 98.46 319 *e*P **P 00 11 23.8 -0.5**
ZST *e*PP PP 00 15 36.8 +4.1
VRAC Vranov 98.51 321 P **P 00 11 25.2 +0.6**
comp=Z,26nm,1.1s,mb5.5,baz=83,slow=4.8,SNR=38
VRAC PP PP 00 15 35.7 +2.7
comp=Z,7.0nm,0.7s,baz=80,slow=8.9,SNR=5.1
UPC Upice 98.57 322 *e*P **P 00 11 25.0 +0.3**
UPC *e*x x 00 15 35.3
MOL Molde 98.91 335 *e*P **P 00 11 26.8 +0.8**
MOL AMb AMB 00 11 29.1
comp=Z,88nm,1.4s,mb5.9
MOL Molde 98.91 335 *e*P **P 00 11 26.8 +0.8**
comp=Z,88nm,1.4s,mb5.9
COP Copenhagen 99.11 328 *i*P **P 00 11 27.3 +0.3**
comp=Z,10nm,1.0s,mb5.1
COP *i* 00 15 41.9
COP Copenhagen 99.11 328 *e*P **P 00 11 27.3 +0.3**
comp=Z,10nm,1.0s,mb5.1
COP *i* 00 15 41.9
COP Copenhagen 99.11 328 *e*P **P 00 11 27.3 +0.3**
COP *i* 00 15 41.9
COP pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
TREC Trest 99.22 321 *e*P **P 00 11 28.0 +0.3**
RUE Ruedersdorf 99.36 324 *e*Pdif **P 00 11 27.7 -0.5**
comp=Z,170nm,1.1s,mb6.3
PVCC Panska Ves 99.45 322 *e*P **P 00 11 29.0 +0.3**
PRU Pruhonice 99.62 322 *e*P **P 00 11 29.4 0.0**
PRU *e*x x 00 15 44.1
PRU *e*x x 00 22 20.2
ARSA Arzberg 99.73 319⇑/P **P 00 11 29.8 -0.2**
comp=Z,20nm,1.4s,mb5.4
BRG Berggiesshubel 99.73 323⇑*i*PKP **P 00 11 30.4 +0.4**
comp=Z,88nm,1.3s,mb6.0
BRG *e* 00 14 24.3
BRG *e* 00 15 42.5
BRG *e* 00 22 23.1

BRG SS SS 00 29 25.0 -4.1
BRG Berggiesshubel 99.73 323 ⇑*i*P **P** **00 11 30.4 +0.5**
BRG *e* 00 15 42.5
BRG *e* 00 22 23.0
BRG pmax pmax
comp=Z,89nm,1.3s,mb6.0
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
BRG pmax pmax
comp=Z,48nm,1.8s,mb5.6
CRES Cresnjev 100.14 317 *i* Pdiff P 00 11 32.0 +0.1
CLL Collm 100.17 323 P P 00 11 31.4 -0.4
comp=Z,logA/T=1.7
CLL *i* 00 11 42.7
CLL *e* 00 12 08.0
CLL *e*PP PP 00 15 43.0 -2.5
CLL *e* 00 19 18.0
CLL *e*S S 00 22 26.0 +0.5
CLL *e*SS SS 00 29 31.0 -4.1
CLL *e**SSS 00 32 18.0
CLL *e*SSS SSS 00 33 27.0 -3.8
CLL *e* 00 39 25.0
CLL Collm 100.17 323 *i* P P 00 11 31.4 -0.4
comp=Z,69nm,1.5s
CLL *i* 00 11 42.7
CLL *e*PP PP 00 15 43.0 -2.5
CLL *e*S S 00 22 26.0 +0.5
CLL Collm 100.17 323 *i* P P 00 11 31.4 -0.4
CLL *e* 00 15 43.0
CLL *e*S S 00 22 26.0 +0.5
CLL pmax pmax
comp=Z,69nm,1.5s
CLL pmax pmax
comp=Z,96nm,1.8s
LEGS Legarje 100.21 318 *e*Pdiff P 00 11 32.3 +0.2
BOJS Bojanci 100.37 317 *e*Pdiff P 00 11 33.1 +0.3
BOJS *e*SKSac 00 21 26.1
BOJS *e*Sdiff 00 22 25.9
MOA Molln 100.39 320 ⇑*i*P P 00 11 33.2 +0.3
comp=Z,47nm,1.5s
MOA Molln 100.39 320 *i* P P 00 11 33.2 +0.3
comp=Z,47nm,1.5s,SNR=15
PDKS Podkum 100.39 318 *e*Pdiff P 00 11 33.0 0.0
PDKS *e*PP PP 00 15 49.8 +2.3
PDKS *e*SKSac 00 21 26.7
PDKS *e*Sdiff 00 22 28.9
PDKS *e*SS SS 00 29 42.8 +4.4
KHC Kasperske Hory 100.47 321 *e*P P 00 11 32.9 -0.3
KHC *ex* x 00 15 45.8
KHC *ex* x 00 22 25.8
GEC2 GERESS Array S 100.47 321 *e*P P 00 11 33.7 +0.5
comp=Z,56nm,1.6s
GEC2 *e*SKSac 00 21 26.0
GEC2 GERESS Array S 100.47 321 *e*P P 00 11 33.7 +0.5
GEC2 *e* 00 21 26.0
GEC2 pmax pmax
comp=Z,56nm,1.6s
GERES GERESS Array B 100.47 321 P P 00 11 33.4 +0.1
comp=Z,6.5nm,0.9s,baz=72,slow=4.2,SNR=47
GERES PP PP 00 15 45.2 -2.8
comp=Z,2.1nm,0.7s,baz=76,slow=8.1,SNR=3.8
GERES PKiKP 00 15 58.7
comp=Z,2.4nm,0.6s,baz=72,slow=4.2,SNR=4.1
MUD Monsted U'grnd 100.56 329 *i* P P 00 11 33.2 -0.2
comp=Z,22nm,0.9s
MUD Monsted U'grnd 100.56 329 *i* P P 00 11 33.2 -0.2
MUD pmax pmax
comp=Z,22nm,0.9s
LJU Ljubljana 100.71 318 *e*PP PP 00 15 52.2 +2.2
LJU *e*SKSac 00 21 27.6
TIP Timpagrande 100.80 311 *e*Pdif P 00 11 34.0 -0.9
NKC Novy Kostel 100.83 322 *e*P P 00 11 35.0 +0.2
NKC *ex* x 00 15 42.5
NKC *ex* x 00 22 34.3
NKC Novy Kostel 100.83 322 *e*P P 00 11 35.0 +0.2
NKC *e* 00 22 34.3
BSEG Bad Segeberg 100.86 326 *e*P P 00 11 35.5 +0.7
BSEG pmax pmax
comp=Z,103nm,1.2s
WET Wettzell 100.90 321 *e*P P 00 11 35.5 +0.4
comp=Z,44nm,1.5s
WET *e*SKSac 00 21 28.4
WET Wettzell 100.90 321 *e*P P 00 11 35.5 +0.4
WET *e* 00 21 28.4
WET pmax pmax
comp=Z,44nm,1.5s
MOX Moxa 101.21 323 *i* P P 00 11 36.9 +0.5
comp=Z,logA/T=1.6
MOX PP PP 00 15 45.0 -8.6
MOX SKS SKS 00 21 32.0 -0.2
MOX SS SS 00 29 47.0 -2.6
MOX L 01 01 23.0
MOX Moxa 101.21 323 *e*P P 00 11 36.9 +0.5
comp=Z,63nm,1.5s
MOX *e* 00 15 44.9
MOX LR LR
comp=Z,600nm,22.0s
MOX Moxa 101.21 323 *e*P P 00 11 36.9 +0.5
MOX pmax pmax
comp=Z,63nm,1.5s
MOX MLR MLR
comp=Z,600nm,22.0s
CLZ Clausthal 101.55 324 *e*P P 00 11 38.6 +0.7
CLZ Clausthal 101.55 324 *e*P P 00 11 38.9 +1.0
CLZ pmax pmax
comp=Z,87nm,1.4s
YKW3 Yellowknife Ar 101.62 24 *e*Pdif P 00 11 38.8 +0.8
YKW3 *e* 00 11 50.4
YKA Yellowknife Ar 101.66 24 P P 00 11 38.0 -0.2
comp=Z,8.0nm,0.6s,baz=300,slow=4.5,SNR=41
YKA PKiKP 00 15 59.2
comp=Z,3.1nm,0.5s,baz=298,slow=1.9,SNR=26
YKA SKiKP 00 18 49.7
comp=Z,1.3nm,0.5s,baz=306,slow=1.9,SNR=9.1
YKA PKKPbc 00 27 42.8
comp=Z,0.6nm,0.4s,baz=125,slow=3.6,SNR=8.3
YKA Yellowknife Ar 101.66 24 P P 00 11 38.0 -0.2
GRA1 Grafenberg Arr 101.76 322 *e*P P 00 11 39.3 +0.4
comp=Z,44nm,1.4s
GRF Grafenberg Arr 101.76 322 *e*P P 00 11 39.3 +0.4
comp=Z,44nm,1.4s
GRF Grafenberg Arr 101.76 322 *e*P P 00 11 39.3 +0.4
GRF pmax pmax
comp=Z,44nm,1.4s
RKT Rikitea 102.05 113 *e*PP PP 00 15 56.4 -3.7
RKT *e*SP SP 00 24 16.4 -5.5
RKT *e*SS SS 00 30 03.6 +1.7
WTTA Wattenberg 102.27 320 ⇑*i*P Pdif 00 11 41.2 0.0
comp=Z,45nm,1.7s
WTTA Wattenberg 102.27 320 *i* P Pdif 00 11 41.2 0.0
comp=Z,45nm,1.7s,SNR=9.9
WATA Walderalm 102.28 320 ⇑*i*P Pdif 00 11 40.8 -0.5
comp=Z,41nm,1.5s
SQTA Sankt Quirin 102.56 320 ⇑*i*P Pdif 00 11 42.3 -0.2
comp=Z,53nm,1.7s
MOTA Moosalm 102.58 320 ⇑*i*P Pdif 00 11 42.3 -0.3
comp=Z,24nm,1.4s
OCWA Octopus Mounta 102.82 40 *e*Pdif Pdif 00 11 45.3 +1.6
comp=Z,12nm,0.6s
TNS Taunus Mts 103.26 323 *e*P Pdif 00 11 46.6 +1.1
TOD Tromm 103.26 322 *e*P PP 00 16 09.4 +0.6
WIT Witteveen 103.30 326 *e*P Pdif 00 11 47.9 +2.2
STU Stuttgart 103.32 322 *e*Pdif Pdif 00 11 45.9 +0.1
comp=Z,30nm,1.3s
DAVA Damuels 103.39 320 ⇑*i*P Pdif 00 11 46.5 +0.3
comp=Z,20nm,1.6s
SNAA Sanae 103.54 195 ⇑*i* Pdif 00 11 50.3 +4.0
SNAA Sanae 103.54 195 *e* PP 00 16 18.6 +8.4
SNAA Sanae 103.54 195 Pdiff Pdif 00 11 50.5 +4.2
comp=Z,0.6nm,0.8s,baz=180,slow=7.2,SNR=6.4
SNAA PKiKP 00 16 02.3
comp=Z,2.3nm,1.1s,baz=123,slow=2.2,SNR=6.3
SNAA PKKPbc 00 27 37.8
comp=Z,2.1nm,0.7s,baz=256,slow=2.2,SNR=19
SNAA Sanae 103.54 195 ⇑*i*P Pdif 00 11 50.3 +4.0
SNAA *e* 00 13 31.7
DAVOX Davos 103.56 320 Pdiff Pdif 00 11 47.6 +0.7
comp=Z,9.6nm,0.7s,baz=113,slow=2.5,SNR=25
DAVOX PKiKP 00 16 02.5
comp=Z,5.1nm,0.6s,baz=79,slow=2.9,SNR=4.4
WTSB Winterswijk 103.56 325 *e*P Pdif 00 11 47.8 +0.9
comp=Z,55nm,1.3s
SUMG Summit 103.71 354 *e*Pdif Pdif 00 11 48.8 +1.8
comp=Z,11nm,0.9s
SPAK Spaichingen 103.81 321 *e*P PP 00 16 14.1 +1.5
LANF Langenberg 104.10 322 *e*P PP 00 16 16.1 +1.4
STR Strasbourg 104.27 322 *e*P PP 00 16 17.2 +1.2
FELD Feldberg 104.38 321 *e*P PP 00 16 17.6 +0.7
COR Corvallis 104.43 43 *e*Pdif Pdif 00 11 52.3 +1.5
comp=Z,15nm,1.0s
HGN Heimansgroeve 104.54 324 *e*P Pdif 00 11 51.7 +0.6
comp=Z,20nm,1.9s
HGN *e*PP PP 00 16 22.7 +4.6
HGN *e*PPP PPP 00 18 13.7 -22
HGN *e*SKS SKS 00 21 46.8 -0.7
HGN S S 00 22 55.5 -6.3
HGN *e*S SP 00 24 36.6 -10
HGN *e*SS SS 00 30 13.7 -21
HGN *e*SSS SSS 00 34 41.3 +3.0
WLS Welschbruch 104.59 322 *e*P PP 00 16 19.3 +0.8
CDF Champ du Feu 104.64 322 *e*P Pdif 00 11 51.0 -0.6
comp=Z,49nm,1.4s
ECH Echery 104.78 322 *e*P PP 00 16 20.8 +0.7
BBS Basel-Blauen 104.84 321 *e*P PP 00 16 20.8 +0.3
MOF Molkenrain 104.93 321 *e*P PP 00 16 22.4 +1.1
KRMB Red Mountain 104.97 46 *e*PKiKP 00 16 06.8
KRMB *e*PP PP 00 16 19.5 -2.2
HINF Hinteralfeld 105.12 321 *e*P Pdif 00 11 52.8 -1.0
comp=Z,15nm,1.1s
VNA2 Neumayer--Watz 105.17 195 *e* 00 13 32.3
VNA2 Neumayer--Watz 105.17 195 *e* PP 00 16 20.9 -1.5
VNA2 Neumayer--Watz 105.17 195 ⇑*i*P Pdif 00 11 57.7 +4.2
VNA2 *e* 00 13 32.3
KHMM Horse Mountain 105.30 46 *e*PKiKP 00 16 08.0
HUMO Hull Mountain 105.31 44 *e*Pdif Pdif 00 11 55.7 +1.0
comp=Z,9.5nm,0.6s
HUMO *e*PKiKP 00 16 07.4
LOMF Lomont 105.31 321 *e*P PP 00 16 23.9 -0.1
HAU Haudompre 105.36 322 *e*P Pdif 00 11 54.3 -0.5
HAU *e*R
comp=Z,605nm,20.5s
VNA3 Neumayer Olymp 105.54 194 ⇑*i* Pdif 00 12 02.1 +7.0
VNA3 Neumayer Olymp 105.54 194 *e* 00 13 34.2
VNA3 Neumayer Olymp 105.54 194 *e* PP 00 16 21.5 -3.5
PGF Pioggiola 105.54 316 *e*P Pdif 00 11 55.0 -0.8
comp=Z,37nm,1.5s
VNA1 Neumayer--Stat 105.56 195 ⇑*i* Pdif 00 11 59.9 +4.7
TSUM Tsumeb 105.68 251 Pdiff Pdif 00 11 59.3 +2.4
comp=Z,1.4nm,0.9s,baz=124,slow=15,SNR=4.4
TSUM PKiKP 00 16 08.6
comp=Z,4.4nm,1.1s,baz=122,slow=2.7,SNR=5.9
TSUM PP PP 00 16 23.9 -3.3
comp=Z,4.7nm,1.0s,baz=111,slow=12,SNR=3.3
YBH Yreka Blue Hor 105.76 45 Pdiff Pdif 00 11 58.2 +1.4
comp=Z,4.2nm,0.9s,baz=150,slow=2.6,SNR=5.6
YBH PKiKP 00 16 08.1
comp=Z,2.2nm,0.5s,baz=252,slow=3.2,SNR=7.4
YBH PP PP 00 16 22.5 -4.7
comp=Z,4.8nm,0.9s,baz=267,slow=7.1,SNR=4.4
YBH PKKPab 00 27 49.6
comp=Z,2.0nm,0.8s,baz=100,slow=6.1,SNR=4.2
YBH Yreka Blue Hor 105.76 45 *e*Pdif Pdif 00 11 57.7 +0.9
comp=Z,2.0nm,0.7s
YBH PKPdf 00 16 08.1
YBH *e*PKiKP 00 16 08.4
YBH PP PP 00 16 22.5 -4.7
YBH PKKPab 00 27 49.6
OG01 Vacheresse 105.78 320 *e*P PP 00 16 28.2 +1.0
MEZF Maizieres J'vi 105.97 322 *e*P Pdif 00 11 57.2 -0.3
comp=Z,52nm,1.4s
LPG La Plagne 106.05 319 *e*P Pdif 00 11 57.7 -0.2
comp=Z,28nm,1.3s
LPL La Plagne 106.05 319 *e*P Pdif 00 11 57.6 -0.3
comp=Z,23nm,1.2s
SAOF Saorge 106.05 317 *e*P PP 00 16 30.6 +1.4
RSL Roselend 106.06 319 *e*P PP 00 16 30.1 +0.9
CABF La Chapelle 106.06 320 *e*P Pdif 00 11 57.3 -0.6
comp=Z,38nm,1.4s
AUTN L'Aution 106.13 317 *e*P PP 00 16 30.3 +0.4
SBF Sospel 106.17 317 *e*P Pdif 00 11 57.4 -1.1
comp=Z,20nm,1.1s
TOUF Mont Tournerai 106.25 317 *e*P PP 00 16 31.0 +0.2
BNI Bardonecchia 106.26 319 *e*Pdif Pdif 00 11 58.5 -0.3
comp=Z,7.5nm,1.0s
HAWA Hanford 106.27 40 *e*Pdif Pdif 00 11 60.0 +1.1
comp=Z,0.3nm,0.6s
HAWA *e*PKiKP 00 16 09.1
MVIF Mont Vial 106.35 317 *e*P PP 00 16 29.5 -2.1
SURF Saint Ours 106.37 318 *e*P PP 00 16 35.5 +3.8
GDM Grand'Maison 106.57 319 *e*P PP 00 16 36.1 +2.8
CALN Calern 106.58 317 *e*P PP 00 16 34.9 +1.5
GRN Grenoble 106.80 319 *e*P PP 00 16 37.6 +2.5
FRF La Foret Royal 106.82 317 *e*P Pdif 00 12 00.6 -0.7
comp=Z,31nm,1.4s
ORIF Oris-en-Rattie 106.83 319 *e*P Pdif 00 12 00.9 -0.5
ORIF *e*R
comp=Z,724nm,21.2s
EDM Edmonton 106.89 32 *e*PKiKP 00 16 09.2
LMR La Mourre 106.99 317 *e*P Pdif 00 12 01.3 -0.8
comp=Z,25nm,1.4s
NEW Newport 107.02 37 *e*PKiKP 00 16 11.0
TAVF Tavernes 107.19 317 *e*P PP 00 16 39.5 +1.4
LOR Lormes 107.20 322 *e*P Pdif 00 12 02.2 -0.7
comp=Z,73nm,1.8s
LOR *e*R
comp=Z,557nm,22.5s
EKA Eskdalemuir Ar 107.24 331 Pdiff Pdif 00 12 03.9 +1.0
comp=Z,3.2nm,1.1s,baz=85,slow=7.8,SNR=4.2
EKA PKiKP 00 16 08.9
comp=Z,2.3nm,0.6s,slow=2.1,SNR=7.3
EKA PP PP 00 16 29.1 -8.9
comp=Z,5.1nm,0.9s,baz=49,slow=7.7,SNR=4.5
EKA PKKPbc 00 27 27.5
comp=Z,0.7nm,0.7s,baz=243,slow=3.2,SNR=3.7
EKA SKKPbc 00 30 25.2
comp=Z,4.9nm,1.1s,baz=236,slow=2.6,SNR=4.9
MOD Modoc 107.40 44 *e*PKiKP 00 16 11.1
PUYF Puyloubier 107.47 317 *e*P PP 00 16 41.4 +1.5
SMF Signal de Mont 107.47 321 *e*P Pdif 00 12 03.4 -0.7
SSF Saint Saulge 107.51 321 *e*P Pdif 00 12 03.8 -0.5
comp=Z,28nm,1.6s
BERF Bertagne 107.56 317 *e*P PP 00 16 42.1 +1.6
BORG Borgarnes 107.62 345 PP PP 00 16 39.9 -0.7
comp=Z,11nm,0.7s,baz=40,slow=6.2,SNR=6.1
VIVF Saint-Julien-l 107.65 319 *e*P Pdif 00 12 04.2 -0.8
comp=Z,31nm,1.5s
GELF Grande-Etoile 107.71 317 *e*P PP 00 16 43.1 +1.5
AVF Avril sur Loir 107.72 321 *e*P Pdif 00 12 04.7 -0.5
PRAF Pradon 107.72 318 *e*P PP 00 16 40.8 -0.9
BGF Bois d'Agland 108.13 321 *e*P Pdif 00 12 06.1 -0.9
BMO Blue Mountains 108.31 41 *e*Pdif Pdif 00 12 08.5 +0.6
comp=Z,1.2nm,0.6s
WVOR Wild Horse Val 108.36 43 *e*Pdif Pdif 00 12 09.3 +1.1
comp=Z,2.4nm,0.2s
WVOR *e*PKiKP 00 16 12.7
CMAH Djebel Manchou 108.59 310 P PP 00 16 46.0 -2.5
TCF Toulx Ste Croi 108.64 321 *e*P Pdif 00 12 09.1 -0.2
ABSA Djebel Ababsia 108.66 310 P PP 00 16 47.0 -2.0
VERF Verneugheol 108.70 321 *e*P PP 00 16 49.6 +0.5
CAEH 'Ain El Ouahch 108.98 310 P PP 00 16 48.0 -3.5
CKFL Kef-Lekhel 109.20 310 P PP 00 16 47.0 -6.1
CASM Ain Smara 109.42 310 P PP 00 16 51.0 -3.6
MSO Missoula 109.59 38 *e*PKiKP 00 16 14.1
MSO *e*PP PP 00 16 52.5 -3.0
DFRA Djebel Bou Aff 109.80 310 P PP 00 16 55.5 -1.7
MTLF Montolieu 109.88 318 *e*P Pdif 00 12 13.8 -1.0
CHMT Chamberlain Mo 109.97 37 *e*PKiKP 00 16 14.8
NVAR Mina Array Bea 110.06 47 Pdiff Pdif 00 12 17.4 +1.6
comp=Z,1.7nm,0.6s,baz=275,slow=5.8,SNR=14
NVAR PKiKP 00 16 16.6
comp=Z,9.5nm,0.6s,baz=257,slow=4.0,SNR=35
CMER Merouana 110.08 310 P PP 00 16 54.0 -5.2
SFJD Kangerlussuaq 110.08 357 *i* P PP 00 16 52.5 -5.9
comp=Z,27nm,1.0s
SFJD *i* 00 25 39.7
SFJD *i* 00 26 57.7
SFJD *e* 00 35 11.2
MTUM Tungsten Hills 110.25 48 *e*PKiKP 00 16 17.2
SET Setif 110.27 310 P PP 00 16 56.0 -4.5
HLID Hailey 110.74 41 *e*PKiKP 00 16 16.3
ETOS Mallorca 110.89 315 Pdif 00 16 17.0
EMIR Miracle 110.93 317 Pdif 00 16 17.6
EMIR pP 00 17 04.8
TPH Tonopah 110.98 47 *e*PKiKP 00 16 18.0
MCMT McKenzie Canyo 111.19 39 *e*PKiKP 00 16 18.4
DAC Darwin (Calif) 111.35 49 *e*PKiKP 00 16 18.5
ELK Elko 111.37 44 *e*Pdif Pdif 00 12 22.8 +1.4
ELK *e*PKiKP 00 16 18.2
EPOB Poblet 111.47 317 Pdif 00 16 17.8
EPOB pP 00 17 07.8
EBIE Bielsa 111.53 318 Pdif 00 16 22.7
EBIE pP 00 17 10.1
BOZ Bozeman (W) 111.56 38 *e*PKiKP 00 16 18.4
MWC Mount Wilson 111.70 51 *e*PKiKP 00 16 19.3
ERTA Horta de San J 112.15 317 Pdif 00 16 22.2
ERTA pP 00 17 12.0
ESAC San Caprasio 112.36 318 Pdif 00 16 20.2
HVU Hansel Valley 112.61 42 *e*PKiKP 00 16 21.1
RRI2 Red Ridge 112.85 40 *e*PKiKP 00 16 20.8
EMOS Mosqueruela 112.95 316 Pdif 00 16 22.1
TPAW Teton Pass 113.02 40 *e*PKiKP 00 16 19.5
SPUT South Promonto 113.04 43 *e*PKiKP 00 16 21.8
SNOW Snow King Moun 113.16 40 *e*PKiKP 00 16 22.4
PFO Pinyon Flat Ob 113.16 52 *e*PKiKP 00 16 22.6
LOHW Long Hollow 113.18 40 *e*PKiKP 00 16 22.1
AHID Auburn Hatcher 113.26 41 *e*PKiKP 00 16 22.1
DUG Dugway 113.28 44 *e*PKiKP 00 16 22.5
HWUT Hardware Ranch 113.50 42 *e*PKiKP 00 16 22.4
NOQ North Oquirrh 113.55 43 *e*PKiKP 00 16 21.8
ELAN Lanestosa 113.61 320 Pdif 00 16 22.3
ELAN pP 00 17 26.1
ECHE Chera 113.63 316 Pdif 00 16 23.1
NEN Nelson 113.66 49 *e*PKiKP 00 16 23.3
LDFC Landfair 113.67 50 *e*PKiKP 00 16 23.9
CTU Camp Tracy 113.78 43 *e*PKiKP 00 16 23.2
NLU North Lily Min 113.89 44 *e*PKiKP 00 16 23.7
JLU Jordanelle 114.03 43 *e*PKiKP 00 16 23.7
MPU Maple Canyon 114.17 43 *e*PKiKP 00 16 24.0
LAO LASA Array 114.24 35 *e*PKiKP 00 16 23.4
DAU Daniels Canyon 114.25 43 *e*PKiKP 00 16 24.6
PDAR Pinedale Array 114.26 40 Pdiff Pdif 00 12 35.4 +1.3
comp=Z,0.5nm,0.8s,baz=270,slow=4.4,SNR=4.3
PDAR PKP PKPdf 00 16 23.6 +1.7
comp=Z,4.9nm,0.6s,baz=35,slow=0.7,SNR=22
PDAR PKKPbc 00 27 04.7
comp=Z,1.3nm,0.6s,baz=117,slow=4.0,SNR=9.8
PDAR PKKPab 00 27 12.2
comp=Z,4.4nm,0.7s,baz=117,slow=6.0,SNR=19
PDAR SKKPbc 00 29 55.3
comp=Z,1.2nm,0.9s,baz=108,slow=5.7,SNR=3.8
DGMT Dagmar 114.34 33 *e*PKiKP 00 16 22.6
ETOB Tobarra 114.44 315 Pdif 00 16 23.7
MSU Marysvale 114.45 45 *e*PKiKP 00 16 25.1
EMUR La Murta 114.57 314 Pdif 00 16 24.2
EMUR pP 00 17 28.4
TMUT Trail Mountain 114.78 44 *e*PKPdf PKPdf 00 16 25.7 +2.7
EVIA Vianos 115.12 315 Pdif 00 16 25.6
SRU San Rafael 115.34 44 *e*PKPdf PKPdf 00 16 26.0 +1.9
ENIJ Nijar 115.64 314 Pdif 00 16 25.4
ESDC Sonseca Array 115.66 317 PKP PKPdf 00 16 26.2 +1.6
comp=Z,1.5nm,0.5s,baz=27,slow=2.1,SNR=21
ESDC PP PP 00 17 34.2 -4.3
comp=Z,1.8nm,0.6s,baz=44,slow=7.7,SNR=4.2
ESDC PKKPab 00 27 07.7
comp=Z,1.5nm,0.9s,baz=245,slow=4.4,SNR=6.4
ESDC SKKPbc 00 30 03.5
comp=Z,1.0nm,0.7s,baz=256,slow=3.2,SNR=5.4
ESDC Sonseca Array 115.66 317 Pdif 00 16 26.2
ESLA Sonseca Array 115.66 317 *e*PKPdf PKPdf 00 16 26.5 +1.8
EQES Quesada 115.89 315 Pdif 00 16 26.8
EQES pP 00 17 37.8
EPON Pontenova 115.90 322 Pdif 00 16 26.9
EBER Berja 116.16 314 Pdif 00 16 27.2
EBER pP 00 17 42.1
EBAN Banos Encina 116.23 315 Pdif 00 16 27.7
ECAL Calabor 116.37 320 Pdif 00 16 27.8
ECOG Cogollos-Vega 116.48 314 Pdif 00 16 27.2
ERON Agron 116.77 314 Pdif 00 16 28.0
EADA Adamuz 116.78 316 Pdif 00 16 28.8
STS Santiago 117.00 322 Pdif 00 16 29.0
EMAZ Mazaricos 117.23 322 Pdif 00 16 29.5
ELOB Lobios 117.25 321 Pdif 00 16 29.5
ULM Lac du Bonnet 117.31 27 PKP PKPdf 00 16 28.6 +1.0
comp=Z,24nm,0.6s,baz=318,slow=1.2,SNR=63
ULM SKP 00 19 20.0
comp=Z,8.6nm,0.7s,baz=340,slow=3.7,SNR=6.2
ULM Lac du Bonnet 117.31 27 *e*PKPdf PKPdf 00 16 27.5 0.0
PVRL Vila Real 117.34 320 *e*PKPdf PKPdf 00 16 30.1 +2.2
EMIJ Mijas 117.66 314 Pdif 00 16 29.4
MTE Manteigas 117.69 319 *e*PKPdf PKPdf 00 16 30.5 +1.9
PCBR Castelo Branco 117.94 319 *e*PKPdf PKPdf 00 16 31.0 +1.9
TUC Tucson 118.07 51 *e*PKPdf PKPdf 00 16 31.6 +2.1
TUC *e*PP PP 00 17 52.4 -2.9
EBAD Badajoz 118.17 317 Pdif 00 16 31.1
EBAD pP 00 17 51.2
ESPR Espera 118.29 315 Pdif 00 16 31.3
ISCO Idaho Springs 118.32 41 *e*PKPdf PKPdf 00 16 31.6 +1.7
EMIN Mina Concepcio 118.43 316 Pdif 00 16 31.8
EMIN pP 00 17 53.4
PTOM Tomar 118.67 319 *e*PKPdf PKPdf 00 16 33.0 +2.5
EGRO El Granado 119.10 316 Pdif 00 16 33.1
PBEJ Beja 119.12 317 *e*PKPdf PKPdf 00 16 33.4 +2.0
MDT Midelt 119.20 310 PKKPab 00 26 53.2
comp=Z,1.3nm,0.8s,baz=231,slow=6.5,SNR=3.7
MDT SKKPbc 00 29 49.1
comp=Z,0.7nm,0.7s,baz=258,slow=6.5,SNR=3.9
SDCO Great Sand Dun 119.45 43 *e*PKPdf PKPdf 00 16 34.2 +2.1
PLOU Loures 119.54 318 *e*PKPdf PKPdf 00 16 34.4 +2.2
ANMO Albuquerque 120.15 46 PKP PKPdf 00 16 35.9 +2.4
comp=Z,24nm,0.7s,baz=293,slow=1.9,SNR=3.1
ANMO Albuquerque 120.15 46 *e*PKPdf PKPdf 00 16 35.3 +1.8
ANMO Albuquerque 120.15 46 *c*PKiKP PKPdf 00 16 35.4 +1.9
SCHQ Schefferville 121.84 7 PKP PKPdf 00 16 37.8 +1.6
comp=Z,47nm,0.5s,baz=324,slow=2.2,SNR=120
SCHQ PP PP 00 18 18.2 -1.6
comp=Z,11nm,0.8s,baz=357,slow=9.4,SNR=4.3
SCHQ Schefferville 121.84 7 *e*PKPdf PKPdf 00 16 37.1 +0.8
SCHQ *e*PP PP 00 18 17.0 -2.8
MNTX Cornudas Mount 122.47 49 *e*PKPdf PKPdf 00 16 39.7 +1.6
LTX Lajitas 124.87 51 *e*PKPdf PKPdf 00 16 44.5 +1.7
TXAR Lajitas Array 124.87 51 PKP PKPdf 00 16 44.7 +1.8
comp=Z,20nm,0.7s,baz=276,slow=0.9,SNR=116
TXAR pPKP 00 18 33.4
comp=Z,3.4nm,0.8s,baz=297,slow=4.0,SNR=3.6
TXAR SKPbc 00 19 15.1
comp=Z,2.5nm,0.5s,baz=250,slow=1.1,SNR=8.9
TXAR PKKPbc 00 26 26.8
comp=Z,0.9nm,0.6s,baz=117,slow=6.0,SNR=18
TXAR Lajitas Array 124.87 51 PKP PKPdf 00 16 44.7 +1.8
TXAR pPKP 00 18 33.4
TXAR SKPbc 00 19 15.1
TXAR PKKPbc 00 26 26.8
DBIC Dimbokro 127.25 281 PKP PKPdf 00 16 49.4 +1.6
comp=Z,24nm,0.6s,baz=76,slow=2.6,SNR=49
DBIC PP PP 00 18 48.8 -7.5
comp=Z,9.6nm,0.9s,baz=87,slow=6.0,SNR=4.1
DBIC SKPbc 00 19 23.7
comp=Z,22nm,0.8s,baz=77,slow=3.8,SNR=7.5
DBIC Dimbokro 127.25 281 *e*PKPdf PKPdf 00 16 49.0 +1.2
USHA Ushuaia 127.41 172 PKP PKPdf 00 16 49.0 +2.1
comp=Z,12nm,0.6s,baz=126,slow=2.0,SNR=16
USHA SKPbc 00 19 25.2
comp=Z,13nm,0.8s,baz=156,slow=2.6,SNR=8.6
LIC Lamto 127.49 280 *e*PKiKP PKPdf 00 16 48.6 +0.3
comp=Z,94nm,0.7s
CCM Cathedral Cave 128.25 35 *e*PKPdf PKPdf 00 16 50.3 +1.2
CFTV Fuerteventura 128.46 310 Pdif 00 16 51.7
FVM French Village 128.76 34 *e*PKPdf PKPdf 00 16 51.3 +1.2
MSNY Massena 129.63 17 *e*PKPdf PKPdf 00 16 53.1 +1.6
MSNY *e*SKP 00 19 30.7
EOSO Osorio 129.75 311 Pdif 00 16 54.8
BLO Bloomington 129.97 30 *e*PKPdf PKPdf 00 16 53.6 +1.2
BLO *e*SKPbc 00 19 33.1
PARMO Parma 130.07 35 *e*PKPdf PKPdf 00 16 53.8 +1.2
PARMO *e*SKPbc 00 19 33.3
FRNY Flat Rock 130.14 16 *e*PKPdf PKPdf 00 16 53.0 +0.5
NATX Nacogdoches 130.18 43 *e*PKPdf PKPdf 00 16 54.4 +1.5
NATX *e*SKPbc 00 19 35.5
GNAR Gosnell 130.41 36 *e*PKPdf PKPdf 00 16 55.5 +2.3
GNAR *e*SKPbc 00 19 34.5
GLAT Glass 130.62 35 *e*SKPbc 00 19 35.9
NCB Newcomb 130.76 17 *e*PKPpre 00 16 40.3
NCB *e*PKPdf PKPdf 00 16 55.3 +1.6
NCB *e*SKPbc 00 19 35.5
WCI Wyandotte Cave 130.80 31 *e*PKPdf PKPdf 00 16 55.9 +1.9
WCI *e*SKPbc 00 19 35.4
UTMT University of 130.80 34 *e*SKPbc 00 19 36.3
ACSO Alum Creek Sta 130.81 26 *e*PKPdf PKPdf 00 16 54.9 +1.0
ACSO *e*SKPbc 00 19 35.5
ALLY Alegheny Colle 130.81 23 *e*PKPdf PKPdf 00 16 55.1 +1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ALLY				eSKPbc		00 19 35.6	
HALT	Halls	130.84	35	eSKPbc		00 19 36.2	
MIV	Mineville/With	130.85	16	ePKPdf	PKPdf	00 16 55.3	+1.5
MIV				eSKPbc		00 19 35.8	
WVL	Waterville	131.33	12	eSKPbc		00 19 37.8	
EFI	East Falkland	131.42	179	eSKPbc		00 19 37.2	
ACCN	Adirondack Com	131.46	16	ePKPdf	PKPdf	00 16 56.0	+0.9
ACCN				eSKPbc		00 19 38.0	
WVT	Waverly	131.54	34	ePKPdf	PKPdf	00 16 56.3	+0.9
WVT				eSKPbc		00 19 38.6	
EMMW	East Machias	131.62	10	eSKPbc		00 19 38.4	
OXF	Oxford	131.77	37	ePKPdf	PKPdf	00 16 56.8	+0.9
OXF				eSKPbc		00 19 39.0	
BINY	Binghamton	131.83	19	ePKPpre		00 16 42.4	
BINY				ePKPdf	PKPdf	00 16 57.0	+1.2
BINY				eSKPbc		00 19 39.0	
MCWV	Mont Chateau	132.63	24	ePKPpre		00 16 42.1	
MCWV				ePKPdf	PKPdf	00 16 58.5	+1.2
MCWV				eSKPbc		00 19 42.3	
HRV	Harvard--Oak R	132.84	15	ePKPdf	PKPdf	00 16 59.1	+1.5
HRV				eSKPbc		00 19 43.3	
SWET	Sewanee	133.25	33	ePKPpre		00 16 41.7	
SWET				ePKPdf	PKPdf	00 16 59.3	+0.7
SWET				eSKPbc		00 19 42.5	
TZTN	Tazewell	133.49	30	ePKPpre		00 16 43.5	
TZTN				ePKPdf	PKPdf	00 17 00.6	+1.5
TZTN				eSKPbc		00 19 45.6	
PAL	Palisades	133.57	18	ePKPdf	PKPdf	00 17 01.4	+2.4
PAL				eSKPbc		00 19 45.5	
BRNJ	Basking Ridge	133.66	19	eSKPbc		00 19 46.9	
CPNY	Central Park	133.75	18	eSKPbc		00 19 44.7	
CPCT	Cooper Cave	133.83	32	ePKPdf		00 16 45.5	
CPCT				ePKPdf	PKPdf	00 17 01.5	+1.8
CPCT				eSKPbc		00 19 46.5	
FWV	Forest Hill	133.95	27	ePKPpre		00 16 45.4	
FWV				ePKPdf	PKPdf	00 17 01.0	+1.1
FWV				eSKPbc		00 19 46.0	
LRAL	Lakeview Retre	134.24	36	ePKPpre		00 16 45.2	
LRAL				ePKPdf	PKPdf	00 17 01.9	+1.4
LRAL				eSKPbc		00 19 47.7	
ELN	Prospectdale	134.26	27	ePKPpre		00 16 46.1	
ELN				ePKPdf	PKPdf	00 17 01.6	+1.2
BLA	Blacksburg	134.43	27	PKPdf	PKPdf	00 17 01.7	+1.0
BLA				eSKPbc		00 19 47.8	
CBN	Corbin	134.86	23	PKPdf	PKPdf	00 17 03.8	+2.3
GOGA	Godfrey	135.95	33	ePKPpre		00 16 52.0	
GOGA				ePKPdf	PKPdf	00 17 06.2	+2.6
GOGA				eSKPbc		00 19 53.6	
JSC	Jenkinsville	136.41	30	ePKPpre		00 16 54.2	
JSC				eSKPbc		00 19 54.3	
RGRS	Roger Stewart	138.04	30	ePKPpre		00 16 58.1	
PLCA	Paso Flores	140.39	164	PKhKP		00 17 08.7	
	comp=Z,2.4nm,0.7s,baz=226,slow=5.8,SNR=9.4						
PLCA				PKP	PKPdf	00 17 14.3	+2.9
	comp=Z,7.6nm,0.9s,baz=213,slow=5.8,SNR=11						
PLCA				SKPbc		00 20 07.3	
	comp=Z,24nm,0.7s,baz=196,slow=4.0,SNR=18						
PLCA	Paso Flores	140.39	164	ePKPpre		00 17 08.1	
PLCA				PKP	PKPdf	00 17 14.3	+2.9
PLCA				eSKPbc		00 20 06.5	
PLCA				SKPbc		00 20 07.3	
SOR	Soroa	143.85	44	eP	PKPbc	00 17 18.5	+1.0
BBSR	BB Station	144.10	11	ePKP	PKPdf	00 17 19.3	+1.1
TRQA	Tornquist	144.73	173	ePKP	PKPdf	00 17 20.8	+1.7
MDZ	Mendoza	148.15	161	eP	PKPdf	00 17 31.9	+7.0
CFAA	Coronel Fontan	149.53	161	PKP	PKPdf	00 17 28.9	+1.7
	comp=Z,3.4nm,0.7s,baz=209,slow=1.4,SNR=24						
CFAA				PKPbc	PKPdf	00 17 34.2	+7.0
	comp=Z,5.6nm,0.7s,baz=244,slow=3.3,SNR=48						
CFAA				pPKPbc		00 19 21.8	
	comp=Z,2.6nm,0.7s,baz=192,slow=1.6,SNR=1.8						
LMGC	Las Mercedes	149.75	40	eP	PKPdf	00 17 35.2	+7.4
MBJ	Montego Bay	150.35	44⇑	iP	PKPdf	00 17 36.7	+7.9
MOAC	Moa	150.57	36	eP	PKPdf	00 17 31.1	+2.1
RCC	Rio Carpintero	150.63	38	eP	PKPdf	00 17 36.4	+7.2
CVJ	Coleyville	150.70	43⇑	iP	PKPdf	00 17 37.5	+8.2
MCJ	Malvern	150.80	44⇑	iP	PKPdf	00 17 37.6	+8.2
BNJ	Bonny Gate	151.03	42⇑	iP	PKPdf	00 17 38.3	+8.5
PCJ	Portland Cotta	151.29	44⇑	iP	PKPdf	00 17 38.6	+8.5
STH	Stony Hill	151.30	43⇑	iP	PKPdf	00 17 38.9	+8.7
GWJ	Greenwich	151.35	42⇑	iP	PKPdf	00 17 39.2	+8.9
CPUP	Villa Florida	156.74	179	PKP	PKPdf	00 17 39.9	+2.5
	comp=Z,4.9nm,0.9s,baz=225,slow=2.9,SNR=10						
CPUP				PKPab	PKPab	00 18 12.4	+0.5
	comp=Z,9.1nm,0.6s,baz=168,slow=5.7,SNR=10						
SJG	San Juan	157.15	23	PKP	PKPdf	00 17 39.4	+1.3
	comp=Z,17nm,0.2s,baz=340,slow=17,SNR=6.6						
SJG				PKPab	PKPab	00 18 13.7	-0.2
	comp=Z,64nm,0.6s,baz=18,slow=3.3,SNR=23						
LVC	Limon Verde	157.20	150	PKP	PKPdf	00 17 41.3	+3.3
	comp=Z,5.9nm,0.8s,baz=257,slow=3.8,SNR=4.0						
LVC				PKPab	PKPab	00 18 16.4	+2.5
	comp=Z,7.6nm,0.9s,baz=240,slow=4.7,SNR=3.9						
LVC	Limon Verde	157.20	150	ePKPdf	PKPdf	00 17 40.7	+2.7
LVC				ePKPab	PKPab	00 18 16.2	+2.2
DEG	La Desirade	160.42	12	eP	PKPab	00 18 26.4	-1.5
LZG	Guadaloupe-1	160.42	14	eP	PKPab	00 18 26.8	-1.1
TBG	Guadaloupe-3	160.73	14	eP	PKPab	00 18 28.1	-1.1
ROSC	El Rosal	160.87	66	PKP	PKPdf	00 17 45.6	+3.1
	comp=Z,24nm,0.7s,baz=105,slow=3.4,SNR=34						
ROSC				PKPab	PKPab	00 18 32.7	+2.7
	comp=Z,17nm,0.7s,baz=124,slow=7.4,SNR=7.0						
SDV	Santo Domingo	161.90	49	PKP	PKPdf	00 17 45.2	+1.8
	comp=Z,28nm,0.8s,baz=328,slow=0.9,SNR=36						
SDV				PKPab	PKPab	00 18 34.5	0.0
	comp=Z,66nm,0.7s,baz=334,slow=2.8,SNR=25						
SDV	Santo Domingo	161.90	49	ePKPdf	PKPdf	00 17 44.7	+1.3
SDV				ePKPab	PKPab	00 18 34.2	-0.3
FDF	Fort de France	161.93	14⇑	eP	PKPdf	00 17 45.4	+2.0
CRM	Caravelle	161.96	13⇑	iP	PKPdf	00 17 44.5	+1.1
LPAZ	La Paz	162.69	141	PKP	PKPdf	00 17 47.6	+3.5
	comp=Z,7.6nm,0.6s,baz=82,slow=0.7,SNR=42						
LPAZ				PKPab	PKPab	00 18 39.7	+1.9
	comp=Z,11nm,0.8s,baz=204,slow=1.0,SNR=9.4						
LPAZ	La Paz	162.69	141	ePKPdf	PKPdf	00 17 47.2	+3.1
LPAZ				ePKPab	PKPab	00 18 39.2	+1.4
BAO	Brasilia Array	164.68	214	PKPdf	PKPdf	00 17 48.0	+1.9
BDFB	Brasilia	164.68	214	PKP	PKPdf	00 17 48.5	+2.4
	comp=Z,10.0nm,0.8s,baz=150,slow=3.2,SNR=13						
BDFB				PKPab	PKPab	00 18 46.9	+0.4
	comp=Z,19nm,1.0s,baz=116,slow=4.0,SNR=11						
BDFB				SKP		00 20 34.6	
	comp=Z,14nm,1.0s,baz=149,slow=3.9,SNR=4.3						
SIV	San Ignacio	166.37	162	PKP	PKPdf	00 17 49.4	+1.9
	comp=Z,12nm,0.7s,baz=204,slow=0.6,SNR=5.2						
SIV				PKPab	PKPab	00 18 55.2	+1.3
	comp=Z,10nm,0.7s,baz=176,slow=3.9,SNR=14						
SAML	Samuel	171.30	134	ePKPdf	PKPdf	00 17 51.5	+0.9
SAML				ePKPab	PKPab	00 19 16.3	+0.7

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*MOS **05** 00:24:40.3±0.9, 7.30S×127.61E, h33km, mb4.8/9, Error ellipse: s-maj=25.8km s-min=11.0km az=118.2*
*NEIC **05** 00:24:42.6±0.5, 7.07S×128.22E, h30km, mb4.7/12, Error ellipse: s-maj=17.3km s-min=8.4km az=71.0*
*BJI **05** 00:24:43.9, 7.84S×127.57E, h54km, mB5.2, mb4.9, Ms5.2, Msz4.8*
*IDC **05** 00:24:49.9±3.4, 7.35S×128.01E, h112km±31km, mb4.1/12, mb1 4.1/12, mb1mx4.1/16, mbtmp4.4/12, Error ellipse: s-maj=25.6km s-min=12.8km az=67.0*
ISC 05 00:24:47.6±1.8**, 7.29S**±0.06×**128.16E**±0.08**, h102**km±18km**, n69,** σ**1**§**00**/72**, mb4.6**/31**, 1C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.84	142	eP	Px	00 26 48.3	
	1μm,0.6s						
KAKA				eS	Sx	00 27 59.1	
FITZ	Fitzroy Crossi	11.03	193⇓	iP	P	00 27 23.0	-0.5
	136nm,0.8s						
FITZ				eS	S	00 29 19.6	-5.6
FITZ	Fitzroy Crossi	11.03	193	P	P	00 27 22.9	-0.5
	17nm,0.3s,baz=16,slow=11,SNR=128						
FITZ				S	S	00 29 15.9	-9.4
	28nm,0.3s,baz=83,slow=15,SNR=10						
WRAB	Tennant Creek	13.93	155	ePn	P	00 28 01.1	-0.5
	255nm,0.7s						
WRAB				eSn	S	00 30 27.4	-6.7
WRAB	Tennant Creek	13.93	155	eP	P	00 28 01.1	-0.6
WRAB				pmax	pmax		
	comp=Z,255nm,0.7s						
WRA	Warramunga Arr	13.93	155	P	P	00 28 00.9	-0.8
	comp=Z,8.0nm,0.3s,baz=326,slow=13,SNR=164						
WRA				S	S	00 30 24.8	-9.4
	comp=Z,19nm,0.3s,baz=326,slow=24,SNR=22						
WB2	Warramunga Arr	13.94	155⇑	iP	P	00 28 00.9	-0.9
WB2				i S	S	00 30 27.4	-6.9
MBWA	Marble Bar	16.02	210	ePn	P	00 28 28.7	+0.4
MBWA				eSn	S	00 31 22.4	+0.1
KKM	Kota Kinabalu	17.82	318	P	P	00 28 56.6	+6.0
KKM	Kota Kinabalu	17.82	318	ePn	P	00 28 55.8	+5.2
PMG	Port Moresby	18.91	98	P	P	00 29 07.6	+4.6
	comp=Z,1.9nm,0.3s,baz=280,slow=6.8,SNR=26						
PMG				S	S	00 32 31.9	+5.0
	comp=Z,0.9nm,0.3s,baz=2.0,slow=22,SNR=4.2						
PMG	Port Moresby	18.91	98	eP	P	00 29 08.2	+5.2
	comp=Z,172nm,1.0s						
PMG				e		00 29 22.7	
PMG	Port Moresby	18.91	98	eP	P	00 29 08.2	+5.2
PMG				pmax	pmax		
	comp=Z,172nm,1.0s						
KSM	Kuching	19.82	295	eP	P	00 29 17.0	+4.3
CTA	Charters Tower	21.67	128⇓	iP	P	00 29 33.7	+2.4
	comp=Z,6.5nm,0.4s,mb4.3						
CTA				eS	S	00 33 41.7	+22
CTA	Charters Tower	21.67	128	P	P	00 29 33.2	+1.9
	comp=Z,7.7nm,0.4s,mb4.4,baz=301,slow=12,SNR=26						
CTAO	Charters Tower	21.67	128	eP	P	00 29 33.7	+2.4
	comp=Z,10nm,0.7s,mb4.3						
CTAO				epP		00 29 52.6	
CTAO	Charters Tower	21.67	128	eP	P	00 29 33.7	+2.4
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
FORT	Forrest	23.37	180	eP	P	00 29 48.8	+1.0
	comp=Z,43nm,0.7s,mb4.9						
FORT				eS	S	00 34 08.2	+19
KLBR	Kellerberrin	26.06	201	eP	P	00 30 15.9	+2.5
	comp=Z,24nm,1.0s,mb4.6						
KLBR				eS		00 35 11.1	
STKA	Stephens Creek	27.48	155	eP	P	00 30 25.5	-1.0
	comp=Z,7.6nm,0.4s,mb4.6						
STKA				e		00 31 01.8	
STKA				eS		00 35 44.0	
STKA	Stephens Creek	27.48	155	P	P	00 30 25.5	-0.9
	comp=Z,9.2nm,0.5s,mb4.6,baz=333,slow=9.7,SNR=43						
STKA	Stephens Creek	27.48	155	eP	P	00 30 25.6	-0.8
STKA				e		00 31 01.8	
STKA				eS		00 35 44.0	
KULM	Kulim	30.16	294	eP	P	00 30 51.5	+1.0
GYA	Guiyang	39.50	329	P	P	00 32 13.2	+3.3
GYA				PCP	PcP	00 34 17.8	+1.5
GYA				S	S	00 38 03.4	-0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
DZM	Mont Dzumac	39.70	116	P	P	00 32 13.0	+1.4
	comp=Z,5.5nm,0.6s,mb4.5,baz=326,slow=19,SNR=12						
MJAR	Matsushiro Arr	44.61	12	P	P	00 32 51.3	-0.2
	comp=Z,1.5nm,0.6s,mb3.9,baz=189,slow=10,SNR=5.2						
HHC	Hu-ho-hao-te	50.28	344	eP	P	00 33 37.1	+1.4
HHC				PP	PP	00 35 35.2	+2.4
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.2						
HHC				LR	LR		
	comp=N,355nm,9.5s						
HHC				LR	LR		
	comp=E,838nm,10.7s						
HHC				LR	LR		
	comp=Z,659nm,11.1s						
CN2	Changchun	50.91	357	eP	P	00 33 45.8	+5.3
LSA	Lhasa	51.16	318	P	P	00 33 44.6	+2.0
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
LSA	Lhasa	51.16	318	eP	P	00 33 44.1	+1.5
	comp=Z,12nm,0.6s,mb5.1						
LSA	Lhasa	51.16	318	eP	P	00 33 44.1	+1.5
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
MDJ	Mudanjiang	51.68	1	P	P	00 33 51.1	+4.8
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,336nm,8.5s						
GTA	Gaotai	53.37	333	eP	P	00 33 57.7	-1.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.2						
PKI	Pulchoki	53.94	312	eP	P	00 34 02.8	-0.5
	comp=Z,16nm,0.6s,mb5.2						
KKN	Kakani	54.16	312	eP	P	00 34 04.7	-0.1
	comp=Z,17nm,0.7s,mb5.2						
DMN	Daman	54.19	312	eP	P	00 34 05.2	+0.2
	comp=Z,30nm,0.8s,mb5.3						
GKN	Gorkha	54.75	312	eP	P	00 34 08.8	-0.4
	comp=Z,30nm,0.5s,mb5.5						
KOLN	Koldanda	55.40	311	eP	P	00 34 13.8	-0.1
	comp=Z,43nm,0.8s,mb5.5						
ULN	Ulaanbaatar	57.99	343	eP	P	00 34 33.2	+1.2
	comp=Z,6.4nm,0.9s,mb4.7						
ULN	Ulaanbaatar	57.99	343	eP	P	00 34 33.2	+1.2
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
SONM	Songino Array	58.16	343	P	P	00 34 31.5	-1.6
	comp=Z,3.2nm,0.7s,mb4.5,baz=168,slow=6.9,SNR=23						
CASY	Casey	60.15	188	eP	P	00 34 46.1	-0.5
	comp=Z,3.7nm,0.8s,mb4.5						
BOD	Bodaibo	65.90	352	eP	P	00 35 24.2	-0.4
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MKAR	Makanchi Array	67.48	328	P	P	00 35 34.2	-0.5
	comp=Z,3.0nm,0.5s,mb4.4,baz=117,slow=7.9,SNR=46						
MKAR				pP	pP	00 35 60.0	-0.5
	comp=Z,1.7nm,0.6s,baz=125,slow=7.6,SNR=4.5						
AAK	Ala-Archa	69.59	321	eP	P	00 35 47.9	+0.1
	comp=Z,2.6nm,0.8s,mb4.1						
AAK	Ala-Archa	69.59	321	eP	P	00 35 47.9	+0.1
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ZAL	Zalesovo	71.05	335	P	P	00 35 56.3	-0.1
	comp=Z,5.3nm,0.4s,mb4.7,baz=345,slow=4.1,SNR=21						
KURK	Kurchatov	71.82	329	eP	P	00 36 01.2	+0.1
	comp=Z,18nm,1.1s,mb4.8						
KURK	Kurchatov	71.82	329	eP	P	00 36 01.2	+0.1
KURK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
NVS	Novosibirsk	72.33	335	i P	P	00 36 02.1	-1.9
NVS				i		00 38 51.3	
NVS				pmax	pmax		
	comp=N,13nm,0.7s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
VNDA	Vanda	72.39	173	P	P	00 36 03.0	-1.1
	comp=E,0.4nm,0.4s,mb3.6,baz=317,slow=9.4,SNR=6.3						
VNDA	Vanda	72.39	173	eP	P	00 36 03.5	-0.6
	comp=E,0.9nm,0.7s,mb3.7						
VNDA	Vanda	72.39	173	eP	P	00 36 03.5	-0.5
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAW	Mawson	74.02	201	P	P	00 36 12.6	-1.0
	comp=Z,0.7nm,0.3s,mb3.9,baz=74,slow=11,SNR=3.9						
BVAR	Borovoye Array	77.34	328	P	P	00 36 31.9	-0.8
	comp=Z,3.7nm,0.6s,mb4.3,baz=130,slow=8.7,SNR=32						
BVAR				sP	sP	00 37 11.1	+0.8
	comp=Z,0.7nm,0.6s,baz=117,slow=9.7,SNR=1.3						
BRVK	Borovoye	77.41	328	eP	P	00 36 33.0	-0.1
	comp=Z,4.7nm,0.9s,mb4.2						
BRVK				e		00 37 12.3	
BRVK	Borovoye	77.41	328	eP	P	00 36 33.0	-0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
QSPA	South Pole Qui	82.69	180	eP	P	00 37 00.7	-0.1
ARU	Arti	84.99	328	eP	P	00 37 12.1	-0.6
ILAR	Eielson Array	94.39	25	P	P	00 37 57.4	+0.7
	comp=Z,0.4nm,0.6s,mb3.9,baz=258,slow=4.1,SNR=6.2						
SNAA	Sanae	94.95	194	P	P	00 37 59.5	+0.3
	comp=Z,0.8nm,1.0s,mb4.1,baz=100,slow=3.7,SNR=9.3						
SNAA	Sanae	94.95	194	P	P	00 38 00.0	+0.9
	comp=Z,1.9nm,0.9s,mb4.5						
SNAA	Sanae	94.95	194	P	P	00 38 00.0	+0.8
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	ARCESS Array B	101.21	340	P	P	00 38 26.7	-0.8
	comp=Z,2.7nm,0.9s,baz=63,slow=6.0,SNR=3.4						
PDAR	Pinedale Array	118.39	45	PKP	PKPdf	00 43 24.0	+0.6
	comp=Z,1.0nm,0.7s,baz=312,slow=0.2,SNR=13						
TXAR	Lajitas Array	126.64	59	PKP	PKPdf	00 43 40.7	+1.0
	comp=Z,1.1nm,0.9s,baz=184,slow=1.7,SNR=8.4						
CPUP	Villa Florida	146.16	171	PKPbc	PKPbc	00 44 16.7	-0.1
	comp=Z,3.7nm,0.8s,baz=206,slow=3.2,SNR=8.3						
LPAZ	La Paz	151.56	146	PKPbc	PKPdf	00 44 32.2	+7.9
	comp=Z,3.2nm,0.8s,baz=229,slow=4.5,SNR=3.6						

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*BJI **05** 01:13:53.8, 22.87N×117.97E, h10km, mB4.7, mb4.4, ML4.7, Ms4.1, Msz3.9*
*NEIC **05** 01:13:53.9±0.5, 22.65N×118.15E, h10km, mb4.3/5, Error ellipse: s-maj=10.3km s-min=10.2km az=123.0*
*IDC **05** 01:14:00.2±8.8, 22.69N×118.03E, h63km±84km, mb3.7/8, mb1 3.9/8, mb1mx3.6/19, mbtmp4.0/8, Error ellipse: s-maj=37.1km s-min=17.2km az=58.0*
ISC 05 01:13:51.4±3.0**, 22.70N**±0.06×**118.02E**±0.06**, h7**km±20km**, n27,** σ**1**§**36**/31**, mb4.0**/13**, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	2.29	13	P	Pn	01 14 28.8	-1.5
QZH				S	Sn	01 14 54.3	-4.8
QZH				Smax			
	comp=N,3μm,0.6s						
QZH				Smax			
	comp=E,9μm,0.7s						
NACB	Ninganchiao	3.59	65	ePn	Pn	01 14 48.7	-0.1
YHNB	Yeheng	3.64	57	ePn	Pn	01 14 47.5	-2.0
YHNB				eSn	Sn	01 15 40.5	+7.1
TATO	Taipei	3.90	54	Pn	Pn	01 14 55.4	+2.2
GZH	Guangzhou	4.33	276	P	Pn	01 14 57.8	-1.5
GZH				Smax			
	comp=N,633nm,0.8s						
GZH				Smax			
	comp=E,868nm,0.8s						
CVP	Callao Caves	6.12	144	eP	Pn	01 15 26.0	+1.4
QIZ	Qiongzhong	8.47	246	ePn	P	01 15 58.8	+1.2
NJ2	Nanjing	9.34	4	eP	P	01 16 07.4	-2.2
NJ2				AP		01 16 10.5	
NJ2				XP		01 16 13.1	
NJ2				S	Sn	01 17 52.4	-3.7
NJ2				XS		01 17 57.1	
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s						
NJ2				Smax			
	comp=N,620nm,0.8s						
NJ2				Smax			
	comp=E,360nm,0.6s						
NJ2				LR	LR		
	comp=N,680nm,12.0s						
NJ2				LR	LR		
	comp=E,780nm,10.0s						
NJ2				LR	LR		
	comp=Z,1μm,16.0s						
GYA	Guiyang	10.99	292⇑	iP	P	01 16 31.5	-0.8
GYA				AP		01 16 38.9	
GYA				XP		01 16 42.6	
GYA				S	S	01 18 45.0	+8.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
GYA				LR	LR		
	comp=N,460nm,7.5s						
GYA				LR	LR		
	comp=E,360nm,9.6s						
GYA				LR	LR		
	comp=Z,610nm,8.3s						
KS15	Wonju Array Si	16.97	28	ePn	P	01 17 52.9	+1.9
LZH	Lanzhou	18.15	320	eP	P	01 18 09.8	+4.0
LZH				AMB	AMB		
	comp=Z,30nm,1.5s						
LZH				AMB	AMB		
	comp=Z,63nm,5.0s						
LZH				LR	LR		
	comp=N,218nm,9.0s						
LZH				LR	LR		
	comp=Z,395nm,13.0s						
LZH	Lanzhou	18.15	320	eP	P	01 18 09.8	+4.0
	comp=Z,30nm,1.5s						
LZH				pP		01 18 18.5	
LZH				sP		01 18 22.5	
MJAR	Matsushiro Arr	22.26	47	P	P	01 18 52.9	+2.3
	comp=Z,0.7nm,0.4s,mb3.4,baz=236,slow=10,SNR=5.0						
GTA	Gaotai	22.75	321	eP	P	01 18 58.8	+3.3
GTA				AP		01 19 04.3	
GTA				XP		01 19 08.1	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb3.9						
SONM	Songino Array	26.75	342	P	P	01 19 33.4	-0.2
	comp=Z,1.7nm,0.9s,mb3.6,baz=160,slow=10.0,SNR=7.8						
MKAR	Makanchi Array	37.45	319	P	P	01 21 07.8	+0.6
	comp=Z,1.2nm,0.7s,mb3.8,baz=115,slow=11,SNR=15						
ZAL	Zalesovo	39.98	330	P	P	01 21 28.6	+0.3
	comp=Z,1.7nm,0.7s,mb3.9,baz=6.8,slow=7.8,SNR=7.5						
KURK	Kurchatov	41.42	322	eP	P	01 21 41.7	+1.5
	comp=Z,3.0nm,0.8s,mb4.0						
WRAB	Tennant Creek	45.27	158	eP	P	01 22 11.6	-0.2
	comp=Z,5.4nm,0.7s,mb4.5						
WRA	Warramunga Arr	45.28	158	P	P	01 22 11.2	-0.7
	comp=Z,3.7nm,0.7s,mb4.3,baz=341,slow=8.9,SNR=24						
WRA				PcP	PcP	01 23 51.2	-1.0
	comp=Z,0.7nm,0.7s,baz=346,slow=3.8,SNR=5.6						
WB2	Warramunga Arr	45.28	158	eP	P	01 22 11.6	-0.3
BVAR	Borovoye Array	47.02	322	P	P	01 22 25.5	+0.3
	comp=Z,1.5nm,0.7s,mb4.0,baz=108,slow=9.4,SNR=10						
BRVK	Borovoye	47.09	322	eP	P	01 22 26.2	+0.4
	comp=Z,2.5nm,0.9s,mb4.1						
CTAO	Charters Tower	50.68	145	eP	P	01 22 52.0	-1.9
	comp=Z,2.3nm,0.6s,mb4.3						
STKA	Stephens Creek	58.77	157	P	P	01 23 51.9	-0.9
	comp=Z,1.1nm,0.4s,mb4.2,baz=332,slow=10,SNR=3.0						
STKA	Stephens Creek	58.77	157	P	P	01 23 51.9	-0.9
YKA	Yellowknife Ar	85.43	22	P	P	01 26 30.2	-0.4
	comp=Z,1.8nm,0.8s,mb4.2,baz=319,slow=4.6,SNR=5.9						

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*BJI **05** 01:45:34.6, 30.06N×78.44E, h10km, mB4.9, mb4.4, Ms4.5, Msz4.3*
*IDC **05** 01:45:41.3±0.8, 30.37N×79.17E, mb4.2/13, mb1 4.4/14, mb1mx4.2/21, mbtmp4.2/14, ML4.1/1, Error ellipse: s-maj=25.2km s-min=15.7km az=49.0*
*DMN **05** 01:45:42.5±0.8, 30.50N×79.43E, h10km, Ml5.0/5, Error ellipse: s-maj=66.8km s-min=15.5km az=29.0*
*NEIC **05** 01:45:43.0±0.3, 30.41N×79.15E, h10km, mb4.6/16, Error ellipse: s-maj=7.8km s-min=5.8km az=213.0*
NEIC Felt [IV] at Agastmuni, Gopeshwar, Mastura, Ukhimath and Vijaynagar. Felt in many parts of Uttaranchal.
*NDI **05** 01:45:44.9±3.2, 30.45N×79.31E, h10km, ML4.1*
*MOS **05** 01:45:44.3±1.1, 30.35N×79.13E, h33km, mb4.7/19, Error ellipse: s-maj=10.6km s-min=6.4km az=109.6*
*LDG **05** 01:45:47.8, 30.39N×79.37E, h76km*
*NNC **05** 01:45:53.5±3.8, 31.61N×79.50E, Error ellipse: s-maj=50.0km s-min=33.3km az=116.0*
ISC 05 01:45:46.3±0.4**, 30.45N**±0.03×**79.25E**±0.02**, h48**km±4km**, n123,** σ**1**§**15**/159**, mb4.2**/34**, MS4.1**/2**, 9C-5D, Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	Dehra Dun	1.04	263	i P	P	01 46 02.6	-2.1
DDI				eS	S	01 46 17.2	-1.1
PTH	Pithoragarh	1.23	137	eP	P	01 46 07.1	-0.3
PTH				eS	S	01 46 22.8	-0.4
LGTI	Lohaghat	1.32	139	eP	P	01 46 09.0	+0.1
LGTI				eS	S	01 46 26.3	+0.7
SMLA	Simla	1.91	291	eP	P	01 46 17.5	+0.4
SMLA				eS	S	01 46 41.8	+1.8
KKR	Kurukshetra	2.16	257	i P	P	01 46 22.3	+1.8
SDNR	Sundarnagar	2.22	299	eP	P	01 46 24.0	+2.6
SDNR				ex	S	01 46 54.0	+6.4
BISR	Bishrakh	2.45	220	ex	P	01 46 29.1	+4.4
BISR				eSG	S	01 47 06.0	+12
NDI	New Delhi	2.50	226	eP	P	01 46 25.0	-0.4
NDI				eS	S	01 46 56.0	+1.2
BHK	Bhakra	2.62	292	eP	P	01 46 28.6	+1.5
BHK				eS	S	01 47 00.2	+2.4
BHGR	Bahadurgarh	2.67	229	eP	P	01 46 28.7	+0.8
BHGR				AML	AML	01 47 13.5	
	comp=Z,1μm,0.4s						
RTK	Rohtak	2.84	241	ex	S	01 47 08.2	+4.7
SONA	Sohna	2.90	221	i P	P	01 46 32.2	+1.1
SONA				ex	S	01 47 10.7	+5.7
SONA				AML	AML	01 47 15.8	
	comp=E,1μm,0.4s						
SONA				AML	AML	01 47 19.0	
	comp=N,513nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AGRA	**Agra**	**3.41**	**200**	eS	**S**	**01 47 19.0**	**+1.1**
AGRA				AML	AML	01 47 38.8	
	comp=E,1μm,0.6s						
AGRA				AML	AML	01 47 39.2	
	comp=N,2μm,0.3s						
DLH	**Dalhousie**	**3.49**	**307**	eP	**P**	**01 46 40.0**	**+0.5**
DLH				eS	**S**	**01 47 22.0**	**+2.0**
THN	**Thein Dam**	**3.60**	**304**	eP	**P**	**01 46 41.1**	**0.0**
THN				ex	**S**	**01 47 25.9**	**+3.0**
KHET	**Khetri**	**3.83**	**233**	i P	**P**	**01 46 43.5**	**-0.8**
KHET				eS	**S**	**01 47 28.6**	**+0.1**
KOLN	**Koldanda**	**4.65**	**124**	ePn	**P**	**01 46 55.7**	**-0.2**
KOLN				eSn	**S**	**01 47 51.2**	**+1.9**
	comp=N,781nm,0.8s						
GKN	**Gorkha**	**5.31**	**116**	ePn	**P**	**01 47 04.6**	**-0.4**
GKN				eSn	**S**	**01 48 06.3**	**+0.7**
	comp=N,585nm,0.3s						
ALBI	**Allahabad**	**5.60**	**156**	ex	**P**	**01 47 05.0**	**-4.1**
AJM	**Ajmer**	**5.67**	**227**	eP	**P**	**01 47 09.5**	**-0.5**
AJM				eS	**S**	**01 48 14.2**	**-0.5**
SARP	**Sargodha**	**5.82**	**286**	P	**P**	**01 47 10.4**	**-1.8**
DMN	**Daman**	**5.86**	**117**	ePn	**P**	**01 47 12.3**	**-0.4**
DMN				eSn	**S**	**01 48 19.2**	**-0.3**
	comp=N,504nm,0.7s						
KKN	**Kakani**	**5.91**	**115**	ePn	**P**	**01 47 12.8**	**-0.6**
KKN				eSn	**S**	**01 48 19.6**	**-1.1**
	comp=N,425nm,0.5s						
CHCP	**Chirah Chowk**	**6.00**	**304**	P	**P**	**01 47 13.7**	**-1.0**
PKI	**Pulchoki**	**6.11**	**117**	ePn	**P**	**01 47 15.8**	**-0.5**
PKI				eSn	**S**	**01 48 25.1**	**-0.7**
	comp=N,334nm,0.3s						
THW	**Thamme Wali**	**6.81**	**292**	P	**P**	**01 47 23.3**	**-2.8**
CEP	**Cherat**	**7.07**	**300**	P	**P**	**01 47 28.2**	**-1.5**
CEP				S	**S**	**01 48 47.0**	**-2.6**
BHPL	**Bhopal**	**7.37**	**193**	eP	**P**	**01 47 30.5**	**-3.3**
BHPL				eS	**S**	**01 48 50.4**	**-6.4**
SBDP	**Sheikh Budin**	**7.45**	**286**	P	**P**	**01 47 34.4**	**-0.5**
BLSP	**Bilaspur**	**8.69**	**162**	eP	**P**	**01 47 48.3**	**-3.7**
BLSP				eS	**S**	**01 49 21.1**	**-8.5**
LSA	**Lhasa**	**10.34**	**91**	P	**P**	**01 48 14.8**	**0.0**
LSA	**Lhasa**	**10.34**	**91**	ePn	**P**	**01 48 15.0**	**+0.2**
	comp=N,17nm,0.6s						
LSA	**Lhasa**	**10.34**	**91**	eP	**P**	**01 48 15.0**	**+0.2**
LSA				pmax	pmax		
	comp=Z,17nm,0.6s						
AAK	**Ala-Archa**	**12.74**	**344**	⇓P	**P**	**01 48 44.0**	**-3.1**
	comp=Z,3.5nm,0.7s						
AAK				⇑S	**S**	**01 51 00.5**	**-7.7**
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**12.74**	**344**	ePn	**P**	**01 48 45.5**	**-1.6**
	comp=Z,3.9nm,0.6s						
AAK				eSn	**S**	**01 51 04.8**	**-3.4**
AAK	**Ala-Archa**	**12.74**	**344**	eP	**P**	**01 48 45.5**	**-1.6**
AAK				e		01 51 04.8	
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
POO	**Poona**	**12.85**	**204**	ex	x	01 50 57.9	
HYB	**Hyderabad**	**12.99**	**183**	i P	**P**	**01 48 46.0**	**-4.5**
HYB				e		01 51 01.0	
HYB				eS	**S**	**01 51 11.5**	**-2.9**
HYB	**Hyderabad**	**12.99**	**183**	eP	**P**	**01 48 46.0**	**-4.5**
HYB				eS	**S**	**01 51 01.0**	**-13**
VIS	**Vishakhapatnam**	**13.21**	**163**	eS	**S**	**01 51 06.8**	**-13**
KK31	**Karatay Array**	**14.42**	**333**	⇑P	**P**	**01 49 04.7**	**-4.4**
	comp=Z,1.8nm,0.4s,baz=134,slow=12,SNR=62						
KK31				⇓S	**S**	**01 51 35.0**	**-13**
	comp=Z,2.7nm,0.4s,baz=138,slow=21						
KKAR	**Karatay Array**	**14.42**	**333**	eP	**P**	**01 49 04.6**	**-4.5**
WMQ	**Urumqi**	**14.93**	**24**	eP	**P**	**01 49 19.0**	**+3.2**
WMQ				eS	**S**	**01 52 03.5**	**+3.1**
WMQ				XS		01 52 17.0	
WMQ				AMB	AMB		
	comp=Z,18nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,249nm,6.2s						
WMQ				LR	LR		
	comp=N,245nm,15.2s						
WMQ				LR	LR		
	comp=E,168nm,17.4s						
WMQ				LR	LR		
	comp=Z,192nm,19.4s						
MK31	**Makanchi Array**	**16.48**	**7**	⇓P	**P**	**01 49 34.0**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=189,slow=12,SNR=34						
MK31				⇑S	**S**	**01 52 21.4**	**-15**
	comp=Z,2.6nm,0.8s,baz=191,slow=25,SNR=4.6						
MKAR	**Makanchi Array**	**16.48**	**7**	Pn	**P**	**01 49 33.3**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=180,slow=13,SNR=25						
MKAR				Sn	**S**	**01 52 31.5**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=190,slow=26,SNR=5.2						
MKAR	**Makanchi Array**	**16.48**	**7**	Pn	**P**	**01 49 33.3**	**-2.2**
MKAR				Sn	**S**	**01 52 31.5**	**-4.7**
GTA	**Gaotai**	**19.05**	**56**	eP	**P**	**01 50 07.3**	**+0.1**
GTA				AP		01 50 11.7	
GTA				XP		01 50 14.4	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**20.25**	**359**	⇓P	**P**	**01 50 19.1**	**-0.9**
	comp=Z,2.6nm,0.6s						
KURK	**Kurchatov**	**20.25**	**359**	eP	**P**	**01 50 18.1**	**-1.8**
	comp=Z,6.0nm,0.6s						
KURK	**Kurchatov**	**20.25**	**359**	eP	**P**	**01 50 18.1**	**-1.9**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LZH	**Lanzhou**	**21.29**	**68**	eP	**P**	**01 50 29.5**	**-1.3**
LZH				AP		01 50 40.7	
LZH				PP	PP	01 50 53.5	-1.9
LZH				XS		01 54 35.6	
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,210nm,4.5s						
LZH				LR	LR		
	comp=N,456nm,9.0s						
LZH				LR	LR		
	comp=Z,899nm,13.0s,MS4.3						
LZH	**Lanzhou**	**21.29**	**68**	eP	**P**	**01 50 29.5**	**-1.3**
	comp=Z,36nm,1.5s,mb4.5						
LZH				pP		01 50 40.7	
LZH				sP		01 50 46.5	
LZH				PP	PP	01 50 53.5	-1.9
LZH				eS	**S**	**01 54 17.5**	**-2.0**
LZH				sS		01 54 35.6	
LZH				eSS	SS	01 54 53.7	-2.2
LZH				LR	LR		
	comp=Z,900nm,13.0s,MS4.3						
LZH	**Lanzhou**	**21.29**	**68**	eP	**P**	**01 50 29.5**	**-1.3**
LZH				*PP		01 50 40.7	
LZH						01 50 53.5	
LZH				eS	**S**	**01 54 17.5**	**-2.0**
LZH				*SS		01 54 35.6	
LZH				eSS	SS	01 54 53.7	-2.2
LZH				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.5						
LZH				MLR	MLR		
	comp=Z,900nm,13.0s,MS4.3						
KMI	**Kunming**	**21.44**	**99**	P	**P**	**01 50 32.1**	**-0.2**
KMI				AP		01 50 39.2	
KMI				XP		01 50 42.5	
KMI				PP	PP	01 50 59.3	+2.0
KMI				S	**S**	**01 54 27.7**	**+5.5**
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,214nm,5.3s						
KMI				LR	LR		
	comp=N,512nm,7.4s						
KMI				LR	LR		
	comp=E,530nm,8.2s						
KMI				LR	LR		
	comp=Z,362nm,9.1s						
KMI	**Kunming**	**21.44**	**99**	P	**P**	**01 50 32.1**	**-0.2**
	comp=Z,14nm,0.9s,mb4.3						
KMI				pP		01 50 39.2	
KMI				sP		01 50 42.5	
KMI				PP	PP	01 50 59.3	+2.0
KMI				S	**S**	**01 54 27.7**	**+5.5**
KMI				SS	SS	01 55 01.2	+1.7
KMI	**Kunming**	**21.44**	**99**	P	**P**	**01 50 32.1**	**-0.2**
KMI				*SP		01 50 42.5	
KMI						01 50 59.3	
KMI				S	**S**	**01 54 27.7**	**+5.5**
KMI				SS	SS	01 55 01.2	+1.7
KMI				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.3						
VOSK	**Vostochnaya**	**23.06**	**347**	⇑P	**P**	**01 50 48.8**	**+0.8**
	comp=Z,11nm,1.8s,mb4.0						
VOSK	**Vostochnaya**	**23.06**	**347**	P	**P**	**01 50 48.8**	**+0.7**
VOSK				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.2						
BVA0	**Borovoye Array**	**23.47**	**346**	⇑P	**P**	**01 50 53.5**	**+1.5**
	comp=Z,0.9nm,1.1s,baz=155,slow=13,SNR=11						
BVA0	**Borovoye Array**	**23.47**	**346**	i P	**P**	**01 50 53.8**	**+1.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.2						
BVAR	**Borovoye Array**	**23.47**	**346**	P	**P**	**01 50 52.5**	**+0.5**
	comp=Z,1.8nm,0.6s,mb3.7,baz=153,slow=12,SNR=12						
BRVK	**Borovoye**	**23.52**	**346**	eP	**P**	**01 50 54.5**	**+2.0**
	comp=Z,2.6nm,0.8s,mb3.7						
BRVK	**Borovoye**	**23.52**	**346**	eP	**P**	**01 50 54.5**	**+2.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
AB31	**Akbulak array**	**23.80**	**328**	⇑P	**P**	**01 50 57.4**	**+2.1**
	comp=Z,1.0nm,0.5s,mb3.5,baz=129,slow=9.6,SNR=14						
AB31				⇑S	**S**	**01 55 13.7**	**+9.3**
	comp=Z,2.1nm,0.8s						
AB31	**Akbulak array**	**23.80**	**328**	eP	**P**	**01 50 57.3**	**+2.0**
ZAL	**Zalesovo**	**23.81**	**8**	P	**P**	**01 50 56.5**	**+1.3**
	comp=Z,2.0nm,0.4s,mb3.9,baz=273,slow=11,SNR=11						
GYA	**Guiyang**	**24.41**	**93**	⇑iP	**P**	**01 51 02.4**	**+1.0**
GYA				PP	PP	01 51 37.7	-0.3
GYA				S	**S**	**01 55 16.2**	**+1.2**
GYA				XS		01 55 35.7	
GYA				SCP		01 58 14.1	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
GYA				LR	LR		
	comp=N,210nm,15.2s,MS3.9						
GYA				LR	LR		
	comp=E,240nm,15.0s,MS3.9						
GYA				LR	LR		
	comp=Z,280nm,15.6s,MS3.9						
ZAK	**Zakamensk**	**26.83**	**35**	eP	**P**	**01 51 24.8**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
SONM	**Songino Array**	**27.08**	**42**	P	**P**	**01 51 27.7**	**+1.5**
	comp=Z,2.0nm,0.8s,mb3.7,baz=227,slow=10,SNR=13						
ULN	**Ulaanbaatar**	**27.48**	**43**	eP	**P**	**01 51 31.3**	**+1.4**
GNI	**Garni**	**29.62**	**299**	eP	**P**	**01 51 48.7**	**-0.4**
CN2	**Changchun**	**38.69**	**57**	eP	**P**	**01 53 08.3**	**+1.4**
MDJ	**Mudanjiang**	**41.71**	**56**	P	**P**	**01 53 31.1**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,385nm,8.4s						
AKASG	**Malin Array Be**	**42.10**	**313**	P	**P**	**01 53 34.6**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.6,baz=108,slow=9.9,SNR=5.8						
JOF	**Joensuu**	**44.51**	**331**	ep	**P**	**01 53 54.7**	**+0.3**
YAK	**Yakutsk**	**45.25**	**31**	i P	**P**	**01 54 03.1**	**+2.8**
FINES	**FINESS Array B**	**46.29**	**328**	P	**P**	**01 54 08.8**	**+0.1**
	comp=Z,2.2nm,0.5s,mb4.3,baz=109,slow=8.6,SNR=22						
KAF	**Kangasniemi**	**46.39**	**329**	ep	**P**	**01 54 08.8**	**-0.6**
ARCES	**ARCESS Array B**	**49.33**	**338**	P	**P**	**01 54 32.0**	**-0.2**
	comp=Z,5.4nm,0.6s,mb4.8,baz=117,slow=8.1,SNR=26						
GERES	**GERESS Array B**	**52.07**	**310**	P	**P**	**01 54 53.7**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=53,slow=6.7,SNR=4.8						
NB2	**NORSAR Subarra**	**53.29**	**326**	P	**P**	**01 55 01.5**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.1,baz=96,slow=7.0						
NB2	**NORSAR Subarra**	**53.29**	**326**	P	**P**	**01 55 01.5**	**-0.7**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**53.29**	**326**	P	**P**	**01 55 01.8**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=94,slow=7.2,SNR=8.5						
SEY	**Seymchan**	**55.73**	**32**	⇓iP	**P**	**01 55 19.8**	**-0.2**
HAU	**Haudompre**	**57.03**	**310**	eP	**P**	**01 55 28.9**	**-0.6**
	comp=Z,9.3nm,0.9s,mb4.5						
HAU	**Haudompre**	**57.03**	**310**	eP	**P**	**01 55 28.9**	**-0.6**
HAU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
SBF	**Sospel**	**57.10**	**305**	eP	**P**	**01 55 29.2**	**-0.9**
	comp=Z,8.5nm,0.8s,mb4.5						
SBF	**Sospel**	**57.10**	**305**	eP	**P**	**01 55 29.2**	**-0.9**
SBF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**57.24**	**307**	eP	**P**	**01 55 31.2**	**+0.2**
	comp=Z,12nm,0.8s,mb4.7						
LPG	**La Plagne**	**57.24**	**307**	eP	**P**	**01 55 31.2**	**+0.2**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LPL	**La Plagne**	**57.25**	**307**	eP	**P**	**01 55 31.2**	**+0.1**
	comp=Z,18nm,0.8s,mb4.8						
LPL	**La Plagne**	**57.25**	**307**	eP	**P**	**01 55 31.2**	**+0.1**
LPL				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
MBDF	**Montbardon**	**57.38**	**306**	eP	**P**	**01 55 31.3**	**-0.7**
FRF	**La Foret Royal**	**57.72**	**305**	eP	**P**	**01 55 33.7**	**-0.7**
	comp=Z,9.2nm,0.9s,mb4.5						
FRF	**La Foret Royal**	**57.72**	**305**	eP	**P**	**01 55 33.7**	**-0.7**
FRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BAIF	**Baives**	**58.05**	**313**	eP	**P**	**01 55 36.1**	**-0.5**
SMF	**Signal de Mont**	**58.97**	**309**	eP	**P**	**01 55 42.4**	**-0.7**
	comp=Z,12nm,0.9s,mb4.6						
SMF	**Signal de Mont**	**58.97**	**309**	eP	**P**	**01 55 42.4**	**-0.7**
SMF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
SSF	**Saint Saulge**	**59.11**	**309**	eP	**P**	**01 55 42.4**	**-1.6**
	comp=Z,7.2nm,1.0s,mb4.4						
SSF	**Saint Saulge**	**59.11**	**309**	eP	**P**	**01 55 42.4**	**-1.6**
SSF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
AVF	**Avril sur Loir**	**59.27**	**309**	eP	**P**	**01 55 44.3**	**-0.8**
	comp=Z,14nm,1.2s,mb4.6						
AVF	**Avril sur Loir**	**59.27**	**309**	eP	**P**	**01 55 44.3**	**-0.8**
AVF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
LASF	**Ste Croix**	**59.56**	**306**	eP	**P**	**01 55 46.7**	**-0.5**
TCF	**Toulx Ste Croi**	**60.15**	**309**	eP	**P**	**01 55 50.8**	**-0.4**
	comp=Z,8.2nm,0.9s,mb4.4						
TCF	**Toulx Ste Croi**	**60.15**	**309**	eP	**P**	**01 55 50.8**	**-0.4**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MTLF	**Montolieu**	**60.90**	**306**	eP	**P**	**01 55 55.8**	**-0.6**
ESDC	**Sonseca Array**	**66.45**	**303**	P	**P**	**01 56 32.6**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=67,slow=5.9,SNR=6.6						
WRA	**Warramunga Arr**	**72.91**	**126**	P	**P**	**01 57 12.7**	**+0.1**
	comp=Z,4.5nm,0.6s,mb4.6,baz=322,slow=5.9,SNR=43						
WRA	**Warramunga Arr**	**72.91**	**126**	P	**P**	**01 57 12.7**	**+0.2**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRAB	**Tennant Creek**	**72.91**	**126**	eP	**P**	**01 57 12.6**	**+0.1**
	comp=Z,6.7nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**72.91**	**126**	eP	**P**	**01 57 12.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**72.92**	**126**	⇑iP	**P**	**01 57 12.7**	**+0.1**
IMA	**Indian Mountai**	**75.64**	**20**	P	**P**	**01 57 27.5**	**+0.1**
	comp=Z,12nm,0.8s,mb4.9						
IMA	**Indian Mountai**	**75.64**	**20**	P	**P**	**01 57 27.5**	**+0.1**
IMA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**78.51**	**18**	P	**P**	**01 57 43.6**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.0,baz=311,slow=5.1,SNR=17						
ILAR	**Eielson Array**	**78.51**	**18**	P	**P**	**01 57 43.6**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DBIC	**Dimbokro**	**81.59**	**273**	P	**P**	**01 58 01.7**	**+0.8**
	comp=Z,4.0nm,1.1s,mb4.3,baz=64,slow=6.1,SNR=4.2						
DBIC	**Dimbokro**	**81.59**	**273**	P	**P**	**01 58 01.7**	**+0.7**
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CTA	**Charters Tower**	**81.67**	**119**	P	**P**	**01 58 02.1**	**+0.8**
	comp=Z,7.7nm,0.7s,mb4.7,baz=303,slow=6.8,SNR=16						
CTA	**Charters Tower**	**81.67**	**119**	P	**P**	**01 58 02.1**	**+0.8**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CTAO	**Charters Tower**	**81.67**	**119**	eP	**P**	**01 58 03.0**	**+1.7**
	comp=Z,6.8nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**81.67**	**119**	eP	**P**	**01 58 03.0**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**85.64**	**131**	P	**P**	**01 58 21.4**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.6,baz=318,slow=8.8,SNR=8.2						

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*IDC **05** 02:00:19.5±0.5, 9.14S×118.85E, mb4.7/17, mb1 4.8/17, mb1mx4.7/21, mbtmp4.7/17, MS4.2/14, Ms1 4.2/14, ms1mx4.1/23, Error ellipse: s-maj=23.3km s-min=13.2km az=62.0*

*MOS **05** 02:00:23.4±0.9, 9.12S×118.80E, h33km, mb5.2/28, Error ellipse: s-maj=14.8km s-min=8.4km az=112.5*

*NEIC **05** 02:00:24.4±0.3, 9.30S×119.10E, h30km, mb5.1/24, Error ellipse: s-maj=13.1km s-min=7.6km az=57.0*

*HRVD **05** 02:00:24.4±0.3, 9.46S×118.84E, h22km±2km, MW5.0/62, Centroid moment Tensor Solution. LP body waves: s27,c30; Mantle waves: s62,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.10±.30; $M_{\theta\theta}$-2.92±.23; $M_{\phi\phi}$2.83±.23; $M_{r\theta}$-0.08±.35; $M_{\theta\phi}$-3.62±.15; $M_{\phi r}$0.62±.41; Best double couple: $M_0$4.666×10^{16} NP1:ϕ_s289°, δ83°, λ176°. NP2:ϕ_s19°, δ86°, λ7°. Principal axes: T 4.655, Plg7°, Azm244°; N .028, Plg82°, Azm46°; P -4.676, Plg2°, Azm154°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **05** 02:00:25.2, 9.26S×119.47E, h31km, mB5.4, mb4.9, Ms4.9, Msz4.6*

ISC 05 02:00:23.0±0.2, **9.21S**±0.04×**119.06E**±0.06, **h36**km, **h36**km±3.2km**:pP-P, n155,** σ**1**s**.41**/146, **mb5.0**/66, **MS4.4**/22, **6C-10D, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.90**	**145**	eP	**P**	**02 02 56.5**	**-3.2**
	189nm,0.6s						
FITZ				eS	**S**	**02 04 51.0**	**-10**
FITZ	**Fitzroy Crossi**	**10.90**	**145**	Pn	**P**	**02 02 56.7**	**-3.0**
	15nm,0.3s,baz=345,slow=7.3,SNR=164						
FITZ				Sn	**S**	**02 04 51.3**	**-10**
	7.3nm,0.3s,baz=186,slow=14,SNR=2.3						
FITZ				LR	LR	02 07 55.7	
	comp=Z,1μm,19.4s,baz=305,slow=41						
MBWA	**Marble Bar**	**11.89**	**177**	eP	**P**	**02 03 07.2**	**-5.9**
	95nm,0.6s						
MBWA				eSn	**S**	**02 05 05.9**	**-20**
KAKA	**Kakadu**	**13.58**	**106**	eP	Px	02 03 53.4	
	86nm,0.4s						
KAKA				eS	Sx	02 06 18.0	
WRA	**Warramunga Arr**	**18.21**	**128**	P	**P**	**02 04 32.9**	**-2.0**
	3.7nm,0.3s,baz=304,slow=14,SNR=137						
WRA				S	**S**	**02 07 47.1**	**-6.6**
	1.7nm,0.3s,baz=302,slow=24,SNR=7.9						
WRAB	**Tennant Creek**	**18.21**	**127**	eP	**P**	**02 04 33.9**	**-1.1**
	64nm,0.6s						
WRAB				eS	**S**	**02 07 48.9**	**-4.9**
WRAB	**Tennant Creek**	**18.21**	**127**	eP	**P**	**02 04 33.9**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,64nm,0.6s						
WB2	**Warramunga Arr**	**18.22**	**128**	eP	**P**	**02 04 33.3**	**-1.7**
WB2				eS	**S**	**02 07 44.4**	**-9.5**
KLBR	**Kellerberrin**	**22.30**	**183**	eP	**P**	**02 05 17.5**	**-1.2**
	comp=Z,96nm,1.1s,mb5.1						
KLBR				eS	**S**	**02 09 06.5**	**-10**
MUN	**Mundaring**	**22.81**	**186**	eP	**P**	**02 05 32.8**	**+9.0**
MUN				eS	**S**	**02 09 20.1**	**-5.9**
FORT	**Forrest**	**23.04**	**160**	eP	**P**	**02 05 26.1**	**0.0**
	comp=Z,156nm,0.9s,mb5.4						
FORT				eS	**S**	**02 09 36.7**	**+6.5**
KULM	**Kulim**	**23.33**	**307**	P	**P**	**02 05 35.6**	**+6.5**
NWAO	**Narrogin (SRO)**	**23.66**	**184**	P	**P**	**02 05 31.9**	**-0.2**
	comp=Z,18nm,0.8s,mb4.5,baz=10,slow=11,SNR=5.5						
NWAO				S	**S**	**02 09 39.8**	**-1.2**
	comp=Z,183nm,0.7s,baz=90,slow=18,SNR=12						
NWAO	**Narrogin (SRO)**	**23.66**	**184**	eP	**P**	**02 05 32.8**	**+0.7**
	comp=Z,42nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**23.66**	**184**	eP	**P**	**02 05 32.8**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,42nm,0.6s						
SNG	**Songkhla**	**24.55**	**311**	P	**P**	**02 05 41.0**	**0.0**
PMG	**Port Moresby**	**27.72**	**93**	eP	**P**	**02 06 13.7**	**+3.2**
	comp=Z,20nm,0.8s,mb4.8						
PMG	**Port Moresby**	**27.72**	**93**	eP	**P**	**02 06 13.7**	**+3.2**
PMG				pmax	pmax		
	comp=Z,20nm,0.8s						
CTA	**Charters Tower**	**28.39**	**115**	eP	**P**	**02 06 19.1**	**+2.7**
	comp=Z,14nm,1.1s,mb4.5						
CTA	**Charters Tower**	**28.39**	**115**	P	**P**	**02 06 19.0**	**+2.6**
	comp=Z,13nm,0.9s,mb4.5,baz=283,slow=11,SNR=17						
CTA				LR	LR	02 18 23.3	
	comp=Z,1μm,21.9s,MS4.4,baz=290,slow=38						
CTA	**Charters Tower**	**28.39**	**115**	eP	**P**	**02 06 19.1**	**+2.7**
CTA				pmax	pmax		
	comp=Z,14nm,1.1s						
CTAO	**Charters Tower**	**28.39**	**115**	eP	**P**	**02 06 19.2**	**+2.8**
	comp=Z,22nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**28.39**	**115**	eP	**P**	**02 06 19.3**	**+2.9**
CTAO				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**30.75**	**140**	eP	**P**	**02 06 37.8**	**+0.5**
	comp=Z,43nm,0.6s,mb5.5						
STKA	**Stephens Creek**	**30.75**	**140**	P	**P**	**02 06 37.6**	**+0.4**
	comp=Z,47nm,0.6s,mb5.5,baz=313,slow=9.2,SNR=168						
STKA				LR	LR	02 19 41.9	
	comp=Z,924nm,19.4s,MS4.5,baz=40,slow=38						
CHRT	**Chiangrai**	**34.58**	**327**	⇑P	**P**	**02 07 12.0**	**+1.3**
	comp=Z,168nm,0.8s,mb6.0						
TOO	**Toolangi**	**36.96**	**144**	eP	**P**	**02 07 33.3**	**+2.6**
	comp=Z,28nm,1.1s,mb5.0						
TOO	**Toolangi**	**36.96**	**144**	eP	**P**	**02 07 33.3**	**+2.6**
TOO				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.0						
GYA	**Guiyang**	**37.45**	**342**	⇑iP	**P**	**02 07 40.6**	**+5.7**
GYA				AP	pP	02 07 50.8	+5.4
GYA				PP	PP	02 09 10.5	+7.1
GYA				PCP	PcP	02 09 57.4	+3.9
GYA				S	**S**	**02 13 28.8**	**+8.3**
GYA				SS	SS	02 16 05.3	+11
GYA				SCS	ScS	02 17 48.5	+5.2
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				LR	LR		
	comp=N,410nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=E,370nm,16.6s,MS4.4						
GYA				LR	LR		
	comp=Z,380nm,17.0s,MS4.3						
KMI	**Kunming**	**37.65**	**335**	P	**P**	**02 07 45.4**	**+8.7**
KMI				AP	pP	02 07 54.3	+7.2
KMI				PP	PP	02 09 14.4	+8.6
KMI				S	**S**	**02 13 34.5**	**+11**
KMI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
KMI				LR	LR		
	comp=N,417nm,9.9s						
KMI				LR	LR		
	comp=E,432nm,7.8s						
KMI				LR	LR		
	comp=Z,460nm,12.5s,MS4.5						
CNB	**Canberra Magne**	**37.94**	**138**	eP	**P**	**02 07 41.3**	**+2.4**
	comp=Z,55nm,1.3s,mb5.1						
SSE	**Sheshan**	**40.13**	**3**	eP	**P**	**02 07 58.7**	**+1.5**
SSE				AP	pP	02 08 12.0	+4.3
SSE				PCP	PcP	02 10 00.9	-0.9
SSE				S	**S**	**02 14 05.8**	**+4.9**
SSE				SCS	ScS	02 17 58.7	-0.1
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,950nm,7.1s						
SSE				LR	LR		
	comp=N,68nm,27.7s,MS4.0						
SSE				LR	LR		
	comp=E,278nm,27.8s,MS4.0						
SSE				LR	LR		
	comp=Z,170nm,18.5s						
SSE	**Sheshan**	**40.13**	**3**	eP	**P**	**02 07 58.7**	**+1.5**
	comp=Z,34nm,0.7s,mb5.2						
SSE				pP	pP	02 08 07.7	0.0
SSE				sP	sP	02 08 12.0	-0.3
SSE				PP	PP	02 09 31.0	-2.3
SSE				PcP	PcP	02 10 00.9	-0.9
SSE				S	**S**	**02 14 05.8**	**+4.9**
SSE				sS		02 14 22.2	
SSE				SS	SS	02 17 05.6	+12
SSE				ScS	ScS	02 17 58.7	-0.1
SSE				LR	LR		
	comp=Z,170nm,18.5s,MS3.9						
ENH	**Enshi**	**40.32**	**347**	eP	**P**	**02 08 02.0**	**+3.2**
	comp=Z,22nm,0.8s,mb5.0						
HNR	**Honiara**	**40.33**	**94**	LR	LR	02 27 03.4	
	comp=Z,292nm,19.5s,MS4.1,baz=343,slow=40						
NJ2	**Nanjing**	**41.03**	**360**	eP	**P**	**02 08 05.2**	**+0.6**
NJ2				PP	PP	02 09 44.1	+1.8
NJ2				S	**S**	**02 14 18.0**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NJ2				AMB	AMB		
	comp=Z,82nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,17.9s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,16.8s,MS5.3						
NJ2				LR	LR		
	comp=Z,1μm,16.5s,MS4.8						
PALK	Pallekele	41.58	292	eP	P	02 08 14.3	+4.8
TAU	Tasmania Unive	41.68	148	P	P	02 08 12.2	+2.3
	comp=Z,22nm,1.1s,mb4.7						
TAU	Tasmania Unive	41.68	148	P	P	02 08 12.2	+2.3
TAU				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.7						
XAN	Xi'an	44.08	348	P	P	02 08 34.0	+4.4
XAN				AP	pP	02 08 44.7	+4.5
XAN				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
LSA	Lhasa	47.11	326	P	P	02 08 57.8	+4.2
LSA	Lhasa	47.11	326	P	P	02 08 57.1	+3.4
	comp=Z,12nm,0.6s,mb5.0						
LSA	Lhasa	47.11	326	P	P	02 08 57.1	+3.5
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
LZH	Lanzhou	47.28	343	eP	P	02 09 02.5	+7.5
LZH				AP	pP	02 09 12.1	+6.5
LZH				PP	PP	02 10 53.6	+8.1
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,59nm,5.0s						
LZH				LR	LR		
	comp=E,639nm,15.0s						
LZH				LR	LR		
	comp=Z,998nm,18.0s,MS4.8						
MJAR	Matsushiro Arr	48.94	21	LR	LR	02 28 24.3	
	comp=Z,244nm,19.9s,MS4.2,baz=190,slow=34						
PKI	Pulchoki	48.98	319	eP	P	02 09 06.5	-1.8
	comp=Z,29nm,0.5s,mb5.6						
DMN	Daman	49.20	319	eP	P	02 09 08.2	-1.8
	comp=Z,30nm,0.5s,mb5.6						
KKN	Kakani	49.22	319	eP	P	02 09 08.2	-1.9
	comp=Z,24nm,0.6s,mb5.4						
GKN	Gorkha	49.78	319	eP	P	02 09 12.3	-2.1
	comp=Z,45nm,0.4s,mb5.9						
HHC	Hu-ho-hao-te	50.29	353	eP	P	02 09 24.4	+6.3
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,500nm,8.2s						
KOLN	Koldanda	50.30	318	eP	P	02 09 16.2	-2.2
	comp=Z,48nm,0.7s,mb5.6						
GTA	Gaotai	51.57	341	eP	P	02 09 29.1	+1.2
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
CN2	Changchun	53.08	6	eP	P	02 09 44.0	+4.9
CN2				eAP	pP	02 09 53.7	+3.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MDJ	Mudanjiang	54.42	9	P	P	02 09 53.3	+4.4
MDJ				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,359nm,6.9s						
MDJ				LR	LR		
	comp=N,51nm,23.0s						
MDJ				LR	LR		
	comp=E,267nm,28.4s						
MDJ				LR	LR		
	comp=Z,149nm,21.3s,MS4.0						
MDJ	Mudanjiang	54.42	9	eP	P	02 09 53.7	+4.8
	comp=Z,22nm,0.7s,mb5.2						
RPZ	Rata Peaks	56.61	137	P	P	02 10 06.1	+1.3
	comp=Z,36nm,0.8s,mb5.5,baz=24,slow=4.0,SNR=11						
CASY	Casey	57.28	184	⇓iP	P	02 10 08.1	-1.2
ULN	Ulaanbaatar	57.82	350	eP	P	02 10 13.9	+0.6
	comp=Z,11nm,0.9s,mb4.9						
ULN	Ulaanbaatar	57.82	350	⇑iP	P	02 10 13.0	-0.2
SONM	Songino Array	57.90	350	P	P	02 10 13.1	-0.7
	comp=Z,6.9nm,0.7s,mb4.8,baz=166,slow=8.5,SNR=32						
KLR	Kul'dur	59.25	10	eP	P	02 10 20.8	-2.4
URZ	Urewera	59.38	129	P	P	02 10 23.7	-0.6
	comp=Z,5.0nm,0.8s,mb4.6,baz=338,slow=5.4,SNR=2.6						
YSS	Yuzh-Sakhalins	59.77	19	d iP	P	02 10 26.9	0.0
YSS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
MIR	Mirnyy	59.95	192	eP	P	02 10 28.0	+0.2
MIR				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
WMQ	Urumqi	59.97	334	eP	P	02 10 32.5	+4.2
WMQ				AP	pP	02 10 46.0	+6.8
WMQ				PCP	PcP	02 11 18.0	+4.1
WMQ				eS	S	02 18 42.0	+5.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,276nm,4.2s						
WMQ				LR	LR		
	comp=N,378nm,22.4s,MS4.7						
WMQ				LR	LR		
	comp=E,531nm,23.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,452nm,24.7s,MS4.5						
ZAK	Zakamensk	60.92	349	eP	P	02 10 34.5	-0.1
ZAK				e		02 11 17.9	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MKAR	Makanchi Array	64.67	333	P	P	02 10 57.7	-1.9
	comp=Z,4.6nm,0.5s,mb4.7,baz=146,slow=7.1,SNR=53						
MKAR				LR	LR	02 40 38.5	
	comp=Z,193nm,21.2s,MS4.3,baz=180,slow=38						
MKAR	Makanchi Array	64.67	333	P	P	02 10 57.7	-1.9
MKAR				LR	LR	02 40 38.5	
MKAR	Makanchi Array	64.67	333	P	P	02 10 58.7	-0.8
MKAR				pmax	pmax		
	comp=Z,13nm,0.9s						
AAK	Ala-Archa	65.69	325	eP	P	02 11 04.0	-2.1
	comp=Z,19nm,0.9s,mb5.1						
AAK				epP	pP	02 11 20.4	+3.1
AAK	Ala-Archa	65.69	325	eP	P	02 11 04.0	-2.1
AAK				e*PP	pP	02 11 20.4	+3.2
AAK				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
CLNS	Chul'man	65.99	4	eP	P	02 11 15.8	+8.0
CLNS				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
BOD	Bodaibo	66.92	357	eP	P	02 11 13.7	0.0
BOD				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.3						
KKAR	Karatay Array	68.26	324	eP	P	02 11 20.5	-1.9
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MAW	Mawson	69.06	200	eP	P	02 11 27.2	+0.3
	comp=Z,8.7nm,0.7s,mb4.8						
MAW	Mawson	69.06	200	P	P	02 11 26.4	-0.5
	comp=Z,2.1nm,0.6s,mb4.3,baz=46,slow=4.0,SNR=8.2						
MAW				LR	LR	02 35 25.9	
	comp=Z,118nm,21.1s,MS4.1,baz=247,slow=30						
MAW	Mawson	69.06	200	eP	P	02 11 27.2	+0.3
MAW				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURK	Kurchatov	69.21	334	eP	P	02 11 27.4	-0.6
	comp=Z,22nm,1.0s,mb5.0						
KURK	Kurchatov	69.21	334	eP	P	02 11 27.5	-0.6
KURK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
ZAL	Zalesovo	69.26	339	P	P	02 11 27.5	-0.8
	comp=Z,4.6nm,0.3s,mb4.9,baz=20,slow=0.9,SNR=10						
ZAL	Zalesovo	69.26	339	P	P	02 11 27.5	-0.8
ZAL	Zalesovo	69.26	339	iP	P	02 11 30.4	+2.1
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.3s						
OPO	Ambohidratompo	70.02	254	P	P	02 11 33.5	0.0
	comp=Z,4.7nm,0.8s,mb4.5,baz=32,slow=4.3,SNR=6.6						
NVS	Novosibirsk	70.53	339	eP	P	02 11 34.4	-1.6
NVS				i		02 14 11.5	
NVS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
NVS				pmax	pmax		
	comp=N,11nm,1.0s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK	Yakutsk	71.51	5	eP	P	02 11 43.2	+1.4
YAK				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
VNDA	Vanda	71.77	171	P	P	02 11 43.5	+0.4
	comp=Z,7.0nm,0.9s,mb4.6,baz=322,slow=5.5,SNR=31						
SBA	Scott Base	72.77	171	eP	P	02 11 51.1	+2.1
	comp=Z,9.5nm,0.9s,mb4.7						
SBA				e	pP	02 12 01.4	+1.3
SBA	Scott Base	72.77	171	eP	P	02 11 51.1	+2.1
SBA				e	pP	02 12 01.4	+1.3
SBA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	Magadan	73.11	16	⇓iP	P	02 11 51.8	+0.5
MA2				pmax	pmax		
	comp=Z,39nm,2.2s,mb5.0						
VOSK	Vostochnaya	74.04	332	P	P	02 11 55.7	-1.2
VOSK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
BVA0	Borovoye Array	74.51	332	iP	P	02 11 58.9	-0.7
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
BVAR	Borovoye Array	74.51	332	P	P	02 11 58.5	-1.1
	comp=Z,2.6nm,0.6s,mb4.3,baz=143,slow=7.4,SNR=15						
BRVK	Borovoye	74.58	332	eP	P	02 11 59.0	-1.0
SEY	Seymchan	76.35	15	⇑iP	P	02 12 11.9	+2.0
SYO	Syowa Base	77.68	201	⇑P	P	02 12 16.4	-0.9
SYO	Syowa Base	77.68	201	⇑pP	pP	02 12 25.0	-3.4
AB31	Akbulak array	77.77	325	iP	P	02 12 17.1	-1.0
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
DJNS	Zahran al Janu	79.21	290	P	P	02 12 26.7	0.0
QSPA	South Pole Qui	80.78	180	⇓iP	P	02 12 35.5	+1.6
	comp=Z,31nm,1.2s,mb5.1						
TIXI	Tiksi	80.95	3	d iP	P	02 12 35.6	+0.7
TIXI				pmax	pmax		
	comp=Z,35nm,1.7s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
AFFS	'Afif	81.17	296	P	P	02 12 35.8	-1.2
SVE	Sverdlovsk	81.30	332	eP	P	02 12 36.7	-0.3
BLJS	Baljurashi	81.50	292	P	P	02 12 39.6	+0.8
KMBO	Kilima Mbogo	81.74	270	P	P	02 12 40.3	+0.1
	comp=Z,3.6nm,0.7s,mb4.4,baz=59,slow=8.3,SNR=14						
KMBO				LR	LR	02 44 46.4	
	comp=Z,185nm,18.2s,MS4.5,baz=276,slow=33						
ARU	Arti	82.08	331	⇓iP	P	02 12 38.1	-2.9
ARU				e		02 15 45.6	
ARU				eS	S	02 22 50.1	-1.4
ARU				eSS	SS	02 28 08.1	-6.4
ARU				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
HILS	Ha'il	83.07	299	P	P	02 12 47.5	+0.8
GNI	Garni	84.12	312	LR	LR	02 54 53.6	
	comp=Z,74nm,19.9s,MS4.1,baz=302,slow=39						
GNI	Garni	84.12	312	iP	P	02 12 51.1	-0.8
TI2	Plekhanov	84.59	314	eP	P	02 12 50.0	-4.2
KBRS	Khaybar	84.91	297	P	P	02 12 57.0	+0.9
GOF	Gofitskoye	86.75	316	eP	P	02 13 05.6	+0.9
GOF				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.6						
TBI	Tubuai	87.75	113	eLR	LR	02 41 03.7	
QURS	Qurayyt al Mil	87.77	302	P	P	02 13 11.7	+1.7
TBKS	Tabuk	87.78	299	P	P	02 13 09.9	-0.2
MBAR	Mbarara	88.25	270	eP	P	02 13 12.7	0.0
	comp=Z,14nm,0.8s,mb5.2						
MBAR				e		02 13 28.6	
MBAR	Mbarara	88.25	270	eP	P	02 13 12.7	0.0
MBAR				e		02 13 28.6	
MBAR				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.2						
ASF	Jabal al Asfar	88.29	303	LR	LR	02 57 12.7	
	comp=Z,89nm,19.4s,MS4.2,baz=301,slow=39						
MALT	Malatya	88.39	309	eP	P	02 13 13.8	+1.1
	comp=Z,5.5nm,0.8s,mb4.8						
MALT	Malatya	88.39	309	eP	P	02 13 13.8	+1.1
MALT				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
LSZ	Lusaka	88.45	255	eP	P	02 13 14.5	+1.0
	comp=Z,26nm,0.8s,mb5.5						
LSZ				e		02 13 30.5	
LSZ	Lusaka	88.45	255	eP	P	02 13 14.5	+1.0
LSZ				e		02 13 30.5	
LSZ				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.5						
PPT	Papeete	88.55	107	eLR	LR	02 41 26.8	
	comp=Z,287nm,24.2s						
PPT	Papeete	88.55	107	LR	LR	02 48 44.6	
	comp=Z,216nm,20.1s,MS4.6,baz=148,slow=33						
BOSA	Boshof	88.96	241	P	P	02 13 15.9	+0.2
	comp=Z,4.3nm,0.5s,mb5.0,baz=118,slow=4.7,SNR=38						
BOSA				LR	LR	02 46 28.9	
	comp=Z,136nm,20.3s,MS4.4,baz=278,slow=31						
BDAS	Al Bad'	89.08	299	P	P	02 13 14.8	-1.5
JMOS	Jabal al Moall	89.21	300	P	P	02 13 15.5	-1.4
LBTB	Lobatse	89.27	245	eP	P	02 13 18.1	+0.9
LBTB				e	pP	02 13 29.8	+1.1
ALWS	Ilw as Safayha	89.27	300	P	P	02 13 17.3	+0.1
TAYS	Tayyib Ism	89.30	299	P	P	02 13 17.7	+0.4
SNAA	Sanae	90.81	196	P	P	02 13 25.0	+1.6
	comp=Z,1.8nm,0.8s,mb4.4,baz=133,slow=3.6,SNR=22						
SNAA	Sanae	90.81	196	⇓iP	P	02 13 25.4	+2.0
SNAA				e		02 13 41.3	
SNAA				e		02 13 54.4	
BRTR	Keskin Array B	92.32	310	P	P	02 13 30.2	-0.9
	comp=Z,2.2nm,0.8s,mb4.5,baz=141,slow=5.7,SNR=8.2						
VNA2	Neumayer--Watz	92.44	195	⇓iP	P	02 13 33.2	+2.2
VNA2				e		02 13 49.7	
VNA2				e		02 14 03.2	
VNA3	Neumayer Olymp	92.83	195	⇓iP	P	02 13 34.5	+1.8
VNA3				e		02 13 52.7	
VNA3				e		02 14 04.5	
VNA1	Neumayer--Stat	92.84	195	⇓iP	P	02 13 35.1	+2.3
VNA1				e		02 13 53.8	
VNA1				e		02 14 05.3	
OBN	Obninsk	93.22	325	iP	P	02 13 34.1	-0.7
OBN				e		02 17 18.3	
OBN				pmax	pmax		
	comp=Z,18nm,2.0s,mb5.2						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.6						
AKASG	Malin Array Be	96.95	320	iP	P	02 14 05.2	+13
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
IDI	Anoyia	98.64	304	LR	LR	03 02 17.3	
	comp=Z,61nm,18.2s,MS4.1,baz=180,slow=38						
FINES	FINESS Array B	99.45	331	P	P	02 14 02.2	-0.7
	comp=Z,1.6nm,0.8s,mb4.6,baz=135,slow=2.7,SNR=5.1						
FINES				LR	LR	03 01 20.5	
	comp=Z,137nm,19.1s,MS4.5,baz=106,slow=37						
FINES	FINESS Array B	99.45	331	iP	P	02 14 02.9	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RKT	Rikitea	100.83	116	eLQ		02 42 45.9	
RKT	Rikitea	100.83	116	ePS	PS	02 26 59.1	-21
RKT	Rikitea	100.83	116	eLR	LR	02 47 07.0	
	comp=Z,174nm,23.5s						
YKA	Yellowknife Ar	114.36	24	PKP	PKPdf	02 18 59.6	+0.9
	comp=Z,0.6nm,0.5s,baz=301,slow=2.0,SNR=7.3						
YKA	Yellowknife Ar	114.36	24	PKIKP	PKPdf	02 18 59.7	+0.9
ELK	Elko	122.76	47	PKP	PKPdf	02 19 18.6	+3.0
	comp=Z,0.5nm,0.6s,baz=297,slow=2.3,SNR=3.5						
CPUP	Villa Florida	144.50	186	PKP	PKPdf	02 19 57.5	+1.2
	comp=Z,9.4nm,1.0s,baz=182,slow=2.4,SNR=12						
CPUP	Villa Florida	144.50	186	ePKIKP	PKPdf	02 19 58.3	+2.0
BINY	Binghamton	144.58	19	ePKPdf	PKPdf	02 19 57.5	+1.5
HRV	Harvard--Oak R	145.55	14	ePKPdf	PKPdf	02 20 01.0	+3.3
PAL	Palisades	146.31	18	ePKPdf	PKPdf	02 20 02.8	+3.8
FWV	Forest Hill	146.54	29	ePKPdf	PKPdf	02 20 04.0	+4.5
BDFB	Brasilia	152.19	208	PKPbc	PKPdf	02 20 19.2	+10
	comp=Z,6.6nm,0.6s,baz=190,slow=1.1,SNR=10						
LPAZ	La Paz	153.68	164	PKPbc	PKPdf	02 20 23.9	+13
	comp=Z,3.0nm,0.9s,baz=32,slow=5.6,SNR=4.0						
SIV	San Ignacio	154.96	180	PKPab	PKPab	02 20 41.0	+1.5
	comp=Z,4.7nm,0.8s,baz=164,slow=2.3,SNR=4.9						

*NEIC **05** 02:09:10.1, 15.79N×92.70W, h198^{km}, MD4.1(MEX), After MEX.*

MEX 05 02:09:10.6±1.1**, 15.83N×92.70W, h195**^{km}±14^{km}**, MD4.1, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CCIG	Comitan	0.70	51	eP	P	02 09 36.7	-1.7
CCIG				iS	S	02 09 57.8	-2.0
CCIG	Comitan	0.70	51	iP	P	02 09 36.6	-1.7
CCIG				iS	S	02 09 57.8	-2.0
SCX	San Cristobal	0.90	4	iP	P	02 09 38.0	-1.4
SCX				eS	S	02 10 02.5	+0.9
CMIG	Matias Romero	2.44	301	iP	P	02 09 51.9	-2.1
CMIG				iS	S	02 10 24.2	-3.2
HUIG	Huatulco	3.28	269	iP	P	02 10 01.5	-2.4
HUIG				iS	S	02 10 42.9	-2.2
OXX	Oaxaca	4.05	288	iP	P	02 10 13.0	-0.5
OXX				iS	S	02 11 00.0	-2.1
VHO	Vista Hermosa	4.06	288	iP	P	02 10 13.3	-0.3
VHO				iS	S	02 11 00.2	-2.1
YAIG	Yautepec	6.78	297	iP	P	02 10 49.3	+0.5
YAIG				iS	S	02 12 02.6	-2.6

*NEIC **05** 02:12:18.7, 40.47N×125.66W, h19^{km}, mb4.1/3, MD3.6(NCEDC), After NCEDC.*

*IDC **05** 02:12:19.3±4.2, 40.66N×125.39W, mb3.4/2, mb1 3.7/6, mb1mx3.4/26, mbtmp3.4/6, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/21, Error ellipse: s-maj=54.5km s-min=28.8km az=118.0*

ISC 05 02:12:18.3±2.6**, 40.46N**±0.05×**125.5W**±0.1**, h23**^{km}±22^{km}**, n48, σ0^{s}97**/49**, mb3.7**/4**, MS3.2**/1**, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KHMM	Horse Mountain	1.44	73	eP	Pn	02 12 42.7	-0.6
KRMB	Red Mountain	1.63	49	eP	Pn	02 12 45.0	-1.1
KCPM	Cahto Peak	1.69	117	eP	Pn	02 12 46.0	-0.9
KIPM	Iron Peak	1.71	112	eP	Pn	02 12 46.4	-0.8
KBO	Bosley Butte	2.01	29	eP	Pn	02 12 50.7	-0.8
WDC	Whiskeytown Da	2.29	86	eP	Pn	02 12 55.1	-0.4
HOPS	Hopland	2.40	127	eP	Pn	02 12 56.3	-0.8
YBH	Yreka Blue Hor	2.49	58	Pn	Pn	02 12 58.6	+0.3
	18nm,0.3s,baz=254,slow=11,SNR=109						
YBH				Sn	Sn	02 13 27.2	-1.1
	6.9nm,0.3s,baz=148,slow=19,SNR=5.7						
YBH	Yreka Blue Hor	2.49	58	eP	Pn	02 12 57.8	-0.5
LHEM	Herd Peak	2.77	64	P	Pn	02 13 03.0	+0.6
HUMO	Hull Mountain	2.89	41	eP	Pn	02 13 03.4	-0.8
NSHM	Saint Helena R	2.99	130	eP	Pn	02 13 05.2	-0.2
BUOR	Burton Butte	3.08	53	P	Pn	02 13 07.9	+1.2
LTIM	Timbered Crate	3.16	76	P	Pn	02 13 07.2	-0.7
DBO	Dodson Butte	3.17	32	P	Pn	02 13 07.8	-0.1
LASM	Arnica Sink	3.21	68	P	Pn	02 13 09.8	+1.2
LBCM	Butte Creek Ri	3.21	82	P	Pn	02 13 09.1	+0.5
BBOR	Butler Butte	3.24	41	P	Pn	02 13 10.0	+1.0
VSP	Spence Mountai	3.29	54	P	Pn	02 13 11.1	+1.3
OHCM	Honcut	3.32	108	eP	Pn	02 13 09.0	-1.1
HOG	Hogback Mounta	3.39	57	P	Pn	02 13 12.3	+1.1
HSO	Harness Mounta	3.57	30	P	Pn	02 13 14.1	+0.4
BEKR	Beckwourth	4.02	97	eP	Pn	02 13 19.6	-0.5
MOD	Modoc	4.21	68	eP	Pn	02 13 22.4	-0.4
IRO	Indian Ridge	4.30	33	P	Pn	02 13 24.8	+0.7
WIFE	Three Sisters-	4.54	36	P	Pn	02 13 27.1	-0.3
CMB	Columbia Colle	4.68	120	eP	Pn	02 13 28.9	-0.5
VIPM	Ingram Point	5.44	40	P	Pn	02 13 41.1	+0.9
WVOR	Wild Horse Val	5.55	67	eP	Pn	02 13 40.4	-1.4
HAWA	Hanford	7.37	34	eP	Pn	02 14 06.4	-0.9
BMO	Blue Mountains	7.49	51	eP	Pn	02 14 09.2	+0.1
ELK	Elko	7.85	85	Pn	Pn	02 14 14.8	+0.8
	0.1nm,0.3s,baz=276,slow=13,SNR=7.0						
HLID	Hailey	8.85	66	eP	P	02 14 28.1	+0.2
DUG	Dugway	9.73	87	eP	P	02 14 41.0	+0.9
MCMT	McKenzie Canyo	10.32	61	eP	P	02 14 47.8	-0.4
MSO	Missoula	10.54	49	eP	P	02 14 49.0	-2.1
CHMT	Chamberlain Mo	10.99	50	eP	P	02 14 56.7	-0.6
TMUT	Trail Mountain	11.08	91	P	P	02 14 58.8	+0.3
BOZ	Bozeman (W)	11.42	58	eP	P	02 15 02.6	-0.6
SRU	San Rafael	11.64	92	eP	P	02 15 07.1	+1.0
PDAR	Pinedale Array	12.19	74	Pn	P	02 15 15.4	+1.9
	0.1nm,0.3s,baz=263,slow=14,SNR=3.4						
SDCO	Great Sand Dun	15.79	93	eP	P	02 16 03.3	+2.4
	19nm,1.4s						
ANMO	Albuquerque	16.07	104	Pn	P	02 16 06.5	+2.2
	baz=301,slow=9.6,SNR=3.9						
MNTX	Cornudas Mount	18.46	112	eP	P	02 16 34.1	-0.4
	0.5nm,0.6s						
TXAR	Lajitas Array	21.04	115	P	P	02 17 04.2	+1.2
	1.4nm,0.9s,mb3.3,baz=297,slow=7.7,SNR=15						
TXAR				LR	LR	02 26 24.0	
	comp=Z,94nm,18.2s,MS3.2,baz=95,slow=40						
FFC	Flin Flon	21.22	40	eP	P	02 17 03.9	-0.7
	4.8nm,0.9s,mb3.8						
ULM	Lac du Bonnet	22.89	55	P	P	02 17 22.1	+0.8
	1.5nm,0.7s,mb3.6,baz=278,slow=11,SNR=4.1						
PLAL	Pickwick Lake	29.98	88	eP	P	02 18 25.6	-1.7
	7.4nm,1.3s,mb4.3						

*IDC **05** 02:12:24.2±1.1, 16.64S×70.71W, mb3.9/3, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML4.0/2, MS3.1/4, Ms1 3.1/4, ms1mx2.9/38, Error ellipse: s-maj=26.1km s-min=21.0km az=61.0*

*NEIC **05** 02:12:28.1±0.7, 16.54S×70.74W, h35^{km}, mb4.2/1, Error ellipse: s-maj=13.8km s-min=11.7km az=215.0*

ISC 05 02:12:29.4±0.7**, 16.66S**±0.05×**70.71W**±0.05**, h56**^{km}±10^{km}**, n17, σ1^{s}12**/20**, mb3.9**/4**, MS3.4**/2**, 2C, Southern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARE	Arequipa	0.78	285	⇑iP	P	02 12 43.1	-1.4
ARE				iS	S	02 12 57.1	+1.5
LPAZ	La Paz	2.50	82	Pn	P	02 13 07.8	-0.8
	12nm,0.3s,baz=258,slow=15,SNR=604						
LPAZ				Sn	S	02 13 39.3	+1.3
	3.3nm,0.3s,baz=11,slow=23,SNR=2.1						
LPAZ	La Paz	2.50	82	⇑iPn	P	02 13 08.1	-0.5
LPAZ				eSn	S	02 13 39.8	+1.8
LVC	Limon Verde	6.16	164	Pn	P	02 13 57.8	-2.0
	1.0nm,0.3s,baz=324,slow=7.5,SNR=11						
LVC				Sn	S	02 15 10.0	+0.3
	0.5nm,0.3s,baz=182,slow=17,SNR=1.8						
LVC				LR	LR	02 16 31.4	
	comp=Z,132nm,21.1s,baz=327,slow=40						
LVC	Limon Verde	6.16	164	ePn	P	02 13 57.9	-1.9
LVC				Sn	S	02 15 10.0	+0.3
LVC				eSn	S	02 15 10.7	+1.0
LVC				LR	LR	02 16 31.4	
NNA	Nana	7.55	307	ePn	P	02 14 13.0	-6.2
SIV	San Ignacio	9.28	87	Pn	P	02 14 37.6	-5.5
	0.6nm,0.3s,baz=273,slow=10,SNR=16						
SAML	Samuel	10.61	45	ePn	P	02 14 55.8	-5.6
	3.1nm,0.8s						
SAML				eSn	S	02 16 59.1	-0.5
CFAA	Coronel Fontan	15.04	172	LR	LR	02 22 04.7	
	comp=Z,21nm,19.9s,baz=339,slow=38						
BDFB	Brasilia	21.82	91	LR	LR	02 25 48.4	
	comp=Z,92nm,20.4s,MS3.2,baz=308,slow=37						
TRQA	Tornquist	22.65	162	eP	P	02 17 26.4	-0.4
	13nm,1.5s,mb4.1						
PLCA	Paso Flores	23.98	180	P	P	02 17 40.5	+0.9
	2.6nm,0.8s,mb3.7,baz=358,slow=14,SNR=7.2						
PLCA	Paso Flores	23.98	180	eP	P	02 17 41.6	+1.9
SDV	Santo Domingo	25.39	0	LR	LR	02 28 46.2	
	comp=Z,148nm,19.1s,MS3.5,baz=231,slow=39						
TXAR	Lajitas Array	55.71	325	P	P	02 22 03.2	+0.4
	0.5nm,0.8s,mb3.6,baz=148,slow=8.5,SNR=3.4						
ULM	Lac du Bonnet	70.22	343	P	P	02 23 38.0	-0.4
	1.4nm,0.6s,mb4.1,baz=170,slow=5.2,SNR=4.3						
SONM	Songino Array	148.82	4	PKPbc	PKPdf	02 32 13.8	+7.1
	0.7nm,0.6s,baz=332,slow=1.3,SNR=5.4						

*NEIC **05** 02:15:18.0, 14.38N×93.36W, h12^{km}, mb4.6/17, MD4.6(MEX), After MEX.*

*MEX **05** 02:15:18.1±0.6, 14.35N×93.36W, h16^{km}±22^{km}, MD4.6*

*CASC **05** 02:15:19.3±0.9, 13.02N×93.71W, h12^{km}, MD4.8, mb4.6(NEIC)*

*IDC **05** 02:15:24.2±5.1, 14.62N×92.99W, h100^{km}±49^{km}, mb3.9/13, mb1 4.1/14, mb1mx3.9/24, mbtmp4.2/14, MS3.9/8, Ms1 3.9/8, ms1mx3.6/31, Error ellipse: s-maj=50.1km s-min=13.7km az=43.0*

ISC 05 02:15:20.2±0.5**, 14.68N**±0.05×**93.53W**±0.04**, h33**^{km}**, n70,**

σ1^{s}45/74, mb4.4/22, MS3.9/8, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	2.08	40	iP	P	02 15 51.9	-1.5
CCIG				iS	S	02 16 18.2	-0.1
SCX	San Cristobal	2.22	23	iP	P	02 15 55.0	-0.3
SCX				iS	S	02 16 23.5	+1.7
HUIG	Huatulco	2.71	294	iS	S	02 16 35.6	+1.3
CMIG	Matias Romero	2.72	332	eP	P	02 16 03.1	+0.6
CMIG				eS	S	02 16 39.4	+4.8
TUIG	Tuzandepetl	3.44	346	eP	P	02 16 14.2	+1.5
TUIG				iS	S	02 16 58.4	+5.6
RTR	El Retiro	3.85	101	⇓eP	P	02 16 20.3	+1.8
OXX	Oaxaca	3.89	308	eP	P	02 16 20.0	+1.0
OXX				iS	S	02 17 10.0	+5.8
VHO	Vista Hermosa	3.89	308	eP	P	02 16 19.3	+0.2
VHO				iS	S	02 17 09.2	+4.9
SNJE	San Jose	3.89	102	eP	P	02 16 21.6	+2.4
MTO2	Montecristo 2	4.05	93	⇓eP	P	02 16 27.4	+6.0
BOQS	Boqueron	4.23	102	eP	P	02 16 25.7	+1.8
BOQS				eS	S	02 17 17.7	+4.8
LFRS	El Faro	4.46	103	eP	P	02 16 28.3	+1.0
LFRS				eS	S	02 17 22.2	+3.5
LCBS	La Ceiba	4.54	102	eP	P	02 16 29.8	+1.5
LCBS				eS	S	02 17 24.5	+4.0
SNVI	San Vicente	4.68	103	eP	P	02 16 31.9	+1.6
SNVI				eS	S	02 17 27.1	+3.0
LVIG	Laguna Verde	5.72	332	iP	P	02 16 41.5	-3.4
LVIG				iS	S	02 17 54.9	+4.5
ACX	Acapulco	6.52	290	eP	P	02 16 55.0	-1.2
PPM	Popocatepetl	6.54	313	eP	P	02 16 59.0	+2.5
UNM	Universidad Na	7.11	311	eP	P	02 17 17.0	+13
MOIG	Morelia	8.84	305	iP	P	02 17 30.1	+1.5
SFJM	Santa Fe	10.74	304	eP	P	02 17 57.0	+2.1
PAYG	Puerto Ayora	15.59	168	eP	P	02 18 58.6	-0.7
	44nm,1.1s						
NATX	Nacogdoches	17.03	357	ePn	P	02 19 18.5	+1.1
LTX	Lajitas	17.33	329	eP	P	02 19 23.1	+1.9
	20nm,1.1s						
TXAR	Lajitas Array	17.33	329	P	P	02 19 21.9	+0.8
	0.3nm,0.3s,baz=154,slow=12,SNR=28						
DWPF	Disney	17.46	38	eP	P	02 19 22.2	-0.6
LRAL	Lakeview Retre	19.21	17	eP	P	02 19 43.2	-0.9
	63nm,1.1s						
OXF	Oxford	20.09	10	eP	P	02 19 49.2	-4.5
	44nm,0.9s						
GOGA	Godfrey	20.76	24	eP	P	02 19 54.7	-6.1
	13nm,0.6s						
PLAL	Pickwick Lake	20.80	13	eP	P	02 19 58.3	-2.8
	13nm,0.8s						
ROSC	El Rosal	21.27	115	P	P	02 19 59.2	-6.9
	14nm,0.9s,mb4.3,baz=326,slow=3.6,SNR=16						
MYNC	Murphy	22.00	21	eP	P	02 20 05.5	-7.7
	35nm,1.2s,mb4.7						
CPCT	Cooper Cave	22.21	20	eP	P	02 20 03.3	-12
JSC	Jenkinsville	22.45	27	eP	P	02 20 11.8	-5.8
SDV	Santo Domingo	23.14	102	P	P	02 20 17.1	-7.6
	4.2nm,0.5s,mb4.1,baz=324,slow=8.7,SNR=7.0						
SDV	Santo Domingo	23.14	102	eP	P	02 20 17.9	-6.8
	6.1nm,0.7s,mb4.1						
ANMO	Albuquerque	23.30	332	P	P	02 20 25.9	-0.2
	3.2nm,0.8s,mb3.8,baz=154,slow=12,SNR=8.5						
ANMO				LR	LR	02 30 57.9	
	comp=Z,152nm,18.2s,MS3.5,baz=44,slow=40						
ANMO	Albuquerque	23.30	332	eP	P	02 20 26.1	+0.1
	5.2nm,0.9s,mb4.0						
TUC	Tucson	23.56	321	eP	P	02 20 29.4	+0.8
	14nm,1.0s,mb4.3						
SDCO	Great Sand Dun	25.31	337	eP	P	02 20 45.1	-0.3
SJG	San Juan	26.48	79	LR	LR	02 30 46.3	
	comp=Z,168nm,21.7s,MS3.5,baz=279,slow=36						
ARUT	Antelope Range	29.00	326	eP	P	02 21 18.7	-0.5
SNCC	San Nicolas Is	29.96	313	eP	P	02 21 17.3	-10
PDAR	Pinedale Array	31.20	337	P	P	02 21 36.0	-2.6
	1.2nm,0.7s,mb3.8,baz=143,slow=7.4,SNR=5.3						
AHID	Auburn Hatcher	31.80	335	P	P	02 21 42.7	-1.2
	6.8nm,0.9s,mb4.5						
ELK	Elko	32.12	328	P	P	02 21 46.5	-0.2
	baz=142,slow=8.4						
SNOW	Snow King Moun	32.25	336	eP	P	02 21 46.9	-0.9
	21nm,0.8s,mb5.0						
LOHW	Long Hollow	32.32	336	eP	P	02 21 44.6	-3.8
	15nm,1.3s,mb4.7						
TPAW	Teton Pass	32.35	336	eP	P	02 21 47.8	-0.9
	22nm,1.3s,mb4.8						
RRI2	Red Ridge	32.38	335	eP	P	02 21 48.8	-0.2
	21nm,1.4s,mb4.8						
LRV	Little Rabbit	32.72	316	eP	P	02 21 47.0	-5.0
MCMT	McKenzie Canyo	34.22	335	eP	P	02 21 56.0	-8.9
BOZ	Bozeman (W)	34.43	337	eP	P	02 22 05.1	-1.5
	3.4nm,0.9s,mb4.3						
ULM	Lac du Bonnet	35.52	357	P	P	02 22 11.3	-4.6
	3.7nm,1.0s,mb4.3,baz=185,slow=10,SNR=3.3						
ULM				LR	LR	02 40 40.6	
	comp=Z,61nm,18.4s,MS3.4,baz=10,slow=43						
ULM	Lac du Bonnet	35.52	357	P	P	02 22 11.3	-4.6
ULM				LR	LR	02 40 40.6	
MOD	Modoc	35.65	325	eP	P	02 22 15.9	-1.2
	2.0nm,0.8s,mb4.1						
CHMT	Chamberlain Mo	36.11	337	eP	P	02 22 19.3	-1.6
LPAZ	La Paz	39.71	140	LR	LR	02 37 48.0	
	comp=Z,102nm,21.2s,MS3.6,baz=113,slow=34						
SIV	San Ignacio	44.24	132	P	P	02 23 19.3	-9.3
	2.8nm,0.8s,mb4.1,baz=310,slow=11,SNR=4.0						
SCHQ	Schefferville	45.12	22	LR	LR	02 43 09.4	
	comp=Z,207nm,18.4s,MS4.1,baz=108,slow=37						
YKA	Yellowknife Ar	50.03	347	P	P	02 24 09.4	-3.9
	9.1nm,0.8s,mb4.9,baz=152,slow=7.3,SNR=36						
DLBC	Dease Lake	51.43	336	P	P	02 24 22.1	-2.0
	3.4nm,0.8s,mb4.3,baz=103,slow=3.1,SNR=4.9						
INK	Inuvik	59.37	344	P	P	02 25 16.9	-4.3
	8.5nm,0.9s,mb4.8,baz=128,slow=8.6,SNR=14						
ILAR	Eielson Array	61.63	337	P	P	02 25 32.2	-4.5
	5.0nm,1.0s,mb4.6,baz=139,slow=4.6,SNR=26						
BORG	Borgarnes	69.25	26	LR	LR	02 55 42.1	
	comp=Z,116nm,18.5s,MS4.2,baz=236,slow=35						
ESDC	Sonseca Array	80.46	51	P	P	02 27 22.8	-7.6
	1.1nm,0.7s,mb3.9,baz=290,slow=6.2,SNR=9.2						
NOA	NORSAR Array B	84.25	28	LR	LR	03 03 50.5	
	comp=Z,90nm,18.4s,MS4.2,baz=100,slow=35						
HFS	Hagfors	85.72	29	LR	LR	03 03 31.5	
	comp=Z,194nm,19.9s,MS4.5,baz=151,slow=34						
ARCES	ARCESS Array B	85.95	18	P	P	02 27 53.5	-4.3
	6.9nm,1.1s,mb4.8,baz=292,slow=6.5,SNR=4.1						
GERES	GERESS Array B	90.02	39	P	P	02 28 11.7	-6.0
	0.3nm,0.7s,mb3.7,baz=315,slow=5.7,SNR=3.8						
WRA	Warramunga Arr	134.12	256	PKP	PKPdf	02 34 31.6	-3.8
	0.7nm,0.7s,baz=83,slow=2.5,SNR=5.6						

GUC 05 03:51:55.4±0.8, 32.48S×71.83W, h31km±9km, MD3.5, ML2.0, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.66	25	⇓iP	Pb	03 52 07.7	-0.7
CHNG				iS	Sb	03 52 17.3	0.0
CHNG				AMP		03 52 19.2	
	comp=E,90nm,0.3s						
ROCH	El Roble	0.85	126	⇓iP	Pn	03 52 11.1	-0.1
LCCH	Las Cruces	1.02	168	eP	Pn	03 52 13.7	0.0
LCCH				iS	Sn	03 52 26.9	-0.1
JACH	Jahuel	1.06	101	⇑iP	Pn	03 52 14.4	+0.1
JACH				iS	Sn	03 52 29.1	+0.9
RCDM	Rinconada Maip	1.32	140	⇑iP	Pn	03 52 18.8	+0.8
RCDM				iS	Sn	03 52 36.4	+1.6
RCDM				AMP		03 52 46.8	
	comp=N,64nm,0.5s						
TACH	Talagante	1.39	148	iS	Sn	03 52 37.6	+1.2
LNV	Longovilo	1.51	167	iS	Sn	03 52 40.7	+1.1
FCH	Farellones	1.55	124	eP	Pn	03 52 22.1	+0.8
FCH				iS	Sn	03 52 42.7	+2.3
FCH				AMP		03 52 45.8	
	comp=N,34nm,0.2s						
PCH	Pirque	1.59	136	eP	Pn	03 52 23.0	+1.1
CACH	El Canelo	1.93	148	eP	Pn	03 52 28.3	+1.5

*BJI **05** 03:58:55.0, 55.82N×163.96W, h103km, mB5.1, mb4.7*
*NEIC **05** 03:58:57.3±0.2, 55.00N×163.76W, h131km±2km, mb4.4/13, Error ellipse: s-maj=8.0km s-min=3.1km az=150.0*
*IDC **05** 03:58:57.4±2.8, 55.21N×163.92W, h121km±21km, mb3.8/16, mb1 4.0/19, mb1mx3.9/25, mbtmp4.2/19, Error ellipse: s-maj=23.3km s-min=13.6km az=19.0*

ISC 05 03:58:56.4±0.2, 55.01N±0.06×163.75W±0.06, h133km±2km, n115, σ0^{s}96/123, mb4.2/42, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALA	Baldy Mountain	0.58	71	P	P	03 59 17.2	+0.7
BALA				S	S	03 59 31.9	+0.1
WESN	West Dahl Nort	0.66	228	P	P	03 59 17.3	+0.3
WESN				S	S	03 59 32.8	+0.1
WPOG	Pogromni	0.71	235	P	P	03 59 17.8	+0.3
WFAR	Faris Peak	0.76	232	P	P	03 59 18.2	+0.4
WESS	West Dahl Sout	0.78	227	P	P	03 59 18.2	+0.3
WESS				S	S	03 59 34.3	+0.1
DRIA	Deer Island	0.86	92	P	P	03 59 18.1	-0.4
DRIA				S	S	03 59 34.1	-1.3
DTNA	Dutton South F	0.87	80	P	P	03 59 18.5	-0.1
DOL	Dolgoi Island	1.09	82	P	P	03 59 20.8	0.0
DOL				S	S	03 59 38.7	-0.5
HAG	Hague Volcano	1.10	73	P	P	03 59 21.5	+0.6
PN6	Pavlof North-6	1.14	66	P	P	03 59 22.2	+1.0
PN6				S	S	03 59 41.0	+1.0
PVV	Pavlof Volcano	1.18	71	P	P	03 59 22.1	+0.5
AKUT	Akutan	1.47	234	P	P	03 59 24.9	0.0
AKUT				S	S	03 59 45.9	-0.7
AKLV	Akutan Long Va	1.54	237	P	P	03 59 25.7	+0.1
AKLV				S	S	03 59 47.0	-0.9
SDPT	Sand Point	1.91	78	P	P	03 59 29.6	-0.3
SDPT				S	S	03 59 53.4	-2.0
UNV	Unalaska Valle	1.99	235	P	P	03 59 30.7	-0.1
MTBL	Makushin Table	2.00	240	P	P	03 59 31.3	+0.3
MCIR	Makushin Cirqu	2.12	241	P	P	03 59 33.0	+0.4
OKCD	Okmok Cone D	3.01	240	P	P	03 59 44.1	-0.1
CHGN	Chignik	3.29	65	P	P	03 59 47.8	0.0
NIKO	Nikolski	3.64	238	P	P	03 59 52.0	-0.5
ANPK	Aniakchak Peak	3.66	58	P	P	03 59 53.0	+0.3
SPIA	Saint Paul Isl	4.24	303	P	P	04 00 02.3	+1.9
KJL	Kejulik	5.45	53	P	P	04 00 17.3	+0.6
CAHL	Cahill	5.58	53	P	P	04 00 18.8	+0.5
MGLS	Mageik LS	5.65	52	P	P	04 00 19.7	+0.4
KABR	Katmai Barrier	5.77	54	P	P	04 00 21.1	+0.2
KAPH	Katmai Pasha	6.29	51	P	P	04 00 28.3	+0.4
KDAK	Kodiak Island	6.79	61	P	P	04 00 32.6	-2.2
SYI	Shuyak Island	7.20	55	P	P	04 00 39.7	-0.6
OPT	Oil Point	7.35	46	P	P	04 00 43.1	+0.9
SVW2	Sparrevohn	7.48	32	P	P	04 00 44.6	+0.6
IVS	Iliamna South	7.62	45	P	P	04 00 46.7	+0.8
RSO	Redoubt South	8.02	43	P	P	04 00 52.4	+1.1
CNPM	China Poot	8.15	51	P	P	04 00 52.1	-0.8
ADAG	Mount Adagdak	8.24	254	P	P	04 00 53.9	-0.4
KIMD	Kanaga Island	8.69	254	P	P	04 01 00.3	0.0
SPU	Mount Spurr	8.74	40	eP	P	04 01 01.7	+0.8
TT01	Tatalina	8.86	24	P	P	04 01 03.2	+0.7
TTA	Tatalina	8.88	24	eP	P	04 01 05.4	+2.6
STLK	Strandline Lak	9.03	39	P	P	04 01 06.0	+1.2
SLKM	Skilak Lake	9.08	47	P	P	04 01 05.2	-0.2
SML	Sawmill	10.55	44	eP	P	04 01 22.3	-2.5
EYAK	Cordova Ski Ar	11.07	53	eP	P	04 01 29.1	-2.5
DIV	Divide	11.30	50	eP	P	04 01 32.7	-1.9
MCK	McKinley	11.52	35	eP	P	04 01 37.4	-0.2
IMA	Indian Mountai	12.12	20	P	P	04 01 46.5	+1.1
THY	Trims Highway	12.44	40	eP	P	04 01 48.8	-0.8
ILAR	Eielson Array	12.88	34	P	P	04 01 53.5	-1.9
	0.6nm,0.3s,baz=217,slow=14,SNR=26						
ILAR				ScP		04 10 40.4	
	0.1nm,0.3s,baz=276,slow=3.2,SNR=6.3						
DLBC	Dease Lake	18.70	66	P	P	04 03 07.8	+1.2
	0.3nm,0.3s,baz=277,slow=12,SNR=18						
DLBC	Dease Lake	18.70	66	eP	P	04 03 05.1	-1.4
INK	Inuvik	19.29	35	P	P	04 03 10.2	-2.5
	0.4nm,0.3s,baz=251,slow=13,SNR=18						
INK				PcP	PcP	04 07 29.0	-0.8
	0.3nm,0.3s,baz=90,slow=2.0,SNR=5.1						
INK	Inuvik	19.29	35	eP	P	04 03 10.2	-2.5
	6.4nm,0.8s						
YKA	Yellowknife Ar	25.98	53	P	P	04 04 17.6	-0.2
	1.7nm,0.5s,mb3.9,baz=273,slow=9.3,SNR=26						
YKA				PcP	PcP	04 07 43.0	-0.2
	0.9nm,0.6s,baz=279,slow=2.7,SNR=9.0						
YKA				ScP		04 11 10.0	
	0.7nm,0.7s,baz=283,slow=3.3,SNR=6.2						
YKA	Yellowknife Ar	25.98	53	P	P	04 04 17.6	-0.2
YKA				PcP	PcP	04 07 43.0	-0.2
YKA				ScP		04 11 10.1	
NEW	Newport	29.25	84	P	P	04 04 48.5	+1.0
	2.9nm,0.9s,mb4.0,baz=310,slow=5.9,SNR=6.6						
MCMT	McKenzie Canyo	33.61	86	eP	P	04 05 27.0	+1.4
BW06	Boulder Array	36.75	86	eP	P	04 05 53.5	+1.3
	3.5nm,0.6s,mb4.2						
PDAR	Pinedale Array	36.75	86	P	P	04 05 54.0	+1.8
	1.1nm,0.6s,mb3.7,baz=292,slow=4.7,SNR=15						
SDCO	Great Sand Dun	42.39	89	P	P	04 06 37.7	-1.0
MDJ	Mudanjiang	42.68	285	P	P	04 06 40.4	-0.6
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,231nm,7.4s						
CN2	Changchun	45.50	287	eP	P	04 07 04.0	+0.4
KS15	Wonju Array Si	48.41	278	eP	P	04 07 24.0	-2.4
TXAR	Lajitas Array	49.51	96	P	P	04 07 35.9	+0.9
	comp=Z,0.4nm,0.6s,mb3.3,baz=304,slow=6.3,SNR=11						
TXAR				PcP	PcP	04 08 55.7	+0.5
	comp=Z,0.4nm,0.6s,baz=183,slow=1.9,SNR=4.8						
TXAR	Lajitas Array	49.51	96	P	P	04 07 35.9	+0.9
TXAR				PcP	PcP	04 08 55.7	+0.4
SCHQ	Schefferville	51.20	47	P	P	04 07 46.5	-1.0
	comp=Z,3.6nm,0.7s,mb4.1,baz=337,slow=11,SNR=7.3						
SONM	Songino Array	52.77	302	P	P	04 07 58.4	-0.9
	comp=Z,1.4nm,0.8s,mb3.8,baz=46,slow=7.4,SNR=6.4						
SONM				PcP	PcP	04 09 07.3	+0.3
	comp=Z,3.6nm,0.6s,baz=50,slow=2.1,SNR=12						
KEV	Kevo	55.30	355	ep	P	04 08 15.6	-1.9
	comp=Z,12nm,0.6s,mb4.8						
ARCES	ARCESS Array B	55.58	356	P	P	04 08 17.9	-1.7
	comp=Z,1.4nm,0.3s,mb4.2,baz=15,slow=7.6,SNR=41						
ARCES				PcP	PcP	04 09 16.7	-0.7
	comp=Z,3.6nm,0.9s,baz=14,slow=5.0,SNR=3.7						
NJ2	Nanjing	57.42	280	eP	P	04 08 34.8	+1.7
JOF	Joensuu	61.82	352	ep	P	04 09 00.9	-1.9
	comp=Z,4.2nm,0.5s,mb4.5						
KURK	Kurchatov	62.54	321	eP	P	04 09 06.4	-1.4
	comp=Z,2.0nm,0.6s,mb4.1						
LZH	Lanzhou	62.63	294	eP	P	04 09 07.2	-1.4
LZH				AP	pP	04 09 37.6	-3.2
LZH				XP	sP	04 09 51.5	-4.0
LZH				PP	PP	04 11 27.6	-1.9
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,68nm,6.0s						
LZH				LR	LR		
	comp=E,219nm,15.0s						
LZH				LR	LR		
	comp=Z,335nm,18.0s						
LZH	Lanzhou	62.63	294	eP	P	04 09 07.2	-1.4
	comp=Z,25nm,1.5s,mb4.8						
LZH				pP	pP	04 09 37.6	-3.2
LZH				sP	sP	04 09 51.5	-4.0
LZH				PP	PP	04 11 27.6	-1.9
LZH				LR	LR		
	comp=Z,340nm,18.0s						
KAF	Kangasniemi	62.95	355	ep	P	04 09 08.5	-1.8
	comp=Z,5.9nm,0.4s,mb4.8,baz=2.6,slow=6.3						
FINES	FINESS Array B	63.63	355	P	P	04 09 13.3	-1.3
	comp=Z,3.3nm,0.5s,mb4.4,baz=17,slow=7.0,SNR=32						
FINES	FINESS Array B	63.63	355	P	P	04 09 13.3	-1.3
NB2	NORSAR Subarra	64.23	3	P	P	04 09 18.0	-0.5
	comp=Z,1.6nm,0.6s,mb4.0,baz=358,slow=7.0						
NOA	NORSAR Array B	64.23	3	P	P	04 09 17.7	-0.8
	comp=Z,2.1nm,0.7s,mb4.1,baz=358,slow=6.7,SNR=8.4						
MKAR	Makanchi Array	64.33	316	P	P	04 09 18.3	-1.1
	comp=Z,1.3nm,0.5s,mb4.1,baz=41,slow=6.8,SNR=15						
MKAR	Makanchi Array	64.33	316	P	P	04 09 18.3	-1.1
WMQ	Urumqi	64.45	310	eP	P	04 09 21.0	+0.8
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,98nm,4.6s						
EKA	Eskdalemuir Ar	68.87	12	P	P	04 09 46.9	-0.9
	comp=Z,1.7nm,0.6s,mb3.9,baz=348,slow=4.4,SNR=16						
AAK	Ala-Archa	70.86	318	eP	P	04 09 59.5	-0.6
	comp=Z,4.9nm,0.6s,mb4.4						
AKASG	Malin Array Be	74.10	351	P	P	04 10 17.9	-1.0
	comp=Z,2.5nm,0.5s,mb4.2,baz=9.4,slow=5.7,SNR=14						
MOX	Moxa	74.64	3	eP	P	04 10 22.0	0.0
ROSF	Rostrenen	75.72	13	eP	P	04 10 28.7	+0.6
LDF	La Druitiere	75.85	11	eP	P	04 10 28.7	-0.1
	comp=Z,19nm,1.0s,mb4.4						
SGMF	Saint Gilles	75.90	13	eP	P	04 10 29.6	+0.5
	comp=Z,124nm,1.6s,mb5.0						
QUIF	Quistinic	76.15	13	eP	P	04 10 30.2	-0.3
GERES	GERESS Array B	76.50	2	P	P	04 10 32.9	+0.5
	comp=Z,0.6nm,0.5s,mb3.5,baz=22,slow=7.2,SNR=6.0						
CDF	Champ du Feu	76.67	6	eP	P	04 10 33.3	-0.2
	comp=Z,3.5nm,0.5s,mb4.0						
HINF	Hinteralfeld	77.24	6	eP	P	04 10 37.1	+0.5
LOR	Lormes	77.56	9	eP	P	04 10 39.0	+0.6
SSF	Saint Saulge	77.73	9	eP	P	04 10 39.7	+0.3
	comp=Z,8.4nm,0.5s,mb4.3						
AVF	Avril sur Loir	77.99	9	eP	P	04 10 40.9	+0.1
	comp=Z,5.8nm,0.5s,mb4.2						
SMF	Signal de Mont	78.18	9	eP	P	04 10 41.5	-0.3
GUN	Gumba	78.28	302	eP	P	04 10 43.4	+0.7
	comp=Z,19nm,0.3s,mb5.2						
KKN	Kakani	78.67	302	eP	P	04 10 45.5	+0.6
	comp=Z,8.3nm,0.4s,mb4.7						
PKI	Pulchoki	78.79	302	eP	P	04 10 46.1	+0.6
	comp=Z,14nm,0.7s,mb4.7						
GKN	Gorkha	78.81	303	eP	P	04 10 46.5	+0.9
	comp=Z,6.2nm,0.3s,mb4.7						
DMN	Daman	78.91	302	eP	P	04 10 46.6	+0.5
	comp=Z,14nm,0.5s,mb4.9						
KOLN	Koldanda	79.50	304	eP	P	04 10 49.5	+0.1
	comp=Z,10nm,0.6s,mb4.7						
VIVF	Saint-Julien-l	80.02	8	eP	P	04 10 52.3	+0.5
	comp=Z,3.7nm,0.5s,mb4.0						
ORIF	Oris-en-Rattie	80.06	7	eP	P	04 10 52.2	+0.2
	comp=Z,3.0nm,0.6s,mb3.8						
MBDF	Montbardon	80.31	7	eP	P	04 10 54.1	+0.7
	comp=Z,3.5nm,0.5s,mb4.0						
SBF	Sospel	81.22	6	eP	P	04 10 58.6	+0.4
MTLF	Montolieu	81.30	10	eP	P	04 10 59.1	+0.5
	comp=Z,5.0nm,0.7s,mb3.9						
ETSF	Etsaut	81.42	12	eP	P	04 10 59.9	+0.7
	comp=Z,4.2nm,0.6s,mb3.9						
FRF	La Foret Royal	81.46	7	eP	P	04 10 59.8	+0.3
LMR	La Mourre	81.68	7	eP	P	04 11 01.0	+0.4
PGF	Pioggiola	82.62	5	eP	P	04 11 06.2	+0.8
	comp=Z,16nm,1.0s,mb4.4						
ESDC	Sonseca Array	84.11	16	P	P	04 11 14.1	+1.2
	comp=Z,4.4nm,0.7s,mb4.3,baz=345,slow=4.9,SNR=24						
BRTR	Keskin Array B	84.47	347	P	P	04 11 15.9	+1.2
	comp=Z,2.1nm,0.8s,mb3.9,baz=18,slow=3.9,SNR=5.8						
WRA	Warramunga Arr	91.26	236	P	P	04 11 47.4	-0.3
	comp=Z,0.6nm,0.8s,mb3.7,baz=34,slow=5.6,SNR=5.9						
QSPA	South Pole Qui	144.78	180	ePKP	PKPdf	04 18 16.6	+1.2

*NEIC **05** 04:54:07.2±1.2, 23.89S×179.40E, h537km±14km, mb4.8/7, Error ellipse: s-maj=14.0km s-min=13.8km az=176.0*
*IDC **05** 04:54:08.9±2.1, 24.00S×179.10E, h531km±18km, mb3.9/6, mb1 4.0/7, mb1mx3.7/13, mbtmp4.8/7, Error ellipse: s-maj=23.8km s-min=19.7km az=55.0*

ISC 05 04:54:06.7±1.6, 23.93S±0.09×179.3E±0.1, h537km±21km, n34, σ0^{s}96/31, mb4.6/11, 1C-8D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.95	276	P	P	04 56 48.4	+3.2
	1.1nm,0.3s,baz=83,slow=17,SNR=12						
AFI	Afiamalu	13.08	42	ePn	P	04 56 55.2	-1.5
URZ	Urewera	14.40	187	P	P	04 57 10.1	0.0
	1.9nm,0.3s,baz=307,slow=5.8,SNR=9.6						
URZ				S	S	04 59 38.0	0.0
	0.9nm,0.3s,baz=221,slow=18,SNR=10						
CTA	Charters Tower	30.80	271	⇓iP	P	04 59 41.1	+1.0
	39nm,0.3s,mb5.4						
CTA	Charters Tower	30.80	271	P	P	04 59 41.0	+0.9
	47nm,0.3s,mb5.4,baz=94,slow=11,SNR=13						
CTAO	Charters Tower	30.80	271	eP	P	04 59 41.0	+0.8
	50nm,0.4s,mb5.4						
TOO	Toolangi	31.86	237	eP	P	04 59 49.4	+0.4
	5.9nm,0.3s,mb4.6						
PMG	Port Moresby	33.86	290	P	P	05 00 06.6	+0.5
	36nm,0.7s,mb5.0,baz=109,slow=4.0,SNR=12						
STKA	Stephens Creek	34.08	248	⇓iP	P	05 00 08.2	+0.5
	7.5nm,0.6s,mb4.4						
STKA	Stephens Creek	34.08	248	P	P	05 00 08.2	+0.4
	10.0nm,0.6s,mb4.5,baz=95,slow=10,SNR=31						
WB2	Warramunga Arr	41.72	266	⇓iP	P	05 01 09.7	-0.4
WB2				eS	S	05 06 43.4	-5.8
WRAB	Tennant Creek	41.72	266	eP	P	05 01 09.7	-0.5
	22nm,0.7s,mb4.8						
WRA	Warramunga Arr	41.73	266	P	P	05 01 09.5	-0.7
	5.6nm,0.4s,mb4.5,baz=91,slow=6.2,SNR=274						
WRA				ScP		05 05 55.4	
	3.4nm,0.8s,baz=101,slow=3.6,SNR=19						
WRA				S	S	05 06 44.1	-5.2
	1.5nm,1.0s,baz=104,slow=14,SNR=3.1						
WRA	Warramunga Arr	41.73	266	P	P	05 01 09.5	-0.7
WRA				ScP		05 05 55.4	
WRA				S	S	05 06 44.1	-5.2
KAKA	Kakadu	45.63	276	⇓iP	P	05 01 57.3	+16
	9.6nm,0.3s,mb4.8						
FORT	Forrest	45.66	250	⇓iP	P	05 01 39.6	-1.3
	28nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	50.15	266	⇓iP	P	05 02 14.4	-0.4
	13nm,0.7s,mb4.5						
VNDA	Vanda	54.30	185	P	P	05 02 43.8	-0.1
	0.4nm,0.5s,baz=347,slow=7.1,SNR=6.7						
VNDA	Vanda	54.30	185	eP	P	05 02 43.9	0.0
SBA	Scott Base	54.31	183	eP	P	05 02 44.6	+0.7
	2.2nm,0.8s,mb3.5						
MBWA	Marble Bar	54.70	260	eP	P	05 02 46.1	-1.3
CASY	Casey	59.79	206	eP	P	05 03 20.1	-1.3
	0.6nm,0.4s						
MJAR	Matsushiro Arr	71.54	326	P	P	05 04 35.6	+0.7
	4.0nm,0.7s,mb4.0,baz=162,slow=6.0,SNR=9.4						
SNAA	Sanae	84.65	179	eP	P	05 05 43.9	0.0
VNA3	Neumayer Olymp	84.88	177	⇓i	P	05 05 45.6	+0.5
VNA2	Neumayer--Watz	85.29	178	⇓i	P	05 05 47.6	+0.6
TXAR	Lajitas Array	91.02	58	P	P	05 06 18.6	+3.8
	0.2nm,0.8s,baz=225,slow=5.3,SNR=4.5						
FINES	FINESS Array B	138.25	341	PKhKP		05 12 24.2	
	2.1nm,0.9s,baz=56,slow=6.9,SNR=3.4						
FINES				PKP	PKPdf	05 12 33.0	+2.9
	0.6nm,0.5s,baz=90,slow=3.8,SNR=6.8						
FINES				SKP		05 15 16.4	
	1.3nm,0.5s,baz=63,slow=4.3,SNR=9.8						
NB2	NORSAR Subarra	142.00	351	PKPabc	PKPdf	05 12 35.7	-1.0
	0.7nm,0.5s,baz=16,slow=2.8						
NOA	NORSAR Array B	142.00	351	PKhKP		05 12 35.6	
	1.6nm,0.8s,baz=16,slow=4.7,SNR=5.6						
AKASG	Malin Array Be	144.62	327	PKP	PKPdf	05 12 43.8	+2.2
	3.8nm,0.6s,baz=41,slow=4.2,SNR=20						
BRTR	Keskin Array B	147.05	307	PKPbc	PKPdf	05 12 51.1	+5.2
	2.0nm,0.6s,baz=141,slow=5.5,SNR=4.5						
MLR	Muntele Rosu	149.52	321	PKPbc	PKPdf	05 12 58.1	+8.4
	1.1nm,0.4s,baz=341,slow=2.5,SNR=3.7						
CLL	Collm	150.68	342	⇑iPKP1	PKPdf	05 13 00.7	+9.4

*IDC **05** 05:00:15.7±1.9, 30.98N×56.76E, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, Error ellipse: s-maj=43.5km s-min=24.6km az=8.0*
*THR **05** 05:00:16.4±0.9, 30.79N×56.72E, h14km±8km, ML3.8*
*CSEM **05** 05:00:16.0±0.1, 30.90N×56.71E, h14km, mb3.9/3, Error ellipse: s-maj=1.9km s-min=1.6km az=127.0*
*MOS **05** 05:00:18.8±1.0, 30.89N×56.74E, h33km, mb4.1/3, Error ellipse: s-maj=19.5km s-min=13.1km az=88.9*
*TEH **05** 05:00:19.5, 30.96N×56.59E, h10km, Mn4.1*
*NEIC **05** 05:00:20.8±0.7, 30.99N×56.61E, h35km, mb4.0/4, MN4.1(TEH), Error ellipse: s-maj=12.1km s-min=6.7km az=156.0*

ISC 05 05:00:14.1±1.5, 30.88N±0.05×56.81E±0.05, h1km±12km, n45, σ1^{s}14/48, mb3.8/10, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	0.90	183	ePg	Pg	05 00 31.5	-0.6
KRBR				eSg	Sg	05 00 43.0	-1.0
KRBR				AML	AML	05 00 46.5	
	comp=E,3μm,0.2s						
IBAF	Bafgh	1.28	304	Pg	Pn	05 00 38.8	-0.3
IMEH	Mehriz	1.95	286	Pn	Pn	05 00 49.5	+0.8
ICHK	Chekchek	2.46	304	Pn	Pn	05 00 57.2	+1.2
ISAD	Sadrabad	2.86	292	Pn	Pn	05 01 02.1	+0.4
IPAR	Pars	3.41	253	Pn	Pn	05 01 11.1	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BNDS	**Bandar-Abbas**	**3.51**	**189**	*e*Pn	**Pn**	**05 01 12.1**	**+1.1**
BNDS				AML	AML	05 02 17.2	
	comp=N,186nm,0.7s						
ISRV	**Sarvestan**	**3.53**	**246**	Pn	**Pn**	**05 01 12.6**	**+1.3**
NASN	**Na'in**	**3.91**	**300**	*e*Pn	**Pn**	**05 01 17.9**	**+1.3**
NASN				*e*Pg	**Pg**	**05 01 26.6**	**-5.6**
NASN				*e*Sg	**Sg**	**05 02 17.3**	**-6.9**
NASN	**Na'in**	**3.91**	**300**	*e*Pg	**Pg**	**05 01 26.6**	**-5.5**
	SNR=90						
NASN				*e*Sg	**Sg**	**05 02 17.3**	**-6.9**
	SNR=90						
IMOK	**Mook**	**4.00**	**244**	Pn	**Pn**	**05 01 18.1**	**+0.3**
IGAR	**Garneh**	**4.17**	**290**	Pn	**Pn**	**05 01 18.8**	**-1.4**
GHIR	**Ghir-Karzin**	**4.22**	**233**	*e*Pn	**Pn**	**05 01 21.2**	**+0.2**
IZEF	**Zefreh**	**4.31**	**299**	Pn	**Pn**	**05 01 19.3**	**-3.0**
IKLH	**Kalahroud**	**5.06**	**300**	Pn	**Pn**	**05 01 29.6**	**-3.3**
IPIR	**Pirpir**	**5.35**	**291**	Pn	**Pn**	**05 01 32.5**	**-4.5**
IFIR	**Firoozkooh**	**5.84**	**325**	Pn	**Pn**	**05 01 43.3**	**-0.6**
IPAY	**Payeh**	**5.84**	**18**	Pn	**Pn**	**05 01 44.9**	**+0.9**
MHI	**Mashhad**	**5.85**	**22**	Pn	**Pn**	**05 01 45.7**	**+1.6**
IVRN	**Varamin**	**5.92**	**315**	Pn	**Pn**	**05 01 44.2**	**-0.9**
IVRN				Lg		05 03 18.5	
IKRD	**Kardeh**	**6.04**	**13**	Pn	Px	05 02 11.5	
IMYA	**Miamay**	**6.10**	**26**	Pn	**Pn**	**05 01 48.0**	**+0.4**
IDMV	**Damavand**	**6.16**	**321**	Pn	**Pn**	**05 01 47.7**	**-0.8**
IAFJ	**Afjeh**	**6.54**	**321**	Pn	**Pn**	**05 01 46.5**	**-7.3**
ASAO	**Ashtian**	**6.79**	**304**	*e*Pn	**Pn**	**05 01 58.0**	**+0.7**
IRAZ	**Razeghan**	**7.32**	**310**	Sn	**Sn**	**05 03 19.6**	**-10**
KIV	**Kislovodsk**	**17.18**	**323**	*e*P	**P**	**05 04 19.1**	**+2.3**
	comp=N,35nm,1.2s						
KIV	**Kislovodsk**	**17.18**	**323**	*e*P	**P**	**05 04 19.1**	**+2.2**
	comp=N,35nm,1.2s						
KIV	**Kislovodsk**	**17.18**	**323**	*e*P	**P**	**05 04 19.1**	**+2.2**
KIV				pmax	pmax		
	comp=Z,35nm,1.2s						
BRTR	**Keskin Array B**	**20.82**	**301**	P	**P**	**05 04 59.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=112,slow=13,SNR=3.0						
ISP	**Isparta**	**22.75**	**295**	P	**P**	**05 05 18.7**	**-0.2**
	comp=Z,5.3nm,0.7s,mb4.1						
ISP	**Isparta**	**22.75**	**295**	P	**P**	**05 05 18.7**	**-0.2**
ISP				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**24.24**	**20**	*e*P	**P**	**05 05 33.9**	**+0.6**
	comp=Z,1.3nm,0.6s,mb3.5						
BRVK	**Borovoye**	**24.24**	**20**	*e*P	**P**	**05 05 33.9**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.5						
BRVK	**Borovoye**	**24.24**	**20**	*e*P	**P**	**05 05 33.9**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
BVAR	**Borovoye Array**	**24.24**	**20**	P	**P**	**05 05 33.7**	**+0.4**
	comp=Z,2.9nm,0.6s,mb3.9,baz=202,slow=7.0,SNR=20						
MKAR	**Makanchi Array**	**25.27**	**44**	P	**P**	**05 05 43.0**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.5,baz=225,slow=8.6,SNR=9.6						
KURK	**Kurchatov**	**25.62**	**33**	*e*P	**P**	**05 05 46.6**	**+0.1**
	comp=Z,2.4nm,0.8s,mb3.8						
KURK	**Kurchatov**	**25.62**	**33**	*e*P	**P**	**05 05 46.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
AKASG	**Malin Array Be**	**28.51**	**322**	P	**P**	**05 06 11.7**	**-1.2**
	comp=Z,1.7nm,0.8s,mb3.8,baz=122,slow=8.7,SNR=5.5						
ZAL	**Zalesovo**	**30.60**	**33**	P	**P**	**05 06 30.7**	**-0.8**
	comp=Z,2.1nm,0.4s,mb4.3,baz=299,slow=21,SNR=5.8						
GERES	**GERESS Array B**	**37.05**	**311**	P	**P**	**05 07 25.9**	**-1.4**
	comp=Z,0.7nm,0.7s,mb3.6,baz=117,slow=8.8,SNR=2.4						
NOA	**NORSAR Array B**	**42.36**	**329**	P	**P**	**05 08 10.0**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.5,baz=114,slow=8.1,SNR=3.2						
BOD	**Bodaibo**	**47.10**	**38**	*e*P	**P**	**05 08 47.1**	**-2.1**
WRA	**Warramunga Arr**	**89.91**	**113**	P	**P**	**05 13 17.4**	**+0.8**
	comp=Z,0.4nm,0.9s,mb3.7,baz=318,slow=3.8,SNR=4.8						

*SKHL **05** 05:31:57.8±0.7, 52.77N×143.49E, h8km±1km, mb4.2/5*
SKHL Felt (II) at Sabo.
*MOS **05** 05:31:58.3±1.4, 52.88N×143.90E, h10km, mb4.0/2, Error ellipse: s-maj=21.6km s-min=16.3km az=91.1*
MOS Felt (II) at Sabo.
*IDC **05** 05:31:59.5±1.1, 53.10N×143.81E, mb3.7/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.7/6, Error ellipse: s-maj=42.1km s-min=24.1km az=142.0*
*NEIC **05** 05:32:01.2±0.6, 53.11N×143.88E, h10km, mb4.1/2, Error ellipse: s-maj=21.3km s-min=8.9km az=170.0*
NEIC Felt [II] at Sabo.
ISC 05 05:31:57.3±0.8**, 52.78N**±0.03×**143.56E**±0.06**, h5**km±4km**, n25, σ1§29**/39**, mb3.7**/8**, 2C, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.86**	**334**	⇑*i*Pg	**Pg**	**05 32 15.5**	**+1.1**
OKH				⇑*i*Pg	**Pg**	**05 32 15.5**	**+1.1**
OKH				AMB	AMB	05 32 16.1	
	2μm,0.5s						
OKH				*i* Sg	**Sg**	**05 32 28.0**	**+2.1**
OKH				A		05 32 31.7	
	12μm,0.5s						
OKH				A		05 32 31.7	
	10μm,0.5s						
OKH	**Okha**	**0.86**	**334**	*i* PN	**Pn**	**05 32 15.3**	**-0.5**
OKH				*i* S	**Sb**	**05 32 30.0**	**+4.1**
OKH				smax			
	comp=N,12nm,0.5s						
NKL	**Nikolayevsk**	**1.78**	**283**	*e*Pn	**Pn**	**05 32 28.0**	**-1.0**
NKL				*e*Pg	**Pg**	**05 32 31.3**	**-1.5**
NKL				AMB	AMB	05 32 31.8	
	comp=N,87nm,0.4s						
NKL				AMB	AMB	05 32 31.8	
	comp=N,130nm,0.4s						
NKL				sP		05 32 36.0	
NKL				*e*Sg	**Sg**	**05 32 55.8**	**-0.7**
NKL				A		05 32 59.2	
	comp=N,440nm,0.5s						
NKL				A		05 32 59.2	
	comp=N,900nm,0.5s						
TYV	**Tymovskoe**	**2.00**	**197**	*e*Pn	**Pn**	**05 32 33.5**	**+1.4**
TYV				*e*Pg	**Pg**	**05 32 37.7**	**+0.5**
TYV				AMB	AMB	05 32 39.2	
	comp=N,39nm,0.6s						
TYV				*e*Sn	**Sn**	**05 32 57.0**	**-0.8**
TYV				*e*Sg	**Sg**	**05 33 04.5**	**+0.6**
TYV				A		05 33 22.5	
	comp=N,153nm,0.6s						
TYV				A		05 33 23.0	
	comp=N,600nm,2.0s						
TYV	**Tymovskoe**	**2.00**	**197**	*e*PN	**Pn**	**05 32 33.5**	**+1.4**
TYV				*e*		05 33 05.5	
TYV				pmax	pmax		
	comp=Z,39nm,0.6s						
TYV				smax			
	comp=E,153nm,0.6s						
TYV				smax			
	comp=E,600nm,2.0s						
GRNR	**Gornyy**	**4.87**	**248**	*e*Pn	**Pn**	**05 33 10.1**	**-2.8**
GRNR				*e*Pg	**Pg**	**05 33 32.5**	**-1.9**
GRNR				AMB	AMB	05 33 36.0	
	comp=E,12nm,0.7s						
GRNR				*e*Sg	**Sg**	**05 34 39.0**	**-0.3**
GRNR				A		05 34 54.2	
	comp=E,160nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.86**	**185**	*e*Pb	**Pb**	**05 33 41.0**	**+1.2**
YSS				*e*Pg	**Pg**	**05 33 54.0**	**-0.2**
YSS				*e*Sg	**Sg**	**05 35 12.9**	**+0.7**
YSS				A		05 35 24.0	
	comp=E,13nm,0.3s						
EKMR	**Ekimchan**	**6.42**	**277**	*e*Pn	**Pn**	**05 33 35.2**	**+0.3**
EKMR				*e*Pg	**Pg**	**05 34 04.0**	**-1.5**
EKMR				AMB	AMB	05 34 06.5	
	comp=E,6.0nm,0.5s						
EKMR				AMB	AMB	05 34 06.5	
	comp=E,12nm,0.5s						
EKMR				*e*Sb	**Sb**	**05 35 07.1**	**-0.3**
EKMR				*e*Sg	**Sg**	**05 35 31.6**	**+0.5**
EKMR				A		05 35 41.5	
	comp=E,39nm,0.6s						
EKMR				A		05 35 41.5	
	comp=E,13nm,0.6s						
EKMR				A		05 35 41.5	
	comp=E,38nm,0.6s						
KLR	**Kul'dur**	**8.25**	**249**	*e*rx	rx	05 34 45.0	
KLR				*e*rx	rx	05 36 33.2	
BMKR	**Bomnak**	**8.93**	**288**	*e*P	**P**	**05 34 12.5**	**+2.5**
BMKR				*e*S	**Sn**	**05 35 52.5**	**+0.3**
PET	**Petropavlovsk**	**9.13**	**82**	*e*P	**P**	**05 34 09.4**	**-3.3**
YASR	**Yasnyy**	**9.40**	**279**	*e*P	**P**	**05 34 15.5**	**-1.0**
YASR				*e*rx	rx	05 34 57.6	
YASR				*e*S	**Sn**	**05 36 03.8**	**0.0**
ZEA	**Zeya**	**9.82**	**282**	*e*rx	rx	05 34 54.8	
ZEA				*e*rx	rx	05 37 04.8	
ZEA				*e*rx	rx	05 37 17.2	
KROS	**Kirovskiy**	**10.00**	**286**	*e*rx	rx	05 37 29.6	
HIA	**Hailar**	**15.37**	**266**	Pn	**P**	**05 35 41.2**	**+4.9**
	comp=E,3.0nm,0.3s						
HIA	**Hailar**	**15.37**	**266**	P	**P**	**05 35 41.2**	**+4.9**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAK	**Zakamensk**	**24.92**	**281**	*e*P	**P**	**05 37 24.9**	**+2.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
ILAR	**Eielson Array**	**36.04**	**43**	P	**P**	**05 38 59.1**	**-1.8**
	comp=Z,1.7nm,0.9s,mb4.0,baz=279,slow=7.1,SNR=13						
MKAR	**Makanchi Array**	**38.94**	**287**	P	**P**	**05 39 26.9**	**+1.4**
	comp=Z,0.9nm,0.6s,mb3.7,baz=66,slow=6.9,SNR=6.0						
KURK	**Kurchatov**	**39.04**	**294**	*e*P	**P**	**05 39 28.1**	**+1.8**
	comp=Z,3.3nm,0.6s,mb4.2						
KURK	**Kurchatov**	**39.04**	**294**	*e*P	**P**	**05 39 28.1**	**+1.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
INK	**Inuvik**	**40.07**	**35**	P	**P**	**05 39 33.7**	**-1.0**
	comp=Z,1.3nm,0.8s,mb3.7,baz=249,slow=14,SNR=3.5						
PDAR	**Pinedale Array**	**65.95**	**50**	P	**P**	**05 42 45.2**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=360,slow=2.3,SNR=6.4						
WRA	**Warramunga Arr**	**72.86**	**189**	P	**P**	**05 43 32.4**	**+3.5**
	comp=Z,0.8nm,1.2s,mb3.5,baz=6.4,slow=6.5,SNR=5.3						
TXAR	**Lajitas Array**	**79.52**	**55**	P	**P**	**05 44 06.0**	**-0.4**
	comp=Z,0.5nm,0.8s,mb3.5,baz=286,slow=4.4,SNR=7.9						

*BJI **05** 05:41:57.6, 29.84N×132.02E, h35km, mB4.8, mb4.5, Ms4.5, Msz4.2*
*NIED **05** 05:42:00, 30.40N×131.40E, h26km, Mw4.5 Best double couple: Mo7.13×10^15 NP1:φs44°, δ68°, λ77°. NP2:φs257°, δ25°, λ120°.*
*JMA **05** 05:42:04.3±0.1, 30.44N×131.39E, h24km±1km, M4.6*
JMA Felt I J1.
*MOS **05** 05:42:04.2±1.2, 30.62N×131.25E, h33km, mb4.7/22, Error ellipse: s-maj=11.9km s-min=6.9km az=111.5*
*NEIC **05** 05:42:06.1±0.4, 30.53N×131.10E, h35km, mb4.5/8, MW4.5(NIED), Error ellipse: s-maj=8.5km s-min=6.5km az=82.0*
NEIC Recorded [1 JMA] in Kagoshima Prefecture and on Tanega-shima.
*IDC **05** 05:42:07.3±2.4, 30.58N×131.12E, h47km±23km, mb4.0/20, mb1 4.1/22, mb1mx4.1/27, mbtmp4.2/22, ML3.6/2, MS4.0/9, Ms1 4.0/9, ms1mx3.7/27, Error ellipse: s-maj=20.6km s-min=12.9km az=71.0*
ISC 05 05:42:03.6±0.3**, 30.47N**±0.04×**131.42E**±0.04**, h33**km**, n108, σ1§26**/107**, mb4.5**/47**, MS4.1**/13**, 5C-6D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.42**	**296**	⇓P	**P**	**05 42 12.9**	**-0.1**
JTN				S	**S**	**05 42 19.0**	**-0.7**
JTSR	**Tashiro 2**	**0.82**	**329**	⇓P	**P**	**05 42 19.7**	**+1.0**
JTSR				*e*S	**S**	**05 42 30.6**	**+0.8**
JKC	**Kuchinoerabu**	**1.05**	**270**	⇑P	**P**	**05 42 23.3**	**+1.2**
JKC				S	**S**	**05 42 37.0**	**+1.2**
JNAR	**Kushima--Naru**	**1.06**	**353**	⇑P	**P**	**05 42 24.1**	**+1.9**
JSU	**Suzuyama**	**1.32**	**322**	⇑P	**P**	**05 42 26.9**	**+0.9**
JSU				*e*S	**S**	**05 42 45.1**	**+2.4**
JTZ	**Takazaki**	**1.46**	**349**	⇑P	**P**	**05 42 29.9**	**+2.0**
JNN	**Nakanoshima**	**1.48**	**245**	*e*S	**S**	**05 42 48.8**	**+2.4**
JZO	**Okuchi**	**1.81**	**337**	S	**S**	**05 42 58.0**	**+3.1**
JNU	**Nakatsue**	**2.69**	**350**	P	**P**	**05 42 46.8**	**+1.3**
	20nm,0.3s,baz=123,slow=4.3,SNR=44						
MAT	**Matsushiro**	**8.30**	**41**	P	**P**	**05 44 04.8**	**+0.3**
MAT				*e*S	**S**	**05 45 38.1**	**+0.1**
MAT	**Matsushiro**	**8.30**	**41**	*e*P	**P**	**05 44 05.0**	**+0.5**
MJAR	**Matsushiro Arr**	**8.30**	**41**	P	**P**	**05 44 05.1**	**+0.6**
	0.9nm,0.3s,baz=237,slow=13,SNR=7.4						
SSE	**Sheshan**	**8.82**	**277**	*e*Pn	**P**	**05 44 05.7**	**-6.1**
	36nm,0.7s						
TIA	**Tai'an**	**13.25**	**299**	*e*P	**P**	**05 45 12.7**	**+0.8**
CN2	**Changchun**	**14.13**	**342**	*e*P	**P**	**05 45 31.2**	**+7.8**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s						
ASAJ	**Asahikawa**	**16.25**	**30**	LR	LR	05 52 14.1	
	comp=Z,380nm,20.9s,baz=186,slow=37						
YSS	**Yuzh-Sakhalins**	**18.66**	**25**	P	**P**	**05 46 19.6**	**-1.4**
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
KLR	**Kul'dur**	**18.74**	**1**	*e*P	**P**	**05 46 18.4**	**-3.6**
ENH	**Enshi**	**18.93**	**275**	*e*P	**P**	**05 46 25.9**	**+1.5**
	comp=Z,22nm,0.7s						
HHC	**Hu-ho-hao-te**	**19.13**	**308**	*e*P	**P**	**05 46 30.2**	**+3.6**
HHC				AP		05 46 37.6	
HHC				XP		05 46 40.4	
HHC				PP	PP	05 46 45.8	+2.3
HHC				AMB	AMB		
	comp=Z,20nm,0.8s						
HHC				AMB	AMB		
	comp=Z,332nm,6.7s						
HHC				LR	LR		
	comp=N,668nm,13.6s						
HHC				LR	LR		
	comp=E,578nm,9.4s						
HHC				LR	LR		
	comp=Z,640nm,15.3s						
XAN	**Xi'an**	**19.35**	**286**	P	**P**	**05 46 33.8**	**+4.7**
XAN				AP		05 46 41.8	
XAN				AMB	AMB		
	comp=Z,11nm,0.8s						
HIA	**Hailar**	**20.76**	**338**	*e*P	**P**	**05 46 42.9**	**-1.1**
GUMO	**Guam**	**20.88**	**141**	LR	LR	05 53 05.6	
	comp=Z,170nm,21.8s,MS3.4,baz=313,slow=31						
GYA	**Guiyang**	**22.11**	**266**	⇓*i*P	**P**	**05 46 57.9**	**+0.1**
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
LZH	**Lanzhou**	**23.68**	**291**	*e*P	**P**	**05 47 17.5**	**+4.4**
LZH				AP		05 47 23.5	
LZH				XP		05 47 27.0	
LZH				PP	PP	05 47 45.1	-1.1
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,61nm,5.0s						
LZH				LR	LR		
	comp=N,256nm,10.0s						
LZH				LR	LR		
	comp=Z,423nm,13.0s,MS4.1						
LZH	**Lanzhou**	**23.68**	**291**	*e*P	**P**	**05 47 17.5**	**+4.4**
	comp=Z,29nm,1.3s,mb4.5						
LZH				pP		05 47 23.5	
LZH				sP		05 47 27.0	
LZH				PP	PP	05 47 45.1	-1.1
LZH				LR	LR		
	comp=Z,420nm,13.0s,MS4.1						
LZH	**Lanzhou**	**23.68**	**291**	*e*P	**P**	**05 47 17.5**	**+4.4**
LZH				*SP		05 47 27.0	
LZH						05 47 45.1	
LZH				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.5						
LZH				MLR	MLR		
	comp=Z,420nm,13.0s,MS4.1						
CD2	**Chengdu**	**23.77**	**278**	*e*P	**P**	**05 47 14.2**	**+0.2**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**25.50**	**320**	*e*P	**P**	**05 47 29.6**	**-0.9**
	comp=Z,8.1nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**25.50**	**320**	*e*P	**P**	**05 47 29.6**	**-0.9**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**25.85**	**319**	P	**P**	**05 47 32.2**	**-1.6**
	comp=Z,3.4nm,0.8s,mb3.9,baz=143,slow=10,SNR=17						
SONM				LR	LR	05 58 46.8	
	comp=Z,376nm,19.1s,MS3.9,baz=318,slow=39						
KMI	**Kunming**	**25.88**	**265**	P	**P**	**05 47 33.5**	**-0.8**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
KMI				AMB	AMB		
	comp=Z,370nm,5.8s						
KMI				LR	LR		
	comp=Z,408nm,9.6s						
KMI	**Kunming**	**25.88**	**265**	P	**P**	**05 47 33.5**	**-0.8**
	comp=Z,8.0nm,1.1s,mb4.2						
ZAK	**Zakamensk**	**28.95**	**321**	*e*P	**P**	**05 47 58.6**	**-3.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.5						
SEY	**Seymchan**	**35.17**	**17**	⇑*e*P	pP	05 49 07.2	+1.3
PKI	**Pulchoki**	**40.13**	**278**	*e*P	**P**	**05 49 37.2**	**-0.8**
	comp=Z,23nm,0.9s,mb4.9						
KKN	**Kakani**	**40.18**	**278**	*e*P	**P**	**05 49 37.8**	**-0.7**
	comp=Z,17nm,0.5s,mb5.0						
DMN	**Daman**	**40.38**	**278**	*e*P	**P**	**05 49 39.2**	**-0.9**
	comp=Z,10nm,0.6s,mb4.8						
GKN	**Gorkha**	**40.67**	**279**	*e*P	**P**	**05 49 41.1**	**-1.5**
	comp=Z,9.7nm,0.5s,mb4.7						
ZAL	**Zalesovo**	**40.76**	**319**	P	**P**	**05 49 41.0**	**-2.0**
	comp=Z,1.2nm,0.6s,mb3.7,baz=200,slow=18,SNR=6.1						
ZAL				LR	LR	06 08 32.3	
	comp=Z,398nm,18.6s,MS4.3,baz=358,slow=39						
ZAL	**Zalesovo**	**40.76**	**319**	P	**P**	**05 49 41.0**	**-2.0**
ZAL				LR	LR	06 08 32.3	
MKAR	**Makanchi Array**	**40.99**	**308**	P	**P**	**05 49 43.3**	**-1.7**
	comp=Z,1.5nm,0.8s,mb3.7,baz=91,slow=10,SNR=13						
MKAR				PcP	PcP	05 51 43.0	-2.4
	comp=Z,0.6nm,0.8s,baz=45,slow=1.7,SNR=3.7						
MKAR				LR	LR	06 08 19.7	
	comp=Z,158nm,18.9s,MS3.9,baz=2.6,slow=39						
TIXI	**Tiksi**	**41.26**	**359**	*e*P	pP	05 49 55.4	-1.4
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
KOLN	**Koldanda**	**41.62**	**279**	*e*P	**P**	**05 49 49.1**	**-1.3**
	comp=Z,7.1nm,0.4s,mb4.7						
BILL	**Bilibino**	**42.78**	**18**	*e*P	pP	05 50 09.9	+0.7
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
BILL				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.0						
KURK	**Kurchatov**	**43.84**	**313**	*e*P	**P**	**05 50 06.0**	**-2.1**
	comp=Z,6.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**43.84**	**313**	*e*P	**P**	**05 50 06.1**	**-2.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**46.51**	**302**	*e*P	**P**	**05 50 28.2**	**-1.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**48.61**	**187**	P	**P**	**05 50 46.7**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.5,baz=12,slow=8.9,SNR=11						
VOSK	**Vostochnaya**	**48.73**	**315**	P	**P**	**05 50 44.8**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
BVA0	**Borovoye Array**	**49.10**	**316**	*i* P	**P**	**05 50 48.5**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**49.10**	**316**	P	**P**	**05 50 48.2**	**-1.5**
	comp=Z,6.1nm,0.5s,mb4.9,baz=100,slow=9.2,SNR=32						
BVAR				PcP	PcP	05 52 11.8	-1.5
	comp=Z,1.1nm,0.5s,baz=108,slow=4.6,SNR=2.6						
BRVK	**Borovoye**	**49.17**	**316**	*e*P	**P**	**05 50 49.0**	**-1.2**
	comp=Z,5.5nm,0.6s,mb4.8						
BRVK	**Borovoye**	**49.17**	**316**	*e*P	**P**	**05 50 49.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
KKAR	**Karatay Array**	**49.38**	**303**	*i* P	**P**	**05 50 51.3**	**-0.7**
WRAB	**Tennant Creek**	**50.19**	**176**	*e*P	**P**	**05 50 59.3**	**+0.9**
	comp=Z,7.4nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**50.19**	**176**	*e*P	**P**	**05 50 59.3**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**50.20**	**176**	P	**P**	**05 50 59.0**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=353,slow=8.1,SNR=17						
WB2	**Warramunga Arr**	**50.20**	**176**	*e*P	**P**	**05 50 59.1**	**+0.6**
CTA	**Charters Tower**	**52.25**	**162**	P	**P**	**05 51 15.2**	**+1.3**
	comp=Z,0.9nm,0.3s,mb4.2,slow=5.1,SNR=3.0						
SVE	**Sverdlovsk**	**54.71**	**321**	*e*P	**P**	**05 51 27.1**	**-4.6**
SVE				*e*		06 01 20.0	
SVE				MLR	MLR		
	comp=N,200nm,13.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,400nm,13.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.8						
ARU	**Arti**	**55.88**	**320**	*e*P	**P**	**05 51 39.1**	**-1.1**
	comp=Z,8.6nm,0.6s,mb5.0						
ARU	**Arti**	**55.88**	**320**	⇓*i*P	**P**	**05 51 38.1**	**-2.1**
ARU				*e*PPP	PPP	05 54 55.2	-6.8
ARU				*e*S	**S**	**05 59 16.0**	**-7.7**
ARU				*e*SS	SS	06 03 11.7	+2.2
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
AB31	**Akbulak array**	**55.88**	**311**	*e*P	**P**	**05 51 38.7**	**-1.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ILAR	**Eielson Array**	**59.38**	**30**	P	**P**	**05 52 04.7**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=299,slow=9.2,SNR=7.5						
ILAR	**Eielson Array**	**59.38**	**30**	P	**P**	**05 52 04.7**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	**Stephens Creek**	**62.75**	**170**	P	**P**	**05 52 28.9**	**+0.9**
	comp=Z,1.7nm,0.6s,mb4.3,baz=357,slow=10.0,SNR=6.8						
STKA	**Stephens Creek**	**62.75**	**170**	*e*P	**P**	**05 52 29.1**	**+1.1**
STKA				*e*	pP	05 52 39.5	+1.3
INK	**Inuvik**	**63.90**	**24**	P	**P**	**05 52 34.7**	**-0.2**
	comp=Z,8.7nm,1.3s,mb4.6,baz=256,slow=3.5,SNR=3.4						
INK	**Inuvik**	**63.90**	**24**	P	**P**	**05 52 34.7**	**-0.2**
INK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ARCES	**ARCESS Array B**	**67.11**	**338**	P	**P**	**05 52 53.4**	**-2.0**
	comp=Z,3.5nm,0.8s,mb4.5,baz=59,slow=7.1,SNR=9.4						
ARCES				LR	LR	06 27 52.4	
	comp=Z,219nm,18.2s,MS4.4,baz=58,slow=41						
JOF	**Joensuu**	**67.72**	**331**	*e*p	**P**	**05 52 58.0**	**-1.3**
	comp=Z,4.0nm,0.4s,mb4.8						
JOF	**Joensuu**	**67.72**	**331**	*e*P	**P**	**05 52 58.0**	**-1.3**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
OBN	**Obninsk**	**68.22**	**322**	*e*P	**P**	**05 53 01.8**	**-0.9**
OBN				*e*		05 53 28.5	
OBN				pmax	pmax		
	comp=Z,81nm,2.5s,mb5.3						
OBN				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.5						
KIV	**Kislovodsk**	**68.73**	**309**	*e*P	**P**	**05 53 05.7**	**-0.3**
KIV				*e*S	S	06 01 55.4	-10
KIV				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
KIV				pmax	pmax		
	comp=N,19nm,1.0s						
KIV				pmax	pmax		
	comp=E,12nm,0.8s						
KIV				MLR	MLR		
	comp=Z,101nm,20.0s,MS4.0						
KIV				MLR	MLR		
	comp=N,78nm,16.0s,MS4.1						
KIV				MLR	MLR		
	comp=E,75nm,20.0s,MS4.1						
GNI	**Garni**	**68.75**	**305**	*e*P	**P**	**05 53 05.9**	**-0.3**
GNI				pmax	pmax		
	comp=Z,12nm,1.3s						
KAF	**Kangasniemi**	**70.16**	**331**	*e*p	**P**	**05 53 12.8**	**-1.6**
	comp=Z,6.7nm,0.9s,mb4.6,baz=61,slow=5.8						
KAF	**Kangasniemi**	**70.16**	**331**	*e*P	**P**	**05 53 12.8**	**-1.6**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**70.57**	**331**	P	**P**	**05 53 15.7**	**-1.2**
	comp=Z,4.8nm,0.6s,mb4.6,baz=65,slow=7.1,SNR=27						
FINES				LR	LR	06 27 19.9	
	comp=Z,175nm,18.9s,MS4.3,baz=160,slow=39						
FINES	**FINESS Array B**	**70.57**	**331**	*i* P	**P**	**05 53 16.2**	**-0.7**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ANN	**Anapa**	**71.85**	**312**	*e*P	**P**	**05 53 27.7**	**+2.8**
ANN				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.4						
YKA	**Yellowknife Ar**	**73.51**	**26**	P	**P**	**05 53 36.0**	**+1.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=296,slow=6.1,SNR=4.5						
YKA				LR	LR	06 31 57.3	
	comp=Z,30nm,19.0s,MS3.6,baz=180,slow=41						
AKASG	**Malin Array Be**	**74.13**	**320**	P	**P**	**05 53 36.5**	**-1.7**
	comp=Z,7.4nm,0.6s,mb4.8,baz=52,slow=6.4,SNR=36						
AKASG	**Malin Array Be**	**74.13**	**320**	*i* P	**P**	**05 53 37.5**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SUW	**Suwalki**	**75.65**	**325**	*e*P	**P**	**05 53 47.2**	**+0.3**
KIS	**Kishinev**	**76.18**	**317**	*e*P	pP	05 54 05.0	+4.7
KIS				*e*	S	06 03 20.0	-10
BRTR	**Keskin Array B**	**76.64**	**308**	P	**P**	**05 53 51.4**	**-1.4**
	comp=Z,11nm,0.8s,mb4.8,baz=96,slow=5.6,SNR=30						
BRTR	**Keskin Array B**	**76.64**	**308**	P	**P**	**05 53 51.4**	**-1.4**
BRTR				pmax	pmax		
	comp=Z,11nm,0.8s						
NB2	**NORSAR Subarra**	**76.74**	**334**	P	**P**	**05 53 52.0**	**-0.9**
	comp=Z,1.4nm,0.5s,mb4.2,baz=47,slow=5.6						
NOA	**NORSAR Array B**	**76.74**	**334**	P	**P**	**05 53 51.8**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,3.1nm,0.9s,mb4.3,baz=49,slow=5.6,SNR=8.6						
NOA	**NORSAR Array B**	**76.74**	**334**	P	**P**	**05 53 51.8**	**-1.1**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASF	**Jabal al Asfar**	**77.90**	**300**	P	**P**	**05 54 00.5**	**+0.5**
	comp=Z,5.0nm,0.9s,mb4.5,baz=290,slow=2.0,SNR=5.9						
ASF	**Jabal al Asfar**	**77.90**	**300**	P	**P**	**05 54 00.5**	**+0.5**
ASF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KWP	**Kalwaria**	**78.28**	**321**	*e*P	**P**	**05 54 02.7**	**+1.0**
STHS	**Stebnicka Huta**	**79.19**	**321**	*e*P	**P**	**05 54 08.4**	**+1.7**
CRVS	**Cervenica-Dubn**	**79.36**	**321**	*e*P	**P**	**05 54 08.6**	**+1.0**
OJC	**Ojcow**	**79.50**	**323**	*e*P	**P**	**05 54 09.2**	**+0.9**
KECS	**Kecovo**	**80.13**	**321**	*e*P	**P**	**05 54 12.2**	**+0.4**
VYHS	**Vyhne**	**81.02**	**322**	*e*P	**P**	**05 54 17.7**	**+1.3**
DPC	**Dobruska-Polom**	**81.21**	**324**	*e*P	**P**	**05 54 18.9**	**+1.5**
CLL	**Collm**	**82.25**	**326**	⇓P	**P**	**05 54 23.9**	**+1.1**
	comp=Z,logA/T=1.2,mb4.9						
CLL				*i* *PP	pP	05 54 35.8	+2.6
CLL	**Collm**	**82.25**	**326**	⇓*i*P	**P**	**05 54 23.9**	**+1.1**
CLL				*i*	pP	05 54 35.8	+2.6
CLL				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
KHC	**Kasperske Hory**	**83.36**	**324**	*e*P	**P**	**05 54 28.7**	**+0.2**
GERES	**GERESS Array B**	**83.48**	**324**	P	**P**	**05 54 29.4**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=45,slow=3.8,SNR=10.0						
GERES	**GERESS Array B**	**83.48**	**324**	P	**P**	**05 54 29.4**	**+0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ELK	**Elko**	**86.10**	**44**	P	**P**	**05 54 44.2**	**+1.9**
	comp=Z,0.2nm,0.3s,mb3.8,baz=300,slow=8.1,SNR=2.9						
PDAR	**Pinedale Array**	**88.12**	**40**	P	**P**	**05 54 53.4**	**+1.3**
	comp=Z,0.9nm,0.8s,mb4.0,baz=333,slow=3.3,SNR=6.7						
PPT	**Papeete**	**89.67**	**111**	LR	LR	06 27 52.2	
	comp=Z,61nm,20.6s,MS4.0,baz=97,slow=30						

IDC 05 05:52:28.0±2.5**,14.36N**×**54.74E,mb3.8**/5**,mb1 3.9**/5**, mb1mx3.6**/19**,mbtmp3.8**/5**,MS3.1**/2**,Ms1 3.1**/2**, ms1mx2.9**/23**,Error ellipse: s-maj=67.9km s-min=38.0km az=50.0,Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**11.93**	**258**	LR	LR	05 59 00.7	
	comp=Z,110nm,18.9s,baz=196,slow=33						
KMBO	**Kilima Mbogo**	**23.17**	**230**	LR	LR	06 06 33.8	
	comp=Z,42nm,20.3s,baz=277,slow=36						
MKAR	**Makanchi Array**	**39.69**	**30**	P	P	06 00 01.5	-2.1
	0.4nm,0.7s,baz=213,slow=8.3,SNR=3.9						
FINES	**FINESS Array B**	**51.33**	**343**	P	P	06 01 33.9	-2.0
	1.6nm,0.8s,baz=127,slow=6.9,SNR=3.0						
SONM	**Songino Array**	**54.03**	**41**	P	P	06 01 54.5	-1.7
	0.3nm,0.6s,baz=248,slow=7.8,SNR=2.9						
ARCES	**ARCESS Array B**	**58.12**	**348**	P	P	06 02 22.7	-2.6
	2.6nm,1.0s,baz=153,slow=5.4,SNR=3.9						
WRA	**Warramunga Arr**	**85.35**	**112**	P	P	06 05 07.6	-1.3
	0.8nm,0.9s,baz=299,slow=4.5,SNR=5.1						

IDC 05 05:57:48.0±4.8**,7.34S**×**120.51E,h525**km±75km**,mb3.1**/3**, mb1 3.1**/5**,mb1mx2.9**/17**,mbtmp4.0**/5**,Error ellipse: s-maj=115.2km s-min=27.5km az=54.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.81**	**155**	P	P	06 00 24.5	-0.8
	0.4nm,0.3s,baz=355,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**18.36**	**134**	P	P	06 01 30.6	0.0
	0.2nm,0.3s,baz=313,slow=10,SNR=21						
STKA	**Stephens Creek**	**31.34**	**144**	P	P	06 03 25.3	-1.5
	0.9nm,0.5s,baz=319,slow=9.3,SNR=3.6						
SONM	**Songino Array**	**56.33**	**349**	P	P	06 06 39.0	-1.7
	0.5nm,0.5s,baz=164,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**63.69**	**332**	P	P	06 07 27.8	-1.6
	2.1nm,0.5s,baz=143,slow=7.5,SNR=23						

*IDC **05** 05:58:21.4±1.6,7.03S×155.57E,mb4.1/4,mb1 4.2/4, mb1mx3.9/14,mbtmp4.1/4,Error ellipse: s-maj=54.1km s-min=37.0km az=132.0*

NEIC 05 05:58:25.7±1.1**,7.11S**×**155.63E,h30**km**,mb4.2**/1**,Error ellipse: s-maj=38.4km s-min=21.8km az=133.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.26**	**236**	*e*P	P	06 03 40.5	-1.0
	6.6nm,1.0s						
WRA	**Warramunga Arr**	**24.27**	**236**	P	P	06 03 40.6	-1.1
	0.9nm,0.6s,baz=60,slow=9.1,SNR=9.6						
FITZ	**Fitzroy Crossi**	**31.19**	**247**	P	P	06 04 42.2	-2.5
	5.6nm,0.6s,baz=54,slow=3.9,SNR=4.2						
MKAR	**Makanchi Array**	**83.91**	**319**	P	P	06 10 53.6	-0.6
	0.6nm,0.3s,baz=102,slow=5.9,SNR=9.3						
BVAR	**Borovoye Array**	**92.77**	**323**	P	P	06 11 34.4	-2.0
	0.2nm,0.3s,baz=104,slow=5.9,SNR=3.6						
BDFB	**Brasilia**	**147.45**	**134**	PKPbc	PKPdf	06 18 07.9	-2.4
	2.4nm,0.5s,baz=237,slow=1.7,SNR=5.6						

*CSEM **05** 06:11:34.5±0.4,38.46N×26.67W,ML1.9,Error ellipse: s-maj=8.9km s-min=7.6km az=131.0,After PDA*

*PDA **05** 06:11:34.5±0.8,38.46N×26.67W,MD2.6,ML1.9,Error ellipse: s-maj=18.2km s-min=5.0km az=41.0*

SVSA 05 06:11:34.5±0.8**,38.46N**×**26.67W,MD2.6,ML1.9,Error ellipse: s-maj=18.2km s-min=5.0km az=41.0,Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.41**	**308**	*e*P	Pg	06 11 42.3	-0.5
PFAV				*e*S	Sg	06 11 47.9	-0.4
	21nm,0.2s						
RIB2	**Ribeirinha**	**0.45**	**298**	*e*P	Pg	06 11 42.5	-1.0
RIB2				*e*S	Sg	06 11 49.0	-0.5
	34nm,0.2s						
PVNV	**Vila Nova**	**0.49**	**308**	*e*P	Pg	06 11 43.6	-0.7
PVNV				*e*S	Sg	06 11 49.9	-0.9
	20nm,0.1s						
PPAD	**Pico dos Padre**	**0.54**	**297**	*e*P	Pg	06 11 44.1	-1.3
PPAD				*e*S	Sg	06 11 51.6	-1.0
PBIS	**Biscoitos**	**0.55**	**304**	*e*S	Sg	06 11 52.2	-0.6
ASBA	**Santa Barbara**	**0.58**	**297**	*e*P	Pg	06 11 44.9	-1.2
ASBA				*e*S	Sg	06 11 52.9	-0.9

*JMA **05** 06:12:48.8±0.1,28.30N×140.36E,h432km,M4.6*

*IDC **05** 06:12:48.4±0.9,28.12N×139.76E,h425km±9km,mb3.9/18, mb1 4.0/21,mb1mx4.0/24,mbtmp4.7/21,Error ellipse: s-maj=13.7km s-min=9.7km az=81.0*

*BJI **05** 06:12:49.2,28.10N×139.80E,h434km,mB4.8,mb4.7*

*NEIC **05** 06:12:49.3±0.9,28.12N×139.80E,h435km±9km,mb4.5/22, Error ellipse: s-maj=9.9km s-min=8.9km az=94.0*

*MOS **05** 06:12:50.0±0.9,28.36N×139.66E,h440km,mb4.6/24, Error ellipse: s-maj=14.7km s-min=6.5km az=113.6*

ISC 05 06:12:47.4±0.3**,28.16N**±0.03×**139.85E**±0.06**,h425**km±3km**, h405**km±5.1km**:pP-P,n150,**σ1.02/164**,mb4.4**/57**,12C-5D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.33**	**117**	P	**P**	**06 13 48.1**	**0.0**
	304nm,0.3s,baz=316,slow=1.9,SNR=29						
CBIJ				S	**S**	**06 14 35.4**	**-0.6**
	870nm,0.3s,baz=304,slow=23,SNR=24						
CBIJ	**Chichi jima**	**2.33**	**117**	P	**P**	**06 13 48.2**	**+0.1**
CBIJ				S	**S**	**06 14 34.3**	**-1.6**
JHHJ	**Haha-jima-NKT**	**2.57**	**126**	P	**P**	**06 13 49.8**	**0.0**
JHHJ				S	**S**	**06 14 38.9**	**0.0**
JHJ2	**Mitsune**	**4.94**	**360**	P	**P**	**06 14 11.7**	**+1.1**
JHJ2				S	**S**	**06 15 16.5**	**+0.5**
JHJ	**Hachijo jima 2**	**4.94**	**359**	P	**P**	**06 14 11.4**	**+0.8**
	50nm,0.3s,baz=78,slow=21,SNR=14						
JHJ				S	**S**	**06 15 15.0**	**-1.1**
	152nm,0.3s,baz=259,slow=22,SNR=8.4						
BSO1	**Boso 1**	**6.54**	**8**	P	**P**	**06 14 27.8**	**+0.3**
BSO1				S	**S**	**06 15 45.4**	**-1.1**
JIM2	**Oshima 3**	**6.55**	**357**	P	**P**	**06 14 28.0**	**+0.5**
JIM2				S	**S**	**06 15 47.4**	**+0.9**
BSO3	**Boso 3**	**6.64**	**5**	P	**P**	**06 14 29.4**	**+0.8**
BSO3				S	**S**	**06 15 47.3**	**-1.1**
JIE	**Ise**	**6.77**	**337**	P	**P**	**06 14 32.6**	**+2.6**
BSO4	**Boso 4**	**6.82**	**3**	P	**P**	**06 14 30.3**	**-0.2**
JOD2	**Odawara 2**	**7.11**	**355**	P	**P**	**06 14 34.5**	**+0.8**
JOD2				S	**S**	**06 15 56.3**	**-1.4**
JNY	**Yasuok**	**7.37**	**347**	P	**P**	**06 14 37.7**	**+1.0**
JAO	**Obara**	**7.42**	**343**	P	**P**	**06 14 39.3**	**+2.1**
JRY	**Ryogami san**	**7.87**	**354**	P	**P**	**06 14 41.1**	**-1.2**
JRY				S	**S**	**06 16 11.4**	**-1.6**
JYT	**Yasato**	**8.05**	**2**	P	**P**	**06 14 44.1**	**-0.1**
JYT				S	**S**	**06 16 13.1**	**-3.4**
MJAR	**Matsushiro Arr**	**8.47**	**351**	P	**P**	**06 14 48.1**	**-0.9**
	0.9nm,0.3s,baz=169,slow=11,SNR=5.4						
MJAR				S	**S**	**06 16 20.9**	**-4.2**
	1.9nm,0.3s,baz=146,slow=12,SNR=5.5						
MAJO	**Matsushiro**	**8.47**	**351**	*e*P	**P**	**06 14 50.1**	**+1.1**
	9.3nm,0.4s						
MAJO				*e*S	**S**	**06 16 24.1**	**-1.0**
MAJO	**Matsushiro**	**8.47**	**351**	*e*P	**P**	**06 14 50.1**	**+1.1**
MAJO				*e*S	**S**	**06 16 24.1**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MAT	**Matsushiro**	**8.47**	**351**	P	**P**	**06 14 49.2**	**+0.2**
MAT				S	**S**	**06 16 12.0**	**-13**
MAT	**Matsushiro**	**8.47**	**351**	P	**P**	**06 14 48.0**	**-1.0**
MAT				S	**S**	**06 16 25.8**	**+0.7**
MAT	**Matsushiro**	**8.47**	**351**	*e*P	**P**	**06 14 49.0**	**0.0**
MAT				*e*S	**S**	**06 16 12.0**	**-13**
JHS	**Saijyo**	**8.91**	**322**	P	**P**	**06 14 56.3**	**+2.3**
JNU	**Nakatsue**	**9.17**	**305**	P	**P**	**06 14 59.5**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=66,slow=12,SNR=3.5						
JFK	**Kawauchi**	**9.22**	**5**	P	**P**	**06 14 57.8**	**+0.3**
JFK				S	**S**	**06 16 38.5**	**-1.9**
ASAJ	**Asahikawa**	**16.07**	**7**	P	**P**	**06 16 12.3**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=220,slow=15,SNR=5.1						
SSE	**Sheshan**	**16.49**	**285**	*e*P	**P**	**06 16 10.4**	**-5.6**
	comp=Z,36nm,0.7s						
MDJ	**Mudanjiang**	**18.36**	**336**	P	**P**	**06 16 36.6**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,19nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,294nm,8.3s						
MDJ	**Mudanjiang**	**18.36**	**336**	*e*P	**P**	**06 16 36.2**	**+1.6**
	comp=Z,28nm,1.1s						
YSS	**Yuzh-Sakhalins**	**18.90**	**6**	α*e*P	**P**	**06 16 41.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,1μm,4.0s						
YSS				pmax	pmax		
	comp=Z,600nm,6.0s						
YSS				pmax	pmax		
	comp=N,500nm,5.0s						
SNY	**Shenyang**	**19.02**	**320**	⇑*i*P	**P**	**06 16 42.7**	**+1.6**
SNY				AMB	AMB		
	comp=Z,70nm,0.9s						
CN2	**Changchun**	**19.43**	**327**	*e*P	**P**	**06 16 47.2**	**+2.1**
CN2				AMB	AMB		
	comp=Z,40nm,1.0s						
TIA	**Tai'an**	**20.81**	**298**	*e*P	**P**	**06 16 58.3**	**-0.1**
TIA				AMB	AMB		
	comp=Z,105nm,0.8s						
KLR	**Kul'dur**	**21.94**	**346**	*e*P	**P**	**06 17 06.8**	**-2.2**
WHN	**Wuhan**	**22.34**	**282**	*e*P	**P**	**06 17 13.0**	**+0.2**
HIA	**Hailar**	**26.12**	**329**	*e*P	**P**	**06 17 47.3**	**+0.5**
	comp=Z,17nm,0.8s,mb4.5						
HIA				*e*		06 19 06.6	
HIA	**Hailar**	**26.12**	**329**	*e*P	**P**	**06 17 47.3**	**+0.5**
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC	**Hu-ho-hao-te**	**26.40**	**306**	*e*P	**P**	**06 17 48.8**	**-0.5**
HHC				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.4						
HHC				AMB	AMB		
	comp=Z,382nm,7.5s						
GYA	**Guiyang**	**29.49**	**275**	⇑*i*P	**P**	**06 18 16.0**	**-0.6**
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
LZH	**Lanzhou**	**31.37**	**294**	⇓P	**P**	**06 18 32.3**	**-0.3**
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb4.4						
CD2	**Chengdu**	**31.44**	**284**	⇓*i*P	**P**	**06 18 33.0**	**-0.3**
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**32.13**	**317**	*e*P	**P**	**06 18 39.6**	**+0.6**
	comp=Z,24nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**32.13**	**317**	*i* P	**P**	**06 18 39.1**	**+0.1**
SONM	**Songino Array**	**32.52**	**316**	P	**P**	**06 18 42.4**	**0.0**
	comp=Z,5.5nm,0.6s,mb4.1,baz=124,slow=8.4,SNR=24						
KMI	**Kunming**	**33.23**	**273**	P	**P**	**06 18 49.1**	**+0.5**
KMI				AMB	AMB		
	comp=Z,36nm,1.3s,mb4.5						
KMI	**Kunming**	**33.23**	**273**	P	**P**	**06 18 49.1**	**+0.5**
	comp=Z,36nm,1.3s,mb4.5						
BOD	**Bodaibo**	**34.73**	**336**	*e*P	**P**	**06 19 00.5**	**-0.4**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
GTA	**Gaotai**	**34.86**	**299**	*e*P	**P**	**06 19 02.0**	**-0.2**
GTA				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.3						
ZAK	**Zakamensk**	**35.45**	**319**	⇓*i*P	**P**	**06 19 07.3**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
SEY	**Seymchan**	**35.73**	**10**	*i* P	**P**	**06 19 10.5**	**+1.2**
BILL	**Bilibino**	**42.91**	**14**	*e*P	**P**	**06 20 08.8**	**+1.2**
BILL				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.6						
WMQ	**Urumqi**	**44.27**	**305**	⇑*i*P	**P**	**06 20 19.5**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,472nm,6.2s						
NIKO	**Nikolski**	**44.95**	**42**	*e*P	**P**	**06 20 23.9**	**0.0**
ZAL	**Zalesovo**	**47.34**	**319**	P	**P**	**06 20 42.0**	**-0.4**
	comp=Z,4.4nm,1.0s,mb3.7,baz=23,slow=6.5,SNR=12						
ZAL				PcP	PcP	06 22 03.9	-1.8
	comp=Z,3.7nm,0.2s,baz=23,slow=3.8,SNR=8.3						
PKI	**Pulchoki**	**47.78**	**283**	*e*P	**P**	**06 20 45.9**	**-0.2**
	comp=Z,35nm,1.1s,mb4.6						
KKN	**Kakani**	**47.84**	**283**	*e*P	**P**	**06 20 46.5**	**-0.1**
	comp=Z,52nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**48.00**	**198**	P	**P**	**06 20 47.0**	**-0.9**
	comp=Z,6.5nm,0.6s,mb4.1,baz=10,slow=8.3,SNR=16						
DMN	**Daman**	**48.03**	**283**	*e*P	**P**	**06 20 47.8**	**-0.2**
WRAB	**Tennant Creek**	**48.10**	**187**	*i* P	**P**	**06 20 51.3**	**+2.6**
WB2	**Warramunga Arr**	**48.11**	**187**	⇓*i*P	**P**	**06 20 47.3**	**-1.4**
WRA	**Warramunga Arr**	**48.12**	**187**	P	**P**	**06 20 47.1**	**-1.6**
	comp=Z,2.4nm,0.4s,mb3.9,baz=4.2,slow=7.6,SNR=100						
WRA				PcP	PcP	06 22 07.9	-1.0
	comp=Z,2.2nm,0.7s,baz=0.8,slow=3.7,SNR=10						
WRA				ScP		06 25 19.9	
	comp=Z,0.8nm,0.8s,baz=360,slow=4.9,SNR=5.4						
WRA				S	**S**	**06 27 10.6**	**-4.0**
	comp=Z,0.9nm,1.0s,baz=2.1,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**48.12**	**187**	P	**P**	**06 20 47.1**	**-1.6**
WRA					pP	06 22 07.9	-5.0
WRA				S	**S**	**06 27 10.6**	**-3.9**
MKAR	**Makanchi Array**	**48.20**	**309**	P	**P**	**06 20 48.2**	**-0.8**
	comp=Z,3.5nm,0.7s,mb3.8,baz=94,slow=9.1,SNR=41						
MKAR				PcP	PcP	06 22 07.5	-1.4
	comp=Z,5.1nm,0.7s,baz=90,slow=4.9,SNR=15						
MKAR				ScP		06 25 19.9	
	comp=Z,3.0nm,0.7s,baz=84,slow=5.1,SNR=19						
MKAR				S	**S**	**06 27 11.0**	**-4.3**
	comp=Z,0.2nm,0.5s,baz=100,slow=18,SNR=3.4						
MKAR	**Makanchi Array**	**48.20**	**309**	P	**P**	**06 20 48.2**	**-0.8**
MKAR					pP	06 22 07.5	-5.7
MKAR				S	**S**	**06 27 11.0**	**-4.3**
GKN	**Gorkha**	**48.34**	**284**	*e*P	**P**	**06 20 50.1**	**-0.3**
	comp=Z,55nm,1.1s,mb4.8						
NVS	**Novosibirsk**	**48.40**	**320**	*i* P	**P**	**06 20 48.9**	**-1.5**
KOLN	**Koldanda**	**49.29**	**284**	*e*P	**P**	**06 20 57.5**	**0.0**
	comp=Z,29nm,0.8s,mb4.6						
KURK	**Kurchatov**	**50.76**	**314**	*e*P	**P**	**06 21 07.2**	**-0.9**
	comp=Z,33nm,1.0s,mb4.5						
KURK	**Kurchatov**	**50.76**	**314**	*e*P	**P**	**06 21 07.2**	**-1.0**
KURK				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.5						
ULHL	**Ulahol**	**52.71**	**303**	P	**P**	**06 21 22.7**	**+0.1**
	SNR=9.4						
TKM2	**Tokmak 2**	**53.11**	**304**	P	**P**	**06 21 25.8**	**+0.2**
	SNR=6.2						
KZA	**Kyzart**	**53.46**	**303**	P	**P**	**06 21 29.1**	**+1.1**
	SNR=6.9						
KBK	**Karagaybulak**	**53.61**	**304**	P	**P**	**06 21 29.5**	**+0.4**
	SNR=5.0						
USP	**Ospenovka**	**53.87**	**305**	P	**P**	**06 21 30.8**	**-0.2**
	SNR=6.2						
AAK	**Ala-Archa**	**53.95**	**304**	*e*P	**P**	**06 21 30.4**	**-1.1**
	comp=Z,5.9nm,1.0s,mb3.8						
AAK	**Ala-Archa**	**53.95**	**304**	*e*P	**P**	**06 21 30.4**	**-1.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb3.8						
UCH	**Uchtor**	**53.98**	**303**	P	**P**	**06 21 32.8**	**+1.0**
	SNR=12						
AML	**Almayashu**	**54.60**	**303**	P	**P**	**06 21 36.7**	**+0.5**
	SNR=20						
VOSK	**Vostochnaya**	**55.51**	**317**	P	**P**	**06 21 41.4**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.5						
BVA0	**Borovoye Array**	**55.86**	**317**	*i* P	**P**	**06 21 44.0**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**55.86**	**317**	P	**P**	**06 21 43.7**	**-1.1**
	comp=Z,31nm,0.8s,mb4.7,baz=90,slow=7.4,SNR=152						
BVAR				PcP	PcP	06 22 36.4	-1.2
	comp=Z,1.3nm,0.3s,baz=113,slow=2.4,SNR=5.7						
BVAR				ScP		06 25 52.5	
	comp=Z,0.7nm,0.5s,baz=90,slow=2.9,SNR=4.1						
BVAR	**Borovoye Array**	**55.86**	**317**	P	**P**	**06 21 43.7**	**-1.1**
BVAR				PcP	PcP	06 22 36.4	-1.2
BVAR				ScP		06 25 52.5	
BRVK	**Borovoye**	**55.92**	**317**	*e*P	**P**	**06 21 44.6**	**-0.7**
	comp=Z,29nm,1.0s,mb4.6						
BRVK	**Borovoye**	**55.92**	**317**	*e*P	**P**	**06 21 44.6**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.6						
KKAR	**Karatay Array**	**56.78**	**305**	*i* P	**P**	**06 21 50.9**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6						
ILAR	**Eielson Array**	**57.78**	**29**	P	**P**	**06 21 57.3**	**-0.6**
	comp=Z,5.6nm,0.9s,mb3.9,baz=268,slow=5.9,SNR=17						
STKA	**Stephens Creek**	**59.73**	**178**	P	**P**	**06 22 09.9**	**-1.5**
	comp=Z,2.3nm,0.6s,mb3.8,baz=338,slow=8.3,SNR=5.6						
ARU	**Arti**	**62.31**	**322**	*e*P	**P**	**06 22 27.6**	**-0.6**
	comp=Z,14nm,0.4s,mb4.8						
ARU	**Arti**	**62.31**	**322**	⇓*i*P	**P**	**06 22 27.3**	**-0.8**
ARU				*e*		06 24 51.5	
ARU				*e*S	**S**	**06 30 22.8**	**+2.9**
ARU				*e*SS	SS	06 34 37.8	+3.3
ARU				pmax	pmax		
	comp=Z,33nm,0.8s,mb4.9						
AB31	**Akbulak array**	**62.87**	**314**	*i* P	**P**	**06 22 31.0**	**-0.8**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
INK	**Inuvik**	**62.93**	**25**	P	**P**	**06 22 31.9**	**-0.1**
	comp=Z,2.2nm,0.3s,mb4.2,baz=290,slow=5.8,SNR=28						
KEV	**Kevo**	**71.29**	**340**	*e*p	**P**	**06 23 22.9**	**-0.5**
	comp=Z,12nm,0.9s,mb4.4						
KEV	**Kevo**	**71.29**	**340**	*e*P	**P**	**06 23 22.9**	**-0.5**
KEV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
ARCES	**ARCESS Array B**	**71.85**	**340**	P	**P**	**06 23 26.5**	**-0.2**
	comp=Z,9.5nm,0.7s,mb4.4,baz=70,slow=8.4,SNR=24						
YKA	**Yellowknife Ar**	**72.19**	**28**	P	**P**	**06 23 28.5**	**-0.2**
	comp=Z,5.4nm,0.6s,mb4.2,baz=297,slow=6.2,SNR=70						
YKA	**Yellowknife Ar**	**72.19**	**28**	*i* P	**P**	**06 23 28.8**	**+0.1**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
JOF	**Joensuu**	**73.21**	**333**	*e*p	**P**	**06 23 34.0**	**-0.6**
	comp=Z,28nm,0.7s,mb4.9						
OBN	**Obninsk**	**74.47**	**325**	*c i*P	**P**	**06 23 41.9**	**0.0**
OBN				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.0						
GOF	**Gofitskoye**	**75.11**	**313**	*e*P	**P**	**06 23 44.7**	**-1.0**
KAF	**Kangasniemi**	**75.61**	**334**	*e*p	**P**	**06 23 47.1**	**-1.0**
	comp=Z,12nm,0.7s,mb4.6,baz=55,slow=5.2						
KAF	**Kangasniemi**	**75.61**	**334**	*e*P	**P**	**06 23 47.1**	**-1.0**
KAF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
KIV	**Kislovodsk**	**75.81**	**312**	*c i*P	**P**	**06 23 50.5**	**+0.9**
GNI	**Garni**	**76.04**	**308**	*i* P	**P**	**06 23 52.5**	**+1.5**
GNI				pmax	pmax		
	comp=Z,31nm,1.7s						
FINES	**FINESS Array B**	**76.07**	**333**	P	**P**	**06 23 50.6**	**-0.1**
	comp=Z,9.6nm,0.5s,mb4.7,baz=66,slow=5.3,SNR=69						
VSU	**Vasula**	**77.46**	**330**	⇑*e*P	**P**	**06 23 58.9**	**+0.6**
ANN	**Anapa**	**78.78**	**315**	*e*P	**P**	**06 24 05.3**	**-0.4**
ANN				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.1						
CMB	**Columbia Colle**	**80.22**	**52**	*e*P	**P**	**06 24 14.3**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.1						
CMB	**Columbia Colle**	**80.22**	**52**	*e*P	**P**	**06 24 14.3**	**+0.9**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
AKASG	**Malin Array Be**	**80.53**	**323**	P	**P**	**06 24 14.4**	**-0.3**
	comp=Z,2.3nm,0.2s,mb4.5,baz=50,slow=5.8,SNR=40						
MALT	**Malatya**	**81.24**	**309**	*e*P	**P**	**06 24 20.6**	**+1.9**
	comp=Z,12nm,1.2s,mb4.5						
MALT	**Malatya**	**81.24**	**309**	*e*P	**P**	**06 24 20.6**	**+1.9**
MALT				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
HLID	**Hailey**	**81.47**	**45**	*e*P	**P**	**06 24 17.2**	**-2.6**
	comp=Z,8.8nm,1.0s,mb4.4						
HLID				*e*PcP	PcP	06 24 22.4	-2.5
SUW	**Suwalki**	**81.66**	**328**	*e*P	**P**	**06 24 20.7**	**+0.2**
NB2	**NORSAR Subarra**	**81.85**	**337**	P	**P**	**06 24 20.6**	**-0.7**
	comp=Z,11nm,0.8s,mb4.7,baz=46,slow=5.0						
NB2	**NORSAR Subarra**	**81.85**	**337**	P	**P**	**06 24 20.6**	**-0.7**
	baz=46,slow=5.3						
NOA	**NORSAR Array B**	**81.85**	**337**	P	**P**	**06 24 21.0**	**-0.3**
	comp=Z,8.7nm,0.7s,mb4.6,baz=48,slow=4.7,SNR=32						
ELK	**Elko**	**82.38**	**48**	*e*P	**P**	**06 24 26.5**	**+2.0**
	comp=Z,5.0nm,1.0s,mb4.2						
ELK	**Elko**	**82.38**	**48**	*e*P	**P**	**06 24 26.5**	**+2.1**
ELK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BR131	**Keskin Array S**	**83.76**	**312**	*e*P	**P**	**06 24 31.9**	**+0.4**
	comp=Z,3.9nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**83.76**	**312**	P	**P**	**06 24 30.7**	**-0.7**
	comp=Z,4.7nm,0.7s,mb4.3,baz=107,slow=4.0,SNR=17						
DUG	**Dugway**	**84.25**	**47**	*e*P	**P**	**06 24 34.1**	**+0.2**
	comp=Z,11nm,1.3s,mb4.4						
DUG	**Dugway**	**84.25**	**47**	*e*P	**P**	**06 24 34.1**	**+0.3**
DUG				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
HWUT	**Hardware Ranch**	**84.29**	**46**	*e*P	**P**	**06 24 36.1**	**+2.1**
	comp=Z,9.1nm,1.0s,mb4.5						
KWP	**Kalwaria**	**84.56**	**324**	*e*P	**P**	**06 24 32.8**	**-2.4**
BSD	**Bornholm Skovb**	**84.62**	**332**	*i* P	**P**	**06 24 34.8**	**-0.5**
	comp=Z,25nm,0.8s,mb5.0						
BSD	**Bornholm Skovb**	**84.62**	**332**	*i* P	**P**	**06 24 34.8**	**-0.5**
BSD				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
PDAR	**Pinedale Array**	**84.90**	**44**	P	**P**	**06 24 38.1**	**+1.2**
	comp=Z,1.0nm,0.4s,mb3.9,baz=309,slow=1.5,SNR=15						
CRVS	**Cervenica-Dubn**	**85.66**	**324**	*e*P	**P**	**06 24 40.7**	**+0.3**
DPC	**Dobruska-Polom**	**87.25**	**328**	*e*P	**P**	**06 24 48.0**	**0.0**
VYHS	**Vyhne**	**87.25**	**325**	*e*P	**P**	**06 24 48.2**	**+0.1**
UPC	**Upice**	**87.29**	**328**	*e*P	**P**	**06 24 48.1**	**-0.1**
CLL	**Collm**	**88.10**	**330**	P	**P**	**06 24 52.0**	**0.0**
PRU	**Pruhonice**	**88.33**	**328**	*e*P	**P**	**06 24 53.0**	**-0.1**
CLZ	**Clausthal**	**88.86**	**331**	*e*P	**P**	**06 24 55.7**	**+0.1**
CLZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MOX	**Moxa**	**89.19**	**330**	*i* P	**P**	**06 24 56.7**	**-0.4**
KHC	**Kasperske Hory**	**89.38**	**328**	*e*P	**P**	**06 24 57.5**	**-0.5**
GEC2	**GERESS Array S**	**89.52**	**328**	*e*P	**P**	**06 24 58.3**	**-0.4**
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
GERES	**GERESS Array B**	**89.52**	**328**	P	**P**	**06 24 57.6**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=45,slow=3.8,SNR=12						
ANMO	**Albuquerque**	**91.36**	**49**	*e*P	**P**	**06 25 09.7**	**+2.2**
	comp=Z,4.6nm,1.0s,mb4.3						
ANMO	**Albuquerque**	**91.36**	**49**	⇑*e*P	**P**	**06 25 10.0**	**+2.5**
BFO	**Black Forest**	**92.35**	**330**	*e*P	**P**	**06 25 11.4**	**-0.4**
BFO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**96.60**	**52**	P	**P**	**06 25 32.6**	**+0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=270,slow=1.7,SNR=16						
TXAR				pP	pP	06 27 08.6	-1.3
	comp=Z,0.9nm,1.1s,baz=270,slow=3.8,SNR=3.8						
ESDC	**Sonseca Array**	**104.56**	**332**	PP	PP	06 30 30.8	-2.8
	comp=Z,0.2nm,0.3s,baz=14,slow=6.1,SNR=4.5						
DBIC	**Dimbokro**	**131.43**	**310**	PKP	PKPdf	06 31 12.5	+1.4
	comp=Z,2.1nm,0.9s,baz=9.2,slow=2.8,SNR=3.6						
DBIC				SKPbc		06 33 56.0	
	comp=Z,2.2nm,0.5s,baz=15,slow=4.0,SNR=11						
SNAA	**Sanae**	**131.88**	**195**	⇑*i*P	PKPdf	06 31 11.8	+1.3
SDV	**Santo Domingo**	**132.83**	**43**	SKPbc		06 34 01.4	
	comp=Z,5.6nm,0.8s,baz=355,slow=3.8,SNR=5.5						
VNA2	**Neumayer--Watz**	**133.43**	**194**	⇑*i*P	PKPdf	06 31 15.6	+2.3
VNA3	**Neumayer Olymp**	**133.66**	**193**	⇑*i*P	PKPdf	06 31 15.7	+1.9
LPAZ	**La Paz**	**151.60**	**71**	PKPbc	PKPdf	06 31 55.7	+10
	comp=Z,1.0nm,0.5s,baz=283,slow=3.5,SNR=11						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	**Paso Flores**	152.11	125	PKPbc	PKPdf	06 31 55.4	+9.4
	comp=Z,0.7nm,0.4s,baz=264,slow=8.7,SNR=5.6						
SIV	**San Ignacio**	157.18	62	PKPab	PKPab	06 32 28.1	-1.2
	comp=Z,1.7nm,0.8s,baz=298,slow=4.7,SNR=10						

NEIC ***05*** *06:35:38.6±0.5, 3.02N×127.74E, h30km, mb4.4/4, Error ellipse: s-maj=26.0km s-min=8.7km az=76.0*
IDC ***05*** *06:35:41.3±4.1, 2.92N×127.67E, h56km±36km, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp4.2/7, Error ellipse: s-maj=81.2km s-min=14.1km az=71.0*
ISC 05 06:35:44.1±0.6**, 3.01N**±0.08×**127.8E**±0.2**, h100km, n18,** σ**0^{s}73**/20**, mb4.1**/10**, 3C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	21.08	186	⇑*i*P	**P**	**06 40 20.6**	**-1.5**
	4.4nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	21.08	186	P	**P**	**06 40 20.6**	**-1.5**
	5.7nm,0.4s,mb4.3,baz=1.6,slow=11,SNR=20						
WRAB	**Tennant Creek**	23.70	164	*e*P	**P**	**06 40 47.8**	**0.0**
	35nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	23.71	164	P	**P**	**06 40 47.5**	**-0.4**
	13nm,0.7s,mb4.4,baz=342,slow=10,SNR=75						
WRA				S	**S**	**06 44 59.8**	**+7.4**
	1.9nm,1.1s,baz=351,slow=17,SNR=4.0						
WB2	**Warramunga Arr**	23.71	164	⇑*i*P	**P**	**06 40 47.5**	**-0.4**
WB2				*e*S	**S**	**06 44 59.5**	**+7.1**
MBWA	**Marble Bar**	25.27	198	P	**P**	**06 41 03.5**	**+0.6**
CTAO	**Charters Tower**	29.27	142	P	**P**	**06 41 41.1**	**+1.9**
MAJO	**Matsushiro**	34.73	15	*e*P	**P**	**06 42 25.4**	**-1.2**
STKA	**Stephens Creek**	37.10	160	⇑*i*P	**P**	**06 42 46.2**	**-0.4**
	5.5nm,1.1s,mb4.4						
STKA	**Stephens Creek**	37.10	160	P	**P**	**06 42 46.0**	**-0.6**
	4.5nm,0.5s,mb4.7,baz=345,slow=9.1,SNR=26						
STKA	**Stephens Creek**	37.10	160	*e*P	**P**	**06 42 46.4**	**-0.2**
NWAO	**Narrogin (SRO)**	37.10	195	*e*P	**P**	**06 42 46.8**	**+0.2**
SONM	**Songino Array**	48.31	341	P	**P**	**06 44 17.4**	**+0.2**
	0.5nm,0.6s,mb3.5,baz=151,slow=9.2,SNR=2.7						
MKAR	**Makanchi Array**	58.73	325	P	**P**	**06 45 33.9**	**+0.1**
	1.3nm,0.4s,mb4.3,baz=114,slow=8.1,SNR=31						
MKAR				pP	pP	06 46 02.0	+3.5
	1.1nm,0.5s,baz=129,slow=7.8,SNR=3.7						
KURK	**Kurchatov**	62.90	327	*e*P	**P**	**06 46 02.2**	**+0.3**
	2.3nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	68.48	327	P	**P**	**06 46 37.4**	**-0.1**
	0.5nm,0.7s,mb3.5,baz=127,slow=7.4,SNR=3.9						
BVAR				pP	pP	06 47 04.0	+1.1
	1.1nm,0.8s,baz=117,slow=6.6,SNR=3.8						
BRVK	**Borovoye**	68.55	327	*e*P	**P**	**06 46 38.4**	**+0.5**
	1.1nm,0.8s,mb3.7						
VNDA	**Vanda**	82.59	173	P	**P**	**06 47 57.4**	**+0.3**
	2.5nm,0.9s,mb4.1,baz=332,slow=5.5,SNR=9.5						

IDC ***05*** *07:17:49.0±0.9, 24.09S×66.81W, h175km±10km, mb3.8/13, mb1 4.0/19, mb1mx4.0/23, mbtmp4.4/19, Error ellipse: s-maj=14.0km s-min=10.1km az=81.0*
GUC ***05*** *07:17:50.2±0.6, 23.70S×67.39W, h237km±6km, ML4.7*
NEIC ***05*** *07:17:50.2, 23.70S×67.39W, h237km, mb4.6/4, After GUC.*
ISC 05 07:17:48.4±0.5**, 24.15S**±0.03×**66.89W**±0.06**, h185km**±6km**, n45,** σ**1^{s}15**/58**, mb4.1**/15**, 7C-6D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	1.72	316	⇑*i*P	**P**	**07 18 26.0**	**+2.6**
SPCH				*i* S	**S**	**07 18 53.1**	**+2.8**
LVC	**Limon Verde**	2.41	309	P	**P**	**07 18 32.3**	**+1.5**
	66nm,0.3s,baz=126,slow=7.3,SNR=1130						
LVC				S	**S**	**07 19 03.3**	**-0.2**
	40nm,0.3s,baz=139,slow=7.5,SNR=5.9						
LVC	**Limon Verde**	2.41	309	⇑*i*P	**P**	**07 18 31.6**	**+0.8**
LVC				*i* S	**S**	**07 19 02.9**	**-0.6**
LVC				AMP		07 19 05.0	
	comp=E,1µm,0.3s						
LVC	**Limon Verde**	2.41	309	⇑*i*Pn	**P**	**07 18 32.3**	**+1.4**
LVC				*e*Sn	**S**	**07 19 04.2**	**+0.7**
CPN1	**Cerro Paranal**	3.24	261	⇑*i*P	**P**	**07 18 40.7**	**-0.1**
CPN1				*i* S	**S**	**07 19 21.1**	**-0.1**
CPN1				AMP		07 19 23.1	
	comp=E,1µm,0.5s						
ANCH	**Antofagasta**	3.25	278	⇑*i*P	**P**	**07 18 41.1**	**+0.1**
ANCH				*i* S	**S**	**07 19 19.9**	**-1.7**
ANCH				AMP		07 19 23.9	
	comp=N,2µm,0.8s						
CRCH	**Chaqaral**	4.02	236	⇓*i*P	**P**	**07 18 49.6**	**-1.1**
CRCH				*i* S	**S**	**07 19 39.5**	**+0.8**
CPCH	**Copiapo**	4.46	224	⇑*i*P	**P**	**07 18 53.8**	**-2.6**
CPCH				*i* S	**S**	**07 19 48.9**	**+0.1**
CFAA	**Coronel Fontan**	7.52	189	P	**P**	**07 19 35.5**	**-0.8**
	comp=N,0.2nm,0.3s,baz=10,slow=12,SNR=78						
CFAA				S	**S**	**07 20 55.8**	**-4.6**
	comp=N,1.7nm,0.3s,baz=270,slow=20,SNR=17						
ZON	**Zonda**	7.54	192	*e*P	**P**	**07 19 39.3**	**+2.9**
ZON				*e*S	**S**	**07 21 06.1**	**+5.4**
LPAZ	**La Paz**	7.91	351	P	**P**	**07 19 42.3**	**+1.0**
	comp=N,1.5nm,0.3s,baz=157,slow=9.5,SNR=74						
LPAZ				S	**S**	**07 21 09.2**	**-0.3**
	comp=N,0.5nm,0.3s,baz=325,slow=17,SNR=3.5						
LPAZ	**La Paz**	7.91	351	*e*Pn	**P**	**07 19 42.3**	**+1.0**
LPAZ				*e*Sn	**S**	**07 21 10.5**	**+1.0**
ARE	**Arequipa**	8.78	330	*e*P	**P**	**07 19 51.0**	**-1.8**
ARE				*e*S	**S**	**07 21 25.0**	**-5.0**
CPUP	**Villa Florida**	8.93	106	P	**P**	**07 19 54.6**	**-0.1**
	comp=N,0.3nm,0.3s,baz=314,slow=14,SNR=14						
SIV	**San Ignacio**	9.79	35	P	**P**	**07 20 04.8**	**-1.1**
	comp=N,2.9nm,0.3s,baz=228,slow=12,SNR=162						
SIV				S	**S**	**07 21 41.0**	**-12**
	comp=N,0.1nm,0.3s,baz=228,slow=16,SNR=5.6						
TRQA	**Tornquist**	14.48	164	*e*Pn	**P**	**07 21 05.0**	**-0.8**
	comp=N,19nm,0.6s						
SAML	**Samuel**	15.53	14	*e*P	**P**	**07 21 18.2**	**-0.8**
	comp=N,22nm,0.9s						
SAML				*e*S	**S**	**07 24 05.8**	**+0.3**
PLCA	**Paso Flores**	16.82	190	P	**P**	**07 21 34.0**	**-0.5**
	comp=N,0.6nm,0.3s,baz=9.5,slow=13,SNR=21						
BDFB	**Brasilia**	19.65	68	P	**P**	**07 22 04.5**	**-0.4**
	comp=N,9.7nm,0.3s,baz=247,slow=11,SNR=254						
USHA	**Ushuaia**	30.66	182	P	**P**	**07 23 46.9**	**-0.5**
	comp=N,6.2nm,0.7s,mb4.5,baz=342,slow=8.6,SNR=13						
PMSA	**Palmer Station**	40.66	178	*e*P	**P**	**07 25 09.9**	**-1.8**
	comp=N,7.9nm,0.6s,mb4.5						
SJG	**San Juan**	42.01	1	P	**P**	**07 25 21.1**	**-2.2**
	comp=N,7.1nm,0.6s,mb4.5,baz=18,slow=24,SNR=4.8						
VNA3	**Neumayer Olymp**	56.98	161	*e*	**P**	**07 27 18.1**	**+1.8**
VNA3	**Neumayer Olymp**	56.98	161	⇓*i*P	**P**	**07 27 16.8**	**+0.5**
VNA3				*e*		07 28 09.6	
VNA3				*e*		07 28 20.9	
VNA1	**Neumayer--Stat**	57.17	160	*e*	**P**	**07 27 20.0**	**+2.3**
VNA1	**Neumayer--Stat**	57.17	160	⇓*i*P	**P**	**07 27 18.7**	**+1.0**
VNA1				*e*		07 28 10.8	
VNA1				*e*		07 28 22.7	
VNA2	**Neumayer--Watz**	57.54	160	*e*	**P**	**07 27 22.4**	**+2.1**
VNA2	**Neumayer--Watz**	57.54	160	⇓*i*P	**P**	**07 27 20.8**	**+0.5**
VNA2				*e*		07 28 11.8	
VNA2				*e*		07 28 23.8	
SNAA	**Sanae**	59.18	161	*e*	**P**	**07 27 32.8**	**+1.2**
SNAA	**Sanae**	59.18	161	*e*	PcP	07 28 18.2	+0.4
SNAA	**Sanae**	59.18	161	P	**P**	**07 27 31.6**	**0.0**
	comp=N,2.7nm,0.6s,mb4.2,baz=286,slow=7.6,SNR=114						
SNAA	**Sanae**	59.18	161	⇓*i*P	**P**	**07 27 31.7**	**+0.1**
SNAA				*e*	pP	07 28 18.2	+3.7
SNAA				*e*		07 28 31.7	
TXAR	**Lajitas Array**	63.86	324	P	**P**	**07 28 03.1**	**-0.3**
	comp=N,0.3nm,0.4s,mb3.4,baz=107,slow=4.7,SNR=5.8						
QSPA	**South Pole Qui**	66.06	180	⇓*i*P	**P**	**07 28 18.0**	**+1.2**
	comp=N,18nm,0.6s,mb5.1						
DBIC	**Dimbokro**	67.76	71	P	**P**	**07 28 26.9**	**-1.6**
	comp=N,4.6nm,0.7s,mb4.3,baz=224,slow=5.1,SNR=16						
SYO	**Syowa Base**	73.38	159	⇑P	**P**	**07 29 00.8**	**-0.4**
VNDA	**Vanda**	74.57	190	P	**P**	**07 29 09.4**	**+1.4**
	comp=N,1.8nm,0.9s,mb3.7,baz=148,slow=7.1,SNR=8.6						
PDAR	**Pinedale Array**	77.33	329	P	**P**	**07 29 24.5**	**+0.4**
	comp=N,0.5nm,0.6s,mb3.3,baz=134,slow=8.1,SNR=5.2						
TSUM	**Tsumeb**	77.52	106	P	**P**	**07 29 24.7**	**-0.9**
	comp=N,2.0nm,0.5s,mb4.0,baz=214,slow=11,SNR=3.7						
BOSA	**Boshof**	80.58	117	P	**P**	**07 29 42.3**	**+0.4**
	comp=N,2.5nm,0.5s,mb4.1,baz=290,slow=5.0,SNR=13						
MAW	**Mawson**	81.26	163	P	**P**	**07 29 45.4**	**+0.8**
	comp=N,7.7nm,0.6s,mb4.5,baz=208,slow=5.7,SNR=41						
MDT	**Midelt**	82.05	49	P	**P**	**07 29 49.6**	**+0.2**
	comp=N,2.3nm,0.9s,mb3.8,baz=265,slow=3.6,SNR=6.1						
ESDC	**Sonseca Array**	86.44	44	P	**P**	**07 30 12.3**	**+1.1**
	comp=N,0.5nm,0.4s,mb3.6,baz=245,slow=4.8,SNR=4.2						
YKA	**Yellowknife Ar**	94.30	340	P	**P**	**07 30 47.4**	**+0.2**
	comp=N,0.4nm,0.5s,mb3.8,baz=132,slow=4.7,SNR=14						
MKAR	**Makanchi Array**	146.58	40	PKPbc	PKPbc	07 37 10.1	+2.6
	comp=N,3.2nm,0.6s,baz=296,slow=3.5,SNR=21						

CASC 05 07:23:43.6±3.0**, 13.00N**×**88.82W, h5km, MD3.6, ML2.9, 1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCBS	**La Ceiba**	0.67	346	*e*P	Pg	07 24 17.3	+20
LCBS				*e*S	Sg	07 24 28.6	+23
SNET	**Serv Nac Est T**	0.80	329	*e*P	Pg	07 23 60.0	+0.4
SNET				*e*S	Sg	07 24 10.6	+0.4
BOQS	**Boqueron**	0.86	328	⇓*e*P	Pb	07 24 13.9	+13
BOQS				*e*S	Sb	07 24 25.4	+13
COPN	**Copaltepe**	2.32	110	*e*P	Pn	07 24 21.8	-1.2
MGAN	**Managua**	2.65	108	*e*P	Pn	07 24 26.5	-1.2
MGAN				*i*		07 24 56.3	
	comp=N,71nm,0.5s						
TICN	**Ticuantepe**	2.70	110	*e*P	Pn	07 24 26.4	-2.0

IDC ***05*** *07:36:17.7±8.4, 11.92S×74.85W, h76km±92km, mb3.2/2, mb1 3.5/5, mb1mx3.3/19, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=90.5km s-min=63.7km az=82.0*
NEIC ***05*** *07:36:19.3±0.9, 12.03S×74.82W, h93km±13km, Error ellipse: s-maj=17.0km s-min=10.5km az=203.0*
ISC 05 07:36:17.6±0.9**, 11.9S**±0.1×**74.72W**±0.06**, h87km**±17km**, n11,** σ**1^{s}07**/14**, mb3.4**/2**, 1D, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	2.08	267	⇓*i*Pn	**P**	**07 36 51.1**	**-0.2**
NNA				*e*Sn	**S**	**07 37 15.9**	**-0.3**
LPAZ	**La Paz**	7.74	125	P	**P**	**07 38 09.7**	**+0.3**
	0.2nm,0.3s,baz=308,slow=18,SNR=7.0						
LPAZ	**La Paz**	7.74	125	*e*Pn	**P**	**07 38 11.0**	**+1.5**
SAML	**Samuel**	11.72	77	*e*Pn	**P**	**07 39 03.8**	**+0.5**
	3.2nm,0.7s						
SAML				*e*Sn	**S**	**07 41 10.8**	**-2.0**
LVC	**Limon Verde**	12.01	153	P	**P**	**07 39 06.5**	**-0.6**
	0.2nm,0.3s,baz=287,slow=15,SNR=4.2						
LVC				S	**S**	**07 41 08.1**	**-12**
	0.1nm,0.3s,baz=123,slow=12,SNR=2.8						
LVC	**Limon Verde**	12.01	153	*e*Pn	**P**	**07 39 06.9**	**-0.2**
LVC				S	**S**	**07 41 08.1**	**-12**
SIV	**San Ignacio**	13.86	109	P	**P**	**07 39 32.0**	**+0.6**
	0.2nm,0.3s,baz=321,slow=14,SNR=6.5						
SIV				Lg		07 43 50.3	
	0.2nm,0.3s,baz=214,slow=23,SNR=4.1						
SDV	**Santo Domingo**	21.05	11	*e*P	**P**	**07 40 59.1**	**+2.7**
PDAR	**Pinedale Array**	63.06	332	P	**P**	**07 46 37.2**	**-0.9**
	0.2nm,0.3s,mb3.5,baz=128,slow=9.4,SNR=4.2						
YKA	**Yellowknife Ar**	80.37	342	P	**P**	**07 48 20.4**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=140,slow=6.7,SNR=5.5						
WRA	**Warramunga Arr**	137.34	222	PKP	PKPdf	07 55 32.5	+0.6
	0.6nm,1.0s,baz=127,slow=2.0,SNR=6.5						

IDC ***05*** *07:37:28.1±0.4, 56.51S×142.26W, mb5.0/16, mb1 5.1/16, mb1mx5.1/17, mbtmp5.0/16, MS5.8/13, Ms1 5.8/13, ms1mx5.7/15, Error ellipse: s-maj=19.0km s-min=11.8km az=6.0*
BJI ***05*** *07:37:30.3, 56.40S×142.40W, h10km, mB6.3, Ms6.1, Msz5.8*
MOS ***05*** *07:37:30.3±2.0, 56.50S×142.56W, h10km, mb5.7/25, MS5.7/19, Error ellipse: s-maj=18.9km s-min=10.9km az=89.1*
NEIC ***05*** *07:37:31.3±0.2, 56.41S×142.39W, h10km, mb5.7/39, ME6.6, MS5.8/128, MW6.2, Error ellipse: s-maj=9.8km s-min=7.6km az=12.0 Broadband fault plane solution: P waves. NP1:φs120°, δ80°, λ5°. NP2:φs29°, δ85°, λ170°. Principal axes: T Plg11°, Azm344°; N Plg0°, Azm0°; P Plg4°, Azm75°; Moment Tensor Solution. s16 Moment tensor: Scale 10[18] Nm; Mrr-0.03; Mθθ1.56; Mφφ-1.53; Mrθ0.67; Mθφ2.02; Mφr-0.01; Best double couple: Mo2.6×10[18] NP1:φs18°, δ76°, λ176°. NP2:φs109°, δ86°, λ14°. Principal axes: T 2.69, Plg12°, Azm334°; N -.12, Plg76°, Azm124°; P -2.57, Plg7°, Azm243°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
HRVD ***05*** *07:37:31.3±0.1, 56.59S×142.54W, h12km, MW6.2/69, Centroid moment Tensor Solution. LP body waves: s69,c166; Mantle waves: s68,c287; Half duration: 3s1 Moment tensor: Scale 10[18]Nm; Mrr-0.07±.01; Mθθ1.87±.02; Mφφ-1.80±.01; Mrθ0.66±.04; Mθφ1.41±.01; Mφr0.41±.04; Best double couple: Mo2.43×10[18] NP1: φs117°, δ75°, λ8°. NP2:φs25°, δ82°, λ165°. Principal axes: T 2.565, Plg16°, Azm341°; N -.268, Plg73°, Azm179°; P -2.295, Plg5°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
CSEM ***05*** *07:37:35.0, 56.36S×143.25W, h33km, mb6.0*
CRAAG ***05*** *07:37:35.1, 56.35S×143.33W, Mb6.0*
ISC 05 07:37:28.8±0.2**, 56.31S**±0.04×**142.25W**±0.08**, h10km, n489,** σ**1^{s}36**/135**, mb5.6**/54**, MS5.8**/146**, 30C-4D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	27.65	201	*e*P	**P**	**07 43 17.5**	**-0.5**
	216nm,1.8s,mb5.5						
SBA				LR	LR		
	comp=Z,18µm,19.0s,MS5.7						
SBA	**Scott Base**	27.65	201	*e*P	**P**	**07 43 17.5**	**-0.5**
SBA				pmax	pmax		
	comp=Z,216nm,1.8s,mb5.5						
SBA				MLR	MLR		
	comp=Z,18µm,19.0s,MS5.7						
VNDA	**Vanda**	28.55	202	P	**P**	**07 43 25.8**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=72,slow=9.0,SNR=13						
VNDA				LR	LR	07 51 04.4	
	comp=Z,14µm,21.9s,baz=76,slow=29						
VNDA	**Vanda**	28.55	202	*e*P	**P**	**07 43 26.0**	**-0.1**
	comp=Z,64nm,1.7s,mb5.1						
VNDA				LR	LR		
	comp=Z,18µm,19.0s,MS5.7						
VNDA	**Vanda**	28.55	202	*e*P	**P**	**07 43 26.0**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,64nm,1.7s						
VNDA				MLR	MLR		
	comp=Z,18µm,19.0s						
SNZO	**South Karori**	31.48	280	P	**P**	**07 43 52.0**	**-0.6**
	comp=Z,359nm,1.4s,mb6.0						
SNZO				LR	LR		
	comp=Z,40µm,20.0s,MS6.1						
RPZ	**Rata Peaks**	31.90	273	P	**P**	**07 43 56.6**	**+0.4**
	comp=Z,25nm,0.9s,mb5.0,baz=128,slow=13,SNR=6.5						
RPZ				LR	LR	07 53 33.3	
	comp=Z,38µm,20.1s,MS6.1,baz=126,slow=30						
URZ	**Urewera**	32.34	287	P	**P**	**07 44 00.6**	**+0.5**
	comp=Z,26nm,0.9s,mb5.1,baz=144,slow=3.5,SNR=13						
URZ				LR	LR	07 53 57.2	
	comp=Z,22µm,18.4s,MS5.9,baz=144,slow=30						
PTCN	**Pitcairn Islan**	32.44	21	PFAKE		07 44 10.0	+8.8
PTCN				LR	LR		
	comp=Z,19µm,20.0s,MS5.8						
TBI	**Tubuai**	33.35	348	*e*P	**P**	**07 44 07.7**	**-1.4**
	comp=Z,359nm,1.5s,mb6.1						
TBI				*e*S	**S**	**07 49 25.2**	**-3.5**
TBI				*e*LR	LR	07 52 48.1	
	comp=Z,74µm,29.0s,baz=176						
RKT	**Rikitea**	33.59	12	*e*S	**S**	**07 49 30.6**	**-1.8**
RKT				*e*LQ		07 51 42.2	
RKT				*e*LR	LR	07 52 50.4	
	comp=Z,46µm,29.5s,baz=187						
QSPA	**South Pole Qui**	33.84	180	*e*P	**P**	**07 44 11.1**	**-1.7**
	comp=Z,189nm,1.1s,mb5.9						
DRV	**Dumont d'Urvil**	36.02	221	P	**P**	**07 44 34.0**	**+2.4**
DRV				S	**S**	**07 50 15.0**	**+5.3**
DRV				R		07 55 00.0	
RAO	**Raoul Island**	36.94	302	P	**P**	**07 44 40.5**	**+0.9**
	comp=Z,315nm,0.3s,mb6.6,baz=266,slow=23,SNR=4.2						
RAO	**Raoul Island**	36.94	302	P	**P**	**07 44 40.5**	**+0.9**
RAO				MLR	MLR		
	comp=Z,4µm,22.0s,MS5.1						
PMSA	**Palmer Station**	36.96	136	*e*P	**P**	**07 44 39.5**	**+0.1**
	comp=Z,525nm,1.0s,mb6.3						
PMSA				LR	LR		
	comp=Z,16µm,19.0s,MS5.8						
RPN	**Rapa Nui**	37.49	53	T		08 24 49.6	
	comp=Z,18nm,0.3s,baz=197,slow=12,SNR=3.7						
TVO	**Taravao**	38.83	349	*e*P	**P**	**07 44 55.2**	**-0.4**
	comp=Z,2µm,1.4s,mb6.6						
PAE	**Paea**	38.98	349	*e*P	**P**	**07 44 55.9**	**-1.0**
	comp=Z,588nm,1.2s,mb6.2						
PPT	**Papeete**	39.07	349	*e*P	**P**	**07 44 56.9**	**-0.8**
	comp=Z,265nm,1.4s,mb5.8						
PPT	**Papeete**	39.07	349	*e*S	**S**	**07 50 53.0**	**-3.6**
PPT				*e*LR	LR	07 55 25.6	
	comp=Z,65µm,26.0s,baz=181						
PPT	**Papeete**	39.07	349	P	**P**	**07 44 59.4**	**+1.8**
	comp=Z,136nm,1.1s,mb5.6,baz=152,slow=6.7,SNR=7.3						
PPT				LR	LR	07 57 10.9	
	comp=Z,17µm,19.2s,MS5.9,baz=159,slow=30						
PPT				T		08 26 22.5	
	comp=Z,162nm,0.3s,baz=207,slow=22,SNR=5.6						
USHA	**Ushuaia**	39.90	120	P	**P**	**07 45 04.4**	**+0.2**
	comp=Z,50nm,1.1s,mb5.2,baz=217,slow=9.0,SNR=7.1						
USHA				T		08 26 39.9	
	comp=Z,4.9nm,0.4s,baz=169,slow=13,SNR=3.3						
VAH	**Vaihoa**	41.20	352	*e*P	**P**	**07 45 13.9**	**-1.3**
	comp=Z,896nm,1.4s,mb6.2						
PMOR	**Pomariorio Ree**	41.46	352	*e*P	**P**	**07 45 16.4**	**-0.9**
	comp=Z,572nm,1.5s,mb6.0						
TAU	**Tasmania Unive**	45.54	256	*e*P	**P**	**07 45 48.8**	**-1.3**
	comp=Z,31nm,0.9s,mb5.2						
TAU				LR	LR		
	comp=Z,4µm,21.0s,MS5.3						
TAU	**Tasmania Unive**	45.54	256	*e*P	**P**	**07 45 48.8**	**-1.2**
TAU				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
TAU				MLR	MLR		
	comp=Z,4µm,21.0s,MS5.3						
CASY	**Casey**	46.16	212	⇑*i*P	**P**	**07 45 56.5**	**+1.9**
CASY				*e*S	**S**	**07 52 44.8**	**+4.9**
EFI	**East Falkland**	46.77	122	*e*P	**P**	**07 46 00.1**	**+0.4**
	comp=Z,205nm,1.6s,mb5.8						
EFI				LR	LR		
	comp=Z,4µm,22.0s,MS5.3						
TAOE	**Nuku Hiva Isla**	47.37	3	*e*LQ		07 57 09.7	
TAOE	**Nuku Hiva Isla**	47.37	3	*e*P	**P**	**07 46 04.7**	**-0.2**
	comp=Z,2µm,1.3s						
TAOE	**Nuku Hiva Isla**	47.37	3	*e*S	**S**	**07 52 57.1**	**-0.7**
TAOE				*e*LR	LR	07 59 11.6	
	comp=Z,110µm,28.2s,baz=197						
PLCA	**Paso Flores**	47.73	103	P	**P**	**07 46 08.4**	**+1.0**
	comp=Z,16nm,0.9s,mb5.0,baz=221,slow=7.4,SNR=25						
PLCA				LR	LR	08 01 44.6	
	comp=Z,8µm,18.3s,MS5.7,baz=225,slow=30						
PLCA	**Paso Flores**	47.73	103	*e*P	**P**	**07 46 07.1**	**-0.3**
	comp=Z,61nm,1.3s,mb5.5						
PLCA				LR	LR		
	comp=Z,8µm,20.0s,MS5.7						
PLCA	**Paso Flores**	47.73	103	*e*P	**P**	**07 46 07.1**	**-0.3**
PLCA				pmax	pmax		
	comp=Z,61nm,1.3s						
PLCA				MLR	MLR		
	comp=Z,8µm,20.0s						
AFI	**Afiamalu**	48.00	320	*e*P	**P**	**07 46 09.2**	**-0.6**
	comp=Z,351nm,1.1s,mb6.3						
AFI				LR	LR		
	comp=Z,12µm,20.0s,MS5.9						
AFI	**Afiamalu**	48.00	320	*e*P	**P**	**07 46 09.2**	**-0.6**
AFI				pmax	pmax		
	comp=Z,351nm,1.1s,mb6.3						
AFI				MLR	MLR		
	comp=Z,12µm,20.0s,MS5.9						
VNA3	**Neumayer Olymp**	48.41	161	*e*	**P**	**07 46 19.0**	**+6.7**
VNA3	**Neumayer Olymp**	48.41	161	*e*	Px	07 46 35.9	
VNA3	**Neumayer Olymp**	48.41	161	*e*	PP	07 48 08.9	+4.2
VNA3	**Neumayer Olymp**	48.41	161	⇑*i*P	**P**	**07 46 11.5**	**-0.8**
VNA3				*e*		07 46 19.0	
VNA3				*e*		07 46 35.9	
VNA3				*e*		07 48 08.9	
VNA3				*e*		07 53 22.1	
VNA2	**Neumayer--Watz**	49.08	162	*e*	**P**	**07 46 24.5**	**+7.1**
VNA2	**Neumayer--Watz**	49.08	162	*e*	Px	07 46 41.8	
VNA2	**Neumayer--Watz**	49.08	162	⇑*i*P	**P**	**07 46 16.7**	**-0.7**
VNA2				*e*		07 46 24.5	
VNA2				*e*		07 46 41.8	
VNA2				*e*		07 48 20.8	
VNA2				*e*		07 53 30.8	
VNA1	**Neumayer--Stat**	49.17	162	*e*	**P**	**07 46 24.2**	**+6.1**
VNA1	**Neumayer--Stat**	49.17	162	*e*	Px	07 46 43.3	
VNA1	**Neumayer--Stat**	49.17	162	⇑*i*P	**P**	**07 46 17.8**	**-0.3**
VNA1				*e*		07 46 24.2	
VNA1				*e*		07 46 43.3	
VNA1				*e*		07 48 24.2	
VNA1				*e*		07 53 27.3	
SNAA	**Sanae**	49.17	164	*e*	**P**	**07 46 23.8**	**+5.7**
SNAA	**Sanae**	49.17	164	*e*	Px	07 46 42.6	
SNAA	**Sanae**	49.17	164	*e*	PP	07 48 19.2	+7.0
SNAA	**Sanae**	49.17	164	P	**P**	**07 46 16.4**	**-1.7**
	comp=Z,8.3nm,0.6s,mb5.0,baz=220,slow=6.5,SNR=77						
SNAA	**Sanae**	49.17	164	⇑*i*P	**P**	**07 46 17.0**	**-1.1**
SNAA				*e*		07 46 23.8	
SNAA				*e*		07 46 42.6	
SNAA				*e*		07 48 19.2	
SNAA				*e*		07 53 25.3	
SNAA	**Sanae**	49.17	164	⇑*i*P	**P**	**07 46 17.0**	**-1.1**
SNAA				*e*		07 46 23.8	
SNAA				*e*		07 48 19.2	
SNAA				*e*		07 53 25.3	
CNB	**Canberra Magne**	49.78	265	*e*P	**P**	**07 46 23.7**	**+0.4**
	comp=Z,103nm,0.9s,mb5.9						
TOO	**Toolangi**	50.28	260	*e*P	**P**	**07 46 27.8**	**+0.7**
	comp=Z,53nm,1.3s,mb5.4						
TOO				*e*S	**S**	**07 53 44.1**	**+5.9**
TOO	**Toolangi**	50.28	260	*e*P	**P**	**07 46 27.8**	**+0.7**
TOO				*e*S	**S**	**07 53 44.1**	**+5.9**
TOO				pmax	pmax		
	comp=Z,53nm,1.3s,mb5.4						
MIR	**Mirnyy**	50.66	205	*e*P	**P**	**07 46 33.0**	**+3.4**
MIR				*e*PPP	PPP	07 49 22.0	-2.5
MIR				*e*S	**S**	**07 53 52.0**	**+8.9**
MIR				*e*S	**S**	**07 53 52.0**	**+8.9**
MIR				pmax	pmax		
	comp=E,300nm,5.0s						
MIR				smax			
	comp=E,3µm,12.0s						
DZM	**Mont Dzumac**	50.70	291	⇑*i*P	**P**	**07 46 30.1**	**-0.4**
DZM	**Mont Dzumac**	50.70	291	⇑*i*P	**P**	**07 46 30.1**	**-0.4**
NOUC	**Port Laguerre**	50.75	291	⇑*i*P	**P**	**07 46 30.3**	**-0.6**
MAIT	**Maitri**	51.86	169	*e*P	**P**	**07 46 37.4**	**-1.2**
NVL	**N'lazarevskaya**	51.88	169	⇓*i*P	**P**	**07 46 40.1**	**+1.3**
NVL				*e**PP	pP	07 46 48.7	+6.9
NVL				*e*		07 48 34.5	
NVL				*e*		07 56 28.7	
NVL				*e*SS	SS	07 57 38.8	+4.1
CLCH	**Cerro Calan**	53.05	96	⇑*i*P	**P**	**07 46 48.7**	**+0.7**
TRQA	**Tornquist**	54.26	107	*e*P	**P**	**07 46 53.8**	**-3.1**
	comp=E,308nm,1.8s,mb5.9						
TRQA				LR	LR		
	comp=Z,6µm,19.0s,MS5.7						
SYO	**Syowa Base**	54.98	181	⇑P	**P**	**07 46 58.0**	**-3.7**
MAW	**Mawson**	55.00	191	*e*P	**P**	**07 47 00.6**	**-1.3**
	comp=Z,23nm,1.0s,mb5.2						
MAW				*e*S	**S**	**07 54 41.7**	**-0.4**
MAW	**Mawson**	55.00	191	P	**P**	**07 46 59.5**	**-2.4**
	comp=Z,19nm,0.8s,mb5.2,baz=167,slow=8.0,SNR=46						
MAW				LR	LR	08 07 32.5	
	comp=Z,15µm,21.7s,MS6.0,baz=158,slow=33						
MAW	**Mawson**	55.00	191	*e*P	**P**	**07 47 00.6**	**-1.3**
MAW				*e*S	**S**	**07 54 41.7**	**-0.4**
MAW				pmax	pmax		
	comp=Z,23nm,1.0s						
CFAA	**Coronel Fontan**	55.67	97	P	**P**	**07 47 06.2**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=226,slow=7.5,SNR=25						
CFAA				LR	LR	08 05 16.9	
	comp=Z,420nm,18.9s,baz=65,slow=30						
FUNA	**Funafuti**	56.41	312	*e*P	**P**	**07 47 12.9**	**+0.1**
STKA	**Stephens Creek**	56.65	261	⇑*i*P	**P**	**07 47 13.1**	**-1.1**
	comp=Z,32nm,1.1s,mb5.3						
STKA				*e*S	**S**	**07 55 08.1**	**+3.5**
STKA	**Stephens Creek**	56.65	261	P	**P**	**07 47 12.9**	**-1.3**
	comp=Z,30nm,0.9s,mb5.3,baz=133,slow=6.8,SNR=36						
STKA				LR	LR	08 06 33.7	
	comp=Z,15µm,21.1s,MS6.1,baz=133,slow=31						
LPA	**La Plata**	58.78	107	*c**e*P	**P**	**07 47 28.0**	**-1.2**
LPA				*e*sP	sP	07 47 33.0	-0.4
LPA				*e*S	**S**	**07 55 34.0**	**+1.4**

LPA ePS 07 55 37.0
LPA eSS 07 55 42.0
LPA ePS PS 07 55 46.0 -1.5
LPA eSCS ScS 07 57 18.0 +2.4
LPA eSS SS 07 59 28.0 +0.4
LVC Limon Verde 62.29 90 P **P 07 47 53.6 +0.3**
comp=Z,35nm,0.7s,mb5.6,baz=222,slow=6.4,SNR=30
LVC Limon Verde 62.29 90 eP **P 07 47 51.4 -1.9**
comp=Z,35nm,0.8s,mb5.5
LVC LR LR
comp=Z,4μm,20.0s,MS5.6
CTA Charters Tower 63.27 274 eP **P 07 47 58.9 -0.9**
comp=Z,59nm,0.9s,mb5.7
CTA eS **S 07 56 33.7 +3.6**
CTA Charters Tower 63.27 274 eP **P 07 47 58.9 -0.9**
CTA eS **S 07 56 33.7 +3.6**
CTA pmax pmax
comp=Z,59nm,0.9s
CTAO Charters Tower 63.27 274 eP **P 07 47 57.3 -2.5**
comp=Z,110nm,1.0s,mb5.9
CTAO LR LR
comp=Z,10μm,19.0s,MS6.0
CTAO Charters Tower 63.27 274 eP **P 07 47 57.3 -2.5**
CTAO pmax pmax
comp=Z,110nm,1.0s,mb5.9
CTAO MLR MLR
comp=Z,10μm,19.0s,MS6.0
HNR Honiara 64.65 292 eP **P 07 48 13.5 +4.6**
comp=Z,469nm,1.0s,mb6.5
HNR Honiara 64.65 292 eP **P 07 48 13.5 +4.6**
HNR pmax pmax
comp=Z,470nm,1.0s,mb6.5
CPUP Villa Florida 65.76 101 P **P 07 48 12.8 -3.0**
comp=Z,17nm,0.9s,mb5.1,baz=254,slow=9.6,SNR=17
CPUP LR LR 08 12 43.8
comp=Z,8μm,18.8s,MS6.0,baz=235,slow=32
CPUP Villa Florida 65.76 101 eP **P 07 48 13.1 -2.8**
comp=Z,163nm,1.7s,mb5.8
CPUP LR LR
comp=Z,9μm,19.0s,MS6.0
CPUP Villa Florida 65.76 101 eP **P 07 48 13.1 -2.8**
CPUP pmax pmax
comp=Z,163nm,1.7s
CPUP MLR MLR
comp=Z,9μm,19.0s
ARE Arequipa 65.79 83 eP **P 07 48 18.0 +1.8**
NNA Nana 66.53 76 eP **P 07 48 21.7 +0.7**
comp=Z,65nm,1.1s,mb5.6
NNA LR LR
comp=Z,2μm,20.0s,MS5.4
LPAZ La Paz 67.80 86 P **P 07 48 27.6 -1.4**
comp=Z,19nm,0.6s,mb5.3,baz=177,slow=4.0,SNR=61
LPAZ LR LR 08 11 18.6
comp=Z,3μm,21.8s,MS5.5,baz=216,slow=30
LPAZ La Paz 67.80 86 eP **P 07 48 28.3 -0.7**
comp=Z,112nm,1.3s,mb5.7
LPAZ LR LR
comp=Z,4μm,20.0s,MS5.6
LPAZ La Paz 67.80 86 eP **P 07 48 28.3 -0.7**
LPAZ pmax pmax
comp=Z,113nm,1.3s
LPAZ MLR MLR
comp=Z,4μm,20.0s
NWAO Narrogin (SRO) 68.67 243 eP **P 07 48 34.4 +0.2**
comp=Z,36nm,1.1s,mb5.2
NWAO Narrogin (SRO) 68.67 243 eP **P 07 48 34.4 +0.2**
NWAO pmax pmax
comp=Z,36nm,1.1s
PAYG Puerto Ayora 69.33 57 P **P 07 48 38.6 +0.1**
comp=Z,82nm,1.5s,mb5.4
PAYG LR LR
comp=Z,4μm,21.0s,MS5.6
KLBR Kellerberrin 69.49 244 eP **P 07 48 42.3 +3.1**
comp=Z,105nm,1.4s,mb5.6
MUN Mundaring 69.95 242 eP **P 07 48 44.4 +2.4**
WB2 Warramunga Arr 70.01 264 eP **P 07 48 39.0 -3.6**
WB2 eS S 07 57 51.9 +0.3
WRA Warramunga Arr 70.02 264 P **P 07 48 39.6 -3.0**
comp=Z,26nm,1.0s,mb5.1,baz=144,slow=5.7,SNR=100
WRAB Tennant Creek 70.02 264 eP **P 07 48 40.7 -1.9**
comp=Z,92nm,1.0s,mb5.7
WRAB LR LR
comp=Z,2μm,20.0s,MS5.4
WRAB Tennant Creek 70.02 264 eP **P 07 48 40.7 -1.9**
WRAB pmax pmax
comp=Z,92nm,1.0s,mb5.7
WRAB MLR MLR
comp=Z,2μm,20.0s,MS5.4
PMG Port Moresby 71.48 281 eP **P 07 48 51.9 +0.3**
comp=Z,117nm,1.0s,mb5.8
PMG LR LR
comp=Z,8μm,20.0s,MS6.0
PMG Port Moresby 71.48 281 P **P 07 48 52.0 +0.4**
PMG pmax pmax
comp=Z,120nm,1.0s
SIV San Ignacio 71.97 92 P **P 07 48 52.4 -2.0**
comp=Z,24nm,0.9s,mb5.2,baz=226,slow=6.5,SNR=44
FITZ Fitzroy Crossi 76.30 258 ⇑*iP* **P 07 49 18.5 -0.9**
comp=Z,42nm,0.9s,mb5.4
FITZ eS S 07 59 02.7 0.0
SAML Samuel 76.54 86 eP **P 07 49 19.9 -1.0**
comp=Z,64nm,1.4s,mb5.4
SAML LR LR
comp=Z,3μm,21.0s,MS5.5
POHA Pohakuloa 76.60 347 PFAKE 07 49 30.0 +8.9
POHA LR LR
comp=Z,57μm,20.0s,MS6.9
KWAJ Kwajalein Atol 76.89 309 PFAKE 07 49 40.0 +17
KWAJ LR LR
comp=Z,2μm,22.0s,MS5.3
KAKA Kakadu 76.94 267 ⇑*iP* **P 07 49 38.7 +16**
comp=Z,49nm,1.0s,mb5.4
MBWA Marble Bar 76.97 252 eP **P 07 49 21.2 -2.0**
comp=Z,65nm,1.1s,mb5.5
MBWA LR LR
comp=Z,6μm,19.0s,MS6.0
KIP Kipapa 78.57 345 eP **P 07 49 34.6 +2.7**
comp=Z,78nm,0.8s,mb5.7
KIP LR LR
comp=Z,5μm,19.0s,MS5.8
KIP Kipapa 78.57 345 P **P 07 49 34.7 +2.7**
KIP pmax pmax
comp=Z,78nm,0.8s,mb5.7
BDFB Brasilia 79.47 102 P **P 07 49 35.7 -1.2**
comp=Z,28nm,1.0s,mb5.1,baz=192,slow=1.5,SNR=10
BDFB LR LR 08 20 59.3
comp=Z,11μm,20.6s,MS6.2,baz=5.9,slow=33
BAO Brasilia Array 79.48 102 P **P 07 49 37.0 0.0**
ROSC El Rosal 82.02 69 P **P 07 49 52.1 +1.7**
comp=Z,27nm,0.9s,mb5.2,baz=103,slow=22,SNR=12
ROSC LR LR 08 19 25.7
comp=Z,4μm,21.8s,MS5.7,baz=15,slow=31
WAKE Wake Island 86.68 313 PFAKE 07 50 30.0 +16
WAKE LR LR
comp=Z,3μm,21.0s,MS5.7
SDV Santo Domingo 87.35 70 P **P 07 50 17.5 +0.3**
comp=Z,9.4nm,0.9s,mb5.0,baz=303,slow=5.3,SNR=12
SDV Santo Domingo 87.35 70 eP **P 07 50 18.9 +1.7**
comp=Z,22nm,1.2s,mb5.3
SDV LR LR
comp=Z,2μm,20.0s,MS5.6
MIDW Midway 89.33 329 eP **P 07 50 29.0 +2.6**
comp=Z,243nm,1.4s,mb6.3
MIDW LR LR
comp=Z,2μm,20.0s,MS5.6
BAR Barrett 91.28 21 eP **P 07 50 39.3 +4.0**
SNCC San Nicolas Is 91.28 19 PFAKE 07 50 50.0 +15
SNCC LR LR
comp=Z,7μm,19.0s,MS6.1
LTX Lajitas 91.40 33 eP **P 07 50 42.1 +6.2**
comp=Z,11nm,1.3s,mb5.0
LTX Lajitas 91.40 33 eP **P 07 50 42.1 +6.2**
LTX pmax pmax
comp=Z,11nm,1.3s,mb5.0
TXAR Lajitas Array 91.40 33 P **P 07 50 37.6 +1.7**
comp=Z,1.3nm,0.8s,baz=196,slow=6.7,SNR=9.8
TXAR PKKPbc 08 08 00.3
comp=Z,0.8nm,0.9s,baz=45,slow=1.8,SNR=6.8
TXAR LR LR 08 23 50.5
comp=Z,2μm,18.6s,baz=210,slow=30
PFO Pinyon Flat Ob 92.22 21 eP **P 07 50 44.2 +4.5**
comp=Z,53nm,1.8s,mb5.6
PFO LR LR
comp=Z,2μm,22.0s,MS5.5
TUC Tucson 92.25 26 eP **P 07 50 40.6 +0.8**
comp=Z,57nm,1.8s,mb5.6
TUC LR LR
comp=Z,4μm,20.0s,MS5.8
TUC Tucson 92.25 26 P **P 07 50 40.7 +0.9**
TUC pmax pmax
comp=Z,57nm,1.7s,mb5.6
MWC Mount Wilson 92.50 20 eP **P 07 50 43.3 +2.4**
MNTX Cornudas Mount 93.11 31 eP **P 07 50 47.7 +4.0**
comp=Z,16nm,1.2s,mb5.3
MNTX LR LR
comp=Z,6μm,22.0s,MS6.0
ISA Isabella 93.83 19 PFAKE 07 51 00.0 +13
ISA LR LR
comp=Z,2μm,22.0s,MS5.6
RCBR Riachuelo 94.15 107 PFAKE 07 51 00.0 +11
RCBR LR LR
comp=Z,5μm,20.0s,MS6.0
SAO San Andreas Ge 94.39 17 PFAKE 07 51 00.0 +10
SAO LR LR
comp=Z,5μm,20.0s,MS6.0
NEN Nelson 94.53 22 eP **P 07 50 52.3 +2.2**
DAC Darwin (Calif) 94.58 20 eP **P 07 50 54.7 +4.3**
comp=Z,24nm,1.6s,mb5.4
DAC LR LR
comp=Z,7μm,21.0s,MS6.1
BOSA Boshof 94.75 169 LR LR 08 27 59.5
comp=Z,6μm,21.8s,MS6.0,baz=186,slow=32
BOSA Boshof 94.75 169 eP **P 07 50 52.2 +0.9**
BOSA LR LR
comp=Z,6μm,19.0s,MS6.1
CMB Columbia Colle 95.80 17 PFAKE 07 51 10.0 +14
CMB LR LR
comp=Z,5μm,20.0s,MS6.0
ANMO Albuquerque 95.87 29 P **P 07 50 57.1 +0.7**
comp=Z,1.3nm,0.7s,mb4.5,baz=240,slow=3.8,SNR=3.8
ANMO Albuquerque 95.87 29 eP **P 07 50 58.2 +1.9**
comp=Z,6.9nm,1.3s,mb4.9
ANMO LR LR
comp=Z,4μm,22.0s,MS5.8
ANMO Albuquerque 95.87 29 eP **P 07 51 00.6 +4.2**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
HOPS Hopland 96.33 15 PFAKE 07 51 10.0 +12
HOPS LR LR
comp=Z,6μm,22.0s,MS6.0
TPH Tonopah 96.40 20 PFAKE 07 51 10.0 +11
TPH LR LR
comp=Z,8μm,20.0s,MS6.2
NATX Nacogdoches 96.59 39 PFAKE 07 51 10.0 +10
NATX LR LR
comp=Z,1μm,19.0s,MS5.5
OHCM Honcut 96.90 16 eP **P 07 51 01.7 +0.8**
DAV Davao City (W) 97.03 272 PFAKE 07 51 10.0 +7.9
DAV LR LR
comp=Z,1μm,20.0s,MS5.4
SJG San Juan 97.43 69 PFAKE 07 51 20.0 +16
SJG LR LR
comp=Z,2μm,20.0s,MS5.5
MSU Marysvale 97.85 23 eP **P 07 51 09.9 +4.7**
WDC Whiskeytown Da 97.96 15 PFAKE 07 51 20.0 +14
WDC LR LR
comp=Z,7μm,21.0s,MS6.1
LBTB Lobatse 98.34 169 eP **P 07 51 09.4 +1.6**
comp=Z,13nm,1.0s,mb5.4
LBTB LR LR
comp=Z,7μm,20.0s,MS6.1
DWPF Disney 98.58 51 PFAKE 07 51 20.0 +11
DWPF LR LR
comp=Z,1μm,19.0s,MS5.5
BMN Battle Mountai 98.69 19 PFAKE 07 51 20.0 +11
BMN LR LR
comp=Z,7μm,21.0s,MS6.1
SDCO Great Sand Dun 98.76 29 PFAKE 07 51 20.0 +11
SDCO LR LR
comp=Z,6μm,20.0s,MS6.1
YBH Yreka Blue Hor 99.07 15 PFAKE 07 51 20.0 +9.4
YBH LR LR
comp=Z,8μm,22.0s,MS6.2
DUG Dugway 99.33 22 PFAKE 07 51 20.0 +8.2
DUG LR LR
comp=Z,5μm,20.0s,MS6.0
ELK Elko 99.36 20 PP PP 07 55 18.2 +0.7
comp=Z,0.4nm,0.6s,baz=236,slow=7.9,SNR=3.1
ELK Elko 99.36 20 PFAKE 07 51 30.0 +18
ELK LR LR
comp=Z,5μm,21.0s,MS6.0
MOD Modoc 99.59 16 PFAKE 07 51 30.0 +17
MOD LR LR
comp=Z,4μm,20.0s,MS5.9
HUMO Hull Mountain 99.89 14 PFAKE 07 51 30.0 +16
HUMO LR LR
comp=Z,5μm,22.0s,MS6.0
WVOR Wild Horse Val 100.38 18 ePdif P 07 51 19.1 +2.5
WVOR LR LR
comp=Z,6μm,20.0s,MS6.1
LRAL Lakeview Retre 100.59 45 PFAKE 07 51 30.0 +12
LRAL LR LR
comp=Z,959nm,19.0s,MS5.3
ISCO Idaho Springs 100.66 28 PFAKE 07 51 30.0 +12
ISCO LR LR
comp=Z,5μm,19.0s,MS6.0
HWUT Hardware Ranch 100.95 23 PFAKE 07 51 30.0 +11
HWUT LR LR
comp=Z,5μm,22.0s,MS6.0
OXF Oxford 100.97 42 PFAKE 07 51 30.0 +11
OXF LR LR
comp=Z,1μm,19.0s,MS5.4
CBKS Cedar Bluff 101.39 33 PFAKE 07 51 30.0 +8.8
CBKS LR LR
comp=Z,5μm,22.0s,MS6.0
COR Corvallis 101.79 14 PFAKE 07 51 40.0 +17
COR LR LR
comp=Z,6μm,20.0s,MS6.1
PLAL Pickwick Lake 101.89 43 PFAKE 07 51 40.0 +16
PLAL LR LR
comp=Z,1μm,20.0s,MS5.3
AHID Auburn Hatcher 102.16 23 PFAKE 07 51 40.0 +15
AHID LR LR
comp=Z,4μm,20.0s,MS5.9
HLID Hailey 102.24 20 PFAKE 07 51 40.0 +15
HLID LR LR
comp=Z,11μm,22.0s,MS6.3
GOGA Godfrey 102.33 47 PFAKE 07 51 40.0 +14
GOGA LR LR
comp=Z,1μm,20.0s,MS5.4
BW06 Boulder Array 102.50 24 PFAKE 07 51 40.0 +14
BW06 LR LR
comp=Z,5μm,20.0s,MS6.1
PDAR Pinedale Array 102.50 24 PP PP 07 55 42.3 +0.7
comp=Z,2.0nm,1.2s,baz=207,slow=6.6,SNR=5.6
PDAR PKKPbc 08 07 29.9
comp=Z,0.5nm,0.9s,baz=90,slow=4.4,SNR=4.2
TSUM Tsumeb 102.88 160 PFAKE 07 51 40.0 +12
TSUM LR LR
comp=Z,8μm,21.0s,MS6.2
BMO Blue Mountains 102.96 18 PFAKE 07 51 40.0 +12
BMO LR LR
comp=Z,4μm,20.0s,MS6.0
WVT Waverly 103.00 43 PFAKE 07 51 40.0 +12
WVT LR LR
comp=Z,1μm,19.0s,MS5.4
NHSC New Hope 103.44 50 PFAKE 07 51 40.0 +10
NHSC LR LR
comp=Z,1μm,19.0s,MS5.5
CCM Cathedral Cave 103.47 39 PFAKE 07 51 40.0 +9.5
CCM LR LR
comp=Z,1μm,19.0s,MS5.4
MYNC Murphy 103.51 46 PFAKE 07 51 40.0 +9.2
MYNC LR LR
comp=Z,1μm,20.0s,MS5.4
LKWY Lake 104.03 23 PFAKE 07 51 50.0 +17
LKWY LR LR
comp=Z,5μm,21.0s,MS6.0
HAWA Hanford 104.10 16 PFAKE 07 51 50.0 +17
HAWA LR LR
comp=Z,443nm,21.0s,MS5.0
OCWA Octopus Mounta 104.79 13 PFAKE 07 51 50.0 +14
OCWA LR LR
comp=Z,8μm,21.0s,MS6.2
BOZ Bozeman (W) 104.80 22 PFAKE 07 51 50.0 +14
BOZ LR LR
comp=Z,3μm,20.0s,MS5.8
WCI Wyandotte Cave 105.43 43 PFAKE 07 56 10.0
WCI LR LR
comp=Z,2μm,19.0s,MS5.6
MSO Missoula 105.48 20 PFAKE 07 56 10.0
MSO LR LR
comp=Z,4μm,21.0s,MS6.0
NEW Newport 106.30 17 PP PP 07 56 10.2 +0.4
comp=Z,1.6nm,0.8s,baz=182,slow=8.9,SNR=5.2
NEW Newport 106.30 17 ePP PP 07 56 08.1 -1.8
NEW LR LR
comp=Z,4μm,21.0s,MS6.0
BLA Blacksburg 106.86 47 PFAKE 07 56 10.0
BLA LR LR
comp=Z,1μm,21.0s,MS5.5
LAO LASA Array 106.98 25 PFAKE 07 56 10.0
LAO LR LR
comp=Z,5μm,20.0s,MS6.0
LSZ Lusaka 108.23 170 PFAKE 07 56 10.0
LSZ LR LR
comp=Z,11μm,19.0s,MS6.4
ACSO Alum Creek Sta 108.43 44 PFAKE 07 56 10.0
ACSO LR LR
comp=Z,750nm,21.0s,MS5.2
CBN Corbin 108.97 49 PFAKE 07 56 10.0
CBN LR LR
comp=Z,4μm,20.0s,MS5.9
DGMT Dagmar 109.13 26 PFAKE 07 56 10.0
DGMT LR LR
comp=Z,4μm,20.0s,MS6.0
MCWV Mont Chateau 109.18 46 PFAKE 07 56 10.0
MCWV LR LR
comp=Z,2μm,20.0s,MS5.7
BBSR BB Station 109.93 62 PFAKE 07 56 10.0
BBSR LR LR
comp=Z,1μm,20.0s,MS5.5
DGAR Diego Garcia 110.36 217 PFAKE 07 56 10.0 +6.0
DGAR LR LR
comp=Z,1μm,21.0s,MS5.5
UNV Unalaska Valle 111.58 345 PFAKE 07 56 20.0 +15
UNV LR LR
comp=Z,16μm,20.0s,MS6.6
BINY Binghamton 112.89 48 PFAKE 07 56 20.0 +12
BINY LR LR
comp=Z,4μm,20.0s,MS6.0
SIT Sitka 113.15 4 PFAKE 07 56 20.0 +12
SIT LR LR
comp=Z,11μm,19.0s,MS6.5
TATO Taipei 113.82 280 PFAKE 07 56 20.0 +9.4
TATO LR LR
comp=Z,4μm,21.0s,MS6.0
KDAK Kodiak Island 114.05 354 PFAKE 07 56 20.0 +10
KDAK LR LR
comp=Z,3μm,22.0s,MS5.9
MAJO Matsushiro 114.25 300 PFAKE 07 56 20.0 +8.9
MAJO LR LR
comp=Z,3μm,22.0s,MS5.8
SMY Shemya 114.45 333 PFAKE 07 56 20.0 +8.9
SMY LR LR
comp=Z,8μm,22.0s,MS6.3
DLBC Dease Lake 114.82 7 PP PP 07 57 10.5 -1.4
comp=Z,2.7nm,1.0s,baz=233,slow=27,SNR=4.3
HRV Harvard--Oak R 115.01 50 PFAKE 07 56 20.0 +7.6
HRV LR LR
comp=Z,2μm,20.0s,MS5.7
NCB Newcomb 115.08 48 PFAKE 07 56 20.0 +7.5
NCB LR LR
comp=Z,2μm,21.0s,MS5.6
FFC Flin Flon 115.45 25 PFAKE 07 56 20.0 +7.0
FFC LR LR
comp=Z,764nm,19.0s,MS5.3
QIZ Qiongzhong 115.54 266 ePKP PKPdf 07 56 09.8 -4.2
QIZ PP PP 07 57 18.4 +0.5
QIZ LR LR
comp=E,1μm,19.9s
QIZ LR LR
comp=Z,2μm,24.6s,MS5.6
QIZ Qiongzhong 115.54 266 PFAKE 07 56 20.0 +6.0
QIZ LR LR
comp=Z,2μm,22.0s,MS5.6
LBNH Lisbon 116.26 49 PFAKE 07 56 30.0 +15
LBNH LR LR
comp=Z,2μm,22.0s,MS5.8
DIV Divide 117.13 358 PFAKE 07 56 30.0 +14
DIV LR LR
comp=Z,18μm,20.0s,MS6.7
FIB Fire Island 117.30 356 PFAKE 07 56 30.0 +14
FIB LR LR
comp=Z,4μm,20.0s,MS6.0
WVL Waterville 117.48 50 PFAKE 07 56 30.0 +13
WVL LR LR
comp=Z,7μm,22.0s,MS6.2
MSEY Mahe Island 117.50 200 PFAKE 07 56 30.0 +12
MSEY LR LR
comp=Z,1μm,20.0s,MS5.5
PMR Palmer 117.69 356 PFAKE 07 56 30.0 +13
PMR LR LR
comp=Z,7μm,21.0s,MS6.3
EMMW East Machias 118.55 52 PFAKE 07 56 30.0 +11
EMMW LR LR
comp=Z,8μm,22.0s,MS6.3
SSE Sheshan 118.77 284 ePKP PKPdf 07 56 14.0 -6.1
SSE PP PP 07 57 38.6 -1.7
SSE SS SS 08 13 53.6 -1.5
SSE LR LR
comp=N,1μm,36.4s,MS5.3
SSE LR LR
comp=E,520nm,36.4s,MS5.3
SSE LR LR
comp=Z,2μm,23.8s
SSE Sheshan 118.77 284 ePKP PKPdf 07 56 14.2 -5.9
SSE PP PP 07 57 38.6 -1.7
SSE SS SS 08 13 53.6 -1.5
SSE LR LR
comp=Z,2μm,23.8s,MS5.6
PET Petropavlovsk 119.27 324 PFAKE 07 56 30.0 +10
PET LR LR
comp=Z,8μm,20.0s,MS6.3
PET Petropavlovsk 119.27 324 ePKIKP PKPdf 07 56 30.5 +10
PET *e* 07 57 42.1
PET *e* 08 03 21.2
PET ePS PS 08 07 31.7 +5.0
PET eSS SS 08 14 21.1 +20
PET pmax pmax
comp=Z,300nm,18.8s
PET pmax pmax
comp=Z,200nm,15.1s
PET pmax pmax
comp=N,300nm,12.6s
PET pmax pmax
comp=N,1μm,22.5s
TTA Tatalina 119.39 353 ePKIKP PKPdf 07 56 29.8 +9.4
MCK McKinley 119.83 357 ePKPdf PKPdf 07 56 22.0 +0.8
MCK LR LR
comp=Z,4μm,20.0s,MS6.0
MCK McKinley 119.83 357 PKIKP PKPdf 07 56 21.8 +0.6
PQI Presque Isle 119.86 50 PFAKE 07 56 30.0 +8.3
PQI LR LR
comp=Z,9μm,20.0s,MS6.4
DAWY Dawson 120.07 1 ePKPdf PKPdf 07 56 21.6 -0.1
DBIC Dimbokro 120.21 129 PFAKE 07 56 30.0 +6.8
DBIC LR LR
comp=Z,2μm,20.0s,MS5.8
YSS Yuzh-Sakhalins 120.40 310 PFAKE 07 56 30.0 +7.2
YSS LR LR
comp=Z,3μm,21.0s,MS5.9
YKA Yellowknife Ar 120.41 14 PKP PKPdf 07 56 19.9 -2.5
comp=Z,0.5nm,0.7s,baz=173,slow=2.2,SNR=4.7
YKA PP PP 07 57 47.2 -2.8
comp=Z,0.4nm,0.8s,baz=80,slow=28,SNR=2.8
YKA PKKPbc 08 06 26.6
comp=Z,2.9nm,0.9s,baz=10.0,slow=4.2,SNR=7.5
YKA Yellowknife Ar 120.41 14 PKP PKPdf 07 56 19.9 -2.5
YKA PP PP 07 57 47.2 -2.8
YKA PKKPbc 08 06 26.6
PALK Pallekele 120.60 232 PFAKE 07 56 30.0 +6.0
PALK LR LR
comp=Z,1μm,21.0s,MS5.4
NJ2 Nanjing 120.78 282 ePKP PKPdf 07 56 18.3 -5.7
NJ2 PP PP
comp=Z,410nm,6.8s
NJ2 LR LR
comp=N,1μm,22.4s,MS6.1
NJ2 LR LR
comp=E,5μm,21.1s,MS6.1
NJ2 LR LR
comp=Z,3μm,25.5s,MS5.9
INCN Inchon 120.78 292 PFAKE 07 56 30.0 +6.2
INCN LR LR
comp=Z,2μm,21.0s,MS5.8
ILAR Eielson Array 120.81 358 PKP PKPdf 07 56 18.8 -4.4
comp=Z,18nm,0.9s,baz=236,slow=1.4,SNR=40

ILAR PKKPbc 08 06 28.6
comp=Z,1.3nm,0.9s,baz=337,slow=4.9,SNR=7.2
IMA Indian Mountai 122.37 355 *e*PKPdf PKPdf 07 56 24.9 -1.2
KMBO Kilima Mbogo 122.74 179 PKKPbc 08 06 19.3
comp=Z,0.8nm,0.6s,baz=54,slow=22,SNR=4.0
MBAR Mbarara 122.98 172 *e*PKPdf PKPdf 07 56 27.8 -0.7
MBAR LR LR
comp=Z,1μm,19.0s,MS5.7
TNA Tin City 123.10 348 PFAKE 07 56 40.0 +12
TNA LR LR
comp=Z,5μm,20.0s,MS6.2
GYA Guiyang 123.21 269 ǁ *i*PKP PKPdf 07 56 26.6 -2.1
GYA PKS PKS 08 00 02.4 +1.0
GYA SKS SKS 08 03 37.5 +6.5
GYA PP PP
comp=Z,470nm,7.4s
GYA LR LR
comp=N,1μm,23.7s,MS5.7
GYA LR LR
comp=E,1μm,22.2s,MS5.7
GYA LR LR
comp=Z,2μm,20.7s,MS5.7
KMI Kunming 124.34 264 Pdif Pdif 07 53 05.3 +2.7
KMI PKP PKPdf 07 56 30.5 -0.5
KMI sPKP 07 56 35.0
KMI PP PP 07 58 20.6 +2.5
KMI PKS PKS 08 00 05.8 +2.3
KMI PPP PPP 08 01 00.2 +3.4
KMI SKS SKS 08 03 39.9 +5.3
KMI SKKS 08 05 11.6
KMI S 08 06 11.7
KMI sS 08 06 16.9
KMI PS PS 08 08 15.6 +3.5
KMI SS SS 08 15 10.1 +3.5
KMI SSS SSS 08 19 47.9 +3.6
KMI LR LR
comp=Z,2μm,24.4s,MS5.8
INK Inuvik 124.48 4 PKP PKPdf 07 56 27.2 -3.1
comp=Z,10nm,1.0s,baz=161,slow=5.1,SNR=8.2
INK Inuvik 124.48 4 *e*PKIKP PKPdf 07 56 29.2 -1.0
ENH Enshi 124.58 274 *e*PKPdf PKPdf 07 56 30.2 -1.1
ENH LR LR
comp=Z,1μm,20.0s,MS5.5
MDJ Mudanjiang 124.64 300 PKP PKPdf 07 56 31.0 0.0
MDJ PP PP 07 58 19.5 +0.2
MDJ PKS PKS 08 00 07.5 +4.0
MDJ SKS SKS 08 03 42.9 +8.0
MDJ SS SS 08 15 15.8 +5.9
MDJ PP PP
comp=Z,511nm,7.1s
MDJ LR LR
comp=N,696nm,21.2s,MS5.7
MDJ LR LR
comp=E,2μm,21.7s,MS5.7
MDJ LR LR
comp=Z,3μm,23.4s,MS5.8
MDJ Mudanjiang 124.64 300 PFAKE 07 56 40.0 +9.0
MDJ LR LR
comp=Z,2μm,21.0s,MS5.8
CN2 Changchun 126.08 296 *e*PKP PKPdf 07 56 31.6 -2.1
CN2 PP PP 07 58 31.0 +2.0
CN2 SS SS 08 15 33.3 +5.7
CN2 PP PP
comp=Z,820nm,8.0s
CN2 LR LR
comp=N,2μm,19.0s,MS5.8
CN2 LR LR
comp=E,1μm,19.0s,MS5.8
CN2 LR LR
comp=Z,2μm,21.0s,MS5.7
KLR Kul'dur 126.98 305 *e*PKIKP PKPdf 07 56 30.5 -4.7
KLR *e* 07 58 29.2
KLR *e* 08 15 43.5
MA2 Magadan 127.15 324 PFAKE 07 56 50.0 +15
MA2 LR LR
comp=Z,5μm,20.0s,MS6.2
CD2 Chengdu 128.25 270 *e*PKP PKPdf 07 56 33.6 -4.8
CD2 PP PP 07 58 42.8 -0.8
CD2 LR LR
comp=E,1μm,25.2s
CD2 LR LR
comp=Z,1μm,26.4s,MS5.5
BILL Bilibino 129.71 338 PFAKE 07 56 50.0 +10
BILL LR LR
comp=Z,5μm,22.0s,MS6.1
BILL Bilibino 129.71 338 *i* PKIKP PKPdf 07 56 36.6 -3.5
BILL *e* 07 58 48.5
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,1μm,19.0s,MS5.6
HHC Hu-ho-hao-te 131.21 284 *e*PKP PKPdf 07 56 42.2 -1.5
HHC PKS PKS 08 00 17.9 +2.1
HHC SKS SKS 08 03 49.5 -3.6
HHC PP PP
comp=Z,803nm,9.0s
HHC LR LR
comp=N,1μm,21.6s,MS5.8
HHC LR LR
comp=E,1μm,21.6s,MS5.8
HHC LR LR
comp=Z,3μm,34.5s
LZH Lanzhou 132.05 274 *e*PKP PKPdf 07 56 43.0 -2.4
LZH XPKP 07 56 47.5
LZH PP PP 07 59 08.0 0.0
LZH PKS PKS 08 00 17.2 -0.3
LZH SKKS 08 05 58.5
LZH SS SS 08 16 43.5 +1.1
LZH PP PP
comp=Z,1μm,8.0s
LZH LR LR
comp=N,3μm,18.0s
LZH LR LR
comp=Z,4μm,20.0s,MS6.1
LZH Lanzhou 132.05 274 *e*PKP PKPdf 07 56 43.0 -2.4
LZH pPKP 07 56 46.2
LZH sPKP 07 56 47.5
LZH PP PP 07 59 08.0 0.0
LZH PKS PKS 08 00 17.2 -0.3
LZH SKKS 08 05 58.5
LZH SS SS 08 16 43.5 +1.1
LZH LR LR
comp=Z,4μm,20.0s,MS6.1
HIA Hailar 132.71 298 PFAKE 07 57 00.0 +14
HIA LR LR
comp=Z,3μm,22.0s,MS6.0
LSA Lhasa 134.30 257 PFAKE 07 57 00.0 +10
LSA LR LR
comp=Z,2μm,21.0s,MS5.7
LSA Lhasa 134.30 257 PKIKP PKPdf 07 56 53.7 +4.0
ADH Angra Heroismo 134.51 84 *e*LR LR 08 42 40.0
CMLA Cha da Macela 134.83 86 PFAKE 07 57 00.0 +9.4
CMLA LR LR
comp=Z,3μm,20.0s,MS6.0
CLNS Chul'man 135.15 309 *e*PKIKP PKPdf 07 56 57.6 +7.0
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=E,11nm,0.9s
YAK Yakutsk 136.34 317 PFAKE 07 57 00.0 +7.5
YAK LR LR
comp=Z,3μm,22.0s,MS6.0
GTA Gaotai 136.66 274 PKP PKPdf 07 56 52.2 -1.5
GTA XPKP 07 56 57.2
GTA SKS SKS 08 03 57.9 -5.9
GTA PP PP
comp=Z,2μm,9.5s
GTA LR LR
comp=N,637nm,19.4s
GTA LR LR
comp=E,1μm,25.1s
GTA LR LR
comp=Z,2μm,21.3s,MS5.8
ULN Ulaanbaatar 138.29 289 PKIKP PKPdf 07 56 55.9 -0.7
SONM Songino Array 138.62 288 PKhKP 07 56 48.8
comp=Z,3.0nm,1.1s,baz=153,slow=3.3,SNR=6.7
SONM PP PP 07 59 41.3 -7.8
comp=Z,4.2nm,1.1s,baz=136,slow=6.1,SNR=4.2
BOD Bodaibo 140.56 305 *e*PKHKP 07 56 49.9
BOD pmax pmax
comp=Z,13nm,1.5s
TIXI Tiksi 141.64 329 PFAKE 07 57 10.0 +8.2
TIXI LR LR
comp=Z,2μm,21.0s,MS5.9
TIXI Tiksi 141.64 329 *e*PKHKP 07 56 52.8
TIXI *i* 07 57 00.0
TIXI *e*SS SS 08 18 34.3 -0.8
TIXI *e*SSS SSS 08 23 51.3 -2.0
TIXI pmax pmax
comp=Z,13nm,0.9s
TIXI pmax pmax
comp=Z,14nm,0.9s
TIXI MLR MLR
comp=Z,2μm,20.0s,MS5.8
ZAK Zakamensk 141.78 290 *e*PKHKP 07 56 53.6
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,2.0s
IRK Irkutsk 142.31 293 *e*PKHKP 07 56 53.4
IRK pmax pmax
comp=Z,91nm,1.8s
MDT Midelt 142.62 111 PKP PKPdf 07 57 01.4 -3.2
comp=Z,2.7nm,0.8s,baz=201,slow=5.7,SNR=8.1
MOY Mondy 143.70 290 *e*PKIKP PKPdf 07 57 01.7 -4.1
MOY pmax pmax
comp=Z,262nm,3.4s
EGRO El Granado 144.66 103 PKP PKPdf 07 57 05.0 -3.0
PLOU Loures 144.72 99 *e*PKPdf PKPdf 07 57 08.4 +0.3
PBEJ Beja 144.81 102 *e*PKPdf PKPdf 07 57 07.5 -0.7
EJIF Jimena Fronter 144.95 106 PKP PKPdf 07 57 08.9 +0.3
ESPR Espera 145.05 105 PKP PKPdf 07 57 08.0 -0.7
EVO Evora 145.09 101 *e*PKIKP PKPdf 07 57 07.3 -1.4
comp=Z,173nm,1.2s
EMIN Mina Concepcio 145.27 103 PKP PKPdf 07 57 07.5 -1.6
EMIJ Mijas 145.40 107 PKP PKPdf 07 57 08.4 -0.9
PTOM Tomar 145.64 99 *e*PKPab PKPab 07 57 10.9 +1.7
EBAD Badajoz 145.79 102 PKP PKPdf 07 57 11.3 +1.3
EALB Alboran 145.85 109 PKP PKPdf 07 57 12.5 +2.4
ELOJ Sierra Loja 146.17 107 PKP PKPdf 07 57 11.8 +1.2
ECAB El Cabril 146.17 104 PKP PKPdf 07 57 10.4 -0.2
EGUA Guajares 146.25 108 PKP PKPdf 07 57 12.4 +1.6
ERON Agron 146.26 107 PKP PKPdf 07 57 12.5 +1.7
SUMG Summit 146.29 32 *e*PKPdf PKPdf 07 57 10.2 +0.4
PCBR Castelo Branco 146.31 100 *e*PKPab PKPab 07 57 13.0 +1.2
WMQ Urumqi 146.35 270 PKP PKPdf 07 57 09.7 -1.0
WMQ PKP2 PKPab 07 57 15.0 +3.1
WMQ PP PP 08 00 37.0 +1.5
WMQ PPP PPP 08 03 53.0 +0.8
WMQ SKS SKS 08 04 15.0 -3.8
WMQ SKKS 08 07 24.0
WMQ SS SS 08 19 29.0 -0.4
WMQ PP PP
comp=Z,778nm,5.9s
WMQ LR LR
comp=N,1μm,26.7s,MS5.8
WMQ LR LR
comp=E,2μm,28.8s,MS5.8
WMQ LR LR
comp=Z,2μm,32.2s,MS5.7
ELUQ Luque 146.41 106 PKP PKPdf 07 57 11.5 +0.4
EBER Berja 146.65 108 PKP PKPdf 07 57 13.2 +1.7
MTE Manteigas 146.66 99 *e*PKPdf PKPdf 07 57 11.3 0.0
MTE Manteigas 146.66 99 *e*PKPab PKPab 07 57 13.3 +0.1
MTE Manteigas 146.66 99 *e*SS SS 08 19 39.7 +6.5
MTE Manteigas 146.66 99 *e*LQ 08 39 02.0
MTE *e*LR LR 08 47 10.0
comp=Z,2μm,20.0s
MTE Manteigas 146.66 99 *e*PKP PKPdf 07 57 11.0 -0.3
EADA Adamuz 146.69 105 PKP PKPdf 07 57 11.4 0.0
ENIJ Nijar 147.07 109 PKP PKPdf 07 57 13.3 +1.2
EBAN Banos Encina 147.11 106 PKP PKPdf 07 57 12.3 +0.2
PVRL Vila Real 147.17 98 *e*PKPab PKPab 07 57 15.9 +0.8
EZAM Zamans 147.21 96 PKP PKPdf 07 57 07.7 -4.5
EQES Quesada 147.23 107 PKP PKPdf 07 57 11.9 -0.5
PCAB Cabril 147.29 97 *e*PKPab PKPab 07 57 15.9 +0.3
ELOB Lobios 147.38 97 PKP PKPdf 07 57 12.3 -0.2
EHUE Huescar 147.49 107 PKP PKPdf 07 57 14.9 +2.1
EMAZ Mazaricos 147.58 94 PKP PKPdf 07 57 12.2 -0.6
ETRT Tiaret 147.67 115 P PKPdf 07 57 18.0 +4.9
STS Santiago 147.78 95 PKP PKPdf 07 57 13.1 0.0
EANR 'Ain N'Sour 148.00 114 P PKPdf 07 57 19.0 +5.3
PBRG Braganca 148.06 98 *e*PKPbc PKPdf 07 57 16.2 +2.6
ESDC Sonseca Array 148.11 104 PKPbc PKPdf 07 57 13.9 +0.2
comp=Z,21nm,0.7s,baz=251,slow=1.8,SNR=26
ESDC Sonseca Array 148.11 104 PKP PKPdf 07 57 16.6 +2.9
ESLA Sonseca Array 148.11 104 *e*PKP PKPdf 07 57 17.8 +4.1
EVIA Vianos 148.15 106 PKP PKPdf 07 57 15.5 +1.7
ECAL Calabor 148.16 98 PKP PKPdf 07 57 15.7 +1.9
EMUR La Murta 148.23 109 PKP PKPdf 07 57 16.2 +2.3
ERUA La Rua 148.24 97 PKP PKPdf 07 57 14.9 +1.1
EBNR Beni Rached 148.49 114 P PKPdf 07 57 21.0 +6.6
ETOB Tobarra 148.66 108 PKP PKPdf 07 57 14.1 -0.5
EPON Pontenova 148.84 95 PKP PKPdf 07 57 14.3 -0.5
EMHD Djebel Mahouad 149.14 116 P PKPdf 07 57 20.0 +4.5
ADJB Djebel Djouab 149.34 117 P PKPdf 07 57 23.2 +7.4
EBEN Beniarda 149.40 109 PKP PKPdf 07 57 15.0 -0.8
AKET Djebel Ketaf 149.48 117 P PKPdf 07 57 21.6 +5.6
ATAF Djebel Tarf 149.54 118 P PKPdf 07 57 21.5 +5.4
ABA Alger-Bouzarea 149.65 115 P PKPdf 07 57 20.9 +4.6
ECHE Chera 149.66 107 PKP PKPdf 07 57 17.8 +1.6
KSH Kashi 149.87 252 *e*PKP PKPdf 07 57 16.3 -0.2
KSH *e*PKS PKS 08 00 50.6 +3.5
KSH *e*PP PP 08 00 55.1 -0.6
KSH PP PP
comp=Z,2μm,6.1s
KSH LR LR
comp=N,710nm,14.0s
KSH LR LR
comp=E,520nm,5.8s
EARI Arriondas 149.90 97 PKP PKPdf 07 57 16.3 -0.2
SET Setif 150.35 119 P PKPdf 07 57 24.0 +6.6
EIBI Ibiza 150.47 110 PKP PKPdf 07 57 18.6 +1.1
EMOS Mosqueruela 150.48 106 PKP PKPdf 07 57 19.0 +1.6
CTEI Djebel Teioual 150.72 120 P PKPdf 07 57 25.0 +7.0
BORG Borgarnes 150.80 49 PFAKE 07 57 30.0 +13
BORG LR LR
comp=Z,854nm,20.0s,MS5.5
ELAN Lanestosa 150.84 99 PKP PKPdf 07 57 15.8 -2.1
DFRA Djebel Bou Aff 150.85 119 P PKPdf 07 57 24.3 +6.2
CASM Ain Smara 150.92 120 P PKPdf 07 57 25.0 +6.8
CKFL Kef-Lekhel 151.14 120 P PKPdf 07 57 27.0 +8.4
MKAR Makanchi Array 151.19 270 PKP PKPdf 07 57 15.0 -3.3
comp=Z,2.8nm,0.8s,baz=90,slow=1.4,SNR=12
MKAR PKPbc PKPdf 07 57 20.8 +2.5
comp=Z,38nm,0.8s,baz=90,slow=1.2,SNR=42
MKAR PP PP 08 00 59.7 -3.5
comp=Z,7.2nm,1.0s,baz=108,slow=7.7,SNR=3.6
ERTA Horta de San J 151.33 106 PKP PKPdf 07 57 20.8 +2.1
ABSA Djebel Ababsia 151.40 122 P PKPdf 07 57 28.3 +9.3
ESAC San Caprasio 151.44 104 PKP PKPdf 07 57 18.3 -0.6
CAEH 'Ain El Ouahch 151.51 120 P PKPdf 07 57 27.0 +7.9
DAG Danmarks Havn 151.53 24ǁ *i*P PKPdf 07 57 26.5 +8.5
comp=Z,2.7nm,0.6s
comp=Z,6μm,19.0s
DAG Danmarks Havn 151.53 24ǁ *e*PKIKP PKPdf 07 57 26.5 +8.5
DAG pmax pmax
comp=Z,3.0nm,0.6s
DAG MLR MLR
comp=N,3μm,19.0s,MS6.3
DAG MLR MLR
comp=E,3μm,19.0s,MS6.3
DAG MLR MLR
comp=Z,6μm,19.0s,MS6.4
ULHL Ulahol 151.65 257 P PKPdf 07 57 24.0 +4.9
SNR=25
CMAH Djebel Manchou 151.66 121 P PKPdf 07 57 28.1 +8.8
ETOS Mallorca 151.78 111 PKP PKPdf 07 57 22.4 +2.9
EALK Alkurruntz 151.89 101 PKP PKPdf 07 57 19.9 +0.5
SJPF Ste Jean 151.97 101 *e*PKIKP PKPdf 07 57 18.4 -1.2
comp=Z,22nm,0.9s
EPOB Poblet 152.01 107 PKP PKPdf 07 57 18.7 -1.0
KZA Kyzart 152.07 255 P PKPdf 07 57 25.7 +5.9
SNR=16
EGRA Graus 152.19 105 PKP PKPdf 07 57 20.8 +0.9
EBIE Bielsa 152.43 104 PKP PKPdf 07 57 22.5 +2.2
TKM2 Tokmak 2 152.45 257 P PKPdf 07 57 26.8 +6.5
SNR=11
UCH Uchtor 152.57 255 P PKPdf 07 57 28.2 +7.7
SNR=13
KBK Karagaybulak 152.63 256 P PKPdf 07 57 27.6 +7.1
SNR=6.3
EMIR Miracle 152.64 106 PKP PKPdf 07 57 21.6 +1.1
AAK Ala-Archa 152.86 255 *e*PKPdf PKPdf 07 57 21.3 +0.5
AAK LR LR
comp=Z,521nm,22.0s,MS5.3
FRU Bishkek 152.93 256 *e*PKIKP PKPdf 07 57 20.0 -0.9
FRU *e* 08 01 14.0
FRU pmax pmax
comp=Z,160nm,2.0s
FRU pmax pmax
comp=Z,1μm,20.0s
AML Almayashu 152.94 254 P PKPdf 07 57 22.7 +1.8
SNR=16
EKS2 Erkin-Say 153.26 255 P PKPdf 07 57 29.2 +7.8
SNR=16
USP Ospenovka 153.28 256 P PKPdf 07 57 27.3 +5.9
SNR=11
ZAL Zalesovo 153.40 285 PKPbc PKPdf 07 57 26.6 +5.4
comp=Z,5.0nm,0.8s,baz=356,slow=3.4,SNR=16
EJON La Jonquera 153.74 107 PKP PKPdf 07 57 21.9 -0.1
QUIF Quistinic 153.85 91 *e*PKIKP PKPdf 07 57 21.3 -0.7
comp=Z,79nm,1.3s
MTLF Montolieu 153.99 105 *e*PKIKP PKPdf 07 57 21.2 -1.2
SGMF Saint Gilles 154.38 91 *e*PKIKP PKPdf 07 57 21.6 -1.1
comp=Z,101nm,1.5s
NVS Novosibirsk 154.60 286 *e*PKIKP PKPdf 07 57 19.9 -2.9
NVS *i* 08 01 22.5
NVS pmax pmax
comp=Z,71nm,1.8s
NVS pmax pmax
comp=N,23nm,1.5s
NVS pmax pmax
comp=E,27nm,1.3s
KKAR Karatay Array 155.31 252 *i* PKIKP PKPdf 07 57 32.7 +8.6
KKAR pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 155.34 274 *e*PKPdf PKPdf 07 57 22.8 -1.1
KURK LR LR
comp=Z,495nm,21.0s,MS5.3
LASF Ste Croix 155.37 105 *e*PKIKP PKPdf 07 57 23.2 -1.0
comp=Z,19nm,1.0s
GRR Gorron 155.40 92 *e*PKIKP PKPdf 07 57 22.8 -1.3
VAE Valguarnera 155.52 130 PKPbc PKPdf 07 57 30.2 +5.6
comp=Z,8.8nm,0.2s,baz=149,slow=15,SNR=3.8
KBS Kingsbay 155.74 12 PFAKE 07 57 30.0 +6.3
KBS LR LR
comp=Z,3μm,20.0s,MS6.2
BERF Bertagne 155.82 109 PKP PKPdf 07 57 28.2 +3.4
TCF Toulx Ste Croi 155.88 99 *e*PKIKP PKPdf 07 57 23.9 -0.9
comp=Z,14nm,1.0s
PRAF Pradon 155.88 107 PKP PKPdf 07 57 29.0 +4.2
PUYF Puyloubier 155.98 109 PKP PKPdf 07 57 29.4 +4.4
PYM Petit Puy Mans 155.99 101 PKP PKPdf 07 57 33.4 +8.5
SMRF Simiane la Rot 156.22 108 *e*PKIKP PKPdf 07 57 24.4 -0.9
TAVF Tavernes 156.23 109 PKP PKPdf 07 57 28.0 +2.7
LMR La Mourre 156.27 110 *e*PKIKP PKPdf 07 57 24.0 -1.4
comp=Z,45nm,1.3s
PLDF La Plantade 156.46 102 PKP PKPdf 07 57 33.4 +7.9
FRF La Foret Royal 156.50 110 *e*PKIKP PKPdf 07 57 24.8 -0.9
BHD Baghdad 156.50 194 *ex* x 07 57 23.0
BHD *ex* x 08 01 32.0
CALN Calern 156.76 110 PKP PKPdf 07 57 31.0 +5.0
TOUF Mont Tournerai 157.12 110 PKP PKPdf 07 57 33.4 +6.9
ESK Eskdalemuir 157.20 75 *e*PKPdf PKPdf 07 57 24.8 -1.5
ESK LR LR
comp=Z,554nm,20.0s,MS5.4
EKA Eskdalemuir Ar 157.23 75 PKPab PKPab 07 57 56.6 0.0
comp=Z,3.8nm,1.1s,baz=214,slow=2.6,SNR=3.3
SAOF Saorge 157.27 110 PKP PKPdf 07 57 32.1 +5.4
LOR Lormes 157.38 99 *e*PKIKP PKPdf 07 57 26.1 -0.7
LPG La Plagne 157.85 106 *e*PKIKP PKPdf 07 57 27.2 -0.2
TIP Timpagrande 157.94 132 *e*PKPdf PKPdf 07 57 26.5 -1.3
CII Carovilli 158.95 124 *e*PKPdf PKPdf 07 57 31.4 +2.5
LOMF Lomont 159.05 102 PKP PKPdf 07 57 33.4 +4.6
THEF They Montfort 159.10 99 PKP PKPdf 07 57 32.3 +3.5
BBS Basel-Blauen 159.49 103 PKP PKPdf 07 57 32.5 +3.2
MOF Molkenrain 159.51 101 PKP PKPdf 07 57 34.0 +4.7
MSL Mosul 159.65 192 *ex* x 07 57 47.0
MSL *ex* x 08 02 04.5
MSL *ex* x 08 09 03.0
ECH Echery 159.74 101 PKP PKPdf 07 57 33.4 +3.9
CDF Champ du Feu 159.92 100 *e*PKIKP PKPdf 07 57 28.8 -0.9
comp=Z,16nm,0.9s
WLS Welschbruch 159.96 100 PKP PKPdf 07 57 33.0 +3.2
DAVOX Davos 160.34 107 PKP PKPdf 07 57 29.5 -0.7
comp=Z,4.0nm,0.9s,baz=220,slow=4.7,SNR=2.0
DAVOX PP PP 08 01 53.9 +0.6
comp=Z,1.7nm,0.5s,baz=155,slow=6.3,SNR=4.9
BFO Black Forest 160.44 102 *e*PKPdf PKPdf 07 57 32.9 +2.6
BFO *e*PKPab PKPab 07 58 13.1 +2.4
BFO *e*PP PP 08 01 52.9 -1.0
LANF Langenberg 160.53 99 PKP PKPdf 07 57 34.5 +4.2
DAVA Damuels 160.66 106ǁ *i*P PKPdf 07 57 29.9 -0.6
ABH Alteburg 160.87 97 PKP PKPdf 07 57 32.7 +2.1
BVAR Borovoye Array 160.94 274 PKP PKPdf 07 57 27.6 -3.0
comp=Z,2.1nm,1.1s,baz=135,slow=4.2,SNR=5.9
BVAR PKPab PKPab 07 58 10.3 -2.5
comp=Z,24nm,0.8s,baz=120,slow=4.1,SNR=31
BRVK Borovoye 161.01 274 *e*PKPdf PKPdf 07 57 28.7 -2.0
BRVK LR LR
comp=Z,464nm,21.0s
BRVK Borovoye 161.01 274 PKIKP PKPdf 07 57 30.1 -0.6
SQTA Sankt Quirin 161.33 108ǁ *i*P PKPdf 07 57 31.4 +0.2
SQTA *i* 07 57 45.0
SQTA Sankt Quirin 161.33 108ǁ *i*P PKPdf 07 57 31.4 +0.2
SQTA Sankt Quirin 161.33 108ǁ *i*X 07 57 45.0
TNS Taunus Mts 161.54 97 *e*PKPdf PKPdf 07 57 34.6 +3.3
TNS *e*PKPab PKPab 07 58 18.5 +3.1
TNS *e*PP PP 08 02 02.1 +2.3
TNS Taunus Mts 161.54 97 *e*PKP2 PKPab 07 58 18.5 +3.1
TNS *e* 08 02 02.1
WTTA Wattenberg 161.58 108ǁ *i*P PKPdf 07 57 30.4 -1.0
WTTA *i* 07 57 40.1
WTTA Wattenberg 161.58 108ǁ *i*P PKPdf 07 57 30.4 -1.1
WTTA Wattenberg 161.58 108ǁ *i*X 07 57 40.1
VOY Vojsko 161.94 115 *e*PKPdf PKPdf 07 57 33.0 +1.2
VOY *e* 07 57 38.3
VOY *e* 07 58 19.7
CADS Cadrg 161.99 114 *e*PKPdf PKPdf 07 57 32.7 +0.9
CADS *e*PP PP 08 02 01.2 -1.0
SKO Skopje 162.19 137 *e*PKP PKPdf 07 57 30.0 -2.2
SKO *i* 07 58 20.2
KBA Koelnbreinsper 162.36 111ǁ *i*P PKPdf 07 57 32.4 +0.2
KBA *i* 07 57 44.9
KBA Koelnbreinsper 162.36 111ǁ *i*P PKPdf 07 57 32.4 +0.2
KBA Koelnbreinsper 162.36 111ǁ *i*X 07 57 44.9
PDKS Podkum 162.51 116 *e*PKPdf PKPdf 07 57 34.4 +2.0
PDKS *e* 07 58 25.5
LEGS Legarje 162.60 117 *e*PKPdf PKPdf 07 57 32.6 +0.1
LEGS *e* 07 57 36.4
LEGS *e* 07 58 22.4
LEGS *i* PP PP 08 02 06.8 +1.5
OBKA Obir 162.60 115ǁ *i*P PKPdf 07 57 32.4 -0.1
OBKA *i* 07 57 44.2
OBKA Obir 162.60 115ǁ *i*P PKPdf 07 57 32.4 -0.1
OBKA Obir 162.60 115ǁ *i*X 07 57 44.2
GRA1 Grafenberg Arr 162.79 101 *e*PKPdf PKPdf 07 57 33.3 +0.7
GRA1 *e*PP PP 08 02 07.4 +1.3
GRA1 *e*SS SS 08 22 34.9 +8.1
GRA1 LR LR
comp=Z,3μm,21.3s
GRF Grafenberg Arr 162.79 101 *e*PKP PKPdf 07 57 33.3 +0.7
GRF *e*PP PP 08 02 07.4 +1.3
GRF *e*SS SS 08 22 34.9 +8.1
GRF LR LR
comp=Z,3μm,21.3s
BRTR Keskin Array B 163.18 169 PKP PKPdf 07 57 29.9 -3.4
comp=Z,0.4nm,0.4s,baz=63,slow=16,SNR=2.7
BRTR PKPab PKPab 07 58 23.2 +0.3
comp=Z,7.8nm,0.9s,baz=180,slow=6.2,SNR=6.6
BR131 Keskin Array S 163.18 169 *e*PKPdf PKPdf 07 57 35.5 +2.3
BR131 LR LR
comp=Z,2μm,22.0s
GNI Garni 163.18 199 PFAKE 07 57 40.0 +6.7
GNI LR LR
comp=Z,4μm,21.0s
DIVS Divcibare 163.37 130ǁ *i*P PKPdf 07 57 35.2 +1.8
WET Wettzell 163.38 105 *e*PKPdf PKPdf 07 57 35.5 +2.3
CLZ Clausthal 163.38 94 *e*PKPdf PKPdf 07 57 35.5 +2.4
CLZ *e*PP PP 08 02 11.1 +1.7
MOX Moxa 163.50 99 *i* P PKPdf 07 57 33.5 +0.3
MOX PKP2 PKPab 07 58 27.0 +3.1
MOX PP PP 08 02 08.0 -2.1
MOX PPS PPS 08 16 00.0 +16
MOX SS SS 08 22 35.0 +0.6
MOX Moxa 163.50 99 *e*PKIKP PKPdf 07 57 33.5 +0.3
MOX *e* 07 58 27.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOX				MLR	MLR		
	comp=Z,2µm,21.0s						
GRUS	Gruza	163.51	132	*i* P	PKPdf	07 57 39.2	+5.7
GEC2	GERESS Array S	163.65	107	*e*PKP2	PKPab	07 58 26.6	+2.0
GEC2				*e*		08 02 14.1	
GERES	GERESS Array B	163.65	107	PKP	PKPdf	07 57 31.0	-2.4
	comp=Z,0.4nm,0.2s,baz=259,slow=5.0,SNR=3.4						
GERES				PKPab	PKPab	07 58 26.3	+1.6
	comp=Z,2.9nm,0.8s,baz=198,slow=4.2,SNR=3.7						
NKC	Novy Kostel	163.75	101	*e*PKPdf	PKPdf	07 57 35.6	+2.1
NKC				*e*PKPab	PKPab	07 58 28.5	+3.5
NKC				AMS	AMS	09 17 30.0	
	comp=Z,3µm,23.8s						
NKC	Novy Kostel	163.75	101	*e*PKIKP	PKPdf	07 57 35.6	+2.1
NKC				MLR	MLR		
	comp=Z,3µm,23.8s						
KHC	Kasperske Hory	163.75	106	*e*PKPdf	PKPdf	07 57 37.3	+3.8
KHC				x	x	07 57 46.5	
KHC				*e*PKPab	PKPab	07 58 27.5	+2.4
KHC				*e*pPKP		07 58 33.5	
KHC	Kasperske Hory	163.75	106	*e*PKP	PKPdf	07 57 37.3	+3.8
KHC				*e*		07 57 46.5	
KHC				*e*		07 58 27.5	
KHC				*e*		07 58 33.5	
KHC	Kasperske Hory	163.75	106	*e*PKIKP	PKPdf	07 57 37.3	+3.8
KHC				*e*		07 58 27.5	
BOLS	Boljevac	163.96	135	*i* P	PKPdf	07 57 49.0	+15
SVIS	Svilajnac	164.05	132⇓	*i*P	PKPdf	07 57 40.3	+6.3
BSEG	Bad Segeberg	164.17	87	*e*PKPdf	PKPdf	07 57 33.2	-0.6
BSEG				*e*PP	PP	08 02 13.6	-0.3
CLL	Collm	164.59	99	*e*PKIKP	PKPdf	07 57 35.0	+0.7
	comp=Z,logA/T=0.9						
CLL				*i* *PPKP		07 57 46.5	
CLL				*e*		07 58 12.0	
CLL				*i* PKP2	PKPab	07 58 31.2	+2.5
CLL				*i* *PPKP2		07 58 41.9	
CLL				*e*		07 59 58.0	
CLL				*e*		08 00 48.0	
CLL				*e*PP	PP	08 02 16.0	-0.1
CLL				*i* *PPP		08 02 27.4	
CLL				*e*PPP	PPP	08 05 58.0	-11
CLL				*e*		08 12 23.0	
CLL				*e*SS	SS	08 22 50.0	+4.2
CLL				*e*		08 24 30.0	
CLL				*e*SSS	SSS	08 29 11.0	+1.1
CLL				*e*		08 33 30.0	
TI2	Plekhanov	164.72	200	*e*PKIKP	PKPdf	07 57 48.0	+13
PRA	Prague	164.74	104	PKPab	PKPab	07 58 35.0	+5.7
PRA				PP	PP	08 02 20.0	+3.2
PRU	Pruhonice	164.75	105	*e*PKPdf	PKPdf	07 57 41.3	+6.8
PRU				*e*PKPab	PKPab	07 58 33.7	+4.3
PRU				AMS	AMS	09 16 50.0	
	comp=Z,3µm,21.3s						
PRU	Pruhonice	164.75	105	*e*PKIKP	PKPdf	07 57 41.3	+6.8
PRU				MLR	MLR		
	comp=Z,3µm,21.3s						
PRU				MLR	MLR		
	comp=E,2µm,18.6s						
KONO	Kongsberg	164.76	66	PFAKE		07 57 40.0	+5.8
KONO				LR	LR		
	comp=Z,3µm,22.0s						
TREC	Trest	164.86	108	*e*PKPdf	PKPdf	07 57 46.8	+12
TREC				*e*PKPab	PKPab	07 58 33.5	+3.6
AB31	Akbulak array	164.87	252	*i* PKP2	PKPab	07 58 27.8	-2.1
AB31				pmax	pmax		
	comp=Z,20nm,1.1s						
BRG	Berggiesshubel	164.89	101	*e*PKP	PKPdf	07 57 34.0	-0.7
BRG				*i*		07 57 47.8	
BRG				*e*		07 58 35.0	
BRG				*e*		08 02 15.0	
BRG				*e*		08 02 19.2	
BRG				*e*		08 05 40.9	
BRG				SS	SS	08 22 52.0	+3.2
BRG				LR	LR		
	comp=Z,3µm,20.1s						
BRG	Berggiesshubel	164.89	101	*e*PKIKP	PKPdf	07 57 34.0	-0.6
BRG				*e*		08 02 19.2	
BRG				SS	SS	08 22 52.0	+3.2
BRG				MLR	MLR		
	comp=Z,3µm,20.1s						
PVCC	Panska Ves	165.06	103	*e*PKPdf	PKPdf	07 57 42.0	+7.2
PVCC				AMS	AMS	09 16 40.0	
	comp=Z,2µm,19.5s						
NAO01	NORSAR Array S	165.33	61	PFAKE		07 57 50.0	+15
NAO01				LR	LR		
	comp=Z,4µm,19.0s						
VRAC	Vranov	165.45	110	PKP	PKPdf	07 57 32.0	-3.2
	comp=Z,2.3nm,0.4s,baz=27,slow=16,SNR=2.0						
VRAC				PKPab	PKPab	07 58 33.3	+0.8
	comp=Z,1.5nm,0.3s,baz=239,slow=8.7,SNR=6.8						
VRAC				PP	PP	08 02 20.3	-0.1
	comp=Z,2.9nm,0.5s,baz=243,slow=8.0,SNR=5.7						
NOA	NORSAR Array B	165.47	60	PKP	PKPdf	07 57 30.6	-4.3
	comp=Z,1.4nm,1.0s,baz=255,slow=6.6,SNR=2.2						
KEV	Kevo	165.69	15	PFAKE		07 57 50.0	+15
KEV				LR	LR		
	comp=Z,3µm,22.0s						
UPC	Upice	165.82	105	*e*PKPdf	PKPdf	07 57 38.7	+3.2
UPC				*e*PKPab	PKPab	07 58 38.0	+3.9
DPC	Dobruska-Polom	165.91	106	*e*PKPdf	PKPdf	07 57 36.6	+1.0
DPC				*e*PKPab	PKPab	07 58 38.9	+4.5
DPC				AMS	AMS	09 13 20.0	
	comp=Z,3µm,24.6s						
DPC	Dobruska-Polom	165.91	106	*e*PKIKP	PKPdf	07 57 36.6	+1.0
DPC				MLR	MLR		
	comp=Z,3µm,24.6s						
VYHS	Vyhne	166.09	116	*e*PKP	PKPdf	07 57 36.8	+1.0
VYHS				*e*		07 58 37.7	
VYHS				*e*PP	PP	08 02 27.0	+3.4
KSP	Ksiaz	166.15	104	*e*PKPab	PKPab	07 58 38.7	+3.2
KSP				*e*PP	PP	08 02 18.0	-5.9
KSP				*e*SKKS		08 09 07.0	
KSP				*e*		08 15 12.0	
KSP				*e*SS	SS	08 23 06.0	+4.5
KSP				LR	LR		
	comp=Z,8µm,27.1s						
KSP	Ksiaz	166.15	104	*e*PKP2	PKPab	07 58 38.7	+3.2
KSP				*e*SS	SS	08 23 06.0	+4.5
MORC	Moravsky Berou	166.23	110	*e*PKPdf	PKPdf	07 57 33.3	-2.5
MORC				*e*PKPab	PKPab	07 58 40.5	+4.6
OKC	Ostrava-Krasne	166.58	111	*e*PKPdf	PKPdf	07 57 46.1	+10
OKC				*e*PKPab	PKPab	07 58 41.1	+3.7
DRGR		166.67	129⇑	*i*P	PKPab	07 58 39.0	+1.1
HFS	Hagfors	166.79	63	PKPab	PKPab	07 58 37.2	-0.8
	comp=Z,3.0nm,0.9s,baz=315,slow=2.0,SNR=2.8						
MLR	Muntele Rosu	166.87	141	PKP	PKPdf	07 57 34.6	-1.8
	comp=Z,7.5nm,1.1s,baz=251,slow=0.5,SNR=3.9						
MLR				PKPab	PKPab	07 58 38.8	0.0
	comp=Z,25nm,1.1s,baz=326,slow=0.9,SNR=7.1						
MLR				PP	PP	08 02 26.8	-0.9
	comp=Z,10nm,1.2s,baz=222,slow=2.0,SNR=4.9						
KECS	Kecovo	166.89	119	*e*PKP	PKPdf	07 57 34.0	-2.4
KECS				*e*		07 58 38.5	
KECS				*e*PP	PP	08 02 35.5	+7.8
SOC	Sochi	167.19	186	*e*PKIKP	PKPdf	07 57 32.1	-4.6
SOC				*e*		08 02 28.2	
SOC				pmax	pmax		
	comp=N,49nm,1.2s						
SOC				pmax	pmax		
	comp=Z,59nm,1.2s						
SOC				pmax	pmax		
	comp=E,41nm,1.3s						
KIV	Kislovodsk	167.23	196	PFAKE		07 57 50.0	+13
KIV				LR	LR		
	comp=Z,618nm,20.0s						
KIV	Kislovodsk	167.23	196	*e*PKIKP	PKPdf	07 57 31.0	-5.7
KIV				*e*		07 58 37.2	
KIV				pmax	pmax		
	comp=Z,14nm,1.2s						
KIV				pmax	pmax		
	comp=N,10.0nm,0.8s						
KIV				pmax	pmax		
	comp=E,13nm,0.8s						
SVE	Sverdlovsk	167.38	282	*i* PKP2	PKPab	07 58 29.6	-11
SVE				*e*		08 02 31.9	
CRVS	Cervenica-Dubn	167.65	120	*e*PKP	PKPdf	07 57 35.7	-1.1
CRVS				*e*		07 58 44.7	
CRVS				*e*PP	PP	08 02 36.7	+5.3
UZH	Uzhgorod	167.86	123	*i* PKIKP	PKPdf	07 57 41.0	+4.1
UZH				*i* SS	SS	08 23 21.0	+2.4
UZH				MLR	MLR		
	comp=Z,3µm,18.0s						
STHS	Stebnicka Huta	167.89	118	*e*PKP	PKPdf	07 57 38.4	+1.5
STHS				*e*		07 58 46.7	
BURAR	Bucovina Array	168.37	133⇑	*i*P	PKPab	07 58 49.9	+4.6
ARU	Arti	168.46	279	PFAKE		07 57 50.0	+13
ARU				LR	LR		
	comp=Z,1µm,22.0s						
ARU	Arti	168.46	279	*e*PKIKP	PKPdf	07 57 35.9	-1.1
ARU				*e*		07 58 42.8	
KIS	Kishinev	169.16	146	*i* PKIKP	PKPdf	07 57 42.0	+4.2
KIS				*e*		07 58 50.0	
KIS				*i*		08 02 40.0	
FINES	FINESS Array B	172.07	45	PKPab	PKPab	07 59 01.2	0.0
	comp=Z,2.0nm,0.9s,baz=243,slow=12,SNR=2.6						
AKASG	Malin Array Be	172.42	134	PKP	PKPdf	07 57 36.6	-2.9
	comp=Z,1.7nm,0.8s,baz=272,slow=0.4,SNR=11						
AKASG				PKPab	PKPab	07 59 01.9	-1.2
	comp=Z,7.3nm,1.0s,baz=224,slow=4.2,SNR=12						
AKASG				PP	PP	08 02 53.5	-1.8
	comp=Z,0.3nm,0.3s,baz=226,slow=5.3,SNR=9.7						
AKASG	Malin Array Be	172.42	134	PKP	PKPdf	07 57 36.6	-2.9
AKASG				PKPab	PKPab	07 59 01.9	-1.2
AKASG				PP	PP	08 02 53.5	-1.8
OBN	Obninsk	178.62	150	*e*PKPdf	PKPdf	07 57 42.0	+1.0
OBN				LR	LR		
	comp=Z,813nm,20.0s						
OBN	Obninsk	178.62	150	*i* PKIKP	PKPdf	07 57 36.3	-4.7
OBN				*i*		07 59 31.4	
OBN				*e*		08 03 25.8	
OBN				pmax	pmax		
	comp=Z,19nm,1.9s						
MOS	Moscow	179.42	173	*e*PKIKP	PKPdf	07 57 40.0	-1.0
MOS				*e*		08 03 26.7	
MOS				*e*PPP	PPP	08 07 52.3	-1.6

*IDC **05** 08:14:12.6±0.5, 29.27N×142.93E, mb4.4/17, mb1 4.6/19, mb1mx4.6/21, mbtmp4.4/19, ML4.1/3, MS3.3/1, Ms1 3.3/1, ms1mx3.2/32, Error ellipse: s-maj=19.4km s-min=14.6km az=82.0*

*BJI **05** 08:14:15.2, 29.14N×142.48E, h20km, mB5.2, mb4.4, Ms4.9, Msz4.9*

*JMA **05** 08:14:16.2±0.2, 29.25N×142.36E, h50km, M4.6*

*MOS **05** 08:14:16.1±1.2, 29.29N×142.74E, h33km, mb4.8/17, Error ellipse: s-maj=16.7km s-min=6.3km az=110.9*

*NEIC **05** 08:14:17.8±0.3, 29.24N×142.72E, h35km, mb4.6/13, Error ellipse: s-maj=9.2km s-min=6.9km az=78.0*

ISC 05 08:14:12.4±1.5**, 29.31N**±0.03×**142.77E**±0.06**, h8**km±9km**, n117,** σ1§**29**/134**, mb4.5**/39**, MS4.8**/3**, 6C-1D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.27	193	Pn	Pn	08 14 51.6	+0.9
	38nm,0.3s,baz=269,slow=23,SNR=3.8						
CBIJ				Sn	Sn	08 15 15.9	-3.2
	210nm,0.3s,baz=267,slow=23,SNR=24						
CBIJ				LR	LR	08 15 49.2	
	comp=Z,696nm,19.4s,baz=3.9,slow=43						
CBIJ	Chichi jima	2.27	193	P	Pn	08 14 50.7	0.0
CBIJ				S	Sn	08 15 15.9	-3.2
JHHJ	Haha-jima-NKT	2.73	191	P	Pn	08 14 57.2	0.0
JHHJ				*e*S	Sn	08 15 27.7	-3.0
JHJ2	Mitsune	4.55	327	P	Pn	08 15 23.8	+0.6
JHJ	Hachijo jima 2	4.58	327	Pn	Pn	08 15 24.9	+1.4
	17nm,0.3s,baz=52,slow=23,SNR=3.6						
JHJ				Sn	Sn	08 16 11.5	-6.1
	43nm,0.3s,baz=253,slow=23,SNR=3.8						
BSO1	Boso 1	5.54	344	P	Pn	08 15 35.4	-1.7
BSO1				*e*S	Sn	08 16 38.1	-3.6
BSO3	Boso 3	5.80	341	P	Pn	08 15 40.4	-0.4
BSO3				*e*S	Sn	08 16 45.6	-2.7
BSO4	Boso 4	6.02	341	P	Pn	08 15 43.6	-0.4
BSO4				*e*S	Sn	08 16 50.5	-3.4
JOD2	Odawara 2	6.70	333	P	Pn	08 15 52.9	-0.6
JOD2				*e*S	Sn	08 17 05.5	-5.4
JHU	Hanno	7.15	337	P	Pn	08 15 58.7	-1.2
JHU				*e*S	Sn	08 17 14.6	-7.6
JRY	Ryogami san	7.44	335	P	Pn	08 16 03.6	-0.2
JRY				*e*S	Sn	08 17 23.7	-5.6
JHO	Hitachi	7.51	346	P	Pn	08 16 02.0	-2.8
JHO				*e*S	Sn	08 17 23.9	-7.1
JAG	Ashikaga	7.62	339	P	Pn	08 16 04.8	-1.6
JAG				*e*S	Sn	08 17 27.5	-6.3
MJAR	Matsushiro Arr	8.16	333	Pn	P	08 16 13.5	-0.5
	4.3nm,0.3s,baz=160,slow=12,SNR=23						
MJAR				Sn	Sn	08 17 41.2	-6.2
	3.0nm,0.3s,baz=268,slow=27,SNR=5.0						
MAJO	Matsushiro	8.16	333	*e*Pn	P	08 16 13.6	-0.4
	17nm,0.4s						
MAJO	Matsushiro	8.16	333	*e*P	P	08 16 13.6	-0.4
MAJO				pmax	pmax		
	comp=Z,17nm,0.4s						
MAT	Matsushiro	8.16	333	P	P	08 16 12.8	-1.2
MAT				S	Sn	08 17 40.7	-6.7
MAT	Matsushiro	8.16	333	P	P	08 16 13.7	-0.3
MAT				*e*S	Sn	08 17 42.4	-5.0
MAT	Matsushiro	8.16	333	*e*P	P	08 16 13.0	-1.0
	comp=Z,9.3nm,0.6s						
MAT				*e*S	Sn	08 17 41.0	-6.4
MAT	Matsushiro	8.16	333	*e*P	P	08 16 13.0	-1.0
MAT				*e*S	Sn	08 17 41.0	-6.4
MAT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ASAJ	Asahikawa	14.78	360	Sn	S	08 20 15.2	-13
	comp=Z,0.7nm,0.3s,baz=236,slow=34,SNR=5.0						
KS15	Wonju Array Si	14.83	307	*e*Pn	P	08 17 39.7	-4.5
KS15				*e*		08 17 49.1	
INCN	Inchon	15.73	305	Pn	P	08 17 51.4	-4.5
INCN				*e*		08 18 00.6	
YSS	Yuzh-Sakhalins	17.61	360	*e*Pn	P	08 18 17.5	-2.1
YSS	Yuzh-Sakhalins	17.61	360	*e*P	P	08 18 21.4	+1.8
YSS				pmax	pmax		
	comp=Z,19nm,1.3s						
MDJ	Mudanjiang	18.51	329	P	P	08 18 31.1	+0.2
MDJ				AMB	AMB		
	comp=Z,12nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,393nm,8.0s						
MDJ	Mudanjiang	18.51	329	*e*P	P	08 18 27.0	-3.9
SSE	Sheshan	18.74	281	*e*P	P	08 18 32.3	-1.5
SSE				S	S	08 22 01.0	+1.3
SSE				AMB	AMB		
	comp=Z,28nm,1.0s						
SSE				AMB	AMB		
	comp=Z,1µm,9.0s						
SSE				LR	LR		
	comp=N,1µm,54.3s						
SSE				LR	LR		
	comp=E,3µm,54.3s						
SSE				LR	LR		
	comp=Z,2µm,30.3s						
SSE	Sheshan	18.74	281	*e*P	P	08 18 32.3	-1.5
	comp=Z,28nm,1.0s						
SSE				pP		08 18 46.9	
SSE				sP		08 18 56.5	
SSE				S	S	08 22 01.0	+1.3
SSE				sS		08 22 25.5	
SSE				ScS	ScS	08 30 05.0	-11
YHNB	Yeheng	19.61	261	*e*P	P	08 18 39.8	-4.2
CN2	Changchun	20.01	321	*e*P	P	08 18 49.3	+1.0
CN2				AMB	AMB		
	comp=Z,20nm,1.1s						
NJ2	Nanjing	20.74	284	*e*P	P	08 18 56.1	+0.1
NJ2				S	S	08 22 39.0	-3.8
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,66nm,4.0s						
NJ2				LR	LR		
	comp=N,4µm,22.0s,MS4.8						
NJ2				LR	LR		
	comp=E,2µm,22.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,8µm,24.0s,MS5.0						
KLR	Kul'dur	21.60	340	*e*P	P	08 19 02.8	-1.8
HIA	Hailar	26.55	325	*e*P	P	08 19 54.1	+1.8
	comp=Z,15nm,1.0s,mb4.5						
HIA	Hailar	26.55	325	*e*P	P	08 19 54.1	+1.8
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC	Hu-ho-hao-te	27.87	303	*e*P	P	08 20 01.2	-3.2
HHC				AP	pP	08 20 08.6	+1.7
HHC				XP	sP	08 20 19.0	+11
HHC				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.7						
HHC				AMB	AMB		
	comp=Z,584nm,7.1s						
ULN	Ulaanbaatar	33.12	314	*e*P	P	08 20 52.7	+1.9
	comp=Z,9.1nm,1.1s,mb4.6						
ULN	Ulaanbaatar	33.12	314	*e*P	P	08 20 52.7	+1.8
ULN				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
SONM	Songino Array	33.52	314	P	P	08 20 56.1	+1.7
	comp=Z,4.6nm,0.7s,mb4.5,baz=122,slow=8.2,SNR=25						
YAK	Yakutsk	33.84	349	*e*P	P	08 20 58.3	+1.3
YAK				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
YAK				MLR	MLR		
	comp=Z,400nm,22.0s,MS4.1						
SEY	Seymchan	34.20	8⇑	*e*P	P	08 20 58.9	-1.2
BOD	Bodaibo	34.80	333	*e*P	P	08 21 07.0	+1.7
GTA	Gaotai	36.57	298	*e*P	P	08 21 20.3	-0.2
GTA				AP	pP	08 21 23.3	+0.4
GTA				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
BILL	Bilibino	41.19	13*c*	*i*P	P	08 22 00.8	+2.2
BILL				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.6						
BILL				MLR	MLR		
	comp=Z,5µm,21.0s,MS5.3						
TIXI	Tiksi	43.07	354	*i* P	P	08 22 15.6	+1.7
ZAL	Zalesovo	48.19	318	P	P	08 22 55.9	+0.9
	comp=Z,1.6nm,0.7s,mb4.2,baz=10,slow=8.3,SNR=6.0						
ZAL				PcP	PcP	08 24 22.4	-0.2
	comp=Z,2.1nm,0.3s,baz=98,slow=1.6,SNR=5.3						
NVS	Novosibirsk	49.20	319	*i* P	P	08 23 02.7	0.0
CTAO	Charters Tower	49.23	176	*e*P	P	08 23 03.0	-0.4
MKAR	Makanchi Array	49.49	308	P	P	08 23 06.2	+1.1
	comp=Z,8.6nm,0.8s,mb4.8,baz=90,slow=9.7,SNR=58						
MKAR				PcP	PcP	08 24 27.1	-0.4
	comp=Z,1.4nm,0.9s,baz=77,slow=5.4,SNR=2.6						
WRAB	Tennant Creek	49.63	190	*e*P	P	08 23 05.3	-1.2
	comp=Z,12nm,0.8s,mb5.0						
WRAB	Tennant Creek	49.63	190	*e*P	P	08 23 05.3	-1.2
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
WB2	Warramunga Arr	49.64	190	*e*P	P	08 23 05.3	-1.3
WRA	Warramunga Arr	49.64	190	P	P	08 23 05.1	-1.5
	comp=Z,6.6nm,0.8s,mb4.7,baz=9.9,slow=8.1,SNR=54						
WRA				S	S	08 30 12.8	-1.2
	comp=Z,0.4nm,1.0s,baz=356,slow=16,SNR=3.3						
FITZ	Fitzroy Crossi	49.96	201	*e*P	P	08 23 08.5	-0.5
	comp=Z,13nm,1.2s,mb4.8						
KURK	Kurchatov	51.83	313	*e*P	P	08 23 23.3	+0.5
	comp=Z,17nm,1.0s,mb4.9						
KURK	Kurchatov	51.83	313	*e*P	P	08 23 23.3	+0.5
KURK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
ULHL	Ulahol	54.23	303	P	P	08 23 42.5	+1.8
	SNR=6.8						
TKM2	Tokmak 2	54.59	304	P	P	08 23 45.1	+1.7
	SNR=6.7						
MBWA	Marble Bar	54.88	207	*e*P	P	08 23 43.4	-2.4
KZA	Kyzart	54.99	303	P	P	08 23 49.1	+2.7
	SNR=7.3						
KBK	Karagaybulak	55.11	304	P	P	08 23 48.3	+1.0
	SNR=7.7						
USP	Ospenovka	55.33	304	P	P	08 23 49.7	+0.9
	SNR=5.7						
AAK	Ala-Archa	55.44	304	P	P	08 23 50.7	+1.1
	SNR=5.0						
AAK	Ala-Archa	55.44	304	*e*P	P	08 23 49.5	-0.1
	comp=Z,7.4nm,0.9s,mb4.7						
AAK	Ala-Archa	55.44	304	*e*P	P	08 23 49.6	-0.1
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
UCH	Uchtor	55.50	303	P	P	08 23 48.0	-2.1
	SNR=8.6						
ILAR	Eielson Array	55.53	29	P	P	08 23 48.3	-1.7
	comp=Z,2.9nm,0.8s,mb4.4,baz=261,slow=6.4,SNR=33						
EKS2	Erkin-Say	55.96	304	P	P	08 23 54.4	+1.1
	SNR=6.5						
AML	Almayashu	56.12	303	P	P	08 23 56.8	+2.3
	SNR=6.7						
BVA0	Borovoye Array	56.78	317	*i* P	P	08 23 59.2	+0.1
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BRVK	Borovoye	56.84	317	*e*P	P	08 24 00.2	+0.7
	comp=Z,6.5nm,0.9s,mb4.7						
BRVK	Borovoye	56.84	317	*e*P	P	08 24 00.2	+0.7
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KKAR	Karatay Array	58.23	305	*i* P	P	08 24 10.6	+1.2
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
DAWY	Dawson	58.78	30	*e*P	P	08 24 13.0	+0.1
INK	Inuvik	60.81	25	P	P	08 24 26.0	-0.9
	comp=Z,3.1nm,0.5s,mb4.7,baz=264,slow=6.8,SNR=14						
INK	Inuvik	60.81	25	*e*P	P	08 24 26.4	-0.5
STKA	Stephens Creek	60.86	181	*e*P	P	08 24 26.1	-1.7
	comp=Z,4.8nm,0.8s,mb4.7						
STKA	Stephens Creek	60.86	181	P	P	08 24 26.1	-1.7
	comp=Z,6.7nm,0.8s,mb4.8,baz=4.1,slow=8.3,SNR=13						
STKA				ScP		08 29 13.7	
	comp=Z,1.9nm,0.8s,baz=326,slow=7.3,SNR=4.6						
STKA	Stephens Creek	60.86	181	*e*P	P	08 24 26.1	-1.6
SVE	Sverdlovsk	61.80	322	*e*P	P	08 24 33.5	-0.2
ARU	Arti	63.00	322⇓	*i*P	P	08 24 41.3	-0.4
ARU				*e*		08 25 15.2	
ARU				*e*		08 26 58.6	
ARU				*e*S	S	08 33 08.0	-2.6
ARU				*e*		08 34 27.6	
ARU				*e*SS	SS	08 37 16.5	-1.7
ARU				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
AB31	Akbulak array	63.94	314	*i* P	P	08 24 48.0	0.0
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
AKTO	Aktyubinsk	64.82	315	P	P	08 24 51.0	-2.7
AKTO				pmax	pmax		
	comp=Z,200nm,5.0s						
YKA	Yellowknife Ar	69.95	29	P	P	08 25 24.7	-1.0
	comp=Z,1.8nm,0.7s,mb4.1,baz=297,slow=6.2,SNR=17						
YKA	Yellowknife Ar	69.95	29	*i* P	P	08 25 25.0	-0.8
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	ARCESS Array B	71.62	341	P	P	08 25 35.5	-0.3
	comp=Z,6.4nm,1.0s,mb4.5,baz=16,slow=6.6,SNR=4.0						
JOF	Joensuu	73.33	334	*e*p	P	08 25 45.7	-0.2
	comp=Z,2.1nm,0.5s,mb4.3						
MOS	Moscow	74.18	325	*e*P	P	08 25 44.8	-6.1
MOS				*e*		08 28 37.2	
OBN	Obninsk	75.01	325	*e*P	P	08 25 56.9	+1.1
OBN				*e*		08 26 09.6	
OBN				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
KAF	Kangasniemi	75.71	334	*e*p	P	08 25 59.5	-0.1
	comp=Z,2.3nm,0.4s,mb4.5,baz=52,slow=5.4						
KAF	Kangasniemi	75.71	334	*e*P	P	08 25 59.5	-0.1
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
FINES	FINESS Array B	76.19	334	P	P	08 26 02.7	+0.3
	comp=Z,6.2nm,1.0s,mb4.5,baz=63,slow=4.3,SNR=8.1						
FINES	FINESS Array B	76.19	334	P	P	08 26 02.7	+0.3
FINES	FINESS Array B	76.19	334	*i* P	P	08 26 03.0	+0.6
FINES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV	Kislovodsk	76.91	313	*i* P	P	08 26 07.7	+0.9
GNI	Garni	77.33	309*c*	*i*P	P	08 26 07.0	-2.2
GNI				pmax	pmax		
	comp=Z,30nm,2.5s						
GNI				MLR	MLR		
	comp=Z,3µm,26.0s						
NVAR	Mina Array Bea	78.75	52	P	P	08 26 17.4	+0.4
	comp=Z,2.4nm,0.9s,mb4.1,baz=274,slow=4.0,SNR=14						
HLID	Hailey	78.83	46	*e*P	P	08 26 18.4	+1.1
	comp=Z,4.4nm,1.4s,mb4.2						
ELK	Elko	79.70	49	*e*P	P	08 26 22.7	+0.6
	comp=Z,3.6nm,1.2s,mb4.2						
ELK	Elko	79.70	49	*e*P	P	08 26 22.7	+0.6
ELK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ANN	Anapa	79.77	316	*e*P	P	08 26 28.7	+6.3
ANN				*e*S	S	08 36 34.4	+10
ANN				pmax	pmax		
	comp=Z,52nm,1.1s,mb5.4						
AKASG	Malin Array Be	81.14	324	P	P	08 26 29.6	+0.1
	comp=Z,0.2nm,0.3s,mb3.5,baz=46,slow=5.7,SNR=6.2						
HWUT	Hardware Ranch	81.64	47	*e*P	P	08 26 33.0	+0.6

	comp=Z,6.8nm,1.2s,mb4.5						
NB2	**NORSAR Subarra**	**81.75**	**338**	P	**P**	**08 26 32.9**	**+0.4**
	comp=Z,2.9nm,0.9s,mb4.2,baz=42,slow=4.8						
NB2	**NORSAR Subarra**	**81.75**	**338**	P	**P**	**08 26 32.9**	**+0.4**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
NOA	**NORSAR Array B**	**81.75**	**338**	P	**P**	**08 26 32.9**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4,baz=41,slow=5.2,SNR=10						
PDAR	**Pinedale Array**	**82.28**	**45**	P	**P**	**08 26 36.0**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=356,slow=1.7,SNR=7.9						
NEN	**Nelson**	**82.53**	**53**	*e*P	**P**	**08 26 37.3**	**+0.3**
BRTR	**Keskin Array B**	**84.88**	**313**	P	**P**	**08 26 50.5**	**+1.6**
	comp=Z,1.4nm,0.7s,mb4.2,baz=108,slow=3.9,SNR=3.8						
ANMO	**Albuquerque**	**88.66**	**50**	⇑*e*P	**P**	**08 27 09.0**	**+1.5**
GERES	**GERESS Array B**	**89.88**	**329**	P	**P**	**08 27 12.6**	**-0.3**
	comp=Z,0.4nm,0.2s,mb4.4,baz=63,slow=3.0,SNR=3.9						
TXAR	**Lajitas Array**	**93.87**	**53**	P	**P**	**08 27 32.8**	**+1.0**
	comp=Z,3.6nm,1.0s,mb4.8,baz=304,slow=2.4,SNR=27						
SNAA	**Sanae**	**133.64**	**194**	⇑*i*P	PKPdf	08 33 32.9	+1.2
VNA2	**Neumayer--Watz**	**135.16**	**193**	P	PKPdf	08 33 32.9	-1.8
VNA3	**Neumayer Olymp**	**135.35**	**192**	⇑*i*P	PKPdf	08 33 34.4	-0.6
LPAZ	**La Paz**	**148.81**	**72**	PKPbc	PKPdf	08 34 03.7	+3.7
	comp=Z,4.5nm,0.9s,baz=358,slow=5.5,SNR=14						
PLCA	**Paso Flores**	**150.60**	**122**	PKPbc	PKPdf	08 34 07.0	+4.9
	comp=Z,7.6nm,0.9s,baz=242,slow=3.4,SNR=14						

*IDC **05** 08:17:22.8±1.1, 24.05S×66.95W, h170km±13km, mb3.6/1, mb1 3.5/7, mb1mx3.3/18, mbtmp3.8/7, Error ellipse: s-maj=16.5km s-min=15.8km az=80.0*
*GUC **05** 08:17:23.6±0.8, 24.12S×67.45W, h200km, ML3.9*
*NEIC **05** 08:17:23.2±0.6, 24.08S×66.94W, h174km±8km, mb3.8/1, Error ellipse: s-maj=10.1km s-min=8.3km az=98.0*
ISC 05 08:17:21.6±0.5**, 24.16S**±0.04×**67.01W**±0.07**, h176**km±12km**, n22, σ1^{s}21**/31**, mb3.6**/1**, 3C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.33**	**311**	P	**P**	**08 18 04.4**	**+1.8**
	16nm,0.3s,baz=129,slow=6.1,SNR=272						
LVC				S	**S**	**08 18 34.2**	**0.0**
	19nm,0.3s,baz=291,slow=20,SNR=29						
LVC	**Limon Verde**	**2.33**	**311**	⇑*i*P	**P**	**08 18 04.4**	**+1.7**
LVC				*i* S	**S**	**08 18 34.3**	**+0.2**
LVC				AMP		08 18 36.6	
	comp=E,221nm,0.4s						
LVC	**Limon Verde**	**2.33**	**311**	*e*Pn	**P**	**08 18 04.5**	**+1.9**
LVC				*e*Sn	**S**	**08 18 35.4**	**+1.3**
CPN1	**Cerro Paranal**	**3.12**	**261**	*e*P	**P**	**08 18 13.4**	**+1.2**
CPN1				*i* S	**S**	**08 18 50.7**	**-0.6**
CPN1				AMP		08 18 56.1	
	comp=N,191nm,0.5s						
ANCH	**Antofagasta**	**3.14**	**278**	⇑*i*P	**P**	**08 18 13.4**	**+0.9**
ANCH				*i* S	**S**	**08 18 50.2**	**-1.4**
ANCH				AMP		08 18 53.0	
	comp=E,460nm,0.1s						
ANCH	**Antofagasta**	**3.14**	**278**	⇑*i*P	**P**	**08 18 13.4**	**+0.9**
ANCH				*i* S	**S**	**08 18 50.3**	**-1.3**
CRCH	**Chaqaral**	**3.92**	**236**	*i* S	**S**	**08 19 07.7**	**-1.5**
CFAA	**Coronel Fontan**	**7.49**	**188**	P	**P**	**08 19 09.8**	**+0.7**
	comp=E,0.0nm,0.3s,baz=350,slow=12,SNR=13						
CFAA				S	**S**	**08 20 31.1**	**-1.9**
	comp=E,0.1nm,0.3s,baz=275,slow=22,SNR=12						
CFAA	**Coronel Fontan**	**7.49**	**188**	P	**P**	**08 19 09.8**	**+0.7**
CFAA				S	**S**	**08 20 31.1**	**-1.9**
LPAZ	**La Paz**	**7.91**	**352**	P	**P**	**08 19 14.8**	**+0.2**
	comp=E,0.4nm,0.3s,baz=153,slow=8.6,SNR=14						
LPAZ				S	**S**	**08 20 40.6**	**-2.1**
	comp=E,0.1nm,0.3s,baz=100,slow=7.9,SNR=2.1						
LPAZ	**La Paz**	**7.91**	**352**	*e*P	**P**	**08 19 15.8**	**+1.2**
LPAZ				*e*Sn	**S**	**08 20 43.6**	**+0.8**
CPUP	**Villa Florida**	**9.03**	**106**	P	**P**	**08 19 29.1**	**-0.3**
	comp=E,0.1nm,0.3s,baz=288,slow=16,SNR=2.7						
CPUP	**Villa Florida**	**9.03**	**106**	*e*Pn	**P**	**08 19 29.2**	**-0.1**
SIV	**San Ignacio**	**9.86**	**36**	P	**P**	**08 19 38.6**	**-1.7**
	comp=E,0.7nm,0.3s,baz=214,slow=14,SNR=24						
SIV				S	**S**	**08 21 28.5**	**-0.2**
	comp=E,0.1nm,0.3s,baz=167,slow=22,SNR=2.8						
TRQA	**Tornquist**	**14.50**	**164**	*e*Pn	**P**	**08 20 42.4**	**+2.7**
PLCA	**Paso Flores**	**16.79**	**189**	P	**P**	**08 21 09.5**	**+1.7**
	comp=E,0.1nm,0.3s,baz=354,slow=10,SNR=2.4						
PLCA	**Paso Flores**	**16.79**	**189**	*e*P	**P**	**08 21 09.1**	**+1.3**
	comp=E,5.4nm,1.3s						
BDFB	**Brasilia**	**19.76**	**68**	P	**P**	**08 21 39.4**	**-0.5**
	comp=E,1.5nm,0.3s,baz=253,slow=9.7,SNR=23						
BAO	**Brasilia Array**	**19.78**	**68**	P	**P**	**08 21 39.5**	**-0.7**
YKA	**Yellowknife Ar**	**94.27**	**340**	P	**P**	**08 30 21.3**	**-0.1**
	comp=E,0.4nm,0.8s,mb3.6,baz=130,slow=4.8,SNR=5.7						
WRA	**Warramunga Arr**	**131.48**	**207**	PKP	PKPdf	08 36 15.5	+1.6
	comp=E,0.3nm,0.4s,baz=157,slow=1.9,SNR=8.4						
MKAR	**Makanchi Array**	**146.66**	**40**	PKPbc	PKPbc	08 36 43.9	+1.9
	comp=E,0.4nm,0.6s,baz=298,slow=3.1,SNR=4.0						

*SOF **05** 08:42:18.9, 40.55N×23.71E, h5km, MD2.6*
*ATH **05** 08:42:19.4, 40.53N×23.68E, h23km±3km, MD3.2/3*
*THE **05** 08:42:20.0, 40.52N×23.58E, h3km, ML2.8*
*CSEM **05** 08:42:20.1±0.1, 40.55N×23.62E, h8km, ML2.8, Error ellipse: s-maj=1.6km s-min=1.1km az=78.0*
ISC 05 08:42:19.1±0.4**, 40.53N**±0.02×**23.61E**±0.03**, h6**km±4km**, n26, σ0^{s}84**/39**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.20**	**219**	*e*PB	**Pb**	**08 42 24.7**	**0.0**
OUR	**Ouranopolis**	**0.34**	**124**	*e*Pg	**Pg**	**08 42 27.0**	**+1.0**
OUR				*e*Sg	**Sg**	**08 42 31.9**	**+1.2**
SOH	**Sokhos**	**0.35**	**326**	*e*Pg	**Pg**	**08 42 26.5**	**+0.3**
SOH				*e*Sg	**Sg**	**08 42 31.4**	**+0.5**
THE	**Thessaloniki**	**0.50**	**282**	*e*Pg	**Pg**	**08 42 29.5**	**+0.4**
THE				*e*Sg	**Sg**	**08 42 36.1**	**+0.2**
SRS	**Serrai**	**0.59**	**359**	*e*Pg	**Pg**	**08 42 31.0**	**+0.1**
SRS				*e*Sg	**Sg**	**08 42 39.3**	**+0.6**
PAIG	**Paliouri**	**0.60**	**175**	*e*Pg	**Pg**	**08 42 31.6**	**+0.4**
PAIG				*e*Sg	**Sg**	**08 42 40.1**	**+0.8**
KNT	**Kendrikon**	**0.83**	**320**	*e*Pg	**Pg**	**08 42 35.5**	**-0.2**
KNT				*e*Sg	**Sg**	**08 42 46.5**	**-0.3**
NVR	**Nevrokopi**	**0.84**	**13**	*e*PN	**Pn**	**08 42 35.7**	**-1.6**
GRG	**Griva**	**1.01**	**295**	*e*Pg	**Pg**	**08 42 38.9**	**-0.4**
GRG				*e*Sg	**Sg**	**08 42 53.8**	**+1.0**
MMB	**Musomiste**	**1.06**	**5**	*i* Pg	**Pg**	**08 42 39.0**	**-1.3**
XOR	**Xorichti**	**1.21**	**196**	*e*Pg	**Pg**	**08 42 42.7**	**-0.5**
XOR				*e*Sg	**Sg**	**08 42 59.4**	**+0.1**
NEO	**Neokhori**	**1.26**	**194**	*e*PN	**Pn**	**08 42 43.9**	**+0.7**
LOS	**Limnos**	**1.27**	**117**	*e*Pg	**Pg**	**08 42 42.7**	**-1.8**
LOS				*e*Sg	**Sg**	**08 43 02.7**	**+1.2**
AOS	**Alonnisos**	**1.37**	**171**	*e*Pg	**Pg**	**08 42 44.6**	**-1.9**
AOS				*e*Sg	**Sg**	**08 43 04.2**	**-0.6**
KKB	**Krupnik**	**1.39**	**344**	*i* P	**Pn**	**08 42 45.5**	**+0.3**
KZN	**Kozani**	**1.42**	**262**	*e*PN	**Pn**	**08 42 46.5**	**+0.9**
RZN	**Rozhen**	**1.43**	**35**	*i* P	**Pn**	**08 42 46.0**	**+0.4**
RDO	**Rodhopi**	**1.59**	**67**	*e*PN	**Pn**	**08 42 47.2**	**-0.7**
FNA	**Florina**	**1.72**	**279**	*e*Pb	**Pb**	**08 42 50.3**	**-0.4**
FNA				*e*Sb	**Sb**	**08 43 12.6**	**+0.1**
KDZ	**Kurdzhali**	**1.77**	**50**	*e*P	**Pn**	**08 42 51.0**	**+0.5**
PLD	**Plovdiv**	**1.78**	**27**	*i* Pg	**Pg**	**08 42 54.0**	**-0.6**
AGG	**Agios Georgios**	**1.80**	**214**	*e*Pb	**Pb**	**08 42 51.7**	**-0.5**
AGG				*e*Sb	**Sb**	**08 43 14.1**	**-0.8**
ALN	**Alexandroupoli**	**1.89**	**78**	*e*Pb	**Pb**	**08 42 53.1**	**-0.5**
ALN				*e*Sb	**Sb**	**08 43 18.5**	**+1.1**
PGB	**Panagyurishte**	**2.06**	**12**	P	**Pn**	**08 42 54.5**	**-0.2**
VTS	**Vitosha**	**2.08**	**352**	P	**Pn**	**08 42 56.5**	**+1.5**
DIM	**Dimitrovgrad**	**2.10**	**43**	Pg	**Pg**	**08 42 59.3**	**-1.7**

IDC 05 08:53:49.9±1.9**, 2.01N**×**125.61E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/15**, mbtmp3.7**/3**, Error ellipse: s-maj=190.1km s-min=26.7km az=63.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.44**	**159**	P	P	08 59 00.7	-1.1
	0.9nm,0.4s,baz=338,slow=11,SNR=27						
STKA	**Stephens Creek**	**36.96**	**157**	P	P	09 01 01.2	-1.5
	1.7nm,0.7s,baz=329,slow=8.6,SNR=6.9						
MKAR	**Makanchi Array**	**58.34**	**326**	P	P	09 03 46.6	-2.5
	0.3nm,0.5s,baz=116,slow=9.8,SNR=3.9						

*NEIC **05** 08:53:53.5, 33.18N×115.62W, h6km, ML3.8(PAS), After PAS.*
ECX 05 08:53:54.0±0.6**, 33.18N**×**115.62W, h5**km**, MD4.0, ML4.0, 3C-4D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.23**	**356**	⇓*i*P	Pg	08 53 58.1	-0.5
CRR	**Carrizo Plain**	**0.41**	**226**	⇑*i*P	Pg	08 54 01.4	-0.9
COA	**Coachella**	**0.52**	**127**	⇓*i*P	Pg	08 54 03.4	-1.0
SGL	**Mount Signal**	**0.53**	**190**	⇓*i*P	Pg	08 54 03.2	-1.4
YAQ	**Yaqui Meadows**	**0.61**	**270**	⇑*i*P	Pg	08 54 05.0	-1.2
GLA	**Glamis**	**0.68**	**100**	*e*P	Pg	08 54 05.8	-1.7
PFO	**Pinyon Flat Ob**	**0.82**	**302**	⇑*e*P	Pb	08 54 08.6	-1.7
BAR	**Barrett**	**1.01**	**241**	*e*P	Pb	08 54 11.2	-2.4
CBX	**Cerro Bola**	**1.23**	**226**	*e*P	Pb	08 54 15.2	-2.2
CBX				*e*S	Sb	08 54 31.6	-1.7
ENX	**Ensenada**	**1.56**	**215**	*e*P	Pn	08 54 21.1	-1.4
ENX				⇓*e*		08 54 54.1	
	comp=N,2µm,0.7s						
PBX	**Punta Banda**	**1.71**	**213**	*e*P	Pn	08 54 23.3	-1.4
ECNX	**Esteban Cantu**	**1.73**	**209**	*e*P	Pn	08 54 21.3	-3.6
LDFC	**Landfair**	**1.94**	**12**	*e*P	Pn	08 54 26.9	-1.2
SPX	**San Pedro Mart**	**2.13**	**176**	*e*PN	Pn	08 54 27.8	-2.9
MWC	**Mount Wilson**	**2.29**	**298**	*e*Pn	Pn	08 54 32.4	-0.5
GSC	**Goldstone**	**2.34**	**335**	*e*Pn	Pn	08 54 30.2	-3.5
NEN	**Nelson**	**2.55**	**14**	*e*Pn	Pn	08 54 34.3	-2.4
DAC	**Darwin (Calif)**	**3.50**	**333**	*e*Pn	Pn	08 54 46.6	-3.6
TUC	**Tucson**	**4.17**	**101**	*e*Pn	Pn	08 54 55.3	-4.4
PTRM	**Twissleman Ran**	**4.53**	**304**	Pn	Pn	08 55 00.8	-4.1
MTUM	**Tungsten Hills**	**4.81**	**331**	Pn	Pn	08 55 08.3	-0.6
ARUT	**Antelope Range**	**4.93**	**21**	*e*Pn	Pn	08 55 08.1	-2.5
TPH	**Tonopah**	**5.06**	**346**	Pn	Pn	08 55 15.4	+3.0
LRV	**Little Rabbit**	**5.50**	**308**	Pn	Pn	08 55 14.8	-3.8
MSU	**Marysvale**	**6.01**	**27**	*e*Pn	Pn	08 55 23.6	-2.2
CMB	**Columbia Colle**	**6.21**	**323**	*e*Pn	Pn	08 55 25.5	-3.1
TMUT	**Trail Mountain**	**7.07**	**29**	Pn	Pn	08 55 38.6	-2.1
SRU	**San Rafael**	**7.21**	**33**	*e*Pn	Pn	08 55 38.7	-4.1
DUG	**Dugway**	**7.36**	**17**	Pn	Pn	08 55 40.7	-4.1
ELK	**Elko**	**7.56**	**2**	*e*Pn	Pn	08 55 44.2	-3.3
ANMO	**Albuquerque**	**7.80**	**74**	*e*Pn	Pn	08 55 48.8	-2.2
MNTX	**Cornudas Mount**	**8.78**	**97**	*e*Pn	P	08 55 59.1	-5.4

*NEIC **05** 09:09:54.8, 60.42N×150.89W, h44km, ML3.8(PMR), ML3.7(AEIC), After AEIC.*
*IDC **05** 09:09:58.3±4.8, 60.28N×149.96W, h35km±41km, mb3.4/4, mb1 3.9/7, mb1mx3.6/21, mbtmp3.7/7, ML3.3/3, Error ellipse: s-maj=32.4km s-min=18.4km az=64.0*
ISC 05 09:09:53.1±0.3**, 60.46N**±0.03×**150.87W**±0.04**, h62**km±5km**, n76, σ0^{s}85**/83**, mb3.4**/4**, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.32**	**81**	P	**P**	**09 10 03.9**	**+0.2**
VOGL	**Vogel Lake**	**0.58**	**21**	P	**P**	**09 10 07.7**	**+1.5**
MPA	**Moose Pass**	**0.75**	**87**	P	**P**	**09 10 08.9**	**+0.7**
RDT	**Redoubt**	**0.77**	**279**	P	**P**	**09 10 08.3**	**-0.2**
RDT				S	**S**	**09 10 19.3**	**-0.5**
FIB	**Fire Island**	**0.79**	**25**	P	**P**	**09 10 10.1**	**+1.5**
SEW	**Seward**	**0.79**	**116**	P	**P**	**09 10 08.9**	**+0.2**
SEW				S	**S**	**09 10 20.0**	**-0.3**
RC01	**Rabbit Creek A**	**0.84**	**41**	P	**P**	**09 10 09.9**	**+0.6**
RC01				S	**S**	**09 10 22.1**	**+0.7**
SPU	**Mount Spurr**	**0.93**	**322**	*e*P	**P**	**09 10 10.5**	**0.0**
RSO	**Redoubt South**	**0.94**	**271**	P	**P**	**09 10 10.6**	**0.0**
CNPM	**China Poot**	**0.95**	**191**	P	**P**	**09 10 11.0**	**+0.2**
CKL	**Chakachamna La**	**1.03**	**316**	P	**P**	**09 10 12.1**	**+0.2**
CKL				S	**S**	**09 10 26.0**	**+0.1**
BGL	**Barrier Glacie**	**1.10**	**318**	P	**P**	**09 10 13.2**	**+0.3**
STLK	**Strandline Lak**	**1.15**	**336**	P	**P**	**09 10 14.2**	**+0.8**
IVS	**Iliamna South**	**1.19**	**249**	P	**P**	**09 10 14.1**	**0.0**
ILS	**Iliamna Low So**	**1.21**	**246**	P	**P**	**09 10 14.2**	**-0.1**
ILS				S	**S**	**09 10 29.7**	**-0.3**
PWL	**Port Wells**	**1.31**	**71**	P	**P**	**09 10 16.3**	**+0.5**
PMR	**Palmer**	**1.42**	**36**	P	**P**	**09 10 17.9**	**+0.6**
OPT	**Oil Point**	**1.44**	**237**	P	**P**	**09 10 17.6**	**0.0**
KNK	**Knik Glacier**	**1.52**	**50**	P	**P**	**09 10 19.5**	**+0.8**
LTI	**Latouche**	**1.56**	**104**	P	**P**	**09 10 18.8**	**-0.4**
GHO	**Glory Hole Cre**	**1.62**	**35**	P	**P**	**09 10 20.9**	**+0.9**
AUE	**Augustine Isla**	**1.68**	**230**	P	**P**	**09 10 20.9**	**+0.1**
CFI	**College Fiord**	**1.68**	**63**	P	**P**	**09 10 21.1**	**+0.2**
AUP	**Augustine Pinn**	**1.69**	**231**	P	**P**	**09 10 21.3**	**+0.2**
AGU	**Augustine-Summ**	**1.70**	**231**	P	**P**	**09 10 21.5**	**+0.4**
PDB	**Pedro Bay**	**1.80**	**249**	P	**P**	**09 10 22.6**	**+0.2**
SML	**Sawmill**	**1.83**	**41**	P	**P**	**09 10 23.5**	**+0.6**
GLI	**Glacier Island**	**1.90**	**76**	P	**P**	**09 10 23.3**	**-0.6**
HIN	**Hinchinbrook I**	**2.17**	**90**	P	**P**	**09 10 27.0**	**-0.6**
FID	**Port Fidalgo**	**2.18**	**80**	P	**P**	**09 10 26.8**	**-1.1**
SCM	**Sheep Creek Mo**	**2.20**	**50**	P	**P**	**09 10 28.8**	**+0.6**
VLZ	**Valdez**	**2.32**	**71**	P	**P**	**09 10 29.5**	**-0.3**
SVW2	**Sparrevohn**	**2.40**	**288**	P	**P**	**09 10 30.0**	**-0.9**
EYAK	**Cordova Ski Ar**	**2.53**	**86**	*e*P	**P**	**09 10 31.6**	**-1.2**
DIV	**Divide**	**2.59**	**73**	P	**P**	**09 10 33.2**	**-0.4**
KLU	**Klutina**	**2.62**	**65**	P	**P**	**09 10 34.3**	**+0.2**
KDAK	**Kodiak Island**	**2.83**	**199**	P	**P**	**09 10 35.6**	**-1.3**
TZL	**Tazlina**	**3.07**	**56**	P	**P**	**09 10 40.8**	**+0.3**
KTH	**Kantishna Hill**	**3.11**	**360**	P	**P**	**09 10 41.2**	**+0.3**
BMRM	**Bremner River**	**3.12**	**78**	P	**P**	**09 10 39.9**	**-1.2**
KABR	**Katmai Barrier**	**3.14**	**224**	P	**P**	**09 10 41.1**	**-0.3**
MGLS	**Mageik LS**	**3.21**	**227**	P	**P**	**09 10 42.1**	**-0.3**
CAHL	**Cahill**	**3.32**	**225**	P	**P**	**09 10 43.6**	**-0.3**
MCK	**McKinley**	**3.41**	**15**	*e*P	**P**	**09 10 46.5**	**+1.4**
TT01	**Tatalina**	**3.47**	**317**	P	**P**	**09 10 46.1**	**0.0**
TTA	**Tatalina**	**3.49**	**318**	*e*P	**P**	**09 10 46.4**	**+0.1**
GLB	**Gilahina Butte**	**3.58**	**71**	P	**P**	**09 10 46.9**	**-0.7**
PAX	**Paxson**	**3.60**	**43**	P	**P**	**09 10 48.3**	**+0.5**
THY	**Trims Highway**	**3.83**	**37**	P	**P**	**09 10 51.1**	**+0.1**
MENT	**Mentasta**	**4.21**	**51**	P	**P**	**09 10 56.3**	**-0.1**
BALM	**Baldy**	**4.22**	**78**	P	**P**	**09 10 55.4**	**-1.2**
WRH	**Wood River Hil**	**4.23**	**17**	P	**P**	**09 10 56.9**	**+0.3**
CCB	**Clear Creek Bu**	**4.44**	**17**	P	**P**	**09 10 59.5**	**0.0**
COLA	**College**	**4.64**	**16**	P	**P**	**09 11 02.1**	**-0.4**
MDM	**Murphy Dome**	**4.68**	**14**	P	**P**	**09 11 02.7**	**-0.2**
IL1	**Eielson Array**	**4.70**	**21**	P	**P**	**09 11 02.9**	**-0.4**
ILAR	**Eielson Array**	**4.70**	**21**	Pn	**P**	**09 11 03.5**	**+0.2**
	3.0nm,0.3s,baz=204,slow=14,SNR=227						
ILAR				Sn	**S**	**09 11 54.9**	**-2.2**
	3.6nm,0.3s,baz=194,slow=14,SNR=6.0						
ILAR	**Eielson Array**	**4.70**	**21**	Pn	**P**	**09 11 03.5**	**+0.2**
ILAR				Sn	**S**	**09 11 54.9**	**-2.2**
GCSA	**Galena City Sc**	**5.12**	**330**	P	**P**	**09 11 08.5**	**-0.5**
IM3	**Indian Mountai**	**5.70**	**348**	P	**P**	**09 11 16.3**	**-0.7**
CHGN	**Chignik**	**5.76**	**227**	*e*P	**P**	**09 11 20.5**	**+2.7**
IMA	**Indian Mountai**	**5.77**	**349**	*e*P	**P**	**09 11 19.2**	**+1.1**
DAWY	**Dawson**	**6.46**	**51**	P	**P**	**09 11 26.3**	**-1.4**
COLD	**Coldfoot**	**6.80**	**2**	P	**P**	**09 11 31.5**	**-1.0**
BM3	**Burnt Mountain**	**7.51**	**19**	P	**P**	**09 11 40.5**	**-1.8**
UNV	**Unalaska Valle**	**10.75**	**239**	*e*P	**P**	**09 12 25.0**	**-1.5**
DLBC	**Dease Lake**	**10.79**	**92**	Pn	**P**	**09 12 25.6**	**-1.3**
	0.1nm,0.3s,baz=196,slow=14,SNR=2.5						
DLBC				Sn	**S**	**09 14 16.3**	**-11**
	0.2nm,0.3s,baz=143,slow=25,SNR=5.9						
INK	**Inuvik**	**10.83**	**36**	Pn	**P**	**09 12 26.9**	**-0.7**
	0.1nm,0.3s,baz=221,slow=12,SNR=3.3						
YKA	**Yellowknife Ar**	**17.29**	**68**	Pn	**P**	**09 13 50.8**	**-0.6**
	0.1nm,0.3s,baz=275,slow=12,SNR=8.0						
YKA	**Yellowknife Ar**	**17.29**	**68**	Pn	**P**	**09 13 50.8**	**-0.6**
ELK	**Elko**	**29.45**	**116**	P	**P**	**09 15 55.1**	**+2.3**
	0.6nm,0.5s,mb3.6,baz=315,slow=10.0,SNR=4.8						
NVAR	**Mina Array Bea**	**30.04**	**122**	P	**P**	**09 15 59.9**	**+1.8**
	0.6nm,0.6s,mb3.5,baz=315,slow=10						
PDAR	**Pinedale Array**	**30.48**	**107**	P	**P**	**09 16 04.0**	**+2.0**
	0.3nm,0.8s,mb3.1,baz=310,slow=7.0,SNR=3.3						
TXAR	**Lajitas Array**	**44.16**	**113**	P	**P**	**09 17 58.7**	**+1.6**
	0.7nm,0.9s,mb3.4,baz=337,slow=6.9,SNR=6.3						
TXAR	**Lajitas Array**	**44.16**	**113**	P	**P**	**09 17 58.7**	**+1.6**
AKASG	**Malin Array Be**	**69.20**	**360**	pP	pP	09 21 11.3	-0.1
	0.2nm,0.2s,baz=3.6,slow=6.3,SNR=2.5						

*NEIC **05** 09:10:27.4±0.9, 3.58S×137.13E, h30km, mb4.3/6, Error ellipse: s-maj=22.5km s-min=13.7km az=89.0*
*IDC **05** 09:10:40.1±7.2, 3.91S×137.19E, h150km±64km, mb3.6/5, mb1 3.8/7, mb1mx3.8/11, mbtmp4.2/7, Error ellipse: s-maj=40.0km s-min=24.2km az=75.0*
ISC 05 09:10:44.2±2.7**, 4.32S**±0.09×**137.0E**±0.1**, h190**km±26km**, n20, σ1^{s}13**/22**, mb3.9**/7**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.50**	**208**	*e*P	Px	09 13 11.3	
	18nm,0.4s						
WRAB	**Tennant Creek**	**15.74**	**189**	*e*P	**P**	**09 14 18.1**	**+0.9**
	46nm,0.6s						
WRAB				*e*S	**S**	**09 17 06.2**	**+0.4**
WB2	**Warramunga Arr**	**15.75**	**189**	*e*P	**P**	**09 14 17.5**	**+0.2**
WB2				*e*S	**S**	**09 17 05.5**	**-0.5**
WRA	**Warramunga Arr**	**15.75**	**189**	P	**P**	**09 14 15.8**	**-1.5**
	9.0nm,0.3s,baz=8.8,slow=12,SNR=273						
WRA				S	**S**	**09 17 05.2**	**-0.9**
	0.7nm,0.3s,baz=12,slow=22,SNR=5.9						
FITZ	**Fitzroy Crossi**	**17.66**	**218**	*e*P	**P**	**09 14 40.3**	**+0.6**
	10nm,0.8s						
FITZ				*e*S	**S**	**09 17 46.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**17.66**	**218**	P	**P**	**09 14 40.7**	**+0.9**
	3.0nm,0.3s,baz=24,slow=9.8,SNR=20						
FITZ				S	**S**	**09 17 46.9**	**-1.0**
	1.4nm,0.3s,baz=184,slow=13,SNR=9.5						
CTA	**Charters Tower**	**18.07**	**151**	*e*P	**P**	**09 14 43.8**	**-0.2**
	7.8nm,0.4s						
CTA	**Charters Tower**	**18.07**	**151**	P	**P**	**09 14 43.8**	**-0.2**
	2.0nm,0.3s,baz=330,slow=11,SNR=29						
CTAO	**Charters Tower**	**18.07**	**151**	*e*P	**P**	**09 14 43.6**	**-0.4**
	9.2nm,0.5s						
MBWA	**Marble Bar**	**23.73**	**224**	*e*P	**P**	**09 15 41.4**	**+1.1**
	1.0nm,0.3s,mb3.8						
STKA	**Stephens Creek**	**27.75**	**172**	*e*P	**P**	**09 16 17.0**	**-0.3**
	1.1nm,0.3s,mb4.1						
STKA	**Stephens Creek**	**27.75**	**172**	P	**P**	**09 16 17.6**	**+0.2**
	1.4nm,0.4s,mb4.1,baz=350,slow=7.9,SNR=9.9						
STKA	**Stephens Creek**	**27.75**	**172**	*e*P	**P**	**09 16 18.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**33.95**	**211**	P	**P**	**09 17 12.9**	**+1.4**
	39nm,1.3s,mb5.0						
MKAR	**Makanchi Array**	**70.05**	**323**	P	**P**	**09 21 34.6**	**-2.7**
	0.5nm,0.5s,mb3.5,baz=116,slow=8.0,SNR=4.5						
MKAR				pP	pP	09 22 05.8	-17
	0.2nm,0.4s,baz=108,slow=8.0,SNR=4.0						
VNDA	**Vanda**	**74.34**	**175**	P	**P**	**09 22 03.1**	**+0.9**
	1.2nm,0.6s,mb3.8,baz=328,slow=6.8,SNR=12						
MAW	**Mawson**	**80.02**	**202**	P	**P**	**09 22 34.7**	**+1.2**
	0.8nm,0.7s,mb3.4,baz=90,slow=6.1,SNR=3.6						
ILAR	**Eielson Array**	**87.98**	**25**	P	**P**	**09 23 10.5**	**-2.9**
	0.5nm,0.6s,mb3.5,baz=268,slow=4.3,SNR=12						
CLL	**Collm**	**114.11**	**325**	*i*	PKPdf	09 29 02.6	+1.9
LPAZ	**La Paz**	**147.77**	**130**	PKPbc	PKPdf	09 30 09.7	+5.4
	0.5nm,0.5s,baz=168,slow=2.6,SNR=4.0						

*NEIC **05** 09:28:24.6±1.4, 10.35S×161.31E, h58km±12km, mb4.5/10, Error ellipse: s-maj=13.2km s-min=10.7km az=82.0*
*IDC **05** 09:28:25.5±2.4, 10.44S×161.30E, h68km±20km, mb3.9/10, mb1 4.1/12, mb1mx4.1/16, mbtmp4.2/12, MS3.9/4, Ms1 3.9/4, ms1mx3.7/24, Error ellipse: s-maj=22.4km s-min=15.4km az=85.0*
ISC 05 09:28:24.2±1.5**, 10.46S**±0.07×**161.3E**±0.1**, h68**km±13km**, n31, σ1^{s}07**/32**, mb4.2**/15**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.67**	**308**	P	**P**	**09 28 50.6**	**-1.3**
	114nm,0.3s,baz=160,slow=2.4,SNR=47						
HNR				S	**S**	**09 29 13.6**	**+1.2**
	1µm,0.3s,baz=177,slow=23,SNR=21						
HNR	**Honiara**	**1.67**	**308**	*e*Pn	**P**	**09 28 51.1**	**-0.8**
HNR				*e*Sn	**S**	**09 29 14.9**	**+2.5**
DZM	**Mont Dzumac**	**12.56**	**157**	P	**P**	**09 31 20.7**	**-1.1**
	0.3nm,0.3s,slow=8.1,SNR=18						
DZM				S	**S**	**09 33 34.9**	**-5.6**
	0.2nm,0.3s,baz=71,slow=22,SNR=2.2						
DZM				LR	LR	09 35 08.2	
	comp=Z,312nm,20.4s,baz=194,slow=32						
PMG	**Port Moresby**	**13.96**	**273**	LR	LR	09 36 38.8	
	comp=Z,1µm,19.6s,baz=141,slow=35						
CTA	**Charters Tower**	**17.36**	**235**	*e*P	**P**	**09 32 26.2**	**+2.6**
	11nm,1.0s						
CTA	**Charters Tower**	**17.36**	**235**	P	**P**	**09 32 24.2**	**+0.6**
	0.3nm,0.3s,baz=71,slow=12,SNR=14						
CTA				LR	LR	09 37 48.1	
	comp=Z,308nm,18.8s,baz=247,slow=32						
CTAO	**Charters Tower**	**17.36**	**235**	*e*Pn	**P**	**09 32 24.7**	**+1.1**
	22nm,1.1s						
CTAO				*e*pPn		09 32 35.2	
WRAB	**Tennant Creek**	**27.61**	**247**	*e*P	**P**	**09 34 07.1**	**-0.4**
	19nm,1.4s,mb4.4						
WB2	**Warramunga Arr**	**27.61**	**247**	*e*P	**P**	**09 34 06.8**	**-0.7**
WRA	**Warramunga Arr**	**27.62**	**247**	P	**P**	**09 34 06.7**	**-1.0**
	4.9nm,1.1s,mb4.0,baz=77,slow=8.8,SNR=17						
STKA	**Stephens Creek**	**28.03**	**218**	P	**P**	**09 34 10.9**	**-0.3**
	2.4nm,0.8s,mb3.8,baz=290,slow=17,SNR=3.3						
STKA	**Stephens Creek**	**28.03**	**218**	*e*P	**P**	**09 34 10.8**	**-0.4**
STKA				*e*pP	pP	09 34 27.0	-0.4
URZ	**Urewera**	**31.11**	**155**	LR	LR	09 45 30.3	
	comp=Z,262nm,20.2s,baz=299,slow=33						
TAU	**Tasmania Unive**	**34.55**	**198**	P	**P**	**09 35 08.9**	**+0.7**
	16nm,1.2s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.32**	**253**	*e*P	**P**	**09 35 12.9**	**-2.1**
	10nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.32**	**253**	P	**P**	**09 35 13.8**	**-1.2**
	10nm,0.8s,mb4.7,baz=70,slow=2.6,SNR=9.8						
MBWA	**Marble Bar**	**41.26**	**250**	*e*P	**P**	**09 36 04.8**	**+0.4**
	4.3nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**51.55**	**336**	P	**P**	**09 37 23.6**	**-1.9**
	2.1nm,0.7s,mb4.3,baz=170,slow=9.6,SNR=4.5						
VNDA	**Vanda**	**67.04**	**180**	P	**P**	**09 39 11.9**	**0.0**
	1.1nm,0.8s,mb3.7,baz=328,slow=3.8,SNR=7.2						
VNDA	**Vanda**	**67.04**	**180**	*e*P	**P**	**09 39 12.1**	**+0.2**
	9.1nm,1.7s,mb4.3						
SBA	**Scott Base**	**67.44**	**179**	*e*P	**P**	**09 39 16.3**	**+2.0**
ULN	**Ulaanbaatar**	**75.30**	**326**	*e*P	**P**	**09 40 02.3**	**+0.6**
	2.4nm,0.6s,mb4.1						
MAW	**Mawson**	**83.60**	**202**	*e*P	**P**	**09 40 46.8**	**+0.8**
	4.7nm,1.2s,mb4.2						
MAW	**Mawson**	**83.60**	**202**	P	**P**	**09 40 46.9**	**+0.9**
	7.6nm,1.1s,mb4.5,baz=81,slow=6.5,SNR=9.4						
ILAR	**Eielson Array**	**84.40**	**20**	P	**P**	**09 40 49.6**	**-0.4**
	1.7nm,1.0s,mb3.9,baz=251,slow=5.5,SNR=8.1						
NVAR	**Mina Array Bea**	**89.02**	**51**	P	**P**	**09 41 14.7**	**+1.6**
	0.7nm,0.8s,mb3.7,baz=250,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**90.12**	**318**	P	**P**	**09 41 17.5**	**-0.6**
	0.5nm,0.5s,mb3.9,baz=90,slow=3.6,SNR=5.0						
MKAR	**Makanchi Array**	**90.12**	**318**	P	**P**	**09 41 17.5**	**-0.6**
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**09 41 46.8**	**-0.1**
	0.5nm,0.9s,mb3.9,baz=261,slow=4.8,SNR=8.4						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**09 41 46.8**	**-0.1**
SNAA	**Sanae**	**97.37**	**185**	*e*P	**P**	**09 41 51.1**	**+0.3**
	3.3nm,1.4s,mb4.6						

*NNC **05** 09:30:10.1±3.7, 33.93N×50.82E, Error ellipse: s-maj=69.1km s-min=25.5km az=87.0*
*BJI **05** 09:30:16.8, 34.20N×51.55E, h29km, mB5.3, mb4.8, Ms4.9, Msz4.7*
*NEIC **05** 09:30:18.8±0.2, 34.18N×52.04E, h10km, mb4.8/57, ML4.8(TEH), ML4.8(THR), Error ellipse: s-maj=4.4km s-min=3.3km az=224.0*
*THR **05** 09:30:18.3±0.7, 34.17N×52.06E, h14km±5km, ML4.6*
*CSEM **05** 09:30:19.1±0.0, 34.19N×51.98E, h23km, mb4.8/45, Ms4.4, Error ellipse: s-maj=1.3km s-min=1.0km az=80.0*
*TEH **05** 09:30:20.4, 34.24N×52.21E, h4km, Mn4.8*
*MOS **05** 09:30:20.0±0.9, 34.07N×51.96E, h33km, mb5.0/49, Error ellipse: s-maj=7.9km s-min=4.4km az=133.8*
*IDC **05** 09:30:21.9±6.5, 34.13N×52.02E, h32km±48km, mb4.2/22, mb1 4.3/24, mb1mx4.3/27, mbtmp4.4/24, ML3.6/1, MS3.9/1, Ms1 3.9/1, ms1mx3.5/23, Error ellipse: s-maj=17.2km s-min=14.7km az=147.0*
*OMAN **05** 09:31:05.9, 30.44N×52.23E, h30km, Error ellipse: s-maj=52.2km s-min=2.8km az=339.0*
ISC 05 09:30:17.1±0.5**, 34.15N**±0.02×**52.01E**±0.02**, h10**km±3km**, h20**km±3.6km**:pP-P, n316, σ1^{s}20**/326**, mb4.7**/96**, MS4.3**/6**, 28C-10D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVRN	**Varamin**	**0.88**	**345**	Pg	**Pg**	**09 30 35.5**	**+0.8**
IVRN				Sg	**Sg**	**09 30 46.5**	**+0.1**
IKLH	**Kalahroud**	**0.91**	**204**	Pg	**Pg**	**09 30 36.2**	**+0.9**
IZEF	**Zefreh**	**1.28**	**168**	Pn	**Pn**	**09 30 42.3**	**+1.2**
IDMV	**Damavand**	**1.42**	**1**	Pg	**Pg**	**09 30 44.5**	**-1.1**
DAMV	**Damavand**	**1.48**	**359**	*e*PG	**Pg**	**09 30 45.3**	**-1.4**
DAMV				*e*SG	**Sg**	**09 31 05.3**	**-1.0**
DAMV				AML	AML	09 31 08.2	
	comp=N,11µm,0.3s						
DAMV	**Damavand**	**1.48**	**359**	Pg	**Pg**	**09 30 45.2**	**-1.4**
NASN	**Na'in**	**1.50**	**154**	*e*PG	**Pg**	**09 30 46.1**	**-1.1**

NASN Na'in 1.50 154 Pg **Pg** 09 30 46.0 -1.2
IFIR Firoozkooh 1.61 22 Pg **Pg** 09 30 46.8 -2.5
IFIR Lg 09 31 08.5
ASAO Ashtian 1.69 284 *e*PG **Pg** 09 30 50.1 -0.9
ASAO *e*SG **Sg** 09 31 13.1 -0.4
ASAO AML AML 09 31 19.1
comp=N,5µm,0.6s
ASAO Ashtian 1.69 284 Pg **Pg** 09 30 50.0 -0.9
ASAO *e*Sg **Sg** 09 31 13.1 -0.4
SNR=90
IAFJ Afjeh 1.72 352 Pn **Pn** 09 30 49.5 +2.2
IMHD Mahdasht 1.89 325 Pn **Pn** 09 30 52.2 +2.4
IGAR Garneh 1.91 175 Pn **Pn** 09 30 51.0 +0.9
THKV Tehran--Karaj 1.99 332 *e*PG **Pg** 09 30 54.1 -2.8
THKV Tehran--Karaj 1.99 332 Pg **Pg** 09 30 54.0 -2.9
IPRN Paran-Amol 2.09 5 Pn **Pn** 09 30 55.9 +3.2
IRAZ Razeghan 2.12 307 Pn **Pn** 09 31 07.4 +14
IKIA Kiasar 2.47 33 Pn **Pn** 09 31 00.0 +2.0
IGLO Galoogah 2.47 29 Pn **Pn** 09 31 05.0 +6.9
ICHK Chekchek 2.77 133 Pn **Pn** 09 31 04.6 +2.3
IMEH Mehriz 3.52 141 Pn **Pn** 09 31 15.0 +2.0
IKOM Komasi 3.73 272 Pn **Pn** 09 31 26.2 +10
IBAF Bafgh 3.93 130 Pn **Pn** 09 31 20.8 +1.9
SNGE Sanandaj 3.96 285 *e*PN **Pn** 09 31 21.5 +2.2
SNGE Sanandaj 3.96 285 Pn **Pn** 09 31 21.4 +2.1
ILIN Laeen 4.24 282 Pn **Pn** 09 31 27.5 +4.3
IPAR Pars 4.39 168 Pn **Pn** 09 31 26.8 +1.5
IGHG Ghaleghazi 4.51 274 Pn **Pn** 09 31 29.2 +2.1
IDHR Dehrash 4.68 278 Pn **Pn** 09 31 32.8 +3.3
ISRV Sarvestan 4.85 169 Pn **Pn** 09 31 33.5 +1.6
IMOK Mook 5.12 173 Pn **Pn** 09 31 36.4 +0.6
IHSH Hashtroud 5.65 319 Pn **Pn** 09 31 36.1 -7.1
GRMI Germi 5.71 326 *e*PN **Pn** 09 31 44.9 +0.9
KRBR Kerman 5.79 135 *e*PN **Pn** 09 31 46.2 +1.0
KRBR AML AML 09 33 35.0
comp=E,472nm,0.7s
KRBR Kerman 5.79 135 Pn **Pn** 09 31 46.1 +0.9
UMR Umm Al-Rimmam 5.86 220 *e*P **Pn** 09 31 47.1 +0.9
UMR AML AML 09 32 47.2
comp=Z,121nm,0.5s
MIB Mutribah 5.88 224 *e*P **Pn** 09 31 47.3 +0.9
MIB AML AML 09 32 44.6
comp=Z,143nm,0.6s
MIB Mutribah 5.88 224 *e*P **Pn** 09 31 47.3 +0.9
MIB *e*S **Sn** 09 32 55.7 +1.1
GHIR Ghir-Karzin 5.91 172 *e*PN **Pn** 09 31 47.9 +1.1
GHIR AML AML 09 33 05.0
comp=N,147nm,0.8s
IAZR Azarshahr 6.03 307 Pn **Pn** 09 31 50.8 +2.3
IPAY Payeh 6.15 66 Pn **Pn** 09 31 50.9 +0.6
KBD Kabd 6.18 218 *e*P **Pn** 09 31 51.8 +1.2
BHD Baghdad 6.42 264 *ex* x 09 31 51.0
BHD *ex* x 09 33 04.0
BHD *ex* x 09 33 23.0
BHD *ex* x 09 33 42.0
BHD Baghdad 6.42 264 *e*Pn **Pn** 09 31 51.0 -3.1
BHD *e*Sg **Sg** 09 33 42.0 -8.9
RDF Al-Radifah 6.45 217 *e*P **Pn** 09 31 55.7 +1.2
RDF AML AML 09 33 01.0
comp=Z,96nm,0.5s
MHI Mashhad 6.47 68 Pn **Pn** 09 31 55.5 +0.7
IMRD Marand 6.82 314 Pn **Pn** 09 32 01.1 +1.3
IMYA Miamay 6.97 69 Pn **Pn** 09 32 02.0 +0.2
MSL Mosul 7.61 289 *ex* x 09 32 28.5
MSL *ex* x 09 34 27.0
MSL *ex* x 09 36 21.5
MSL *ex* x 09 37 17.5
BNDS Bandar-Abbas 7.62 151 *e*PN **Pn** 09 32 11.3 +0.4
GNI Garni 8.34 318 Pn **P** 09 32 25.6 +4.7
comp=Z,2.3nm,0.3s,baz=194,slow=4.0,SNR=5.7
GNI Lg 09 34 44.1
baz=182,slow=13,SNR=1.4
GNI LR LR 09 35 54.2
comp=Z,722nm,18.1s,baz=79,slow=40
GNI Garni 8.34 318 *e*Pn **P** 09 32 25.6 +4.7
comp=Z,111nm,0.8s
GNI Garni 8.34 318 *e*P **P** 09 32 25.6 +4.7
GNI pmax pmax
comp=Z,11nm,0.8s
BANOM Banah 9.00 155 ⇑P **P** 09 32 29.6 -0.5
HASS Wahat al Ahsa' 9.15 193 P **P** 09 32 30.1 -2.2
ASHO Ashiyiah 10.07 158 P **P** 09 32 44.1 -0.8
SNR=13
RYDS Riyadh 10.98 207 P **P** 09 32 48.8 -8.5
HILS Ha'il 11.07 235 P **P** 09 32 56.5 -2.2
ARQ Araqi 11.48 159 ⇑P **P** 09 33 00.6 -3.6
MZLS Mizel 11.71 212 P **P** 09 33 02.9 -4.4
KIV Kislovodsk 12.17 326 *e*P **P** 09 33 22.2 +8.7
KIV pmax pmax
comp=Z,23nm,1.2s
BSY Bisya 12.24 157 ⇑P **P** 09 33 11.8 -2.8
SMDO Samad 12.25 153 ⇑P **P** 09 33 14.4 -0.3
BSYO Bisya 12.27 157 P **P** 09 33 11.8 -3.1
ASF Jabal al Asfar 12.82 265 Pn **P** 09 33 20.7 -1.4
comp=Z,1.1nm,0.3s,baz=18,slow=0.7,SNR=3.8
ASF Lg 09 37 23.3
comp=Z,0.6nm,0.3s,baz=133,slow=19,SNR=2.2
AFFS 'Afif 12.87 220 P **P** 09 33 16.7 -6.2
JMDO Jabal Madar 12.90 154 ⇓P **P** 09 33 22.2 -1.1
JMOS Jabal al Moall 15.22 256 P **P** 09 33 56.8 +3.0
CSS Prodhromos 15.42 278 P **P** 09 33 56.0 -0.3
comp=Z,9.9nm,0.6s
CSS Prodhromos 15.42 278 P **P** 09 33 56.0 -0.3
comp=Z,9.9nm,0.6s
BDAS Al Bad' 15.53 253 P **P** 09 33 58.2 +0.3
BR131 Keskin Array S 15.70 296 *e*P **P** 09 34 00.8 +0.9
BR131 Keskin Array S 15.70 296 *e*P **P** 09 34 00.8 +0.8
BRTR Keskin Array B 15.70 296 Pn **P** 09 34 01.8 +1.8
comp=Z,0.2nm,0.3s,baz=280,slow=21,SNR=9.2
AB31 Akbulak array 16.20 19 P **P** 09 34 04.6 -1.7
comp=Z,7.6nm,0.8s,baz=205,slow=11,SNR=40
AB31 ⇑S **S** 09 37 10.0 +4.2
comp=Z,8.5nm,0.8s,baz=199,slow=22
AB31 Akbulak array 16.20 19 *e*P **P** 09 34 09.1 +2.9
AB31 pmax pmax
comp=Z,3.0nm,0.6s
WHFO Wadi Hawf 16.24 174 P **P** 09 34 02.7 -4.3
SNR=17
ANTO Ankara 16.37 296 P **P** 09 34 10.8 +2.3
CEP Cherat 16.51 86 P **P** 09 34 11.0 +0.7
THW Thamme Wali 16.52 89 P **P** 09 34 10.5 0.0
RBK Rabkut 16.70 173 P **P** 09 34 09.8 -3.0
SNR=17
ABTO Aybut 16.77 176 P **P** 09 34 10.2 -3.4
SNR=14
ABTO Aybut 16.77 176 P **P** 09 34 10.2 -3.5
SNR=14
AKTO Aktyubinsk 16.86 13 ⇓P **P** 09 34 12.8 -1.8
comp=Z,2.3nm,0.9s
AKTO ⇓S **S** 09 37 30.7 +10
comp=Z,3.2nm,1.6s
BLJS Baljurashi 16.96 216 P **P** 09 34 16.5 +0.4
KK31 Karatay Array 16.97 53 ⇑P **P** 09 34 21.3 +5.2
comp=Z,6.0nm,0.8s,baz=235,slow=14,SNR=33
KKAR Karatay Array 16.97 53 *i*P **P** 09 34 22.4 +6.3
KKAR pmax pmax
comp=Z,1.0nm,0.5s
LTHS Al Lith 17.23 220 P **P** 09 34 19.3 -0.2
DJNS Zahran al Janu 18.05 207 P **P** 09 34 28.7 -1.0
VRHR Novokhopersk 18.55 339 *e*P **P** 09 34 37.7 +2.0
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,30nm,1.2s
VRHR pmax pmax
comp=E,10.0nm,0.5s
AAK Ala-Archa 19.51 58 ⇑P **P** 09 34 49.4 +2.2
comp=E,219nm,0.1s
AAK Ala-Archa 19.51 58 *e*P **P** 09 34 45.7 -1.5
comp=E,18nm,1.1s
AAK Ala-Archa 19.51 58 *e*P **P** 09 34 47.3 +0.1
comp=E,15nm,1.7s
AAK Ala-Archa 19.51 58 *e*P **P** 09 34 47.3 +0.1
AAK pmax pmax
comp=Z,15nm,1.7s
KHET Khetri 21.23 100 *e*P **P** 09 35 03.8 -1.6
KHET AMb AMB 09 35 05.4
comp=Z,9.8nm,0.8s,mb4.2
HARR Harsova 21.30 307 ⇑*i*P **P** 09 35 05.6 -0.4
CFR Carcaliu 21.35 308 ⇑*i*P **P** 09 35 05.2 -1.3
KUDL Kundal 21.76 99 *e*P **P** 09 35 10.9 0.0
KUDL AMb AMB 09 35 15.0
comp=Z,22nm,0.8s,mb4.6

RDO Rodhopi 22.04 296 P **P** 09 35 14.4 +0.9
AYAN Aya Nagar 22.16 98 *e*P **P** 09 35 14.8 -0.1
AYAN AMb AMB 09 35 18.6
comp=Z,21nm,0.7s,mb4.7
KLP Kalpa 22.18 89 *e*P **P** 09 35 13.6 -1.3
KLP AMb AMB 09 35 21.5
comp=Z,28nm,1.3s,mb4.5
SONA Sohna 22.21 99 *e*P **P** 09 35 14.8 -0.5
SONA AMb AMB 09 35 16.6
comp=Z,15nm,0.3s,mb4.8
IDI Anoyia 22.30 281 P **P** 09 35 16.5 +0.3
comp=Z,34nm,0.7s,mb4.9,baz=82,slow=12,SNR=13
VRI Vrincioaia 22.53 309 ⇑*i*P **P** 09 35 22.9 +4.6
ARU Arti 22.73 9 *e*P **P** 09 35 20.4 +0.3
comp=Z,34nm,0.8s,mb4.8
ARU Arti 22.73 9 *e*P **P** 09 35 20.4 +0.2
comp=Z,34nm,0.8s,mb4.8
ARU Arti 22.73 9 *e*P **P** 09 35 20.0 -0.1
ARU *e* 09 36 03.8
MLR Muntele Rosu 22.90 307 P **P** 09 35 23.7 +1.8
comp=Z,30nm,1.1s,mb4.7,baz=143,slow=7.3,SNR=17
MLR Muntele Rosu 22.90 307 ⇑*i*P **P** 09 35 25.8 +3.9
MLR Muntele Rosu 22.90 307 ⇑*i*P **P** 09 35 25.8 +3.8
MLR Muntele Rosu 22.90 307 P **P** 09 35 23.7 +1.8
MLR pmax pmax
comp=Z,30nm,1.1s
BRVK Borovoye 22.95 29 *e*P **P** 09 35 21.8 -0.5
comp=Z,14nm,1.0s,mb4.3
BRVK Borovoye 22.95 29 *e*P **P** 09 35 21.8 -0.5
comp=Z,14nm,1.0s,mb4.3
BRVK Borovoye 22.95 29 *e*P **P** 09 35 21.8 -0.5
BRVK pmax pmax
comp=Z,14nm,1.0s,mb4.3
BVA0 Borovoye Array 22.97 29 ⇓P **P** 09 35 23.2 +0.7
comp=Z,3.6nm,1.0s,mb3.8,baz=240,slow=37,SNR=38
BVAR Borovoye Array 22.97 29 P **P** 09 35 23.0 +0.5
comp=Z,3.3nm,0.6s,mb3.9,baz=221,slow=10,SNR=15
BVAR PcP PcP 09 39 13.5 -0.5
comp=Z,1.0nm,0.6s,baz=225,slow=2.0,SNR=3.8
VOSK Vostochnaya 22.99 30 ⇓P **P** 09 35 23.3 +0.5
comp=Z,12nm,0.9s,mb4.3
SVE Sverdlovsk 23.43 12 *e*P **P** 09 35 33.1 +6.1
SVE *e* 09 35 57.3
SVE *e*PPP PPP 09 36 15.4 +6.7
SVE MLR MLR
comp=N,400nm,15.0s,MS4.0
SVE MLR MLR
comp=E,200nm,15.0s,MS4.0
SVE MLR MLR
comp=Z,500nm,15.0s,MS4.1
AKASG Malin Array Be 23.44 322 P **P** 09 35 28.4 +1.3
comp=Z,0.4nm,0.4s,baz=127,slow=8.9,SNR=8.8
VOIR 23.47 307 ⇑*i*P **P** 09 35 32.5 +5.0
OBN Obninsk 23.56 337 P **P** 09 35 29.0 +0.7
OBN Obninsk 23.56 337 P **P** 09 35 29.0 +0.7
OBN Obninsk 23.56 337 *e*P **P** 09 35 25.1 -3.2
OBN *e* 09 36 09.0
OBN pmax pmax
comp=Z,7.0nm,0.4s,mb4.4
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.0
MOS Moscow 23.77 340 *e*P **P** 09 35 36.4 +6.1
MOS *e**PP 09 35 59.1
MOS pmax pmax
comp=Z,39nm,0.7s,mb5.0
KMPD K-Podol'skiy 23.84 315 P **P** 09 35 34.0 +3.0
VTS Vitosha 24.02 299 P **P** 09 35 34.6 +1.8
BURAR Bucovina Array 24.17 312 ⇓*i*P **P** 09 35 36.6 +2.3
BURAR Bucovina Array 24.17 312 ⇓*i*P **P** 09 35 36.6 +2.3
BHPL Bhopal 24.74 109 *e*P **P** 09 35 41.8 +1.8
BHPL AMb AMB 09 35 42.9
comp=Z,39nm,0.6s,mb5.1
BOLS Boljevac 25.16 302 *e*P **P** 09 35 44.5 +0.7
DRGR 25.46 309 ⇓*i*P **P** 09 35 47.6 +1.0
KURK Kurchatov 25.48 41 ⇑P **P** 09 35 48.2 +1.4
comp=Z,10nm,1.3s,mb4.2
KURK Kurchatov 25.48 41 *e*P **P** 09 35 47.9 +1.1
comp=Z,22nm,1.2s,mb4.5
KURK Kurchatov 25.48 41 *e*P **P** 09 35 47.9 +1.1
comp=Z,22nm,1.2s,mb4.5
KURK Kurchatov 25.48 41 *e*P **P** 09 35 48.6 +1.8
LVV L'vov 25.83 316 *e*P **P** 09 35 53.0 +3.0
MK31 Makanchi Array 26.09 52 ⇑P **P** 09 35 53.6 +1.1
comp=Z,3.9nm,0.6s,mb4.1,baz=248,slow=7.5,SNR=47
MKAR Makanchi Array 26.09 52 P **P** 09 35 53.0 +0.4
comp=Z,3.5nm,0.6s,mb4.1,baz=243,slow=8.1,SNR=26
MKAR PcP PcP 09 39 19.6 -1.1
comp=Z,2.2nm,0.8s,baz=236,slow=2.7,SNR=6.7
KWP Kalwaria 26.52 315 *e*P **P** 09 35 57.7 +1.2
CRVS Cervenica-Dubn 26.98 312 *e*P **P** 09 36 02.0 +1.3
STHS Stebnicka Huta 27.31 313 *e*P **P** 09 36 05.5 +1.8
KECS Kecovo 27.44 311 *e*P **P** 09 36 03.3 -1.6
PSZ Piszkesteto 27.63 310 *e*P **P** 09 36 06.5 -0.2
comp=Z,2.5nm,0.4s,mb4.2
PSZ Piszkesteto 27.63 310 *e*P **P** 09 36 06.5 -0.1
comp=Z,2.5nm,0.4s,mb4.2
PSZ Piszkesteto 27.63 310 *e*P **P** 09 36 06.5 -0.1
PSZ pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
KOLN Koldanda 27.75 95 *e*P **P** 09 36 08.2 +0.3
comp=Z,62nm,1.5s,mb5.0
PKSM Moragy 27.99 306 P **P** 09 36 10.7 +0.8
OJC Ojcow 28.48 314 *e*P **P** 09 36 15.3 +1.0
VYHS Vyhne 28.48 310 *e*P **P** 09 36 13.7 -0.6
GKN Gorkha 28.53 93 *e*P **P** 09 36 14.9 0.0
comp=Z,47nm,1.2s,mb5.1
DMN Daman 29.06 94 *e*P **P** 09 36 20.0 +0.3
comp=Z,60nm,1.2s,mb5.2
KKN Kakani 29.14 93 *e*P **P** 09 36 20.7 +0.3
comp=Z,102nm,1.5s,mb5.3
WMQ Urumqi 29.18 60 *e*P **P** 09 36 21.7 +1.1
WMQ AP pP 09 36 29.0 +5.4
WMQ XP sP 09 36 32.0 +7.1
WMQ *e*S **S** 09 41 11.5 +0.1
WMQ XS 09 41 24.0
WMQ PCS 09 43 10.0
WMQ AMB AMB
comp=Z,9.0nm,1.2s,mb4.4
WMQ AMB AMB
comp=Z,100nm,6.0s
WMQ LR LR
comp=N,792nm,18.1s,MS4.6
WMQ LR LR
comp=E,1µm,18.8s,MS4.6
WMQ LR LR
comp=Z,902nm,20.2s,MS4.4
PKI Pulchoki 29.32 94 *e*P **P** 09 36 22.0 -0.1
comp=Z,99nm,1.5s,mb5.3
JAVC Velka Javorina 29.33 310 P **P** 09 36 24.8 +2.9
ZST Bratislava 29.50 309 *e* **P** 09 36 17.6 -5.9
SOP Sopron 29.73 308 P **P** 09 36 26.6 +1.1
CRES Cresnjev 30.09 304 P **P** 09 36 29.6 +0.9
VRAC Vranov 30.14 311 P **P** 09 36 28.9 -0.2
comp=Z,2.5nm,0.4s,mb4.3,baz=106,slow=11,SNR=4.4
BOJS Bojanci 30.17 303 *e*P **P** 09 36 29.7 +0.2
LEGS Legarje 30.20 304 *e*P **P** 09 36 30.4 +0.7
ARSA Arzberg 30.31 307 ⇑*i*P **P** 09 36 31.3 +0.6
comp=Z,11nm,0.9s,mb4.6
ZAL Zalesovo 30.36 39 P **P** 09 36 30.3 -0.7
comp=Z,2.3nm,0.4s,mb4.2,baz=204,slow=3.9,SNR=4.9
DPC Dobruska-Polom 30.62 313 *e*P **P** 09 36 29.0 -4.4
CEY Cerknica 30.78 303 P **P** 09 36 35.8 +1.0
TREC Trest 30.83 311 *e*P **P** 09 36 35.6 +0.4
UPC Upice 30.86 313 *e*P **P** 09 36 35.8 +0.3
MOA Molln 31.27 307 ⇑*i*P **P** 09 36 39.3 +0.2
comp=Z,17nm,0.9s,mb4.9
ROBS Robic 31.49 304 *e*P **P** 09 36 40.4 -0.7
KBA Koelnbreinsper 31.74 306 ⇑*i*P **P** 09 36 43.5 +0.2
comp=Z,13nm,0.8s,mb4.8
KBA Koelnbreinsper 31.74 306 ⇑*i*P **P** 09 36 43.5 +0.2
KBA pmax pmax
comp=Z,13nm,0.8s,mb4.8
GEC2 GERESS Array S 31.86 309 *e*P **P** 09 36 44.2 -0.1
comp=Z,19nm,1.1s,mb4.8
GEC2 GERESS Array S 31.86 309 *e*P **P** 09 36 44.2 -0.1
GEC2 pmax pmax
comp=Z,19nm,1.1s,mb4.8
GERES GERESS Array B 31.86 309 P **P** 09 36 44.4 +0.1
comp=Z,8.0nm,0.9s,mb4.5,baz=108,slow=8.4,SNR=44
FINES FINESS Array B 31.96 337 P **P** 09 36 45.1 +0.1
comp=Z,3.7nm,0.9s,mb4.2,baz=135,slow=8.1,SNR=8.0
KHC Kasperske Hory 32.00 310 *e*P **P** 09 36 45.8 +0.3
KHC pP pP 09 36 48.5 -0.1
BRG Berggiesshubel 32.22 313 P **P** 09 36 47.2 -0.2
comp=Z,4.3nm,0.8s,mb4.3

BRG Berggiesshubel 32.22 313 P **P** 09 36 47.2 -0.2
comp=Z,4.3nm,0.8s,mb4.3
BRG Berggiesshubel 32.22 313 P **P** 09 36 47.2 -0.2
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
WET Wettzell 32.45 309 *e*P **P** 09 36 49.4 -0.1
comp=Z,22nm,1.1s,mb4.9
WET Wettzell 32.45 309 *e*P **P** 09 36 49.4 -0.1
WET pmax pmax
comp=Z,22nm,1.1s,mb4.9
CLL Collm 32.91 313 ⇓P **P** 09 36 54.4 +1.0
comp=Z,logA/T=1.2,mb4.9
WTTA Wattenberg 32.92 306 ⇑*i*P **P** 09 36 53.1 -0.4
comp=Z,31nm,1.1s,mb5.2
WTTA Wattenberg 32.92 306 ⇑*i*P **P** 09 36 53.1 -0.4
WTTA pmax pmax
comp=Z,31nm,1.1s,mb5.2
NKC Novy Kostel 32.98 311 *e*P **P** 09 36 53.7 -0.3
SQTA Sankt Quirin 33.20 306 ⇑*i*P **P** 09 36 55.5 -0.5
comp=Z,12nm,0.8s,mb4.9
SQTA Sankt Quirin 33.20 306 ⇑*i*P **P** 09 36 55.5 -0.5
SQTA pmax pmax
comp=Z,12nm,0.8s,mb4.9
MOTA Moosalm 33.29 306 ⇑*i*P **P** 09 36 55.9 -0.9
comp=Z,14nm,0.9s,mb4.9
MOTA Moosalm 33.29 306 ⇑*i*P **P** 09 36 55.9 -0.9
MOTA pmax pmax
comp=Z,14nm,0.9s,mb4.9
LSA Lhasa 33.37 87 *e*P **P** 09 36 58.3 +0.6
comp=Z,15nm,0.9s,mb4.9
LSA Lhasa 33.37 87 *e*P **P** 09 36 58.3 +0.6
comp=Z,15nm,0.9s,mb4.9
LSA Lhasa 33.37 87 *e*P **P** 09 36 58.3 +0.6
LSA pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRA1 Grafenberg Arr 33.62 310 *e*P **P** 09 36 59.1 -0.6
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 33.62 310 *e*P **P** 09 36 59.1 -0.6
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 33.62 310 *e*P **P** 09 36 59.1 -0.6
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 33.62 310 *e*P **P** 09 36 59.1 -0.6
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
DAVOX Davos 34.05 305 P **P** 09 37 03.3 0.0
comp=Z,18nm,0.7s,mb5.1,baz=113,slow=8.2,SNR=20
DAVA Damuels 34.11 305 ⇑*i*P **P** 09 37 03.2 -0.7
comp=Z,40nm,1.1s,mb5.3
PGF Pioggiola 34.45 297 *e*P **P** 09 37 05.4 -1.5
comp=Z,22nm,1.0s,mb4.7
PGF Pioggiola 34.45 297 *e*P **P** 09 37 05.4 -1.5
PGF pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLZ Clausthal 34.64 314 *e*P **P** 09 37 09.2 +0.8
comp=Z,34nm,1.3s,mb5.1
CLZ Clausthal 34.64 314 *e*P **P** 09 37 09.2 +0.8
CLZ pmax pmax
comp=Z,34nm,1.3s,mb5.1
SHL Shillong 35.44 93 *ex* x 09 37 50.0
TNS Taunus Mts 35.49 310 *e*P **P** 09 37 16.3 +0.7
comp=Z,30nm,1.0s,mb5.2
TNS Taunus Mts 35.49 310 *e*P **P** 09 37 16.3 +0.7
TNS pmax pmax
comp=Z,30nm,1.0s,mb5.2
SBF Sospel 35.60 299 *e*P **P** 09 37 15.6 -1.1
comp=Z,61nm,0.8s,mb5.3
SBF Sospel 35.60 299 *e*P **P** 09 37 15.6 -1.1
SBF pmax pmax
comp=Z,30nm,0.8s,mb5.3
HFS Hagfors 35.96 328 P **P** 09 37 19.5 -0.1
comp=Z,1.8nm,0.3s,mb4.4,baz=135,slow=8.4,SNR=19
CDF Champ du Feu 35.98 307 *e*P **P** 09 37 18.2 -1.7
MBDF Montbardon 36.08 301 *e*P **P** 09 37 19.6 -1.2
comp=Z,39nm,0.9s,mb5.1
MBDF Montbardon 36.08 301 *e*P **P** 09 37 19.6 -1.2
MBDF pmax pmax
comp=Z,20nm,0.9s,mb5.0
LPG La Plagne 36.12 302 *e*P **P** 09 37 20.1 -1.0
LPL La Plagne 36.13 302 *e*P **P** 09 37 20.2 -1.0
BNI Bardonecchia 36.16 301 *e*P **P** 09 37 20.7 -0.7
comp=Z,43nm,0.9s,mb5.4
BNI Bardonecchia 36.16 301 *e*P **P** 09 37 20.7 -0.7
comp=Z,43nm,0.9s,mb5.4
BNI Bardonecchia 36.16 301 *e*P **P** 09 37 20.7 -0.7
BNI pmax pmax
comp=Z,43nm,0.9s,mb5.4
FRF La Foret Royal 36.17 299 *e*P **P** 09 37 20.1 -1.4
BUG Bochum--Univer 36.44 312 P **P** 09 37 25.0 +1.3
CABF La Chapelle 36.63 304 *e*P **P** 09 37 24.6 -0.8
comp=Z,45nm,0.7s,mb5.1
CABF La Chapelle 36.63 304 *e*P **P** 09 37 24.6 -0.8
CABF pmax pmax
comp=Z,23nm,0.7s,mb5.1
ORIF Oris-en-Rattie 36.72 301 *e*P **P** 09 37 23.9 -2.2
comp=Z,14nm,0.8s,mb4.5
ORIF Oris-en-Rattie 36.72 301 *e*P **P** 09 37 23.9 -2.2
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
WTSB Winterswijk 36.83 313 *e*P **P** 09 37 28.3 +1.4
WLF Walferdange 36.87 309 *e*P **P** 09 37 27.1 -0.2
comp=Z,9.8nm,0.7s,mb4.8
WLF Walferdange 36.87 309 *e*P **P** 09 37 27.1 -0.2
comp=Z,9.8nm,0.7s,mb4.8
WLF Walferdange 36.87 309 *e*P **P** 09 37 27.1 -0.2
WLF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SMRF Simiane la Rot 36.94 299 *e*P **P** 09 37 26.8 -1.2
HGN Heimansgroeve 37.16 311 ⇑*e*P **P** 09 37 30.6 +0.9
NB2 NORSAR Subarra 37.47 328 P **P** 09 37 31.7 -0.5
comp=Z,2.3nm,0.8s,mb4.1,baz=117,slow=7.9
NB2 NORSAR Subarra 37.47 328 P **P** 09 37 31.7 -0.5
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
NOA NORSAR Array B 37.47 328 P **P** 09 37 32.2 0.0
comp=Z,1.6nm,0.6s,mb4.0,baz=119,slow=8.3,SNR=9.8
VIVF Saint-Julien-l 37.58 301 *e*P **P** 09 37 31.7 -1.6
comp=Z,24nm,0.9s,mb4.6
VIVF Saint-Julien-l 37.58 301 *e*P **P** 09 37 31.7 -1.6
VIVF pmax pmax
comp=Z,12nm,0.9s,mb4.6
BAIF Baives 38.16 309 *e*P **P** 09 37 38.6 +0.4
comp=Z,26nm,0.8s,mb4.7
BAIF Baives 38.16 309 *e*P **P** 09 37 38.6 +0.4
BAIF pmax pmax
comp=Z,13nm,0.8s,mb4.7
LASF Ste Croix 38.18 300 *e*P **P** 09 37 36.7 -1.7
comp=Z,14nm,0.8s,mb4.4
SMF Signal de Mont 38.18 304 *e*P **P** 09 37 37.1 -1.3
comp=Z,52nm,0.9s,mb5.0
SMF Signal de Mont 38.18 304 *e*P **P** 09 37 37.1 -1.3
SMF pmax pmax
comp=Z,26nm,0.9s,mb5.0
LOR Lormes 38.19 305 *e*P **P** 09 37 37.1 -1.3
comp=Z,16nm,0.9s,mb4.5
LOR Lormes 38.19 305 *e*P **P** 09 37 37.1 -1.3
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
GTA Gaotai 38.29 68 *e*P **P** 09 37 40.8 +1.4
GTA AP pP 09 37 44.3 +1.9
GTA AMB AMB
comp=Z,14nm,1.0s,mb4.7
ARCES ARCESS Array B 38.36 345 P **P** 09 37 40.3 +0.6
comp=Z,2.4nm,0.7s,mb4.0,baz=140,slow=9.5,SNR=5.5
SSF Saint Saulge 38.42 305 *e*P **P** 09 37 39.2 -1.2
comp=Z,13nm,0.8s,mb4.7
SSF Saint Saulge 38.42 305 *e*P **P** 09 37 39.2 -1.2
SSF pmax pmax
comp=Z,13nm,0.8s,mb4.7
TCF Toulx Ste Croi 39.30 303 *e*P **P** 09 37 46.9 -0.9
comp=Z,20nm,0.9s,mb4.5
TCF Toulx Ste Croi 39.30 303 *e*P **P** 09 37 46.9 -0.9
TCF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
RJF Les Rejaudoux 39.81 302 *e*P **P** 09 37 51.1 -0.9
MBAR Mbarara 39.92 214 *e*P **P** 09 37 53.2 0.0
comp=Z,1.8nm,0.7s,mb3.9
MBAR Mbarara 39.92 214 *e*P **P** 09 37 53.3 +0.1
comp=Z,2.0nm,0.7s,mb4.0
MBAR Mbarara 39.92 214 *e*P **P** 09 37 53.3 +0.1
MBAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
ZAK Zakamensk 40.41 50 *e*P **P** 09 37 58.1 +1.3
ZAK *e* 09 39 57.6
LDF La Druitiere 40.90 307 *e*P **P** 09 37 59.6 -1.3
comp=Z,20nm,0.8s,mb4.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LDF	**La Druitiere**	**40.90**	**307**	*e*P	**P**	**09 37 59.6**	**-1.3**
LDF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
MFF	**Saint Martin d**	**40.93**	**304**	*e*P	**P**	**09 37 59.7**	**-1.4**
	comp=Z,18nm,0.8s,mb4.5						
MFF	**Saint Martin d**	**40.93**	**304**	*e*P	**P**	**09 37 59.7**	**-1.4**
MFF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
FLN	**La Foliniere**	**41.14**	**307**	*e*P	**P**	**09 38 01.7**	**-1.2**
	comp=Z,26nm,0.9s,mb4.6						
FLN	**La Foliniere**	**41.14**	**307**	*e*P	**P**	**09 38 01.7**	**-1.2**
FLN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.6						
GRR	**Gorron**	**41.39**	**307**	*e*P	**P**	**09 38 03.7**	**-1.2**
	comp=Z,28nm,0.8s,mb4.7						
GRR	**Gorron**	**41.39**	**307**	*e*P	**P**	**09 38 03.7**	**-1.2**
GRR				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
SJPF	**Ste Jean**	**41.93**	**299**	*e*P	**P**	**09 38 08.0**	**-1.3**
LZH	**Lanzhou**	**42.03**	**72**	*e*P	**P**	**09 38 09.7**	**-0.6**
LZH				AP	pP	09 38 16.8	+3.4
LZH				XP	sP	09 38 20.2	+5.6
LZH				PP	PP	09 39 50.7	-0.2
LZH				*e*S	**S**	**09 44 26.1**	**-2.9**
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,75nm,5.4s						
LZH				LR	LR		
	comp=E,717nm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.8						
LZH	**Lanzhou**	**42.03**	**72**	*e*P	**P**	**09 38 09.7**	**-0.6**
	comp=Z,31nm,1.5s,mb4.7						
LZH				pP	pP	09 38 16.8	+3.4
LZH				sP	sP	09 38 20.2	+5.6
LZH				PP	PP	09 39 50.7	-0.2
LZH				*e*S	**S**	**09 44 26.1**	**-2.9**
LZH				sS		09 44 38.7	
LZH				*e*SS	SS	09 47 26.8	-3.8
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.8						
LZH	**Lanzhou**	**42.03**	**72**	*e*P	**P**	**09 38 09.7**	**-0.6**
LZH				*SP	sP	09 38 20.2	+5.6
LZH						09 39 50.7	
LZH				*e*S	**S**	**09 44 26.1**	**-2.9**
LZH				*SS		09 44 38.7	
LZH				*e*SS	SS	09 47 26.8	-3.8
LZH				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.7						
LZH				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.8						
SGMF	**Saint Gilles**	**42.53**	**306**	*e*P	**P**	**09 38 13.1**	**-1.1**
	comp=Z,26nm,0.7s,mb4.8						
SGMF	**Saint Gilles**	**42.53**	**306**	*e*P	**P**	**09 38 13.1**	**-1.1**
SGMF				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**42.85**	**54**	*e*P	**P**	**09 38 17.5**	**+0.6**
	comp=Z,4.1nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**42.85**	**54**	*e*P	**P**	**09 38 17.5**	**+0.6**
	comp=Z,4.1nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**42.85**	**54**	*e*P	**P**	**09 38 17.5**	**+0.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
QUIF	**Quistinic**	**42.94**	**306**	*e*P	**P**	**09 38 16.2**	**-1.4**
	comp=Z,37nm,0.8s,mb4.8						
QUIF	**Quistinic**	**42.94**	**306**	*e*P	**P**	**09 38 16.2**	**-1.4**
QUIF				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
ROSF	**Rostrenen**	**43.00**	**306**	*e*P	**P**	**09 38 17.0**	**-1.1**
	comp=Z,32nm,0.9s,mb4.8						
ROSF	**Rostrenen**	**43.00**	**306**	*e*P	**P**	**09 38 17.0**	**-1.1**
ROSF				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
ESK	**Eskdalemuir**	**43.20**	**317**	*e*P	**P**	**09 38 18.9**	**-0.7**
	comp=Z,6.9nm,0.7s,mb4.5						
ESK	**Eskdalemuir**	**43.20**	**317**	*e*P	**P**	**09 38 18.9**	**-0.7**
	comp=Z,6.9nm,0.7s,mb4.5						
ESK	**Eskdalemuir**	**43.20**	**317**	*e*P	**P**	**09 38 18.9**	**-0.7**
ESK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
ESDC	**Sonseca Array**	**44.48**	**294**	P	**P**	**09 38 28.9**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=71,slow=7.9,SNR=5.5						
KMI	**Kunming**	**44.62**	**88**	P	**P**	**09 38 31.7**	**+0.2**
KMI				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.1						
KMI				AMB	AMB		
	comp=Z,444nm,6.4s						
KMI	**Kunming**	**44.62**	**88**	P	**P**	**09 38 31.7**	**+0.2**
	comp=Z,29nm,1.0s,mb5.1						
BOD	**Bodaibo**	**47.12**	**40**	*e*P	**P**	**09 38 48.2**	**-2.7**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
GYA	**Guiyang**	**47.33**	**84**	⇑*i*P	**P**	**09 38 52.0**	**-1.0**
GYA				AP	pP	09 38 59.6	+3.5
GYA				XP	sP	09 39 02.8	+5.4
GYA				PP	PP	09 40 47.3	+3.6
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
GYA				LR	LR		
	comp=N,300nm,17.0s,MS4.5						
GYA				LR	LR		
	comp=E,310nm,17.2s,MS4.5						
GYA				LR	LR		
	comp=Z,340nm,17.4s,MS4.4						
ENH	**Enshi**	**48.24**	**78**	*e*P	**P**	**09 38 59.1**	**-0.9**
	comp=Z,5.9nm,0.6s,mb4.8						
OPO	**Ambohidratompo**	**52.63**	**186**	P	**P**	**09 39 34.6**	**+0.9**
	comp=Z,4.2nm,0.8s,mb4.4,baz=24,slow=8.8,SNR=6.5						
KULM	**Kulim**	**53.35**	**111**	*e*P	**P**	**09 39 37.5**	**-1.5**
LSZ	**Lusaka**	**54.13**	**209**	*e*P	**P**	**09 39 45.1**	**+0.4**
	comp=Z,25nm,1.3s,mb5.0						
LSZ	**Lusaka**	**54.13**	**209**	*e*P	**P**	**09 39 45.1**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
YAK	**Yakutsk**	**54.81**	**34**	*e*P	**P**	**09 39 42.4**	**-6.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
NJ2	**Nanjing**	**55.11**	**72**	*e*P	**P**	**09 39 52.0**	**+0.3**
NJ2				AP	pP	09 40 04.6	+10
NJ2				PP	PP	09 41 57.6	+1.0
NJ2				S	**S**	**09 47 28.0**	**-4.6**
NJ2				AMB	AMB		
	comp=Z,130nm,1.1s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,68nm,4.2s						
CN2	**Changchun**	**56.18**	**57**	*e*P	**P**	**09 39 59.8**	**+0.5**
SUMG	**Summit**	**57.94**	**339**	*e*P	**P**	**09 40 11.4**	**0.0**
	comp=Z,10nm,1.0s,mb4.8						
MDJ	**Mudanjiang**	**58.77**	**55**	P	**P**	**09 40 16.4**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,534nm,9.9s						
DBIC	**Dimbokro**	**59.02**	**256**	P	**P**	**09 40 18.3**	**-1.4**
	comp=Z,7.4nm,0.9s,mb4.7,baz=40,slow=5.9,SNR=9.5						
DBIC				PcP	PcP	09 41 06.8	-1.6
	comp=Z,3.2nm,0.7s,baz=68,slow=6.6,SNR=3.9						
DBIC	**Dimbokro**	**59.02**	**256**	*e*P	**P**	**09 40 17.8**	**-2.0**
	comp=Z,28nm,1.6s,mb5.0						
DBIC	**Dimbokro**	**59.02**	**256**	P	**P**	**09 40 18.3**	**-1.4**
DBIC						09 41 06.8	
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LIC	**Lamto**	**59.42**	**256**	*e*P	**P**	**09 40 20.7**	**-1.8**
	comp=Z,43nm,1.0s,mb5.1						
KSM	**Kuching**	**63.26**	**108**	*e*P	**P**	**09 40 46.3**	**-2.0**
LBTB	**Lobatse**	**63.97**	**207**	*e*P	**P**	**09 40 52.8**	**-0.2**
	comp=Z,11nm,0.7s,mb5.0						
LBTB	**Lobatse**	**63.97**	**207**	*e*P	**P**	**09 40 52.8**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
SEY	**Seymchan**	**64.62**	**30**	*i*P	**P**	**09 40 52.8**	**-3.8**
KKM	**Kota Kinabalu**	**65.33**	**100**	*e*P	**P**	**09 41 01.6**	**-0.3**
BILL	**Bilibino**	**67.07**	**22**	*d i*P	**P**	**09 41 02.6**	**-10**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
BOSA	**Boshof**	**67.36**	**205**	P	**P**	**09 41 14.2**	**-0.6**
	comp=Z,4.4nm,0.7s,mb4.6,baz=14,slow=9.5,SNR=5.5						
BOSA	**Boshof**	**67.36**	**205**	*e*P	**P**	**09 41 14.2**	**-0.5**
	comp=Z,5.5nm,0.7s,mb4.7						
BOSA	**Boshof**	**67.36**	**205**	*e*P	**P**	**09 41 14.2**	**-0.5**
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
SCHQ	**Schefferville**	**77.04**	**329**	P	**P**	**09 42 11.7**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.4,baz=156,slow=3.2,SNR=3.6						
IMA	**Indian Mountai**	**78.15**	**10**	*e*P	**P**	**09 42 17.8**	**+0.3**
	comp=Z,28nm,0.8s,mb5.2						
IMA	**Indian Mountai**	**78.15**	**10**	*e*P	**P**	**09 42 17.8**	**+0.3**
IMA				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
ILAR	**Eielson Array**	**80.29**	**8**	P	**P**	**09 42 29.6**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.3,baz=328,slow=4.2,SNR=20						
DAWY	**Dawson**	**81.70**	**5**	*e*P	**P**	**09 42 36.2**	**-0.3**
YKA	**Yellowknife Ar**	**83.09**	**354**	P	**P**	**09 42 44.0**	**+0.3**
	comp=Z,1.5nm,1.0s,mb4.0,baz=9.8,slow=5.0,SNR=5.4						
FITZ	**Fitzroy Crossi**	**87.15**	**114**	*e*P	**P**	**09 43 04.2**	**-0.7**
	comp=Z,8.3nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**87.15**	**114**	P	**P**	**09 43 04.4**	**-0.6**
	comp=Z,11nm,0.8s,mb5.2,baz=174,slow=11,SNR=7.2						
KAKA	**Kakadu**	**89.29**	**106**	*e*P	**P**	**09 43 31.5**	**+16**
	comp=Z,16nm,0.8s,mb5.4						
WRA	**Warramunga Arr**	**94.89**	**111**	P	**P**	**09 43 39.4**	**-1.6**
	comp=Z,1.5nm,1.0s,mb4.4,baz=314,slow=4.0,SNR=8.4						
WRAB	**Tennant Creek**	**94.90**	**111**	*e*P	**P**	**09 43 39.6**	**-1.4**
	comp=Z,3.8nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**94.90**	**111**	*e*P	**P**	**09 43 39.6**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						

MEX 05 09:52:02.2±0.3**, 16.74N×99.74W, h5km, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.21**	**307**	*i* P	Pg	09 52 06.0	-0.5
ACX				*i* S	Sg	09 52 09.0	-0.4
CAIG	**El Cayaco**	**0.59**	**302**	*e*P	Pg	09 52 13.1	-1.0
CAIG				*i* S	Sg	09 52 21.9	0.0

*CNRM **05** 09:59:23.8, 36.67N×4.32W, h30km, MD3.5*
*IGIL **05** 09:59:25.2, 36.62N×4.41W, h2km, ML3.0*
*CSEM **05** 09:59:26.6±0.1, 36.69N×4.40W, h77km±1km, mb3.9/20, Error ellipse: s-maj=2.9km s-min=1.2km az=170.0*
*INMG **05** 09:59:28.0±1.7, 36.62N×4.43W, h74km±5km, ML3.1, Error ellipse: s-maj=5.8km s-min=3.3km az=165.0*
*SFS **05** 09:59:28.0, 36.62N×4.41W, h70km*
*NEIC **05** 09:59:28.3, 36.62N×4.41W, h70km, MG3.9(MDD), After MDD.*
*MDD **05** 09:59:28.5±0.5, 36.63N×4.40W, h70km±4km, mb3.9/19, Error ellipse: s-maj=5.0km s-min=2.6km az=169.0, PRXIMO*
ISC 05 09:59:27.5±0.4**, 36.83N**±0.03×**4.44W**±0.02**, h86**km±4km**, n137, σ1s38**/241**, 16C-6D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.37**	**225**	⇓P	**P**	**09 59 39.1**	**-1.9**
	SNR=18						
EMIJ				S	**S**	**09 59 47.0**	**-4.1**
	547nm,0.2s,SNR=22						
EMIJ	**Mijas**	**0.37**	**225**	P	**P**	**09 59 39.1**	**-1.9**
	687nm,0.2s,SNR=18						
ELOJ	**Sierra Loja**	**0.40**	**36**	⇑P	**P**	**09 59 42.1**	**+0.9**
	90nm,0.3s,SNR=18						
ELOJ				S	**S**	**09 59 50.6**	**-0.9**
	199nm,0.2s,SNR=5.0						
ELOJ	**Sierra Loja**	**0.40**	**36**	P	**P**	**09 59 42.0**	**+0.8**
ELOJ				S	**S**	**09 59 50.6**	**-0.9**
ERON	**Agron**	**0.55**	**69**	⇑P	**P**	**09 59 42.9**	**+0.5**
	365nm,0.4s,SNR=18						
REAL	**Reales**	**0.70**	**241**	P	**P**	**09 59 43.4**	**-0.6**
REAL				S	**S**	**09 59 55.3**	**-0.9**
REAL	**Reales**	**0.70**	**241**	*i* P	**P**	**09 59 43.4**	**-0.6**
REAL				*e*S	**S**	**09 59 55.3**	**-0.8**
EGUA	**Guajares**	**0.70**	**89**	⇓P	**P**	**09 59 42.3**	**-1.7**
	34nm,0.2s,SNR=18						
EGUA				S	**S**	**09 59 52.9**	**-3.3**
	69nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**0.70**	**89**	P	**P**	**09 59 42.2**	**-1.8**
EGUA				S	**S**	**09 59 52.9**	**-3.3**
ELUQ	**Luque**	**0.75**	**11**	⇑P	**P**	**09 59 46.2**	**+1.8**
	96nm,0.2s,SNR=18						
ELUQ				S	**S**	**09 59 58.6**	**+1.7**
	209nm,0.2s,SNR=5.0						
LIJA	**Lijar**	**0.77**	**276**	⇑P	**P**	**09 59 45.5**	**+0.8**
LIJA				S	**S**	**09 59 58.6**	**+1.1**
LIJA	**Lijar**	**0.77**	**276**	*i* P	**P**	**09 59 45.5**	**+0.8**
LIJA				*i* S	**S**	**09 59 58.6**	**+1.2**
ECOG	**Cogollos-Vega**	**0.83**	**57**	⇓P	**P**	**09 59 46.5**	**+1.1**
	128nm,0.2s,SNR=18						
ECOG				S	**S**	**09 59 59.4**	**+0.8**
	144nm,0.2s,SNR=5.0						
EQUE	**Quentar**	**0.89**	**65**	⇑P	**P**	**09 59 46.8**	**+0.9**
	74nm,0.2s,SNR=18						
EQUE				S	**S**	**09 59 59.6**	**-0.1**
	141nm,0.3s,SNR=7.5						
EJIF	**Jimena Fronter**	**0.91**	**246**	⇑P	**P**	**09 59 45.5**	**-0.6**
	12nm,0.2s,SNR=18						
EJIF				S	**S**	**09 59 55.9**	**-4.1**
	51nm,0.2s,SNR=4.0						
ESPR	**Espera**	**1.13**	**273**	⇓P	**P**	**09 59 49.1**	**+0.3**
	19nm,0.2s,SNR=18						
ESPR				S	**S**	**10 00 02.4**	**-2.4**
	200nm,0.2s,SNR=5.0						
ESPR	**Espera**	**1.13**	**273**	P	**P**	**09 59 49.1**	**+0.2**
ESPR				S	**S**	**10 00 03.1**	**-1.7**
ESPR	**Espera**	**1.13**	**273**	P	**P**	**09 59 49.1**	**+0.3**
	19nm,0.2s,SNR=18						
ESPR				S	**S**	**10 00 03.2**	**-1.6**
MOMI	**Momias**	**1.14**	**245**	⇑P	**P**	**09 59 49.0**	**+0.1**
MOMI	**Momias**	**1.14**	**245**	*i* P	**P**	**09 59 49.0**	**+0.1**
MOMI				*e*S	**S**	**10 00 06.3**	**+1.3**
GIBL	**Gibalbin**	**1.22**	**271**	P	**P**	**09 59 50.4**	**+0.4**
GIBL				S	**S**	**10 00 06.5**	**-0.3**
GIBL	**Gibalbin**	**1.22**	**271**	*e*P	**P**	**09 59 50.4**	**+0.4**
GIBL				*e*S	**S**	**10 00 06.5**	**-0.3**
EBER	**Berja**	**1.25**	**86**	⇑P	**P**	**09 59 49.3**	**-1.0**
	28nm,0.2s,SNR=18						
EBER				S	**S**	**10 00 04.6**	**-2.7**
	204nm,0.4s,SNR=5.0						
EBER	**Berja**	**1.25**	**86**	P	**P**	**09 59 49.3**	**-1.0**
	28nm,0.2s,SNR=18						
EBER				S	**S**	**10 00 04.7**	**-2.7**
EADA	**Adamuz**	**1.34**	**356**	⇑P	**P**	**09 59 53.6**	**+2.0**
	83nm,0.1s,SNR=18						
EADA				S	**S**	**10 00 11.2**	**+1.8**
	232nm,0.1s,SNR=5.0						
EADA	**Adamuz**	**1.34**	**356**	P	**P**	**09 59 53.6**	**+2.0**
	83nm,0.1s,SNR=18						
EADA				S	**S**	**10 00 11.2**	**+1.8**
	232nm,0.1s,SNR=5.0						
CNIL	**Conil**	**1.37**	**251**	*i* P	**P**	**09 59 53.7**	**+1.7**
CNIL				*e*S	**S**	**10 00 10.0**	**-0.1**
EBAN	**Banos Encina**	**1.43**	**21**	⇑P	**P**	**09 59 54.3**	**+1.6**
	56nm,0.2s,SNR=18						
EBAN				S	**S**	**10 00 12.8**	**+1.4**
	75nm,0.1s,SNR=16						
EBAN	**Banos Encina**	**1.43**	**21**	P	**P**	**09 59 54.3**	**+1.6**
EBAN				S	**S**	**10 00 12.9**	**+1.5**
EBAN	**Banos Encina**	**1.43**	**21**	P	**P**	**09 59 54.3**	**+1.6**
	56nm,0.2s,SNR=18						
EBAN				S	**S**	**10 00 12.9**	**+1.5**
EALB	**Alboran**	**1.44**	**127**	P	**P**	**09 59 49.2**	**-3.6**
	7.5nm,0.1s,SNR=7.9						
EALB				S	**S**	**10 00 04.9**	**-6.6**
	108nm,0.2s,SNR=5.0						
EALB	**Alboran**	**1.44**	**127**	P	**P**	**09 59 49.2**	**-3.6**
	7.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.47**	**48**	⇑P	**P**	**09 59 54.4**	**+1.3**
	74nm,0.3s,SNR=18						
EQES				S	**S**	**10 00 13.6**	**+1.6**
	91nm,0.2s,SNR=5.0						
EQES	**Quesada**	**1.47**	**48**	P	**P**	**09 59 54.4**	**+1.3**
	74nm,0.3s,SNR=18						
EQES				S	**S**	**10 00 13.6**	**+1.6**
	91nm,0.2s,SNR=5.0						
ECAB	**El Cabril**	**1.47**	**328**	⇑P	**P**	**09 59 54.4**	**+1.2**
	5.6nm,0.1s,SNR=18						
ECAB				S	**S**	**10 00 12.7**	**+0.6**
	46nm,0.2s,SNR=5.0						
ECAB	**El Cabril**	**1.47**	**328**	⇑P	**P**	**09 59 54.3**	**+1.1**
ECAB				S	**S**	**10 00 12.7**	**+0.6**
	46nm,0.2s,SNR=5.0						
EHUE	**Huescar**	**1.77**	**56**	P	**P**	**09 59 58.2**	**+1.1**
	22nm,0.1s,SNR=53						
EHUE				S	**S**	**10 00 20.2**	**+1.3**
	39nm,0.2s,SNR=5.7						
EHUE	**Huescar**	**1.77**	**56**	P	**P**	**09 59 58.2**	**+1.1**
EHUE				S	**S**	**10 00 20.5**	**+1.5**
ENIJ	**Nijar**	**1.80**	**85**	P	**P**	**09 59 56.5**	**-1.0**
	4.8nm,0.3s,SNR=9.1						
ENIJ				S	**S**	**10 00 16.2**	**-3.3**
	5.2nm,0.4s,SNR=5.0						
ENIJ	**Nijar**	**1.80**	**85**	P	**P**	**09 59 56.5**	**-1.0**
ENIJ				S	**S**	**10 00 16.6**	**-2.9**
ENIJ	**Nijar**	**1.80**	**85**	P	**P**	**09 59 56.5**	**-1.0**
	4.8nm,0.3s,SNR=9.1						
ENIJ				S	**S**	**10 00 16.6**	**-2.9**
TOU	**Touzarine**	**1.94**	**163**	*i* P	**P**	**09 59 52.0**	**-7.4**
EMIN	**Mina Concepcio**	**2.01**	**299**	⇑P	**P**	**10 00 00.6**	**+0.4**
	8.4nm,0.1s,SNR=18						
EMIN				S	**S**	**10 00 24.0**	**-0.4**
	79nm,0.2s,SNR=20						
EMIN	**Mina Concepcio**	**2.01**	**299**	P	**P**	**10 00 00.6**	**+0.3**
	8.4nm,0.1s,SNR=18						
EMIN				S	**S**	**10 00 24.0**	**-0.4**
	79nm,0.2s,SNR=20						
EVIA	**Vianos**	**2.38**	**40**	P	**P**	**10 00 06.2**	**+0.8**
	6.7nm,0.2s,SNR=11						
EVIA				S	**S**	**10 00 32.7**	**-0.8**
	26nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**2.53**	**287**	P	**P**	**10 00 07.2**	**-0.3**
	6.1nm,0.1s,SNR=16						
EGRO				S	**S**	**10 00 35.8**	**-1.5**
	33nm,0.1s,SNR=12						
EGRO	**El Granado**	**2.53**	**287**	P	**P**	**10 00 07.2**	**-0.3**
	6.1nm,0.1s,SNR=16						
TZK	**Tazeka**	**2.74**	**175**	*i* P	**P**	**10 00 03.0**	**-7.5**
EMUR	**La Murta**	**2.75**	**67**	⇓P	**P**	**10 00 10.5**	**-0.1**
	15nm,0.3s,SNR=18						
EMUR				S	**S**	**10 00 41.7**	**-1.0**
	21nm,0.4s,SNR=5.5						
EMUR	**La Murta**	**2.75**	**67**	P	**P**	**10 00 10.5**	**-0.1**
EMUR				S	**S**	**10 00 42.0**	**-0.8**
EMUR	**La Murta**	**2.75**	**67**	P	**P**	**10 00 10.5**	**-0.1**
	15nm,0.3s,SNR=18						
EMUR				S	**S**	**10 00 42.0**	**-0.8**
EBAD	**Badajoz**	**2.80**	**314**	⇓P	**P**	**10 00 12.2**	**+0.9**
	18nm,0.1s,SNR=18						
EBAD				S	**S**	**10 00 44.3**	**+0.2**
	183nm,0.1s,SNR=15						
EBAD	**Badajoz**	**2.80**	**314**	P	**P**	**10 00 12.2**	**+0.9**
EBAD				S	**S**	**10 00 44.5**	**+0.3**
EBAD	**Badajoz**	**2.80**	**314**	P	**P**	**10 00 12.2**	**+0.9**
	18nm,0.1s,SNR=18						
EBAD				S	**S**	**10 00 44.5**	**+0.4**
ESDC	**Sonseca Array**	**2.87**	**7**	P	**P**	**10 00 13.7**	**+1.4**
	13nm,0.2s,baz=187,slow=12,SNR=26						
ESDC				S	**S**	**10 00 46.6**	**+0.9**
	10.0nm,0.2s,baz=182,slow=23,SNR=29						
ESDC	**Sonseca Array**	**2.87**	**7**	P	**P**	**10 00 13.7**	**+1.5**
ESDC				S	**S**	**10 00 46.2**	**+0.4**
ESDC	**Sonseca Array**	**2.87**	**7**	P	**P**	**10 00 13.7**	**+1.5**
	13nm,0.2s,SNR=26						
ESDC				S	**S**	**10 00 46.6**	**+0.8**
	10.0nm,0.2s,SNR=29						
ESLA	**Sonseca Array**	**2.87**	**7**	*e*P	**P**	**10 00 13.0**	**+0.8**
ESLA	**Sonseca Array**	**2.87**	**7**	*e*P	**P**	**10 00 13.0**	**+0.8**
ETOB	**Tobarra**	**2.93**	**51**	⇑P	**P**	**10 00 13.4**	**+0.4**
	86nm,0.2s,SNR=18						
ETOB				S	**S**	**10 00 46.1**	**-1.1**
	63nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**2.93**	**51**	P	**P**	**10 00 13.4**	**+0.4**
	86nm,0.2s,SNR=18						
ETOB				S	**S**	**10 00 46.1**	**-1.1**
	63nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**2.98**	**295**	*e*P	**P**	**10 00 14.2**	**+0.5**
PBEJ				*e*S	**S**	**10 00 46.8**	**-1.6**
	44nm,0.1s						
PBEJ	**Beja**	**2.98**	**295**	*e*P	**P**	**10 00 14.2**	**+0.5**
PBEJ				*e*S	**S**	**10 00 46.8**	**-1.6**
	44nm,0.1s						
MORF	**Marmelete**	**3.40**	**279**	*e*P	**P**	**10 00 19.0**	**-0.6**
MORF				*e*S	**S**	**10 00 56.4**	**-2.5**
MORF				*e*S	**S**	**10 00 56.4**	**-2.5**
MORF				AML	AML	10 00 58.6	
	comp=E,44nm,0.2s						
PTEO	**Sao Teotonio**	**3.49**	**283**	*e*P	**P**	**10 00 20.5**	**-0.4**
PTEO				*e*S	**S**	**10 00 58.9**	**-2.3**
	comp=E,36nm,0.3s						
PTEO	**Sao Teotonio**	**3.49**	**283**	*e*P	**P**	**10 00 20.5**	**-0.4**
PTEO				*e*S	**S**	**10 00 58.9**	**-2.3**
	comp=E,36nm,0.3s						
CZD	**Col de Zad**	**3.82**	**188**	*i* P	**P**	**10 00 17.0**	**-8.3**
EBEN	**Beniarda**	**3.83**	**59**	P	**P**	**10 00 25.6**	**+0.1**
	comp=E,7.3nm,0.2s,SNR=16						
EBEN				S	**S**	**10 01 06.2**	**-3.4**
	comp=E,13nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.83**	**59**	P	**P**	**10 00 25.6**	**+0.1**
EBEN				S	**S**	**10 01 06.0**	**-3.7**
EBEN				S	**S**	**10 01 06.2**	**-3.4**
EBEN	**Beniarda**	**3.83**	**59**	P	**P**	**10 00 25.6**	**0.0**
	comp=E,7.3nm,0.2s,SNR=16						
EBEN				S	**S**	**10 01 06.0**	**-3.7**
PCBR	**Castelo Branco**	**3.84**	**323**	*e*P	**P**	**10 00 27.0**	**+1.3**
PCBR				*e*S	**S**	**10 01 09.0**	**-0.8**
	comp=E,12nm,0.2s						
PCBR	**Castelo Branco**	**3.84**	**323**	*e*P	**P**	**10 00 27.0**	**+1.3**
PCBR				*e*S	**S**	**10 01 09.0**	**-0.8**
	comp=E,12nm,0.2s						
ECHE	**Chera**	**3.89**	**44**	⇑P	**P**	**10 00 26.5**	**+0.2**
	comp=E,13nm,0.3s,SNR=18						
ECHE				S	**S**	**10 01 07.6**	**-3.4**
	comp=E,12nm,0.3s						
PTOM	**Tomar**	**4.19**	**313**	*e*P	**P**	**10 00 31.2**	**+0.8**
PTOM				*e*S	**S**	**10 01 16.7**	**-1.8**
	comp=E,21nm,0.2s						
PTOM	**Tomar**	**4.19**	**313**	*e*P	**P**	**10 00 31.2**	**+0.8**
PTOM				*e*S	**S**	**10 01 16.7**	**-1.8**
	comp=E,21nm,0.2s						
PLOU	**Loures**	**4.25**	**300**	*e*S	**S**	**10 01 18.4**	**-1.8**
	comp=E,22nm,0.3s						
PLOU	**Loures**	**4.25**	**300**	*e*S	**S**	**10 01 18.4**	**-1.8**
	comp=E,22nm,0.3s						
MTE	**Manteigas**	**4.32**	**327**	*e*P	**P**	**10 00 33.6**	**+1.4**
MTE				*e*S	**S**	**10 01 21.3**	**-0.4**
	comp=E,22nm,0.4s						
MTE	**Manteigas**	**4.32**	**327**	*e*P	**P**	**10 00 33.6**	**+1.4**
MTE				*e*S	**S**	**10 01 21.3**	**-0.4**
	comp=E,22nm,0.4s						
EMOS	**Mosqueruela**	**4.71**	**40**	P	**P**	**10 00 38.5**	**+0.9**
	comp=E,5.9nm,0.3s,SNR=14						
EMOS				S	**S**	**10 01 28.3**	**-3.1**
	comp=E,22nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.71**	**40**	P	**P**	**10 00 38.5**	**+0.9**
EMOS				S	**S**	**10 01 28.3**	**-3.1**
EMOS				S	**S**	**10 01 28.7**	**-2.7**
EMOS	**Mosqueruela**	**4.71**	**40**	P	**P**	**10 00 38.5**	**+0.9**
	comp=E,5.9nm,0.3s,SNR=14						
EIBI	**Ibiza**	**5.08**	**63**	P	**P**	**10 00 42.1**	**-0.6**
	comp=E,2.3nm,0.2s,SNR=7.9						
EIBI				S	**S**	**10 01 34.7**	**-5.8**
	comp=E,4.3nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**5.08**	**63**	P	**P**	**10 00 41.8**	**-0.9**
EIBI				S	**S**	**10 01 35.8**	**-4.7**
EIBI	**Ibiza**	**5.08**	**63**	P	**P**	**10 00 42.1**	**-0.6**
	comp=E,2.3nm,0.2s,SNR=7.9						
EIBI				S	**S**	**10 01 35.8**	**-4.7**
PVRL	**Vila Real**	**5.12**	**331**	*e*P	**P**	**10 00 44.8**	**+1.5**
PVRL				*e*S	**S**	**10 01 40.1**	**-1.5**
	comp=E,54nm,0.1s						
PVRL	**Vila Real**	**5.12**	**331**	P	**P**	**10 00 44.8**	**+1.5**
PVRL				S	**S**	**10 01 40.1**	**-1.5**
	comp=E,27nm,0.1s						
PBRG	**Braganca**	**5.28**	**341**	*e*P	**P**	**10 00 47.3**	**+1.8**
PBRG				*e*S	**S**	**10 01 43.6**	**-2.0**
	comp=E,7.7nm,0.1s						
PBRG	**Braganca**	**5.28**	**341**	P	**P**	**10 00 47.3**	**+1.8**
PBRG				S	**S**	**10 01 43.6**	**-2.0**
	comp=E,3.8nm,0.1s						
ECAL	**Calabor**	**5.41**	**342**	P	**P**	**10 00 48.7**	**+1.5**
	comp=E,4.3nm,0.2s,SNR=9.7						
ECAL				S	**S**	**10 01 47.0**	**-1.7**
	comp=E,41nm,0.4s,SNR=5.3						
ECAL	**Calabor**	**5.41**	**342**	P	**P**	**10 00 48.7**	**+1.5**
ECAL				S	**S**	**10 01 47.0**	**-1.7**
ECAL				S	**S**	**10 01 47.8**	**-0.9**
ECAL	**Calabor**	**5.41**	**342**	P	**P**	**10 00 48.7**	**+1.5**
	comp=E,4.3nm,0.2s,SNR=9.7						
ERTA	**Horta de San J**	**5.56**	**41**	P	**P**	**10 00 50.2**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,3.5nm,0.2s,SNR=7.7						
ERTA				S	S	10 01 49.8	-2.6
	comp=E,8.2nm,0.3s,SNR=7.9						
ERTA	Horta de San J	5.56	41	P	P	10 00 50.2	+1.0
ERTA				S	S	10 01 49.8	-2.6
ERTA				S	S	10 01 50.0	-2.5
ERTA	Horta de San J	5.56	41	P	P	10 00 50.2	+1.0
	comp=E,3.5nm,0.2s,SNR=7.7						
PCAB	Cabril	5.61	331	eP	P	10 00 50.9	+0.9
PCAB				eS	S	10 01 51.3	-2.5
	comp=E,19nm,0.2s						
PCAB	Cabril	5.61	331	P	P	10 00 50.9	+0.9
PCAB				S	S	10 01 51.3	-2.5
	comp=E,9.4nm,0.2s						
ELOB	Lobios	5.76	332	P	P	10 00 53.5	+1.5
	comp=E,1.1nm,0.1s,SNR=7.9						
ELOB				S	S	10 01 54.6	-2.9
	comp=E,16nm,0.3s,SNR=7.9						
ELOB	Lobios	5.76	332	P	P	10 00 53.5	+1.5
	comp=E,1.1nm,0.1s,SNR=7.9						
ESAC	San Caprasio	5.78	31	P	P	10 00 52.6	+0.4
	comp=E,10.0nm,0.3s,SNR=4.6						
ESAC				S	S	10 01 55.6	-2.3
	comp=E,17nm,0.2s,SNR=7.9						
ESAC	San Caprasio	5.78	31	P	P	10 00 52.6	+0.3
ESAC				S	S	10 01 55.9	-2.0
ESAC	San Caprasio	5.78	31	P	P	10 00 52.7	+0.4
	comp=E,10.0nm,0.3s,SNR=4.6						
ERUA	La Rua	5.94	340	P	P	10 00 55.1	+0.7
	comp=E,2.9nm,0.2s,SNR=7.9						
ERUA				S	S	10 01 59.7	-2.0
	comp=E,11nm,0.3s,SNR=5.7						
ERUA	La Rua	5.94	340	P	P	10 00 55.1	+0.7
ERUA				S	S	10 02 01.1	-0.7
EPOB	Poblet	6.23	42	P	P	10 00 58.7	+0.1
	comp=E,12nm,0.3s,SNR=12						
EPOB				S	S	10 02 04.7	-4.5
	comp=E,13nm,0.4s,SNR=7.9						
EPOB	Poblet	6.23	42	P	P	10 00 58.3	-0.3
EPOB				S	S	10 02 05.8	-3.4
EPOB	Poblet	6.23	42	P	P	10 00 58.7	+0.1
	comp=E,12nm,0.3s,SNR=12						
EZAM	Zamans	6.25	330	P	P	10 01 00.2	+1.4
	comp=E,4.8nm,0.3s,SNR=4.0						
EZAM				S	S	10 02 06.8	-2.6
	comp=E,2.5nm,0.2s,SNR=7.9						
EARA	Aranguren	6.33	19	S	S	10 02 08.7	-2.8
	comp=E,6.1nm,0.1s,SNR=4.0						
ETOS	Mallorca	6.42	61	P	P	10 01 00.4	-0.8
	comp=E,2.9nm,0.3s,SNR=7.9						
ETOS				S	S	10 02 07.0	-6.6
	comp=E,2.6nm,0.3s,SNR=7.9						
ETOS	Mallorca	6.42	61	P	P	10 01 00.4	-0.8
	comp=E,2.9nm,0.3s,SNR=7.9						
IPRE	Itoiz	6.43	21	P	P	10 01 02.2	+0.9
	comp=E,3.0nm,0.2s,SNR=4.0						
IPRE	Itoiz	6.43	21	P	P	10 01 02.2	+0.9
	comp=E,3.0nm,0.2s,SNR=4.0						
ELAN	Lanestosa	6.44	7	P	P	10 01 03.6	+2.1
	comp=E,9.0nm,0.2s,SNR=7.9						
ELAN				S	S	10 02 12.6	-1.7
	comp=E,3.5nm,0.2s,SNR=7.9						
ELAN	Lanestosa	6.44	7	P	P	10 01 03.6	+2.0
	comp=E,9.0nm,0.2s,SNR=7.9						
EARI	Arriondas	6.49	355	P	P	10 01 03.6	+1.4
	comp=E,1.0nm,0.1s,SNR=7.9						
EARI				S	S	10 02 12.8	-2.7
	comp=E,9.4nm,0.4s,SNR=6.4						
EARI	Arriondas	6.49	355	P	P	10 01 03.6	+1.4
	comp=E,1.0nm,0.1s,SNR=7.9						
EGRA	Graus	6.50	33	P	P	10 01 03.3	+1.0
	comp=E,2.1nm,0.3s,SNR=7.9						
EGRA				S	S	10 02 13.7	-2.0
	comp=E,2.6nm,0.4s,SNR=7.9						
LARF	Larrau	6.75	22	P	P	10 01 06.5	+0.7
LARF	Larrau	6.75	22	P	P	10 01 06.7	+0.9
EALK	Alkurruntz	6.77	19	P	P	10 01 07.2	+1.1
	comp=E,21nm,0.2s,SNR=7.9						
EALK				S	S	10 02 19.3	-3.0
	comp=E,19nm,0.3s,SNR=5.0						
EALK	Alkurruntz	6.77	19	P	P	10 01 07.2	+1.1
	comp=E,21nm,0.2s,SNR=7.9						
EPON	Pontenova	6.82	343	P	P	10 01 07.9	+1.2
	comp=E,0.8nm,0.2s,SNR=7.9						
EPON				S	S	10 02 20.0	-3.4
	comp=E,12nm,0.4s,SNR=7.9						
EPON	Pontenova	6.82	343	P	P	10 01 07.8	+1.0
EPON	Pontenova	6.82	343	P	P	10 01 07.9	+1.2
	comp=E,0.8nm,0.2s,SNR=7.9						
EBIE	Bielsa	6.83	30	P	P	10 01 07.4	+0.4
	comp=E,3.9nm,0.3s,SNR=7.9						
EBIE				S	S	10 02 20.6	-3.2
	comp=E,1.8nm,0.2s,SNR=7.9						
EBIE	Bielsa	6.83	30	P	P	10 01 07.3	+0.3
EBIE	Bielsa	6.83	30	P	P	10 01 07.4	+0.4
	comp=E,3.9nm,0.3s,SNR=7.9						
EMIR	Miracle	6.87	40	P	P	10 01 06.9	-0.6
	comp=E,6.8nm,0.2s,SNR=7.9						
EMIR				S	S	10 02 21.1	-3.6
	comp=E,2.3nm,0.2s,SNR=7.9						
EMIR	Miracle	6.87	40	P	P	10 01 06.7	-0.8
EMIR				S	S	10 02 21.6	-3.2
EMIR	Miracle	6.87	40	P	P	10 01 06.9	-0.6
	comp=E,6.8nm,0.2s,SNR=7.9						
OSSF	Osses	6.87	20	P	P	10 01 08.1	+0.6
OSSF	Osses	6.87	20	P	P	10 01 08.2	+0.7
ORDF	Ordiarp	6.92	22	P	P	10 01 09.0	+0.8
ORDF	Ordiarp	6.92	22	P	P	10 01 09.2	+1.0
VIEF	Viey	6.96	28	P	P	10 01 09.0	+0.3
VIEF	Viey	6.96	28	P	P	10 01 09.2	+0.5

MAN 05 10:13:15.1, 11.64N×124.31E, h1km, mb4.1, ML3.0, MS2.7, 2C, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	Palo	0.81	125	eP	Pg	10 13 35.5	+4.3
PLP				eS	Sg	10 13 48.6	+6.7
CNP	Catarman	0.94	22	eP	Pg	10 13 32.9	-0.9
CNP				eS	Sg	10 13 47.6	+1.4
BESP	Borongan	1.11	92	eP	Pb	10 13 36.6	-0.1
LLP	Lapu-Lapu	1.35	194	⇑iP	Pb	10 13 40.7	-0.2
LLP				i S	Sb	10 13 59.5	+0.8
RCP	Roxas	1.54	267	⇑eP	Pn	10 13 42.8	-1.0

*BER **05** 10:19:23.1±4.6, 61.86N×30.69E, ML2.5(NAO), Suspected explosion*
*NAO **05** 10:19:24.7±3.0, 62.05N×30.32E, ML2.5*
HEL 05 10:19:22.3±0.1**, 61.78N×30.68E, ML2.1, ML2.5**(NAO)**, Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOF	Joensuu	1.18	14	eP	Pb	10 19 43.6	-1.6
JOF				eS	Sb	10 19 58.8	-2.1
VJF	Virojoki	1.96	232	eP	Pn	10 19 56.8	-0.4
VJF				eS	Sn	10 20 22.0	-0.9
KAF	Kangasniemi	2.09	281	ePG	Pg	10 19 59.9	-4.2
KAF				eSG	Sg	10 20 26.9	-5.2
FIA0	FINESS Array S	2.23	263	ePB	Pb	10 20 01.5	-1.7
FIA0				eSB	Sb	10 20 29.9	-1.4
FIA0	FINESS Array S	2.23	263	Pn	Pn	10 20 01.6	+0.6
	baz=85,slow=16						
FIA0				Lg		10 20 30.8	
	baz=75,slow=37						
FIA0				Rg		10 20 42.5	
	baz=83,slow=37						
SUF	Sumiainen	2.32	296	ePG	Pg	10 20 03.5	-5.1
SUF				eSB	Sb	10 20 32.2	-1.8
SUF				MSG		10 20 37.3	
	comp=Z,7.7nm,0.1s						
PVF	Pernaja	2.65	244	eP	Pn	10 20 05.9	-1.1
PVF				eS	Sn	10 20 38.9	-1.3
PVF				MSG		10 20 45.9	
	comp=Z,4.3nm,0.1s						
KJN	Kajaani	2.68	331	ePB	Pb	10 20 08.4	-2.5
KJN				eSB	Sb	10 20 42.7	-1.8
KJN				MSG		10 20 46.4	
	comp=Z,18nm,0.3s						
ARA0	ARCESS Array S	8.07	347	Pn	P	10 21 18.8	-4.8
	baz=159,slow=16						
ARA0				Sn	Sn	10 22 46.1	-11
	baz=163,slow=28						
ARA0				Lg		10 23 27.8	
	baz=160,slow=37						
ARA0	ARCESS Array S	8.07	347	eP	P	10 21 18.8	-4.8
ARA0				eS	Sn	10 22 46.1	-11
ARA0				eSG		10 23 27.8	
HFS	Hagfors	8.43	266	Pn	P	10 21 23.7	-4.9
	baz=78,slow=11						
HFS				Sn	Sn	10 22 56.3	-9.2
	baz=62,slow=22						
HFS				Lg		10 23 45.6	
	baz=78,slow=28						
HFS	Hagfors	8.43	266	eP	P	10 21 23.7	-4.9
HFS				eS	Sn	10 22 56.3	-9.2
HFS				e		10 23 45.6	
NB2	NORSAR Subarra	9.36	274	Pn	P	10 21 35.9	-5.6
	baz=77,slow=14						
NB2				Lg		10 24 14.5	
	baz=51,slow=37						
NB2	NORSAR Subarra	9.36	274	eP	P	10 21 35.9	-5.6
NB2				e		10 24 14.5	

*ROM **05** 10:20:14.8±0.7, 44.58N×6.87E, h12km, Md2.4/4, Ml1.9/3, Error ellipse: s-maj=11.1km s-min=3.7km az=122.0*
*CSEM **05** 10:20:14.8±0.1, 44.62N×6.92E, h8km, ML2.6/8, Error ellipse: s-maj=1.5km s-min=1.3km az=83.0*
*STR **05** 10:20:15.3±0.8, 44.59N×6.84E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **05** 10:20:15.6, 44.59N×6.88E, h6km, ML2.0*
*LDG **05** 10:20:15.7±0.1, 44.61N×6.88E, h2km, Md2.5/1, Ml2.6/6, Error ellipse: s-maj=1.4km s-min=0.7km az=76.0*
*NEIC **05** 10:20:15.7, 44.61N×6.88E, h2km, ML2.6(LDG), After LDG.*
ISC 05 10:20:14.7±0.3**, 44.59N**±0.01×**6.86E**±0.03**, h12**km±2km**, n44, σ0.55/79, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.11	197	Pg	Pg	10 20 18.0	+0.2
SURF				Sg	Sg	10 20 20.0	+0.1
MBDF	Montbardon	0.15	336	ePg	Pg	10 20 18.7	+0.2
MBDF				eSg	Sg	10 20 20.9	-0.1
	250nm,0.3s						
PZZ	Prazzo	0.19	115	P	Pg	10 20 19.5	+0.3
PZZ				S	Sg	10 20 22.1	0.0
PZZ	Prazzo	0.19	115	P	Pg	10 20 19.5	+0.4
DOI	San Damiano	0.29	107	Pg	Pg	10 20 20.9	0.0
DOI				Sg	Sg	10 20 25.0	0.0
	336nm,0.3s						
RRL	Cesana Torines	0.34	351	P	Pg	10 20 22.4	+0.6
RRL				S	Sg	10 20 27.1	+0.6
RRL	Cesana Torines	0.34	351	P	Pg	10 20 22.4	+0.6
BHB	Bricherasio	0.39	48	P	Pg	10 20 22.8	+0.1
BHB				S	Sg	10 20 27.7	-0.3
BHB	Bricherasio	0.39	48	P	Pg	10 20 22.8	+0.1
FENE	Fenestrelle	0.47	18	P	Pg	10 20 24.4	+0.1
FENE				S	Sg	10 20 30.4	-0.2
STV2	Anna di Valdie	0.48	135	P	Pg	10 20 24.5	0.0
STV2				S	Sg	10 20 30.6	-0.5
STV2	Anna di Valdie	0.48	135	P	Pg	10 20 24.5	0.0
BNI	Bardonecchia	0.48	345	Pg	Pg	10 20 24.9	+0.3
BNI				Sg	Sg	10 20 32.3	+1.1
	16nm,0.2s						
ENR	Entracque	0.54	132	P	Pb	10 20 25.5	-0.1
ENR				S	Sb	10 20 32.6	-0.4
ENR	Entracque	0.54	132	P	Pb	10 20 25.5	-0.1
RSP	Reno Superiore	0.63	27	P	Pb	10 20 27.6	+0.4
RSP				S	Sb	10 20 35.8	+0.1
RSP	Reno Superiore	0.63	27	P	Pb	10 20 27.6	+0.4
RSP				S	Sb	10 20 35.8	+0.1
TOUF	Mont Tournerai	0.64	154	Pg	Pg	10 20 27.7	+0.1
MVIF	Mont Vial	0.72	163	Pg	Pg	10 20 28.3	-1.0
MVIF				Sg	Sg	10 20 39.8	+0.8
ORIF	Oris-en-Rattie	0.77	296	ePg	Pg	10 20 30.2	-0.1
ORIF				eSg	Sg	10 20 40.5	-0.2
	24nm,0.2s						
ROB	Roburent	0.78	112	P	Pb	10 20 30.2	+0.4
ROB				S	Sb	10 20 39.6	-0.4
ROB	Roburent	0.78	112	P	Pb	10 20 30.2	+0.5
ROB				S	Sb	10 20 39.6	-0.4
SAOF	Saorge	0.78	140	Pg	Pg	10 20 30.6	+0.1
SAOF				Sg	Sg	10 20 41.2	+0.2
SBF	Sospel	0.83	150	ePg	Pg	10 20 31.5	0.0
SBF				eSg	Sg	10 20 42.9	+0.2
	30nm,0.3s						
CALN	Calern	0.83	178	Pg	Pg	10 20 32.1	+0.6
LSD	Ceresole Reale	0.90	13	P	Pb	10 20 32.3	+0.6
LSD				S	Sb	10 20 43.8	+0.5
LSD	Ceresole Reale	0.90	13	P	Pb	10 20 32.3	+0.6
LSD				S	Sb	10 20 43.8	+0.5
MONC	Moncucco Torin	0.90	57	Pg	Pg	10 20 33.6	+0.7
	45nm,0.3s						
LPG	La Plagne	0.91	355	ePg	Pg	10 20 32.8	-0.3
LPG				eSg	Sg	10 20 44.6	-0.7
	13nm,0.3s						
LPL	La Plagne	0.93	355	ePg	Pg	10 20 33.2	-0.3
LPL				eSg	Sg	10 20 44.9	-1.1
	13nm,0.2s						
NEGI	Negi	0.96	140	P	Pb	10 20 33.3	+0.5
NEGI				S	Sb	10 20 45.0	-0.1
NEGI	Negi	0.96	140	P	Pb	10 20 33.3	+0.6
NEGI				S	Sb	10 20 45.0	-0.1
IMI	Imperia	1.00	132	P	Pb	10 20 33.8	+0.3
IMI	Imperia	1.00	132	Pg	Pg	10 20 34.4	-0.5
	12nm,0.2s						
IMI				S	Sb	10 20 46.1	-0.4
FRF	La Foret Royal	1.04	189	ePg	Pg	10 20 35.2	-0.3
FRF				eSg	Sg	10 20 49.1	-0.3
	26nm,0.2s						
FIN	Finale Ligure	1.04	111	P	Pb	10 20 34.3	+0.2
FIN	Finale Ligure	1.04	111	P	Pb	10 20 34.3	+0.2
SMRF	Simiane la Rot	1.11	237	ePg	Pg	10 20 37.7	+0.8
SMRF				eSg	Sg	10 20 51.6	-0.1
	15nm,0.2s						
PCP	Pian Castagno	1.21	92	P	Pb	10 20 37.2	+0.2
PCP				S	Sb	10 20 51.9	-0.4
PCP	Pian Castagno	1.21	92	P	Pb	10 20 37.2	+0.2
PCP				S	Sb	10 20 51.9	-0.4
LMR	La Mourre	1.28	192	ePn	Pn	10 20 39.5	+1.1
LMR				ePg	Pg	10 20 40.0	-0.3
LMR				eSg	Sg	10 20 56.7	-0.7
	15nm,0.2s						
ORX	Oropa	1.31	37	P	Pb	10 20 38.3	-0.5
ORX				S	Sb	10 20 54.1	-1.3
ORX	Oropa	1.31	37	P	Pb	10 20 38.3	-0.5
ORX				S	Sb	10 20 54.1	-1.3
VIVF	Saint-Julien-l	1.58	281	ePn	Pn	10 20 44.0	+1.3
VIVF				ePg	Pg	10 20 45.4	-1.0
VIVF				eSg	Sg	10 21 06.1	-1.4
	10nm,0.4s						

*IDC **05** 10:45:49.9±4.6, 19.07S×168.77E, h39km±40km, mb3.9/12, mb1 4.1/13, mb1mx4.1/16, mbtmp4.1/13, ML4.1/1, MS3.7/5, Ms1 3.7/5, ms1mx3.5/25, Error ellipse: s-maj=22.9km s-min=19.5km az=34.0*
*LDG **05** 10:45:50.1±0.2, 18.82S×168.24E, h30km, Mb4.1/1, Error ellipse: s-maj=24.9km s-min=2.9km az=109.0*
*NEIC **05** 10:45:52.6±0.5, 19.52S×168.63E, h35km, mb4.5/10, Error ellipse: s-maj=14.9km s-min=14.1km az=188.0*
ISC 05 10:45:47.9±2.2**, 19.15S**±0.08×**168.67E**±0.08**, h35**km±18km**, h40**km±2.8km**:pP-P, n67, σ0.96**/40**, mb4.3**/19**, MS4.0**/3**, 4C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.57	215	eP	P	10 46 42.8	+0.5
DZM				eS	S	10 47 23.0	-0.9
DZM	Mont Dzumac	3.57	215	Pn	P	10 46 42.9	+0.6
	15nm,0.3s,baz=41,slow=18,SNR=160						
DZM				Sn	S	10 47 23.1	-0.8
	69nm,0.3s,baz=102,slow=20,SNR=9.1						
DZM				LR	LR	10 48 01.4	
	comp=Z,497nm,20.4s,baz=19,slow=36						
DZM	Mont Dzumac	3.57	215	eP	P	10 46 42.8	+0.5
DZM				eS	S	10 47 23.0	-0.9
HNR	Honiara	12.83	318	LR	LR	10 52 58.8	
	comp=Z,91nm,20.3s,baz=192,slow=33						
RAO	Raoul Island	15.82	132	Pn	P	10 49 28.9	-0.9
	161nm,0.3s,baz=75,slow=21,SNR=4.0						
RAO	Raoul Island	15.82	132	ePn	P	10 49 29.1	-0.7
	413nm,0.4s						
URZ	Urewera	20.41	161	P	P	10 50 25.1	+0.5
	5.0nm,0.6s,baz=189,slow=9.7,SNR=3.7						
CTA	Charters Tower	21.13	264	eP	P	10 50 35.4	+3.2
	5.8nm,0.8s,mb4.0						
CTA	Charters Tower	21.13	264	P	P	10 50 34.5	+2.3
	6.5nm,0.8s,mb4.0,baz=80,slow=12,SNR=6.4						
CTAO	Charters Tower	21.13	264	eP	P	10 50 35.5	+3.3
	6.8nm,0.8s,mb4.0						
SNZO	South Karori	22.68	168	eP	P	10 50 53.1	+5.7
	37nm,1.1s,mb4.7						
RPZ	Rata Peaks	24.57	176	P	P	10 51 07.3	+1.4
	12nm,0.7s,mb4.5,baz=40,slow=19,SNR=7.7						
STKA	Stephens Creek	27.43	237	eP	P	10 51 33.7	+1.0
	1.8nm,0.8s,mb3.6						
STKA	Stephens Creek	27.43	237	P	P	10 51 33.8	+1.1
	1.6nm,0.8s,mb3.6,baz=77,slow=8.8,SNR=6.1						
STKA	Stephens Creek	27.43	237	eP	P	10 51 34.1	+1.4
WRAB	Tennant Creek	32.32	263	eP	P	10 52 15.4	-0.7
WRA	Warramunga Arr	32.33	263	P	P	10 52 15.3	-1.0
	0.5nm,0.3s,mb3.8,baz=89,slow=8.3,SNR=15						
WRA				PcP	PcP	10 55 02.8	-1.0
	0.3nm,0.8s,baz=94,slow=3.0,SNR=6.0						
FITZ	Fitzroy Crossi	40.71	264	P	P	10 53 28.3	+1.2
	8.9nm,0.8s,mb4.4,baz=172,slow=6.1,SNR=8.0						
FITZ				LR	LR	11 08 29.0	
	comp=Z,173nm,18.7s,MS3.9,baz=132,slow=33						
MBWA	Marble Bar	45.84	259	eP	P	10 54 09.5	+0.7
	10.0nm,1.1s,mb4.7						
NWAO	Narrogin (SRO)	47.77	243	eP	P	10 54 22.7	-1.2
KKH	Kailua Kona	51.84	44	eP	P	10 55 02.5	+7.4
VNDA	Vanda	58.50	182	P	P	10 55 41.4	-1.3
	0.7nm,0.6s,mb3.9,baz=5.4,slow=7.2,SNR=9.5						
SBA	Scott Base	58.74	180	eP	P	10 55 44.6	+0.3
	3.3nm,0.7s,mb4.5						
CASY	Casey	59.99	203	eP	P	10 55 52.1	-1.0
	2.6nm,0.7s,mb4.4						
MJAR	Matsushiro Arr	62.42	333	P	P	10 56 08.9	-1.0
	1.8nm,0.7s,mb4.3,baz=170,slow=7.3,SNR=5.1						
MDJ	Mudanjiang	72.79	332	eP	P	10 57 15.6	+0.9
	14nm,1.1s,mb4.8						
MAW	Mawson	78.31	202	P	P	10 57 46.4	+0.7
	1.6nm,0.9s,mb4.0,baz=139,slow=8.0,SNR=5.8						
MA2	Magadan	79.80	351	eP	P	10 57 53.2	-0.8
	6.0nm,0.8s,mb4.6						
PMSA	Palmer Station	87.18	160	eP	P	10 58 32.0	+0.8
CMB	Columbia Colle	87.50	48	eP	P	10 58 34.0	+0.5
	1.8nm,0.6s,mb4.5						
YBH	Yreka Blue Hor	87.61	44	LR	LR	11 28 26.3	
	comp=Z,63nm,20.2s,MS4.0,baz=226,slow=29						
NVAR	Mina Array Bea	89.15	49	P	P	10 58 41.8	+0.5
	0.8nm,0.7s,mb4.2,baz=234,slow=9.6,SNR=9.3						
SNAA	Sanae	89.22	183	⇑i	P	10 58 40.4	-0.5
VNA3	Neumayer Olymp	89.83	181	⇑iP	P	10 58 43.0	-0.8
VNA3				e	pP	10 58 55.6	+0.8
VNA3				e		10 58 58.2	
VNA2	Neumayer--Watz	90.12	181	⇑iP	P	10 58 44.7	-0.4
VNA2				e	pP	10 58 56.4	+0.3
VNA2				e	pP	10 58 58.6	+2.5
ILAR	Eielson Array	90.31	17	P	P	10 58 44.0	-2.2
	0.7nm,0.7s,mb4.1,baz=249,slow=4.7,SNR=8.2						
VNA1	Neumayer--Stat	90.41	181	⇑iP	P	10 58 47.4	+0.9
VNA1				e	pP	10 58 58.8	+1.3
WVOR	Wild Horse Val	90.64	45	eP	P	10 58 48.7	+0.5
	1.6nm,0.8s,mb4.4						
TXAR	Lajitas Array	97.20	62	P	P	10 59 19.1	+0.5
	0.2nm,0.7s,mb3.7,baz=227,slow=6.8,SNR=4.1						
TXAR				LR	LR	11 36 57.2	
	comp=Z,53nm,18.3s,MS4.1,baz=150,slow=32						
YKA	Yellowknife Ar	100.84	27	P	P	10 59 34.3	+0.1
	0.5nm,0.7s,baz=252,slow=4.0,SNR=6.1						
ARCES	ARCESS Array B	124.85	345	PKP	PKPdf	11 04 43.9	+0.1
	1.8nm,0.5s,baz=91,slow=1.9,SNR=12						
ARCES	ARCESS Array B	124.85	345	PKP	PKPdf	11 04 43.9	+0.1
WLF	Walferdange	146.49	339	ePKPdf	PKPdf	11 05 27.6	+3.6
BAIF	Baives	146.76	342	ePKP1	PKPbc	11 05 27.4	+1.5
	23nm,1.0s						
CDF	Champ du Feu	147.15	337	ePKP1	PKPdf	11 05 28.3	+3.2
HAU	Haudompre	147.83	337	ePKP1	PKPdf	11 05 30.2	+4.0
	16nm,0.8s						
MEZF	Maizieres J'vi	147.86	339	ePKP1	PKPdf	11 05 30.6	+4.3
CABF	La Chapelle	149.10	336	ePKP1	PKPdf	11 05 34.1	+5.8
	35nm,1.0s						
FLN	La Foliniere	149.19	346	ePKP1	PKPdf	11 05 33.5	+5.1
	56nm,1.1s						
LDF	La Druitiere	149.26	345	ePKP1	PKPdf	11 05 33.5	+5.0
	10nm,0.7s						
LOR	Lormes	149.33	340	ePKP1	PKPdf	11 05 34.1	+5.4
	22nm,0.8s						
SSF	Saint Saulge	149.63	340	ePKP1	PKPdf	11 05 35.2	+6.1
	25nm,0.9s						
LPL	La Plagne	149.75	334	ePKP1	PKPdf	11 05 35.8	+6.4
LPG	La Plagne	149.75	334	ePKP1	PKPdf	11 05 35.9	+6.5
	20nm,1.0s						
SMF	Signal de Mont	149.88	339	ePKP1	PKPdf	11 05 36.2	+6.6
AVF	Avril sur Loir	149.91	340	ePKP1	PKPdf	11 05 35.2	+5.6
	8.5nm,0.8s						
BNI	Bardonecchia	150.15	334	ePKPbc	PKPdf	11 05 37.0	+7.0
ORIF	Oris-en-Rattie	150.58	335	ePKP1	PKPdf	11 05 37.7	+7.0
	20nm,0.8s						
TCF	Toulx Ste Croi	150.73	341	ePKP1	PKPdf	11 05 37.3	+6.4
	17nm,0.8s						
SBF	Sospel	150.76	332	ePKP1	PKPdf	11 05 38.2	+7.2
PGF	Pioggiola	151.02	328	ePKP1	PKPdf	11 05 38.9	+7.5
	25nm,0.8s						
VIVF	Saint-Julien-l	151.11	336	ePKP1	PKPdf	11 05 38.4	+6.9
	17nm,0.9s						
MFF	Saint Martin d	151.12	344	ePKP1	PKPdf	11 05 38.5	+7.1
FRF	La Foret Royal	151.35	332	ePKP1	PKPdf	11 05 39.6	+7.7
SMRF	Simiane la Rot	151.48	334	ePKP1	PKPdf	11 05 39.6	+7.5
	18nm,1.0s						
LMR	La Mourre	151.59	332	ePKP1	PKPdf	11 05 39.8	+7.5
LASF	Ste Croix	152.08	336	ePKP1	PKPdf	11 05 40.8	+7.8
	32nm,1.2s						

*NEIC **05** 11:15:47.3±0.6, 4.56S×152.33E, h30km, mb4.4/2, Error ellipse: s-maj=20.0km s-min=12.1km az=144.0*
*IDC **05** 11:15:58.4±4.5, 4.55S×151.96E, h129km±39km, mb3.6/5, mb1 3.8/6, mb1mx3.6/13, mbtmp4.0/6, Error ellipse: s-maj=47.8km s-min=23.8km az=121.0*
ISC 05 11:15:53.2±3.6**, 4.7S**±0.2×**152.3E**±0.1**, h96**km±30km**, n15, σ0.83**/17**, mb3.9**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.95	227	P	P	11 17 35.4	+1.3
	1.6nm,0.3s,baz=18,slow=17,SNR=6.3						
PMG				S	S	11 18 50.7	-1.4
	0.9nm,0.3s,baz=111,slow=3.1,SNR=3.3						
PMG	Port Moresby	6.95	227	ePn	P	11 17 32.5	-1.6
PMG				eSn	S	11 18 53.5	+1.4
KAKA	Kakadu	21.18	247	eP	P	11 20 50.8	+18
	4.0nm,0.4s,mb4.1						
WRAB	Tennant Creek	23.15	228	eP	P	11 20 52.5	+0.5
	7.7nm,1.0s,mb4.0						
WB2	Warramunga Arr	23.16	227	eP	P	11 20 52.3	+0.2
WRA	Warramunga Arr	23.16	228	P	P	11 20 52.7	+0.5
	1.4nm,0.4s,mb3.6,baz=52,slow=10.0,SNR=25						
FITZ	Fitzroy Crossi	29.29	241	P	P	11 21 48.0	-0.9
	1.9nm,0.3s,mb4.2,baz=53,slow=4.6,SNR=12						
MBWA	Marble Bar	35.61	240	eP	P	11 22 43.6	-0.2
RAO	Raoul Island	37.32	134	eP	P	11 22 58.5	+0.4
CASY	Casey	68.00	197	eP	P	11 26 42.6	-1.3
	3.7nm,0.8s,mb4.3						
VNDA	Vanda	72.98	178	P	P	11 27 13.8	0.0
	0.2nm,0.7s,mb3.0,baz=12,slow=8.8,SNR=3.2						
DGAR	Diego Garcia	79.36	263	eP	P	11 27 51.8	+0.9
ILAR	Eielson Array	82.22	22	P	P	11 28 04.2	-0.8
	1.3nm,0.7s,mb3.9,baz=248,slow=5.3,SNR=21						
YKA	Yellowknife Ar	95.54	28	P	P	11 29 09.0	+0.6
	0.5nm,0.7s,mb4.0,baz=272,slow=5.3,SNR=5.8						
YKA	Yellowknife Ar	95.54	28	P	P	11 29 09.0	+0.6

MEX 05 11:23:52.8±1.2**, 16.89N×99.10W, h44**km±63km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.79	268	i P	P	11 24 05.5	-2.1
ACX				i S	S	11 24 16.5	-1.9
CAIG	El Cayaco	1.13	278	i P	P	11 24 11.4	-1.0
CAIG				i S	S	11 24 23.7	-3.3

*NAO **05** 11:36:37.9±1.7, 59.29N×27.09E, ML2.5*
*CSEM **05** 11:36:37.6±0.3, 59.34N×27.25E, h2km, ML2.5, Error ellipse: s-maj=6.1km s-min=4.3km az=99.0, Mining explosion.*
*BER **05** 11:36:38.6±3.1, 59.32N×27.28E, ML2.5(NAO), Suspected explosion*
HEL 05 11:36:39.1±0.1**, 59.30N×27.13E, ML2.1, ML2.5**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	Vasula	0.86	194	eP	Pg	11 36 54.8	-1.6
VSU				eS	Sg	11 37 05.5	-2.4
VSU	Vasula	0.86	194	Pn	Pn	11 36 55.7	-2.6
VSU				Lg		11 37 06.4	
VSU	Vasula	0.86	194	P	Pg	11 36 54.7	-1.6
VSU	Vasula	0.86	194	Pn	Pn	11 36 55.7	-2.6
VSU				S	Sg	11 37 05.4	-2.5
VJF	Virojoki	1.26	10	eP	Pb	11 37 01.5	-2.0
VJF				eS	Sb	11 37 17.9	-2.2
VJF	Virojoki	1.26	10	P	Pb	11 37 01.4	-2.1
VJF				S	Sb	11 37 17.9	-2.3
PVF	Pernaja	1.41	333	eP	Pb	11 37 04.3	-1.6
PVF				eS	Sb	11 37 22.2	-2.1
PVF	Pernaja	1.41	333	P	Pb	11 37 04.3	-1.6
PVF				S	Sb	11 37 22.1	-2.2
FIA0	FINESS Array S	2.22	347	Pn	Pn	11 37 16.8	-0.8
	baz=162,slow=16						
FIA0				Lg		11 37 47.2	
	baz=168,slow=28						
FIA0				Rg		11 37 59.2	
	baz=165,slow=37						
FIA0	FINESS Array S	2.22	347	ePB	Pb	11 37 17.8	-2.0
FIA0				eS	Sn	11 37 44.7	-1.4
FIA0				MSG		11 37 49.2	
	comp=Z,7.6nm,0.2s						
KAF	Kangasniemi	2.85	352	eP	Pn	11 37 26.0	-0.7
KAF				eS	Sn	11 37 59.3	-3.0
KAF				MSG		11 38 08.3	
	comp=Z,4.7nm,0.3s						
KAF	Kangasniemi	2.85	352	P	Pn	11 37 26.0	-0.7
KAF				S	Sn	11 37 59.2	-3.1
	comp=Z,4.7nm,0.3s						
KEF	Keuruu	3.09	340	eS	Sn	11 38 06.3	-1.9
KEF				MSG		11 38 23.2	
	comp=Z,5.3nm,0.3s						
KEF	Keuruu	3.09	340	S	Sn	11 38 06.2	-2.0
	comp=Z,5.3nm,0.3s						
HFS	Hagfors	6.85	283	Pn	Pn	11 38 19.5	-3.8
	baz=108,slow=14						
HFS				Sn	Sn	11 39 36.3	-6.6
	baz=95,slow=28						
HFS				Lg		11 40 11.9	
	baz=97,slow=37						
HFS	Hagfors	6.85	283	eP	Pn	11 38 19.5	-3.8
HFS				eS	Sn	11 39 36.3	-6.6
HFS				eSG	Sg	11 40 11.9	-15
HFS	Hagfors	6.85	283	Pn	Pn	11 38 19.5	-3.8
	SNR=3.1						
HFS				Sg	Sg	11 40 11.9	-15
NB2	NORSAR Subarra	8.13	289	eP	P	11 38 36.2	-5.0
NB2				eSG	Sg	11 40 50.5	-19
NB2	NORSAR Subarra	8.13	289	Pn	P	11 38 36.2	-5.0
NB2				Sg	Sg	11 40 50.5	-19
ARA0	ARCESS Array S	10.30	357	Pn	P	11 39 05.7	-5.4
	baz=174,slow=14						
ARA0				Sn	S	11 40 57.0	-12
	baz=178,slow=22						
ARA0				Lg		11 41 53.4	
	baz=171,slow=37						
ARA0	ARCESS Array S	10.30	357	eP	P	11 39 05.7	-5.4
ARA0				eS	S	11 40 57.0	-12
ARA0				eSG		11 41 53.4	

RSPR 05 12:14:24.3, 17.98N×70.25W, h50km±26km**, MD4.2**/4**, MD4.2**/4**, 4C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	2.98	89	⇑eP	P	12 15 08.6	-1.8
CPD	Cerro la Pandu	4.12	89	⇑eP	P	12 15 24.6	-1.9
CPD	Cerro la Pandu	4.12	89	eS	S	12 16 11.2	-2.6
CBYP	Canovanas	4.18	85	⇑eP	P	12 15 26.0	-1.3
CBYP	Canovanas	4.18	85	eS	S	12 16 13.5	-2.0
MTP	Monte Pirata	4.46	88	⇑eP	P	12 15 29.1	-2.1
MTP	Monte Pirata	4.46	88	eS	S	12 16 20.6	-1.9

*NEIC **05** 12:28:29.5±1.2, 17.78S×178.59W, h563km±16km, mb4.0/4, Error ellipse: s-maj=69.6km s-min=12.4km az=154.0*
*IDC **05** 12:28:35.3±10.0, 17.69S×178.85W, h629km±141km, mb3.0/5, mb1 3.4/6, mb1mx3.1/14, mbtmp4.0/6, Error ellipse: s-maj=100.8km s-min=46.4km az=155.0*
ISC 05 12:28:27.6±1.5**, 17.7S**±0.4**×178.8W**±0.3**, h546**km±22km**, n15, σ0s46**/14**, mb3.7**/9**, 1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.69	62	ePn	P	12 30 22.9	-0.1
DZM	Mont Dzumac	14.59	250	P	P	12 31 38.5	+5.6
	0.5nm,0.3s,baz=54,slow=13,SNR=6.5						
CTA	Charters Tower	33.16	260	eP	P	12 34 21.2	+0.7
	1.9nm,0.7s,mb3.7						
TOO	Toolangi	37.06	230	eP	P	12 34 52.2	-0.5
	3.9nm,0.9s,mb3.9						
STKA	Stephens Creek	38.45	241	⇓iP	P	12 35 04.8	+0.8
	3.8nm,0.6s,mb4.1						
STKA	Stephens Creek	38.45	241	P	P	12 35 05.0	+1.0
	4.9nm,0.5s,mb4.3,baz=95,slow=9.6,SNR=18						
STKA	Stephens Creek	38.45	241	eP	P	12 35 05.0	+0.9
WB2	Warramunga Arr	44.34	259	⇑iP	P	12 35 50.9	-0.2
WRAB	Tennant Creek	44.34	259	eP	P	12 35 50.8	-0.4
	3.1nm,0.5s,mb4.1						
WRA	Warramunga Arr	44.35	259	P	P	12 35 51.3	+0.1
	2.4nm,0.7s,mb3.8,baz=96,slow=6.8,SNR=40						
MBWA	Marble Bar	57.81	256	eP	P	12 37 28.3	-0.8
	38nm,1.6s,mb4.4						
NVAR	Mina Array Bea	79.49	44	P	P	12 39 38.9	0.0
	0.4nm,0.7s,mb2.9,baz=206,slow=6.0,SNR=3.8						
TXAR	Lajitas Array	86.15	58	P	P	12 40 12.7	+0.4
	0.4nm,0.7s,mb3.2,baz=208,slow=7.1,SNR=6.1						
PDAR	Pinedale Array	87.42	44	P	P	12 40 17.8	-0.1
	0.3nm,0.6s,mb3.1,baz=239,slow=5.3,SNR=3.5						
CLL	Collm	145.18	347	i PKP1	PKPbc	12 47 06.1	+2.6
CLL				ePKP2	PKPab	12 47 09.0	+1.7

*IDC **05** 12:58:42.0±9.1, 14.29N×91.31W, mb3.6/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.5/4, ML3.9/1, MS3.6/1, Ms1 3.5/1, ms1mx2.6/28, Error ellipse: s-maj=224.5km s-min=100.7km az=26.0*
*NEIC **05** 12:58:44.3±1.3, 14.26N×91.42W, h15km, mb3.4/1, Error ellipse: s-maj=73.1km s-min=12.1km az=75.0*
*CASC **05** 12:58:44.6±2.1, 13.63N×92.02W, h0km±17km, MD4.1, mb3.4(NEIC)*
ISC 05 12:58:46.2±0.8**, 14.0N**±0.1**×92.27W**±0.06**, h33**km**, n15, σ1s10**/11**, mb3.5**/4**, MS3.6**/1**, 2D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.45	72	⇓eP	P	12 59 09.9	-0.5
IXG	Ixpaco	1.77	84	⇓eP	P	12 59 13.8	-1.1
IXG				eS	S	12 59 37.3	+0.9
RTR	El Retiro	2.54	92	eP	Px	12 59 42.0	
RTR				eS	Sx	13 00 12.9	
SNJE	San Jose	2.59	92	eP	Px	12 59 42.4	
SNJE				eS	Sx	13 00 13.0	
MRL	Marmol	2.71	67	eP	P	12 59 28.9	+0.4
MRL				eS	S	13 00 04.8	+4.4
LFRS	El Faro	3.13	96	eP	Px	12 59 49.3	
LFRS				eS	Sx	13 00 24.8	
LCBS	La Ceiba	3.21	96	eP	Px	12 59 49.9	
LCBS				eS	Sx	13 00 28.6	
SNVI	San Vicente	3.35	96	eP	Px	12 59 53.3	
SNVI				eS	Sx	13 00 32.2	
PAYG	Puerto Ayora	14.71	172	P	P	13 02 14.3	+0.5
	24nm,1.0s						
TXAR	Lajitas Array	18.56	327	P	P	13 03 04.0	+1.4
	0.1nm,0.3s,baz=151,slow=13,SNR=6.1						
MNTX	Cornudas Mount	21.33	328	eP	P	13 03 32.3	-0.3
	1.4nm,0.8s,mb3.3						
ANMO	Albuquerque	24.48	331	P	P	13 04 05.1	+1.5
	0.9nm,0.8s,mb3.3,baz=152,slow=11,SNR=5.0						
SCHQ	Schefferville	45.32	20	LR	LR	13 25 46.6	
	comp=Z,68nm,19.8s,MS3.6,baz=288,slow=36						
YKA	Yellowknife Ar	50.97	347	P	P	13 07 44.4	-2.2
	0.9nm,0.7s,mb3.8,baz=153,slow=7.3,SNR=9.2						
ILAR	Eielson Array	62.74	337	P	P	13 09 09.3	-0.9
	0.2nm,0.7s,mb3.4,baz=135,slow=8.1,SNR=5.2						

ISC 05 13:03:12.9±1.0**, 41.01N**±0.08**×39.03E**±0.04**, h10**km**, n8, σ1s05**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MACK	Trabzon	0.56	96	i P	Pg	13 03 23.2	-1.1
MACK				i S	Sg	13 03 32.1	+0.3
GRSN	GIRESUNGRSN	0.58	262	i P	Pg	13 03 23.4	-1.4
GRSN				i S	Sg	13 03 32.4	-0.2
GUMT	Gumushane	0.64	148	i PG	Pg	13 03 24.4	-1.5
KELT	Kelkit	0.87	169	i P	Pb	13 03 28.0	-1.7
KELT				i S	Sb	13 03 40.7	-0.5
SVSK	Karacayir	1.90	236	ePN	Pn	13 03 47.0	+1.3
SVSK				eSN	Sn	13 04 10.8	+1.0
ERZM	Erzurum	2.09	121	i P	Pn	13 03 49.3	+0.8
ERZM				i S	Sn	13 04 16.1	+1.3
PTK	Pertek	2.13	172	PN	Pn	13 03 50.1	+1.0
ELZG	Elazig	2.50	181	i P	Pn	13 03 55.0	+0.5
ELZG				i S	Sn	13 04 31.6	+6.3

*BJI **05** 13:14:42.0, 27.22N×103.78E, h32km, mB5.2, mb4.7, ML4.7, Ms4.7, Msz4.5*
*MOS **05** 13:14:42.6±0.9, 27.31N×103.84E, h33km, mb4.8/23, Error ellipse: s-maj=13.4km s-min=7.5km az=111.3*
*NEIC **05** 13:14:44.8±0.3, 27.28N×103.70E, h35km, mb4.5/17, MS4.3/1, Error ellipse: s-maj=9.1km s-min=6.3km az=48.0*
*IDC **05** 13:14:44.4±4.1, 27.40N×103.89E, h33km±30km, mb4.0/15, mb1 4.2/15, mb1mx4.1/21, mbtmp4.2/15, MS4.1/10, Ms1 4.1/10, ms1mx3.9/23, Error ellipse: s-maj=28.1km s-min=16.4km az=56.0*
ISC 05 13:14:43.0±0.7**, 27.29N**±0.03**×103.84E**±0.04**, h36**km±7km**, n108, σ1s14**/120**, mb4.4**/42**, MS4.2**/15**, 4C-8D, Yunnan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.38	205	PG	P	13 15 20.1	-0.3
KMI				SG	S	13 15 50.5	+1.9
KMI				Smax			
	comp=N,1µm,1.1s						
KMI				Smax			
	comp=E,1µm,1.0s						
KMI				LR	LR		
	comp=N,9µm,3.8s						
KMI				LR	LR		
	comp=E,16µm,5.0s						
GYA	Guiyang	2.66	108	⇓iP	P	13 15 28.0	+3.6
GYA				SG	S	13 16 09.0	+13
GYA				Smax			
	comp=N,3µm,0.8s						
GYA				Smax			
	comp=E,3µm,0.9s						
GYA				LR	LR		
	comp=N,6µm,5.1s						
GYA				LR	LR		
	comp=E,3µm,4.5s						
GYA				LR	LR		
	comp=Z,3µm,7.5s						
CD2	Chengdu	3.60	359	⇑iP	P	13 15 39.2	+1.3
CD2				PG	P	13 15 48.6	+11
CD2				SG	S	13 16 36.0	+16
CD2				Smax			
	comp=N,2µm,1.1s						
CD2				Smax			
	comp=E,3µm,0.8s						
CD2				LR	LR		
	comp=E,8µm,7.2s						
CD2				LR	LR		
	comp=Z,3µm,4.8s						
ENH	Enshi	5.78	58	⇑iPn	P	13 16 10.4	+1.9
	comp=Z,288nm,0.8s						
ENH				eSn	S	13 17 15.1	+0.5
XAN	Xi'an	8.02	32	P	P	13 16 39.2	-0.8
XAN				S	S	13 18 08.7	-1.8
XAN				Smax			
	comp=N,885nm,1.3s						
XAN				Smax			
	comp=E,619nm,1.2s						
XAN				LR	LR		
	comp=N,3µm,11.9s						
XAN				LR	LR		
	comp=E,3µm,10.0s						
XAN				LR	LR		
	comp=Z,3µm,12.5s						
CHRT	Chiangrai	8.27	208	⇓P	P	13 16 41.0	-2.4
LZH	Lanzhou	8.77	0	eP	P	13 16 49.0	-1.3
LZH				AP		13 16 52.3	
LZH				PP	PP	13 16 56.7	-1.2
LZH				eS	S	13 18 32.1	+3.1
LZH				XS		13 18 36.2	
LZH				AMB	AMB		
	comp=Z,59nm,1.3s						
LZH				AMB	AMB		
	comp=Z,172nm,4.0s						
LZH				LR	LR		
	comp=N,4µm,11.0s						
LZH				LR	LR		
	comp=Z,5µm,13.0s						
CHG	Chiang Mai	9.56	209	P	P	13 17 00.5	-0.9
WHN	Wuhan	9.76	68	eP	P	13 17 05.0	+0.9
QIZ	Qiongzhong	9.90	145	eP	P	13 17 01.9	-4.2
QIZ				eS	S	13 18 57.0	-0.2
QIZ				LR	LR		
	comp=N,3µm,10.7s						
QIZ				LR	LR		
	comp=E,4µm,11.2s						
LSA	Lhasa	11.42	285	P	P	13 17 25.4	-1.3
LSA	Lhasa	11.42	285	ePn	P	13 17 21.9	-4.8
	comp=E,9.8nm,0.6s						
LSA	Lhasa	11.42	285	eP	P	13 17 21.9	-4.8
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NST	Nakhon Sawan	12.06	197	P	P	13 17 23.5	-12
GTA	Gaotai	12.54	346	eP	P	13 17 40.4	-1.4
GTA				AP		13 17 45.4	
GTA				S	S	13 20 02.3	+1.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s						
GTA				LR	LR		
	comp=N,1µm,14.4s						
GTA				LR	LR		
	comp=E,3µm,14.1s						
GTA				LR	LR		
	comp=Z,733nm,12.2s						
NJ2	Nanjing	13.89	66	eP	P	13 17 59.2	-0.4
NJ2				AP		13 18 06.4	
NJ2				PP	PP	13 18 11.0	+0.6
NJ2				S	S	13 20 32.0	-1.5
NJ2				XS		13 20 44.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,68nm,4.8s						
NJ2				LR	LR		
	comp=Z,7µm,10.0s						
TIA	Tai'an	14.37	48	eP	P	13 18 06.5	+0.6
TIA				AMB	AMB		
	comp=Z,16nm,1.0s						
HHC	Hu-ho-hao-te	14.95	23	eP	P	13 18 12.6	-0.8
HHC				AP		13 18 16.6	
HHC				PP	PP	13 18 24.1	-1.2
HHC				S	S	13 20 51.3	-7.2
HHC				AMB	AMB		
	comp=Z,16nm,1.1s						
HHC				AMB	AMB		
	comp=Z,370nm,8.4s						
HHC				LR	LR		
	comp=N,1µm,13.7s						
HHC				LR	LR		
	comp=E,1µm,10.1s						
HHC				LR	LR		
	comp=Z,2µm,10.7s						
SSE	Sheshan	15.62	72	eP	P	13 18 19.7	-2.4
SSE				AP		13 18 29.5	
SSE				XP		13 18 37.8	
SSE				S	S	13 21 10.4	-3.7
SSE				XS		13 21 25.9	
SSE				SCS	ScS	13 30 28.3	-2.1
SSE				AMB	AMB		
	comp=Z,34nm,0.8s						
SSE				AMB	AMB		
	comp=Z,475nm,4.6s						
SSE				LR	LR		
	comp=N,1µm,21.5s						
SSE				LR	LR		
	comp=E,178nm,21.4s						
SSE	Sheshan	15.62	72	eP	P	13 18 19.7	-2.4
	comp=E,34nm,0.8s						
SSE				pP		13 18 29.5	
SSE				sP		13 18 37.8	
SSE				S	S	13 21 10.4	-3.7
SSE				sS		13 21 25.9	
SSE				ScS	ScS	13 30 28.3	-2.1
PKI	Pulchoki	16.37	275	eP	P	13 18 25.9	-5.8
	comp=E,87nm,0.8s						
KKN	Kakani	16.47	276	eP	P	13 18 27.4	-5.6
	comp=E,106nm,0.8s						
DMN	Daman	16.63	275	eP	P	13 18 29.2	-5.8
	comp=E,84nm,0.9s						
GKN	Gorkha	17.03	277	eP	P	13 18 34.7	-5.3
	comp=E,100nm,1.0s						
KOLN	Koldanda	17.96	276	eP	P	13 18 45.4	-6.2
	comp=E,44nm,0.7s						
DL2	Dalian	18.84	48	P	P	13 19 04.4	+2.0
DL2				AMB	AMB		
	comp=Z,20nm,1.1s						
DL2				LR	LR		
	comp=N,510nm,15.7s						
DL2				LR	LR		
	comp=E,620nm,13.1s						
DL2				LR	LR		
	comp=Z,1µm,14.7s						
ULN	Ulaanbaatar	20.69	6	eP	P	13 19 22.2	-0.3
	comp=Z,20nm,1.0s						
ULN	Ulaanbaatar	20.69	6	eP	P	13 19 22.0	-0.4
WMQ	Urumqi	21.02	326	eP	P	13 19 27.5	+1.7
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.0						
SNY	Shenyang	21.71	43	⇓P	P	13 19 35.2	+2.4
SNY				XP		13 19 43.8	
SNY				S	S	13 23 34.3	+8.4
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
SNY				LR	LR		
	comp=N,1µm,16.7s,MS4.5						
SNY				LR	LR		
	comp=E,1µm,16.7s,MS4.5						
SNY				LR	LR		
	comp=Z,1µm,12.6s,MS4.5						
ZAK	Zakamensk	23.06	359	eP	P	13 19 46.6	+0.6
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
CN2	Changchun	23.98	41	eP	P	13 19 57.1	+2.0
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
JNU	Nakatsue	24.05	69	LR	LR	13 30 06.9	
	comp=Z,506nm,18.4s,MS4.0,baz=239,slow=38						
KKM	Kota Kinabalu	24.19	149	eP	P	13 19 59.1	+1.7
MOY	Mondy	24.44	356	eP	P	13 20 03.5	+4.1
IRK	Irkutsk	24.92	1	eP	P	13 20 04.2	+0.1
IRK				e		13 20 21.1	
IRK				pmax	pmax		
	comp=Z,34nm,1.9s,mb4.5						
HIA	Hailar	25.14	25	eP	P	13 20 07.6	+1.4
	comp=Z,37nm,0.9s,mb4.9						
HIA	Hailar	25.14	25	eP	P	13 20 07.6	+1.4
HIA				pmax	pmax		
	comp=Z,37nm,0.9s						
HYB	Hyderabad	25.32	252	i P	P	13 20 08.0	-0.2
HYB	Hyderabad	25.32	252	eP	P	13 20 08.0	-0.2
MKAR	Makanchi Array	25.83	325	P	P	13 20 11.8	-0.9
	comp=Z,9.9nm,0.8s,mb4.4,baz=130,slow=12,SNR=46						
MKAR				ScP		13 27 18.1	
	comp=Z,1.2nm,0.8s,baz=113,slow=4.9,SNR=7.4						
MKAR	Makanchi Array	25.83	325	P	P	13 20 11.8	-0.9
MKAR				ScP		13 27 18.1	
MKAR	Makanchi Array	25.83	325	⇑eP	P	13 20 15.0	+2.3
AAK	Ala-Archa	28.32	310	eP	P	13 20 36.7	+1.2
	comp=Z,3.2nm,0.6s,mb4.1						
AAK	Ala-Archa	28.32	310	eP	P	13 20 36.7	+1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
ZAL	Zalesovo	30.09	337	P	P	13 20 50.0	-1.1
	comp=Z,4.1nm,0.8s,mb4.2,baz=322,slow=9.5,SNR=11						
ZAL				LR	LR	13 33 33.4	
	comp=Z,215nm,20.2s,MS3.8,baz=320,slow=38						
ZAL	Zalesovo	30.09	337	i P	P	13 20 50.6	-0.5
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	30.24	327	eP	P	13 20 52.1	-0.4
	comp=Z,5.1nm,0.7s,mb4.4						
KURK	Kurchatov	30.24	327	eP	P	13 20 52.4	-0.1
BVAR	Borovoye Array	35.71	325	P	P	13 21 40.1	+0.2
	comp=Z,0.6nm,0.4s,mb3.9,baz=108,slow=9.4,SNR=6.6						
BRVK	Borovoye	35.78	325	eP	P	13 21 40.0	-0.5
	comp=Z,3.5nm,0.9s,mb4.3						
BRVK	Borovoye	35.78	325	eP	P	13 21 40.0	-0.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
YSS	Yuzh-Sakhalins	36.23	47	eP	P	13 21 44.8	+0.4
YSS				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
YAK	Yakutsk	38.76	19	d iP	P	13 22 05.1	-0.3
YAK				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
YAK				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.3						
SVE	Sverdlovsk	42.47	326	eP	P	13 22 39.4	+3.3
SVE				MLR	MLR		
	comp=N,200nm,15.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,200nm,15.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.3						
ARU	Arti	43.35	325	eP	P	13 22 44.4	+1.1
	comp=Z,12nm,0.8s,mb4.7						
ARU	Arti	43.35	325	⇓iP	P	13 22 44.0	+0.7
ARU				e		13 24 25.4	
ARU				ePPP	PPP	13 24 59.2	-3.0
ARU				eS	S	13 29 09.4	+1.3
ARU				eSSS	SSS	13 33 08.2	+1.5
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
MA2	Magadan	45.42	31	eP	P	13 22 59.1	-0.7
MA2				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.7						
TIXI	Tiksi	46.52	11	eP	P	13 23 07.8	-0.6
TIXI				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
SEY	Seymchan	47.54	28	⇑eP	P	13 23 16.7	+0.2
FITZ	Fitzroy Crossi	49.83	152	P	P	13 23 35.2	+0.4
	comp=Z,5.3nm,0.8s,mb4.6,baz=12,slow=14,SNR=3.5						
GNI	Garni	49.96	301	d iP	P	13 23 38.8	+3.2
GNI				pmax	pmax		
	comp=Z,12nm,1.3s						
MBWA	Marble Bar	50.56	161	eP	P	13 23 39.9	-0.5
GOF	Gofitskoye	50.99	307	eP	P	13 23 52.0	+8.7
KIV	Kislovodsk	51.27	306	d iP	P	13 23 47.8	+2.3
KIV				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.8						
SOC	Sochi	53.45	306	eP	P	13 23 59.9	-1.8
SOC				e		13 25 08.1	
SOC				ePPP	PPP	13 27 15.9	+4.3
SOC				eS	S	13 31 28.4	-1.6
SOC				eSS	SS	13 35 15.9	+6.3
SOC				eSSS	SSS	13 37 06.0	+5.0
SOC				pmax	pmax		
	comp=Z,99nm,1.3s,mb5.6						
SOC				pmax	pmax		
	comp=N,86nm,1.2s						
SOC				pmax	pmax		
	comp=E,41nm,1.0s						
BILL	Bilibino	54.72	24	d iP	P	13 24 09.3	-1.4
BILL				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.8						
BILL				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.7						
OBN	Obninsk	55.19	320	eP	P	13 24 12.9	-1.4
OBN				pmax	pmax		

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,5.0nm,0.8s,mb4.6						
WRAB	Tennant Creek	55.48	145	eP	P	13 24 15.8	-1.0
	comp=Z,9.8nm,0.9s,mb4.8						
WRAB	Tennant Creek	55.48	145	eP	P	13 24 17.1	+0.3
WRA	Warramunga Arr	55.48	145	P	P	13 24 16.6	-0.2
	comp=Z,3.5nm,0.7s,mb4.5,baz=333,slow=8.4,SNR=24						
WB2	Warramunga Arr	55.48	145	eP	P	13 24 16.8	-0.1
JOF	Joensuu	58.14	329	ep	P	13 24 30.6	-4.6
BRTR	Keskin Array B	58.48	302	P	P	13 24 37.6	-0.2
	comp=Z,1.4nm,0.7s,mb4.1,baz=119,slow=9.2,SNR=4.8						
AKASG	Malin Array Be	59.86	315	P	P	13 24 47.2	-0.1
	comp=Z,1.0nm,0.4s,mb4.2,baz=70,slow=6.6,SNR=8.2						
KAF	Kangasniemi	60.47	328	ep	P	13 24 44.9	-6.4
FINES	FINESS Array B	60.62	327	P	P	13 24 51.1	-1.2
	comp=Z,1.2nm,0.6s,mb4.2,baz=90,slow=6.3,SNR=10						
FINES				LR	LR	13 51 14.8	
	comp=Z,156nm,19.2s,MS4.2,baz=111,slow=36						
ARCES	ARCESS Array B	60.64	337	P	P	13 24 50.6	-1.8
	comp=Z,2.3nm,0.7s,mb4.4,baz=93,slow=7.4,SNR=7.6						
CTAO	Charters Tower	62.50	134	eP	P	13 25 06.3	+0.8
	comp=Z,3.5nm,0.8s,mb4.5						
CTAO	Charters Tower	62.50	134	eP	P	13 25 06.3	+0.8
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
MLR	Muntele Rosu	62.90	309	LR	LR	13 53 40.8	
	comp=Z,127nm,18.1s,MS4.1,baz=265,slow=37						
HFS	Hagfors	66.81	327	LR	LR	13 54 37.1	
	comp=Z,143nm,18.4s,MS4.2,baz=264,slow=36						
NB2	NORSAR Subarra	67.75	328	P	P	13 25 36.6	-2.1
	comp=Z,2.2nm,0.7s,mb4.3,baz=76,slow=6.2						
NB2	NORSAR Subarra	67.75	328	P	P	13 25 36.6	-2.1
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
NOA	NORSAR Array B	67.75	328	P	P	13 25 37.2	-1.5
	comp=Z,1.7nm,0.8s,mb4.1,baz=75,slow=6.2,SNR=6.4						
NOA				LR	LR	13 54 37.9	
	comp=Z,94nm,18.3s,MS4.0,baz=70,slow=35						
NOA	NORSAR Array B	67.75	328	P	P	13 25 37.2	-1.5
NOA				LR	LR	13 54 37.9	
VRAC	Vranov	68.11	315	LR	LR	13 56 15.9	
	comp=Z,168nm,18.4s,MS4.3,baz=64,slow=37						
KMBO	Kilima Mbogo	69.84	258	P	P	13 25 52.4	0.0
	comp=Z,3.3nm,0.9s,mb4.2,baz=38,slow=12,SNR=7.3						
KMBO				LR	LR	13 54 49.1	
	comp=Z,107nm,21.0s,MS4.1,baz=92,slow=34						
GERES	GERESS Array B	70.06	315	P	P	13 25 52.7	-0.4
	comp=Z,0.8nm,0.6s,mb3.8,baz=108,slow=4.2,SNR=4.4						
GERES				LR	LR	13 57 14.9	
	comp=Z,155nm,20.3s,MS4.2,baz=48,slow=36						
ILAR	Eielson Array	73.37	25	P	P	13 26 11.6	-1.0
	comp=Z,0.4nm,0.4s,mb3.7,baz=283,slow=4.2,SNR=11						
CABF	La Chapelle	75.66	315	eP	P	13 26 26.8	+0.6
	comp=Z,13nm,1.0s,mb4.5						
CABF	La Chapelle	75.66	315	eP	P	13 26 26.8	+0.6
CABF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
LPG	La Plagne	75.70	314	eP	P	13 26 26.8	+0.4
	comp=Z,6.8nm,0.5s,mb4.5						
LPG	La Plagne	75.70	314	eP	P	13 26 26.8	+0.4
LPG				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
LPL	La Plagne	75.70	314	eP	P	13 26 26.6	+0.2
	comp=Z,8.2nm,0.5s,mb4.6						
LPL	La Plagne	75.70	314	eP	P	13 26 26.6	+0.2
LPL				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
INK	Inuvik	75.82	19	P	P	13 26 26.4	-0.3
	comp=Z,3.7nm,0.9s,mb4.3,baz=319,slow=5.2,SNR=4.7						
SBF	Sospel	75.93	312	eP	P	13 26 28.0	+0.3
MBDF	Montbardon	76.00	313	eP	P	13 26 28.8	+0.6
	comp=Z,5.1nm,0.7s,mb4.3						
MBDF	Montbardon	76.00	313	eP	P	13 26 28.8	+0.6
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ORIF	Oris-en-Rattie	76.50	314	eP	P	13 26 31.2	+0.2
	comp=Z,4.8nm,0.7s,mb4.2						
ORIF				eR			
	comp=Z,196nm,21.0s						
LOR	Lormes	76.76	316	eP	P	13 26 32.6	+0.2
	comp=Z,6.2nm,0.6s,mb4.4						
LOR				eR			
	comp=Z,140nm,19.8s						
LOR	Lormes	76.76	316	eP	P	13 26 32.6	+0.2
LOR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LOR				MLR	MLR		
	comp=Z,140nm,19.8s,MS4.3						
AVF	Avril sur Loir	77.28	316	eP	P	13 26 35.1	-0.3
	comp=Z,6.0nm,0.6s,mb4.4						
AVF	Avril sur Loir	77.28	316	eP	P	13 26 35.1	-0.3
AVF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
VIVF	Saint-Julien-l	77.30	314	eP	P	13 26 35.5	0.0
LASF	Ste Croix	78.17	314	eP	P	13 26 40.2	-0.1
YKA	Yellowknife Ar	85.39	17	P	P	13 27 17.8	+0.4
	comp=Z,1.0nm,0.7s,mb4.1,baz=324,slow=4.4,SNR=9.1						
YKA				LR	LR	14 08 53.0	
	comp=Z,91nm,18.4s,MS4.2,baz=305,slow=38						

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*NEIC **05** 13:56:33.1±6.2, 37.05N×71.83E, h167km±32km, mb4.5/1, Error ellipse: s-maj=73.2km s-min=25.7km az=173.0*
*IDC **05** 13:56:33.5±16.0, 37.06N×71.88E, h170km±124km, mb3.4/3, mb1 3.6/5, mb1mx3.2/20, mbtmp4.0/5, Error ellipse: s-maj=170.1km s-min=73.0km az=169.0*
*MOS **05** 13:56:33.3±1.0, 37.13N×71.70E, h179km, mb4.0/1, Error ellipse: s-maj=37.8km s-min=15.7km az=86.9*
*NNC **05** 13:56:43.3±3.9, 37.92N×71.79E, h250km±50km, mpv3.6, Error ellipse: s-maj=44.8km s-min=26.8km az=28.0*
ISC 05 13:56:35.1±0.6**, 37.29N**±0.04×**71.9E**±0.1**, h191**km±10km**, n21, σ0s80**/25**, mb4.0**/4**, 4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.46	180	P	P	13 57 31.0	+0.5
CHCP	Chirah Chowk	3.79	163	P	P	13 57 36.0	+1.3
THW	Thamme Wali	4.49	182	⇑P	P	13 57 43.4	-0.1
SARP	Sargodha	5.40	173	P	P	13 57 54.0	-1.2
AAK	Ala-Archa	5.70	20	⇑P	P	13 58 00.3	+1.3
	8.2nm,0.5s						
AAK				⇑S	S	13 59 03.5	-0.8
	32nm,0.6s						
AAK	Ala-Archa	5.70	20	ePn	P	13 57 59.3	+0.3
	13nm,0.4s						
AAK				eSn	S	13 59 03.6	-0.7
AAK	Ala-Archa	5.70	20	ePN	P	13 57 59.3	+0.3
AAK				pmax	pmax		
	comp=Z,13nm,0.4s						
KK31	Karatay Array	5.90	350	P	P	13 58 02.5	+0.8
	comp=Z,1.0nm,0.3s,baz=160,slow=11,SNR=76						
KK31				⇓S	S	13 59 05.8	-3.3
	comp=Z,9.2nm,0.3s,baz=177,slow=24,SNR=25						
MKAR	Makanchi Array	12.23	36	P	P	13 59 24.7	+0.9
	comp=Z,0.2nm,0.3s,baz=231,slow=9.2,SNR=7.6						
KOLN	Koldanda	13.69	131	eP	P	13 59 41.5	-0.8
	comp=Z,3.4nm,0.2s						
GKN	Gorkha	14.16	127	eP	P	13 59 47.6	-0.7
	comp=Z,11nm,0.3s						
KKN	Kakani	14.72	126	eP	P	13 59 55.1	-0.2
	comp=Z,6.6nm,0.4s						
DMN	Daman	14.73	127	eP	P	13 59 55.7	+0.3
	comp=Z,6.1nm,0.3s						
AB31	Akbulak array	14.77	328	⇑P	P	13 59 54.9	-0.8
	comp=Z,1.1nm,0.7s,baz=136,slow=13,SNR=14						
AB31				⇓S	S	14 02 29.9	-4.5
	comp=Z,1.0nm,0.5s,baz=112,slow=38,SNR=5.2						
PKI	Pulchoki	14.96	127	eP	P	13 59 58.0	-0.2
	comp=Z,12nm,0.6s						
BVAR	Borovoye Array	15.77	357	P	P	14 00 08.9	+0.9
	comp=Z,0.5nm,0.3s,baz=170,slow=12,SNR=7.7						
ZAL	Zalesovo	18.88	24	P	P	14 00 43.0	+0.2
	comp=Z,2.6nm,0.3s,baz=257,slow=6.9,SNR=13						
OBN	Obninsk	29.82	318	eP	P	14 02 25.3	-0.8
	comp=Z,12nm,0.4s,mb5.0						
ARCES	ARCESS Array B	40.69	337	P	P	14 03 58.5	+0.6
	comp=Z,1.4nm,0.7s,mb3.7,baz=112,slow=6.5,SNR=6.3						
HFS	Hagfors	42.89	321	P	P	14 04 16.2	+0.3
	comp=Z,1.2nm,0.4s,mb3.9,baz=106,slow=10,SNR=9.5						
NOA	NORSAR Array B	44.19	322	P	P	14 04 26.2	+0.1
	comp=Z,0.5nm,0.5s,mb3.4,baz=95,slow=7.7,SNR=3.3						

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*OMAN **05** 14:12:26.9, 28.87N×58.79E, h30km, Error ellipse: s-maj=145.3km s-min=14.1km az=17.0*
*MOS **05** 14:12:28.5±1.5, 27.87N×58.39E, h33km, mb4.6/15, Error ellipse: s-maj=12.6km s-min=7.5km az=89.6*
*THR **05** 14:12:31.4±0.3, 28.59N×58.34E, h15km±4km, ML4.2*
*TEH **05** 14:12:32.9, 28.14N×58.53E, h22km, Mn4.2*
*CSEM **05** 14:12:33.9±0.1, 28.27N×58.36E, h60km, mb4.6/12, Error ellipse: s-maj=2.7km s-min=2.3km az=87.0*
*NEIC **05** 14:12:36.5±0.9, 28.40N×58.32E, h62km±8km, mb4.0/6, Error ellipse: s-maj=11.3km s-min=8.2km az=162.0*
*BJI **05** 14:12:37.8, 28.40N×58.30E, h74km, mb4.4*
*IDC **05** 14:12:45.3±5.6, 28.60N×58.15E, h139km±51km, mb3.8/12, mb1 4.0/13, mb1mx3.8/22, mbtmp4.2/13, MS2.9/1, Ms1 2.9/1, ms1mx2.7/21, Error ellipse: s-maj=21.7km s-min=16.7km az=140.0*
ISC 05 14:12:34.4±0.5**, 28.36N**±0.03×**58.23E**±0.04**, h61**km±6km**, n114, σ1s40**/115**, mb4.3**/32**, 3C-4D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	2.06	243	ePN	P	14 13 10.3	+2.9
BNDS				AML	AML	14 13 52.5	
	comp=N,2μm,0.5s						
KRBR	Kerman	2.07	322	ePG	P	14 13 07.3	-0.2
KRBR				AML	AML	14 13 39.7	
	comp=N,3μm,0.4s						
ZHSF	Zahedan	2.56	60	ePN	P	14 13 11.8	-2.7
ZHSF				eSG	S	14 13 45.8	+1.3
BANOM	Banah	2.97	216	⇓P	P	14 13 21.8	+1.5
	SNR=13						
IBAF	Bafgh	3.96	325	Pn	P	14 13 36.8	+2.5
ASHO	Ashiyiah	4.14	208	P	P	14 13 38.2	+1.5
	SNR=29						
IMEH	Mehriz	4.36	315	Pn	P	14 13 41.9	+2.1
ISRV	Sarvestan	4.60	284	Pn	P	14 13 44.8	+1.6
GHIR	Ghir-Karzin	4.62	270	ePN	P	14 13 44.3	+0.8
GHIR				AML	AML	14 15 10.0	
	comp=N,155nm,0.6s						
IPAR	Pars	4.77	289	Pn	P	14 13 47.3	+1.8
BIDO	Bidbid	4.82	181	P	P	14 13 44.5	-1.7
	SNR=26						
HOQ	Hoqain	4.83	190	⇓P	P	14 13 44.0	-2.3
IMOK	Mook	4.89	279	Pn	P	14 13 48.6	+1.4
ICHK	Chekchek	5.09	320	Pn	P	14 13 52.7	+2.7
ARQ	Araqi	5.23	197	P	P	14 13 52.2	+0.3
	SNR=23						
SMDO	Samad	5.28	182	⇓P	P	14 13 51.2	-1.3
	SNR=50						
BSY	Bisya	5.66	190	⇑P	P	14 13 58.3	+0.3
BSYO	Bisya	5.67	189	P	P	14 13 58.3	+0.3
WBK	Wadi Bani Khal	5.76	173	P	P	14 13 57.3	-2.0
	SNR=24						
JMDO	Jabal Madar	5.96	181	P	P	14 14 01.3	-0.7
	SNR=22						
NASN	Na'in	6.44	315	ePN	P	14 14 07.3	-1.5
IPAY	Payeh	8.10	4	Pn	P	14 14 29.5	-2.2
IMYA	Miamay	8.12	11	Pn	P	14 14 30.6	-1.4
IFIR	Firoozkooh	8.62	329	Pn	P	14 14 40.9	+2.0
IFIR				Sn	S	14 16 13.5	-2.2
IVRN	Varamin	8.63	322	Pn	P	14 14 39.1	+0.1
IVRN				Sn	S	14 16 14.2	-1.7
IDMV	Damavand	8.91	325	Pn	P	14 14 44.1	+1.1
DAMV	Damavand	8.99	325	ePn	P	14 14 41.6	-2.3
QRN	Al-Qurain	9.07	275	eP	P	14 14 43.6	-1.6
KBD	Kabd	9.28	278	eP	P	14 14 46.9	-1.1
KBD				AML	AML	14 16 30.4	
	comp=Z,112nm,0.3s						
UMR	Umm Al-Rimmam	9.29	280	eP	P	14 14 46.5	-1.6
UMR				AML	AML	14 16 29.2	
	comp=Z,56nm,0.3s						
IAFJ	Afjeh	9.29	325	Pn	P	14 14 48.6	+0.4
ASAO	Ashtian	9.33	313	ePn	P	14 14 46.9	-1.8
RDF	Al-Radifah	9.40	276	eP	P	14 14 48.7	-0.9
RDF				AML	AML	14 16 37.0	
	comp=Z,70nm,0.3s						
MIB	Mutribah	9.64	281	eP	P	14 14 50.7	-2.2
MIB				AML	AML	14 16 37.9	
	comp=Z,85nm,0.4s						
GNI	Garni	16.18	320	eP	P	14 16 20.7	+1.5
	comp=Z,18nm,0.8s						
GNI	Garni	16.18	320	eP	P	14 16 20.7	+1.5
GNI				pmax	pmax		
	comp=Z,18nm,0.8s						
ASF	Jabal al Asfar	18.81	287	P	P	14 16 52.7	+1.1
	comp=Z,1.2nm,0.3s,baz=342,slow=11,SNR=9.3						
ASF				S	S	14 20 12.5	-3.3
	comp=Z,0.7nm,0.3s,baz=204,slow=16,SNR=3.8						
MALT	Malatya	19.26	306	ePn	P	14 16 58.9	+2.3
	comp=Z,9.2nm,0.9s						
MALT	Malatya	19.26	306	ePn	P	14 16 58.9	+2.3
	comp=Z,9.2nm,0.9s						
MALT	Malatya	19.26	306	eP	P	14 16 58.9	+2.3
MALT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AAK	Ala-Archa	19.40	38	eP	P	14 16 59.1	+1.0
	comp=Z,7.0nm,0.8s						
AAK	Ala-Archa	19.40	38	eP	P	14 16 59.1	+1.0
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIV	Kislovodsk	19.94	325	eP	P	14 17 08.4	+4.5
	comp=Z,51nm,1.2s						
KIV	Kislovodsk	19.94	325	eP	P	14 17 08.4	+4.5
KIV				pmax	pmax		
	comp=Z,51nm,1.2s						
AB31	Akbulak array	20.91	3	P	P	14 17 13.2	-0.7
	comp=Z,26nm,1.1s						
AB31	Akbulak array	20.91	3	P	P	14 17 13.2	-0.7
AB31				pmax	pmax		
	comp=Z,26nm,1.1s						
HYB	Hyderabad	21.63	116	i P	P	14 17 21.0	-0.3
HYB	Hyderabad	21.63	116	eP	P	14 17 21.0	-0.3
ATD	Arta Tunnel	22.08	224	LR	LR	14 25 28.4	
	comp=Z,30nm,19.7s,baz=12,slow=34						
KOLN	Koldanda	22.39	85	eP	P	14 17 29.0	+0.3
	comp=Z,45nm,1.3s,mb4.8						
BR131	Keskin Array S	23.24	306	eP	P	14 17 37.9	+1.0
BR131	Keskin Array S	23.24	306	eP	P	14 17 37.9	+0.9
BRTR	Keskin Array B	23.24	306	P	P	14 17 37.9	+0.9
	comp=Z,2.4nm,0.9s,mb3.6,baz=112,slow=13,SNR=4.9						
GKN	Gorkha	23.27	85	eP	P	14 17 38.4	+1.1
	comp=Z,9.5nm,0.6s,mb4.4						
ANN	Anapa	23.31	320	eP	P	14 17 29.8	-7.7
ANN				pmax	pmax		
	comp=Z,35nm,1.1s,mb4.7						
DMN	Daman	23.73	85	eP	P	14 17 42.9	+1.1
KKN	Kakani	23.86	85	eP	P	14 17 43.5	+0.4
	comp=Z,17nm,0.6s,mb4.7						
PKI	Pulchoki	24.01	85	eP	P	14 17 45.1	+0.6
	comp=Z,39nm,0.9s,mb4.8						
VOSK	Vostochnaya	26.12	18	P	P	14 18 04.1	-0.2
	comp=Z,5.0nm,0.9s,mb4.0						
VOSK	Vostochnaya	26.12	18	P	P	14 18 04.1	-0.2
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
BVA0	Borovoye Array	26.24	17	i P	P	14 18 05.6	+0.2
	comp=Z,2.0nm,1.0s,mb3.6						
BVA0	Borovoye Array	26.24	17	i P	P	14 18 05.6	+0.2
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
BVAR	Borovoye Array	26.24	17	P	P	14 18 05.9	+0.5
	comp=Z,9.3nm,0.8s,mb4.3,baz=202,slow=8.0,SNR=43						
BVAR				PcP	PcP	14 21 29.6	-1.6
	comp=Z,1.2nm,0.6s,baz=153,slow=3.3,SNR=4.5						
BVAR	Borovoye Array	26.24	17	P	P	14 18 05.9	+0.5
BVAR				e		14 21 29.6	
BVAR	Borovoye Array	26.24	17	PcP	PcP	14 21 29.6	-1.6
BRVK	Borovoye	26.24	17	eP	P	14 18 06.4	+1.0
	comp=Z,3.0nm,0.8s,mb3.9						
BRVK	Borovoye	26.24	17	eP	P	14 18 06.4	+1.0
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
MKAR	Makanchi Array	26.33	39	P	P	14 18 06.1	-0.2
	comp=Z,8.5nm,0.7s,mb4.4,baz=225,slow=8.2,SNR=32						
MKAR				PcP	PcP	14 21 29.5	-2.0
	comp=Z,0.4nm,0.7s,baz=218,slow=3.5,SNR=3.7						
MKAR	Makanchi Array	26.33	39	P	P	14 18 06.1	-0.3
MKAR				e		14 21 29.5	
MKAR	Makanchi Array	26.33	39	PcP	PcP	14 21 29.5	-2.0
KURK	Kurchatov	27.14	29	eP	P	14 18 15.2	+1.5
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.9						
ARU	Arti	28.06	0	eP	P	14 18 24.9	+2.9
ARU				e		14 19 18.3	
ARU				eSS	SS	14 24 56.0	+29
OBN	Obninsk	30.98	336	eP	P	14 18 50.9	+2.9
	comp=Z,8.0nm,1.2s,mb4.4						
OBN	Obninsk	30.98	336	eP	P	14 18 50.9	+2.9
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4						
AKASG	Malin Array Be	31.26	324	i P	P	14 18 57.3	+6.8
NVS	Novosibirsk	32.07	27	eP	P	14 18 55.2	-2.3
	comp=Z,8.0nm,1.5s,mb4.3						
NVS	Novosibirsk	32.07	27	eP	P	14 18 55.2	-2.3
NVS				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
ZAL	Zalesovo	32.10	30	P	P	14 18 57.7	-0.1
	comp=N,2.9nm,0.8s,mb4.2,baz=235,slow=8.6,SNR=12						
ZAL	Zalesovo	32.10	30	i P	P	14 18 57.8	0.0
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	Kilima Mbogo	35.55	218	P	P	14 19 31.4	+3.5
	comp=Z,2.1nm,0.7s,mb4.2,baz=34,slow=15,SNR=6.4						
TIP	Timpagrande	35.85	298	eP	P	14 19 30.1	0.0
TIP	Timpagrande	35.85	298	eP	P	14 19 30.1	-0.1
GTA	Gaotai	35.96	61	eP	P	14 19 31.2	+0.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
FINES	FINESS Array B	39.38	336	P	P	14 19 59.9	+0.5
	comp=Z,1.9nm,0.7s,mb4.0,baz=121,slow=9.2,SNR=11						
GERES	GERESS Array B	39.66	313	P	P	14 20 00.3	-1.6
	comp=Z,1.5nm,0.8s,mb3.8,baz=106,slow=9.7,SNR=8.4						
KHC	Kasperske Hory	39.82	314	eP	P	14 20 02.5	-0.6
ZAK	Zakamensk	40.40	44	eP	P	14 20 11.1	+3.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
ULN	Ulaanbaatar	42.27	49	eP	P	14 20 24.3	+1.0
NB2	NORSAR Subarra	45.15	330	P	P	14 20 45.5	-1.0
	comp=Z,1.1nm,0.6s,mb3.9,baz=116,slow=7.9						
NB2	NORSAR Subarra	45.15	330	P	P	14 20 45.5	-1.0
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	NORSAR Array B	45.15	330	P	P	14 20 45.9	-0.6
	comp=Z,2.4nm,0.8s,mb4.1,baz=115,slow=7.9,SNR=7.8						
ARCES	ARCESS Array B	45.33	344	P	P	14 20 47.4	-0.3
	comp=Z,3.4nm,1.0s,mb4.1,baz=153,slow=5.4,SNR=4.8						
BOD	Bodaibo	48.36	36	eP	P	14 21 09.3	-2.4
	comp=Z,5.0nm,0.9s,mb4.5						
BOD	Bodaibo	48.36	36	eP	P	14 21 09.3	-2.4
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
NJ2	Nanjing	51.93	70	eP	P	14 21 37.2	-2.1
NJ2				PP	PP	14 23 37.0	-1.3
YAK	Yakutsk	56.71	32	i P	P	14 22 11.8	-2.1
	comp=Z,12nm,1.2s,mb4.8						
YAK	Yakutsk	56.71	32c	iP	P	14 22 11.8	-2.1
YAK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
TIXI	Tiksi	57.27	21	eP	P	14 22 18.3	+0.6
	comp=Z,10.0nm,1.3s,mb4.7						
TIXI	Tiksi	57.27	21	eP	P	14 22 18.3	+0.6
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
YSS	Yuzh-Sakhalins	66.31	48	eP	P	14 23 16.3	-2.2
	comp=Z,26nm,1.8s,mb5.0						
YSS	Yuzh-Sakhalins	66.31	48	eP	P	14 23 16.3	-2.2
YSS				pmax	pmax		
	comp=Z,26nm,1.8s,mb5.0						
SEY	Seymchan	66.99	30	⇑eP	P	14 23 22.2	-0.3
MA2	Magadan	67.24	33	i P	P	14 23 22.9	-1.3
	comp=Z,15nm,0.8s,mb5.1						
MA2	Magadan	67.24	33d	iP	P	14 23 22.9	-1.3
MA2				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
BILL	Bilibino	70.42	22	i P	P	14 23 44.1	+0.5
	comp=Z,11nm,1.2s,mb4.7						
BILL	Bilibino	70.42	22	i P	P	14 23 44.1	+0.5
BILL				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
IMA	Indian Mountai	82.75	13	eP	P	14 24 53.3	+0.7
	comp=Z,32nm,0.9s,mb5.3						
IMA	Indian Mountai	82.75	13	eP	P	14 24 53.3	+0.7
IMA				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
ILAR	Eielson Array	85.13	11	P	P	14 25 04.0	-0.5
	comp=Z,1.5nm,0.8s,mb4.2,baz=327,slow=3.9,SNR=12						
DAWY	Dawson	86.85	8	eP	P	14 25 13.5	+0.6
WRA	Warramunga Arr	87.78	114	P	P	14 25 19.6	+1.1
	comp=Z,5.0nm,0.8s,mb4.8,baz=318,slow=4.0,SNR=56						
WB2	Warramunga Arr	87.78	114	eP	P	14 25 19.2	+0.7
YKA	Yellowknife Ar	89.29	357	P	P	14 25 24.6	0.0
	comp=Z,0.6nm,0.6s,mb4.1,baz=1.5,slow=5.3,SNR=5.3						
YKA	Yellowknife Ar	89.29	357	i P	P	14 25 29.5	+4.9

NEIC 05 14:22:46.4±1.0**, 13.55S**×**72.57W, h35**km**, Error ellipse: s-maj=17.3km s-min=14.2km az=46.0, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	3.08	160	eP	P	14 23 34.0	+0.2
NNA	Nana	4.45	290	ePn	P	14 23 51.8	-1.5
NNA				eSn	S	14 24 48.9	+4.3
LPAZ	La Paz	5.08	123	ePn	P	14 24 04.8	+2.6
	9.5nm,0.7s						
LVC	Limon Verde	9.66	159	eP	P	14 25 03.1	-3.0
SAML	Samuel	10.28	65	eP	P	14 25 11.5	-3.2
	4.2nm,0.6s						
PLCA	Paso Flores	27.14	177	P	P	14 28 24.9	-3.5
	19nm,1.7s						

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*NEIC **05** 14:23:32.4, 45.82N×26.79E, h99km, mb4.4/23, MD4.9(BUC), After BUC.*
NEIC Felt at Birlad, Bucharest and Iasi. Felt [IV] at Chisinau, Moldova.
*MOS **05** 14:23:33.5±1.0, 45.76N×26.74E, h80km, mb4.4/8, Error ellipse: s-maj=3.7km s-min=2.9km az=101.7*
MOS Felt (III-IV) at Kishinev.
*BJI **05** 14:23:34.9, 46.17N×25.96E, h122km, mB5.4, mb4.7*
*PDG **05** 14:23:34.3±0.3, 45.78N×26.59E, h80km±3km*
*BUC **05** 14:23:34.4±0.7, 45.75N×26.70E, h94km±7km, MD4.7/6, Error ellipse: s-maj=4.5km s-min=3.9km az=316.0*
*CSEM **05** 14:23:34.0±0.0, 45.68N×26.80E, h84km, mb4.6/12, Error ellipse: s-maj=1.2km s-min=1.1km az=125.0*
*SOF **05** 14:23:35.8, 45.65N×26.57E, h75km, MD3.7*
*IDC **05** 14:23:35.3±0.6, 45.71N×26.56E, h87km±5km, mb4.0/20, mb1 4.1/24, mb1mx4.1/27, mbtmp4.3/24, MS3.1/4, Ms1 3.1/4, ms1mx2.7/24, Error ellipse: s-maj=12.7km s-min=10.3km az=152.0*
*THE **05** 14:23:39.2, 45.35N×26.59E, h20km, ML4.6*
ISC 05 14:23:34.1±0.1**, 45.69N**±0.01×**26.64E**±0.02**, h90**km±1km**, h84**km±2.3km**:pP-P, n380, σ1s27**/415**, mb4.4**/47**, 35C-41D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOR	Plostina	0.16	1	⇑iP	P	14 23 47.5	+0.6
PLOR				i S	S	14 23 56.6	0.0
VRI	Vrincioaia	0.18	19	⇓iP	P	14 23 47.8	+0.8
VRI				eS	S	14 23 56.7	0.0
VRI	Vrincioaia	0.18	19	⇓iP	P	14 23 47.8	+0.8
VRI				i S	S	14 23 56.8	+0.1
PETR		0.41	86	⇑iP	P	14 23 49.4	+1.2
PETR				i S	S	14 23 59.8	+0.8
MLR	Muntele Rosu	0.53	248	P	P	14 23 50.7	+1.5
	617nm,0.3s,baz=0.7,slow=5.1,SNR=5015						
MLR				S	S	14 24 01.4	+0.9
	3μm,0.3s,baz=55,slow=22,SNR=110						
MLR	Muntele Rosu	0.53	248	⇓iP	P	14 23 50.9	+1.7
MLR				i S	S	14 24 01.8	+1.3
ISR	Istrita	0.58	187	⇑iP	P	14 23 50.8	+1.1
GHRR		0.65	55	⇑iP	P	14 23 50.9	+0.6
GHRR				i S	S	14 24 02.3	0.0
OZUR		0.72	304	⇓iP	P	14 23 51.5	+0.5
OZUR				i S	S	14 24 02.8	-0.8
TUDR		0.73	98	⇓iP	P	14 23 51.3	+0.2
TUDR				i S	S	14 24 03.5	-0.2
SECR		0.77	212	⇑iP	P	14 23 54.0	+2.4
SECR				i S	S	14 24 08.2	+3.7
SNX	Sinaia	0.86	247	⇓iP	P	14 23 53.6	+1.1
VARR		0.87	77	⇓iP	P	14 23 53.3	+0.8
VARR				i S	S	14 24 06.2	-0.1
ONCR	Oncesti	0.88	29	⇑iP	P	14 23 52.6	-0.1
ONCR				i S	S	14 24 05.1	-1.5
SULR		1.05	195	⇓iP	P	14 23 56.8	+2.2
SULR				i S	S	14 24 13.0	+2.9

VOIR		1.15	258	⇓iP	P	14 23 56.9	+1.0
VOIR				iS	S	14 24 12.5	+0.4
VOIR		1.15	258	⇓iP	P	14 23 56.9	+1.0
VOIR				iS	S	14 24 12.6	+0.5
CFR	Carcaliu	1.17	116	⇓iP	P	14 23 56.3	+0.2
CFR				iS	S	14 24 11.5	-1.1
CFR	Carcaliu	1.17	116	⇓iP	P	14 23 55.2	-0.9
AMRR		1.19	155	⇓iP	P	14 23 57.7	+1.3
AMRR				iS	S	14 24 14.5	+1.5
MTUR	Matau	1.21	248	⇓iP	P	14 23 58.0	+1.4
BERR	Berezeni	1.24	57	⇑iP	P	14 23 57.3	+0.3
BERR				iS	S	14 24 13.2	-1.0
BGMR	Bucharest-Geol	1.30	198	⇓iP	P	14 24 00.7	+2.9
BGMR				iS	S	14 24 19.5	+4.1
BUC	Bucharest	1.34	197	iS	S	14 24 19.4	+3.2
HARR	Harsova	1.35	137	⇓iP	P	14 23 58.2	-0.2
BUC1	Bucharest	1.42	198	⇑iP	P	14 24 00.7	+1.5
BUC1				iS	S	14 24 19.4	+1.5
BUC1	Bucharest	1.42	198	⇑iP	P	14 24 00.7	+1.5
BUC1				iS	S	14 24 19.4	+1.6
TLCR		1.61	108	⇓iP	P	14 24 01.9	+0.2
TLCR				iS	S	14 24 22.1	0.0
TLCR		1.61	108	⇓iP	P	14 24 02.0	+0.3
TLCR				iS	S	14 24 21.9	-0.2
IAS	Iasi	1.63	23	⇑iP	P	14 24 01.5	-0.4
IAS				iS	S	14 24 20.1	-2.4
IAS	Iasi	1.63	23	⇑iP	P	14 24 01.5	-0.4
IAS				iS	S	14 24 20.4	-2.1
KIS	Kishinev	1.99	48	⇑iP	P	14 24 06.0	-0.7
	1µm,0.5s						
KIS				iS	S	14 24 28.0	-2.7
KIS	Kishinev	1.99	48α	iP	P	14 24 06.0	-0.7
KIS				iS	S	14 24 28.0	-2.7
KIS				pmax	pmax		
	comp=Z,1µm,0.5s						
KIS				pmax	pmax		
	comp=Z,1µm,0.5s						
KIS				smax			
	comp=N,16µm,0.5s						
KIS				smax			
	comp=E,16µm,0.5s						
KIS				smax			
	comp=N,14µm,0.5s						
BURAR	Bucovina Array	2.16	333	⇓iP	P	14 24 09.9	+0.9
BURAR				iS	S	14 24 36.3	+1.5
BURAR	Bucovina Array	2.16	333	⇓iP	P	14 24 09.9	+0.9
BURAR				iS	S	14 24 36.3	+1.4
ZIMR		2.23	205	⇑iP	P	14 24 10.9	+0.9
ZIMR				eS	S	14 24 36.9	+0.2
PSN	Preselentsi	2.29	151	iP	P	14 24 12.2	+1.4
PSN	Preselentsi	2.29	151	P	P	14 24 12.0	+1.2
SZH	Strazhica	2.48	192	iP	P	14 24 13.7	+0.2
SZH	Strazhica	2.48	192	P	P	14 24 13.8	+0.3
PRD	Provadia	2.55	167	iP	P	14 24 16.0	+1.5
PVL	Pavlikeni	2.65	201	iP	P	14 24 18.5	+2.7
DRGR		2.94	293	⇑iP	P	14 24 18.5	-1.4
DRGR				iS	S	14 24 53.0	-1.2
DJES	Djerdap	3.10	251	iPn	P	14 24 21.2	-0.9
DJES				Sn	S	14 24 48.3	-10
JMB	Yambol	3.23	181	iP	P	14 24 24.0	+0.2
PGB	Panagyurishte	3.61	210	P	P	14 24 29.5	+0.4
DIM	Dimitrovgrad	3.73	193	iP	P	14 24 31.0	+0.3
ZAPS	Zavoj/Pirot	3.75	232	⇓iPn	P	14 24 30.3	-0.6
ZAPS				Sn	S	14 25 13.8	-0.4
BOLS	Boljevac	3.82	242	⇓iPn	P	14 24 30.4	-1.6
BOLS				Sn	S	14 25 05.9	-10
EDRB	Edirne	3.85	179	PN	Px	14 23 32.7	
EDRB	Edirne	3.85	179	Pn	P	14 24 32.8	+0.5
EDRB				Sg	S	14 25 13.8	-2.8
PLD	Plovdiv	3.85	202	P	P	14 24 32.5	+0.1
VTS	Vitosha	3.97	220	iP	P	14 24 34.0	0.0
SVIS	Svilajnac	4.09	252	⇑iPn	P	14 24 35.1	-0.6
SVIS				Sn	S	14 25 23.4	+0.6
KDZ	Kurdzhali	4.14	193	iP	P	14 24 37.0	+0.6
UZH	Uzhgorod	4.18	316	P	P	14 24 36.0	-0.9
RZN	Rozhen	4.24	200	iP	P	14 24 38.0	+0.2
RZN	Rozhen	4.24	200	P	P	14 24 39.0	+1.2
LVV	L'vov	4.49	338	iP	P	14 24 40.0	-1.2
BARS	Barje	4.50	232	⇓iPn	P	14 24 40.7	-0.6
BARS				Sn	S	14 25 30.9	-1.9
KKB	Krupnik	4.61	215	iP	P	14 24 43.7	+0.8
MMB	Musomiste	4.62	208	iP	P	14 24 43.8	+0.9
RDO	Rodhopi	4.62	190	eP	P	14 24 42.9	0.0
CTT	Catalca	4.73	163	PN	Px	14 23 44.3	
CTT	Catalca	4.73	163	Pn	P	14 24 44.3	-0.2
KWP	Kalwaria	4.75	327	⇓iPn	P	14 24 45.4	+0.6
KWP	Kalwaria	4.75	327	⇓iPn	P	14 24 45.3	+0.5
CRVS	Cervenica-Dubn	4.77	314	ePN	P	14 24 44.3	-0.7
NVR	Nevrokopi	4.79	206	eP	P	14 24 46.0	+0.7
ALN	Alexandroupoli	4.81	185	ePn	P	14 24 45.7	0.0
ALN				eSn	S	14 25 37.5	-3.1
PKSN	Nyarlorinc	4.85	287	⇑iP	P	14 24 46.4	+0.3
MFT	Murefte	4.93	174	PN	Px	14 23 46.4	
MFT	Murefte	4.93	174	Pn	P	14 24 46.7	-0.5
ISK	Istanbul-Kandi	4.95	158	PN	Px	14 23 45.7	
ISK	Istanbul-Kandi	4.95	158	Pn	P	14 24 46.8	-0.7
DIVS	Divcibare	4.99	254	⇓iPn	P	14 24 46.9	-1.1
DIVS				Sn	S	14 25 39.6	-5.3
KECS	Kecovo	5.05	306	ePN	P	14 24 47.7	-1.1
SRS	Serrai	5.09	207	ePn	P	14 24 50.2	+0.8
SRS				eSn	S	14 25 45.2	-2.1
MRMT	Marmara Adasi	5.14	172	PN	Px	14 23 48.4	
MRMT	Marmara Adasi	5.14	172	Pn	P	14 24 49.4	-0.6
PSZ	Piszkesteto	5.14	298	ePnd		14 24 48.3	
PSZ				i		14 24 56.4	
PSZ	Piszkesteto	5.14	298	ePn	P	14 24 48.3	-1.8
	comp=N,75nm,0.6s						
PSZ	Piszkesteto	5.14	298	⇓eP	P	14 24 48.3	-1.8
PSZ	Piszkesteto	5.14	298	P	P	14 24 48.6	-1.5
STHS	Stebnicka Huta	5.22	317	ePN	P	14 24 51.2	+0.1
STHS	Stebnicka Huta	5.22	317	P	P	14 24 50.2	-0.9
KGT	Karabiga	5.26	175	ePN	Px	14 24 01.8	
KGT	Karabiga	5.26	175	Pn	P	14 24 51.4	-0.3
KNT	Kendrikon	5.29	212	ePn	P	14 24 52.9	+0.8
KNT				eSn	S	14 25 49.8	-2.5
SKO	Skopje	5.29	227	ePn	P	14 24 52.0	-0.2
SKO				i		14 25 01.0	
AKASG	Malin Array Be	5.30	18	P	P	14 24 49.6	-2.7
	comp=N,29nm,0.3s,baz=208,slow=11,SNR=58						
AKASG				S	S	14 25 44.5	-8.1
	comp=N,170nm,0.3s,baz=206,slow=21,SNR=13						
LPK	Lapseki	5.32	179	ePN	Px	14 23 52.8	
LPK	Lapseki	5.32	179	Pn	P	14 24 52.9	+0.4
SIM	Simferopol'	5.32	95	iP	P	14 24 51.4	-1.1
	comp=N,435nm,0.3s						
SIM				eS	S	14 25 47.6	-5.5
SIM	Simferopol'	5.32	95c	iP	P	14 24 51.4	-1.1
SIM				eS	S	14 25 47.6	-5.5
SIM				pmax	pmax		
	comp=Z,435nm,0.3s						
HRT	Hereke	5.35	155	PN	Px	14 23 52.0	
HRT	Hereke	5.35	155	Pn	P	14 24 52.3	-0.6
ARMT	Armutlu	5.38	162	ePN	Px	14 23 53.1	
ARMT	Armutlu	5.38	162	Pn	P	14 24 52.7	-0.6
BNT	Bandirma	5.42	170	ePN	Px	14 23 53.6	
BNT	Bandirma	5.42	170	Pn	P	14 24 53.8	0.0
SOH	Sokhos	5.43	207	ePn	P	14 24 54.2	+0.2
SOH				eSn	S	14 25 53.1	-2.7
BBLS	Bajina Basta -	5.46	253	⇓iPn	P	14 24 54.5	0.0
BBLS				Sn	S	14 25 50.9	-5.7
YLV	Yalova	5.50	158	ePN	Px	14 23 53.6	
YLV	Yalova	5.50	158	P	P	14 24 53.6	-1.4
IVA	Berane	5.61	242	⇑iPn	P	14 24 56.5	+0.1
IVA				eSn	S	14 25 57.8	-2.3
PKSM	Moragy	5.61	278	P	P	14 24 56.5	+0.1
PKSM	Moragy	5.61	278	P	P	14 24 56.5	+0.1
PKSM	Moragy	5.61	278	P	P	14 24 56.3	-0.1
PKS8	Sarbogard	5.65	285	⇓iP	P	14 24 56.5	-0.5
GRG	Griva	5.66	215	ePn	P	14 24 58.1	+1.0
NIE	Niedzica	5.68	313	⇓iPn	P	14 24 57.5	+0.1
NIE				eSn	S	14 26 03.4	+1.5
PLE	Pljevlja	5.70	248	⇑iPn	P	14 24 57.7	0.0
PLE				eSn	S	14 25 59.6	-2.8
OUR	Ouranopolis	5.70	201	ePn	P	14 24 58.0	+0.3
OUR				eSn	S	14 25 59.1	-3.4
PVY	Plav	5.71	240	⇑iPn	P	14 24 58.1	+0.2
PVY				eSn	S	14 25 59.9	-2.9
THE	Thessaloniki	5.73	209	ePn	P	14 24 58.7	+0.6
PLG	Polygyros	5.81	205	eP	P	14 25 00.1	+0.9
LOS	Limnos	5.87	192	ePn	P	14 24 59.7	-0.3
LOS				eSn	S	14 26 03.0	-3.7
RHK3	Tenkes	5.87	275	⇑iP	P	14 25 00.4	+0.3
ORLT	Orhaneli	5.88	163	ePN	Px	14 24 00.4	
RHK1	Bakonya	6.00	277	⇓iP	P	14 25 01.9	+0.1
BTOK	Tokmak	6.02	170	iP	P	14 25 01.3	-0.7
VYHS	Vyhne	6.02	301	ePN	P	14 25 02.2	+0.1
VYHS				e		14 25 10.0	
GPA	Golpazari	6.03	152	ePN	Px	14 24 02.1	
GPA	Golpazari	6.03	152	Pn	P	14 25 02.1	-0.2
UPM	Unac-Piva	6.07	249	⇑iPn	P	14 25 02.9	0.0
UPM				eSn	S	14 26 08.8	-2.8
SRO	Srobarova	6.10	293	ePN	P	14 25 02.0	-1.3
BALB	Balikesir	6.12	171	ePN	Px	14 24 02.9	
BALB	Balikesir	6.12	171	Pn	P	14 25 03.7	+0.2
SRO1	Iza	6.14	293	ePN	P	14 25 04.1	+0.3
PAIG	Paliouri	6.16	202	ePn	P	14 25 04.0	-0.1
PAIG				eSn	S	14 26 09.8	-4.0
NKY	Niksic	6.20	245	⇑iPn	P	14 25 04.7	+0.1
NKY				eSn	S	14 26 11.7	-3.1
MDU	Mudurnu	6.21	146	ePN	Px	14 24 04.4	
MDU	Mudurnu	6.21	146	Pn	P	14 25 03.5	-1.2
FNA	Florina	6.24	220	ePn	P	14 25 06.1	+1.0
FNA				eSn	S	14 26 13.5	-2.1
TTG	Podgorica	6.24	241	⇑iPn	P	14 25 05.2	0.0
TTG				eSn	S	14 26 13.2	-2.5
SAFT	Safranbolu	6.26	133	ePN	Px	14 24 03.2	
KOLL	Kolacno	6.32	300	ePN	P	14 25 05.8	-0.5
AYVA	Ayvalik	6.38	180	iP	P	14 25 05.5	-1.7
BRY	Bratogost	6.45	247	⇑iPn	P	14 25 08.2	+0.1
BRY				eSn	S	14 26 18.0	-2.9
PRK	Paraskevi	6.45	183	eP	P	14 25 08.8	+0.7
OJC	Ojcow	6.45	317	⇓ePn	P	14 25 07.0	-1.2
BZK	Bozkurt	6.50	122	ePN	Px	14 24 06.2	
ULC	Ulcinj	6.52	238	⇑iPn	P	14 25 09.4	+0.3
ULC				eSn	S	14 26 19.8	-2.8
BUM	Brajici-Budva	6.54	241	⇑iPn	P	14 25 09.5	+0.2
BUM				eSn	S	14 26 20.2	-2.8
HCY	Herceg Novi	6.71	244	⇑iPn	P	14 25 11.7	0.0
HCY				eSn	S	14 26 24.1	-3.1
XOR	Xorichti	6.82	203	ePn	P	14 25 13.4	+0.1
AOS	Alonnisos	6.83	198	ePn	P	14 25 13.2	-0.3
AOS				eSn	S	14 26 28.1	-2.2
AOS	Alonnisos	6.83	198	ePn	P	14 25 13.1	-0.4
AOS				eSn	S	14 26 28.1	-2.2
NEO	Neokhori	6.87	203	eP	P	14 25 13.8	-0.1
AKS	Akhisar	6.87	172	Pn	P	14 25 13.3	-0.6
JAVC	Velka Javorina	6.88	301	P	P	14 25 12.5	-1.6
ESKT	Eskisehir	6.91	152	ePN	Px	14 24 13.5	
OKC	Ostrava-Krasne	7.07	309	ePN	P	14 25 15.3	-1.4
TOS	Tosya	7.11	128	ePN	Px	14 24 15.1	
ALT	Altintas	7.11	158	ePN	Px	14 24 17.2	
ALT	Altintas	7.11	158	Pn	P	14 25 17.0	-0.3
CANT	Cankiri	7.20	132	ePN	Px	14 24 17.2	
SOP	Sopron	7.22	290	ePn	P	14 25 16.7	-2.0
SOP	Sopron	7.22	290	P	P	14 25 18.6	-0.1
BYBT	Boyabat	7.25	123	ePN	Px	14 24 16.8	
IZM	Izmir	7.31	176	ePN	Px	14 24 17.6	
IZM	Izmir	7.31	176	P	P	14 25 19.1	-0.8
MANT	Manisa	7.34	168	iP	P	14 25 19.5	-0.9
MORC	Moravsky Berou	7.37	307	ePn	P	14 25 18.5	-2.3
	comp=Z,16nm,0.8s						
MORC	Moravsky Berou	7.37	307	P	P	14 25 18.8	-2.0
AGG	Agios Georgios	7.39	207	ePn	P	14 25 22.1	+1.0
ANN	Anapa	7.67	93	eP	P	14 25 20.2	-4.7
ANN				eS	S	14 26 40.6	-10
ANN				pmax	pmax		
	comp=Z,190µm,0.6s						
KHL	Karahalli	7.67	163	ePN	Px	14 24 24.8	
VRAC	Vranov	7.71	302	P	P	14 25 24.9	-0.5
	comp=Z,1.8nm,0.3s,baz=115,slow=12,SNR=19						
VRAC				LR	LR	14 28 01.3	
	comp=Z,102nm,19.5s,baz=55,slow=35						
VRAC	Vranov	7.71	302	P	P	14 25 24.8	-0.6
VRAC	Vranov	7.71	302	ePn	P	14 25 24.6	-0.8
VRAC	Vranov	7.71	302	P	P	14 25 24.9	-0.5
	comp=Z,102nm,19.5s						
VRAC	Vranov	7.71	302	P	P	14 25 24.9	-0.5
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VRAC				MLR	MLR		
	comp=Z,102nm,19.5s						
KRUC	Moravsky	7.73	300	P	P	14 25 25.2	-0.5
CRES	Cresnjev	7.83	275	iPn	P	14 25 27.0	0.0
ARSA	Arzberg	7.83	285	⇑iP	P	14 25 27.8	+0.6
	comp=Z,2.9nm,0.5s						
KIZT	Kizilcal	7.84	149	ePN	Px	14 24 25.9	
BR131	Keskin Array S	7.88	137	⇓ePn	P	14 25 26.1	-1.7
	comp=Z,14nm,0.5s						
BRTR	Keskin Array B	7.88	137	P	P	14 25 26.1	-1.6
	comp=Z,4.4nm,0.3s,baz=326,slow=11,SNR=70						
BOJS	Bojanci	7.99	273	iPn	P	14 25 30.2	+0.9
CORM	Corum	8.04	130	ePN	Px	14 24 27.8	
KAMT	Kaman	8.19	138	ePN	Px	14 24 30.5	
DNZL	Cakiroluk	8.20	167	iP	P	14 25 28.7	-3.3
KDHN	Kadinhani	8.24	149	iP	P	14 25 30.6	-2.1
KVT	Kavak	8.25	121	ePN	Px	14 24 31.0	
VISS	Visnje	8.26	275	iPn	P	14 25 33.4	+0.4
VISS	Visnje	8.26	275	iPn	P	14 25 33.3	+0.4
CDAG	Cicekdag	8.32	134	iP	P	14 25 31.2	-2.5
DPC	Dobruska-Polom	8.34	308	ePN	P	14 25 32.1	-1.9
ISP	Isparta	8.36	158	P	P	14 25 34.5	+0.3
UPC	Upice	8.59	308	ePN	P	14 25 35.3	-2.1
KSP	Ksiaz	8.61	310	eP	P	14 25 36.0	-1.7
KSP				ePP	PP	14 25 45.5	-0.5
KSP	Ksiaz	8.61	310	⇓eP	P	14 25 35.6	-2.1
KSP				ePP	PP	14 25 45.3	-0.7
SUW	Suwalki	8.62	346	eP	P	14 25 34.5	-3.3
TRI	Trieste	9.02	275	P	P	14 25 45.6	+2.4
TOKT	Tokat	9.02	123	ePN	Px	14 24 41.5	
PRU	Pruhonice	9.20	302	ePN	P	14 25 44.1	-1.6
AVNT	Avonos	9.21	136	iP	P	14 25 44.9	-0.8
KBA	Koelnbreinsper	9.30	283	P	P	14 25 48.1	+1.1
GERES	GERESS Array B	9.35	294	P	P	14 25 47.0	-0.6
	comp=Z,0.4nm,0.3s,baz=107,slow=14,SNR=12						
GERES				LR	LR	14 29 39.9	
	comp=Z,99nm,21.1s,baz=169,slow=39						
GERES	GERESS Array B	9.35	294	P	P	14 25 47.1	-0.5
PVCC	Panska Ves	9.41	305	ePN	P	14 25 46.9	-1.6
KHC	Kasperske Hory	9.50	296	ePN	P	14 25 49.2	-0.5
KHC				x	x	14 25 57.0	
KHC	Kasperske Hory	9.50	296	eP	P	14 25 49.7	+0.1
SVSK	Karacayir	9.55	124	ePN	Px	14 24 48.5	
SVST	Sivas	9.62	124	iP	P	14 25 49.1	-2.1
TIP	Timpagrande	9.78	232	ePn	P	14 25 52.2	-1.3
TIP	Timpagrande	9.78	232	ePn	P	14 25 52.2	-1.3
BRG	Berggiesshubel	9.92	306	P	P	14 26 04.7	+9.3
VORD	Divnogorie	9.93	53	eP	P	14 25 52.1	-3.4
VORD				eS	S	14 27 34.9	-11
VORD				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VORD				pmax	pmax		
	comp=N,5.0nm,0.3s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.4s						
VORD				smax			
	comp=N,150nm,0.8s						
VORD				smax			
	comp=Z,40nm,0.5s						
VORD				smax			
	comp=E,40nm,0.4s						
WET	Wettzell	9.95	295	P	P	14 25 55.5	-0.2
NKC	Novy Kostel	10.54	301	ePN	P	14 26 02.1	-1.6
CLL	Collm	10.65	307	⇓P	P	14 26 02.6	-2.5
	comp=E,logA/T=1.0						
CLL				i		14 26 10.9	
CLL				i		14 26 15.0	
CLL				e		14 26 22.0	
CLL	Collm	10.65	307	⇓iP	P	14 26 02.6	-2.5
	comp=E,11nm,1.0s						
CLL				i pP		14 26 15.0	
CLL	Collm	10.65	307	⇓iP	P	14 26 02.6	-2.5
CLL				pmax	pmax		
	comp=Z,11nm,1.0s						
GUMT	Gumushane	10.74	115	ePN	Px	14 25 03.6	
RUE	Ruedersdorf	10.82	313	eP	P	14 26 05.1	-2.3
MOX	Moxa	11.19	302	eP	P	14 26 12.0	-0.3
OBN	Obninsk	11.35	30	ePn	P	14 26 09.5	-4.9
	comp=Z,55nm,0.4s						
OBN	Obninsk	11.35	30	ePn	P	14 26 09.5	-4.9
	comp=Z,55nm,0.4s						
OBN	Obninsk	11.35	30	eP	P	14 26 08.8	-5.6
OBN				pmax	pmax		
	comp=Z,62nm,1.6s						
MALT	Malatya	11.45	126	eP	P	14 26 16.9	+1.1
	comp=Z,8.4nm,0.6s						
MALT	Malatya	11.45	126	eP	P	14 26 16.9	+1.1
	comp=Z,8.4nm,0.6s						
MALT	Malatya	11.45	126	eP	P	14 26 16.9	+1.1
MALT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KIV	Kislovodsk	11.53	93	ePn	P	14 26 23.3	+6.4
KIV	Kislovodsk	11.53	93	eP	P	14 26 12.8	-4.1
KIV				eS	S	14 28 19.3	-4.9
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV				pmax	pmax		
	comp=N,2.0nm,0.6s						
KIV				pmax	pmax		
	comp=E,5.0nm,0.8s						
GOF	Gofitskoye	11.55	87	iP	P	14 26 16.4	-0.8
	comp=E,50nm,1.3s						
GOF	Gofitskoye	11.55	87	⇓iP	P	14 26 16.4	-0.8
GOF				iS	S	14 28 16.5	-8.2
GOF				pmax	pmax		
	comp=Z,50nm,1.3s						
GOF				smax			
	comp=N,300nm,1.0s						
GOF				smax			
	comp=E,300nm,1.0s						
DAVOX	Davos	11.66	281	LR	LR	14 31 43.3	
	comp=E,63nm,20.1s,baz=81,slow=42						
DAVA	Damuels	11.67	284	⇓iP	P	14 26 21.1	+2.3
	comp=E,3.4nm,0.7s						
DAVA				⇑iX		14 26 29.5	
	comp=E,9.2nm,0.9s						
DAVA	Damuels	11.67	284	⇓iP	P	14 26 21.0	+2.3
	comp=E,3.4nm,0.7s						
ARTV	Artvin	11.99	107	iP	P	14 26 18.6	-4.4
BSD	Bornholm Skovb	12.02	326	iP	P	14 26 20.6	-2.8
	comp=E,56nm,0.6s						
BSD	Bornholm Skovb	12.02	326	iP	P	14 26 20.6	-2.8
BSD				pmax	pmax		
	comp=Z,56nm,0.6s						
VSU	Vasula	12.79	0	eP	P	14 26 28.6	-5.0
PGF	Pioggiola	13.06	262	eP	P	14 26 39.7	+2.5
	comp=Z,24nm,1.1s						
PGF	Pioggiola	13.06	262	eP	P	14 26 39.7	+2.5
PGF				pmax	pmax		
	comp=Z,12nm,1.1s						
SBF	Sospel	13.77	269	eP	P	14 26 48.9	+2.7
	comp=Z,46nm,0.8s						
SBF	Sospel	13.77	269	eP	P	14 26 48.9	+2.7
SBF				pmax	pmax		
	comp=Z,23nm,0.8s						
LPG	La Plagne	13.93	276	eP	P	14 26 51.3	+3.0
	comp=Z,26nm,0.8s						
LPG	La Plagne	13.93	276	eP	P	14 26 51.3	+3.0
LPG				pmax	pmax		
	comp=Z,13nm,0.8s						
LPL	La Plagne	13.94	276	eP	P	14 26 51.5	+3.0
	comp=Z,20nm,0.6s						
LPL	La Plagne	13.94	276	eP	P	14 26 51.5	+3.0
LPL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MBDF	Montbardon	14.04	273	eP	P	14 26 51.4	+1.6
	comp=Z,27nm,0.9s						
MBDF	Montbardon	14.04	273	eP	P	14 26 51.4	+1.6
MBDF				pmax	pmax		
	comp=Z,14nm,0.9s						
CABF	La Chapelle	14.28	281	eP	P	14 26 54.6	+1.7
	comp=Z,17nm,0.5s						
CABF	La Chapelle	14.28	281	eP	P	14 26 54.6	+1.7
CABF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GNI	Garni	14.36	106	P	P	14 26 56.9	+2.9
	comp=Z,0.7nm,0.3s,baz=179,slow=6.5,SNR=3.5						
GNI	Garni	14.36	106	iP	P	14 26 54.0	0.0
	comp=Z,27nm,1.7s						
GNI	Garni	14.36	106c	iP	P	14 26 54.0	0.0
GNI				pmax	pmax		
	comp=Z,27nm,1.7s						
FRF	La Foret Royal	14.40	269	eP	P	14 26 56.9	+2.5
LMR	La Mourre	14.56	268	eP	P	14 26 58.8	+2.3
	comp=Z,16nm,0.8s						
LMR	La Mourre	14.56	268	eP	P	14 26 58.8	+2.3
LMR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ORIF	Oris-en-Rattie	14.63	274	eP	P	14 27 00.0	+2.6
	comp=Z,19nm,0.8s						
ORIF	Oris-en-Rattie	14.63	274	eP	P	14 27 00.0	+2.6
ORIF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SMRF	Simiane la Rot	15.04	271	eP	P	14 27 05.0	+2.3
	comp=Z,24nm,1.0s						
VIVF	Saint-Julien-l	15.49	275	eP	P	14 27 10.7	+2.4
	comp=Z,8.4nm,0.7s						
VIVF	Saint-Julien-l	15.49	275	eP	P	14 27 10.7	+2.4
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LOR	Lormes	15.77	284	eP	P	14 27 14.2	+2.4
	comp=Z,19nm,1.1s						
LOR	Lormes	15.77	284	eP	P	14 27 14.2	+2.4
LOR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
FINES	FINESS Array B	15.78	359	P	P	14 27 04.7	-7.2
	comp=Z,2.0nm,0.3s,baz=167,slow=13,SNR=21						
FINES	FINESS Array B	15.78	359	P	P	14 27 04.7	-7.2
FINES	FINESS Array B	15.78	359	⇑eP	P	14 27 06.8	-5.1
SSF	Saint Saulge	16.02	283	eP	P	14 27 17.3	+2.3
	comp=Z,6.0nm,0.9s						
SSF	Saint Saulge	16.02	283	eP	P	14 27 17.3	+2.3
SSF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AVF	Avril sur Loir	16.14	282	eP	P	14 27 18.8	+2.3
	comp=Z,14nm,0.9s						
AVF	Avril sur Loir	16.14	282	eP	P	14 27 18.8	+2.3
AVF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LASF	Ste Croix	16.23	272	eP	P	14 27 20.3	+2.7
	comp=Z,13nm,0.7s						
HFS	Hagfors	16.39	337	P	P	14 27 15.4	-4.0
	comp=Z,0.5nm,0.3s,baz=145,slow=12,SNR=30						
HFS				LR	LR	14 33 30.0	
	comp=Z,120nm,18.1s,baz=273,slow=36						
KAF	Kangasniemi	16.45	359	ep	P	14 27 13.5	-6.8
TCF	Toulx Ste Croi	16.98	281	eP	P	14 27 29.0	+2.1
CAF	Calviac	17.29	276	eP	P	14 27 33.3	+2.4
KONO	Kongsberg	17.30	330	eP	P	14 27 33.1	+2.2
KONO	Kongsberg	17.30	330	eP	P	14 27 33.1	+2.2
JOF	Joensuu	17.46	7	ep	P	14 27 27.6	-5.3
MTLF	Montolieu	17.56	271	eP	P	14 27 36.8	+2.5
	comp=Z,4.1nm,0.5s						
MTLF	Montolieu	17.56	271	eP	P	14 27 36.8	+2.5
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RJF	Les Rejaudoux	17.61	278	eP	P	14 27 37.0	+2.2
NAO01	NORSAR Array S	17.78	334	eP	P	14 27 32.3	-4.6
	comp=Z,23nm,0.7s						
NAO01				epPn		14 27 45.2	
NB2	NORSAR Subarra	17.84	335	P	P	14 27 32.0	-5.5
	comp=Z,6.0nm,0.5s,baz=140,slow=11						
NB2	NORSAR Subarra	17.84	335	P	P	14 27 32.0	-5.5
NB2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NOA	NORSAR Array B	17.84	335	P	P	14 27 32.4	-5.2
	comp=Z,1.4nm,0.3s,baz=139,slow=12,SNR=20						
BLS5	Blasjo	18.32	326	eP	P	14 27 42.3	-0.9
EPF	Esparros	18.97	271	eP	P	14 27 52.0	+1.4
	comp=Z,5.3nm,0.5s						
EPF	Esparros	18.97	271	eP	P	14 27 52.0	+1.4
EPF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ETSF	Etsaut	19.64	272	eP	P	14 27 59.2	+1.4
	comp=Z,23nm,1.0s						
ETSF	Etsaut	19.64	272	eP	P	14 27 59.2	+1.4
ETSF				pmax	pmax		
	comp=Z,11nm,1.0s						
SGMF	Saint Gilles	20.04	288	eP	P	14 28 03.7	+1.8
	comp=Z,47nm,1.1s						
SGMF	Saint Gilles	20.04	288	eP	P	14 28 03.7	+1.8
SGMF				pmax	pmax		
	comp=Z,23nm,1.1s						
SJPF	Ste Jean	20.04	273	eP	P	14 28 03.0	+1.0
ROSF	Rostrenen	20.51	288	eP	P	14 28 08.0	+1.2
NSS	Namsos	20.56	342	eP	P	14 28 05.4	-1.8
EKA	Eskdalemuir Ar	21.11	308	P	P	14 28 11.4	-1.4
	comp=Z,1.7nm,0.6s,mb3.5,baz=102,slow=11,SNR=9.7						
AKTK	Aktyubinsk	21.40	66	P	P	14 28 15.4	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	21.40	66	P	P	14 28 15.4	-0.3
MOR8	Moi Rana	21.55	346	eP	P	14 28 17.5	+0.3
MOR8				AMb	AMB	14 28 31.3	
	comp=Z,70nm,1.8s,mb4.7						
MOR8	Moi Rana	21.55	346	eP	P	14 28 21.1	+3.9
	comp=Z,70nm,1.8s,mb4.7						
MOR8	Moi Rana	21.55	346	eP	P	14 28 17.5	+0.3
	comp=Z,70nm,1.8s,mb4.7,SNR=40						
STOK	Stokkvaagen	21.95	345	eP	P	14 28 24.6	+3.5
STOK				AMb	AMB	14 28 28.3	
	comp=Z,190nm,1.8s,mb5.1						
STOK	Stokkvaagen	21.95	345	eP	P	14 28 24.6	+3.5
	comp=Z,190nm,1.8s,mb5.1						
APA	Apatity	22.22	7⇓	iP	P	14 28 27.0	+3.3
APA				i		14 28 41.0	
APA				iS	S	14 32 17.5	+0.2
APA				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.7						
MELSS	Ber_school_2	22.31	347	eP	P	14 28 30.6	+6.1
ARU	Arti	22.55	50	eP	P	14 28 26.6	-0.2
	comp=Z,38nm,0.8s,mb4.8						
ARU				epP		14 28 44.1	
ARU	Arti	22.55	50	eP	P	14 28 26.6	-0.2
	comp=Z,38nm,0.8s,mb4.8						
ARU				epP		14 28 44.2	
ARU	Arti	22.55	50	eP	P	14 28 26.6	-0.2
ARU				e*PP		14 28 44.2	
ARU				pmax	pmax		
	comp=Z,38nm,0.8s,mb4.8						
AB31	Akbulak array	22.68	69	iP	P	14 28 29.6	+1.4
	comp=Z,5.0nm,0.6s,mb4.0						
AB31	Akbulak array	22.68	69	iP	P	14 28 29.6	+1.4
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
ESDC	Sonseca Array	23.20	266	P	P	14 28 32.9	-0.4
	comp=Z,1.3nm,0.4s,mb3.6,baz=52,slow=9.7,SNR=10						
ESDC				pP		14 28 53.6	
	comp=Z,4.9nm,0.8s,baz=62,slow=10,SNR=4.1						
KTK1	Kautokeino	23.45	357	eP	P	14 28 41.4	+6.0
KTK1				AMb	AMB	14 28 43.8	
	comp=Z,43nm,2.1s,mb4.4						
SVE	Sverdlovsk	23.75	50	eP	P	14 28 41.6	+3.2
SVE				e		14 28 58.2	
ARCES	ARCESS Array B	23.91	359	P	P	14 28 40.0	+0.1
	comp=Z,4.5nm,0.6s,mb4.0,baz=174,slow=9.1,SNR=20						
KEV	Kevo	24.13	0	ep	P	14 28 41.7	-0.3
MDT	Midelt	27.22	253	P	P	14 29 11.2	-0.1
	comp=Z,4.4nm,0.7s,mb4.1,baz=78,slow=9.5,SNR=8.1						
BRVK	Borovoye	28.97	59	eP	P	14 29 27.1	+0.3
	comp=Z,2.5nm,0.4s,mb4.2						
BRVK				epP	pP	14 29 46.8	-0.5
BRVK	Borovoye	28.97	59	eP	P	14 29 27.1	+0.3
	comp=Z,2.5nm,0.4s,mb4.2						
BRVK				epP	pP	14 29 46.8	-0.5
BRVK	Borovoye	28.97	59	eP	P	14 29 27.1	+0.3
BRVK				e*PP	pP	14 29 46.8	-0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
BVA0	Borovoye Array	29.04	59	iP	P	14 29 27.6	+0.2
BVAR	Borovoye Array	29.04	59	P	P	14 29 27.4	0.0
	comp=Z,2.1nm,0.6s,mb4.0,baz=259,slow=7.6,SNR=15						
BVAR				pP	pP	14 29 46.7	-1.1
	comp=Z,3.9nm,0.8s,baz=270,slow=8.4,SNR=9.1						
KKAR	Karatay Array	31.16	79	eP	P	14 29 47.0	+0.7
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
AAK	Ala-Archa	34.06	78	eP	P	14 30 12.1	+0.7
	comp=Z,3.2nm,0.6s,mb4.3						
AAK	Ala-Archa	34.06	78c	iP	P	14 30 11.8	+0.4
KURK	Kurchatov	34.41	62	eP	P	14 30 14.1	-0.2
	comp=Z,2.9nm,0.8s,mb4.2						
KURK				epP	pP	14 30 32.1	-3.2
KURK	Kurchatov	34.41	62	eP	P	14 30 14.1	-0.2
	comp=Z,2.9nm,0.8s,mb4.2						
KURK				epP	pP	14 30 32.1	-3.3
KURK	Kurchatov	34.41	62	eP	P	14 30 14.1	-0.2
KURK				e*PP	pP	14 30 32.1	-3.3
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
NVS	Novosibirsk	36.38	54	iP	P	14 30 31.1	+0.1
NVS				i	pP	14 30 50.8	-1.4
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
ZAL	Zalesovo	37.45	56	P	P	14 30 40.4	+0.5
	comp=E,6.1nm,0.6s,mb4.7,baz=179,slow=8.7,SNR=19						
ZAL				pP	pP	14 30 59.7	-1.5
	comp=E,3.2nm,0.7s,baz=193,slow=8.2,SNR=3.3						
MKAR	Makanchi Array	37.81	68	P	P	14 30 43.7	+0.7
	comp=E,4.5nm,0.4s,mb4.6,baz=272,slow=8.2,SNR=118						
MBAR	Mbarara	46.24	174	eP	P	14 31 51.6	-0.4
MBAR	Mbarara	46.24	174	eP	P	14 31 51.6	-0.5
DBIC	Dimbokro	47.48	225	P	P	14 32 00.5	-1.3
	comp=E,7.0nm,0.4s,mb4.8,baz=11,slow=8.9,SNR=47						
LIC	Lamto	47.94	225	eP	P	14 32 04.1	-1.3
	comp=E,12nm,0.4s,mb4.7						
KOLN	Koldanda	47.99	92	eP	P	14 32 06.5	+0.9
	comp=E,27nm,0.9s,mb5.1						
GKN	Gorkha	48.58	91	eP	P	14 32 10.7	+0.6
	comp=E,34nm,0.6s,mb5.5						
DMN	Daman	49.15	91	eP	P	14 32 15.5	+1.0
	comp=E,15nm,0.4s,mb5.3						
KKN	Kakani	49.16	90	eP	P	14 32 15.2	+0.6
	comp=E,32nm,0.6s,mb5.4						
ZAK	Zakamensk	49.34	55	eP	P	14 32 16.3	+0.6
ZAK				e	pP	14 32 38.5	+0.9
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
PKI	Pulchoki	49.38	90	eP	P	14 32 16.9	+0.6
	comp=Z,13nm,0.7s,mb4.9						
LSA	Lhasa	52.12	84	P	P	14 32 38.6	+1.6
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
LSA	Lhasa	52.12	84	eP	P	14 32 38.3	+1.3
	comp=Z,8.8nm,0.6s,mb5.0						
LSA	Lhasa	52.12	84	eP	P	14 32 38.3	+1.3
	comp=Z,8.8nm,0.6s,mb5.0						
LSA	Lhasa	52.12	84	eP	P	14 32 38.3	+1.3
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
ULN	Ulaanbaatar	52.70	57	eP	P	14 32 41.8	+0.6
KMI	Kunming	63.01	81	P	P	14 33 53.8	+0.1
KMI				PP	PP	14 36 15.8	+1.0
KMI				S	S	14 42 14.9	-0.3
KMI				SS	SS	14 46 21.8	-2.5
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,126nm,7.4s						
KMI				LR	LR		
	comp=Z,47nm,14.5s						
KMI	Kunming	63.01	81	P	P	14 33 53.8	+0.1
	comp=Z,7.0nm,1.0s,mb4.5						
KMI				pP	pP	14 34 16.4	-0.2
KMI				sP	sP	14 34 25.5	-1.2
KMI				PP	PP	14 36 15.8	+1.0
KMI				S	S	14 42 14.9	-0.3
KMI				SS	SS	14 46 21.8	-2.5
KMI				LR	LR		
	comp=Z,50nm,14.5s						
KMI	Kunming	63.01	81	P	P	14 33 53.8	+0.1
	comp=Z,7.0nm,1.0s,mb4.5						
KMI				S	S	14 42 14.9	-0.3
KMI	Kunming	63.01	81	P	P	14 33 53.8	+0.1
KMI				*PP	pP	14 34 16.4	-0.2
KMI				*SP	sP	14 34 25.5	-1.2
KMI						14 36 15.8	
KMI				S	S	14 42 14.9	-0.3
KMI				SS	SS	14 46 21.8	-2.5
KMI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KMI				MLR	MLR		
	comp=Z,50nm,14.5s						
ENH	Enshi	64.32	72	eP	P	14 33 59.9	-2.3
	comp=Z,7.3nm,0.7s,mb4.6						
ENH	Enshi	64.32	72	eP	P	14 33 59.9	-2.3
	comp=Z,7.3nm,0.7s,mb4.6						
GYA	Guiyang	64.85	77	P	P	14 34 04.9	-0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
INK	Inuvik	65.35	352	P	P	14 34 06.8	-1.4
	comp=Z,1.2nm,0.5s,mb4.0,baz=71,slow=5.0,SNR=4.2						
CN2	Changchun	65.53	52	eP	P	14 34 11.1	+1.4
MATP	Matopo	65.82	178	P	P	14 34 11.9	-0.1
	comp=Z,7.2nm,0.8s,mb4.6,baz=1.0,slow=7.1,SNR=14						
MDJ	Mudanjiang	67.23	49	P	P	14 34 19.2	-1.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,326nm,6.3s						
YKA	Yellowknife Ar	67.80	342	P	P	14 34 22.9	-0.7
	comp=Z,3.4nm,0.6s,mb4.4,baz=31,slow=6.0,SNR=33						
YKA				pP	pP	14 34 45.2	-1.6
	comp=Z,1.2nm,0.7s,baz=30,slow=6.0,SNR=2.7						
NJ2	Nanjing	69.28	65	eP	P	14 34 35.5	+2.1
NJ2				PP	PP	14 37 09.4	-0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,206nm,4.0s						
NJ2				LR	LR		
	comp=N,3µm,18.0s						
NJ2				LR	LR		
	comp=E,5µm,14.0s						
NJ2				LR	LR		
	comp=Z,8µm,10.0s						
ILAR	Eielson Array	69.76	357	P	P	14 34 35.5	-0.3
	comp=Z,0.5nm,0.7s,mb3.4,baz=357,slow=5.1,SNR=12						
DAWY	Dawson	70.03	354	eP	P	14 34 37.7	+0.3
DAWY	Dawson	70.03	354	eP	P	14 34 37.7	+0.3
LBTB	Lobatse	70.37	181	eP	P	14 34 40.7	+0.6
LBTB	Lobatse	70.37	181	eP	P	14 34 40.7	+0.6
SSE	Sheshan	71.40	64	eP	P	14 34 46.2	0.0
SSE				AMB	AMB		
	comp=Z,42nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,537nm,4.8s						
SSE	Sheshan	71.40	64	eP	P	14 34 46.2	0.0
	comp=Z,42nm,0.8s,mb5.3						
YSS	Yuzh-Sakhalins	72.04	40	P	P	14 34 50.4	+0.7
	comp=Z,9.0nm,0.7s,mb4.7						
YSS	Yuzh-Sakhalins	72.04	40	eP	P	14 34 50.0	+0.3
YSS				e	pP	14 35 12.0	-1.2
ULM	Lac du Bonnet	72.24	325	P	P	14 34 49.2	-1.6
	comp=Z,1.8nm,0.6s,mb4.1,baz=39,slow=1.0,SNR=4.5						
BOSA	Boshof	73.96	181	P	P	14 35 01.0	-0.3
	comp=Z,8.1nm,1.0s,mb4.4,baz=8.6,slow=7.1,SNR=8.3						
DLBC	Dease Lake	74.45	348	P	P	14 35 05.1	+1.6
	comp=Z,3.6nm,0.6s,mb4.3,baz=24,slow=4.3,SNR=10						
DLBC	Dease Lake	74.45	348	P	P	14 35 05.1	+1.6
MJAR	Matsushiro Arr	77.56	50	P	P	14 35 21.6	+0.2
	comp=Z,1.4nm,0.6s,mb3.9,baz=338,slow=3.4,SNR=5.0						
NEW	Newport	81.21	336	P	P	14 35 41.2	+0.3
	comp=Z,1.4nm,0.6s,mb4.0,baz=37,slow=5.1,SNR=3.9						
PDAR	Pinedale Array	83.68	329	P	P	14 35 53.6	+0.1
	comp=Z,0.9nm,0.6s,mb3.8,baz=58,slow=5.7,SNR=13						
RRI2	Red Ridge	83.80	331	eP	P	14 35 55.9	+1.7
	comp=Z,7.2nm,0.6s,mb4.7						
RRI2	Red Ridge	83.80	331	eP	P	14 35 55.9	+1.8
	comp=Z,7.2nm,0.6s,mb4.7						
BDFB	Brasilia	90.71	248	P	P	14 36 29.3	+1.2
	comp=Z,1.5nm,0.5s,mb4.4,baz=67,slow=6.1,SNR=4.6						
TXAR	Lajitas Array	92.77	318	P	P	14 36 36.9	-0.4
	comp=Z,0.2nm,0.4s,mb3.8,baz=73,slow=3.8,SNR=5.6						
VNA1	Neumayer--Stat	118.74	193	P	PKPdf	14 42 13.9	+3.2
VNA2	Neumayer--Watz	118.86	192	P	PKPdf	14 42 12.5	+1.6
SNAA	Sanae	118.92	190	P	PKPdf	14 42 11.1	+0.1
VNA3	Neumayer Olymp	119.48	193	P	PKPdf	14 42 13.5	+1.4

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*IDC **05** 14:37:22.7±2.7, 24.67S×179.88E, h486^{km}±26^{km}, mb3.7/8, mb1 3.9/9, mb1mx3.7/14, mbtmp4.5/9, Error ellipse: s-maj=45.0km s-min=16.8km az=156.0*

*NEIC **05** 14:37:23.1±1.5, 24.79S×179.93E, h503^{km}±16^{km}, mb4.7/6, Error ellipse: s-maj=24.6km s-min=9.9km az=152.0*

ISC 05 14:37:23.0±1.9**, 24.8S**±0.2×**179.9E**±0.1**, h514**^{km}±22^{km}**, n24,** σ**0^{s}94**/26**, mb4.2**/13**, 1C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.61	280	eP	P	14 40 09.7	+1.0
DZM	Mont Dzumac	12.61	280	P	P	14 40 10.5	+1.8
	0.5nm,0.3s,baz=86,slow=18,SNR=10						
AFI	Afiamalu	13.39	38	P	P	14 40 15.8	-0.9
	1.8nm,0.3s,baz=50,slow=18,SNR=5.8						
AFI				S	S	14 42 29.9	-6.6
	2.9nm,0.3s,baz=69,slow=23,SNR=5.7						
AFI	Afiamalu	13.39	38	eP	P	14 40 15.2	-1.5
AFI				eS	S	14 42 31.6	-4.9
HNR	Honiara	24.35	305	eP	P	14 41 58.0	-3.5
CTA	Charters Tower	31.36	272⇓	iP	P	14 43 03.6	+0.9
	25nm,0.6s,mb4.9						
CTA	Charters Tower	31.36	272	P	P	14 43 03.6	+0.9
	32nm,0.6s,mb5.1,baz=98,slow=10,SNR=75						
CTAO	Charters Tower	31.36	272	eP	P	14 43 03.6	+1.0
	40nm,0.8s,mb5.0						
STKA	Stephens Creek	34.28	249⇓	iP	P	14 43 27.8	+0.7
	3.1nm,0.7s,mb4.0						
STKA	Stephens Creek	34.28	249	P	P	14 43 27.7	+0.6
	4.1nm,0.8s,mb4.0,baz=80,slow=7.3,SNR=7.9						
STKA	Stephens Creek	34.28	249	eP	P	14 43 27.6	+0.5
PMG	Port Moresby	34.67	290	P	P	14 43 31.3	+0.7
	30nm,0.8s,mb4.9,baz=115,slow=7.0,SNR=8.1						
WB2	Warramunga Arr	42.22	267⇓	iP	P	14 44 31.6	-0.4
WRAB	Tennant Creek	42.22	267	eP	P	14 44 31.7	-0.3
	15nm,0.8s,mb4.6						
WRAB				epP	pP	14 46 04.7	-1.8
WRA	Warramunga Arr	42.23	267	P	P	14 44 31.7	-0.3
	10nm,0.6s,mb4.6,baz=103,slow=8.2,SNR=57						
WRA				ScP		14 49 20.4	
	3.9nm,0.9s,baz=103,slow=4.1,SNR=17						
WRA				S	S	14 50 15.2	-0.5
	1.9nm,0.9s,baz=104,slow=14,SNR=7.9						
FORT	Forrest	45.89	250⇑	iP	P	14 44 59.7	-0.8
	21nm,0.7s,mb4.8						
KAKA	Kakadu	46.27	276	eP	P	14 45 19.3	+16
	13nm,0.7s,mb4.6						
FITZ	Fitzroy Crossi	50.64	266	eP	P	14 45 35.7	-0.7
	25nm,0.8s,mb4.6						
CASY	Casey	59.26	206	eP	P	14 46 35.4	-0.7
	3.9nm,0.7s,mb3.8						
MJAR	Matsushiro Arr	72.56	326	P	P	14 47 58.6	-0.4
	1.2nm,0.7s,mb3.4,baz=158,slow=4.9,SNR=4.5						
TXAR	Lajitas Array	91.01	58	P	P	14 49 35.0	+1.8
	1.6nm,0.8s,mb4.0,baz=211,slow=6.5,SNR=21						
ILAR	Eielson Array	92.92	14	P	P	14 49 40.8	-0.4
	0.3nm,0.7s,mb3.4,baz=225,slow=5.8,SNR=4.1						
PDAR	Pinedale Array	93.42	44	P	P	14 49 44.9	+0.9
	0.4nm,0.8s,mb3.5,baz=214,slow=3.3,SNR=4.3						
AKASG	Malin Array Be	145.64	326	PKPbc	PKPbc	14 56 04.6	+1.4
	0.7nm,0.4s,baz=46,slow=4.1,SNR=5.0						

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*NEIC **05** 15:20:12.9±0.7, 0.72N×97.25E, h30^{km}, mb4.3/4, Error ellipse: s-maj=18.1km s-min=11.5km az=210.0*

*IDC **05** 15:20:12.9±2.0, 0.84N×97.40E, h23^{km}±5^{km}, mb3.9/6, mb1 4.0/6, mb1mx3.7/18, mbtmp4.0/6, Error ellipse: s-maj=111.0km s-min=15.4km az=50.0*

ISC 05 15:20:10.6±0.8**, 0.7N**±0.1×**97.4E**±0.1**, h23**^{km}**, h23**^{km}±.3^{km}**:pP-P, n19,** σ**0^{s}95**/19**, mb4.3**/13**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.58	36	ePn	Pn	15 21 34.4	-0.2
KULM				epPn		15 21 40.2	
PALK	Pallekele	17.83	292	ePn	P	15 24 15.5	-3.7
KKM	Kota Kinabalu	19.54	74	ePn	P	15 24 40.1	+0.3
PKI	Pulchoki	29.03	338	eP	P	15 26 15.8	+4.3
DMN	Daman	29.18	337	eP	P	15 26 16.9	+4.1
	12nm,0.8s,mb4.7						
KKN	Kakani	29.28	338	eP	P	15 26 17.4	+3.7
LSA	Lhasa	29.40	349	eP	P	15 26 15.5	+0.8
	4.3nm,0.7s,mb4.3						
GKN	Gorkha	29.72	337	eP	P	15 26 18.9	+1.3
	7.2nm,0.6s,mb4.6						
KOLN	Koldanda	29.93	335	eP	P	15 26 20.2	+0.7
	7.6nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	33.54	125	P	P	15 26 51.3	+0.1
	5.2nm,0.9s,mb4.5,baz=349,slow=16,SNR=3.8						
FITZ				pP	pP	15 26 58.4	+0.5
	3.9nm,0.8s,baz=83,slow=4.9,SNR=2.0						
WRA	Warramunga Arr	41.66	122	P	P	15 27 60.0	+0.5
	1.1nm,0.6s,mb3.7,baz=302,slow=9.0,SNR=12						
WRA				pP	pP	15 28 06.9	+0.6
	1.7nm,0.8s,baz=303,slow=9.0,SNR=7.5						
WRAB	Tennant Creek	41.67	122	eP	P	15 27 59.5	-0.1
	6.2nm,0.9s,mb4.2						
KS15	Wonju Array Si	46.10	34	P	P	15 28 34.9	-0.2
MKAR	Makanchi Array	47.72	346	P	P	15 28 48.1	+0.3
	3.0nm,0.5s,mb4.6,baz=160,slow=8.4,SNR=49						
MKAR				pP	pP	15 28 54.8	+0.1
	2.1nm,0.6s,baz=159,slow=8.3,SNR=10.0						
BVAR	Borovoye Array	56.73	341	P	P	15 29 53.9	-1.1
	1.1nm,0.7s,mb4.0,baz=135,slow=8.2,SNR=7.3						
BVAR				pP	pP	15 30 00.8	-1.2
	1.5nm,0.7s,baz=146,slow=9.3,SNR=8.9						
BRVK	Borovoye	56.79	341	eP	P	15 29 54.6	-0.9
	0.6nm,0.7s,mb3.7						
BRVK				epP	pP	15 30 01.6	-0.9
YAK	Yakutsk	65.81	16	P	P	15 30 53.5	-2.7
	4.1nm,0.5s,mb4.7						
AKASG	Malin Array Be	75.71	322	P	P	15 31 55.6	-0.6
	0.3nm,0.2s,mb3.8,baz=89,slow=4.6,SNR=4.2						
FINES	FINESS Array B	80.47	333	P	P	15 32 22.2	+0.1
	1.0nm,0.6s,mb3.9,baz=101,slow=7.1,SNR=3.9						

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*IDC **05** 15:43:50.3±1.0, 16.80S×70.67W, mb4.1/5, mb1 4.3/8, mb1mx4.1/20, mbtmp4.1/8, ML4.3/2, MS4.0/17, Ms1 4.0/17, ms1mx3.9/29, Error ellipse: s-maj=30.8km s-min=21.0km az=30.0*

*NEIC **05** 15:43:55.6±0.4, 16.79S×70.48W, h35^{km}, mb4.7/6, Error ellipse: s-maj=13.0km s-min=9.4km az=67.0*

ISC 05 15:43:51.7±2.9**, 16.67S**±0.05×**70.72W**±0.05**, h13**^{km}±18^{km}**, n45,** σ**1^{s}38**/36**, mb4.5**/13**, MS4.1**/15**, 2C, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	0.77	286⇑	iP	Pb	15 44 09.5	+3.1
ARE				eS	Sb	15 44 24.0	+7.6
LPAZ	La Paz	2.52	82	Pn	Pn	15 44 34.2	+1.2
	31nm,0.3s,baz=254,slow=15,SNR=1405						
LPAZ				Sn	Sn	15 45 05.3	+1.5
	20nm,0.3s,baz=152,slow=24,SNR=3.6						
LPAZ				LR	LR	15 45 42.7	
	comp=Z,4µm,20.0s,baz=266,slow=45						
LPAZ	La Paz	2.52	82⇑	iPn	Pn	15 44 34.4	+1.3
LPAZ				eSn	Sn	15 45 04.2	+0.3
LVC	Limon Verde	6.15	164	Pn	Pn	15 45 22.2	-2.3
	2.2nm,0.3s,baz=344,slow=6.2,SNR=15						
LVC				Sn	Sn	15 46 35.8	+0.3
	0.7nm,0.3s,baz=190,slow=19,SNR=2.1						
LVC	Limon Verde	6.15	164	ePn	Pn	15 45 22.6	-1.9
LVC				eSn	Sn	15 46 36.3	+0.9
NNA	Nana	7.54	307	Pn	Pn	15 45 40.0	-4.1
NNA				eSn	Sn	15 47 10.4	+0.2
SIV	San Ignacio	9.29	87	Pn	P	15 46 03.4	-5.0
	1.7nm,0.3s,baz=282,slow=12,SNR=33						
SAML	Samuel	10.63	45	ePn	P	15 46 23.1	-3.8
	386nm,0.6s						
SAML				eSn	S	15 48 26.5	-0.3
CFAA	Coronel Fontan	15.04	172	LR	LR	15 53 16.6	
	comp=Z,25nm,20.5s,baz=162,slow=38						
CPUP	Villa Florida	15.73	130	LR	LR	15 54 32.9	
	comp=Z,905nm,18.8s,baz=339,slow=41						
BDFB	Brasilia	21.84	91	LR	LR	15 57 36.8	
	comp=Z,348nm,18.5s,MS3.8,baz=274,slow=38						
TRQA	Tornquist	22.65	162	eP	P	15 48 49.4	-4.5
	2.2nm,0.8s,mb3.6						
PLCA	Paso Flores	23.97	180	LR	LR	15 58 41.6	
	comp=Z,351nm,20.2s,MS3.8,baz=349,slow=37						
PLCA	Paso Flores	23.97	180	P	P	15 49 08.0	+1.2
	13nm,1.3s,mb4.2						
PAYG	Puerto Ayora	24.98	308	P	P	15 49 15.3	-1.5
	58nm,1.4s,mb4.9						
TXAR	Lajitas Array	55.71	325	P	P	15 53 31.2	+0.7
	0.9nm,0.6s,mb4.0,baz=150,slow=8.9,SNR=8.5						
TXAR				LR	LR	16 16 26.2	
	comp=Z,84nm,18.8s,MS3.9,baz=5.0,slow=35						
TXAR	Lajitas Array	55.71	325	P	P	15 53 31.2	+0.7
SIUC	Southern Illin	56.83	343	eP	P	15 53 37.5	-0.8
FVM	French Village	57.43	342	eP	P	15 53 41.7	-1.0
	47nm,1.4s,mb5.3						
CCM	Cathedral Cave	57.75	341	eP	P	15 53 43.9	-1.0
	10nm,1.1s,mb4.8						
SDCO	Great Sand Dun	63.24	330	eP	P	15 54 23.6	+1.4
	77nm,1.2s,mb5.7						
VNA2	Neumayer--Watz	65.75	161		P	15 54 35.8	-2.3
VNA2	Neumayer--Watz	65.75	161		P	15 54 41.0	+2.9
MSU	Marysvale	67.25	326	eP	P	15 54 49.8	+1.6
SNAA	Sanae	67.38	161		P	15 54 44.7	-3.8
SNAA	Sanae	67.38	161		P	15 54 50.7	+2.2
PDAR	Pinedale Array	69.09	330	P	P	15 54 59.4	-0.2
	1.0nm,0.9s,mb3.8,baz=117,slow=2.0,SNR=6.8						
PDAR				LR	LR	16 27 25.8	
	comp=Z,60nm,18.4s,MS3.9,baz=346,slow=38						
DBIC	Dimbokro	69.12	76	LR	LR	16 22 53.4	
	comp=Z,241nm,21.0s,MS4.4,baz=224,slow=34						
ULM	Lac du Bonnet	70.22	343	P	P	15 55 04.3	-2.0
	3.2nm,0.8s,mb4.3,baz=180,slow=7.1,SNR=4.2						
ULM				LR	LR	16 29 11.4	
	comp=Z,67nm,18.1s,MS3.9,baz=324,slow=39						
LOHW	Long Hollow	70.23	330	eP	P	15 55 07.4	+0.9
	2.2nm,0.7s,mb4.2						
RRI2	Red Ridge	70.37	330	eP	P	15 55 08.0	+0.6
	6.4nm,0.9s,mb4.5						
ELK	Elko	70.50	326	LR	LR	16 25 42.6	
	comp=Z,113nm,19.5s,MS4.1,baz=313,slow=36						
SCHQ	Schefferville	71.30	2	LR	LR	16 25 49.4	
	comp=Z,87nm,18.1s,MS4.1,baz=104,slow=35						
PPT	Papeete	74.79	256	LR	LR	16 20 20.5	
	comp=Z,85nm,18.8s,MS4.1,baz=91,slow=29						
BBB	Bella Bella	84.64	329	LR	LR	16 33 50.4	
	comp=Z,66nm,20.7s,MS4.0,baz=278,slow=35						
YKA	Yellowknife Ar	86.09	341	P	P	15 56 33.2	0.0
	1.9nm,0.9s,mb4.3,baz=136,slow=4.9,SNR=9.9						
YKA				LR	LR	16 35 46.2	
	comp=Z,81nm,19.5s,MS4.1,baz=285,slow=36						
YKA	Yellowknife Ar	86.09	341	P	P	15 56 33.2	0.0
BOSA	Boshof	87.25	119	LR	LR	16 30 16.9	
	comp=Z,126nm,20.7s,MS4.3,baz=2.3,slow=32						
MAW	Mawson	89.42	164	P	P	15 56 47.3	-1.8
	1.9nm,0.8s,mb4.5,baz=243,slow=6.8,SNR=4.8						
MAW				LR	LR	16 35 59.7	
	comp=Z,100nm,18.3s,MS4.3,baz=56,slow=35						
URZ	Urewera	96.25	227	LR	LR	16 31 15.6	
	comp=Z,122nm,20.8s,MS4.4,baz=292,slow=30						
GERES	GERESS Array B	98.78	42	LR	LR	16 44 13.2	
	comp=Z,47nm,18.4s,MS4.0,baz=261,slow=37						
ZAL	Zalesovo	138.22	22	PKP	PKPdf	16 03 17.0	-3.0
	1.4nm,0.7s,baz=151,slow=1.0,SNR=9.5						
MKAR	Makanchi Array	142.56	31	PKP	PKPdf	16 03 24.2	-3.7
	0.7nm,0.9s,baz=342,slow=4.6,SNR=3.9						
MJAR	Matsushiro Arr	147.63	313	PKPbc	PKPdf	16 03 36.7	-0.2
	5.5nm,1.0s,baz=56,slow=0.7,SNR=10						
MAT	Matsushiro	147.63	313	P	PKPdf	16 03 36.8	-0.1

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*NIED **05** 16:17:00, 29.80N×129.30E, h220^{km}, Mw4.6 Best double couple: M$_0$8.33×10^{15} NP1:φ$_s$10°, δ77°, λ26°. NP2:φ$_s$274°, δ65°, λ165°.*

*MOS **05** 16:17:44.5±1.0, 29.89N×129.19E, h216^{km}, mb4.5/19, Error ellipse: s-maj=11.7km s-min=7.6km az=90.3*

*BJI **05** 16:17:45.2, 29.87N×129.13E, h218^{km}, mB4.8, mb4.8*

*NEIC **05** 16:17:45.5±0.5, 29.91N×129.12E, h209^{km}±4^{km}, mb4.5/34, MW4.5(NIED), Error ellipse: s-maj=6.4km s-min=4.5km az=126.0*

NEIC Recorded [1 JMA] in Kagoshima Prefecture, Kyushu.

*JMA **05** 16:17:45.8±0.2, 29.84N×129.35E, h212^{km}±2^{km}, M4.9*

JMA Felt I J1.

*IDC **05** 16:17:45.8±0.6, 29.95N×129.03E, h217^{km}±5^{km}, mb3.9/22, mb1 4.1/26, mb1mx4.1/29, mbtmp4.5/26, Error ellipse: s-maj=12.1km s-min=8.3km az=81.0*

ISC 05 16:17:44.4±0.2**, 29.86N**±0.03×**129.15E**±0.04**, h212**^{km}±2^{km}**, h218**^{km}±3.0^{km}**:pP-P, n155,** σ**1^{s}05**/167**, mb4.2**/54**, 4C-6D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.63	92	P	P	16 18 14.4	+0.8
JNN				eS	S	16 18 36.7	+0.4
JKC	Kuchinoerabu	1.08	56	P	P	16 18 16.7	+0.6
JKC				eS	S	16 18 40.6	-0.2
JAM	Amami Oshima	1.50	164	P	P	16 18 20.3	+0.8
JAM				S	S	16 18 45.5	-1.1
JTN	Tanegashima 3	1.77	63	P	P	16 18 21.7	-0.2
JTN				S	S	16 18 49.9	-0.9
JSJ	Shimokoshiki	1.87	15	P	P	16 18 24.0	+1.1
JSJ				S	S	16 18 52.6	+0.1

JSU Suzuyama 1.99 34 P P 16 18 24.8 +0.8
JTSR Tashiro 2 2.01 49 P P 16 18 24.1 -0.1
JTSR S S 16 18 53.6 -1.2
JTZ Takazaki 2.63 39 P P 16 18 31.2 +0.3
JTZ S S 16 19 04.6 -2.2
JIU2 Izumi 2 3.03 28 P P 16 18 36.6 +1.2
JIU2 S S 16 19 14.6 -0.4
JOW Kunigami 3.12 195 P P 16 18 36.5 +0.1
51nm,0.3s,baz=94,slow=18,SNR=8.5
JOW S S 16 19 14.9 -1.9
92nm,0.3s,baz=119,slow=26,SNR=6.1
JOW Kunigami 3.12 195 P P 16 18 36.8 +0.3
JNU Nakatsue 3.57 24 P P 16 18 42.6 +0.8
185nm,0.3s,baz=274,slow=3.1,SNR=516
SSE Sheshan 6.98 282 eP P 16 19 25.5 +0.4
SSE AMB AMB
comp=Z,130nm,0.9s
SSE AMB AMB
comp=Z,1μm,7.6s
SSE LR LR
comp=N,152nm,17.2s
SSE LR LR
comp=E,74nm,17.2s
SSE LR LR
comp=Z,235nm,18.7s
SSE Sheshan 6.98 282 ePn P 16 19 25.5 +0.4
comp=Z,130nm,0.9s
KS15 Wonju Array Si 7.63 352 ePn P 16 19 35.0 +1.4
TATO Taipei 8.37 236 ePn P 16 19 45.5 +2.4
YHNB Yeheng 8.63 235 ePn P 16 19 47.4 +0.8
YHNB eSn S 16 21 23.5 +1.3
NACB Ninganchiao 8.80 232 ePn P 16 19 46.8 -1.9
NACB eS S 16 21 25.1 -0.9
JHJ Hachijo jima 2 9.64 68 P P 16 20 00.8 +1.2
comp=Z,23nm,0.3s,baz=108,slow=20,SNR=2.5
MAJO Matsushiro 10.09 46 ePn P 16 20 05.3 -0.1
comp=Z,34nm,0.8s
MAJO eSn S 16 21 56.3 +0.3
MAJO Matsushiro 10.09 46 eP P 16 20 05.3 -0.1
MAJO e 16 21 56.3
MAJO pmax pmax
comp=Z,34nm,0.8s
MAT Matsushiro 10.09 46 P P 16 20 05.1 -0.3
MAT S S 16 21 56.0 +0.1
MAT Matsushiro 10.09 46 eP P 16 20 05.0 -0.4
comp=Z,14nm,1.0s
MAT eS S 16 21 56.0 +0.1
MAT Matsushiro 10.09 46 eP P 16 20 05.0 -0.4
MAT eS S 16 21 56.0 +0.1
MAT pmax pmax
comp=Z,14nm,1.0s
MJAR Matsushiro Arr 10.09 46 P P 16 20 05.5 0.0
comp=Z,1.6nm,0.3s,baz=240,slow=14,SNR=23
MJAR S S 16 21 56.4 +0.5
comp=Z,1.6nm,0.3s,baz=201,slow=20,SNR=6.2
QZH Quanzhou 10.58 245 P P 16 20 13.0 +1.2
QZH AMB AMB
comp=Z,230nm,0.8s
TIA Tai'an 11.90 305 eP P 16 20 28.0 -0.5
TIA AMB AMB
comp=Z,30nm,1.0s
WHN Wuhan 12.82 277 ⇓P P 16 20 41.0 +0.9
CN2 Changchun 14.22 349 eP P 16 21 01.1 +3.7
CN2 eXP 16 21 53.5
CN2 eS S 16 23 33.9 +3.7
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,310nm,4.0s
MDJ Mudanjiang 14.73 1 P P 16 21 05.2 +1.5
MDJ AMB AMB
comp=Z,4.0nm,0.8s
MDJ AMB AMB
comp=Z,238nm,5.7s
ENH Enshi 17.03 276 eP P 16 21 31.4 0.0
comp=Z,219nm,1.0s
XAN Xi'an 17.66 289 P P 16 21 37.4 -0.7
XAN AMB AMB
comp=Z,77nm,1.3s
ASAJ Asahikawa 17.79 33 P P 16 21 34.5 -5.0
comp=Z,0.2nm,0.3s,baz=221,slow=11,SNR=3.7
HHC Hu-ho-hao-te 18.02 312 eP P 16 21 41.1 -0.7
HHC PP PP 16 22 11.8 +10
HHC AMB AMB
comp=Z,24nm,0.7s
HHC AMB AMB
comp=Z,198nm,5.8s
HHC LR LR
comp=N,419nm,12.4s
HHC LR LR
comp=E,570nm,10.3s
KLR Kul'dur 19.44 5 eP P 16 21 51.2 -5.2
KLR pmax pmax
comp=Z,28nm,1.4s
YSS Yuzh-Sakhalins 20.07 28 P P 16 22 00.2 -2.6
comp=Z,19nm,0.9s
YSS e 16 22 35.5
YSS Yuzh-Sakhalins 20.07 28 P P 16 22 00.2 -2.6
YSS e 16 22 35.5
YSS pmax pmax
comp=Z,19nm,0.9s
GYA Guiyang 20.11 266⇑iP P 16 22 03.4 +0.1
GYA AMB AMB
comp=Z,40nm,0.7s
QIZ Qiongzhong 20.59 243 eP P 16 22 07.3 -0.8
comp=Z,8.6nm,0.8s
HIA Hailar 20.66 342 P P 16 22 09.9 +1.3
comp=Z,3.5nm,0.4s
HIA Hailar 20.66 342 P P 16 22 09.9 +1.3
HIA pmax pmax
comp=Z,3.0nm,0.4s
CD2 Chengdu 21.92 279 eP P 16 22 21.2 +0.2
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.0
LZH Lanzhou 22.09 293 eP P 16 22 23.0 +0.4
LZH AMB AMB
comp=Z,35nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,85nm,5.0s
LZH LR LR
comp=N,512nm,13.0s
LZH LR LR
comp=Z,737nm,17.0s
LZH Lanzhou 22.09 293 eP P 16 22 23.0 +0.4
comp=Z,35nm,1.3s,mb4.7
LZH pP 16 22 34.1
LZH sP 16 22 38.2
LZH PP PP 16 23 57.1 +60
LZH LR LR
comp=Z,740nm,17.0s
KMI Kunming 23.87 265 P P 16 22 41.2 +1.3
KMI AMB AMB
comp=Z,14nm,0.9s,mb4.6
KMI LR LR
comp=Z,119nm,23.6s
KMI Kunming 23.87 265 P P 16 22 41.2 +1.3
comp=Z,14nm,0.9s,mb4.6
KMI pP 16 22 48.6
KMI LR LR
comp=Z,120nm,23.6s
ULN Ulaanbaatar 24.74 323 eP P 16 22 46.1 -1.6
comp=Z,13nm,0.6s,mb4.7
ULN e 16 23 33.0
ULN Ulaanbaatar 24.74 323 eP P 16 22 46.1 -1.6
ULN e 16 23 33.0
ULN pmax pmax
comp=Z,13nm,0.6s,mb4.7
GTA Gaotai 25.85 299 eP P 16 22 56.6 -1.5
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
ZAK Zakamensk 28.24 324 eP P 16 23 19.6 0.0
ZAK e pP 16 24 02.2 +0.2
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.4
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
MA2 Magadan 33.13 20 eP P 16 24 00.4 -1.8
MA2 pmax pmax
comp=Z,21nm,1.3s,mb4.5
KSM Kuching 33.44 216 eP P 16 24 06.4 +1.2
WMQ Urumqi 35.60 305 eP P 16 24 24.5 +1.2
WMQ eS S 16 29 45.0 +2.0
WMQ XS 16 31 00.0
WMQ AMB AMB
comp=Z,8.0nm,0.8s,mb4.3
WMQ AMB AMB
comp=Z,104nm,4.3s
SEY Seymchan 36.32 18c iP P 16 24 28.2 -1.0
KULM Kulim 36.34 233 eP P 16 24 31.2 +1.4
MKAR Makanchi Array 39.82 308 P P 16 24 56.6 -1.8
comp=Z,1.0nm,0.7s,mb3.4,baz=95,slow=10,SNR=13
MKAR pP pP 16 25 43.0 -0.4
comp=Z,2.3nm,0.7s,baz=97,slow=9.8,SNR=4.9
MKAR PcP PcP 16 26 58.1 -2.4
comp=Z,2.7nm,0.7s,baz=70,slow=3.6,SNR=7.7
MKAR ScP 16 30 27.2
comp=Z,4.2nm,0.9s,baz=90,slow=6.1,SNR=21
MKAR Makanchi Array 39.82 308 P P 16 24 56.6 -1.8
MKAR pP pP 16 25 43.0 -0.4
MKAR PcP PcP 16 26 58.1 -2.4
MKAR ScP 16 30 27.2
ZAL Zalesovo 39.93 320 P P 16 24 57.6 -1.6
comp=Z,1.4nm,0.5s,mb3.6,baz=351,slow=8.2,SNR=7.0
ZAL pP pP 16 25 44.8 +0.6
comp=Z,1.2nm,0.7s,baz=21,slow=12,SNR=1.9
ZAL PcP PcP 16 26 59.9 -0.9
comp=Z,0.6nm,0.4s,baz=27,slow=5.1,SNR=3.1
ZAL ScP 16 30 27.6
comp=Z,1.9nm,0.8s,baz=359,slow=4.6,SNR=11
ZAL Zalesovo 39.93 320 P P 16 24 57.6 -1.6
ZAL pP pP 16 25 44.8 +0.6
ZAL PcP PcP 16 26 59.9 -0.9
ZAL ScP 16 30 27.6
KURK Kurchatov 42.82 314 eP P 16 25 21.4 -1.4
comp=Z,3.5nm,0.9s,mb3.8
KURK epP pP 16 26 08.3 +0.2
KURK Kurchatov 42.82 314 eP P 16 25 21.4 -1.3
KURK e*PP pP 16 26 08.4 +0.3
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
BILL Bilibino 43.98 19 i P P 16 25 30.5 -1.3
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.1
AAK Ala-Archa 45.16 302 eP P 16 25 36.2 -5.2
AAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.3
FITZ Fitzroy Crossi 47.81 185⇓iP P 16 26 02.6 +0.2
comp=Z,11nm,0.9s,mb4.2
FITZ Fitzroy Crossi 47.81 185 P P 16 26 02.3 -0.2
comp=Z,8.2nm,0.5s,mb4.4,baz=14,slow=7.3,SNR=30
BVAR Borovoye Array 48.17 316 P P 16 26 02.7 -2.1
comp=Z,3.2nm,0.8s,mb3.7,baz=90,slow=10,SNR=12
BVAR pP pP 16 26 51.1 0.0
comp=Z,5.6nm,0.7s,baz=100,slow=9.0,SNR=6.2
BVAR PcP PcP 16 27 27.6 -1.4
comp=Z,3.0nm,0.7s,baz=137,slow=3.3,SNR=4.4
BVAR ScP 16 31 01.0
comp=Z,3.2nm,0.7s,baz=90,slow=4.4,SNR=16
BVAR Borovoye Array 48.17 316 P P 16 26 02.7 -2.1
BVAR pP pP 16 26 51.1 -0.1
BVAR PcP PcP 16 27 27.6 -1.4
BVAR ScP 16 31 01.0
BRVK Borovoye 48.23 316 eP P 16 26 04.0 -1.3
comp=Z,3.6nm,0.6s,mb3.9
BRVK Borovoye 48.23 316 eP P 16 26 04.0 -1.2
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
WRAB Tennant Creek 49.76 174 eP P 16 26 16.9 -0.4
comp=Z,14nm,0.9s,mb4.3
WRAB Tennant Creek 49.76 174 eP P 16 26 16.9 -0.4
WRAB pmax pmax
comp=Z,14nm,0.9s,mb4.3
WRA Warramunga Arr 49.77 174 P P 16 26 17.0 -0.4
comp=Z,3.8nm,0.3s,mb4.2,baz=353,slow=8.0,SNR=83
WRA pP pP 16 27 03.5 -0.7
comp=Z,1.3nm,0.9s,baz=351,slow=8.2,SNR=1.9
WB2 Warramunga Arr 49.77 174⇓iP P 16 26 17.0 -0.4
MBWA Marble Bar 51.53 191 eP P 16 26 30.5 -0.1
CTA Charters Tower 52.33 160 eP P 16 26 36.2 -0.3
comp=Z,6.7nm,0.8s,mb4.1
CTA Charters Tower 52.33 160 P P 16 26 36.5 0.0
comp=Z,7.4nm,0.8s,mb4.2,baz=329,slow=9.2,SNR=12
CTA Charters Tower 52.33 160 eP P 16 26 36.2 -0.3
CTA pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 52.33 160 eP P 16 26 36.5 0.0
comp=Z,12nm,1.0s,mb4.3
CTAO Charters Tower 52.33 160 eP P 16 26 36.5 0.0
CTAO pmax pmax
comp=Z,12nm,1.0s,mb4.3
ARU Arti 55.09 320⇑iP P 16 26 50.9 -5.2
ARU e 16 27 43.8
ARU e 16 28 58.6
ARU eS S 16 34 23.9 +3.5
ARU pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
IMA Indian Mountai 57.93 28 eP P 16 27 15.9 -0.2
comp=Z,43nm,1.1s,mb5.0
IMA Indian Mountai 57.93 28 eP P 16 27 15.9 -0.2
IMA pmax pmax
comp=Z,43nm,1.1s,mb5.0
RSO Redoubt South 58.73 35 eP P 16 27 19.4 -2.2
SPU Mount Spurr 58.99 34 eP P 16 27 23.2 -0.3
KDAK Kodiak Island 59.14 38 eP P 16 27 23.8 -0.7
comp=Z,15nm,0.8s,mb4.7
SML Sawmill 60.68 33 eP P 16 27 34.0 -0.9
ILAR Eielson Array 60.87 29 P P 16 27 34.3 -1.9
comp=Z,3.0nm,0.7s,mb4.0,baz=272,slow=5.7,SNR=42
DIV Divide 62.01 33 eP P 16 27 38.7 -5.1
comp=Z,66nm,1.1s,mb5.2
STKA Stephens Creek 62.53 168 eP P 16 27 47.1 -0.6
comp=Z,1.8nm,0.3s,mb4.2
STKA Stephens Creek 62.53 168 P P 16 27 47.3 -0.4
comp=Z,2.0nm,0.3s,mb4.2,baz=338,slow=7.7,SNR=17
NWAO Narrogin (SRO) 63.46 191 P P 16 27 52.2 -1.6
INK Inuvik 65.25 24 P P 16 28 03.9 -0.8
comp=Z,5.8nm,0.8s,mb4.3,baz=272,slow=5.7,SNR=11
INK Inuvik 65.25 24 eP P 16 28 04.4 -0.3
INK e pP 16 28 49.6 -4.6
ARCES ARCESS Array B 66.94 338 P P 16 28 13.8 -1.6
comp=Z,3.1nm,0.9s,mb4.0,baz=322,slow=20,SNR=3.2
OBN Obninsk 67.48 322 eP P 16 28 13.5 -5.5
OBN e*PP pP 16 29 08.4 -0.3
OBN pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
KIV Kislovodsk 67.58 309c iP P 16 28 15.6 -4.2
KIV pmax pmax
comp=Z,11nm,1.3s,mb4.3
FINES FINESS Array B 70.12 330 P P 16 28 32.9 -2.1
comp=Z,0.8nm,0.5s,mb3.6,baz=58,slow=5.4,SNR=9.7
DLBC Dease Lake 70.39 33 P P 16 28 36.7 0.0
comp=Z,4.5nm,0.9s,mb4.1,baz=293,slow=4.6,SNR=5.9
DLBC Dease Lake 70.39 33 P P 16 28 37.8 +1.1
AKASG Malin Array Be 73.31 319 pP pP 16 29 44.8 +0.2
comp=Z,1.8nm,0.8s,baz=51,slow=6.0,SNR=2.1
YKA Yellowknife Ar 74.91 26 P P 16 29 02.3 -0.8
comp=Z,2.8nm,0.6s,mb4.1,baz=298,slow=5.7,SNR=21
BRTR Keskin Array B 75.46 308 P P 16 29 05.8 -0.8
comp=Z,3.0nm,0.8s,mb4.0,baz=90,slow=4.9,SNR=9.9
BRTR pP pP 16 29 56.8 -0.6
comp=Z,2.7nm,0.8s,baz=104,slow=5.1,SNR=5.7
NB2 NORSAR Subarra 76.42 334 P P 16 29 09.8 -1.8
comp=Z,1.7nm,0.6s,mb3.9,baz=48,slow=5.3
NOA NORSAR Array B 76.42 334 P P 16 29 09.0 -2.6
comp=Z,2.8nm,0.7s,mb4.0,baz=50,slow=5.4,SNR=14
OJC Ojcow 78.77 322 eP P 16 29 25.0 +0.4
DPC Dobruska-Polom 80.53 323 eP P 16 29 34.5 +0.5
UPC Upice 80.60 323 eP P 16 29 35.2 +0.8
PVCC Panska Ves 81.33 324 eP P 16 29 37.0 -1.2
BRG Berggiesshubel 81.44 325 eP P 16 29 39.7 +0.9
comp=Z,3.6nm,0.8s,mb4.0
BRG Berggiesshubel 81.44 325 eP P 16 29 39.7 +1.0
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
CLL Collm 81.64 325 ⇓P P 16 29 39.8 0.0
comp=Z,logA/T=1.1,mb4.5
CLL i *PP pP 16 30 33.0 +1.7
CLL Collm 81.64 325⇓iP P 16 29 39.8 0.0
comp=Z,9.0nm,0.8s,mb4.5
CLL i pP pP 16 30 33.0 +1.7
CLL Collm 81.64 325⇓iP P 16 29 39.8 0.0
CLL i *PP pP 16 30 33.0 +1.7
CLL pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
PRU Pruhonice 81.67 324 eP P 16 29 38.9 -1.0
NEW Newport 82.24 38 P P 16 29 43.3 +0.4
comp=Z,1.7nm,0.8s,mb3.7,baz=310,slow=5.4,SNR=12
NEW Newport 82.24 38 eP P 16 29 43.6 +0.7
comp=Z,4.0nm,0.5s,mb4.3
NEW Newport 82.24 38 eP P 16 29 43.6 +0.7
NEW pmax pmax
comp=Z,4.0nm,0.5s
NKC Novy Kostel 82.58 325 eP P 16 29 45.2 +0.6
KHC Kasperske Hory 82.69 323 eP P 16 29 45.4 +0.2
MOX Moxa 82.74 325 eP P 16 29 46.0 +0.6
YBH Yreka Blue Hor 82.76 46 P P 16 29 46.5 +0.8
comp=Z,3.5nm,1.0s,mb4.1,baz=295,slow=3.4,SNR=6.0
GERES GERESS Array B 82.80 323 P P 16 29 45.3 -0.5
comp=Z,2.1nm,0.8s,mb3.9,baz=45,slow=3.8,SNR=15
WALA Waterton Lakes 83.44 36 eP P 16 29 50.0 +0.9
GRA1 Grafenberg Arr 83.54 325 eP P 16 29 50.1 +0.6
comp=Z,10.0nm,0.9s,mb4.5
GRF Grafenberg Arr 83.54 325 eP P 16 29 50.1 +0.6
comp=Z,10.0nm,0.9s,mb4.5
GRF Grafenberg Arr 83.54 325 eP P 16 29 50.1 +0.6
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
GRF Grafenberg Arr 83.54 325 eP P 16 29 50.1 +0.6
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
MOD Modoc 84.14 45 eP P 16 29 53.7 +1.0
comp=Z,8.4nm,1.0s,mb4.4
BMO Blue Mountains 84.18 41 eP P 16 29 53.3 +0.5
comp=Z,6.8nm,1.3s,mb4.2
WVOR Wild Horse Val 84.84 43 eP P 16 29 57.1 +1.0
comp=Z,2.7nm,0.8s,mb4.0
WVOR Wild Horse Val 84.84 43 eP P 16 29 57.1 +0.9
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
FFC Flin Flon 84.99 27 eP P 16 29 56.8 +0.2
comp=Z,14nm,0.9s,mb4.7
FFC Flin Flon 84.99 27 eP P 16 29 56.8 +0.2
FFC pmax pmax
comp=Z,15nm,0.9s,mb4.7
BEKR Beckwourth 85.28 46 eP P 16 29 59.4 +1.0
comp=Z,7.3nm,0.8s,mb4.5
HRY Holter Researc 86.02 37 eP P 16 30 02.5 +0.7
CMB Columbia Colle 86.32 48 eP P 16 30 04.5 +0.9
comp=Z,3.4nm,0.7s,mb4.2
CMB Columbia Colle 86.32 48 eP P 16 30 04.5 +1.0
CMB pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
HLID Hailey 86.61 41 eP P 16 30 06.0 +1.2
comp=Z,7.3nm,0.9s,mb4.4
MCMT McKenzie Canyo 86.68 39 eP P 16 30 06.2 +1.2
ELK Elko 87.89 43 P P 16 30 12.1 +1.2
comp=Z,2.2nm,0.8s,mb4.0,baz=276,slow=5.2,SNR=8.2
ELK Elko 87.89 43 eP P 16 30 12.9 +2.0
comp=Z,1.0nm,0.8s,mb3.7
RRI2 Red Ridge 88.48 39 eP P 16 30 15.2 +1.6
comp=Z,4.4nm,0.7s,mb4.4
DUG Dugway 89.67 43 eP P 16 30 20.0 +0.7
comp=Z,12nm,1.3s,mb4.6
BW06 Boulder Array 89.83 39 eP P 16 30 20.5 +0.5
comp=Z,3.5nm,1.0s,mb4.1
PDAR Pinedale Array 89.83 39 P P 16 30 19.8 -0.2
comp=Z,3.0nm,0.9s,mb4.1,baz=346,slow=1.4,SNR=19
ULM Lac du Bonnet 90.82 27 P P 16 30 23.9 -0.4
comp=Z,7.1nm,0.8s,mb4.7,baz=328,slow=4.2,SNR=9.7
NEN Nelson 91.31 47 eP P 16 30 28.5 +1.5
SRU San Rafael 91.72 42 eP P 16 30 30.0 +1.2
KMBO Kilima Mbogo 92.20 270 P P 16 30 31.7 0.0
comp=Z,0.5nm,0.3s,mb3.9,baz=55,slow=10,SNR=4.1
TXAR Lajitas Array 102.53 45 P Pdif 16 31 18.4 +0.3
comp=Z,0.6nm,0.8s,baz=304,slow=4.5,SNR=5.9
VNA2 Neumayer--Watz 132.47 198 PKPdf 16 36 35.8 +3.0
VNA2 Neumayer--Watz 132.47 198 PKPdf 16 36 39.2 +6.4
VNA3 Neumayer Olymp 132.87 197 PKPdf 16 36 35.9 +2.4
VNA3 Neumayer Olymp 132.87 197 PKPdf 16 36 39.3 +5.8
SDV Santo Domingo 137.03 29 PKP PKPdf 16 36 43.8 +1.2
comp=Z,2.3nm,0.2s,baz=286,slow=6.6,SNR=3.8

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*NEIC **05** 16:22:07.2±0.7, 30.43N×79.11E, h35km, mb3.8/1, Error ellipse: s-maj=17.4km s-min=10.7km az=71.0*
*NDI **05** 16:22:07.2±3.8, 30.59N×79.49E, h42km±24km, ML3.6, mb3.8(NEIC)*
*IDC **05** 16:22:13.5±11.0, 30.55N×79.35E, h94km±96km, mb3.7/6, mb1 3.8/7, mb1mx3.5/21, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=74.0km s-min=23.1km az=48.0*
ISC 05 16:22:07.6±0.6**, 30.48N**±0.04×**79.33E**±0.04**, h60**km±7km**,**
n27, σ1§**11**/40**, mb4.0**/6**, Western Xizang-India border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PTH Pithoragarh 1.21 140 eP P 16 22 28.0 -0.6
PTH eS S 16 22 40.0 -4.3
LGTI Lohaghat 1.30 142 eP P 16 22 29.5 -0.6
LGTI eS S 16 22 46.7 -0.1
SMLA Simla 1.97 290 eP P 16 22 37.8 -1.4
SMLA eP 16 22 37.8
SMLA eS S 16 23 01.5 -1.1
SMLA ex x 16 24 31.5
KKR Kurukshetra 2.23 257 eP P 16 22 43.2 +0.2
KKR eS S 16 23 10.3 +1.0
SDNR Sundarnagar 2.26 297 eP P 16 22 44.0 +0.6
SDNR ex S 16 23 15.0 +4.9
BHK Bhakra 2.67 291 eP P 16 22 50.0 +0.8
BHK eS S 16 23 20.6 +0.2
BHGR Bahadurgarh 2.75 230 eP P 16 22 51.2 +0.9
AYAN Aya Nagar 2.77 224 eP P 16 22 51.2 +0.6
AYAN eS S 16 23 23.5 +0.6
RTK Rohtak 2.92 241 eP P 16 22 55.1 +2.4
RTK eS S 16 23 27.1 +0.4
SONA Sohna 2.97 222 eP P 16 22 54.3 +0.9
SONA eS S 16 23 28.5 +0.6
SONA AML AML 16 23 36.0
comp=N,153nm,0.3s
SONA AML AML 16 23 36.3
comp=E,421nm,0.3s
AGRA Agra 3.46 201 ex x 16 23 07.7
AGRA ex S 16 23 41.7 +1.3
AGRA AML AML 16 23 59.4
comp=N,503nm,0.3s
AGRA AML AML 16 23 59.5
comp=E,385nm,0.4s
THN Thein Dam 3.65 303 eP P 16 23 01.3 -1.6
KHET Khetri 3.90 233 eP P 16 23 06.3 -0.2
KHET eS S 16 23 49.2 -2.3
KHET AML AML 16 24 10.1
comp=E,147nm,0.3s
KHET AML AML 16 24 10.1
comp=N,140nm,0.6s
AJM Ajmer 5.74 227 eP P 16 23 30.0 -2.1
AJM i S S 16 24 34.0 -3.4
BHPL Bhopal 7.41 194 i x P 16 23 50.8 -4.7
BHPL i S S 16 25 11.9 -7.0
LSA Lhasa 10.27 91 ePn P 16 24 35.4 +0.7
HYB Hyderabad 13.03 183 i P P 16 25 10.0 -1.7
HYB e 16 27 23.0
HYB eS S 16 27 35.0 -0.7
HYB Hyderabad 13.03 183 eP P 16 25 10.0 -1.7
MKAR Makanchi Array 16.45 7 P P 16 25 57.5 +1.9
comp=N,0.2nm,0.3s,baz=178,slow=13,SNR=8.6
KURK Kurchatov 20.22 359 eP P 16 26 38.6 -1.3
comp=N,2.6nm,0.5s
FINES FINESS Array B 46.30 328 P P 16 30 28.5 -0.3
comp=N,0.8nm,0.4s,mb4.0,baz=117,slow=8.5,SNR=5.7
ARCES ARCESS Array B 49.33 338 P P 16 30 53.1 +0.8
comp=N,2.0nm,0.6s,mb4.4,baz=124,slow=8.7,SNR=7.8
NB2 NORSAR Subarra 53.30 326 P P 16 31 22.1 -0.3
comp=N,0.6nm,0.5s,mb3.8,baz=92,slow=7.4
NOA NORSAR Array B 53.30 326 P P 16 31 21.6 -0.8
comp=N,0.7nm,0.6s,mb3.8,baz=93,slow=7.3,SNR=3.9
WRA Warramunga Arr 72.87 126 P P 16 33 32.4 +0.1
comp=N,1.5nm,0.6s,mb4.1,baz=321,slow=5.8,SNR=24
ILAR Eielson Array 78.46 18 P P 16 34 03.0 -0.1
comp=N,0.5nm,0.6s,mb3.6,baz=304,slow=5.2,SNR=5.9
CTA Charters Tower 81.62 119 P P 16 34 22.2 +1.3
comp=N,2.7nm,0.7s,mb4.3,baz=304,slow=6.5,SNR=3.7

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*IDC **05** 16:23:15.8±7.8, 14.60N×92.61W, mb3.7/5, mb1 4.0/6, mb1mx3.8/21, mbtmp3.7/6, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/24, Error ellipse: s-maj=217.6km s-min=53.1km az=28.0*
*MEX **05** 16:23:26.8±0.7, 14.76N×93.47W, h25km±99km, MD4.4*
ISC 05 16:23:26.4±2.3**, 14.9N**±0.2×**93.44W**±0.06**, h67**km±15km**,**
n12, σ1§**42**/14**, mb3.6**/5**, Near coast of Chiapas**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.90**	**41**	*i* P	**P**	**16 23 56.5**	**-0.7**
CCIG				*i* S	**S**	**16 24 19.9**	**0.0**
SCX	**San Cristobal**	**2.03**	**22**	*i* P	**P**	**16 23 59.5**	**+0.4**
SCX				*i* S	**S**	**16 24 24.0**	**+0.8**
CMIG	**Matias Romero**	**2.63**	**328**	*i* P	**P**	**16 24 06.2**	**-1.3**
CMIG				*i* S	**S**	**16 24 37.1**	**-1.3**
OXX	**Oaxaca**	**3.87**	**306**	*e*P	**P**	**16 24 26.5**	**+1.6**
VHO	**Vista Hermosa**	**3.87**	**305**	*i* S	**S**	**16 25 08.8**	**-0.6**
TXAR	**Lajitas Array**	**17.24**	**328**	P	**P**	**16 27 26.1**	**+1.8**
	0.1nm,0.3s,baz=150,slow=10,SNR=11						
ANMO	**Albuquerque**	**23.20**	**332**	P	**P**	**16 28 30.4**	**+2.3**
	0.6nm,0.5s,mb3.2,baz=171,slow=12,SNR=3.8						
ELK	**Elko**	**32.03**	**328**	P	**P**	**16 29 51.1**	**+2.3**
	0.4nm,0.4s,mb3.5,baz=234,slow=2.5,SNR=4.3						
SCHQ	**Schefferville**	**44.93**	**22**	LR	LR	16 51 44.2	
	comp=Z,91nm,18.9s,baz=272,slow=38						
YKA	**Yellowknife Ar**	**49.89**	**347**	P	**P**	**16 32 14.0**	**-0.9**
	2.3nm,0.7s,mb4.2,baz=153,slow=7.4,SNR=15						
ILAR	**Eielson Array**	**61.52**	**337**	P	**P**	**16 33 37.0**	**-1.4**
	0.8nm,0.9s,mb3.8,baz=144,slow=4.8,SNR=7.1						
NOA	**NORSAR Array B**	**84.07**	**28**	P	**P**	**16 35 47.7**	**-3.0**
	0.7nm,0.8s,mb3.5,baz=297,slow=6.0,SNR=3.2						

*IDC **05** 17:02:49.2±1.4, 33.04N×142.65E, mb3.3/3, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, ML3.6/3, Error ellipse: s-maj=31.7km s-min=26.0km az=93.0*
*JMA **05** 17:02:51.7±0.5, 33.18N×142.34E, M3.5*
ISC 05 17:02:53.6±1.3**, 33.13N**±0.06×**142.53E**±0.08**, h48**km±15km**, n18,** σ**0.96**/30**, mb3.4**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.00**	**320**	P	**P**	**17 03 25.4**	**-0.1**
BSO1				*e*S	**S**	**17 03 50.0**	**+0.7**
JHJ2	**Mitsune**	**2.28**	**270**	P	**P**	**17 03 29.3**	**-0.2**
JHJ2				*e*S	**S**	**17 03 56.9**	**+0.4**
JHJ	**Hachijo jima 2**	**2.31**	**270**	Pn	**P**	**17 03 29.4**	**-0.6**
	23nm,0.3s,baz=255,slow=23,SNR=7.2						
JHJ				Sn	**S**	**17 03 56.6**	**-0.6**
	40nm,0.3s,baz=84,slow=21,SNR=4.8						
BSO3	**Boso 3**	**2.37**	**315**	P	**P**	**17 03 30.9**	**+0.1**
BSO3				*e*S	**S**	**17 03 59.8**	**+1.0**
BSO4	**Boso 4**	**2.60**	**316**	P	**P**	**17 03 34.8**	**+0.7**
BSO4				*e*S	**S**	**17 04 08.2**	**+3.5**
KTR	**Katsuura**	**2.73**	**318**	*e*S	**S**	**17 04 08.2**	**+0.3**
JIM2	**Oshima 3**	**3.02**	**302**	*e*S	**S**	**17 04 15.0**	**-0.5**
JOD2	**Odawara 2**	**3.56**	**308**	P	**P**	**17 03 48.5**	**+0.8**
JOD2				*e*S	**S**	**17 04 30.6**	**+1.6**
JYN	**Shimob**	**4.06**	**307**	P	**P**	**17 03 55.2**	**+0.4**
JYN				*e*S	**S**	**17 04 42.1**	**+0.5**
JAG	**Ashikaga**	**4.15**	**323**	P	**P**	**17 03 56.0**	**-0.1**
JAG				*e*S	**S**	**17 04 41.7**	**-2.2**
JRY	**Ryogami san**	**4.16**	**315**	P	**P**	**17 03 56.2**	**+0.1**
JRY				*e*S	**S**	**17 04 42.7**	**-1.3**
MJAR	**Matsushiro Arr**	**4.92**	**315**	Pn	**P**	**17 04 06.9**	**0.0**
	1.5nm,0.3s,baz=126,slow=20,SNR=12						
MJAR				Sn	**S**	**17 05 02.9**	**-0.4**
	1.7nm,0.3s,baz=260,slow=18,SNR=8.1						
MAT	**Matsushiro**	**4.92**	**315**	P	**P**	**17 04 07.1**	**+0.1**
MAT				S	**S**	**17 05 01.1**	**-2.2**
MAT	**Matsushiro**	**4.92**	**315**	P	**P**	**17 04 07.0**	**0.0**
MAT				*e*S	**S**	**17 05 01.5**	**-1.8**
ASAJ	**Asahikawa**	**10.97**	**0**	Pn	**P**	**17 05 27.6**	**-3.0**
	0.7nm,0.3s,baz=190,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**47.05**	**305**	P	**P**	**17 11 23.1**	**+1.0**
	0.2nm,0.5s,mb3.3,baz=83,slow=12,SNR=2.4						
ILAR	**Eielson Array**	**52.34**	**31**	P	**P**	**17 12 03.1**	**+0.8**
	0.3nm,0.7s,mb3.3,baz=263,slow=5.6,SNR=4.4						
WRA	**Warramunga Arr**	**53.35**	**190**	P	**P**	**17 12 09.6**	**-0.9**
	0.3nm,0.5s,mb3.5,baz=6.9,slow=7.5,SNR=8.3						

*CASC **05** 17:09:45.5±1.9, 16.21N×92.19W, h186km, MD4.2, mb4.0(NEIC)*
*NEIC **05** 17:09:50.3, 15.54N×92.57W, h186km, mb4.0/3, MD4.3(MEX), After MEX.*
*IDC **05** 17:09:50.4±7.6, 15.86N×91.86W, h221km±83km, mb3.5/4, mb1 3.6/5, mb1mx3.3/19, mbtmp3.9/5, Error ellipse: s-maj=88.9km s-min=15.7km az=63.0*
*MEX **05** 17:09:50.0±0.9, 15.51N×92.55W, h184km±13km, MD4.3*
ISC 05 17:09:46.5±0.4**, 15.63N**±0.07×**92.44W**±0.05**, h205**km±4km**, n27,** σ**1.28**/37**, mb3.8**/6**, 1C-4D, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.71**	**24**	*i* P	**P**	**17 10 15.7**	**+0.4**
CCIG				*i* S	**S**	**17 10 36.3**	**-1.4**
SCX	**San Cristobal**	**1.11**	**350**	*i* P	**P**	**17 10 18.5**	**+0.7**
SCX				*i* S	**S**	**17 10 42.0**	**0.0**
TP2	**Tecpan 2**	**1.61**	**121**	⇓*e*P	**P**	**17 10 22.4**	**+0.4**
TP2				⇓*e*S	**S**	**17 10 49.6**	**+0.2**
FUG	**Fuego 3**	**1.94**	**127**	⇓*e*P	**P**	**17 10 25.8**	**+0.6**
FUG				*e*S	**S**	**17 10 58.2**	**+3.3**
IXG	**Ixpaco**	**2.41**	**127**	⇑*e*P	**P**	**17 10 31.1**	**+1.0**
IXG				*e*S	**S**	**17 11 08.3**	**+4.5**
MRL	**Marmol**	**2.71**	**102**	⇓*e*P	**P**	**17 10 33.0**	**-0.6**
MRL				*e*S	**S**	**17 11 06.5**	**-3.4**
CMIG	**Matias Romero**	**2.76**	**302**	*i* P	**P**	**17 10 34.3**	**+0.2**
CMIG				*i* S	**S**	**17 11 08.2**	**-2.6**
TUIG	**Tuzandepetl**	**3.05**	**322**	*i* P	**P**	**17 10 37.3**	**-0.1**
TUIG				*i* S	**S**	**17 11 16.3**	**-0.6**
HUIG	**Huatulco**	**3.53**	**273**	*i* P	**P**	**17 10 43.0**	**-0.3**
HUIG				*i* S	**S**	**17 11 24.3**	**-3.0**
VHO	**Vista Hermosa**	**4.36**	**290**	*i* P	**P**	**17 10 55.8**	**+2.1**
VHO				*i* S	**S**	**17 11 44.6**	**-1.0**
YAIG	**Yautepec**	**7.10**	**298**	*i* P	**P**	**17 11 32.1**	**+3.3**
YAIG				*i* S	**S**	**17 12 49.0**	**+0.3**
CAIG	**El Cayaco**	**7.64**	**282**	*i* P	**P**	**17 11 37.1**	**+1.2**
CAIG				*i* S	**S**	**17 13 01.8**	**+0.4**
TXAR	**Lajitas Array**	**17.11**	**325**	P	**P**	**17 13 37.2**	**+2.2**
	0.0nm,0.3s,baz=133,slow=13,SNR=3.7						
MNTX	**Cornudas Mount**	**19.88**	**326**	*e*P	**P**	**17 14 06.4**	**+2.7**
	0.8nm,0.6s						
TZTN	**Tazewell**	**22.28**	**19**	*e*P	**P**	**17 14 28.5**	**+1.1**
SDV	**Santo Domingo**	**22.33**	**105**	P	**P**	**17 14 26.7**	**-1.3**
WCI	**Wyandotte Cave**	**23.15**	**12**	*e*P	**P**	**17 14 35.5**	**-0.4**
	12nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**32.15**	**320**	pP	pP	17 16 42.6	+3.4
	0.5nm,0.6s,baz=139,slow=8.3,SNR=9.1						
SAML	**Samuel**	**37.90**	**128**	*e*P	**P**	**17 16 43.3**	**-2.5**
	2.1nm,0.6s,mb3.8						
LPAZ	**La Paz**	**39.77**	**142**	P	**P**	**17 17 01.5**	**+0.3**
	2.6nm,0.5s,mb3.9,baz=328,slow=7.2,SNR=16						
LPAZ	**La Paz**	**39.77**	**142**	P	**P**	**17 17 01.5**	**+0.3**
YKA	**Yellowknife Ar**	**49.35**	**347**	P	**P**	**17 18 15.9**	**-0.7**
	1.0nm,0.5s,mb3.4,baz=151,slow=7.5,SNR=7.5						
YKA	**Yellowknife Ar**	**49.35**	**347**	P	**P**	**17 18 15.9**	**-0.7**
CPUP	**Villa Florida**	**53.90**	**140**	P	**P**	**17 18 49.6**	**-1.5**
	3.5nm,0.8s,mb3.9,baz=333,slow=9.0,SNR=6.9						
NOA	**NORSAR Array B**	**82.92**	**28**	P	**P**	**17 21 48.4**	**-0.9**
	0.6nm,0.6s,mb3.5,baz=290,slow=5.1,SNR=3.4						
NOA	**NORSAR Array B**	**82.92**	**28**	P	**P**	**17 21 48.4**	**-0.9**
WRA	**Warramunga Arr**	**135.36**	**257**	PKP	PKPdf	17 28 45.8	+3.1
	0.2nm,0.6s,baz=89,slow=2.6,SNR=6.0						

*BJI **05** 17:21:02.5, 51.50N×176.00E, h41km, mB5.3, mb5.0, Ms4.7, Msz4.5*
*MOS **05** 17:21:04.7±1.2, 51.55N×175.94E, h40km, mb5.1/33, Error ellipse: s-maj=9.9km s-min=5.4km az=102.9*
*IDC **05** 17:21:05.7±2.1, 51.52N×176.02E, h36km±15km, mb4.4/22, mb1 4.6/23, mb1mx4.6/25, mbtmp4.7/23, ML4.9/1, MS4.2/15, Ms1 4.2/15, ms1mx4.1/23, Error ellipse: s-maj=16.7km s-min=11.1km az=175.0*
*NEIC **05** 17:21:06.6±0.2, 51.51N×175.99E, mb5.0/104, MS4.1/2, ML4.8(PMR), ML4.6(AEIC), Error ellipse: s-maj=6.0km s-min=3.0km az=184.0*
*HRVD **05** 17:21:06.6±0.5, 51.54N×175.87E, h22km±2km, MW5.0/53, Centroid moment Tensor Solution. LP body waves: s24,c32;Mantle waves: s53,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.45±.18; $M_{\theta\theta}$-1.11±.15; $M_{\phi\phi}$0.66±.14; $M_{r\theta}$2.10±.36; $M_{\theta\phi}$-2.49±.11; $M_{\phi r}$1.58±.32; Best double couple: $M_0$3.373×10^{16} NP1:ϕ_s285°, δ65°, λ-163°. NP2:ϕ_s188°, δ75°, λ-26°. Principal axes: T 2.43, Plg7°, Azm238°; N 1.886, Plg60°, Azm340°; P -4.316, Plg29°, Azm144°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 17:21:04.0±0.2**, 51.48N**±0.04×**175.96E**±0.03**, h33**km**, h42**km±3.3km**:pP-P, n387,** σ**1.06**/386**, mb5.0**/154**, MS4.3**/33**, 29C-7D, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.70**	**318**	P	**P**	**17 21 31.4**	**-0.3**
SMY				S	**S**	**17 21 51.4**	**-1.1**
FX1	**Attu Island--F**	**2.22**	**310**	Pn	**Pn**	**17 21 38.2**	**-1.2**
	1μm,0.3s,baz=189,slow=7.3,SNR=62						
FX1				Sn	**Sn**	**17 22 04.6**	**-1.5**
	504nm,0.3s,baz=252,slow=23,SNR=7.8						
FX1	**Attu Island--F**	**2.22**	**310**	P	**P**	**17 21 38.2**	**-1.1**
FX1						17 22 04.6	
FX1				smax			
	comp=N,504nm,0.3s						
KIMD	**Kanaga Island**	**4.25**	**83**	P	**P**	**17 22 09.8**	**+1.7**
KIKV	**Kanaga Island**	**4.29**	**82**	P	**P**	**17 22 10.7**	**+2.0**
GSMY	**Great Sitkin M**	**4.99**	**80**	P	**P**	**17 22 20.1**	**+1.4**
GSTR	**Great Sitkin T**	**4.99**	**80**	*e*P	**P**	**17 22 19.3**	**+0.7**
ATKA	**Atka Island**	**6.15**	**79**	P	**P**	**17 22 35.6**	**+0.8**
NIKO	**Nikolski**	**9.44**	**75**	*e*P	**P**	**17 23 21.2**	**+0.5**
PET	**Petropavlovsk**	**10.73**	**285**	*e*P	**P**	**17 23 35.8**	**-2.5**
	comp=N,17nm,0.6s						
PET	**Petropavlovsk**	**10.73**	**285**	*e*P	**P**	**17 23 35.6**	**-2.7**
PET				*e*S	**S**	**17 25 28.1**	**-10**
PET				pmax	pmax		
	comp=Z,40nm,1.1s						
PET				smax			
	comp=N,76nm,0.7s						
PET				smax			
	comp=E,124nm,1.2s						
PET				MLR	MLR		
	comp=Z,700nm,17.0s						
AKUT	**Akutan**	**11.37**	**69**	*e*P	**P**	**17 23 49.1**	**+2.1**
SKR	**Severo-Kuril's**	**12.50**	**274**	*e*P	**P**	**17 23 55.5**	**-6.8**
SKR				pmax	pmax		
	comp=E,70nm,0.9s						
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
CHGN	**Chignik**	**15.81**	**62**	*e*P	**P**	**17 24 43.5**	**-2.0**
MA2	**Magadan**	**16.32**	**310**	P	**P**	**17 24 50.2**	**-1.7**
	comp=Z,49nm,0.9s						
MA2	**Magadan**	**16.32**	**310***c*	*i*P	**P**	**17 24 53.9**	**+2.0**
MA2				pmax	pmax		
	comp=Z,72nm,1.0s						
MA2				MLR	MLR		
	comp=Z,800nm,18.0s						
TNA	**Tin City**	**16.36**	**24**	*e*P	**P**	**17 24 50.1**	**-2.2**
	comp=Z,68nm,0.9s						
SEY	**Seymchan**	**17.04**	**321**	*e*P	**P**	**17 25 00.1**	**-0.9**
BILL	**Bilibino**	**17.28**	**348**	*e*P	**P**	**17 25 03.3**	**-0.5**
	comp=Z,76nm,1.3s						
BILL	**Bilibino**	**17.28**	**348***d*	*i*P	**P**	**17 25 04.5**	**+0.6**
BILL				*e*S	**S**	**17 28 14.6**	**+1.3**
BILL				pmax	pmax		
	comp=Z,99nm,1.8s						
BILL				MLR	MLR		
	comp=Z,400nm,16.0s						
SVW2	**Sparrevohn**	**18.35**	**47**	*e*P	**P**	**17 25 18.4**	**+1.0**
TTA	**Tatalina**	**18.84**	**42**	*e*P	**P**	**17 25 23.5**	**+0.1**
KDAK	**Kodiak Island**	**19.15**	**58**	*e*P	**P**	**17 25 24.8**	**-2.1**
RSO	**Redoubt South**	**19.51**	**50**	*e*P	**P**	**17 25 30.6**	**-0.3**
SPU	**Mount Spurr**	**20.01**	**49**	*e*P	**P**	**17 25 36.2**	**-0.2**
SLKM	**Skilak Lake**	**20.74**	**51**	*e*P	**P**	**17 25 42.6**	**-1.4**
IMA	**Indian Mountai**	**21.16**	**35**	*e*P	**P**	**17 25 47.6**	**-0.6**
PMR	**Palmer**	**21.48**	**48**	*e*P	**P**	**17 25 51.0**	**-0.4**
SML	**Sawmill**	**21.89**	**48**	*e*P	**P**	**17 25 53.9**	**-1.7**
YSS	**Yuzh-Sakhalins**	**22.04**	**271**	*e*P	**P**	**17 25 57.7**	**+0.5**
	comp=Z,59nm,1.2s,mb4.9						
YSS	**Yuzh-Sakhalins**	**22.04**	**271**	*e*P	**P**	**17 25 58.0**	**+0.9**
YSS				*e*		17 26 07.1	
YSS				*e*		17 26 26.9	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
YSS				pmax	pmax		
	comp=E,50nm,1.2s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.0						
YSS				MLR	MLR		
	comp=N,400nm,16.0s						
EYAK	**Cordova Ski Ar**	**22.94**	**52**	*e*P	**P**	**17 26 05.4**	**-0.4**
DIV	**Divide**	**22.99**	**50**	*e*P	**P**	**17 26 04.9**	**-1.4**
	comp=N,155nm,1.0s,mb5.4						
ILAR	**Eielson Array**	**23.27**	**41**	P	**P**	**17 26 07.2**	**-1.7**
	comp=N,6.8nm,0.8s,mb4.1,baz=246,slow=8.9,SNR=44						
ILAR				PcP	PcP	17 29 55.7	-1.9
	comp=N,1.3nm,0.7s,baz=253,slow=3.9,SNR=5.2						
ILAR				ScP		17 33 29.4	
	comp=N,1.1nm,1.1s,baz=288,slow=4.2,SNR=5.3						
ILAR				LR	LR	17 36 02.7	
	comp=N,530nm,19.4s,MS4.0,baz=267,slow=39						
THY	**Trims Highway**	**23.41**	**45**	*e*P	**P**	**17 26 10.3**	**0.0**
ASAJ	**Asahikawa**	**23.43**	**265**	P	**P**	**17 26 12.3**	**+1.6**
	comp=N,57nm,0.8s,mb5.0,baz=49,slow=7.9,SNR=46						
ASAJ				LR	LR	17 33 34.1	
	comp=N,233nm,21.3s,MS3.6,baz=53,slow=32						
ASAJ	**Asahikawa**	**23.43**	**265**	P	**P**	**17 26 12.4**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,57nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,233nm,21.3s						
MENT	**Mentasta**	**24.22**	**46**	*e*P	**P**	**17 26 19.4**	**+1.2**
YAK	**Yakutsk**	**26.88**	**311**	*e*P	**P**	**17 26 41.3**	**-2.0**
	comp=Z,215nm,0.8s,mb5.7						
YAK	**Yakutsk**	**26.88**	**311***c*	*i*P	**P**	**17 26 41.6**	**-1.7**
YAK				*i* *PP	pP	17 26 47.3	-5.5
YAK				*e*		17 27 23.8	
YAK				*i* PPP	PPP	17 27 35.9	-5.1
YAK				*i*		17 30 03.4	
YAK				*e*S	**S**	**17 31 14.0**	**-1.9**
YAK				*i* SSS	SSS	17 32 36.5	-11
YAK				pmax	pmax		
	comp=Z,125nm,0.9s,mb5.4						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				pmax	pmax		
	comp=E,36nm,1.0s						
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
YAK				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
YAK				smax			
	comp=N,5.0nm,1.0s						
YAK				smax			
	comp=E,4.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,316nm,21.0s,MS3.9						
YAK				MLR	MLR		
	comp=E,222nm,14.0s						
KLR	**Kul'dur**	**27.98**	**283**	*e*P	**P**	**17 26 43.8**	**-10**
KLR				pmax	pmax		
	comp=E,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.8						
TIXI	**Tiksi**	**28.96**	**331**	*e*P	**P**	**17 26 59.9**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.0						
INK	**Inuvik**	**29.28**	**36**	P	**P**	**17 27 03.2**	**-1.7**
	comp=Z,5.5nm,0.7s,mb4.4,baz=234,slow=8.9,SNR=11						
INK				LR	LR	17 40 25.2	
	comp=Z,274nm,18.3s,MS3.9,baz=67,slow=40						
INK	**Inuvik**	**29.28**	**36**	*e*P	**P**	**17 27 03.1**	**-1.7**
	comp=Z,16nm,1.0s,mb4.7						
INK	**Inuvik**	**29.28**	**36**	P	**P**	**17 27 03.2**	**-1.7**
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK				MLR	MLR		
	comp=Z,274nm,18.3s						
CLNS	**Chul'man**	**29.79**	**301**	*e*P	**P**	**17 27 12.0**	**+2.6**
CLNS				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,14nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,900nm,20.0s,MS4.4						
CLNS				MLR	MLR		
	comp=N,700nm,17.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,700nm,16.0s,MS4.5						
MAT	**Matsushiro**	**30.59**	**256**	P	**P**	**17 27 17.4**	**+0.6**
MAT	**Matsushiro**	**30.59**	**256**	*e*P	**P**	**17 27 17.0**	**+0.2**
	comp=E,22nm,1.0s,mb4.9						
MAT	**Matsushiro**	**30.59**	**256**	*e*P	**P**	**17 27 17.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.9						
MJAR	**Matsushiro Arr**	**30.59**	**256**	P	**P**	**17 27 16.6**	**-0.3**
	comp=Z,4.4nm,0.9s,mb4.3,baz=46,slow=7.4,SNR=10						
DLBC	**Dease Lake**	**31.03**	**56**	*e*P	**P**	**17 27 20.5**	**0.0**
MDJ	**Mudanjiang**	**31.31**	**276**	P	**P**	**17 27 21.3**	**-1.8**
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,426nm,7.2s						
MDJ				LR	LR		
	comp=N,70nm,18.8s,MS3.8						
MDJ				LR	LR		
	comp=E,189nm,21.9s,MS3.8						
MDJ				LR	LR		
	comp=Z,245nm,19.1s,MS3.9						
CN2	**Changchun**	**34.29**	**277**	*e*P	**P**	**17 27 48.1**	**-0.9**
CN2				*e*AP	pP	17 28 00.9	+2.2
CN2				*e*S	**S**	**17 33 11.5**	**-1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CN2				AMB	AMB		
	comp=Z,170nm,6.0s						
CN2				LR	LR		
	comp=N,310nm,16.0s,MS4.2						
CN2				LR	LR		
	comp=E,180nm,16.0s,MS4.2						
CN2				LR	LR		
	comp=Z,230nm,16.0s,MS4.0						
BOD	**Bodaibo**	**35.26**	**305**	*e*P	**P**	**17 27 54.9**	**-2.3**
BOD				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
SNY	**Shenyang**	**36.51**	**276**	⇑P	**P**	**17 28 08.1**	**+0.2**
SNY				XP	sP	17 28 24.3	+2.4
SNY				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
SNY				LR	LR		
	comp=N,360nm,30.4s						
SNY				LR	LR		
	comp=E,140nm,18.6s						
SNY				LR	LR		
	comp=Z,170nm,22.5s						
YKW3	**Yellowknife Ar**	**37.50**	**45**	*e*P	**P**	**17 28 15.1**	**-0.9**
YKA	**Yellowknife Ar**	**37.52**	**46**	P	**P**	**17 28 15.6**	**-0.5**
	comp=Z,13nm,0.9s,mb4.6,baz=286,slow=8.3,SNR=35						
YKA				ScP		17 34 17.8	
	comp=Z,0.3nm,0.4s,baz=279,slow=3.3,SNR=5.2						
YKA				LR	LR	17 45 37.2	
	comp=Z,596nm,20.0s,MS4.4,baz=305,slow=39						
YKA	**Yellowknife Ar**	**37.52**	**46**	P	**P**	**17 28 15.7**	**-0.5**
YKA				ScP		17 34 17.8	
YKA				LR	LR	17 45 37.2	
HUMO	**Hull Mountain**	**41.45**	**78**	*e*P	**P**	**17 28 51.0**	**+2.1**
	comp=Z,13nm,1.3s,mb4.4						
HAWA	**Hanford**	**41.45**	**71**	*e*P	**P**	**17 28 48.4**	**-0.6**
	comp=Z,0.9nm,1.0s						
NEW	**Newport**	**41.90**	**67**	*e*P	**P**	**17 28 51.1**	**-1.4**
	comp=Z,5.6nm,0.8s,mb4.2						
NEW	**Newport**	**41.90**	**67**	*e*P	**P**	**17 28 51.1**	**-1.4**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KHMM	**Horse Mountain**	**41.96**	**80**	*e*P	**P**	**17 28 53.7**	**+0.6**
YBH	**Yreka Blue Hor**	**42.09**	**78**	*e*P	**P**	**17 28 53.7**	**-0.5**
	comp=Z,6.6nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**43.24**	**294**	*e*P	**P**	**17 29 03.3**	**-0.2**
	comp=Z,20nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**43.24**	**294**	*e*P	**P**	**17 29 03.6**	**+0.1**
MOD	**Modoc**	**43.47**	**77**	*e*P	**P**	**17 29 05.8**	**+0.4**
	comp=Z,8.6nm,0.7s,mb4.6						
BMO	**Blue Mountains**	**43.60**	**71**	*e*P	**P**	**17 29 04.9**	**-1.6**
	comp=Z,9.6nm,1.2s,mb4.4						
ZAK	**Zakamensk**	**44.06**	**298**	*e*P	**P**	**17 29 09.7**	**-0.4**
ZAK				*e*		17 30 55.6	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
WVOR	**Wild Horse Val**	**44.17**	**75**	*e*P	**P**	**17 29 10.2**	**-0.9**
	comp=Z,7.5nm,0.8s,mb4.5						
WVOR	**Wild Horse Val**	**44.17**	**75**	*e*P	**P**	**17 29 10.2**	**-0.9**
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
OHCM	**Honcut**	**44.26**	**80**	*e*P	**P**	**17 29 11.5**	**-0.3**
MSO	**Missoula**	**44.48**	**67**	*e*P	**P**	**17 29 12.1**	**-1.4**
	comp=Z,4.4nm,1.0s,mb4.1						
HHC	**Hu-ho-hao-te**	**44.49**	**283**	*e*P	**P**	**17 29 14.6**	**+1.0**
HHC				AP	pP	17 29 27.0	+3.5
HHC				XP	sP	17 29 32.4	+4.8
HHC				PCP	PcP	17 30 57.9	+0.7
HHC				PP	PP	17 30 59.4	+0.8
HHC				SCP		17 34 45.1	
HHC				PCS		17 34 49.8	
HHC				S	**S**	**17 35 44.2**	**-1.8**
HHC				XS		17 36 05.6	
HHC				SS	SS	17 38 56.8	-0.4
HHC				SCS	ScS	17 39 05.1	-1.4
HHC				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,431nm,6.2s						
HHC				LR	LR		
	comp=N,446nm,16.7s,MS4.7						
HHC				LR	LR		
	comp=E,613nm,16.6s,MS4.7						
HHC				LR	LR		
	comp=Z,365nm,15.5s,MS4.4						
BEKR	**Beckwourth**	**44.63**	**79**	*e*P	**P**	**17 29 14.9**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.5						
SSE	**Sheshan**	**44.73**	**265**	*e*P	**P**	**17 29 12.1**	**-3.6**
	comp=Z,16nm,0.7s,mb5.0						
CHMT	**Chamberlain Mo**	**44.83**	**67**	*e*P	**P**	**17 29 15.2**	**-1.1**
NJ2	**Nanjing**	**45.53**	**268**	*e*P	**P**	**17 29 22.1**	**0.0**
NJ2				AP	pP	17 29 37.0	+5.0
NJ2				PP	PP	17 31 10.0	+0.8
NJ2				S	**S**	**17 35 56.0**	**-5.2**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,504nm,4.2s						
NJ2				LR	LR		
	comp=Z,2μm,15.5s,MS5.1						
CMB	**Columbia Colle**	**45.74**	**81**	*e*P	**P**	**17 29 24.1**	**+0.4**
	comp=Z,7.1nm,0.8s,mb4.7						
CMB	**Columbia Colle**	**45.74**	**81**	*e*P	**P**	**17 29 24.1**	**+0.4**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
HRY	**Holter Researc**	**45.76**	**66**	*e*P	**P**	**17 29 22.2**	**-1.6**
HLID	**Hailey**	**46.04**	**71**	*e*P	**P**	**17 29 24.8**	**-1.2**
	comp=Z,2.6nm,0.9s,mb4.2						
MCMT	**McKenzie Canyo**	**46.23**	**69**	*e*P	**P**	**17 29 26.5**	**-1.0**
BOZ	**Bozeman (W)**	**46.47**	**67**	*e*P	**P**	**17 29 28.0**	**-1.3**
	comp=Z,6.2nm,0.9s,mb4.5						
ELK	**Elko**	**47.22**	**75**	*e*P	**P**	**17 29 34.0**	**-1.4**
	comp=Z,5.4nm,0.8s,mb4.5						
ELK	**Elko**	**47.22**	**75**	*e*P	**P**	**17 29 34.0**	**-1.3**
ELK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MTUM	**Tungsten Hills**	**47.29**	**81**	*e*P	**P**	**17 29 35.9**	**0.0**
PTRM	**Twissleman Ran**	**47.35**	**84**	*e*P	**P**	**17 29 36.6**	**+0.2**
TPH	**Tonopah**	**47.66**	**79**	*e*P	**P**	**17 29 38.3**	**-0.5**
	comp=Z,13nm,1.0s,mb4.9						
RRI2	**Red Ridge**	**47.99**	**70**	*e*P	**P**	**17 29 41.0**	**-0.3**
	comp=Z,4.1nm,0.8s,mb4.5						
DUG	**Dugway**	**49.02**	**74**	*e*P	**P**	**17 29 48.6**	**-0.6**
	comp=Z,12nm,1.0s,mb4.9						
DUG	**Dugway**	**49.02**	**74**	*e*P	**P**	**17 29 48.7**	**-0.6**
DUG				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
BW06	**Boulder Array**	**49.37**	**69**	*e*P	**P**	**17 29 50.4**	**-1.6**
	comp=Z,4.7nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**49.37**	**69**	P	**P**	**17 29 50.3**	**-1.7**
	comp=Z,3.2nm,0.6s,mb4.5,baz=326,slow=3.6,SNR=24						
PDAR				ScP		17 35 05.2	
	comp=Z,1.5nm,1.0s,baz=63,slow=3.3,SNR=5.3						
WHN	**Wuhan**	**49.38**	**270**	*e*P	**P**	**17 29 51.5**	**-0.7**
MWC	**Mount Wilson**	**49.63**	**83**	*e*P	**P**	**17 29 54.2**	**+0.1**
MSU	**Marysvale**	**50.46**	**75**	*e*P	**P**	**17 30 00.3**	**0.0**
TMUT	**Trail Mountain**	**50.55**	**74**	*e*P	**P**	**17 29 59.4**	**-1.6**
SRU	**San Rafael**	**51.08**	**74**	*e*P	**P**	**17 30 04.2**	**-0.8**
BAR	**Barrett**	**51.52**	**84**	*e*P	**P**	**17 30 08.6**	**+0.1**

ZAL	Zalesovo	51.55	311	P	P	17 30 06.2	-2.2
	comp=Z,1.7nm,0.6s,mb4.2,baz=38,slow=7.9,SNR=8.3						
ZAL				PcP	PcP	17 31 22.0	-0.3
	comp=Z,2.6nm,0.8s,baz=174,slow=4.9,SNR=4.8						
ZAL				LR	LR	17 55 52.4	
	comp=Z,310nm,18.6s,MS4.4,baz=58,slow=40						
NVS	Novosibirsk	51.73	313	iP	P	17 30 07.5	-2.2
NVS				i		17 31 21.8	
NVS				eS	S	17 37 21.5	-6.3
NVS				e		17 39 55.6	
NVS				pmax	pmax		
	comp=N,14nm,1.4s						
NVS				pmax	pmax		
	comp=E,23nm,1.4s						
NVS				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1						
NVS				smax			
	comp=N,13nm,2.0s						
NVS				smax			
	comp=E,20nm,2.5s						
LZH	Lanzhou	52.18	283	⇑P	P	17 30 13.0	-0.4
LZH				AP	pP	17 30 24.5	+1.2
LZH				PP	PP	17 32 11.8	-0.8
LZH				eS	S	17 37 31.1	-3.1
LZH				XS		17 37 53.1	
LZH				AMB	AMB		
	comp=Z,41nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,121nm,6.0s						
LZH				LR	LR		
	comp=N,1μm,15.0s						
LZH				LR	LR		
	comp=Z,1μm,18.0s,MS5.0						
LZH	Lanzhou	52.18	283	⇑P	P	17 30 13.0	-0.4
	comp=Z,41nm,1.3s,mb5.2						
LZH				pP	pP	17 30 24.5	+1.2
LZH				sP	sP	17 30 39.0	+12
LZH				PP	PP	17 32 11.8	-0.8
LZH				eS	S	17 37 31.1	-3.1
LZH				sS		17 37 53.1	
LZH				eSS	SS	17 41 17.1	+7.2
LZH				LR	LR		
	comp=Z,1μm,18.0s,MS5.0						
ULM	Lac du Bonnet	52.33	54	P	P	17 30 12.8	-1.5
	comp=Z,4.0nm,0.4s,mb4.7,baz=305,slow=7.4,SNR=15						
ULM				LR	LR	17 52 57.1	
	comp=Z,401nm,20.7s,MS4.4,baz=338,slow=37						
ULM	Lac du Bonnet	52.33	54	eP	P	17 30 12.4	-1.8
	comp=Z,3.8nm,0.4s,mb4.7						
GTA	Gaotai	52.45	288	eP	P	17 30 15.4	+0.1
GTA				AP	pP	17 30 26.1	+0.8
GTA				XP	sP	17 30 30.7	+1.4
GTA				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,153nm,7.6s						
GTA				LR	LR		
	comp=N,359nm,19.4s,MS4.6						
GTA				LR	LR		
	comp=E,391nm,18.2s,MS4.6						
GTA				LR	LR		
	comp=Z,373nm,18.3s,MS4.5						
SUMG	Summit	53.94	12	eP	P	17 30 24.7	-1.3
	comp=Z,18nm,0.8s,mb5.1						
SDCO	Great Sand Dun	54.96	72	eP	P	17 30 33.2	-0.6
	comp=Z,5.4nm,1.0s,mb4.5						
TUC	Tucson	55.41	80	eP	P	17 30 35.9	-1.3
	comp=Z,7.0nm,1.1s,mb4.6						
ANMO	Albuquerque	56.26	75	P	P	17 30 43.4	+0.1
	comp=Z,0.8nm,0.5s,mb4.0,baz=306,slow=12,SNR=4.8						
ANMO	Albuquerque	56.26	75	eP	P	17 30 42.9	-0.4
	comp=Z,2.9nm,0.9s,mb4.3						
ANMO	Albuquerque	56.26	75	P	P	17 30 43.4	+0.1
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WMQ	Urumqi	56.49	300⇑	iP	P	17 30 44.6	-0.2
WMQ				AP	pP	17 30 57.0	+2.1
WMQ				XP	sP	17 31 02.5	+3.7
WMQ				PP	PP	17 32 53.0	+0.9
WMQ				PPP	PPP	17 34 10.0	0.0
WMQ				S	S	17 38 30.0	-2.1
WMQ				XS		17 38 52.0	
WMQ				SCS	ScS	17 40 26.0	-1.8
WMQ				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,272nm,5.0s						
WMQ				LR	LR		
	comp=N,839nm,19.8s,MS4.9						
WMQ				LR	LR		
	comp=E,538nm,18.1s,MS4.9						
WMQ				LR	LR		
	comp=Z,564nm,25.0s						
KURK	Kurchatov	56.53	311	eP	P	17 30 43.1	-1.9
	comp=Z,92nm,1.3s,mb5.7						
KURK	Kurchatov	56.53	311	P	P	17 30 43.6	-1.4
KURK				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
GYA	Guiyang	57.04	272⇑	iP	P	17 30 48.1	-0.9
GYA				AP	pP	17 31 01.8	+2.6
GYA				XP	sP	17 31 06.6	+3.6
GYA				PP	PP	17 32 56.2	-1.1
GYA				S	S	17 38 36.4	-3.2
GYA				XS		17 38 57.6	
GYA				SS	SS	17 42 25.8	-3.8
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,90nm,3.4s						
GYA				LR	LR		
	comp=N,380nm,17.4s,MS4.7						
GYA				LR	LR		
	comp=E,340nm,17.7s,MS4.7						
GYA				LR	LR		
	comp=Z,370nm,18.0s,MS4.5						
MKAR	Makanchi Array	57.35	305	P	P	17 30 49.0	-2.0
	comp=Z,10nm,0.8s,mb4.9,baz=50,slow=7.2,SNR=100						
ARCES	ARCESS Array B	57.38	348	P	P	17 30 49.4	-1.4
	comp=Z,7.0nm,0.9s,mb4.7,baz=31,slow=7.1,SNR=5.5						
ARCES				LR	LR	17 55 40.0	
	comp=Z,246nm,19.1s,MS4.3,baz=212,slow=36						
VOSK	Vostochnaya	58.60	316	P	P	17 30 58.2	-1.3
VOSK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
BVA0	Borovoye Array	58.64	317	iP	P	17 30 58.6	-1.2
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	Borovoye	58.66	317	eP	P	17 30 58.4	-1.6
	comp=Z,5.1nm,0.6s,mb4.7						
BRVK	Borovoye	58.66	317	P	P	17 30 58.8	-1.2
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MNTX	Cornudas Mount	59.15	77	eP	P	17 31 03.3	-0.3
	comp=Z,9.6nm,0.9s,mb4.8						
SVE	Sverdlovsk	59.69	325⇑	eP	P	17 31 07.1	+0.1
SVE				pmax	pmax		
	comp=Z,84nm,1.5s,mb5.5						
SVE				MLR	MLR		
	comp=N,300nm,16.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,300nm,16.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.7						
KMI	Kunming	60.45	274	P	P	17 31 12.4	-0.3
KMI				AP	pP	17 31 24.8	+2.0
KMI				XP	sP	17 31 30.1	+3.4
KMI				S	S	17 39 26.2	+2.2
KMI				XS		17 39 42.3	
KMI				SS	SS	17 43 18.8	-4.4
KMI				SSS	SSS	17 46 02.0	+4.1
KMI				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb4.3						
KMI				AMB	AMB		
	comp=Z,247nm,5.8s						
KMI				LR	LR		
	comp=Z,117nm,25.3s,MS3.9						
KMI	Kunming	60.45	274	P	P	17 31 12.4	-0.3
	comp=Z,5.0nm,1.5s,mb4.3						
KMI				pP	pP	17 31 24.8	+2.0
KMI				sP	sP	17 31 30.1	+3.4
KMI				PP	PP	17 33 31.2	+3.2
KMI				S	S	17 39 26.2	+2.2
KMI				sS		17 39 42.3	
KMI				SS	SS	17 43 18.8	-4.4
KMI				SSS	SSS	17 46 02.0	+4.1
KMI				LR	LR		
	comp=Z,120nm,25.3s,MS3.9						
KMI	Kunming	60.45	274	P	P	17 31 12.4	-0.3
KMI				*PP	pP	17 31 24.8	+2.0
KMI				*SP	sP	17 31 30.1	+3.4
KMI						17 33 31.2	
KMI				S	S	17 39 26.2	+2.2
KMI				*SS		17 39 42.3	
KMI				SS	SS	17 43 18.8	-4.4
KMI				SSS	SSS	17 46 02.0	+4.1
KMI				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
KMI				MLR	MLR		
	comp=Z,120nm,25.3s,MS3.9						
ARU	Arti	60.73	326	eP	P	17 31 13.0	-1.1
	comp=Z,88nm,0.8s,mb5.9						
ARU	Arti	60.73	326⇑	iP	P	17 31 13.7	-0.5
ARU				e		17 31 54.6	
ARU				e		17 33 24.6	
ARU				ePPP	PPP	17 34 51.5	-6.0
ARU				eS	S	17 39 28.1	+1.1
ARU				eSS	SS	17 43 26.3	-0.9
ARU				pmax	pmax		
	comp=Z,97nm,0.8s,mb6.0						
LTX	Lajitas	61.86	77	eP	P	17 31 21.7	-0.5
	comp=Z,12nm,0.9s,mb5.0						
LTX	Lajitas	61.86	77	eP	P	17 31 21.7	-0.5
LTX				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
TXAR	Lajitas Array	61.86	77	P	P	17 31 21.8	-0.4
	comp=Z,3.1nm,0.4s,mb4.8,baz=306,slow=5.6,SNR=46						
SCHQ	Schefferville	61.90	36	P	P	17 31 21.1	-0.9
	comp=Z,23nm,0.9s,mb5.3,baz=331,slow=6.6,SNR=13						
SCHQ				LR	LR	17 58 53.1	
	comp=Z,170nm,20.3s,MS4.2,baz=328,slow=37						
JOF	Joensuu	62.59	343	ep	P	17 31 24.2	-2.4
	comp=Z,16nm,0.9s,mb5.2						
BORG	Borgarnes	63.34	8	P	P	17 31 31.6	+0.1
	comp=Z,14nm,0.8s,mb5.1,baz=303,slow=5.8,SNR=2.7						
TKM2	Tokmak 2	63.46	306	P	P	17 31 32.1	-0.5
	SNR=7.9						
ULHL	Ulahol	63.62	305	P	P	17 31 33.2	-0.4
	SNR=9.6						
USP	Ospenovka	63.76	307	P	P	17 31 34.0	-0.4
	SNR=23						
CHMS	Chumysh	63.83	307	P	P	17 31 34.7	-0.2
	SNR=5.8						
KBK	Karagaybulak	63.98	306	P	P	17 31 35.6	-0.2
	SNR=7.4						
FRU	Bishkek	64.02	307	eP	P	17 31 34.0	-2.1
FRU				e	pP	17 31 44.0	-2.4
KAF	Kangasniemi	64.22	345	ep	P	17 31 34.9	-2.2
	comp=Z,8.0nm,0.7s,mb4.9,baz=16,slow=5.8						
KAF	Kangasniemi	64.22	345	eP	P	17 31 34.9	-2.2
KAF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
AAK	Ala-Archa	64.23	307	P	P	17 31 37.1	-0.4
	SNR=5.7						
AAK	Ala-Archa	64.23	307	eP	P	17 31 35.4	-2.1
	comp=Z,14nm,1.1s,mb4.9						
AAK	Ala-Archa	64.23	307c	iP	P	17 31 35.9	-1.6
AAK				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
KZA	Kyzart	64.25	306	P	P	17 31 37.8	+0.2
	SNR=8.1						
LSA	Lhasa	64.29	286	P	P	17 31 39.0	+0.9
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
EKS2	Erkin-Say	64.56	307	P	P	17 31 39.5	-0.2
	SNR=17						
FINES	FINESS Array B	64.89	345	P	P	17 31 40.2	-1.2
	comp=Z,4.7nm,0.7s,mb4.6,baz=14,slow=7.9,SNR=17						
FINES				LR	LR	18 02 34.5	
	comp=Z,140nm,19.1s,MS4.2,baz=11,slow=38						
AML	Almayashu	65.00	307	P	P	17 31 42.9	+0.4
	SNR=16						
WCI	Wyandotte Cave	65.52	59	eP	P	17 31 44.6	-1.3
	comp=Z,6.4nm,0.5s,mb4.9						
AKTO	Aktyubinsk	65.64	322	P	P	17 31 46.1	-0.4
AKTO				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
AB31	Akbulak array	65.81	320	iP	P	17 31 47.2	-0.4
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KKAR	Karatay Array	65.84	309	P	P	17 31 46.9	-1.0
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ALLY	Alegheny Colle	66.17	53	eP	P	17 31 49.1	-0.9
WVT	Waverly	66.22	62	eP	P	17 31 48.7	-1.7
	comp=Z,7.8nm,0.8s,mb4.8						
OXF	Oxford	66.52	64	eP	P	17 31 51.4	-1.0
	comp=Z,56nm,1.1s,mb5.5						
OXF				e	pP	17 32 00.8	-1.9
OXF	Oxford	66.52	64	eP	P	17 31 51.4	-1.0
OXF				e	pP	17 32 00.8	-1.9
OXF				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.5						
PLAL	Pickwick Lake	66.92	63	eP	P	17 31 53.2	-1.7
	comp=Z,7.8nm,0.6s,mb4.9						
NB2	NORSAR Subarra	67.17	352	P	P	17 31 55.2	-0.8
	comp=Z,26nm,0.8s,mb5.3,baz=11,slow=6.5						
NB2	NORSAR Subarra	67.17	352	P	P	17 31 55.2	-0.8
	baz=11,slow=6.5						
NB2	NORSAR Subarra	67.17	352	P	P	17 31 55.2	-0.8
NB2				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
NOA	NORSAR Array B	67.17	352	P	P	17 31 55.2	-0.8
	comp=Z,16nm,0.8s,mb5.1,baz=11,slow=6.5,SNR=55						
NOA				PcP	PcP	17 32 22.8	-1.2
	comp=Z,2.5nm,0.6s,baz=11,slow=6.4,SNR=3.8						
NOA				LR	LR	18 01 58.9	
	comp=Z,106nm,18.5s,MS4.1,baz=25,slow=36						
MDV	Middlebury	67.70	47	P	P	17 31 59.6	0.0
MOS	Moscow	67.71	336	eP	P	17 31 51.2	-8.3
MOS				e		17 31 58.1	
MOS				e		17 32 22.0	
MOS				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
SWET	Sewanee	67.93	61	eP	P	17 31 58.8	-2.4
TZTN	Tazewell	68.23	59	eP	P	17 32 02.0	-1.1
OBN	Obninsk	68.54	336	eP	P	17 32 03.8	-0.9
	comp=Z,39nm,0.9s,mb5.3						
OBN	Obninsk	68.54	336	eP	P	17 32 04.3	-0.3
OBN				e		17 32 27.9	
OBN				pmax	pmax		
	comp=Z,82nm,1.6s,mb5.4						
OBN				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.8						
KONO	Kongsberg	68.68	353	eP	P	17 32 05.0	-0.4
ELN	Prospectdale	69.19	56	eP	P	17 32 07.5	-1.5
KKN	Kakani	69.19	289	eP	P	17 32 09.4	+0.3
	comp=Z,61nm,0.7s,mb5.6						
PKI	Pulchoki	69.27	288	eP	P	17 32 09.7	0.0
	comp=Z,50nm,0.7s,mb5.5						
GKN	Gorkha	69.41	289	eP	P	17 32 10.4	-0.1
	comp=Z,85nm,0.9s,mb5.7						
DMN	Daman	69.42	289	eP	P	17 32 10.9	+0.3
	comp=Z,48nm,0.8s,mb5.5						
KOLN	Koldanda	70.19	290	eP	P	17 32 15.2	-0.1
	comp=Z,33nm,0.8s,mb5.3						
VRHR	Novokhopersk	70.73	331	eP	P	17 32 16.6	-1.5
VRHR				pmax	pmax		
	comp=Z,70nm,0.7s,mb5.7						
VRHR				pmax	pmax		
	comp=N,40nm,0.9s						
VRHR				pmax	pmax		
	comp=E,20nm,0.8s						
TAOE	Nuku Hiva Isla	70.97	134	eLR	LR	17 53 56.2	
	comp=E,1μm,25.1s,baz=341						
JSC	Jenkinsville	71.16	59	eP	P	17 32 20.1	-0.9
VORD	Divnogorie	71.53	333	eP	P	17 32 22.7	-0.2
VORD				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
VORD				pmax	pmax		
	comp=N,20nm,0.7s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
MUD	Monsted U'grnd	71.88	352	iP	P	17 32 25.4	+0.5
	comp=E,27nm,1.0s,mb5.1						
MUD	Monsted U'grnd	71.88	352	iP	P	17 32 25.4	+0.5
MUD				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
SUW	Suwalki	72.44	344	eP	PcP	17 32 45.7	-0.6
ESK	Eskdalemuir	73.57	360	eP	P	17 32 34.4	-0.4
	comp=Z,22nm,1.1s,mb5.0						
KAKA	Kakadu	74.22	224	eP	P	17 32 56.2	+17
	comp=Z,6.9nm,0.6s,mb4.8						
AKASG	Malin Array Be	74.36	339	P	P	17 32 39.1	-0.3
	comp=Z,9.4nm,0.4s,mb5.1,baz=24,slow=6.0,SNR=65						
PPT	Papeete	75.06	146	eS	S	17 42 17.8	-0.9
PPT				eSS	SS	17 47 06.3	-3.7
PPT				eLR	LR	17 55 42.6	
	comp=Z,391nm,21.5s,baz=346						
PPT	Papeete	75.06	146	LR	LR	18 00 17.7	
	comp=Z,328nm,19.0s,MS4.7,baz=320,slow=31						
DCN	Croghan	75.52	2	eP	P	17 32 46.0	-0.1
DLF	Lyons Farm	75.58	2	eP	P	17 32 46.0	-0.4
GOF	Gofitskoye	75.61	328⇑	iP	P	17 32 44.3	-2.5
GOF				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.7						
CTA	Charters Tower	75.87	209	eP	P	17 32 48.8	+0.1
	comp=Z,6.0nm,0.7s,mb4.6						
CTA	Charters Tower	75.87	209	eP	P	17 32 48.8	+0.1
CTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WTSB	Winterswijk	76.53	353	eP	P	17 32 51.9	+0.1
	comp=Z,20nm,0.7s,mb5.2						
CLL	Collm	76.58	349	P	P	17 32 52.0	-0.1
	comp=Z,logA/T=0.9,mb4.6						
CLL				e*PP	pP	17 33 03.0	+0.5
CLL				e*SP	sP	17 33 10.0	+3.9
CLL	Collm	76.58	349	P	P	17 32 57.2	+5.1
	comp=Z,logA/T=0.9,mb4.6						
CLL				e		17 33 15.0	
CLL	Collm	76.58	349	eP	P	17 32 52.0	-0.1
	comp=Z,8.0nm,1.0s,mb4.6						
CLL				i pP	pP	17 32 57.2	-5.3
CLL	Collm	76.58	349	eP	P	17 32 52.0	-0.1
CLL				i *PP	pP	17 32 57.2	-5.3
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KSP	Ksiaz	76.61	347	eP	P	17 32 51.9	-0.4
OJC	Ojcow	76.67	345	eP	P	17 32 53.1	+0.4
KIV	Kislovodsk	76.70	327	eP	P	17 32 53.7	+0.7
	comp=Z,18nm,0.7s,mb5.1						
KIV	Kislovodsk	76.70	327	eP	P	17 32 53.7	+0.7
KIV				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
KWP	Kalwaria	76.72	343	eP	P	17 32 54.1	+1.2
KWP	Kalwaria	76.72	343	eP	P	17 32 54.1	+1.1
BRG	Berggiesshubel	76.89	348	eP	P	17 32 53.5	-0.4
	comp=Z,10.0nm,1.0s,mb4.7						
BRG	Berggiesshubel	76.89	348	eP	P	17 32 53.5	-0.4
BRG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
UPC	Upice	76.97	347	eP	P	17 32 52.4	-2.0
UPC				ex	x	17 32 54.9	
DPC	Dobruska-Polom	77.08	347	eP	P	17 32 55.5	+0.5
DPC				ex	x	17 33 01.1	
STHS	Stebnicka Huta	77.20	343	eP	P	17 32 56.9	+1.2
OKC	Ostrava-Krasne	77.31	345	eP	P	17 32 56.8	+0.5
OKC				ex	x	17 33 00.3	
MOX	Moxa	77.39	350	iP	P	17 32 57.0	+0.3
MOX	Moxa	77.39	350	eP	P	17 32 57.0	+0.3
MORC	Moravsky Berou	77.46	346	eP	P	17 32 55.8	-1.3
	comp=Z,6.1nm,0.8s,mb4.6						
MORC	Moravsky Berou	77.46	346	P	P	17 32 57.6	+0.5
KOLS	Kolonicke sedl	77.47	343	eP	P	17 32 58.2	+1.0
ANN	Anapa	77.62	331	eP	P	17 32 57.6	-0.5
ANN				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3						
ANN				MLR	MLR		
	comp=N,570nm,20.0s						
ANN				MLR	MLR		
	comp=Z,342nm,20.0s,MS4.7						
CRVS	Cervenica-Dubn	77.65	343	iP	P	17 32 59.2	+1.0
PRU	Pruhonice	77.68	348	eP	P	17 32 55.3	-3.0
PRU				ex	x	17 32 58.8	
NKC	Novy Kostel	77.70	349	eP	P	17 32 58.8	+0.4
NKC				ex	x	17 33 01.7	
HGN	Heimansgroeve	77.79	354	eP	P	17 32 59.0	+0.1
	comp=Z,38nm,1.1s,mb5.2						
VRAC	Vranov	78.06	346	P	P	17 33 01.4	+0.9
BURAR	Bucovina Array	78.15	340⇑	iP	P	17 33 01.6	+0.7
MENF	Mencas	78.21	356	eP	P	17 33 01.1	-0.1
KECS	Kecovo	78.23	344	eP	P	17 33 02.3	+0.9
TREC	Trest	78.23	347	eP	P	17 32 57.5	-3.9
TREC				ex	x	17 33 02.0	
GRA1	Grafenberg Arr	78.37	350	eP	P	17 33 01.8	-0.3
	comp=Z,28nm,1.7s,mb4.9						
GRA1				LR	LR		
	comp=Z,100nm,21.0s,MS4.1						
GRF	Grafenberg Arr	78.37	350	eP	P	17 33 01.8	-0.3
	comp=Z,28nm,1.7s,mb4.9						
GRF				LR	LR		
	comp=Z,100nm,21.0s,MS4.1						
GRF	Grafenberg Arr	78.37	350	eP	P	17 33 01.8	-0.3
GRF				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.9						
GRF				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.1						
SIM	Simferopol'	78.45	333d	eP	P	17 33 03.5	+0.8
SIM				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SIM				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
VYHS	Vyhne	78.50	345	eP	P	17 33 03.8	+0.9
GIVF	Givet	78.52	354	eP	P	17 33 03.5	+0.6
BAIF	Baives	78.60	355	eP	P	17 33 03.5	+0.1
	comp=Z,46nm,0.9s,mb5.1						
KHC	Kasperske Hory	78.65	348	eP	P	17 33 04.2	+0.6
KHC				ex	x	17 33 08.4	
KHC				epP	pP	17 33 20.0	+6.0
TOD	Tromm	78.70	352	eP	P	17 33 04.2	+0.3
WLF	Walferdange	78.86	353	eP	P	17 33 04.1	-0.7
	comp=Z,6.6nm,0.8s,mb4.6						
PSZ	Piszkesteto	78.88	344⇑	eP	P	17 33 06.3	+1.3
PSZ	Piszkesteto	78.88	344	eP	P	17 33 04.9	-0.1
	comp=Z,33nm,1.4s,mb5.1						
PSZ	Piszkesteto	78.88	344	P	P	17 33 06.7	+1.7
GERES	GERESS Array B	78.91	348	P	P	17 33 05.1	0.0
	comp=Z,3.7nm,0.7s,mb4.4,baz=18,slow=4.2,SNR=32						
GERES				LR	LR	18 10 14.9	
	comp=Z,131nm,19.7s,MS4.3,baz=223,slow=37						
ZST	Bratislava	79.07	346	eP	P	17 33 07.5	+1.5
GNI	Garni	79.32	324	LR	LR	18 12 25.3	
	comp=Z,456nm,20.5s,MS4.8,baz=19,slow=39						
GNI	Garni	79.32	324d	iP	P	17 33 07.7	+0.2
GNI				pmax	pmax		
	comp=Z,35nm,1.7s						
LANF	Langenberg	79.41	352	eP	P	17 33 08.3	+0.5
DRGR		79.44	342⇓	iP	P	17 33 07.6	-0.4
DRGR		79.44	342⇓	iP	P	17 33 07.5	-0.5
DRGR		79.44	342	P	P	17 33 08.2	+0.2
CFR	Carcaliu	79.79	337⇓	iP	P	17 33 09.3	-0.7
CFR	Carcaliu	79.79	337⇓	iP	P	17 33 09.3	-0.7
MOA	Molln	79.82	348⇑	iP	P	17 33 10.5	+0.5
	comp=Z,22nm,1.8s,mb4.8						
WRAB	Tennant Creek	79.89	219	eP	P	17 33 10.1	-0.9
	comp=Z,5.3nm,0.8s,mb4.5						
WRAB	Tennant Creek	79.89	219	eP	P	17 33 11.0	0.0
WB2	Warramunga Arr	79.90	219⇑	iP	P	17 33 10.7	-0.3
WRA	Warramunga Arr	79.91	219	P	P	17 33 10.6	-0.4
	comp=Z,2.7nm,0.8s,mb4.3,baz=30,slow=6.2,SNR=23						
WRA	Warramunga Arr	79.91	219	P	P	17 33 10.6	-0.5
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MLR	Muntele Rosu	80.00	339⇑	iP	P	17 33 12.4	+1.3
MLR	Muntele Rosu	80.00	339⇑	iP	P	17 33 12.4	+1.3
MLR	Muntele Rosu	80.00	339	P	P	17 33 12.8	+1.7
WLS	Welschbruch	80.01	352	eP	P	17 33 11.4	+0.3
CDF	Champ du Feu	80.02	352	eP	P	17 33 11.0	-0.1
	comp=Z,23nm,0.7s,mb4.9						
FLN	La Foliniere	80.09	358	eP	P	17 33 11.1	-0.4
	comp=Z,60nm,0.9s,mb5.2						
FLN				eR			
	comp=Z,116nm,19.5s						
MEZF	Maizieres J'vi	80.10	354	eP	P	17 33 11.7	+0.2
ECH	Echery	80.22	352	eP	P	17 33 12.4	+0.2
ARSA	Arzberg	80.23	347⇑	iP	P	17 33 13.4	+1.2
	comp=Z,45nm,1.9s,mb5.1						
LDF	La Druitiere	80.25	357	eP	P	17 33 11.9	-0.4
	comp=Z,57nm,0.8s,mb5.2						
TBI	Tubuai	80.46	148	eLR	LR	17 58 02.2	
	comp=Z,456nm,25.2s,baz=332						
GRR	Gorron	80.48	358	eP	P	17 33 13.4	-0.1
	comp=Z,84nm,0.8s,mb5.4						
FELD	Feldberg	80.49	352	eP	P	17 33 13.7	+0.1
HAU	Haudompre	80.50	353	eP	P	17 33 13.6	-0.1
	comp=Z,28nm,0.7s,mb5.0						

HAU eR
comp=Z,165nm,20.0s
ROSF Rostrenen 80.56 359 eP **P** **17 33 13.3 -0.7**
comp=Z,38nm,0.9s,mb5.0
MOF Molkenrain 80.59 352 eP **P** **17 33 14.4 +0.3**
SGMF Saint Gilles 80.64 359 eP **P** **17 33 14.5 +0.1**
comp=Z,44nm,0.7s,mb5.2
HINF Hinteralfeld 80.65 353 eP **P** **17 33 14.2 -0.3**
comp=Z,17nm,0.9s,mb4.7
WATA Walderalm 80.66 349⇑iP **P** **17 33 15.3 +0.8**
comp=Z,25nm,1.1s,mb5.0
KBA Koelnbreinsper 80.69 348⇑iP **P** **17 33 16.2 +1.5**
comp=Z,45nm,0.9s,mb5.4
MOTA Moosalm 80.70 350⇑iP **P** **17 33 15.4 +0.6**
comp=Z,21nm,1.1s,mb5.0
WTTA Wattenberg 80.72 349⇑iP **P** **17 33 15.8 +0.9**
comp=Z,46nm,1.4s,mb5.2
PKSM Moragy 80.75 344 P **P** **17 33 15.5 +0.4**
SQTA Sankt Quirin 80.81 350⇑iP **P** **17 33 16.3 +1.0**
comp=Z,20nm,1.0s,mb5.0
PERS Pernice 80.89 347⇑eP **P** **17 33 16.7 +0.9**
DAVA Damuels 80.89 350⇑iP **P** **17 33 16.3 +0.5**
comp=Z,19nm,1.5s,mb4.8
HYB Hyderabad 81.07 287 *i* P **P** **17 33 15.0 -2.3**
HYB Hyderabad 81.07 287 eP **P** **17 33 15.0 -2.3**
OBKA Obir 81.09 347⇑iP **P** **17 33 17.7 +0.9**
comp=Z,36nm,1.4s,mb5.1,SNR=23
LOMF Lomont 81.11 353 eP **P** **17 33 17.2 +0.3**
LOR Lormes 81.40 355 eP **P** **17 33 18.4 0.0**
comp=Z,34nm,0.8s,mb5.0
LOR eR
comp=Z,129nm,18.0s
ROBS Robic 81.49 348⇑iP **P** **17 33 18.8 -0.2**
comp=Z,21nm,0.8s,mb5.1
GCIS Gornji Cirnik 81.56 346⇑eP **P** **17 33 20.0 +0.7**
SSF Saint Saulge 81.63 355 eP **P** **17 33 19.7 +0.1**
comp=Z,29nm,0.7s,mb5.0
CABF La Chapelle 81.91 353 eP **P** **17 33 21.6 +0.5**
comp=Z,33nm,0.9s,mb5.0
AVF Avril sur Loir 81.91 355 eP **P** **17 33 21.2 +0.1**
comp=Z,38nm,0.9s,mb5.0
FITZ Fitzroy Crossi 82.02 228 eP **P** **17 33 22.1 -0.1**
comp=Z,9.6nm,0.7s,mb4.8
SMF Signal de Mont 82.02 355 eP **P** **17 33 21.7 0.0**
comp=Z,50nm,0.8s,mb5.2
MFF Saint Martin d 82.25 357 eP **P** **17 33 23.0 +0.2**
TCF Toulx Ste Croi 82.47 356 eP **P** **17 33 24.1 +0.2**
comp=Z,29nm,0.8s,mb4.9
OG05 Jujurieux 82.52 353 eP **P** **17 33 25.2 +1.0**
AGO Saint Agoulin 82.66 355 eP **P** **17 33 27.2 +2.3**
PLDF La Plantade 82.71 355 eP **P** **17 33 27.4 +2.2**
ORX Oropa 82.72 352 P **P** **17 33 26.2 +1.0**
RSL Roselend 82.78 352 eP **P** **17 33 26.7 +1.2**
LPL La Plagne 82.94 352 eP **P** **17 33 28.2 +1.8**
comp=Z,33nm,0.8s,mb5.1
LPG La Plagne 82.96 352 eP **P** **17 33 28.4 +1.9**
comp=Z,61nm,0.9s,mb5.3
LSD Ceresole Reale 82.96 352 P **P** **17 33 28.1 +1.6**
PYM Petit Puy Mans 82.96 355 eP **P** **17 33 28.4 +1.9**
COLF Collangettes 83.16 355 eP **P** **17 33 28.4 +0.9**
MALT Malatya 83.17 328 eP **P** **17 33 27.7 -0.1**
comp=Z,16nm,1.2s,mb4.9
RSP Reno Superiore 83.26 352 P **P** **17 33 29.2 +1.2**
GRN Grenoble 83.29 353 eP **P** **17 33 29.5 +1.3**
GDM Grand'Maison 83.30 353 eP **P** **17 33 30.0 +1.8**
VTS Vitosha 83.36 340 *i* P **P** **17 33 29.5 +0.9**
VTS Vitosha 83.36 340 P **P** **17 33 29.7 +1.1**
FENE Fenestrelle 83.40 352 P **P** **17 33 29.8 +1.1**
BR131 Keskin Array S 83.40 332 eP **P** **17 33 29.2 +0.4**
comp=Z,4.7nm,0.7s,mb4.6
BRTR Keskin Array B 83.40 332 P **P** **17 33 29.3 +0.5**
comp=Z,7.7nm,0.7s,mb4.8,baz=55,slow=3.0,SNR=31
BRTR pmax pmax
comp=Z,8.0nm,0.7s
BNI Bardonecchia 83.41 352 eP **P** **17 33 30.2 +1.4**
comp=Z,40nm,0.9s,mb5.5
RJF Les Rejaudoux 83.48 356 eP **P** **17 33 29.2 +0.1**
RJF eR
comp=Z,168nm,22.5s
RRL Cesana Torines 83.53 352 P **P** **17 33 30.0 +0.7**
BHB Bricherasio 83.57 352 P **P** **17 33 29.8 +0.4**
ORIF Oris-en-Rattie 83.60 353 eP **P** **17 33 31.3 +1.6**
comp=Z,56nm,0.8s,mb5.5
ORIF eR
comp=Z,113nm,20.0s
OG22 Abries 83.61 352 eP **P** **17 33 31.4 +1.7**
GRAM 83.64 350 P **P** **17 33 30.8 +1.0**
MBDF Montbardon 83.72 352 eP **P** **17 33 31.7 +1.4**
comp=Z,48nm,0.7s,mb5.5
PCP Pian Castagno 83.74 351 P **P** **17 33 30.6 +0.2**
VIVF Saint-Julien-l 83.75 354 eP **P** **17 33 31.4 +1.0**
comp=Z,24nm,0.8s,mb5.1
VALM 83.76 350 P **P** **17 33 31.6 +1.2**
CODM 83.76 350 P **P** **17 33 31.6 +1.1**
CAF Calviac 83.83 356 eP **P** **17 33 31.7 +0.9**
comp=Z,30nm,1.1s,mb5.0
BACM 83.85 350 P **P** **17 33 32.1 +1.2**
LFF La Frestale 83.88 357 eP **P** **17 33 31.5 +0.4**
comp=Z,40nm,0.8s,mb5.3
RZN Rozhen 83.89 339 *i* P **P** **17 33 32.3 +1.1**
SARO Sassorosso 83.90 350 P **P** **17 33 32.3 +1.1**
VLC Villacollemand 83.93 350 eP **P** **17 33 31.9 +0.6**
comp=Z,25nm,0.6s,mb5.5
SURF Saint Ours 83.96 352 eP **P** **17 33 33.6 +2.1**
VINC Vinca 83.97 350 P **P** **17 33 32.5 +1.0**
OCF Saint Nazaire 83.98 353 eP **P** **17 33 33.4 +1.8**
OG26 St.-Nazaire-De 83.98 353 eP **P** **17 33 33.4 +1.8**
ROB Roburent 84.05 351 P **P** **17 33 31.8 -0.1**
KKB Krupnik 84.08 340 *i* P **P** **17 33 33.5 +1.3**
FIN Finale Ligure 84.11 351 P **P** **17 33 32.6 +0.4**
OG25 Le Caire 84.13 353 eP **P** **17 33 38.1 +5.7**
STV2 Anna di Valdie 84.15 352 P **P** **17 33 32.2 -0.3**
MAIM 84.16 349 P **P** **17 33 32.4 -0.1**
ENR Entracque 84.16 352 P **P** **17 33 31.3 -1.2**
MMB Musomiste 84.21 339 *i* P **P** **17 33 34.0 +1.2**
SKO Skopje 84.33 341 *i* P **P** **17 33 34.8 +1.4**
SAOF Saorge 84.39 352 eP **P** **17 33 34.1 +0.4**
TOUF Mont Tournerai 84.39 352 eP **P** **17 33 34.5 +0.8**
AUTN L'Aution 84.39 352 eP **P** **17 33 34.3 +0.6**
IMI Imperia 84.43 351 P **P** **17 33 33.0 -0.9**
MVIF Mont Vial 84.51 352 eP **P** **17 33 35.6 +1.3**
SBF Sospel 84.52 352 eP **P** **17 33 35.2 +0.9**
SMRF Simiane la Rot 84.56 353 eP **P** **17 33 36.2 +1.7**
comp=Z,64nm,1.1s,mb5.4
PRAF Pradon 84.77 353 eP **P** **17 33 37.5 +2.0**
TAVF Tavernes 84.88 353 eP **P** **17 33 37.7 +1.6**
FRF La Foret Royal 84.89 352 eP **P** **17 33 36.9 +0.7**
comp=Z,68nm,1.2s,mb5.4
PUYF Puyloubier 85.00 353 eP **P** **17 33 38.2 +1.5**
LMR La Mourre 85.13 352 eP **P** **17 33 38.3 +0.9**
comp=Z,32nm,1.0s,mb5.1
GELF Grande-Etoile 85.16 353 eP **P** **17 33 38.9 +1.4**
MTLF Montolieu 85.41 355 eP **P** **17 33 40.0 +1.3**
comp=Z,63nm,0.8s,mb5.5
PGF Pioggiola 85.67 350 eP **P** **17 33 41.1 +1.1**
comp=Z,142nm,0.9s,mb5.9
SJPF Ste Jean 85.76 358 eP **P** **17 33 41.9 +1.4**
comp=Z,20nm,0.7s,mb5.2
EPF Esparros 85.80 357 eP **P** **17 33 40.8 +0.2**
comp=Z,20nm,0.9s,mb5.0
LPEF Le Peyrat 85.81 356 eP **P** **17 33 42.2 +1.5**
RKT Rikitea 85.84 136 eLR LR 18 00 40.6
comp=Z,277nm,32.8s
MLS Moulis 85.84 356 eP **P** **17 33 42.0 +1.1**
ETSF Etsaut 85.96 357 eP **P** **17 33 42.6 +1.2**
comp=Z,30nm,0.8s,mb5.3
MIB Mutribah 87.33 317 eP **P** **17 33 49.4 +0.9**
MIB AMb AMB 17 33 50.6
comp=Z,165nm,0.8s
UMR Umm Al-Rimmam 87.39 317 eP **P** **17 33 48.7 0.0**
UMR AMb AMB 17 33 49.9
comp=Z,63nm,0.7s,mb6.0
KBD Kabd 87.72 317 eP **P** **17 33 50.8 +0.4**
TIP Timpagrande 87.91 344 eP **P** **17 33 50.8 -0.2**
RDF Al-Radifah 88.00 317 eP **P** **17 33 52.6 +0.9**
RDF AMb AMB 17 33 53.8
comp=Z,95nm,0.9s,mb6.0
STKA Stephens Creek 88.33 209⇑iP **P** **17 33 54.2 +1.0**
comp=Z,3.4nm,1.1s,mb4.5
STKA Stephens Creek 88.33 209 P **P** **17 33 53.6 +0.4**
comp=Z,2.8nm,0.7s,mb4.6,baz=23,slow=5.5,SNR=5.3
ESDC Sonseca Array 89.23 360 P **P** **17 33 57.2 -0.1**
comp=Z,2.9nm,0.7s,mb4.7,baz=355,slow=4.7,SNR=9.5
SDV Santo Domingo 97.22 66 LR LR 18 23 13.0
comp=Z,92nm,18.8s,MS4.3,baz=220,slow=38
ROSC El Rosal 98.31 71 LR LR 18 17 39.6
comp=Z,58nm,20.4s,MS4.1,baz=36,slow=34
PLCA Paso Flores 134.16 104 PKP PKPdf 17 40 18.9 +1.0
comp=Z,1.5nm,0.6s,baz=78,slow=16,SNR=7.0
PLCA Paso Flores 134.16 104 PKIKP PKPdf 17 40 18.9 +1.0
PLCA pmax pmax
comp=Z,2.0nm,0.6s
MAW Mawson 144.56 217 eP PKPbc 17 40 35.5 +0.2
comp=Z,11nm,1.0s
MAW Mawson 144.56 217 PKP PKPdf 17 40 35.9 +0.4
comp=Z,9.6nm,0.8s,baz=91,slow=3.4,SNR=27
MAW Mawson 144.56 217 PKIKP PKPdf 17 40 35.9 +0.4
MAW pmax pmax
comp=Z,10.0nm,0.8s
PMSA Palmer Station 147.03 137 PKP PKPdf 17 40 40.7 +0.8
BOSA Boshof 148.35 305 PKPbc PKPdf 17 40 47.4 +4.3
comp=Z,7.2nm,0.9s,baz=346,slow=2.5,SNR=7.0
BOSA Boshof 148.35 305 PKP PKPdf 17 40 45.0 +1.9
BOSA Boshof 148.35 305 PKP2 PKPab 17 40 47.4 -4.5
BOSA pmax pmax
comp=Z,7.0nm,0.9s

NIED ***05*** *17:51:00,25.80N×124.80E,h119km,Mw5.2 Best double couple: M0 6.89×10 16 NP1:φs 31°,δ64°,λ-70°. NP2:φs 171°, δ32°,λ-125°.*
ORF ***05*** *17:51:40.8,26.24N×125.24E,h30km,mb5.5*
BJI ***05*** *17:51:44.2,25.42N×125.32E,h132km,mB5.2,mb5.0*
MOS ***05*** *17:51:47.9±1.2,25.82N×124.91E,h129km,mb5.2/33, Error ellipse: s-maj=8.4km s-min=4.8km az=111.8*
IDC ***05*** *17:51:48.3±1.7,25.71N×124.77E,h121km±14km, mb4.9/23,mb1 5.0/26,mb1mx5.0/28,mbtmp5.2/26,MS4.0/5, Ms1 4.0/5,ms1mx3.6/21,Error ellipse: s-maj=13.7km s-min=12.2km az=45.0*
JMA ***05*** *17:51:49.2±0.2,25.78N×124.82E,h116km,M5.2*
JMA Felt I J1.
NEIC ***05*** *17:51:50.2±0.1,25.80N×124.81E,mb5.1/92,Error ellipse: s-maj=4.6km s-min=3.7km az=160.0*
NEIC Recorded [1 JMA] on Ishigaki-jima, Miyako-jima and Tarama-shima, Ryukyu Islands.
HRVD ***05*** *17:51:50.2±0.3,25.71N×124.98E,h137km±2km, MW5.2/64,Centroid moment Tensor Solution. LP body waves: s43,c60;Mantle waves: s64,c133; Half duration: 1s0 Moment tensor: Scale 10 16Nm; Mrr-4.92±.20; Mθθ-1.96±.21; Mφφ6.87±.20; Mrθ-3.97±.15; Mθφ0.64±.19; Mφr-2.09±.17; Best double couple: M0 7.619×10 16 NP1: φs155°,δ43°,λ-140°. NP2:φs 34°,δ64°,λ-55°. Principal axes: T 7.434, Plg12°, Azm99°; N .361, Plg31°, Azm197°; P -7.805, Plg56°, Azm350°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 17:51:48.5±0.1,25.69N±0.02×124.89E±0.02,h134km, h134km±1.9km:pP-P,n427,σ1s13/442,mb5.0/140,14C-30D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.94**	**157**	P	**P**	**17 52 11.7**	**+0.3**
JMJ				S	**S**	**17 52 28.0**	**-0.9**
JOGS	**Gusukube**	**1.03**	**153**	P	**P**	**17 52 12.8**	**+0.5**
JOGS				S	**S**	**17 52 30.3**	**-0.1**
JTJ	**Tarama**	**1.05**	**189**	P	**P**	**17 52 12.5**	**-0.1**
JTJ				eS	**S**	**17 52 29.4**	**-1.4**
JIJ	**Ishigaki jima**	**1.48**	**207**	P	**P**	**17 52 16.7**	**-0.4**
JIJ				S	**S**	**17 52 36.6**	**-2.4**
JKRS	**Kuro-shima**	**1.65**	**209**	P	**P**	**17 52 18.7**	**-0.3**
JKRS				eS	**S**	**17 52 41.0**	**-1.3**
IRIF	**Iriomote-Funau**	**1.71**	**218**	P	**P**	**17 52 19.4**	**-0.3**
IRIF				S	**S**	**17 52 42.5**	**-1.0**
JKE	**Kume jima 2**	**1.82**	**69**	P	**P**	**17 52 20.6**	**-0.4**
JKE				eS	**S**	**17 52 45.4**	**-0.3**
HATJ	**Hateruma jima**	**1.90**	**212**	P	**P**	**17 52 21.7**	**-0.2**
HATJ				S	**S**	**17 52 47.2**	**-0.2**
YOJ	**Yonaguni jima**	**2.10**	**235**	P	**P**	**17 52 25.1**	**+0.8**
YOJ				eS	**S**	**17 52 50.9**	**-0.7**
JAGN	**Aguni-jima**	**2.30**	**66**	P	**P**	**17 52 26.8**	**-0.1**
JAGN				eS	**S**	**17 52 53.7**	**-2.5**
NAH1	**Naha**	**2.57**	**78**	P	**P**	**17 52 30.1**	**-0.4**
NAH1				eS	**S**	**17 52 59.8**	**-2.7**
JJT2	**Tamagusuku 2**	**2.61**	**79**	P	**P**	**17 52 30.6**	**-0.5**
JJT2				S	**S**	**17 53 01.5**	**-1.9**
JIH	**Iheya**	**3.07**	**63**	P	**P**	**17 52 36.0**	**-1.0**
JIH				S	**S**	**17 53 10.7**	**-3.3**
TATO	**Taipei**	**3.16**	**258**⇑	ePn	**P**	**17 52 39.9**	**+1.7**
TATO				eSn	**S**	**17 53 19.7**	**+3.7**
JOW	**Kunigami**	**3.25**	**69**	P	**P**	**17 52 37.9**	**-1.5**
	616nm,0.3s,baz=249,slow=10.0,SNR=91						
JOW				S	**S**	**17 53 13.9**	**-4.2**
	399nm,0.3s,baz=106,slow=25,SNR=16						
JOW	**Kunigami**	**3.25**	**69**	P	**P**	**17 52 38.1**	**-1.3**
JOW				S	**S**	**17 53 13.4**	**-4.7**
YHNB	**Yeheng**	**3.34**	**253**⇑	ePn	**P**	**17 52 42.2**	**+1.6**
YHNB				eSn	**S**	**17 53 18.7**	**-1.7**
NACB	**Ninganchiao**	**3.35**	**244**	ePn	**P**	**17 52 40.3**	**-0.5**
NACB				eSn	**S**	**17 53 20.3**	**-0.3**
JAM	**Amami Oshima**	**5.00**	**56**	P	**P**	**17 53 00.1**	**-2.7**
JAM				S	**S**	**17 53 54.1**	**-5.9**
JMZ	**Minamidaito 2**	**5.71**	**87**	P	**P**	**17 53 08.8**	**-3.4**
JMZ				eS	**S**	**17 54 06.4**	**-11**
QZH	**Quanzhou**	**5.75**	**264**⇑	*i*P	**P**	**17 53 13.0**	**+0.3**
QZH				S	**S**	**17 54 18.1**	**+0.1**
QZH				LR	LR		
	comp=N,5μm,4.0s						
QZH				LR	LR		
	comp=E,3μm,6.5s						
SSE	**Sheshan**	**6.30**	**330**	eP	**P**	**17 53 19.6**	**-0.6**
SSE				S	**S**	**17 54 29.9**	**-1.4**
SSE				Smax			
	comp=N,132nm,1.6s						
SSE				Smax			
	comp=E,149nm,1.4s						
SSE	**Sheshan**	**6.30**	**330**	ePn	**P**	**17 53 19.6**	**-0.6**
	comp=E,224nm,0.8s						
SSE				Sn	**S**	**17 54 29.9**	**-1.4**
SGCP	**Mt. Cagua**	**7.86**	**200**	eP	**P**	**17 53 40.7**	**-0.6**
SGCP				eS	**S**	**17 55 03.5**	**-5.6**
NJ2	**Nanjing**	**8.26**	**322**	eP	**P**	**17 53 48.0**	**+1.4**
NJ2				S	**S**	**17 55 15.6**	**-3.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,404nm,5.2s						
NJ2				LR	LR		
	comp=N,510nm,11.7s						
NJ2				LR	LR		
	comp=E,870nm,11.5s						
NJ2				LR	LR		
	comp=Z,430nm,10.5s						
CVP	**Callao Caves**	**8.44**	**200**	eP	**P**	**17 53 48.5**	**-0.5**
JNU	**Nakatsue**	**9.06**	**34**	P	**P**	**17 53 57.2**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=316,slow=3.1,SNR=5.6						
JNU				LR	LR	17 57 30.9	
	comp=Z,655nm,21.4s,baz=333,slow=38						
WHN	**Wuhan**	**10.49**	**300**	⇑P	**P**	**17 54 18.0**	**+1.8**
WHN				AMB	AMB		
	comp=Z,224nm,1.2s						
INCN	**Inchon**	**11.85**	**7**	ePn	**P**	**17 54 36.8**	**+2.7**
	comp=Z,48nm,0.6s						
KS15	**Wonju Array Si**	**11.99**	**12**	ePn	**P**	**17 54 38.9**	**+2.8**
TIA	**Tai'an**	**12.42**	**329**	eP	**P**	**17 54 45.6**	**+4.0**
TIA				AMB	AMB		
	comp=Z,61nm,0.8s						
DL2	**Dalian**	**13.46**	**349**	P	**P**	**17 54 58.2**	**+3.1**
DL2				AMB	AMB		
	comp=Z,640nm,5.2s						
ENH	**Enshi**	**14.35**	**292**	ePn	**P**	**17 55 08.3**	**+1.7**
	comp=Z,90nm,1.2s						
ENH				*e*		17 55 22.8	
QIZ	**Qiongzhong**	**15.41**	**248**	eP	**P**	**17 55 21.8**	**+1.9**
QIZ				XP		17 56 00.2	
QIZ				eS	**S**	**17 58 07.2**	**+0.4**
QIZ				AMB	AMB		
	comp=Z,36nm,1.4s						
QIZ	**Qiongzhong**	**15.41**	**248**	eP	**P**	**17 55 22.9**	**+3.0**
	comp=Z,34nm,0.8s						
MAJO	**Matsushiro**	**15.70**	**43**	ePn	**P**	**17 55 24.4**	**+0.9**
	comp=Z,21nm,0.6s						
MAJO	**Matsushiro**	**15.70**	**43**	eP	**P**	**17 55 24.4**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,21nm,0.6s						
MAT	**Matsushiro**	**15.70**	**43**	P	**P**	**17 55 23.2**	**-0.3**
MAT				S	**S**	**17 58 18.4**	**+5.1**
MAT	**Matsushiro**	**15.70**	**43**	eP	**P**	**17 55 23.0**	**-0.5**
	comp=Z,23nm,1.0s						
MAT				eS	**S**	**17 58 18.0**	**+4.7**
MAT	**Matsushiro**	**15.70**	**43**	eP	**P**	**17 55 23.0**	**-0.5**
MAT				eS	**S**	**17 58 18.0**	**+4.7**
MAT				pmax	pmax		
	comp=Z,23nm,1.0s						
MJAR	**Matsushiro Arr**	**15.70**	**43**	P	**P**	**17 55 24.5**	**+1.0**
	comp=Z,6.9nm,0.3s,baz=225,slow=9.4,SNR=71						
SNY	**Shenyang**	**16.14**	**356**⇓	*i*P	**P**	**17 55 30.5**	**+1.7**
SNY				LR	LR		
	comp=E,280nm,25.5s						
SNY				LR	LR		
	comp=Z,440nm,32.4s						
XAN	**Xi'an**	**16.15**	**305**	P	**P**	**17 55 30.9**	**+1.9**
XAN				AMB	AMB		
	comp=Z,32nm,0.7s						
GYA	**Guiyang**	**16.40**	**277**⇑	*i*P	**P**	**17 55 34.2**	**+2.0**
GYA				XP		17 56 13.2	
GYA				PCP	PcP	18 00 19.4	+1.8
GYA				SCP		18 03 39.5	
GYA				PCS		18 03 51.6	
GYA				SCS	ScS	18 07 15.3	-0.9
GYA				AMB	AMB		
	comp=Z,30nm,1.0s						
GYA				LR	LR		
	comp=N,470nm,16.2s						
GYA				LR	LR		
	comp=E,690nm,16.4s						
GYA				LR	LR		
	comp=Z,510nm,16.8s						
CN2	**Changchun**	**18.08**	**1**	eP	**P**	**17 55 51.9**	**-0.3**
CN2				eS	**S**	**17 59 06.1**	**-0.2**
CN2				AMB	AMB		
	comp=Z,340nm,1.2s						
CN2				AMB	AMB		
	comp=Z,370nm,4.0s						
VLA	**Vladivostok**	**18.31**	**17**	*i* P	**P**	**17 55 50.7**	**-4.1**
HHC	**Hu-ho-hao-te**	**18.75**	**327**	⇓P	**P**	**17 55 59.8**	**+0.3**
HHC				AMB	AMB		
	comp=Z,125nm,1.3s						
HHC				AMB	AMB		
	comp=Z,764nm,3.5s						
HHC				LR	LR		
	comp=N,434nm,10.9s						
HHC				LR	LR		
	comp=E,582nm,11.9s						
HHC				LR	LR		
	comp=Z,492nm,10.9s						
MDJ	**Mudanjiang**	**19.27**	**10**	P	**P**	**17 56 03.5**	**-1.4**
MDJ				AP		17 56 26.7	
MDJ				S	**S**	**17 59 36.7**	**+5.9**
MDJ				PCP	PcP	18 00 20.6	-1.6
MDJ				PCS		18 03 54.6	
MDJ				SCS	ScS	18 07 23.8	-0.9
MDJ				AMB	AMB		
	comp=Z,15nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,168nm,4.8s						
MDJ	**Mudanjiang**	**19.27**	**10**	eP	**P**	**17 56 03.7**	**-1.2**
	comp=Z,10nm,0.6s						
CD2	**Chengdu**	**19.31**	**290**⇓	*i*P	**P**	**17 56 05.2**	**-0.3**
CD2				K		17 59 32.8	
CD2				AMB	AMB		
	comp=Z,20nm,1.2s						
KMI	**Kunming**	**20.02**	**273**	P	**P**	**17 56 13.6**	**+0.8**
KMI				PP	PP	17 56 40.8	+4.7
KMI				XP		17 56 55.8	
KMI				S	**S**	**17 59 46.6**	**+1.3**
KMI				SS	SS	18 00 26.9	+2.4
KMI				SSS	SSS	18 00 36.9	-7.8
KMI				AMB	AMB		
	comp=Z,31nm,0.9s						
KMI				AMB	AMB		
	comp=Z,163nm,5.8s						
KMI				LR	LR		
	comp=N,1μm,9.5s						
KMI				LR	LR		
	comp=E,752nm,9.5s						
KMI				LR	LR		
	comp=Z,549nm,12.5s						
KMI	**Kunming**	**20.02**	**273**	P	**P**	**17 56 13.6**	**+0.8**
	comp=Z,31nm,0.9s						
KMI				PP	PP	17 56 40.8	+4.7
KMI				PPP	PPP	17 56 50.8	+2.5
KMI				sP		17 56 55.8	
KMI				S	**S**	**17 59 46.6**	**+1.3**
KMI				SS	SS	18 00 26.9	+2.4
KMI				SSS	SSS	18 00 36.9	-7.8
KMI	**Kunming**	**20.02**	**273**	P	**P**	**17 56 13.6**	**+0.8**
KMI						17 56 40.8	
KMI				*SP		17 56 55.8	
KMI				S	**S**	**17 59 46.6**	**+1.3**
KMI				SS	SS	18 00 26.9	+2.4
KMI				pmax	pmax		
	comp=Z,31nm,0.9s						
LZH	**Lanzhou**	**20.79**	**305**	eP	**P**	**17 56 20.3**	**-0.2**
LZH				AP		17 56 47.5	
LZH				PP	PP	17 56 50.4	+3.6
LZH				XP		17 57 06.0	
LZH				S	**S**	**17 59 58.5**	**-1.2**
LZH				SS	SS	18 00 43.7	+1.1
LZH				AMB	AMB		
	comp=Z,133nm,1.3s						
LZH				AMB	AMB		
	comp=Z,789nm,5.0s						
LZH	**Lanzhou**	**20.79**	**305**	eP	**P**	**17 56 20.3**	**-0.2**
	comp=Z,133nm,1.3s						
LZH				pP		17 56 47.5	
LZH				PP	PP	17 56 50.4	+3.6
LZH				sP		17 57 06.0	
LZH				S	**S**	**17 59 58.5**	**-1.2**
LZH				sS		18 00 41.6	
LZH				SS	SS	18 00 43.7	+1.1
LZH	**Lanzhou**	**20.79**	**305**	eP	**P**	**17 56 20.3**	**-0.2**
LZH				*PP		17 56 47.5	
LZH				*SP		17 57 06.0	
LZH				S	**S**	**17 59 58.5**	**-1.2**
LZH				*SS		18 00 41.6	
LZH				pmax	pmax		
	comp=Z,133nm,1.3s						
KKM	**Kota Kinabalu**	**21.22**	**204**	eP	**P**	**17 56 26.1**	**+1.1**
ASAJ	**Asahikawa**	**23.34**	**34**	P	**P**	**17 56 43.9**	**-1.6**
	comp=Z,14nm,0.3s,mb4.9,baz=231,slow=12,SNR=43						
ASAJ				PcP	PcP	18 00 27.9	-2.1
	comp=Z,4.8nm,0.6s,baz=180,slow=3.0,SNR=6.0						
CHRT	**Chiangrai**	**23.84**	**261**	⇓P	**P**	**17 56 52.0**	**+1.5**
	comp=Z,260nm,0.9s,mb5.8						
HIA	**Hailar**	**23.88**	**352**	eP	**P**	**17 56 49.6**	**-0.9**
	comp=Z,141nm,1.1s,mb5.4						
HIA	**Hailar**	**23.88**	**352**	eP	**P**	**17 56 49.6**	**-1.0**
HIA				pmax	pmax		
	comp=Z,141nm,1.1s						
KLR	**Kul'dur**	**24.10**	**11**	eP	**P**	**17 56 48.7**	**-4.0**
KLR				*e*		17 57 33.8	
KLR				pmax	pmax		
	comp=E,30nm,1.4s						
KLR				pmax	pmax		
	comp=Z,40nm,1.4s,mb4.8						
CHG	**Chiang Mai**	**24.94**	**259**	⇓P	**P**	**17 57 00.9**	**-0.1**
	comp=Z,24nm,0.8s,mb4.8						
GTA	**Gaotai**	**25.08**	**309**	eP	**P**	**17 57 01.2**	**-0.9**
GTA				AP	pP	17 57 30.0	0.0
GTA				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,238nm,5.7s						
GTA				LR	LR		
	comp=N,437nm,14.8s						
GTA				LR	LR		
	comp=E,256nm,14.1s						
GTA				LR	LR		
	comp=Z,247nm,12.6s						
NST	**Nakhon Sawan**	**25.17**	**252**	P	**P**	**17 57 02.0**	**-1.1**
YSS	**Yuzh-Sakhalins**	**25.53**	**29**	eP	**P**	**17 57 03.8**	**-2.4**
	comp=Z,35nm,0.5s,mb5.2						
YSS	**Yuzh-Sakhalins**	**25.53**	**29**	eP	**P**	**17 57 05.0**	**-1.2**
YSS				*PP	pP	17 57 29.9	-4.3
YSS				ePPP	PPP	17 57 52.0	-12
YSS				S	**S**	**18 01 10.0**	**-11**
YSS				eSS	SS	18 01 56.0	-41
YSS				pmax	pmax		

comp=Z,50nm,0.6s,mb5.3
ULN Ulaanbaatar 26.22 332 *e*P P **17 57 11.8 -0.8**
comp=Z,143nm,1.1s,mb5.5
ULN Ulaanbaatar 26.22 332⇑*i*P P **17 57 11.6 -1.0**
ZAK Zakamensk 29.75 332 *e*P P **17 57 42.1 -2.2**
ZAK pmax pmax
comp=Z,5.0nm,0.8s
ZAK pmax pmax
comp=Z,3.0nm,0.8s
LSA Lhasa 30.08 285 P P **17 57 48.2 +0.7**
LSA AMB AMB
comp=Z,30nm,0.7s,mb5.1
LSA Lhasa 30.08 285 *e*P P **17 57 48.0 +0.5**
comp=Z,44nm,0.8s,mb5.2
LSA *e*PcP PcP 18 00 46.4 +0.4
LSA Lhasa 30.08 285 *e*P P **17 57 48.0 +0.5**
LSA *e* 18 00 46.4
LSA pmax pmax
comp=Z,44nm,0.8s,mb5.2
IRK Irkutsk 30.77 335 *e*P P **17 57 51.5 -1.8**
IRK *e* 17 58 33.5
IRK *e* 17 59 02.3
IRK pmax pmax
comp=Z,75nm,1.8s,mb5.1
CLNS Chul'man 31.12 0 *e*P P **17 57 54.6 -1.8**
CLNS pmax pmax
comp=Z,23nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,22nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
MOY Mondy 31.67 331 *e*P P **17 57 59.8 -1.4**
MOY pmax pmax
comp=Z,135nm,1.8s,mb5.4
BOD Bodaibo 33.03 349 *e*P P **17 58 09.7 -3.2**
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
PBA Port Blair 33.39 251 *ex* x 18 00 54.6
WMQ Urumqi 35.15 311⇓*i*P P **17 58 30.4 -0.6**
WMQ AP pP 17 59 03.0 +2.3
WMQ PP PP 17 59 54.0 -0.2
WMQ PCP PcP 18 01 00.0 +0.3
WMQ S **S** **18 03 51.0 -2.2**
WMQ SCS ScS 18 08 34.0 -0.4
WMQ AMB AMB
comp=Z,43nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,315nm,5.8s
PKI Pulchoki 35.24 282 *e*P P **17 58 31.8 -0.2**
comp=Z,80nm,0.7s,mb5.5
KKN Kakani 35.34 282 *e*P P **17 58 32.6 -0.2**
comp=Z,143nm,0.8s,mb5.7
DMN Daman 35.51 282 *e*P P **17 58 34.0 -0.2**
comp=Z,96nm,0.7s,mb5.5
GKN Gorkha 35.88 283 *e*P P **17 58 37.0 -0.4**
comp=Z,66nm,0.6s,mb5.4
YAK Yakutsk 36.48 4 *e*P P **17 58 40.0 -2.0**
comp=Z,14nm,0.6s,mb4.8
YAK *e*PcP PcP 18 01 02.6 -0.9
YAK Yakutsk 36.48 4⇓*e*P P **17 58 39.4 -2.7**
YAK *e* 18 00 14.5
YAK *i* 18 00 35.3
YAK *i* 18 08 37.5
YAK pmax pmax
comp=Z,21nm,0.9s,mb4.8
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
KOLN Koldanda 36.82 283 *e*P P **17 58 45.4 +0.1**
comp=Z,95nm,0.8s,mb5.5
PET Petropavlovsk 37.19 34 *e*P P **17 58 46.8 -1.3**
comp=Z,39nm,0.6s,mb5.2
PET Petropavlovsk 37.19 34 *e*P P **17 58 47.2 -0.9**
PET *e*S **S** **18 04 29.1 +4.8**
PET pmax pmax
comp=Z,66nm,0.5s,mb5.5
PET smax
comp=N,200nm,24.3s
PET MLR MLR
comp=Z,100nm,17.0s
MA2 Magadan 38.35 21 *e*P P **17 58 55.8 -2.0**
comp=Z,20nm,0.8s,mb4.8
MA2 *e*pP pP 17 59 27.2 -0.5
MA2 *e*PcP PcP 18 01 09.0 -0.2
MA2 Magadan 38.35 21 *e*P P **17 58 55.8 -1.9**
MA2 *e**PP pP 17 59 27.2 -0.5
MA2 *e* 18 01 09.0
MA2 pmax pmax
comp=Z,20nm,0.8s,mb4.8
KAKA Kakadu 38.87 168⇑*i*P P **17 59 18.5 +16**
comp=Z,37nm,0.8s,mb5.1
KAKA *e* pP 17 59 48.9 +16
BLSP Bilaspur 39.13 274 *e*P P **17 59 04.9 +0.3**
BLSP AMb AMB 17 59 06.2
comp=Z,38nm,0.7s,mb5.1
VIS Vishakhapatnam 39.29 267 *e*P P **17 59 07.3 +1.3**
VIS AMb AMB 17 59 08.8
comp=Z,38nm,0.5s,mb5.3
PTH Pithoragarh 39.59 286 *e*P P **17 59 09.0 +0.7**
PTH *ex* x 18 01 14.0
MKAR Makanchi Array 39.69 313 P P **17 59 08.0 -0.9**
comp=Z,38nm,0.5s,mb5.3,baz=98,slow=11,SNR=598
MKAR PcP PcP 18 01 12.4 -1.3
comp=Z,24nm,0.7s,baz=86,slow=4.2,SNR=16
MKAR ScP 18 04 48.7
comp=Z,1.2nm,0.7s,baz=120,slow=4.6,SNR=5.4
ZAL Zalesovo 40.91 324 P P **17 59 17.8 -1.1**
comp=Z,66nm,0.5s,mb5.5,baz=358,slow=7.5,SNR=184
ZAL PcP PcP 18 01 16.1 -1.3
comp=Z,4.0nm,0.5s,baz=310,slow=1.9,SNR=3.8
ZAL ScP 18 04 54.4
comp=Z,2.9nm,0.6s,baz=342,slow=4.3,SNR=7.4
PMG Port Moresby 41.07 145 *e*P P **17 59 20.7 +0.1**
SEY Seymchan 41.45 19⇑*i*P P **17 59 21.7 -1.6**
NVS Novosibirsk 42.13 325 *i*P P **17 59 26.2 -2.7**
NVS *e* 18 00 07.6
NVS *e* 18 01 05.8
NVS *e*S **S** **18 05 30.5 -7.4**
NVS pmax pmax
comp=N,32nm,1.6s
NVS pmax pmax
comp=E,54nm,1.6s
NVS pmax pmax
comp=Z,70nm,1.6s,mb5.0
NVS pmax pmax
comp=Z,16nm,1.8s,mb4.3
NVS pmax pmax
comp=N,17nm,1.7s
NVS pmax pmax
comp=E,13nm,1.5s
NVS smax
comp=N,14nm,1.7s
NVS smax
comp=E,21nm,2.2s
NGP Nagpur 42.15 274 *e*P P **17 59 29.9 +0.4**
KSH Kashi 42.96 301 *e*P P **17 59 37.5 +1.7**
KSH *e*AP pP 18 00 08.3 +2.2
KSH *e*PP PP 18 01 18.1 -1.5
KSH *e*PCP PcP 18 01 27.0 +2.6
KSH *e*PPP PPP 18 01 56.4 -0.9
KSH *e*SCP 18 05 01.4
KSH *e*PCS 18 05 15.7
KSH *e*S **S** **18 05 50.2 0.0**
KSH *e*SCS ScS 18 09 15.7 -4.1
KSH AMB AMB
comp=Z,210nm,2.1s,mb5.4
KSH LR LR
comp=N,350nm,6.8s
KSH LR LR
comp=E,430nm,5.9s
ULHL Ulahol 43.00 305 P P **17 59 37.3 +1.2**
SNR=15
BHPL Bhopal 43.10 277 *e*P P **17 59 36.8 -0.3**
BHPL AMb AMB 17 59 39.3
comp=Z,29nm,0.8s,mb4.9
KURK Kurchatov 43.17 318 *e*P P **17 59 36.0 -1.4**
comp=Z,32nm,0.6s,mb5.1
KURK Kurchatov 43.17 318 P P **17 59 36.1 -1.3**
KURK pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
FITZ Fitzroy Crossi 43.53 179⇑*i*P P **17 59 40.0 -0.7**
comp=Z,59nm,0.7s,mb5.3

TKM2 Tokmak 2 43.55 306 P P **17 59 41.0 +0.5**
SNR=145
HYB Hyderabad 43.70 269 *i*P P **17 59 42.0 0.0**
HYB *e*PcP PcP 18 01 27.0 -0.2
HYB Hyderabad 43.70 269 *e*P P **17 59 42.0 0.0**
KZA Kyzart 43.71 305 P P **17 59 43.1 +1.3**
SNR=70
KBK Karagaybulak 43.99 306 P P **17 59 44.6 +0.5**
SNR=35
AKL Akola 44.10 274 *ex* x 18 01 55.0
CHMS Chumysh 44.17 306 P P **17 59 45.4 -0.1**
SNR=38
FRU Bishkek 44.26 306 *e*P P **17 59 45.0 -1.2**
FRU *e* pP 18 00 13.0 -3.6
FRU pmax pmax
comp=Z,80nm,1.6s,mb5.1
UCH Uchtor 44.27 305 P P **17 59 47.7 +1.4**
SNR=110
AAK Ala-Archa 44.33 306 P P **17 59 46.9 +0.2**
SNR=15
AAK Ala-Archa 44.33 306 *e*P P **17 59 45.7 -1.1**
comp=Z,18nm,0.7s,mb4.8
AAK Ala-Archa 44.33 306 *e*P P **17 59 45.7 -1.0**
AAK pmax pmax
comp=Z,18nm,0.7s,mb4.8
USP Ospenovka 44.39 306 P P **17 59 47.0 -0.2**
SNR=31
EKS2 Erkin-Say 44.85 306 P P **17 59 50.9 -0.1**
SNR=44
AML Almayashu 44.87 305 P P **17 59 51.9 +0.8**
SNR=70
FX1 Attu Island--F 45.02 40 P P **17 59 52.5 +0.4**
comp=Z,105nm,0.5s,mb5.7,baz=264,slow=2.8,SNR=43
FX1 LR LR 18 16 25.4
comp=Z,11µm,21.4s,baz=330,slow=33
TIXI Tiksi 46.05 2 *i*Pr P **17 59 56.5 -3.6**
WRAB Tennant Creek 46.27 168 *e*P P **18 00 01.8 -0.6**
comp=Z,27nm,0.8s,mb4.9
WRAB *e*pP pP 18 00 31.2 -1.8
WRAB Tennant Creek 46.27 168 *e*P P **18 00 01.8 -0.6**
WRAB *e**PP pP 18 00 31.3 -1.8
WRAB pmax pmax
comp=Z,27nm,0.8s,mb4.9
WRA Warramunga Arr 46.27 168 P P **18 00 01.7 -0.8**
comp=Z,16nm,0.7s,mb4.7,baz=350,slow=8.4,SNR=121
WRA pP pP 18 00 31.3 -1.8
comp=Z,10nm,0.7s,baz=344,slow=8.3,SNR=7.9
WRA S **S** **18 06 37.2 -0.9**
comp=Z,2.3nm,1.0s,baz=348,slow=14,SNR=5.2
WB2 Warramunga Arr 46.28 168 *e*P P **18 00 01.8 -0.7**
WB2 *e* pP 18 00 32.6 -0.6
WB2 *e*S **S** **18 06 38.1 0.0**
KKAR Karatay Array 47.28 306 *i*P P **18 00 09.3 -0.8**
POO Poona 47.59 272 *e*P P **18 00 12.9 +0.2**
POO AMb AMB 18 00 14.5
comp=Z,45nm,0.7s,mb5.2
KAD Karad 47.67 270 *e*P P **18 00 13.2 -0.2**
KAD AMb AMB 18 00 16.7
comp=Z,32nm,1.3s,mb4.8
VOSK Vostochnaya 48.28 319 *i*P P **18 00 15.6 -2.1**
BVA0 Borovoye Array 48.70 319 *i*P P **18 00 19.6 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 48.70 319 P P **18 00 19.2 -1.7**
comp=Z,11nm,0.5s,mb4.7,baz=106,slow=8.7,SNR=8.1
BVAR PcP PcP 18 01 43.2 -1.2
comp=Z,30nm,0.6s,baz=107,slow=3.4,SNR=22
BVAR ScP 18 05 24.5
comp=Z,3.1nm,0.7s,baz=90,slow=4.4,SNR=3.7
BRVK Borovoye 48.77 319 *e*P P **18 00 20.0 -1.4**
comp=Z,10nm,0.6s,mb4.6
BRVK *e*PcP PcP 18 01 43.6 -1.1
BRVK Borovoye 48.77 319 *e*P P **18 00 20.0 -1.4**
BRVK *e* 18 01 43.6
BRVK pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
BILL Bilibino 49.15 19 *e*P P **18 00 17.7 -6.5**
BILL Bilibino 49.15 19*d i*P P **18 00 21.5 -2.7**
BILL *e**PP pP 18 00 54.1 -1.1
BILL *i* 18 01 45.3
BILL pmax pmax
comp=Z,15nm,1.6s,mb4.4
BILL MLR MLR
comp=Z,100nm,23.0s
AB31 Akbulak array 54.83 313 *i*P P **18 01 05.4 -1.4**
SVE Sverdlovsk 54.86 323⇓*e*P P **18 01 05.4 -1.6**
SVE *e* 18 02 06.7
SVE *e*S **S** **18 08 44.0 +8.3**
SVE pmax pmax
comp=Z,240nm,0.8s
ARU Arti 55.97 322 *e*P P **18 01 12.9 -2.0**
comp=Z,152nm,0.6s,mb6.0
ARU Arti 55.97 322⇓*i*P P **18 01 13.0 -1.9**
ARU *e* 18 02 06.5
ARU *e* 18 03 16.4
ARU *e*S **S** **18 08 52.4 +1.9**
ARU *e*SS SS 18 12 40.4 +1.9
ARU pmax pmax
comp=Z,134nm,0.6s,mb6.0
FORT Forrest 56.23 177 *e*P P **18 01 16.6 -0.6**
comp=Z,23nm,1.2s,mb4.9
FORT *i* 18 02 12.7
KLBR Kellerberrin 57.36 187 *e*P P **18 01 24.0 -1.1**
comp=Z,40nm,1.0s,mb5.2
NWAO Narrogin (SRO) 58.74 188 *e*P P **18 01 34.8 +0.1**
NWAO *e*pP pP 18 02 05.8 -0.9
STKA Stephens Creek 59.42 163 *e*P P **18 01 38.2 -1.2**
comp=Z,6.6nm,0.6s,mb4.6
STKA *e* pP 18 02 09.4 -2.1
STKA Stephens Creek 59.42 163 P P **18 01 37.7 -1.7**
comp=Z,13nm,0.9s,mb4.8,baz=338,slow=7.5,SNR=20
STKA Stephens Creek 59.42 163 *e*P P **18 01 38.6 -0.9**
STKA *e* pP 18 02 09.4 -2.1
STKA *e*pP pP 18 02 09.6 -1.9
WBK Wadi Bani Khal 59.67 282 P P **18 01 41.3 0.0**
SNR=7.2
BIDO Bidbid 60.14 283 P P **18 01 44.8 +0.3**
SNR=12
SMDO Samad 60.35 283 P P **18 01 45.7 -0.2**
SNR=17
JMDO Jabal Madar 60.51 282 P P **18 01 46.5 -0.4**
SNR=11
SDPT Sand Point 60.63 39 *e*P P **18 01 44.9 -2.4**
HOQ Hoqain 60.84 284 P P **18 01 49.4 +0.2**
SNR=7.7
BANOM Banah 61.05 287⇓P P **18 01 50.5 -0.1**
BSY Bisya 61.19 283 P P **18 01 51.2 -0.4**
SNR=18
ARQ Araqi 61.61 284 P P **18 01 54.1 -0.3**
SNR=14
ASHO Ashiyiah 61.61 285⇑P P **18 01 54.2 -0.2**
CHGN Chignik 61.73 38 *e*P P **18 01 52.2 -2.5**
SVW2 Sparrevohn 62.84 32 *e*P P **18 02 01.1 -1.0**
IMA Indian Mountai 63.36 27 *e*P P **18 02 04.9 -0.5**
RSO Redoubt South 64.28 33 *e*P P **18 02 11.7 +0.3**
SPU Mount Spurr 64.54 32 *e*P P **18 02 12.7 -0.3**
KDAK Kodiak Island 64.73 36 *e*P P **18 02 13.2 -1.2**
CNB Canberra Magne 64.94 158 *e*P P **18 02 16.7 +0.6**
comp=Z,14nm,0.9s,mb4.8
SLKM Skilak Lake 65.52 33 *e*P P **18 02 18.6 -0.8**
RBK Rabkut 65.57 278 P P **18 02 19.3 -1.1**
SNR=14
WHFO Wadi Hawf 65.81 279 P P **18 02 20.4 -1.5**
SNR=14
TOO Toolangi 65.83 162⇓*i*P P **18 02 21.7 -0.1**
comp=Z,4.3nm,0.6s,mb4.5
TOO Toolangi 65.83 162⇓*i*P P **18 02 21.7 -0.1**
TOO pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
PMR Palmer 65.87 32 *e*P P **18 02 19.7 -1.9**
SML Sawmill 66.21 31 *e*P P **18 02 22.9 -0.9**
ILAR Eielson Array 66.33 28 P P **18 02 22.4 -2.0**
comp=Z,24nm,0.8s,mb5.1,baz=256,slow=4.7,SNR=157
VRHR Novokhopersk 66.34 317 *e*P P **18 02 22.3 -2.5**
VRHR pmax pmax
comp=Z,60nm,0.6s,mb5.6
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.9s
ABTO Aybut 66.43 279⇓P P **18 02 25.7 -0.2**
SNR=7.6
LVZ Lovozero 66.57 336 *e*P P **18 02 25.1 -0.9**
LVZ pmax pmax
comp=Z,60nm,1.7s,mb5.2
LVZ pmax pmax
comp=N,32nm,1.5s
LVZ pmax pmax
comp=E,10.0nm,0.6s
GNI Garni 66.72 305 *e*P P **18 02 27.8 +0.4**
comp=E,60nm,1.6s,mb5.2
GNI Garni 66.72 305*d i*P P **18 02 27.1 -0.3**
GNI pmax pmax
comp=Z,59nm,1.7s
GOF Gofitskoye 66.75 310⇓*i*P P **18 02 25.6 -1.9**
GOF pmax pmax
comp=Z,20nm,1.3s,mb4.8
THY Trims Highway 67.08 29 *e*P P **18 02 28.5 -0.7**
APA Apatity 67.10 335⇓*i*P P **18 02 28.0 -1.3**
APA *i* 18 02 54.0
APA pmax pmax
comp=Z,30nm,0.8s,mb5.2
KIV Kislovodsk 67.26 309 *e*P P **18 02 30.8 +0.1**
comp=Z,61nm,0.8s,mb5.5
KIV Kislovodsk 67.26 309 *e*P P **18 02 30.8 +0.1**
KIV pmax pmax
comp=Z,61nm,0.8s,mb5.5
UMR Umm Al-Rimmam 67.29 293 *e*P P **18 02 30.0 -1.1**
UMR AMb AMB 18 02 33.4
comp=Z,42nm,0.7s,mb5.4
KBD Kabd 67.42 293 *e*P P **18 02 31.6 -0.3**
MIB Mutribah 67.53 293 *e*P P **18 02 32.0 -0.6**
MIB AMb AMB 18 02 34.4
comp=Z,61nm,0.6s,mb5.5
DIV Divide 67.55 32 *e*P P **18 02 32.0 -0.1**
comp=Z,561nm,0.6s
RDF Al-Radifah 67.62 292 *e*P P **18 02 32.7 -0.5**
RDF AMb AMB 18 02 33.8
comp=Z,69nm,0.5s,mb5.6
MOS Moscow 67.67 322 *e*P P **18 02 29.8 -3.2**
MOS *e* 18 03 19.5
MOS pmax pmax
comp=Z,100nm,0.6s,mb5.7
MOS pmax pmax
comp=Z,119nm,0.7s,mb5.7
EYAK Cordova Ski Ar 67.68 32 *e*P P **18 02 32.8 -0.2**
VORD Divnogorie 67.81 317 *e*P P **18 02 32.0 -1.9**
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,4.0nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s,mb5.0
MENT Mentasta 68.08 30 *e*P P **18 02 35.3 -0.1**
OBN Obninsk 68.41 322 *e*P P **18 02 36.0 -1.6**
comp=Z,47nm,0.7s,mb5.3
OBN Obninsk 68.41 322*d i*P P **18 02 35.4 -2.2**
OBN *e**PP pP 18 03 02.4 -8.0
OBN pmax pmax
comp=Z,42nm,0.6s,mb5.3
OBN MLR MLR
comp=Z,100nm,18.0s
KEV Kevo 68.84 338 *ep* P **18 02 38.0 -2.0**
comp=Z,20nm,0.6s,mb5.0
KEV Kevo 68.84 338 *e*P P **18 02 38.0 -2.0**
KEV pmax pmax
comp=Z,20nm,0.6s,mb5.0
JOF Joensuu 69.05 331 *ep* P **18 02 40.1 -1.3**
comp=Z,33nm,0.5s,mb5.3
ARCES ARCESS Array B 69.40 338 P P **18 02 41.9 -1.5**
comp=Z,7.7nm,0.7s,mb4.5,baz=71,slow=8.3,SNR=21
ARCES LR LR 18 38 09.6
comp=Z,78nm,18.2s,baz=63,slow=40
ARCES ARCESS Array B 69.40 338 P P **18 02 41.9 -1.5**
ARCES LR LR 18 38 09.6
INK Inuvik 70.56 23 P P **18 02 49.3 -1.1**
comp=Z,19nm,0.6s,mb5.0,baz=298,slow=6.4,SNR=66
INK PcP PcP 18 03 10.5 -0.3
comp=Z,17nm,0.8s,baz=274,slow=2.3,SNR=6.3
ANN Anapa 70.66 311 *e*P P **18 02 46.9 -4.5**
ANN pmax pmax
comp=Z,102nm,1.4s,mb5.4
KAF Kangasniemi 71.51 331 *ep* P **18 02 54.0 -2.2**
comp=Z,13nm,0.7s,mb4.8,baz=69,slow=5.6
KAF Kangasniemi 71.51 331 *e*P P **18 02 54.0 -2.2**
KAF pmax pmax
comp=Z,13nm,0.7s,mb4.8
FINES FINESS Array B 71.84 330 P P **18 02 57.0 -1.1**
comp=Z,15nm,0.5s,mb5.0,baz=61,slow=7.0,SNR=123
MALT Malatya 71.94 304 *e*P P **18 03 00.2 +1.0**
comp=Z,15nm,0.6s,mb4.9
MALT *e*pP pP 18 03 32.2 -0.2
MALT Malatya 71.94 304 *e*P P **18 03 00.2 +1.0**
MALT *e**PP pP 18 03 32.2 -0.2
MALT pmax pmax
comp=Z,15nm,0.6s,mb4.9
VSU Vasula 72.58 327 *e*P P **18 03 01.5 -1.0**
SIM Simferopol' 72.85 312*c i*P P **18 03 04.5 +0.1**
SIM pmax pmax
comp=Z,40nm,0.7s,mb5.3
SIT Sitka 73.90 34 *e*P P **18 03 11.3 +1.0**
comp=Z,83nm,0.8s,mb5.5
SIT Sitka 73.90 34 *e*P P **18 03 11.3 +1.0**
SIT pmax pmax
comp=Z,83nm,0.8s,mb5.5
AKASG Malin Array Be 73.98 319 P P **18 03 08.9 -1.9**
comp=Z,19nm,0.5s,mb5.1,baz=57,slow=6.8,SNR=102
BR131 Keskin Array S 74.98 307 *e*P P **18 03 16.2 -0.6**
comp=Z,4.5nm,0.6s,mb4.3
BRTR Keskin Array B 74.98 307 P P **18 03 15.9 -0.8**
comp=Z,8.4nm,0.7s,mb4.5,baz=86,slow=4.7,SNR=29
ASF Jabal al Asfar 75.21 299 P P **18 03 18.7 +0.4**
baz=173,slow=1.5
DLBC Dease Lake 75.93 32 P P **18 03 23.4 +1.7**
comp=Z,57nm,0.8s,mb5.3,baz=290,slow=7.1,SNR=86
SUW Suwalki 76.12 323 *e*P P **18 03 22.5 -0.4**
VRI Vrincioaia 77.36 315 P P **18 03 31.1 +1.1**
ISP Isparta 77.95 306 *i*Pr P **18 03 32.3 -1.1**
MLR Muntele Rosu 78.01 315 P P **18 03 34.4 +0.8**
KWP Kalwaria 78.25 320 *e*P P **18 03 35.0 +0.2**
NB2 NORSAR Subarra 78.45 333 P P **18 03 34.8 -0.8**
comp=Z,12nm,0.7s,mb4.6,baz=57,slow=5.3
NB2 NORSAR Subarra 78.45 333 P P **18 03 34.8 -0.8**
baz=57,slow=5.3
NB2 NORSAR Subarra 78.45 333 P P **18 03 34.8 -0.8**
NB2 pmax pmax
comp=Z,12nm,0.7s,mb4.6
NOA NORSAR Array B 78.45 333 P P **18 03 34.5 -1.2**
comp=Z,7.1nm,0.6s,mb4.5,baz=54,slow=5.6,SNR=46
NOA PP PP 18 06 31.9 -4.4
comp=Z,1.1nm,0.7s,baz=79,slow=7.1,SNR=4.0
NOA LR LR 18 45 33.4
comp=Z,70nm,18.0s,baz=45,slow=41
NAO01 NORSAR Array S 78.69 333 *e*P P **18 03 36.2 -0.7**
comp=Z,4.4nm,0.7s,mb4.2
KOLS Kolonicke sedl 78.81 319 *e*P P **18 03 37.8 0.0**
KOLS *e* 18 03 45.3
STHS Stebnicka Huta 79.20 320 *e*P P **18 03 40.1 +0.2**
CRVS Cervenica-Dubn 79.30 319 *e*P P **18 03 40.8 +0.3**
DRGR 79.49 317 P P **18 03 41.2 -0.4**
OJC Ojcow 79.66 321⇓*e*P P **18 03 42.4 0.0**
KONO Kongsberg 79.89 332 *e*P P **18 03 43.3 -0.1**
KECS Kecovo 80.07 319 *i*P P **18 03 44.9 +0.2**
YKA Yellowknife Ar 80.26 24 P P **18 03 45.1 -0.3**
comp=Z,18nm,0.6s,mb4.9,baz=302,slow=5.2,SNR=158
YKA pP pP 18 04 18.7 -0.5
comp=Z,1.4nm,0.6s,baz=305,slow=5.2,SNR=0.9
YKA PKKPbc 18 22 25.2
comp=Z,1.4nm,0.5s,baz=127,slow=2.5,SNR=19
RZN Rozhen 80.43 312 *i*P P **18 03 46.5 -0.2**
PSZ Piszkesteto 80.68 319⇓*e*P P **18 03 49.1 +1.2**
PSZ Piszkesteto 80.68 319 *e*P P **18 03 48.2 +0.2**
comp=Z,8.0nm,0.7s,mb4.5
PSZ Piszkesteto 80.68 319 P P **18 03 49.3 +1.4**
OKC Ostrava-Krasne 80.78 321 *e*P P **18 03 48.6 +0.2**
VYHS Vyhne 81.03 320 *i*P P **18 03 50.4 +0.6**
VTS Vitosha 81.04 313 *i*P P **18 03 50.3 +0.4**
MMB Musomiste 81.14 312 *i*P P **18 03 51.0 +0.5**
MORC Moravsky Berou 81.15 321 *e*P P **18 03 50.5 +0.1**
comp=Z,9.2nm,0.6s,mb4.6
KOLL Kolacno 81.24 320 *i*P P **18 03 51.6 +0.7**
KSP Ksiaz 81.32 323 *e*P P **18 03 51.5 +0.3**
KSP Ksiaz 81.32 323 *e*P P **18 03 51.2 0.0**
SUMG Summit 81.34 355 *e*P P **18 03 50.9 0.0**
comp=Z,30nm,0.7s,mb5.0
KKB Krupnik 81.45 312 *i*P P **18 03 52.0 -0.1**
DPC Dobruska-Polom 81.55 322 *e*P P **18 03 53.1 +0.7**
UPC Upice 81.64 322 *e*P P **18 03 53.2 +0.3**
SMOL Smolenice 81.84 320 *i*P P **18 03 55.9 +1.9**
VRAC Vranov 81.92 321 P P **18 03 55.3 +0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PKSM	Moragy	82.25	318	P	P	18 03 56.5	+0.4
PVCC	Panska Ves	82.42	323	eP	P	18 03 57.5	+0.6
DIVS	Divcibare	82.43	315	⇓iP	P	18 03 56.9	-0.2
SKO	Skopje	82.49	313	i P	P	18 03 57.5	0.0
TREC	Trest	82.55	321	eP	P	18 03 58.2	+0.6
BRG	Berggiesshubel	82.58	323	eP	P	18 03 58.0	+0.2
	comp=Z,11nm,0.8s,mb4.7						
PRU	Pruhonice	82.72	322	eP	P	18 03 58.8	+0.4
CLL	Collm	82.85	324	⇓P	P	18 03 58.8	-0.3
	comp=Z,logA/T=1.5,mb5.0						
CLL				i		18 04 21.7	
CLL	Collm	82.85	324	⇓iP	P	18 03 58.8	-0.3
	comp=Z,24nm,0.7s,mb5.0						
CLL				i		18 04 21.7	
CLL	Collm	82.85	324	⇓iP	P	18 03 58.8	-0.3
CLL				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.0						
ARSA	Arzberg	83.59	320	⇑iP	P	18 04 01.6	-1.2
	comp=Z,8.3nm,0.9s,mb4.5						
KHC	Kasperske Hory	83.71	322	eP	P	18 04 03.9	+0.5
NKC	Novy Kostel	83.73	323	eP	P	18 04 04.6	+1.1
GERES	GERESS Array B	83.79	322	P	P	18 04 03.6	-0.2
	comp=Z,5.0nm,0.6s,mb4.4,baz=63,slow=6.0,SNR=38						
GERES				PKKPbc		18 22 19.4	
	comp=Z,0.8nm,0.8s,baz=225,slow=1.9,SNR=5.1						
GERES				LR	LR	18 43 02.5	
	comp=Z,88nm,18.2s,baz=182,slow=37						
GERES	GERESS Array B	83.79	322	P	P	18 04 03.6	-0.2
GERES				LR	LR	18 43 02.5	
MOX	Moxa	83.95	324	i P	P	18 04 05.4	+0.8
MOX	Moxa	83.95	324	eP	P	18 04 05.4	+0.8
MOA	Molln	84.00	321	⇓iP	P	18 04 05.5	+0.6
	comp=Z,14nm,0.7s,mb4.8						
PERS	Pernice	84.14	319	eP	P	18 04 05.6	0.0
OCWA	Octopus Mounta	84.23	39	eP	P	18 04 07.9	+1.8
	comp=Z,24nm,0.9s,mb4.9						
CRES	Cresnjev	84.36	318	eP	P	18 04 07.0	+0.3
OBKA	Obir	84.54	319	⇑iP	P	18 04 07.8	+0.2
	comp=Z,13nm,0.7s,mb4.8						
GRA1	Grafenberg Arr	84.69	323	eP	P	18 04 09.4	+1.1
	comp=Z,23nm,1.3s,mb4.8						
GRA1				LR	LR		
	comp=Z,100nm,20.2s						
GRF	Grafenberg Arr	84.69	323	eP	P	18 04 09.4	+1.1
	comp=Z,23nm,1.3s,mb4.8						
GRF				LR	LR		
	comp=Z,100nm,20.2s						
GRF	Grafenberg Arr	84.69	323	eP	P	18 04 09.4	+1.1
GRF				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
GRF				MLR	MLR		
	comp=Z,100nm,20.2s						
LJU	Ljubljana	84.80	319	eP	P	18 04 09.2	+0.2
KBA	Koelnbreinsper	84.94	320	⇓iP	P	18 04 09.6	0.0
	comp=Z,12nm,0.6s,mb4.8						
WTSB	Winterswijk	85.65	327	eP	P	18 04 13.4	+0.4
	comp=Z,36nm,2.2s,mb4.7						
WTTA	Wattenberg	85.81	321	⇓iP	P	18 04 14.3	+0.4
	comp=Z,17nm,0.9s,mb4.8						
MOTA	Moosalm	86.07	321	⇓iP	P	18 04 14.9	-0.2
	comp=Z,7.4nm,0.9s,mb4.4						
SQTA	Sankt Quirin	86.08	321	⇓iP	P	18 04 14.7	-0.5
	comp=Z,18nm,1.1s,mb4.7						
COR	Corvallis	86.44	42	epP	pP	18 04 54.5	+3.2
	comp=Z,107nm,1.2s						
TBM	Table Mountain	86.58	38	P	P	18 04 19.0	+1.4
DAVA	Damuels	86.79	322	⇓iP	P	18 04 19.2	+0.6
	comp=Z,28nm,0.8s,mb5.2						
HGN	Heimansgroeve	86.82	326	⇑eP	P	18 04 19.3	+0.7
	comp=Z,26nm,1.7s,mb4.8						
LANF	Langenberg	86.93	324	eP	P	18 04 20.3	+1.1
WLF	Walferdange	87.38	325	eP	P	18 04 20.2	-1.2
	comp=Z,21nm,0.8s,mb5.0						
IRO	Indian Ridge	87.39	42	P	P	18 04 23.0	+1.4
HBO	Huckleberry Mo	87.44	42	P	P	18 04 24.1	+2.2
FELD	Feldberg	87.48	323	eP	P	18 04 22.2	+0.3
WLS	Welschbruch	87.50	324	eP	P	18 04 22.9	+0.9
SFJD	Kangerlussuaq	87.55	358	i P	P	18 04 21.1	-0.7
	comp=Z,13nm,0.8s,mb4.8						
SFJD	Kangerlussuaq	87.55	358	eP	P	18 04 21.1	-0.7
	comp=Z,13nm,0.8s,mb4.8						
SFJD	Kangerlussuaq	87.55	358	eP	P	18 04 21.1	-0.7
SFJD				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
CDF	Champ du Feu	87.55	324	eP	P	18 04 21.9	-0.3
	comp=Z,78nm,1.1s,mb5.1						
HAWA	Hanford	87.62	39	eP	P	18 04 24.1	+1.4
	comp=Z,1.8nm,0.9s,mb3.9						
ECH	Echery	87.73	324	eP	P	18 04 23.4	+0.3
KRMB	Red Mountain	87.73	44	eP	P	18 04 25.1	+1.9
HUMO	Hull Mountain	87.73	43	eP	P	18 04 25.0	+1.7
	comp=Z,14nm,0.7s,mb4.9						
NEW	Newport	87.83	36	P	P	18 04 25.0	+1.4
	comp=Z,30nm,0.7s,mb5.3,baz=302,slow=4.0,SNR=77						
NEW	Newport	87.83	36	eP	P	18 04 25.1	+1.5
	comp=Z,31nm,0.7s,mb5.2						
NEW				epP	pP	18 05 00.1	+2.1
MOF	Molkenrain	87.96	323	eP	P	18 04 24.6	+0.4
BBS	Basel-Blauen	87.99	323	eP	P	18 04 24.5	+0.1
VIPM	Ingram Point	88.08	41	P	P	18 04 27.2	+2.3
BAIF	Baives	88.12	326	eP	P	18 04 24.3	-0.6
HINF	Hinteralfeld	88.13	323	eP	P	18 04 24.0	-1.1
KHMM	Horse Mountain	88.19	45	eP	P	18 04 28.0	+2.5
VALM		88.26	319	P	P	18 04 26.6	+0.8
SARO	Sassorosso	88.26	319	P	P	18 04 26.2	+0.4
GRAM		88.28	319	P	P	18 04 26.6	+0.7
HAU	Haudompre	88.29	324	eP	P	18 04 25.0	-0.8
HAU				eR			
	comp=Z,100nm,22.8s						
KMBO	Kilima Mbogo	88.35	268	P	P	18 04 28.1	+1.2
	comp=Z,13nm,0.7s,mb4.8,baz=50,slow=8.7,SNR=50						
KMBO	Kilima Mbogo	88.35	268	i P	P	18 04 28.1	+1.2
KMBO				pmax	pmax		
	comp=Z,13nm,0.7s						
MAIM		88.36	319	P	P	18 04 27.0	+0.7
YBH	Yreka Blue Hor	88.37	44	P	P	18 04 27.6	+1.3
	comp=Z,10nm,0.8s,mb4.7,baz=131,slow=2.8,SNR=9.4						
YBH	Yreka Blue Hor	88.37	44	eP	P	18 04 29.1	+2.8
	comp=Z,21nm,1.2s,mb4.8						
BACM		88.40	319	P	P	18 04 26.6	+0.2
VINC	Vinca	88.44	319	P	P	18 04 26.9	+0.3
CODM		88.47	319	P	P	18 04 26.7	0.0
LHEM	Herd Peak	88.73	44	P	P	18 04 29.7	+1.6
ORX	Oropa	88.82	321	P	P	18 04 28.0	-0.3
WDC	Whiskeytown Da	89.11	45	eP	P	18 04 31.0	+1.2
	comp=Z,7.2nm,0.8s,mb4.7						
PCP	Pian Castagno	89.14	320	P	P	18 04 29.7	-0.1
LSD	Ceresole Reale	89.39	321	P	P	18 04 31.8	+0.8
RSP	Reno Superiore	89.52	321	P	P	18 04 31.8	+0.2
FIN	Finale Ligure	89.53	320	P	P	18 04 30.9	-0.8
LPL	La Plagne	89.59	322	eP	P	18 04 32.3	+0.3
	comp=Z,45nm,0.7s,mb5.2						
LPG	La Plagne	89.59	322	eP	P	18 04 32.7	+0.7
	comp=Z,56nm,0.7s,mb5.3						
ROB	Roburent	89.68	320	P	P	18 04 32.0	-0.4
BHB	Bricherasio	89.70	321	P	P	18 04 32.0	-0.5
FENE	Fenestrelle	89.70	321	P	P	18 04 32.0	-0.5
MOD	Modoc	89.76	43	eP	P	18 04 34.3	+1.5
	comp=Z,20nm,0.9s,mb5.0						
BMO	Blue Mountains	89.79	39	eP	P	18 04 34.3	+1.4
	comp=Z,28nm,0.9s,mb5.2						
IMI	Imperia	89.89	320	P	P	18 04 34.1	+0.6
BNI	Bardonecchia	89.90	321	eP	P	18 04 34.0	+0.6
	comp=Z,25nm,0.9s,mb5.1						
RRL	Cesana Torines	89.92	321	P	P	18 04 33.7	+0.1
ENR	Entracque	89.98	320	P	P	18 04 33.7	-0.2
STV2	Anna di Valdie	90.02	320	P	P	18 04 33.3	-0.7
NEGI	Negi	90.04	320	P	P	18 04 33.7	-0.5
PGF	Pioggiola	90.04	318	eP	P	18 04 34.0	-0.2
	comp=Z,15nm,0.9s,mb4.6						
SAOF	Saorge	90.04	320	eP	P	18 04 34.5	+0.4
MBDF	Montbardon	90.05	321	eP	P	18 04 34.3	+0.2
	comp=Z,18nm,0.7s,mb4.8						
LOR	Lormes	90.06	324	eP	P	18 04 33.7	-0.4
LOR				eR			
	comp=Z,81nm,21.5s						
AUTN	L'Aution	90.11	320	eP	P	18 04 35.1	+0.6
SBF	Sospel	90.19	320	eP	P	18 04 34.6	-0.2
	comp=Z,127nm,0.7s,mb5.6						
TOUF	Mont Tournerai	90.20	320	eP	P	18 04 35.3	+0.4
SSF	Saint Saulge	90.38	324	eP	P	18 04 35.4	-0.2
	comp=Z,5.0nm,0.8s,mb4.2						
FFC	Flin Flon	90.39	25	eP	P	18 04 35.8	+0.4
	comp=Z,164nm,0.9s,mb6.0						
MSO	Missoula	90.42	36	eP	P	18 04 37.1	+1.3
	comp=Z,63nm,1.3s,mb5.4						
ORIF	Oris-en-Rattie	90.43	322	eP	P	18 04 36.6	+0.7
	comp=Z,33nm,0.8s,mb5.0						
ORIF				eR			
	comp=Z,114nm,20.8s						
WVOR	Wild Horse Val	90.46	42	eP	P	18 04 38.1	+1.9
	comp=Z,33nm,1.1s,mb5.2						
SMF	Signal de Mont	90.47	324	eP	P	18 04 35.9	-0.2
	comp=Z,11nm,0.6s,mb4.7						
OHCM	Honcut	90.48	45	eP	P	18 04 36.7	+0.4
OHCM				epP	pP	18 05 03.9	-7.0
AVF	Avril sur Loir	90.64	324	eP	P	18 04 36.1	-0.7
	comp=Z,12nm,0.8s,mb4.7						
CHMT	Chamberlain Mo	90.72	36	eP	P	18 04 38.6	+1.3
FRF	La Foret Royal	90.83	320	eP	P	18 04 37.5	-0.3
	comp=Z,89nm,1.0s,mb5.4						
LMR	La Mourre	91.04	320	eP	P	18 04 38.1	-0.8
	comp=Z,120nm,1.2s,mb5.5						
TAVF	Tavernes	91.13	320	eP	P	18 04 39.9	+0.7
VIVF	Saint-Julien-l	91.14	322	eP	P	18 04 38.5	-0.8
SMRF	Simiane la Rot	91.19	321	eP	P	18 04 39.3	-0.2
	comp=Z,52nm,1.2s,mb5.1						
PRAF	Pradon	91.52	321	eP	P	18 04 42.2	+1.1
HRY	Holter Researc	91.60	35	eP	P	18 04 43.0	+1.7
HRY				epP	pP	18 05 18.6	+2.6
CMB	Columbia Colle	91.92	46	eP	P	18 04 44.6	+1.6
	comp=Z,32nm,1.3s,mb5.2						
LASF	Ste Croix	92.09	322	eP	P	18 04 42.7	-0.9
	comp=Z,66nm,1.4s,mb5.2						
HLID	Hailey	92.22	39	eP	P	18 04 46.5	+2.2
HLID				epP	pP	18 05 22.1	+3.1
MCMT	McKenzie Canyo	92.28	37	eP	P	18 04 46.4	+1.9
BOZ	Bozeman (W)	92.40	36	eP	P	18 04 46.6	+1.5
	comp=Z,25nm,0.7s,mb5.3						
BMN	Battle Mountai	92.50	42	eP	P	18 04 48.1	+2.4
	comp=Z,9.5nm,0.8s,mb5.0						
CAF	Calviac	92.53	323	eP	P	18 04 45.2	-0.4
RJF	Les Rejaudoux	92.57	324	eP	P	18 04 45.8	0.0
RJF				eR			
	comp=Z,96nm,22.8s						
SGMF	Saint Gilles	92.64	328	eP	P	18 04 44.8	-1.2
ROSF	Rostrenen	92.92	328	eP	P	18 04 46.3	-1.0
	comp=Z,100nm,1.4s,mb5.5						
NVAR	Mina Array Bea	93.03	45	P	P	18 04 49.7	+1.6
	comp=Z,10nm,0.7s,mb5.0,baz=282,slow=7.1,SNR=85						
NVAR	Mina Array Bea	93.03	45	P	P	18 04 49.7	+1.6
QLMT	Earthquake Lak	93.05	36	eP	P	18 04 50.1	+2.1
QLMT				pP	pP	18 05 25.7	+3.0
MTLF	Montolieu	93.47	322	eP	P	18 04 48.8	-1.2
	comp=Z,39nm,1.4s,mb5.1						
MTUM	Tungsten Hills	93.49	46	eP	P	18 04 51.7	+1.5
ELK	Elko	93.51	41	P	P	18 04 52.1	+1.9
	comp=Z,8.5nm,0.7s,mb5.0,baz=294,slow=5.8,SNR=42						
ELK	Elko	93.51	41	eP	P	18 04 52.0	+1.8
	comp=Z,14nm,0.8s,mb5.1						
YNR	Norris Junctio	93.53	36	eP	P	18 04 53.7	+3.5
PPT	Papeete	93.57	108	LR	LR	18 40 17.5	
	comp=Z,132nm,19.6s,baz=21,slow=31						
YFT	Old Faithful	93.62	36	eP	P	18 04 54.9	+4.3
TPH	Tonopah	93.92	44	eP	P	18 04 53.9	+1.8
	comp=Z,32nm,0.9s,mb5.5						
RRI2	Red Ridge	94.08	37	eP	P	18 04 55.4	+2.7
	comp=Z,12nm,0.7s,mb5.1						
DGMT	Dagmar	94.10	30	eP	P	18 04 53.5	+0.8
	comp=Z,82nm,0.9s,mb5.9						
TPAW	Teton Pass	94.19	37	eP	P	18 04 55.7	+2.5
	comp=Z,22nm,1.1s,mb5.2						
HVU	Hansel Valley	94.29	39	eP	P	18 04 55.7	+2.0
LOHW	Long Hollow	94.30	37	eP	P	18 04 56.0	+2.3
	comp=Z,20nm,1.2s,mb5.1						
DAC	Darwin (Calif)	94.76	46	eP	P	18 04 57.2	+1.2
DAC				epP	pP	18 05 34.7	+4.0
HWUT	Hardware Ranch	95.09	39	eP	P	18 04 59.5	+2.1
	comp=Z,14nm,1.0s,mb5.1						
DUG	Dugway	95.29	41	eP	P	18 05 00.3	+1.9
	comp=Z,12nm,1.0s,mb5.1						
PDAR	Pinedale Array	95.44	37	P	P	18 04 59.8	+0.8
	comp=Z,2.8nm,0.5s,mb4.7,baz=58,slow=0.9,SNR=36						
TCUT	Toone Canyon	95.50	39	eP	P	18 05 01.9	+2.6
DAU	Daniels Canyon	96.05	40	eP	P	18 05 04.6	+2.8
DAU				epP	pP	18 05 37.0	+0.5
ULM	Lac du Bonnet	96.21	25	P	P	18 05 01.3	-0.9
	comp=Z,15nm,0.7s,mb5.5,baz=326,slow=4.4,SNR=29						
ULM	Lac du Bonnet	96.21	25	eP	P	18 05 02.2	0.0
	comp=Z,21nm,0.7s,mb5.6						
MSU	Marysvale	96.75	42	eP	P	18 05 07.3	+2.3
NEN	Nelson	96.91	45	eP	P	18 05 07.3	+1.5
PFO	Pinyon Flat Ob	97.10	48	eP	P	18 05 07.7	+0.9
	comp=Z,11nm,1.0s,mb5.1						
SRU	San Rafael	97.33	40	eP	P	18 05 09.2	+1.6
ESDC	Sonseca Array	99.37	322	PP	PP	18 09 15.9	-7.6
	comp=Z,1.2nm,0.7s,baz=40,slow=8.3,SNR=6.0						
VNDA	Vanda	105.30	172	PKKPbc		18 21 22.6	
	comp=Z,1.9nm,0.7s,baz=193,slow=1.5,SNR=12						
TXAR	Lajitas Array	108.14	44	Pdiff	Pdif	18 05 57.8	+1.8
	comp=Z,0.5nm,0.6s,baz=283,slow=2.2,SNR=7.8						
TXAR				PKiKP		18 10 02.7	
	comp=Z,0.9nm,0.5s,baz=205,slow=1.1,SNR=17						
TXAR	Lajitas Array	108.14	44	Pdif	Pdif	18 05 57.8	+1.8
TXAR				PKPdf		18 10 02.7	
LRAL	Lakeview Retre	114.19	29	eP	PKPdf	18 10 13.3	+1.1
DBIC	Dimbokro	121.56	296	PKP	PKPdf	18 10 27.6	+0.7
	comp=Z,16nm,0.7s,baz=21,slow=1.4,SNR=31						
DBIC	Dimbokro	121.56	296	ePKPdf	PKPdf	18 10 28.0	+1.1
LIC	Lamto	121.95	296	ePKIKP	PKPdf	18 10 28.4	+0.7
	comp=Z,22nm,0.6s						
SNAA	Sanae	125.71	198	P	PKPdf	18 10 35.1	+1.6
SNAA	Sanae	125.71	198		PKPdf	18 11 13.7	+40
VNA2	Neumayer--Watz	127.35	198	P	PKPdf	18 10 39.8	+3.1
VNA2	Neumayer--Watz	127.35	198		PKPdf	18 11 17.4	+41
VNA2	Neumayer--Watz	127.35	198		PKPdf	18 11 19.4	+43
VNA1	Neumayer--Stat	127.74	198	P	PKPdf	18 10 41.3	+3.8
VNA1	Neumayer--Stat	127.74	198		PKPdf	18 11 18.5	+41
VNA3	Neumayer Olymp	127.78	197	P	PKPdf	18 10 40.5	+2.9
VNA3	Neumayer Olymp	127.78	197		PKPdf	18 11 18.0	+40
SDV	Santo Domingo	142.46	26	PKhKP		18 11 02.8	
	comp=Z,27nm,0.7s,baz=337,slow=1.0,SNR=20						
SDV				PKP	PKPdf	18 11 07.9	+1.8
	comp=Z,37nm,0.7s,baz=112,slow=1.1,SNR=19						
SDV	Santo Domingo	142.46	26	ePKPdf	PKPdf	18 11 03.5	-2.7
SDV				PKP	PKPdf	18 11 08.0	+1.8
ROSC	El Rosal	144.37	34	PKP	PKPdf	18 11 10.9	+1.4
	comp=Z,33nm,0.6s,baz=298,slow=23,SNR=9.0						
USHA	Ushuaia	149.27	165	PKPbc	PKPdf	18 11 22.3	+6.0
	comp=Z,15nm,0.8s,baz=249,slow=1.2,SNR=8.0						
SAML	Samuel	161.67	26	ePKPdf	PKPdf	18 11 36.0	+2.3
LPAZ	La Paz	164.67	55	PKP	PKPdf	18 11 39.9	+3.3
	comp=Z,4.3nm,0.9s,baz=7.5,slow=4.5,SNR=15						
LPAZ				PKPab	PKPab	18 12 34.9	0.0
	comp=Z,7.0nm,0.6s,baz=192,slow=2.8,SNR=7.8						
LPAZ	La Paz	164.67	55	ePKPdf	PKPdf	18 11 41.5	+4.9
TRQA	Tornquist	166.36	156	ePKPdf	PKPdf	18 11 39.8	+2.3
BDFB	Brasilia	168.00	325	PKP	PKPdf	18 11 41.6	+2.4
	comp=Z,1.9nm,0.5s,baz=69,slow=1.7,SNR=5.6						
BDFB				PKPab	PKPab	18 12 49.2	-0.3
	comp=Z,3.3nm,0.6s,baz=57,slow=4.8,SNR=4.0						
SIV	San Ignacio	168.86	31	PKP	PKPdf	18 11 41.8	+2.1
	comp=Z,6.0nm,0.7s,baz=127,slow=1.4,SNR=36						
SIV				PKPab	PKPab	18 12 52.5	-0.7
	comp=Z,19nm,0.8s,baz=322,slow=1.6,SNR=13						

*GUC **05** 18:10:24.8±0.5, 24.16S×66.70W, h158km±17km, ML4.8*
*NEIC **05** 18:10:24.4±0.6, 23.86S×66.70W, h192km±6km, mb4.2/8, Error ellipse: s-maj=9.5km s-min=6.4km az=85.0*
*IDC **05** 18:10:24.6±0.8, 23.84S×66.66W, h198km±8km, mb3.9/13, mb1 4.1/19, mb1mx4.1/22, mbtmp4.5/19, Error ellipse: s-maj=12.2km s-min=9.5km az=70.0*
ISC 05 18:10:23.5±0.5**, 23.93S**±0.04×**66.72W**±0.05**, h200km**±5km**, n54, σ1§13**/60**, mb4.0**/19**, 3C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.40	303	P	P	18 11 08.9	+2.1
	292nm,0.3s,baz=129,slow=5.7,SNR=851						
LVC				S	S	18 11 41.1	+0.9
	138nm,0.3s,baz=264,slow=20,SNR=19						
LVC	Limon Verde	2.40	303	⇑iP	P	18 11 08.9	+2.1
LVC				i S	S	18 11 41.8	+1.7
LVC				AMP		18 11 42.8	
	comp=E,1μm,0.4s						
LVC	Limon Verde	2.40	303	ePn	P	18 11 09.0	+2.2
LVC				S	S	18 11 41.1	+0.9
ANCH	Antofagasta	3.39	273	⇑iP	P	18 11 19.3	+1.0
ANCH				i S	S	18 12 01.1	+0.3
CPN1	Cerro Paranal	3.43	258	⇑iP	P	18 11 19.9	+1.0
CPN1				i S	S	18 12 01.9	+0.2
CPN1				AMP		18 12 03.3	
	comp=E,2μm,0.3s						
CRCH	Chaqaral	4.28	235	⇓iP	P	18 11 29.2	-0.2
CRCH				i S	S	18 12 18.6	-1.9
CPCH	Copiapo	4.73	223	⇓iP	P	18 11 34.2	-1.0
CPCH				i S	S	18 12 28.6	-2.2
LPAZ	La Paz	7.71	350	P	P	18 12 14.9	+1.1
	comp=E,1.3nm,0.3s,baz=173,slow=9.0,SNR=14						
LPAZ				S	S	18 13 39.6	-0.5
	comp=E,0.2nm,0.3s,baz=283,slow=19,SNR=2.7						
CFAA	Coronel Fontan	7.76	190	P	P	18 12 14.5	-0.1
	comp=E,0.5nm,0.3s,baz=22,slow=13,SNR=34						
CFAA				S	S	18 13 36.9	-4.3
	comp=E,1.9nm,0.3s,baz=125,slow=23,SNR=15						
CFAA	Coronel Fontan	7.76	190	P	P	18 12 14.5	0.0
CFAA				S	S	18 13 36.9	-4.3
ARE	Arequipa	8.67	328	eP	P	18 12 25.0	-1.4
ARE				eS	S	18 13 57.0	-5.4
CPUP	Villa Florida	8.84	108	P	P	18 12 28.8	+0.2
	comp=E,1.5nm,0.3s,baz=314,slow=15,SNR=50						
CPUP	Villa Florida	8.84	108	P	P	18 12 28.8	+0.2
SIV	San Ignacio	9.51	35	P	P	18 12 36.5	-0.9
	comp=E,3.6nm,0.3s,baz=220,slow=13,SNR=58						
SIV				S	S	18 14 21.8	-0.2
	comp=E,0.4nm,0.3s,baz=130,slow=22,SNR=3.0						
TRQA	Tornquist	14.65	165	ePn	P	18 13 43.3	+0.7
	comp=E,6.8nm,0.6s						
SAML	Samuel	15.28	13	ePn	P	18 13 49.6	-0.8
	comp=E,18nm,0.8s						
PLCA	Paso Flores	17.06	190	P	P	18 14 10.8	-0.9
	comp=E,0.8nm,0.3s,baz=14,slow=13,SNR=17						
PLCA	Paso Flores	17.06	190	P	P	18 14 10.8	-0.9
BDFB	Brasilia	19.42	68	P	P	18 14 36.5	0.0
	comp=E,14nm,0.3s,baz=249,slow=9.5,SNR=127						
USHA	Ushuaia	30.89	182	P	P	18 16 23.1	-0.1
	comp=E,5.0nm,0.6s,mb4.3,baz=342,slow=7.6,SNR=5.8						
SDV	Santo Domingo	32.84	353	eP	P	18 16 38.7	-1.8
	comp=E,2.7nm,0.4s,mb4.1						
PMSA	Palmer Station	40.88	178	eP	P	18 17 48.8	+1.6
	comp=E,3.4nm,0.6s,mb4.0						
VNA3	Neumayer Olymp	57.14	161		P	18 19 52.8	+1.8
VNA3	Neumayer Olymp	57.14	161		P	18 19 58.7	+7.7
VNA1	Neumayer--Stat	57.33	160		P	18 19 54.6	+2.2
VNA1	Neumayer--Stat	57.33	160		P	18 19 59.0	+6.6
VNA2	Neumayer--Watz	57.70	160		P	18 19 56.9	+1.9
VNA2	Neumayer--Watz	57.70	160		P	18 20 02.4	+7.4
SNAA	Sanae	59.33	161		P	18 20 06.6	+0.3
SNAA	Sanae	59.33	161		P	18 20 12.7	+6.4
SNAA	Sanae	59.33	161	P	P	18 20 06.2	-0.1
	comp=E,1.5nm,0.6s,mb3.8,baz=279,slow=7.6,SNR=26						
SNAA				pP	pP	18 20 51.7	-0.5
	comp=E,0.5nm,0.5s,baz=262,slow=7.1,SNR=3.2						
SNAA	Sanae	59.33	161	P	P	18 20 06.6	+0.3
TXAR	Lajitas Array	63.77	324	P	P	18 20 35.3	-1.1
	comp=E,1.7nm,0.7s,mb3.8,baz=152,slow=8.0,SNR=18						
MNTX	Cornudas Mount	66.53	325	eP	P	18 20 53.1	-1.0
	comp=E,3.4nm,0.8s,mb4.0						
DBIC	Dimbokro	67.54	71	P	P	18 20 58.3	-2.4
	comp=E,3.6nm,0.5s,mb4.3,baz=202,slow=8.3,SNR=13						
SADO	Sadowa	69.30	351	P	P	18 21 08.4	-2.6
	comp=E,3.6nm,0.8s,mb4.1,baz=347,slow=10.0,SNR=2.6						
ANMO	Albuquerque	69.63	326	eP	P	18 21 13.9	+0.8
	comp=E,2.7nm,0.8s,mb3.9						
SDCO	Great Sand Dun	71.36	328	eP	P	18 21 24.4	+0.9
	comp=E,2.1nm,0.6s,mb3.9						
VNDA	Vanda	74.81	190	P	P	18 21 43.4	+0.4
	comp=E,1.4nm,0.9s,mb3.6,baz=140,slow=4.4,SNR=4.8						
SRU	San Rafael	74.90	326	eP	P	18 21 44.9	+0.8
PDAR	Pinedale Array	77.22	329	P	P	18 21 57.4	+0.4
	comp=E,1.1nm,0.6s,mb3.7,baz=134,slow=7.7,SNR=10						
TSUM	Tsumeb	77.43	106	P	P	18 21 57.7	-0.9
	comp=E,5.0nm,0.7s,mb4.2,baz=262,slow=5.9,SNR=7.0						
ULM	Lac du Bonnet	78.24	341	P	P	18 22 01.4	-1.0
	comp=E,3.2nm,0.5s,mb4.2,baz=156,slow=7.2,SNR=9.6						
HLID	Hailey	80.17	327	eP	P	18 22 14.6	+1.7
	comp=E,6.9nm,1.0s,mb4.2						
BOSA	Boshof	80.54	117	P	P	18 22 15.2	0.0
	comp=E,1.1nm,0.5s,mb3.8,baz=251,slow=6.7,SNR=4.1						
MAW	Mawson	81.43	163	P	P	18 22 19.5	+0.5
	comp=E,4.4nm,0.5s,mb4.3,baz=222,slow=5.6,SNR=12						
ESDC	Sonseca Array	86.17	43	P	P	18 22 44.8	+1.4
	comp=E,0.1nm,0.2s,mb3.1,baz=270,slow=2.6,SNR=2.8						
YKA	Yellowknife Ar	94.14	340	P	P	18 23 20.1	+0.1
	comp=E,1.9nm,0.6s,mb4.3,baz=133,slow=4.4,SNR=20						
WB2	Warramunga Arr	131.80	207	eP	PKPdf	18 29 15.0	+1.4
WRA	Warramunga Arr	131.81	207	PKhKP		18 29 00.5	
	comp=E,0.1nm,0.5s,baz=176,slow=1.0,SNR=6.6						
WRA				PKP	PKPdf	18 29 14.8	+1.2
	comp=E,1.9nm,0.5s,baz=157,slow=1.7,SNR=48						
WRA	Warramunga Arr	131.81	207	PKP	PKPdf	18 29 14.8	+1.2
ZAL	Zalesovo	143.21	28	PKP	PKPdf	18 29 32.7	-0.6
	comp=E,2.2nm,0.7s,baz=181,slow=5.2,SNR=12						
ZAL	Zalesovo	143.21	28	PKP	PKPdf	18 29 32.7	-0.6
MKAR	Makanchi Array	146.31	40	PKPbc	PKPbc	18 29 41.1	+0.8
	comp=E,4.7nm,0.6s,baz=324,slow=2.1,SNR=64						

MAN 05 18:36:02.0, 15.07N×119.93E, h16km, mb4.3, ML3.1, MS2.9, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBP	Mount Natib	0.58	125	⇑eP	Pb	18 36 14.0	+0.7
NZB	Bigte	1.15	100	eP	Pb	18 36 22.7	-0.4
PCPH	Palayan	1.23	67	⇓eP	Pb	18 36 22.9	-1.5
PCPH				eS	Sb	18 36 38.5	-1.3
ARP	Angono	1.30	114	eP	Pb	18 36 24.3	-1.3
TGY	Tagaytay City	1.37	135	eP	Pn	18 36 25.5	-1.2
TGY				eS	Sb	18 36 37.4	-6.7
BCPH	Baguio City Da	1.44	26	i P	Pn	18 36 28.2	+0.5
BCPH				eS	Sb	18 36 45.1	-1.0
LBPH	Los Banos	1.52	127	⇑eP	Pn	18 36 28.2	-0.5

NNC 05 18:46:57.6±6.6**, 37.46N×71.31E, h217km**±100km**, mpv3.4, 3C-1D, Error ellipse: s-maj=72.9km s-min=43.7km az=31.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.67	354	P	P	18 48 20.2	-1.4
	1.2nm,0.2s,baz=182,slow=14,SNR=93						
KK31				⇑S	S	18 49 27.9	+1.0
	2.4nm,0.5s,baz=178,slow=23,SNR=13						
AAK	Ala-Archa	5.72	24	⇑P	P	18 48 21.3	-0.9
	1.7nm,0.5s						
AAK				⇑S	S	18 49 28.6	+0.6
	5.0nm,0.7s						
AB31	Akbulak array	14.38	329	⇓P	P	18 50 14.1	+1.7
	0.8nm,0.8s,baz=131,slow=13,SNR=2.9						
AB31				S	S	18 52 48.7	+2.1

MEX 05 18:56:02.0±0.5**, 14.17N×93.51W, h8km**±72km**, MD4.2, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.48	32	i P	Pn	18 56 39.5	-3.9
CCIG				i S	Sn	18 57 09.3	-4.7
SCX	San Cristobal	2.68	18	i P	Pn	18 56 43.0	-3.2
SCX				i S	Sn	18 57 13.0	-6.2
CMIG	Matias Romero	3.19	336	i P	Pn	18 56 49.7	-3.7
CMIG				i S	Sn	18 57 26.9	-5.1

NEIC 05 19:02:10.4, 37.74S×177.85E, h194km, MG3.9(WEL)**, After WEL., Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	Whakapapa	2.33	230	P	P	19 02 52.6	+0.2
MOVZ	Moawhango	2.34	224	P	P	19 02 51.8	-0.8
WNVZ	Wahianoa	2.37	227	P	P	19 02 52.6	-0.4
TSZ	Takapari Road	2.75	212	eP	P	19 02 56.8	-0.4
BFZ	Birch Farm	3.19	202	eP	P	19 03 02.4	-0.2
MRZ	Mangatainoka R	3.41	210	eP	P	19 03 04.7	-0.6
KIW	Kapiti Island	3.86	215	P	P	19 03 10.4	-0.5
CAW	Cannon Point	4.00	212	P	P	19 03 12.1	-0.4
QRZ	Quartz Range	5.15	232	eP	P	19 03 26.5	-0.8
THZ	Tophouse	5.54	222	eP	P	19 03 31.7	-0.6

NEIC ***05*** *19:13:10.6±3.0, 31.80S×179.84W, h371km±26km, mb3.9/1, Error ellipse: s-maj=43.2km s-min=22.9km az=57.0*
IDC ***05*** *19:13:13.1±7.7, 32.13S×179.87E, h379km±91km, mb3.2/2, mb1 3.3/3, mb1mx3.1/12, mbtmp4.0/3, Error ellipse: s-maj=103.7km s-min=43.0km az=179.0*
ISC 05 19:13:09.4±4.1**, 31.9S**±0.2×**179.9W**±0.4**, h369**km±31km**, n10,** σ1ˢ**27**/9**, mb3.8**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.76**	**200**	P	**P**	**19 14 52.6**	**+2.3**
	1.5nm,0.3s,baz=274,slow=8.5,SNR=8.7						
URZ				S	**S**	**19 16 08.0**	**-1.5**
	4.3nm,0.3s,baz=252,slow=23,SNR=18						
HNR	**Honiara**	**29.14**	**316**	*e*P	**P**	**19 18 38.0**	**-1.8**
	87nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**32.47**	**283**	*e*P	**P**	**19 19 08.9**	**+0.6**
STKA	**Stephens Creek**	**32.55**	**260**	P	**P**	**19 19 10.1**	**+1.2**
	0.8nm,0.5s,mb3.2,baz=96,slow=11,SNR=7.5						
STKA	**Stephens Creek**	**32.55**	**260**	*e*P	**P**	**19 19 10.8**	**+1.9**
WRAB	**Tennant Creek**	**42.53**	**275**	*e*P	**P**	**19 20 31.7**	**0.0**
	10nm,1.4s,mb3.8						
WRA	**Warramunga Arr**	**42.54**	**275**	P	**P**	**19 20 31.2**	**-0.5**
	1.1nm,0.5s,mb3.2,baz=111,slow=8.1,SNR=53						
VNDA	**Vanda**	**46.41**	**185**	*e*P	**P**	**19 21 01.2**	**-0.3**
FINES	**FINESS Array B**	**145.98**	**338**	PKPbc	PKPbc	19 32 07.5	+2.3
	0.9nm,0.7s,baz=27,slow=3.1,SNR=5.4						
FINES	**FINESS Array B**	**145.98**	**338**	PKPbc	PKPbc	19 32 07.5	+2.3

IDC ***05*** *19:50:26.9±0.5, 3.32S×136.23E, mb5.0/15, mb1 5.1/16, mb1mx5.0/18, mbtmp5.0/16, ML5.9/1, MS4.5/10, Ms1 4.5/10, ms1mx4.3/16, Error ellipse: s-maj=21.3km s-min=12.7km az=82.0*
MOS ***05*** *19:50:31.0±1.0, 3.28S×136.21E, h34km, mb5.3/18, Error ellipse: s-maj=13.7km s-min=7.1km az=111.4*
BJI ***05*** *19:50:32.5, 3.40S×136.20E, h35km, mB5.4, mb4.9, Ms4.9, Msz4.6*
NEIC ***05*** *19:50:32.5±0.2, 3.37S×136.17E, h35km, mb5.3/29, MS4.6/5, Error ellipse: s-maj=8.8km s-min=5.4km az=77.0*
HRVD ***05*** *19:50:32.5±0.2, 3.30S×136.20E, h48km±1km, MW5.3/64, Centroid moment Tensor Solution. LP body waves: s46,c67; Mantle waves: s64,c111; Half duration: 1ˢ1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.05±.03; $M_{\theta\theta}$0.62±.03; $M_{\phi\phi}$-0.66±.03; $M_{r\theta}$-0.26±.03; $M_{\theta\phi}$-0.77±.02; $M_{\phi r}$0.53±.03; Best double couple: $M_0$1.164×10^{17} NP1:ϕ_s249°, δ60°, λ176°. NP2:ϕ_s341°, δ87°, λ30°. Principal axes: T 1.179, Plg23°, Azm209°; N -.031, Plg60°, Azm346°; P -1.149, Plg18°, Azm111°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 19:50:32.5±0.2**, 3.43S**±0.03×**136.19E**±0.04**, h51**km**, h51**km±2.1km**:pP-P, n231,** σ1ˢ**08**/211**, mb5.2**/70**, MS4.5**/21**, 12C-14D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.94**	**202**	⇑*i*P	Px	19 53 13.0	
KAKA				*e*S	Sx	19 55 03.7	
PMG	**Port Moresby**	**12.41**	**119**	Pn	**P**	**19 53 28.7**	**-0.3**
	22nm,0.3s,baz=309,slow=9.5,SNR=38						
PMG				Sn	**S**	**19 55 41.3**	**-5.2**
	6.1nm,0.3s,baz=356,slow=23,SNR=3.1						
PMG	**Port Moresby**	**12.41**	**119**	⇓*e*P	**P**	**19 53 29.0**	**+0.1**
	900nm,0.9s						
PMG	**Port Moresby**	**12.41**	**119**	P	**P**	**19 53 28.7**	**-0.3**
PMG						19 55 41.3	
PMG				pmax	pmax		
	comp=Z,22nm,0.3s						
PMG				smax			
	comp=N,6.0nm,0.3s						
WRAB	**Tennant Creek**	**16.50**	**186**	*e*P	**P**	**19 54 19.6**	**-2.6**
	comp=N,2μm,0.9s						
WRAB				*e*		19 54 26.4	
WRAB				*e*S	**S**	**19 57 16.3**	**-6.7**
WRAB	**Tennant Creek**	**16.50**	**186**	*e*P	**P**	**19 54 19.6**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,2μm,0.9s						
WB2	**Warramunga Arr**	**16.51**	**186**	⇑*i*P	**P**	**19 54 19.7**	**-2.6**
WB2				*e*		19 54 26.9	
WB2				*e*S	**S**	**19 57 17.4**	**-5.8**
WRA	**Warramunga Arr**	**16.52**	**186**	Pn	**P**	**19 54 20.2**	**-2.1**
	comp=Z,2.6nm,0.3s,baz=5.9,slow=13,SNR=129						
WRA				Sn	**S**	**19 57 16.5**	**-6.7**
	comp=Z,32nm,0.3s,baz=8.3,slow=22,SNR=9.4						
SCPH	**Surigao**	**16.91**	**321**	⇓*e*P	**P**	**19 54 25.3**	**-1.9**
MSLP	**Maasin**	**17.57**	**320**	*e*P	**P**	**19 54 36.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**17.88**	**215**	*e*P	**P**	**19 54 38.6**	**-0.7**
	comp=Z,757nm,0.6s						
FITZ				*i* S	**S**	**19 57 48.1**	**-5.9**
FITZ	**Fitzroy Crossi**	**17.88**	**215**	P	**P**	**19 54 38.4**	**-1.0**
	comp=Z,31nm,0.3s,baz=24,slow=12,SNR=157						
FITZ				S	**S**	**19 57 48.3**	**-5.7**
	comp=Z,134nm,0.3s,baz=171,slow=11,SNR=14						
FITZ				LR	LR	20 02 17.7	
	comp=Z,1μm,21.1s,baz=52,slow=40						
GUMO	**Guam**	**18.97**	**27**	LR	LR	20 00 58.6	
	comp=Z,1μm,21.8s,baz=220,slow=34						
CTA	**Charters Tower**	**19.25**	**150**	⇓*i*P	**P**	**19 54 56.4**	**+0.8**
	comp=Z,167nm,1.3s						
CTA				*e*S	**S**	**19 58 27.0**	**+2.1**
CTA	**Charters Tower**	**19.25**	**150**	P	**P**	**19 54 56.2**	**+0.6**
	comp=Z,14nm,0.3s,baz=329,slow=11,SNR=133						
CTA				S	**S**	**19 58 27.1**	**+2.2**
	comp=Z,1.7nm,0.3s,baz=232,slow=22,SNR=4.0						
CTA	**Charters Tower**	**19.25**	**150**	⇓*i*P	**P**	**19 54 56.4**	**+0.8**
CTA				*e*S	**S**	**19 58 27.0**	**+2.1**
CTA				pmax	pmax		
	comp=Z,167nm,1.3s						
CTAO	**Charters Tower**	**19.25**	**150**	⇓*e*P	**P**	**19 54 56.2**	**+0.6**
	comp=Z,379nm,1.3s						
CTAO				*e*S	**S**	**19 58 27.3**	**+2.4**
CTAO	**Charters Tower**	**19.25**	**150**	⇓*e*P	**P**	**19 54 56.2**	**+0.6**
CTAO				*e*S	**S**	**19 58 27.3**	**+2.4**
CTAO				pmax	pmax		
	comp=Z,379nm,1.3s						
TSM	**Tawau**	**19.84**	**293**	P	**P**	**19 55 03.9**	**+1.7**
RCP	**Roxas**	**20.01**	**318**	⇑*e*P	**P**	**19 55 04.7**	**+0.8**
KALP	**Kalibo**	**20.37**	**318**	*e*P	**P**	**19 55 21.4**	**+14**
PVCP	**Virac**	**20.70**	**325**	*e*P	**P**	**19 55 09.3**	**-1.8**
CUYO	**Cuyo Island**	**20.72**	**313**	*e*P	**P**	**19 55 10.6**	**-0.6**
OTRP	**Odiongan**	**21.08**	**318**	*e*P	**P**	**19 55 16.7**	**+1.8**
AUQP	**San Andres**	**21.38**	**321**	*e*P	**P**	**19 55 29.0**	**+11**
KKM	**Kota Kinabalu**	**22.05**	**295**	P	**P**	**19 55 26.8**	**+2.2**
KKM	**Kota Kinabalu**	**22.05**	**295**	P	**P**	**19 55 24.6**	**0.0**
KKM	**Kota Kinabalu**	**22.05**	**295**	*e*P	**P**	**19 55 26.3**	**+1.7**
POLP	**Polilio Island**	**22.91**	**322**	*e*P	**P**	**19 55 50.0**	**+17**
MBWA	**Marble Bar**	**23.81**	**221**	*e*P	**P**	**19 55 43.4**	**+1.6**
	comp=Z,23nm,0.5s,mb4.9						
MBWA				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
BALP	**Baler**	**23.91**	**323**	*e*P	**P**	**19 55 42.8**	**0.0**
HNR	**Honiara**	**24.34**	**105**	P	**P**	**19 55 46.9**	**-0.1**
	comp=Z,245nm,0.8s,mb5.7,baz=216,slow=2.4,SNR=12						
HNR	**Honiara**	**24.34**	**105**	*e*P	**P**	**19 55 47.9**	**+0.9**
	comp=Z,338nm,0.9s,mb5.8						
HNR	**Honiara**	**24.34**	**105**	P	**P**	**19 55 46.9**	**-0.1**
HNR				pmax	pmax		
	comp=Z,245nm,0.8s,mb5.7						
CAUP	**Cauayan**	**24.72**	**325**	*e*P	**P**	**19 55 45.3**	**-5.4**
SCZP	**Santa Cruz**	**24.97**	**320**	*e*P	**P**	**19 55 54.6**	**+1.5**
CVP	**Callao Caves**	**25.33**	**326**	*e*P	**P**	**19 56 00.0**	**+3.5**
KSM	**Kuching**	**26.32**	**280**	*e*P	**P**	**19 56 06.8**	**+1.0**
KSM				*e*pP	pP	19 56 22.7	+4.0
FORT	**Forrest**	**28.27**	**195**	*e*P	**P**	**19 56 23.0**	**-0.3**
	comp=Z,150nm,0.7s,mb5.7						
STKA	**Stephens Creek**	**28.75**	**170**	*e*P	**P**	**19 56 30.1**	**+2.5**
	comp=Z,30nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**28.75**	**170**	P	**P**	**19 56 26.7**	**-0.9**
	comp=Z,19nm,0.7s,mb4.9,baz=345,slow=8.6,SNR=18						
STKA				LR	LR	20 10 09.0	
	comp=Z,815nm,18.6s,MS4.4,baz=345,slow=41						
STKA	**Stephens Creek**	**28.75**	**170**	*e*P	**P**	**19 56 26.9**	**-0.7**
STKA				*e*pP	pP	19 56 40.0	-0.7
ARMA	**Armidale**	**30.56**	**153**	⇑*i*P	**P**	**19 56 45.7**	**+2.0**
CBIJ	**Chichi jima**	**30.89**	**10**	LR	LR	20 07 23.4	
	comp=Z,607nm,20.2s,MS4.2,baz=164,slow=33						
KLBR	**Kellerberrin**	**32.95**	**210**	⇑*i*P	**P**	**19 57 04.5**	**-0.2**
	comp=Z,51nm,1.1s,mb5.4						
KGM	**Kluang**	**33.30**	**279**	P	**P**	**19 57 06.8**	**-1.0**
CNB	**Canberra Magne**	**34.00**	**161**	*e*P	**P**	**19 57 18.9**	**+5.3**
	comp=Z,90nm,1.7s,mb5.4						
QIZ	**Qiongzhong**	**34.21**	**312**	P	**P**	**19 57 16.1**	**+0.5**
QIZ				XP	sP	19 57 32.3	-3.1
QIZ				*e*S	**S**	**20 02 37.9**	**+0.4**
QIZ				AMB	AMB		
	comp=Z,16nm,1.6s,mb4.7						
QIZ				LR	LR		
	comp=Z,576nm,21.6s,MS4.3						
QIZ	**Qiongzhong**	**34.21**	**312**	*e*P	**P**	**19 57 14.6**	**-0.9**
	comp=Z,67nm,1.5s,mb5.3						
QIZ				*e*pP	pP	19 57 30.4	+1.4
NWAO	**Narrogin (SRO)**	**34.30**	**209**	P	**P**	**19 57 16.4**	**+0.1**
	comp=Z,28nm,0.9s,mb5.2,baz=12,slow=7.3,SNR=7.7						
NWAO				LR	LR	20 11 19.7	
	comp=Z,1μm,18.8s,MS4.6,baz=27,slow=36						
NWAO	**Narrogin (SRO)**	**34.30**	**209**	*e*P	**P**	**19 57 16.7**	**+0.5**
NWAO				*e**PP	pP	19 57 28.8	-0.8
DZM	**Mont Dzumac**	**34.71**	**125**	*e*P	**P**	**19 57 19.4**	**-0.4**
DZM	**Mont Dzumac**	**34.71**	**125**	P	**P**	**19 57 19.5**	**-0.4**
	comp=Z,22nm,0.8s,mb5.1,baz=323,slow=5.4,SNR=11						
DZM	**Mont Dzumac**	**34.71**	**125**	*e*P	**P**	**19 57 19.4**	**-0.4**
TOO	**Toolangi**	**35.04**	**167**	*e*P	**P**	**19 57 27.1**	**+4.6**
	comp=Z,6.5nm,0.7s,mb4.7						
TOO	**Toolangi**	**35.04**	**167**	*e*P	**P**	**19 57 27.1**	**+4.6**
TOO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
IPM	**Ipoh**	**36.02**	**283**	P	**P**	**19 57 29.9**	**-1.2**
KULM	**Kulim**	**36.54**	**284**	*e*P	**P**	**19 57 35.2**	**-0.3**
KULM				*e*pP	pP	19 57 49.7	+0.8
JNU	**Nakatsue**	**36.70**	**353**	P	**P**	**19 57 35.1**	**-1.4**
	comp=Z,24nm,0.8s,mb5.0,baz=153,slow=2.3,SNR=4.1						
SNG	**Songkhla**	**37.03**	**287**	P	**P**	**19 57 40.0**	**+0.4**
SSE	**Sheshan**	**37.19**	**338**	*e*P	**P**	**19 57 39.3**	**-1.4**
SSE				XP	sP	19 57 53.1	-7.4
SSE				S	**S**	**20 03 25.6**	**+2.3**
SSE				XS		20 03 40.9	
SSE				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,876nm,7.6s						
SSE				LR	LR		
	comp=N,88nm,22.4s,MS3.9						
SSE				LR	LR		
	comp=E,177nm,22.4s,MS3.9						
SSE				LR	LR		
	comp=Z,218nm,18.5s,MS4.0						
SSE	**Sheshan**	**37.19**	**338**	*e*P	**P**	**19 57 39.3**	**-1.4**
	comp=Z,33nm,0.8s,mb5.2						
SSE				pP	pP	19 57 46.9	-7.3
SSE				sP	sP	19 57 53.1	-7.4
SSE				PP	PP	19 59 03.9	-4.7
SSE				PcP	PcP	19 59 56.0	-4.3
SSE				S	**S**	**20 03 25.6**	**+2.3**
SSE				sS		20 03 40.9	
SSE				SS	SS	20 06 09.8	+14
SSE				ScS	ScS	20 07 56.9	+8.8
SSE				LR	LR		
	comp=Z,220nm,18.5s,MS4.0						
NJ2	**Nanjing**	**38.94**	**336**	*e*P	**P**	**19 57 54.8**	**-0.5**
NJ2				AP	pP	19 58 04.6	-4.2
NJ2				XP	sP	19 58 07.9	-7.1
NJ2				PP	PP	19 59 28.2	-0.8
NJ2				S	**S**	**20 03 51.0**	**+1.1**
NJ2				XS		20 04 07.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,304nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,16.4s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,14.4s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,13.5s,MS5.2						
NNT	**Nongplab**	**39.56**	**294**	P	**P**	**19 58 02.0**	**+1.4**
WHN	**Wuhan**	**39.70**	**330**	*e*P	**P**	**19 58 03.0**	**+1.4**
WHN				XP	sP	19 58 21.0	-0.4
MJAR	**Matsushiro Arr**	**39.80**	**3**	P	**P**	**19 58 00.9**	**-1.5**
	comp=Z,4.7nm,0.6s,mb4.4,baz=177,slow=8.1,SNR=13						
MJAR				LR	LR	20 12 11.6	
	comp=Z,643nm,20.7s,MS4.5,baz=180,slow=33						
MAJO	**Matsushiro**	**39.81**	**3**	*e*P	**P**	**19 58 02.2**	**-0.2**
	comp=Z,12nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**39.81**	**3**	*e*P	**P**	**19 58 02.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
MAT	**Matsushiro**	**39.81**	**3**	P	**P**	**19 58 00.6**	**-1.8**
MAT	**Matsushiro**	**39.81**	**3**	*e*P	**P**	**19 58 01.0**	**-1.4**
NST	**Nakhon Sawan**	**40.41**	**299**	P	**P**	**19 58 05.5**	**-2.1**
GYA	**Guiyang**	**41.21**	**318**	⇓*i*P	**P**	**19 58 14.6**	**+0.5**
GYA				AP	pP	19 58 29.9	+2.2
GYA				PP	PP	19 59 54.4	+1.7
GYA				SCP		20 03 55.8	
GYA				S	**S**	**20 04 24.9**	**+1.1**
GYA				SS	SS	20 07 27.8	+4.1
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,160nm,3.8s						
GYA				LR	LR		
	comp=N,540nm,17.2s,MS4.6						
GYA				LR	LR		
	comp=E,490nm,17.6s,MS4.6						
GYA				LR	LR		
	comp=Z,810nm,17.9s,MS4.6						
ENH	**Enshi**	**42.12**	**325**	*e*P	**P**	**19 58 21.5**	**-0.2**
	comp=Z,36nm,0.9s,mb5.0						
CHRT	**Chiangrai**	**42.60**	**304**	⇑P	**P**	**19 58 25.0**	**-0.7**
	comp=Z,145nm,1.0s,mb5.7						
CHG	**Chiang Mai**	**42.80**	**302**	⇑P	**P**	**19 58 27.2**	**-0.2**
	comp=Z,24nm,0.8s,mb5.0						
KMI	**Kunming**	**43.12**	**313**	P	**P**	**19 58 30.7**	**+0.8**
KMI				AP	pP	19 58 44.3	+0.8
KMI				PP	PP	20 00 14.6	+1.9
KMI				PCP	PcP	20 00 17.8	-1.7
KMI				S	**S**	**20 04 56.2**	**+4.2**
KMI				SS	SS	20 08 04.8	+5.8
KMI				LR	LR		
	comp=N,308nm,7.4s						
KMI				LR	LR		
	comp=E,439nm,8.8s						
KMI				LR	LR		
	comp=Z,625nm,23.2s,MS4.4						
KMI	**Kunming**	**43.12**	**313**	P	**P**	**19 58 30.7**	**+0.8**
KMI				pP	pP	19 58 44.3	+0.8
KMI				PP	PP	20 00 14.6	+1.9
KMI				PcP	PcP	20 00 17.8	-1.7
KMI				PPP	PPP	20 00 52.0	+3.6
KMI				S	**S**	**20 04 56.2**	**+4.2**
KMI				sS		20 05 19.5	
KMI				SS	SS	20 08 04.8	+5.8
KMI				SSS	SSS	20 08 58.3	+7.9
KMI				LR	LR		
	comp=Z,630nm,23.2s,MS4.5						
KMI	**Kunming**	**43.12**	**313**	P	**P**	**19 58 30.7**	**+0.8**
KMI				*PP	pP	19 58 44.3	+0.8
KMI						20 00 14.6	
KMI						20 00 17.8	
KMI				PPP	PPP	20 00 52.0	+3.6
KMI				S	**S**	**20 04 56.2**	**+4.2**
KMI				SS	SS	20 08 04.8	+5.8
KMI				MLR	MLR		
	comp=Z,630nm,23.2s,MS4.5						
XAN	**Xi'an**	**45.27**	**328**	P	**P**	**19 58 46.9**	**-0.2**
XAN				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.6						
ASAJ	**Asahikawa**	**47.68**	**6**	P	**P**	**19 59 05.2**	**-0.7**
	comp=Z,5.9nm,0.6s,mb4.8,baz=230,slow=6.4,SNR=9.5						
ASAJ	**Asahikawa**	**47.68**	**6**	P	**P**	**19 59 05.3**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CN2	**Changchun**	**48.00**	**350**	*e*P	**P**	**19 59 10.7**	**+2.3**
CN2				*e*AP	pP	19 59 23.7	+1.5
CN2				PCP	PcP	20 00 38.8	+2.6
CN2				*e*S	**S**	**20 06 06.3**	**+4.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,470nm,6.0s						
CN2				LR	LR		
	comp=N,630nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=E,490nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=Z,550nm,18.0s,MS4.6						
MDJ	**Mudanjiang**	**48.19**	**354**	P	**P**	**19 59 09.6**	**-0.3**
MDJ				AP	pP	19 59 23.0	-0.7
MDJ				XP	sP	19 59 28.9	-0.7
MDJ				PCP	PcP	20 00 36.3	-0.6
MDJ				PP	PP	20 01 02.1	+0.1
MDJ				SCP		20 04 26.6	
MDJ				S	**S**	**20 06 05.6**	**+1.3**
MDJ				XS		20 06 28.2	
MDJ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,284nm,7.0s						
MDJ				LR	LR		
	comp=N,216nm,19.9s,MS4.1						
MDJ				LR	LR		
	comp=E,90nm,22.1s,MS4.1						
MDJ				LR	LR		
	comp=Z,298nm,21.0s,MS4.2						
MDJ	**Mudanjiang**	**48.19**	**354**	*e*P	**P**	**19 59 09.2**	**-0.7**
	comp=Z,18nm,0.8s,mb5.2						
HHC	**Hu-ho-hao-te**	**49.48**	**335**	*e*P	**P**	**19 59 24.9**	**+5.0**
HHC				AP	pP	19 59 33.7	0.0
HHC				XP	sP	19 59 40.5	+0.8
HHC				PCP	PcP	20 00 42.9	+1.3
HHC				PP	PP	20 01 21.0	+6.1
HHC				PCS		20 04 38.4	
HHC				S	**S**	**20 06 32.6**	**+10**
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,276nm,6.7s						
HHC				LR	LR		
	comp=N,455nm,15.5s						
HHC				LR	LR		
	comp=E,601nm,21.4s						
HHC				LR	LR		
	comp=Z,335nm,25.0s						
LZH	**Lanzhou**	**49.59**	**325**	*e*P	**P**	**19 59 21.5**	**+0.7**
LZH				AP	pP	19 59 35.1	+0.5
LZH				XP	sP	19 59 40.5	-0.1
LZH				PP	PP	20 01 17.6	+1.6
LZH				S	**S**	**20 06 26.0**	**+2.1**
LZH				XS		20 06 49.3	
LZH				AMB	AMB		
	comp=Z,36nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,248nm,5.3s						
LZH				LR	LR		
	comp=N,877nm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,18.0s,MS5.1						
LZH	**Lanzhou**	**49.59**	**325**	*e*P	**P**	**19 59 21.5**	**+0.7**
	comp=Z,36nm,1.6s,mb5.2						
LZH				pP	pP	19 59 35.1	+0.5
LZH				sP	sP	19 59 40.5	-0.1
LZH				PP	PP	20 01 17.6	+1.6
LZH				S	**S**	**20 06 26.0**	**+2.1**
LZH				sS		20 06 49.3	
LZH				SS	ScS	20 09 06.7	+1.9
LZH				LR	LR		
	comp=Z,2μm,18.0s,MS5.1						
LZH	**Lanzhou**	**49.59**	**325**	*e*P	**P**	**19 59 21.5**	**+0.7**
LZH				*PP	pP	19 59 35.1	+0.5
LZH						20 01 17.6	
LZH				S	**S**	**20 06 26.0**	**+2.1**
LZH				SS	ScS	20 09 06.7	+1.9
LZH				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.1						
YSS	**Yuzh-Sakhalins**	**50.50**	**6**	*e*P	**P**	**19 59 27.1**	**-0.6**
	comp=Z,76nm,1.3s,mb5.6						
YSS	**Yuzh-Sakhalins**	**50.50**	**6**	*e*P	**P**	**19 59 26.0**	**-1.6**
YSS				*e*	pP	19 59 44.1	+2.7
SNZO	**South Karori**	**51.14**	**143**	*e*P	**P**	**19 59 33.3**	**+0.8**
KLR	**Kul'dur**	**52.58**	**356**	*e*P	**P**	**19 59 39.7**	**-3.6**
CAL	**Calcutta**	**53.37**	**301**	*e*x	x	20 00 23.5	
GTA	**Gaotai**	**54.19**	**325**	*e*P	**P**	**19 59 55.2**	**-0.1**
GTA				AP	pP	20 00 03.9	-5.4
GTA				XP	sP	20 00 07.4	-7.8
GTA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
LSA	**Lhasa**	**54.24**	**311**	*e*P	**P**	**19 59 56.6**	**+0.8**
LSA	**Lhasa**	**54.24**	**311**	*e*P	**P**	**19 59 57.4**	**+1.6**
	comp=Z,25nm,0.8s,mb5.2						
LSA	**Lhasa**	**54.24**	**311**	*e*P	**P**	**19 59 57.4**	**+1.6**
LSA				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
VIS	**Vishakhapatnam**	**56.19**	**294**	*e*P	**P**	**20 00 10.1**	**+0.1**
ULN	**Ulaanbaatar**	**57.10**	**337**	*e*P	**P**	**20 00 17.5**	**+1.4**
	comp=Z,16nm,1.1s,mb5.0						
ULN				LR	LR		
	comp=Z,380nm,19.0s,MS4.5						
ULN	**Ulaanbaatar**	**57.10**	**337**	*e*P	**P**	**20 00 16.4**	**+0.3**
PKI	**Pulchoki**	**57.79**	**306**	*e*P	**P**	**20 00 21.0**	**-0.3**
	comp=Z,27nm,0.6s,mb5.4						
KKN	**Kakani**	**57.99**	**306**	*e*P	**P**	**20 00 22.5**	**-0.2**
	comp=Z,53nm,0.7s,mb5.7						
DMN	**Daman**	**58.06**	**306**	*e*P	**P**	**20 00 23.2**	**+0.1**
	comp=Z,79nm,0.8s,mb5.8						
GKN	**Gorkha**	**58.59**	**306**	*e*P	**P**	**20 00 26.8**	**-0.1**
	comp=Z,149nm,0.9s,mb6.0						
BLSP	**Bilaspur**	**58.60**	**298**	*e*P	**P**	**20 00 26.5**	**-0.5**
BLSP				AMb	AMB	20 00 27.8	
	comp=Z,36nm,0.7s,mb5.5						
PET	**Petropavlovsk**	**59.34**	**16**	*e*P	**P**	**20 00 42.0**	**+10**
PET				*e*S	**S**	**20 08 52.1**	**+17**
PET				pmax	pmax		
	comp=Z,100nm,15.0s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
KOLN	**Koldanda**	**59.35**	**305**	*e*P	**P**	**20 00 32.3**	**+0.2**
	comp=Z,113nm,0.8s,mb6.0						
HYB	**Hyderabad**	**60.50**	**292**	*i* P	**P**	**20 00 39.0**	**-1.1**
HYB	**Hyderabad**	**60.50**	**292**	*e*P	**P**	**20 00 39.0**	**-1.1**
ZAK	**Zakamensk**	**60.60**	**336**	*e*P	**P**	**20 00 42.4**	**+2.0**
ZAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
CLNS	**Chul'man**	**60.76**	**353**	*e*P	**P**	**20 00 51.7**	**+10**
CLNS				*e*		20 01 27.0	
CLNS				*e*S	**S**	**20 09 08.6**	**+16**
CLNS				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
CLNS				smax			
	comp=N,46nm,12.8s						
CLNS				smax			
	comp=Z,22nm,11.3s						
CLNS				smax			
	comp=E,89nm,13.7s						
NGP	**Nagpur**	**61.03**	**296**	*e*P	**P**	**20 00 43.0**	**-0.7**
NGP				AMb	AMB	20 00 43.9	
	comp=Z,35nm,0.5s,mb5.7						
IRK	**Irkutsk**	**61.69**	**338**	*e*P	**P**	**20 00 48.1**	**+0.4**
IRK				pmax	pmax		
	comp=Z,51nm,2.3s,mb5.2						
AKL	**Akola**	**62.74**	**295**	*e*x	x	20 03 03.0	
PTH	**Pithoragarh**	**62.77**	**306**	*e*P	**P**	**20 00 52.0**	**-3.2**
BHPL	**Bhopal**	**63.08**	**298**	*e*P	**P**	**20 00 56.7**	**-0.7**
BHPL				AMb	AMB	20 00 58.9	
	comp=Z,44nm,0.7s,mb5.7						
DRV	**Dumont d'Urvil**	**63.18**	**178**	S	**S**	**20 09 24.0**	**+0.8**
BOD	**Bodaibo**	**63.61**	**347**	*e*P	**P**	**20 00 59.1**	**-1.2**
BOD				pmax	pmax		
	comp=Z,18nm,1.9s,mb4.8						
WMQ	**Urumqi**	**64.03**	**323**	P	**P**	**20 01 03.5**	**+0.2**
WMQ				AP	pP	20 01 16.0	-1.7
WMQ				XP	sP	20 01 21.0	-2.5
WMQ				PCP	PcP	20 01 40.0	+1.8
WMQ				SCP		20 05 39.0	
WMQ				*e*S	**S**	**20 09 35.0**	**+0.8**
WMQ				XS		20 09 59.0	
WMQ				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,315nm,4.8s						
WMQ				LR	LR		

comp=N,360nm,21.0s,MS4.6
WMQ LR LR
comp=E,228nm,24.0s,MS4.6
WMQ LR LR
comp=Z,293nm,18.9s
KAD Karad 64.53 291 *e*P **P 20 01 05.9 -1.1**
KAD AMb AMB 20 01 11.5
comp=Z,38nm,1.4s,mb5.2
POO Poona 65.11 292 *e*P **P 20 01 09.8 -0.9**
POO AMb AMB 20 01 11.2
comp=Z,51nm,0.7s,mb5.7
CASY Casey 65.27 191 *e*P **P 20 01 10.6 -0.4**
CASY *e*pP pP 20 01 26.8 +1.4
YAK Yakutsk 65.47 357 *e*P **P 20 01 11.6 -0.7**
comp=Z,40nm,0.7s,mb5.6
YAK *e*pP pP 20 01 25.4 -1.3
YAK LR LR
comp=Z,552nm,20.0s,MS4.8
YAK Yakutsk 65.47 357 *e*P **P 20 01 11.6 -0.7**
YAK *e**PP pP 20 01 25.4 -1.3
YAK pmax pmax
comp=Z,40nm,0.7s,mb5.6
YAK MLR MLR
comp=Z,552nm,20.0s,MS4.8
AJM Ajmer 66.43 301 *i* P **P 20 01 18.0 -1.0**
SEY Seymchan 67.31 8 *e*P **P 20 01 23.4 -0.5**
MKAR Makanchi Array 68.84 323 P **P 20 01 33.5 -0.2**
comp=Z,18nm,0.6s,mb5.2,baz=110,slow=8.1,SNR=182
KSH Kashi 69.76 314 *e*P **P 20 01 40.0 +0.5**
KSH *e*AP pP 20 01 53.0 -1.1
KSH *e*XP sP 20 01 58.1 -1.5
KSH *e*PCP PcP 20 02 03.4 +1.3
KSH *e*PP PP 20 04 14.3 -1.9
KSH *e*PPP PPP 20 05 53.1 -2.6
KSH S S 20 10 39.4 -4.0
KSH *e*XS 20 11 04.5
KSH *e*SCS ScS 20 11 32.6 -0.7
KSH AMB AMB
comp=Z,200nm,4.6s
KSH LR LR
comp=N,260nm,4.7s
KSH LR LR
comp=E,400nm,5.3s
MIR Mirnyy 69.77 197 *d i*P **P 20 01 40.4 +1.3**
MIR pmax pmax
comp=Z,52nm,1.2s,mb5.3
ULHL Ulahol 70.64 317 P **P 20 01 45.3 +0.5**
SNR=6.0
KZA Kyzart 71.26 317 P **P 20 01 49.9 +1.3**
SNR=50
ZAL Zalesovo 71.31 331 P **P 20 01 47.8 -0.9**
comp=Z,2.3nm,0.5s,mb4.4,baz=13,slow=5.2,SNR=9.5
TKM2 Tokmak 2 71.35 318 P **P 20 01 49.5 +0.4**
SNR=21
KBK Karagaybulak 71.69 317 P **P 20 01 51.7 +0.6**
SNR=9.0
UCH Uchtor 71.82 317 P **P 20 01 52.9 +1.0**
SNR=17
CHMS Chumysh 71.95 317 P **P 20 01 52.5 -0.2**
SNR=6.4
AAK Ala-Archa 71.99 317 *e*P **P 20 01 52.4 -0.4**
comp=Z,28nm,1.0s,mb5.2
AAK *e*pP pP 20 02 06.9 -0.6
AAK Ala-Archa 71.99 317 *e*P **P 20 01 52.4 -0.5**
AAK *e**PP pP 20 02 06.9 -0.5
AAK pmax pmax
comp=Z,28nm,1.0s,mb5.2
USP Ospenovka 72.23 318 P **P 20 01 54.4 +0.1**
SNR=41
AML Almayashu 72.35 316 P **P 20 01 56.1 +1.1**
SNR=50
EKS2 Erkin-Say 72.49 317 P **P 20 01 56.3 +0.5**
SNR=29
NVS Novosibirsk 72.58 331 *e*P **P 20 01 54.0 -2.1**
NVS *e* 20 04 44.1
NVS *e*S S 20 11 11.8 -3.8
NVS pmax pmax
comp=Z,72nm,2.1s,mb5.2
NVS pmax pmax
comp=N,27nm,1.7s
NVS pmax pmax
comp=E,36nm,1.9s
NVS smax
comp=N,14nm,2.2s
NVS smax
comp=E,20nm,2.2s
KURK Kurchatov 72.87 326 *e*P **P 20 01 57.0 -0.9**
comp=E,37nm,1.0s,mb5.3
KURK *e*pP pP 20 02 10.7 -1.9
KURK Kurchatov 72.87 326 *e*P **P 20 01 57.0 -1.0**
KURK *e**PP pP 20 02 10.7 -1.9
KURK pmax pmax
comp=Z,37nm,1.0s,mb5.3
PPT Papeete 73.94 107 *e*S S 20 11 44.7 +13
PPT *e*LR LR 20 25 07.2
comp=Z,413nm,29.2s
UNV Unalaska Valle 74.24 31 *e*P **P 20 02 05.2 -0.7**
TBI Tubuai 74.28 113 *e*S S 20 11 47.1 +12
TBI *e*LR LR 20 25 13.2
comp=Z,541nm,31.5s
BILL Bilibino 74.34 11 *e*P **P 20 02 05.3 -0.9**
BILL *e* pP 20 02 19.3 -1.5
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
KKAR Karatay Array 74.89 316 *i* P **P 20 02 09.5 -0.4**
KKAR pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
TIXI Tiksi 75.09 358 *e*P **P 20 02 11.2 +0.8**
TIXI pmax pmax
comp=Z,11nm,1.9s,mb4.5
VNDA Vanda 75.31 174 P **P 20 02 12.2 +0.6**
comp=Z,10nm,0.7s,mb4.8,baz=324,slow=6.3,SNR=64
VNDA LR LR 20 34 19.6
comp=Z,410nm,18.3s,MS4.8,baz=344,slow=35
VNDA Vanda 75.31 174 *e*P **P 20 02 12.1 +0.5**
comp=Z,11nm,0.8s,mb4.8
VNDA Vanda 75.31 174 P **P 20 02 12.2 +0.6**
VNDA pmax pmax
comp=Z,10.0nm,0.7s
VNDA MLR MLR
comp=Z,410nm,18.3s
SBA Scott Base 76.11 174 *e*P **P 20 02 18.2 +2.0**
comp=Z,24nm,1.1s,mb5.0
SBA Scott Base 76.11 174 *e*P **P 20 02 18.2 +2.0**
SBA pmax pmax
comp=Z,24nm,1.1s,mb5.0
VOSK Vostochnaya 78.03 326 P **P 20 02 26.5 -0.8**
VOSK pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BVA0 Borovoye Array 78.47 326 *i* P **P 20 02 29.4 -0.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 78.47 326 P **P 20 02 29.6 -0.1**
comp=Z,11nm,0.6s,mb5.0,baz=120,slow=8.0,SNR=38
BRVK Borovoye 78.54 326 *e*P **P 20 02 29.6 -0.5**
comp=Z,18nm,0.8s,mb5.0
BRVK Borovoye 78.54 326 *e*P **P 20 02 29.6 -0.5**
BRVK pmax pmax
comp=Z,18nm,0.8s,mb5.0
WBK Wadi Bani Khal 79.55 294 ⇓P **P 20 02 36.3 +0.1**
JMDO Jabal Madar 80.31 293 P **P 20 02 40.4 +0.1**
SNR=7.4
BIDO Bidbid 80.45 294 P **P 20 02 41.6 +0.6**
SNR=13
SMDO Samad 80.45 294 P **P 20 02 41.4 +0.3**
SNR=15
MAW Mawson 80.52 202 ⇑*i*P **P 20 02 41.9 +1.3**
comp=Z,12nm,0.8s,mb4.9
MAW Mawson 80.52 202 P **P 20 02 41.2 +0.6**
comp=Z,16nm,0.8s,mb5.0,baz=69,slow=6.4,SNR=51
MAW LR LR 20 34 25.9
comp=Z,274nm,18.4s,MS4.6,baz=60,slow=33
MAW Mawson 80.52 202 ⇑*i*P **P 20 02 41.9 +1.3**
MAW pmax pmax
comp=Z,12nm,0.8s
BSY Bisya 81.19 294 ⇓P **P 20 02 45.0 +0.1**
HOQ Hoqain 81.20 294 P **P 20 02 45.4 +0.4**
SNR=8.6
ARQ Araqi 81.89 294 P **P 20 02 49.2 +0.7**
SNR=11
KDAK Kodiak Island 82.99 31 *e*P **P 20 02 54.2 +0.7**
comp=Z,20nm,0.8s,mb5.2
KDAK *e*pP pP 20 03 06.8 -1.6
TTA Tatalina 83.12 25 *e*P **P 20 02 55.4 +1.3**
TAOE Nuku Hiva Isla 83.22 98 *e*LR LR 20 29 29.5
comp=Z,1μm,34.0s

RBK Rabkut 83.39 288 ⇑P **P 20 02 54.8 -1.5**
AB31 Akbulak array 83.65 320 P **P 20 02 56.5 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
WHFO Wadi Hawf 83.84 288 ⇓P **P 20 02 57.3 -1.4**
SNR=6.5
ABTO Aybut 84.24 288 ⇑P **P 20 02 59.3 -1.5**
SLKM Skilak Lake 84.95 28 *e*P **P 20 03 02.4 -0.9**
SVE Sverdlovsk 84.99 328 *e*P **P 20 03 07.2 +3.6**
SVE *i* pP 20 03 24.9 +6.4
SVE *e*S SP 20 14 20.0 -2.9
SVE pmax pmax
comp=Z,120nm,2.1s,mb5.7
IMA Indian Mountai 85.17 23 *e*P **P 20 03 05.4 +1.1**
ARU Arti 86.02 327 *e*P **P 20 03 07.5 -1.1**
comp=Z,27nm,0.9s,mb5.5
ARU Arti 86.02 327 ⇑*i*P **P 20 03 07.8 -0.8**
ARU *e* 20 06 27.6
ARU *e*S S 20 13 30.1 -6.9
ARU *e*SS SS 20 19 18.0 -1.3
ARU pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
SML Sawmill 86.18 27 *e*P **P 20 03 09.6 +0.3**
QSPA South Pole Qui 86.53 180 ⇓*i*P **P 20 03 12.8 +2.2**
comp=Z,33nm,0.8s,mb5.6
DIV Divide 87.22 28 *e*P **P 20 03 15.4 +1.0**
comp=Z,118nm,0.8s,mb6.2
DIV *e*pP pP 20 03 30.4 +1.1
ILAR Eielson Array 87.53 25 P **P 20 03 14.8 -1.0**
comp=Z,8.2nm,0.7s,mb5.1,baz=267,slow=4.6,SNR=81
ILAR LR LR 20 38 49.1
comp=Z,195nm,21.7s,MS4.5,baz=240,slow=33
RKT Rikitea 87.60 113 *e*LR LR 20 31 23.3
comp=Z,336nm,35.0s
OPO Ambohidratompo 87.98 252 P **P 20 03 19.9 +0.9**
comp=Z,9.0nm,0.7s,mb5.1,baz=85,slow=4.9,SNR=14
SYO Syowa Base 89.19 201 ⇓P **P 20 03 23.2 -0.5**
SYO Syowa Base 89.19 201 ⇓PcP PcP 20 03 28.8 +3.4
INK Inuvik 93.27 22 P **P 20 03 40.9 -1.7**
comp=Z,3.0nm,0.8s,mb4.8,baz=211,slow=2.1,SNR=3.9
KIV Kislovodsk 94.88 314 *i* P **P 20 03 50.4 -0.1**
OBN Obninsk 98.31 325 *e*P **P 20 04 06.8 +1.1**
OBN *i* pP 20 04 25.8 +5.0
OBN pmax pmax
comp=Z,21nm,2.5s,mb5.2
KMBO Kilima Mbogo 98.85 268 LR LR 20 44 31.3
comp=Z,108nm,19.4s,MS4.4,baz=96,slow=33
ARCES ARCESS Array B 100.35 340 P P 20 04 14.2 -0.5
comp=Z,4.3nm,0.9s,slow=4.9,SNR=5.6
SNAA Sanae 100.50 192 P P 20 04 17.8 +2.5
SNAA Sanae 100.50 192 P 20 04 20.5 +5.2
SNAA Sanae 100.50 192 *e*P P 20 04 17.3 +2.0
YKA Yellowknife Ar 101.83 27 P P 20 04 19.6 -1.9
comp=Z,0.4nm,0.6s,baz=284,slow=4.1,SNR=5.5
YKA Yellowknife Ar 101.83 27 P P 20 04 19.6 -1.9
YKA Yellowknife Ar 101.83 27 *i* P P 20 04 21.9 +0.4
VNA2 Neumayer--Watz 102.01 192 P P 20 04 27.3 +5.2
VNA2 Neumayer--Watz 102.01 192 P 20 04 31.7 +10
VNA2 Neumayer--Watz 102.01 192 PP 20 08 30.9 -5.4
VNA3 Neumayer Olymp 102.19 191 P Pdif 20 04 26.8 +3.9
VNA3 Neumayer Olymp 102.19 191 Pdif 20 04 30.4 +7.5
VNA3 Neumayer Olymp 102.19 191 Pdif 20 04 35.6 +13
GERES GERESS Array B 113.50 323 PKiKP 20 09 06.3
comp=Z,0.5nm,0.5s,baz=88,slow=1.5,SNR=7.4
TXAR Lajitas Array 117.82 59 PKKPbc 20 19 37.5
comp=Z,2.0nm,1.1s,baz=134,slow=5.4,SNR=8.2
HINF Hinteralfeld 118.06 324 *e*PKP1 PKPdf 20 09 15.0 +1.1
HAU Haudompre 118.26 324 *e*PKP1 PKPdf 20 09 15.0 +0.7
LPG La Plagne 119.22 322 *e*PKP1 PKPdf 20 09 17.1 +0.8
comp=Z,5.2nm,0.5s
LPL La Plagne 119.23 322 *e*PKP1 PKPdf 20 09 17.1 +0.8
comp=Z,5.0nm,0.5s
SBF Sospel 119.54 320 *e*PKP1 PKPdf 20 09 17.5 +0.5
comp=Z,81nm,1.5s
MBDF Montbardon 119.57 321 *e*PKP1 PKPdf 20 09 17.7 +0.7
comp=Z,4.9nm,0.6s
ORIF Oris-en-Rattie 120.04 321 *e*PKP1 PKPdf 20 09 18.3 +0.4
comp=Z,12nm,0.9s
SMF Signal de Mont 120.42 324 *e*PKP1 PKPdf 20 09 20.0 +1.4
PLCA Paso Flores 129.71 154 PKP PKPdf 20 09 39.9 +3.2
comp=Z,4.3nm,0.7s,baz=249,slow=2.0,SNR=11
CFAA Coronel Fontan 138.12 148 PKP PKPdf 20 09 55.2 +2.6
comp=Z,0.7nm,0.6s,baz=202,slow=1.7,SNR=6.0
CFAA Coronel Fontan 138.12 148 PKP PKPdf 20 09 55.2 +2.6
LVC Limon Verde 144.35 138 PKP PKPdf 20 10 05.9 +2.0
comp=Z,3.9nm,0.4s,baz=280,slow=1.9,SNR=6.9
LVC Limon Verde 144.35 138 *e*PKPdf PKPdf 20 10 06.3 +2.4
ARE Arequipa 146.25 127 P PKPdf 20 10 11.0 +3.7
CPUP Villa Florida 147.65 157 PKPbc PKPdf 20 10 13.2 +3.9
comp=Z,15nm,0.7s,baz=221,slow=2.9,SNR=16
CPUP Villa Florida 147.65 157 *e*PKPdf PKPdf 20 10 13.1 +3.7
CPUP *ep*PKPdf 20 10 28.9
LPAZ La Paz 148.99 130 PKPbc PKPdf 20 10 19.6 +7.9
comp=Z,9.3nm,0.7s,baz=252,slow=2.6,SNR=24
LPAZ La Paz 148.99 130 *e*PKIKP PKPdf 20 10 15.6 +3.9
LPAZ *e* 20 10 32.4
SDV Santo Domingo 152.80 77 PKPbc PKPdf 20 10 26.6 +9.0
comp=Z,4.9nm,0.4s,baz=286,slow=4.0,SNR=5.6
SDV Santo Domingo 152.80 77 *e*PKPbc PKPdf 20 10 26.4 +8.9
SIV San Ignacio 154.24 139 PKP PKPdf 20 10 20.5 +1.0
comp=Z,4.9nm,1.0s,baz=228,slow=0.4,SNR=15
SIV PKPbc PKPdf 20 10 31.0 +12
comp=Z,3.4nm,0.5s,baz=246,slow=3.9,SNR=16
SAML Samuel 157.11 123 *e*PKPdf PKPdf 20 10 26.2 +2.8

MAN 05 20:27:06.9, 15.49N×120.15E, mb3.5, ML2.2, MS1.7, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.37**	**321**	*i*	P	Pg		20 27 14.0	-0.2
NBP	**Mount Natib**	**0.79**	**161**	⇑*e*	P	Pg		20 27 22.6	0.0
PCPH	**Palayan**	**0.92**	**85**	⇓*e*	P	Pg		20 27 25.1	-0.1
PCPH				*e*	S	Sg		20 27 40.2	+2.9
BCPH	**Baguio City Da**	**0.98**	**25**	*e*	P	Pb		20 27 40.5	+14
BCPH				*e*	S	Sg		20 27 40.5	+1.1
BALP	**Baler**	**1.40**	**80**	⇑*i*	P	Pb		20 27 33.5	0.0
LBPH	**Los Banos**	**1.66**	**143**	⇓*e*	P	Pn		20 27 36.8	-0.7

IDC 05 20:39:45.4±1.5, 0.58S×123.91E, mb3.5/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=65.6km s-min=30.1km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.78**	**153**	P		P		20 44 39.1	-1.8
	0.3nm,0.7s,baz=334,slow=11,SNR=4.9								
MJAR	**Matsushiro Arr**	**39.25**	**18**	P		P		20 47 16.2	-1.3
	1.5nm,0.7s,baz=194,slow=8.7,SNR=4.6								
MKAR	**Makanchi Array**	**59.58**	**328**	P		P		20 49 50.9	-2.4
	0.3nm,0.3s,baz=123,slow=8.8,SNR=7.7								
MKAR						PcP	PcP	20 50 37.6	-2.8
	0.5nm,0.9s,baz=130,slow=3.8,SNR=3.7								

*IDC **05** 20:44:17.5±0.6, 10.31N×138.38E, mb4.5/15, mb1 4.7/16, mb1mx4.6/21, mbtmp4.5/16, ML4.5/1, MS4.0/9, Ms1 4.0/9, ms1mx3.8/18, Error ellipse: s-maj=27.4km s-min=13.1km az=85.0*
*BJI **05** 20:44:18.5, 10.43N×139.13E, h26km, mB5.2, mb4.7, Ms5.3, Msz4.5*
*NEIC **05** 20:44:19.6±0.3, 10.29N×138.44E, h10km, mb4.8/18, Error ellipse: s-maj=13.1km s-min=7.3km az=85.0*
*MOS **05** 20:44:21.1±1.6, 10.35N×138.51E, h33km, mb4.8/18, Error ellipse: s-maj=14.5km s-min=7.9km az=101.5*
ISC 05 20:44:21.0±0.3, 10.29N±0.05×138.59E±0.07, h33km, **(h30**km**±2.9**km**:pP-P), n96,** σ**1**s**36/81, mb4.7**/48**, MS4.1**/12**, 3C-2D, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.97**	**61**	Pn		**Pn**		**20 46 03.1**	**-0.4**
	8.7nm,0.3s,baz=183,slow=18,SNR=3.9								
GUMO						LR	LR	20 48 22.7	
	comp=Z,990nm,20.4s,baz=43,slow=34								
PMG	**Port Moresby**	**21.35**	**156**	P		**P**		**20 49 08.0**	**+0.4**
	12nm,0.7s,mb4.3,slow=7.1,SNR=3.5								
JHJ	**Hachijo jima 2**	**22.75**	**3**	LR		LR		20 56 16.2	
	comp=Z,203nm,18.3s,MS3.6,baz=225,slow=32								
KAKA	**Kakadu**	**23.65**	**195**	*e*P		**P**		**20 49 46.8**	**+16**
	34nm,0.6s,mb5.0								
MJAR	**Matsushiro Arr**	**26.14**	**359**	P		**P**		**20 49 52.9**	**-1.2**
	3.5nm,0.9s,mb3.9,baz=170,slow=9.8,SNR=5.8								
SSE	**Sheshan**	**26.26**	**325**	*e*P		**P**		**20 49 56.0**	**+0.8**
SSE				PCP		PcP	PcP	20 53 17.5	-4.2
SSE				S		**S**	**S**	**20 54 27.4**	**+4.1**
SSE				SCS		ScS	ScS	21 00 47.0	+0.8
SSE				AMB		AMB			
	comp=Z,32nm,0.8s,mb4.9								
SSE				AMB		AMB			
	comp=Z,360nm,5.9s								
SSE	**Sheshan**	**26.26**	**325**	*e*P		**P**		**20 49 56.0**	**+0.8**
	comp=Z,32nm,0.8s,mb4.9								
SSE				pP		pP		20 50 15.4	+11
SSE				sP		sP		20 50 26.1	+18
SSE				PcP		PcP		20 53 17.5	-4.2
SSE				S		**S**		**20 54 27.4**	**+4.1**
SSE				sS				20 55 03.1	
SSE				ScS		ScS		21 00 47.0	+0.8
SSE				LR		LR			
	comp=Z,220nm,23.2s,MS3.6								
NJ2	**Nanjing**	**28.31**	**323**	*e*P		**P**		**20 50 11.8**	**-2.1**
NJ2				AP		pP		20 50 21.2	-2.3
NJ2				XP		sP		20 50 25.2	-2.5
NJ2				PP		PP		20 51 02.0	-3.3
NJ2				S		**S**		**20 54 52.0**	**-4.6**
NJ2				AMB		AMB			
	comp=Z,20nm,0.6s,mb4.9								
NJ2				AMB		AMB			
	comp=Z,804nm,5.2s								
NJ2				LR		LR			
	comp=N,2μm,13.8s,MS5.0								
NJ2				LR		LR			
	comp=E,2μm,14.2s,MS5.0								
NJ2				LR		LR			
	comp=Z,2μm,14.4s,MS4.8								
HNR	**Honiara**	**28.91**	**132**	LR		LR		20 58 53.1	
	comp=Z,357nm,21.2s,MS4.0,baz=316,slow=30								
WRAB	**Tennant Creek**	**30.32**	**188**	*e*P		**P**		**20 50 30.3**	**-1.6**
	comp=Z,12nm,0.9s,mb4.6								
WRAB	**Tennant Creek**	**30.32**	**188**	*e*P		**P**		**20 50 30.3**	**-1.6**
WRAB				pmax		pmax			
	comp=Z,12nm,0.9s,mb4.6								
WB2	**Warramunga Arr**	**30.33**	**188**	*e*P		**P**		**20 50 30.0**	**-2.0**
WRA	**Warramunga Arr**	**30.33**	**188**	P		**P**		**20 50 30.0**	**-2.0**
	comp=Z,2.7nm,0.6s,mb4.1,baz=1.4,slow=9.6,SNR=50								
WRA				PcP		PcP		20 53 31.2	-0.6
	comp=Z,1.6nm,0.7s,baz=347,slow=2.5,SNR=6.0								
FITZ	**Fitzroy Crossi**	**30.97**	**204**	⇓*i*P		**P**		**20 50 34.4**	**-3.3**
	comp=Z,18nm,0.8s,mb5.0								
FITZ	**Fitzroy Crossi**	**30.97**	**204**	P		**P**		**20 50 34.7**	**-3.1**
	comp=Z,30nm,0.8s,mb5.2,baz=11,slow=9.3,SNR=20								
CTA	**Charters Tower**	**31.12**	**166**	*e*P		**P**		**20 50 39.8**	**+0.8**
	comp=Z,4.4nm,1.0s,mb4.2								
CTA	**Charters Tower**	**31.12**	**166**	P		**P**		**20 50 39.5**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.3,baz=347,slow=12,SNR=4.1								
CTA	**Charters Tower**	**31.12**	**166**	*e*P		**P**		**20 50 39.8**	**+0.8**
CTA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
XAN	**Xi'an**	**36.00**	**316**	P		**P**		**20 51 22.4**	**+1.4**
XAN				AMB		AMB			
	comp=Z,8.0nm,1.2s,mb4.5								
YSS	**Yuzh-Sakhalins**	**36.71**	**5**	*c i*P		**P**		**20 51 28.4**	**+1.6**
YSS				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.5								
KMI	**Kunming**	**37.05**	**298**	P		**P**		**20 51 32.3**	**+2.3**
KMI				AMB		AMB			
	comp=Z,8.0nm,1.2s,mb4.4								
KMI				LR		LR			
	comp=Z,338nm,23.3s,MS4.1								
KMI	**Kunming**	**37.05**	**298**	P		**P**		**20 51 32.3**	**+2.3**
	comp=Z,8.0nm,1.2s,mb4.4								
KMI				LR		LR			
	comp=Z,340nm,23.3s,MS4.1								
KLR	**Kul'dur**	**39.23**	**353**	*e*P		**P**		**20 51 45.2**	**-2.7**
LZH	**Lanzhou**	**40.61**	**315**	*e*P		**P**		**20 52 03.1**	**+3.6**
LZH				AMB		AMB			
	comp=Z,28nm,1.5s,mb4.7								
LZH	**Lanzhou**	**40.61**	**315**	*e*P		**P**		**20 52 03.1**	**+3.6**
	comp=Z,28nm,1.5s,mb4.7								
LZH				pP		pP		20 52 14.1	+4.8
LZH				sP		sP		20 52 19.0	+5.5
LZH	**Lanzhou**	**40.61**	**315**	*e*P		**P**		**20 52 03.1**	**+3.6**
LZH				*PP		pP		20 52 14.1	+4.8
LZH				*SP		sP		20 52 19.0	+5.5
LZH				pmax		pmax			
	comp=Z,28nm,1.5s,mb4.7								
STKA	**Stephens Creek**	**42.03**	**176**	*e*P		**P**		**20 52 10.6**	**-0.6**
	comp=Z,16nm,0.8s,mb4.7								
STKA	**Stephens Creek**	**42.03**	**176**	P		**P**		**20 52 11.3**	**0.0**
	comp=Z,18nm,0.8s,mb4.8,baz=341,slow=7.5,SNR=26								
FORT	**Forrest**	**42.07**	**194**	*e*P		**P**		**20 52 11.1**	**-0.5**
	comp=Z,85nm,0.8s,mb5.4								
DZM	**Mont Dzumac**	**42.20**	**140**	LR		LR		21 06 46.8	
	comp=Z,194nm,19.4s,MS4.0,baz=291,slow=32								
GTA	**Gaotai**	**45.04**	**317**	*e*P		**P**		**20 52 35.3**	**-0.2**
GTA				AP		pP		20 52 43.2	-2.2
GTA				XP		sP		20 52 46.2	-3.3
GTA				PCP		PcP		20 54 19.6	+3.1
GTA				AMB		AMB			
	comp=Z,3.0nm,2.4s,mb3.7								
ULN	**Ulaanbaatar**	**45.89**	**331**	*e*P		**P**		**20 52 42.8**	**+0.6**
TOO	**Toolangi**	**48.05**	**173**	*e*P		**P**		**20 53 00.9**	**+1.6**
	comp=Z,8.0nm,1.0s,mb4.7								
TOO	**Toolangi**	**48.05**	**173**	*e*P		**P**		**20 53 00.9**	**+1.6**
TOO				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.7								
LSA	**Lhasa**	**48.19**	**301**	*e*P		**P**		**20 53 02.5**	**+2.0**
	comp=Z,3.5nm,0.7s,mb4.5								
LSA	**Lhasa**	**48.19**	**301**	*e*P		**P**		**20 53 02.5**	**+2.0**
LSA				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
ZAK	**Zakamensk**	**49.42**	**331**	*e*P		**P**		**20 53 08.6**	**-1.1**
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.5								
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.0s,mb4.1								
BOD	**Bodaibo**	**51.03**	**343**	*e*P		**P**		**20 53 17.5**	**-4.4**
BOD				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
YAK	**Yakutsk**	**52.05**	**355**	*e*P		**P**		**20 53 29.0**	**-0.5**
	comp=Z,44nm,1.0s,mb5.3								
YAK	**Yakutsk**	**52.05**	**355**	*e*P		**P**		**20 53 27.9**	**-1.6**
YAK				pmax		pmax			
	comp=Z,19nm,0.9s,mb5.0								
YAK				pmax		pmax			
	comp=N,8.0nm,1.1s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.1s								
PKI	**Pulchoki**	**52.75**	**297**	*e*P		**P**		**20 53 35.9**	**+0.7**
	comp=E,18nm,0.9s,mb5.0								
KKN	**Kakani**	**52.89**	**297**	*e*P		**P**		**20 53 37.8**	**+1.5**
	comp=E,26nm,1.0s,mb5.1								
DMN	**Daman**	**53.02**	**297**	*e*P		**P**		**20 53 38.8**	**+1.6**
	comp=E,32nm,1.0s,mb5.2								
SEY	**Seymchan**	**53.48**	**8**	*e*P		**P**		**20 53 41.6**	**+1.4**
GKN	**Gorkha**	**53.49**	**297**	*e*P		**P**		**20 53 42.3**	**+1.6**
	comp=E,18nm,1.0s,mb5.0								
KOLN	**Koldanda**	**54.37**	**297**	*e*P		**P**		**20 53 48.7**	**+1.6**
	comp=E,24nm,1.1s,mb5.0								
WMQ	**Urumqi**	**55.12**	**317**	*e*P		**P**		**20 53 51.6**	**-0.8**
MKAR	**Makanchi Array**	**59.72**	**319**	P		**P**		**20 54 24.4**	**-0.5**
	comp=E,8.1nm,1.0s,mb4.7,baz=101,slow=8.8,SNR=20								
MKAR						LR	LR	21 19 25.5	
	comp=E,82nm,20.9s,MS3.8,baz=137,slow=35								
MKAR	**Makanchi Array**	**59.72**	**319**	P		**P**		**20 54 24.4**	**-0.5**
MKAR						LR	LR	21 19 25.5	
URZ	**Urewera**	**60.22**	**146**	P		**P**		**20 54 28.8**	**+0.3**
	comp=E,8.2nm,0.9s,mb4.7,baz=92,slow=3.9,SNR=3.6								
BILL	**Bilibino**	**60.51**	**12**	*e*P		**P**		**20 54 30.2**	**+0.2**
BILL				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.8								
ZAL	**Zalesovo**	**60.86**	**327**	P		**P**		**20 54 31.3**	**-1.2**
	comp=Z,1.3nm,0.7s,mb4.2,baz=0.6,slow=8.3,SNR=10								
ZAL				LR		LR		21 20 38.8	
	comp=Z,129nm,18.6s,MS4.1,baz=358,slow=36								
TIXI	**Tiksi**	**61.60**	**357**	*e*P		**P**		**20 54 34.4**	**-2.9**
TIXI				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.9								
NVS	**Novosibirsk**	**62.07**	**327**	*e*P		**P**		**20 54 37.6**	**-3.0**
NVS				pmax		pmax			
	comp=Z,8.0nm,1.3s,mb4.7								
NVS				pmax		pmax			
	comp=N,6.0nm,1.5s								
NVS				pmax		pmax			
	comp=E,7.0nm,1.4s								
KURK	**Kurchatov**	**63.25**	**322**	*e*P		**P**		**20 54 47.5**	**-1.0**
	comp=E,6.7nm,0.9s,mb4.8								

KURK	**Kurchatov**	**63.25**	**322**	eP	**P**	**20 54 47.6**	**-1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**64.08**	**312**	d iP	**P**	**20 54 51.9**	**-2.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
BRVK	**Borovoye**	**68.83**	**323**	eP	**P**	**20 55 23.6**	**-0.5**
	comp=Z,13nm,1.1s,mb4.8						
BRVK	**Borovoye**	**68.83**	**323**	eP	**P**	**20 55 23.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
SML	**Sawmill**	**73.01**	**28**	eP	**P**	**20 55 50.1**	**+1.0**
ILAR	**Eielson Array**	**74.16**	**25**	P	**P**	**20 55 55.2**	**-0.5**
	comp=Z,3.8nm,1.0s,mb4.3,baz=252,slow=5.4,SNR=18						
THY	**Trims Highway**	**74.44**	**27**	eP	**P**	**20 55 58.4**	**+1.1**
SVE	**Sverdlovsk**	**74.86**	**326**	eP	**P**	**20 56 00.0**	**+0.1**
SVE				e	pP	20 56 09.1	-1.1
SVE				MLR	MLR		
	comp=N,100nm,14.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,100nm,14.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.6						
ARU	**Arti**	**75.98**	**326**	eP	**P**	**20 56 05.3**	**-1.0**
	comp=Z,13nm,0.9s,mb4.9						
ARU	**Arti**	**75.98**	**326**	⇑iP	**P**	**20 56 05.8**	**-0.5**
ARU				e	pP	20 56 15.6	-1.0
ARU				e		20 58 59.0	
ARU				eS	S	21 05 45.7	0.0
ARU				eSS	SS	21 10 41.6	0.0
ARU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
PPT	**Papeete**	**76.15**	**111**	eLR	LR	21 19 35.1	
	comp=Z,292nm,22.8s,baz=299						
TBI	**Tubuai**	**77.86**	**117**	eLR	LR	21 20 21.9	
	comp=Z,323nm,33.2s,baz=295						
CASY	**Casey**	**79.10**	**191**	eP	**P**	**20 56 23.1**	**-0.4**
	comp=Z,7.8nm,0.8s,mb4.7						
TAOE	**Nuku Hiva Isla**	**83.08**	**100**	eLR	LR	21 22 48.2	
	comp=Z,466nm,23.8s						
MIR	**Mirnyy**	**83.51**	**197**	c iP	**P**	**20 56 47.2**	**+0.7**
MIR				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.2						
ARCES	**ARCESS Array B**	**88.25**	**341**	P	**P**	**20 57 09.5**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.8,baz=72,slow=7.7,SNR=6.2						
ARCES				LR	LR	21 43 36.6	
	comp=Z,123nm,18.6s,MS4.3,baz=40,slow=40						
OBN	**Obninsk**	**88.42**	**326**	eP	**P**	**20 57 09.6**	**-1.3**
OBN				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.2						
YKA	**Yellowknife Ar**	**88.56**	**26**	P	**P**	**20 57 12.1**	**+0.8**
	comp=Z,1.8nm,0.9s,mb4.4,baz=294,slow=4.9,SNR=9.6						
YKA	**Yellowknife Ar**	**88.56**	**26**	iP	**P**	**20 57 12.1**	**+0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
JOF	**Joensuu**	**88.62**	**334**	ep	**P**	**20 57 10.0**	**-1.7**
VNDA	**Vanda**	**88.66**	**175**	P	**P**	**20 57 12.7**	**+1.1**
	comp=Z,3.0nm,0.9s,mb4.6,baz=315,slow=6.2,SNR=14						
HUMO	**Hull Mountain**	**89.26**	**47**	eP	**P**	**20 57 18.1**	**+2.9**
	comp=Z,6.3nm,1.2s,mb4.8						
SBA	**Scott Base**	**89.41**	**174**	eP	**P**	**20 57 17.9**	**+2.7**
	comp=Z,4.8nm,1.1s,mb4.7						
SBA	**Scott Base**	**89.41**	**174**	eP	**P**	**20 57 17.9**	**+2.7**
SBA				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.8						
RKT	**Rikitea**	**90.75**	**113**	eLR	LR	21 26 20.6	
	comp=Z,222nm,31.0s						
KAF	**Kangasniemi**	**91.08**	**334**	ep	**P**	**20 57 18.4**	**-4.8**
FINES	**FINESS Array B**	**91.45**	**334**	P	**P**	**20 57 24.0**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.6,baz=72,slow=6.0,SNR=9.9						
FINES				LR	LR	21 39 23.1	
	comp=Z,71nm,19.3s,MS4.1,baz=83,slow=36						
MAW	**Mawson**	**94.07**	**202**	P	**P**	**20 57 36.6**	**-0.2**
	comp=Z,2.1nm,0.9s,mb4.5,baz=89,slow=6.2,SNR=4.5						
BOZ	**Bozeman (W)**	**96.15**	**42**	eP	**P**	**20 57 50.1**	**+3.3**
	comp=Z,7.4nm,0.9s,mb5.1						
BOZ	**Bozeman (W)**	**96.15**	**42**	eP	**P**	**20 57 50.1**	**+3.3**
BOZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.1						
NOA	**NORSAR Array B**	**97.80**	**337**	LR	LR	21 46 32.7	
	comp=Z,39nm,18.1s,MS3.9,baz=60,slow=38						
GERES	**GERESS Array B**	**103.80**	**326**	Pdiff	Pdif	20 58 20.1	-1.1
	comp=Z,0.5nm,0.7s,baz=34,slow=4.8,SNR=4.1						
SNAA	**Sanae**	**114.32**	**193**	P	PKPdf	21 02 58.2	+1.2
SNAA	**Sanae**	**114.32**	**193**		PKPdf	21 03 01.6	+4.6
VNA2	**Neumayer--Watz**	**115.84**	**192**	P	PKPdf	21 03 03.0	+3.1
VNA2	**Neumayer--Watz**	**115.84**	**192**		PKPdf	21 03 05.9	+6.0
VNA3	**Neumayer Olymp**	**116.02**	**191**	P	PKPdf	21 03 03.2	+2.9
VNA3	**Neumayer Olymp**	**116.02**	**191**		PKPdf	21 03 06.1	+5.8
SDV	**Santo Domingo**	**145.23**	**58**	ePKPdf	PKPdf	21 03 58.8	+2.4
TRQA	**Tornquist**	**146.75**	**150**	ePKPdf	PKPdf	21 04 01.6	+3.3
LPAZ	**La Paz**	**153.34**	**106**	PKP	PKPdf	21 04 13.3	+4.4
	comp=Z,1.2nm,1.0s,baz=292,slow=5.7,SNR=4.5						

*BJI **05** 20:51:11.7, 1.40S×152.25E, h30^{km}, mB5.4, mb4.7*
*NEIC **05** 20:51:13.7±0.6, 1.74S×151.65E, h30^{km}, mb4.6/3, Error ellipse: s-maj=26.3km s-min=10.9km az=116.0*
*IDC **05** 20:51:17.0±12.0, 1.84S×151.65E, h60^{km}±112^{km}, mb4.0/10, mb1 4.2/11, mb1mx4.1/14, mbtmp4.2/11, ML3.7/1, MS3.9/1, Ms1 3.9/1, ms1mx3.3/9, Error ellipse: s-maj=36.1km s-min=29.9km az=85.0*
ISC 05 20:51:12.6±0.6**, 1.81S**±0.10×**151.6E**±0.2**, h33**^{km}**, n24, σ0^{s}94**/23**, mb4.3**/14**, MS4.0**/1**, 2C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.76**	**210**	P	**P**	**20 53 25.9**	**+6.0**
	0.1nm,0.3s,baz=6.3,slow=18,SNR=2.1						
PMG	**Port Moresby**	**8.76**	**210**	ePn	**P**	**20 53 21.8**	**+2.0**
	37nm,0.8s						
CTA	**Charters Tower**	**18.91**	**196**	P	**P**	**20 55 34.6**	**+1.3**
	0.2nm,0.3s,baz=11,slow=10,SNR=3.1						
KAKA	**Kakadu**	**21.88**	**239**	eP	**P**	**20 56 21.5**	**+17**
	32nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**24.69**	**222**	eP	**P**	**20 56 32.5**	**+0.3**
	122nm,1.4s,mb5.2						
WB2	**Warramunga Arr**	**24.70**	**222**	⇑iP	**P**	**20 56 32.5**	**+0.2**
WRA	**Warramunga Arr**	**24.71**	**222**	P	**P**	**20 56 32.6**	**+0.2**
	16nm,0.8s,mb4.6,baz=46,slow=9.6,SNR=145						
FITZ	**Fitzroy Crossi**	**30.21**	**236**	⇑iP	**P**	**20 57 22.2**	**-0.4**
	15nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.21**	**236**	P	**P**	**20 57 22.0**	**-0.6**
	14nm,0.9s,mb4.7,baz=53,slow=3.6,SNR=11						
STKA	**Stephens Creek**	**31.37**	**197**	eP	**P**	**20 57 30.4**	**-2.3**
	3.3nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**31.37**	**197**	P	**P**	**20 57 31.4**	**-1.3**
	3.6nm,0.7s,mb4.3,baz=22,slow=12,SNR=7.5						
MBWA	**Marble Bar**	**36.55**	**236**	eP	**P**	**20 58 16.0**	**-1.4**
GTA	**Gaotai**	**62.69**	**317**	eP	**P**	**21 01 37.6**	**+0.9**
GTA				AP	pP	21 01 46.5	-0.3
GTA				XP	sP	21 01 50.4	-0.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.5						
VNDA	**Vanda**	**75.84**	**178**	P	**P**	**21 02 56.0**	**-0.9**
	comp=Z,0.8nm,0.9s,mb3.7,baz=332,slow=7.3,SNR=5.4						
VNDA				LR	LR	21 31 14.9	
	comp=Z,74nm,20.7s,MS4.0,baz=338,slow=32						
VNDA	**Vanda**	**75.84**	**178**	P	**P**	**21 02 56.0**	**-0.9**
VNDA				LR	LR	21 31 14.9	
MKAR	**Makanchi Array**	**77.32**	**319**	P	**P**	**21 03 06.3**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=94,slow=8.5,SNR=7.3						
ZAL	**Zalesovo**	**78.04**	**326**	P	**P**	**21 03 08.6**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=168,slow=5.8,SNR=2.7						
ZAL	**Zalesovo**	**78.04**	**326**	P	**P**	**21 03 08.6**	**-1.0**
ILAR	**Eielson Array**	**79.86**	**22**	P	**P**	**21 03 18.0**	**-1.2**
	comp=Z,2.9nm,0.7s,mb4.3,baz=246,slow=5.6,SNR=31						
KURK	**Kurchatov**	**80.71**	**322**	eP	**P**	**21 03 24.4**	**+0.4**
	comp=Z,6.4nm,1.0s,mb4.5						
NVAR	**Mina Array Bea**	**91.17**	**52**	P	**P**	**21 04 16.8**	**+0.9**
	comp=Z,0.8nm,0.7s,mb4.1,baz=257,slow=9.4,SNR=6.7						
YKA	**Yellowknife Ar**	**93.34**	**28**	P	**P**	**21 04 25.8**	**+0.5**
	comp=Z,1.0nm,0.8s,mb4.3,baz=272,slow=4.9,SNR=7.2						
PDAR	**Pinedale Array**	**97.70**	**47**	P	**P**	**21 04 45.9**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.9,baz=180,slow=2.7,SNR=3.2						
GERES	**GERESS Array B**	**120.91**	**329**	PKP	PKPdf	21 10 03.5	+1.6
	comp=Z,0.2nm,0.6s,baz=90,slow=2.9,SNR=3.6						

*NEIC **05** 21:13:25.6, 38.62S×175.56E, h166^{km}, MG3.9(WEL), After WEL.*
WEL 05 21:13:24.5±0.3**, 38.61S×175.54E, h178**^{km}±2^{km}**, ML3.9**/20**, Error ellipse: s-maj=2.6km s-min=1.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.47**	**190**	PN	P	21 13 48.7	-0.5
TWVZ				SN	S	21 14 07.1	-1.2
TWVZ	**Taurewa**	**0.47**	**190**	P	P	21 13 48.7	-0.6
KRVZ	**Karewarewa**	**0.49**	**171**	PN	P	21 13 49.3	0.0
KRVZ				SN	S	21 14 07.5	-0.9
WTVZ	**West Tongariro**	**0.51**	**175**	PN	P	21 13 49.2	-0.2
WTVZ				SN	S	21 14 07.7	-0.9
WTVZ	**West Tongariro**	**0.51**	**175**	P	P	21 13 49.2	-0.2
NGZ	**Ngauruhoe**	**0.57**	**175**	PN	P	21 13 49.5	-0.1
NGZ	**Ngauruhoe**	**0.57**	**175**	P	P	21 13 49.5	-0.2
CNZ	**Chateau**	**0.59**	**179**	PN	P	21 13 49.7	-0.1
CNZ	**Chateau**	**0.59**	**179**	P	P	21 13 49.7	-0.1
WPVZ	**Whakapapa**	**0.59**	**179**	PN	P	21 13 49.7	-0.1
WPVZ	**Whakapapa**	**0.59**	**179**	P	P	21 13 49.7	-0.1
WNVZ	**Wahianoa**	**0.72**	**176**	PN	P	21 13 50.5	+0.1
WNVZ	**Wahianoa**	**0.72**	**176**	P	P	21 13 50.5	+0.1
MTVZ	**Mangateitei**	**0.78**	**184**	PN	P	21 13 50.6	-0.1
VRZ	**Vera Road**	**0.80**	**230**	PN	P	21 13 50.3	-0.5
VRZ	**Vera Road**	**0.80**	**230**	P	P	21 13 50.3	-0.5
MOVZ	**Moawhango**	**0.81**	**168**	PN	P	21 13 50.6	-0.3
MOVZ				SN	S	21 14 09.3	-2.0
MOVZ	**Moawhango**	**0.81**	**168**	P	P	21 13 50.6	-0.3
MOVZ				S	S	21 14 09.3	-2.0
BKZ	**Black Stump Fm**	**0.93**	**127**	PN	P	21 13 51.7	0.0
BKZ				SN	S	21 14 11.2	-1.4
BKZ	**Black Stump Fm**	**0.93**	**127**	P	P	21 13 51.7	+0.1
RAEZ	**Rainy Point**	**1.12**	**233**	PN	P	21 13 52.7	-0.4
RAEZ	**Rainy Point**	**1.12**	**233**	P	P	21 13 52.7	-0.4
WAZ	**Wanganui**	**1.22**	**200**	PN	P	21 13 53.4	-0.6
WAZ				SN	S	21 14 15.6	-1.2
WAZ	**Wanganui**	**1.22**	**200**	P	P	21 13 53.7	-0.3
URZ	**Urewera**	**1.28**	**75**	PN	P	21 13 54.1	-0.5
URZ				SN	S	21 14 15.6	-2.2
URZ	**Urewera**	**1.28**	**75**	P	P	21 13 54.1	-0.5
NEZ	**North Egmont**	**1.30**	**239**	PN	P	21 13 54.5	-0.3
NEZ	**North Egmont**	**1.30**	**239**	P	P	21 13 54.5	-0.3
PKE	**Pukeiti**	**1.34**	**244**	PN	P	21 13 54.5	-0.6
PKE	**Pukeiti**	**1.34**	**244**	P	P	21 13 54.2	-0.9
NRZ	**Ngariki Road**	**1.45**	**239**	PN	P	21 13 55.2	-0.9
TSZ	**Takapari Road**	**1.48**	**167**	PN	P	21 13 56.0	-0.5
TSZ	**Takapari Road**	**1.48**	**167**	P	P	21 13 56.0	-0.5
MWZ	**Matawai**	**1.59**	**81**	PN	P	21 13 57.2	-0.3
MWZ	**Matawai**	**1.59**	**81**	P	P	21 13 57.2	-0.3
MWZ				S	S	21 14 20.8	-2.1
KNZ	**Kokohu**	**1.72**	**104**	PN	P	21 13 58.8	0.0
KNZ	**Kokohu**	**1.72**	**104**	eP	P	21 13 58.8	0.0
PXZ	**Pawanui**	**1.75**	**144**	PN	P	21 13 58.4	-0.7
MRZ	**Mangatainoka R**	**2.05**	**179**	PN	P	21 14 00.7	-1.6
MRZ	**Mangatainoka R**	**2.05**	**179**	P	P	21 14 00.7	-1.6
BFZ	**Birch Farm**	**2.14**	**165**	PN	P	21 14 02.0	-1.3
BFZ	**Birch Farm**	**2.14**	**165**	eP	P	21 14 02.0	-1.3
PUZ	**Puketiti**	**2.21**	**77**	PN	P	21 14 03.3	-0.8
PUZ	**Puketiti**	**2.21**	**77**	P	P	21 14 03.3	-0.8
KIW	**Kapiti Island**	**2.30**	**192**	PN	P	21 14 03.0	-2.2
KIW	**Kapiti Island**	**2.30**	**192**	P	P	21 14 03.0	-2.2
MXZ	**Matakaoa Point**	**2.42**	**65**	PN	P	21 14 06.0	-0.7
MXZ	**Matakaoa Point**	**2.42**	**65**	P	P	21 14 06.0	-0.7
DUWZ	**D'Urville Isla**	**2.52**	**209**	PN	P	21 14 05.1	-2.7
CAW	**Cannon Point**	**2.52**	**188**	PN	P	21 14 05.7	-2.1
CAW	**Cannon Point**	**2.52**	**188**	P	P	21 14 05.2	-2.6
MTW	**Mount Morrison**	**2.54**	**181**	PN	P	21 14 05.7	-2.4
MTW	**Mount Morrison**	**2.54**	**181**	P	P	21 14 05.7	-2.4
MRW	**Makara Radio**	**2.69**	**194**	PN	P	21 14 07.4	-2.5
MRW	**Makara Radio**	**2.69**	**194**	P	P	21 14 07.4	-2.5
WEL	**Wellington**	**2.74**	**192**	PN	P	21 14 07.9	-2.5
WEL	**Wellington**	**2.74**	**192**	P	P	21 14 07.9	-2.5
PAWZ	**Paruwai Farm**	**2.77**	**182**	PN	P	21 14 08.2	-2.6
SNZO	**South Karori**	**2.77**	**193**	PN	P	21 14 08.1	-2.7
SNZO	**South Karori**	**2.77**	**193**	P	P	21 14 08.1	-2.7
TCW	**Tory Channel**	**2.77**	**200**	PN	P	21 14 08.2	-2.6
TCW	**Tory Channel**	**2.77**	**200**	P	P	21 14 08.2	-2.7
TRWZ	**Traveller**	**2.79**	**178**	PN	P	21 14 08.6	-2.5
MSWZ	**Moikau Station**	**2.81**	**184**	PN	P	21 14 08.7	-2.6
MSWZ	**Moikau Station**	**2.81**	**184**	P	P	21 14 08.7	-2.6
BHW	**Baring Head**	**2.84**	**190**	PN	P	21 14 08.9	-2.8
BHW	**Baring Head**	**2.84**	**190**	P	P	21 14 08.9	-2.8
TUWZ	**Tuamarina**	**3.07**	**203**	PN	P	21 14 11.3	-3.2
NNZ	**Nelson**	**3.09**	**212**	PN	P	21 14 11.2	-3.5
NNZ	**Nelson**	**3.09**	**212**	eP	P	21 14 11.2	-3.5
QRZ	**Quartz Range**	**3.21**	**225**	PN	P	21 14 12.0	-4.2
QRZ	**Quartz Range**	**3.21**	**225**	P	P	21 14 12.0	-4.2
BSWZ	**Blackbirch Sta**	**3.35**	**202**	PN	P	21 14 15.0	-3.0
BSWZ	**Blackbirch Sta**	**3.35**	**202**	P	P	21 14 15.0	-3.0
KHZ	**Kahutara**	**4.09**	**201**	PN	P	21 14 23.8	-3.7
KHZ	**Kahutara**	**4.09**	**201**	P	P	21 14 23.8	-3.7
LTZ	**Lake Taylor**	**4.85**	**210**	PN	P	21 14 31.8	-5.5
MQZ	**McQueen's Vall**	**5.54**	**202**	PN	P	21 14 40.3	-5.9
ODZ	**Otahua Downs**	**7.39**	**208**	eP	P	21 15 05.5	-5.2

MAN 05 22:00:20.3, 13.26N×120.49E, h8^{km}**, mb4.8, ML3.7, MS3.6, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.51**	**61**	eP	Pg	22 00 30.2	-0.4
SJMP	**San Jose**	**1.00**	**142**	eP	Pb	22 00 38.9	-0.5
SJMP				eS	Sb	22 00 55.5	+3.1
BUSP	**Coron**	**1.28**	**193**	eP	Pb	22 00 43.6	-0.5

*IDC **05** 22:01:11.2±2.0, 5.04S×141.53E, mb4.0/3, mb1 4.2/4, mb1mx4.0/9, mbtmp4.0/4, ML4.3/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/18, Error ellipse: s-maj=76.4km s-min=31.1km az=117.0*
*NEIC **05** 22:01:16.2±1.1, 5.01S×141.36E, h30^{km}, mb4.4/5, Error ellipse: s-maj=34.1km s-min=12.0km az=102.0*
ISC 05 22:01:18.6±4.1**, 5.2S**±0.1×**141.2E**±0.2**, h65**^{km}±39^{km}**, n18, σ1^{s}06**/15**, mb4.0**/5**, 1D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.46**	**228**	eP	Px	22 04 15.5	
	18nm,0.5s						
KAKA				eS	Sx	22 06 20.0	
CTA	**Charters Tower**	**15.63**	**162**	LR	LR	22 10 29.7	
	comp=Z,279nm,20.5s,baz=354,slow=36						
WRAB	**Tennant Creek**	**16.14**	**204**	ePn	**P**	**22 05 05.4**	**+2.5**
	82nm,1.1s						
WB2	**Warramunga Arr**	**16.15**	**204**	eP	**P**	**22 05 02.4**	**-0.5**
WRA	**Warramunga Arr**	**16.15**	**204**	Pn	**P**	**22 05 02.3**	**-0.7**
	1.3nm,0.3s,baz=31,slow=12,SNR=17						
WRA				Sn	**S**	**22 07 58.9**	**-0.8**
	0.1nm,0.3s,baz=21,slow=23,SNR=3.6						
WRA				Lg		22 09 48.1	
	0.3nm,0.3s,baz=31,slow=29,SNR=4.5						
WRA	**Warramunga Arr**	**16.15**	**204**	Pn	**P**	**22 05 02.3**	**-0.7**
WRA				Sn	**S**	**22 07 58.9**	**-0.8**
WRA				Lg		22 09 48.1	
GUMO	**Guam**	**18.97**	**11**	LR	LR	22 12 15.0	
	comp=Z,126nm,21.2s,baz=136,slow=35						
FITZ	**Fitzroy Crossi**	**19.93**	**229**	⇓iP	**P**	**22 05 48.3**	**+0.4**
	12nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.93**	**229**	P	**P**	**22 05 48.0**	**+0.1**
	11nm,0.6s,baz=33,slow=7.1,SNR=12						
FITZ				LR	LR	22 14 08.1	
	comp=Z,344nm,21.0s,baz=71,slow=38						
MBWA	**Marble Bar**	**26.22**	**231**	eP	**P**	**22 06 49.8**	**+0.3**
	23nm,1.3s,mb4.4						
STKA	**Stephens Creek**	**26.59**	**179**	LR	LR	22 18 46.6	
	comp=Z,410nm,18.5s,baz=15,slow=40						
KKM	**Kota Kinabalu**	**27.32**	**294**	eP	**P**	**22 06 58.4**	**-1.3**
DGAR	**Diego Garcia**	**68.33**	**264**	P	**P**	**22 12 18.2**	**+2.5**
MKAR	**Makanchi Array**	**73.24**	**322**	P	**P**	**22 12 44.8**	**+0.1**
	0.8nm,0.5s,mb3.8,baz=104,slow=7.7,SNR=13						
KURK	**Kurchatov**	**77.14**	**325**	eP	**P**	**22 13 06.4**	**-0.6**
	5.6nm,1.3s,mb4.1						
BRVK	**Borovoye**	**82.80**	**325**	eP	**P**	**22 13 37.6**	**+0.5**
	2.0nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**87.02**	**24**	P	**P**	**22 13 57.1**	**-0.7**
	0.4nm,0.8s,mb3.4,baz=260,slow=5.5,SNR=5.8						
DBIC	**Dimbokro**	**146.22**	**274**	PKPbc	PKPbc	22 20 55.3	+2.4
	2.7nm,0.6s,baz=81,slow=5.1,SNR=8.0						

KRSC 05 22:10:34.2±1.6**, 49.49N×156.77E, h32**^{km}±11^{km}**, ML3.9, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.27**	**341**	eP	Pn	22 10 57.5	+1.5
SKR				i S	Sn	22 11 12.5	+0.5
ALID	**Alaid**	**1.59**	**331**	eP	Pn	22 10 58.4	-2.2
ALID				eS	Sn	22 11 16.9	-3.3
PAU	**Pauzhetka**	**1.98**	**1**	i P	Pn	22 11 05.9	-0.3
PAU				eS	Sn	22 11 29.6	-0.5
PAU				Smax			
	1μm,0.1s						
MIPR	**Malaya Ipel'ka**	**2.79**	**360**	i P	Pn	22 11 16.9	-0.9
MIPR				eS	Sn	22 11 48.3	-2.4
RUS	**Russkaya**	**3.15**	**20**	i P	Pn	22 11 22.3	-0.5
RUS				i S	Sn	22 11 57.9	-1.8
GRL	**Gorelyy**	**3.17**	**15**	eP	Pn	22 11 23.8	+0.6
GRL				eS	Sn	22 12 00.3	-0.1
APC	**Apacha**	**3.45**	**4**	i P	Pn	22 11 27.2	+0.1
APC				eS	Sn	22 12 07.2	-0.1
APC				Smax			
	10.0nm,0.5s						
KRMR	**Karymshinskiy**	**3.45**	**14**	eP	Pn	22 11 28.1	+0.9
KRMR				eS	Sn	22 12 09.6	+2.2
PET	**Petropavlovsk**	**3.73**	**18**	eP	Pn	22 11 33.0	+1.9
PET				eS	Sn	22 12 15.2	+0.7
UGLR	**Uglovaya**	**3.94**	**18**	eP	Pn	22 11 34.9	+0.8
UGLR				eS	Sn	22 12 19.4	-0.4
AVH	**Avacha**	**3.98**	**17**	eP	Pn	22 11 35.3	+0.7
AVH				eS	Sn	22 12 21.0	+0.3
KOK	**Koryaka**	**3.98**	**16**	eP	Pn	22 11 35.7	+1.0
KOK				eS	Sn	22 12 20.7	-0.1
SMAR	**Somma**	**3.99**	**18**	eP	Pn	22 11 35.3	+0.6
SMAR				eS	Sn	22 12 21.4	+0.4
NLC	**Nalytchevo**	**4.02**	**23**	eP	Pn	22 11 35.2	-0.1
NLC				eS	Sn	22 12 18.9	-3.0
SPN	**Mys Shipunski**	**4.15**	**28**	eP	Pn	22 11 37.1	0.0
SPN				eS	Sn	22 12 23.1	-2.0
GNL	**Ganaly**	**4.27**	**9**	eP	Pn	22 11 38.8	0.0
GNL				eS	Sn	22 12 26.0	-2.3
MKZ	**Mys Kozlova**	**5.92**	**29**	eP	Pn	22 12 00.4	-1.7
MKZ				eS	Sn	22 13 04.4	-5.3
KBTR	**Krutoberegovo**	**7.66**	**26**	eP	Pn	22 12 23.6	-2.9
BKI	**Bering**	**8.03**	**41**	eS	Sn	22 13 51.1	-11

JMA 05 22:20:05.7±0.4**, 25.86N×128.57E, h48**^{km}**, M3.9, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.79**	**291**	P	P	22 20 20.7	+0.1
JJT2				S	S	22 20 32.0	+0.4
NAH1	**Naha**	**0.86**	**294**	P	P	22 20 21.6	0.0
NAH1				S	S	22 20 33.1	-0.3
JOW	**Kunigami**	**1.00**	**345**	P	P	22 20 23.7	+0.1
JOW				S	S	22 20 36.3	-0.6
JIH	**Iheya**	**1.29**	**335**	P	P	22 20 28.1	+0.4
JIH				S	S	22 20 44.2	+0.1
JAGN	**Aguni-jima**	**1.40**	**302**	P	P	22 20 29.8	+0.5
JKE	**Kume jima 2**	**1.67**	**287**	P	P	22 20 32.6	-0.5
JKE				S	S	22 20 52.2	-1.2
JMZ	**Minamidaito 2**	**2.39**	**90**	P	P	22 20 40.2	-3.1
JMZ				eS	S	22 21 06.1	-5.4
JAM	**Amami Oshima**	**2.70**	**20**	P	P	22 20 46.4	-1.4
JAM				S	S	22 21 17.6	-1.8
JOGS	**Gusukube**	**3.07**	**250**	P	P	22 20 51.9	-1.0
JMJ	**Miyako jima 2**	**3.14**	**251**	P	P	22 20 52.5	-1.5
JTJ	**Tarama**	**3.71**	**252**	P	P	22 20 59.6	-2.4
JTJ				eS	S	22 21 40.2	-4.6
JIJ	**Ishigaki jima**	**4.28**	**251**	P	P	22 21 06.8	-3.3
JIJ				eS	S	22 21 56.7	-2.6
JKRS	**Kuro-shima**	**4.44**	**250**	P	P	22 21 09.3	-3.0

MOS 05 22:20:05.7±2.1**, 55.74N×110.21E, h4**^{km}**, mb4.2**/1**, 1C, Error ellipse: s-maj=19.4km s-min=11.7km az=66.1, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**0.94**	**65**	ePG	Pg	22 20 21.5	-2.9
YOA				e		22 20 34.7	
YOA				pmax	pmax		
	comp=Z,44nm,0.5s						
YOA				smax			
	comp=N,793nm,1.0s						
YLYR	**Ulyunkhan**	**1.02**	**147**	⇑iPG	Pg	22 20 23.7	-2.4
YLYR				e		22 20 37.7	
YLYR				pmax	pmax		
	comp=Z,155nm,0.2s						
YLYR				smax			
	comp=N,510nm,0.2s						
UKT	**Uakit**	**1.96**	**96**	ePN	Pn	22 20 39.7	-0.3
UKT				e		22 21 05.3	
UKT				pmax	pmax		
	comp=Z,51nm,0.4s						
UKT				smax			
	comp=N,255nm,0.4s						
SYVR	**Suvo**	**2.09**	**183**	ePN	Pn	22 20 43.3	+1.4
SYVR				e		22 21 11.2	
SYVR				pmax	pmax		
	comp=Z,169nm,0.2s						
SYVR				smax			
	comp=N,680nm,0.5s						
OGRR	**Ongureny**	**2.59**	**217**	ePN	Pn	22 20 50.0	+0.9
OGRR				e		22 20 54.2	
OGRR				e		22 21 26.7	
OGRR				pmax	pmax		
	comp=Z,25nm,0.3s						
OGRR				smax			
	comp=N,175nm,0.3s						
CRS	**Chara**	**4.63**	**72**	ePN	Pn	22 21 29.3	+11
CRS				e		22 22 29.6	
CRS				pmax	pmax		
	comp=Z,23nm,1.0s						
CRS				smax			
	comp=E,49nm,1.6s						
LSTR	**Listvyanka**	**5.02**	**222**	ePN	Pn	22 21 23.5	-0.1
LSTR				e		22 21 36.9	
LSTR				eS	Sn	22 22 18.6	-4.3
LSTR				e		22 22 40.2	
LSTR				pmax	pmax		
	comp=Z,32nm,1.1s						
LSTR				smax			
	comp=E,42nm,0.6s						
TLY	**Talaya**	**5.63**	**227**	ePN	Pn	22 21 30.0	-2.3
TLY				e		22 21 47.4	
TLY				eS	Sn	22 22 33.3	-5.0
TLY				e		22 22 59.0	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TLY				smax			
	comp=E,46nm,1.0s						
TUP	**Tupik**	**5.75**	**99**	ePN	Pn	22 21 30.6	-3.3
TUP				e		22 21 48.5	
TUP				eS	Sn	22 22 35.7	-5.6
TUP				e		22 23 04.5	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TUP				smax			
	comp=N,46nm,1.0s						
ZAK	**Zakamensk**	**6.80**	**221**	ePN	Pn	22 21 48.1	-0.6
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						

*IDC **05** 22:45:09.1±0.7, 21.61S×175.58W, mb4.2/8, mb1 4.5/10, mb1mx4.3/16, mbtmp4.3/10, ML4.8/1, Error ellipse: s-maj=36.4km s-min=18.9km az=133.0*
*NEIC **05** 22:45:14.4±0.4, 21.58S×175.61W, h35^{km}, mb4.6/3, Error ellipse: s-maj=15.1km s-min=8.0km az=131.0*
ISC 05 22:45:10.2±4.5**, 21.5S**±0.1×**175.7W**±0.1**, h16**^{km}±32^{km}**, n20, σ0^{s}63**/20**, mb4.2**/10**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.44**	**27**	Pn	**P**	**22 47 14.3**	**-0.4**
	8.0nm,0.3s,baz=207,slow=16,SNR=8.5						
AFI				Sn	**Sn**	**22 48 38.9**	**-12**
	11nm,0.3s,baz=49,slow=20,SNR=5.0						
AFI	**Afiamalu**	**8.44**	**27**	ePn	**P**	**22 47 14.4**	**-0.3**
AFI				eSn	**Sn**	**22 48 41.4**	**-9.2**
URZ	**Urewera**	**17.79**	**199**	P	**P**	**22 49 19.3**	**+0.5**
	3.0nm,0.3s,baz=307,slow=4.1,SNR=12						
URZ				S	**S**	**22 52 20.1**	**-14**
	1.1nm,0.3s,baz=162,slow=21,SNR=4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**35.59**	**265**	eP	**P**	**22 52 10.5**	**+1.5**
	5.3nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**39.34**	**246**	P	**P**	**22 52 40.8**	**+0.2**
	1.0nm,0.4s,mb3.9,baz=98,slow=12,SNR=4.5						
WB2	**Warramunga Arr**	**46.63**	**262**	eP	**P**	**22 53 38.8**	**-1.0**
WRAB	**Tennant Creek**	**46.63**	**263**	eP	**P**	**22 53 39.7**	**-0.2**
	6.2nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**46.64**	**262**	P	**P**	**22 53 39.3**	**-0.6**
	2.1nm,0.6s,mb4.3,baz=98,slow=8.4,SNR=12						
CASY	**Casey**	**63.97**	**206**	eP	**P**	**22 55 43.9**	**-0.7**
YBH	**Yreka Blue Hor**	**79.75**	**37**	P	**P**	**22 57 19.9**	**+0.9**
	1.8nm,0.6s,mb4.2,baz=153,slow=2.3,SNR=5.0						
NVAR	**Mina Array Bea**	**80.30**	**42**	P	**P**	**22 57 22.4**	**+0.3**
	1.4nm,0.7s,mb4.0,baz=224,slow=8.5,SNR=14						
MAW	**Mawson**	**81.32**	**199**	eP	**P**	**22 57 26.8**	**0.0**
	1.5nm,0.5s,mb4.2						
MAW	**Mawson**	**81.32**	**199**	P	**P**	**22 57 27.0**	**+0.2**
	1.6nm,0.5s,mb4.2,baz=120,slow=6.3,SNR=17						
TXAR	**Lajitas Array**	**85.78**	**56**	P	**P**	**22 57 50.4**	**0.0**
	1.4nm,0.9s,mb4.2,baz=222,slow=7.0,SNR=8.6						
TXAR	**Lajitas Array**	**85.78**	**56**	P	**P**	**22 57 50.4**	**0.0**
PLCA	**Paso Flores**	**86.96**	**133**	P	**P**	**22 57 55.3**	**-0.6**
	1.6nm,0.9s,mb4.2,baz=270,slow=4.0,SNR=2.9						
ILAR	**Eielson Array**	**88.86**	**12**	P	**P**	**22 58 04.3**	**-0.1**
	0.6nm,0.9s,mb3.9,baz=214,slow=6.5,SNR=4.1						
AKASG	**Malin Array Be**	**144.97**	**332**	PKPbc	PKPbc	23 04 47.6	+1.0
	1.9nm,0.5s,baz=43,slow=4.0,SNR=13						
CLL	**Collm**	**149.53**	**349**	ePKP1	PKPdf	23 05 00.0	+2.3
GERES	**GERESS Array B**	**151.75**	**347**	PKPbc	PKPdf	23 05 05.3	+4.1
	0.5nm,0.7s,slow=1.3,SNR=4.7						

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*GUC **05** 23:41:22.9±0.7, 29.43S×70.85W, h65km±5km, ML4.7*
*NEIC **05** 23:41:23.0±0.4, 29.37S×70.90W, mb4.4/3, Error ellipse: s-maj=12.2km s-min=5.6km az=90.0*
*IDC **05** 23:41:23.9±2.4, 29.33S×70.71W, h72km±20km, mb3.9/7, mb1 4.0/12, mb1mx3.9/20, mbtmp4.1/12, MS3.0/3, Ms1 3.0/3, ms1mx2.7/21, Error ellipse: s-maj=30.2km s-min=10.4km az=74.0*
ISC 05 23:41:22.3±0.4**, 29.42S**±0.02×**70.90W**±0.07**, h76**km±4km**, h64**km±1.0km**:pP-P, n41, σ0s94**/51**, mb4.1**/10**, 4C, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.57**	**212**	i P	**P**	**23 41 36.5**	**0.0**
LSCH				i S	**S**	**23 41 46.5**	**-0.5**
LSCH				AMP		23 41 47.4	
	comp=E,31μm,0.2s						
TLL	**Tololo Astrono**	**0.75**	**174**	⇑iP	**P**	**23 41 39.0**	**+0.6**
TLL				i S	**S**	**23 41 50.9**	**+0.6**
TLL				AMP		23 41 53.0	
	comp=N,25μm,0.4s						
VACH	**Vallenar**	**0.85**	**8**	i P	**P**	**23 41 39.8**	**+0.3**
VACH				i S	**S**	**23 41 52.2**	**-0.2**
VACH				AMP		23 41 53.1	
	comp=E,78μm,0.4s						
CMCH	**Combarbala**	**1.75**	**183**	⇑iP	**P**	**23 41 51.2**	**-0.1**
CMCH				i S	**S**	**23 42 13.1**	**+0.5**
CMCH				AMP		23 42 16.5	
	comp=E,16μm,0.8s						
CPCH	**Copiapo**	**2.11**	**13**	eP	**P**	**23 41 57.0**	**+0.8**
CPCH				i S	**S**	**23 42 21.9**	**+0.6**
CHNG	**Los Chungos**	**2.51**	**192**	eP	**P**	**23 42 01.9**	**+0.1**
CHNG				i S	**S**	**23 42 31.6**	**+0.3**
CHNG				AMP		23 42 41.1	
	comp=E,4μm,0.6s						
ZON	**Zonda**	**2.86**	**138**	eP	**P**	**23 42 10.5**	**+3.8**
CFAA	**Coronel Fontan**	**3.16**	**134**	P	**P**	**23 42 11.8**	**+0.8**
	comp=E,5.8nm,0.3s,baz=316,slow=13,SNR=347						
CFAA				S	**S**	**23 42 47.6**	**-0.1**
	comp=E,12nm,0.3s,baz=62,slow=20,SNR=25						
JACH	**Jahuel**	**3.26**	**175**	⇑iP	**P**	**23 42 12.5**	**+0.1**
PEL	**Peldehue**	**3.72**	**177**	eP	**P**	**23 42 18.2**	**-0.4**
MDZ	**Mendoza**	**3.87**	**154**	eP	**P**	**23 42 23.2**	**+2.4**
MDZ				e		23 43 04.0	
FCH	**Farellones**	**3.93**	**173**	eP	**P**	**23 42 22.0**	**+0.4**
FCH				i S	**S**	**23 43 06.8**	**0.0**
CLCH	**Cerro Calan**	**3.98**	**176**	i P	**P**	**23 42 22.0**	**-0.2**
CLCH				i S	**S**	**23 43 06.8**	**-1.1**
LCCH	**Las Cruces**	**4.08**	**188**	eP	**P**	**23 42 22.7**	**-1.1**
LCCH				i S	**S**	**23 43 09.2**	**-1.4**
LVC	**Limon Verde**	**7.01**	**15**	P	**P**	**23 43 01.0**	**-3.3**
	comp=E,1.3nm,0.3s,baz=208,slow=8.7,SNR=23						
LVC				S	**S**	**23 44 19.3**	**-3.9**
	comp=E,4.8nm,0.3s,baz=202,slow=16,SNR=3.7						
LVC				LR	LR	23 45 57.9	
	comp=E,83nm,21.1s,baz=234,slow=40						
LVC	**Limon Verde**	**7.01**	**15**	ePn	**P**	**23 43 01.2**	**-3.1**
LVC				S	**S**	**23 44 19.3**	**-3.9**
LVC				LR	LR	23 45 57.9	
TRQA	**Tornquist**	**11.36**	**142**	ePn	**P**	**23 44 00.9**	**-2.6**
	comp=E,13nm,0.6s						
TRQA				eSn	**S**	**23 46 09.9**	**+0.5**
CPUP	**Villa Florida**	**12.39**	**79**	P	**P**	**23 44 13.9**	**-3.3**
	comp=E,0.5nm,0.3s,baz=276,slow=16,SNR=13						
CPUP				LR	LR	23 49 45.4	
	comp=E,66nm,21.7s,baz=134,slow=41						
CPUP	**Villa Florida**	**12.39**	**79**	ePn	**P**	**23 44 14.6**	**-2.7**
CPUP				LR	LR	23 49 45.4	
LPAZ	**La Paz**	**13.32**	**12**	P	**P**	**23 44 28.9**	**-0.6**
	comp=E,0.1nm,0.3s,baz=150,slow=16,SNR=2.8						
SIV	**San Ignacio**	**16.14**	**36**	P	**P**	**23 45 04.6**	**-1.2**
	comp=E,0.4nm,0.3s,baz=219,slow=10,SNR=14						
NNA	**Nana**	**18.21**	**341**	ePn	**P**	**23 45 30.5**	**-0.9**
SAML	**Samuel**	**21.61**	**21**	eP	**P**	**23 46 09.1**	**+1.4**
	comp=E,9.8nm,1.4s,mb4.0						
SAML				epP		23 46 22.3	
BDFB	**Brasilia**	**25.13**	**62**	P	**P**	**23 46 41.6**	**-0.2**
	comp=E,2.0nm,0.5s,mb3.8,baz=260,slow=8.6,SNR=4.3						
BDFB				LR	LR	23 57 45.7	
	comp=E,66nm,19.1s,baz=32,slow=39						
PMSA	**Palmer Station**	**35.63**	**175**	eP	**P**	**23 48 15.1**	**+0.8**
	comp=E,5.6nm,1.0s,mb4.5						
VNA3	**Neumayer Olymp**	**53.25**	**159**		**P**	**23 50 35.7**	**+0.8**
VNA1	**Neumayer--Stat**	**53.53**	**158**		**P**	**23 50 36.9**	**0.0**
VNA2	**Neumayer--Watz**	**53.88**	**159**		**P**	**23 50 40.5**	**+1.1**
SNAA	**Sanae**	**55.48**	**159**		**P**	**23 50 50.6**	**-0.5**
SNAA	**Sanae**	**55.48**	**159**	P	**P**	**23 50 50.3**	**-0.8**
	comp=E,1.2nm,0.6s,mb4.1,baz=284,slow=7.0,SNR=27						
SNAA	**Sanae**	**55.48**	**159**	P	**P**	**23 50 50.6**	**-0.5**
QSPA	**South Pole Qui**	**60.80**	**180**	eP	**P**	**23 51 28.8**	**+0.6**
	comp=E,6.1nm,0.6s,mb4.8						
QSPA				epP	pP	23 51 45.4	-2.4
TXAR	**Lajitas Array**	**66.27**	**329**	P	**P**	**23 52 05.4**	**+0.7**
	comp=E,1.1nm,0.8s,mb3.7,baz=149,slow=9.2,SNR=10						
TXAR				pP	pP	23 52 22.9	-1.9
	comp=E,0.7nm,0.8s,baz=153,slow=5.6,SNR=4.3						
SYO	**Syowa Base**	**69.77**	**159**	⇑P	**P**	**23 52 24.0**	**-1.7**
MAW	**Mawson**	**77.28**	**164**	P	**P**	**23 53 09.9**	**+0.4**
	comp=E,2.1nm,0.5s,mb4.2,baz=207,slow=7.3,SNR=14						
MAW				pP	pP	23 53 28.1	-1.9
	comp=E,2.9nm,0.9s,baz=235,slow=8.0,SNR=4.6						
PDAR	**Pinedale Array**	**80.15**	**332**	P	**P**	**23 53 26.3**	**+0.7**
	comp=E,0.5nm,0.6s,mb3.5,baz=121,slow=5.3,SNR=4.1						
BOSA	**Boshof**	**81.34**	**118**	P	**P**	**23 53 32.1**	**0.0**
	comp=E,3.3nm,0.6s,mb4.3,baz=240,slow=3.5,SNR=8.2						
ULM	**Lac du Bonnet**	**82.36**	**344**	P	**P**	**23 53 36.9**	**-0.1**
	comp=E,2.5nm,0.8s,mb4.1,baz=226,slow=5.6,SNR=5.0						
MKAR	**Makanchi Array**	**152.88**	**43**	PKPbc	PKPdf	00 01 12.1	+9.2
	comp=E,1.4nm,0.6s,baz=338,slow=2.0,SNR=14						
MKAR				PKPab	PKPab	00 01 23.7	-0.2
	comp=E,0.5nm,0.7s,baz=300,slow=4.1,SNR=3.3						
MJAR	**Matsushiro Arr**	**154.64**	**294**	PKPab	PKPab	00 01 32.4	+0.8
	comp=E,0.8nm,0.5s,baz=69,slow=5.3,SNR=4.3						
MJAR	**Matsushiro Arr**	**154.64**	**294**	PKPab	PKPab	00 01 32.4	+0.8

IGQ 06 00:06:07.2, 1.19S×78.44W, h10km±1km, mb4.0, 19C-3D, Error ellipse: s-maj=1.3km s-min=0.8km az=2.5, Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.14**	**23**	⇑P	Pg	00 06 11.4	+1.0
RUN5	**Runtun**	**0.23**	**176**	⇑P	Pg	00 06 12.2	+0.2
JUIV	**Juive**	**0.24**	**186**	⇑P	Pg	00 06 12.3	+0.1
CUSU	**Cusua**	**0.26**	**189**	⇑P	Pg	00 06 12.8	+0.2
RETU	**Refugio**	**0.26**	**182**	P	Pg	00 06 12.9	+0.2
ULBA	**Ulba**	**0.26**	**173**	⇑P	Pg	00 06 12.6	-0.1
ARRY	**Arrayan**	**0.32**	**183**	⇑P	Pg	00 06 13.5	-0.2
TAMB	**Tambo**	**0.49**	**8**	⇑P	Pg	00 06 17.5	+0.3
CAMI	**Rancho Maria**	**0.51**	**353**	⇑P	Pg	00 06 18.0	+0.5
VC1	**Cotopaxi 1**	**0.54**	**4**	⇑P	Pg	00 06 18.6	+0.5
NAS1	**Nasa**	**0.55**	**356**	⇓P	Pg	00 06 18.9	+0.6
QIL1	**Quilotoa**	**0.60**	**304**	⇑P	Pg	00 06 19.8	+0.5
ANTI	**Antisana**	**0.78**	**21**	⇑P	Pb	00 06 22.1	-0.3
JUA2	**San Juan 2**	**0.98**	**350**	⇑P	Pb	00 06 26.3	+0.5
JUA2				S	Sb	00 06 40.2	+1.6
GGP	**Refugio Guagua**	**1.02**	**351**	⇑P	Pb	00 06 27.0	+0.6
TERV	**Terraza Guagua**	**1.02**	**351**	⇑P	Pb	00 06 27.2	+0.7
TERV				S	Sb	00 06 41.8	+2.1
PINO	**Pino**	**1.03**	**351**	⇑P	Pb	00 06 27.3	+0.6
YANA	**Yana**	**1.07**	**353**	⇑P	Pb	00 06 27.7	+0.4
YANA				S	Sb	00 06 42.4	+1.2
JOR1	**San Jorge 1**	**1.20**	**350**	⇑P	Pb	00 06 26.1	-3.3
CAYR	**Refugio Cayamb**	**1.27**	**20**	P	Pb	00 06 31.8	+1.1
CAYA	**Cayambe**	**1.33**	**20**	⇓P	Pb	00 06 32.9	+1.2
CAYA				S	Sb	00 06 50.6	+2.0
ECOPE	**Copete-Rev Vol**	**1.35**	**37**	⇑P	Pb	00 06 32.8	+0.7
ECOPE				S	Sb	00 06 50.6	+1.3
LAV3	**Lava3-Reventad**	**1.35**	**37**	⇓P	Pb	00 06 33.2	+1.1
LAV3				S	Sb	00 06 50.4	+1.1
CONE	**Cono NE Rev Vo**	**1.36**	**36**	⇑P	Pn	00 06 33.3	+1.0
CONE				S	Sb	00 06 51.6	+1.9
COTA	**Cotacachi**	**1.51**	**4**	P	Pn	00 06 36.3	+1.8
MAG1	**Magdalena**	**1.73**	**310**	P	Pn	00 06 39.6	+2.0
ECEN	**Cerro Negro**	**2.05**	**13**	P	Pn	00 06 46.0	+3.8

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*NIED **06** 00:21:00, 34.40N×139.20E, h23km, Mw3.8 Best double couple: Mo6.57×10^14 NP1:φs289°, δ65°, λ131°. NP2:φs45°, δ47°, λ36°.*
*IDC **06** 00:21:43.4±0.9, 34.36N×139.52E, mb3.7/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=34.4km s-min=14.6km az=77.0*
*JMA **06** 00:21:44.2, 34.36N×139.17E, h8km±1km, M3.4*
JMA Felt III J1.
ISC 06 00:21:44.0±0.5**, 34.35N**±0.02×**139.23E**±0.04**, h10**km±3km**, n21, σ1s09**/31**, mb3.7**/7**, 6C-2D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NJJJ	**Nii jima 2**	**0.07**	**44**	⇑P	**Pg**	**00 21 46.6**	**+0.3**
JKO	**Kozu shima**	**0.18**	**204**	⇑P	**Pg**	**00 21 48.0**	**0.0**
JKO				S	**Sg**	**00 21 51.2**	**+0.5**
JMY	**Miyakejima3**	**0.37**	**140**	⇓P	**Pg**	**00 21 52.7**	**+1.2**
JIM2	**Oshima 3**	**0.40**	**25**	⇑P	**Pg**	**00 21 52.3**	**+0.1**
JIM2				S	**Sg**	**00 21 58.4**	**+0.7**
JIZS	**Izushimoda**	**0.46**	**322**	⇓P	**Pg**	**00 21 52.8**	**-0.6**
JIZS				S	**Sg**	**00 21 59.2**	**-0.5**
KTJJ	**Kamata 2**	**0.59**	**347**	⇑P	**Pg**	**00 21 55.0**	**-0.8**
KTJJ				S	**Sg**	**00 22 02.6**	**-1.1**
JOD2	**Odawara 2**	**0.92**	**353**	⇑P	**Pb**	**00 22 00.7**	**-0.8**
JOD2				S	**Sb**	**00 22 13.5**	**0.0**
TK03	**Tokai 3**	**1.06**	**260**	P	**Pb**	**00 22 04.0**	**0.0**
SHZ3	**Shizuoka 3**	**1.10**	**311**	P	**Pb**	**00 22 04.5**	**-0.1**
SHZ3				S	**Sb**	**00 22 19.7**	**+0.9**
TK04	**Tokai 4**	**1.12**	**272**	⇑P	**Pb**	**00 22 04.4**	**-0.5**
TK04				S	**Sb**	**00 22 20.4**	**+1.1**
JHJ	**Hachijo jima 2**	**1.31**	**159**	Pn	**Pn**	**00 22 08.9**	**+0.5**
	251nm,0.3s,baz=122,slow=3.7,SNR=20						
JHJ				Sn	**Sn**	**00 22 25.6**	**-0.5**
	95nm,0.3s,baz=85,slow=21,SNR=7.2						
MJAR	**Matsushiro Arr**	**2.34**	**339**	Pn	**Pn**	**00 22 23.8**	**+0.7**
	13nm,0.3s,baz=164,slow=14,SNR=159						
MJAR				Sn	**Sn**	**00 22 55.4**	**+3.3**
	7.0nm,0.3s,baz=259,slow=19,SNR=8.2						
MAT	**Matsushiro**	**2.34**	**339**	P	**Pn**	**00 22 24.7**	**+1.6**
MAT				S	**Sn**	**00 22 56.1**	**+4.0**
JNU	**Nakatsue**	**7.06**	**262**	Pn	**Pn**	**00 23 28.0**	**-2.0**
	2.8nm,0.3s,baz=101,slow=5.2,SNR=3.7						
MKAR	**Makanchi Array**	**44.09**	**304**	P	**P**	**00 29 53.0**	**-0.8**
	0.3nm,0.5s,mb3.3,baz=90,slow=9.7,SNR=4.3						
ILAR	**Eielson Array**	**52.71**	**31**	P	**P**	**00 30 57.8**	**-2.7**
	0.4nm,0.8s,mb3.4,baz=279,slow=5.4,SNR=4.8						
WRA	**Warramunga Arr**	**54.19**	**186**	P	**P**	**00 31 10.4**	**-1.6**
	0.6nm,0.7s,mb3.6,baz=1.8,slow=7.8,SNR=3.8						
YKA	**Yellowknife Ar**	**67.02**	**29**	P	**P**	**00 32 35.8**	**-2.9**
	0.4nm,0.7s,mb3.6,baz=297,slow=6.3,SNR=4.9						
FINES	**FINESS Array B**	**70.35**	**332**	P	**P**	**00 33 00.7**	**+1.3**
	3.8nm,1.1s,mb4.2,baz=63,slow=6.2,SNR=4.6						
NOA	**NORSAR Array B**	**75.95**	**337**	P	**P**	**00 33 33.9**	**+1.6**
	0.6nm,0.7s,mb3.6,baz=42,slow=5.5,SNR=3.6						
TXAR	**Lajitas Array**	**93.18**	**51**	P	**P**	**00 34 60.0**	**+0.2**
	0.5nm,0.8s,mb4.0,baz=315,slow=3.5,SNR=6.2						

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*MDD **06** 00:35:08.7±0.4, 36.40N×2.68E, mb4.0/9, Error ellipse: s-maj=5.6km s-min=4.0km az=25.0, PRXIMO*
*CRAAG **06** 00:35:08.9, 36.40N×2.86E, Ml3.6*
*NEIC **06** 00:35:10.5, 36.55N×2.62E, ML3.6(ALG), After MDD.*
*CSEM **06** 00:35:11.5±0.1, 36.57N×2.30E, h10km, ML3.6, Error ellipse: s-maj=3.0km s-min=2.1km az=21.0*
ISC 06 00:35:09.0±0.6**, 36.58N**±0.03×**2.55E**±0.04**, h10**km**, n46, σ1s17**/72**, 1C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.45**	**60**	P	**Pg**	**00 35 18.2**	**0.0**
EMHD	**Djebel Mahouad**	**0.50**	**139**	P	**Pg**	**00 35 14.0**	**-5.2**
ABMS	**Boumerdes**	**0.77**	**77**	P	**Pb**	**00 35 22.5**	**-1.5**
ADJB	**Djebel Djouab**	**0.83**	**120**	P	**Pb**	**00 35 20.0**	**-5.1**
EBNR	**Beni Rached**	**0.87**	**251**	P	**Pb**	**00 35 27.0**	**+1.2**
ECHA	**Ech Chlef**	**1.05**	**246**	P	**Pb**	**00 35 29.0**	**+0.2**
ECHF	**Ech Chlef**	**1.06**	**247**	P	**Pb**	**00 35 29.0**	**-0.1**
EANR	**'Ain N'Sour**	**1.33**	**242**	P	**Pb**	**00 35 32.0**	**-1.6**
ETRT	**Tiaret**	**1.56**	**221**	P	**Pn**	**00 35 37.0**	**0.0**
SET	**Setif**	**2.33**	**99**	P	**Pg**	**00 35 54.0**	**-1.6**
EIBI	**Ibiza**	**2.62**	**339**	P	**Pn**	**00 35 53.9**	**+1.7**
	6.2nm,0.1s,SNR=29						
EIBI				S	**Sn**	**00 36 25.2**	**+0.8**
	21nm,0.1s,SNR=6.1						
EIBI	**Ibiza**	**2.62**	**339**	P	**Pn**	**00 35 53.9**	**+1.7**
	6.2nm,0.1s,SNR=29						
EIBI				S	**Sn**	**00 36 25.2**	**+0.8**
	21nm,0.1s,SNR=6.1						
CMER	**Merouana**	**2.88**	**108**	P	**Pn**	**00 36 01.0**	**+5.1**
EBEN	**Beniarda**	**3.06**	**315**	P	**Pn**	**00 36 00.1**	**+1.7**
	2.1nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**00 36 37.5**	**+2.1**
	1.6nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.06**	**315**	P	**Pn**	**00 36 00.1**	**+1.7**
EBEN				S	**Sn**	**00 36 35.4**	**0.0**
EBEN	**Beniarda**	**3.06**	**315**	P	**Pn**	**00 36 00.1**	**+1.7**
	2.1nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**00 36 35.4**	**0.0**
	1.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.19**	**4**	P	**Pn**	**00 36 00.6**	**+0.4**
	1.3nm,0.1s,SNR=22						
ETOS				S	**Sn**	**00 36 38.8**	**+0.1**
	16nm,0.3s,SNR=30						
ETOS	**Mallorca**	**3.19**	**4**	P	**Pn**	**00 36 00.6**	**+0.4**
ETOS				S	**Sn**	**00 36 37.3**	**-1.5**
ETOS	**Mallorca**	**3.19**	**4**	P	**Pn**	**00 36 00.6**	**+0.3**
	1.3nm,0.1s,SNR=22						
ETOS				S	**Sn**	**00 36 37.3**	**-1.5**
	16nm,0.3s,SNR=30						
EMUR	**La Murta**	**3.28**	**294**	P	**Pn**	**00 36 02.7**	**+1.2**
	0.9nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**00 36 41.1**	**+0.2**
	1.0nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.28**	**294**	P	**Pn**	**00 36 02.7**	**+1.2**
	0.9nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**00 36 41.1**	**+0.1**
	1.0nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.85**	**304**	P	**Pn**	**00 36 10.9**	**+1.2**
	2.9nm,0.3s,SNR=9.8						
ETOB				S	**Sn**	**00 36 55.7**	**+0.2**
	2.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.85**	**304**	P	**Pn**	**00 36 10.9**	**+1.2**
	2.9nm,0.3s,SNR=9.8						
ETOB				S	**Sn**	**00 36 55.7**	**+0.2**
	2.0nm,0.2s,SNR=7.9						
ECHE	**Chera**	**4.09**	**318**	P	**Pn**	**00 36 14.8**	**+1.7**
	1.3nm,0.4s,SNR=6.1						
ECHE				S	**Sn**	**00 37 01.3**	**-0.2**
	0.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.38**	**276**	P	**Pn**	**00 36 17.0**	**-0.2**
	1.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**00 37 07.5**	**-1.4**
	0.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.38**	**276**	P	**Pn**	**00 36 17.0**	**-0.2**
	1.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**00 37 07.5**	**-1.4**
	0.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.46**	**329**	⇑P	**Pn**	**00 36 19.8**	**+1.4**
	3.0nm,0.1s,SNR=18						
EMOS				S	**Sn**	**00 37 10.2**	**-0.7**
	1.0nm,0.2s,SNR=5.6						
EMOS	**Mosqueruela**	**4.46**	**329**	P	**Pn**	**00 36 19.8**	**+1.5**
	3.0nm,0.1s,SNR=18						
EMOS				S	**Sn**	**00 37 10.2**	**-0.7**
	1.0nm,0.2s,SNR=5.6						
EQES	**Quesada**	**4.65**	**287**	P	**Pn**	**00 36 22.2**	**+1.2**
	0.9nm,0.3s,SNR=4.8						
EQES				S	**Sn**	**00 37 14.0**	**-1.8**
	2.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.65**	**287**	P	**Pn**	**00 36 22.2**	**+1.2**
	0.9nm,0.3s,SNR=4.8						
EQES				S	**Sn**	**00 37 14.0**	**-1.7**
	2.7nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.70**	**339**	P	**Pn**	**00 36 22.4**	**+0.6**
	0.6nm,0.3s,SNR=5.6						
ERTA				S	**Sn**	**00 37 16.5**	**-0.5**
	1.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.70**	**339**	P	**Pn**	**00 36 22.4**	**+0.6**
ERTA				S	**Sn**	**00 37 14.7**	**-2.3**
ERTA	**Horta de San J**	**4.70**	**339**	P	**Pn**	**00 36 22.4**	**+0.7**
	0.6nm,0.3s,SNR=5.6						
ERTA				S	**Sn**	**00 37 14.7**	**-2.3**
	1.3nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.84**	**279**	P	**Pn**	**00 36 23.9**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**00 37 18.6**	**-2.0**
	0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.90**	**347**	P	**Pn**	**00 36 25.1**	**+0.5**
	0.7nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**00 37 21.3**	**-0.8**
	2.0nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.90**	**347**	P	**Pn**	**00 36 25.1**	**+0.6**
EPOB				S	**Sn**	**00 37 18.6**	**-3.4**
EPOB	**Poblet**	**4.90**	**347**	P	**Pn**	**00 36 25.1**	**+0.5**
	0.7nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.99**	**303**	P	**Pn**	**00 36 39.9**	**0.0**
	0.9nm,0.2s,baz=116,slow=13,SNR=5.9						
ESDC				S	**Sn**	**00 37 46.9**	**-2.5**
	0.6nm,0.2s,baz=116,slow=24,SNR=3.9						
ESDC	**Sonseca Array**	**5.99**	**303**	P	**Pn**	**00 36 39.9**	**-0.1**
	0.9nm,0.2s,SNR=5.9						
EBIE	**Bielsa**	**6.37**	**344**	S	**Sn**	**00 37 57.3**	**-1.6**
	1.5nm,0.3s,SNR=5.7						
ELAN	**Lanestosa**	**8.08**	**327**	P	**P**	**00 37 10.9**	**+1.7**
	0.8nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.08**	**327**	P	**P**	**00 37 10.9**	**+1.7**
	0.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**8.97**	**309**	P	**P**	**00 37 21.6**	**-0.1**
	0.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**8.97**	**309**	P	**P**	**00 37 21.6**	**-0.1**
EARI	**Arriondas**	**8.97**	**321**	P	**P**	**00 37 22.4**	**+0.7**
	24nm,1.2s,SNR=5.7						
EARI	**Arriondas**	**8.97**	**321**	P	**P**	**00 37 22.4**	**+0.7**
	24nm,1.2s,SNR=5.7						

MAN 06 00:46:01.2, 6.76N×125.98E, h131km, mb4.2, ML3.1, MS2.8, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.33**	**56**	eP	P	00 46 21.2	+1.6
KCP	**Kidapawan**	**0.92**	**286**	⇑eP	P	00 46 23.6	+0.1
KCP				i S	S	00 46 43.6	+2.9
GSPH	**General Santos**	**1.22**	**237**	⇓iP	P	00 46 24.7	-1.9
GSPH				i S	S	00 46 44.8	-1.2
BUKP	**Musuan**	**1.44**	**321**	eP	P	00 46 29.3	+0.2
BUKP				eS	S	00 46 51.2	+0.9
BIPH	**Bislig**	**1.47**	**15**	⇑iP	P	00 46 29.4	0.0
BIPH				i S	S	00 46 52.1	+1.2
BUTP	**Butuan**	**2.23**	**351**	eP	P	00 46 39.2	+0.7

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*BJI **06** 00:56:08.5, 7.96S×127.95E, h34km, mB5.6, mb5.1, Ms5.7, Msz5.3*
*CSEM **06** 00:56:13.8, 7.63S×127.28E, h40km, mb5.6*
*IDC **06** 00:56:14.1±4.7, 7.24S×127.29E, h22km±30km, mb4.9/21, mb1 4.8/23, mb1mx4.8/24, mbtmp4.9/23, ML4.3/2, MS4.6/6, Ms1 4.6/6, ms1mx4.3/23, Error ellipse: s-maj=15.6km s-min=10.9km az=62.0*
*MOS **06** 00:56:14.8±1.1, 7.20S×127.29E, h33km, mb5.5/30, Error ellipse: s-maj=13.1km s-min=6.9km az=109.7*
*NEIC **06** 00:56:16.4±0.2, 7.28S×127.34E, mb5.2/32, Error ellipse: s-maj=9.0km s-min=5.7km az=68.0*
*HRVD **06** 00:56:16.4±0.3, 7.28S×127.27E, h12km, MW5.2/61, Centroid moment Tensor Solution. LP body waves: s51,c88;Mantle waves: s61,c105; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.75±.03; Mθθ-0.83±.02; Mφφ0.08±.03; Mrθ-0.02±.07; Mθφ0.17±.03; Mφr0.34±.08; Best double couple: Mo.878×10^17 NP1:φs79°, δ47°, λ58°. NP2:φs301°, δ52°, λ119°. Principal axes: T .891, Plg67°, Azm274°; N -.025, Plg23°, Azm102°; P -.865, Plg3°, Azm11°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 00:56:14.2±0.2**, 7.31S**±0.03×**127.38E**±0.04**, h33**km**, h33**km±.9km**:pP-P, n247, σ1s09**/224**, mb5.2**/82**, MS5.5**/12**, 22C-13D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.32**	**138**	eP	**Pn**	**00 58 17.9**	**+16**
	159nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.86**	**189**	eP	**P**	**00 58 46.1**	**-4.6**
	118nm,0.4s						
FITZ				eS	**S**	**01 00 42.1**	**-10**
FITZ	**Fitzroy Crossi**	**10.86**	**189**	Pn	**P**	**00 58 47.0**	**-3.6**
	12nm,0.3s,baz=15,slow=9.9,SNR=103						
FITZ				Sn	**S**	**01 00 40.4**	**-12**
	24nm,0.3s,baz=1.7,slow=10,SNR=6.4						
FITZ				LR	LR	01 03 17.9	
	comp=Z,3μm,21.6s,baz=26,slow=39						
WRAB	**Tennant Creek**	**14.25**	**152**	eP	**P**	**00 59 31.9**	**-4.1**
	326nm,1.0s						
WRAB	**Tennant Creek**	**14.25**	**152**	eP	**P**	**00 59 31.9**	**-4.1**
WRAB				pmax	pmax		
	comp=Z,326nm,1.0s						
WRA	**Warramunga Arr**	**14.26**	**152**	Pn	**P**	**00 59 32.0**	**-4.0**
	comp=Z,6.1nm,0.3s,baz=336,slow=12,SNR=44						
WRA				Sn	**S**	**01 02 02.8**	**-11**
	comp=Z,6.0nm,0.3s,baz=332,slow=23,SNR=11						
WB2	**Warramunga Arr**	**14.26**	**152**	eP	**P**	**00 59 31.3**	**-4.8**
WB2				eS	**S**	**01 02 04.6**	**-9.4**
TSM	**Tawau**	**14.93**	**320**	P	**P**	**00 59 46.3**	**+1.4**
MBWA	**Marble Bar**	**15.63**	**207**	P	**P**	**00 59 51.6**	**-2.3**
	comp=Z,142nm,0.8s						
KKM	**Kota Kinabalu**	**17.32**	**320**	P	**P**	**01 00 17.3**	**+1.9**
KKM	**Kota Kinabalu**	**17.32**	**320**	eP	**P**	**01 00 17.4**	**+2.0**
ASPA	**Alice Springs**	**17.43**	**160**	eP	**P**	**01 00 15.9**	**-0.8**
ASPA				eS	**S**	**01 03 21.9**	**-5.6**
KSM	**Kuching**	**19.14**	**296**	eP	**P**	**01 00 38.4**	**+0.8**
PMG	**Port Moresby**	**19.68**	**97**	P	**P**	**01 00 42.4**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=293,slow=13,SNR=2.1						
PMG				S	**S**	**01 04 16.6**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=157,slow=22,SNR=2.1						
PMG	**Port Moresby**	**19.68**	**97**	P	**P**	**01 00 42.3**	**-1.4**
	comp=Z,100nm,1.0s						
PMG	**Port Moresby**	**19.68**	**97**	eP	**P**	**01 00 44.4**	**+0.6**
CTA	**Charters Tower**	**22.27**	**127**	eP	**P**	**01 01 12.0**	**+1.8**
	comp=Z,19nm,0.6s,mb4.7						
CTA				eS	**S**	**01 05 16.4**	**+8.1**
CTA	**Charters Tower**	**22.27**	**127**	P	**P**	**01 01 10.3**	**+0.1**
	comp=Z,15nm,0.8s,mb4.5,baz=300,slow=11,SNR=13						
CTA				S	**S**	**01 05 16.8**	**+8.5**
	comp=Z,6.3nm,0.9s,baz=287,slow=19,SNR=2.5						
CTA				LR	LR	01 10 27.6	
	comp=Z,799nm,18.0s,baz=310,slow=38						
CTA	**Charters Tower**	**22.27**	**127**	eP	**P**	**01 01 12.0**	**+1.8**
CTA				eS	**S**	**01 05 16.4**	**+8.1**
CTA				pmax	pmax		
	comp=Z,19nm,0.6s						
CTAO	**Charters Tower**	**22.27**	**127**	eP	**P**	**01 01 11.5**	**+1.2**
	comp=Z,85nm,1.0s,mb5.1						
CTAO	**Charters Tower**	**22.27**	**127**	eP	**P**	**01 01 11.5**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,85nm,1.0s,mb5.1						
FORT	**Forrest**	**23.36**	**179**	eP	**P**	**01 01 22.3**	**+1.5**
	comp=Z,207nm,0.7s,mb5.7						
CVP	**Callao Caves**	**25.45**	**348**	⇓eP	**P**	**01 01 42.1**	**+1.0**
KGM	**Kluang**	**25.73**	**290**	P	**P**	**01 01 45.5**	**+1.7**
KLBR	**Kellerberrin**	**25.78**	**199**	eP	**P**	**01 01 44.3**	**+0.3**

comp=Z,176nm,1.2s,mb5.5
GUMO Guam 27.07 40 P **P** **01 01 55.8 -0.3**
comp=Z,122nm,0.9s,mb5.5,baz=356,slow=22,SNR=2.7
NWAO Narrogin (SRO) 27.18 199 P **P** **01 01 56.4 -0.4**
comp=Z,32nm,0.9s,mb4.8,baz=44,slow=9.6,SNR=8.0
NWAO LR LR 01 13 51.5
comp=Z,952nm,18.9s,baz=7.4,slow=39
NWAO Narrogin (SRO) 27.18 199 P **P** **01 01 56.4 -0.4**
NWAO LR LR 01 13 51.5
STKA Stephens Creek 27.81 153 *e*P **P** **01 02 02.9 +0.3**
comp=Z,17nm,0.6s,mb4.9
STKA *e* pP 01 02 13.4 +1.3
STKA Stephens Creek 27.81 153 P **P** **01 02 02.7 +0.1**
comp=Z,20nm,0.6s,mb4.9,baz=330,slow=9.6,SNR=18
STKA LR LR 01 14 49.7
comp=Z,1μm,20.2s,MS4.5,baz=323,slow=40
IPM Ipoh 28.83 293 P **P** **01 02 13.2 +1.2**
KULM Kulim 29.46 294 *e*P **P** **01 02 16.5 -1.2**
TOO Toolangi 34.32 154⇑*i*P **P** **01 03 02.3 +2.3**
comp=Z,20nm,0.9s,mb5.0
TOO *i* pP 01 03 12.9 +3.3
TOO Toolangi 34.32 154⇑*i*P **P** **01 03 02.3 +2.3**
TOO *i* pP 01 03 12.9 +3.3
TOO pmax pmax
comp=Z,20nm,0.9s,mb5.0
CNB Canberra Magne 34.41 147 *e*P **P** **01 03 02.5 +1.7**
comp=Z,23nm,0.7s,mb5.2
CNB *i* pP 01 03 12.9 +2.5
NST Nakhon Sawan 35.35 310 P **P** **01 03 09.5 +0.5**
comp=Z,58nm,1.2s,mb5.4
CHG Chiang Mai 38.21 313 ⇑P **P** **01 03 33.0 0.0**
comp=Z,43nm,0.8s,mb5.2
CHRT Chiangrai 38.30 315 ⇑P **P** **01 03 35.0 +1.2**
comp=Z,368nm,0.8s,mb6.2
SSE Sheshan 38.64 351 P **P** **01 03 38.6 +2.0**
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,351nm,4.6s
SSE Sheshan 38.64 351 P **P** **01 03 38.6 +2.0**
comp=Z,30nm,0.8s,mb5.1
GYA Guiyang 39.13 330⇑*i*P **P** **01 03 41.7 +1.1**
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.9
TAU Tasmania Unive 39.57 157 P **P** **01 03 46.5 +2.4**
comp=Z,42nm,1.3s,mb5.0
TAU *e*pP pP 01 03 55.1 +1.2
TAU Tasmania Unive 39.57 157 P **P** **01 03 46.5 +2.4**
TAU *e**PP pP 01 03 55.1 +1.2
TAU pmax pmax
comp=Z,42nm,1.3s,mb5.0
WHN Wuhan 39.66 342 P **P** **01 03 46.0 +1.0**
WHN AP pP 01 03 56.5 +1.8
NJ2 Nanjing 39.98 349 *e*P **P** **01 03 48.5 +0.9**
NJ2 AP pP 01 03 57.9 +0.5
NJ2 XP sP 01 04 01.8 +0.4
NJ2 PP PP 01 05 25.6 +2.4
NJ2 S **S** **01 09 54.0 +3.4**
NJ2 XS 01 10 12.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,460nm,6.2s
NJ2 LR LR
comp=N,5μm,19.8s,MS5.4
NJ2 LR LR
comp=E,3μm,19.4s,MS5.4
NJ2 LR LR
comp=Z,2μm,23.2s,MS4.9
KMI Kunming 40.18 324 P **P** **01 03 52.2 +2.8**
KMI AP pP 01 04 02.1 +3.0
KMI XP sP 01 04 06.1 +2.9
KMI PP PP 01 05 27.2 +1.8
KMI S **S** **01 09 51.8 -1.9**
KMI AMB AMB
comp=Z,61nm,1.3s,mb5.2
KMI Kunming 40.18 324 P **P** **01 03 52.2 +2.8**
comp=Z,61nm,1.3s,mb5.2
KMI pP pP 01 04 02.1 +3.0
KMI sP sP 01 04 06.1 +2.9
KMI PP PP 01 05 27.2 +1.8
KMI S **S** **01 09 51.8 -1.9**
KMI SS SS 01 12 39.4 -7.1
KMI SSS SSS 01 13 14.5 -8.4
KMI Kunming 40.18 324 P **P** **01 03 52.2 +2.8**
KMI *PP pP 01 04 02.1 +3.0
KMI *SP sP 01 04 06.1 +2.9
KMI 01 05 27.2
KMI S **S** **01 09 51.8 -1.9**
KMI SS SS 01 12 39.4 -7.1
KMI SSS SSS 01 13 14.5 -8.4
KMI pmax pmax
comp=Z,61nm,1.3s,mb5.2
JNU Nakatsue 40.34 5 P **P** **01 03 49.5 -1.1**
comp=Z,14nm,0.7s,mb4.8,baz=90,slow=20,SNR=2.1
DZM Mont Dzumac 40.39 116 P **P** **01 03 51.6 +0.5**
comp=Z,16nm,0.9s,mb4.8,baz=284,slow=12,SNR=8.2
ENH Enshi 41.12 336 *e*P **P** **01 03 56.8 -0.3**
comp=Z,20nm,0.8s,mb4.8
KS15 Wonju Array Si 44.52 1 *e*P **P** **01 04 24.3 -0.4**
XAN Xi'an 44.69 338 P **P** **01 04 25.8 -0.3**
XAN AMB AMB
comp=Z,21nm,1.5s,mb4.8
MJAR Matsushiro Arr 44.79 12 P **P** **01 04 25.0 -1.8**
comp=Z,12nm,0.9s,mb4.7,baz=188,slow=8.8,SNR=13
MAT Matsushiro 44.79 12 P **P** **01 04 26.4 -0.5**
MAT Matsushiro 44.79 12 *e*P **P** **01 04 26.0 -0.9**
comp=Z,14nm,0.9s,mb4.8
MAT Matsushiro 44.79 12 *e*P **P** **01 04 26.0 -0.9**
MAT pmax pmax
comp=Z,14nm,0.9s,mb4.8
LZH Lanzhou 48.50 334 *e*P **P** **01 04 57.0 +0.9**
LZH AP pP 01 05 06.0 0.0
LZH XP sP 01 05 11.0 +1.1
LZH AMB AMB
comp=Z,98nm,1.6s,mb5.6
LZH Lanzhou 48.50 334 *e*P **P** **01 04 57.0 +0.9**
comp=Z,98nm,1.6s,mb5.6
LZH pP pP 01 05 06.0 0.0
LZH sP sP 01 05 11.0 +1.1
PALK Pallekele 48.75 286 *e*P **P** **01 04 58.0 -0.3**
comp=Z,82nm,1.4s,mb5.6
SNY Shenyang 49.02 356 ⇑P **P** **01 04 58.3 -1.7**
SNY AMB AMB
comp=Z,30nm,2.9s,mb4.8
HHC Hu-ho-hao-te 50.08 344 *e*P **P** **01 05 08.3 +0.1**
HHC AP pP 01 05 18.1 0.0
HHC XP sP 01 05 21.8 -0.2
HHC PCP PcP 01 06 29.0 +1.3
HHC PP PP 01 07 03.5 -0.7
HHC SCP 01 10 20.9
HHC PCS 01 10 24.4
HHC S **S** **01 12 13.9 -2.0**
HHC SCS ScS 01 14 54.0 +0.3
HHC AMB AMB
comp=Z,26nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,611nm,6.5s
HHC LR LR
comp=N,3μm,20.8s,MS5.5
HHC LR LR
comp=E,4μm,20.8s,MS5.5
HHC LR LR
comp=Z,6μm,23.7s,MS5.5
VIS Vishakhapatnam 50.11 300 *e*P **P** **01 05 08.8 +0.1**
VIS AMb AMB 01 05 14.7
comp=Z,51nm,1.4s,mb5.4
LSA Lhasa 50.66 318 P **P** **01 05 14.0 +1.3**
LSA Lhasa 50.66 318 *e*P **P** **01 05 13.5 +0.7**
comp=Z,24nm,0.8s,mb5.2
LSA Lhasa 50.66 318 *e*P **P** **01 05 13.5 +0.8**
LSA pmax pmax
comp=Z,24nm,0.8s,mb5.2
MDJ Mudanjiang 51.72 2 P **P** **01 05 21.7 +1.1**
MDJ AP pP 01 05 31.2 +0.6
MDJ XP sP 01 05 35.6 +1.2
MDJ PCP PcP 01 06 33.8 +0.1
MDJ PP PP 01 07 21.6 +2.7
MDJ SCP 01 10 26.9
MDJ S **S** **01 12 44.6 +6.1**
MDJ XS 01 13 00.4
MDJ SS SS 01 16 22.2 +9.2
MDJ AMB AMB
comp=Z,23nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,428nm,7.4s
MDJ LR LR
comp=N,11μm,17.0s,MS6.4
MDJ LR LR
comp=E,28μm,15.0s,MS6.4
MDJ Mudanjiang 51.72 2 *e*P **P** **01 05 21.4 +0.8**
comp=E,22nm,1.1s,mb5.0
MDJ *e*pP pP 01 05 31.0 +0.4
RPZ Rata Peaks 52.61 141 P **P** **01 05 27.7 +0.4**
comp=E,56nm,1.0s,mb5.5,baz=3.1,slow=10,SNR=9.0
KOD Kodaikanal 52.67 289 *ex* x 01 06 18.3
GTA Gaotai 53.03 333 *e*P **P** **01 05 30.9 +0.4**
GTA AP pP 01 05 37.5 -3.0
GTA XP sP 01 05 41.2 -3.1
GTA AMB AMB
comp=Z,35nm,1.2s,mb5.2
BLSP Bilaspur 53.11 305 *e*P **P** **01 05 30.6 -0.7**
BLSP AMb AMB 01 05 35.0
comp=Z,87nm,1.0s,mb5.6
PKI Pulchoki 53.38 312 *e*P **P** **01 05 31.8 -1.4**
comp=Z,159nm,1.4s,mb5.8
KKN Kakani 53.60 312 *e*P **P** **01 05 33.5 -1.3**
DMN Daman 53.62 312 *e*P **P** **01 05 34.1 -0.9**
comp=Z,90nm,1.0s,mb5.7
HYB Hyderabad 54.13 298 *i* P **P** **01 05 39.0 +0.2**
HYB *e*S 01 10 39.0
HYB Hyderabad 54.13 298 *e*P **P** **01 05 39.0 +0.2**
HYB *e*S 01 10 39.0
GKN Gorkha 54.19 312 *e*P **P** **01 05 38.3 -0.8**
comp=Z,105nm,0.9s,mb5.8
KOLN Koldanda 54.83 311 *e*P **P** **01 05 42.9 -0.9**
comp=Z,172nm,0.9s,mb6.1
YSS Yuzh-Sakhalins 55.73 13 *i* Pr **P** **01 05 50.9 +0.8**
YSS Yuzh-Sakhalins 55.73 13⇑*i*P **P** **01 05 50.0 -0.1**
YSS *e**PP pP 01 06 05.7 +5.7
YSS *e*S **S** **01 13 36.0 +3.4**
YSS pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
YSS pmax pmax
comp=Z,300nm,6.0s
KLR Kul'dur 56.43 3 *e*P **P** **01 05 53.0 -2.1**
HIA Hailar 56.73 354 P **P** **01 05 57.8 +0.5**
comp=Z,37nm,1.4s,mb5.2
HIA Hailar 56.73 354 P **P** **01 05 57.8 +0.5**
HIA pmax pmax
comp=Z,37nm,1.4s
AKL Akola 56.77 300 *ex* x 01 08 05.8
BHPL Bhopal 57.49 303 *e*P **P** **01 06 01.8 -1.2**
BHPL AMb AMB 01 06 04.7
comp=Z,121nm,1.4s,mb5.7
ULN Ulaanbaatar 57.80 344 *e*P **P** **01 06 04.8 +0.1**
comp=Z,53nm,1.3s,mb5.4
ULN Ulaanbaatar 57.80 344 *e*P **P** **01 06 04.8 0.0**
ULN pmax pmax
comp=Z,53nm,1.3s,mb5.4
KAD Karad 57.97 296 *e*P **P** **01 06 05.1 -1.3**
POO Poona 58.70 297 *e*P **P** **01 06 10.5 -1.0**
POO AMb AMB 01 06 12.7
comp=Z,118nm,1.2s,mb5.8
CASY Casey 60.02 188 *e*P **P** **01 06 20.1 +0.1**
comp=Z,41nm,1.3s,mb5.3
SONA Sohna 60.03 308 *e*P **P** **01 06 19.4 -1.1**
AYAN Aya Nagar 60.11 309 *e*P **P** **01 06 20.4 -0.6**
NDI New Delhi 60.13 309 *e*P **P** **01 06 18.5 -2.7**
KUDL Kundal 60.44 308 *e*P **P** **01 06 21.5 -1.9**
KUDL AMb AMB 01 06 23.8
comp=Z,88nm,1.0s,mb5.8
KHET Khetri 60.95 308 *e*P **P** **01 06 25.0 -1.7**
KHET AMb AMB 01 06 27.0
comp=Z,59nm,0.9s,mb5.7
ZAK Zakamensk 61.14 343 *e*P **P** **01 06 27.7 -0.1**
ZAK *e* 01 07 10.5
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
AJM Ajmer 61.16 305 *e*P **P** **01 06 27.0 -1.3**
WMQ Urumqi 62.27 329⇓*i*P **P** **01 06 35.6 +0.1**
WMQ AP pP 01 06 46.0 +0.4
WMQ XP sP 01 06 50.0 +0.7
WMQ PCP PcP 01 07 16.0 +1.2
WMQ PP PP 01 08 56.0 +1.5
WMQ S **S** **01 14 58.0 +0.6**
WMQ XS 01 15 15.0
WMQ AMB AMB
comp=Z,50nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,403nm,4.4s
WMQ LR LR
comp=N,2μm,25.8s,MS5.5
WMQ LR LR
comp=E,5μm,30.4s,MS5.5
WMQ LR LR
comp=Z,1μm,22.8s
IRK Irkutsk 62.52 344 *e*P **P** **01 06 36.2 -0.9**
IRK *e* 01 07 14.9
IRK *e* 01 09 00.0
IRK pmax pmax
comp=Z,95nm,1.8s,mb5.6
MOY Mondy 62.96 342 *e*P **P** **01 06 41.1 +1.2**
CLNS Chul'man 63.95 358 *e*P **P** **01 06 46.5 +0.1**
CLNS *e* 01 07 22.0
CLNS *e* 01 09 02.7
CLNS *e*S **S** **01 15 16.0 -2.4**
CLNS *e*SS SS 01 19 25.8 -2.7
CLNS pmax pmax
comp=Z,18nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS pmax pmax
comp=Z,11nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,5.0nm,0.6s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS smax
comp=N,9.0nm,0.7s
CLNS smax
comp=Z,8.0nm,0.7s
CLNS smax
comp=E,11nm,0.9s
CLNS MLR MLR
comp=Z,22μm,13.0s,MS6.5
CLNS MLR MLR
comp=N,22μm,14.0s,MS6.5
CLNS MLR MLR
comp=E,6μm,12.0s,MS6.5
PET Petropavlovsk 65.70 20 *e*P **P** **01 06 58.9 +1.1**
comp=E,17nm,0.4s,mb5.4
PET Petropavlovsk 65.70 20⇑*i*P **P** **01 06 58.7 +0.9**
PET pmax pmax
comp=Z,87nm,1.3s,mb5.6
PET MLR MLR
comp=Z,4μm,24.0s,MS5.6
BOD Bodaibo 65.81 352 *e*P **P** **01 06 58.0 -0.4**
BOD pmax pmax
comp=Z,46nm,1.5s,mb5.3
KSH Kashi 66.51 319 P **P** **01 07 04.5 +1.3**
KSH AP pP 01 07 15.1 +1.8
KSH XP sP 01 07 18.3 +1.3
KSH PCP PcP 01 07 33.7 +1.4
KSH PP PP 01 09 32.4 +0.8
KSH SCP 01 11 32.9
KSH PCS 01 11 38.0
KSH S S 01 15 50.7 +0.6
KSH SCS ScS 01 16 55.1 +1.5
KSH AMB AMB
comp=Z,550nm,6.5s
KSH LR LR
comp=N,720nm,3.0s
KSH LR LR
comp=E,930nm,6.3s
MKAR Makanchi Array 67.08 328 P **P** **01 07 06.0 -0.7**
comp=E,36nm,0.8s,mb5.5,baz=130,slow=7.9,SNR=228
MKAR Makanchi Array 67.08 328 *i* P **P** **01 07 06.2 -0.5**
MKAR pmax pmax
comp=Z,43nm,0.8s
ULHL Ulahol 67.82 321 P **P** **01 07 12.6 +1.2**
SNR=5.3
KZA Kyzart 68.35 321 P **P** **01 07 15.7 +1.0**
SNR=22
TKM2 Tokmak 2 68.59 322 P **P** **01 07 17.0 +0.9**
SNR=11
KBK Karagaybulak 68.85 321 P **P** **01 07 19.9 +2.1**
SNR=8.7
UCH Uchtor 68.89 321 P **P** **01 07 19.8 +1.8**
SNR=17
AAK Ala-Archa 69.12 321 P **P** **01 07 20.2 +0.8**
SNR=12
AAK Ala-Archa 69.12 321 *e*P **P** **01 07 18.7 -0.7**
comp=Z,17nm,0.9s,mb5.0
AAK Ala-Archa 69.12 321 *e*P **P** **01 07 18.7 -0.7**
AAK pmax pmax
comp=Z,17nm,0.9s,mb5.0
FRU Bishkek 69.15 321 *e*P **P** **01 07 20.0 +0.4**
FRU *e* 01 07 35.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.2
YAK Yakutsk 69.16 1 *e*P **P** **01 07 19.3 0.0**
comp=Z,26nm,0.6s,mb5.3
YAK Yakutsk 69.16 1 *e*P **P** **01 07 19.3 0.0**
YAK pmax pmax
comp=Z,26nm,0.6s,mb5.3
MA2 Magadan 69.23 12 *e*P **P** **01 07 20.2 +0.4**
comp=Z,82nm,1.1s,mb5.6
MA2 Magadan 69.23 12 *e*P **P** **01 07 20.5 +0.7**
MA2 pmax pmax
comp=Z,182nm,1.7s,mb5.7
AML Almayashu 69.36 320 P **P** **01 07 21.4 +0.5**
SNR=44
USP Ospenovka 69.45 322 P **P** **01 07 21.3 -0.2**
SNR=30
EKS2 Erkin-Say 69.58 321 P **P** **01 07 23.5 +1.2**
SNR=21
ZAL Zalesovo 70.73 335 P **P** **01 07 28.2 -0.8**
comp=Z,19nm,0.9s,mb5.0,baz=352,slow=4.4,SNR=79
ZAL Zalesovo 70.73 335 *i* P **P** **01 07 28.9 -0.2**
ZAL pmax pmax
comp=Z,19nm,0.9s
KURK Kurchatov 71.45 330 *e*P **P** **01 07 33.1 -0.3**
comp=Z,53nm,0.8s,mb5.5
KURK Kurchatov 71.45 330 *e*P **P** **01 07 33.1 -0.3**
KURK pmax pmax
comp=Z,53nm,0.8s,mb5.5
KKAR Karatay Array 71.88 320 *i* P **P** **01 07 36.4 +0.3**
NVS Novosibirsk 72.02 335 *i* P **P** **01 07 35.3 -1.5**
NVS *e*S S 01 16 53.0 -1.7
NVS pmax pmax
comp=Z,98nm,1.7s,mb5.5
NVS pmax pmax
comp=N,92nm,1.8s
NVS pmax pmax
comp=E,56nm,1.8s
NVS smax
comp=N,19nm,2.0s
NVS smax
comp=E,21nm,2.3s
VNDA Vanda 72.47 173 P **P** **01 07 39.2 +0.1**
comp=E,3.8nm,0.8s,mb4.4,baz=342,slow=13,SNR=7.3
VNDA LR LR 01 37 40.3
comp=E,969nm,20.8s,MS5.1,baz=41,slow=34
VNDA Vanda 72.47 173 P **P** **01 07 39.2 +0.1**
VNDA LR LR 01 37 40.3
SEY Seymchan 72.61 12 *i* P **P** **01 07 41.4 +1.3**
MAW Mawson 73.72 201⇑*i*P **P** **01 07 47.1 +0.6**
comp=E,9.1nm,1.4s,mb4.5
MAW Mawson 73.72 201 P **P** **01 07 46.9 +0.4**
comp=E,5.5nm,0.7s,mb4.6,baz=68,slow=6.1,SNR=13
MAW LR LR 01 37 11.5
comp=E,324nm,18.6s,MS4.6,baz=241,slow=33
MAW Mawson 73.72 201⇑*i*P **P** **01 07 47.1 +0.6**
MAW pmax pmax
comp=Z,9.0nm,1.4s
JMDO Jabal Madar 73.91 296 P **P** **01 07 48.5 -0.1**
SNR=6.1
SMDO Samad 74.14 296 P **P** **01 07 49.8 0.0**
SNR=11
BIDO Bidbid 74.19 297⇓P **P** **01 07 50.1 0.0**
SNR=10
BSY Bisya 74.82 296⇑P **P** **01 07 53.7 -0.1**
SNR=6.7
HOQ Hoqain 74.93 297 P **P** **01 07 54.8 +0.4**
SNR=8.5
ARQ Araqi 75.57 296⇑P **P** **01 07 57.3 -0.8**
ASHO Ashiyiah 76.32 298⇓P **P** **01 08 02.7 +0.5**
SNR=6.2
BANOM Banah 76.42 299⇑P **P** **01 08 03.7 +0.8**
VOSK Vostochnaya 76.49 329 *i* P **P** **01 08 01.8 -0.8**
WHFO Wadi Hawf 76.83 290⇓P **P** **01 08 04.7 -0.5**
SNR=6.6
BVA0 Borovoye Array 76.95 329 *i* P **P** **01 08 05.5 +0.3**
BVA0 pmax pmax
comp=Z,34nm,1.2s,mb5.2
BVAR Borovoye Array 76.95 329 P **P** **01 08 05.3 +0.1**
comp=Z,66nm,0.9s,mb5.5,baz=135,slow=6.3,SNR=262
BRVK Borovoye 77.03 329 *e*P **P** **01 08 05.8 +0.2**
comp=Z,105nm,1.1s,mb5.7
BRVK Borovoye 77.03 329 *e*P **P** **01 08 05.8 +0.2**
BRVK pmax pmax
comp=Z,105nm,1.1s,mb5.7
ABTO Aybut 77.15 290⇑P **P** **01 08 06.2 -0.8**
OPO Ambohidratompo 78.44 253 P **P** **01 08 13.2 -0.9**
comp=Z,5.3nm,0.7s,mb4.6,baz=71,slow=3.4,SNR=14
TIXI Tiksi 78.80 0 *e*P **P** **01 08 15.1 +0.1**
TIXI Tiksi 78.80 0⇓*i*P **P** **01 08 13.8 -1.2**
TIXI *e*S S 01 18 08.8 -0.4
TIXI pmax pmax
comp=Z,103nm,1.1s,mb5.7
TIXI MLR MLR
comp=N,16μm,15.0s,MS6.5
TIXI MLR MLR
comp=Z,19μm,15.0s,MS6.5
TIXI MLR MLR
comp=E,3μm,14.0s,MS6.5
BILL Bilibino 80.02 14⇑*i*P **P** **01 08 22.2 +0.6**
AB31 Akbulak array 81.15 322 *i* P **P** **01 08 27.8 -0.2**
HASS Wahat al Ahsa' 82.06 297 P **P** **01 08 33.2 0.0**
SYO Syowa Base 82.43 201⇑P **P** **01 08 34.0 -0.3**
SYO Syowa Base 82.43 201⇑pP pP 01 08 47.6 +2.9
QSPA South Pole Qui 82.67 180⇓*i*P **P** **01 08 36.7 +1.4**
comp=E,17nm,1.0s,mb5.0
SVE Sverdlovsk 83.70 329 *i* P **P** **01 08 42.1 +1.1**
SVE *e* pP 01 08 52.4 +1.0
SVE *e* 01 11 52.0
SVE *e*PS PS 01 20 16.0 +18
ARU Arti 84.60 329 *e*P **P** **01 08 45.9 +0.4**
comp=E,33nm,0.9s,mb5.5
ARU *e*pP pP 01 08 56.8 +0.8
ARU Arti 84.60 329⇑*i*P **P** **01 08 45.8 +0.3**
ARU *e* 01 12 01.1
ARU *e*S S 01 19 06.9 -2.0
ARU *e*SS SS 01 24 39.8 -3.5
ARU pmax pmax
comp=Z,74nm,1.1s,mb5.7
KAMS Al Khamasin 85.81 291 P **P** **01 08 52.5 +0.1**
MZLS Mizel 85.85 295 P **P** **01 08 53.7 +1.1**
DJNS Zahran al Janu 86.37 288 P **P** **01 08 56.9 +1.7**
AFFS 'Afif 87.83 294 P **P** **01 09 00.7 -1.4**
BLJS Baljurashi 88.51 290 P **P** **01 09 07.0 +1.5**
TBLG Delisi 89.35 312 P **P** **01 09 09.9 +0.8**
HILS Ha'il 89.42 298 P **P** **01 09 11.1 +1.3**
KMBO Kilima Mbogo 89.98 269 P **P** **01 09 12.2 -0.4**
comp=Z,0.9nm,0.5s,mb4.4,baz=67,slow=9.4,SNR=7.0
GOF Gofitskoye 91.14 315 *e*P **P** **01 09 25.6 +8.4**
KIV Kislovodsk 91.21 314 *e*P **P** **01 09 15.9 -1.7**
IMA Indian Mountai 92.17 24 *e*P **P** **01 09 21.7 +0.2**
comp=Z,14nm,0.9s,mb5.3
IMA *e*pP pP 01 09 33.0 +1.1
IMA Indian Mountai 92.17 24 *e*P **P** **01 09 21.7 +0.3**
IMA *e**PP pP 01 09 33.0 +1.1
IMA pmax pmax
comp=Z,14nm,0.9s,mb5.3
SLKM Skilak Lake 92.57 29 *e*P **P** **01 09 23.2 -0.3**
VRHR Novokhopersk 92.97 321 *e*P **P** **01 09 24.6 -0.9**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
VRHR pmax pmax
comp=N,20nm,1.2s
VRHR pmax pmax
comp=E,20nm,0.6s
SOC Sochi 93.29 313*c i*P **P** **01 09 25.0 -2.2**
SOC *e* 01 13 14.8
SOC *e*S 01 19 57.4
SOC *e* 01 20 33.1
SOC *e*SS SS 01 26 44.4 -5.2
SOC pmax pmax
comp=Z,74nm,1.4s,mb5.9

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SOC				pmax	pmax		
	comp=N,84nm,1.5s						
SOC				pmax	pmax		
	comp=E,42nm,1.1s						
SOC				MLR	MLR		
	comp=N,2µm,21.0s,MS5.5						
SOC				MLR	MLR		
	comp=E,1µm,21.0s,MS5.5						
SOC				MLR	MLR		
	comp=Z,910nm,21.0s,MS5.2						
MALT	**Malatya**	**93.66**	**308**	eP	**P**	**01 09 29.1**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.9						
MALT	**Malatya**	**93.66**	**308**	eP	**P**	**01 09 29.1**	**+0.1**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.9						
MCK	**McKinley**	**93.71**	**26**	eP	**P**	**01 09 28.1**	**-0.5**
VORD	**Divnogorie**	**94.41**	**321**	eP	**P**	**01 09 31.4**	**-0.7**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.2						
VORD				pmax	pmax		
	comp=N,8.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,6.0nm,0.8s						
VRSR	**Storozhevoye**	**94.50**	**321**	eP	**P**	**01 09 32.1**	**-0.4**
VRSR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.2						
VRSR				pmax	pmax		
	comp=N,7.0nm,1.2s						
VRSR				pmax	pmax		
	comp=E,8.0nm,0.7s						
ILAR	**Eielson Array**	**94.74**	**25**	P	**P**	**01 09 32.0**	**-1.3**
	comp=E,3.0nm,1.0s,mb4.7,baz=271,slow=4.2,SNR=15						
SNAA	**Sanae**	**94.75**	**194**	e	**P**	**01 09 41.4**	**+8.2**
SNAA	**Sanae**	**94.75**	**194**	e	**P**	**01 09 45.3**	**+12**
SNAA	**Sanae**	**94.75**	**194**	e	**P**	**01 09 50.6**	**+17**
SNAA	**Sanae**	**94.75**	**194**	P	**P**	**01 09 34.5**	**+1.3**
	comp=E,2.7nm,0.9s,mb4.7,baz=116,slow=3.8,SNR=26						
SNAA	**Sanae**	**94.75**	**194**	⇓iP	**P**	**01 09 35.0**	**+1.8**
SNAA				e		01 09 41.4	
SNAA				e	pP	01 09 45.3	+1.6
SNAA				e		01 09 50.6	
SNAA	**Sanae**	**94.75**	**194**	⇓iP	**P**	**01 09 35.0**	**+1.8**
SNAA				e	pP	01 09 45.3	+1.6
SNAA				e		01 09 50.6	
ANN	**Anapa**	**95.05**	**314**	eP	**P**	**01 09 33.7**	**-1.5**
ANN				pmax	pmax		
	comp=Z,61nm,0.9s,mb6.0						
MATP	**Matopo**	**95.73**	**249**	P	**P**	**01 09 38.0**	**-0.9**
	comp=Z,2.9nm,0.9s,mb4.7,baz=92,slow=12,SNR=4.8						
MATP	**Matopo**	**95.73**	**249**	P	**P**	**01 09 38.0**	**-0.9**
VNA2	**Neumayer--Watz**	**96.33**	**194**	e	**P**	**01 09 48.2**	**+7.7**
VNA2	**Neumayer--Watz**	**96.33**	**194**	e	**P**	**01 09 52.7**	**+12**
VNA2	**Neumayer--Watz**	**96.33**	**194**	e	**P**	**01 09 56.4**	**+16**
VNA2	**Neumayer--Watz**	**96.33**	**194**	⇓iP	**P**	**01 09 42.3**	**+1.8**
VNA2				e		01 09 48.2	
VNA2				e	pP	01 09 52.7	+1.7
VNA2				e		01 09 56.4	
VNA2				e		01 20 30.0	
OBN	**Obninsk**	**96.40**	**325**	i Pr		01 09 40.0	
OBN				LR	LR		
	comp=Z,1µm,17.0s,MS5.4						
OBN	**Obninsk**	**96.40**	**325**	⇑P	**P**	**01 09 40.9**	**-0.2**
OBN				e		01 13 36.7	
OBN				ePS	PS	01 22 26.1	+0.8
OBN				pmax	pmax		
	comp=Z,29nm,1.7s,mb5.4						
OBN				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.4						
VNA3	**Neumayer Olymp**	**96.62**	**193**	e	**P**	**01 09 49.3**	**+7.5**
VNA3	**Neumayer Olymp**	**96.62**	**193**	e	**P**	**01 09 53.8**	**+12**
VNA3	**Neumayer Olymp**	**96.62**	**193**	e	**P**	**01 09 58.0**	**+16**
VNA3	**Neumayer Olymp**	**96.62**	**193**	⇓iP	**P**	**01 09 43.5**	**+1.7**
VNA3				e		01 09 49.3	
VNA3				e	pP	01 09 53.8	+1.5
VNA3				e		01 09 58.0	
VNA3				e		01 20 34.7	
VNA1	**Neumayer--Stat**	**96.73**	**194**	e	**P**	**01 09 50.4**	**+8.1**
VNA1	**Neumayer--Stat**	**96.73**	**194**	e	**P**	**01 09 54.6**	**+12**
VNA1	**Neumayer--Stat**	**96.73**	**194**	e	**P**	**01 09 58.4**	**+16**
VNA1	**Neumayer--Stat**	**96.73**	**194**	⇓iP	**P**	**01 09 44.5**	**+2.2**
VNA1				e		01 09 50.4	
VNA1				e	pP	01 09 54.6	+1.8
VNA1				e		01 09 58.4	
BOSA	**Boshof**	**97.06**	**240**	P	**P**	**01 09 43.8**	**-1.0**
	comp=Z,5.3nm,0.9s,mb5.0,baz=138,slow=6.5,SNR=5.5						
BRTR	**Keskin Array B**	**97.49**	**309**	P	**P**	**01 09 44.5**	**-1.9**
	comp=Z,2.2nm,0.8s,mb4.7,baz=131,slow=5.7,SNR=12						
LBTB	**Lobatse**	**97.51**	**244**	P	**P**	**01 09 46.4**	**-0.5**
	comp=Z,4.9nm,0.9s,mb5.0,baz=123,slow=5.2,SNR=4.5						
INK	**Inuvik**	**100.12**	**22**	P	P	01 09 57.9	+0.3
	comp=Z,4.5nm,1.1s,baz=262,slow=9.1,SNR=3.4						
INK	**Inuvik**	**100.12**	**22**	P	P	01 09 57.9	+0.3
AKASG	**Malin Array Be**	**100.78**	**320**	P	P	01 09 58.4	-2.6
	comp=Z,1.5nm,0.6s,baz=69,slow=6.7,SNR=4.8						
AKASG	**Malin Array Be**	**100.78**	**320**	P	P	01 09 58.4	-2.6
AKASG	**Malin Array Be**	**100.78**	**320**	i P	P	01 10 01.2	+0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**109.16**	**26**	PKiKP		01 14 40.3	
	comp=Z,1.0nm,0.8s,baz=299,slow=1.9,SNR=8.2						
YKA				PKKPbc		01 25 47.5	
	comp=Z,0.7nm,0.9s,baz=116,slow=3.5,SNR=4.5						
YKA	**Yellowknife Ar**	**109.16**	**26**	PKPdf		01 14 40.3	
YKA				PKKPbc		01 25 47.5	
GERES	**GERESS Array B**	**110.98**	**320**	PKiKP		01 14 44.4	
	comp=Z,0.5nm,0.6s,baz=90,slow=1.3,SNR=5.2						
TPAW	**Teton Pass**	**117.76**	**44**	ePKPdf	PKPdf	01 14 59.0	-3.7
TPAW				epPKPdf		01 15 10.5	
SNOW	**Snow King Moun**	**117.90**	**44**	ePKPdf	PKPdf	01 14 59.9	-3.2
LOHW	**Long Hollow**	**117.96**	**44**	ePKPdf	PKPdf	01 14 59.7	-3.4
PDAR	**Pinedale Array**	**118.95**	**45**	PKP	PKPdf	01 15 00.6	-4.6
	comp=Z,0.7nm,0.8s,baz=347,slow=1.1,SNR=6.1						
PDAR				PKKPbc		01 25 15.2	
	comp=Z,0.9nm,0.9s,baz=117,slow=3.3,SNR=5.7						
SDCO	**Great Sand Dun**	**123.48**	**49**	ePKPdf	PKPdf	01 15 11.5	-2.5
SDCO				epPKPdf		01 15 21.7	
ANMO	**Albuquerque**	**123.57**	**53**	ePKPdf	PKPdf	01 15 11.8	-2.5
ANMO				epPKPdf		01 15 21.9	
ULM	**Lac du Bonnet**	**124.11**	**32**	PKP	PKPdf	01 15 10.0	-5.0
	comp=Z,1.7nm,0.6s,baz=292,slow=12,SNR=4.1						
ULM	**Lac du Bonnet**	**124.11**	**32**	PKP	PKPdf	01 15 10.0	-5.0
MNTX	**Cornudas Mount**	**125.29**	**56**	ePKPdf	PKPdf	01 15 14.7	-3.1
MNTX				epPKPdf		01 15 24.7	
ESDC	**Sonseca Array**	**125.88**	**314**	PKP	PKPdf	01 15 13.9	-4.7
	comp=Z,1.3nm,0.9s,baz=27,slow=3.3,SNR=6.4						
TXAR	**Lajitas Array**	**127.31**	**59**	PKP	PKPdf	01 15 18.4	-3.3
	comp=Z,0.9nm,0.4s,baz=270,slow=1.3,SNR=7.8						
PLCA	**Paso Flores**	**129.43**	**162**	PKP	PKPdf	01 15 21.2	-4.2
	comp=Z,5.3nm,0.9s,baz=225,slow=2.7,SNR=8.1						
PLCA	**Paso Flores**	**129.43**	**162**	ePKIKP	PKPdf	01 15 22.7	-2.8
PLCA				e		01 15 32.7	
DBIC	**Dimbokro**	**132.60**	**272**	PKP	PKPdf	01 15 25.8	-6.5
	comp=Z,5.2nm,0.9s,baz=163,slow=5.0,SNR=5.4						
CFAA	**Coronel Fontan**	**138.53**	**160**	PKhKP		01 15 29.9	
	comp=Z,0.2nm,0.3s,baz=263,slow=12,SNR=3.6						
CFAA				PKP	PKPdf	01 15 38.5	-4.2
	comp=Z,1.2nm,0.7s,baz=146,slow=2.6,SNR=7.4						
CFAA	**Coronel Fontan**	**138.53**	**160**	PKP	PKPdf	01 15 38.5	-4.2
CPUP	**Villa Florida**	**146.25**	**172**	PKPbc	PKPbc	01 15 53.3	+1.1
	comp=Z,38nm,0.9s,baz=202,slow=3.2,SNR=48						
CPUP	**Villa Florida**	**146.25**	**172**	⇑ePKPdf	PKPdf	01 15 54.1	-2.3
CPUP				⇓epPKPdf		01 16 04.2	
LVC	**Limon Verde**	**146.25**	**152**	PKPbc	PKPbc	01 15 54.5	+2.2
	comp=Z,21nm,0.9s,baz=240,slow=3.2,SNR=21						
LVC	**Limon Verde**	**146.25**	**152**	ePKPdf	PKPdf	01 15 55.2	-1.3
LVC				epPKPdf		01 16 06.1	
CAM4	**Nova Friburgo**	**148.91**	**198**	⇑iP	PKPdf	01 16 01.8	+0.9
CAM4				i		01 16 12.4	
CAM4				i		01 16 15.8	
CAM4				i		01 16 20.7	
CAM4				i		01 16 29.6	
NNA	**Nana**	**149.22**	**128**	ePKPdf	PKPdf	01 15 59.5	-2.1
LPAZ	**La Paz**	**151.98**	**147**	PKP	PKPdf	01 16 03.6	-2.0
	comp=Z,4.8nm,1.1s,baz=104,slow=1.1,SNR=13						
LPAZ				PKPbc	PKPdf	01 16 09.8	+4.2
	comp=Z,29nm,0.9s,baz=241,slow=0.7,SNR=62						
LPAZ	**La Paz**	**151.98**	**147**	ePKPdf	PKPdf	01 16 03.6	-2.1
LPAZ				ePKPbc	PKPdf	01 16 09.8	+4.1
LPAZ				ePKPab	PKPab	01 16 20.6	+2.1
SIV	**San Ignacio**	**155.38**	**160**	PKP	PKPdf	01 16 07.3	-3.0
	comp=Z,5.3nm,0.9s,baz=218,slow=2.5,SNR=29						
BDFB	**Brasilia**	**156.75**	**191**	PKPab	PKPab	01 16 37.7	-1.0
	comp=Z,3.5nm,0.8s,baz=111,slow=5.2,SNR=3.0						
BAO	**Brasilia Array**	**156.75**	**191**	PKPdf	PKPdf	01 16 09.0	-3.1
SAML	**Samuel**	**160.72**	**147**	ePKPdf	PKPdf	01 16 13.4	-3.6
SAML				epPKPdf		01 16 24.5	
SDV	**Santo Domingo**	**162.10**	**84**	ePKPdf	PKPdf	01 16 15.1	-3.2
SDV				epPKPdf		01 16 24.4	

BGS **06** *01:15:56.9,23.34N×123.01E,h33km,mb5.6*

NIED **06** *01:16:00,23.90N×122.30E,h29km,Mw5.6 Best double couple: $M_0$3.22×10^{17} NP1:ϕ_s246°,δ87°,λ-18°. NP2: ϕ_s337°,δ72°,λ-177°.*

BJI **06** *01:16:00.2,24.08N×122.28E,h29km,mB6.0,mb5.4, ML5.7,Ms6.2,Msz6.0*

JMA **06** *01:16:01.8±0.3,23.91N×122.29E,h14km,M6.0*

JMA Felt I J1.

MOS **06** *01:16:01.6±0.9,24.21N×122.27E,h33km,mb5.9/59, MS5.9/37,Error ellipse: s-maj=8.0km s-min=4.3km az=119.5*

NEIC **06** *01:16:02.4±0.1,24.08N×122.19E,mb5.8/110,ME5.4, MS6.1/14,MW5.7,ML6.1(TAP),Error ellipse: s-maj=4.0km s-min=3.3km az=15.0 Broadband fault plane solution: P waves. NP1:ϕ_s60°,δ75°,λ90°. NP2:ϕ_s240°,δ15°,λ90°. Principal axes: T Plg60°, Azm330°; N Plg0°, Azm0°; P Plg30°, Azm150°; Moment Tensor Solution. s37 Moment tensor: Scale 10^{17} Nm; M_{rr}1.68; $M_{\theta\theta}$0.00; $M_{\phi\phi}$-1.68; $M_{r\theta}$3.47; $M_{\theta\phi}$0.18; $M_{\phi r}$2.23; Best double couple: $M_0$4.3×10^{17} NP1:ϕ_s175°,δ14°,λ35°. NP2:ϕ_s51°,δ82°, λ101°. Principal axes: T 4.95, Plg51°, Azm333°; N -1.26, Plg11°, Azm229°; P -3.69, Plg36°, Azm131°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Hsin-chu and Taipei. Recorded [3 TAP] in Hua-lien and I-lan; [2 TAP] in Hsin-chu, Miao-li, Nan-t'ou, T'ai-chung, T'ai-pei, T'ao-yuan and Yun-lin; [1 TAP] in P'ing-tung and T'ai-tung Counties.

HRVD **06** *01:16:02.3±0.1,23.97N×122.10E,h13km,MW5.8/64, Centroid moment Tensor Solution. LP body waves: s56,c122;Mantle waves: s64,c203; Half duration: 1ˢ7 Moment tensor: Scale 10^{17}Nm; M_{rr}1.32±.04; $M_{\theta\theta}$-2.60±.03; $M_{\phi\phi}$1.28±.04; $M_{r\theta}$4.48±.10; $M_{\theta\phi}$0.44±.03; $M_{\phi r}$2.27±.11; Best double couple: $M_0$5.517×10^{17} NP1: ϕ_s313°,δ20°,λ157°. NP2:ϕ_s65°,δ82°,λ71°. Principal axes: T 5.385, Plg49°, Azm314°; N .263, Plg19°, Azm67°; P -5.648, Plg35°, Azm171°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

CRAAG **06** *01:16:02.4,24.00N×122.05E,Mb5.9*

IDC **06** *01:16:02.0±1.8,24.01N×122.27E,h31km±11km,mb5.1/29, mb1 5.1/34,mb1mx5.1/35,mbtmp5.3/34,ML4.6/5,MS5.3/25, Ms1 5.4/25,ms1mx5.2/34,Error ellipse: s-maj=12.6km s-min=8.6km az=65.0*

ISC 06 01:16:01.6±0.3**,24.01N**±0.02×**122.16E**±0.02**,h37**km±2km**, h36**km±2.3km**:pP-P,n830,**σ**0ˢ99**/777**,mb5.6**/189**,MS5.8**/67**, 192C-44D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.54**	**288**	⇑eP	**P**	**01 16 13.1**	**+0.4**
YOJ	**Yonaguni jima**	**0.90**	**59**	⇓P	**P**	**01 16 18.1**	**+0.3**
YOJ				eS	**S**	**01 16 29.1**	**-0.7**
YHNB	**Yeheng**	**0.97**	**313**	⇑eP	**P**	**01 16 20.6**	**+1.8**
TATO	**Taipei**	**1.14**	**328**	⇑eP	**P**	**01 16 23.6**	**+2.3**
IRIF	**Iriomote-Funau**	**1.47**	**77**	⇓P	**P**	**01 16 26.6**	**+0.6**
IRIF				eS	**S**	**01 16 45.0**	**+0.7**
HATJ	**Hateruma jima**	**1.50**	**88**	⇓P	**P**	**01 16 26.8**	**+0.3**
HATJ				eS	**S**	**01 16 46.1**	**+1.0**
JKRS	**Kuro-shima**	**1.71**	**82**	P	**P**	**01 16 29.9**	**+0.6**
JKRS				eS	**S**	**01 16 53.9**	**+3.8**
JIJ	**Ishigaki jima**	**1.84**	**78**	⇓P	**P**	**01 16 31.3**	**0.0**
JIJ				eS	**S**	**01 16 55.1**	**+1.5**
JTJ	**Tarama**	**2.40**	**74**	P	**P**	**01 16 41.1**	**+1.8**
JTJ				eS	**S**	**01 17 08.7**	**+0.9**
JMJ	**Miyako jima 2**	**2.97**	**74**	P	**P**	**01 16 49.3**	**+1.9**
JMJ				eS	**S**	**01 17 22.7**	**+0.6**
JOGS	**Gusukube**	**3.05**	**75**	P	**P**	**01 16 50.1**	**+1.5**
JOGS				S	**S**	**01 17 26.6**	**+2.3**
QZH	**Quanzhou**	**3.38**	**287**	⇑iP	**P**	**01 16 53.4**	**+0.1**
QZH				S	**S**	**01 17 30.7**	**-2.0**
QZH				Smax			
	comp=N,20µm,1.0s						
QZH				Smax			
	comp=E,22µm,1.0s						
QZH				LR	LR		
	comp=N,366µm,16.9s						
QZH				LR	LR		
	comp=E,235µm,9.0s						
QZH				LR	LR		
	comp=Z,380µm,15.3s						
BBP	**Basco**	**3.55**	**183**	eP	**P**	**01 16 53.5**	**-2.1**
JKE	**Kume jima 2**	**4.79**	**60**	P	**P**	**01 17 12.1**	**-1.1**
SGCP	**Mt. Cagua**	**5.74**	**181**	eP	**P**	**01 17 24.8**	**-1.7**
JIH	**Iheya**	**6.05**	**59**	P	**P**	**01 17 28.0**	**-2.9**
JOW	**Kunigami**	**6.20**	**62**	Pn	**P**	**01 17 29.6**	**-3.4**
	comp=Z,47nm,0.3s,baz=243,slow=16,SNR=7.4						
JOW				Sn	**S**	**01 18 38.5**	**-5.1**
	baz=136,slow=29,SNR=1.9						
JOW	**Kunigami**	**6.20**	**62**	P	**P**	**01 17 30.4**	**-2.6**
CVP	**Callao Caves**	**6.28**	**183**	⇓eP	**P**	**01 17 32.0**	**-2.1**
ABRA	**Dolores**	**6.47**	**192**	eP	**P**	**01 17 36.2**	**-0.6**
CAUP	**Cauayan**	**7.03**	**183**	eP	**P**	**01 17 45.4**	**+0.7**
SSE	**Sheshan**	**7.12**	**353**	P	**P**	**01 17 43.8**	**-2.1**
SSE				S	**S**	**01 19 04.9**	**-1.5**
SSE				AMB	AMB		
	comp=Z,297nm,0.7s						
SSE				AMB	AMB		
	comp=Z,3µm,7.3s						
SSE				Smax			
	comp=N,982nm,1.4s						
SSE				Smax			
	comp=E,2µm,2.1s						
SSE				LR	LR		
	comp=N,64µm,13.3s						
SSE				LR	LR		
	comp=E,43µm,13.3s						
SSE				LR	LR		
	comp=Z,78µm,12.4s						
SSE	**Sheshan**	**7.12**	**353**	Pn	**P**	**01 17 43.8**	**-2.1**
	comp=Z,297nm,0.7s						
SSE				Sn	**S**	**01 19 04.9**	**-1.5**
BCPH	**Baguio City Da**	**7.73**	**191**	⇑iP	**P**	**01 17 53.4**	**-0.9**
BCPH				i S	**S**	**01 19 19.1**	**-2.6**
JAM	**Amami Oshima**	**8.00**	**55**	P	**P**	**01 17 54.1**	**-4.0**
BALP	**Baler**	**8.24**	**184**	eP	**P**	**01 18 00.4**	**-1.0**
SCZP	**Santa Cruz**	**8.46**	**195**	eP	**P**	**01 18 03.4**	**-1.0**
PCPH	**Palayan**	**8.46**	**187**	⇑eP	**P**	**01 18 03.9**	**-0.6**
NJ2	**Nanjing**	**8.53**	**341**	eP	**P**	**01 18 03.0**	**-2.5**
NJ2				AP		01 18 07.1	
NJ2				S	**S**	**01 19 37.3**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,150nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,1µm,4.2s						
NJ2				LR	LR		
	comp=N,218µm,11.5s						
NJ2				LR	LR		
	comp=E,86µm,10.7s						
NJ2				LR	LR		
	comp=Z,97µm,13.0s						
POLP	**Polilio Island**	**9.23**	**181**	eP	**P**	**01 18 14.2**	**-1.0**
WHN	**Wuhan**	**9.52**	**315**	P	**P**	**01 18 16.5**	**-2.7**
WHN				S	**S**	**01 20 02.5**	**-3.7**
WHN				LR	LR		
	comp=N,126µm,9.1s						
WHN				LR	LR		
	comp=E,116µm,12.3s						
WHN				LR	LR		
	comp=Z,210µm,11.4s						
GQP	**Guinayangan**	**10.05**	**178**	⇓eP	**P**	**01 18 26.7**	**+0.1**
GQP				eS	**S**	**01 20 13.3**	**-5.9**
BOAC	**Boac**	**10.49**	**182**	eP	**P**	**01 18 32.7**	**0.0**
PVCP	**Virac**	**10.52**	**169**	eP	**P**	**01 18 33.6**	**+0.5**
SJMP	**San Jose**	**11.53**	**185**	eP	**P**	**01 18 46.6**	**-0.1**
OTRP	**Odiongan**	**11.58**	**181**	eP	**P**	**01 18 46.9**	**-0.5**
CNP	**Catarman**	**11.68**	**168**	eP	**P**	**01 18 48.9**	**+0.1**
JNU	**Nakatsue**	**11.88**	**38**	Pn	**P**	**01 18 47.8**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=260,slow=36,SNR=1.8						
JNU				LR	LR	01 23 51.8	
	comp=Z,20µm,19.7s,baz=70,slow=40						
RCP	**Roxas**	**12.39**	**177**	⇑eP	**P**	**01 18 58.6**	**+0.3**
QIZ	**Qiongzhong**	**12.48**	**249**	⇓P	**P**	**01 19 00.6**	**+1.0**
QIZ				XP		01 19 15.7	
QIZ				S	**S**	**01 21 18.6**	**+0.3**
QIZ				LR	LR		
	comp=N,29µm,17.7s						
QIZ				LR	LR		
	comp=E,38µm,17.7s						
QIZ				LR	LR		
	comp=Z,18µm,14.0s						
QIZ	**Qiongzhong**	**12.48**	**249**	eP	**P**	**01 19 00.3**	**+0.7**
	comp=Z,147nm,0.9s						
ENH	**Enshi**	**12.89**	**302**	eP	**P**	**01 19 03.4**	**-1.5**
	comp=Z,0.3nm,1.3s						
TIA	**Tai'an**	**12.92**	**341**	eP	**P**	**01 19 02.2**	**-3.1**
TIA				LR	LR		
	comp=N,21µm,13.0s						
TIA				LR	LR		
	comp=E,22µm,12.0s						
ENPP	**El Nido**	**12.99**	**192**	eP	**P**	**01 19 06.2**	**-0.1**
PLP	**Palo**	**13.05**	**168**	i P	**P**	**01 19 09.8**	**+2.7**
CUYO	**Cuyo Island**	**13.13**	**185**	eP	**P**	**01 19 07.1**	**-1.1**
GUIM	**Jordan**	**13.31**	**178**	eP	**P**	**01 19 10.7**	**+0.2**
LLP	**Lapu-Lapu**	**13.72**	**172**	eP	**P**	**01 19 14.7**	**-1.2**
INCN	**Inchon**	**13.97**	**15**	eP	**P**	**01 19 20.3**	**+1.2**
	comp=E,797nm,1.5s						
MSLP	**Maasin**	**14.03**	**169**	eP	**P**	**01 19 21.0**	**+0.9**
GYA	**Guiyang**	**14.24**	**283**	⇑iP	**P**	**01 19 23.1**	**+0.4**
GYA				AP		01 19 31.4	
GYA				XP		01 19 38.2	
GYA				AMB	AMB		
	comp=Z,100nm,1.0s						
GYA				AMB	AMB		
	comp=Z,3µm,8.7s						
GYA				LR	LR		
	comp=N,36µm,11.7s						
GYA				LR	LR		
	comp=E,84µm,13.5s						
GYA				LR	LR		
	comp=Z,82µm,13.5s						
TBP	**Tagbilaran**	**14.33**	**173**	⇑eP	**P**	**01 19 20.4**	**-3.5**
SCPH	**Surigao**	**14.50**	**167**	⇓eP	**P**	**01 19 36.8**	**+11**
SNPH	**Sibulan**	**14.62**	**176**	eP	**P**	**01 19 27.5**	**-0.2**
DL2	**Dalian**	**14.86**	**358**	⇑P	**P**	**01 19 32.9**	**+2.1**
DL2				S	**S**	**01 22 19.9**	**+5.0**
DL2				SCS	ScS	01 31 48.2	+1.6
DL2				AMB	AMB		
	comp=Z,120nm,1.5s						
DL2				AMB	AMB		
	comp=Z,3µm,7.6s						
DL2				LR	LR		
	comp=N,18µm,12.6s						
DL2				LR	LR		
	comp=Z,21µm,12.2s						
XAN	**Xi'an**	**15.28**	**314**	P	**P**	**01 19 36.6**	**+0.3**
XAN				AMB	AMB		
	comp=Z,91nm,2.0s						
XAN				AMB	AMB		
	comp=Z,4µm,14.2s						
XAN				LR	LR		
	comp=N,21µm,8.7s						
XAN				LR	LR		
	comp=E,33µm,14.3s						
XAN				LR	LR		
	comp=Z,58µm,15.9s						
CGP	**Cagayan de Oro**	**15.65**	**171**	⇓eP	**P**	**01 19 40.2**	**-1.0**
BATP	**Bataraza**	**15.69**	**196**	eP	**P**	**01 19 41.5**	**-0.1**
TIY	**Taiyuan**	**16.00**	**331**	PR		01 19 46.0	
TIY				AMB	AMB		
	comp=Z,6µm,4.0s						
TIY				LR	LR		
	comp=N,72µm,13.0s						
IPIL	**Ipil**	**16.13**	**179**	eP	**P**	**01 19 50.2**	**+3.0**
BUKP	**Musuan**	**16.27**	**170**	eP	**P**	**01 19 49.0**	**-0.1**
ZMPH	**Zamboanga City**	**16.95**	**180**	eP	**P**	**01 19 53.0**	**-4.6**
DAV	**Davao City (W)**	**17.16**	**168**	eP	**P**	**01 20 02.0**	**+1.8**
KMI	**Kunming**	**17.70**	**278**	P	**P**	**01 20 09.0**	**+2.1**
KMI				AP		01 20 16.2	
KMI				XP		01 20 20.7	
KMI				PP	PP	01 20 24.0	+2.3
KMI				S	**S**	**01 23 21.5**	**+1.0**
KMI				XS		01 23 32.9	
KMI				SS	SS	01 23 43.7	+0.4
KMI				PCP	PcP	01 24 48.9	+4.1
KMI				AMB	AMB		
	comp=Z,179nm,1.9s						
KMI				AMB	AMB		
	comp=Z,3µm,6.8s						
KMI				LR	LR		
	comp=N,21µm,8.3s						
KMI				LR	LR		
	comp=E,92µm,11.9s						
KMI				LR	LR		
	comp=Z,100µm,12.0s						
KMI	**Kunming**	**17.70**	**278**	P	**P**	**01 20 09.0**	**+2.1**
	comp=Z,179nm,1.9s						
KMI				pP		01 20 16.2	
KMI				sP		01 20 20.7	
KMI				PP	PP	01 20 24.0	+2.3
KMI				PPP	PPP	01 20 32.2	+1.7
KMI				S	**S**	**01 23 21.5**	**+1.0**
KMI				sS		01 23 32.9	
KMI				SS	SS	01 23 43.7	+0.4
KMI				SSS	SSS	01 23 56.5	-0.8
KMI				PcP	PcP	01 24 48.9	+4.1
KMI	**Kunming**	**17.70**	**278**	P	**P**	**01 20 09.0**	**+2.1**
KMI				S	**S**	**01 23 21.5**	**+1.0**
KMI				pmax	pmax		
	comp=Z,179nm,1.9s						
CD2	**Chengdu**	**17.71**	**297**	⇑iP	**P**	**01 20 07.0**	**0.0**
CD2				XP		01 20 24.0	
CD2				S	**S**	**01 23 23.0**	**+2.4**
CD2				AMB	AMB		
	comp=Z,290nm,1.0s						
CD2				AMB	AMB		
	comp=Z,4µm,10.2s						
CD2				LR	LR		
	comp=E,40µm,13.2s						
CD2				LR	LR		
	comp=Z,47µm,15.0s						
SNY	**Shenyang**	**17.81**	**3**	⇑P	**P**	**01 20 09.2**	**+1.0**
SNY				S	**S**	**01 23 29.7**	**+6.8**
SNY				AMB	AMB		
	comp=Z,170nm,2.4s						
SNY				AMB	AMB		
	comp=Z,7µm,13.8s						
SNY				LR	LR		
	comp=E,36µm,13.7s						
SNY				LR	LR		
	comp=Z,51µm,12.6s						
JHJ	**Hachijo jima 2**	**17.93**	**56**	P	**P**	**01 20 09.8**	**+0.1**
	comp=Z,22nm,0.3s,baz=238,slow=9.5,SNR=5.1						
JHJ				LR	LR	01 26 49.2	
	comp=Z,6µm,18.7s,baz=97,slow=36						
CBIJ	**Chichi jima**	**18.33**	**76**	P	**P**	**01 20 11.5**	**-3.3**
	comp=Z,45nm,0.3s,baz=282,slow=19,SNR=3.3						
CBIJ				LR	LR	01 25 50.8	
	comp=Z,8µm,21.8s,baz=252,slow=32						
MAT	**Matsushiro**	**18.63**	**44**	P	**P**	**01 20 14.2**	**-4.2**
MAT				S	**S**	**01 23 46.0**	**+4.7**
MAT	**Matsushiro**	**18.63**	**44**	eP	**P**	**01 20 14.0**	**-4.4**
	comp=Z,15nm,1.0s						
MAT				eS	**S**	**01 23 46.0**	**+4.7**
MAT	**Matsushiro**	**18.63**	**44**	eP	**P**	**01 20 14.0**	**-4.4**
MAT				eS	**S**	**01 23 46.0**	**+4.7**
MAT				pmax	pmax		
	comp=Z,15nm,1.0s						
MJAR	**Matsushiro Arr**	**18.63**	**44**	P	**P**	**01 20 14.8**	**-3.5**
	comp=Z,0.9nm,0.3s,baz=237,slow=10,SNR=14						
MJAR				LR	LR	01 27 56.8	
	comp=Z,6µm,20.6s,baz=245,slow=38						
MJAR				ScP		01 28 19.9	
	comp=Z,0.3nm,0.3s,baz=243,slow=2.8,SNR=6.6						
MJAR	**Matsushiro Arr**	**18.63**	**44**	P	**P**	**01 20 14.8**	**-3.6**
MJAR				LR	LR	01 27 56.8	
MJAR				ScP		01 28 19.9	
KKM	**Kota Kinabalu**	**18.75**	**199**	P	**P**	**01 20 20.2**	**+0.2**
HHC	**Hu-ho-hao-te**	**19.00**	**335**	⇑iP	**P**	**01 20 24.3**	**+1.5**
HHC				AP		01 20 32.0	
HHC				XP		01 20 36.6	
HHC				PP	PP	01 20 41.2	+1.8
HHC				S	**S**	**01 23 52.5**	**+2.8**
HHC				XS		01 24 03.2	
HHC				SS	SS	01 24 17.0	+1.5

HHC PCP PcP 01 24 48.4 +1.5
HHC PCS 01 28 24.4
HHC AMB AMB
comp=Z,174nm,1.6s
HHC AMB AMB
comp=Z,8µm,9.5s
HHC LR LR
comp=N,47µm,16.7s
HHC LR LR
comp=E,31µm,14.9s
HHC LR LR
comp=Z,58µm,14.9s
KKTK Khon Kaen 19.68 251 P **P** **01 20 31.3 +0.9**
comp=Z,679nm,0.8s
LZH Lanzhou 19.87 311 ⇑P **P** **01 20 34.0 +1.6**
LZH PP PP 01 20 56.0 +4.4
LZH S **S** **01 24 15.0 +6.1**
LZH AMB AMB
comp=Z,2µm,1.6s
LZH AMB AMB
comp=Z,10µm,5.2s
LZH LR LR
comp=N,55µm,9.3s
LZH LR LR
comp=Z,119µm,17.6s
LZH Lanzhou 19.87 311 ⇑P **P** **01 20 34.0 +1.6**
comp=Z,2µm,1.6s
LZH pP 01 20 47.1
LZH sP 01 20 51.7
LZH PP PP 01 20 56.0 +4.4
LZH PPP PPP 01 21 06.0 +5.3
LZH S **S** **01 24 15.0 +6.1**
LZH sS 01 24 29.0
LZH SS SS 01 24 46.4 +9.2
LZH Lanzhou 19.87 311 ⇑P **P** **01 20 34.0 +1.6**
LZH S **S** **01 24 15.0 +6.1**
LZH pmax pmax
comp=Z,2µm,1.6s
CN2 Changchun 19.93 7 *e*P **P** **01 20 31.4 -1.5**
CN2 *e*XP 01 20 47.0
CN2 *e*S **S** **01 24 08.1 -2.0**
CN2 *e*SS SS 01 24 37.3 -1.3
CN2 SCS ScS 01 32 03.5 +2.0
CN2 AMB AMB
comp=Z,90nm,1.2s
CN2 AMB AMB
comp=Z,1µm,4.0s
CN2 LR LR
comp=N,41µm,13.0s
CN2 LR LR
comp=E,14µm,13.0s
CN2 LR LR
comp=Z,47µm,13.0s
TSM Tawau 20.03 193 P **P** **01 20 33.5 -0.7**
VLA Vladivostok 20.69 21 *i* P **P** **01 20 38.8 -2.1**
MDJ Mudanjiang 21.44 15 P **P** **01 20 47.0 -1.5**
MDJ AP 01 20 56.9
MDJ XP 01 21 02.0
MDJ S **S** **01 24 44.6 +5.4**
MDJ SCP 01 28 20.7
MDJ PCS 01 28 26.1
MDJ SCS ScS 01 32 06.4 -0.3
MDJ AMB AMB
comp=Z,39nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,3µm,10.3s
MDJ LR LR
comp=N,11µm,16.3s,MS5.8
MDJ LR LR
comp=E,28µm,14.0s,MS5.8
MDJ LR LR
comp=Z,29µm,11.7s,MS5.9
MDJ Mudanjiang 21.44 15 *e*P **P** **01 20 46.6 -1.9**
comp=Z,121nm,1.1s,mb5.1
CHG Chiang Mai 22.21 261 P **P** **01 20 59.0 +2.6**
comp=Z,30nm,1.3s,mb4.6
NST Nakhon Sawan 22.30 252 ⇑P **P** **01 20 58.6 +1.4**
comp=Z,500nm,1.1s,mb5.9
GUMO Guam 23.83 112 P **P** **01 21 12.5 +0.3**
comp=Z,49nm,0.4s,mb5.3,baz=351,slow=21,SNR=3.9
GUMO LR LR 01 29 55.8
comp=Z,5µm,18.2s,MS5.1,baz=22,slow=35
NNT Nongplab 24.09 246 P **P** **01 21 16.7 +1.9**
GTA Gaotai 24.34 314 ⇑*i*P **P** **01 21 18.3 +1.2**
GTA AP 01 21 30.3
GTA PP PP 01 21 55.8 +2.9
GTA S **S** **01 25 34.1 +3.0**
GTA AMB AMB
comp=Z,183nm,1.9s,mb5.2
GTA AMB AMB
comp=Z,4µm,7.6s
GTA LR LR
comp=N,22µm,11.5s
GTA LR LR
comp=E,32µm,17.2s
GTA LR LR
comp=Z,39µm,17.2s
HIA Hailar 25.29 356 *e*P **P** **01 21 23.8 -2.2**
comp=Z,89nm,0.8s,mb5.3
HIA Hailar 25.29 356 ⇑*e*P **P** **01 21 24.9 -1.1**
ASAJ Asahikawa 26.12 35 P **P** **01 21 30.9 -3.0**
comp=Z,19nm,0.4s,mb5.0,baz=224,slow=11,SNR=16
ASAJ LR LR 01 31 50.3
comp=Z,9µm,21.5s,MS5.3,baz=240,slow=36
KLR Kul'dur 26.28 14 *e*P **P** **01 21 29.2 -6.1**
KLR *e*S **S** **01 25 53.0 -10**
KLR pmax pmax
comp=E,450nm,3.6s
KLR pmax pmax
comp=Z,550nm,3.6s
ULN Ulaanbaatar 26.67 337 ⇑*i*P **P** **01 21 38.8 -0.1**
SHL Shillong 27.51 280 *e*P **P** **01 21 47.0 +0.2**
SHL AMb AMB 01 21 49.7
comp=Z,652nm,1.0s,mb6.2
IPM Ipoh 28.07 230 P **P** **01 21 52.5 +0.6**
LSA Lhasa 28.19 288 ⇑*i*P **P** **01 21 54.7 +1.8**
comp=Z,88nm,0.8s,mb5.4
LSA Lhasa 28.19 288 ⇑*i*P **P** **01 21 54.7 +1.8**
LSA pmax pmax
comp=Z,88nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 28.22 31 *e*P **P** **01 21 52.1 -0.9**
YSS Yuzh-Sakhalins 28.22 31 ⇑*e*P **P** **01 21 49.5 -3.5**
YSS *e* 01 22 47.0
YSS *e*PPP PPP 01 22 56.0 -0.4
YSS *e*S **S** **01 26 26.0 -8.6**
YSS *e*SSS SSS 01 28 08.0 -10
YSS pmax pmax
comp=E,20nm,0.9s
YSS pmax pmax
comp=Z,30nm,0.9s,mb4.9
YSS pmax pmax
comp=Z,1µm,16.0s
YSS pmax pmax
comp=N,500nm,15.0s
YSS pmax pmax
comp=E,400nm,15.0s
YSS MLR MLR
comp=N,9µm,16.0s
YSS MLR MLR
comp=Z,9µm,16.0s,MS5.5
ZAK Zakamensk 30.14 336 *e*P **P** **01 22 07.9 -2.2**
ZAK pmax pmax
comp=Z,16nm,1.0s,mb4.7
GTK Gangtok 30.36 283 *ex* x 01 22 18.0
PBA Port Blair 30.50 251 *ex* x 01 24 57.8
CAL Calcutta 31.07 274 *ex* x 01 22 26.5
CAL *ex* x 01 27 34.1
IRK Irkutsk 31.33 339 *e*P **P** **01 22 19.0 -1.6**
IRK pmax pmax
comp=Z,346nm,1.7s,mb5.9
MOY Mondy 32.04 335 *e*P **P** **01 22 25.8 -1.0**
MOY pmax pmax
comp=Z,309nm,2.1s,mb5.8
CLNS Chul'man 32.86 3 *e*P **P** **01 22 41.9 +8.0**
CLNS pmax pmax
comp=Z,27nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=E,17nm,0.8s
PKI Pulchoki 33.20 284 *e*P **P** **01 22 37.2 0.0**
comp=E,286nm,1.3s,mb6.1
KKN Kakani 33.31 284 *e*P **P** **01 22 38.3 +0.2**
comp=E,726nm,1.5s,mb6.4
DMN Daman 33.47 284 *e*P **P** **01 22 40.0 +0.5**
comp=E,262nm,0.9s,mb6.1
GKN Gorkha 33.87 285 *e*P **P** **01 22 43.3 +0.4**
comp=E,469nm,1.2s,mb6.3
BOD Bodaibo 34.29 352 *e*P **P** **01 22 43.3 -2.9**
BOD *e* 01 25 20.9
BOD pmax pmax
comp=Z,28nm,1.7s,mb4.9
WMQ Urumqi 34.42 314 ⇑*i*P **P** **01 22 47.6 +0.1**
WMQ AP pP 01 23 00.0 +2.0
WMQ XP sP 01 23 05.0 +2.1
WMQ PP PP 01 24 07.0 +3.2
WMQ PCP PcP 01 25 24.0 +1.3
WMQ S **S** **01 28 12.0 -0.1**
WMQ XS 01 28 32.0
WMQ SCP 01 29 05.0
WMQ SS SS 01 30 24.0 +0.1
WMQ SCS ScS 01 33 04.0 -0.9
WMQ AMB AMB
comp=Z,122nm,1.2s,mb5.7
WMQ AMB AMB
comp=Z,1µm,4.9s
WMQ LR LR
comp=N,14µm,14.0s,MS6.1
WMQ LR LR
comp=E,18µm,11.7s,MS6.1
WMQ LR LR
comp=Z,8µm,15.2s,MS5.5
KOLN Koldanda 34.80 285 *e*P **P** **01 22 51.4 +0.5**
comp=Z,309nm,1.4s,mb6.0
VIS Vishakhapatnam 36.74 268 *e*P **P** **01 23 08.7 +1.3**
VIS AMb AMB 01 23 26.8
comp=Z,105nm,1.5s,mb5.5
BLSP Bilaspur 36.79 275 *e*P **P** **01 23 08.0 +0.2**
BLSP *e*P 01 23 08.3
BLSP AMb AMB 01 23 11.5
comp=Z,126nm,1.2s,mb5.6
PTH Pithoragarh 37.70 288 *e*P **P** **01 23 17.0 +1.6**
KAKA Kakadu 37.85 164 ⇓*i*P **P** **01 23 31.8 +15**
comp=Z,136nm,0.9s,mb5.7
YAK Yakutsk 38.35 6 ⇑*i*P **P** **01 23 18.3 -2.2**
YAK Yakutsk 38.35 6 *e*P **P** **01 23 17.9 -2.6**
YAK *e*PP pP 01 23 24.6 -6.5
YAK *e* 01 24 44.6
YAK *e* 01 25 33.0
YAK *e*S **S** **01 29 18.1 +5.9**
YAK *e*SS 01 29 30.1
YAK *e* 01 33 25.6
YAK pmax pmax
comp=Z,39nm,0.9s,mb5.1
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.7
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=N,17nm,1.2s
YAK smax
comp=Z,8.0nm,1.1s
YAK smax
comp=E,6.0nm,1.2s
YAK MLR MLR
comp=N,8µm,15.0s,MS5.8
YAK MLR MLR
comp=Z,10µm,15.0s,MS5.8
YAK MLR MLR
comp=E,5µm,12.0s,MS5.8
MKAR Makanchi Array 39.09 316 P **P** **01 23 26.4 -0.3**
comp=E,54nm,0.7s,mb5.4,baz=106,slow=9.7,SNR=395
MKAR ScP 01 29 23.0
comp=E,6.0nm,1.0s,baz=104,slow=5.9,SNR=5.9
MKAR LR LR 01 41 18.9
comp=E,20µm,18.4s,MS6.0,baz=130,slow=39
MKAR Makanchi Array 39.09 316 P **P** **01 23 26.4 -0.3**
MKAR ScP 01 29 23.0
MKAR LR LR 01 41 18.9
PET Petropavlovsk 39.96 34 *e*P **P** **01 23 34.8 +0.9**
PET Petropavlovsk 39.96 34 *e*P **P** **01 23 38.0 +4.1**
PET *e*S **S** **01 29 28.1 -8.4**
PET pmax pmax
comp=Z,500nm,17.2s
PET pmax pmax
comp=Z,34nm,1.2s,mb5.0
PET smax
comp=N,500nm,20.7s
PET smax
comp=E,800nm,20.3s
PET MLR MLR
comp=Z,7µm,18.0s,MS5.5
PET MLR MLR
comp=Z,6µm,18.0s
AYAN Aya Nagar 40.46 286 *e*P **P** **01 23 38.0 -0.3**
AYAN AMb AMB 01 23 41.3
comp=Z,105nm,1.3s,mb5.4
SONA Sohna 40.52 286 *e*P **P** **01 23 38.0 -0.8**
SONA AMb AMB 01 23 41.5
comp=Z,97nm,0.8s,mb5.5
MA2 Magadan 40.81 22 *e*P **P** **01 23 40.7 -0.2**
BHPL Bhopal 40.86 278 *e*P **P** **01 23 42.0 +0.3**
ZAL Zalesovo 40.88 327 P **P** **01 23 41.0 -0.5**
comp=Z,44nm,0.9s,mb5.1,baz=2.2,slow=8.1,SNR=175
ZAL Zalesovo 40.88 327 *i* P **P** **01 23 41.2 -0.4**
ZAL pmax pmax
comp=Z,44nm,0.9s
RTK Rohtak 41.05 287 *ex* x 01 23 58.2
KUDL Kundal 41.05 286 *e*P **P** **01 23 43.0 -0.2**
KUDL AMb AMB 01 23 45.9
comp=Z,60nm,1.5s,mb5.0
HYB Hyderabad 41.19 269 *i* P **P** **01 23 45.5 +1.1**
HYB *e*PP PP 01 25 26.0 +3.4
HYB *e*S **S** **01 30 10.0 +15**
HYB *e* 01 30 48.0
HYB *e*ScS ScS 01 33 42.0 -1.4
HYB Hyderabad 41.19 269 *e*P **P** **01 23 45.5 +1.1**
PMG Port Moresby 41.22 141 P **P** **01 23 44.3 -0.4**
comp=Z,76nm,0.8s,mb5.4,baz=356,slow=7.8,SNR=19
PMG Port Moresby 41.22 141 *e*P **P** **01 23 44.4 -0.4**
comp=Z,160nm,1.0s,mb5.6
PMG Port Moresby 41.22 141 *i* P **P** **01 23 45.3 +0.6**
KHET Khetri 41.66 286 *e*P **P** **01 23 48.0 -0.2**
AAA Alma-Ata 41.68 309 *i* P **P** **01 23 50.3 +2.1**
AAA *i* S **S** **01 30 06.8 +4.6**
AAA pmax pmax
comp=Z,2µm,8.0s
AAA smax
comp=E,1µm,10.8s
AAA MLR MLR
comp=Z,11µm,16.0s,MS5.8
KSH Kashi 41.74 303 ⇑*i*P **P** **01 23 51.7 +2.9**
KSH *e*XP sP 01 24 07.9 +3.8
KSH *e*PP PP 01 25 30.5 +2.0
KSH *e*PCP PcP 01 25 48.9 +3.5
KSH *e*SCP 01 29 32.5
KSH *e*S **S** **01 30 05.7 +2.5**
KSH *e*XS 01 30 26.1
KSH *e*SS SS 01 33 07.9 +3.4
KSH *e*SCS ScS 01 33 48.0 +1.4
KSH AMB AMB
comp=Z,1µm,4.3s
KSH LR LR
comp=N,10µm,13.3s,MS6.2
KSH LR LR
comp=E,22µm,14.5s,MS6.2
AKL Akola 41.75 275 *ex* x 01 25 59.1
ULHL Ulahol 41.98 307 P **P** **01 23 53.5 +2.8**
SNR=7.0
FITZ Fitzroy Crossi 41.99 175 ⇓*i*P **P** **01 23 48.8 -2.2**
comp=E,44nm,1.0s,mb5.0
FITZ *i* 01 27 24.8
FITZ *i* S **S** **01 29 59.9 -7.1**
FITZ Fitzroy Crossi 41.99 175 P **P** **01 23 49.0 -2.0**
comp=E,40nm,0.9s,mb5.0,baz=1.9,slow=8.0,SNR=17
NVS Novosibirsk 42.14 327 *i* P **P** **01 23 50.5 -1.3**
NVS *i* pP 01 24 03.1 +0.6
NVS *e* 01 25 29.2
NVS *e*S **S** **01 30 07.2 -1.5**
NVS *e* 01 33 49.7
NVS pmax pmax
comp=N,250nm,1.8s
NVS pmax pmax
comp=Z,269nm,1.8s,mb5.6
NVS pmax pmax
comp=E,183nm,1.6s
NVS smax
comp=N,22nm,1.6s
NVS smax
comp=E,70nm,1.7s
TKM2 Tokmak 2 42.58 308 P **P** **01 23 57.4 +1.8**
SNR=82
KZA Kyzart 42.68 307 P **P** **01 23 58.8 +2.4**
SNR=115
LATR Latur 42.73 272 *e*P **P** **01 23 59.0 +1.8**
KURK Kurchatov 42.80 320 ⇑*i*P **P** **01 23 57.0 -0.3**
AJM Ajmer 42.86 284 ⇑*i*P **P** **01 23 57.0 -1.1**
KBK Karagaybulak 43.00 307 P **P** **01 24 00.8 +1.7**
SNR=33
CHMS Chumysh 43.20 308 P **P** **01 24 01.9 +1.3**
SNR=45
UCH Uchtor 43.24 307 P **P** **01 24 03.6 +2.6**
SNR=111
FRU Bishkek 43.27 308 ⇑*i*P **P** **01 24 02.0 +0.8**
FRU *e* 01 24 17.0
FRU *e* 01 34 00.0
FRU pmax pmax
comp=Z,320nm,1.8s,mb5.8
FRU MLR MLR
comp=Z,18µm,18.0s,MS6.0
AAK Ala-Archa 43.32 307 P **P** **01 24 03.3 +1.6**
SNR=20
AAK Ala-Archa 43.32 307 ⇑*i*P **P** **01 24 02.1 +0.4**
USP Ospenovka 43.43 308 P **P** **01 24 03.6 +1.0**
SNR=57
AML Almayashu 43.83 306 P **P** **01 24 08.0 +2.2**
SNR=108
SEY Seymchan 43.84 19 ⇑*e*P **P** **01 24 05.0 -0.6**
EKS2 Erkin-Say 43.85 307 P **P** **01 24 07.4 +1.5**
SNR=60
POO Poona 45.18 273 *e*P **P** **01 24 17.6 +0.7**
POO AMb AMB 01 24 19.0
comp=Z,96nm,1.7s,mb5.3
KAD Karad 45.22 271 *e*P **P** **01 24 18.5 +1.3**
WRAB Tennant Creek 45.26 164 *i* P **P** **01 24 16.9 -0.6**
WRA Warramunga Arr 45.27 164 P **P** **01 24 16.2 -1.3**
comp=Z,35nm,0.7s,mb5.3,baz=343,slow=8.4,SNR=77
WRA S **S** **01 30 52.4 -2.2**
comp=Z,3.2nm,1.1s,baz=338,slow=18,SNR=12
WB2 Warramunga Arr 45.27 164 ⇓*i*P **P** **01 24 16.6 -1.0**
WB2 *i* S **S** **01 30 51.7 -2.9**
JASL Jaisalmer 46.12 285 *e*P **P** **01 24 24.1 -0.2**
KKAR Karatay Array 46.29 307 *i* P **P** **01 24 25.9 +0.5**
TIXI Tiksi 47.82 3 ⇑*i*P **P** **01 24 34.4 -2.7**
TIXI Tiksi 47.82 3 ⇓*i*P **P** **01 24 33.1 -4.0**
TIXI *e*PP pP 01 24 46.0 -1.9
TIXI *e* 01 26 25.3
TIXI *e*S **S** **01 31 24.6 -5.7**
TIXI pmax pmax
comp=Z,144nm,1.2s,mb5.9
TIXI MLR MLR
comp=Z,15µm,13.0s,MS6.2
TIXI MLR MLR
comp=N,10µm,14.0s,MS6.0
TIXI MLR MLR
comp=E,5µm,13.0s,MS6.0
BHUJ Bhuj 47.87 280 *e*P **P** **01 24 38.6 +0.5**
BHUJ AMb AMB 01 24 41.0
comp=Z,113nm,1.2s,mb5.8
VOSK Vostochnaya 47.95 320 *i* P **P** **01 24 37.7 -0.6**
BVA0 Borovoye Array 48.38 321 *i* P **P** **01 24 41.2 -0.4**
BVA0 pmax pmax
comp=Z,60nm,1.6s,mb5.4
BVAR Borovoye Array 48.38 321 P **P** **01 24 40.9 -0.6**
comp=Z,27nm,0.5s,mb5.5,baz=110,slow=8.5,SNR=299
BVAR ScP 01 30 00.4
comp=Z,4.5nm,0.9s,baz=90,slow=10,SNR=5.8
BVAR S **S** **01 31 32.0 -6.3**
comp=Z,1.5nm,0.8s,baz=226,slow=42,SNR=2.2
BVAR Borovoye Array 48.38 321 P **P** **01 24 40.9 -0.7**
BVAR S **S** **01 31 32.0 -6.3**
BRVK Borovoye 48.45 321 ⇑*i*P **P** **01 24 41.9 -0.2**
comp=Z,216nm,1.4s,mb6.0
BRVK Borovoye 48.45 321 ⇑*i*P **P** **01 24 41.9 -0.2**
BRVK pmax pmax
comp=Z,216nm,1.4s,mb6.0
CTA Charters Tower 49.72 150 *e*P **P** **01 24 52.6 +0.2**
comp=Z,43nm,1.0s,mb5.4
CTA *i* S **S** **01 32 02.4 +5.0**
CTA Charters Tower 49.72 150 P **P** **01 24 51.9 -0.4**
comp=Z,51nm,1.0s,mb5.5,baz=332,slow=9.3,SNR=41
CTA Charters Tower 49.72 150 *e*P **P** **01 24 52.6 +0.2**
CTA *i* S **S** **01 32 02.4 +5.0**
CTA pmax pmax
comp=Z,43nm,1.0s
BILL Bilibino 51.55 20 *i* P **P** **01 25 04.7 -0.9**
AB31 Akbulak array 54.20 314 *i* P **P** **01 25 25.7 +0.1**
SVE Sverdlovsk 54.72 324 ⇑*i*P **P** **01 25 28.9 -0.4**
SVE *e* pP 01 25 40.7 +0.4
SVE *e* 01 26 35.0
SVE *e*PPP PPP 01 28 41.0 -4.7
SVE *e* 01 33 22.0
SVE *e* 01 35 06.0
SVE pmax pmax
comp=Z,750nm,2.2s,mb6.3
SVE MLR MLR
comp=N,3µm,15.0s,MS6.0
SVE MLR MLR
comp=E,9µm,15.0s,MS6.0
SVE MLR MLR
comp=Z,14µm,15.0s,MS6.2
FORT Forrest 54.76 174 *e*P **P** **01 25 29.5 -0.5**
comp=Z,94nm,0.9s,mb5.8
KLBR Kellerberrin 55.44 185 *e*P **P** **01 25 33.8 -1.1**
comp=Z,61nm,0.7s,mb5.7
ARU Arti 55.79 323 ⇑*i*P **P** **01 25 35.5 -1.5**
comp=Z,148nm,1.1s,mb5.9
ARU Arti 55.79 323 ⇑*i*P **P** **01 25 35.7 -1.3**
ARU *e* 01 26 33.1
ARU *e* 01 27 39.4
ARU *e*PPP PPP 01 28 53.3 -5.2
ARU *e*S **S** **01 33 18.2 -1.4**
ARU *e* 01 35 20.3
ARU *e*SSS SSS 01 39 16.4 +4.2
ARU pmax pmax
comp=Z,115nm,1.2s,mb5.8
ARU MLR MLR
comp=Z,5µm,20.0s,MS5.6
ARU MLR MLR
comp=N,3µm,18.0s,MS5.6
ARU MLR MLR
comp=E,3µm,20.0s,MS5.6
NWAO Narrogin (SRO) 56.81 185 P **P** **01 25 43.5 -1.2**
comp=E,57nm,1.1s,mb5.5,baz=0.8,slow=4.9,SNR=7.0
NWAO LR LR 01 51 44.8
comp=E,1µm,21.0s,MS5.0,baz=154,slow=38
STKA Stephens Creek 58.59 161 ⇓*i*P **P** **01 25 56.6 -0.6**
comp=E,51nm,0.8s,mb5.6
STKA *i* S **S** **01 34 00.6 +3.7**
STKA Stephens Creek 58.59 161 P **P** **01 25 56.7 -0.5**
comp=E,25nm,0.6s,mb5.4,baz=336,slow=7.2,SNR=69
STKA S **S** **01 33 57.5 +0.7**
comp=E,1.7nm,0.7s,baz=76,slow=20,SNR=3.0
STKA LR LR 01 54 11.5
comp=E,3µm,18.6s,MS5.4,baz=327,slow=39
ARMA Armidale 61.05 151 ⇑*i*P **P** **01 26 15.8 +1.6**
NOUC Port Laguerre 62.79 133 *e*P **P** **01 26 27.4 +1.6**
NOUC Port Laguerre 62.79 133 *e*P **P** **01 26 27.4 +1.6**
DZM Mont Dzumac 62.86 133 *e*P **P** **01 26 26.2 -0.2**
DZM Mont Dzumac 62.86 133 LR LR 01 49 23.0
comp=E,3µm,20.7s,MS5.5,baz=16,slow=32
MAK Makhachkala 63.10 307 *d*i*P* **P** **01 26 29.0 +1.3**
MAK *e* 01 27 03.0
MAK *e* 01 28 51.0
MAK *e*PPP PPP 01 30 23.0 +3.7
MAK S **S** **01 34 57.0 +2.7**
MAK *e*PS PS 01 35 18.0 +0.4
MAK *i* 01 36 20.0
MAK pmax pmax
comp=Z,2µm,8.0s
MAK MLR MLR
comp=N,6µm,14.0s,MS6.2
MAK MLR MLR
comp=E,10µm,14.0s,MS6.2
MAK MLR MLR
comp=Z,8µm,14.0s,MS6.1
PECR Pechory 63.82 323 K *i*P **P** **01 26 31.0 -1.1**
PECR *e*S **S** **01 34 56.6 -6.4**
PECR pmax pmax

comp=Z,580nm,2.0s,mb6.3
PECR pmax pmax
comp=Z,1μm,2.4s,mb6.5
PECR smax
comp=N,500nm,4.0s
PECR smax
comp=E,900nm,4.0s
PECR MLR MLR
comp=Z,6μm,17.0s,MS5.8
PECR MLR MLR
comp=N,2μm,12.0s,MS5.7
PECR MLR MLR
comp=E,3μm,16.0s,MS5.7
CNB Canberra Magne 64.38 156 *e*P P **01 26 36.4 +0.3**
comp=E,63nm,0.9s,mb5.7
CHGN Chignik 64.57 37 *e*P P **01 26 35.1 -1.9**
DGRG David-gareji 64.92 306 P P **01 26 39.4 -0.2**
TOO Toolangi 65.06 160 *e*P P **01 26 40.8 +0.3**
comp=E,20nm,0.7s,mb5.3
TOO Toolangi 65.06 160 *e*P P **01 26 40.8 +0.3**
TOO pmax pmax
comp=Z,20nm,0.7s,mb5.3
TTA Tatalina 65.22 30 *e*P P **01 26 41.1 0.0**
SAMG Sameba 65.28 306 P P **01 26 39.6 -2.2**
MTA Mtatsminda 65.30 306 P P **01 26 42.0 0.0**
MTA S S 01 35 25.5 +4.0
TI2 Plekhanov 65.33 306α *i*P P **01 26 39.2 -2.9**
TI2 *i*S S 01 35 24.0 +2.2
TI2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
TI2 pmax pmax
comp=Z,2μm,4.0s
TI2 MLR MLR
comp=E,3μm,15.0s
TI2 MLR MLR
comp=Z,6μm,15.0s,MS5.9
TBLG Delisi 65.33 306 P P **01 26 42.7 +0.5**
SVW2 Sparrevohn 65.58 32 *e*P P **01 26 43.2 -0.2**
GNI Garni 65.64 305 P P **01 26 44.5 +0.4**
comp=Z,19nm,0.9s,mb5.1,baz=73,slow=1.9,SNR=23
VRHR Novokhopersk 65.87 317*c* *i*P P **01 26 43.9 -1.6**
VRHR *e**PP pP 01 26 53.2 -3.5
VRHR *e**SP sP 01 26 59.2 -1.7
VRHR *e*S S 01 35 26.0 -2.2
VRHR *e*PPS PPS 01 35 50.8 -14
VRHR pmax pmax
comp=Z,400nm,2.5s,mb6.0
VRHR pmax pmax
comp=N,40nm,1.3s
VRHR pmax pmax
comp=E,210nm,1.4s
VRHR smax
comp=N,610nm,5.5s
VRHR smax
comp=Z,150nm,6.2s
VRHR smax
comp=E,350nm,2.8s
GOF Gofitskoye 65.94 310⇓ *i*P P **01 26 42.7 -3.3**
GOF *i*S S 01 35 26.5 -2.7
GOF pmax pmax
comp=Z,180nm,1.6s,mb5.8
GOF smax
comp=N,290nm,2.2s
GOF smax
comp=E,200nm,2.2s
IMA Indian Mountai 65.96 26 *e*P P **01 26 45.6 -0.2**
BKR Bakuriani 66.24 307 P P **01 26 47.6 -0.3**
AKH Akhalkalaki 66.31 306 P P **01 26 49.9 +1.4**
KIV Kislovodsk 66.39 309⇑ *i*P P **01 26 49.3 +0.4**
comp=E,638nm,1.6s,mb6.4
KIV Kislovodsk 66.39 309 *e*P P **01 26 47.6 -1.3**
KIV *e* 01 27 19.1
KIV *e* 01 29 15.7
KIV *i*S S 01 35 35.0 +0.3
KIV *e*SS SS 01 39 49.0 -4.1
KIV pmax pmax
comp=N,78nm,1.4s
KIV pmax pmax
comp=Z,196nm,1.4s,mb6.0
KIV smax
comp=N,141nm,2.3s
KIV MLR MLR
comp=Z,7μm,22.0s,MS5.8
KIV MLR MLR
comp=N,4μm,18.0s,MS5.9
KIV MLR MLR
comp=E,6μm,18.0s,MS5.9
CLDR Caldiran 66.47 304 *e*P Px 01 25 46.9
HAKT HAKKARI 66.98 302 *i*P P **01 26 52.2 -0.5**
RSO Redoubt South 67.03 32 *e*P P **01 26 51.9 -0.7**
LVZ Lovozero 67.08 336 *e*P P **01 26 51.7 -1.1**
SPU Mount Spurr 67.27 32 *e*P P **01 26 53.2 -0.9**
VRSR Storozhevoye 67.36 317*c* *i*P P **01 26 54.0 -0.9**
VRSR *e**PP pP 01 27 06.7 +0.6
VRSR *e* 01 27 21.9
VRSR *e*S S 01 35 45.1 -1.2
VRSR *e*SS SS 01 40 15.2 +7.0
VRSR pmax pmax
comp=N,70nm,2.0s
VRSR pmax pmax
comp=Z,330nm,2.0s,mb6.0
VRSR pmax pmax
comp=E,210nm,2.2s
VRSR smax
comp=N,40nm,4.7s
VRSR smax
comp=Z,120nm,3.3s
VRSR smax
comp=E,310nm,3.7s
VRSR MLR MLR
comp=Z,3μm,18.0s,MS5.5
VRSR MLR MLR
comp=N,1μm,19.0s,MS5.4
VRSR MLR MLR
comp=E,2μm,19.0s,MS5.4
BHD Baghdad 67.48 298 *e*x x 01 26 53.0
BHD *e*x x 01 27 04.5
BHD *e*x x 01 35 48.0
MOS Moscow 67.49 322 *e*P P **01 26 52.2 -3.4**
MOS *e* pP 01 27 06.2 -0.7
MOS *e* 01 27 19.8
MOS *i*S S 01 35 45.0 -2.7
MOS *e* 01 36 44.4
MOS pmax pmax
comp=Z,1μm,2.5s,mb6.5
MOS pmax pmax
comp=Z,339nm,1.7s,mb6.1
MOS smax
comp=N,500nm,2.5s
MOS MLR MLR
comp=Z,8μm,17.6s,MS6.0
MOS MLR MLR
comp=N,3μm,15.1s,MS5.7
MOS MLR MLR
comp=E,3μm,17.5s,MS5.7
ARTV Artvin 67.51 306 *i*P P **01 26 55.6 -0.3**
KDAK Kodiak Island 67.53 35 *e*P P **01 26 56.1 +0.3**
MSL Mosul 67.76 301 *i*x x 01 27 14.5
MSL *e*x x 01 27 42.0
MSL *e*x x 01 28 01.5
MSL *e*x x 01 36 10.0
SIRT Sirnak 67.97 302 *e*P Px 01 25 57.7
OBN Obninsk 68.19 322⇑ *e*P P **01 26 58.3 -1.7**
comp=E,305nm,1.4s,mb6.1
OBN Obninsk 68.19 322*c* *i*P P **01 26 58.5 -1.5**
OBN *e* 01 31 06.6
OBN *i*S S 01 35 56.2 +0.1
OBN pmax pmax
comp=Z,258nm,1.7s,mb6.0
OBN MLR MLR
comp=Z,8μm,20.0s,MS6.0
ERZM Erzurum 68.22 305 *i*P P **01 27 00.6 +0.2**
SLKM Skilak Lake 68.26 32 *e*P P **01 26 59.0 -1.4**
SLKM Skilak Lake 68.26 32 P P **01 26 59.8 -0.5**
MCK McKinley 68.28 29 *e*P P **01 26 58.9 -1.5**
comp=Z,73nm,1.4s,mb5.5
MCK McKinley 68.28 29 P P **01 26 59.0 -1.4**
MCK pmax pmax
comp=Z,73nm,1.3s,mb5.5
SOC Sochi 68.57 309*c* *i*P P **01 27 01.5 -1.1**
SOC *e* 01 27 27.1
SOC *e* 01 29 31.0
SOC *i*S S 01 36 00.5 -0.4
SOC *e*SS SS 01 40 32.2 +5.2
SOC pmax pmax
comp=Z,210nm,1.5s,mb5.8
SOC pmax pmax
comp=N,76nm,1.2s
SOC pmax pmax
comp=E,83nm,1.6s
SOC pmax pmax
comp=Z,662nm,1.8s,mb6.3
SOC MLR MLR
comp=N,7μm,18.0s,MS6.0
SOC MLR MLR
comp=E,5μm,18.0s,MS6.0
SOC MLR MLR
comp=Z,7μm,18.0s,MS5.9
PMR Palmer 68.58 31 *e*P P **01 27 01.0 -1.3**
BNGL BINGOL 68.61 304 *i*P P **01 27 03.4 +0.5**
SML Sawmill 68.92 31 *e*P P **01 27 03.4 -1.0**
SML Sawmill 68.92 31 P P **01 27 03.7 -0.7**
ILAR Eielson Array 68.96 27 P P **01 27 02.4 -2.2**
comp=Z,8.6nm,0.7s,mb4.8,baz=265,slow=5.5,SNR=63
ILAR PKPPKP
comp=Z,0.8nm,1.1s,baz=87,slow=2.0,SNR=4.3
ILAR LR LR 02 01 05.1
comp=Z,830nm,19.0s,MS5.0,baz=175,slow=39
JOF Joensuu 69.30 331 *e*p P **01 27 05.3 -1.4**
comp=Z,25nm,0.6s,mb5.3
KEV Kevo 69.47 338 *e*p P **01 27 05.9 -1.8**
comp=Z,14nm,0.8s,mb4.9
KEV Kevo 69.47 338 *e*P P **01 27 05.9 -1.8**
KEV pmax pmax
comp=Z,14nm,0.8s,mb4.9
THY Trims Highway 69.74 29 *e*P P **01 27 07.8 -1.5**
ANN Anapa 69.89 311⇑ *i*P P **01 27 09.1 -1.5**
ANN *i**PP pP 01 27 22.9 +1.0
ANN *i* 01 29 48.9
ANN *i*S S 01 36 17.3 +0.9
ANN *e* 01 37 02.9
ANN *e*SS SS 01 40 44.6 -2.5
ANN pmax pmax
comp=N,133nm,1.7s
ANN pmax pmax
comp=E,87nm,1.7s
ANN pmax pmax
comp=Z,460nm,1.7s,mb6.1
ANN MLR MLR
comp=N,3μm,24.0s,MS5.6
ANN MLR MLR
comp=E,3μm,24.0s,MS5.6
ANN MLR MLR
comp=Z,6μm,24.0s,MS5.8
PTK Pertek 69.95 305 *e*P Px 01 26 07.8
ARCES ARCESS Array B 70.04 338 P P **01 27 10.2 -0.8**
comp=Z,5.0nm,0.4s,mb4.8,baz=58,slow=6.5,SNR=34
ARCES LR LR 02 02 40.2
comp=Z,4μm,18.5s,MS5.7,baz=61,slow=40
DIV Divide 70.26 31 *e*P P **01 27 11.3 -1.3**
comp=Z,383nm,1.3s,mb6.2
ELZG Elazig 70.36 304 *i*P P **01 27 14.0 +0.3**
KBS Kingsbay 70.38 349 *e*P P **01 27 10.1 -2.9**
KBS *e*S S 01 36 23.8 +2.1
KBS *e*SS SS 01 40 55.6 +1.2
KBS AMS AMS 02 02 37.2
comp=Z,5μm,14.3s,MS5.9
KBS Kingsbay 70.38 349 P P **01 27 12.1 -1.0**
KBS pmax pmax
comp=Z,25nm,0.9s,mb5.1
EYAK Cordova Ski Ar 70.42 32 *e*P P **01 27 13.0 -0.6**
PUL Pulkovo 70.49 328 *e*P P **01 27 13.8 -0.2**
PUL *e*S S 01 36 20.4 -2.7
PUL MLR MLR
comp=Z,13μm,17.0s,MS6.3
PUL MLR MLR
comp=N,5μm,18.0s,MS6.2
PUL MLR MLR
comp=E,10μm,17.0s,MS6.2
TAU Tasmania Unive 70.50 161 *e*P P **01 27 16.6 +2.2**
comp=E,142nm,1.4s,mb5.7
TAU Tasmania Unive 70.50 161 P P **01 27 16.9 +2.5**
TAU pmax pmax
comp=Z,140nm,1.3s,mb5.7
URFA Urfa 70.77 303 *e*P Px 01 26 16.3
MYA Malataya 70.83 304 *e*P Px 01 26 16.0
MALT Malatya 70.83 304 *e*P Px 01 26 15.0
MALT Malatya 70.83 304⇑ *i*P P **01 27 17.8 +1.3**
comp=Z,300nm,1.6s,mb6.0
MALT Malatya 70.83 304⇑ *i*P P **01 27 17.8 +1.3**
MALT pmax pmax
comp=Z,300nm,1.6s,mb6.0
KAMS Al Khamasin 71.08 284 P P **01 27 17.4 -0.9**
HILS Ha'il 71.27 292 P P **01 27 20.0 +0.7**
AFFS 'Afif 71.31 288 P P **01 27 19.9 +0.3**
SVSK Karacayir 71.47 306 *e*P Px 01 26 21.2
KAF Kangasniemi 71.75 330 *e*p P **01 27 20.0 -1.5**
comp=Z,40nm,1.0s,mb5.3,baz=72,slow=5.6
KAF Kangasniemi 71.75 330 *e*P P **01 27 20.0 -1.5**
KAF pmax pmax
comp=Z,40nm,1.0s,mb5.3
GZT Gaziantep 71.76 303 *i*P P **01 27 21.8 -0.2**
KVT Kavak 71.84 307 *e*P Px 01 26 21.2
FINES FINESS Array B 72.05 330 P P **01 27 22.5 -0.8**
comp=Z,87nm,1.1s,mb5.6,baz=51,slow=5.6,SNR=91
FINES LR LR 02 02 23.8
comp=Z,15μm,18.7s,MS6.3,baz=75,slow=39
FINES FINESS Array B 72.05 330 P P **01 27 22.5 -0.8**
FINES LR LR 02 02 23.8
FINES FINESS Array B 72.05 330 *i*P P **01 27 23.1 -0.2**
FINES pmax pmax
comp=Z,87nm,1.1s
GAZ Gaziantep 72.08 303 *e*P Px 01 26 25.1
SIM Simferopol' 72.12 312*c* *i*P P **01 27 24.0 0.0**
SIM *e* 01 30 02.0
SIM *e*PPP PPP 01 31 44.0 -4.4
SIM *e*S S 01 36 43.7 +1.4
SIM *e*PS PS 01 37 20.0 +2.1
SIM pmax pmax
comp=Z,101nm,0.9s,mb5.8
SIM MLR MLR
comp=Z,3μm,21.1s,MS5.6
TRO Tromso 72.20 339 *e*P P **01 27 22.4 -1.7**
TRO *e*S S 01 36 43.9 +1.1
TRO AMS AMS 02 04 47.6
comp=Z,4μm,18.6s,MS5.7
BOYT Boyabat 72.57 308 *i*P P **01 27 25.5 -1.3**
VSU Vasula 72.62 327⇑ *e*P P **01 27 26.4 -0.3**
VSU Vasula 72.62 327⇑ *e*P P **01 27 26.3 -0.4**
BNN Bunyan 72.62 305 *e*P Px 01 26 24.2
BYBT Boyabat 72.66 308 *e*P Px 01 26 23.2
DJNS Zahran al Janu 72.88 282 P P **01 27 29.8 +0.7**
CTKT Corum 72.89 307 *i*P P **01 27 28.3 -0.4**
COBT Iskenderun 73.00 303 *i*P P **01 27 29.1 -0.3**
KOZT Kozan 73.04 304 *e*P Px 01 26 26.3
INK Inuvik 73.06 22 P P **01 27 28.6 -0.6**
comp=Z,54nm,0.8s,mb5.5,baz=302,slow=6.2,SNR=98
CORM Corum 73.13 307 *e*P Px 01 26 28.3
MNK Minsk 73.24 323⇑ *i*P P **01 27 26.0 -4.5**
CEYT Ceyhan 73.25 303 *e*P Px 01 26 29.1
TOS Tosya 73.32 308 *e*P Px 01 26 31.4
CDAG Cicekdag 73.49 306 *i*P P **01 27 31.4 -0.9**
IDID Didziasalis 73.59 324 *e*P P **01 27 32.2 -0.3**
IDID AMb AMB 01 27 35.5
comp=Z,50nm,1.0s,mb5.4
AKASG Malin Array Be 73.60 319 P P **01 27 31.7 -0.9**
comp=Z,37nm,0.7s,mb5.5,baz=60,slow=6.4,SNR=118
KARA Karaisali 73.70 304 *e*P Px 01 26 32.4
QURS Qurayyt al Mil 73.74 297 P P **01 27 34.7 +0.9**
CANT Cankiri 73.74 308 *e*P Px 01 26 31.4
ASF Jabal al Asfar 73.83 298 P P **01 27 35.8 +1.4**
comp=Z,26nm,1.0s,mb5.1,baz=304,slow=1.2,SNR=29
ISAL Salakas 73.84 324 *e*P P **01 27 33.6 -0.3**
ISAL AMb AMB 01 27 37.0
comp=Z,35nm,1.1s,mb5.2
IIGN Ignalina 73.86 324 *e*P P **01 27 33.8 -0.2**
BLJS Baljurashi 73.86 285 P P **01 27 35.5 +0.8**
ELDT Eldivan 73.92 307 *i*P P **01 27 34.0 -0.6**
KBRS Khaybar 73.92 291 P P **01 27 36.6 +1.5**
BR131 Keskin Array S 74.00 307⇑ *i*P P **01 27 35.3 +0.1**
comp=Z,57nm,1.0s,mb5.5
BRTR Keskin Array B 74.00 307 P P **01 27 35.4 +0.2**
comp=Z,24nm,0.8s,mb5.2,baz=104,slow=5.1,SNR=110
KAMT Kaman 74.05 306 *e*P Px 01 26 31.4
SAFT Safranbolu 74.22 308 *e*P Px 01 26 34.4
BHL Bhannes 74.28 300 *e*P P **01 27 36.8 -0.2**
ANTO Ankara 74.57 307 *e*P Px 01 26 38.8
ANTO Ankara 74.57 307 P P **01 27 39.2 +0.7**
LOD Lodumlu 74.58 307 *e*P Px 01 26 37.5
AFI Afiamalu 74.71 113 LR LR 01 58 40.0
comp=Z,844nm,18.6s,MS5.1,baz=133,slow=34
LTHS Al Lith 74.78 286 P P **01 27 40.9 +0.9**
KIS Kishinev 75.02 315*c* *i*P P **01 27 39.0 -2.0**
KIS *e* pP 01 27 50.0 -2.3
KIS *e* 01 30 32.0
KIS *i*S S 01 37 14.0 -0.9
KIS *e*PS PS 01 37 54.0 -1.6
KIS pmax pmax
comp=Z,900nm,2.0s,mb6.3
KIS MLR MLR
comp=Z,6μm,19.0s,MS5.9
KIS MLR MLR
comp=N,2μm,16.0s,MS5.9
KIS MLR MLR
comp=E,4μm,16.0s,MS5.9
KIS MLR MLR
comp=Z,5μm,18.0s
IKL Isikli 75.06 303 *e*P Px 01 26 41.8
MOR8 Moi Rana 75.13 336 *e*P P **01 27 40.5 -0.7**
MOR8 Moi Rana 75.13 336 *e*P P **01 27 41.3 +0.1**
TBKS Tabuk 75.40 295 P P **01 27 44.6 +1.1**
YNBS Yanbu' al Bahr 75.49 290 P P **01 27 45.6 +1.5**
ERMK Ermenek 75.52 304 *i*P P **01 27 43.5 -0.6**
MDU Mudurnu 75.52 308 *e*P Px 01 26 42.6
KIZT Kizilcal 75.56 306 *e*P Px 01 26 42.6
TLCR 75.62 313 P P **01 27 44.5 +0.1**
ATD Arta Tunnel 75.73 276 LR LR 02 01 27.6
comp=Z,860nm,20.2s,MS5.0,baz=288,slow=36
HDMB Hadim 75.74 304 *e*P Px 01 26 42.6
CSS Prodhromos 75.75 302⇑ *i*P P **01 27 45.4 0.0**
comp=Z,40nm,0.6s,mb5.5
UMJS Umm Lajj 75.77 291 P P **01 27 47.2 +1.5**
IAS Iasi 75.77 315⇑ *i*P P **01 27 44.6 -0.6**
IAS Iasi 75.77 315⇑ *i*P P **01 27 44.6 -0.6**
IAS Iasi 75.77 315 P P **01 27 45.0 -0.2**
SUW Suwalki 75.98 323⇑ *i*P P **01 27 45.9 -0.3**
comp=Z,400nm,1.0s,mb6.3
SUW *e*PcP PcP 01 27 54.5 -4.3
SUW *e*S S 01 37 20.7 -4.5
SUW MLR MLR 02 04 25.2
comp=Z,9μm,19.5s,MS6.1
SUW Suwalki 75.98 323⇑ *i*P P **01 27 45.9 -0.3**
SUW *e* pP 01 27 54.5 -3.1
SUW *e*S S 01 37 20.7 -4.5
SUW pmax pmax
comp=Z,400nm,1.0s,mb6.3
SUW MLR MLR
comp=Z,9μm,19.5s,MS6.1
CFR Carcaliu 76.08 313⇑ *i*P P **01 27 45.6 -1.4**
CFR Carcaliu 76.08 313⇑ *i*P P **01 27 45.6 -1.4**
ESKT Eskisehir 76.10 307 *e*P Px 01 26 46.7
ALWS Ilw as Safayha 76.26 296 P P **01 27 49.2 +0.8**
BORA Eskisehir 76.27 308 *i*P P **01 27 47.5 -0.7**
JMOS Jabal al Moall 76.27 296 P P **01 27 49.2 +0.7**
HARR Harsova 76.38 313⇑ *i*P P **01 27 48.0 -0.8**
HARR Harsova 76.38 313⇑ *i*P P **01 27 48.0 -0.8**
BDAS Al Bad' 76.53 295 P P **01 27 50.4 +0.4**
SIT Sitka 76.67 33 *e*P P **01 27 50.6 +0.5**
SIT Sitka 76.67 33 P P **01 27 50.8 +0.7**
SIT pmax pmax
comp=Z,320nm,1.3s,mb6.1
DAG Danmarks Havn 76.68 351⇓ *i*P P **01 27 48.3 -1.6**
comp=Z,9.9nm,0.5s,mb5.0
DAG *e* 01 30 38.5
DAG Danmarks Havn 76.68 351⇓ *i*P P **01 27 48.3 -1.6**
DAG *e* 01 30 38.5
DAG pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
TAYS Tayyib Ism 76.68 295 P P **01 27 51.3 +0.5**
VRI Vrincioaia 76.77 314⇑ *i*P P **01 27 50.9 0.0**
VRI Vrincioaia 76.77 314⇑ *i*P P **01 27 50.9 0.0**
VRI Vrincioaia 76.77 314 P P **01 27 51.4 +0.5**
ALT Altintas 76.80 307 *e*P Px 01 26 49.4
NSS Namsos 76.81 335 AMS AMS 02 06 49.7
comp=Z,4μm,21.7s,MS5.7
YLV Yalova 76.81 309 *e*P Px 01 26 46.7
ISK Istanbul-Kandi 76.86 309 *e*P Px 01 26 49.7
ISP Isparta 76.92 306 *e*P Px 01 26 53.6
ISP Isparta 76.92 306⇑ *i*P P **01 27 51.1 -0.8**
comp=Z,98nm,1.0s,mb5.7
ISP Isparta 76.92 306 P P **01 27 52.1 +0.1**
ISP pmax pmax
comp=Z,98nm,1.0s,mb5.7
BCK Bucak 77.00 305 *e*P pP 01 28 04.7 +1.0
LVV L'vov 77.03 319 *e*P P **01 27 51.0 -1.3**
LVV *e*S S 01 37 37.0 +0.2
BURAR Bucovina Array 77.11 316⇑ *i*P P **01 27 52.8 0.0**
BURAR Bucovina Array 77.11 316⇑ *i*P P **01 27 52.8 0.0**
ISR Istrita 77.16 314⇓ *i*P P **01 27 52.9 -0.2**
ISR Istrita 77.16 314⇓ *i*P P **01 27 52.9 -0.2**
GDZ Gediz 77.25 307 *i*P P **01 27 52.0 -1.7**
MLR Muntele Rosu 77.42 314⇑ *i*P P **01 27 54.3 -0.3**
MLR Muntele Rosu 77.42 314⇑ *i*P P **01 27 54.3 -0.2**
MLR Muntele Rosu 77.42 314 P P **01 27 54.8 +0.2**
ELL Elmali 77.75 305 *e*P Px 01 26 54.9
BUC1 Bucharest 77.78 313⇓ *i*P P **01 27 56.7 +0.1**
BUC1 Bucharest 77.78 313⇓ *i*P P **01 27 56.7 +0.1**
BUC1 Bucharest 77.78 313 P P **01 27 57.3 +0.7**
WAR Warsaw 77.85 322 *e*P P **01 27 57.1 +0.3**
comp=Z,800nm,2.0s,mb6.3
WAR *e*PcP PcP 01 28 01.2 -5.7
WAR *e*pP pP 01 28 06.5 -1.7
WAR *e*S S 01 37 49.5 +3.9
WAR *e*SKS SKS 01 38 01.1 -1.3
WAR MLR MLR 02 05 48.7
comp=Z,6μm,19.8s,MS5.9
WAR Warsaw 77.85 322 *e*P P **01 27 57.1 +0.3**
comp=Z,0.8nm,2.0s,mb3.3
WAR *e*PcP PcP 01 28 01.2 -5.8
WAR *e*pP pP 01 28 06.5 -1.7
WAR *e*S S 01 37 49.5 +3.9
WAR *e*SKS SKS 01 38 01.1 -1.3
WAR LR LR
comp=Z,6μm,19.8s,MS5.9
WAR Warsaw 77.85 322 *e*P P **01 27 57.1 +0.3**
WAR *e**PP pP 01 28 06.5 -1.7
WAR *e*S S 01 37 49.5 +3.9
WAR *e* 01 38 01.1
WAR pmax pmax
comp=Z,800nm,2.0s,mb6.3
WAR MLR MLR
comp=Z,6μm,19.8s,MS5.9
KWP Kalwaria 77.90 319⇑ *i*P P **01 27 57.6 +0.5**
comp=Z,2μm,2.3s,mb6.5
KWP *e*PcP PcP 01 28 04.1 -3.1
KWP *e*pP pP 01 28 08.0 -0.5
KWP *e*PP PP 01 30 49.4 -5.7
KWP *e*S S 01 37 50.1 +4.0
KWP MLR MLR 02 05 04.8
comp=Z,4μm,22.8s,MS5.7
KWP Kalwaria 77.90 319⇑ *i*P P **01 27 57.6 +0.5**
KWP *e* 01 28 04.1
KWP *e**PP pP 01 28 08.0 -0.5
KWP *e* 01 30 49.4
KWP *e*S S 01 37 50.2 +4.1
KWP pmax pmax
comp=Z,2μm,2.3s,mb6.5
KWP MLR MLR
comp=Z,4μm,22.8s,MS5.7
BNT Bandirma 77.92 309 *e*P Px 01 26 56.5
VOIR 78.02 314⇓ *i*P P **01 27 57.4 -0.5**
VOIR 78.02 314⇓ *i*P P **01 27 57.4 -0.4**
DENT Denizli 78.05 306 *e*P Px 01 26 57.0
MTUR Matau 78.09 314⇓ *i*P P **01 27 57.8 -0.5**
MTUR Matau 78.09 314⇓ *i*P P **01 27 57.8 -0.4**
EDRB Edirne 78.21 311 *e*P Px 01 26 53.9
BALB Balikesir 78.21 308 *e*P Px 01 26 58.2
KOLS Kolonicke sedl 78.43 318 *i*P P **01 28 00.1 +0.1**
UZH Uzhgorod 78.54 318 *i*P P **01 28 01.0 +0.4**
UZH *e*S S 01 37 54.0 +1.0
DLBC Dease Lake 78.64 31 P P **01 28 01.9 +0.9**
comp=Z,26nm,0.9s,mb5.2,baz=301,slow=5.9,SNR=27
DLBC Dease Lake 78.64 31 P P **01 28 01.9 +0.9**
CANB Canakkale 78.66 309 *e*P Px 01 26 58.5
DALT Dalyan (Mudla) 78.70 305 *e*P Px 01 26 59.5
NB2 NORSAR Subarra 78.80 332 P P **01 28 01.2 -0.6**
comp=Z,80nm,1.1s,mb5.6,baz=57,slow=5.6
NB2 NORSAR Subarra 78.80 332 P P **01 28 01.2 -0.6**
baz=57,slow=5.6
NOA NORSAR Array B 78.80 332 P P **01 28 00.8 -1.0**
comp=Z,26nm,0.8s,mb5.2,baz=59,slow=5.6,SNR=107
NOA PP PP 01 30 58.1 -4.0

comp=Z,2.5nm,0.8s,baz=67,slow=7.8,SNR=4.1
NOA LR LR 02 06 45.2
comp=Z,14µm,18.4s,MS6.3,baz=65,slow=39
NOA NORSAR Array B 78.80 332 P **P** **01 28 00.8 -1.0**
NOA PP PP 01 30 58.1 -4.0
NOA LR LR 02 06 45.2
YER Yerkesik 78.83 306 *eP* Px 01 27 00.0
STHS Stebnicka Huta 78.86 319 *i P* **P** **01 28 02.9 +0.5**
CRVS Cervenica-Dubn 78.94 319 *i P* **P** **01 28 03.3 +0.5**
DIM Dimitrovgrad 78.97 311 *i P* **P** **01 28 03.7 +0.5**
DRGR 79.00 316⇑*iP* **P** **01 28 02.6 -0.6**
DRGR 79.00 316⇑*iP* **P** **01 28 02.6 -0.6**
DRGR 79.00 316 P **P** **01 28 02.9 -0.3**
NAO01 NORSAR Array S 79.03 332 *eP* **P** **01 28 02.2 -0.9**
comp=Z,27nm,0.9s,mb5.2
ALN Alexandroupoli 79.05 310 *eP* **P** **01 28 03.4 -0.3**
IZM Izmir 79.11 307 *eP* Px 01 27 03.1
MLSB Milas 79.14 306 *eP* Px 01 27 02.1
DOMB Dombas 79.18 334 *eP* **P** **01 28 03.3 -0.6**
DOMB AMb AMB 01 28 07.8
comp=Z,165nm,1.8s,mb5.7
DOMB Dombas 79.18 334 *eP* **P** **01 28 03.3 -0.6**
comp=Z,165nm,1.8s,mb5.7
JMIC Jan Mayen 79.23 345 *eP* **P** **01 28 02.1 -1.9**
JMIC AMS AMS 02 07 43.0
comp=Z,5µm,20.7s,MS5.8
BLCB Balcova 79.28 307 *eP* Px 01 27 04.5
ARG Arkhangelos 79.28 305 *eP* **P** **01 28 04.6 -0.4**
RDO Rodhopi 79.31 310 *eP* **P** **01 28 04.8 -0.2**
OJC Ojcow 79.38 320⇑*iP* **P** **01 28 05.7 +0.5**
OJC *ePcP* PcP 01 28 15.2 +1.6
OJC *eS* S 01 38 01.7 -0.2
OJC MLR MLR 02 08 10.1
comp=Z,4µm,16.0s,MS5.8
MOL Molde 79.50 335 *eP* **P** **01 28 06.6 +1.0**
MOL AMb AMB 01 28 10.8
comp=Z,225nm,1.7s,mb5.8
MOL Molde 79.50 335 *eP* **P** **01 28 06.6 +1.0**
comp=Z,225nm,1.7s,mb5.8
PRK Paraskevi 79.51 308 *eP* **P** **01 28 05.7 -0.5**
GKP Gorka Klasztor 79.52 324 *eP* **P** **01 28 06.0 +0.1**
comp=Z,400nm,2.0s,mb6.0
GKP *ePcP* PcP 01 28 10.5 -3.6
GKP *epP* pP 01 28 16.3 -1.0
GKP *eS* S 01 38 06.5 +3.2
GKP *eSKS* SKS 01 38 16.0 +1.7
GKP MLR MLR 02 07 35.2
comp=Z,10µm,19.3s,MS6.2
GKP Gorka Klasztor 79.52 324 *eP* **P** **01 28 06.0 +0.1**
comp=Z,0.4nm,2.0s,mb3.0
GKP *ePcP* PcP 01 28 10.5 -3.6
GKP *epP* pP 01 28 16.3 -1.0
GKP *eS* S 01 38 06.4 +3.2
GKP *eSKS* SKS 01 38 16.0 +1.7
GKP LR LR
comp=Z,10µm,19.3s,MS6.2
GKP Gorka Klasztor 79.52 324 *eP* **P** **01 28 06.0 +0.1**
GKP *e**PP pP 01 28 16.3 -1.0
GKP *eS* S 01 38 06.4 +3.2
GKP *e* 01 38 16.0
GKP pmax pmax
comp=Z,400nm,2.0s,mb6.0
GKP MLR MLR
comp=Z,10µm,19.3s,MS6.2
BODT Bodrum 79.58 306 *eP* Px 01 27 04.8
RZN Rozhen 79.67 311 *i P* **P** **01 28 07.3 +0.3**
KECS Kecovo 79.70 319 *i P* **P** **01 28 07.3 +0.3**
PGB Panagyurishte 79.71 312 *i P* **P** **01 28 08.7 +1.5**
BSD Bornholm Skovb 79.90 326⇑*iP* **P** **01 28 07.2 -0.7**
comp=Z,29nm,1.0s,mb5.2
BSD Bornholm Skovb 79.90 326⇑*iP* **P** **01 28 07.2 -0.7**
BSD pmax pmax
comp=Z,29nm,1.0s,mb5.2
KONO Kongsberg 80.19 332 *eP* **P** **01 28 08.8 -0.6**
KONO *ePP* PP 01 31 11.1 -2.4
KONO *eS* S 01 38 12.0 +1.8
KONO *eSS* SS 01 43 19.5 -4.9
KONO Kongsberg 80.19 332 P **P** **01 28 09.1 -0.3**
KONO pmax pmax
comp=Z,120nm,1.7s,mb5.5
KARP Karpathos 80.26 304 *eP* **P** **01 28 10.2 -0.1**
LIKS Likavka 80.28 319 *eP* **P** **01 28 10.3 +0.2**
PSZ Piszkesteto 80.29 318⇑*iP* **P** **01 28 10.6 +0.5**
PSZ Piszkesteto 80.29 318 *eP* **P** **01 28 10.1 0.0**
comp=Z,182nm,1.6s,mb5.8
PSZ Piszkesteto 80.29 318 P **P** **01 28 10.7 +0.6**
VTS Vitosha 80.35 312 *i P* **P** **01 28 11.3 +0.7**
VTS Vitosha 80.35 312 P **P** **01 28 11.4 +0.8**
RAC Raciborz 80.37 321 *eP* **P** **01 28 11.4 +0.9**
RAC MLR MLR 02 11 34.2
comp=Z,4µm,17.7s,MS5.9
MMB Musomiste 80.39 311 *i P* **P** **01 28 10.5 -0.3**
NVR Nevrokopi 80.39 311 *eP* **P** **01 28 10.3 -0.5**
ZAPS Zavoj/Pirot 80.46 313⇑*iP* **P** **01 28 11.2 0.0**
OKC Ostrava-Krasne 80.51 320⇑*eP* **P** **01 28 11.5 +0.2**
OKC *eS* S 01 38 13.4 -0.3
OKC AMS AMS 02 07 40.0
comp=Z,4µm,15.1s
SRS Serrai 80.67 311 *eP* **P** **01 28 11.6 -0.7**
BOLS Boljevac 80.68 314⇑*iP* **P** **01 28 11.8 -0.5**
VYHS Vyhne 80.69 319 *i P* **P** **01 28 13.1 +0.9**
OUR Ouranopolis 80.71 310 *eP* **P** **01 28 11.5 -1.0**
KKB Krupnik 80.72 312 *i P* **P** **01 28 12.3 -0.3**
COP Copenhagen 80.88 327 *i S* S 01 38 22.3 +5.0
comp=Z,7µm,18.0s
COP Copenhagen 80.88 327⇑*iP* **P** **01 28 13.3 +0.2**
comp=Z,36nm,0.9s,mb5.3
COP *i S* S 01 38 22.3 +5.0
COP LR LR
comp=Z,7µm,18.0s,MS6.0
COP Copenhagen 80.88 327⇑*iP* **P** **01 28 13.3 +0.2**
COP *i S* S 01 38 22.3 +5.0
COP pmax pmax
comp=Z,36nm,0.9s,mb5.3
COP MLR MLR
comp=Z,7µm,18.0s,MS6.0
MORC Moravsky Berou 80.89 321⇑*iP* **P** **01 28 13.5 +0.2**
comp=Z,140nm,1.7s,mb5.6
MORC Moravsky Berou 80.89 321 P **P** **01 28 13.8 +0.5**
KOLL Kolacno 80.91 319 *i P* **P** **01 28 14.2 +0.8**
SOH Sokhos 80.96 311 *eP* **P** **01 28 12.6 -1.2**
SVIS Svilajnac 80.97 314⇓*iP* **P** **01 28 13.5 -0.3**
FOO Floro 81.03 334 *eP* **P** **01 28 14.2 +0.4**
PLG Polygyros 81.07 310 *eP* **P** **01 28 13.9 -0.6**
PAIG Paliouri 81.09 310 *eP* **P** **01 28 13.8 -0.7**
KSP Ksiaz 81.12 322⇑*iP* **P** **01 28 15.2 +0.8**
comp=Z,900nm,2.3s,mb6.3
KSP *ePcP* PcP 01 28 18.0 -3.0
KSP *epP* pP 01 28 25.0 -0.9
KSP *eS* S 01 38 14.4 -5.6
KSP *eSKS* SKS 01 38 23.7 -2.1
KSP MLR MLR 02 07 51.9
comp=Z,14µm,19.6s,MS6.3
KSP Ksiaz 81.12 322⇑*eP* **P** **01 28 14.8 +0.3**
KSP *ePP* PP 01 31 22.0 +0.1
KSP *eS* S 01 38 20.0 0.0
KSP *eSS* SS 01 43 51.0 +13
KSP LR LR
comp=Z,17µm,19.6s,MS6.4
KSP Ksiaz 81.12 322⇑*eP* **P** **01 28 14.8 +0.3**
KSP *e* 01 31 22.0
KSP *eS* S 01 38 20.0 0.0
KSP MLR MLR
comp=Z,17µm,19.6s,MS6.4
KNT Kendrikon 81.14 311 *eP* **P** **01 28 14.3 -0.5**
BARS Barje 81.19 313⇓*iP* **P** **01 28 15.1 +0.2**
AOS Alonnisos 81.25 309 *eP* **P** **01 28 14.9 -0.5**
THE Thessaloniki 81.30 311 *eP* **P** **01 28 14.3 -1.4**
DPC Dobruska-Polom 81.33 321⇑*iP* **P** **01 28 16.2 +0.6**
DPC *ex* x 01 28 41.7
DPC *eS* S 01 38 23.3 +1.1
DPC AMS AMS 02 07 40.0
comp=Z,6µm,21.1s
DPC Dobruska-Polom 81.33 321⇑*iP* **P** **01 28 16.2 +0.6**
DPC *e* 01 38 23.3
DPC MLR MLR
comp=Z,6µm,21.1s,MS5.9
SRO1 Iza 81.37 319 *i P* **P** **01 28 16.4 +0.6**
SRO1 *e* 01 28 17.7
UPC Upice 81.44 322⇑*iP* **P** **01 28 16.6 +0.5**
SMOL Smolenice 81.52 319 *i P* **P** **01 28 17.4 +0.8**
GRG Griva 81.56 311 *eP* **P** **01 28 16.3 -0.7**
BER Bergen 81.60 333 *eP* **P** **01 28 17.8 +1.1**
BER *eS* S 01 38 26.3 +1.6
BER *eSS* SS 01 43 42.2 -3.2
BER AMS AMS 02 08 43.1
comp=Z,16µm,16.5s,MS6.5
XRY Khrisi 81.63 304 *eP* **P** **01 28 16.5 -1.0**
VRAC Vranov 81.65 320 P **P** **01 28 18.1 +0.8**
XOR Xorichti 81.66 309 *eP* **P** **01 28 16.6 -0.9**
NEO Neokhori 81.66 309 *eP* **P** **01 28 16.0 -1.5**
RUE Ruedersdorf 81.74 324 *eP* **P** **01 28 18.0 +0.4**
comp=Z,36nm,0.8s,mb5.3
SKO Skopje 81.80 312⇑*iP* **P** **01 28 18.5 +0.3**
PKSM Moragy 81.80 317 P **P** **01 28 18.6 +0.5**
ZST Bratislava 81.86 319 *i P* **P** **01 28 19.1 +0.8**
DIVS Divcibare 81.86 315⇓*iP* **P** **01 28 18.4 0.0**
MUD Monsted U'grnd 82.06 329⇓*iP* **P** **01 28 18.3 -0.9**
comp=Z,35nm,1.1s,mb5.2
MUD *i* 01 31 30.5
MUD *i S* S 01 38 34.0 +4.5
comp=Z,16µm,19.0s
MUD Monsted U'grnd 82.06 329⇓*iP* **P** **01 28 18.3 -0.9**
MUD *i* 01 31 30.5
MUD *i S* S 01 38 34.0 +4.5
MUD pmax pmax
comp=Z,35nm,1.1s,mb5.2
MUD MLR MLR
comp=Z,16µm,19.0s,MS6.4
LKR Lokris 82.09 309 *eP* **P** **01 28 18.2 -1.6**
PVCC Panska Ves 82.24 322⇑*iP* **P** **01 28 20.8 +0.5**
PVCC *epP* pP 01 28 35.7 +4.0
PVCC AMS AMS 02 09 40.0
comp=Z,10µm,17.9s
KZN Kozani 82.27 311 *eP* **P** **01 28 19.9 -0.7**
VKA Vienna 82.29 320⇑*iP* **P** **01 28 21.4 +0.8**
comp=Z,739nm,3.0s
TREC Trest 82.30 321⇑*iP* **P** **01 28 21.2 +0.6**
TREC AMS AMS 02 08 00.0
comp=Z,9µm,18.6s
NVSS Nova Varos 2 82.30 314⇑*iP* **P** **01 28 25.9 +5.1**
FNA Florina 82.34 311 *eP* **P** **01 28 20.1 -0.9**
AGG Agios Georgios 82.41 309 *eP* **P** **01 28 19.9 -1.5**
SOP Sopron 82.41 319⇑*eP* **P** **01 28 21.8 +0.6**
SCO Scoresbysund 82.42 349 *i P* **P** **01 28 20.9 +0.1**
comp=Z,7.3nm,0.7s,mb4.7
SCO Scoresbysund 82.42 349 *eP* **P** **01 28 20.9 +0.1**
comp=Z,7.3nm,0.7s,mb4.7
SCO Scoresbysund 82.42 349 *eP* **P** **01 28 20.9 +0.1**
SCO pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BRG Berggiesshubel 82.42 323 *i P* **P** **01 28 21.4 +0.2**
comp=Z,106nm,1.5s,mb5.5
BRG *i* 01 28 38.0
BRG PP PP 01 31 31.0 -1.4
BRG S S 01 38 38.0 +4.7
BRG SS SS 01 43 57.0 -1.0
BRG LR LR
comp=Z,9µm,17.2s,MS6.2
BRG Berggiesshubel 82.42 323 *i P* **P** **01 28 21.4 +0.2**
BRG *i* 01 28 38.0
BRG 01 31 31.0
BRG S S 01 38 38.0 +4.7
BRG SS SS 01 43 57.0 -1.0
BRG pmax pmax
comp=Z,106nm,1.5s,mb5.5
BRG pmax pmax
comp=Z,34nm,1.3s,mb5.1
IVA Berane 82.45 314⇓*iP* **P** **01 28 22.0 +0.5**
PRU Pruhonice 82.51 322⇑*iP* **P** **01 28 21.8 +0.1**
PRU *ex* x 01 28 46.4
PRU *eS* S 01 38 36.0 +1.7
PRU AMS AMS 02 08 40.0
comp=Z,6µm,18.9s
PRU Pruhonice 82.51 322⇑*iP* **P** **01 28 21.8 +0.1**
PRU *e* 01 38 36.0
PRU MLR MLR
comp=Z,6µm,18.9s,MS6.0
PVY Plav 82.52 313⇓*iP* **P** **01 28 22.0 +0.2**
PLE Pljevlja 82.58 314⇓*iP* **P** **01 28 22.6 +0.5**
BBB Bella Bella 82.60 36 P **P** **01 28 22.0 -0.1**
comp=Z,10nm,0.7s,mb5.0,baz=331,slow=8.3,SNR=8.5
CLL Collm 82.73 323⇑⇑P **P** **01 28 22.7 -0.1**
comp=Z,logA/T=2.0,mb5.8
CLL *e**PP pP 01 28 32.0 -2.2
CLL *e**SP sP 01 28 39.0 +0.7
CLL *e*PP PP 01 31 32.0 -2.8
CLL *e**PPP 01 31 44.0
CLL *e**SPP 01 31 50.0
CLL *e* 01 33 42.0
CLL *eS* S 01 38 44.0 +7.6
CLL *ePS* PS 01 39 27.0 -5.7
CLL *e* 01 40 17.0
CLL *eSS* SS 01 44 12.0 +9.4
CLL *e* 01 48 30.0
CLL Collm 82.73 323⇑*iP* **P** **01 28 22.7 -0.1**
comp=Z,178nm,1.8s,mb5.8
CLL *e* pP 01 28 32.0 -2.2
CLL *eS* S 01 38 44.0 +7.6
CLL LR LR
comp=Z,12µm,17.4s,MS6.3
CLL Collm 82.73 323⇑*iP* **P** **01 28 22.7 -0.1**
CLL *e* pP 01 28 32.0 -2.2
CLL *eS* S 01 38 44.0 +7.6
CLL pmax pmax
comp=Z,178nm,1.8s,mb5.8
CLL MLR MLR
comp=Z,12µm,17.4s,MS6.3
SUMG Summit 82.77 354⇑*eP* **P** **01 28 22.5 -0.1**
comp=Z,36nm,0.9s,mb5.4
YKA Yellowknife Ar 82.79 23 P **P** **01 28 22.4 -0.4**
comp=Z,35nm,0.8s,mb5.5,baz=314,slow=4.9,SNR=272
YKA PKKPbc 01 47 00.6
comp=Z,1.0nm,1.1s,baz=127,slow=3.5,SNR=4.0
YKA LR LR 02 13 07.8
comp=Z,2µm,18.1s,MS5.4,slow=41
YKA Yellowknife Ar 82.79 23 *i P* **P** **01 28 22.4 -0.4**
YKA pmax pmax
comp=Z,35nm,0.8s
BSEG Bad Segeberg 82.82 326 *eP* **P** **01 28 23.4 +0.3**
BSEG pmax pmax
comp=Z,68nm,1.5s,mb5.5
EVR Evrytania 82.83 309 *eP* **P** **01 28 22.6 -0.9**
MEV Metsovon 82.87 310 *eP* **P** **01 28 23.7 0.0**
VLI Veliai 82.93 307 *eP* **P** **01 28 21.7 -2.4**
UPM Unac-Piva 82.95 314⇓*iP* **P** **01 28 24.1 0.0**
QSH Qafa e Shtames 83.03 312 *ep* **P** **01 28 25.2 +0.7**
TTG Podgorica 83.06 313⇓*iP* **P** **01 28 23.9 -0.7**
NKY Niksic 83.07 314⇓*iP* **P** **01 28 24.2 -0.5**
TIR Tirane 83.13 312 *ep* **P** **01 28 22.0 -3.0**
JAN Janina 83.18 310 *eP* **P** **01 28 24.9 -0.4**
ARSA Arzberg 83.24 319⇑*iP* **P** **01 28 25.8 +0.4**
comp=Z,387nm,2.4s,mb6.0
ARSA Arzberg 83.24 319 *i P* **P** **01 28 25.8 +0.4**
comp=Z,387nm,2.4s,mb6.0,SNR=7.2
ULC Ulcinj 83.28 313⇓*iP* **P** **01 28 25.4 -0.3**
BRY Bratogost 83.33 314⇓*iP* **P** **01 28 26.2 +0.2**
BUM Brajici-Budva 83.36 313⇓*iP* **P** **01 28 25.9 -0.2**
RLS Riolos of Patr 83.43 309 *eP* **P** **01 28 26.2 -0.4**
ITM Ithomi 83.47 308 *eP* **P** **01 28 26.0 -0.8**
KHC Kasperske Hory 83.48 321⇑*iP* **P** **01 28 26.9 +0.3**
KHC pP pP 01 28 35.0 -3.1
KHC *ex* x 01 28 50.2
KHC *eS* S 01 38 39.0 -5.0
KHC AMS AMS 02 10 40.0
comp=Z,7µm,16.3s
KHC Kasperske Hory 83.48 321⇑*iP* **P** **01 28 26.9 +0.3**
KHC *e* 01 28 35.0
KHC *e* 01 28 50.2
KHC *eSKS* SKS 01 38 39.0 -3.1
KHC LR LR
comp=Z,7µm,16.3s,MS6.1
KHC Kasperske Hory 83.48 321⇑*iP* **P** **01 28 26.9 +0.3**
KHC *e* 01 28 35.0
KHC *e* 01 38 39.0
KHC MLR MLR
comp=Z,7µm,16.3s,MS6.1
GEC2 GERESS Array S 83.55 321 *eP* **P** **01 28 27.2 +0.3**
comp=Z,71nm,1.1s,mb5.7
GEC2 GERESS Array S 83.55 321 *eP* **P** **01 28 27.2 +0.3**
GEC2 pmax pmax
comp=Z,71nm,1.1s,mb5.7
GERES GERESS Array B 83.55 321 P **P** **01 28 27.4 +0.5**
comp=Z,22nm,0.8s,mb5.3,baz=56,slow=4.8,SNR=213
GERES PKKPbc 01 46 43.9
comp=Z,0.2nm,0.3s,baz=11,slow=41,SNR=2.5
GERES LR LR 02 09 21.3
comp=Z,6µm,18.5s,MS6.0,baz=62,slow=38
HCY Herceg Novi 83.56 314⇓*iP* **P** **01 28 27.5 +0.4**
NKC Novy Kostel 83.57 323⇑*iP* **P** **01 28 27.4 +0.4**
NKC *ex* x 01 28 53.1
NKC AMS AMS 02 10 20.0
comp=Z,10µm,17.0s
NKC Novy Kostel 83.57 323⇑*iP* **P** **01 28 27.4 +0.4**
NKC MLR MLR
comp=Z,10µm,17.0s,MS6.3
MOA Molln 83.70 320⇑*iP* **P** **01 28 28.5 +0.7**
comp=Z,380nm,1.9s,mb6.2
MOA Molln 83.70 320 *i P* **P** **01 28 28.5 +0.8**
comp=Z,380nm,1.9s,mb6.2,SNR=64
PERS Pernice 83.77 318 *eP* **P** **01 28 28.5 +0.4**
PERS *e* pP 01 28 37.0 -2.6
MOX Moxa 83.82 323⇑*iP* **P** **01 28 28.6 +0.3**
comp=Z,logA/T=1.9,mb5.8
MOX S S 01 38 49.0 +1.6
MOX SS SS 01 44 34.0 +16
MOX LR LR 01 56 30.0
MOX L 02 10 15.0
MOX Moxa 83.82 323 *eP* **P** **01 28 28.6 +0.3**
comp=Z,142nm,1.9s,mb5.8
MOX LR LR
comp=Z,9µm,19.0s,MS6.2
MOX Moxa 83.82 323 *eP* **P** **01 28 28.6 +0.3**
MOX pmax pmax
comp=Z,142nm,1.9s,mb5.8
MOX MLR MLR
comp=Z,9µm,19.0s,MS6.2
WET Wettzell 83.87 321 *eP* **P** **01 28 29.2 +0.6**
comp=Z,176nm,1.8s,mb5.9
WET Wettzell 83.87 321 *eP* **P** **01 28 29.2 +0.6**
WET pmax pmax
comp=Z,176nm,1.8s,mb5.9
CLZ Clausthal 83.88 325 *eP* **P** **01 28 29.2 +0.7**
comp=Z,402nm,2.0s,mb6.2
CLZ Clausthal 83.88 325 *eP* **P** **01 28 29.2 +0.7**
CLZ pmax pmax
comp=Z,402nm,2.0s,mb6.2
VLS Valsamata 84.01 309 *eP* **P** **01 28 28.7 -0.9**
OBKA Obir 84.18 319⇑*iP* **P** **01 28 30.5 +0.3**
comp=Z,568nm,3.9s
OBKA Obir 84.18 319 *i P* **P** **01 28 30.5 +0.3**
comp=Z,568nm,3.9s,SNR=18
BOJS Bojanci 84.23 317 *eP* **P** **01 28 31.2 +0.7**
BOJS *e* pP 01 28 42.2 +0.2
BOJS *e* 01 28 56.8
BOJS *eS* S 01 38 49.7 -1.8
LRW Lerwick 84.34 335 *eP* **P** **01 28 30.3 -0.4**
LJU Ljubljana 84.42 318 *eP* **P** **01 28 31.7 +0.3**
LJU *e* pP 01 28 41.1 -1.8
LJU *e* pP 01 28 46.0 +3.1
LJU *eS* S 01 39 05.9 +13
WAL1 Walls 84.43 335⇑*eP* **P** **01 28 30.6 -0.5**
WAL1 AMb AMB 01 28 34.4
comp=Z,202nm,1.9s,mb5.9
GRA1 Grafenberg Arr 84.53 322 *eP* **P** **01 28 32.6 +0.7**
comp=Z,460nm,2.0s,mb6.3
GRA1 *ePP* PP 01 31 49.7 +0.5
GRA1 *eS* S 01 38 55.7 +1.3
GRA1 LR LR
comp=Z,9µm,19.0s,MS6.2
GRF Grafenberg Arr 84.53 322 *eP* **P** **01 28 32.6 +0.7**
comp=Z,460nm,2.0s,mb6.3
GRF *ePP* PP 01 31 49.7 +0.5
GRF *eS* S 01 38 55.7 +1.3
GRF LR LR
comp=Z,9µm,19.0s,MS6.2
KBA Koelnbreinsper 84.62 319⇑*iP* **P** **01 28 32.5 +0.1**
comp=Z,368nm,3.5s
KBA Koelnbreinsper 84.62 319 *i P* **P** **01 28 32.5 +0.1**
comp=Z,368nm,3.5s,SNR=27
VOY Vojsko 84.81 318 *eP* **P** **01 28 33.1 -0.3**
VOY *e* pP 01 28 44.2 -0.7
WIT Witteveen 85.26 327⇑*iP* **P** **01 28 36.7 +1.2**
comp=Z,558nm,1.9s,mb6.4
FUR Furstenfeldbru 85.28 321 *eP* **P** **01 28 36.3 +0.6**
comp=Z,186nm,1.0s,mb6.2
FUR Furstenfeldbru 85.28 321 *eP* **P** **01 28 36.3 +0.6**
FUR pmax pmax
comp=Z,186nm,1.0s,mb6.2
WATA Walderalm 85.53 320⇑*iP* **P** **01 28 36.8 -0.1**
comp=Z,177nm,2.0s,mb6.0
WTTA Wattenberg 85.54 320⇑*iP* **P** **01 28 37.1 +0.2**
comp=Z,375nm,2.2s,mb6.2
WTTA Wattenberg 85.54 320 *i P* **P** **01 28 37.1 +0.2**
comp=Z,375nm,2.2s,mb6.2,SNR=25
SIND Sindeldorf 85.61 323⇑*eP* **P** **01 28 37.5 +0.3**
WTSB Winterswijk 85.67 326⇑*iP* **P** **01 28 37.7 +0.2**
comp=Z,140nm,2.3s,mb5.8
HDH Heidenheim 85.67 322⇑*eP* **P** **01 28 37.9 +0.3**
TNS Taunus Mts 85.77 324 *eP* **P** **01 28 38.5 +0.5**
comp=Z,139nm,1.9s,mb5.9
TNS Taunus Mts 85.77 324 *eP* **P** **01 28 38.5 +0.5**
TNS pmax pmax
comp=Z,139nm,1.9s,mb5.9
KMBO Kilima Mbogo 85.80 267 P **P** **01 28 40.6 +1.6**
comp=Z,18nm,1.1s,mb5.2,baz=46,slow=6.6,SNR=36
KMBO LR LR 02 09 05.5
comp=Z,2µm,19.0s,MS5.5,baz=198,slow=37
MOTA Moosalm 85.81 320⇑*iP* **P** **01 28 38.2 0.0**
comp=Z,199nm,2.2s,mb6.0
MOTA Moosalm 85.81 320 *i P* **P** **01 28 38.2 0.0**
comp=Z,199nm,2.2s,mb6.0,SNR=16
SQTA Sankt Quirin 85.81 320⇑*iP* **P** **01 28 38.4 +0.1**
comp=Z,280nm,2.1s,mb6.1
TOD Tromm 85.91 323⇑*eP* **P** **01 28 39.1 +0.4**
TOD Tromm 85.91 323 *eP* **P** **01 28 39.2 +0.5**
SWS Schriesheim 86.03 323 *eP* **P** **01 28 39.6 +0.3**
STU Stuttgart 86.14 322 *eP* **P** **01 28 40.2 +0.4**
comp=Z,248nm,1.8s,mb6.1
STU Stuttgart 86.14 322 P **P** **01 28 39.8 0.0**
STU pmax pmax
comp=Z,250nm,1.8s,mb6.1
UBR Uberruh 86.21 321⇑*eP* **P** **01 28 40.5 +0.3**
TIP Timpagrande 86.23 311⇑*iP* **P** **01 28 41.0 +0.4**
LBG Lerchenberg 86.42 322⇑*eP* **P** **01 28 41.7 +0.5**
ABH Alteburg 86.44 324⇑*eP* **P** **01 28 41.9 +0.6**
ABH Alteburg 86.44 324⇑*eP* **P** **01 28 42.0 +0.7**
KTD Kalmit 86.46 323 *eP* **P** **01 28 41.8 +0.4**
KTD Kalmit 86.46 323 *eP* **P** **01 28 41.9 +0.5**
DAVA Damuels 86.55 321⇑*iP* **P** **01 28 42.1 +0.2**
comp=Z,270nm,2.4s,mb6.0
GUT Gutenstein 86.56 322⇑*eP* **P** **01 28 41.9 0.0**
CII Carovilli 86.66 314 *eP* **P** **01 28 42.9 +0.3**
comp=Z,390nm,1.9s,mb6.3
FUORN Ofenpass 86.67 320⇑*iP* **P** **01 28 43.2 +0.7**
LIENZ Alp Oberkamor 86.76 321⇑*iP* **P** **01 28 43.3 +0.4**
LANF Langenberg 86.80 323⇑*eP* **P** **01 28 43.6 +0.5**
HGN Heimansgroeve 86.80 325⇑*iP* **P** **01 28 43.2 +0.2**
comp=Z,102nm,1.9s,mb5.7
HGN *ex* x 01 28 52.9
HGN *ex* x 01 29 09.1
HGN *ePP* PP 01 32 04.2 -3.9
HGN *eSKS* SKS 01 38 21.0 -43
HGN *eS* S 01 39 09.0 -7.4
HGN *eSS* SS 01 45 13.2 +11
HGN *eSSS* SSS 01 48 47.8 +15
HGN *ex* x 01 57 02.2
DAVOX Davos 86.81 320⇑*iP* **P** **01 28 43.7 +0.5**
BFO Black Forest 86.86 322 *eP* **P** **01 28 43.4 0.0**
comp=Z,155nm,1.8s,mb5.9
BFO Black Forest 86.86 322 *eP* **P** **01 28 43.4 0.0**
BFO pmax pmax
comp=Z,155nm,1.8s,mb5.9
STEIN Stein am Rhein 86.92 322⇑*iP* **P** **01 28 43.7 0.0**
STEIN Stein am Rhein 86.92 322⇑*iP* **P** **01 28 43.6 -0.1**
BERNI Berninapass 86.92 320⇑*iP* **P** **01 28 44.4 +0.6**
WEIN Weingarten 86.93 321⇑*iP* **P** **01 28 43.7 0.0**
AQU L'Aquila 86.93 315⇑*iP* **P** **01 28 44.6 +0.7**
comp=Z,443nm,1.7s,mb6.4
AQU L'Aquila 86.93 315 P **P** **01 28 44.7 +0.8**
AQU pmax pmax
comp=Z,440nm,1.7s,mb6.4
PLONS Plons 86.96 321⇑*iP* **P** **01 28 44.1 +0.2**
WILA Wila 87.03 321⇑*iP* **P** **01 28 44.3 0.0**
STR Strasbourg 87.04 323 *eP* **P** **01 28 44.9 +0.7**
SLE Schleitheim 87.08 322⇑*iP* **P** **01 28 44.2 -0.3**
OCWA Octopus Mounta 87.09 38 *eP* **P** **01 28 46.1 +1.6**
comp=Z,352nm,1.9s,mb6.3
VDL Val di Lei 87.21 320⇑*iP* **P** **01 28 45.7 +0.6**
VDL Val di Lei 87.21 320⇑*iP* **P** **01 28 45.6 +0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZUR	Zurich	87.25	321	⇑iP	P	01 28 45.2	-0.1
ZUR	Zurich	87.25	321	⇑iP	P	01 28 45.1	-0.2
LLS	Linth-Limmern	87.28	321	⇑iP	P	01 28 45.8	+0.3
FELD	Feldberg	87.30	322	⇑eP	P	01 28 45.4	-0.1
KIZ	Kirchzarten	87.30	322	⇑eP	P	01 28 45.4	-0.1
WLF	Walferdange	87.31	324	⇑iP	P	01 28 46.1	+0.5
	comp=Z,327nm,1.6s,mb6.3						
WLF	Walferdange	87.31	324	P	P	01 28 46.4	+0.9
WLF				pmax	pmax		
	comp=Z,330nm,1.6s,mb6.3						
WLS	Welschbruch	87.36	323	⇑eP	P	01 28 46.2	+0.4
LIBD	Limburg	87.37	322	⇑eP	P	01 28 46.2	+0.3
LIBD	Limburg	87.37	322	eP	P	01 28 45.9	0.0
CDF	Champ du Feu	87.41	323	eP	P	01 28 46.0	0.0
	comp=Z,489nm,1.8s,mb6.1						
SULZ	Sulz-Cheisache	87.42	322	⇑iP	P	01 28 45.9	-0.2
MUO	Muotathal	87.43	321	⇑iP	P	01 28 46.4	+0.2
ECH	Echery	87.58	323	⇑eP	P	01 28 46.6	-0.3
FUSIO	Fusio	87.70	321	⇑iP	P	01 28 47.8	+0.3
GIVF	Givet	87.76	325	eP	P	01 28 47.5	-0.2
MUGIO	Muggio	87.76	320	⇑iP	P	01 28 46.9	-0.9
BALST	Balsthal	87.77	322	⇑iP	P	01 28 47.5	-0.3
MOF	Molkenrain	87.80	322	⇑eP	P	01 28 48.0	+0.1
BBS	Basel-Blauen	87.80	322	⇑eP	P	01 28 47.8	-0.1
BBS	Basel-Blauen	87.80	322	⇑eP	P	01 28 47.9	-0.1
HASLI	Hasliberg	87.83	321	⇑iP	P	01 28 48.1	0.0
SARO	Sassorosso	87.88	318	P	P	01 28 48.7	+0.3
VALM		87.88	318	P	P	01 28 49.1	+0.7
EDI	Edinburgh	87.91	333	⇑eP	P	01 28 47.5	-0.7
EDI				AMb	AMB	01 28 51.6	
	comp=Z,85nm,1.9s,mb5.7						
GRAM		87.92	318	P	P	01 28 49.1	+0.5
MAIM		87.96	318	P	P	01 28 48.1	-0.7
HINF	Hinteralfeld	87.97	322	eP	P	01 28 48.2	-0.6
BOURR	Bourrignon	88.00	322	⇑iP	P	01 28 48.7	-0.2
BACM		88.03	318	P	P	01 28 48.8	-0.3
EAU	Auchinoon	88.07	333	⇑eP	P	01 28 48.1	-0.9
EAU				AMb	AMB	01 28 51.6	
	comp=Z,129nm,1.8s,mb5.9						
CODM		88.10	318	P	P	01 28 48.7	-0.8
BAIF	Baives	88.11	325	eP	P	01 28 49.0	-0.3
	comp=Z,89nm,1.3s,mb5.5						
HAU	Haudompre	88.15	323	eP	P	01 28 49.1	-0.5
HAU				eR			
	comp=Z,9µm,18.8s						
WIMIS	Wimmis	88.18	321	⇑iP	P	01 28 49.7	-0.1
EAB	Aberfoyle	88.21	333	⇑eP	P	01 28 49.3	-0.3
EAB				AMb	AMB	01 28 53.0	
	comp=Z,81nm,1.9s,mb5.6						
THEF	They Montfort	88.22	323	⇑eP	P	01 28 49.7	-0.2
LOMF	Lomont	88.25	322	eP	P	01 28 49.9	-0.2
ESK	Eskdalemuir	88.32	332	eP	P	01 28 49.5	-0.7
	comp=Z,162nm,2.0s,mb5.9						
ESK	Eskdalemuir	88.32	332	P	P	01 28 48.5	-1.7
ESK				pmax	pmax		
	comp=Z,160nm,2.0s,mb5.9						
MMK	Mattmark	88.32	321	⇑iP	P	01 28 51.1	+0.6
LKBD	Leukerbad	88.33	321	⇑iP	P	01 28 50.5	0.0
ECK	Cauldkaine Hil	88.38	332	⇑eP	P	01 28 50.0	-0.5
ECK				AMb	AMB	01 28 54.2	
	comp=Z,105nm,2.0s,mb5.7						
TORNY	Torny	88.50	322	⇑iP	P	01 28 51.2	-0.1
SENIN	Lac Senin	88.53	321	⇑iP	P	01 28 51.6	+0.1
ORX	Oropa	88.54	320	P	P	01 28 49.6	-1.9
MEZF	Maizieres J'vi	88.57	324	eP	P	01 28 51.5	-0.1
DIX	Grande Dixence	88.63	321	⇑iP	P	01 28 52.5	+0.6
BRANT	Les Verrieres	88.68	322	⇑iP	P	01 28 52.2	0.0
GRYON	Gryon	88.71	321	⇑iP	P	01 28 52.2	-0.1
AIGLE	Aigle	88.75	321	⇑iP	P	01 28 52.2	-0.3
PCP	Pian Castagno	88.81	319	P	P	01 28 51.7	-1.1
SALAN	Lac Salanfe	88.84	321	⇑iP	P	01 28 53.0	0.0
MENF	Mencas	88.86	326	⇑eP	P	01 28 52.9	0.0
LHO	Holmfirth	88.89	330	⇑eP	P	01 28 52.5	-0.5
EMV	Vieux Emosson	88.93	321	⇑iP	P	01 28 53.5	+0.1
KBI1	Birley Grange	88.94	330	⇑eP	P	01 28 52.7	-0.5
CABF	La Chapelle	89.09	322	eP	P	01 28 54.0	-0.1
SFJD	Kangerlussuaq	89.12	357	iS		01 39 18.9	
SFJD				i		01 40 54.2	
	comp=Z,2µm,19.0s						
SFJD	Kangerlussuaq	89.12	357	iP	P	01 28 53.3	-0.5
	comp=Z,33nm,0.8s,mb5.7						
SFJD				iS		01 39 18.9	
SFJD				i		01 40 54.2	
SFJD				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
SFJD	Kangerlussuaq	89.12	357	iP	P	01 28 53.3	-0.5
SFJD				iS		01 39 18.9	
SFJD				i		01 40 54.2	
SFJD				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.7						
SFJD				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.6						
LSD	Ceresole Reale	89.12	320	P	P	01 28 54.3	0.0
FIN	Finale Ligure	89.19	319	P	P	01 28 53.3	-1.3
KWE	Weaver Farm	89.23	330	⇑eP	P	01 28 53.8	-0.8
RSP	Reno Superiore	89.23	320	P	P	01 28 54.2	-0.7
COR	Corvallis	89.33	41	eP	P	01 28 57.1	+1.8
	comp=Z,73nm,0.9s,mb6.0						
COR	Corvallis	89.33	41	P	P	01 28 57.6	+2.3
COR				pmax	pmax		
	comp=Z,73nm,1.0s,mb6.0						
LPG	La Plagne	89.34	321	eP	P	01 28 55.7	+0.4
	comp=Z,256nm,1.4s,mb6.1						
LPL	La Plagne	89.34	321	eP	P	01 28 55.6	+0.3
	comp=Z,94nm,1.0s,mb5.8						
ROB	Roburent	89.35	319	P	P	01 28 54.2	-1.2
BHB	Bricherasio	89.41	320	P	P	01 28 54.4	-1.2
FENE	Fenestrelle	89.42	320	P	P	01 28 54.9	-0.9
IMI	Imperia	89.55	319	P	P	01 28 55.3	-1.1
PGF	Pioggiola	89.61	317	eP	P	01 28 57.1	+0.4
	comp=Z,76nm,0.8s,mb5.8						
BNI	Bardonecchia	89.63	320	eP	P	01 28 56.9	+0.2
	comp=Z,26nm,0.9s,mb5.6						
BNI	Bardonecchia	89.63	320	P	P	01 28 57.0	+0.3
BNI				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.5						
RRL	Cesana Torines	89.64	320	P	P	01 28 55.7	-1.1
ENR	Entracque	89.66	319	P	P	01 28 55.7	-1.2
NEGI	Negi	89.69	319	P	P	01 28 55.9	-1.1
SAOF	Saorge	89.71	319	⇑eP	P	01 28 57.1	0.0
MBDF	Montbardon	89.76	320	eP	P	01 28 57.1	-0.2
AUTN	L'Aution	89.78	319	eP	P	01 28 57.9	+0.5
SBF	Sospel	89.85	319	eP	P	01 28 57.2	-0.6
	comp=Z,102nm,0.9s,mb5.8						
TOUF	Mont Tournerai	89.88	319	eP	P	01 28 57.8	-0.1
LOR	Lormes	89.95	323	eP	P	01 28 57.4	-0.7
	comp=Z,235nm,1.6s,mb6.0						
LOR				eR			
	comp=Z,7µm,18.8s						
ORIF	Oris-en-Rattie	90.17	320	eP	P	01 28 59.6	+0.3
ORIF				eR			
	comp=Z,8µm,19.0s						
SSF	Saint Saulge	90.26	323	eP	P	01 28 58.9	-0.7
	comp=Z,99nm,1.4s,mb5.6						
SMF	Signal de Mont	90.33	323	eP	P	01 28 59.3	-0.6
	comp=Z,324nm,1.4s,mb6.2						
CASY	Casey	90.43	185	eP	P	01 28 59.7	-0.3
HAWA	Hanford	90.47	38	eP	P	01 29 01.9	+1.3
	comp=Z,18nm,1.7s,mb5.1						
FRF	La Foret Royal	90.49	319	eP	P	01 29 00.7	-0.1
AVF	Avril sur Loir	90.51	323	eP	P	01 29 00.2	-0.6
HYF	Humbligny	90.61	324	eP	P	01 29 01.3	0.0
NEW	Newport	90.64	35	P	P	01 29 01.9	+0.6
	comp=Z,29nm,0.9s,mb5.6,baz=304,slow=3.8,SNR=63						
NEW				LR	LR	02 14 32.9	
	comp=Z,852nm,18.4s,MS5.2,baz=147,slow=39						
NEW	Newport	90.64	35	eP	P	01 29 02.5	+1.1
	comp=Z,66nm,1.2s,mb5.8						
NEW	Newport	90.64	35	P	P	01 29 02.6	+1.2
NEW				pmax	pmax		
	comp=Z,66nm,1.1s						
LMR	La Mourre	90.70	319	eP	P	01 29 00.0	-1.8
	comp=Z,250nm,1.6s,mb6.0						
OCF	Saint Nazaire	90.70	320	⇑eP	P	01 29 02.3	+0.5
OG26	St.-Nazaire-De	90.70	320	⇑eP	P	01 29 02.3	+0.5
PLDF	La Plantade	90.85	322	⇑eP	P	01 29 04.0	+1.6
SMRF	Simiane la Rot	90.89	320	eP	P	01 29 02.6	-0.1
	comp=Z,113nm,1.6s,mb5.7						
VIVF	Saint-Julien-l	90.91	321	eP	P	01 29 02.7	0.0
BGF	Bois d'Agland	90.93	323	eP	P	01 29 02.3	-0.5
	comp=Z,136nm,1.5s,mb5.8						
AGO	Saint Agoulin	91.07	322	⇑eP	P	01 29 04.9	+1.4
COLF	Collangettes	91.08	322	⇑eP	P	01 29 04.0	+0.5
DLF	Lyons Farm	91.12	332	⇑iP	P	01 29 02.5	-1.0
LDF	La Druitiere	91.25	326	eP	P	01 29 03.3	-0.9
	comp=Z,159nm,1.8s,mb5.8						
YBH	Yreka Blue Hor	91.28	43	P	P	01 29 05.8	+1.2
	comp=Z,11nm,0.9s,mb5.2,baz=271,slow=4.3,SNR=15						
FLN	La Foliniere	91.32	326	eP	P	01 29 03.8	-0.7
	comp=Z,148nm,1.6s,mb5.8						
FLN				eR			
	comp=Z,9µm,20.0s						
DCN	Croghan	91.41	332	⇑iP	P	01 29 04.0	-0.8
TCF	Toulx Ste Croi	91.44	323	eP	P	01 29 04.8	-0.4
	comp=Z,339nm,1.7s,mb6.1						
MBAR	Mbarara	91.54	270	eP	P	01 29 06.1	-0.3
	comp=Z,7.4nm,1.1s,mb4.9						
MBAR	Mbarara	91.54	270	P	P	01 29 06.6	+0.2
MBAR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9						
FRNF	Fournols	91.79	322	⇑eP	P	01 29 07.8	+1.0
LASF	Ste Croix	91.84	321	eP	P	01 29 07.1	+0.1
	comp=Z,259nm,1.8s,mb6.0						
WDC	Whiskeytown Da	92.04	44	eP	P	01 29 08.3	+0.3
	comp=Z,16nm,1.0s,mb5.3						
WDC	Whiskeytown Da	92.04	44	P	P	01 29 09.1	+1.1
WDC				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.3						
FRB	Frobisher Bay	92.14	5	LR	LR	02 12 36.7	
	comp=Z,3µm,21.2s,MS5.7,baz=346,slow=37						
CAF	Calviac	92.35	322	eP	P	01 29 09.7	+0.3
	comp=Z,184nm,1.3s,mb6.0						
RJF	Les Rejaudoux	92.43	323	eP	P	01 29 09.8	+0.1
	comp=Z,316nm,1.3s,mb6.2						
RJF				eR			
	comp=Z,5µm,18.5s						
MFF	Saint Martin d	92.52	324	eP	P	01 29 09.7	-0.4
	comp=Z,202nm,1.9s,mb5.9						
BMO	Blue Mountains	92.64	38	eP	P	01 29 11.6	+0.9
	comp=Z,24nm,1.0s,mb5.6						
MOD	Modoc	92.66	42	eP	P	01 29 11.8	+1.0
	comp=Z,22nm,0.7s,mb5.7						
SGMF	Saint Gilles	92.70	327	eP	P	01 29 10.7	-0.2
MIR	Mirnyy	92.93	191	eP	P	01 29 12.0	+0.5
MIR				pmax	pmax		
	comp=Z,81nm,2.0s,mb5.8						
FFC	Flin Flon	92.94	24	eP	P	01 29 11.4	-0.4
	comp=Z,59nm,0.9s,mb6.0						
FFC	Flin Flon	92.94	24	P	P	01 29 11.2	-0.6
FFC				pmax	pmax		
	comp=Z,59nm,0.9s,mb6.0						
ROSF	Rostrenen	93.01	327	eP	P	01 29 12.1	-0.2
LFF	La Frestale	93.08	323	eP	P	01 29 12.9	+0.2
	comp=Z,358nm,1.8s,mb6.2						
MSO	Missoula	93.22	35	eP	P	01 29 13.7	+0.4
	comp=Z,36nm,1.4s,mb5.6						
MTLF	Montolieu	93.23	321	eP	P	01 29 13.7	+0.3
QUIF	Quistinic	93.23	327	eP	P	01 29 12.4	-0.9
WVOR	Wild Horse Val	93.35	40	eP	P	01 29 14.8	+0.9
	comp=Z,107nm,1.6s,mb6.0						
WVOR	Wild Horse Val	93.35	40	P	P	01 29 15.4	+1.4
WVOR				pmax	pmax		
	comp=Z,110nm,1.6s,mb6.0						
OHCM	Honcut	93.41	44	eP	P	01 29 14.8	+0.4
CHMT	Chamberlain Mo	93.52	34	eP	P	01 29 15.1	+0.5
CMAH	Djebel Manchou	93.88	313	P	P	01 29 18.0	+1.5
CAEH	'Ain El Ouahch	94.17	313	P	P	01 29 20.0	+2.2
HRY	Holter Researc	94.38	34	eP	P	01 29 19.1	+0.6
CKFL	Kef-Lekhel	94.47	313	P	P	01 29 21.0	+1.8
EPF	Esparros	94.50	321	eP	P	01 29 19.1	-0.1
	comp=Z,107nm,1.6s,mb5.7						
RESF	Ens	94.64	321	eP	P	01 29 21.0	+1.1
CASM	Ain Smara	94.70	313	P	P	01 29 22.0	+1.7
CMB	Columbia Colle	94.86	45	eP	P	01 29 21.4	+0.4
	comp=Z,21nm,0.9s,mb5.6						
CMB	Columbia Colle	94.86	45	P	P	01 29 21.6	+0.6
CMB				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.5						
DFRA	Djebel Bou Aff	94.95	314	P	P	01 29 24.0	+2.6
HLID	Hailey	95.07	38	eP	P	01 29 23.5	+1.6
	comp=Z,21nm,1.1s,mb5.5						
ETSF	Etsaut	95.10	322	eP	P	01 29 21.7	-0.3
MCMT	McKenzie Canyo	95.10	36	eP	P	01 29 22.7	+0.8
BOZ	Bozeman (W)	95.20	35	eP	P	01 29 22.8	+0.5
	comp=Z,9.1nm,0.9s,mb5.2						
BOZ	Bozeman (W)	95.20	35	P	P	01 29 23.3	+1.0
BOZ				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.2						
LARF	Larrau	95.25	322	eP	P	01 29 23.3	+0.7
SJPF	Ste Jean	95.34	322	eP	P	01 29 22.5	-0.5
BMN	Battle Mountai	95.41	41	eP	P	01 29 24.3	+0.9
	comp=Z,38nm,1.5s,mb5.6						
BMN	Battle Mountai	95.41	41	P	P	01 29 25.4	+2.0
BMN				pmax	pmax		
	comp=Z,38nm,1.5s,mb5.6						
PPT	Papeete	95.45	107	eS	S	01 40 34.8	+0.5
PPT				eSS	SS	01 46 58.7	-7.9
PPT				eLR	LR	02 00 11.1	
	comp=Z,2µm,23.5s,baz=290						
PPT	Papeete	95.45	107	LR	LR	02 05 53.2	
	comp=Z,914nm,18.5s,MS5.3,baz=288,slow=31						
CMER	Merouana	95.46	313	P	P	01 29 22.0	-1.8
SET	Setif	95.46	313	P	P	01 29 26.0	+2.2
QLMT	Earthquake Lak	95.86	35	eP	P	01 29 26.6	+1.3
NVAR	Mina Array Bea	95.95	43	P	P	01 29 27.0	+1.1
	baz=280,slow=5.5,SNR=4.4						
ELK	Elko	96.39	40	LR	LR	02 14 02.5	
	comp=Z,547nm,19.5s,MS5.0,baz=332,slow=36						
ELK	Elko	96.39	40	eP	P	01 29 29.2	+1.4
	comp=Z,76nm,2.1s,mb5.8						
YFT	Old Faithful	96.42	35	eP	P	01 29 30.9	+3.0
MTUM	Tungsten Hills	96.43	44	eP	P	01 29 29.0	+0.9
TPH	Tonopah	96.84	43	eP	P	01 29 30.9	+0.9
	comp=Z,24nm,1.0s,mb5.6						
TPH	Tonopah	96.84	43	P	P	01 29 31.6	+1.6
TPH				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.6						
RRI2	Red Ridge	96.91	36	eP	P	01 29 31.2	+1.0
	comp=Z,45nm,1.7s,mb5.6						
TPAW	Teton Pass	97.01	36	eP	P	01 29 31.3	+0.7
	comp=Z,5.5nm,0.8s,mb5.0						
LAO	LASA Array	97.16	31	eP	P	01 29 32.3	+1.1
	comp=Z,18nm,0.9s,mb5.5						
DAC	Darwin (Calif)	97.70	45	eP	P	01 29 34.5	+0.6
	comp=Z,9.2nm,1.0s,mb5.3						
DAC	Darwin (Calif)	97.70	45	P	P	01 29 34.7	+0.8
DAC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.2						
TBI	Tubuai	97.80	112	eSKSac		01 40 09.6	
TBI				eSS	SS	01 47 36.2	-3.2
TBI				eLR	LR	02 01 05.7	
	comp=Z,820nm,30.5s,baz=283						
HWUT	Hardware Ranch	97.94	38	eP	P	01 29 35.9	+1.0
	comp=Z,8.7nm,1.0s,mb5.2						
DUG	Dugway	98.16	39	eP	P	01 29 36.0	+0.1
	comp=Z,16nm,1.5s,mb5.3						
DUG	Dugway	98.16	39	P	P	01 29 38.6	+2.7
DUG				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.4						
PDAR	Pinedale Array	98.25	36	P	P	01 29 36.1	-0.1
	comp=Z,1.5nm,0.8s,mb4.6,baz=32,slow=1.0,SNR=12						
PDAR				LR	LR	02 19 35.4	
	comp=Z,522nm,18.2s,MS5.1,baz=346,slow=39						
ULM	Lac du Bonnet	98.76	24	P	P	01 29 37.5	-0.8
	comp=Z,6.0nm,0.8s,mb5.2,baz=316,slow=5.6,SNR=12						
ULM				LR	LR	02 18 49.4	
	comp=Z,2µm,18.9s,MS5.5,baz=168,slow=38						
ULM	Lac du Bonnet	98.76	24	eP	P	01 29 37.3	-1.0
	comp=Z,12nm,1.0s,mb5.4						
ESDC	Sonseca Array	99.14	321	PP	PP	01 33 45.3	-0.1
	comp=Z,1.7nm,0.8s,baz=46,slow=7.8,SNR=4.2						
LSZ	Lusaka	99.62	258	ePdif	P	01 29 41.4	-1.6
	comp=Z,10nm,1.0s,mb5.2						
MSU	Marysvale	99.64	40	ePdif	P	01 29 44.1	+1.4
MSU	Marysvale	99.64	40	P	P	01 29 44.3	+1.7
NEN	Nelson	99.84	44	Pdif	P	01 29 44.7	+1.1
SRU	San Rafael	100.20	39	ePdif	P	01 29 45.3	+0.1
SRU	San Rafael	100.20	39	P	P	01 29 46.3	+1.1
TAOE	Nuku Hiva Isla	100.53	95	eLR	LR	02 02 41.2	
	comp=Z,3µm,21.2s						
SCHQ	Schefferville	101.11	5	P	P	01 29 47.1	-1.8
	comp=Z,9.3nm,0.9s,baz=14,slow=4.1,SNR=7.6						
EVO	Evora	102.22	322	eP	Pdif	01 29 54.4	+0.1
	comp=Z,31nm,1.3s						
EVO				eR			
	comp=Z,8µm,18.8s						
VNDA	Vanda	103.99	172	PKiKP		01 34 17.2	
	comp=Z,2.9nm,1.1s,baz=287,slow=1.3,SNR=3.2						
VNDA				PKKPbc		01 45 52.1	
	comp=Z,2.4nm,0.9s,baz=181,slow=1.7,SNR=14						
MNTX	Cornudas Mount	108.34	41	ePKiKP		01 34 28.1	
SYO	Syowa Base	109.56	202	⇓PP	PP	01 35 04.5	+1.1
RKT	Rikitea	110.21	107	ePS	PS	01 44 32.5	-0.2
RKT	Rikitea	110.21	107	eSKSac		01 41 07.3	
RKT				eSS	SS	01 50 31.4	+1.4
RKT				eLR	LR	02 06 29.3	
	comp=Z,1µm,23.5s,baz=299						
TXAR	Lajitas Array	111.06	42	PKiKP		01 34 33.5	
	comp=Z,1.1nm,0.5s,baz=200,slow=1.1,SNR=21						
DBIC	Dimbokro	120.02	294	PKP	PKPdf	01 34 49.7	+0.6
	comp=Z,3.2nm,0.5s,baz=93,slow=1.5,SNR=9.8						
DBIC	Dimbokro	120.02	294	PKP	PKPdf	01 34 49.7	+0.6
LIC	Lamto	120.40	293	ePKIKP	PKPdf	01 34 49.3	-0.6
	comp=Z,24nm,1.0s						
SNAA	Sanae	123.35	198	e	PKPdf	01 35 16.6	+22
SNAA	Sanae	123.35	198	PKP	PKPdf	01 34 53.9	-0.4
	comp=Z,0.6nm,0.8s,baz=88,slow=8.1,SNR=7.3						
SNAA	Sanae	123.35	198	ePKPdf	PKPdf	01 34 54.1	-0.2
SNAA	Sanae	123.35	198	⇑iPKIKP	PKPdf	01 34 55.5	+1.2
VNA2	Neumayer--Watz	125.00	198	e	PKPdf	01 34 59.5	+2.2
VNA2	Neumayer--Watz	125.00	198	e	PKPdf	01 35 17.4	+20
VNA1	Neumayer--Stat	125.39	198	e	PKPdf	01 35 00.4	+2.3
VNA1	Neumayer--Stat	125.39	198	e	PKPdf	01 35 16.3	+18
VNA3	Neumayer Olymp	125.46	197	e	PKPdf	01 35 00.0	+1.8
VNA3	Neumayer Olymp	125.46	197	e	PKPdf	01 35 15.9	+18
SJG	San Juan	137.36	12	PKP	PKPdf	01 35 23.3	+1.3
	comp=Z,2.5nm,0.3s,baz=245,slow=19,SNR=3.7						
SJG				SKPbc		01 38 54.1	
	comp=Z,1.7nm,0.3s,baz=84,slow=9.2,SNR=3.1						
TPR	Prospect	144.91	5	eP	PKPdf	01 35 36.7	+1.2
BOT	Bacolet	144.93	5	eP	PKPdf	01 35 36.7	+1.1
SDV	Santo Domingo	145.00	22	PKP	PKPdf	01 35 36.5	+0.8
	comp=Z,76nm,0.7s,baz=350,slow=1.8,SNR=51						
SDV	Santo Domingo	145.00	22	ePKPdf	PKPdf	01 35 36.3	+0.6
TRN	Trinidad (W)	145.38	6	eP	PKPdf	01 35 37.3	+0.9
TBH	Brigand Hill	145.58	6	eP	PKPdf	01 35 39.0	+2.3
ROSC	El Rosal	147.12	31	PKPbc	PKPdf	01 35 43.5	+4.2
	comp=Z,15nm,0.7s,baz=276,slow=21,SNR=32						
USHA	Ushuaia	148.22	168	PKPbc	PKPdf	01 35 45.5	+5.7
	comp=Z,16nm,0.9s,baz=26,slow=3.3,SNR=5.6						
RCBR	Riachuelo	152.22	307	ePKPbc	PKPdf	01 35 55.8	+8.5
PLCA	Paso Flores	160.20	150	PKPdf	PKPdf	01 35 56.9	+0.2
BAO	Brasilia Array	167.55	310	PKPdf	PKPdf	01 36 03.0	-1.2
BDFB	Brasilia	167.57	310	PKP	PKPdf	01 36 05.8	+1.6
	comp=Z,4.7nm,0.9s,baz=47,slow=2.6,SNR=4.3						
BDFB				PKPab	PKPab	01 37 11.0	-1.1
	comp=Z,4.9nm,0.7s,baz=55,slow=6.7,SNR=5.4						
BDFB				PP	PP	01 40 59.5	-2.2
	comp=Z,2.8nm,0.9s,baz=22,slow=10,SNR=3.1						
LPAZ	La Paz	167.66	53	PKP	PKPdf	01 36 08.0	+3.8
	comp=Z,15nm,1.2s,baz=19,slow=3.4,SNR=34						
LPAZ				PKPab	PKPab	01 37 11.6	-1.0
	comp=Z,5.6nm,0.8s,baz=310,slow=3.2,SNR=5.9						
LPAZ				PP	PP	01 41 05.5	+3.3
	comp=Z,2.2nm,1.0s,baz=44,slow=13,SNR=4.0						
LPAZ	La Paz	167.66	53	ePKPdf	PKPdf	01 36 08.1	+3.8
CFAA	Coronel Fontan	168.09	132	PKP	PKPdf	01 36 05.5	+1.4
	comp=Z,0.2nm,0.3s,baz=66,slow=20,SNR=3.1						
CFAA				PKPab	PKPab	01 37 13.4	-0.7
	comp=Z,0.4nm,0.7s,baz=234,slow=3.7,SNR=3.3						
LVC	Limon Verde	169.73	84	PKP	PKPdf	01 36 07.7	+2.3
	comp=Z,1.1nm,0.5s,baz=196,slow=3.3,SNR=4.9						
LVC				PKPab	PKPab	01 37 22.4	+0.8
	comp=Z,4.1nm,0.9s,baz=241,slow=8.6,SNR=2.3						
LVC	Limon Verde	169.73	84	ePKPdf	PKPdf	01 36 09.3	+4.0
SIV	San Ignacio	171.47	21	PKP	PKPdf	01 36 08.6	+2.1
	comp=Z,4.5nm,0.9s,baz=346,slow=2.9,SNR=15						
SIV				PKPab	PKPab	01 37 27.8	-1.6
	comp=Z,7.0nm,0.8s,baz=359,slow=3.5,SNR=11						
SIV				PP	PP	01 41 18.0	-3.2
	comp=Z,2.8nm,1.1s,baz=357,slow=6.9,SNR=6.4						
CPUP	Villa Florida	177.64	191	PKP	PKPdf	01 36 09.2	+1.0
	comp=Z,2.0nm,0.9s,baz=61,slow=4.6,SNR=4.2						
CPUP				PKPab	PKPab	01 37 54.9	-1.6
	comp=Z,1.3nm,0.7s,baz=194,slow=11,SNR=2.2						
CPUP	Villa Florida	177.64	191	PKP	PKPdf	01 36 09.2	+1.0
CPUP				PKPab	PKPab	01 37 54.9	-1.6

CASC 06 02:56:41.6±1.3**, 13.51N**×**90.75W, h33**km±28km**, MD3.6, 2C-1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.72	24	⇑eP	P	02 56 55.6	+0.3
IXG				eS	S	02 57 06.9	+1.6
RTR	El Retiro	1.14	70	eP	P	02 57 23.6	+22
RTR				eS	S	02 57 38.3	+22
SNJE	San Jose	1.17	72	eP	P	02 57 23.6	+22
SNJE				eS	S	02 57 39.8	+23
TP2	Tecpan 2	1.29	348	⇓eP	P	02 57 04.1	+0.6
TP2				eS	S	02 57 21.6	+1.7
BOQS	Boqueron	1.45	81	⇑eP	P	02 57 29.0	+23
BOQS				eS	S	02 57 47.6	+24
LFRS	El Faro	1.65	86	eP	P	02 57 30.3	+22
LFRS				eS	S	02 57 51.5	+23
LCBS	La Ceiba	1.73	85	eP	P	02 57 31.9	+22
LCBS				eS	S	02 57 54.6	+24

*IDC **06** 03:03:03.4±0.7, 41.84S×84.21W, mb4.1/12, mb1 4.2/13, mb1mx4.2/19, mbtmp4.1/13, MS3.9/4, Ms1 3.9/4, ms1mx3.6/20, Error ellipse: s-maj=27.4km s-min=17.3km az=97.0*

*BJI **06** 03:03:05.8, 41.80S×84.20W, h10km, mB5.0, Ms5.2, Msz4.9*

*NEIC **06** 03:03:05.8±0.3, 41.81S×84.19W, h10km, mb4.5/8, Error ellipse: s-maj=10.1km s-min=7.5km az=96.0*

ISC 06 03:03:04.5±0.5**, 41.81S**±0.07×**84.2W**±0.1**, h10**km**, (h7**km±.5km**:pP-P), n37,** σ1s**01**/32**, mb4.2**/17**, MS4.1**/3**, 4D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	16.32	57	Pn	P	03 06 55.9	+0.7
	0.1nm,0.3s,baz=216,slow=13,SNR=5.7						
CFAA				LR	LR	03 12 21.9	
	comp=Z,64nm,18.7s,baz=3.4,slow=34						
CFAA	Coronel Fontan	16.32	57	Pn	P	03 06 55.9	+0.7
CFAA				LR	LR	03 12 21.9	
TRQA	Tornquist	17.42	85	eP	P	03 07 09.5	+0.5
	37nm,1.7s						
LVC	Limon Verde	23.02	38	P	P	03 08 12.2	+1.6
	8.4nm,1.1s,mb4.1,baz=217,slow=6.7,SNR=4.1						
LVC				LR	LR	03 15 24.8	
	comp=Z,224nm,20.1s,MS3.6,baz=49,slow=32						
LVC	Limon Verde	23.02	38	eP	P	03 08 12.0	+1.4
	53nm,1.8s,mb4.7						
CPUP	Villa Florida	26.92	64	P	P	03 08 46.1	-1.6
	3.5nm,1.2s,mb3.8,baz=264,slow=9.2,SNR=2.8						
LPAZ	La Paz	28.94	33	P	P	03 09 06.1	+0.1
	1.6nm,1.0s,mb3.7,baz=183,slow=6.1,SNR=4.7						
LPAZ	La Paz	28.94	33	eP	P	03 09 05.9	-0.1
	9.8nm,1.5s,mb4.3						
SIV	San Ignacio	32.52	45	P	P	03 09 36.2	-1.5
	3.2nm,0.9s,mb4.2,baz=225,slow=10.0,SNR=13						
BDFB	Brasilia	40.58	61	LR	LR	03 27 30.2	
	comp=Z,452nm,18.6s,MS4.3,baz=40,slow=36						
VNA3	Neumayer Olymp	46.13	154	e	P	03 11 32.2	+2.1
VNA3	Neumayer Olymp	46.13	154	⇓iP	P	03 11 30.2	+0.1
VNA3				e	pP	03 11 32.2	-1.0
VNA3				e		03 13 04.5	
VNA1	Neumayer--Stat	46.62	154	e	P	03 11 35.8	+1.8
VNA1	Neumayer--Stat	46.62	154	⇓iP	P	03 11 34.1	+0.1
VNA1				e	pP	03 11 35.8	-1.3
VNA1				e		03 13 06.3	
VNA2	Neumayer--Watz	46.89	154	e	P	03 11 38.1	+2.0
VNA2	Neumayer--Watz	46.89	154	⇓iP	P	03 11 36.3	+0.2
VNA2				e	pP	03 11 38.1	-1.1
VNA2				e		03 13 07.1	
ROSC	El Rosal	47.30	13	P	P	03 11 39.1	-1.1
	0.9nm,0.4s,mb4.1,baz=105,slow=20,SNR=1.9						
ROSC				LR	LR	03 28 41.0	
	comp=Z,253nm,19.0s,MS4.2,baz=225,slow=32						
SNAA	Sanae	48.27	155	e	P	03 11 48.8	+1.8
SNAA	Sanae	48.27	155	P	P	03 11 45.8	-1.2
	1.1nm,0.9s,mb3.9,baz=265,slow=6.3,SNR=10						
SNAA	Sanae	48.27	155	⇓iP	P	03 11 46.3	-0.7
SNAA				e	pP	03 11 48.8	-1.2
SNAA				e		03 13 11.7	
VNDA	Vanda	54.40	194	P	P	03 12 32.4	-0.8
	0.9nm,0.9s,mb3.7,baz=97,slow=8.1,SNR=3.3						
MAW	Mawson	68.10	167	P	P	03 14 04.3	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.7nm,0.8s,mb4.1,baz=215,slow=8.7,SNR=6.1						
TXAR	Lajitas Array	73.04	342	P	P	03 14 35.5	-1.0
	1.6nm,1.0s,mb3.9,baz=164,slow=8.4,SNR=12						
TXAR	Lajitas Array	73.04	342	P	P	03 14 35.5	-1.0
BOSA	Boshof	84.39	124	P	P	03 15 37.4	-0.9
	8.2nm,1.0s,mb4.8,baz=231,slow=4.3,SNR=5.7						
DUG	Dugway	85.66	338	eP	P	03 15 44.7	+0.4
	2.4nm,0.9s,mb4.4						
NVAR	Mina Array Bea	85.70	334	P	P	03 15 45.1	+0.6
	2.3nm,0.9s,mb4.4,baz=172,slow=6.4,SNR=14						
HWUT	Hardware Ranch	86.65	340	eP	P	03 15 50.2	+1.1
	4.1nm,1.1s,mb4.6						
ELK	Elko	86.86	337	eP	P	03 15 50.7	+0.5
	3.3nm,1.0s,mb4.5						
PDAR	Pinedale Array	87.25	342	P	P	03 15 51.2	-0.8
	1.7nm,0.9s,mb4.3,baz=145,slow=5.0,SNR=14						
HLID	Hailey	89.23	339	eP	P	03 16 02.1	+0.6
	4.7nm,0.9s,mb4.8						
MCMT	McKenzie Canyo	89.99	340	eP	P	03 16 05.9	+0.8
BOZ	Bozeman (W)	90.46	341	P	P	03 16 07.0	-0.2
	0.8nm,0.7s,mb4.2						
ILAR	Eielson Array	116.95	335	PKP	PKPdf	03 21 47.1	-4.6
	0.4nm,0.9s,baz=173,slow=4.0,SNR=4.0						
GERES	GERESS Array B	124.49	53	PKP	PKPdf	03 22 02.6	-4.1
	0.8nm,0.9s,baz=225,slow=1.9,SNR=4.9						
HHC	Hu-ho-hao-te	168.13	271	ePKP	PKPdf	03 23 09.0	-4.4
HHC				APKP		03 23 19.6	
HHC				PKP2	PKPab	03 24 18.6	-1.9
HHC				PKS	PKS	03 26 40.6	-1.2
HHC				PP	PP	03 28 09.8	-0.4
HHC				SKS	SKS	03 30 08.7	-7.9
HHC				PP	PP		
	comp=Z,202nm,9.4s						
HHC				LR	LR		
	comp=N,333nm,21.6s						
HHC				LR	LR		
	comp=E,379nm,24.7s						
HHC				LR	LR		
	comp=Z,350nm,24.7s						
MKAR	Makanchi Array	169.10	58	PKPab	PKPab	03 24 23.2	-1.4
	comp=Z,0.7nm,0.7s,baz=288,slow=3.8,SNR=5.6						

*CSEM **06** 03:37:26.4±0.7,38.56N×28.52W,h13km±7km,ML1.3, Error ellipse: s-maj=8.1km s-min=3.3km az=26.0,After PDA*
*PDA **06** 03:37:26.4±0.7,38.56N×28.52W,h13km±7km,MD2.7, ML1.3,Error ellipse: s-maj=8.1km s-min=3.3km az=26.0*
SVSA 06 03:37:26.4±0.7**,38.56N**×**28.52W,h13**km±7km**,MD2.7, ML1.3,Error ellipse: s-maj=8.1km s-min=3.3km az=26.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	Horta	0.09	249	eP	Pg	03 37 29.1	-0.3
HOR				eS	Sg	03 37 30.7	-0.7
PICO	Pico	0.09	129	eP	Pg	03 37 29.0	-0.4
PICO				eS	Sg	03 37 31.2	-0.3
CALA	Caldeira	0.14	279	eP	Pg	03 37 29.8	-0.4
CALA				eS	Sg	03 37 32.2	-0.5
PCED	Cedros	0.16	296	eP	Pg	03 37 29.5	-0.9
PCED				eS	Sg	03 37 32.4	-0.6
	13nm,0.2s						
PMAN	Manadas	0.34	78	erx		03 37 37.9	

JMA 06 03:40:40.2±0.2**,43.15N**×**146.87E,h53**km±3km**,M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.85	285	P	P	03 40 56.3	+0.2
NEM2				eS	S	03 41 08.1	+0.1
JRA	Rausu	1.50	302	P	P	03 41 05.2	0.0
JRA				eS	S	03 41 24.1	+0.3
JAK	Akkeshi	1.60	265	P	P	03 41 06.8	+0.1
JAK				eS	S	03 41 26.1	-0.2
JNK	Nakash	1.63	286	P	P	03 41 06.8	-0.3
JNK				eS	S	03 41 26.6	-0.4
JOB	Onbets	2.24	265	P	P	03 41 15.8	+0.1
JOB				eS	S	03 41 41.5	-0.6
JAR	Ashorobuto	2.27	275	P	P	03 41 16.2	+0.1
JAR				eS	S	03 41 42.9	0.0
JTKR	Abashiri--Toko	2.30	292	P	P	03 41 17.1	+0.5
JCH	Churui	2.63	259	P	P	03 41 21.1	-0.2
JCH				eS	S	03 41 50.9	-1.2
JMP	Maruseppu	2.69	290	P	P	03 41 22.6	+0.5
JKK2	Kamakawa 2	3.08	285	P	P	03 41 28.1	+0.4
JFR	Furan	3.13	272	eS	S	03 42 04.3	-0.4
JNBK	Urakawa-nobuka	3.16	255	P	P	03 41 28.5	-0.2

IDC 06 04:14:16.1±14.0**,23.27S**×**179.93E,h564**km±183km**, mb3.3**/5**,mb1 3.5**/5**,mb1mx3.2**/14**,mbtmp4.3**/5**,Error ellipse: s-maj=99.4km s-min=62.2km az=164.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.41	269	P	P	04 19 52.4	-0.8
	6.6nm,0.5s,baz=96,slow=11,SNR=12						
STKA	Stephens Creek	34.90	247	P	P	04 20 20.9	-1.4
	2.4nm,0.9s,baz=75,slow=8.0,SNR=4.7						
WRA	Warramunga Arr	42.39	265	P	P	04 21 21.1	-2.1
	1.1nm,0.3s,baz=101,slow=8.3,SNR=73						
FITZ	Fitzroy Crossi	50.81	265	P	P	04 22 26.0	-1.2
	3.6nm,0.6s,baz=78,slow=3.5,SNR=5.5						
TXAR	Lajitas Array	90.15	58	P	P	04 26 17.0	-1.0
	0.2nm,0.7s,baz=229,slow=9.6,SNR=4.2						
HFS	Hagfors	141.92	349	PKhKP		04 32 38.6	
	0.5nm,0.3s,baz=56,slow=5.2,SNR=8.2						

IDC 06 04:23:36.6±11.0**,20.58S**×**178.97W,h645**km±152km**, mb3.1**/5**,mb1 3.3**/5**,mb1mx3.0**/14**,mbtmp4.2**/5**,Error ellipse: s-maj=115.5km s-min=53.0km az=166.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.58	265	P	P	04 29 18.4	-1.0
	3.3nm,0.5s,baz=88,slow=9.3,SNR=6.8						
STKA	Stephens Creek	36.94	244	P	P	04 29 53.8	-1.5
	1.3nm,0.5s,baz=86,slow=12,SNR=4.0						
WRA	Warramunga Arr	43.69	262	P	P	04 30 47.0	-2.1
	2.7nm,0.5s,baz=96,slow=8.4,SNR=22						
FITZ	Fitzroy Crossi	52.12	263	P	P	04 31 50.0	-1.7
	3.3nm,0.5s,baz=129,slow=6.5,SNR=12						
TXAR	Lajitas Array	87.86	58	P	P	04 35 19.8	-1.1
	0.4nm,0.8s,baz=233,slow=6.3,SNR=5.6						
AKASG	Malin Array Be	142.63	330	PKhKP		04 41 54.1	
	0.9nm,0.5s,baz=40,slow=4.2,SNR=9.5						

*NEIC **06** 04:26:33.0±0.4,21.51S×68.36W,mb4.2/10,Error ellipse: s-maj=12.4km s-min=8.9km az=91.0*
*IDC **06** 04:26:32.1±0.9,21.43S×68.45W,h103km±8km,mb3.9/9, mb1 4.1/13,mb1mx3.9/19,mbtmp4.2/13,MS3.2/1, Ms1 3.1/1,ms1mx2.4/16,Error ellipse: s-maj=17.4km s-min=12.3km az=103.0*
*GUC **06** 04:26:33.0±0.6,21.99S×68.45W,h144km±4km,ML4.1*
ISC 06 04:26:31.8±0.3**,21.57S**±0.04×**68.56W**±0.07**,h118**km**, h118**km±2.1km**:pP-P,n52,**σ**1**ˢ**31**/56**,mb4.1**/15**,8C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.09	197	P	P	04 26 56.0	+1.2
	305nm,0.3s,baz=16,slow=9.7,SNR=3490						
LVC				S	S	04 27 13.6	+1.5
	202nm,0.3s,baz=274,slow=23,SNR=64						
LVC	Limon Verde	1.09	197	⇑iP	P	04 26 56.3	+1.4
LVC				i S	S	04 27 13.8	+1.7
LVC				AMP		04 27 16.2	
	comp=E,2µm,0.3s						
LVC	Limon Verde	1.09	197	eP	P	04 26 55.5	+0.7
ANCH	Antofagasta	2.71	219	⇑iP	P	04 27 15.3	+0.2
ANCH				i S	S	04 27 46.2	-1.6
CPN1	Cerro Paranal	3.49	209	eP	P	04 27 24.6	-0.9
CPN1				i S	S	04 28 03.8	-2.6
CPN1				AMP		04 28 16.5	
	comp=E,626nm,0.3s						
CRCH	Chaqaral	5.12	201	⇑iP	P	04 27 45.3	-2.2
CRCH				i S	S	04 28 40.3	-5.5
LPAZ	La Paz	5.27	4	P	P	04 27 48.9	-0.5
	comp=E,1.9nm,0.3s,baz=207,slow=4.4,SNR=52						
LPAZ	La Paz	5.27	4	eP	P	04 27 49.0	-0.4
	comp=E,31nm,0.8s						
ARE	Arequipa	5.79	331	eP	P	04 27 52.0	-4.4
ARE				eS	S	04 28 57.0	-5.1
SIV	San Ignacio	9.00	53	P	P	04 28 35.9	-4.1
	comp=E,4.8nm,0.3s,baz=244,slow=12,SNR=306						
CFAA	Coronel Fontan	10.00	178	P	P	04 28 51.1	-2.3
	comp=E,0.1nm,0.3s,baz=355,slow=14,SNR=4.5						
CFAA				S	S	04 30 35.4	-8.8
	comp=E,0.1nm,0.3s,baz=17,slow=19,SNR=3.8						
CPUP	Villa Florida	11.31	117	P	P	04 29 10.1	-0.7
	comp=E,0.1nm,0.3s,baz=309,slow=16,SNR=8.0						
CPUP	Villa Florida	11.31	117	eP	P	04 29 08.0	-2.8
SAML	Samuel	13.57	23	eP	P	04 29 35.4	-5.1
	comp=E,2.2nm,0.6s						
TRQA	Tornquist	17.39	162	eP	P	04 30 27.2	-1.2
	comp=E,11nm,1.0s						
PLCA	Paso Flores	19.18	185	P	P	04 30 48.5	-0.1
	comp=E,0.2nm,0.3s,baz=358,slow=11,SNR=8.0						
PLCA	Paso Flores	19.18	185	eP	P	04 30 48.5	-0.1
BDFB	Brasilia	20.34	77	P	P	04 30 58.5	-2.2
	comp=E,6.6nm,0.5s,baz=263,slow=11,SNR=20						
BDFB				LR	LR	04 38 23.2	
	comp=E,67nm,18.9s,baz=198,slow=35						
BAO	Brasilia Array	20.36	77	P	P	04 30 54.5	-6.4
PMSA	Palmer Station	43.29	177	eP	P	04 34 24.9	+1.8
	comp=E,4.8nm,0.6s,mb4.4						
PMSA				e		04 34 34.8	
VNA3	Neumayer Olymp	59.91	161	⇑i	P	04 36 27.8	+0.6
VNA3	Neumayer Olymp	59.91	161	e	P	04 36 29.3	+2.1
VNA1	Neumayer--Stat	60.11	160	⇑i	P	04 36 29.6	+1.0
VNA1	Neumayer--Stat	60.11	160	e	P	04 36 31.3	+2.7
VNA2	Neumayer--Watz	60.48	161	⇑i	P	04 36 31.7	+0.6
VNA2	Neumayer--Watz	60.48	161	e	P	04 36 33.5	+2.4
TXAR	Lajitas Array	60.87	325	P	P	04 36 33.0	-1.4
	comp=E,0.5nm,0.7s,mb3.7,baz=148,slow=9.5,SNR=7.1						
SNAA	Sanae	62.11	161	e	P	04 36 44.0	+1.9
SNAA	Sanae	62.11	161	P	P	04 36 42.1	0.0
	comp=E,2.5nm,0.7s,mb4.3,baz=281,slow=6.3,SNR=44						
SNAA	Sanae	62.11	161	⇑iP	P	04 36 42.3	+0.2
SNAA				e		04 36 44.0	
DBIC	Dimbokro	68.44	73	P	P	04 37 23.1	-0.5
	comp=E,5.3nm,0.7s,mb4.5,baz=169,slow=5.0,SNR=11						
SDCO	Great Sand Dun	68.47	329	eP	P	04 37 22.9	-0.4
	comp=E,5.4nm,1.1s,mb4.3						
SDCO				epP	pP	04 37 51.8	-0.8
SDCO				esP	sP	04 38 04.9	-0.5
QSPA	South Pole Qui	68.63	180	eP	P	04 37 24.3	+0.7
	comp=E,5.3nm,0.6s,mb4.5						
SRU	San Rafael	72.01	327	eP	P	04 37 44.2	-0.5
ARUT	Antelope Range	72.57	324	eP	P	04 37 45.8	-2.2
ARUT				epP	pP	04 38 17.6	0.0
DUG	Dugway	73.99	326	eP	P	04 37 56.9	+0.7
	comp=E,8.0nm,1.8s,mb4.2						
PDAR	Pinedale Array	74.33	330	P	P	04 37 57.9	-0.3
	comp=E,0.4nm,0.5s,mb3.4,baz=132,slow=5.6,SNR=5.0						
HWUT	Hardware Ranch	74.41	328	eP	P	04 37 58.3	-0.3
	comp=E,2.1nm,0.6s,mb4.0						
HWUT				epP	pP	04 38 28.6	+0.1
ELK	Elko	75.66	325	P	P	04 38 06.1	+0.4
NVAR	Mina Array Bea	75.75	322	P	P	04 38 07.1	+0.8
	comp=E,0.9nm,0.9s,mb3.5,baz=172,slow=6.4,SNR=6.3						
SYO	Syowa Base	76.33	159	⇑P	P	04 38 08.4	-0.5
VNDA	Vanda	76.84	190	P	P	04 38 14.0	+2.3
	comp=E,2.2nm,0.8s,mb3.9,baz=130,slow=2.7,SNR=7.5						
VNDA	Vanda	76.84	190	eP	P	04 38 12.8	+1.2
HLID	Hailey	77.27	328	eP	P	04 38 15.6	+0.8
	comp=E,2.5nm,0.8s,mb4.0						
HLID				epP	pP	04 38 45.2	+0.5
MCMT	McKenzie Canyo	77.44	329	eP	P	04 38 16.7	+1.1
MCMT				epP	pP	04 38 45.4	-0.3
BMO	Blue Mountains	79.65	327	eP	P	04 38 28.0	+0.3
	comp=E,3.6nm,1.3s,mb4.0						
BMO				epP	pP	04 38 57.8	+0.1
MAW	Mawson	84.17	163	P	P	04 38 52.1	+1.7
	comp=E,4.9nm,0.9s,mb4.3,baz=227,slow=5.9,SNR=13						
YKA	Yellowknife Ar	91.36	340	P	P	04 39 24.8	-0.2
	comp=E,2.4nm,0.7s,mb4.5,baz=135,slow=4.4,SNR=32						
CASY	Casey	92.43	180	eP	P	04 39 32.0	+2.1
WRA	Warramunga Arr	133.06	210	PKP	PKPdf	04 45 36.1	+1.9
	comp=E,1.2nm,0.6s,baz=160,slow=1.7,SNR=21						
MKAR	Makanchi Array	145.50	36	PKPbc	PKPbc	04 45 57.5	+1.1
	comp=E,3.3nm,0.8s,baz=315,slow=3.4,SNR=24						
MKAR				pPKPbc		04 46 29.3	
	comp=E,3.6nm,0.9s,baz=333,slow=2.7,SNR=12						
SONM	Songino Array	153.48	8	PKPbc	PKPdf	04 46 18.0	+10
	comp=E,0.2nm,0.3s,baz=294,slow=1.8,SNR=4.0						

*IDC **06** 05:02:06.4±2.0,4.72S×68.91E,mb3.8/3,mb1 3.9/3, mb1mx3.6/18,mbtmp3.8/3,MS3.8/5,Ms1 3.8/5, ms1mx3.5/16,Error ellipse: s-maj=69.5km s-min=40.2km az=60.0*
ISC 06 05:02:04.9±1.3**,4.8S**±0.2×**68.8E**±0.4**,h10**km**,n12,**σ**1**ˢ**12**/7**, mb3.8**/3**,MS3.9**/5**,2C,Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	31.67	276	LR	LR	05 18 44.6	
	comp=Z,127nm,20.0s,MS3.6,baz=99,slow=31						
BOSA	Boshof	47.57	235	LR	LR	05 29 39.1	
	comp=Z,160nm,19.3s,MS4.0,baz=254,slow=35						
MKAR	Makanchi Array	52.70	12	P	P	05 11 21.0	-0.9
	0.5nm,0.6s,mb3.6,baz=180,slow=5.8,SNR=4.7						
MKAR				LR	LR	05 32 58.1	
	comp=Z,47nm,18.3s,MS3.6,baz=360,slow=35						
SONM	Songino Array	61.90	28	P	P	05 12 28.2	+1.1
	1.4nm,0.8s,mb4.2,baz=222,slow=6.1,SNR=12						
SONM				LR	LR	05 39 28.6	
	comp=Z,120nm,19.1s,MS4.1,baz=0.8,slow=36						
MAW	Mawson	62.88	183	LR	LR	05 32 36.3	
	comp=Z,114nm,22.0s,MS4.0,baz=251,slow=29						
WRA	Warramunga Arr	65.44	110	P	P	05 12 50.4	-0.3
	0.8nm,0.9s,mb3.8,baz=285,slow=6.0,SNR=4.9						
VNA2	Neumayer--Watz	81.02	199	⇑i	P	05 14 21.7	+0.6
VNA2	Neumayer--Watz	81.02	199	e	P	05 14 26.5	+5.4
VNA3	Neumayer Olymp	81.81	199	⇑i	P	05 14 23.9	-1.3
VNA3	Neumayer Olymp	81.81	199	e	P	05 14 29.4	+4.2
NVAR	Mina Array Bea	145.87	10	PKPbc	PKPbc	05 21 47.4	+2.1
	1.2nm,0.9s,slow=2.7,SNR=6.0						
TXAR	Lajitas Array	154.52	344	PKPbc	PKPdf	05 22 11.3	+10
	0.1nm,0.4s,baz=63,slow=2.0,SNR=2.2						
TXAR				PKPab	PKPab	05 22 22.4	-0.9
	0.5nm,0.9s,baz=45,slow=3.5,SNR=4.6						

*IDC **06** 05:15:39.4±1.5,24.42N×127.53E,mb3.6/3,mb1 3.8/4, mb1mx3.6/19,mbtmp3.7/4,ML3.3/1,Error ellipse: s-maj=57.1km s-min=24.0km az=78.0*
*JMA **06** 05:15:42.5±0.3,24.53N×127.33E,h75km,M3.3*
ISC 06 05:15:41.5±0.8**,24.48N**±0.05×**127.37E**±0.05**,h33**km**,n14,** σ**1**ˢ**06**/24**,mb3.3**/3**,Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	1.69	12	P	P	05 16 09.8	+0.8
JJT2				eS	S	05 16 31.5	+1.8
JOGS	Gusukube	1.81	279	P	P	05 16 11.8	+1.0
JOGS				eS	S	05 16 33.1	+0.4
JKE	Kume jima 2	1.91	344	P	P	05 16 13.1	+0.8
JKE				eS	S	05 16 35.2	-0.2
JMJ	Miyako jima 2	1.92	280	P	P	05 16 13.1	+0.8
JMJ				eS	S	05 16 35.3	-0.2
JTJ	Tarama	2.43	274	P	P	05 16 19.7	0.0
JTJ				eS	S	05 16 46.7	-1.9
JOW	Kunigami	2.48	19	Pn	Pn	05 16 20.6	0.0
	11nm,0.3s,baz=140,slow=23,SNR=9.5						
JOW				Sn	Sn	05 16 49.0	-1.1
	22nm,0.3s,baz=139,slow=19,SNR=3.8						
JOW	Kunigami	2.48	19	P	P	05 16 21.1	+0.7
JOW				eS	S	05 16 49.3	-0.5
JIH	Iheya	2.60	12	eS	S	05 16 51.7	-1.2
JIJ	Ishigaki jima	2.94	268	P	P	05 16 26.9	-0.1
JIJ				eS	S	05 16 57.6	-4.0
JKRS	Kuro-shima	3.07	266	P	P	05 16 28.8	-0.1
JKRS				eS	S	05 17 01.4	-3.5
JMZ	Minamidaito 2	3.74	68	P	P	05 16 35.5	-2.8
JMZ				eS	S	05 17 14.4	-7.3
SONM	Songino Array	28.63	330	P	P	05 21 40.7	+3.7
	0.2nm,0.4s,mb3.2,baz=141,slow=9.2,SNR=5.0						
MKAR	Makanchi Array	42.14	314	P	P	05 23 33.3	+0.9
	0.2nm,0.3s,mb3.3,baz=98,slow=10,SNR=4.4						
WRA	Warramunga Arr	44.67	171	P	P	05 23 53.4	+0.2
	0.6nm,0.7s,mb3.6,baz=352,slow=8.6,SNR=11						

*NEIC **06** 05:24:04.3,62.32N×141.63W,h9km,ML2.9(AEIC),After AEIC.*
PGC 06 05:24:02.6,62.28N×**141.57W,h1**km**,ML3.0**/2**, ML2.9**/20(AEIC)**,225km southwest of Dawson, Yt Eastern Alaska.,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	Mentasta	1.20	305	P	Pb	05 24 24.3	-1.4
MENT				S	Sb	05 24 41.2	-0.3
BALM	Baldy	1.30	197	P	Pb	05 24 25.7	-1.8
CTGM	Chitina Glacie	1.32	175	P	Pb	05 24 26.1	-1.8
WACK	Wrangell Chich	1.33	258	P	Pb	05 24 26.9	-1.2
WACK				S	Sb	05 24 44.8	-0.7
GLB	Gilahina Butte	1.35	233	P	Pb	05 24 26.6	-1.8
GLB				S	Sb	05 24 44.2	-2.0
TZL	Tazlina	1.83	264	P	Pn	05 24 35.6	+0.3
TZL				Trac			
YAH	Yahtse	1.92	183	P	Pn	05 24 37.0	+0.2
PAX	Paxson	1.93	293	P	Pn	05 24 36.2	-0.7
PAX				Trac			
WAX	Waxell Ridge	1.94	199	P	Pn	05 24 37.2	+0.3
BMRM	Bremner River	1.96	229	P	Pn	05 24 36.5	-0.8
BMRM				S	Sn	05 25 01.8	-1.1
BMRM				Trac			
KLU	Klutina	2.21	251	P	Pn	05 24 40.6	-0.3
THY	Trims Highway	2.23	303	P	Pn	05 24 41.0	-0.2
THY				Trac			
DIV	Divide	2.31	242	P	Pn	05 24 42.7	+0.4
DIV				Trac			
HYT	Haines Junctio	2.43	125	Pn	Pn	05 24 42.5	-1.5
HYT				Pg	Pg	05 24 48.4	-2.8
HYT				Sg	Sg	05 25 20.4	-3.1
HYT				Trac		05 25 25.3	
	comp=Z,31nm,0.2s						
EYAK	Cordova Ski Ar	2.66	231	P	Pn	05 24 46.9	-0.4
SML	Sawmill	3.22	265	P	Pn	05 24 55.2	-0.2
IL1	Eielson Array	3.46	319	P	Pn	05 24 55.9	-2.8
IL1				Trac			
WHY	Whitehorse	3.59	114	Pn	Pn	05 24 59.0	-1.6
WHY				Pg	Pg	05 25 07.2	-7.1
WHY				Sg	Sg	05 25 53.8	-8.5
WHY				Trac		05 26 01.1	
	comp=Z,20nm,0.2s						
WHY	Whitehorse	3.59	114	P	Pn	05 24 59.0	-1.6
MCK	McKinley	3.66	297	P	Pn	05 25 01.4	-0.2
MCK				Trac			
CCB	Clear Creek Bu	3.67	313	P	Pn	05 24 58.5	-3.3
CCB				Trac			
MDM	Murphy Dome	4.01	315	P	Pn	05 25 03.1	-3.4
MDM				Trac			
BM3	Burnt Mountain	5.32	347	P	Pn	05 25 23.4	-1.7
COLD	Coldfoot	6.19	327	P	Pn	05 25 34.8	-2.5
IM3	Indian Mountai	6.50	310	P	Pn	05 25 38.3	-3.3
DLBC	Dease Lake	6.90	119	Pg	Pg	05 26 09.3	-11
DLBC				Sg	Sg	05 27 37.4	-15
DLBC				Trac		05 27 50.0	
	comp=Z,4.0nm,0.4s						
INK	Inuvik	6.92	26	Pn	Pn	05 25 42.9	-4.8
INK				Sn	Sn	05 26 59.3	-8.8
INK				Trac		05 27 56.0	
	comp=Z,5.0nm,0.7s						

*CSEM **06** 05:38:28.9±0.1,36.65N×5.17E,h2km,ML3.5/7,Error ellipse: s-maj=2.4km s-min=1.9km az=11.0*
*CRAAG **06** 05:38:29.7,36.52N×5.15E,Ml4.2*
*NEIC **06** 05:38:30.6±0.4,36.60N×5.28E,h10km,ML4.2(ALG), Error ellipse: s-maj=5.7km s-min=4.1km az=214.0*
*MDD **06** 05:38:31.6±0.4,36.64N×5.18E,mb4.5/21,Error ellipse: s-maj=7.9km s-min=3.9km az=25.0,PRXIMO DATOS INTENSIDAD: CRAAG*
MDD EMS: IV BOUANDAS BOUSSELAM CAID.
*LDG **06** 05:38:32.5±0.3,36.62N×5.35E,h10km,Ml3.5/10,Error ellipse: s-maj=6.9km s-min=3.8km az=143.0*
*SFS **06** 05:38:32.0,36.68N×5.16E*
ISC 06 05:38:30.4±0.4**,36.84N**±0.03×**5.20E**±0.03**,h10**km**,n76,** σ**1**ˢ**40**/104**,2C-1D,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	Djebel Bou Aff	0.62	118	P	Pg	05 38 42.0	-0.9
SET	Setif	0.66	166	P	Pb	05 38 38.0	-5.5
CKHR	Kef el Ahmar	0.86	163	P	Pb	05 38 42.0	-5.0
CASM	Ain Smara	1.19	119	P	Pb	05 38 52.0	-0.6
CTEI	Djebel Teioual	1.25	128	P	Pb	05 38 52.0	-1.6
CKFL	Kef-Lekhel	1.30	109	P	Pb	05 38 55.0	+0.5
CAEH	'Ain El Ouahch	1.33	92	P	Pb	05 38 57.0	+2.0
CMER	Merouana	1.34	155	P	Pb	05 38 47.0	-8.2
ABA	Alger-Bouzarea	1.74	269	P	Pn	05 39 00.0	-0.9
CMAH	Djebel Manchou	1.80	96	P	Pn	05 38 58.0	-3.8
EMHD	Djebel Mahouad	1.92	251	P	Pn	05 39 02.0	-1.5
ABSA	Djebel Ababsia	1.92	106	P	Pn	05 38 58.0	-5.5
EBNR	Beni Rached	3.00	261	P	Pn	05 39 24.8	+5.8
MAHO	Mahon	3.14	347	P	Pn	05 39 22.7	+1.8
MAHO				S	Sn	05 40 01.0	+2.2
MAHO	Mahon	3.14	347	i P	Pn	05 39 22.7	+1.8
MAHO				eS	Sn	05 40 01.0	+2.2
ECHA	Ech Chlef	3.16	259	P	Pn	05 39 21.0	-0.3
ECHF	Ech Chlef	3.18	259	P	Pn	05 39 21.0	-0.6
EANR	'Ain N'Sour	3.42	256	P	Pn	05 39 25.0	0.0
ETOS	Mallorca	3.47	328	⇓P	Pn	05 39 28.2	+2.5
	54nm,0.5s,SNR=18						
ETOS				S	Sn	05 40 08.3	+1.0
	38nm,0.5s,SNR=5.0						
ETOS				T		05 41 55.5	
	SNR=7.9						
ETOS	Mallorca	3.47	328	P	Pn	05 39 28.2	+2.5
	54nm,0.5s,SNR=18						
ETOS				S	Sn	05 40 08.3	+1.0
	38nm,0.5s,SNR=5.0						
EIBI	Ibiza	3.75	307	P	Pn	05 39 31.3	+1.7
	11nm,0.3s,SNR=17						
EIBI				S	Sn	05 40 15.2	+0.9
	9.7nm,0.3s						
EIBI	Ibiza	3.75	307	P	Pn	05 39 31.3	+1.7
	11nm,0.3s,SNR=17						
EIBI				S	Sn	05 40 15.2	+0.9
	9.7nm,0.3s						
EBEN	Beniarda	4.68	295	⇑P	Pn	05 39 43.2	+0.4
	14nm,0.4s,SNR=9.7						
EBEN				S	Sn	05 40 35.7	-2.2
	8.0nm,0.4s						
EBEN	Beniarda	4.68	295	P	Pn	05 39 43.2	+0.3
	14nm,0.4s,SNR=9.7						
EBEN				S	Sn	05 40 35.7	-2.2
	8.0nm,0.4s						
EMUR	La Murta	5.23	283	P	Pn	05 39 50.1	-0.4
	13nm,0.4s,SNR=7.9						
EMUR	La Murta	5.23	283	P	Pn	05 39 50.1	-0.5
	13nm,0.4s,SNR=7.9						
EPOB	Poblet	5.53	326	P	Pn	05 39 56.3	+1.5
	4.1nm,0.3s,SNR=9.8						
EPOB				S	Sn	05 40 57.1	-2.1
	5.7nm,0.4s						
EPOB	Poblet	5.53	326	P	Pn	05 39 56.3	+1.5
	4.1nm,0.3s,SNR=9.8						
ECHE	Chera	5.58	301	⇑P	Pn	05 39 56.9	+1.4
	4.5nm,0.2s,SNR=16						
ERTA	Horta de San J	5.59	319	P	Pn	05 39 57.2	+1.5
	3.7nm,0.4s,SNR=7.9						
ERTA				S	Sn	05 40 59.7	-1.2
	2.0nm,0.3s,SNR=7.9						
ERTA	Horta de San J	5.59	319	P	Pn	05 39 57.2	+1.5
	3.7nm,0.4s,SNR=7.9						
ETOB	Tobarra	5.64	291	P	Pn	05 39 56.8	+0.4
	9.9nm,0.4s,SNR=15						
ETOB				S	Sn	05 40 59.4	-2.6
	6.6nm,0.5s						
ETOB	Tobarra	5.64	291	P	Pn	05 39 56.8	+0.4
	9.9nm,0.4s,SNR=15						
EMOS	Mosqueruela	5.67	310	P	Pn	05 39 57.7	+1.0
	7.1nm,0.5s,SNR=7.7						
EMOS				S	Sn	05 40 59.8	-2.9
	1.3nm,0.4s						
EMOS	Mosqueruela	5.67	310	P	Pn	05 39 57.7	+1.0
	7.1nm,0.5s,SNR=7.7						
EMIR	Miracle	5.81	332	P	Pn	05 40 00.6	+1.9

	22nm,0.3s,SNR=11						
EMIR				S	Sn	05 41 06.0	-0.3
	11nm,0.3s						
EMIR	Miracle	5.81	332	P	Pn	05 40 00.6	+1.9
EMIR				S	Sn	05 41 06.0	-0.3
EMIR	Miracle	5.81	332	P	Pn	05 40 00.6	+1.8
	22nm,0.3s,SNR=11						
EJON	La Jonquera	5.88	343	P	Pn	05 40 00.1	+0.4
	8.0nm,0.5s,SNR=4.7						
EJON				S	Sn	05 41 07.2	-0.7
	8.1nm,0.4s						
EJON	La Jonquera	5.88	343	P	Pn	05 40 00.2	+0.5
EVIA	Vianos	6.36	289	P	Pn	05 40 06.5	0.0
	5.6nm,0.3s,SNR=7.9						
PGF	Pioggiola	6.41	26	ePn	Pn	05 40 06.4	-0.8
PGF				eSn	Sn	05 41 16.7	-4.6
	6.7nm,0.2s						
EBER	Berja	6.48	273	P	Pn	05 40 08.2	-0.1
	0.9nm,0.3s,SNR=7.9						
EBER	Berja	6.48	273	P	Pn	05 40 08.2	-0.1
	0.9nm,0.3s,SNR=7.9						
EGRA	Graus	6.54	326	P	Pn	05 40 11.1	+2.0
	2.9nm,0.2s,SNR=7.9						
ESAC	San Caprasio	6.56	320	P	Pn	05 40 09.7	+0.3
	14nm,0.3s,SNR=7.9						
ESAC				S	Sn	05 41 22.9	-2.2
	17nm,0.3s,SNR=7.9						
ESAC	San Caprasio	6.56	320	P	Pn	05 40 09.7	+0.3
	14nm,0.3s,SNR=7.9						
LMR	La Mourre	6.56	8	ePn	Pn	05 40 09.3	-0.1
LMR				eSn	Sn	05 41 21.2	-3.9
	9.8nm,0.3s						
EQES	Quesada	6.66	281	P	Pn	05 40 10.1	-0.7
	16nm,0.6s,SNR=7.1						
EQES				S	Sn	05 41 22.0	-5.5
	3.8nm,0.4s						
EQES	Quesada	6.66	281	P	Pn	05 40 10.1	-0.7
	16nm,0.6s,SNR=7.1						
FRF	La Foret Royal	6.80	9	ePn	Pn	05 40 12.2	-0.6
FRF				eSn	Sn	05 41 28.3	-2.8
	10nm,0.3s						
MTLF	Montolieu	6.88	342	ePn	Pn	05 40 14.8	+0.9
MTLF				eSn	Sn	05 41 31.7	-1.4
	5.0nm,0.5s						
EQUE	Quentar	6.92	276	P	Pn	05 40 14.0	-0.5
	3.2nm,0.5s,SNR=4.0						
EBIE	Bielsa	7.02	328	P	Pn	05 40 17.6	+1.8
	3.5nm,0.4s,SNR=8.5						
EBIE				S	Sn	05 41 34.9	-1.5
	1.6nm,0.5s,SNR=7.9						
EBIE	Bielsa	7.02	328	P	Pn	05 40 17.6	+1.8
	3.5nm,0.4s,SNR=8.5						
SMRF	Simiane la Rot	7.13	2	ePn	Pn	05 40 19.4	+2.0
SBF	Sospel	7.22	13	ePn	Pn	05 40 18.1	-0.5
SBF				eSn	Sn	05 41 37.0	-4.5
	9.6nm,0.3s						
EPF	Esparros	7.22	330	ePn	Pn	05 40 21.4	+2.8
EPF				eSn	Sn	05 41 40.6	-1.0
	2.5nm,0.2s						
LASF	Ste Croix	7.30	352	ePn	Pn	05 40 17.9	-1.9
ETSF	Etsaut	7.50	326	ePn	Pn	05 40 24.4	+1.9
ETSF				eSn	Sn	05 41 45.9	-2.5
	1.8nm,0.3s						
ESDC	Sonseca Array	7.74	294	P	Pn	05 40 25.4	-0.6
	2.1nm,0.3s,baz=109,slow=13,SNR=6.0						
ESDC	Sonseca Array	7.74	294	P	Pn	05 40 25.4	-0.6
	2.1nm,0.3s,SNR=6.0						
EADA	Adamuz	7.88	283	P	Pn	05 40 26.6	-1.3
	1.9nm,0.4s,SNR=4.0						
EADA	Adamuz	7.88	283	P	Pn	05 40 26.6	-1.3
	1.9nm,0.4s,SNR=4.0						
MBDF	Montbardon	7.97	8	ePn	Pn	05 40 26.6	-2.5
MBDF				eSn	Sn	05 41 56.0	-4.2
	6.1nm,0.5s						
SJPF	Ste Jean	7.97	324	ePn	Pn	05 40 31.2	+2.1
SJPF				eSn	Sn	05 41 55.8	-4.5
	2.3nm,0.3s						
EMIJ	Mijas	8.02	271	P	P	05 40 30.7	+1.0
	4.8nm,0.5s,SNR=4.0						
EMIJ	Mijas	8.02	271	P	P	05 40 31.4	+1.6
EMIJ	Mijas	8.02	271	P	P	05 40 31.4	+1.7
	4.8nm,0.5s,SNR=4.0						
VIVF	Saint-Julien-l	8.02	357	ePn	P	05 40 29.5	-0.3
VIVF				eSn	Sn	05 41 57.0	-4.5
	3.7nm,0.3s						
EALK	Alkurruntz	8.19	323	P	P	05 40 34.3	+2.2
	4.2nm,0.3s,SNR=6.5						
CAF	Calviac	8.42	345	ePn	P	05 40 35.4	0.0
EARI	Arriondas	10.26	312	P	P	05 41 01.2	+0.5
	2.6nm,0.5s,SNR=7.9						
EARI	Arriondas	10.26	312	P	P	05 41 01.2	+0.5
	2.6nm,0.5s,SNR=7.9						
ECAL	Calabor	10.54	303	P	P	05 41 04.9	+0.2
	4.7nm,0.3s,SNR=9.3						
ELOB	Lobios	11.42	300	P	P	05 41 17.0	+0.3
	2.9nm,0.8s,SNR=7.9						

*NEIC **06** 05:40:57.4, 28.87S×71.41W, h15km, ML3.4(GUC), After GUC.*

GUC 06 05:40:57.4±0.7**, 28.87S×71.41W, h15**km±9km**, MD3.9, ML3.4, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.64	63	⇓iP	Pb	05 41 09.4	-0.4
VACH				i S	Sb	05 41 18.4	+0.2
VACH				AMP		05 41 20.0	
	comp=N,8μm,0.1s						
LSCH	La Serena	1.05	172	i P	Pb	05 41 16.0	-0.7
LSCH				i S	Sb	05 41 29.6	-0.5
LSCH				AMP		05 41 31.6	
	comp=E,534nm,0.3s						
TLL	Tololo Astrono	1.40	158	eP	Pn	05 41 22.0	-0.5
TLL				i S	Sb	05 41 41.0	+0.7
TLL				AMP		05 41 44.7	
	comp=E,675nm,0.5s						
CPCH	Copiapo	1.77	32	⇑iP	Pn	05 41 24.7	-3.1
CPCH				i S	Sn	05 41 47.9	-2.2
CPCH				AMP		05 41 52.2	
	comp=N,2μm,0.1s						

*LDG **06** 05:53:01.5±0.3, 13.36S×167.99E, h10km, Mb5.2/3, Error ellipse: s-maj=32.6km s-min=10.8km az=88.0*
*CSEM **06** 05:53:03.6, 13.77S×167.60E, h33km, mb5.5*
*CRAAG **06** 05:53:03.6, 13.77S×167.60E, Mb5.5*
*IDC **06** 05:53:22.7±1.5, 13.66S×167.30E, h175km±12km, mb4.4/19, mb1 4.6/20, mb1mx4.5/21, mbtmp4.8/20, MS3.8/3, Ms1 3.7/3, ms1mx3.2/25, Error ellipse: s-maj=13.7km s-min=11.3km az=101.0*
*BJI **06** 05:53:26.3, 13.48S×167.31E, h217km, mB5.2, mb5.1*
*MOS **06** 05:53:26.7±1.2, 13.69S×167.14E, h218km, mb5.0/25, Error ellipse: s-maj=10.2km s-min=9.3km az=86.9*
*NEIC **06** 05:53:27.2±1.1, 13.73S×167.23E, h221km±10km, mb4.9/39, Error ellipse: s-maj=6.7km s-min=6.6km az=122.0*
*HRVD **06** 05:53:27.2±0.5, 13.65S×167.18E, h206km±5km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s19,c21; Mantle waves: s47,c67; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.33±.22; $M_{\theta\theta}$-0.37±.29; $M_{\phi\phi}$-2.96±.28; $M_{r\theta}$0.79±.24; $M_{\theta\phi}$1.27±.26; $M_{\phi r}$-1.91±.24; Best double couple: $M_0$3.982×10^{16} NP1: ϕ_s338°, δ29°, λ90°. NP2: ϕ_s158°, δ61°, λ90°. Principal axes: T 3.908, Plg74°, Azm67°; N .15, Plg0°, Azm158°; P -4.056, Plg16°, Azm248°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 05:53:25.8±1.2**, 13.75S**±0.05×**167.16E**±0.05**, h217**km±12km**, h209**km±7.3km**: pP-P, n291, σ0.89**/143**, mb4.8**/73**, 32C-6D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.30	185	eP	P	05 55 23.4	-0.4
DZM				eS	S	05 56 54.5	-1.5
DZM	Mont Dzumac	8.30	185	P	P	05 55 23.2	-0.6
	0.8nm,0.3s,baz=40,slow=15,SNR=17						
DZM				LR	LR	05 58 08.7	
	comp=Z,469nm,18.3s,baz=14,slow=34						
DZM	Mont Dzumac	8.30	185	eP	P	05 55 23.4	-0.4
DZM				eS	S	05 56 54.5	-1.5
NOUC	Port Laguerre	8.34	186	eP	P	05 55 24.6	+0.3
NOUC				eS	S	05 56 57.8	+0.8
NOUC	Port Laguerre	8.34	186	eP	P	05 55 24.6	+0.3
NOUC				eS	S	05 56 57.8	+0.8
PMG	Port Moresby	20.06	280	P	P	05 57 44.8	+0.7
	45nm,0.9s,baz=73,slow=9.5,SNR=7.3						
PMG	Port Moresby	20.06	280	eP	P	05 57 46.9	+2.8
	66nm,1.0s						
PMG	Port Moresby	20.06	280	eP	P	05 57 46.9	+2.8
PMG				pmax	pmax		
	comp=Z,66nm,1.0s						
AFI	Afiamalu	20.45	93	P	P	05 57 48.7	+0.8
	comp=Z,62nm,0.8s,baz=326,slow=3.6,SNR=6.2						
CTA	Charters Tower	20.96	250	eP	P	05 57 54.1	+1.1
	comp=Z,8.5nm,0.6s						
CTA				eS	S	06 01 36.3	+7.7
CTA				ePCP	PcP	06 01 53.2	+0.3
CTA	Charters Tower	20.96	250	P	P	05 57 54.5	+1.5
	comp=Z,14nm,0.6s,baz=83,slow=11,SNR=20						
CTA				PcP	PcP	06 01 53.5	+0.6
	comp=Z,7.5nm,0.8s,baz=84,slow=5.2,SNR=5.0						
CTA	Charters Tower	20.96	250	eP	P	05 57 54.1	+1.1
CTA				eS	S	06 01 36.3	+7.7
CTA				e		06 01 53.2	
CTA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CTAO	Charters Tower	20.96	250	eP	P	05 57 54.0	+1.0
	comp=Z,27nm,0.9s						
CTAO	Charters Tower	20.96	250	eP	P	05 57 54.0	+1.0
CTAO				pmax	pmax		
	comp=Z,27nm,0.9s						
ARMA	Armidale	21.92	218	⇑iP	P	05 58 05.2	+3.0
RIV	Riverview	24.71	213	eP	P	05 58 30.1	+1.3
URZ	Urewera	25.96	162	P	P	05 58 38.8	-1.4
	comp=Z,4.3nm,0.5s,mb4.3,baz=151,slow=15,SNR=5.2						
CNB	Canberra Magne	26.80	214	eP	P	05 58 48.6	+0.6
	comp=Z,48nm,0.7s,mb5.2						
STKA	Stephens Creek	29.56	228	⇑iP	P	05 59 12.8	+0.2
	comp=Z,18nm,0.4s,mb5.1						
STKA				ePCP	PcP	06 02 11.5	-0.5
STKA	Stephens Creek	29.56	228	P	P	05 59 12.9	+0.3
	comp=Z,35nm,0.7s,mb5.1,baz=46,slow=7.6,SNR=77						
STKA				PcP	PcP	06 02 12.0	0.0
	comp=Z,14nm,0.7s,baz=84,slow=2.7,SNR=7.9						
STKA				ScP		06 05 36.6	
	comp=Z,4.3nm,0.7s,baz=86,slow=4.5,SNR=6.0						
STKA				PKiKP		06 09 43.3	
	comp=Z,2.4nm,0.8s,baz=46,slow=7.0,SNR=3.8						
RPZ	Rata Peaks	30.05	174	P	P	05 59 16.6	-0.2
	comp=Z,20nm,0.6s,mb4.9,baz=305,slow=4.8,SNR=4.3						
TOO	Toolangi	30.58	215	⇑iP	P	05 59 21.9	+0.4
	comp=Z,30nm,0.7s,mb5.0						
TOO	Toolangi	30.58	215	⇑iP	P	05 59 21.9	+0.4
TOO				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.0						
WB2	Warramunga Arr	31.96	254	⇑iP	P	05 59 32.2	-1.5
WB2				ePCP	PcP	06 02 18.4	-0.1
WB2				e		06 06 02.0	
WRAB	Tennant Creek	31.96	254	eP	P	05 59 31.8	-1.9
	comp=Z,16nm,0.8s,mb4.6						
WRAB	Tennant Creek	31.96	254	d iP	P	05 59 32.6	-1.1
WRA	Warramunga Arr	31.98	254	P	P	05 59 32.4	-1.4
	comp=Z,10nm,0.8s,mb4.4,baz=85,slow=8.7,SNR=64						
WRA				PcP	PcP	06 02 18.7	+0.2
	comp=Z,18nm,0.9s,baz=82,slow=2.9,SNR=21						
WRA				S	S	06 04 26.7	-1.4
	comp=Z,6.1nm,1.1s,baz=85,slow=15,SNR=6.6						
WRA				ScP		06 05 45.1	
	comp=Z,5.0nm,0.9s,baz=82,slow=3.7,SNR=12						
WRA				PKiKP		06 09 45.2	
	comp=Z,2.1nm,0.6s,baz=357,slow=0.4,SNR=23						
KAKA	Kakadu	33.80	268	eP	P	06 00 06.5	+17
	comp=Z,28nm,0.6s,mb5.0						
KAKA				e		06 00 15.1	
KAKA				ePCP	PcP	06 02 40.9	+17
FORT	Forrest	39.71	238	⇑iP	P	06 00 38.7	-0.1
	comp=Z,46nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	40.10	258	P	P	06 00 42.1	-0.1
	comp=Z,8.5nm,0.7s,mb4.3,baz=111,slow=1.5,SNR=4.1						
FITZ				PcP	PcP	06 02 43.2	+0.4
	comp=Z,28nm,0.7s,baz=121,slow=2.1,SNR=9.1						
PMOR	Pomariorio Ree	43.50	97	eP	P	06 01 10.7	+0.9
	comp=Z,204nm,1.2s,mb5.4						
MBWA	Marble Bar	45.71	254	eP	P	06 01 27.5	+0.2
	comp=Z,34nm,0.8s,mb4.7						
MBWA				ePcP	PcP	06 03 00.5	-1.3
KLBR	Kellerberrin	48.49	240	eP	P	06 01 47.3	-1.4
	comp=Z,136nm,1.7s,mb5.0						
NWAO	Narrogin (SRO)	49.17	238	P	P	06 01 53.3	-0.5
	comp=Z,41nm,0.7s,mb4.8,baz=79,slow=5.0,SNR=16						
KKM	Kota Kinabalu	54.26	288	eP	P	06 02 31.9	0.0
MJAR	Matsushiro Arr	56.99	332	P	P	06 02 50.0	-1.1
	comp=Z,16nm,0.7s,mb4.7,baz=160,slow=8.2,SNR=23						
MAJO	Matsushiro	57.00	332	eP	P	06 02 49.5	-1.6
	comp=Z,11nm,0.4s,mb4.8						
MAJO	Matsushiro	57.00	332	eP	P	06 02 49.5	-1.6
MAJO				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.8						
MAT	Matsushiro	57.00	332	P	P	06 02 49.7	-1.4
MAT	Matsushiro	57.00	332	eP	P	06 02 50.0	-1.1
	comp=Z,22nm,0.9s,mb4.8						
MAT	Matsushiro	57.00	332	eP	P	06 02 50.0	-1.1
MAT				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.8						
KSM	Kuching	58.33	280	P	P	06 03 00.1	-0.6
YHNB	Yeheng	58.77	310	eP	P	06 03 03.0	-0.7
QZH	Quanzhou	61.01	309	P	P	06 03 18.7	-0.1
QZH				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.5						
SSE	Sheshan	62.75	316	P	P	06 03 33.1	+2.8
SSE				AMB	AMB		
	comp=Z,36nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,482nm,7.0s						
SSE	Sheshan	62.75	316	P	P	06 03 33.1	+2.8
	comp=Z,36nm,0.9s,mb5.0						
VNDA	Vanda	63.83	181	P	P	06 03 36.5	-0.1
	comp=Z,5.7nm,0.7s,mb4.3,baz=359,slow=6.8,SNR=57						
VNDA				PcP	PcP	06 04 10.4	-0.1
	comp=Z,4.4nm,0.9s,baz=308,slow=6.0,SNR=3.8						
VNDA	Vanda	63.83	181	eP	P	06 03 36.1	-0.5
	comp=Z,5.2nm,0.6s,mb4.3						
VNDA	Vanda	63.83	181	eP	P	06 03 36.1	-0.6
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SBA	Scott Base	64.11	180	⇑iP	P	06 03 39.2	+0.8
	comp=Z,36nm,0.9s,mb5.0						
SBA	Scott Base	64.11	180	⇑iP	P	06 03 39.2	+0.8
SBA				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.0						
YSS	Yuzh-Sakhalins	64.27	342	eP	P	06 03 40.1	+0.1
	comp=Z,99nm,1.1s,mb5.4						
YSS	Yuzh-Sakhalins	64.27	342	α iP	P	06 03 40.0	0.0
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.3						
CASY	Casey	64.39	202	eP	P	06 03 39.4	-1.0
NJ2	Nanjing	64.91	316	eP	P	06 03 44.4	+0.1
NJ2				PCP	PcP	06 04 14.8	-0.8
NJ2				AP	pP	06 04 35.5	+0.8
NJ2				S	S	06 12 07.0	+0.3
NJ2				SCS	ScS	06 13 15.0	+1.0
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,830nm,4.8s						
NJ2				LR	LR		
	comp=N,2μm,18.7s						
NJ2				LR	LR		
	comp=E,1μm,19.7s						
NJ2				LR	LR		
	comp=Z,980nm,16.2s						
WHN	Wuhan	67.22	312	P	P	06 03 58.5	-0.5
MDJ	Mudanjiang	67.37	332	eP	P	06 03 59.8	+0.1
	comp=Z,49nm,1.2s,mb5.0						
KULM	Kulim	68.66	281	eP	P	06 04 07.9	-0.1
CN2	Changchun	68.76	329	eP	P	06 04 08.3	+0.1
CN2				eAP	pP	06 05 00.7	+1.5
CN2				eXP	sP	06 05 25.1	+3.0
CN2				eS	S	06 12 53.8	+1.1
CN2				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.4						
CN2				AMB	AMB		
	comp=Z,490nm,4.0s						
KLR	Kul'dur	70.08	336	eP	P	06 04 13.9	-2.2
KLR				pmax	pmax		
	comp=Z,53nm,1.8s,mb4.9						
ENH	Enshi	70.67	309	eP	P	06 04 19.1	-0.9
	comp=Z,89nm,1.0s,mb5.3						
MIR	Mirnyy	71.17	204	d iP	P	06 04 22.8	+0.4
MIR				pmax	pmax		
	comp=Z,51nm,1.6s,mb4.9						
XAN	Xi'an	72.96	312	P	P	06 04 33.8	+0.1
XAN				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
KMI	Kunming	73.71	302	P	P	06 04 39.5	+1.3
KMI				PCP	PcP	06 04 55.2	+2.2
KMI				AMB	AMB		
	comp=Z,45nm,1.1s,mb5.0						
KMI	Kunming	73.71	302	P	P	06 04 39.5	+1.3
	comp=Z,45nm,1.1s,mb5.0						
KMI				PcP	PcP	06 04 55.2	+2.2
CHRT	Chiangrai	74.22	295	⇑P	P	06 04 42.0	+0.8
	comp=Z,255nm,1.2s,mb5.7						
MA2	Magadan	74.27	351	eP	P	06 04 39.5	-1.2
	comp=Z,23nm,0.8s,mb4.9						
MA2	Magadan	74.27	351	c iP	P	06 04 39.9	-0.8
MA2				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.8						
CHG	Chiang Mai	74.58	294	⇑P	P	06 04 44.0	+0.7
	comp=Z,28nm,0.8s,mb4.9						
HHC	Hu-ho-hao-te	74.78	320	eP	P	06 04 44.3	+0.3
HHC				PCP	PcP	06 04 57.8	+0.6
HHC				AP	pP	06 05 37.5	+1.9
HHC				XP	sP	06 06 00.7	+2.3
HHC				PP	PP	06 07 35.3	-0.4
HHC				eS	S	06 13 59.4	-1.6
HHC				SKS	SKS	06 14 25.6	-1.1
HHC				SCS	ScS	06 14 30.2	-1.4
HHC				XS		06 15 32.2	
HHC				SS	SS	06 18 54.3	-2.0
HHC				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,240nm,5.7s						
CD2	Chengdu	75.34	307	⇑iP	P	06 04 47.8	+0.4
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
HIA	Hailar	75.39	330	eP	P	06 04 47.0	-0.3
	comp=Z,41nm,1.1s,mb5.0						
HIA	Hailar	75.39	330	eP	P	06 04 47.0	-0.3
HIA				pmax	pmax		
	comp=Z,41nm,1.1s						
QSPA	South Pole Qui	76.27	180	⇑iP	P	06 04 52.3	+0.7
	comp=Z,39nm,0.8s,mb5.1						
SEY	Seymchan	77.30	353	i P	P	06 04 58.0	+0.4
LZH	Lanzhou	77.59	312	eP	P	06 04 59.5	-0.2
LZH				AP	pP	06 05 47.5	-4.2
LZH				XP	sP	06 06 15.0	+0.6
LZH				AMB	AMB		
	comp=Z,78nm,1.2s,mb5.2						
LZH	Lanzhou	77.59	312	eP	P	06 04 59.5	-0.2
	comp=Z,78nm,1.2s,mb5.2						
LZH				pP	pP	06 05 47.5	-4.2
LZH				sP	sP	06 06 15.0	+0.6
CLNS	Chul'man	78.59	338	eP	P	06 05 05.9	+1.2
CLNS				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.1						
CLNS				pmax	pmax		
	comp=N,21nm,0.7s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
YAK	Yakutsk	81.07	343	eP	P	06 05 17.4	-0.4
	comp=E,84nm,0.6s,mb5.5						
YAK	Yakutsk	81.07	343	c iP	P	06 05 17.8	0.0
YAK				pmax	pmax		
	comp=Z,123nm,0.8s,mb5.6						
ULN	Ulaanbaatar	81.29	324	eP	P	06 05 19.8	+0.6
	comp=Z,26nm,0.9s,mb4.9						
ULN	Ulaanbaatar	81.29	324	eP	P	06 05 19.8	+0.6
ULN				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.9						
BILL	Bilibino	81.57	360	eP	P	06 05 20.1	-0.1
	comp=Z,26nm,0.5s,mb5.1						
BILL	Bilibino	81.57	360	eP	P	06 05 20.1	-0.2
BILL				pmax	pmax		
	comp=Z,25nm,0.5s,mb5.1						
SONM	Songino Array	81.65	324	P	P	06 05 21.7	+0.6
	comp=Z,4.1nm,0.4s,mb4.4,baz=140,slow=6.2,SNR=38						
GTA	Gaotai	81.92	314	⇑P	P	06 05 24.2	+1.6
GTA				AP	pP	06 06 11.1	-4.1
GTA				PP	PP	06 08 33.4	-1.5
GTA				S	S	06 15 17.2	+0.8
GTA				SKS	SKS	06 15 20.2	+2.6
GTA				SS	SS	06 20 39.9	-3.8
GTA				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,157nm,6.9s						
GTA				LR	LR		
	comp=N,354nm,16.0s						
GTA				LR	LR		
	comp=E,334nm,17.6s						
GTA				LR	LR		
	comp=Z,131nm,15.3s						
PMR	Palmer	82.62	19	eP	P	06 05 28.6	+2.9
	comp=Z,5.3nm,0.8s,mb4.3						
PMR	Palmer	82.62	19	eP	P	06 05 28.6	+2.9
PMR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
MAW	Mawson	82.75	202	⇑iP	P	06 05 27.1	+0.8
	comp=Z,18nm,0.6s,mb5.0						
MAW	Mawson	82.75	202	P	P	06 05 27.2	+0.9
	comp=Z,21nm,0.6s,mb5.0,baz=108,slow=6.2,SNR=135						
MAW				LR	LR	06 36 38.5	
	comp=Z,70nm,20.9s,baz=244,slow=31						
MAW	Mawson	82.75	202	⇑iP	P	06 05 27.1	+0.8
MAW				pmax	pmax		
	comp=Z,18nm,0.6s						
BOD	Bodaibo	83.55	334	eP	P	06 05 30.2	-0.4
BOD				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.5						
MCK	McKinley	84.26	18	eP	P	06 05 33.0	-1.0
	comp=Z,7.4nm,1.0s,mb4.4						
ZAK	Zakamensk	84.70	325	⇑iP	P	06 05 36.8	+0.3
ZAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
IMA	Indian Mountai	84.74	15	eP	P	06 05 36.8	+0.5
	comp=Z,98nm,1.5s,mb5.3						
IMA	Indian Mountai	84.74	15	eP	P	06 05 36.8	+0.5
IMA				pmax	pmax		
	comp=Z,98nm,1.5s,mb5.3						
LSA	Lhasa	84.96	302	eP	P	06 05 39.9	+1.6
	comp=Z,15nm,0.7s,mb4.8						
LSA	Lhasa	84.96	302	eP	P	06 05 39.9	+1.6
LSA				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.8						
CMB	Columbia Colle	85.04	49	eP	P	06 05 38.0	-0.5
	comp=Z,3.5nm,1.0s,mb4.0						
CMB	Columbia Colle	85.04	49	eP	P	06 05 38.0	-0.5
CMB				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
ILAR	Eielson Array	85.63	18	P	P	06 05 39.6	-1.1
	comp=Z,5.7nm,0.7s,mb4.4,baz=241,slow=4.9,SNR=80						
ILAR				pP	pP	06 06 27.0	-6.7
	comp=Z,4.3nm,1.0s,baz=229,slow=5.6,SNR=8.4						
NVAR	Mina Array Bea	86.71	49	P	P	06 05 46.8	+0.2
	comp=Z,2.2nm,0.8s,mb3.9,baz=233,slow=9.0,SNR=15						
WVOR	Wild Horse Val	87.88	45	eP	P	06 05 52.1	+0.1
	comp=Z,1.6nm,0.5s,mb4.1						
LDFC	Landfair	88.04	53	eP	P	06 05 53.1	+0.2
NEN	Nelson	88.42	53	eP	P	06 05 54.5	-0.2
GUN	Gumba	88.83	299	eP	P	06 05 57.6	+0.7
	comp=Z,46nm,0.8s,mb5.4						
PKI	Pulchoki	89.14	299	eP	P	06 05 58.6	+0.3
	comp=Z,42nm,0.8s,mb5.3						
KKN	Kakani	89.31	299	eP	P	06 05 59.3	+0.2
	comp=Z,45nm,0.8s,mb5.3						
DMN	Daman	89.41	298	eP	P	06 06 00.2	+0.6
	comp=Z,84nm,0.8s,mb5.6						
SYO	Syowa Base	89.61	197	⇓P	P	06 05 58.3	-1.2
BMO	Blue Mountains	89.62	44	eP	P	06 05 59.9	-0.2
	comp=Z,4.9nm,0.9s,mb4.3						
ELK	Elko	89.71	48	eP	P	06 06 00.6	-0.1
	comp=Z,3.3nm,0.8s,mb4.2						
ELK	Elko	89.71	48	eP	P	06 06 00.6	-0.1
ELK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GKN	Gorkha	89.92	299	eP	P	06 06 01.7	-0.2
	comp=Z,78nm,1.1s,mb5.4						
TUC	Tucson	90.68	57	eP	P	06 06 05.8	+0.5
	comp=Z,4.4nm,0.9s,mb4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TUC	Tucson	90.68	57	*e*P	P	06 06 05.8	+0.4
TUC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
NEW	Newport	90.89	40	*e*P	P	06 06 06.1	+0.2
	comp=Z,1.9nm,0.6s,mb4.2						
NEW	Newport	90.89	40	*e*P	P	06 06 06.1	+0.2
NEW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HLID	Hailey	91.17	45	*e*P	P	06 06 07.9	+0.5
	comp=Z,2.5nm,0.9s,mb4.1						
WMQ	Urumqi	91.97	315⇓	*i*P	P	06 06 12.2	+1.1
WMQ				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,246nm,4.8s						
NVL	N'lazarevskaya	94.00	188⇓	*i*P	P	06 06 19.9	+0.2
NVL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
PDAR	Pinedale Array	94.36	47	P	P	06 06 22.1	0.0
	comp=Z,0.5nm,0.7s,mb3.6,baz=265,slow=3.1,SNR=4.2						
PDAR				PKKP	PKKP	06 23 21.1	+28
	comp=Z,0.6nm,0.7s,baz=91,slow=5.5,SNR=6.4						
SNAA	Sanae	94.51	183⇑	*i*P	P	06 06 21.9	-0.2
SNAA				*e*		06 06 34.1	
SNAA				*e*		06 11 01.8	
ANMO	Albuquerque	94.83	55	LR	LR	06 39 43.3	
	comp=Z,37nm,21.4s,baz=239,slow=29						
ANMO	Albuquerque	94.83	55	*i* P	P	06 06 22.0	-2.4
VNA3	Neumayer Olymp	95.19	181⇑	*i*P	P	06 06 25.0	-0.2
VNA3				*e*		06 06 35.9	
VNA3				*e*		06 11 05.4	
VNA2	Neumayer--Watz	95.45	182⇑	*i*P	P	06 06 26.4	0.0
VNA2				*e*		06 06 37.2	
VNA2				*e*		06 11 06.3	
VNA1	Neumayer--Stat	95.75	182⇑	*i*P	P	06 06 28.1	+0.4
TXAR	Lajitas Array	95.90	61	P	P	06 06 29.8	+0.4
	comp=Z,0.6nm,0.8s,mb3.9,baz=220,slow=5.6,SNR=8.5						
TXAR				PP	PP	06 10 24.8	-1.4
	comp=Z,1.1nm,1.0s,baz=238,slow=12,SNR=7.3						
TXAR				PKKP	PKKP	06 23 18.6	+27
	comp=Z,0.5nm,0.7s,baz=98,slow=5.1,SNR=7.0						
MKAR	Makanchi Array	96.43	316	P	P	06 06 31.8	+0.4
	comp=Z,13nm,0.7s,mb5.3,baz=92,slow=6.3,SNR=100						
MKAR				PP	PP	06 10 25.1	-5.0
	comp=Z,1.0nm,1.0s,baz=98,slow=10,SNR=3.5						
MKAR				PKiKP		06 11 07.3	
	comp=Z,0.6nm,0.5s,baz=161,slow=0.8,SNR=4.9						
MKAR				PKKPbc		06 23 14.5	
	comp=Z,0.5nm,0.7s,baz=255,slow=4.9,SNR=5.1						
ZAL	Zalesovo	96.56	324	P	P	06 06 31.6	-0.1
	comp=Z,4.9nm,0.7s,mb4.8,baz=357,slow=5.0,SNR=25						
ZAL	Zalesovo	96.56	324	*i* P	P	06 06 31.8	+0.1
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YKA	Yellowknife Ar	96.73	27	P	P	06 06 30.5	-1.8
	comp=Z,0.7nm,0.5s,mb4.1,baz=258,slow=4.8,SNR=14						
YKA				PKiKP		06 11 09.0	
	comp=Z,0.2nm,0.6s,baz=254,slow=1.2,SNR=7.4						
YKA				PKKPbc		06 23 14.6	
	comp=Z,0.3nm,0.6s,baz=70,slow=3.3,SNR=4.9						
YKA	Yellowknife Ar	96.73	27	P	P	06 06 30.6	-1.7
KURK	Kurchatov	99.59	320	*e*P	P	06 06 44.5	-1.1
	comp=Z,1.4nm,0.6s,mb4.6						
KURK	Kurchatov	99.59	320	*e*P	P	06 06 44.6	-1.0
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.4						
LPAZ	La Paz	117.74	117	PKP	PKPdf	06 11 49.4	+2.5
	comp=Z,0.9nm,0.5s,baz=72,slow=1.4,SNR=9.7						
LPAZ				PKKPbc		06 22 10.7	
	comp=Z,1.3nm,0.8s,baz=344,slow=3.7,SNR=7.8						
LPAZ	La Paz	117.74	117	*e*PKIKP	PKPdf	06 11 48.9	+2.0
KEV	Kevo	118.76	345	*e*p	PKPdf	06 11 46.9	-0.8
ARCES	ARCESS Array B	119.29	346	PKP	PKPdf	06 11 49.5	+0.8
	comp=Z,13nm,0.6s,baz=45,slow=0.8,SNR=61						
ARCES				PKKPbc		06 22 02.8	
	comp=Z,3.3nm,0.6s,baz=218,slow=2.0,SNR=14						
ARCES	ARCESS Array B	119.29	346	PKP	PKPdf	06 11 49.5	+0.8
ARCES				PKKPbc		06 22 02.8	
CPUP	Villa Florida	121.19	133	PKP	PKPdf	06 11 54.3	+0.9
	comp=Z,1.8nm,0.7s,baz=248,slow=4.0,SNR=4.3						
JOF	Joensuu	121.95	338	*e*p	PKPdf	06 11 54.4	+0.4
SDV	Santo Domingo	123.23	88	PKP	PKPdf	06 11 58.6	+1.0
	comp=Z,6.1nm,0.7s,baz=261,slow=6.7,SNR=6.1						
SDV	Santo Domingo	123.23	88	*e*PKPdf	PKPdf	06 11 58.3	+0.7
GNI	Garni	123.44	309	*e*PKPdf	PKPdf	06 12 00.1	+2.7
GNI	Garni	123.44	309*c*	*i*PKIKP	PKPdf	06 12 00.1	+2.6
OBN	Obninsk	123.82	328*d*	*i*PKIKP	PKPdf	06 11 59.4	+1.6
OBN				*e*		06 13 41.5	
OBN				*e*PS	PS	06 23 39.6	-4.9
OBN				*e*SS	SS	06 30 41.4	+25
OBN				pmax	pmax		
	comp=Z,24nm,1.0s						
SIV	San Ignacio	123.91	120	PKKPbc		06 21 46.4	
	comp=Z,0.7nm,0.7s,baz=81,slow=5.1,SNR=4.7						
BOSA	Boshof	124.05	221	PKP	PKPdf	06 12 00.3	+1.3
	comp=Z,9.6nm,0.9s,baz=65,slow=0.6,SNR=12						
BOSA	Boshof	124.05	221	*e*PKPdf	PKPdf	06 12 00.5	+1.6
KIV	Kislovodsk	124.10	314	*i* PKIKP	PKPdf	06 12 00.1	+1.4
KAF	Kangasniemi	124.25	339	*e*p	PKPdf	06 11 59.1	+0.6
FINES	FINESS Array B	124.78	338	PKP	PKPdf	06 12 00.7	+1.2
	comp=Z,8.0nm,0.8s,baz=90,slow=3.8,SNR=23						
SAML	Samuel	125.18	111	*e*PKPdf	PKPdf	06 12 02.1	+0.6
LBTB	Lobatse	126.25	224	PKP	PKPdf	06 12 05.2	+1.9
	comp=Z,7.3nm,0.7s,baz=160,slow=3.9,SNR=7.7						
LBTB	Lobatse	126.25	224	*e*PKPdf	PKPdf	06 12 04.9	+1.6
SOC	Sochi	126.27	314	*i* PKIKP	PKPdf	06 12 03.8	+1.0
SOC				*e*		06 14 00.7	
SOC				*e*PPP	PPP	06 16 43.8	-4.8
SOC				*e*PS	PS	06 24 07.5	+1.1
SOC				pmax	pmax		
	comp=Z,41nm,0.9s						
SOC				pmax	pmax		
	comp=N,64nm,1.4s						
SOC				pmax	pmax		
	comp=E,30nm,1.3s						
KMBO	Kilima Mbogo	128.22	257	PKP	PKPdf	06 12 11.0	+3.6
	comp=E,6.9nm,0.9s,baz=42,slow=3.9,SNR=12						
KMBO	Kilima Mbogo	128.22	257	PKP	PKPdf	06 12 11.0	+3.6
MALT	Malatya	128.62	308	*e*PKPdf	PKPdf	06 12 09.1	+1.6
SJG	San Juan	128.69	78	*e*PKPdf	PKPdf	06 12 08.4	+0.2
NB2	NORSAR Subarra	129.66	345	PKPdf	PKPdf	06 12 09.5	+0.6
	comp=E,2.8nm,0.7s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.66	345	PKP	PKPdf	06 12 10.6	+1.7
	comp=E,4.4nm,0.6s,baz=34,slow=2.0,SNR=21						
NOA				SKPbc		06 15 16.1	
	comp=E,1.4nm,0.7s,baz=33,slow=3.0,SNR=5.4						
AKASG	Malin Array Be	129.87	326	PKP	PKPdf	06 12 10.8	+1.3
	comp=E,3.5nm,0.6s,baz=53,slow=2.0,SNR=16						
AKASG				SKPbc		06 15 16.4	
	comp=E,0.5nm,0.5s,baz=42,slow=4.1,SNR=4.6						
AKASG	Malin Array Be	129.87	326	PKP	PKPdf	06 12 10.8	+1.3
AKASG				SKPbc		06 15 16.4	
LSZ	Lusaka	130.22	236	*e*PKPdf	PKPdf	06 12 13.3	+2.2
BR131	Keskin Array S	131.79	311	*e*PKPdf	PKPdf	06 12 15.1	+1.5
BRTR	Keskin Array B	131.79	311	PKP	PKPdf	06 12 14.8	+1.2
	comp=E,2.7nm,0.7s,baz=132,slow=2.3,SNR=9.9						
BRTR				SKPbc		06 15 25.2	
	comp=E,2.2nm,0.7s,baz=94,slow=3.5,SNR=6.0						
CFR	Carcaliu	133.31	320⇑	*i*P	PKPdf	06 12 18.1	+1.9
CFR	Carcaliu	133.31	320⇑	*i*P	PKPdf	06 12 18.1	+1.9
BURAR	Bucovina Array	133.76	325⇑	*i*P	PKPdf	06 12 20.3	+3.3
BURAR	Bucovina Array	133.76	325⇑	*i*P	PKPdf	06 12 20.3	+3.3
MLR	Muntele Rosu	134.49	322⇑	*i*P	PKPdf	06 12 19.7	+1.4
MLR	Muntele Rosu	134.49	322⇑	*i*P	PKPdf	06 12 19.7	+1.4
MBAR	Mbarara	134.54	255	*e*PKPdf	PKPdf	06 12 21.0	+1.7
MBAR	Mbarara	134.54	255	*i* PKIKP	PKPdf	06 12 21.1	+1.8
KOLS	Kolonicke sedl	134.57	328	*e*PKP	PKPdf	06 12 21.3	+2.9
BDFB	Brasilia	134.58	129	PKhKP		06 12 12.0	
	comp=E,1.8nm,0.8s,baz=211,slow=5.9,SNR=3.3						
BDFB				PKP	PKPdf	06 12 21.1	+1.8
	comp=E,2.6nm,0.7s,baz=272,slow=7.0,SNR=5.6						
STHS	Stebnicka Huta	134.79	329	*e*PKP	PKPdf	06 12 20.6	+1.8
OJC	Ojcow	134.97	331	*e*PKP	PKPdf	06 12 20.7	+1.6
CRVS	Cervenica-Dubn	135.01	328	*e*PKP	PKPdf	06 12 21.4	+2.2
TSUM	Tsumeb	135.62	223	PKhKP		06 12 15.4	
	comp=E,1.9nm,0.8s,baz=172,slow=7.1,SNR=3.6						
TSUM				PKP	PKPdf	06 12 22.6	+1.4
	comp=E,3.6nm,0.8s,baz=147,slow=8.8,SNR=5.5						
KECS	Kecovo	135.77	328	*e*PKP	PKPdf	06 12 23.2	+2.5
MORC	Moravsky Berou	136.33	332	*e*PKPdf	PKPdf	06 12 22.6	+1.0
PSZ	Piszkesteto	136.44	328	*e*PKPdf	PKPdf	06 12 23.5	+1.7
DPC	Dobruska-Polom	136.47	333	*e*PKPdf	PKPdf	06 12 24.1	+2.2
VYHS	Vyhne	136.59	329	*e*PKP	PKPdf	06 12 23.8	+1.7
BRG	Berggiesshubel	137.09	335	*i* P	PKPdf	06 12 26.9	+4.0
BRG	Berggiesshubel	137.09	335	*i* PKIKP	PKPdf	06 12 26.9	+3.9
BRG				pmax	pmax		
	comp=Z,107nm,0.8s						
PVCC	Panska Ves	137.09	334	*e*PKPdf	PKPdf	06 12 25.1	+2.1
CLL	Collm	137.12	336	*i* PKIKP	PKPdf	06 12 24.5	+1.5
	comp=Z,logA/T=1.2						
CLL	Collm	137.12	336	*i* PKIKP	PKPdf	06 12 24.5	+1.5
CLL				pmax	pmax		
	comp=Z,13nm,0.8s						
PRU	Pruhonice	137.51	334	*e*PKPdf	PKPdf	06 12 25.5	+1.8
ZST	Bratislava	137.64	330	*e*PKP	PKPdf	06 12 27.9	+3.9
KHC	Kasperske Hory	138.57	334	*e*PKPdf	PKPdf	06 12 27.9	+2.1
GERES	GERESS Array B	138.73	333	PKhKP		06 12 21.3	
	comp=Z,2.4nm,0.8s,baz=45,slow=1.9,SNR=6.7						
GERES				PKP	PKPdf	06 12 28.5	+2.4
	comp=Z,4.3nm,0.7s,baz=90,slow=1.3,SNR=20						
GERES				SKPbc		06 15 46.2	
	comp=Z,0.4nm,0.3s,baz=63,slow=3.0,SNR=5.6						
DIVS	Divcibare	138.77	324⇑	*i*PKP	PKPdf	06 12 28.1	+1.9
BOJS	Bojanci	140.43	329	*e*PKPbc	PKPdf	06 12 31.8	+2.6
VOJS	Vojsko	140.73	330	*e*PKPdf	PKPdf	06 12 25.1	-4.6
WLS	Welschbruch	141.61	338	PKP	PKPdf	06 12 27.4	-3.7
FELD	Feldberg	141.82	337	PKP	PKPdf	06 12 28.6	-2.9
LOMF	Lomont	142.69	338	PKP	PKPdf	06 12 31.2	-1.8
AQU	L'Aquila	143.57	327	*e*PKPdf	PKPdf	06 12 35.2	+0.5
CABF	La Chapelle	143.59	338	*e*PKP1	PKPbc	06 12 34.4	+0.9
FLN	La Foliniere	143.63	346	*e*PKP1	PKPbc	06 12 33.7	+0.1
	comp=Z,27nm,0.5s						
TIP	Timpagrande	143.64	320	*e*PKPdf	PKPdf	06 12 35.2	+0.3
ORX	Oropa	143.67	335	P	PKPbc	06 12 33.9	+0.1
GRAM		143.67	332	P	PKPbc	06 12 34.4	+0.6
VALM		143.69	332	P	PKPbc	06 12 34.5	+0.6
LDF	La Druitiere	143.70	346	*e*PKP1	PKPbc	06 12 33.9	+0.1
	comp=Z,20nm,0.7s						
SARO	Sassorosso	143.75	331	P	PKPbc	06 12 34.1	0.0
LOR	Lormes	143.79	341	*e*PKP1	PKPbc	06 12 35.1	+1.0
	comp=Z,13nm,0.7s						
BACM		143.83	332	P	PKPbc	06 12 34.5	+0.2
CODM		143.84	332	P	PKPbc	06 12 34.5	+0.2
VINC	Vinca	143.90	331	P	PKPbc	06 12 33.6	-0.9
MAIM		143.91	331	P	PKPbc	06 12 34.0	-0.6
GRR	Gorron	144.07	346	*e*PKP1	PKPbc	06 12 35.4	+0.5
	comp=Z,42nm,0.5s						
SSF	Saint Saulge	144.08	341	*e*PKP1	PKPbc	06 12 36.1	+1.1
	comp=Z,47nm,0.7s						
LSD	Ceresole Reale	144.15	336	P	PKPbc	06 12 36.4	+1.2
HYF	Humbligny	144.17	342	*e*PKP1	PKPbc	06 12 36.5	+1.3
LPL	La Plagne	144.26	336	*e*PKP1	PKPbc	06 12 37.3	+1.8
	comp=Z,49nm,0.7s						
LPG	La Plagne	144.27	336	*e*PKP1	PKPbc	06 12 37.4	+1.9
	comp=Z,66nm,0.6s						
PCP	Pian Castagno	144.31	333	P	PKPbc	06 12 35.6	-0.1
SMF	Signal de Mont	144.34	340	*e*PKP1	PKPbc	06 12 36.6	+0.9
	comp=Z,112nm,1.0s						
RSP	Reno Superiore	144.35	335	P	PKPbc	06 12 35.8	0.0
AVF	Avril sur Loir	144.37	341	*e*PKP1	PKPbc	06 12 36.7	+0.9
	comp=Z,98nm,0.9s						
FENE	Fenestrelle	144.53	335	P	PKPbc	06 12 37.0	+0.7
BHB	Bricherasio	144.61	335	P	PKPdf	06 12 35.7	-0.7
BNI	Bardonecchia	144.67	336	*e*PKPdf	PKPdf	06 12 38.3	+1.7
FIN	Finale Ligure	144.72	333	P	PKPdf	06 12 36.5	-0.2
RRL	Cesana Torines	144.74	336	P	PKPdf	06 12 37.7	+1.0
GDM	Grand'Maison	144.76	337	PKP	PKPdf	06 12 38.8	+2.1
ROB	Roburent	144.79	334	P	PKPdf	06 12 37.3	+0.5
GRN	Grenoble	144.87	337	PKP	PKPdf	06 12 39.3	+2.4
PLDF	La Plantade	145.01	340	PKP	PKPdf	06 12 40.6	+3.5
ENR	Entracque	145.04	334	P	PKPdf	06 12 37.3	+0.1
STV2	Anna di Valdie	145.07	334	P	PKPdf	06 12 37.3	0.0
SURF	Saint Ours	145.09	335	PKP	PKPdf	06 12 39.7	+2.4
IMI	Imperia	145.09	333	P	PKPdf	06 12 38.6	+1.3
AGO	Saint Agoulin	145.10	340	PKP	PKPdf	06 12 40.4	+3.2
SAOF	Saorge	145.18	334	PKP	PKPdf	06 12 39.2	+1.8
AUTN	L'Aution	145.22	334	PKP	PKPdf	06 12 39.5	+2.0
NEGI	Negi	145.22	334	P	PKPdf	06 12 38.4	+0.8
TOUF	Mont Tournerai	145.29	334	PKP	PKPdf	06 12 39.8	+2.2
COLF	Collangettes	145.38	339	PKP	PKPdf	06 12 40.5	+2.8
MVIF	Mont Vial	145.42	334	PKP	PKPdf	06 12 40.2	+2.3
LCHF	La Chataignera	145.65	345	PKP	PKPdf	06 12 40.5	+2.3
CALN	Calern	145.65	334	PKP	PKPdf	06 12 40.8	+2.5
STOF	St-Etienne Org	145.85	336	PKP	PKPdf	06 12 42.0	+3.4
FRNF	Fournols	145.87	341	PKP	PKPdf	06 12 42.1	+3.5
TAVF	Tavernes	146.11	335	PKP	PKPdf	06 12 42.7	+3.7
PRAF	Pradon	146.31	336	PKP	PKPdf	06 12 43.6	+4.2
PUYF	Puyloubier	146.32	335	PKP	PKPdf	06 12 42.9	+3.5
BERF	Bertagne	146.51	335	PKP	PKPdf	06 12 43.6	+3.9
GELF	Grande-Etoile	146.56	336	PKP	PKPdf	06 12 43.6	+3.8
EALK	Alkurruntz	149.06	344	PKP	PKPdf	06 12 48.0	+4.1
EBIE	Bielsa	149.06	341	PKP	PKPdf	06 12 51.2	+7.3
SJPF	Ste Jean	149.08	343	*e*PKP1	PKPdf	06 12 46.0	+2.1
	comp=Z,23nm,1.0s						
ETSF	Etsaut	149.08	342	*e*PKP1	PKPdf	06 12 46.2	+2.3
	comp=Z,59nm,1.6s						
EGRA	Graus	149.45	341	PKP	PKPdf	06 12 51.9	+7.4
ELAN	Lanestosa	149.53	346	PKP	PKPdf	06 12 50.7	+6.1
EARI	Arriondas	149.83	349	PKP	PKPdf	06 12 47.7	+2.6
EPOB	Poblet	149.95	339	PKP	PKPdf	06 12 51.7	+6.3
RCBR	Riachuelo	149.96	129	*e*PKPbc	PKPdf	06 12 52.4	+6.2
EPON	Pontenova	150.12	352	PKP	PKPdf	06 12 51.2	+5.7
ESAC	San Caprasio	150.13	341	PKP	PKPdf	06 12 51.3	+5.7
ERTA	Horta de San J	150.56	339	PKP	PKPdf	06 12 52.1	+5.8
ETOS	Mallorca	150.65	335	PKP	PKPdf	06 12 49.5	+3.0
EMAZ	Mazaricos	150.72	354	PKP	PKPdf	06 12 47.3	+0.9
STS	Santiago	150.74	354	PKP	PKPdf	06 12 54.2	+7.7
CMAH	Djebel Manchou	150.89	325	P	PKPdf	06 12 55.0	+8.1
EMOS	Mosqueruela	151.36	340	PKP	PKPdf	06 12 52.9	+5.4
ECAL	Calabor	151.42	350	PKP	PKPdf	06 12 51.9	+4.4
CKFL	Kef-Lekhel	151.44	326	P	PKPdf	06 12 56.0	+8.2
EZAM	Zamans	151.48	354	PKP	PKPdf	06 12 51.6	+4.0
CASM	Ain Smara	151.67	326	P	PKPdf	06 12 56.5	+8.4
ELOB	Lobios	151.68	352	PKP	PKPdf	06 12 54.8	+6.8
DFRA	Djebel Bou Aff	151.79	327	P	PKPdf	06 12 58.0	+10
EIBI	Ibiza	151.88	336	PKP	PKPdf	06 12 55.8	+7.5
ECHE	Chera	152.22	340	PKP	PKPdf	06 12 57.7	+8.9
SET	Setif	152.30	327	P	PKPdf	06 12 59.0	+10
ESDC	Sonseca Array	153.02	345	PKPbc	PKPdf	06 12 60.0	+10
	comp=Z,4.8nm,0.8s,baz=10,slow=2.6,SNR=17						
ESDC				PKPab	PKPab	06 13 11.8	-0.4
	comp=Z,4.5nm,0.6s,baz=21,slow=3.8,SNR=11						
ESDC	Sonseca Array	153.02	345	PKP	PKPdf	06 12 57.7	+7.8
ETOB	Tobarra	153.27	340	PKP	PKPdf	06 12 58.9	+8.6
EVIA	Vianos	153.58	342	PKP	PKPdf	06 13 01.1	+10
EHUE	Huescar	154.36	341	PKP	PKPdf	06 12 59.0	+7.3
EVO	Evora	154.95	351	*e*PKP2	PKPab	06 13 12.8	-7.5
	comp=Z,27nm,1.0s						
MDT	Midelt	159.59	340	PKPab	PKPab	06 13 40.8	+0.4
	comp=Z,3.5nm,0.7s,baz=60,slow=8.0,SNR=8.3						
LIC	Lamto	169.28	227	*e*PKIKP	PKPdf	06 13 08.4	+1.0
	comp=Z,27nm,0.9s						
DBIC	Dimbokro	169.46	229	PKP	PKPdf	06 13 08.2	+0.6
	comp=Z,8.7nm,0.9s,baz=115,slow=6.8,SNR=6.4						

*ATH **06** 06:07:55.6, 37.69N×26.82E, h20km, MD3.2/3*
*CSEM **06** 06:07:55.8±0.1, 37.79N×26.88E, h20km, MD3.2, Error ellipse: s-maj=3.0km s-min=2.0km az=102.0*
*ISK **06** 06:07:56.2, 37.80N×26.81E, h30km, MD3.2*
ISC 06 06:07:55.4±0.8**, 37.79N**±0.02×**26.75E**±0.05**, h5**km±6km**, n19, σ1s05/32, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.10	137	*e*PB	Pb	06 07 59.4	0.0
SMG				*e*SB	Sb	06 08 01.6	-0.4
SMG	Samos	0.10	137	*e*Pg	Pb	06 07 59.4	0.0
SMG				*e*Sg	Sg	06 08 01.4	+2.3
URLA	Izmir	0.59	348	*i* P	Pg	06 08 06.3	-0.8
URLA				*i* S	Sg	06 08 15.0	+0.1
IZM	Izmir	0.73	33	PG	Pg	06 08 10.0	-0.1
IZM				SG	Sg	06 08 20.3	+0.4
KDAG	Bornova	0.74	33	*i* P	Pg	06 08 09.4	-0.8
KDAG				*i* S	Sg	06 08 19.0	-1.1
BODT	Bodrum	0.85	148	PG	Pg	06 08 11.7	-0.6
BODT				SG	Sg	06 08 23.9	+0.2
AYDN	Tasoluk	0.91	98	*i* P	Pb	06 08 13.1	-0.1
AYDN				*i* S	Sg	06 08 27.2	+1.6
BDRM	Kayabasi	0.91	142	*i* P	Pb	06 08 13.6	+0.4
BDRM				*i* S	Sg	06 08 25.8	+0.1
MLSB	Milas	0.95	121	PG	Pg	06 08 12.9	-1.5
APE	Apeiranthos	1.20	234	*e*PN	Pn	06 08 18.5	-0.3
AKS	Akhisar	1.38	37	PN	Pn	06 08 19.5	-1.8
YER	Yerkesik	1.38	118	PN	Pn	06 08 19.8	-1.6
PRK	Paraskevi	1.51	346	*e*PN	Pn	06 08 25.1	+2.0
PRK	Paraskevi	1.51	346	*e*Pb	Pb	06 08 24.3	+0.9
PRK				*e*Sb	Sb	06 08 44.1	+1.4
MANT	Manisa	1.59	63	*i* P	Pn	06 08 25.4	+1.0
MANT				*i* S	Sb	06 08 44.4	-0.9
DNZL	Cakiroluk	1.82	92	*i* P	Pn	06 08 27.8	+0.1
DNZL				*i* S	Sn	06 08 56.0	+4.6
EZN	Ezine	2.06	351	PN	Pn	06 08 29.8	-1.3
BTOK	Tokmak	2.21	27	*i* P	Pn	06 08 34.2	+0.9
BTOK				*i* S	Sn	06 09 06.0	+4.6
ULDT	Uludag	3.00	38	*i* P	Pn	06 08 52.5	+8.0
ULDT				*i* S	Sn	06 09 26.4	+5.1

PGC 06 06:25:23.1, 51.57N×130.81W, h10km, ML3.3/22, 2C, South of Moresby Island, British Columbia, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	Barry Inlet	1.17	330	⇑P	Pb	06 25 42.5	-2.4
BNB				Sg	Sg	06 25 58.5	-3.6
BNB				Trac		06 26 03.4	
	comp=Z,3μm,0.1s						
BNB	Barry Inlet	1.17	330	⇑P	Pb	06 25 42.5	-2.4
BNB				S	Sb	06 25 58.5	-1.4
BNB				Trac		06 26 03.4	
	comp=Z,3μm,0.1s						
BBB	Bella Bella	1.78	69	Pn	Pn	06 25 51.8	-2.5
BBB				Pg	Pg	06 25 53.9	-4.9
BBB				Sg	Sg	06 26 17.0	-5.6
BBB				Trac		06 26 17.5	
	comp=Z,907nm,0.2s						
BBB	Bella Bella	1.78	69	Pn	Pn	06 25 51.8	-2.5
BBB				Pg	Pg	06 25 53.9	-4.9
BBB				Sg	Sg	06 26 17.0	-5.6
BBB				Trac		06 26 17.5	
	comp=Z,907nm,0.2s						
HOLB	Holberg	1.93	118	Pn	Pn	06 25 54.8	-1.6
HOLB				Pg	Pg	06 26 00.6	-1.0
HOLB				Trac		06 26 36.8	
	comp=Z,256nm,0.5s						
HOLB	Holberg	1.93	118	Pn	Pn	06 25 54.8	-1.6
HOLB				Pg	Pg	06 26 00.6	-1.0
HOLB				Trac		06 26 36.8	
	comp=Z,256nm,0.5s						
BNAB	Bonilla	1.93	3	Pn	Pn	06 25 53.9	-2.5
BNAB				Pg	Pg	06 25 57.1	-4.7
BNAB				Sg	Sg	06 26 20.2	-7.3
BNAB				Trac		06 26 22.6	
	comp=Z,100nm,0.3s						
BNAB	Bonilla	1.93	3	Pn	Pn	06 25 53.9	-2.5
BNAB				Pg	Pg	06 25 57.1	-4.7
BNAB				Sg	Sg	06 26 20.2	-7.3
BNAB				Trac		06 26 22.6	
	comp=Z,100nm,0.3s						
VIB	Van Inlet	1.99	329	Pn	Pn	06 25 54.1	-3.2
VIB				Sg	Sg	06 26 23.7	-5.9
VIB				Trac		06 26 26.6	
	comp=Z,84nm,0.2s						
VIB	Van Inlet	1.99	329	Pn	Pn	06 25 54.1	-3.2
VIB				Sg	Sg	06 26 23.7	-5.9
VIB				Trac		06 26 26.6	
	comp=Z,84nm,0.2s						
PHC	Port Hardy	2.30	111	Pn	Pn	06 25 58.6	-3.1
PHC				Pg	Pg	06 26 05.8	-3.2
PHC				Trac		06 26 39.7	
	comp=Z,112nm,0.4s						
PHC	Port Hardy	2.30	111	Pn	Pn	06 25 58.6	-3.1
PHC				Pg	Pg	06 26 05.8	-3.2
PHC				Trac		06 26 39.7	
	comp=Z,112nm,0.4s						
BPBC	Brooks Peninsu	2.39	125	Pn	Pn	06 26 01.1	-1.8
BPBC				Pn	Pn	06 26 02.6	-0.4
BPBC				Sg	Sg	06 26 35.7	-6.9
BPBC				Trac		06 26 36.5	
	comp=Z,151nm,0.2s						
BPBC	Brooks Peninsu	2.39	125	Pn	Pn	06 26 01.1	-1.8
BPBC				Sg	Sg	06 26 35.7	-6.9
BPBC				Trac		06 26 36.5	
	comp=Z,151nm,0.2s						
MAYB	Maynard	2.58	115	Pn	Pn	06 26 04.0	-1.7
MAYB				Pg	Pg	06 26 10.6	-4.1
MAYB				Trac		06 26 49.2	
	comp=Z,62nm,0.3s						
MAYB	Maynard	2.58	115	Pn	Pn	06 26 04.0	-1.7
MAYB				Pg	Pg	06 26 10.6	-4.1
MAYB				Trac		06 26 49.2	
	comp=Z,62nm,0.3s						
RUBB	Prince Rupert	2.79	7	Pn	Pn	06 26 06.2	-2.5
RUBB				Sg	Sg	06 26 45.7	-10
RUBB				Trac		06 26 51.0	
	comp=Z,230nm,0.4s						
RUBB	Prince Rupert	2.79	7	Pn	Pn	06 26 06.2	-2.5
RUBB				Sg	Sg	06 26 45.7	-10
RUBB				Trac		06 26 51.0	
	comp=Z,230nm,0.4s						
EDB	Eliza Dome	2.89	124	Pn	Pn	06 26 08.4	-1.7
EDB				Sn	Sn	06 26 42.1	-3.3
EDB				Trac		06 27 03.4	
	comp=Z,47nm,0.6s						
EDB	Eliza Dome	2.89	124	Pn	Pn	06 26 08.4	-1.7
EDB				Sn	Sn	06 26 42.1	-3.3
EDB				Trac		06 27 03.4	
	comp=Z,47nm,0.6s						
WOSB	Woss	3.03	116	Pn	Pn	06 26 10.4	-1.8
WOSB				Trac		06 27 04.3	
	comp=Z,31nm,0.3s						
WOSB	Woss	3.03	116	Pn	Pn	06 26 10.4	-1.8
WOSB				Trac		06 27 04.3	
	comp=Z,31nm,0.3s						
NCRB	Newcastle Ridg	3.22	109	Pn	Pn	06 26 13.1	-1.7
NCRB				Pg	Pg	06 26 21.7	-5.7
NCRB				Trac		06 27 07.6	
	comp=Z,42nm,0.5s						
NCRB	Newcastle Ridg	3.22	109	Pn	Pn	06 26 13.1	-1.7
NCRB				Pg	Pg	06 26 21.7	-5.7
NCRB				Trac		06 27 07.6	
	comp=Z,42nm,0.5s						
ETB	Estevan Point	3.50	127	Pn	Pn	06 26 19.4	+0.6
ETB	Estevan Point	3.50	127	Pn	Pn	06 26 19.4	+0.6
GDR	Gold River	3.53	119	Pn	Pn	06 26 17.8	-1.3
GDR	Gold River	3.53	119	Pn	Pn	06 26 17.8	-1.3
CBB	Campbell River	3.78	112	Pn	Pn	06 26 21.1	-1.7
CBB				Pg	Pg	06 26 30.6	-8.0
CBB				Sg	Sg	06 27 17.2	-12
CBB				Trac		06 27 26.3	
	comp=Z,27nm,0.5s						
CBB	Campbell River	3.78	112	Pn	Pn	06 26 21.1	-1.7
CBB				Pg	Pg	06 26 30.6	-8.0
CBB				Sg	Sg	06 27 17.2	-12
CBB				Trac		06 27 26.3	
	comp=Z,27nm,0.5s						
BTB	Buttle Lake	3.98	120	Pn	Pn	06 26 23.7	-1.9
BTB	Buttle Lake	3.98	120	Pn	Pn	06 26 23.7	-1.9
OZB	Mount Ozzard	4.29	125	Pn	Pn	06 26 29.1	-1.0
OZB	Mount Ozzard	4.29	125	Pn	Pn	06 26 29.1	-1.0
ALB	Alberni	4.46	119	Pg	Pg	06 26 47.8	-4.4
ALB				Trac		06 28 00.0	
	comp=Z,8.0nm,0.4s						
ALB	Alberni	4.46	119	Pg	Pg	06 26 47.8	-4.4
ALB				Trac		06 28 00.0	
	comp=Z,8.0nm,0.4s						
TXB	Texada	4.47	112	Pn	Pn	06 26 30.4	-2.2
TXB				Sg	Sg	06 27 43.1	-8.8
TXB				Trac		06 27 53.5	
	comp=Z,23nm,0.6s						
TXB	Texada	4.47	112	Pn	Pn	06 26 30.4	-2.2
TXB				Sg	Sg	06 27 43.1	-8.8
TXB				Trac		06 27 53.5	
	comp=Z,23nm,0.6s						
MGB	Mount Grey	4.69	121	Pn	Pn	06 26 34.7	-1.0
MGB				Pg	Pg	06 26 47.9	-8.9
MGB				Trac		06 28 00.0	
	comp=Z,10.0nm,0.4s						
MGB	Mount Grey	4.69	121	Pn	Pn	06 26 34.7	-1.0
MGB				Pg	Pg	06 26 47.9	-8.9
MGB				Trac		06 28 00.0	
	comp=Z,10.0nm,0.4s						
SHB	Sechelt	4.84	111	Pn	Pn	06 26 36.4	-1.4
SHB				Trac		06 28 06.4	
	comp=Z,34nm,0.5s						
SHB	Sechelt	4.84	111	Pn	Pn	06 26 36.4	-1.4
SHB				Trac		06 28 06.4	
	comp=Z,34nm,0.5s						

WSLR	**Whistler**	**5.20**	**103**	Pg	Pg	06 26 56.4	-11
WSLR				Sg	Sg	06 27 59.1	-17
WSLR				Trac		06 28 30.6	
	comp=Z,14nm,0.8s						
WSLR	**Whistler**	**5.20**	**103**	Pg	Pg	06 26 56.4	-11
WSLR				Sg	Sg	06 27 59.1	-17
WSLR				Trac		06 28 30.6	
	comp=Z,14nm,0.8s						
WPB	**Watts Point**	**5.20**	**109**	Pn	Pn	06 26 42.0	-1.0
WPB				Sg	Sg	06 28 08.4	-8.0
WPB				Trac		06 28 14.0	
	comp=Z,8.0nm,0.5s						
WPB	**Watts Point**	**5.20**	**109**	Pn	Pn	06 26 42.0	-1.0
WPB				Sg	Sg	06 28 08.4	-8.0
WPB				Trac		06 28 14.0	
	comp=Z,8.0nm,0.5s						
BIB	**Bowen Island**	**5.26**	**111**	Pn	Pn	06 26 42.3	-1.4
BIB				Pg	Pg	06 26 56.9	-11
BIB				Sg	Sg	06 28 08.9	-9.2
BIB				Trac		06 28 11.0	
	comp=Z,14nm,0.6s						
BIB	**Bowen Island**	**5.26**	**111**	Pn	Pn	06 26 42.3	-1.4
BIB				Pg	Pg	06 26 56.9	-11
BIB				Sg	Sg	06 28 08.9	-9.2
BIB				Trac		06 28 11.0	
	comp=Z,14nm,0.6s						
GOBB	**Galiano Island**	**5.37**	**116**	Pg	Pg	06 27 02.0	-8.3
GOBB				Trac		06 28 23.2	
	comp=Z,13nm,0.7s						
GOBB	**Galiano Island**	**5.37**	**116**	Pg	Pg	06 27 02.0	-8.3
GOBB				Trac		06 28 23.2	
	comp=Z,13nm,0.7s						
SNB	**Saturna Island**	**5.65**	**117**	Sg	Sg	06 28 18.5	-13
SNB	**Saturna Island**	**5.65**	**117**	Sg	Sg	06 28 18.5	-13
LLLB	**Lillooet**	**5.71**	**96**	Pg	Pg	06 27 07.7	-9.5
LLLB				Trac		06 28 32.4	
	comp=Z,9.0nm,0.5s						
LLLB	**Lillooet**	**5.71**	**96**	Pg	Pg	06 27 07.7	-9.5
LLLB				Trac		06 28 32.4	
	comp=Z,9.0nm,0.5s						
BMBC	**Bull Mountain**	**6.82**	**45**	Pn	Pn	06 27 02.9	-2.9
BMBC				Sg	Sg	06 28 54.7	-16
BMBC				Trac		06 29 04.2	
	comp=Z,71nm,0.9s						
BMBC	**Bull Mountain**	**6.82**	**45**	Pn	Pn	06 27 02.9	-2.9
BMBC				Sg	Sg	06 28 54.7	-16
BMBC				Trac		06 29 04.2	
	comp=Z,71nm,0.9s						
DLBC	**Dease Lake**	**6.90**	**3**	Pn	Pn	06 27 05.0	-1.8
DLBC				Sg	Sg	06 28 52.3	-21
DLBC				Trac		06 29 09.9	
	comp=Z,19nm,1.0s						
DLBC	**Dease Lake**	**6.90**	**3**	Pn	Pn	06 27 05.0	-1.8
DLBC				Sg	Sg	06 28 52.3	-21
DLBC				Trac		06 29 09.9	
	comp=Z,19nm,1.0s						
PNT	**Penticton**	**7.50**	**103**	Pg	Pg	06 27 48.5	-4.2
PNT				Sg	Sg	06 29 22.8	-10
PNT				Trac		06 29 39.5	
	comp=Z,12nm,0.9s						
PNT	**Penticton**	**7.50**	**103**	Pg	Pg	06 27 48.5	-4.2
PNT				Sg	Sg	06 29 22.8	-10
PNT				Trac		06 29 39.5	
	comp=Z,12nm,0.9s						
DOWB	**Downie Slide**	**7.67**	**86**	Sg	Sg	06 29 28.0	-10
DOWB	**Downie Slide**	**7.67**	**86**	Sg	Sg	06 29 28.0	-10
MNB	**Mounoet Dainar**	**7.72**	**80**	Sg	Sg	06 29 18.6	-22
MNB	**Mounoet Dainar**	**7.72**	**80**	Sg	Sg	06 29 18.6	-22

*IDC **06** 06:30:00.7±0.8, 9.25S×159.12E, mb3.9/6, mb1 4.1/7, mb1mx4.0/15, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=28.5km s-min=9.2km az=8.0*
*NEIC **06** 06:30:01.8±3.1, 9.26S×159.15E, h8km±22km, mb4.2/2, Error ellipse: s-maj=29.4km s-min=14.1km az=146.0*
ISC 06 06:30:02.9±1.9**, 9.4S**±0.2×**159.20E**±0.06**, h27**km±14km**, n11,** σ**0^{s}75**/12**, mb3.9**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.74**	**96**	Pg	**Pb**	**06 30 17.2**	**+0.1**
	697nm,0.3s,baz=239,slow=6.8,SNR=77						
HNR				Lg		06 30 27.9	
	4μm,0.3s,baz=270,slow=20,SNR=76						
HNR	**Honiara**	**0.74**	**96**	*e*Pn	**Pn**	**06 30 17.2**	**-0.4**
HNR				*e*Sn	**Sn**	**06 30 27.9**	**-0.2**
HNR				Lg		06 30 27.9	
CTA	**Charters Tower**	**16.44**	**228**	Pn	**P**	**06 33 54.5**	**+1.0**
	0.3nm,0.3s,baz=47,slow=13,SNR=3.8						
WRAB	**Tennant Creek**	**26.20**	**244**	*e*P	**P**	**06 35 37.0**	**-0.4**
	3.1nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**26.21**	**244**	P	**P**	**06 35 36.9**	**-0.7**
	1.5nm,0.6s,mb3.7,baz=70,slow=10.0,SNR=20						
WRA				PcP	PcP	06 39 04.0	-0.5
	0.4nm,0.6s,baz=70,slow=2.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**33.69**	**251**	P	**P**	**06 36 44.0**	**-0.1**
	3.7nm,0.9s,mb4.3,baz=117,slow=4.5,SNR=3.1						
VNDA	**Vanda**	**68.16**	**179**	P	**P**	**06 41 02.5**	**+0.1**
	0.5nm,0.7s,mb3.7,baz=334,slow=6.5,SNR=5.8						
VNDA	**Vanda**	**68.16**	**179**	*e*P	**P**	**06 41 02.1**	**-0.3**
	0.9nm,0.7s,mb3.9						
SONM	**Songino Array**	**73.58**	**326**	P	**P**	**06 41 35.3**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=143,slow=6.5,SNR=3.2						
MKAR	**Makanchi Array**	**87.92**	**318**	P	**P**	**06 42 51.0**	**-0.6**
	0.8nm,0.6s,mb4.2,baz=99,slow=6.3,SNR=10						
NVAR	**Mina Array Bea**	**89.93**	**51**	P	**P**	**06 43 03.4**	**+2.1**
	0.8nm,0.9s,mb4.0,baz=241,slow=9.3,SNR=5.4						

ISC 06 06:38:04.4±4.1**, 6.3S**±0.1×**130.5E**±0.2**, h102**km±53km**, n5,** σ**2^{s}00**/8**, mb4.2**/1**, 2C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.68**	**202**	*e*P	**P**	**06 41 03.7**	**+1.4**
	8.0nm,0.3s						
FITZ				*e*S	**S**	**06 43 20.1**	**-1.4**
WB2	**Warramunga Arr**	**14.10**	**165**	⇑*i*P	**P**	**06 41 18.2**	**-2.5**
WB2				*e*S	**S**	**06 43 54.3**	**-0.6**
ASPA	**Alice Springs**	**17.61**	**170**	*e*P	**P**	**06 42 06.3**	**+1.5**
ASPA				*e*S	**S**	**06 45 17.0**	**+2.1**
CTA	**Charters Tower**	**20.56**	**133**	⇑*i*P	**P**	**06 42 36.3**	**-0.8**
	2.3nm,0.7s						
STKA	**Stephens Creek**	**27.51**	**159**	*e*P	**P**	**06 43 43.4**	**-0.1**
	2.7nm,0.3s,mb4.2						

*NEIC **06** 06:46:24.9, 31.86S×71.65W, h25km, ML2.6(GUC), After GUC.*
GUC 06 06:46:24.9±0.8**, 31.86S×71.65W, h25**km±3km**, MD3.5, ML2.6, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.13**	**100**	⇑*i*P	Pb	06 46 29.7	0.0
CHNG				*i* S	Sb	06 46 33.2	+0.2
CHNG				AMP		06 46 33.9	
	comp=E,844nm,0.2s						
ILCH	**Illapel**	**0.47**	**62**	*e*P	Pb	06 46 34.7	+0.2
ILCH				*i* S	Sb	06 46 42.2	+1.0
ILCH				AMP		06 46 42.5	
	comp=N,737nm,0.2s						
CMCH	**Combarbala**	**0.88**	**39**	⇓*i*P	Pb	06 46 40.7	-0.7
CMCH				*i* S	Sb	06 46 53.0	+0.2
CMCH				AMP		06 46 59.4	
	comp=N,577nm,0.7s						
JACH	**Jahuel**	**1.22**	**133**	⇑*i*P	Pn	06 46 46.3	-0.3
JACH				*i* S	Sn	06 47 02.5	+0.2
ROCH	**El Roble**	**1.24**	**154**	⇑*i*P	Pn	06 46 46.4	-0.5
ROCH				*i* S	Sn	06 47 02.7	-0.1
LCCH	**Las Cruces**	**1.61**	**177**	⇑*i*P	Pn	06 46 52.6	+0.4
LCCH				*i* S	Sn	06 47 12.7	+0.3
DSCH	**Colegio Aleman**	**1.79**	**149**	*i* P	Pn	06 46 55.3	+0.6
DSCH				*i* S	Sn	06 47 18.1	+1.3
DSCH				AMP		06 47 21.2	
	comp=E,202nm,0.6s						
CLCH	**Cerro Calan**	**1.80**	**149**	⇓*i*P	Pn	06 46 55.5	+0.5
CLCH				*i* S	Sn	06 47 18.6	+1.4
CLCH				AMP		06 47 22.0	
	comp=E,122nm,0.7s						
FCH	**Farellones**	**1.86**	**142**	*i* P	Pn	06 46 56.7	+0.9
FCH				*i* S	Sn	06 47 21.1	+2.3
TACH	**Talagante**	**1.89**	**162**	*e*P	Pn	06 46 56.5	+0.3
ANTU	**Antumapu**	**1.91**	**154**	*e*P	Pn	06 46 57.6	+1.1
ANTU				*i* S	Sn	06 47 22.2	+2.2
ANTU				AMP		06 47 27.6	
	comp=E,60nm,0.3s						
PCH	**Pirque**	**2.00**	**152**	*e*P	Pn	06 46 58.3	+0.4
LNV	**Longovilo**	**2.10**	**174**	*e*P	Pn	06 46 60.0	+0.7
CHCH	**Chadas Angostu**	**2.23**	**158**	*e*P	Pn	06 47 01.8	+0.7

*MAN **06** 06:49:31.9, 11.06N×126.37E, h4km, mb4.2, ML3.0, MS2.7*
*IDC **06** 06:49:31.0±1.5, 11.01N×126.36E, mb4.0/7, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, MS3.2/1, Ms1 3.2/1, ms1mx2.9/29, Error ellipse: s-maj=114.9km s-min=19.2km az=73.0*
ISC 06 06:49:35.2±0.7**, 11.06N**±0.05×**126.29E**±0.07**, h33**km**, n19,** σ**1^{s}10**/21**, mb4.0**/8**, 1C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.99**	**303**	*e*P	**P**	**06 49 52.0**	**-0.8**
PLP	**Palo**	**1.29**	**275**	*e*P	**P**	**06 49 58.3**	**+1.4**
PLP				*e*S	**S**	**06 50 09.4**	**-3.9**
SCPH	**Surigao**	**1.49**	**212**	⇑*e*P	**P**	**06 49 59.5**	**-0.5**
SCPH				*e*S	**S**	**06 50 19.2**	**+0.8**
MSLP	**Maasin**	**1.68**	**237**	*e*P	**P**	**06 50 03.6**	**+1.1**
MSLP				*e*S	**S**	**06 50 23.5**	**+0.3**
CNP	**Catarman**	**2.15**	**312**	*e*P	**P**	**06 50 09.7**	**+0.4**
LLP	**Lapu-Lapu**	**2.40**	**252**	*i* P	**P**	**06 50 12.8**	**-0.1**
LLP				*e*S	**S**	**06 50 39.4**	**-1.9**
PVCP	**Virac**	**3.27**	**321**	*e*P	**P**	**06 50 25.8**	**+0.5**
RCP	**Roxas**	**3.51**	**278**	⇓*e*P	**P**	**06 50 29.1**	**+0.4**
GUIM	**Jordan**	**3.66**	**264**	*e*P	**P**	**06 50 32.1**	**+1.3**
GUMO	**Guam**	**18.33**	**80**	LR	LR	06 59 06.4	
	comp=Z,76nm,20.7s,baz=223,slow=32						
KAKA	**Kakadu**	**24.39**	**165**	*e*P	Px	06 55 10.0	
	6.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.98**	**181**	P	**P**	**06 55 32.6**	**-1.5**
	3.5nm,0.7s,mb4.2,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**31.81**	**166**	P	**P**	**06 55 56.6**	**-2.7**
	0.4nm,0.5s,mb3.5,baz=346,slow=8.9,SNR=11						
SONM	**Songino Array**	**40.29**	**339**	P	**P**	**06 57 11.6**	**+0.7**
	0.4nm,0.6s,mb3.3,baz=158,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**45.14**	**162**	P	**P**	**06 57 52.1**	**+1.5**
	5.0nm,1.1s,mb4.3,baz=304,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**51.41**	**322**	P	**P**	**06 58 38.3**	**-0.7**
	2.1nm,0.8s,mb4.1,baz=118,slow=8.1,SNR=14						
BVAR	**Borovoye Array**	**61.03**	**325**	P	**P**	**06 59 46.5**	**-1.4**
	0.8nm,0.7s,mb4.0,baz=104,slow=6.1,SNR=5.4						
ARCES	**ARCESS Array B**	**83.46**	**340**	P	**P**	**07 02 00.8**	**+0.4**
	4.5nm,0.8s,mb4.5,baz=63,slow=5.4,SNR=6.3						
FINES	**FINESS Array B**	**85.21**	**332**	P	**P**	**07 02 09.0**	**-0.3**
	0.9nm,0.5s,mb4.1,baz=72,slow=6.0,SNR=6.9						

*NEIC **06** 06:55:55.3, 15.66N×61.39W, h35km, MD3.5(TRN), MD3.1(FDF), After TRN.*
NEIC Felt [II] on Guadeloupe.
TRN 06 06:55:57.6, 15.73N×61.54W, h9km**, MD3.5, M3.1**(FDF)**, 7C-2D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.27**	**126**	⇓*i*P	Pg	06 56 02.9	-0.4
DWS				*e*S	Sg	06 56 07.1	0.0
PHG	**Guadaloupe-2**	**0.30**	**341**	⇑*i*P	Pg	06 56 03.4	-0.4
DOG	**Dongo Capester**	**0.31**	**346**	⇑*i*P	Pg	06 56 03.5	-0.5
SCG	**Saint Claude**	**0.33**	**336**	⇑*i*P	Pg	06 56 03.8	-0.5
BCG	**Bois Riant Cap**	**0.36**	**348**	⇑*i*P	Pg	06 56 04.3	-0.7
MDN	**Morne-Daniel**	**0.43**	**161**	⇓*i*P	Pg	06 56 05.4	-1.0
MDN				*e*S	Sg	06 56 11.8	-0.5
LZG	**Guadaloupe-1**	**0.47**	**331**	⇑*i*P	Pg	06 56 06.1	-0.9
LZG				*e*S	Sg	06 56 12.5	-0.8
DBCT	**Belle View Cho**	**0.49**	**157**	*e*P	Pg	06 56 06.5	-1.1
DBCT				*e*S	Sg	06 56 12.5	-1.7
DSHT	**Scott's Head**	**0.54**	**162**	*e*P	Pg	06 56 07.2	-1.2
DSHT				*e*S	Sg	06 56 14.3	-1.4
SEG	**Port Louis**	**0.67**	**3**	⇑*e*P	Pb	06 56 09.4	-1.7
DEG	**La Desirade**	**0.74**	**39**	⇑*i*P	Pb	06 56 09.7	-2.6
BPA	**Boggy Peak**	**1.34**	**347**	*e*P	Pb	06 56 21.1	-1.4
BPA				*e*S	Sb	06 56 38.9	-0.8
CPB	**Codrington**	**1.92**	**352**	*e*P	Pn	06 56 29.3	-1.6
CPB				*e*S	Sn	06 56 51.9	-3.5

*ZUR_RM **06** 07:08:29, 47.24N×11.70E, h6km, Mw3.1/12, Moment Tensor Solution. s12 Moment tensor: Scale 10^{13}Nm; M_{rr}1.12; $M_{\theta\theta}$-4.90; $M_{\phi\phi}$3.78; $M_{r\theta}$0.69; $M_{\theta\phi}$0.14; $M_{\phi r}$-2.91; Best double couple: $M_0$5.33×10^{13} NP1:ϕ_s231°, δ61°, λ19°. NP2:ϕ_s132°, δ74°, λ150°. Principal axes: T 5.659, Plg33°, Azm88°; N -.651, Plg56°, Azm286°; P -5.008, Plg8°, Azm184°;*
*VIE **06** 07:08:29.7±0.3, 47.25N×11.71E, h8km±4km, mb3.4/5, ML3.6/8 Error ellipse: s-maj=3.5km s-min=1.8km az=2.0*
*PRU **06** 07:08:30.6, 47.35N×11.69E*
*BGR **06** 07:08:30.8±0.2, 47.28N×11.70E, h10km, ML3.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=173.0*
*NEIC **06** 07:08:30.3±0.4, 47.38N×11.69E, h3km±3km, ML3.6(LDG), ML3.6(FUR), ML3.5(VIE), ML3.4(SZGRF), ML3.3(STR), Error ellipse: s-maj=3.1km s-min=2.8km az=160.0*
NEIC Felt [V] in the Hall in Tirol area.
*ZUR **06** 07:08:30.8, 47.30N×11.52E, h1km, ML3.1/9*
*CSEM **06** 07:08:30.3±0.0, 47.30N×11.69E, h12km, ML3.7/20, Error ellipse: s-maj=1.0km s-min=0.7km az=28.0*
*ROM **06** 07:08:30.6±0.6, 47.23N×11.62E, h4km, Md3.0/1, Ml2.9/2, Error ellipse: s-maj=9.6km s-min=3.4km az=8.0*
*LDG **06** 07:08:32.9±0.1, 47.38N×11.65E, h10km, Ml3.6/22, Error ellipse: s-maj=3.6km s-min=2.1km az=36.0*
*LEDBW **06** 07:08:34.2±2.0, 47.40N×11.55E, h10km, ML3.7, Error ellipse: s-maj=44.0km s-min=32.0km az=163.0*
*STR **06** 07:08:37.4±0.4, 47.53N×11.27E, h10km±1km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 06 07:08:29.0±0.1**, 47.373N**±0.009×**11.69E**±0.01**, h10**km**, n212,** σ**1^{s}42**/383**, 27C-23D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.08**	**244**	⇓*i*PG	**Pg**	**07 08 32.5**	**+1.0**
WATA				*i* SG	**Sg**	**07 08 34.0**	**+0.9**
	3μm,0.2s						
WATA	**Walderalm**	**0.08**	**244**	⇓*e*Pg	**Pg**	**07 08 32.4**	**+1.0**
	comp=Z,2μm,0.1s,SNR=239						
WATA	**Walderalm**	**0.08**	**244**	⇓*i*Pg	**Pg**	**07 08 32.5**	**+1.0**
WATA				*i* Sg	**Sg**	**07 08 34.0**	**+0.9**
WATA	**Walderalm**	**0.08**	**244**	⇓*i*Pg	**Pg**	**07 08 32.5**	**+1.0**
WATA				Sg	**Sg**	**07 08 34.4**	**+1.3**
	3μm,0.2s						
WTTA	**Wattenberg**	**0.12**	**198**	⇓*i*PG	**Pg**	**07 08 32.6**	**+0.7**
WTTA				*i* SG	**Sg**	**07 08 33.9**	**0.0**
	10μm,0.2s						
WTTA	**Wattenberg**	**0.12**	**198**	*e*Pg	**Pg**	**07 08 32.1**	**+0.2**
WTTA				*e*Sg	**Sg**	**07 08 33.7**	**-0.2**
WTTA	**Wattenberg**	**0.12**	**198**	⇓*e*Pg	**Pg**	**07 08 32.6**	**+0.7**
	comp=Z,3μm,0.1s,SNR=1181						
WTTA				⇓*i*Sg	**Sg**	**07 08 33.9**	**+0.1**
	comp=Z,10μm,0.2s						
WTTA	**Wattenberg**	**0.12**	**198**	⇓*i*Pg	**Pg**	**07 08 32.6**	**+0.7**
WTTA				*i* Sg	**Sg**	**07 08 33.9**	**0.0**
SCE	**Schlegeis**	**0.34**	**177**	⇓*i*Pg	**Pg**	**07 08 36.2**	**+0.3**
SCE				*i* Sg	**Sg**	**07 08 40.1**	**-0.5**
SQTA	**Sankt Quirin**	**0.36**	**245**	⇑*i*PG	**Pg**	**07 08 36.7**	**+0.3**
SQTA				*i* SG	**Sg**	**07 08 40.7**	**-0.7**
	1μm,0.2s						
SQTA	**Sankt Quirin**	**0.36**	**245**	⇑*e*Pg	**Pg**	**07 08 36.6**	**+0.2**
	comp=Z,2μm,0.1s,SNR=566						
SQTA	**Sankt Quirin**	**0.36**	**245**	⇑*i*Sg	**Sg**	**07 08 41.8**	**+0.4**
	comp=Z,1μm,0.2s						
SQTA	**Sankt Quirin**	**0.36**	**245**	Pg	**Pg**	**07 08 36.7**	**+0.3**
	2μm,0.1s,SNR=566						
SQTA				Sg	**Sg**	**07 08 41.8**	**+0.4**
	1μm,0.2s						
MOTA	**Moosalm**	**0.40**	**266**	⇑*i*PG	**Pg**	**07 08 37.2**	**0.0**
MOTA				*i* SG	**Sg**	**07 08 42.5**	**-0.1**
	542nm,0.2s						
MOTA	**Moosalm**	**0.40**	**266**	⇑*e*Pg	**Pg**	**07 08 37.1**	**0.0**
	comp=Z,109nm,0.1s,SNR=235						
MOTA	**Moosalm**	**0.40**	**266**	⇑*i*Sg	**Sg**	**07 08 43.2**	**+0.6**
	comp=Z,542nm,0.2s						
MOTA	**Moosalm**	**0.40**	**266**	⇑*i*Pg	**Pg**	**07 08 37.2**	**0.0**
MOTA				Sg	**Sg**	**07 08 43.2**	**+0.6**
	542nm,0.2s						
RJOB	**Jochberg**	**0.83**	**64**	*e*Pg	**Pg**	**07 08 47.0**	**+1.2**
FUR	**Furstenfeldbru**	**0.84**	**341**	*e*Pg	**Pg**	**07 08 48.2**	**+2.3**
	SNR=52						
FUR				*e*Sg	**Sg**	**07 09 00.8**	**+3.7**
	SNR=9.4						
FUR	**Furstenfeldbru**	**0.84**	**341**	*e*Pg	**Pg**	**07 08 48.1**	**+2.2**
FUR				*e*Sg	**Sg**	**07 09 00.9**	**+3.8**
FUR	**Furstenfeldbru**	**0.84**	**341**	*e*Pg	**Pg**	**07 08 48.1**	**+2.2**
FUR				Sg	**Sg**	**07 09 00.8**	**+3.7**
	SNR=9.4						
AFL	**Alpe Faloria**	**0.91**	**158**	⇓*i*Pg	**Pg**	**07 08 47.3**	**+0.1**
BGLD	**Berchtesgaden**	**0.94**	**72**	⇑*i*Pg	**Pg**	**07 08 48.9**	**+1.0**
OBER	**Oberstdorf**	**0.95**	**273**	*e*Pg	**Pg**	**07 08 48.2**	**+0.2**
OBER				*e*Sg	**Sg**	**07 09 01.9**	**+1.2**
CSMI	**Casera Mimoias**	**1.09**	**142**	*i* Pg	**Pg**	**07 08 50.4**	**-0.4**
CSMI				*i* Sg	**Sg**	**07 09 04.1**	**-1.2**
UBR	**Uberruh**	**1.11**	**287**	⇓P	**Pb**	**07 08 52.0**	**+2.1**
UBR				S	**Sb**	**07 09 08.0**	**+3.7**
UBR				SmS		07 09 10.3	
UBR	**Uberruh**	**1.11**	**287**	P	**Pb**	**07 08 52.0**	**+2.1**
UBR				S	**Sb**	**07 09 08.0**	**+3.7**
FAU	**Forcella Aurin**	**1.16**	**170**	⇓*i*Pg	**Pg**	**07 08 51.4**	**-0.9**
KBA	**Koelnbreinsper**	**1.17**	**104**	⇑*i*PG	**Pg**	**07 08 52.3**	**-0.1**
KBA				*i* SG	**Sg**	**07 09 07.4**	**-0.6**
	90nm,0.2s						
KBA	**Koelnbreinsper**	**1.17**	**104**	*e*Pg	**Pg**	**07 08 52.3**	**-0.1**
	SNR=186						
KBA				*e*Sg	**Sg**	**07 09 07.2**	**-0.8**
	SNR=6.4						
KBA	**Koelnbreinsper**	**1.17**	**104**	⇑*e*Pg	**Pg**	**07 08 52.3**	**-0.1**
	comp=Z,49nm,0.1s,SNR=297						
KBA	**Koelnbreinsper**	**1.17**	**104**	Pg	**Pg**	**07 08 52.3**	**-0.1**
	49nm,0.1s,SNR=297						
KBA				Sg	**Sg**	**07 09 07.4**	**-0.6**
	90nm,0.2s						
CSO	**Casso**	**1.18**	**158**	⇑*e*Pg	**Pg**	**07 08 51.9**	**-0.9**
CSO				*e*Sg	**Sg**	**07 09 07.4**	**-1.2**
CSO	**Casso**	**1.18**	**158**	*e*Pg	**Pg**	**07 08 51.8**	**-0.9**
CSO				*e*Sg	**Sg**	**07 09 07.4**	**-1.1**
ZOU	**Zoufplan**	**1.20**	**132**	⇓*i*Pg	**Pg**	**07 08 52.4**	**-0.7**
ZOU				*i* Sg	**Sg**	**07 09 07.5**	**-1.6**
DAVA	**Damuels**	**1.23**	**267**	⇑*i*PG	**Pg**	**07 08 53.6**	**-0.1**
DAVA				*i* SG	**Sg**	**07 09 11.7**	**+1.5**
	391nm,0.2s						
DAVA	**Damuels**	**1.23**	**267**	*e*Pn	**Pn**	**07 08 53.7**	**+1.4**
	SNR=14						
DAVA				*e*Pg	**Pg**	**07 08 55.6**	**+1.9**
	SNR=7.2						
DAVA				*e*Sg	**Sg**	**07 09 11.7**	**+1.5**
	SNR=2.7						
DAVA	**Damuels**	**1.23**	**267**	⇑*e*Pg	**Pg**	**07 08 53.6**	**-0.1**
	comp=Z,160nm,0.2s,SNR=176						
DAVA	**Damuels**	**1.23**	**267**	Pg	**Pg**	**07 08 53.6**	**-0.1**
	160nm,0.2s,SNR=176						
DAVA				Sg	**Sg**	**07 09 11.7**	**+1.5**
	391nm,0.2s						
FUORN	**Ofenpass**	**1.23**	**233**	Pn	**Pn**	**07 08 52.5**	**+0.2**
FUORN	**Ofenpass**	**1.23**	**233**	⇑*i*P*P		07 08 52.2	
BRMO	**Bormio**	**1.27**	**226**	Pn	**Pn**	**07 08 53.2**	**+0.3**
	64nm,0.2s						
PLRO	**Paularo**	**1.30**	**129**	⇓*e*Pg	**Pg**	**07 08 54.0**	**-0.9**
PLRO				*e*Sg	**Sg**	**07 09 10.6**	**-1.6**
CTI	**Castel Tesino**	**1.33**	**181**	Pn	**Pn**	**07 08 54.3**	**+0.7**
	207nm,0.3s						
DAVOX	**Davos**	**1.37**	**245**	Pn	**Pn**	**07 08 54.8**	**+0.5**
DAVOX	**Davos**	**1.37**	**245**	⇑*i*P*P		07 08 54.8	
MLNI	**Malnisio**	**1.38**	**152**	⇑*e*Pg	**Pg**	**07 08 56.0**	**-0.6**
MLNI				*e*Sg	**Sg**	**07 09 13.0**	**-1.9**
MPRI	**Monte Prat**	**1.44**	**141**	⇓*i*Pg	**Pg**	**07 08 57.0**	**-0.9**
MPRI				*i* Sg	**Sg**	**07 09 15.4**	**-1.8**
CAE	**Caneva**	**1.46**	**159**	*e*Pg	**Pg**	**07 08 57.9**	**-0.4**
CAE				*e*Sg	**Sg**	**07 09 17.1**	**-0.6**
BERNI	**Berninapass**	**1.49**	**231**	⇑*i*P*	**Pb**	**07 08 57.3**	**+0.9**
LIENZ	**Alp Oberkamor**	**1.49**	**268**	*e*Pg	**Pg**	**07 08 59.2**	**+0.3**
	SNR=37						
LIENZ				*e*Sg	**Sg**	**07 09 19.0**	**+0.1**
	SNR=4.8						
LIENZ	**Alp Oberkamor**	**1.49**	**268**	*e*P*	**Pb**	**07 08 58.4**	**+2.0**
LIENZ	**Alp Oberkamor**	**1.49**	**268**	Pg	**Pg**	**07 08 59.2**	**+0.3**
	SNR=37						
LIENZ				Sg	**Sg**	**07 09 19.0**	**+0.2**
	SNR=4.8						
CGRP	**Cima Grappa**	**1.50**	**177**	*e*Pg	**Pg**	**07 08 57.6**	**-1.4**
PTCC	**Patocco-Chiusa**	**1.50**	**130**	Pn	**Pn**	**07 08 58.5**	**+2.4**
	169nm,0.5s						
NORI	**Noerdlinger Ri**	**1.52**	**333**	⇓*i*Pn	**Pn**	**07 08 52.2**	**-4.3**
MABI	**Malga Bissina**	**1.55**	**212**	Pn	**Pn**	**07 08 58.2**	**+1.4**
	122nm,0.6s						
LSR	**Lussari**	**1.55**	**125**	⇑*e*Pg	**Pg**	**07 08 58.9**	**-1.1**
LSR				*e*Sg	**Sg**	**07 09 19.0**	**-1.7**
BAD	**Bernadia**	**1.56**	**136**	⇓*e*Pg	**Pg**	**07 08 59.1**	**-1.1**
BAD				*e*Sg	**Sg**	**07 09 18.9**	**-2.2**
HDH	**Heidenheim**	**1.57**	**321**	Pn	**Pn**	**07 08 58.7**	**+1.6**
HDH				Pg	**Pg**	**07 09 00.7**	**+0.3**
HDH				Sn	**Sn**	**07 09 19.2**	**+1.6**
HDH				Sg	**Sg**	**07 09 22.5**	**+1.2**
HDH	**Heidenheim**	**1.57**	**321**	S	**Sb**	**07 09 19.3**	**+1.8**
HDH	**Heidenheim**	**1.57**	**321**	SG	**Sg**	**07 09 22.5**	**+1.2**
PLONS	**Plons**	**1.61**	**259**	*e*Pn	**Pn**	**07 09 00.0**	**+2.3**
COLI	**Coloredo**	**1.70**	**136**	*e*Pg	**Pg**	**07 09 02.3**	**-0.7**
COLI				*e*Sg	**Sg**	**07 09 24.5**	**-1.2**
TLI	**Talmassons**	**1.75**	**146**	⇓*e*Pg	**Pg**	**07 09 03.5**	**-0.5**
VDL	**Val di Lei**	**1.76**	**241**	*e*P*	**Pb**	**07 09 01.7**	**+0.7**
DRE	**Drenchia**	**1.80**	**131**	*e*Pg	**Pg**	**07 09 03.8**	**-1.2**
DRE				*e*Sg	**Sg**	**07 09 27.3**	**-1.8**
MOA	**Molln**	**1.81**	**74**	⇑*i*PG	**Pg**	**07 09 04.5**	**-0.7**
MOA				*i* SG	**Sg**	**07 09 30.5**	**+1.2**
	79nm,0.3s						
MOA	**Molln**	**1.81**	**74**	*e*(Pn)	**Pn**	**07 09 03.2**	**+2.6**
	SNR=2.4						
MOA				*e*Pg	**Pg**	**07 09 04.9**	**-0.2**
	SNR=47						
MOA				*e*Sg	**Sg**	**07 09 29.3**	**0.0**
	SNR=7.3						
MOA	**Molln**	**1.81**	**74**	⇑*e*Pg	**Pg**	**07 09 04.5**	**-0.6**
	comp=Z,98nm,0.3s,SNR=118						
MOA	**Molln**	**1.81**	**74**	Pg	**Pg**	**07 09 04.9**	**-0.3**
	SNR=47						
MOA				Sg	**Sg**	**07 09 30.5**	**+1.2**
	79nm,0.3s						
CADS	**Cadrg**	**1.81**	**128**	*i* Pn	**Pn**	**07 09 03.9**	**+3.2**
CADS				*e*Sn	**Sn**	**07 09 26.9**	**+3.1**
	comp=Z,63nm,0.2s						
TUE	**Stuetta**	**1.84**	**242**	Pn	**Pn**	**07 09 03.7**	**+2.7**
	comp=Z,159nm,0.5s						
GUT	**Gutenstein**	**1.87**	**293**	Pn	**Pn**	**07 09 04.0**	**+2.5**
GUT				Sg	**Sg**	**07 09 30.5**	**-0.9**
SISB	**Singen-Sch Ber**	**1.87**	**281**	Pn	**Pn**	**07 09 04.2**	**+2.8**
SISB				Sn	**Sn**	**07 09 30.9**	**+5.6**
WILA	**Wila**	**1.89**	**272**	*e*Pg	**Pg**	**07 09 06.1**	**-0.7**
	SNR=38						
WILA				*e*Sg	**Sg**	**07 09 31.2**	**-0.8**
	SNR=15						
LLS	**Linth-Limmern**	**1.90**	**255**	*e*Pn	**Pn**	**07 09 04.8**	**+2.9**
WET	**Wettzell**	**1.94**	**24**	*e*Pn	**Pn**	**07 09 04.2**	**+1.8**
	SNR=8.3						
WET				*e*Sn	**Sn**	**07 09 28.9**	**+1.8**
	SNR=4.9						
WET				*e*Sg	**Sg**	**07 09 33.7**	**-0.1**
	SNR=5.7						
WET	**Wettzell**	**1.94**	**24**	*e*Pn	**Pn**	**07 09 04.2**	**+1.7**
WET				*e*Sn	**Sn**	**07 09 28.8**	**+1.7**
WET				*e*Sg	**Sg**	**07 09 33.8**	**0.0**
WET	**Wettzell**	**1.94**	**24**	Pn	**Pn**	**07 09 04.2**	**+1.7**
	SNR=8.3						
WET				*e*Sn	**Sn**	**07 09 28.8**	**+1.7**
WET				Sg	**Sg**	**07 09 33.7**	**-0.1**
	SNR=5.7						
GEC2	**GERESS Array S**	**2.00**	**42**	*e*Pn	**Pn**	**07 09 05.2**	**+1.9**
GEC2				*e*Sn	**Sn**	**07 09 31.0**	**+2.4**
	SNR=6.9						
GEC2				*e*Sg	**Sg**	**07 09 36.0**	**+0.5**
	SNR=5.1						
GEC2	**GERESS Array S**	**2.00**	**42**	*e*Pn	**Pn**	**07 09 05.2**	**+1.9**
GEC2				*e*Sn	**Sn**	**07 09 31.3**	**+2.8**
GEC2				*e*Sg	**Sg**	**07 09 36.0**	**+0.4**
TEOL	**Teolo**	**2.01**	**180**	⇑*e*Pg	**Pg**	**07 09 06.0**	**-3.3**
VOJS	**Vojsko**	**2.02**	**131**	*e*Pn	**Pn**	**07 09 06.6**	**+3.0**
VOJS				*i* Sn	**Sn**	**07 09 34.1**	**+5.0**
VOY	**Vojsko**	**2.03**	**131**	*e*Pn	**Pn**	**07 09 06.4**	**+2.7**
VOY				*e*Sn	**Sn**	**07 09 33.4**	**+4.2**
SPAK	**Spaichingen**	**2.09**	**291**	Sg	**Sg**	**07 09 38.1**	**-0.5**
TUBL	**Tuebingen Lnz**	**2.10**	**304**	Sg	**Sg**	**07 09 38.6**	**-0.2**
ZUR	**Zurich**	**2.11**	**271**	*e*Pg	**Pg**	**07 09 09.7**	**-1.6**

SNR=6.3
ZUR eSg Sg 07 09 37.9 -1.5
SNR=11
OBKA Obir 2.14 113⇑ *i*PG Pg 07 09 09.3 -2.5
OBKA *i* SG Sg 07 09 39.7 -0.7
comp=Z,78nm,0.3s
OBKA Obir 2.14 113 *e*Pg Pg 07 09 09.3 -2.6
SNR=34
OBKA eSg Sg 07 09 37.3 -3.1
SNR=3.4
OBKA Obir 2.14 113 *e*Pg Pg 07 09 09.2 -2.6
comp=Z,11nm,0.3s,SNR=35
KHC Kasperske Hory 2.17 35 *e*PN Pn 07 09 06.6 +0.9
KHC *e*PG Pg 07 09 11.5 -0.8
KHC *e*SN Sn 07 09 35.1 +2.3
KHC *e*SG Sg 07 09 40.3 -0.9
comp=Z,174nm,0.3s
STU Stuttgart 2.18 311 *e*Pg Pg 07 09 12.6 0.0
SNR=3.8
STU eSg Sg 07 09 41.9 +0.2
SNR=4.1
STU Stuttgart 2.18 311 *e*Pg Pg 07 09 12.3 -0.3
STU eSg Sg 07 09 36.1 -5.5
STU Stuttgart 2.18 311 *e*Pg Pg 07 09 12.3 -0.3
STU eSg Sg 07 09 36.2 -5.5
TRI Trieste 2.20 139 Pn Pn 07 09 09.0 +2.9
TRI Sn Sn 07 09 39.0 +5.4
comp=Z,37nm,0.3s
SLE Schleitheim 2.20 281 *e*Pg Pg 07 09 12.7 -0.2
SNR=14
SLE eSg Sg 07 09 40.1 -2.1
SNR=6.8
JAVS Javornik 2.21 131 *e*Pn Pn 07 09 09.2 +3.0
JAVS *i* Sn Sn 07 09 37.9 +4.0
comp=Z,59nm,0.4s
FUSIO Fusio 2.27 247⇓ *i*Pn Pn 07 09 10.2 +3.1
MUGIO Muggio 2.33 232 Pn Pn 07 09 11.8 +3.8
LBG Lerchenberg 2.33 305 Sn Sn 07 09 36.3 -0.7
LBG Sg Sg 07 09 45.3 -1.4
LBG Lerchenberg 2.33 305 S Sg 07 09 45.3 -1.4
GRA1 Grafenberg Arr 2.34 353 *e*Pg Pg 07 09 16.0 +0.2
GRA1 eSg Sg 07 09 48.2 +1.2
GRA1 Grafenberg Arr 2.34 353 Pg Pg 07 09 16.0 +0.2
GRA1 Sg Sg 07 09 48.2 +1.2
GRF Grafenberg Arr 2.34 353 *e*Pg Pg 07 09 16.0 +0.2
GRF eSg Sg 07 09 48.2 +1.2
SIND Sindeldorf 2.42 326 ⇑Pn Pn 07 09 10.3 +1.1
SIND Pg Pg 07 09 17.1 -0.1
SIND Sg Sg 07 09 48.8 -0.7
SIND Sindeldorf 2.42 326 PG Pg 07 09 17.2 -0.1
SIND SG Sg 07 09 48.8 -0.7
ROTZ Rotzenmuhle 2.42 8⇓ *i*Pn Pn 07 09 09.8 +0.5
SULZ Sulz-Cheisache 2.43 275 *e*Pg Pg 07 09 16.9 -0.6
SNR=4.7
SULZ eSg Sg 07 09 47.5 -2.4
SNR=5.8
BFO Black Forest 2.46 294 *e*Pn Pn 07 09 11.3 +1.5
SNR=8.2
BFO *e*Pg Pg 07 09 17.9 -0.1
SNR=4.3
BFO eSn Sn 07 09 39.3 -0.9
SNR=4.3
BFO eSg Sg 07 09 49.6 -1.3
SNR=5.3
BFO Black Forest 2.46 294 P Pn 07 09 11.8 +2.0
BFO S Sn 07 09 48.9 +8.7
HASLI Hasliberg 2.50 257⇓ *i*Pn Pn 07 09 12.7 +2.3
VAI Varese 2.51 234 Pn Pn 07 09 13.7 +3.1
comp=Z,39nm,0.3s
FELD Feldberg 2.54 283 Pn Pn 07 09 13.8 +2.8
FELD Sg Sg 07 09 51.2 -2.5
ARSA Arzberg 2.61 91⇑ *i*PN Pn 07 09 11.8 -0.3
ARSA *i* PG Pg 07 09 19.2 -2.0
ARSA *i* SG Sg 07 09 56.1 +0.1
comp=Z,29nm,0.3s
ARSA Arzberg 2.61 91 *e*Pg Pg 07 09 18.9 -2.3
SNR=14
ARSA eSg Sg 07 09 54.0 -2.0
SNR=3.1
ARSA Arzberg 2.61 91⇑ *i*Pn Pn 07 09 11.8 -0.3
ARSA ⇑*e*Pg Pg 07 09 19.2 -2.0
comp=Z,35nm,0.4s,SNR=13
ARSA Arzberg 2.61 91⇓ *i*Sg Sg 07 09 56.1 0.0
comp=Z,29nm,0.3s
KIZ Kirchzarten 2.61 284 Pn Pn 07 09 13.7 +1.6
KIZ Pg Pg 07 09 21.3 +0.1
KIZ Sn Sn 07 09 40.6 -3.6
KIZ Sg Sg 07 09 53.7 -2.4
KIZ Kirchzarten 2.61 284 S Sn 07 09 40.6 -3.6
KNDS Knezji Dol 2.62 134 *i* Pn Pn 07 09 15.0 +2.8
KNDS eSn Sn 07 09 47.7 +3.3
comp=Z,66nm,0.5s
PDKS Podkum 2.63 119 *i* Pn Pn 07 09 14.9 +2.6
MANZ Manzenberg 2.63 6⇓ *i*Pn Pn 07 09 12.5 +0.2
VISS Visnje 2.68 125 *i* Pn Pn 07 09 15.3 +2.2
BBS Basel-Blauen 2.84 273 Pn Pn 07 09 17.4 +2.1
BBS Pg Pg 07 09 25.4 -0.3
BBS Sg Sg 07 10 02.3 -1.3
BBS Basel-Blauen 2.84 273 PG Pg 07 09 25.4 -0.3
BBS SG Sg 07 10 02.3 -1.3
BBS Basel-Blauen 2.84 273 Pn Pn 07 09 16.7 +1.4
LIBD Limburg 2.86 287 Pg Pg 07 09 25.2 -1.0
LIBD Sg Sg 07 10 03.0 -1.4
LIBD Limburg 2.86 287 S Sg 07 10 03.0 -1.4
MMK Mattmark 2.88 244 Pn Pn 07 09 19.1 +3.2
SWS Schriesheim 2.90 318 Pn Pn 07 09 17.9 +1.7
SWS Sn Sn 07 09 49.7 -1.8
SWS Schriesheim 2.90 318 ⇑P Pn 07 09 17.3 +1.1
SWS P 07 09 17.9
SWS S Sn 07 09 49.7 -1.8
SWS Schriesheim 2.90 318 PN Pn 07 09 17.9 +1.7
SWS Schriesheim 2.90 318 S Sn 07 09 49.7 -1.8
NKC Novy Kostel 2.91 10 *e*PN Pn 07 09 16.5 +0.3
NKC eSG Sg 07 10 03.8 -2.0
MCGN Macugnaga 2.92 242 Pn Pn 07 09 19.7 +3.3
TOD Tromm 2.94 320 Pn Pn 07 09 18.5 +1.7
TOD Sn Sn 07 09 53.3 +0.7
TOD Tromm 2.94 320 Pn Pn 07 09 17.9 +1.1
GUNZ Gunzen 3.02 8 *e*Pn Pn 07 09 18.0 0.0
SNR=5.6
GUNZ *e*Pg Pg 07 09 28.3 -1.1
SNR=11
GUNZ eSg Sg 07 10 09.5 -0.2
SNR=3.0
BOURR Bourrignon 3.03 272 *e*(Pn) Pn 07 09 19.5 +1.6
SNR=5.0
BOURR *e*Pg Pg 07 09 28.5 -1.0
SNR=6.1
BOURR eSg Sg 07 10 07.4 -2.5
SNR=2.9
LANF Langenberg 3.06 303 Pn Pn 07 09 20.0 +1.6
LANF Sg Sg 07 10 09.3 -1.5
TANN Tannenbergstha 3.09 9 *e*Pn Pn 07 09 19.3 +0.4
SNR=4.8
TANN *e*Pg Pg 07 09 29.5 -1.2
SNR=6.9
TANN eSg Sg 07 10 11.1 -0.7
SNR=2.6
KTD Kalmit 3.09 310 Pn Pn 07 09 20.7 +1.8
WLS Welschbruch 3.10 291 Pn Pn 07 09 20.3 +1.3
WLS Welschbruch 3.10 291 Sg Sg 07 10 09.4 -2.7
WERD Werda 3.10 7 *e*Pn Pn 07 09 20.1 +1.0
SNR=5.1
WERD *e*Pg Pg 07 09 29.7 -1.3
SNR=9.2
WERD eSg Sg 07 10 12.1 -0.3
SNR=2.6
MOF Molkenrain 3.12 281 Pn Pn 07 09 21.5 +2.2
MOF Molkenrain 3.12 281 Sg Sg 07 10 09.7 -3.2
CDF Champ du Feu 3.15 291 *e*Pn Pn 07 09 20.7 +1.1
CDF *e*Pg Pg 07 09 30.6 -1.2
CDF eSg Sg 07 10 09.7 -4.1
comp=Z,72nm,0.3s
ECH Echery 3.17 287 Pn Pn 07 09 21.8 +1.8
ECH Sn Sn 07 09 59.0 +0.8
ECH Sg Sg 07 10 10.6 -3.9
ECH Echery 3.17 287 Pn Pn 07 09 21.6 +1.6
ECH Sg Sg 07 10 10.5 -4.0
PRU Pruhonice 3.23 35 eSG Sg 07 10 12.3 -4.3
MOX Moxa 3.27 359 *e*Pn Pn 07 09 21.2 -0.3
SNR=5.8
MOX *e*Pg Pg 07 09 33.8 -0.6
SNR=3.2
MOX eSn Sn 07 09 59.6 -1.3
SNR=1.8
MOX eSg Sg 07 10 17.5 -0.6
SNR=1.8
MOX Moxa 3.27 359 *i* P Pn 07 09 21.0 -0.5
MOX Pg Pg 07 09 34.0 -0.4
MOX S Sn 07 09 59.0 -1.9
MOX Sg Sg 07 10 17.0 -1.1
MOX Moxa 3.27 359 *e*Pn Pn 07 09 21.0 -0.5
MOX *e*Pg Pg 07 09 33.7 -0.7
MOX *e*Sn Sn 07 09 59.9 -1.0
MOX *e*Sg Sg 07 10 17.0 -1.1
HINF Hinteralfeld 3.30 280 *e*Pn Pn 07 09 22.3 +0.4
HINF *e*Sn Sn 07 09 59.4 -2.2
HINF *e*Sg Sg 07 10 12.5 -6.5
comp=Z,90nm,0.4s
LOMF Lomont 3.30 271 Sg Sg 07 10 15.6 -3.5
LOMF Lomont 3.30 271 Pn Pn 07 09 23.3 +1.4
LOMF Pg Pg 07 09 33.7 -1.3
SFI Santa Sofia 3.47 178 Pn Pn 07 09 26.1 +1.8
SFI Sn Sn 07 10 09.1 +3.2
comp=Z,11nm,0.4s
PGD Poggio Sodo 3.50 180 Pn Pn 07 09 27.4 +2.7
comp=Z,8.0nm,0.5s
TNS Taunus Mts 3.57 324 *e*Pn Pn 07 09 27.0 +1.4
SNR=21
TNS *e*Sn Sn 07 10 06.3 -2.0
SNR=5.7
TNS eSg Sg 07 10 26.5 -1.3
SNR=2.2
TNS Taunus Mts 3.57 324 *e*Pn Pn 07 09 27.1 +1.5
TNS *e*Sn Sn 07 10 08.8 +0.5
TNS eSg Sg 07 10 26.1 -1.7
NVLJ Novalja 3.58 141 *i* Pn Pn 07 09 27.8 +1.9
NVLJ *i* Sn Sn 07 10 09.6 +1.0
NVLJ Novalja 3.58 141 *i* Pn Pn 07 09 27.7 +1.3
HAU Haudompre 3.66 282 *e*Pn Pn 07 09 28.3 +1.3
HAU *e*Sn Sn 07 10 07.4 -3.3
HAU *e*Sg Sg 07 10 25.8 -5.2
comp=Z,82nm,0.3s
PVCC Panska Ves 3.69 30 *e*SG Sg 07 10 27.8 -3.9
ABH Alteburg 3.72 314 Pn Pn 07 09 29.5 +1.7
ABH Sn Sn 07 10 05.3 -6.9
ZST Bratislava 3.74 75 *e*PN Pg 07 09 42.5 -1.3
ZST *e*SN Sg 07 10 28.7 -5.0
VRAC Vranov 3.80 58 *e*Sn Sn 07 10 14.1 -0.2
BRG Berggiesshubel 3.80 22 *i* Sg Sg 07 10 39.5 +3.8
BRG Berggiesshubel 3.80 22 Pn Pn 07 09 29.2 +0.2
BRG Pg Pg 07 09 41.9 -3.1
BRG Sn Sn 07 10 13.5 -0.8
BRG Sg Sg 07 10 39.5 +3.8
BRG Berggiesshubel 3.80 22 Pn Pn 07 09 29.2 +0.2
BRG Berggiesshubel 3.80 22 Pg Pg 07 09 41.9 -3.1
LPG La Plagne 3.89 243 *e*Pn Pn 07 09 31.4 +1.1
LPG *e*Sn Sn 07 10 13.4 -3.2
comp=Z,27nm,0.5s
LPL La Plagne 3.90 243 *e*Pn Pn 07 09 31.6 +1.3
LPL *e*Sn Sn 07 10 12.8 -3.8
comp=Z,34nm,0.7s
CABF La Chapelle 3.91 261 *e*Pn Pn 07 09 31.3 +0.8
CABF *e*Pg Pg 07 09 43.9 -3.1
CABF *e*Sn Sn 07 10 13.7 -3.2
CABF *e*Sg Sg 07 10 33.5 -5.6
comp=Z,66nm,0.7s
THEF They Montfort 3.94 285 Pn Pn 07 09 32.2 +1.3
THEF Sg Sg 07 10 35.3 -4.8
THEF They Montfort 3.94 285 P Pn 07 09 32.3 +1.5
THEF S Sg 07 10 35.5 -4.6
SMOL Smolenice 4.02 71 *e*SN Sg 07 10 40.4 -2.6
CLL Collm 4.03 12 *e*Pn Pn 07 09 32.5 +0.3
SNR=2.6
CLL *i* Pg Pg 07 09 54.3 +4.8
CLL *i* SG Sg 07 10 41.6 -1.7
SNR=4.9
CLL Collm 4.03 12 *i* PN Pn 07 09 42.2 +10
CLL *i* PG Pg 07 09 54.3 +4.8
CLL *i* SG Sg 07 10 40.6 -2.7
UPC Upice 4.24 41 *e*SN Sn 07 10 23.2 -2.1
UPC eSG Sg 07 10 42.8 -7.3
MBDF Montbardon 4.33 234 *e*Pn Pn 07 09 36.3 -0.1
MBDF *e*Sn Sn 07 10 23.8 -3.7
comp=Z,25nm,0.5s
RFYF Reffroy 4.36 289 *e*Pn Pn 07 09 36.5 -0.4
baz=111
RFYF *e*Pg Pg 07 09 52.4 -3.6
baz=109
RFYF Reffroy 4.36 289 *e*Pg Pg 07 09 52.4 -3.6
SFTF Sexfontaines 4.56 283 *e*Pn Pn 07 09 39.4 -0.3
baz=99
SFTF *e*Sg Sg 07 10 54.8 -6.0
comp=Z,35nm,0.4s
MORC Moravsky Berou 4.57 56 *e*Pn Pn 07 09 46.6 +6.7
MORC *e*Sb Sg 07 10 56.1 -5.1
MORC Moravsky Berou 4.57 56 *e*Pn Pn 07 09 40.3 +0.4
MORC *e*Sn Sn 07 10 30.9 -2.8
MEZF Maizieres J'vi 4.60 287 *e*Pn Pn 07 09 39.6 -0.7
MEZF *e*Sg Sg 07 10 55.5 -6.7
comp=Z,45nm,0.5s
SBF Sospel 4.61 222 *e*Pn Pn 07 09 41.0 +0.6
SBF *e*Sn Sn 07 10 30.2 -4.4
comp=Z,20nm,0.4s
ORIF Oris-en-Rattie 4.72 241 *e*Pn Pn 07 09 42.8 +0.7
ORIF *e*Sn Sn 07 10 33.2 -4.4
comp=Z,14nm,0.5s
VYHS Vyhne 4.93 74 *e*PN Pn 07 09 51.2 +6.2
VYHS *e* 07 10 37.6
VYHS *e* 07 10 59.6
VYHS *e* 07 11 05.0
OKC Ostrava-Krasne 4.94 58 *e*SN Sn 07 10 42.2 -0.9
PGF Pioggiola 5.19 203 *e*Pn Pn 07 09 48.8 +0.2
FRF La Foret Royal 5.21 225 *e*Pn Pn 07 09 50.0 +1.1
FRF *e*Sn Sn 07 10 45.1 -4.6
comp=Z,8.3nm,0.4s
GIVF Givet 5.30 304 *e*Pn Pn 07 09 49.4 -0.8
GIVF *e*Sn Sn 07 10 46.9 -5.2
GIVF *e*Sg Sg 07 11 17.1 -8.4
comp=Z,20nm,0.5s
LOR Lormes 5.33 272 *e*Pn Pn 07 09 49.6 -1.0
baz=86
LOR *e*Sn Sn 07 10 47.1 -5.6
LOR *e*Sg Sg 07 11 17.3 -9.0
comp=Z,8.2nm,0.2s
SMF Signal de Mont 5.42 265 *e*Pn Pn 07 09 51.9 +0.1
SMF *e*Sn Sn 07 10 49.3 -5.7
SMF *e*Sg Sg 07 11 20.3 -9.1
comp=Z,9.7nm,0.3s
LMR La Mourre 5.44 224 *e*Pn Pn 07 09 52.7 +0.5
SMRF Simiane la Rot 5.47 234 *e*Pn Pn 07 09 52.4 -0.1
VIVF Saint-Julien-l 5.49 245 *e*Pn Pn 07 09 52.4 -0.5
VIVF *e*Sn Sn 07 10 50.6 -6.2
comp=Z,8.0nm,0.4s
SSF Saint Saulge 5.58 270 *e*Pn Pn 07 09 53.4 -0.8
SSF *e*Sg Sg 07 11 26.9 -8.0
comp=Z,7.2nm,0.3s
BAIF Baives 5.63 301 *e*Pn Pn 07 09 53.8 -1.1
BAIF *e*Pg Pg 07 10 13.5 -8.0
BAIF *e*Sg Sg 07 11 28.3 -8.3
comp=Z,12nm,0.5s
AVF Avril sur Loir 5.72 267 *e*Pn Pn 07 09 55.9 -0.3
BGF Bois d'Agland 6.11 266 *e*Sn Sn 07 11 06.4 -5.9
comp=Z,24nm,0.4s
HYF Humbligny 6.15 272 *e*Pn Pn 07 10 02.5 +0.3
TCF Toulx Ste Croi 6.59 264 *e*Pn Pn 07 10 07.6 -0.8
STHS Stebnicka Huta 6.68 69 *e*SN Sb 07 11 45.8 -0.2
CAF Calviac 7.12 253 *e*Pn Pn 07 10 14.6 -1.2
RJF Les Rejaudoux 7.34 257 *e*Pn Pn 07 10 17.8 -1.1
MTLF Montolieu 7.79 242 *e*Pn Pn 07 10 23.4 -1.9
MFF Saint Martin d 8.13 269 *e*Pn P 07 10 27.5 -2.5

IDC 06 07:08:36.1±1.9, 16.59S×178.06W, mb3.8/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.8/3, Error ellipse: s-maj=169.0km s-min=33.1km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.56**	**240**	P	P	07 16 09.2	-1.6
	1.2nm,0.4s,baz=84,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**45.21**	**258**	P	P	07 16 55.1	-2.0
	0.6nm,0.5s,baz=94,slow=6.8,SNR=26						
TXAR	**Lajitas Array**	**85.01**	**58**	P	P	07 21 14.1	-1.1
	0.3nm,0.7s,baz=233,slow=6.3,SNR=4.5						

BJI ***06*** *07:16:57.5, 65.40N×162.20W, h3km, mB5.4, mb4.9, Ms4.9, Msz4.6*
NEIC ***06*** *07:16:57.6, 65.44N×162.17W, h4km, mb5.1/94, MS4.0/52, ML5.2(AEIC), ML5.2(PMR), After AEIC.*
NEIC Felt [III] at Nome. Also felt at Deering, Koyuk, Shaktoolik, White Mountain and Unalakleet.
HRVD ***06*** *07:16:57.7±0.5, 65.50N×162.20W, h12km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s10,c15;Mantle waves: s39,c60; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.68±.11; Mθφ1.62±.09; Mφφ0.05±.12; Mrθ-0.00±.32; Mθθ-1.25±.08; Mφr0.50±.36; Best double couple: M0 2.088×10^16 NP1:φs280°, δ45°, λ-118°. NP2:φs137°, δ52°, λ-65°. Principal axes: T 2.326, Plg4°, Azm209°; N -.486, Plg20°, Azm301°; P 1.849, Plg70°, Azm110°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***06*** *07:16:58.5±0.6, 65.34N×162.50W, mb4.7/20, mb1 4.8/22, mb1mx4.8/24, mbtmp4.7/22, ML4.2/3, MS3.8/15, Ms1 3.8/15, ms1mx3.7/26 Error ellipse: s-maj=18.9km s-min=9.3km az=20.0*
MOS ***06*** *07:16:59.7±0.9, 65.33N×162.10W, h25km, mb5.3/28, Error ellipse: s-maj=14.1km s-min=6.1km az=102.0*
ISC 06 07:16:58.5±0.1, 65.35N±0.03×162.04W±0.05, h15km, h15km±2.4km: pP-P, n325, σ1s03/305, mb5.0/136, MS4.0/69, 14C-8D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCSA	**Galena City Sc**	**2.27**	**103**	P	Pn	07 17 37.5	+1.4
GCSA				S	Sn	07 18 09.3	+5.4
TNA	**Tin City**	**2.47**	**278**	P	Pn	07 17 38.2	-0.8
TNA				S	Sn	07 18 09.9	+0.9
IM3	**Indian Mountai**	**3.49**	**76**	P	Pn	07 17 53.6	+0.2
IMA	**Indian Mountai**	**3.53**	**74**	*e*P	Pn	07 17 55.4	+1.4
TTA	**Tatalina**	**3.58**	**130**	*e*P	Pn	07 17 55.9	+1.1
TT01	**Tatalina**	**3.60**	**130**	P	Pn	07 17 55.3	+0.3
TT01				S	Sn	07 18 42.5	+4.9
COLD	**Coldfoot**	**5.14**	**63**	P	Pn	07 18 16.7	-0.2
KTH	**Kantishna Hill**	**5.14**	**105**	P	Pn	07 18 17.2	+0.4
SVW2	**Sparrevohn**	**5.17**	**143**	*e*P	Pn	07 18 17.4	+0.2
MDM	**Murphy Dome**	**5.83**	**88**	P	Pn	07 18 25.5	-1.2
MCK	**McKinley**	**5.88**	**100**	P	Pn	07 18 27.2	0.0
BGL	**Barrier Glacie**	**5.97**	**129**	P	Pn	07 18 29.5	+0.9
STLK	**Strandline Lak**	**5.99**	**125**	P	Pn	07 18 29.5	+0.7
WRH	**Wood River Hil**	**6.00**	**92**	P	Pn	07 18 28.1	-0.9
COLA	**College**	**6.01**	**88**	P	Pn	07 18 28.4	-0.8
CKL	**Chakachamna La**	**6.04**	**129**	P	Pn	07 18 30.1	+0.6
CCB	**Clear Creek Bu**	**6.08**	**90**	P	Pn	07 18 28.7	-1.4
SPU	**Mount Spurr**	**6.14**	**128**	P	Pn	07 18 30.0	-1.0
IL1	**Eielson Array**	**6.43**	**88**	P	Pn	07 18 33.5	-1.7
ILAR	**Eielson Array**	**6.43**	**88**	Pn	Pn	07 18 33.5	-1.7
	13nm,0.3s,baz=286,slow=14,SNR=666						
ILAR				Sn	Sn	07 19 46.3	-2.7
	31nm,0.3s,baz=142,slow=21,SNR=4.9						
ILAR				Lg		07 20 24.8	
	18nm,0.3s,baz=283,slow=29,SNR=5.8						
ILAR				LR	LR	07 20 51.5	
	comp=Z,343nm,21.8s,baz=112,slow=35						
RSO	**Redoubt South**	**6.47**	**135**	P	Pn	07 18 36.2	+0.5
RDT	**Redoubt**	**6.49**	**133**	P	Pn	07 18 36.0	0.0
PDB	**Pedro Bay**	**6.65**	**143**	P	Pn	07 18 37.5	-0.6
INE	**Iliamna NE**	**6.71**	**138**	P	Pn	07 18 38.6	-0.5
FIB	**Fire Island**	**6.79**	**123**	P	Pn	07 18 38.0	-2.2
GHO	**Glory Hole Cre**	**6.86**	**115**	P	Pn	07 18 41.5	+0.3
PRP	**Porcupine Dome**	**6.89**	**81**	P	Pn	07 18 40.3	-1.2
PMR	**Palmer**	**6.89**	**117**	*e*P	Pn	07 18 41.2	-0.4
RC01	**Rabbit Creek A**	**7.00**	**122**	P	Pn	07 18 43.5	+0.4
OPT	**Oil Point**	**7.01**	**140**	P	Pn	07 18 43.3	0.0
SML	**Sawmill**	**7.06**	**114**	P	Pn	07 18 44.3	+0.3
AUP	**Augustine Pinn**	**7.21**	**142**	P	Pn	07 18 46.9	+0.8
SLKM	**Skilak Lake**	**7.25**	**127**	*e*P	Pn	07 18 45.7	-0.9
BM3	**Burnt Mountain**	**7.30**	**66**	P	Pn	07 18 46.2	-1.1
THY	**Trims Highway**	**7.32**	**98**	*e*P	Pn	07 18 44.6	-2.9
CNPM	**China Poot**	**7.68**	**134**	P	Pn	07 18 52.3	-0.3
SEW	**Seward**	**7.80**	**126**	P	Pn	07 18 55.9	+1.6
KLU	**Klutina**	**8.18**	**111**	P	P	07 18 59.9	+0.2
MENT	**Mentasta**	**8.35**	**98**	*e*P	P	07 19 01.4	-0.6
DIV	**Divide**	**8.46**	**112**	P	P	07 19 02.6	-0.9
ANPK	**Aniakchak Peak**	**8.74**	**166**	P	P	07 19 06.3	-1.1
KDAK	**Kodiak Island**	**8.81**	**145**	*e*P	P	07 19 07.8	-0.6
EYAK	**Cordova Ski Ar**	**8.83**	**115**	*e*P	P	07 19 05.1	-3.5
CHGN	**Chignik**	**9.24**	**167**	*e*P	P	07 19 13.8	-0.5
SDPT	**Sand Point**	**10.06**	**175**	*e*P	P	07 19 24.2	-1.2
INK	**Inuvik**	**11.55**	**62**	Pn	P	07 19 46.2	+0.4
	0.6nm,0.3s,baz=271,slow=16,SNR=18						
INK				Lg		07 23 01.2	
	0.5nm,0.3s,baz=278,slow=13,SNR=4.0						
INK	**Inuvik**	**11.55**	**62**	Pn	P	07 19 46.2	+0.4
INK				Lg		07 23 01.2	
BILL	**Bilibino**	**12.75**	**296**	*i* P	P	07 19 59.9	-1.9
DLBC	**Dease Lake**	**16.43**	**100**	Pn	P	07 20 51.6	+1.8
	0.2nm,0.3s,baz=295,slow=14,SNR=17						
DLBC				Lg		07 25 47.7	
	0.1nm,0.3s,baz=209,slow=20,SNR=5.7						
DLBC	**Dease Lake**	**16.43**	**100**	Pn	P	07 20 51.6	+1.8
DLBC				Lg		07 25 47.7	
	24nm,0.7s,baz=295,slow=9.8,SNR=65						
BBB	**Bella Bella**	**21.62**	**111**	P	P	07 21 51.5	+1.8
	30nm,1.0s,mb4.7,baz=311,slow=11,SNR=8.1						
MA2	**Magadan**	**22.11**	**277**	*e*P	P	07 21 54.4	-0.1
	66nm,1.1s,mb5.0						
MA2	**Magadan**	**22.11**	**277**	*e*P	P	07 21 54.4	-0.2
MA2				pmax	pmax		
	comp=Z,66nm,1.1s,mb5.0						
TIXI	**Tiksi**	**24.71**	**315**	PFAKE		07 22 30.0	+10
TIXI				LR	LR		
	comp=Z,259nm,21.0s,MS3.7						
TIXI	**Tiksi**	**24.71**	**315**	⇓ *i*P	P	07 22 19.9	+0.2
TIXI				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,132nm,11.0s,MS3.7						
OCWA	**Octopus Mounta**	**26.70**	**113**	*e*P	P	07 22 38.3	-0.1
	comp=Z,19nm,1.1s,mb4.5						
NEW	**Newport**	**29.09**	**104**	P	P	07 23 00.8	+0.7
	comp=Z,1.3nm,0.8s,baz=309,slow=4.0,SNR=3.5						
NEW				LR	LR	07 34 45.2	
	comp=Z,388nm,18.2s,MS4.1,baz=323,slow=36						
YAK	**Yakutsk**	**29.11**	**296**	*i* P	P	07 23 00.3	+0.2
YAK				LR	LR		
	comp=Z,292nm,19.0s,MS3.9						
YAK	**Yakutsk**	**29.11**	**296**	*i* P	P	07 23 00.2	+0.1
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0						
YAK				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.2						
COR	**Corvallis**	**29.67**	**115**	PFAKE		07 23 20.0	+15
COR				LR	LR		
	comp=Z,60nm,22.0s,MS3.2						
FFC	**Flin Flon**	**30.59**	**81**	*e*P	P	07 23 12.5	-0.9
	comp=Z,102nm,1.8s,mb5.4						
FFC				LR	LR		
	comp=Z,182nm,20.0s,MS3.7						
HUMO	**Hull Mountain**	**31.49**	**117**	*e*P	P	07 23 22.8	+1.2
	comp=Z,7.3nm,0.8s,mb4.6						
HUMO				LR	LR		
	comp=Z,142nm,20.0s,MS3.6						
CHMT	**Chamberlain Mo**	**31.75**	**101**	*e*P	P	07 23 23.2	-0.5
BMO	**Blue Mountains**	**31.78**	**108**	*e*P	P	07 23 24.3	+0.3
	comp=Z,4.6nm,0.8s,mb4.4						
BMO				LR	LR		
	comp=Z,203nm,22.0s,MS3.8						
YBH	**Yreka Blue Hor**	**32.34**	**118**	P	P	07 23 31.7	+2.8
	comp=Z,7.7nm,0.8s,mb4.6,baz=326,slow=2.3,SNR=15						
YBH				LR	LR	07 35 00.8	
	comp=Z,110nm,21.3s,MS3.5,baz=332,slow=33						
HRY	**Holter Researc**	**32.50**	**100**	*e*P	P	07 23 30.4	+0.2
MOD	**Modoc**	**33.10**	**115**	*e*P	P	07 23 35.4	-0.2
	comp=Z,15nm,1.3s,mb4.8						
MOD				LR	LR		
	comp=Z,177nm,19.0s,MS3.8						
WVOR	**Wild Horse Val**	**33.29**	**112**	*e*P	P	07 23 38.2	+1.0
	comp=Z,10nm,0.8s,mb4.8						
WVOR				LR	LR		
	comp=Z,214nm,21.0s,MS3.8						
WDC	**Whiskeytown Da**	**33.41**	**118**	*e*P	P	07 23 37.8	-0.5
	comp=Z,10nm,1.0s,mb4.7						

BOZ Bozeman (W) 33.44 101 *e*P P **07 23 39.1 +0.7**
comp=Z,16nm,1.3s,mb4.8
BOZ LR LR
comp=Z,557nm,20.0s,MS4.3
MCMT McKenzie Canyo 33.60 103 *e*P P **07 23 40.1 +0.2**
HLID Hailey 34.01 106 *e*P P **07 23 44.0 +0.5**
comp=Z,7.4nm,0.8s,mb4.7
HLID LR LR
comp=Z,372nm,19.0s,MS4.1
QLMT Earthquake Lak 34.18 102 *e*P P **07 23 45.9 +1.0**
DGMT Dagmar 34.30 91 *e*P P **07 23 46.3 +0.4**
comp=Z,63nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 34.38 265 *i* P P **07 23 45.9 -0.7**
YSS LR LR
comp=Z,335nm,20.0s,MS4.1
YSS Yuzh-Sakhalins 34.38 265 *e*P P **07 23 47.4 +0.8**
YSS S **S** **07 29 16.0 +3.2**
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.0
YSS MLR MLR
comp=Z,700nm,15.0s,MS4.5
YSS MLR MLR
comp=N,300nm,14.0s,MS4.4
YSS MLR MLR
comp=E,400nm,15.0s,MS4.4
LKWY Lake 34.82 101 PFAKE 07 24 00.0 +10
LKWY LR LR
comp=Z,754nm,20.0s,MS4.4
BEKR Beckwourth 34.84 116 *e*P P **07 23 50.8 +0.1**
comp=Z,6.0nm,0.9s,mb4.5
LAO LASA Array 34.85 95 *e*P P **07 23 51.4 +0.8**
comp=Z,61nm,0.9s,mb5.5
RRI2 Red Ridge 35.45 103 *e*P P **07 23 56.7 +0.9**
comp=Z,10nm,0.7s,mb4.9
TPAW Teton Pass 35.48 103 *e*P P **07 23 56.6 +0.6**
comp=Z,7.0nm,0.9s,mb4.6
LOHW Long Hollow 35.52 102 *e*P P **07 23 57.4 +1.1**
comp=Z,3.7nm,0.8s,mb4.4
BMN Battle Mountai 35.55 112 *e*P P **07 23 56.9 +0.2**
comp=Z,14nm,1.2s,mb4.8
BMN LR LR
comp=Z,239nm,19.0s,MS4.0
SNOW Snow King Moun 35.58 102 *e*P P **07 23 56.8 -0.1**
comp=Z,4.2nm,0.7s,mb4.5
AHID Auburn Hatcher 36.02 104 PFAKE 07 24 10.0 +9.4
AHID LR LR
comp=Z,307nm,19.0s,MS4.1
ELK Elko 36.06 110 *e*P P **07 24 01.8 +0.8**
comp=Z,14nm,1.0s,mb4.8
ELK LR LR
comp=Z,98nm,20.0s,MS3.6
ULM Lac du Bonnet 36.41 82 P P **07 24 05.0 +1.3**
comp=Z,17nm,0.7s,mb5.1,baz=313,slow=8.9,SNR=26
ULM PcP PcP 07 26 27.7 -0.7
comp=Z,3.2nm,0.7s,baz=349,slow=5.1,SNR=3.0
ULM LR LR 07 40 34.4
comp=Z,112nm,19.4s,MS3.6,baz=2.4,slow=39
ULM Lac du Bonnet 36.41 82 *e*P P **07 24 03.7 0.0**
comp=Z,51nm,1.2s,mb5.3
ULM LR LR
comp=Z,318nm,20.0s,MS4.1
CMB Columbia Colle 36.44 118 *e*P P **07 24 04.0 -0.2**
comp=Z,4.5nm,1.0s,mb4.3
CMB LR LR
comp=Z,156nm,19.0s,MS3.8
BW06 Boulder Array 36.65 102 *e*P P **07 24 07.1 +1.2**
comp=Z,6.8nm,1.1s,mb4.4
BW06 LR LR
comp=Z,149nm,19.0s,MS3.8
PDAR Pinedale Array 36.65 102 P P **07 24 08.0 +2.1**
comp=Z,2.9nm,0.7s,mb4.2,baz=330,slow=4.1,SNR=23
PDAR PcP PcP 07 26 29.2 +0.1
comp=Z,1.8nm,0.8s,baz=112,slow=1.3,SNR=4.7
PDAR LR LR 07 38 41.9
comp=Z,138nm,21.3s,MS3.7,baz=158,slow=35
SPUT South Promonto 36.70 106 *e*P P **07 24 06.0 -0.3**
ASAJ Asahikawa 36.73 262 LR LR 07 41 13.6
comp=Z,189nm,21.1s,MS3.9,baz=57,slow=40
KLR Kul'dur 37.21 277 *e*P P **07 24 08.2 -2.3**
SUMG Summit 37.28 24 *e*P P **07 24 10.4 -0.5**
comp=Z,32nm,1.0s,mb5.1
DUG Dugway 37.49 108 *e*P P **07 24 13.6 +0.6**
comp=Z,20nm,1.3s,mb4.8
CTU Camp Tracy 37.50 106 P P **07 24 13.2 +0.1**
TPH Tonopah 37.60 114 *e*P P **07 24 13.6 -0.2**
comp=Z,18nm,1.0s,mb4.8
TPH LR LR
comp=Z,172nm,19.0s,MS3.9
JLU Jordanelle 37.70 106 *e*P P **07 24 14.7 0.0**
MTUM Tungsten Hills 37.72 116 *e*P P **07 24 16.4 +1.4**
BOD Bodaibo 37.77 300 *e*P P **07 24 14.0 -1.2**
BOD pmax pmax
comp=Z,16nm,1.1s,mb4.7
DAU Daniels Canyon 37.93 106 *e*P P **07 24 15.5 -1.2**
NLU North Lily Min 37.99 107 *e*P P **07 24 17.5 +0.3**
PTRM Twissleman Ran 38.62 120 *e*P P **07 24 23.8 +1.3**
DAC Darwin (Calif) 39.03 116 *e*P P **07 24 25.4 -0.6**
comp=Z,16nm,0.9s,mb4.8
DAC LR LR
comp=Z,194nm,20.0s,MS3.9
MSU Marysvale 39.19 108 *e*P P **07 24 29.1 +1.9**
ISA Isabella 39.25 118 PFAKE 07 24 40.0 +12
ISA LR LR
comp=Z,25nm,20.0s,MS3.0
ARUT Antelope Range 39.31 110 *e*P P **07 24 29.2 +0.9**
SRU San Rafael 39.34 106 *e*P P **07 24 28.4 0.0**
NEN Nelson 40.63 113 *e*P P **07 24 40.7 +1.5**
ISCO Idaho Springs 40.76 101 *e*P P **07 24 41.0 +0.9**
comp=Z,14nm,1.3s,mb4.5
ISCO LR LR
comp=Z,581nm,19.0s,MS4.5
LDFC Landfair 41.04 114 *e*P P **07 24 42.6 +0.1**
MDJ Mudanjiang 41.77 275 P P **07 24 47.4 -0.9**
MDJ AMB AMB
comp=Z,9.0nm,1.4s,mb4.2
MDJ AMB AMB
comp=Z,170nm,5.7s
MDJ LR LR
comp=N,169nm,15.2s,MS4.1
MDJ LR LR
comp=E,95nm,17.2s,MS4.1
MDJ LR LR
comp=Z,171nm,13.9s,MS4.1
PFO Pinyon Flat Ob 41.83 117 *e*P P **07 24 47.0 -1.9**
comp=Z,5.1nm,0.8s,mb4.2
PFO LR LR
comp=Z,50nm,19.0s,MS3.4
PFO Pinyon Flat Ob 41.83 117 *e*P P **07 24 47.0 -1.9**
PFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
PFO MLR MLR
comp=Z,50nm,19.0s,MS3.4
HIA Hailar 42.10 287 *e*P P **07 24 50.5 -0.4**
comp=Z,48nm,1.1s,mb5.0
HIA Hailar 42.10 287 *e*P P **07 24 50.5 -0.4**
HIA pmax pmax
comp=Z,48nm,1.1s
SDCO Great Sand Dun 42.55 102 *e*P P **07 24 55.7 +0.9**
comp=Z,18nm,1.4s,mb4.6
SDCO LR LR
comp=Z,85nm,19.0s,MS3.6
BAR Barrett 42.58 118 *e*P P **07 24 55.0 -0.1**
CBKS Cedar Bluff 44.03 96 *e*P P **07 25 06.4 -0.4**
comp=Z,63nm,1.1s,mb5.3
SCHQ Schefferville 44.08 56 P P **07 25 08.3 +1.4**
comp=Z,18nm,0.7s,mb4.9,baz=336,slow=7.7,SNR=25
SCHQ LR LR 07 46 36.0
comp=Z,64nm,18.6s,MS3.6,baz=3.1,slow=40
CN2 Changchun 44.16 278 *e*P P **07 25 08.9 +1.1**
CN2 *e*S **S** **07 31 41.3 +1.6**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,630nm,6.0s
CN2 LR LR
comp=N,350nm,18.0s,MS4.4
CN2 LR LR
comp=E,170nm,18.0s,MS4.4
CN2 LR LR
comp=Z,320nm,19.0s,MS4.3
ANMO Albuquerque 44.56 105 *e*P P **07 25 11.2 0.0**
comp=Z,29nm,1.6s,mb4.9
ANMO Albuquerque 44.56 105 *d i*P P **07 25 13.8 +2.6**
KEV Kevo 45.03 356 *e*p P **07 25 14.3 -0.1**
comp=Z,39nm,1.0s,mb5.2
KEV Kevo 45.03 356 *e*P P **07 25 14.3 -0.1**
KEV pmax pmax
comp=Z,39nm,1.0s,mb5.2
TUC Tucson 45.16 111 *e*P P **07 25 17.0 +1.1**
comp=Z,14nm,1.3s,mb4.7
TUC LR LR
comp=Z,145nm,19.0s,MS3.9
ARCES ARCESS Array B 45.29 356 P P **07 25 17.5 +1.0**
comp=Z,12nm,1.0s,mb4.7,baz=7.1,slow=9.8,SNR=7.8
ARCES PcP PcP 07 26 58.6 +1.8
comp=Z,12nm,0.9s,baz=37,slow=4.5,SNR=4.3
ARCES LR LR 07 43 16.5
comp=Z,93nm,19.1s,MS3.7,baz=252,slow=35
LVZ Lovozero 46.51 351 *i* P P **07 25 26.9 +0.7**
LVZ Lovozero 46.51 351 *i* P P **07 25 26.8 +0.6**
LVZ pmax pmax
comp=Z,33nm,1.1s,mb5.2
LVZ MLR MLR
comp=Z,100nm,15.0s,MS3.9
APA Apatity 46.92 352 *e*P P **07 25 30.0 +0.6**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
ZAK Zakamensk 47.52 300 *e*P P **07 25 35.3 +1.0**
ZAK *e* 07 27 03.4
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
MNTX Cornudas Mount 47.84 106 *e*P P **07 25 37.8 +0.7**
comp=Z,23nm,1.1s,mb5.1
MNTX LR LR
comp=Z,104nm,19.0s,MS3.8
WMOK Wichita Mounta 47.90 98 *e*P P **07 25 37.4 -0.2**
comp=Z,29nm,0.8s,mb5.3
SLM Saint Louis 48.16 87 *e*P P **07 25 39.0 -0.5**
comp=Z,39nm,1.0s,mb5.4
SLM Saint Louis 48.16 87 *e*P P **07 25 39.0 -0.5**
SLM pmax pmax
comp=Z,39nm,1.0s,mb5.4
ULN Ulaanbaatar 48.19 295 *e*P P **07 25 39.9 +0.2**
comp=Z,9.7nm,1.0s,mb4.8
ULN Ulaanbaatar 48.19 295 *e*P P **07 25 39.9 +0.2**
ULN pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CCM Cathedral Cave 48.23 88 *e*P P **07 25 39.0 -1.1**
comp=Z,54nm,1.3s,mb5.4
CCM LR LR
comp=Z,53nm,20.0s,MS3.5
SONM Songino Array 48.47 296 P P **07 25 43.0 +1.2**
comp=Z,10nm,1.0s,mb4.8,baz=27,slow=5.8,SNR=38
SONM PcP PcP 07 27 09.1 +0.8
comp=Z,2.6nm,0.7s,baz=37,slow=2.5,SNR=4.0
SONM LR LR 07 47 16.6
comp=Z,330nm,18.4s,MS4.3,baz=10,slow=38
FVM French Village 48.63 88 *e*P P **07 25 42.6 -0.6**
comp=Z,71nm,0.9s,mb5.7
BLO Bloomington 49.26 83 *e*P P **07 25 47.0 -1.1**
comp=Z,9.8nm,0.6s,mb5.0
ALLY Allegheny Colle 49.81 76 *e*P P **07 25 51.7 -0.5**
ACSO Alum Creek Sta 49.84 80 *e*P P **07 25 51.2 -1.2**
comp=Z,69nm,1.4s,mb5.5
PARMO Parma 50.03 88 *e*P P **07 25 52.8 -1.2**
WCI Wyandotte Cave 50.15 84 *e*P P **07 25 53.8 -1.1**
comp=Z,31nm,0.9s,mb5.3
NVS Novosibirsk 50.29 317 *e*P P **07 25 52.2 -3.4**
HBAR Harrisburg 50.60 90 *e*P P **07 25 57.7 -0.6**
LTX Lajitas 50.61 106 *e*P P **07 25 58.8 +0.3**
comp=Z,57nm,1.5s,mb5.3
LTX LR LR
comp=Z,342nm,20.0s,MS4.4
TXAR Lajitas Array 50.61 106 P P **07 26 00.2 +1.7**
comp=Z,11nm,0.8s,mb4.8,baz=324,slow=5.8,SNR=126
TXAR LR LR 07 49 49.4
comp=Z,271nm,18.1s,MS4.3,baz=280,slow=39
TXAR Lajitas Array 50.61 106 P P **07 26 00.2 +1.7**
TXAR LR LR 07 49 49.4
ZAL Zalesovo 50.62 315 P P **07 25 58.0 -0.2**
comp=Z,7.3nm,0.7s,mb4.7,baz=72,slow=7.4,SNR=16
BINY Binghamton 51.03 72 PFAKE 07 26 10.0 +8.6
BINY LR LR
comp=Z,781nm,21.0s,MS4.7
WVT Waverly 51.29 87 *e*P P **07 26 01.6 -2.0**
comp=Z,15nm,0.8s,mb5.0
WVT LR LR
comp=Z,164nm,19.0s,MS4.1
WVL Waterville 51.51 66 PFAKE 07 26 20.0 +15
WVL LR LR
comp=Z,3μm,22.0s
MCWV Mont Chateau 51.61 77 *e*P P **07 26 05.3 -0.6**
comp=Z,39nm,1.0s,mb5.3
JOF Joensuu 51.66 352 *e*p P **07 26 04.7 -1.3**
comp=Z,12nm,0.6s,mb5.0
JOF Joensuu 51.66 352 *e*P P **07 26 04.7 -1.3**
JOF pmax pmax
comp=Z,12nm,0.6s,mb5.0
OXF Oxford 52.02 89 *e*P P **07 26 08.3 -0.8**
comp=Z,166nm,0.8s,mb6.0
OXF LR LR
comp=Z,212nm,20.0s,MS4.2
PLAL Pickwick Lake 52.17 88 *e*P P **07 26 09.0 -1.2**
comp=Z,57nm,1.1s,mb5.4
PLAL LR LR
comp=Z,358nm,19.0s,MS4.4
NATX Nacogdoches 52.20 96 PFAKE 07 26 20.0 +10
NATX LR LR
comp=Z,264nm,21.0s,MS4.2
EMMW East Machias 52.22 64 PFAKE 07 26 20.0 +10
EMMW LR LR
comp=Z,4μm,22.0s
HHC Hu-ho-hao-te 52.31 287 *e*P P **07 26 13.2 +2.0**
HHC AP pP 07 26 17.2 +1.4
HHC XP sP 07 26 19.6 +2.0
HHC PCP PcP 07 27 22.3 -0.2
HHC PP PP 07 28 13.4 +2.6
HHC S **S** **07 33 38.1 +3.8**
HHC XS 07 33 45.3
HHC SCS ScS 07 35 59.4 +1.9
HHC SS SS 07 37 14.6 +4.0
HHC AMB AMB
comp=Z,26nm,0.8s,mb5.2
HHC AMB AMB
comp=Z,382nm,6.5s
HHC LR LR
comp=N,775nm,13.1s,MS5.0
HHC LR LR
comp=E,428nm,11.6s,MS5.0
HHC LR LR
comp=Z,703nm,15.5s,MS4.8
KAF Kangasniemi 52.70 355 *ep* P **07 26 13.5 -0.3**
comp=Z,20nm,0.7s,mb5.2,baz=1.1,slow=7.0
KAF Kangasniemi 52.70 355 *e*P P **07 26 13.5 -0.3**
KAF pmax pmax
comp=Z,20nm,0.7s,mb5.2
SWET Sewanee 52.87 86 *e*P P **07 26 13.3 -2.2**
FWV Forest Hill 52.98 80 *e*P P **07 26 15.5 -0.8**
ELN Prospectdale 53.30 80 *e*P P **07 26 17.4 -1.2**
FINES FINESS Array B 53.38 355 P P **07 26 18.9 +0.1**
comp=Z,8.8nm,0.6s,mb4.9,baz=22,slow=10,SNR=27
FINES LR LR 07 47 38.7
comp=Z,93nm,18.8s,MS3.9,baz=358,slow=34
BLA Blacksburg 53.45 79 *e*P P **07 26 18.2 -1.5**
comp=Z,22nm,0.8s,mb5.1
MYNC Murphy 53.75 84 *e*P P **07 26 20.0 -1.9**
comp=Z,36nm,1.0s,mb5.2
MYNC LR LR
comp=Z,560nm,19.0s,MS4.6
NB2 NORSAR Subarra 53.83 4 P P **07 26 21.9 -0.2**
comp=Z,7.4nm,0.9s,mb4.6,baz=356,slow=7.4
NB2 NORSAR Subarra 53.83 4 P P **07 26 21.9 -0.2**
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
NOA NORSAR Array B 53.83 4 P P **07 26 21.8 -0.4**
comp=Z,5.2nm,0.9s,mb4.5,baz=356,slow=7.4,SNR=9.9
NOA LR LR 07 50 06.0
comp=Z,82nm,18.2s,MS3.8,baz=355,slow=37
CBN Corbin 53.85 76 P P **07 26 19.0 -3.7**
CBN LR LR
comp=Z,305nm,19.0s,MS4.4
LRAL Lakeview Retre 54.30 88 *e*P P **07 26 24.5 -1.5**
comp=Z,6.3nm,0.6s,mb4.7
ARU Arti 54.70 334 *e*P P **07 26 25.8 -2.8**
comp=Z,20nm,0.8s,mb5.2
ARU LR LR
comp=Z,58nm,20.0s,MS3.6
ARU Arti 54.70 334⇓ *i*P P **07 26 28.0 -0.6**
ARU *e* 07 27 29.7
ARU *e* 07 28 27.5
ARU *e*S **S** **07 34 06.1 -0.4**
ARU *e* 07 36 12.4
ARU *e*SS SS 07 37 48.6 -0.8
ARU *e*SSS SSS 07 39 55.8 +7.6
ARU pmax pmax
comp=Z,22nm,0.9s,mb5.2
KONO Kongsberg 55.16 5 *i* P P **07 26 32.0 0.0**
KURK Kurchatov 55.25 318 *e*P P **07 26 28.2 -4.6**
comp=Z,29nm,0.8s,mb5.4
KURK LR LR
comp=Z,40nm,20.0s,MS3.5
KURK Kurchatov 55.25 318 P P **07 26 31.7 -1.0**
KURK pmax pmax
comp=Z,16nm,0.9s,mb5.0
BRVK Borovoye 55.32 324 *e*P P **07 26 30.2 -3.0**
comp=Z,18nm,0.8s,mb5.2
BRVK LR LR
comp=Z,34nm,21.0s,MS3.4
BVA0 Borovoye Array 55.33 324 P P **07 26 32.5 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
GOGA Godfrey 55.45 84 PFAKE 07 26 50.0 +16
GOGA LR LR
comp=Z,293nm,19.0s,MS4.4
VOSK Vostochnaya 55.46 324 *i* P P **07 26 32.6 -1.6**
VSU Vasula 56.34 354⇑ *e*P P **07 26 40.9 +0.5**
SSE Sheshan 56.71 273 P P **07 26 39.9 -3.6**
SSE S **S** **07 34 29.0 -4.7**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,445nm,6.9s
SSE LR LR
comp=N,73nm,19.0s,MS4.0
SSE LR LR
comp=E,78nm,19.0s,MS4.0
SSE LR LR
comp=Z,94nm,19.5s,MS3.9
SSE Sheshan 56.71 273 P P **07 26 39.9 -3.6**
comp=Z,20nm,0.7s,mb5.3
SSE pP pP 07 26 43.2 -5.0
SSE sP sP 07 26 44.4 -5.5
SSE S **S** **07 34 29.0 -4.7**
SSE sS 07 34 35.3
SSE SS SS 07 38 17.7 -5.0
SSE LR LR
comp=Z,90nm,19.5s,MS3.9
NJ2 Nanjing 56.86 275 *e*P P **07 26 43.0 -1.6**
NJ2 AP pP 07 26 47.9 -1.3
NJ2 XP sP 07 26 50.1 -0.8
NJ2 PCP PcP 07 27 38.1 -1.9
NJ2 S **S** **07 34 34.0 -1.6**
NJ2 XS 07 34 44.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,1μm,5.1s
NJ2 LR LR
comp=Z,500nm,16.0s,MS4.7
MKAR Makanchi Array 57.68 313 P P **07 26 49.1 -1.0**
comp=Z,9.1nm,0.7s,mb4.9,baz=37,slow=6.1,SNR=43
MKAR PP PP 07 28 55.1 -4.6
comp=Z,1.2nm,0.7s,baz=29,slow=7.1,SNR=3.0
GTA Gaotai 58.13 295 P P **07 26 53.3 -0.1**
GTA AP pP 07 27 03.6 +5.5
GTA XP sP 07 27 07.6 +7.8
GTA PCP PcP 07 27 42.5 -2.4
GTA PP PP 07 29 06.4 +2.4
GTA S **S** **07 34 59.5 +7.2**
GTA AMB AMB
comp=Z,14nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,173nm,6.1s
GTA LR LR
comp=N,458nm,19.5s,MS4.7
GTA LR LR
comp=E,309nm,15.3s,MS4.7
GTA LR LR
comp=Z,447nm,14.9s,MS4.7
MOS Moscow 58.32 347 *e*P P **07 26 54.0 -0.4**
MOS pmax pmax
comp=Z,63nm,0.7s,mb5.8
ESK Eskdalemuir 58.59 14 *e*P P **07 26 53.4 -2.9**
comp=Z,19nm,0.8s,mb5.2
ESK Eskdalemuir 58.59 14 *e*P P **07 26 53.4 -2.9**
ESK pmax pmax
comp=Z,19nm,0.8s,mb5.2
WMQ Urumqi 58.59 307 P P **07 26 55.7 -0.8**
WMQ AP pP 07 27 01.0 -0.2
WMQ XP sP 07 27 03.0 +0.1
WMQ PCP PcP 07 27 44.0 -2.6
WMQ *e*S **S** **07 34 57.0 -1.2**
WMQ XS 07 35 05.0
WMQ SCS ScS 07 36 41.0 -1.3
WMQ AMB AMB
comp=Z,15nm,0.7s,mb5.1
WMQ AMB AMB
comp=Z,152nm,5.3s
WMQ LR LR
comp=N,176nm,19.2s,MS4.4
WMQ LR LR
comp=E,218nm,23.0s,MS4.4
WMQ LR LR
comp=Z,201nm,18.2s,MS4.3
OBN Obninsk 59.03 348⇑ *e*P P **07 26 59.2 -0.2**
OBN LR LR
comp=Z,100nm,19.0s,MS4.0
OBN Obninsk 59.03 348 *de*P P **07 26 59.2 -0.2**
OBN *e**PP PcP 07 27 49.3 +1.2
OBN pmax pmax
comp=Z,41nm,1.0s,mb5.4
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.0
LZH Lanzhou 59.48 290 *e*P P **07 27 02.0 -0.8**
LZH AP pP 07 27 13.5 +6.0
LZH AMB AMB
comp=Z,78nm,1.6s,mb5.5
LZH Lanzhou 59.48 290 *e*P P **07 27 02.0 -0.8**
comp=Z,78nm,1.6s,mb5.5
LZH pP pP 07 27 13.5 +6.0
LZH sP sP 07 27 20.0 +11
DCN Croghan 60.07 17 *e*P P **07 27 06.3 -0.3**
DLF Lyons Farm 60.21 17 *e*P P **07 27 07.2 -0.4**
DSB Dublin 60.27 17 *e*P P **07 27 07.2 -0.8**
comp=Z,9.0nm,0.8s,mb4.8
AB31 Akbulak array 61.22 330 *i* P P **07 27 13.6 -0.9**
ENH Enshi 62.29 282 *e*P P **07 27 19.6 -2.4**
comp=Z,40nm,1.0s,mb5.5
VRHR Novokhopersk 62.47 343 *e*P P **07 27 20.5 -2.4**
VRHR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,8.0nm,0.5s
USP Ospenovka 63.19 317 P P **07 27 30.1 +2.4**
SNR=5.8
TKM2 Tokmak 2 63.20 316 P P **07 27 28.6 +0.8**
SNR=6.5
CHMS Chumysh 63.37 317 P P **07 27 31.7 +2.8**
SNR=5.9
FRU Bishkek 63.56 317 *e*P P **07 27 30.0 0.0**
FRU pmax pmax
comp=Z,25nm,1.7s,mb5.0
CLL Collm 63.62 3 P P **07 27 30.6 +0.3**
comp=Z,logA/T=1.0,mb4.8
CLL *i* *SP sP 07 27 32.9 -3.8
CLL Collm 63.62 3 *i* P P **07 27 30.6 +0.3**
comp=Z,7.0nm,0.7s,mb4.8
CLL *e*pP pP 07 27 38.0 +3.0
CLL Collm 63.62 3 *i* P P **07 27 30.6 +0.3**
CLL *e**PP pP 07 27 38.0 +3.0
CLL pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ULHL Ulahol 63.62 315 P P **07 27 31.3 +0.8**
SNR=8.0
KBK Karagaybulak 63.63 316 P P **07 27 33.7 +3.2**
SNR=5.2
AAK Ala-Archa 63.78 317 *e*P P **07 27 29.3 -2.2**
comp=Z,10nm,0.8s,mb4.9
AAK LR LR
comp=Z,30nm,22.0s,MS3.4
AAK Ala-Archa 63.78 317⇑ *e*P P **07 27 31.4 -0.1**
AAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
EKS2 Erkin-Say 63.96 317 P P **07 27 33.6 +0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	SNR=14						
AKASG	Malin Array Be	63.96	352	P	P	07 27 31.9	-0.7
	comp=Z,21nm,0.6s,mb5.3,baz=6.7,slow=6.0,SNR=46						
KZA	Kyzart	64.07	316	P	P	07 27 34.6	+1.2
	SNR=6.2						
BRG	Berggiesshubel	64.08	3	eP	P	07 27 34.0	+0.7
	comp=Z,15nm,1.4s,mb4.8						
MOX	Moxa	64.24	4	eP	P	07 27 38.0	+3.6
PVCC	Panska Ves	64.43	2	eP	P	07 27 36.2	+0.6
BAIF	Baives	64.44	10	eP	P	07 27 36.2	+0.5
GIVF	Givet	64.44	9	eP	P	07 27 35.8	+0.1
KKAR	Karatay Array	64.45	320	iP	P	07 27 35.6	-0.3
AML	Almayashu	64.47	317	P	P	07 27 39.7	+3.7
	SNR=5.3						
UPC	Upice	64.47	1	eP	P	07 27 35.3	-0.6
DPC	Dobruska-Polom	64.64	1	eP	P	07 27 38.0	+1.1
NKC	Novy Kostel	64.68	4	eP	P	07 27 37.6	+0.4
PRU	Pruhonice	64.97	2	eP	P	07 27 40.2	+1.1
FLN	La Foliniere	65.33	13	eP	P	07 27 41.6	+0.1
	comp=Z,17nm,0.6s,mb5.0						
FLN				eR			
	comp=Z,95nm,18.5s						
ROSF	Rostrenen	65.47	15	eP	P	07 27 42.1	-0.2
	comp=Z,66nm,1.2s,mb5.2						
LDF	La Druitiere	65.54	13	eP	P	07 27 42.5	-0.3
	comp=Z,35nm,0.9s,mb5.1						
STHS	Stebnicka Huta	65.55	358	eP	P	07 27 43.6	+0.8
SGMF	Saint Gilles	65.63	15	eP	P	07 27 42.7	-0.7
GRR	Gorron	65.67	14	eP	P	07 27 43.6	0.0
	comp=Z,23nm,0.6s,mb5.1						
TREC	Trest	65.68	2	eP	P	07 27 43.9	+0.2
KHC	Kasperske Hory	65.81	3	eP	P	07 27 40.5	-4.0
KHC				pP	pP	07 27 45.5	-3.7
KHC	Kasperske Hory	65.81	3	eP	P	07 27 40.5	-4.0
KHC				e	pP	07 27 45.5	-3.7
QUIF	Quistinic	65.89	15	eP	P	07 27 45.5	+0.4
	comp=Z,146nm,1.4s,mb5.5						
KOLS	Kolonicke sedl	66.01	357	eP	P	07 27 46.3	+0.5
CRVS	Cervenica-Dubn	66.06	357	eP	P	07 27 45.6	-0.5
GERES	GERESS Array B	66.10	3	P	P	07 27 46.2	-0.2
	comp=Z,2.3nm,0.4s,mb4.5,baz=301,slow=31,SNR=14						
GERES				LR	LR	07 55 14.5	
	comp=Z,62nm,19.8s,MS3.8,baz=334,slow=35						
CDF	Champ du Feu	66.28	8	eP	P	07 27 47.8	+0.3
KECS	Kecovo	66.49	358	eP	P	07 27 49.8	+0.9
VYHS	Vyhne	66.50	359	eP	P	07 27 50.1	+1.2
GYA	Guiyang	66.81	283	⇓iP	P	07 27 51.0	-0.3
GYA				AP	pP	07 27 55.4	-0.6
GYA				XP	sP	07 27 58.7	+1.0
GYA				PP	PP	07 30 20.4	0.0
GYA				SCP		07 32 20.3	
GYA				S	S	07 36 43.5	+1.9
GYA				SS	SS	07 41 04.7	+3.2
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
GYA				AMB	AMB		
	comp=Z,110nm,3.0s						
GYA				LR	LR		
	comp=N,410nm,18.4s,MS4.8						
GYA				LR	LR		
	comp=E,390nm,18.0s,MS4.8						
GYA				LR	LR		
	comp=Z,480nm,17.8s,MS4.8						
MOA	Molln	67.11	3	⇑iP	P	07 27 53.8	+1.0
	comp=Z,20nm,1.3s,mb5.0						
LOR	Lormes	67.19	10	eP	P	07 27 53.4	0.0
	comp=Z,8.4nm,0.5s,mb4.7						
LOR				eR			
	comp=Z,51nm,20.8s						
BURAR	Bucovina Array	67.24	355	⇓iP	P	07 27 53.9	+0.2
BURAR	Bucovina Array	67.24	355	⇓iP	P	07 27 53.9	+0.2
SSF	Saint Saulge	67.37	11	eP	P	07 27 54.8	+0.3
	comp=Z,41nm,1.0s,mb5.1						
MFF	Saint Martin d	67.51	13	eP	P	07 27 55.6	+0.2
	comp=Z,36nm,0.8s,mb5.1						
WTTA	Wattenberg	67.62	5	⇑iP	P	07 27 57.7	+1.6
	comp=Z,29nm,1.3s,mb5.2						
AVF	Avril sur Loir	67.63	11	eP	P	07 27 56.2	+0.1
	comp=Z,28nm,0.9s,mb5.0						
ARSA	Arzberg	67.73	2	⇓iP	P	07 27 58.8	+2.0
	comp=Z,10nm,1.4s,mb4.7						
SMF	Signal de Mont	67.81	10	eP	P	07 27 57.0	-0.3
	comp=Z,25nm,0.9s,mb4.9						
BGF	Bois d'Agland	67.82	11	eP	P	07 27 57.4	+0.1
	comp=Z,44nm,0.9s,mb5.2						
KBA	Koelnbreinsper	67.86	3	⇑iP	P	07 27 59.5	+1.9
	comp=Z,22nm,1.4s,mb5.0						
CABF	La Chapelle	68.00	9	eP	P	07 27 59.0	+0.5
	comp=Z,28nm,1.0s,mb5.0						
TCF	Toulx Ste Croi	68.03	12	eP	P	07 27 58.8	+0.1
	comp=Z,23nm,0.8s,mb4.9						
GOF	Gofitskoye	68.22	341	⇑iP	P	07 27 57.4	-2.5
GOF				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.6						
OBKA	Obir	68.45	3	⇑iP	P	07 28 02.8	+1.5
	comp=Z,39nm,1.2s,mb5.3						
RJF	Les Rejaudoux	68.95	12	eP	P	07 28 04.3	-0.1
	comp=Z,11nm,0.7s,mb4.6						
RJF				eR			
	comp=Z,60nm,22.0s						
ANN	Anapa	69.15	345	eP	P	07 28 02.0	-3.6
ANN				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4						
MLR	Muntele Rosu	69.33	354	⇑iP	P	07 28 07.0	+0.3
MLR	Muntele Rosu	69.33	354	⇑iP	P	07 28 07.0	+0.3
KIV	Kislovodsk	69.35	341	eP	P	07 28 04.6	-2.3
	comp=Z,45nm,0.8s,mb5.5						
KIV				LR	LR		
	comp=Z,33nm,21.0s,MS3.5						
KIV	Kislovodsk	69.35	341	eP	P	07 28 07.6	+0.7
KIV				e		07 28 30.2	
KIV				eS	S	07 37 11.1	-0.5
KIV				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
KIV				MLR	MLR		
	comp=N,46nm,20.0s						
KIV				MLR	MLR		
	comp=Z,87nm,20.0s,MS4.0						
KIV				MLR	MLR		
	comp=E,36nm,13.0s						
CAF	Calviac	69.37	12	eP	P	07 28 07.3	+0.3
	comp=E,30nm,0.9s,mb4.9						
CFR	Carcaliu	69.53	352	⇑iP	P	07 28 07.7	-0.2
KMI	Kunming	69.59	286	P	P	07 28 06.8	-1.9
KMI				PCP	PcP	07 28 29.8	-2.1
KMI				PP	PP	07 30 42.8	-1.9
KMI				SCP		07 32 33.1	
KMI				PCS		07 32 33.6	
KMI				S	S	07 37 14.3	-0.5
KMI				SKS	SKS	07 38 03.7	-6.6
KMI				SCS	ScS	07 38 05.4	-0.7
KMI				LR	LR		
	comp=Z,99nm,16.6s,MS4.1						
KMI	Kunming	69.59	286	P	P	07 28 06.8	-1.9
KMI				pP	pP	07 28 08.4	-5.0
KMI				sP	sP	07 28 09.0	-6.1
KMI				PcP	PcP	07 28 29.8	-2.1
KMI				PP	PP	07 30 42.8	-1.9
KMI				PPP	PPP	07 32 22.3	-1.5
KMI				ScP		07 32 33.1	
KMI				PcS		07 32 33.6	
KMI				S	S	07 37 14.3	-0.5
KMI				sS		07 37 17.1	
KMI				PS	PS	07 37 41.3	-1.8
KMI				SKS	SKS	07 38 03.7	-6.6
KMI				ScS	ScS	07 38 05.4	-0.7
KMI				SS	SS	07 41 44.3	-0.2
KMI				SSS	SSS	07 44 48.3	+0.1
KMI				LR	LR		
	comp=Z,100nm,16.6s,MS4.1						
VIVF	Saint-Julien-l	69.65	10	eP	P	07 28 09.1	+0.4
	comp=Z,21nm,0.8s,mb4.8						
ORIF	Oris-en-Rattie	69.67	9	eP	P	07 28 08.9	+0.1
ORIF				eR			
	comp=Z,82nm,18.0s						
MBDF	Montbardon	69.92	8	eP	P	07 28 10.9	+0.6
	comp=Z,22nm,0.7s,mb4.9						
LSA	Lhasa	70.01	298	P	P	07 28 09.1	-2.0
	comp=Z,8.4nm,0.6s,mb4.8						
SMRF	Simiane la Rot	70.59	9	eP	P	07 28 14.8	+0.4
	comp=Z,93nm,1.4s,mb5.2						
SBF	Sospel	70.82	8	eP	P	07 28 15.9	+0.1
	comp=Z,53nm,0.7s,mb5.2						
MTLF	Montolieu	70.96	12	eP	P	07 28 17.2	+0.5
	comp=Z,28nm,0.9s,mb4.9						
EPF	Esparros	71.09	14	eP	P	07 28 17.5	0.0
ETSF	Etsaut	71.13	14	eP	P	07 28 18.1	+0.4
	comp=Z,14nm,0.7s,mb4.7						
PGF	Pioggiola	72.22	7	eP	P	07 28 24.5	+0.3
	comp=Z,32nm,0.9s,mb5.0						
GNI	Garni	72.79	339	LR	LR	08 04 38.9	
	comp=Z,78nm,19.8s,MS4.0,baz=345,slow=39						
GNI	Garni	72.79	339	iP	P	07 28 28.9	+1.4
GNI				LR	LR		
	comp=Z,107nm,19.0s,MS4.1						
GNI	Garni	72.79	339	iP	P	07 28 28.8	+1.3
GNI				pmax	pmax		
	comp=Z,22nm,1.2s						
GNI				MLR	MLR		
	comp=Z,100nm,18.0s						
SKO	Skopje	72.99	357	eP	P	07 28 30.0	+1.4
KKN	Kakani	73.88	302	eP	P	07 28 34.8	+0.7
	comp=Z,13nm,0.6s,mb5.0						
GKN	Gorkha	73.91	302	eP	P	07 28 34.8	+0.5
	comp=Z,97nm,1.2s,mb5.6						
ESDC	Sonseca Array	73.93	17	P	P	07 28 35.6	+1.5
	comp=Z,5.7nm,0.7s,mb4.6,baz=356,slow=5.5,SNR=14						
ESLA	Sonseca Array	73.93	17	eP	P	07 28 33.6	-0.6
	comp=Z,1.1nm,0.8s						
PKI	Pulchoki	74.03	301	eP	P	07 28 34.8	-0.2
	comp=Z,19nm,0.8s,mb5.1						
DMN	Daman	74.11	302	eP	P	07 28 34.7	-0.7
	comp=Z,22nm,0.7s,mb5.2						
KOLN	Koldanda	74.49	303	eP	P	07 28 38.2	+0.5
	comp=Z,36nm,0.9s,mb5.3						
BR131	Keskin Array S	74.55	348	eP	P	07 28 37.9	+0.1
	comp=Z,8.1nm,0.8s,mb4.7						
BRTR	Keskin Array B	74.55	348	P	P	07 28 38.5	+0.7
	comp=Z,11nm,1.0s,mb4.7,baz=18,slow=3.9,SNR=18						
SJG	San Juan	76.14	77	PFAKE		07 29 00.0	+13
SJG				LR	LR		
	comp=Z,117nm,20.0s,MS4.2						
SDV	Santo Domingo	82.58	85	PFAKE		07 29 30.0	+8.0
SDV				LR	LR		
	comp=Z,185nm,20.0s,MS4.5						
PPT	Papeete	83.20	168	LR	LR	07 58 25.8	
	comp=Z,49nm,19.9s,MS3.9,baz=316,slow=30						
ROSC	El Rosal	84.66	90	P	P	07 29 35.6	+3.0
	comp=Z,2.7nm,0.6s,mb4.6,baz=27,slow=3.4,SNR=6.4						
HYB	Hyderabad	85.79	303	iP	P	07 29 38.5	+0.4
WRAB	Tennant Creek	97.60	238	eP	P	07 30 30.9	-2.2
WRAB	Tennant Creek	97.60	238	iP	P	07 30 34.7	+1.6
WRA	Warramunga Arr	97.61	238	P	P	07 30 33.1	-0.1
	comp=Z,1.7nm,1.0s,mb4.5,baz=31,slow=5.3,SNR=9.2						
RCBR	Riachuelo	109.73	59	PFAKE		07 35 40.0	
RCBR				LR	LR		
	comp=Z,79nm,19.0s,MS4.3						
PLCA	Paso Flores	126.75	109	PKP	PKPdf	07 36 03.2	-1.1
	comp=Z,1.6nm,0.7s,baz=307,slow=3.4,SNR=5.0						
TRQA	Tornquist	127.96	100	PKP	PKPdf	07 35 57.2	-10
SBA	Scott Base	144.21	191	ePKPdf	PKPdf	07 36 32.2	-3.0
SBA				LR	LR		
	comp=Z,162nm,20.0s,MS4.8						
VNDA	Vanda	144.32	193	PKP	PKPdf	07 36 32.8	-2.6
	comp=Z,3.0nm,0.9s,baz=341,slow=2.7,SNR=5.0						
VNDA	Vanda	144.32	193	ePKIKP	PKPdf	07 36 32.1	-3.3
VNDA				MLR	MLR		
	comp=Z,98nm,21.0s						
CASY	Casey	145.34	225	eP	PKPbc	07 36 35.0	+0.7
PMSA	Palmer Station	147.69	127	ePKPdf	PKPdf	07 36 41.9	+0.5
MAW	Mawson	162.24	242	eP	PKPab	07 37 45.7	-0.9
	comp=Z,1.3nm,0.9s						
MAW	Mawson	162.24	242	PKPab	PKPab	07 37 45.7	-0.9
	comp=Z,1.6nm,0.9s,baz=72,slow=3.2,SNR=5.5						
VNA3	Neumayer Olymp	168.29	132	e	PKPab	07 38 16.2	+3.4
VNA1	Neumayer--Stat	168.90	130	⇑iP	PKPab	07 38 16.4	+0.9
VNA1	Neumayer--Stat	168.90	130	e	PKPab	07 38 19.4	+3.9
VNA2	Neumayer--Watz	169.09	132	⇑iP	PKPab	07 38 17.1	+0.7
VNA2	Neumayer--Watz	169.09	132	e	PKPab	07 38 19.9	+3.5
SNAA	Sanae	170.13	139	⇑iP	PKPab	07 38 21.1	+0.1
SNAA	Sanae	170.13	139	e	PKPab	07 38 24.4	+3.4
SNAA	Sanae	170.13	139	PKPab	PKPab	07 38 21.3	+0.3
	comp=Z,0.5nm,0.9s,baz=223,slow=6.7,SNR=8.6						

*IDC **06** 07:33:44.0±0.7, 4.00S×127.48E, mb4.3/9, mb1 4.6/11, mb1mx4.4/20, mbtmp4.4/11, ML3.9/2, MS3.5/2, Ms1 3.5/2, ms1mx3.3/14, Error ellipse: s-maj=38.2km s-min=14.7km az=66.0*

*NEIC **06** 07:33:49.3±4.8, 3.87S×127.78E, h31km±34km, mb4.7/13, Error ellipse: s-maj=15.4km s-min=9.3km az=63.0*

NEIC Felt [III] on Ambon.

*BJI **06** 07:33:55.0, 3.10S×127.37E, h31km, mB5.2, mb4.7, Ms4.4, Msz4.2*

ISC 06 07:33:48.2±3.2**, 3.94S**±0.07×**127.76E**±0.09**, h38**km±31km**, n48,** σ1s27/42**, mb4.7**/22**, MS3.4**/2**, 2C, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.87	152	eP	P	07 36 25.4	+15
	26nm,0.6s						
FITZ	Fitzroy Crossi	14.23	188	eP	P	07 37 07.4	-1.9
	12nm,0.8s						
FITZ	Fitzroy Crossi	14.23	188	Pn	P	07 37 07.6	-1.8
	0.4nm,0.3s,baz=20,slow=11,SNR=6.2						
WRAB	Tennant Creek	17.15	159	eP	P	07 37 43.6	-3.2
	53nm,0.9s						
WRA	Warramunga Arr	17.16	159	P	P	07 37 44.0	-2.8
	0.5nm,0.3s,baz=338,slow=12,SNR=99						
WB2	Warramunga Arr	17.16	159	eP	P	07 37 43.3	-3.5
KSM	Kuching	18.25	287	eP	P	07 38 02.6	+2.1
MBWA	Marble Bar	18.82	204	eP	P	07 38 08.1	+0.8
	12nm,0.9s						
PMG	Port Moresby	20.02	107	P	P	07 38 20.8	+0.2
	19nm,0.9s,baz=288,slow=13,SNR=3.5						
PMG	Port Moresby	20.02	107	P	P	07 38 20.1	-0.5
	21nm,0.9s						
CTA	Charters Tower	24.14	133	eP	P	07 39 02.9	+1.0
	8.7nm,1.0s,mb4.1						
CTA	Charters Tower	24.14	133	P	P	07 39 02.0	+0.1
	11nm,0.9s,mb4.3,baz=325,slow=12,SNR=12						
CTAO	Charters Tower	24.14	133	eP	P	07 39 03.1	+1.2
	14nm,1.0s,mb4.3						
GUMO	Guam	24.32	44	LR	LR	07 48 41.6	
	comp=Z,128nm,19.2s,MS3.4,baz=81,slow=36						
FORT	Forrest	26.70	179	eP	P	07 39 26.9	+0.9
	58nm,0.8s,mb5.2						
KLBR	Kellerberrin	29.08	198	eP	P	07 39 47.8	+0.4
	27nm,0.7s,mb5.1						
MUN	Mundaring	29.93	200	eP	P	07 39 55.3	+0.3
NWAO	Narrogin (SRO)	30.48	198	P	P	07 40 00.5	+0.6
	54nm,0.9s,mb5.3,baz=39,slow=4.4,SNR=14						
STKA	Stephens Creek	30.68	157	⇑iP	P	07 40 02.0	+0.3
	25nm,0.9s,mb5.0						
STKA	Stephens Creek	30.68	157	P	P	07 40 02.1	+0.4
	30nm,0.8s,mb5.2,baz=326,slow=8.7,SNR=30						
STKA				LR	LR	07 53 14.1	
	comp=Z,81nm,19.9s,MS3.4,baz=188,slow=38						
NJ2	Nanjing	36.77	347	eP	P	07 40 55.0	+0.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
TOO	Toolangi	37.21	156	⇑iP	P	07 40 59.9	+2.1
	comp=Z,7.2nm,0.7s,mb4.6						
KMI	Kunming	37.74	321	P	P	07 41 03.7	+1.3
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.7						
KMI	Kunming	37.74	321	P	P	07 41 03.7	+1.3
	comp=Z,12nm,0.7s,mb4.7						
KMI				pP	pP	07 41 24.9	+12
MJAR	Matsushiro Arr	41.43	13	P	P	07 41 33.2	+0.3
	comp=Z,4.3nm,0.8s,mb4.1,baz=181,slow=9.1,SNR=6.5						
MJAR	Matsushiro Arr	41.43	13	P	P	07 41 33.2	+0.3
LZH	Lanzhou	45.67	333	eP	P	07 42 05.5	-1.8
LZH				AP	pP	07 42 14.5	-3.8
LZH				XP	sP	07 42 19.0	-4.0
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
LZH	Lanzhou	45.67	333	eP	P	07 42 05.5	-1.8
	comp=Z,20nm,1.2s,mb4.9						
LZH				pP	pP	07 42 14.5	-3.8
LZH				sP	sP	07 42 19.0	-4.0
CN2	Changchun	47.56	358	eP	P	07 42 23.7	+1.6
MDJ	Mudanjiang	48.36	2	P	P	07 42 29.6	+1.3
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,182nm,5.4s						
PKI	Pulchoki	51.45	310	eP	P	07 42 51.8	-0.3
	comp=Z,7.6nm,0.6s,mb4.8						
KKN	Kakani	51.66	310	eP	P	07 42 53.3	-0.4
	comp=Z,9.6nm,0.5s,mb5.0						
DMN	Daman	51.70	310	eP	P	07 42 53.6	-0.4
	comp=Z,23nm,1.0s,mb5.1						
GKN	Gorkha	52.26	310	eP	P	07 42 57.3	-0.9
	comp=Z,20nm,0.9s,mb5.1						
KOLN	Koldanda	52.94	309	eP	P	07 43 03.0	-0.3
	comp=Z,16nm,0.6s,mb5.1						
SONM	Songino Array	54.86	343	P	P	07 43 17.5	+0.4
	comp=Z,1.4nm,0.8s,mb4.1,baz=178,slow=5.1,SNR=7.3						
WMQ	Urumqi	59.62	327	eP	P	07 43 53.5	+2.6
MKAR	Makanchi Array	64.45	327	P	P	07 44 21.1	-2.0
	comp=Z,1.1nm,0.6s,mb4.1,baz=119,slow=8.8,SNR=12						
ZAL	Zalesovo	67.87	334	P	P	07 44 43.0	-1.7
	comp=Z,1.6nm,0.4s,mb4.4,baz=75,slow=2.2,SNR=6.0						
KURK	Kurchatov	68.76	329	eP	P	07 44 48.8	-1.5
	comp=Z,9.2nm,1.0s,mb4.7						
BVAR	Borovoye Array	74.30	328	P	P	07 45 21.8	-1.5
	comp=Z,0.7nm,0.6s,mb3.8,baz=117,slow=13,SNR=3.8						
VNDA	Vanda	75.74	173	P	P	07 45 29.9	-1.4
	comp=Z,0.9nm,0.8s,mb3.8,baz=323,slow=4.5,SNR=8.0						
VNDA	Vanda	75.74	173	eP	P	07 45 31.0	-0.3
	comp=Z,1.1nm,0.9s,mb3.8						
PDAR	Pinedale Array	116.29	44	PKP	PKPdf	07 52 30.2	+2.2
	comp=Z,0.5nm,1.0s,baz=153,slow=3.3,SNR=3.7						
TXAR	Lajitas Array	125.20	57	PKP	PKPdf	07 52 49.2	+3.6
	comp=Z,0.8nm,0.9s,baz=247,slow=1.5,SNR=8.6						
TXAR	Lajitas Array	125.20	57	PKP	PKPdf	07 52 49.2	+3.6
CPUP	Villa Florida	149.51	171	PKPbc	PKPdf	07 53 36.0	+6.3
	comp=Z,4.7nm,1.1s,baz=180,slow=3.6,SNR=4.8						
LPAZ	La Paz	154.49	142	PKPbc	PKPdf	07 53 48.5	+11
	comp=Z,1.5nm,1.0s,baz=182,slow=3.8,SNR=6.0						
LPAZ				PKPab	PKPab	07 54 04.2	+1.7
	comp=Z,1.8nm,0.8s,baz=194,slow=1.3,SNR=6.9						

*MOS **06** 07:45:56.7±0.9, 36.35N×70.87E, h187km, mb3.9/1, Error ellipse: s-maj=30.6km s-min=12.0km az=82.6*

*NEIC **06** 07:45:57.3±3.3, 36.32N×70.97E, h178km±24km, mb3.5/1, Error ellipse: s-maj=30.2km s-min=14.9km az=208.0*

*IDC **06** 07:45:59.7±7.4, 36.41N×71.02E, h198km±62km, mb3.1/7, mb1 3.4/10, mb1mx3.3/21, mbtmp3.8/10, Error ellipse: s-maj=46.6km s-min=21.0km az=30.0*

*NNC **06** 07:46:06.3±6.5, 37.08N×70.92E, h218km±86km, mpv3.9, Error ellipse: s-maj=71.2km s-min=45.0km az=37.0*

ISC 06 07:46:00.4±0.5**, 36.56N**±0.03×**71.14E**±0.08**, h212**km±7km**, n44,** σ1s00/51**, mb3.3**/7**, 9C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.80	167	⇑P	P	07 46 50.0	+1.1
CHCP	Chirah Chowk	3.38	148	P	P	07 46 57.4	+1.7
THW	Thamme Wali	3.79	172	⇑P	P	07 47 01.2	+0.5
SBDP	Sheikh Budin	4.26	184	⇑P	P	07 47 06.2	-0.2
SARP	Sargodha	4.80	164	⇑P	P	07 47 03.6	-10
AML	Almayashu	5.91	19	P	P	07 47 27.5	+0.1
	SNR=21						
UCH	Uchtor	6.24	24	P	P	07 47 32.0	+0.4
	SNR=35						
KZA	Kyzart	6.37	29	P	P	07 47 33.1	-0.2
	SNR=9.6						
EKS2	Erkin-Say	6.43	18	P	P	07 47 34.1	+0.1
	SNR=10						
KK31	Karatay Array	6.55	356	P	P	07 47 34.8	-0.9
	4.1nm,0.4s,baz=181,slow=12,SNR=90						
KK31				⇑S	S	07 48 43.7	-6.4
	7.2nm,0.3s,baz=150,slow=25,SNR=3.7						
AAK	Ala-Archa	6.60	22	P	P	07 47 36.9	+0.6
	SNR=9.6						
AAK	Ala-Archa	6.60	22	⇑P	P	07 47 36.1	-0.2
	4.4nm,0.3s						
AAK				⇑S	S	07 48 48.7	-2.4
	24nm,0.8s						
AAK	Ala-Archa	6.60	22	ePn	P	07 47 35.5	-0.7
	6.7nm,0.4s						
AAK	Ala-Archa	6.60	22	ePN	P	07 47 35.5	-0.8
AAK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KBK	Karagaybulak	6.76	25	P	P	07 47 40.0	+1.6
	SNR=7.4						
ULHL	Ulahol	6.92	33	P	P	07 47 40.8	+0.4
	SNR=9.9						
USP	Ospenovka	7.18	20	P	P	07 47 43.6	-0.2
	SNR=6.3						
TKM2	Tokmak 2	7.22	27	P	P	07 47 44.7	+0.3
	SNR=33						
SMLA	Simla	7.38	135	ex	x	07 47 37.4	
SMLA				eS	S	07 49 07.2	-2.1
KLP	Kalpa	7.74	128	eP	P	07 47 52.1	+0.9
KLP				eS	S	07 49 16.0	-1.7
KLP				AML	AML	07 49 20.6	
	comp=E,107nm,0.6s						
KLP				AML	AML	07 49 21.0	
	comp=N,156nm,0.1s						
KHET	Khetri	9.34	154	eP	P	07 48 10.5	-1.2
KHET				eS	S	07 49 48.9	-5.6
KHET				AML	AML	07 49 51.9	
	comp=E,13nm,0.4s						
KHET				AML	AML	07 49 55.1	
	comp=N,15nm,0.5s						
NDI	New Delhi	9.38	145	eS	S	07 49 48.0	-7.4
AYAN	Aya Nagar	9.51	146	eP	P	07 48 13.8	-0.2
AYAN				eS	S	07 49 54.3	-4.2
AYAN				AML	AML	07 49 56.9	
	comp=Z,18nm,0.1s						
SONA	Sohna	9.69	147	eP	P	07 48 14.6	-1.6
SONA				eS	S	07 49 56.5	-6.1
SONA				AML	AML	07 50 00.4	
	comp=E,20nm,0.3s						
SONA				AML	AML	07 50 01.5	
	comp=N,9.9nm,0.4s						
MKAR	Makanchi Array	13.18	36	P	P	07 49 01.2	+0.6
	comp=N,0.1nm,0.3s,baz=198,slow=9.1,SNR=5.8						
KOLN	Koldanda	13.71	126	eP	P	07 49 07.0	-0.2
	comp=N,13nm,0.3s						
GKN	Gorkha	14.24	123	eP	P	07 49 15.3	+1.4
	comp=N,41nm,0.4s						
DMN	Daman	14.81	123	eP	P	07 49 22.2	+1.3
	comp=N,32nm,0.5s						
KKN	Kakani	14.82	122	eP	P	07 49 21.8	+0.9
	comp=N,22nm,0.5s						
PKI	Pulchoki	15.04	123	eP	P	07 49 24.6	+0.8
	comp=N,12nm,0.3s						
AB31	Akbulak array	15.09	331	⇑P	P	07 49 22.1	-2.1
	comp=N,2.1nm,0.5s,baz=152,slow=22,SNR=3.7						
AB31				⇓S	S	07 52 06.3	+0.7
	comp=N,0.7nm,0.5s,baz=312,slow=54,SNR=3.8						
BVAR	Borovoye Array	16.47	358	P	P	07 49 41.3	+0.4
	comp=N,0.6nm,0.3s,baz=166,slow=11,SNR=7.5						
BRVK	Borovoye	16.51	358	P	P	07 49 40.4	-0.9
	comp=N,1.7nm,0.7s						
BRVK	Borovoye	16.51	358	P	P	07 49 40.4	-0.9
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	16.78	330	⇑P	P	07 49 39.7	-4.9
	comp=Z,0.8nm,0.9s						
ZAL	Zalesovo	19.80	24	P	P	07 50 16.4	+0.4
	comp=Z,1.7nm,0.3s,baz=300,slow=0.1,SNR=6.3						
SONM	Songino Array	28.21	55	P	P	07 51 35.8	+0.5
	comp=Z,0.6nm,0.8s,mb3.3,baz=242,slow=9.5,SNR=4.2						
FINES	FINESS Array B	37.50	326	P	P	07 52 54.5	-0.5
	comp=Z,0.2nm,0.3s,mb3.1,baz=106,slow=10,SNR=4.7						
ARCES	ARCESS Array B	41.13	338	P	P	07 53 24.9	0.0
	comp=Z,1.5nm,0.7s,mb3.6,baz=117,slow=10,SNR=5.1						
NB2	NORSAR Subarra	44.40	323	P	P	07 53 50.3	-0.9
	comp=Z,0.6nm,0.7s,mb3.0,baz=98,slow=7.9						
NOA	NORSAR Array B	44.40	323	P	P	07 53 50.5	-0.7
	comp=Z,0.6nm,0.6s,mb3.1,baz=97,slow=7.8,SNR=3.9						
ILAR	Eielson Array	74.69	16	P	P	07 57 17.4	-0.3
	comp=Z,0.6nm,0.8s,mb3.2,baz=292,slow=4.6,SNR=6.7						
YKA	Yellowknife Ar	81.18	3	P	P	07 57 54.4	+1.3
	comp=Z,0.2nm,0.4s,mb3.1,baz=352,slow=5.4,SNR=4.5						
WRA	Warramunga Arr	81.93	122	P	P	07 57 57.4	-0.4
	comp=Z,0.9nm,0.8s,mb3.5,baz=327,slow=4.7,SNR=8.5						

PRE 06 08:00:24.2±1.5**, 26.41S**×**27.42E, h2**km**, ML3.8, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.52	186	eP	Pg	08 00 34.8	+0.2
PRYS				eS	Sg	08 00 41.9	+0.4
SLR	Silverton	1.02	50	eP	Pb	08 00 44.4	0.0
SLR				eS	Sb	08 00 57.3	-0.7
SLR				AML	AML	08 01 03.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,813nm,0.2s						
SEK	Senekal	1.92	175	eS	Sn	08 01 22.7	-0.6
SEK				AML	AML	08 01 27.1	
	comp=Z,775nm,0.3s						
SWZ	Schweizer	2.02	247	eP	Pn	08 01 00.1	+0.5
SWZ				eS	Sn	08 01 26.5	+0.7
SWZ				AML	AML	08 01 31.4	
	comp=Z,1μm,0.2s						
LBTB	Lobatse	2.15	310	eP	Pn	08 01 02.0	+0.5
LBTB				eS	Sn	08 01 29.4	+0.4
NWL	Newcastle	2.61	121	eP	Pn	08 01 08.8	+0.6
NWL				eS	Sn	08 01 40.7	-0.2
NWL				AML	AML	08 01 51.9	
	comp=Z,680nm,0.4s						
BOSA	Boshof	2.92	221	eP	Pn	08 01 12.5	0.0
BOSA				eS	Sn	08 01 47.5	-1.1
MSNA	Messina	4.69	31	eP	Pn	08 01 36.6	-1.1
MSNA				eS	Sn	08 02 29.4	-4.1
MSNA				AML	AML	08 02 52.9	
	comp=Z,42nm,0.4s						
PKA	Prieska	5.25	231	eP	Pn	08 01 44.2	-1.4
PKA				eS	Sn	08 02 42.7	-4.8
PKA				AML	AML	08 03 15.1	
	comp=Z,88nm,0.5s						
CVNA	Calvinia	8.40	231	eP	P	08 02 27.4	-2.5
CVNA				eS	Sn	08 03 57.7	-8.6
CVNA				AML	AML	08 04 01.4	
	comp=Z,12nm,0.4s						

IDC 06 08:22:52.6±7.2, 6.72S×153.76E, h50km±65km, mb3.3/4, mb1 3.6/5, mb1mx3.5/14, mbtmp3.7/5, ML2.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/23, Error ellipse: s-maj=65.4km s-min=39.7km az=141.0, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.06	247	P	P	08 24 33.6	-2.2
	0.9nm,0.3s,baz=23,slow=7.7,SNR=2.7						
PMG				S	S	08 25 53.9	-1.7
	1.1nm,0.3s,baz=90,slow=1.0,SNR=3.1						
CTA	Charters Tower	15.15	208	LR	LR	08 30 59.7	
	comp=Z,117nm,18.8s,baz=238,slow=32						
WRA	Warramunga Arr	22.98	233	P	P	08 27 52.3	-1.6
	0.7nm,0.7s,baz=56,slow=10.0,SNR=9.8						
SONM	Songino Array	68.45	328	P	P	08 33 50.0	-1.4
	0.2nm,0.6s,baz=135,slow=4.8,SNR=4.0						
MKAR	Makanchi Array	82.39	319	P	P	08 35 09.9	-1.0
	0.4nm,0.8s,baz=124,slow=5.2,SNR=3.2						
ILAR	Eielson Array	83.57	22	P	P	08 35 14.8	-1.6
	0.5nm,0.6s,baz=254,slow=4.9,SNR=6.9						

NIED 06 08:44:00, 23.90N×122.40E, h20km, Mw3.9 Best double couple: Mo8.85×10^14 NP1:φs139°, δ75°, λ104°. NP2: φs275°, δ20°, λ48°.

JMA 06 08:44:59.8±0.4, 23.88N×122.37E, h16km, M3.8, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.82	45	P	Pb	08 45 15.3	0.0
YOJ				eS	Sb	08 45 26.1	+0.2
IRIF	Iriomote-Funau	1.32	70	P	Pn	08 45 23.3	-0.4
IRIF				eS	Sb	08 45 40.7	+0.4
HATJ	Hateruma jima	1.32	82	P	Pn	08 45 23.5	-0.3
HATJ				eS	Sb	08 45 40.8	+0.4
JKRS	Kuro-shima	1.54	76	P	Pn	08 45 27.4	+0.6
JKRS				eS	Sn	08 45 46.4	-0.2
JIJ	Ishigaki jima	1.69	73	P	Pn	08 45 28.1	-0.9
JIJ				eS	Sn	08 45 49.6	-0.8
JTJ	Tarama	2.26	70	P	Pn	08 45 36.7	-0.4
JTJ				eS	Sn	08 46 05.8	+0.9

ISC 06 09:08:41.6±0.8, 39.80N±0.05×29.53E±0.06, h10km, n6, σ0.79/11, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULDT	Uludag	0.46	319	iP	Pg	09 08 50.7	-0.2
ULDT				iS	Sg	09 08 56.9	-0.2
YLV	Yalova	0.78	351	ePN	Pn	09 08 58.0	-0.4
YLV				eSN	Sn	09 09 13.9	+3.9
ESKT	Eskisehir	1.05	105	ePN	Pn	09 09 02.8	+0.4
ESKT	Eskisehir	1.05	105	iP	Pb	09 09 01.8	+0.3
ESKT				iS	Sb	09 09 19.9	+4.8
BTOK	Tokmak	1.16	269	iP	Pb	09 09 03.0	-0.2
BTOK				iS	Sb	09 09 19.1	+1.0
MANT	Manisa	1.51	210	iP	Pn	09 09 07.4	-1.5
MANT				iS	Sb	09 09 28.7	+0.3

NIED 06 09:13:00, 38.30N×141.90E, h44km, Mw4.1 Best double couple: Mo1.44×10^15 NP1:φs31°, δ76°, λ93°. NP2:φs199°, δ14°, λ78°.
MOS 06 09:13:07.7±1.6, 38.36N×141.96E, h48km, mb4.7/8, Error ellipse: s-maj=12.6km s-min=8.1km az=84.9
BJI 06 09:13:09.9, 38.18N×141.81E, h73km, mB5.0, mb4.4, Ms4.1, Msz3.8
JMA 06 09:13:09.2±0.1, 38.28N×141.92E, h45km±1km, M4.1 Broadband fault plane solution: P waves. NP1:φs192°, δ22°, λ59°. NP2:φs45°, δ71°, λ102°. Principal axes: T Plg62°, Azm333°; N Plg11°, Azm221°; P Plg25°, Azm126°;
JMA Felt II J1.
IDC 06 09:13:10.0±2.2, 38.27N×141.91E, h50km±19km, mb3.9/14, mb1 4.1/17, mb1mx4.0/24, mbtmp4.1/17, ML4.0/3, MS3.0/2, Ms1 3.0/2, ms1mx2.7/29 Error ellipse: s-maj=19.2km s-min=13.8km az=106.0
NEIC 06 09:13:11.4±1.0, 38.27N×141.83E, h65km±8km, mb4.5/10, MW4.0(NIED), Error ellipse: s-maj=12.1km s-min=7.6km az=122.0
NEIC Recorded [1 JMA] in Fukushima, Iwate and Miyagi Prefectures.

ISC 06 09:13:08.5±0.8, 38.30N±0.04×141.90E±0.08, h56km±5km, n57, σ1.00/71, mb4.3/27, MS3.4/3, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.46	289	⇓P	P	09 13 20.0	+0.2
JIO				eS	S	09 13 27.5	-0.5
OFUJ	Ofunato	0.80	347	⇓P	P	09 13 24.4	+0.5
OFUJ				eS	S	09 13 35.1	-0.1
JMK	Ichinoseki	0.84	321	⇓P	P	09 13 25.4	+1.0
JMK				eS	S	09 13 36.1	-0.2
JOU	Okura	0.98	274	⇓P	P	09 13 27.1	+0.8
JOU				eS	S	09 13 40.3	+0.8
JMM	Marumori	0.98	244	⇓P	P	09 13 26.1	-0.2
JMM				eS	S	09 13 38.5	-1.0
MJAR	Matsushiro Arr	3.43	240	P	P	09 14 01.6	+0.8
	5.5nm,0.3s,baz=64,slow=11,SNR=34						
MJAR				S	S	09 14 48.7	+8.2
	7.7nm,0.3s,baz=79,slow=14,SNR=4.9						
MAJO	Matsushiro	3.43	240	ePn	P	09 14 01.3	+0.5
MAT	Matsushiro	3.43	240	P	P	09 14 01.7	+0.9
MAT				eS	S	09 14 44.8	+4.3
MAT	Matsushiro	3.43	240	eP	P	09 14 02.0	+1.2
MAT				S	S	09 14 49.0	+8.5
JHJ	Hachijo jima 2	5.45	199	P	P	09 14 28.1	-1.1
	15nm,0.3s,baz=244,slow=21,SNR=8.3						
JHJ				S	S	09 15 24.9	-6.5
	31nm,0.3s,baz=81,slow=22,SNR=7.2						
ASAJ	Asahikawa	5.83	5	P	P	09 14 33.2	-1.2
	5.6nm,0.3s,baz=181,slow=8.6,SNR=12						
ASAJ				S	S	09 15 40.6	-0.2
	2.3nm,0.3s,baz=350,slow=19,SNR=3.1						
ASAJ				LR	LR	09 16 43.1	
	comp=Z,115nm,20.9s,baz=346,slow=36						
ASAJ	Asahikawa	5.83	5	P	P	09 14 33.3	-1.1
ASAJ				S	S	09 15 40.6	-0.2
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,115nm,20.9s						
YUK	Yuzh-Kuril'sk	6.46	26	iP	P	09 14 38.0	-5.2
YUK				eS	S	09 15 46.7	-10
YUK				smax			
	comp=N,250nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YSS	Yuzh-Sakhalins	8.67	4	ePn	P	09 15 12.5	-1.3
YSS	Yuzh-Sakhalins	8.67	4	eP	P	09 15 12.0	-1.8
YSS				S	S	09 16 49.7	-1.4
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				smax			
	comp=N,20nm,1.0s						
MDJ	Mudanjiang	11.18	308	P	P	09 15 48.0	0.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,190nm,5.4s						
MA2	Magadan	22.03	12	eP	P	09 18 01.8	+2.3
	comp=Z,14nm,0.8s,mb4.4						
MA2	Magadan	22.03	12	eP	P	09 18 01.8	+2.3
MA2				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
HHC	Hu-ho-hao-te	23.47	286	eP	P	09 18 10.2	-3.4
HHC				AP		09 18 27.3	
HHC				XP		09 18 36.4	
HHC				PP	PP	09 18 43.2	-3.7
HHC				PCP	PcP	09 21 59.3	-0.7
HHC				S	S	09 22 12.2	-7.4
HHC				PCS		09 25 37.3	
HHC				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.5						
HHC				AMB	AMB		
	comp=Z,162nm,6.4s						
HHC				LR	LR		
	comp=N,289nm,9.4s						
HHC				LR	LR		
	comp=E,254nm,6.1s						
HHC				LR	LR		
	comp=Z,217nm,9.9s						
GUMO	Guam	24.75	173	LR	LR	09 25 29.7	
	comp=Z,52nm,21.1s,MS3.0,baz=213,slow=30						
BOD	Bodaibo	26.68	326	eP	P	09 18 43.6	-0.3
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
SONM	Songino Array	27.42	302	P	P	09 18 51.8	+1.0
	comp=Z,1.0nm,0.5s,mb3.6,baz=101,slow=8.8,SNR=5.8						
ENH	Enshi	27.85	263	eP	P	09 18 53.9	-0.9
	comp=Z,11nm,0.6s,mb4.7						
ZAK	Zakamensk	29.81	306	eP	P	09 19 12.2	+0.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
KMI	Kunming	35.55	260	P	P	09 20 01.3	-1.0
KMI				AP	pP	09 20 18.1	+1.5
KMI				XP	sP	09 20 26.9	+3.4
KMI				S	S	09 25 31.3	-1.9
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				AMB	AMB		
	comp=Z,140nm,5.2s						
KMI				LR	LR		
	comp=Z,83nm,16.8s,MS3.6						
KMI	Kunming	35.55	260	P	P	09 20 01.3	-1.0
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				pP	pP	09 20 18.1	+1.5
KMI				sP	sP	09 20 26.9	+3.4
KMI				S	S	09 25 31.3	-1.9
KMI				LR	LR		
	comp=Z,80nm,16.8s,MS3.5						
KMI	Kunming	35.55	260	P	P	09 20 01.3	-1.0
KMI				*PP	pP	09 20 18.1	+1.5
KMI				S	S	09 25 31.3	-1.9
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				MLR	MLR		
	comp=Z,80nm,16.8s,MS3.5						
WMQ	Urumqi	40.63	296	eP	P	09 20 44.5	+0.1
WMQ				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,119nm,5.4s						
WMQ				LR	LR		
	comp=N,121nm,22.0s,MS3.9						
WMQ				LR	LR		
	comp=E,126nm,23.2s,MS3.9						
WMQ				LR	LR		
	comp=Z,84nm,19.8s,MS3.6						
ZAL	Zalesovo	41.37	311	P	P	09 20 51.7	+1.3
	comp=Z,3.2nm,0.5s,mb4.2,baz=22,slow=11,SNR=1.4						
MKAR	Makanchi Array	43.79	301	P	P	09 21 10.7	+0.5
	comp=Z,1.9nm,0.6s,mb4.0,baz=86,slow=10.0,SNR=17						
KURK	Kurchatov	45.47	307	eP	P	09 21 23.6	+0.1
	comp=Z,8.1nm,0.8s,mb4.6						
KURK	Kurchatov	45.47	307	eP	P	09 21 23.7	+0.1
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
ILAR	Eielson Array	48.22	33	P	P	09 21 45.7	+0.7
	comp=Z,0.9nm,0.7s,mb3.9,baz=268,slow=6.5,SNR=16						
BVAR	Borovoye Array	50.01	312	P	P	09 21 59.3	+0.3
	comp=Z,0.7nm,0.4s,mb4.0,baz=63,slow=6.6,SNR=5.2						
BVAR				PcP	PcP	09 23 18.8	+0.3
	comp=Z,1.6nm,0.5s,baz=47,slow=2.0,SNR=5.1						
INK	Inuvik	53.08	28	P	P	09 22 22.0	+0.1
	comp=Z,2.7nm,1.0s,mb4.2,baz=5.3,slow=3.2,SNR=3.0						
ARU	Arti	55.67	318	eP	P	09 22 37.8	-3.2
	comp=Z,13nm,0.6s,mb5.1						
ARU	Arti	55.67	318	eP	P	09 22 37.8	-3.2
ARU				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
WRAB	Tennant Creek	58.36	188	eP	P	09 22 59.4	-1.0
	comp=Z,1.3nm,0.6s,mb4.1						
WRAB	Tennant Creek	58.36	188	eP	P	09 22 59.4	-1.1
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WRA	Warramunga Arr	58.37	188	P	P	09 22 59.1	-1.5
	comp=Z,1.1nm,0.6s,mb4.1,baz=5.5,slow=7.1,SNR=26						
KEV	Kevo	62.40	339	ep	P	09 23 25.1	-2.2
	comp=Z,8.3nm,0.8s,mb4.9						
KEV	Kevo	62.40	339	eP	P	09 23 25.1	-2.2
KEV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
ARCES	ARCESS Array B	62.95	339	P	P	09 23 29.5	-1.6
	comp=Z,3.1nm,0.8s,mb4.5,baz=56,slow=8.7,SNR=6.9						
KAF	Kangasniemi	67.36	333	ep	P	09 23 59.2	-0.1
	comp=Z,2.3nm,0.5s,mb4.5,baz=48,slow=6.0						
KAF	Kangasniemi	67.36	333	eP	P	09 23 59.2	-0.1
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FINES	FINESS Array B	67.88	332	P	P	09 24 02.8	+0.2
	comp=Z,3.1nm,0.6s,mb4.5,baz=45,slow=8.1,SNR=11						
SUMG	Summit	69.42	0	P	P	09 24 12.4	+0.4
	comp=Z,2.7nm,0.7s,mb4.3						
NB2	NORSAR Subarra	73.17	337	P	P	09 24 35.0	+0.6
	comp=Z,4.2nm,0.8s,mb4.4,baz=39,slow=5.8						
NB2	NORSAR Subarra	73.17	337	P	P	09 24 35.0	+0.6
NB2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
NOA	NORSAR Array B	73.17	337	P	P	09 24 35.2	+0.8
	comp=Z,3.4nm,0.7s,mb4.4,baz=39,slow=5.9,SNR=15						
AKASG	Malin Array Be	73.53	322	P	P	09 24 37.1	+0.4
	comp=Z,1.7nm,0.4s,mb4.3,baz=46,slow=6.0,SNR=14						
PDAR	Pinedale Array	76.50	46	P	P	09 24 55.4	+1.4
	comp=Z,0.8nm,0.5s,mb3.9,baz=277,slow=1.5,SNR=10						
CLL	Collm	80.19	330	P	P	09 25 15.0	+0.9
GERES	GERESS Array B	81.84	328	P	P	09 25 24.1	+1.3
	comp=Z,0.4nm,0.2s,mb3.9,baz=45,slow=5.7,SNR=5.4						
TXAR	Lajitas Array	89.04	53	P	P	09 26 00.0	+1.2
	comp=Z,0.5nm,0.6s,mb4.0,baz=292,slow=2.6,SNR=8.2						
LPAZ	La Paz	145.71	59	PKPbc	PKPbc	09 32 44.5	+2.7
	comp=Z,1.1nm,0.6s,baz=308,slow=0.9,SNR=4.8						
SIV	San Ignacio	149.96	49	PKPbc	PKPdf	09 32 55.0	+7.1
	comp=Z,0.6nm,0.6s,baz=265,slow=11,SNR=3.3						

IDC 06 09:27:28.3±1.7, 27.80S×69.39W, mb1 3.5/2, mb1mx3.3/16, mbtmp3.4/2, ML3.3/1, Error ellipse: s-maj=148.0km s-min=42.8km az=110.0
GUC 06 09:27:40.2±1.2, 27.25S×69.88W, h116km±9km, ML4.4
NEIC 06 09:27:40.2, 27.25S×69.88W, h116km, mb3.9/1, After GUC.

ISC 06 09:27:39.4±0.7, 27.27S±0.04×69.8W±0.2, h119km±16km, n15, σ0.86/20, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.51	259	⇓iP	P	09 27 58.1	+0.6
CPCH				AMP		09 28 10.0	
	comp=E,141μm,0.0s						
CPCH				iS	S	09 28 10.3	-0.7
CPCH	Copiapo	0.51	259	⇓iP	P	09 27 58.1	+0.6
CPCH				iS	S	09 28 10.3	-0.7
CRCH	Chaqaral	1.18	321	⇑iP	P	09 28 04.7	+1.2
CRCH				iS	S	09 28 20.9	-0.7
CRCH				AMP		09 28 22.6	
	comp=E,5μm,0.6s						
VACH	Vallenar	1.56	213	⇓iP	P	09 28 08.8	+0.9
VACH				iS	S	09 28 29.3	-0.2
VACH				AMP		09 28 30.9	
	comp=E,6μm,0.2s						
CPN1	Cerro Paranal	2.69	348	⇑iP	P	09 28 23.5	+1.1
CPN1				iS	S	09 28 55.6	+0.8
CPN1				AMP		09 29 02.5	
	comp=E,367nm,0.5s						
LSCH	La Serena	2.93	206	iP	P	09 28 25.6	+0.1
LSCH				iS	S	09 28 59.7	-0.8
LSCH				AMP		09 29 03.8	
	comp=E,532nm,0.5s						
TLL	Tololo Astrono	3.03	197	AMP		09 29 10.5	
	comp=N,686nm,0.7s						
ANCH	Antofagasta	3.61	351	⇑iP	P	09 28 34.5	-0.3
ANCH				iS	S	09 29 15.6	-1.4
LVC	Limon Verde	4.70	10	⇑iP	P	09 28 50.5	+1.0
LVC				iS	S	09 29 43.3	0.0
LVC				AMP		09 30 14.3	
	comp=N,75nm,0.6s						
LVC	Limon Verde	4.70	10	ePn	P	09 28 50.3	+0.9
LPAZ	La Paz	11.03	8	Pn	P	09 30 14.6	-0.2
	comp=N,0.1nm,0.3s,baz=198,slow=13,SNR=3.2						
TRQA	Tornquist	12.61	151	ePn	P	09 30 35.8	+0.3
	comp=N,1.4nm,0.4s						
SIV	San Ignacio	13.83	38	Pn	P	09 30 49.5	-1.9
	comp=N,0.2nm,0.3s,baz=232,slow=8.2,SNR=6.8						
WRA	Warramunga Arr	127.57	209	PKP	PKPdf	09 46 35.7	+4.5
	comp=N,0.5nm,1.0s,baz=153,slow=2.0,SNR=6.3						
MKAR	Makanchi Array	150.63	41	PKPbc	PKPdf	09 47 21.8	+10
	comp=N,0.4nm,0.5s,baz=296,slow=2.2,SNR=5.0						

IDC 06 09:49:02.6±2.5, 16.09S×173.52W, mb3.8/4, mb1 4.1/5, mb1mx3.8/15, mbtmp3.8/5, MS3.6/6, Ms1 3.7/6, ms1mx3.4/25, Error ellipse: s-maj=132.7km s-min=22.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.74	38	Pn	Pn	09 49 47.2	-1.4
	11nm,0.3s,baz=128,slow=5.1,SNR=19						
AFI				Sn	Sn	09 50 15.3	-7.6
	21nm,0.3s,baz=24,slow=21,SNR=5.1						
DZM	Mont Dzumac	19.84	249	LR	LR	09 59 57.3	
	comp=Z,96nm,18.2s,baz=16,slow=33						
PPT	Papeete	22.96	97	LR	LR	10 00 19.3	
	comp=Z,87nm,19.3s,baz=224,slow=30						
HNR	Honiara	26.69	281	LR	LR	10 04 05.1	
	comp=Z,105nm,19.3s,baz=139,slow=34						
STKA	Stephens Creek	43.60	241	P	P	09 57 08.8	-1.6
	0.9nm,0.4s,baz=74,slow=11,SNR=3.9						
WRA	Warramunga Arr	49.58	257	P	P	09 57 55.0	-2.8
	0.4nm,0.4s,baz=92,slow=7.1,SNR=23						
PDAR	Pinedale Array	82.85	42	P	P	10 01 28.6	-1.8
	0.5nm,0.7s,baz=225,slow=2.1,SNR=5.2						
ILAR	Eielson Array	83.14	11	P	P	10 01 30.6	-0.8
	0.2nm,0.5s,baz=207,slow=6.0,SNR=11						
PLCA	Paso Flores	89.14	132	LR	LR	10 31 50.2	
	comp=Z,106nm,21.0s,baz=65,slow=29						
CFAA	Coronel Fontan	94.16	124	LR	LR	10 32 50.2	
	comp=Z,7.6nm,21.1s,baz=174,slow=28						
LPAZ	La Paz	99.68	110	LR	LR	10 37 08.5	
	comp=Z,186nm,21.6s,baz=58,slow=29						
BRTR	Keskin Array B	146.62	320	PKPbc	PKPbc	10 08 47.5	+1.3
	0.8nm,0.5s,baz=90,slow=2.5,SNR=3.6						

IDC 06 09:55:06.6±2.1, 0.30N×96.49E, mb3.8/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, Error ellipse: s-maj=87.5km s-min=27.9km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.18	121	P	P	10 03 01.5	-1.5
	0.4nm,0.6s,baz=303,slow=8.5,SNR=6.7						
MKAR	Makanchi Array	47.94	347	P	P	10 03 46.7	-2.1
	1.8nm,0.6s,baz=166,slow=7.9,SNR=13						
SONM	Songino Array	48.12	9	P	P	10 03 47.9	-2.3
	0.3nm,0.5s,baz=211,slow=8.4,SNR=3.3						
ZAL	Zalesovo	54.32	352	P	P	10 04 35.1	-1.9
	3.0nm,0.5s,baz=275,slow=2.0,SNR=6.2						
GERES	GERESS Array B	85.02	319	P	P	10 07 44.3	-1.0
	0.2nm,0.4s,baz=127,slow=6.7,SNR=3.4						
TXAR	Lajitas Array	144.80	31	PKP	PKPdf	10 14 45.1	-2.9
	0.2nm,0.8s,baz=215,slow=1.8,SNR=5.4						

IDC 06 10:01:42.2±1.2, 34.66S×112.35W, mb4.0/7, mb1 4.2/7, mb1mx4.0/20, mbtmp4.0/7, Error ellipse: s-maj=36.0km s-min=27.5km az=66.0
NEIC 06 10:01:44.7±0.4, 34.61S×112.24W, h10km, mb4.4/16, Error ellipse: s-maj=18.2km s-min=8.4km az=74.0

ISC 06 10:01:43.9±0.7, 34.5S±0.1×112.1W±0.2, h10km, (h11km±5km:pP-P), n42, σ0.88/37, mb4.2/21, 4C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RKT	Rikitea	22.97	293	eLR	LR	10 12 05.3	
	462nm,26.2s,baz=126						
TBI	Tubuai	34.36	279	eLR	LR	10 17 14.8	
	513nm,26.8s,baz=115						
TAOE	Nuku Hiva Isla	36.23	308	eLR	LR	10 18 19.8	
	577nm,27.4s						
PPT	Papeete	37.40	287	eLR	LR	10 18 43.3	
	466nm,25.8s,baz=126						
LPAZ	La Paz	43.26	77	P	P	10 09 48.9	+1.6
	3.5nm,1.1s,mb4.0,baz=248,slow=8.5,SNR=8.3						
LPAZ	La Paz	43.26	77	eP	P	10 09 49.3	+2.0
	12nm,1.7s,mb4.3						
SIV	San Ignacio	49.14	81	P	P	10 10 33.8	-0.2
	1.3nm,0.8s,mb4.0,baz=256,slow=12,SNR=7.0						
SDV	Santo Domingo	58.30	50	P	P	10 11 39.6	-1.8
	2.0nm,0.4s,mb4.5,baz=276,slow=11,SNR=3.6						
VNA3	Neumayer Olymp	61.61	159	e	P	10 12 05.0	+1.6
VNA3	Neumayer Olymp	61.61	159	e	P	10 12 08.7	+5.3
VNA3	Neumayer Olymp	61.61	159	⇑iP	P	10 12 01.2	-2.2
VNA3				e	pP	10 12 05.0	-1.5
VNA3				e		10 12 08.7	
VNA1	Neumayer--Stat	62.27	159	e	P	10 12 09.6	+1.7
VNA1	Neumayer--Stat	62.27	159	e	P	10 12 13.2	+5.3
VNA1	Neumayer--Stat	62.27	159	⇑iP	P	10 12 06.4	-1.5
VNA1				e	pP	10 12 09.6	-1.4
VNA1				e		10 12 13.2	
VNA2	Neumayer--Watz	62.41	159	e	P	10 12 10.5	+1.7
VNA2	Neumayer--Watz	62.41	159	e	P	10 12 14.0	+5.2
VNA2	Neumayer--Watz	62.41	159	⇑iP	P	10 12 07.0	-1.8
VNA2				e	pP	10 12 10.5	-1.5
VNA2				e		10 12 14.0	
SNAA	Sanae	63.37	160	⇑i	P	10 12 12.9	-2.2
SNAA	Sanae	63.37	160	e	P	10 12 16.8	+1.7
SNAA	Sanae	63.37	160	P	P	10 12 12.3	-2.9
	0.8nm,0.9s,mb3.8,baz=248,slow=4.8,SNR=5.9						
SNAA	Sanae	63.37	160	eP	P	10 12 13.1	-2.1
	1.1nm,0.8s,mb4.0						
TXAR	Lajitas Array	63.95	8	P	P	10 12 19.2	-0.3
	1.5nm,1.1s,mb3.9,baz=188,slow=8.8,SNR=6.2						
MNTX	Cornudas Mount	66.11	6	eP	P	10 12 32.5	-0.9
	2.5nm,0.9s,mb4.2						
TUC	Tucson	66.43	1	eP	P	10 12 35.1	-0.4
	3.4nm,1.2s,mb4.2						
ANMO	Albuquerque	69.25	5	P	P	10 12 53.1	0.0
	0.4nm,0.5s,mb3.6,baz=157,slow=7.7,SNR=3.0						
SDCO	Great Sand Dun	72.10	5	eP	P	10 13 10.7	+0.3
	2.5nm,1.0s,mb4.1						
SRU	San Rafael	73.22	1	eP	P	10 13 16.0	-0.9
DUG	Dugway	74.29	359	eP	P	10 13 23.1	+0.1
	2.1nm,0.9s,mb4.1						
DAU	Daniels Canyon	74.51	1	eP	P	10 13 25.2	+0.9
BMN	Battle Mountai	74.67	356	eP	P	10 13 25.1	-0.2
	4.4nm,1.0s,mb4.3						
HWUT	Hardware Ranch	75.70	0	eP	P	10 13 31.2	+0.1
	3.2nm,1.0s,mb4.2						
MOD	Modoc	76.37	354	eP	P	10 13 34.7	-0.2
	4.4nm,1.0s,mb4.3						
WVOR	Wild Horse Val	76.76	355	eP	P	10 13 37.8	+0.8
	12nm,1.8s,mb4.5						
BW06	Boulder Array	76.89	2	eP	P	10 13 37.4	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	5.5nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**76.89**	**2**	P	**P**	**10 13 37.4**	**-0.4**
	2.7nm,0.9s,mb4.2,baz=173,slow=7.3,SNR=20						
TPAW	**Teton Pass**	**77.59**	**1**	*e*P	**P**	**10 13 41.8**	**+0.2**
	4.9nm,0.9s,mb4.4						
HLID	**Hailey**	**77.68**	**358**	*e*P	**P**	**10 13 42.9**	**+0.7**
	10nm,1.4s,mb4.6						
LOHW	**Long Hollow**	**77.72**	**1**	*e*P	**P**	**10 13 42.1**	**-0.2**
	3.7nm,1.1s,mb4.2						
MCMT	**McKenzie Canyo**	**78.92**	**359**	*e*P	**P**	**10 13 49.8**	**+0.9**
BMO	**Blue Mountains**	**79.09**	**356**	*e*P	**P**	**10 13 49.9**	**+0.1**
	2.0nm,1.1s,mb4.0						
BOZ	**Bozeman (W)**	**79.74**	**0**	*e*P	**P**	**10 13 53.9**	**+0.6**
	3.1nm,1.2s,mb4.1						
SONM	**Songino Array**	**148.43**	**307**	PKPbc	PKPdf	10 21 29.3	-0.3
	2.8nm,0.9s,baz=95,slow=2.2,SNR=8.9						

*IDC **06** 10:03:45.4±2.5, 34.72S×112.13W, mb3.9/5, mb1 4.3/5, mb1mx4.0/17, mbtmp3.9/5, MS4.0/9, Ms1 4.0/9, ms1mx3.7/29, Error ellipse: s-maj=74.4km s-min=34.7km az=22.0*

*NEIC **06** 10:03:46.8±1.3, 34.74S×112.14W, h10^{km}, mb4.3/12, Error ellipse: s-maj=36.5km s-min=15.4km az=207.0*

ISC 06 10:03:45.6±0.8**, 34.7S**±0.1×**112.1W**±0.3**, h10^{km}, n35, σ0^{s}57**/22**, mb4.1**/16**, MS4.1**/8**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.87**	**18**	LR	LR	10 07 52.4	
	comp=Z,333nm,19.9s,baz=136,slow=31						
PLCA	**Paso Flores**	**33.21**	**113**	LR	LR	10 20 33.2	
	comp=Z,100nm,19.8s,MS3.5,baz=270,slow=30						
TBI	**Tubuai**	**34.37**	**279**	*e*LR	LR	10 19 16.6	
	850nm,26.5s,baz=114						
USHA	**Ushuaia**	**36.23**	**137**	LR	LR	10 21 44.3	
	comp=Z,536nm,21.0s,MS4.3,baz=266,slow=30						
TAOE	**Nuku Hiva Isla**	**36.33**	**308**	*e*LR	LR	10 20 25.7	
	976nm,26.2s						
PPT	**Papeete**	**37.44**	**287**	*e*LR	LR	10 20 45.9	
	628nm,23.8s,baz=121						
PPT	**Papeete**	**37.44**	**287**	LR	LR	10 21 32.8	
	comp=Z,440nm,20.6s,MS4.2,baz=119,slow=28						
LPAZ	**La Paz**	**43.33**	**76**	P	**P**	**10 11 50.1**	**+0.5**
	2.7nm,1.1s,mb3.9,baz=210,slow=7.5,SNR=5.0						
LPAZ	**La Paz**	**43.33**	**76**	*e*P	**P**	**10 11 50.2**	**+0.6**
	6.0nm,1.4s,mb4.1						
SIV	**San Ignacio**	**49.19**	**81**	P	**P**	**10 12 35.9**	**-0.2**
	0.6nm,0.6s,mb3.8,baz=248,slow=16,SNR=3.6						
ROSC	**El Rosal**	**53.01**	**50**	LR	LR	10 32 10.0	
	comp=Z,138nm,19.1s,MS4.0,baz=225,slow=32						
AFI	**Afiamalu**	**57.35**	**275**	LR	LR	10 32 03.9	
	comp=Z,215nm,18.4s,MS4.3,baz=147,slow=30						
RPZ	**Rata Peaks**	**58.27**	**236**	LR	LR	10 32 37.3	
	comp=Z,155nm,19.0s,MS4.1,baz=258,slow=30						
BDFB	**Brasilia**	**60.09**	**89**	LR	LR	10 35 52.9	
	comp=Z,218nm,21.3s,MS4.3,baz=187,slow=32						
VNA3	**Neumayer Olymp**	**61.44**	**159**	*e*	**P**	**10 14 03.7**	**-0.3**
VNA2	**Neumayer--Watz**	**62.25**	**159**	*e*	**P**	**10 14 09.5**	**0.0**
TXAR	**Lajitas Array**	**64.14**	**8**	P	**P**	**10 14 22.3**	**-0.2**
	1.1nm,1.1s,mb3.8,baz=194,slow=7.4,SNR=5.5						
MNTX	**Cornudas Mount**	**66.30**	**6**	*e*P	**P**	**10 14 35.4**	**-0.9**
	1.4nm,1.2s,mb3.9						
TUC	**Tucson**	**66.62**	**1**	*e*P	**P**	**10 14 37.4**	**-0.9**
	0.7nm,0.5s,mb4.0						
SDCO	**Great Sand Dun**	**72.29**	**5**	P	**P**	**10 15 13.5**	**+0.4**
	5.3nm,1.3s,mb4.3						
NVAR	**Mina Array Bea**	**72.94**	**355**	P	**P**	**10 15 17.7**	**+0.7**
	2.6nm,1.1s,mb4.1,baz=187,slow=7.3,SNR=8.9						
SRU	**San Rafael**	**73.41**	**1**	*e*P	**P**	**10 15 18.5**	**-1.1**
DAU	**Daniels Canyon**	**74.70**	**1**	*e*P	**P**	**10 15 27.1**	**0.0**
MOD	**Modoc**	**76.55**	**354**	*e*P	**P**	**10 15 38.3**	**+0.7**
	0.8nm,0.6s,mb3.8						
WVOR	**Wild Horse Val**	**76.94**	**355**	*e*P	**P**	**10 15 40.3**	**+0.5**
	5.9nm,1.4s,mb4.3						
BW06	**Boulder Array**	**77.08**	**2**	*e*P	**P**	**10 15 40.0**	**-0.6**
	2.5nm,1.1s,mb4.1						
PDAR	**Pinedale Array**	**77.08**	**2**	P	**P**	**10 15 40.1**	**-0.4**
	1.9nm,0.9s,mb4.0,baz=169,slow=6.5,SNR=9.7						
RRI2	**Red Ridge**	**77.63**	**1**	*e*P	**P**	**10 15 43.1**	**-0.4**
	4.2nm,1.1s,mb4.3						
TPAW	**Teton Pass**	**77.78**	**1**	*e*P	**P**	**10 15 44.5**	**+0.1**
	2.1nm,0.8s,mb4.1						
HLID	**Hailey**	**77.87**	**358**	*e*P	**P**	**10 15 45.5**	**+0.6**
	4.9nm,1.2s,mb4.3						
LOHW	**Long Hollow**	**77.90**	**1**	P	**P**	**10 15 45.4**	**+0.3**
	11nm,1.7s,mb4.5						
MCMT	**McKenzie Canyo**	**79.11**	**359**	*e*P	**P**	**10 15 52.4**	**+0.8**
BMO	**Blue Mountains**	**79.27**	**356**	*e*P	**P**	**10 15 52.7**	**+0.2**
	6.5nm,1.5s,mb4.3						
SADO	**Sadowa**	**84.52**	**23**	LR	LR	10 49 05.4	
	comp=Z,68nm,18.7s,MS4.1,baz=225,slow=32						
SONM	**Songino Array**	**148.53**	**307**	PKPbc	PKPdf	10 23 33.5	+1.9
	2.3nm,1.1s,baz=90,slow=1.4,SNR=7.8						

*NEIC **06** 10:04:53.4, 29.51S×71.23W, h25^{km}, ML4.0(GUC), After GUC.*

NEIC Felt [II] at La Serena.

GUC 06 10:04:53.4±0.7**, 29.51S×71.23W, h25^{km}**±2^{km}**, MD4.2, ML4.0, 2C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.40**	**182**	⇓*i*P	Pb	10 05 01.8	-0.2
LSCH				*i* S	Sb	10 05 07.7	-0.1
LSCH				AMP		10 05 08.0	
	comp=N,13µm,0.3s						
TLL	**Tololo Astrono**	**0.75**	**151**	⇓*i*P	Pb	10 05 08.2	+0.4
TLL				*i* S	Sb	10 05 18.7	+1.0
TLL				AMP		10 05 22.5	
	comp=E,6µm,0.5s						
VACH	**Vallenar**	**1.01**	**24**	⇓*i*P	Pn	10 05 11.5	-0.7
VACH				*i* S	Sb	10 05 25.0	-0.1
VACH				AMP		10 05 26.5	
	comp=E,14µm,0.2s						
OVCH	**Ovalle**	**1.10**	**179**	⇑*i*P	Pn	10 05 12.8	-0.5
OVCH				*i* S	Sb	10 05 27.2	-0.3
CMCH	**Combarbala**	**1.67**	**173**	⇑*i*P	Pn	10 05 21.1	-0.4
CMCH				*i* S	Sn	10 05 43.2	+0.8
CPCH	**Copiapo**	**2.27**	**20**	*e*P	Pn	10 05 30.5	+0.4
CPCH				*i* S	Sn	10 05 59.0	+1.3
CPCH				AMP		10 06 05.3	
	comp=E,2µm,0.1s						
CHNG	**Los Chungos**	**2.38**	**186**	*e*P	Pn	10 05 32.1	+0.4
CHNG				*i* S	Sn	10 06 01.1	+0.8
CRCH	**Chaqaral**	**3.19**	**10**	*e*P	Pn	10 05 41.2	-2.1
CRCH				*i* S	Sn	10 06 18.6	-2.3
JACH	**Jahuel**	**3.21**	**170**	*e*P	Pn	10 05 42.9	-0.6
CLCH	**Cerro Calan**	**3.92**	**172**	*e*P	Pn	10 05 54.0	+0.4
TACH	**Talagante**	**4.14**	**177**	*e*P	Pn	10 05 56.1	-0.7
PCH	**Pirque**	**4.15**	**172**	*e*P	Pn	10 05 56.5	-0.4
SFDO	**San Fernando**	**5.10**	**178**	*e*P	Pn	10 06 09.8	-0.4

MAN 06 10:24:01.2, 13.82N×120.51E, h89^{km}, mb3.8, ML2.5, MS2.0, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.27**	**251**	*e*P	P	10 24 16.2	+1.8
TGY	**Tagaytay City**	**0.50**	**56**	⇑*i*P	P	10 24 18.3	+2.3
TGY				*i* S	S	10 24 30.1	+3.1
PGP	**Puerto Galera**	**0.54**	**126**	*e*P	P	10 24 17.7	+1.4
PGP				*e*S	S	10 24 29.0	+1.5
LBPH	**Los Banos**	**0.73**	**63**	⇑*e*P	P	10 24 19.0	+0.8
NBP	**Mount Natib**	**0.92**	**354**	⇓*e*P	P	10 24 20.8	+0.7
ARP	**Angono**	**0.95**	**41**	⇑*e*P	P	10 24 20.7	+0.3
BOAC	**Boac**	**1.35**	**105**	*e*P	P	10 24 25.6	+0.1
SJMP	**San Jose**	**1.48**	**156**	*e*P	P	10 24 27.9	+0.9
SJMP				*e*S	S	10 24 40.8	-5.4
BUSP	**Coron**	**1.83**	**190**	*e*P	P	10 24 31.4	-0.2
BUSP				*e*S	S	10 24 54.8	+0.7
OTRP	**Odiongan**	**2.07**	**134**	*e*P	P	10 24 35.2	+0.5
ENPP	**El Nido**	**2.81**	**202**	*e*P	P	10 24 44.7	-0.4

NNC 06 10:25:21.7±12.0**, 38.27N×72.43E, h189^{km}**±203^{km}**, mpv3.5, 5D, Error ellipse: s-maj=164.2km s-min=80.7km az=22.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.63**	**19**	⇓P	P	10 26 29.8	-2.0
	2.0nm,0.6s						
AAK				⇓S	S	10 27 27.1	+0.9
	10nm,0.8s						
KK31	**Karatay Array**	**5.04**	**344**	P	P	10 26 37.3	+0.2
	4.7nm,0.3s,baz=155,slow=12,SNR=53						
KK31				⇓S	S	10 27 35.3	-0.3
	1.7nm,0.2s,baz=243,slow=62,SNR=14						
AB31	**Akbulak array**	**14.19**	**325**	⇓P	P	10 28 35.8	+0.7
	1.8nm,0.7s						
AB31				⇓S	S	10 31 10.4	+2.4
	0.2nm,0.4s						

*IDC **06** 10:40:25.6±2.0, 19.53N×108.93W, mb3.4/5, mb1 3.7/7, mb1mx3.6/22, mbtmp3.4/7, ML3.5/1, MS3.5/8, Ms1 3.4/8, ms1mx3.3/22, Error ellipse: s-maj=64.9km s-min=23.7km az=62.0*

*NEIC **06** 10:40:27.8±0.9, 19.50N×108.88W, h10^{km}, mb3.9/10, Error ellipse: s-maj=20.6km s-min=12.0km az=67.0*

ISC 06 10:40:25.2±1.1**, 19.4N**±0.1×**108.9W**±0.1**, h10^{km}, n31, σ1^{s}00**/25**, mb3.9**/10**, MS3.4**/6**, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**10.95**	**25**	Pn	**P**	**10 43 03.3**	**-1.8**
	0.1nm,0.3s,baz=203,slow=13,SNR=5.9						
TXAR				LR	LR	10 46 46.8	
	comp=Z,239nm,20.0s,baz=350,slow=35						
MNTX	**Cornudas Mount**	**12.62**	**14**	*e*Pn	**P**	**10 43 27.8**	**+0.1**
	19nm,2.1s						
TUC	**Tucson**	**12.94**	**353**	*e*Pn	**P**	**10 43 31.3**	**-0.7**
	13nm,1.6s						
GLA	**Glamis**	**14.58**	**340**	*e*Pn	**P**	**10 43 52.8**	**-0.7**
ANMO	**Albuquerque**	**15.61**	**7**	Pn	**P**	**10 44 08.1**	**+1.0**
	baz=210,slow=20,SNR=3.1						
ANMO				LR	LR	10 50 04.7	
	comp=Z,177nm,18.4s,slow=37						
ANMO	**Albuquerque**	**15.61**	**7**	*e*P	**P**	**10 44 08.0**	**+1.0**
	3.7nm,1.3s						
LDFC	**Landfair**	**16.54**	**342**	*e*P	**P**	**10 44 20.1**	**+1.2**
NEN	**Nelson**	**17.00**	**343**	*e*P	**P**	**10 44 24.3**	**-0.4**
WMOK	**Wichita Mounta**	**17.69**	**28**	*e*P	**P**	**10 44 32.4**	**-0.9**
	1.4nm,0.6s						
SDCO	**Great Sand Dun**	**18.49**	**8**	*e*P	**P**	**10 44 45.4**	**+2.1**
	12nm,1.5s						
ARUT	**Antelope Range**	**18.72**	**349**	*e*P	**P**	**10 44 46.5**	**+0.3**
NVAR	**Mina Array Bea**	**20.63**	**339**	P	**P**	**10 45 05.7**	**-1.8**
	1.6nm,0.7s,baz=170,slow=11,SNR=4.9						
DUG	**Dugway**	**20.97**	**352**	*e*P	**P**	**10 45 13.3**	**+2.3**
	16nm,1.4s						
ELK	**Elko**	**21.94**	**347**	P	**P**	**10 45 20.3**	**-0.4**
	0.6nm,0.6s,mb3.2,baz=167,slow=9.9,SNR=4.2						
ELK				LR	LR	10 53 11.3	
	comp=Z,85nm,18.9s,MS3.2,baz=197,slow=35						
ELK	**Elko**	**21.94**	**347**	*e*P	**P**	**10 45 20.6**	**-0.1**
	30nm,2.1s,mb4.4						
ELK				LR	LR	10 53 11.3	
HWUT	**Hardware Ranch**	**22.23**	**355**	*e*P	**P**	**10 45 23.9**	**+0.3**
	8.8nm,1.5s,mb4.0						
PDAR	**Pinedale Array**	**23.28**	**359**	P	**P**	**10 45 33.9**	**0.0**
	0.6nm,0.8s,mb3.1,baz=149,slow=8.6,SNR=5.4						
RRI2	**Red Ridge**	**23.94**	**356**	*e*P	**P**	**10 45 41.6**	**+1.3**
	2.0nm,0.7s,mb3.7						
TPAW	**Teton Pass**	**24.05**	**356**	*e*P	**P**	**10 45 41.5**	**+0.1**
	22nm,1.9s,mb4.3						
LOHW	**Long Hollow**	**24.16**	**357**	*e*P	**P**	**10 45 42.0**	**-0.4**
	1.3nm,0.6s,mb3.5						
WVOR	**Wild Horse Val**	**24.38**	**342**	*e*P	**P**	**10 45 44.0**	**-0.6**
	4.4nm,1.1s,mb3.8						
HLID	**Hailey**	**24.51**	**350**	*e*P	**P**	**10 45 46.3**	**+0.4**
	957nm,0.6s						
YBH	**Yreka Blue Hor**	**25.16**	**335**	LR	LR	10 54 59.0	
	comp=Z,120nm,20.8s,MS3.4,baz=156,slow=35						
NEW	**Newport**	**29.53**	**349**	LR	LR	10 57 56.5	
	comp=Z,69nm,19.2s,MS3.3,baz=171,slow=36						
ULM	**Lac du Bonnet**	**32.45**	**16**	LR	LR	11 00 16.2	
	comp=Z,87nm,18.7s,MS3.5,baz=46,slow=37						
SJG	**San Juan**	**40.41**	**85**	LR	LR	11 05 53.1	
	comp=Z,41nm,18.2s,MS3.3,baz=274,slow=38						
YKA	**Yellowknife Ar**	**43.21**	**356**	LR	LR	11 06 05.8	
	comp=Z,51nm,19.5s,MS3.4,baz=180,slow=36						
ILAR	**Eielson Array**	**51.87**	**340**	P	**P**	**10 49 34.4**	**-1.3**
	0.6nm,0.9s,mb3.5,baz=136,slow=6.6,SNR=5.4						
SAML	**Samuel**	**53.12**	**118**	*e*P	**P**	**10 49 45.5**	**-0.1**
	70nm,2.8s,mb5.1						
SIV	**San Ignacio**	**58.73**	**124**	P	**P**	**10 50 26.4**	**+0.5**
	2.4nm,1.0s,mb4.2,baz=312,slow=8.3,SNR=7.9						
WB2	**Warramunga Arr**	**120.80**	**258**	*e*P	PKPdf	10 59 23.6	+2.1

*INMG **06** 10:45:25.7±1.1, 41.70N×8.42W, h19^{km}±3^{km}, ML2.1, Error ellipse: s-maj=2.8km s-min=1.7km az=80.0*

*NEIC **06** 10:45:25.7, 41.71N×8.47W, h20^{km}, MN2.5(MDD), After MDD.*

*CSEM **06** 10:45:25.4±0.1, 41.67N×8.46W, h20^{km}, ML2.9/7, Error ellipse: s-maj=3.0km s-min=1.6km az=65.0*

MDD 06 10:45:25.6±0.4**, 41.70N×8.44W, h16^{km}**±4^{km}**, mbLg2.5**/12**, 1C, Error ellipse: s-maj=4.7km s-min=2.0km az=46.0, PRXIMO, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCAB	**Cabril**	**0.31**	**88**	*i* Pg	Pb	10 45 31.5	-0.7
PCAB				*e*Sg	Sb	10 45 36.0	-0.7
	282nm,0.1s						
PCAB	**Cabril**	**0.31**	**88**	⇑Pg	Pb	10 45 31.5	-0.7
PCAB				Lg		10 45 36.0	
	141nm,0.1s						
PCAB	**Cabril**	**0.31**	**88**	*e*Sg	Sb	10 45 36.0	-0.7
	282nm,0.1s						
EZAM	**Zamans**	**0.49**	**337**	Pg	Pb	10 45 34.9	-0.4
	58nm,0.1s,SNR=61						
EZAM				Lg		10 45 41.3	
	104nm,0.2s,SNR=45						
PVRL	**Vila Real**	**0.69**	**128**	*e*Pg	Pb	10 45 38.4	-0.3
PVRL				*e*Sg	Sb	10 45 47.5	-0.2
	157nm,0.1s						
PVRL	**Vila Real**	**0.69**	**128**	*e*Pg	Pb	10 45 38.4	-0.3
PVRL				*e*Sg	Sb	10 45 47.5	-0.2
	157nm,0.1s						
ERUA	**La Rua**	**1.19**	**54**	Pg	Pb	10 45 47.5	+0.3
	12nm,0.2s,SNR=6.2						
ERUA				Lg		10 46 02.8	
	13nm,0.1s,SNR=7.9						
STS	**Santiago**	**1.19**	**356**	Pg	Pb	10 45 47.3	+0.1
	9.8nm,0.1s,SNR=7.9						
STS				Lg		10 46 01.7	
	39nm,0.1s,SNR=12						
PBRG	**Braganca**	**1.27**	**85**	*e*Pn	Pn	10 45 47.0	-1.8
PBRG				*e*Sg	Sb	10 46 05.4	+0.7
	22nm,0.1s						
PBRG	**Braganca**	**1.27**	**85**	*e*Pn	Pn	10 45 47.0	-1.8
PBRG				*e*Sg	Sb	10 46 05.4	+0.7
	22nm,0.1s						
ECAL	**Calabor**	**1.29**	**79**	Pn	Pn	10 45 47.4	-1.6
	1.2nm,0.1s,SNR=11						
ECAL				Pg	Pb	10 45 49.4	+0.4
	5.1nm,0.1s,SNR=7.8						
ECAL				Sn	Sn	10 46 03.9	-2.1
	5.2nm,0.1s,SNR=4.8						
ECAL				Lg		10 46 06.2	
	24nm,0.2s,SNR=10						
ECAL	**Calabor**	**1.29**	**79**	Pn	Pn	10 45 47.4	-1.7
	1.2nm,0.1s,SNR=11						
ECAL	**Calabor**	**1.29**	**79**	Pg	Pb	10 45 49.4	+0.4
	5.1nm,0.1s,SNR=7.8						
ECAL				Sn	Sn	10 46 03.9	-2.1
	5.2nm,0.1s,SNR=4.8						
EMAZ	**Mazaricos**	**1.31**	**342**	Pg	Pn	10 45 49.3	0.0
	4.1nm,0.1s,SNR=8.1						
EMAZ				Lg		10 46 06.4	
	17nm,0.2s,SNR=7.5						
EMAZ	**Mazaricos**	**1.31**	**342**	Pg	Pn	10 45 49.3	0.0
	4.1nm,0.1s,SNR=8.1						
MTE	**Manteigas**	**1.47**	**152**	*e*Pg	Pn	10 45 52.2	+0.7
MTE				*e*Sg	Sb	10 46 10.8	+0.6
	18nm,0.4s						
MTE	**Manteigas**	**1.47**	**152**	Pg	Pn	10 45 52.2	+0.7
MTE				Lg		10 46 10.8	
	8.9nm,0.4s						
EPON	**Pontenova**	**1.88**	**30**	Pn	Pn	10 45 55.4	-2.1
	0.9nm,0.1s,SNR=9.6						
EPON				Pg	Pn	10 46 00.6	+3.1
	2.3nm,0.2s,SNR=7.9						
EPON				Sn	Sn	10 46 18.1	-3.0
	1.5nm,0.1s,SNR=8.2						
EPON				Lg		10 46 23.7	
	9.8nm,0.1s,SNR=12						
EPON	**Pontenova**	**1.88**	**30**	Pn	Pn	10 45 55.4	-2.1
	0.9nm,0.1s,SNR=9.6						
EPON	**Pontenova**	**1.88**	**30**	Pg	Pn	10 46 00.6	+3.1
	2.3nm,0.2s,SNR=7.9						
EPON				Sn	Sn	10 46 18.1	-2.9
	1.5nm,0.1s,SNR=8.2						
PTOM	**Tomar**	**2.08**	**179**	*e*Sg	Sn	10 46 29.8	+3.7
	10nm,0.1s						
PTOM	**Tomar**	**2.08**	**179**	Lg		10 46 29.8	
	5.2nm,0.1s						
EARI	**Arriondas**	**2.87**	**55**	Pn	Pn	10 46 10.9	-0.7
	0.2nm,0.1s,SNR=6.5						
EARI				Pg	Pn	10 46 17.1	+5.5
	0.5nm,0.1s,SNR=7.9						
EARI				Lg		10 46 55.0	
	0.9nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**2.87**	**55**	Pn	Pn	10 46 10.9	-0.7
	0.2nm,0.1s,SNR=6.5						
EARI	**Arriondas**	**2.87**	**55**	Pg	Pn	10 46 17.1	+5.5
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.14**	**159**	Pn	Pn	10 46 13.4	-2.0
	0.8nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	10 46 47.6	-5.3
	5.0nm,0.2s,SNR=7.9						
EBAD				Lg		10 47 01.8	
	5.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.14**	**159**	Pn	Pn	10 46 13.4	-2.0
	0.8nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	10 46 47.6	-5.3
	5.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.96**	**119**	Pn	Pn	10 46 24.8	-2.3
	0.6nm,0.1s,baz=302,slow=13,SNR=4.7						
ESDC				Pg	Pn	10 46 34.4	+7.4
	1.5nm,0.2s,baz=304,slow=17,SNR=7.9						
ESDC				Sn	Sn	10 47 08.8	-4.8
	1.9nm,0.2s,baz=303,slow=23,SNR=7.9						
ESDC				Lg		10 47 27.0	
	1.8nm,0.1s,baz=302,slow=30,SNR=3.5						
ESDC	**Sonseca Array**	**3.96**	**119**	Pn	Pn	10 46 24.8	-2.3
	0.6nm,0.1s,SNR=4.7						
ESDC	**Sonseca Array**	**3.96**	**119**	Pg	Pn	10 46 34.4	+7.3
	1.5nm,0.2s,SNR=7.9						
ESDC				Sn	Sn	10 47 08.8	-4.8
	1.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.00**	**66**	Sn	Sn	10 47 10.5	-4.3
	1.6nm,0.3s,SNR=4.0						
ELAN				Lg		10 47 29.4	
	1.2nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.16**	**160**	Pn	Pn	10 46 26.9	-3.0
	0.5nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	10 47 11.9	-6.8
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		10 47 34.3	
	0.7nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.16**	**160**	Pn	Pn	10 46 26.9	-3.0
	0.5nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	10 47 11.9	-6.8
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.30**	**146**	Pn	Pn	10 46 29.0	-3.0
	0.6nm,0.2s,SNR=5.5						
ECAB				Sn	Sn	10 47 14.8	-7.6
	0.7nm,0.2s,SNR=6.7						
ECAB	**El Cabril**	**4.30**	**146**	Pn	Pn	10 46 29.0	-2.9
	0.6nm,0.2s,SNR=5.5						
ECAB				Sn	Sn	10 47 14.8	-7.5
	0.7nm,0.2s,SNR=6.7						
EADA	**Adamuz**	**4.61**	**139**	Pn	Pn	10 46 33.1	-3.2
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.61**	**139**	Pn	Pn	10 46 33.1	-3.2

*IDC **06** 11:00:44.1±0.4, 0.06N×97.65E, mb4.9/24, mb1 5.0/24, mb1mx5.0/24, mbtmp4.9/24, MS5.4/18, Ms1 5.4/18, ms1mx5.3/28, Error ellipse: s-maj=16.7km s-min=10.4km az=67.0*

*BJI **06** 11:00:46.5, 0.26S×97.51E, h41^{km}, mB5.8, mb5.2, Ms6.1, Msz5.9*

*MOS **06** 11:00:47.8±0.9, 0.11N×97.72E, h33^{km}, mb5.6/48, MS5.5/34, Error ellipse: s-maj=9.8km s-min=4.9km az=116.7*

*NEIC **06** 11:00:48.6±0.1, 0.03N×97.60E, mb5.4/71, ME5.6, MS5.5/53, MW5.6, Error ellipse: s-maj=4.9km s-min=3.8km az=214.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^{17}Nm; M_{rr}2.59; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$-1.25; $M_{r\theta}$0.64; $M_{\theta\phi}$1.55; $M_{\phi r}$0.73; Best double couple: $M_0$2.9×10^{17} NP1: ϕ_s115°, δ48°, λ63°. NP2: ϕ_s333°, δ49°, λ117°. Principal axes: T 2.94, Plg70°, Azm313°; N -.1, Plg20°, Azm135°; P -2.85, Plg1°, Azm44°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

*HRVD **06** 11:00:48.6±0.2, 0.06S×97.54E, h12^{km}, MW5.6/67, Centroid moment Tensor Solution. LP body waves: s55,c110;Mantle waves: s67,c141; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73±.04; $M_{\theta\theta}$-1.18±.04; $M_{\phi\phi}$0.45±.05; $M_{r\theta}$1.36±.11; $M_{\theta\phi}$2.33±.04; $M_{\phi r}$0.90±.13; Best double couple: $M_0$3.022×10^{17} NP1: ϕ_s345°, δ59°, λ162°. NP2: ϕ_s85°, δ75°, λ32°. Principal axes: T 3.104, Plg33°, Azm309°; N -.16, Plg55°, Azm107°; P -2.94, Plg10°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BGS **06** 11:01:28.8, 0.03N×97.60E, h33^{km}, mb5.9*

ISC 06 11:00:46.5±0.2**, 0.04N**±0.03×**97.63E**±0.03**, h26^{km}, h26^{km}**±1.0^{km}**:pP-P, n481, σ1^{s}05**/439**, mb5.3**/130**, MS5.5**/98**, 47C-14D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.65**	**37**	P	**Pn**	**11 02 10.5**	**-0.6**
KGM	**Kluang**	**6.02**	**71**	P	**Pn**	**11 02 16.9**	**+0.5**
KULM	**Kulim**	**6.03**	**30**	*e*Pn	**Pn**	**11 02 14.8**	**-1.7**
NNT	**Nongplab**	**12.65**	**9**	P	**P**	**11 03 52.0**	**+4.2**
KSM	**Kuching**	**12.76**	**84**	*e*Pn	**P**	**11 03 50.1**	**+0.8**
NST	**Nakhon Sawan**	**15.73**	**9**	P	**P**	**11 04 23.0**	**-5.4**
KKTK	**Khon Kaen**	**16.99**	**17**	P	**P**	**11 04 44.8**	**+0.5**
	432nm,1.0s						
PALK	**Pallekele**	**18.35**	**293**	*e*P	**P**	**11 05 02.9**	**+1.6**
	111nm,1.0s						
CHG	**Chiang Mai**	**18.70**	**4**	P	**P**	**11 05 04.9**	**-0.7**
	12nm,1.0s						
KKM	**Kota Kinabalu**	**19.49**	**72**	P	**P**	**11 05 14.4**	**-0.4**
KKM	**Kota Kinabalu**	**19.49**	**72**	*e*P	**P**	**11 05 14.3**	**-0.6**
CHRT	**Chiangrai**	**19.82**	**6**	P	**P**	**11 05 18.0**	**-0.5**
	324nm,1.3s						
TSM	**Tawau**	**20.66**	**78**	P	**P**	**11 05 27.1**	**-0.2**
MDRS	**Chennai**	**21.55**	**308**	*e*P	**P**	**11 05 37.2**	**+0.9**
MDRS				*e*x	x	11 09 45.8	
TRD	**Trivandrum**	**22.25**	**293**	*e*P	**P**	**11 05 43.8**	**+0.6**
TRD				AMb	AMB	11 05 49.5	
	comp=Z,151nm,1.6s,mb5.2						
QIZ	**Qiongzhong**	**22.36**	**32**	*e*P	**P**	**11 05 46.2**	**+1.9**
QIZ				S	**S**	**11 09 43.5**	**-0.2**
QIZ				LR	LR		
	comp=E,29µm,12.0s						
QIZ				LR	LR		
	comp=Z,19µm,14.2s,MS5.7						
QIZ	**Qiongzhong**	**22.36**	**32**	*e*P	**P**	**11 05 46.0**	**+1.6**
	comp=Z,162nm,1.4s,mb5.3						
QIZ				LR	LR		
	comp=Z,13µm,20.0s,MS5.3						
VIS	**Vishakhapatnam**	**22.51**	**322**	*e*P	**P**	**11 05 44.5**	**-1.4**
VIS				AMb	AMB	11 05 59.2	
	comp=Z,306nm,1.2s,mb5.6						
VIS				*e*x	**S**	**11 10 01.6**	**+15**
CAL	**Calcutta**	**24.13**	**339**	*e*P	**P**	**11 06 03.9**	**+2.2**
CAL				*e*x	**S**	**11 10 28.5**	**+14**
KMI	**Kunming**	**25.43**	**11**	P	**P**	**11 06 16.1**	**+2.0**
KMI				AP	pP	11 06 25.4	+3.9
KMI				XP	sP	11 06 29.3	+4.3
KMI				PP	PP	11 06 58.1	+4.8
KMI				PCP	PcP	11 09 44.8	-1.8
KMI				S	**S**	**11 10 42.5**	**+5.8**
KMI				XS		11 10 58.3	
KMI				SS	SS	11 11 49.0	+10
KMI				SCP		11 13 20.3	
KMI				PCS		11 13 24.2	
KMI				AMB	AMB		
	comp=Z,61nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,2µm,4.6s						

KMI LR LR
comp=N,30μm,17.0s,MS6.0
KMI LR LR
comp=E,15μm,12.2s,MS6.0
KMI LR LR
comp=Z,31μm,16.6s,MS5.9
KMI Kunming 25.43 11 P **P** **11 06 16.1 +2.0**
comp=Z,61nm,1.2s,mb5.0
KMI pP pP 11 06 25.4 +3.9
KMI sP sP 11 06 29.3 +4.3
KMI PP PP 11 06 58.1 +4.8
KMI PPP PPP 11 07 09.7 +5.0
KMI PcP PcP 11 09 44.8 -1.8
KMI S **S** **11 10 42.5 +5.8**
KMI sS 11 10 58.3
KMI SS SS 11 11 49.0 +10
KMI SSS SSS 11 12 06.4 +10
KMI ScP 11 13 20.3
KMI PcS 11 13 24.2
KMI LR LR
comp=Z,31μm,16.6s,MS5.9
KMI Kunming 25.43 11 P **P** **11 06 16.1 +2.0**
KMI *PP pP 11 06 25.4 +3.9
KMI *SP sP 11 06 29.3 +4.3
KMI 11 06 58.1
KMI 11 09 44.8
KMI S **S** **11 10 42.5 +5.8**
KMI *SS 11 10 58.3
KMI SS SS 11 11 49.0 +10
KMI pmax pmax
comp=Z,61nm,1.2s,mb5.0
KMI MLR MLR
comp=Z,31μm,16.6s,MS5.9
HYB Hyderabad 25.51 314 *i* P **P** **11 06 16.0 +1.1**
comp=Z,80nm,1.0s,mb5.2
HYB *eS* **S** **11 10 44.0 +5.8**
HYB LR LR 11 17 52.0
comp=Z,13nm,18.0s
HYB Hyderabad 25.51 314 *e*P **P** **11 06 16.0 +1.1**
comp=Z,80nm,1.0s,mb5.2
HYB *eS* **S** **11 10 44.0 +5.8**
HYB Hyderabad 25.51 314 *e*P **P** **11 06 16.0 +1.1**
HYB *eS* **S** **11 10 44.0 +5.8**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.2
MNGI Mangalore 25.99 300 *e*P **P** **11 06 22.6 +3.1**
MNGI *ex* **S** **11 11 04.8 +19**
DGAR Diego Garcia 26.17 253 PFAKE 11 06 30.0 +8.9
DGAR LR LR
comp=Z,3μm,19.0s,MS4.8
BOK Bokaro 26.22 335 *e*P **P** **11 06 19.8 -1.7**
BOK AMb AMB 11 06 24.3
comp=Z,146nm,0.8s,mb5.5
BOK *eS* **S** **11 10 57.0 +7.0**
BLSP Bilaspur 26.65 326 *e*P **P** **11 06 25.3 -0.2**
BLSP AMb AMB 11 06 30.6
comp=Z,116nm,1.5s,mb5.2
BLSP *ex* **S** **11 11 04.7 +7.7**
GZH Guangzhou 27.54 33 P **P** **11 06 34.8 +1.2**
GZH S **S** **11 11 12.9 +1.5**
GZH LR LR
comp=N,12μm,14.9s,MS5.9
GZH LR LR
comp=E,17μm,13.7s,MS5.9
GZH LR LR
comp=Z,25μm,16.2s,MS5.9
GYA Guiyang 27.68 18⇑ *i*P **P** **11 06 34.7 0.0**
GYA AP pP 11 06 43.5 +1.3
GYA XP sP 11 06 47.9 +2.3
GYA PP PP 11 07 24.0 +0.5
GYA S **S** **11 11 14.0 +0.5**
GYA SS SS 11 12 34.7 +1.3
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,1μm,7.5s
GYA LR LR
comp=N,11μm,20.0s
GYA LR LR
comp=E,19μm,14.0s
GYA LR LR
comp=Z,17μm,20.6s,MS5.6
KAD Karad 28.76 308 *e*P **P** **11 06 42.5 -2.1**
KAD AMb AMB 11 06 48.8
comp=Z,62nm,1.3s,mb5.2
KAD *eS* **S** **11 11 36.3 +5.2**
POO Poona 29.72 309 *e*P **P** **11 06 51.2 -2.0**
POO AMb AMB 11 07 03.2
comp=Z,66nm,1.8s,mb5.1
POO *ex* **S** **11 11 52.8 +6.5**
PKI Pulchoki 29.79 338 *e*P **P** **11 06 53.9 +0.2**
comp=Z,132nm,1.1s,mb5.6
DMN Daman 29.93 337 *e*P **P** **11 06 54.5 -0.6**
comp=Z,122nm,1.2s,mb5.5
KKN Kakani 30.03 338 *e*P **P** **11 06 56.1 +0.2**
comp=Z,167nm,1.1s,mb5.7
LSA Lhasa 30.14 349 P **P** **11 06 57.6 +0.8**
LSA S **S** **11 11 57.9 +5.0**
LSA LR LR
comp=N,6μm,23.6s,MS5.3
LSA LR LR
comp=E,7μm,26.7s,MS5.3
LSA LR LR
comp=Z,10μm,21.6s
LSA Lhasa 30.14 349 *e*P **P** **11 06 57.9 +1.1**
comp=Z,60nm,1.0s,mb5.3
LSA LR LR
comp=Z,11μm,21.0s,MS5.5
LSA Lhasa 30.14 349 *e*P **P** **11 06 57.9 +1.1**
LSA pmax pmax
comp=Z,60nm,1.0s,mb5.3
LSA MLR MLR
comp=Z,11μm,21.0s,MS5.5
MBWA Marble Bar 30.17 136 *e*P **P** **11 06 56.4 -0.7**
comp=Z,225nm,1.8s,mb5.6
MBWA LR LR
comp=Z,9μm,20.0s,MS5.4
BHPL Bhopal 30.29 321 *e*P **P** **11 06 58.0 -0.2**
BHPL *eS* **S** **11 11 59.9 +4.5**
GKN Gorkha 30.47 337 *e*P **P** **11 07 00.0 +0.2**
comp=Z,100nm,0.9s,mb5.5
KOLN Kolḍanda 30.68 335 *e*P **P** **11 07 02.4 +0.7**
comp=Z,127nm,0.9s,mb5.7
CD2 Chengdu 31.25 10⇓ *i*P **P** **11 07 06.0 -0.6**
CD2 PP PP 11 08 11.0 +1.1
CD2 S **S** **11 12 11.2 +0.8**
CD2 SS SS 11 13 59.5 +2.3
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,480nm,7.8s
CD2 LR LR
comp=E,23μm,18.0s
CD2 LR LR
comp=Z,15μm,15.6s,MS5.8
QZH Quanzhou 32.01 38 P **P** **11 07 18.7 +5.4**
QZH S **S** **11 12 27.6 +5.4**
QZH AMB AMB
comp=Z,70nm,1.0s,mb5.5
QZH LR LR
comp=N,30μm,13.8s,MS6.2
QZH LR LR
comp=E,19μm,12.5s,MS6.2
QZH LR LR
comp=Z,34μm,15.8s,MS6.1
ENH Enshi 32.12 20 *e*P **P** **11 07 13.0 -1.2**
comp=Z,122nm,1.0s,mb5.7
ENH LR LR
comp=Z,18μm,19.0s,MS5.8
FITZ Fitzroy Crossi 32.91 125 *e*P **P** **11 07 20.1 -1.1**
comp=Z,134nm,1.1s,mb5.8
FITZ Fitzroy Crossi 32.91 125 P **P** **11 07 19.4 -1.8**
comp=Z,88nm,1.0s,mb5.6,baz=309,slow=2.5,SNR=22
FITZ LR LR 11 21 54.1
comp=Z,9μm,19.0s,MS5.5,baz=285,slow=39
YHNB Yeheng 33.59 41 *e*P **P** **11 07 28.2 +1.1**
PTH Pithoragarh 33.72 332 *e*P **P** **11 07 29.0 +0.8**
PTH *ex* x 11 15 47.0
WHN Wuhan 34.25 26⇓ P **P** **11 07 33.3 +0.5**
WHN S **S** **11 13 01.0 +3.9**
WHN LR LR
comp=N,19μm,12.8s,MS6.2
WHN LR LR
comp=E,18μm,13.0s,MS6.2
WHN LR LR
comp=Z,33μm,13.7s,MS6.2
AJM Ajmer 34.37 322 *i* P **P** **11 07 33.0 -0.8**
NDI New Delhi 34.53 327 *e*P **P** **11 07 33.0 -2.2**
XAN Xi'an 35.45 16 P **P** **11 07 42.0 -0.9**
XAN PP PP 11 09 06.1 +3.1
XAN S **S** **11 13 20.0 +4.5**
XAN SS SS 11 15 38.0 +3.6
XAN AMB AMB
comp=Z,124nm,1.1s,mb5.8
XAN AMB AMB
comp=Z,629nm,8.7s
XAN LR LR
comp=N,4μm,22.9s,MS5.7
XAN LR LR
comp=E,16μm,21.9s,MS5.7
XAN LR LR
comp=Z,21μm,14.9s
LZH Lanzhou 36.33 9 P **P** **11 07 50.9 +0.5**
LZH AP pP 11 08 00.0 +2.0
LZH XP sP 11 08 04.4 +3.1
LZH PP PP 11 09 15.0 +1.1
LZH S **S** **11 13 28.0 -1.1**
LZH SS SS 11 15 59.0 +4.7
LZH AMB AMB
comp=Z,90nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,1μm,4.1s
LZH LR LR
comp=E,35μm,16.1s
LZH LR LR
comp=Z,21μm,17.6s,MS6.0
LZH Lanzhou 36.33 9 P **P** **11 07 50.9 +0.5**
comp=Z,90nm,1.0s,mb5.7
LZH pP pP 11 08 00.0 +2.0
LZH sP sP 11 08 04.4 +3.1
LZH PP PP 11 09 15.0 +1.1
LZH S **S** **11 13 28.0 -1.1**
LZH sS 11 13 42.0
LZH SS SS 11 15 59.0 +4.7
LZH LR LR
comp=Z,21μm,17.6s,MS6.0
LZH Lanzhou 36.33 9 P **P** **11 07 50.9 +0.5**
LZH *PP pP 11 08 00.0 +2.0
LZH *SP sP 11 08 04.4 +3.1
LZH 11 09 15.0
LZH S **S** **11 13 28.0 -1.1**
LZH *SS 11 13 42.0
LZH SS SS 11 15 59.0 +4.7
LZH pmax pmax
comp=Z,90nm,1.0s,mb5.7
LZH MLR MLR
comp=Z,21μm,17.6s,MS6.0
KAKA Kakadu 36.77 111 *e*P **P** **11 08 08.9 +15**
NWAO Narrogin (SRO) 37.63 152 P **P** **11 08 01.2 -0.1**
comp=Z,14nm,0.8s,mb4.8,baz=308,slow=14,SNR=6.3
NJ2 Nanjing 37.64 30 *e*P **P** **11 08 01.8 +0.4**
NJ2 AP pP 11 08 11.0 +1.9
NJ2 XP sP 11 08 14.1 +1.8
NJ2 PP PP 11 09 29.5 -0.8
NJ2 S **S** **11 13 50.0 +0.8**
NJ2 XS 11 14 05.0
NJ2 AMB AMB
comp=Z,260nm,1.2s,mb5.8
NJ2 AMB AMB
comp=Z,1μm,5.6s
NJ2 LR LR
comp=N,36μm,18.4s,MS6.4
NJ2 LR LR
comp=E,39μm,18.1s,MS6.4
NJ2 LR LR
comp=Z,12μm,17.0s,MS5.8
SSE Sheshan 38.13 34 P **P** **11 08 06.6 +1.1**
SSE XP sP 11 08 19.3 +2.9
SSE S **S** **11 13 57.5 +0.9**
SSE SS SS 11 16 43.5 +8.6
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,918nm,5.0s
SSE LR LR
comp=N,14μm,18.8s,MS5.8
SSE LR LR
comp=E,5μm,18.8s,MS5.8
SSE LR LR
comp=Z,9μm,22.4s,MS5.5
SSE Sheshan 38.13 34 P **P** **11 08 06.6 +1.1**
comp=Z,50nm,0.7s,mb5.3
SSE sP sP 11 08 19.3 +2.9
SSE PP PP 11 09 32.2 -3.9
SSE S **S** **11 13 57.5 +0.9**
SSE sS 11 14 11.7
SSE SS SS 11 16 43.5 +8.6
SSE LR LR
comp=Z,9μm,22.4s,MS5.5
GTA Gaotai 39.24 3⇑ P **P** **11 08 15.2 +0.5**
GTA AP pP 11 08 24.8 +2.4
GTA XP sP 11 08 28.3 +2.7
GTA PP PP 11 09 49.4 +0.7
GTA PCP PcP 11 10 25.1 +1.1
GTA SCP 11 14 10.8
GTA S **S** **11 14 12.0 -1.3**
GTA PCS 11 14 13.6
GTA AMB AMB
comp=Z,30nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,832nm,8.0s
GTA LR LR
comp=N,3μm,16.1s,MS5.7
GTA LR LR
comp=E,9μm,17.6s,MS5.7
GTA LR LR
comp=Z,6μm,18.3s,MS5.5
JOW Kunigami 39.73 45 LR LR 11 23 52.0
comp=Z,3μm,20.4s,MS5.2,baz=265,slow=35
TIA Tai'an 40.30 25 *e*P **P** **11 08 23.9 +0.4**
TIA S **S** **11 14 36.0 +6.8**
TIA LR LR
comp=N,12μm,13.0s,MS6.1
TIA LR LR
comp=E,13μm,14.0s,MS6.1
WRA Warramunga Arr 41.07 121 P **P** **11 08 28.3 -1.7**
comp=E,28nm,0.5s,mb5.1,baz=302,slow=9.1,SNR=315
WRA S **S** **11 14 38.6 -2.2**
comp=E,4.2nm,1.1s,baz=294,slow=17,SNR=4.4
WRAB Tennant Creek 41.07 121 *e*P **P** **11 08 29.0 -1.0**
comp=E,425nm,1.3s,mb5.9
WRAB LR LR
comp=Z,2μm,20.0s,MS5.0
WRAB Tennant Creek 41.07 121 *i* P **P** **11 08 29.4 -0.6**
WB2 Warramunga Arr 41.08 121 *e*P **P** **11 08 29.2 -0.8**
WB2 *eS* **S** **11 14 42.9 +1.9**
FORT Forrest 42.12 139 *e*P **P** **11 08 38.1 -0.5**
comp=Z,68nm,0.9s,mb5.3
HHC Hu-ho-hao-te 42.55 16 *e*P **P** **11 08 43.2 +1.2**
HHC AP pP 11 08 53.1 +3.4
HHC XP sP 11 08 56.9 +4.0
HHC PP PP 11 10 24.4 +1.0
HHC PCP PcP 11 10 34.4 -0.4
HHC SCP 11 14 20.3
HHC PCS 11 14 26.3
HHC S **S** **11 15 01.9 -0.7**
HHC XS 11 15 19.3
HHC SS SS 11 18 07.2 +0.5
HHC SCS ScS 11 18 39.4 -0.1
HHC AMB AMB
comp=Z,38nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,1μm,4.7s
HHC LR LR
comp=N,11μm,16.7s,MS6.1
HHC LR LR
comp=E,16μm,16.6s,MS6.1
HHC LR LR
comp=Z,12μm,15.5s,MS5.9
WBK Wadi Bani Khal 43.79 303 P **P** **11 08 53.7 +1.4**
SNR=9.1
KSH Kashi 44.00 336 P **P** **11 08 54.0 +0.2**
KSH *eAP pP 11 09 04.0 +2.5
KSH *eXP sP 11 09 08.0 +3.3
KSH *ePP PP 11 10 37.7 -0.2
KSH *eSCP 11 14 28.7
KSH *ePCS 11 14 31.5
KSH S **S** **11 15 22.5 -1.2**
KSH *eSCS ScS 11 18 48.6 +0.1
KSH AMB AMB
comp=Z,630nm,3.7s
KSH LR LR
comp=N,4μm,15.4s,MS5.7
KSH LR LR
comp=E,6μm,14.7s,MS5.7
JMDO Jabal Madar 44.42 303⇑ P **P** **11 08 58.1 +0.7**
WMQ Urumqi 44.49 350 *i*P **P** **11 08 58.9 +1.2**
WMQ AP pP 11 09 09.0 +3.6
WMQ XP sP 11 09 13.0 +4.4
WMQ PP PP 11 10 43.5 +0.8
WMQ PCS 11 14 32.5
WMQ S **S** **11 15 32.0 +1.3**
WMQ XS 11 15 47.5
WMQ SCS ScS 11 18 51.0 -0.5
WMQ AMB AMB
comp=Z,61nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,649nm,5.2s
WMQ LR LR
comp=N,5μm,13.6s,MS5.7
WMQ LR LR
comp=E,6μm,17.5s,MS5.7
WMQ LR LR
comp=Z,5μm,22.8s
SMDO Samad 44.75 304 P **P** **11 09 01.3 +1.2**
SNR=6.8
BIDO Bidbid 44.88 304 P **P** **11 09 03.0 +1.8**
SNR=10
BSY Bisya 45.33 303 P **P** **11 09 06.5 +1.8**
SNR=14
JNU Nakatsue 45.40 40 P **P** **11 09 04.5 -0.6**
comp=Z,10nm,0.5s,mb4.9,baz=216,slow=8.7,SNR=1.8
JNU LR LR 11 28 30.8
comp=Z,10μm,19.6s,MS5.8,baz=244,slow=37
HOQ Hoqain 45.59 304⇓ P **P** **11 09 07.5 +0.8**
RBK Rabkut 46.11 294⇑ P **P** **11 09 11.8 +0.9**
SNR=7.6
ARQ Araqi 46.15 303 P **P** **11 09 12.2 +1.1**
SNR=6.2
ULHL Ulahol 46.23 338 P **P** **11 09 12.5 +1.0**
SNR=30
KZA Kyzart 46.46 337 P **P** **11 09 14.2 +0.9**
SNR=19
KS15 Wonju Array Si 46.54 34 *e*P **P** **11 09 14.2 +0.1**
WHFO Wadi Hawf 46.63 295 P **P** **11 09 15.7 +0.8**
SNR=12
AAA Alma-Ata 46.86 339 *i* P **P** **11 09 17.5 +1.0**
AAA *i* S **S** **11 16 11.3 +6.6**
AAA pmax pmax
comp=Z,1μm,4.5s
AAA smax
comp=E,3μm,6.4s
AAA MLR MLR
comp=Z,3μm,22.6s,MS5.2
UCH Uchtor 46.88 336 P **P** **11 09 17.8 +1.1**
SNR=66
ABTO Aybut 46.89 294 P **P** **11 09 17.9 +0.8**
SNR=8.1
TKM2 Tokmak 2 47.05 338 P **P** **11 09 18.7 +0.7**
SNR=57
KBK Karagaybulak 47.07 337 P **P** **11 09 20.1 +1.9**
SNR=14
AML Almayashu 47.13 336 P **P** **11 09 20.2 +1.5**
SNR=18
AAK Ala-Archa 47.23 337 P **P** **11 09 19.9 +0.4**
SNR=9.2
AAK Ala-Archa 47.23 337⇑ *i*P **P** **11 09 19.8 +0.3**
comp=Z,218nm,1.8s,mb5.8
AAK LR LR
comp=Z,2μm,20.0s,MS5.0
FRU Bishkek 47.35 337⇑ *e*P **P** **11 09 21.5 +1.1**
FRU *eS* **S** **11 16 22.0 +10**
FRU pmax pmax
comp=Z,170nm,2.1s,mb5.6
FRU MLR MLR
comp=Z,8μm,18.0s,MS5.7
FRU MLR MLR
comp=E,8μm,18.0s
CHMS Chumysh 47.44 337 P **P** **11 09 21.8 +0.7**
SNR=13
EKS2 Erkin-Say 47.54 336 P **P** **11 09 23.1 +1.2**
SNR=33
SNY Shenyang 47.74 26⇑ P **P** **11 09 22.8 -0.7**
SNY S **S** **11 16 18.7 +1.5**
SNY AMB AMB
comp=Z,1μm,5.5s
SNY LR LR
comp=N,14μm,16.2s,MS6.2
SNY LR LR
comp=E,12μm,14.4s,MS6.2
SNY LR LR
comp=Z,14μm,15.6s,MS6.0
USP Ospenovka 47.76 337 P **P** **11 09 24.2 +0.6**
SNR=62
SONM Songino Array 48.22 8 P **P** **11 09 27.5 +0.4**
comp=Z,20nm,0.9s,mb5.2,baz=190,slow=8.3,SNR=98
SONM LR LR 11 32 46.7
comp=Z,10μm,18.5s,MS5.8,baz=190,slow=40
ULN Ulaanbaatar 48.34 8⇑ *i*P **P** **11 09 28.6 +0.5**
comp=Z,20nm,0.8s,mb5.2
ULN LR LR
comp=Z,10μm,20.0s,MS5.8
ULN Ulaanbaatar 48.34 8 *i*P **P** **11 09 28.6 +0.6**
ULN pmax pmax
comp=Z,20nm,0.8s,mb5.2
ULN MLR MLR
comp=Z,10μm,20.0s,MS5.8
MKAR Makanchi Array 48.47 346 P **P** **11 09 29.2 +0.2**
comp=Z,42nm,0.5s,mb5.7,baz=158,slow=8.2,SNR=361
MKAR S **S** **11 16 31.2 +3.9**
comp=Z,1.1nm,1.1s,baz=299,slow=12,SNR=6.9
MKAR LR LR 11 32 52.0
comp=Z,3μm,19.0s,MS5.3,baz=172,slow=40
GUMO Guam 48.68 72 LR LR 11 29 40.0
comp=Z,2μm,19.9s,MS5.2,baz=247,slow=36
KKAR Karatay Array 49.28 334 *i* P **P** **11 09 34.9 -0.5**
CN2 Changchun 50.15 26 *e*P **P** **11 09 41.3 -0.7**
CN2 *eXP sP 11 09 54.7 +1.8
CN2 *ePP PP 11 11 37.5 -0.6
CN2 *eS **S** **11 16 49.9 -0.9**
CN2 *eSS SS 11 20 20.0 -1.0
CN2 AMB AMB
comp=Z,20nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,910nm,5.0s
CN2 LR LR
comp=N,9μm,16.0s,MS6.1
CN2 LR LR
comp=E,13μm,16.0s,MS6.1
CN2 LR LR
comp=Z,12μm,15.0s,MS6.0
PMG Port Moresby 50.19 102 *e*P **P** **11 09 42.4 -0.3**
comp=Z,150nm,1.0s,mb6.0
PMG LR LR
comp=Z,4μm,20.0s,MS5.4
PMG Port Moresby 50.19 102 *e*P **P** **11 09 42.4 -0.3**
PMG pmax pmax
comp=Z,150nm,1.0s
PMG MLR MLR
comp=Z,4μm,20.0s
ZAK Zakamensk 50.39 5⇑ *i*P **P** **11 09 44.2 +0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CBIJ Chichi jima 50.54 54 LR LR 11 30 56.7
comp=Z,2μm,19.9s,MS5.2,baz=240,slow=36
CTA Charters Tower 51.61 116⇑ *i*P **P** **11 09 53.0 -0.4**
comp=Z,31nm,0.9s,mb5.2
CTA *eS **S** **11 17 14.2 +3.0**
CTA Charters Tower 51.61 116 LR LR 11 31 39.3
comp=Z,4μm,21.4s,MS5.5,baz=47,slow=36
CTA Charters Tower 51.61 116⇑ *i*P **P** **11 09 53.0 -0.4**
CTA *eS **S** **11 17 14.2 +3.0**
CTA pmax pmax
comp=Z,31nm,0.9s
CTAO Charters Tower 51.61 116 *e*P **P** **11 09 52.8 -0.6**
comp=Z,158nm,1.4s,mb5.8
CTAO LR LR
comp=Z,7μm,19.0s,MS5.7
CTAO Charters Tower 51.61 116 *e*P **P** **11 09 52.8 -0.6**
CTAO pmax pmax
comp=Z,158nm,1.4s,mb5.8
CTAO MLR MLR
comp=Z,7μm,19.0s,MS5.7
MAJO Matsushiro 52.27 41 *e*P **P** **11 09 57.9 -0.2**
comp=Z,15nm,0.9s,mb4.9
MAJO LR LR

comp=Z,6μm,20.0s,MS5.6
MAJO Matsushiro 52.27 41 *e*P **P 11 09 57.9 -0.3**
MAJO pmax pmax
comp=Z,15nm,0.9s,mb4.9
MAJO MLR MLR
comp=Z,6μm,20.0s,MS5.6
MAT Matsushiro 52.27 41 P **P 11 09 56.7 -1.5**
MAT S **S 11 17 28.0 +8.0**
MAT Matsushiro 52.27 41 *e*P **P 11 09 57.0 -1.2**
comp=Z,25nm,1.1s,mb5.1
MAT *e*S **S 11 17 28.0 +8.0**
MAT LR LR
comp=Z,4μm,18.0s,MS5.5
MAT Matsushiro 52.27 41 *e*P **P 11 09 57.0 -1.2**
MAT *e*S **S 11 17 28.0 +8.0**
MAT pmax pmax
comp=Z,25nm,1.1s,mb5.1
MAT MLR MLR
comp=Z,4μm,18.0s,MS5.5
MJAR Matsushiro Arr 52.27 41 P **P 11 09 56.5 -1.7**
comp=Z,13nm,1.2s,mb4.7,baz=228,slow=9.0,SNR=9.9
MJAR LR LR 11 33 14.7
comp=Z,5μm,20.2s,MS5.6,baz=240,slow=37
STKA Stephens Creek 52.27 132 *e*P **P 11 09 57.8 -0.4**
comp=Z,53nm,1.3s,mb5.3
STKA Stephens Creek 52.27 132 P **P 11 09 58.2 -0.1**
comp=Z,29nm,0.8s,mb5.2,baz=308,slow=8.4,SNR=23
IRK Irkutsk 52.32 5 *e*P **P 11 09 58.7 +0.4**
IRK *e* 11 11 52.9
IRK pmax pmax
comp=Z,113nm,1.8s,mb5.5
HIA Hailar 52.60 18 *e*P **P 11 10 00.2 -0.3**
comp=Z,32nm,0.9s,mb5.2
HIA LR LR
comp=Z,9μm,21.0s,MS5.8
HIA Hailar 52.60 18 P **P 11 10 00.5 0.0**
HIA pmax pmax
comp=Z,32nm,1.0s
HASS Wahat al Ahsa' 52.61 302 P **P 11 10 00.8 -0.1**
MDJ Mudanjiang 52.67 28 P **P 11 10 02.4 +1.3**
MDJ AP pP 11 10 11.2 +2.2
MDJ XP sP 11 10 15.0 +3.0
MDJ PCP PcP 11 11 08.7 -2.1
MDJ PP PP 11 12 03.7 +2.2
MDJ SCP 11 15 04.2
MDJ PCS 11 15 07.0
MDJ S **S 11 17 33.1 +7.6**
MDJ XS 11 17 48.3
MDJ AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,455nm,6.2s
MDJ LR LR
comp=N,17μm,15.1s,MS6.2
MDJ LR LR
comp=E,6μm,18.9s,MS6.2
MDJ LR LR
comp=Z,19μm,17.0s,MS6.2
MDJ Mudanjiang 52.67 28 *e*P **P 11 10 01.1 0.0**
comp=Z,35nm,1.2s,mb5.2
MDJ LR LR
comp=Z,14μm,19.0s,MS6.0
VLA Vladivostok 52.73 31 *i*P **P 11 10 01.2 -0.4**
KURK Kurchatov 53.02 345⇑ *i*P **P 11 10 02.7 -0.9**
comp=Z,75nm,1.0s,mb5.6
KURK LR LR
comp=Z,1μm,19.0s,MS4.9
KURK Kurchatov 53.02 345 P **P 11 10 03.3 -0.3**
KURK pmax pmax
comp=Z,95nm,1.4s,mb5.5
ZAL Zalesovo 54.76 351 P **P 11 10 16.1 -0.1**
comp=Z,39nm,0.9s,mb5.5,baz=291,slow=6.5,SNR=128
ZAL S **S 11 17 55.1 +1.6**
comp=Z,1.1nm,0.4s,baz=210,slow=8.1,SNR=1.8
ZAL LR LR 11 37 15.4
comp=Z,3μm,18.8s,MS5.5,baz=299,slow=40
ATD Arta Tunnel 55.57 284 LR LR 11 28 07.0
comp=Z,2μm,19.2s,MS5.1,baz=110,slow=30
KBD Kabd 55.72 306 *e*P **P 11 10 23.3 -0.3**
KBD AMb AMB 11 10 27.7
comp=Z,584nm,1.1s
RDF Al-Radifah 55.74 306 *e*P **P 11 10 24.0 +0.2**
RDF AMb AMB 11 10 28.4
comp=Z,317nm,0.9s,mb6.3
UMR Umm Al-Rimmam 55.85 306 *e*P **P 11 10 24.1 -0.4**
UMR AMb AMB 11 10 25.4
comp=Z,168nm,0.8s,mb6.1
NVS Novosibirsk 55.89 350⇑ *i*P **P 11 10 23.3 -1.2**
NVS *e*S **S 11 18 11.0 +2.4**
NVS pmax pmax
comp=N,62nm,1.5s
NVS pmax pmax
comp=Z,92nm,1.5s,mb5.6
NVS pmax pmax
comp=E,28nm,1.2s
NVS smax
comp=E,101nm,1.8s
DJNS Zahran al Janu 55.99 291 P **P 11 10 26.8 +1.1**
MZLS Mizel 56.09 299 P **P 11 10 25.8 -0.5**
MIB Mutribah 56.24 306 *e*P **P 11 10 27.6 +0.3**
MIB AMb AMB 11 10 29.2
comp=Z,302nm,0.8s,mb6.4
VOSK Vostochnaya 57.03 341 *i*P **P 11 10 31.6 -1.1**
KLR Kul'dur 57.10 26 *e*P **P 11 10 29.0 -4.2**
KLR *e*S **S 11 18 30.5 +5.8**
KLR *e* 11 20 10.5
KLR pmax pmax
comp=E,340nm,3.0s
KLR pmax pmax
comp=Z,430nm,3.0s
KLR MLR MLR
comp=E,7μm,16.0s
KLR MLR MLR
comp=E,11μm,14.0s
BVA0 Borovoye Array 57.48 341 P **P 11 10 34.6 -1.3**
BVA0 pmax pmax
comp=Z,30nm,2.2s,mb4.9
BVAR Borovoye Array 57.48 341 P **P 11 10 34.6 -1.3**
comp=Z,14nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=45
BRVK Borovoye 57.54 341⇑ *i*P **P 11 10 35.0 -1.3**
comp=Z,20nm,1.0s,mb5.1
BRVK LR LR
comp=Z,584nm,19.0s,MS4.7
BRVK Borovoye 57.54 341⇑ *i*P **P 11 10 35.0 -1.3**
BRVK pmax pmax
comp=Z,20nm,1.0s,mb5.1
BRVK MLR MLR
comp=Z,584nm,19.0s,MS4.7
TOO Toolangi 57.81 136 *e*P **P 11 10 43.5 +5.1**
comp=Z,19nm,2.0s,mb4.8
TOO Toolangi 57.81 136 *e*P **P 11 10 43.5 +5.1**
TOO pmax pmax
comp=Z,19nm,2.0s,mb4.8
AFFS 'Afif 57.99 298 P **P 11 10 39.9 +0.1**
BLJS Baljurashi 58.26 293 P **P 11 10 42.6 +0.9**
ARSS Ar Rass 58.34 301 P **P 11 10 41.9 -0.3**
AB31 Akbulak array 58.73 332 *i*P **P 11 10 43.2 -1.5**
BOD Bodaibo 59.07 10 *e*P **P 11 10 46.1 -0.8**
BOD pmax pmax
comp=Z,46nm,1.2s,mb5.4
ASAJ Asahikawa 59.34 36 P **P 11 10 48.7 -0.2**
comp=Z,12nm,0.7s,mb5.0,baz=252,slow=12,SNR=7.7
LTHS Al Lith 59.43 294 P **P 11 10 50.1 +0.2**
ARMA Armidale 59.51 126 *e*P **P 11 10 55.6 +5.3**
CNB Canberra Magne 59.60 132 *e*P **P 11 10 58.1 +7.3**
comp=Z,98nm,1.6s,mb5.6
BHD Baghdad 59.89 309 *i* x x 11 10 49.0
BHD *i* x x 11 11 28.0
BHD *e* x x 11 19 05.0
BHD *e* x x 11 19 21.0
BHD *e* x x 11 19 41.0
HILS Ha'il 60.02 302 P **P 11 10 54.2 +0.3**
KMBO Kilima Mbogo 60.38 269 P **P 11 10 57.1 +0.6**
comp=Z,13nm,0.9s,mb5.0,baz=65,slow=9.5,SNR=30
CLNS Chul'man 60.72 17 *e*P **P 11 11 02.3 +4.1**
CLNS *e* 11 11 43.5
CLNS *e* 11 13 16.7
CLNS *e*PPP PPP 11 14 39.9 -1.6
CLNS *e*S **S 11 19 22.4 +11**
CLNS pmax pmax
comp=Z,18nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=Z,11nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=N,258nm,8.0s
CLNS smax
comp=Z,947nm,14.0s
CLNS smax
comp=E,880nm,12.7s
CLNS MLR MLR
comp=Z,9μm,16.0s,MS6.0
CLNS MLR MLR
comp=N,8μm,15.0s,MS6.1
CLNS MLR MLR
comp=E,6μm,14.0s,MS6.1
YSS Yuzh-Sakhalins 61.07 34⇑ *i*P **P 11 11 00.2 -0.5**
comp=E,127nm,1.1s,mb6.0
YSS LR LR
comp=Z,5μm,20.0s,MS5.7
YSS Yuzh-Sakhalins 61.07 34⇑ P **P 11 11 00.0 -0.7**
YSS *i* pP 11 11 06.2 -2.5
YSS *e* 11 13 19.0
YSS *e*PPP PPP 11 14 43.0 -2.4
YSS *e*S **S 11 19 17.0 +0.8**
YSS *e*PPS PPS 11 19 46.0 +1.8
YSS pmax pmax
comp=Z,120nm,1.2s,mb5.9
YSS smax
comp=E,600nm,8.0s
YSS smax
comp=E,800nm,7.0s
YSS MLR MLR
comp=N,2μm,15.0s,MS5.7
YSS MLR MLR
comp=E,4μm,15.0s,MS5.7
YSS MLR MLR
comp=Z,4μm,15.0s,MS5.6
YUK Yuzh-Kuril'sk 61.26 38 *i*P **P 11 11 05.0 +3.0**
YUK *e* 11 11 39.6
YUK MLR MLR
comp=Z,6μm,15.0s,MS5.8
YUK MLR MLR
comp=N,5μm,14.0s,MS6.0
YUK MLR MLR
comp=E,6μm,14.0s,MS6.0
TAU Tasmania Unive 61.65 140 PFAKE 11 11 20.0 +15
TAU LR LR
comp=Z,837nm,19.0s,MS4.9
KBRS Khaybar 61.76 299 P **P 11 11 05.5 -0.2**
MAK Makhachkala 61.89 320 *e*P **P 11 11 08.0 +1.6**
MAK *i* 11 11 46.0
MAK *e*PPP PPP 11 14 52.0 -1.8
MAK S **S 11 19 32.0 +5.2**
MAK *e*PS PS 11 19 55.0 +8.3
MAK pmax pmax
comp=Z,1μm,8.0s
MSL Mosul 62.02 312 *ex* x 11 11 23.5
MSL *ex* x 11 11 28.5
MSL *ex* x 11 11 38.0
MSL *ex* x 11 19 30.0
MSL *ex* x 11 20 47.5
HAKT HAKKARI 62.07 313 *i*P **P 11 11 04.6 -3.0**
GNI Garni 62.42 316 P **P 11 11 09.9 -0.1**
comp=Z,4.0nm,0.4s,mb5.0,baz=351,slow=3.2,SNR=9.6
GNI LR LR 11 39 14.1
comp=Z,2μm,19.3s,MS5.2,baz=103,slow=37
GNI Garni 62.42 316⇑ *i*P **P 11 11 09.7 -0.3**
comp=Z,88nm,1.3s,mb5.7
GNI *e*PP PP 11 13 29.9 +0.7
GNI LR LR
comp=Z,2μm,20.0s,MS5.3
YNBS Yanbu' al Bahr 62.52 297 P **P 11 11 10.8 0.0**
DGRG David-gareji 62.57 318 P **P 11 11 09.5 -1.4**
HNR Honiara 62.73 101 P **P 11 11 12.7 +0.4**
comp=Z,828nm,1.6s
HNR LR LR
comp=Z,1μm,20.0s
HNR Honiara 62.73 101 P **P 11 11 12.7 +0.4**
HNR pmax pmax
comp=Z,828nm,1.6s
HNR MLR MLR
comp=Z,1μm,20.0s
MTA Mtatsminda 63.07 318 P **P 11 11 13.3 -0.9**
TI2 Plekhanov 63.12 318⇑ *i*P **P 11 11 15.4 +0.9**
TI2 *e* 11 20 13.0
TI2 pmax pmax
comp=Z,60nm,0.4s,mb6.1
TBLG Delisi 63.13 318 P **P 11 11 15.1 +0.6**
DIGO Kars 63.48 316 *i*P **P 11 11 14.5 -2.4**
SVE Sverdlovsk 63.92 338⇑ *e*P **P 11 11 18.8 -0.7**
SVE *e* 11 11 36.6
SVE *e* 11 15 14.0
SVE *e* 11 19 55.0
SVE *e*S S 11 20 30.0 +38
SVE pmax pmax
comp=Z,80nm,2.0s,mb5.4
SVE MLR MLR
comp=N,2μm,20.0s,MS5.5
SVE MLR MLR
comp=E,2μm,20.0s,MS5.5
SVE MLR MLR
comp=Z,5μm,20.0s,MS5.7
MARD Mardin 64.13 312 *i*P **P 11 11 19.5 -1.7**
ZEI Tsey 64.15 319 *e*P **P 11 11 18.0 -3.3**
ZEI *i* *PP pP 11 11 31.7 +2.4
ZEI *i* 11 13 39.1
ZEI pmax pmax
comp=Z,15nm,1.0s,mb5.0
ONI Oni 64.36 318 P **P 11 11 22.0 -0.6**
ARU Arti 64.41 337 *i*P **P 11 11 22.8 0.0**
ARU LR LR
comp=Z,812nm,20.0s,MS4.9
BNGL BINGOL 64.47 314 *i*P **P 11 11 22.1 -1.3**
TBKS Tabuk 64.72 301 P **P 11 11 25.9 +0.7**
ARTV Artvin 64.80 316 *i*P **P 11 11 23.8 -1.7**
QURS Qurayyt al Mil 64.91 305 P **P 11 11 27.4 +0.9**
KIV Kislovodsk 65.46 319⇑ *i*P **P 11 11 28.9 -0.8**
comp=Z,105nm,1.3s,mb5.7
KIV LR LR
comp=Z,446nm,21.0s,MS4.6
KIV Kislovodsk 65.46 319 *e*P **P 11 11 29.0 -0.7**
KIV *e* 11 13 51.4
KIV *e*S S 11 20 11.3 +0.1
KIV pmax pmax
comp=N,30nm,1.0s
KIV pmax pmax
comp=E,23nm,1.0s
KIV pmax pmax
comp=Z,54nm,1.0s,mb5.5
KIV MLR MLR
comp=N,521nm,15.0s,MS5.0
KIV MLR MLR
comp=E,391nm,15.0s,MS5.0
KIV MLR MLR
comp=Z,1μm,15.0s,MS5.2
ASF Jabal al Asfar 65.48 306 P **P 11 11 29.7 -0.4**
comp=Z,16nm,0.9s,mb5.0,baz=2.5,slow=5.7,SNR=14
GOF Gofitskoye 65.73 321 *e*P **P 11 11 30.1 -1.3**
GOF pmax pmax
comp=Z,60nm,1.6s,mb5.4
ELZG Elazig 65.88 313 *i*P **P 11 11 31.6 -0.9**
BDAS Al Bad' 66.01 301 P **P 11 11 33.7 +0.2**
JMOS Jabal al Moall 66.18 302 P **P 11 11 34.9 +0.3**
MALT Malatya 66.22 312⇑ *i*P **P 11 11 34.9 +0.1**
comp=Z,76nm,1.2s,mb5.6
MALT *e*pP pP 11 11 44.1 +1.3
MALT Malatya 66.22 312 P **P 11 11 35.0 +0.3**
MALT pmax pmax
comp=Z,76nm,1.2s,mb5.6
TAYS Tayyib Ism 66.23 301 P **P 11 11 35.2 +0.3**
ALWS Iwas Safayha 66.25 302 P **P 11 11 35.1 0.0**
KELT Kelkit 66.27 315 *i*P **P 11 11 33.3 -1.7**
HAQS Haql 66.30 302 P **P 11 11 35.3 0.0**
YAK Yakutsk 66.41 16⇑ *i*P **P 11 11 34.6 -0.9**
comp=Z,181nm,1.4s,mb5.9
YAK LR LR
comp=Z,8μm,19.0s,MS6.0
MIR Mirnyy 66.53 182 *d i*P **P 11 11 37.2 +1.0**
MIR *i* pP 11 11 44.0 -0.2
MIR pmax pmax
comp=Z,24nm,1.4s,mb5.0
MIR MLR MLR
comp=N,2μm,16.0s,MS5.4
MIR MLR MLR
comp=E,690nm,16.0s,MS5.4
MIR MLR MLR
comp=Z,2μm,16.0s,MS5.5
GZT Gaziantep 66.54 311 *i*P **P 11 11 35.7 -1.1**
CASY Casey 66.81 174 *e*P **P 11 11 38.2 +0.2**
CASY LR LR
comp=Z,3μm,20.0s,MS5.4
MBAR Mbarara 66.89 269⇑ *i*P **P 11 11 39.3 -0.1**
comp=Z,27nm,1.3s,mb5.1
MBAR LR LR
comp=Z,364nm,20.0s,MS4.6
GRSN GIRESUNGRSN 67.26 315 *i*P **P 11 11 39.1 -2.2**
SOC Sochi 67.26 318 *e*P **P 11 11 38.8 -2.5**
SOC *e* 11 12 08.1
SOC *e* 11 14 06.4
SOC *i*S S 11 20 32.1 -1.0
SOC *e* 11 21 26.3
SOC *e*SS SS 11 24 52.6 -1.9
SOC pmax pmax
comp=N,25nm,0.8s
SOC pmax pmax
comp=Z,48nm,0.8s,mb5.6
SOC pmax pmax
comp=E,26nm,1.0s
SOC MLR MLR
comp=N,1μm,22.0s,MS5.2
SOC MLR MLR
comp=Z,2μm,22.0s,MS5.2
SOC MLR MLR
comp=E,1μm,20.0s,MS5.2
COBT Iskenderun 67.27 310 *i*P **P 11 11 40.3 -1.1**
AVNT Avonos 69.02 312 *i*P **P 11 11 51.5 -0.7**
CSS Prodhromos 69.11 308⇑ *i*P **P 11 11 52.5 -0.4**
comp=E,66nm,1.3s,mb5.4
ANN Anapa 69.25 319 *e*P **P 11 11 52.9 -0.7**
ANN *i* 11 14 26.3
ANN *e*S S 11 20 58.4 +1.7
ANN *e* 11 21 48.6
ANN *e*SS SS 11 25 28.3 +3.1
ANN pmax pmax
comp=N,127nm,6.0s
ANN pmax pmax
comp=E,103nm,6.0s
ANN pmax pmax
comp=Z,359nm,6.0s
ANN MLR MLR
comp=N,2μm,20.0s,MS5.4
ANN MLR MLR
comp=E,1μm,20.0s,MS5.4
ANN MLR MLR
comp=Z,1μm,20.0s,MS5.1
CDAG Cicekdag 69.64 313 *i*P **P 11 11 53.2 -2.8**
BOYT Boyabat 69.81 315 *i*P **P 11 11 53.7 -3.4**
LSZ Lusaka 70.20 254 *e*P **P 11 12 00.5 +0.7**
comp=Z,47nm,1.6s,mb5.2
LSZ LR LR
comp=Z,4μm,19.0s,MS5.6
LSZ Lusaka 70.20 254 *e*P **P 11 12 00.5 +0.7**
LSZ pmax pmax
comp=Z,47nm,1.6s,mb5.2
LSZ MLR MLR
comp=Z,4μm,19.0s,MS5.6
BR131 Keskin Array S 70.21 313⇑ *i*P **P 11 11 58.4 -1.1**
comp=Z,11nm,0.9s,mb4.8
BR131 LR LR
comp=Z,1μm,19.0s,MS5.2
BRTR Keskin Array B 70.21 313 P **P 11 11 58.4 -1.1**
comp=Z,9.2nm,0.8s,mb4.8,baz=121,slow=7.2,SNR=34
NOUC Port Laguerre 70.31 113 *e*P **P 11 12 04.8 +4.4**
SKR Severo-Kuril's 70.55 35 *e*P **P 11 11 59.0 -2.4**
SKR *e* 11 12 16.0
SKR *e*PPP PPP 11 16 16.0 -4.2
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR pmax pmax
comp=Z,2μm,6.0s
SKR MLR MLR
comp=N,5μm,18.0s,MS5.9
SKR MLR MLR
comp=E,4μm,18.0s,MS5.9
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.9
VORD Divnogorie 70.58 325 *e*P **P 11 12 00.2 -1.4**
VORD *e**PP pP 11 12 07.3 -2.3
VORD *e*S S 11 21 11.6 -0.6
VORD pmax pmax
comp=Z,30nm,1.1s,mb5.1
VORD pmax pmax
comp=N,20nm,1.2s
VORD pmax pmax
comp=E,20nm,1.0s
VORD smax
comp=E,200nm,9.2s
VORD smax
comp=Z,190nm,8.4s
VORD smax
comp=N,110nm,7.9s
VORD MLR MLR
comp=Z,3μm,23.0s,MS5.4
VORD MLR MLR
comp=N,2μm,14.0s
VORD MLR MLR
comp=E,2μm,20.0s
ELDT Eldivan 70.59 313 *i*P **P 11 12 00.2 -1.6**
BALT Daday 70.93 314 *i*P **P 11 12 02.6 -1.2**
VOR Voronezh 70.97 326 *e*P **P 11 12 02.5 -1.4**
VOR *e**PP pP 11 12 09.5 -2.4
VOR pmax pmax
comp=E,70nm,1.8s
VOR pmax pmax
comp=Z,150nm,1.8s,mb5.6
KDHN Kadinhani 71.00 311 *i*P **P 11 12 01.7 -2.6**
SIM Simferopol' 71.51 318 *d i*P **P 11 12 07.2 -0.1**
SIM *e* pP 11 12 15.0 -0.3
SIM *i*S S 11 21 27.5 +4.4
SIM *e*PS PS 11 21 59.0 +3.3
SIM pmax pmax
comp=Z,50nm,0.9s,mb5.4
SGKT Sivrigoynuk 71.61 313 *i*P **P 11 12 05.9 -2.1**
MAW Mawson 71.68 193 P **P 11 12 08.6 +0.7**
comp=Z,6.3nm,0.9s,mb4.5,baz=35,slow=3.2,SNR=18
MAW LR LR 11 36 33.6
comp=Z,3μm,22.0s,MS5.5,baz=28,slow=30
MAW Mawson 71.68 193 *e*P **P 11 12 08.1 +0.1**
comp=Z,8.8nm,1.2s,mb4.6
MAW *e*S S 11 21 35.9 +11
MAW LR LR
comp=Z,780nm,20.0s,MS5.0
MAW Mawson 71.68 193 *e*P **P 11 12 08.1 +0.1**
MAW pmax pmax
comp=Z,9.0nm,1.2s
MAW MLR MLR
comp=Z,780nm,20.0s
MA2 Magadan 72.19 25 *e*P **P 11 12 09.5 -1.6**
comp=Z,20nm,0.7s,mb5.2
MA2 LR LR
comp=Z,5μm,20.0s,MS5.8
MA2 Magadan 72.19 25 P **P 11 12 12.8 +1.7**
MA2 pmax pmax
comp=Z,17nm,0.8s,mb5.0
ESKT Eskisehir 72.22 312 *i*P **P 11 12 09.0 -2.6**
TKTP Tekketepe 72.24 310 *i*P **P 11 12 08.9 -2.9**
HENT Hendek 72.53 313 *i*P **P 11 12 11.1 -2.3**
BORA Eskisehir 72.61 312 *i*P **P 11 12 11.9 -2.1**
GOLH Golhisar 72.63 309 *i*P **P 11 12 12.1 -2.1**
DRV Dumont d'Urvil 72.92 164 P **P 11 12 27.0 +12**
DRV S S 11 21 46.0 +7.2
DRV L 11 30 00.0
PET Petropavlovsk 72.96 34 *e*P **P 11 12 16.1 +0.3**
comp=Z,67nm,0.6s,mb5.8
PET Petropavlovsk 72.96 34 *e*P **P 11 12 15.7 0.0**
PET *e* 11 12 21.0
PET *e*S S 11 21 37.1 -2.4
PET pmax pmax
comp=Z,76nm,0.9s,mb5.6
PET pmax pmax
comp=N,33nm,0.8s
PET pmax pmax
comp=Z,200nm,16.3s
PET MLR MLR
comp=Z,3μm,18.0s,MS5.6
GDZ Gediz 73.14 311 *i*P **P 11 12 15.0 -2.1**
MOS Moscow 73.54 329 *e*P **P 11 12 18.2 -0.9**

MOS *e* 11 12 34.0
MOS pmax pmax
comp=Z,400nm,2.2s,mb6.0
MOS pmax pmax
comp=Z,155nm,1.5s,mb5.7
MOS MLR MLR
comp=Z,4µm,19.5s,MS5.7
ULDT Uludag 73.65 312 *i* P **P 11 12 18.4 -1.6**
LBTB Lobatse 73.76 244 *e*P **P 11 12 21.6 +0.6**
comp=Z,30nm,1.3s,mb5.1
LBTB LR LR
comp=Z,4µm,19.0s,MS5.7
OBN Obninsk 73.83 328 *e*P **P 11 12 20.0 -0.7**
comp=Z,168nm,1.3s,mb5.8
OBN *e*PP PP 11 15 09.4 +2.2
OBN LR LR
comp=Z,692nm,20.0s,MS4.9
OBN Obninsk 73.83 328 *ce*P **P 11 12 20.1 -0.6**
OBN *e* 11 15 08.8
OBN *i* S S 11 21 55.2 +6.0
OBN pmax pmax
comp=Z,54nm,1.1s,mb5.4
OBN MLR MLR
comp=Z,2µm,17.0s,MS5.5
TIXI Tiksi 74.25 10⇑ *e*P **P 11 12 22.1 -0.8**
TIXI Tiksi 74.25 10 *e*P **P 11 12 20.6 -2.3**
TIXI *e*S S 11 21 45.1 -8.5
TIXI *e*SS SS 11 26 41.0 -0.8
TIXI pmax pmax
comp=Z,74nm,1.6s,mb5.4
TIXI MLR MLR
comp=N,4µm,15.0s,MS6.0
TIXI MLR MLR
comp=Z,6µm,15.0s,MS6.0
TIXI MLR MLR
comp=E,3µm,14.0s,MS6.0
BOSA Boshof 74.57 240 P **P 11 12 25.3 -0.3**
comp=E,6.6nm,0.9s,mb4.5,baz=85,slow=9.5,SNR=5.6
BOSA LR LR 11 39 27.7
comp=E,2µm,20.0s,MS5.5,baz=82,slow=31
BOSA Boshof 74.57 240 *e*P **P 11 12 25.5 -0.2**
BOSA *e*pP pP 11 12 34.7 +1.0
BOSA LR LR
comp=Z,3µm,19.0s,MS5.6
SEY Seymchan 74.66 23 *i* P **P 11 12 25.9 +0.5**
CFR Carcaliu 75.63 317⇑ *i*P **P 11 12 30.5 -0.8**
CFR Carcaliu 75.63 317⇑ *i*P **P 11 12 30.5 -0.8**
KIS Kishinev 75.65 319 *e*P **P 11 12 34.0 +2.6**
KIS *e* 11 12 46.0
KIS *e* 11 15 30.0
KIS *e*S S 11 22 14.0 +4.4
AKASG Malin Array Be 76.44 323 P **P 11 12 34.6 -1.2**
comp=Z,20nm,0.8s,mb5.1,baz=92,slow=4.4,SNR=12
GVD Gavdhos 76.50 306 P **P 11 12 35.0 -1.5**
comp=Z,149nm,1.3s,mb5.8
VRI Vrincioaia 76.76 317 P **P 11 12 38.2 +0.5**
MLR Muntele Rosu 77.20 317⇑ *i*P **P 11 12 40.6 +0.5**
MLR Muntele Rosu 77.20 317⇑ *i*P **P 11 12 40.6 +0.4**
RZN Rozhen 77.26 313 *e*P **P 11 12 39.0 -1.5**
MMB Musomiste 77.97 313 *e*P **P 11 12 43.0 -1.4**
MNK Minsk 78.35 326 *e*P **P 11 12 44.0 -2.2**
KKB Krupnik 78.49 313 *e*P **P 11 12 46.0 -1.3**
VTS Vitosha 78.53 313 *e*P **P 11 12 46.0 -1.5**
VTS Vitosha 78.53 313 P **P 11 12 47.0 -0.5**
PUL Pulkovo 78.71 332 *e*P **P 11 12 50.9 +2.8**
PUL pmax pmax
comp=Z,95nm,0.3s,mb6.2
SYO Syowa Base 79.04 198 ⇓P **P 11 12 49.5 -0.2**
JOF Joensuu 79.37 335 *ep* **P 11 12 51.0 -0.7**
comp=Z,15nm,0.9s,mb4.9
JOF Joensuu 79.37 335 *e*P **P 11 12 51.0 -0.7**
JOF pmax pmax
comp=Z,15nm,0.9s,mb4.9
LVV L'vov 79.43 321 *e*P **P 11 12 51.8 -0.5**
LVV *e*S S 11 22 45.0 -5.3
BARS Barje 79.58 314⇓ *i*P **P 11 12 52.0 -1.2**
DRGR 79.67 318⇓ *i*P **P 11 12 53.8 +0.2**
DRGR 79.67 318⇓ *i*P **P 11 12 53.8 +0.2**
DRGR 79.67 318 P **P 11 12 53.6 0.0**
SKO Skopje 79.72 313 *i* P **P 11 12 53.0 -1.0**
VSU Vasula 80.06 330⇑ *e*P **P 11 12 55.6 +0.2**
VSU Vasula 80.06 330⇑ *e*P **P 11 12 55.5 +0.1**
KWP Kalwaria 80.23 320 *e*P **P 11 12 57.0 +0.5**
KWP MLR MLR 11 54 55.4
comp=Z,2µm,19.9s,MS5.4
UZH Uzhgorod 80.30 319 *e*P **P 11 12 58.8 +1.9**
UZH *e*S S 11 23 00.0 +0.6
APA Apatity 80.36 339⇑ *i*P **P 11 12 57.5 +0.6**
APA *e*S S 11 23 00.0 +0.4
APA *i* 11 23 06.0
APA *i* PS PS 11 23 40.0 -8.8
APA pmax pmax
comp=Z,28nm,1.0s,mb5.2
KOLS Kolonicke sedl 80.37 320 *e*P **P 11 12 58.4 +1.1**
TSUM Tsumeb 80.61 251 *e*P **P 11 13 00.5 +1.3**
comp=Z,17nm,1.1s,mb4.9
TSUM LR LR
comp=Z,3µm,19.0s,MS5.6
SUW Suwalki 80.86 325 *e*P **P 11 12 59.5 -0.3**
SUW MLR MLR 11 54 07.1
comp=Z,2µm,20.5s,MS5.5
SUW Suwalki 80.86 325 *e*P **P 11 12 59.5 -0.3**
comp=Z,240nm,1.0s,mb6.1
CRVS Cervenica-Dubn 80.89 320 *e*P **P 11 13 00.7 +0.6**
CRVS *e* 11 13 26.1
DIVS Divcibare 81.10 315⇑ *i*P **P 11 13 01.6 +0.3**
STHS Stebnicka Huta 81.13 320 *e*P **P 11 13 02.3 +1.0**
STHS *e* 11 13 28.8
FINES FINESS Array B 81.22 333 P **P 11 13 01.3 -0.3**
comp=Z,7.5nm,0.8s,mb4.7,baz=117,slow=8.5,SNR=24
FINES LR LR 11 53 04.4
comp=Z,2µm,19.1s,MS5.5,baz=299,slow=39
NVSS Nova Varos 2 81.22 314⇑ *i*P **P 11 13 02.4 +0.5**
KAF Kangasniemi 81.31 333 *ep* **P 11 13 01.6 -0.3**
comp=Z,18nm,0.8s,mb5.0,baz=103,slow=4.9
KAF Kangasniemi 81.31 333 *e*P **P 11 13 01.6 -0.3**
KAF pmax pmax
comp=Z,18nm,0.8s,mb5.0
KECS Kecovo 81.46 319 *e*P **P 11 13 03.3 +0.3**
KECS *e* 11 13 09.1
PSZ Piszkesteto 81.76 318 *e*P **P 11 13 05.1 +0.5**
PSZ Piszkesteto 81.76 318⇑ *i*P **P 11 13 04.7 +0.1**
comp=Z,18nm,0.9s,mb5.0
PSZ Piszkesteto 81.76 318 P **P 11 13 05.2 +0.6**
BILL Bilibino 82.09 21 *i* P **P 11 13 06.8 +0.9**
BILL LR LR
comp=Z,7µm,19.0s,MS6.0
OJC Ojcow 82.19 321 *e*P **P 11 13 07.1 +0.3**
OJC *e*sP sP 11 13 20.8 +3.1
OJC *e*S S 11 23 21.9 +3.1
OJC LR LR
comp=Z,1µm,20.6s,MS5.3
VYHS Vyhne 82.54 319 *e*P **P 11 13 09.0 +0.4**
TIP Timpagrande 82.89 309 *e*P **P 11 13 11.1 +0.4**
OKC Ostrava-Krasne 83.18 320 *e*P **P 11 13 11.4 -0.5**
OKC *e*S S 11 23 37.2 +8.2
OKC AMS AMS 12 00 30.0
comp=Z,2µm,16.3s
MORC Moravsky Berou 83.56 320 *e*P **P 11 13 14.1 +0.2**
comp=Z,64nm,1.5s,mb5.5
MORC Moravsky Berou 83.56 320 P **P 11 13 14.6 +0.7**
ZST Bratislava 83.65 318 *e*P **P 11 13 15.3 +0.9**
ZST *e*pP pP 11 13 23.7 +1.1
ZST *e* 11 13 36.4
ARCES ARCESS Array B 83.77 340 P **P 11 13 14.8 +0.4**
comp=Z,16nm,0.9s,mb5.2,baz=104,slow=4.5,SNR=17
ARCES LR LR 11 57 09.0
comp=Z,3µm,18.6s,MS5.7,baz=205,slow=40
DPC Dobruska-Polom 84.41 320 *e*P **P 11 13 18.8 +0.6**
DPC *e*S S 11 23 44.4 +3.2
DPC AMS AMS 11 58 00.0
comp=Z,2µm,20.5s
KSP Ksiaz 84.49 321 *e*P **P 11 13 19.4 +0.8**
KSP MLR MLR 11 57 04.8
comp=Z,3µm,21.3s,MS5.7
KSP Ksiaz 84.49 321⇑ *e*P **P 11 13 19.3 +0.8**
KSP *e*pP pP 11 13 26.4 -0.4
KSP *e*SKS SKS 11 23 39.5 -5.2
KSP *e*S S 11 23 46.0 +4.0
KSP LR LR
comp=Z,3µm,21.3s,MS5.7
VNDA Vanda 84.61 169 P **P 11 13 19.4 +0.8**
comp=Z,4.8nm,1.0s,mb4.6,baz=295,slow=5.7,SNR=13
VNDA LR LR 11 48 46.7
comp=Z,1µm,18.6s,MS5.3,baz=306,slow=34
VNDA Vanda 84.61 169 *e*P **P 11 13 19.2 +0.6**
comp=Z,64nm,1.6s,mb5.5
VNDA LR LR
comp=Z,1µm,21.0s,MS5.3
BOJS Bojanci 84.62 316 *e*P **P 11 13 19.6 +0.3**
BOJS *e*PcP PcP 11 13 27.2 +4.0
UPC Upice 84.63 321 *e*P **P 11 13 20.5 +1.3**
UPC *e*pP pP 11 13 26.3 -1.2
PERS Pernice 84.82 317 *e*P **P 11 13 21.0 +0.7**
PERS *e*PcP PcP 11 13 28.4 +4.2
TREC Trest 84.84 319 *e*P **P 11 13 21.2 +0.9**
TREC AMS AMS 11 58 50.0
comp=Z,2µm,17.1s
LJU Ljubljana 85.17 316 *e*P **P 11 13 22.9 +0.8**
LJU *e*PcP PcP 11 13 30.6 +4.9
RAO Raoul Island 85.17 119 PFAKE 11 13 30.0 +7.5
RAO LR LR
comp=Z,4µm,19.0s,MS5.9
PRU Pruhonice 85.52 320 *e*P **P 11 13 24.2 +0.5**
PRU *e*pP pP 11 13 29.8 -2.1
PRU AMS AMS 12 00 40.0
comp=Z,2µm,17.1s
PVCC Panska Ves 85.55 321 *e*P **P 11 13 24.5 +0.7**
PVCC *e*pP pP 11 13 30.8 -1.3
PVCC AMS AMS 11 58 20.0
comp=Z,2µm,18.7s
VOY Vojsko 85.61 316 *e*P **P 11 13 24.2 -0.1**
VOY *e* pP 11 13 32.0 -0.5
VOY *e* 11 13 44.4
AQU L'Aquila 85.70 312 *e*P **P 11 13 25.9 +1.1**
comp=Z,49nm,0.9s,mb5.7
AQU L'Aquila 85.70 312 *e*P **P 11 13 25.9 +1.1**
AQU pmax pmax
comp=Z,49nm,0.9s,mb5.7
SBA Scott Base 85.71 169 *e*P **P 11 13 25.6 +1.5**
comp=Z,154nm,1.8s,mb5.9
SBA LR LR
comp=Z,1µm,19.0s,MS5.3
SBA Scott Base 85.71 169 *e*P **P 11 13 25.6 +1.5**
SBA pmax pmax
comp=Z,154nm,1.8s,mb5.9
SBA MLR MLR
comp=Z,1µm,19.0s,MS5.3
BSD Bornholm Skovb 85.79 325 *i* P **P 11 13 24.9 0.0**
comp=Z,19nm,1.0s,mb5.3
BSD *i* 11 14 09.5
BSD Bornholm Skovb 85.79 325 *e*P **P 11 13 24.9 0.0**
comp=Z,19nm,1.0s,mb5.3
BSD *i* 11 14 09.5
BSD Bornholm Skovb 85.79 325 *e*P **P 11 13 24.9 0.0**
BSD pmax pmax
comp=Z,19nm,1.0s,mb5.3
ROBS Robic 85.89 316 *e*P **P 11 13 25.6 -0.1**
GERES GERESS Array B 85.96 319 P **P 11 13 26.2 +0.3**
comp=Z,9.5nm,0.9s,mb5.0,baz=104,slow=5.5,SNR=50
BRG Berggiesshubel 85.97 321 *i* P **P 11 13 26.6 +0.6**
comp=Z,14nm,1.1s,mb5.1
BRG *i* pP 11 13 34.8 +0.6
BRG *i* 11 13 53.8
BRG Berggiesshubel 85.97 321 *i* P **P 11 13 26.5 +0.6**
BRG pmax pmax
comp=Z,15nm,1.1s,mb5.1
TRO Tromso 86.03 340 *e*P **P 11 13 24.9 -0.9**
TRO *e*SKSa 11 23 49.4
TRO AMS AMS 11 55 53.4
comp=Z,2µm,20.3s,MS5.5
KHC Kasperske Hory 86.07 319 *e*P **P 11 13 26.2 -0.2**
KHC *e*pP pP 11 13 33.5 -1.2
KHC *e*SKS SKS 11 23 53.1 -2.3
KHC AMS AMS 12 01 10.0
comp=Z,2µm,15.7s
CLL Collm 86.60 321 ⇓P **P 11 13 29.7 +0.7**
comp=Z,logA/T=1.2,mb5.2
CLL *e**PP pP 11 13 38.0 +0.7
CLL *e* 11 13 49.0
CLL *e* 11 23 17.0
CLL *e*S S 11 23 57.0 -5.4
CLL *e**SS 11 24 11.0
CLL *e*PPS PPS 11 25 29.0 -2.9
CLL *e* 11 26 11.0
CLL *e* 11 27 07.0
CLL *e*SS SS 11 30 00.0 +13
CLL Collm 86.60 321 ⇓ *i*P **P 11 13 29.7 +0.7**
comp=Z,19nm,1.2s,mb5.2
CLL *e*pP pP 11 13 38.0 +0.7
CLL *e*S S 11 23 57.0 -5.4
CLL Collm 86.60 321 ⇓ *i*P **P 11 13 29.7 +0.7**
CLL *e**PP pP 11 13 38.0 +0.7
CLL *e*S S 11 23 57.0 -5.4
CLL pmax pmax
comp=Z,19nm,1.2s,mb5.2
NKC Novy Kostel 86.88 320 *e*P **P 11 13 31.2 +0.8**
NKC *e*S S 11 24 02.7 -2.4
NKC AMS AMS 12 00 00.0
comp=Z,2µm,16.7s
COP Copenhagen 87.25 326 *i* S S 11 24 03.1 -5.4
comp=Z,820nm,19.0s
COP Copenhagen 87.25 326 *i* P **P 11 13 31.6 -0.5**
comp=Z,22nm,0.9s,mb5.4
COP *i* S S 11 24 03.1 -5.4
COP LR LR
comp=Z,830nm,19.0s,MS5.2
COP Copenhagen 87.25 326 *i* P **P 11 13 31.6 -0.5**
COP *i* S S 11 24 03.1 -5.4
COP pmax pmax
comp=Z,22nm,0.9s,mb5.4
COP MLR MLR
comp=Z,830nm,19.0s,MS5.2
MOX Moxa 87.43 321 *i* P **P 11 13 34.2 +1.1**
MOX pP pP 11 13 41.0 -0.3
MOX S S 11 24 04.0 -6.4
MOX L 12 00 24.0
MOX Moxa 87.43 321 *e*P **P 11 13 34.2 +1.1**
comp=Z,68nm,2.0s,mb5.5
MOX *e* pP 11 13 41.3 0.0
MOX LR LR
comp=Z,1µm,21.0s,MS5.3
MOX Moxa 87.43 321 *e*P **P 11 13 34.2 +1.1**
MOX *e* pP 11 13 41.3 0.0
MOX pmax pmax
comp=Z,68nm,2.0s,mb5.5
MOX MLR MLR
comp=Z,1µm,21.0s,MS5.3
GRA1 Grafenberg Arr 87.64 320 *e*P **P 11 13 35.2 +1.1**
comp=Z,31nm,1.0s,mb5.5
GRA1 *e*S S 11 24 09.1 -3.2
GRA1 LR LR
comp=Z,2µm,20.0s,MS5.5
GRF Grafenberg Arr 87.64 320 *e*P **P 11 13 35.2 +1.1**
comp=Z,31nm,1.0s,mb5.5
GRF *e*S S 11 24 09.1 -3.2
GRF LR LR
comp=Z,2µm,20.0s,MS5.5
NSS Namsos 88.09 334 AMS AMS 11 58 21.8
comp=Z,3µm,20.1s,MS5.7
NB2 NORSAR Subarra 88.22 331 P **P 11 13 36.5 -0.1**
comp=Z,55nm,1.7s,mb5.5,baz=95,slow=4.8
NB2 NORSAR Subarra 88.22 331 P **P 11 13 36.5 -0.1**
baz=94,slow=5.1
NOA NORSAR Array B 88.22 331 P **P 11 13 36.6 0.0**
comp=Z,7.4nm,0.9s,mb4.9,baz=94,slow=4.9,SNR=14
NOA LR LR 11 57 14.9
comp=Z,2µm,20.5s,MS5.6,baz=80,slow=38
NAO01 N'lazarevskaya 88.64 199⇑ *i*P **P 11 13 38.0 +0.7**
comp=Z,14nm,1.0s,mb5.1
NVL N'lazarevskaya 88.64 199⇑ *i*P **P 11 13 40.8 +2.4**
NVL *i* pP 11 13 47.8 +1.2
NVL *i**PP sP 11 13 58.4 +9.1
NVL pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
STU Stuttgart 88.94 319 *e*P **P 11 13 40.5 +0.2**
STU *e*pP pP 11 13 49.2 +0.7
PGF Pioggiola 88.96 312 *e*P **P 11 13 40.8 +0.2**
comp=Z,37nm,1.0s,mb5.4
KONO Kongsberg 88.97 329 *e*P **P 11 13 40.7 +0.5**
KONO *e*SKSa 11 24 06.8
KONO Kongsberg 88.97 329⇑ *e*P **P 11 13 41.0 +0.8**
MUD Monsted U'grnd 89.11 326 *i* S S 11 24 19.9 -5.9
comp=Z,1µm,19.0s
MUD Monsted U'grnd 89.11 326 *i* P **P 11 13 42.6 +1.7**
comp=Z,73nm,1.6s,mb5.8
MUD *i* S S 11 24 19.9 -5.9
MUD Monsted U'grnd 89.11 326 *i* P **P 11 13 42.6 +1.7**
MUD pmax pmax
comp=Z,73nm,1.6s,mb5.8
MUD MLR MLR
comp=Z,1µm,19.0s,MS5.4
KBS Kingsbay 89.13 349 *e*P **P 11 13 46.5 +5.9**
KBS *e*PP PP 11 17 10.2 -3.1
KBS *e*SKSa 11 24 08.0
KBS AMS AMS 12 01 11.1
comp=Z,2µm,19.0s,MS5.6
TOD Tromm 89.21 319 *e*P **P 11 13 42.0 +0.4**
FELD Feldberg 89.72 318 *e*P **P 11 13 44.5 +0.5**
LANF Langenberg 89.86 319 *e*P **P 11 13 45.0 +0.4**
QSPA South Pole Qui 89.99 180 *e*P **P 11 13 45.7 +1.2**
QSPA LR LR
comp=Z,3µm,20.0s,MS5.7
ABH Alteburg 90.02 320 *e*P **P 11 13 46.2 +0.8**
BBS Basel-Blauen 90.05 317 *e*P **P 11 13 47.0 +1.4**
SBF Sospel 90.11 314 *e*P **P 11 13 46.0 0.0**
comp=Z,53nm,0.9s,mb5.6
WLS Welschbruch 90.16 318 *e*P **P 11 13 45.9 -0.1**
CDF Champ du Feu 90.21 318 *e*P **P 11 13 45.6 -0.7**
ECH Echery 90.29 318 *e*P **P 11 13 45.4 -1.2**
MOF Molkenrain 90.31 318 *e*P **P 11 13 46.2 -0.5**
LOMF Lomont 90.52 317 *e*P **P 11 13 46.2 -1.5**
MBDF Montbardon 90.58 315 *e*P **P 11 13 48.0 -0.1**
comp=Z,33nm,1.2s,mb5.2
LPG La Plagne 90.59 315 *e*P **P 11 13 49.0 +0.9**
comp=Z,42nm,0.9s,mb5.5
BNI Bardonecchia 90.65 315 *e*P **P 11 13 48.5 +0.2**
comp=Z,12nm,0.9s,mb5.2
BNI Bardonecchia 90.65 315 P **P 11 13 49.1 +0.7**
BNI pmax pmax
comp=Z,12nm,0.9s,mb5.2
HAU Haudompre 90.83 318 *e*P **P 11 13 49.5 +0.3**
comp=Z,62nm,1.0s,mb5.6
HAU *e*R
comp=Z,2µm,22.0s
WLF Walferdange 90.93 319 *e*P **P 11 13 50.4 +0.9**
comp=Z,49nm,1.3s,mb5.7
THEF They Montfort 91.07 318 *e*P **P 11 13 48.5 -1.7**
BER Bergen 91.11 330 *e*P **P 11 13 57.0 +6.9**
BER *e*SKSa 11 24 18.8
BER AMS AMS 12 00 35.9
comp=Z,2µm,16.6s,MS5.7
NIKO Nikolski 92.10 37 *e*P **P 11 13 55.2 +0.3**
NIKO *e*pP pP 11 14 02.4 -0.7
BAIF Baives 92.18 320 *e*P **P 11 13 56.3 +1.0**
comp=Z,46nm,1.0s,mb5.5
SSF Saint Saulge 92.79 317 *e*P **P 11 13 58.3 +0.1**
comp=Z,21nm,1.1s,mb5.2
BGF Bois d'Agland 93.27 316 *e*P **P 11 14 01.0 +0.6**
SNAA Sanae 93.33 198 P **P 11 13 59.5 -0.6**
comp=Z,1.1nm,1.0s,baz=78,slow=7.9,SNR=6.8
SNAA Sanae 93.33 198 *e*P **P 11 14 00.6 +0.5**
comp=Z,5.5nm,1.1s,mb4.9
SNAA Sanae 93.33 198⇑ *e*P **P 11 14 01.3 +1.2**
RJF Les Rejaudoux 94.28 315 *e*P **P 11 14 05.4 +0.3**
RJF *e*R
comp=Z,1µm,19.2s
VNA2 Neumayer--Watz 94.92 199 *e* **P 11 14 17.9 +10**
VNA2 Neumayer--Watz 94.92 199⇓ *i*P **P 11 14 11.4 +4.0**
VNA2 *e* pP 11 14 17.9 +2.2
JMIC Jan Mayen 95.19 342 AMS AMS 12 01 22.6
comp=Z,1µm,23.2s,MS5.2
VNA1 Neumayer--Stat 95.27 199 *e* **P 11 14 23.3 +14**
VNA1 Neumayer--Stat 95.27 199⇓ *i*P **P 11 14 14.1 +5.0**
VNA1 *e* pP 11 14 23.3 +6.0
FLN La Foliniere 95.33 319 *e*P **P 11 14 09.9 +0.1**
FLN *e*R
comp=Z,2µm,22.8s
VNA3 Neumayer Olymp 95.55 198 *e* **P 11 14 24.8 +14**
VNA3 Neumayer Olymp 95.55 198 P **P 11 14 16.2 +5.9**
VNA3 *e* pP 11 14 24.8 +6.2
DAG Danmarks Havn 95.82 348⇑ *i*P **P 11 14 11.7 +0.2**
comp=Z,3.0nm,1.0s,mb4.7
comp=Z,3µm,20.0s
DAG Danmarks Havn 95.82 348⇑ *e*P **P 11 14 11.7 +0.2**
comp=Z,3.0nm,1.0s,mb4.7
DAG LR LR
comp=Z,3µm,20.0s,MS5.7
DAG Danmarks Havn 95.82 348⇑ *e*P **P 11 14 11.7 +0.2**
DAG pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
DAG MLR MLR
comp=Z,3µm,20.0s,MS5.7
DAG MLR MLR
comp=N,2µm,19.0s
ETSF Etsaut 95.98 313 *e*P **P 11 14 13.3 +0.3**
comp=N,15nm,1.1s,mb5.0
ESK Eskdalemuir 96.14 326 P **P 11 14 13.7 +0.4**
IMA Indian Mountai 97.48 23 *e*P **P 11 14 20.3 +1.2**
CHGN Chignik 97.70 33 *e*P **P 11 14 21.7 +1.4**
ESDC Sonseca Array 98.90 310 PP PP 11 18 30.1 -0.2
comp=N,0.3nm,0.3s,baz=59,slow=8.6,SNR=4.6
ESLA Sonseca Array 98.90 310 PFAKE 11 14 40.0 +14
ESLA LR LR
comp=Z,5µm,20.0s,MS6.0
MCK McKinley 100.16 25 PFAKE 11 14 40.0 +8.6
MCK LR LR
comp=Z,843nm,20.0s,MS5.2
COLA College 100.17 23 PFAKE 11 14 40.0 +8.6
COLA LR LR
comp=Z,30nm,20.0s
ILAR Eielson Array 100.59 23 P P 11 14 33.9 +0.5
comp=Z,0.2nm,0.7s,baz=309,slow=5.8,SNR=3.8
ILAR PP PP 11 18 40.2 -3.0
comp=Z,0.8nm,0.8s,baz=299,slow=6.9,SNR=4.4
ILAR PKKPbc 11 30 46.4
comp=Z,0.5nm,0.8s,baz=157,slow=3.4,SNR=5.1
PMR Palmer 100.85 27 PFAKE 11 14 50.0 +16
PMR LR LR
comp=Z,3µm,20.0s,MS5.8
DBIC Dimbokro 102.39 277 PFAKE 11 14 50.0 +7.5
DBIC LR LR
comp=Z,1µm,19.0s,MS5.5
SFJD Kangerlussuaq 109.49 347 *i* P PP 11 19 50.0 +0.2
SFJD *i* 11 20 17.9
SFJD *i* S 11 27 18.2
SFJD *i* 11 29 34.6
comp=Z,1µm,18.0s
TBI Tubuai 110.98 115 *e*PS PS 11 29 22.0 -5.2
TBI Tubuai 110.98 115 *e*SKSac 11 25 57.6
TBI *e*SS SS 11 35 47.5 +20
TBI *e*LR LR 11 52 28.0
comp=Z,2µm,30.2s
PPT Papeete 111.70 109 *e*PS PS 11 29 36.7 +2.9
PPT Papeete 111.70 109 *e*SKSac 11 26 00.5
PPT *e*LR LR 11 52 46.4
comp=Z,1µm,22.8s
YKA Yellowknife Ar 113.09 16 PP PP 11 20 13.2 -2.9
comp=Z,0.6nm,0.7s,baz=332,slow=7.3,SNR=2.6
YKA PKKPab 11 30 17.5
comp=Z,0.9nm,0.9s,baz=145,slow=4.2,SNR=4.0
TAOE Nuku Hiva Isla 121.81 100 *e*LR LR 11 57 25.2
comp=Z,3µm,23.6s
NEW Newport 123.27 27 *e*PKPdf PKPdf 11 19 43.0 -3.1
HAWA Hanford 123.45 30 *e*PKPdf PKPdf 11 19 43.8 -2.8
RKT Rikitea 124.02 118 *e*SS SS 11 38 30.0 +13
RKT *e*LR LR 11 58 30.4
comp=Z,2µm,26.5s
HUMO Hull Mountain 124.08 35 *e*PKPdf PKPdf 11 19 45.9 -2.1
CHMT Chamberlain Mo 126.01 26 *e*PKPdf PKPdf 11 19 48.4 -3.2
MOD Modoc 126.05 35 *e*PKPdf PKPdf 11 19 48.9 -2.8
WVOR Wild Horse Val 126.62 33 *e*PKPdf PKPdf 11 19 50.7 -2.1
OHCM Honcut 126.97 38 *e*PKPdf PKPdf 11 19 50.7 -2.9
BEKR Beckwourth 127.32 37 *e*PKPdf PKPdf 11 19 50.0 -4.3
BOZ Bozeman (W) 127.70 26 *e*PKPdf PKPdf 11 19 52.5 -2.4
MCMT McKenzie Canyo 127.80 27 *e*PKPdf PKPdf 11 19 53.0 -2.1
HLID Hailey 128.01 29 *e*PKPdf PKPdf 11 19 53.5 -2.0
QLMT Earthquake Lak 128.43 26 *e*PKPdf PKPdf 11 19 55.1 -1.2
CMB Columbia Colle 128.44 38 *e*PKPdf PKPdf 11 19 54.6 -1.9
CMB *e*PP PP 11 22 07.9 +6.6
ULM Lac du Bonnet 128.59 11 *e*PKPdf PKPdf 11 19 53.0 -3.4
BMN Battle Mountai 128.76 34 *e*PKPdf PKPdf 11 19 53.8 -3.3
YMR Madison River 128.76 26 *e*PKPdf PKPdf 11 19 55.7 -1.3
LAO LASA Array 128.99 21 *e*PKPdf PKPdf 11 19 55.9 -1.4
NVAR Mina Array Bea 129.46 37 PKP PKPdf 11 19 57.2 -1.3
comp=Z,2.3nm,0.8s,baz=256,slow=3.7,SNR=16
ELK Elko 129.63 32 *e*PKPdf PKPdf 11 19 57.2 -1.5
RRI2 Red Ridge 129.64 27 *e*PKPdf PKPdf 11 19 55.4 -3.3
TPAW Teton Pass 129.70 27 *e*PKPdf PKPdf 11 19 56.8 -2.0
LOHW Long Hollow 129.76 27 *e*PKPdf PKPdf 11 19 57.1 -1.7
SNOW Snow King Moun 129.81 27 PKPdf PKPdf 11 19 57.0 -1.9
SNOW PP PP 11 22 09.1 -0.7

MTUM	**Tungsten Hills**	**130.00**	**38**	*e*PKPdf	PKPdf	11 19 55.0	-4.5
MTUM				*e*pPKPdf		11 20 05.7	
HVU	**Hansel Valley**	**130.14**	**30**	*e*PKPdf	PKPdf	11 19 57.1	-2.6
TPH	**Tonopah**	**130.34**	**36**	*e*PKPdf	PKPdf	11 19 58.7	-1.4
HWUT	**Hardware Ranch**	**130.87**	**29**	*e*PKPdf	PKPdf	11 19 58.7	-2.4
BW06	**Boulder Array**	**130.89**	**26**	*e*PKPdf	PKPdf	11 19 58.8	-2.2
PDAR	**Pinedale Array**	**130.89**	**26**	PKP	PKPdf	11 19 57.4	-3.7
	comp=Z,1.0nm,0.8s,baz=162,slow=0.7,SNR=9.7						
PDAR				PP	PP	11 22 15.2	-2.0
	comp=Z,1.1nm,1.0s,baz=333,slow=4.0,SNR=3.8						
DAC	**Darwin (Calif)**	**131.28**	**38**	*e*PKPdf	PKPdf	11 19 59.9	-2.1
DUG	**Dugway**	**131.30**	**31**	*e*PKPdf	PKPdf	11 19 59.7	-2.2
CTU	**Camp Tracy**	**131.47**	**30**	PKPdf	PKPdf	11 19 56.8	-5.4
NLU	**North Lily Min**	**131.86**	**31**	*e*PKPdf	PKPdf	11 20 00.7	-2.2
ARUT	**Antelope Range**	**132.71**	**34**	PKPdf	PKPdf	11 20 02.2	-2.5
TMUT	**Trail Mountain**	**132.79**	**31**	*e*PKPdf	PKPdf	11 20 03.2	-1.6
MSU	**Marysvale**	**132.87**	**32**	*e*PKPdf	PKPdf	11 20 03.7	-1.2
SRU	**San Rafael**	**133.28**	**30**	*e*PKPdf	PKPdf	11 20 04.3	-1.3
NEN	**Nelson**	**133.38**	**37**	*e*PKPdf	PKPdf	11 20 04.3	-1.6
ISCO	**Idaho Springs**	**135.03**	**25**	*e*PKPdf	PKPdf	11 20 05.4	-3.5
SDCO	**Great Sand Dun**	**136.77**	**27**	*e*PKPdf	PKPdf	11 20 09.0	-3.0
TRQA	**Tornquist**	**137.76**	**204**	*e*PKPdf	PKPdf	11 20 11.9	-2.0
PLCA	**Paso Flores**	**138.09**	**193**	PKP	PKPdf	11 20 12.5	-2.0
	comp=Z,2.5nm,0.9s,baz=225,slow=2.4,SNR=3.8						
PLCA	**Paso Flores**	**138.09**	**193**	*e*PKPdf	PKPdf	11 20 12.1	-2.4
PLCA				PKP	PKPdf	11 20 12.5	-2.0
TUC	**Tucson**	**138.11**	**37**	*e*PKPdf	PKPdf	11 20 12.8	-1.9
ANMO	**Albuquerque**	**138.55**	**30**	*e*PKPdf	PKPdf	11 20 13.7	-1.8
MNTX	**Cornudas Mount**	**141.65**	**32**	*e*PKPpre		11 20 14.3	
WMOK	**Wichita Mounta**	**142.16**	**22**	*e*PKPpre		11 20 13.2	
WMOK				*e*PP	PP	11 23 24.8	-2.5
BDFB	**Brasilia**	**142.70**	**244**	PKhKP		11 20 17.4	
	comp=Z,4.3nm,0.7s,baz=129,slow=3.1,SNR=4.1						
WVT	**Waverly**	**143.66**	**7**	*e*PKPpre		11 20 17.2	
LTX	**Lajitas**	**144.42**	**33**	*e*PKPdf	PKPdf	11 20 22.3	-3.7
TXAR	**Lajitas Array**	**144.42**	**33**	PKP	PKPdf	11 20 22.1	-3.9
	comp=Z,8.2nm,0.8s,baz=261,slow=1.4,SNR=87						
CPUP	**Villa Florida**	**144.42**	**221**	PKP	PKPdf	11 20 21.4	-4.6
	comp=Z,58nm,0.8s,baz=142,slow=4.9,SNR=97						
CPUP	**Villa Florida**	**144.42**	**221**	*e*PKPdf	PKPdf	11 20 21.6	-4.5
CPCT	**Cooper Cave**	**144.64**	**3**	*e*PKP	PKPdf	11 20 21.3	-4.9
PLAL	**Pickwick Lake**	**144.76**	**8**	*e*PKP	PKPdf	11 20 21.3	-5.2
OXF	**Oxford**	**145.01**	**10**	*e*PKPdf	PKPdf	11 20 22.6	-4.3
JSC	**Jenkinsville**	**145.85**	**358**	*e*PKPdf	PKPdf	11 20 25.1	-3.3
NATX	**Nacogdoches**	**146.31**	**19**	*e*PKPbc	PKPbc	11 20 27.7	+2.1
GOGA	**Godfrey**	**146.72**	**2**	*e*PKPbc	PKPbc	11 20 28.5	+1.9
LRAL	**Lakeview Retre**	**146.82**	**7**	*e*PKPbc	PKPbc	11 20 28.6	+1.8
LVC	**Limon Verde**	**154.01**	**209**	PKPdf	PKPdf	11 20 44.1	+2.9
LPAZ	**La Paz**	**158.59**	**220**	PKP	PKPdf	11 20 43.8	-3.6
	comp=Z,1.2nm,1.0s,baz=42,slow=8.4,SNR=3.9						
SAML	**Samuel**	**158.94**	**245**	PKPdf	PKPdf	11 20 45.9	-1.9
SDV	**Santo Domingo**	**165.33**	**307**	PKPdf	PKPdf	11 20 51.8	-2.5
ROSC	**El Rosal**	**170.61**	**301**	PKP	PKPdf	11 20 53.8	-4.0
	comp=Z,4.3nm,0.5s,baz=90,slow=20,SNR=2.7						

IDC 06 11:05:10.7±3.9**, 0.50N**×**98.30E, mb4.1**/4**, mb1 4.3**/4**, mb1mx3.9**/18**, mbtmp4.1**/4**, Error ellipse: s-maj=155.0km s-min=27.1km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.73**	**122**	P	P	11 12 53.4	-1.7
	1.0nm,0.5s,baz=303,slow=9.1,SNR=5.1						
SONM	**Songino Array**	**47.66**	**7**	P	P	11 13 49.7	-1.1
	1.0nm,0.6s,baz=188,slow=9.1,SNR=2.2						
MKAR	**Makanchi Array**	**48.18**	**345**	P	P	11 13 52.6	-2.2
	4.4nm,0.5s,baz=160,slow=8.8,SNR=13						
ZAL	**Zalesovo**	**54.41**	**350**	P	P	11 14 38.9	-2.9
	2.0nm,0.6s,baz=315,slow=7.1,SNR=3.2						

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*IDC **06** 11:10:24.2±0.4, 7.76N×92.27E, mb4.6/25, mb1 4.6/25, mb1mx4.6/26, mbtmp4.5/25, Error ellipse: s-maj=16.9km s-min=11.5km az=58.0*

*BJI **06** 11:10:26.8, 7.38N×92.15E, h45km, mB5.5, mb4.8*

*MOS **06** 11:10:27.4±0.9, 7.73N×92.25E, h33km, mb5.2/20, Error ellipse: s-maj=12.7km s-min=6.3km az=117.7*

*NEIC **06** 11:10:29.1±0.2, 7.69N×92.20E, mb5.0/26, Error ellipse: s-maj=7.0km s-min=4.6km az=220.0*

*HRVD **06** 11:10:29.1±0.7, 7.76N×92.28E, h28km±1km, MW5.2/33, Centroid moment Tensor Solution. LP body waves: s12,c14; Mantle waves: s33,c41; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.74±.11; $M_{\theta\theta}$0.04±.06; $M_{\phi\phi}$0.70±.06; $M_{r\theta}$0.23±.13; $M_{\theta\phi}$-0.01±.04; $M_{\phi r}$-0.17±.08; Best double couple: M_0.77×10^{17} NP1: ϕ_s193°, δ40°, λ-67°. NP2: ϕ_s344°, δ54°, λ-108°. Principal axes: T .721, Plg7°, Azm87°; N .096, Plg15°, Azm355°; P -.818, Plg74°, Azm202°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 11:10:27.2±0.2**, 7.63N**±0.04×**92.18E**±0.04**, h32km, h32km**±.6km**: pP-P, n154,** σ**1s02**/149**, mb4.8**/62**, MS5.5**/4**, 12C-7D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.73**	**105**	*e*P	**P**	**11 12 31.3**	**-3.0**
PALK	**Pallekele**	**11.39**	**269**	*e*Pn	**P**	**11 13 09.1**	**-1.9**
	73nm,0.5s						
PALK				*e*S	**S**	**11 15 04.2**	**-14**
MDRS	**Chennai**	**12.92**	**296**	*e*P	**P**	**11 13 30.1**	**-1.4**
MDRS				AMb	AMB	11 13 32.6	
	comp=Z,107nm,0.2s						
MDRS				*e*x	x	11 15 21.9	
VIS	**Vishakhapatnam**	**13.23**	**320**	*e*P	**P**	**11 13 34.0**	**-1.4**
VIS				AMb	AMB	11 13 35.0	
	comp=Z,78nm,0.6s						
VIS				*e*x	x	11 15 36.2	
CHRT	**Chiangrai**	**14.22**	**30**	⇑P	**P**	**11 13 51.5**	**+2.8**
	comp=Z,421nm,0.7s						
TRD	**Trivandrum**	**15.10**	**274**	*e*P	**P**	**11 14 00.5**	**+0.4**
TRD				AMb	AMB	11 14 02.8	
	comp=Z,51nm,0.4s						
TRD				*e*x	x	11 16 33.2	
HYB	**Hyderabad**	**16.47**	**307**	*i* P	**P**	**11 14 18.0**	**+0.3**
HYB				*e*S	**S**	**11 17 18.0**	**-0.7**
HYB	**Hyderabad**	**16.47**	**307**	*e*P	**P**	**11 14 18.0**	**+0.3**
HYB				*e*S	**S**	**11 17 18.0**	**-0.7**
BOK	**Bokaro**	**17.17**	**340**	*e*P	**P**	**11 14 26.8**	**+0.3**
BOK				AMb	AMB	11 14 31.2	
	comp=Z,74nm,0.9s						
BOK				*e*x	x	11 17 25.4	
BLSP	**Bilaspur**	**17.36**	**327**	*e*P	**P**	**11 14 29.0**	**+0.1**
BLSP				AMb	AMB	11 14 30.5	
	comp=Z,33nm,0.7s						
BLSP				*e*x	x	11 17 28.8	
LATR	**Latur**	**18.60**	**307**	*e*x	x	11 17 56.1	
KSM	**Kuching**	**19.07**	**108**	*e*P	**P**	**11 14 49.2**	**-0.7**
KSM				Sn	**S**	**11 18 17.3**	**-0.6**
KMI	**Kunming**	**20.10**	**29**	P	**P**	**11 15 03.0**	**+1.8**
KMI				AP		11 15 11.5	
KMI				AMB	AMB		
	comp=Z,37nm,0.8s						
KMI	**Kunming**	**20.10**	**29**	P	**P**	**11 15 03.0**	**+1.8**
	comp=Z,37nm,0.8s						
KMI				pP		11 15 11.5	
KMI	**Kunming**	**20.10**	**29**	P	**P**	**11 15 03.0**	**+1.8**
KMI				pmax	pmax		
	comp=Z,37nm,0.8s						
QIZ	**Qiongzhong**	**20.56**	**55**	P	**P**	**11 15 06.6**	**+0.6**
PKI	**Pulchoki**	**20.84**	**343**	*e*P	**P**	**11 15 09.6**	**+0.8**
	comp=Z,64nm,0.5s						
DMN	**Daman**	**20.97**	**342**	*e*P	**P**	**11 15 10.6**	**+0.5**
	comp=Z,52nm,0.4s						
BHPL	**Bhopal**	**21.02**	**319**	*e*P	**P**	**11 15 09.6**	**-1.1**
BHPL				AMb	AMB	11 15 13.2	
	comp=Z,30nm,0.9s,mb4.6						
BHPL				*e*x	x	11 18 46.2	
KKN	**Kakani**	**21.09**	**343**	*e*P	**P**	**11 15 11.2**	**-0.1**
	comp=Z,81nm,0.9s,mb5.1						
GKN	**Gorkha**	**21.48**	**342**	*e*P	**P**	**11 15 15.7**	**+0.4**
	comp=Z,52nm,0.4s,mb5.2						
KOLN	**Koldanda**	**21.61**	**339**	*e*P	**P**	**11 15 17.1**	**+0.5**
	comp=Z,228nm,1.1s,mb5.5						
LSA	**Lhasa**	**21.97**	**358**	*e*P	**P**	**11 15 20.5**	**+0.3**
	comp=Z,50nm,0.6s,mb5.1						
LSA	**Lhasa**	**21.97**	**358**	*e*P	**P**	**11 15 20.5**	**+0.3**
LSA				pmax	pmax		
	comp=Z,50nm,0.6s,mb5.1						
GYA	**Guiyang**	**23.24**	**35**	⇑*i*P	**P**	**11 15 33.6**	**+0.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
KKM	**Kota Kinabalu**	**23.91**	**92**	*e*P	**P**	**11 15 41.4**	**+2.0**
NDI	**New Delhi**	**25.25**	**328**	*e*P	**P**	**11 15 51.0**	**-1.2**
ENH	**Enshi**	**27.76**	**34**	*e*P	**P**	**11 16 14.3**	**-0.9**
	comp=Z,53nm,1.1s,mb5.1						
WHN	**Wuhan**	**30.83**	**39**	⇓P	**P**	**11 16 43.0**	**+0.3**
GTA	**Gaotai**	**32.37**	**11**	*e*P	**P**	**11 16 56.2**	**+0.1**
GTA				AMB	AMB		
	comp=Z,28nm,1.1s,mb5.0						
SSE	**Sheshan**	**35.76**	**45**	P	**P**	**11 17 25.2**	**-0.1**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,927nm,9.6s						
SSE	**Sheshan**	**35.76**	**45**	P	**P**	**11 17 25.2**	**-0.1**
	comp=Z,24nm,0.7s,mb5.2						
KZA	**Kyzart**	**37.43**	**339**	P	**P**	**11 17 40.7**	**+1.4**
	SNR=7.7						
UCH	**Uchtor**	**37.83**	**338**	P	**P**	**11 17 44.2**	**+1.6**
	SNR=9.0						
KBK	**Karagaybulak**	**38.05**	**339**	P	**P**	**11 17 45.8**	**+1.3**
	SNR=7.0						
AML	**Almayashu**	**38.05**	**337**	P	**P**	**11 17 45.8**	**+1.4**
	SNR=13						
TKM2	**Tokmak 2**	**38.06**	**340**	P	**P**	**11 17 45.5**	**+1.0**
	SNR=6.5						
AAK	**Ala-Archa**	**38.19**	**339**	P	**P**	**11 17 47.2**	**+1.6**
	SNR=8.3						
AAK	**Ala-Archa**	**38.19**	**339**	*e*P	**P**	**11 17 46.2**	**+0.6**
	comp=Z,51nm,1.3s,mb5.1						
AAK	**Ala-Archa**	**38.19**	**339**	⇑*e*P	**P**	**11 17 46.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,37nm,1.4s,mb4.9						
EKS2	**Erkin-Say**	**38.47**	**338**	P	**P**	**11 17 49.7**	**+1.6**
	SNR=5.9						
USP	**Ospenovka**	**38.74**	**339**	P	**P**	**11 17 51.2**	**+0.9**
	SNR=13						
MKAR	**Makanchi Array**	**39.93**	**349**	P	**P**	**11 18 00.0**	**-0.1**
	comp=Z,5.1nm,0.4s,mb4.6,baz=167,slow=9.0,SNR=60						
FITZ	**Fitzroy Crossi**	**41.77**	**128**	*e*P	**P**	**11 18 15.1**	**-0.5**
	comp=Z,66nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**41.77**	**128**	P	**P**	**11 18 15.7**	**+0.1**
	comp=Z,100nm,1.0s,mb5.4,baz=324,slow=3.9,SNR=38						
SONM	**Songino Array**	**41.85**	**14**	P	**P**	**11 18 15.7**	**-0.1**
	comp=Z,14nm,1.0s,mb4.5,baz=194,slow=8.8,SNR=36						
SONM				PcP	PcP	11 20 11.8	-0.2
	comp=Z,4.1nm,1.1s,baz=190,slow=5.4,SNR=4.5						
ULN	**Ulaanbaatar**	**42.04**	**15**	*i* P	**P**	**11 18 17.6**	**+0.2**
ZAK	**Zakamensk**	**43.60**	**10**	*e*P	**P**	**11 18 28.2**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.0						
KURK	**Kurchatov**	**44.40**	**348**	*e*P	**P**	**11 18 36.3**	**-0.3**
	comp=Z,28nm,1.0s,mb5.0						
KURK				*e*pP	pP	11 18 46.4	+0.2
KURK	**Kurchatov**	**44.40**	**348**	*e*P	**P**	**11 18 36.3**	**-0.3**
KURK				*e**PP	pP	11 18 46.4	+0.1
KURK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
ZAL	**Zalesovo**	**46.55**	**354**	P	**P**	**11 18 53.5**	**-0.1**
	comp=Z,2.5nm,0.4s,mb4.5,baz=305,slow=6.7,SNR=7.8						
NWAO	**Narrogin (SRO)**	**46.85**	**151**	P	**P**	**11 18 56.5**	**+0.2**
	comp=Z,9.5nm,0.7s,mb4.8,baz=151,slow=10,SNR=4.8						
HIA	**Hailar**	**47.52**	**24**	*e*P	**P**	**11 19 01.2**	**-0.1**
	comp=Z,8.7nm,0.8s,mb4.8						
HIA	**Hailar**	**47.52**	**24**	*e*P	**P**	**11 19 01.2**	**-0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BVAR	**Borovoye Array**	**48.61**	**343**	P	**P**	**11 19 08.9**	**-0.9**
	comp=Z,2.5nm,0.4s,mb4.6,baz=153,slow=6.6,SNR=17						
BVAR				PcP	PcP	11 20 35.1	-0.3
	comp=Z,1.9nm,0.6s,baz=153,slow=6.4,SNR=3.1						
WRA	**Warramunga Arr**	**49.72**	**124**	P	**P**	**11 19 17.6**	**-1.2**
	comp=Z,14nm,0.7s,mb5.1,baz=302,slow=8.9,SNR=117						
WRA				S	**S**	**11 26 21.6**	**-2.6**
	comp=Z,1.8nm,0.9s,baz=298,slow=16,SNR=5.5						
WRAB	**Tennant Creek**	**49.72**	**124**	⇓*i*P	**P**	**11 19 18.1**	**-0.7**
	comp=Z,28nm,0.7s,mb5.4						
WRAB				*e*		11 19 34.4	
WRAB	**Tennant Creek**	**49.72**	**124**	⇓*i*P	**P**	**11 19 18.1**	**-0.7**
WRAB				*e*		11 19 34.4	
WRAB				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.4						
WB2	**Warramunga Arr**	**49.73**	**124**	⇓*i*P	**P**	**11 19 17.9**	**-0.9**
MJAR	**Matsushiro Arr**	**50.77**	**48**	PcP	PcP	11 20 42.9	-0.5
	comp=Z,5.6nm,1.1s,baz=225,slow=2.4,SNR=5.9						
FORT	**Forrest**	**51.38**	**140**	*e*P	**P**	**11 19 32.2**	**+0.9**
	comp=Z,32nm,0.7s,mb5.3						
OPO	**Ambohidratompo**	**51.45**	**239**	P	**P**	**11 19 32.2**	**+0.3**
	comp=Z,2.0nm,0.9s,mb4.0,baz=74,slow=8.4,SNR=3.6						
BOD	**Bodaibo**	**52.85**	**14**	*e*P	**P**	**11 19 41.5**	**-0.4**
BOD				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
GNI	**Garni**	**53.23**	**315**	P	**P**	**11 19 45.3**	**+0.4**
	comp=Z,3.2nm,0.4s,mb4.6,baz=346,slow=17,SNR=5.3						
GNI	**Garni**	**53.23**	**315**	P	**P**	**11 19 45.3**	**+0.4**
GNI	**Garni**	**53.23**	**315**	⇑*e*P	**P**	**11 19 45.0**	**0.0**
GNI				pmax	pmax		
	comp=Z,36nm,1.8s						
ZEI	**Tsey**	**54.90**	**318**	*e*P	**P**	**11 19 53.7**	**-3.5**
ZEI				*i* *PP	pP	11 20 04.1	-3.0
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
SVE	**Sverdlovsk**	**54.92**	**339**	*e*P	**P**	**11 19 57.1**	**-0.1**
SVE				*e*	pP	11 20 06.8	-0.3
SVE				pmax	pmax		
	comp=Z,100nm,1.7s,mb5.6						
SVE				MLR	MLR		
	comp=N,2μm,18.0s,MS5.3						
SVE				MLR	MLR		
	comp=E,1μm,18.0s,MS5.3						
SVE				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.4						
ARU	**Arti**	**55.37**	**338**	*e*P	**P**	**11 19 59.5**	**-0.9**
	comp=Z,8.5nm,0.6s,mb5.0						
ARU				*e*pP	pP	11 20 09.7	-0.5
ARU	**Arti**	**55.37**	**338**	⇓*i*P	**P**	**11 19 59.7**	**-0.7**
ARU				*e*		11 20 56.1	
ARU				*e*		11 22 00.6	
ARU				*e*S	**S**	**11 27 43.8**	**+3.1**
ARU				*e*SS	SS	11 31 31.2	+6.0
ARU				pmax	pmax		
	comp=Z,37nm,1.8s,mb5.1						
KMBO	**Kilima Mbogo**	**55.47**	**263**	P	**P**	**11 20 03.6**	**+1.9**
	comp=Z,8.0nm,1.0s,mb4.7,baz=52,slow=10,SNR=15						
KMBO	**Kilima Mbogo**	**55.47**	**263**	⇑*e*P	**P**	**11 20 01.6**	**-0.1**
KIV	**Kislovodsk**	**56.20**	**319**	*e*P	**P**	**11 20 06.1**	**-0.5**
KIV				*e*S	**S**	**11 27 53.8**	**+1.7**
KIV				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
KIV				pmax	pmax		
	comp=N,11nm,0.8s						
KIV				pmax	pmax		
	comp=E,12nm,0.8s						
GOF	**Gofitskoye**	**56.45**	**320**	*e*P	**P**	**11 20 11.8**	**+3.4**
ASF	**Jabal al Asfar**	**56.72**	**304**	P	**P**	**11 20 11.4**	**+0.9**
	comp=E,2.9nm,0.6s,mb4.5,baz=351,slow=15,SNR=4.0						
ASAJ	**Asahikawa**	**56.87**	**42**	P	**P**	**11 20 10.6**	**-0.9**
	comp=E,10nm,1.1s,mb4.8,baz=218,slow=4.7,SNR=3.6						
YSS	**Yuzh-Sakhalins**	**58.17**	**39**	*e*P	**P**	**11 20 20.2**	**-0.3**
	comp=E,7.6nm,0.6s,mb4.9						
YSS	**Yuzh-Sakhalins**	**58.17**	**39**	⇑*i*P	**P**	**11 20 19.9**	**-0.5**
YSS				*e*	pP	11 20 29.3	-1.1
CTA	**Charters Tower**	**59.89**	**118**	⇑*i*P	**P**	**11 20 32.3**	**-0.4**
	comp=E,8.2nm,1.3s,mb4.6						
CTA	**Charters Tower**	**59.89**	**118**	P	**P**	**11 20 32.3**	**-0.4**
	comp=E,7.3nm,1.0s,mb4.7,baz=281,slow=7.9,SNR=5.9						
CTA	**Charters Tower**	**59.89**	**118**	⇑*i*P	**P**	**11 20 32.3**	**-0.4**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CTAO	**Charters Tower**	**59.89**	**118**	*e*P	**P**	**11 20 32.2**	**-0.5**
	comp=Z,16nm,1.3s,mb4.9						
CTAO				*e*pP	pP	11 20 42.7	-0.1
CTAO	**Charters Tower**	**59.89**	**118**	*e*P	**P**	**11 20 32.2**	**-0.5**
CTAO				*e**PP	pP	11 20 42.7	-0.1
CTAO				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
ANN	**Anapa**	**60.00**	**318**	*e*P	**P**	**11 20 31.1**	**-2.1**
ANN				pmax	pmax		
	comp=Z,52nm,1.5s,mb5.3						
YAK	**Yakutsk**	**60.85**	**19**	⇑*e*P	**P**	**11 20 37.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.3						
BRTR	**Keskin Array B**	**61.12**	**311**	P	**P**	**11 20 39.5**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.4,baz=121,slow=7.2,SNR=10						
STKA	**Stephens Creek**	**61.36**	**133**	*e*P	**P**	**11 20 42.2**	**-0.4**
	comp=Z,8.5nm,1.3s,mb4.7						
STKA				*e*		11 21 02.4	
STKA	**Stephens Creek**	**61.36**	**133**	P	**P**	**11 20 42.3**	**-0.3**
	comp=Z,11nm,1.1s,mb4.9,baz=259,slow=3.1,SNR=5.6						
MBAR	**Mbarara**	**61.81**	**265**	P	**P**	**11 20 46.6**	**+0.7**
	comp=Z,15nm,1.4s,mb4.9						
MBAR	**Mbarara**	**61.81**	**265**	P	**P**	**11 20 46.6**	**+0.7**
MBAR				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.9						
OBN	**Obninsk**	**64.55**	**328**	*ce*P	**P**	**11 21 02.0**	**-1.4**
OBN				*e*S	**S**	**11 29 40.9**	**+2.0**
OBN				pmax	pmax		
	comp=Z,47nm,1.5s,mb5.3						
OBN				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.4						
TOO	**Toolangi**	**67.02**	**136**	*e*P	**P**	**11 21 21.0**	**+1.5**
	comp=Z,8.3nm,1.1s,mb4.7						
IDI	**Anoyia**	**67.11**	**305**	P	**P**	**11 21 20.5**	**+0.4**
	comp=Z,11nm,0.5s,mb5.1,baz=94,slow=8.8,SNR=10						
AKASG	**Malin Array Be**	**67.14**	**322**	P	**P**	**11 21 17.9**	**-2.1**
	comp=Z,2.9nm,0.9s,mb4.3,baz=91,slow=4.9,SNR=14						
TIXI	**Tiksi**	**67.85**	**12**	*e*P	**P**	**11 21 19.7**	**-4.5**
TIXI				*e*S	S	11 30 22.5	+3.8
TIXI				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,3μm,14.0s,MS5.7						
MA2	**Magadan**	**67.88**	**28**	*ce*P	**P**	**11 21 23.9**	**-0.6**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
SEY	**Seymchan**	**69.96**	**25**	⇑*e*P	**P**	**11 21 36.5**	**-0.7**
JOF	**Joensuu**	**70.23**	**335**	*e*p	**P**	**11 21 37.5**	**-1.4**
KOLS	**Kolonicke sedl**	**71.11**	**319**	*e*P	**P**	**11 21 44.3**	**-0.2**
CRVS	**Cervenica-Dubn**	**71.63**	**319**	*e*P	**P**	**11 21 47.8**	**+0.2**
CRVS				*e*	pP	11 21 58.4	+0.7
STHS	**Stebnicka Huta**	**71.86**	**319**	*e*P	**P**	**11 21 48.5**	**-0.5**
STHS				*e*		11 22 01.7	
FINES	**FINESS Array B**	**72.02**	**332**	P	**P**	**11 21 48.8**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.2,baz=70,slow=4.7,SNR=14						
KAF	**Kangasniemi**	**72.12**	**333**	*e*p	**P**	**11 21 47.7**	**-2.6**
KECS	**Kecovo**	**72.20**	**318**	*e*P	**P**	**11 21 50.6**	**-0.4**
KECS				*e*pP	pP	11 22 01.2	+0.1
VYHS	**Vyhne**	**73.29**	**318**	*e*P	**P**	**11 21 56.0**	**-1.4**
VYHS				*e*pP	pP	11 22 07.7	+0.2
BOSA	**Boshof**	**73.82**	**237**	P	**P**	**11 22 02.1**	**+1.2**
	comp=Z,22nm,1.1s,mb5.0,baz=92,slow=5.1,SNR=12						
OKC	**Ostrava-Krasne**	**73.91**	**320**	*e*P	**P**	**11 22 01.2**	**+0.2**
OKC				*e*pP	pP	11 22 10.3	-0.8
MIR	**Mirnyy**	**74.00**	**180**	*e*P	**P**	**11 22 03.0**	**+1.9**
MIR				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.9						
ZST	**Bratislava**	**74.41**	**318**	*e*P	**P**	**11 22 03.4**	**-0.5**
ZST				*e*pP	pP	11 22 14.8	+0.8
ARCES	**ARCESS Array B**	**74.84**	**340**	P	**P**	**11 22 05.4**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=90,slow=3.6,SNR=8.9						
CASY	**Casey**	**74.93**	**172**	*e*P	**P**	**11 22 06.8**	**+0.3**
	comp=Z,44nm,1.8s,mb5.1						
DPC	**Dobruska-Polom**	**75.14**	**320**	*e*P	**P**	**11 22 08.6**	**+0.5**
DPC				*e*pP	pP	11 22 18.6	+0.4
KSP	**Ksiaz**	**75.21**	**321**	*e*P	**P**	**11 22 08.4**	**-0.1**
UPC	**Upice**	**75.35**	**320**	*e*P	**P**	**11 22 09.7**	**+0.4**
UPC				*e*pP	pP	11 22 17.0	-2.5
TREC	**Trest**	**75.58**	**319**	*e*P	**P**	**11 22 09.4**	**-1.2**
PRU	**Pruhonice**	**76.25**	**320**	*e*P	**P**	**11 22 14.6**	**+0.2**
PRU				*e*pP	pP	11 22 24.8	+0.3
PVCC	**Panska Ves**	**76.27**	**320**	*e*P	**P**	**11 22 14.9**	**+0.4**
PVCC				*e*pP	pP	11 22 25.1	+0.4
BRG	**Berggiesshubel**	**76.70**	**320**	*i* P	**P**	**11 22 17.4**	**+0.5**
	comp=Z,28nm,1.5s,mb5.0						
BRG				*i*	pP	11 22 27.3	+0.3
BRG				LR	LR		
	comp=Z,3μm,18.5s,MS5.6						
BRG	**Berggiesshubel**	**76.70**	**320**	*i* P	**P**	**11 22 17.3**	**+0.4**
GERES	**GERESS Array B**	**76.71**	**318**	P	**P**	**11 22 17.1**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=30						
KHC	**Kasperske Hory**	**76.81**	**319**	*e*P	**P**	**11 22 17.3**	**-0.2**
KHC				*e*pP	pP	11 22 27.3	-0.4
BILL	**Bilibino**	**77.03**	**22**	*i* P	**P**	**11 22 19.5**	**+1.1**
BILL				pmax	pmax		
	comp=Z,28nm,2.5s,mb4.8						
CLL	**Collm**	**77.32**	**321**	P	**P**	**11 22 20.0**	**-0.3**
	comp=Z,logA/T=1.2,mb4.9						
CLL				*i* *PP	pP	11 22 30.3	-0.2
CLL	**Collm**	**77.32**	**321**	*i* P	**P**	**11 22 20.0**	**-0.3**
	comp=Z,29nm,1.7s,mb4.9						
CLL				*i* pP	pP	11 22 30.3	-0.2
CLL	**Collm**	**77.32**	**321**	*i* P	**P**	**11 22 20.0**	**-0.3**
CLL				*i* *PP	pP	11 22 30.3	-0.2
CLL				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.9						
NKC	**Novy Kostel**	**77.61**	**320**	*e*P	**P**	**11 22 23.0**	**+1.1**
NKC				*e*pP	pP	11 22 32.2	+0.1
MAW	**Mawson**	**77.92**	**191**	⇓*i*P	**P**	**11 22 25.1**	**+1.8**
	comp=Z,8.7nm,0.8s,mb4.7						
MAW				*e*		11 23 13.1	
MAW	**Mawson**	**77.92**	**191**	P	**P**	**11 22 25.3**	**+2.0**
	comp=Z,12nm,0.8s,mb4.8,baz=11,slow=5.8,SNR=37						
MAW	**Mawson**	**77.92**	**191**	⇓*i*P	**P**	**11 22 25.1**	**+1.8**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MOX	**Moxa**	**78.16**	**320**	*i* P	**P**	**11 22 25.3**	**+0.4**
MOX	**Moxa**	**78.16**	**320**	*e*P	**P**	**11 22 25.3**	**+0.4**
GRA1	**Grafenberg Arr**	**78.38**	**319**	*e*P	**P**	**11 22 26.8**	**+0.7**
	comp=Z,16nm,0.7s,mb5.1						
GRA1				*e*pP	pP	11 22 37.0	+0.6
GRF	**Grafenberg Arr**	**78.38**	**319**	*e*P	**P**	**11 22 26.8**	**+0.7**
	comp=Z,16nm,0.7s,mb5.1						
GRF				*e*pP	pP	11 22 37.0	+0.6
GRF	**Grafenberg Arr**	**78.38**	**319**	*e*P	**P**	**11 22 26.8**	**+0.7**
GRF				*e**PP	pP	11 22 37.0	+0.6
GRF				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
NB2	**NORSAR Subarra**	**78.99**	**331**	P	**P**	**11 22 27.9**	**-1.4**
	comp=Z,2.3nm,1.1s,mb4.0,baz=99,slow=5.0						
NB2	**NORSAR Subarra**	**78.99**	**331**	P	**P**	**11 22 27.9**	**-1.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
NOA	**NORSAR Array B**	**78.99**	**331**	P	**P**	**11 22 28.1**	**-1.2**
	comp=Z,3.2nm,1.0s,mb4.2,baz=95,slow=5.4,SNR=4.3						
LPG	**La Plagne**	**81.41**	**315**	*e*P	**P**	**11 22 42.9**	**+0.4**
	comp=Z,46nm,1.2s,mb5.0						
ESDC	**Sonseca Array**	**89.89**	**310**	P	**P**	**11 23 25.6**	**+1.0**
	comp=Z,0.2nm,0.3s,mb4.0,baz=45,slow=6.0,SNR=6.5						
VNDA	**Vanda**	**93.09**	**168**	P	**P**	**11 23 39.8**	**+1.2**
	comp=Z,0.7nm,0.5s,mb4.3,baz=298,slow=3.8,SNR=4.7						
SBA	**Scott Base**	**94.19**	**168**	*e*P	**P**	**11 23 44.1**	**+0.5**
	comp=Z,17nm,1.8s,mb5.2						
SBA	**Scott Base**	**94.19**	**168**	*e*P	**P**	**11 23 44.1**	**+0.5**
SBA				pmax	pmax		
	comp=Z,17nm,1.8s,mb5.2						
ILAR	**Eielson Array**	**95.69**	**22**	P	**P**	**11 23 50.3**	**-0.4**
	comp=Z,0.5nm,0.7s,mb4.1,baz=314,slow=5.1,SNR=6.9						
ILAR				PP	PP	11 27 47.9	+3.4
	comp=Z,0.4nm,0.8s,baz=292,slow=6.5,SNR=6.2						
LAO	**LASA Array**	**123.49**	**15**	PKPdf	PKPdf	11 29 24.3	-2.6
HLID	**Hailey**	**123.62**	**23**	*e*PKPdf	PKPdf	11 29 24.7	-2.5
ELK	**Elko**	**125.64**	**26**	*e*PKPdf	PKPdf	11 29 28.8	-2.4
PDAR	**Pinedale Array**	**126.07**	**20**	PKP	PKPdf	11 29 28.4	-3.6
	comp=Z,2.4nm,0.9s,slow=3.0,SNR=14						
DUG	**Dugway**	**127.11**	**24**	*e*PKPdf	PKPdf	11 29 31.2	-2.8
MSU	**Marysvale**	**128.80**	**25**	*e*PKPdf	PKPdf	11 29 35.7	-1.7
NEN	**Nelson**	**129.99**	**29**	PKPdf	PKPdf	11 29 37.2	-2.5
TXAR	**Lajitas Array**	**140.20**	**22**	PKP	PKPdf	11 29 56.1	-2.7
	comp=Z,0.7nm,0.5s,baz=8.2,slow=0.6,SNR=9.7						
CPUP	**Villa Florida**	**145.57**	**234**	PKPbc	PKPbc	11 30 05.2	+1.6
	comp=Z,16nm,1.1s,baz=113,slow=5.5,SNR=12						
LPAZ	**La Paz**	**158.92**	**244**	PKP	PKPdf	11 30 25.4	-2.5
	comp=Z,1.7nm,1.0s,baz=48,slow=6.2,SNR=6.3						
LPAZ				PKPab	PKPab	11 31 02.3	+1.1
	comp=Z,5.7nm,0.9s,baz=96,slow=3.3,SNR=16						
LPAZ	**La Paz**	**158.92**	**244**	PKIKP	PKPdf	11 30 26.1	-1.8

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*BJI **06** 11:11:48.1, 0.54S×97.77E, h36km, mB5.6, mb5.1, Ms5.7, Msz5.3*

*MOS **06** 11:11:52.1±0.9, 0.10N×97.66E, h33km, mb5.4/24, Error ellipse: s-maj=12.3km s-min=6.6km az=110.5*

*NEIC **06** 11:11:53.1±0.2, 0.05N×97.61E, mb5.2/31, Error ellipse: s-maj=5.7km s-min=4.8km az=50.0*

*HRVD **06** 11:11:53.1±0.4, 0.04S×97.54E, h12km, MW5.2/51, Centroid moment Tensor Solution. LP body waves: s10,c11; Mantle waves: s51,c101; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.84±.25;*

Mθθ-0.51±.19; Mφφ-2.34±.24; Mrθ4.62±.65; Mθφ5.71±.15; Mφr0.77±.63; Best double couple: M₀7.838×10¹⁶ NP1: φs357°,δ50°,λ158°. NP2:φs102°,δ73°,λ42°. Principal axes: T 7.847, Plg41°, Azm327°; N -.024, Plg46°, Azm119°; P -7.829, Plg14°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*IDC **06** 11:11:54.5±8.1, 0.06N×97.60E, h38km±69km, mb4.7/25, mb1 4.7/25, mb1mx4.7/26, mbtmp4.9/25, MS5.3/2, Ms1 5.3/2, ms1mx4.7/24 Error ellipse: s-maj=16.5km s-min=11.5km az=52.0*

ISC 06 11:11:51.4±0.3**, 0.03N**±0.04×**97.71E**±0.04**, h28**km**, h28**km±1.3km**:pP-P, n185,** σ0.91/166**, mb5.1**/74**, MS5.4**/7**, 11C-14D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.00	29	ePn	Pn	11 13 20.5	-0.2
PALK	Pallekele	18.42	293	P	P	11 16 07.8	+1.0
KKM	Kota Kinabalu	19.42	72	eP	P	11 16 19.3	+0.7
CHRT	Chiangrai	19.82	6	⇑P	P	11 16 34.0	+11
	184nm,0.8s						
QIZ	Qiongzhong	22.32	32	eP	P	11 16 49.8	+1.3
QIZ				epP		11 16 57.6	
QIZ				esP		11 17 02.1	
KMI	Kunming	25.42	11	P	P	11 17 20.2	+1.7
KMI				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.5						
KMI	Kunming	25.42	11	P	P	11 17 20.2	+1.7
	comp=Z,26nm,1.5s,mb4.5						
GYA	Guiyang	27.66	18	⇓iP	P	11 17 38.3	-0.8
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
PKI	Pulchoki	29.82	338	eP	P	11 18 00.5	+1.9
	comp=Z,80nm,1.1s,mb5.4						
DMN	Daman	29.97	337	eP	P	11 18 00.0	+0.1
	comp=Z,48nm,0.8s,mb5.3						
KKN	Kakani	30.07	338	eP	P	11 18 02.6	+1.9
	comp=Z,48nm,0.8s,mb5.3						
MBWA	Marble Bar	30.11	136	eP	P	11 18 01.4	+0.2
	comp=Z,16nm,0.9s,mb4.8						
LSA	Lhasa	30.16	349	eP	P	11 18 02.6	+1.1
	comp=Z,23nm,0.7s,mb5.0						
LSA	Lhasa	30.16	349	eP	P	11 18 02.7	+1.2
LSA				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.0						
GKN	Gorkha	30.51	337	eP	P	11 18 04.1	-0.5
	comp=Z,49nm,0.8s,mb5.4						
KOLN	Koldanda	30.72	335	eP	P	11 18 06.3	-0.2
	comp=Z,67nm,0.7s,mb5.6						
ENH	Enshi	32.10	19	⇓iP	P	11 18 18.1	-0.5
	comp=Z,67nm,0.7s,mb5.6						
FITZ	Fitzroy Crossi	32.84	125	P	P	11 18 25.0	-0.2
	comp=Z,71nm,0.9s,mb5.6,baz=304,slow=3.4,SNR=14						
FITZ	Fitzroy Crossi	32.84	125	P	P	11 18 25.0	-0.2
WHN	Wuhan	34.22	26	⇓P	P	11 18 37.7	+0.7
XAN	Xi'an	35.43	16	P	P	11 18 46.7	-0.6
XAN				AMB	AMB		
	comp=Z,115nm,0.8s,mb5.9						
LZH	Lanzhou	36.33	8	eP	P	11 18 54.5	-0.3
LZH				AP	pP	11 19 02.0	-1.3
LZH				XP	sP	11 19 09.0	+2.1
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.3						
LZH	Lanzhou	36.33	8	eP	P	11 18 54.5	-0.3
	comp=Z,56nm,1.5s,mb5.3						
LZH				pP	pP	11 19 02.0	-1.3
LZH				sP	sP	11 19 09.0	+2.1
GTA	Gaotai	39.24	3	eP	P	11 19 19.9	+0.6
GTA				AP	pP	11 19 29.4	+1.7
GTA				XP	sP	11 19 33.3	+2.0
GTA				PP	PP	11 20 54.2	+1.0
GTA				PCP	PcP	11 21 29.0	+0.5
GTA				S	S	11 25 16.1	-1.5
GTA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,1μm,6.1s						
GTA				LR	LR		
	comp=N,4μm,16.4s						
GTA				LR	LR		
	comp=E,4μm,10.7s						
GTA				LR	LR		
	comp=Z,3μm,16.8s,MS5.2						
TIA	Tai'an	40.27	25	eP	P	11 19 27.8	0.0
WRA	Warramunga Arr	41.00	121	P	P	11 19 34.3	+0.4
	comp=Z,17nm,0.5s,mb4.9,baz=302,slow=9.1,SNR=28						
WRA				S	S	11 25 42.5	-1.6
	comp=Z,2.1nm,1.1s,baz=294,slow=14,SNR=3.7						
HHC	Hu-ho-hao-te	42.53	16	⇑P	P	11 19 47.8	+1.4
HHC				AP	pP	11 19 57.7	+2.8
HHC				XP	sP	11 20 01.6	+3.2
HHC				PP	PP	11 21 29.5	+1.8
HHC				PCP	PcP	11 21 40.2	+1.0
HHC				S	S	11 26 07.8	+1.2
HHC				XS		11 26 23.8	
HHC				SS	SS	11 29 12.3	+1.5
HHC				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.9						
HHC				AMB	AMB		
	comp=Z,757nm,10.9s						
HHC				LR	LR		
	comp=N,4μm,19.7s,MS5.6						
HHC				LR	LR		
	comp=E,6μm,16.7s,MS5.6						
HHC				LR	LR		
	comp=Z,3μm,14.3s,MS5.3						
WMQ	Urumqi	44.51	350	⇑iP	P	11 20 03.1	+0.8
WMQ				AMB	AMB		
	comp=Z,32nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,209nm,5.1s						
SMDO	Samad	44.82	304	P	P	11 20 06.0	+0.8
	SNR=6.1						
BIDO	Bidbid	44.95	304	P	P	11 20 07.3	+1.1
	SNR=6.9						
JNU	Nakatsue	45.36	40	LR	LR	11 39 32.6	
	comp=Z,4μm,19.7s,MS5.4,baz=257,slow=36						
BSY	Bisya	45.40	303	P	P	11 20 10.7	+1.0
	SNR=5.6						
HOQ	Hoqain	45.66	304	⇓P	P	11 20 13.3	+1.5
RBK	Rabkut	46.18	294	⇓P	P	11 20 15.6	-0.4
ULHL	Ulahol	46.26	338	P	P	11 20 16.6	+0.3
	SNR=5.8						
KS15	Wonju Array Si	46.50	33	eP	P	11 20 18.7	+0.5
WHFO	Wadi Hawf	46.70	295	P	P	11 20 20.3	+0.2
	SNR=5.8						
UCH	Uchtor	46.92	336	P	P	11 20 22.9	+1.4
	SNR=17						
ABTO	Aybut	46.97	294	⇑P	P	11 20 22.6	+0.4
TKM2	Tokmak 2	47.08	338	P	P	11 20 23.9	+1.1
	SNR=19						
KBK	Karagaybulak	47.11	337	P	P	11 20 24.3	+1.3
	SNR=8.1						
AML	Almayashu	47.17	336	P	P	11 20 24.9	+1.4
	SNR=8.2						
AAK	Ala-Archa	47.27	337	P	P	11 20 24.9	+0.7
	SNR=6.0						
AAK	Ala-Archa	47.27	337	eP	P	11 20 23.8	-0.5
	comp=Z,12nm,0.6s,mb5.0						
AAK	Ala-Archa	47.27	337	eP	P	11 20 23.8	-0.4
AAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
CHMS	Chumysh	47.47	337	P	P	11 20 26.4	+0.5
	SNR=9.4						
EKS2	Erkin-Say	47.58	336	P	P	11 20 27.4	+0.7
	SNR=18						
USP	Ospenovka	47.80	337	P	P	11 20 28.6	+0.2
	SNR=32						
SONM	Songino Array	48.21	8	P	P	11 20 32.3	+0.8
	comp=Z,14nm,0.8s,mb5.0,baz=190,slow=9.7,SNR=19						
ULN	Ulaanbaatar	48.33	8	eP	P	11 20 32.8	+0.4
	comp=Z,20nm,1.1s,mb5.0						
ULN				epP	pP	11 20 41.2	+0.1
MKAR	Makanchi Array	48.49	346	P	P	11 20 33.8	+0.1
	comp=Z,59nm,0.6s,mb5.8,baz=159,slow=7.6,SNR=95						
PMG	Port Moresby	50.11	102	P	P	11 20 47.0	+0.4
	comp=Z,43nm,0.8s,mb5.5,baz=293,slow=6.2,SNR=11						
PMG	Port Moresby	50.11	102	eP	P	11 20 46.3	-0.3
	comp=Z,44nm,0.8s,mb5.5						
PMG	Port Moresby	50.11	102	eP	P	11 20 46.3	-0.3
PMG				pmax	pmax		
	comp=Z,44nm,0.8s						
CN2	Changchun	50.12	26	eP	P	11 20 44.8	-1.5
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
ZAK	Zakamensk	50.39	5	eP	P	11 20 48.3	+0.1
ZAK				e		11 22 06.7	
CTA	Charters Tower	51.54	116	P	P	11 20 57.6	+0.2
	comp=Z,12nm,0.8s,mb4.9,baz=289,slow=9.9,SNR=13						
CTAO	Charters Tower	51.54	116	⇓iP	P	11 20 57.7	+0.4
	comp=Z,16nm,0.8s,mb5.0						
CTAO	Charters Tower	51.54	116	⇓iP	P	11 20 57.7	+0.4
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
STKA	Stephens Creek	52.20	132	P	P	11 21 03.1	+0.8
	comp=Z,16nm,0.8s,mb5.0,baz=300,slow=4.9,SNR=20						
STKA	Stephens Creek	52.20	132	P	P	11 21 01.5	-0.8
MJAR	Matsushiro Arr	52.22	41	P	P	11 21 02.0	-0.3
	comp=Z,3.6nm,0.8s,mb4.4,baz=224,slow=5.3,SNR=7.3						
HIA	Hailar	52.58	18	eP	P	11 21 04.6	-0.2
	comp=Z,11nm,0.8s,mb4.8						
HIA				esP	sP	11 21 28.8	+12
HIA	Hailar	52.58	18	eP	P	11 21 04.6	-0.3
HIA				pmax	pmax		
	comp=Z,11nm,0.8s						
OPO	Ambohidratompo	52.92	247	P	P	11 21 07.6	-0.2
	comp=Z,9.3nm,0.9s,mb4.7,baz=78,slow=7.0,SNR=9.0						
KURK	Kurchatov	53.05	345	eP	P	11 21 08.1	-0.2
	comp=Z,38nm,0.8s,mb5.4						
KURK	Kurchatov	53.05	345	eP	P	11 21 08.1	-0.2
KURK				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.4						
ZAL	Zalesovo	54.78	351	P	P	11 21 20.9	0.0
	comp=Z,36nm,0.7s,mb5.5,baz=304,slow=6.4,SNR=59						
RDF	Al-Radifah	55.81	306	eP	P	11 21 28.6	-0.2
RDF				AMb	AMB	11 21 29.6	
	comp=Z,113nm,0.8s,mb6.0						
NVS	Novosibirsk	55.91	350	⇓iP	P	11 21 27.3	-1.8
NVS				eS	S	11 29 15.0	+1.9
NVS				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.4						
NVS				smax			
	comp=E,30nm,2.0s						
UMR	Umm Al-Rimmam	55.91	306	eP	P	11 21 28.6	-0.9
UMR				AMb	AMB	11 21 29.6	
	comp=Z,102nm,0.7s,mb6.0						
MIB	Mutribah	56.31	306	eP	P	11 21 32.5	+0.1
MIB				AMb	AMB	11 21 33.3	
	comp=Z,219nm,0.9s,mb6.2						
KLR	Kul'dur	57.07	26	eP	P	11 21 35.1	-2.4
BVAR	Borovoye Array	57.51	341	P	P	11 21 39.0	-1.6
	comp=Z,9.1nm,0.7s,mb4.9,baz=143,slow=7.4,SNR=17						
BRVK	Borovoye	57.58	341	⇑iP	P	11 21 39.3	-1.7
BOD	Bodaibo	59.06	10	eP	P	11 21 51.0	-0.3
BOD				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
ASAJ	Asahikawa	59.29	36	P	P	11 21 53.5	+0.3
	comp=Z,7.6nm,0.7s,mb4.8,baz=261,slow=8.4,SNR=7.1						
BHD	Baghdad	59.96	309	ex	x	11 21 53.0	
KMBO	Kilima Mbogo	60.46	269	P	P	11 22 01.6	+0.1
	comp=Z,7.1nm,0.8s,mb4.8,baz=59,slow=9.6,SNR=14						
YSS	Yuzh-Sakhalins	61.03	34	eP	P	11 22 05.2	+0.3
	comp=Z,35nm,0.8s,mb5.5						
YSS	Yuzh-Sakhalins	61.03	34	⇑eP	P	11 22 04.7	-0.2
YSS				e	pP	11 22 14.0	+0.2
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.7						
MSL	Mosul	62.09	312	ex	x	11 22 27.0	
GNI	Garni	62.48	316	P	P	11 22 14.1	-0.8
	comp=Z,2.6nm,0.3s,mb4.8,baz=178,slow=18,SNR=4.3						
GNI	Garni	62.48	316	c iP	P	11 22 13.9	-0.9
GNI				pmax	pmax		
	comp=Z,28nm,1.8s						
SVE	Sverdlovsk	63.95	338	eP	P	11 22 23.4	-0.9
SVE				pmax	pmax		
	comp=Z,50nm,2.3s,mb5.1						
SVE				MLR	MLR		
	comp=N,1μm,14.0s,MS5.3						
SVE				MLR	MLR		
	comp=E,1μm,14.0s,MS5.3						
SVE				MLR	MLR		
	comp=Z,3μm,14.0s,MS5.6						
ZEI	Tsey	64.20	319	eP	P	11 22 22.0	-4.1
ZEI				i *PP	pP	11 22 32.6	-2.4
ZEI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
ARU	Arti	64.45	337	i P	P	11 22 25.4	-2.1
KIV	Kislovodsk	65.52	319	i P	P	11 22 33.8	-0.8
ASF	Jabal al Asfar	65.55	306	P	P	11 22 33.6	-1.4
	comp=Z,10nm,0.8s,mb4.9,baz=317,slow=2.6,SNR=9.3						
MALT	Malatya	66.28	312	⇑iP	P	11 22 39.2	-0.4
	comp=Z,40nm,1.4s,mb5.3						
MALT	Malatya	66.28	312	⇑iP	P	11 22 39.2	-0.4
MALT				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.3						
YAK	Yakutsk	66.40	16	⇓iP	P	11 22 39.2	-0.7
	comp=Z,48nm,0.8s,mb5.6						
YAK	Yakutsk	66.40	16	⇓iP	P	11 22 39.2	-0.7
YAK				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.6						
CASY	Casey	66.80	174	eP	P	11 22 42.5	+0.1
	comp=Z,23nm,1.3s,mb5.0						
SOC	Sochi	67.32	318	eP	P	11 22 41.4	-4.7
SOC				e		11 23 07.2	
SOC				ePPP	PPP	11 26 47.9	-5.3
SOC				eS	S	11 31 36.0	-2.0
SOC				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.5						
SOC				pmax	pmax		
	comp=N,57nm,1.2s						
SOC				pmax	pmax		
	comp=E,23nm,0.9s						
ANN	Anapa	69.30	319	eP	P	11 22 54.7	-3.7
ANN				eS	S	11 31 55.7	-5.9
ANN				pmax	pmax		
	comp=Z,87nm,2.1s,mb5.3						
ANN				MLR	MLR		
	comp=N,2μm,18.0s,MS5.5						
ANN				MLR	MLR		
	comp=E,970nm,18.0s,MS5.5						
ANN				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.2						
BR131	Keskin Array S	70.27	313	⇓iP	P	11 23 03.1	-1.3
	comp=Z,5.5nm,0.7s,mb4.6						
BRTR	Keskin Array B	70.27	313	P	P	11 23 02.5	-1.8
	comp=Z,7.0nm,0.7s,mb4.7,baz=131,slow=7.2,SNR=22						
VOR	Voronezh	71.02	326	eP	P	11 23 06.5	-2.2
VOR				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.2						
SIM	Simferopol'	71.56	318	d iP	P	11 23 11.6	-0.5
SIM				eS	S	11 32 26.6	-1.4
SIM				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.3						
MAW	Mawson	71.70	193	P	P	11 23 12.9	+0.4
	comp=Z,5.4nm,0.8s,mb4.5,baz=2.9,slow=5.8,SNR=3.8						
MA2	Magadan	72.16	25	eP	P	11 23 15.5	+0.1
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
PET	Petropavlovsk	72.92	34	⇓iP	P	11 23 20.6	+0.6
	comp=Z,25nm,0.7s,mb5.2						
PET	Petropavlovsk	72.92	34	⇓iP	P	11 23 20.3	+0.3
PET				pmax	pmax		
	comp=Z,79nm,0.8s,mb5.7						
PET				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.4						
MOS	Moscow	73.59	329	eP	P	11 23 21.1	-2.7
LBTB	Lobatse	73.83	244	eP	P	11 23 25.9	0.0
OBN	Obninsk	73.87	328	i P	P	11 23 24.3	-1.2
TIXI	Tiksi	74.24	10	i P	P	11 23 26.2	-1.1
SEY	Seymchan	74.64	23	i P	P	11 23 29.7	0.0
BOSA	Boshof	74.64	240	P	P	11 23 29.8	-0.7
	comp=Z,2.8nm,0.7s,mb4.3,baz=96,slow=7.0,SNR=4.7						
BOSA				LR	LR	11 50 21.9	
	comp=Z,2μm,18.8s,MS5.4,baz=67,slow=31						
IDI	Anoyia	76.00	306	P	P	11 23 37.4	-0.7
	comp=Z,23nm,0.7s,mb5.2,baz=119,slow=9.3,SNR=10.0						
AKASG	Malin Array Be	76.49	323	P	P	11 23 39.1	-1.5
	comp=Z,16nm,0.7s,mb5.0,baz=89,slow=4.7,SNR=47						
GVD	Gavdhos	76.57	306	P	P	11 23 42.5	+1.1
	comp=Z,98nm,0.8s,mb5.8						
JOF	Joensuu	79.41	335	ep	P	11 23 55.3	-1.1
	comp=Z,7.5nm,0.8s,mb4.7						
KOLS	Kolonicke sedl	80.43	320	eP	P	11 24 03.0	+0.9
CRVS	Cervenica-Dubn	80.95	320	eP	P	11 24 05.1	+0.3
DIVS	Divcibare	81.16	315	⇑iP	P	11 24 05.8	-0.2
STHS	Stebnicka Huta	81.18	320	eP	P	11 24 07.0	+1.0
FINES	FINESS Array B	81.26	333	P	P	11 24 05.7	-0.5
	comp=Z,6.3nm,0.7s,mb4.7,baz=104,slow=7.9,SNR=20						
KAF	Kangasniemi	81.35	333	ep	P	11 24 05.6	-1.0
	comp=Z,15nm,0.7s,mb5.0,baz=102,slow=4.9						
KAF	Kangasniemi	81.35	333	eP	P	11 24 05.6	-1.0
KAF				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
KECS	Kecovo	81.51	319	eP	P	11 24 07.7	-0.1
PSZ	Piszkesteto	81.81	318	eP	P	11 24 09.2	-0.2
	comp=Z,22nm,1.3s,mb4.9						
PSZ				ePcP	PcP	11 24 14.2	-1.3
PSZ				ePcP	PcP	11 24 15.2	-0.3
OJC	Ojcow	82.24	321	eP	P	11 24 11.7	+0.2
VYHS	Vyhne	82.60	319	eP	P	11 24 12.1	-1.3
TIP	Timpagrande	82.96	309	eP	P	11 24 14.8	-0.7
OKC	Ostrava-Krasne	83.24	320	eP	P	11 24 16.8	+0.1
KEV	Kevo	83.36	341	ep	P	11 24 15.7	-1.3
	comp=Z,19nm,1.0s,mb5.1						
KEV	Kevo	83.36	341	eP	P	11 24 15.7	-1.3
KEV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
MORC	Moravsky Berou	83.62	320	eP	P	11 24 19.1	+0.5
	comp=Z,6.4nm,0.8s,mb4.8						
ZST	Bratislava	83.71	318	eP	P	11 24 18.7	-0.4
ARCES	ARCESS Array B	83.80	340	P	P	11 24 19.4	+0.3
	comp=Z,7.7nm,0.7s,mb4.9,baz=103,slow=5.4,SNR=14						
DPC	Dobruska-Polom	84.47	320	eP	P	11 24 23.2	+0.3
VNDA	Vanda	84.59	169	P	P	11 24 23.8	+0.8
	comp=Z,3.1nm,1.0s,mb4.4,baz=276,slow=5.1,SNR=7.4						
VNDA	Vanda	84.59	169	eP	P	11 24 23.6	+0.7
	comp=Z,7.5nm,1.1s,mb4.7						
UPC	Upice	84.68	321	eP	P	11 24 24.3	+0.3
LJU	Ljubljana	85.23	316	eP	P	11 24 27.3	+0.5
PRU	Pruhonice	85.57	320	eP	P	11 24 28.4	0.0
PVCC	Panska Ves	85.60	321	eP	P	11 24 28.9	+0.3
SBA	Scott Base	85.69	169	eP	P	11 24 30.4	+2.0
	comp=Z,56nm,1.9s,mb5.5						
SBA	Scott Base	85.69	169	eP	P	11 24 30.4	+2.0
SBA				pmax	pmax		
	comp=Z,56nm,1.9s,mb5.5						
GERES	GERESS Array B	86.02	319	P	P	11 24 30.5	-0.2
	comp=Z,5.6nm,0.8s,mb4.8,baz=108,slow=4.2,SNR=17						
BRG	Berggiesshubel	86.03	321	i P	P	11 24 31.4	+0.7
	comp=Z,9.6nm,0.7s,mb5.1						
BRG	Berggiesshubel	86.03	321	i P	P	11 24 31.3	+0.6
BRG				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.2						
KHC	Kasperske Hory	86.12	319	eP	P	11 24 30.9	-0.3
CLL	Collm	86.65	321	P	P	11 24 34.0	+0.3
CLL				e		11 24 53.0	
CLL	Collm	86.65	321	eP	P	11 24 34.0	+0.3
MOX	Moxa	87.49	321	i P	P	11 24 38.1	+0.3
MOX	Moxa	87.49	321	eP	P	11 24 38.1	+0.3
GRA1	Grafenberg Arr	87.69	320	eP	P	11 24 39.1	+0.3
	comp=Z,31nm,1.3s,mb5.4						
GRF	Grafenberg Arr	87.69	320	eP	P	11 24 39.1	+0.3
	comp=Z,31nm,1.3s,mb5.4						
GRF	Grafenberg Arr	87.69	320	eP	P	11 24 39.1	+0.3
GRF				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.4						
NB2	NORSAR Subarra	88.27	331	P	P	11 24 40.9	-0.4
	comp=Z,5.9nm,0.8s,mb4.9,baz=96,slow=4.6						
NB2	NORSAR Subarra	88.27	331	P	P	11 24 40.9	-0.4
NB2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
NOA	NORSAR Array B	88.27	331	P	P	11 24 41.3	0.0
	comp=Z,4.8nm,0.8s,mb4.8,baz=96,slow=4.7,SNR=12						
NAO01	NORSAR Array S	88.42	331	eP	P	11 24 41.9	-0.1
	comp=Z,8.9nm,0.9s,mb5.0						
KONO	Kongsberg	89.01	329	eP	P	11 24 45.0	+0.1
QSPA	South Pole Qui	89.98	180	eP	P	11 24 50.5	+1.5
	comp=Z,11nm,1.1s,mb5.1						
LPG	La Plagne	90.65	315	eP	P	11 24 52.9	0.0
	comp=Z,27nm,0.8s,mb5.3						
VNA2	Neumayer--Watz	94.94	199	e	P	11 25 16.3	+4.3
VNA2	Neumayer--Watz	94.94	199	⇑iP	P	11 25 07.5	-4.5
VNA2				e	pP	11 25 16.3	-4.8
VNA1	Neumayer--Stat	95.29	199	e	P	11 25 17.8	+4.2
VNA1	Neumayer--Stat	95.29	199	P	P	11 25 10.1	-3.5
VNA1				e	pP	11 25 17.8	-4.9
VNA3	Neumayer Olymp	95.57	198	e	P	11 25 19.1	+4.2
VNA3	Neumayer Olymp	95.57	198	P	P	11 25 11.5	-3.4
VNA3				e	pP	11 25 19.1	-4.9
ILAR	Eielson Array	100.57	23	PP	PP	11 29 51.5	+4.1
	comp=Z,0.3nm,0.9s,baz=287,slow=5.9,SNR=4.3						
HAWA	Hanford	123.41	30	ePKPdf	PKPdf	11 30 47.9	-3.3
WVOR	Wild Horse Val	126.58	33	ePKPdf	PKPdf	11 30 55.1	-2.4
LAO	LASA Array	128.97	21	ePKPdf	PKPdf	11 31 00.2	-1.8
NVAR	Mina Array Bea	129.42	37	PKP	PKPdf	11 31 01.2	-1.9
	comp=Z,2.0nm,0.7s,baz=252,slow=2.9,SNR=5.8						
PDAR	Pinedale Array	130.86	26	PKP	PKPdf	11 31 02.5	-3.1
	comp=Z,1.3nm,0.8s,baz=178,slow=1.7,SNR=6.0						
TMUT	Trail Mountain	132.76	31	ePKPdf	PKPdf	11 31 07.8	-1.6
MSU	Marysvale	132.84	32	ePKPdf	PKPdf	11 31 08.0	-1.6
NEN	Nelson	133.33	37	ePKPdf	PKPdf	11 31 08.9	-1.7
WMOK	Wichita Mounta	142.13	22	ePKPpre		11 31 17.9	
BDFB	Brasilia	142.77	244	PKhKP		11 31 21.7	
	comp=Z,1.8nm,0.3s,baz=210,slow=2.8,SNR=3.4						
LTX	Lajitas	144.38	33	ePKPdf	PKPdf	11 31 26.6	-4.0
TXAR	Lajitas Array	144.38	33	PKP	PKPdf	11 31 26.9	-3.7
	comp=Z,5.3nm,0.6s,baz=238,slow=1.0,SNR=46						
CPUP	Villa Florida	144.47	221	PKP	PKPdf	11 31 26.4	-4.5
	comp=Z,54nm,0.8s,baz=140,slow=3.9,SNR=48						
CPUP	Villa Florida	144.47	221	ePKPdf	PKPdf	11 31 26.4	-4.5
PLAL	Pickwick Lake	144.75	8	ePKP	PKPdf	11 31 25.6	-5.5
SWET	Sewanee	144.77	5	ePKPpre		11 31 24.7	
MDZ	Mendoza	144.95	200	eP	PKPbc	11 31 29.2	+2.5
NATX	Nacogdoches	146.28	19	PKPdf	PKPdf	11 31 31.8	-2.1
LPAZ	La Paz	158.64	220	PKPab	PKPab	11 32 25.9	+1.0
	comp=Z,2.0nm,0.7s,baz=85,slow=8.0,SNR=3.9						

IDC 06 11:19:18.9±1.5**, 0.29S**×**97.26E, mb4.1**/7**, mb1 4.2**/7**, mb1mx3.9**/18**, mbtmp4.1**/7**, Error ellipse: s-maj=66.0km s-min=24.8km az=53.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.49	31	eSg	Sg	11 22 50.5	-4.6
WRA	Warramunga Arr	41.21	121	P	P	11 27 05.6	-1.7
	1.6nm,0.6s,baz=302,slow=9.1,SNR=11						
SONM	Songino Array	48.59	8	P	P	11 28 03.9	-2.2
	2.1nm,0.9s,baz=190,slow=9.0,SNR=9.1						
MKAR	Makanchi Array	48.69	346	P	P	11 28 05.6	-1.3
	5.4nm,0.7s,baz=159,slow=9.1,SNR=39						
ZAL	Zalesovo	55.02	351	P	P	11 28 52.8	-1.7
	2.9nm,0.4s,baz=278,slow=6.6,SNR=11						
BVAR	Borovoye Array	57.67	341	P	P	11 29 09.8	-3.6
	0.9nm,0.8s,baz=135,slow=8.4,SNR=4.4						
AKASG	Malin Array Be	76.47	323	P	P	11 31 10.8	-1.6
	0.4nm,0.4s,baz=90,slow=4.6,SNR=4.3						
FINES	FINESS Array B	81.34	333	P	P	11 31 36.4	-2.1
	0.5nm,0.6s,baz=104,slow=12,SNR=3.1						
CPUP	Villa Florida	143.94	221	PKP	PKPdf	11 38 58.0	-0.9
	3.9nm,0.9s,baz=128,slow=12,SNR=7.1						

NEIC 06 11:35:30.6, 36.39N×**118.03W, h5**km**, MD3.5**(NCEDC)**, After NCEDC., Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAC	Darwin (Calif)	0.37	108	eP	Pg	11 35 37.6	-0.4
MTUM	Tungsten Hills	1.05	336	eP	Pb	11 35 49.8	-1.1
GSC	Goldstone	1.47	137	eP	Pn	11 35 57.5	-0.5
TPH	Tonopah	1.80	21	eP	Pn	11 36 02.8	+0.2
PTRM	Twissleman Ran	1.92	248	eP	Pn	11 36 04.2	0.0
MWC	Mount Wilson	2.16	181	ePn	Pn	11 36 07.1	-0.7
LRV	Little Rabbit	2.41	272	ePn	Pn	11 36 11.2	-0.2
CMB	Columbia Colle	2.50	312	ePn	Pn	11 36 11.6	-0.9
NEN	Nelson	2.69	105	ePn	Pn	11 36 14.1	-1.2
LDFC	Landfair	2.71	118	ePn	Pn	11 36 13.7	-2.0
SAO	San Andreas Ge	2.78	279	ePn	Pn	11 36 15.4	-1.2
PFO	Pinyon Flat Ob	3.06	155	ePn	Pn	11 36 19.4	-1.3
BAR	Barrett	3.87	163	ePn	Pn	11 36 30.7	-1.4
ARUT	Antelope Range	3.92	68	ePn	Pn	11 36 31.3	-1.6
BEKR	Beckwourth	3.92	333	Pn	Pn	11 36 31.9	-1.0
OHCM	Honcut	4.01	318	Pn	Pn	11 36 32.7	-1.4
BMN	Battle Mountai	4.08	9	ePn	Pn	11 36 32.2	-3.0
NSHM	Saint Helena R	4.22	302	Pn	Pn	11 36 35.6	-1.4
ELK	Elko	4.87	26	ePn	Pn	11 36 45.1	-1.1
MSU	Marysvale	5.11	64	Pn	Pn	11 36 48.2	-1.6
DUG	Dugway	5.59	46	ePn	Pn	11 36 52.8	-3.7
MOD	Modoc	5.78	343	Pn	Pn	11 36 58.1	-1.0
SRU	San Rafael	6.54	63	Pn	Pn	11 37 07.2	-2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HVU	**Hansel Valley**	**6.75**	**36**	Pn	Pn	11 37 10.1	-2.8

*NEIC **06** 11:56:14.9±1.9, 23.66S×177.28W, h103^{km}±16^{km}, mb4.9/5, Error ellipse: s-maj=21.8km s-min=10.3km az=141.0*
*IDC **06** 11:56:16.4±3.6, 23.67S×177.27W, h119^{km}±31^{km}, mb3.9/10, mb1 4.2/12, mb1mx4.1/18, mbtmp4.4/12, Error ellipse: s-maj=32.7km s-min=14.8km az=148.0*
ISC 06 11:56:13.3±2.2**, 23.6S**±0.1×**177.4W**±0.1**, h98**^{km}±20^{km}**, n35,** σ**0^{s}71**/25**, mb4.2**/12**, 3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.03**	**30**	P	**P**	**11 58 48.9**	**-0.4**
	12nm,0.3s,baz=257,slow=23,SNR=55						
AFI				S	**S**	**12 00 41.7**	**-9.5**
	5.1nm,0.3s,baz=36,slow=19,SNR=5.1						
AFI	**Afiamalu**	**11.03**	**30**	*e*P	**P**	**11 58 48.9**	**-0.4**
	66nm,0.6s						
AFI				*e*S	**S**	**12 00 42.0**	**-9.1**
DZM	**Mont Dzumac**	**14.97**	**273**	P	**P**	**11 59 50.8**	**+10**
	0.8nm,0.3s,baz=78,slow=17,SNR=12						
URZ	**Urewera**	**15.33**	**197**	P	**P**	**11 59 45.5**	**+0.2**
	3.9nm,0.3s,baz=297,slow=1.7,SNR=23						
URZ				S	**S**	**12 02 20.4**	**-12**
	0.7nm,0.3s,baz=94,slow=22,SNR=7.3						
CTA	**Charters Tower**	**33.86**	**269**	*e*P	**P**	**12 02 50.3**	**+1.8**
	6.5nm,0.4s,mb4.8						
CTA	**Charters Tower**	**33.86**	**269**	P	**P**	**12 02 50.3**	**+1.8**
	12nm,0.6s,mb4.9,baz=99,slow=11,SNR=24						
CTAO	**Charters Tower**	**33.86**	**269**	*e*P	**P**	**12 02 50.1**	**+1.5**
	9.8nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**37.03**	**248**	P	**P**	**12 03 15.7**	**+0.3**
	1.5nm,0.5s,mb4.2,baz=301,slow=22,SNR=5.9						
WB2	**Warramunga Arr**	**44.79**	**265**	*e*P	**P**	**12 04 18.8**	**-0.4**
WRA	**Warramunga Arr**	**44.80**	**265**	P	**P**	**12 04 18.8**	**-0.4**
	2.8nm,0.4s,mb4.4,baz=93,slow=8.4,SNR=120						
WRA				S	**S**	**12 10 41.3**	**-7.0**
	1.1nm,1.0s,baz=96,slow=14,SNR=3.6						
FITZ	**Fitzroy Crossi**	**53.23**	**265**	P	**P**	**12 05 23.9**	**-0.2**
	3.7nm,0.4s,mb4.7,baz=88,slow=3.2,SNR=14						
MBWA	**Marble Bar**	**57.77**	**259**	*e*P	**P**	**12 05 56.1**	**-0.5**
	42nm,1.4s,mb5.3						
MAW	**Mawson**	**78.83**	**200**	P	**P**	**12 08 05.4**	**-1.1**
	0.9nm,0.6s,mb3.8,baz=94,slow=7.2,SNR=5.0						
NVAR	**Mina Array Bea**	**82.91**	**43**	P	**P**	**12 08 29.0**	**+0.5**
	1.6nm,0.8s,mb3.9,baz=225,slow=7.7,SNR=7.5						
MOD	**Modoc**	**83.86**	**39**	*e*P	**P**	**12 08 33.4**	**+0.1**
	3.3nm,1.1s,mb4.1						
TXAR	**Lajitas Array**	**88.27**	**57**	P	**P**	**12 08 55.2**	**+0.1**
	0.6nm,0.9s,mb3.6,baz=217,slow=6.3,SNR=5.9						
ANMO	**Albuquerque**	**88.92**	**51**	P	**P**	**12 08 58.9**	**+0.8**
	0.5nm,0.4s,mb3.9,baz=235,slow=7.0,SNR=3.3						
MCMT	**McKenzie Canyo**	**89.97**	**40**	*e*P	**P**	**12 09 03.4**	**+0.7**
QLMT	**Earthquake Lak**	**90.81**	**41**	*e*P	**P**	**12 09 07.2**	**+0.5**
PDAR	**Pinedale Array**	**90.85**	**43**	P	**P**	**12 09 06.3**	**-0.6**
	1.4nm,0.9s,mb4.1,baz=207,slow=3.3,SNR=11						
ILAR	**Eielson Array**	**91.22**	**13**	P	**P**	**12 09 06.8**	**-1.4**
	1.0nm,0.6s,mb4.2,baz=219,slow=5.6,SNR=4.5						
MKAR	**Makanchi Array**	**113.72**	**312**	PKiKP		12 14 39.2	
	0.5nm,0.6s,baz=224,slow=1.5,SNR=4.6						
BVAR	**Borovoye Array**	**121.80**	**319**	PKP	PKPdf	12 14 55.0	-0.7
	1.1nm,0.4s,baz=63,slow=3.2,SNR=6.6						
ARCES	**ARCESS Array B**	**132.07**	**349**	PKP	PKPdf	12 15 14.6	-0.4
	4.1nm,0.8s,baz=346,slow=10.0,SNR=4.0						
FINES	**FINESS Array B**	**138.91**	**343**	PKhKP		12 15 17.0	
	0.4nm,0.5s,baz=63,slow=6.2,SNR=3.0						
FINES				PKP	PKPdf	12 15 29.3	+1.6
	1.0nm,0.5s,baz=70,slow=4.7,SNR=7.2						
FINES	**FINESS Array B**	**138.91**	**343**	PKP		12 15 17.0	
FINES				PKP	PKPdf	12 15 29.4	+1.6
NOA	**NORSAR Array B**	**142.13**	**353**	PKhKP		12 15 29.6	
	0.8nm,0.7s,baz=26,slow=3.9,SNR=3.9						
AKASG	**Malin Array Be**	**145.98**	**329**	PKPbc	PKPbc	12 15 40.9	-0.5
	13nm,0.6s,baz=40,slow=4.3,SNR=38						
MALT	**Malatya**	**146.20**	**304**	*e*PKPbc	PKPbc	12 15 44.0	+1.6
BRTR	**Keskin Array B**	**149.28**	**309**	PKPbc	PKPdf	12 15 50.1	+4.1
	1.6nm,0.7s,baz=127,slow=4.2,SNR=7.8						
CLL	**Collm**	**151.21**	**346**	⇓*i*PKP1	PKPdf	12 15 55.5	+6.8
CLL				*i*		12 15 59.5	
CLL				*i* PKP2	PKPab	12 16 04.0	-1.2
CLL	**Collm**	**151.21**	**346**	⇓P	PKPab	12 16 02.0	-3.2
	logA/T=1.1						
CLL	**Collm**	**151.21**	**346**	⇓*i*P	PKPdf	12 15 55.5	+6.8
CLL				*i*		12 16 02.0	
CLL				*i*		12 16 04.0	
BRG	**Berggiesshubel**	**151.40**	**345**	*i* P	PKPdf	12 15 56.2	+7.3
BRG				*i*		12 16 02.6	
GERES	**GERESS Array B**	**153.34**	**344**	PKPbc	PKPdf	12 16 00.2	+8.5
	0.5nm,0.6s,baz=45,slow=1.9,SNR=3.5						
GERES				PKPab	PKPab	12 16 13.3	-1.0
	1.4nm,0.7s,baz=27,slow=3.0,SNR=7.3						

*MOS **06** 12:00:31.2±1.0, 44.84N×148.46E, h84^{km}, mb4.1/4, Error ellipse: s-maj=18.0km s-min=8.2km az=56.5*
*NEIC **06** 12:00:33.6±1.4, 44.94N×148.13E, h100^{km}±13^{km}, mb4.2/4, Error ellipse: s-maj=17.8km s-min=9.7km az=140.0*
*IDC **06** 12:00:33.5±3.7, 45.17N×147.82E, h98^{km}±33^{km}, mb3.8/15, mb1 4.0/17, mb1mx3.9/25, mbtmp4.1/17, MS3.3/1, Ms1 3.3/1, ms1mx3.0/28, Error ellipse: s-maj=21.0km s-min=14.2km az=144.0*
*JMA **06** 12:00:34.9±0.6, 44.80N×148.30E, h99^{km}, M4.4*
ISC 06 12:00:32.2±0.5**, 44.96N**±0.05×**148.36E**±0.07**, h94**^{km}±5^{km}**, n88,** σ**1^{s}14**/82**, mb4.0**/19**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.44**	**308**	*e*PN	**P**	**12 00 47.0**	**-0.1**
KUR				*i* S	**S**	**12 00 58.0**	**-0.3**
KUR				pmax	pmax		
	comp=N,530nm,0.5s						
KUR				pmax	pmax		
	comp=E,720nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				smax			
	comp=N,2μm,0.6s						
KUR				smax			
	comp=E,5μm,0.6s						
KUR				smax			
	comp=N,32μm,1.6s						
KUR				smax			
	comp=E,28μm,1.6s						
YUK	**Yuzh-Kuril'sk**	**2.01**	**243**	*e*PN	**P**	**12 01 05.0**	**-0.2**
YUK				*e*S	**S**	**12 01 30.0**	**+0.4**
YUK				pmax	pmax		
	comp=Z,4μm,0.8s						
YUK				pmax	pmax		
	comp=N,910nm,0.5s						
YUK				pmax	pmax		
	comp=E,2μm,0.8s						
YUK				smax			
	comp=N,6μm,1.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**2.47**	**231**	P	**P**	**12 01 11.7**	**+0.2**
NEM2				*e*S	**S**	**12 01 40.4**	**-0.4**
JRA	**Rausu**	**2.53**	**247**	P	**P**	**12 01 13.7**	**+1.3**
JNK	**Nakash**	**2.95**	**243**	P	**P**	**12 01 19.5**	**+1.3**
JAK	**Akkeshi**	**3.29**	**235**	P	**P**	**12 01 22.9**	**0.0**
JAK				*e*S	**S**	**12 02 01.1**	**-0.1**
JTKR	**Abashiri--Toko**	**3.33**	**254**	P	**P**	**12 01 24.3**	**+0.8**
JTKR				*e*S	**S**	**12 02 02.9**	**+0.7**
JAR	**Ashorobuto**	**3.70**	**245**	P	**P**	**12 01 30.0**	**+1.5**
JSE	**Soyaes**	**4.10**	**272**	P	**P**	**12 01 34.6**	**+0.6**
JSE				*e*S	**S**	**12 02 21.1**	**+0.1**
JKK2	**Kamakawa 2**	**4.16**	**257**	P	**P**	**12 01 36.0**	**+1.1**
ASAJ	**Asahikawa**	**4.20**	**260**	P	**P**	**12 01 36.6**	**+1.2**
	comp=E,3.5nm,0.3s,baz=81,slow=20,SNR=36						
ASAJ				S	**S**	**12 02 23.9**	**+0.3**
	comp=E,4.7nm,0.3s,baz=91,slow=21,SNR=3.4						
ASAJ				LR	LR	12 02 51.0	
	comp=E,370nm,18.8s,baz=228,slow=36						
ASAJ	**Asahikawa**	**4.20**	**260**	PN	**P**	**12 01 36.7**	**+1.3**
ASAJ				S	**S**	**12 02 24.0**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,370nm,18.8s						
JCH	**Churui**	**4.31**	**239**	P	**P**	**12 01 37.3**	**+0.4**
JCH				*e*S	**S**	**12 02 25.4**	**-0.9**
YSS	**Yuzh-Sakhalins**	**4.38**	**299**	*e*Pn	**P**	**12 01 38.1**	**+0.2**
YSS				*e*Sn	**S**	**12 02 26.2**	**-1.9**
YSS	**Yuzh-Sakhalins**	**4.38**	**299**	⇑*i*PN	**P**	**12 01 38.0**	**+0.1**
YSS				*i* S	**S**	**12 02 25.0**	**-3.1**
YSS				pmax	pmax		
	comp=N,20nm,0.6s						
YSS				pmax	pmax		
	comp=E,30nm,0.6s						
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax			
	comp=N,90nm,1.0s						
YSS				smax			
	comp=E,90nm,1.0s						
JFR	**Furan**	**4.53**	**249**	P	**P**	**12 01 41.5**	**+1.7**
JWK2	**Keihoku**	**4.58**	**277**	P	**P**	**12 01 42.6**	**+2.0**
JNBK	**Urakawa-nobuka**	**4.87**	**239**	P	**P**	**12 01 43.7**	**-0.9**
JNBK				*e*S	**S**	**12 02 37.9**	**-2.3**
JKB	**Kayabe**	**6.15**	**243**	P	**P**	**12 02 01.2**	**-0.9**
JKB				*e*S	**S**	**12 03 06.5**	**-5.2**
JOT	**Ohata**	**6.43**	**239**	P	**P**	**12 02 04.3**	**-1.7**
JOT				*e*S	**S**	**12 03 11.3**	**-7.2**
JOSM	**Okushiri--Mats**	**7.07**	**249**	P	**P**	**12 02 13.9**	**-0.9**
SKR	**Severo-Kuril's**	**7.75**	**40**	*e*PN	**P**	**12 02 22.5**	**-1.5**
SKR				*e*S	**S**	**12 03 48.5**	**-2.3**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,70nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
JMK	**Ichinoseki**	**8.02**	**224**	P	**P**	**12 02 24.8**	**-2.9**
JMK				*e*S	**S**	**12 03 49.5**	**-7.9**
PET	**Petropavlovsk**	**10.52**	**36**	*e*Pn	**P**	**12 03 00.8**	**-0.6**
	comp=E,31nm,0.9s						
PET				*e*S	**S**	**12 04 57.6**	**-0.3**
PET	**Petropavlovsk**	**10.52**	**36**	*e*PN	**P**	**12 03 00.8**	**-0.6**
PET				pmax	pmax		
	comp=Z,31nm,0.9s						
MJAR	**Matsushiro Arr**	**11.39**	**226**	P	**P**	**12 03 10.4**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=27,slow=14,SNR=5.4						
MA2	**Magadan**	**14.71**	**5**	P	**P**	**12 03 59.0**	**+2.7**
	comp=Z,8.8nm,0.6s						
MA2	**Magadan**	**14.71**	**5**	P	**P**	**12 03 59.0**	**+2.7**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
FX1	**Attu Island--F**	**18.06**	**55**	P	**P**	**12 04 39.8**	**+1.7**
	comp=Z,3.8nm,0.3s,baz=87,slow=12,SNR=5.2						
FX1	**Attu Island--F**	**18.06**	**55**	P	**P**	**12 04 39.8**	**+1.7**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SONM	**Songino Array**	**28.82**	**291**	P	**P**	**12 06 20.2**	**-3.1**
	comp=Z,0.3nm,0.5s,mb3.2,baz=90,slow=7.2,SNR=2.8						
IMA	**Indian Mountai**	**37.19**	**35**	*e*P	**P**	**12 07 35.6**	**+0.2**
	comp=Z,41nm,0.8s						
IMA	**Indian Mountai**	**37.19**	**35**	*e*P	**P**	**12 07 35.6**	**+0.2**
IMA				pmax	pmax		
	comp=Z,41nm,0.8s						
MCK	**McKinley**	**39.15**	**39**	*e*P	**P**	**12 07 50.5**	**-1.2**
	comp=Z,1.7nm,0.6s,mb4.0						
MCK	**McKinley**	**39.15**	**39**	*e*P	**P**	**12 07 50.5**	**-1.2**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
SML	**Sawmill**	**39.54**	**42**	*e*P	**P**	**12 07 54.9**	**0.0**
ILAR	**Eielson Array**	**40.00**	**37**	P	**P**	**12 07 58.4**	**-0.3**
	comp=Z,1.8nm,0.4s,mb4.2,baz=276,slow=10,SNR=12						
ILAR				PcP	PcP	12 10 00.1	-2.7
	comp=Z,1.0nm,0.8s,baz=280,slow=3.4,SNR=4.6						
MKAR	**Makanchi Array**	**44.80**	**297**	P	**P**	**12 08 34.7**	**-3.2**
	comp=Z,0.2nm,0.4s,mb3.2,baz=83,slow=7.1,SNR=3.3						
MKAR				PcP	PcP	12 10 16.3	-2.6
	comp=Z,0.8nm,0.6s,baz=71,slow=5.7,SNR=5.4						
INK	**Inuvik**	**44.92**	**31**	P	**P**	**12 08 37.8**	**-0.9**
	comp=Z,2.8nm,0.5s,mb4.3,baz=297,slow=5.3,SNR=19						
YKA	**Yellowknife Ar**	**54.31**	**35**	P	**P**	**12 09 49.7**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.3,baz=301,slow=7.0,SNR=11						
NEW	**Newport**	**60.89**	**50**	*e*P	**P**	**12 10 36.9**	**0.0**
YBH	**Yreka Blue Hor**	**61.52**	**58**	P	**P**	**12 10 42.0**	**+0.8**
	comp=Z,1.9nm,0.7s,mb4.2,baz=51,slow=2.0,SNR=5.8						
MOD	**Modoc**	**62.86**	**57**	*e*P	**P**	**12 10 50.7**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**64.19**	**333**	P	**P**	**12 10 54.1**	**-4.4**
	comp=Z,1.1nm,0.5s,mb3.9,baz=53,slow=9.5,SNR=9.8						
FINES	**FINESS Array B**	**64.19**	**333**	P	**P**	**12 10 54.1**	**-4.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MCMT	**McKenzie Canyo**	**65.32**	**51**	*e*P	**P**	**12 11 06.2**	**+0.1**
WRA	**Warramunga Arr**	**65.84**	**194**	P	**P**	**12 11 08.8**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.2,baz=9.0,slow=6.6,SNR=4.3						
WRA				pP	pP	12 11 33.7	-0.1
	comp=Z,0.9nm,0.7s,baz=11,slow=6.7,SNR=5.4						
ELK	**Elko**	**66.57**	**55**	P	**P**	**12 11 14.5**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.8,baz=298,slow=10,SNR=7.8						
HWUT	**Hardware Ranch**	**68.12**	**53**	*e*P	**P**	**12 11 24.3**	**+0.6**
DUG	**Dugway**	**68.33**	**55**	*e*P	**P**	**12 11 25.9**	**+0.8**
	comp=Z,6.1nm,0.9s,mb4.4						
DUG	**Dugway**	**68.33**	**55**	*e*P	**P**	**12 11 25.9**	**+0.8**
DUG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**68.47**	**51**	P	**P**	**12 11 26.2**	**+0.4**
	comp=Z,4.4nm,0.9s,mb4.3,baz=288,slow=2.0,SNR=36						
MSU	**Marysvale**	**69.81**	**56**	*e*P	**P**	**12 11 35.2**	**+1.0**
MTA	**Mtatsminda**	**70.00**	**309**	P	**P**	**12 11 36.3**	**+1.0**
ULM	**Lac du Bonnet**	**70.01**	**38**	P	**P**	**12 11 33.2**	**-2.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=326,slow=8.7,SNR=3.1						
ULM	**Lac du Bonnet**	**70.01**	**38**	P	**P**	**12 11 33.2**	**-2.0**
SRU	**San Rafael**	**70.37**	**54**	*e*P	**P**	**12 11 38.2**	**+0.6**
AKASG	**Malin Array Be**	**71.11**	**324**	P	**P**	**12 11 37.5**	**-4.4**
	comp=Z,0.3nm,0.3s,mb3.6,baz=27,slow=6.2,SNR=5.1						
ISCO	**Idaho Springs**	**72.67**	**51**	*e*P	**P**	**12 11 52.3**	**+1.2**
	comp=Z,1.4nm,0.8s,mb3.8						
ISCO	**Idaho Springs**	**72.67**	**51**	*e*P	**P**	**12 11 52.3**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
ANMO	**Albuquerque**	**75.59**	**55**	P	**P**	**12 12 09.2**	**+1.0**
	comp=Z,1.5nm,0.7s,mb3.8,baz=316,slow=10,SNR=6.3						
SCHQ	**Schefferville**	**76.19**	**20**	P	**P**	**12 12 10.3**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.2,baz=339,slow=5.8,SNR=6.1						
SCHQ	**Schefferville**	**76.19**	**20**	P	**P**	**12 12 10.3**	**-0.8**
MOX	**Moxa**	**77.65**	**333**	*e*P	**P**	**12 12 26.0**	**+6.7**
MOX				pP	pP	12 12 40.0	-4.0
TXAR	**Lajitas Array**	**81.26**	**57**	P	**P**	**12 12 40.2**	**+0.9**
	comp=Z,5.1nm,0.7s,mb4.5,baz=291,slow=4.1,SNR=67						
BDFB	**Brasilia**	**147.67**	**31**	PKPbc	PKPdf	12 20 07.4	+4.4
	comp=Z,1.4nm,0.3s,baz=241,slow=5.6,SNR=3.4						
BDFB	**Brasilia**	**147.67**	**31**	PKP2	PKPab	12 20 07.4	-3.1
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CFAA	**Coronel Fontan**	**148.61**	**78**	PKPbc	PKPdf	12 20 09.4	+5.3
	comp=Z,0.4nm,0.4s,baz=220,slow=2.4,SNR=7.3						
SNAA	**Sanae**	**149.87**	**198**		PKPdf	12 20 10.9	+6.0
SNAA	**Sanae**	**149.87**	**198**		PKPdf	12 20 15.9	+11
SNAA	**Sanae**	**149.87**	**198**		PKPdf	12 20 21.1	+16
SNAA	**Sanae**	**149.87**	**198**		PKPdf	12 20 28.9	+24
SNAA	**Sanae**	**149.87**	**198**		PKPdf	12 20 40.3	+35
SNAA	**Sanae**	**149.87**	**198**		PKPdf	12 20 52.3	+47
SNAA	**Sanae**	**149.87**	**198**	PKPbc	PKPdf	12 20 10.7	+5.8
	comp=Z,0.7nm,0.8s,baz=108,slow=1.0,SNR=8.3						
SNAA	**Sanae**	**149.87**	**198**	PKP2	PKPab	12 20 10.7	-7.2
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PLCA	**Paso Flores**	**151.35**	**95**	PKPbc	PKPdf	12 20 16.0	+7.9
	comp=Z,4.0nm,0.8s,baz=247,slow=3.7,SNR=11						
PLCA	**Paso Flores**	**151.35**	**95**	PKIKP	PKPdf	12 20 16.0	+7.9
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNA2	**Neumayer--Watz**	**151.39**	**196**		PKPdf	12 20 16.3	+9.1
VNA2	**Neumayer--Watz**	**151.39**	**196**		PKPdf	12 20 19.8	+13
VNA2	**Neumayer--Watz**	**151.39**	**196**		PKPdf	12 20 44.5	+37
VNA2	**Neumayer--Watz**	**151.39**	**196**		PKPdf	12 20 51.8	+45
VNA3	**Neumayer Olymp**	**151.57**	**195**		PKPdf	12 20 15.9	+8.4
VNA3	**Neumayer Olymp**	**151.57**	**195**		PKPdf	12 20 21.1	+14
VNA3	**Neumayer Olymp**	**151.57**	**195**		PKPdf	12 20 44.1	+37
VNA3	**Neumayer Olymp**	**151.57**	**195**		PKPdf	12 20 51.9	+44
VNA1	**Neumayer--Stat**	**151.79**	**196**		PKPdf	12 20 16.2	+8.4
VNA1	**Neumayer--Stat**	**151.79**	**196**		PKPdf	12 20 20.5	+13

*IDC **06** 12:13:01.4±1.6, 46.91N×147.00E, h333^{km}±20^{km}, mb3.0/6, mb1 3.2/7, mb1mx3.0/21, mbtmp3.7/7, Error ellipse: s-maj=32.7km s-min=20.7km az=142.0*
*MOS **06** 12:13:01.4±0.4, 46.97N×146.88E, h354^{km}, mb3.8/1, Error ellipse: s-maj=59.4km s-min=32.2km az=59.9*
*NEIC **06** 12:13:02.4±1.3, 46.95N×146.99E, h343^{km}±14^{km}, Error ellipse: s-maj=31.3km s-min=18.7km az=137.0*
ISC 06 12:13:01.4±0.7**, 46.4N**±0.1×**147.1E**±0.2**, h360**^{km}±9^{km}**, n24,** σ**1^{s}33**/33**, mb3.1**/6**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**2.82**	**210**	P	**P**	**12 14 01.0**	**+0.7**
YSS	**Yuzh-Sakhalins**	**3.01**	**282**	*e*P	**P**	**12 14 00.3**	**-1.6**
NEM2	**Nemuro 2**	**3.18**	**197**	P	**P**	**12 14 02.2**	**-1.3**
NEM2				*e*S	**S**	**12 14 50.5**	**-1.7**
JNK	**Nakash**	**3.27**	**211**	P	**P**	**12 14 04.8**	**+0.5**
JTKR	**Abashiri--Toko**	**3.30**	**223**	P	**P**	**12 14 05.5**	**+0.9**
JMP	**Maruseppu**	**3.55**	**229**	P	**P**	**12 14 08.6**	**+1.7**
JAK	**Akkeshi**	**3.80**	**207**	P	**P**	**12 14 09.0**	**-0.4**
JAK				*e*S	**S**	**12 15 02.5**	**-0.3**
JAR	**Ashorobuto**	**3.89**	**218**	P	**P**	**12 14 11.5**	**+1.2**
ASAJ	**Asahikawa**	**3.89**	**236**	P	**P**	**12 14 12.3**	**+2.0**
	1.3nm,0.3s,baz=75,slow=9.9,SNR=15						
ASAJ				S	**S**	**12 15 07.1**	**+2.7**
	0.5nm,0.3s,baz=97,slow=8.1,SNR=2.9						
ASAJ	**Asahikawa**	**3.89**	**236**	P	**P**	**12 14 12.0**	**+1.7**
ASAJ	**Asahikawa**	**3.89**	**236**	PN	**P**	**12 14 12.3**	**+2.0**
ASAJ				S	**S**	**12 15 07.1**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JFR	**Furan**	**4.54**	**226**	P	**P**	**12 14 18.9**	**+1.9**
JCH	**Churui**	**4.62**	**216**	P	**P**	**12 14 17.8**	**-0.1**
JCH				*e*S	**S**	**12 15 17.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**5.15**	**218**	P	**P**	**12 14 23.3**	**-0.3**
JNBK				*e*S	**S**	**12 15 26.7**	**-1.5**
JKB	**Kayabe**	**6.26**	**226**	P	**P**	**12 14 36.3**	**+0.2**
JKB				*e*S	**S**	**12 15 49.2**	**-1.3**
JOT	**Ohata**	**6.64**	**223**	P	**P**	**12 14 40.2**	**-0.3**
JOT				*e*S	**S**	**12 15 56.2**	**-2.2**
JANG	**Nango**	**7.25**	**216**	P	**P**	**12 14 47.8**	**+0.1**
JMK	**Ichinoseki**	**8.60**	**212**	P	**P**	**12 15 06.6**	**+3.1**
JMK				*e*S	**S**	**12 16 40.8**	**+0.9**
ILAR	**Eielson Array**	**39.41**	**38**	P	**P**	**12 19 56.3**	**-2.2**
	comp=N,0.4nm,0.7s,mb2.7,baz=270,slow=6.3,SNR=6.0						
MKAR	**Makanchi Array**	**43.34**	**295**	P	**P**	**12 20 29.7**	**-0.7**
	comp=N,0.5nm,0.6s,mb2.8,baz=63,slow=8.1,SNR=6.2						
INK	**Inuvik**	**44.16**	**32**	P	**P**	**12 20 33.6**	**-3.0**
	comp=N,2.0nm,0.8s,mb3.3,baz=281,slow=5.2,SNR=3.9						
INK				PcP	PcP	12 22 13.0	-1.9
	comp=N,3.5nm,1.1s,baz=310,slow=0.8,SNR=2.8						
WRA	**Warramunga Arr**	**67.03**	**193**	P	**P**	**12 23 22.3**	**+4.0**
	comp=N,0.5nm,0.7s,mb3.4,baz=9.4,slow=6.6,SNR=2.7						
PDAR	**Pinedale Array**	**68.26**	**50**	P	**P**	**12 23 25.8**	**+0.3**
	comp=N,0.4nm,0.4s,mb3.5,baz=42,slow=1.0,SNR=6.1						
TXAR	**Lajitas Array**	**81.24**	**57**	P	**P**	**12 24 40.2**	**+1.2**
	comp=N,0.3nm,0.6s,mb3.2,baz=300,slow=4.4,SNR=6.4						

CASC 06 12:20:11.3±2.0**, 12.71N**×**86.96W, h5**^{km}±3^{km}**, MD4.1, ML3.1, 9C-4D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.09**	**266**	⇑*e*P	Pg	12 20 13.4	+0.1
TELN	**Telica**	**0.16**	**130**	⇑*e*P	Pg	12 20 15.1	+0.5
TELN				*e*S	Sg	12 20 17.9	+1.1
TEL3	**Telica 3**	**0.17**	**141**	⇑*i*P	Pg	12 20 15.5	+0.6
LEON	**Leon**	**0.30**	**168**	⇑*e*P	Pg	12 20 17.3	0.0
CNGN	**Cerro Negro**	**0.33**	**129**	⇑*e*P	Pg	12 20 18.3	+0.4
MIRN	**Miramar**	**0.36**	**138**	⇓*i*P	Pg	12 20 18.9	+0.4
MOMJ	**Momotombo**	**0.50**	**126**	⇑*e*P	Pg	12 20 21.5	+0.1
COPN	**Copaltepe**	**0.63**	**146**	⇑*e*P	Pg	12 20 23.6	-0.4
COPN				*e*S	Sg	12 20 33.3	+0.8
XAVN	**Gruta Xavier**	**0.83**	**132**	⇓*e*P	Pb	12 20 27.4	-0.4
XAVN				*e*S	Sg	12 20 39.9	+1.0
MGAN	**Managua**	**0.89**	**129**	⇑*e*P	Pb	12 20 28.4	-0.4
MGAN				*e*S	Sb	12 20 41.2	+0.3
MGAN				*i*		12 20 41.2	
	comp=N,573nm,0.2s						
PYTN	**Playitas**	**0.89**	**101**	*e*P	Pb	12 20 28.4	-0.5
WILN	**Americas 2**	**0.93**	**126**	*e*P	Pb	12 20 29.0	-0.5
WILN				*e*S	Sb	12 20 42.3	+0.4
TICN	**Ticuantepe**	**0.97**	**133**	⇑*e*P	Pb	12 20 29.8	-0.5
TICN				*e*S	Sb	12 20 43.1	-0.2
CNCH	**Conchagua**	**1.02**	**304**	*e*P	Pb	12 20 56.4	+25
CNCH				*e*S	Sb	12 21 12.6	+28
MASN	**Masaya**	**1.06**	**132**	*e*P	Pb	12 20 31.2	-0.7
APON	**Apoyo**	**1.17**	**132**	⇓*e*P	Pb	12 20 33.0	-0.7
APON				*e*S	Sb	12 20 50.5	+1.4
BLLM	**Bellamira**	**1.45**	**301**	*e*P	Pn	12 21 02.9	+25
BLLM				*e*S	Sb	12 21 25.0	+28
SSNN	**San Juan del S**	**1.78**	**142**	⇓*e*P	Pn	12 20 42.7	-0.3
SSNN				*e*S	Sn	12 21 06.2	0.0
LCBS	**La Ceiba**	**2.18**	**296**	*e*P	Pn	12 21 12.8	+24
LCBS				*e*S	Sn	12 21 43.9	+27
LFRS	**El Faro**	**2.24**	**294**	*e*P	Pn	12 21 15.3	+26
LFRS				*e*S	Sn	12 21 45.2	+27

*ATH **06** 12:24:18.4, 39.62N×25.69E, h82^{km}*
*CSEM **06** 12:24:18.3±0.3, 39.59N×25.43E, h12^{km}, ML2.8, Error ellipse: s-maj=6.6km s-min=6.0km az=158.0*
*THE **06** 12:24:22.9, 39.79N×25.11E, h20^{km}, ML2.8*
ISC 06 12:24:17.1±0.6**, 39.63N**±0.04×**25.33E**±0.04**, h4**^{km}±8^{km}**, n14,** σ**1^{s}44**/20**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.36**	**328**	*e*Pg	**Pg**	**12 24 26.9**	**+2.6**
LOS				*e*Sg	**Sg**	**12 24 31.2**	**+2.0**
PRK	**Paraskevi**	**0.82**	**117**	*e*P	**Pg**	**12 24 33.7**	**+0.1**
PRK				*e*S	**Sg**	**12 24 44.9**	**+0.3**
AOS	**Alonnisos**	**1.21**	**248**	*e*Pg	**Pg**	**12 24 42.4**	**+1.0**
AOS				*e*Sg	**Sg**	**12 24 58.2**	**+0.7**
OUR	**Ouranopolis**	**1.25**	**305**	*e*Pg	**Pg**	**12 24 40.8**	**-1.3**
OUR				*e*Sg	**Sg**	**12 24 55.1**	**-3.8**
PAIG	**Paliouri**	**1.30**	**284**	*e*Pg	**Pg**	**12 24 42.5**	**-0.7**
PAIG				*e*Sg	**Sg**	**12 24 58.0**	**-2.6**
ALN	**Alexandroupoli**	**1.38**	**23**	*e*Pg	**Pg**	**12 24 44.6**	**-0.2**
ALN				*e*Sg	**Sg**	**12 25 03.2**	**+0.1**
RDO	**Rodhopi**	**1.52**	**6**	*e*P	**Pn**	**12 24 45.2**	**-0.1**
PLG	**Polygyros**	**1.63**	**298**	*e*P	**Pn**	**12 24 49.6**	**+2.9**
KDZ	**Kurdzhali**	**2.02**	**2**	*i* P	**Pn**	**12 24 52.5**	**+0.1**
RZN	**Rozhen**	**2.11**	**347**	*i* P	**Pn**	**12 24 54.0**	**+0.4**
SMG	**Samos**	**2.25**	**148**	*e*P	**Pn**	**12 24 53.0**	**-2.7**
MMB	**Musomiste**	**2.31**	**329**	*e*P	**Pn**	**12 24 55.0**	**-1.5**
AGG	**Agios Georgios**	**2.40**	**256**	*e*Pn	**Pn**	**12 24 59.8**	**+2.0**
KKB	**Krupnik**	**2.81**	**323**	*i* P	**Pg**	**12 25 11.0**	**-2.3**

*IDC **06** 12:50:39.2±0.5, 0.42N×96.60E, mb4.5/16, mb1 4.6/16, mb1mx4.6/19, mbtmp4.5/16, MS4.0/1, Ms1 4.0/1, ms1mx3.4/20, Error ellipse: s-maj=23.3km s-min=14.7km az=59.0*
*MOS **06** 12:50:42.9±1.0, 0.49N×96.62E, h33^{km}, mb5.0/17, Error ellipse: s-maj=16.0km s-min=7.7km az=110.5*
*BJI **06** 12:50:43.6, 0.40N×96.60E, h30^{km}, mB5.5, mb4.7, Ms4.6, Msz4.1*
*NEIC **06** 12:50:43.7±0.3, 0.39N×96.63E, h30^{km}, mb4.8/14, Error ellipse: s-maj=9.2km s-min=8.1km az=49.0*
ISC 06 12:50:43.2±1.4**, 0.46N**±0.05×**96.76E**±0.06**, h38**^{km}±12^{km}**, h28**^{km}±3.4^{km}**:pP-P, n95,** σ**1^{s}02**/97**, mb4.7**/47**, MS4.2**/6**, 5C-2D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.17**	**39**	*e*P	**P**	**12 52 13.3**	**-0.9**
KULM				*e*Sn	**S**	**12 53 24.1**	**-0.4**
KSM	**Kuching**	**13.58**	**86**	*e*P	**P**	**12 54 05.0**	**+9.1**
KKM	**Kota Kinabalu**	**20.19**	**74**	*e*P	**P**	**12 55 17.9**	**+0.4**
KMI	**Kunming**	**25.19**	**13**	P	**P**	**12 56 09.5**	**+2.4**
	15nm,1.2s,mb4.4						
KMI				pP	pP	12 56 18.5	+1.2
KMI				S	**S**	**13 00 35.0**	**+7.9**
KMI				LR	LR		
	comp=Z,170nm,19.7s,MS3.6						
KMI	**Kunming**	**25.19**	**13**	P	**P**	**12 56 09.5**	**+2.4**
KMI				*PP	pP	12 56 18.5	+1.2
KMI				S	**S**	**13 00 35.0**	**+7.9**
KMI				pmax	pmax		

comp=Z,15nm,1.2s,mb4.4
KMI MLR MLR
comp=Z,170nm,19.7s,MS3.6
GYA Guiyang 27.55 19 P **P** **12 56 34.4 +5.5**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
PKI Pulchoki 29.08 339 *eP* **P** **12 56 49.1 +6.6**
comp=Z,37nm,1.2s,mb5.0
DMN Daman 29.22 338 *eP* **P** **12 56 48.5 +4.7**
comp=Z,7.7nm,0.6s,mb4.6
KKN Kakani 29.32 339 *eP* **P** **12 56 48.1 +3.4**
comp=Z,41nm,1.2s,mb5.0
GKN Gorkha 29.75 338 *eP* **P** **12 56 48.8 +0.3**
comp=Z,18nm,0.8s,mb4.9
KOLN Koldanda 29.95 336 *eP* **P** **12 56 50.5 +0.2**
comp=Z,34nm,1.0s,mb5.0
FITZ Fitzroy Crossi 33.86 124 P **P** **12 57 23.3 -1.3**
comp=Z,7.4nm,1.0s,mb4.6,baz=200,slow=6.1,SNR=3.5
XAN Xi'an 35.30 18 P **P** **12 57 36.8 0.0**
XAN AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
NJ2 Nanjing 37.72 31 *eP* **P** **12 57 56.0 -1.2**
NJ2 AP pP 12 58 05.9 -2.1
NJ2 XP sP 12 58 09.5 -3.3
NJ2 PP PP 12 59 25.8 -0.9
NJ2 S **S** **13 03 44.0 -0.5**
NJ2 XS 13 04 00.0
NJ2 AMB AMB
comp=Z,50nm,1.4s,mb5.0
NJ2 AMB AMB
comp=Z,710nm,5.2s
NJ2 LR LR
comp=N,2μm,15.5s,MS5.2
NJ2 LR LR
comp=E,2μm,15.6s,MS5.2
NJ2 LR LR
comp=Z,630nm,18.0s,MS4.5
SSE Sheshan 38.27 35 P **P** **12 58 01.6 -0.2**
SSE AP pP 12 58 10.5 -2.1
SSE XP sP 12 58 13.5 -3.9
SSE S **S** **13 03 52.7 -0.1**
SSE XS 13 04 07.6
SSE SS SS 13 06 41.4 +8.6
SSE AMB AMB
comp=Z,28nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,453nm,4.5s
SSE LR LR
comp=N,116nm,24.1s,MS3.8
SSE LR LR
comp=E,122nm,24.2s,MS3.8
SSE LR LR
comp=Z,157nm,21.8s,MS3.8
SSE Sheshan 38.27 35 P **P** **12 58 01.6 -0.2**
comp=Z,28nm,0.9s,mb5.0
SSE pP pP 12 58 10.5 -2.1
SSE sP sP 12 58 13.5 -3.9
SSE S **S** **13 03 52.7 -0.1**
SSE sS 13 04 07.6
SSE SS SS 13 06 41.4 +8.6
SSE LR LR
comp=Z,160nm,21.8s,MS3.8
GTA Gaotai 38.87 4 *eP* **P** **12 58 07.8 +1.1**
GTA AP pP 12 58 13.7 -3.8
GTA XP sP 12 58 16.9 -5.4
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.4
WRA Warramunga Arr 42.02 121 P **P** **12 58 33.5 +0.5**
comp=Z,5.2nm,0.9s,mb4.1,baz=303,slow=8.6,SNR=29
WRAB Tennant Creek 42.03 121 *i P* **P** **12 58 33.3 +0.2**
WB2 Warramunga Arr 42.03 121 *eP* **P** **12 58 34.0 +0.9**
WMQ Urumqi 43.93 351 P **P** **12 58 49.2 +0.9**
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,112nm,6.0s
ULHL Ulahol 45.52 339 P **P** **12 59 01.7 +0.7**
SNR=11
UCH Uchtor 46.16 337 P **P** **12 59 07.2 +1.2**
SNR=15
TKM2 Tokmak 2 46.34 338 P **P** **12 59 08.5 +1.0**
SNR=11
KBK Karagaybulak 46.35 338 P **P** **12 59 09.5 +1.9**
SNR=6.4
AML Almayashu 46.40 336 P **P** **12 59 09.6 +1.6**
SNR=8.2
AAK Ala-Archa 46.51 337 *eP* **P** **12 59 08.9 +0.1**
comp=Z,8.4nm,1.1s,mb4.6
AAK Ala-Archa 46.51 337 *eP* **P** **12 59 08.9 +0.1**
AAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
FRU Bishkek 46.63 338 *eP* **P** **12 59 10.5 +0.7**
EKS2 Erkin-Say 46.81 337 P **P** **12 59 12.5 +1.3**
SNR=13
USP Ospenovka 47.05 338 P **P** **12 59 13.7 +0.6**
SNR=24
MKAR Makanchi Array 47.86 347 P **P** **12 59 19.6 +0.2**
comp=Z,10.0nm,0.7s,mb5.0,baz=158,slow=7.9,SNR=102
SONM Songino Array 47.93 9 P **P** **12 59 20.6 +0.7**
comp=Z,3.2nm,0.9s,mb4.4,baz=188,slow=8.8,SNR=20
SONM PcP PcP 13 00 48.2 -0.1
comp=Z,1.4nm,0.6s,baz=196,slow=3.5,SNR=4.3
ULN Ulaanbaatar 48.06 9 *i P* **P** **12 59 20.2 -0.7**
ZAK Zakamensk 50.05 5 *eP* **P** **12 59 36.7 +0.5**
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
OPO Ambohidratompo 52.22 246 P **P** **12 59 52.2 -0.8**
comp=Z,6.1nm,0.9s,mb4.5,baz=92,slow=8.5,SNR=6.8
KURK Kurchatov 52.40 346 *eP* **P** **12 59 54.0 +0.1**
comp=Z,15nm,1.0s,mb4.9
KURK Kurchatov 52.40 346 *eP* **P** **12 59 54.0 +0.1**
KURK pmax pmax
comp=Z,15nm,1.0s,mb4.9
MJAR Matsushiro Arr 52.53 42 LR LR 13 23 20.8
comp=Z,144nm,19.4s,MS4.0,baz=210,slow=37
STKA Stephens Creek 53.19 131 P **P** **13 00 01.1 +0.9**
comp=Z,3.6nm,0.7s,mb4.4,baz=0.4,slow=6.5,SNR=5.2
ZAL Zalesovo 54.21 351 P **P** **13 00 07.9 +0.6**
comp=Z,11nm,0.7s,mb4.9,baz=298,slow=7.1,SNR=53
NVS Novosibirsk 55.33 351 *eP* **P** **13 00 14.3 -1.2**
NVS *eS* **S** **13 07 51.9 -3.3**
NVS pmax pmax
comp=Z,19nm,1.1s,mb5.0
NVS pmax pmax
comp=N,24nm,1.5s
NVS pmax pmax
comp=E,16nm,1.3s
NVS smax
comp=E,14nm,1.9s
BRVK Borovoye 56.87 341 *eP* **P** **13 00 25.2 -1.3**
comp=E,4.5nm,0.6s,mb4.7
BRVK Borovoye 56.87 341 *eP* **P** **13 00 25.2 -1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KLR Kul'dur 57.11 27 *eP* **P** **13 00 25.9 -2.4**
BOD Bodaibo 58.82 11 *eP* **P** **13 00 39.2 -0.9**
BOD pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
KMBO Kilima Mbogo 59.53 268 P **P** **13 00 44.9 -0.8**
comp=Z,3.9nm,0.2s,mb5.1,baz=48,slow=23,SNR=6.3
YSS Yuzh-Sakhalins 61.20 34 *eP* **P** **13 00 58.0 +1.4**
comp=Z,12nm,1.1s,mb4.9
YSS Yuzh-Sakhalins 61.20 34 *eP* **P** **13 00 57.4 +0.8**
YSS *e* pP 13 01 06.8 -1.1
SVE Sverdlovsk 63.22 339 *eP* **P** **13 01 08.5 -1.4**
SVE pmax pmax
comp=Z,24nm,1.5s,mb5.1
SVE MLR MLR
comp=N,200nm,17.0s,MS4.5
SVE MLR MLR
comp=E,200nm,17.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,17.0s,MS4.5
ARU Arti 63.70 337 *iP* **P** **13 01 11.0 -2.1**
ARU *e* 13 01 45.3
ARU *e* 13 03 30.4
ARU *eS* **S** **13 09 44.3 +1.2**
ARU *eSS* SS 13 13 53.4 +0.6
ARU pmax pmax
comp=Z,11nm,1.1s,mb4.8
KIV Kislovodsk 64.58 320 *eP* **P** **13 01 17.6 -1.5**
KIV pmax pmax
comp=N,2.0nm,0.9s
KIV pmax pmax
comp=E,7.0nm,0.9s
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MALT Malatya 65.30 313 *eP* **P** **13 01 23.8 0.0**
comp=Z,4.2nm,0.8s,mb4.5
MALT Malatya 65.30 313 *eP* **P** **13 01 23.8 0.0**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MBAR Mbarara 66.03 269 *eP* **P** **13 01 29.1 +0.2**
YAK Yakutsk 66.25 16 *eP* **P** **13 01 28.7 -0.7**
comp=Z,25nm,1.0s,mb5.2
YAK Yakutsk 66.25 16 *eP* **P** **13 01 28.9 -0.5**
YAK pmax pmax
comp=Z,24nm,1.0s,mb5.2
SOC Sochi 66.38 318 *eP* **P** **13 01 27.0 -3.5**
SOC *eS* S 13 10 12.1 -4.1
SOC *e* 13 11 14.8
SOC *eSS* SS 13 14 34.4 -0.2
SOC *eSSS* SSS 13 17 34.0 +3.5
SOC pmax pmax
comp=N,14nm,0.7s
SOC pmax pmax
comp=E,35nm,0.7s
SOC pmax pmax
comp=Z,23nm,0.7s,mb5.3
BR131 Keskin Array S 69.29 313 *eP* **P** **13 01 47.6 -1.2**
comp=Z,1.5nm,0.6s,mb4.1
BRTR Keskin Array B 69.29 313 P **P** **13 01 47.2 -1.6**
comp=Z,3.5nm,0.7s,mb4.4,baz=132,slow=7.6,SNR=16
MAW Mawson 71.89 193 P **P** **13 02 03.8 -0.3**
comp=Z,2.1nm,1.0s,mb4.0,baz=10,slow=8.6,SNR=4.6
OBN Obninsk 73.02 329 *eP* **P** **13 02 09.1 -1.8**
OBN pmax pmax
comp=Z,11nm,0.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
BOSA Boshof 74.03 240 *eP* **P** **13 02 13.4 -4.0**
comp=Z,5.7nm,0.6s,mb4.7
BOSA Boshof 74.03 240 *eP* **P** **13 02 13.4 -4.0**
BOSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SEY Seymchan 74.61 23 *eP* **P** **13 02 20.6 +0.6**
AKASG Malin Array Be 75.58 323 P **P** **13 02 24.1 -1.8**
comp=Z,5.1nm,0.6s,mb4.6,baz=92,slow=4.3,SNR=25
JOF Joensuu 78.63 335 *ep* **P** **13 02 42.0 -0.6**
comp=Z,4.4nm,0.9s,mb4.4
KWP Kalwaria 79.36 320 *eP* **P** **13 02 47.4 +0.5**
SUW Suwalki 80.03 325 *eP* **P** **13 02 50.0 -0.3**
FINES FINESS Array B 80.45 333 P **P** **13 02 51.7 -0.8**
comp=Z,2.4nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=8.3
KAF Kangasniemi 80.55 333 *ep* **P** **13 02 51.7 -1.3**
comp=Z,5.8nm,0.8s,mb4.6,baz=105,slow=4.9
KAF Kangasniemi 80.55 333 *eP* **P** **13 02 51.7 -1.3**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MORC Moravsky Berou 82.69 320 *eP* **P** **13 03 04.9 +0.6**
comp=Z,3.3nm,0.9s,mb4.4
MORC Moravsky Berou 82.69 320 *eP* **P** **13 03 04.9 +0.6**
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ARCES ARCESS Array B 83.08 340 P **P** **13 03 06.4 +0.4**
comp=Z,5.4nm,0.8s,mb4.6,baz=108,slow=4.3,SNR=12
DPC Dobruska-Polom 83.54 321 *eP* **P** **13 03 09.5 +0.8**
UPC Upice 83.76 321 *eP* **P** **13 03 09.2 -0.6**
PRU Pruhonice 84.64 320 *eP* **P** **13 03 14.8 +0.6**
GERES GERESS Array B 85.08 319 P **P** **13 03 16.6 +0.1**
comp=Z,3.1nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=23
BRG Berggiesshubel 85.11 321 *eP* **P** **13 03 17.3 +0.7**
comp=Z,8.1nm,1.0s,mb4.8
BRG Berggiesshubel 85.11 321 *eP* **P** **13 03 17.2 +0.7**
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
VNDA Vanda 85.19 169 P **P** **13 03 17.1 +0.7**
comp=Z,2.2nm,1.1s,mb4.2,baz=298,slow=4.3,SNR=7.9
KHC Kasperske Hory 85.19 319 *eP* **P** **13 03 17.1 +0.1**
CLL Collm 85.73 321 P **P** **13 03 20.3 +0.7**
CLL Collm 85.73 321 *i P* **P** **13 03 20.3 +0.7**
NB2 NORSAR Subarra 87.44 331 P **P** **13 03 27.3 -0.4**
comp=Z,7.4nm,0.9s,mb4.9,baz=95,slow=4.8
NB2 NORSAR Subarra 87.44 331 P **P** **13 03 27.3 -0.4**
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
NOA NORSAR Array B 87.44 331 P **P** **13 03 27.8 +0.1**
comp=Z,4.4nm,0.8s,mb4.7,baz=95,slow=4.9,SNR=12
KONO Kongsberg 88.17 330 *eP* **P** **13 03 31.0 -0.2**
SNAA Sanae 93.45 198 *eP* **P** **13 03 59.1 +3.5**
PDAR Pinedale Array 130.90 26 PKP PKPdf 13 09 52.8 +1.6
comp=Z,0.4nm,0.7s,baz=180,slow=1.5,SNR=3.6
PLCA Paso Flores 138.29 195 PKP PKPdf 13 10 08.0 +3.0
comp=Z,0.7nm,0.5s,baz=207,slow=9.0,SNR=3.5
CPUP Villa Florida 144.16 222 PKP PKPdf 13 10 15.5 -0.3
comp=Z,11nm,1.0s,baz=142,slow=4.7,SNR=14
TXAR Lajitas Array 144.53 32 PKP PKPdf 13 10 17.4 +1.1
comp=Z,1.8nm,0.7s,baz=297,slow=2.8,SNR=15
LPAZ La Paz 158.34 223 PKP PKPdf 13 10 40.1 +2.9
comp=Z,0.7nm,0.3s,baz=55,slow=5.9,SNR=4.9

*BER **06** 12:52:00.9±4.7,60.99N×29.01E,ML2.5(NAO), Suspected explosion*
*NAO **06** 12:52:00.3±3.3,61.12N×28.98E,ML2.5*
*CSEM **06** 12:52:00.2±0.4,60.96N×28.97E,h2km,ML2.1,Error ellipse: s-maj=10.7km s-min=3.9km az=151.0,Mining explosion.*

HEL 06 12:52:00.0±0.2,60.92N×29.05E,ML2.1,ML2.5(NAO), Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.82**	**243**	*eP*	Pg	12 52 14.9	-1.6
VJF				*eS*	Sg	12 52 25.2	-2.2
VJF	**Virojoki**	**0.82**	**243**	P	Pg	12 52 14.8	-1.7
FIA0	**FINESS Array S**	**1.53**	**292**	*eP*	Pn	12 52 26.5	-2.2
FIA0				*eS*	Sb	12 52 47.6	-1.3
FIA0	**FINESS Array S**	**1.53**	**292**	Pn	Pn	12 52 26.7	-2.0
	baz=118,slow=16						
FIA0				Lg		12 52 47.5	
	baz=108,slow=28						
FIA0				Rg		12 52 54.2	
	baz=123,slow=56						
FIA0	**FINESS Array S**	**1.53**	**292**	Pn	Pn	12 52 26.7	-2.0
	SNR=3.9						
FIA0				S	Sb	12 52 47.5	-1.4
PVF	**Pernaja**	**1.61**	**258**	*eP*	Pn	12 52 28.0	-1.8
PVF				*eS*	Sb	12 52 49.9	-1.2
KAF	**Kangasniemi**	**1.78**	**314**	*eP*	Pn	12 52 31.6	-0.6
KAF				*eS*	Sn	12 52 54.0	-1.9
KAF	**Kangasniemi**	**1.78**	**314**	P	Pn	12 52 31.6	-0.7
KAF				S	Sn	12 52 53.9	-2.0
SUF	**Sumiainen**	**2.27**	**324**	MSG		12 53 10.6	
	comp=Z,7.8nm,0.3s						
JOF	**Joensuu**	**2.28**	**27**	*eP*	Pn	12 52 38.8	-0.6
JOF				*eS*	Sn	12 53 07.1	-1.5
JOF				MSG		12 53 08.5	
	comp=Z,9.8nm,0.4s						
JOF	**Joensuu**	**2.28**	**27**	P	Pn	12 52 38.8	-0.6
JOF				S	Sn	12 53 07.1	-1.5
	comp=Z,9.8nm,0.4s						
KEF	**Keuruu**	**2.36**	**304**	MSG		12 53 13.8	
	comp=Z,4.0nm,0.3s						
KJN	**Kajaani**	**3.24**	**350**	MSG		12 53 47.1	
	comp=Z,8.4nm,0.3s						
HFS	**Hagfors**	**7.62**	**271**	Pn	Pn	12 53 50.9	-4.0
	baz=95,slow=10						
HFS				Sn	Sn	12 55 14.3	-8.7
	baz=96,slow=18						
HFS				Lg		12 55 56.2	
HFS	**Hagfors**	**7.62**	**271**	*eP*	Pn	12 53 50.9	-4.0
HFS				*eS*	Sn	12 55 14.3	-8.7
HFS				*eSG*		12 55 56.2	
HFS	**Hagfors**	**7.62**	**271**	Pn	Pn	12 53 50.9	-4.0
	SNR=2.6						
HFS				Sg		12 55 56.2	
NB2	**NORSAR Subarra**	**8.67**	**279**	*eP*	P	12 54 05.3	-4.3
ARA0	**ARCESS Array S**	**8.78**	**352**	Pn	P	12 54 06.2	-4.9
	baz=162,slow=14						
ARA0				Sn	Sn	12 55 41.9	-10
	baz=170,slow=28						
ARA0				Lg		12 56 26.3	
	baz=159,slow=37						
ARA0	**ARCESS Array S**	**8.78**	**352**	*eP*	P	12 54 06.2	-4.9
ARA0				*eS*	Sn	12 55 41.9	-10
ARA0				*eSG*		12 56 26.3	

*CSEM **06** 13:22:17.9±0.3,38.41N×26.70W,h8km,ML2.4,Error ellipse: s-maj=22.5km s-min=5.9km az=6.0,After PDA*
*PDA **06** 13:22:17.9±1.1,38.41N×26.70W,h8km±260km,MD2.8, ML2.4,Error ellipse: s-maj=16.1km s-min=8.6km az=172.0*

SVSA 06 13:22:17.9±1.1,38.41N×26.70W,h8km±260km,MD2.8, ML2.4,Error ellipse: s-maj=16.1km s-min=8.6km az=172.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFAV	**Pico das Favas**	**0.43**	**315**	*eP*	Pg	13 22 25.2	-1.4
PFAV				*i S*	Sg	13 22 30.9	-1.5
PSCM	**Serra do Cume**	**0.44**	**312**	*eP*	Pg	13 22 24.7	-2.1
PSCM				*eS*	Sg	13 22 30.3	-2.5
	145nm,0.1s						
RIB2	**Ribeirinha**	**0.46**	**305**	*eP*	Pg	13 22 26.2	-0.9
RIB2				*i S*	Sg	13 22 31.9	-1.4
ADH	**Angra Heroismo**	**0.49**	**300**	*eP*	Pg	13 22 25.3	-2.5
ADH				*eS*	Sg	13 22 31.7	-2.7
ADH	**Angra Heroismo**	**0.49**	**300**	*eS*	Sg	13 22 31.7	-2.7
PVNV	**Vila Nova**	**0.50**	**315**	*eP*	Pg	13 22 26.3	-1.8
PVNV				*i S*	Sg	13 22 32.9	-2.0
PPAD	**Pico dos Padre**	**0.55**	**302**	*eP*	Pg	13 22 27.3	-1.6
PPAD				*i S*	Sg	13 22 34.5	-1.8
PBIS	**Biscoitos**	**0.56**	**309**	*eP*	Pg	13 22 27.2	-2.0
PBIS				*eS*	Sg	13 22 34.6	-2.1
ASBA	**Santa Barbara**	**0.58**	**303**	*eP*	Pg	13 22 28.1	-1.5
ASBA				*i S*	Sg	13 22 35.8	-1.7
PSBA	**Serra de Santa**	**0.61**	**306**	*eP*	Pg	13 22 27.3	-2.8
PSBA				*eS*	Sg	13 22 35.2	-3.1
	120nm,0.2s						
PMAN	**Manadas**	**1.11**	**282**	*eS*	Sb	13 22 47.6	-5.8
	38nm,0.2s						
PICO	**Pico**	**1.36**	**274**	*eP*	Pb	13 22 38.6	-4.6
PICO				*eS*	Sb	13 22 54.0	-6.6
CALA	**Caldeira**	**1.58**	**277**	*erx*		13 22 39.5	

*CSEM **06** 13:24:11.0±0.8,31.26N×9.14W,h25km,MD3.9,Error ellipse: s-maj=16.5km s-min=11.3km az=46.0*

CNRM 06 13:24:08.2,30.95N×9.25W,h1km,MD3.9,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIA	**Chichaoua**	**0.74**	**34**	*i P*	Pg	13 24 21.0	-2.0
CIA				*i S*	Sg	13 24 32.5	-0.5
AVE	**Averroes**	**2.81**	**33**	P	Pn	13 24 52.0	-3.1
AVE				S	Sn	13 25 23.0	-7.1
CZD	**Col de Zad**	**4.13**	**59**	*i P*	Pn	13 25 12.0	-1.9
CZD				*i S*	Sn	13 25 58.0	-5.6
MIF	**Mishlifen**	**4.20**	**53**	*eP*	Pn	13 25 12.0	-2.8
MIF				*i S*	Sn	13 25 59.0	-6.3
ZFT	**Errachidia**	**4.32**	**74**	*eP*	Pn	13 25 14.0	-2.6
ZFT				*i S*	Sn	13 26 02.0	-6.4
ESPR	**Espera**	**6.54**	**25**	P	Pn	13 25 43.9	-4.0
	1.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	13 26 52.7	-11
	8.0nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**6.73**	**12**	S	Sn	13 27 00.1	-8.7
	4.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.13**	**17**	P	Pn	13 25 52.7	-3.5
	1.2nm,0.1s,SNR=13						
EMIN				S	Sn	13 27 08.0	-11
	4.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**7.78**	**23**	P	Pn	13 26 00.6	-4.7
	1.2nm,0.1s,SNR=17						
EBAD	**Badajoz**	**8.00**	**13**	P	P	13 26 05.0	-3.4
	0.7nm,0.1s,SNR=4.0						
EBAD				S	Sn	13 27 29.9	-11
	5.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**8.16**	**27**	P	P	13 26 05.4	-5.3
	5.4nm,0.2s,SNR=25						
EBAN	**Banos Encina**	**8.49**	**31**	P	P	13 26 09.6	-5.6
	2.4nm,0.2s,SNR=6.1						
EQES	**Quesada**	**8.53**	**35**	P	P	13 26 11.5	-4.3
	0.3nm,0.1s,SNR=7.9						

*NEIC **06** 14:10:51.0,46.27N×75.29W,h18km,MN3.6(OTT),After OTT.*
NEIC Felt at Lac-du-Cerf, Mont St-Michel and Nominingue.

OTT 06 14:10:51.7±0.0,46.28N×75.29W,h18km,MN3.5/52, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRQ	**Grand Remous**	**0.51**	**310**	PG	Pb	14 11 01.5	-0.4
GRQ				Trac		14 11 09.9	
	comp=Z,296nm,0.1s						
GRQ	**Grand Remous**	**0.51**	**310**	P	Pb	14 11 01.4	-0.4
GRQ				S	Sb	14 11 08.1	-0.7
TRQ	**Mont Tremblant**	**0.51**	**96**	PG	Pb	14 11 01.6	-0.2
TRQ				SG	Sb	14 11 08.6	-0.3
TRQ				Trac		14 11 09.0	
	comp=Z,885nm,0.1s						
TRQ	**Mont Tremblant**	**0.51**	**96**	P	Pb	14 11 01.6	-0.3
TRQ				S	Sb	14 11 08.5	-0.3
GAC	**Glen Almond**	**0.59**	**193**	PG	Pb	14 11 02.8	-0.3
GAC				PG	Pb	14 11 02.8	-0.3
GAC				SG	Sb	14 11 10.6	-0.4
GAC				SG	Sb	14 11 10.7	-0.3
GAC				Trac		14 11 11.4	
	comp=Z,133nm,0.0s						
GAC				Trac		14 11 11.5	
	comp=Z,220nm,0.3s						
GAC	**Glen Almond**	**0.59**	**193**	P	Pb	14 11 02.8	-0.3
GAC				S	Sb	14 11 10.5	-0.5
ALFO	**Alfred**	**0.71**	**156**	PG	Pb	14 11 04.9	-0.3
ALFO				SG	Sb	14 11 14.3	-0.2
ALFO				Trac		14 11 17.9	
	comp=Z,218nm,0.1s						
MRHQ	**Morin Heights**	**0.85**	**117**	PG	Pb	14 11 07.0	-0.6
MRHQ				SG	Sb	14 11 18.0	-0.4
MRHQ				Trac		14 11 18.6	
	comp=Z,242nm,0.1s						
OTT	**Ottawa**	**0.93**	**199**	PG	Pb	14 11 08.7	-0.2
OTT				SG	Sb	14 11 21.0	+0.1
OTT				Trac		14 11 25.5	
	comp=Z,258nm,0.1s						
MNT	**Montreal**	**1.40**	**123**	PN	Pn	14 11 16.6	0.0
MNT				SN	Sn	14 11 34.5	-0.2
MNT				Trac		14 11 38.0	
	comp=Z,83nm,0.1s						
CRLO	**Chalk River**	**1.47**	**261**	PN	Pn	14 11 17.3	-0.2
CRLO				SN	Sn	14 11 36.5	0.0
CRLO				Trac		14 11 38.3	
	comp=Z,176nm,0.1s						
PEMO	**Pembroke**	**1.49**	**247**	PN	Pn	14 11 17.7	-0.1
PEMO				SN	Sn	14 11 36.9	0.0
PEMO				Trac		14 11 38.1	
	comp=Z,303nm,0.1s						
MPPO	**Murphy's Point**	**1.66**	**205**	PN	Pn	14 11 20.6	+0.4
MPPO				SN	Sn	14 11 40.8	-0.3
MPPO				Trac		14 11 44.7	
	comp=Z,165nm,0.1s						
PLVO	**Plevna**	**1.76**	**226**	PN	Pn	14 11 21.5	-0.2
PLVO				SN	Sn	14 11 43.0	-0.8
PLVO				Trac		14 11 49.9	
	comp=Z,68nm,0.1s						
DPQ	**Saint Jean**	**1.78**	**76**	PN	Pn	14 11 21.6	-0.4
DPQ				SN	Sn	14 11 44.0	-0.4
DPQ				Trac		14 11 51.2	
	comp=Z,114nm,0.1s						
FRNY	**Flat Rock**	**1.87**	**140**	*eP*	Pn	14 11 23.5	+0.2
FRNY				*eS*	Sn	14 11 46.1	-0.6
ALGO	**Algonquin Park**	**1.95**	**261**	PN	Pn	14 11 23.7	-0.7
ALGO				SN	Sn	14 11 47.5	-1.0
ALGO				Trac		14 11 52.0	
	comp=Z,373nm,0.1s						
KGNO	**Kingston**	**2.22**	**203**	PN	Pn	14 11 27.8	-0.5
KGNO				SN	Sn	14 11 53.7	-1.7
KGNO				Trac		14 12 02.8	
	comp=Z,72nm,0.1s						
BANO	**Bancroft**	**2.24**	**237**	PN	Pn	14 11 28.4	-0.1
BANO				SN	Sn	14 11 54.5	-1.4
MOQ	**Mont Orford**	**2.33**	**113**	PN	Pn	14 11 28.6	-1.3
MOQ				SN	Sn	14 11 56.8	-1.6
MOQ				Trac		14 12 06.9	
	comp=Z,28nm,0.1s						
VLDQ	**Val d'Or**	**2.35**	**322**	PN	Pn	14 11 31.9	+1.7
VLDQ				SN	Sn	14 12 01.4	+2.5
VLDQ				Trac		14 12 15.9	
	comp=Z,36nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DELO	**Deloro Mine**	**2.41**	**224**	PN	Pn	14 11 29.9	-1.0
DELO				SN	Sn	14 11 58.7	-1.4
DELO				Trac		14 12 12.3	
	comp=Z,43nm,0.1s						
NCB	**Newcomb**	**2.43**	**161**	*e*P	Pn	14 11 31.0	-0.2
NCB				*e*S	Sn	14 12 01.0	+0.2
MIV	**Mineville/With**	**2.53**	**150**	*e*P	Pn	14 11 32.3	-0.4
MIV				*e*S	Sn	14 12 03.4	0.0
PECO	**Prince Edward**	**2.63**	**208**	PN	Pn	14 11 33.4	-0.8
PECO				SN	Sn	14 12 03.9	-2.1
PECO				Trac		14 12 15.6	
	comp=Z,76nm,0.2s						
EEO	**Eldee**	**2.64**	**279**	PN	Pn	14 11 33.3	-1.0
EEO				SN	Sn	14 12 04.6	-1.6
EEO				Trac		14 12 19.4	
	comp=Z,55nm,0.2s						
QCQ	**Quebec**	**2.82**	**78**	PN	Pn	14 11 36.2	-0.6
QCQ				SN	Sn	14 12 08.9	-1.7
QCQ				Trac		14 12 18.9	
	comp=Z,95nm,0.2s						
BUKO	**Buck Lake**	**2.99**	**255**	PN	Pn	14 11 37.9	-1.4
BUKO				SN	Sn	14 12 11.7	-3.3
BUKO				Trac		14 12 23.0	
	comp=Z,56nm,0.1s						
SADO	**Sadowa**	**3.10**	**242**	PN	Pn	14 11 39.1	-1.7
SADO				SN	Sn	14 12 14.7	-3.0
SADO				Trac		14 12 31.3	
	comp=Z,31nm,0.1s						
RSPO	**Restoule Provi**	**3.11**	**268**	PN	Pn	14 11 39.4	-1.6
RSPO				SN	Sn	14 12 15.5	-2.6
RSPO				Trac		14 12 30.2	
	comp=Z,55nm,0.2s						
ACCN	**Adirondack Com**	**3.12**	**158**	*e*Pn	Pn	14 11 39.8	-1.3
ACCN				*e*S	Sn	14 12 22.3	+4.2
LINO	**Lindsay**	**3.12**	**233**	PN	Pn	14 11 39.6	-1.5
LINO				SN	Sn	14 12 14.3	-4.1
LINO				Trac		14 12 29.0	
	comp=Z,43nm,0.1s						
HSMO	**Haileybury Sch**	**3.20**	**292**	PN	Pn	14 11 40.5	-1.8
HSMO				SN	Sn	14 12 17.0	-3.2
HSMO				Trac		14 12 33.9	
	comp=Z,90nm,0.2s						
WLVO	**Wesleyville**	**3.22**	**224**	PN	Pn	14 11 41.1	-1.4
WLVO				SN	Sn	14 12 17.6	-3.2
WLVO				Trac		14 12 34.1	
	comp=Z,35nm,0.1s						
DAQ	**Lac Daran**	**3.24**	**57**	PN	Pn	14 11 41.1	-1.8
DAQ				SN	Sn	14 12 19.0	-2.3
DAQ				Trac		14 12 34.7	
	comp=Z,54nm,0.2s						
PKRO	**Pickering**	**3.54**	**231**	PN	Pn	14 11 47.5	+0.5
PKRO				SN	Sn	14 12 26.7	-2.2
PKRO				Trac		14 12 47.2	
	comp=Z,127nm,0.2s						
A54	**Misere**	**3.55**	**69**	PN	Pn	14 11 45.0	-2.3
A54				SN	Sn	14 12 25.6	-3.6
A54				Trac		14 12 49.1	
	comp=Z,38nm,0.2s						
KLBO	**Killbear Provi**	**3.56**	**257**	PN	Pn	14 11 46.1	-1.3
KLBO				SN	Sn	14 12 25.7	-3.8
KLBO				Trac		14 12 46.9	
	comp=Z,36nm,0.1s						
A11	**Saint Roch-des**	**3.63**	**73**	PN	Pn	14 11 45.9	-2.5
A11				SN	Sn	14 12 27.2	-4.1
A11				Trac		14 12 50.5	
	comp=Z,33nm,0.3s						
LMQ	**La Malbaie**	**3.63**	**68**	PN	Pn	14 11 46.2	-2.2
LMQ				SN	Sn	14 12 27.7	-3.6
LMQ				Trac		14 12 51.4	
	comp=Z,43nm,0.1s						
KILO	**Kirkland Lake**	**3.74**	**308**	PN	Pn	14 11 48.0	-2.0
KILO				SN	Sn	14 12 30.2	-3.8
KILO				Trac		14 12 46.8	
	comp=Z,26nm,0.1s						
A16	**Riviere Ouelle**	**3.82**	**70**	PN	Pn	14 11 48.8	-2.2
A16				SN	Sn	14 12 32.2	-3.8
A16				Trac		14 12 53.6	
	comp=Z,12nm,0.1s						
A61	**Sainte Mathild**	**3.83**	**66**	PN	Pn	14 11 49.0	-2.2
A61				SN	Sn	14 12 32.4	-3.9
A61				Trac		14 12 53.0	
	comp=Z,32nm,0.2s						
MEDO	**Medina**	**3.84**	**217**	PN	Pn	14 11 49.8	-1.6
MEDO				SN	Sn	14 12 33.4	-3.2
MEDO				Trac		14 12 50.8	
	comp=Z,42nm,0.2s						
TORO	**Toronto--Lesli**	**3.92**	**229**	PN	Pn	14 11 54.1	+1.6
TORO				Trac		14 12 57.6	
	comp=Z,150nm,0.2s						
CLWO	**Collingwood**	**3.98**	**244**	PN	Pn	14 11 50.8	-2.5
CLWO				SN	Sn	14 12 36.2	-3.8
CLWO				Trac		14 12 55.1	
	comp=Z,59nm,0.3s						
A64	**Saint Simeon**	**4.00**	**65**	PN	Pn	14 11 51.2	-2.4
A64				SN	Sn	14 12 37.1	-3.5
A64				Trac		14 12 58.6	
	comp=Z,33nm,0.2s						
A21	**Saint Andre**	**4.09**	**68**	PN	Pn	14 11 52.6	-2.3
A21				SN	Sn	14 12 38.8	-4.1
A21				Trac		14 13 00.2	
	comp=Z,37nm,0.2s						
BINY	**Binghamton**	**4.11**	**187**	Pn	Pn	14 11 51.8	-3.4
SUNO	**Sudbury Onapin**	**4.20**	**277**	PN	Pn	14 11 54.3	-2.2
SUNO				SN	Sn	14 12 40.8	-4.8
SUNO				Trac		14 13 02.5	
	comp=Z,25nm,0.2s						
ACTO	**Acton**	**4.31**	**233**	PN	Pn	14 11 56.0	-2.1
ACTO				SN	Sn	14 12 43.7	-4.8
ACTO				Trac		14 13 07.6	
	comp=Z,25nm,0.1s						
PTCO	**Port Colborne**	**4.44**	**222**	PN	Pn	14 11 57.1	-2.9
PTCO				SN	Sn	14 12 47.2	-4.6
PTCO				Trac		14 13 11.6	
	comp=Z,12nm,0.1s						
ELGO	**Elora Gorge**	**4.48**	**236**	PN	Pn	14 11 59.6	-0.8
ELGO				Trac		14 13 16.0	
	comp=Z,26nm,0.2s						
TOBO	**Tobermory, Bru**	**4.49**	**259**	PN	Pn	14 11 58.8	-1.7
TOBO				SN	Sn	14 12 48.0	-4.9
TOBO				Trac		14 13 10.4	
	comp=Z,20nm,0.2s						
TYNO	**Tyneside**	**4.56**	**227**	PN	Pn	14 12 01.5	-0.1
TYNO				Trac		14 12 54.2	
	comp=Z,21nm,0.1s						
TIMO	**Timmins Ontari**	**4.63**	**300**	PN	Pn	14 11 59.7	-2.9
TIMO				SN	Sn	14 12 51.6	-5.1
TIMO				Trac		14 13 16.2	
	comp=Z,33nm,0.2s						
HGVO	**Hagersville**	**4.79**	**228**	PN	Pn	14 12 02.3	-2.5
HGVO				SN	Sn	14 12 54.6	-5.8
HGVO				Trac		14 13 28.7	
	comp=Z,16nm,0.1s						
BRCO	**Bruce Peninsul**	**4.79**	**247**	PN	Pn	14 12 07.6	+2.7
BRCO				SN	Sn	14 12 55.2	-5.5
BRCO				Trac		14 13 24.9	
	comp=Z,95nm,0.3s						
MALO	**McAlpine Lake**	**4.80**	**323**	PN	Pn	14 12 02.2	-2.8
MALO				SN	Sn	14 12 54.9	-5.8
MALO				Trac		14 12 57.3	
	comp=Z,8.7nm,0.1s						
ELFO	**Elginfield**	**5.28**	**236**	PN	Pn	14 12 09.1	-2.7
ELFO				SN	Sn	14 13 06.1	-6.9
ELFO				Trac		14 13 40.9	
	comp=Z,54nm,0.2s						
PAL	**Palisades**	**5.37**	**169**	Pn	Pn	14 12 09.5	-3.4
CNQ	**Baie Comeau**	**5.73**	**55**	PN	Pn	14 12 13.6	-4.5
CNQ				SN	Sn	14 13 16.9	-7.2
CNQ				Trac		14 13 53.3	
	comp=Z,20nm,0.3s						
KAPO	**Kapuskasing**	**5.80**	**306**	PN	Pn	14 12 15.9	-3.1
KAPO				SN	Sn	14 13 17.7	-8.3
KAPO				Trac		14 13 22.7	
	comp=Z,3.4nm,0.1s						
GGN	**Saint George**	**6.03**	**98**	PN	Pn	14 12 21.1	-1.3
GGN				Trac		14 14 04.0	
	comp=Z,4.8nm,0.2s						
MNQ	**Manicouagan**	**6.08**	**43**	PN	Pn	14 12 19.8	-3.2
MNQ				SN	Sn	14 13 25.4	-7.4
MNQ				Trac		14 14 08.4	
	comp=Z,7.4nm,0.1s						
GSQ	**Grosses Roches**	**6.13**	**62**	PN	Pn	14 12 20.1	-3.6
GSQ				SN	Sn	14 13 26.1	-8.0
GSQ				Trac		14 14 04.7	
	comp=Z,4.2nm,0.1s						
ICQ	**Pointe Anglais**	**6.29**	**56**	PN	Pn	14 12 21.3	-4.8
ICQ				SN	Sn	14 13 29.1	-9.1
ICQ				Trac		14 14 15.3	
	comp=Z,9.0nm,0.3s						
YOSQ	**Ashton Mining**	**6.89**	**16**	PN	Pn	14 12 30.2	-4.3
YOSQ				SN	Sn	14 13 42.5	-11
YOSQ				Trac		14 14 31.4	
	comp=Z,15nm,0.2s						
PLIO	**Pelee Island,**	**6.96**	**232**	PN	Pn	14 12 32.5	-2.9
PLIO				SN	Sn	14 13 47.5	-7.4
PLIO				Trac		14 14 27.7	
	comp=Z,7.7nm,0.2s						
SMQ	**Clarke City**	**6.96**	**52**	PN	Pn	14 12 30.9	-4.6
SMQ				SN	Sn	14 13 45.6	-9.3
SMQ				Trac		14 13 48.7	
	comp=Z,4.5nm,0.1s						
WEMQ	**Wemindji, Queb**	**7.00**	**347**	PN	Pn	14 12 31.8	-4.2
WEMQ				SN	Sn	14 13 45.2	-11
WEMQ				Trac		14 13 47.9	
	comp=Z,3.6nm,0.1s						
LMN	**Caledonia Moun**	**7.31**	**90**	PN	Pn	14 12 36.4	-3.9
LMN				SN	Sn	14 13 54.2	-9.5
LMN				Trac		14 14 25.7	
	comp=Z,1.0nm,0.2s						
LG4Q	**La Grande 4**	**7.40**	**6**	PN	Pn	14 12 36.7	-4.9
LG4Q				SN	Sn	14 13 55.8	-10
LG4Q				Trac		14 14 41.4	
	comp=Z,5.7nm,0.2s						
PNPO	**Pukaskwa Natio**	**7.81**	**291**	PN	Pn	14 12 41.9	-5.4
PNPO				Trac		14 14 16.5	
	comp=Z,1.8nm,0.1s						
VIMO	**Victor Mine**	**8.54**	**323**	PN	P	14 12 52.6	-4.9
VIMO				SN	Sn	14 14 24.4	-10
VIMO				Trac		14 15 21.5	
	comp=Z,2.1nm,0.3s						
NANO	**Nakina Ontario**	**8.78**	**302**	PN	P	14 12 56.2	-4.6
NANO				SN	Sn	14 14 29.6	-11
NANO				Trac		14 15 27.1	
	comp=Z,3.2nm,0.2s						
SCHQ	**Schefferville**	**10.11**	**29**	PN	P	14 13 13.2	-5.8
SCHQ				SN	S	14 15 00.2	-13
SCHQ				Trac		14 16 04.7	
	comp=Z,2.0nm,0.3s						
SILO	**Sutton Inlier**	**10.25**	**327**	PN	P	14 13 15.3	-5.6
SILO				SN	S	14 15 03.5	-13
SILO				Trac		14 15 23.6	
	comp=Z,0.5nm,0.1s						
PKLO	**Pickle Lake**	**11.20**	**303**	PN	P	14 13 23.5	-10
PKLO				Trac		14 16 52.8	
	comp=Z,0.8nm,0.2s						
SOLO	**Sioux Lookout**	**11.82**	**295**	PN	P	14 13 46.8	+4.4
DRLN	**Deer Lake**	**12.33**	**70**	PN	P	14 13 34.7	-15

KRSC 06 14:14:20.9±1.1**, 55.43N**×**166.51E, h21**^{km}±2^{km}**, ML3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**234**	*i* P	Pb	14 14 28.7	-0.2
BKI				*i* S	Sb	14 14 34.1	-0.3
BKI				Smax			
	2μm,0.4s						
KBTR	**Krutoberegovo**	**2.22**	**292**	*i* P	Pn	14 14 55.5	-1.8
KBTR				*i* S	Sn	14 15 22.3	-2.1
KBG	**Krutoberegovo**	**2.30**	**293**	*e*P	Pn	14 14 56.7	-1.7
KBG				*e*S	Sn	14 15 24.5	-1.9
KBG				Smax			
	120nm,0.5s						
MKZ	**Mys Kozlova**	**2.89**	**254**	*e*P	Pn	14 15 07.1	+0.3
MKZ				*i* S	Sn	14 15 40.1	-1.2
KLY	**Klyuchi**	**3.42**	**287**	*i* P	Pn	14 15 12.5	-1.8
KLY				*i* S	Sn	14 15 50.3	-4.4
KRSR	**Krestovskiy**	**3.44**	**286**	*e*P	Pn	14 15 15.2	+0.5
KRSR				*e*S	Sn	14 15 54.8	-0.6
KMNR	**Kamenistaya**	**3.58**	**278**	*e*P	Pn	14 15 17.9	+1.4
KMNR				*e*S	Sn	14 15 59.1	+0.5
KPT	**Kopyto**	**3.60**	**281**	*i* P	Pn	14 15 18.3	+1.4
KPT				*i* S	Sn	14 15 59.4	+0.1
KOZ	**Kozyrevsk**	**3.80**	**282**	*e*P	Pn	14 15 20.4	+0.6
KOZ				*e*S	Sn	14 16 02.9	-1.5
SRDR	**Sredinnyy**	**3.93**	**286**	*e*P	Pn	14 15 22.7	+1.1
SRDR				*e*S	Sn	14 16 08.3	+0.7
KII	**Karymskiy**	**4.33**	**254**	*e*P	Pn	14 15 26.9	-0.3
KII				*e*S	Sn	14 16 14.8	-2.8
ESO	**Esso**	**4.45**	**280**	*e*P	Pn	14 15 27.7	-1.3
ESO				*e*S	Sn	14 16 17.0	-3.8
SPN	**Mys Shipunski**	**4.46**	**241**	*e*P	Pn	14 15 28.4	-0.8
SPN				*e*S	Sn	14 16 17.1	-4.0
NLC	**Nalytchevo**	**4.77**	**245**	*e*P	Pn	14 15 32.9	-0.6
NLC				*e*S	Sn	14 16 24.0	-4.8
SDLR	**Sedlovina**	**4.95**	**247**	*e*P	Pn	14 15 36.1	0.0
SDLR				*i* S	Sn	14 16 31.6	-1.9
SMAR	**Somma**	**5.00**	**247**	*e*P	Pn	14 15 37.0	+0.2
SMAR				*e*S	Sn	14 16 32.6	-2.2
UGLR	**Uglovaya**	**5.02**	**247**	*e*P	Pn	14 15 37.4	+0.4
UGLR				*e*S	Sn	14 16 33.7	-1.5
AVH	**Avacha**	**5.04**	**248**	*e*P	Pn	14 15 37.6	+0.3
AVH				*e*S	Sn	14 16 31.8	-3.8
KOK	**Koryaka**	**5.08**	**248**	*e*P	Pn	14 15 38.2	+0.3
KOK				*e*S	Sn	14 16 34.5	-2.1
PET	**Petropavlovsk**	**5.20**	**246**	*e*P	Pn	14 15 39.7	+0.1
PET				*e*S	Sn	14 16 37.4	-2.3
GNL	**Ganaly**	**5.28**	**254**	*e*P	Pn	14 15 41.0	+0.3
GNL				*e*S	Sn	14 16 38.7	-3.0
KRMR	**Karymshinskiy**	**5.57**	**246**	*e*P	Pn	14 15 45.0	+0.2
KRMR				*e*S	Sn	14 16 45.7	-3.3
RUS	**Russkaya**	**5.60**	**241**	*e*P	Pn	14 15 43.5	-1.7
RUS				*e*S	Sn	14 16 44.4	-5.2
APC	**Apacha**	**6.04**	**249**	*e*P	Pn	14 15 51.4	0.0
APC				*e*S	Sn	14 16 57.2	-3.5

MAN 06 14:53:59.5, 19.22N×**121.21E, h19**^{km}**, mb3.7, ML2.4, MS2.0, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.26**	**141**	*e*P	Pn	14 54 21.8	-0.5
SGCP				*e*S	Sb	14 54 41.3	+3.2
BBP	**Basco**	**1.41**	**30**	*e*P	Pn	14 54 23.5	-0.9
CVP	**Callao Caves**	**1.62**	**159**⇓	*e*P	Pn	14 54 27.0	-0.5
CVP				*e*S	Sn	14 54 48.0	+0.1
ABRA	**Dolores**	**1.63**	**197**	*e*P	Pn	14 54 26.7	-1.0
CAUP	**Cauayan**	**2.34**	**165**	*e*P	Pn	14 54 39.7	+1.9

*UPP **06** 15:05:01.6, 57.67N×22.35E, h0^{km}, ML2.2, Mining explosion.*
*CSEM **06** 15:05:01.6±0.3, 57.86N×22.42E, h2^{km}, ML2.2, Error ellipse: s-maj=8.9km s-min=3.8km az=163.0, Mining explosion.*
*NAO **06** 15:05:02.9±2.2, 57.92N×22.24E, ML2.5*
*BER **06** 15:05:04.4±3.4, 57.85N×22.24E, ML2.5(NAO), Suspected explosion*
HEL 06 15:05:01.2±0.4**, 57.69N**×**22.33E, ML2.2, ML2.2**(UPP)**, ML2.5**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	**Gotland**	**2.02**	**272**	*e*P	Pn	15 05 37.5	+0.6
GOTU				*e*S	Sn	15 06 05.6	+2.4
GOTU	**Gotland**	**2.02**	**272**	P	Pn	15 05 37.5	+0.6
GOTU				S	Sn	15 06 05.5	+2.3
VSU	**Vasula**	**2.46**	**70**	*e*P	Pn	15 05 42.6	-0.7
VSU				*e*S	Sn	15 06 15.1	+0.6
VSU	**Vasula**	**2.46**	**70**	Pn	Pn	15 05 42.4	-0.8
VSU				Sn	Sn	15 06 15.7	+1.2
VSU	**Vasula**	**2.46**	**70**	P	Pn	15 05 42.5	-0.8
VSU				S	Sn	15 06 15.1	+0.6
NYNU	**Nynaeshamn**	**2.64**	**302**	*e*P	Pn	15 05 44.7	-1.0
NRTU	**Norrtaelje**	**2.78**	**317**	*e*P	Pn	15 05 48.4	+0.6
NRTU	**Norrtaelje**	**2.78**	**317**	P	Pn	15 05 48.3	+0.6
GRAU	**Graesoe**	**3.30**	**325**	*e*P	Pn	15 05 54.1	-1.0
FLYU	**Flymyra**	**3.36**	**319**	*e*P	Pn	15 05 56.4	+0.3
FLYU	**Flymyra**	**3.36**	**319**	P	Pn	15 05 56.3	+0.3
PVF	**Pernaja**	**3.40**	**31**	*e*P	Pn	15 05 55.6	-0.9
PVF				*e*S	Sn	15 06 36.1	-2.0
PVF				MSG		15 06 53.6	
	comp=Z,7.9nm,0.3s						
PVF	**Pernaja**	**3.40**	**31**	P	Pn	15 05 55.6	-0.9
PVF				S	Sn	15 06 36.1	-2.0
	comp=Z,7.9nm,0.3s						
ESKU	**Eskilstuna**	**3.48**	**299**	*e*P	Pn	15 05 56.8	-1.0
LNKU	**Linkoeping**	**3.68**	**281**	*e*P	Pn	15 05 59.5	-1.0
OSTU	**Oestervaala**	**3.71**	**316**	*e*P	Pn	15 06 00.5	-0.4
VJF	**Virojoki**	**3.93**	**41**	*e*P	Pn	15 06 01.8	-2.2
VJF				MSG		15 07 09.4	
	comp=Z,5.5nm,0.2s						
VJF	**Virojoki**	**3.93**	**41**	P	Pn	15 06 01.8	-2.3
	comp=Z,5.5nm,0.2s						
FIA0	**FINESS Array S**	**4.22**	**25**	Pn	Pn	15 06 05.9	-2.4
	baz=204,slow=12						
FIA0				Pg	Pg	15 06 15.6	-10
	baz=204,slow=16						
FIA0				Sn	Sn	15 06 53.5	-5.6
	baz=210,slow=22						
FIA0				Lg		15 07 09.8	
	baz=208,slow=28						
FIA0	**FINESS Array S**	**4.22**	**25**	*e*P	Pn	15 06 05.7	-2.5
FIA0				*e*S	Sn	15 06 55.9	-3.2
FIA0				MSG		15 07 15.6	
FIA0	**FINESS Array S**	**4.22**	**25**	P	Pn	15 06 05.7	-2.6
FIA0				S	Sn	15 06 55.8	-3.2
FALU	**Falun**	**4.38**	**313**	*e*P	Pn	15 06 08.2	-2.3
KEF	**Keuruu**	**4.67**	**15**	*e*P	Pn	15 06 12.7	-2.0
KEF				MSG		15 07 26.4	
	comp=Z,2.9nm,0.2s						
KEF	**Keuruu**	**4.67**	**15**	P	Pn	15 06 12.6	-2.0
	comp=Z,2.9nm,0.2s						
KAF	**Kangasniemi**	**4.87**	**23**	*e*P	Pn	15 06 15.2	-2.2
HFS	**Hagfors**	**5.10**	**302**	Pn	Pn	15 06 18.4	-2.3
	baz=128,slow=12						
HFS				Sn	Sn	15 07 14.8	-6.6
	baz=110,slow=28						
HFS				Lg		15 07 37.0	
	baz=113,slow=37						
HFS	**Hagfors**	**5.10**	**302**	*e*P	Pn	15 06 18.4	-2.3
HFS				*e*S	Sn	15 07 14.8	-6.6
HFS				*e*SG		15 07 37.0	
VAF	**Ylistaro**	**5.38**	**2**	*e*P	Pn	15 06 21.7	-2.9
VAF				*e*S	Sn	15 07 23.0	-5.1
VAF				*e*SG	Sg	15 07 47.8	-12
VAF				MSG		15 07 59.6	
	comp=Z,1.2nm,0.1s						
NB2	**NORSAR Subarra**	**6.60**	**305**	Pn	Pn	15 06 37.8	-4.1
	baz=117,slow=14						
NB2				Sn	Sn	15 07 51.9	-6.9
NB2				Lg		15 08 23.4	
	baz=123,slow=28						
NB2	**NORSAR Subarra**	**6.60**	**305**	*e*P	Pn	15 06 37.8	-4.1
NB2				*e*S	Sn	15 07 51.9	-6.9
NB2				*e*SG		15 08 23.4	

*NEIC **06** 15:07:58.6±0.7, 23.91S×66.63W, h200^{km}±7^{km}, mb4.0/1, Error ellipse: s-maj=10.8km s-min=8.7km az=101.0*
*IDC **06** 15:07:58.4±0.9, 23.86S×66.60W, h197^{km}±9^{km}, mb3.4/7, mb1 3.6/14, mb1mx3.6/20, mbtmp4.0/14, Error ellipse: s-maj=15.2km s-min=11.0km az=69.0*
ISC 06 15:07:57.4±0.6**, 23.95S**±0.05×**66.62W**±0.08**, h203**^{km}±8^{km}**, n22,** σ**0**ˢ**94**/23**, mb3.5**/7**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.49**	**302**	P	**P**	**15 08 43.2**	**+1.4**
LVC				S	**S**	**15 09 16.3**	**+0.3**
	baz=246,slow=19						
LPAZ	**La Paz**	**7.75**	**349**	P	**P**	**15 09 46.2**	**-2.0**
	1.4nm,0.3s,baz=302,slow=11,SNR=22						
LPAZ				S	**S**	**15 11 14.9**	**+0.1**
	baz=261,slow=18,SNR=2.5						
CFAA	**Coronel Fontan**	**7.76**	**190**	P	**P**	**15 09 47.9**	**-0.4**
	0.3nm,0.3s,baz=36,slow=16,SNR=18						
CFAA				S	**S**	**15 11 09.3**	**-5.6**
	1.2nm,0.3s,baz=208,slow=12,SNR=16						
CFAA	**Coronel Fontan**	**7.76**	**190**	P	**P**	**15 09 47.9**	**-0.4**
CFAA				S	**S**	**15 11 09.3**	**-5.6**
CPUP	**Villa Florida**	**8.75**	**108**	P	**P**	**15 10 01.9**	**+0.8**
	0.6nm,0.3s,baz=301,slow=14,SNR=18						
SIV	**San Ignacio**	**9.48**	**34**	P	**P**	**15 10 10.1**	**-0.5**
	0.7nm,0.3s,baz=228,slow=12,SNR=16						
TRQA	**Tornquist**	**14.61**	**165**	*e*Pn	**P**	**15 11 14.0**	**-1.7**
	4.2nm,0.6s						
PLCA	**Paso Flores**	**17.06**	**190**	P	**P**	**15 11 44.4**	**-0.8**
	0.2nm,0.3s,baz=1.4,slow=10,SNR=7.0						
BDFB	**Brasilia**	**19.35**	**68**	P	**P**	**15 12 09.7**	**+0.4**
	1.2nm,0.3s,baz=246,slow=10,SNR=24						
BAO	**Brasilia Array**	**19.37**	**68**	P	**P**	**15 12 10.5**	**+0.9**
PMSA	**Palmer Station**	**40.85**	**178**	P	**P**	**15 15 20.9**	**+0.3**
SNAA	**Sanae**	**59.28**	**161**	P	**P**	**15 17 39.6**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=292,slow=8.9,SNR=6.8						
TXAR	**Lajitas Array**	**63.84**	**324**	P	**P**	**15 18 11.1**	**+0.7**
	0.7nm,0.4s,mb3.6,baz=156,slow=8.9,SNR=7.1						
VNDA	**Vanda**	**74.81**	**190**	P	**P**	**15 19 17.4**	**+1.0**
	0.3nm,0.6s,mb3.1,baz=186,slow=0.1,SNR=3.9						
PDAR	**Pinedale Array**	**77.28**	**329**	P	**P**	**15 19 31.2**	**+0.5**
	0.3nm,0.5s,mb3.2,baz=131,slow=8.3,SNR=3.4						
ULM	**Lac du Bonnet**	**78.29**	**341**	P	**P**	**15 19 35.2**	**-0.9**
	1.4nm,0.6s,mb3.8,baz=270,slow=2.0,SNR=3.4						
ULM	**Lac du Bonnet**	**78.29**	**341**	P	**P**	**15 19 35.2**	**-0.9**
SCHQ	**Schefferville**	**78.46**	**360**	P	**P**	**15 19 35.5**	**-1.5**
	2.6nm,0.9s,mb3.9,baz=42,slow=16,SNR=3.1						
MAW	**Mawson**	**81.38**	**163**	P	**P**	**15 19 53.3**	**+1.0**
	1.1nm,0.7s,mb3.6,baz=193,slow=8.7,SNR=6.6						
WRA	**Warramunga Arr**	**131.83**	**207**	PKhKP		15 26 42.4	
	0.6nm,0.4s,baz=154,slow=2.0,SNR=6.8						
WRA				PKP	PKPdf	15 26 48.8	+1.7
	0.5nm,0.3s,baz=159,slow=1.8,SNR=25						
MKAR	**Makanchi Array**	**146.27**	**40**	PKPbc	PKPbc	15 27 14.4	+0.8
	1.3nm,0.5s,baz=306,slow=3.7,SNR=16						
SONM	**Songino Array**	**155.52**	**11**	PKPab	PKPab	15 27 54.1	-1.3
	0.3nm,0.4s,baz=284,slow=5.9,SNR=5.4						

*IDC **06** 16:33:45.1±1.2, 8.38N×93.68E, mb3.8/10, mb1 4.0/10, mb1mx3.9/19, mbtmp3.8/10, Error ellipse: s-maj=50.2km s-min=23.5km az=53.0*
ISC 06 16:33:47.9±1.1**, 8.2N**±0.2×**93.7E**±0.2**, h33**^{km}**, n17,** σ**1**ˢ**01**/15**, mb4.0**/13**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**20.77**	**339**	*e*P	**P**	**16 38 30.6**	**+2.0**
	14nm,0.8s						
DMN	**Daman**	**20.91**	**338**	*e*P	**P**	**16 38 31.5**	**+1.4**
	11nm,0.8s						
KKN	**Kakani**	**21.01**	**339**	*e*P	**P**	**16 38 32.3**	**+1.2**
	9.9nm,0.6s,mb4.3						
GKN	**Gorkha**	**21.44**	**338**	*e*P	**P**	**16 38 35.0**	**-0.4**
	14nm,0.4s,mb4.6						
KOLN	**Koldanda**	**21.65**	**335**	*e*P	**P**	**16 38 37.4**	**-0.1**
	11nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**39.64**	**348**	P	**P**	**16 41 16.9**	**-1.3**
	0.5nm,0.7s,mb3.3,baz=197,slow=10.0,SNR=4.0						
SONM	**Songino Array**	**40.91**	**13**	P	**P**	**16 41 28.5**	**-0.2**
	0.4nm,0.7s,mb3.1,baz=185,slow=6.5,SNR=3.5						
SONM				PcP	PcP	16 43 30.2	+0.7
	0.3nm,0.4s,baz=209,slow=3.2,SNR=3.9						
ZAL	**Zalesovo**	**46.13**	**353**	P	**P**	**16 42 09.2**	**-1.7**
	2.5nm,0.3s,mb4.6,baz=176,slow=6.3,SNR=2.4						
BVAR	**Borovoye Array**	**48.51**	**341**	P	**P**	**16 42 27.9**	**-1.6**
	0.3nm,0.4s,mb3.7,baz=147,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**48.83**	**126**	P	**P**	**16 42 33.0**	**+0.5**
	0.4nm,0.3s,mb3.9,baz=303,slow=8.9,SNR=23						
MJAR	**Matsushiro Arr**	**49.24**	**48**	PcP	PcP	16 43 59.1	+0.6
	1.4nm,0.8s,baz=230,slow=3.3,SNR=4.3						
BRTR	**Keskin Array B**	**61.86**	**311**	P	**P**	**16 44 05.6**	**-0.8**
	0.4nm,0.4s,mb3.9,baz=135,slow=8.7,SNR=3.7						
FINES	**FINESS Array B**	**72.19**	**332**	P	**P**	**16 45 11.2**	**0.0**
	0.9nm,0.9s,mb3.7,baz=117,slow=8.5,SNR=4.2						
ARCES	**ARCESS Array B**	**74.78**	**340**	P	**P**	**16 45 26.8**	**+0.6**
	3.4nm,0.8s,mb4.3,baz=323,slow=6.1,SNR=2.4						
GERES	**GERESS Array B**	**77.27**	**318**	P	**P**	**16 45 40.8**	**+0.1**
	0.2nm,0.3s,mb3.5,baz=45,slow=1.9,SNR=4.2						
ILAR	**Eielson Array**	**94.57**	**22**	P	**P**	**16 47 06.5**	**+0.5**
	0.5nm,0.6s,mb4.1,baz=296,slow=4.7,SNR=6.1						
PLCA	**Paso Flores**	**144.74**	**201**	PKP	PKPdf	16 53 24.2	+2.5
	1.1nm,0.7s,baz=147,slow=7.9,SNR=3.5						

*IDC **06** 17:06:07.3±1.3, 55.81S×142.99W, mb3.7/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.7/2, MS3.6/4, Ms1 3.6/4, ms1mx3.3/19, Error ellipse: s-maj=460.6km s-min=33.2km az=177.0*
*NEIC **06** 17:06:08.3±1.1, 56.12S×142.59W, h10^{km}, mb4.1/2, Error*

ellipse: s-maj=31.5km s-min=26.2km az=23.0

ISC 06 17:06:06.6±1.4**, 56.2S**±0.2×**142.7W**±0.4**, h10^{km}, n15, σ1^{s}32**/9**, mb3.8**/3**, MS3.6**/4**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	28.60	202	LR	LR	17 22 30.2	
	comp=Z,38nm,18.2s,MS3.0,baz=156,slow=34						
PLCA	Paso Flores	48.00	103	LR	LR	17 29 26.4	
	comp=Z,82nm,19.2s,MS3.7,baz=174,slow=29						
PLCA	Paso Flores	48.00	103	P	P	17 14 44.9	-2.4
	1.8nm,1.0s,mb4.1						
VNA3	Neumayer Olymp	48.64	162		P	17 14 52.5	+0.6
VNA2	Neumayer--Watz	49.31	162		P	17 14 57.2	+0.2
SNAA	Sanae	49.39	164		P	17 14 56.0	-1.6
SNAA	Sanae	49.39	164	P	P	17 14 55.9	-1.7
VNA1	Neumayer--Stat	49.39	162		P	17 14 58.9	+1.3
MAW	Mawson	55.10	192	LR	LR	17 36 14.6	
	comp=Z,73nm,21.6s,MS3.7,baz=230,slow=33						
LPAZ	La Paz	68.03	87	P	P	17 17 10.2	+2.0
	0.9nm,0.9s,mb3.8,baz=191,slow=5.2,SNR=4.0						
LPAZ	La Paz	68.03	87	P	P	17 17 09.4	+1.2
	1.4nm,1.0s,mb4.0						
WRA	Warramunga Arr	69.80	264	P	P	17 17 18.7	-0.3
	0.4nm,0.7s,mb3.5,baz=144,slow=5.8,SNR=9.9						
ANMO	Albuquerque	95.84	29	LR	LR	17 55 28.3	
	comp=Z,45nm,18.2s,MS4.0,slow=31						
ESDC	Sonseca Array	148.38	104	PKPbc	PKPdf	17 25 54.9	+3.0
	1.7nm,0.8s,baz=207,slow=3.3,SNR=4.5						
MKAR	Makanchi Array	150.94	270	PKPbc	PKPdf	17 26 00.2	+4.5
	1.6nm,0.9s,baz=135,slow=1.7,SNR=11						

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*IDC **06** 17:40:07.8±0.6, 0.08N×97.62E, mb4.3/14, mb1 4.4/14, mb1mx4.4/18, mbtmp4.3/14, MS3.9/6, Ms1 3.9/6, ms1mx3.7/15, Error ellipse: s-maj=27.8km s-min=15.4km az=55.0*

*BJI **06** 17:40:09.0, 0.30S×97.59E, h33^{km}, mB5.1, mb4.8, Ms4.5, Msz4.1*

*NEIC **06** 17:40:10.7±0.4, 0.01S×97.56E, mb4.9/17, MS4.2/2, Error ellipse: s-maj=11.8km s-min=8.6km az=56.0*

*HRVD **06** 17:40:10.7±1.0, 0.10S×97.63E, h15^{km}±4^{km}, MW4.7/31, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s31,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.01±.12; $M_{\theta\theta}$-0.36±.11; $M_{\phi\phi}$0.34±.13; $M_{r\theta}$0.27±.37; $M_{\theta\phi}$1.08±.10; $M_{\phi r}$1.09±.55; Best double couple: $M_0$1.553×10^{16} NP1:ϕ_s86°,δ49°,λ6°. NP2:ϕ_s353°, δ86°,λ138°. Principal axes: T 1.77, Plg31°, Azm301°; N -.434, Plg48°, Azm168°; P -1.335, Plg24°, Azm47°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **06** 17:40:11.1±0.9, 0.10N×97.65E, h33^{km}, mb5.0/19 Error ellipse: s-maj=17.2km s-min=8.1km az=109.6*

ISC 06 17:40:09.3±0.4**, 0.03N**±0.06×**97.68E**±0.07**, h20^{km}, h20^{km}**±1.0^{km}**:pP-P, n99, σ1^{s}07**/96**, mb4.7**/46**, MS4.1**/14**, 4C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.01	30	ePn	Pn	17 41 39.6	+0.1
KULM				e		17 41 45.4	
SNG	Songkhla	7.68	22	P	Pn	17 42 03.0	+0.1
	126nm,0.8s						
CHG	Chiang Mai	18.71	4	⇑P	P	17 44 31.0	+2.0
	11nm,0.9s						
KMI	Kunming	25.42	11	P	P	17 45 40.3	+2.8
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.3						
KMI				LR	LR		
	comp=Z,479nm,17.6s,MS4.1						
KMI	Kunming	25.42	11	P	P	17 45 40.3	+2.8
	comp=Z,11nm,1.0s,mb4.3						
KMI				S	S	17 49 49.8	-11
KMI				LR	LR		
	comp=Z,480nm,17.6s,MS4.1						
KMI	Kunming	25.42	11	P	P	17 45 40.3	+2.8
KMI				S	S	17 49 49.8	-11
KMI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
KMI				MLR	MLR		
	comp=Z,480nm,17.6s,MS4.1						
HYB	Hyderabad	25.55	314	i P	P	17 45 38.0	-0.8
HYB	Hyderabad	25.55	314	eP	P	17 45 38.0	-0.8
PKI	Pulchoki	29.81	338	eP	P	17 46 18.0	+0.5
DMN	Daman	29.96	337	eP	P	17 46 18.9	+0.1
	comp=Z,27nm,0.9s,mb5.0						
KKN	Kakani	30.06	338	eP	P	17 46 19.6	0.0
	comp=Z,36nm,0.8s,mb5.1						
LSA	Lhasa	30.16	349	P	P	17 46 20.3	-0.2
LSA	Lhasa	30.16	349	eP	P	17 46 21.3	+0.8
	comp=Z,9.0nm,0.6s,mb4.7						
LSA				epP	pP	17 46 27.4	+0.9
LSA				e		17 46 31.1	
LSA	Lhasa	30.16	349	eP	P	17 46 21.3	+0.8
LSA				e		17 46 31.1	
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
GKN	Gorkha	30.50	337	eP	P	17 46 23.6	+0.1
	comp=Z,49nm,1.1s,mb5.1						
KOLN	Koldanda	30.71	335	eP	P	17 46 26.0	+0.6
	comp=Z,32nm,0.8s,mb5.2						
ENH	Enshi	32.11	19	eP	P	17 46 36.8	-0.8
	comp=Z,16nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	32.87	125	P	P	17 46 43.7	-0.6
	comp=Z,27nm,0.9s,mb5.2,baz=300,slow=3.5,SNR=11						
XAN	Xi'an	35.44	16	P	P	17 47 05.9	-0.5
XAN				AMB	AMB		
	comp=Z,27nm,1.0s,mb5.1						
LZH	Lanzhou	36.33	8	eP	P	17 47 14.8	+0.9
LZH				AP	pP	17 47 20.3	+0.4
LZH				XP	sP	17 47 24.7	+2.3
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
LZH				LR	LR		
	comp=E,1μm,16.4s						
LZH				LR	LR		
	comp=Z,900nm,21.0s,MS4.5						
LZH	Lanzhou	36.33	8	eP	P	17 47 14.8	+0.9
	comp=Z,30nm,1.2s,mb5.1						
LZH				pP	pP	17 47 20.3	+0.4
LZH				sP	sP	17 47 24.7	+2.3
LZH				LR	LR		
	comp=Z,900nm,21.0s,MS4.5						
LZH	Lanzhou	36.33	8	eP	P	17 47 14.8	+0.9
LZH				*SP	sP	17 47 24.7	+2.3
LZH				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
LZH				MLR	MLR		
	comp=Z,900nm,21.0s,MS4.5						
NJ2	Nanjing	37.62	30	eP	P	17 47 23.2	-1.5
NJ2				AP	pP	17 47 33.2	+2.4
NJ2				XP	sP	17 47 37.8	+4.5
NJ2				PP	PP	17 48 50.5	-3.0
NJ2				S	S	17 53 08.0	-4.9
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,450nm,5.1s						
NJ2				LR	LR		
	comp=N,1μm,20.0s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,18.0s,MS4.9						
NJ2				LR	LR		
	comp=Z,530nm,16.7s,MS4.4						
SSE	Sheshan	38.10	34	P	P	17 47 28.7	-0.1
SSE				XP	sP	17 47 41.4	+4.0
SSE				S	S	17 53 18.3	-1.9
SSE				XS		17 53 33.8	
SSE				SS	SS	17 56 04.4	+6.3
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,335nm,4.7s						
SSE				LR	LR		
	comp=N,302nm,18.5s,MS4.2						
SSE				LR	LR		
	comp=E,75nm,18.6s,MS4.2						
SSE				LR	LR		
	comp=Z,194nm,21.9s,MS3.9						
SSE	Sheshan	38.10	34	P	P	17 47 28.7	-0.1
	comp=Z,25nm,0.8s,mb5.0						
SSE				sP	sP	17 47 41.4	+4.0
SSE				PP	PP	17 48 55.6	-3.7
SSE				S	S	17 53 18.3	-1.9
SSE				sS		17 53 33.8	
SSE				SS	SS	17 56 04.4	+6.3
SSE				LR	LR		
	comp=Z,190nm,21.9s,MS3.9						
GTA	Gaotai	39.24	3	eP	P	17 47 39.1	+0.8
GTA				AP	pP	17 47 43.9	-0.4
GTA				PP	PP	17 49 10.1	-2.2
GTA				S	S	17 53 30.8	-6.6
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,129nm,5.7s						
GTA				LR	LR		
	comp=N,170nm,15.3s,MS4.3						
GTA				LR	LR		
	comp=E,307nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,194nm,15.3s,MS4.0						
WRA	Warramunga Arr	41.02	121	P	P	17 47 53.4	+0.3
	comp=Z,5.7nm,0.7s,mb4.3,baz=302,slow=9.0,SNR=80						
WRAB	Tennant Creek	41.02	121	eP	P	17 47 53.5	+0.4
	comp=Z,18nm,0.6s,mb4.9						
WRAB				epP	pP	17 47 59.0	-0.2
WRAB	Tennant Creek	41.02	121	eP	P	17 47 53.5	+0.4
WRAB				e*PP	pP	17 47 59.0	-0.2
WRAB				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
WB2	Warramunga Arr	41.03	121	eP	P	17 47 54.0	+0.8
HHC	Hu-ho-hao-te	42.54	16	eP	P	17 48 07.7	+2.3
HHC				AP	pP	17 48 13.0	+1.5
HHC				XP	sP	17 48 18.7	+4.7
HHC				PP	PP	17 49 50.2	+3.3
HHC				PCP	PcP	17 49 57.4	-1.1
HHC				S	S	17 54 23.8	-2.7
HHC				XS		17 54 40.4	
HHC				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,165nm,4.8s						
HHC				LR	LR		
	comp=N,415nm,20.2s,MS4.5						
HHC				LR	LR		
	comp=E,387nm,15.5s,MS4.5						
HHC				LR	LR		
	comp=Z,327nm,17.8s,MS4.3						
WMQ	Urumqi	44.50	350	⇑iP	P	17 48 22.2	+0.9
WMQ				AP	pP	17 48 29.5	+2.1
WMQ				XP	sP	17 48 33.0	+3.1
WMQ				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,128nm,5.4s						
WMQ				LR	LR		
	comp=N,175nm,17.8s,MS4.3						
WMQ				LR	LR		
	comp=E,302nm,21.7s,MS4.3						
WMQ				LR	LR		
	comp=Z,237nm,25.7s,MS4.0						
ULHL	Ulahol	46.25	338	P	P	17 48 36.3	+1.1
	SNR=11						
UCH	Uchtor	46.91	336	P	P	17 48 41.7	+1.3
	SNR=11						
TKM2	Tokmak 2	47.08	338	P	P	17 48 42.8	+1.0
	SNR=13						
KBK	Karagaybulak	47.10	337	P	P	17 48 43.9	+2.0
	SNR=12						
AML	Almayashu	47.16	336	P	P	17 48 43.9	+1.5
	SNR=6.5						
AAK	Ala-Archa	47.26	337	eP	P	17 48 43.5	+0.3
	comp=Z,6.8nm,0.8s,mb4.6						
AAK	Ala-Archa	47.26	337	⇑eP	P	17 48 43.1	-0.1
AAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5						
FRU	Bishkek	47.38	337	eP	P	17 48 44.5	+0.4
EKS2	Erkin-Say	47.57	336	P	P	17 48 47.0	+1.4
	SNR=17						
USP	Ospenovka	47.79	337	P	P	17 48 48.1	+0.7
	SNR=14						
SONM	Songino Array	48.21	8	P	P	17 48 51.1	+0.5
	comp=Z,4.0nm,0.8s,mb4.5,baz=192,slow=8.9,SNR=27						
ULN	Ulaanbaatar	48.34	8	eP	P	17 48 52.0	+0.4
	comp=Z,13nm,1.1s,mb4.9						
ULN				epP	pP	17 48 57.9	+0.3
ULN	Ulaanbaatar	48.34	8	eP	P	17 48 52.0	+0.5
ULN				e*PP	pP	17 48 57.9	+0.2
ULN				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
MKAR	Makanchi Array	48.48	346	P	P	17 48 52.7	0.0
	comp=Z,13nm,0.5s,mb5.2,baz=155,slow=8.0,SNR=176						
MKAR				LR	LR	18 13 50.1	
	comp=Z,94nm,18.7s,MS3.8,baz=180,slow=42						
ZAK	Zakamensk	50.39	5	eP	P	17 49 07.8	+0.5
ZAK				e		17 50 30.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
STKA	Stephens Creek	52.22	132	P	P	17 49 21.8	+0.4
	comp=Z,2.8nm,0.7s,mb4.3,baz=302,slow=11,SNR=4.4						
STKA				LR	LR	18 09 47.5	
	comp=Z,177nm,21.4s,MS4.1,baz=327,slow=34						
MJAR	Matsushiro Arr	52.24	41	LR	LR	18 12 46.6	
	comp=Z,158nm,20.3s,MS4.0,baz=245,slow=38						
KURK	Kurchatov	53.04	345	eP	P	17 49 26.7	-0.6
	comp=Z,26nm,1.0s,mb5.1						
KURK				epP	pP	17 49 32.5	-0.9
KURK	Kurchatov	53.04	345	eP	P	17 49 26.7	-0.6
KURK				e*PP	pP	17 49 32.6	-0.8
KURK				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
ZAL	Zalesovo	54.77	351	P	P	17 49 39.7	-0.3
	comp=Z,5.4nm,0.4s,mb4.9,baz=316,slow=6.0,SNR=36						
ZAL				LR	LR	18 18 35.7	
	comp=Z,53nm,18.8s,MS3.6,baz=184,slow=42						
ZAL	Zalesovo	54.77	351	P	P	17 49 39.7	-0.3
ZAL				LR	LR	18 18 35.7	
NVS	Novosibirsk	55.90	350	eP	P	17 49 46.8	-1.3
NVS				e		17 57 33.7	
NVS				pmax	pmax		
	comp=N,17nm,1.2s						
NVS				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
NVS				pmax	pmax		
	comp=E,12nm,1.1s						
KLR	Kul'dur	57.08	26	eP	P	17 49 54.1	-2.6
BRVK	Borovoye	57.57	341	eP	P	17 49 58.1	-1.9
	comp=E,4.3nm,0.9s,mb4.5						
BRVK				e	pP	17 50 04.7	-1.6
BRVK	Borovoye	57.57	341	eP	P	17 49 58.1	-1.9
BRVK				e	pP	17 50 04.7	-1.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BOD	Bodaibo	59.07	10	eP	P	17 50 09.9	-0.5
BOD				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
KMBO	Kilima Mbogo	60.43	269	P	P	17 50 21.2	+0.8
	comp=Z,0.5nm,0.3s,mb4.0,baz=42,slow=18,SNR=2.3						
YSS	Yuzh-Sakhalins	61.05	34	eP	P	17 50 24.4	+0.3
	comp=Z,18nm,0.8s,mb5.2						
YSS				epP	pP	17 50 29.9	-0.5
YSS	Yuzh-Sakhalins	61.05	34	⇓eP	P	17 50 24.0	-0.1
YSS				e	pP	17 50 29.9	-0.5
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
SVE	Sverdlovsk	63.95	338	eP	P	17 50 42.1	-1.2
SVE				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.8						
ARU	Arti	64.44	337	⇓iP	P	17 50 44.9	-1.6
ARU				e		17 51 18.7	
ARU				e		17 53 03.2	
ARU				eS	S	17 59 20.1	-2.4
ARU				eSS	SS	18 03 31.2	-3.2
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
KIV	Kislovodsk	65.50	319	eP	P	17 50 53.0	-0.6
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KIV				pmax	pmax		
	comp=N,7.0nm,1.2s						
KIV				MLR	MLR		
	comp=N,35nm,20.0s,MS3.7						
KIV				MLR	MLR		
	comp=E,33nm,20.0s,MS3.7						
KIV				MLR	MLR		
	comp=Z,49nm,20.0s,MS3.7						
MALT	Malatya	66.27	312	eP	P	17 50 58.4	-0.2
	comp=Z,7.6nm,1.0s,mb4.7						
MALT				epP	pP	17 51 04.6	-0.2
MALT	Malatya	66.27	312	eP	P	17 50 58.4	-0.1
MALT				e*PP	pP	17 51 04.6	-0.2
MALT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
YAK	Yakutsk	66.41	16	eP	P	17 50 57.7	-1.3
	comp=Z,26nm,0.9s,mb5.3						
YAK				epP	pP	17 51 04.0	-1.4
YAK	Yakutsk	66.41	16	eP	P	17 50 57.7	-1.3
YAK				e*PP	pP	17 51 04.0	-1.3
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
ANN	Anapa	69.29	319	eP	P	17 51 12.7	-4.7
BR131	Keskin Array S	70.25	313	P	P	17 51 21.2	-2.1
	comp=Z,2.3nm,0.7s,mb4.2						
BRTR	Keskin Array B	70.25	313	P	P	17 51 21.1	-2.2
	comp=Z,1.2nm,0.7s,mb3.9,baz=135,slow=7.0,SNR=5.1						
MAW	Mawson	71.69	193	P	P	17 51 32.4	+0.9
	comp=Z,1.8nm,0.7s,mb4.1,baz=47,slow=9.1,SNR=7.8						
OBN	Obninsk	73.86	328	⇑eP	P	17 51 44.0	-0.5
OBN				e		17 54 25.8	
OBN				eS	S	18 01 19.1	+5.5
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
SEY	Seymchan	74.65	23	i P	P	17 51 49.5	+0.6
AKASG	Malin Array Be	76.47	323	P	P	17 51 57.8	-1.7
	comp=Z,1.5nm,0.6s,mb4.1,baz=93,slow=4.2,SNR=12						
JOF	Joensuu	79.40	335	ep	P	17 52 14.3	-1.1
	comp=Z,6.0nm,0.9s,mb4.5						
KOLS	Kolonicke sedl	80.41	320	eP	P	17 52 21.5	+0.4
KOLS				epP	pP	17 52 28.5	+1.0
SUW	Suwalki	80.90	325	eP	P	17 52 29.7	+6.2
STHS	Stebnicka Huta	81.17	320	eP	P	17 52 26.2	+1.1
STHS				epP	pP	17 52 32.2	+0.7
FINES	FINESS Array B	81.25	333	P	P	17 52 24.9	-0.3
	comp=Z,0.8nm,0.5s,mb3.9,baz=108,slow=6.0,SNR=6.2						
FINES				LR	LR	18 31 29.0	
	comp=Z,83nm,18.1s,MS4.1,baz=347,slow=38						
KAF	Kangasniemi	81.34	333	ep	P	17 52 24.8	-0.9
	comp=Z,5.8nm,0.8s,mb4.6,baz=102,slow=4.9						
KAF	Kangasniemi	81.34	333	eP	P	17 52 24.8	-0.9
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KECS	Kecovo	81.50	319	epP	pP	17 52 32.8	-0.4
KECS				e		17 52 43.0	
OJC	Ojcow	82.23	321	eP	P	17 52 37.0	+6.5
ARCES	ARCESS Array B	83.79	340	P	P	17 52 38.8	+0.6
	comp=Z,7.3nm,0.9s,mb4.8,baz=27,slow=2.7,SNR=5.4						
ARCES				LR	LR	18 36 31.1	
	comp=Z,101nm,19.9s,MS4.2,baz=66,slow=40						
DPC	Dobruska-Polom	84.45	320	epP	pP	17 52 49.1	+0.7
PRU	Pruhonice	85.55	320	epP	pP	17 52 54.2	+0.3
PVCC	Panska Ves	85.59	321	epP	pP	17 52 54.1	0.0
GERES	GERESS Array B	86.00	319	P	P	17 52 48.8	-0.9
	comp=Z,1.2nm,0.9s,mb4.1,baz=90,slow=4.0,SNR=8.4						
KHC	Kasperske Hory	86.11	319	eP	P	17 52 47.9	-2.3
CLL	Collm	86.64	321	e*SP	pP	17 53 00.0	+0.7
NB2	NORSAR Subarra	88.25	331	P	P	17 53 06.5	+6.2
	comp=Z,0.8nm,0.7s,mb4.1,baz=95,slow=4.8						
NB2	NORSAR Subarra	88.25	331	P	P	17 53 06.5	+6.2
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	NORSAR Array B	88.25	331	P	P	17 52 59.6	-0.7
	comp=Z,0.7nm,0.8s,mb4.0,baz=343,slow=20,SNR=2.7						
LPG	La Plagne	90.63	315	eP	pP	17 53 19.2	+0.8
	comp=Z,16nm,1.0s						
LPG	La Plagne	90.63	315	eP	pP	17 53 19.2	+0.8
LPG				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.0						
TXAR	Lajitas Array	144.39	33	PKP	PKPdf	17 59 45.8	-3.2
	comp=Z,1.1nm,0.6s,baz=243,slow=2.8,SNR=4.8						
CPUP	Villa Florida	144.45	221	PKP	PKPdf	17 59 45.0	-4.2
	comp=Z,9.3nm,0.8s,baz=126,slow=3.9,SNR=18						
CPUP	Villa Florida	144.45	221	ePKIKP	PKPdf	17 59 45.4	-3.8
CPUP				e		17 59 51.5	

IDC 06 17:45:22.7±2.3**, 11.65S**×**119.68E, mb4.0**/3**, mb1 4.1**/5**, mb1mx3.8**/14**, mbtmp4.0**/5**, ML3.8**/1**, Error ellipse: s-maj=125.4km s-min=28.0km az=52.0, South of Sumba**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.62	139	eP	P	17 47 30.0	-1.6
	15nm,0.6s						
FITZ				eS	Sn	17 49 00.6	-10
FITZ	Fitzroy Crossi	8.62	139	Pn	P	17 47 29.9	-1.7
	0.8nm,0.3s,baz=349,slow=12,SNR=13						
FITZ				Sn	Sn	17 49 02.0	-8.7
	2.3nm,0.3s,baz=176,slow=20,SNR=6.5						
WRA	Warramunga Arr	16.33	122	Pn	P	17 49 11.9	-3.2
	baz=300,slow=9.3,SNR=2.8						
WRA				Sn	S	17 52 01.8	-15
	0.1nm,0.3s,baz=294,slow=23,SNR=3.6						
SONM	Songino Array	60.39	350	P	P	17 55 33.9	-2.2
	1.3nm,0.7s,baz=168,slow=8.8,SNR=8.9						
MKAR	Makanchi Array	67.11	333	P	P	17 56 18.1	-2.1
	0.9nm,0.7s,baz=135,slow=6.9,SNR=7.3						
ZAL	Zalesovo	71.74	339	P	P	17 56 46.4	-2.2
	1.0nm,0.5s,baz=260,slow=3.7,SNR=3.9						

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*NEIC **06** 18:45:35.1, 16.80N×99.73W, h4^{km}, MD3.9(MEX), After MEX.*

MEX 06 18:45:35.1±0.8**, 16.78N**×**99.74W, h3^{km}**±8^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.19	296	i P	Pg	18 45 38.5	-0.4
CAIG	El Cayaco	0.57	298	i P	Pg	18 45 45.6	-0.8
CAIG				i S	Sg	18 45 54.1	+0.1
PNIG	Pinotepa	1.60	104	eP	Pn	18 46 00.7	-3.7
PNIG				i S	Sb	18 46 21.3	-4.1
PLIG	Platanillo	1.62	8	i P	Pn	18 46 01.7	-3.0
PLIG				i S	Sb	18 46 22.6	-3.4
ZIIG	Zihuatanejo	1.84	297	eP	Pn	18 46 03.5	-4.3
ZIIG				i S	Sn	18 46 26.9	-5.0
YAIG	Yautepec	2.17	17	i P	Pn	18 46 08.6	-3.9
YAIG				i S	Sn	18 46 36.0	-4.1
YAIG	Yautepec	2.17	17	i P	Pn	18 46 05.7	-6.8
YAIG				i S	Sn	18 46 36.0	-4.1
PPM	Popocatepetl	2.51	25	eP	Pn	18 46 15.0	-2.4
PPM				eS	Sn	18 46 48.0	-0.8
OXX	Oaxaca	2.91	84	eP	Pn	18 46 28.0	+4.9
CMIG	Matias Romero	4.66	86	i P	Pn	18 46 45.2	-2.8
CMIG				i S	Sn	18 47 37.9	-5.5

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*IDC **06** 18:52:02.7±1.2, 33.82S×56.30E, mb3.8/2, mb1 4.0/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=44.4km s-min=35.5km az=90.0*

*NEIC **06** 18:52:04.0±0.6, 33.81S×56.30E, h10^{km}, mb4.4/2, Error ellipse: s-maj=20.9km s-min=13.6km az=76.0*

ISC 06 18:52:02.3±0.8**, 33.8S**±0.1×**56.3E**±0.2**, h10^{km}, n16, σ0^{s}55**/11**, mb4.1**/3**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	Ambohidratompo	17.25	329	P	P	18 56 04.9	-0.1
	0.5nm,0.3s,baz=150,slow=15,SNR=4.1						
SNAA	Sanae	48.65	201		P	19 00 47.7	-0.2
SNAA	Sanae	48.65	201		P	19 00 54.9	+7.0
SNAA	Sanae	48.65	201	P	P	19 00 47.9	+0.1
	0.3nm,0.7s,mb3.4,baz=86,slow=6.8,SNR=8.1						
SNAA	Sanae	48.65	201	eP	P	19 00 47.4	-0.5
	3.8nm,1.2s,mb4.3						
VNA2	Neumayer--Watz	49.87	203		pP	19 01 11.5	+11
VNA2	Neumayer--Watz	49.87	203	P	P	19 01 05.2	+7.9
VNA2				P		19 01 11.5	
VNA1	Neumayer--Stat	50.09	203		pP	19 01 11.5	+9.4
VNA1	Neumayer--Stat	50.09	203	P	P	19 01 03.9	+4.9
VNA1				P		19 01 11.5	
VNA3	Neumayer Olymp	50.66	202		pP	19 01 10.9	+4.5
VNA3	Neumayer Olymp	50.66	202	P	P	19 01 04.2	+0.9
VNA3				P		19 01 10.9	
QSPA	South Pole Qui	56.35	180	eP	P	19 01 44.4	-0.9
	3.2nm,0.6s,mb4.5						
WRA	Warramunga Arr	69.48	101	P	P	19 03 13.5	+0.3
	1.6nm,0.8s,mb4.0,baz=238,slow=5.5,SNR=5.8						
WRAB	Tennant Creek	69.49	101	P	P	19 03 13.3	0.0
ILAR	Eielson Array	145.95	18	PKPbc	PKPbc	19 11 42.8	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.9nm,0.8s,baz=315,slow=2.6,SNR=5.6						
YKA	**Yellowknife Ar**	**150.75**	**351**	PKPbc	PKPdf	19 11 55.4	+4.1
	2.2nm,0.8s,baz=352,slow=2.2,SNR=2.7						

*IDC **06** 18:52:19.9±0.6, 30.33N×131.50E, mb4.2/15, mb1 4.4/18, mb1mx4.4/23, mbtmp4.2/18, ML4.0/3, MS4.0/12, Ms1 4.0/12, ms1mx3.8/21, Error ellipse: s-maj=22.2km s-min=12.4km az=82.0*
*MOS **06** 18:52:22.9±1.5, 30.36N×131.68E, h31km, mb4.7/9, Error ellipse: s-maj=12.5km s-min=8.0km az=91.5*
*BJI **06** 18:52:24.1, 30.06N×131.75E, h58km, mB4.7, mb4.4, Ms4.2, Msz4.0*
*NEIC **06** 18:52:24.0, 30.33N×131.70E, h45km, mb4.6/15, MS4.5/1, After JMA.*
*JMA **06** 18:52:24.0±0.2, 30.33N×131.70E, h45km±3km, M4.1*
ISC 06 18:52:24.6±0.3**, 30.35N**±0.03×**131.65E**±0.04**, h42km, h42km**±2.2km**:pP-P, n105,** σ**1s06**/90**, mb4.4**/35**, MS4.1**/12**, 7C-3D, Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.66**	**298**	⇑P	**P**	**18 52 37.5**	**0.0**
JTN				S	**S**	**18 52 47.8**	**+0.9**
JNAR	**Kushima--Naru**	**1.22**	**345**	⇑P	**P**	**18 52 45.7**	**+0.3**
JNAR				S	**S**	**18 53 01.6**	**+0.6**
JKC	**Kuchinoerabu**	**1.26**	**275**	⇑P	**P**	**18 52 46.2**	**+0.1**
JKC				S	**S**	**18 53 02.9**	**+0.7**
JSU	**Suzuyama**	**1.54**	**319**	P	**P**	**18 52 49.9**	**-0.2**
JSU				S	**S**	**18 53 09.1**	**-0.1**
JTZ	**Takazaki**	**1.62**	**343**	⇑P	**P**	**18 52 51.5**	**+0.3**
JTZ				S	**S**	**18 53 11.7**	**+0.7**
JTSN	**Tsuno**	**1.89**	**356**	P	**P**	**18 52 54.9**	**-0.2**
JTSN				S	**S**	**18 53 17.5**	**-0.3**
JZO	**Okuchi**	**2.00**	**333**	P	**P**	**18 52 56.5**	**-0.1**
JZO				S	**S**	**18 53 20.6**	**+0.1**
JSJ	**Shimokoshiki**	**2.12**	**309**	⇑P	**P**	**18 52 57.5**	**-0.9**
JSJ				S	**S**	**18 53 22.5**	**-1.2**
JIU2	**Izumi 2**	**2.30**	**342**	P	**P**	**18 53 01.0**	**+0.1**
JAM	**Amami Oshima**	**2.63**	**223**	⇑P	**P**	**18 53 04.4**	**-1.2**
JNU	**Nakatsue**	**2.84**	**347**	Pn	**P**	**18 53 08.1**	**-0.5**
	14nm,0.3s,baz=221,slow=2.0,SNR=71						
JNU				Sn	**S**	**18 53 40.8**	**-1.1**
	27nm,0.3s,baz=168,slow=26,SNR=7.9						
JOW	**Kunigami**	**4.59**	**221**	Pn	**P**	**18 53 29.7**	**-3.7**
	26nm,0.3s,baz=94,slow=16,SNR=28						
JOW				Sn	**S**	**18 54 21.1**	**-5.1**
	46nm,0.3s,baz=258,slow=28,SNR=17						
JHJ	**Hachijo jima 2**	**7.46**	**66**	LR	LR	18 57 10.7	
	comp=Z,628nm,18.6s,baz=168,slow=38						
MAJO	**Matsushiro**	**8.25**	**40**	*e*P	**P**	**18 54 22.8**	**-1.8**
	42nm,0.6s						
MAJO	**Matsushiro**	**8.25**	**40**	*e*P	**P**	**18 54 22.8**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,42nm,0.6s						
MAT	**Matsushiro**	**8.25**	**40**	P	**P**	**18 54 22.9**	**-1.6**
MAT	**Matsushiro**	**8.25**	**40**	*e*P	**P**	**18 54 23.0**	**-1.5**
	comp=Z,27nm,0.6s						
MAT	**Matsushiro**	**8.25**	**40**	*e*P	**P**	**18 54 23.0**	**-1.5**
MAT				pmax	pmax		
	comp=Z,27nm,0.6s						
MJAR	**Matsushiro Arr**	**8.25**	**40**	Pn	**P**	**18 54 23.3**	**-1.2**
	comp=Z,5.7nm,0.3s,baz=242,slow=14,SNR=69						
CBIJ	**Chichi jima**	**9.80**	**107**	LR	LR	18 58 01.7	
	comp=Z,528nm,18.1s,baz=193,slow=34						
YSS	**Yuzh-Sakhalins**	**18.68**	**24**	*e*P	**P**	**18 56 42.4**	**+0.9**
KLR	**Kul'dur**	**18.86**	**0**	*e*P	**P**	**18 56 40.0**	**-3.6**
KLR				pmax	pmax		
	comp=Z,24nm,1.0s						
ENH	**Enshi**	**19.14**	**275**	*e*P	**P**	**18 56 44.9**	**-2.0**
	comp=Z,11nm,0.6s						
GUMO	**Guam**	**20.66**	**141**	LR	LR	19 03 08.9	
	comp=Z,161nm,18.8s,MS3.4,baz=132,slow=31						
HIA	**Hailar**	**20.94**	**338**	P	**P**	**18 57 06.0**	**0.0**
	comp=Z,16nm,1.2s						
HIA	**Hailar**	**20.94**	**338**	P	**P**	**18 57 06.0**	**0.0**
HIA				pmax	pmax		
	comp=Z,16nm,1.2s						
GYA	**Guiyang**	**22.30**	**266**	⇑*i*P	**P**	**18 57 19.0**	**-0.7**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9						
LZH	**Lanzhou**	**23.91**	**291**	*e*P	**P**	**18 57 37.0**	**+1.7**
LZH				AP		18 57 47.0	
LZH				XP		18 57 52.0	
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
LZH				LR	LR		
	comp=E,980nm,14.0s						
LZH				LR	LR		
	comp=Z,1μm,18.2s,MS4.5						
CD2	**Chengdu**	**23.99**	**278**	*e*P	**P**	**18 57 36.8**	**+0.7**
CD2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
ULN	**Ulaanbaatar**	**25.72**	**320**	*e*P	**P**	**18 57 52.8**	**+0.3**
	comp=Z,3.8nm,0.7s,mb4.0						
ULN				*e*	pP	18 58 02.4	-1.3
ULN				*i*	pP	18 58 05.2	+1.5
ULN	**Ulaanbaatar**	**25.72**	**320**	*e*P	**P**	**18 57 52.8**	**+0.3**
ULN				*e*	pP	18 58 02.4	-1.3
ULN				*i*	pP	18 58 05.2	+1.5
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
SONM	**Songino Array**	**26.07**	**319**	P	**P**	**18 57 54.7**	**-1.1**
	comp=Z,0.8nm,0.5s,mb3.5,baz=139,slow=10,SNR=12						
SONM				LR	LR	19 09 51.8	
	comp=Z,488nm,18.6s,MS4.1,baz=119,slow=40						
KMI	**Kunming**	**26.08**	**266**	P	**P**	**18 57 56.9**	**+0.8**
KMI				AP	pP	18 58 09.5	+2.2
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.5						
KMI	**Kunming**	**26.08**	**266**	P	**P**	**18 57 56.9**	**+0.8**
	comp=Z,14nm,0.9s,mb4.5						
KMI				pP	pP	18 58 09.5	+2.2
GTA	**Gaotai**	**27.52**	**298**	*e*P	**P**	**18 58 08.6**	**-0.6**
GTA				AP	pP	18 58 19.8	-0.7
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,148nm,5.4s						
GTA				LR	LR		
	comp=N,242nm,17.6s,MS4.0						
GTA				LR	LR		
	comp=E,245nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=Z,374nm,14.5s,MS4.1						
ZAK	**Zakamensk**	**29.17**	**321**	*e*P	**P**	**18 58 24.6**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
YAK	**Yakutsk**	**31.71**	**358**	*e*P	**P**	**18 58 44.8**	**-1.5**
	comp=Z,23nm,0.8s,mb5.1						
YAK				*e*pP	pP	18 58 55.7	-2.1
YAK				*e*sP	sP	18 58 59.0	-4.2
YAK	**Yakutsk**	**31.71**	**358**	*e*P	**P**	**18 58 44.8**	**-1.5**
YAK				*e**PP	pP	18 58 55.7	-2.1
YAK				*e**SP	sP	18 58 59.0	-4.2
YAK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.1						
KULM	**Kulim**	**38.38**	**236**	*e*P	**P**	**18 59 44.6**	**+1.0**
PKI	**Pulchoki**	**40.34**	**278**	*e*P	**P**	**19 00 00.3**	**+0.5**
	comp=Z,51nm,1.3s,mb5.1						
KKN	**Kakani**	**40.40**	**278**	*e*P	**P**	**19 00 00.6**	**+0.4**
	comp=Z,52nm,1.3s,mb5.1						
DMN	**Daman**	**40.59**	**278**	*e*P	**P**	**19 00 02.4**	**+0.6**
	comp=Z,27nm,1.3s,mb4.7						
GKN	**Gorkha**	**40.89**	**279**	*e*P	**P**	**19 00 03.9**	**-0.4**
	comp=Z,5.3nm,0.4s,mb4.5						
ZAL	**Zalesovo**	**40.98**	**319**	P	**P**	**19 00 04.7**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.4,baz=183,slow=20,SNR=4.1						
ZAL				PcP	PcP	19 02 04.1	-0.9
	comp=Z,0.8nm,0.5s,baz=348,slow=4.1,SNR=3.9						
ZAL				LR	LR	19 20 07.8	
	comp=Z,295nm,18.1s,MS4.2,baz=1.0,slow=41						
MKAR	**Makanchi Array**	**41.23**	**308**	P	**P**	**19 00 05.6**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.5,baz=91,slow=11,SNR=10						
MKAR				PcP	PcP	19 02 05.3	-0.5
	comp=Z,2.0nm,0.8s,baz=90,slow=3.6,SNR=8.5						
MKAR				LR	LR	19 19 16.9	
	comp=Z,161nm,18.7s,MS3.9,baz=359,slow=39						
KOLN	**Koldanda**	**41.84**	**279**	*e*P	**P**	**19 00 12.6**	**+0.5**
	comp=Z,3.5nm,0.3s,mb4.5						
KURK	**Kurchatov**	**44.06**	**313**	*e*P	**P**	**19 00 28.7**	**-1.2**
	comp=Z,14nm,1.4s,mb4.5						
KURK				*e*	pP	19 00 40.2	-1.5
KURK	**Kurchatov**	**44.06**	**313**	*e*P	**P**	**19 00 28.7**	**-1.2**
KURK				*e*	pP	19 00 40.2	-1.6
KURK				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.5						
AAK	**Ala-Archa**	**46.75**	**302**	*i* P	**P**	**19 00 52.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**48.52**	**188**	⇓*i*P	**P**	**19 01 05.5**	**0.0**
	comp=Z,11nm,1.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**48.52**	**188**	P	**P**	**19 01 03.7**	**-1.8**
	comp=Z,4.6nm,0.5s,mb4.7,baz=6.5,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**50.06**	**177**	*e*P	**P**	**19 01 16.6**	**-0.8**
	comp=Z,19nm,1.0s,mb5.1						
WRAB				*e*pP	pP	19 01 30.2	+0.9
WRAB	**Tennant Creek**	**50.06**	**177**	*e*P	**P**	**19 01 16.6**	**-0.8**
WRAB				*e**PP	pP	19 01 30.2	+0.9
WRAB				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**50.07**	**177**	P	**P**	**19 01 15.8**	**-1.6**
	comp=Z,9.3nm,0.8s,mb4.8,baz=354,slow=8.4,SNR=70						
WRA				PcP	PcP	19 02 36.9	0.0
	comp=Z,1.8nm,0.9s,baz=351,slow=4.3,SNR=4.6						
WB2	**Warramunga Arr**	**50.07**	**177**	⇓*i*P	**P**	**19 01 16.9**	**-0.5**
CTA	**Charters Tower**	**52.08**	**163**	P	**P**	**19 01 32.5**	**-0.1**
	comp=Z,1.3nm,0.3s,mb4.3,baz=331,slow=12,SNR=4.1						
ARU	**Arti**	**56.10**	**320**	*e*P	**P**	**19 02 11.3**	**+10**
IMA	**Indian Mountai**	**56.48**	**28**	*e*P	**P**	**19 02 05.0**	**+0.7**
	comp=Z,46nm,1.5s,mb5.3						
IMA				*e*pP	pP	19 02 17.5	+1.1
IMA	**Indian Mountai**	**56.48**	**28**	*e*P	**P**	**19 02 05.0**	**+0.8**
IMA				*e**PP	pP	19 02 17.5	+1.1
IMA				pmax	pmax		
	comp=Z,46nm,1.5s,mb5.3						
RSO	**Redoubt South**	**57.09**	**35**	*e*P	**P**	**19 02 08.6**	**-0.1**
ILAR	**Eielson Array**	**59.39**	**30**	P	**P**	**19 02 23.8**	**-0.8**
	comp=Z,1.1nm,0.8s,mb4.0,baz=269,slow=5.9,SNR=13						
STKA	**Stephens Creek**	**62.60**	**170**	⇓*i*P	**P**	**19 02 46.7**	**-0.1**
	comp=Z,8.8nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**62.60**	**170**	P	**P**	**19 02 46.5**	**-0.4**
	comp=Z,10.0nm,0.7s,mb5.0,baz=338,slow=7.0,SNR=22						
ARCES	**ARCESS Array B**	**67.29**	**339**	P	**P**	**19 03 14.4**	**-2.0**
	comp=Z,3.5nm,0.8s,mb4.4,baz=63,slow=8.1,SNR=7.4						
ARCES				LR	LR	19 39 03.2	
	comp=Z,296nm,18.3s,MS4.5,baz=54,slow=42						
JOF	**Joensuu**	**67.92**	**331**	*e*p	pP	19 03 31.2	-1.7
KIV	**Kislovodsk**	**68.96**	**309**	*e*P	pP	19 03 38.5	-1.3
KIV	**Kislovodsk**	**68.96**	**309**	*e*P	pP	19 03 38.5	-1.3
KAF	**Kangasniemi**	**70.36**	**331**	*e*p	pP	19 03 46.1	-1.9
FINES	**FINESS Array B**	**70.77**	**331**	P	**P**	**19 03 35.0**	**-3.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=56,slow=6.9,SNR=16						
FINES				LR	LR	19 38 42.3	
	comp=Z,190nm,18.2s,MS4.4,baz=175,slow=39						
FINES	**FINESS Array B**	**70.77**	**331**	P	**P**	**19 03 35.0**	**-3.0**
FINES				LR	LR	19 38 42.4	
YKA	**Yellowknife Ar**	**73.52**	**26**	LR	LR	19 36 30.7	
	comp=Z,46nm,20.4s,MS3.8,baz=355,slow=36						
AKASG	**Malin Array Be**	**74.35**	**320**	P	**P**	**19 03 57.8**	**-1.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=54,slow=6.3,SNR=4.3						
BR131	**Keskin Array S**	**76.87**	**308**	*e*P	**P**	**19 04 14.7**	**+0.8**
	comp=Z,3.7nm,0.8s,mb4.4						
BR131				*e*	pP	19 04 27.4	+0.8
BRTR	**Keskin Array B**	**76.88**	**308**	P	**P**	**19 04 14.4**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.2,baz=104,slow=5.1,SNR=10						
NOA	**NORSAR Array B**	**76.94**	**334**	P	**P**	**19 04 13.8**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=53,slow=4.8,SNR=3.4						
NOA				LR	LR	19 45 01.8	
	comp=Z,77nm,18.6s,MS4.0,baz=50,slow=41						
KOLS	**Kolonicke sedl**	**79.12**	**321**	*e*	pP	19 04 40.0	+1.3
STHS	**Stebnicka Huta**	**79.41**	**321**	*e*	pP	19 04 39.8	-0.5
CRVS	**Cervenica-Dubn**	**79.58**	**321**	*e*sP	sP	19 04 46.8	+0.9
OJC	**Ojcow**	**79.71**	**323**	*e*P	pP	19 04 44.3	+2.4
OKC	**Ostrava-Krasne**	**80.80**	**323**	AMS	AMS	19 39 30.0	
VYHS	**Vyhne**	**81.23**	**322**	*e*sP	sP	19 04 51.1	-3.6
DPC	**Dobruska-Polom**	**81.43**	**324**	*e*pP	pP	19 04 53.8	+2.8
DPC				AMS	AMS	19 46 10.0	
	comp=Z,200nm,14.3s						
CLL	**Collm**	**82.46**	**326**	*e*PCP	PcP	19 04 44.0	-5.1
CLL				*e**SP	sP	19 04 58.0	-3.0
TREC	**Trest**	**82.50**	**324**	AMS	AMS	19 47 00.0	
	comp=Z,400nm,17.5s						
PRU	**Pruhonice**	**82.55**	**325**	AMS	AMS	19 46 40.0	
	comp=Z,200nm,16.7s						
WVOR	**Wild Horse Val**	**82.98**	**45**	*e*P	**P**	**19 04 47.1**	**+0.5**
	comp=Z,1.7nm,0.9s,mb4.1						
WVOR	**Wild Horse Val**	**82.98**	**45**	*e*P	**P**	**19 04 47.1**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
NKC	**Novy Kostel**	**83.43**	**326**	*e*pP	pP	19 05 01.9	+0.6
NKC				AMS	AMS	19 46 30.0	
	comp=Z,300nm,16.5s						
MOX	**Moxa**	**83.56**	**326**	*e*P	**P**	**19 04 50.0**	**+0.8**
MOX				L		19 46 48.0	
KHC	**Kasperske Hory**	**83.58**	**324**	*e*P	**P**	**19 04 50.9**	**+1.5**
KHC				AMS	AMS	19 47 50.0	
	comp=Z,200nm,13.9s						
GERES	**GERESS Array B**	**83.70**	**324**	P	**P**	**19 04 50.8**	**+0.9**
	comp=Z,0.9nm,0.8s,mb4.0,baz=45,slow=3.8,SNR=6.2						
GERES				LR	LR	19 48 41.3	
	comp=Z,144nm,19.2s,MS4.4,baz=172,slow=40						
DLMT	**Dillon**	**84.73**	**40**	*e*P	**P**	**19 04 56.7**	**+1.4**
DLMT				*e*pP	pP	19 05 08.6	+0.5
ELK	**Elko**	**86.04**	**44**	*e*P	**P**	**19 05 03.4**	**+1.6**
	comp=Z,15nm,1.7s,mb5.0						
ELK	**Elko**	**86.04**	**44**	*e*P	**P**	**19 05 03.4**	**+1.6**
ELK				pmax	pmax		
	comp=Z,15nm,1.7s						
IMW	**Indian Meadow**	**86.58**	**40**	*e*P	**P**	**19 05 06.8**	**+2.4**
	comp=Z,2.4nm,0.6s,mb4.6						
PDAR	**Pinedale Array**	**88.08**	**40**	P	**P**	**19 05 13.3**	**+1.7**
	comp=Z,2.0nm,0.8s,mb4.4,baz=333,slow=3.3,SNR=9.4						
ULM	**Lac du Bonnet**	**89.39**	**28**	P	**P**	**19 05 18.6**	**+0.9**
	comp=Z,3.8nm,0.7s,mb4.8,baz=300,slow=6.2,SNR=4.1						
PV10	**Paradox Valley**	**91.25**	**43**	*e*P	**P**	**19 05 29.1**	**+2.3**
PV10				*e*pP	pP	19 05 41.0	+1.3
PV01	**Paradox Valley**	**91.68**	**43**	*e*P	**P**	**19 05 31.1**	**+2.4**
SCHQ	**Schefferville**	**93.69**	**11**	LR	LR	19 51 52.8	
	comp=Z,74nm,18.9s,MS4.2,baz=212,slow=38						
VNA2	**Neumayer--Watz**	**133.59**	**197**		PKPdf	19 11 51.4	+15
VNA2	**Neumayer--Watz**	**133.59**	**197**	P	PKPdf	19 11 39.6	+3.7
VNA2				P		19 11 51.4	
VNA3	**Neumayer Olymp**	**133.95**	**196**		PKPdf	19 11 52.5	+16
VNA3	**Neumayer Olymp**	**133.95**	**196**	P	PKPdf	19 11 39.6	+3.0
VNA3				P		19 11 52.5	
SDV	**Santo Domingo**	**135.50**	**32**	*e*PKPdf	PKPdf	19 11 42.7	+1.7

*IDC **06** 19:46:02.8±0.8, 7.40N×127.46E, mb4.2/13, mb1 4.4/13, mb1mx4.3/21, mbtmp4.2/13, MS3.5/2, Ms1 3.5/2, ms1mx3.0/24, Error ellipse: s-maj=50.0km s-min=14.2km az=75.0*
*MOS **06** 19:46:06.3±1.2, 7.34N×127.31E, h33km, mb4.6/5, Error ellipse: s-maj=34.9km s-min=12.4km az=103.4*
*NEIC **06** 19:46:09.6±0.4, 7.35N×127.40E, mb4.6/9, Error ellipse: s-maj=24.4km s-min=6.7km az=78.0*
*MAN **06** 19:46:10.6, 7.59N×126.98E, h1km, mb5.0, ML3.9, MS4.0*
ISC 06 19:46:06.9±1.3**, 7.37N**±0.05×**127.49E**±0.09**, h39km**±11km**, h46km**±1.4km**:pP-P, n50,** σ**0s97**/51**, mb4.3**/21**, MS4.0**/1**, 3C-6D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.29**	**251**	*e*P	**P**	**19 46 28.9**	**+0.1**
MATI				*e*S	**S**	**19 46 44.8**	**-0.5**
BIPH	**Bislig**	**1.39**	**306**	⇑*i*P	**P**	**19 46 28.8**	**-1.4**
BIPH				*i* S	**S**	**19 46 40.7**	**-6.8**
DAV	**Davao City (W)**	**1.92**	**261**	*e*P	**P**	**19 46 40.0**	**+2.2**
KCP	**Kidapawan**	**2.41**	**262**	⇓*e*P	**P**	**19 46 49.4**	**+4.6**
KCP				*i* S	**S**	**19 47 18.1**	**+4.8**
BUTP	**Butuan**	**2.44**	**311**	*e*P	**P**	**19 46 45.8**	**+0.5**
BUKP	**Musuan**	**2.46**	**282**	*e*P	**P**	**19 46 46.5**	**+0.9**
GSPH	**General Santos**	**2.83**	**243**	⇓*e*P	**P**	**19 46 49.7**	**-1.1**
CGP	**Cagayan de Oro**	**2.98**	**291**	⇑*e*P	**P**	**19 46 51.9**	**-1.0**
CGP				*e*S	**S**	**19 47 27.3**	**-0.4**
SCPH	**Surigao**	**3.11**	**321**	⇑*e*P	**P**	**19 46 54.5**	**-0.3**
MSLP	**Maasin**	**3.79**	**317**	*e*P	**P**	**19 47 05.2**	**+0.9**
DCPH	**Dipolog City**	**4.28**	**287**	*e*P	**P**	**19 47 13.0**	**+1.7**
LLP	**Lapu-Lapu**	**4.55**	**310**	*i* P	**P**	**19 47 14.6**	**-0.6**
LLP				*e*S	**S**	**19 48 07.7**	**+0.1**
IPIL	**Ipil**	**4.90**	**275**	*e*P	**P**	**19 47 21.0**	**+1.0**
GUIM	**Jordan**	**5.83**	**304**	*e*P	**P**	**19 47 32.0**	**-1.0**
GUMO	**Guam**	**18.16**	**69**	LR	LR	19 55 53.3	
	comp=Z,72nm,18.6s,baz=268,slow=32						
KAKA	**Kakadu**	**20.54**	**166**	⇓*i*P	**P**	**19 51 01.1**	**+16**
	24nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.37**	**184**	*e*P	**P**	**19 51 32.4**	**0.0**
	14nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**25.37**	**184**	P	**P**	**19 51 32.5**	**+0.1**
	7.3nm,0.4s,mb4.6,baz=5.9,slow=7.8,SNR=30						
WRAB	**Tennant Creek**	**27.95**	**166**	*e*P	**P**	**19 51 54.9**	**-1.3**
	11nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**27.95**	**166**	*e*P	**P**	**19 51 54.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**27.96**	**166**	P	**P**	**19 51 55.3**	**-0.9**
	comp=Z,2.7nm,0.5s,mb4.1,baz=349,slow=9.7,SNR=46						
WB2	**Warramunga Arr**	**27.96**	**166**	⇓*i*P	**P**	**19 51 55.2**	**-1.0**
FORT	**Forrest**	**37.93**	**179**	*e*P	**P**	**19 53 22.7**	**+0.2**
	comp=Z,25nm,0.6s,mb5.1						
FORT				*i*	pP	19 53 35.7	+2.1
KLBR	**Kellerberrin**	**39.84**	**193**	⇓*i*P	**P**	**19 53 38.7**	**+0.3**
	comp=Z,62nm,1.3s,mb5.2						
KLBR				*i*	pP	19 53 51.4	+1.9
MUN	**Mundaring**	**40.58**	**195**	*e*P	**P**	**19 53 45.3**	**+0.8**
MUN				*i*	pP	19 53 58.1	+2.5
NWAO	**Narrogin (SRO)**	**41.24**	**193**	P	**P**	**19 53 50.0**	**0.0**
	comp=Z,97nm,1.4s,mb5.2,baz=59,slow=8.1,SNR=8.9						
STKA	**Stephens Creek**	**41.28**	**162**	⇓*i*P	**P**	**19 53 50.9**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**41.28**	**162**	P	**P**	**19 53 50.7**	**+0.5**
	comp=Z,5.9nm,0.7s,mb4.3,baz=348,slow=8.7,SNR=16						
KLR	**Kul'dur**	**41.88**	**4**	*e*P	**P**	**19 53 56.8**	**+1.8**
SONM	**Songino Array**	**44.14**	**340**	P	**P**	**19 54 13.5**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.4,baz=150,slow=7.5,SNR=5.6						
ZAK	**Zakamensk**	**47.39**	**339**	*e*P	pP	19 54 51.7	+1.3
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BOD	**Bodaibo**	**51.41**	**351**	*e*P	**P**	**19 55 04.6**	**-5.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
YAK	**Yakutsk**	**54.58**	**1**	*e*P	**P**	**19 55 33.7**	**+0.2**
	comp=Z,18nm,0.8s,mb5.2						
YAK	**Yakutsk**	**54.58**	**1**	*e*P	**P**	**19 55 33.7**	**+0.3**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**55.06**	**324**	P	**P**	**19 55 36.1**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=124,slow=7.8,SNR=16						
KURK	**Kurchatov**	**59.13**	**326**	*e*P	**P**	**19 56 04.1**	**-1.8**
	comp=Z,3.9nm,0.7s,mb4.5						
KURK				*e*pP	pP	19 56 16.5	-1.0
KURK	**Kurchatov**	**59.13**	**326**	*e*P	**P**	**19 56 04.1**	**-1.9**
KURK				*e**PP	pP	19 56 16.5	-1.0
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BVAR	**Borovoye Array**	**64.73**	**326**	P	**P**	**19 56 42.1**	**-1.2**
	comp=Z,1.4nm,0.7s,mb4.1,baz=90,slow=4.3,SNR=8.7						
BRVK	**Borovoye**	**64.80**	**326**	*e*P	**P**	**19 56 42.6**	**-1.2**
	comp=Z,1.8nm,0.8s,mb4.2						
BRVK	**Borovoye**	**64.80**	**326**	*e*P	**P**	**19 56 42.6**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**81.52**	**26**	P	**P**	**19 58 21.9**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=252,slow=5.0,SNR=5.9						
PPT	**Papeete**	**85.51**	**108**	LR	LR	20 32 39.0	
	comp=Z,51nm,18.2s,MS4.0,baz=121,slow=33						
VNDA	**Vanda**	**86.92**	**173**	P	**P**	**19 58 48.7**	**+0.3**
	comp=Z,2.0nm,0.9s,mb4.4,baz=315,slow=4.8,SNR=11						
VNDA	**Vanda**	**86.92**	**173**	*e*P	**P**	**19 58 49.4**	**+1.0**
	comp=Z,2.2nm,0.9s,mb4.4						
VNDA	**Vanda**	**86.92**	**173**	*e*P	**P**	**19 58 49.4**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**88.30**	**310**	P	**P**	**19 58 56.4**	**+0.6**
	comp=Z,0.8nm,0.6s,mb4.1,baz=108,slow=4.6,SNR=3.4						
FINES	**FINESS Array B**	**89.00**	**332**	P	**P**	**19 58 59.3**	**+0.6**
	comp=Z,0.5nm,0.5s,mb4.1,baz=63,slow=6.2,SNR=4.8						
AKASG	**Malin Array Be**	**89.56**	**321**	P	**P**	**19 59 01.3**	**-0.3**
	comp=Z,0.8nm,0.6s,mb4.2,baz=64,slow=4.5,SNR=4.6						
GERES	**GERESS Array B**	**99.71**	**322**	P	**P**	**19 59 50.0**	**+1.9**
	comp=Z,0.5nm,0.9s,mb4.0,baz=90,slow=2.7,SNR=4.3						
LPAZ	**La Paz**	**162.34**	**122**	*e*PKPdf	PKPdf	20 06 09.7	+4.8
LPAZ				*e*PKPab	PKPab	20 06 53.4	-1.4

*IDC **06** 19:53:57.5±0.9, 15.41S×173.34W, mb3.8/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.8/7, MS3.7/4, Ms1 3.6/4, ms1mx3.3/21, Error ellipse: s-maj=45.4km s-min=22.6km az=127.0*
ISC 06 19:54:00.9±0.8**, 15.4S**±0.2×**173.3W**±0.2**, h33km, n15,** σ**0s91**/8**, mb3.8**/7**, MS3.7**/4**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.28**	**248**	P	**P**	**19 58 38.4**	**+1.8**
	7.0nm,1.1s,baz=75,slow=18,SNR=3.4						
URZ	**Urewera**	**24.27**	**199**	P	**P**	**19 59 16.4**	**+0.2**
	7.5nm,0.4s,mb4.4,baz=56,slow=1.7,SNR=7.7						
HNR	**Honiara**	**26.79**	**280**	LR	LR	20 08 20.8	
	comp=Z,109nm,20.8s,MS3.4,baz=108,slow=32						
PMG	**Port Moresby**	**39.04**	**274**	LR	LR	20 14 59.9	
	comp=Z,80nm,18.8s,MS3.6,baz=122,slow=32						
STKA	**Stephens Creek**	**44.11**	**240**	P	**P**	**20 02 07.0**	**-1.1**
	1.9nm,0.8s,mb3.9,baz=81,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**49.94**	**257**	P	**P**	**20 02 53.1**	**-0.9**
	0.5nm,0.8s,mb3.6,baz=93,slow=6.7,SNR=5.8						
VNDA	**Vanda**	**63.36**	**186**	P	**P**	**20 04 28.7**	**-0.2**
	0.7nm,0.9s,mb3.8,baz=20,slow=5.0,SNR=2.4						
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**20 06 11.6**	**-0.3**
	0.2nm,0.3s,mb3.5,baz=212,slow=8.5,SNR=2.5						
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**20 06 21.5**	**+1.2**
	0.8nm,1.0s,mb3.6,baz=270,slow=3.0,SNR=3.8						
ILAR	**Eielson Array**	**82.45**	**11**	P	**P**	**20 06 20.5**	**-0.5**
	0.5nm,0.7s,mb3.5,baz=219,slow=5.4,SNR=4.9						
SNAA	**Sanae**	**92.87**	**177**	LR	LR	20 43 42.4	
	comp=Z,22nm,18.2s,MS3.7,baz=45,slow=32						
ULM	**Lac du Bonnet**	**93.89**	**39**	LR	LR	20 41 16.0	
	comp=Z,68nm,21.3s,MS4.1,baz=326,slow=30						
KHC	**Kasperske Hory**	**145.92**	**352**	*e*P	PKPdf	20 13 37.0	+0.7
GERES	**GERESS Array B**	**146.19**	**352**	PKPbc	PKPbc	20 13 41.1	+3.2
	0.6nm,0.8s,baz=270,slow=4.9,SNR=3.9						
BRTR	**Keskin Array B**	**146.24**	**321**	PKPbc	PKPbc	20 13 42.5	+4.2
	1.7nm,0.7s,baz=135,slow=3.5,SNR=7.5						

*IDC **06** 20:01:20.0±1.9, 40.79N×74.38E, mb3.7/5, mb1 3.6/7, mb1mx3.5/21, mbtmp3.5/7, ML2.6/2, Error ellipse: s-maj=26.2km s-min=22.5km az=169.0*
*KNET **06** 20:01:22.4±0.6, 41.04N×74.62E, h4km±2km, ml3.5, Error ellipse: s-maj=3.4km s-min=2.5km az=9.0*
*MOS **06** 20:01:23.5±2.5, 40.80N×74.14E, h33km, mb3.5/1, Error ellipse: s-maj=17.7km s-min=9.4km az=80.9*
*NEIC **06** 20:01:25.4±1.8, 40.87N×74.39E, h35km, Error ellipse: s-maj=26.5km s-min=15.2km az=167.0*
*NNC **06** 20:01:26.6±5.6, 41.13N×74.03E, h11km±24km, mpv3.9, Error ellipse: s-maj=37.5km s-min=12.7km az=154.0*
ISC 06 20:01:19.8±1.6**, 40.72N**±0.06×**74.43E**±0.07**, h13km**±12km**, n31,** σ**1s11**/44**, mb3.5**/6**, 12C-14D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**1.49**	**24**	⇓P	**Pn**	**20 01 44.9**	**-1.6**
	135nm,0.2s,SNR=115						
KZA				⇑S	**Sb**	**20 02 02.1**	**-3.5**
	401nm,0.2s						
UCH	**Uchtor**	**1.51**	**2**	P	**Pn**	**20 01 45.6**	**-1.2**
	231nm,0.2s,SNR=575						
UCH				⇑S	**Sb**	**20 02 03.6**	**-2.5**
	296nm,0.2s						
AML	**Almayashu**	**1.52**	**339**	P	**Pn**	**20 01 46.4**	**-0.4**
	414nm,0.3s,SNR=579						
AAK	**Ala-Archa**	**1.92**	**1**	⇓P	**Pn**	**20 01 53.0**	**+0.4**
	174nm,0.2s,SNR=111						
AAK				⇓S	**Sn**	**20 02 16.2**	**-0.5**
	529nm,0.4s						
AAK	**Ala-Archa**	**1.92**	**1**	⇓Pn	**Pn**	**20 01 53.0**	**+0.4**
	169nm,0.7s						
AAK				⇑Lg		20 02 15.9	
	358nm,0.6s						
AAK	**Ala-Archa**	**1.92**	**1**	⇓*e*P	**Pn**	**20 01 52.0**	**-0.5**
AAK				*e*S	**Sn**	**20 02 15.8**	**-0.8**
KBK	**Karagaybulak**	**1.98**	**11**	P	**Pn**	**20 01 53.8**	**+0.4**
	141nm,0.1s,SNR=449						
KBK				⇓S	**Sn**	**20 02 17.6**	**-0.6**
	684nm,0.2s						
EKS2	**Erkin-Say**	**2.00**	**346**	P	**Pn**	**20 01 54.9**	**+1.1**
	90nm,0.3s,SNR=254						
EKS2				⇓S	**Sn**	**20 02 19.3**	**+0.4**
	199nm,0.3s						
ULHL	**Ulahol**	**2.05**	**41**	⇑P	**Pn**	**20 01 54.9**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	58nm,0.1s,SNR=248						
ULHL				⇓S	Sn	20 02 19.3	-0.7
	351nm,0.2s						
CHMS	Chumysh	2.29	6	⇑P	Pn	20 01 59.4	+1.4
	64nm,0.2s,SNR=58						
CHMS				⇑S	Sn	20 02 27.1	+0.9
	157nm,0.2s						
TKM2	Tokmak 2	2.37	21	⇑P	Pn	20 02 00.3	+1.3
	47nm,0.2s,SNR=111						
TKM2				⇑S	Sn	20 02 28.8	+0.6
	918nm,0.3s						
USP	Ospenovka	2.55	1	⇓P	Pn	20 02 02.8	+1.2
	384nm,0.4s,SNR=388						
USP				⇑S	Sn	20 02 35.2	+2.4
	246nm,0.2s						
KK31	Karatay Array	3.77	311	Pn	Pn	20 02 20.4	+1.5
	15nm,0.5s,baz=120,slow=12,SNR=194						
KK31				Lg		20 03 16.0	
	28nm,0.3s,baz=121,slow=29,SNR=7.3						
KK31	Karatay Array	3.77	311	Pn	Pn	20 02 20.4	+1.4
KK31				Lg		20 03 16.0	
MK02	Makanchi Array	8.31	41	P	P	20 03 29.9	+7.0
MK02						20 05 05.7	
MK31	Makanchi Array	8.32	41	⇑Pn	P	20 03 29.9	+6.8
	2.0nm,0.6s						
MK31				⇓Sn	Sn	20 05 05.6	+7.8
	5.1nm,0.6s						
MK31	Makanchi Array	8.32	41	P	P	20 03 29.9	+6.8
MK31				S	Sn	20 05 05.7	+7.9
MKAR	Makanchi Array	8.32	41	Pn	P	20 03 22.2	-0.8
	0.0nm,0.3s,baz=231,slow=16,SNR=2.6						
MKAR				Lg		20 05 34.4	
	0.7nm,0.3s,baz=242,slow=26,SNR=3.7						
KURK	Kurchatov	10.42	15	⇓Lg		20 06 44.2	
	39nm,1.4s						
VOSK	Vostochnaya	12.24	350	⇓Pn	P	20 04 16.3	-0.4
	1.3nm,0.9s						
VOSK				⇑Lg		20 07 38.6	
	11nm,0.8s						
BVA0	Borovoye Array	12.62	349	Pn	P	20 04 20.3	-1.4
	0.4nm,0.8s,baz=158,slow=13,SNR=6.1						
BVA0				⇓Lg		20 07 53.4	
	1.9nm,1.2s,baz=166,slow=28,SNR=4.0						
BVAR	Borovoye Array	12.62	349	Pn	P	20 04 17.8	-3.9
	0.1nm,0.3s,baz=157,slow=11,SNR=3.1						
BVAR				Sn	S	20 06 32.4	-11
	0.1nm,0.3s,baz=176,slow=23,SNR=2.6						
BVAR				Lg		20 07 55.9	
	0.4nm,0.3s,baz=139,slow=32,SNR=6.4						
AB31	Akbulak array	13.32	315	⇓Pn	P	20 04 29.8	-1.3
	0.5nm,0.5s,baz=115,slow=13,SNR=4.8						
AB31				⇑Lg		20 08 15.1	
	1.2nm,0.6s						
ZAL	Zalesovo	14.96	24	Pn	P	20 04 54.6	+2.2
	0.4nm,0.3s,baz=196,slow=4.6,SNR=3.4						
ZAL				Sn	S	20 07 38.8	+0.1
	0.2nm,0.3s,baz=148,slow=21,SNR=2.0						
ZAL				Lg		20 09 09.2	
	0.1nm,0.3s,baz=331,slow=20,SNR=2.4						
ZAK	Zakamensk	22.27	55	eP	P	20 06 17.0	-1.0
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.2						
SONM	Songino Array	23.85	62	P	P	20 06 34.3	+1.0
	comp=Z,0.3nm,0.7s,mb2.8,baz=273,slow=9.0,SNR=4.1						
BRTR	Keskin Array B	30.97	282	P	P	20 07 38.5	-0.2
	comp=Z,0.3nm,0.4s,mb3.5,baz=89,slow=12,SNR=2.8						
BRTR	Keskin Array B	30.97	282	P	P	20 07 38.6	-0.1
FINES	FINESS Array B	35.65	322	P	P	20 08 18.6	-0.5
	comp=Z,0.4nm,0.4s,mb3.7,baz=108,slow=6.0,SNR=5.0						
ARCES	ARCESS Array B	38.38	335	P	P	20 08 41.8	-0.2
	comp=Z,4.9nm,1.0s,mb4.2,baz=117,slow=8.1,SNR=4.9						
NOA	NORSAR Array B	42.75	320	P	P	20 09 17.5	-0.5
	comp=Z,0.4nm,0.6s,mb3.3,baz=91,slow=7.6,SNR=2.8						

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*IDC **06** 20:30:00.3±0.7, 33.42S×77.83E, mb3.9/12, mb1 4.0/12, mb1mx4.0/18, mbtmp3.9/12, MS4.0/14, Ms1 3.9/14, ms1mx3.8/26, Error ellipse: s-maj=23.2km s-min=20.2km az=83.0*

*NEIC **06** 20:30:01.9±0.4, 33.42S×77.83E, h10^{km}, mb4.4/5, Error ellipse: s-maj=11.9km s-min=11.3km az=201.0*

ISC 06 20:30:00.2±0.5**, 33.5S**±0.1×**77.9E**±0.1**, h10**^{km}**, n24, $\sigma 0^{s}70$**/18**, mb4.1**/15**, MS4.0**/14**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	32.82	100	LR	LR	20 47 15.7	
	comp=Z,200nm,20.7s,MS3.8,baz=102,slow=32						
MAW	Mawson	35.26	190	eP	P	20 36 57.1	+0.5
	1.9nm,0.9s,mb4.0						
MAW	Mawson	35.26	190	P	P	20 36 56.7	+0.1
	2.5nm,0.9s,mb4.2,baz=14,slow=13,SNR=6.0						
MAW				LR	LR	20 48 42.5	
	comp=Z,103nm,21.3s,MS3.5,baz=234,slow=32						
BOSA	Boshof	44.93	261	LR	LR	20 52 32.4	
	comp=Z,235nm,18.6s,MS4.2,baz=112,slow=30						
BOSA	Boshof	44.93	261	eP	P	20 38 17.8	+0.7
MATP	Matopo	45.48	274	P	P	20 38 21.1	-0.5
	1.8nm,0.9s,mb3.9,baz=146,slow=11,SNR=3.7						
MATP				LR	LR	20 53 07.3	
	comp=Z,255nm,19.3s,MS4.2,baz=112,slow=30						
LBTB	Lobatse	45.97	266	P	P	20 38 24.4	-0.9
	1.9nm,0.6s,mb4.2,baz=175,slow=7.4,SNR=4.2						
LBTB				LR	LR	20 53 25.6	
	comp=Z,161nm,20.9s,MS4.0,baz=92,slow=31						
LSZ	Lusaka	48.25	280	eP	P	20 38 43.0	-0.4
	5.8nm,0.8s,mb4.7						
KMBO	Kilima Mbogo	49.82	302	P	P	20 38 55.5	0.0
	1.0nm,0.7s,mb4.0,baz=46,slow=22,SNR=4.4						
KMBO				LR	LR	20 56 43.9	
	comp=Z,88nm,18.2s,MS3.8,baz=94,slow=32						
WRA	Warramunga Arr	51.66	90	P	P	20 39 08.7	-0.7
	4.1nm,1.1s,mb4.3,baz=245,slow=7.3,SNR=25						
WRAB	Tennant Creek	51.68	90	eP	P	20 39 09.3	-0.2
	4.6nm,1.1s,mb4.3						
STKA	Stephens Creek	52.90	107	LR	LR	20 56 58.3	
	comp=Z,184nm,21.8s,MS4.1,baz=207,slow=31						
TSUM	Tsumeb	55.16	269	LR	LR	20 59 05.7	
	comp=Z,174nm,20.8s,MS4.1,baz=107,slow=32						
SNAA	Sanae	55.69	202	P	P	20 39 38.6	+0.1
	0.4nm,0.8s,mb3.5,baz=119,slow=8.4,SNR=7.3						
ATD	Arta Tunnel	55.82	317	LR	LR	20 58 17.0	
	comp=Z,56nm,19.9s,MS3.6,baz=331,slow=30						
VNDA	Vanda	56.29	165	P	P	20 39 43.0	+0.2
	1.2nm,0.8s,mb4.0,baz=280,slow=5.2,SNR=7.7						
VNDA				LR	LR	21 00 01.5	
	comp=Z,109nm,20.2s,MS3.9,baz=275,slow=32						
VNDA	Vanda	56.29	165	eP	P	20 39 43.1	+0.3
	1.5nm,0.8s,mb4.1						
QSPA	South Pole Qui	56.66	180	eP	P	20 39 45.5	+0.1
	8.0nm,1.0s,mb4.7						
MKAR	Makanchi Array	80.01	3	P	P	20 42 10.9	-0.2
	0.7nm,0.9s,mb3.6,baz=220,slow=9.5,SNR=3.6						
MKAR				LR	LR	21 14 13.9	
	comp=Z,88nm,21.9s,MS4.1,baz=181,slow=33						
BRTR	Keskin Array B	83.55	327	P	P	20 42 29.7	0.0
	0.9nm,0.6s,mb4.1,baz=135,slow=7.0,SNR=4.8						
SONM	Songino Array	84.90	19	P	P	20 42 35.1	-1.1
	0.4nm,0.9s,mb3.5,baz=153,slow=6.4,SNR=3.0						
SONM				LR	LR	21 17 26.4	
	comp=Z,108nm,19.1s,MS4.2,baz=178,slow=34						
BVAR	Borovoye Array	86.39	355	P	P	20 42 45.0	+1.5
	0.2nm,0.2s,mb3.9,baz=166,slow=12,SNR=4.1						
ZAL	Zalesovo	87.27	4	P	P	20 42 49.2	+1.4
	0.6nm,0.4s,mb4.2,baz=49,slow=4.9,SNR=3.3						
ZAL				LR	LR	21 19 29.2	
	comp=Z,78nm,21.1s,MS4.1,baz=106,slow=34						
DBIC	Dimbokro	87.59	280	LR	LR	21 17 23.1	
	comp=Z,81nm,19.6s,MS4.1,baz=24,slow=32						

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*NNC **06** 20:36:36.1±6.0, 39.43N×71.28E, mpv3.3, Error ellipse: s-maj=61.9km s-min=43.6km az=56.0*

ISC 06 20:36:31.7±2.6**, 38.9N**±0.2×**71.2E**±0.2**, h33**^{km}**, n11, $\sigma 0^{s}49$**/12**, 2C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.79	29	P	P	20 37 28.8	-0.5
	SNR=8.3						
UCH	Uchtor	4.21	36	P	P	20 37 35.5	+0.2
	SNR=12						
KK31	Karatay Array	4.28	353	Pn	Pn	20 37 37.0	+0.7
	2.0nm,0.4s,baz=182,slow=14,SNR=98						
KK31				⇑Sn	Sn	20 38 25.7	0.0
	8.9nm,0.7s,baz=182,slow=24,SNR=4.8						
KK31				⇑Lg		20 38 36.8	
	4.7nm,0.5s,baz=145,slow=28,SNR=6.0						
EKS2	Erkin-Say	4.28	26	P	P	20 37 36.0	-0.2
	SNR=7.9						
AAK	Ala-Archa	4.53	33	P	P	20 37 39.8	-0.1
	SNR=9.4						
AAK	Ala-Archa	4.53	33	Pn	Pn	20 37 40.2	+0.2
	4.3nm,0.4s						
AAK				Lg		20 38 40.6	
	3.5nm,0.6s						
KBK	Karagaybulak	4.75	36	P	P	20 37 43.9	+1.0
	SNR=7.8						
CHMS	Chumysh	4.94	32	P	P	20 37 45.5	-0.1
	SNR=10						
USP	Ospenovka	5.07	28	P	P	20 37 46.4	-1.0
	SNR=5.9						
TKM2	Tokmak 2	5.26	38	P	P	20 37 50.0	0.0
	SNR=5.5						
AB31	Akbulak array	13.16	326	P	P	20 39 38.5	-0.2
	0.2nm,0.4s,baz=144,slow=12,SNR=7.1						

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*IDC **06** 20:40:59.8±9.1, 38.06N×73.34E, h74^{km}±75^{km}, mb3.4/3, mb1 3.6/6, mb1mx3.3/22, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=68.2km s-min=32.3km az=39.0*

*MOS **06** 20:41:02.9±1.0, 38.26N×73.31E, h118^{km}, mb3.7/2, Error ellipse: s-maj=21.7km s-min=9.1km az=90.4*

*NEIC **06** 20:41:03.4±2.6, 38.26N×73.37E, h107^{km}±22^{km}, mb3.6/4, Error ellipse: s-maj=27.0km s-min=15.0km az=195.0*

*NNC **06** 20:41:10.9±5.8, 38.82N×73.19E, h180^{km}±61^{km}, mpv4.1, Error ellipse: s-maj=60.2km s-min=33.7km az=15.0*

ISC 06 20:40:58.5±1.2**, 37.96N**±0.07×**73.0E**±0.1**, h123**^{km}±13^{km}**, n36, $\sigma 1^{s}13$**/48**, mb3.5**/5**, 7C-7D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.21	7	P	P	20 42 02.4	+0.5
	SNR=999						
UCH	Uchtor	4.42	15	P	P	20 42 05.2	+0.3
	SNR=119						
KZA	Kyzart	4.47	22	P	P	20 42 04.8	-0.6
	SNR=14						
EKS2	Erkin-Say	4.74	7	P	P	20 42 09.8	+0.7
	SNR=185						
AAK	Ala-Archa	4.81	13	P	P	20 42 10.4	+0.3
	SNR=40						
AAK	Ala-Archa	4.81	13	⇑P	P	20 42 10.4	+0.3
	24nm,0.4s						
AAK				⇓S	S	20 42 59.5	-5.7
	20nm,0.8s						
AAK	Ala-Archa	4.81	13	ePn	P	20 42 09.3	-0.8
AAK				eSn	S	20 42 60.0	-5.2
KBK	Karagaybulak	4.93	17	P	P	20 42 11.7	0.0
	SNR=56						
ULHL	Ulahol	4.96	29	P	P	20 42 10.8	-1.2
	SNR=17						
FRU	Bishkek	5.03	14	ePN	P	20 42 14.0	+1.0
FRU				eS	S	20 43 15.5	+5.1
FRU				pmax	pmax		
	comp=Z,30nm,1.7s						
FRU				smax			
	comp=E,60nm,1.9s						
CHMS	Chumysh	5.21	14	P	P	20 42 15.4	-0.1
	SNR=11						
TKM2	Tokmak 2	5.34	21	P	P	20 42 16.8	-0.4
	SNR=17						
USP	Ospenovka	5.43	12	P	P	20 42 18.5	+0.2
	SNR=27						
KK31	Karatay Array	5.48	341	⇓P	P	20 42 21.2	+2.2
	comp=E,9.9nm,0.3s,baz=133,slow=12,SNR=426						
KK31				⇓S	S	20 43 17.6	-3.7
	comp=E,20nm,0.6s,baz=151,slow=22,SNR=7.8						
KK31	Karatay Array	5.48	341	⇓P	P	20 42 21.2	+2.2
	comp=E,9.9nm,0.3s						
KK31				S	S	20 43 17.6	-3.7
MKAR	Makanchi Array	11.19	35	P	P	20 43 34.1	-1.5
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=5.7						
KOLN	Koldanda	13.51	136	eP	P	20 44 06.1	+0.1
	comp=E,5.0nm,0.2s						
KOLN				eS	S	20 46 26.1	-7.4
GKN	Gorkha	13.92	132	eP	P	20 44 10.6	-0.7
	comp=E,24nm,0.3s						
GKN				eS	S	20 46 33.2	-10
KKN	Kakani	14.46	131	eP	P	20 44 17.5	-0.7
	comp=E,14nm,0.5s						
DMN	Daman	14.49	132	eP	P	20 44 17.9	-0.7
	comp=E,5.9nm,0.3s						
PKI	Pulchoki	14.70	131	eP	P	20 44 21.0	-0.3
	comp=E,6.5nm,0.3s						
AB31	Akbulak array	14.70	324	⇑P	P	20 44 23.7	+2.5
	comp=E,1.1nm,0.3s,baz=129,slow=12,SNR=47						
AB31				⇓S	S	20 46 54.5	-6.6
	comp=E,1.1nm,0.4s						
AB31	Akbulak array	14.70	324	⇑P	P	20 44 23.7	+2.5
	comp=E,1.1nm,0.4s						
AB31				S	S	20 46 54.5	-6.6
AB31	Akbulak array	14.70	324	⇑P	P	20 44 23.7	+2.5
AB31				S	S	20 46 54.5	-6.6
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VOSK	Vostochnaya	14.84	355	⇑P	P	20 44 22.7	-0.2
	comp=Z,1.3nm,0.8s						
VOSK	Vostochnaya	14.84	355	⇑P	P	20 44 22.7	-0.2
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	Borovoye Array	15.18	354	P	P	20 44 27.4	+0.2
	comp=Z,1.5nm,0.3s,baz=157,slow=9.7,SNR=17						
AKTK	Aktyubinsk	16.42	324	⇓P	P	20 44 47.2	+4.5
AKTK				S	S	20 47 38.6	-1.6
AKTO	Aktyubinsk	16.42	324	⇓P	P	20 44 47.2	+4.5
	comp=Z,0.5nm,0.7s						
AKTO				⇑S	S	20 47 38.6	-1.6
	comp=Z,0.4nm,1.1s						
ZAL	Zalesovo	17.93	23	P	P	20 45 00.2	-0.8
	comp=Z,1.0nm,0.3s,baz=226,slow=7.7,SNR=9.0						
ZAK	Zakamensk	24.84	50	eP	P	20 46 11.9	+1.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.2						
SONM	Songino Array	26.21	57	P	P	20 46 25.3	+2.0
	comp=Z,0.3nm,0.5s,mb3.0,baz=270,slow=10,SNR=5.3						
ARCES	ARCESS Array B	40.43	336	P	P	20 48 30.8	+5.1
	comp=Z,4.4nm,1.1s,mb4.2,baz=111,slow=10,SNR=5.2						
WRA	Warramunga Arr	81.44	123	P	P	20 53 07.9	+4.5
	comp=Z,0.2nm,0.4s,mb3.3,baz=322,slow=4.6,SNR=11						
WRAB	Tennant Creek	81.44	123	P	P	20 53 07.6	+4.1
	comp=Z,0.8nm,0.6s,mb3.7						
WRAB	Tennant Creek	81.44	123	P	P	20 53 07.6	+4.2
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						

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*MOS **06** 21:13:49.1±0.9, 7.20S×128.73E, h92^{km}, mb5.2/16, Error ellipse: s-maj=14.7km s-min=7.3km az=111.7*

*BJI **06** 21:13:50.9, 7.56S×129.05E, h133^{km}, mB5.2, mb5.4*

*NEIC **06** 21:13:54.3±1.0, 7.31S×128.83E, h131^{km}±9^{km}, mb5.2/23, Error ellipse: s-maj=8.4km s-min=5.4km az=67.0*

*HRVD **06** 21:13:54.3±0.6, 7.20S×129.74E, h177^{km}±6^{km}, MW5.3/34, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s34,c43; Half duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.22±.05; $M_{\theta\theta}$0.16±.07; $M_{\phi\phi}$0.06±.09; $M_{r\theta}$0.33±.03; $M_{\theta\phi}$-1.00±.08; $M_{\phi r}$-0.29±.04; Best double couple: $M_0$1.064×10^{17} NP1:ϕ_s180°,δ77°,λ10°. NP2:ϕ_s88°, δ80°,λ167°. Principal axes: T 1.24, Plg17°, Azm43°; N -.353, Plg73°, Azm231°; P -.888, Plg2°, Azm134°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **06** 21:13:58.0±1.4, 7.29S×128.84E, h162^{km}±11^{km}, mb4.5/22, mb1 4.5/23, mb1mx4.5/24, mbtmp5.0/23 Error ellipse: s-maj=13.8km s-min=8.0km az=66.0*

ISC 06 21:13:55.1±0.9**, 7.42S**±0.04×**128.83E**±0.05**, h152**^{km}±9^{km}**, h123**^{km}±1.6^{km}**:pP-P, n191, $\sigma 1^{s}18$**/152**, mb5.0**/61**, 30C-9D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.35	146	eP	P	21 15 46.7	+19
	222nm,0.2s						
KAKA				eS	S	21 16 53.7	+15
FITZ	Fitzroy Crossi	11.07	196	⇑iP	P	21 16 28.8	-1.2
	95nm,0.5s						
FITZ				eS	S	21 18 25.3	-6.1
FITZ	Fitzroy Crossi	11.07	196	P	P	21 16 28.7	-1.3
	26nm,0.3s,baz=15,slow=9.1,SNR=148						
FITZ				S	S	21 18 21.2	-10
	47nm,0.3s,baz=29,slow=10,SNR=4.1						
WRAB	Tennant Creek	13.55	157	eP	P	21 17 00.4	-1.8
	330nm,0.6s						
WRAB				eS	S	21 19 22.7	-6.7
WRAB	Tennant Creek	13.55	157	eP	P	21 17 00.4	-1.8
WRAB				pmax	pmax		
	comp=Z,330nm,0.6s						
WRA	Warramunga Arr	13.55	157	P	P	21 17 00.3	-1.9
	comp=Z,12nm,0.3s,baz=341,slow=12,SNR=715						
WRA				S	S	21 19 20.8	-8.8
	comp=Z,7.2nm,0.3s,baz=331,slow=23,SNR=6.9						
WB2	Warramunga Arr	13.56	157	⇓iP	P	21 17 00.5	-1.8
WB2				i		21 17 08.6	
WB2				eS	S	21 19 23.4	-6.2
MATI	Mati	14.49	350	eP	P	21 17 17.9	+3.7
BUKP	Musuan	15.65	346	eP	P	21 17 31.1	+2.3
MBWA	Marble Bar	16.25	212	eP	P	21 17 36.0	-0.1
	comp=Z,22nm,0.6s						
MBWA				eS	S	21 20 26.2	-4.7
BUTP	Butuan	16.59	349	eP	P	21 17 43.2	+2.9
DCPH	Dipolog City	16.80	341	⇓iP	P	21 17 48.0	+5.0
SCPH	Surigao	17.41	349	⇑eP	P	21 17 54.5	+4.3
MSLP	Maasin	17.88	347	eP	P	21 17 56.7	+1.1
PMG	Port Moresby	18.24	98	P	P	21 17 58.7	-0.9
	comp=Z,1.3nm,0.3s,baz=260,slow=10,SNR=4.6						
PMG				S	S	21 21 16.7	+1.8
	comp=Z,0.8nm,0.3s,baz=189,slow=20,SNR=4.0						
PMG	Port Moresby	18.24	98	P	P	21 17 58.8	-0.8
PMG				S	S	21 21 16.7	+1.8
KKM	Kota Kinabalu	18.36	316	eP	P	21 18 01.0	+0.2
GUIM	Jordan	18.97	341	eP	P	21 18 07.4	+0.1
BATP	Bataraza	19.50	326	eP	P	21 18 13.4	+0.6
KSM	Kuching	20.48	295	eP	P	21 18 22.6	-0.1
ENPP	El Nido	20.73	333	eP	P	21 18 28.0	+2.8
OTRP	Odiongan	20.78	341	eP	P	21 18 28.3	+2.5
CTA	Charters Tower	21.07	128	⇓iP	P	21 18 31.5	+2.9
	comp=Z,35nm,0.9s,mb4.7						
CTA				eS	S	21 22 37.9	+29
CTA	Charters Tower	21.07	128	P	P	21 18 31.2	+2.6
	comp=Z,27nm,0.5s,mb4.8,baz=303,slow=12,SNR=42						
CTA				S	S	21 22 15.2	+6.2
	comp=Z,3.2nm,0.5s,baz=344,slow=21,SNR=1.8						
CTA	Charters Tower	21.07	128	⇓iP	P	21 18 31.5	+2.9
CTA				eS	PcP	21 22 37.9	+7.7
CTA				pmax	pmax		
	comp=Z,35nm,0.9s						
CTAO	Charters Tower	21.07	128	eP	P	21 18 31.1	+2.5
	comp=Z,57nm,0.8s,mb5.0						
CTAO	Charters Tower	21.07	128	eP	P	21 18 31.1	+2.5
CTAO				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.0						
BUSP	Coron	21.11	336	eP	P	21 18 31.9	+2.8
SJMP	San Jose	21.18	339	eP	P	21 18 31.4	+1.6
PVCP	Virac	21.38	347	eP	P	21 18 32.3	+0.6
BOAC	Boac	21.87	341	eP	P	21 18 38.8	+2.3
LUBP	Lubang	22.67	338	eP	P	21 18 45.4	+1.0
POLP	Polilio Island	23.04	343	eP	P	21 18 51.9	+4.0
FORT	Forrest	23.25	182	⇓iP	P	21 18 51.6	+1.7
	comp=Z,192nm,0.6s,mb5.7						
FORT				eS	S	21 23 09.4	+22
BALP	Baler	24.10	343	eP	P	21 18 57.2	-0.9
KLBR	Kellerberrin	26.18	202	⇑iP	P	21 19 18.2	+0.8
	comp=Z,184nm,1.6s,mb5.5						
STKA	Stephens Creek	27.09	156	eP	P	21 19 26.0	+0.3
	comp=Z,22nm,0.6s,mb5.0						
STKA				eS		21 24 46.3	
STKA	Stephens Creek	27.09	156	P	P	21 19 25.8	+0.1
	comp=Z,27nm,0.6s,mb5.1,baz=318,slow=8.3,SNR=101						
MUN	Mundaring	27.12	204	eP	P	21 19 26.4	+0.4
NWAO	Narrogin (SRO)	27.57	201	P	P	21 19 30.5	+0.4
	comp=Z,14nm,0.3s,mb5.2,baz=52,slow=7.1,SNR=42						
KULM	Kulim	30.82	293	eP	P	21 19 57.5	-1.7
KULM				ePcP	PcP	21 22 52.8	+0.2
QIZ	Qiongzhong	32.26	325	P	P	21 20 11.1	-0.6
TOO	Toolangi	33.62	156	⇓iP	P	21 20 25.6	+2.5
	comp=Z,13nm,0.4s,mb5.0						
TOO	Toolangi	33.62	156	⇓iP	P	21 20 25.6	+2.5
TOO				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.0						
QZH	Quanzhou	33.67	343	P	P	21 20 22.2	-1.5
JOW	Kunigami	34.05	359	P	P	21 20 26.6	-0.2
	comp=Z,44nm,0.9s,mb5.2,baz=150,slow=13,SNR=4.5						
DZM	Mont Dzumac	39.05	116	P	P	21 21 09.8	+0.8
	comp=Z,6.5nm,0.7s,mb4.4,baz=2.8,slow=18,SNR=10						
CHG	Chiang Mai	39.34	312	⇑P	P	21 21 11.5	+0.2
	comp=Z,27nm,0.9s,mb4.9						
CHRT	Chiangrai	39.40	314	⇑P	P	21 21 12.5	+0.7
	comp=Z,260nm,0.8s,mb5.9						
GYA	Guiyang	39.96	328	⇑iP	P	21 21 16.5	+0.2
GYA				XP	sP	21 21 59.6	-8.2
GYA				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.4						
GYA				AMB	AMB		
	comp=Z,360nm,3.2s						
GYA				LR	LR		
	comp=N,390nm,17.8s						
GYA				LR	LR		
	comp=E,370nm,17.6s						
GYA				LR	LR		
	comp=Z,320nm,18.0s						
WHN	Wuhan	40.22	340	⇑P	P	21 21 18.5	+0.1
WHN				AMB	AMB		
	comp=Z,64nm,1.0s,mb5.2						
JNU	Nakatsue	40.36	3	P	P	21 21 17.4	-2.1
	comp=Z,14nm,0.7s,mb4.7,baz=353,slow=26,SNR=4.0						
NJ2	Nanjing	40.38	347	eP	P	21 21 19.6	-0.2
NJ2				AP	pP	21 21 47.9	-5.4
NJ2				XP	sP	21 22 00.2	-11
NJ2				PP	PP	21 22 57.9	0.0
NJ2				S	S	21 27 18.0	+1.9
NJ2				XS		21 28 06.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,660nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,15.3s						
NJ2				LR	LR		
	comp=E,1μm,15.6s						
NJ2				LR	LR		
	comp=Z,670nm,15.5s						
KMI	Kunming	41.12	323	P	P	21 21 27.2	+1.3
KMI				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.1						
KMI	Kunming	41.12	323	P	P	21 21 27.2	+1.3
	comp=Z,60nm,1.2s,mb5.1						
KMI				pP	PP	21 22 52.3	-13
ENH	Enshi	41.82	335	⇑iP	P	21 21 30.6	-1.0
	comp=Z,34nm,0.7s,mb5.1						
MAJO	Matsushiro	44.60	11	eP	P	21 21 52.0	-2.0
	comp=Z,30nm,0.8s,mb5.0						
MAJO	Matsushiro	44.60	11	eP	P	21 21 52.0	-2.0
MAJO				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.0						
MAT	Matsushiro	44.60	11	P	P	21 21 50.8	-3.2
MAT	Matsushiro	44.60	11	eP	P	21 21 51.0	-3.0
	comp=Z,23nm,0.8s,mb4.9						
MAT	Matsushiro	44.60	11	eP	P	21 21 51.0	-3.0
MAT				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.9						
MJAR	Matsushiro Arr	44.60	11	P	P	21 21 52.1	-1.9
	comp=Z,22nm,0.8s,mb4.8,baz=188,slow=9.5,SNR=38						
MJAR				PcP	PcP	21 23 32.6	-2.0
	comp=Z,3.4nm,0.7s,baz=186,slow=2.5,SNR=4.8						
CD2	Chengdu	45.04	329	⇑iP	P	21 21 56.8	-0.8
CD2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.3						
XAN	Xi'an	45.34	337	P	P	21 21 58.4	-1.5
XAN				AMB	AMB		
	comp=Z,73nm,0.9s,mb5.3						
LZH	Lanzhou	49.23	333	⇑P	P	21 22 30.0	-0.2
LZH				AP	pP	21 22 59.0	-5.7
LZH				XP	sP	21 23 12.5	-9.1
LZH				AMB	AMB		
	comp=Z,120nm,1.4s,mb5.3						
LZH	Lanzhou	49.23	333	⇑P	P	21 22 30.0	-0.2
	comp=Z,120nm,1.4s,mb5.3						
LZH				pP	pP	21 22 59.0	-5.7
LZH				sP	sP	21 23 12.5	-9.1
LZH	Lanzhou	49.23	333	⇑P	P	21 22 30.0	-0.2
LZH				*PP	pP	21 22 59.0	-5.7
LZH				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HHC	Hu-ho-hao-te	50.59	343	eP	P	21 22 39.0	-1.4
HHC				AP	pP	21 23 08.9	-6.2
HHC				XP	sP	21 23 22.2	-10
HHC				PCP	PcP	21 23 56.7	+0.7
HHC				PP	PP	21 24 37.1	-1.2
HHC				SCP		21 27 38.7	
HHC				PCS		21 27 52.2	
HHC				S	S	21 29 39.2	-2.3
HHC				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,132nm,5.6s						
HHC				LR	LR		
	comp=N,205nm,11.0s						
HHC				LR	LR		
	comp=E,205nm,12.2s						
HHC				LR	LR		
	comp=Z,147nm,14.3s						
CN2	Changchun	51.07	357	eP	P	21 22 47.2	+3.2
RPZ	Rata Peaks	51.63	142	P	P	21 22 49.4	+1.2
	comp=Z,45nm,0.5s,mb5.3,baz=275,slow=2.3,SNR=15						
LSA	Lhasa	51.70	317	P	P	21 22 49.0	0.0
LSA	Lhasa	51.70	317⇑	iP	P	21 22 49.6	+0.6
	comp=Z,46nm,0.7s,mb5.2						
LSA	Lhasa	51.70	317⇑	iP	P	21 22 49.6	+0.6
LSA				pmax	pmax		
	comp=Z,46nm,0.7s,mb5.2						
MDJ	Mudanjiang	51.80	1	P	P	21 22 50.3	+0.9
MDJ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,219nm,4.2s						
MDJ				LR	LR		
	comp=N,178nm,29.0s						
MDJ				LR	LR		
	comp=E,395nm,26.4s						
MDJ				LR	LR		
	comp=Z,170nm,20.2s						
ASAJ	Asahikawa	52.78	12	P	P	21 22 56.0	-0.7
	comp=Z,11nm,0.5s,mb4.9,baz=217,slow=13,SNR=10						
URZ	Urewera	53.23	133	P	P	21 22 59.2	-1.0
	comp=Z,7.0nm,0.5s,mb4.7,baz=256,slow=6.9,SNR=6.3						
GTA	Gaotai	53.78	332⇑	iP	P	21 23 04.0	-0.2
GTA				AP	pP	21 23 31.9	-7.4
GTA				XP	sP	21 23 46.6	-9.4
GTA				PCP	PcP	21 24 08.5	+0.5
GTA				SCP		21 27 50.8	
GTA				AMB	AMB		
	comp=Z,38nm,0.6s,mb5.3						
GTA				AMB	AMB		
	comp=Z,99nm,4.6s						
PKI	Pulchoki	54.52	311	eP	P	21 23 08.6	-1.1
	comp=Z,34nm,0.4s,mb5.4						
KKN	Kakani	54.73	312	eP	P	21 23 10.3	-1.0
	comp=Z,52nm,0.7s,mb5.4						
DMN	Daman	54.76	311	eP	P	21 23 10.6	-0.9
	comp=Z,62nm,0.8s,mb5.4						
GKN	Gorkha	55.33	311	eP	P	21 23 14.6	-1.0
	comp=Z,85nm,0.4s,mb5.8						
HYB	Hyderabad	55.46	297	iP	P	21 23 16.0	-0.7
HYB	Hyderabad	55.46	297	eP	P	21 23 16.0	-0.7
YSS	Yuzh-Sakhalins	55.53	12	eP	P	21 23 15.1	-1.7
	comp=Z,18nm,0.5s,mb5.2						
YSS	Yuzh-Sakhalins	55.53	12	iP	P	21 23 15.4	-1.4
KOLN	Koldanda	55.98	311	eP	P	21 23 19.4	-0.9
	comp=Z,62nm,0.6s,mb5.6						
KLR	Kul'dur	56.46	2	eP	P	21 23 19.3	-4.1
ULN	Ulaanbaatar	58.31	343	eP	P	21 23 35.9	-0.4
	comp=Z,6.5nm,0.6s,mb4.6						
ULN	Ulaanbaatar	58.31	343	eP	P	21 23 35.9	-0.4
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
SONM	Songino Array	58.47	342	P	P	21 23 36.9	-0.5
	comp=Z,8.0nm,0.6s,mb4.7,baz=160,slow=6.5,SNR=61						
SONM				ScP		21 28 10.0	
	comp=Z,0.8nm,0.9s,baz=145,slow=3.0,SNR=4.9						
ZAK	Zakamensk	61.68	342	eP	P	21 23 58.6	-0.7
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
WMQ	Urumqi	63.11	328⇓	iP	P	21 24 08.6	-0.3
WMQ				AP	pP	21 24 39.0	-6.1
WMQ				XP	sP	21 24 53.0	-8.6
WMQ				PP	PP	21 26 31.0	+0.2
WMQ				S	S	21 32 28.0	+2.2
WMQ				XS		21 33 20.0	
WMQ				AMB	AMB		
	comp=Z,65nm,0.7s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,190nm,5.2s						
MOY	Mondy	63.52	341	eP	P	21 24 11.4	0.0
BOD	Bodaibo	66.12	351	eP	P	21 24 26.6	-1.5
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
KSH	Kashi	67.54	318	P	P	21 24 39.0	+1.7
KSH				ePCP	PcP	21 25 04.0	+0.7
KSH				eAP	pP	21 25 08.7	-5.2
KSH				eXP	sP	21 25 22.5	-8.0
KSH				ePP	PP	21 27 09.0	-0.4
KSH				eSCP		21 28 55.2	
KSH				ePCS		21 29 08.0	
KSH				eS	S	21 33 22.2	+2.3
KSH				eSCS	ScS	21 34 19.5	+2.5
KSH				eSS	SS	21 37 46.2	+1.3
KSH				AMB	AMB		
	comp=Z,210nm,6.2s						
KSH				LR	LR		
	comp=N,140nm,4.4s						
KSH				LR	LR		
	comp=E,170nm,4.4s						
MKAR	Makanchi Array	67.94	327	P	P	21 24 39.2	-0.4
	comp=E,32nm,0.5s,mb5.3,baz=123,slow=6.6,SNR=360						
ULHL	Ulahol	68.81	321	P	P	21 24 45.1	+0.1
	SNR=13						
YAK	Yakutsk	69.24	0⇑	iP	P	21 24 46.3	-1.0
	comp=E,121nm,0.8s,mb5.7						
YAK	Yakutsk	69.24	0⇑	iP	P	21 24 46.3	-1.0
YAK				pmax	pmax		
	comp=Z,121nm,0.8s,mb5.7						
TKM2	Tokmak 2	69.57	321	P	P	21 24 49.9	+0.3
	SNR=28						
KBK	Karagaybulak	69.84	321	P	P	21 24 51.9	+0.6
	SNR=13						
UCH	Uchtor	69.89	320	P	P	21 24 52.6	+1.0
	SNR=25						
AAK	Ala-Archa	70.11	320	P	P	21 24 53.1	+0.1
	SNR=10						
AAK	Ala-Archa	70.11	320⇑	iP	P	21 24 52.5	-0.5
	comp=Z,51nm,1.1s,mb5.2						
AAK	Ala-Archa	70.11	320⇑	iP	P	21 24 52.5	-0.5
AAK				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.2						
CHMS	Chumysh	70.14	321	P	P	21 24 52.6	-0.5
	SNR=11						
AML	Almayashu	70.36	320	P	P	21 24 55.5	+1.0
	SNR=21						
USP	Ospenovka	70.43	321	P	P	21 24 55.1	+0.2
	SNR=40						
EKS2	Erkin-Say	70.58	320	P	P	21 24 56.4	+0.6
	SNR=58						
ZAL	Zalesovo	71.45	334	P	P	21 25 00.1	-0.7
	comp=Z,23nm,0.6s,mb5.1,baz=334,slow=5.4,SNR=74						
VNDA	Vanda	72.18	173	P	P	21 25 05.4	+0.7
	comp=Z,2.1nm,0.5s,mb4.1,baz=323,slow=6.7,SNR=30						
KURK	Kurchatov	72.27	329⇑	iP	P	21 25 05.2	-0.5
	comp=Z,64nm,0.8s,mb5.4						
KURK	Kurchatov	72.27	329⇑	iP	P	21 25 05.2	-0.4
KURK				pmax	pmax		
	comp=Z,64nm,0.8s,mb5.4						
NVS	Novosibirsk	72.73	334	eP	P	21 25 06.7	-1.6
NVS				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.0						
NVS				pmax	pmax		
	comp=N,14nm,0.7s						
NVS				pmax	pmax		
	comp=E,12nm,0.6s						
MAW	Mawson	74.14	201⇑	iP	P	21 25 17.7	+1.5
	comp=E,4.4nm,0.5s,mb4.4						
MAW	Mawson	74.14	201	P	P	21 25 17.3	+1.1
	comp=E,5.6nm,0.6s,mb4.5,baz=78,slow=5.7,SNR=39						
MAW	Mawson	74.14	201⇑	iP	P	21 25 17.7	+1.5
MAW				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BVAR	Borovoye Array	77.80	328	P	P	21 25 36.6	-0.4
	comp=Z,17nm,0.7s,mb4.8,baz=135,slow=6.3,SNR=83						
BRVK	Borovoye	77.87	328⇑	iP	P	21 25 36.8	-0.6
	comp=Z,16nm,0.9s,mb4.7						
BRVK	Borovoye	77.87	328⇑	iP	P	21 25 36.8	-0.6
BRVK				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.7						
OPO	Ambohidratompo	79.78	252	P	P	21 25 48.4	-0.1
	comp=Z,4.5nm,0.7s,mb4.2,baz=76,slow=5.2,SNR=12						
QSPA	South Pole Qui	82.56	180⇑	iP	P	21 26 03.3	+1.4
	comp=Z,5.6nm,0.6s,mb4.5						
SYO	Syowa Base	82.86	201⇓	P	P	21 26 03.6	+0.1
SVE	Sverdlovsk	84.52	329⇑	eP	P	21 26 11.9	-0.2
SVE				pmax	pmax		
	comp=Z,40nm,1.5s,mb4.9						
ARU	Arti	85.44	328	eP	P	21 26 16.1	-0.5
ARU				e		21 29 35.7	
UMR	Umm Al-Rimmam	85.95	300	eP	P	21 26 19.4	-0.4
UMR				AMb	AMB	21 26 21.2	
	comp=Z,49nm,0.6s,mb5.4						
RDF	Al-Radifah	85.98	300	eP	P	21 26 20.4	+0.5
RDF				AMb	AMB	21 26 21.2	
	comp=Z,51nm,0.6s,mb5.5						
MIB	Mutribah	86.32	301	eP	P	21 26 21.9	+0.4
MIB				AMb	AMB	21 26 23.0	
	comp=Z,52nm,0.7s,mb5.3						
ATD	Arta Tunnel	87.55	282	P	P	21 26 28.0	+0.2
	comp=Z,2.7nm,0.5s,mb4.4,baz=86,slow=23,SNR=4.9						
ATD	Arta Tunnel	87.55	282	P	P	21 26 28.0	+0.2
KMBO	Kilima Mbogo	91.42	269	P	P	21 26 46.5	+0.5
	comp=Z,2.9nm,0.9s,mb4.3,baz=46,slow=1.8,SNR=9.7						
ILAR	Eielson Array	94.22	25	P	P	21 26 56.0	-1.5
	comp=Z,2.3nm,0.8s,mb4.4,baz=272,slow=4.1,SNR=21						
SNAA	Sanae	94.99	194		P	21 27 19.9	+19
SNAA	Sanae	94.99	194	P	P	21 27 03.3	+2.3
SNAA				P		21 27 19.9	
VNA2	Neumayer--Watz	96.56	193		P	21 27 23.5	+15
VNA2	Neumayer--Watz	96.56	193		P	21 27 26.5	+18
VNA2	Neumayer--Watz	96.56	193	P	P	21 27 11.3	+3.1
VNA2				P		21 27 23.5	
VNA2				P		21 27 26.5	
BOSA	Boshof	98.25	240	P	P	21 27 17.4	+0.6
	comp=Z,2.5nm,0.9s,mb4.6,baz=170,slow=6.1,SNR=2.8						
BRTR	Keskin Array B	98.67	309	P	P	21 27 17.6	-0.9
	comp=Z,0.7nm,0.6s,mb4.3,baz=143,slow=6.2,SNR=3.8						
ARCES	ARCESS Array B	101.56	340	P	P	21 27 30.3	-0.5
	comp=Z,2.1nm,0.7s,baz=53,slow=6.1,SNR=7.1						
ARCES				PKiKP		21 31 53.0	
	comp=Z,1.9nm,0.8s,baz=111,slow=1.1,SNR=10						
AKASG	Malin Array Be	101.78	320	P	P	21 27 30.2	-1.9
	comp=Z,0.6nm,0.5s,baz=66,slow=5.0,SNR=4.4						
FINES	FINESS Array B	102.57	331	P	Pdif	21 27 33.7	-1.6
	comp=Z,1.4nm,1.0s,baz=80,slow=8.5,SNR=2.9						
FINES				PKiKP		21 31 55.2	
	comp=Z,0.6nm,0.5s,baz=63,slow=4.3,SNR=5.8						
NOA	NORSAR Array B	109.62	333	PKiKP		21 32 08.3	
	comp=Z,0.5nm,0.6s,baz=191,slow=2.3,SNR=3.4						
CLL	Collm	111.78	323	ePKIKP	PKPdf	21 32 13.0	+1.4
GERES	GERESS Array B	111.99	320	PKiKP		21 32 13.9	
	comp=Z,2.1nm,0.5s,baz=63,slow=2.0,SNR=30						
WTTA	Wattenberg	113.74	319⇑	iP	PKPdf	21 32 17.3	+1.7
MOTA	Moosalm	114.06	319⇑	iP	PKPdf	21 32 17.7	+1.4
DAVA	Damuels	114.88	319⇑	iP	PKPdf	21 32 19.4	+1.5
CDF	Champ du Feu	116.19	321	ePKIKP	PKPdf	21 32 21.8	+1.4
HINF	Hinteralfeld	116.66	320	ePKIKP	PKPdf	21 32 22.2	+0.9
	comp=Z,7.1nm,0.6s						
HAU	Haudompre	116.91	321	ePKIKP	PKPdf	21 32 22.9	+1.1
BAIF	Baives	117.46	323	ePKIKP	PKPdf	21 32 23.9	+1.1
LPG	La Plagne	117.49	318	ePKIKP	PKPdf	21 32 24.7	+1.8
	comp=Z,9.3nm,0.7s						
LPL	La Plagne	117.49	318	ePKIKP	PKPdf	21 32 24.6	+1.7
	comp=Z,12nm,0.7s						
SBF	Sospel	117.53	316	ePKIKP	PKPdf	21 32 24.6	+1.6
CABF	La Chapelle	117.56	319	ePKIKP	PKPdf	21 32 24.7	+1.7
	comp=Z,17nm,0.5s						
MBDF	Montbardon	117.72	317	ePKIKP	PKPdf	21 32 24.9	+1.5
PDAR	Pinedale Array	118.01	45	PKP	PKPdf	21 32 26.4	+2.4
	comp=Z,0.9nm,0.6s,baz=312,slow=1.4,SNR=9.8						
ORIF	Oris-en-Rattie	118.26	317	ePKIKP	PKPdf	21 32 25.8	+1.4
	comp=Z,9.1nm,0.6s						
LOR	Lormes	118.75	320	ePKIKP	PKPdf	21 32 26.6	+1.2
SMF	Signal de Mont	118.99	320	ePKIKP	PKPdf	21 32 26.9	+1.0
SSF	Saint Saulge	119.05	320	ePKIKP	PKPdf	21 32 27.4	+1.4
	comp=Z,9.3nm,0.6s						
VIVF	Saint-Julien-l	119.09	318	ePKIKP	PKPdf	21 32 27.2	+1.1
AVF	Avril sur Loir	119.25	320	ePKIKP	PKPdf	21 32 27.4	+1.1
BGF	Bois d'Agland	119.66	320	ePKIKP	PKPdf	21 32 28.8	+1.7
	comp=Z,22nm,0.6s						
TCF	Toulx Ste Croi	120.17	320	ePKIKP	PKPdf	21 32 29.4	+1.3
	comp=Z,8.4nm,0.7s						
LDF	La Druitiere	120.65	323	ePKIKP	PKPdf	21 32 30.4	+1.4
FLN	La Foliniere	120.79	323	ePKIKP	PKPdf	21 32 30.2	+0.9
CAF	Calviac	120.79	319	ePKIKP	PKPdf	21 32 30.9	+1.5
RJF	Les Rejaudoux	121.00	319	ePKIKP	PKPdf	21 32 31.1	+1.3
GRR	Gorron	121.18	323	ePKIKP	PKPdf	21 32 31.3	+1.2
MTLF	Montolieu	121.28	317	ePKIKP	PKPdf	21 32 31.3	+0.9
	comp=Z,12nm,0.8s						
MFF	Saint Martin d	121.53	321	ePKIKP	PKPdf	21 32 32.1	+1.3
	comp=Z,8.8nm,0.5s						
LFF	La Frestale	121.65	319	ePKIKP	PKPdf	21 32 32.0	+0.9
	comp=Z,21nm,0.9s						
SGMF	Saint Gilles	122.25	324	ePKIKP	PKPdf	21 32 33.3	+1.2
ROSF	Rostrenen	122.63	324	ePKIKP	PKPdf	21 32 33.7	+0.9
	comp=Z,22nm,1.1s						
EPF	Esparros	122.67	317	ePKIKP	PKPdf	21 32 34.2	+1.2
	comp=Z,6.4nm,0.5s						
QUIF	Quistinic	122.77	324	ePKIKP	PKPdf	21 32 34.3	+1.2
	comp=Z,11nm,0.9s						
SJPF	Ste Jean	123.69	318	ePKIKP	PKPdf	21 32 36.1	+1.1
MNTX	Cornudas Mount	124.16	57	ePKPdf	PKPdf	21 32 38.3	+2.1
TXAR	Lajitas Array	126.14	59	PKP	PKPdf	21 32 41.8	+1.6
	comp=Z,0.4nm,0.3s,baz=270,slow=3.8,SNR=4.4						
ESDC	Sonseca Array	126.98	315	PKP	PKPdf	21 32 43.6	+2.1
	comp=Z,0.7nm,0.6s,baz=45,slow=2.1,SNR=4.2						
PLCA	Paso Flores	128.88	161	PKP	PKPdf	21 32 48.6	+3.5
	comp=Z,1.9nm,0.7s,baz=190,slow=4.1,SNR=3.9						
PLCA				SKPbc		21 35 52.8	
	comp=Z,3.9nm,1.0s,baz=280,slow=4.0,SNR=4.2						
SCHQ	Schefferville	131.08	12	PKP	PKPdf	21 32 51.3	+2.4
	comp=Z,2.9nm,0.9s,baz=243,slow=6.8,SNR=5.1						
SCHQ				SKPbc		21 35 58.5	
	comp=Z,3.1nm,0.6s,baz=322,slow=3.4,SNR=8.8						
SCHQ	Schefferville	131.08	12	PKP	PKPdf	21 32 51.3	+2.4
SCHQ				SKPbc		21 35 58.5	
DBIC	Dimbokro	134.04	272	PKP	PKPdf	21 32 57.7	+2.1
	comp=Z,3.4nm,0.6s,baz=230,slow=7.0,SNR=11						
DBIC				SKPbc		21 36 10.0	
	comp=Z,7.7nm,0.7s,baz=28,slow=5.2,SNR=9.9						
LVC	Limon Verde	145.47	150	ePKP	PKPdf	21 33 19.8	+3.9
CPUP	Villa Florida	145.93	170	PKPbc	PKPbc	21 33 19.8	+2.2
	comp=Z,5.1nm,0.5s,baz=214,slow=2.9,SNR=16						
CPUP				SKPbc		21 36 43.4	
	comp=Z,7.1nm,0.9s,baz=218,slow=2.7,SNR=7.6						
CPUP	Villa Florida	145.93	170	ePKP2	PKPab	21 33 19.7	-0.8
LPAZ	La Paz	151.08	145	PKP	PKPdf	21 33 28.6	+3.7
	comp=Z,1.6nm,0.7s,baz=355,slow=4.4,SNR=4.2						
LPAZ				PKPbc	PKPdf	21 33 34.9	+10
	comp=Z,2.2nm,0.4s,baz=76,slow=1.4,SNR=16						
LPAZ	La Paz	151.08	145	ePKPdf	PKPdf	21 33 28.6	+3.6
LPAZ				ePKPbc	PKPdf	21 33 34.6	+10

IDC 06 21:29:24.4±1.6**, 13.02N×143.64E, h220**km±30km**, mb3.3**/5**, mb1 3.5**/5**, mb1mx3.3**/18**, mbtmp3.9**/5**, Error ellipse: s-maj=76.7km s-min=22.1km az=87.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.32	64	P	P	21 29 59.3	+0.5
	6.9nm,0.3s,baz=215,slow=23,SNR=6.2						
GUMO				S	S	21 30 25.1	-0.3
	71nm,0.3s,baz=4.3,slow=23,SNR=16						
WRA	Warramunga Arr	34.01	196	P	P	21 35 47.5	-1.9
	0.1nm,0.4s,baz=14,slow=8.8,SNR=5.3						
SONM	Songino Array	46.52	326	P	P	21 37 30.3	-1.1
	0.5nm,0.5s,baz=147,slow=6.4,SNR=6.6						
MKAR	Makanchi Array	61.08	316	P	P	21 39 15.1	-2.0
	0.4nm,0.5s,baz=94,slow=8.9,SNR=8.8						
ARCES	ARCESS Array B	87.26	342	P	P	21 41 46.2	-0.5
	3.6nm,0.9s,baz=45,slow=8.6,SNR=4.0						
FINES	FINESS Array B	91.17	335	P	P	21 42 03.2	-1.9
	2.4nm,1.0s,baz=72,slow=4.4,SNR=8.8						

*CSEM **06** 21:36:07.3, 6.11S×128.64E, h33km, mb5.8*
*BJI **06** 21:36:36.7, 6.11S×129.03E, h313km, mB5.0, mb5.3*

*MOS **06** 21:36:37.5±1.1, 5.86S×128.74E, h300km, mb5.4/26, Error ellipse: s-maj=12.3km s-min=6.4km az=106.1*
*NEIC **06** 21:36:40.4±0.1, 5.90S×128.71E, mb5.1/29, Error ellipse: s-maj=5.6km s-min=3.7km az=75.0*
*HRVD **06** 21:36:40.4±0.4, 5.79S×128.89E, h318km±2km, MW5.5/52, Centroid moment Tensor Solution. LP body waves: s52,c83; Half duration: 1^{s}4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.02±.06; $M_{\theta\theta}$-0.80±.11; $M_{\phi\phi}$0.81±.12; $M_{r\theta}$-0.26±.10; $M_{\theta\phi}$1.83±.08; $M_{\phi r}$1.69±.08; Best double couple: $M_0$2.63×10^{17} NP1:ϕ_s79°,δ50°,λ0°. NP2:ϕ_s348°, δ90°,λ140°. Principal axes: T 2.682, Plg28°, Azm296°; N -.104, Plg50°, Azm168°; P -2.579, Plg27°, Azm41°; nsta1 refers to body waves, cutoff=40s.*
*IDC **06** 21:36:40.7±0.5, 5.88S×128.75E, h316km±3km, mb4.9/24, mb1 4.9/27, mb1mx4.9/28, mbtmp5.6/27 Error ellipse: s-maj=9.4km s-min=6.0km az=68.0*

ISC 06 21:36:37.1±0.2**, 5.96S**±0.02×**128.75E**±0.04**, h294**km**, h294**km±4.1km**: pP-P, n385,** σ1^{s}05/288**, mb5.3**/99**, 56C-24D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.63	152⇑	iP	Px	21 38 46.2	
KAKA				eS	Sx	21 40 02.9	
FITZ	Fitzroy Crossi	12.45	194⇓	iP	P	21 39 27.1	+0.7
	946nm,0.8s						
FITZ				eS	S	21 41 44.5	+4.3
FITZ	Fitzroy Crossi	12.45	194	P	P	21 39 27.5	+1.1
	81nm,0.3s,baz=14,slow=9.9,SNR=526						
FITZ				S	S	21 41 41.3	+1.0
	46nm,0.3s,baz=33,slow=5.1,SNR=3.1						
GSPH	General Santos	12.55	342⇑	iP	P	21 39 28.6	+0.9
GSPH				iS	S	21 41 42.5	-0.1
MATI	Mati	13.06	349	eP	P	21 39 36.5	+2.7
DAV	Davao City (W)	13.32	346	eP	P	21 39 39.5	+2.5
KCP	Kidapawan	13.39	344	eP	P	21 39 44.5	+6.6
BUKP	Musuan	14.23	345	eP	P	21 39 49.6	+1.5
ZMPH	Zamboanga City	14.46	332⇑	eP	P	21 39 52.5	+1.7
	3μm,1.0s						
CGP	Cagayan de Oro	14.88	344⇓	iP	P	21 39 57.5	+1.8
WRAB	Tennant Creek	14.92	159	eP	P	21 39 55.9	-0.3
	900nm,0.6s						
WRAB	Tennant Creek	14.92	159c	iP	P	21 39 56.0	-0.2
WRA	Warramunga Arr	14.93	159	P	P	21 39 55.3	-1.0
	49nm,0.3s,baz=340,slow=12,SNR=1367						
WRA				S	S	21 42 33.5	-0.9
	20nm,0.3s,baz=339,slow=20,SNR=13						
WB2	Warramunga Arr	14.93	159⇑	iP	P	21 39 56.0	-0.3
WB2				iS	S	21 42 34.1	-0.5
IPIL	Ipil	14.98	336	eP	P	21 39 58.7	+1.8
BUTP	Butuan	15.15	348	eP	P	21 40 00.6	+1.7
DCPH	Dipolog City	15.41	340⇑	iP	P	21 40 04.4	+2.5
SCPH	Surigao	15.97	348⇓	eP	P	21 40 08.5	+0.6
SNPH	Sibulan	16.16	340	eP	P	21 40 10.0	0.0
MSLP	Maasin	16.45	346	eP	P	21 40 14.6	+1.5
LLP	Lapu-Lapu	16.85	344⇑	eP	P	21 40 18.1	+0.8
	490μm,1.9s						
LLP				eS	S	21 43 24.4	+10
KKM	Kota Kinabalu	17.28	313	eP	P	21 40 22.1	+0.3
PLP	Palo	17.42	348	eP	P	21 40 26.6	+3.4
MBWA	Marble Bar	17.46	209	eP	P	21 40 23.1	-0.5
	11nm,0.6s						
GUIM	Jordan	17.58	340	eP	P	21 40 24.3	-0.5
BATP	Bataraza	18.27	323	eP	P	21 40 32.7	+0.8
CUYO	Cuyo Island	18.39	335	eP	P	21 40 34.2	+1.2
RCP	Roxas	18.40	341⇓	eP	P	21 40 34.4	+1.3
PMG	Port Moresby	18.56	102	P	P	21 40 35.9	+1.1
	13nm,0.3s,baz=285,slow=3.5,SNR=61						
PMG				S	S	21 43 49.1	+2.7
	0.9nm,0.3s,baz=274,slow=19,SNR=1.3						
CNP	Catarman	18.79	348	eP	P	21 40 37.4	+0.3
OTRP	Odiongan	19.39	340	eP	P	21 40 46.1	+3.0
ENPP	El Nido	19.41	331	eP	P	21 40 44.6	+1.3
BUSP	Coron	19.77	335	eP	P	21 40 49.1	+2.3
SJMP	San Jose	19.81	337	eP	P	21 40 49.1	+1.9
KSM	Kuching	19.84	291	eP	P	21 40 48.2	+0.7
PVCP	Virac	19.95	347	eP	P	21 40 49.6	+1.0
BOAC	Boac	20.47	340	eP	P	21 40 56.0	+2.3
LUBP	Lubang	21.31	337	eP	P	21 41 03.5	+1.6
CTA	Charters Tower	22.06	131⇑	iP	P	21 41 11.1	+2.0
	82nm,0.8s,mb5.1						
CTA				ipP		21 42 01.0	
CTA				iS	S	21 45 01.0	+13
CTA	Charters Tower	22.06	131	P	P	21 41 11.2	+2.1
	100nm,0.7s,mb5.2,baz=312,slow=12,SNR=107						
CTA				pP		21 42 00.6	
	160nm,1.0s,baz=308,slow=12,SNR=6.4						
CTA				S	S	21 44 50.8	+2.5
	18nm,0.9s,baz=49,slow=20,SNR=2.1						
CTA	Charters Tower	22.06	131⇑	iP	P	21 41 11.1	+2.0
CTA				iS	S	21 45 01.0	+13
CTA				pmax	pmax		
	comp=Z,83nm,0.8s						
CTAO	Charters Tower	22.06	131	eP	P	21 41 10.4	+1.3
	comp=Z,424nm,1.3s,mb5.6						
CTAO	Charters Tower	22.06	131	eP	P	21 41 10.4	+1.3
CTAO				pmax	pmax		
	comp=Z,424nm,1.3s,mb5.6						
BALP	Baler	22.70	342	eP	P	21 41 14.7	-0.7
SCZP	Santa Cruz	23.30	338	eP	P	21 41 19.5	-1.5
CVP	Callao Caves	24.48	344⇑	eP	P	21 41 31.0	-0.8
FORT	Forrest	24.70	181⇑	iP	P	21 41 34.1	+0.4
	comp=Z,112nm,0.7s,mb5.4						
GUMO	Guam	25.16	39	P	P	21 41 37.3	-0.7
	comp=Z,201nm,0.4s,mb5.9,baz=172,slow=5.3,SNR=17						
GUMO	Guam	25.16	39	eP	P	21 41 36.6	-1.5
	comp=Z,394nm,0.9s,mb5.8						
GUMO	Guam	25.16	39	eP	P	21 41 36.6	-1.4
GUMO				pmax	pmax		
	comp=Z,395nm,0.9s,mb5.8						
KLBR	Kellerberrin	27.50	201	eP	P	21 41 59.0	-0.1
	comp=Z,34nm,0.7s,mb4.9						
KLBR				epP		21 42 41.7	
MUN	Mundaring	28.42	203	eP	P	21 42 07.0	-0.3
MUN				epP		21 43 02.5	
STKA	Stephens Creek	28.45	157⇓	iP	P	21 42 07.4	-0.1
	comp=Z,25nm,0.7s,mb4.8						
STKA				epP		21 43 07.9	
STKA	Stephens Creek	28.45	157	P	P	21 42 07.6	+0.1
	comp=Z,47nm,1.0s,mb4.9,baz=327,slow=8.6,SNR=48						
NWAO	Narrogin (SRO)	28.90	200	P	P	21 42 11.6	+0.1
	comp=Z,14nm,0.6s,mb4.6,baz=29,slow=7.8,SNR=12						
NWAO				pP		21 43 10.8	
	comp=Z,466nm,1.0s,baz=20,slow=14,SNR=12						
KULM	Kulim	30.20	291	eP	P	21 42 22.1	-0.9
SNG	Songkhla	30.95	295	P	P	21 42 29.0	-0.6
	comp=Z,94nm,0.9s,mb5.3						
QIZ	Qiongzhong	31.04	324⇑	iP	P	21 42 29.8	-0.5
QIZ				S	S	21 47 10.9	-1.9
QIZ				SS	SS	21 49 27.7	+1.4
QIZ				AMB	AMB		
	comp=Z,96nm,1.0s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,345nm,6.5s						
QIZ	Qiongzhong	31.04	324⇑	iP	P	21 42 29.8	-0.5
	comp=Z,123nm,1.0s,mb5.4						
HNR	Honiara	31.10	98	P	P	21 42 30.6	-0.2
	comp=Z,359nm,0.7s,mb6.0,baz=186,slow=3.6,SNR=11						
YHNB	Yeheng	31.28	347	eP	P	21 42 30.3	-2.0
UBT	Ubonrachathani	31.57	312	⇑P	P	21 42 34.0	-0.9
	comp=Z,694nm,1.0s,mb6.1						
QZH	Quanzhou	32.27	343	P	P	21 42 39.4	-1.4
QZH				S	S	21 47 27.1	-4.7
QZH				SCS	ScS	21 52 32.8	-1.6
QZH				AMB	AMB		
	comp=Z,170nm,0.6s,mb5.8						
GZH	Guangzhou	32.56	333	P	P	21 42 44.8	+1.5
GZH				S	S	21 47 35.3	-1.0
GZH				AMB	AMB		
	comp=Z,88nm,0.8s,mb5.3						
GZH				LR	LR		
	comp=N,600nm,9.0s						
GZH				LR	LR		
	comp=E,955nm,9.4s						
GZH				LR	LR		
	comp=Z,1μm,9.9s						
JOW	Kunigami	32.60	359	P	P	21 42 43.9	+0.2
	comp=Z,340nm,0.8s,mb5.9,baz=195,slow=8.5,SNR=33						
KKTK	Khon Kaen	33.89	311	⇑P	P	21 42 54.0	-0.8
	comp=Z,6μm,0.5s						
NNT	Nongplab	34.22	303	P	P	21 42 57.0	-0.6
CNB	Canberra Magne	34.84	150	eP	P	21 43 05.0	+2.4
	comp=Z,18nm,0.9s,mb4.6						

TOO Toolangi 34.97 156 *e*P **P 21 43 06.2 +2.6**
comp=Z,6.4nm,0.5s
TOO Toolangi 34.97 156 *e*P **P 21 43 06.2 +2.6**
TOO pmax pmax
comp=Z,6.0nm,0.5s,mb4.4
CBIJ Chichi jima 35.34 21 P **P 21 43 05.5 -1.4**
comp=Z,120nm,0.4s,mb5.8,baz=250,slow=9.1,SNR=10
NST Nakhon Sawan 35.57 308 ⇑P **P 21 43 19.5 +11**
comp=Z,242nm,0.5s,mb6.0
BDT Bhumibol Dam 37.35 309 P pP 21 44 37.0 +14
comp=Z,267nm,0.8s
SSE Sheshan 37.55 349 P **P 21 43 19.1 -6.2**
comp=Z,43nm,0.7s,mb5.0
SSE pP pP 21 44 09.9 -15
SSE PP PP 21 44 50.5 -8.4
SSE PcP PcP 21 45 31.4 -5.7
SSE S **S** **21 48 48.6 -3.8**
SSE sS 21 50 19.8
SSE SS SS 21 51 47.2 +1.9
SSE LR LR
comp=Z,150nm,21.9s
CHG Chiang Mai 38.33 311 ⇑P **P 21 43 32.2 +0.4**
comp=Z,150nm,0.8s,mb5.5
CHRT Chiangrai 38.35 313 ⇑P **P 21 43 32.0 0.0**
comp=Z,2μm,1.1s
GYA Guiyang 38.69 327⇑ *i*P **P 21 43 35.0 +0.3**
GYA AP pP 21 44 38.2 +4.0
GYA XP sP 21 45 14.0 +6.6
GYA PCP PcP 21 45 42.4 +1.7
GYA SCP 21 48 58.3
GYA S **S** **21 49 05.1 -4.4**
GYA XS 21 51 05.8
GYA SCS ScS 21 53 06.0 -3.6
GYA AMB AMB
comp=Z,130nm,0.7s,mb5.5
GYA AMB AMB
comp=Z,340nm,3.0s
GYA LR LR
comp=N,410nm,18.0s
GYA LR LR
comp=E,340nm,17.6s
GYA LR LR
comp=Z,360nm,18.4s
WHN Wuhan 38.83 340 ⇓P **P 21 43 36.5 +0.7**
WHN SCP 21 48 57.3
WHN AMB AMB
comp=Z,144nm,1.0s,mb5.4
JNU Nakatsue 38.91 3 P **P 21 43 36.3 -0.2**
comp=Z,159nm,0.8s,mb5.5,baz=175,slow=2.6,SNR=40
NJ2 Nanjing 38.95 347 *e*P **P 21 43 37.4 +0.5**
NJ2 AP pP 21 44 35.6 -0.8
NJ2 PP PP 21 45 16.8 +2.4
NJ2 S **S** **21 49 09.0 -4.5**
NJ2 SS SS 21 52 13.0 +0.7
NJ2 AMB AMB
comp=Z,90nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,470nm,4.3s
NJ2 LR LR
comp=N,2μm,15.4s
NJ2 LR LR
comp=E,1μm,15.6s
NJ2 LR LR
comp=Z,490nm,20.0s
NOUC Port Laguerre 39.66 118 *e*P **P 21 43 43.0 +0.3**
DZM Mont Dzumac 39.77 118 *e*P pP 21 44 44.2 +0.8
DZM Mont Dzumac 39.77 118 P **P 21 43 44.4 +0.8**
comp=Z,13nm,0.7s,mb4.4,baz=304,slow=7.8,SNR=15
DZM pP pP 21 44 47.4 +4.0
comp=Z,32nm,0.9s,baz=286,slow=7.7,SNR=8.6
KMI Kunming 39.93 322 P **P 21 43 46.4 +1.5**
KMI PP PP 21 45 32.2 +7.9
KMI PCP PcP 21 45 38.4 -6.3
KMI S **S** **21 49 23.4 -4.6**
KMI PCS 21 49 28.7
KMI SS SS 21 52 35.9 +5.5
KMI AMB AMB
comp=Z,139nm,1.2s,mb5.2
KMI AMB AMB
comp=Z,413nm,3.9s
KMI Kunming 39.93 322 P **P 21 43 46.4 +1.5**
comp=Z,139nm,1.2s,mb5.2
KMI pP pP 21 45 12.5 +28
KMI PP PP 21 45 32.2 +7.9
KMI PcP PcP 21 45 38.4 -6.3
KMI sP sP 21 46 03.0 +45
KMI PPP PPP 21 46 22.9 +22
KMI ScP 21 48 43.6
KMI S **S** **21 49 23.4 -4.6**
KMI PcS 21 49 28.7
KMI sS 21 51 56.0
KMI SS SS 21 52 35.9 +5.5
KMI ScS ScS 21 52 58.5 -18
KMI SSS SSS 21 53 55.3 +10
KMI Kunming 39.93 322 P **P 21 43 46.4 +1.5**
KMI 21 45 32.2
KMI 21 45 38.4
KMI S **S** **21 49 23.4 -4.6**
KMI pmax pmax
comp=Z,139nm,1.2s,mb5.2
ENH Enshi 40.48 334⇑ *i*P **P 21 43 49.1 -0.3**
comp=Z,95nm,0.7s,mb5.2
KS15 Wonju Array Si 43.18 359⇓ *i*P **P 21 44 11.7 +0.6**
MAJO Matsushiro 43.19 11 *e*P **P 21 44 10.0 -1.3**
comp=Z,262nm,0.9s,mb5.5
MAJO Matsushiro 43.19 11 *e*P **P 21 44 10.0 -1.3**
MAJO pmax pmax
comp=Z,262nm,0.9s,mb5.5
MAT Matsushiro 43.19 11 P **P 21 44 09.6 -1.7**
MAT S **S** **21 50 08.0 -7.4**
MAT Matsushiro 43.19 11 *e*P **P 21 44 10.0 -1.3**
comp=Z,280nm,1.0s,mb5.5
MAT *e*S **S** **21 50 08.0 -7.4**
MAT Matsushiro 43.19 11 *e*P **P 21 44 10.0 -1.3**
MAT *e*S **S** **21 50 08.0 -7.4**
MAT pmax pmax
comp=Z,280nm,1.0s,mb5.5
MJAR Matsushiro Arr 43.19 11 P **P 21 44 09.8 -1.5**
comp=Z,175nm,0.9s,mb5.3,baz=188,slow=9.2,SNR=215
MJAR ScP 21 49 13.7
comp=Z,10nm,1.0s,baz=190,slow=4.7,SNR=5.4
INCN Inchon 43.26 358 *e*P **P 21 44 12.1 +0.3**
comp=Z,40nm,0.8s,mb4.7
TIA Tai'an 43.34 346 *e*P **P 21 44 11.0 -1.5**
TIA AMB AMB
comp=Z,28nm,0.8s,mb4.5
CD2 Chengdu 43.77 328⇑ *i*P **P 21 44 15.3 -0.7**
CD2 PP PP 21 46 01.1 -1.7
CD2 S **S** **21 50 17.2 -6.5**
CD2 SCS ScS 21 53 40.9 +0.5
CD2 AMB AMB
comp=Z,110nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,170nm,6.4s
XAN Xi'an 43.98 336 P **P 21 44 16.4 -1.2**
XAN AMB AMB
comp=Z,145nm,0.9s,mb5.2
WAKE Wake Island 44.97 55 *e*P **P 21 44 24.7 -0.9**
comp=Z,188nm,1.1s,mb5.2
DL2 Dalian 45.12 352 P **P 21 44 26.3 -0.2**
DL2 S **S** **21 50 38.9 -4.0**
DL2 AMB AMB
comp=Z,70nm,0.7s,mb5.0
SNY Shenyang 47.79 355 ⇓P **P 21 44 46.6 -0.6**
SNY S **S** **21 51 15.2 -5.2**
SNY AMB AMB
comp=Z,70nm,0.7s,mb5.1
LZH Lanzhou 47.91 333 P **P 21 44 48.6 +0.4**
LZH PCP PcP 21 46 06.6 -5.5
LZH SCP 21 49 35.6
LZH PCS 21 50 02.1
LZH S **S** **21 51 18.2 -4.0**
LZH SCS ScS 21 54 07.0 -0.1
LZH AMB AMB
comp=Z,250nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,940nm,4.0s
LZH LR LR
comp=E,570nm,12.3s
LZH LR LR
comp=E,670nm,15.4s
LZH Lanzhou 47.91 333 P **P 21 44 48.6 +0.4**
comp=Z,250nm,1.0s,mb5.5
LZH pP pP 21 45 46.9 -3.1
LZH PcP PcP 21 46 06.6 -5.5
LZH sP sP 21 46 16.2 -6.7
LZH ScP 21 49 35.6
LZH PcS 21 50 02.1
LZH S **S** **21 51 18.2 -4.0**
LZH sS 21 53 07.0
LZH ScS ScS 21 54 07.0 -0.1
LZH SS SS 21 54 45.0 -7.1
LZH LR LR
comp=Z,670nm,15.4s
LZH Lanzhou 47.91 333 P **P 21 44 48.6 +0.4**
LZH *PP pP 21 45 46.9 -3.1
LZH 21 46 06.6
LZH S **S** **21 51 18.2 -4.0**
LZH *SS 21 53 07.0
LZH 21 54 07.0
LZH SS SS 21 54 45.0 -7.1
LZH pmax pmax
comp=Z,250nm,1.0s,mb5.5
LZH MLR MLR
comp=Z,670nm,15.4s
HHC Hu-ho-hao-te 49.18 343 *e*P **P 21 44 57.9 +0.1**
HHC AP pP 21 46 00.1 +0.1
HHC PCP PcP 21 46 19.1 +2.5
HHC PP PP 21 46 54.8 +0.1
HHC PCS 21 50 13.4
HHC S **S** **21 51 35.5 -4.1**
HHC SCS ScS 21 54 14.9 -0.7
HHC SS SS 21 55 10.8 -2.1
HHC AMB AMB
comp=Z,51nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,232nm,6.0s
CN2 Changchun 49.62 357 *e*P **P 21 45 00.1 -0.9**
CN2 *e*AP pP 21 46 01.5 -1.8
CN2 PCP PcP 21 46 16.4 -1.8
CN2 *e*S **S** **21 51 46.2 +0.6**
CN2 SCS ScS 21 54 17.4 -1.1
CN2 SS SS 21 55 20.7 +0.6
CN2 AMB AMB
comp=Z,80nm,0.6s,mb5.2
CN2 AMB AMB
comp=Z,510nm,5.0s
PALK Pallekele 49.71 285 *e*P **P 21 45 00.7 -1.4**
comp=Z,127nm,0.8s,mb5.3
MDJ Mudanjiang 50.35 1 P **P 21 45 06.4 -0.1**
MDJ AP pP 21 46 07.2 -1.8
MDJ PCP PcP 21 46 22.5 +1.6
MDJ XP sP 21 46 41.7 +0.1
MDJ PP PP 21 47 04.0 -1.8
MDJ S **S** **21 51 53.7 -1.9**
MDJ SS SS 21 55 30.1 -2.1
MDJ AMB AMB
comp=Z,109nm,1.2s,mb5.1
MDJ AMB AMB
comp=Z,124nm,4.5s
MDJ LR LR
comp=N,77nm,26.9s
MDJ LR LR
comp=E,387nm,39.8s
MDJ LR LR
comp=Z,170nm,17.5s
MDJ Mudanjiang 50.35 1 *e*P **P 21 45 06.4 -0.1**
comp=Z,123nm,1.0s,mb5.2
LSA Lhasa 50.59 317 P **P 21 45 09.0 +0.5**
LSA AMB AMB
comp=Z,230nm,0.9s,mb5.5
LSA Lhasa 50.59 317⇑ *i*P **P 21 45 09.2 +0.7**
comp=Z,171nm,0.8s,mb5.4
LSA pP pP 21 46 11.4 +0.3
LSA Lhasa 50.59 317⇑ *i*P **P 21 45 09.2 +0.7**
LSA *PP pP 21 46 11.4 +0.3
LSA pmax pmax
comp=Z,171nm,0.8s,mb5.4
VIS Vishakhapatnam 50.64 299 *e*P **P 21 45 08.8 -0.2**
VIS *i*S **S** **21 51 57.3 -2.7**
ASAJ Asahikawa 51.38 13 P **P 21 45 13.2 -0.9**
comp=Z,116nm,0.8s,mb5.3,baz=229,slow=13,SNR=54
GTA Gaotai 52.47 332⇑ *i*P **P 21 45 22.3 +0.1**
GTA AP pP 21 46 29.0 +3.6
GTA XP sP 21 46 57.8 0.0
GTA PP PP 21 47 25.3 +0.1
GTA SCP 21 49 55.4
GTA PCS 21 50 25.3
GTA S **S** **21 52 14.4 -10**
GTA SCS ScS 21 54 37.6 -0.6
GTA SS SS 21 56 07.6 +0.7
GTA AMB AMB
comp=Z,162nm,0.8s,mb5.4
GTA AMB AMB
comp=Z,453nm,6.5s
GTA LR LR
comp=N,375nm,16.8s
GTA LR LR
comp=E,455nm,17.2s
GTA LR LR
comp=Z,218nm,17.2s
BLSP Bilaspur 53.50 303 *e*P **P 21 45 29.6 -0.3**
BLSP *e*S **S** **21 52 34.7 -3.8**
PKI Pulchoki 53.51 311 *e*P **P 21 45 29.4 -0.5**
comp=Z,363nm,0.6s,mb5.9
TRD Trivandrum 53.60 285 *e*P **P 21 45 28.7 -2.0**
TRD AMb AMB 21 45 35.4
comp=Z,249nm,1.1s,mb5.5
KKN Kakani 53.72 311 *e*P **P 21 45 31.0 -0.4**
comp=Z,521nm,0.7s,mb6.0
DMN Daman 53.76 311 *e*P **P 21 45 31.5 -0.2**
comp=Z,490nm,0.7s,mb5.9
YSS Yuzh-Sakhalins 54.12 12⇑ *e*P **P 21 45 33.4 -0.7**
YSS Yuzh-Sakhalins 54.12 12⇓ *i*P **P 21 45 33.0 -1.1**
YSS *e**PP pP 21 46 33.6 -4.1
YSS *e* 21 47 14.5
YSS *i*S **S** **21 52 42.0 -4.5**
YSS *e* 21 54 45.0
YSS *e*SS SS 21 56 24.0 -9.4
YSS *e*SSS SSS 21 58 52.0 +0.4
YSS pmax pmax
comp=N,70nm,0.7s
YSS pmax pmax
comp=Z,100nm,0.7s,mb5.2
YSS pmax pmax
comp=Z,300nm,4.0s
YSS smax
comp=N,500nm,6.0s
GKN Gorkha 54.32 311 *e*P **P 21 45 35.2 -0.5**
comp=N,769nm,0.7s,mb6.2
HYB Hyderabad 54.74 296⇑ *i*P **P 21 45 38.0 -0.9**
comp=N,540nm,1.0s,mb5.9
HYB *e* 21 46 09.0
HYB *e* 21 46 28.0
HYB *e*PcP PcP 21 46 42.0 +4.3
HYB *e*sP sP 21 47 11.0 -3.9
HYB *e* 21 47 36.0
HYB *e*PP PP 21 47 45.0 -1.3
HYB *e*S **S** **21 52 50.0 -5.1**
HYB Hyderabad 54.74 296⇑ *e*P **P 21 45 38.0 -0.9**
comp=N,540nm,1.0s,mb5.9
HYB *e* 21 46 28.0
HYB *e*S **S** **21 52 52.0 -3.1**
HYB Hyderabad 54.74 296⇑ *e*P **P 21 45 38.0 -0.9**
HYB *e*S **S** **21 52 52.0 -3.1**
HYB pmax pmax
comp=Z,540nm,1.0s,mb5.9
KOLN Koldanda 54.98 310 *e*P **P 21 45 40.3 -0.2**
comp=Z,797nm,0.8s,mb6.2
KLR Kul'dur 55.02 2⇑ *i*P **P 21 45 37.0 -3.5**
KLR *i*S **S** **21 52 52.5 -5.8**
KLR *e* 21 54 46.5
KLR pmax pmax
comp=Z,90nm,1.2s,mb5.1
HIA Hailar 55.55 353 *e*P **P 21 45 43.8 -0.5**
comp=Z,28nm,0.8s,mb4.7
HIA Hailar 55.55 353 *e*P **P 21 45 43.8 -0.5**
HIA pmax pmax
comp=Z,28nm,0.8s
LATR Latur 56.87 296 *e*P **P 21 45 52.1 -1.8**
LATR *e*P 21 45 52.1
ULN Ulaanbaatar 56.90 343⇓ *i*P **P 21 45 54.4 +0.6**
ULN *e*S **S** **21 53 22.4 -0.7**
SONM Songino Array 57.07 342 P **P 21 45 55.2 +0.3**
comp=Z,31nm,0.6s,mb4.9,baz=157,slow=6.8,SNR=198
SONM PcP PcP 21 46 45.5 -1.0
comp=Z,7.9nm,0.7s,baz=151,slow=3.0,SNR=4.3
SONM ScP 21 50 14.1
comp=Z,3.0nm,0.7s,baz=161,slow=6.3,SNR=2.8
SONM S **S** **21 53 24.4 -0.9**
comp=Z,3.0nm,1.1s,baz=166,slow=6.1,SNR=8.0
SONM PKPPKP 22 15 41.5
comp=Z,1.0nm,1.0s,baz=90,slow=2.9,SNR=4.0
SONM Songino Array 57.07 342 P **P 21 45 55.2 +0.3**
SONM 21 46 45.5
SONM S **S** **21 53 24.4 -0.9**
BHPL Bhopal 57.91 302 *e*P **P 21 45 59.8 -1.3**
BHPL AMb AMB 21 46 02.1
comp=Z,358nm,1.4s,mb5.6
BHPL *e*S **S** **21 53 32.0 -4.5**
PTH Pithoragarh 58.44 310 *e*P **P 21 46 04.0 -0.8**
PTH *e*x x 21 53 38.0
KAD Karad 58.64 294 *e*P **P 21 46 05.2 -1.1**
POO Poona 59.33 296 *e*P **P 21 46 08.8 -2.2**
POO AMb AMB 21 46 11.4
comp=Z,398nm,1.0s,mb5.8
ZAK Zakamensk 60.28 342⇑ *i*P **P 21 46 16.6 -0.4**
ZAK *e* 21 46 58.8
ZAK *e* 21 54 07.0
ZAK *e* 21 55 30.8
ZAK pmax pmax
comp=Z,14nm,0.8s,mb4.5
ZAK pmax pmax
comp=Z,12nm,0.9s,mb4.4
AJM Ajmer 61.51 304 *e*P **P 21 46 24.0 -1.5**
AJM AMb AMB 21 46 26.2
comp=Z,223nm,1.4s,mb5.6
AJM *e*S **S** **21 54 18.6 -3.8**
IRK Irkutsk 61.62 343 *e*P **P 21 46 24.7 -1.1**
IRK pmax pmax
comp=Z,112nm,0.9s,mb5.5
WMQ Urumqi 61.85 327⇑ *i*P **P 21 46 27.7 +0.2**
WMQ PCP PcP 21 47 06.0 +0.5
WMQ AP pP 21 47 32.0 -1.2
WMQ PCS 21 51 07.0
WMQ S **S** **21 54 26.0 -0.4**
WMQ SCS ScS 21 55 46.0 -0.3
WMQ SS SS 21 58 34.0 -1.7
WMQ AMB AMB
comp=Z,205nm,0.8s,mb5.8
WMQ AMB AMB
comp=Z,311nm,3.7s
MOY Mondy 62.12 341 *e*P **P 21 46 30.0 +0.8**
MOY pmax pmax
comp=Z,101nm,1.8s,mb5.2
CLNS Chul'man 62.66 358 *e*P **P 21 46 31.7 -0.8**
CLNS pmax pmax
comp=Z,90nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,59nm,0.9s
CLNS pmax pmax
comp=E,23nm,0.7s
PET Petropavlovsk 63.98 20⇑ *e*P **P 21 46 40.9 -0.3**
PET Petropavlovsk 63.98 20⇑ *e*P **P 21 46 40.8 -0.4**
PET pmax pmax
comp=Z,124nm,0.8s,mb5.6
BHUJ Bhuj 64.57 299 *e*P **P 21 46 43.8 -1.7**
BHUJ AMb AMB 21 46 46.9
comp=Z,190nm,1.1s,mb5.6
BOD Bodaibo 64.68 351 *e*P **P 21 46 44.8 -0.8**
BOD *e* 21 54 58.0
BOD *e* 21 56 02.9
BOD pmax pmax
comp=Z,62nm,1.1s,mb5.2
MIR Mirnyy 65.32 195 *e*P **P 21 46 55.0 +5.5**
MIR *e* pP 21 48 02.0 +5.8
MIR pmax pmax
comp=Z,24nm,1.4s,mb4.6
KSH Kashi 66.42 318⇑ *i*P **P 21 46 58.1 +1.2**
KSH *e*PCP PcP 21 47 26.2 +1.7
KSH AP pP 21 48 04.0 +0.2
KSH *e*PP PP 21 49 30.1 +1.0
KSH *e*PCS 21 51 28.1
KSH S S 21 55 23.3 +1.0
KSH *e*SCS ScS 21 56 22.8 +1.4
KSH *e*SS SS 21 59 45.0 -1.4
KSH AMB AMB
comp=Z,460nm,2.2s,mb5.8
KSH LR LR
comp=N,200nm,5.4s
KSH LR LR
comp=E,150nm,4.3s
MKAR Makanchi Array 66.68 327 P **P 21 46 58.2 -0.2**
comp=E,92nm,0.6s,mb5.7,baz=124,slow=7.8,SNR=676
MKAR S S 21 55 23.4 -2.0
comp=E,7.2nm,1.1s,baz=135,slow=12,SNR=9.1
MKAR PKPPKP 22 15 25.4
comp=E,1.5nm,0.9s,baz=315,slow=1.7,SNR=5.3
MA2 Magadan 67.63 12 *e*Pr **P 21 47 04.0 -0.1**
MA2 Magadan 67.63 12 *de*P **P 21 47 04.2 +0.1**
MA2 *e**PP pP 21 48 08.6 -2.6
MA2 *e*S S 21 55 35.4 -1.0
MA2 pmax pmax
comp=N,30nm,1.0s
MA2 pmax pmax
comp=Z,100nm,1.0s,mb5.5
ULHL Ulahol 67.64 320 P **P 21 47 05.4 +0.9**
SNR=5.8
YAK Yakutsk 67.79 0⇑ *e*P **P 21 47 04.5 -0.6**
KZA Kyzart 68.18 320 P **P 21 47 09.6 +1.7**
SNR=10
TKM2 Tokmak 2 68.39 321 P **P 21 47 09.5 +0.4**
SNR=65
KBK Karagaybulak 68.67 320 P **P 21 47 11.3 +0.5**
SNR=29
UCH Uchtor 68.73 320 P **P 21 47 12.8 +1.6**
SNR=55
AAK Ala-Archa 68.95 320 P **P 21 47 13.7 +1.2**
SNR=30
AAK Ala-Archa 68.95 320⇑ *i*P **P 21 47 12.1 -0.4**
CHMS Chumysh 68.97 321 P **P 21 47 12.5 -0.1**
SNR=22
FRU Bishkek 68.97 320⇑ *e*P **P 21 47 12.9 +0.3**
FRU *e* 21 47 37.0
FRU *e* 21 55 52.0
FRU pmax pmax
comp=Z,150nm,2.1s,mb5.3
AML Almayashu 69.21 319 P **P 21 47 15.2 +1.1**
SNR=31
USP Ospenovka 69.26 321 P **P 21 47 14.5 +0.1**
SNR=47
EKS2 Erkin-Say 69.42 320 P **P 21 47 16.1 +0.8**
SNR=96
FX1 Attu Island--F 69.60 27 P **P 21 47 16.8 +0.5**
comp=Z,167nm,0.9s,mb5.8,baz=280,slow=1.7,SNR=24
FX1 Attu Island--F 69.60 27⇓ *i*P **P 21 47 16.6 +0.4**
SMY Shemya 69.92 27 *e*P **P 21 47 18.5 +0.3**
ZAL Zalesovo 70.11 334 P **P 21 47 18.9 -0.4**
comp=Z,38nm,1.0s,mb5.1,baz=346,slow=4.9,SNR=152
ZAL S S 21 55 59.5 -6.0
comp=Z,2.8nm,0.8s,baz=85,slow=24,SNR=22
ZAL PKPPKP 22 15 16.6
comp=Z,0.8nm,0.7s,baz=87,slow=2.4,SNR=4.5
KURK Kurchatov 70.99 329 *e*P **P 21 47 24.2 -0.4**
comp=Z,152nm,0.8s,mb5.7
KURK Kurchatov 70.99 329 *e*P **P 21 47 24.3 -0.4**
KURK pmax pmax
comp=Z,152nm,0.8s,mb5.7
SEY Seymchan 71.02 11⇑ *e*P **P 21 47 24.0 -0.7**
NVS Novosibirsk 71.39 334⇓ *i*P **P 21 47 25.8 -1.2**
NVS *i*S S 21 56 11.2 -9.0
NVS *e* 21 56 53.2
NVS pmax pmax
comp=Z,138nm,1.5s,mb5.4
NVS pmax pmax
comp=N,63nm,1.4s
NVS pmax pmax
comp=E,65nm,1.3s
NVS smax
comp=E,509nm,2.2s
NVS smax
comp=N,359nm,2.1s
VNDA Vanda 73.63 173 P **P 21 47 39.4 -0.4**
comp=N,6.7nm,0.8s,mb4.3,baz=318,slow=6.1,SNR=41
VNDA pP pP 21 48 51.0 +3.2
comp=N,2.3nm,0.6s,baz=43,slow=9.5,SNR=1.6
WBK Wadi Bani Khal 73.84 295 ⇓P **P 21 47 42.6 +0.5**
SNR=56
SBA Scott Base 74.53 172 *e*P **P 21 47 45.8 +0.8**
comp=N,5.0nm,0.8s,mb4.2
SBA Scott Base 74.53 172 *e*P **P 21 47 45.8 +0.8**
SBA pmax pmax
comp=Z,5.0nm,0.8s,mb4.2

JMDO	**Jabal Madar**	**74.57**	**295**	⇓P	**P**	**21 47 46.4**	**+0.1**
	SNR=56						
SMDO	**Samad**	**74.77**	**296**	P	**P**	**21 47 47.9**	**+0.4**
	SNR=104						
BIDO	**Bidbid**	**74.81**	**296**	P	**P**	**21 47 48.2**	**+0.6**
	SNR=154						
MAW	**Mawson**	**75.46**	**201**	*e*P	**P**	**21 47 50.6**	**+0.2**
	comp=Z,5.4nm,1.2s						
MAW				*e*pP	pP	21 49 02.4	+3.8
MAW	**Mawson**	**75.46**	**201**	P	**P**	**21 47 50.7**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=69,slow=4.9,SNR=27						
MAW				pP	pP	21 49 01.5	+2.9
	comp=Z,10.0nm,1.1s,baz=81,slow=9.0,SNR=3.6						
MAW	**Mawson**	**75.46**	**201**	*e*P	**P**	**21 47 50.6**	**+0.2**
MAW				*e**PP	pP	21 49 02.4	+3.8
MAW				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BSY	**Bisya**	**75.47**	**295**	P	**P**	**21 47 51.5**	**+0.1**
	SNR=47						
HOQ	**Hoqain**	**75.55**	**296**	P	**P**	**21 47 52.5**	**+0.7**
	SNR=59						
ARQ	**Araqi**	**76.20**	**296**	P	**P**	**21 47 55.7**	**+0.2**
	SNR=22						
BVAR	**Borovoye Array**	**76.53**	**328**	P	**P**	**21 47 56.0**	**-0.6**
	comp=Z,24nm,0.8s,mb5.0,baz=135,slow=6.3,SNR=164						
BVAR				S	S	21 57 14.0	-2.8
	comp=Z,2.2nm,1.1s,baz=180,slow=4.4,SNR=5.2						
BRVK	**Borovoye**	**76.60**	**328**	⇑*e*P	**P**	**21 47 56.5**	**-0.5**
ASHO	**Ashiyiah**	**76.92**	**297**	P	**P**	**21 47 59.8**	**+0.4**
	SNR=38						
RBK	**Rabkut**	**77.17**	**289**	P	**P**	**21 48 01.0**	**+0.2**
	SNR=48						
TIXI	**Tiksi**	**77.45**	**0**	⇑*e*P	**P**	**21 47 59.0**	**-2.3**
TIXI	**Tiksi**	**77.45**	**0**	*e*P	**P**	**21 47 58.3**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,67nm,0.7s,mb5.5						
WHFO	**Wadi Hawf**	**77.65**	**290**	P	**P**	**21 48 03.3**	**-0.1**
	SNR=9.2						
ABTO	**Aybut**	**77.99**	**289**	P	**P**	**21 48 05.8**	**+0.4**
	SNR=27						
BILL	**Bilibino**	**78.39**	**14**	*i* P	**P**	**21 48 05.7**	**-0.8**
TBI	**Tubuai**	**80.14**	**113**	*e*S	S	21 57 55.2	-0.2
PPT	**Papeete**	**80.31**	**107**	*e*S	S	21 57 56.9	-0.3
HASS	**Wahat al Ahsa'**	**82.68**	**296**	P	**P**	**21 48 29.8**	**+0.1**
SVE	**Sverdlovsk**	**83.24**	**329**	⇑*i*P	**P**	**21 48 32.3**	**+0.4**
SVE				*e*S	S	21 58 19.0	-6.9
SVE				pmax	pmax		
	comp=Z,200nm,1.6s,mb5.7						
SVE				MLR	MLR		
	comp=N,100nm,12.0s						
SVE				MLR	MLR		
	comp=E,100nm,12.0s						
SVE				MLR	MLR		
	comp=Z,100nm,12.0s						
QSPA	**South Pole Qui**	**84.01**	**180**	*e*P	**P**	**21 48 35.2**	**-0.1**
	comp=Z,8.7nm,0.6s,mb4.8						
SDPT	**Sand Point**	**84.12**	**33**	*e*P	**P**	**21 48 35.9**	**-0.4**
ARU	**Arti**	**84.17**	**328**	⇑*i*P	**P**	**21 48 35.9**	**-0.7**
ARU				*e*		21 51 53.1	
ARU				*e*S	S	21 58 29.6	-5.4
ARU				*e*SS	SS	22 04 11.7	-2.4
ARU				pmax	pmax		
	comp=Z,56nm,0.9s,mb5.4						
QRN	**Al-Qurain**	**84.85**	**299**	*e*P	**P**	**21 48 41.4**	**+0.7**
QRN				AMb	AMB	21 48 42.4	
	comp=Z,135nm,0.6s,mb5.9						
UMR	**Umm Al-Rimmam**	**85.15**	**300**	*e*P	**P**	**21 48 42.2**	**0.0**
UMR				AMb	AMB	21 48 43.3	
	comp=Z,117nm,0.8s,mb5.8						
RDF	**Al-Radifah**	**85.19**	**300**	*e*P	**P**	**21 48 42.9**	**+0.5**
RDF				AMb	AMB	21 48 44.2	
	comp=Z,82nm,0.8s,mb5.6						
RYDS	**Riyadh**	**85.26**	**295**	P	**P**	**21 48 43.5**	**+0.7**
MIB	**Mutribah**	**85.52**	**300**	*e*P	**P**	**21 48 44.7**	**+0.8**
MIB				AMb	AMB	21 48 45.9	
	comp=Z,177nm,0.7s,mb6.0						
CHGN	**Chignik**	**85.52**	**32**	*e*P	**P**	**21 48 42.7**	**-0.6**
MZLS	**Mizel**	**86.53**	**294**	P	**P**	**21 48 49.5**	**+0.6**
KAMS	**Al Khamasin**	**86.60**	**291**	P	**P**	**21 48 49.4**	**0.0**
DJNS	**Zahran al Janu**	**87.25**	**288**	P	**P**	**21 48 54.0**	**+1.6**
SVW2	**Sparrevohn**	**88.31**	**28**	*e*P	**P**	**21 48 56.8**	**+0.3**
AFFS	**'Afif**	**88.52**	**294**	P	**P**	**21 48 58.9**	**+0.6**
BHD	**Baghdad**	**88.54**	**303**	*e*x	x	21 48 55.0	
BHD				*e*x	x	21 58 53.0	
BHD				*e*x	x	21 59 13.0	
TTA	**Tatalina**	**88.61**	**26**	*e*P	**P**	**21 48 57.0**	**-0.8**
GNI	**Garni**	**89.23**	**310**	P	**P**	**21 49 01.9**	**+0.6**
	comp=Z,11nm,0.8s,mb4.8,baz=360,slow=18,SNR=5.3						
BLJS	**Baljurashi**	**89.33**	**290**	P	**P**	**21 49 03.9**	**+1.6**
TI2	**Plekhanov**	**89.46**	**312**	⇑*i*P	**P**	**21 49 04.4**	**+2.1**
TI2				pmax	pmax		
	comp=Z,30nm,0.2s,mb5.8						
RSO	**Redoubt South**	**89.50**	**29**	*e*P	**P**	**21 49 02.7**	**+0.6**
SPU	**Mount Spurr**	**89.99**	**28**	*e*P	**P**	**21 49 03.0**	**-1.4**
MSL	**Mosul**	**90.00**	**306**	*e*x	x	21 49 22.0	
MSL				*e*x	x	21 59 20.0	
MSL				*e*x	x	21 59 44.0	
HILS	**Ha'il**	**90.01**	**297**	P	**P**	**21 49 06.0**	**+0.7**
ZEI	**Tsey**	**90.23**	**313**	*e*P	**P**	**21 49 04.2**	**-1.7**
ZEI				*i*		21 52 40.8	
ZEI				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
IMA	**Indian Mountai**	**90.39**	**23**	*e*P	**P**	**21 49 05.8**	**-0.3**
SLKM	**Skilak Lake**	**90.73**	**29**	*e*P	**P**	**21 49 08.1**	**+0.3**
GOF	**Gofitskoye**	**91.15**	**315**	⇑*i*P	**P**	**21 49 09.1**	**-1.0**
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.8						
KIV	**Kislovodsk**	**91.26**	**314**	⇑*e*P	**P**	**21 49 10.8**	**+0.2**
KMBO	**Kilima Mbogo**	**91.37**	**269**	P	**P**	**21 49 11.4**	**-0.4**
	comp=Z,6.8nm,0.8s,mb4.5,baz=56,slow=7.2,SNR=15						
KMBO				pP	pP	21 50 28.0	+5.6
	comp=Z,1.4nm,1.0s,baz=81,slow=9.9,SNR=0.9						
PMR	**Palmer**	**91.45**	**28**	*e*P	**P**	**21 49 09.9**	**-1.2**
ILAR	**Eielson Array**	**92.94**	**25**	P	**P**	**21 49 15.8**	**-2.1**
	comp=Z,15nm,1.0s,mb4.9,baz=270,slow=4.5,SNR=63						
ILAR				PP	PP	21 52 54.6	-12
	comp=Z,3.1nm,1.0s,baz=281,slow=4.6,SNR=3.9						
MALT	**Malatya**	**93.90**	**308**	*e*P	**P**	**21 49 23.6**	**+0.7**
	comp=Z,4.2nm,0.8s,mb4.5						
MALT	**Malatya**	**93.90**	**308**	*e*P	**P**	**21 49 23.6**	**+0.7**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MENT	**Mentasta**	**94.13**	**27**	*e*P	**P**	**21 49 23.2**	**-0.2**
VOR	**Voronezh**	**94.35**	**321**	P	**P**	**21 49 24.0**	**-0.6**
VOR				pmax	pmax		
	comp=Z,100nm,3.0s						
ASF	**Jabal al Asfar**	**94.70**	**302**	P	**P**	**21 49 27.2**	**+0.5**
	comp=Z,8.8nm,0.8s,mb4.9,baz=158,slow=0.7,SNR=6.8						
ASF				PP	PP	21 53 17.6	-3.0
	comp=Z,3.7nm,0.8s,baz=308,slow=3.5,SNR=4.2						
ANN	**Anapa**	**95.09**	**314**	*e*P	**P**	**21 49 28.1**	**-0.1**
ANN				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.5						
OBN	**Obninsk**	**96.09**	**325**	⇑*e*P	**P**	**21 49 31.0**	**-1.5**
OBN	**Obninsk**	**96.09**	**325**	⇑*i*P	**P**	**21 49 31.0**	**-1.5**
OBN				*e*		21 53 25.9	
OBN				*i* S		21 59 38.9	
OBN				*e*PS	SP	22 01 44.9	-4.7
OBN				*i* SS	SS	22 07 11.0	+6.3
OBN				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.2						
SNAA	**Sanae**	**96.38**	**194**		**P**	**21 49 42.5**	**+9.1**
SNAA	**Sanae**	**96.38**	**194**		pP	21 50 40.4	-3.6
SNAA	**Sanae**	**96.38**	**194**		pP	21 50 42.8	-1.2
SNAA	**Sanae**	**96.38**	**194**		pP	21 50 54.8	+11
SNAA	**Sanae**	**96.38**	**194**	P	**P**	**21 49 35.5**	**+2.1**
SNAA				P		21 49 42.5	
BR131	**Keskin Array S**	**97.70**	**309**	*e*P	**P**	**21 49 39.2**	**-0.9**
	comp=Z,1.3nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**97.70**	**309**	P	**P**	**21 49 38.9**	**-1.3**
	comp=Z,2.8nm,0.9s,mb4.6,baz=117,slow=5.5,SNR=11						
BRTR				PP	PP	21 53 40.5	-3.3
	comp=Z,7.3nm,1.0s,baz=121,slow=7.2,SNR=7.0						
BRTR				PKKPbc		22 06 14.2	
	comp=Z,0.2nm,0.4s,baz=162,slow=3.9,SNR=3.6						
VNA2	**Neumayer--Watz**	**97.96**	**193**		**P**	**21 49 53.8**	**+13**
VNA2	**Neumayer--Watz**	**97.96**	**193**		pP	21 50 51.9	+0.7
VNA2	**Neumayer--Watz**	**97.96**	**193**		pP	21 51 03.3	+12
VNA2	**Neumayer--Watz**	**97.96**	**193**	P	**P**	**21 49 42.8**	**+2.2**
VNA2				P		21 49 53.8	
VNA3	**Neumayer Olymp**	**98.23**	**193**		**P**	**21 49 51.1**	**+9.3**
VNA3	**Neumayer Olymp**	**98.23**	**193**		pP	21 50 52.8	+0.4
VNA3	**Neumayer Olymp**	**98.23**	**193**		pP	21 51 04.8	+12
VNA3	**Neumayer Olymp**	**98.23**	**193**		pP	21 51 09.4	+17
VNA3	**Neumayer Olymp**	**98.23**	**193**	P	**P**	**21 49 43.0**	**+1.2**
VNA3				P		21 49 51.1	
INK	**Inuvik**	**98.36**	**22**	P	**P**	**21 49 40.2**	**-2.3**
	comp=Z,19nm,1.1s,mb5.3,baz=266,slow=5.3,SNR=8.8						
JOF	**Joensuu**	**98.66**	**333**	*e*p	**P**	**21 49 41.6**	**-2.4**
BOSA	**Boshof**	**98.91**	**240**	P	**P**	**21 49 45.0**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.6,baz=123,slow=4.0,SNR=5.1						
ARCES	**ARCESS Array B**	**100.17**	**340**	P	P	21 49 48.9	-1.8
	comp=Z,9.3nm,0.8s,baz=78,slow=6.3,SNR=26						
AKASG	**Malin Array Be**	**100.62**	**320**	P	P	21 49 49.9	-3.2
	comp=Z,1.6nm,0.6s,baz=72,slow=4.6,SNR=8.8						
AKASG				PP	PP	21 54 02.2	-3.4
	comp=Z,1.4nm,0.6s,baz=81,slow=6.3,SNR=4.3						
DLBC	**Dease Lake**	**100.92**	**32**	P	P	21 49 53.6	-0.6
	comp=Z,1.0nm,0.7s,baz=64,slow=7.1,SNR=3.3						
FINES	**FINESS Array B**	**101.26**	**331**	P	P	21 49 53.3	-2.4
	comp=Z,1.0nm,0.6s,baz=63,slow=8.5,SNR=5.0						
CFR	**Carcaliu**	**101.68**	**315**	⇑*i*P		21 54 09.5	
VRI	**Vrincioaia**	**102.62**	**316**	⇓*i*P		21 54 11.6	
MLR	**Muntele Rosu**	**103.20**	**315**	⇓*i*P		21 54 18.0	
BURAR	**Bucovina Array**	**103.50**	**317**	⇑*i*P		21 54 32.6	
KOLS	**Kolonicke sedl**	**105.28**	**319**	*e*PP	PP	21 54 35.0	-5.6
CRVS	**Cervenica-Dubn**	**105.81**	**319**	*e*PP	PP	21 54 36.5	-7.8
STHS	**Stebnicka Huta**	**105.87**	**320**	PDIFF		21 50 14.0	
STHS				*e*PP	PP	21 54 35.7	-9.0
STHS	**Stebnicka Huta**	**105.87**	**320**	*e*Pdif	Pdif	21 50 14.0	-2.3
STHS				*e*PP	PP	21 54 35.7	-9.0
KECS	**Kecovo**	**106.52**	**319**	*e*PP	PP	21 54 37.1	-13
YKA	**Yellowknife Ar**	**107.36**	**26**	PKiKP		21 54 28.3	
	comp=Z,2.5nm,0.7s,baz=304,slow=2.5,SNR=4.4						
YKA	**Yellowknife Ar**	**107.36**	**26**	PKPdf		21 54 28.3	
HUMO	**Hull Mountain**	**107.46**	**47**	*e*PKPdf		21 54 30.4	
HUMO				*e*PP	PP	21 54 52.9	-4.1
VYHS	**Vyhne**	**107.60**	**319**	*e*PP	PP	21 54 55.5	-2.3
YBH	**Yreka Blue Hor**	**107.76**	**48**	PP	PP	21 54 55.8	-3.4
	comp=Z,9.7nm,1.1s,baz=223,slow=1.1,SNR=8.3						
OKC	**Ostrava-Krasne**	**107.77**	**320**	*e*PP	PP	21 54 45.1	-14
NOA	**NORSAR Array B**	**108.29**	**333**	Pdiff	Pdif	21 50 25.7	-1.0
	comp=Z,0.7nm,0.8s,baz=49,slow=1.9,SNR=3.4						
NOA				PKiKP		21 54 30.8	
	comp=Z,1.2nm,0.9s,baz=132,slow=2.5,SNR=4.0						
NOA				PP	PP	21 54 58.5	-4.1
	comp=Z,1.2nm,0.7s,baz=72,slow=7.1,SNR=4.2						
NOA	**NORSAR Array B**	**108.29**	**333**	Pdif	Pdif	21 50 25.7	-1.0
NOA				PKPdf		21 54 30.8	
NOA				PP	PP	21 54 58.5	-4.1
NOA	**NORSAR Array B**	**108.29**	**333**	P	Pdif	21 50 25.7	-1.0
NOA						21 54 58.5	
DPC	**Dobruska-Polom**	**108.80**	**321**	*e*PP	PP	21 54 52.3	-15
UPC	**Upice**	**108.95**	**321**	*e*PP	PP	21 54 49.5	-19
TREC	**Trest**	**109.58**	**320**	*e*PP	PP	21 55 08.8	-3.8
PVCC	**Panska Ves**	**109.84**	**322**	*e*PP	PP	21 55 06.1	-8.3
PRU	**Pruhonice**	**110.00**	**321**	*e*PP	PP	21 55 06.9	-8.7
CLL	**Collm**	**110.58**	**323**	*i* PKIKP	PKPdf	21 54 35.6	+1.1
	comp=Z,logA/T=0.6						
CLL				*e*PP	PP	21 55 18.0	-1.5
CLL				*i* PPP	PPP	21 57 38.8	-3.8
CLL				*e*SP	SP	22 04 07.0	-8.6
CLL				*e*PPS	PPS	22 06 12.0	+8.4
CLL	**Collm**	**110.58**	**323**	*i* PKIKP	PKPdf	21 54 35.6	+1.1
CLL				*e*		21 55 18.0	
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**110.83**	**320**	PKiKP		21 54 36.0	
	comp=Z,1.8nm,0.6s,baz=65,slow=1.5,SNR=16						
GERES				PP	PP	21 55 11.2	-10
	comp=Z,0.8nm,0.7s,baz=76,slow=5.5,SNR=3.8						
KHC	**Kasperske Hory**	**110.83**	**321**	*e*PKP	PKPdf	21 54 36.0	+0.9
KHC				*e*x	x	21 55 07.7	
KHC				PP	PP	21 55 19.5	-1.8
KHC	**Kasperske Hory**	**110.83**	**321**	*e*P	PKPdf	21 54 36.0	+0.9
KHC				*e*PP	x	21 55 07.7	
KHC				*e*		21 55 19.5	
NKC	**Novy Kostel**	**111.23**	**322**	*e*PP	PP	21 55 13.2	-11
MTUM	**Tungsten Hills**	**111.59**	**52**	PKPdf	PKPdf	21 54 38.7	+1.8
DAC	**Darwin (Calif)**	**112.53**	**53**	*e*PKPdf	PKPdf	21 54 39.9	+1.2
WTTA	**Wattenberg**	**112.60**	**319**	⇓*i*P	PKPdf	21 54 39.6	+1.0
WTTA				*i*		21 55 26.2	
WTTA				*i*		21 55 34.5	
WTTA	**Wattenberg**	**112.60**	**319**	⇓*i*P	PKPdf	21 54 39.6	+1.1
WTTA	**Wattenberg**	**112.60**	**319**	⇑*i*X		21 55 26.2	
WTTA	**Wattenberg**	**112.60**	**319**	⇑*i*X		21 55 34.5	
MOTA	**Moosalm**	**112.92**	**319**	⇑*i*P	PKPdf	21 54 39.2	0.0
MOTA				*i*		21 55 29.5	
MOTA	**Moosalm**	**112.92**	**319**	⇑*i*P	PKPdf	21 54 39.2	0.0
MOTA	**Moosalm**	**112.92**	**319**	⇓*i*X		21 55 29.5	
CHMT	**Chamberlain Mo**	**113.28**	**41**	PKPdf	PKPdf	21 54 40.6	+0.6
GSC	**Goldstone**	**113.33**	**54**	PKPdf	PKPdf	21 54 42.4	+2.0
ELK	**Elko**	**113.48**	**48**	PKiKP		21 54 42.2	
	comp=Z,3.2nm,0.9s,baz=128,slow=2.3,SNR=7.6						
DAVA	**Damuels**	**113.73**	**319**	⇓*i*P	PKPdf	21 54 41.7	+0.8
DAVA				*i*		21 55 40.0	
DAVA	**Damuels**	**113.73**	**319**	⇓*i*P	PKPdf	21 54 41.7	+0.8
DAVA	**Damuels**	**113.73**	**319**	⇑*i*X		21 55 40.0	
MCMT	**McKenzie Canyo**	**114.15**	**43**	*e*PKPdf	PKPdf	21 54 43.5	+1.8
NEN	**Nelson**	**114.84**	**53**	*e*PKPdf	PKPdf	21 54 45.4	+2.1
DUG	**Dugway**	**115.41**	**48**	*e*PKPdf	PKPdf	21 54 46.0	+1.8
HINF	**Hinteralfeld**	**115.49**	**321**	*e*PKIKP	PKPdf	21 54 44.3	0.0
RRI2	**Red Ridge**	**115.63**	**45**	*e*PKPdf	PKPdf	21 54 46.5	+1.9
HAU	**Haudompre**	**115.74**	**321**	*e*PKIKP	PKPdf	21 54 45.5	+0.8
	comp=Z,6.9nm,0.6s						
HAU				*e*R			
	comp=Z,94nm,21.2s						
TPAW	**Teton Pass**	**115.84**	**44**	*e*PKPdf	PKPdf	21 54 47.1	+2.0
HWUT	**Hardware Ranch**	**115.95**	**46**	*e*PKPdf	PKPdf	21 54 46.5	+1.2
REDW	**Red Top Meadow**	**115.95**	**44**	*e*PKPdf	PKPdf	21 54 47.1	+1.8
SNOW	**Snow King Moun**	**115.99**	**44**	*e*PKPdf	PKPdf	21 54 47.8	+2.4
LOHW	**Long Hollow**	**116.05**	**44**	*e*PKPdf	PKPdf	21 54 47.1	+1.7
LOHW				*e*PP	PP	21 55 52.9	-5.6
MSU	**Marysvale**	**116.30**	**50**	*e*PKPdf	PKPdf	21 54 48.7	+2.6
LPG	**La Plagne**	**116.36**	**318**	*e*PKIKP	PKPdf	21 54 47.1	+1.1
	comp=Z,11nm,0.8s						
LPL	**La Plagne**	**116.37**	**318**	*e*PKIKP	PKPdf	21 54 47.1	+1.1
	comp=Z,10nm,0.7s						
CABF	**La Chapelle**	**116.41**	**320**	*e*PKIKP	PKPdf	21 54 47.0	+0.9
	comp=Z,24nm,0.8s						
MBDF	**Montbardon**	**116.60**	**317**	*e*PKIKP	PKPdf	21 54 47.3	+0.8
TMUT	**Trail Mountain**	**116.83**	**49**	*e*PKPdf	PKPdf	21 54 49.1	+2.1
PDAR	**Pinedale Array**	**117.04**	**45**	PKP	PKPdf	21 54 48.2	+0.9
	comp=Z,4.0nm,0.9s,baz=245,slow=1.3,SNR=28						
PDAR				PP	PP	21 56 00.6	-4.7
	comp=Z,1.1nm,0.9s,baz=270,slow=3.0,SNR=4.9						
PDAR				PKKPbc		22 05 14.7	
	comp=Z,1.1nm,0.8s,baz=108,slow=6.0,SNR=5.3						
ORIF	**Oris-en-Rattie**	**117.14**	**318**	*e*PKIKP	PKPdf	21 54 48.0	+0.5
ORIF				*e*R			
	comp=Z,118nm,22.0s						
SRU	**San Rafael**	**117.40**	**49**	*e*PKPdf	PKPdf	21 54 49.7	+1.5
LOR	**Lormes**	**117.58**	**321**	*e*PKIKP	PKPdf	21 54 48.7	+0.4
	comp=Z,9.2nm,0.9s						
LOR				*e*R			
	comp=Z,91nm,22.0s						
SSF	**Saint Saulge**	**117.88**	**321**	*e*PKIKP	PKPdf	21 54 49.2	+0.3
	comp=Z,12nm,0.8s						
VIVF	**Saint-Julien-l**	**117.96**	**318**	*e*PKIKP	PKPdf	21 54 49.1	0.0
AVF	**Avril sur Loir**	**118.09**	**321**	*e*PKIKP	PKPdf	21 54 49.6	+0.3
	comp=Z,6.4nm,0.8s						
BGF	**Bois d'Agland**	**118.50**	**321**	*e*PKIKP	PKPdf	21 54 51.1	+1.0
PV10	**Paradox Valley**	**118.72**	**49**	*e*PKPdf	PKPdf	21 54 52.5	+1.8
LASF	**Ste Croix**	**118.79**	**318**	*e*PKIKP	PKPdf	21 54 51.3	+0.6
TUC	**Tucson**	**118.81**	**56**	*e*PKPdf	PKPdf	21 54 52.7	+1.6
TCF	**Toulx Ste Croi**	**119.01**	**320**	*e*PKIKP	PKPdf	21 54 51.8	+0.7
	comp=Z,11nm,0.9s						
RWWY	**Rawlins**	**119.03**	**45**	⇑*i*PKPdf	PKPdf	21 54 52.5	+1.3
PV01	**Paradox Valley**	**119.14**	**49**	⇓*i*PKPdf	PKPdf	21 54 53.3	+1.7
CAF	**Calviac**	**119.65**	**319**	*e*PKIKP	PKPdf	21 54 53.1	+0.7
MTLF	**Montolieu**	**120.17**	**317**	*e*PKIKP	PKPdf	21 54 54.2	+0.8
MFF	**Saint Martin d**	**120.35**	**322**	*e*PKIKP	PKPdf	21 54 54.1	+0.4
	comp=Z,24nm,0.8s						
ISCO	**Idaho Springs**	**120.81**	**47**	*e*PKPdf	PKPdf	21 54 56.7	+1.9
FRB	**Frobisher Bay**	**120.98**	**9**	PKP	PKPdf	21 54 54.2	-0.3
	comp=Z,16nm,0.7s,baz=359,slow=4.5,SNR=9.7						
FRB	**Frobisher Bay**	**120.98**	**9**	PKP	PKPdf	21 54 54.2	-0.4
SGMF	**Saint Gilles**	**121.03**	**324**	*e*PKIKP	PKPdf	21 54 55.0	0.0
	comp=Z,41nm,1.1s						
ROSF	**Rostrenen**	**121.41**	**324**	*e*PKIKP	PKPdf	21 54 56.1	+0.4
EPF	**Esparros**	**121.55**	**318**	*e*PKIKP	PKPdf	21 54 56.2	+0.1
SDCO	**Great Sand Dun**	**121.57**	**49**	*e*PKPdf	PKPdf	21 54 58.0	+1.7
ANMO	**Albuquerque**	**121.67**	**52**	PKP	PKPdf	21 54 57.5	+0.9
	comp=Z,10nm,0.9s,baz=214,slow=3.6,SNR=19						
ANMO	**Albuquerque**	**121.67**	**52**	*e*PKPdf	PKPdf	21 54 58.4	+1.8
ANMO	**Albuquerque**	**121.67**	**52**	⇑*i*PKIKP	PKPdf	21 54 59.1	+2.5
ETSF	**Etsaut**	**122.21**	**318**	*e*PKIKP	PKPdf	21 54 58.4	+1.0
	comp=Z,32nm,1.2s						
ULM	**Lac du Bonnet**	**122.24**	**32**	PKP	PKPdf	21 54 56.9	-0.4
	comp=Z,10nm,0.8s,baz=311,slow=3.2,SNR=9.3						
MNTX	**Cornudas Mount**	**123.41**	**56**	*e*PKPdf	PKPdf	21 55 01.2	+1.2
CBKS	**Cedar Bluff**	**125.41**	**46**	*e*PKPdf	PKPdf	21 55 04.8	+1.0
LTX	**Lajitas**	**125.45**	**58**	*e*PKPdf	PKPdf	21 55 05.7	+1.6
TXAR	**Lajitas Array**	**125.45**	**58**	PKP	PKPdf	21 55 05.0	+0.9
	comp=Z,5.8nm,0.9s,baz=270,slow=1.3,SNR=22						
TXAR				PP	PP	21 56 58.1	-4.1
	comp=Z,0.5nm,0.3s,baz=243,slow=2.8,SNR=4.3						
ESDC	**Sonseca Array**	**125.89**	**316**	PKP	PKPdf	21 55 05.8	+1.1
	comp=Z,1.6nm,0.9s,baz=24,slow=3.4,SNR=6.0						
ESDC				PP	PP	21 56 52.1	-13
	comp=Z,2.1nm,0.8s,baz=46,slow=5.5,SNR=5.1						
ESDC				SKPbc		21 57 51.2	
	comp=Z,0.9nm,0.6s,baz=36,slow=3.5,SNR=5.4						
SCHQ	**Schefferville**	**129.67**	**12**	PKP	PKPdf	21 55 11.4	0.0
	comp=Z,9.9nm,0.9s,baz=314,slow=2.6,SNR=11						
SCHQ				SKPbc		21 58 02.3	
	comp=Z,17nm,0.7s,baz=2.1,slow=4.2,SNR=16						
PLCA	**Paso Flores**	**130.27**	**161**	PKP	PKPdf	21 55 13.1	+0.1
	comp=Z,3.9nm,0.7s,baz=193,slow=5.0,SNR=7.7						
PLCA				SKPbc		21 58 06.5	
	comp=Z,21nm,0.9s,baz=205,slow=5.0,SNR=24						
PLCA	**Paso Flores**	**130.27**	**161**	PKP	PKPdf	21 55 13.1	0.0
PLCA				SKPbc		21 58 06.5	
CCM	**Cathedral Cave**	**131.67**	**43**	*e*PKPdf	PKPdf	21 55 16.5	+0.7
DBIC	**Dimbokro**	**133.90**	**274**	PKP	PKPdf	21 55 22.0	+1.5
	comp=Z,1.5nm,0.5s,baz=180,slow=16,SNR=5.0						
DBIC				SKPbc		21 58 19.5	
	comp=Z,11nm,0.7s,baz=113,slow=4.1,SNR=12						
SADO	**Sadowa**	**134.31**	**28**	PKP	PKPdf	21 55 20.1	-0.3
	comp=Z,11nm,0.9s,baz=318,slow=6.0,SNR=5.5						
SADO				SKPbc		21 58 19.4	
	comp=Z,4.8nm,0.5s,baz=353,slow=5.3,SNR=6.3						
WVT	**Waverly**	**135.00**	**43**	*e*PKPdf	PKPdf	21 55 23.5	+1.5
ACSO	**Alum Creek Sta**	**135.56**	**35**	*e*PKPdf	PKPdf	21 55 24.9	+2.1
SWET	**Sewanee**	**136.80**	**43**	Pdif	Pdif	21 52 31.2	-1.6
NCB	**Newcomb**	**137.10**	**24**	*e*PKPdf	PKPdf	21 55 26.6	+1.1
LRAL	**Lakeview Retre**	**137.23**	**46**	*e*PKPdf	PKPdf	21 55 26.7	+0.6
MIV	**Mineville/With**	**137.29**	**24**	*e*PKPdf	PKPdf	21 55 26.5	+0.6
BINY	**Binghamton**	**137.75**	**28**	*e*PKPdf	PKPdf	21 55 26.7	-0.1
BINY				*e*SKP		21 58 31.0	
HNH	**Hanover**	**138.10**	**23**	*e*PKPdf	PKPdf	21 55 29.1	+1.7
BLA	**Blacksburg**	**139.07**	**36**	*e*PKPdf	PKPdf	21 55 32.0	+2.6
CFAA	**Coronel Fontan**	**139.28**	**158**	PKhKP		21 55 21.9	
	comp=Z,0.6nm,0.8s,baz=223,slow=6.7,SNR=5.6						
CFAA				PKP	PKPdf	21 55 31.2	+1.4
	comp=Z,1.2nm,0.8s,baz=247,slow=1.9,SNR=12						
CFAA				SKPbc		21 58 34.9	
	comp=Z,1.4nm,0.6s,baz=214,slow=2.8,SNR=10						
GOGA	**Godfrey**	**139.50**	**43**	Pdif	Pdif	21 52 51.2	+6.4
LVC	**Limon Verde**	**146.76**	**149**	PKPbc	PKPbc	21 55 46.4	+1.5
	comp=Z,41nm,0.8s,baz=257,slow=2.5,SNR=44						
LVC				pPKPbc		21 57 04.5	
	comp=Z,10nm,0.9s,baz=265,slow=7.1,SNR=2.6						
LVC				SKPbc		21 58 54.4	
	comp=Z,9.2nm,0.8s,baz=187,slow=4.5,SNR=2.7						
LVC	**Limon Verde**	**146.76**	**149**	*e*PKPdf	PKPdf	21 55 45.1	+1.8
LVC				*e*SKPbc		21 58 55.2	
CPUP	**Villa Florida**	**147.37**	**170**	PKP	PKPdf	21 55 45.8	+1.6
	comp=Z,46nm,0.8s,baz=262,slow=1.3,SNR=21						
CPUP				PKPbc	PKPdf	21 55 48.6	+4.4
	comp=Z,46nm,0.8s,baz=213,slow=2.6,SNR=69						
CPUP				pPKPbc		21 57 05.5	
	comp=Z,6.1nm,0.8s,baz=55,slow=3.9,SNR=1.9						
CPUP				SKPbc		21 58 55.0	
	comp=Z,14nm,0.9s,baz=102,slow=3.4,SNR=4.5						
NNA	**Nana**	**148.93**	**125**	*e*PKPdf	PKPdf	21 55 47.6	+0.7
NNA				*e*PKPbc	PKPdf	21 55 52.5	+5.6
ARE	**Arequipa**	**150.05**	**138**	⇑*i*P	PKPdf	21 55 56.0	+7.5
LPAZ	**La Paz**	**152.30**	**143**	PKP	PKPdf	21 55 54.8	+2.9
	comp=Z,6.8nm,0.9s,baz=51,slow=2.5,SNR=25						
LPAZ				PKPbc	PKPdf	21 56 01.6	+10
	comp=Z,7.6nm,0.6s,baz=66,slow=4.2,SNR=20						
LPAZ				PKPab	PKPab	21 56 13.7	+1.1
	comp=Z,12nm,0.8s,baz=165,slow=6.3,SNR=6.3						
LPAZ				pPKPbc		21 57 19.2	
	comp=Z,10nm,0.9s,baz=359,slow=3.2,SNR=3.0						
SIV	**San Ignacio**	**156.12**	**156**	PKP	PKPdf	21 55 58.9	+1.9
	comp=Z,5.7nm,0.8s,baz=219,slow=0.7,SNR=30						
SIV				PKPab	PKPab	21 56 28.1	-0.6
	comp=Z,8.9nm,0.9s,baz=186,slow=3.1,SNR=16						
SIV				pPKPab		21 57 40.9	
	comp=Z,4.3nm,0.8s,baz=163,slow=4.7,SNR=5.4						
ROSC	**El Rosal**	**157.00**	**92**	PKP	PKPdf	21 56 00.6	+2.3
	comp=Z,6.6nm,0.4s,baz=228,slow=23,SNR=5.4						
ROSC				PKPab	PKPab	21 56 33.7	+1.1
	comp=Z,6.1nm,0.4s,baz=106,slow=21,SNR=7.1						
BDFB	**Brasilia**	**158.30**	**188**	PKP	PKPdf	21 56 01.7	+1.8
	comp=Z,5.0nm,1.0s,baz=165,slow=6.5,SNR=4.9						
SDV	**Santo Domingo**	**160.56**	**80**	*e*PKPdf	PKPdf	21 56 04.0	+1.6
SDV				*e*PKPab	PKPab	21 56 48.1	+0.2
SAML	**Samuel**	**161.01**	**141**	*e*PKPdf	PKPdf	21 56 04.6	+1.8

*CNRM **06** 22:14:01.2, 37.07N×2.33W, h30km, MD3.4*

*INMG **06** 22:14:40.1±1.0, 36.98N×2.44W, h2km±1km, ML3.3, Error ellipse: s-maj=1.4km s-min=0.9km az=123.0*

*NEIC **06** 22:14:40.0, 36.99N×2.44W, h2km, MN3.3(MDD), After MDD.*

NEIC Felt [IV] at Benahadux, Nijar, Pechina, Rioja and Tabernas; [III] at Alhama de Almeria, Almeria, Gador, Gergal, Lucainena de las Torres, Nacimiento, Ragol and Viator; [II] at Aguadulce, Campohermoso, Canjayar, El Ejido, Laujar de Andarax and Sorbas, Spain.

*MDD **06** 22:14:40.0±0.1, 36.99N×2.44W, mbLg3.2/37, Error ellipse: s-maj=2.4km s-min=1.2km az=176.0, PRXIMO III-IV JAR PECHINA III ALHAMA DE A A DOR III GERGAL LUCAINENA DE LAS TORRES III NACIMIENTO GOL VIATOR II AGUADULCE CAMPOHERMOSO YAR II COSTACABANA EL EJIDO LAJAR DE ANDARAX II SORBAS I ABLA DOA MARA A ENIX I LA MOJONERA LOS GALLARDOS ROQUETAS DE MAR*

MDD EMS: IV BENAHADUX RIOJA TABERNAS.

*SFS **06** 22:14:40.0, 36.99N×2.44W*

*CSEM **06** 22:14:40.0±0.1, 36.97N×2.43W, h5km, ML3.7/29, Error ellipse: s-maj=1.4km s-min=0.9km az=142.0*

*LDG **06** 22:14:43.0±0.3, 36.99N×2.49W, h10km, Md4.1/1, Ml3.5/8, Error ellipse: s-maj=6.0km s-min=2.9km az=150.0*

ISC 06 22:14:38.1±0.4**, 37.14N**±0.02×**2.52W**±0.02**, h5**km±2km**,**
n133, σ1§74/231**, 4C-3D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXAA	**Alhama Almeria**	**0.19**	**191**	Pg	**Pg**	**22 14 42.6**	**+0.6**
	SNR=7.9						
EXAA				Lg		22 14 44.7	
	SNR=7.9						
EXAA	**Alhama Almeria**	**0.19**	**191**	Pg	**Pg**	**22 14 42.6**	**+0.6**
	SNR=7.9						
EXAA				Lg		22 14 44.7	
	SNR=7.9						
ENIJ	**Nijar**	**0.30**	**124**	⇓Pg	**Pg**	**22 14 43.5**	**-0.8**
	10nm,0.4s,SNR=18						
EBER	**Berja**	**0.38**	**230**	⇑Pg	**Pg**	**22 14 46.9**	**+1.1**
	1μm,0.3s,SNR=18						
EBER				Lg		22 14 51.9	
	7μm,0.3s,SNR=6.4						
EBER	**Berja**	**0.38**	**230**	Pg	**Pg**	**22 14 46.9**	**+1.1**
	1μm,0.3s,SNR=18						
EBER				Lg		22 14 51.9	
	7μm,0.3s,SNR=6.4						
EHUE	**Huescar**	**0.67**	**355**	Pg	**Pg**	**22 14 55.3**	**+3.7**
	46nm,0.3s,SNR=38						
EHUE				Lg		22 15 06.1	
	119nm,0.2s,SNR=24						
EQUE	**Quentar**	**0.74**	**275**	⇓Pg	**Pg**	**22 14 54.8**	**+2.0**
	174nm,0.3s,SNR=18						
EQUE				Lg		22 15 04.5	
	809nm,0.3s,SNR=18						
EQES	**Quesada**	**0.79**	**327**	⇑Pg	**Pg**	**22 14 57.7**	**+3.8**
	129nm,0.3s,SNR=18						
EQES				Lg		22 15 10.8	
	441nm,0.4s,SNR=17						
EQES	**Quesada**	**0.79**	**327**	Pg	**Pg**	**22 14 57.7**	**+3.8**
	129nm,0.3s,SNR=18						
ECOG	**Cogollos-Vega**	**0.84**	**279**	⇑Pg	**Pg**	**22 14 57.0**	**+2.0**
	188nm,0.3s,SNR=18						
ECOG				Lg		22 15 09.8	
	205nm,0.2s,SNR=15						
EGUA	**Guajares**	**0.89**	**250**	⇓Pg	**Pg**	**22 14 56.7**	**+0.8**

	83nm,0.2s,SNR=18						
EGUA				Lg		22 15 08.9	
	125nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.03**	**263**	Lg		22 15 14.9	
	347nm,0.3s,SNR=24						
EMUR	**La Murta**	**1.23**	**55**	Pg	**Pg**	**22 15 02.6**	**-0.1**
	156nm,0.3s,SNR=106						
EMUR				Lg		22 15 21.1	
	529nm,0.5s,SNR=9.1						
EMUR	**La Murta**	**1.23**	**55**	Pg	**Pg**	**22 15 02.7**	**-0.1**
EALB	**Alboran**	**1.27**	**199**	Pg	**Pg**	**22 15 00.7**	**-2.8**
	546nm,0.4s,SNR=22						
EALB				Lg		22 15 16.4	
	312nm,0.2s,SNR=8.1						
EALB	**Alboran**	**1.27**	**199**	Pg	**Pg**	**22 15 00.7**	**-2.8**
	546nm,0.4s,SNR=22						
CART	**Cartagena**	**1.29**	**69**	*e*Pn	**Pn**	**22 15 01.3**	**-1.5**
CART	**Cartagena**	**1.29**	**69**	*e*P	**Pb**	**22 15 00.6**	**-1.9**
CART	**Cartagena**	**1.29**	**69**	*e*Pn	**Pn**	**22 15 01.3**	**-1.5**
ELOJ	**Sierra Loja**	**1.30**	**271**	Pg	**Pg**	**22 15 05.8**	**+1.7**
	39nm,0.3s,SNR=24						
ELOJ				Lg		22 15 23.6	
	105nm,0.4s,SNR=19						
EBAN	**Banos Encina**	**1.43**	**316**	Pg	**Pg**	**22 15 08.2**	**+1.6**
	360nm,0.3s,SNR=616						
EBAN				Lg		22 15 30.5	
	238nm,0.3s,SNR=10						
EVIA	**Vianos**	**1.49**	**1**	Pg	**Pg**	**22 15 10.2**	**+2.3**
	104nm,0.4s,SNR=60						
EVIA				Lg		22 15 32.5	
	469nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**1.69**	**27**	Pn	**Pn**	**22 15 10.7**	**+2.3**
	105nm,0.4s,SNR=9.8						
ETOB				Lg		22 15 37.6	
	144nm,0.3s,SNR=5.9						
ETOB	**Tobarra**	**1.69**	**27**	Pn	**Pn**	**22 15 10.7**	**+2.2**
	105nm,0.4s,SNR=9.8						
EMLI	**Melilla**	**1.87**	**191**	Pn	**Pn**	**22 15 08.1**	**-3.1**
	SNR=7.9						
EMLI	**Melilla**	**1.87**	**191**	Pg	**Pg**	**22 15 11.7**	**-3.8**
	45nm,0.2s,SNR=7.9						
EMLI				Sn	**Sn**	**22 15 31.7**	**-3.8**
	145nm,0.2s,SNR=4.0						
EMEL	**Melilla**	**1.87**	**191**	Pn	**Pn**	**22 15 08.1**	**-3.1**
	SNR=7.9						
EMEL				Pg	**Pg**	**22 15 11.7**	**-3.8**
	45nm,0.2s,SNR=7.9						
EMEL				Sn	**Sn**	**22 15 31.7**	**-3.8**
	145nm,0.2s,SNR=4.0						
EMEL				Lg		22 15 35.0	
	288nm,0.2s,SNR=4.6						
EMIJ	**Mijas**	**1.90**	**253**	Pn	**Pn**	**22 15 10.6**	**-0.8**
	15nm,0.3s,SNR=33						
EMIJ				Pg	**Pg**	**22 15 15.7**	**-0.2**
	26nm,0.2s,SNR=14						
EMIJ				Sn	**Sn**	**22 15 36.2**	**+0.1**
	65nm,0.4s,SNR=4.0						
EMIJ				Lg		22 15 39.6	
	70nm,0.3s,SNR=6.4						
EMIJ	**Mijas**	**1.90**	**253**	Pg	**Pg**	**22 15 15.7**	**-0.3**
	26nm,0.2s,SNR=14						
EMIJ				Sn	**Sn**	**22 15 36.2**	**+0.1**
	65nm,0.4s,SNR=4.0						
EADA	**Adamuz**	**1.93**	**303**	Pn	**Pn**	**22 15 15.3**	**+3.3**
	196nm,0.3s,SNR=291						
EADA				Pg	**Pg**	**22 15 17.5**	**+0.9**
	245nm,0.4s,SNR=7.9						
EADA				Sn	**Sn**	**22 15 40.5**	**+3.7**
	150nm,0.5s,SNR=4.0						
EADA				Lg		22 15 45.1	
	64nm,0.2s,SNR=7.7						
EADA	**Adamuz**	**1.93**	**303**	Pn	**Pn**	**22 15 15.2**	**+3.3**
EADA	**Adamuz**	**1.93**	**303**	Pg	**Pg**	**22 15 17.5**	**+1.0**
	245nm,0.4s,SNR=7.9						
EADA				Sn	**Sn**	**22 15 40.5**	**+3.7**
	150nm,0.5s,SNR=4.0						
ZAI	**Zaio**	**2.18**	**185**	*e*P	**Pn**	**22 15 09.0**	**-6.5**
MPAL	**Palemas**	**2.23**	**211**	*e*P	**Pn**	**22 15 10.0**	**-6.3**
REAL	**Reales**	**2.25**	**254**	P	**Pn**	**22 15 19.2**	**+2.6**
REAL	**Reales**	**2.25**	**254**	*e*P	**Pn**	**22 15 19.2**	**+2.6**
EBEN	**Beniarda**	**2.39**	**49**	Pn	**Pn**	**22 15 18.4**	**-0.2**
	43nm,0.7s,SNR=7.1						
EBEN				Pg	**Pg**	**22 15 24.9**	**-1.0**
	37nm,0.5s,SNR=14						
EBEN				Lg		22 15 58.6	
	21nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**2.39**	**49**	Pn	**Pn**	**22 15 18.4**	**-0.2**
	43nm,0.7s,SNR=7.1						
EBEN	**Beniarda**	**2.39**	**49**	Pg	**Pg**	**22 15 24.9**	**-1.0**
	37nm,0.5s,SNR=14						
TOU	**Touzarine**	**2.40**	**205**	*e*P	**Pn**	**22 15 12.0**	**-6.6**
EJIF	**Jimena Fronter**	**2.46**	**255**	Pn	**Pn**	**22 15 20.3**	**+0.7**
	12nm,0.4s,SNR=9.1						
EJIF				Pg	**Pg**	**22 15 25.9**	**-1.4**
	7.3nm,0.4s,SNR=9.5						
EJIF				Lg		22 15 60.0	
	17nm,0.5s,SNR=6.0						
ESPR	**Espera**	**2.68**	**265**	Pn	**Pn**	**22 15 24.2**	**+1.5**
	10nm,0.4s,SNR=7.8						
ESPR				Pg	**Pg**	**22 15 30.0**	**-1.7**
	46nm,0.6s,SNR=20						
ESPR				Lg		22 16 07.4	
	72nm,0.3s,SNR=6.6						
ESPR	**Espera**	**2.68**	**265**	Pn	**Pn**	**22 15 24.2**	**+1.4**
	10nm,0.4s,SNR=7.8						
ESPR	**Espera**	**2.68**	**265**	Pg	**Pg**	**22 15 30.0**	**-1.7**
	46nm,0.6s,SNR=20						
ECHE	**Chera**	**2.73**	**26**	Pn	**Pn**	**22 15 25.9**	**+2.4**
	2.5nm,0.4s,SNR=7.9						
ECHE				Pg	**Pg**	**22 15 31.8**	**-0.8**
	28nm,0.4s,SNR=12						
ECHE				Lg		22 16 10.8	
	80nm,0.7s,SNR=5.0						
ESDC	**Sonseca Array**	**2.77**	**336**	Pn	**Pn**	**22 15 26.3**	**+2.3**
	3.7nm,0.3s,baz=156,slow=12,SNR=44						
ESDC				Pg	**Pg**	**22 15 33.2**	**-0.2**
	13nm,0.3s,baz=156,slow=17,SNR=35						
ESDC				Sn	**Sn**	**22 16 00.3**	**+2.0**
	17nm,0.5s,baz=153,slow=22,SNR=8.3						
ESDC				Lg		22 16 12.9	
	124nm,0.5s,baz=148,slow=29,SNR=22						
ESDC	**Sonseca Array**	**2.77**	**336**	Pn	**Pn**	**22 15 26.3**	**+2.3**
	3.7nm,0.3s,SNR=44						
ESDC	**Sonseca Array**	**2.77**	**336**	Pg	**Pg**	**22 15 33.2**	**-0.2**
	13nm,0.3s,SNR=35						
ESDC				Sn	**Sn**	**22 16 00.3**	**+2.1**
	17nm,0.5s,SNR=8.3						
TZK	**Tazeka**	**3.33**	**204**	*i* P	**Pn**	**22 15 25.0**	**-7.0**
EMIN	**Mina Concepcio**	**3.36**	**282**	Pn	**Pn**	**22 15 33.3**	**+0.9**
	2.9nm,0.3s,SNR=35						
EMIN				Pg	**Pg**	**22 15 43.2**	**-2.0**
	23nm,0.7s,SNR=11						
EMIN				Sn	**Sn**	**22 16 14.3**	**+1.1**
	16nm,0.5s,SNR=6.8						
EMIN				Lg		22 16 30.3	
	82nm,0.6s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.36**	**282**	Pn	**Pn**	**22 15 33.3**	**+0.9**
	2.9nm,0.3s,SNR=35						
EMIN	**Mina Concepcio**	**3.36**	**282**	Pg	**Pg**	**22 15 43.2**	**-2.0**
	23nm,0.7s,SNR=11						
EMIN				Sn	**Sn**	**22 16 14.3**	**+1.1**
	16nm,0.5s,SNR=6.8						
EIBI	**Ibiza**	**3.58**	**57**	Pn	**Pn**	**22 15 34.9**	**-0.7**
	26nm,0.7s,SNR=7.5						
EIBI				Sn	**Sn**	**22 16 16.7**	**-2.1**
	9.6nm,0.3s,SNR=11						
EIBI	**Ibiza**	**3.58**	**57**	Pn	**Pn**	**22 15 34.9**	**-0.7**
EIBI				Sn	**Sn**	**22 16 16.7**	**-2.1**
EIBI	**Ibiza**	**3.58**	**57**	Pn	**Pn**	**22 15 34.9**	**-0.6**
	26nm,0.7s,SNR=7.5						
EIBI				Sn	**Sn**	**22 16 16.7**	**-2.1**
	9.6nm,0.3s,SNR=11						
EMOS	**Mosqueruela**	**3.59**	**26**	Pn	**Pn**	**22 15 38.0**	**+2.3**
	1.5nm,0.3s,SNR=7.9						
EMOS				Pg	**Pg**	**22 15 47.9**	**-1.9**
	47nm,0.5s,SNR=55						
EMOS				Sn	**Sn**	**22 16 19.9**	**+0.9**
	35nm,0.6s,SNR=10.0						
EMOS				Lg		22 16 38.4	
	17nm,0.4s,SNR=7.7						
EMOS	**Mosqueruela**	**3.59**	**26**	Pn	**Pn**	**22 15 38.0**	**+2.3**
	1.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.59**	**26**	Pg	**Pg**	**22 15 47.9**	**-1.9**
	47nm,0.5s,SNR=55						
EMOS				Sn	**Sn**	**22 16 19.9**	**+0.8**
	35nm,0.6s,SNR=10.0						
EBAD	**Badajoz**	**3.90**	**296**	Pn	**Pn**	**22 15 41.0**	**+1.0**
	2.9nm,0.3s,SNR=15						
EBAD				Pg	**Pg**	**22 15 52.9**	**-3.1**
	8.9nm,0.3s,SNR=14						
EBAD				Sn	**Sn**	**22 16 27.0**	**+0.2**
	16nm,0.3s,SNR=11						
EBAD				Lg		22 16 48.6	
	53nm,0.2s,SNR=6.3						
EBAD	**Badajoz**	**3.90**	**296**	Pn	**Pn**	**22 15 41.0**	**+1.0**
	2.9nm,0.3s,SNR=15						
EBAD	**Badajoz**	**3.90**	**296**	Pg	**Pg**	**22 15 52.9**	**-3.0**
	8.9nm,0.3s,SNR=14						
EBAD				Sn	**Sn**	**22 16 27.0**	**+0.2**
	16nm,0.3s,SNR=11						
EGRO	**El Granado**	**3.97**	**277**	Pn	**Pn**	**22 15 42.6**	**+1.5**
	5.8nm,0.3s,SNR=8.3						
EGRO				Pg	**Pg**	**22 15 54.0**	**-3.4**
	7.1nm,0.3s,SNR=7.1						
EGRO				Sn	**Sn**	**22 16 27.9**	**-0.8**
	4.9nm,0.3s,SNR=5.1						
EGRO				Lg		22 16 49.3	
	20nm,0.4s,SNR=4.0						
EGRO	**El Granado**	**3.97**	**277**	Pn	**Pn**	**22 15 42.6**	**+1.5**
	5.8nm,0.3s,SNR=8.3						
EGRO	**El Granado**	**3.97**	**277**	Pg	**Pg**	**22 15 54.0**	**-3.4**
	7.1nm,0.3s,SNR=7.1						
EGRO				Sn	**Sn**	**22 16 27.9**	**-0.8**
	4.9nm,0.3s,SNR=5.1						
PBEJ	**Beja**	**4.34**	**283**	*e*Pn	**Pn**	**22 15 47.2**	**+0.9**
PBEJ				*e*Sn	**Sn**	**22 16 37.6**	**-0.3**
PBEJ				*e*Sg	**Sg**	**22 16 59.7**	**-2.8**
	24nm,0.8s						
PBEJ	**Beja**	**4.34**	**283**	*e*Pn	**Pn**	**22 15 47.2**	**+0.9**
PBEJ				*e*Sn	**Sn**	**22 16 37.6**	**-0.3**
PBEJ				*e*Sg	**Sg**	**22 16 59.7**	**-2.8**
	24nm,0.8s						
ERTA	**Horta de San J**	**4.41**	**29**	Pn	**Pn**	**22 15 48.8**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**22 16 37.6**	**-2.2**
	176nm,2.1s,SNR=7.9						
ERTA				Lg		22 17 03.9	
	4.9nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.41**	**29**	Pn	**Pn**	**22 15 48.8**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**22 16 37.6**	**-2.2**
	176nm,2.1s,SNR=7.9						
EVO	**Evora**	**4.56**	**289**	*e*Pn	**Pn**	**22 15 51.2**	**+1.7**
EVO				*e*Sn	**Sn**	**22 16 43.3**	**-0.4**
EVO				*e*Sg	**Sg**	**22 17 07.7**	**-2.3**
	160nm,0.8s						
CZD	**Col de Zad**	**4.59**	**207**	*i* P	**Pn**	**22 15 44.0**	**-5.9**
PCBR	**Castelo Branco**	**4.73**	**306**	*e*Pn	**Pn**	**22 15 53.8**	**+2.0**
PCBR				*e*Sn	**Sn**	**22 16 48.1**	**+0.2**
	50nm,0.8s						
PCBR	**Castelo Branco**	**4.73**	**306**	*e*Pn	**Pn**	**22 15 53.8**	**+2.0**
PCBR				*e*Sn	**Sn**	**22 16 48.1**	**+0.2**
	50nm,0.8s						
ESAC	**San Caprasio**	**4.84**	**19**	Pn	**Pn**	**22 15 54.7**	**+1.3**
	2.0nm,0.2s,SNR=7.9						
ESAC				Pg	**Pg**	**22 16 11.1**	**-3.6**
	0.9nm,0.2s,SNR=7.9						
ESAC				Sn	**Sn**	**22 16 49.5**	**-1.2**
	57nm,0.8s,SNR=7.9						
ESAC				Lg		22 17 18.4	
	83nm,0.5s,SNR=7.9						
ESAC	**San Caprasio**	**4.84**	**19**	Pn	**Pn**	**22 15 54.7**	**+1.3**
ESAC				Pg	**Pg**	**22 16 11.1**	**-3.6**
ESAC				Sn	**Sn**	**22 16 44.6**	**-6.1**
ESAC				Lg		22 17 18.4	
ESAC	**San Caprasio**	**4.84**	**19**	Pn	**Pn**	**22 15 54.7**	**+1.3**
	2.0nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**4.84**	**19**	Pg	**Pg**	**22 16 11.1**	**-3.6**
	0.9nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.94**	**56**	Pn	**Pn**	**22 15 54.3**	**-0.5**
	20nm,0.9s,SNR=7.2						
ETOS				Sn	**Sn**	**22 16 49.8**	**-3.4**
	68nm,1.3s,SNR=7.9						
ETOS	**Mallorca**	**4.94**	**56**	Pn	**Pn**	**22 15 54.3**	**-0.5**
	20nm,0.9s,SNR=7.2						
ETOS				Sn	**Sn**	**22 16 49.8**	**-3.4**
	68nm,1.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.96**	**277**	*e*Pn	**Pn**	**22 15 56.1**	**+1.0**
PTEO				*e*Sn	**Sn**	**22 16 52.2**	**-1.5**
PTEO				*e*Sg	**Sg**	**22 17 19.5**	**-3.7**
	38nm,0.5s						
PTEO	**Sao Teotonio**	**4.96**	**277**	*e*Pn	**Pn**	**22 15 56.1**	**+1.0**
PTEO				*e*Sn	**Sn**	**22 16 52.2**	**-1.5**
PTEO				*e*Sg	**Sg**	**22 17 19.5**	**-3.7**
	38nm,0.5s						
EPOB	**Poblet**	**5.05**	**33**	Pn	**Pn**	**22 15 57.8**	**+1.4**
	0.5nm,0.2s,SNR=7.9						
EPOB				Lg		22 17 24.1	
	2.7nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.05**	**33**	Pn	**Pn**	**22 15 57.8**	**+1.5**
	0.5nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**5.10**	**311**	*e*Pn	**Pn**	**22 15 59.1**	**+2.1**
MTE				*e*Sg	**Sg**	**22 17 26.7**	**-1.1**
	71nm,0.4s						
MTE	**Manteigas**	**5.10**	**311**	Pn	**Pn**	**22 15 59.1**	**+2.1**
MTE				Lg		22 17 26.7	
	35nm,0.4s						
MTE	**Manteigas**	**5.10**	**311**	*e*Pn	**Pn**	**22 15 59.3**	**+2.3**
MTE				*e*Pg	**Pg**	**22 16 17.6**	**-2.2**
MTE				*e*Sg	**Sg**	**22 17 27.9**	**+0.1**
MTE	**Manteigas**	**5.10**	**311**	*e*Pg	**Pg**	**22 16 17.6**	**-2.2**
MTE				*e*Sg	**Sg**	**22 17 26.7**	**-1.1**
	71nm,0.4s						
PTOM	**Tomar**	**5.25**	**300**	*e*Pn	**Pn**	**22 16 00.2**	**+1.1**
PTOM				*e*Sn	**Sn**	**22 16 59.2**	**-1.6**
PTOM				*e*Sg	**Sg**	**22 17 28.8**	**-3.9**
	64nm,0.5s						
EGRA	**Graus**	**5.50**	**23**	Pn	**Pn**	**22 16 04.2**	**+1.5**
	0.6nm,0.2s,SNR=7.9						
EGRA				Pg	**Pg**	**22 16 22.8**	**-5.1**
	0.3nm,0.3s,SNR=4.0						
EGRA				Lg		22 17 39.2	
	3.0nm,0.3s,SNR=5.3						
EARA	**Aranguren**	**5.67**	**7**	Lg		22 17 45.0	
	76nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**5.69**	**326**	*e*Pn	**Pn**	**22 16 07.2**	**+1.9**
PBRG				*e*Sn	**Sn**	**22 17 11.9**	**0.0**
PBRG				*e*Sg	**Sg**	**22 17 45.5**	**-1.9**
	37nm,0.6s						
PBRG	**Braganca**	**5.69**	**326**	Pn	**Pn**	**22 16 07.2**	**+1.9**
PBRG				Sn	**Sn**	**22 17 11.9**	**0.0**
PBRG				Lg		22 17 45.5	
	18nm,0.6s						
PBRG	**Braganca**	**5.69**	**326**	*e*Pn	**Pn**	**22 16 07.2**	**+1.9**
PBRG				*e*Sg	**Sg**	**22 17 45.5**	**-1.9**
	37nm,0.6s						
EMIR	**Miracle**	**5.70**	**32**	Pn	**Pn**	**22 16 06.6**	**+1.0**
	1.8nm,0.3s,SNR=7.9						
EMIR				Lg		22 17 44.8	
	5.9nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**5.70**	**32**	Pn	**Pn**	**22 16 06.5**	**+1.0**
EMIR				Lg		22 17 44.8	
EMIR	**Miracle**	**5.70**	**32**	Pn	**Pn**	**22 16 06.6**	**+1.1**
	1.8nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**5.77**	**317**	*e*Pn	**Pn**	**22 16 08.7**	**+2.2**
PVRL				*e*Sn	**Sn**	**22 17 12.5**	**-1.5**
PVRL				*e*Sg	**Sg**	**22 17 48.3**	**-1.9**
	26nm,0.7s						
PVRL	**Vila Real**	**5.77**	**317**	Pn	**Pn**	**22 16 08.7**	**+2.2**
PVRL				Sn	**Sn**	**22 17 12.5**	**-1.5**
PVRL				Lg		22 17 48.3	
	13nm,0.7s						
ECAL	**Calabor**	**5.79**	**327**	⇑Pn	**Pn**	**22 16 08.7**	**+1.9**
	14nm,0.4s,SNR=18						
ECAL				Sn	**Sn**	**22 17 13.4**	**-1.2**
	4.0nm,0.3s,SNR=4.0						
ECAL				Lg		22 17 50.1	
	47nm,0.4s,SNR=5.0						
ECAL	**Calabor**	**5.79**	**327**	Pn	**Pn**	**22 16 08.7**	**+1.8**
	14nm,0.4s,SNR=18						
ECAL				Sn	**Sn**	**22 17 13.4**	**-1.2**
	4.0nm,0.3s,SNR=4.0						
EBIE	**Bielsa**	**5.90**	**19**	Pn	**Pn**	**22 16 10.0**	**+1.6**
	2.3nm,0.4s,SNR=7.6						
EBIE				Pg	**Pg**	**22 16 30.6**	**-5.4**
	1.0nm,0.4s,SNR=7.9						
EBIE				Sn	**Sn**	**22 17 15.0**	**-2.4**
	2.6nm,0.4s,SNR=7.4						
EBIE				Lg		22 17 52.8	
	6.8nm,0.6s,SNR=7.9						
EBIE	**Bielsa**	**5.90**	**19**	Pn	**Pn**	**22 16 10.0**	**+1.6**
	2.3nm,0.4s,SNR=7.6						
EBIE	**Bielsa**	**5.90**	**19**	Pg	**Pg**	**22 16 30.6**	**-5.3**
	1.0nm,0.4s,SNR=7.9						
EBIE				Sn	**Sn**	**22 17 15.0**	**-2.3**
	2.6nm,0.4s,SNR=7.4						
ETSF	**Etsaut**	**5.94**	**14**	*e*Pn	**Pn**	**22 16 11.2**	**+2.3**
ETSF				*e*Sn	**Sn**	**22 17 16.9**	**-1.4**
ETSF				*e*Sg	**Sg**	**22 17 52.7**	**-3.2**
	20nm,0.7s						
SJPF	**Ste Jean**	**6.04**	**9**	*e*Pn	**Pn**	**22 16 13.0**	**+2.6**
SJPF				*e*Sn	**Sn**	**22 17 19.4**	**-1.5**
SJPF				*e*Sg	**Sg**	**22 17 57.1**	**-2.2**
	31nm,0.7s						
EALK	**Alkurruntz**	**6.12**	**7**	Pn	**Pn**	**22 16 14.6**	**+3.1**
	7.5nm,0.5s,SNR=6.6						
EALK				Sn	**Sn**	**22 17 20.3**	**-2.4**
	8.1nm,0.5s,SNR=6.5						
EALK				Lg		22 18 00.3	
	44nm,0.8s,SNR=7.9						
ELAN	**Lanestosa**	**6.12**	**354**	Pn	**Pn**	**22 16 13.2**	**+1.7**
	0.8nm,0.3s,SNR=7.9						
ELAN				Pg	**Pg**	**22 16 35.1**	**-5.2**
	2.2nm,0.7s,SNR=7.9						
ELAN				Sn	**Sn**	**22 17 20.7**	**-2.1**
	183nm,2.1s,SNR=7.9						
ELAN				Lg		22 18 01.6	
	31nm,0.7s,SNR=5.1						
ELAN	**Lanestosa**	**6.12**	**354**	Pn	**Pn**	**22 16 13.2**	**+1.7**
ELAN				Pg	**Pg**	**22 16 35.1**	**-5.2**
ELAN				Sn	**Sn**	**22 17 20.7**	**-2.1**
ELAN				Lg		22 17 57.0	
ELAN	**Lanestosa**	**6.12**	**354**	Pn	**Pn**	**22 16 13.2**	**+1.7**
	0.8nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**6.12**	**354**	Pg	**Pg**	**22 16 35.1**	**-5.2**
	2.2nm,0.7s,SNR=7.9						
ELAN				Sn	**Sn**	**22 17 20.7**	**-2.1**
	183nm,2.1s,SNR=7.9						
PCAB	**Cabril**	**6.24**	**319**	*e*Pn	**Pn**	**22 16 14.6**	**+1.4**
PCAB				*e*Sn	**Sn**	**22 17 24.2**	**-1.6**
PCAB				*e*Sg	**Sg**	**22 18 02.3**	**-3.6**
	26nm,0.5s						
EPF	**Esparros**	**6.28**	**20**	*e*Pn	**Pn**	**22 16 14.8**	**+1.1**
EPF				*e*Sn	**Sn**	**22 17 24.0**	**-2.7**
EPF				*e*Sg	**Sg**	**22 18 03.4**	**-3.6**
	18nm,0.6s						
ERUA	**La Rua**	**6.33**	**327**	Pn	**Pn**	**22 16 16.5**	**+2.0**
	4.5nm,0.4s,SNR=7.9						
ERUA				Pg	**Pg**	**22 16 39.1**	**-5.5**
	3.5nm,0.6s,SNR=7.9						
ERUA				Sn	**Sn**	**22 17 25.8**	**-2.4**
	16nm,1.1s,SNR=7.9						
ERUA				Lg		22 18 07.8	
	18nm,0.6s,SNR=7.9						
ELOB	**Lobios**	**6.37**	**319**	Pn	**Pn**	**22 16 16.8**	**+1.8**
	5.2nm,0.3s,SNR=16						
ELOB				Sn	**Sn**	**22 17 26.6**	**-2.4**
	15nm,1.5s,SNR=7.9						
ELOB				Lg		22 18 08.8	
	27nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**6.37**	**319**	Pn	**Pn**	**22 16 16.8**	**+1.8**
	5.2nm,0.3s,SNR=16						
ELOB				Sn	**Sn**	**22 17 26.6**	**-2.4**
	15nm,1.5s,SNR=7.9						
EARI	**Arriondas**	**6.49**	**342**	Pn	**Pn**	**22 16 18.8**	**+2.2**
	10nm,0.7s,SNR=8.0						
EARI				Sn	**Sn**	**22 17 29.5**	**-2.4**
	14nm,1.1s,SNR=6.7						
EARI				Lg		22 18 13.1	
	77nm,0.9s,SNR=7.9						
EARI	**Arriondas**	**6.49**	**342**	Pn	**Pn**	**22 16 18.8**	**+2.2**
EARI				Sn	**Sn**	**22 17 29.5**	**-2.4**
EARI				Lg		22 18 10.2	
EARI	**Arriondas**	**6.49**	**342**	Pn	**Pn**	**22 16 18.8**	**+2.2**
	10nm,0.7s,SNR=8.0						
EARI				Sn	**Sn**	**22 17 29.5**	**-2.4**
	14nm,1.1s,SNR=6.7						
EZAM	**Zamans**	**6.90**	**318**	Pn	**Pn**	**22 16 23.7**	**+1.2**
	7.5nm,0.7s,SNR=4.0						
EZAM				Pg	**Pg**	**22 16 49.2**	**-6.7**
	0.5nm,0.2s,SNR=4.0						
EZAM				Lg		22 18 25.7	
	10nm,0.4s,SNR=4.0						
EPON	**Pontenova**	**7.12**	**332**	Pn	**Pn**	**22 16 27.1**	**+1.6**
	5.0nm,0.4s,SNR=8.0						
EPON				Sn	**Sn**	**22 17 44.4**	**-3.3**
	17nm,1.1s,SNR=7.9						
EPON				Lg		22 18 32.8	
	23nm,0.8s,SNR=7.9						
EPON	**Pontenova**	**7.12**	**332**	Pn	**Pn**	**22 16 27.1**	**+1.6**
	5.0nm,0.4s,SNR=8.0						
MTLF	**Montolieu**	**7.17**	**29**	*e*Pn	**Pn**	**22 16 28.7**	**+2.4**
MTLF				*e*Sg	**Sg**	**22 18 32.0**	**-4.9**
	2.3nm,0.5s						
MTLF	**Montolieu**	**7.17**	**29**	Lg		22 18 32.0	
	1.1nm,0.5s						
STS	**Santiago**	**7.37**	**323**	Pn	**Pn**	**22 16 30.5**	**+1.4**
	1.8nm,0.4s,SNR=7.9						
STS				Pg	**Pg**	**22 16 57.5**	**-7.7**
	0.6nm,0.3s,SNR=7.9						
STS				Sn	**Sn**	**22 17 50.2**	**-3.8**
	2.3nm,0.5s,SNR=7.9						
STS				Lg		22 18 40.7	
	18nm,0.8s,SNR=7.9						
EMAZ	**Mazaricos**	**7.62**	**322**	Pn	**Pn**	**22 16 33.8**	**+1.2**
	4.1nm,0.4s,SNR=4.9						
EMAZ				Sn	**Sn**	**22 17 56.3**	**-4.1**
	8.1nm,0.9s,SNR=7.9						
EMAZ				Lg		22 18 48.8	
	17nm,0.6s,SNR=7.9						
EMAZ	**Mazaricos**	**7.62**	**322**	Pn	**Pn**	**22 16 33.8**	**+1.2**
EMAZ				Sn	**Sn**	**22 17 56.3**	**-4.1**
EMAZ				Lg		22 18 48.8	
EMAZ	**Mazaricos**	**7.62**	**322**	Pn	**Pn**	**22 16 33.8**	**+1.2**
	4.1nm,0.4s,SNR=4.9						
LFF	**La Frestale**	**8.17**	**17**	*e*Pn	**P**	**22 16 41.4**	**+1.2**
CAF	**Calviac**	**8.51**	**23**	*e*Pn	**P**	**22 16 44.2**	**-0.8**
MFF	**Saint Martin d**	**9.62**	**10**	*e*Pn	**P**	**22 17 01.0**	**+0.8**
QUIF	**Quistinic**	**10.78**	**358**	*e*Pn	**P**	**22 17 16.2**	**+0.1**
QUIF				*e*Sn	**S**	**22 19 10.5**	**-7.8**
	0.4nm,0.2s						
SGMF	**Saint Gilles**	**11.10**	**360**	*e*Pn	**P**	**22 17 22.5**	**+1.9**
SGMF				*e*Sn	**S**	**22 19 18.6**	**-7.8**
	1.6nm,0.3s						
ROSF	**Rostrenen**	**11.20**	**357**	*e*Sn	**S**	**22 19 21.2**	**-7.5**
	0.5nm,0.2s						
ROSF	**Rostrenen**	**11.20**	**357**	*e*Pn	**P**	**22 17 22.5**	**+0.6**
ROSF				*e*Sn	**S**	**22 19 21.2**	**-7.5**
	0.2nm,0.2s						

IDC ***06*** *22:24:26.7±1.1, 15.09N×120.27E, mb4.0/9, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, MS3.4/3, Ms1 3.4/3, ms1mx3.1/27, Error ellipse: s-maj=155.8km s-min=22.0km az=65.0*

MAN ***06*** *22:24:29.6, 15.00N×119.54E, mb4.5, ML3.3, MS3.2*

NEIC ***06*** *22:24:31.9±0.5, 15.06N×120.26E, h35km, mb4.5/3, Error ellipse: s-maj=84.9km s-min=9.3km az=65.0*

ISC 06 22:24:33.0±0.8**, 15.07N**±0.04×**119.67E**±0.08**, h43km**±10km**, n39, σ1s12**/42**, mb4.1**/11**, MS3.3**/2**, 2C-3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.74**	**18**	*e*P	**P**	**22 24 46.5**	**-0.7**
SCZP				*e*S	**S**	**22 24 57.4**	**-0.1**
NBP	**Mount Natib**	**0.79**	**114**	*e*P	**P**	**22 24 46.3**	**-1.6**
NZB	**Bigte**	**1.40**	**98**	*e*P	**P**	**22 24 56.0**	**-0.5**
QVPH	**Quezon City--P**	**1.40**	**107**	*e*P	**P**	**22 24 56.0**	**-0.6**
LUBP	**Lubang**	**1.44**	**157**	*e*P	**P**	**22 24 56.8**	**-0.3**
PCPH	**Palayan**	**1.46**	**70**	⇓*e*P	**P**	**22 24 56.2**	**-1.2**
PCPH				*i* S	**S**	**22 25 14.3**	**-1.2**
ARP	**Angono**	**1.53**	**110**	*e*P	**P**	**22 24 57.7**	**-0.6**
TGY	**Tagaytay City**	**1.56**	**128**	⇑*e*P	**P**	**22 24 59.9**	**+1.1**
TGY				*e*S	**S**	**22 25 12.6**	**-5.3**
BCPH	**Baguio City Da**	**1.57**	**34**	⇓*i*P	**P**	**22 24 57.6**	**-1.4**
BCPH				*i* S	**S**	**22 25 22.3**	**+3.9**
LBPH	**Los Banos**	**1.72**	**122**	*e*P	**P**	**22 25 01.8**	**+0.7**
BALP	**Baler**	**1.96**	**70**	*e*P	**P**	**22 25 04.5**	**0.0**
PGP	**Puerto Galera**	**1.99**	**141**	*e*P	**P**	**22 25 05.7**	**+0.8**
PGP				*e*S	**S**	**22 25 34.3**	**+5.6**
POLP	**Polilio Island**	**2.22**	**98**	*e*P	**P**	**22 25 09.4**	**+1.3**
BOAC	**Boac**	**2.65**	**127**	*e*P	**P**	**22 25 15.4**	**+1.1**
ABRA	**Dolores**	**2.76**	**21**	*e*P	**P**	**22 25 17.9**	**+2.0**
GQP	**Guinayangan**	**2.93**	**113**	⇑*e*P	**P**	**22 25 23.3**	**+5.0**
SJMP	**San Jose**	**2.95**	**151**	*e*P	**P**	**22 25 20.4**	**+1.8**
BUSP	**Coron**	**3.09**	**170**	*e*P	**P**	**22 25 20.1**	**-0.4**
CVP	**Callao Caves**	**3.34**	**38**	⇓*e*P	**P**	**22 25 27.0**	**+2.9**
ENPP	**El Nido**	**3.84**	**184**	*e*P	**P**	**22 25 29.5**	**-1.8**

PVCP Virac 4.58 108 eP P 22 25 42.9 +1.1
JOW Kunigami 14.19 33 LR LR 22 32 08.9
comp=Z,161nm,20.8s,baz=302,slow=33
JNU Nakatsue 20.65 28 LR LR 22 36 47.3
comp=Z,142nm,20.6s,MS3.3,baz=22,slow=36
SONM Songino Array 34.48 344 P P 22 31 18.0 -0.8
0.5nm,0.6s,mb3.6,baz=170,slow=8.6,SNR=4.6
SONM LR LR 22 44 17.5
comp=Z,49nm,19.3s,MS3.3,baz=72,slow=34
WRAB Tennant Creek 37.66 157 eP P 22 31 41.9 -4.1
7.0nm,0.8s,mb4.4
WRA Warramunga Arr 37.66 157 P P 22 31 42.3 -3.7
3.5nm,0.6s,mb4.3,baz=336,slow=9.4,SNR=46
WB2 Warramunga Arr 37.67 157 eP P 22 31 42.4 -3.7
MKAR Makanchi Array 44.35 323 P P 22 32 41.5 +0.7
0.5nm,0.8s,mb3.3,baz=130,slow=9.5,SNR=3.9
MKAR PcP PcP 22 34 24.4 -0.4
0.7nm,0.7s,baz=100,slow=4.8,SNR=4.8
MKAR Makanchi Array 44.35 323 P P 22 32 41.5 +0.7
MKAR PcP PcP 22 34 24.4 -0.4
ZAL Zalesovo 47.39 333 P P 22 33 05.6 +0.7
0.7nm,0.4s,mb3.9,baz=9.6,slow=6.1,SNR=3.2
ZAL Zalesovo 47.39 333 P P 22 33 05.6 +0.7
KURK Kurchatov 48.51 326 eP P 22 33 14.1 +0.6
3.9nm,0.9s,mb4.4
BVAR Borovoye Array 54.09 326 P P 22 33 55.4 -0.2
0.6nm,0.7s,mb3.7,baz=117,slow=9.9,SNR=4.7
ARCES ARCESS Array B 77.46 339 P P 22 36 25.1 -0.1
5.0nm,1.0s,mb4.4,baz=79,slow=14,SNR=3.5
FINES FINESS Array B 78.61 331 P P 22 36 32.1 +0.5
0.8nm,0.7s,mb3.8,baz=63,slow=8.5,SNR=3.8
HFS Hagfors 84.81 331 P P 22 37 02.6 -1.3
3.4nm,1.0s,mb4.4,baz=297,slow=3.3,SNR=5.2
NB2 NORSAR Subarra 85.59 332 P P 22 37 08.0 +0.2
2.6nm,0.9s,mb4.5,baz=73,slow=4.1
NB2 NORSAR Subarra 85.59 332 P P 22 37 08.0 +0.2
baz=73,slow=4.3
NOA NORSAR Array B 85.59 332 P P 22 37 06.9 -0.9
2.1nm,0.8s,mb4.4,baz=72,slow=4.2,SNR=6.9

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*NEIC **06** 22:32:31.2±1.6, 11.45S×166.50E, h108km±12km, mb4.8/8, Error ellipse: s-maj=14.3km s-min=10.2km az=59.0*
*IDC **06** 22:32:31.4±2.8, 11.47S×166.50E, h108km±21km, mb4.3/8, mb1 4.4/11, mb1mx4.1/20, mbtmp4.7/11, MS3.3/4, Ms1 3.3/4, ms1mx3.1/22, Error ellipse: s-maj=25.3km s-min=15.7km az=54.0*
ISC 06 22:32:30.6±2.3**, 11.48S**±0.10×**166.5E**±0.1**, h121**km±18km**, n28, σ0.64**/29**, mb4.5**/13**, 3C-2D, Santa Cruz Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
HNR Honiara 6.76 287 P P 22 34 07.9 -0.7
9.7nm,0.3s,baz=172,slow=4.5,SNR=3.6
HNR S S 22 35 25.4 +0.8
16nm,0.3s,baz=193,slow=20,SNR=4.0
HNR LR LR 22 35 47.6
comp=Z,112nm,19.5s,baz=125,slow=29
DZM Mont Dzumac 10.53 180 eP P 22 34 59.2 0.0
DZM eS S 22 36 50.7 -4.9
DZM Mont Dzumac 10.53 180 P P 22 34 59.9 +0.6
4.9nm,0.3s,baz=10,slow=14,SNR=36
DZM S S 22 36 55.6 0.0
1.1nm,0.3s,baz=234,slow=23,SNR=2.4
DZM LR LR 22 38 12.2
comp=Z,154nm,21.4s,baz=175,slow=32
DZM Mont Dzumac 10.53 180 eP P 22 34 59.2 0.0
DZM eS S 22 36 50.7 -4.9
PMG Port Moresby 19.14 274 P P 22 36 46.5 -0.4
1.1nm,0.3s,baz=82,slow=4.9,SNR=7.0
CTA Charters Tower 21.26 244⇑iP P 22 37 09.8 +1.2
22nm,0.8s,mb4.5
CTA Charters Tower 21.26 244 P P 22 37 09.6 +1.0
26nm,0.7s,mb4.7,baz=72,slow=11,SNR=25
CTAO Charters Tower 21.26 244 eP P 22 37 09.6 +1.0
27nm,0.8s,mb4.6
CTAO e 22 37 28.9
URZ Urewera 28.31 162 LR LR 22 47 06.1
comp=Z,151nm,20.4s,baz=252,slow=31
STKA Stephens Creek 30.65 225⇓iP P 22 38 36.3 +0.5
7.6nm,0.9s,mb4.4
STKA Stephens Creek 30.65 225 P P 22 38 36.1 +0.2
7.1nm,0.8s,mb4.5,baz=30,slow=9.8,SNR=13
WB2 Warramunga Arr 32.03 251⇑iP P 22 38 47.0 -1.0
WRAB Tennant Creek 32.03 251 eP P 22 38 46.8 -1.2
34nm,1.1s,mb5.0
WRA Warramunga Arr 32.04 251 P P 22 38 47.2 -0.9
17nm,0.8s,mb4.8,baz=81,slow=9.0,SNR=93
WRA ScP 22 45 09.8
1.4nm,1.0s,baz=78,slow=3.1,SNR=5.1
RPZ Rata Peaks 32.36 174 P P 22 38 50.9 +0.2
16nm,0.6s,mb4.9,baz=9.1,slow=3.6,SNR=7.3
GUMO Guam 32.87 319 LR LR 22 48 52.4
comp=Z,76nm,21.7s,baz=290,slow=30
KAKA Kakadu 33.32 264⇑iP P 22 39 16.1 +17
8.7nm,1.4s,mb4.4
FITZ Fitzroy Crossi 39.99 256⇓iP P 22 39 55.5 +0.4
17nm,0.8s,mb4.9
FITZ Fitzroy Crossi 39.99 256 P P 22 39 54.8 -0.4
23nm,0.8s,mb5.1,baz=104,slow=3.4,SNR=17
FORT Forrest 40.41 236 eP P 22 39 59.2 +0.7
16nm,0.7s,mb5.0
MBWA Marble Bar 45.76 252 eP P 22 40 42.4 +0.4
21nm,0.7s,mb5.0
VNDA Vanda 66.08 181 P P 22 43 06.1 -0.3
0.8nm,0.6s,mb3.7,baz=334,slow=6.0,SNR=9.9
VNDA Vanda 66.08 181 P P 22 43 06.1 -0.3
ULN Ulaanbaatar 79.09 324 P P 22 44 22.9 -0.2
1.3nm,0.5s,mb4.0
ILAR Eielson Array 83.69 18 P P 22 44 47.0 +0.3
0.6nm,0.6s,mb3.6,baz=248,slow=4.9,SNR=3.3
MKAR Makanchi Array 94.34 317 P P 22 45 38.2 +0.5
1.5nm,0.6s,mb4.5,baz=91,slow=6.7,SNR=21
MKAR Makanchi Array 94.34 317 P P 22 45 38.2 +0.5
ARCES ARCESS Array B 116.94 346 PKP PKPdf 22 51 04.4 +3.9
3.5nm,0.9s,baz=63,slow=2.7,SNR=6.5

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*NEIC **06** 22:45:28.5±0.9, 21.49S×68.18W, h113km±9km, mb3.5/2, Error ellipse: s-maj=18.2km s-min=10.2km az=109.0*
*IDC **06** 22:45:28.6±0.9, 21.51S×68.02W, h106km±14km, mb3.6/2, mb1 3.4/7, mb1mx3.3/19, mbtmp3.8/7, Error ellipse: s-maj=32.1km s-min=10.5km az=107.0*
ISC 06 22:45:27.7±0.7**, 21.53S**±0.06×**68.1W**±0.2**, h120**km±13km**, n14, σ0.80**/16**, mb3.7**/2**, 1C, Chile-Bolivia border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LVC Limon Verde 1.34 216 P P 22 45 54.1 +0.4
109nm,0.3s,baz=6.1,slow=8.2,SNR=762
LVC S S 22 46 13.3 -0.1
103nm,0.3s,baz=253,slow=18,SNR=30
LVC Limon Verde 1.34 216⇑iP P 22 45 54.3 +0.6
LVC eS S 22 46 13.6 +0.2
LPAZ La Paz 5.21 359 P P 22 46 45.1 +0.5
1.3nm,0.3s,baz=181,slow=7.2,SNR=31
LPAZ S S 22 47 43.8 -0.2
baz=251,slow=16,SNR=2.0
SIV San Ignacio 8.61 51 P P 22 47 29.7 -1.0
6.2nm,0.3s,baz=246,slow=13,SNR=101
CFAA Coronel Fontan 10.04 181 P P 22 47 48.2 -1.6
0.0nm,0.3s,baz=356,slow=15,SNR=3.6
CFAA S S 22 49 34.5 -6.4
0.1nm,0.3s,baz=254,slow=20,SNR=4.0
CPUP Villa Florida 10.92 118 P P 22 48 05.2 +3.7
0.2nm,0.3s,baz=276,slow=19,SNR=3.8
TRQA Tornquist 17.29 164 eP P 22 49 23.7 +0.7
3.2nm,0.5s
PLCA Paso Flores 19.26 186 P P 22 49 44.8 -0.4
0.1nm,0.3s,baz=352,slow=14,SNR=4.6
PLCA Paso Flores 19.26 186 eP P 22 49 44.5 -0.6
1.0nm,0.6s
BDFB Brasilia 19.88 76 P P 22 49 51.9 +0.2
0.6nm,0.3s,baz=200,slow=7.7,SNR=3.1
SNAA Sanae 62.00 161 P P 22 55 37.5 +0.5
0.1nm,0.5s,mb3.1,baz=288,slow=6.8,SNR=8.3
DBIC Dimbokro 67.99 73 P P 22 56 16.4 0.0
2.8nm,0.5s,mb4.3,baz=266,slow=6.5,SNR=9.6
WRA Warramunga Arr 133.33 210 PKP PKPdf 23 04 32.0 +1.7
0.3nm,0.6s,baz=151,slow=1.8,SNR=7.4
MKAR Makanchi Array 145.19 37 PKPbc PKPbc 23 04 53.0 +1.7
0.4nm,0.7s,baz=315,slow=3.4,SNR=5.5

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*IDC **06** 23:21:06.6±0.7, 8.23N×97.39E, mb4.2/12, mb1 4.3/12, mb1mx4.1/20, mbtmp4.2/12, MS3.6/4, Ms1 3.6/4, ms1mx3.3/23, Error ellipse: s-maj=40.6km s-min=14.4km az=55.0*
*NEIC **06** 23:21:07.9±0.3, 8.25N×97.46E, h10km, mb4.5/9, Error ellipse: s-maj=15.4km s-min=5.6km az=49.0*
NEIC Felt in Phangnga and Phuket.
*MOS **06** 23:21:09.6±1.0, 8.16N×97.30E, h33km, mb4.8/7, Error ellipse: s-maj=30.9km s-min=10.3km az=116.6*
ISC 06 23:21:06.1±0.4**, 8.13N**±0.04×**97.41E**±0.04**, h10**km**, n51, σ1.11**/52**, mb4.4**/27**, MS3.5**/4**, Nicobar Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PKT Phuket 0.78 94 P Sg 23 21 32.6 +0.5
SNG Songkhla 3.32 106 P Pn 23 21 59.0 -0.2
KULM Kulim 4.28 131 ePn Pn 23 22 13.4 +0.6
KULM ePg Pg 23 22 28.9 -2.7
KULM eSn Sn 23 23 04.3 +0.9
KULM eSg Sg 23 23 28.6 -0.1
NNT Nongplab 4.99 27 P Pn 23 22 34.2 +11
NST Nakhon Sawan 7.95 19 PN Pn 23 23 03.0 -1.6
NST PG Pg 23 23 31.0 -14
NST SG Sg 23 25 10.0 -21
KKTK Khon Kaen 9.72 32 PN P 23 24 07.0 +38
KKTK SG Sg 23 26 30.3 +0.5
KKM Kota Kinabalu 18.78 95 eP P 23 25 26.8 -1.0
LSA Lhasa 22.25 345 eP P 23 26 05.4 +0.6
21nm,1.1s,mb4.5
LSA Lhasa 22.25 345 eP P 23 26 05.4 +0.6
LSA pmax pmax
comp=Z,21nm,1.1s,mb4.5
PKI Pulchoki 22.42 331 eP P 23 26 09.7 +3.2
comp=Z,12nm,0.7s,mb4.5
DMN Daman 22.60 331 eP P 23 26 10.8 +2.4
comp=Z,23nm,1.1s,mb4.5
KKN Kakani 22.67 331 eP P 23 26 11.2 +2.2
comp=Z,44nm,1.3s,mb4.7
GKN Gorkha 23.16 330 eP P 23 26 15.2 +1.4
comp=Z,54nm,1.2s,mb4.8
KOLN Koldanda 23.50 328 eP P 23 26 18.5 +1.4
comp=Z,107nm,1.5s,mb5.1
FITZ Fitzroy Crossi 38.16 133 P P 23 28 27.0 -0.7
comp=Z,13nm,0.9s,mb4.6,baz=346,slow=5.9,SNR=7.0
FITZ PcP PcP 23 30 44.6 +1.7
comp=Z,5.3nm,1.0s,baz=194,slow=8.9,SNR=3.8
AAK Ala-Archa 39.84 333 eP P 23 28 39.6 -1.8
comp=Z,1.9nm,0.9s,mb3.8
AAK Ala-Archa 39.84 333 eP P 23 28 39.7 -1.8
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
SONM Songino Array 40.30 9 P P 23 28 44.8 -0.4
comp=Z,1.5nm,0.9s,mb3.7,baz=200,slow=8.5,SNR=7.7
SONM PcP PcP 23 30 49.5 +0.1
comp=Z,0.2nm,0.3s,baz=195,slow=4.1,SNR=3.6
SONM LR LR 23 46 45.2
comp=Z,101nm,18.4s,MS3.7,baz=280,slow=38
ULN Ulaanbaatar 40.43 10 P P 23 28 45.2 -1.1
comp=Z,2.0nm,1.0s,mb3.8
ULN Ulaanbaatar 40.43 10 P P 23 28 45.2 -1.1
ULN pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
MKAR Makanchi Array 40.64 344 P P 23 28 47.1 -0.8
comp=Z,1.7nm,0.7s,mb3.8,baz=159,slow=8.1,SNR=15
MKAR PcP PcP 23 30 49.9 -0.6
comp=Z,1.0nm,0.7s,baz=135,slow=3.4,SNR=7.6
MKAR LR LR 23 49 51.8
comp=Z,26nm,18.0s,MS3.1,baz=180,slow=43
KURK Kurchatov 45.22 343 eP P 23 29 24.8 -0.4
comp=Z,12nm,1.5s,mb4.5
KURK Kurchatov 45.22 343 eP P 23 29 24.8 -0.4
KURK pmax pmax
comp=Z,13nm,1.5s,mb4.5
WRA Warramunga Arr 45.82 128 P P 23 29 31.1 +0.7
comp=Z,2.8nm,0.6s,mb4.4,baz=308,slow=9.0,SNR=79
WRA PcP PcP 23 31 09.1 +0.8
comp=Z,1.1nm,0.9s,baz=314,slow=2.8,SNR=6.1
WRAB Tennant Creek 45.82 128 eP P 23 29 31.2 +0.8
comp=Z,9.6nm,0.8s,mb4.8
WRAB Tennant Creek 45.82 128 eP P 23 29 31.2 +0.8
WRAB pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
WB2 Warramunga Arr 45.83 128 eP P 23 29 31.3 +0.9
MJAR Matsushiro Arr 46.62 46 LR LR 23 50 58.9
comp=Z,142nm,18.6s,MS4.0,baz=195,slow=38
ZAL Zalesovo 46.80 350 P P 23 29 37.4 -0.2
comp=Z,4.4nm,0.7s,mb4.5,baz=315,slow=7.1,SNR=23
GUMO Guam 46.87 79 LR LR 23 48 51.5
comp=Z,42nm,20.2s,MS3.4,baz=294,slow=36
BVAR Borovoye Array 49.85 339 P P 23 30 01.3 -0.1
comp=Z,1.4nm,0.8s,mb4.1,baz=101,slow=7.3,SNR=5.7
BVAR PcP PcP 23 31 22.1 -0.2
comp=Z,1.6nm,0.7s,baz=135,slow=8.4,SNR=6.0
STKA Stephens Creek 57.98 136 P P 23 31 01.3 -0.2
comp=Z,2.3nm,0.7s,mb4.3,baz=303,slow=6.9,SNR=4.8
STKA Stephens Creek 57.98 136 P P 23 31 01.3 -0.2
KIV Kislovodsk 59.33 317 eP P 23 31 10.3 -0.4
comp=Z,8.0nm,0.9s,mb4.8
KIV Kislovodsk 59.33 317 eP P 23 31 10.3 -0.4
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VRHR Novokhopersk 62.60 324 eP P 23 31 31.0 -1.8
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRSR Storozhevoye 64.07 324 eP P 23 31 40.6 -1.9
VRSR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,5.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.9s
BR131 Keskin Array S 64.73 310 eP P 23 31 45.7 -1.3
comp=E,2.7nm,0.8s,mb4.3
BRTR Keskin Array B 64.73 310 P P 23 31 45.8 -1.2
comp=E,2.6nm,0.7s,mb4.3,baz=123,slow=7.5,SNR=15
AKASG Malin Array Be 69.98 321 P P 23 32 18.4 -1.4
comp=E,2.0nm,0.6s,mb4.2,baz=87,slow=4.6,SNR=13
FINES FINESS Array B 74.01 332 P P 23 32 42.8 -0.7
comp=E,0.4nm,0.5s,mb3.6,baz=90,slow=5.7,SNR=4.9
CRVS Cervenica-Dubn 74.68 318 eP P 23 32 48.7 +1.0
BRG Berggiesshubel 79.62 320 eP P 23 33 15.8 +0.6
comp=E,4.1nm,1.0s,mb4.3
BRG Berggiesshubel 79.62 320 eP P 23 33 15.8 +0.6
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GERES GERESS Array B 79.80 318 P P 23 33 16.8 +0.7
comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=13
CLL Collm 80.21 321 P P 23 33 18.3 0.0
CLL Collm 80.21 321 i P P 23 33 18.3 0.0
LPG La Plagne 84.73 315 eP P 23 33 42.9 +1.1
comp=Z,8.1nm,0.7s,mb4.6
LPG La Plagne 84.73 315 eP P 23 33 42.9 +1.1
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
ESDC Sonseca Array 93.52 311 P P 23 34 24.5 +0.8
comp=Z,1.0nm,0.6s,mb4.4,baz=55,slow=4.1,SNR=7.4
PLCA Paso Flores 145.81 196 PKPbc PKPbc 23 40 49.3 +3.1
comp=Z,3.3nm,0.9s,baz=121,slow=6.2,SNR=5.3

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*NEIC **06** 23:35:37.2±2.8, 7.23S×129.09E, h104km±28km, mb4.7/5, Error ellipse: s-maj=21.1km s-min=17.0km az=218.0*
*IDC **06** 23:35:39.5±4.7, 7.29S×129.07E, h130km±46km, mb3.6/6, mb1 3.9/9, mb1mx3.7/16, mbtmp4.2/9, Error ellipse: s-maj=36.4km s-min=19.4km az=61.0*
ISC 06 23:35:36.8±3.1**, 7.3S**±0.1×**129.1E**±0.1**, h121**km±31km**, n16, σ1.05**/21**, mb4.0**/6**, Banda Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KAKA Kakadu 6.35 149 eP P 23 37 28.9 +20
177nm,0.4s
KAKA eS S 23 38 35.4 +15
FITZ Fitzroy Crossi 11.26 197 eP P 23 38 17.8 +2.7
7.8nm,0.3s
FITZ eS S 23 40 18.2 -0.9
FITZ Fitzroy Crossi 11.26 197 P P 23 38 17.7 +2.5
2.1nm,0.3s,baz=23,slow=9.0,SNR=38
WRAB Tennant Creek 13.59 158 ePn P 23 38 45.0 -0.7
27nm,0.4s
WRAB eS S 23 41 06.0 -8.0
WRA Warramunga Arr 13.59 158 P P 23 38 45.1 -0.6
5.4nm,0.3s,baz=335,slow=14,SNR=115
WRA S S 23 41 06.3 -7.8
8.4nm,0.3s,baz=331,slow=24,SNR=14
WB2 Warramunga Arr 13.60 158 eP P 23 38 44.7 -1.1
WB2 eS S 23 41 07.7 -6.5
PMG Port Moresby 18.04 98 P P 23 39 41.7 +0.6
0.6nm,0.3s,baz=322,slow=2.6,SNR=3.2
CTA Charters Tower 20.98 129 P P 23 40 12.4 +0.4
0.8nm,0.3s,baz=304,slow=16,SNR=4.1
CTAO Charters Tower 20.98 129 eP P 23 40 12.9 +0.9
2.7nm,0.7s
FORT Forrest 23.40 182 eP P 23 40 38.4 +2.8
24nm,0.5s,mb4.8
STKA Stephens Creek 27.13 156 eP P 23 41 10.6 0.0
12nm,2.0s,mb4.1
STKA Stephens Creek 27.13 156 P P 23 41 09.8 -0.8
4.5nm,0.6s,mb4.2,baz=329,slow=11,SNR=13
SONM Songino Array 58.41 342 P P 23 45 21.2 -0.8
0.4nm,0.5s,mb3.7,baz=158,slow=6.2,SNR=4.1
MKAR Makanchi Array 67.95 327 P P 23 46 24.4 -0.4
1.2nm,0.6s,mb3.9,baz=124,slow=7.6,SNR=13
ZAL Zalesovo 71.42 334 P P 23 46 45.8 +0.1
0.6nm,0.5s,mb3.7,baz=310,slow=11,SNR=4.7
VNDA Vanda 72.29 173 P P 23 46 50.7 +0.2
0.7nm,0.7s,mb3.6,baz=313,slow=8.0,SNR=5.3

IDC 06 23:50:22.6±3.4**, 19.68S×175.38W, mb4.5**/3**, mb1 4.6**/3**, mb1mx4.0**/15**, mbtmp4.5**/3**, Error ellipse: s-maj=145.0km s-min=36.7km az=145.0, Tonga Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CTA Charters Tower 36.03 263 P P 23 57 27.2 -0.6
7.1nm,0.4s,baz=91,slow=10,SNR=16
STKA Stephens Creek 40.36 244 P P 23 58 02.2 -1.6
2.6nm,0.8s,baz=111,slow=12,SNR=3.2
WRA Warramunga Arr 47.16 261 P P 23 58 55.7 -3.2
1.9nm,0.3s,baz=98,slow=7.3,SNR=134
AKASG Malin Array Be 143.43 334 PKP PKPdf 00 09 58.9 -1.9
1.5nm,0.5s,baz=41,slow=4.1,SNR=9.0
GERES GERESS Array B 150.00 348 PKPbc PKPdf 00 10 14.9 +3.1
0.2nm,0.5s,baz=74,slow=7.1,SNR=3.3
GERES PKPab PKPab 00 10 20.2 -2.6
0.4nm,0.6s,slow=2.7,SNR=4.4

IDC 06 23:51:53.0±1.1**, 9.84N×93.66E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.6**/19**, mbtmp3.7**/5**, Error ellipse: s-maj=67.3km s-min=26.3km az=53.0, Nicobar Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MKAR Makanchi Array 38.08 347 P P 23 59 14.2 -1.0
0.4nm,0.7s,baz=167,slow=8.6,SNR=4.5
WRA Warramunga Arr 49.79 127 P P 00 00 47.5 -2.4
0.7nm,0.7s,baz=307,slow=8.9,SNR=6.0
BRTR Keskin Array B 60.80 310 P P 00 02 06.9 -2.5
0.5nm,0.7s,baz=114,slow=8.9,SNR=3.3
ARCES ARCESS Array B 73.27 340 P P 00 03 25.7 -2.0
2.1nm,0.9s,baz=97,slow=7.3,SNR=4.4
GERES GERESS Array B 76.06 318 P P 00 03 42.4 -1.7
0.2nm,0.5s,baz=80,slow=6.0,SNR=2.3
PLCA Paso Flores 146.20 202 PKPbc PKPbc 00 11 36.0 +0.3
1.5nm,0.8s,baz=182,slow=3.8,SNR=4.4

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*IDC **06** 23:56:47.1±1.6, 31.99S×179.93E, h338km±22km, mb3.3/2, mb1 3.6/4, mb1mx3.3/14, mbtmp4.2/4, Error ellipse: s-maj=47.4km s-min=20.0km az=121.0*
ISC 06 23:56:50.1±1.6**, 32.2S**±0.2×**179.7E**±0.6**, h374**km±46km**, n18, σ1.27**/24**, mb3.4**/2**, South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
RAO Raoul Island 3.63 35 P P 23 57 48.8 -8.6
72nm,0.3s,baz=109,slow=20,SNR=2.0
MXZ Matakaoa Point 5.43 192 SN S 23 59 21.8 -1.5
PUZ Puketiti 5.93 191 SN S 23 59 33.3 -0.1
MWZ Matawai 6.33 196 PN P 23 58 27.1 +1.0
MWZ SN S 23 59 44.0 +2.5
URZ Urewera 6.36 199 P P 23 58 26.3 -0.1
1.9nm,0.3s,baz=266,slow=5.8,SNR=19
URZ S S 23 59 43.1 +0.9
7.5nm,0.3s,baz=47,slow=24,SNR=21
URZ Urewera 6.36 199 ePN P 23 58 26.0 -0.4
URZ SN S 23 59 43.1 +0.9
KNZ Kokohu 6.96 193 ePN P 23 58 34.4 +1.1
KNZ SN S 23 59 56.1 +1.5
PXZ Pawanui 8.10 196 PN P 23 58 45.9 -0.7
PXZ SN S 00 00 18.0 -0.4
MRZ Mangatainoka R 9.03 200 ePN P 23 58 55.4 -2.1
MRZ SN S 00 00 37.7 -0.3
MSWZ Moikau Station 9.82 200 SN S 00 00 54.9 -0.1
TCW Tory Channel 9.94 204 SN S 00 00 57.8 +0.1
NNZ Nelson 10.28 208 SN S 00 01 05.0 +0.1
THZ Tophouse 10.93 208 ePN P 23 59 18.1 -2.0
THZ SN S 00 01 17.9 -1.0
KHZ Kahutara 11.27 204 SN S 00 01 27.5 +1.5
LTZ Lake Taylor 12.04 207 SN S 00 01 40.5 -2.1
STKA Stephens Creek 32.17 260 P P 00 02 48.0 +2.1
1.6nm,0.6s,mb3.4,baz=106,slow=12,SNR=4.9
WRA Warramunga Arr 42.23 275 P P 00 04 09.1 -0.4
0.9nm,0.3s,mb3.4,baz=112,slow=8.0,SNR=39
FINES FINESS Array B 146.14 337 PKPbc PKPbc 00 15 45.5 -0.1
1.5nm,1.0s,baz=27,slow=4.3,SNR=6.7

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*IDC **07** 00:14:33.9±0.8, 9.64S×119.65E, mb4.4/7, mb1 4.6/9, mb1mx4.3/16, mbtmp4.5/9, ML4.6/2, Error ellipse: s-maj=55.2km s-min=15.6km az=58.0*
*BJI **07** 00:14:36.9, 9.60S×119.70E, h20km, mb4.9*
*NEIC **07** 00:14:36.9±0.4, 9.65S×119.68E, h20km, mb4.5/9, Error ellipse: s-maj=15.9km s-min=6.1km az=58.0*
*MOS **07** 00:14:39.2±1.3, 8.91S×120.35E, h39km, mb4.4/9, Error ellipse: s-maj=31.1km s-min=11.3km az=127.1*
ISC 07 00:14:36.4±3.7**, 9.76S**±0.08×**119.6E**±0.1**, h32**km±27km**, n45, σ1.04**/49**, mb4.5**/24**, 3D, Sumba region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
FITZ Fitzroy Crossi 10.15 145⇓iP P 00 17 01.5 -1.8
22nm,0.4s
FITZ eS S 00 18 44.5 -13
FITZ Fitzroy Crossi 10.15 145 Pn P 00 17 01.6 -1.7
7.1nm,0.3s,baz=343,slow=6.1,SNR=91
FITZ Sn S 00 18 44.9 -12
44nm,0.3s,baz=181,slow=17,SNR=22
MBWA Marble Bar 11.34 179 eP P 00 17 18.9 -0.5
10nm,0.4s
KAKA Kakadu 12.93 104 eP Px 00 17 56.8
24nm,0.5s
KAKA eS Sx 00 20 06.1
WRA Warramunga Arr 17.46 127 P P 00 18 40.0 +0.6
1.7nm,0.3s,baz=301,slow=13,SNR=150
WRA S S 00 21 34.9 -16
1.3nm,0.3s,baz=306,slow=23,SNR=9.3
WRAB Tennant Creek 17.46 127 eP P 00 18 39.9 +0.4
22nm,0.6s
WRAB eS S 00 21 31.6 -19
WRAB Tennant Creek 17.46 127 eP P 00 18 39.9 +0.5
WRAB pmax pmax
comp=Z,22nm,0.6s
WB2 Warramunga Arr 17.47 127 eP P 00 18 38.7 -0.8
WB2 eS S 00 21 34.5 -16
KLBR Kellerberrin 21.79 184 eP P 00 19 38.5 +11
comp=Z,165nm,1.7s,mb5.2
KLBR eS S 00 23 19.5 -2.3
FORT Forrest 22.35 161 eP P 00 19 35.3 +2.1
comp=Z,23nm,0.8s,mb4.7
NWAO Narrogin (SRO) 23.16 185 eP P 00 19 53.5 +12
CTA Charters Tower 27.68 115 eP P 00 20 23.9 0.0
comp=Z,5.2nm,0.7s,mb4.3
CTA Charters Tower 27.68 115 P P 00 20 23.9 +0.1
comp=Z,5.8nm,0.6s,mb4.4,baz=269,slow=11,SNR=8.4
CTA Charters Tower 27.68 115 eP P 00 20 23.9 0.0
CTA pmax pmax
comp=Z,5.0nm,0.7s
CTAO Charters Tower 27.68 115 eP P 00 20 23.8 -0.1
comp=Z,6.4nm,0.7s,mb4.4
CTAO Charters Tower 27.68 115 eP P 00 20 23.8 -0.1
CTAO pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
STKA Stephens Creek 29.99 140⇓iP P 00 20 44.5 -0.1
comp=Z,2.3nm,0.6s,mb4.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STKA	**Stephens Creek**	**29.99**	**140**	P	**P**	**00 20 44.6**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.2,baz=324,slow=11,SNR=8.8						
STKA	**Stephens Creek**	**29.99**	**140**	*e*P	**P**	**00 20 44.1**	**-0.5**
STKA				⇓*i*P		00 20 44.5	
ENH	**Enshi**	**40.97**	**347**	P	**P**	**00 22 17.3**	**-0.8**
	comp=Z,9.3nm,0.7s,mb4.5						
CD2	**Chengdu**	**43.20**	**340**	*e*P	**P**	**00 22 37.8**	**+1.4**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
XAN	**Xi'an**	**44.72**	**347**	P	**P**	**00 22 49.8**	**+1.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,2.1s,mb4.2						
PKI	**Pulchoki**	**49.74**	**319**	*e*P	**P**	**00 23 28.5**	**+0.4**
	comp=Z,18nm,0.7s,mb5.2						
DMN	**Daman**	**49.96**	**319**	*e*P	**P**	**00 23 30.3**	**+0.5**
KKN	**Kakani**	**49.97**	**319**	*e*P	**P**	**00 23 30.2**	**+0.4**
	comp=Z,22nm,0.9s,mb5.2						
GKN	**Gorkha**	**50.53**	**319**	*e*P	**P**	**00 23 34.4**	**+0.3**
	comp=Z,21nm,0.5s,mb5.3						
KOLN	**Koldanda**	**51.05**	**318**	*e*P	**P**	**00 23 37.8**	**-0.3**
	comp=Z,26nm,0.9s,mb5.2						
GTA	**Gaotai**	**52.26**	**341**	*e*P	**P**	**00 23 49.1**	**+2.1**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
SONM	**Songino Array**	**58.52**	**350**	P	**P**	**00 24 32.0**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.3,baz=167,slow=7.9,SNR=11						
ZAK	**Zakamensk**	**61.55**	**348**	*e*P	**P**	**00 24 51.1**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.9						
MKAR	**Makanchi Array**	**65.40**	**333**	P	**P**	**00 25 18.1**	**-0.1**
	comp=Z,4.2nm,0.6s,mb4.7,baz=144,slow=7.3,SNR=51						
MKAR	**Makanchi Array**	**65.40**	**333**	*e*P	**P**	**00 25 17.7**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**66.44**	**325**	*e*P	**P**	**00 25 23.2**	**-1.7**
	comp=Z,1.5nm,0.4s,mb4.4						
AAK	**Ala-Archa**	**66.44**	**325**	*e*P	**P**	**00 25 23.2**	**-1.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
KKAR	**Karatay Array**	**69.01**	**324**	*i* P	**P**	**00 25 40.3**	**-0.8**
KURK	**Kurchatov**	**69.93**	**334**	*e*P	**P**	**00 25 46.5**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.1						
KURK	**Kurchatov**	**69.93**	**334**	*e*P	**P**	**00 25 46.5**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**69.95**	**339**	P	**P**	**00 25 45.8**	**-0.8**
	comp=Z,3.8nm,0.3s,mb4.8,baz=349,slow=3.2,SNR=12						
VNDA	**Vanda**	**71.15**	**171**	P	**P**	**00 25 55.0**	**+1.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=317,slow=7.8,SNR=11						
VOSK	**Vostochnaya**	**74.77**	**332**	P	**P**	**00 26 13.9**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**75.24**	**332**	P	**P**	**00 26 17.6**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=146,slow=5.3,SNR=8.0						
AB31	**Akbulak array**	**78.52**	**325**	*i* P	**P**	**00 26 36.1**	**-0.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
AKTO	**Aktyubinsk**	**80.18**	**325**	P	**P**	**00 26 45.3**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
QSPA	**South Pole Qui**	**80.24**	**180**	*e*P	**P**	**00 26 47.1**	**+2.1**
	comp=Z,2.7nm,0.5s,mb4.4						
LRAL	**Lakeview Retre**	**146.28**	**43**	*e*PKPdf	PKPdf	00 34 16.7	-1.8

*IDC **07** 00:43:14.0±0.4, 0.15N×97.84E, mb4.7/26, mb1 4.7/26, mb1mx4.7/27, mbtmp4.7/26, MS4.7/12, Ms1 4.7/12, ms1mx4.6/22, Error ellipse: s-maj=17.7km s-min=9.7km az=44.0*

*NEIC **07** 00:43:16.6±0.2, 0.08N×97.70E, mb5.2/65, MS5.0/120, Error ellipse: s-maj=7.8km s-min=5.7km az=50.0*

*HRVD **07** 00:43:16.6±0.3, 0.06N×97.55E, h12km, MW5.1/58, Centroid moment Tensor Solution. LP body waves: s26,c41; Mantle waves: s58,c106; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.21±.14; $M_{\theta\theta}$0.87±.12; $M_{\phi\phi}$-1.08±.16; $M_{r\theta}$1.00±.33; $M_{\theta\phi}$4.37±.10; $M_{\phi r}$1.42±.39; Best double couple: $M_0$4.797×10^{16} NP1:ϕ_s98°,δ72°,λ10°. NP2:ϕ_s5°,δ81°,λ162°. Principal axes: T 4.96, Plg19°, Azm320°; N -.324, Plg70°, Azm159°; P -4.635, Plg6°, Azm52°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **07** 00:43:17.4, 0.30N×97.52E, h21km, mB5.5, mb5.0, Ms5.4, Msz5.1*

*MOS **07** 00:43:17.8±1.2, 0.15N×97.77E, h33km, mb5.4/46, MS4.9/27, Error ellipse: s-maj=11.6km s-min=5.4km az=116.1*

ISC 07 00:43:15.2±0.2**, 0.11N**±0.03×**97.84E**±0.04**, h13km, h13km**±1.0km**:pP-P, n404, σ1.44**/322**, mb5.1**/128**, MS4.9**/155**, 25C-16D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.47**	**36**	P	**Pn**	**00 44 39.4**	**+1.0**
KGM	**Kluang**	**5.80**	**71**	P	**Pn**	**00 44 46.4**	**+3.2**
KULM	**Kulim**	**5.87**	**29**	*e*P	**Pn**	**00 44 44.0**	**-0.1**
SNG	**Songkhla**	**7.55**	**22**	P	**Pn**	**00 45 07.0**	**-0.8**
	596nm,0.9s						
NNT	**Nongplab**	**12.54**	**9**	P	**P**	**00 46 25.8**	**+9.4**
KKTK	**Khon Kaen**	**16.86**	**17**	P	**P**	**00 47 13.0**	**+0.2**
	920nm,0.8s						
CHG	**Chiang Mai**	**18.62**	**3**	P	**P**	**00 47 33.5**	**-1.2**
KKM	**Kota Kinabalu**	**19.27**	**72**	P	**P**	**00 47 46.0**	**+3.5**
KKM	**Kota Kinabalu**	**19.27**	**72**	*e*P	**P**	**00 47 43.4**	**+0.9**
CHRT	**Chiangrai**	**19.73**	**5**	P	**P**	**00 47 44.0**	**-3.7**
	158nm,1.2s						
TSM	**Tawau**	**20.45**	**78**	P	**P**	**00 47 58.9**	**+3.6**
QIZ	**Qiongzhong**	**22.19**	**31**	P	**P**	**00 48 13.9**	**+0.9**
QIZ				XP		00 48 19.9	
QIZ				S	**S**	**00 52 12.9**	**+0.9**
QIZ				LR	LR		
	comp=N,3µm,16.2s,MS5.1						
QIZ				LR	LR		
	comp=E,5µm,15.8s,MS5.1						
QIZ				LR	LR		
	comp=Z,3µm,17.8s,MS4.7						
QIZ	**Qiongzhong**	**22.19**	**31**	*e*P	**P**	**00 48 14.9**	**+1.9**
	comp=Z,104nm,1.4s,mb5.1						
QIZ				LR	LR		
	comp=Z,3µm,19.0s,MS4.7						
VIS	**Vishakhapatnam**	**22.58**	**322**	*e*P	**P**	**00 48 17.2**	**+0.2**
VIS				AMb	AMB	00 48 23.8	
	comp=Z,86nm,0.9s,mb5.2						
VIS				*e*S	**S**	**00 52 23.5**	**+4.3**
VIS				*e*x	x	00 52 25.6	
CAL	**Calcutta**	**24.14**	**338**	*e*P	**P**	**00 48 32.4**	**+0.3**
CAL				*e*x	x	00 52 45.5	
KMI	**Kunming**	**25.32**	**10**	P	**P**	**00 48 44.9**	**+1.5**
KMI				AP	pP	00 48 49.1	+1.9
KMI				XP	sP	00 48 50.9	+2.0
KMI				PP	PP	00 49 25.5	+3.4
KMI				PCP	PcP	00 52 15.6	-1.6
KMI				S	**S**	**00 53 11.1**	**+4.7**
KMI				XS		00 53 18.4	
KMI				SCP		00 55 53.1	
KMI				PCS		00 55 54.9	
KMI				AMB	AMB		
	comp=Z,60nm,1.5s,mb4.9						
KMI				AMB	AMB		
	comp=Z,677nm,4.0s						
KMI				LR	LR		
	comp=N,4µm,12.3s,MS5.3						
KMI				LR	LR		
	comp=E,3µm,11.7s,MS5.3						
KMI				LR	LR		
	comp=Z,5µm,12.6s,MS5.2						
KMI	**Kunming**	**25.32**	**10**	P	**P**	**00 48 44.9**	**+1.5**
	comp=Z,60nm,1.5s,mb4.9						
KMI				pP	pP	00 48 49.1	+1.9
KMI				sP	sP	00 48 50.9	+2.0
KMI				PP	PP	00 49 25.5	+3.4
KMI				PPP	PPP	00 49 36.9	+3.5
KMI				PcP	PcP	00 52 15.6	-1.6
KMI				S	**S**	**00 53 11.1**	**+4.7**
KMI				sS		00 53 18.4	
KMI				SS	SS	00 54 15.1	+7.3
KMI				SSS	SSS	00 54 32.1	+7.8
KMI				ScP		00 55 53.1	
KMI				PcS		00 55 54.9	
KMI				LR	LR		
	comp=Z,5µm,12.6s,MS5.2						
KMI	**Kunming**	**25.32**	**10**	P	**P**	**00 48 44.9**	**+1.5**
KMI				*SP	sP	00 48 50.9	+2.0
KMI						00 49 25.5	
KMI				PPP	PPP	00 49 36.9	+3.5
KMI						00 52 15.6	
KMI				S	**S**	**00 53 11.1**	**+4.7**
KMI				SS	SS	00 54 15.1	+7.3
KMI				pmax	pmax		
	comp=Z,60nm,1.5s,mb4.9						
KMI				MLR	MLR		
	comp=Z,5µm,12.6s,MS5.2						
HYB	**Hyderabad**	**25.61**	**313**	*i* P	**P**	**00 48 49.0**	**+2.7**
HYB				*e*S	**S**	**00 53 20.0**	**+8.6**
HYB	**Hyderabad**	**25.61**	**313**	*e*P	**P**	**00 48 49.0**	**+2.7**
HYB				*e*S	**S**	**00 53 20.0**	**+8.6**
SHL	**Shillong**	**25.95**	**348**	*e*P	**P**	**00 48 52.0**	**+2.6**
SHL				AMb	AMB	00 48 58.8	
	comp=Z,1µm,1.2s						
MNGI	**Mangalore**	**26.14**	**300**	*e*x	x	00 50 09.1	
MNGI				*e*x	**S**	**00 53 29.5**	**+9.3**
DGAR	**Diego Garcia**	**26.39**	**253**	PFAKE		00 49 00.0	+6.5
DGAR				LR	LR		
	comp=Z,584nm,19.0s,MS4.2						
BLSP	**Bilaspur**	**26.71**	**326**	*e*P	**P**	**00 48 56.2**	**-0.2**
BLSP				AMb	AMB	00 49 06.8	
	comp=Z,49nm,1.6s,mb4.8						
BLSP				*e*x	**S**	**00 53 42.6**	**+13**
GYA	**Guiyang**	**27.54**	**17**	⇓*i*P	**P**	**00 49 03.4**	**-0.6**
GYA				AP	pP	00 49 07.6	-0.1
GYA				XP	sP	00 49 10.8	+1.4
GYA				PP	PP	00 49 54.5	+2.4
GYA				S	**S**	**00 53 47.8**	**+4.8**
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,3.2s						
GYA				LR	LR		
	comp=N,4µm,15.9s,MS5.2						
GYA				LR	LR		
	comp=E,3µm,16.0s,MS5.2						
GYA				LR	LR		
	comp=Z,3µm,15.8s,MS5.0						
DAV	**Davao City (W)**	**28.52**	**75**	PFAKE		00 49 30.0	+17
DAV				LR	LR		
	comp=Z,882nm,19.0s,MS4.4						
AKL	**Akola**	**28.87**	**316**	*e*x	x	00 51 03.1	
KAD	**Karad**	**28.88**	**307**	*e*P	**P**	**00 49 15.0**	**-1.1**
KAD				AMb	AMB	00 49 26.6	
	comp=Z,47nm,1.6s,mb5.0						
KAD				*e*x	x	00 55 28.0	
PKI	**Pulchoki**	**29.80**	**337**	*e*P	**P**	**00 49 26.6**	**+2.3**
	comp=Z,135nm,1.3s,mb5.5						
DMN	**Daman**	**29.95**	**337**	*e*P	**P**	**00 49 27.8**	**+2.2**
	comp=Z,107nm,1.1s,mb5.5						
KKN	**Kakani**	**30.05**	**337**	*e*P	**P**	**00 49 27.2**	**+0.7**
	comp=Z,146nm,1.2s,mb5.6						
MBWA	**Marble Bar**	**30.07**	**136**	P	**P**	**00 49 25.8**	**-1.0**
MBWA				LR	LR		
	comp=Z,2µm,20.0s,MS4.8						
LSA	**Lhasa**	**30.11**	**348**	*e*P	**P**	**00 49 25.8**	**-1.2**
	comp=Z,45nm,0.9s,mb5.2						
LSA				LR	LR		
	comp=Z,3µm,22.0s,MS4.8						
LSA	**Lhasa**	**30.11**	**348**	*e*P	**P**	**00 49 25.8**	**-1.2**
LSA				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.2						
LSA				MLR	MLR		
	comp=Z,3µm,22.0s,MS4.8						
BHPL	**Bhopal**	**30.37**	**321**	*e*P	**P**	**00 49 29.9**	**+0.5**
BHPL				AMb	AMB	00 49 37.3	
	comp=Z,13nm,1.4s,mb4.5						
GKN	**Gorkha**	**30.49**	**337**	*e*P	**P**	**00 49 29.5**	**-0.9**
	comp=Z,233nm,1.4s,mb5.7						
KOLN	**Koldanda**	**30.71**	**335**	*e*P	**P**	**00 49 30.9**	**-1.4**
	comp=Z,109nm,1.1s,mb5.6						
CD2	**Chengdu**	**31.14**	**10**	*e*P	**P**	**00 49 34.8**	**-1.3**
CD2				PP	PP	00 50 38.7	-0.1
CD2				S	**S**	**00 54 38.5**	**-1.8**
CD2				SS	SS	00 56 19.2	-6.4
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
CD2				AMB	AMB		
	comp=Z,190nm,5.5s						
CD2				LR	LR		
	comp=E,4µm,18.0s						
CD2				LR	LR		
	comp=Z,3µm,13.2s,MS5.1						
QZH	**Quanzhou**	**31.82**	**38**	*e*P	**P**	**00 49 44.7**	**+2.5**
QZH				*e*S	**S**	**00 54 57.0**	**+6.0**
QZH				LR	LR		
	comp=N,7µm,13.7s,MS5.8						
QZH				LR	LR		
	comp=E,15µm,16.6s,MS5.8						
QZH				LR	LR		
	comp=Z,5µm,14.9s,MS5.3						
ENH	**Enshi**	**31.98**	**19**	*e*P	**P**	**00 49 42.5**	**-1.0**
	comp=Z,104nm,1.2s,mb5.5						
ENH				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
FITZ	**Fitzroy Crossi**	**32.78**	**125**	⇓*i*P	**P**	**00 49 50.0**	**-0.6**
	comp=Z,50nm,1.0s,mb5.4						
FITZ	**Fitzroy Crossi**	**32.78**	**125**	P	**P**	**00 49 49.9**	**-0.6**
	comp=Z,64nm,0.9s,mb5.5,baz=324,slow=5.5,SNR=36						
FITZ				LR	LR	01 04 52.0	
	comp=Z,3µm,19.4s,MS5.0,baz=288,slow=40						
TATO	**Taipei**	**33.68**	**41**	PFAKE		00 50 10.0	+12
TATO				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
PTH	**Pithoragarh**	**33.76**	**332**	*e*P	**P**	**00 50 03.0**	**+4.0**
WHN	**Wuhan**	**34.10**	**26**	*e*P	**P**	**00 50 01.5**	**-0.4**
WHN				LR	LR		
	comp=N,4µm,15.7s,MS5.7						
WHN				LR	LR		
	comp=E,12µm,17.0s,MS5.7						
WHN				LR	LR		
	comp=Z,5µm,13.4s,MS5.4						
AJM	**Ajmer**	**34.44**	**321**	*i* P	**P**	**00 50 02.0**	**-2.9**
XAN	**Xi'an**	**35.32**	**16**	P	**P**	**00 50 11.4**	**-0.9**
XAN				PP	PP	00 51 27.1	-4.6
XAN				S	**S**	**00 55 45.6**	**+0.4**
XAN				AMB	AMB		
	comp=Z,62nm,1.1s,mb5.5						
XAN				AMB	AMB		
	comp=Z,272nm,4.7s						
XAN				LR	LR		
	comp=N,947nm,15.9s,MS5.2						
XAN				LR	LR		
	comp=E,4µm,15.6s,MS5.2						
XAN				LR	LR		
	comp=Z,4µm,13.2s,MS5.3						
LZH	**Lanzhou**	**36.23**	**8**	*e*P	**P**	**00 50 19.6**	**-0.4**
LZH				AP	pP	00 50 25.2	+1.4
LZH				XP	sP	00 50 28.2	+2.7
LZH				PP	PP	00 51 46.0	+3.1
LZH				S	**S**	**00 56 05.1**	**+5.9**
LZH				XS		00 56 13.4	
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,600nm,4.4s						
LZH				LR	LR		
	comp=E,5µm,16.4s						
LZH				LR	LR		
	comp=Z,4µm,19.6s,MS5.2						
LZH	**Lanzhou**	**36.23**	**8**	*e*P	**P**	**00 50 19.6**	**-0.4**
	comp=Z,30nm,1.0s,mb5.2						
LZH				pP	pP	00 50 25.2	+1.4
LZH				sP	sP	00 50 28.2	+2.7
LZH				PP	PP	00 51 46.0	+3.1
LZH				PPP	PPP	00 52 06.0	+3.1
LZH				S	**S**	**00 56 05.1**	**+5.9**
LZH				sS		00 56 13.4	
LZH				SS	SS	00 58 37.0	+14
LZH				LR	LR		
	comp=Z,4µm,19.6s,MS5.2						
LZH	**Lanzhou**	**36.23**	**8**	*e*P	**P**	**00 50 19.6**	**-0.4**
LZH				*SP	sP	00 50 28.2	+2.7
LZH						00 51 46.0	
LZH				PPP	PPP	00 52 06.0	+3.1
LZH				S	**S**	**00 56 05.1**	**+5.9**
LZH				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
LZH				MLR	MLR		
	comp=Z,4µm,19.6s,MS5.2						
KAKA	**Kakadu**	**36.60**	**112**	*e*P	**P**	**00 50 39.0**	**+16**
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2	**Nanjing**	**37.47**	**30**	*e*P	**P**	**00 50 32.0**	**+1.5**
NJ2				AP	pP	00 50 37.4	+3.1
NJ2				XP	sP	00 50 39.3	+3.4
NJ2				PP	PP	00 52 00.5	+1.9
NJ2				S	**S**	**00 56 23.0**	**+4.7**
NJ2				XS		00 56 30.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,410nm,4.7s						
NJ2				LR	LR		
	comp=N,930nm,18.0s						
NJ2				LR	LR		
	comp=E,450nm,12.3s						
NJ2				LR	LR		
	comp=Z,420nm,20.6s,MS4.2						
NWAO	**Narrogin (SRO)**	**37.60**	**153**	P	**P**	**00 50 31.8**	**+0.2**
	comp=Z,35nm,1.2s,mb5.0,baz=4.4,slow=1.2,SNR=6.6						
SSE	**Sheshan**	**37.95**	**34**	P	**P**	**00 50 37.0**	**+2.5**
SSE				AP	pP	00 50 42.9	+4.5
SSE				PP	PP	00 52 04.8	+0.5
SSE				S	**S**	**00 56 29.8**	**+4.2**
SSE				XS		00 56 40.9	
SSE				AMB	AMB		
	comp=Z,44nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,237nm,6.4s						
SSE				LR	LR		
	comp=N,2µm,17.1s,MS5.0						
SSE				LR	LR		
	comp=E,1µm,17.1s,MS5.0						
SSE				LR	LR		
	comp=Z,1µm,16.1s,MS4.8						
SSE	**Sheshan**	**37.95**	**34**	P	**P**	**00 50 37.0**	**+2.5**
	comp=Z,44nm,0.8s,mb5.2						
SSE				pP	pP	00 50 42.9	+4.5
SSE				PP	PP	00 52 04.8	+0.5
SSE				S	**S**	**00 56 29.8**	**+4.2**
SSE				sS		00 56 40.9	
SSE				SS	SS	00 59 17.4	+15
SSE				ScS	ScS	01 00 50.0	+5.3
SSE				LR	LR		
	comp=Z,1µm,16.1s,MS4.8						
GTA	**Gaotai**	**39.16**	**2**	⇑P	**P**	**00 50 44.3**	**-0.2**
GTA				AP	pP	00 50 48.4	0.0
GTA				XP	sP	00 50 51.2	+1.2
GTA				PP	PP	00 52 14.5	-3.8
GTA				PCP	PcP	00 52 58.6	+4.1
GTA				S	**S**	**00 56 35.5**	**-8.2**
GTA				SCP		00 56 45.7	
GTA				AMB	AMB		
	comp=Z,12nm,1.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,208nm,3.8s						
GTA				LR	LR		
	comp=N,1µm,19.5s,MS5.0						
GTA				LR	LR		
	comp=E,2µm,17.6s,MS5.0						
GTA				LR	LR		
	comp=Z,1µm,16.8s,MS4.8						
TIA	**Tai'an**	**40.14**	**24**	*e*P	**P**	**00 50 52.2**	**-0.5**
WRA	**Warramunga Arr**	**40.92**	**121**	P	**P**	**00 50 59.5**	**+0.2**
	comp=Z,11nm,0.5s,mb4.8,baz=304,slow=8.9,SNR=9.0						
WRA				S	**S**	**00 57 08.9**	**-1.5**
	comp=Z,4.7nm,1.1s,baz=292,slow=17,SNR=9.4						
WRAB	**Tennant Creek**	**40.93**	**121**	*e*P	**P**	**00 50 58.6**	**-0.7**
	comp=Z,50nm,0.8s,mb5.2						
WRAB				LR	LR		
	comp=Z,750nm,22.0s,MS4.5						
WRAB	**Tennant Creek**	**40.93**	**121**	*c i*P	**P**	**00 50 59.0**	**-0.3**
WB2	**Warramunga Arr**	**40.94**	**121**	⇓*i*P	**P**	**00 50 59.3**	**-0.1**
FORT	**Forrest**	**42.04**	**140**	*e*P	**P**	**00 51 09.9**	**+1.5**
	comp=Z,30nm,0.8s,mb5.0						
HHC	**Hu-ho-hao-te**	**42.43**	**15**	*e*P	**P**	**00 51 12.4**	**+0.9**
HHC				AP	pP	00 51 17.4	+2.1
HHC				XP	sP	00 51 19.5	+2.6
HHC				PP	PP	00 52 52.8	+0.1
HHC				PCP	PcP	00 53 05.8	+0.6
HHC				SCP		00 56 54.2	
HHC				S	**S**	**00 57 33.4**	**+0.9**
HHC				XS		00 57 40.6	
HHC				SS	SS	01 00 35.4	-0.4
HHC				SCS	ScS	01 01 12.3	+1.3
HHC				AMB	AMB		
	comp=Z,28nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,389nm,3.6s						
HHC				LR	LR		
	comp=N,3µm,14.3s,MS5.4						
HHC				LR	LR		
	comp=E,2µm,13.1s,MS5.4						
HHC				LR	LR		
	comp=Z,2µm,16.8s,MS5.1						
MSEY	**Mahe Island**	**42.57**	**263**	PFAKE		00 51 20.0	+7.0
MSEY				LR	LR		
	comp=Z,342nm,19.0s,MS4.3						
KSH	**Kashi**	**44.02**	**336**	*e*P	**P**	**00 51 22.2**	**-2.2**
KSH				*e*AP	pP	00 51 27.0	-1.3
KSH				*e*XP	sP	00 51 29.7	-0.2
KSH				*e*PP	PP	00 53 06.0	-2.7
KSH				*e*PCP	PcP	00 53 09.7	-0.9
KSH				*e*S	**S**	**00 57 53.2**	**-2.5**
KSH				*e*SS	SS	01 01 00.0	-4.9
KSH				*e*SCS	ScS	01 01 18.4	-2.4
KSH				AMB	AMB		
	comp=Z,240nm,4.7s						
KSH				LR	LR		
	comp=N,970nm,14.1s,MS5.0						
KSH				LR	LR		
	comp=E,940nm,13.9s,MS5.0						
DL2	**Dalian**	**44.35**	**27**	P	**P**	**00 51 29.3**	**+2.2**
DL2				XP	sP	00 51 41.7	+9.1
DL2				*e*S	**S**	**00 58 06.0**	**+5.5**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
DL2				LR	LR		
	comp=N,560nm,13.1s,MS5.1						
DL2				LR	LR		
	comp=E,1µm,14.9s,MS5.1						
DL2				LR	LR		
	comp=Z,1µm,13.6s,MS4.9						
WMQ	**Urumqi**	**44.45**	**350**	⇑*i*P	**P**	**00 51 28.2**	**+0.3**
WMQ				AP	pP	00 51 33.0	+1.2
WMQ				XP	sP	00 51 35.8	+2.4
WMQ				PP	PP	00 53 14.0	+1.0
WMQ				PCS		00 57 03.0	
WMQ				S	**S**	**00 58 03.0**	**+1.1**
WMQ				XS		00 58 11.0	
WMQ				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,487nm,5.7s						
WMQ				LR	LR		
	comp=N,692nm,18.4s,MS4.9						
WMQ				LR	LR		
	comp=E,1µm,18.2s,MS4.9						
WMQ				LR	LR		
	comp=Z,893nm,23.1s,MS4.6						
INCN	**Inchon**	**45.71**	**32**	PFAKE		00 51 50.0	+12
INCN				LR	LR		
	comp=Z,606nm,20.0s,MS4.5						
ULHL	**Ulahol**	**46.24**	**338**	P	**P**	**00 51 41.9**	**-0.2**
	SNR=11						
KS15	**Wonju Array Si**	**46.36**	**33**	*e*P	**P**	**00 51 41.9**	**-1.2**
UCH	**Uchtor**	**46.90**	**336**	P	**P**	**00 51 47.6**	**+0.3**
	SNR=14						
TKM2	**Tokmak 2**	**47.06**	**338**	P	**P**	**00 51 48.5**	**-0.1**
	SNR=12						
KBK	**Karagaybulak**	**47.09**	**337**	P	**P**	**00 51 49.2**	**+0.4**
	SNR=16						
AAK	**Ala-Archa**	**47.25**	**337**	*e*P	**P**	**00 51 50.0**	**0.0**
	comp=Z,30nm,1.3s,mb5.1						
AAK				LR	LR		
	comp=Z,211nm,22.0s,MS4.1						
AAK	**Ala-Archa**	**47.25**	**337**	⇑*e*P	**P**	**00 51 49.9**	**-0.2**
AAK				pmax	pmax		
	comp=Z,45nm,2.1s,mb5.0						
AAK				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.6						
FRU	**Bishkek**	**47.37**	**337**	*e*P	**P**	**00 51 51.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,100nm,2.1s,mb5.4						
FRU				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.8						
EKS2	**Erkin-Say**	**47.56**	**336**	P	**P**	**00 51 52.6**	**0.0**
	SNR=20						

USP Ospenovka 47.78 337 P **P** **00 51 53.7 -0.6**
SNR=40

SONM Songino Array 48.12 8 P **P** **00 51 57.0 +0.2**
comp=Z,12nm,0.9s,mb4.9,baz=190,slow=9.1,SNR=42

ULN Ulaanbaatar 48.24 8 *e*P **P** **00 51 55.5 -2.2**
comp=Z,78nm,1.6s,mb5.5

ULN LR LR

comp=Z,2µm,19.0s,MS5.1

ULN Ulaanbaatar 48.24 8 *e*P **P** **00 51 55.6 -2.1**
ULN pmax pmax

comp=Z,78nm,1.6s,mb5.5

ULN MLR MLR

comp=Z,2µm,19.0s,MS5.1

MKAR Makanchi Array 48.45 346 P **P** **00 51 58.1 -1.3**
comp=Z,21nm,0.7s,mb5.3,baz=158,slow=8.2,SNR=79

MKAR LR LR 01 15 09.7

comp=Z,719nm,18.8s,MS4.7,baz=175,slow=40

MKAR Makanchi Array 48.45 346 *i* P **P** **00 51 58.2 -1.2**
MKAR pmax pmax

comp=Z,29nm,0.8s

KKAR Karatay Array 49.31 334 *i* P **P** **00 52 04.4 -1.7**
KKAR pmax pmax

comp=Z,73nm,1.3s,mb5.5

PMG Port Moresby 50.00 102 P **P** **00 52 11.8 +0.1**
comp=Z,20nm,0.7s,mb5.3,baz=296,slow=5.6,SNR=7.3

PMG Port Moresby 50.00 102 P **P** **00 52 11.9 +0.2**
PMG MLR MLR

comp=Z,884nm,22.0s

ZAK Zakamensk 50.30 5 *e*P **P** **00 52 13.0 -0.6**
ZAK pmax pmax

comp=Z,7.0nm,1.2s,mb4.6

ZAK pmax pmax

comp=Z,3.0nm,1.1s,mb4.2

CTA Charters Tower 51.45 116⇓ *i* P **P** **00 52 22.7 0.0**
comp=Z,9.1nm,0.9s,mb4.7

CTA Charters Tower 51.45 116 P **P** **00 52 22.9 +0.1**
comp=Z,5.0nm,0.7s,mb4.5,baz=281,slow=10,SNR=6.1

CTA LR LR 01 18 17.5

comp=Z,1µm,18.6s,MS4.9,baz=284,slow=41

CTA Charters Tower 51.45 116⇓ *i* P **P** **00 52 22.7 0.0**
CTA pmax pmax

comp=Z,9.0nm,0.9s

CTAO Charters Tower 51.45 116⇓ *e*P **P** **00 52 22.8 0.0**
comp=Z,55nm,1.4s,mb5.3

CTAO LR LR

comp=Z,2µm,20.0s,MS5.0

CTAO Charters Tower 51.45 116⇓ *e*P **P** **00 52 22.8 +0.1**
CTAO pmax pmax

comp=Z,55nm,1.4s,mb5.3

CTAO MLR MLR

comp=Z,2µm,20.0s,MS5.0

MAJO Matsushiro 52.07 41 PFAKE 00 52 40.0 +13
MAJO LR LR

comp=Z,975nm,19.0s,MS4.9

MJAR Matsushiro Arr 52.07 41 PcP PcP 00 53 41.6 +2.2
comp=Z,5.8nm,1.0s,baz=244,slow=3.1,SNR=5.4

MJAR LR LR 01 15 29.6

comp=Z,670nm,18.8s,MS4.7,baz=255,slow=37

STKA Stephens Creek 52.16 132⇑ *i* P **P** **00 52 28.3 +0.4**
comp=Z,16nm,1.0s,mb4.9

STKA Stephens Creek 52.16 132 P **P** **00 52 28.2 +0.2**
comp=Z,9.1nm,0.7s,mb4.8,baz=293,slow=7.3,SNR=21

STKA LR LR 01 16 38.2

comp=Z,1µm,21.3s,MS4.9,baz=293,slow=38

IRK Irkutsk 52.23 5 *e*P **P** **00 52 27.4 -0.8**
IRK pmax pmax

comp=Z,65nm,2.0s,mb5.2

HIA Hailar 52.47 18 *e*P **P** **00 52 29.6 -0.4**
comp=Z,28nm,1.0s,mb5.2

HIA LR LR

comp=Z,1µm,21.0s,MS4.9

HIA Hailar 52.47 18 *e*P **P** **00 52 29.6 -0.4**
HIA pmax pmax

comp=Z,28nm,1.0s

HIA MLR MLR

comp=Z,1µm,21.0s

MDJ Mudanjiang 52.51 28 P **P** **00 52 31.8 +1.4**
MDJ AP pP 00 52 35.0 +0.6
MDJ PCP PcP 00 53 41.8 +0.9
MDJ PP PP 00 54 30.7 +0.1
MDJ SCP 00 57 38.6
MDJ PCS 00 57 39.9
MDJ S **S** **01 00 00.6 +5.5**
MDJ XS 01 00 06.0
MDJ SCS ScS 01 02 21.8 +4.9
MDJ AMB AMB

comp=Z,13nm,0.9s,mb4.9

MDJ AMB AMB

comp=Z,239nm,5.1s

MDJ LR LR

comp=N,2µm,17.9s,MS5.4

MDJ LR LR

comp=E,2µm,18.6s,MS5.4

MDJ LR LR

comp=Z,2µm,16.4s,MS5.3

MDJ Mudanjiang 52.51 28 PFAKE 00 52 40.0 +10
MDJ LR LR

comp=Z,2µm,20.0s,MS5.1

HASS Wahat al Ahsa' 52.74 302 P **P** **00 52 31.4 -1.0**
KURK Kurchatov 53.00 345 *e*P **P** **00 52 32.7 -1.3**
comp=Z,61nm,1.0s,mb5.5

KURK LR LR

comp=Z,192nm,19.0s,MS4.2

KURK Kurchatov 53.00 345 P **P** **00 52 32.5 -1.5**
KURK pmax pmax

comp=Z,43nm,1.1s,mb5.3

OPO Ambohidratompo 53.07 247 P **P** **00 52 34.5 -0.3**
comp=Z,11nm,1.1s,mb4.7,baz=83,slow=8.6,SNR=3.5

ZAL Zalesovo 54.72 351 P **P** **00 52 45.8 -0.8**
comp=Z,16nm,0.8s,mb5.1,baz=292,slow=6.7,SNR=50

ATD Arta Tunnel 55.76 284 P **P** **00 52 54.6 0.0**
comp=Z,16nm,1.2s,mb4.9,baz=109,slow=2.2,SNR=9.3

NVS Novosibirsk 55.85 350⇑ *i* P **P** **00 52 52.5 -2.3**
NVS *e*S **S** **01 00 36.3 -3.6**
NVS pmax pmax

comp=Z,70nm,1.1s,mb5.6

NVS pmax pmax

comp=N,59nm,1.5s

NVS pmax pmax

comp=E,41nm,1.4s

NVS smax

comp=E,27nm,1.9s

DJNS Zahran al Janu 56.16 291 P **P** **00 53 01.2 +3.7**
MZLS Mizel 56.24 299 P **P** **00 52 57.7 -0.3**
KLR Kul'dur 56.95 26 *e*P **P** **00 53 01.4 -1.3**
KLR *e*S **S** **01 01 04.5 +10**
KLR *e* 01 02 46.0
VOSK Vostochnaya 57.03 341 P **P** **00 53 00.7 -2.6**
VOSK pmax pmax

comp=Z,32nm,1.1s,mb5.3

BVA0 Borovoye Array 57.48 341 *i* P **P** **00 53 03.7 -2.7**
BVA0 pmax pmax

comp=Z,5.0nm,1.1s,mb4.5

BVAR Borovoye Array 57.48 341 P **P** **00 53 04.0 -2.4**
comp=Z,12nm,0.8s,mb5.0,baz=144,slow=6.6,SNR=19

BRVK Borovoye 57.55 341 *e*P **P** **00 53 03.6 -3.3**
comp=Z,15nm,1.0s,mb5.0

BRVK LR LR

comp=Z,141nm,21.0s,MS4.0

AFFS 'Afif 58.14 298 P **P** **00 53 14.2 +2.7**
BLJS Baljurashi 58.42 293 P **P** **00 53 16.5 +3.1**
AB31 Akbulak array 58.77 332 *i* P **P** **00 53 12.2 -3.3**
AB31 pmax pmax

comp=Z,47nm,1.2s,mb5.4

BOD Bodaibo 58.96 10 *e*P **P** **00 53 14.9 -1.8**
BOD pmax pmax

comp=Z,36nm,1.2s,mb5.3

LTHS Al Lith 59.59 293 P **P** **00 53 24.0 +2.4**
HILS Ha'il 60.16 302 P **P** **00 53 27.9 +2.5**
AKTO Aktyubinsk 60.49 332 P **P** **00 53 23.8 -3.5**
AKTO pmax pmax

comp=Z,20nm,2.2s,mb4.8

KMBO Kilima Mbogo 60.59 269 P **P** **00 53 27.8 -0.7**
comp=Z,7.1nm,0.9s,mb4.8,baz=56,slow=14,SNR=7.8

KMBO LR LR 01 13 44.2

comp=Z,505nm,19.7s,MS4.7,baz=88,slow=30

CLNS Chul'man 60.59 17 *e*P **P** **00 53 28.2 +0.3**
CLNS *e* 00 55 37.5
CLNS *e*S **S** **01 01 41.1 -0.7**
CLNS *e*PS PS 01 01 57.3 -1.4
CLNS *e* 01 03 12.8
CLNS *e*SS SS 01 05 45.3 +3.7
CLNS pmax pmax

comp=Z,7.0nm,0.7s,mb4.9

CLNS pmax pmax

comp=N,7.0nm,0.8s

CLNS pmax pmax

comp=E,8.0nm,0.8s

CLNS pmax pmax

comp=N,7.0nm,0.9s

CLNS pmax pmax

comp=E,4.0nm,0.9s

CLNS pmax pmax

comp=Z,5.0nm,0.9s,mb4.6

CLNS smax

comp=N,8.0nm,0.8s

CLNS smax

comp=E,8.0nm,0.8s

CLNS smax

comp=Z,6.0nm,0.8s

CLNS MLR MLR

comp=Z,2µm,16.0s,MS5.4

CLNS MLR MLR

comp=N,2µm,14.0s,MS5.4

CLNS MLR MLR

comp=E,1µm,13.0s,MS5.4

YSS Yuzh-Sakhalins 60.89 34 *e*P **P** **00 53 29.1 -1.0**
comp=E,81nm,1.1s,mb5.8

YSS LR LR

comp=Z,943nm,19.0s,MS5.0

YSS Yuzh-Sakhalins 60.89 34 *e*P **P** **00 53 29.5 -0.6**
YSS *e**PP pP 00 53 40.5 +6.4
YSS *e*S **S** **01 01 44.0 -1.8**
YSS pmax pmax

comp=Z,30nm,1.0s,mb5.4

YSS MLR MLR

comp=N,1µm,15.0s,MS5.1

YSS MLR MLR

comp=E,500nm,15.0s,MS5.1

YSS MLR MLR

comp=Z,800nm,15.0s,MS5.0

GNI Garni 62.52 316 P **P** **00 53 40.0 -1.1**
comp=Z,3.0nm,0.6s,mb4.6,baz=18,slow=19,SNR=2.5

GNI Garni 62.52 316 P **P** **00 53 40.0 -1.1**
comp=Z,40nm,1.3s,mb5.4

GNI LR LR

comp=Z,271nm,19.0s,MS4.4

GNI Garni 62.52 316⇑ *e*P **P** **00 53 38.7 -2.4**
GNI pmax pmax

comp=Z,46nm,1.5s

HNR Honiara 62.54 101 PFAKE 00 53 50.0 +8.4
HNR LR LR

comp=Z,374nm,20.0s,MS4.5

DGRG David-gareji 62.66 318 P **P** **00 53 40.4 -1.6**
TI2 Plekhanov 63.20 318 *i* P **P** **00 53 35.2 -10**
SVE Sverdlovsk 63.93 338 *e*P **P** **00 53 49.4 -0.8**
SVE *e* 00 54 05.3
SVE *e* 00 54 26.2
SVE *e*S **S** **01 02 26.0 +2.1**
SVE *e* 01 03 40.0
SVE pmax pmax

comp=Z,44nm,2.5s,mb5.0

SVE MLR MLR

comp=N,200nm,18.0s,MS4.7

SVE MLR MLR

comp=E,400nm,18.0s,MS4.7

SVE MLR MLR

comp=Z,500nm,18.0s,MS4.7

ZEI Tsey 64.23 319 *e*P **P** **00 53 47.6 -4.8**
ZEI *i* *PP pP 00 53 56.9 +0.5
ZEI *i* 00 54 20.5
ZEI pmax pmax

comp=Z,1.0nm,0.6s,mb4.0

ARU Arti 64.43 337⇓ *i* P **P** **00 53 52.0 -1.4**
ARU *e* 00 54 22.2
ARU *e* 00 56 10.5
ARU *e*PPP PPP 00 57 46.1 -3.9
ARU *e*S **S** **01 02 29.9 -0.2**
ARU *e*SS SS 01 06 41.3 -0.7
ARU pmax pmax

comp=Z,24nm,1.2s,mb5.1

ARU MLR MLR

comp=Z,800nm,19.0s,MS4.9

ARU MLR MLR

comp=N,400nm,18.0s,MS4.7

ARU MLR MLR

comp=E,200nm,20.0s,MS4.7

ONI Oni 64.44 318 P **P** **00 53 53.5 -0.3**
TBKS Tabuk 64.86 301 P **P** **00 53 59.2 +2.5**
QURS Qurayyt al Mil 65.04 305 P **P** **00 54 00.3 +2.4**
KIV Kislovodsk 65.54 319 *e*P **P** **00 53 58.4 -2.4**
comp=E,43nm,1.3s,mb5.3

KIV LR LR

comp=Z,72nm,20.0s,MS3.9

KIV Kislovodsk 65.54 319 *i* P **P** **00 53 58.8 -2.0**
KIV pmax pmax

comp=Z,38nm,1.2s,mb5.3

KIV MLR MLR

comp=Z,300nm,19.0s,MS4.5

ASF Jabal al Asfar 65.61 306 P **P** **00 53 59.6 -1.8**
comp=Z,7.4nm,0.9s,mb4.7,baz=323,slow=1.6,SNR=6.1

GOF Gofitskoye 65.80 321⇓ *i* P **P** **00 54 04.0 +1.5**
GOF pmax pmax

comp=Z,28nm,1.3s,mb5.1

AYUS 'Aynunah 65.95 301 P **P** **00 54 00.5 -3.2**
BDAS Al Bad' 66.15 301 P **P** **00 54 06.8 +1.8**
YAK Yakutsk 66.29 16 *e*P **P** **00 54 03.8 -1.5**
comp=Z,60nm,1.0s,mb5.6

YAK *e*pP pP 00 54 08.7 -0.6
YAK LR LR

comp=Z,1µm,19.0s,MS5.2

YAK Yakutsk 66.29 16 *e*P **P** **00 54 08.4 +3.1**
YAK *e**PP pP 00 54 17.1 +7.8
YAK *e* 00 54 37.7
YAK *e* 00 56 34.0
YAK *e*S S 01 02 56.3 +3.5
YAK *e* 01 04 01.9
YAK *e*SS SS 01 07 15.4 +4.8
YAK pmax pmax

comp=Z,37nm,1.0s,mb5.4

YAK pmax pmax

comp=N,13nm,1.1s

YAK pmax pmax

comp=E,9.0nm,1.1s

YAK pmax pmax

comp=E,2.0nm,0.9s

YAK pmax pmax

comp=Z,4.0nm,0.9s,mb4.5

YAK smax

comp=E,24nm,6.9s

YAK smax

comp=N,10.0nm,5.9s

YAK MLR MLR

comp=N,1µm,14.0s,MS5.2

YAK MLR MLR

comp=E,524nm,14.0s,MS5.2

YAK MLR MLR

comp=Z,1µm,14.0s,MS5.3

JMOS Jabal al Moall 66.32 302 P **P** **00 54 07.7 +1.7**
MALT Malatya 66.33 312 *e*P **P** **00 54 04.5 -1.5**
comp=Z,31nm,1.3s,mb5.2

MALT *e*pP pP 00 54 09.2 -0.7
MALT Malatya 66.33 312 *e*P **P** **00 54 04.5 -1.5**
MALT pmax pmax

comp=Z,31nm,1.3s,mb5.2

TAYS Tayyib Ism 66.37 301 P **P** **00 54 08.2 +1.8**
MIR Mirnyy 66.61 182 *e*P **P** **00 54 06.0 -1.2**
MIR pmax pmax

comp=Z,24nm,1.4s,mb5.0

CASY Casey 66.86 174 P **P** **00 54 06.5 -2.4**
comp=Z,23nm,1.4s,mb5.0

CASY LR LR

comp=Z,796nm,19.0s,MS5.0

MBAR Mbarara 67.10 269 *e*P **P** **00 54 09.0 -2.3**
comp=Z,15nm,1.1s,mb4.9

MBAR LR LR

comp=Z,96nm,19.0s,MS4.0

MBAR Mbarara 67.10 269 *i* P **P** **00 54 09.6 -1.7**
SOC Sochi 67.35 318*c* *i*P **P** **00 54 09.7 -2.7**
SOC *e* 00 54 36.7
SOC *e* 00 56 45.2
SOC *e*PPP PPP 00 58 12.1 -7.5
SOC *e*S S 01 03 01.7 -4.2
SOC pmax pmax

comp=Z,32nm,1.1s,mb5.3

SOC pmax pmax

comp=N,3.0nm,0.6s

SOC pmax pmax

comp=E,6.0nm,0.7s

SOC MLR MLR

comp=N,94nm,16.0s,MS4.4

SOC MLR MLR

comp=E,170nm,16.0s,MS4.4

SOC MLR MLR

comp=Z,217nm,16.0s,MS4.5

CSS Prodhromos 69.23 308 *e*P **P** **00 54 25.1 +0.9**
comp=Z,38nm,1.3s,mb5.2

ANN Anapa 69.33 319 *e*P **P** **00 54 21.0 -3.7**
ANN *e*S S 01 03 23.3 -6.2
ANN pmax pmax

comp=Z,17nm,1.3s,mb4.8

VRHR Novokhopersk 69.38 326 *e*P **P** **00 54 23.1 -1.8**
VRHR pmax pmax

comp=Z,30nm,0.9s,mb5.2

VRHR pmax pmax

comp=N,30nm,1.7s

VRHR pmax pmax

comp=E,10.0nm,0.7s

DZM Mont Dzumac 70.27 113 P **P** **00 54 28.9 -1.9**
comp=E,3.6nm,0.9s,mb4.3,baz=32,slow=17,SNR=2.6

BRTR Keskin Array B 70.31 312 P **P** **00 54 28.2 -2.5**
comp=E,4.3nm,0.8s,mb4.4,baz=132,slow=6.9,SNR=9.2

BR131 Keskin Array S 70.31 312 *e*P **P** **00 54 28.7 -2.0**
comp=E,1.5nm,0.5s,mb4.2

BR131 LR LR

comp=Z,328nm,21.0s,MS4.6

LSZ Lusaka 70.42 254 PFAKE 00 54 40.0 +8.3
LSZ LR LR

comp=Z,808nm,20.0s,MS5.0

VRSR Storozhevoye 70.81 325 *e*P **P** **00 54 35.0 +1.5**
VRSR pmax pmax

comp=N,20nm,1.1s

VRSR pmax pmax

comp=Z,20nm,1.1s,mb5.0

ANTO Ankara 70.98 312 *e*P **P** **00 54 34.0 -0.8**
comp=Z,23nm,1.4s,mb4.9

ANTO LR LR

comp=Z,317nm,21.0s,MS4.5

SIM Simferopol' 71.59 318*c* *i*P **P** **00 54 38.0 -0.4**
SIM *e* 00 55 01.0
SIM *i* S S 01 03 57.7 +1.8
SIM *e*PS PS 01 04 20.0 -7.2
SIM pmax pmax

comp=Z,30µm,1.1s

MAW Mawson 71.80 193 P **P** **00 54 37.4 -1.9**
comp=Z,5.5nm,0.9s,mb4.5,baz=3.2,slow=6.7,SNR=6.2

MAW LR LR 01 23 02.2

comp=Z,425nm,18.6s,MS4.7,baz=46,slow=33

MA2 Magadan 72.04 25 PFAKE 00 54 50.0 +9.2
MA2 LR LR

comp=Z,725nm,19.0s,MS5.0

PET Petropavlovsk 72.78 34 *i* P **P** **00 54 45.8 +0.5**
PET LR LR

comp=Z,807nm,21.0s,MS5.0

PET Petropavlovsk 72.78 34⇓ *i*P **P** **00 54 49.8 +4.5**
PET *e*SS SS 01 08 52.9 +1.3
PET pmax pmax

comp=Z,72nm,0.9s,mb5.6

PET MLR MLR

comp=Z,700nm,16.0s,MS5.0

MOS Moscow 73.59 329 *e*P **P** **00 54 48.7 -1.2**
MOS *e* 00 55 03.6
MOS pmax pmax

comp=Z,37nm,0.7s,mb5.4

OBN Obninsk 73.88 328 *e*P **P** **00 54 50.7 -0.9**
comp=Z,35nm,1.3s,mb5.1

OBN LR LR

comp=Z,125nm,21.0s,MS4.2

OBN Obninsk 73.88 328⇑ *i*P **P** **00 54 51.0 -0.6**
OBN *e* 00 55 05.8
OBN *e*S S 01 04 23.9 +2.3
OBN pmax pmax

comp=Z,65nm,1.3s,mb5.4

LBTB Lobatse 73.98 244 PFAKE 00 55 00.0 +7.2
LBTB LR LR

comp=Z,736nm,21.0s,MS5.0

TIXI Tiksi 74.15 10 *i* Pr 00 54 53.8
TIXI LR LR

comp=Z,930nm,20.0s,MS5.1

TIXI Tiksi 74.15 10 *e*P **P** **00 54 52.4 -0.5**
TIXI pmax pmax

comp=Z,44nm,1.0s,mb5.3

TIXI MLR MLR

comp=Z,1µm,14.0s,MS5.3

SEY Seymchan 74.51 23⇑ *e*P **P** **00 54 56.4 +1.2**
SEY Seymchan 74.51 23⇑ *e*P **P** **00 54 56.3 +1.1**
BOSA Boshof 74.79 240 P **P** **00 54 55.8 -1.7**
comp=Z,3.4nm,1.0s,mb4.2,baz=80,slow=11,SNR=2.2

BOSA LR LR 01 22 05.5

comp=Z,482nm,18.5s,MS4.8,baz=75,slow=31

BOSA Boshof 74.79 240 *e*P **P** **00 54 55.4 -2.1**
KIS Kishinev 75.73 319 *e*P **P** **00 55 03.0 +0.5**
KIS *e* 00 55 18.0
KIS *e* 01 04 40.0
KIS *e* 01 05 10.0
AKASG Malin Array Be 76.50 322 P **P** **00 55 04.3 -2.4**
comp=Z,7.9nm,0.9s,mb4.6,baz=88,slow=4.3,SNR=20

AKASG Malin Array Be 76.50 322 P **P** **00 55 04.3 -2.4**
VRI Vrincioaia 76.84 317 P **P** **00 55 12.7 +3.9**
MLR Muntele Rosu 77.29 317⇓ *i*P **P** **00 55 11.0 -0.2**
BURAR Bucovina Array 78.26 319⇓ *i*P **P** **00 55 16.3 -0.2**
BURAR Bucovina Array 78.26 319⇓ *i*P **P** **00 55 16.3 -0.2**
VTS Vitosha 78.64 313 P **P** **00 55 18.9 +0.2**
SYO Syowa Base 79.17 198 ⇑P **P** **00 55 21.3 +0.2**
SYO Syowa Base 79.17 198 ⇑pP pP 00 55 24.8 -0.4
JOF Joensuu 79.40 335 *ep* **P** **00 55 21.3 -1.1**
comp=Z,12nm,1.0s,mb4.8

DRGR 79.76 318⇑ *i*P **P** **00 55 27.5 +2.8**
DRGR 79.76 318⇑ *i*P **P** **00 55 27.5 +2.8**
DRGR 79.76 318 P **P** **00 55 27.6 +2.9**
SNZO South Karori 80.22 132 PFAKE 00 55 40.0 +13
SNZO LR LR

comp=Z,1µm,19.0s,MS5.2

KWP Kalwaria 80.31 320 *e*P **P** **00 55 28.3 +0.7**
KWP *e*pP pP 00 55 31.0 -0.7
KWP *e*PcP PcP 00 55 35.2 0.0
KWP MLR MLR 01 37 20.2

comp=Z,300nm,20.2s,MS4.6

KWP Kalwaria 80.31 320 *e*P **P** **00 55 28.3 +0.7**
KWP *e*pP pP 00 55 31.0 -0.7
KWP *e*PcP PcP 00 55 35.2 0.0
KWP Kalwaria 80.31 320 *e*P **P** **00 55 28.3 +0.7**
KWP *e* 00 55 35.2
KOLS Kolonicke sedl 80.45 320 *e*P **P** **00 55 25.8 -2.6**
KOLS *e*sP sP 00 55 32.9 -0.9
TSUM Tsumeb 80.83 251 PFAKE 00 55 40.0 +9.1
TSUM LR LR

comp=Z,759nm,20.0s,MS5.0

SUW Suwalki 80.93 325 *e*P **P** **00 55 30.9 +0.1**
SUW *e*pP pP 00 55 33.9 -1.0
SUW *e*PcP PcP 00 55 38.1 +0.3
SUW *e*S S 01 05 44.3 +6.6
SUW MLR MLR 01 36 23.3

comp=Z,400nm,20.2s,MS4.8

SUW Suwalki 80.93 325 *e*P **P** **00 55 30.9 +0.2**
SUW *e*pP pP 00 55 33.8 -1.1
SUW *e*PcP PcP 00 55 38.1 +0.3
SUW *e*S S 01 05 44.3 +6.6
SUW Suwalki 80.93 325 *e*P **P** **00 55 30.9 +0.2**
SUW *e* 00 55 38.1
SUW *e*S S 01 05 44.3 +6.6
CRVS Cervenica-Dubn 80.97 320 *e*P **P** **00 55 32.2 +1.1**
CRVS *e*sP sP 00 55 38.0 +1.4
CRVS *e*S S 01 05 38.7 +0.4
DIVS Divcibare 81.20 315⇑ *i*P **P** **00 55 32.4 0.0**
STHS Stebnicka Huta 81.21 320 *e*P **P** **00 55 32.6 +0.3**
STHS *e*pP pP 00 55 36.8 +0.4
FINES FINESS Array B 81.25 333 P **P** **00 55 31.1 -1.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=3.8,SNR=9.5

FINES LR LR 01 38 05.5

comp=Z,458nm,18.3s,MS4.9,baz=328,slow=40

KAF Kangasniemi 81.34 333 *ep* **P** **00 55 32.7 0.0**
comp=Z,19nm,1.0s,mb5.0,baz=103,slow=4.9

KAF Kangasniemi 81.34 333 *e*P **P** **00 55 32.7 0.0**
KAF pmax pmax

comp=Z,19nm,1.0s,mb5.0

KECS Kecovo 81.54 319 *e*P **P** **00 55 32.3 -1.8**
KECS *e*pP pP 00 55 37.8 -0.4
PSZ Piszkesteto 81.84 318⇓ *e*PcP PcP 00 55 39.2 -2.7
PSZ Piszkesteto 81.84 318 *e*P **P** **00 55 33.3 -2.3**
comp=Z,14nm,1.0s,mb4.8

PSZ Piszkesteto 81.84 318 P **P** **00 55 36.6 +1.0**
BILL Bilibino 81.95 21 PFAKE 00 55 50.0 +14
BILL LR LR

comp=Z,1µm,19.0s,MS5.3

BILL Bilibino 81.95 21 *e*P **P** **00 55 44.0 +8.2**

BILL eS S 01 05 51.1 +3.1
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BILL MLR MLR
comp=Z,1µm,18.0s,MS5.3
OJC Ojcow 82.27 321 eP **P 00 55 41.2 +3.4**
PKSM Moragy 82.44 317 P **P 00 55 39.4 +0.6**
VYHS Vyhne 82.63 319 eP **P 00 55 43.1 +3.4**
VYHS eS S 01 05 57.3 +2.0
OKC Ostrava-Krasne 83.26 320 eP **P 00 55 42.5 -0.5**
OKC epP pP 00 55 46.9 -0.2
OKC eS S 01 06 03.1 +1.4
OKC AMS AMS 01 43 10.0
comp=Z,300nm,20.9s
OKC Ostrava-Krasne 83.26 320 eP **P 00 55 42.5 -0.5**
OKC eS S 01 06 03.1 +1.4
OKC MLR MLR
comp=Z,300nm,20.9s,MS4.6
KEV Kevo 83.33 341 PFAKE 00 55 50.0 +7.0
KEV LR LR
comp=Z,651nm,20.0s,MS5.0
MORC Moravsky Berou 83.64 320 P **P 00 55 44.0 -0.9**
comp=Z,26nm,1.4s,mb5.2
MORC epP pP 00 55 48.7 -0.4
ZST Bratislava 83.73 318 eS S 01 06 10.9 +4.4
ZST eL 01 43 55.5
ZST Bratislava 83.73 318 eP **P 00 55 45.1 -0.3**
ZST e pP 00 55 49.1 -0.5
ZST eS S 01 06 10.9 +4.4
ZST Bratislava 83.73 318 eP **P 00 55 45.1 -0.3**
ZST eS S 01 06 10.9 +4.4
ARCES ARCESS Array B 83.77 340 P **P 00 55 43.3 -1.8**
comp=Z,9.6nm,0.8s,mb5.0,baz=90,slow=3.6,SNR=7.2
ARCES LR LR 01 39 26.3
comp=Z,504nm,19.0s,MS4.9,baz=200,slow=40
GKP Gorka Klasztor 84.28 323 eP **P 00 55 50.7 +2.6**
GKP epP pP 00 55 51.9 -0.3
GKP MLR MLR 01 40 21.5
comp=Z,400nm,17.8s,MS4.8
GKP Gorka Klasztor 84.28 323 eP **P 00 55 50.7 +2.6**
GKP epP pP 00 55 51.9 -0.3
GKP LR LR
comp=Z,400nm,17.8s,MS4.8
DPC Dobruska-Polom 84.49 320 eP **P 00 55 50.5 +1.3**
DPC epP pP 00 55 53.7 +0.4
DPC eS S 01 06 17.7 +3.8
DPC AMS AMS 01 40 30.0
comp=Z,500nm,17.2s
DPC Dobruska-Polom 84.49 320 eP **P 00 55 50.5 +1.3**
DPC eS S 01 06 17.7 +3.8
DPC MLR MLR
comp=Z,500nm,17.2s,MS5.0
KSP Ksiaz 84.57 321 eP **P 00 55 50.7 +1.1**
KSP epP pP 00 55 53.3 -0.3
KSP MLR MLR 01 40 42.5
comp=Z,700nm,20.4s,MS5.0
KSP Ksiaz 84.57 321 eP **P 00 55 49.9 +0.3**
KSP epPcP PcP 00 55 53.5 -0.2
VNDA Vanda 84.64 169 P **P 00 55 49.2 -0.2**
comp=Z,4.1nm,1.2s,mb4.4,baz=295,slow=4.5,SNR=5.6
VNDA LR LR 01 30 57.4
comp=Z,308nm,18.9s,MS4.7,baz=309,slow=34
VNDA Vanda 84.64 169 eP **P 00 55 49.0 -0.4**
comp=Z,15nm,1.4s,mb4.9
VNDA LR LR
comp=Z,363nm,20.0s,MS4.8
ARSA Arzberg 84.69 317⇑ *i*P **P 00 55 51.4 +1.1**
comp=Z,18nm,1.1s,mb5.1
ARSA Arzberg 84.69 317⇑ *i*P **P 00 55 51.5 +1.2**
comp=Z,18nm,1.1s,mb5.1
UPC Upice 84.71 321 eP **P 00 55 50.8 +0.5**
UPC epP pP 00 55 54.1 -0.3
BOJS Bojanci 84.72 316 eP **P 00 55 51.3 +0.9**
TREC Trest 84.92 319 AMS AMS 01 43 20.0
comp=Z,400nm,19.1s
LJU Ljubljana 85.27 316 eP **P 00 55 53.9 +0.7**
LJU e pP 00 55 56.9 -0.4
MOA Molln 85.59 318⇑ *i*P **P 00 55 53.5 -1.3**
comp=Z,4.3nm,0.9s,mb4.7
PRU Pruhonice 85.59 320 eP **P 00 55 55.3 +0.6**
PRU epP pP 00 55 58.5 -0.3
PRU eS S 01 06 27.4 +2.6
PRU AMS AMS 01 41 00.0
comp=Z,300nm,15.2s
PRU Pruhonice 85.59 320 eP **P 00 55 55.3 +0.6**
PRU eS S 01 06 27.4 +2.6
PRU MLR MLR
comp=Z,300nm,15.2s,MS4.8
PVCC Panska Ves 85.62 321 eP **P 00 55 56.5 +1.7**
PVCC epP pP 00 55 59.0 0.0
PVCC AMS AMS 01 40 50.0
comp=Z,400nm,19.7s
PVCC Panska Ves 85.62 321 eP **P 00 55 56.5 +1.7**
PVCC MLR MLR
comp=Z,400nm,19.7s,MS4.8
GORS Gorjuse 85.66 316 eP **P 00 55 55.7 +0.6**
SBA Scott Base 85.74 169 eP **P 00 55 55.2 +0.4**
comp=Z,45nm,1.8s,mb5.4
SBA LR LR
comp=Z,342nm,20.0s,MS4.7
SBA Scott Base 85.74 169 eP **P 00 55 55.3 +0.4**
SBA pmax pmax
comp=Z,45nm,1.8s,mb5.4
SBA MLR MLR
comp=Z,342nm,20.0s,MS4.7
AQU L'Aquila 85.80 312 eP **P 00 55 56.2 +0.2**
comp=Z,41nm,1.2s,mb5.5
GEC2 GERESS Array S 86.05 319 eP **P 00 55 55.9 -1.1**
comp=Z,26nm,1.2s,mb5.3
GEC2 GERESS Array S 86.05 319 eP **P 00 55 55.9 -1.1**
GEC2 pmax pmax
comp=Z,26nm,1.2s,mb5.3
GERES GERESS Array B 86.05 319 P **P 00 55 56.0 -1.0**
comp=Z,8.3nm,0.9s,mb5.0,baz=90,slow=4.0,SNR=13
BRG Berggiesshubel 86.05 321 eP **P 00 55 56.2 -0.8**
comp=Z,10.0nm,1.5s,mb4.8
BRG e pP 00 56 01.2 +0.1
BRG S S 01 06 45.0 +16
BRG LR LR
comp=Z,440nm,19.5s,MS4.9
BRG Berggiesshubel 86.05 321 eP **P 00 55 56.1 -0.9**
BRG pmax pmax
comp=Z,10.0nm,1.5s,mb4.8
KHC Kasperske Hory 86.15 319 eP **P 00 55 57.8 +0.3**
KHC epP pP 00 56 01.1 -0.5
KHC eS S 01 06 34.4 +4.3
KHC AMS AMS 01 43 40.0
comp=Z,300nm,14.9s
KHC Kasperske Hory 86.15 319 eP **P 00 55 57.8 +0.3**
KHC eS S 01 06 34.4 +4.3
KHC MLR MLR
comp=Z,300nm,14.9s,MS4.8
WET Wettzell 86.61 319 eP **P 00 55 58.5 -1.2**
CLL Collm 86.67 321 P **P 00 56 00.0 0.0**
CLL *i* *PP pP 00 56 03.7 -0.5
CLL *i* 00 56 23.1
CLL Collm 86.67 321 eP **P 00 56 00.0 0.0**
CLL *i* pP pP 00 56 03.7 -0.5
CLL LR LR
comp=Z,400nm,21.6s,MS4.8
CLL Collm 86.67 321 eP **P 00 56 00.0 0.0**
CLL MLR MLR
comp=Z,400nm,21.6s,MS4.8
NKC Novy Kostel 86.96 320 eP **P 00 56 02.4 +1.0**
NKC epP pP 00 56 05.0 -0.6
WTTA Wattenberg 87.33 317⇑ *i*P **P 00 56 05.8 +2.5**
comp=Z,14nm,1.3s,mb5.0
MOX Moxa 87.51 321 *i* P **P 00 56 04.8 +0.7**
comp=Z,logA/T=1.2,mb5.2
MOX S S 01 06 33.0 -10
MOX L 01 42 34.0
MOX Moxa 87.51 321 eP **P 00 56 04.8 +0.7**
comp=Z,30nm,2.0s,mb5.2
MOX LR LR
comp=Z,300nm,21.0s,MS4.7
MOX Moxa 87.51 321 eP **P 00 56 04.8 +0.7**
MOX pmax pmax
comp=Z,30nm,2.0s,mb5.2
MOX MLR MLR
comp=Z,300nm,21.0s,MS4.7
FUR Furstenfeldbru 87.62 318 eP **P 00 56 03.3 -1.3**
SQTA Sankt Quirin 87.62 317 *i* **P 00 56 08.7 +4.0**
MOTA Moosalm 87.70 317⇓ *i*P **P 00 56 05.2 +0.1**
comp=Z,5.9nm,1.0s,mb4.8

GRA1 Grafenberg Arr 87.72 320 eP **P 00 56 04.3 -0.8**
comp=Z,16nm,1.0s,mb5.2
GRA1 eS S 01 06 40.2 -4.8
GRA1 LR LR
comp=Z,400nm,20.2s,MS4.8
GRF Grafenberg Arr 87.72 320 eP **P 00 56 04.3 -0.8**
comp=Z,16nm,1.0s,mb5.2
GRF eS S 01 06 40.2 -4.8
GRF LR LR
comp=Z,400nm,20.2s,MS4.8
NB2 NORSAR Subarra 88.26 331 P **P 00 56 06.6 -0.8**
comp=Z,12nm,1.0s,mb5.1,baz=95,slow=4.6
NB2 NORSAR Subarra 88.26 331 P **P 00 56 06.6 -0.8**
baz=95,slow=4.8
NOA NORSAR Array B 88.26 331 P **P 00 56 06.8 -0.6**
comp=Z,7.0nm,1.0s,mb4.9,baz=95,slow=4.9,SNR=9.8
NOA LR LR 01 39 31.7
comp=Z,267nm,20.9s,MS4.6,baz=80,slow=38
CLZ Clausthal 88.34 322 eP **P 00 56 07.1 -0.9**
comp=Z,24nm,1.2s,mb5.3
CLZ Clausthal 88.34 322 eP **P 00 56 07.1 -0.9**
CLZ pmax pmax
comp=Z,24nm,1.2s,mb5.3
BSEG Bad Segeberg 88.45 324 eP **P 00 56 07.7 -0.8**
BSEG pmax pmax
comp=Z,32nm,1.0s,mb5.5
DAVA Damuels 88.53 317⇑ *i*P **P 00 56 12.2 +3.2**
comp=Z,19nm,1.1s,mb5.3
NVL N'lazarevskaya 88.78 199⇓ *i*P **P 00 56 14.9 +5.2**
NVL e*SP sP 00 56 20.7 +5.5
NVL e 00 59 34.5
NVL eS S 01 06 37.7 -17
NVL e 01 08 04.5
NVL pmax pmax
comp=Z,1.0nm,0.8s
NVL MLR MLR
comp=Z,35nm,17.6s
KONO Kongsberg 89.01 329 PFAKE 00 56 20.0 +9.0
KONO LR LR
comp=Z,372nm,20.0s,MS4.8
KBS Kingsbay 89.10 349 PFAKE 00 56 20.0 +8.9
KBS LR LR
comp=Z,890nm,19.0s,MS5.2
TNS Taunus Mts 89.52 320 eP **P 00 56 12.8 -0.9**
comp=Z,19nm,1.0s,mb5.4
TNS Taunus Mts 89.52 320 eP **P 00 56 12.8 -0.9**
TNS pmax pmax
comp=Z,19nm,1.0s,mb5.4
BFO Black Forest 89.59 318 eP **P 00 56 12.3 -1.8**
comp=Z,17nm,1.4s,mb5.2
BFO Black Forest 89.59 318 eP **P 00 56 12.3 -1.8**
BFO pmax pmax
comp=Z,17nm,1.4s,mb5.2
QSPA South Pole Qui 90.06 180 eP **P 00 56 15.9 +0.4**
comp=Z,22nm,1.4s,mb5.3
QSPA LR LR
comp=Z,587nm,20.0s,MS5.0
CDF Champ du Feu 90.29 318 eP **P 00 56 20.4 +3.1**
comp=Z,17nm,1.0s,mb5.0
WTSB Winterswijk 90.56 322 eP **P 00 56 22.4 +4.0**
comp=Z,23nm,1.7s,mb5.2
MBDF Montbardon 90.68 315 eP **P 00 56 22.0 +2.8**
comp=Z,20nm,1.0s,mb5.1
LPG La Plagne 90.69 315 eP **P 00 56 23.0 +3.8**
comp=Z,23nm,0.8s,mb5.2
LPL La Plagne 90.70 315 eP **P 00 56 22.9 +3.6**
comp=Z,39nm,1.0s,mb5.4
HAU Haudompre 90.92 318 eP **P 00 56 23.4 +3.2**
comp=Z,43nm,1.0s,mb5.4
HAU eR
comp=Z,432nm,21.2s
HGN Heimansgroeve 91.13 321 eP **P 00 56 22.6 +1.5**
comp=Z,13nm,2.6s,mb4.8
CABF La Chapelle 91.13 316 eP **P 00 56 24.9 +3.7**
comp=Z,56nm,1.2s,mb5.5
ORIF Oris-en-Rattie 91.31 315 eP **P 00 56 25.7 +3.6**
comp=Z,23nm,1.0s,mb5.2
ORIF eR
comp=Z,314nm,19.0s
SMRF Simiane la Rot 91.56 314 eP **P 00 56 27.3 +4.1**
comp=Z,45nm,1.1s,mb5.4
MEZF Maizieres J'vi 91.77 318 eP **P 00 56 27.6 +3.5**
comp=Z,36nm,1.0s,mb5.3
GIVF Givet 91.86 320 eP **P 00 56 28.3 +3.8**
VIVF Saint-Julien-l 92.17 315 eP **P 00 56 29.5 +3.5**
BAIF Baives 92.25 320 eP **P 00 56 30.2 +3.9**
comp=Z,40nm,1.1s,mb5.4
LOR Lormes 92.63 317⇑ *i*P **P 00 56 31.6 +3.5**
comp=Z,42nm,1.1s,mb5.5
LOR eR
comp=Z,293nm,20.2s
SMF Signal de Mont 92.67 317 eP **P 00 56 31.6 +3.3**
comp=Z,35nm,1.1s,mb5.4
LASF Ste Croix 92.79 314 eP **P 00 56 32.6 +3.7**
SSF Saint Saulge 92.88 317 eP **P 00 56 32.8 +3.6**
AVF Avril sur Loir 93.00 317 eP **P 00 56 33.2 +3.4**
comp=Z,20nm,1.1s,mb5.2
BGF Bois d'Agland 93.36 316 eP **P 00 56 35.3 +3.8**
comp=Z,19nm,0.9s,mb5.2
HYF Humbligny 93.46 317 eP **P 00 56 35.9 +4.0**
SNAA Sanae 93.46 198⇑ *i*P **P 00 56 36.4 +5.0**
SNAA Sanae 93.46 198 *e* **P 00 56 40.7 +9.3**
SNAA Sanae 93.46 198 P **P 00 56 31.8 +0.4**
comp=Z,0.8nm,0.9s,mb4.1,baz=233,slow=5.1,SNR=2.2
SNAA Sanae 93.46 198 eP **P 00 56 31.8 +0.4**
SNAA *e* 00 56 40.7
SNAA Sanae 93.46 198 *i* P **P 00 56 32.0 +0.6**
MTLF Montolieu 94.02 313 eP **P 00 56 38.2 +3.6**
comp=Z,30nm,1.2s,mb5.3
VNA2 Neumayer--Watz 95.06 199⇑ *i*P **P 00 56 44.0 +5.3**
VNA2 Neumayer--Watz 95.06 199 *e* **P 00 56 48.2 +9.5**
MFF Saint Martin d 95.42 317 eP **P 00 56 44.1 +3.2**
comp=Z,7.6nm,0.9s,mb4.8
ESK Eskdalemuir 96.20 326 PFAKE 00 57 00.0 +16
ESK LR LR
comp=Z,97nm,20.0s,MS4.3
IMA Indian Mountai 97.33 23 P **P 00 56 50.7 +1.5**
comp=Z,99nm,0.8s
COLA College 100.03 23 PFAKE 00 57 10.0 +8.6
COLA LR LR
comp=Z,12nm,22.0s
KDAK Kodiak Island 100.25 31 PFAKE 00 57 10.0 +7.4
KDAK LR LR
comp=Z,149nm,20.0s,MS4.5
PMR Palmer 100.69 27 PFAKE 00 57 20.0 +16
PMR LR LR
comp=Z,538nm,19.0s,MS5.1
EVO Evora 102.30 309 eP Pdif 00 57 16.8 +4.5
comp=Z,22nm,1.1s
EVO eR
comp=Z,250nm,19.2s
DBIC Dimbokro 102.59 277 PFAKE 00 57 20.0 +5.8
DBIC LR LR
comp=Z,273nm,19.0s,MS4.8
SIT Sitka 109.03 28 PFAKE 01 02 00.0
SIT LR LR
comp=Z,463nm,20.0s,MS5.0
CMLA Cha da Macela 115.76 313 PFAKE 01 02 10.0 +8.6
CMLA LR LR
comp=Z,3µm,20.0s,MS6.0
OCWA Octopus Mounta 120.00 31 PFAKE 01 02 20.0 +11
OCWA LR LR
comp=Z,254nm,20.0s,MS4.9
COR Corvallis 122.47 34 PFAKE 01 02 20.0 +5.9
COR LR LR
comp=Z,257nm,19.0s,MS4.9
NEW Newport 123.11 27 PFAKE 01 02 20.0 +4.8
NEW LR LR
comp=Z,375nm,21.0s,MS5.0
HAWA Hanford 123.28 30 *e*PKPdf PKPdf 01 02 12.8 -2.9
HAWA *ep*PKPdf 01 02 18.1
HAWA LR LR
comp=Z,18nm,19.0s
SCHQ Schefferville 123.81 349 PFAKE 01 02 30.0 +13
SCHQ LR LR
comp=Z,701nm,22.0s,MS5.3
HUMO Hull Mountain 123.90 36 PFAKE 01 02 30.0 +13
HUMO LR LR
comp=Z,187nm,20.0s,MS4.8
YBH Yreka Blue Hor 124.58 36 PFAKE 01 02 30.0 +12
YBH LR LR
comp=Z,183nm,22.0s,MS4.7
WDC Whiskeytown Da 125.38 37 PFAKE 01 02 30.0 +10
WDC LR LR
comp=Z,328nm,19.0s,MS5.0
BMO Blue Mountains 125.47 30 PFAKE 01 02 30.0 +10
BMO LR LR
comp=Z,291nm,20.0s,MS5.0
MSO Missoula 125.62 26 PKPdf PKPdf 01 02 17.5 -2.7
MSO *ep*PKPdf 01 02 22.3
MSO LR LR
comp=Z,426nm,20.0s,MS5.1
CHMT Chamberlain Mo 125.86 26 PKPdf PKPdf 01 02 18.2 -2.5
CHMT *ep*PKPdf 01 02 22.8
MOD Modoc 125.87 35 PFAKE 01 02 30.0 +9.2
MOD LR LR
comp=Z,222nm,20.0s,MS4.8
HOPS Hopland 126.00 39 PFAKE 01 02 30.0 +8.8
HOPS LR LR
comp=Z,229nm,19.0s,MS4.9
WVOR Wild Horse Val 126.45 33 PFAKE 01 02 30.0 +8.1
WVOR LR LR
comp=Z,279nm,19.0s,MS5.0
BOZ Bozeman (W) 127.55 26 PKPdf PKPdf 01 02 25.8 +1.8
BOZ LR LR
comp=Z,416nm,19.0s,MS5.1
MCMT McKenzie Canyo 127.64 27 PKPdf PKPdf 01 02 23.7 -0.5
MCMT *ep*PKPdf 01 02 27.5
HLID Hailey 127.84 29 PFAKE 01 02 30.0 +5.4
HLID LR LR
comp=Z,463nm,20.0s,MS5.2
CMB Columbia Colle 128.26 38 PFAKE 01 02 40.0 +14
CMB LR LR
comp=Z,226nm,19.0s,MS4.9
SAO San Andreas Ge 128.35 40 PFAKE 01 02 40.0 +14
SAO LR LR
comp=Z,209nm,20.0s,MS4.8
ULM Lac du Bonnet 128.48 11 PFAKE 01 02 30.0 +4.3
ULM LR LR
comp=Z,638nm,20.0s,MS5.3
BMN Battle Mountai 128.58 34 PFAKE 01 02 40.0 +14
BMN LR LR
comp=Z,216nm,20.0s,MS4.8
YMR Madison River 128.61 26 *e*PKPdf PKPdf 01 02 26.2 +0.2
LAO LASA Array 128.85 21 PFAKE 01 02 40.0 +14
LAO LR LR
comp=Z,586nm,19.0s,MS5.3
LKWY Lake 128.94 26 PFAKE 01 02 40.0 +13
LKWY LR LR
comp=Z,727nm,20.0s,MS5.4
ELK Elko 129.46 32 PKPdf PKPdf 01 02 27.8 0.0
ELK *ep*PKPdf 01 02 31.5
ELK LR LR
comp=Z,262nm,21.0s,MS4.9
REDW Red Top Meadow 129.68 27 *e*PKPdf PKPdf 01 02 30.9 +2.7
AHID Auburn Hatcher 130.03 28 PFAKE 01 02 40.0 +11
AHID LR LR
comp=Z,537nm,19.0s,MS5.3
TPH Tonopah 130.16 36 PFAKE 01 02 40.0 +11
TPH LR LR
comp=Z,247nm,20.0s,MS4.9
HWUT Hardware Ranch 130.70 29 PFAKE 01 02 40.0 +10
HWUT LR LR
comp=Z,672nm,20.0s,MS5.3
BW06 Boulder Array 130.74 27 PFAKE 01 02 40.0 +10
BW06 LR LR
comp=Z,452nm,21.0s,MS5.2
PDAR Pinedale Array 130.74 27 PKP PKPdf 01 02 29.0 -1.2
comp=Z,1.2nm,0.9s,slow=1.5,SNR=9.4
ISA Isabella 130.93 40 PFAKE 01 02 40.0 +9.3
ISA LR LR
comp=Z,56nm,19.0s,MS4.3
DAC Darwin (Calif) 131.10 38 PFAKE 01 02 40.0 +9.0
DAC LR LR
comp=Z,320nm,20.0s,MS5.0
DUG Dugway 131.13 31 *e*PKPdf PKPdf 01 02 30.0 -1.0
DUG LR LR
comp=Z,248nm,20.0s,MS4.9
TMUT Trail Mountain 132.63 31 PKPdf PKPdf 01 02 33.4 -0.5
TMUT *ep*PKPdf 01 02 37.1
MSU Marysvale 132.70 32 PKPdf PKPdf 01 02 33.8 -0.2
NEN Nelson 133.19 37 *e*PKPdf PKPdf 01 02 37.1 +2.1
RCBR Riachuelo 133.47 262 PFAKE 01 02 50.0 +14
RCBR LR LR
comp=Z,288nm,20.0s,MS5.0
EMMW East Machias 133.50 346 PFAKE 01 02 40.0 +4.8
EMMW LR LR
comp=Z,3µm,20.0s,MS6.0
PFO Pinyon Flat Ob 133.51 40 PFAKE 01 02 50.0 +14
PFO LR LR
comp=Z,64nm,20.0s,MS4.3
WVL Waterville 134.15 348 PFAKE 01 02 50.0 +14
WVL LR LR
comp=Z,3µm,19.0s,MS6.0
PV10 Paradox Valley 134.42 30 *e*PKPdf PKPdf 01 02 38.6 +1.4
ISCO Idaho Springs 134.88 26 PFAKE 01 02 50.0 +12
ISCO LR LR
comp=Z,362nm,20.0s,MS5.1
NCB Newcomb 135.55 352 PFAKE 01 02 50.0 +11
NCB LR LR
comp=Z,497nm,21.0s,MS5.2
HRV Harvard--Oak R 136.52 349 PFAKE 01 02 50.0 +9.2
HRV LR LR
comp=Z,334nm,20.0s,MS5.1
WES Weston 136.59 348 PFAKE 01 02 50.0 +9.0
WES LR LR
comp=Z,1µm,19.0s,MS5.6
SDCO Great Sand Dun 136.61 27 PFAKE 01 02 50.0 +8.9
SDCO LR LR
comp=Z,405nm,19.0s,MS5.2
TRQA Tornquist 137.91 204 PFAKE 01 02 50.0 +6.4
TRQA LR LR
comp=Z,273nm,19.0s,MS5.0
TUC Tucson 137.93 37 PKPdf PKPdf 01 02 42.9 -0.9
TUC *ep*PKPdf 01 02 46.7
TUC LR LR
comp=Z,245nm,19.0s,MS5.0
CBKS Cedar Bluff 138.04 21 PFAKE 01 02 50.0 +6.1
CBKS LR LR
comp=Z,427nm,19.0s,MS5.2
PLCA Paso Flores 138.21 193 PFAKE 01 02 50.0 +5.9
PLCA LR LR
comp=Z,254nm,20.0s,MS5.0
ANMO Albuquerque 138.39 31 PFAKE 01 02 50.0 +5.4
ANMO LR LR
comp=Z,373nm,19.0s,MS5.2
ACSO Alum Creek Sta 139.84 1 PFAKE 01 03 00.0 +13
ACSO LR LR
comp=Z,304nm,20.0s,MS5.0
MCWV Mont Chateau 140.37 357 PFAKE 01 03 00.0 +12
MCWV LR LR
comp=Z,707nm,19.0s,MS5.4
CCM Cathedral Cave 141.11 11 PFAKE 01 03 00.0 +11
CCM LR LR
comp=Z,505nm,19.0s,MS5.3
MNTX Cornudas Mount 141.48 33 *e*PKPdf PKPdf 01 02 48.5 -1.8
MNTX LR LR
comp=Z,406nm,20.0s,MS5.2
CBN Corbin 141.62 354 PFAKE 01 03 00.0 +10
CBN LR LR
comp=Z,589nm,21.0s,MS5.3
WCI Wyandotte Cave 141.66 5 PFAKE 01 03 00.0 +10
WCI LR LR
comp=Z,497nm,21.0s,MS5.2
WMOK Wichita Mounta 142.01 22 *e*PKPpre 01 02 46.5
WMOK LR LR
comp=Z,274nm,19.0s,MS5.0
BLA Blacksburg 142.83 358 PFAKE 01 03 00.0 +7.6
BLA LR LR
comp=Z,355nm,20.0s,MS5.1
BDFB Brasilia 142.92 244 PKP PKPdf 01 02 51.1 -2.0
comp=Z,3.7nm,0.9s,baz=236,slow=3.6,SNR=4.0
WVT Waverly 143.56 8 PFAKE 01 03 00.0 +11
WVT LR LR
comp=Z,328nm,20.0s,MS5.1
MIAR Mount Ida 143.91 16 PFAKE 01 03 00.0 +10
MIAR LR LR
comp=Z,95nm,22.0s,MS4.5
LTX Lajitas 144.24 33 *e*PKPdf PKPdf 01 02 53.7 -1.4
LTX LR LR
comp=Z,416nm,20.0s,MS5.2
TXAR Lajitas Array 144.24 33 PKP PKPdf 01 02 51.9 -3.2
comp=Z,9.4nm,1.1s,baz=266,slow=0.5,SNR=19
CPCT Cooper Cave 144.56 3 *e*PKPdf PKPdf 01 02 55.3 -0.2
CPUP Villa Florida 144.61 221 *e*PKPpre 01 02 51.5
CPUP LR LR
comp=Z,296nm,21.0s,MS5.0
PLAL Pickwick Lake 144.66 8 *e*PKPdf PKPdf 01 02 52.9 -2.8
PLAL LR LR
comp=Z,305nm,20.0s,MS5.1
OXF Oxford 144.90 10 *e*PKPdf PKPdf 01 02 56.7 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OXF				LR	LR		
	comp=Z,389nm,20.0s,MS5.2						
MYNC	Murphy	144.95	3	PFAKE		01 03 10.0	+17
MYNC				LR	LR		
	comp=Z,577nm,19.0s,MS5.4						
NATX	Nacogdoches	146.17	19	PFAKE		01 03 10.0	+14
NATX				LR	LR		
	comp=Z,445nm,20.0s,MS5.2						
GOGA	Godfrey	146.64	2	PFAKE		01 03 10.0	+13
GOGA				LR	LR		
	comp=Z,468nm,21.0s,MS5.2						
LRAL	Lakeview Retre	146.72	7	ePKPbc	PKPbc	01 03 01.5	+4.1
LRAL				LR	LR		
	comp=Z,454nm,21.0s,MS5.2						
NHSC	New Hope	146.91	357	PFAKE		01 03 10.0	+12
NHSC				LR	LR		
	comp=Z,522nm,21.0s,MS5.3						
LVC	Limon Verde	154.18	209	PFAKE		01 03 20.0	+9.2
LVC				LR	LR		
	comp=Z,273nm,21.0s,MS5.0						
SJG	San Juan	156.00	320	PFAKE		01 03 20.0	+6.7
SJG				LR	LR		
	comp=Z,269nm,21.0s,MS5.0						
LPAZ	La Paz	158.78	220	PKP	PKPdf	01 03 16.4	-0.6
	comp=Z,1.1nm,0.9s,baz=198,slow=6.4,SNR=2.8						
LPAZ				PKPab	PKPab	01 03 53.1	+1.3
	comp=Z,0.8nm,0.6s,baz=104,slow=11,SNR=3.8						
LPAZ	La Paz	158.78	220	PKP	PKPdf	01 03 16.4	-0.6
LPAZ				PKPab	PKPab	01 03 53.1	+1.4
LPAZ				LR	LR		
	comp=Z,203nm,20.0s,MS5.0						
SAML	Samuel	159.16	245	PFAKE		01 03 30.0	+12
SAML				LR	LR		
	comp=Z,369nm,20.0s,MS5.2						
SDV	Santo Domingo	165.45	308	PFAKE		01 03 30.0	+6.2
SDV				LR	LR		
	comp=Z,254nm,21.0s						
NNA	Nana	167.07	204	PFAKE		01 03 30.0	+5.0
NNA				LR	LR		
	comp=Z,78nm,20.0s						

CASC 07 00:56:16.3±1.7, 12.37N×87.65W, h31km±16km, MD3.5, ML2.6, 1C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL3	Telica 3	0.81	76	⇓eP	Pn	00 56 31.8	+0.1
MIRN	Miramar	0.92	86	eP	Pn	00 56 32.9	-0.3
CNGN	Cerro Negro	0.94	82	eP	Pn	00 56 33.5	+0.1
COPN	Copaltepe	1.06	100	⇑eP	Pn	00 56 33.9	-1.2
COPN				eS	Sn	00 56 50.6	+1.7
MOMJ	Momotombo	1.09	88	eP	Pn	00 56 35.0	-0.6
BLLM	Bellamira	1.21	332	eS	Sn	00 56 52.9	+0.2
XAVN	Gruta Xavier	1.32	100	eP	Pn	00 56 37.6	-1.3
XAVN				eS	Sn	00 56 55.1	-0.4
MGAN	Managua	1.39	99	eS	Sn	00 56 57.8	+0.4
	comp=E,90nm,0.4s						
SNVI	San Vicente	1.69	317	eS	Sn	00 57 05.8	+0.9
LCBS	La Ceiba	1.81	315	eP	Pn	00 56 46.3	+0.4
LCBS				eS	Sn	00 57 07.7	-0.4
LFRS	El Faro	1.85	312	eP	Pn	00 56 46.7	+0.2
LFRS				eS	Sn	00 57 09.0	-0.1

IDC 07 01:23:40.9±1.0, 6.92S×129.89E, mb4.1/7, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, ML4.9/2, Error ellipse: s-maj=67.9km s-min=16.7km az=75.0
NEIC 07 01:24:06.3±2.5, 7.42S×129.00E, h220km±28km, mb4.8/4, Error ellipse: s-maj=37.0km s-min=20.4km az=80.0
ISC 07 01:23:57.1±2.9, 7.6S±0.1×129.9E±0.1, h184km±31km, n19, σ0ˢ53/22, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	5.65	154	eP	Px	01 25 37.3	
	24nm,0.2s						
KAKA				eS	Sx	01 26 42.4	
FITZ	Fitzroy Crossi	11.26	201	eP	P	01 26 32.9	-0.8
	34nm,0.2s						
FITZ				eS	S	01 28 36.9	+0.3
FITZ	Fitzroy Crossi	11.26	201	Pn	P	01 26 33.1	-0.7
	24nm,0.3s,baz=20,slow=9.5,SNR=89						
FITZ				Sn	S	01 28 36.9	+0.2
	16nm,0.3s,baz=147,slow=19,SNR=8.8						
WRAB	Tennant Creek	12.99	161	eP	P	01 26 55.7	-0.2
WRA	Warramunga Arr	13.00	161	Pn	P	01 26 56.9	+0.9
	2.2nm,0.3s,baz=334,slow=14,SNR=50						
WRA				Sn	S	01 29 17.2	+0.4
	9.9nm,0.3s,baz=337,slow=21,SNR=7.6						
WB2	Warramunga Arr	13.00	161	eP	P	01 26 56.2	+0.2
WB2				eS	S	01 29 16.1	-0.9
MBWA	Marble Bar	16.71	215	eP	P	01 27 42.3	+0.1
	12nm,0.4s						
STKA	Stephens Creek	26.49	157	eP	P	01 29 26.3	+7.0
	2.6nm,0.8s,mb3.9						
STKA	Stephens Creek	26.49	157	P	P	01 29 26.3	+7.0
	1.5nm,0.3s,mb4.1,baz=319,slow=9.0,SNR=13						
STKA	Stephens Creek	26.49	157	eP	P	01 29 26.3	+7.0
SONM	Songino Array	58.98	342	P	P	01 33 38.6	-0.8
	0.5nm,0.4s,mb3.7,baz=160,slow=6.9,SNR=7.3						
MKAR	Makanchi Array	68.68	327	P	P	01 34 43.0	+0.4
	2.5nm,0.5s,mb4.2,baz=132,slow=7.6,SNR=16						
MKAR	Makanchi Array	68.68	327	P	P	01 34 43.0	+0.4
VNDA	Vanda	71.87	173	P	P	01 35 08.5	+7.2
	0.4nm,0.6s,mb3.3,baz=299,slow=7.8,SNR=4.3						
VNDA	Vanda	71.87	173	P	P	01 35 08.5	+7.2
ZAL	Zalesovo	72.08	334	P	P	01 35 03.0	+0.1
	0.9nm,0.3s,mb3.9,baz=354,slow=11,SNR=3.0						
KURK	Kurchatov	72.99	329	eP	P	01 35 08.0	-0.3
	1.7nm,0.3s,mb4.2						
MAW	Mawson	74.38	201	P	P	01 35 23.6	+7.5
	0.8nm,0.6s,mb3.6,baz=79,slow=8.1,SNR=4.6						
BVAR	Borovoye Array	78.53	328	P	P	01 35 39.8	+0.5
	0.5nm,0.4s,mb3.5,baz=110,slow=10,SNR=6.1						

IDC 07 01:28:44.9±1.4, 6.64S×153.19E, mb3.6/3, mb1 3.8/4, mb1mx3.7/13, mbtmp3.7/4, ML2.8/1, Error ellipse: s-maj=49.6km s-min=34.4km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.58	245	Pn	Pn	01 30 21.5	-3.7
	1.2nm,0.3s,baz=86,slow=13,SNR=2.8						
SONM	Songino Array	68.07	328	P	P	01 39 47.5	-1.0
	0.4nm,0.6s,baz=127,slow=7.2,SNR=4.9						
VNDA	Vanda	70.99	178	P	P	01 40 04.5	-1.5
	0.7nm,0.8s,baz=334,slow=6.3,SNR=3.6						
ILAR	Eielson Array	83.70	22	P	P	01 41 14.2	-2.4
	0.3nm,0.7s,baz=253,slow=4.6,SNR=4.8						

THR 07 01:30:24.2±0.7, 33.83N×48.94E, h14km±7km, ML3.5
CSEM 07 01:30:24.4±0.1, 33.67N×48.93E, h12km, ML3.5, Error ellipse: s-maj=2.4km s-min=1.6km az=14.0
TEH 07 01:30:25.7, 33.59N×48.94E, h6km, Mn3.8
ISC 07 01:30:25.2±4.8, 33.60N±0.07×48.94E±0.06, h15km±57km, n23, σ1ˢ09/23, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	Ashtian	1.31	43	ePg	Pn	01 30 45.5	-3.6
ASAO				eSg	Sn	01 31 01.3	-4.9
ASAO				AML	AML	01 31 07.0	
	comp=N,1μm,0.6s						
IKOM	Komasi	1.32	296	Pn	Pn	01 30 47.0	-2.1
SHGR	Shooshtar-Gavs	1.49	184	ePg	Pn	01 30 55.5	+3.9
IPIR	Pirpir	1.88	119	Pn	Pn	01 30 57.9	+0.8
IVIS	Veys	1.96	299	Pn	Pn	01 30 59.2	+0.9
IRAZ	Razeghan	1.98	24	Pn	Pn	01 30 59.8	+1.2
SNGE	Sanandaj	1.99	319	ePg	Pn	01 30 57.6	-1.1
SNGE				AML	AML	01 31 32.9	
	comp=N,535nm,0.5s						
IGHG	Ghaleghazi	2.10	291	Pn	Pn	01 31 01.8	+1.5
ILIN	Laeen	2.10	309	Pn	Pn	01 31 00.3	0.0
IKLH	Kalahroud	2.23	96	Pn	Pn	01 31 03.0	+0.9
IDHR	Dehrash	2.38	298	Pn	Pn	01 31 04.8	+0.4
IVRN	Varamin	2.70	58	Pn	Pn	01 31 09.1	+0.2
IVRN				Sn	Sn	01 31 41.7	+0.2
IZEF	Zefreh	2.93	103	Pn	Pn	01 31 12.6	+0.4
IGAR	Garneh	3.06	115	Pn	Pn	01 31 11.6	-2.4
IAFJ	Afjeh	3.21	45	Pn	Pn	01 31 16.2	0.0
DAMV	Damavand	3.22	50	ePn	Pn	01 31 15.0	-1.3
DAMV				AML	AML	01 32 10.9	
	comp=N,97nm,0.6s						
IDMV	Damavand	3.23	51	Pn	Pn	01 31 16.4	0.0
NASN	Na'in	3.34	103	ePn	Pn	01 31 19.3	+1.2
IFIR	Firoozkooh	3.75	56	Pn	Pn	01 31 23.6	-0.2
BHD	Baghdad	3.82	266	ex	x	01 31 19.0	
BHD				ex	x	01 32 08.0	
BHD				ex	x	01 32 32.0	
IPAR	Pars	5.13	136	Pn	Pn	01 31 41.8	-1.6
MSL	Mosul	5.50	301	e	x	01 32 21.0	
IMOK	Mook	5.57	144	Pn	Pn	01 31 49.9	+0.3

BJI 07 01:52:04.6, 38.44N×103.55E, h29km, mB4.8, mb4.5, ML4.3, Ms4.0, Msz3.7
MOS 07 01:52:05.0±0.9, 38.49N×103.62E, h33km, mb4.5/10, Error ellipse: s-maj=16.5km s-min=7.2km az=113.9
NEIC 07 01:52:06.2±2.0, 38.40N×103.57E, h28km±15km, mb4.5/9, Error ellipse: s-maj=10.1km s-min=6.3km az=66.0
IDC 07 01:52:06.9±8.1, 38.40N×103.58E, h32km±59km, mb3.9/13, mb1 4.1/15, mb1mx4.0/24, mbtmp4.1/15, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/20, Error ellipse: s-maj=25.9km s-min=18.3km az=48.0
ISC 07 01:52:05.1±0.9, 38.41N±0.05×103.68E±0.05, h39km±9km, n64, σ0ˢ81/65, mb4.2/24, 2C-4D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	Lanzhou	2.32	177	eP	P	01 52 43.4	+1.7
LZH				PG	P	01 52 46.6	+4.9
LZH				SG	S	01 53 15.1	+5.9
LZH				LR	LR		
	comp=E,13μm,4.3s						
LZH				LR	LR		
	comp=Z,4μm,5.8s						
LZH	Lanzhou	2.32	177	eP	P	01 52 43.4	+1.7
LZH						01 53 15.1	
GTA	Gaotai	3.18	290	PG	P	01 52 54.4	+0.5
GTA				SG	S	01 53 39.3	+8.3
GTA				Smax			
	comp=N,738nm,0.8s						
GTA				Smax			
	comp=E,969nm,0.7s						
GTA				LR	LR		
	comp=N,2μm,8.7s						
GTA				LR	LR		
	comp=E,1μm,7.2s						
GTA				LR	LR		
	comp=Z,980nm,7.2s						
XAN	Xi'an	6.08	134	P	P	01 53 33.9	-0.9
XAN				PG	P	01 53 53.4	+19
XAN				S	S	01 54 51.5	+7.4
XAN				SG	S	01 55 18.6	+35
XAN				Smax			
	comp=N,124nm,0.9s						
XAN				Smax			
	comp=E,70nm,0.9s						
HHC	Hu-ho-hao-te	6.56	66	ePG	P	01 54 02.2	+21
HHC				S	S	01 54 56.6	+0.6
HHC				SG	S	01 55 24.7	+29
HHC				Smax			
	comp=N,302nm,0.6s						
HHC				Smax			
	comp=E,323nm,0.6s						
HHC				LR	LR		
	comp=N,706nm,2.1s						
HHC				LR	LR		
	comp=Z,348nm,11.5s						
ENH	Enshi	9.43	148	eP	P	01 54 19.1	-2.3
SONM	Songino Array	9.63	11	Pn	P	01 54 23.9	-0.3
	comp=Z,2.1nm,0.3s,baz=192,slow=14,SNR=45						
SONM				LR	LR	01 58 32.5	
	comp=Z,303nm,19.7s,baz=195,slow=40						
ULN	Ulaanbaatar	9.77	14	eP	P	01 54 26.4	+0.3
	comp=Z,13nm,0.8s						
ULN	Ulaanbaatar	9.77	14	eP	P	01 54 26.4	+0.3
ULN				pmax	pmax		
	comp=Z,13nm,0.8s						
ZAK	Zakamensk	11.98	359	eP	P	01 54 56.0	-0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GYA	Guiyang	12.18	167	⇓iP	P	01 54 56.7	-2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				LR	LR		
	comp=N,330nm,12.3s						
GYA				LR	LR		
	comp=E,340nm,12.0s						
GYA				LR	LR		
	comp=Z,360nm,11.8s						
WMQ	Urumqi	13.21	299	eP	P	01 55 12.0	-0.5
WMQ				XP		01 55 18.0	
WMQ				SS	SS	01 57 55.0	+0.3
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s						
WMQ				LR	LR		
	comp=N,342nm,6.4s						
WMQ				LR	LR		
	comp=E,214nm,6.6s						
NJ2	Nanjing	13.92	113	eP	P	01 55 22.0	+0.1
NJ2				PP	PP	01 55 32.1	-0.8
NJ2				S	S	01 57 56.0	-0.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,390nm,5.5s						
NJ2				LR	LR		
	comp=N,1μm,5.8s						
NJ2				LR	LR		
	comp=E,920nm,7.8s						
NJ2				LR	LR		
	comp=Z,480nm,5.5s						
MKAR	Makanchi Array	17.80	305	P	P	01 56 11.6	+0.3
	comp=Z,0.1nm,0.3s,baz=100,slow=14,SNR=10						
ZAL	Zalesovo	20.20	326	P	P	01 56 38.1	-1.0
	comp=Z,4.9nm,0.8s,baz=342,slow=10,SNR=26						
BOD	Bodaibo	20.57	16	eP	P	01 56 42.8	-0.1
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NVS	Novosibirsk	21.49	327	eP	P	01 56 48.0	-4.2
KURK	Kurchatov	21.56	313	eP	P	01 56 52.2	-0.8
	comp=Z,11nm,0.8s,mb4.3						
KURK	Kurchatov	21.56	313	eP	P	01 56 52.2	-0.8
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
AAK	Ala-Archa	22.53	290	eP	P	01 57 02.8	+0.2
	comp=Z,4.5nm,0.8s,mb4.0						
AAK	Ala-Archa	22.53	290	eP	P	01 57 02.8	+0.2
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
KKAR	Karatay Array	25.46	291	i P	P	01 57 32.8	+1.8
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
VOSK	Vostochnaya	26.72	313	P	P	01 57 42.4	-0.2
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
BVA0	Borovoye Array	27.16	313	i P	P	01 57 47.0	+0.4
BVAR	Borovoye Array	27.16	313	P	P	01 57 46.3	-0.3
	comp=Z,2.5nm,0.7s,mb3.8,baz=106,slow=11,SNR=13						
BRVK	Borovoye	27.23	313	eP	P	01 57 46.9	-0.3
	comp=Z,2.0nm,0.9s,mb3.6						
BRVK	Borovoye	27.23	313	eP	P	01 57 46.9	-0.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
AB31	Akbulak array	32.93	304	P	P	01 58 38.0	+0.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ARU	Arti	34.67	316	eP	P	01 58 53.0	+0.2
JOF	Joensuu	48.78	325	ep	P	02 00 45.4	-2.3
	comp=Z,2.9nm,0.8s,mb4.4						
KEV	Kevo	49.98	334	ep	P	02 00 57.1	+0.1
	comp=Z,12nm,1.1s,mb4.8						
KEV	Kevo	49.98	334	eP	P	02 00 57.1	+0.1
KEV				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
ARCES	ARCESS Array B	50.52	334	P	P	02 01 01.9	+0.8
	comp=Z,4.5nm,0.9s,mb4.4,baz=78,slow=7.8,SNR=9.4						
KAF	Kangasniemi	51.19	324	ep	P	02 01 05.3	-0.9
	comp=Z,4.7nm,1.0s,mb4.4,baz=80,slow=7.3						
KAF	Kangasniemi	51.19	324	eP	P	02 01 05.3	-0.9
KAF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
FINES	FINESS Array B	51.42	323	P	P	02 01 08.3	+0.3
	comp=Z,1.9nm,0.5s,mb4.3,baz=75,slow=8.6,SNR=32						
AKASG	Malin Array Be	52.31	309	P	P	02 01 14.4	-0.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=64,slow=7.0,SNR=8.0						
BRTR	Keskin Array B	53.08	295	P	P	02 01 21.1	+0.3
	comp=Z,1.1nm,0.8s,mb3.9,baz=90,slow=7.2,SNR=6.1						
KWP	Kalwaria	56.62	310	eP	P	02 01 46.5	+0.2
	comp=Z,6.3nm,0.6s,mb4.8						
KWP	Kalwaria	56.62	310	eP	P	02 01 46.5	+0.2
KWP				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
NB2	NORSAR Subarra	58.40	325	P	P	02 01 57.7	-0.9
	comp=Z,5.4nm,0.8s,mb4.6,baz=67,slow=7.0						
NB2	NORSAR Subarra	58.40	325	P	P	02 01 57.7	-0.9
NB2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
NOA	NORSAR Array B	58.40	325	P	P	02 01 58.0	-0.6
	comp=Z,4.9nm,0.8s,mb4.6,baz=70,slow=7.0,SNR=15						
FITZ	Fitzroy Crossi	59.87	156	P	P	02 02 10.1	+0.7
	comp=Z,4.9nm,0.7s,mb4.7,baz=1.1,slow=6.7,SNR=4.5						
TTA	Tatalina	60.94	31	eP	P	02 02 15.2	-0.9
	comp=Z,153nm,0.9s						
TTA	Tatalina	60.94	31	eP	P	02 02 15.2	-0.9
TTA				pmax	pmax		
	comp=Z,153nm,0.9s						
BRG	Berggiesshubel	61.25	314	eP	P	02 02 18.0	-0.4
	comp=Z,4.3nm,0.9s,mb4.6						
BRG	Berggiesshubel	61.25	314	eP	P	02 02 18.0	-0.4
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CLL	Collm	61.59	314	⇓P	P	02 02 20.8	+0.2
	comp=Z,logA/T=0.8,mb4.7						
CLL	Collm	61.59	314	⇓iP	P	02 02 20.8	+0.2
	comp=Z,7.0nm,1.1s,mb4.7						
CLL	Collm	61.59	314	⇓iP	P	02 02 20.8	+0.2
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
SVW2	Sparrevohn	61.99	33	P	P	02 02 23.8	+0.6
GERES	GERESS Array B	62.31	312	P	P	02 02 26.1	+0.6
	comp=Z,0.9nm,0.8s,mb3.9,baz=68,slow=7.2,SNR=7.9						
KTH	Kantishna Hill	62.63	29	P	P	02 02 23.3	-4.1
MOX	Moxa	62.67	314	eP	P	02 02 28.0	+0.1
ILAR	Eielson Array	63.45	27	P	P	02 02 33.1	+0.2
	comp=Z,1.1nm,0.8s,mb4.1,baz=284,slow=5.9,SNR=11						
WRA	Warramunga Arr	64.78	148	P	P	02 02 42.4	+0.2
	comp=Z,2.2nm,1.0s,mb4.2,baz=345,slow=7.0,SNR=6.3						
INK	Inuvik	65.41	20	P	P	02 02 46.6	+1.2
	comp=Z,1.5nm,0.8s,mb4.1,baz=288,slow=5.9,SNR=4.1						
KMBO	Kilima Mbogo	72.42	254	P	P	02 03 29.9	+0.5
	comp=Z,0.8nm,0.6s,mb3.8,baz=65,slow=21,SNR=3.7						
VNA2	Neumayer--Watz	132.62	205	⇑i	PKPdf	02 11 18.5	+3.6
VNA2	Neumayer--Watz	132.62	205	e	PKPdf	02 11 21.1	+6.2
VNA3	Neumayer Olymp	133.32	204	⇑i	PKPdf	02 11 19.6	+3.4
VNA3	Neumayer Olymp	133.32	204	e	PKPdf	02 11 22.7	+6.5
BDFB	Brasilia	146.32	305	PKPbc	PKPbc	02 11 44.2	+2.2
	comp=Z,1.8nm,0.6s,baz=67,slow=7.5,SNR=5.1						

IDC 07 02:01:04.9±1.1, 65.41N×162.48W, mb4.1/16, mb1 4.3/19, mb1mx4.3/23, mbtmp4.1/19, ML3.7/3, MS3.1/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=31.3km s-min=10.1km az=17.0
NEIC 07 02:01:06.3, 65.42N×162.21W, h30km, mb4.7/14, ML4.7(PMR), ML4.4(AEIC), After AEIC.
ISC 07 02:01:06.4±0.4, 65.29N±0.06×162.20W±0.08, h30km, n62, σ0ˢ90/66, mb4.4/30, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCSA	Galena City Sc	2.32	101	P	Pn	02 01 43.7	+0.2
GCSA				S	Sn	02 02 12.1	+0.8
TNA	Tin City	2.41	279	P	Pn	02 01 43.7	-1.1
TNA				S	Sn	02 02 13.2	-0.4
IM3	Indian Mountai	3.57	75	P	Pn	02 01 59.3	-1.9
IM3				S	Sn	02 02 44.0	+1.1
TTA	Tatalina	3.60	128	P	Pn	02 02 01.9	+0.3
IMA	Indian Mountai	3.61	74	eP	Pn	02 02 00.2	-1.6
TT01	Tatalina	3.61	129	P	Pn	02 02 02.1	+0.2
MCK	McKinley	5.93	99	P	Pn	02 02 31.6	-3.1
ILAR	Eielson Array	6.50	88	Pn	Pn	02 02 40.2	-2.5
	2.0nm,0.3s,baz=280,slow=13,SNR=127						
ILAR				Sn	Sn	02 03 52.4	-4.3
	1.4nm,0.3s,baz=283,slow=23,SNR=5.1						
ILAR				Lg		02 04 30.9	
	2.2nm,0.3s,baz=282,slow=29,SNR=9.6						
ILAR				LR	LR	02 05 42.7	
	comp=Z,117nm,19.1s,baz=323,slow=42						
ILAR	Eielson Array	6.50	88	Pn	Pn	02 02 40.2	-2.5
ILAR				Sn	Sn	02 03 52.4	-4.3
ILAR				Lg		02 04 30.9	
ILAR				LR	LR	02 05 42.7	
PMR	Palmer	6.93	116	eP	Pn	02 02 46.7	-2.0
BM3	Burnt Mountain	7.38	65	P	Pn	02 02 52.3	-2.7
CHGN	Chignik	9.20	167	eP	P	02 03 19.9	-0.4
INK	Inuvik	11.64	62	Pn	P	02 03 49.9	-3.6
	0.1nm,0.3s,baz=248,slow=5.4,SNR=2.4						
INK				LR	LR	02 08 24.2	
	comp=Z,113nm,18.1s,baz=78,slow=38						
DLBC	Dease Lake	16.49	99	Pn	P	02 04 57.7	+0.9
	0.1nm,0.3s,baz=293,slow=15,SNR=3.0						
DLBC	Dease Lake	16.49	99	Pn	P	02 04 57.7	+0.9
YKA	Yellowknife Ar	20.73	76	P	P	02 05 46.6	-0.1
	4.7nm,0.7s,baz=299,slow=8.2,SNR=7.6						
ULM	Lac du Bonnet	36.48	81	P	P	02 08 11.1	+0.8
	3.7nm,0.6s,mb4.5,baz=320,slow=8.3,SNR=6.7						
ULM	Lac du Bonnet	36.48	81	P	P	02 08 11.1	+0.8
PDAR	Pinedale Array	36.70	102	P	P	02 08 14.1	+1.8
	0.4nm,0.6s,mb3.5,baz=338,slow=6.0,SNR=5.1						
SCHQ	Schefferville	44.17	56	P	P	02 09 14.1	+0.5
	4.8nm,0.7s,mb4.4,baz=345,slow=7.7,SNR=9.2						
SCHQ	Schefferville	44.17	56	P	P	02 09 14.1	+0.5
KEV	Kevo	45.08	355	ep	P	02 09 19.2	-1.5
	12nm,0.9s,mb4.7						
ARCES	ARCESS Array B	45.35	356	P	P	02 09 23.3	+0.5
	7.0nm,1.0s,mb4.5,baz=7.1,slow=9.8,SNR=5.3						
SONM	Songino Array	48.43	296	P	P	02 09 48.0	+0.7
	1.9nm,1.1s,mb4.0,baz=41,slow=7.3,SNR=6.8						
ZAL	Zalesovo	50.61	315	P	P	02 10 03.9	-0.1
	1.4nm,0.4s,mb4.3,baz=107,slow=4.9,SNR=5.5						
TXAR	Lajitas Array	50.66	106	P	P	02 10 06.3	+1.6
	1.8nm,0.8s,mb4.1,baz=315,slow=7.1,SNR=22						
TXAR	Lajitas Array	50.66	106	P	P	02 10 06.3	+1.6
JOF	Joensuu	51.71	352	ep	P	02 10 11.8	-0.4
	2.9nm,0.5s,mb4.5						
KAF	Kangasniemi	52.75	355	ep	P	02 10 19.4	-0.6
	6.0nm,0.6s,mb4.7,baz=0.6,slow=7.1						
FINES	FINESS Array B	53.43	355	P	P	02 10 25.0	0.0
	2.7nm,0.5s,mb4.4,baz=18,slow=8.7,SNR=26						
NOA	NORSAR Array B	53.89	4	P	P	02 10 27.7	-0.7
	1.5nm,0.8s,mb4.0,baz=358,slow=7.4,SNR=4.2						
BVAR	Borovoye Array	55.34	324	P	P	02 10 38.8	-0.4
	3.1nm,0.6s,mb4.5,baz=36,slow=7.0,SNR=14						
BVAR				PcP	PcP	02 11 38.8	-0.4
	1.2nm,0.6s,slow=3.0,SNR=3.5						
MKAR	Makanchi Array	57.67	313	P	P	02 10 54.9	-0.9
	1.6nm,0.7s,mb4.2,baz=45,slow=6.9,SNR=11						
AKASG	Malin Array Be	64.01	352	P	P	02 11 38.4	-0.3
	6.0nm,0.6s,mb4.8,baz=6.6,slow=5.9,SNR=32						
BAIF	Baives	64.51	10	eP	P	02 11 42.0	+0.1
GIVF	Givet	64.51	9	eP	P	02 11 41.7	-0.2
FLN	La Foliniere	65.41	13	eP	P	02 11 47.4	-0.3
	8.1nm,0.7s,mb4.6						
LDF	La Druitiere	65.61	13	eP	P	02 11 48.6	-0.4
SGMF	Saint Gilles	65.70	15	eP	P	02 11 49.5	-0.1
GRR	Gorron	65.74	14	eP	P	02 11 49.8	-0.1
	8.4nm,0.6s,mb4.6						
KHC	Kasperske Hory	65.87	3	eP	P	02 11 51.5	+0.8
GERES	GERESS Array B	66.16	3	P	P	02 11 53.4	+0.9
	0.4nm,0.4s,mb3.8,slow=2.7,SNR=7.7						
CDF	Champ du Feu	66.35	8	eP	P	02 11 54.1	+0.4
HAU	Haudompre	66.70	8	eP	P	02 11 56.2	+0.2
	3.3nm,0.4s,mb4.4						
HYF	Humbligny	67.17	11	eP	P	02 11 59.4	+0.4
LOR	Lormes	67.26	10	eP	P	02 11 59.6	0.0
	4.6nm,0.6s,mb4.4						
SSF	Saint Saulge	67.44	11	eP	P	02 12 00.9	+0.2
	12nm,0.9s,mb4.6						
MFF	Saint Martin d	67.58	13	eP	P	02 12 01.8	+0.2
	6.7nm,0.7s,mb4.5						
AVF	Avril sur Loir	67.70	11	eP	P	02 12 02.4	+0.1
	12nm,0.9s,mb4.6						
SMF	Signal de Mont	67.88	10	eP	P	02 12 03.3	-0.2
BGF	Bois d'Agland	67.89	11	eP	P	02 12 03.7	+0.2
	14nm,0.8s,mb4.7						
CABF	La Chapelle	68.07	9	eP	P	02 12 05.1	+0.4
TCF	Toulx Ste Croi	68.11	12	eP	P	02 12 04.8	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	16nm,1.0s,mb4.7						
LFF	La Frestale	69.31	13	eP	P	02 12 12.7	+0.3
	12nm,0.7s,mb4.7						
KIV	Kislovodsk	69.38	341	eP	P	02 12 13.3	+0.5
	11nm,1.0s,mb4.7						
CAF	Calviac	69.44	12	eP	P	02 12 13.5	+0.3
VIVF	Saint-Julien-l	69.72	10	eP	P	02 12 15.4	+0.5
	15nm,1.0s,mb4.6						
MBDF	Montbardon	69.99	8	eP	P	02 12 16.6	+0.1
ETSF	Etsaut	71.20	14	eP	P	02 12 25.3	+1.4
ESDC	Sonseca Array	74.00	17	P	P	02 12 41.5	+1.2
	1.5nm,0.7s,mb4.0,baz=354,slow=6.1,SNR=7.5						
BRTR	Keskin Array B	74.60	347	P	P	02 12 44.5	+0.8
	1.7nm,0.9s,mb4.0,baz=14,slow=5.1,SNR=7.2						
VNDA	Vanda	144.25	193	PKP	PKPdf	02 20 40.5	-1.8
	1.1nm,1.0s,baz=319,slow=3.2,SNR=3.7						

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*NEIC **07** 02:05:14.7, 11.35N×88.43W, h27km, mb4.1/1, MD4.4(CASC), After CASC.*

CASC 07 02:05:10.9±1.9**, 12.05N×88.45W, h31km**±19km**, MD4.2, mb4.1**(NEIC)**, 9C-7D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.36	26	eP	Pn	02 05 33.9	-0.2
CNCH				eS	Sn	02 05 52.7	+1.5
VSM	San Miguel	1.38	7	eP	Pn	02 05 34.6	+0.2
BLLM	Bellamira	1.40	9	eP	Pn	02 05 33.9	-0.7
BLLM				eS	Sn	02 05 52.7	+0.4
CRIN	San Cristobal	1.52	65	⇑eP	Pn	02 05 37.3	+1.0
CRIN				eS	Sn	02 05 52.9	-2.2
LEON	Leon	1.57	76	⇑eP	Pn	02 05 36.8	-0.3
SNVI	San Vicente	1.60	346	eS	Sn	02 05 59.3	+2.0
TEL3	Telica 3	1.66	72	⇑eP	Pn	02 05 38.2	-0.1
LFRS	El Faro	1.67	339	eP	Pn	02 05 37.7	-0.9
LCBS	La Ceiba	1.68	342	eP	Pn	02 05 38.0	-0.6
TELN	Telica	1.68	71	eP	Pn	02 05 37.0	-1.6
MIRN	Miramar	1.75	77	⇑eP	Pn	02 05 39.9	+0.3
CNGN	Cerro Negro	1.77	75	⇓eP	Pn	02 05 39.8	-0.2
LBRS	Las Brisas	1.77	341	eP	Pn	02 05 38.9	-1.1
LFU	La Fuente	1.81	339	eP	Pn	02 05 40.6	+0.2
COPN	Copaltepe	1.82	86	⇓eP	Pn	02 05 40.6	-0.1
BOQS	Boqueron	1.86	334	eP	Pn	02 05 40.7	-0.5
MOMJ	Momotombo	1.90	79	⇓eP	Pn	02 05 41.7	-0.2
XAVN	Gruta Xavier	2.08	87	eP	Pn	02 05 44.4	0.0
SBLS	San Blas	2.11	327	eP	Pn	02 05 44.3	-0.6
SNJE	San Jose	2.13	328	eP	Pn	02 05 44.2	-0.9
SNJE				eS	Sn	02 06 10.9	+0.2
MGAN	Managua	2.16	87	⇑iP	Pn	02 05 44.0	-1.5
MGAN				eS	Sn	02 06 11.1	-0.4
MGAN	Managua	2.16	87	eP	Pn	02 05 50.6	+5.1
TICN	Ticuantepe	2.17	90	⇓eP	Pn	02 05 45.8	+0.1
RTR	El Retiro	2.17	328	eP	Pn	02 05 44.8	-0.9
WILN	Americas 2	2.22	87	eP	Pn	02 05 46.2	-0.2
WILN				eS	Sn	02 06 12.6	-0.4
APON	Apoyo	2.34	93	⇑eP	Pn	02 05 47.1	-1.0
CUSS	Cusmapa	2.35	322	eP	Pn	02 05 47.1	-1.2
RBDL	Robledal	2.38	330	eP	Pn	02 05 48.6	-0.1
RBDL				eS	Sn	02 06 18.1	+1.1
PYTN	Playitas	2.39	78	eP	Pn	02 05 48.5	-0.3
MTO2	Montecristo 2	2.50	339	eP	Pn	02 05 49.1	-1.2
SSNN	San Juan del S	2.66	106	⇑eP	Pn	02 05 52.1	-0.6
CONN	Concepcion	2.81	100	⇓eP	Pn	02 05 53.6	-1.2
MADN	Villa Maderas	2.93	102	eP	Pn	02 05 55.4	-1.1
VCR	Vista de Mar	3.37	124	eP	Pn	02 06 00.3	-2.4
JCR	Jicaral	3.94	123	eP	Pn	02 06 08.4	-2.5
JCR				eS	Sn	02 06 52.2	-4.5
CGA2	Cerro Gallo 2	4.41	117	⇑eP	Pn	02 06 17.3	-0.2
CGA2				eS	Sn	02 07 04.4	-3.9
LAJ	Bijagual	4.78	117	⇓eP	Pn	02 06 17.3	-5.4
LCR2	La Lucha 2	4.94	117	⇑eP	Pn	02 06 23.9	-1.1
LCR2				eS	Sn	02 07 19.7	-2.0
BUS	Buena Vista	5.24	118	⇓iP	Pn	02 06 28.1	-1.1
BUS				eS	Sn	02 07 23.0	-6.2
SAML	Samuel	32.65	129	eP	P	02 11 40.1	-2.5
	2.0nm,0.8s						

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*IDC **07** 02:05:47.2±2.5, 65.47N×162.62W, mb3.8/3, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=58.9km s-min=18.2km az=20.0*

*NEIC **07** 02:05:48.9, 65.38N×162.19W, h30km, ML3.6(AEIC), After AEIC.*

ISC 07 02:05:48.2±0.6**, 65.4N**±0.1×**162.1W**±0.1**, h30km, n14, σ0.78**/17**, mb3.7**/3**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCSA	Galena City Sc	2.31	103	P	Pn	02 06 25.9	+0.8
GCSA				S	Sn	02 06 52.7	-0.1
TNA	Tin City	2.42	277	P	Pn	02 06 26.4	-0.3
TNA				S	Sn	02 06 55.1	-0.5
IM3	Indian Mountai	3.53	76	P	Pn	02 06 43.0	+0.7
TTA	Tatalina	3.63	130	P	Pn	02 06 44.2	+0.4
MLY	Manley	4.81	89	P	Pn	02 07 00.3	-0.3
COLD	Coldfoot	5.16	63	P	Pn	02 07 05.2	-0.4
KTH	Kantishna Hill	5.18	105	P	Pn	02 07 05.7	-0.1
SVW2	Sparrevohn	5.21	142	P	Pn	02 07 05.8	-0.3
IL1	Eielson Array	6.47	88	P	Pn	02 07 22.5	-1.5
ILAR	Eielson Array	6.47	88	Pn	Pn	02 07 23.0	-1.0
	0.9nm,0.3s,baz=283,slow=13,SNR=4.6						
ILAR				Sn	Sn	02 08 33.5	-4.2
	0.8nm,0.3s,baz=286,slow=23,SNR=5.2						
TXAR	Lajitas Array	50.66	106	P	P	02 14 48.2	+1.8
	0.1nm,0.5s,mb3.0,baz=333,slow=5.6,SNR=3.4						
TXAR	Lajitas Array	50.66	106	P	P	02 14 48.2	+1.8
FINES	FINESS Array B	53.35	355	P	P	02 15 06.8	+0.6
	1.3nm,0.8s,mb3.9,baz=11,slow=14,SNR=3.7						
AKASG	Malin Array Be	63.94	352	P	P	02 16 20.4	+0.5
	1.1nm,0.5s,mb4.1,baz=5.7,slow=6.0,SNR=8.6						

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*CSEM **07** 02:23:54.0±0.2, 36.93N×24.30W, ML1.9, Error ellipse: s-maj=5.4km s-min=3.9km az=81.0, After PDA*

*PDA **07** 02:23:54.0±0.7, 36.93N×24.30W, MD3.0, ML1.9, Error ellipse: s-maj=5.2km s-min=3.8km az=83.0*

SVSA 07 02:23:54.0±0.7**, 36.93N×24.30W, MD3.0, ML1.9, Error ellipse: s-maj=5.2km s-min=3.8km az=83.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.62	277	eP	Pg	02 24 04.8	-1.5
PSMN				eS	Sg	02 24 13.2	-1.3
MIRA	Miradouro	1.16	318	eP	Pb	02 24 12.6	-4.0
MIRA				eS	Sb	02 24 26.4	-5.6
FRA1	Furnas	1.17	314	eS	Sb	02 24 26.4	-6.0
PCNG	Congro	1.21	314	eS	Sb	02 24 27.7	-5.8
	6.3nm,0.2s						
VIF	Vila Franca	1.22	312	eP	Pb	02 24 13.6	-4.0
VIF				eS	Sb	02 24 28.4	-5.4
	11nm,0.3s						
PFAD	Fenais da Ajud	1.22	319	eP	Pb	02 24 13.8	-3.9
PFAD				eS	Sb	02 24 28.0	-5.8
PRCH	Ribeira Ch	1.23	311	eS	Sb	02 24 28.4	-5.8
	22nm,0.1s						
MESC	Monte Escuro	1.26	314	eP	Pb	02 24 13.8	-4.5
MESC				eS	Sb	02 24 29.3	-5.6
LFA	Lagoa do Fogo	1.26	312	eP	Pb	02 24 14.3	-4.1

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*NEIC **07** 02:40:58.3, 32.63S×71.52W, h15km, ML2.9(GUC), After GUC.*

NEIC Felt [II] at Zapallar.

GUC 07 02:40:58.3±0.9**, 32.63S×71.52W, h15km**±4km**, MD3.8, ML2.9, 8C-11D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.41	194	⇑iP	Pb	02 41 06.6	-0.1
IHA				i S	Sb	02 41 12.7	+0.3
ROCH	El Roble	0.55	129	⇑iP	Pb	02 41 09.3	+0.2
ROCH				i S	Sb	02 41 17.3	+0.8
CHNG	Los Chungos	0.74	1	⇓iP	Pb	02 41 11.7	-0.6
CHNG				i S	Sb	02 41 21.6	-0.4
CHNG				AMP		02 41 25.2	
	comp=N,248nm,0.3s						
JACH	Jahuel	0.79	94	⇑iP	Pb	02 41 12.8	-0.3
JACH				i S	Sb	02 41 23.8	+0.5
LCCH	Las Cruces	0.85	183	⇓iP	Pb	02 41 13.4	-0.8
PEL	Peldehue	0.87	126	⇑iP	Pb	02 41 14.4	-0.1
PEL				i S	Sb	02 41 26.4	+0.6
ILCH	Illapel	1.03	17	⇑iP	Pb	02 41 17.2	-0.1
ILCH				i S	Sb	02 41 30.3	-0.1
ILCH				AMP		02 41 34.4	
	comp=E,594nm,0.1s						
RCDM	Rinconada Maip	1.05	145	⇑iP	Pb	02 41 16.7	-0.9
RCDM				i S	Sb	02 41 30.5	-0.4
RCDM				AMP		02 41 31.2	
	comp=E,941nm,0.1s						
STL	Santa Lucia	1.09	138	AMP		02 41 31.8	
	comp=N,297nm,0.2s						
SAN	Santiago	1.10	139	eP	Pb	02 41 17.2	-1.2
SAN				i S	Sb	02 41 32.3	+0.1
SAN				AMP		02 41 32.6	
	comp=E,560nm,0.2s						
DSCH	Colegio Aleman	1.11	134	⇓iP	Pb	02 41 17.8	-0.9
DSCH				i S	Sb	02 41 32.9	+0.2
DSCH				AMP		02 41 40.0	
	comp=N,626nm,0.4s						
CLCH	Cerro Calan	1.13	133	⇓iP	Pb	02 41 18.1	-0.8
CLCH				AMP		02 41 32.9	
	comp=E,811nm,0.6s						
CLCH				i S	Sb	02 41 33.7	+0.5
CLCH				AMP		02 41 41.3	
	comp=N,358nm,0.4s						
TACH	Talagante	1.14	155	⇓iP	Pb	02 41 18.2	-0.9
TACH				i S	Sb	02 41 32.9	-0.5
ANTU	Antumapu	1.20	142	eP	Pb	02 41 19.3	-0.9
ANTU				i S	Sb	02 41 35.2	0.0
ANTU				AMP		02 41 39.9	
	comp=E,582nm,0.4s						
FCH	Farellones	1.25	124	⇓iP	Pb	02 41 20.1	-1.0
FCH				i S	Sb	02 41 36.6	-0.1
FCH				AMP		02 41 40.8	
	comp=E,342nm,0.2s						
PCH	Pirque	1.30	140	⇓iP	Pb	02 41 21.0	-0.9
PCH				i S	Sb	02 41 37.8	-0.5
LNV	Longovilo	1.33	176	⇓iP	Pb	02 41 21.4	-0.9
LNV				eS	Sb	02 41 37.9	-1.1
CHCH	Chadas Angostu	1.49	151	⇓iP	Pn	02 41 24.1	-0.7
CHCH				i S	Sb	02 41 43.6	-0.2
CMCH	Combarbala	1.52	17	eP	Pn	02 41 24.4	-0.7
CMCH				i S	Sb	02 41 44.6	+0.1
CMCH				AMP		02 41 48.1	
	comp=N,1μm,0.8s						
LMEL	Las Melosas	1.64	138	⇓iP	Pn	02 41 26.2	-0.7
LMEL				i S	Sn	02 41 47.7	-0.1
LMEL				AMP		02 41 52.1	
	comp=N,488nm,0.3s						
CACH	El Canelo	1.67	153	⇓iP	Pn	02 41 27.4	+0.1
CACH				i S	Sn	02 41 50.7	+2.1
CICH	Cipreses	1.92	152	⇑iP	Pn	02 41 31.0	+0.1
CICH				i S	Sn	02 41 56.3	+1.4
SFDO	San Fernando	2.03	168	⇑iP	Pn	02 41 32.6	+0.3

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*ISK **07** 02:50:32.2, 37.51N×27.04E, h9km, MD3.1*

*ATH **07** 02:50:32.0, 37.51N×27.18E, h12km±1km, MD3.1/5*

*NEIC **07** 02:50:32.0, 37.51N×27.18E, h12km, MD3.1(ATH), MD3.1(ISK), After ATH.*

*CSEM **07** 02:50:33.1±0.1, 37.55N×27.16E, h5km, MD3.1, Error ellipse: s-maj=2.8km s-min=2.0km az=53.0*

ISC 07 02:50:32.5±0.6**, 37.51N**±0.02×**27.06E**±0.04**, h7km**±5km**, n25, σ0.83**/38**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.27	319	⇑iPB	Pb	02 50 39.2	0.0
SMG				eSB	Sb	02 50 43.3	-0.3
BODT	Bodrum	0.49	156	i PG	Pg	02 50 41.9	-0.5
BODT				i SG	Sg	02 50 49.6	+0.7
BDRM	Kayabasi	0.54	145	i P	Pg	02 50 43.9	+0.5
BDRM				i S	Sg	02 50 51.7	+1.1
MLSB	Milas	0.61	110	i PG	Pg	02 50 44.9	+0.1
MLSB				i SG	Sg	02 50 53.5	+0.6
AYDN	Tasoluk	0.67	77	i P	Pg	02 50 46.0	0.0
AYDN				i S	Sg	02 50 54.6	-0.3
BLCB	Balcova	0.88	359	i PG	Pg	02 50 49.5	-0.5
BLCB				i SG	Sg	02 51 01.4	-0.3
NISR	Nisiros	0.90	176	ePB	Pb	02 50 49.5	-0.5
NISR	Nisiros	0.90	176	ePn	Pn	02 50 50.0	-1.4
IZM	Izmir	0.90	10	i PG	Pg	02 50 50.3	-0.3
KDAG	Bornova	0.91	10	i P	Pb	02 50 49.3	-0.9
KDAG				i S	Sb	02 51 01.8	-0.5
URLA	Izmir	0.93	337	i P	Pb	02 50 50.0	-0.5
URLA				i S	Sb	02 51 02.7	-0.1
YER	Yerkesik	1.04	111	i PG	Pg	02 50 53.1	-0.3
APE	Apeiranthos	1.30	251	PN	Pn	02 50 56.9	-0.2
APE	Apeiranthos	1.30	251	ePb	Pb	02 50 58.2	+1.4
DALT	Dalyan (Mudla)	1.46	120	PN	Pn	02 50 59.9	+0.5
AKS	Akhisar	1.49	23	PN	Pn	02 51 00.0	+0.1
MANT	Manisa	1.54	50	i P	Pn	02 51 02.0	+1.4
MANT				i S	Sb	02 51 20.7	+0.1
ARG	Arkhangelos	1.55	146	ePB	Pb	02 51 00.1	-1.0
ARG				eSB	Sb	02 51 20.7	-0.1
DENT	Denizli	1.59	81	PN	Pn	02 51 01.4	+0.2
DNZL	Cakiroluk	1.59	83	i P	Pn	02 51 01.6	+0.3
DNZL				i S	Sb	02 51 21.1	-0.9
AYVA	Ayvalik	1.82	351	i P	Pn	02 51 08.3	+3.7
AYVA				i S	Sn	02 51 32.8	+4.7
PRK	Paraskevi	1.84	341	ePN	Pn	02 51 06.2	+1.3
PRK				eSN	Sn	02 51 30.6	+1.9
KARP	Karpathos	1.96	178	ePN	Pn	02 51 07.3	+0.7
ELL	Elmali	2.40	108	ePN	Pn	02 51 12.2	-0.7
NPS	Neapolis	2.53	208	ePB	Pb	02 51 15.4	-2.5

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*IDC **07** 02:57:46.4±1.9, 32.98N×80.58E, mb3.8/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=56.3km s-min=27.0km az=62.0*

*NEIC **07** 02:57:47.9±1.2, 33.03N×80.70E, h10km, mb4.0/3, Error ellipse: s-maj=29.1km s-min=10.7km az=52.0*

*MOS **07** 02:57:48.5±1.2, 32.98N×80.58E, h33km, mb4.4/2, Error ellipse: s-maj=33.8km s-min=13.7km az=98.7*

ISC 07 02:57:45.5±0.8**, 32.97N**±0.10×**80.57E**±0.09**, h10km, n17, σ0.92**/17**, mb3.8**/6**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	6.16	278	P	Pn	02 59 19.7	+0.9
CEP	Cherat	7.29	279	P	Pn	02 59 35.0	+0.2
THW	Thamme Wali	7.43	271	P	Pn	02 59 35.4	-1.2
AAK	Ala-Archa	10.78	335	eP	P	03 00 23.2	+0.3
	3.9nm,0.6s						
AAK	Ala-Archa	10.78	335	eP	P	03 00 23.3	+0.4
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	13.87	5	Pn	P	03 01 03.6	-0.7
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=7.7						
KURK	Kurchatov	17.79	356	eP	P	03 01 54.3	-0.4
	comp=Z,10nm,1.2s						
KURK	Kurchatov	17.79	356	eP	P	03 01 54.3	-0.4
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KMI	Kunming	20.87	106	P	P	03 02 28.6	-1.6
	comp=Z,15nm,0.6s						
KMI	Kunming	20.87	106	P	P	03 02 28.6	-1.6
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
BVAR	Borovoye Array	21.34	343	P	P	03 02 34.3	-0.5
	comp=Z,3.5nm,0.6s,mb3.9,baz=151,slow=11,SNR=24						
BRVK	Borovoye	21.40	343	eP	P	03 02 34.5	-0.9
	comp=Z,4.1nm,0.6s,mb3.9						
BRVK	Borovoye	21.40	343	eP	P	03 02 34.5	-0.9
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
SONM	Songino Array	24.49	45	P	P	03 03 07.2	+1.4
	comp=Z,1.3nm,0.7s,mb3.5,baz=238,slow=11,SNR=11						
ARCES	ARCESS Array B	47.45	337	P	P	03 06 22.3	+0.6
	comp=Z,2.3nm,0.8s,mb4.1,baz=113,slow=6.9,SNR=3.6						
WRA	Warramunga Arr	73.51	128	P	P	03 09 21.2	+0.6
	comp=Z,0.7nm,0.9s,mb3.6,baz=323,slow=5.9,SNR=6.9						
ILAR	Eielson Array	75.78	19	P	P	03 09 33.9	+1.2
	comp=Z,0.5nm,0.8s,mb3.5,baz=307,slow=5.3,SNR=6.2						

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*ATH **07** 03:01:59.4, 38.67N×25.37E, h77km±3km*

*CSEM **07** 03:01:59.4±0.2, 38.70N×25.41E, h77km±4km, MD3.0, Error ellipse: s-maj=3.7km s-min=2.8km az=77.0*

*ISK **07** 03:02:03.2, 38.63N×25.49E, h44km, MD3.0*

ISC 07 03:02:00.5±1.3**, 38.62N**±0.04×**25.37E**±0.07**, h19km**±10km**, n11, σ0.94**/21**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.94	48	eP	Pb	03 02 17.9	-0.1
PRK				eS	Sb	03 02 31.4	+1.3
URLA	Izmir	0.99	104	i P	Pb	03 02 18.0	-0.9
URLA				i S	Sb	03 02 30.5	-1.0
AYVA	Ayvalik	1.24	56	i P	Pn	03 02 22.4	-0.6
AYVA				i S	Sb	03 02 39.0	+0.4
BLCB	Balcova	1.33	99	ePN	Pn	03 02 24.8	+0.5
BLCB				eSN	Sn	03 02 40.7	-0.9
EZN	Ezine	1.42	31	ePN	Pn	03 02 27.2	+1.6
EZN				eSN	Sn	03 02 43.0	-0.8
SMG	Samos	1.47	128	eP	Pn	03 02 25.7	-0.6
SMG				eS	Sn	03 02 45.1	0.0
IZM	Izmir	1.50	98	ePN	Pn	03 02 27.6	+0.9
APE	Apeiranthos	1.55	175	ePN	Pn	03 02 28.6	+1.2
APE				eSN	Sn	03 02 48.9	+1.8
APE	Apeiranthos	1.55	175	eP	Pn	03 02 27.1	-0.3
APE				eS	Sn	03 02 47.5	+0.4
APE	Apeiranthos	1.55	175	ePn	Pn	03 02 28.6	+1.2
APE				eS	Sn	03 02 47.5	+0.4
APE				eSn	Sn	03 02 48.9	+1.8
NEO	Neokhori	1.81	293	eP	Pn	03 02 29.7	-1.5

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*CSEM **07** 03:06:32.2±0.2, 42.41N×19.83E, h20km, ML2.5, Error ellipse: s-maj=3.6km s-min=3.3km az=153.0*

*NEIC **07** 03:06:33.7, 42.45N×19.76E, h10km, ML2.5(PDG), After PDG.*

*TIR **07** 03:06:33.3, 42.48N×19.71E, h5km*

*PDG **07** 03:06:33.7±0.2, 42.45N×19.76E, h10km±1km*

ISC 07 03:06:33.1±0.6**, 42.45N**±0.02×**19.77E**±0.03**, h11km**±9km**, n18, σ1.15**/35**, 7C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.20	46	⇑iPg	Pg	03 06 37.4	-0.2
PVY				eSg	Sg	03 06 41.2	+0.6
BCI	Bajram Curri	0.23	112	i Pg	Pg	03 06 37.1	-1.1
BCI				i Sg	Sg	03 06 41.0	-0.6
TTG	Podgorica	0.38	266	⇑iPg	Pg	03 06 39.7	-1.2
TTG				eSg	Sg	03 06 45.9	-0.2
IVA	Berane	0.43	12	⇑iPg	Pg	03 06 41.9	0.0
IVA				eSg	Sg	03 06 49.0	+1.3
SDA	Shkodra	0.45	207	i Pg	Pg	03 06 40.8	-1.5
SDA				i Sg	Sg	03 06 47.5	-1.0
SDA	Shkodra	0.45	207	ePg	Pg	03 06 40.8	-1.5
SDA				i Sg	Sg	03 06 47.5	-1.0
ULC	Ulcinj	0.63	219	⇓iPg	Pg	03 06 45.3	-0.5
ULC				eSg	Sg	03 06 54.6	+0.4
BUM	Brajici-Budva	0.67	257	⇑iPg	Pg	03 06 45.0	-1.5
BUM				eSg	Sg	03 06 55.9	+0.4
NKY	Niksic	0.68	302	⇑iPg	Pg	03 06 45.8	-0.9
NKY				eSg	Sg	03 06 57.0	+1.1
PLE	Pljevlja	0.92	342	ePg	Pg	03 06 50.9	-0.7
PLE				eSg	Sg	03 07 05.5	+1.6
QSH	Qafa e Shtames	0.94	174	i Pg	Pg	03 06 53.3	+1.4
QSH				i Sg	Sg	03 07 07.3	+2.8
HCY	Herceg Novi	0.94	270	⇑iPg	Pg	03 06 50.8	-1.3
HCY				eSg	Sg	03 07 05.7	+1.0
UPM	Unac-Piva	0.98	320	ePg	Pg	03 06 52.0	-0.8
UPM				eSg	Sg	03 07 07.0	+1.0
UPM	Unac-Piva	0.98	320	ePg	Pg	03 06 52.0	-0.8
UPM				eSg	Sg	03 07 06.9	+1.0
BRY	Bratogost	1.01	297	ePg	Pg	03 06 52.2	-1.2
BRY				eSg	Sg	03 07 07.9	+1.0
NVSS	Nova Varos 2	1.05	357	⇑iPg	Pg	03 06 54.8	+0.5
NVSS				Sg	Sg	03 07 05.9	-2.4
TIR	Tirane	1.11	176	i Pg	Pg	03 06 57.0	+1.7
TIR				i Sg	Sg	03 07 13.0	+2.9
SKO	Skopje	1.33	111	i Pn	Pn	03 06 57.5	-0.2

IDC 07 03:09:10.8±1.9**, 4.92N×127.68E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.7**/18**, mbtmp3.8**/4**, Error ellipse: s-maj=99.2km s-min=25.7km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.96	185	P	P	03 14 18.2	+0.1
	3.4nm,0.8s,baz=19,slow=12,SNR=7.2						
WRA	Warramunga Arr	25.56	165	P	P	03 14 41.2	-2.0
	0.9nm,0.4s,baz=344,slow=10,SNR=22						
STKA	Stephens Creek	38.92	161	P	P	03 16 37.7	-2.5
	1.2nm,0.4s,baz=330,slow=9.1,SNR=4.4						
MKAR	Makanchi Array	57.14	324	P	P	03 18 59.3	-2.3
	0.3nm,0.4s,baz=113,slow=8.9,SNR=4.9						

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*OMAN **07** 03:27:19.7, 26.02N×63.68E, h30km, Error ellipse: s-maj=73.0km s-min=9.8km az=247.0*

*CSEM **07** 03:27:19.2±0.2, 25.74N×63.49E, h12km, mb4.7/6, Ms3.4, Error ellipse: s-maj=10.2km s-min=3.2km az=123.0*

*BJI **07** 03:27:23.9, 26.01N×63.20E, h41km, mB5.2, mb5.0, Ms4.5, Msz4.1*

*NEIC **07** 03:27:26.6±0.4, 25.95N×63.24E, mb4.7/20, Error ellipse: s-maj=9.6km s-min=7.9km az=207.0*

*IDC **07** 03:27:26.5±0.6, 25.98N×63.20E, h47km±4km, mb4.2/15, mb1 4.3/15, mb1mx4.1/23, mbtmp4.4/15, MS3.7/12, Ms1 3.7/12, ms1mx3.6/19, Error ellipse: s-maj=15.8km s-min=11.2km az=104.0*

*MOS **07** 03:27:32.2±2.6, 26.75N×64.20E, h33km, mb5.0/18, Error ellipse: s-maj=9.2km s-min=5.6km az=112.5*

ISC 07 03:27:24.0±0.2**, 25.85N**±0.03×**63.32E**±0.02**, h47km, h47km**±1.0km**:pP-P, n221, σ1.45**/183**, mb4.6**/53**, MS3.9**/19**, 15C-10D, Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBK	Wadi Bani Khal	5.11	232	⇑P	P	03 28 39.0	-1.1
	SNR=620						
BIDO	Bidbid	5.26	245	⇓P	P	03 28 40.3	-1.8
	SNR=192						
SMDO	Samad	5.55	241	⇓P	P	03 28 44.7	-1.5
	SNR=197						
JMDO	Jabal Madar	5.89	235	⇑P	P	03 28 50.6	-0.3
	SNR=943						
HOQ	Hoqain	5.91	249	P	P	03 28 48.7	-2.5
	SNR=96						
BHUJ	Bhuj	6.32	113	eP	P	03 28 57.9	+1.0
BHUJ				eS	S	03 30 06.6	-2.0
BHUJ				AML	AML	03 30 08.3	
	comp=N,675nm,0.5s						
BHUJ				AML	AML	03 30 08.4	
	comp=E,642nm,0.4s						
BANOM	Banah	6.32	272	⇓P	P	03 28 54.8	-2.3
	SNR=306						
BSYO	Bisya	6.36	242	P	P	03 28 57.5	0.0
	SNR=221						
BSY	Bisya	6.38	242	P	P	03 28 57.5	-0.3
	SNR=221						
ARQ	Araqi	6.67	249	⇓P	P	03 29 02.5	+0.6
	SNR=209						
ASHO	Ashiyiah	6.68	262	⇓P	P	03 29 01.4	-0.6
	SNR=226						
JASL	Jaisalmer	6.88	79	eP	P	03 29 04.6	-0.3
SBDP	Sheikh Budin	9.18	44	⇓P	P	03 29 33.8	-2.8
THW	Thamme Wali	10.09	45	⇓P	P	03 29 46.0	-3.2
THW				S	S	03 31 29.0	-13
SARP	Sargodha	10.19	51	P	P	03 29 47.4	-3.1
AJM	Ajmer	10.19	84	i P	P	03 29 49.0	-1.6
AJM				i S	S	03 31 34.0	-11
CEP	Cherat	10.89	41	P	P	03 29 57.3	-2.8
KHET	Khetri	11.36	76	eP	P	03 30 02.4	-4.0
KHET				eS	S	03 32 00.3	-13
KHET				AML	AML	03 32 06.3	
	comp=E,61nm,0.5s						
KHET				AML	AML	03 32 07.0	
	comp=N,81nm,0.4s						
CHCP	Chirah Chowk	11.62	46	P	P	03 30 07.2	-2.8
RBK	Rabkut	11.86	227	P	P	03 30 11.9	-1.3
	SNR=29						
WHFO	Wadi Hawf	11.86	230	⇑P	P	03 30 11.0	-2.2
	SNR=45						
POO	Poona	12.17	125	eS	S	03 32 26.9	-5.6
HASS	Wahat al Ahsa'	12.32	270	P	P	03 30 16.0	-3.4
HASS				S	S	03 32 19.4	-17
BHGR	Bahadurgarh	12.44	74	eP	P	03 30 16.3	-4.7
BHGR				eS	S	03 32 27.4	-12

BHGR AML AML 03 32 30.0
comp=Z,167nm,0.1s
SONA Sohna 12.50 76 *e*P **P** **03 30 18.8 -2.9**
SONA *e*S **S** **03 32 29.6 -11**
SONA AML AML 03 32 35.4
comp=E,112nm,0.4s
SONA AML AML 03 32 35.7
comp=N,74nm,0.7s
AYAN Aya Nagar 12.57 75 *e*P **P** **03 30 19.7 -3.0**
AYAN *e*S **S** **03 32 31.0 -11**
AYAN AML AML 03 32 36.1
comp=Z,27nm,0.3s
ABTO Aybut 12.58 230 ⇑P **P** **03 30 21.4 -1.4**
SNR=9.5
KKR Kurukshetra 12.62 68 *e*P **P** **03 30 21.4 -2.0**
NDI New Delhi 12.68 74 *e*P **P** **03 30 20.0 -4.2**
NDI *e*S **S** **03 32 31.0 -14**
BHPL Bhopal 13.10 98 *e*P **P** **03 30 28.9 -0.8**
BHPL *ex* **S** **03 32 55.0 +0.3**
BHPL AML AML 03 33 24.8
comp=N,20nm,0.5s
BHPL AML AML 03 33 25.6
comp=E,11nm,0.7s
HYB Hyderabad 16.45 118 *i*P **P** **03 31 15.0 +1.9**
HYB *e*S **S** **03 34 22.0 +8.5**
HYB Hyderabad 16.45 118 *e*P **P** **03 31 15.0 +1.9**
KSH Kashi 17.27 35 P **P** **03 31 25.0 +1.7**
KSH *e*AP 03 31 32.7
KSH *e*PP PP 03 31 38.3 +0.2
KSH S **S** **03 34 21.1 -11**
KSH *e*XS 03 34 44.1
KSH *e*SS SS 03 34 50.8 -3.8
KSH AMB AMB
comp=Z,270nm,1.6s
KSH LR LR
comp=N,540nm,6.6s
KSH LR LR
comp=E,380nm,8.9s
BHD Baghdad 18.05 299 *ex* x 03 31 29.0
BHD *ex* x 03 34 48.0
KKAR Karatay Array 18.19 17 *i*P **P** **03 31 32.4 -2.4**
comp=E,2.0nm,0.6s
KKAR Karatay Array 18.19 17 *i*P **P** **03 31 32.4 -2.4**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KOLN Koldanda 18.20 79 *e*P **P** **03 31 34.6 -0.4**
comp=Z,36nm,0.5s
KOLN *e*S **S** **03 34 40.0 -13**
AML Almayashu 18.36 25 P **P** **03 31 36.2 -0.6**
SNR=21
AFFS 'Afif 18.54 268 P **P** **03 31 38.8 -0.3**
UCH Uchtor 18.76 27 P **P** **03 31 40.6 -1.0**
SNR=22
EKS2 Erkin-Say 18.84 24 P **P** **03 31 42.7 +0.1**
SNR=38
KZA Kyzart 18.94 28 P **P** **03 31 44.6 +0.8**
SNR=16
AAK Ala-Archa 19.09 26 P **P** **03 31 46.0 +0.5**
SNR=15
AAK Ala-Archa 19.09 26 *e*P **P** **03 31 44.8 -0.6**
comp=Z,69nm,1.3s
AAK Ala-Archa 19.09 26 *e*P **P** **03 31 44.8 -0.7**
comp=Z,69nm,1.3s
AAK Ala-Archa 19.09 26 *e*P **P** **03 31 44.8 -0.7**
AAK pmax pmax
comp=Z,69nm,1.3s
GKN Gorkha 19.13 79 *e*P **P** **03 31 46.5 +0.5**
comp=Z,142nm,1.0s
KBK Karagaybulak 19.29 27 P **P** **03 31 48.4 +0.7**
SNR=10
HILS Ha'il 19.31 279 P **P** **03 31 47.2 -0.8**
CHMS Chumysh 19.50 26 P **P** **03 31 49.4 -0.6**
SNR=14
ULHL Ulahol 19.51 30 P **P** **03 31 49.6 -0.5**
SNR=200
DMN Daman 19.54 80 *e*P **P** **03 31 51.6 +1.1**
comp=Z,155nm,1.2s
USP Ospenovka 19.63 25 P **P** **03 31 50.8 -0.6**
SNR=40
KKN Kakani 19.69 79 *e*P **P** **03 31 53.7 +1.6**
comp=Z,73nm,1.0s
TKM2 Tokmak 2 19.78 27 P **P** **03 31 52.4 -0.6**
SNR=44
PKI Pulchoki 19.81 80 *e*P **P** **03 31 53.5 +0.1**
comp=Z,20nm,0.4s
PKI *e*S **S** **03 35 14.1 -15**
DJNS Zahran al Janu 20.06 250 P **P** **03 31 56.4 +0.3**
BLJS Baljurashi 20.87 258 P **P** **03 32 05.7 +1.2**
GNI Garni 21.06 317 P **P** **03 32 05.5 -0.8**
comp=Z,22nm,0.8s,mb4.5,baz=122,slow=15,SNR=9.2
GNI LR LR 03 41 25.1
comp=Z,205nm,20.0s,MS3.5,baz=114,slow=40
GNI Garni 21.06 317 *e*P **P** **03 32 06.9 +0.5**
comp=Z,30nm,0.9s,mb4.6
GNI Garni 21.06 317 *e*P **P** **03 32 06.9 +0.6**
comp=Z,30nm,0.9s,mb4.6
GNI Garni 21.06 317⇑ *e*P **P** **03 32 06.8 +0.5**
GNI pmax pmax
comp=Z,34nm,0.8s
GNI MLR MLR
comp=Z,100nm,17.0s
KBRS Khaybar 21.65 275 P **P** **03 32 13.5 +1.2**
LTHS Al Lith 21.78 260 P **P** **03 32 15.0 +1.3**
DIGO Kars 22.07 316 *i*P **P** **03 32 16.4 0.0**
MARD Mardin 22.29 306 *i*P **P** **03 32 16.9 -1.7**
YNBS Yanbu' al Bahr 22.98 272 P **P** **03 32 27.6 +2.1**
ERZM Erzurum 23.08 313 *i*P **P** **03 32 28.5 +2.2**
ZEI Tsey 23.20 322 *e*P **P** **03 32 30.5 +3.1**
AB31 Akbulak array 23.52 354 P **P** **03 32 30.5 +0.1**
comp=Z,1.0nm,0.3s,mb3.7
AB31 Akbulak array 23.52 354 P **P** **03 32 30.5 +0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb3.7
ATD Arta Tunnel 24.01 237 LR LR 03 42 47.4
comp=Z,134nm,19.2s,MS3.4,baz=100,slow=38
MALT Malatya 24.40 307 *e*P **P** **03 32 40.1 +1.0**
comp=Z,35nm,1.6s,mb4.5
MALT Malatya 24.40 307 *e*P **P** **03 32 40.1 +1.0**
comp=Z,35nm,1.6s,mb4.5
KELT Kelkit 24.61 311 *i*P **P** **03 32 42.9 +1.7**
KIV Kislovodsk 24.64 322 *e*P **P** **03 32 43.5 +2.1**
comp=Z,162nm,1.3s,mb5.4
KIV Kislovodsk 24.64 322 *e*P **P** **03 32 43.5 +2.1**
comp=Z,162nm,1.3s,mb5.4
KIV Kislovodsk 24.64 322⇓ *e*P **P** **03 32 44.2 +2.8**
KIV pmax pmax
comp=Z,75nm,1.0s,mb5.2
GZT Gaziantep 24.68 304 *i*P **P** **03 32 40.6 -1.2**
AKTK Aktyubinsk 24.89 352 P **P** **03 32 43.4 -0.3**
comp=Z,33nm,1.7s,mb4.6
AKTO Aktyubinsk 24.89 352 P **P** **03 32 43.4 -0.3**
AKTO pmax pmax
comp=Z,33nm,1.7s,mb4.6
LSA Lhasa 24.89 75 P **P** **03 32 47.2 +3.2**
LSA Lhasa 24.89 75 *e*P **P** **03 32 47.1 +3.1**
comp=Z,58nm,1.0s,mb5.1
LSA Lhasa 24.89 75 *e*P **P** **03 32 47.1 +3.1**
LSA pmax pmax
comp=Z,58nm,1.0s,mb5.1
GOF Gofitskoye 25.18 325 *i*P **P** **03 32 49.5 +2.9**
comp=Z,39nm,1.3s,mb4.8
GOF Gofitskoye 25.18 325⇓ *i*P **P** **03 32 49.5 +2.9**
GOF pmax pmax
comp=Z,39nm,1.3s,mb4.8
KAHT Ahir Dag 25.29 304 *i*P **P** **03 32 50.1 +2.4**
MKAR Makanchi Array 25.77 31 P **P** **03 32 52.6 +0.5**
comp=Z,29nm,0.8s,mb4.9,baz=214,slow=9.2,SNR=243
MKAR pP pP 03 33 05.2 +1.1
comp=Z,4.8nm,0.6s,baz=213,slow=8.9,SNR=5.8
SOC Sochi 26.12 319 *e*P **P** **03 32 54.8 -0.5**
SOC *e* 03 33 49.8
SOC pmax pmax
comp=N,14nm,0.8s
SOC pmax pmax
comp=E,6.0nm,0.8s
SOC pmax pmax
comp=Z,15nm,0.8s,mb4.6
SOC MLR MLR
comp=Z,68nm,10.0s,MS3.5
SOC MLR MLR
comp=N,47nm,11.0s,MS3.4
SOC MLR MLR
comp=E,51nm,13.0s,MS3.4
WMQ Urumqi 26.71 42⇑ *i*P **P** **03 33 02.6 +1.8**
WMQ AP pP 03 33 14.0 +1.1
WMQ XP sP 03 33 20.0 +1.3
WMQ S **S** **03 37 35.0 +4.0**
WMQ XS 03 37 54.0
WMQ SS SS 03 38 48.0 +2.9
WMQ AMB AMB
comp=Z,35nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,122nm,5.5s
WMQ LR LR
comp=N,348nm,9.8s
WMQ LR LR
comp=E,319nm,10.6s
WMQ LR LR
comp=Z,302nm,11.8s,MS4.1
AVNT Avonos 27.17 305 *i*P **P** **03 33 06.8 +1.7**
KURK Kurchatov 27.47 21 *e*P **P** **03 33 07.2 -0.5**
comp=Z,9.7nm,0.9s,mb4.3
KURK Kurchatov 27.47 21 *e*P **P** **03 33 07.2 -0.5**
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
BVA0 Borovoye Array 27.66 9 *i*P **P** **03 33 07.9 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.5
BVAR Borovoye Array 27.66 9 P **P** **03 33 08.6 -0.8**
comp=Z,4.4nm,0.7s,mb4.2,baz=180,slow=10,SNR=27
BVAR pP pP 03 33 21.3 -0.2
comp=Z,6.0nm,0.6s,baz=179,slow=10,SNR=9.6
BRVK Borovoye 27.68 9 *e*P **P** **03 33 09.1 -0.4**
comp=Z,14nm,1.2s,mb4.5
BRVK pP pP 03 33 22.7 +1.0
BRVK Borovoye 27.68 9 *e*P **P** **03 33 09.1 -0.4**
BRVK *ePP pP 03 33 22.7 +1.0
BRVK pmax pmax
comp=Z,14nm,1.2s,mb4.5
BOYT Boyabat 28.14 311 *i*P **P** **03 33 16.4 +2.6**
BR131 Keskin Array S 28.38 307 P **P** **03 33 15.2 -0.8**
comp=Z,1.9nm,0.7s,mb3.8
BR131 pP pP 03 33 29.1 +0.9
BRTR Keskin Array B 28.38 307 P **P** **03 33 16.8 +0.8**
comp=Z,1.5nm,0.9s,mb3.6,baz=122,slow=12,SNR=7.5
BRTR pP pP 03 33 29.1 +0.9
comp=Z,2.3nm,0.8s,baz=129,slow=13,SNR=8.1
SIM Simferopol' 30.25 317 *e*P **P** **03 33 44.4 +12**
SIM *e*S **S** **03 38 43.3 +16**
SIM pmax pmax
comp=Z,15nm,0.9s,mb4.7
SVE Sverdlovsk 31.02 357 *e*P **P** **03 33 36.8 -2.4**
SVE MLR MLR
comp=N,200nm,13.0s,MS4.0
SVE MLR MLR
comp=E,100nm,13.0s,MS4.0
SVE MLR MLR
comp=Z,200nm,13.0s,MS4.0
ZAL Zalesovo 32.28 24 P **P** **03 33 49.6 -0.7**
comp=Z,4.9nm,0.5s,mb4.6,baz=249,slow=9.6,SNR=17
NVS Novosibirsk 32.46 22 *e*P **P** **03 33 50.8 -1.1**
NVS *e* pP 03 34 03.2 -1.2
NVS pmax pmax
comp=Z,21nm,1.5s,mb4.8
NVS pmax pmax
comp=N,22nm,1.6s
GTA Gaotai 33.34 57 *e*P **P** **03 34 01.6 +1.9**
GTA AP pP 03 34 14.6 +2.4
GTA PP PP 03 35 16.8 +4.5
GTA S **S** **03 39 24.1 +8.0**
GTA XS 03 39 42.2
GTA AMB AMB
comp=Z,22nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,151nm,5.0s
GTA LR LR
comp=N,154nm,18.3s
GTA LR LR
comp=E,137nm,13.0s
GTA LR LR
comp=Z,186nm,11.8s
OBN Obninsk 35.20 333⇑ *e*P **P** **03 34 17.2 +1.8**
OBN *i* pP 03 34 29.1 +1.1
OBN pmax pmax
comp=Z,34nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS3.6
MOS Moscow 35.23 335 *e*P pP 03 34 29.4 +1.1
MOS pmax pmax
comp=Z,40nm,1.1s,mb5.3
KMI Kunming 35.50 82 P **P** **03 34 20.0 +1.6**
KMI AP pP 03 34 33.9 +3.0
KMI XP sP 03 34 38.5 +1.6
KMI PP PP 03 35 44.5 +5.1
KMI AMB AMB
comp=Z,13nm,1.2s,mb4.7
KMI Kunming 35.50 82 P **P** **03 34 20.0 +1.6**
comp=Z,13nm,1.2s,mb4.7
KMI pP pP 03 34 33.9 +3.0
KMI sP sP 03 34 38.5 +1.6
KMI PP PP 03 35 44.5 +5.1
KMI Kunming 35.50 82 P **P** **03 34 20.0 +1.6**
KMI *PP pP 03 34 33.9 +3.0
KMI 03 35 44.5
KMI pmax pmax
comp=Z,13nm,1.2s,mb4.7
AKASG Malin Array Be 35.99 323 P **P** **03 34 20.9 -1.3**
comp=Z,4.8nm,0.6s,mb4.6,baz=124,slow=7.9,SNR=22
AKASG pP pP 03 34 33.2 -1.6
comp=Z,2.5nm,0.5s,baz=124,slow=7.8,SNR=5.8
AKASG Malin Array Be 35.99 323 P **P** **03 34 20.9 -1.3**
AKASG pP pP 03 34 33.2 -1.6
KMBO Kilima Mbogo 36.79 227 LR LR 03 48 35.6
comp=Z,95nm,21.6s,MS3.5,baz=86,slow=34
GYA Guiyang 38.77 79⇑ *i*P **P** **03 34 46.8 +1.0**
GYA AP pP 03 34 59.0 +0.6
GYA XP sP 03 35 04.2 0.0
GYA PP PP 03 36 18.8 -0.1
GYA PCP PcP 03 36 57.8 +0.6
GYA S **S** **03 40 39.6 0.0**
GYA SCS ScS 03 44 52.2 +2.7
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,70nm,3.2s
GYA LR LR
comp=N,280nm,18.0s,MS4.3
GYA LR LR
comp=E,370nm,17.6s,MS4.3
GYA LR LR
comp=Z,340nm,17.8s,MS4.2
ZAK Zakamensk 39.17 41 *e*P **P** **03 34 50.0 +1.2**
ZAK *e* 03 36 18.1
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.5
KWP Kalwaria 39.27 318 *e*P pP 03 35 01.9 -0.4
KWP *e* 03 35 04.9
KWP Kalwaria 39.27 318 P **P** **03 34 49.1 -0.5**
comp=Z,19nm,0.8s,mb4.9
KWP *e*pP pP 03 35 02.0 -0.3
KWP Kalwaria 39.27 318 P **P** **03 34 49.1 -0.5**
KWP *e*PP pP 03 35 02.0 -0.3
KWP pmax pmax
comp=Z,19nm,0.8s,mb4.9
KOLS Kolonicke sedl 39.28 317 *e*pP pP 03 35 02.9 +0.5
CRVS Cervenica-Dubn 39.77 316 *e*pP pP 03 35 04.7 -1.8
CRVS *e* 03 35 17.8
STHS Stebnicka Huta 40.08 317 *e* **P** **03 35 05.1 +8.7**
STHS *e* pP 03 35 21.6 +13
XAN Xi'an 40.08 67 P **P** **03 34 57.6 +1.0**
XAN AMB AMB
comp=Z,16nm,1.3s,mb4.6
SONM Songino Array 40.19 45 P **P** **03 34 59.5 +2.2**
comp=Z,14nm,0.9s,mb4.7,baz=250,slow=8.3,SNR=84
SONM LR LR 03 54 22.2
comp=Z,148nm,20.3s,MS3.8,baz=256,slow=40
KECS Kecovo 40.24 316 *e* **P** **03 35 06.3 +8.6**
KECS *es*P sP 03 35 14.2 -1.9
KECS *e* 03 37 08.9
ULN Ulaanbaatar 40.62 46 *e*P **P** **03 35 02.2 +1.3**
comp=Z,19nm,1.0s,mb4.7
ULN Ulaanbaatar 40.62 46 *i*P **P** **03 35 02.7 +1.8**
SUW Suwalki 40.84 324 *e*P **P** **03 35 04.0 +1.4**
SUW *e* 03 35 06.7
SUW Suwalki 40.84 324 *e*P **P** **03 35 04.0 +1.4**
SUW *e* 03 35 06.7
OJC Ojcow 41.23 318 *e*P **P** **03 35 06.9 +1.0**
VYHS Vyhne 41.29 315 *e* **P** **03 35 09.6 +3.2**
VYHS *e*pP pP 03 35 21.8 +2.7
OKC Ostrava-Krasne 42.12 317 *e*pP pP 03 35 24.9 -1.0
OKC AMS AMS 03 52 10.0
HHC Hu-ho-hao-te 42.46 57 *e*P **P** **03 35 18.6 +2.5**
HHC AP pP 03 35 31.2 +2.4
HHC XP sP 03 35 36.4 +1.9
HHC PP PP 03 36 59.8 +2.2
HHC PCP PcP 03 37 11.4 +2.4
HHC SCP 03 40 56.2
HHC PCS 03 41 02.2
HHC S **S** **03 41 37.4 +3.1**
HHC XS 03 41 56.8
HHC SS SS 03 44 40.2 +1.6
HHC SCS ScS 03 45 13.1 +1.9
HHC AMB AMB
comp=Z,24nm,0.8s,mb4.9
HHC AMB AMB
comp=Z,136nm,4.8s
HHC LR LR
comp=N,165nm,13.1s,MS4.4
HHC LR LR
comp=E,291nm,11.9s,MS4.4
HHC LR LR
comp=Z,157nm,19.0s
MORC Moravsky Berou 42.48 317 *e*P **P** **03 35 15.4 -0.6**
comp=Z,8.8nm,0.8s,mb4.4
MORC *ep*P pP 03 35 27.9 -0.9
MORC Moravsky Berou 42.48 317 *e*P **P** **03 35 15.4 -0.7**
MORC *e**PP pP 03 35 27.9 -0.9
MORC pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
JOF Joensuu 42.67 339 *ep* **P** **03 35 15.0 -2.5**
comp=Z,4.4nm,0.9s,mb4.2
DPC Dobruska-Polom 43.39 317 *ep*P pP 03 35 35.7 -0.6
DPC AMS AMS 03 51 00.0
FINES FINESS Array B 43.53 335 P **P** **03 35 28.4 +3.9**
comp=Z,2.8nm,0.3s,mb4.4,baz=124,slow=10.0,SNR=50
FINES LR LR 03 56 28.2
comp=Z,63nm,19.7s,MS3.5,baz=0.5,slow=40
FINES FINESS Array B 43.53 335 P **P** **03 35 28.4 +3.9**
FINES LR LR 03 56 28.2
UPC Upice 43.63 317 *e*P **P** **03 35 31.8 +6.3**
TREC Trest 43.63 315 *ep*P pP 03 35 37.4 -0.9
KAF Kangasniemi 43.86 336 *ep* **P** **03 35 24.5 -2.7**
comp=Z,2.0nm,0.4s,mb4.2,baz=127,slow=8.0
KAF Kangasniemi 43.86 336 *e*P **P** **03 35 24.5 -2.7**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
MOA Molln 44.09 313⇑ *i*P pP 03 35 41.0 -1.0
comp=Z,13nm,1.1s
PRU Pruhonice 44.40 316 *ep*P pP 03 35 41.9 -2.6
PRU AMS AMS 03 54 40.0
comp=Z,100nm,38.8s
PVCC Panska Ves 44.52 317 *ep*P pP 03 35 47.5 +2.1
KBA Koelnbreinsper 44.55 312⇑ *i*P pP 03 35 45.0 -0.7
comp=Z,13nm,1.3s
GERES GERESS Array B 44.67 314 P **P** **03 35 32.9 -0.9**
comp=Z,1.4nm,0.9s,mb3.8,baz=104,slow=5.5,SNR=11
GERES pP pP 03 35 45.7 -0.9
comp=Z,8.9nm,1.0s,baz=112,slow=7.2,SNR=25
GERES LR LR 03 58 02.3
comp=Z,48nm,18.0s,MS3.5,baz=292,slow=41
KHC Kasperske Hory 44.81 315 *ep*P pP 03 35 46.8 -1.0
KHC AMS AMS 03 55 40.0
comp=Z,100nm,19.3s
WHN Wuhan 44.91 72 ⇓P **P** **03 35 37.0 +1.0**
WET Wettzell 45.26 315 *e*P pP 03 35 49.7 -1.7
CLL Collm 45.68 318 P **P** **03 35 43.0 +1.1**
CLL *e* 03 35 47.0
CLL *i* *PP pP 03 35 54.4 -0.3
CLL *i* *SP sP 03 36 00.2 -0.1
CLL Collm 45.68 318 *e*P **P** **03 35 43.0 +1.1**
CLL ⇑*i*pP pP 03 35 54.4 -0.3
CLL *i* sP sP 03 36 00.2 -0.1
WTTA Wattenberg 45.73 312⇑ *i*P pP 03 35 54.1 -1.1
comp=Z,27nm,1.0s
NKC Novy Kostel 45.77 316 *ep*P pP 03 35 54.8 -0.6
SQTA Sankt Quirin 46.02 312⇑ *i*P pP 03 35 55.8 -1.6
comp=Z,12nm,1.1s
MOTA Moosalm 46.10 312⇑ *i*P pP 03 35 56.1 -2.0
comp=Z,10nm,1.0s
FUR Furstenfeldbru 46.12 313 *e*P pP 03 35 56.1 -2.1
MOX Moxa 46.38 316 *i*P pP 03 35 58.2 -2.0
comp=Z,logA/T=1.3
OPO Ambohidratompo 46.85 201 P **P** **03 35 53.5 +1.9**
comp=Z,4.4nm,0.9s,mb4.4,baz=135,slow=0.8,SNR=4.0
OPO pP pP 03 36 05.7 +1.3
comp=Z,2.2nm,0.7s,baz=54,slow=4.8,SNR=3.4
DAVA Damuels 46.92 312⇑ *i*P pP 03 36 03.0 -1.5
comp=Z,34nm,1.1s
CLZ Clausthal 47.40 318 *e*P pP 03 36 07.5 -0.7
CLZ pmax pmax
comp=Z,34nm,1.3s,mb5.1
BOD Bodaibo 47.79 34 *e*P **P** **03 35 57.5 -0.9**
BOD pmax pmax
comp=Z,25nm,0.9s,mb5.2
BFO Black Forest 48.09 313 *e*P **P** **03 36 11.2 +10**
TNS Taunus Mts 48.29 315 *e*P **P** **03 36 14.1 +12**
NJ2 Nanjing 48.55 69 *e*P **P** **03 36 06.1 +1.5**
NJ2 AP pP 03 36 18.0 +0.5
NJ2 XP sP 03 36 24.0 +1.0
NJ2 PP PP 03 38 01.1 +3.7
NJ2 S **S** **03 43 04.0 +2.5**
NJ2 XS 03 43 25.0
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,360nm,4.8s
NJ2 LR LR
comp=N,2μm,14.6s,MS5.2
NJ2 LR LR
comp=E,580nm,15.9s,MS5.2
NJ2 LR LR
comp=Z,440nm,18.0s,MS4.5
CDF Champ du Feu 48.80 313 *e*P pP 03 36 17.6 -1.6
MBDF Montbardon 48.84 308 *e*P pP 03 36 18.9 -0.7
comp=Z,39nm,1.1s
FRF La Foret Royal 48.88 306 *e*P pP 03 36 18.1 -1.8
comp=Z,188nm,1.6s
LPG La Plagne 48.90 309 *e*P pP 03 36 18.8 -1.2
comp=Z,34nm,1.1s
LPL La Plagne 48.91 309 *e*P pP 03 36 18.1 -2.0
comp=Z,39nm,1.2s
BNI Bardonecchia 48.92 308 P **P** **03 36 06.1 -1.2**
comp=Z,27nm,1.3s,mb5.1
BNI *ep*P pP 03 36 17.9 -2.3
ARCES ARCESS Array B 48.98 343 P **P** **03 36 06.4 -1.1**
comp=Z,2.9nm,0.8s,mb4.4,baz=166,slow=5.0,SNR=5.9
ARCES pP pP 03 36 19.4 -0.9
comp=Z,4.9nm,0.8s,baz=146,slow=8.7,SNR=3.4
ARCES LR LR 04 00 19.0
comp=Z,104nm,18.6s,MS3.9,baz=173,slow=40
ARCES ARCESS Array B 48.98 343 P **P** **03 36 06.4 -1.1**
ARCES pP pP 03 36 19.4 -0.9
ARCES LR LR 04 00 19.0
HINF Hinteralfeld 49.02 312 *e*P pP 03 36 18.4 -2.5
HIA Hailar 49.15 46 P **P** **03 36 09.8 +0.8**
comp=Z,3.6nm,0.5s,mb4.7
HIA Hailar 49.15 46 P **P** **03 36 09.8 +0.8**
HIA pmax pmax
comp=Z,4.0nm,0.5s
HAU Haudompre 49.38 312 *e*P pP 03 36 21.5 -2.2
HAU *eR*
comp=Z,72nm,21.8s
CABF La Chapelle 49.44 310 *e*P pP 03 36 22.5 -1.6
comp=Z,75nm,1.3s
ORIF Oris-en-Rattie 49.48 308 *e*P pP 03 36 22.2 -2.3
comp=Z,28nm,1.2s
ORIF *eR*
comp=Z,56nm,21.4s
NB2 NORSAR Subarra 49.60 330 P **P** **03 36 09.6 -2.7**
comp=Z,3.4nm,0.8s,mb4.4,baz=110,slow=7.4
NOA NORSAR Array B 49.60 330 P **P** **03 36 10.0 -2.3**
comp=Z,1.8nm,1.0s,mb4.1,baz=110,slow=7.6,SNR=4.0
NOA pP pP 03 36 23.4 -1.8
comp=Z,2.5nm,0.7s,baz=110,slow=7.6,SNR=6.2
NOA LR LR 04 02 07.2
comp=Z,36nm,19.4s,MS3.4,baz=125,slow=42
MEZF Maizieres J'vi 50.28 313 *e*P pP 03 36 28.8 -1.9
VIVF Saint-Julien-l 50.34 308 *e*P pP 03 36 29.7 -1.4
GIVF Givet 50.58 315 *e*P pP 03 36 30.0 -2.9
SSE Sheshan 50.66 70 P **P** **03 36 22.3 +1.5**
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,358nm,5.8s
SSE Sheshan 50.66 70 P **P** **03 36 22.3 +1.5**

	comp=Z,41nm,0.7s,mb5.5						
LASF	Ste Croix	50.91	307	eP	pP	03 36 34.3	-1.2
	comp=Z,35nm,1.2s						
BAIF	Baives	50.98	315	eP	pP	03 36 33.2	-2.7
SMF	Signal de Mont	50.98	310	eP	pP	03 36 33.7	-2.3
	comp=Z,23nm,1.0s						
LOR	Lormes	51.00	311	eP	pP	03 36 34.8	-1.3
	comp=Z,8.4nm,0.8s						
LOR				eR			
	comp=Z,35nm,17.4s						
SSF	Saint Saulge	51.23	311	eP	pP	03 36 35.4	-2.5
	comp=Z,6.1nm,1.0s						
AVF	Avril sur Loir	51.33	310	eP	pP	03 36 36.1	-2.5
BGF	Bois d'Agland	51.66	310	eP	pP	03 36 39.5	-1.7
	comp=Z,23nm,1.2s						
HYF	Humbligny	51.83	311	eP	pP	03 36 40.6	-1.8
TCF	Toulx Ste Croi	52.10	310	eP	pP	03 36 42.2	-2.2
RJF	Les Rejaudoux	52.58	308	eP	pP	03 36 46.3	-1.8
	comp=Z,8.8nm,0.8s						
RJF				eR			
	comp=Z,50nm,21.5s						
CN2	Changchun	52.84	53	eP	P	03 36 38.9	+1.9
LFF	La Frestale	53.13	308	eP	pP	03 36 51.3	-1.0
EPF	Esparros	53.49	306	eP	pP	03 36 54.0	-0.9
LDF	La Druitiere	53.72	313	eP	pP	03 36 54.5	-2.1
	comp=Z,6.6nm,0.6s						
FLN	La Foliniere	53.96	313	eP	pP	03 36 55.7	-2.7
	comp=Z,12nm,0.9s						
FLN				eR			
	comp=Z,52nm,19.3s						
ETSF	Etsaut	54.15	306	eP	pP	03 36 57.7	-2.2
	comp=Z,14nm,1.0s						
GRR	Gorron	54.21	312	eP	pP	03 36 57.6	-2.6
SJPF	Ste Jean	54.63	306	eP	pP	03 37 02.0	-1.4
MDJ	Mudanjiang	55.77	52	P	P	03 36 58.3	-0.2
MDJ				AP	pP	03 37 10.1	-1.6
MDJ				XP	sP	03 37 14.8	-2.3
MDJ				PCP	PcP	03 37 56.9	-0.1
MDJ				PP	PP	03 39 03.2	-1.5
MDJ				SCP		03 41 52.7	
MDJ				PCS		03 41 57.4	
MDJ				S	S	03 44 42.6	+2.5
MDJ				XS		03 45 02.4	
MDJ				SCS	ScS	03 46 44.0	+4.1
MDJ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,111nm,4.6s						
MDJ				LR	LR		
	comp=N,40nm,17.8s						
MDJ				LR	LR		
	comp=E,82nm,23.1s						
MDJ				LR	LR		
	comp=Z,115nm,23.7s						
KLR	Kul'dur	57.00	47	eP	P	03 37 04.2	-3.0
MATP	Matopo	57.09	220	P	P	03 37 08.9	+0.7
	comp=Z,12nm,0.8s,mb5.0,baz=30,slow=9.5,SNR=20						
MATP				pP	pP	03 37 21.2	-0.2
	comp=Z,7.2nm,1.1s,baz=24,slow=8.9,SNR=3.2						
LBTB	Lobatse	62.33	219	eP	P	03 37 44.9	+0.7
	comp=Z,11nm,1.0s,mb5.0						
BOSA	Boshof	65.34	217	P	P	03 38 04.4	+0.6
	comp=Z,6.4nm,0.6s,mb4.8,baz=42,slow=8.6,SNR=16						
BOSA				pP	pP	03 38 17.4	+0.1
	comp=Z,2.3nm,0.6s,baz=2.9,slow=8.9,SNR=2.7						
BOSA	Boshof	65.34	217	eP	P	03 38 03.0	-0.9
	comp=Z,6.7nm,0.7s,mb4.8						
SEY	Seymchan	66.90	30	i P	P	03 38 13.9	+0.8
DBIC	Dimbokro	67.49	267	LR	LR	04 11 34.9	
	comp=Z,40nm,19.4s,MS3.6,baz=36,slow=39						
MBWA	Marble Bar	71.96	125	P	P	03 38 43.8	-1.0
	comp=Z,12nm,1.4s,mb4.6						
MBWA				epP	pP	03 38 57.4	-1.0
WRA	Warramunga Arr	82.60	116	P	P	03 39 45.2	+1.1
	comp=Z,0.5nm,0.7s,mb3.6,baz=320,slow=4.6,SNR=6.4						
WRA				pP	pP	03 39 59.8	+1.9
	comp=Z,0.8nm,0.8s,baz=315,slow=4.5,SNR=3.8						
ILAR	Eielson Array	86.68	12	P	P	03 40 03.1	-0.3
	comp=Z,1.5nm,0.8s,mb4.3,baz=332,slow=3.9,SNR=13						
ILAR				LR	LR	04 23 41.9	
	comp=Z,48nm,18.5s,MS3.9,baz=176,slow=39						
MCK	McKinley	87.18	14	eP	P	03 40 06.8	+0.9
	comp=Z,4.8nm,0.9s,mb4.7						
YKA	Yellowknife Ar	91.95	359	LR	LR	04 26 14.6	
	comp=Z,50nm,19.3s,MS4.0,baz=325,slow=38						
STKA	Stephens Creek	94.13	123	LR	LR	04 28 42.1	
	comp=Z,110nm,18.3s,MS4.3,baz=207,slow=39						
VNA2	Neumayer--Watz	108.16	199	ePKPdf		03 45 49.9	
VNA2				e		03 46 00.2	
VNA2				e		03 46 16.6	
VNA3	Neumayer Olymp	108.97	199	ePKPdf		03 45 50.8	
VNA3				e		03 46 01.6	
VNA3				e		03 46 17.6	
TXAR	Lajitas Array	123.73	346	PKP	PKPdf	03 46 19.8	+2.6
	comp=Z,0.4nm,0.7s,baz=168,slow=2.6,SNR=5.9						
TXAR				pPKP		03 46 34.1	
	comp=Z,0.2nm,0.5s,baz=157,slow=3.5,SNR=2.4						

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*NNC **07** 03:44:20.6±9.9, 38.39N×74.69E, h119km±140km, mpv3.5, Error ellipse: s-maj=85.8km s-min=70.5km az=169.0*

ISC 07 03:44:15.3±1.6**, 38.2N**±0.2×**75.2E**±0.3**, h143**km±39km**, n16, σ0.59**/19**, 5C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	Uchtor	4.08	353	P	P	03 45 17.8	+0.5
	SNR=30						
AML	Almayashu	4.11	344	P	P	03 45 17.9	+0.2
	SNR=19						
ULHL	Ulahol	4.13	11	P	P	03 45 18.4	+0.4
	SNR=13						
AAK	Ala-Archa	4.48	353	P	P	03 45 23.4	+0.7
	SNR=5.6						
AAK	Ala-Archa	4.48	353	⇑P	P	03 45 23.2	+0.5
	6.7nm,0.5s						
AAK				⇑S	S	03 46 12.9	-1.5
	8.8nm,0.8s						
EKS2	Erkin-Say	4.61	347	P	P	03 45 24.7	+0.4
	SNR=15						
TKM2	Tokmak 2	4.74	3	P	P	03 45 26.6	+0.5
	SNR=17						
USP	Ospenovka	5.11	354	P	P	03 45 30.9	-0.1
	SNR=6.8						
KK31	Karatay Array	6.08	325	⇑P	P	03 45 43.1	-0.8
	1.2nm,0.3s,baz=134,slow=13,SNR=44						
KK31				⇑S	S	03 46 47.0	-5.8
	8.8nm,0.3s,baz=148,slow=24,SNR=22						
KOLN	Koldanda	12.54	143	eP	P	03 47 09.1	-0.4
	6.1nm,0.4s						
KOLN				eS	S	03 49 22.1	-4.3
GKN	Gorkha	12.85	139	eP	P	03 47 13.1	-0.5
	7.7nm,0.3s						
KKN	Kakani	13.36	138	eP	P	03 47 20.3	+0.2
	9.3nm,0.5s						
DMN	Daman	13.41	139	eP	P	03 47 20.4	-0.4
	3.2nm,0.2s						
PKI	Pulchoki	13.60	138	eP	P	03 47 23.8	+0.6
	5.9nm,0.4s						
AB31	Akbulak array	15.60	320	⇑P	P	03 47 48.7	+0.4
	0.9nm,0.8s,slow=0.1,SNR=6.2						
AKTO	Aktyubinsk	17.31	321	⇓P	P	03 48 09.3	-0.1
	0.5nm,1.2s						

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*ISK **07** 03:47:38.4, 37.64N×29.21E, h5km, MD3.2*
*CSEM **07** 03:47:39.2±0.1, 37.64N×29.25E, h5km, MD3.2, Error ellipse: s-maj=2.2km s-min=1.7km az=9.0*
*ATH **07** 03:47:44.0, 37.61N×28.91E, h35km, MD3.4/4*

ISC 07 03:47:39.5±0.5**, 37.66N**±0.02×**29.21E**±0.03**, h1**km±5km**, n33, σ1.12**/46**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.13	284	i P	Pg	03 47 43.0	+0.9
DNZL				i S	Sg	03 47 45.4	+1.5
DENT	Denizli	0.17	305	i PG	Pg	03 47 43.2	+0.3
GOLH	Golhisar	0.51	146	i P	Pg	03 47 49.0	-0.6
GOLH				i S	Sg	03 47 58.5	+2.1
KHL	Karahalli	0.71	21	i PG	Pg	03 47 52.7	-1.0
YER	Yerkesik	0.90	235	i PG	Pg	03 47 56.3	-1.2
TKTP	Tekketepe	0.96	66	i P	Pb	03 47 57.1	-1.6
TKTP				i S	Sb	03 48 13.4	+1.8
MANT	Manisa	0.98	329	i P	Pb	03 47 57.7	-1.2
MANT				i S	Sb	03 48 11.8	-0.3
DALT	Dalyan (Mudla)	1.00	207	i PG	Pg	03 47 57.4	-2.0
DALT				i SG	Sg	03 48 13.2	+0.5
ISP	Isparta	1.05	79	i PG	Pg	03 47 59.5	-1.0
ISP				i SG	Sg	03 48 15.2	+0.7
AYDN	Tasoluk	1.05	271	i P	Pb	03 47 59.8	-0.4
AYDN				i S	Sb	03 48 15.0	+0.7
ELL	Elmali	1.07	148	i PG	Pg	03 47 59.5	-1.3
BCK	Bucak	1.12	100	i PN	Pn	03 48 01.6	-0.6
MLSB	Milas	1.19	253	PN	Pn	03 48 02.0	-1.2
GDZ	Gediz	1.45	9	i P	Pn	03 48 05.1	-1.7
GDZ				i S	Sb	03 48 25.5	-0.2
AKAS	Kas	1.46	167	i P	Pn	03 48 07.9	+0.9
AKAS				i S	Sb	03 48 32.5	+6.5
BDRM	Kayabasi	1.52	248	i P	Pn	03 48 08.1	+0.1
BDRM				i S	Sb	03 48 28.4	+0.5
KSL	Kastellorizon	1.54	169	ePB	Pb	03 48 11.0	+2.6
ALT	Altintas	1.57	27	PN	Pn	03 48 08.7	+0.1
BODT	Bodrum	1.62	249	PN	Pn	03 48 08.8	-0.6
AKS	Akhisar	1.64	318	PN	Pn	03 48 10.1	+0.5
ARG	Arkhangelos	1.68	211	ePN	Pn	03 48 11.2	+1.0
IZM	Izmir	1.70	296	PN	Pn	03 48 10.8	+0.3
BLCB	Balcova	1.86	294	ePN	Pn	03 48 13.3	+0.6
SMG	Samos	1.88	272	ePN	Pn	03 48 12.4	-0.7
BALB	Balikesir	2.23	333	ePN	Pn	03 48 18.6	+0.5
ESKT	Eskisehir	2.26	34	ePN	Pn	03 48 18.5	0.0
BORA	Eskisehir	2.42	23	i P	Pn	03 48 25.2	+4.3
BORA				i S	Sg	03 49 01.9	+1.6
KIZT	Kizilcal	2.43	59	ePN	Pn	03 48 20.2	-0.8
ULDT	Uludag	2.48	359	i P	Pn	03 48 24.7	+3.0
ULDT				i S	Sn	03 48 59.5	+6.5
KARP	Karpathos	2.67	219	ePN	Pn	03 48 23.9	-0.5
YLV	Yalova	2.91	3	ePN	Pn	03 48 28.0	+0.2
EYL	Eskiyayla	3.00	14	ePN	Pn	03 48 28.6	-0.4
SGKT	Sivrigoynuk	3.66	36	i P	Pg	03 48 49.8	-2.8
SGKT				i S	Sg	03 49 44.8	+3.4

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*NIED **07** 04:23:00, 36.10N×140.00E, h56km, Mw4.0 Best double couple: Mo1.12×10[15] NP1:φs46°, δ71°, λ92°. NP2:φs219°, δ19°, λ83°.*
*NEIC **07** 04:23:06.1±0.6, 36.11N×140.07E, h10km, mb4.3/2, Error ellipse: s-maj=14.9km s-min=12.1km az=206.0*
NEIC Felt at Utsunomiya.
*MOS **07** 04:23:06.9±1.2, 36.06N×140.16E, h33km, mb4.5/2, Error ellipse: s-maj=21.1km s-min=11.3km az=44.1*
*JMA **07** 04:23:11.6±0.1, 36.09N×139.90E, h49km±1km, M4.1 Broadband fault plane solution: P waves. NP1:φs215°, δ24°, λ78°. NP2:φs48°, δ66°, λ95°. Principal axes: T Plg68°, Azm328°; N Plg5°, Azm226°; P Plg21°, Azm134°;*
JMA Felt II J1.
*IDC **07** 04:23:12.1±1.9, 36.01N×139.92E, h57km±17km, mb3.7/13, mb1 3.9/14, mb1mx3.8/23, mbtmp4.0/14, ML4.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/22 Error ellipse: s-maj=22.1km s-min=7.6km az=61.0*

ISC 07 04:23:10.6±0.4**, 36.06N**±0.03×**139.93E**±0.05**, h60**km±3km**, n36, σ0.77**/46**, mb4.0**/14**, 1C-5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.27	52	⇑P	P	04 23 20.6	+0.1
JYT				S	S	04 23 26.8	-0.9
JAG	Ashikaga	0.53	313	⇓P	P	04 23 22.8	-0.1
JAG				S	S	04 23 30.7	-1.2
JRY	Ryogami san	0.83	267	⇓P	P	04 23 26.8	+0.2
JRY				S	S	04 23 37.5	-1.0
JKT	Katashina	0.89	322	⇓P	P	04 23 27.5	+0.2
JKT				S	S	04 23 39.5	-0.4
JOD2	Odawara 2	1.05	221	P	P	04 23 30.8	+1.3
JOD2				S	S	04 23 44.1	+0.5
JYN	Shimob	1.26	244	P	P	04 23 34.2	+1.8
BSO3	Boso 3	1.34	159	P	P	04 23 34.1	+0.4
JFY	Yanaizu	1.35	352	⇓P	P	04 23 34.4	+0.6
JFY				S	S	04 23 52.0	+1.0
JHK	Hiroka	1.39	328	⇓P	P	04 23 34.6	+0.3
JIM2	Oshima 3	1.40	197	P	P	04 23 34.8	+0.3
JIM2				S	S	04 23 52.4	+0.3
MJAR	Matsushiro Arr	1.47	289	P	P	04 23 34.7	-0.7
	92nm,0.3s,baz=92,slow=9.9,SNR=459						
MJAR				S	S	04 23 54.5	+0.7
	53nm,0.3s,baz=121,slow=5.4,SNR=9.9						
MAJO	Matsushiro	1.47	290	eP	P	04 23 36.0	+0.6
MAT	Matsushiro	1.47	290	P	P	04 23 35.0	-0.4
MAT				S	S	04 23 54.1	+0.3
MAT	Matsushiro	1.47	290	eP	P	04 23 35.0	-0.4
MAT				eS	S	04 23 54.0	+0.2
JHJ	Hachijo jima 2	2.94	182	P	P	04 23 55.5	-0.4
	100nm,0.3s,baz=188,slow=7.1,SNR=16						
JHJ				S	S	04 24 28.9	-1.4
	44nm,0.3s,baz=82,slow=23,SNR=4.2						
ASAJ	Asahikawa	8.30	13	LR	LR	04 28 31.5	
	comp=Z,52nm,18.1s,baz=199,slow=38						
MDJ	Mudanjiang	11.62	320	eP	P	04 25 48.6	-7.3
SONM	Songino Array	27.36	306	P	P	04 28 52.6	+0.6
	0.5nm,0.6s,mb3.2,baz=106,slow=8.7,SNR=5.4						
ZAL	Zalesovo	41.71	313	P	P	04 30 55.1	+0.3
	3.6nm,0.6s,mb4.2,baz=29,slow=7.8,SNR=7.5						
MKAR	Makanchi Array	43.63	303	P	P	04 31 10.4	-0.1
	1.2nm,0.6s,mb3.8,baz=90,slow=9.3,SNR=12						
KURK	Kurchatov	45.60	309	eP	P	04 31 25.4	-0.9
	4.6nm,0.6s,mb4.6						
KURK	Kurchatov	45.60	309	eP	P	04 31 25.4	-0.9
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BVAR	Borovoye Array	50.35	313	P	P	04 32 02.5	-0.7
	comp=Z,0.6nm,0.4s,mb4.0,baz=106,slow=11,SNR=4.7						
BRVK	Borovoye	50.40	313	eP	P	04 32 02.1	-1.6
ILAR	Eielson Array	50.95	32	P	P	04 32 08.2	+0.6
	comp=Z,1.1nm,0.6s,mb3.9,baz=294,slow=5.3,SNR=13						
FITZ	Fitzroy Crossi	55.54	197	P	P	04 32 42.4	+0.2
	comp=Z,2.4nm,0.5s,mb4.5,baz=357,slow=13,SNR=6.3						
INK	Inuvik	55.79	27	P	P	04 32 43.9	+0.5
	comp=Z,1.0nm,0.6s,mb4.0,baz=284,slow=9.3,SNR=4.8						
WRAB	Tennant Creek	55.94	186	eP	P	04 32 44.6	-0.4
WRA	Warramunga Arr	55.95	186	P	P	04 32 44.6	-0.5
	comp=Z,0.7nm,0.5s,mb4.0,baz=0.9,slow=7.7,SNR=42						
ARCES	ARCESS Array B	64.48	339	P	P	04 33 41.9	-0.7
	comp=Z,2.9nm,0.9s,mb4.3,baz=50,slow=7.0,SNR=3.4						
FINES	FINESS Array B	69.11	332	P	P	04 34 11.7	-0.2
	comp=Z,1.3nm,0.9s,mb3.8,baz=72,slow=6.0,SNR=4.6						
AKASG	Malin Array Be	74.33	322	P	P	04 34 42.5	-0.5
	comp=Z,0.7nm,0.4s,mb3.9,baz=44,slow=5.4,SNR=6.5						
NB2	NORSAR Subarra	74.61	337	P	P	04 34 44.1	-0.4
	comp=Z,0.8nm,0.5s,mb3.9,baz=42,slow=5.8						
NB2	NORSAR Subarra	74.61	337	P	P	04 34 44.1	-0.4
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	NORSAR Array B	74.61	337	P	P	04 34 44.4	-0.1
	comp=Z,0.9nm,0.5s,mb3.9,baz=41,slow=5.8,SNR=4.5						
TXAR	Lajitas Array	91.66	51	P	P	04 36 14.7	+2.1
	comp=Z,0.2nm,0.5s,mb3.7,baz=286,slow=2.3,SNR=6.4						

WEL 07 05:10:37.8±0.3**, 38.00S**×**176.07E, h171**km±3km**, ML3.5**/13**, 1C-1D, Error ellipse: s-maj=4.5km s-min=4.5km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.86	108	PN	P	05 11 03.7	-0.1
URZ				SN	S	05 11 23.3	-0.6
MWZ	Matawai	1.20	107	PN	P	05 11 06.4	0.0
MWZ				SN	S	05 11 28.1	-0.5
BKZ	Black Stump Fm	1.21	164	⇓PN	P	05 11 06.5	-0.1
BKZ				SN	S	05 11 28.5	-0.4
TUVZ	Tukino	1.31	194	PN	P	05 11 07.7	+0.2
FWVZ	Far West T-bar	1.32	198	PN	P	05 11 08.2	+0.6
WNVZ	Wahianoa	1.38	196	PN	P	05 11 08.3	+0.1
MOVZ	Moawhango	1.43	190	⇑PN	P	05 11 08.1	-0.5
MOVZ				SN	S	05 11 31.5	-1.0
KNZ	Kokohu	1.62	130	PN	P	05 11 10.3	-0.2
PUZ	Puketiti	1.73	93	PN	P	05 11 11.2	-0.5
MXZ	Matakaoa Point	1.82	77	PN	P	05 11 11.4	-1.2
WAZ	Wanganui	1.95	205	PN	P	05 11 13.4	-0.6
TSZ	Takapari Road	2.06	182	PN	P	05 11 14.1	-1.1
PXZ	Pawanui	2.12	163	PN	P	05 11 15.1	-0.9
PXZ				SN	S	05 11 42.3	-3.1
BFZ	Birch Farm	2.68	177	PN	P	05 11 20.7	-2.0
MRZ	Mangatainoka R	2.69	188	PN	P	05 11 20.1	-2.6
KIW	Kapiti Island	3.00	197	PN	P	05 11 23.3	-3.2
KIW				SN	S	05 12 00.1	-4.0
CAW	Cannon Point	3.20	194	PN	P	05 11 25.8	-3.3
MRW	Makara Radio	3.39	198	PN	P	05 11 28.0	-3.6
MRW				SN	S	05 12 07.9	-5.1
TRWZ	Traveller	3.41	185	PN	P	05 11 28.2	-3.6
MSWZ	Moikau Station	3.47	190	PN	P	05 11 28.6	-4.0
MSWZ				SN	S	05 12 07.5	-7.2
THZ	Tophouse	4.48	212	ePN	P	05 11 41.3	-4.2
KHZ	Kahutara	4.82	203	PN	P	05 11 45.3	-4.7

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*NEIC **07** 05:38:32.3, 34.94S×70.26W, h11km, ML2.8(GUC), After GUC.*

GUC 07 05:38:32.3±0.6**, 34.94S**×**70.26W, h11**km±2km**, MD3.8, ML2.8, 15C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	Cipreses	0.63	348	⇓i P	Pb	05 38 44.1	-0.8
CICH				i S	Sb	05 38 53.1	-0.4
SFDO	San Fernando	0.70	297	⇑i P	Pb	05 38 45.1	-1.0
SFDO				i S	Sb	05 38 55.0	-0.5
NICH	Los Niches	0.80	265	⇓i P	Pb	05 38 46.8	-1.0
NICH				i S	Sb	05 38 58.0	-0.5
CACH	El Canelo	0.87	341	⇑i P	Pb	05 38 48.1	-0.9
CACH				i S	Sb	05 38 59.8	-0.6
CHCH	Chadas Angostu	1.06	342	⇑i P	Pb	05 38 51.8	-0.4
CHCH				i S	Sb	05 39 06.8	+1.0
LMEL	Las Melosas	1.09	2	⇑i P	Pb	05 38 52.4	-0.4
LMEL				i S	Sb	05 39 07.7	+0.9
LMEL				AMP		05 39 09.9	
	comp=N,409nm,0.2s						
SJCH	San Jose de Ma	1.30	356	⇑i P	Pb	05 38 55.8	-0.5
SJCH				i S	Sb	05 39 13.7	+0.9
SJCH				AMP		05 39 14.4	
	comp=N,246nm,0.4s						
PCH	Pirque	1.33	351	⇓i P	Pb	05 38 56.6	-0.3
PCH				i S	Sb	05 39 15.2	+1.4
LNV	Longovilo	1.37	315	⇑i P	Pn	05 38 57.2	-0.3
LNV				i S	Sb	05 39 15.4	+0.5
TACH	Talagante	1.40	336	⇑i P	Pn	05 38 57.8	-0.2
TACH				i S	Sb	05 39 16.9	+1.1
ANTU	Antumapu	1.40	347	⇑i P	Pn	05 38 58.0	0.0
ANTU				i S	Sb	05 39 17.2	+1.3
ANTU				AMP		05 39 18.1	
	comp=N,248nm,0.2s						
FSR	Penalolen	1.48	351	⇑i P	Pn	05 38 59.2	+0.2
FSR				i S	Sb	05 39 19.6	+1.6
FSR				AMP		05 39 20.1	
	comp=N,208nm,0.6s						
RCDM	Rinconada Maip	1.52	342	⇑i P	Pn	05 38 59.7	+0.1
RCDM				i S	Sb	05 39 20.4	+1.2
RCDM				AMP		05 39 22.0	
	comp=E,238nm,0.1s						
STL	Santa Lucia	1.53	348	⇑i P	Pn	05 38 59.2	-0.6
STL				i S	Sb	05 39 19.9	+0.3
STL				AMP		05 39 20.8	
	comp=E,96nm,0.2s						
CLCH	Cerro Calan	1.56	351	⇑i P	Pn	05 39 00.6	+0.5
CLCH				i S	Sb	05 39 22.2	+1.8
CLCH				AMP		05 39 23.1	
	comp=N,270nm,0.6s						
DSCH	Colegio Aleman	1.56	350	i P	Pn	05 39 00.6	+0.4
DSCH				i S	Sb	05 39 22.3	+1.9
DSCH				AMP		05 39 32.5	
	comp=N,373nm,0.6s						
FCH	Farellones	1.61	359	⇑i P	Pn	05 39 01.6	+0.7
FCH				i S	Sn	05 39 23.7	+2.0
FCH				AMP		05 39 25.3	
	comp=E,187nm,0.2s						
LCCH	Las Cruces	1.82	323	⇑i P	Pn	05 39 04.8	+0.8
LCCH				i S	Sn	05 39 30.0	+2.8
ROCH	El Roble	2.06	342	eP	Pn	05 39 09.4	+2.0
JACH	Jahuel	2.27	353	⇑i P	Pn	05 39 12.3	+2.0
JACH				i S	Sn	05 39 43.1	+4.6

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*IGIL **07** 06:09:06.9, 36.67N×11.11W, h2km, ML3.2*
*CNRM **07** 06:09:07.3, 36.51N×10.84W, h32km, MD3.8*
*MDD **07** 06:09:09.5±1.5, 36.80N×10.98W, h4km±41km, mbLg3.2/13, Error ellipse: s-maj=52.3km s-min=9.0km az=54.0, PRXIMO*
*CSEM **07** 06:09:09.6±0.3, 36.82N×10.75W, h10km, ML2.8, Error ellipse: s-maj=5.4km s-min=3.4km az=54.0*
*INMG **07** 06:09:10.4±0.8, 36.78N×11.05W, h10km, ML2.8, Error ellipse: s-maj=4.8km s-min=2.7km az=79.0*
*NEIC **07** 06:09:10.5±3.5, 36.84N×10.85W, h10km, MN3.2(MDD), Error ellipse: s-maj=41.5km s-min=6.8km az=52.0*

ISC 07 06:09:09.6±0.9**, 36.85N**±0.05×**10.76W**±0.06**, h10**km**, n57, σ1.27**/113**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	Marmelete	1.75	74	eP	Pn	06 09 40.8	+0.5
MORF				eS	Sn	06 10 05.2	+2.4
PTEO	Sao Teotonio	1.77	66	ePn	Pn	06 09 42.5	+2.0
PTEO				eSn	Sn	06 10 06.4	+3.1
	51nm,0.4s						
PTEO	Sao Teotonio	1.77	66	P	Pn	06 09 42.4	+1.9
PTEO				S	Sn	06 10 06.3	+3.0
PLOU	Loures	2.40	32	ePn	Pn	06 09 50.3	+0.8
PLOU				eSn	Sn	06 10 20.7	+1.5
	43nm,0.2s						
PLOU	Loures	2.40	32	P	Pn	06 09 50.3	+0.8
PLOU				S	Sn	06 10 20.6	+1.4
PBEJ	Beja	2.59	62	ePn	Pn	06 09 54.0	+1.8
PBEJ				eSn	Sn	06 10 25.8	+1.8
	28nm,0.3s						
PBEJ	Beja	2.59	62	P	Pn	06 09 54.0	+1.8
PBEJ				S	Sn	06 10 25.5	+1.5
EGRO	El Granado	2.71	74	P	Pn	06 09 55.2	+1.3
	3.3nm,0.1s,SNR=14						
EGRO				S	Sn	06 10 29.1	+2.1
	18nm,0.1s,SNR=5.0						
EGRO	El Granado	2.71	74	P	Pn	06 09 55.2	+1.3
	3.3nm,0.1s,SNR=14						
EGRO				S	Sn	06 10 29.1	+2.0
	18nm,0.1s,SNR=5.0						
ALMR	Almeirim	2.88	36	eP	Pn	06 09 56.8	+0.5
ALMR				eS	Sn	06 10 32.3	+0.9
ALMR				eS	Sn	06 10 32.4	+1.0
ALMR				AML	AML	06 10 36.0	
	comp=E,85nm,0.2s						
PTOM	Tomar	3.33	33	ePn	Pn	06 10 03.5	+0.8
PTOM				eSn	Sn	06 10 42.7	0.0
	comp=E,23nm,0.1s						
PTOM	Tomar	3.33	33	P	Pn	06 10 03.6	+0.9
PTOM				S	Sn	06 10 42.8	+0.1
EMIN	Mina Concepcio	3.39	73	P	Pn	06 10 04.3	+0.6
	comp=E,2.2nm,0.1s,SNR=45						
EMIN				S	Sn	06 10 45.3	+1.0
	comp=E,8.5nm,0.2s,SNR=23						
EMIN	Mina Concepcio	3.39	73	P	Pn	06 10 04.3	+0.7
	comp=E,2.2nm,0.1s,SNR=45						
EMIN				S	Sn	06 10 45.3	+1.0
	comp=E,8.5nm,0.2s,SNR=23						
EBAD	Badajoz	3.53	56	P	Pn	06 10 06.6	+1.1
	comp=E,3.0nm,0.1s,SNR=13						
EBAD				S	Sn	06 10 48.7	+0.9
	comp=E,42nm,0.2s,SNR=15						
EBAD	Badajoz	3.53	56	P	Pn	06 10 06.6	+1.0
	comp=E,3.0nm,0.1s,SNR=13						
EBAD				S	Sn	06 10 48.7	+0.9
	comp=E,42nm,0.2s,SNR=15						
ESPR	Espera	3.94	88	P	Pn	06 10 11.8	+0.4
	comp=E,30nm,0.1s,SNR=32						
ESPR				S	Sn	06 10 58.6	+0.4
	comp=E,137nm,0.3s,SNR=8.7						
ESPR	Espera	3.94	88	P	Pn	06 10 11.8	+0.4
	comp=E,30nm,0.1s,SNR=32						
ESPR				S	Sn	06 10 58.6	+0.4
	comp=E,137nm,0.3s,SNR=8.7						
PCBR	Castelo Branco	3.95	40	ePn	Pn	06 10 11.8	+0.2
PCBR				eSn	Sn	06 10 57.8	-0.6
	comp=E,8.5nm,0.3s						
EJIF	Jimena Fronter	4.28	94	P	Pn	06 10 16.5	+0.2
	SNR=7.9						
EJIF				S	Sn	06 11 05.5	-1.3
	comp=E,0.9nm,0.2s,SNR=7.9						
MTE	Manteigas	4.35	34	ePn	Pn	06 10 17.2	-0.1
MTE				eSn	Sn	06 11 07.1	-1.5
	comp=E,9.4nm,0.2s						
MTE	Manteigas	4.35	34	ePn	Pn	06 10 17.2	-0.1
MTE				eSn	Sn	06 11 07.1	-1.5
	comp=E,9.4nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ECAB	El Cabril	4.42	72	P	Pn	06 10 18.7	+0.3
	comp=E,3.4nm,0.1s,SNR=28						
ECAB				S	Sn	06 11 10.3	-0.3
	comp=E,9.8nm,0.2s,SNR=9.1						
ECAB	El Cabril	4.42	72	P	Pn	06 10 18.6	+0.3
ECAB				S	Sn	06 11 10.3	-0.3
	comp=E,9.8nm,0.2s,SNR=9.1						
EMIJ	Mijas	4.82	92	P	Pn	06 10 23.7	-0.3
	comp=E,1.6nm,0.2s,SNR=7.9						
EMIJ				S	Sn	06 11 19.0	-1.6
	comp=E,3.8nm,0.3s,SNR=7.9						
PVRL	Vila Real	5.01	27	*e*Pn	Pn	06 10 26.2	-0.5
PVRL				*e*Sn	Sn	06 11 22.3	-3.1
	comp=E,22nm,0.1s						
PVRL	Vila Real	5.01	27	Pn	Pn	06 10 26.2	-0.5
PVRL				P		06 10 26.3	
PVRL				S	Sn	06 11 21.9	-3.5
PVRL	Vila Real	5.01	27	P	Pn	06 10 26.3	-0.4
PVRL				S	Sn	06 11 21.9	-3.5
EADA	Adamuz	5.09	73	P	Pn	06 10 27.6	-0.1
	comp=E,3.0nm,0.1s,SNR=28						
EADA				S	Sn	06 11 27.2	-0.2
	comp=E,5.5nm,0.1s,SNR=5.0						
EADA	Adamuz	5.09	73	P	Pn	06 10 27.6	-0.2
	comp=E,3.0nm,0.1s,SNR=28						
EADA				S	Sn	06 11 27.2	-0.2
	comp=E,5.5nm,0.1s,SNR=5.0						
PCAB	Cabril	5.29	23	*e*Pn	Pn	06 10 29.0	-1.7
PCAB				*e*Sn	Sn	06 11 27.9	-4.6
	comp=E,11nm,0.2s						
PCAB	Cabril	5.29	23	P	Pn	06 10 29.0	-1.7
PCAB				S	Sn	06 11 27.8	-4.7
ELOB	Lobios	5.43	22	P	Pn	06 10 33.3	+0.7
	comp=E,1.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	06 11 31.2	-4.7
	comp=E,6.1nm,0.1s,SNR=5.0						
ELOB	Lobios	5.43	22	P	Pn	06 10 33.3	+0.8
	comp=E,1.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	06 11 31.2	-4.6
	comp=E,6.1nm,0.1s,SNR=5.0						
EZAM	Zamans	5.53	16	P	Pn	06 10 34.4	+0.4
	SNR=7.9						
EZAM				S	Sn	06 11 32.6	-5.7
	comp=E,5.1nm,0.1s,SNR=5.4						
EZAM	Zamans	5.53	16	P	Pn	06 10 34.4	+0.4
EZAM				S	Sn	06 11 32.6	-5.7
CIA	Chichaoua	5.53	162	*i* P	Pn	06 10 22.5	-11
CIA				*i* S	Sn	06 11 19.0	-19
MIF	Mishlifen	5.69	126	*i* P	Pn	06 10 28.0	-8.2
MIF				*i* S	Sn	06 11 26.0	-16
EBAN	Banos Encina	5.70	75	P	Pn	06 10 36.0	-0.4
	comp=E,1.9nm,0.1s,SNR=6.9						
EBAN				S	Sn	06 11 39.4	-3.2
	comp=E,1.8nm,0.1s,SNR=5.0						
PBRG	Braganca	5.85	31	*e*Pn	Pn	06 10 37.1	-1.3
PBRG				*e*Sn	Sn	06 11 42.2	-4.1
	comp=E,5.3nm,0.3s						
PBRG	Braganca	5.85	31	P	Pn	06 10 37.1	-1.3
PBRG				S	Sn	06 11 42.1	-4.2
EQUE	Quentar	5.87	84	P	Pn	06 10 38.8	0.0
	SNR=7.9						
EQUE				S	Sn	06 11 44.7	-2.2
	comp=E,1.3nm,0.1s,SNR=7.9						
ECAL	Calabor	5.96	30	P	Pn	06 10 38.6	-1.5
	comp=E,1.1nm,0.1s,SNR=6.8						
ECAL				S	Sn	06 11 45.5	-3.7
	comp=E,2.3nm,0.2s,SNR=7.9						
ECAL	Calabor	5.96	30	P	Pn	06 10 38.6	-1.5
ECAL				S	Sn	06 11 45.5	-3.8
ECAL	Calabor	5.96	30	P	Pn	06 10 38.6	-1.5
	comp=E,1.1nm,0.1s,SNR=6.8						
ECAL				S	Sn	06 11 45.5	-3.7
	comp=E,2.3nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	6.05	60	P	Pn	06 10 41.2	-0.1
	comp=E,0.7nm,0.2s,baz=244,slow=13,SNR=13						
ESDC				S	Sn	06 11 48.5	-2.9
	comp=E,0.5nm,0.3s,baz=245,slow=23,SNR=3.8						
ESDC	Sonseca Array	6.05	60	P	Pn	06 10 41.2	-0.1
	comp=E,0.7nm,0.2s,SNR=13						
ESDC				S	Sn	06 11 48.5	-2.8
	comp=E,0.5nm,0.3s,SNR=3.8						
CZD	Col de Zad	6.05	127	*i* P	Pn	06 10 32.0	-9.3
CZD				*i* S	Sn	06 11 35.5	-16
EQES	Quesada	6.20	79	P	Pn	06 10 43.1	-0.4
	comp=E,0.5nm,0.1s,SNR=7.9						
EQES				S	Sn	06 11 53.4	-1.8
	SNR=7.9						
EQES	Quesada	6.20	79	P	Pn	06 10 43.1	-0.4
	comp=E,0.5nm,0.1s,SNR=7.9						
EQES				S	Sn	06 11 53.4	-1.8
	SNR=7.9						
EMAZ	Mazaricos	6.24	12	P	Pn	06 10 43.8	-0.2
	comp=E,2.1nm,0.1s,SNR=5.8						
EMAZ				S	Sn	06 11 46.6	-10
	SNR=7.9						
EMAZ	Mazaricos	6.24	12	P	Pn	06 10 43.8	-0.2
	comp=E,2.1nm,0.1s,SNR=5.8						
EPON	Pontenova	7.04	22	P	Pn	06 10 52.3	-2.9
	comp=E,2.4nm,0.2s,SNR=7.0						
EPON				S	Sn	06 12 09.4	-6.7
	comp=E,1.4nm,0.2s,SNR=7.9						
EPON	Pontenova	7.04	22	P	Pn	06 10 52.3	-2.9
	comp=E,2.4nm,0.2s,SNR=7.0						
ETOB	Tobarra	7.52	73	P	Pn	06 11 00.6	-1.3
	comp=E,0.6nm,0.1s,SNR=5.6						
ETOB				S	Sn	06 12 25.1	-3.1
	comp=E,0.6nm,0.3s,SNR=7.9						
ETOB	Tobarra	7.52	73	P	Pn	06 11 00.6	-1.3
ETOB				Pn	Pn	06 11 04.3	+2.4
ETOB				Sn	Sn	06 12 25.1	-3.1
ETOB	Tobarra	7.52	73	P	Pn	06 11 00.6	-1.4
	comp=E,0.6nm,0.1s,SNR=5.6						

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*HLW **07** 06:25:27.8, 34.13N×25.13E, $h22^{km}$, Mb3.2*
*CSEM **07** 06:25:28.6±0.1, 33.97N×25.19E, $h40^{km}$, ML3.2, Error ellipse: s-maj=9.5km s-min=2.1km az=67.0*
*ATH **07** 06:25:31.3, 34.35N×25.12E, $h34^{km}$, MD3.5/4*
ISC 07 06:25:28.3±1.1, **33.97N**±0.07×**25.1E**±0.1, **$h59^{km}$**$\pm63^{km}$, **n9**, σ**0^{s}84**/13, **3C-1D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	1.01	27	*e*PN	P	06 25 45.5	-1.3
GVD	Gavdhos	1.23	315	*e*PN	P	06 25 50.0	+0.2
VAM	Vamos	1.63	332	*e*PN	P	06 25 55.0	-0.4
KARP	Karpathos	2.29	46	*e*PN	P	06 26 05.5	+0.9
SLUM		2.47	179	⇓P	P	06 26 08.2	+1.1
SLUM				S	S	06 26 36.9	+0.8
SLUM		2.47	179	P	P	06 26 08.2	+1.1
SLUM				S	S	06 26 36.9	+0.8
HMAT	Matruh	3.31	150	⇑P	P	06 26 19.2	+0.2
SWA1		4.71	174	⇑P	P	06 26 39.1	+0.4
SWA1				S	S	06 27 31.7	-0.9
SWA2		4.72	177	⇑P	P	06 26 39.1	+0.4
SWA2				S	S	06 27 31.3	-1.5

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*NIED **07** 06:41:00, 24.50N×121.80E, $h41^{km}$, Mw3.9 Best double couple: $M_0$7.49×10^{14} NP1:ϕ_s211°, δ87°, λ-63°. NP2: ϕ_s307°, δ27°, λ-173°.*
*IDC **07** 06:41:35.2±2.1, 24.31N×121.83E, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, MS2.9/2, Ms1 2.9/2, ms1mx2.8/20, Error ellipse: s-maj=161.8km s-min=27.3km az=65.0*
*NEIC **07** 06:41:36.5±1.1, 24.44N×122.09E, $h10^{km}$, MG3.6(JMA), Error ellipse: s-maj=14.9km s-min=11.8km az=64.0*
*JMA **07** 06:41:39.9±0.2, 24.47N×121.77E, $h58^{km}$, M3.6*
ISC 07 06:41:39.3±0.7, **24.35N**±0.10×**121.73E**±0.05, **$h41^{km}$**$\pm9^{km}$, **n13**, σ**0^{s}57**/14, **mb3.4**/3, **MS2.9**/1, **Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.22	215	*e*P	P	06 41 47.2	+0.4
YHNB	Yeheng	0.45	314	*e*P	P	06 41 49.0	-0.5
TATO	Taipei	0.66	340	*e*P	P	06 41 51.6	-0.6
YOJ	Yonaguni jima	1.17	84	P	P	06 41 59.8	+0.4
YOJ				*e*S	S	06 42 14.5	0.0
IRIF	Iriomote-Funau	1.82	90	*e*S	S	06 42 30.6	-0.2
HATJ	Hateruma jima	1.92	98	P	P	06 42 10.8	+0.7
JIJ	Ishigaki jima	2.20	89	P	P	06 42 14.1	-0.1
JIJ				*e*S	S	06 42 39.2	-1.1
JTJ	Tarama	2.72	83	P	P	06 42 21.9	+0.3
JTJ				*e*S	S	06 42 54.2	+0.6
JOW	Kunigami	6.40	66	LR	LR	06 45 40.7	
	comp=Z,84nm,18.4s,baz=88,slow=39						
GUMO	Guam	24.32	112	LR	LR	06 55 31.2	
	comp=Z,40nm,20.2s,MS2.9,baz=304,slow=34						
SONM	Songino Array	26.41	336	P	P	06 47 14.4	+0.5
	0.7nm,0.7s,mb3.3,baz=154,slow=8.2,SNR=4.0						
MKAR	Makanchi Array	38.57	316	P	P	06 49 00.3	+0.6
	0.3nm,0.5s,mb3.3,baz=104,slow=10,SNR=4.7						
WRA	Warramunga Arr	45.71	163	P	P	06 49 57.6	-0.9
	0.3nm,0.4s,mb3.6,baz=346,slow=8.6,SNR=5.9						

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*MOS **07** 06:42:51.5±0.8, 5.57N×94.76E, $h39^{km}$, mb5.3/46, Error ellipse: s-maj=10.3km s-min=4.5km az=124.7*
*BJI **07** 06:42:53.6, 5.31N×94.66E, $h72^{km}$, mB5.3, mb5.1, Ms4.6, Msz4.3*
*NEIC **07** 06:42:55.2±0.2, 5.50N×94.69E, mb4.9/46, Error ellipse: s-maj=5.8km s-min=4.1km az=207.0*
NEIC Felt [I] at Banda Aceh.
*HRVD **07** 06:42:55.2±0.5, 5.05N×94.66E, $h60^{km}\pm2^{km}$, MW4.9/45, Centroid moment Tensor Solution. LP body waves: s24,c31; Mantle waves: s45,c66; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.02±.21; $M_{\theta\theta}$-1.46±.15; $M_{\phi\phi}$-0.56±.18; $M_{r\theta}$0.90±.10; $M_{\theta\phi}$2.26±.13; $M_{\phi r}$-1.09±.13; Best double couple: $M_0$3.037×10^{16} NP1:ϕ_s293°, δ33°, λ66°. NP2:ϕ_s141°, δ60°, λ105°. Principal axes: T 2.421, Plg71°, Azm84°; N 1.233, Plg13°, Azm313°; P -3.654, Plg14°, Azm220°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 06:42:55.1±0.7, 5.54N×94.76E, $h55^{km}\pm5^{km}$, mb4.4/26, mb1 4.4/26, mb1mx4.4/28, mbtmp4.6/26, MS4.0/18, Ms1 4.0/18, ms1mx4.0/23 Error ellipse: s-maj=14.3km s-min=8.8km az=53.0*
ISC 07 06:42:53.2±0.2, **5.46N**±0.04×**94.73E**±0.03, **$h54^{km}$**$\pm1.5^{km}$**:pP-P, n317**, σ**1^{s}00**/312, **mb5.0**/108, **MS4.2**/32, **47C-12D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PKT	Phuket	4.31	53	P	P	06 44 06.5	+8.5
KULM	Kulim	5.90	91	*e*P	P	06 44 21.4	+1.4
SNG	Songkhla	6.10	73	P	P	06 44 25.0	+2.1
	492nm,0.9s						
NNT	Nongplab	8.64	35	P	P	06 45 00.2	+2.1
NST	Nakhon Sawan	11.45	27	P	P	06 45 35.5	-1.1
KKTK	Khon Kaen	13.41	36	P	P	06 46 06.0	+3.3
	586nm,0.5s						
CHG	Chiang Mai	13.89	17	⇓P	P	06 46 14.2	+5.1
UBT	Ubonrachathani	14.03	45	⇑P	P	06 46 15.0	+4.1
PALK	Pallekele	14.05	278	*e*P	P	06 46 11.0	-0.2
	16nm,0.6s						
PALK				*e*S	S	06 48 26.6	-20
CHRT	Chiangrai	15.14	19	P	P	06 46 29.0	+3.6
	263nm,1.0s						
KSM	Kuching	16.05	104	*e*P	P	06 46 41.6	+4.7
VIS	Vishakhapatnam	16.51	318	*e*P	P	06 46 44.5	+1.8
VIS				AMb	AMB	06 46 47.9	
	comp=Z,62nm,0.6s						
SALM	Salem	17.45	292	*e*P	P	06 46 57.0	+2.4
SALM				*e*x	x	06 49 52.0	
HYB	Hyderabad	19.79	308	*i* P	P	06 47 22.0	+0.1
HYB				*e*		06 47 24.0	
HYB				*e*pP		06 47 35.0	
HYB				*e*S	S	06 50 45.0	-12
HYB	Hyderabad	19.79	308	*e*P	P	06 47 22.0	+0.1
HYB				*e*S	S	06 50 45.0	-12
QIZ	Qiongzhong	19.98	46	P	P	06 47 25.1	+1.2
QIZ				AP		06 47 38.2	
QIZ				XP		06 47 46.8	
QIZ				*e*S	S	06 51 01.4	+0.8
QIZ				AMB	AMB		
	comp=Z,26nm,1.1s						
QIZ				LR	LR		
	comp=N,894nm,15.8s						
QIZ				LR	LR		
	comp=E,691nm,17.0s						
QIZ	Qiongzhong	19.98	46	*e*P	P	06 47 24.8	+0.9
	comp=E,24nm,1.1s						
BOK	Bokaro	20.12	336	*e*P	P	06 47 24.7	-0.6
BOK				AMb	AMB	06 47 29.5	
	comp=Z,187nm,1.4s						
BOK				*e*x	x	06 50 58.0	
SHL	Shillong	20.18	353	*e*P	P	06 47 23.0	-3.0
SHL				*e*x	x	06 50 53.0	
BLSP	Bilaspur	20.57	325	*e*P	P	06 47 29.7	-0.3
BLSP				AMb	AMB	06 47 47.5	
	comp=Z,170nm,1.6s						
BLSP				*e*x	x	06 51 11.2	
BLSP				AML	AML	06 51 46.9	
	comp=N,18nm,0.5s						
BLSP				AML	AML	06 51 47.5	
	comp=E,21nm,0.4s						
KMI	Kunming	21.01	21	P	P	06 47 36.8	+2.3
KMI				AP		06 47 50.8	
KMI				XP		06 47 58.4	
KMI				PP	PP	06 48 02.6	+4.1
KMI				S	S	06 51 24.6	+4.2
KMI				PCP	PcP	06 51 39.9	-0.4
KMI				XS		06 51 48.1	
KMI				SS	SS	06 52 02.6	+7.1
KMI				SCP		06 55 10.3	
KMI				PCS		06 55 16.9	
KMI				AMB	AMB		
	comp=Z,54nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=N,440nm,17.2s,MS4.1						
KMI				LR	LR		
	comp=E,418nm,13.8s,MS4.1						
KMI				LR	LR		
	comp=Z,595nm,22.4s						
KMI	Kunming	21.01	21	P	P	06 47 36.8	+2.3
	comp=Z,54nm,1.0s,mb4.8						
KMI				pP		06 47 50.8	
KMI				sP		06 47 58.4	
KMI				PP	PP	06 48 02.6	+4.1
KMI				PPP	PPP	06 48 12.4	+4.3
KMI				S	S	06 51 24.6	+4.2
KMI				PcP	PcP	06 51 39.9	-0.4
KMI				sS		06 51 48.1	
KMI				SS	SS	06 52 02.6	+7.1
KMI				SSS	SSS	06 52 17.7	+6.6
KMI				ScP		06 55 10.3	
KMI				PcS		06 55 16.9	
KMI				LR	LR		
	comp=Z,600nm,22.4s,MS3.9						
KMI	Kunming	21.01	21	P	P	06 47 36.8	+2.3
KMI				*PP		06 47 50.8	
KMI				*SP		06 47 58.4	
KMI						06 48 02.6	
KMI				S	S	06 51 24.6	+4.2
KMI						06 51 39.9	
KMI				*SS		06 51 48.1	
KMI				SS	SS	06 52 02.6	+7.1
KMI				pmax	pmax		
	comp=Z,54nm,1.0s,mb4.8						
KMI				MLR	MLR		
	comp=Z,600nm,22.4s,MS3.9						
LATR	Latur	21.91	308	*e*x	S	06 51 35.0	-2.2
KAD	Karad	23.29	302	*e*P	P	06 48 00.6	+3.3
KAD				AMb	AMB	06 48 14.7	
	comp=Z,61nm,1.3s,mb4.9						
KAD				*e*S	S	06 52 10.7	+8.7
PKI	Pulchoki	23.71	339	*e*P	P	06 48 00.9	-0.2
	comp=Z,104nm,1.2s,mb5.2						
GYA	Guiyang	23.79	27	⇑*i*P	P	06 48 03.2	+1.3
GYA				AP		06 48 17.9	
GYA				XP		06 48 24.6	
GYA				AMB	AMB		
	comp=Z,100nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,190nm,2.8s,mb5.0						
GYA				LR	LR		
	comp=N,2µm,16.8s,MS4.6						
GYA				LR	LR		
	comp=E,630nm,15.8s,MS4.6						
GYA				LR	LR		
	comp=Z,880nm,17.0s,MS4.3						
DMN	Daman	23.85	338	*e*P	P	06 48 02.9	+0.4
	comp=Z,58nm,0.7s,mb5.1						
GUN	Gumba	23.86	340	*e*P	P	06 48 02.5	-0.1
	comp=Z,113nm,0.8s,mb5.4						
KKN	Kakani	23.95	339	*e*P	P	06 48 03.3	-0.2
	comp=Z,93nm,0.9s,mb5.2						
POO	Poona	24.16	304	*e*x	S	06 52 27.5	+11
BHPL	Bhopal	24.31	318	*e*P	P	06 48 10.6	+3.6
BHPL				AMb	AMB	06 48 11.3	
	comp=Z,53nm,1.4s,mb4.8						
LSA	Lhasa	24.35	352	P	P	06 48 09.0	+1.7
LSA	Lhasa	24.35	352	*e*P	P	06 48 07.4	+0.1
	comp=Z,35nm,0.7s,mb4.9						
LSA	Lhasa	24.35	352	*e*P	P	06 48 07.4	+0.1
LSA				pmax	pmax		
	comp=Z,35nm,0.7s,mb4.9						
GKN	Gorkha	24.38	338	*e*P	P	06 48 08.0	+0.3
	comp=Z,43nm,0.4s,mb5.3						
KOLN	Koldanda	24.58	336	*e*P	P	06 48 10.3	+0.7
	comp=Z,148nm,0.7s,mb5.6						
CD2	Chengdu	26.70	17	⇑*i*P	P	06 48 29.0	-0.5
CD2				AP	pP	06 48 43.2	+0.3
CD2				XP	sP	06 48 53.0	+3.5
CD2				PP	PP	06 49 14.1	-1.2
CD2				S	S	06 52 59.1	0.0
CD2				SS	SS	06 54 14.7	+0.8
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
CD2				AMB	AMB		
	comp=Z,530nm,6.4s						
CD2				LR	LR		
	comp=E,300nm,15.6s						
CD2				LR	LR		
	comp=Z,250nm,20.4s,MS3.8						
SONA	Sohna	28.18	326	AMb	AMB	06 48 42.9	
	comp=Z,31nm,0.9s,mb5.0						
ENH	Enshi	28.33	28	*e*P	P	06 48 42.1	-2.1
	comp=Z,11nm,0.6s,mb4.7						
AYAN	Aya Nagar	28.34	326	AMb	AMB	06 48 44.2	
	comp=Z,22nm,0.7s,mb4.9						
QZH	Quanzhou	29.99	47	P	P	06 48 58.7	-0.4
QZH				*e*S	S	06 53 56.0	+4.2
QZH				LR	LR		
	comp=Z,2µm,20.8s,MS4.6						
WHN	Wuhan	31.04	34	*e*P	P	06 49 08.0	-0.3
XAN	Xi'an	31.34	23	P	P	06 49 09.8	-1.1
XAN				AMB	AMB		
	comp=Z,55nm,1.0s,mb5.3						
LZH	Lanzhou	31.61	14	*e*P	P	06 49 12.0	-1.3
LZH				AP	pP	06 49 26.5	-0.6
LZH				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.2						
LZH				LR	LR		
	comp=E,870nm,17.8s						
LZH				LR	LR		
	comp=Z,810nm,18.0s,MS4.4						
LZH	Lanzhou	31.61	14	*e*P	P	06 49 12.0	-1.3
	comp=Z,42nm,1.0s,mb5.2						
LZH				pP	pP	06 49 26.5	-0.6
LZH				sP	sP	06 49 31.0	-2.7
LZH				LR	LR		
	comp=Z,810nm,18.0s,MS4.4						
GTA	Gaotai	34.11	7	⇑*i*P	P	06 49 34.6	-0.3
GTA				AP	pP	06 49 49.1	+0.3
GTA				PP	PP	06 50 49.2	-1.3
GTA				PCP	PcP	06 52 11.2	-0.2
GTA				S	S	06 54 59.2	+3.2
GTA				PCS		06 55 56.4	
GTA				SS	SS	06 57 07.9	+1.0
GTA				SCS	ScS	06 59 53.6	+2.3
GTA				AMB	AMB		
	comp=Z,44nm,0.8s,mb5.4						
GTA				AMB	AMB		
	comp=Z,119nm,5.3s						
GTA				LR	LR		
	comp=N,246nm,19.9s,MS4.0						
GTA				LR	LR		
	comp=E,121nm,17.6s,MS4.0						
GTA				LR	LR		
	comp=Z,330nm,19.5s,MS4.1						
NJ2	Nanjing	34.77	37	*e*P	P	06 49 41.5	+0.9
NJ2				AP	pP	06 49 56.1	+1.5
NJ2				XP	sP	06 50 03.0	+1.7
NJ2				PP	PP	06 51 01.2	+2.1
NJ2				S	S	06 55 06.0	-0.3
NJ2				XS		06 55 33.0	
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,390nm,5.1s						
NJ2				LR	LR		
	comp=N,790nm,16.2s,MS4.6						
NJ2				LR	LR		
	comp=E,520nm,16.1s,MS4.6						
NJ2				LR	LR		
	comp=Z,290nm,17.3s,MS4.1						
SSE	Sheshan	35.60	41	P	P	06 49 48.6	+0.9
SSE				AP	pP	06 50 03.6	+1.9
SSE				XP	sP	06 50 10.1	+1.7
SSE				PP	PP	06 51 08.3	-1.0
SSE				S	S	06 55 20.3	+1.2
SSE				XS		06 55 45.9	
SSE				SCS	ScS	07 00 01.7	+2.4
SSE				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,259nm,5.2s						
SSE				LR	LR		
	comp=N,208nm,20.1s,MS4.1						
SSE				LR	LR		
	comp=E,234nm,20.1s,MS4.1						
SSE				LR	LR		
	comp=Z,337nm,21.2s,MS4.1						
SSE	Sheshan	35.60	41	P	P	06 49 48.6	+0.9
	comp=Z,47nm,0.7s,mb5.5						
SSE				pP	pP	06 50 03.6	+1.9
SSE				sP	sP	06 50 10.1	+1.7
SSE				PP	PP	06 51 08.3	-1.0
SSE				S	S	06 55 20.3	+1.2
SSE				sS		06 55 45.9	
SSE				SS	SS	06 57 54.7	+14
SSE				ScS	ScS	07 00 01.7	+2.4
SSE				LR	LR		
	comp=Z,340nm,21.2s,MS4.1						
KSH	Kashi	37.90	336	*e*P	P	06 50 07.4	+0.5
KSH				*e*AP	pP	06 50 22.6	+1.6
KSH				*e*XP	sP	06 50 29.6	+2.1
KSH				*e*PP	PP	06 51 38.8	+1.6
KSH				*e*PCP	PcP	06 52 22.0	-0.7
KSH				*e*S	S	06 55 54.8	+0.6
KSH				*e*SCP		06 56 03.8	
KSH				*e*PCS		06 56 10.1	
KSH				*e*XS		06 56 20.0	
KSH				*e*SS	SS	06 58 34.3	+1.6
KSH				*e*SCS	ScS	07 00 12.4	+0.3
KSH				AMB	AMB		
	comp=Z,130nm,3.0s						
KSH				LR	LR		
	comp=N,170nm,6.6s						
KSH				LR	LR		
	comp=E,200nm,4.7s						
HHC	Hu-ho-hao-te	38.33	21	*e*P	P	06 50 11.5	+1.0
HHC				AP	pP	06 50 26.7	+2.1
HHC				XP	sP	06 50 33.6	+2.5
HHC				PP	PP	06 51 43.3	+1.1
HHC				PCP	PcP	06 52 23.7	-0.4
HHC				S	S	06 56 00.2	-0.5
HHC				SCP		06 56 06.1	
HHC				PCS		06 56 13.3	
HHC				XS		06 56 26.4	
HHC				SS	SS	06 58 40.7	-1.6
HHC				SCS	ScS	07 00 14.7	+0.2
HHC				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,181nm,5.0s						
HHC				LR	LR		
	comp=N,441nm,21.4s,MS4.6						
HHC				LR	LR		
	comp=E,717nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=Z,426nm,19.0s,MS4.3						
JOW	Kunigami	38.39	53	LR	LR	07 05 10.8	
	comp=Z,457nm,21.3s,MS4.3,baz=183,slow=35						
FITZ	Fitzroy Crossi	38.45	128	*e*P	P	06 50 10.7	-1.0
	comp=Z,15nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	38.45	128	P	P	06 50 11.4	-0.3
	comp=Z,24nm,0.8s,mb5.0,baz=332,slow=6.6,SNR=17						

WBK Wadi Bani Khal 38.49 300 ⇑P P **P** **06 50 13.0 +1.0**
WMQ Urumqi 38.70 352 P P **P** **06 50 14.2 +0.6**
WMQ AP pP 06 50 29.5 +1.9
WMQ XP sP 06 50 37.0 +2.8
WMQ PP PP 06 51 48.5 +2.0
WMQ *e*S **S** **06 56 06.5 +0.2**
WMQ XS 06 56 33.0
WMQ AMB AMB
comp=Z,25nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,183nm,3.6s
WMQ LR LR
comp=N,285nm,15.5s,MS4.4
WMQ LR LR
comp=E,280nm,12.4s,MS4.4
WMQ LR LR
comp=Z,351nm,14.2s,MS4.3
JMDO Jabal Madar 39.16 299 ⇓P **P** **06 50 18.5 +0.9**
SMDO Samad 39.45 300 P **P** **06 50 22.3 +2.4**
SNR=8.2
BIDO Bidbid 39.55 301 P **P** **06 50 23.4 +2.7**
SNR=11
BSY Bisya 40.08 299 P **P** **06 50 27.9 +2.7**
SNR=13
ULHL Ulahol 40.15 339 P **P** **06 50 26.4 +0.9**
SNR=60
HOQ Hoqain 40.27 300 ⇓P **P** **06 50 28.7 +1.9**
UCH Uchtor 40.78 337 P **P** **06 50 32.1 +1.3**
SNR=76
ARQ Araqi 40.86 300 ⇓P **P** **06 50 33.9 +2.2**
TKM2 Tokmak 2 40.97 338 P **P** **06 50 33.3 +1.0**
SNR=33
KBK Karagaybulak 40.98 338 P **P** **06 50 34.1 +1.6**
SNR=19
AML Almayashu 41.03 336 P **P** **06 50 34.2 +1.4**
SNR=36
AAK Ala-Archa 41.14 337 P **P** **06 50 35.1 +1.4**
SNR=28
AAK Ala-Archa 41.14 337 *e*P **P** **06 50 33.5 -0.2**
comp=Z,39nm,0.8s,mb5.1
AAK Ala-Archa 41.14 337 P **P** **06 50 34.4 +0.7**
AAK pmax pmax
comp=Z,45nm,1.0s,mb5.0
DL2 Dalian 41.25 32 P **P** **06 50 36.6 +1.9**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
FRU Bishkek 41.26 337 *e*P **P** **06 50 35.5 +0.8**
FRU pmax pmax
comp=Z,140nm,2.0s,mb5.2
CHMS Chumysh 41.35 338 P **P** **06 50 35.8 +0.3**
SNR=11
EKS2 Erkin-Say 41.44 337 P **P** **06 50 37.5 +1.3**
SNR=46
KAKA Kakadu 41.60 116 *e*P **P** **06 50 54.3 +16**
comp=Z,8.7nm,0.8s,mb4.4
USP Ospenovka 41.68 338 P **P** **06 50 38.9 +0.7**
SNR=99
ASHO Ashiyiah 41.73 301 ⇓P **P** **06 50 41.7 +2.9**
WHFO Wadi Hawf 41.86 291 ⇑P **P** **06 50 41.6 +1.6**
MKAR Makanchi Array 42.55 347 P **P** **06 50 45.3 -0.1**
comp=Z,24nm,0.7s,mb5.0,baz=164,slow=8.5,SNR=186
MKAR S **S** **06 57 04.6 +1.0**
comp=Z,0.3nm,0.6s,baz=274,slow=32,SNR=2.3
MKAR LR LR 07 11 17.3
comp=Z,134nm,20.4s,MS3.8,baz=360,slow=40
KKAR Karatay Array 43.17 334 *i* P **P** **06 50 49.8 -0.6**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
SONM Songino Array 43.39 11 P **P** **06 50 52.0 -0.1**
comp=Z,19nm,0.8s,mb4.9,baz=189,slow=8.4,SNR=112
SONM PcP PcP 06 52 40.2 -0.2
comp=Z,3.7nm,0.8s,baz=203,slow=3.4,SNR=5.6
SONM ScP 06 56 26.6
comp=Z,1.8nm,0.9s,baz=186,slow=2.7,SNR=4.7
SONM LR LR 07 11 05.3
comp=Z,214nm,19.1s,MS4.1,baz=213,slow=39
JNU Nakatsue 43.45 46 P **P** **06 50 52.8 -0.1**
comp=Z,16nm,1.0s,mb4.7,baz=191,slow=3.3,SNR=3.7
JNU LR LR 07 07 29.6
comp=Z,428nm,21.9s,MS4.3,baz=335,slow=34
ULN Ulaanbaatar 43.55 12 *e*P **P** **06 50 52.7 -0.7**
comp=Z,8.8nm,0.7s,mb4.6
ULN Ulaanbaatar 43.55 12*c i*P **P** **06 50 52.9 -0.5**
ZAK Zakamensk 45.34 8 *e*P **P** **06 51 07.1 -0.7**
ZAK *e* 06 52 45.0
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
WRA Warramunga Arr 46.41 124 P **P** **06 51 16.5 -0.2**
comp=Z,21nm,0.8s,mb5.1,baz=302,slow=9.1,SNR=115
WRA S **S** **06 58 01.1 +1.4**
comp=Z,1.3nm,1.1s,baz=295,slow=16,SNR=3.7
WRAB Tennant Creek 46.42 124 *e*P **P** **06 51 16.4 -0.3**
comp=Z,44nm,0.9s,mb5.4
WRAB Tennant Creek 46.42 124*c i*P **P** **06 51 16.6 -0.1**
WB2 Warramunga Arr 46.42 124⇑*i*P **P** **06 51 16.5 -0.2**
CN2 Changchun 46.77 31 *e*P **P** **06 51 19.5 +0.3**
CN2 *e*AP pP 06 51 35.7 +2.2
CN2 *e*S **S** **06 58 04.3 -0.1**
CN2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
CN2 AMB AMB
comp=Z,310nm,6.0s
CN2 LR LR
comp=N,430nm,15.0s,MS4.6
CN2 LR LR
comp=E,270nm,15.0s,MS4.6
CN2 LR LR
comp=Z,410nm,16.0s,MS4.5
KURK Kurchatov 47.08 346⇑*i*P **P** **06 51 21.4 -0.1**
comp=Z,66nm,0.8s,mb5.6
KURK Kurchatov 47.08 346 P **P** **06 51 21.7 +0.2**
KURK pmax pmax
comp=Z,28nm,0.8s,mb5.2
HASS Wahat al Ahsa' 47.36 299 P **P** **06 51 24.8 +0.8**
HIA Hailar 48.52 22 *e*P **P** **06 51 32.5 -0.3**
comp=Z,8.7nm,0.6s,mb5.0
HIA Hailar 48.52 22 *e*P **P** **06 51 32.5 -0.2**
HIA pmax pmax
comp=Z,9.0nm,0.6s
ZAL Zalesovo 49.00 352 LR LR 07 15 16.8
comp=Z,82nm,20.6s,MS3.7,baz=93,slow=40
MDJ Mudanjiang 49.49 32 P **P** **06 51 41.1 +0.8**
MDJ AP pP 06 51 54.3 -0.4
MDJ PCP PcP 06 53 01.8 -0.1
MDJ PP PP 06 53 35.8 +0.5
MDJ SCP 06 56 52.8
MDJ PCS 06 56 58.7
MDJ S **S** **06 58 46.2 +3.6**
MDJ XS 06 59 09.5
MDJ AMB AMB
comp=Z,25nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,184nm,4.1s
MDJ LR LR
comp=N,57nm,20.3s,MS4.1
MDJ LR LR
comp=E,202nm,22.5s,MS4.1
MDJ LR LR
comp=Z,218nm,21.8s,MS4.1
NVS Novosibirsk 50.10 351⇑*i*P **P** **06 51 43.6 -1.2**
NVS *e* pP 06 51 55.6 -3.6
NVS *e*S **S** **06 58 57.3 +6.4**
NVS pmax pmax
comp=Z,40nm,1.1s,mb5.4
NVS pmax pmax
comp=N,42nm,1.6s
NVS pmax pmax
comp=E,30nm,1.3s
NVS smax
comp=E,32nm,1.8s
NVS smax
comp=N,17nm,1.7s
MJAR Matsushiro Arr 50.38 46 P **P** **06 51 47.4 +0.2**
comp=N,5.4nm,1.0s,mb4.5,baz=242,slow=9.7,SNR=5.8
MJAR LR LR 07 15 46.9
comp=N,218nm,18.1s,MS4.2,baz=245,slow=39
KAMS Al Khamasin 50.85 292 P **P** **06 51 50.6 -0.4**
MZLS Mizel 51.01 297 P **P** **06 51 52.8 +0.7**
DJNS Zahran al Janu 51.43 288 P **P** **06 51 57.4 +2.0**
BVA0 Borovoye Array 51.45 341 *i* P **P** **06 51 53.9 -1.2**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4

BVAR Borovoye Array 51.45 341 P **P** **06 51 54.4 -0.7**
comp=Z,26nm,0.8s,mb5.2,baz=149,slow=8.6,SNR=96
BVAR S **S** **06 59 10.2 +0.7**
comp=Z,1.9nm,0.8s,baz=135,slow=14,SNR=4.8
BRVK Borovoye 51.51 341⇑*e*P **P** **06 51 54.4 -1.1**
comp=Z,12nm,0.8s,mb4.9
BRVK Borovoye 51.51 341⇑*e*P **P** **06 51 54.4 -1.1**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb4.9
OPO Ambohidratompo 52.58 242 P **P** **06 52 04.9 +0.9**
comp=Z,2.9nm,0.8s,mb4.2,baz=87,slow=19,SNR=3.8
AB31 Akbulak array 52.62 332 P **P** **06 52 03.0 -0.9**
AB31 pmax pmax
comp=Z,65nm,1.2s,mb5.4
AFFS 'Afif 52.96 296 P **P** **06 52 07.6 +0.8**
BLJS Baljurashi 53.55 291 P **P** **06 52 12.3 +1.1**
PMG Port Moresby 54.30 106 P **P** **06 52 16.3 -0.4**
comp=Z,14nm,0.7s,mb5.0,baz=257,slow=10,SNR=2.6
AKTO Aktyubinsk 54.34 332 P **P** **06 52 15.1 -1.4**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BOD Bodaibo 54.36 13 *e*P **P** **06 52 15.1 -1.5**
BOD pmax pmax
comp=Z,26nm,1.0s,mb5.1
HILS Ha'il 54.77 300 P **P** **06 52 21.1 +1.1**
GNI Garni 56.54 315 P **P** **06 52 31.4 -1.3**
comp=Z,4.5nm,0.4s,mb4.8,baz=6.9,slow=8.6,SNR=3.9
GNI Garni 56.54 315*c i*P **P** **06 52 31.5 -1.1**
GNI pmax pmax
comp=Z,25nm,1.7s
CTA Charters Tower 56.64 118 P **P** **06 52 32.7 -0.9**
comp=Z,3.1nm,0.7s,mb4.5,baz=266,slow=11,SNR=4.0
CTAO Charters Tower 56.64 118 *e*P **P** **06 52 31.6 -2.0**
TI2 Plekhanov 57.19 317 *e*P **P** **06 52 36.0 -1.2**
YNBS Yanbu' al Bahr 57.53 295 P **P** **06 52 40.0 +0.1**
KMBO Kilima Mbogo 57.77 265 P **P** **06 52 43.5 +1.8**
comp=Z,2.2nm,0.8s,mb4.2,baz=55,slow=13,SNR=7.1
KMBO LR LR 07 13 35.8
comp=Z,252nm,20.7s,MS4.3,baz=95,slow=32
SVE Sverdlovsk 57.84 339 *i* P **P** **06 52 40.8 -0.8**
SVE *e* pP 06 52 56.0 -0.3
SVE pmax pmax
comp=Z,84nm,2.0s,mb5.4
STKA Stephens Creek 58.04 133 *e*P **P** **06 52 42.2 -1.1**
comp=Z,6.1nm,1.0s,mb4.6
STKA Stephens Creek 58.04 133 P **P** **06 52 42.1 -1.2**
comp=Z,5.9nm,0.9s,mb4.6,baz=300,slow=3.7,SNR=5.9
STKA LR LR 07 17 42.5
comp=Z,183nm,20.0s,MS4.2,baz=220,slow=36
ZEI Tsey 58.20 318 *e*P **P**
ZEI *i* *PP pP **06 52 42.0 -2.2**
ZEI *i* 06 52 59.2 +0.2
ZEI *i* 06 53 32.8
ZEI pmax pmax 06 54 52.5
comp=Z,12nm,0.8s,mb5.0
ARU Arti 58.33 337⇑*i*P **P** **06 52 43.6 -1.3**
ARU *e* 06 54 51.2
ARU *e*PPP PPP 06 56 13.1 -6.6
ARU *e*S **S** **07 00 43.8 +2.3**
ARU *e*SS SS 07 04 36.2 +0.5
ARU pmax pmax
comp=Z,22nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 58.34 37⇓*e*P **P** **06 52 45.0 -0.2**
YSS *e* 06 52 51.9
KIV Kislovodsk 59.49 319 *e*P **P** **06 52 52.0 -1.2**
comp=Z,23nm,0.9s,mb5.2
KIV *e*pP pP 06 53 07.4 -0.5
KIV Kislovodsk 59.49 319 *e*P **P** **06 52 52.0 -1.2**
KIV *e**PP pP 06 53 07.4 -0.6
KIV pmax pmax
comp=Z,23nm,0.9s,mb5.2
JMQS Jabal Moqyreh 60.20 300 P **P** **06 52 58.6 +0.4**
MALT Malatya 60.47 311 *e*P **P** **06 52 59.5 -0.5**
comp=Z,2.4nm,0.4s,mb4.6
MALT Malatya 60.47 311 *e*P **P** **06 52 59.5 -0.5**
MALT pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
TAYS Tayyib Ism 61.00 300 P **P** **06 53 03.5 -0.3**
HAQS Haql 61.04 300 P **P** **06 53 03.5 -0.5**
SOC Sochi 61.33 317 *e*P **P** **06 53 02.8 -2.9**
SOC *e*S **S** **07 01 27.6 +7.2**
SOC *e* 07 02 48.3
SOC *e*SSS SSS 07 08 03.1 +0.3
SOC pmax pmax
comp=Z,26nm,1.0s,mb5.3
SOC pmax pmax
comp=N,11nm,0.9s
SOC pmax pmax
comp=E,11nm,0.9s
YAK Yakutsk 62.09 18*c i*P **P** **06 53 08.9 -1.7**
YAK pmax pmax
comp=Z,38nm,0.8s,mb5.6
MBAR Mbarara 64.18 267⇑*i*P **P** **06 53 25.9 +0.8**
BR131 Keskin Array S 64.44 312 *e*P **P** **06 53 24.5 -2.0**
comp=Z,7.3nm,0.7s,mb4.8
BRTR Keskin Array B 64.44 312 P **P** **06 53 24.9 -1.5**
comp=Z,7.6nm,0.7s,mb4.8,baz=128,slow=7.2,SNR=32
BRTR pP pP 06 53 39.9 -1.5
comp=Z,6.3nm,0.7s,baz=138,slow=7.1,SNR=9.2
VORD Divnogorie 64.51 325 *e*P **P** **06 53 24.2 -2.4**
VORD pmax pmax
comp=Z,20nm,0.8s,mb5.2
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,7.0nm,0.3s
SIM Simferopol' 65.58 317 *e*P **P** **06 53 32.8 -0.8**
SIM pmax pmax
comp=Z,22nm,0.8s,mb5.2
ISP Isparta 66.39 309 *e*P **P** **06 53 37.3 -1.6**
comp=Z,47nm,1.3s,mb5.4
ISP Isparta 66.39 309 *e*P **P** **06 53 37.3 -1.6**
ISP pmax pmax
comp=Z,47nm,1.3s,mb5.4
MOS Moscow 67.43 329 *e*P **P** **06 53 43.0 -2.2**
MOS *e* pP 06 53 57.6 -2.6
MOS pmax pmax
comp=Z,71nm,0.6s,mb5.9
OBN Obninsk 67.72 328⇑*i*P **P** **06 53 45.5 -1.5**
OBN *i* pP 06 54 01.8 -0.3
OBN pmax pmax
comp=Z,69nm,1.6s,mb5.4
MA2 Magadan 68.63 27 *e*P **P** **06 53 51.7 -0.9**
MA2 pmax pmax
comp=Z,23nm,1.4s,mb4.9
LSZ Lusaka 69.04 251 *e*P **P** **06 53 56.2 +0.4**
comp=Z,14nm,1.2s,mb4.8
LSZ *e*pP pP 06 54 10.7 -0.3
LSZ Lusaka 69.04 251 *e*P **P** **06 53 56.2 +0.4**
LSZ *e**PP pP 06 54 10.7 -0.2
LSZ pmax pmax
comp=Z,14nm,1.2s,mb4.8
TIXI Tiksi 69.47 11 *e*P **P** **06 53 52.2 -5.4**
TIXI *e*S S 07 02 58.7 -0.9
TIXI pmax pmax
comp=Z,24nm,0.9s,mb5.1
TIXI MLR MLR
comp=Z,208nm,16.0s,MS4.5
CFR Carcaliu 69.72 316⇑*i*P P **06 53 58.1 -1.4**
AKASG Malin Array Be 70.40 322 P **P** **06 54 01.8 -1.8**
comp=Z,9.5nm,0.7s,mb4.9,baz=97,slow=4.0,SNR=21
AKASG Malin Array Be 70.40 322 P **P** **06 54 01.8 -1.8**
VRI Vrincioaia 70.84 317⇓*i*P **P** **06 54 06.7 +0.4**
SEY Seymchan 70.87 24⇓*i*P **P** **06 54 05.3 -0.9**
KDZ Kurdzhali 70.96 312 *e*P **P** **06 54 07.0 -0.1**
MLR Muntele Rosu 71.30 316⇑*i*P **P** **06 54 09.0 0.0**
MLR Muntele Rosu 71.30 316⇑*i*P **P** **06 54 09.0 0.0**
MLR Muntele Rosu 71.30 316 P **P** **06 54 09.1 +0.1**
RZN Rozhen 71.49 312 *i* P **P** **06 54 10.0 -0.2**
VOIR 71.91 316⇑*i*P **P** **06 54 11.4 -1.3**
MMB Musomiste 72.20 312 *e*P **P** **06 54 14.5 0.0**
BURAR Bucovina Array 72.22 318⇑*i*P **P** **06 54 14.6 +0.1**
BURAR Bucovina Array 72.22 318⇑*i*P **P** **06 54 14.6 +0.2**
MNK Minsk 72.26 326 *e*P **P** **06 54 12.0 -2.6**
KKB Krupnik 72.72 312 *i* P **P** **06 54 16.5 -1.1**
VTS Vitosha 72.73 313 *e*P **P** **06 54 17.0 -0.7**
VTS Vitosha 72.73 313 P **P** **06 54 17.3 -0.4**
JOF Joensuu 73.26 335 *ep* **P** **06 54 18.6 -1.7**
comp=Z,11nm,0.9s,mb4.8
LBTB Lobatse 73.62 242 *e*P **P** **06 54 22.8 -0.4**
comp=Z,17nm,1.0s,mb4.9
LBTB *ep*P pP 06 54 40.1 +1.7
LBTB Lobatse 73.62 242 *e*P **P** **06 54 22.8 -0.4**
LBTB *e**PP pP 06 54 40.1 +1.7

LBTB pmax pmax
comp=Z,17nm,1.0s,mb4.9
DRGR 73.75 317⇑*i*P **P** **06 54 22.6 -0.9**
DRGR 73.75 317⇑*i*P **P** **06 54 22.6 -0.9**
DRGR 73.75 317 P **P** **06 54 22.8 -0.7**
VSU Vasula 73.95 330*d i*P **P** **06 54 23.4 -1.0**
KWP Kalwaria 74.24 320 *e*P **P** **06 54 26.2 -0.1**
APA Apatity 74.30 340⇓*i*P **P** **06 54 26.6 +0.3**
APA *i* pP 06 54 42.1 +0.6
KOLS Kolonicke sedl 74.40 319 *e*P **P** **06 54 27.3 +0.1**
SUW Suwalki 74.79 325 *e*P **P** **06 54 28.5 -0.9**
BOSA Boshof 74.81 239 P **P** **06 54 29.6 -0.4**
comp=Z,1.8nm,0.5s,mb4.2,baz=98,slow=20,SNR=5.3
BOSA pP pP 06 54 46.8 +1.5
comp=Z,11nm,1.1s,baz=56,slow=6.3,SNR=5.7
BOSA LR LR 07 21 03.7
comp=Z,197nm,20.8s,MS4.4,baz=103,slow=31
BOSA Boshof 74.81 239 *e*P **P** **06 54 29.8 -0.3**
comp=Z,1.9nm,0.6s,mb4.2
BOSA Boshof 74.81 239 *e*P **P** **06 54 29.8 -0.3**
BOSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CRVS Cervenica-Dubn 74.92 319 *e*P **P** **06 54 31.4 +1.2**
FINES FINESS Array B 75.10 332 P **P** **06 54 30.1 -0.9**
comp=Z,2.6nm,0.5s,mb4.4,baz=92,slow=6.8,SNR=17
FINES pP pP 06 54 47.2 +1.0
comp=Z,3.4nm,0.6s,baz=90,slow=5.7,SNR=4.5
FINES LR LR 07 34 11.6
comp=Z,42nm,18.7s,MS3.8,baz=223,slow=41
STHS Stebnicka Huta 75.14 320 *e*P **P** **06 54 31.7 +0.2**
STHS *e* pP 06 54 44.3 -2.4
KAF Kangasniemi 75.19 333 *ep* **P** **06 54 28.3 -3.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=105,slow=5.4
KAF Kangasniemi 75.19 333 *e*P **P** **06 54 28.3 -3.2**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
DZM Mont Dzumac 75.26 114 P **P** **06 54 33.7 +1.0**
comp=Z,6.1nm,1.0s,mb4.5,baz=253,slow=11,SNR=3.3
KECS Kecovo 75.50 319 *e*P **P** **06 54 32.9 -0.6**
KECS *e* pP 06 54 45.1 -3.7
PSZ Piszkesteto 75.81 318⇑*e*P **P** **06 54 35.0 -0.3**
PSZ Piszkesteto 75.81 318 *e*P **P** **06 54 34.8 -0.5**
comp=Z,12nm,0.9s,mb4.8
PSZ *ep*P pP 06 54 49.8 -0.8
PSZ Piszkesteto 75.81 318 *e*P **P** **06 54 34.8 -0.5**
PSZ *e**PP pP 06 54 49.8 -0.8
PSZ pmax pmax
comp=Z,12nm,0.9s,mb4.8
OJC Ojcow 76.19 320⇑*i*P **P** **06 54 37.2 -0.2**
MAW Mawson 76.31 192 P **P** **06 54 39.4 +1.6**
comp=Z,0.5nm,0.6s,baz=20,slow=8.3,SNR=3.6
MAW LR LR 07 24 41.2
comp=Z,106nm,18.8s,baz=57,slow=33
PKSM Moragy 76.45 316 P **P** **06 54 38.7 -0.3**
VYHS Vyhne 76.58 318 *e*P **P** **06 54 39.2 -0.5**
VYHS *ep*P pP 06 54 54.9 -0.1
OKC Ostrava-Krasne 77.19 320 *e*P **P** **06 54 43.4 +0.3**
OKC *ep*P pP 06 54 59.4 +1.0
KEV Kevo 77.29 341 *ep* **P** **06 54 42.3 -1.0**
comp=Z,18nm,0.8s,mb5.0
KEV Kevo 77.29 341 *e*P **P** **06 54 42.3 -1.0**
KEV pmax pmax
comp=Z,18nm,0.8s,mb5.0
MORC Moravsky Berou 77.58 320 *e*P **P** **06 54 45.2 0.0**
comp=Z,16nm,1.1s,mb4.9
MORC *ep*P pP 06 55 01.0 +0.4
MORC Moravsky Berou 77.58 320 *e*P **P** **06 54 45.2 0.0**
MORC *e**PP pP 06 55 01.0 +0.5
MORC pmax pmax
comp=Z,16nm,1.1s,mb4.9
ZST Bratislava 77.70 318 *e*P **P** **06 54 46.5 +0.6**
ZST *e* pP 06 54 58.5 -2.8
ARCES ARCESS Array B 77.72 340 P **P** **06 54 45.7 +0.1**
comp=Z,16nm,0.9s,mb5.0,baz=94,slow=5.9,SNR=37
ARCES LR LR 07 35 06.0
comp=Z,86nm,19.7s,MS4.1,baz=228,slow=40
ARCES ARCESS Array B 77.72 340 P **P** **06 54 45.7 +0.1**
ARCES LR LR 07 35 06.0
DPC Dobruska-Polom 78.42 320 *e*P **P** **06 54 50.5 +0.7**
DPC *ep*P pP 06 55 05.8 +0.6
KSP Ksiaz 78.48 321 *e*P **P** **06 54 50.4 +0.3**
UPC Upice 78.63 320 *e*P **P** **06 54 51.7 +0.7**
UPC *ep*P pP 06 55 03.0 -3.3
GROS Grobnik 78.64 316⇑*i*P **P** **06 54 51.1 -0.1**
ARSA Arzberg 78.68 317⇑*i*P **P** **06 54 51.3 0.0**
comp=Z,85nm,2.6s,mb5.2
BOJS Bojanci 78.75 315⇑*i*P **P** **06 54 51.6 -0.1**
comp=Z,39nm,0.9s,mb5.3
LJU Ljubljana 79.29 316⇑*i*P **P** **06 54 55.0 +0.4**
LJU *e* pP 06 55 10.6 +0.6
OBKA Obir 79.30 316⇑*i*P **P** **06 54 55.0 +0.3**
comp=Z,35nm,1.6s,mb5.0
PRU Pruhonice 79.53 320 *e*P **P** **06 54 56.4 +0.5**
PRU *ep*P pP 06 55 08.5 -2.8
PVCC Panska Ves 79.55 320 *e*P **P** **06 54 56.6 +0.6**
PVCC *ep*P pP 06 55 12.4 +1.0
MOA Molln 79.57 318⇑*i*P **P** **06 54 55.9 -0.3**
comp=Z,21nm,1.5s,mb4.8
VOY Vojsko 79.73 316 *e*P **P** **06 54 56.7 -0.4**
VOY *e* pP 06 55 12.2 -0.2
CADS Cadrg 79.85 316⇑*e*P **P** **06 54 57.4 -0.3**
comp=Z,84nm,1.6s,mb5.4
CADS *e* pP 06 55 13.2 +0.2
GERES GERESS Array B 80.00 319 P **P** **06 54 58.8 +0.3**
comp=Z,12nm,0.7s,mb4.9,baz=90,slow=5.3,SNR=84
GERES LR LR 07 36 02.8
comp=Z,31nm,18.2s,MS3.7,baz=274,slow=40
KHC Kasperske Hory 80.10 319 *e*P **P** **06 54 59.2 +0.2**
KHC *ep*P pP 06 55 17.6 +3.2
KBA Koelnbreinsper 80.16 317⇑*i*P **P** **06 54 58.9 -0.4**
comp=Z,38nm,2.0s,mb5.0
KBA Koelnbreinsper 80.16 317⇑*i*P **P** **06 54 58.9 -0.4**
KBA pmax pmax
comp=Z,38nm,2.0s,mb5.0
CLL Collm 80.59 321 ⇑P **P** **06 55 01.0 -0.5**
comp=Z,logA/T=1.0,mb4.7
CLL *e**PP pP 06 55 18.0 +1.1
CLL *e* 06 55 36.0
CLL *e*PP PP 06 58 09.0 +1.8
CLL Collm 80.59 321⇑*i*P **P** **06 55 01.0 -0.5**
comp=Z,13nm,1.4s,mb4.7
CLL *ep*P pP 06 55 18.0 +1.1
CLL Collm 80.59 321⇑*i*P **P** **06 55 01.0 -0.5**
CLL *e**PP pP 06 55 18.0 +1.1
CLL pmax pmax
comp=Z,13nm,1.4s,mb4.7
HFS Hagfors 80.82 330 P **P** **06 55 02.1 -0.5**
comp=Z,1.5nm,0.5s,mb4.2,baz=90,slow=4.4,SNR=7.2
WTTA Wattenberg 81.33 317⇑*i*P **P** **06 55 05.1 -0.4**
comp=Z,28nm,1.5s,mb5.0
WTTA Wattenberg 81.33 317⇑*i*P **P** **06 55 05.1 -0.4**
WTTA pmax pmax
comp=Z,28nm,1.5s,mb5.0
WATA Walderalm 81.37 317⇑*i*P **P** **06 55 05.1 -0.6**
comp=Z,15nm,1.3s,mb4.8
WATA Walderalm 81.37 317⇑*i*P **P** **06 55 05.1 -0.6**
WATA pmax pmax
comp=Z,15nm,1.3s,mb4.8
MOX Moxa 81.44 320 *i* P **P** **06 55 06.0 0.0**
comp=Z,logA/T=1.2,mb4.9
MOX Moxa 81.44 320 *e*P **P** **06 55 06.0 0.0**
comp=Z,27nm,1.8s,mb4.9
MOX Moxa 81.44 320 *e*P **P** **06 55 06.0 0.0**
MOX pmax pmax
comp=Z,27nm,1.8s,mb4.9
SQTA Sankt Quirin 81.62 317⇑*i*P **P** **06 55 06.7 -0.3**
comp=Z,8.9nm,0.9s,mb4.7
SQTA Sankt Quirin 81.62 317⇑*i*P **P** **06 55 06.7 -0.3**
SQTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GRA1 Grafenberg Arr 81.66 319 *e*P **P** **06 55 07.4 +0.2**
comp=Z,28nm,1.4s,mb5.0
GRA1 *ep*P pP 06 55 19.4 -3.2
GRA1 *es*P sP 06 55 23.6 -5.0
GRF Grafenberg Arr 81.66 319 *e*P **P** **06 55 07.4 +0.2**
comp=Z,28nm,1.4s,mb5.0
GRF *ep*P pP 06 55 19.4 -3.2
GRF *es*P sP 06 55 23.6 -5.0
GRF Grafenberg Arr 81.66 319 *e*P **P** **06 55 07.4 +0.2**
GRF *e**PP pP 06 55 19.4 -3.2
GRF *e**SP sP 06 55 23.6 -5.0
GRF pmax pmax
comp=Z,28nm,1.4s,mb5.0
GRF Grafenberg Arr 81.66 319 *e*P **P** **06 55 07.4 +0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRF				e*PP	pP	06 55 19.4	-3.2
GRF				e*SP	sP	06 55 23.6	-5.0
GRF				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
MOTA	Moosalm	81.69	317	⇓iP	P	06 55 06.9	-0.5
	comp=Z,19nm,1.2s,mb4.9						
MOTA	Moosalm	81.69	317	⇓iP	P	06 55 06.9	-0.5
MOTA				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
NB2	NORSAR Subarra	82.11	331	P	P	06 55 08.4	-0.9
	comp=Z,0.8nm,0.6s,baz=95,slow=5.0						
NB2	NORSAR Subarra	82.11	331	P	P	06 55 08.4	-0.9
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	NORSAR Array B	82.11	331	P	P	06 55 08.6	-0.7
	comp=Z,2.5nm,0.9s,mb4.1,baz=94,slow=5.4,SNR=4.2						
NOA				LR	LR	07 37 32.3	
	comp=Z,55nm,18.9s,MS3.9,baz=100,slow=40						
DAVA	Damuels	82.52	317	⇑iP	P	06 55 11.9	+0.2
	comp=Z,85nm,2.9s,mb5.3						
CDF	Champ du Feu	84.26	318	eP	P	06 55 19.9	-0.6
SBF	Sospel	84.30	313	eP	P	06 55 20.0	-0.8
	comp=Z,30nm,0.7s,mb5.2						
SBF	Sospel	84.30	313	eP	P	06 55 20.0	-0.8
SBF				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.2						
LPG	La Plagne	84.72	315	eP	P	06 55 23.1	+0.2
LPL	La Plagne	84.74	315	eP	P	06 55 23.1	+0.2
	comp=Z,32nm,0.8s,mb5.2						
LPL	La Plagne	84.74	315	eP	P	06 55 23.1	+0.2
LPL				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.2						
MBDF	Montbardon	84.74	314	eP	P	06 55 22.4	-0.6
FRF	La Foret Royal	84.88	313	eP	P	06 55 23.8	+0.1
HAU	Haudompre	84.90	318	eP	P	06 55 23.1	-0.5
	comp=Z,20nm,0.8s,mb5.0						
HAU				eR			
	comp=Z,53nm,22.0s						
HAU	Haudompre	84.90	318	eP	P	06 55 23.1	-0.5
HAU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
HAU				MLR	MLR		
	comp=Z,50nm,22.0s,MS3.9						
LMR	La Mourre	85.00	313	eP	P	06 55 24.1	-0.2
CABF	La Chapelle	85.14	316	eP	P	06 55 24.1	-0.8
	comp=Z,15nm,0.9s,mb4.8						
CABF	La Chapelle	85.14	316	eP	P	06 55 24.1	-0.8
CABF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ORIF	Oris-en-Rattie	85.37	315	eP	P	06 55 25.7	-0.4
ORIF				eR			
	comp=Z,54nm,21.2s						
GIVF	Givet	85.79	320	eP	P	06 55 28.1	+0.1
BAIF	Baives	86.19	320	eP	P	06 55 30.2	+0.3
VIVF	Saint-Julien-l	86.23	315	eP	P	06 55 30.3	0.0
LOR	Lormes	86.62	317	eP	P	06 55 31.8	-0.3
	comp=Z,17nm,0.8s,mb5.0						
LOR				eR			
	comp=Z,37nm,20.0s						
LOR	Lormes	86.62	317	eP	P	06 55 31.8	-0.3
LOR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
LOR				MLR	MLR		
	comp=Z,40nm,20.0s,MS3.8						
SMF	Signal de Mont	86.68	316	eP	P	06 55 32.1	-0.3
LASF	Ste Croix	86.87	314	eP	P	06 55 33.7	+0.3
SSF	Saint Saulge	86.88	317	eP	P	06 55 33.6	+0.2
	comp=Z,9.1nm,0.8s,mb4.8						
SSF	Saint Saulge	86.88	317	eP	P	06 55 33.6	+0.2
SSF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
AVF	Avril sur Loir	87.00	317	eP	P	06 55 33.1	-0.9
BGF	Bois d'Agland	87.37	316	eP	P	06 55 36.1	+0.3
TCF	Toulx Ste Croi	87.83	316	eP	P	06 55 38.3	+0.3
CAF	Calviac	88.07	315	eP	P	06 55 39.7	+0.5
MTLF	Montolieu	88.12	313	eP	P	06 55 39.7	+0.2
RJF	Les Rejaudoux	88.42	315	eP	P	06 55 41.4	+0.6
RJF				eR			
	comp=Z,78nm,22.0s						
LDF	La Druitiere	89.15	319	eP	P	06 55 44.3	+0.1
JMIC	Jan Mayen	89.17	341	LR	LR	07 40 50.3	
	comp=Z,56nm,20.0s,MS4.0,baz=112,slow=39						
FLN	La Foliniere	89.36	319	eP	P	06 55 45.2	0.0
FLN				eR			
	comp=Z,68nm,19.5s						
MFF	Saint Martin d	89.42	317	eP	P	06 55 45.7	+0.2
GRR	Gorron	89.66	318	eP	P	06 55 46.9	+0.3
ETSF	Etsaut	90.19	313	eP	P	06 55 50.0	+0.8
	comp=Z,26nm,1.2s,mb5.2						
ETSF	Etsaut	90.19	313	eP	P	06 55 50.0	+0.8
ETSF				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.1						
VNDA	Vanda	90.46	168	LR	LR	07 31 56.9	
	comp=Z,117nm,18.6s,MS4.3,baz=302,slow=32						
VNDA	Vanda	90.46	168	P	P	06 55 50.8	+1.0
SJPF	Ste Jean	90.64	313	eP	P	06 55 52.2	+0.8
SGMF	Saint Gilles	90.80	318	eP	P	06 55 52.1	+0.1
	comp=Z,8.0nm,0.7s,mb4.9						
SGMF	Saint Gilles	90.80	318	eP	P	06 55 52.1	+0.1
SGMF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
QUIF	Quistinic	91.26	318	eP	P	06 55 53.2	-0.9
ROSF	Rostrenen	91.26	319	eP	P	06 55 53.6	-0.5
SBA	Scott Base	91.56	168	P	P	06 55 55.6	+0.7
SBA				epP	pP	06 56 08.1	-2.6
ESDC	Sonseca Array	93.21	310	P	P	06 56 04.1	+0.8
	comp=Z,1.0nm,0.5s,mb4.5,baz=70,slow=4.2,SNR=6.4						
MCK	McKinley	96.42	24	eP	P	06 56 15.4	-1.9
ILAR	Eielson Array	96.75	22	P	P	06 56 18.5	-0.2
	comp=Z,0.7nm,0.7s,mb4.2,baz=293,slow=4.1,SNR=7.5						
ILAR				LR	LR	07 40 21.4	
	comp=Z,77nm,21.2s,MS4.2,baz=358,slow=36						
DBIC	Dimbokro	98.84	278	LR	LR	07 37 04.5	
	comp=Z,69nm,20.5s,MS4.1,baz=65,slow=33						
INK	Inuvik	99.13	16	P	P	06 56 29.0	-0.5
	comp=Z,5.4nm,1.1s,mb5.0,baz=339,slow=5.8,SNR=3.5						
INK	Inuvik	99.13	16	P	P	06 56 29.0	-0.5
MOD	Modoc	123.07	31	ePKPdf	PKPdf	07 01 45.9	+1.8
WVOR	Wild Horse Val	123.50	29	ePKPdf	PKPdf	07 01 47.1	+2.1
ULM	Lac du Bonnet	123.76	8	PKP	PKPdf	07 01 45.9	+0.6
	comp=Z,5.1nm,0.6s,baz=106,slow=1.6,SNR=11						
DLMT	Dillon	123.82	23	ePKPdf	PKPdf	07 01 47.1	+1.6
HLID	Hailey	124.55	25	ePKPdf	PKPdf	07 01 48.7	+1.7
RRI2	Red Ridge	126.00	23	ePKPdf	PKPdf	07 01 51.5	+1.7
LOHW	Long Hollow	126.06	23	ePKPdf	PKPdf	07 01 51.9	+2.0
SNOW	Snow King Moun	126.13	23	ePKPdf	PKPdf	07 01 52.3	+2.3
REDW	Red Top Meadow	126.17	23	ePKPdf	PKPdf	07 01 52.3	+2.2
PDAR	Pinedale Array	127.18	22	PKP	PKPdf	07 01 53.6	+1.6
	comp=Z,3.4nm,0.9s,baz=42,slow=1.7,SNR=23						
DUG	Dugway	127.98	27	ePKPdf	PKPdf	07 01 55.8	+2.0
RWWY	Rawlins	128.98	21	ePKPdf	PKPdf	07 01 56.7	+1.2
MSU	Marysvale	129.63	27	ePKPdf	PKPdf	07 01 59.5	+2.6
NEN	Nelson	130.57	32	ePKPdf	PKPdf	07 02 02.2	+3.4
KSU1	Kansas State U	134.44	12	PKPdf	PKPdf	07 02 06.9	+0.9
ANMO	Albuquerque	135.12	25	ePKPdf	PKPdf	07 02 09.7	+2.4
MNTX	Cornudas Mount	138.37	26	ePKPdf	PKPdf	07 02 15.1	+1.8
TXAR	Lajitas Array	141.15	26	PKhKP		07 02 12.7	
	comp=Z,0.2nm,0.4s,baz=52,slow=2.3,SNR=8.6						
TXAR				PKP	PKPdf	07 02 20.4	+1.9
	comp=Z,1.5nm,0.6s,baz=156,slow=0.5,SNR=16						
TXAR				PP	PP	07 05 23.5	-0.8
	comp=Z,0.6nm,0.9s,baz=333,slow=4.0,SNR=3.7						
CPUP	Villa Florida	146.20	229	PKPbc	PKPbc	07 02 29.7	+1.2
	comp=Z,2.4nm,0.7s,baz=146,slow=5.5,SNR=8.7						
CPUP	Villa Florida	146.20	229	ePKP2	PKPab	07 02 29.6	-1.6
CPD	Cerro la Pandu	149.83	321	ePKPbc	PKPdf	07 02 38.7	+5.4
LPAZ	La Paz	160.04	236	PKP	PKPdf	07 02 50.0	+2.9
	comp=Z,1.7nm,0.9s,baz=3.2,slow=2.7,SNR=5.5						
LPAZ				PKPab	PKPab	07 03 30.3	+0.9
	comp=Z,1.6nm,0.7s,baz=260,slow=1.9,SNR=4.9						
LPAZ	La Paz	160.04	236	PKP	PKPdf	07 02 50.0	+2.9
LPAZ				PKPab	PKPab	07 03 30.3	+0.9

*NEIC **07** 06:48:11.3, 30.09S×70.37W, h106km, MD3.5(GUC), After GUC.*

GUC 07 06:48:11.3±0.8**, 30.09S×70.37W, h106**km±6km**, MD3.5, ML3.5, 7C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.39	258	⇑iP	P	06 48 28.1	+0.8
TLL				i S	S	06 48 40.4	+1.3
TLL				AMP		06 48 41.3	
	comp=E,1μm,0.5s						
LSCH	La Serena	0.78	283	⇑iP	P	06 48 30.4	+0.1
LSCH				i S	S	06 48 44.7	+0.2
LSCH				AMP		06 48 45.3	
	comp=N,1μm,0.2s						
CMCH	Combarbala	1.22	207	⇓iP	P	06 48 34.8	-0.2
CMCH				i S	S	06 48 52.8	0.0
CMCH				AMP		06 48 53.5	
	comp=E,2μm,0.5s						
VACH	Vallenar	1.54	347	⇑iP	P	06 48 38.8	0.0
VACH				i S	S	06 48 59.1	-0.4
VACH				AMP		06 49 00.1	
	comp=N,2μm,0.1s						
ILCH	Illapel	1.69	204	⇑iP	P	06 48 40.5	-0.2
ILCH				i S	S	06 49 02.4	-0.3
ILCH				AMP		06 49 03.4	
	comp=N,582nm,0.2s						
CHNG	Los Chungos	2.04	208	⇑iP	P	06 48 45.1	0.0
CHNG				i S	S	06 49 10.3	-0.1
CHNG				AMP		06 49 15.6	
	comp=E,110nm,0.5s						
ZON	Zonda	2.06	136	eP	P	06 48 48.3	+3.0
ZON				eS	S	06 49 15.9	+5.1
JACH	Jahuel	2.60	184	⇑iP	P	06 48 52.7	0.0
JACH				i S	S	06 49 24.3	+0.5
FCH	Farellones	3.23	179	⇓iP	P	06 49 01.4	+0.1
FCH				i S	S	06 49 40.0	+0.8
FCH				AMP		06 49 44.2	
	comp=N,41nm,0.3s						
RCDM	Rinconada Maip	3.42	186	eP	P	06 49 02.1	-1.8
RCDM				i S	S	06 49 41.7	-1.9
RCDM				AMP		06 49 42.6	
	comp=E,93nm,0.6s						
PCH	Pirque	3.53	182	eP	P	06 49 04.7	-0.6
TACH	Talagante	3.59	188	⇑iP	P	06 49 04.8	-1.5
TACH				i S	S	06 49 46.1	-1.9

*NAO **07** 07:35:04.0±2.5, 57.85N×22.30E, ML2.1*
*BER **07** 07:35:06.7±19.0, 57.89N×22.23E, ML2.1(NAO)*
*IDC **07** 07:35:06.6±2.3, 58.07N×22.16E, mb1 3.1/4, mb1mx3.0/20, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=23.6km s-min=8.1km az=166.0*

HEL 07 07:35:01.6±0.3**, 57.63N×22.44E, ML2.0, ML2.4**(UPP), **ML2.1**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOTU	Gotland	2.08	273	eP	Pn	07 35 38.4	+0.3
VSU	Vasula	2.43	68	eP	Pn	07 35 42.9	-0.2
VSU				eS	Sn	07 36 14.8	+0.7
VSU	Vasula	2.43	68	Pn	Pn	07 35 43.6	+0.5
VSU				Sn	Sn	07 36 16.3	+2.3
NYNU	Nynaeshamn	2.71	302	eP	Pn	07 35 45.9	-1.3
NRTU	Norrtaelje	2.86	317	eP	Pn	07 35 50.0	+0.7
GRAU	Graesoe	3.38	325	eP	Pn	07 35 53.9	-2.8
PVF	Pernaja	3.41	30	eP	Pn	07 35 56.0	-1.2
PVF				eS	Sn	07 36 36.7	-2.3
PVF				eSG	Sg	07 36 47.3	-7.9
PVF				MSG		07 36 51.2	
	comp=Z,3.5nm,0.3s						
FLYU	Flymyra	3.44	319	eP	Pn	07 35 56.0	-1.6
OSKU	Oskarshamn	3.46	265	eP	Pn	07 35 58.0	+0.2
ESKU	Eskilstuna	3.56	299	eP	Pn	07 35 58.4	-0.8
BACU	Backbrunna	3.56	311	eP	Pn	07 35 57.5	-1.7
VJF	Virojoki	3.93	40	eP	Pn	07 36 02.6	-1.9
VJF				eS	Sn	07 36 48.1	-4.0
FIA0	FINESS Array S	4.25	24	Pn	Pn	07 36 07.2	-1.8
	baz=208,slow=12						
FIA0				Pg	Pg	07 36 16.9	-9.5
	baz=201,slow=16						
FIA0				Sn	Sn	07 36 56.4	-3.7
	baz=207,slow=28						
FIA0				Lg		07 37 12.9	
	baz=208,slow=28						
FIA0	FINESS Array S	4.25	24	eP	Pn	07 36 06.7	-2.3
FIA0				eS	Sn	07 36 55.8	-4.3
FIA0				eSG	Sg	07 37 13.3	-10
FIA0				MSG		07 37 17.2	
	comp=Z,2.7nm,0.3s						
FINES	FINESS Array B	4.25	24	Pn	Pn	07 36 07.3	-1.8
	comp=Z,0.4nm,0.3s,baz=214,slow=12,SNR=15						
FINES				Pg	Pg	07 36 16.8	-10
	comp=Z,0.4nm,0.3s,baz=210,slow=13,SNR=19						
FINES				Sn	Sn	07 36 54.3	-5.8
	comp=Z,0.3nm,0.3s,baz=220,slow=24,SNR=3.3						
FINES				Lg		07 37 10.4	
	comp=Z,1.4nm,0.3s,baz=214,slow=27,SNR=10						
KEF	Keuruu	4.71	14	eP	Pn	07 36 13.7	-1.9
KEF				eS	Sn	07 37 06.6	-5.2
KEF				eSG	Sg	07 37 26.9	-12
KAF	Kangasniemi	4.90	22	eP	Pn	07 36 15.8	-2.5
KAF				eS	Sn	07 37 11.5	-5.1
KAF				eSG	Sg	07 37 32.8	-12
KAF				MSG		07 37 33.9	
	comp=Z,1.2nm,0.3s						
HFS	Hagfors	5.18	303	Pn	Pn	07 36 20.0	-2.3
	baz=122,slow=14						
HFS				Sn	Sn	07 37 17.9	-5.8
	baz=307,slow=28						
HFS				Lg		07 37 37.6	
	baz=112,slow=37						
HFS	Hagfors	5.18	303	eP	Pn	07 36 20.0	-2.3
HFS				eS	Sn	07 37 17.9	-5.8
HFS				eSG		07 37 37.6	
HFS	Hagfors	5.18	303	Pn	Pn	07 36 19.4	-2.9
	comp=Z,0.1nm,0.3s,baz=110,slow=17,SNR=13						
HFS				Sn	Sn	07 37 13.8	-10
	comp=Z,0.0nm,0.3s,baz=225,slow=25,SNR=2.7						
HFS				Lg		07 37 37.9	
	comp=Z,0.2nm,0.3s,baz=105,slow=29,SNR=6.4						
SUF	Sumiainen	5.43	18	eP	Pn	07 36 22.1	-3.6
SUF				eS	Sn	07 37 25.2	-4.7
SUF				eSG	Sg	07 37 47.8	-15
SUF				MSG		07 37 49.3	
	comp=Z,1.8nm,0.4s						
NB2	NORSAR Subarra	6.68	305	eP	Pn	07 36 40.0	-3.4
NB2				eSG		07 38 27.1	
NB2	NORSAR Subarra	6.68	305	Pn	Pn	07 36 40.0	-3.4
	baz=115,slow=14						
NB2				Lg		07 38 27.1	
	baz=126,slow=37						
NOA	NORSAR Array B	6.68	305	Pn	Pn	07 36 40.0	-3.4
	comp=Z,0.2nm,0.3s,baz=126,slow=11,SNR=2.8						
NOA				Sn	Sn	07 37 47.3	-14
	comp=Z,0.2nm,0.3s,baz=62,slow=21,SNR=2.4						
NOA				Lg		07 38 26.4	
	comp=Z,0.5nm,0.3s,baz=96,slow=8.4,SNR=3.8						
ARA0	ARCESS Array S	12.03	5	Pn	P	07 37 50.2	-6.8
	baz=185,slow=14						
ARA0	ARCESS Array S	12.03	5	eP	P	07 37 50.2	-6.8
ARCES	ARCESS Array B	12.03	5	Pn	P	07 37 48.8	-8.3
	comp=Z,0.1nm,0.3s,baz=190,slow=16,SNR=3.8						

IDC 07 07:51:21.4±4.5**, 5.79N×92.91E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/18**, mbtmp3.6**/3**, Error ellipse: s-maj=159.9km s-min=29.6km az=62.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	41.87	349	P	P	07 59 13.2	-1.7
	0.4nm,0.4s,baz=172,slow=9.0,SNR=4.0						
SONM	Songino Array	43.45	13	P	P	07 59 26.2	-1.7
	0.5nm,0.6s,baz=198,slow=9.1,SNR=3.4						
WRA	Warramunga Arr	48.10	123	P	P	08 00 03.3	-2.0
	0.8nm,0.7s,baz=301,slow=9.0,SNR=13						

*IDC **07** 08:23:51.4±2.6, 57.69N×22.50E, mb1 3.2/4, mb1mx3.1/20, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=27.1km s-min=10.2km az=164.0*
*NAO **07** 08:23:52.4±2.8, 57.80N×22.23E, ML2.0*
*BER **07** 08:23:55.3±3.7, 57.83N×22.27E, ML2.0(NAO), Suspected explosion*

HEL 07 08:23:51.4±0.3**, 57.77N×22.21E, ML2.0, ML2.0**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	Vasula	2.50	72	eP	Pn	08 24 33.3	-0.7
VSU				eS	Sn	08 25 04.0	-1.7
VSU	Vasula	2.50	72	Pn	Pn	08 24 34.5	+0.6
VSU				Sn	Sn	08 25 06.2	+0.6
PVF	Pernaja	3.36	32	eP	Pn	08 24 44.4	-1.8
PVF				eS	Sn	08 25 23.7	-3.8
PVF				eSG	Sg	08 25 36.5	-6.8
PVF				MSG		08 25 40.8	
	comp=Z,2.5nm,0.2s						
VJF	Virojoki	3.91	42	eP	Pn	08 24 53.8	-0.2
VJF				eS	Sn	08 25 38.8	-2.5
FIA0	FINESS Array S	4.18	26	eP	Pn	08 24 56.5	-1.4
FIA0				eS	Sn	08 25 43.5	-4.6
FIA0				eSG	Sg	08 26 00.5	-10
FIA0				MSG		08 26 05.4	
	comp=Z,2.3nm,0.2s						
FIA0	FINESS Array S	4.18	26	Pn	Pn	08 24 57.0	-0.8
	baz=207,slow=12						
FIA0				Pg	Pg	08 25 06.4	-8.4
	baz=209,slow=16						
FIA0				Lg		08 26 02.2	
	baz=200,slow=28						
FINES	FINESS Array B	4.18	26	Pn	Pn	08 24 56.9	-0.9
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=7.0						
FINES				Pg	Pg	08 25 05.8	-9.0
	comp=Z,1.1nm,0.3s,baz=210,slow=15,SNR=21						
FINES				Lg		08 26 01.8	
	comp=Z,1.3nm,0.3s,baz=204,slow=25,SNR=9.0						
KEF	Keuruu	4.61	16	eP	Pn	08 25 02.0	-1.9
KEF				eS	Sn	08 25 53.9	-5.2
KEF				eSG	Sg	08 26 13.0	-12
KEF				MSG		08 26 17.7	
	comp=Z,1.6nm,0.3s						
KAF	Kangasniemi	4.82	24	eP	Pn	08 25 04.6	-2.3
KAF				eS	Sn	08 25 59.1	-5.2
KAF				eSG	Sg	08 26 20.2	-12
HFS	Hagfors	5.00	302	Pn	Pn	08 25 09.0	-0.5
	baz=125,slow=14						
HFS				Sn	Sn	08 26 07.7	-1.3
	baz=106,slow=28						
HFS				Lg		08 26 30.1	
	baz=111,slow=37						
HFS	Hagfors	5.00	302	eP	Pn	08 25 09.0	-0.5
HFS				eS	Sn	08 26 07.7	-1.3
HFS				e		08 26 30.1	
HFS	Hagfors	5.00	302	Pn	Pn	08 25 09.1	-0.5
	comp=Z,0.1nm,0.3s,baz=126,slow=15,SNR=8.3						
HFS				Sn	Sn	08 26 08.2	-0.8
	comp=Z,0.0nm,0.3s,baz=94,slow=22,SNR=3.0						
HFS				Lg		08 26 29.6	
	comp=Z,0.1nm,0.3s,baz=117,slow=30,SNR=4.0						
SUF	Sumiainen	5.34	20	eS	Sn	08 26 12.0	-5.4
SUF				eSG	Sg	08 26 35.6	-14
NB2	NORSAR Subarra	6.50	305	Pn	Pn	08 25 27.5	-3.1
	baz=124,slow=14						
NB2	NORSAR Subarra	6.50	305	eP	Pn	08 25 27.5	-3.1
NOA	NORSAR Array B	6.50	305	Pn	Pn	08 25 28.3	-2.3
	comp=Z,0.2nm,0.3s,baz=172,slow=14,SNR=2.7						
NOA				Sn	Sn	08 26 43.4	-3.1
	comp=Z,0.1nm,0.3s,baz=202,slow=12,SNR=2.6						
NOA				Lg		08 27 19.1	
	comp=Z,0.3nm,0.3s,baz=60,slow=21,SNR=3.5						
VRAC	Vranov	9.11	204	Sn	Px	08 27 35.0	
	comp=Z,0.5nm,0.3s,baz=181,slow=18,SNR=2.5						
ARCES	ARCESS Array B	11.90	6	Pn	P	08 26 38.4	-6.8
	comp=Z,0.1nm,0.3s,baz=110,slow=35,SNR=2.3						

*SNSN **07** 08:35:31.4, 32.92N×35.46E, h238km, Ml3.9*
*GRAL **07** 08:35:43.8±3.9, 32.06N×35.57E, MD3.7*
*GII **07** 08:35:44.9±0.1, 32.18N×35.56E, h9km±1km, ML3.7/10, Mw3.4/11*
*CSEM **07** 08:35:45.1±0.1, 32.19N×35.40E, h35km, Mw3.4, Error ellipse: s-maj=2.1km s-min=0.9km az=101.0*
*HLW **07** 08:35:48.0, 32.11N×35.47E, h26km, Mb3.5*

ISC 07 08:35:44.8±0.3**, 32.16N**±0.02×**35.49E**±0.04**, h23**km±4km**, n74, σ0.89**/101**, 7C-16D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMLI	Mount Malkishu	0.28	349	Pg	Pb	08 35 51.5	+0.1
MMLI				Sg	Sb	08 35 55.6	-0.2
MMLI	Mount Malkishu	0.28	349	⇓Pg	Pb	08 35 51.5	+0.1
SLTI	Sal'it	0.39	281	Pg	Pb	08 35 53.3	+0.2
SLTI	Sal'it	0.39	281	⇓Pg	Pb	08 35 53.3	+0.2
OFRI	‘Ofer	0.62	317	Pg	Pb	08 35 57.0	0.0
OFRI				Sg	Sb	08 36 06.1	+0.8
OFRI	‘Ofer	0.62	317	⇓Pg	Pb	08 35 57.0	+0.1
OFRI				Sg	Sb	08 36 06.1	+0.8
MKRJ	Makawir	0.62	168	Pg	Pb	08 35 57.4	+0.4
TCHB	Talchebab	0.65	39	⇓iP	Pb	08 35 57.6	+0.2
MMC4	Mount Meron ar	0.84	356	Pg	Pb	08 36 00.4	-0.2
MMC5	Mount Meron ar	0.84	356	Pg	Pb	08 36 00.5	-0.2
MMB2	Mount Meron ar	0.85	355	Pg	Pb	08 36 00.5	-0.2
MMA2	Mount Meron ar	0.85	355	Pg	Pb	08 36 00.5	-0.3
MMA3	Mount Meron ar	0.85	355	Pg	Pb	08 36 00.5	-0.2
MMC6	Mount Meron ar	0.85	355	Pg	Pb	08 36 00.6	-0.2
MMA0	Mount Meron ar	0.85	355	Sg	Sb	08 36 12.1	+0.3
MMA4	Mount Meron ar	0.85	355	Pg	Pb	08 36 00.6	-0.2
MMB1	Mount Meron ar	0.85	356	Pg	Pb	08 36 00.5	-0.3
MMA1	Mount Meron ar	0.85	355	Pg	Pb	08 36 00.5	-0.4
MMB4	Mount Meron ar	0.86	355	Pg	Pb	08 36 00.6	-0.4
MMC7	Mount Meron ar	0.86	355	Pg	Pb	08 36 00.7	-0.3
MZDA	Masada	0.86	187	Pg	Pb	08 36 00.9	-0.1
MZDA				Sg	Sb	08 36 13.0	+1.0
MZDA	Masada	0.86	187	⇑Pg	Pb	08 36 00.9	0.0
MZDA				Sg	Sb	08 36 13.0	+1.0
KSHT	Keshet	0.86	18	Pg	Pb	08 36 00.9	-0.1
KSHT	Keshet	0.86	18	⇑Pg	Pb	08 36 00.9	-0.1
MMC2	Mount Meron ar	0.86	356	Pg	Pb	08 36 00.8	-0.2
MMC2	Mount Meron ar	0.86	356	Pg	Pb	08 36 00.7	-0.3
MMC1	Mount Meron ar	0.87	355	Pg	Pb	08 36 00.9	-0.2
HNTI	Hanita	0.95	344	Pg	Pb	08 36 02.4	-0.1
HNTI				Sg	Sb	08 36 15.7	+0.9
HNTI	Hanita	0.95	344	⇓Pg	Pb	08 36 02.4	-0.1
HNTI				Sg	Sb	08 36 15.7	+1.0
KSDI	Kefar Szold	1.03	8	Pg	Pb	08 36 03.5	-0.4
KSDI				Sg	Sb	08 36 17.2	+0.1
KSDI	Kefar Szold	1.03	8	⇑Pg	Pb	08 36 03.5	-0.4
KSDI				Sg	Sb	08 36 17.2	+0.1
HRI	Mount Hermon	1.12	11	Pg	Pn	08 36 04.8	-0.4
HRI	Mount Hermon	1.12	11	⇑Pg	Pn	08 36 04.8	-0.4
SALA	Sala	1.19	62	⇓iP	Pn	08 36 06.1	-0.1
SALA				⇑iS	Sb	08 36 19.5	-2.0
BRBR	Barbar	1.30	17	⇓iP	Pn	08 36 08.1	+0.2
BRBR				⇑iS	Sn	08 36 24.4	-0.3
RTMM	Retamin	1.30	212	Pn	Pn	08 36 08.7	+0.8
RTMM	Retamin	1.30	212	⇓Pn	Pn	08 36 08.7	+0.8
MASH	Mash‘abbe Sade	1.31	207	Pn	Pn	08 36 08.6	+0.6
MATL	Matirih	1.33	354	ePn	Pn	08 36 08.7	+0.5
TOTH	TOTAH	1.43	33	⇑iP	Pn	08 36 10.1	+0.4
TOTH				⇓iS	Sn	08 36 26.8	-1.2
QASN	Qassioun	1.52	26	⇓iP	Pn	08 36 12.0	+1.1
QASN				⇑iS	Sn	08 36 29.8	-0.3
KZIT	Kziot	1.56	217	Pn	Pn	08 36 12.5	+1.0
KZIT				Sn	Sn	08 36 33.5	+2.3
KZIT	Kziot	1.56	217	⇑Pn	Pn	08 36 12.5	+0.9
ZFRI	Zfri	1.63	189	Pn	Pn	08 36 13.1	+0.6
ZALF	Zalf	1.73	64	⇓iP	Pn	08 36 15.0	+1.0
ZALF				⇑iS	Sn	08 36 35.0	-0.6
BHL	Bhannes	1.74	5	ePn	Pn	08 36 14.9	+0.8
BHL				Sn	Sn	08 36 38.9	+3.1
QURS	Qurayyt al Mil	1.75	116	P	Pn	08 36 15.1	+0.9
PRNI	Paran	1.85	193	Pn	Pn	08 36 16.4	+0.6
PRNI				Sn	Sn	08 36 40.3	+1.7
PRNI	Paran	1.85	193	⇑Pn	Pn	08 36 16.4	+0.7
HRSH	Kfar Ka'horesh	1.93	232	⇑P	Pn	08 36 17.4	+0.6
HRSH				S	Sn	08 36 38.3	-2.2
RSH		1.93	232	P	Pn	08 36 17.4	+0.6
RSH				S	Sn	08 36 38.3	-2.2
MARH	Ras Al Marh	2.04	24	⇑iP	Pn	08 36 20.0	+1.6
MARH				⇓iS	Sn	08 36 43.0	-0.3
HWQ	Hawqa	2.14	10	ePn	Pn	08 36 20.7	+0.8
HWQ				Sn	Sn	08 36 51.5	+5.5
KMTI	Karmit	2.15	198	Pn	Pn	08 36 20.6	+0.5
KMTI				Sn	Sn	08 36 47.5	+1.2
KMTI	Karmit	2.15	198	⇑Pn	Pn	08 36 20.6	+0.5
HRFI	Mount Harif	2.16	190	Pn	Pn	08 36 20.6	+0.5
HRFI				Sn	Sn	08 36 48.0	+1.7
HRFI	Mount Harif	2.16	190	Pn	Pn	08 36 20.5	+0.4
AMAG	Maghara	2.47	233	⇑P	Pn	08 36 24.5	0.0
AMAG				S	Sn	08 36 52.0	-2.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EIL	Elat	2.53	191	Pn	Pn	08 36 25.5	+0.1
EIL	Elat	2.53	191	⇓Pn	Pn	08 36 25.5	+0.1
HNKL	Nakhl	2.58	211	⇓P	Pn	08 36 26.6	+0.5
HNKL				S	Sn	08 36 54.3	-2.7
ALWS	Ilw as Safayha	2.87	187	P	Pn	08 36 30.0	-0.3
JMOS	Jabal al Moall	3.00	186	P	Pn	08 36 31.6	-0.6
JMOS				S	Sn	08 37 20.2	+12
HBST	Basata	3.01	193	⇓P	Pn	08 36 32.6	+0.4
HBST				S	Sn	08 37 04.7	-3.3
HAQS	Haql	3.14	189	P	Pn	08 36 33.2	-0.8
NUB		3.21	193	⇑P	Pn	08 36 34.9	-0.2
JMQS	Jabal Moqyreh	3.29	174	P	Pn	08 36 34.4	-1.7
HDHB	Dhahab	3.51	193	⇑P	Pn	08 36 38.9	-0.4
TAYS	Tayyib Ism	3.64	189	P	Pn	08 36 40.1	-1.1
BDAS	Al Bad‘	3.73	185	P	Pn	08 36 41.5	-1.0
HKAT	Jabal Katrina	3.85	200	⇑P	Pn	08 36 43.6	-0.6
TR2		4.06	203	⇓P	Pn	08 36 46.5	-0.8
GLL	Jalalah	4.15	233	⇑P	Pn	08 36 47.9	-0.6
TR1		4.35	198	⇑P	Pn	08 36 50.9	-0.4

*MOS **07** 08:48:46.2±1.2, 34.64N×24.36E, h10km, mb4.5/26, Error ellipse: s-maj=5.6km s-min=2.9km az=105.5*
*BJI **07** 08:48:48.6, 35.79N×23.98E, h17km, mB5.2, mb5.0, Ms5.2, Msz4.6*
*CSEM **07** 08:48:50.3±0.1, 34.92N×24.43E, h2km, Ms3.1, Error ellipse: s-maj=3.7km s-min=1.6km az=23.0*
*IDC **07** 08:48:51.2±1.7, 34.99N×24.44E, h27km±11km, mb4.1/14, mb1 4.3/19, mb1mx4.2/28, mbtmp4.3/19, ML4.2/5, MS3.6/8, Ms1 3.6/8, ms1mx3.2/31, Error ellipse: s-maj=16.0km s-min=14.7km az=168.0*
*ATH **07** 08:48:52.0, 35.01N×24.46E, h15km±1km, MD4.3/18, ML4.2*
*THE **07** 08:48:52.9, 34.80N×24.31E, h20km, ML4.3*
*NEIC **07** 08:48:52.0, 35.01N×24.46E, h16km, mb4.4/41, ML4.2(ATH), ML4.1(THE), After ATH.*
*HLW **07** 08:48:53.3, 34.81N×24.77E, h22km, Mb3.9*
*SOF **07** 08:50:02.7, 40.23N×24.22E, h2km, MD3.6*
ISC 07 08:48:50.0±0.2, **34.72N**±0.02×**24.38E**±0.02, **h33**km, **n294**, σ1s**33**/299, **mb4.4**/46, **MS3.6**/10, **19C-16D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.27	296	eP	P	08 48 56.5	-0.8
VAM	Vamos	0.70	348	⇑iPB	Pb	08 49 00.7	-3.1
VAM				eSB	Sb	08 49 08.3	-4.9
IDI	Anoyia	0.70	36	Pg	P	08 49 00.7	-2.8
	183nm,0.3s,baz=222,slow=16,SNR=228						
IDI				Lg		08 49 09.0	
	2µm,0.3s,baz=312,slow=22,SNR=126						
XRY	Khrisi	1.09	82	ePN	Pn	08 49 11.0	+1.8
NPS	Neapolis	1.15	62	ePN	Pn	08 49 10.7	+0.8
NPS				eSN	Sn	08 49 23.3	-1.3
NPS	Neapolis	1.15	62	ePn	Pn	08 49 10.9	+1.0
NPS				eSn	Sn	08 49 23.3	-1.3
KYTH	Kithira	1.90	325	ePN	Pn	08 49 23.9	+3.1
VLI	Veliai	2.31	330	ePN	Pn	08 49 28.5	+1.8
VLI				eSN	Sn	08 49 55.8	+1.5
KARP	Karpathos	2.42	69	ePN	Pn	08 49 31.5	+3.3
APE	Apeiranthos	2.52	21	ePB	Pb	08 49 30.4	-4.0
APE				eSN	Sn	08 49 58.6	-0.9
NAIG	Nisos Aigina	3.12	347	ePN	Pn	08 49 38.5	+0.4
ITM	Ithomi	3.16	322	ePN	Pn	08 49 40.8	+2.1
ATH	Athens Observa	3.29	351	ePN	Pn	08 49 42.0	+1.5
SLUM		3.29	168	⇑P	P	08 49 42.9	+2.5
BODT	Bodrum	3.33	45	P	P	08 49 41.6	+0.6
PTL	Penteli	3.35	353	ePN	Pn	08 49 42.0	+0.7
MGER	Gerania Oros	3.38	345	ePN	Pn	08 49 42.5	+0.7
ARG	Arkhangelos	3.40	63	ePN	Pn	08 49 45.0	+2.9
BDRM	Kayabasi	3.41	46	iP	P	08 49 45.3	+3.1
MPAR	Parnis Oros	3.46	352	ePN	Pn	08 49 43.7	+0.7
MPAR	Parnis Oros	3.46	352	ePn	Pn	08 49 43.5	+0.5
SMG	Samos	3.58	33	ePN	Pn	08 49 46.5	+1.8
MLSB	Milas	3.76	46	eP	P	08 49 48.1	+1.0
YER	Yerkesik	3.98	52	P	P	08 49 52.1	+1.9
DALT	Dalyan (Mudla)	4.02	58	P	P	08 49 52.3	+1.5
URLA	Izmir	4.04	25	iP	P	08 49 44.5	-6.7
AYDN	Tasoluk	4.08	43	iP	P	08 49 53.9	+2.4
LKR	Lokris	4.08	345	ePN	Pn	08 49 52.8	+1.1
LKR				eSN	Sn	08 50 37.7	-1.2
RLS	Riolos of Patr	4.08	326	ePN	Pn	08 49 54.3	+2.6
HMAT	Matruh	4.28	147	⇑P	P	08 49 55.7	+1.3
IZM	Izmir	4.34	31	P	P	08 49 56.8	+1.5
KDAG	Bornova	4.35	31	iP	P	08 49 56.0	+0.5
AOS	Alonnisos	4.46	355	ePn	Pn	08 49 57.9	+0.7
KSL	Kastellorizon	4.48	70	ePN	Pn	08 50 00.0	+2.6
AKAS	Kas	4.52	69	iP	P	08 49 58.9	+1.0
AGG	Agios Georgios	4.60	340	ePn	Pn	08 49 59.7	+0.6
AGG				eSn	Sn	08 50 50.3	-1.7
VLS	Valsamata	4.61	320	ePN	Pn	08 50 01.8	+2.5
EVR	Evrytania	4.67	335	ePN	Pn	08 50 01.5	+1.4
EVR	Evrytania	4.67	335	ePn	Pn	08 50 02.6	+2.5
NEO	Neokhori	4.67	349	ePN	Pn	08 50 01.6	+1.5
XOR	Xorichti	4.73	349	ePn	Pn	08 50 00.3	-0.8
PRK	Paraskevi	4.76	18	ePN	Pn	08 50 01.5	+0.1
DNZL	Cakiroluk	4.80	51	iP	P	08 50 04.6	+2.8
DENT	Denizli	4.83	50	eP	P	08 50 03.9	+1.7
GOLH	Golhisar	4.89	58	iP	P	08 50 04.7	+1.5
ELL	Elmali	4.93	64	P	P	08 50 05.0	+1.3
AYVA	Ayvalik	4.94	21	iP	P	08 50 01.2	-2.6
LKD	Levkas	4.98	324	ePn	Pn	08 50 04.7	+0.1
MANT	Manisa	5.04	41	iP	P	08 50 06.3	+1.0
PAIG	Paliouri	5.23	354	ePn	Pn	08 50 07.3	-0.6
KHL	Karahalli	5.48	48	eP	P	08 50 12.0	+0.6
SWA2		5.54	170	⇓P	P	08 50 14.2	+2.0
SWA2				S	S	08 51 13.5	-2.1
SWA2		5.54	170	P	P	08 50 14.1	+1.9
SWA1		5.56	168	⇑P	P	08 50 14.8	+2.3
SWA1				S	S	08 51 14.0	-2.1
OUR	Ouranopolis	5.61	357	ePn	Pn	08 50 14.1	+0.7
MEV	Metsovon	5.64	334	ePn	Pn	08 50 13.8	-0.1
PLG	Polygyros	5.69	353	ePN	Pn	08 50 14.5	0.0
BTOK	Tokmak	5.81	29	iP	P	08 50 16.6	+0.6
TKTP	Tekketepe	5.82	54	iP	P	08 50 17.3	+1.1
ISP	Isparta	5.85	56	eP	P	08 50 19.9	+3.4
GDZ	Gediz	5.97	42	iP	P	08 50 19.1	+0.8
HBRG	Burj al ‘Arab	6.19	130	⇓P	P	08 50 20.3	-1.1
SRS	Serrai	6.42	355	ePn	Pn	08 50 23.9	-0.8
GRG	Griva	6.42	346	ePn	Pn	08 50 24.7	-0.1
FNA	Florina	6.50	339	ePn	Pn	08 50 25.3	-0.7
FNA				eSn	Sn	08 51 37.5	-2.2
KNT	Kendrikon	6.54	350	ePn	Pn	08 50 25.4	-1.0
KNT				eSn	Sn	08 51 39.7	-0.9
ULDT	Uludag	6.60	34	iP	P	08 50 23.8	-3.3
MMB	Musomiste	6.88	356	iP	P	08 50 30.0	-1.0
HDMB	Hadim	6.95	69	eP	P	08 50 33.1	+1.0
RZN	Rozhen	6.96	2	iP	P	08 50 31.5	-0.7
KDZ	Kurdzhali	6.97	6	eP	P	08 50 35.0	+2.7
LEF	Lefka	7.00	84	eP	P	08 50 33.2	+0.4
ESKT	Eskisehir	7.04	45	iP	P	08 50 33.2	-0.1
KONT	Konya--Tatoy	7.20	61	eP	P	08 50 35.5	0.0
ERMK	Ermenek	7.20	72	iP	P	08 50 35.8	+0.2
KKB	Krupnik	7.21	352	iP	P	08 50 36.0	+0.3
KDHN	Kadinhani	7.28	56	iP	P	08 50 35.5	-1.2
KIZT	Kizilcal	7.31	53	P	P	08 50 36.2	-0.8
CSS	Prodhromos	7.36	86	eP	P	08 50 35.5	-2.3
	28nm,0.9s						
TIP	Timpagrande	7.55	308	eP	P	08 50 37.9	-2.5
SKO	Skopje	7.60	343	ePn	Pn	08 50 40.0	-1.3
PGB	Panagyurishte	7.82	359	eP	P	08 50 45.5	+1.3
VTS	Vitosha	7.91	354	eP	P	08 50 46.0	+0.5
GLL	Jalalah	8.05	128	⇑P	P	08 50 45.6	-1.8
MEST	Erdemli	8.16	74	iP	P	08 50 50.0	+1.1
SGKT	Sivrigoynuk	8.43	44	iP	P	08 50 52.2	-0.5
ANTO	Ankara	8.44	50	eP	P	08 50 52.7	-0.1
	16nm,0.6s						
ANTO	Ankara	8.44	50	eP	P	08 50 52.7	-0.2
	16nm,0.6s						
ANTO	Ankara	8.44	50	eP	P	08 50 52.7	-0.2
ANTO				pmax	pmax		
	comp=Z,16nm,0.6s						
VAE	Valguarnera	8.53	292	Pn	P	08 50 54.5	+0.6
	comp=Z,4.3nm,0.3s,baz=97,slow=2.5,SNR=3.5						
VAE				Sn	Sn	08 52 25.9	-4.3
	comp=Z,4.8nm,0.3s,baz=92,slow=2.6,SNR=2.2						
VAE	Valguarnera	8.53	292	Pn	P	08 50 54.5	+0.5
VAE				Sn	Sn	08 52 26.0	-4.3
BRTR	Keskin Array B	8.91	53	Pn	P	08 50 58.1	-1.2
	comp=Z,0.4nm,0.3s,baz=234,slow=14,SNR=8.9						
BR131	Keskin Array S	8.91	53	eP	P	08 50 58.5	-0.9
	comp=Z,2.8nm,0.4s						
BR131	Keskin Array S	8.91	53	eP	P	08 50 58.5	-0.9
	comp=Z,2.8nm,0.4s						
ELDT	Eldivan	9.20	49	iP	P	08 51 04.6	+1.3
HNKL	Nakhl	9.42	118	⇑P	P	08 51 04.4	-2.0
HNKL				S	S	08 52 40.3	-12
NVSS	Nova Varos 2	9.50	339	⇓iPn	Sn	08 52 46.5	-7.8
BALT	Daday	9.82	44	iP	P	08 51 09.7	-2.2
DIVS	Divcibare	9.96	341	⇑iPn	Sn	08 52 57.4	-8.2
HKAT	Jabal Katrina	10.26	124	⇓P	P	08 51 16.5	-1.5
KAHT	Ahir Dag	10.51	70	iP	P	08 51 20.3	-1.0
BOYT	Boyabat	10.65	48	iP	P	08 51 24.6	+1.3
ASF	Jabal al Asfar	10.76	100	Pn	P	08 51 22.6	-2.2
	comp=Z,0.5nm,0.3s,baz=135,slow=8.5,SNR=2.7						
ASF				Sn	S	08 53 18.1	-7.1
	comp=Z,0.3nm,0.3s,baz=49,slow=20,SNR=4.1						
MLR	Muntele Rosu	10.82	6	Pn	P	08 51 22.1	-3.6
	comp=Z,0.2nm,0.3s,baz=208,slow=6.6,SNR=3.0						
MLR				LR	LR	08 55 56.8	
	comp=Z,366nm,20.6s,baz=261,slow=40						
MLR	Muntele Rosu	10.82	6	⇓iP	P	08 51 24.7	-0.9
GZT	Gaziantep	10.99	72	iP	P	08 51 25.5	-2.5
VRI	Vrincioaia	11.28	8	⇑iP	P	08 51 32.7	+0.9
DRGR		12.12	355	⇑iP	P	08 51 40.5	-2.7
BURAR	Bucovina Array	12.90	3	⇓iP	P	08 51 57.9	+4.3
BURAR	Bucovina Array	12.90	3	⇓iP	P	08 51 57.9	+4.3
KECS	Kecovo	14.05	349	e	P	08 52 09.5	+0.8
KOLS	Kolonicke sedl	14.29	354	e	P	08 52 17.6	+5.8
STHS	Stebnicka Huta	14.87	352	eP	P	08 52 24.3	+5.0
KBA	Koelnbreinsper	14.88	329	⇓iP	P	08 52 26.8	+7.3
	comp=Z,8.7nm,0.8s						
KBA	Koelnbreinsper	14.88	329	⇓iP	P	08 52 26.8	+7.3
KBA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MOA	Molln	15.14	333	⇓iP	P	08 52 27.7	+4.8
	comp=Z,10nm,1.0s						
VRAC	Vranov	15.67	341	Pn	P	08 52 31.9	+2.1
	comp=Z,0.8nm,0.3s,baz=151,slow=12,SNR=10						
WTTA	Wattenberg	15.77	326	⇓iP	P	08 52 36.2	+5.1
	comp=Z,21nm,1.0s						
WTTA	Wattenberg	15.77	326	⇓iP	P	08 52 36.2	+5.1
WTTA				pmax	pmax		
	comp=Z,21nm,1.0s						
OKC	Ostrava-Krasne	15.79	345	eP	P	08 52 36.5	+5.3
OKC				AMS	AMS	09 00 50.0	
	comp=Z,200nm,6.1s						
MORC	Moravsky Berou	15.86	344	eP	P	08 52 33.9	+1.7
SQTA	Sankt Quirin	15.94	326	⇓iP	P	08 52 37.2	+4.0
	comp=Z,10nm,1.0s						
SQTA	Sankt Quirin	15.94	326	⇓iP	P	08 52 37.2	+4.0
SQTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SBF	Sospel	15.96	310	eP	P	08 52 33.5	0.0
	comp=Z,321nm,1.6s						
SBF	Sospel	15.96	310	eP	P	08 52 33.5	0.0
SBF				pmax	pmax		
	comp=Z,161nm,1.6s						
TREC	Trest	15.97	338	eP	P	08 52 36.5	+2.8
TREC				AMS	AMS	08 59 40.0	
	comp=Z,400nm,12.7s						
GERES	GERESS Array B	16.18	334	Pn	P	08 52 35.8	-0.5
	comp=Z,0.3nm,0.3s,baz=153,slow=12,SNR=29						
DAVOX	Davos	16.27	322	Pn	P	08 52 39.9	+2.5
	comp=Z,0.4nm,0.3s,baz=123,slow=21,SNR=4.3						
AKASG	Malin Array Be	16.36	11	Pn	P	08 52 36.2	-2.2
	comp=Z,6.8nm,0.3s,baz=205,slow=10,SNR=24						
KHC	Kasperske Hory	16.46	334	eP	P	08 52 42.1	+2.3
KHC				AMS	AMS	09 00 00.0	
	comp=Z,400nm,16.0s						
DAVA	Damuels	16.62	323	⇑iP	P	08 52 44.3	+2.5
	comp=Z,13nm,0.8s						
DPC	Dobruska-Polom	16.69	342	eP	P	08 52 44.2	+1.5
DPC				AMS	AMS	09 00 20.0	
	comp=Z,400nm,13.4s						
MBDF	Montbardon	16.80	312	eP	P	08 52 43.3	-0.8
KIV	Kislovodsk	16.87	51	c iP	P	08 52 46.9	+1.9
KIV				pmax	pmax		
	comp=Z,37nm,1.3s						
PRU	Pruhonice	16.88	338	eP	P	08 52 46.1	+1.1
PRU				AMS	AMS	09 00 00.0	
	comp=Z,200nm,10.9s						
UPC	Upice	16.92	341	eP	P	08 52 46.9	+1.4
GNI	Garni	17.04	65	LR	LR	09 00 44.0	
	comp=Z,209nm,18.3s,baz=312,slow=42						
GNI	Garni	17.04	65	eP	P	08 52 47.0	-0.2
	comp=Z,10.0nm,1.3s						
GNI	Garni	17.04	65	eP	P	08 52 47.0	-0.2
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ZEI	Tsey	17.19	56	eP	P	08 52 48.9	-0.1
SMRF	Simiane la Rot	17.20	308	eP	P	08 52 47.8	-1.4
PVCC	Panska Ves	17.34	339	eP	P	08 52 51.3	+0.4
PVCC				AMS	AMS	09 01 00.0	
	comp=Z,200nm,12.9s						
ORIF	Oris-en-Rattie	17.45	311	eP	P	08 52 52.5	+0.3
	comp=Z,25nm,1.1s						
ORIF				eR			
	comp=Z,363nm,22.2s						
GOF	Gofitskoye	17.61	49	iP	P	08 52 53.5	-0.7
	comp=Z,26nm,1.0s						
GOF	Gofitskoye	17.61	49	⇑iP	P	08 52 53.5	-0.7
GOF				pmax	pmax		
	comp=Z,26nm,1.0s						
NKC	Novy Kostel	17.79	334	AMS	AMS	09 00 50.0	
	comp=Z,500nm,13.8s						
GRA1	Grafenberg Arr	17.81	331	eP	P	08 52 57.1	+0.3
	comp=Z,157nm,2.0s						
GRF	Grafenberg Arr	17.81	331	eP	P	08 52 57.1	+0.3
	comp=Z,157nm,2.0s						
GRF	Grafenberg Arr	17.81	331	eP	P	08 52 57.1	+0.3
GRF				pmax	pmax		
	comp=Z,157nm,2.0s						
GRF	Grafenberg Arr	17.81	331	eP	P	08 52 57.1	+0.3
GRF				pmax	pmax		
	comp=Z,157nm,2.0s						
BRG	Berggiesshubel	17.84	338	eP	P	08 52 56.4	-0.7
	comp=Z,4.5nm,0.6s						
BRG	Berggiesshubel	17.84	338	eP	P	08 52 56.4	-0.7
	comp=Z,4.5nm,0.6s						
BRG	Berggiesshubel	17.84	338	eP	P	08 52 56.3	-0.8
BRG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BBS	Basel-Blauen	17.95	320	eP	P	08 52 57.2	-1.2
FELD	Feldberg	17.95	322	eP	P	08 52 58.1	-0.4
VIVF	Saint-Julien-l	18.17	310	eP	P	08 53 00.9	-0.5
CABF	La Chapelle	18.22	316	eP	P	08 53 01.3	-0.6
	comp=Z,12nm,0.8s						
CABF	La Chapelle	18.22	316	eP	P	08 53 01.3	-0.6
CABF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LOMF	Lomont	18.24	319	eP	P	08 53 02.2	+0.1
LASF	Ste Croix	18.37	307	eP	P	08 53 02.6	-1.2
	comp=Z,22nm,0.9s						
MOF	Molkenrain	18.39	321	eP	P	08 53 03.7	-0.3
MOX	Moxa	18.43	334	iP	P	08 53 04.7	+0.2
MOX				L		09 01 26.0	
CLL	Collm	18.51	337	P	P	08 53 03.0	-2.5
	comp=Z,logA/T=0.9						
CLL	Collm	18.51	337	eP	P	08 53 03.0	-2.5
	comp=Z,5.0nm,0.6s						
CLL	Collm	18.51	337	eP	P	08 53 03.0	-2.5
CLL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HINF	Hinteralfeld	18.51	320	eP	P	08 53 04.2	-1.3
	comp=Z,29nm,1.1s						
HINF	Hinteralfeld	18.51	320	eP	P	08 53 04.2	-1.3
HINF				pmax	pmax		
	comp=Z,14nm,1.1s						
ECH	Echery	18.61	322	⇑eP	P	08 53 06.5	-0.2
CDF	Champ du Feu	18.67	322	eP	P	08 53 06.3	-1.2
TOD	Tromm	18.77	327	eP	P	08 53 07.8	-0.9
HAU	Haudompre	18.89	320	eP	P	08 53 08.7	-1.5
HAU				eR			
	comp=Z,167nm,18.8s						
MTLF	Montolieu	19.21	303	eP	P	08 53 13.1	-0.7
	comp=Z,43nm,1.1s						
MTLF	Montolieu	19.21	303	eP	P	08 53 13.1	-0.7
MTLF				pmax	pmax		
	comp=Z,21nm,1.1s						
THEF	They Montfort	19.22	320	⇑eP	P	08 53 12.8	-1.1
SMF	Signal de Mont	19.54	314	eP	P	08 53 16.5	-1.0
LOR	Lormes	19.86	315	eP	P	08 53 20.3	-0.5
LOR				eR			
	comp=Z,119nm,18.8s						
CAF	Calviac	19.88	308	eP	P	08 53 21.0	-0.2
	comp=Z,26nm,1.1s						
CAF	Calviac	19.88	308	eP	P	08 53 21.0	-0.2
CAF				pmax	pmax		
	comp=Z,13nm,1.1s						
MEZF	Maizieres J'vi	19.89	320	eP	P	08 53 20.5	-0.7
AVF	Avril sur Loir	19.91	314	eP	P	08 53 20.6	-0.8
	comp=Z,13nm,1.0s						
AVF	Avril sur Loir	19.91	314	eP	P	08 53 20.6	-0.8
AVF				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SSF	Saint Saulge	19.95	314	eP	P	08 53 21.1	-0.8
	comp=Z,2.5nm,0.5s						
SSF	Saint Saulge	19.95	314	eP	P	08 53 21.1	-0.8
SSF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BGF	Bois d'Agland	20.10	313	eP	P	08 53 22.4	-1.1
	comp=Z,21nm,0.8s						
BGF	Bois d'Agland	20.10	313	eP	P	08 53 22.4	-1.1
BGF				pmax	pmax		
	comp=Z,11nm,0.8s						
TCF	Toulx Ste Croi	20.36	311	eP	P	08 53 25.5	-0.7
	comp=Z,27nm,1.1s						
TCF	Toulx Ste Croi	20.36	311	eP	P	08 53 25.5	-0.7
TCF				pmax	pmax		
	comp=Z,13nm,1.1s						
RJF	Les Rejaudoux	20.39	308	eP	P	08 53 26.3	-0.2
	comp=Z,48nm,0.9s						
RJF				eR			
	comp=Z,187nm,17.8s						
RJF	Les Rejaudoux	20.39	308	eP	P	08 53 26.3	-0.2
RJF				pmax	pmax		
	comp=Z,24nm,0.9s						
RJF				MLR	MLR		
	comp=Z,190nm,17.8s,MS3.5						
EBIE	Bielsa	20.47	300	P	P	08 53 26.9	-0.5
	comp=Z,65nm,1.1s						
EBIE	Bielsa	20.47	300	P	P	08 53 27.0	-0.4
	comp=Z,65nm,1.1s						
ECHE	Chera	20.75	291	P	P	08 53 31.2	+0.9
	comp=Z,14nm,1.2s						
ECHE	Chera	20.75	291	P	P	08 53 31.2	+0.9
	comp=Z,14nm,1.2s,SNR=4.7						
ECHE	Chera	20.75	291	P	P	08 53 31.2	+0.9
ECHE				pmax	pmax		
	comp=Z,14nm,1.2s						
LFF	La Frestale	20.76	307	eP	P	08 53 29.8	-0.6
	comp=Z,62nm,0.9s						
LFF	La Frestale	20.76	307	eP	P	08 53 29.8	-0.6
LFF				pmax	pmax		
	comp=Z,31nm,0.9s						
GIVF	Givet	20.99	323	eP	P	08 53 31.3	-1.4
ETSF	Etsaut	21.03	300	eP	P	08 53 33.5	+0.4
	comp=Z,22nm,0.8s,mb4.2						
ETSF	Etsaut	21.03	300	eP	P	08 53 33.5	+0.4
ETSF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.2						
BAIF	Baives	21.27	322	eP	P	08 53 34.1	-1.4
	comp=Z,38nm,0.9s,mb4.4						
BAIF	Baives	21.27	322	eP	P	08 53 34.1	-1.4
BAIF				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.4						
SJPF	Ste Jean	21.55	301	eP	P	08 53 38.6	+0.2
EHUE	Huescar	21.94	286	P	P	08 53 44.5	+2.2
	comp=Z,12nm,1.0s,mb4.3						
EHUE	Huescar	21.94	286	P	P	08 53 44.5	+2.2
EHUE				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
MFF	Saint Martin d	21.97	310	eP	P	08 53 42.3	-0.2
	comp=Z,60nm,1.0s,mb4.7						
MFF	Saint Martin d	21.97	310	eP	P	08 53 42.3	-0.2
MFF				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
OBN	Obninsk	22.08	19	eP	P	08 53 41.8	-1.7
	comp=Z,100nm,21.0s						
OBN	Obninsk	22.08	19	⇑eP	P	08 53 41.8	-1.7
OBN				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.2						
EBER	Berja	22.20	284	P	P	08 53 47.0	+2.2
	comp=Z,144nm,2.1s,mb5.0						
EBER	Berja	22.20	284	P	P	08 53 47.0	+2.1
	comp=Z,144nm,2.1s,mb5.0,SNR=4.0						
EQES	Quesada	22.32	286	P	P	08 53 48.5	+2.5
	comp=Z,296nm,3.2s						
ECOG	Cogollos-Vega	22.72	285	P	P	08 53 53.0	+2.9
	comp=Z,3.5nm,0.5s,mb4.0						
ECOG	Cogollos-Vega	22.72	285	P	P	08 53 53.0	+2.9
ECOG				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
LDF	La Druitiere	22.84	315	eP	P	08 53 50.0	-1.0
	comp=Z,14nm,0.7s,mb4.2						
LDF	La Druitiere	22.84	315	eP	P	08 53 50.0	-1.0
LDF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
EBAN	Banos Encina	22.88	287	P	P	08 53 52.8	+1.2
	comp=Z,7.4nm,0.8s,mb4.2,SNR=6.0						
EBAN	Banos Encina	22.88	287	P	P	08 53 52.8	+1.2
EBAN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
ESDC	Sonseca Array	23.07	291	P	P	08 53 54.1	+0.8
	comp=Z,10nm,0.8s,mb4.3,baz=82,slow=9.8,SNR=26						
ESDC	Sonseca Array	23.07	291	P	P	08 53 55.2	+1.8
	comp=Z,15nm,0.8s,mb4.5						
ESDC	Sonseca Array	23.07	291	P	P	08 53 55.2	+1.8
	comp=Z,15nm,0.8s,mb4.5,SNR=23						
FLN	La Foliniere	23.13	315	eP	P	08 53 52.4	-1.5
	comp=Z,20nm,0.7s,mb4.4						
FLN				eR			
	comp=Z,131nm,21.2s						
FLN	La Foliniere	23.13	315	eP	P	08 53 52.4	-1.5
FLN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
FLN				MLR	MLR		
	comp=Z,130nm,21.3s,MS3.4						
GRR	Gorron	23.18	314	eP	P	08 53 53.6	-0.7
VSU	Vasula	23.80	3	eP	P	08 53 59.3	-1.0
SGMF	Saint Gilles	24.14	312	eP	P	08 54 03.0	-0.7
	comp=Z,44nm,1.0s,mb4.5						
SGMF	Saint Gilles	24.14	312	eP	P	08 54 03.0	-0.7
SGMF				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.5						
MDT	Midelt	24.15	274	P	P	08 54 06.2	+2.2
	comp=Z,2.9nm,0.8s,mb3.7,baz=111,slow=13,SNR=5.5						
MDT				LR	LR	09 04 55.5	
	comp=Z,84nm,20.0s,MS3.2,baz=123,slow=40						
ECAB	El Cabril	24.17	287	P	P	08 54 05.0	+0.8
	comp=Z,37nm,1.3s,mb4.7						
ECAB	El Cabril	24.17	287	P	P	08 54 04.9	+0.8
	comp=Z,37nm,1.3s,mb4.7						
EJIF	Jimena Fronter	24.30	283	P	P	08 54 06.3	+1.0
	comp=Z,1.1nm,0.5s,mb3.5						
EJIF	Jimena Fronter	24.30	283	P	P	08 54 06.3	+0.9
	comp=Z,1.1nm,0.5s,mb3.6,SNR=7.9						
EJIF	Jimena Fronter	24.30	283	P	P	08 54 06.3	+0.9
EJIF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
QUIF	Quistinic	24.38	311	eP	P	08 54 05.4	-0.7
	comp=Z,28nm,0.7s,mb4.5						
QUIF	Quistinic	24.38	311	eP	P	08 54 05.4	-0.7
QUIF				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.5						
ESPR	Espera	24.57	284	P	P	08 54 09.0	+0.9
	comp=Z,34nm,0.8s,mb4.9						
ESPR	Espera	24.57	284	P	P	08 54 09.0	+0.9
	comp=Z,34nm,0.8s,mb4.9,SNR=7.9						
ROSF	Rostrenen	24.61	312	eP	P	08 54 07.4	-0.9
	comp=Z,51nm,1.3s,mb4.6						
ROSF	Rostrenen	24.61	312	eP	P	08 54 07.4	-0.9
ROSF				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.6						
ECAL	Calabor	25.36	296	P	P	08 54 15.6	+0.1
	comp=Z,62nm,1.4s,mb5.0						
ECAL	Calabor	25.36	296	P	P	08 54 15.6	+0.1
	comp=Z,62nm,1.4s,mb5.0,SNR=6.0						
EBAD	Badajoz	25.41	288	P	P	08 54 17.0	+0.9
	comp=Z,46nm,2.4s,mb4.6,SNR=6.7						
EVO	Evora	26.20	288	eP	P	08 54 23.9	+0.5
	comp=Z,3.6nm,0.4s,mb3.9						
EVO				eR			
	comp=Z,56nm,21.0s						
HFS	Hagfors	26.36	348	P	P	08 54 21.6	-3.1
	comp=Z,2.0nm,0.5s,mb3.9,baz=150,slow=21,SNR=7.1						
HFS				LR	LR	09 06 39.1	
	comp=Z,123nm,18.1s,MS3.5,baz=289,slow=41						
FINES	FINESS Array B	26.76	2	P	P	08 54 24.5	-3.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,3.4nm,0.8s,mb3.9,baz=162,slow=6.0,SNR=6.7						
FINES				LR	LR	09 05 53.0	
	comp=Z,129nm,19.8s,MS3.5,baz=151,slow=39						
FINES	**FINESS Array B**	**26.76**	**2**	P	**P**	**08 54 24.5**	**-3.8**
FINES				LR	LR	09 05 53.0	
FINES	**FINESS Array B**	**26.76**	**2**	iP	**P**	**08 54 29.0**	**+0.7**
	comp=Z,1.0nm,0.5s,mb3.6						
FINES	**FINESS Array B**	**26.76**	**2**	iP	**P**	**08 54 29.0**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**27.44**	**2**	ep	**P**	**08 54 27.3**	**-7.2**
	comp=Z,5.4nm,0.8s,mb4.1,baz=179,slow=9.7						
KAF	**Kangasniemi**	**27.44**	**2**	eP	**P**	**08 54 27.3**	**-7.2**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
NB2	**NORSAR Subarra**	**27.67**	**346**	P	**P**	**08 54 33.5**	**-3.1**
	comp=Z,13nm,1.4s,mb4.4,baz=152,slow=8.6						
NB2	**NORSAR Subarra**	**27.67**	**346**	P	**P**	**08 54 33.5**	**-3.1**
NB2				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.4						
NOA	**NORSAR Array B**	**27.67**	**346**	P	**P**	**08 54 33.6**	**-3.0**
	comp=Z,3.2nm,0.9s,mb4.0,baz=153,slow=8.7,SNR=6.8						
NOA				LR	LR	09 06 57.0	
	comp=Z,46nm,21.4s,MS3.0,baz=160,slow=40						
EKA	**Eskdalemuir Ar**	**28.04**	**326**	P	**P**	**08 54 38.5**	**-1.4**
	comp=Z,4.7nm,0.9s,mb4.1,baz=119,slow=8.6,SNR=6.8						
JOF	**Joensuu**	**28.55**	**7**	ep	**P**	**08 54 37.7**	**-6.8**
	comp=Z,3.7nm,0.7s,mb4.2						
JOF	**Joensuu**	**28.55**	**7**	eP	**P**	**08 54 37.7**	**-6.8**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
ARU	**Arti**	**31.79**	**36**	iP	**P**	**08 55 13.1**	**-0.2**
ARCES	**ARCESS Array B**	**34.87**	**1**	P	**P**	**08 55 36.2**	**-3.6**
	comp=Z,3.3nm,0.7s,mb4.4,baz=190,slow=7.4,SNR=10.0						
ARCES				LR	LR	09 10 55.6	
	comp=Z,161nm,19.1s,MS3.8,baz=192,slow=38						
KEV	**Kevo**	**35.12**	**2**	ep	**P**	**08 55 36.3**	**-5.7**
	comp=Z,12nm,1.0s,mb4.8						
KEV	**Kevo**	**35.12**	**2**	eP	**P**	**08 55 36.3**	**-5.7**
KEV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
DBIC	**Dimbokro**	**38.79**	**231**	P	**P**	**08 56 14.2**	**+0.8**
	comp=Z,2.9nm,0.7s,mb4.1,baz=304,slow=5.2,SNR=3.2						
AAK	**Ala-Archa**	**39.43**	**63**	iP	**P**	**08 56 18.1**	**-0.2**
	comp=Z,4.0nm,1.3s,mb4.0						
AAK	**Ala-Archa**	**39.43**	**63**d	iP	**P**	**08 56 18.1**	**-0.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
MKAR	**Makanchi Array**	**44.55**	**56**	P	**P**	**08 56 60.0**	**-0.3**
	comp=Z,8.4nm,0.8s,mb4.6,baz=283,slow=6.4,SNR=55						
NVS	**Novosibirsk**	**44.85**	**45**	eP	**P**	**08 57 01.1**	**-1.4**
	comp=Z,13nm,1.0s,mb4.7						
NVS	**Novosibirsk**	**44.85**	**45**	eP	**P**	**08 57 01.1**	**-1.4**
NVS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
ZAL	**Zalesovo**	**45.76**	**46**	P	**P**	**08 57 08.3**	**-1.5**
	comp=Z,2.9nm,0.4s,mb4.6,baz=187,slow=5.9,SNR=5.6						
KOLN	**Koldanda**	**50.48**	**81**	eP	**P**	**08 57 45.3**	**-1.6**
	comp=Z,11nm,0.9s,mb4.9						
GKN	**Gorkha**	**51.23**	**80**	eP	**P**	**08 57 51.3**	**-1.2**
	comp=Z,16nm,0.7s,mb5.0						
DMN	**Daman**	**51.77**	**80**	eP	**P**	**08 57 55.4**	**-1.2**
	comp=Z,18nm,0.8s,mb5.1						
KKN	**Kakani**	**51.84**	**80**	eP	**P**	**08 57 55.8**	**-1.3**
PKI	**Pulchoki**	**52.03**	**80**	eP	**P**	**08 57 58.2**	**-0.3**
	comp=Z,14nm,0.6s,mb5.0						
MATP	**Matopo**	**54.98**	**175**	P	**P**	**08 58 22.6**	**+2.2**
	comp=Z,3.1nm,1.0s,mb4.3,baz=9.5,slow=6.1,SNR=2.9						
ZAK	**Zakamensk**	**57.51**	**48**	eP	**P**	**08 58 37.2**	**-1.0**
	comp=Z,2.0nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**57.51**	**48**	eP	**P**	**08 58 37.2**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
GTA	**Gaotai**	**58.73**	**61**	eP	**P**	**08 58 46.4**	**-0.5**
GTA				AP	pP	08 58 50.8	-6.2
GTA				XP	sP	08 58 53.8	-7.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**60.26**	**50**	P	**P**	**08 58 56.3**	**-1.0**
	comp=Z,2.8nm,0.5s,mb4.5,baz=288,slow=7.4,SNR=26						
SONM				LR	LR	09 28 18.7	
	comp=Z,79nm,19.5s,MS3.9,baz=273,slow=39						
ULN	**Ulaanbaatar**	**60.66**	**50**	iP	**P**	**08 58 59.4**	**-0.6**
ULN	**Ulaanbaatar**	**60.66**	**50**⇑	iP	**P**	**08 58 59.4**	**-0.6**
BOD	**Bodaibo**	**61.19**	**38**	eP	**P**	**08 59 00.6**	**-2.9**
	comp=Z,7.0nm,0.8s,mb4.8						
BOD	**Bodaibo**	**61.19**	**38**	eP	**P**	**08 59 00.6**	**-2.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
SCHQ	**Schefferville**	**63.11**	**320**	P	**P**	**08 59 15.8**	**-0.5**
	comp=Z,7.9nm,0.7s,mb5.0,baz=61,slow=7.6,SNR=9.2						
SEY	**Seymchan**	**74.21**	**22**⇓	iP	**P**	**09 00 24.2**	**-0.4**
KLR	**Kul'dur**	**74.52**	**40**	eP	**P**	**09 00 22.2**	**-4.5**
NJ2	**Nanjing**	**75.83**	**61**	eP	**P**	**09 00 34.9**	**+0.3**
NJ2				AP	pP	09 00 44.3	-0.6
NJ2				XP	sP	09 00 47.6	-1.0
NJ2				PP	PP	09 03 28.3	+1.6
NJ2				S	S	09 10 16.0	+2.9
NJ2				XS		09 10 30.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,150nm,4.9s						
NJ2				LR	LR		
	comp=N,400nm,16.3s,MS5.0						
NJ2				LR	LR		
	comp=E,500nm,18.4s,MS5.0						
NJ2				LR	LR		
	comp=Z,300nm,18.1s,MS4.6						
SSE	**Sheshan**	**78.02**	**61**	P	**P**	**09 00 46.2**	**-0.7**
SSE				AMB	AMB		
	comp=Z,159nm,6.7s						
PDAR	**Pinedale Array**	**92.14**	**328**	P	**P**	**09 01 57.4**	**+0.2**
	comp=Z,0.3nm,0.8s,mb3.7,baz=63,slow=6.0,SNR=3.6						
TXAR	**Lajitas Array**	**99.61**	**316**	PP	PP	09 06 32.6	-5.4
	comp=Z,0.4nm,1.0s,baz=60,slow=7.3,SNR=3.4						
VNA2	**Neumayer--Watz**	**107.77**	**190**⇑	iP	PP	09 07 26.2	-12
VNA2	**Neumayer--Watz**	**107.77**	**190**	e		09 07 28.7	
SNAA	**Sanae**	**107.82**	**189**⇑	iP	PP	09 07 22.1	-17
SNAA	**Sanae**	**107.82**	**189**	e		09 07 25.1	
VNA3	**Neumayer Olymp**	**108.40**	**191**⇑	iP	PP	09 07 24.3	-19
VNA3	**Neumayer Olymp**	**108.40**	**191**	e		09 07 26.9	
WRA	**Warramunga Arr**	**117.18**	**96**	PKP	PKPdf	09 07 33.0	+0.8
	comp=Z,0.4nm,0.6s,baz=308,slow=1.6,SNR=8.8						

IDC 07 08:54:12.3±2.9**,15.71S×173.21E,mb4.0**/4**,mb1 4.2**/5**, mb1mx3.9**/15**,mbtmp4.0**/5**,ML3.0**/1**,MS3.3**/7**,Ms1 3.3**/7**, ms1mx3.2**/22**,Error ellipse: s-maj=105.8km s-min=31.8km az=135.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.00**	**224**	Pn	P	08 56 23.8	-2.7
	0.1nm,0.3s,baz=212,slow=14,SNR=2.7						
HNR	**Honiara**	**14.36**	**294**	LR	LR	09 02 02.8	
	comp=Z,97nm,21.0s,baz=159,slow=33						
AFI	**Afiamalu**	**14.63**	**85**	LR	LR	09 01 28.7	
	comp=Z,94nm,21.9s,baz=146,slow=30						
URZ	**Urewera**	**22.73**	**172**	LR	LR	09 06 44.1	
	comp=Z,106nm,18.1s,baz=94,slow=33						
CTA	**Charters Tower**	**26.00**	**256**	LR	LR	09 06 59.3	
	comp=Z,74nm,19.0s,baz=222,slow=30						
RPZ	**Rata Peaks**	**27.98**	**183**	LR	LR	09 08 50.2	
	comp=Z,101nm,19.9s,baz=3.7,slow=31						
STKA	**Stephens Creek**	**32.94**	**235**	P	P	09 00 48.0	-2.8
	2.3nm,1.0s,baz=97,slow=10,SNR=2.8						
STKA				LR	LR	09 11 27.6	
	comp=Z,129nm,21.9s,baz=25,slow=31						
PPT	**Papeete**	**35.67**	**98**	LR	LR	09 14 21.0	
	comp=Z,7.0nm,18.3s,baz=266,slow=34						
WRA	**Warramunga Arr**	**37.19**	**258**	P	P	09 01 25.1	-2.1
	0.7nm,0.6s,baz=90,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**45.48**	**260**	P	P	09 02 34.3	-1.1
	9.2nm,1.0s,baz=44,slow=6.6,SNR=11						
ILAR	**Eielson Array**	**85.78**	**16**	P	P	09 06 53.0	-1.3
	0.6nm,0.8s,baz=213,slow=5.1,SNR=4.4						

*NEIC **07** 08:57:43.7,34.86N×24.38E,h9km,MD3.8(ATH),After ATH.*
*CSEM **07** 08:57:43.7,34.86N×24.38E,h9km,MD3.8/5,After ATH*
ATH 07 08:57:43.5,34.86N×24.37E,h7km±2km**,MD3.8**/5**,Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.23**	**265**	eP	Pg	08 57 50.0	+1.7
VAM	**Vamos**	**0.56**	**346**	ePG	Pg	08 57 54.2	-0.6
VAM				eSB	Sb	08 58 02.6	-0.6
VAM	**Vamos**	**0.56**	**346**	ePb	Pb	08 57 54.1	-1.2
VAM				eSb	Sb	08 58 03.0	-0.2
XRY	**Khrisi**	**1.09**	**89**	ePG	Pg	08 58 04.0	-1.3
XRY				eSB	Sb	08 58 19.0	+0.5
XRY	**Khrisi**	**1.09**	**89**	ePb	Pb	08 58 04.0	-0.3
XRY				eSb	Sb	08 58 18.5	0.0
NPS	**Neapolis**	**1.10**	**68**	ePN	Pn	08 58 04.4	-0.8
NPS				eSB	Sb	08 58 18.7	0.0
NPS	**Neapolis**	**1.10**	**68**	ePn	Pn	08 58 04.6	-0.6
NPS				eSb	Sb	08 58 18.5	-0.2
KYTH	**Kithira**	**1.79**	**323**	ePN	Pn	08 58 17.3	+2.2
KYTH				eSN	Sn	08 58 41.0	+2.8
KYTH	**Kithira**	**1.79**	**323**	ePg	Pg	08 58 17.5	-1.7
KYTH				eSn	Sn	08 58 41.0	+2.8
VLI	**Veliai**	**2.19**	**328**	ePN	Pn	08 58 22.3	+1.5

*IDC **07** 08:59:42.8±3.0,64.69N×31.53E,mb1 3.0/4, mb1mx2.9/21,mbtmp2.9/4,ML2.3/3,Error ellipse: s-maj=43.3km s-min=10.6km az=99.0*
*HEL **07** 08:59:44.9±0.1,64.68N×30.67E,ML1.7,Explosion*
ISC 07 08:59:42.7±1.1**,64.71N**±0.05×**30.7E**±0.1**,n10,**σ1§**37**/20**,**
Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.42**	**245**	eP	**Pb**	**09 00 10.2**	**+0.4**
KJN				eS	**Sb**	**09 00 28.3**	**-0.1**
JOF	**Joensuu**	**1.82**	**170**	eP	**Pn**	**09 00 16.5**	**+1.0**
JOF				eS	**Sn**	**09 00 39.5**	**0.0**
OUL	**Oulu**	**2.06**	**283**	eP	**Pn**	**09 00 20.8**	**+1.8**
OUL				eS	**Sn**	**09 00 47.1**	**+1.2**
SUF	**Sumiainen**	**2.83**	**227**	eP	**Pn**	**09 00 31.2**	**+1.3**
SUF				eS	**Sn**	**09 01 05.9**	**+0.6**
SUF				eSG	**Sg**	**09 01 11.9**	**-5.0**
SUF				MSG		09 01 12.6	
	comp=Z,2.0nm,0.3s						
KAF	**Kangasniemi**	**3.26**	**219**	eP	**Pn**	**09 00 37.8**	**+1.8**
KAF				eS	**Sn**	**09 01 15.1**	**-1.0**
KAF				e		09 01 30.6	
FIA0	**FINESS Array S**	**3.88**	**215**	eP	**Pn**	**09 00 45.5**	**+0.6**
FIA0				eS	**Sn**	**09 01 29.8**	**-2.1**
FIA0				eSG	**Sg**	**09 01 43.7**	**-8.1**
FIA0				MSG		09 01 46.7	
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**3.88**	**215**	Pn	**Pn**	**09 00 45.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=33,slow=14,SNR=4.6						
FINES				Pg	**Pg**	**09 00 53.1**	**-7.1**
	comp=Z,0.2nm,0.3s,baz=34,slow=15,SNR=5.9						
FINES				Lg		09 01 44.3	
	comp=Z,0.6nm,0.3s,baz=33,slow=28,SNR=6.8						
ARCES	**ARCESS Array B**	**5.25**	**340**	Pn	**Pn**	**09 01 02.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=24						
ARCES				Sn	**Sn**	**09 02 00.3**	**-6.2**
	comp=Z,0.2nm,0.3s,baz=152,slow=27,SNR=5.3						
ARCES				Lg		09 02 21.2	
	comp=Z,0.5nm,0.3s,baz=150,slow=29,SNR=7.6						
HFS	**Hagfors**	**9.09**	**248**	Pn	**P**	**09 01 55.8**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=58,slow=14,SNR=3.3						
NOA	**NORSAR Array B**	**9.59**	**256**	Pn	**P**	**09 02 02.8**	**-2.1**
	baz=72,slow=14,SNR=2.3						

*NEIC **07** 09:03:51.3,33.86S×70.73W,h83km,MD3.3(GUC),After GUC.*
GUC 07 09:03:51.3±0.8**,33.86S×70.73W,h83km**±2km**,MD3.3, ML3.6,12C-9D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**0.10**	**140**⇑	iP	P	09 04 02.6	-0.7
TACH	**Talagante**	**0.27**	**319**⇓	iP	P	09 04 03.3	-0.5
TACH				iS	S	09 04 12.8	-0.5
CACH	**El Canelo**	**0.28**	**158**⇓	iP	P	09 04 04.0	+0.1
CACH				iS	S	09 04 13.6	+0.3
PCH	**Pirque**	**0.30**	**37**⇑	iP	P	09 04 03.8	-0.2
PCH				iS	S	09 04 13.0	-0.6
ANTU	**Antumapu**	**0.30**	**15**⇑	iP	P	09 04 03.7	-0.3
ANTU				iS	S	09 04 13.1	-0.5
ANTU				AMP		09 04 13.4	
	comp=N,4μm,0.2s						
RCDM	**Rinconada Maip**	**0.38**	**350**⇑	iP	P	09 04 03.9	-0.6
RCDM				iS	S	09 04 13.6	-0.8
RCDM				AMP		09 04 13.8	
	comp=N,7μm,0.2s						
SJCH	**San Jose de Ma**	**0.38**	**55**⇑	iP	P	09 04 04.0	-0.5
SJCH				iS	S	09 04 13.8	-0.6
SJCH				AMP		09 04 14.6	
	comp=E,2μm,0.3s						
SAN	**Santiago**	**0.41**	**8**⇑	iP	P	09 04 04.3	-0.4
SAN				iS	S	09 04 14.0	-0.8
SAN				AMP		09 04 15.0	
	comp=N,2μm,0.3s						
FSR	**Penalolen**	**0.41**	**24**⇓	iP	P	09 04 04.3	-0.4
FSR				iS	S	09 04 14.5	-0.4
FSR				AMP		09 04 15.6	
	comp=N,5μm,0.2s						
STL	**Santa Lucia**	**0.43**	**10**⇑	iP	P	09 04 03.4	-1.4
STL				iS	S	09 04 13.4	-1.7
LMEL	**Las Melosas**	**0.43**	**89**	iP	P	09 04 04.9	0.0
LMEL				iS	S	09 04 15.0	-0.2
LMEL				AMP		09 04 17.9	
	comp=N,6μm,0.1s						
DSCH	**Colegio Aleman**	**0.48**	**16**	iP	P	09 04 05.1	-0.2
DSCH				iS	S	09 04 15.4	-0.4
DSCH				AMP		09 04 16.1	
	comp=N,3μm,0.2s						
CLCH	**Cerro Calan**	**0.49**	**19**⇑	iP	P	09 04 05.0	-0.3
CLCH				iS	S	09 04 15.9	0.0
CLCH				AMP		09 04 16.7	
	comp=E,6μm,0.3s						
CLCH				AMP		09 04 17.3	
	comp=E,7μm,0.4s						
CICH	**Cipreses**	**0.53**	**151**⇑	iP	P	09 04 05.6	-0.1
CICH				iS	S	09 04 16.1	-0.4
LNV	**Longovilo**	**0.58**	**260**⇑	iP	P	09 04 05.4	-0.8
LNV				iS	S	09 04 15.8	-1.5
FCH	**Farellones**	**0.64**	**35**⇓	iP	P	09 04 06.8	-0.1
FCH				iS	S	09 04 18.7	+0.3
FCH				AMP		09 04 19.7	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**0.71**	**3**	iP	P	09 04 07.5	-0.2
SFDO	**San Fernando**	**0.79**	**197**⇑	iP	P	09 04 08.1	-0.3
SFDO				iS	S	09 04 21.3	+0.1
LCCH	**Las Cruces**	**0.80**	**298**⇓	iP	P	09 04 07.7	-0.8
LCCH				iS	S	09 04 20.4	-1.0
ROCH	**El Roble**	**0.92**	**345**⇓	iP	P	09 04 09.5	-0.3
ROCH				iS	S	09 04 24.2	+0.5
IHA	**Instituto Hidr**	**1.13**	**317**⇓	iP	P	09 04 12.3	0.0
IHA				iS	S	09 04 28.1	-0.1
JACH	**Jahuel**	**1.18**	**5**⇓	iP	P	09 04 12.6	-0.4
JACH				iS	S	09 04 29.3	0.0
NICH	**Los Niches**	**1.21**	**200**⇓	iP	P	09 04 13.0	-0.5
NICH				iS	S	09 04 29.6	-0.5
CHNG	**Los Chungos**	**2.08**	**342**	iP	P	09 04 24.4	-0.5
CHNG				iS	S	09 04 49.4	-0.3
CHNG				AMP		09 04 56.5	
	comp=E,286nm,0.2s						
ILCH	**Illapel**	**2.25**	**350**⇑	iP	P	09 04 26.7	-0.6
ILCH				iS	S	09 04 54.2	+0.2
ILCH				AMP		09 05 03.8	
	comp=N,440nm,0.1s						
CMCH	**Combarbala**	**2.69**	**355**	AMP		09 05 16.4	
	comp=E,838nm,0.4s						

*NEIC **07** 09:21:35.3±0.9,51.47N×16.25E,h5km,ML3.0(VIE),Error ellipse: s-maj=9.8km s-min=6.3km az=190.0*
*IDC **07** 09:21:37.0±1.0,51.39N×16.13E,mb1 3.4/5, mb1mx3.2/22,mbtmp3.2/5,ML3.0/5,Error ellipse: s-maj=16.4km s-min=8.6km az=122.0*
*CSEM **07** 09:21:36.7±0.2,51.41N×16.15E,h2km,ML3.1/10,Error ellipse: s-maj=3.3km s-min=2.2km az=1.0*
*IPEC **07** 09:21:36.4±0.3,51.41N×16.39E,ML2.3/4,Error ellipse: s-maj=3.3km s-min=1.9km az=92.0*
*VIE **07** 09:21:36.6±0.6,51.32N×16.05E,mb2.2/4,ML2.6/4,Error ellipse: s-maj=4.1km s-min=3.9km az=98.0,Suspected Mining induced.*
*PRU **07** 09:21:37.5,51.37N×16.15E*
WAR 07 09:21:36.7,51.45N×16.19E,h1km,ML2.8,5C,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**174**	ePG	Pg	09 21 48.0	-0.9
KSP				eSG	Sg	09 21 55.0	-2.0
KSP	**Ksiaz**	**0.61**	**174**	ePg	Pg	09 21 47.8	-1.1
KSP				eSg	Sg	09 21 54.9	-2.1
KSP	**Ksiaz**	**0.61**	**174**	ePg	Pg	09 21 47.7	-1.2
KSP				eSg	Sg	09 21 54.7	-2.3
UPC	**Upice**	**0.95**	**187**	ePG	Pg	09 21 53.8	-1.8
DPC	**Dobruska-Polom**	**1.10**	**176**	ePG	Pg	09 21 56.5	-2.2
DPC				eSG	Sg	09 22 10.0	-3.4
	75nm,0.6s						
PVCC	**Panska Ves**	**1.38**	**229**	ePG	Pg	09 22 01.9	-2.3
BRG	**Berggiesshubel**	**1.53**	**249**	Pn	Pn	09 22 03.9	-1.3
BRG				Pg	Pg	09 22 04.9	-2.3
BRG				Sg	Sg	09 22 25.1	-2.4
BRG	**Berggiesshubel**	**1.53**	**249**	Pn	Pn	09 22 03.9	-1.3
BRG	**Berggiesshubel**	**1.53**	**249**	Pg	Pg	09 22 04.9	-2.3
PRU	**Pruhonice**	**1.80**	**216**	ePG	Pg	09 22 09.2	-3.4
PRU				eSG	Sg	09 22 32.9	-3.6
	16nm,0.2s						
MORC	**Moravsky Berou**	**1.88**	**152**	eP	Pn	09 22 07.3	-2.9
MORC	**Moravsky Berou**	**1.88**	**152**	eP	Pn	09 22 07.3	-3.0
MORC	**Moravsky Berou**	**1.88**	**152**	ePn	Pn	09 22 08.4	-1.9
MORC				eSg	Sg	09 22 32.9	-6.4
	18nm,0.6s						
CLL	**Collm**	**2.00**	**267**	ePN	Pn	09 22 10.0	-2.0
CLL				iPG	Pg	09 22 12.4	-4.3
CLL				eSG	Sg	09 22 40.0	-3.3
OKC	**Ostrava-Krasne**	**2.04**	**142**	ePG	Pg	09 22 14.2	-3.2
OKC				eSG	Sg	09 22 39.0	-5.5
	21nm,0.5s						
VRAC	**Vranov**	**2.16**	**173**	Pn	Pn	09 22 13.7	-0.6
	2.0nm,0.3s,baz=341,slow=17,SNR=4.1						
VRAC				Lg		09 22 42.8	
	3.6nm,0.3s,baz=76,slow=22,SNR=6.1						
VRAC	**Vranov**	**2.16**	**173**	ePn	Pn	09 22 12.5	-1.7
VRAC				eSg	Sg	09 22 42.0	-6.5
	12nm,0.4s						
KRUC	**Moravsky**	**2.39**	**177**	ePn	Pn	09 22 16.8	-0.8
KRUC				eSg	Sg	09 22 49.8	-6.5
	31nm,1.1s						
OJC	**Ojcow**	**2.60**	**117**	ePG	Pg	09 22 26.0	-2.6
OJC				eSG	Sg	09 23 00.0	-3.2
NKC	**Novy Kostel**	**2.67**	**244**	ePN	Pn	09 22 19.9	-1.6
NKC				ePG	Pg	09 22 26.0	-3.9
NKC				eSG	Sg	09 23 01.2	-4.2
	16nm,0.2s						
KHC	**Kasperske Hory**	**2.86**	**217**	ePN	Pn	09 22 22.8	-1.5
KHC				ePG	Pg	09 22 28.5	-5.3
KHC				eSN	Sn	09 22 55.4	-4.5
KHC				eSG	Sg	09 23 05.6	-6.3
	13nm,0.6s						
GERES	**GERESS Array B**	**3.06**	**213**	Pn	Pn	09 22 26.0	-1.1
	0.6nm,0.3s,baz=32,slow=13,SNR=10						
GERES				Pg	Pg	09 22 31.5	-6.2
	4.0nm,0.3s,baz=36,slow=17,SNR=27						
GERES				Lg		09 23 10.7	
	3.3nm,0.3s,baz=29,slow=28,SNR=7.2						
GERES	**GERESS Array B**	**3.06**	**213**	Pg	Pg	09 22 31.5	-6.2
MOA	**Molln**	**3.81**	**200**⇑	iPN	Pn	09 22 34.7	-3.1
MOA				iSG	Sg	09 23 38.3	-5.3
	7.8nm,0.5s						
MOA	**Molln**	**3.81**	**200**⇑	iPn	Pn	09 22 34.7	-3.1
STHS	**Stebnicka Huta**	**3.82**	**120**	ePG	Pg	09 22 49.5	-3.4
KBA	**Koelnbreinsper**	**4.75**	**204**⇑	iPN	Pn	09 22 47.5	-3.7
KBA				iSG	Sg	09 24 08.0	-6.9
	7.6nm,0.6s						
KBA	**Koelnbreinsper**	**4.75**	**204**⇑	iPn	Pn	09 22 47.5	-3.7
KBA	**Koelnbreinsper**	**4.75**	**204**⇑	iSg	Sg	09 24 08.0	-7.0
	comp=Z,7.6nm,0.6s						
AKASG	**Malin Array Be**	**8.25**	**90**	Pn	P	09 23 34.6	-5.8
	0.4nm,0.3s,baz=288,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**11.40**	**25**	Pn	P	09 24 17.4	-6.1
	0.1nm,0.3s,baz=221,slow=13,SNR=3.2						
ARCES	**ARCESS Array B**	**18.68**	**10**	Pn	P	09 25 50.3	-7.5
	0.2nm,0.3s,baz=198,slow=12,SNR=6.0						

BJI 07 09:23:24.1,25.40N×101.92E,h13km,ML3.8,Ms4.0, Msz3.4,1C,Yunnan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.79**	**110**	PG	Pg	09 23 38.2	-1.9
KMI				SG	Sg	09 23 49.7	-1.1
KMI				Smax			
	comp=N,2μm,0.8s						
KMI				Smax			
	comp=E,2μm,0.9s						
KMI				LR	LR		
	comp=N,6μm,3.8s						
KMI				LR	LR		
	comp=E,5μm,3.8s						
KMI				LR	LR		
	comp=Z,2μm,3.5s						
CD2	**Chengdu**	**5.72**	**16**	eP	Pn	09 24 50.8	-0.1
CD2				ePG	Pg	09 25 08.1	-10
CD2				SG	Sg	09 26 16.6	-18
CD2				Smax			
	comp=N,158nm,1.4s						
CD2				Smax			
	comp=E,167nm,1.4s						
CD2				LR	LR		
	comp=E,2μm,9.0s						
CD2				LR	LR		
	comp=Z,280nm,6.6s						
CHRT	**Chiangrai**	**5.85**	**200**	⇑PN	Pn	09 25 12.0	+19
CHRT				PG	Pg	09 25 18.0	-2.8
CHRT				SG	Sg	09 26 27.0	-12

NEIC 07 09:25:06.3,40.42N×125.38W,h24km,mb3.5/1**, MD3.5**(NCEDC)**,After NCEDC.,Off coast of northern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.33**	**70**	eP	Pn	09 25 27.8	-2.0
KCPM	**Cahto Peak**	**1.56**	**117**	eP	Pn	09 25 30.7	-2.4
KIPM	**Iron Peak**	**1.58**	**112**	eP	Pn	09 25 31.2	-2.1
KBO	**Bosley Butte**	**1.99**	**26**	eP	Pn	09 25 36.8	-2.3
WDC	**Whiskeytown Da**	**2.17**	**85**	eP	Pn	09 25 39.5	-2.2
WDC				eS	Sn	09 26 02.6	-5.6
HOPS	**Hopland**	**2.28**	**128**	eP	Pn	09 25 41.2	-2.1
YBH	**Yreka Blue Hor**	**2.41**	**56**	eP	Pn	09 25 42.6	-2.5
KEBM	**Edson Butte**	**2.57**	**17**	P	Pn	09 25 46.2	-1.3
LHEM	**Herd Peak**	**2.68**	**62**	P	Pn	09 25 47.7	-1.3
HUMO	**Hull Mountain**	**2.84**	**39**	eP	Pn	09 25 48.9	-2.4
NSHM	**Saint Helena R**	**2.87**	**131**	ePn	Pn	09 25 49.7	-2.0
LTIM	**Timbered Crate**	**3.05**	**74**	P	Pn	09 25 52.2	-2.1
LBCM	**Butte Creek Ri**	**3.09**	**81**	P	Pn	09 25 52.8	-2.1
LAB	**Little Aspen B**	**3.10**	**52**	P	Pn	09 25 55.5	+0.5
LASM	**Arnica Sink**	**3.11**	**67**	P	Pn	09 25 53.1	-2.0
BBOR	**Butler Butte**	**3.19**	**39**	P	Pn	09 25 55.8	-0.4
OHCM	**Honcut**	**3.19**	**109**	ePn	Pn	09 25 53.3	-2.9
VSP	**Spence Mountai**	**3.21**	**52**	P	Pn	09 25 56.7	+0.1
HOG	**Hogback Mounta**	**3.31**	**55**	P	Pn	09 25 57.7	-0.3
HSO	**Harness Mounta**	**3.54**	**28**	P	Pn	09 26 00.3	-0.9
BEKR	**Beckwourth**	**3.89**	**97**	ePn	Pn	09 26 04.1	-2.1
HBO	**Huckleberry Mo**	**4.11**	**33**	P	Pn	09 26 09.2	-0.1
MOD	**Modoc**	**4.11**	**67**	ePn	Pn	09 26 05.9	-3.4
IRO	**Indian Ridge**	**4.27**	**32**	P	Pn	09 26 11.2	-0.4
BROR	**Big Rock Looko**	**4.41**	**28**	P	Pn	09 26 13.3	-0.3
FRIS	**Frissel Point**	**4.50**	**32**	P	Pn	09 26 14.4	-0.4
CMB	**Columbia Colle**	**4.55**	**120**	ePn	Pn	09 26 13.8	-1.8
BEND	**Bend**	**4.72**	**38**	P	Pn	09 26 17.9	-0.2
VIPM	**Ingram Point**	**5.39**	**39**	P	Pn	09 26 27.2	-0.2
WVOR	**Wild Horse Val**	**5.45**	**66**	ePn	Pn	09 26 22.9	-5.4
ISA	**Isabella**	**7.23**	**129**	ePn	Pn	09 26 51.2	-2.1
HAWA	**Hanford**	**7.33**	**34**	ePn	Pn	09 26 51.9	-2.8
BMO	**Blue Mountains**	**7.42**	**51**	eP	Pn	09 26 53.8	-2.1
HLID	**Hailey**	**8.75**	**65**	eP	P	09 27 13.1	-1.4
MCMT	**McKenzie Canyo**	**10.23**	**60**	eP	P	09 27 33.2	-1.6
MSO	**Missoula**	**10.47**	**49**	eP	P	09 27 36.5	-1.7
DLMT	**Dillon**	**10.60**	**58**	eP	P	09 27 36.2	-3.7
CHMT	**Chamberlain Mo**	**10.91**	**50**	eP	P	09 27 41.3	-2.8
GLA	**Glamis**	**11.21**	**128**	P	P	09 27 43.5	-4.7
IMW	**Indian Meadow**	**11.27**	**67**	eP	P	09 27 46.6	-2.4
SDCO	**Great Sand Dun**	**15.67**	**93**	eP	P	09 28 46.8	-0.4

	4.3nm,1.3s						

*IDC **07** 09:26:15.7±1.1, 15.82S×173.32E, mb4.1/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, ML3.2/1, MS3.9/20, Ms1 3.9/20, ms1mx3.9/22, Error ellipse: s-maj=36.5km s-min=24.7km az=135.0*

*NEIC **07** 09:26:20.1±8.5, 16.02S×173.39E, h31km±58km, mb4.7/3, Error ellipse: s-maj=26.0km s-min=25.1km az=110.0*

ISC 07 09:26:22.5±4.6**, 16.1S**±0.1×**173.3E**±0.2**, h65**km±38km**, n44, σ1.19**/28**, mb4.1**/10**, 4C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.81**	**227**	Pn	**P**	**09 28 26.3**	**-3.2**
	0.3nm,0.3s,baz=46,slow=17,SNR=3.0						
AFI	**Afiamalu**	**14.55**	**83**	LR	LR	09 33 34.4	
	comp=Z,426nm,21.3s,baz=287,slow=30						
HNR	**Honiara**	**14.63**	**295**	LR	LR	09 33 22.8	
	comp=Z,73nm,20.5s,baz=145,slow=29						
RAO	**Raoul Island**	**15.37**	**150**	LR	LR	09 33 32.4	
	comp=Z,16nm,21.8s,baz=84,slow=28						
URZ	**Urewera**	**22.33**	**172**	P	**P**	**09 31 16.5**	**+0.6**
	9.9nm,1.0s,mb4.1,baz=98,slow=8.3,SNR=4.2						
URZ				LR	LR	09 38 02.7	
	comp=Z,328nm,19.4s,baz=289,slow=31						
CTA	**Charters Tower**	**26.03**	**257**	LR	LR	09 40 21.7	
	comp=Z,529nm,18.4s,baz=70,slow=32						
PMG	**Port Moresby**	**26.36**	**281**	LR	LR	09 39 38.5	
	comp=Z,353nm,21.2s,baz=46,slow=30						
RPZ	**Rata Peaks**	**27.60**	**184**	LR	LR	09 40 46.5	
	comp=Z,685nm,20.9s,baz=2.8,slow=31						
STKA	**Stephens Creek**	**32.82**	**236**	P	**P**	**09 32 53.4**	**+1.3**
	3.1nm,1.0s,mb4.1,baz=44,slow=9.3,SNR=3.8						
STKA				LR	LR	09 45 12.5	
	comp=Z,561nm,19.4s,baz=32,slow=34						
PPT	**Papeete**	**35.50**	**98**	*e*S	**S**	**09 38 42.5**	**-2.5**
PPT				*e*LQ		09 41 15.9	
PPT				*e*LR	LR	09 42 39.9	
	384nm,28.8s						
PPT	**Papeete**	**35.50**	**98**	LR	LR	09 44 24.9	
	comp=Z,111nm,18.6s,baz=273,slow=31						
WRA	**Warramunga Arr**	**37.22**	**258**	P	**P**	**09 33 28.6**	**-1.0**
	1.3nm,0.9s,mb3.9,baz=88,slow=8.7,SNR=5.1						
GUMO	**Guam**	**40.76**	**315**	LR	LR	09 50 30.8	
	comp=Z,95nm,18.0s,baz=92,slow=36						
FITZ	**Fitzroy Crossi**	**45.53**	**260**	P	**P**	**09 34 37.7**	**-0.1**
	9.9nm,1.0s,mb4.5,baz=105,slow=4.4,SNR=4.2						
TAOE	**Nuku Hiva Isla**	**45.91**	**87**	*e*S	**S**	**09 41 15.2**	**-4.5**
TAOE				*e*LR	LR	09 47 24.7	
	2μm,26.1s						
RKT	**Rikitea**	**48.99**	**107**	*e*S	**S**	**09 42 03.0**	**-0.1**
RKT				*e*LR	LR	09 48 58.5	
	272nm,25.8s						
NWAO	**Narrogin (SRO)**	**53.13**	**241**	LR	LR	09 58 05.2	
	comp=Z,398nm,19.6s,baz=269,slow=36						
JOW	**Kunigami**	**61.11**	**314**	LR	LR	10 01 05.6	
	comp=Z,62nm,18.5s,baz=172,slow=34						
VNDA	**Vanda**	**61.71**	**183**	LR	LR	09 58 28.3	
	comp=Z,258nm,21.0s,baz=278,slow=31						
MJAR	**Matsushiro Arr**	**61.98**	**328**	LR	LR	09 59 27.7	
	comp=Z,64nm,18.4s,baz=185,slow=32						
JNU	**Nakatsue**	**63.55**	**321**	LR	LR	10 01 38.4	
	comp=Z,45nm,19.8s,baz=180,slow=34						
CASY	**Casey**	**64.55**	**203**	P	**P**	**09 36 54.4**	**-0.2**
	8.0nm,1.4s,mb4.4						
QSPA	**South Pole Qui**	**73.94**	**180**	*e*P	**P**	**09 37 51.1**	**-0.9**
	8.8nm,0.7s,mb4.6						
MAW	**Mawson**	**82.78**	**201**	P	**P**	**09 38 44.2**	**+3.7**
	1.3nm,0.8s,mb3.8,baz=41,slow=9.3,SNR=3.8						
MAW				LR	LR	10 11 27.5	
	comp=Z,97nm,19.1s,baz=233,slow=33						
MOD	**Modoc**	**84.01**	**43**	*e*P	**P**	**09 38 47.9**	**+0.6**
	4.9nm,1.3s,mb4.2						
ILAR	**Eielson Array**	**86.12**	**16**	P	**P**	**09 38 56.5**	**-0.6**
	1.3nm,0.8s,mb3.9,baz=236,slow=6.1,SNR=10						
SONM	**Songino Array**	**87.13**	**322**	LR	LR	10 15 03.2	
	comp=Z,65nm,18.5s,baz=273,slow=34						
PDAR	**Pinedale Array**	**91.63**	**46**	LR	LR	10 11 54.5	
	comp=Z,88nm,19.5s,baz=260,slow=30						
TXAR	**Lajitas Array**	**91.83**	**60**	P	**P**	**09 39 25.8**	**+0.7**
	0.4nm,0.9s,mb3.6,baz=214,slow=4.5,SNR=3.9						
TXAR				LR	LR	10 11 46.2	
	comp=Z,143nm,19.5s,baz=190,slow=30						
SNAA	**Sanae**	**92.41**	**181**	*e*	**P**	**09 39 28.1**	**+1.3**
SNAA	**Sanae**	**92.41**	**181**	*e*	**P**	**09 39 32.3**	**+5.5**
SNAA	**Sanae**	**92.41**	**181**	⇑*i*P	**P**	**09 39 24.8**	**-2.0**
SNAA				*e*		09 39 28.1	
SNAA				*e*		09 39 32.3	
VNA3	**Neumayer Olymp**	**92.86**	**179**	*e*	**P**	**09 39 31.0**	**+2.2**
VNA3	**Neumayer Olymp**	**92.86**	**179**	*e*	**P**	**09 39 34.3**	**+5.5**
VNA3	**Neumayer Olymp**	**92.86**	**179**	*e*	**P**	**09 39 40.3**	**+11**
VNA3	**Neumayer Olymp**	**92.86**	**179**	⇑*i*P	**P**	**09 39 26.7**	**-2.1**
VNA3				*e*		09 39 31.0	
VNA3				*e*		09 39 34.3	
VNA3				*e*	pP	09 39 40.3	-7.0
VNA3				*e*		09 40 44.5	
VNA2	**Neumayer--Watz**	**93.20**	**180**	*e*	**P**	**09 39 33.0**	**+2.6**
VNA2	**Neumayer--Watz**	**93.20**	**180**	*e*	**P**	**09 39 37.3**	**+6.9**
VNA2	**Neumayer--Watz**	**93.20**	**180**	*e*	**P**	**09 39 42.2**	**+12**
VNA2	**Neumayer--Watz**	**93.20**	**180**	⇑*i*P	**P**	**09 39 30.0**	**-0.4**
VNA2				*e*		09 39 33.0	
VNA2				*e*		09 39 37.3	
VNA2				*e*		09 39 42.2	
VNA2				*e*		09 40 48.7	
VNA1	**Neumayer--Stat**	**93.47**	**179**	*e*	**P**	**09 39 38.7**	**+7.1**
VNA1	**Neumayer--Stat**	**93.47**	**179**	*e*	**P**	**09 39 42.3**	**+11**
VNA1	**Neumayer--Stat**	**93.47**	**179**	⇑*i*P	**P**	**09 39 31.3**	**-0.3**
VNA1				*e*		09 39 38.7	
VNA1				*e*		09 39 42.3	
YKA	**Yellowknife Ar**	**96.12**	**26**	LR	LR	10 15 23.2	
	comp=Z,110nm,19.9s,baz=255,slow=31						

*IDC **07** 09:28:08.5±1.4, 1.86S×125.71E, mb4.2/3, mb1 4.4/5, mb1mx4.0/16, mbtmp4.2/5, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/16, Error ellipse: s-maj=107.2km s-min=24.7km az=71.0*

*NEIC **07** 09:28:10.0±0.7, 1.75S×125.99E, h10km, mb4.5/2, Error ellipse: s-maj=55.9km s-min=11.0km az=71.0*

ISC 07 09:28:10.5±0.8**, 1.7S**±0.2×**126.3E**±0.5**, h33**km**, n11, σ0.59**/10**, mb4.3**/5**, MS3.0**/1**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.27**	**182**	*e*P	**P**	**09 32 05.8**	**+7.5**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**16.27**	**182**	Pn	**P**	**09 31 58.6**	**+0.2**
	0.3nm,0.3s,baz=23,slow=11,SNR=4.7						
WRAB	**Tennant Creek**	**19.74**	**157**	*e*P	**P**	**09 32 40.0**	**-0.5**
	12nm,0.8s						
WRA	**Warramunga Arr**	**19.75**	**157**	P	**P**	**09 32 40.6**	**0.0**
	0.3nm,0.3s,baz=332,slow=11,SNR=15						
STKA	**Stephens Creek**	**33.29**	**156**	P	**P**	**09 34 56.0**	**+8.6**
	2.7nm,0.9s,mb4.2,baz=356,slow=9.0,SNR=3.9						
STKA	**Stephens Creek**	**33.29**	**156**	P	**P**	**09 34 50.7**	**+3.3**
HNR	**Honiara**	**34.37**	**104**	LR	LR	09 49 08.7	
	comp=Z,28nm,20.5s,MS3.0,baz=159,slow=36						
SONM	**Songino Array**	**52.33**	**343**	P	**P**	**09 37 21.3**	**0.0**
	1.6nm,0.8s,mb4.0,baz=162,slow=4.6,SNR=9.5						
MKAR	**Makanchi Array**	**61.80**	**327**	P	**P**	**09 38 28.1**	**-0.5**
	2.0nm,0.6s,mb4.4,baz=130,slow=8.3,SNR=16						
ZAL	**Zalesovo**	**65.25**	**334**	P	**P**	**09 38 51.5**	**+0.5**
	1.5nm,0.3s,mb4.5,baz=4.1,slow=5.5,SNR=7.6						
KURK	**Kurchatov**	**66.11**	**329**	*e*P	**P**	**09 38 56.5**	**-0.1**
	5.5nm,0.8s,mb4.6						

IDC 07 09:33:27.2±0.8**, 6.77N**×**72.99W, h157**km±12km**, mb3.3**/4**, mb1 3.6**/6**, mb1mx3.3**/21**, mbtmp3.9**/6**, Error ellipse: s-maj=34.8km s-min=7.7km az=132.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**215**	P	P	09 34 08.4	+1.4
	133nm,0.3s,baz=266,slow=21,SNR=473						
ROSC				S	S	09 34 37.9	+0.3
	54nm,0.3s,baz=92,slow=23,SNR=9.3						
SDV	**Santo Domingo**	**3.14**	**48**	P	P	09 34 18.3	+1.1
	12nm,0.3s,baz=259,slow=2.7,SNR=34						
SDV				S	S	09 34 55.0	-0.6
	69nm,0.3s,baz=65,slow=20,SNR=49						
TXAR	**Lajitas Array**	**36.59**	**312**	P	P	09 40 18.2	-1.7
	0.3nm,0.4s,baz=125,slow=8.8,SNR=12						
TXAR				PcP	PcP	09 42 39.2	-0.9
	0.5nm,0.9s,baz=143,slow=6.3,SNR=3.6						
ULM	**Lac du Bonnet**	**47.38**	**340**	P	P	09 41 44.7	-2.4
	0.8nm,0.4s,baz=159,slow=8.6,SNR=5.2						
SCHQ	**Schefferville**	**48.18**	**5**	P	P	09 41 52.0	-1.3
	2.6nm,0.8s,baz=185,slow=12,SNR=3.6						
PDAR	**Pinedale Array**	**48.20**	**324**	P	P	09 41 52.0	-1.7
	0.3nm,0.5s,baz=117,slow=8.1,SNR=3.6						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPdf	09 53 00.1	+4.8
	0.6nm,0.4s,baz=109,slow=2.5,SNR=12						

*IDC **07** 09:43:57.9±0.7, 1.62N×97.00E, mb4.2/11, mb1 4.3/11, mb1mx4.1/20, mbtmp4.2/11, Error ellipse: s-maj=35.2km s-min=15.6km az=63.0*

*BJI **07** 09:44:00.2, 1.60N×97.00E, h30km, mb4.5*

*NEIC **07** 09:44:02.3±0.4, 1.61N×97.04E, h30km, mb4.4/5, Error ellipse: s-maj=13.0km s-min=8.3km az=69.0*

ISC 07 09:44:00.6±0.6**, 1.59N**±0.08×**97.0E**±0.1**, h33**km**, n26, σ0.77**/24**, mb4.2**/17**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**45**	*e*P	**P**	**09 45 18.2**	**+0.5**
SNG	**Songkhla**	**6.62**	**33**	P	**P**	**09 45 39.5**	**+1.5**
	116nm,0.8s						
QIZ	**Qiongzhong**	**21.41**	**35**	P	**P**	**09 48 47.8**	**-0.1**
KMI	**Kunming**	**24.04**	**13**	P	**P**	**09 49 24.0**	**+10**
	12nm,1.1s,mb4.2						
ENH	**Enshi**	**30.89**	**21**	P	**P**	**09 50 14.9**	**-1.6**
XAN	**Xi'an**	**34.15**	**18**	P	**P**	**09 50 43.6**	**-1.3**
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.31**	**126**	P	**P**	**09 50 46.3**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=189,slow=8.8,SNR=2.9						
GTA	**Gaotai**	**37.73**	**4**	*e*P	**P**	**09 51 15.7**	**+0.6**
GTA				AP	pP	09 51 20.3	-4.6
GTA				XP	sP	09 51 23.1	-6.0
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**42.41**	**122**	P	**P**	**09 51 54.3**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.7,baz=301,slow=9.2,SNR=17						
WRAB	**Tennant Creek**	**42.41**	**122**	*e*P	**P**	**09 51 53.3**	**-0.9**
SONM	**Songino Array**	**46.78**	**9**	P	**P**	**09 52 29.4**	**+0.6**
	comp=Z,4.5nm,0.7s,mb4.5,baz=190,slow=9.0,SNR=32						
SONM				PcP	PcP	09 54 02.4	+0.2
	comp=Z,0.6nm,0.5s,baz=180,slow=4.1,SNR=3.7						
MKAR	**Makanchi Array**	**46.82**	**346**	P	**P**	**09 52 29.4**	**+0.2**
	comp=Z,6.9nm,0.7s,mb4.7,baz=160,slow=7.6,SNR=49						
ULN	**Ulaanbaatar**	**46.91**	**9**	*e*P	**P**	**09 52 29.6**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.2						
HIA	**Hailar**	**51.34**	**19**	*e*P	**P**	**09 53 03.5**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.6						
KURK	**Kurchatov**	**51.37**	**345**	*e*P	**P**	**09 53 03.7**	**-0.5**
	comp=Z,4.3nm,0.5s,mb4.6						
ZAL	**Zalesovo**	**53.14**	**351**	P	**P**	**09 53 17.7**	**+0.3**
	comp=Z,5.4nm,0.7s,mb4.6,baz=290,slow=5.4,SNR=14						
STKA	**Stephens Creek**	**53.76**	**132**	*e*P	**P**	**09 53 22.5**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**53.76**	**132**	P	**P**	**09 53 23.0**	**+0.7**
	comp=Z,1.7nm,0.9s,mb4.0,baz=297,slow=6.8,SNR=4.8						
BVAR	**Borovoye Array**	**55.82**	**341**	P	**P**	**09 53 35.9**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=160,slow=8.7,SNR=6.8						
MAW	**Mawson**	**73.05**	**193**	P	**P**	**09 55 29.4**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=79,slow=5.2,SNR=3.2						
FINES	**FINESS Array B**	**79.56**	**332**	P	**P**	**09 56 05.3**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=124,slow=6.9,SNR=4.6						
FINES	**FINESS Array B**	**79.56**	**332**	P	**P**	**09 56 05.3**	**-0.5**
ARCES	**ARCESS Array B**	**82.11**	**340**	P	**P**	**09 56 19.6**	**+0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=94,slow=4.8,SNR=12						
GERES	**GERESS Array B**	**84.39**	**319**	P	**P**	**09 56 32.4**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.7,baz=121,slow=5.7,SNR=3.4						
TXAR	**Lajitas Array**	**143.44**	**31**	PKhKP		10 03 28.8	
	comp=Z,0.2nm,0.8s,baz=270,slow=2.7,SNR=3.2						
CPUP	**Villa Florida**	**145.16**	**223**	PKPbc	PKPbc	10 03 38.3	+2.4
	comp=Z,2.2nm,0.8s,baz=154,slow=2.8,SNR=5.3						

*NIED **07** 10:13:00, 42.50N×145.40E, h35km, Mw3.8 Best double couple: Mo5.16×10^14 NP1:φs142°, δ52°, λ-61°. NP2: φs280°, δ46°, λ-122°.*

JMA 07 10:13:21.5±0.1**, 42.49N**×**145.40E, h52**km±2km**, M3.6, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.72**	**315**	P	P	10 13 35.8	+0.1
JAK				S	S	10 13 46.4	+0.2
NEM2	**Nemuro 2**	**0.91**	**16**	P	P	10 13 38.5	+0.3
NEM2				S	S	10 13 50.6	-0.1
JNK	**Nakash**	**1.20**	**336**	P	P	10 13 42.0	-0.3
JNK				*e*S	S	10 13 56.8	-1.0
JOB	**Onbets**	**1.23**	**290**	P	P	10 13 42.7	+0.1
JAR	**Ashorobuto**	**1.44**	**304**	P	P	10 13 45.4	-0.4
JRA	**Rausu**	**1.46**	**352**	P	P	10 13 46.2	+0.2
JRA				*e*S	S	10 14 04.2	0.0
JCH	**Churui**	**1.51**	**275**	P	P	10 13 46.9	+0.2
JEM	**Erimo**	**1.73**	**255**	P	P	10 13 51.6	+1.8
JTKR	**Abashiri--Toko**	**1.84**	**324**	P	P	10 13 51.5	+0.2

GUC 07 10:16:25.2±0.6**, 39.43S**×**73.10W, h41**km±2km**, ML4.1, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**0.40**	**197**	*i* P	P	10 16 34.5	-0.2
VLCH				*i* S	S	10 16 41.8	+0.5
VLCH				AMP		10 16 46.2	
	comp=E,19μm,0.5s						
PMCH	**Puerto Montt**	**2.07**	**176**	⇓*i*P	P	10 16 58.4	+0.2
PMCH				*i* S	S	10 17 23.5	+0.6
CCHI	**Chillan**	**2.93**	**16**	*e*P	P	10 17 10.6	+0.1
CCHI				*i* S	S	10 17 44.2	-0.6
CCHI				AMP		10 18 06.6	
	comp=N,698nm,0.6s						
LMEL	**Las Melosas**	**6.03**	**24**	*e*P	P	10 17 51.9	-2.3
LMEL				*i* S	S	10 18 59.2	-3.7

IDC 07 10:32:25.6±2.9**, 27.26S**×**176.02W, mb4.3**/3**, mb1 4.5**/4**, mb1mx4.0**/14**, mbtmp4.3**/4**, ML3.5**/1**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.8**/19**, Error ellipse: s-maj=149.3km s-min=45.7km az=168.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.60**	**220**	LR	LR	10 33 40.1	
	comp=Z,341nm,19.6s,baz=98,slow=29						
DZM	**Mont Dzumac**	**16.75**	**284**	Pn	P	10 36 22.2	-1.1
	0.2nm,0.3s,baz=112,slow=18,SNR=4.3						
CTA	**Charters Tower**	**35.19**	**273**	P	P	10 39 21.0	-2.5
	1.1nm,0.3s,baz=102,slow=12,SNR=8.1						
WRA	**Warramunga Arr**	**45.83**	**268**	P	P	10 40 48.6	-2.8
	1.7nm,0.4s,baz=108,slow=8.0,SNR=40						
FITZ	**Fitzroy Crossi**	**54.19**	**267**	P	P	10 41 54.9	-0.5
	5.4nm,0.8s,baz=135,slow=3.5,SNR=6.3						
ARCES	**ARCESS Array B**	**135.87**	**349**	PKP	PKPdf	10 51 46.8	-2.8
	2.2nm,0.9s,baz=14,slow=5.0,SNR=3.9						
AKASG	**Malin Array Be**	**149.73**	**327**	PKPbc	PKPdf	10 52 16.6	+2.5
	1.1nm,0.5s,baz=42,slow=4.1,SNR=6.3						

*IDC **07** 10:34:13.7±2.5, 1.62N×97.01E, mb4.0/6, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, Error ellipse: s-maj=101.8km s-min=27.6km az=54.0*

*NEIC **07** 10:34:18.6±0.9, 1.68N×97.09E, h30km, mb3.8/1, Error ellipse: s-maj=21.6km s-min=13.4km az=54.0*

ISC 07 10:34:17.2±1.2**, 1.7N**±0.2×**97.1E**±0.2**, h33**km**, n8, σ0.51**/8**, mb3.9**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.02**	**45**	*e*P	**P**	**10 35 32.1**	**-0.2**
WRA	**Warramunga Arr**	**42.39**	**122**	P	**P**	**10 42 10.3**	**-0.3**
	0.2nm,0.3s,mb3.2,baz=302,slow=9.1,SNR=5.5						
WRAB	**Tennant Creek**	**42.40**	**122**	P	**P**	**10 42 10.9**	**+0.2**
	1.2nm,0.6s,mb3.7						
SONM	**Songino Array**	**46.64**	**9**	P	**P**	**10 42 44.9**	**+0.5**
	0.7nm,0.5s,mb3.9,baz=190,slow=10,SNR=8.6						
MKAR	**Makanchi Array**	**46.72**	**346**	P	**P**	**10 42 44.8**	**-0.2**
	2.4nm,0.6s,mb4.3,baz=160,slow=7.9,SNR=22						
ZAL	**Zalesovo**	**53.03**	**351**	P	**P**	**10 43 33.6**	**+0.5**
	3.1nm,0.4s,mb4.6,baz=55,slow=5.4,SNR=6.1						
BVAR	**Borovoye Array**	**55.73**	**341**	P	**P**	**10 43 51.9**	**-1.1**
	0.6nm,0.5s,mb3.9,baz=140,slow=12,SNR=5.0						
ARCES	**ARCESS Array B**	**82.02**	**340**	P	**P**	**10 46 35.6**	**+0.5**
	0.7nm,0.4s,mb3.9,baz=104,slow=5.0,SNR=8.8						

*NIED **07** 10:36:00, 36.70N×142.10E, h20km, Mw4.2 Best double couple: Mo2.04×10^15 NP1:φs356°, δ69°, λ77°. NP2:φs209°, δ25°, λ120°.*

*IDC **07** 10:36:55.9±0.8, 36.73N×142.09E, mb4.1/11, mb1 4.3/15, mb1mx4.2/24, mbtmp4.2/15, ML4.1/4, MS4.1/4, Ms1 4.1/4, ms1mx3.3/36, Error ellipse: s-maj=22.5km s-min=15.6km az=92.0*

*JMA **07** 10:36:57.4±0.3, 36.70N×142.13E, h25km, M4.3*

*MOS **07** 10:36:59.8±1.2, 36.75N×142.12E, h45km, mb4.7/3, Error ellipse: s-maj=16.4km s-min=12.8km az=39.0*

*BJI **07** 10:37:01.0, 36.70N×142.00E, h44km, mB4.6, mb4.5*

*NEIC **07** 10:37:02.2±1.7, 36.69N×141.99E, h44km±14km, mb4.5/4, MW4.1(NIED), Error ellipse: s-maj=15.4km s-min=12.5km az=74.0*

ISC 07 10:36:56.7±1.6**, 36.72N**±0.03×**142.22E**±0.06**, h22**km±12km**, n47, σ0.95**/56**, mb4.2**/15**, MS4.3**/3**, 1C-2D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.20**	**289**	P	**Pn**	**10 37 17.5**	**-0.9**
JFK	**Kawauchi**	**1.26**	**301**	⇓P	**Pn**	**10 37 18.5**	**-0.7**
JHO	**Hitachi**	**1.33**	**266**	P	**Pn**	**10 37 19.0**	**-1.3**
JMM	**Marumori**	**1.62**	**316**	⇓P	**Pn**	**10 37 24.3**	**0.0**
JMM				*e*S	**Sn**	**10 37 42.9**	**-1.8**
JFT	**Otama**	**1.71**	**298**	*e*S	**Sn**	**10 37 45.8**	**-1.1**
JIO	**Ouri**	**1.87**	**338**	P	**Pn**	**10 37 28.9**	**+1.0**
JIO				*e*S	**Sn**	**10 37 50.8**	**-0.2**
JOU	**Okura**	**2.06**	**323**	P	**Pn**	**10 37 31.8**	**+1.1**
JOU				*e*S	**Sn**	**10 37 56.3**	**+0.4**
JFY	**Yanaizu**	**2.13**	**290**	P	**Pn**	**10 37 31.8**	**+0.1**
JFY				*e*S	**Sn**	**10 37 57.3**	**-0.4**
JAG	**Ashikaga**	**2.25**	**263**	P	**Pn**	**10 37 32.8**	**-0.6**
JYS	**Shirataka**	**2.28**	**312**	P	**Pn**	**10 37 34.7**	**+0.9**
JYS				*e*S	**Sn**	**10 38 02.4**	**+0.9**
BSO1	**Boso 1**	**2.29**	**207**	P	**Pn**	**10 37 34.6**	**+0.5**
BSO1				*e*S	**Sn**	**10 38 01.7**	**-0.2**
BSO3	**Boso 3**	**2.37**	**217**	P	**Pn**	**10 37 35.6**	**+0.5**
JKT	**Katashina**	**2.39**	**272**	P	**Pn**	**10 37 35.9**	**+0.5**
MJAR	**Matsushiro Arr**	**3.23**	**268**	Pn	**Pn**	**10 37 47.9**	**+0.5**
	27nm,0.3s,baz=113,slow=10,SNR=176						
MJAR				Sn	**Sn**	**10 38 28.8**	**+3.1**
	13nm,0.3s,baz=69,slow=10,SNR=3.8						
MJAR	**Matsushiro Arr**	**3.23**	**268**	Pn	**Pn**	**10 37 47.9**	**+0.5**
MJAR				Sn	**Sn**	**10 38 28.8**	**+3.1**
MAJO	**Matsushiro**	**3.23**	**268**	*e*P	**Pn**	**10 37 48.1**	**+0.7**
MAT	**Matsushiro**	**3.23**	**268**	P	**Pn**	**10 37 47.9**	**+0.5**
MAT				S	**Sn**	**10 38 26.6**	**+0.9**
MAT	**Matsushiro**	**3.23**	**268**	*e*P	**Pn**	**10 37 48.0**	**+0.6**
MAT				*e*S	**Sn**	**10 38 27.0**	**+1.3**
JHJ	**Hachijo jima 2**	**4.11**	**210**	Pn	**Pn**	**10 37 59.9**	**0.0**
	33nm,0.3s,baz=255,slow=23,SNR=21						
JHJ				Sn	**Sn**	**10 38 44.0**	**-3.9**
	65nm,0.3s,baz=85,slow=22,SNR=6.2						
ASAJ	**Asahikawa**	**7.40**	**2**	Pn	**Pn**	**10 38 45.5**	**-0.7**
	2.0nm,0.3s,baz=217,slow=4.8,SNR=14						
ASAJ				Sn	**Sn**	**10 40 09.0**	**-1.3**
	baz=35,slow=33,SNR=2.2						
ASAJ				LR	LR	10 42 32.6	
	comp=Z,219nm,19.0s,baz=163,slow=46						
ASAJ	**Asahikawa**	**7.40**	**2**	P	**Pn**	**10 38 45.5**	**-0.7**
ASAJ						10 40 09.0	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,219nm,19.0s						
CBIJ	**Chichi jima**	**9.59**	**180**	Pn	**P**	**10 39 15.5**	**-1.2**
	comp=Z,11nm,0.3s,baz=281,slow=19,SNR=4.5						
FX1	**Attu Island--F**	**26.98**	**43**	LR	LR	10 51 50.1	
	comp=Z,8μm,19.8s,MS5.3,baz=337,slow=33						
ENH	**Enshi**	**27.95**	**266**	*e*P	**P**	**10 42 46.4**	**-1.2**
	comp=Z,14nm,0.7s,mb4.7						
ULN	**Ulaanbaatar**	**28.07**	**304**	*e*P	**P**	**10 42 48.4**	**-0.1**
	comp=Z,11nm,1.3s,mb4.3						
ULN	**Ulaanbaatar**	**28.07**	**304**	*e*P	**P**	**10 42 48.4**	**-0.1**
ULN				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.3						
SONM	**Songino Array**	**28.50**	**304**	P	**P**	**10 42 52.5**	**+0.1**
	comp=Z,7.1nm,0.8s,mb4.3,baz=105,slow=8.6,SNR=41						
SONM				LR	LR	10 54 56.0	
	comp=Z,78nm,18.1s,MS3.4,baz=138,slow=38						
SONM	**Songino Array**	**28.50**	**304**	P	**P**	**10 42 52.5**	**+0.1**
SONM				LR	LR	10 54 56.0	
SONM	**Songino Array**	**28.50**	**304**	P	**P**	**10 42 52.5**	**+0.1**
GYA	**Guiyang**	**31.81**	**261**	⇑*i*P	**P**	**10 43 20.4**	**-1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**42.62**	**313**	P	**P**	**10 44 52.8**	**+0.1**
	comp=Z,4.0nm,0.3s,mb4.6,baz=58,slow=20,SNR=7.0						
MKAR	**Makanchi Array**	**44.84**	**303**	P	**P**	**10 45 10.7**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.1,baz=89,slow=9.5,SNR=17						
KURK	**Kurchatov**	**46.64**	**308**	*e*P	**P**	**10 45 24.8**	**-0.2**
	comp=Z,7.3nm,0.8s,mb4.7						
KURK	**Kurchatov**	**46.64**	**308**	*e*P	**P**	**10 45 24.8**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**49.41**	**32**	P	**P**	**10 45 47.2**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.7,baz=266,slow=5.1,SNR=7.5						
CTA	**Charters Tower**	**56.62**	**175**	LR	LR	11 08 51.6	
	comp=Z,282nm,21.8s,MS4.3,baz=53,slow=34						
FITZ	**Fitzroy Crossi**	**56.73**	**199**	P	**P**	**10 46 41.2**	**-0.2**
	comp=Z,3.4nm,0.6s,mb4.5,baz=34,slow=4.9,SNR=6.0						
WRA	**Warramunga Arr**	**56.84**	**189**	P	**P**	**10 46 41.4**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.2,baz=4.6,slow=7.4,SNR=16						
NB2	**NORSAR Subarra**	**74.73**	**338**	P	**P**	**10 48 37.6**	**+1.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=38,slow=6.2						
NB2	**NORSAR Subarra**	**74.73**	**338**	P	**P**	**10 48 37.6**	**+1.5**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**74.73**	**338**	P	**P**	**10 48 35.7**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=38,slow=5.9,SNR=4.8						
AKASG	**Malin Array Be**	**74.94**	**323**	P	**P**	**10 48 37.2**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.2,baz=47,slow=5.9,SNR=11						
AKASG	**Malin Array Be**	**74.94**	**323**	P	**P**	**10 48 37.2**	**-0.3**
PDAR	**Pinedale Array**	**77.42**	**46**	P	**P**	**10 48 54.8**	**+3.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=342,slow=4.7,SNR=4.7						
BRTR	**Keskin Array B**	**79.55**	**312**	P	**P**	**10 49 05.5**	**+2.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=135,slow=3.5,SNR=4.0						
GERES	**GERESS Array B**	**83.32**	**329**	P	**P**	**10 49 23.6**	**+0.7**
	comp=Z,0.2nm,0.3s,mb3.6,baz=58,slow=13,SNR=4.6						
LPAZ	**La Paz**	**146.29**	**61**	PKPbc	PKPbc	10 56 40.0	+3.9
	comp=Z,0.5nm,0.5s,baz=330,slow=10.0,SNR=4.5						

IDC 07 10:48:53.5±2.7**, 21.29S**×**177.53E, mb4.0**/3**, mb1 4.4**/3**, mb1mx3.9**/12**, mbtmp4.0**/3**, Error ellipse: s-maj=144.2km s-min=33.9km az=159.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.36**	**264**	P	P	10 56 33.0	-1.7
	0.9nm,0.3s,baz=98,slow=6.8,SNR=32						
ILAR	**Eielson Array**	**90.06**	**14**	P	P	11 01 54.9	-1.2
	1.3nm,1.1s,baz=219,slow=5.8,SNR=5.2						
TXAR	**Lajitas Array**	**91.02**	**59**	P	P	11 01 60.0	-1.3
	0.9nm,1.1s,baz=207,slow=5.6,SNR=5.3						

*NEIC **07** 10:59:13.0, 34.81N×24.35E, h5km, MD3.5(ATH), After ATH.*

*CSEM **07** 10:59:13.0, 34.81N×24.35E, h5km, MD3.5/6, After ATH*

ATH 07 10:59:12.8, 34.81N×24.35E, h4km±1km**, MD3.5**/6**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.22**	**278**	*e*PG	Pg	10 59 17.0	-0.2
VAM	**Vamos**	**0.61**	**348**	*e*PG	Pg	10 59 24.6	-0.4
VAM				*e*SG	Sg	10 59 33.4	+0.3
XRY	**Khrisi**	**1.11**	**86**	*e*PB	Pb	10 59 34.0	-0.2
NPS	**Neapolis**	**1.13**	**66**	*e*PB	Pb	10 59 33.6	-0.9
NPS				*e*SB	Sb	10 59 48.8	-0.6
NPS	**Neapolis**	**1.13**	**66**	*e*Pn	Pn	10 59 34.5	-0.8
NPS				*e*Sb	Sb	10 59 48.8	-0.6
KYTH	**Kithira**	**1.82**	**324**	*e*PB	Pb	10 59 47.0	+0.7
KYTH	**Kithira**	**1.82**	**324**	*e*Pn	Pn	10 59 47.5	+2.4
VLI	**Veliai**	**2.22**	**329**	*e*PN	Pn	10 59 52.2	+1.2
VLI				*e*SN	Sn	11 00 21.9	+2.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VLI	Veliai	2.22	329	*e*Pn	Pn	10 59 52.1	+1.1
VLI				*e*Sn	Sn	11 00 21.9	+2.7
ITM	Ithomi	3.07	321	*e*PN	Pn	11 00 04.5	+1.4

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*IDC **07** 11:03:47.3±0.5, 0.88N×97.50E, mb4.6/23, mb1 4.7/23, mb1mx4.6/27, mbtmp4.6/23, MS4.8/13, Ms1 4.8/13, ms1mx4.6/21, Error ellipse: s-maj=17.6km s-min=12.8km az=50.0*

*MOS **07** 11:03:50.2±1.2, 0.96N×97.58E, h33km, mb5.0/20, MS4.8/5, Error ellipse: s-maj=19.5km s-min=8.4km az=114.0*

*BJI **07** 11:03:52.1, 1.02N×97.74E, h36km, mB5.4, mb4.8, Ms5.2, Msz5.1*

*NEIC **07** 11:03:54.0±1.9, 0.86N×97.56E, h47km±17km, mb4.8/13, Error ellipse: s-maj=11.0km s-min=7.0km az=55.0*

NEIC Felt [II] at Gunungsitoli.

ISC 07 11:03:50.2±0.3**, 0.85N**±0.04×**97.50E**±0.04**, h32km, h32km**±1.4km**:pP-P, n145,** σ1.18/148**, mb4.8**/63**, MS5.0**/32**, 12C-7D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.11	43	P	Pn	11 05 07.8	+1.1
KULM	Kulim	5.42	35	*e*P	Pn	11 05 11.4	+0.4
KGM	Kluang	5.93	79	P	Pn	11 05 20.0	+1.8
SNG	Songkhla	7.01	26	P	Pn	11 05 32.0	-1.5
PBA	Port Blair	11.73	336	*e*x	P	11 06 36.1	-2.5
NST	Nakhon Sawan	14.96	10	P	P	11 07 23.0	+1.6
KKTK	Khon Kaen	16.26	19	P	P	11 07 38.5	+0.4
CHG	Chiang Mai	17.91	4	⇑P	P	11 07 57.2	-1.6
CHRT	Chiangrai	19.04	7	⇑P	P	11 08 11.0	-1.5
KKM	Kota Kinabalu	19.37	74	P	P	11 08 16.5	0.0
KKM	Kota Kinabalu	19.37	74	*e*P	P	11 08 17.5	+1.0
TSM	Tawau	20.63	80	P	P	11 08 31.4	+1.6
MDRS	Chennai	20.97	306	*e*P	P	11 08 33.8	+0.5
MDRS				*e*x	x	11 12 19.4	
QIZ	Qiongzhong	21.75	33	P	P	11 08 39.0	-2.1
QIZ				AMB	AMB		
	comp=Z,488nm,14.3s						
QIZ				LR	LR		
	comp=N,2μm,14.8s,MS4.8						
QIZ				LR	LR		
	comp=E,2μm,13.2s,MS4.8						
QIZ				LR	LR		
	comp=Z,3μm,12.4s,MS4.9						
CAL	Calcutta	23.33	338	*e*x	P	11 08 54.7	-2.1
CAL				*e*x	S	11 13 12.9	+9.5
KMI	Kunming	24.66	11	P	P	11 09 11.1	+1.4
KMI				AP		11 09 18.4	
KMI				XP		11 09 21.5	
KMI				PP	PP	11 09 48.1	+1.9
KMI				PCP	PcP	11 12 48.8	+1.2
KMI				S	S	11 13 29.1	+3.0
KMI				XS		11 13 41.5	
KMI				SCP		11 16 24.4	
KMI				PCS		11 16 27.4	
KMI				AMB	AMB		
	comp=Z,51nm,2.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,766nm,7.1s						
KMI				LR	LR		
	comp=N,4μm,12.9s,MS5.3						
KMI				LR	LR		
	comp=E,4μm,13.3s,MS5.3						
KMI				LR	LR		
	comp=Z,6μm,13.5s,MS5.2						
KMI	Kunming	24.66	11	P	P	11 09 11.1	+1.4
	comp=Z,51nm,2.0s,mb4.7						
KMI				pP		11 09 18.4	
KMI				sP		11 09 21.5	
KMI				PP	PP	11 09 48.1	+1.9
KMI				PPP	PPP	11 09 59.0	+2.1
KMI				PcP	PcP	11 12 48.8	+1.2
KMI				S	S	11 13 29.1	+3.0
KMI				sS		11 13 41.5	
KMI				SS	SS	11 14 26.2	+3.0
KMI				SSS	SSS	11 14 42.7	+3.0
KMI				ScP		11 16 24.4	
KMI				PcS		11 16 27.4	
KMI				LR	LR		
	comp=Z,6μm,13.5s,MS5.2						
HYB	Hyderabad	24.87	313	*i* P	P	11 09 22.0	+10
HYB				*e*S	S	11 13 44.0	+14
HYB	Hyderabad	24.87	313	*e*P	P	11 09 22.0	+10
HYB				*e*S	S	11 13 44.0	+14
SHL	Shillong	25.16	348	*e*P	P	11 09 15.0	+0.5
SHL				*e*S	S	11 13 38.0	+3.3
BOK	Bokaro	25.44	335	*e*P	P	11 09 18.6	+1.5
BOK				AMb	AMB	11 09 32.4	
	comp=Z,116nm,1.4s,mb5.2						
BOK				*e*S	S	11 13 42.8	+3.5
BLSP	Bilaspur	25.91	326	*e*P	P	11 09 22.4	+0.9
BLSP				AMb	AMB	11 09 38.2	
	comp=Z,55nm,1.7s,mb4.8						
BLSP				*e*S	S	11 13 46.9	-0.2
GZH	Guangzhou	26.93	34	P	P	11 09 26.5	-4.4
GZH				LR	LR		
	comp=N,2μm,18.2s,MS4.8						
GZH				LR	LR		
	comp=E,1μm,15.7s,MS4.8						
GZH				LR	LR		
	comp=Z,3μm,14.9s,MS5.0						
GYA	Guiyang	26.95	18	⇑*i*P	P	11 09 29.9	-1.1
GYA				AP	pP	11 09 38.6	-1.7
GYA				XP	sP	11 09 44.8	+0.3
GYA				PP	PP	11 10 17.7	+0.8
GYA				S	S	11 14 05.8	+1.7
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,120nm,3.0s						
GYA				LR	LR		
	comp=N,3μm,13.2s,MS5.1						
GYA				LR	LR		
	comp=E,3μm,16.8s,MS5.1						
GYA				LR	LR		
	comp=Z,3μm,11.7s						
PKI	Pulchoki	28.99	337	*e*P	P	11 09 50.9	+1.5
	comp=Z,103nm,1.2s,mb5.4						
DMN	Daman	29.14	337	*e*P	P	11 09 52.6	+1.8
	comp=Z,84nm,1.0s,mb5.4						
KKN	Kakani	29.24	337	*e*P	P	11 09 52.3	+0.6
	comp=Z,104nm,1.1s,mb5.5						
LSA	Lhasa	29.32	349	P	P	11 09 52.2	-0.2
LSA				XP	sP	11 10 08.2	+2.2
LSA				SCP		11 16 38.1	
LSA				LR	LR		
	comp=N,1μm,23.5s,MS4.5						
LSA				LR	LR		
	comp=E,950nm,27.5s,MS4.5						
LSA				LR	LR		
	comp=Z,2μm,24.7s,MS4.5						
LSA	Lhasa	29.32	349	*e*P	P	11 09 52.5	0.0
	comp=Z,13nm,0.6s,mb4.8						
LSA	Lhasa	29.32	349	*e*P	P	11 09 52.5	+0.1
LSA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
GKN	Gorkha	29.68	337	*e*P	P	11 09 55.4	-0.2
	comp=Z,18nm,0.3s,mb5.3						
KOLN	Koldanda	29.90	335	*e*P	P	11 09 58.1	+0.5
	comp=Z,37nm,0.7s,mb5.2						
BOM	Bombay	30.13	308	*e*x	x	11 12 45.9	
CD2	Chengdu	30.48	11	*e*P	P	11 10 02.1	-0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
ENH	Enshi	31.40	20	*e*P	P	11 10 08.9	-1.9
	comp=Z,19nm,0.4s,mb5.3						
PTH	Pithoragarh	32.95	332	*e*P	P	11 10 26.0	+1.7
FITZ	Fitzroy Crossi	33.48	126	*e*P	P	11 10 27.8	-1.2
	comp=Z,9.3nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	33.48	126	P	P	11 10 27.7	-1.4
	comp=Z,6.2nm,0.5s,mb4.8,baz=36,slow=4.5,SNR=18						
XAN	Xi’an	34.71	17	P	P	11 10 38.2	-1.3
XAN				AP	pP	11 10 47.8	-1.2
XAN				XP	sP	11 10 53.3	+0.2
XAN				SS	SS	11 18 16.2	-3.7
XAN				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.3						
XAN				LR	LR		
	comp=N,924nm,14.1s,MS5.1						
XAN				LR	LR		
	comp=E,2μm,15.4s,MS5.1						
XAN				LR	LR		
	comp=Z,4μm,13.9s,MS5.3						
LZH	Lanzhou	35.55	9	*e*P	P	11 10 47.7	+1.0
LZH				AP	pP	11 10 56.8	+0.6
LZH				XP	sP	11 11 02.1	+1.9
LZH				PP	PP	11 12 10.4	+3.2
LZH				S	S	11 16 20.0	+0.6
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,480nm,4.0s						
LZH				LR	LR		
	comp=E,5μm,14.7s						
LZH				LR	LR		
	comp=Z,4μm,16.6s,MS5.2						
LZH	Lanzhou	35.55	9	*e*P	P	11 10 47.7	+1.0
	comp=Z,40nm,1.0s,mb5.3						
LZH				pP	pP	11 10 56.8	+0.6
LZH				sP	sP	11 11 02.1	+1.9
LZH				PP	PP	11 12 10.4	+3.2
LZH				S	S	11 16 20.0	+0.6
LZH				sS		11 16 32.2	
LZH				SS	SS	11 18 50.0	+11
LZH				LR	LR		
	comp=Z,4μm,16.6s,MS5.2						
NJ2	Nanjing	37.01	31	*e*P	P	11 10 58.1	-0.8
NJ2				AP	pP	11 11 06.9	-1.6
NJ2				XP	sP	11 11 12.0	-0.5
NJ2				PP	PP	11 12 26.3	+0.6
NJ2				S	S	11 16 41.0	-0.8
NJ2				XS		11 16 56.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,310nm,6.0s						
NJ2				LR	LR		
	comp=N,3μm,15.3s,MS5.4						
NJ2				LR	LR		
	comp=E,3μm,14.2s,MS5.4						
NJ2				LR	LR		
	comp=Z,2μm,12.6s,MS5.0						
KAKA	Kakadu	37.19	112	*e*P	P	11 11 16.8	+16
	comp=Z,6.6nm,0.5s,mb4.7						
SSE	Sheshan	37.53	34	P	P	11 11 03.5	+0.2
SSE				AP	pP	11 11 12.3	-0.6
SSE				XP	sP	11 11 16.2	-0.7
SSE				PP	PP	11 12 30.7	-1.2
SSE				S	S	11 16 50.8	+1.0
SSE				XS		11 17 04.4	
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,297nm,6.6s						
SSE				LR	LR		
	comp=N,3μm,14.3s,MS5.3						
SSE				LR	LR		
	comp=E,2μm,14.2s,MS5.3						
SSE				LR	LR		
	comp=Z,4μm,13.9s,MS5.4						
SSE	Sheshan	37.53	34	P	P	11 11 03.5	+0.2
	comp=Z,25nm,0.8s,mb5.0						
SSE				pP	pP	11 11 12.3	-0.6
SSE				sP	sP	11 11 16.2	-0.7
SSE				PP	PP	11 12 30.7	-1.2
SSE				S	S	11 16 50.8	+1.0
SSE				sS		11 17 04.4	
SSE				SS	SS	11 19 35.5	+12
SSE				ScS	ScS	11 21 15.8	+3.8
SSE				LR	LR		
	comp=Z,4μm,13.9s,MS5.4						
GTA	Gaotai	38.44	3	P	P	11 11 11.0	+0.1
GTA				AP	pP	11 11 25.2	+4.7
GTA				PP	PP	11 12 43.8	+1.3
GTA				S	S	11 17 03.4	-0.1
GTA				SS	SS	11 19 46.9	+2.7
GTA				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,374nm,5.4s						
GTA				LR	LR		
	comp=N,1μm,12.6s,MS5.1						
GTA				LR	LR		
	comp=E,1μm,13.0s,MS5.1						
GTA				LR	LR		
	comp=Z,1μm,13.0s,MS4.9						
JOW	Kunigami	39.26	46	P	P	11 11 18.2	+0.3
	comp=Z,18nm,0.4s,mb5.1,baz=229,slow=7.6,SNR=7.4						
WRA	Warramunga Arr	41.59	122	P	P	11 11 36.4	-0.9
	comp=Z,4.5nm,0.7s,mb4.2,baz=300,slow=9.7,SNR=103						
WRA	Warramunga Arr	41.59	122	*i* P	P	11 11 37.0	-0.3
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRAB	Tennant Creek	41.60	122	*e*P	P	11 11 36.6	-0.7
	comp=Z,27nm,1.1s,mb4.8						
WRAB	Tennant Creek	41.60	122	⇓*i*P	P	11 11 36.7	-0.6
WB2	Warramunga Arr	41.60	122	*e*P	P	11 11 36.7	-0.6
HHC	Hu-ho-hao-te	41.81	16	*e*P	P	11 11 40.8	+2.1
HHC				AP	pP	11 11 50.0	+1.7
HHC				XP	sP	11 11 54.6	+2.3
HHC				PP	PP	11 13 15.7	-2.8
HHC				S	S	11 17 42.1	-12
HHC				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,282nm,6.0s						
HHC				LR	LR		
	comp=N,3μm,14.3s,MS5.4						
HHC				LR	LR		
	comp=E,2μm,14.3s,MS5.4						
HHC				LR	LR		
	comp=Z,2μm,16.1s,MS5.2						
WMQ	Urumqi	43.67	350	⇑*i*P	P	11 11 54.3	+0.4
WMQ				AP	pP	11 12 04.0	+0.5
WMQ				XP	sP	11 12 08.0	+0.5
WMQ				PP	PP	11 13 40.0	+2.8
WMQ				PCS		11 17 31.0	
WMQ				S	S	11 18 22.0	+0.9
WMQ				XS		11 18 38.0	
WMQ				SCS	ScS	11 21 51.0	+2.7
WMQ				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,278nm,3.8s						
WMQ				LR	LR		
	comp=N,726nm,19.0s,MS4.8						
WMQ				LR	LR		
	comp=E,849nm,19.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,800nm,24.5s						
DL2	Dalian	43.85	27	P	P	11 11 56.2	+0.8
DL2				S	S	11 18 27.8	+4.1
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
DL2				LR	LR		
	comp=N,970nm,17.2s,MS4.9						
DL2				LR	LR		
	comp=E,580nm,14.0s,MS4.9						
DL2				LR	LR		
	comp=Z,910nm,14.5s,MS4.8						
JNU	Nakatsue	44.87	41	P	P	11 12 04.8	+1.0
	comp=Z,11nm,0.7s,mb4.8,baz=198,slow=24,SNR=8.3						
KS15	Wonju Array Si	45.94	34	*e*P	P	11 12 12.2	+0.1
AAK	Ala-Archa	46.44	337	*e*P	P	11 12 16.8	+0.8
	comp=Z,9.6nm,1.0s,mb4.7						
AAK	Ala-Archa	46.44	337	*c i*P	P	11 12 16.1	+0.1
AAK				pmax	pmax		
	comp=Z,16nm,2.5s,mb4.5						
FRU	Bishkek	46.56	337	*e*P	P	11 12 17.2	+0.2
FRU				pmax	pmax		
	comp=Z,83nm,2.5s,mb5.2						
FRU				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
SONM	Songino Array	47.43	8	P	P	11 12 24.1	+0.3
	comp=Z,4.0nm,0.5s,mb4.6,baz=190,slow=9.1,SNR=33						
SONM				LR	LR	11 34 54.6	
	comp=Z,3μm,18.4s,MS5.2,baz=193,slow=39						
ULN	Ulaanbaatar	47.56	9	*e*P	P	11 12 24.5	-0.3
	comp=Z,4.7nm,0.8s,mb4.6						
ULN	Ulaanbaatar	47.56	9	⇑*i*P	P	11 12 24.3	-0.5
MKAR	Makanchi Array	47.65	346	P	P	11 12 25.6	0.0
	comp=Z,14nm,0.5s,mb5.2,baz=159,slow=8.2,SNR=137						
MKAR				LR	LR	11 36 12.7	
	comp=Z,684nm,19.8s,MS4.6,baz=171,slow=41						
MKAR	Makanchi Array	47.65	346	*e*P	P	11 12 25.1	-0.4
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	Karatay Array	48.50	334	*e*P	P	11 12 31.9	-0.3
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CN2	Changchun	49.48	27	*e*P	P	11 12 39.3	-0.4
CN2				AMB	AMB		
	comp=Z,30nm,1.8s,mb5.0						
MJAR	Matsushiro Arr	51.75	42	P	P	11 12 56.9	-0.2
	comp=Z,4.1nm,0.7s,mb4.5,baz=232,slow=6.1,SNR=9.8						
CTA	Charters Tower	52.08	116	P	P	11 12 59.7	0.0
	comp=Z,6.7nm,1.0s,mb4.5,baz=331,slow=12,SNR=3.3						
CTA	Charters Tower	52.08	116	P	P	11 12 59.7	-0.1
KURK	Kurchatov	52.21	345	*e*P	P	11 12 59.9	-0.4
	comp=Z,19nm,1.0s,mb5.0						
KURK	Kurchatov	52.21	345	P	P	11 12 59.3	-1.0
KURK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
STKA	Stephens Creek	52.90	132	⇑*i*P	P	11 13 06.3	+0.5
	comp=Z,6.4nm,0.6s,mb4.7						
STKA	Stephens Creek	52.90	132	P	P	11 13 06.4	+0.6
	comp=Z,4.4nm,0.5s,mb4.6,baz=302,slow=8.0,SNR=17						
STKA				LR	LR	11 37 39.6	
	comp=Z,1μm,21.2s,MS5.0,baz=299,slow=38						
OPO	Ambohidratompo	53.06	246	P	P	11 13 08.2	+1.1
	comp=Z,1.9nm,0.6s,mb4.2,baz=69,slow=4.3,SNR=5.0						
ZAL	Zalesovo	53.94	351	P	P	11 13 12.8	-0.3
	comp=Z,10nm,0.4s,mb5.1,baz=308,slow=5.5,SNR=23						
ZAL				LR	LR	11 40 22.9	
	comp=Z,758nm,19.4s,MS4.8,baz=298,slow=41						
ZAL	Zalesovo	53.94	351	*i* P	P	11 13 13.1	0.0
ZAL				pmax	pmax		
	comp=Z,11nm,0.4s						
NVS	Novosibirsk	55.07	350	*e*P	P	11 13 27.9	+6.5
VOSK	Vostochnaya	56.23	341	P	P	11 13 27.9	-1.9
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KLR	Kul’dur	56.43	26	*e*P	P	11 13 28.2	-3.1
KLR				*e*S	S	11 21 22.5	+4.4
KLR				*e*		11 23 17.0	
KLR				MLR	MLR		
	comp=N,2μm,15.0s						
KLR				MLR	MLR		
	comp=Z,3μm,15.0s,MS5.5						
BVAR	Borovoye Array	56.68	341	P	P	11 13 31.9	-1.1
	comp=Z,3.7nm,0.7s,mb4.5,baz=141,slow=9.3,SNR=20						
BRVK	Borovoye	56.74	341	*e*P	P	11 13 30.9	-2.5
	comp=Z,7.4nm,0.9s,mb4.7						
BRVK	Borovoye	56.74	341	P	P	11 13 30.9	-2.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AB31	Akbulak array	57.96	332	*i* P	P	11 13 40.2	-1.9
AB31				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BOD	Bodaibo	58.30	10	*e*P	P	11 13 42.2	-2.1
BOD				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
AKTO	Aktyubinsk	59.68	332	P	P	11 13 51.3	-2.7
AKTO				pmax	pmax		
	comp=Z,16nm,2.0s,mb4.7						
KMBO	Kilima Mbogo	60.28	268	LR	LR	11 38 25.6	
	comp=Z,457nm,18.1s,MS4.7,baz=96,slow=34						
KMBO	Kilima Mbogo	60.28	268	*i* P	P	11 14 06.4	+7.8
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YSS	Yuzh-Sakhalins	60.47	34	*e*P	P	11 13 58.8	-0.6
YSS				*e*	pP	11 14 08.0	-1.4
YSS				MLR	MLR		
	comp=Z,900nm,15.0s,MS5.0						
YSS				MLR	MLR		
	comp=N,700nm,18.0s,MS5.0						
YSS				MLR	MLR		
	comp=E,600nm,15.0s,MS5.0						
GNI	Garni	61.75	316	*e*P	P	11 14 07.5	-0.8
GNI				pmax	pmax		
	comp=Z,11nm,1.3s						
TI2	Plekhanov	62.44	318	*e*P	P	11 14 12.0	-0.8
SVE	Sverdlovsk	63.12	338	*e*P	P	11 14 17.0	-0.1
SVE				*e*		11 14 46.7	
SVE				*e*		11 16 44.0	
SVE				*e*		11 22 42.0	
SVE				*e*PS	SKS	11 24 09.0	-3.4
SVE				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.2						
SVE				MLR	MLR		
	comp=N,500nm,16.0s,MS4.9						
SVE				MLR	MLR		
	comp=E,400nm,16.0s,MS4.9						
SVE				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.8						
ARU	Arti	63.62	337	⇓*i*P	P	11 14 18.6	-1.8
ARU				*e*		11 16 35.9	
ARU				*e*S	S	11 22 51.8	+1.3
ARU				*e*		11 24 10.7	
ARU				*e*SS	SS	11 26 55.6	-4.2
ARU				pmax	pmax		
	comp=Z,27nm,1.8s,mb5.0						
KIV	Kislovodsk	64.77	319	*e*P	P	11 14 25.7	-2.4
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
YAK	Yakutsk	65.67	16	*e*P	P	11 14 32.5	-1.1
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				MLR	MLR		
	comp=N,692nm,14.0s,MS5.1						
YAK				MLR	MLR		
	comp=Z,869nm,14.0s,MS5.1						
YAK				MLR	MLR		
	comp=E,424nm,13.0s,MS5.1						
SOC	Sochi	66.58	318	*e*P	P	11 14 38.9	-0.8
SOC				*e*		11 15 10.3	
SOC				*e*S	S	11 23 23.9	-3.1
SOC				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
SOC				pmax	pmax		
	comp=N,17nm,1.0s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
MBAR	Mbarara	66.78	269	*d i*P	P	11 14 40.0	-1.5
MBAR				*e*	pP	11 14 51.5	0.0
BRTR	Keskin Array B	69.57	312	P	P	11 14 58.0	-0.4
	comp=E,2.9nm,0.7s,mb4.3,baz=135,slow=7.3,SNR=8.7						
BRTR				PcP	PcP	11 15 17.7	-3.7
	comp=E,1.5nm,0.6s,baz=121,slow=7.2,SNR=3.6						
MA2	Magadan	71.52	25	*d i*P	P	11 15 09.2	-0.7
MA2				pmax	pmax		
	comp=Z,37nm,1.7s,mb5.0						
PET	Petropavlovsk	72.35	34	*e*P	P	11 15 21.0	+6.1
PET				*e*PS	PS	11 25 25.1	+15
PET				pmax	pmax		
	comp=Z,200nm,18.5s						
MAW	Mawson	72.44	193	P	P	11 15 16.3	+1.1
	comp=Z,1.0nm,0.7s,mb3.9,baz=134,slow=1.9,SNR=7.1						
MAW				LR	LR	11 44 10.5	
	comp=Z,666nm,18.5s,MS4.9,baz=53,slow=33						
MOS	Moscow	72.78	329	*e*P	P	11 15 23.9	+6.5
OBN	Obninsk	73.07	328	⇓*e*P	P	11 15 16.4	-2.7
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
OBN				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.5						
SEY	Seymchan	73.97	23	⇑*i*P	P	11 15 24.0	-0.1
BOSA	Boshof	74.87	240	P	P	11 15 30.5	+0.4
	comp=Z,1.5nm,0.7s,mb4.0,baz=95,slow=5.9,SNR=4.0						
BOSA				LR	LR	11 44 03.4	
	comp=Z,531nm,18.5s,MS4.9,baz=104,slow=32						
IDI	Anoyia	75.35	306	P	P	11 15 34.3	+1.6
	comp=Z,6.9nm,0.7s,mb4.7,baz=39,slow=13,SNR=4.6						
AKASG	Malin Array Be	75.72	322	P	P	11 15 33.5	-1.0
	comp=Z,4.8nm,0.6s,mb4.6,baz=89,slow=5.1,SNR=20						
VRI	Vrincioaia	76.08	317	⇓*i*P	P	11 15 37.1	+0.5
VRI	Vrincioaia	76.08	317	⇓*i*P	P	11 15 37.1	+0.5
MLR	Muntele Rosu	76.53	317	P	P	11 15 39.5	+0.3
	comp=Z,6.2nm,0.9s,mb4.5,baz=155,slow=8.0,SNR=7.6						
MLR	Muntele Rosu	76.53	317	⇑*i*P	P	11 15 39.8	+0.6
MLR	Muntele Rosu	76.53	317	⇑*i*P	P	11 15 39.8	+0.6
BURAR	Bucovina Array	77.48	319	⇑*i*P	P	11 15 45.4	+1.0
BURAR	Bucovina Array	77.48	319	⇑*i*P	P	11 15 45.4	+1.0
JOF	Joensuu	78.59	335	*e*p	P	11 15 50.0	-0.2
VSU	Vasula	79.30	330	*i* P	P	11 15 53.0	-1.1

KOLS Kolonicke sedl 79.68 320 eP P 11 15 58.7 +2.3
CRVS Cervenica-Dubn 80.20 319 eS S 11 26 02.8 +2.3
STHS Stebnicka Huta 80.43 320 eP P 11 16 02.0 +1.6
STHS e 11 16 09.0
FINES FINESS Array B 80.45 332 P P 11 16 00.1 -0.1
comp=Z,3.1nm,0.6s,mb4.4,baz=89,slow=5.0,SNR=11
FINES LR LR 11 54 51.8
comp=Z,419nm,21.9s,MS4.8,baz=108,slow=38
FINES FINESS Array B 80.45 332 i P P 11 16 00.1 -0.1
FINES pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 80.53 333 ep P 11 16 00.6 0.0
KECS Kecovo 80.77 319 eP P 11 16 02.5 +0.3
VYHS Vyhne 81.85 319 eS S 11 26 18.7 +1.1
URZ Urewera 82.36 129 LR LR 11 53 58.2
comp=Z,666nm,19.6s,MS5.0,baz=256,slow=36
ZST Bratislava 82.96 318 eS S 11 26 29.5 +0.6
ARCES ARCESS Array B 82.97 340 P P 11 16 13.9 +0.7
comp=Z,16nm,1.1s,mb5.0,baz=104,slow=10.0,SNR=5.7
ARCES LR LR 11 57 08.8
comp=Z,523nm,20.9s,MS4.9,baz=108,slow=39
ARE0 ARCESS Array S 82.97 340 eP P 11 16 16.2 +3.0
DPC Dobruska-Polom 83.71 320 eP P 11 16 18.9 +1.5
UPC Upice 83.92 321 epP pP 11 16 27.1 -1.6
GERES GERESS Array B 85.27 319 P P 11 16 25.6 +0.4
comp=Z,1.9nm,0.7s,mb4.3,baz=225,slow=1.9,SNR=11
KHC Kasperske Hory 85.38 319 eP P 11 16 27.3 +1.5
VNDA Vanda 85.42 169 LR LR 11 52 43.4
comp=Z,474nm,18.5s,MS4.9,baz=311,slow=34
RAO Raoul Island 85.68 119 LR LR 11 58 05.3
comp=Z,395nm,19.5s,MS4.8,baz=129,slow=38
HFS Hagfors 86.17 330 P P 11 16 30.2 +0.7
comp=Z,3.4nm,0.6s,mb4.7,baz=124,slow=5.3,SNR=11
NB2 NORSAR Subarra 87.46 331 P P 11 16 35.9 +0.2
comp=Z,2.7nm,0.8s,mb4.5,baz=97,slow=4.6
NOA NORSAR Array B 87.46 331 P P 11 16 36.2 +0.5
comp=Z,2.7nm,0.7s,mb4.6,baz=95,slow=4.9,SNR=11
NOA LR LR 12 02 41.5
comp=Z,215nm,18.2s,MS4.6,baz=100,slow=40
TBI Tubuai 111.44 115 eLR LR 11 55 36.3
comp=Z,601nm,28.0s
PPT Papeete 112.08 109 eLR LR 11 55 55.2
comp=Z,401nm,24.8s
TAOE Nuku Hiva Isla 122.07 100 eLR LR 12 00 33.5
comp=Z,556nm,23.5s
RKT Rikitea 124.50 118 eLR LR 12 01 39.0
comp=Z,323nm,25.2s
PDAR Pinedale Array 130.22 26 PKP PKPdf 11 22 59.6 -3.4
comp=Z,0.6nm,0.7s,baz=182,slow=1.4,SNR=5.9
PV10 Paradox Valley 133.95 29 PKPdf PKPdf 11 23 07.6 -2.6
TXAR Lajitas Array 143.81 32 PKP PKPdf 11 23 23.1 -5.1
comp=Z,1.1nm,0.6s,baz=241,slow=1.1,SNR=19
CPUP Villa Florida 144.95 222 PKP PKPdf 11 23 26.4 -4.0
comp=Z,3.3nm,0.7s,baz=191,slow=11,SNR=9.6

IDC 07 11:09:35.0±2.7**, 0.02N×95.94E, mb4.0**/6**, mb1 4.2**/6**, mb1mx3.9**/18**, mbtmp4.0**/6**, Error ellipse: s-maj=115.8km s-min=27.9km az=53.0, Off west coast of northern Sumatera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 42.51 120 P P 11 17 32.4 -1.8
0.5nm,0.7s,baz=301,slow=8.9,SNR=5.5
MKAR Makanchi Array 48.09 347 P P 11 18 17.1 -1.3
1.3nm,0.5s,baz=166,slow=9.3,SNR=8.5
SONM Songino Array 48.48 9 P P 11 18 18.8 -2.5
0.4nm,0.3s,baz=183,slow=11,SNR=4.7
ZAL Zalesovo 54.52 352 P P 11 19 04.6 -2.2
3.0nm,0.4s,baz=241,slow=11,SNR=4.5
BVAR Borovoye Array 56.95 342 P P 11 19 21.8 -2.6
0.9nm,0.6s,baz=143,slow=7.4,SNR=3.9
ARCES ARCESS Array B 83.21 341 P P 11 22 02.2 -2.0
3.8nm,0.9s,baz=90,slow=6.1,SNR=6.6
TXAR Lajitas Array 145.32 31 PKPbc PKPbc 11 29 15.3 -0.6
0.2nm,0.5s,baz=204,slow=1.9,SNR=5.2

IDC 07 11:21:33.7±2.5**, 19.60S×177.94W, h494**km±39km**, mb3.1**/6**, mb1 3.3**/7**, mb1mx3.2**/17**, mbtmp4.1**/7**, Error ellipse: s-maj=38.8km s-min=20.0km az=163.0, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 8.18 47 P P 11 23 33.4 +0.4
2.6nm,0.3s,baz=47,slow=18,SNR=8.4
AFI S S 11 25 07.1 -0.6
3.2nm,0.3s,baz=258,slow=13,SNR=4.1
CTA Charters Tower 33.64 263 eP P 11 27 33.7 -0.1
2.0nm,0.9s
CTA Charters Tower 33.64 263 P P 11 27 34.1 +0.3
2.0nm,0.3s,baz=90,slow=13,SNR=3.6
STKA Stephens Creek 38.23 243 P P 11 28 09.6 -2.1
0.8nm,0.4s,baz=136,slow=4.5,SNR=5.8
WRA Warramunga Arr 44.78 261 P P 11 29 02.3 -1.9
2.6nm,0.6s,baz=97,slow=7.7,SNR=124
FITZ Fitzroy Crossi 53.20 262 P P 11 30 05.8 -1.4
2.3nm,0.5s,baz=324,slow=21,SNR=9.1
VNDA Vanda 58.80 185 P P 11 30 43.6 -1.6
0.3nm,0.4s,baz=335,slow=5.9,SNR=3.8
TXAR Lajitas Array 86.53 57 P P 11 33 24.2 -0.7
0.1nm,0.5s,baz=225,slow=7.1,SNR=3.5

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*BJI **07** 11:31:59.8, 5.00N×82.60W, h5km, mB5.3, Ms5.1, Msz4.6*
*NEIC **07** 11:31:59.9±3.5, 4.97N×82.57W, h1km±22km, mb4.6/12, MD4.4(CASC), Error ellipse: s-maj=11.7km s-min=6.7km az=57.0*
*IDC **07** 11:31:59.1±0.6, 4.85N×82.71W, mb4.1/13, mb1 4.2/15, mb1mx4.2/24, mbtmp4.1/15, ML4.1/1, MS3.8/10, Ms1 3.8/10, ms1mx3.7/24, Error ellipse: s-maj=26.5km s-min=12.6km az=61.0*
*CASC **07** 11:32:00.2±2.1, 5.96N×81.75W, h310km±54km, MD4.5, MW4.8, mb4.6(NEIC)*
ISC 07 11:31:58.6±1.7**, 5.08N**±0.04×**82.57W**±0.06**, h4**km±11km**, n74,** σ1§**34**/72**, mb4.2**/19**, MS4.0**/9**, 7C-3D, South of Panama**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AZU2 Pedas 3.51 46 eP Pn 11 32 51.0 -4.1
AZU2 eS Sn 11 33 30.8 -7.0
BRU2 Volcan 3.70 358⇓eP Pn 11 32 57.8 +0.1
BRU2 eS Sn 11 33 43.5 +1.1
BUS Buena Vista 4.61 345⇓iP Pn 11 33 11.1 +0.4
BUS eS Sn 11 34 05.9 +0.5
BUS Buena Vista 4.61 345⇑eP Pn 11 33 11.1 +0.4
BUS eS Sn 11 34 05.1 -0.3
LCR2 La Lucha 2 4.85 343⇑eP Pn 11 33 13.9 -0.3
LCR2 eS Sn 11 34 09.4 -2.2
LCR2 La Lucha 2 4.85 343⇑eP Pn 11 33 13.4 -0.7
LCR2 eS Sn 11 34 09.3 -2.3
LAJ Bijagual 5.00 342⇑iP Pn 11 33 15.2 -1.1
LAJ eS Sn 11 34 12.9 -2.5
SJS Escuela Geolog 5.05 343 eP Pn 11 33 17.2 +0.2
SJS eS Sn 11 34 15.1 -1.6
SJS Escuela Geolog 5.05 343 eP Pn 11 33 17.2 +0.2
SJS eS Sn 11 34 15.8 -0.8
CGA2 Cerro Gallo 2 5.26 339 eP Pn 11 33 19.4 -0.5
CGA2 eS Sn 11 34 20.2 -1.6
CGA2 Cerro Gallo 2 5.26 339⇓eP Pn 11 33 19.3 -0.6
CGA2 eS Sn 11 34 20.1 -1.7
VPS2 Volcan Poas 2 5.34 342 eP Pn 11 33 21.1 0.0
VPS2 eS Sn 11 34 21.3 -2.7
VPS2 Volcan Poas 2 5.34 342 eP Pn 11 33 21.2 0.0
VPS2 eS Sn 11 34 25.3 +1.3
JCR Jicaral 5.37 332 eP Pn 11 33 19.9 -1.7
FORC Fortuna 5.75 339 eP Pn 11 33 27.0 +0.1
FORC eS Sn 11 34 33.5 -0.8
VCR Vista de Mar 5.87 329 eP Pn 11 33 27.4 -1.1
VCR Vista de Mar 5.87 329 eP Pn 11 33 25.4 -3.1
ROSC El Rosal 8.21 91 Pn P 11 34 01.9 +0.5
baz=107,slow=19,SNR=2.6
ROSC LR LR 11 36 42.1
comp=Z,169nm,18.8s,baz=4.2,slow=34
PAYG Puerto Ayora 9.59 234 eP P 11 34 20.1 -0.6
195nm,1.4s
SDV Santo Domingo 12.44 72 Pn P 11 34 59.6 +0.1
1.2nm,0.3s,baz=338,slow=18,SNR=8.2
SDV LR LR 11 39 37.7
comp=Z,306nm,20.3s,baz=215,slow=36
SDV Santo Domingo 12.44 72 eP P 11 34 59.3 -0.1
14nm,0.8s
NNA Nana 17.88 161 eP P 11 36 09.5 -0.6
47nm,1.0s
SJG San Juan 20.62 50 P P 11 36 42.5 +0.7
6.6nm,0.3s,baz=331,slow=12,SNR=5.4
SJG LR LR 11 43 59.9
comp=Z,175nm,21.3s,MS3.4,baz=92,slow=34
SJG San Juan 20.62 50 eP P 11 36 42.4 +0.5
16nm,0.3s
CPD Cerro la Pandu 20.76 50 P P 11 36 44.5 +1.3
SAML Samuel 23.82 126 eP P 11 37 11.7 -2.1
38nm,1.1s,mb4.7
LPAZ La Paz 25.58 146 P P 11 37 29.8 -1.0
7.6nm,0.8s,mb4.2,baz=336,slow=9.8,SNR=23
LPAZ LR LR 11 48 41.0
comp=Z,330nm,19.6s,MS3.9,baz=325,slow=39
LPAZ La Paz 25.58 146 eP P 11 37 30.2 -0.6
14nm,1.0s,mb4.4
SIV San Ignacio 29.84 135 P P 11 38 07.5 -2.0
4.1nm,0.9s,mb4.1,baz=298,slow=10,SNR=16
LVC Limon Verde 30.59 155 P P 11 38 14.6 -1.4
2.1nm,0.8s,mb4.0,baz=246,slow=3.8,SNR=3.6
TXAR Lajitas Array 31.32 323 P P 11 38 21.6 -0.8
0.5nm,1.0s,mb3.3,baz=100,slow=5.5,SNR=3.1
TXAR LR LR 11 50 04.3
comp=Z,79nm,21.6s,MS3.4,baz=125,slow=34
MNTX Cornudas Mount 34.04 324 eP P 11 38 46.5 +0.4
8.1nm,1.5s,mb4.4
ANMO Albuquerque 37.03 326 P P 11 39 12.8 +1.3
3.8nm,1.1s,mb4.2,baz=144,slow=10,SNR=8.4
ANMO Albuquerque 37.03 326 eP P 11 39 13.1 +1.6
9.6nm,1.4s,mb4.4
TUC Tucson 37.81 319 eP P 11 39 20.1 +2.0
6.8nm,1.4s,mb4.2
SDCO Great Sand Dun 38.66 330 eP P 11 39 27.5 +2.3
15nm,1.5s,mb4.5
CFAA Coronel Fontan 38.95 160 P P 11 39 26.7 -1.0
0.2nm,0.3s,mb3.3,baz=319,slow=7.0,SNR=4.4
CPUP Villa Florida 39.66 143 P P 11 39 31.8 -1.9
2.2nm,0.7s,mb4.0,baz=346,slow=13,SNR=6.2
CPUP LR LR 11 57 46.5
comp=Z,209nm,18.6s,MS4.0,baz=213,slow=39
BDFB Brasilia 39.93 122 LR LR 11 56 33.6
comp=Z,236nm,19.1s,MS4.0,baz=307,slow=37
NEN Nelson 42.53 320 eP P 11 39 58.9 +1.7
ARUT Antelope Range 43.03 323 eP P 11 40 03.8 +2.6
PDAR Pinedale Array 44.51 332 P P 11 40 12.8 -0.4
0.7nm,0.9s,mb3.5,baz=127,slow=7.4,SNR=6.4
PDAR LR LR 12 03 28.0
comp=Z,77nm,19.8s,MS3.6,baz=0.4,slow=42
ELK Elko 46.03 325 eP P 11 40 26.4 +1.1
15nm,1.9s,mb4.6
PLCA Paso Flores 46.90 167 P P 11 40 30.2 -1.9
1.9nm,0.7s,mb4.1,baz=339,slow=8.1,SNR=5.2
PLCA Paso Flores 46.90 167 eP P 11 40 30.1 -2.1
2.2nm,0.7s,mb4.2
QLMT Earthquake Lak 46.96 332 eP P 11 40 35.2 +2.7
BMN Battle Mountai 46.98 324 eP P 11 40 33.8 +1.0
13nm,1.3s,mb4.7
OHCM Honcut 48.96 320 eP P 11 40 49.2 +1.0
WVOR Wild Horse Val 49.07 325 eP P 11 40 49.5 +0.4
29nm,1.5s,mb5.1
YBH Yreka Blue Hor 51.08 322 LR LR 12 02 57.5
comp=Z,153nm,19.0s,MS4.0,baz=0.3,slow=36
SCHQ Schefferville 51.21 12 P P 11 41 07.4 +2.2
4.6nm,0.8s,mb4.4,baz=184,slow=6.1,SNR=4.4
YKA Yellowknife Ar 61.97 344 P P 11 42 23.6 +1.6
0.9nm,0.8s,mb4.0,baz=140,slow=38,SNR=4.4
YKA Yellowknife Ar 61.97 344 P P 11 42 23.6 +1.6
PPT Papeete 69.83 249 LR LR 12 06 49.5
comp=Z,293nm,19.1s,MS4.5,baz=276,slow=30
ILAR Eielson Array 74.67 336 P P 11 43 40.8 -0.1
1.7nm,0.9s,mb4.0,baz=118,slow=4.1,SNR=12
VNA3 Neumayer Olymp 89.33 162 e P 11 45 06.8 +10
VNA3 Neumayer Olymp 89.33 162 e P 11 45 11.0 +14
VNA3 Neumayer Olymp 89.33 162⇑iP P 11 44 58.8 +1.6
VNA3 e 11 45 06.8
VNA3 e 11 45 11.0
VNA1 Neumayer--Stat 89.60 161 e P 11 45 09.3 +11
VNA1 Neumayer--Stat 89.60 161⇑iP P 11 45 00.5 +2.0
VNA1 e 11 45 09.3
VNA2 Neumayer--Watz 89.95 161⇑iP P 11 45 01.8 +1.7
VNA2 e 11 45 11.4
VNA2 e 11 45 15.4
MDJ Mudanjiang 122.74 333 PKP PKPdf 11 50 56.9 -1.5
CN2 Changchun 125.18 335 ePKP PKPdf 11 51 02.4 -0.9
MKAR Makanchi Array 126.64 13 PKP PKPdf 11 51 04.7 -1.2
0.8nm,0.8s,baz=18,slow=3.8,SNR=5.3
SONM Songino Array 126.73 352 PKP PKPdf 11 51 04.2 -1.8
0.5nm,0.6s,slow=1.5,SNR=4.4
SSE Sheshan 137.47 329 PKP PKPdf 11 51 25.5 -1.3
NJ2 Nanjing 137.82 332 ePKP PKPdf 11 51 25.5 -1.9
NJ2 PP PP 11 54 19.0 +2.6
NJ2 PKS PKS 11 55 03.0 +3.0
NJ2 PP PP
comp=Z,170nm,7.8s
NJ2 LR LR
comp=N,120nm,20.0s,MS4.9
NJ2 LR LR
comp=E,170nm,20.0s,MS4.9
NJ2 LR LR
comp=Z,120nm,24.0s,MS4.5
WRA Warramunga Arr 141.18 244 PKP PKPdf 11 51 32.3 -1.6
comp=Z,0.8nm,0.9s,baz=104,slow=2.8,SNR=6.0
KOLN Koldanda 144.72 22 eP PKPbc 11 51 39.2 +1.8
comp=Z,44nm,1.7s
GKN Gorkha 144.88 20 eP PKPbc 11 51 40.3 +2.5
comp=Z,33nm,1.0s
KKN Kakani 145.28 19 eP PKPbc 11 51 40.6 +1.7
comp=Z,21nm,0.7s
DMN Daman 145.40 19 eP PKPbc 11 51 41.1 +1.9
comp=Z,46nm,1.1s
PKI Pulchoki 145.53 19 eP PKPbc 11 51 41.9 +2.4
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 149.55 243 PKPbc PKPdf 11 51 49.4 +1.3
comp=Z,1.9nm,0.7s,baz=68,slow=7.7,SNR=1.9

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*IDC **07** 11:57:37.2±5.3, 15.67N×101.26W, mb4.1/8, mb1 4.3/10, mb1mx4.1/22, mbtmp4.0/10, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx3.0/23, Error ellipse: s-maj=95.8km s-min=44.7km az=10.0*
*BJI **07** 11:57:43.2, 16.10N×101.60W, h19km, mB4.4, Ms4.7, Msz4.4*
*MEX **07** 11:57:43.0±0.7, 16.12N×101.58W, h17km±23km, MD4.4*
*NEIC **07** 11:57:43.2, 16.14N×101.58W, h20km, mb4.5/16, MD4.4(MEX), After MEX.*
ISC 07 11:57:42.1±1.6**, 16.27N**±0.06×**101.30W**±0.03**, h5**km±10km**, n63,** σ1§**29**/74**, mb4.4**/19**, Near coast of Guerrero**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAIG El Cayaco 1.26 52 i P Pb 11 58 06.4 +0.5
CAIG i S Sb 11 58 24.6 +2.4
CAIG El Cayaco 1.26 52 i P Pb 11 58 06.2 +0.4
CAIG i S Sb 11 58 24.7 +2.5
ZIIG Zihuatanejo 1.33 353 i P Pb 11 58 05.8 -1.5
ZIIG i S Sb 11 58 22.5 -2.0
ACX Acapulco 1.45 66 i P Pn 11 58 09.5 +0.4
ACX i S Sb 11 58 30.0 +2.1
PLIG Platanillo 2.72 39 i P Pn 11 58 27.9 +0.7
PLIG i S Sn 11 59 01.4 +0.5
PNIG Pinotepa 3.05 87 i P Pn 11 58 31.5 -0.4
PNIG i S Sn 11 59 07.9 -1.3
PNIG Pinotepa 3.05 87 i P Pn 11 58 31.5 -0.4
PNIG i S Sn 11 59 05.4 -3.8
YAIG Yautepec 3.34 39 i P Pn 11 58 35.7 -0.4
YAIG i S Sn 11 59 19.2 +2.6
MOIG Morelia 3.39 2 i P Pn 11 58 34.6 -2.1
MOIG i S Sn 11 59 16.6 -1.1
UNM Universidad Na 3.65 33 eP Pn 11 58 39.0 -1.4
PPM Popocatepetl 3.77 42 eP Pn 11 58 41.0 -1.1
IIB San Bernardino 3.89 46 eP Pn 11 58 42.0 -1.8
VHO Vista Hermosa 4.45 79 i P Pn 11 58 51.7 -0.1
VHO Vista Hermosa 4.45 79 i P Pn 11 58 52.7 +0.9
VHO i S Sn 11 59 44.0 -0.7
OXX Oaxaca 4.46 79 i P Pn 11 58 53.0 +1.0
OXX i S Sn 11 59 45.0 0.0
SFJM Santa Fe 4.50 339 eP Pn 11 58 46.5 -6.1
CJM Chamela 4.79 313 i P Pn 11 58 50.7 -5.9
CJM i S Sn 11 59 44.5 -8.9
CMIG Matias Romero 6.20 82 i P Pn 11 59 16.1 -0.5
CMIG i S Sn 12 00 26.4 -2.3
CMIG Matias Romero 6.20 82 i P Pn 11 59 16.1 -0.5
CMIG i S Sn 12 00 26.1 -2.7
TXAR Lajitas Array 13.18 351 Pn P 12 00 54.5 +1.9
0.0nm,0.3s,baz=166,slow=16,SNR=14
TXAR LR LR 12 05 50.5
comp=Z,153nm,19.4s,baz=185,slow=36
LTX Lajitas 13.18 351 P P 12 00 51.4 -1.2
7.7nm,0.9s
LTX e 12 01 03.6
MNTX Cornudas Mount 15.80 347 eP P 12 01 29.1 +2.2
9.9nm,1.1s
NATX Nacogdoches 16.56 20 eP P 12 01 40.7 +4.0
157nm,0.9s
TUC Tucson 18.14 333 eP P 12 01 57.5 +1.0
2.5nm,0.9s
WMOK Wichita Mounta 18.53 7 eP P 12 02 00.0 -1.3
11nm,1.0s
ANMO Albuquerque 19.16 347 P P 12 02 10.0 +1.0
baz=154,slow=12,SNR=7.8
ANMO Albuquerque 19.16 347 eP P 12 02 09.8 +0.8
4.0nm,1.0s
LRAL Lakeview Retre 21.11 35 eP P 12 02 28.9 -1.2
29nm,0.9s,mb4.6
SDCO Great Sand Dun 21.71 351 eP P 12 02 36.0 0.0
20nm,1.1s,mb4.5
PLAL Pickwick Lake 22.08 30 eP P 12 02 39.3 -0.5
47nm,0.9s,mb4.9
CBKS Cedar Bluff 22.50 3 eP P 12 02 43.6 -0.2
22nm,0.8s,mb4.6
PV10 Paradox Valley 23.05 344 eP P 12 02 52.4 +3.1
KSU1 Kansas State U 23.11 9 eP P 12 02 51.3 +1.3
WVT Waverly 23.13 29 eP P 12 02 49.4 -0.7
46nm,1.1s,mb4.8
SWET Sewanee 23.34 33 eP P 12 02 51.3 -0.9
SMCO Snowmass 23.35 349 eP P 12 02 54.4 +2.1
CCM Cathedral Cave 23.44 20 eP P 12 02 53.5 +0.4
26nm,1.0s,mb4.6
ISCO Idaho Springs 23.74 352 eP P 12 02 57.8 +1.8
7.7nm,1.1s,mb4.0
ARUT Antelope Range 23.96 336 eP P 12 02 59.6 +1.4
MSU Marysvale 24.13 339 eP P 12 03 02.2 +2.4
CPCT Cooper Cave 24.28 35 eP P 12 03 01.9 +0.6
PHWY Pilot Hill 25.20 353 eP P 12 03 11.3 +1.2
WCI Wyandotte Cave 25.55 28 eP P 12 03 14.1 +0.7
34nm,0.8s,mb4.9
TZTN Tazewell 25.61 35 eP P 12 03 14.7 +0.7
DUG Dugway 25.85 339 P P 12 03 16.6 +0.3
4.2nm,1.2s,mb3.8
ELK Elko 27.21 336 P P 12 03 29.9 +1.1
0.2nm,0.3s,baz=146,slow=7.3,SNR=2.9
PDAR Pinedale Array 27.33 347 P P 12 03 29.0 -0.8
1.8nm,0.8s,mb3.6,baz=148,slow=7.3,SNR=13
BLA Blacksburg 27.86 38 eP P 12 03 35.3 +0.6
31nm,0.7s,mb5.0
FWV Forest Hill 27.89 36 eP P 12 03 35.6 +0.7
TPAW Teton Pass 28.34 345 eP P 12 03 38.0 -0.9
3.7nm,1.1s,mb3.9
LOHW Long Hollow 28.38 346 eP P 12 03 39.0 -0.2
2.2nm,0.8s,mb3.8
MCMT McKenzie Canyo 30.09 343 eP P 12 03 55.0 +0.4
SADO Sadowa 34.00 29 P P 12 04 27.1 -1.7
7.0nm,0.7s,mb4.7,baz=245,slow=12,SNR=4.0
ULM Lac du Bonnet 34.17 6 P P 12 04 27.9 -2.4
4.9nm,0.8s,mb4.5,baz=191,slow=7.6,SNR=4.9
NEW Newport 34.45 341 P P 12 04 31.9 -0.8
1.2nm,0.6s,mb4.0,baz=148,slow=9.5,SNR=2.8
LPAZ La Paz 46.02 133 eP P 12 06 01.2 -7.4
91nm,1.0s
SCHQ Schefferville 46.74 27 P P 12 06 12.7 -1.2
9.4nm,0.7s,mb4.8,baz=240,slow=6.0,SNR=9.1
YKA Yellowknife Ar 47.11 352 P P 12 06 15.2 -1.5
2.0nm,0.6s,mb4.2,baz=160,slow=7.0,SNR=4.1
YKA Yellowknife Ar 47.11 352 P P 12 06 15.2 -1.5
ILAR Eielson Array 57.34 339 P P 12 07 29.5 -3.7
0.6nm,0.9s,mb3.6,baz=130,slow=4.7,SNR=6.7
SSE Sheshan 117.67 319 PKP PKPdf 12 16 28.5 -3.8
NJ2 Nanjing 118.44 321 ePKP PKPdf 12 16 25.7 -8.1
NJ2 XPKP 12 16 39.0
NJ2 PP PP 12 17 50.0 -2.9
NJ2 PP PP
comp=Z,10.0nm,7.0s
NJ2 LR LR
comp=N,360nm,28.0s
NJ2 LR LR
comp=E,130nm,16.0s
NJ2 LR LR
comp=Z,140nm,20.0s
WMQ Urumqi 119.64 353 ePKP PKPdf 12 16 33.0 -2.7

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*IDC **07** 12:03:04.8±2.4, 29.24N×81.22E, mb3.7/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=76.8km s-min=27.1km az=69.0*
*NDI **07** 12:03:39.7±7.8, 29.31N×80.17E, h15km±23km, ML3.1*
ISC 07 12:03:05.2±1.3**, 29.10N**±0.07×**81.59E**±0.06**, h9**km±6km**, n20,** σ1§**41**/27**, mb3.5**/4**, Nepal**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LGTI Lohaghat 1.22 287 ex Pg 12 03 33.8 +4.2
LGTI ex Sg 12 03 49.3 +3.3
PTH Pithoragarh 1.28 291 ex Pg 12 03 31.0 +0.2
PTH eS Sg 12 03 47.0 -0.8
BISR Bishrakh 3.67 263 ex Pg 12 04 24.3 +5.8
AGRA Agra 3.71 241 ex Pb 12 04 15.5 +4.9
AGRA ex Sb 12 04 54.1 -1.8
AGRA AML AML 12 05 16.6
comp=N,231nm,0.4s
AGRA AML AML 12 05 16.7
comp=E,171nm,0.3s
KLP Kalpa 3.77 311 eP Pn 12 04 06.2 +1.5
KLP AML AML 12 05 04.1
comp=N,108nm,1.2s
KLP AML AML 12 05 11.7
comp=E,184nm,0.8s
NDI New Delhi 3.85 265 eP Pg 12 04 22.8 +0.7
NDI eS Sn 12 04 52.5 +0.7
NDI ex x 12 05 10.2
NDI ex x 12 05 21.8
AYAN Aya Nagar 3.96 262 eP Pg 12 04 24.4 +0.1
AYAN eS Sn 12 04 55.2 +0.7
SONA Sohna 4.04 259 eP Pg 12 04 25.7 -0.2
SONA eSG Sg 12 05 16.9 -3.0
SONA AML AML 12 05 23.9
comp=N,113nm,0.6s
SONA AML AML 12 05 24.9
comp=E,124nm,0.7s
SONA Sohna 4.04 259 eP Pg 12 04 27.3 +1.3
SONA eS Sg 12 05 11.1 -8.7
SONA AML AML 12 05 28.5
comp=N,114nm,0.3s
SONA AML AML 12 05 29.3
comp=E,97nm,0.5s
BHGR Bahadurgarh 4.09 265 ex Sg 12 05 16.1 -5.5
RTK Rohtak 4.53 270 eP Pg 12 04 34.0 -1.6
SDNR Sundarnagar 4.66 302 eP Pn 12 04 19.8 +2.5
KHET Khetri 5.18 260 ex Pn 12 04 27.5 +2.7
KHET eS Sn 12 05 25.5 +0.1
KHET AML AML 12 06 01.7
comp=E,22nm,0.3s
KHET AML AML 12 06 01.9
comp=N,22nm,0.3s
AJM Ajmer 6.68 249 eS Sn 12 06 02.0 -0.9
SHL Shillong 9.81 109 ex x 12 07 18.0
MKAR Makanchi Array 17.68 2 P P 12 07 11.2 -1.9
comp=N,0.3nm,0.3s,baz=181,slow=11,SNR=6.9
ZAL Zalesovo 24.93 5 P P 12 08 28.4 -1.4
comp=N,2.0nm,0.4s,mb4.0,baz=216,slow=6.6,SNR=3.8
BVAR Borovoye Array 25.29 344 P P 12 08 30.6 -2.6
comp=N,0.6nm,0.4s,mb3.5,baz=149,slow=10,SNR=6.2
SONM Songino Array 26.78 39 P P 12 08 47.3 +0.2
comp=N,0.3nm,0.5s,mb3.1,baz=252,slow=9.4,SNR=3.6
WRA Warramunga Arr 70.47 127 P P 12 14 23.5 +1.3
comp=N,0.4nm,0.9s,mb3.4,baz=320,slow=6.3,SNR=4.3

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*MOS **07** 12:22:52.1±1.2, 12.34N×141.90E, h33km, mb4.9/7, Error ellipse: s-maj=20.1km s-min=13.3km az=104.6*
*NEIC **07** 12:22:55.2±1.9, 12.29N×142.09E, h50km±20km, mb4.7/7, Error ellipse: s-maj=19.5km s-min=8.0km az=86.0*
*IDC **07** 12:22:55.9±3.3, 12.33N×142.14E, h56km±32km, mb4.1/10, mb1 4.3/11, mb1mx4.0/24, mbtmp4.4/11, ML4.1/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/27, Error ellipse: s-maj=27.1km s-min=13.9km az=84.0*

ISC 07 12:22:53.6±3.3**, 12.27N**±0.07×**141.9E**±0.2**, h52**^{km}±34^{km}**, n32,** σ**1**^{s}**05**/29**, mb4.5**/17**, MS3.6**/8**, 1D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.15	65	P	P	12 23 40.1	-1.9
	24nm,0.3s,baz=200,slow=9.3,SNR=21						
GUMO				S	S	12 24 19.9	+1.3
	10nm,0.3s,baz=210,slow=18,SNR=9.5						
JNU	Nakatsue	23.09	336	P	P	12 27 58.3	+2.7
	13nm,0.8s,mb4.4,baz=124,slow=8.1,SNR=6.5						
JNU				LR	LR	12 35 44.3	
	comp=Z,114nm,19.3s,MS3.3,baz=143,slow=33						
KAKA	Kakadu	26.55	201	eP	P	12 28 48.5	+20
	7.4nm,0.8s,mb4.3						
CTA	Charters Tower	32.43	172	eP	P	12 29 22.4	+1.2
	7.2nm,0.8s,mb4.5						
CTA	Charters Tower	32.43	172	P	P	12 29 22.4	+1.3
	7.4nm,0.7s,mb4.6,baz=341,slow=7.1,SNR=8.1						
CTA				LR	LR	12 41 29.8	
	comp=Z,65nm,19.7s,MS3.3,baz=272,slow=34						
CTA	Charters Tower	32.43	172	eP	P	12 29 22.4	+1.2
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRAB	Tennant Creek	32.86	193	eP	P	12 29 24.9	0.0
	comp=Z,6.8nm,0.5s,mb4.8						
WRAB	Tennant Creek	32.86	193	eP	P	12 29 24.9	+0.1
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
WB2	Warramunga Arr	32.87	193	⇓iP	P	12 29 25.0	+0.1
WRA	Warramunga Arr	32.87	193	P	P	12 29 25.4	+0.5
	comp=Z,6.2nm,0.6s,mb4.7,baz=15,slow=9.5,SNR=113						
FITZ	Fitzroy Crossi	34.19	208	eP	P	12 29 35.1	-1.3
	comp=Z,7.0nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	34.19	208	P	P	12 29 36.2	-0.1
	comp=Z,11nm,0.9s,mb4.8,baz=344,slow=3.9,SNR=5.9						
STKA	Stephens Creek	43.90	180	P	P	12 30 56.6	-0.4
	comp=Z,1.3nm,0.3s,mb4.1,baz=334,slow=7.7,SNR=5.4						
STKA				LR	LR	12 49 04.6	
	comp=Z,102nm,21.6s,MS3.7,baz=26,slow=36						
ULN	Ulaanbaatar	45.89	328	eP	P	12 31 13.5	+0.8
	comp=Z,9.1nm,1.0s,mb4.7						
ULN	Ulaanbaatar	45.89	328	eP	P	12 31 13.5	+0.8
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
SONM	Songino Array	46.22	327	P	P	12 31 15.8	+0.5
	comp=Z,2.3nm,0.8s,mb4.2,baz=132,slow=8.8,SNR=14						
SONM				LR	LR	12 47 56.7	
	comp=Z,71nm,21.8s,MS3.6,baz=304,slow=32						
BOD	Bodaibo	50.17	341	eP	P	12 31 45.5	-0.3
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
YAK	Yakutsk	50.47	353	eP	P	12 31 47.8	-0.3
	comp=Z,24nm,0.8s,mb5.3						
YAK	Yakutsk	50.47	353	eP	P	12 31 47.8	-0.3
YAK				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
MKAR	Makanchi Array	60.47	317	P	P	12 33 00.4	0.0
	comp=Z,1.4nm,0.6s,mb4.1,baz=98,slow=8.6,SNR=15						
MKAR				LR	LR	13 03 01.3	
	comp=Z,41nm,18.6s,MS3.6,baz=180,slow=40						
ZAL	Zalesovo	61.06	325	P	P	12 33 04.3	0.0
	comp=Z,1.9nm,0.4s,mb4.5,baz=254,slow=3.6,SNR=5.9						
NVS	Novosibirsk	62.22	326	eP	P	12 33 10.0	-2.1
KURK	Kurchatov	63.76	321	eP	P	12 33 22.1	-0.3
	comp=Z,16nm,1.1s,mb5.0						
KURK	Kurchatov	63.76	321	eP	P	12 33 22.1	-0.3
KURK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
BVAR	Borovoye Array	69.19	322	P	P	12 33 57.5	+0.8
	comp=Z,1.7nm,0.4s,mb4.3,baz=101,slow=7.6,SNR=10.0						
BRVK	Borovoye	69.26	322	eP	P	12 33 57.3	+0.2
	comp=Z,10nm,1.3s,mb4.6						
BRVK	Borovoye	69.26	322	eP	P	12 33 57.3	+0.2
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
ILAR	Eielson Array	70.98	25	P	P	12 34 05.3	-2.0
	comp=Z,1.4nm,0.6s,mb4.0,baz=251,slow=5.6,SNR=21						
ARCES	ARCESS Array B	87.44	342	LR	LR	13 15 40.8	
	comp=Z,40nm,19.2s,MS3.8,baz=244,slow=36						
FINES	FINESS Array B	91.12	334	LR	LR	13 19 15.3	
	comp=Z,46nm,18.9s,MS3.9,baz=78,slow=37						
NOA	NORSAR Array B	97.23	338	LR	LR	13 20 16.3	
	comp=Z,23nm,20.3s,MS3.7,baz=175,slow=35						
LPAZ	La Paz	150.61	101	PKPbc	PKPdf	12 42 43.8	+8.7
	comp=Z,1.5nm,0.6s,baz=254,slow=4.4,SNR=7.4						

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*IDC **07** 12:40:32.6±1.7, 38.76N×16.74E, mb3.8/3, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/35, Error ellipse: s-maj=33.3km s-min=20.8km az=140.0*

*NEIC **07** 12:40:33.4, 38.71N×16.32E, h24^{km}, ML3.7(ROM), After ROM.*

*ROM **07** 12:40:33.4±0.2, 38.71N×16.32E, h24^{km}±2^{km}, Md3.3/17, Ml3.7/8, Error ellipse: s-maj=6.0km s-min=2.8km az=8.0*

*CSEM **07** 12:40:33.4±0.2, 38.71N×16.32E, h24^{km}, MD3.3/17, Error ellipse: s-maj=8.2km s-min=1.9km az=120.0*

*ATH **07** 12:40:59.1, 38.88N×19.16E, h10^{km}, MD3.8/3*

ISC 07 12:40:33.4±0.6**, 38.64N**±0.04×**16.51E**±0.06**, h29**^{km}±4^{km}**, n30,** σ**0**^{s}**78**/35**, mb3.8**/3**, MS2.8**/1**, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRI	Girifalco	0.20	338	Pg	Pb	12 40 38.7	-0.8
GRI				Sg	Sb	12 40 42.6	-1.0
	29µm,0.7s						
GRI	Girifalco	0.20	338	Sg	Sb	12 40 42.6	-1.0
	29µm,0.7s						
TIP	Timpagrande	0.57	19	Pg	Pb	12 40 45.1	+0.1
TIP				Sg	Sb	12 40 54.0	+1.2
CEL	Celeste	0.62	232	Pg	Pb	12 40 45.2	-0.5
CEL				Sg	Sb	12 40 55.0	+1.0
	2µm,0.4s						
SOI	Samo	0.67	213	Pg	Pb	12 40 46.7	+0.2
	2µm,0.7s						
MSI	Messina ING	0.87	241	Pg	Pn	12 40 50.1	+0.3
	1µm,0.4s						
TDS	Terranova Siba	1.03	352	Pg	Pn	12 40 51.8	-0.3
VPL	Vulcano Piano	1.23	258	Pg	Pn	12 40 54.4	-0.6
	2µm,0.5s						
LLI	Lipari	1.24	262	Pg	Pn	12 40 55.0	-0.2
	6µm,0.7s						
ORI	Oriolo Calabro	1.43	358	Pg	Pn	12 41 00.3	+2.5
	648nm,0.7s						
CUC	Castrocucco	1.46	338	Pg	Pn	12 40 57.9	-0.4
	1µm,0.5s						
MGR	Morigerati	1.67	334	Pg	Pn	12 41 01.1	-0.2
	272nm,0.7s						
SLCN	Sala Consilina	1.88	339	Pg	Pn	12 41 04.9	+0.6
	96nm,0.3s						
LTRZ	Laterza	1.98	7	Pg	Pn	12 41 07.1	+1.4
	119nm,0.5s						
VAE	Valguarnera	2.02	236	Pn	Pn	12 41 12.2	+5.8
	11nm,0.3s,baz=104,slow=6.2,SNR=4.4						
VAE				Sn	Sn	12 41 47.3	+16
	14nm,0.3s,baz=86,slow=12,SNR=4.8						
HVZN	Vizzini	2.04	225	Pg	Pn	12 41 07.0	+0.5
	964nm,1.0s						
GIB	Gibilmanna	2.06	252	Pg	Pn	12 41 06.6	-0.3
	114nm,0.6s						
SGO	Sicignano	2.13	334	Pg	Pn	12 41 07.7	-0.3
	80nm,0.4s						
MCRV	Calabrutti - M	2.38	335	Pg	Pn	12 41 11.9	+0.4
	137nm,0.6s						
CSSN	Cassano Irpino	2.50	333	Pg	Pn	12 41 13.5	+0.3
	41nm,0.4s						
KEK	Kerkira	2.77	66	ePB	Pb	12 41 17.4	-4.7
VLS	Valsamata	3.23	97	ePG	Pn	12 41 24.0	+0.4
EVR	Evrytania	4.15	84	ePN	Pn	12 41 36.8	+0.2
EVR	Evrytania	4.15	84	ePg	Pn	12 41 37.0	+0.4
IDI	Anoyia	7.49	114	Sn	Sn	12 43 40.8	-7.8
	0.4nm,0.3s,baz=353,slow=15,SNR=2.2						
MLR	Muntele Rosu	9.80	43	Pn	P	12 42 53.9	-1.7
	0.2nm,0.3s,baz=149,slow=19,SNR=3.5						
MLR				Sn	Sn	12 44 38.3	-7.4
	0.3nm,0.3s,baz=71,slow=20,SNR=3.0						
GERES	GERESS Array B	10.40	350	Pn	P	12 43 03.4	-0.5
	0.1nm,0.3s,baz=169,slow=14,SNR=4.5						
GERES				LR	LR	12 47 48.4	
	comp=Z,66nm,18.5s,baz=339,slow=42						
FINES	FINESS Array B	23.59	12	P	P	12 45 41.4	-0.9
	2.2nm,0.8s,mb3.6,baz=180,slow=9.5,SNR=5.6						
FINES				LR	LR	12 54 48.7	
	comp=Z,35nm,20.5s,MS2.8,baz=343,slow=36						
MKAR	Makanchi Array	47.73	58	P	P	12 49 09.4	-0.2
	0.9nm,0.6s,mb4.0,baz=281,slow=7.3,SNR=7.0						
SONM	Songino Array	62.58	49	P	P	12 50 56.3	-0.7
	0.7nm,0.8s,mb3.9,baz=286,slow=11,SNR=5.0						

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*IDC **07** 13:12:38.7±0.7, 0.36N×96.51E, mb4.3/13, mb1 4.4/13, mb1mx4.2/19, mbtmp4.3/13, Error ellipse: s-maj=30.7km s-min=15.9km az=51.0*

*NEIC **07** 13:12:41.9±10.0, 0.44N×96.63E, h20^{km}±64^{km}, mb4.5/3, Error ellipse: s-maj=24.7km s-min=10.9km az=60.0*

*MOS **07** 13:12:41.9±0.7, 0.43N×96.60E, h33^{km}, mb4.8/7, Error ellipse: s-maj=38.5km s-min=15.9km az=110.7*

ISC 07 13:12:39.0±3.7**, 0.45N**±0.10×**96.7E**±0.1**, h13**^{km}±22^{km}**, n30,** σ**0**^{s}**66**/31**, mb4.4**/20**, 3C-2D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.25	40	eP	Pn	13 14 13.1	-0.1
KMI	Kunming	25.22	13	P	P	13 18 18.2	+12
KMI				pP	pP	13 18 25.0	+15
FITZ	Fitzroy Crossi	33.95	124	P	P	13 19 23.9	-0.6
	4.7nm,0.8s,mb4.5,baz=355,slow=6.1,SNR=2.9						
SSE	Sheshan	38.34	35	P	P	13 20 00.4	-1.1
	26nm,0.7s,mb5.1						
WRA	Warramunga Arr	42.11	121	P	P	13 20 33.6	+0.7
	2.1nm,0.9s,mb3.8,baz=300,slow=9.1,SNR=12						
AAK	Ala-Archa	46.47	337	eP	P	13 21 08.0	+0.3
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
MKAR	Makanchi Array	47.84	347	P	P	13 21 19.6	+1.3
	comp=Z,4.6nm,0.7s,mb4.7,baz=157,slow=8.0,SNR=41						
SONM	Songino Array	47.95	9	P	P	13 21 20.0	+0.8
	comp=Z,0.9nm,0.7s,mb3.9,baz=189,slow=8.0,SNR=8.0						
SONM				PcP	PcP	13 22 48.1	+0.2
	comp=Z,1.0nm,0.8s,baz=178,slow=4.0,SNR=3.7						
KURK	Kurchatov	52.37	346	eP	P	13 21 53.7	+0.7
	comp=Z,3.2nm,0.8s,mb4.3						
STKA	Stephens Creek	53.27	131	P	P	13 22 00.2	+0.2
	comp=Z,3.0nm,0.7s,mb4.3,baz=317,slow=8.4,SNR=7.6						
STKA	Stephens Creek	53.27	131	eP	P	13 22 00.5	+0.6
ZAL	Zalesovo	54.20	351	P	P	13 22 06.8	+0.4
	comp=Z,4.3nm,0.7s,mb4.5,baz=294,slow=5.8,SNR=21						
ZAL	Zalesovo	54.20	351	iP	P	13 22 07.6	+1.2
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR	Borovoye Array	56.78	341	P	P	13 22 24.3	-0.9
	comp=Z,3.0nm,0.7s,mb4.5,baz=141,slow=9.5,SNR=19						
YSS	Yuzh-Sakhalins	61.27	34	iP	P	13 22 56.0	-0.4
ARU	Arti	63.66	338	⇓iP	P	13 23 10.9	-1.2
ARU				e		13 25 26.4	
ARU				eS	S	13 31 44.3	0.0
ARU				eSS	SS	13 35 52.4	-1.3
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
KIV	Kislovodsk	64.52	320	⇑eP	P	13 23 18.2	+0.2
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
YAK	Yakutsk	66.29	16	⇑eP	P	13 23 28.5	-0.5
YAK				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.8						
BRTR	Keskin Array B	69.21	313	P	P	13 23 47.5	-0.3
	comp=Z,2.5nm,0.7s,mb4.2,baz=100,slow=7.5,SNR=9.0						
MATP	Matopo	69.74	248	P	P	13 23 51.0	-0.3
	comp=Z,5.5nm,0.9s,mb4.5,baz=84,slow=9.5,SNR=8.2						
MATP	Matopo	69.74	248	P	P	13 23 51.0	-0.3
OBN	Obninsk	72.97	329	deP	P	13 24 09.5	-0.6
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
SEY	Seymchan	74.66	23	⇑eP	P	13 24 20.0	+0.3
AKASG	Malin Array Be	75.52	323	P	P	13 24 23.8	-1.2
	comp=Z,2.3nm,0.6s,mb4.3,baz=84,slow=5.1,SNR=11						
AKASG	Malin Array Be	75.52	323	iP	P	13 24 24.5	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	ARCESS Array B	83.05	340	P	P	13 25 05.4	+0.2
	comp=Z,2.6nm,0.8s,mb4.3,baz=90,slow=4.9,SNR=6.4						
GERES	GERESS Array B	85.01	319	P	P	13 25 16.0	+0.4
	comp=Z,1.0nm,0.7s,mb4.1,baz=104,slow=5.5,SNR=9.3						
NB2	NORSAR Subarra	87.39	331	P	P	13 25 27.3	+0.3
	comp=Z,1.6nm,0.7s,mb4.4,baz=96,slow=4.8						
NOA	NORSAR Array B	87.39	331	P	P	13 25 27.7	+0.7
	comp=Z,1.6nm,0.8s,mb4.3,baz=95,slow=4.8,SNR=5.0						
NOA	NORSAR Array B	87.39	331	P	P	13 25 27.7	+0.7

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*ISK **07** 13:50:40.8, 40.75N×29.25E, h19^{km}, MD3.3*

*CSEM **07** 13:50:40.8±0.1, 40.73N×29.25E, h19^{km}±1^{km}, MD3.3, Error ellipse: s-maj=2.3km s-min=1.3km az=10.0*

*ATH **07** 13:51:00.4, 40.77N×27.30E, h18^{km}, MD3.6/3*

ISC 07 13:50:41.4±0.4**, 40.76N**±0.03×**29.23E**±0.03**, h21**^{km}±5^{km}**, n39,** σ**0**^{s}**80**/53**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISK	Istanbul-Kandi	0.33	337	iPG	Pb	13 50 48.0	-0.6
HRT	Hereke	0.34	79	iPG	Pb	13 50 48.4	-0.4
HRT				iSG	Sb	13 50 53.0	-0.7
ARMT	Armutlu	0.34	235	iPG	Pb	13 50 48.6	-0.2
SILT	Sile	0.50	38	iPG	Pb	13 50 52.0	+0.5
BGKT	Bogazkoy	0.54	321	PG	Pb	13 50 52.8	+0.6
ULDT	Uludag	0.62	187	iP	Pb	13 50 51.4	-2.0
ULDT				iS	Sb	13 50 57.6	-4.1
CTT	Catalca	0.72	303	iPG	Pb	13 50 55.6	+0.5
SLVT	Silivri	0.90	302	PG	Pb	13 50 59.1	+0.8
GPA	Golpazari	0.95	119	PG	Pb	13 50 59.5	+0.5
BNT	Bandirma	1.08	248	PN	Pn	13 51 01.5	+0.1
DST	Dursunbey	1.24	202	PN	Pn	13 51 03.9	+0.1
MRMT	Marmara Adasi	1.25	263	PN	Pn	13 51 03.8	-0.2
HENT	Hendek	1.27	87	iP	Pn	13 51 04.0	-0.2
HENT				iS	Sb	13 51 21.4	+1.0
BORA	Eskisehir	1.28	133	iP	Pn	13 51 04.2	-0.2
BORA				iS	Sb	13 51 23.0	+2.1
BTOK	Tokmak	1.35	223	iP	Pn	13 51 05.6	+0.2
BTOK				iS	Sb	13 51 23.3	+0.4
MFT	Murefte	1.48	272	PN	Pn	13 51 07.6	+0.4
BALB	Balikesir	1.52	223	PN	Pn	13 51 07.6	-0.2
MDU	Mudurnu	1.54	100	PN	Pn	13 51 07.6	-0.5
SART	Tekirdag	1.56	268	iP	Pn	13 51 08.0	-0.4
SART				iS	Sn	13 51 28.4	+0.4
GDZ	Gediz	1.68	173	iP	Pn	13 51 09.3	-0.8
GDZ				iS	Sn	13 51 33.7	+2.5
ESKT	Eskisehir	1.75	134	PN	Pn	13 51 10.5	-0.6
ESKT	Eskisehir	1.75	134	iP	Pn	13 51 09.8	-1.3
ESKT				iS	Sn	13 51 34.4	+1.4
ALT	Altintas	1.83	158	PN	Pn	13 51 11.7	-0.6
LPK	Lapseki	1.92	259	PN	Pn	13 51 13.7	+0.2
SGKT	Sivrigoynuk	2.16	94	iP	Pn	13 51 17.3	+0.4
SGKT				iS	Sn	13 51 51.3	+7.9
EDRB	Edirne	2.16	301	PN	Pn	13 51 17.2	+0.2
AKS	Akhisar	2.17	211	PN	Pn	13 51 17.1	0.0
MANT	Manisa	2.33	193	iP	Pn	13 51 24.8	+5.4
MANT				iS	Sn	13 51 53.1	+5.5
EZN	Ezine	2.41	248	PN	Pn	13 51 20.8	+0.3
KHL	Karahalli	2.44	175	PN	Pn	13 51 20.3	-0.7
SAFT	Safranbolu	2.66	78	PN	Pn	13 51 24.0	-0.1
PRK	Paraskevi	2.73	237	ePN	Pn	13 51 31.3	+6.2
PRK				eSN	Sn	13 51 54.4	-3.4
KIZT	Kizilcal	2.77	132	PN	Pn	13 51 25.2	-0.5
RDO	Rodhopi	2.82	279	ePN	Pn	13 51 26.6	+0.2
TKTP	Tekketepe	2.84	162	iP	Pn	13 51 25.7	-1.0
TKTP				iS	Sn	13 52 13.9	+13
DNZL	Cakiroluk	3.07	183	iP	Pn	13 51 43.5	+14
DNZL				iS	Sn	13 52 19.8	+13
KDHN	Kadinhani	3.16	134	iP	Pn	13 51 38.8	+7.6
KDHN				iS	Sn	13 52 21.7	+13
ELDT	Eldivan	3.21	93	iP	Pn	13 51 30.9	-0.9
NVR	Nevrokopi	4.10	280	ePN	Pn	13 51 44.8	+0.2

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*NEIC **07** 14:03:46.8±2.7, 8.05S×121.45E, h154^{km}±28^{km}, mb4.6/4, Error ellipse: s-maj=26.6km s-min=14.0km az=47.0*

*IDC **07** 14:03:47.3±4.4, 8.19S×121.27E, h161^{km}±43^{km}, mb3.7/5, mb1 4.0/7, mb1mx3.7/17, mbtmp4.3/7, Error ellipse: s-maj=48.0km s-min=18.3km az=61.0*

ISC 07 14:03:49.3±2.8**, 8.2S**±0.2×**121.6E**±0.2**, h201**^{km}±29^{km}**, n12,** σ**1**^{s}**08**/16**, mb3.9**/5**, 1D, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.61	159	eP	P	14 06 16.3	-1.0
	7.2nm,0.3s						
FITZ				eS	S	14 08 11.5	-1.7
FITZ	Fitzroy Crossi	10.61	159	P	P	14 06 18.6	+1.3
	2.3nm,0.3s,baz=354,slow=8.9,SNR=22						
FITZ				S	S	14 08 11.8	-1.5
	3.5nm,0.3s,baz=184,slow=9.6,SNR=8.5						
MBWA	Marble Bar	13.03	188	eP	P	14 06 48.6	+0.5
	4.4nm,0.6s						
WRA	Warramunga Arr	16.98	135	P	P	14 07 37.1	+0.6
	2.6nm,0.3s,baz=310,slow=12,SNR=118						
WRA				S	S	14 10 37.6	0.0
	1.2nm,0.3s,baz=294,slow=24,SNR=8.0						
WRAB	Tennant Creek	16.98	135	eP	P	14 07 36.9	+0.3
	9.2nm,0.4s						
WRAB				eS	S	14 10 36.3	-1.3
CTA	Charters Tower	26.61	119	P	P	14 09 13.9	+2.7
	1.9nm,0.3s,mb4.2,baz=295,slow=10,SNR=3.9						
STKA	Stephens Creek	30.02	144	⇓iP	P	14 09 42.8	+1.2
	5.6nm,0.3s,mb4.7						
STKA	Stephens Creek	30.02	144	P	P	14 09 42.5	+0.9
	8.3nm,0.4s,mb4.7,baz=318,slow=8.9,SNR=50						
SONM	Songino Array	57.38	348	P	P	14 13 17.9	-0.8
	0.3nm,0.5s,mb3.2,baz=169,slow=7.5,SNR=3.3						
MKAR	Makanchi Array	64.95	331	P	P	14 14 08.8	-0.7
	1.0nm,0.5s,mb3.8,baz=140,slow=7.4,SNR=12						
KURK	Kurchatov	69.44	332	eP	P	14 14 36.5	-1.0
VNDA	Vanda	72.40	172	P	P	14 14 55.9	+1.1
	0.7nm,0.5s,mb3.5,baz=321,slow=7.4,SNR=7.9						

IDC 07 14:14:37.3±1.1**, 55.65S**×**29.75W, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.8**/12**, mbtmp3.9**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.9**/13**, Error ellipse: s-maj=62.7km s-min=26.5km az=57.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.73	156		P	14 18 52.3	+5.6
VNA1	Neumayer--Stat	17.73	156		P	14 18 57.6	+11
VNA1	Neumayer--Stat	17.73	156		P	14 19 01.5	+15
VNA1	Neumayer--Stat	17.73	156		P	14 19 08.8	+22
VNA1	Neumayer--Stat	17.73	156		P	14 19 15.0	+28
VNA1	Neumayer--Stat	17.73	156		P	14 19 25.4	+39
VNA3	Neumayer Olymp	17.87	159		P	14 18 53.9	+5.4
VNA3	Neumayer Olymp	17.87	159		P	14 18 56.7	+8.2
VNA3	Neumayer Olymp	17.87	159		P	14 19 00.0	+11
VNA3	Neumayer Olymp	17.87	159		P	14 19 05.3	+17
VNA3	Neumayer Olymp	17.87	159		P	14 19 10.0	+21
VNA3	Neumayer Olymp	17.87	159		P	14 19 23.3	+35
VNA2	Neumayer--Watz	18.13	156		P	14 18 56.3	+4.6
VNA2	Neumayer--Watz	18.13	156		P	14 18 59.2	+7.5
VNA2	Neumayer--Watz	18.13	156		P	14 19 03.9	+12
VNA2	Neumayer--Watz	18.13	156		P	14 19 09.1	+17
VNA2	Neumayer--Watz	18.13	156		P	14 19 20.2	+28
SNAA	Sanae	19.71	155		P	14 19 10.6	-0.1
SNAA	Sanae	19.71	155		P	14 19 13.4	+2.7
SNAA	Sanae	19.71	155		P	14 19 16.9	+6.2
SNAA	Sanae	19.71	155		P	14 19 21.8	+11
MAW	Mawson	41.32	145	P	P	14 22 24.7	-1.0
	1.1nm,0.7s,baz=229,slow=9.3,SNR=3.4						
BDFB	Brasilia	42.32	333	LR	LR	14 37 32.9	
	comp=Z,46nm,21.8s,baz=113,slow=32						
VNDA	Vanda	46.90	183	P	P	14 23 08.1	-2.3
	0.3nm,0.3s,baz=158,slow=4.5,SNR=5.6						
LPAZ	La Paz	48.98	308	P	P	14 23 26.3	-1.1
	1.5nm,0.5s,baz=165,slow=11,SNR=6.1						
INK	Inuvik	144.58	321	PKP	PKPdf	14 34 12.8	-3.0
	3.5nm,1.0s,baz=106,slow=3.4,SNR=8.2						
ILAR	Eielson Array	148.77	313	PKPbc	PKPdf	14 34 24.9	+2.0
	2.1nm,0.5s,baz=120,slow=1.4,SNR=24						
SONM	Songino Array	152.15	88	PKPbc	PKPdf	14 34 33.0	+4.4
	1.2nm,0.6s,baz=221,slow=3.1,SNR=10						

IDC 07 14:21:02.4±3.3**, 1.04N**×**97.47E, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.7**/17**, mbtmp3.7**/5**, Error ellipse: s-maj=146.7km s-min=23.6km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.72	122	P	P	14 28 53.2	-1.8
	0.2nm,0.5s,baz=300,slow=10.0,SNR=5.9						
SONM	Songino Array	47.25	8	P	P	14 29 39.2	0.0
	0.2nm,0.5s,baz=198,slow=9.1,SNR=2.7						
MKAR	Makanchi Array	47.46	346	P	P	14 29 38.0	-2.9
	0.9nm,0.6s,baz=162,slow=7.7,SNR=10						
STKA	Stephens Creek	53.05	132	P	P	14 30 21.4	-2.4
	0.9nm,0.4s,baz=284,slow=8.3,SNR=3.3						
ZAL	Zalesovo	53.75	351	P	P	14 30 26.1	-2.5
	1.1nm,0.4s,baz=301,slow=6.2,SNR=4.3						

IDC 07 14:53:44.0±10.0**, 1.29N**×**97.63E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/17**, mbtmp3.5**/3**, Error ellipse: s-maj=495.3km s-min=30.9km az=54.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.72	122	P	P	15 01 35.0	-1.7
	0.2nm,0.8s,baz=299,slow=8.6,SNR=5.0						
MKAR	Makanchi Array	47.26	346	P	P	15 02 18.6	-2.3
	0.4nm,0.7s,baz=153,slow=8.1,SNR=4.0						
ZAL	Zalesovo	53.53	351	P	P	15 03 06.5	-2.0
	0.6nm,0.3s,baz=303,slow=4.3,SNR=4.4						

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*FUNV **07** 14:57:54.0, 10.85N×62.18W, h75^{km}, MW2.8*

*NEIC **07** 14:57:56.0, 10.77N×62.14W, h74^{km}, MD2.9(TRN), After TRN.*

*TRN **07** 14:57:56.3, 10.80N×62.15W, h64^{km}, MD2.9*

ISC 07 14:57:53.0±0.6**, 10.78N**±0.03×**62.28W**±0.03**, h85**^{km}±7^{km}**, n20,** σ**1**^{s}**13**/36**, 1C-1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.14	155	eP	P	14 58 05.4	+0.2
GUIV				eS	S	14 58 13.4	-0.9
TRN	Trinidad (W)	0.87	98	eP	P	14 58 11.8	+0.7
TRN				eS	S	14 58 23.3	-1.4
GUNV	Guanoco	0.89	227	⇑iP	P	14 58 12.9	+1.7
GUNV				eS	S	14 58 26.3	+1.3
TPP	Pointe-a-Pierr	0.94	119	eP	P	14 58 13.6	+1.7
TPP				eS	S	14 58 23.7	-2.3
CRUV	Carupano	0.94	264	eP	P	14 58 12.6	+0.7
CRUV				eS	S	14 58 26.2	+0.1
ITEV	Isla Los Testi	1.01	305	⇓iP	P	14 58 13.0	+0.3
ITEV				eS	S	14 58 26.8	-0.8
TBH	Brigand Hill	1.23	103	eP	P	14 58 16.6	+1.2
TBH				eS	S	14 58 31.2	-1.1
GRW	Mount Saint Ca	1.50	24	eP	P	14 58 20.7	+1.6
GRW				eS	S	14 58 36.8	-1.5
TPR	Prospect	1.53	74	eP	P	14 58 19.1	-0.3
GRHS	Sauteurs	1.57	24	eP	P	14 58 21.0	+1.1
GRHS				eS	S	14 58 40.5	+0.8
BOT	Bacolet	1.58	76	eP	P	14 58 20.1	0.0
ORIV	Oritupano	2.02	213	eP	P	14 58 27.5	+1.6
ORIV				eS	S	14 58 51.7	+1.5
PCRV	Puerto La Cruz	2.39	256	eP	P	14 58 31.9	+0.9
PCRV				eS	S	14 58 59.5	+0.2
IBAV	Isla La Blanqu	2.48	295	eP	P	14 58 32.4	+0.1
SSV	Crater Summit	2.75	23	eS	S	14 59 08.5	+0.2
GURV	El Guri	3.10	195	eP	P	14 58 40.5	-0.3
GURV				eS	S	14 59 15.6	-1.4
ORCV	Isla La Orchil	3.97	285	eP	P	14 58 52.5	-0.4
ORCV				eS	S	14 59 36.0	-2.6
MERV	Las Mercedes	4.23	249	eP	P	14 58 56.3	-0.2
MERV				eS	S	14 59 43.4	-1.7
CAOV	Caicara del Or	5.26	230	eP	P	14 59 10.4	-0.3
CAOV				eS	S	15 00 06.3	-4.2
BAUV	El Baul	5.96	253	eP	P	14 59 18.7	-1.6
BAUV				eS	S	15 00 22.7	-5.1

NNC 07 15:00:37.6±5.5**, 36.98N**×**70.98E, h104**^{km}±134^{km}**, mpv3.4, 2C-3D, Error ellipse: s-maj=49.2km s-min=46.9km az=100.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.13	357	⇓P	P	15 02 06.3	-0.8
	1.1nm,0.3s,baz=176,slow=12,SNR=36						
KK31				⇑S	S	15 03 14.6	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.8nm,0.4s,baz=169,slow=11,SNR=15						
AAK	Ala-Archa	6.26	25	⇓P	P	15 02 06.0	-3.0
	1.0nm,0.3s						
AAK				⇓S	S	15 03 18.8	-0.9
	4.1nm,0.8s						
AB31	Akbulak array	14.66	330	⇑P	P	15 03 59.6	-1.0
	0.1nm,0.3s,baz=143,slow=13,SNR=8.1						

*IDC **07** 15:21:23.2±8.4, 54.63N×142.57E, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, MS3.3/2, Ms1 3.4/2, ms1mx3.0/18, Error ellipse: s-maj=305.7km s-min=28.7km az=161.0*

SKHL 07 15:21:13.6±0.3**, 54.46N×142.28E, h10^{km}, mb4.2**/5**, Ms3.5**/1**, msh4.4**/1**, 1C, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKH	Okha	0.99	157	⇑iPg	Pg	15 21 32.5	-0.9
OKH				iPg	Pg	15 21 32.5	-0.9
OKH				AMB	AMB	15 21 33.4	
	1μm,0.8s						
OKH				iSg	Sg	15 21 46.0	-0.7
OKH				A		15 21 48.0	
	7μm,0.7s						
OKH				A		15 21 48.0	
	4μm,0.7s						
NKL	Nikolayevsk	1.62	217	iPg	Pg	15 21 46.0	0.0
NKL				AMB	AMB	15 21 49.5	
	85nm,0.8s						
NKL				AMB	AMB	15 21 49.5	
	92nm,0.8s						
NKL				AMB	AMB	15 21 49.5	
	200nm,0.8s						
NKL				eSg	Sg	15 22 08.0	+0.4
NKL				A		15 22 12.0	
	2μm,2.0s						
NKL				A		15 22 14.8	
	780nm,0.5s						
NKL				A		15 22 14.8	
	910nm,0.5s						
NKL				AMS	AMS	15 23 10.0	
	1μm,7.0s						
NKL				AMS	AMS	15 23 10.0	
	1μm,7.0s						
NKL				AMS	AMS	15 23 10.0	
	900nm,5.0s						
TYV	Tymovskoe	3.61	176	ePn	Pn	15 22 11.0	+0.2
TYV				ePg	Pg	15 22 25.5	-0.2
TYV				AMB	AMB	15 22 30.5	
	53nm,0.9s						
TYV				eSg	Sg	15 23 15.0	+1.2
TYV				A		15 23 19.0	
	62nm,0.8s						
TYV				A		15 23 31.0	
	500nm,3.0s						
TYV				AMS	AMS	15 24 22.0	
	1μm,13.0s						
GRNR	Gornyy	5.14	226	ePn	Pn	15 22 35.0	+2.5
GRNR				AMB	AMB	15 22 38.8	
	8.0nm,0.8s						
GRNR				AMB	AMB	15 22 38.8	
	14nm,0.8s						
GRNR				AMB	AMB	15 22 38.8	
	19nm,0.8s						
GRNR				ePg	Pg	15 22 55.0	-1.2
GRNR				AMB	AMB	15 22 58.0	
	40nm,0.9s						
GRNR				eSg	Sg	15 24 05.5	+0.8
GRNR				A		15 24 05.8	
	70nm,0.8s						
UGL	Uglegorsk	5.39	181	erx	rx	15 23 08.5	
UGL				eSg	Sg	15 24 18.0	+4.9
UGL				A		15 24 40.0	
	112nm,1.0s						
EKMR	Ekimchan	5.71	260	ePg	Pg	15 23 07.0	-0.5
EKMR				AMB	AMB	15 23 25.5	
	5.0nm,0.5s						
EKMR				AMB	AMB	15 23 25.5	
	4.0nm,0.5s						
EKMR				AMB	AMB	15 23 25.5	
	12nm,0.5s						
EKMR				eSb	Sb	15 24 02.9	+0.7
EKMR				eSg	Sg	15 24 25.3	+1.7
EKMR				A		15 24 46.0	
	45nm,0.8s						
EKMR				A		15 24 46.0	
	60nm,0.8s						
EKMR				A		15 24 46.0	
	48nm,0.8s						
BMKR	Bomnak	7.81	277	erx	rx	15 23 18.5	
BMKR				eS	Sn	15 24 43.0	+3.4
KLR	Kul'dur	8.36	236	eP	rx	15 23 59.0	
KLR				eS	Sn	15 25 13.0	+20
YASR	Yasnyy	8.53	268	erx	rx	15 23 28.5	
YASR				erx	rx	15 26 02.9	
ZEA	Zeya	8.87	271	erx	rx	15 25 58.7	
ZEA				erx	rx	15 26 13.9	
KROS	Kirovskiy	8.92	276	erx	rx	15 26 11.3	
SONM	Songino Array	23.27	268	P	P	15 26 34.4	+13
	1.0nm,0.7s,baz=54,slow=9.2,SNR=9.5						
ILAR	Eielson Array	35.35	44	P	P	15 28 17.8	+7.1
	0.4nm,0.5s,baz=271,slow=6.9,SNR=4.2						
ILAR				LR	LR	15 43 57.8	
	comp=Z,40nm,18.6s,baz=178,slow=39						
MKAR	Makanchi Array	37.77	284	P	P	15 28 41.3	+10
	1.3nm,0.8s,baz=58,slow=8.0,SNR=10						
YKA	Yellowknife Ar	48.89	37	LR	LR	15 52 59.7	
	comp=Z,37nm,18.6s,baz=65,slow=39						

*NEIC **07** 15:28:23.6, 63.07N×143.62W, h1^{km}, ML2.9(AEIC), After AEIC.*

PGC 07 15:28:23.1, 63.08N×143.41W, h1^{km}, ML2.8/2**, ML2.9**/8(AEIC)**, 225km southwest of Dawson, Yt Eastern Alaska., Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MENT	Mentasta	0.20	225	P	Pg	15 28 26.4	-0.7
MENT				S	Sg	15 28 28.6	-1.2
PAX	Paxson	0.95	264	P	Pb	15 28 39.4	-2.6
PAX				S	Sg	15 28 51.8	-2.8
PAX				Trac			
THY	Trims Highway	1.11	289	P	Pb	15 28 42.8	-2.0
THY				S	Sb	15 28 57.3	-2.4
THY				Trac			
WANC	Wrangell North	1.12	196	P	Pb	15 28 43.8	-1.2
SDG	Sourdough	1.13	241	P	Pb	15 28 42.7	-2.4
DDM	Donnelly Dome	1.31	304	P	Pb	15 28 46.9	-1.3
TZL	Tazlina	1.40	223	P	Pb	15 28 48.4	-1.3
TZL				Trac			
GLB	Gilahina Butte	1.66	187	P	Pn	15 28 53.0	-0.5
GLB				S	Sb	15 29 14.6	-0.8
KLU	Klutina	1.98	218	P	Pn	15 28 57.4	-0.7
KLU				S	Sn	15 29 22.9	-1.0
DAWY	Dawson	2.05	59	Pn	Pn	15 28 57.3	-1.8
DAWY				Pg	Pg	15 28 59.9	-4.1
BALM	Baldy	2.11	166	P	Pn	15 29 00.8	+0.8
BMRM	Bremner River	2.19	195	P	Pn	15 29 02.2	+1.0
SCM	Sheep Creek Mo	2.21	237	P	Pn	15 29 00.7	-0.7
SCM				Trac			
DIV	Divide	2.25	211	P	Pn	15 29 02.5	+0.5
VLZ	Valdez	2.39	216	P	Pn	15 29 05.0	+1.0
RND	Reindeer	2.49	280	P	Pn	15 29 05.5	+0.1
RND				Trac			
MCK	McKinley	2.57	287	P	Pn	15 29 06.2	-0.4
SML	Sawmill	2.62	243	P	Pn	15 29 06.7	-0.6
EYAK	Cordova Ski Ar	2.77	205	P	Pn	15 29 10.3	+0.9
GLI	Glacier Island	2.81	220	P	Pn	15 29 10.3	+0.3
HYT	Haines Junctio	3.59	126	Pn	Pn	15 29 19.0	-2.1
HYT				Pg	Pg	15 29 27.4	-7.4
HYT				Sn	Sn	15 30 00.9	-3.9
HYT				Sg	Sg	15 30 11.6	-11
HYT				Trac		15 30 23.8	
	comp=Z,9.0nm,0.3s						
BM3	Burnt Mountain	4.39	354	P	Pn	15 29 29.9	-2.5
WHY	Whitehorse	4.71	117	Pn	Pn	15 29 34.5	-2.5
WHY				Sg	Sg	15 30 47.7	-12
WHY				Trac		15 30 53.4	
	comp=Z,4.0nm,0.2s						
COLD	Coldfoot	5.05	328	P	Pn	15 29 38.9	-3.0
IM3	Indian Mountai	5.33	308	P	Pn	15 29 42.1	-3.6
TT01	Tatalina	5.75	274	P	Pn	15 29 50.0	-1.6
INK	Inuvik	6.64	34	Pn	Pn	15 30 00.7	-3.5
INK				Sn	Sn	15 31 12.9	-8.6
INK				Sg	Sg	15 31 48.9	-15
INK				Trac		15 31 58.3	
	comp=Z,1.0nm,0.3s						
DLBC	Dease Lake	8.03	119	Sg	Sg	15 32 32.1	-18

ISC 07 16:01:00.7±0.9**, 39.60N**±0.07×**33.13E**±0.07**, h10^{km}, n7, σ1^{s}35**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANTO	Ankara	0.37	317	ePG	Pg	16 01 07.3	-1.0
ANTO				eSG	Sg	16 01 14.7	+1.2
LOD	Lodumlu	0.40	316	ePG	Pg	16 01 08.6	-0.4
KAMT	Kaman	0.51	117	PG	Pg	16 01 09.8	-1.2
ELDT	Eldivan	0.92	14	iP	Pb	16 01 17.3	-1.0
ELDT				iS	Sb	16 01 31.8	+1.5
CDAG	Cicekdag	0.96	88	iP	Pb	16 01 17.4	-1.7
CDAG				iS	Sb	16 01 31.1	-0.6
SGKT	Sivrigoynuk	1.27	320	iP	Pb	16 01 24.2	-0.2
SGKT				iS	Sb	16 01 36.4	-4.2
AVNT	Avonos	1.57	121	iP	Pn	16 01 31.2	+2.3
AVNT				iS	Sb	16 01 51.9	+2.5

*NEIC **07** 16:20:17.0±1.6, 50.42N×18.77E, h5^{km}, MG2.5(WAR), Error ellipse: s-maj=23.2km s-min=8.6km az=176.0*

*PRU **07** 16:20:18.0, 50.39N×18.74E*

WAR 07 16:20:16.9, 50.36N×18.87E, h0^{km}, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.61	103	ePG	Pg	16 20 29.0	-0.2
OJC				eSG	Sg	16 20 38.0	+0.6
OKC	Ostrava-Krasne	0.70	222	ePG	Pg	16 20 30.5	-0.4
OKC				eSG	Sg	16 20 39.4	-0.9
	11nm,0.3s						
MORC	Moravsky Berou	1.04	236	eP	Pb	16 20 36.0	-1.4
MORC				eS	Sb	16 20 49.7	-1.6
NIE	Niedzica	1.33	135	ePG	Pg	16 20 43.0	-0.5
NIE				eSG	Sg	16 21 01.0	-0.2
DPC	Dobruska-Polom	1.63	270	ePG	Pg	16 20 45.8	-3.6
DPC				eSG	Sg	16 21 08.2	-3.0
	17nm,0.6s						
KSP	Ksiaz	1.71	287	ePG	Pg	16 20 48.0	-3.0
KSP				eSG	Sg	16 21 12.0	-1.8
STHS	Stebnicka Huta	1.81	121	ePN	Pn	16 20 51.1	+1.6
STHS				eSN	Sn	16 21 17.9	+4.5
VYHS	Vyhne	1.87	181	eSN	Sn	16 21 13.0	-2.1
KECS	Kecovo	2.16	150	ePN	Pn	16 20 55.4	+0.9
CRVS	Cervenica-Dubn	2.23	130	ePN	Pn	16 20 59.1	+3.5
CRVS				eSN	Sn	16 21 29.9	+5.7
PVCC	Panska Ves	2.75	275	ePG	Pg	16 21 07.5	-4.3
PVCC				eSG	Sg	16 21 44.5	-4.0
KHC	Kasperske Hory	3.65	252	ePG	Pg	16 21 22.2	-7.5
KHC				eSG	Sg	16 22 12.6	-5.7
	2.5nm,0.3s						
CLL	Collm	3.84	287	eSG	Sg	16 22 23.0	-1.6
NKC	Novy Kostel	4.12	271	eSG	Sg	16 22 28.4	-5.6

*IDC **07** 16:31:55.1±1.7, 1.61S×100.14E, mb3.9/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, Error ellipse: s-maj=59.9km s-min=20.2km az=57.0*

*NEIC **07** 16:31:59.1±1.0, 1.71S×100.07E, h30^{km}, mb4.1/1, Error ellipse: s-maj=31.8km s-min=10.5km az=63.0*

ISC 07 16:31:57.3±1.4**, 1.7S**±0.2×**100.0E**±0.3**, h33^{km}, n9, σ0^{s}52**/9**, mb4.0**/8**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.96	5	eP	P	16 33 39.4	-0.3
WRA	Warramunga Arr	38.14	121	P	P	16 39 15.3	-0.2
	0.8nm,0.4s,mb3.8,baz=304,slow=9.1,SNR=23						
WRAB	Tennant Creek	38.15	121	P	P	16 39 15.1	-0.5
	1.3nm,0.5s,mb3.9						
JOW	Kunigami	39.33	42	P	P	16 39 25.4	0.0
	7.8nm,0.7s,mb4.6,baz=176,slow=15,SNR=2.5						
STKA	Stephens Creek	49.35	132	P	P	16 40 46.4	+0.6
	1.6nm,0.9s,mb4.0,baz=325,slow=12,SNR=3.2						
SONM	Songino Array	49.64	6	P	P	16 40 48.8	+1.0
	0.3nm,0.4s,mb3.7,baz=189,slow=9.3,SNR=4.8						
MKAR	Makanchi Array	50.73	344	P	P	16 40 56.6	+0.4
	0.6nm,0.4s,mb3.9,baz=159,slow=8.8,SNR=13						
ZAL	Zalesovo	56.86	349	P	P	16 41 40.5	-0.6
	1.0nm,0.4s,mb4.2,baz=138,slow=16,SNR=3.2						
BVAR	Borovoye Array	59.90	340	P	P	16 42 01.9	-0.4
	0.3nm,0.4s,mb3.7,baz=141,slow=9.2,SNR=4.3						

MAN 07 16:34:07.5, 15.87N×121.81E, h11^{km}, mb4.2, ML3.0, MS2.7, 4C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	Baler	0.26	240	eP	Pg	16 34 13.7	+0.5
PCPH	Palayan	0.76	246	⇑eP	Pb	16 34 22.1	-0.1
PCPH				eS	Sb	16 34 33.6	+1.4
CAUP	Cauayan	1.06	1	eP	Pb	16 34 25.9	-1.6
POLP	Polilio Island	1.15	174	eP	Pb	16 34 27.9	-0.9
NZB	Bigte	1.22	214	eP	Pb	16 34 29.7	-0.4
BCPH	Baguio City Da	1.29	293	⇑iP	Pb	16 34 30.7	-0.6
BCPH				iS	Sb	16 34 48.3	+0.7
ARP	Angono	1.47	206	⇑eP	Pn	16 34 33.2	-0.9
NBP	Mount Natib	1.75	230	eP	Pn	16 34 37.9	-0.2
LBPH	Los Banos	1.81	200	eP	Pn	16 34 34.9	-4.1
CVP	Callao Caves	1.82	0	⇑eP	Pn	16 34 38.0	-1.1
CVP				eS	Sn	16 35 01.0	-1.3
SCZP	Santa Cruz	1.83	267	eP	Pn	16 34 42.8	+3.5
ABRA	Dolores	2.06	329	iP	Pn	16 34 42.5	0.0
BOAC	Boac	2.40	179	eP	Pn	16 34 47.0	-0.4
PVCP	Virac	3.20	135	eP	Pn	16 34 55.2	-3.6

*IDC **07** 16:36:59.2±5.7, 5.54S×151.46E, h80^{km}±51^{km}, mb3.8/4, mb1 4.1/5, mb1mx3.7/13, mbtmp4.2/5, ML3.2/1, Error ellipse: s-maj=71.4km s-min=32.2km az=128.0*

ISC 07 16:36:57.9±4.5**, 5.3S**±0.4×**151.2E**±0.5**, h70^{km}**±40^{km}**, n7, σ1^{s}15**/8**, mb3.9**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.72	224	P	P	16 38 22.3	+0.3
	4.0nm,0.3s,baz=36,slow=5.4,SNR=12						
PMG				S	S	16 39 26.6	-0.5
	11nm,0.3s,baz=144,slow=22,SNR=12						
WB2	Warramunga Arr	21.92	227	eP	P	16 41 48.8	+1.9
WRA	Warramunga Arr	21.93	227	P	P	16 41 46.3	-0.7
	3.6nm,0.6s,mb3.9,baz=53,slow=9.8,SNR=55						
FITZ	Fitzroy Crossi	28.02	241	eP	P	16 42 44.3	-0.4
	7.6nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	28.02	241	P	P	16 42 44.4	-0.4
	8.1nm,0.3s,mb4.7,baz=41,slow=6.9,SNR=28						
SONM	Songino Array	65.88	329	P	P	16 47 38.7	+0.3
	0.4nm,0.7s,mb3.4,baz=158,slow=6.7,SNR=3.4						
ILAR	Eielson Array	83.21	22	P	P	16 49 17.0	-0.6
	0.7nm,0.7s,mb3.6,baz=248,slow=5.3,SNR=6.4						

MAN 07 16:49:56.0, 10.94N×122.67E, h17^{km}, mb3.9, ML2.6, MS2.2, 3C, Panay

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.33	194	eP	Pb	16 50 03.3	+0.3
RCP	Roxas	0.62	7	⇑eP	Pb	16 50 07.6	-0.4
RCP				eS	Sb	16 50 17.0	+0.8
KALP	Kalibo	0.80	336	⇑eP	Pb	16 50 20.7	+10
LLP	Lapu-Lapu	1.42	116	⇑iP	Pn	16 50 21.1	-0.2
LLP				eS	Sb	16 50 38.9	-0.4
OTRP	Odiongan	1.55	336	eP	Pn	16 50 23.6	+0.5
CUYO	Cuyo Island	1.62	267	eP	Pn	16 50 23.8	-0.4
SNPH	Sibulan	1.69	161	eP	Pn	16 50 25.5	+0.4
MSLP	Maasin	2.30	110	eP	Pn	16 50 33.9	0.0
BUSP	Coron	2.64	294	eP	Pn	16 50 37.9	-0.8
IPIL	Ipil	3.14	182	eP	Pn	16 50 45.7	-0.1
IPIL				eS	Sn	16 51 22.4	-0.8
ENPP	El Nido	3.19	275	eP	Pn	16 50 45.8	-0.8

IDC 07 17:23:09.9±1.8**, 22.06N×121.84E, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.6**/20**, mbtmp3.7**/5**, Error ellipse: s-maj=149.7km s-min=23.3km az=65.0, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	28.55	338	P	P	17 29 07.4	-2.0
	0.5nm,0.7s,baz=150,slow=8.0,SNR=4.2						
MKAR	Makanchi Array	40.29	317	P	P	17 30 49.0	-1.4
	0.9nm,0.7s,baz=115,slow=10.0,SNR=8.8						
ZAL	Zalesovo	42.36	328	P	P	17 31 05.2	-2.1
	1.2nm,0.6s,baz=260,slow=4.0,SNR=4.8						
WRA	Warramunga Arr	43.50	163	P	P	17 31 15.2	-1.8
	0.3nm,0.6s,baz=343,slow=9.1,SNR=9.4						
BVAR	Borovoye Array	49.70	322	P	P	17 32 03.6	-1.9
	0.9nm,0.5s,baz=112,slow=5.5,SNR=5.6						

*CSEM **07** 17:27:37.2, 34.35N×25.57E, h33^{km}, MD3.6/4, After ATH*

ATH 07 17:27:37.2, 34.35N×25.57E, h33^{km}, MD3.6/4**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.53	11	ePN	Pn	17 27 48.5	+0.1
NPS	Neapolis	0.91	2	ePN	Pn	17 27 54.5	+0.7
VAM	Vamos	1.54	313	ePN	Pn	17 28 04.5	+1.7
KARP	Karpathos	1.77	47	ePN	Pn	17 28 07.5	+1.4

*BGR **07** 17:32:35.4±1.1, 55.13N×4.60E, h10^{km}, ML3.2/3, Error ellipse: s-maj=13.3km s-min=10.0km az=161.0*

*CSEM **07** 17:32:35.5±0.1, 55.28N×4.41E, h35^{km}, ML3.5/8, Error ellipse: s-maj=2.0km s-min=1.7km az=116.0*

*BER **07** 17:32:36.1±2.2, 55.21N×4.69E, h17^{km}±16^{km}, MD2.7, ML2.2, ML1.9(NAO)*

*LDG **07** 17:32:36.1±0.5, 55.11N×4.39E, h10^{km}, Ml3.4/12, Error ellipse: s-maj=10.7km s-min=7.6km az=172.0*

*BGS **07** 17:32:36.9±1.1, 55.24N×4.48E, h11^{km}±75^{km}, ML3.2*

*NAO **07** 17:32:37.6±5.1, 55.67N×4.50E, ML1.9*

ISC 07 17:32:31.0±0.3**, 55.10N**±0.02×**4.63E**±0.04**, h10^{km}, n63, σ1^{s}44**/96**, 1D, North Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HLG	Helgoland	2.10	115	eSn	Sn	17 33 37.1	+3.8
HLG				eSg	Sg	17 33 43.3	+2.2
MUD	Monsted U'grnd	2.91	60	iP	Pn	17 33 21.9	+3.7
MUD				i		17 33 30.7	
MUD				iS	Sn	17 33 54.0	+0.4
MUD				iS	Sn	17 33 55.8	+2.2
MUD	Monsted U'grnd	2.91	60	iP	Pn	17 33 21.9	+3.7
MUD				iS	Sn	17 33 54.0	+0.4
ABA1	Baconsthorpe	3.02	224	eP	Pn	17 33 23.9	+4.0
ABA1	Baconsthorpe	3.02	224	eP	Pn	17 33 24.3	+4.4
	7.5nm,0.1s						
LWH	Whinny Nab	3.17	258	eP	Pn	17 33 25.0	+3.0
LWH	Whinny Nab	3.17	258	eP	Pn	17 33 24.8	+2.8
AWH	Whinburgh	3.29	223	eP	Pn	17 33 26.9	+3.1
AWH	Whinburgh	3.29	223	eP	Pn	17 33 26.6	+2.9
WTSB	Winterswijk	3.40	157	⇓iPg	Pn	17 33 28.8	+3.5
	19nm,0.2s						
WTSB				eSg	Sn	17 34 06.7	+0.7
BSEG	Bad Segeberg	3.52	107	ePn	Pn	17 33 28.9	+2.0
SNART	Snartemo	3.54	23	eP	Pn	17 33 27.2	-0.2
SNART				eS	Sn	17 34 05.9	-3.8
SNART				AML	AML	17 34 07.1	
	comp=Z,8.8nm,0.2s						
HPK	Haverah Park	3.82	255	eS	Sn	17 34 14.7	-2.0
HPK	Haverah Park	3.82	255	eS	Sn	17 34 14.6	-2.0
	SNR=53						
LHO	Holmfirth	4.10	250	eP	Pn	17 33 36.8	+1.6
LHO	Holmfirth	4.10	250	eP	Pn	17 33 37.1	+1.9
	SNR=53						
KMY	Karmoy	4.14	4	eP	Pn	17 33 34.9	-0.9
KMY				eS	Sn	17 34 18.9	-5.8
KMY				AML	AML	17 34 20.3	
	comp=Z,6.5nm,0.3s						
KMY	Karmoy	4.14	4	eP	Pn	17 33 34.9	-0.8
	SNR=53						
KMY				eS	Sn	17 34 18.9	-5.8
	comp=Z,6.5nm,0.3s,SNR=53						
NRDL	Niedersach Rie	4.17	127	ePn	Pn	17 33 39.3	+3.1
NRDL				eSn	Sn	17 34 25.1	-0.5
KWE	Weaver Farm	4.34	244	eP	Pn	17 33 40.3	+1.6
EBL	Broad Law	4.42	282	eP	Pn	17 33 40.6	+0.9
BLS5	Blasjo	4.45	12	eP	Pn	17 33 40.7	+0.6
BLS5				AML	AML	17 34 30.7	
	comp=Z,5.6nm,0.1s						
ECK	Cauldkaine Hil	4.45	274	eP	Pn	17 33 40.7	+0.5
EAU	Auchinoon	4.65	283	eP	Pn	17 33 44.6	+1.5
CLZ	Clausthal	4.74	131	ePn	Pn	17 33 46.7	+2.4
CLZ				eSn	Sn	17 34 38.4	-1.6
MME1	Meikle Cairn	4.78	301	eP	Pn	17 33 45.6	+0.7
ODD1	Odda	4.94	12	eP	Pn	17 33 45.9	-1.3
ODD1				eS	Sn	17 34 37.0	-8.2
ODD1				AML	AML	17 34 40.0	
	comp=Z,9.8nm,0.1s						
GIVF	Givet	5.01	179	ePn	Pn	17 33 48.4	+0.3
GIVF				eSn	Sn	17 34 44.5	-2.3
	comp=Z,7.5nm,0.2s						
BAIF	Baives	5.06	183	ePn	Pn	17 33 48.8	0.0
BAIF				eSn	Sn	17 34 45.6	-2.4
	comp=Z,3.0nm,0.3s						
RGN	Rugen	5.06	93	eSn	Sn	17 34 46.5	-1.5
SBD1	Bryn Du	5.14	248	eP	Pn	17 33 51.2	+1.2
EGD	Espegrend	5.20	3	eP	Pn	17 33 50.1	-0.6
HAE	Alders End	5.26	237	eP	Pn	17 33 53.5	+1.9
SSP1	Stoney Pound	5.32	243	eP	Pn	17 33 54.2	+1.7
SSP1				eS	Sn	17 34 51.2	-3.3
SSP1	Stoney Pound	5.32	243	eP	Pn	17 33 54.2	+1.7
SSP1				eS	Sn	17 34 51.2	-3.3
ASK	Askoy	5.41	3	eP	Pn	17 33 52.2	-1.5
ASK				eS	Sn	17 34 48.8	-7.9
TNS	Taunus Mts	5.41	153	ePn	Pn	17 33 56.1	+2.4
TNS				eSn	Sn	17 34 55.3	-1.6
MLA1	Latheron	5.45	309	eP	Pn	17 33 54.2	-0.1
MCH1	Michaelchurch	5.50	239	P	Pn	17 33 56.5	+1.5
MCH1				S	Sn	17 34 55.5	-3.8
MCH1				AML	AML	17 34 58.7	
	comp=Z,15nm,0.2s						
MCH1				AML	AML	17 34 58.9	
	comp=Z,7.5nm,0.1s						
MCH1	Michaelchurch	5.50	239	eP	Pn	17 33 56.5	+1.4
MCH1				eP		17 33 56.5	
MCH1				eS	Sn	17 34 55.5	-3.8
MCH1				AML	AML	17 34 58.7	
	comp=N,15nm,0.2s						
MCH1				AML	AML	17 34 58.9	
	comp=E,7.5nm,0.1s						
MCH1	Michaelchurch	5.50	239	P	Pn	17 33 56.5	+1.5
MCH1				S	Sn	17 34 55.5	-3.8
MCH1				AML	AML	17 34 58.7	
	comp=E,15nm,0.2s						
MCH1				AML	AML	17 34 58.9	
	comp=E,7.5nm,0.1s						
HTR	Trewern Hill	5.59	240	eP	Pn	17 33 57.9	+1.5
HTR	Trewern Hill	5.59	240	eP	Pn	17 33 57.8	+1.5
	SNR=53						
BSD	Bornholm Skovb	5.91	86	iP	Pn	17 34 02.8	+2.0
BSD				i		17 34 34.7	
BSD				e		17 35 05.9	
RFYF	Reffroy	6.50	175	ePn	Pn	17 34 09.7	+0.5
CDF	Champ du Feu	6.90	165	ePn	Pn	17 34 15.7	+1.0
NB2	NORSAR Subarra	6.90	28	Pn	Pn	17 34 12.4	-2.4
	baz=213,slow=14						
NB2				Sn	Sn	17 35 26.7	-7.5
	baz=223,slow=28						
SFTF	Sexfontaines	6.91	178	ePn	Pn	17 34 15.4	+0.5
	baz=345						
HFS	Hagfors	7.01	40	Pn	Pn	17 34 15.1	-1.2
	baz=226,slow=14						
HFS				Sn	Sn	17 35 28.8	-8.1
	baz=215,slow=22						
FLN	La Foliniere	7.09	209	ePn	Pn	17 34 16.6	-0.8
	baz=17						
FLN				eSn	Sn	17 35 31.7	-7.1
	comp=E,4.3nm,0.3s						
LDF	La Druitiere	7.15	206	ePn	Pn	17 34 17.4	-0.8
LDF				eSn	Sn	17 35 33.1	-7.2
	comp=E,2.3nm,0.2s						
GRR	Gorron	7.53	209	ePn	Pn	17 34 23.1	-0.5
GRR				eSn	Sn	17 35 41.8	-8.2
	comp=E,5.1nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOR	Lormes	7.86	184	ePn	Pn	17 34 28.5	+0.3
	baz=347						
LOR				eSn	Sn	17 35 51.2	-6.9
	comp=E,2.2nm,0.3s						
SSF	Saint Saulge	8.08	185	ePn	P	17 34 30.3	-1.0
SSF				eSn	Sn	17 35 58.0	-5.7
	comp=E,1.3nm,0.2s						
SGMF	Saint Gilles	8.18	216	ePn	P	17 34 31.3	-1.3
SGMF				eSn	Sn	17 35 58.0	-8.1
	comp=E,4.9nm,0.3s						
ROSF	Rostrenen	8.36	219	ePn	P	17 34 33.7	-1.4
ROSF				eSn	Sn	17 36 02.8	-7.8
	comp=E,4.5nm,0.2s						
AVF	Avril sur Loir	8.36	186	ePn	P	17 34 34.7	-0.5
SMF	Signal de Mont	8.48	184	ePn	P	17 34 36.6	-0.3
SMF				eSn	Sn	17 36 07.4	-6.2
	comp=E,1.6nm,0.2s						
QUIF	Quistinic	8.68	217	ePn	P	17 34 38.7	-0.9
QUIF				eSn	Sn	17 36 10.7	-7.8
	comp=E,1.8nm,0.2s						
TCF	Toulx Ste Croi	8.96	191	ePn	P	17 34 43.7	+0.3
MFF	Saint Martin d	9.03	201	ePn	P	17 34 43.4	-1.0
MFF				eSn	Sn	17 36 17.7	-9.5
	comp=E,1.9nm,0.3s						
CAF	Calviac	10.32	190	ePn	P	17 35 01.6	-0.5
FIA0	FINESS Array S	12.91	52	Pn	P	17 35 35.4	-1.8
	baz=245,slow=14						
FIA0				Sn	S	17 37 50.6	-11
	baz=250,slow=22						

IDC 07 17:35:32.1±2.7, 15.71S×173.89W, h110km±30km, mb3.6/4, mb1 3.8/5, mb1mx3.6/15, mbtmp4.0/5, Error ellipse: s-maj=50.2km s-min=23.5km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.72	49	P	P	17 36 14.4	-0.7
	35nm,0.3s,baz=179,slow=2.2,SNR=47						
AFI				S	S	17 36 43.4	-4.2
	182nm,0.3s,baz=62,slow=22,SNR=20						
URZ	Urewera	23.82	198	P	P	17 40 35.0	-0.9
	1.8nm,0.4s,baz=336,slow=7.9,SNR=5.6						
STKA	Stephens Creek	43.48	240	P	P	17 43 24.6	-1.6
	1.1nm,0.4s,baz=115,slow=10,SNR=6.3						
WRA	Warramunga Arr	49.32	257	P	P	17 44 10.3	-2.0
	0.8nm,0.5s,baz=94,slow=7.3,SNR=21						
PDAR	Pinedale Array	82.81	42	P	P	17 47 44.5	-1.0
	0.6nm,0.8s,baz=207,slow=2.0,SNR=5.9						

IDC 07 17:54:54.0±3.5, 2.01N×126.24E, h56km±33km, mb3.9/4, mb1 3.9/5, mb1mx3.5/17, mbtmp4.1/5, Error ellipse: s-maj=49.9km s-min=16.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.99	182	P	P	17 59 21.7	-2.9
	0.5nm,0.3s,baz=5.0,slow=11,SNR=5.6						
WRA	Warramunga Arr	23.21	160	P	P	17 59 56.4	-0.6
	1.4nm,0.3s,baz=340,slow=11,SNR=31						
WRA				S	S	18 04 05.3	+4.2
	0.8nm,1.0s,baz=346,slow=17,SNR=2.8						
PMG	Port Moresby	23.73	119	P	P	18 00 01.4	-0.6
	12nm,0.9s,baz=292,slow=16,SNR=2.4						
STKA	Stephens Creek	36.71	158	P	P	18 01 56.5	-1.3
	2.2nm,0.7s,baz=342,slow=6.1,SNR=5.9						
MKAR	Makanchi Array	58.69	326	P	P	18 04 45.5	-2.8
	0.9nm,0.4s,baz=124,slow=8.7,SNR=24						

NEIC 07 18:33:09.2, 31.61S×71.73W, h9km, ML2.7(GUC), After GUC.

GUC 07 18:33:09.2±0.8, 31.61S×71.73W, h9km±3km, MD3.6, ML2.7, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.34	144	⇓iP	Pg	18 33 16.3	+0.2
CHNG				iS	Sg	18 33 21.6	+0.7
CHNG				AMP		18 33 22.1	
	comp=N,1μm,0.2s						
ILCH	Illapel	0.48	94	⇑iP	Pg	18 33 19.5	+0.5
ILCH				iS	Sg	18 33 27.2	+1.7
ILCH				AMP		18 33 27.5	
	comp=E,736nm,0.1s						
CMCH	Combarbala	0.76	56	⇑iP	Pb	18 33 23.6	-0.6
CMCH				iS	Sb	18 33 34.8	+0.5
CMCH				AMP		18 33 37.1	
	comp=N,899nm,0.5s						
JACH	Jahuel	1.44	138	⇑iP	Pn	18 33 34.9	-0.7
JACH				iS	Sb	18 33 54.3	+0.1
TLL	Tololo Astrono	1.64	29	eP	Pn	18 33 38.0	-0.4
TLL				iS	Sn	18 34 00.9	+1.1
TLL				AMP		18 34 05.8	
	comp=N,290nm,0.5s						
LCCH	Las Cruces	1.87	176	eP	Pn	18 33 41.5	-0.1

MOS 07 18:48:17.9±0.9, 55.90N×164.49E, h5km, mb4.2/1, Error ellipse: s-maj=28.3km s-min=17.8km az=51.0

KRSC 07 18:48:18.0±0.9, 56.12N×164.64E, h15km±2km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.02	276	P	Pb	18 48 36.0	-0.9
KBTR				S	Sb	18 48 49.4	-0.5
KBTR	Krutoberegovo	1.02	276	iP	Pb	18 48 36.0	-0.9
KBTR				iS	Sb	18 48 49.0	-0.9
KBG	Krutoberegovo	1.09	278	iP	Pb	18 48 36.6	-1.4
KBG				iS	Sb	18 48 50.1	-1.7
BKI	Bering	1.19	140	iP	Pb	18 48 39.1	-0.6
BKI				iS	Sb	18 48 54.0	-0.7
BKI				Smax			
	2μm,0.4s						
ZLN	Zelenaya	2.15	269	eP	Pn	18 48 55.2	+1.3
ZLN				eS	Sn	18 49 22.0	+1.5
CIRR	Tsirk	2.18	271	eP	Pn	18 48 56.1	+1.8
CIRR				eS	Sn	18 49 23.9	+2.7
KLY	Klyuchi	2.24	277	P	Pn	18 48 53.7	-1.4
KLY				S	Sn	18 49 20.4	-2.2
KLY	Klyuchi	2.24	277	iP	Pn	18 48 53.7	-1.4
KLY				iS	Sn	18 49 20.3	-2.3
KRSR	Krestovskiy	2.28	274	iP	Pn	18 48 56.6	+0.9
KRSR				eS	Sn	18 49 24.9	+1.2
MKZ	Mys Kozlova	2.29	228	P	Pn	18 48 54.5	-1.3
MKZ				S	Sn	18 49 21.1	-2.7
MKZ	Mys Kozlova	2.29	228	iP	Pn	18 48 54.5	-1.3
MKZ				iS	Sn	18 49 22.6	-1.2
KPT	Kopyto	2.48	268	eP	Pn	18 48 59.8	+1.2
KPT				eS	Sn	18 49 30.7	+1.8
KMNR	Kamenistaya	2.50	263	eP	Pn	18 49 00.1	+1.2
KMNR				eS	Sn	18 49 30.2	+0.8
KOZR	Kozyr	2.66	271	PN	Pn	18 49 03.3	+2.2
KOZR				S	Sn	18 49 35.5	+2.2
KOZ	Kozyrevsk	2.67	271	P	Pn	18 49 03.3	+2.0
KOZ				S	Sn	18 49 35.5	+1.8
KOZ	Kozyrevsk	2.67	271	eP	Pn	18 49 03.2	+1.9
KOZ				eS	Sn	18 49 35.5	+1.8
TUMR	Tumrok	2.68	254	eP	Pn	18 49 02.4	+1.0
TUMR				eS	Sn	18 49 34.4	+0.6
SRDR	Sredinnyy	2.76	276	eP	Pn	18 49 03.8	+1.3
SRDR				eS	Sn	18 49 36.4	+0.6
OSSR	Ossora	3.25	346	eP	Pn	18 49 08.8	-0.8
OSSR				eS	Sn	18 49 47.2	-1.1
OSSR				Smax			
	140nm,0.5s						
ESO	Esso	3.34	269	eP	Pn	18 49 12.8	+2.0
ESO				eS	Sn	18 49 52.1	+1.5
ESO				Smax			
	60nm,0.7s						
KII	Karymskiy	3.64	237	eP	Pn	18 49 16.9	+1.8
KII				eS	Sn	18 49 59.4	+1.2
SPN	Mys Shipunski	4.05	223	P	Pn	18 49 18.5	-2.4
SPN				S	Sn	18 50 01.9	-6.6
SPN	Mys Shipunski	4.05	223	eP	Pn	18 49 20.1	-0.8
SPN				eS	Sn	18 50 05.4	-3.1
NLC	Nalytchevo	4.26	228	P	Pn	18 49 22.3	-1.7
NLC				S	Sn	18 50 09.6	-4.4
NLC	Nalytchevo	4.26	228	eP	Pn	18 49 23.5	-0.5
NLC				eS	Sn	18 50 12.2	-1.8
SDLR	Sedlovina	4.39	232	eP	Pn	18 49 25.4	-0.3
SDLR				eS	Sn	18 50 14.3	-2.8
SMAR	Somma	4.43	232	eP	Pn	18 49 25.7	-0.7
SMAR				eS	Sn	18 50 15.7	-2.6
AVH	Avacha	4.46	233	eP	Pn	18 49 26.4	-0.4
AVH				eS	Sn	18 50 16.0	-3.0
UGLR	Uglovaya	4.46	232	eP	Pn	18 49 25.9	-0.9
UGLR				eS	Sn	18 50 16.7	-2.3
KOK	Koryaka	4.49	233	eP	Pn	18 49 28.2	+1.1
KOK				eS	Sn	18 50 19.2	-0.5
GNL	Ganaly	4.56	241	eP	Pn	18 49 28.4	+0.2
GNL				eS	Sn	18 50 19.1	-2.5
PET	Petropavlovsk	4.66	231	eP	Pn	18 49 30.1	+0.5
PET				eS	Sn	18 50 22.0	-2.1
PET	Petropavlovsk	4.66	231	ePN	Pn	18 49 38.3	+8.7
PET				eS	Sn	18 50 21.9	-2.2
PET				smax			
	comp=N,60nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
RUS	Russkaya	5.15	227	P	Pn	18 49 35.3	-1.2
RUS				S	Sn	18 50 31.4	-4.9
RUS	Russkaya	5.15	227	eP	Pn	18 49 35.2	-1.3
RUS				eS	Sn	18 50 31.5	-4.8
GRL	Gorelyy	5.25	230	eP	Pn	18 49 37.0	-0.9
GRL				eS	Sn	18 50 34.0	-4.8
APC	Apacha	5.41	237	eP	Pn	18 49 41.2	+1.1
APC				eS	Sn	18 50 41.6	-1.1
KAMR	Kamenskoye	6.41	7	iP	Pn	18 49 53.8	-0.4
KAMR				eS	Sn	18 51 03.5	-4.3
KAMR				Smax			
	comp=Z,20nm,1.5s						
PAU	Pauzhetka	6.57	228	eP	Pn	18 49 58.0	+1.4
PAU				eS	Sn	18 51 09.9	-2.1

MAN 07 18:50:25.8, 17.58N×122.38E, h31km, mb4.2, ML3.0, MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CVP	Callao Caves	0.54	283	eP	Pb	18 50 38.0	+1.1
CVP				eS	Sb	18 50 48.0	+3.5
SGCP	Mt. Cagua	0.73	335	eP	Pb	18 50 40.5	+0.5
CAUP	Cauayan	0.82	220	eP	Pn	18 50 42.5	+1.2
ABRA	Dolores	1.59	273	eP	Pn	18 50 52.2	0.0
ABRA				eS	Sn	18 51 16.6	+4.8
BALP	Baler	1.98	203	eP	Pn	18 50 57.4	-0.5

BJI 07 18:54:41.6, 37.39N×122.24E, h32km, ML3.5, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DL2	Dalian	1.59	343	P	Pn	18 55 06.8	-1.2
DL2				PG	Pn	18 55 07.7	-0.3
DL2				SG	Sn	18 55 23.9	-3.7
DL2				Smax			
	comp=N,280nm,0.6s						
DL2				Smax			
	comp=E,450nm,0.6s						
TIA	Tai'an	4.27	256	ePG	Pn	18 55 57.4	+11
TIA				SG	Sn	18 56 47.6	+12
TIA				Smax			
	comp=N,47nm,0.8s						
TIA				Smax			
	comp=E,24nm,0.8s						
SNY	Shenyang	4.55	13	⇑PG	Pn	18 56 03.6	+13
SNY				SG	Sn	18 56 57.9	+15
SNY				Smax			
	comp=N,70nm,0.4s						
SNY				Smax			
	comp=E,70nm,0.7s						
NJ2	Nanjing	6.01	209	eP	Pn	18 56 08.3	-2.5
NJ2				SG	Sn	18 57 50.5	+31
NJ2				Smax			
	comp=N,70nm,0.5s						
NJ2				Smax			
	comp=E,120nm,0.5s						

GUC 07 19:08:36.8±1.1, 27.90S×69.99W, h85km, MD3.2, ML3.9, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.62	329	⇓iP	P	19 08 54.3	+1.9
CPCH				iS	S	19 09 06.6	+2.8
CPCH				AMP		19 09 08.1	
	comp=E,24μm,0.1s						
VACH	Vallenar	0.96	225	⇑iP	P	19 08 57.7	+1.8
VACH				iS	S	19 09 11.9	+1.6
VACH				AMP		19 09 12.3	
	comp=N,12μm,0.1s						
TLL	Tololo Astrono	2.37	197	⇑iP	P	19 09 15.3	+0.7
TLL				iS	S	19 09 43.6	+0.8
TLL				AMP		19 09 47.4	
	comp=N,281nm,0.5s						
CPN1	Cerro Paranal	3.28	353	iS	S	19 10 05.3	+0.1
CPN1				AMP		19 10 09.2	
	comp=E,64nm,0.6s						

PGC 07 19:10:25.5, 49.33N×129.23W, h10km, MLSn3.2/3, Mw3.9, 1C-1D, West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.26	48	Pn	Pn	19 10 46.8	-2.4
BPBC				Sn	Sn	19 11 02.3	-3.9
	comp=Z,279nm,0.2s						
BPBC				Trac		19 11 03.3	
	comp=Z,279nm,0.2s						
EDB	Eliza Dome	1.48	67	Pn	Pn	19 10 49.5	-2.8
EDB				Sn	Sn	19 11 07.4	-4.4
EDB				Trac		19 11 09.5	
	comp=Z,31nm,0.1s						
HOLB	Holberg	1.49	28	⇓Pn	Pn	19 10 50.0	-2.5
HOLB				Sn	Sn	19 11 08.5	-3.7
	comp=Z,56nm,0.1s						
HOLB				Trac		19 11 14.0	
	comp=Z,56nm,0.1s						
MAYB	Maynard	1.71	50	Pn	Pn	19 10 53.2	-2.4
MAYB				Sn	Sn	19 11 13.2	-4.5
	comp=Z,62nm,0.3s						
MAYB				Trac		19 11 15.0	
	comp=Z,62nm,0.3s						
ETB	Estevan Point	1.76	87	Pn	Pn	19 10 54.3	-2.1
ETB				Sn	Sn	19 11 14.9	-4.1
	comp=Z,14nm,0.2s						
ETB				Trac		19 11 17.9	
	comp=Z,14nm,0.2s						
PHC	Port Hardy	1.80	39	Pn	Pn	19 10 54.8	-2.2
PHC				Sn	Sn	19 11 15.8	-4.3
PHC				Trac		19 11 17.2	
	comp=Z,46nm,0.2s						
WOSB	Woss	1.92	63	Pn	Pn	19 10 56.7	-1.9
WOSB				Sn	Sn	19 11 19.9	-3.0
	comp=Z,25nm,0.2s						
WOSB				Trac		19 11 20.7	
	comp=Z,25nm,0.2s						
GDR	Gold River	2.13	76	Pn	Pn	19 10 58.8	-2.8
GDR				Trac		19 11 33.5	
	comp=Z,15nm,0.4s						
NCRB	Newcastle Ridg	2.32	61	⇑Pn	Pn	19 11 02.8	-1.6
NCRB				Sn	Sn	19 11 30.1	-3.1
	comp=Z,24nm,0.2s						
NCRB				Trac		19 11 32.4	
	comp=Z,24nm,0.2s						
BTB	Buttle Lake	2.43	85	Pn	Pn	19 11 03.5	-2.4
BTB				Sn	Sn	19 11 33.0	-2.9
	comp=Z,60nm,0.3s						
BTB				Trac		19 11 33.7	
	comp=Z,60nm,0.3s						
OZB	Mount Ozzard	2.48	97	Pn	Pn	19 11 04.4	-2.3
OZB				Sn	Sn	19 11 32.7	-4.6
OZB				Trac		19 11 38.5	
	comp=Z,9.0nm,0.2s						
CBB	Campbell River	2.61	73	Pn	Pn	19 11 06.8	-1.7
CBB				Sn	Sn	19 11 37.2	-3.3
CBB				Trac		19 11 38.1	
	comp=Z,15nm,0.3s						
ALB	Alberni	2.88	89	Pn	Pn	19 11 11.7	-0.7
ALB				Sn	Sn	19 11 43.9	-3.6
	comp=Z,5.0nm,0.2s						
ALB				Trac		19 11 46.4	
	comp=Z,5.0nm,0.2s						
BBB	Bella Bella	2.95	13	Pn	Pn	19 11 11.2	-2.1
BBB				Sn	Sn	19 11 44.5	-4.7
BBB				Trac		19 11 46.2	
	comp=Z,44nm,0.3s						
MGB	Mount Grey	3.00	95	Pn	Pn	19 11 12.0	-2.0
MGB				Sn	Sn	19 11 45.7	-4.7
MGB				Trac		19 11 45.9	
	comp=Z,5.0nm,0.2s						
TXB	Texada	3.15	81	Pn	Pn	19 11 14.9	-1.3
TXB				Sn	Sn	19 11 49.6	-4.5
	comp=Z,40nm,0.6s						
TXB				Trac		19 11 51.7	
	comp=Z,40nm,0.6s						
PFB	Port Renfrew	3.25	102	Sn	Sn	19 11 51.9	-4.8
SHB	Sechelt	3.50	84	Pn	Pn	19 11 20.7	-0.5
SHB				Sn	Sn	19 11 58.5	-4.7
SHB				Trac		19 12 03.8	
	comp=Z,25nm,0.3s						
BIB	Bowen Island	3.87	87	Pn	Pn	19 11 25.2	-1.3
BIB				Trac		19 12 11.9	
	comp=Z,5.0nm,0.3s						
WPB	Watts Point	3.94	83	Pn	Pn	19 11 26.4	-1.0
WPB				Trac		19 12 14.8	
	comp=Z,3.0nm,0.2s						
LLLB	Lillooet	4.91	72	Pn	Pn	19 11 39.5	-1.7
LLLB				Trac		19 12 40.3	
	comp=Z,3.0nm,0.3s						

IDC 07 19:20:31.2±0.6, 0.63S×122.00E, mb4.5/14, mb1 4.5/15, mb1mx4.5/18, mbtmp4.4/15, ML3.9/1, MS3.8/8, Ms1 3.8/8, ms1mx3.7/17, Error ellipse: s-maj=30.4km s-min=14.1km az=72.0

MOS 07 19:20:34.6±1.3, 0.48S×122.17E, h33km, mb5.0/14, Error ellipse: s-maj=21.8km s-min=8.8km az=111.5

BJI 07 19:20:37.7, 1.19S×122.08E, h92km, mB5.2, mb4.9

NEIC 07 19:20:40.3±1.5, 0.69S×121.97E, h70km±14km, mb4.8/12, Error ellipse: s-maj=17.1km s-min=8.9km az=69.0

ISC 07 19:20:38.4±0.8, 0.70S±0.04×121.91E±0.07, h65km±7km, h75km±1.6km:pP-P, n98, σ1§26/108, mb4.7/46, 5C-7D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZMPH	Zamboanga City	7.61	1	⇑eP	P	19 22 25.7	-3.2
IPIL	Ipil	8.46	4	eP	P	19 22 37.8	-2.8
DAV	Davao City (W)	8.54	25	eP	P	19 22 41.8	+0.1
	189nm,0.7s						
KKM	Kota Kinabalu	8.79	320	eP	P	19 22 45.0	0.0
KKM				eS	S	19 24 21.2	-2.4
BUKP	Musuan	9.09	20	eP	P	19 22 49.4	+0.2
BATP	Bataraza	10.29	337	eP	P	19 23 07.7	+2.0
BUTP	Butuan	10.29	21	eP	P	19 23 11.7	+6.0
GUIM	Jordan	11.28	3	eP	P	19 23 20.2	+1.2
CUYO	Cuyo Island	11.51	356	eP	P	19 23 24.3	+2.1
ENPP	El Nido	12.09	348	eP	P	19 23 29.6	-0.3
KAKA	Kakadu	15.85	139	eP	P	19 24 38.1	+19
	19nm,0.6s						
FITZ	Fitzroy Crossi	17.67	168	eP	P	19 24 42.4	+0.6
	12nm,0.9s						
FITZ	Fitzroy Crossi	17.67	168	P	P	19 24 40.2	-1.6
	0.3nm,0.3s,baz=359,slow=10,SNR=5.9						
FITZ				LR	LR	19 32 27.0	
	comp=Z,337nm,21.4s,baz=318,slow=40						
KULM	Kulim	22.06	286	eP	P	19 25 28.2	-1.0
WRAB	Tennant Creek	22.66	148	eP	P	19 25 34.9	-0.4
	27nm,0.9s,mb4.7						
WRAB	Tennant Creek	22.66	148	⇑iP	P	19 25 35.5	+0.3
WRA	Warramunga Arr	22.66	148	P	P	19 25 34.2	-1.1
	10nm,0.7s,mb4.4,baz=330,slow=10,SNR=90						
QIZ	Qiongzhong	22.91	329	P	P	19 25 38.6	+0.9
QIZ				S	S	19 29 38.0	-0.7
QIZ				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.6						
QIZ				LR	LR		
	comp=Z,281nm,16.1s						
GZH	Guangzhou	25.07	341	P	P	19 26 03.5	+4.9
KKTK	Khon Kaen	25.33	313	P	P	19 26 05.0	+4.0
NNT	Nongplab	25.67	302	P	P	19 26 02.0	-2.2
JOW	Kunigami	28.05	12	LR	LR	19 38 06.0	
	comp=Z,212nm,18.5s,baz=332,slow=38						
GYA	Guiyang	30.75	333	⇓iP	P	19 26 50.6	+0.7
GYA				AP	pP	19 27 08.9	+3.1
GYA				PP	PP	19 27 54.2	+1.5
GYA				S	S	19 31 47.3	+0.2
GYA				SCP		19 33 21.0	
GYA				SCS	ScS	19 37 16.2	-0.9
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb5.1						
GYA				LR	LR		
	comp=N,380nm,17.9s						
GYA				LR	LR		
	comp=E,370nm,17.6s						
GYA				LR	LR		
	comp=Z,310nm,18.0s						
SSE	Sheshan	31.63	359	P	P	19 26 59.6	+2.0
SSE				XP	sP	19 27 27.1	+5.7
SSE				PP	PP	19 28 10.8	+6.9
SSE				PCP	PcP	19 29 49.2	+0.6
SSE				S	S	19 32 03.1	+2.2
SSE				XS		19 32 36.1	
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,52nm,5.0s						
SSE				LR	LR		
	comp=N,105nm,22.9s						
SSE				LR	LR		
	comp=E,47nm,22.9s						
SSE				LR	LR		
	comp=Z,100nm,25.2s						
SSE	Sheshan	31.63	359	P	P	19 26 59.6	+2.0
	comp=Z,33nm,0.7s,mb5.3						
SSE				sP	sP	19 27 27.1	+5.7
SSE				PP	PP	19 28 10.8	+6.9
SSE				PcP	PcP	19 29 49.2	+0.6
SSE				S	S	19 32 03.1	+2.2
SSE				sS		19 32 36.1	
SSE				SS	SS	19 34 22.1	+28
SSE				LR	LR		
	comp=Z,100nm,25.2s						
KMI	Kunming	31.68	325	P	P	19 26 59.7	+1.6
KMI				XP	sP	19 27 29.8	+7.9
KMI				S	S	19 32 03.5	+1.8
KMI				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.8						
KMI				LR	LR		
	comp=Z,106nm,21.7s						
KMI	Kunming	31.68	325	P	P	19 26 59.7	+1.6
	comp=Z,19nm,1.3s,mb4.8						
KMI				sP	sP	19 27 29.8	+7.9
KMI				S	S	19 32 03.5	+1.8
KMI				LR	LR		
	comp=Z,110nm,21.7s						
KMI	Kunming	31.68	325	P	P	19 26 59.7	+1.6
KMI				S	S	19 32 03.5	+1.8
KMI				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.8						
KMI				MLR	MLR		
	comp=Z,110nm,21.7s						
NJ2	Nanjing	32.71	355	eP	P	19 27 07.0	0.0
NJ2				AP	pP	19 27 25.1	+2.1
NJ2				PP	PP	19 28 18.8	+1.0
NJ2				S	S	19 32 17.0	-0.6
NJ2				AMB	AMB		
	comp=Z,130nm,5.3s						
NJ2				LR	LR		
	comp=N,300nm,20.5s						
NJ2				LR	LR		
	comp=E,230nm,13.2s						
NJ2				LR	LR		
	comp=Z,220nm,17.0s						
CD2	Chengdu	35.86	333	⇓iP	P	19 27 34.5	+0.4
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
STKA	Stephens Creek	36.16	151	eP	P	19 27 36.3	-0.2
	comp=Z,2.7nm,0.5s,mb4.4						

STKA	Stephens Creek	36.16	151	P	P	19 27 36.2	-0.3
	comp=Z,4.1nm,0.7s,mb4.5,baz=314,slow=7.3,SNR=5.5						
XAN	Xi'an	36.65	342	P	P	19 27 41.7	+1.0
MAT	Matsushiro	40.03	21	P	P	19 28 05.6	-3.2
MAT				eS	S	19 34 16.0	+6.4
MAT	Matsushiro	40.03	21	eP	P	19 28 06.0	-2.8
MAT				S	S	19 34 16.0	+6.4
MJAR	Matsushiro Arr	40.03	21	P	P	19 28 06.7	-2.1
	comp=Z,8.8nm,0.8s,mb4.5,baz=193,slow=8.8,SNR=15						
MJAR				LR	LR	19 41 08.7	
	comp=Z,202nm,21.6s,baz=200,slow=31						
LZH	Lanzhou	40.28	337	eP	P	19 28 12.0	+1.2
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.8						
LZH	Lanzhou	40.28	337	eP	P	19 28 12.0	+1.2
	comp=Z,26nm,1.2s,mb4.8						
LZH				pP	pP	19 28 22.0	-5.2
LZH				sP	sP	19 28 27.5	-7.3
LZH	Lanzhou	40.28	337	eP	P	19 28 12.0	+1.2
LZH				*PP	pP	19 28 22.0	-5.2
LZH				*SP	sP	19 28 27.5	-7.3
LZH				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.8						
LSA	Lhasa	42.13	318	P	P	19 28 28.6	+2.4
HHC	Hu-ho-hao-te	42.42	348	eP	P	19 28 28.9	+0.5
HHC				AP	pP	19 28 47.1	+2.4
HHC				PP	PP	19 30 10.5	+0.2
HHC				PCP	PcP	19 30 20.0	-1.1
HHC				SCP		19 34 04.8	
HHC				PCS		19 34 12.5	
HHC				S	S	19 34 44.1	-0.8
HHC				SCS	ScS	19 38 20.9	-0.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
HHC				AMB	AMB		
	comp=Z,123nm,3.9s						
HHC				LR	LR		
	comp=N,140nm,13.1s						
HHC				LR	LR		
	comp=E,189nm,14.3s						
HHC				LR	LR		
	comp=Z,167nm,19.0s						
CN2	Changchun	44.42	4	eP	P	19 28 47.4	+2.8
GTA	Gaotai	44.76	336	⇓P	P	19 28 48.8	+1.4
GTA				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,73nm,4.2s						
GTA				LR	LR		
	comp=N,112nm,15.2s						
GTA				LR	LR		
	comp=E,96nm,16.4s						
GTA				LR	LR		
	comp=Z,170nm,15.2s						
PKI	Pulchoki	44.94	312	eP	P	19 28 48.8	-0.1
	comp=Z,16nm,0.6s,mb5.0						
KKN	Kakani	45.15	312	eP	P	19 28 50.9	+0.3
	comp=Z,20nm,0.8s,mb5.0						
DMN	Daman	45.18	311	eP	P	19 28 51.2	+0.3
	comp=Z,16nm,0.6s,mb5.0						
MDJ	Mudanjiang	45.64	8	P	P	19 28 55.9	+1.6
MDJ				AP	pP	19 29 13.2	+2.5
MDJ				PCP	PcP	19 30 32.3	+0.3
MDJ				PP	PP	19 30 44.3	+1.9
MDJ				PCS		19 34 25.7	
MDJ				S	S	19 35 35.3	+3.9
MDJ				AMB	AMB		
	comp=Z,11nm,1.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,561nm,4.7s						
MDJ				LR	LR		
	comp=N,30nm,17.7s						
MDJ				LR	LR		
	comp=E,92nm,35.3s						
MDJ				LR	LR		
	comp=Z,77nm,28.0s						
GKN	Gorkha	45.74	312	eP	P	19 28 55.4	0.0
	comp=Z,34nm,0.7s,mb5.4						
KOLN	Koldanda	46.40	311	eP	P	19 29 00.9	+0.3
	comp=Z,32nm,0.7s,mb5.4						
ULN	Ulaanbaatar	50.08	347	eP	P	19 29 28.8	0.0
	comp=Z,20nm,0.9s,mb5.2						
ULN	Ulaanbaatar	50.08	347	eP	P	19 29 28.8	0.0
ULN				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
SONM	Songino Array	50.20	346	P	P	19 29 29.6	-0.1
	comp=Z,13nm,0.7s,mb5.1,baz=164,slow=8.9,SNR=104						
YSS	Yuzh-Sakhalins	50.86	18	i P	P	19 29 30.6	-4.1
WMQ	Urumqi	53.84	330	P	P	19 29 56.2	-0.9
WMQ				AP	pP	19 30 15.0	+1.1
WMQ				PCP	PcP	19 31 01.0	-0.9
WMQ				eS	S	19 37 24.0	-1.3
WMQ				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,132nm,4.0s						
WMQ				LR	LR		
	comp=N,122nm,19.6s						
WMQ				LR	LR		
	comp=E,84nm,19.9s						
WMQ				LR	LR		
	comp=Z,106nm,24.0s						
KSH	Kashi	57.98	319	P	P	19 30 28.7	+1.9
KSH				eAP	pP	19 30 49.2	+5.3
KSH				eXP	sP	19 30 58.9	+7.6
KSH				ePCP	PcP	19 31 19.9	+1.9
KSH				ePP	PP	19 32 37.9	+0.4
KSH				eS	S	19 38 19.6	-0.8
KSH				eSCS	ScS	19 40 06.2	-0.5
KSH				eSS	SS	19 42 12.5	-1.4
KSH				AMB	AMB		
	comp=Z,100nm,1.7s,mb5.6						
KSH				LR	LR		
	comp=N,200nm,4.5s						
KSH				LR	LR		
	comp=E,190nm,5.5s						
MKAR	Makanchi Array	58.65	329	P	P	19 30 31.2	-0.1
	comp=E,14nm,0.7s,mb5.1,baz=131,slow=7.9,SNR=157						
MKAR				LR	LR	19 58 13.3	
	comp=E,52nm,20.4s,baz=3.5,slow=39						
BOD	Bodaibo	58.69	355	eP	P	19 30 29.6	-1.8
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TKM2	Tokmak 2	60.06	322	P	P	19 30 41.8	+0.6
	SNR=14						
KBK	Karagaybulak	60.32	322	P	P	19 30 43.5	+0.5
	SNR=13						
UCH	Uchtor	60.36	321	P	P	19 30 44.3	+1.1
	SNR=8.5						
AAK	Ala-Archa	60.59	321	P	P	19 30 45.5	+0.8
	SNR=7.7						
AAK	Ala-Archa	60.59	321	eP	P	19 30 44.0	-0.7
	comp=Z,8.5nm,0.6s,mb5.0						
AAK	Ala-Archa	60.59	321	d iP	P	19 30 44.2	-0.6
AAK				pmax	pmax		
	comp=Z,25nm,1.7s,mb5.1						
USP	Ospenovka	60.93	322	P	P	19 30 46.9	-0.1
	SNR=12						
ZAL	Zalesovo	62.51	336	P	P	19 30 56.4	-1.1
	comp=Z,4.7nm,0.8s,mb4.7,baz=357,slow=6.1,SNR=21						
ZAL	Zalesovo	62.51	336	P	P	19 30 56.4	-1.1
ZAL	Zalesovo	62.51	336	i P	P	19 30 56.8	-0.7
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK	Yakutsk	62.85	4	⇑iP	P	19 30 55.5	-4.2
YAK				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0						
KURK	Kurchatov	63.05	331	eP	P	19 31 00.2	-1.0
	comp=Z,14nm,0.8s,mb5.1						
KURK	Kurchatov	63.05	331	eP	P	19 31 00.2	-0.9
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
KKAR	Karatay Array	63.35	320	P	P	19 31 02.3	-0.9
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
NVS	Novosibirsk	63.80	336	eP	P	19 31 04.0	-2.0
SEY	Seymchan	67.45	15	⇑iP	P	19 31 22.5	-6.7
BVA0	Borovoye Array	68.53	329	P	P	19 31 35.2	-0.8
BVAR	Borovoye Array	68.53	329	P	P	19 31 34.8	-1.3
	comp=Z,3.5nm,0.7s,mb4.4,baz=127,slow=7.4,SNR=28						
BRVK	Borovoye	68.60	329	eP	P	19 31 33.9	-2.6
	comp=Z,4.9nm,1.0s,mb4.4						
BRVK	Borovoye	68.60	329	eP	P	19 31 33.9	-2.6
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TIXI	Tiksi	72.37	2	⇓iP	P	19 31 57.1	-1.9
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,100nm,22.0s						
AB31	Akbulak array	72.62	323	P	P	19 31 59.6	-1.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
SVE	Sverdlovsk	75.29	330	eP	P	19 32 15.7	-0.4
SVE				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
SVE				MLR	MLR		
	comp=N,100nm,12.0s						
SVE				MLR	MLR		
	comp=E,100nm,12.0s						
SVE				MLR	MLR		
	comp=Z,100nm,12.0s						
ARU	Arti	76.17	329	eP	P	19 32 18.3	-2.8
	comp=Z,11nm,1.3s,mb4.6						
ARU	Arti	76.17	329	⇓iP	P	19 32 20.2	-1.0
ARU				e		19 32 32.8	
ARU				e		19 35 11.3	
ARU				ePPP	PPP	19 36 55.5	-6.4
ARU				eS	S	19 42 02.7	+4.1
ARU				eSS	SS	19 46 57.2	+1.1
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MAW	Mawson	77.97	200	P	P	19 32 31.3	+0.3
	comp=Z,3.5nm,0.9s,mb4.3,baz=37,slow=7.9,SNR=6.7						
MAW				LR	LR	20 00 22.1	
	comp=Z,49nm,20.5s,baz=238,slow=31						
ATD	Arta Tunnel	79.43	282	P	P	19 32 40.8	+0.8
	comp=Z,9.1nm,0.8s,mb4.8,baz=294,slow=22,SNR=4.1						
VNDA	Vanda	79.71	172	P	P	19 32 40.6	+0.3
	comp=Z,1.1nm,0.7s,mb3.9,baz=320,slow=6.7,SNR=11						
VNDA				LR	LR	20 06 53.6	
	comp=Z,65nm,18.9s,baz=138,slow=35						
KIV	Kislovodsk	82.73	314	eP	P	19 32 59.5	+2.8
KIV				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
KMBO	Kilima Mbogo	84.65	269	P	P	19 33 07.9	+0.8
	comp=Z,0.5nm,0.3s,mb4.1,baz=62,slow=18,SNR=2.8						
KMBO				LR	LR	20 09 53.9	
	comp=Z,88nm,18.9s,baz=95,slow=35						
ASF	Jabal al Asfar	86.15	302	P	P	19 33 14.7	+0.6
	comp=Z,0.8nm,0.3s,mb4.4,baz=48,slow=5.0,SNR=4.1						
SYO	Syowa Base	86.59	201	⇑P	P	19 33 16.5	+1.1
OBN	Obninsk	87.90	325	⇓iP	P	19 33 21.7	-0.3
OBN				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.9						
BRTR	Keskin Array B	89.11	310	P	P	19 33 28.4	+0.2
	comp=Z,0.5nm,0.5s,mb4.1,baz=117,slow=6.4,SNR=2.5						
QSPA	South Pole Qui	89.23	180	eP	P	19 33 29.5	+1.7
	comp=Z,3.9nm,0.6s,mb4.9						
ILAR	Eielson Array	91.15	25	P	P	19 33 36.5	-0.6
	comp=Z,0.4nm,0.6s,mb4.0,baz=243,slow=6.0,SNR=3.3						
AKASG	Malin Array Be	92.25	321	P	P	19 33 40.3	-2.2
	comp=Z,0.2nm,0.2s,mb4.1,baz=79,slow=4.4,SNR=4.3						
ARCES	ARCESS Array B	92.90	340	LR	LR	20 19 53.6	
	comp=Z,41nm,21.0s,baz=90,slow=38						
CPUP	Villa Florida	153.11	182	PKP	PKPdf	19 40 24.7	+2.9
	comp=Z,1.5nm,0.7s,baz=211,slow=5.9,SNR=3.3						
CPUP				PKPbc	PKPdf	19 40 31.6	+10
	comp=Z,1.5nm,0.5s,baz=171,slow=6.3,SNR=5.3						
LPAZ	La Paz	160.42	150	PKP	PKPdf	19 40 35.4	+4.2
	comp=Z,0.6nm,0.3s,baz=355,slow=5.8,SNR=4.8						
BDFB	Brasilia	160.95	211	PKP	PKPdf	19 40 34.6	+2.8
	comp=Z,1.4nm,0.5s,baz=256,slow=4.7,SNR=3.5						

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*LDG **07** 19:34:17.9±0.1, 42.39N×19.19E, h20km, Ml3.5/4, Error ellipse: s-maj=2.4km s-min=1.6km az=38.0*
*TIR **07** 19:34:17.5, 42.39N×19.20E, h18km, Ml2.4*
*NEIC **07** 19:34:18.1, 42.41N×19.20E, h22km, ML3.2(THE), ML3.2(PDG), ML3.1(ROM), After PDG.*
NEIC Felt [V] at Podgorica.
*PDG **07** 19:34:18.1±0.1, 42.41N×19.20E, h22km*
PDG Felt at Podgorica IV-V EMS-98.
*ROM **07** 19:34:20.2±0.4, 42.03N×19.04E, h12km, Md3.2/4, Ml3.1/4, Error ellipse: s-maj=7.7km s-min=2.2km az=19.0*
*CSEM **07** 19:34:20.1±0.0, 42.45N×19.12E, h40km, ML3.7/3, Error ellipse: s-maj=1.2km s-min=1.1km az=80.0*
*THE **07** 19:34:21.4, 42.47N×19.29E, h8km, ML3.6*
*PRU **07** 19:34:22.1, 43.34N×20.11E*
*ATH **07** 19:34:34.0, 41.23N×19.81E, h7km, MD3.9/4*
ISC 07 19:34:18.5±0.2**, 42.42N**±0.01×**19.16E**±0.02**, h22**km**, n123,** σ1**§08**/184**, 17C-23D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTG	Podgorica	0.08	80	⇑iPg	Pb	19 34 21.8	-0.6
TTG				eSg	Sb	19 34 24.9	-0.2
BUM	Brajici-Budva	0.23	239	⇓iPg	Pb	19 34 24.3	+0.2
BUM				eSg	Sb	19 34 29.0	+1.0
NKY	Niksic	0.41	343	⇑iPg	Pb	19 34 26.8	-0.2
NKY				eSg	Sb	19 34 34.0	+1.2
SDA	Shkodra	0.44	145	i Pg	Pb	19 34 26.6	-1.0
SDA				i Sg	Sb	19 34 33.8	0.0
ULC	Ulcinj	0.46	171	⇑iPg	Pb	19 34 27.1	-0.7
ULC				eSg	Sb	19 34 34.8	+0.6
HCY	Herceg Novi	0.49	274	⇓iPg	Pb	19 34 28.3	0.0
HCY				eSg	Sb	19 34 37.2	+2.1
HCY	Herceg Novi	0.49	274	eSg	Sb	19 34 37.2	+2.1
PVY	Plav	0.63	73	⇓iPg	Pb	19 34 29.7	-1.0
PVY				eSg	Sb	19 34 39.5	+0.5
BRY	Bratogost	0.66	317	⇑iPg	Pb	19 34 31.1	-0.1
BRY				eSg	Sb	19 34 42.5	+2.5
TREB	Trebinje	0.67	297	Pg	Pb	19 34 31.9	+0.6
TREB				Sg	Sb	19 34 42.8	+2.7
BCI	Bajram Curri	0.68	94	i Pg	Pb	19 34 30.5	-1.0
BCI				i Sg	Sb	19 34 40.4	0.0
IVA	Berane	0.71	50	⇓iPg	Pb	19 34 31.4	-0.6
IVA				eSg	Sb	19 34 42.6	+1.2
UPM	Unac-Piva	0.81	347	⇑iPg	Pb	19 34 33.4	-0.3
UPM				eSg	Sb	19 34 46.9	+2.8
PLE	Pljevlja	0.93	11	⇓iPg	Pb	19 34 35.8	0.0
PLE				eSg	Sb	19 34 50.5	+2.9
QSH	Qafa e Shtames	1.05	148	i Pg	Pb	19 34 36.5	-1.4
QSH				i Sg	Sb	19 34 54.3	+3.0
NVSS	Nova Varos 2	1.16	20	⇑iPg	Pn	19 34 40.6	+1.0
NVSS				Sg	Sb	19 34 56.8	+2.5
TIR	Tirane	1.19	153	Pg	Pn	19 34 38.2	-1.8
TIR	Tirane	1.19	153	i Pg	Pn	19 34 40.0	0.0
TIR				i Sg	Sb	19 34 57.0	+1.8
BBLS	Bajina Basta -	1.46	7	i Pn	Pn	19 34 47.0	+3.1
BBLS				Sg	Sn	19 35 07.0	+4.5
SKO	Skopje	1.75	104	⇓iPn	Pn	19 34 49.9	+1.8
SKO				i		19 35 08.4	
SKO				i Sn	Sn	19 35 11.6	+1.7
SKO				Lg		19 35 15.0	
	comp=Z,0.1nm,0.6s						
DIVS	Divcibare	1.79	20	⇑iPn	Pn	19 34 48.9	+0.3
DIVS				Sn	Sn	19 35 12.2	+1.4
PE1	Pezze di Greco	2.07	220	⇓iPn	Pn	19 34 52.2	-0.4
BRT	Bari-Castellan	2.12	224	Pg	Pn	19 34 53.4	0.0
	comp=Z,39nm,0.2s						
BAI	Bari	2.15	233	⇓iPn	Pn	19 34 53.3	-0.5
NOCI	Noci	2.26	225	Pg	Pn	19 34 54.8	-0.5
NOCI				Sg	Sn	19 35 21.3	-1.5
	comp=Z,182nm,0.2s						
FNA	Florina	2.33	134	ePn	Pn	19 34 57.7	+1.4
FNA				eSn	Sn	19 35 25.1	+0.5
FNA	Florina	2.33	134	P	Pn	19 34 57.7	+1.3
FNA				S	Sn	19 35 23.7	-0.9
SVIS	Svilajnac	2.41	38	⇑iPn	Pn	19 34 56.5	-0.9
SVIS				Sn	Sn	19 35 28.3	+1.8
AMUR	Altamura	2.44	233	Pg	Pn	19 34 57.5	-0.4
AMUR				Sg	Sn	19 35 26.8	-0.5
	comp=Z,26nm,0.3s						
SG1	Sgolgore (BA)	2.44	231	⇓iPn	Pn	19 34 57.3	-0.6
LTRZ	Laterza	2.52	225	Pg	Pn	19 34 58.4	-0.7
	comp=Z,32nm,0.4s						
CDT	Castel del Mon	2.54	239	⇓iPn	Pn	19 34 58.8	-0.5
BEO	Belgrade	2.58	21	⇓iPn	Pn	19 34 58.6	-1.3
BEO				Sn	Sn	19 35 30.3	-0.7
BLY	Banja Luka	2.74	329	Pn	Pn	19 35 04.4	+2.3
KEK	Kerkira	2.74	170	ePG	Pn	19 35 02.4	+0.2
KEK	Kerkira	2.74	170	Pg	Pn	19 35 01.9	-0.3
RGNG	Rignano Grg	2.76	256	Pg	Pn	19 35 02.2	-0.3
GRG	Griva	2.83	120	ePn	Pn	19 35 04.0	+0.5
GRG				eSn	Sn	19 35 36.3	-1.0
GRG	Griva	2.83	120	P	Pn	19 35 03.6	+0.1
GRG				S	Sn	19 35 35.0	-2.4
KZN	Kozani	2.88	136	ePN	Pn	19 35 06.8	+2.6
JAN	Janina	3.04	155	ePN	Pn	19 35 07.3	+0.9
JAN	Janina	3.04	155	ePn	Pn	19 35 07.5	+1.1
KNT	Kendrikon	3.06	113	ePn	Pn	19 35 07.0	+0.2
KNT				eSn	Sn	19 35 41.6	-1.6
KNT	Kendrikon	3.06	113	P	Pn	19 35 05.6	-1.2
KNT				S	Sn	19 35 38.9	-4.3
KNT	Kendrikon	3.06	113	P	Pn	19 35 05.6	-1.2
KNT	Kendrikon	3.06	113	ePn	Pn	19 35 07.0	+0.2
SLCN	Sala Consilina	3.34	234	Pg	Pn	19 35 11.1	+0.4
	comp=Z,16nm,0.3s						
MCRV	Calabrutti - M	3.41	243	Pg	Pn	19 35 11.1	-0.6
	comp=Z,38nm,0.4s						
SGO	Sicignano	3.44	239	Pg	Pn	19 35 11.5	-0.6
	comp=Z,20nm,0.6s						
CSSN	Cassano Irpino	3.47	245	Pg	Pn	19 35 13.6	+1.1
	comp=Z,11nm,0.3s						
CUC	Castrocucco	3.50	227	Pg	Pn	19 35 12.6	-0.3
	comp=Z,73nm,0.5s						
RHK3	Tenkes	3.53	350	⇓eP	Pn	19 35 13.8	+0.4
RHK3				eS	Sn	19 35 54.1	-0.9
	comp=Z,0.7nm,0.2s						
MGR	Morigerati	3.54	231	Pg	Pn	19 35 13.0	-0.6
	comp=Z,12nm,0.2s						
SRS	Serrai	3.56	110	ePn	Pn	19 35 14.6	+0.8
SRS				eSn	Sn	19 35 53.5	-2.3
SRS	Serrai	3.56	110	P	Pn	19 35 13.3	-0.6
SRS				S	Sn	19 35 53.6	-2.2
CII	Carovilli	3.68	261	Pg	Pn	19 35 16.8	+1.3
	comp=Z,33nm,0.6s						
TIP	Timpagrande	3.71	210	Pg	Pn	19 35 15.1	-0.9
SGG	Gregorio Mates	3.71	256	Pg	Pn	19 35 16.9	+0.9
RHK1	Bakonya	3.76	348	⇓eP	Pn	19 35 16.9	+0.2
RHK1				eS	Sn	19 36 00.1	-0.7
	comp=Z,3.5nm,0.2s						
NVLJ	Novalja	3.79	306	i Pn	Pn	19 35 17.6	+0.6
NVLJ				i Sn	Sn	19 36 02.0	+0.6
VAGA	Valle Agricola	3.81	256	Pg	Pn	19 35 18.2	+0.8
PKSM	Moragy	3.81	355	⇑iP	Pn	19 35 17.1	-0.3
PKSM				eS	Sn	19 36 00.7	-1.4
EVR	Evrytania	4.04	149	ePN	Pn	19 35 21.2	+0.6
AGG	Agios Georgios	4.16	144	ePn	Pn	19 35 22.2	-0.1
AGG				eSn	Sn	19 36 09.2	-1.8
AGG	Agios Georgios	4.16	144	P	Pn	19 35 22.0	-0.4
AGG				S	Sn	19 36 09.2	-1.8
BOJS	Bojanci	4.18	319	ePn	Pn	19 35 23.8	+1.2
BOJS				eSn	Sn	19 36 12.8	+1.4
OUR	Ouranopolis	4.18	118	ePn	Pn	19 35 23.1	+0.4
OUR	Ouranopolis	4.18	118	P	Pn	19 35 21.5	-1.1
OUR	Ouranopolis	4.18	118	P	Pn	19 35 21.5	-1.2
OUR	Ouranopolis	4.18	118	ePn	Pn	19 35 23.0	+0.3
PKS6	Bocsa	4.19	4	eP	Pn	19 35 22.5	-0.3
PKS9	Tamasi	4.22	352	⇓eP	Pn	19 35 23.3	+0.1
PKS9				eS	Sn	19 36 11.9	-0.5
	comp=Z,2.4nm,0.3s						
PAIG	Paliouri	4.22	125	ePn	Pn	19 35 23.3	0.0
XOR	Xorichti	4.32	134	ePn	Pn	19 35 25.0	+0.5
XOR	Xorichti	4.32	134	P	Pn	19 35 24.4	-0.2
XOR	Xorichti	4.32	134	P	Pn	19 35 24.4	-0.2
XOR	Xorichti	4.32	134	ePn	Pn	19 35 25.0	+0.4
PKS8	Sarbogard	4.47	356	⇑eP	Pn	19 35 26.1	-0.7
PKS8				eS	Sn	19 36 16.0	-2.9
	comp=Z,0.7nm,0.3s						
LEGS	Legarje	4.48	323	ePn	Pn	19 35 28.1	+1.1
LEGS				eSn	Sn	19 36 19.1	-0.1
VISS	Visnje	4.60	319	ePn	Pn	19 35 29.7	+1.2
VISS				eSn	Sn	19 36 22.8	+0.8
PKS7	Kunszentmiklos	4.63	0	⇑eP	Pn	19 35 29.1	+0.1
PKS7				eS	Sn	19 36 20.9	-1.9
	comp=Z,1.4nm,0.3s						
GROS	Grobnik	4.82	328	i Pn	Pn	19 35 32.1	+0.4
LJU	Ljubljana	4.92	319	i Pn	Pn	19 35 34.4	+1.3
PKSG		5.00	354	⇑eP	Pn	19 35 34.5	+0.2
PKSG				eS	Sn	19 36 30.5	-1.7
	comp=Z,0.5nm,0.4s						
PERS	Pernice	5.11	327	ePn	Pn	19 35 36.3	+0.4
VOY	Vojsko	5.23	315	ePn	Pn	19 35 37.7	+0.2
VOY				eSn	Sn	19 36 38.2	+0.3
OBKA	Obir	5.25	323	⇑iPN	Pn	19 35 38.7	+0.9
OBKA				i SN	Sn	19 36 37.2	-1.3
ALN	Alexandroupoli	5.38	104	ePn	Pn	19 35 39.6	0.0
ARSA	Arzberg	5.48	333	⇓iPN	Pn	19 35 41.0	0.0
ARSA				i SN	Sn	19 36 41.1	-3.1
MLR	Muntele Rosu	5.78	56	⇓iP	Pn	19 35 46.7	+1.4
MLR	Muntele Rosu	5.78	56	⇓iP	Pn	19 35 46.7	+1.4
ZST	Bratislava	5.96	347	eSN	Sn	19 36 52.2	-4.0
VYHS	Vyhne	6.08	358	eSN	Sn	19 36 53.1	-6.1
KECS	Kecovo	6.14	8	ePN	Pn	19 35 50.7	+0.4
KECS				eSN	Sn	19 36 55.8	-4.8
KBA	Koelnbreinsper	6.23	320	⇓iPN	Pn	19 35 52.0	+0.4
KBA				i SN	Sn	19 37 00.4	-2.6
MOA	Molln	6.44	329	⇓iPN	Pn	19 35 54.7	+0.1
MOA				i SN	Sn	19 37 06.1	-2.1
VRI	Vrincioaia	6.45	55	⇑iP	Pn	19 35 54.8	+0.2
VRI	Vrincioaia	6.45	55	⇑iP	Pn	19 35 54.8	+0.2
CRVS	Cervenica-Dubn	6.68	13	ePN	Pn	19 35 57.2	-0.8
CRVS				eSN	Sn	19 37 13.2	-1.1
BURAR	Bucovina Array	6.74	37	⇑iP	Pn	19 35 58.1	-0.7
STHS	Stebnicka Huta	7.15	11	ePN	Pn	19 36 04.0	-0.5
WTTA	Wattenberg	7.21	315	⇓iPN	Pn	19 36 04.9	-0.5
WTTA				i SN	Sn	19 37 26.2	-1.4
WATA	Walderalm	7.29	315	⇓iPN	Pn	19 36 06.7	+0.2
WATA				i SN	Sn	19 37 27.9	-1.6
SQTA	Sankt Quirin	7.42	313	⇓iPN	Pn	19 36 08.3	0.0
SQTA				i SN	Sn	19 37 31.5	-1.1
PGF	Pioggiola	7.51	274	ePn	Pn	19 36 04.2	-5.4
PGF				eP		19 36 09.1	
PGF				eSn	Sn	19 37 23.2	-12
	comp=Z,6.4nm,0.8s						
MOTA	Moosalm	7.55	313	⇓iPN	Pn	19 36 09.9	-0.2
MOTA				i SN	Sn	19 37 34.7	-1.2
KHC	Kasperske Hory	7.76	332	ePN	Pn	19 36 14.1	+1.0
KHC				eSN	Sn	19 37 35.9	-5.4
DAVA	Damuels	8.19	310	⇑iPN	P	19 36 19.7	+0.6
DAVA				i SN	Sn	19 37 50.9	-1.1
SBF	Sospel	8.70	284	ePn	P	19 36 20.0	-6.1
FRF	La Foret Royal	9.24	281	ePn	P	19 36 28.2	-5.4
FRF				eSn	Sn	19 38 03.7	-14
	comp=Z,4.8nm,0.5s						
MBDF	Montbardon	9.29	289	ePn	P	19 36 29.0	-5.2
LPG	La Plagne	9.46	293	ePn	P	19 36 31.5	-5.2
LPG				eP		19 36 36.7	
LPG				eSn	Sn	19 38 10.7	-13
	comp=Z,3.3nm,0.5s						
LPG	La Plagne	9.46	293	eP	P	19 36 36.7	0.0
LPL	La Plagne	9.48	293	ePn	P	19 36 31.8	-5.1
LPL				eP		19 36 36.8	
LPL				eSn	Sn	19 38 10.8	-13
	comp=Z,2.9nm,0.4s						
LPL	La Plagne	9.48	293	eP	P	19 36 36.8	-0.1
ORIF	Oris-en-Rattie	9.94	289	ePn	P	19 36 38.1	-5.1
CABF	La Chapelle	10.23	299	ePn	P	19 36 41.3	-5.9
HINF	Hinteralfeld	10.23	306	ePn	P	19 36 40.8	-6.4
CDF	Champ du Feu	10.28	310	ePn	P	19 36 43.0	-4.8
HAU	Haudompre	10.62	306	ePn	P	19 36 46.6	-5.9
MEZF	Maizieres J'vi	11.62	306	ePn	P	19 37 00.7	-5.4
SMF	Signal de Mont	11.72	296	ePn	P	19 37 01.4	-6.1
LOR	Lormes	11.89	299	ePn	P	19 37 03.9	-5.9

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*NAO **07** 19:35:03.4±2.6, 57.89N×22.36E, ML2.0*
*IDC **07** 19:35:04.8±2.3, 57.99N×22.28E, mb1 3.0/4, mb1mx2.9/19, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=23.7km s-min=8.7km az=163.0*
*BER **07** 19:35:05.3±4.4, 57.88N×22.30E, ML2.0(NAO)*
HEL 07 19:35:02.2±0.2**, 57.78N×22.45E, ML1.9, ML2.3**(UPP)**, ML2.0**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	Gotland	2.08	269	eP	Pn	19 35 38.6	-0.2
VSU	Vasula	2.37	72	eP	Pn	19 35 42.4	-0.6
VSU				eS	Sn	19 36 11.6	-1.6
VSU	Vasula	2.37	72	Pn	Pn	19 35 42.9	0.0
VSU				Sn	Sn	19 36 14.9	+1.7
NYNU	Nynaeshamn	2.64	300	eP	Pn	19 35 46.0	-0.8
VIKU	Vikbolandet	3.13	286	eP	Pn	19 35 53.0	-0.8
GRAU	Graesoe	3.26	323	eP	Pn	19 35 55.0	-0.6
PVF	Pernaja	3.28	31	eP	Pn	19 35 55.9	0.0

PVF				eS	Sn	19 36 33.9	-2.3
PVF				eSG	Sg	19 36 43.5	-7.9
FLYU	Flymyra	3.33	317	eP	Pn	19 35 55.1	-1.6
BACU	Backbrunna	3.47	309	eP	Pn	19 35 56.9	-1.6
OSKU	Oskarshamn	3.48	263	eP	Pn	19 35 58.2	-0.5
ESKU	Eskilstuna	3.49	297	eP	Pn	19 35 57.6	-1.3
VJF	Virojoki	3.81	41	eP	Pn	19 36 01.6	-1.8
VJF				eS	Sn	19 36 46.0	-3.6
FIA0	FINESS Array S	4.11	25	Pn	Pn	19 36 06.3	-1.3
	baz=224,slow=12						
FIA0				Pg	Pg	19 36 16.0	-8.2
	baz=199,slow=16						
FIA0				Sn	Sn	19 36 52.4	-4.7
	baz=217,slow=28						
FIA0				Lg		19 37 11.2	
	baz=210,slow=28						
FIA0	FINESS Array S	4.11	25	eP	Pn	19 36 05.9	-1.8
FIA0				eS	Sn	19 36 52.1	-5.0
FIA0				eSG	Sg	19 37 08.3	-11
FIA0				MSG		19 37 12.2	
	comp=Z,2.4nm,0.3s						
FINES	FINESS Array B	4.11	25	Pn	Pn	19 36 06.3	-1.3
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=9.1						
FINES				Pg	Pg	19 36 14.8	-9.4
	comp=Z,0.5nm,0.3s,baz=204,slow=16,SNR=19						
FINES				Sn	Sn	19 36 52.6	-4.5
	comp=Z,0.3nm,0.3s,baz=211,slow=24,SNR=4.2						
FINES				Lg		19 37 10.7	
	comp=Z,0.9nm,0.3s,baz=214,slow=27,SNR=8.6						
KEF	Keuruu	4.56	14	eP	Pn	19 36 13.0	-1.1
KEF				eS	Sn	19 37 04.9	-3.7
KEF				eSG	Sg	19 37 22.7	-11
KEF				MSG		19 37 26.4	
	comp=Z,1.3nm,0.3s						
KAF	Kangasniemi	4.76	22	eP	Pn	19 36 15.1	-1.7
KAF				eS	Sn	19 37 09.5	-4.1
KAF				eSG	Sg	19 37 28.4	-12
HFS	Hagfors	5.11	301	eP	Pn	19 36 19.2	-2.6
HFS				ePG	Pg	19 36 34.9	-9.3
HFS				eS	Sn	19 37 19.1	-3.3
HFS				eSG		19 37 37.2	
HFS	Hagfors	5.11	301	Pn	Pn	19 36 19.2	-2.6
	comp=Z,0.1nm,0.3s,baz=117,slow=16,SNR=18						
HFS				Lg		19 37 36.8	
	comp=Z,0.2nm,0.3s,baz=115,slow=31,SNR=8.3						
HFS	Hagfors	5.11	301	Pn	Pn	19 36 19.2	-2.6
	baz=118,slow=14						
HFS				Pg	Pg	19 36 34.9	-9.3
	baz=112,slow=16						
HFS				Sn	Sn	19 37 19.1	-3.3
	baz=116,slow=22						
HFS				Lg		19 37 37.2	
	baz=107,slow=37						
SUF	Sumiainen	5.28	19	eP	Pn	19 36 22.2	-2.1
SUF				eS	Sn	19 37 20.6	-6.2
SUF				eSG	Sg	19 37 44.3	-14
SUF				MSG		19 37 47.5	
	comp=Z,0.8nm,0.3s						
NB2	NORSAR Subarra	6.60	304	Pn	Pn	19 36 39.2	-3.6
	baz=119,slow=14						
NB2	NORSAR Subarra	6.60	304	eP	Pn	19 36 39.2	-3.6
NOA	NORSAR Array B	6.60	304	Pn	Pn	19 36 38.8	-4.1
	comp=Z,0.2nm,0.3s,baz=111,slow=13,SNR=2.3						
NOA				Sn	Sn	19 37 51.4	-8.4
	comp=Z,0.1nm,0.3s,baz=135,slow=20,SNR=2.5						
NOA				Lg		19 38 24.9	
	comp=Z,0.3nm,0.3s,baz=13,slow=15,SNR=3.5						
ARA0	ARCESS Array S	11.87	5	Pn	P	19 37 48.6	-7.0
	baz=179,slow=14						
ARA0	ARCESS Array S	11.87	5	eP	P	19 37 48.6	-7.0
ARCES	ARCESS Array B	11.87	5	Pn	P	19 37 48.8	-6.8
	comp=Z,0.1nm,0.3s,baz=179,slow=14,SNR=5.4						

IDC ***07*** *19:53:27.8±1.1, 0.62S×123.65E, mb3.8/5, mb1 4.0/6, mb1mx3.9/16, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=101.7km s-min=20.6km az=68.0*
NEIC ***07*** *19:53:30.7±11.0, 0.67S×123.51E, h18^{km}±74^{km}, mb4.5/1, Error ellipse: s-maj=54.4km s-min=15.8km az=65.0*
ISC 07 19:53:30.8±0.9**, 0.7S**±0.2×**123.5E**±0.4**, h33**^{km}**, n9,** σ**0**^{s}**30**/9**,** **mb3.9**/6**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.45	173	P	P	19 57 33.2	-0.1
	0.6nm,0.3s,baz=5.7,slow=11,SNR=9.3						
WRAB	Tennant Creek	21.90	152	eP	P	19 58 23.2	+0.3
	17nm,0.8s,mb4.5						
WRA	Warramunga Arr	21.90	152	P	P	19 58 22.5	-0.5
	8.7nm,0.6s,mb4.3,baz=331,slow=10,SNR=67						
WB2	Warramunga Arr	21.91	152	eP	P	19 58 23.0	0.0
STKA	Stephens Creek	35.44	153	P	P	20 00 26.3	+0.2
	1.8nm,0.7s,mb4.1,baz=332,slow=8.4,SNR=5.8						
STKA	Stephens Creek	35.44	153	eP	P	20 00 26.7	+0.6
SONM	Songino Array	50.55	345	P	P	20 02 27.9	-0.3
	0.3nm,0.7s,mb3.4,baz=150,slow=6.9,SNR=3.9						
MKAR	Makanchi Array	59.44	328	P	P	20 03 33.0	+0.3
	0.2nm,0.3s,mb3.6,baz=128,slow=9.3,SNR=4.5						
VNDA	Vanda	79.52	172	P	P	20 05 35.4	-0.1
	0.5nm,0.7s,mb3.6,baz=315,slow=5.9,SNR=5.3						

MDD ***07*** *19:56:30.4±2.5, 37.22N×14.51W, mb4.0/13, Error ellipse: s-maj=23.4km s-min=18.8km az=67.0, PRXIMO*
INMG ***07*** *19:56:33.3±2.1, 36.88N×14.73W, h10^{km}, ML2.7, Error ellipse: s-maj=18.4km s-min=10.9km az=127.0*
CSEM ***07*** *19:56:34.8±0.4, 37.37N×14.21W, h97^{km}±12^{km}, mb3.6/13, Error ellipse: s-maj=6.9km s-min=5.6km az=87.0*
ISC 07 19:56:32.8±1.1**, 37.37N**±0.06×**14.07W**±0.07**, h10**^{km}**, n40,** σ**1**^{s}**22**/72**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOU	Loures	4.16	67	eSn	Sn	19 58 30.1	+2.9
PTEO	Sao Teotonio	4.26	86	ePn	Pn	19 57 40.5	+1.3
PTEO				eSn	Sn	19 58 28.2	-1.4
	10nm,0.2s						
PTEO	Sao Teotonio	4.26	86	P	Pn	19 57 40.4	+1.2
PTEO				S	Sn	19 58 28.1	-1.5
PBEJ	Beja	4.96	80	ePn	Pn	19 57 50.2	+0.9
PBEJ				eSn	Sn	19 58 47.3	-0.1
	4.7nm,0.2s						
PBEJ	Beja	4.96	80	P	Pn	19 57 50.4	+1.1
PBEJ				S	Sn	19 58 47.0	-0.5
PTOM	Tomar	4.98	61	ePn	Pn	19 57 51.4	+2.0
PTOM				eSn	Sn	19 58 49.6	+1.8
	5.8nm,0.2s						
EGRO	El Granado	5.24	86	P	Pn	19 57 53.6	+0.4
	0.1nm,0.0s,SNR=19						
EGRO				S	Sn	19 58 55.0	+0.5
	SNR=7.9						
EGRO	El Granado	5.24	86	P	Pn	19 57 53.6	+0.4
	0.1nm,0.0s,SNR=19						
EGRO				S	Sn	19 58 55.0	+0.5
	SNR=7.9						
PCBR	Castelo Branco	5.72	62	ePn	Pn	19 58 01.5	+1.5
PCBR				eSn	Sn	19 59 07.8	+1.3
	2.9nm,0.2s						
PCBR	Castelo Branco	5.72	62	P	Pn	19 58 01.4	+1.4
PCBR				S	Sn	19 59 06.7	+0.2
EBAD	Badajoz	5.74	74	P	Pn	19 58 00.4	+0.2
	0.1nm,0.0s,SNR=14						
EBAD				S	Sn	19 59 07.7	+0.8
	3.6nm,0.3s,SNR=6.1						
EBAD	Badajoz	5.74	74	P	Pn	19 58 00.4	+0.2
	0.1nm,0.0s,SNR=14						
EBAD				S	Sn	19 59 07.7	+0.8
	3.6nm,0.3s,SNR=6.1						
EMIN	Mina Concepcio	5.89	84	P	Pn	19 58 02.4	+0.1
	0.3nm,0.1s,SNR=15						
EMIN				S	Sn	19 59 09.5	-1.2
	2.2nm,0.3s,SNR=6.9						
EMIN	Mina Concepcio	5.89	84	P	Pn	19 58 02.4	+0.1
	0.3nm,0.1s,SNR=15						
EMIN				S	Sn	19 59 09.5	-1.2
	2.2nm,0.3s,SNR=6.9						
MTE	Manteigas	5.92	57	ePn	Pn	19 58 04.3	+1.5
MTE				eSn	Sn	19 59 13.2	+1.7
	4.8nm,0.5s						
MTE	Manteigas	5.92	57	P	Pn	19 58 06.0	+3.2
MTE				S	Sn	19 59 12.4	+0.9
MTE				eSn	Sn	19 59 13.2	+1.7
	4.8nm,0.5s						
PVRL	Vila Real	6.29	50	ePn	Pn	19 58 08.0	+0.1
PVRL				eSn	Sn	19 59 22.4	+1.9
	3.8nm,0.2s						
PVRL	Vila Real	6.29	50	P	Pn	19 58 08.0	+0.1
PVRL				S	Sn	19 59 22.3	+1.8
PCAB	Cabril	6.37	45	ePn	Pn	19 58 08.4	-0.7
PCAB				eSn	Sn	19 59 21.5	-1.3
	6.5nm,0.1s						
PCAB	Cabril	6.37	45	P	Pn	19 58 08.3	-0.8
PCAB				S	Sn	19 59 21.5	-1.3
ELOB	Lobios	6.46	44	P	Pn	19 58 09.9	-0.4
	0.2nm,0.0s,SNR=13						
ELOB				S	Sn	19 59 24.3	-0.5
	SNR=7.9						
ELOB	Lobios	6.46	44	P	Pn	19 58 09.9	-0.4
	0.2nm,0.0s,SNR=13						
ELOB				S	Sn	19 59 24.3	-0.6
	SNR=7.9						
ESPR	Espera	6.58	92	P	Pn	19 58 12.4	+0.3
	0.1nm,0.0s,SNR=7.9						
ESPR				S	Sn	19 59 26.5	-1.5
	SNR=7.9						
ESPR	Espera	6.58	92	P	Pn	19 58 12.4	+0.3
	0.1nm,0.0s,SNR=7.9						
ESPR				S	Sn	19 59 26.5	-1.5
	SNR=7.9						
EMAZ	Mazaricos	6.80	33	P	Pn	19 58 13.3	-1.9
	0.4nm,0.1s,SNR=9.2						
EMAZ				S	Sn	19 59 28.9	-4.7
	4.5nm,0.3s,SNR=6.2						
EMAZ	Mazaricos	6.80	33	P	Pn	19 58 13.3	-1.9
	0.4nm,0.1s,SNR=9.2						
EMAZ				S	Sn	19 59 28.9	-4.6
	4.5nm,0.3s,SNR=6.2						
ECAL	Calabor	7.27	49	P	Pn	19 58 21.5	-0.3
	9.3nm,0.3s,SNR=25						
ECAL				S	Sn	19 59 44.1	-1.1
	SNR=7.9						
ECAL	Calabor	7.27	49	P	Pn	19 58 21.5	-0.3
	9.3nm,0.3s,SNR=25						
ECAL				S	Sn	19 59 44.1	-1.1
	SNR=7.9						
EADA	Adamuz	7.56	81	P	Pn	19 58 25.6	-0.3
	0.3nm,0.1s,SNR=18						
EADA				S	Sn	19 59 49.6	-2.9
	SNR=7.9						
EADA	Adamuz	7.56	81	P	Pn	19 58 25.6	-0.2
	0.3nm,0.1s,SNR=18						
EADA				S	Sn	19 59 49.6	-2.9
	SNR=7.9						
EPON	Pontenova	7.96	39	P	Pn	19 58 30.5	-0.9
	4.3nm,0.8s,SNR=5.8						
EPON				S	Sn	19 59 59.2	-3.2
	SNR=7.9						
EPON	Pontenova	7.96	39	P	Pn	19 58 30.5	-0.9
	4.3nm,0.8s,SNR=5.8						
EPON				S	Sn	19 59 59.2	-3.2
	SNR=7.9						
ESDC	Sonseca Array	8.25	71	P	P	19 58 34.8	-0.7
	0.8nm,0.3s,baz=256,slow=14,SNR=21						
ESDC	Sonseca Array	8.25	71	P	P	19 58 34.8	-0.6
	0.8nm,0.3s,SNR=21						
EQUE	Quentar	8.48	88	P	P	19 58 36.4	-2.2
	1.7nm,0.4s,SNR=4.0						
EQES	Quesada	8.74	84	P	P	19 58 42.4	+0.1
	SNR=7.9						
EQES	Quesada	8.74	84	P	P	19 58 42.3	0.0
	SNR=7.9						
EARI	Arriondas	8.99	46	P	P	19 58 45.9	+0.1
	2.6nm,0.8s,SNR=8.0						
EARI	Arriondas	8.99	46	P	P	19 58 45.9	+0.2
	2.6nm,0.8s,SNR=8.0						
ELAN	Lanestosa	10.01	51	P	P	19 59 00.5	+0.7
	5.2nm,0.7s,SNR=5.1						

NNC ***07*** *20:19:02.8±5.6, 37.75N×71.95E, h196^{km}±80^{km}, mpv3.5, Error ellipse: s-maj=64.2km s-min=34.8km az=16.0*
ISC 07 20:18:58.3±2.4**, 37.5N**±0.2×**72.1E**±0.3**, h203**^{km}±52^{km}**, n9,** σ**0**^{s}**88**/11**, 3C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.45	19	⇑P	P	20 20 19.8	+0.6
	5.7nm,0.6s						
AAK				⇓S	S	20 21 22.5	+0.4
	6.0nm,0.6s						
KK31	Karatay Array	5.73	348	P	P	20 20 23.5	+0.8
	1.1nm,0.2s,baz=157,slow=11,SNR=73						
KK31				⇑S	S	20 21 26.5	-2.0
	3.4nm,0.3s,baz=160,slow=17,SNR=18						
KOLN	Koldanda	13.71	132	eP	P	20 22 06.9	+1.6
	6.6nm,0.4s						
GKN	Gorkha	14.17	128	eP	P	20 22 10.7	-0.4
	30nm,0.4s						
AB31	Akbulak array	14.68	327	P	P	20 22 17.6	+0.4
	0.8nm,0.6s,baz=133,slow=12,SNR=13						
KKN	Kakani	14.72	127	eP	P	20 22 17.4	-0.6
	6.3nm,0.4s						
DMN	Daman	14.74	128	eP	P	20 22 17.4	-0.8
	12nm,0.6s						
PKI	Pulchoki	14.96	128	eP	P	20 22 20.4	-0.5
AKTO	Aktyubinsk	16.39	327	⇑P	P	20 22 38.3	+0.2
	0.4nm,0.6s						

OTT 07 20:22:17.3±0.5**, 74.06N**×**96.56W, h18**^{km}**, MN2.6**/4**, 90km southwest from Resolute, Nu Boothia Ungava Seismic Zone., Queen Elizabeth Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RES	Resolute Bay	0.78	35	PG	Pb	20 22 31.6	-0.4
RES				SG	Sb	20 22 42.0	0.0
RES				Trac		20 22 46.7	
	comp=Z,27nm,0.1s						
GIFN	Gifford Fjord,	6.14	124	PN	Pn	20 23 46.2	-3.3
GIFN				SN	Sn	20 24 51.0	-9.1
GIFN				LG		20 25 19.7	
GIFN				Trac		20 25 25.5	
	comp=Z,6.9nm,0.8s						
LAIN	Lailor River,	6.44	134	PN	Pn	20 23 51.2	-2.5
LAIN				SN	Sn	20 24 59.6	-8.0
LAIN				LG		20 25 30.8	
LAIN				Trac		20 25 41.7	
	comp=Z,6.6nm,1.1s						
ILON	Igloolik, Nuna	6.58	128	SN	Sn	20 25 01.7	-9.4
ILON				LG		20 25 31.6	
ILON				Trac		20 25 47.7	
	comp=Z,11nm,0.8s						
SRLN	Sarcpa Lake, N	6.96	136	PN	Pn	20 23 57.5	-3.5
SRLN				SN	Sn	20 25 09.7	-11
SRLN				LG		20 25 44.6	
QILN	Qililugaq Expl	8.17	150	PN	P	20 24 13.0	-5.0
QILN				SN	Sn	20 25 38.5	-12
QILN				LG		20 26 24.3	
ACKN	Achilles Lake	10.35	216	SN	S	20 26 27.4	-17
ACKN				LG		20 27 28.9	
GLWN	Glow Worm Lake	10.36	212	SN	S	20 26 29.9	-15
GLWN				LG		20 27 23.0	
YMBN	Yamba Lake	10.56	217	PN	P	20 24 48.5	-2.3
YMBN				SN	S	20 26 33.1	-16
YMBN				SN	S	20 26 36.6	-13
YMBN				LG		20 27 35.8	

IDC ***07*** *20:56:32.4±1.3, 26.51N×129.66E, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=30.8km s-min=21.6km az=50.0*
JMA ***07*** *20:56:34.3±0.1, 26.53N×129.80E, h44^{km}, M3.4*
ISC 07 20:56:34.5±0.5**, 26.56N**±0.04×**129.79E**±0.03**, h33**^{km}**, n18,** σ**0**^{s}**79**/30**, mb3.6**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	1.38	282	Pn	Pn	20 56 58.0	+0.3
	85nm,0.3s,baz=107,slow=19,SNR=414						
JOW				Sn	Sn	20 57 14.2	-0.8
	104nm,0.3s,baz=113,slow=28,SNR=25						
JOW	Kunigami	1.38	282	P	P	20 56 58.1	+0.5
JOW				S	S	20 57 14.0	-0.9
JTK	Tokunoshima	1.43	329	P	P	20 56 59.0	+0.6
JTK				S	S	20 57 15.6	-0.6
JMZ	Minamidaito 2	1.48	119	P	P	20 56 58.9	-0.2
JMZ				S	S	20 57 16.3	-1.3
JIH	Iheya	1.69	287	P	P	20 57 02.8	+0.7
JIH				S	S	20 57 23.2	+0.4
JZK	Kikaishima	1.76	5	P	P	20 57 04.1	+1.1
JZK				S	S	20 57 26.1	+1.6
JAM	Amami Oshima	1.85	355	P	P	20 57 04.6	+0.2
JAM				S	S	20 57 26.0	-0.9
JJT2	Tamagusuku 2	1.87	258	P	P	20 57 05.0	+0.3
JJT2				S	S	20 57 26.9	-0.5
NAH1	Naha	1.91	260	P	P	20 57 05.7	+0.5
NAH1				S	S	20 57 27.8	-0.6
JAGN	Aguni-jima	2.28	271	P	P	20 57 10.8	+0.3
JAGN				S	S	20 57 37.3	-0.3
JKE	Kume jima 2	2.70	266	P	P	20 57 15.6	-0.9
JKE				eS	S	20 57 48.7	+0.4
JNN	Nakanoshima	3.27	1	P	P	20 57 24.2	-0.5
JNN				S	S	20 58 01.1	-1.9
JNU	Nakatsue	6.61	8	Pn	Pn	20 58 11.1	-1.0
	0.7nm,0.3s,baz=290,slow=14,SNR=3.8						
SONM	Songino Array	28.06	325	P	P	21 02 26.3	+1.4
	0.4nm,0.8s,mb3.1,baz=141,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	42.36	311	P	P	21 04 27.3	+0.1
	0.4nm,0.7s,mb3.2,baz=106,slow=8.8,SNR=4.4						
WRA	Warramunga Arr	46.43	174	P	P	21 05 00.6	+0.4
	0.7nm,0.4s,mb4.0,baz=353,slow=8.4,SNR=11						
BVAR	Borovoye Array	50.96	318	P	P	21 05 35.5	+0.7
	0.4nm,0.5s,mb3.6,baz=90,slow=7.4,SNR=4.3						
FINES	FINESS Array B	73.26	331	P	P	21 08 04.7	+0.9
	3.9nm,1.0s,mb4.3,baz=68,slow=7.5,SNR=5.7						

IDC ***07*** *21:42:41.5±0.7, 11.89N×93.15E, mb3.9/10, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, Error ellipse: s-maj=35.7km s-min=15.5km az=62.0*
BJI ***07*** *21:42:46.7, 11.64N×93.17E, h51^{km}, mb4.2*
NEIC ***07*** *21:42:46.4±0.5, 11.91N×93.21E, h30^{km}, mb4.9/5, Error ellipse: s-maj=22.1km s-min=9.2km az=69.0*
ISC 07 21:42:45.1±0.5**, 11.81N**±0.07×**93.16E**±0.08**, h33**^{km}**, n35,** σ**1**^{s}**36**/39**, mb4.1**/15**, 3C, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNT	Nongplab	6.48	82	P	P	21 44 24.3	+3.7
NST	Nakhon Sawan	7.79	60	P	P	21 44 41.0	+2.1
CHG	Chiang Mai	8.92	38	PG	P	21 44 57.6	+3.0
CHG				SG	S	21 46 26.8	-8.2
MDRS	Chennai	12.67	277	ex	P	21 45 53.6	+7.7
MDRS				AMb	AMB	21 45 54.8	
	comp=Z,23nm,0.4s						
MDRS				eS	S	21 47 54.7	-12
SHL	Shillong	13.73	355	eP	P	21 46 01.0	+1.1
SHL				ex	x	21 48 18.0	
SALM	Salem	14.65	271	ex	x	21 48 49.0	
BLSP	Bilaspur	14.70	316	eP	P	21 46 17.4	+4.7
BLSP				AMb	AMB	21 46 18.9	
	comp=Z,20nm,0.1s						
BLSP				eS	S	21 48 49.0	-6.3
PKI	Pulchoki	17.28	336	eP	P	21 46 48.8	+3.3
	comp=Z,75nm,0.3s						
DMN	Daman	17.43	335	eP	P	21 46 50.8	+3.3
	comp=Z,118nm,0.5s						
KKN	Kakani	17.52	336	eP	P	21 46 52.0	+3.4
	comp=Z,35nm,0.2s						
LSA	Lhasa	17.89	354	P	P	21 46 57.0	+3.8
LSA	Lhasa	17.89	354	eP	P	21 46 55.1	+1.9
	comp=Z,20nm,0.3s						
GKN	Gorkha	17.98	335	eP	P	21 46 58.5	+4.3
	comp=Z,138nm,0.3s						
GKN				eS	S	21 50 06.1	-4.6
KOLN	Koldanda	18.23	332	eP	P	21 47 00.6	+3.2
	comp=Z,68nm,0.2s						
KOLN				eS	S	21 50 11.6	-4.9
BHPL	Bhopal	18.80	309	ex	P	21 47 13.8	+9.3
BHPL				AMb	AMB	21 47 14.5	
	comp=Z,9.0nm,0.5s						
BHPL				eS	S	21 50 30.1	+0.8
KAD	Karad	19.15	289	ex	S	21 50 33.0	-4.4
KAD				AMb	AMB	21 50 34.8	
	comp=Z,12nm,0.5s						
CD2	Chengdu	21.39	26	eP	P	21 47 31.0	-1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
ENH	Enshi	23.81	37	eP	P	21 47 54.9	-1.1
	comp=Z,9.6nm,0.7s,mb4.3						
MKAR	Makanchi Array	36.06	347	P	P	21 49 43.8	-1.7
	comp=Z,0.3nm,0.8s,mb3.3,baz=166,slow=5.9,SNR=3.2						
SONM	Songino Array	37.58	15	P	P	21 49 58.0	-0.3
	comp=Z,0.3nm,0.3s,mb3.5,baz=203,slow=8.0,SNR=8.4						
SONM				PcP	PcP	21 52 15.3	-0.8
	comp=Z,0.4nm,0.5s,baz=183,slow=3.7,SNR=4.7						
ZAL	Zalesovo	42.54	353	P	P	21 50 38.5	-0.7
	comp=Z,0.9nm,0.5s,mb3.8,baz=258,slow=1.6,SNR=3.8						
FITZ	Fitzroy Crossi	43.72	132	⇑iP	P	21 50 49.0	-0.3
	comp=Z,12nm,0.5s,mb4.9						
FITZ	Fitzroy Crossi	43.72	132	P	P	21 50 49.1	-0.2
	comp=Z,21nm,0.6s,mb5.1,baz=344,slow=6.0,SNR=43						
BVAR	Borovoye Array	44.97	341	P	P	21 50 58.0	-0.9
	comp=Z,0.2nm,0.3s,mb3.4,baz=130,slow=9.5,SNR=2.5						
MUN	Mundaring	48.82	154	⇑iP	P	21 51 30.8	+1.4
KLBR	Kellerberrin	49.18	152	⇑iP	P	21 51 33.0	+0.8
	comp=Z,8.4nm,0.5s,mb5.0						
NWAO	Narrogin (SRO)	50.08	153	eP	P	21 51 39.6	+0.5
WRA	Warramunga Arr	51.37	128	P	P	21 51 47.9	-1.2
	comp=Z,4.9nm,0.6s,mb4.6,baz=306,slow=8.4,SNR=74						
WRA				PcP	PcP	21 53 02.7	-1.0
	comp=Z,1.3nm,0.5s,baz=312,slow=3.1,SNR=12						
WRAB	Tennant Creek	51.37	128	eP	P	21 51 48.3	-0.8
	comp=Z,9.9nm,0.5s,mb5.0						
BRTR	Keskin Array B	59.17	309	P	P	21 52 42.6	-2.7
	comp=Z,0.4nm,0.5s,mb3.7,baz=103,slow=6.3,SNR=3.0						
FINES	FINESS Array B	68.80	332	P	P	21 53 46.5	-1.3
	comp=Z,3.6nm,1.0s,mb4.3,baz=162,slow=18,SNR=4.3						
ARCES	ARCESS Array B	71.25	340	P	P	21 54 01.9	-0.8
	comp=Z,2.0nm,0.9s,mb4.0,baz=90,slow=7.2,SNR=3.5						
GERES	GERESS Array B	74.27	318	P	P	21 54 21.1	+0.3
	comp=Z,0.5nm,0.7s,mb3.5,baz=76,slow=5.5,SNR=4.9						
MAW	Mawson	82.18	191	P	P	21 55 05.2	+1.4
	comp=Z,1.4nm,0.6s,mb4.0,baz=357,slow=7.9,SNR=6.4						
PLCA	Paso Flores	147.82	204	PKPbc	PKPdf	22 02 29.8	+5.8
	comp=Z,1.9nm,0.8s,baz=180,slow=15,SNR=4.5						

MEX 07 21:44:49.4±1.1**, 18.60N**×**104.50W, h17**^{km}±91^{km}**, MD4.0, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CJM	Chamela	1.03	330	i P	Pb	21 45 04.9	-3.5
CJM				i S	Sb	21 45 18.4	-3.1
SFJM	Santa Fe	2.33	36	i P	Pn	21 45 25.0	-2.6
SFJM				i S	Sn	21 45 50.0	-6.0
ZAIG	Zacatecas	4.52	23	i P	Pn	21 45 55.0	-3.8
ZAIG				i S	Sn	21 46 46.6	-5.1
PLIG	Platanillo	4.75	92	i S	Sn	21 46 50.3	-6.9

WEL 07 21:46:58.8±0.3**, 35.69S**×**177.62E, h33**^{km}**, ML3.7**/3**, Error ellipse: s-maj=4.6km s-min=2.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	2.43	168	PN	Pn	21 47 35.7	-1.5
PUZ				SN	Sn	21 48 03.0	-3.0
URZ	Urewera	2.60	189	P*	Pb	21 47 38.6	-5.9
URZ				S*	Sb	21 48 08.8	-7.5
MWZ	Matawai	2.64	182	P*	Pb	21 47 38.9	-6.4
MWZ				S*	Sb	21 48 10.1	-7.4

NEIC ***07*** *22:02:05.6, 17.83N×97.49W, h73^{km}, MD4.4(MEX), After MEX.*
MEX 07 22:02:05.7±1.2**, 17.82N**×**97.48W, h72**^{km}±22^{km}**, MD4.4, 2C, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXX	Oaxaca	1.03	135	i P	P	22 02 24.0	-0.9
OXX				i S	S	22 02 36.0	-3.3
VHO	Vista Hermosa	1.03	136	i P	P	22 02 24.5	-0.5
VHO				i S	S	22 02 37.5	-1.7
VHO	Vista Hermosa	1.03	136	i P	P	22 02 24.5	-0.5
VHO				i S	S	22 02 37.8	-1.5
PNIG	Pinotepa	1.55	204	i P	P	22 02 29.9	-2.0
PNIG				i S	S	22 02 48.2	-3.0
PPM	Popocatepetl	1.65	319	i P	P	22 02 32.5	-0.8
PPM				i P		22 02 34.1	

PPM				i S	S	22 02 48.4	-5.2
PPM	**Popocatepetl**	**1.65**	**319**	i P	P	22 02 32.5	-0.8
PPM				i P		22 02 34.1	
PPM				i S	S	22 02 46.2	-7.4
YAIG	**Yautepec**	**1.83**	**305**	eP	P	22 02 34.5	-1.2
YAIG				i S	S	22 02 56.6	-1.2
YAIG	**Yautepec**	**1.83**	**305**	i P	P	22 02 35.0	-0.7
YAIG				i S	S	22 02 53.7	-4.1
CIVM	**Cilcuayo**	**1.92**	**312**	eP	P	22 02 34.2	-2.6
CIVM				i S	S	22 02 58.0	-1.9
CIVM	**Cilcuayo**	**1.92**	**312**	eP	P	22 02 34.2	-2.6
CIVM				i S	S	22 02 48.0	-12
RFVM	**Rio Frio**	**1.94**	**321**	eP	P	22 02 34.2	-2.9
RFVM				i S	S	22 02 56.1	-4.2
RFVM	**Rio Frio**	**1.94**	**321**	i P	P	22 02 34.3	-2.8
RFVM				i S	S	22 02 48.2	-12
PLIG	**Platanillo**	**2.01**	**287**	i P	P	22 02 37.5	-0.6
PLIG				i S	S	22 02 59.7	-2.3
LVIG	**Laguna Verde**	**2.15**	**28**	⇑iP	P	22 02 36.8	-3.3
LVIG				i S	S	22 03 01.8	-3.7
UNM	**Universidad Na**	**2.20**	**313**	eP	P	22 02 40.8	-0.1
UNM				eP		22 02 43.0	
UNM				i S	S	22 03 04.7	-2.2
UNM	**Universidad Na**	**2.20**	**313**	eP	P	22 02 41.8	+0.9
UNM				eP		22 02 43.0	
UNM				i S	S	22 02 59.0	-7.9
UNM				i S	S	22 03 07.5	+0.5
PTVM	**Pico Tres Padr**	**2.35**	**319**	eP	P	22 02 40.0	-2.9
MDVM	**Presa Madin**	**2.39**	**316**	eP	P	22 02 40.9	-2.6
HUIG	**Huatulco**	**2.43**	**147**	eP	P	22 02 42.9	-1.1
HUIG				i S	S	22 03 10.1	-2.5
ACX	**Acapulco**	**2.51**	**248**	i P	P	22 02 40.5	-4.7
ACX				i S	S	22 03 13.0	-1.7
CMIG	**Matias Romero**	**2.58**	**106**	eP	P	22 02 43.9	-2.4
CMIG				eS	S	22 03 13.3	-3.1
CAIG	**El Cayaco**	**2.77**	**254**	⇑iP	P	22 02 46.0	-2.8
CAIG				i S	S	22 03 18.1	-3.1
TUIG	**Tuzandepetl**	**2.92**	**85**	eP	P	22 02 47.7	-3.2
TUIG				i S	S	22 03 19.2	-5.8
MOIG	**Morelia**	**3.97**	**298**	eP	P	22 03 02.1	-3.5
MOIG				i S	S	22 03 45.4	-5.9
MOIG	**Morelia**	**3.97**	**298**	eP	P	22 03 02.1	-3.5
MOIG				i S	S	22 03 53.0	+1.7
CCIG	**Comitan**	**5.33**	**106**	eP	P	22 03 20.7	-3.8
CCIG				i S	S	22 04 21.1	-4.2

*IDC **07** 22:07:18.9±4.2, 7.86N×92.26E, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=158.2km s-min=29.8km az=61.0*

ISC 07 22:07:22.6±2.5**, 7.9N**±0.4×**92.4E**±0.5**, h33^{km}, n8,** σ**1^{s}30**/8**,** **mb3.9**/5**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PKI	**Pulchoki** 10nm,0.4s	**20.70**	**342**	eP	**P**	**22 12 04.9**	**+2.3**
DMN	**Daman** 21nm,0.7s	**20.83**	**341**	eP	**P**	**22 12 05.9**	**+2.0**
KKN	**Kakani** 12nm,0.7s	**20.94**	**342**	eP	**P**	**22 12 04.9**	**-0.2**
GKN	**Gorkha** 14nm,0.4s,mb4.7	**21.34**	**341**	eP	**P**	**22 12 06.9**	**-2.2**
KOLN	**Koldanda** 15nm,0.7s,mb4.4	**21.49**	**338**	eP	**P**	**22 12 09.9**	**-0.7**
MKAR	**Makanchi Array** 1.0nm,0.6s,mb3.7,baz=166,slow=8.6,SNR=12	**39.76**	**349**	P	**P**	**22 14 53.0**	**-0.8**
SONM	**Songino Array** 0.3nm,0.8s,mb3.0,baz=190,slow=8.8,SNR=2.7	**41.57**	**14**	P	**P**	**22 15 08.7**	**-0.2**
WRA	**Warramunga Arr** 0.4nm,0.8s,mb3.5,baz=303,slow=8.6,SNR=7.8	**49.65**	**124**	P	**P**	**22 16 13.6**	**+0.2**

*IDC **07** 22:08:05.4±1.8, 48.12N×154.39E, mb3.9/10, mb1 4.1/11, mb1mx3.9/22, mbtmp3.9/11, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.1/29, Error ellipse: s-maj=49.9km s-min=20.9km az=171.0*

ISC 07 22:08:08.3±1.0**, 48.0N**±0.2×**154.4E**±0.2**, h33^{km}, n13,** σ**0^{s}92**/12**, mb3.9**/10**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	**Asahikawa** comp=Z,90nm,18.1s,baz=58,slow=37	**9.07**	**249**	LR	LR	22 13 38.7	
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=32,slow=12,SNR=3.2	**16.54**	**232**	Pn	**P**	**22 11 58.8**	**-0.3**
ILAR	**Eielson Array** 0.6nm,0.9s,mb3.5,baz=248,slow=4.9,SNR=4.3	**35.02**	**40**	P	**P**	**22 14 56.9**	**-2.5**
INK	**Inuvik** 0.8nm,0.6s,mb3.6,baz=236,slow=3.6,SNR=2.7	**40.12**	**33**	P	**P**	**22 15 42.7**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.5s,mb3.3,baz=70,slow=10,SNR=5.1	**47.13**	**297**	P	**P**	**22 16 38.8**	**-0.1**
BVAR	**Borovoye Array** 4.3nm,0.4s,mb4.8,baz=57,slow=7.5,SNR=44	**50.72**	**309**	P	**P**	**22 17 06.4**	**-0.1**
FINES	**FINESS Array B** 1.4nm,0.7s,mb4.2,baz=45,slow=8.1,SNR=7.3	**63.26**	**335**	P	**P**	**22 18 33.5**	**-1.8**
PDAR	**Pinedale Array** 1.2nm,1.0s,mb4.0,baz=315,slow=2.1,SNR=6.4	**63.31**	**55**	P	**P**	**22 18 36.3**	**+0.3**
EKA	**Eskdalemuir Ar** 1.0nm,0.5s,mb4.0,baz=16,slow=4.7,SNR=6.3	**75.30**	**347**	P	**P**	**22 19 50.0**	**+0.8**
TXAR	**Lajitas Array** 0.8nm,0.4s,mb4.0,baz=304,slow=4.5,SNR=5.1	**76.12**	**62**	P	**P**	**22 19 54.7**	**+0.3**
KHC	**Kasperske Hory**	**77.46**	**335**	eP	**P**	**22 20 02.0**	**+0.5**
GERES	**GERESS Array B** 0.7nm,0.6s,mb3.8,baz=34,slow=4.8,SNR=7.0	**77.68**	**335**	P	**P**	**22 20 03.2**	**+0.4**
BRTR	**Keskin Array B** 1.5nm,0.8s,mb4.0,baz=53,slow=4.2,SNR=8.6	**78.05**	**317**	P	**P**	**22 20 05.8**	**+0.8**

*NNC **07** 22:35:43.0±1.3, 37.43N×71.70E, h156^{km}±20^{km}, mpv3.6, Error ellipse: s-maj=13.3km s-min=8.7km az=28.0*

ISC 07 22:35:37.1±2.8**, 37.1N**±0.2×**72.1E**±0.3**, h184^{km}**±58^{km}**, n9,** σ**0^{s}71**/13**, 3C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 4.3nm,0.3s	**5.86**	**18**	⇑P	**P**	**22 37 04.9**	**+1.9**
AAK	14nm,0.8s			⇓S	**S**	**22 38 09.2**	**-0.6**
KK31	**Karatay Array** 2.0nm,0.4s,baz=170,slow=10,SNR=90	**6.15**	**349**	P	**P**	**22 37 06.1**	**-0.8**
KK31	10nm,0.4s,baz=170,slow=21,SNR=23			⇓S	**S**	**22 38 11.9**	**-4.9**
KOLN	**Koldanda** 8.4nm,0.3s	**13.41**	**130**	eP	**P**	**22 38 40.5**	**-0.6**
KOLN				eS	**S**	**22 41 01.4**	**-4.9**
GKN	**Gorkha** 21nm,0.3s	**13.90**	**127**	eP	**P**	**22 38 47.4**	**+0.2**
GKN				eS	**S**	**22 41 11.9**	**-5.4**
KKN	**Kakani** 9.6nm,0.4s	**14.46**	**126**	eP	**P**	**22 38 54.0**	**-0.2**
DMN	**Daman** 5.0nm,0.2s	**14.47**	**127**	eP	**P**	**22 38 54.2**	**-0.1**
PKI	**Pulchoki** 12nm,0.5s	**14.69**	**126**	eP	**P**	**22 38 57.5**	**+0.4**
AB31	**Akbulak array** 0.4nm,0.3s,baz=145,slow=12,SNR=20	**15.05**	**328**	⇑P	**P**	**22 39 01.3**	**-0.1**
AKTO	**Aktyubinsk** 2.0nm,2.6s	**16.76**	**327**	⇑P	**P**	**22 39 22.6**	**+0.3**

*CSEM **07** 22:44:33.1±0.9, 38.60N×28.68W, h2^{km}±3^{km}, ML1.8, Error ellipse: s-maj=2.9km s-min=2.0km az=72.0, After PDA*

*PDA **07** 22:44:33.1±0.9, 38.60N×28.68W, h2^{km}±3^{km}, MD2.7, ML1.8, Error ellipse: s-maj=2.9km s-min=2.0km az=72.0*

SVSA 07 22:44:33.1±0.9**, 38.60N×28.68W, h2^{km}**±3^{km}**, MD2.7, ML1.8, Error ellipse: s-maj=2.9km s-min=2.0km az=72.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.02**	**226**	i P	Pg	22 44 33.3	-0.3
CALA				eS	Sg	22 44 34.3	+0.4
CALA	**Caldeira**	**0.02**	**226**	eS	Sg	22 44 34.3	+0.4
PCED	**Cedros**	**0.04**	**337**	i P	Pg	22 44 33.5	-0.4
PCED	151nm,0.1s			eS	Sg	22 44 34.8	+0.4
PCED	**Cedros**	**0.04**	**337**	eS	Sg	22 44 34.8	+0.4
HOR	**Horta**	**0.08**	**148**	eP	Pg	22 44 34.6	-0.1
HOR				eS	Sg	22 44 36.0	+0.2
PTCA	**Ponta do Capel**	**0.09**	**263**	i P	Pg	22 44 35.0	+0.1
PTCA				eS	Sg	22 44 36.3	+0.2
PTCA	**Ponta do Capel**	**0.09**	**263**	eS	Sg	22 44 36.3	+0.2
PICO	**Pico**	**0.22**	**115**	eP	Pg	22 44 37.6	0.0
PICO				eS	Sg	22 44 40.5	-0.1

NNC 07 23:23:15.2±4.9**, 37.54N×71.75E, h109^{km}**±162^{km}**, mpv3.3, 3C-1D, Error ellipse: s-maj=44.8km s-min=38.2km az=29.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 4.3nm,0.5s	**5.50**	**22**	⇓P	P	23 24 34.3	-1.8
AAK	5.0nm,0.6s			⇑S	S	23 25 38.1	-0.6
KK31	**Karatay Array** 0.3nm,0.2s,baz=161,slow=11,SNR=12	**5.64**	**351**	⇑P	P	23 24 37.2	-0.7
KK31	1.6nm,0.3s,baz=177,slow=17,SNR=8.0			⇑S	S	23 25 40.3	-1.7
AB31	**Akbulak array** 0.1nm,0.4s,baz=154,slow=10,SNR=4.0	**14.49**	**328**	P	P	23 26 35.0	-1.0

*NIC **07** 23:39:35.3±0.2, 35.59N×34.69E, h77^{km}, ML3.7, MW3.1*

*GRAL **07** 23:39:38.3±4.0, 35.78N×34.39E, h14^{km}±31^{km}, MD3.6*

*ISK **07** 23:39:39.9, 35.47N×34.42E, h31^{km}, MD3.7*

*CSEM **07** 23:39:39.9±0.1, 35.71N×34.34E, h10^{km}, Mw3.1, Error ellipse: s-maj=2.1km s-min=1.7km az=120.0*

ISC 07 23:39:39.3±0.7**, 35.56N**±0.02×**34.40E**±0.03**, h12^{km}**±5^{km}**, n32,** σ**1^{s}02**/51**, 1C-1D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.63**	**209**	⇓P	**Pg**	**23 39 52.1**	**0.0**
PHNC				S	**Sg**	**23 40 04.6**	**+4.1**
PHNC	**Paralimni**	**0.63**	**209**	i Pg	**Pg**	**23 39 52.1**	**0.0**
PHNC				i Sg	**Sg**	**23 40 04.6**	**+4.1**
IKL	**Isikli**	**0.89**	**320**	i PG	**Pg**	**23 39 57.8**	**+0.5**
IKL				i SG	**Sg**	**23 40 09.8**	**+0.5**
MAMC	**Mammari**	**1.04**	**249**	i Pg	**Pg**	**23 39 58.1**	**-2.1**
MAMC				i Sg	**Sg**	**23 40 15.6**	**+1.5**
CSS	**Prodhromos** 4.8nm,0.2s	**1.06**	**236**	P	**Pb**	**23 39 57.7**	**-1.4**
CSS				S	**Sg**	**23 40 15.9**	**+1.2**
CSS	**Prodhromos**	**1.06**	**236**	i Pg	**Pb**	**23 39 57.7**	**-1.4**
CSS				i Sg	**Sg**	**23 40 15.9**	**+1.2**
CSS	**Prodhromos**	**1.06**	**236**	i P	**Pb**	**23 39 59.6**	**+0.5**
KRTS	**Karatas**	**1.29**	**38**	i PN	**Pn**	**23 40 03.3**	**+0.1**
LEF	**Lefka**	**1.31**	**251**	i PN	**Pn**	**23 40 02.4**	**-1.1**
MERS	**Mersin**	**1.31**	**4**	i PN	**Pn**	**23 40 04.1**	**+0.5**
MERS				i SN	**Sn**	**23 40 21.5**	**+0.4**
SZAC	**Souni-Zanaja** 15nm,0.3s	**1.48**	**238**	P	**Pg**	**23 40 08.2**	**-0.7**
SZAC				S	**Sg**	**23 40 29.2**	**+0.6**
SZAC	**Souni-Zanaja**	**1.48**	**238**	i Pg	**Pg**	**23 40 08.2**	**-0.7**
SZAC				i Sg	**Sg**	**23 40 29.2**	**+0.6**
ALFC	**Alevga**	**1.52**	**255**	⇑P	**Pn**	**23 40 04.2**	**-2.4**
ALFC				S	**Sb**	**23 40 26.9**	**+0.7**
ALFC	**Alevga**	**1.52**	**255**	i Pg	**Pn**	**23 40 04.2**	**-2.4**
ALFC				i Sg	**Sb**	**23 40 26.9**	**+0.7**
ERMK	**Ermenek**	**1.62**	**312**	i P	**Pn**	**23 40 08.6**	**+0.7**
ERMK				i S	**Sn**	**23 40 28.7**	**-0.2**
KARA	**Karaisali**	**1.78**	**17**	i PN	**Pn**	**23 40 10.1**	**-0.2**
COBT	**Iskenderun**	**1.79**	**57**	i P	**Pn**	**23 40 11.6**	**+1.3**
COBT				i S	**Sn**	**23 40 34.7**	**+1.6**
HWQ	**Hawqa**	**1.80**	**135**	ePn	**Pn**	**23 40 11.1**	**+0.5**
HWQ				Sn	**Sn**	**23 40 34.2**	**+0.7**
PPCY	**Paphos**	**1.81**	**249**	i Pg	**Pg**	**23 40 13.1**	**-2.4**
CEYT	**Ceyhan**	**1.81**	**37**	PN	**Pn**	**23 40 10.1**	**-0.7**
BHL	**Bhannes**	**1.95**	**148**	ePn	**Pn**	**23 40 13.9**	**+1.3**
BHL				Sn	**Sn**	**23 40 34.3**	**-2.9**
BHL	**Bhannes**	**1.95**	**148**	ePn	**Pn**	**23 40 13.9**	**+1.3**
BHL				Sn	**Sn**	**23 40 34.3**	**-2.9**
HDMB	**Hadim**	**2.09**	**313**	PN	**Pn**	**23 40 14.5**	**-0.2**
FKH	**Fakeheh**	**2.11**	**128**	ePn	**Pn**	**23 40 15.8**	**+0.8**
FKH				Sn	**Sn**	**23 40 41.5**	**+0.2**
KOZT	**Kozan**	**2.24**	**31**	PN	**Pn**	**23 40 15.8**	**-1.0**
GAZ	**Gaziantep**	**2.79**	**54**	ePN	**Pn**	**23 40 23.5**	**-1.1**
KONT	**Konya--Tatoy**	**2.89**	**326**	ePN	**Pn**	**23 40 26.5**	**+0.3**
GZT	**Gaziantep**	**3.12**	**54**	i P	**Pn**	**23 40 28.6**	**-0.8**
GZT				i S	**Sn**	**23 41 06.8**	**-0.2**
KDHN	**Kadinhani**	**3.48**	**329**	i P	**Pn**	**23 40 35.9**	**+1.4**
KDHN				i S	**Sn**	**23 41 16.1**	**+0.1**
BNN	**Bunyan**	**3.49**	**19**	ePN	**Pn**	**23 40 34.0**	**-0.6**
KAMT	**Kaman**	**3.84**	**352**	ePN	**Pn**	**23 40 39.2**	**-0.5**
KIZT	**Kizilcal**	**3.88**	**330**	ePN	**Pn**	**23 40 39.5**	**-0.7**

MEX 07 23:46:28.5±0.5**, 16.01N×98.85W, h16^{km}**±31^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.79**	**61**	eP	Pb	23 46 40.1	-3.2
PNIG				i S	Sb	23 46 51.0	-2.5
ACX	**Acapulco**	**1.33**	**310**	eP	Pn	23 46 49.0	-3.6
ACX				i S	Sb	23 47 04.0	-5.3

*IDC **08** 00:00:48.2±0.9, 17.35N×46.36W, mb3.9/11, mb1 4.1/11, mb1mx4.0/21, mbtmp3.9/11, MS3.9/18, Ms1 3.8/18, ms1mx3.8/20, Error ellipse: s-maj=29.0km s-min=18.9km az=154.0*

*NEIC **08** 00:00:49.8±0.5, 17.25N×46.39W, h10^{km}, mb4.7/13, Error ellipse: s-maj=13.3km s-min=9.5km az=154.0*

ISC 08 00:00:48.2±0.5**, 17.27N**±0.10×**46.46W**±0.08**, h10^{km}, n43,** σ**0^{s}91**/33**, mb4.3**/22**, MS3.9**/18**, 2C, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJG	**San Juan** 27nm,1.3s	**18.78**	**276**	P	**P**	**00 05 08.6**	**-1.4**
SDV	**Santo Domingo** 2.0nm,0.5s,mb3.9,baz=27,slow=9.0,SNR=2.3	**24.96**	**254**	P	**P**	**00 06 14.3**	**+0.9**
SDV	comp=Z,158nm,21.0s,MS3.5,baz=295,slow=34			LR	LR	00 15 05.3	
SDV	**Santo Domingo**	**24.96**	**254**	P	**P**	**00 06 16.0**	**+2.5**
SAML	**Samuel** 30nm,2.0s,mb4.8	**30.86**	**214**	eP	**P**	**00 07 06.5**	**-0.6**
BDFB	**Brasilia** comp=Z,134nm,19.6s,MS3.6,baz=192,slow=35	**32.74**	**183**	LR	LR	00 19 44.9	
LPAZ	**La Paz** 2.7nm,0.9s,mb4.0,baz=31,slow=12,SNR=8.0	**39.60**	**214**	P	**P**	**00 08 22.6**	**+0.8**
LPAZ	comp=Z,47nm,19.2s,MS3.3,baz=50,slow=35			LR	LR	00 24 02.6	
LPAZ	**La Paz** 9.0nm,1.2s,mb4.4	**39.60**	**214**	eP	**P**	**00 08 22.7**	**+0.9**
SCHQ	**Schefferville** comp=Z,127nm,18.9s,MS3.8,baz=109,slow=33	**40.63**	**342**	LR	LR	00 22 58.1	
DBIC	**Dimbokro** comp=Z,279nm,19.0s,MS4.2,baz=237,slow=32	**41.95**	**99**	LR	LR	00 23 19.5	
CPUP	**Villa Florida** comp=Z,70nm,20.4s,MS3.6,baz=32,slow=37	**44.61**	**194**	LR	LR	00 28 17.2	
LVC	**Limon Verde** 28nm,1.5s,mb4.9	**45.32**	**210**	eP	**P**	**00 09 07.1**	**-1.3**
KSU1	**Kansas State U**	**48.57**	**307**	eP	**P**	**00 09 34.6**	**+0.8**
ULM	**Lac du Bonnet** 2.1nm,0.8s,mb4.2,baz=275,slow=17,SNR=2.6	**51.30**	**321**	P	**P**	**00 09 54.4**	**-0.1**
ULM	comp=Z,146nm,18.8s,MS4.0,baz=154,slow=32			LR	LR	00 28 31.0	
TXAR	**Lajitas Array** 0.3nm,0.7s,mb3.4,baz=114,slow=12,SNR=4.5	**53.44**	**294**	P	**P**	**00 10 11.1**	**+0.2**
TXAR	0.6nm,0.9s,baz=162,slow=4.0,SNR=4.3			PcP	PcP	00 11 18.2	+0.2
TXAR	comp=Z,70nm,19.1s,MS3.7,baz=95,slow=36			LR	LR	00 32 49.8	
SDCO	**Great Sand Dun** 2.9nm,1.1s,mb4.2	**55.29**	**304**	P	**P**	**00 10 23.9**	**-0.4**
NKC	**Novy Kostel**	**57.10**	**41**	eP	**P**	**00 10 38.1**	**+0.9**
KHC	**Kasperske Hory**	**57.59**	**42**	eP	**P**	**00 10 40.7**	**+0.1**
GERES	**GERESS Array B** 0.5nm,0.8s,mb3.6,baz=270,slow=9.3,SNR=6.3	**57.61**	**43**	P	**P**	**00 10 38.6**	**-2.2**
GERES	comp=Z,52nm,18.1s,MS3.7,baz=152,slow=34			LR	LR	00 33 29.8	
CLL	**Collm** logA/T=1.0,mb4.8	**57.69**	**40**	⇑P	**P**	**00 10 41.5**	**+0.2**
CLL				i *PP	pP	00 10 46.8	+2.4
CLL	**Collm** 11nm,1.2s,mb4.8	**57.69**	**40**	⇑iP	**P**	**00 10 41.5**	**+0.2**
CLL				i		00 10 46.8	
PV01	**Paradox Valley**	**57.73**	**304**	P	**P**	**00 10 41.9**	**+0.2**
BRG	**Berggiesshubel**	**58.17**	**40**	eP	**P**	**00 10 44.9**	**+0.2**
	11nm,1.8s,mb4.6						
PRU	**Pruhonice**	**58.37**	**42**	eP	**P**	**00 10 46.7**	**+0.7**
PDAR	**Pinedale Array** 1.3nm,1.0s,mb3.9,baz=90,slow=7.4,SNR=8.4	**58.80**	**310**	P	**P**	**00 10 48.8**	**-0.4**
PDAR	comp=Z,175nm,20.5s,MS4.2,baz=93,slow=33			LR	LR	00 33 34.3	
DPC	**Dobruska-Polom**	**59.56**	**41**	eP	**P**	**00 10 54.9**	**+0.6**
NOA	**NORSAR Array B** comp=Z,30nm,18.6s,MS3.5,baz=240,slow=31	**59.57**	**28**	LR	LR	00 31 35.7	
IMW	**Indian Meadow** 7.8nm,0.3s,mb5.2	**59.90**	**311**	eP	**P**	**00 10 57.3**	**+0.6**
RRI2	**Red Ridge** 9.0nm,1.0s,mb4.8	**60.14**	**310**	eP	**P**	**00 10 57.9**	**-0.5**
HWUT	**Hardware Ranch** 4.4nm,0.9s,mb4.5	**60.21**	**308**	eP	**P**	**00 10 59.1**	**+0.2**
PLCA	**Paso Flores** comp=Z,104nm,18.2s,MS4.0,baz=346,slow=39	**61.90**	**201**	LR	LR	00 40 58.3	
HLID	**Hailey** 3.7nm,1.3s,mb4.3	**62.40**	**311**	eP	**P**	**00 11 14.1**	**+0.4**
NEW	**Newport** 7.0nm,1.0s,mb4.7	**64.47**	**316**	eP	**P**	**00 11 27.8**	**+0.5**
YKA	**Yellowknife Ar** comp=Z,121nm,18.2s,MS4.1,baz=85,slow=34	**64.76**	**332**	LR	LR	00 37 03.0	
FINES	**FINESS Array B** comp=Z,43nm,19.4s,MS3.7,baz=55,slow=32	**66.64**	**30**	LR	LR	00 36 09.2	
ARCES	**ARCESS Array B** 3.0nm,1.0s,mb4.3,baz=288,slow=3.8,SNR=4.1	**67.65**	**21**	P	**P**	**00 11 46.3**	**-0.9**
ARCES	comp=Z,66nm,21.1s,MS3.8,baz=61,slow=30			LR	LR	00 34 31.9	
AKASG	**Malin Array Be** 0.1nm,0.2s,mb3.4,baz=269,slow=7.1,SNR=7.3	**67.79**	**42**	P	**P**	**00 11 45.5**	**-2.9**
BRTR	**Keskin Array B** 0.2nm,0.4s,mb3.4,baz=270,slow=7.4,SNR=3.6	**71.66**	**53**	P	**P**	**00 12 12.3**	**0.0**
INK	**Inuvik** 16nm,1.6s,mb4.7	**73.01**	**337**	P	**P**	**00 12 19.9**	**+0.1**
MALT	**Malatya**	**75.57**	**54**	P	**P**	**00 12 34.0**	**-1.1**
ILAR	**Eielson Array** 3.5nm,0.9s,mb4.3,baz=71,slow=3.8,SNR=21	**78.90**	**335**	P	**P**	**00 12 53.1**	**+0.1**
SUR	**Sutherland** comp=Z,96nm,21.4s,MS4.1,baz=0.5,slow=30	**81.08**	**128**	LR	LR	00 40 51.3	
LBTB	**Lobatse** comp=Z,152nm,19.1s,MS4.4,baz=303,slow=30	**81.78**	**119**	LR	LR	00 41 55.2	
KMBO	**Kilima Mbogo** 1.6nm,0.8s,mb4.2,baz=321,slow=7.8,SNR=4.2	**84.32**	**93**	P	**P**	**00 13 24.6**	**+2.0**
KMBO	comp=Z,175nm,18.4s,MS4.5,baz=280,slow=35			LR	LR	00 49 36.2	

MAN 08 00:10:28.5, 9.56N×123.39E, mb5.1, ML4.1, MS4.4, 2C-4D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.26**	**214**	⇓iP	Pg	00 10 35.0	+1.2
TBP	**Tagbilaran**	**0.49**	**75**	eP	Pg	00 10 38.6	+0.4
TBP				i S	Sg	00 10 45.4	+0.7
LLP	**Lapu-Lapu**	**0.94**	**37**	⇑iP	Pg	00 10 46.2	-1.1
LLP				i S	Sg	00 11 00.1	+0.2
DCPH	**Dipolog City**	**0.97**	**182**	eP	Pb	00 10 45.8	-2.1
DCPH				i S	Sg	00 10 58.9	-2.0
GUIM	**Jordan**	**1.32**	**323**	eP	Pb	00 10 53.6	-0.2
GUIM				eS	Sb	00 11 12.8	+1.6
MSLP	**Maasin**	**1.56**	**69**	eP	Pn	00 10 58.0	+0.3
CGP	**Cagayan de Oro**	**1.70**	**130**	⇓eP	Pn	00 10 56.1	-3.5
CGP				eS	Sb	00 11 21.5	-0.7
PAGZ	**Pagadian**	**1.70**	**180**	eP	Pn	00 10 59.0	-0.6
PAGZ				eS	Sb	00 11 21.4	-1.0
IPIL	**Ipil**	**1.94**	**205**	eP	Pn	00 11 02.8	-0.3
RCP	**Roxas**	**2.08**	**342**	⇓eP	Pn	00 11 05.8	+0.7
RCP				eS	Sn	00 11 35.9	+3.8
SCPH	**Surigao**	**2.08**	**84**	⇑eP	Pn	00 11 03.7	-1.5
PLP	**Palo**	**2.23**	**44**	eP	Pn	00 11 09.7	+2.4
BUTP	**Butuan**	**2.28**	**105**	eP	Pn	00 11 10.8	+2.8
CUYO	**Cuyo Island**	**2.66**	**299**	eP	Pn	00 11 13.1	-0.3
OTRP	**Odiongan**	**3.09**	**334**	eP	Pn	00 11 21.0	+1.6
GSPH	**General Santos**	**3.79**	**156**	⇓iP	Pn	00 11 30.4	+1.0
ENPP	**El Nido**	**4.22**	**293**	eP	Pn	00 11 34.6	-1.0

*CSEM **08** 00:16:45.0±0.3, 38.66N×28.50W, h14^{km}±7^{km}, ML1.8, Error ellipse: s-maj=4.4km s-min=2.1km az=34.0, After PDA*

*PDA **08** 00:16:45.0±0.3, 38.66N×28.50W, h14^{km}±7^{km}, MD2.8, ML1.8, Error ellipse: s-maj=4.4km s-min=2.1km az=34.0*

SVSA 08 00:16:45.0±0.3**, 38.66N×28.50W, h14^{km}**±7^{km}**, MD2.8, ML1.8, Error ellipse: s-maj=4.4km s-min=2.1km az=34.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.16**	**257**	eP	Pg	00 16 48.5	-0.6
PCED	32nm,0.2s			eS	Sg	00 16 51.1	-0.7
HOR	**Horta**	**0.17**	**217**	eS	Sg	00 16 51.2	-0.8
PICO	**Pico**	**0.17**	**160**	eP	Pg	00 16 48.8	-0.5
PICO				eS	Sg	00 16 51.5	-0.6
CALA	**Caldeira**	**0.18**	**243**	eP	Pg	00 16 48.8	-0.5
CALA				eS	Sg	00 16 51.7	-0.6
PMAN	**Manadas**	**0.32**	**95**	erx		00 16 56.9	

*IDC **08** 00:24:52.3±2.6, 32.39N×142.31E, mb3.3/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/11, Error ellipse: s-maj=72.2km s-min=26.0km az=52.0*

*JMA **08** 00:24:55.4±0.9, 33.27N×142.50E, h83^{km}, M3.2*

ISC 08 00:24:57.1±2.1**, 33.3N**±0.1×**142.4E**±0.2**, h33^{km}, n11,** σ**0^{s}86**/13**, mb3.3**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.76**	**319**	P	**P**	**00 25 26.2**	**+0.5**
JHJ2	**Mitsune**	**2.17**	**265**	P	**P**	**00 25 31.7**	**+0.2**
JHJ	**Hachijo jima 2** 45nm,0.3s,baz=244,slow=22,SNR=21	**2.19**	**265**	Pn	**Pn**	**00 25 31.1**	**-1.0**
JHJ	18nm,0.3s,baz=89,slow=20,SNR=2.7			Sn	**Sn**	**00 25 58.1**	**-0.2**
JHJ	comp=Z,329nm,20.6s,baz=13,slow=30			LR	LR	00 25 60.0	
BSO4	**Boso 4**	**2.37**	**315**	P	**P**	**00 25 35.5**	**+1.1**
JOD2	**Odawara 2**	**3.34**	**306**	P	**P**	**00 25 48.1**	**-0.2**
JAG	**Ashikaga**	**3.92**	**323**	P	**P**	**00 25 56.2**	**-0.2**
JAG				eS	**S**	**00 26 42.1**	**+0.2**
JRY	**Ryogami san**	**3.93**	**314**	P	**P**	**00 25 56.4**	**-0.2**
JMM	**Marumori**	**4.71**	**344**	P	**P**	**00 26 05.8**	**-1.9**
SONM	**Songino Array** 0.3nm,0.6s,mb3.3,baz=103,slow=8.0,SNR=3.6	**30.63**	**309**	P	**P**	**00 31 14.0**	**+3.7**
MKAR	**Makanchi Array** 0.5nm,0.8s,mb3.5,baz=99,slow=8.2,SNR=4.4	**46.83**	**305**	P	**P**	**00 33 26.6**	**+1.1**
WRA	**Warramunga Arr** 0.1nm,0.4s,mb3.1,baz=7.7,slow=7.6,SNR=8.9	**53.53**	**189**	P	**P**	**00 34 07.8**	**-9.1**

*CSEM **08** 00:56:37.0±1.5, 38.60N×28.69W, ML1.3, Error ellipse: s-maj=4.4km s-min=2.5km az=71.0, After PDA*

*PDA **08** 00:56:37.0±1.5, 38.60N×28.69W, MD2.6, ML1.3, Error ellipse: s-maj=4.4km s-min=2.5km az=71.0*

SVSA 08 00:56:37.0±1.5**, 38.60N×28.69W, MD2.6, ML1.3, Error ellipse: s-maj=4.4km s-min=2.5km az=71.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.02**	**199**	eP	Pg	00 56 37.0	-0.4
CALA				eS	Sg	00 56 38.0	+0.4
PCED	**Cedros**	**0.03**	**348**	i P	Pg	00 56 37.1	-0.5
PCED	188nm,0.1s			eS	Sg	00 56 38.3	+0.3
PCED	**Cedros**	**0.03**	**348**	eS	Sg	00 56 38.3	+0.3
PTCA	**Ponta do Capel**	**0.08**	**260**	eP	Pg	00 56 38.6	0.0
PTCA				eS	Sg	00 56 40.3	+0.6
HOR	**Horta**	**0.09**	**145**	eP	Pg	00 56 38.3	-0.5
HOR				eS	Sg	00 56 40.2	+0.3
PICO	**Pico**	**0.23**	**115**	eP	Pg	00 56 41.3	-0.3
PICO				eS	Sg	00 56 45.3	+0.6
PMAN	**Manadas**	**0.47**	**86**	eS	Sg	00 56 52.7	-0.1

*NNC **08** 01:05:30.6±0.9, 40.91N×73.70E, mpv2.9, Error ellipse: s-maj=7.7km s-min=3.7km az=157.0*

*KNET **08** 01:05:30.5±0.3, 41.00N×73.76E, ml2.5, Error ellipse: s-maj=3.6km s-min=2.0km az=92.0*

ISC 08 01:05:28.4±1.6**,40.80N**±0.10×**73.3E**±0.1**,h10^{km},n10, σ1^{s}11**/18**,11C-8D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	1.37	13	⇓P	Pn	01 05 52.7	-1.0
	18nm,0.1s,SNR=40						
AML				⇑S	Sb	01 06 10.2	-1.0
	196nm,0.4s						
UCH	Uchtor	1.71	33	⇓P	Pn	01 05 56.5	-2.0
	9.8nm,0.2s,SNR=8.5						
UCH				⇑S	Sn	01 06 16.9	-3.7
	40nm,0.2s						
EKS2	Erkin-Say	1.90	11	⇓P	Pn	01 06 02.2	+0.9
	9.3nm,0.2s,SNR=35						
EKS2				⇑S	Sn	01 06 26.4	+0.9
	22nm,0.2s						
AAK	Ala-Archa	2.05	26	⇓P	Pn	01 06 03.3	-0.1
	9.9nm,0.2s,SNR=7.5						
AAK	Ala-Archa	2.05	26	⇑P	Pn	01 06 03.3	-0.2
	2.8nm,0.2s						
AAK				⇑S	Sn	01 06 27.9	-1.4
	11nm,0.3s						
KBK	Karagaybulak	2.25	34	⇓P	Pn	01 06 06.1	-0.1
	12nm,0.1s,SNR=19						
KBK				⇑S	Sn	01 06 33.1	-1.1
	103nm,0.4s						
CHMS	Chumysh	2.47	26	⇑P	Pn	01 06 10.1	+0.8
	13nm,0.4s,SNR=7.5						
CHMS				⇓S	Sn	01 06 40.4	+0.6
	14nm,0.2s						
USP	Ospenovka	2.64	20	⇓P	Pn	01 06 12.9	+1.2
	16nm,0.4s,SNR=9.4						
USP				⇓S	Sn	01 06 46.3	+2.2
	21nm,0.2s						
TKM2	Tokmak 2	2.75	39	⇑P	Pn	01 06 13.8	+0.5
	8.4nm,0.2s,SNR=10						
TKM2				⇑S	Sn	01 06 47.6	+0.7
	9.0nm,0.1s						
KK31	Karatay Array	3.09	319	⇑Pg	Pg	01 06 29.5	-0.6
	1.4nm,0.4s,baz=134,slow=13,SNR=27						
KK31				⇑Lg		01 07 12.1	
	14nm,0.5s,baz=130,slow=28,SNR=18						

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*IDC **08** 01:24:36.5±0.8,13.49N×92.72E,mb4.1/11,mb1 4.2/11, mb1mx4.0/19,mbtmp4.1/11,Error ellipse: s-maj=47.5km s-min=14.9km az=53.0*
*NEIC **08** 01:24:41.4±0.5,13.53N×92.80E,h30^{km},mb4.2/6,Error ellipse: s-maj=18.2km s-min=10.7km az=55.0*
ISC 08 01:24:39.5±0.7**,13.5N**±0.1×**92.7E**±0.2**,h33^{km},n20, σ0^{s}86**/19**,mb4.1**/15**,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	16.23	355	eP	P	01 28 36.9	+10
	7.6nm,0.7s						
ENH	Enshi	22.80	40	P	P	01 29 42.3	+1.7
	16nm,1.2s,mb4.3						
MKAR	Makanchi Array	34.37	347	P	P	01 31 25.5	0.0
	1.5nm,0.8s,mb4.0,baz=164,slow=8.8,SNR=10.0						
SONM	Songino Array	36.12	16	P	P	01 31 40.1	-0.3
	0.8nm,0.9s,mb3.7,baz=203,slow=11,SNR=4.2						
SONM				PcP	PcP	01 34 06.6	+0.5
	0.5nm,0.7s,baz=191,slow=3.0,SNR=3.7						
KURK	Kurchatov	38.89	346	eP	P	01 32 03.5	-0.1
	5.1nm,1.2s,mb4.1						
BVAR	Borovoye Array	43.30	340	P	P	01 32 38.4	-1.4
	0.5nm,0.5s,mb3.5,baz=135,slow=6.3,SNR=5.0						
FITZ	Fitzroy Crossi	45.13	133	P	P	01 32 54.7	-0.3
	7.8nm,1.1s,mb4.4,baz=25,slow=9.7,SNR=8.3						
WRA	Warramunga Arr	52.70	128	P	P	01 33 52.4	-1.0
	0.9nm,0.3s,mb4.1,baz=302,slow=10,SNR=45						
WRA				PcP	PcP	01 35 03.4	+0.4
	0.7nm,0.4s,baz=322,slow=3.2,SNR=11						
WRAB	Tennant Creek	52.71	128	eP	P	01 33 53.4	0.0
	3.0nm,0.5s,mb4.5						
BR131	Keskin Array S	57.82	309	eP	P	01 34 30.4	+0.2
	0.9nm,0.6s,mb4.0						
BRTR	Keskin Array B	57.82	309	P	P	01 34 29.7	-0.5
	1.9nm,0.7s,mb4.2,baz=120,slow=7.8,SNR=12						
STKA	Stephens Creek	64.98	135	P	P	01 35 19.4	+0.8
	1.6nm,0.9s,mb4.1,baz=313,slow=18,SNR=2.9						
STKA	Stephens Creek	64.98	135	eP	P	01 35 18.6	-0.1
FINES	FINESS Array B	67.17	331	P	P	01 35 31.7	-0.3
	2.0nm,0.7s,mb4.2,baz=101,slow=9.7,SNR=6.7						
ARCES	ARCESS Array B	69.58	340	P	P	01 35 47.0	+0.1
	2.1nm,0.7s,mb4.2,baz=96,slow=6.7,SNR=12						
GERES	GERESS Array B	72.79	317	P	P	01 36 07.3	+0.7
	1.8nm,0.7s,mb4.1,baz=89,slow=5.6,SNR=20						
NB2	NORSAR Subarra	74.23	330	P	P	01 36 14.4	-0.3
	1.3nm,0.7s,mb4.0,baz=89,slow=5.8						
NOA	NORSAR Array B	74.23	330	P	P	01 36 14.6	-0.1
	1.3nm,0.7s,mb4.0,baz=91,slow=5.6,SNR=4.9						
LBTB	Lobatse	75.77	240	eP	P	01 36 27.6	+3.4
	2.6nm,0.7s,mb4.3						
TXAR	Lajitas Array	134.61	20	PKP	PKPdf	01 43 58.8	+3.3
	0.4nm,0.7s,baz=180,slow=2.5,SNR=3.5						

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*KNET **08** 01:35:00.8±0.4,41.01N×73.79E,h0^{km}±1^{km},ml2.2,Error ellipse: s-maj=3.1km s-min=2.0km az=120.0*
*NNC **08** 01:35:01.7±4.5,40.86N×74.27E,mpv2.6,Error ellipse: s-maj=39.0km s-min=20.1km az=144.0*
ISC 08 01:35:00.3±1.9**,40.85N**±0.10×**73.6E**±0.2**,h10^{km},n9, σ1^{s}11**/17**,12C-5D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	1.29	5	⇑P	Pb	01 35 22.6	-1.6
	9.2nm,0.2s,SNR=6.8						
AML				⇓S	Sb	01 35 40.0	-0.7
	149nm,0.5s						
UCH	Uchtor	1.56	27	⇑P	Pn	01 35 26.5	-1.8
	4.4nm,0.2s,SNR=7.3						
UCH				⇑S	Sb	01 35 46.9	-1.6
	17nm,0.2s						
EKS2	Erkin-Say	1.82	5	⇑P	Pn	01 35 32.3	+0.2
	4.6nm,0.2s,SNR=9.0						
EKS2				⇑S	Sn	01 35 56.4	+1.0
	12nm,0.2s						
AAK	Ala-Archa	1.92	21	⇑P	Pn	01 35 33.7	+0.2
	5.9nm,0.2s						
AAK				⇑S	Sn	01 35 58.0	+0.2
	13nm,0.2s						
AAK	Ala-Archa	1.92	21	⇓P	Pn	01 35 33.7	+0.2
	1.6nm,0.2s						
AAK				⇑S	Sn	01 35 58.0	+0.1
	6.6nm,0.4s						
KBK	Karagaybulak	2.09	30	⇓P	Pn	01 35 36.1	+0.2
	3.9nm,0.1s,SNR=9.9						
KBK				⇑S	Sn	01 36 03.2	+1.1
	42nm,0.4s						
USP	Ospenovka	2.52	16	⇓P	Pn	01 35 42.9	+0.9
	7.0nm,0.4s,SNR=5.3						
USP				⇓S	Sn	01 36 16.3	+3.2
	9.0nm,0.2s						
TKM2	Tokmak 2	2.58	36	⇑P	Pn	01 35 43.3	+0.5
	4.3nm,0.3s						
KK31	Karatay Array	3.20	316	⇑P	Pn	01 35 58.8	+7.1
	0.6nm,0.3s,baz=141,slow=16,SNR=17						
KK31				⇑S	Sn	01 36 42.7	+12
	7.6nm,0.5s,baz=152,slow=27,SNR=17						

IDC 08 01:46:46.7±13.0**,20.77S**×**178.92W,h454^{km}**±139^{km}**, mb3.1**/4**,mb1 3.4**/4**,mb1mx3.2**/12**,mbtmp4.0**/4**,Error ellipse: s-maj=66.5km s-min=30.7km az=57.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.90	244	P	P	01 53 16.5	0.0
	3.6nm,0.5s,baz=91,slow=8.3,SNR=12						
WRA	Warramunga Arr	43.71	263	P	P	01 54 08.9	-2.9
	2.0nm,0.7s,baz=97,slow=8.0,SNR=9.5						
VNDA	Vanda	57.56	185	P	P	01 55 50.8	-2.3
	0.8nm,0.9s,baz=3.8,slow=7.7,SNR=4.9						
ILAR	Eielson Array	88.77	13	P	P	01 58 50.5	-0.9
	0.2nm,0.4s,baz=221,slow=4.3,SNR=4.5						
AKASG	Malin Array Be	142.83	330	PKP	PKPdf	02 05 26.1	-1.0
	1.4nm,0.4s,baz=46,slow=4.2,SNR=8.2						
MLR	Muntele Rosu	147.98	326	PKPbc	PKPdf	02 05 40.6	+4.8
	1.2nm,0.6s,baz=180,slow=5.1,SNR=4.4						
GERES	GERESS Array B	150.22	343	PKPbc	PKPdf	02 05 44.9	+5.6
	0.6nm,0.7s,baz=63,slow=3.0,SNR=5.0						

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*THE **08** 01:47:13.2,39.66N×20.74E,h10^{km},ML3.4*
*ATH **08** 01:47:14.2,39.67N×20.88E,h3^{km},MD3.7/9*
*NEIC **08** 01:47:14.2,39.68N×20.88E,h3^{km},ML3.7(ATH), ML3.4(THE),ML2.9(ROM),After ATH.*
NEIC Felt in the Ioannina area.
*CSEM **08** 01:47:14.8±0.1,39.71N×20.87E,h2^{km},MD3.7,Error ellipse: s-maj=2.7km s-min=2.3km az=7.0*
*TIR **08** 01:47:16.9,39.83N×20.68E,h17^{km}*
*ROM **08** 01:47:18.8±1.5,39.61N×20.48E,h12^{km},Md3.2/2,Ml2.9/3, Error ellipse: s-maj=25.9km s-min=6.3km az=53.0*
ISC 08 01:47:14.4±0.3**,39.69N**±0.02×**20.84E**±0.03**,h3^{km},n44, σ1^{s}25**/67**,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.04	170	ePG	Pg	01 47 14.5	-0.8
JAN				eSG	Sg	01 47 15.4	-0.6
JAN	Janina	0.04	170	ePg	Pg	01 47 14.5	-0.8
JAN				eSg	Sg	01 47 15.6	-0.4
MEV	Metsovon	0.31	73	ePg	Pg	01 47 20.0	-0.7
MEV				eSg	Sg	01 47 26.3	+1.5
LSK	Leskovik	0.49	338	ePg	Pg	01 47 24.1	-0.2
LSK				i Sg	Sg	01 47 34.3	+3.5
SRN	Sarande	0.68	286	ePg	Pg	01 47 27.9	0.0
SRN				i Sg	Sg	01 47 41.0	+4.1
KEK	Kerkira	0.81	272	ePB	Pb	01 47 30.2	-0.5
TPE	Tepelena	0.88	313	ePg	Pg	01 47 31.1	-0.8
KZN	Kozani	0.94	49	ePG	Pg	01 47 32.3	-0.9
KZN				eSG	Sg	01 47 45.0	-0.7
LKD	Levkas	1.00	189	ePg	Pg	01 47 33.8	-0.5
EVR	Evrytania	1.08	136	ePG	Pg	01 47 34.3	-1.7
FNA	Florina	1.16	20	ePg	Pg	01 47 35.6	-2.0
FNA				eSg	Sg	01 47 54.7	+1.6
LIT	Litokhoron	1.33	72	ePg	Pg	01 47 39.2	-1.8
AGG	Agios Georgios	1.33	120	ePg	Pg	01 47 38.8	-2.3
AGG				eSg	Sg	01 47 59.9	+1.0
VLS	Valsamata	1.53	187	ePN	Pn	01 47 42.5	-0.2
VLS				eSB	Sb	01 48 03.9	+1.2
RLS	Riolos of Patr	1.71	163	ePB	Pb	01 47 46.0	-0.1
RLS				eSB	Sb	01 48 08.8	+0.9
GRG	Griva	1.73	43	ePb	Pb	01 47 45.4	-1.3
GRG				eSb	Sb	01 48 11.0	+2.2
GRG	Griva	1.73	43	ePb	Pb	01 47 45.3	-1.3
GRG				eSb	Sb	01 48 11.0	+2.2
TIR	Tirane	1.81	336	Pn	Pn	01 47 51.6	+4.8
	372nm,1.2s						
TIR	Tirane	1.81	336	ePn	Pn	01 47 47.0	+0.2
TIR				i Sn	Sn	01 48 20.0	+9.4
XOR	Xorichti	1.85	99	ePb	Pb	01 47 47.1	-1.4
XOR				eSb	Sb	01 48 11.9	0.0
XOR	Xorichti	1.85	99	ePb	Pb	01 47 47.1	-1.4
XOR				eSb	Sb	01 48 11.9	-0.1
THE	Thessaloniki	1.88	59	ePb	Pb	01 47 46.9	-2.1
NEO	Neokhori	1.88	101	ePG	Pg	01 47 48.6	-3.4
NEO				eSB	Sb	01 48 14.4	+1.4
QSH	Qafa e Shtames	1.96	339	i pn?	Pn	01 47 52.2	+3.3
QSH				i Sn	Sn	01 48 23.2	+8.9
QSH	Qafa e Shtames	1.96	339	ePn	Pn	01 47 52.2	+3.3
LKR	Lokris	1.97	121	ePN	Pn	01 47 50.3	+1.2
LKR	Lokris	1.97	121	ePg	Pg	01 47 51.0	-2.8
PLG	Polygyros	2.11	70	ePB	Pb	01 47 51.3	-1.7
PLG	Polygyros	2.11	70	ePb	Pb	01 47 50.9	-2.1
PLG				eSn	Sn	01 48 19.0	+0.8
KNT	Kendrikon	2.15	46	ePn	Pn	01 47 50.6	-1.0
KNT				eSn	Sn	01 48 20.8	+1.7
LCI	Lecce	2.19	288	Pn	Pn	01 47 53.2	+1.0
	18nm,0.3s						
SKO	Skopje	2.32	11	i Pn	Pn	01 47 54.2	+0.1
SKO				i		01 48 07.1	
AOS	Alonnisos	2.41	102	ePn	Pn	01 47 54.8	-0.6
AOS				eSn	Sn	01 48 26.6	+0.9
OUR	Ouranopolis	2.49	74	ePn	Pn	01 47 55.4	-1.1
OUR				eSn	Sn	01 48 29.4	+1.5
SRS	Serrai	2.54	55	ePn	Pn	01 47 56.4	-0.8
SRS				eSn	Sn	01 48 29.6	+0.6
ITM	Ithomi	2.65	161	ePn	Pn	01 48 00.8	+2.0
ITM				eSn	Sn	01 48 33.4	+1.5
MPAR	Parnis Oros	2.73	123	ePN	Pn	01 48 01.0	+1.0
NVR	Nevrokopi	2.83	53	ePN	Pn	01 48 02.1	+0.7
VLI	Veliai	3.40	150	ePN	Pn	01 48 10.1	+0.7
SLCN	Sala Consilina	4.06	282	Pn	Pn	01 48 19.3	+0.5
CEL	Celeste	4.11	251	Pn	Pn	01 48 19.0	-0.6
	41nm,1.5s						
ALN	Alexandroupoli	4.16	72	ePn	Pn	01 48 18.9	-1.3
SGO	Sicignano	4.33	283	Pn	Pn	01 48 23.0	+0.3
MCRV	Calabrutti - M	4.48	286	Pn	Pn	01 48 25.5	+0.7
	52nm,1.7s						

IDC 08 01:51:20.1±4.2**,1.17N**×**97.54E,mb3.9**/4**,mb1 4.0**/4**, mb1mx3.7**/17**,mbtmp3.9**/4**,Error ellipse: s-maj=168.0km s-min=27.4km az=56.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.73	122	P	P	01 59 11.1	-1.7
	0.4nm,0.5s,baz=301,slow=8.9,SNR=3.4						
SONM	Songino Array	47.11	8	P	P	01 59 54.2	-1.6
	0.5nm,0.5s,baz=198,slow=9.1,SNR=3.8						
MKAR	Makanchi Array	47.35	346	P	P	01 59 55.4	-2.3
	1.6nm,0.7s,baz=162,slow=7.7,SNR=15						
ZAL	Zalesovo	53.63	351	P	P	02 00 43.4	-2.1
	2.2nm,0.4s,baz=304,slow=2.2,SNR=6.1						

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*NEIC **08** 01:53:05.7,16.92N×94.74W,h122^{km},MD3.8(MEX),After MEX.*
MEX 08 01:53:05.7±1.4**,16.92N**×**94.74W,h122^{km}**±12^{km}**,MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.22	322	eP	P	01 53 21.7	-0.9
CMIG				eS	S	01 53 33.4	-2.1
TUIG	Tuzandepetl	1.15	15	eP	P	01 53 28.1	-1.6
TUIG				eS	S	01 53 45.0	-2.7
HUIG	Huatulco	1.74	229	eP	P	01 53 33.9	-2.6
HUIG				eS	S	01 53 57.5	-2.2
OXX	Oaxaca	1.90	275	i P	P	01 53 36.5	-1.9
OXX				i S	S	01 54 01.0	-2.2
VHO	Vista Hermosa	1.91	275	eP	P	01 53 37.6	-1.0
VHO				eS	S	01 54 01.5	-1.9
CCIG	Comitan	2.58	104	eP	P	01 53 48.3	+1.0
CCIG				eS	S	01 54 14.9	-3.8
PPM	Popocatepetl	4.27	301	eP	P	01 54 04.0	-6.0

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*IDC **08** 02:00:04.2±25.0,29.48N×50.74E,mb3.8/3,mb1 3.7/4, mb1mx3.4/19,mbtmp3.7/4,ML2.9/1,Error ellipse: s-maj=487.9km s-min=119.2km az=2.0*
*THR **08** 02:00:19.9±0.8,30.63N×49.79E,h37^{km}±12^{km},ML3.1*
*KISR **08** 02:00:22.6±1.1,30.88N×50.14E,h33^{km},ML3.1*
*CSEM **08** 02:00:22.4±0.1,31.02N×49.98E,h10^{km},ML3.3,Error ellipse: s-maj=3.2km s-min=1.5km az=132.0*
*TEH **08** 02:00:23.3,30.82N×50.02E,h17^{km},Mn3.3*
ISC 08 02:00:21.8±1.2**,31.00N**±0.03×**50.03E**±0.04**,h6^{km}**±8^{km}**, n31,σ1^{s}14**/37**,mb3.7**/3**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.52	317	ePg	Pg	02 00 50.7	-1.5
SHGR				eSg	Sg	02 01 12.9	+0.4
SHGR				AML	AML	02 01 14.9	
	comp=N,358nm,0.3s						
IPIR	Pirpir	1.84	23	Pn	Pn	02 00 55.8	+1.6
IGAR	Garneh	2.23	56	Pn	Pn	02 01 01.5	+1.7
UMR	Umm Al-Rimmam	2.46	235	eP	Pn	02 01 04.2	+1.1
UMR				eS	Sn	02 01 35.0	+1.2
UMR				AML	AML	02 01 39.2	
	comp=Z,87nm,0.3s						
UMR	Umm Al-Rimmam	2.46	235	eP	Pn	02 01 04.2	+1.1
UMR				eS	Sn	02 01 35.0	+1.2
MIB	Mutribah	2.61	244	eP	Pn	02 01 05.4	+0.2
MIB				AML	AML	02 01 49.1	
	comp=Z,51nm,0.3s						
IKLH	Kalahroud	2.67	29	Pn	Pn	02 01 07.3	+1.3
KBD	Kabd	2.71	229	eP	Pn	02 01 07.1	+0.4
KBD				eS	Sn	02 01 40.0	-0.3
KBD				AMb	AMB	02 01 40.7	
	comp=Z,195nm,0.3s						
IZEF	Zefreh	2.73	45	Pn	Pn	02 01 08.4	+1.5
IPAR	Pars	2.85	113	Pn	Pn	02 01 07.3	-1.4
QRN	Al-Qurain	2.90	220	eP	Pn	02 01 09.4	+0.1
QRN				AML	AML	02 01 47.6	
	comp=Z,81nm,0.2s						
NASN	Na'in	2.97	52	ePn	Pn	02 01 12.0	+1.6
RDF	Al-Radifah	2.98	227	eP	Pn	02 01 10.7	+0.2
RDF				eS	Sn	02 01 46.5	-0.4
RDF				AML	AML	02 01 49.4	
	comp=Z,49nm,0.4s						
IMOK	Mook	3.04	129	Pn	Pn	02 01 08.5	-2.8
ISRV	Sarvestan	3.12	120	Pn	Pn	02 01 10.3	-2.2
ASAO	Ashtian	3.54	0	ePn	Pn	02 01 20.3	+1.8
ASAO				AML	AML	02 02 09.2	
	comp=N,20nm,0.5s						
IKOM	Komasi	3.81	327	Pn	Pn	02 01 22.8	+0.5
IVRN	Varamin	4.24	19	Pn	Pn	02 01 28.6	+0.2
IVRN				Sn	Sn	02 02 17.6	-1.2
IRAZ	Razeghan	4.40	359	Pn	Pn	02 01 36.9	+6.3
IRAZ	Razeghan	4.40	359	Sn	Sn	02 02 22.3	-0.6
IVIS	Veys	4.42	324	Pn	Pn	02 01 30.0	-0.9
IGHG	Ghaleghazi	4.42	320	Pn	Pn	02 01 31.3	+0.3
SNGE	Sanandaj	4.66	332	ePn	Pn	02 01 33.1	-1.3
SNGE				AML	AML	02 02 40.8	
	comp=N,12nm,0.5s						
IDHR	Dehrash	4.80	321	Pn	Pn	02 01 34.6	-1.7
IDMV	Damavand	4.87	20	Pn	Pn	02 01 37.1	-0.2
IAFJ	Afjeh	5.05	16	Pn	Pn	02 01 38.5	-1.4
IFIR	Firoozkooh	5.17	26	Pn	Pn	02 01 41.4	-0.1
BRTR	Keskin Array B	15.94	308	P	P	02 04 08.2	0.0
	comp=N,0.0nm,0.3s,baz=114,slow=12,SNR=3.6						
FINES	FINESS Array B	34.26	340	P	P	02 07 06.1	-4.2
	comp=N,0.5nm,0.3s,mb3.9,baz=146,slow=6.9,SNR=6.6						
HFS	Hagfors	37.83	331	P	P	02 07 35.9	-4.6
	comp=N,0.5nm,0.3s,mb3.7,baz=129,slow=9.5,SNR=7.3						
NOA	NORSAR Array B	39.35	331	P	P	02 07 47.8	-5.5
	comp=N,0.7nm,0.8s,mb3.4,baz=109,slow=9.3,SNR=2.3						

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*NEIC **08** 02:09:13.9±0.4,50.39N×18.88E,h5^{km},ML2.9(VIE),Error ellipse: s-maj=5.9km s-min=4.5km az=2.0*
*MOS **08** 02:09:13.6±1.3,50.41N×18.92E,h10^{km},mb3.9/1,Error ellipse: s-maj=9.3km s-min=6.8km az=88.4*
*PRU **08** 02:09:15.5,50.28N×18.78E*
*CSEM **08** 02:09:15.3±0.1,50.30N×18.86E,h2^{km},ML3.5/5,Error ellipse: s-maj=2.4km s-min=1.3km az=15.0*
*IPEC **08** 02:09:15.2±0.2,50.25N×18.81E,h5^{km}±1^{km},ML2.5/3, Error ellipse: s-maj=2.1km s-min=0.7km az=171.0*
*WAR **08** 02:09:15.3,50.26N×18.86E,h0^{km},ML2.8,Mining Induced*
*IDC **08** 02:09:16.8±0.9,50.31N×18.60E,mb1 3.3/5, mb1mx3.2/19,mbtmp3.2/5,ML3.0/4,Error ellipse: s-maj=19.6km s-min=7.4km az=143.0*
ISC 08 02:09:13.4±0.3**,50.29N**±0.02×**18.76E**±0.03**,n73, σ1^{s}57**/127**,7C-1D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.42	241	ePG	Pg	02 09 25.0	+3.2
RAC				eSG	Sg	02 09 32.0	+4.6
RAC	Raciborz	0.42	241	ePg	Pg	02 09 24.7	+2.9
RAC				eSg	Sg	02 09 31.8	+4.4
OKC	Ostrava-Krasne	0.60	222	ePG	Pg	02 09 27.2	+1.7
OKC				eSG	Sg	02 09 36.7	+3.2
	72nm,0.4s						
OKC	Ostrava-Krasne	0.60	222	eP	Pg	02 09 27.2	+1.7
OKC				e		02 09 36.7	
OKC				smax			
	comp=N,72nm,0.4s						
OJC	Ojcow	0.67	96	ePG	Pg	02 09 27.0	+0.2
OJC				eSG	Sg	02 09 36.0	+0.3
OJC	Ojcow	0.67	96	ePg	Pg	02 09 26.8	0.0
OJC				eSg	Sg	02 09 35.5	-0.2
MORC	Moravsky Berou	0.94	237	ePg	Pn	02 09 33.2	-0.5
MORC				eSg	Sn	02 09 44.0	-4.0
MORC	Moravsky Berou	0.94	237	ePg	Pn	02 09 33.2	-0.5
MORC				eSg	Sn	02 09 45.8	-2.2
	comp=N,72nm,0.3s						
LIKS	Likavka	1.26	170	ePN	Pn	02 09 38.0	-0.3
LIKS				eSN	Sn	02 09 54.9	-1.3
NIE	Niedzica	1.33	130	ePG	Pg	02 09 39.0	-1.0
NIE				eSG	Sg	02 09 57.0	-0.7
DPC	Dobruska-Polom	1.57	273	ePG	Pn	02 09 44.2	+1.6
DPC				eSG	Sn	02 10 05.6	+1.7
	comp=N,106nm,0.6s						
DPC	Dobruska-Polom	1.57	273	ePn	Pn	02 09 44.0	+1.4
DPC	Dobruska-Polom	1.57	273	ePg	Pn	02 09 44.2	+1.6
DPC				Sg	Sn	02 10 05.6	+1.7
	comp=N,106nm,0.6s						
DPC	Dobruska-Polom	1.57	273	eP	Pn	02 09 44.2	+1.6
DPC				e		02 10 05.6	
DPC				smax			
	comp=N,106nm,0.6s						
JAVC	Velka Javorina	1.60	207	ePn	Pn	02 09 44.4	+1.3
KSP	Ksiaz	1.67	290	ePN	Pn	02 09 46.0	+1.9
KSP				i PG	Pg	02 09 47.5	+0.7
KSP				eSG	Sg	02 10 10.5	+1.4
KSP	Ksiaz	1.67	290	ePn	Pn	02 09 46.0	+1.9
KSP				ePg	Pg	02 09 47.7	+1.0
KSP				eSg	Sg	02 10 10.4	+1.4
KSP	Ksiaz	1.67	290	ePn	Pn	02 09 45.8	+1.7
KSP				i Pg	Pg	02 09 47.5	+0.7
KSP				eSg	Sg	02 10 09.8	+0.8
KSP	Ksiaz	1.67	290	i Pg	Pg	02 09 47.5	+0.7
KSP				eSg	Sg	02 10 09.8	+0.8
KSP	Ksiaz	1.67	290	eP	Pn	02 09 45.8	+1.7
KSP				e		02 10 09.8	
VRAC	Vranov	1.71	236	Pn	Pn	02 09 45.8	+1.0
	comp=N,8.0nm,0.3s,baz=55,slow=14,SNR=45						
VRAC				Lg		02 10 08.8	
	comp=N,16nm,0.3s,baz=140,slow=14,SNR=16						
VRAC				Rg		02 10 21.2	
	comp=N,26nm,0.5s,baz=352,slow=23,SNR=6.0						
VRAC	Vranov	1.71	236	ePn	Pn	02 09 45.7	+0.9
VRAC				eSg		02 10 08.3	
	comp=N,79nm,0.6s						
KOLL	Kolacno	1.73	188	ePN	Pn	02 09 46.1	+1.1
KOLL				eSN	Sn	02 10 09.5	+1.5
VYHS	Vyhne	1.80	178	ePN	Pn	02 09 46.1	+0.1
VYHS	Vyhne	1.80	178	ePn	Pn	02 09 46.0	0.0
STHS	Stebnicka Huta	1.83	118	ePN	Pn	02 09 47.1	+0.7
STHS				eSN	Sn	02 10 13.3	+2.7
KRUC	Moravsky	1.97	232	ePn	Pn	02 09 48.5	+0.1
KRUC				eSg	Sg	02 10 16.1	-2.9
	comp=N,26nm,0.3s						
KECS	Kecovo	2.13	147	ePN	Pn	02 09 50.6	-0.1
KECS				ePG	Pg	02 09 53.7	-2.3
KECS				e		02 10 15.3	
KECS	Kecovo	2.13	147	eP	Pn	02 09 50.6	-0.1
KECS				e		02 10 15.3	
CRVS	Cervenica-Dubn	2.24	127	ePN	Pn	02 09 52.9	+0.6
CRVS				ePG	Pg	02 09 56.0	-2.1
CRVS				eSN	Sn	02 10 23.4	+2.4
CRVS	Cervenica-Dubn	2.24	127	ePg	Pg	02 09 56.0	-2.1
CRVS				eS	Sn	02 10 23.4	+2.4
CRVS	Cervenica-Dubn	2.24	127	eP	Pn	02 09 52.9	+0.6
CRVS				e		02 10 23.4	
PSZ	Piszkesteto	2.49	162	⇑ePn	Pn	02 09 57.5	+1.7
PSZ				eSB	Sb	02 10 31.7	+1.7
PSZ	Piszkesteto	2.49	162	ePn	Pn	02 09 55.5	-0.3
PSZ	Piszkesteto	2.49	162	ePn	Pn	02 09 55.5	-0.3
PSZ	Piszkesteto	2.49	162	⇑eP	Pn	02 09 57.5	+1.7
PSZ				eS	Sb	02 10 31.7	+1.7
KWP	Kalwaria	2.63	103	ePN	Pn	02 09 56.0	-1.9
KWP				ePG	Pg	02 10 03.0	-3.0
KWP				eSG	Sg	02 10 40.0	-1.0
KWP	Kalwaria	2.63	103	ePn	Pn	02 09 56.0	-1.8
KWP				ePn	Pn	02 09 56.4	-1.5
KWP				ePg	Pg	02 10 03.3	-2.7
KWP				eSn	Sn	02 10 39.7	+8.7
KOLS	Kolonicke sedl	2.66	119	ePN	Pn	02 09 58.2	0.0
KOLS				ePG	Pg	02 10 06.3	-0.2
PVCC	Panska Ves	2.69	277	ePG	Pg	02 10 02.3	-4.9
PRU	Pruhonice	2.73	265	ePN	Pn	02 09 59.4	+0.1
PRU				ePG	Pg	02 10 04.1	-3.9
PRU				eSG	Sg	02 10 41.2	-3.2
	comp=N,24nm,0.5s						
PRU	Pruhonice	2.73	265	eP	Pn	02 09 59.4	+0.1

PRU				e		02 10 41.2	
PRU				smax			
	comp=N,24nm,0.5s						
BRG	**Berggiesshubel**	**3.13**	**283**	Pg	**Pg**	**02 10 13.4**	**-2.5**
BRG				i		02 10 16.0	
BRG				Sg	**Sg**	**02 10 54.9**	**-2.7**
BRG	**Berggiesshubel**	**3.13**	**283**	Pg	**Pg**	**02 10 13.4**	**-2.5**
GKP	**Gorka Klasztor**	**3.13**	**343**	ePN	**Pn**	**02 10 07.0**	**+2.0**
GKP				ePG	**Pg**	**02 10 17.0**	**+1.0**
GKP				eSG	**Sg**	**02 10 59.0**	**+1.3**
GKP	**Gorka Klasztor**	**3.13**	**343**	ePn	**Pn**	**02 10 06.6**	**+1.6**
GKP				ePg	**Pg**	**02 10 16.7**	**+0.7**
GKP				eSg	**Sg**	**02 10 59.0**	**+1.3**
GKP	**Gorka Klasztor**	**3.13**	**343**	ePg	**Pg**	**02 10 16.7**	**+0.7**
KHC	**Kasperske Hory**	**3.56**	**253**	ePN	**Pn**	**02 10 11.3**	**+0.2**
KHC				ePG	**Pg**	**02 10 20.0**	**-4.5**
KHC				eSG	**Sg**	**02 11 08.8**	**-3.2**
	comp=N,17nm,0.4s						
GERES	**GERESS Array B**	**3.60**	**248**	Pn	**Pn**	**02 10 12.3**	**+0.7**
	comp=N,0.3nm,0.3s,baz=68,slow=13,SNR=9.1						
GERES				Pg	**Pg**	**02 10 21.3**	**-3.9**
	comp=N,1.0nm,0.3s,baz=65,slow=15,SNR=17						
GERES				Lg		02 11 08.2	
	comp=N,3.4nm,0.3s,baz=62,slow=26,SNR=15						
GERES	**GERESS Array B**	**3.60**	**248**	Pg	**Pg**	**02 10 21.3**	**-4.0**
ARSA	**Arzberg**	**3.72**	**216**	⇑iPN	**Pn**	**02 10 13.9**	**+0.5**
ARSA				i SG	**Sg**	**02 11 16.1**	**-1.2**
	comp=N,8.9nm,0.8s						
ARSA	**Arzberg**	**3.72**	**216**	⇑iPn	**Pn**	**02 10 13.9**	**+0.6**
CLL	**Collm**	**3.79**	**288**	ePG	**Pg**	**02 10 28.0**	**-1.2**
CLL				e		02 11 17.0	
CLL				eSG	**Sg**	**02 11 21.0**	**+1.2**
CLL	**Collm**	**3.79**	**288**	ePg	**Pg**	**02 10 28.0**	**-1.2**
CLL				eSg	**Sg**	**02 11 21.0**	**+1.2**
MOA	**Molln**	**3.83**	**232**	⇑iPN	**Pn**	**02 10 14.6**	**-0.4**
MOA				i SG	**Sg**	**02 11 16.2**	**-4.9**
	comp=N,9.4nm,0.5s						
MOA	**Molln**	**3.83**	**232**	⇑iPn	**Pn**	**02 10 14.6**	**-0.3**
NKC	**Novy Kostel**	**4.05**	**272**	ePG	**Pg**	**02 10 27.7**	**-6.7**
NKC				eSG	**Sg**	**02 11 23.1**	**-5.3**
MOX	**Moxa**	**4.58**	**277**	ePg	**Pg**	**02 10 46.0**	**+1.1**
MOX				eSg	**Sg**	**02 11 42.2**	**-3.7**
KBA	**Koelnbreinsper**	**4.82**	**230**	i	**Pn**	**02 10 32.3**	**+3.3**
KBA	**Koelnbreinsper**	**4.82**	**230**	⇑iPg	**Pg**	**02 10 45.1**	**-4.5**
KBA	**Koelnbreinsper**	**4.82**	**230**	⇓iSg	**Sg**	**02 11 51.1**	**-2.8**
	comp=N,9.4nm,0.6s						
AKASG	**Malin Array Be**	**6.69**	**82**	Pn	**Pn**	**02 10 54.4**	**-1.0**
	comp=N,0.5nm,0.3s,baz=325,slow=30,SNR=3.2						
AKASG				Pg	**Pg**	**02 11 20.0**	**-6.9**
	comp=N,0.8nm,0.3s,baz=272,slow=14,SNR=4.4						
AKASG				Lg		02 12 35.3	
	comp=N,0.6nm,0.3s,baz=260,slow=26,SNR=3.5						
AKASG	**Malin Array Be**	**6.69**	**82**	Pn	**Pn**	**02 10 54.4**	**-1.0**
AKASG				Pg	**Pg**	**02 11 20.0**	**-6.9**
AKASG				Lg		02 12 35.3	
MLR	**Muntele Rosu**	**6.81**	**132**	Pg	**Pn**	**02 11 06.6**	**+10**
	comp=N,0.1nm,0.3s,baz=268,slow=9.6,SNR=2.8						
DAVOX	**Davos**	**6.86**	**243**	Pn	**Pn**	**02 10 57.8**	**0.0**
	comp=N,0.3nm,0.3s,baz=29,slow=19,SNR=3.8						
DAVOX				Sn	**Sn**	**02 12 14.0**	**-3.6**
	comp=N,0.2nm,0.3s,baz=146,slow=19,SNR=2.5						
DAVOX				Lg		02 12 53.4	
	comp=N,0.5nm,0.3s,baz=212,slow=17,SNR=4.2						
DAVOX	**Davos**	**6.86**	**243**	Pn	**Pn**	**02 10 57.8**	**0.0**
DAVOX				Sn	**Sn**	**02 12 14.0**	**-3.6**
DAVOX				Lg		02 12 53.4	
HFS	**Hagfors**	**10.28**	**346**	Sn	**S**	**02 13 35.0**	**-7.3**
	comp=N,0.0nm,0.3s,baz=169,slow=24,SNR=2.3						
FINES	**FINESS Array B**	**11.90**	**17**	Pn	**P**	**02 12 02.1**	**-5.2**
	comp=N,0.3nm,0.3s,baz=194,slow=12,SNR=11						
FINES				Sn	**S**	**02 14 09.2**	**-13**
	comp=N,0.2nm,0.3s,baz=187,slow=22,SNR=3.8						
KAF	**Kangasniemi**	**12.56**	**16**	ep	**P**	**02 12 10.6**	**-5.5**
	comp=N,4.9nm,1.0s						
KAF	**Kangasniemi**	**12.56**	**16**	eP	**P**	**02 12 10.6**	**-5.5**
KAF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
JOF	**Joensuu**	**14.38**	**24**	ep	**P**	**02 12 34.0**	**-6.0**
	comp=Z,2.5nm,1.0s						
JOF	**Joensuu**	**14.38**	**24**	eP	**P**	**02 12 34.0**	**-6.0**
JOF				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**19.58**	**7**	Pn	**P**	**02 13 42.4**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=7.9						

*NNC **08** 02:59:36.5±3.2, 40.87N×73.66E, mpv2.8, Error ellipse: s-maj=30.8km s-min=13.2km az=145.0*
*KNET **08** 02:59:37.6±0.5, 41.02N×73.75E, h0km±1km, ml2.6, Error ellipse: s-maj=3.3km s-min=2.4km az=87.0*
ISC 08 02:59:37.2±1.6**, 40.83N**±0.09×**73.5E**±0.1**, h10**km**, n10, σ1^{s}33**/20**, 11C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.31**	**6**	P	**Pb**	**02 59 59.6**	**-1.9**
	29nm,0.2s,SNR=43						
AML				⇑S	**Sb**	**03 00 17.1**	**-1.1**
	302nm,0.4s						
UCH	**Uchtor**	**1.59**	**28**	⇓P	**Pn**	**03 00 03.4**	**-2.2**
	13nm,0.2s,SNR=18						
UCH				⇓S	**Sb**	**03 00 23.8**	**-2.5**
	50nm,0.2s						
EKS2	**Erkin-Say**	**1.84**	**6**	⇑P	**Pn**	**03 00 09.0**	**-0.2**
	12nm,0.2s,SNR=14						
EKS2				⇓S	**Sn**	**03 00 33.1**	**+0.3**
	32nm,0.2s						
AAK	**Ala-Archa**	**1.95**	**22**	⇓P	**Pn**	**03 00 10.2**	**-0.5**
	14nm,0.2s,SNR=12						
AAK				⇓S	**Sn**	**03 00 35.0**	**-0.5**
	54nm,0.3s						
AAK	**Ala-Archa**	**1.95**	**22**	⇓P	**Pn**	**03 00 10.2**	**-0.6**
	4.9nm,0.3s						
AAK				⇑S	**Sn**	**03 00 35.0**	**-0.6**
	18nm,0.4s						
KBK	**Karagaybulak**	**2.12**	**30**	⇓P	**Pn**	**03 00 13.1**	**-0.2**
	10nm,0.1s,SNR=8.7						
KBK				⇑S	**Sn**	**03 00 40.0**	**+0.1**
	128nm,0.4s						
CHMS	**Chumysh**	**2.36**	**23**	⇓P	**Pn**	**03 00 17.3**	**+0.7**
	16nm,0.4s,SNR=9.4						
CHMS				⇑S	**Sn**	**03 00 47.4**	**+1.4**
	19nm,0.2s						
USP	**Ospenovka**	**2.55**	**17**	⇑P	**Pn**	**03 00 19.8**	**+0.5**
	20nm,0.4s,SNR=11						
USP				⇓S	**Sn**	**03 00 53.2**	**+2.6**
	31nm,0.3s						
TKM2	**Tokmak 2**	**2.61**	**36**	⇑P	**Pn**	**03 00 20.3**	**0.0**
	12nm,0.3s,SNR=9.8						
TKM2				⇑S	**Sn**	**03 00 54.3**	**+2.0**
	28nm,0.4s						
KK31	**Karatay Array**	**3.19**	**317**	⇑Pn	**Pn**	**03 00 30.5**	**+2.1**
	0.4nm,0.4s,baz=136,slow=15,SNR=38						
KK31				⇑Pg	**Pg**	**03 00 36.1**	**-4.7**
	1.5nm,0.3s,baz=132,slow=16,SNR=16						
KK31				⇑Lg		03 01 19.4	
	21nm,0.5s,baz=127,slow=24,SNR=20						

*IDC **08** 02:59:44.1±1.4, 33.64N×141.78E, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.6/6, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx1.8/27, Error ellipse: s-maj=25.9km s-min=23.1km az=141.0*
*NEIC **08** 02:59:49.3±1.3, 33.61N×141.55E, h35km, Error ellipse: s-maj=35.8km s-min=18.9km az=56.0*
*JMA **08** 02:59:49.4±0.6, 33.86N×141.59E, h28km, M3.4*
ISC 08 02:59:48.9±1.4**, 33.81N**±0.06×**141.7E**±0.1**, h45**km±12km**, n18, σ1^{s}16**/23**, mb3.7**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.03**	**325**	P	**P**	**03 00 06.6**	**-0.5**
BSO3	**Boso 3**	**1.39**	**316**	P	**P**	**03 00 12.9**	**+0.5**
BSO4	**Boso 4**	**1.62**	**317**	P	**P**	**03 00 16.2**	**+0.6**
JHJ2	**Mitsune**	**1.71**	**247**	P	**P**	**03 00 17.7**	**+0.9**
JHJ	**Hachijo jima 2**	**1.73**	**247**	Pn	**P**	**03 00 17.1**	**-0.1**
	41nm,0.3s,baz=40,slow=15,SNR=16						
JHJ				Sn	**S**	**03 00 38.7**	**+0.6**
	96nm,0.3s,baz=74,slow=23,SNR=12						
KTJJ	**Kamata 2**	**2.44**	**298**	P	**P**	**03 00 26.1**	**-1.1**
KTJJ				eS	**S**	**03 00 54.3**	**-1.7**
JAG	**Ashikaga**	**3.19**	**326**	P	**P**	**03 00 37.5**	**-0.4**
JAG				S	**S**	**03 01 14.2**	**-0.8**
JNY	**Yasuok**	**3.51**	**297**	P	**P**	**03 00 43.5**	**+1.0**
MJAR	**Matsushiro Arr**	**3.94**	**315**	Pn	**P**	**03 00 47.8**	**-0.7**
	1.4nm,0.3s,baz=146,slow=13,SNR=13						
MJAR				Sn	**S**	**03 01 35.8**	**+1.7**
	1.8nm,0.3s,baz=146,slow=14,SNR=4.8						
MAJO	**Matsushiro**	**3.94**	**315**	ePn	**P**	**03 00 45.6**	**-2.9**
MAT	**Matsushiro**	**3.94**	**315**	P	**P**	**03 00 49.7**	**+1.1**
MAT				S	**S**	**03 01 33.0**	**-1.1**
MAT	**Matsushiro**	**3.94**	**315**	eP	**P**	**03 00 50.0**	**+1.4**
MAT				eS	**S**	**03 01 38.0**	**+3.9**
JNU	**Nakatsue**	**9.05**	**269**	LR	LR	03 05 17.3	
	comp=Z,83nm,21.1s,baz=46,slow=36						
SONM	**Songino Array**	**29.87**	**309**	P	**P**	**03 05 55.2**	**+1.0**
	0.5nm,0.6s,mb3.4,baz=79,slow=7.3,SNR=3.5						
ZAL	**Zalesovo**	**44.31**	**315**	P	**P**	**03 07 55.8**	**-0.1**
	1.5nm,0.3s,mb4.2,baz=248,slow=19,SNR=2.6						
MKAR	**Makanchi Array**	**46.08**	**305**	P	**P**	**03 08 10.3**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=90,slow=8.6,SNR=3.8						
ILAR	**Eielson Array**	**52.12**	**31**	P	**P**	**03 08 57.4**	**+1.0**
	0.8nm,0.9s,mb3.7,baz=272,slow=6.5,SNR=7.0						
WRA	**Warramunga Arr**	**53.91**	**189**	P	**P**	**03 09 07.4**	**-2.8**
	0.4nm,0.7s,mb3.5,baz=6.1,slow=7.6,SNR=5.1						

*CSEM **08** 03:01:49.9±0.1, 41.97N×23.16E, h20km, ML2.8, Error ellipse: s-maj=3.0km s-min=2.2km az=54.0*
*SOF **08** 03:01:50.5, 41.95N×23.30E, h2km, MD3.0*
*ATH **08** 03:01:51.9, 41.79N×23.17E, h14km±2km, MD3.1/3*
*THE **08** 03:01:53.3, 41.79N×23.11E, h12km, ML2.8*
*NEIC **08** 03:01:53.3, 41.79N×23.11E, h13km, ML3.1(ATH), ML2.6(THE), After THE.*
ISC 08 03:01:49.4±0.6**, 41.93N**±0.03×**23.08E**±0.06**, h8**km±5km**, n15, σ0^{s}99**/22**, 2C, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.07**	**180**	i Pg	**Sg**	**03 01 54.0**	**+1.3**
MMB	**Musomiste**	**0.59**	**125**	i Pg	**Pg**	**03 02 01.3**	**0.0**
KNT	**Kendrikon**	**0.78**	**190**	ePg	**Pg**	**03 02 05.7**	**+0.5**
KNT				eSg	**Sg**	**03 02 16.0**	**+0.3**
NVR	**Nevrokopi**	**0.82**	**135**	⇑iPB	**Pb**	**03 02 05.0**	**-0.6**
NVR				eSB	**Sb**	**03 02 14.6**	**-2.0**
SRS	**Serrai**	**0.90**	**155**	ePg	**Pg**	**03 02 06.9**	**-0.5**
SRS				eSg	**Sg**	**03 02 19.2**	**-0.3**
PGB	**Panagyurishte**	**1.01**	**52**	i P	**Pb**	**03 02 08.0**	**-0.8**
GRG	**Griva**	**1.10**	**208**	ePg	**Pg**	**03 02 12.1**	**+0.6**
GRG				eSg	**Sg**	**03 02 25.7**	**-0.5**
RZN	**Rozhen**	**1.25**	**101**	i Pg	**Pg**	**03 02 12.5**	**-1.8**
BARS	**Barje**	**1.29**	**314**	⇑iPg	**Pg**	**03 02 15.3**	**+0.2**
BARS				Sg	**Sg**	**03 02 31.8**	**-0.6**
THE	**Thessaloniki**	**1.30**	**184**	ePg	**Pg**	**03 02 14.8**	**-0.8**
PLG	**Polygyros**	**1.58**	**170**	ePB	**Pb**	**03 02 18.4**	**-0.1**
OUR	**Ouranopolis**	**1.74**	**157**	ePg	**Pn**	**03 02 20.1**	**-0.1**
OUR				eSg	**Sn**	**03 02 42.0**	**-0.7**
KDZ	**Kurdzhali**	**1.77**	**98**	eP	**Pn**	**03 02 21.0**	**+0.4**
RDO	**Rodhopi**	**2.00**	**112**	ePN	**Pn**	**03 02 25.7**	**+1.7**
RDO				eSN	**Sn**	**03 02 51.3**	**+1.9**
ALN	**Alexandroupoli**	**2.46**	**114**	ePn	**Pn**	**03 02 32.4**	**+2.0**

*IDC **08** 03:16:47.5±1.1, 0.14N×124.54E, mb4.0/5, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=63.2km s-min=18.7km az=76.0*
*NEIC **08** 03:16:52.2±0.5, 0.14N×124.56E, h35km, mb4.3/3, Error ellipse: s-maj=27.1km s-min=8.7km az=75.0*
ISC 08 03:16:51.6±3.9**, 0.1N**±0.1×**124.5E**±0.2**, h48**km±37km**, n12, σ0^{s}66**/12**, mb4.1**/8**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.16**	**176**	P	**P**	**03 21 02.6**	**+0.6**
	0.7nm,0.3s,baz=40,slow=2.0,SNR=12						
MBWA	**Marble Bar**	**21.66**	**192**	eP	**P**	**03 21 40.4**	**+0.4**
	19nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**22.17**	**155**	eP	**P**	**03 21 44.2**	**-0.7**
	8.3nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**22.17**	**155**	P	**P**	**03 21 44.2**	**-0.8**
	2.9nm,0.9s,mb3.7,baz=334,slow=11,SNR=20						
WRA				S	**S**	**03 25 41.8**	**+0.6**
	0.7nm,0.9s,baz=337,slow=16,SNR=3.2						
STKA	**Stephens Creek**	**35.72**	**155**	P	**P**	**03 23 47.9**	**+0.1**
	2.6nm,0.5s,mb4.4,baz=330,slow=8.0,SNR=8.2						
MJAR	**Matsushiro Arr**	**38.40**	**18**	P	**P**	**03 24 10.5**	**+0.4**
	3.6nm,0.8s,mb4.2,baz=188,slow=8.5,SNR=8.9						
MJAR	**Matsushiro Arr**	**38.40**	**18**	P	**P**	**03 24 10.5**	**+0.4**
SONM	**Songino Array**	**50.04**	**344**	P	**P**	**03 25 44.6**	**+1.2**
	1.2nm,0.8s,mb4.0,baz=146,slow=5.2,SNR=3.7						
MKAR	**Makanchi Array**	**59.28**	**328**	P	**P**	**03 26 50.4**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=129,slow=7.6,SNR=4.2						
AAK	**Ala-Archa**	**61.57**	**320**	P	**P**	**03 27 06.1**	**-0.2**
KURK	**Kurchatov**	**63.60**	**329**	P	**P**	**03 27 18.8**	**-1.0**
	2.7nm,0.8s,mb4.3						
BDFB	**Brasilia**	**162.90**	**205**	PKP	PKPdf	03 36 52.6	+3.6
	2.6nm,0.9s,baz=142,slow=6.9,SNR=3.1						

*ISK **08** 03:39:21.5, 40.71N×29.24E, h6km, MD3.1*
*CSEM **08** 03:39:21.5±0.1, 40.75N×29.25E, h12km, MD3.1, Error ellipse: s-maj=2.9km s-min=1.6km az=21.0*
*ATH **08** 03:40:04.4, 41.19N×26.30E, h10km, MD3.6/3*
ISC 08 03:39:21.3±0.4**, 40.71N**±0.03×**29.22E**±0.03**, h6**km±4km**, n35, σ0^{s}80**/43**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLV	**Yalova**	**0.18**	**141**	i PG	**Pg**	**03 39 25.3**	**+0.3**
YLV				i SG	**Sg**	**03 39 28.2**	**+0.6**
ARMT	**Armutlu**	**0.31**	**243**	i PG	**Pg**	**03 39 28.6**	**+1.1**
HRT	**Hereke**	**0.36**	**71**	i PG	**Pg**	**03 39 28.4**	**-0.1**
HRT				i SG	**Sg**	**03 39 33.6**	**+0.3**
ISK	**Istanbul-Kandi**	**0.38**	**341**	i PG	**Pg**	**03 39 29.0**	**+0.1**
SILT	**Sile**	**0.55**	**35**	i PG	**Pg**	**03 39 32.8**	**+0.5**
ULDT	**Uludag**	**0.57**	**187**	i P	**Pg**	**03 39 32.2**	**-0.5**
ULDT				i S	**Sg**	**03 39 39.0**	**-1.2**
BGKT	**Bogazkoy**	**0.58**	**324**	i PG	**Pg**	**03 39 33.8**	**+0.8**
EYL	**Eskiyayla**	**0.73**	**101**	i PG	**Pg**	**03 39 35.7**	**-0.1**
CTT	**Catalca**	**0.74**	**306**	i PG	**Pg**	**03 39 36.3**	**+0.1**
SLVT	**Silivri**	**0.93**	**305**	PG	**Pg**	**03 39 40.0**	**+0.2**
GPA	**Golpazari**	**0.93**	**116**	PG	**Pg**	**03 39 39.9**	**+0.1**
BNT	**Bandirma**	**1.05**	**251**	PN	**Pn**	**03 39 42.0**	**-0.5**
DST	**Dursunbey**	**1.19**	**203**	PN	**Pn**	**03 39 45.8**	**+1.3**
MRMT	**Marmara Adasi**	**1.24**	**266**	PN	**Pn**	**03 39 45.1**	**-0.1**
BORA	**Eskisehir**	**1.25**	**131**	i P	**Pb**	**03 39 45.3**	**+0.4**
BORA				i S	**Sb**	**03 40 00.8**	**-0.4**
HENT	**Hendek**	**1.28**	**84**	i P	**Pb**	**03 39 44.8**	**-0.6**
HENT				i S	**Sb**	**03 40 00.9**	**-1.1**
BALB	**Balikesir**	**1.48**	**224**	PN	**Pn**	**03 39 49.8**	**+1.2**
MDU	**Mudurnu**	**1.54**	**98**	PN	**Pn**	**03 39 50.3**	**+0.9**
SART	**Tekirdag**	**1.55**	**270**	i P	**Pn**	**03 39 48.9**	**-0.7**
SART				i S	**Sb**	**03 40 10.2**	**+0.3**
GDZ	**Gediz**	**1.63**	**173**	i P	**Pn**	**03 39 50.1**	**-0.6**
GDZ				i S	**Sb**	**03 40 11.5**	**-0.7**
ESKT	**Eskisehir**	**1.72**	**133**	PN	**Pn**	**03 39 52.8**	**+0.7**
ESKT	**Eskisehir**	**1.72**	**133**	i P	**Pn**	**03 39 51.2**	**-0.9**
ESKT				i S	**Sn**	**03 40 14.7**	**+0.1**
ALT	**Altintas**	**1.79**	**157**	PN	**Pn**	**03 39 53.6**	**+0.6**
CANB	**Canakkale**	**1.79**	**248**	PN	**Pn**	**03 39 54.3**	**+1.3**
LPK	**Lapseki**	**1.91**	**261**	PN	**Pn**	**03 39 56.2**	**+1.5**
EDRB	**Edirne**	**2.19**	**302**	PN	**Pn**	**03 39 59.0**	**+0.3**
EZN	**Ezine**	**2.38**	**249**	PN	**Pn**	**03 40 02.0**	**+0.4**
JMB	**Yambol**	**2.65**	**312**	eP	**Pn**	**03 40 12.8**	**+7.5**
PRK	**Paraskevi**	**2.70**	**238**	ePN	**Sn**	**03 40 39.7**	**+0.3**
RDO	**Rodhopi**	**2.83**	**280**	ePB	**Pg**	**03 40 15.6**	**-2.1**
KDZ	**Kurdzhali**	**3.02**	**289**	eP	**Pg**	**03 40 20.0**	**-1.6**
LIA	**Limnos Island**	**3.19**	**257**	ePB	**Pb**	**03 40 33.5**	**+15**
RZN	**Rozhen**	**3.54**	**288**	eP	**Pn**	**03 40 17.0**	**-1.0**
MMB	**Musomiste**	**4.24**	**284**	eP	**Pn**	**03 40 27.0**	**-1.0**
VTS	**Vitosha**	**4.88**	**295**	eP	**Pn**	**03 40 36.5**	**-0.6**

*IDC **08** 04:03:39.7±0.7, 15.50S×71.58W, h130km±6km, mb3.9/15, mb1 3.9/19, mb1mx3.9/24, mbtmp4.3/19, Error ellipse: s-maj=20.6km s-min=10.3km az=67.0*
*NEIC **08** 04:03:40.0±0.3, 15.50S×71.57W, mb4.4/20, Error ellipse: s-maj=10.2km s-min=6.0km az=70.0*
ISC 08 04:03:38.0±0.6**, 15.47S**±0.05×**71.68W**±0.07**, h129**km±5km**, h125**km±5.0km**:pP-P, n63, σ1^{s}03**/68**, mb4.1**/23**, 2C-4D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.00**	**170**	⇑iP	**P**	**04 04 01.8**	**+0.7**
ARE				i S	**S**	**04 04 19.5**	**+1.0**
LPAZ	**La Paz**	**3.51**	**104**	P	**P**	**04 04 36.3**	**+4.1**
	20nm,0.3s,baz=275,slow=9.9,SNR=638						
LPAZ				S	**S**	**04 05 18.2**	**+4.7**
	3.6nm,0.3s,baz=191,slow=21,SNR=6.7						
LPAZ	**La Paz**	**3.51**	**104**	ePn	**P**	**04 04 36.9**	**+4.8**
LPAZ				eSn	**S**	**04 05 14.3**	**+0.8**
NNA	**Nana**	**6.10**	**304**	ePn	**P**	**04 05 05.9**	**-1.1**
	34nm,0.3s						
NNA				eSn	**S**	**04 06 10.0**	**-5.9**
LVC	**Limon Verde**	**7.57**	**160**	P	**P**	**04 05 25.0**	**-1.9**
	3.9nm,0.3s,baz=334,slow=9.2,SNR=48						
LVC				S	**S**	**04 06 44.3**	**-7.3**
	5.8nm,0.3s,baz=321,slow=7.5,SNR=5.0						
LVC	**Limon Verde**	**7.57**	**160**	ePn	**P**	**04 05 24.9**	**-2.1**
	13nm,0.5s						
LVC				eSn	**S**	**04 06 45.9**	**-5.7**
SIV	**San Ignacio**	**10.22**	**94**	P	**P**	**04 06 01.6**	**-0.8**
	4.1nm,0.3s,baz=284,slow=10,SNR=98						
SAML	**Samuel**	**10.53**	**53**	ePn	**P**	**04 06 05.9**	**-0.5**
	24nm,0.8s						
SAML				e		04 06 17.4	
CFAA	**Coronel Fontan**	**16.37**	**170**	P	**P**	**04 07 21.7**	**+0.1**
	0.2nm,0.3s,baz=344,slow=11,SNR=33						
CFAA				S	**S**	**04 10 09.1**	**-9.3**
	0.0nm,0.3s,baz=296,slow=8.7,SNR=2.6						
CFAA	**Coronel Fontan**	**16.37**	**170**	P	**P**	**04 07 21.7**	**+0.1**
CFAA				S	**S**	**04 10 09.1**	**-9.3**
CPUP	**Villa Florida**	**17.20**	**131**	P	**P**	**04 07 30.1**	**-1.8**
	0.3nm,0.3s,baz=332,slow=14,SNR=7.9						
CPUP	**Villa Florida**	**17.20**	**131**	eP	**P**	**04 07 31.2**	**-0.7**
	8.4nm,1.0s						
ROSC	**El Rosal**	**20.36**	**352**	P	**P**	**04 08 05.1**	**-1.3**
	1.5nm,0.4s,baz=268,slow=22,SNR=3.8						
BDFB	**Brasilia**	**22.79**	**94**	P	**P**	**04 08 31.1**	**+0.6**
	9.1nm,0.5s,mb4.4,baz=269,slow=12,SNR=35						
BAO	**Brasilia Array**	**22.82**	**94**	P	**P**	**04 08 32.0**	**+1.3**
TRQA	**Tornquist**	**24.07**	**161**	eP	**P**	**04 08 40.3**	**-2.3**
	4.1nm,0.8s,mb4.0						
SDV	**Santo Domingo**	**24.22**	**3**	P	**P**	**04 08 46.6**	**+2.5**
	6.2nm,0.4s,mb4.5,baz=276,slow=9.0,SNR=8.1						
SDV	**Santo Domingo**	**24.22**	**3**	eP	**P**	**04 08 46.1**	**+2.0**
	28nm,1.1s,mb4.7						
PLCA	**Paso Flores**	**25.19**	**178**	P	**P**	**04 08 52.1**	**-1.0**
	6.0nm,0.8s,mb4.2,baz=0.4,slow=10,SNR=17						
PLCA	**Paso Flores**	**25.19**	**178**	eP	**P**	**04 08 52.5**	**-0.7**
	16nm,1.1s,mb4.5						
PMSA	**Palmer Station**	**49.53**	**176**	eP	**P**	**04 12 17.0**	**-0.3**
	12nm,0.5s,mb4.8						
TXAR	**Lajitas Array**	**54.20**	**325**	P	**P**	**04 12 51.7**	**-1.0**
	0.7nm,0.8s,mb3.5,baz=149,slow=8.2,SNR=7.6						
TXAR				pP	pP	04 13 24.2	+1.2
	0.8nm,1.0s,baz=149,slow=7.3,SNR=4.0						
ANMO	**Albuquerque**	**60.04**	**327**	P	**P**	**04 13 33.0**	**-0.8**
	0.3nm,0.4s,mb3.5,baz=130,slow=8.5,SNR=3.7						
ANMO	**Albuquerque**	**60.04**	**327**	P	**P**	**04 13 32.2**	**-1.6**
	1.6nm,0.9s,mb3.9						
SDCO	**Great Sand Dun**	**61.74**	**330**	eP	**P**	**04 13 45.4**	**+0.1**
	3.1nm,0.9s,mb4.1						
ARUT	**Antelope Range**	**65.92**	**325**	eP	**P**	**04 14 13.1**	**+0.6**
VNA3	**Neumayer Olymp**	**66.60**	**162**	e	**P**	**04 14 17.6**	**+1.3**
VNA3	**Neumayer Olymp**	**66.60**	**162**	e	**P**	**04 14 27.2**	**+11**
VNA3	**Neumayer Olymp**	**66.60**	**162**	⇓iP	**P**	**04 14 16.2**	**-0.1**
VNA3				e		04 14 17.6	
VNA3				e		04 14 27.2	
VNA3				e	pP	04 14 44.4	-3.4
VNA1	**Neumayer--Stat**	**66.81**	**161**	e	**P**	**04 14 19.3**	**+1.7**
VNA1	**Neumayer--Stat**	**66.81**	**161**	e	**P**	**04 14 29.3**	**+12**
VNA1	**Neumayer--Stat**	**66.81**	**161**	⇓iP	**P**	**04 14 18.0**	**+0.4**
VNA1				e		04 14 19.3	
VNA1				e		04 14 29.3	
VNA1				e	pP	04 14 45.2	-4.0
VNA2	**Neumayer--Watz**	**67.18**	**161**	e	**P**	**04 14 21.4**	**+1.5**
VNA2	**Neumayer--Watz**	**67.18**	**161**	e	**P**	**04 14 29.9**	**+10**
VNA2	**Neumayer--Watz**	**67.18**	**161**	⇓iP	**P**	**04 14 19.7**	**-0.2**
VNA2				e		04 14 21.4	
VNA2				e		04 14 29.9	
VNA2				e	pP	04 14 46.7	-4.8
PDAR	**Pinedale Array**	**67.60**	**331**	P	**P**	**04 14 22.6**	**-0.3**
	0.3nm,0.7s,mb3.1,baz=117,slow=6.6,SNR=4.9						
PDAR				pP	pP	04 14 53.4	-1.2
	0.3nm,1.0s,baz=120,slow=7.3,SNR=1.5						
SNAA	**Sanae**	**68.80**	**162**	e	**P**	**04 14 31.4**	**+1.5**
SNAA	**Sanae**	**68.80**	**162**	e	**P**	**04 14 42.9**	**+13**
SNAA	**Sanae**	**68.80**	**162**	P	**P**	**04 14 29.4**	**-0.6**
	3.9nm,0.6s,mb4.3,baz=279,slow=6.7,SNR=155						
SNAA	**Sanae**	**68.80**	**162**	⇓iP	**P**	**04 14 29.7**	**-0.2**
	0.7nm,0.7s,mb3.5						
SNAA				e		04 14 31.4	
SNAA				e		04 14 42.9	
SNAA				e	pP	04 15 01.9	+0.3
ULM	**Lac du Bonnet**	**68.81**	**344**	P	**P**	**04 14 29.6**	**-0.8**
	2.4nm,0.8s,mb4.0,baz=141,slow=12,SNR=2.9						
ULM				pP	pP	04 15 01.6	-0.4
	3.0nm,1.0s,baz=122,slow=6.4,SNR=3.1						
ELK	**Elko**	**68.99**	**326**	P	**P**	**04 14 31.9**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=94,slow=22,SNR=3.1						
DBIC	**Dimbokro**	**69.73**	**77**	P	**P**	**04 14 35.0**	**-1.6**
	2.5nm,0.7s,mb4.0,baz=288,slow=18,SNR=3.7						
DBIC	**Dimbokro**	**69.73**	**77**	eP	**P**	**04 14 35.7**	**-0.9**
	10nm,1.2s,mb4.4						
HLID	**Hailey**	**70.56**	**328**	eP	**P**	**04 14 42.0**	**+0.9**
	1.4nm,0.9s,mb3.7						
WALA	**Waterton Lakes**	**74.34**	**333**	eP	**P**	**04 15 03.9**	**+0.7**
	3.2nm,0.8s,mb4.1						
QSPA	**South Pole Qui**	**74.69**	**180**	eP	**P**	**04 15 05.3**	**+0.7**
	14nm,1.1s,mb4.5						
FCC	**Fort Churchill**	**76.21**	**348**	eP	**P**	**04 15 21.3**	**+7.7**
	57nm,1.3s,mb5.0						
EDM	**Edmonton**	**77.22**	**336**	eP	**P**	**04 15 19.1**	**-0.2**
SBA	**Scott Base**	**81.25**	**191**	eP	**P**	**04 15 41.6**	**+1.0**
	5.3nm,1.1s,mb4.1						
VNDA	**Vanda**	**82.30**	**190**	P	**P**	**04 15 47.1**	**+1.1**
	2.6nm,0.8s,mb3.9,baz=124,slow=4.3,SNR=17						
VNDA	**Vanda**	**82.30**	**190**	eP	**P**	**04 15 46.9**	**+0.8**
	3.7nm,0.9s,mb4.0						
SYO	**Syowa Base**	**83.04**	**160**	⇑P	**P**	**04 15 49.0**	**-0.9**
TSUM	**Tsumeb**	**84.35**	**108**	P	**P**	**04 15 50.1**	**-7.5**
	6.4nm,1.0s,mb4.3						
YKA	**Yellowknife Ar**	**84.66**	**341**	P	**P**	**04 15 58.2**	**+0.1**
	2.7nm,0.6s,mb4.1,baz=135,slow=5.2,SNR=18						
YKA				pP	pP	04 16 33.7	+2.7
	1.8nm,0.9s,baz=133,slow=5.0,SNR=3.4						
YKA	**Yellowknife Ar**	**84.66**	**341**	P	**P**	**04 15 58.2**	**+0.1**
YKA				pP	pP	04 16 33.7	+2.7
DLBC	**Dease Lake**	**87.67**	**333**	P	**P**	**04 16 14.4**	**+1.5**
	4.2nm,0.9s,mb4.3,baz=147,slow=3.6,SNR=7.0						
DLBC	**Dease Lake**	**87.67**	**333**	eP	**P**	**04 16 14.8**	**+1.9**
MAW	**Mawson**	**90.82**	**164**	eP	**P**	**04 16 28.0**	**+0.5**
	4.5nm,1.0s,mb4.5						
MAW	**Mawson**	**90.82**	**164**	P	**P**	**04 16 28.0**	**+0.5**
	6.5nm,1.0s,mb4.6,baz=224,slow=4.1,SNR=11						
FITZ	**Fitzroy Crossi**	**142.53**	**208**	PKP	PKPdf	04 22 59.0	+2.4
	23nm,0.9s,baz=174,slow=8.6,SNR=2.5						
MJAR	**Matsushiro Arr**	**146.14**	**314**	PKPbc	PKPbc	04 23 05.1	+1.6
	7.0nm,0.9s,baz=78,slow=1.9,SNR=7.1						
SONM	**Songino Array**	**147.69**	**2**	PKPbc	PKPdf	04 23 09.5	+5.0
	4.9nm,0.7s,baz=333,slow=2.5,SNR=5.6						

*IDC **08** 04:10:03.8±0.3, 0.71N×126.30E, mb5.3/27, mb1 5.4/28, mb1mx5.3/29, mbtmp5.3/28, ML5.3/1, MS5.0/14, Ms1 5.0/14, ms1mx4.8/22, Error ellipse: s-maj=17.4km s-min=8.4km az=78.0*
*BJI **08** 04:10:08.5, 0.72N×126.35E, h55km, mB5.6, mb5.4, Ms5.2, Msz5.0*
*NEIC **08** 04:10:10.6±0.8, 0.77N×126.28E, h49km±7km, mb5.6/57, MS5.2/134, MW5.5, Error ellipse: s-maj=5.6km s-min=3.7km az=74.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}2.14; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-2.16; $M_{r\theta}$-0.17; $M_{\theta\phi}$0.00; $M_{\phi r}$-1.05; Best double couple: $M_0$2.4×10^{17} NP1:ϕ_s356°, δ32°, λ83°. NP2:ϕ_s184°, δ58°, λ94°. Principal axes: T 2.39, Plg76°, Azm107°; N .01, Plg4°, Azm2°; P -2.4, Plg13°, Azm271°;*
NEIC Felt [II] on Ternate, Indonesia.
*MOS **08** 04:10:10.0±1.2, 0.82N×126.41E, h57km, mb5.8/44 Error ellipse: s-maj=10.9km s-min=5.5km az=110.2*
*HRVD **08** 04:10:10.6±0.2, 0.86N×126.22E, h38km, MW5.7/72, Centroid moment Tensor Solution. LP body waves: s65,c126; Mantle waves: s72,c201; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M_{rr}3.48±.07; $M_{\theta\theta}$0.24±.05; $M_{\phi\phi}$-3.72±.06; $M_{r\theta}$-0.39±.07; $M_{\theta\phi}$-1.32±.05; $M_{\phi r}$-1.18±.08;*

Best double couple: $M_0$3.998×10^{17} NP1:ϕ_s16°,δ36°,λ89°. NP2:ϕ_s197°,δ54°,λ91°. Principal axes: T 3.678, Plg81°, Azm110°; N .637, Plg0°, Azm17°; P -4.318, Plg9°, Azm287°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISC 08 04:10:09.2±0.6,**0.76N**±0.02×**126.29E**±0.04,**h50**^{km}±4^{km}, **h45**^{km}±2.5^{km}**:pP-P,n539,**σ1.11/377,**mb5.5**/116,**MS5.2**/175, **39C-17D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**6.14**	**360**	eP	**P**	**04 11 41.2**	**+1.6**
DAV	**Davao City (W)**	**6.30**	**354**	eP	**P**	**04 11 48.0**	**+6.1**
DAV	**Davao City (W)**	**6.30**	**354**	P	**P**	**04 11 42.5**	**+0.6**
	243nm,0.4s						
KCP	**Kidapawan**	**6.32**	**349**	⇑eP	**P**	**04 11 45.8**	**+3.7**
DMPH	**Davao City--Mi**	**6.33**	**353**	⇓eP	**P**	**04 11 45.7**	**+3.5**
CTBH	**Cotabato--PC H**	**6.73**	**342**	eP	**P**	**04 11 48.4**	**+0.5**
BUKP	**Musuan**	**7.17**	**350**	eP	**P**	**04 11 54.0**	**-0.1**
BIPH	**Bislig**	**7.37**	**1**	⇑iP	**P**	**04 11 55.4**	**-1.4**
BIPH				iS	**S**	**04 13 37.1**	**+17**
PAGZ	**Pagadian**	**7.61**	**338**	eP	**P**	**04 11 59.1**	**-1.0**
IPIL	**Ipil**	**7.90**	**332**	eP	**P**	**04 12 03.6**	**-0.5**
BUTP	**Butuan**	**8.18**	**355**	eP	**P**	**04 12 09.6**	**+1.6**
SCPH	**Surigao**	**8.99**	**355**	⇓eP	**P**	**04 12 26.4**	**+7.2**
SNPH	**Sibulan**	**9.05**	**340**	eP	**P**	**04 12 24.0**	**+4.1**
TSM	**Tawau**	**9.11**	**293**	P	**P**	**04 12 19.9**	**-0.9**
TBP	**Tagbilaran**	**9.19**	**345**	eP	**P**	**04 12 23.1**	**+1.2**
MSLP	**Maasin**	**9.42**	**351**	eP	**P**	**04 12 25.2**	**+0.2**
GUIM	**Jordan**	**10.47**	**340**	eP	**P**	**04 12 49.4**	**+10**
RCP	**Roxas**	**11.29**	**342**	⇑eP	**P**	**04 12 52.9**	**+2.2**
CUYO	**Cuyo Island**	**11.31**	**333**	eP	**P**	**04 12 52.3**	**+1.4**
KKM	**Kota Kinabalu**	**11.34**	**298**	P	**P**	**04 12 53.6**	**+2.2**
KKM	**Kota Kinabalu**	**11.34**	**298**	⇓eP	**P**	**04 12 51.9**	**+0.5**
BATP	**Bataraza**	**11.63**	**314**	eP	**P**	**04 12 55.0**	**-0.2**
ENPP	**El Nido**	**12.42**	**327**	eP	**P**	**04 13 06.2**	**+0.4**
BUSP	**Coron**	**12.70**	**332**	eP	**P**	**04 13 09.9**	**+0.4**
SJMP	**San Jose**	**12.70**	**336**	eP	**P**	**04 13 10.9**	**+1.3**
PVCP	**Virac**	**12.92**	**351**	eP	**P**	**04 13 13.8**	**+1.2**
BOAC	**Boac**	**13.36**	**341**	eP	**P**	**04 13 20.1**	**+1.9**
POLP	**Polilio Island**	**14.53**	**343**	eP	**P**	**04 13 33.2**	**-0.4**
KAKA	**Kakadu**	**14.71**	**156**	eP	**P**	**04 13 50.3**	**+14**
	57nm,0.6s						
KAKA				i		04 14 00.2	
BALP	**Baler**	**15.59**	**343**	eP	**P**	**04 13 49.0**	**+1.6**
KSM	**Kuching**	**16.00**	**273**	⇓eP	**P**	**04 13 53.1**	**+0.6**
CVP	**Callao Caves**	**17.40**	**346**	eP	**P**	**04 14 10.0**	**-0.1**
ABRA	**Dolores**	**17.65**	**342**	eP	**P**	**04 14 12.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.76**	**182**	eP	**P**	**04 14 24.2**	**-2.6**
	158nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.76**	**182**	P	**P**	**04 14 25.7**	**-1.1**
	6.7nm,0.3s,baz=10,slow=8.9,SNR=93						
BBP	**Basco**	**20.01**	**348**	eP	**P**	**04 14 40.3**	**-0.2**
WRAB	**Tennant Creek**	**22.03**	**159**	⇑eP	**P**	**04 15 00.1**	**-1.1**
	546nm,0.9s,mb6.0						
WRAB				eS	**S**	**04 18 58.3**	**+2.2**
WRAB				LR	LR		
	comp=Z,2μm,21.0s,MS4.4						
WRAB	**Tennant Creek**	**22.03**	**159**	⇑eP	**P**	**04 15 00.1**	**-1.0**
WRAB				eS	**S**	**04 18 58.3**	**+2.3**
WRAB				pmax	pmax		
	comp=Z,546nm,0.9s,mb6.0						
WRAB				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.4						
WRA	**Warramunga Arr**	**22.04**	**159**	P	**P**	**04 15 00.2**	**-0.9**
	comp=Z,149nm,0.6s,mb5.6,baz=338,slow=11,SNR=473						
WRA				S	**S**	**04 18 59.2**	**+3.1**
	comp=Z,20nm,0.8s,baz=348,slow=20,SNR=6.8						
GUMO	**Guam**	**22.37**	**54**	P	**P**	**04 15 04.6**	**+0.1**
	comp=Z,75nm,0.6s,mb5.3,baz=200,slow=11,SNR=5.2						
GUMO				LR	LR	04 22 29.2	
	comp=Z,5μm,21.6s,MS4.9,baz=233,slow=33						
MBWA	**Marble Bar**	**22.71**	**196**	eP	**P**	**04 15 07.2**	**-0.8**
	comp=Z,58nm,0.7s,mb5.1						
MBWA				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
KGM	**Kluang**	**23.00**	**273**	P	**P**	**04 15 12.8**	**+2.0**
YHNB	**Yeheng**	**24.24**	**349**	eP	**P**	**04 15 20.7**	**-2.0**
QIZ	**Qiongzhong**	**24.29**	**319**	P	**P**	**04 15 22.4**	**-0.8**
QIZ				AP		04 15 33.9	
QIZ				XP		04 15 39.2	
QIZ				S	**S**	**04 19 35.5**	**-0.3**
QIZ				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.5						
QIZ				LR	LR		
	comp=N,3μm,24.2s						
QIZ				LR	LR		
	comp=Z,5μm,23.7s,MS5.0						
QIZ	**Qiongzhong**	**24.29**	**319**	⇑eP	**P**	**04 15 22.2**	**-1.0**
	comp=Z,88nm,1.1s,mb5.1						
QIZ				LR	LR		
	comp=Z,5μm,22.0s,MS5.0						
HKC	**Hong Kong**	**24.45**	**332**	P	**P**	**04 15 38.0**	**+13**
HKC				S	**S**	**04 19 52.0**	**+14**
TATO	**Taipei**	**24.51**	**349**	eP	**P**	**04 15 22.7**	**-2.7**
	comp=Z,122nm,1.0s,mb5.4						
TATO				LR	LR		
	comp=Z,5μm,21.0s,MS5.0						
QZH	**Quanzhou**	**25.16**	**343**	⇑iP	**P**	**04 15 30.7**	**-0.9**
QZH				S	**S**	**04 19 50.6**	**+0.1**
QZH				AMB	AMB		
	comp=Z,220nm,1.6s,mb5.4						
QZH				AMB	AMB		
	comp=Z,1μm,3.3s						
QZH				LR	LR		
	comp=N,9μm,21.3s						
QZH				LR	LR		
	comp=E,3μm,14.2s						
QZH				LR	LR		
	comp=Z,10μm,21.3s,MS5.3						
ASPA	**Alice Springs**	**25.39**	**164**	eP	**P**	**04 15 33.4**	**-0.3**
GZH	**Guangzhou**	**25.51**	**331**	P	**P**	**04 15 36.4**	**+1.5**
GZH				AMB	AMB		
	comp=Z,258nm,1.0s,mb5.7						
GZH				LR	LR		
	comp=N,1μm,25.8s						
GZH				LR	LR		
	comp=E,3μm,16.0s						
GZH				LR	LR		
	comp=Z,4μm,20.2s						
JOW	**Kunigami**	**25.99**	**4**	P	**P**	**04 15 40.0**	**+0.7**
	comp=Z,306nm,0.8s,mb5.9,baz=180,slow=7.7,SNR=102						
JOW				LR	LR	04 24 32.9	
	comp=Z,2μm,19.8s,MS4.7,baz=308,slow=33						
KULM	**Kulim**	**25.99**	**280**	eP	**P**	**04 15 37.6**	**-1.9**
SNG	**Songkhla**	**26.38**	**285**	P	**P**	**04 15 44.0**	**+0.9**
	comp=Z,180nm,0.9s,mb5.6						
KKTK	**Khon Kaen**	**27.83**	**305**	P	**P**	**04 15 54.0**	**-2.3**
	comp=Z,1μm,0.5s						
CTA	**Charters Tower**	**28.50**	**138**	⇑iP	**P**	**04 16 03.7**	**+1.5**
	comp=Z,22nm,0.9s,mb4.8						
CTA	**Charters Tower**	**28.50**	**138**	P	**P**	**04 16 00.6**	**-1.7**
	comp=Z,21nm,0.9s,mb4.8,baz=315,slow=10,SNR=4.9						
CTA				PcP	PcP	04 19 14.0	+0.7
	comp=Z,16nm,0.8s,baz=346,slow=4.2,SNR=3.6						
CTAO	**Charters Tower**	**28.50**	**138**	eP	**P**	**04 16 00.7**	**-1.5**
	comp=Z,33nm,0.9s,mb5.0						
CTAO				LR	LR		
	comp=Z,4μm,22.0s,MS5.0						
CTAO	**Charters Tower**	**28.50**	**138**	eP	**P**	**04 16 00.7**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.0						
CTAO				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.0						
NNT	**Nongplab**	**28.83**	**295**	P	**P**	**04 16 06.0**	**+0.7**
NST	**Nakhon Sawan**	**29.76**	**301**	P	**P**	**04 16 11.0**	**-2.5**
CBIJ	**Chichi jima**	**30.31**	**29**	P	**P**	**04 16 16.4**	**-1.9**
	comp=Z,226nm,0.8s,mb5.9,baz=277,slow=17,SNR=8.3						
CBIJ				LR	LR	04 27 07.1	
	comp=Z,2μm,20.6s,MS4.6,baz=217,slow=34						
SSE	**Sheshan**	**30.55**	**351**	P	**P**	**04 16 19.3**	**-1.1**
SSE				XP	sP	04 16 35.1	-4.6
SSE				PCP	PcP	04 19 17.3	-1.1
SSE				S	**S**	**04 21 18.2**	**+0.9**
SSE				XS		04 21 37.2	
SSE				SCP		04 22 56.6	
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,224nm,5.1s						
SSE				LR	LR		
	comp=N,2μm,20.2s,MS4.9						
SSE				LR	LR		
	comp=E,1μm,20.0s,MS4.9						
SSE				LR	LR		
	comp=Z,3μm,23.6s,MS4.8						
SSE	**Sheshan**	**30.55**	**351**	P	**P**	**04 16 19.3**	**-1.1**
	comp=Z,32nm,0.7s,mb5.3						
SSE				sP	sP	04 16 35.1	-4.6
SSE				PP	PP	04 17 28.4	+6.6
SSE				PcP	PcP	04 19 17.3	-1.1
SSE				S	**S**	**04 21 18.2**	**+0.9**
SSE				sS		04 21 37.2	
SSE				ScP		04 22 56.6	
SSE				LR	LR		
	comp=Z,3μm,23.6s,MS4.8						
FORT	**Forrest**	**31.41**	**177**	⇑iP	**P**	**04 16 27.5**	**-0.5**
	comp=Z,170nm,0.6s,mb6.0						
WHN	**Wuhan**	**31.71**	**340**	⇑P	**P**	**04 16 31.7**	**+1.1**
WHN				LR	LR		
	comp=Z,9μm,24.0s,MS5.3						
GYA	**Guiyang**	**31.77**	**325**	⇑iP	**P**	**04 16 29.8**	**-1.4**
GYA				AP	pP	04 16 42.5	-1.8
GYA				XP	sP	04 16 47.8	-2.8
GYA				PP	PP	04 17 37.2	-0.3
GYA				PCP	PcP	04 19 17.8	-3.9
GYA				S	**S**	**04 21 36.0**	**-0.5**
GYA				XS		04 21 57.4	
GYA				SS	SS	04 23 31.5	+2.0
GYA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,100nm,5.7s						
GYA				LR	LR		
	comp=N,4μm,20.6s,MS5.1						
GYA				LR	LR		
	comp=E,1μm,19.4s,MS5.1						
GYA				LR	LR		
	comp=Z,3μm,19.2s,MS5.0						
NJ2	**Nanjing**	**31.90**	**348**	eP	**P**	**04 16 32.8**	**+0.5**
NJ2				AP	pP	04 16 44.7	-0.7
NJ2				XP	sP	04 16 50.1	-1.6
NJ2				PP	PP	04 17 39.2	0.0
NJ2				S	**S**	**04 21 38.0**	**-0.5**
NJ2				XS		04 21 58.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,4.9s						
NJ2				LR	LR		
	comp=N,4μm,27.6s,MS5.1						
NJ2				LR	LR		
	comp=E,5μm,31.8s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,20.3s						
CHRT	**Chiangrai**	**32.15**	**308**	⇑P	**P**	**04 16 34.4**	**-0.2**
	comp=Z,503nm,1.1s,mb6.3						
JNU	**Nakatsue**	**32.47**	**7**	P	**P**	**04 16 36.2**	**-1.0**
	comp=Z,171nm,1.0s,mb5.8,baz=182,slow=6.7,SNR=44						
JNU				LR	LR	04 29 35.6	
	comp=Z,1μm,21.6s,MS4.6,baz=336,slow=36						
KLBR	**Kellerberrin**	**33.18**	**193**	eP	**P**	**04 16 42.4**	**-1.0**
	comp=Z,80nm,0.6s,mb5.8						
KMI	**Kunming**	**33.23**	**319**	P	**P**	**04 16 43.8**	**-0.1**
KMI				AP	pP	04 16 55.9	-1.1
KMI				XP	sP	04 17 02.1	-1.3
KMI				PP	PP	04 18 00.1	+3.9
KMI				PCP	PcP	04 19 27.7	+2.1
KMI				S	**S**	**04 21 59.7**	**+0.5**
KMI				XS		04 22 20.9	
KMI				SCS	ScS	04 27 04.1	+0.4
KMI				AMB	AMB		
	comp=Z,70nm,1.3s,mb5.4						
KMI				AMB	AMB		
	comp=Z,243nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,21.5s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,22.5s,MS5.0						
KMI				LR	LR		
	comp=Z,5μm,21.8s,MS5.2						
KMI	**Kunming**	**33.23**	**319**	P	**P**	**04 16 43.8**	**-0.1**
	comp=Z,70nm,1.3s,mb5.4						
KMI				pP	pP	04 16 55.9	-1.1
KMI				sP	sP	04 17 02.1	-1.3
KMI				PP	PP	04 18 00.1	+3.9
KMI				PPP	PPP	04 18 11.7	-1.2
KMI				PcP	PcP	04 19 27.7	+2.1
KMI				S	**S**	**04 21 59.7**	**+0.5**
KMI				sS		04 22 20.9	
KMI				SS	SS	04 24 17.6	+14
KMI				SSS	SSS	04 24 28.6	0.0
KMI				ScS	ScS	04 27 04.1	+0.4
KMI				LR	LR		
	comp=Z,5μm,21.8s,MS5.2						
KMI	**Kunming**	**33.23**	**319**	P	**P**	**04 16 43.8**	**-0.1**
KMI				*PP	pP	04 16 55.9	-1.1
KMI				*SP	sP	04 17 02.1	-1.3
KMI						04 18 00.1	
KMI				PPP	PPP	04 18 11.7	-1.2
KMI						04 19 27.7	
KMI				S	**S**	**04 21 59.7**	**+0.5**
KMI				*SS		04 22 20.9	
KMI				SSS	SSS	04 24 28.6	0.0
KMI						04 27 04.1	
KMI				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.4						
KMI				MLR	MLR		
	comp=Z,5μm,21.8s,MS5.2						
ENH	**Enshi**	**33.41**	**333**	⇑eP	**P**	**04 16 43.5**	**-1.9**
	comp=Z,120nm,1.0s,mb5.8						
ENH				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
MUN	**Mundaring**	**33.94**	**195**	eP	**P**	**04 16 50.7**	**+0.8**
NWAO	**Narrogin (SRO)**	**34.58**	**193**	P	**P**	**04 16 54.5**	**-1.0**
	comp=Z,42nm,0.6s,mb5.6,baz=23,slow=8.2,SNR=26						
NWAO				LR	LR	04 32 57.7	
	comp=Z,2μm,20.2s,MS4.8,baz=5.1,slow=40						
NWAO	**Narrogin (SRO)**	**34.58**	**193**	eP	**P**	**04 16 54.4**	**-1.1**
	comp=Z,34nm,0.6s,mb5.5						
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
NWAO	**Narrogin (SRO)**	**34.58**	**193**	eP	**P**	**04 16 54.4**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,34nm,0.6s						
NWAO				MLR	MLR		
	comp=Z,3μm,20.0s						
JHJ	**Hachijo jima 2**	**34.59**	**20**	LR	LR	04 32 00.5	
	comp=Z,2μm,18.4s,MS4.9,baz=286,slow=38						
HNR	**Honiara**	**35.01**	**108**	LR	LR	04 31 01.6	
	comp=Z,4μm,21.3s,MS5.1,baz=103,slow=36						
HNR	**Honiara**	**35.01**	**108**	eP	**P**	**04 16 57.4**	**-1.8**
	comp=Z,313nm,0.9s,mb6.2						
HNR				LR	LR		
	comp=Z,4μm,22.0s,MS5.1						
HNR	**Honiara**	**35.01**	**108**	eP	**P**	**04 16 57.4**	**-1.8**
HNR				pmax	pmax		
	comp=Z,313nm,0.9s,mb6.2						
HNR				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.1						
STKA	**Stephens Creek**	**35.55**	**157**	⇑iP	**P**	**04 17 03.0**	**-0.7**
	comp=Z,84nm,0.7s,mb5.8						
STKA	**Stephens Creek**	**35.55**	**157**	P	**P**	**04 17 03.2**	**-0.5**
	comp=Z,100nm,0.7s,mb5.9,baz=333,slow=8.1,SNR=81						
STKA				PcP	PcP	04 19 32.0	-0.3
	comp=Z,12nm,0.8s,baz=309,slow=5.3,SNR=3.6						
TIA	**Tai'an**	**36.28**	**347**	eP	**P**	**04 17 09.1**	**-0.8**
TIA				AMB	AMB		
	comp=Z,33nm,1.1s,mb5.2						
KS15	**Wonju Array Si**	**36.53**	**2**	eP	**P**	**04 17 12.1**	**+0.2**
INCN	**Inchon**	**36.54**	**0**	PFAKE		04 17 20.0	+8.0
INCN				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
CD2	**Chengdu**	**36.82**	**327**	P	**P**	**04 17 12.7**	**-1.7**
CD2				AP	pP	04 17 24.7	-3.0
CD2				XP	sP	04 17 30.0	-3.9
CD2				S	**S**	**04 22 49.9**	**-4.6**
CD2				AMB	AMB		
	comp=Z,110nm,2.3s,mb5.3						
CD2				LR	LR		
	comp=N,2μm,20.4s						
CD2				LR	LR		
	comp=Z,2μm,20.4s,MS4.8						
XAN	**Xi'an**	**36.89**	**336**	P	**P**	**04 17 13.4**	**-1.6**
XAN				AMB	AMB		
	comp=Z,73nm,1.1s,mb5.4						
XAN				LR	LR		
	comp=N,609nm,20.1s,MS4.7						
XAN				LR	LR		
	comp=E,1μm,24.0s,MS4.7						
XAN				LR	LR		
	comp=Z,3μm,22.3s,MS5.0						
MAJO	**Matsushiro**	**37.27**	**16**	eP	**P**	**04 17 16.3**	**-1.8**
	comp=Z,85nm,0.9s,mb5.6						
MAJO				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
MAJO	**Matsushiro**	**37.27**	**16**	eP	**P**	**04 17 16.3**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,85nm,0.9s,mb5.6						
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.0						
MAT	**Matsushiro**	**37.27**	**16**	P	**P**	**04 17 16.6**	**-1.6**
MAT				S	**S**	**04 23 02.0**	**+0.6**
MAT	**Matsushiro**	**37.27**	**16**	eP	**P**	**04 17 17.0**	**-1.2**
	comp=Z,226nm,1.4s,mb5.8						
MAT				eS	**S**	**04 23 02.0**	**+0.6**
MAT				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
MAT	**Matsushiro**	**37.27**	**16**	eP	**P**	**04 17 17.0**	**-1.2**
MAT				eS	**S**	**04 23 02.0**	**+0.6**
MAT				pmax	pmax		
	comp=Z,226nm,1.4s,mb5.8						
MAT				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
MJAR	**Matsushiro Arr**	**37.27**	**16**	P	**P**	**04 17 16.8**	**-1.4**
	comp=Z,47nm,0.9s,mb5.3,baz=187,slow=8.5,SNR=44						
MJAR				LR	LR	04 32 57.6	
	comp=Z,891nm,18.7s,MS4.6,baz=185,slow=37						
DL2	**Dalian**	**38.20**	**354**	P	**P**	**04 17 26.2**	**+0.3**
DL2				XP	sP	04 17 40.9	-4.5
DL2				S	**S**	**04 23 17.2**	**+1.8**
DL2				SS	SS	04 25 56.3	+0.5
DL2				AMB	AMB		
	comp=Z,140nm,0.8s,mb5.7						
DL2				AMB	AMB		
	comp=Z,240nm,5.0s						
DL2				LR	LR		
	comp=N,870nm,16.3s,MS4.8						
DL2				LR	LR		
	comp=E,660nm,16.8s,MS4.8						
DL2				LR	LR		
	comp=Z,2μm,16.8s,MS4.9						
ARMA	**Armidale**	**39.28**	**144**	⇓iP	**P**	**04 17 35.9**	**+0.9**
LZH	**Lanzhou**	**40.86**	**332**	eP	**P**	**04 17 47.8**	**-0.1**
LZH				AP	pP	04 18 02.3	+1.0
LZH				XP	sP	04 18 09.0	+1.6
LZH				PP	PP	04 19 26.0	+0.3
LZH				S	**S**	**04 23 51.3**	**-4.1**
LZH				XS		04 24 18.0	
LZH				AMB	AMB		
	comp=Z,230nm,1.4s,mb5.6						
LZH				AMB	AMB		
	comp=Z,610nm,4.2s						
LZH				LR	LR		
	comp=N,4μm,14.9s						
LZH				LR	LR		
	comp=Z,8μm,19.1s,MS5.6						
LZH	**Lanzhou**	**40.86**	**332**	eP	**P**	**04 17 47.8**	**-0.1**
	comp=Z,230nm,1.4s,mb5.6						
LZH				pP	pP	04 18 02.3	+1.0
LZH				sP	sP	04 18 09.0	+1.6
LZH				PP	PP	04 19 26.0	+0.3
LZH				PPP	PPP	04 19 54.0	-1.4
LZH				S	**S**	**04 23 51.3**	**-4.1**
LZH				sS		04 24 18.0	
LZH				SS	SS	04 26 47.0	-6.6
LZH				LR	LR		
	comp=Z,8μm,19.1s,MS5.6						
LZH	**Lanzhou**	**40.86**	**332**	eP	**P**	**04 17 47.8**	**-0.1**
LZH				*PP	pP	04 18 02.3	+1.0
LZH				*SP	sP	04 18 09.0	+1.6
LZH						04 19 26.0	
LZH				PPP	PPP	04 19 54.0	-1.4
LZH				S	**S**	**04 23 51.3**	**-4.1**
LZH				*SS		04 24 18.0	
LZH				SS	SS	04 26 47.0	-6.6
LZH				pmax	pmax		
	comp=Z,230nm,1.4s,mb5.6						
LZH				MLR	MLR		
	comp=Z,8μm,19.1s,MS5.6						
SNY	**Shenyang**	**40.95**	**357**	⇑P	**P**	**04 17 49.1**	**+0.5**
SNY				AP	pP	04 18 01.8	-0.2
SNY				S	**S**	**04 23 59.2**	**+2.5**
SNY				XS		04 24 21.5	
SNY				AMB	AMB		
	comp=Z,160nm,1.2s,mb5.5						
SNY				AMB	AMB		
	comp=Z,490nm,3.3s						
SNY				LR	LR		
	comp=E,2μm,20.2s						
SNY				LR	LR		
	comp=Z,2μm,25.5s						
SHL	**Shillong**	**41.34**	**309**	eP	**P**	**04 17 52.0**	**0.0**
SHL				ex	x	04 23 40.0	
CNB	**Canberra Magne**	**41.86**	**151**	eP	**P**	**04 17 56.3**	**0.0**
	comp=Z,37nm,1.2s,mb4.9						
KWAJ	**Kwajalein Atol**	**41.90**	**78**	PFAKE		04 18 10.0	+13
KWAJ				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
TOO	**Toolangi**	**42.07**	**157**	eP	**P**	**04 17 59.1**	**+1.1**
	comp=Z,13nm,0.7s,mb4.7						
TOO				e		04 19 36.2	
TOO	**Toolangi**	**42.07**	**157**	eP	**P**	**04 17 59.1**	**+1.1**
TOO				e		04 19 36.2	
TOO				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
HHC	**Hu-ho-hao-te**	**42.08**	**343**	eP	**P**	**04 18 00.0**	**+2.1**
HHC				AP	pP	04 18 12.6	+1.2
HHC				XP	sP	04 18 18.0	+0.6
HHC				PP	PP	04 19 41.2	+2.3
HHC				S	**S**	**04 24 06.0**	**-7.4**
HHC				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
HHC				AMB	AMB		
	comp=Z,391nm,5.7s						
HHC				LR	LR		
	comp=N,2μm,26.2s,MS4.9						
HHC				LR	LR		
	comp=E,1μm,22.6s,MS4.9						
HHC				LR	LR		
	comp=Z,3μm,25.0s,MS5.0						
VLA	**Vladivostok**	**42.47**	**6**	⇓iP	**P**	**04 17 59.2**	**-1.9**
CN2	**Changchun**	**42.86**	**359**	eP	**P**	**04 18 03.0**	**-1.3**
CN2				eS	**S**	**04 24 27.0**	**+2.2**
CN2				SS	SS	04 27 32.8	+2.0
CN2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
CN2				AMB	AMB		
	comp=Z,710nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,18.0s,MS5.1						
CN2				LR	LR		
	comp=E,2μm,18.0s,MS5.1						
CN2				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
WAKE	**Wake Island**	**43.61**	**62**	eP	**P**	**04 18 09.4**	**-1.3**
	comp=Z,262nm,1.5s,mb5.7						
WAKE				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
MDJ	**Mudanjiang**	**43.76**	**3**	P	**P**	**04 18 11.6**	**-0.1**
MDJ				AP	pP	04 18 22.9	-2.2
MDJ				XP	sP	04 18 27.9	-3.2
MDJ				PP	PP	04 19 53.4	-2.3
MDJ				PCP	PcP	04 19 57.2	-1.0
MDJ				SCP		04 23 46.6	
MDJ				PCS		04 23 50.3	
MDJ				S	**S**	**04 24 43.4**	**+5.4**
MDJ				XS		04 24 59.5	
MDJ				SCS	ScS	04 28 05.7	+1.9
MDJ				AMB	AMB		
	comp=Z,133nm,0.9s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,375nm,4.9s						
MDJ				LR	LR		
	comp=N,590nm,31.0s,MS4.7						
MDJ				LR	LR		
	comp=E,1μm,26.2s,MS4.7						
MDJ				LR	LR		
	comp=Z,1μm,26.2s,MS4.7						
MDJ	**Mudanjiang**	**43.76**	**3**	eP	**P**	**04 18 11.6**	**-0.1**
	comp=Z,118nm,0.9s,mb5.6						
MDJ				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
BWNR	**Bhubaneshwar**	**44.08**	**299**	ex	x	04 18 11.0	

LSA Lhasa 44.12 314 P P 04 18 15.4 +0.7
LSA AP pP 04 18 28.0 -0.2
LSA PP PP 04 19 56.8 -2.6
LSA S **S** **04 24 36.1 -7.2**
LSA XS 04 25 11.4
LSA LR LR
comp=E,2μm,26.2s
LSA LR LR
comp=Z,2μm,30.2s,MS4.9
LSA Lhasa 44.12 314 *e*P **P 04 18 15.2 +0.5**
comp=Z,33nm,0.6s,mb5.2
LSA LR LR
comp=Z,1μm,21.0s,MS4.7
LSA Lhasa 44.12 314 *e*P **P 04 18 15.3 +0.6**
LSA pmax pmax
comp=Z,33nm,0.6s,mb5.2
LSA MLR MLR
comp=Z,1μm,21.0s,MS4.7
NOUC Port Laguerre 45.15 123 *e*P **P 04 18 23.2 +0.2**
BOK Bokaro 45.35 303 *e*P **P 04 18 23.8 -0.9**
BOK AMb AMB 04 18 28.9
comp=Z,71nm,1.4s,mb5.3
GTA Gaotai 45.43 331 P P **04 18 24.4 -0.7**
GTA AP pP 04 18 34.1 -4.5
GTA PCP PcP 04 20 04.9 +0.9
GTA PP PP 04 20 11.0 -1.4
GTA PCS 04 23 57.6
GTA S **S** **04 25 01.9 -0.2**
GTA SS SS 04 28 16.9 -0.6
GTA AMB AMB
comp=Z,14nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,231nm,5.3s
GTA LR LR
comp=N,2μm,20.9s,MS5.2
GTA LR LR
comp=E,2μm,18.6s,MS5.2
GTA LR LR
comp=Z,4μm,19.4s,MS5.3
ASAJ Asahikawa 45.54 16 P P **04 18 25.5 -0.4**
comp=Z,53nm,0.8s,mb5.5,baz=205,slow=7.9,SNR=8.8
PALK Pallekele 45.91 279 PFAKE 04 18 40.0 +11
PALK LR LR
comp=Z,466nm,20.0s,MS4.4
GUN Gumba 47.16 309 *e*P **P 04 18 37.5 -1.4**
PKI Pulchoki 47.38 308 *e*P **P 04 18 39.7 -0.9**
TAU Tasmania Unive 47.41 159 PFAKE 04 18 50.0 +9.3
TAU LR LR
comp=Z,715nm,20.0s,MS4.6
KKN Kakani 47.58 308 *e*P **P 04 18 40.7 -1.5**
DMN Daman 47.63 308 *e*P **P 04 18 40.9 -1.7**
comp=Z,359nm,1.5s,mb6.2
BLSP Bilaspur 47.93 300 *e*P **P 04 18 45.7 +0.7**
BLSP AMb AMB 04 18 48.6
comp=Z,163nm,1.1s,mb6.0
GKN Gorkha 48.18 308 *e*P **P 04 18 45.2 -1.7**
comp=Z,286nm,1.4s,mb6.1
YSS Yuzh-Sakhalins 48.20 15 *e*P **P 04 18 45.4 -1.4**
comp=Z,56nm,0.8s,mb5.6
YSS LR LR
comp=Z,1μm,20.0s,MS4.8
YSS Yuzh-Sakhalins 48.20 15⇑ *e*P **P 04 18 46.0 -0.7**
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.7
KLR Kul'dur 48.51 5⇓ *i*P **P 04 18 45.5 -3.6**
KLR *e*S **S** **04 25 43.5 -2.0**
KLR pmax pmax
comp=Z,800nm,5.5s
KLR pmax pmax
comp=E,30nm,1.2s
KLR pmax pmax
comp=Z,48nm,1.2s,mb5.4
KLR smax
comp=N,500nm,12.0s
KLR smax
comp=E,900nm,12.0s
KLR MLR MLR
comp=N,2μm,19.0s,MS5.0
KLR MLR MLR
comp=E,500nm,19.0s,MS5.0
HIA Hailar 48.64 354 *e*P **P 04 18 49.8 -0.4**
comp=E,267nm,1.4s,mb6.1
HIA LR LR
comp=Z,2μm,22.0s,MS5.1
HIA Hailar 48.64 354 *e*P **P 04 18 49.8 -0.3**
HIA pmax pmax
comp=Z,267nm,1.4s
HIA MLR MLR
comp=Z,2μm,22.0s
KOLN Koldanda 48.90 307 *e*P **P 04 18 51.1 -1.3**
HYB Hyderabad 49.77 292 *i* P **P 04 19 00.0 +0.8**
comp=Z,160nm,1.0s,mb6.0
HYB *e* 04 21 08.0
HYB *e*S **S** **04 26 00.0 -3.5**
HYB Hyderabad 49.77 292 *e*P **P 04 19 00.0 +0.8**
comp=Z,160nm,1.0s,mb6.0
HYB Hyderabad 49.77 292 *e*P **P 04 19 00.0 +0.8**
HYB pmax pmax
comp=Z,160nm,1.0s,mb6.0
ULN Ulaanbaatar 49.80 343 *e*P **P 04 18 58.8 -0.3**
comp=Z,168nm,1.6s,mb5.8
ULN LR LR
comp=Z,1μm,21.0s,MS4.9
ULN Ulaanbaatar 49.80 343⇑ *i*P **P 04 18 57.8 -1.3**
SONM Songino Array 49.96 343 P **P 04 18 59.9 -0.5**
comp=Z,9.5nm,0.7s,mb5.0,baz=160,slow=7.7,SNR=33
SONM LR LR 04 43 48.2
comp=Z,1μm,19.6s,MS5.0,baz=158,slow=40
PTH Pithoragarh 52.35 308 *e*P **P 04 19 17.0 -1.6**
BHPL Bhopal 52.40 299 *e*P **P 04 19 19.8 +0.8**
BHPL AMb AMB 04 19 23.1
comp=Z,118nm,0.8s,mb5.8
ZAK Zakamensk 53.17 342 *e*P **P 04 19 23.7 -0.8**
ZAK *e* 04 20 31.7
ZAK pmax pmax
comp=Z,13nm,0.8s,mb4.9
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
ZAK pmax pmax
comp=Z,4.0nm,0.9s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
KAD Karad 53.80 291 *e*P **P 04 19 29.9 +0.3**
KAD AMb AMB 04 19 33.0
comp=Z,75nm,1.4s,mb5.4
DGAR Diego Garcia 54.31 260 PFAKE 04 19 40.0 +6.7
DGAR LR LR
comp=Z,472nm,20.0s,MS4.5
POO Poona 54.38 292 *e*P **P 04 19 34.6 +0.9**
POO AMb AMB 04 19 37.1
comp=Z,104nm,1.0s,mb5.7
NDI New Delhi 54.42 305 *e*P **P 04 19 31.0 -2.9**
IRK Irkutsk 54.52 344 *e*P **P 04 19 34.3 0.0**
IRK *e* 04 21 40.0
IRK pmax pmax
comp=Z,154nm,1.8s,mb5.7
WMQ Urumqi 54.91 327⇓ *i*P **P 04 19 36.7 -0.6**
WMQ AP pP 04 19 49.0 -2.2
WMQ XP sP 04 19 55.0 -2.0
WMQ PCP PcP 04 20 40.0 +1.3
WMQ PCS 04 24 38.0
WMQ S **S** **04 27 11.5 -1.9**
WMQ SCS ScS 04 29 18.5 0.0
WMQ SS SS 04 30 50.0 -7.0
WMQ AMB AMB
comp=Z,140nm,1.1s,mb5.9
WMQ AMB AMB
comp=Z,504nm,4.4s
WMQ LR LR
comp=N,3μm,20.6s,MS5.4
WMQ LR LR
comp=E,2μm,22.4s,MS5.4
WMQ LR LR
comp=Z,2μm,21.8s,MS5.2
MOY Mondy 55.01 341 *e*P **P 04 19 38.2 +0.3**
MOY pmax pmax
comp=Z,179nm,2.2s,mb5.7
AJM Ajmer 55.81 302 *e*P **P 04 19 43.0 -1.0**
CLNS Chul'man 55.91 359 *e*P **P 04 19 44.2 -0.1**
BOD Bodaibo 57.72 352 *e*P **P 04 19 55.7 -1.5**
BOD pmax pmax
comp=Z,77nm,1.2s,mb5.6
PET Petropavlovsk 58.62 22 *e*P **P 04 20 02.8 -0.7**
comp=Z,107nm,1.4s,mb5.7
PET LR LR
comp=Z,817nm,21.0s,MS4.8
PET Petropavlovsk 58.62 22 *e*P **P 04 20 03.1 -0.4**
PET *e* 04 22 08.1
PET *e*S **S** **04 28 03.8 +1.7**
PET *e*PPS PPS 04 28 24.1 -8.0
PET pmax pmax
comp=Z,64nm,1.3s,mb5.5
PET pmax pmax
comp=Z,200nm,13.2s
PET pmax pmax
comp=Z,200nm,17.1s
PET smax
comp=E,100nm,13.1s
PET MLR MLR
comp=Z,400nm,19.0s,MS4.6
RPZ Rata Peaks 59.62 144 P **P 04 20 11.0 +0.5**
comp=Z,17nm,0.9s,mb5.1,baz=209,slow=2.0,SNR=5.7
MKAR Makanchi Array 59.75 326 P **P 04 20 10.3 -1.1**
comp=Z,58nm,0.7s,mb5.7,baz=122,slow=8.3,SNR=106
MKAR PcP PcP 04 20 56.6 -0.9
comp=Z,24nm,0.7s,baz=127,slow=5.7,SNR=4.1
MKAR LR LR 04 46 17.1
comp=Z,2μm,20.4s,MS5.3,baz=176,slow=36
MKAR PKP2bc 04 49 43.6
comp=Z,0.9nm,0.8s,slow=1.4,SNR=4.7
MKAR Makanchi Array 59.75 326 P **P 04 20 10.3 -1.1**
MKAR PcP PcP 04 20 56.6 -0.9
MKAR LR LR 04 46 17.1
MKAR ⇑*e* 04 49 43.6
KSH Kashi 59.85 316 *e*P **P 04 20 11.4 -0.8**
KSH *e*AP pP 04 20 22.7 -3.5
KSH *e*XP sP 04 20 28.3 -3.8
KSH *e*PCP PcP 04 20 57.2 -0.8
KSH *e*PP PP 04 22 22.4 -4.1
KSH *e*SCP 04 24 52.1
KSH *e*PCS 04 24 57.8
KSH S **S** **04 28 14.2 -4.1**
KSH *e*SCS ScS 04 29 52.2 -2.2
KSH *e*SS SS 04 32 10.6 -5.6
KSH AMB AMB
comp=Z,270nm,1.8s,mb6.0
KSH LR LR
comp=N,600nm,7.2s
KSH LR LR
comp=E,840nm,11.2s
MIDW Midway 60.31 58 PFAKE 04 20 30.0 +15
MIDW LR LR
comp=Z,2μm,21.0s,MS5.2
SNZO South Karori 60.57 140 PFAKE 04 20 30.0 +13
SNZO LR LR
comp=Z,3μm,21.0s,MS5.4
RAO Raoul Island 61.00 124 PFAKE 04 20 30.0 +10
RAO LR LR
comp=Z,1μm,20.0s,MS5.1
YAK Yakutsk 61.16 2 *e*P **P 04 20 19.8 -1.0**
comp=Z,265nm,0.8s,mb6.4
YAK LR LR
comp=Z,1μm,19.0s,MS5.0
YAK Yakutsk 61.16 2*c* *i*P **P 04 20 19.0 -1.8**
YAK *e*S **S** **04 28 41.2 +6.4**
YAK *e*SSS SS 04 32 38.3 +1.5
YAK pmax pmax
comp=Z,66nm,0.9s,mb5.8
YAK pmax pmax
comp=N,32nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK smax
comp=E,438nm,14.2s
KZA Kyzart 61.52 319 P **P 04 20 26.5 +3.0**
SNR=21
MA2 Magadan 61.67 14 *e*P **P 04 20 23.8 -0.4**
comp=E,95nm,0.8s,mb6.0
MA2 LR LR
comp=Z,766nm,21.0s,MS4.8
MA2 Magadan 61.67 14*c* *i*P **P 04 20 24.3 +0.1**
MA2 *e*S **S** **04 28 42.7 +1.5**
MA2 *e*PS PS 04 28 57.2 -7.6
MA2 *e* 04 30 09.4
MA2 *e*SSS SSS 04 35 30.1 +4.2
MA2 pmax pmax
comp=N,30nm,0.9s
MA2 pmax pmax
comp=E,10.0nm,0.9s
MA2 pmax pmax
comp=Z,70nm,0.9s,mb5.8
MA2 MLR MLR
comp=Z,4μm,24.5s,MS5.5
TKM2 Tokmak 2 61.69 320 P **P 04 20 23.6 -1.1**
SNR=29
KBK Karagaybulak 61.99 319 P **P 04 20 28.6 +1.9**
SNR=31
UCH Uchtor 62.07 319 P **P 04 20 27.6 +0.4**
SNR=42
AAK Ala-Archa 62.27 319 P **P 04 20 28.1 -0.4**
SNR=22
AAK Ala-Archa 62.27 319 *e*P **P 04 20 26.5 -2.0**
comp=Z,101nm,1.3s,mb5.8
AAK LR LR
comp=Z,427nm,21.0s,MS4.6
AAK Ala-Archa 62.27 319 *e*P **P 04 20 28.4 -0.1**
AAK pmax pmax
comp=Z,67nm,1.7s,mb5.5
AAK MLR MLR
comp=Z,1μm,16.0s,MS5.2
CHMS Chumysh 62.27 320 P **P 04 20 27.8 -0.8**
SNR=10
FRU Bishkek 62.28 319 *e*P **P 04 20 29.6 +1.0**
FRU *e* 04 21 15.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.5
FRU MLR MLR
comp=Z,1μm,20.0s,MS5.1
USP Ospenovka 62.56 320 P **P 04 20 29.7 -0.7**
SNR=43
AML Almayashu 62.57 318 P **P 04 20 30.7 +0.1**
SNR=39
EKS2 Erkin-Say 62.76 319 P **P 04 20 31.6 -0.1**
SNR=36
AFI Afiamalu 63.02 106 PFAKE 04 20 50.0 +16
AFI LR LR
comp=Z,1μm,19.0s,MS5.0
ZAL Zalesovo 63.03 334 P **P 04 20 32.1 -1.3**
comp=Z,12nm,0.8s,mb5.1
KURK Kurchatov 64.01 328 *e*P **P 04 20 38.4 -1.5**
comp=Z,128nm,0.7s,mb6.1
KURK LR LR
comp=Z,241nm,22.0s,MS4.3
KURK Kurchatov 64.01 328 P **P 04 20 38.5 -1.3**
KURK pmax pmax
comp=Z,130nm,0.7s,mb6.1
NVS Novosibirsk 64.31 334 *e*P **P 04 20 38.2 -3.6**
NVS *e* 04 29 14.2
NVS pmax pmax
comp=N,172nm,1.8s
NVS pmax pmax
comp=Z,165nm,1.8s,mb5.8
NVS pmax pmax
comp=E,119nm,1.4s
FX1 Attu Island--F 64.86 29 P **P 04 20 45.9 +0.5**
comp=E,48nm,0.6s,mb5.7,baz=22,slow=1.8,SNR=13
FX1 Attu Island--F 64.86 29 *e*P **P 04 20 45.8 +0.4**
SEY Seymchan 65.00 13 *e*P **P 04 20 46.3 +0.2**
KKAR Karatay Array 65.11 318 *i*P **P 04 20 46.0 -1.2**
SMY Shemya 65.23 30 PFAKE 04 21 00.0 +12
SMY LR LR
comp=Z,2μm,20.0s,MS5.4
CASY Casey 67.84 187 *e*P **P 04 21 03.8 -0.2**
DRV Dumont d'Urvil 67.99 174 P **P 04 21 10.0 +5.1**
BVA0 Borovoye Array 69.56 328 P **P 04 21 14.3 -0.6**
BVA0 pmax pmax
comp=Z,21nm,1.3s,mb4.9
BVAR Borovoye Array 69.56 328 P **P 04 21 14.3 -0.6**
comp=Z,38nm,0.9s,mb5.3,baz=127,slow=7.4,SNR=55
BRVK Borovoye 69.64 328 *e*P **P 04 21 14.4 -0.9**
comp=Z,144nm,1.4s,mb5.7
BRVK LR LR
comp=Z,191nm,21.0s,MS4.3
BRVK Borovoye 69.64 328 P **P 04 21 14.7 -0.6**
BRVK pmax pmax
comp=Z,140nm,1.4s,mb5.7
TIXI Tiksi 70.79 1 PFAKE 04 21 30.0 +7.9
TIXI LR LR
comp=Z,682nm,20.0s,MS4.9
MSEY Mahe Island 70.95 265 PFAKE 04 21 40.0 +16
MSEY LR LR
comp=Z,637nm,22.0s,MS4.8
MIR Mirnyy 71.19 193*d* *i*P **P 04 21 25.8 +1.3**
MIR pmax pmax
comp=Z,133nm,1.8s,mb5.6
BILL Bilibino 72.51 15⇑ *i*P **P 04 21 32.6 +0.3**
BILL LR LR
comp=Z,710nm,20.0s,MS4.9
AB31 Akbulak array 74.17 321 *i* P **P 04 21 41.9 -0.5**
RAR Rarotonga 75.32 112 PFAKE 04 22 00.0 +10
RAR LR LR
comp=Z,2.0nm,20.0s
UNV Unalaska Valle 76.10 34 *e*P **P 04 21 52.7 -0.6**
comp=Z,457nm,1.4s,mb6.2
UNV LR LR
comp=Z,3μm,21.0s,MS5.5
SVE Sverdlovsk 76.25 329⇑ *i*P **P 04 21 54.0 -0.1**
SVE *e* 04 22 03.0
SVE *e*PPP PPP 04 26 34.0 -0.8
SVE *e*S S 04 31 34.0 +0.7
SVE *e*PS PS 04 32 08.0 -10
SVE pmax pmax
comp=Z,240nm,1.3s,mb6.0
SVE MLR MLR
comp=N,400nm,20.0s,MS4.9
SVE MLR MLR
comp=E,400nm,20.0s,MS4.9
SVE MLR MLR
comp=Z,500nm,20.0s,MS4.8
KIP Kipapa 76.41 68 PFAKE 04 22 10.0 +14
KIP LR LR
comp=Z,3μm,19.0s,MS5.6
AKUT Akutan 76.60 34 *e*P **P 04 21 56.4 +0.2**
ARU Arti 77.20 328 *e*P **P 04 21 58.7 -0.8**
comp=Z,55nm,0.7s,mb5.6
ARU LR LR
comp=Z,200nm,20.0s,MS4.4
ARU Arti 77.20 328⇑ *i*P **P 04 21 58.8 -0.7**
ARU *e* pP 04 22 09.1 -4.9
ARU *e* 04 24 53.4
ARU *e*S S 04 31 44.7 +1.0
ARU *e* 04 32 13.5
ARU *e*SS SS 04 36 45.6 +0.6
ARU pmax pmax
comp=Z,72nm,1.1s,mb5.5
ARU MLR MLR
comp=N,300nm,20.0s,MS5.0
ARU MLR MLR
comp=Z,800nm,20.0s,MS5.0
ARU MLR MLR
comp=E,600nm,19.0s,MS5.0
POHA Pohakuloa 78.61 70 PFAKE 04 22 20.0 +12
POHA LR LR
comp=Z,23μm,20.0s
SOKR Solikamsk 79.07 331*c* *i*P **P 04 22 07.0 -2.7**
SOKR *i* S S 04 31 57.7 -5.9
SOKR pmax pmax
comp=Z,80nm,1.1s,mb5.6
SOKR MLR MLR
comp=Z,1μm,22.0s,MS5.2
TNA Tin City 79.47 23 PFAKE 04 22 20.0 +8.2
TNA LR LR
comp=Z,316nm,20.0s,MS4.7
SDPT Sand Point 79.88 34 *e*P **P 04 22 14.8 +0.6**
VNDA Vanda 80.56 173 P **P 04 22 17.4 0.0**
comp=Z,24nm,0.8s,mb5.2,baz=317,slow=6.0,SNR=57
VNDA Vanda 80.56 173 *e*P **P 04 22 17.2 -0.3**
comp=Z,22nm,0.8s,mb5.1
VNDA LR LR
comp=Z,1μm,20.0s,MS5.2
VNDA Vanda 80.56 173 P **P 04 22 17.9 +0.5**
VNDA pmax pmax
comp=Z,22nm,0.9s
MAW Mawson 80.84 200⇑ *i*P **P 04 22 19.8 +0.8**
comp=Z,13nm,0.6s,mb5.0
MAW Mawson 80.84 200 P **P 04 22 20.0 +1.0**
comp=Z,16nm,0.7s,mb5.1,baz=71,slow=5.4,SNR=38
MAW LR LR 04 56 03.3
comp=Z,1μm,21.4s,MS5.2,baz=65,slow=34
MAW Mawson 80.84 200⇑ *i*P **P 04 22 19.8 +0.8**
MAW pmax pmax
comp=Z,13nm,0.6s
CHGN Chignik 81.23 33 *e*P **P 04 22 21.7 +0.4**
MAK Makhachkala 81.27 313 *e*P **P 04 22 18.0 -3.8**
MAK *i* pP 04 22 34.0 -2.4
MAK *e*S S 04 32 28.0 +1.1
MAK pmax pmax
comp=Z,500nm,5.0s
MAK smax
comp=N,1μm,7.0s
MAK smax
comp=E,2μm,7.0s
MAK MLR MLR
comp=Z,500nm,12.0s,MS5.1
SBA Scott Base 81.48 172 *e*P **P 04 22 22.7 +0.5**
comp=Z,21nm,0.8s,mb5.1
SBA LR LR
comp=Z,752nm,21.0s,MS5.0
SBA Scott Base 81.48 172 *e*P **P 04 22 22.7 +0.5**
SBA pmax pmax
comp=Z,21nm,0.8s,mb5.1
SBA MLR MLR
comp=Z,752nm,21.0s,MS5.0
MZLS Mizel 81.55 294 P **P 04 22 24.1 +0.5**
KAMS Al Khamasin 81.96 290 P **P 04 22 25.7 -0.2**
DGRG David-gareji 82.68 312 P **P 04 22 29.6 +0.5**
BHD Baghdad 82.81 303 *ex* x 04 22 27.0
BHD Baghdad 82.81 303 *ex* x 04 32 47.0
DJNS Zahran al Janu 82.86 288 P **P 04 22 31.9 +1.5**
GNI Garni 83.04 310 *e*P **P 04 22 29.9 -1.1**
GNI Garni 83.04 310 P **P 04 22 31.8 +0.9**
comp=Z,4.6nm,0.3s,mb5.0,baz=159,slow=15,SNR=5.7
GNI Garni 83.04 310 *e*P **P 04 22 31.9 +0.9**
comp=Z,94nm,1.1s,mb5.7
GNI LR LR
comp=Z,418nm,22.0s,MS4.8
GNI Garni 83.04 310*c* *i*P **P 04 22 32.3 +1.3**
GNI pmax pmax
comp=Z,31nm,1.1s
SAMG Sameba 83.12 312 P **P 04 22 31.7 +0.4**
MTA Mtatsminda 83.14 312 P **P 04 22 32.4 +1.0**
TI2 Plekhanov 83.17 312 *e*P **P 04 22 31.8 +0.2**
TBLG Delisi 83.18 312 P **P 04 22 32.9 +1.3**
ATD Arta Tunnel 83.43 281 P **P 04 22 35.7 +2.3**
baz=90,slow=11
ATD Arta Tunnel 83.43 281 P **P 04 22 35.7 +2.3**
AFFS 'Afif 83.56 294 P **P 04 22 34.8 +0.8**
SVW2 Sparrevohn 83.60 29 *e*P **P 04 22 34.4 +1.1**
CLDR Caldiran 83.60 309 *e*P **P 04 22 33.9 +0.1**
HKR Hakkari 83.63 308 *e*P **P 04 22 33.8 -0.2**
HAKT HAKKARI 83.65 308 *i*P **P 04 22 33.5 -0.6**
TTA Tatalina 83.73 27 *e*P **P 04 22 35.9 +2.0**
ZEI Tsey 83.89 313 *e*P **P 04 22 29.2 -6.0**
ZEI *i* *PP pP 04 22 40.4 -10
ZEI *i* 04 25 45.5
ZEI pmax pmax
comp=Z,35nm,1.2s,mb5.4
MSL Mosul 84.06 306 *ex* x 04 22 53.5
MSL Mosul 84.06 306 *ex* x 04 33 36.0
AKH Akhalkalaki 84.09 311 P **P 04 22 36.7 +0.4**
ONI Oni 84.21 313 P **P 04 22 38.2 +1.4**
KARS Kars 84.33 311 *e*P **P 04 22 39.5 +2.0**
KDAK Kodiak Island 84.61 32 *e*P **P 04 22 39.6 +1.1**
PPT Papeete 84.63 108 *e*S S 04 33 06.9 +5.6
PPT *e*SS SS 04 38 37.0 +0.7
PPT *e*LR LR 04 49 30.6
comp=Z,1μm,23.8s,baz=294
SIRT Sirnak 84.65 307 *e*P **P 04 22 38.1 -1.1**
GOF Gofitskoye 84.69 315⇑ *i*P **P 04 22 38.3 -0.9**
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.6
GOF pmax pmax
comp=Z,90nm,1.5s,mb5.7
BLJS Baljurashi 84.75 290 P **P 04 22 42.3 +2.2**
HILS Ha'il 84.77 297 P **P 04 22 41.5 +1.6**
KIV Kislovodsk 84.86 314 *e*P **P 04 22 41.0 +1.0**
comp=Z,44nm,0.8s,mb5.6
KIV LR LR
comp=Z,127nm,20.0s,MS4.3
KIV Kislovodsk 84.86 314*c* *i*P **P 04 22 40.2 +0.1**
KIV *e* 04 25 56.7
KIV *e* 04 33 00.0
KIV *e*SS SS 04 38 41.3 +2.1
KIV pmax pmax
comp=Z,45nm,1.0s,mb5.5
RSO Redoubt South 84.87 29 *e*P **P 04 22 39.9 +0.2**

TBI **Tubuai** **85.01 113** *e*S S 04 33 10.7 +5.7
TBI *e*SS SS 04 38 47.6 +5.7
TBI *e*LR LR 04 49 41.8
comp=Z,1µm,26.2s
ARTV Artvin **85.25 311** *i* P **P** **04 22 42.4 +0.3**
IMA Indian Mountai **85.25 24** *e*P **P** **04 22 42.6 +1.1**
SPU Mount Spurr **85.30 29** *e*P **P** **04 22 42.2 +0.4**
BEST Besiri **85.60 308** *i* P **P** **04 22 44.5 +0.6**
ERZM Erzurum **85.61 310** *i* P **P** **04 22 44.7 +0.8**
EZM Erzurum **85.62 310** *e*P **P** **04 22 45.5 +1.6**
BNGL BINGOL **85.74 309** *i* P **P** **04 22 45.3 +0.8**
LTHS Al Lith **85.87 290** P P **04 22 47.6 +2.1**
MARD Mardin **85.97 307** *i* P **P** **04 22 45.3 -0.4**
VRHR Novokhopersk **86.05 321** *e*P **P** **04 22 45.5 -0.2**
VRHR pmax pmax
comp=Z,140nm,1.4s,mb6.0
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,140nm,1.7s
SLKM Skilak Lake **86.12 30** *e*P **P** **04 22 46.2 +0.4**
SLKM Skilak Lake **86.12 30** P P **04 22 46.6 +0.8**
FIB Fire Island **86.20 29** PFAKE 04 23 00.0 +14
FIB LR LR
comp=Z,1µm,21.0s,MS5.3
PMR Palmer **86.74 28** *e*P **P** **04 22 49.0 +0.1**
PMR LR LR
comp=Z,703nm,22.0s,MS5.0
MACK Trabzon **86.87 311** *i* P **P** **04 22 51.1 +1.0**
SOC Sochi **86.99 313***c* *i*P **P** **04 22 50.0 -0.5**
SOC *e* 04 26 12.1
SOC *e*PPP PPP 04 28 13.5 -0.3
SOC *i*S S 04 33 13.1 -10
SOC *e*SSS SSS 04 42 36.4 -5.0
SOC pmax pmax
comp=Z,36nm,0.7s,mb5.7
SOC pmax pmax
comp=N,6.0nm,0.5s
SOC pmax pmax
comp=E,12nm,0.7s
SOC pmax pmax
comp=Z,60nm,1.1s,mb5.7
SOC MLR MLR
comp=N,435nm,22.0s,MS5.0
SOC MLR MLR
comp=E,523nm,22.0s,MS5.0
SOC MLR MLR
comp=Z,791nm,22.0s,MS5.1
MCK McKinley **87.00 26** *e*P **P** **04 22 49.2 -0.8**
comp=Z,5.5nm,0.8s,mb4.8
MCK LR LR
comp=Z,375nm,22.0s,MS4.8
MCK McKinley **87.00 26** P **P** **04 22 50.4 +0.3**
MCK pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
GUMT Gumushane **87.08 310** *e*P **P** **04 22 51.3 +0.2**
PTK Pertek **87.11 309** *e*P **P** **04 22 47.2 -4.0**
SML Sawmill **87.14 28** *e*P **P** **04 22 50.9 +0.1**
SML Sawmill **87.14 28** P **P** **04 22 51.7 +0.9**
KELT Kelkit **87.24 310** *i* P **P** **04 22 52.1 +0.3**
VORD Divnogorie **87.52 321***c* *i*P **P** **04 22 52.5 -0.4**
VORD pmax pmax
comp=Z,20nm,0.9s,mb5.3
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,1.1s
URFA Urfa **87.53 307** *e*P **P** **04 22 52.6 -0.7**
VRSR Storozhevoye **87.59 321** *e*P **P** **04 22 52.9 -0.3**
VRSR pmax pmax
comp=Z,40nm,1.7s,mb5.4
VRSR pmax pmax
comp=N,10.0nm,1.8s
VRSR pmax pmax
comp=E,10.0nm,1.4s
VOR Voronezh **87.60 322** *e*P **P** **04 22 53.5 +0.2**
VOR *e**SP sP 04 23 07.0 -6.3
VOR pmax pmax
comp=E,100nm,2.0s
VOR pmax pmax
comp=Z,140nm,2.0s,mb5.8
MALT Malatya **87.85 308** *e*P **P** **04 22 55.3 +0.5**
MALT Malatya **87.85 308** *e*P **P** **04 22 55.6 +0.8**
comp=Z,35nm,1.1s,mb5.5
MALT Malatya **87.85 308** P **P** **04 22 55.9 +1.1**
MALT pmax pmax
comp=Z,35nm,1.1s,mb5.5
MYA Malatya **87.86 308** *e*P **P** **04 22 54.6 -0.2**
ATAB Bozova **87.95 307** *i* P **P** **04 22 55.0 -0.3**
ILAR Eielson Array **87.95 25** P **P** **04 22 53.2 -1.4**
comp=Z,3.0nm,0.5s,mb4.8,baz=258,slow=4.2,SNR=22
ILAR PP PP 04 26 21.9 -1.8
comp=Z,1.3nm,0.9s,baz=269,slow=6.1,SNR=3.5
ILAR PKKPbc 04 40 42.8
comp=Z,0.6nm,0.7s,baz=137,slow=0.8,SNR=6.0
GRSN GIRESUNGRSN **88.01 311** *i* P **P** **04 23 00.8 +5.4**
DIV Divide **88.33 29** *e*P **P** **04 22 57.2 +0.7**
comp=Z,103nm,1.2s,mb5.9
DIV LR LR
comp=Z,3µm,22.0s,MS5.7
THY Trims Highway **88.40 27** *e*P **P** **04 22 57.6 +0.8**
GZT Gaziantep **88.53 307** *i* P **P** **04 22 58.3 +0.3**
MOS Moscow **88.62 326** *e*P **P** **04 22 57.0 -1.0**
MOS *e* pP 04 23 09.5 -3.3
MOS *e* 04 26 24.8
MOS *e*S S 04 33 22.6 -16
MOS pmax pmax
comp=Z,80nm,1.0s,mb6.0
MOS MLR MLR
comp=Z,1µm,20.3s,MS5.2
ANN Anapa **88.66 315** *e*P **P** **04 22 59.1 +0.6**
SVSK Karacayir **88.97 310** *e*P **P** **04 22 59.6 -0.5**
KMBO Kilima Mbogo **89.06 269** P **P** **04 22 59.5 -1.6**
comp=Z,8.3nm,1.0s,mb5.0,baz=87,slow=5.5,SNR=5.8
KMBO LR LR 05 00 37.5
comp=Z,2µm,21.0s,MS5.4,baz=88,slow=34
KMBO Kilima Mbogo **89.06 269** *i* P **P** **04 23 03.8 +2.7**
KMBO pmax pmax
comp=Z,22nm,1.1s
KAHT Ahir Dag **89.08 307** *i* P **P** **04 23 02.1 +1.5**
ASF Jabal al Asfar **89.09 302** P **P** **04 23 01.7 +0.9**
comp=Z,12nm,0.7s,mb5.3,baz=338,slow=1.2,SNR=14
OBN Obninsk **89.22 325** *e*P **P** **04 23 00.4 -0.5**
OBN comp=Z,137nm,1.4s,mb6.1 LR LR
comp=Z,282nm,21.0s,MS4.7
OBN Obninsk **89.22 325***c* *i*P **P** **04 23 00.9 0.0**
OBN pmax pmax
comp=Z,102nm,1.7s,mb5.9
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.2
MENT Mentasta **89.32 27** *e*P **P** **04 23 02.1 +0.9**
SYO Syowa Base **89.52 201** ⇓P **P** **04 23 01.5 -0.5**
COBT Iskenderun **89.58 306** *i* P **P** **04 23 04.5 +1.5**
BHL Bhannes **90.11 304** *e*P **P** **04 23 05.7 +0.1**
APA Apatity **90.41 337** ⇓*i*P **P** **04 23 05.5 -0.7**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.5
BOYT Boyabat **90.55 311** *i* P **P** **04 23 06.6 -0.9**
JMOS Jabal al Moall **90.67 299** P **P** **04 23 15.3 +7.0**
QSPA South Pole Qui **90.69 180** *e*P **P** **04 23 09.2 +1.9**
comp=Z,9.7nm,0.8s,mb5.2
HAQS Haql **90.83 299** P **P** **04 23 15.5 +6.4**
CDAG Cicekdag **91.00 309** *i* P **P** **04 23 08.0 -1.7**
SIM Simferopol' **91.01 315** P **P** **04 23 14.3 +4.7**
SIM Simferopol' **91.01 315** *e*P **P** **04 23 10.4 +0.8**
SIM *i*S S 04 34 04.3 +3.8
SIM pmax pmax
comp=Z,35nm,0.8s,mb5.7
SIM MLR MLR
comp=Z,1µm,23.8s,MS5.3
BR131 Keskin Array S **91.56 310** *e*P **P** **04 23 11.9 -0.3**
comp=Z,7.7nm,0.8s,mb5.1
BR131 LR LR
comp=Z,412nm,20.0s,MS4.9
BRTR Keskin Array B **91.56 310** P **P** **04 23 12.2 -0.1**
comp=Z,9.8nm,0.9s,mb5.1,baz=122,slow=5.9,SNR=15
JOF Joensuu **91.60 333** *e*p **P** **04 23 10.1 -1.7**
comp=Z,24nm,0.8s,mb5.6
CSS Prodhromos **92.00 305** *e*P **P** **04 23 14.3 0.0**
comp=Z,31nm,0.9s,mb5.6
ANTO Ankara **92.21 310** PFAKE 04 23 30.0 +15
ANTO LR LR
comp=Z,339nm,21.0s,MS4.8
KEV Kevo **92.51 340** PFAKE 04 23 30.0 +14
KEV LR LR
comp=Z,701nm,20.0s,MS5.1
ARCES ARCESS Array B **93.06 340** P **P** **04 23 18.1 -0.3**
comp=Z,6.6nm,0.6s,mb5.3,baz=79,slow=6.2,SNR=24
ARCES PKKPbc 04 40 26.8
comp=Z,1.6nm,0.8s,baz=236,slow=4.4,SNR=4.9
ARCES LR LR 05 11 37.9
comp=Z,588nm,21.0s,MS5.0,baz=84,slow=40
ARE0 ARCESS Array S **93.06 340** *e*P **P** **04 23 17.9 -0.5**
INK Inuvik **93.06 21** P **P** **04 23 18.6 +0.1**
comp=Z,18nm,1.2s,mb5.4,baz=280,slow=5.9,SNR=13
INK Inuvik **93.06 21** *e*P **P** **04 23 18.6 +0.2**
comp=Z,49nm,1.4s,mb5.8
INK Inuvik **93.06 21** *e*P **P** **04 23 18.6 +0.2**
INK pmax pmax
comp=Z,49nm,1.4s
TAOE Nuku Hiva Isla **93.63 99** *e*LR LR 04 53 38.8
comp=Z,5µm,22.4s
ESKT Eskisehir **93.73 309** *i* P **P** **04 23 19.9 -2.2**
KBS Kingsbay **93.83 350** *e*P **P** **04 23 22.8 +1.0**
KBS *e*PP PP 04 27 10.5 0.0
KBS *i* 04 35 40.1
KBS *e* 04 46 23.9
KBS AMS AMS 05 11 19.6
comp=Z,671nm,18.8s,MS5.1
KBS Kingsbay **93.83 350** *e*P **P** **04 23 22.8 +1.0**
KBS LR LR
comp=Z,1µm,21.0s,MS5.4
AKASG Malin Array Be **93.90 321** P **P** **04 23 21.9 -0.7**
comp=Z,2.7nm,0.7s,mb4.8,baz=72,slow=4.0,SNR=19
SIT Sitka **93.93 33** PFAKE 04 23 30.0 +7.4
SIT LR LR
comp=Z,1µm,22.0s,MS5.2
KTK1 Kautokeino **93.96 339** *e*P **P** **04 23 22.6 +0.1**
KTK1 Kautokeino **93.96 339** *e*P **P** **04 23 23.7 +1.2**
KAF Kangasniemi **94.00 332** *e*p **P** **04 23 29.0 +6.2**
comp=Z,17nm,0.9s,mb5.5,baz=78,slow=4.1
KAF Kangasniemi **94.00 332** *e*P **P** **04 23 29.0 +6.2**
KAF pmax pmax
comp=Z,17nm,0.9s,mb5.5
FINES FINESS Array B **94.22 332** P **P** **04 23 23.4 -0.5**
comp=Z,2.5nm,0.7s,mb4.7,baz=135,slow=2.7,SNR=7.6
FINES LR LR 05 09 10.3
comp=Z,779nm,21.7s,MS5.1,baz=264,slow=38
FINES FINESS Array B **94.22 332** *i* P **P** **04 23 26.7 +2.9**
FINES pmax pmax
comp=Z,3.0nm,0.7s
VSU Vasula **94.36 329** *i* P **P** **04 23 26.9 +2.4**
KIS Kishinev **94.55 317** *e*P **P** **04 23 32.0 +6.3**
KIS *e* 04 27 22.0
KIS *e*S S 04 34 39.0 +7.8
KIS MLR MLR
comp=Z,600nm,22.0s,MS5.0
KIS MLR MLR
comp=N,600nm,23.0s,MS5.1
KIS MLR MLR
comp=E,600nm,24.0s,MS5.1
KIS MLR MLR
comp=Z,900nm,24.0s
ULDT Uludag **94.99 310** *i* P **P** **04 23 26.7 -1.2**
CFR Carcaliu **95.22 315** ⇓*i*P **P** **04 23 34.2 +5.4**
TRO Tromso **95.28 340** *e*P **P** **04 23 28.7 +0.2**
TRO *e*PP PP 04 27 26.4 +5.2
TRO *e*SS SS 04 41 09.4 +0.8
TRO AMS AMS 05 14 33.8
comp=Z,456nm,25.7s,MS4.8
TRO Tromso **95.28 340** *e*P **P** **04 23 28.7 +0.2**
TRO *e* 04 27 33.1
MBAR Mbarara **95.56 269** P **P** **04 23 31.3 +0.2**
comp=Z,47nm,1.2s,mb5.8
MBAR LR LR
comp=Z,263nm,20.0s,MS4.7
MBAR Mbarara **95.56 269** ⇑*i*P **P** **04 23 33.9 +2.8**
BTOK Tokmak **95.87 310** *i* P **P** **04 23 31.9 0.0**
VRI Vrincioaia **96.12 316** ⇓*i*P **P** **04 23 34.4 +1.6**
VRI Vrincioaia **96.12 316** ⇓*i*P **P** **04 23 34.4 +1.6**
DLBC Dease Lake **96.50 31** P **P** **04 23 35.4 +1.2**
comp=Z,5.6nm,1.1s,mb4.9,baz=270,slow=11,SNR=4.3
DLBC Dease Lake **96.50 31** P **P** **04 23 35.4 +1.2**
MLR Muntele Rosu **96.72 316** P **P** **04 23 36.0 +0.5**
comp=Z,14nm,0.9s,mb5.4,baz=22,slow=6.9,SNR=9.1
MLR PP PP 04 27 32.5 -0.8
comp=Z,14nm,1.2s,baz=51,slow=4.7,SNR=3.1
MLR Muntele Rosu **96.72 316** ⇓*i*P **P** **04 23 35.7 +0.1**
MLR Muntele Rosu **96.72 316** ⇓*i*P **P** **04 23 35.7 +0.1**
BURAR Bucovina Array **96.91 318** ⇓*i*P **P** **04 23 37.6 +1.2**
BURAR Bucovina Array **96.91 318** ⇓*i*P **P** **04 23 37.6 +1.2**
SUW Suwalki **97.08 325** *e*P **P** **04 23 36.8 -0.2**
LVV L'vov **97.32 320** *e*P **P** **04 23 45.0 +6.8**
LSZ Lusaka **98.02 255** *e*P **P** **04 23 41.8 -0.4**
comp=Z,22nm,1.4s,mb5.5
LSZ LR LR
comp=Z,1µm,21.0s,MS5.5
KWP Kalwaria **98.20 320** *e*P **P** **04 23 42.3 +0.1**
comp=Z,16nm,0.6s,mb5.7
KWP Kalwaria **98.20 320** P **P** **04 23 47.3 +5.1**
KWP pmax pmax
comp=Z,16nm,0.6s,mb5.7
RKT Rikitea **98.33 113** *e*PP PP 04 27 43.8 -2.6
RKT Rikitea **98.33 113** *e*SS SS 04 41 59.0 +6.6
RKT *e*LR LR 04 55 50.6
comp=Z,1µm,25.8s
KOLS Kolonicke sedl **98.61 320** *e*P **P** **04 23 45.1 +1.0**
KOLS *e* 04 23 50.1
KOLS *e* pP 04 24 04.5 +5.5
KOLS Kolonicke sedl **98.61 320** *e*P **P** **04 23 45.1 +1.0**
KOLS *e* pP 04 24 04.5 +5.5
UZH Uzhgorod **98.66 319** *e*P **P** **04 23 46.0 +1.7**
DRGR **98.73 317** ⇓*i*P **P** **04 23 43.9 -0.8**
CRVS Cervenica-Dubn **99.15 320** *e*P **P** **04 23 49.0 +2.5**
CRVS *e* 04 23 54.4
CRVS *e* pP 04 24 05.4 +4.0
CRVS Cervenica-Dubn **99.15 320** *e*P **P** **04 23 49.0 +2.5**
CRVS *e* pP 04 24 05.4 +4.0
STHS Stebnicka Huta **99.18 320** *e*P **P** **04 23 47.2 +0.6**
STHS *e* 04 23 55.6
KECS Kecovo **99.87 319** *e*P **P** **04 23 49.9 +0.1**
KECS *e* 04 23 55.1
OJC Ojcow **99.92 321** *e*P **P** **04 23 53.5 +3.5**
OJC *e*SKS SKS 04 34 30.5 +7.5
OJC *e*S S 04 35 24.3 +7.9
OJC MLR MLR 05 11 22.9
comp=Z,800nm,21.7s,MS5.2
OJC Ojcow **99.92 321** *e*P **P** **04 23 53.5 +3.5**
OJC *e*S S 04 35 24.3 +7.9
OJC MLR MLR
comp=Z,800nm,21.7s,MS5.2
LBTB Lobatse **100.02 245** PFAKE 04 24 00.0 +8.9
LBTB LR LR
comp=Z,1µm,22.0s,MS5.3
HFS Hagfors **100.42 332** P P 04 23 50.8 -1.2
comp=Z,7.1nm,1.1s,baz=117,slow=3.2,SNR=3.7
SKO Skopje **100.50 313** *e*P P 04 23 52.5 -0.4
VYHS Vyhne **100.93 320** *e*P P 04 23 51.4 -3.2
OKC Ostrava-Krasne **101.04 321** *e*PDIF P 04 24 03.2 +8.1
OKC *ex* x 04 46 58.9
OKC AMS AMS 05 12 00.0
comp=Z,600nm,19.7s
OKC Ostrava-Krasne **101.04 321** *i* P P 04 24 03.2 +8.1
OKC MLR MLR
comp=Z,600nm,19.7s,MS5.1
NB2 NORSAR Subarra **101.23 333** P P 04 23 54.6 -1.0
comp=Z,1.9nm,0.7s,baz=67,slow=4.6
NB2 NORSAR Subarra **101.23 333** P P 04 23 54.6 -1.0
baz=67,slow=4.6
NB2 NORSAR Subarra **101.23 333** P P 04 23 54.6 -1.0
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B **101.23 333** P P 04 23 54.6 -1.0
comp=Z,2.6nm,0.8s,baz=68,slow=4.5,SNR=7.8
NOA PP PP 04 28 01.2 -6.6
comp=Z,1.4nm,0.8s,baz=74,slow=7.9,SNR=3.5
NOA PKKPbc 04 40 08.3
comp=Z,1.2nm,0.8s,baz=68,slow=3.2,SNR=3.8
NOA NORSAR Array B **101.23 333** P P 04 23 54.6 -1.0
NOA PP PP 04 28 01.2 -6.6
NOA PKKPbc 04 40 08.3
MORC Moravsky Berou **101.44 321** *e*P P 04 23 55.8 -1.1
comp=Z,11nm,1.4s
MORC Moravsky Berou **101.44 321** P P 04 23 54.5 -2.3
MORC pmax pmax
comp=Z,11nm,1.3s
DPC Dobruska-Polom **102.04 322** *e*PDIF Pdif 04 24 07.4 +7.9
DPC *e*PP PP 04 28 07.8 -6.0
DPC *e*SDIF 04 35 40.8
DPC *e*SS SS 04 42 48.0 +4.3
DPC *ex* x 04 47 28.7
DPC AMS AMS 05 12 40.0
comp=Z,1µm,23.6s
DPC Dobruska-Polom **102.04 322** *i* P Pdif 04 24 07.4 +7.9
DPC *e* 04 28 07.8
DPC *e*SS SS 04 42 48.0 +4.3
DPC MLR MLR
comp=Z,1µm,23.6s,MS5.3
VRAC Vranov **102.16 321** P Pdif 04 24 01.2 +1.1
comp=Z,2.6nm,0.4s,baz=269,slow=23,SNR=2.7
UPC Upice **102.19 322** *e*PDIF Pdif 04 24 07.8 +7.6
SNAA Sanae **102.25 195** ⇑*i*P Pdif 04 24 05.5 +5.5
SNAA Sanae **102.25 195** *e* Pdif 04 24 15.4 +15
SNAA Sanae **102.25 195** *e* PP 04 28 11.0 -4.0
SNAA Sanae **102.25 195** P Pdif 04 24 01.4 +1.4
comp=Z,1.0nm,0.7s,baz=188,slow=3.8,SNR=17
SNAA PKKPbc 04 40 01.5
comp=Z,0.4nm,0.7s,baz=302,slow=5.4,SNR=9.8
SNAA Sanae **102.25 195** *e*Pdif Pdif 04 24 01.5 +1.5
comp=Z,2.9nm,0.8s
SNAA *e* 04 24 15.4
SNAA *e* 04 28 11.0
SNAA *e* 04 40 02.3
SNAA *e* 04 40 08.1
YKA Yellowknife Ar **102.36 25** P Pdif 04 24 01.1 +0.5
comp=Z,1.5nm,0.7s,baz=296,slow=4.4,SNR=7.9
YKA PP PP 04 28 15.5 -0.5
comp=Z,1.7nm,0.9s,baz=294,slow=6.8,SNR=5.6
YKA PKKPbc 04 40 01.5
comp=Z,0.5nm,0.5s,baz=120,slow=3.1,SNR=3.8
YKA Yellowknife Ar **102.36 25** P Pdif 04 24 01.1 +0.5
YKA PP PP 04 28 15.5 -0.6
YKA PKKPbc 04 40 01.5
OCWA Octopus Mounta **102.46 41** PFAKE 04 24 10.0 +8.5
OCWA LR LR
comp=Z,2µm,22.0s,MS5.5
KONO Kongsberg **102.52 332** *e*P Pdif 04 24 01.2 -0.2
KONO LR LR
comp=Z,1µm,22.0s,MS5.4
JMIC Jan Mayen **102.62 346** AMS AMS 05 16 11.8
comp=Z,297nm,15.2s,MS4.9
PVCC Panska Ves **103.06 323** *e*PDIF Pdif 04 24 11.8 +7.8
PVCC AMS AMS 05 12 30.0
comp=Z,900nm,21.9s
PRU Pruhonice **103.24 322** *e*PDIF Pdif 04 24 07.5 +2.7
PRU *e*PP PP 04 28 28.1 +4.9
PRU *e*SDIF 04 35 51.6
PRU *e*SS SS 04 42 55.9 -4.3
PRU *ex* x 04 46 58.7
PRU AMS AMS 05 13 20.0
comp=Z,1µm,23.3s
PRU Pruhonice **103.24 322** *i* P Pdif 04 24 07.5 +2.7
PRU *e* 04 28 28.1
PRU *e*S S 04 35 51.6 +7.4
PRU *e*SS SS 04 42 55.9 -4.3
PRU *e* 04 46 58.7
PRU MLR MLR
comp=Z,1µm,23.3s,MS5.3
BRG Berggiesshubel **103.34 323** *e*P Pdif 04 24 06.4 +1.1
comp=Z,10nm,1.5s
BRG *i* 04 24 14.0
BRG PP PP 04 28 23.0 -0.8
BRG *e* 04 28 26.5
BRG SKS SKS 04 34 40.0 +0.7
BRG S S 04 35 52.0 +7.0
BRG PS PS 04 37 10.0 -21
BRG SS SS 04 42 53.0 -8.4
BRG LR LR
comp=Z,1µm,24.7s,MS5.4
SUR Sutherland **103.47 237** PFAKE 04 24 20.0 +14
SUR LR LR
comp=Z,386nm,19.0s,MS5.0
CLL Collm **103.76 324** *e*PDIF Pdif 04 24 09.0 +1.9
CLL *e* 04 24 15.0
CLL *i* PP PP 04 28 21.3 -5.4
CLL *e* 04 28 29.0
CLL *e*PPP PPP 04 30 48.0 +7.5
CLL *e* 04 34 46.0
CLL *e* 04 35 50.0
CLL *e*PS PS 04 37 26.0 -10
CLL *e*PPS PPS 04 38 32.0 +1.7
CLL *e* 04 39 31.0
CLL *e*SS SS 04 42 54.0 -13
CLL Collm **103.76 324** *e*Pdif Pdif 04 24 09.0 +1.9
CLL *e* 04 24 15.0
CLL *i* PP PP 04 28 21.3 -5.4
CLL *e*SKS SKS 04 34 46.0 +4.7
CLL *e*Sdif 04 35 50.0
CLL Collm **103.76 324** *e*P Pdif 04 24 09.0 +1.9
CLL *i* 04 28 21.3
CLL *e* 04 34 46.0
CLL *e*S S 04 35 50.0 +1.5
VNA2 Neumayer--Watz **103.86 194** ⇑*i*Pdif Pdif 04 24 12.7 +5.6
VNA2 *e* 04 24 23.7
VNA2 *e* 04 24 26.7
VNA2 *e* 04 28 17.9
VNA2 *e* 04 39 57.9
VNA2 *e* 04 40 06.5
VNA2 *e* 04 40 14.3
COR Corvallis **103.88 44** PFAKE 04 24 20.0 +12
COR LR LR
comp=Z,1µm,22.0s,MS5.3
MOA Molln **104.05 320** ⇑*i*P Pdif 04 24 08.7 +0.2
comp=Z,8.4nm,1.1s
KHC Kasperske Hory **104.10 321** *e*PDIF Pdif 04 24 11.0 +2.4
KHC pP 04 24 24.5
KHC *e*PP PP 04 28 29.3 0.0
KHC *e*SDIF 04 35 59.3
KHC *e*SS SS 04 43 10.6 -0.9
KHC *e*SKKS 04 47 14.7
KHC AMS AMS 05 13 50.0
comp=Z,1µm,23.3s
KHC Kasperske Hory **104.10 321** *e*Pdif Pdif 04 24 11.0 +2.4
KHC *e* 04 24 24.5
KHC *e*PP PP 04 28 29.3 0.0
KHC *e*Sdif 04 35 59.3
KHC *e*SS SS 04 43 10.6 -0.9
KHC *e* 04 47 14.7
KHC LR LR
comp=Z,1µm,23.3s,MS5.3
KHC Kasperske Hory **104.10 321** *e*P Pdif 04 24 11.0 +2.4
KHC *e* 04 28 29.3
KHC *e*S S 04 35 59.3 +7.9
KHC *e*SS SS 04 43 10.6 -0.9
KHC *e* 04 47 14.7
KHC MLR MLR
comp=Z,1µm,23.3s,MS5.3
GEC2 GERESS Array S **104.11 321** *e*Pdif Pdif 04 24 08.5 -0.2
GEC2 *e*PP PP 04 28 35.8 +6.4
GERES GERESS Array B **104.11 321** Pdiff Pdif 04 24 09.9 +1.2
comp=Z,0.5nm,0.6s,baz=34,slow=4.8,SNR=5.7
GERES PP PP 04 28 30.4 +1.0
comp=Z,1.2nm,0.9s,baz=101,slow=6.8,SNR=6.6
VNA3 Neumayer Olymp **104.19 193** ⇑*i*Pdif Pdif 04 24 15.2 +6.7
VNA3 *e* 04 24 25.6
VNA3 *e* 04 24 29.5
VNA3 *e* 04 28 18.7
VNA3 *e* 04 39 54.8
VNA3 *e* 04 40 02.3
VNA3 *e* 04 40 14.9
VNA1 Neumayer--Stat **104.26 194** ⇑*i*Pdif Pdif 04 24 15.0 +6.1
VNA1 *e* 04 24 25.6
BSEG Bad Segeberg **104.38 327** *e*Pdif Pdif 04 24 10.7 +1.0
BSEG *e*PP PP 04 28 37.9 +6.5
NKC Novy Kostel **104.44 323** *e*SDIF 04 36 01.8
NKC *e*SS SS 04 43 15.4 -0.9
NKC AMS AMS 05 13 30.0
comp=Z,1µm,24.8s
HUMO Hull Mountain **104.63 46** PFAKE 04 24 20.0 +8.9
HUMO LR LR
comp=Z,611nm,21.0s,MS5.1
MOX Moxa **104.81 323** *i* P Pdif 04 24 17.8 +6.1
comp=Z,logA/T=1.0
MOX PP PP 04 28 37.0 +2.1
MOX *e* 04 34 53.0
MOX S S 04 36 06.0 +8.8
MOX L 05 17 23.0
MOX Moxa **104.81 323** *e*P Pdif 04 24 17.8 +6.1
comp=Z,12nm,1.3s
MOX *e* 04 28 37.3

MOX LR LR
comp=Z,700nm,20.0s,MS5.2
MOX Moxa 104.81 323 *e*P Pdif 04 24 17.8 +6.1
MOX *e* 04 28 37.3
MOX pmax pmax
comp=Z,12nm,1.3s
MOX MLR MLR
comp=Z,700nm,20.0s,MS5.2
YBH Yreka Blue Hor 105.03 46 PFAKE 04 28 40.0
YBH LR LR
comp=Z,1μm,22.0s,MS5.3
CLZ Clausthal 105.12 325 *e*Pdif Pdif 04 24 13.9 +0.9
CLZ *e*PP PP 04 28 42.5 +5.3
HOPS Hopland 105.44 49 PFAKE 04 28 40.0
HOPS LR LR
comp=Z,895nm,19.0s,MS5.3
WDC Whiskeytown Da 105.45 47 PFAKE 04 28 40.0
WDC LR LR
comp=Z,1μm,21.0s,MS5.5
HAWA Hanford 105.89 41 PFAKE 04 28 40.0
HAWA LR LR
comp=Z,89nm,22.0s,MS4.3
MOD Modoc 106.72 46 PFAKE 04 28 40.0
MOD LR LR
comp=Z,835nm,22.0s,MS5.2
NEW Newport 106.81 39 PFAKE 04 28 40.0
NEW LR LR
comp=Z,679nm,20.0s,MS5.2
TNS Taunus Mts 106.85 324 *e*Pdif Pdif 04 24 21.5 +0.8
TNS *e*PP PP 04 28 55.4 +5.1
DAVOX Davos 107.22 320 Pdiff Pdif 04 24 24.8 +2.4
comp=Z,2.2nm,0.8s,baz=332,slow=21,SNR=2.1
DAVOX PP PP 04 28 52.2 -0.9
comp=Z,4.5nm,0.9s,baz=168,slow=24,SNR=4.2
SAO San Andreas Ge 107.23 51 PFAKE 04 28 40.0
SAO LR LR
comp=Z,722nm,21.0s,MS5.2
BFO Black Forest 107.64 322 *e*Pdif Pdif 04 24 24.2 0.0
BFO *e*PP PP 04 29 00.5 +4.5
CMB Columbia Colle 107.72 50 PFAKE 04 28 40.0
CMB LR LR
comp=Z,579nm,19.0s,MS5.2
WVOR Wild Horse Val 107.74 45 PFAKE 04 28 40.0
WVOR LR LR
comp=Z,956nm,22.0s,MS5.3
BMO Blue Mountains 107.87 42 PFAKE 04 28 40.0
BMO LR LR
comp=Z,621nm,21.0s,MS5.2
MSO Missoula 109.34 39 *e*PKP 04 28 33.9
MSO LR LR
comp=Z,401nm,20.0s,MS5.0
BMN Battle Mountai 109.38 46 PFAKE 04 28 50.0
BMN LR LR
comp=Z,828nm,21.0s,MS5.3
SNCC San Nicolas Is 109.63 54 PFAKE 04 28 50.0
SNCC LR LR
comp=Z,1μm,21.0s,MS5.5
LPL La Plagne 109.72 319 *e*PKIKP 04 28 34.9
ISA Isabella 109.84 52 PFAKE 04 28 50.0
ISA LR LR
comp=Z,231nm,19.0s,MS4.8
TPH Tonopah 110.11 49 PFAKE 04 28 50.0 +15
TPH LR LR
comp=Z,570nm,20.0s,MS5.1
HLID Hailey 110.28 43 *e*PKP PKPdf 04 28 37.9 +2.2
HLID LR LR
comp=Z,866nm,19.0s,MS5.3
DAC Darwin (Calif) 110.35 51 PFAKE 04 28 50.0 +14
DAC LR LR
comp=Z,1μm,22.0s,MS5.5
BORG Borgarnes 110.50 346 PFAKE 04 28 50.0 +14
BORG LR LR
comp=Z,266nm,20.0s,MS4.8
ORIF Oris-en-Rattie 110.51 319 *e*PKIKP PKPdf 04 28 36.2 +0.1
ESK Eskdalemuir 110.65 332 PFAKE 04 28 50.0 +14
ESK LR LR
comp=Z,245nm,20.0s,MS4.8
ELK Elko 110.70 46 *e*PKP PKPdf 04 28 38.7 +2.1
ELK LR LR
comp=Z,1μm,20.0s,MS5.4
ELK Elko 110.70 46 PKIKP PKPdf 04 28 45.8 +9.2
BOZ Bozeman (W) 111.29 40 PFAKE 04 28 50.0 +12
BOZ LR LR
comp=Z,954nm,22.0s,MS5.3
PFO Pinyon Flat Ob 112.01 53 PFAKE 04 28 50.0 +11
PFO LR LR
comp=Z,280nm,19.0s,MS4.9
FFC Flin Flon 112.04 28 PFAKE 04 28 50.0 +11
FFC LR LR
comp=Z,205nm,20.0s,MS4.7
LKWY Lake 112.53 40 PFAKE 04 28 50.0 +10
LKWY LR LR
comp=Z,1μm,21.0s,MS5.5
DUG Dugway 112.63 45 *e*PKP PKPdf 04 28 43.0 +2.6
DUG LR LR
comp=Z,956nm,20.0s,MS5.4
DUG Dugway 112.63 45 PKIKP PKPdf 04 28 45.2 +4.8
NEN Nelson 112.67 51 *e*PKP PKPdf 04 28 43.0 +2.4
REDW Red Top Meadow 112.74 42 *e*PKP PKPdf 04 28 42.7 +2.1
SNOW Snow King Moun 112.76 42 *e*PKP PKPdf 04 28 43.0 +2.4
AHID Auburn Hatcher 112.82 42 PFAKE 04 28 50.0 +9.3
AHID LR LR
comp=Z,895nm,21.0s,MS5.3
HWUT Hardware Ranch 112.97 44 PFAKE 04 28 50.0 +9.0
HWUT LR LR
comp=Z,1μm,21.0s,MS5.5
MFF Saint Martin d 113.57 323 *e*PKIKP PKPdf 04 28 42.2 +0.1
LFF La Frestale 113.80 321 *e*PKIKP PKPdf 04 28 42.5 -0.1
BW06 Boulder Array 113.85 42 PFAKE 04 29 00.0 +17
BW06 LR LR
comp=Z,591nm,22.0s,MS5.1
PDAR Pinedale Array 113.85 42 PKiKP 04 28 43.0
comp=Z,0.4nm,0.7s,baz=312,slow=2.1,SNR=2.9
PDAR PKKPbc 04 39 25.3
comp=Z,0.9nm,0.6s,baz=108,slow=4.7,SNR=10.0
LAO LASA Array 114.16 37 *e*PKP PKPdf 04 28 45.8 +2.5
LAO LR LR
comp=Z,885nm,20.0s,MS5.4
DGMT Dagmar 114.42 34 PFAKE 04 29 00.0 +16
DGMT LR LR
comp=Z,822nm,22.0s,MS5.3
PMSA Palmer Station 115.69 175 PFAKE 04 29 00.0 +14
PMSA LR LR
comp=Z,1μm,22.0s,MS5.5
PV01 Paradox Valley 116.47 46 *e*PKP PKPdf 04 28 50.0 +2.1
TUC Tucson 116.95 53 *e*PKP PKPdf 04 28 50.9 +1.9
TUC LR LR
comp=Z,627nm,20.0s,MS5.2
TUC Tucson 116.95 53 PKIKP PKPdf 04 28 52.4 +3.4
SMCO Snowmass 117.16 44 *e*PKPdf PKPdf 04 28 51.8 +2.6
ULM Lac du Bonnet 117.75 29 PKP PKPdf 04 28 53.0 +2.9
comp=Z,5.3nm,0.9s,baz=280,slow=5.4,SNR=7.2
ULM PKKPbc 04 39 12.6
comp=Z,2.2nm,0.9s,baz=90,slow=4.0,SNR=4.2
ULM Lac du Bonnet 117.75 29 PKP PKPdf 04 28 53.0 +2.9
ULM PKKPbc 04 39 12.6
ULM LR LR
comp=Z,1μm,20.0s,MS5.5
ISCO Idaho Springs 117.83 43 PFAKE 04 29 00.0 +10
ISCO LR LR
comp=Z,1μm,21.0s,MS5.5
SDCO Great Sand Dun 118.83 45 PFAKE 04 29 10.0 +17
SDCO LR LR
comp=Z,989nm,19.0s,MS5.5
ANMO Albuquerque 119.31 49 PKP PKPdf 04 28 57.0 +3.4
comp=Z,4.6nm,0.9s,baz=186,slow=2.0,SNR=7.6
ANMO Albuquerque 119.31 49 *e*PKP PKPdf 04 28 56.2 +2.6
ANMO LR LR
comp=Z,706nm,20.0s,MS5.3
ANMO Albuquerque 119.31 49 PKIKP PKPdf 04 28 56.9 +3.3
MNTX Cornudas Mount 121.44 52 *e*PKP PKPdf 04 29 00.2 +2.4
MNTX LR LR
comp=Z,941nm,20.0s,MS5.4
CBKS Cedar Bluff 122.28 42 PFAKE 04 29 10.0 +11
CBKS LR LR
comp=Z,801nm,20.0s,MS5.4
LTX Lajitas 123.73 53 *e*PKPdf PKPdf 04 29 02.8 +0.6
LTX LR LR
comp=Z,1μm,20.0s,MS5.5
TXAR Lajitas Array 123.73 53 PKP PKPdf 04 29 04.7 +2.5
comp=Z,3.1nm,0.7s,baz=258,slow=1.2,SNR=18
TXAR PKKPbc 04 38 51.5
comp=Z,0.7nm,0.6s,baz=114,slow=6.1,SNR=11
TXAR Lajitas Array 123.73 53 PKP PKPdf 04 29 04.7 +2.5
TXAR PKKPbc 04 38 51.5

KSU1 Kansas State U 124.17 40 *e*PKP PKPdf 04 29 04.3 +1.5
WMOK Wichita Mounta 125.03 45 *e*PKP PKPdf 04 29 05.6 +0.9
WMOK LR LR
comp=Z,1μm,22.0s,MS5.4
WMOK Wichita Mounta 125.03 45 PKIKP PKPdf 04 29 06.6 +1.9
CCM Cathedral Cave 128.15 38 *e*PKP PKPdf 04 29 11.8 +1.1
CCM LR LR
comp=Z,926nm,20.0s,MS5.5
CCM Cathedral Cave 128.15 38 PKIKP PKPdf 04 29 12.9 +2.3
EFI East Falkland 129.14 177 PFAKE 04 29 20.0 +7.9
EFI LR LR
comp=Z,229nm,22.0s,MS4.8
SADO Sadowa 129.34 23 PKP PKPdf 04 29 16.4 +3.7
comp=Z,4.7nm,0.8s,baz=314,slow=7.9,SNR=3.5
NATX Nacogdoches 129.52 46 PFAKE 04 29 30.0 +17
NATX LR LR
comp=Z,1μm,21.0s,MS5.5
BLO Bloomington 130.16 33 *e*PKP PKPdf 04 29 16.7 +2.3
BLO Bloomington 130.16 33 PKIKP PKPdf 04 29 17.0 +2.6
DBIC Dimbokro 130.70 279 PKP PKPdf 04 29 18.2 +2.1
comp=Z,5.1nm,0.9s,baz=100,slow=2.9,SNR=3.7
DBIC Dimbokro 130.70 279 PKP PKPdf 04 29 18.2 +2.1
DBIC LR LR
comp=Z,638nm,21.0s,MS5.3
WCI Wyandotte Cave 130.95 34 PFAKE 04 29 30.0 +14
WCI LR LR
comp=Z,850nm,20.0s,MS5.4
PQI Presque Isle 131.12 13 PFAKE 04 29 30.0 +14
PQI LR LR
comp=Z,5μm,20.0s,MS6.2
ACSO Alum Creek Sta 131.24 30 *e*PKP PKPdf 04 29 18.2 +1.8
ACSO LR LR
comp=Z,502nm,22.0s,MS5.2
WVT Waverly 131.48 37 *e*PKP PKPdf 04 29 18.1 +1.1
WVT LR LR
comp=Z,811nm,19.0s,MS5.5
WVT Waverly 131.48 37 PKIKP PKPdf 04 29 19.7 +2.7
OXF Oxford 131.53 40 PFAKE 04 29 30.0 +13
OXF LR LR
comp=Z,959nm,19.0s,MS5.5
PLAL Pickwick Lake 132.08 39 PFAKE 04 29 30.0 +12
PLAL LR LR
comp=Z,1μm,21.0s,MS5.5
WVL Waterville 132.69 16 PFAKE 04 29 30.0 +11
WVL LR LR
comp=Z,5μm,22.0s,MS6.2
BINY Binghamton 132.74 23 PFAKE 04 29 30.0 +11
BINY LR LR
comp=Z,809nm,22.0s,MS5.4
EMMW East Machias 133.10 13 PFAKE 04 29 30.0 +10
EMMW LR LR
comp=Z,3μm,20.0s,MS6.0
MCWV Mont Chateau 133.20 28 PFAKE 04 29 30.0 +10
MCWV LR LR
comp=Z,1μm,20.0s,MS5.5
CMLA Cha da Macela 133.66 329 PFAKE 04 29 30.0 +8.9
CMLA LR LR
comp=Z,1μm,20.0s,MS5.6
HRV Harvard--Oak R 134.02 18 PFAKE 04 29 30.0 +8.4
HRV LR LR
comp=Z,701nm,19.0s,MS5.4
LRAL Lakeview Retre 134.02 40 *e*PKP PKPdf 04 29 23.2 +1.3
LRAL LR LR
comp=Z,1μm,20.0s,MS5.7
WES Weston 134.20 18 PFAKE 04 29 30.0 +8.1
WES LR LR
comp=Z,1μm,19.0s,MS5.7
BLA Blacksburg 134.84 30 PFAKE 04 29 40.0 +17
BLA LR LR
comp=Z,1μm,20.0s,MS5.6
CBN Corbin 135.51 27 PFAKE 04 29 40.0 +16
CBN LR LR
comp=Z,852nm,21.0s,MS5.5
GOGA Godfrey 135.96 37 PFAKE 04 29 40.0 +15
GOGA LR LR
comp=Z,904nm,19.0s,MS5.5
PLCA Paso Flores 137.38 161 PKhKP 04 29 17.6
comp=Z,1.3nm,0.9s,baz=288,slow=2.4,SNR=3.0
PLCA PKP PKPdf 04 29 31.1 +3.2
comp=Z,3.4nm,0.8s,baz=230,slow=3.1,SNR=6.0
PLCA SKPbc 04 33 03.0
comp=Z,2.7nm,1.1s,baz=153,slow=3.6,SNR=2.9
PLCA Paso Flores 137.38 161 PKP 04 29 17.6
PLCA PKP PKPdf 04 29 31.1 +3.2
PLCA SKPbc 04 33 03.0
PLCA LR LR
comp=Z,647nm,20.0s,MS5.4
DWPF Disney 140.86 41 PFAKE 04 29 50.0 +15
DWPF LR LR
comp=Z,1μm,21.0s,MS5.6
TRQA Tornquist 142.12 169 *e*PKP PKPdf 04 29 33.4 -3.0
TRQA LR LR
comp=Z,792nm,21.0s,MS5.5
PAYG Puerto Ayora 143.42 90 PFAKE 04 29 50.0 +12
PAYG LR LR
comp=Z,1μm,20.0s,MS5.6
MDZ Mendoza 145.02 157 *e*P PKPdf 04 29 44.0 +2.4
ZON Zonda 146.27 157 *e*P PKPdf 04 29 50.1 +6.3
LVC Limon Verde 153.72 147 PKPdf PKPdf 04 29 58.4 +2.9
LVC *e*PKPbc PKPdf 04 30 05.8 +10
LVC LR LR
comp=Z,692nm,19.0s,MS5.5
CPUP Villa Florida 154.34 172 PKP PKPdf 04 29 58.0 +1.8
comp=Z,3.5nm,1.1s,baz=196,slow=7.4,SNR=3.6
CPUP PKPbc PKPdf 04 30 07.0 +11
comp=Z,9.7nm,0.9s,baz=238,slow=0.6,SNR=8.0
CPUP Villa Florida 154.34 172 *e*PKPdf PKPdf 04 29 58.0 +1.8
CPUP LR LR
comp=Z,642nm,21.0s,MS5.4
NNA Nana 154.48 117 *e*PKPbc PKPdf 04 30 07.6 +11
NNA LR LR
comp=Z,183nm,20.0s,MS4.9
ARE Arequipa 156.54 133 P PKPdf 04 30 16.0 +17
SJG San Juan 157.60 33 PFAKE 04 30 10.0 +9.3
SJG LR LR
comp=Z,3μm,22.0s,MS6.1
ROSC El Rosal 158.65 75 PKP PKPdf 04 30 04.2 +2.0
comp=Z,7.5nm,0.8s,baz=116,slow=9.0,SNR=4.6
LPAZ La Paz 159.02 138 PKP PKPdf 04 30 06.5 +4.0
comp=Z,3.9nm,0.9s,baz=343,slow=1.6,SNR=13
LPAZ PKPab PKPab 04 30 43.2 +1.7
comp=Z,4.4nm,0.7s,baz=254,slow=2.9,SNR=6.0
LPAZ La Paz 159.02 138 *e*PKPdf PKPdf 04 30 06.3 +3.9
LPAZ LR LR
comp=Z,676nm,22.0s,MS5.4
SDV Santo Domingo 160.60 60 PKP PKPdf 04 30 06.1 +1.8
comp=Z,4.8nm,0.6s,baz=320,slow=4.9,SNR=9.3
SDV PKPab PKPab 04 30 49.2 +0.8
comp=Z,3.5nm,0.5s,baz=286,slow=7.6,SNR=3.1
SDV Santo Domingo 160.60 60 *e*PKPdf PKPdf 04 30 06.8 +2.6
SDV LR LR
comp=Z,915nm,21.0s
RCBR Riachuelo 161.53 254 PFAKE 04 30 20.0 +15
RCBR LR LR
comp=Z,916nm,20.0s
SIV San Ignacio 163.22 155 PKP PKPdf 04 30 09.4 +2.6
baz=233,slow=3.4
SIV PKPab PKPab 04 30 59.4 -0.2
comp=Z,6.5nm,0.8s,baz=214,slow=5.1,SNR=5.0
BAO Brasilia Array 164.18 201 PKPdf PKPdf 04 30 10.0 +2.3
BDFB Brasilia 164.19 201 PKP PKPdf 04 30 10.7 +3.0
comp=Z,3.3nm,0.8s,baz=164,slow=3.8,SNR=5.2
BDFB PKPab PKPab 04 31 03.4 -0.5
comp=Z,5.1nm,0.7s,baz=151,slow=3.8,SNR=7.4
SAML Samuel 167.54 131 *e*PKPdf PKPdf 04 30 12.5 +1.9
SAML LR LR
comp=Z,1μm,22.0s

NEIC ***08*** *04:15:30.7, 19.33N×68.65W, h143km, MD4.0(RSPR), After RSPR.*

RSPR 08 04:15:30.7, 19.33N×68.65W, h143km±6km**, MD4.0**/12, **MD4.0**/12**, 9C-3D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.69**	**120**↑	*e*P		P	04 16 01.8	-0.4
AGPR				*e*S		S	04 16 25.9	-0.5
LSP	**Las Mesas**	**1.88**	**128**↑	*e*P		P	04 16 03.4	-0.9
LSP				*e*S		S	04 16 30.5	+0.5
CRPR	**Cabo Rojo, PR**	**1.97**	**132**↓	*e*P		P	04 16 04.7	-0.6
CRPR				*e*S		S	04 16 31.9	-0.1
MGP	**Maguayo**	**1.98**	**131**↑	*e*P		P	04 16 05.0	-0.6
MGP				*e*S		S	04 16 31.2	-1.0
LRS	**Lares**	**2.00**	**121**↑	*e*P		P	04 16 05.0	-0.8
LRS				*e*S		S	04 16 32.9	+0.3
PORP	**Portuguez**	**2.29**	**123**↑	*e*P		P	04 16 08.7	-0.8
PORP				*e*S		S	04 16 38.4	-0.7
SJG	**San Juan**	**2.66**	**117**↑	*e*P		P	04 16 14.3	+0.1
SJG				*e*S		S	04 16 47.0	-0.4
CBYP	**Canovanas**	**2.85**	**111**↑	*e*P		P	04 16 16.2	-0.4
CBYP				*e*S		S	04 16 51.7	+0.1
CPD	**Cerro la Pandu**	**2.89**	**116**↓	*e*P		P	04 16 16.9	-0.3
CPD				*e*S		S	04 16 52.7	+0.1
HUMP	**Col San Antoni**	**2.91**	**114**↑	*e*P		P	04 16 17.1	-0.2
HUMP				*e*S		S	04 16 52.9	0.0
MTP	**Monte Pirata**	**3.18**	**112**↑	*e*P		P	04 16 20.5	-0.4
MTP				*e*S		S	04 16 59.0	-0.2
TBVI	**Tortola**	**3.93**	**103**↓	*e*P		P	04 16 30.7	-0.1
TBVI				*e*S		S	04 17 16.5	-0.5

NEIC ***08*** *04:17:34.9±0.8, 6.87S×125.63E, h517km±10km, mb4.3/13, Error ellipse: s-maj=14.8km s-min=6.8km az=64.0*
IDC ***08*** *04:17:34.8±1.7, 6.86S×125.65E, h514km±17km, mb3.8/9, mb1 4.0/11, mb1mx3.8/17, mbtmp4.7/11, Error ellipse: s-maj=31.9km s-min=10.8km az=65.0*

ISC 08 04:17:34.4±1.6, 6.83S±0.09×125.6E±0.1, h524km±20km**, n46, σ0°78/37, mb4.2**/24**, 1C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.20**	**180**↑	*i*P		**P**	**04 20 05.3**	**-0.2**
	55nm,0.3s							
FITZ	**Fitzroy Crossi**	**11.20**	**180**	P		**P**	**04 20 04.9**	**-0.6**
	24nm,0.3s,baz=7.4,slow=7.9,SNR=102							
FITZ				S		**S**	**04 22 06.2**	**-0.4**
	4.4nm,0.3s,baz=186,slow=17,SNR=8.8							
MBWA	**Marble Bar**	**15.33**	**201**	*e*P		**P**	**04 20 47.4**	**-0.1**
	19nm,0.5s							
WRAB	**Tennant Creek**	**15.55**	**148**	*e*P		**P**	**04 20 50.1**	**+0.4**
	41nm,0.7s							
WRA	**Warramunga Arr**	**15.56**	**148**	P		**P**	**04 20 50.0**	**+0.2**
	5.0nm,0.3s,baz=327,slow=7.0,SNR=42							
WRA				S		**S**	**04 23 29.1**	**+1.7**
	0.4nm,0.3s,baz=332,slow=16,SNR=4.7							
ASPA	**Alice Springs**	**18.55**	**155**	*e*P		**P**	**04 21 19.7**	**+0.8**
CTA	**Charters Tower**	**23.99**	**125**	*e*P		**P**	**04 22 06.8**	**-2.4**
	7.8nm,0.9s,mb4.3							
CTA	**Charters Tower**	**23.99**	**125**	P		**P**	**04 22 07.4**	**-1.8**
	3.0nm,0.7s,mb4.0,baz=276,slow=4.9,SNR=3.7							
STKA	**Stephens Creek**	**29.05**	**151**↓	*i*P		**P**	**04 22 53.3**	**-0.3**
	8.7nm,0.3s,mb4.9							
STKA	**Stephens Creek**	**29.05**	**151**	P		**P**	**04 22 52.8**	**-0.8**
	14nm,0.4s,mb4.9,baz=327,slow=8.7,SNR=20							
STKA				PcP		PcP	04 25 44.1	-1.5
	2.4nm,0.4s,baz=286,slow=3.2,SNR=5.0							
TOO	**Toolangi**	**35.55**	**152**	*e*P		**P**	**04 23 49.4**	**+1.0**
	4.8nm,0.5s,mb4.3							
TAU	**Tasmania Unive**	**40.72**	**155**	*e*P		**P**	**04 24 30.3**	**-0.2**
	40nm,1.1s,mb4.9							
LSA	**Lhasa**	**49.13**	**319**	*e*P		**P**	**04 25 36.7**	**+0.9**
	8.5nm,0.6s,mb4.5							
GUN	**Gumba**	**51.61**	**314**	*e*P		**P**	**04 25 54.7**	**+0.6**
	20nm,0.4s,mb4.8							
PKI	**Pulchoki**	**51.75**	**313**	*e*P		**P**	**04 25 55.4**	**+0.3**
	16nm,0.4s,mb4.7							
KKN	**Kakani**	**51.97**	**313**	*e*P		**P**	**04 25 57.0**	**+0.3**
	12nm,0.5s,mb4.5							
DMN	**Daman**	**51.99**	**313**	*e*P		**P**	**04 25 56.8**	**-0.1**
	9.9nm,0.5s,mb4.4							
GKN	**Gorkha**	**52.56**	**313**	*e*P		**P**	**04 26 01.1**	**+0.2**
	23nm,0.3s,mb5.0							
KOLN	**Koldanda**	**53.18**	**312**	*e*P		**P**	**04 26 03.2**	**-2.2**
RPZ	**Rata Peaks**	**54.10**	**140**	P		**P**	**04 26 11.2**	**-0.5**
	62nm,1.1s,mb4.9,baz=295,slow=1.7,SNR=15							
ULN	**Ulaanbaatar**	**56.87**	**345**	*e*P		**P**	**04 26 31.2**	**+0.5**
	3.6nm,0.5s,mb3.9							
SONM	**Songino Array**	**57.01**	**345**	P		**P**	**04 26 31.7**	**-0.1**
	1.9nm,0.5s,mb3.6,baz=167,slow=6.6,SNR=6.0							
CASY	**Casey**	**60.27**	**187**	*e*P		**P**	**04 26 52.1**	**-1.2**
	2.1nm,0.6s,mb3.6							
MKAR	**Makanchi Array**	**65.75**	**329**	P		**P**	**04 27 29.4**	**+0.7**
	3.4nm,0.5s,mb4.2,baz=124,slow=7.3,SNR=28							
MKAR	**Makanchi Array**	**65.75**	**329**	P		**P**	**04 27 29.4**	**+0.6**
AAK	**Ala-Archa**	**67.64**	**322**	*e*P		**P**	**04 27 40.1**	**-0.3**
	3.7nm,0.6s,mb4.1							
KURK	**Kurchatov**	**70.15**	**330**	*e*P		**P**	**04 27 55.6**	**+0.2**
	7.2nm,0.4s,mb4.6							
VNDA	**Vanda**	**73.17**	**172**	P		**P**	**04 28 11.8**	**-0.6**
	1.5nm,0.5s,mb3.7,baz=317,slow=8.1,SNR=12							
VNDA	**Vanda**	**73.17**	**172**	P		**P**	**04 28 11.8**	**-0.6**
	1.5nm,0.7s,mb3.5							
SBA	**Scott Base**	**74.11**	**172**	*e*P		**P**	**04 28 17.5**	**-0.1**
	3.3nm,1.0s,mb3.7							
BVAR	**Borovoye Array**	**75.63**	**329**	P		**P**	**04 28 26.8**	**+0.2**
	3.7nm,0.5s,mb4.1,baz=136,slow=10.0,SNR=13							
BRVK	**Borovoye**	**75.70**	**329**	*e*P		**P**	**04 28 27.4**	**+0.5**
	2.9nm,0.5s,mb4.0							
QSPA	**South Pole Qui**	**83.15**	**180**↓	*i*P		**P**	**04 29 05.9**	**+0.4**
	7.1nm,0.5s,mb4.5							
SNAA	**Sanae**	**94.77**	**194**	P		**P**	**04 30 00.5**	**+0.5**
	0.3nm,0.7s,mb3.5,baz=147,slow=7.2,SNR=6.2							
ILAR	**Eielson Array**	**95.07**	**25**	P		**P**	**04 30 00.2**	**-1.3**
	0.5nm,0.6s,mb3.8,baz=242,slow=5.6,SNR=4.9							
ARCES	**ARCESS Array B**	**99.89**	**339**	PKiKP			04 34 46.5	
	3.9nm,1.1s,baz=94,slow=1.5,SNR=5.5							
PDAR	**Pinedale Array**	**119.86**	**44**	PKP		PKPdf	04 35 26.9	+1.9
	0.5nm,0.5s,baz=95,slow=1.3,SNR=8.9							
PDAR				PKKPbc			04 45 38.5	
	0.1nm,0.3s,baz=135,slow=4.2,SNR=3.5							
TXAR	**Lajitas Array**	**128.57**	**58**	PKP		PKPdf	04 35 44.2	+2.0
	0.4nm,0.4s,baz=199,slow=2.6,SNR=12							
TXAR				SKPbc			04 38 15.5	
	0.9nm,0.8s,baz=259,slow=3.4,SNR=8.4							
TXAR	**Lajitas Array**	**128.57**	**58**	PKP		PKPdf	04 35 44.2	+2.0
TXAR				SKPbc			04 38 15.5	
PLCA	**Paso Flores**	**130.40**	**164**	PKP		PKPdf	04 35 46.4	+1.0
	1.0nm,0.7s,baz=13,slow=17,SNR=4.7							
PLCA				SKPbc			04 38 21.2	
	1.0nm,0.8s,baz=42,slow=1.2,SNR=4.0							
PLCA	**Paso Flores**	**130.40**	**164**	PKP		PKPdf	04 35 46.4	+1.0
PLCA				SKPbc			04 38 21.2	
DBIC	**Dimbokro**	**130.81**	**273**	PKP		PKPdf	04 35 48.1	+1.2
	2.0nm,0.4s,baz=205,slow=3.0,SNR=7.6							
CPUP	**Villa Florida**	**146.92**	**175**	PKPbc		PKPbc	04 36 19.6	+2.0
	9.4nm,0.7s,baz=181,slow=3.0,SNR=21							
LVC	**Limon Verde**	**147.48**	**155**	PKPbc		PKPdf	04 36 22.5	+6.2
	8.6nm,0.6s,baz=247,slow=3.4,SNR=15							
LPAZ	**La Paz**	**153.32**	**150**	PKPbc		PKPdf	04 36 36.2	+11
	1.4nm,0.6s,baz=120,slow=2.3,SNR=12							
LPAZ				PKPab		PKPab	04 36 50.5	+0.2
	4.3nm,0.6s,baz=217,slow=2.4,SNR=16							
SIV	**San Ignacio**	**156.39**	**164**	PKPab		PKPab	04 37 01.9	-1.5
	2.5nm,0.6s,baz=215,slow=4.8,SNR=11							

IDC ***08*** *04:52:32.5±0.5, 21.37N×45.77W, mb4.3/22, mb1 4.4/23, mb1mx4.4/25, mbtmp4.3/23, ML5.6/1, MS4.5/16, Ms1 4.5/16, ms1mx4.3/26, Error ellipse: s-maj=15.8km s-min=11.0km az=131.0*
MOS ***08*** *04:52:32.3±1.4, 21.35N×45.93W, h10km, mb4.6/15, Error ellipse: s-maj=18.7km s-min=10.3km az=51.7*
BJI ***08*** *04:52:34.3, 21.30N×45.80W, h10km, mB5.0, mb5.3, Ms5.0, Msz4.6*
NEIC ***08*** *04:52:34.4±0.2, 21.31N×45.83W, h10km, mb4.9/47, MS4.7/6, Error ellipse: s-maj=6.4km s-min=3.9km az=162.0*
HRVD ***08*** *04:52:34.3±0.5, 21.42N×45.86W, h14km±1km, MW5.1/55, Centroid moment Tensor Solution. LP body waves: s14,c15;Mantle waves: s55,c78; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.18±.43; Mθθ 0.77±.24; Mϕϕ 3.41±.28; Mrθ -2.41±.74; Mθϕ 0.39±.17; Mϕr 2.99±.68; Best double couple: M0 5.284×10^16 NP1:ϕs 18°, δ28°, λ-55°. NP2:ϕs 159°, δ68°, λ-107°. Principal axes: T 4.502, Plg21°, Azm262°; N 1.563, Plg16°, Azm166°; P -6.066, Plg64°, Azm42°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CRAAG ***08*** *04:52:35.6, 21.33N×45.83W, Mb4.8*

ISC 08 04:52:32.7±0.2, 21.35N±0.05×45.85W±0.04, h10km**, (h19**km±1.8km**:pP-P), n154, σ0 96**/141**, mb4.7**/69**, MS4.6**/22**, 3C, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
CPD	**Cerro la Pandu**	**19.17**	**264**	*e*P		**P**	**04 56 59.8**	**+0.6**
SJG	**San Juan**	**19.38**	**264**	P		**P**	**04 56 59.1**	**-2.3**
	0.4nm,0.3s,baz=94,slow=8.8,SNR=7.1							

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SJG	San Juan	19.38	264	eP	P	04 57 00.7	-0.8
	52nm,1.3s						
SDV	Santo Domingo	26.89	246	P	P	04 58 17.5	+1.6
	2.2nm,0.4s,mb4.1,baz=48,slow=6.2,SNR=9.0						
SDV				LR	LR	05 07 33.3	
	comp=Z,614nm,21.1s,MS4.1,baz=285,slow=33						
SDV	Santo Domingo	26.89	246	eP	P	04 58 17.3	+1.4
	17nm,1.0s,mb4.5						
ROSC	El Rosal	32.12	243	P	P	04 59 04.9	+2.2
	3.2nm,0.5s,mb4.4,baz=96,slow=24,SNR=2.4						
NCB	Newcomb	32.58	320	eP	P	04 59 07.3	+1.0
	24nm,1.0s,mb5.1						
SAML	Samuel	34.59	211	eP	P	04 59 23.2	-0.9
	10nm,1.3s,mb4.6						
EVO	Evora	36.68	54	eP	P	04 59 40.6	-1.0
	5.8nm,0.5s,mb4.4						
EVO				eR			
	585nm,20.5s						
BAO	Brasilia Array	36.82	183	P	P	04 59 43.5	+0.6
BDFB	Brasilia	36.82	183	P	P	04 59 42.5	-0.5
	5.8nm,0.8s,mb4.5,baz=13,slow=8.7,SNR=10.0						
BDFB				LR	LR	05 13 58.3	
	comp=Z,320nm,20.2s,MS4.1,baz=284,slow=35						
BDFB	Brasilia	36.82	183	P	P	04 59 42.5	-0.5
BDFB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,320nm,20.3s						
MDT	Midelt	38.23	64	P	P	04 59 54.4	-0.3
	comp=Z,6.8nm,1.1s,mb4.3,baz=266,slow=8.4,SNR=5.3						
WCI	Wyandotte Cave	38.57	305	eP	P	04 59 57.6	+0.1
	comp=Z,13nm,0.9s,mb4.7						
PLAL	Pickwick Lake	39.34	299	eP	P	05 00 04.5	+0.6
	comp=Z,9.3nm,0.8s,mb4.6						
SIV	San Ignacio	40.00	203	P	P	05 00 09.6	+0.1
	comp=Z,3.1nm,0.8s,mb4.1,baz=42,slow=11,SNR=10.0						
ESDC	Sonseca Array	40.03	53	P	P	05 00 08.3	-1.2
	comp=Z,2.9nm,0.8s,mb4.1,baz=253,slow=8.2,SNR=11						
DBIC	Dimbokro	42.22	104	P	P	05 00 26.2	-1.6
	comp=Z,16nm,1.1s,mb4.6,baz=282,slow=9.8,SNR=6.3						
DBIC	Dimbokro	42.22	104	eP	P	05 00 26.6	-1.2
	comp=Z,34nm,1.1s,mb4.9						
DBIC				LR	LR		
	comp=Z,625nm,20.0s,MS4.5						
DBIC	Dimbokro	42.22	104	P	P	05 00 26.3	-1.6
DBIC				pmax	pmax		
	comp=Z,16nm,1.1s						
CCM	Cathedral Cave	42.35	303	eP	P	05 00 28.7	0.0
	comp=Z,46nm,1.4s,mb4.9						
SJPF	Ste Jean	42.92	49	eP	P	05 00 33.9	+0.7
	comp=Z,117nm,1.8s,mb5.0						
QUIF	Quistinic	43.22	42	eP	P	05 00 35.5	-0.1
EANR	'Ain N'Sour	43.29	60	P	P	05 00 38.0	+1.6
ROSF	Rostrenen	43.31	41	eP	P	05 00 36.3	-0.1
	comp=Z,73nm,1.6s,mb4.8						
LPAZ	La Paz	43.32	212	P	P	05 00 38.0	+1.2
	comp=Z,3.1nm,0.8s,mb4.1,baz=28,slow=9.0,SNR=14						
LPAZ	La Paz	43.32	212	eP	P	05 00 38.0	+1.2
	comp=Z,37nm,1.4s,mb4.9						
LPAZ	La Paz	43.32	212	P	P	05 00 38.0	+1.2
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ETSF	Etsaut	43.33	50	eP	P	05 00 36.8	+0.2
ETRT	Tiaret	43.39	61	P	P	05 00 39.0	+1.8
ECHF	Ech Chlef	43.51	60	P	P	05 00 40.0	+1.9
ECHA	Ech Chlef	43.53	60	P	P	05 00 40.0	+1.7
EBNR	Beni Rached	43.68	59	P	P	05 00 41.0	+1.5
SGMF	Saint Gilles	43.72	42	eP	P	05 00 39.8	+0.1
	comp=Z,89nm,1.6s,mb5.0						
EPF	Esparros	44.00	50	eP	P	05 00 42.7	+0.7
	comp=Z,73nm,1.6s,mb4.8						
MFF	Saint Martin d	44.68	45	eP	P	05 00 47.6	+0.1
	comp=Z,60nm,1.4s,mb4.9						
LFF	La Frestale	44.78	47	eP	P	05 00 48.1	-0.2
GRR	Gorron	44.83	42	eP	P	05 00 48.6	0.0
FLN	La Foliniere	45.19	42	eP	P	05 00 51.2	-0.3
LDF	La Druitiere	45.36	42	eP	P	05 00 52.6	-0.2
	comp=Z,30nm,1.2s,mb4.7						
MTLF	Montolieu	45.41	50	eP	P	05 00 53.0	-0.3
RJF	Les Rejaudoux	45.41	47	eP	P	05 00 52.7	-0.6
CAF	Calviac	45.69	47	eP	P	05 00 55.2	-0.3
	comp=Z,30nm,1.3s,mb4.8						
TCF	Toulx Ste Croi	46.15	46	eP	P	05 00 59.1	0.0
BGF	Bois d'Agland	46.64	45	eP	P	05 01 03.1	+0.1
LASF	Ste Croix	46.73	49	eP	P	05 01 04.1	+0.3
	comp=Z,52nm,1.2s,mb5.0						
AVF	Avril sur Loir	47.04	45	eP	P	05 01 05.8	-0.4
	comp=Z,51nm,1.2s,mb5.0						
SSF	Saint Saulge	47.22	45	eP	P	05 01 07.1	-0.5
	comp=Z,40nm,1.2s,mb4.9						
SMF	Signal de Mont	47.33	46	eP	P	05 01 08.3	-0.2
	comp=Z,28nm,1.2s,mb4.8						
VIVF	Saint-Julien-l	47.47	48	eP	P	05 01 10.3	+0.7
LOR	Lormes	47.50	45	eP	P	05 01 09.5	-0.3
	comp=Z,68nm,1.6s,mb5.1						
SMRF	Simiane la Rot	47.93	50	eP	P	05 01 14.0	+0.8
	comp=Z,84nm,1.4s,mb5.3						
BAIF	Baives	48.51	41	eP	P	05 01 17.0	-0.6
ULM	Lac du Bonnet	48.55	319	P	P	05 01 16.2	-1.7
	comp=Z,6.7nm,1.0s,mb4.6,baz=99,slow=7.1,SNR=5.9						
ULM				LR	LR	05 19 40.2	
	comp=Z,708nm,20.2s,MS4.6,baz=196,slow=34						
MEZF	Maizieres J'vi	48.60	43	eP	P	05 01 18.1	-0.2
CPUP	Villa Florida	48.69	194	P	P	05 01 17.4	-2.0
	comp=Z,5.6nm,0.9s,mb4.6,baz=36,slow=10.0,SNR=12						
CPUP	Villa Florida	48.69	194	eP	P	05 01 17.3	-2.1
	comp=Z,21nm,1.2s,mb5.0						
CPUP	Villa Florida	48.69	194	P	P	05 01 17.4	-1.9
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CABF	La Chapelle	48.82	46	eP	P	05 01 20.1	0.0
	comp=Z,64nm,1.1s,mb5.2						
BNI	Bardonecchia	48.91	48	eP	P	05 01 21.4	+0.6
	comp=Z,44nm,1.4s,mb5.3						
MBDF	Montbardon	48.91	49	eP	P	05 01 21.7	+0.9
	comp=Z,64nm,1.2s,mb5.2						
LPL	La Plagne	49.03	48	eP	P	05 01 22.6	+0.9
	comp=Z,16nm,0.9s,mb4.8						
LPG	La Plagne	49.04	48	eP	P	05 01 22.6	+0.8
	comp=Z,47nm,1.4s,mb5.0						
LVC	Limon Verde	49.14	209	P	P	05 01 21.5	-1.4
	comp=Z,6.0nm,0.8s,mb4.7,baz=34,slow=4.7,SNR=7.1						
LVC	Limon Verde	49.14	209	eP	P	05 01 22.6	-0.3
HAU	Haudompre	49.32	44	eP	P	05 01 23.1	-0.8
	comp=Z,28nm,1.1s,mb4.9						
HINF	Hinteralfeld	49.60	45	eP	P	05 01 25.2	-0.9
CDF	Champ du Feu	50.02	44	eP	P	05 01 28.6	-0.6
	comp=Z,45nm,1.2s,mb5.1						
PGF	Pioggiola	50.18	52	eP	P	05 01 29.7	-0.8
	comp=Z,63nm,1.2s,mb5.2						
SUMG	Summit	51.42	3	eP	P	05 01 39.8	+0.2
	comp=Z,12nm,1.0s,mb4.8						
TXAR	Lajitas Array	52.41	291	P	P	05 01 46.4	-1.2
	comp=Z,0.6nm,0.9s,mb3.5,baz=98,slow=8.8,SNR=4.2						
TXAR				PcP	PcP	05 02 59.0	+0.4
	comp=Z,1.7nm,1.1s,baz=90,slow=3.6,SNR=3.8						
TXAR	Lajitas Array	52.41	291	P	P	05 01 46.4	-1.2
TXAR				PcP	PcP	05 02 59.0	+0.4
TXAR	Lajitas Array	52.41	291	P	P	05 01 46.4	-1.3
TXAR						05 02 59.0	
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MOX	Moxa	53.25	42	eP	P	05 01 52.0	-1.6
SDCO	Great Sand Dun	53.55	302	eP	P	05 01 57.7	+1.7
SDCO				LR	LR		
	comp=Z,989nm,19.0s,MS4.9						
NKC	Novy Kostel	53.70	43	eP	P	05 01 56.8	-0.1
NKC				epP	pP	05 02 03.4	+3.4
CLL	Collm	54.24	41	P	P	05 02 00.0	-0.8
CLL				i *SP	sP	05 02 06.8	+1.7
CLL	Collm	54.24	41	eP	P	05 02 00.0	-0.8
CLL				i *PP	pP	05 02 06.8	+2.9
KHC	Kasperske Hory	54.24	44	eP	P	05 02 00.5	-0.4
KHC				epP	pP	05 02 06.6	+2.7
GERES	GERESS Array B	54.28	45	P	P	05 01 59.1	-2.1
	comp=Z,1.7nm,0.8s,mb4.0,baz=243,slow=6.0,SNR=13						
GERES	GERESS Array B	54.28	45	P	P	05 01 59.1	-2.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	Albuquerque	54.39	298	eP	P	05 02 01.5	-0.7
ANMO				LR	LR		
	comp=Z,706nm,20.0s,MS4.7						
RWWY	Rawlins	54.93	307	P	P	05 02 06.9	+0.8
	comp=Z,28nm,1.4s,mb5.1						
PRU	Pruhonice	54.99	43	eP	P	05 02 03.8	-2.6
PRU				epP	pP	05 02 12.2	+2.7
PVCC	Panska Ves	55.09	43	eP	P	05 02 09.3	+2.2
PVCC				epP	pP	05 02 13.5	+3.3
TREC	Trest	55.51	44	eP	P	05 02 15.2	+5.0
NOA	NORSAR Array B	55.75	30	P	P	05 02 10.6	-1.2
	comp=Z,1.6nm,1.0s,mb4.0,baz=210,slow=11,SNR=2.4						
NOA				LR	LR	05 21 45.6	
	comp=Z,382nm,20.0s,MS4.5,baz=70,slow=32						
UPC	Upice	56.00	43	eP	P	05 02 14.8	+1.2
UPC				epP	pP	05 02 19.9	+3.2
DPC	Dobruska-Polom	56.17	43	eP	P	05 02 16.9	+2.0
DPC				epP	pP	05 02 21.1	+3.1
BW06	Boulder Array	56.70	308	eP	P	05 02 18.6	-0.2
	comp=Z,8.2nm,1.1s,mb4.7						
PDAR	Pinedale Array	56.70	308	P	P	05 02 18.9	0.0
	comp=Z,4.2nm,1.0s,mb4.4,baz=90,slow=5.9,SNR=16						
PDAR				LR	LR	05 24 36.1	
	comp=Z,310nm,20.1s,MS4.4,baz=177,slow=34						
LOHW	Long Hollow	57.48	309	eP	P	05 02 24.4	+0.1
	comp=Z,5.3nm,0.9s,mb4.6						
IMW	Indian Meadow	57.73	309	eP	P	05 02 25.9	-0.2
	comp=Z,22nm,1.3s,mb5.0						
TPAW	Teton Pass	57.73	309	eP	P	05 02 26.6	+0.6
	comp=Z,8.8nm,1.0s,mb4.7						
YMR	Madison River	57.76	310	eP	P	05 02 27.8	+1.6
DAU	Daniels Canyon	57.99	305	eP	P	05 02 27.3	-0.6
RRI2	Red Ridge	58.00	309	eP	P	05 02 27.6	-0.4
	comp=Z,41nm,1.4s,mb5.3						
JLU	Jordanelle	58.14	305	eP	P	05 02 29.7	+0.7
HWUT	Hardware Ranch	58.20	306	eP	P	05 02 29.2	-0.2
	comp=Z,7.0nm,0.8s,mb4.7						
BOZ	Bozeman (W)	58.25	311	eP	P	05 02 28.1	-1.6
	comp=Z,5.1nm,1.1s,mb4.5						
SPUT	South Promonto	58.87	306	eP	P	05 02 33.7	-0.4
DLMT	Dillon	58.92	311	eP	P	05 02 33.6	-0.8
DUG	Dugway	59.19	305	eP	P	05 02 36.0	-0.4
	comp=Z,6.6nm,1.0s,mb4.6						
DUG				LR	LR		
	comp=Z,956nm,20.0s,MS4.9						
EDM	Edmonton	59.75	320	eP	P	05 02 40.3	+0.3
ARUT	Antelope Range	59.84	302	eP	P	05 02 41.4	+0.6
MSO	Missoula	59.87	313	eP	P	05 02 42.4	+1.5
	comp=Z,3.6nm,1.3s,mb4.2						
HLID	Hailey	60.25	309	eP	P	05 02 43.0	-0.5
	comp=Z,6.1nm,1.2s,mb4.5						
ELK	Elko	61.01	306	LR	LR	05 26 17.3	
	comp=Z,896nm,19.7s,MS4.9,baz=40,slow=33						
ELK	Elko	61.01	306	eP	P	05 02 48.2	-0.5
	comp=Z,5.7nm,0.9s,mb4.7						
YKA	Yellowknife Ar	61.48	330	P	P	05 02 50.8	-0.8
	comp=Z,4.5nm,0.9s,mb4.6,baz=97,slow=7.6,SNR=18						
YKA				LR	LR	05 29 22.6	
	comp=Z,271nm,18.6s,MS4.4,baz=85,slow=36						
YKA	Yellowknife Ar	61.48	330	P	P	05 02 50.8	-0.9
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,271nm,18.6s						
NEW	Newport	62.01	314	LR	LR	05 27 56.3	
	comp=Z,375nm,18.6s,MS4.6,baz=197,slow=34						
NEW	Newport	62.01	314	eP	P	05 02 55.3	-0.1
	comp=Z,19nm,1.2s,mb5.1						
NEW				LR	LR		
	comp=Z,432nm,20.0s,MS4.6						
FINES	FINESS Array B	62.85	31	LR	LR	05 25 39.0	
	comp=Z,560nm,20.6s,MS4.7,baz=283,slow=32						
ARCES	ARCESS Array B	63.66	22	P	P	05 03 05.5	-0.5
	comp=Z,2.6nm,0.9s,mb4.3,baz=256,slow=7.4,SNR=3.6						
ARCES	ARCESS Array B	63.66	22	P	P	05 03 05.5	-0.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HAWA	Hanford	63.73	312	eP	P	05 03 06.3	-0.5
	comp=Z,1.8nm,1.4s,mb3.9						
AKASG	Malin Array Be	64.41	43	P	P	05 03 09.6	-1.6
	comp=Z,2.1nm,0.7s,mb4.3,baz=270,slow=6.4,SNR=14						
AKASG	Malin Array Be	64.41	43	P	P	05 03 09.6	-1.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	Paso Flores	65.90	200	P	P	05 03 21.1	+0.2
	comp=Z,3.7nm,1.0s,mb4.4,baz=43,slow=9.3,SNR=6.1						
PLCA	Paso Flores	65.90	200	P	P	05 03 21.1	+0.1
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YBH	Yreka Blue Hor	66.50	307	LR	LR	05 29 57.7	
	comp=Z,572nm,21.7s,MS4.8,baz=72,slow=34						
OBN	Obninsk	68.48	38	eP	P	05 03 36.7	-0.3
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
BBB	Bella Bella	68.75	319	LR	LR	05 31 51.4	
	comp=Z,433nm,20.9s,MS4.7,baz=245,slow=34						
BRTR	Keskin Array B	68.81	54	P	P	05 03 38.5	-0.8
	comp=Z,1.6nm,0.8s,mb4.0,baz=284,slow=5.1,SNR=5.9						
BRTR	Keskin Array B	68.81	54	P	P	05 03 38.6	-0.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DLBC	Dease Lake	69.05	326	LR	LR	05 31 03.5	
	comp=Z,231nm,21.1s,MS4.4,baz=216,slow=34						
INK	Inuvik	69.50	337	LR	LR	05 32 40.9	
	comp=Z,302nm,20.1s,MS4.5,baz=323,slow=35						
KIV	Kislovodsk	74.48	49	eP	P	05 04 14.6	+1.5
KIV				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
KIV				pmax	pmax		
	comp=N,5.0nm,0.7s						
ILAR	Eielson Array	75.49	334	P	P	05 04 18.8	+0.3
	comp=N,4.7nm,0.9s,mb4.4,baz=71,slow=4.9,SNR=23						
ILAR				LR	LR	05 37 17.9	
	comp=N,269nm,18.4s,MS4.6,baz=360,slow=36						
ILAR	Eielson Array	75.49	334	P	P	05 04 18.8	+0.3
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,269nm,18.4s						
MCK	McKinley	76.69	334	eP	P	05 04 25.6	+0.3
	comp=Z,14nm,1.5s,mb4.7						
MBAR	Mbarara	77.74	96	eP	P	05 04 31.1	-1.0
	comp=Z,13nm,1.2s,mb4.7						
SPU	Mount Spurr	79.01	332	P	P	05 04 37.8	-0.3
SVE	Sverdlovsk	80.97	32	eP	P	05 04 49.8	+1.1
SVE				e		05 04 56.0	
KMBO	Kilima Mbogo	83.98	94	P	P	05 05 07.2	+2.0
	comp=Z,4.1nm,0.9s,mb4.5,baz=305,slow=5.1,SNR=5.5						
KMBO				LR	LR	05 44 34.4	
	comp=Z,244nm,18.9s,MS4.6,baz=276,slow=37						
KMBO	Kilima Mbogo	83.98	94	P	P	05 05 07.2	+2.0
KMBO				LR	LR	05 44 34.4	
KMBO	Kilima Mbogo	83.98	94	P	P	05 05 07.2	+1.9
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO				MLR	MLR		
	comp=Z,244nm,18.9s						
BILL	Bilibino	87.80	348	eP	P	05 05 27.0	+4.2
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.8						
VNA3	Neumayer Olymp	95.69	169	e	P	05 06 04.9	+5.5
VNA3	Neumayer Olymp	95.69	169	e	P	05 06 07.0	+7.6
VNA3	Neumayer Olymp	95.69	169	⇑iP	P	05 05 59.6	+0.2
VNA3				e		05 06 04.9	
VNA3				e		05 06 07.0	
VNA3				e		05 31 04.6	
VNA2	Neumayer--Watz	95.85	168	e	P	05 06 03.7	+3.6
VNA2	Neumayer--Watz	95.85	168	e	P	05 06 06.4	+6.3
VNA2	Neumayer--Watz	95.85	168	⇑iP	P	05 05 58.3	-1.8
VNA2				e		05 06 03.7	
VNA2				e		05 06 06.4	
VNA2				e		05 31 05.5	
SNAA	Sanae	97.34	167	e	P	05 06 11.5	+4.7
SNAA	Sanae	97.34	167	e	P	05 06 13.8	+7.0
SNAA	Sanae	97.34	167	⇑iP	P	05 06 06.1	-0.7
SNAA				e		05 06 11.5	
SNAA				e		05 06 13.8	
MKAR	Makanchi Array	97.62	33	LR	LR	05 48 15.8	
	comp=Z,111nm,19.4s,MS4.4,baz=360,slow=34						
WMQ	Urumqi	102.42	32	eP	Pdif	05 06 31.0	+0.6
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s						
WMQ				LR	LR		
	comp=Z,375nm,24.6s,MS4.8						
CN2	Changchun	114.68	7	ePKP	PKPdf	05 11 10.5	-5.9
KMI	Kunming	124.64	35	PKP	PKPdf	05 11 33.6	-2.7
KMI				XPKP		05 11 38.3	
KMI				PP	PP	05 13 20.4	-4.2
KMI				PP	PP		
	comp=Z,144nm,9.3s						
KMI				LR	LR		
	comp=N,146nm,18.2s,MS4.8						
KMI				LR	LR		
	comp=E,143nm,19.1s,MS4.8						
KMI				LR	LR		
	comp=Z,154nm,21.6s,MS4.6						
NJ2	Nanjing	124.92	16	ePKP	PKPdf	05 11 31.1	-5.6
SSE	Sheshan	126.39	14	PKP	PKPdf	05 11 38.4	-1.1

JMA 08 04:57:23.7±0.5, 33.17N×142.37E, h6km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.88	322	P	Pn	04 57 56.7	0.0
BSO1				eS	Sn	04 58 21.2	+0.2
BSO2	Boso 2	2.07	320	eS	Sn	04 58 26.2	+0.3
JHJ2	Mitsune	2.14	269	P	Pn	04 58 00.6	+0.1
JHJ2				eS	Sn	04 58 28.0	+0.3
BSO3	Boso 3	2.24	317	P	Pn	04 58 02.2	+0.3
BSO3				eS	Sn	04 58 31.3	+1.1
BSO4	Boso 4	2.48	318	P	Pn	04 58 06.8	+1.5
BSO4				eS	Sn	04 58 37.0	+0.8
JIM2	Oshima 3	2.89	303	eS	Sn	04 58 45.2	-1.4
JOD2	Odawara 2	3.43	308	P	Pn	04 58 19.2	+0.4
JOD2				eS	Sn	04 59 00.2	-0.1
JYN	Shimob	3.92	307	P	Pn	04 58 26.8	+0.9
JYN				eS	Sn	04 59 14.0	+1.2
JRY	Ryogami san	4.03	316	P	Pn	04 58 27.3	-0.1
JRY				eS	Sn	04 59 14.8	-0.7
JAG	Ashikaga	4.04	324	P	Pn	04 58 27.0	-0.5
JAG				eS	Sn	04 59 13.0	-2.7
MAT	Matsushiro	4.80	316	P	Pn	04 58 39.7	+1.4
MAT				S	Sn	04 59 33.1	-1.9
MAT	Matsushiro	4.80	316	eS	Sn	04 59 31.6	-3.4
JMM	Marumori	4.86	345	P	Pn	04 58 36.9	-2.2
JMM				eS	Sn	04 59 28.8	-7.7
JMK	Ichinoseki	5.84	351	P	Pn	04 58 49.6	-3.4
JMK				eS	Sn	04 59 53.2	-8.0

IDC 08 05:01:35.4±1.0, 2.63S×141.34E, mb3.9/5, mb1 4.1/6, mb1mx3.9/12, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=42.4km s-min=23.7km az=95.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.52	201	P	P	05 05 52.3	-2.9
	0.3nm,0.3s,baz=20,slow=12,SNR=13						
FITZ	Fitzroy Crossi	21.76	224	P	P	05 06 28.4	-2.2
	6.8nm,0.9s,baz=23,slow=8.9,SNR=4.2						
MKAR	Makanchi Array	71.34	322	P	P	05 12 57.2	-1.8
	1.2nm,0.9s,baz=108,slow=7.7,SNR=6.8						
VNDA	Vanda	75.64	175	P	P	05 13 22.3	-1.3
	0.4nm,0.7s,baz=319,slow=7.3,SNR=4.9						
BVAR	Borovoye Array	80.75	325	P	P	05 13 51.5	-0.5
	1.0nm,0.5s,baz=117,slow=6.6,SNR=9.2						
ILAR	Eielson Array	84.68	24	P	P	05 14 09.3	-2.7
	0.8nm,0.7s,baz=266,slow=6.4,SNR=7.6						
LPAZ	La Paz	145.34	124	PKPbc	PKPbc	05 21 16.6	0.0
	0.8nm,1.0s,baz=286,slow=2.3,SNR=3.7						

IDC 08 05:10:31.5±1.7, 0.82N×126.32E, mb4.1/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, ML3.6/1, Error ellipse: s-maj=105.4km s-min=23.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.81	182	P	P	05 14 52.8	-2.3
	0.1nm,0.3s,baz=14,slow=17,SNR=3.9						
WRA	Warramunga Arr	22.08	160	P	P	05 15 28.6	-1.5
	6.1nm,0.7s,baz=338,slow=11,SNR=35						
STKA	Stephens Creek	35.59	157	P	P	05 17 30.7	-2.2
	1.8nm,0.5s,baz=351,slow=12,SNR=3.2						
MKAR	Makanchi Array	59.72	326	P	P	05 20 38.1	-2.3
	1.1nm,0.7s,baz=126,slow=8.5,SNR=9.6						

*IDC **08** 05:12:03.9±5.2, 0.77N×126.42E, h51km±49km, mb3.9/7, mb1 4.0/8, mb1mx3.8/17, mbtmp4.2/8, ML3.8/1, Error ellipse: s-maj=62.7km s-min=12.1km az=71.0*

*NEIC **08** 05:12:16.4±0.7, 0.61N×126.89E, h200km, mb4.4/4, Error ellipse: s-maj=56.1km s-min=12.3km az=73.0*

ISC 08 05:11:59.6±0.6, 0.8N±0.1×126.2E±0.3, h33km, n14, σ0^{s}96/15, mb4.3/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.75	182	P	P	05 16 18.0	-0.4
	0.2nm,0.3s,baz=356,slow=11,SNR=3.1						
WRAB	Tennant Creek	22.08	159	eP	P	05 16 52.9	-0.6
	13nm,0.8s,mb4.4						
WRA	Warramunga Arr	22.08	159	P	P	05 16 53.5	-0.1
	6.2nm,0.5s,mb4.3,baz=338,slow=11,SNR=14						
WRA				S	S	05 20 54.1	+4.1
	0.9nm,0.9s,baz=332,slow=20,SNR=3.7						
JOW	Kunigami	26.00	4	P	P	05 17 30.8	-0.7
	15nm,0.8s,mb4.5,baz=194,slow=12,SNR=4.1						
STKA	Stephens Creek	35.60	157	P	P	05 18 57.8	+1.5
	3.2nm,0.7s,mb4.4,baz=330,slow=8.2,SNR=4.4						
STKA	Stephens Creek	35.60	157	eP	P	05 18 49.7	-6.6
SONM	Songino Array	49.93	343	P	P	05 20 53.6	+1.4
	1.2nm,0.5s,mb4.2,baz=180,slow=5.8,SNR=3.0						
MKAR	Makanchi Array	59.68	327	P	P	05 22 03.5	+0.3
	1.3nm,0.6s,mb4.1,baz=122,slow=8.9,SNR=9.2						
KURK	Kurchatov	63.94	329	eP	P	05 22 31.0	-0.7
	3.3nm,0.6s,mb4.5						
BVAR	Borovoye Array	69.50	328	P	P	05 23 07.8	+1.0
	0.9nm,0.5s,mb3.9,baz=149,slow=8.6,SNR=5.1						
BRVK	Borovoye	69.57	328	P	P	05 23 05.1	-2.1
ARU	Arti	77.14	328	eP	P	05 23 51.8	+0.3
	11nm,1.5s,mb4.6						
VNDA	Vanda	80.57	173	P	P	05 24 11.1	+1.2
	0.6nm,0.6s,mb3.7,baz=338,slow=4.6,SNR=5.8						
VNDA	Vanda	80.57	173	eP	P	05 24 09.7	-0.2
	1.1nm,0.8s,mb3.8						

MAN 08 05:20:50.3, 12.30N×122.26E, h17km, mb3.5, ML2.2, MS1.7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	Odiongan	0.24	285	eP	Pb	05 20 57.7	+1.9
OTRP				eS	Sb	05 21 04.6	+5.0
KALP	Kalibo	0.62	173	⇓eP	Pb	05 21 11.5	+9.2
RCP	Roxas	0.88	147	⇓eP	Pb	05 21 04.4	-2.2
RCP				eS	Sb	05 21 16.2	-1.6
BOAC	Boac	1.22	341	eP	Pb	05 21 11.8	-0.7
GUIM	Jordan	1.69	169	eP	Pn	05 21 19.4	-0.1
CUYO	Cuyo Island	1.89	220	eP	Pn	05 21 22.1	0.0

*IDC **08** 05:55:39.9±0.4, 21.36N×45.81W, mb4.5/25, mb1 4.6/26, mb1mx4.6/28, mbtmp4.5/26, ML5.9/1, MS4.5/23, Ms1 4.5/23, ms1mx4.5/25, Error ellipse: s-maj=14.1km s-min=10.2km az=134.0*

*MOS **08** 05:55:39.7±0.9, 21.34N×45.82W, h10km, mb5.3/74, MS4.6/27, Error ellipse: s-maj=7.7km s-min=3.9km az=45.6*

*BJI **08** 05:55:41.5, 21.30N×45.80W, h10km, mB5.6, mb5.4, Ms5.2, Msz4.9*

*NEIC **08** 05:55:41.6±0.2, 21.32N×45.81W, h10km, mb5.1/125, MS4.7/115, Error ellipse: s-maj=5.1km s-min=2.5km az=168.0*

*HRVD **08** 05:55:41.6±0.2, 21.43N×45.69W, h12km, MW5.2/62, Centroid moment Tensor Solution. LP body waves: s36,c45;Mantle waves: s62,c118; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.97±.17; $M_{\theta\theta}$-0.02±.16; $M_{\phi\phi}$6.99±.15; $M_{r\theta}$-0.12±.62; $M_{\theta\phi}$0.64±.13; $M_{\phi r}$0.52±.52; Best double couple: $M_0$7.029×10^{16} NP1:ϕ_s7°, δ43°, λ-88°. NP2:ϕ_s184°, δ47°, λ-92°. Principal axes: T 7.066, Plg2°, Azm275°; N -.075, Plg1°, Azm185°; P -6.992, Plg88°, Azm62°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*CRAAG **08** 05:55:42.8, 21.33N×45.80W, Mb5.1*

ISC 08 05:55:39.8±0.2, 21.32N±0.05×45.83W±0.03, h10km,

(h17km±2.4km:pP-P),n420,$\sigma 0^{s}88$/342,mb5.0/152, MS4.6/135,18C-10D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPD	Cerro la Pandu	19.19	264	P	P	06 00 07.2	+0.8
SJG	San Juan	19.39	264	P	P	06 00 06.4	-2.4
	0.8nm,0.3s,baz=7.1,slow=8.1,SNR=2.3						
SJG				LR	LR	06 06 03.8	
	comp=Z,3µm,21.4s,baz=99,slow=32						
SJG	San Juan	19.39	264	eP	P	06 00 07.5	-1.3
	132nm,1.8s						
SJG	San Juan	19.39	264	eP	P	06 00 07.5	-1.3
SJG				pmax	pmax		
	comp=Z,132nm,1.8s						
CMLA	Cha da Macela	24.01	43	PFAKE		06 01 10.0	+14
CMLA				LR	LR		
	comp=Z,2µm,22.0s,MS4.5						
SDV	Santo Domingo	26.89	246	P	P	06 01 24.4	+1.4
	comp=Z,4.1nm,0.6s,mb4.2,baz=353,slow=8.2,SNR=10						
SDV				LR	LR	06 11 02.6	
	comp=Z,831nm,19.0s,MS4.3,baz=64,slow=34						
SDV	Santo Domingo	26.89	246	eP	P	06 01 23.9	+0.9
	comp=Z,76nm,1.6s,mb5.0						
SDV				LR	LR		
	comp=Z,915nm,21.0s,MS4.3						
RCBR	Riachuelo	28.68	159	PFAKE		06 01 50.0	+11
RCBR				LR	LR		
	comp=Z,786nm,20.0s,MS4.3						
EMMW	East Machias	29.37	328	PFAKE		06 02 00.0	+15
EMMW				LR	LR		
	comp=Z,4µm,19.0s,MS5.1						
WES	Weston	29.97	320	PFAKE		06 02 00.0	+9.5
WES				LR	LR		
	comp=Z,2µm,22.0s,MS4.6						
HRV	Harvard--Oak R	30.18	320	PFAKE		06 02 00.0	+7.6
HRV				LR	LR		
	comp=Z,1µm,22.0s,MS4.5						
WVL	Waterville	30.41	325	PFAKE		06 02 10.0	+16
WVL				LR	LR		
	comp=Z,4µm,19.0s,MS5.0						
PAL	Palisades	30.81	316	eP	P	06 01 58.3	+0.3
	comp=Z,43nm,1.3s,mb5.1						
PAL	Palisades	30.81	316	eP	P	06 01 58.3	+0.3
PAL				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.1						
PQI	Presque Isle	31.06	330	PFAKE		06 02 10.0	+10
PQI				LR	LR		
	comp=Z,12µm,22.0s,MS5.5						
HNH	Hanover	31.32	322	eP	P	06 02 03.7	+1.3
	comp=Z,5.1nm,1.4s,mb4.2						
CBN	Corbin	31.93	309	PFAKE		06 02 20.0	+12
CBN				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
ROSC	El Rosal	32.12	243	LR	LR	06 14 13.9	
	comp=Z,427nm,18.1s,MS4.2,baz=32,slow=35						
MIV	Mineville/With	32.27	321	eP	P	06 02 10.2	-0.6
NHSC	New Hope	32.58	298	PFAKE		06 02 30.0	+16
NHSC				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
BINY	Binghamton	32.76	316	eP	P	06 02 15.9	+0.8
	comp=Z,56nm,1.4s,mb5.3						
BINY				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
DWPF	Disney	32.95	289	PFAKE		06 02 30.0	+13
DWPF				LR	LR		
	comp=Z,2µm,22.0s,MS4.9						
MSNY	Massena	33.58	321	eP	P	06 02 22.7	+0.5
BLA	Blacksburg	33.85	306	PFAKE		06 02 40.0	+15
BLA				LR	LR		
	comp=Z,2µm,21.0s,MS4.7						
ELN	Prospectdale	34.11	305	P	P	06 02 27.5	+0.7
MCWV	Mont Chateau	34.27	310	PFAKE		06 02 40.0	+12
MCWV				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
SAML	Samuel	34.57	211	eP	P	06 02 30.8	-0.2
	comp=Z,22nm,1.4s,mb4.9						
SAML				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
GOGA	Godfrey	35.34	298	PFAKE		06 02 50.0	+13
GOGA				LR	LR		
	comp=Z,1µm,21.0s,MS4.6						
SADO	Sadowa	36.03	318	P	P	06 02 42.8	-0.3
	comp=Z,2.6nm,0.5s,mb4.4,baz=301,slow=2.8,SNR=2.2						
SADO				LR	LR	06 15 22.8	
	comp=Z,1µm,18.2s,MS4.8,baz=130,slow=33						
EVO	Evora	36.69	54	eP	P	06 02 48.3	-0.4
	comp=Z,118nm,1.6s,mb5.2						
EVO				eR			
	comp=Z,1µm,20.0s						
PTOM	Tomar	36.72	52	eP	P	06 02 49.1	+0.1
	comp=Z,50nm,1.5s,mb5.1						
ACSO	Alum Creek Sta	36.73	309	eP	P	06 02 49.0	-0.1
	comp=Z,50nm,1.5s,mb5.1						
ACSO				LR	LR		
	comp=Z,543nm,19.0s,MS4.3						
BAO	Brasilia Array	36.78	183	P	P	06 02 42.7	-7.0
BDFB	Brasilia	36.79	184	P	P	06 02 49.2	-0.6
	comp=Z,7.5nm,0.8s,mb4.5,baz=358,slow=10,SNR=12						
BDFB				LR	LR	06 16 56.3	
	comp=Z,576nm,19.8s,MS4.4,baz=3.2,slow=35						
EGRO	El Granado	36.81	55	P	P	06 02 49.5	-0.3
	comp=Z,114nm,1.8s,mb5.4						
EZAM	Zamans	37.40	48	P	P	06 02 54.5	-0.1
	comp=Z,26nm,1.2s,mb4.9						
EZAM	Zamans	37.40	48	P	P	06 02 54.5	-0.2
EZAM				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.9						
PCBR	Castelo Branco	37.48	52	eP	P	06 02 55.9	+0.6
	comp=Z,30nm,1.3s,mb5.0						
EMIN	Mina Concepcio	37.50	55	P	P	06 02 55.7	+0.2
	comp=Z,86nm,1.6s,mb5.3						
EBAD	Badajoz	37.50	54	P	P	06 02 55.1	-0.5
	comp=Z,164nm,2.2s,mb5.4						
EMAZ	Mazaricos	37.52	46	P	P	06 02 57.3	+1.7
	comp=Z,212nm,2.7s,mb5.4						
MTE	Manteigas	37.60	51	eP	P	06 02 56.4	0.0
	comp=Z,31nm,1.4s,mb4.8						
MTE				eS	S	06 08 47.7	+2.2
MTE				eLQ		06 11 15.1	
MTE				eLR	LR	06 12 52.2	
	comp=Z,717nm,20.0s						
MTE	Manteigas	37.60	51	eP	P	06 02 56.0	-0.4
	comp=Z,63nm,1.3s,mb5.2						
PCAB	Cabril	37.70	49	eP	P	06 02 57.2	0.0
	comp=Z,31nm,2.0s,mb4.7						
ELOB	Lobios	37.74	48	P	P	06 02 59.1	+1.6
	comp=Z,215nm,3.2s						
PVRL	Vila Real	37.77	49	eP	P	06 02 58.5	+0.7
ESPR	Espera	37.91	57	P	P	06 02 58.4	-0.7
	comp=Z,151nm,1.2s,mb5.6						
EJIF	Jimena Fronter	38.13	58	P	P	06 02 59.2	-1.7
	comp=Z,12nm,0.9s,mb4.6						
EJIF	Jimena Fronter	38.13	58	P	P	06 02 59.2	-1.7
EJIF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
LRAL	Lakeview Retre	38.21	297	PFAKE		06 03 10.0	+8.4
LRAL				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
MDT	Midelt	38.23	64	P	P	06 03 00.8	-0.9
	comp=Z,14nm,1.1s,mb4.6,baz=264,slow=7.3,SNR=9.8						
MDT				LR	LR	06 15 52.9	
	comp=Z,1µm,19.2s,MS4.7,baz=284,slow=32						
ECAB	El Cabril	38.53	55	P	P	06 03 04.7	+0.5
	comp=Z,143nm,2.0s,mb5.4						
ERUA	La Rua	38.56	48	P	P	06 03 05.6	+1.1
	comp=Z,44nm,1.3s,mb5.0						
ERUA	La Rua	38.56	48	P	P	06 03 05.6	+1.2
ERUA				pmax	pmax		
	comp=Z,44nm,1.3s,mb5.0						
WCI	Wyandotte Cave	38.61	305	eP	P	06 03 06.2	+1.3
	comp=Z,16nm,0.9s,mb4.8						
WCI				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
WCI	Wyandotte Cave	38.61	305	eP	P	06 03 06.2	+1.3
WCI				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
WCI				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.8						
ECAL	Calabor	38.69	49	P	P	06 03 06.2	+0.7
	comp=Z,220nm,2.8s,mb5.4						
EMIJ	Mijas	38.70	58	P	P	06 03 05.4	-0.3
	comp=Z,83nm,1.9s,mb5.1						
EPON	Pontenova	38.90	47	P	P	06 03 06.9	-0.3
	comp=Z,167nm,2.8s,mb5.3						
EADA	Adamuz	39.20	55	P	P	06 03 10.3	+0.5
	comp=Z,186nm,2.4s,mb5.4						
ELOJ	Sierra Loja	39.31	57	P	P	06 03 10.6	-0.1
	comp=Z,137nm,1.6s,mb5.4						
ELOJ	Sierra Loja	39.31	57	P	P	06 03 10.6	-0.1
ELOJ				pmax	pmax		
	comp=Z,137nm,1.6s,mb5.4						
WVT	Waverly	39.36	301	eP	P	06 03 11.5	+0.3
	comp=Z,16nm,0.9s,mb4.8						
WVT				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
WVT	Waverly	39.36	301	eP	P	06 03 11.5	+0.3
WVT				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
WVT				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.7						
PLAL	Pickwick Lake	39.37	300	eP	P	06 03 12.4	+1.1
	comp=Z,30nm,1.0s,mb5.0						
PLAL				LR	LR		
	comp=Z,773nm,20.0s,MS4.5						
ERON	Agron	39.55	57	P	P	06 03 14.1	+1.3
	comp=Z,38nm,1.4s,mb4.9						
ECOG	Cogollos-Vega	39.79	57	P	P	06 03 16.3	+1.6
	comp=Z,12nm,1.0s,mb4.6						
ECOG	Cogollos-Vega	39.79	57	P	P	06 03 16.3	+1.6
ECOG				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
EBAN	Banos Encina	39.81	56	P	P	06 03 15.0	+0.1
	comp=Z,40nm,1.8s,mb4.8						
EBAN	Banos Encina	39.81	56	P	P	06 03 15.0	+0.1
EBAN				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.8						
SIV	San Ignacio	39.98	203	P	P	06 03 16.4	0.0
	comp=Z,4.2nm,0.9s,mb4.2,baz=40,slow=8.9,SNR=21						
ESDC	Sonseca Array	40.03	53	P	P	06 03 15.4	-1.3
	comp=Z,8.6nm,1.0s,mb4.4,baz=254,slow=8.4,SNR=18						
ESDC	Sonseca Array	40.03	53	P	P	06 03 16.4	-0.3
	comp=Z,14nm,1.8s,mb4.4						
EARI	Arriondas	40.21	47	P	P	06 03 21.1	+3.0
	comp=Z,148nm,2.1s,mb5.3						
EBER	Berja	40.25	58	P	P	06 03 16.7	-1.8
	comp=Z,156nm,1.5s,mb5.5						
EQES	Quesada	40.28	56	P	P	06 03 18.3	-0.5
	comp=Z,313nm,3.4s						
OXF	Oxford	40.39	299	PFAKE		06 03 30.0	+10
OXF				LR	LR		
	comp=Z,705nm,19.0s,MS4.5						
EHUE	Huescar	40.66	56	P	P	06 03 20.4	-1.4
	comp=Z,33nm,1.4s,mb4.8						
EHUE	Huescar	40.66	56	P	P	06 03 20.4	-1.4
EHUE				pmax	pmax		
	comp=Z,33nm,1.4s,mb4.8						
ENIJ	Nijar	40.80	58	P	P	06 03 23.6	+0.6
	comp=Z,9.5nm,0.7s,mb4.5						
ENIJ	Nijar	40.80	58	P	P	06 03 23.6	+0.6
ENIJ				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
EVIA	Vianos	40.89	55	P	P	06 03 22.3	-1.4
	comp=Z,32nm,1.1s,mb4.9						
EVIA	Vianos	40.89	55	P	P	06 03 22.3	-1.5
EVIA				pmax	pmax		
	comp=Z,32nm,1.1s,mb4.9						
ELAN	Lanestosa	41.41	48	P	P	06 03 20.8	-7.2
	comp=Z,128nm,1.2s,mb5.4						
ETOB	Tobarra	41.63	55	P	P	06 03 28.3	-1.5
	comp=Z,538nm,2.7s,mb5.7						
EMUR	La Murta	41.71	57	P	P	06 03 31.3	+0.8
	comp=Z,197nm,1.9s,mb5.4						
DBIC	Dimbokro	42.19	104	P	P	06 03 33.3	-1.4
	comp=Z,23nm,1.0s,mb4.8,baz=284,slow=10,SNR=8.7						
DBIC				LR	LR	06 18 50.8	
	comp=Z,966nm,18.1s,MS4.7,baz=270,slow=33						
DBIC	Dimbokro	42.19	104	eP	P	06 03 33.5	-1.2
	comp=Z,90nm,1.4s,mb5.2						
DBIC				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
DBIC	Dimbokro	42.19	104	eP	P	06 03 33.6	-1.1
DBIC				pmax	pmax		
	comp=Z,90nm,1.4s						
DBIC				MLR	MLR		
	comp=Z,1µm,19.0s						
CCM	Cathedral Cave	42.39	303	eP	P	06 03 36.5	+0.4
	comp=Z,33nm,1.1s,mb4.9						
CCM				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
CCM	Cathedral Cave	42.39	303	eP	P	06 03 36.5	+0.4
CCM				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.9						
CCM				MLR	MLR		
	comp=Z,1µm,19.0s,MS4.8						
SJPF	Ste Jean	42.92	49	eP	P	06 03 40.7	+0.3
	comp=Z,90nm,1.4s,mb5.0						
SJPF	Ste Jean	42.92	49	eP	P	06 03 40.7	+0.3
SJPF				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.0						
QUIF	Quistinic	43.23	42	eP	P	06 03 42.8	0.0
	comp=Z,51nm,1.3s,mb4.8						
QUIF	Quistinic	43.23	42	eP	P	06 03 42.8	0.0
QUIF				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.8						
EANR	'Ain N'Sour	43.29	60	P	P	06 03 44.0	+0.5
LPAZ	La Paz	43.30	212	P	P	06 03 44.9	+1.1
	comp=Z,6.5nm,0.9s,mb4.4,baz=20,slow=9.7,SNR=27						
LPAZ				LR	LR	06 21 11.6	
	comp=Z,691nm,20.5s,MS4.5,baz=23,slow=35						
LPAZ	La Paz	43.30	212	eP	P	06 03 44.7	+0.9
	comp=Z,43nm,1.4s,mb5.0						
LPAZ				LR	LR		
	comp=Z,712nm,20.0s,MS4.6						
LPAZ	La Paz	43.30	212	P	P	06 03 44.9	+1.1
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,691nm,20.5s						
ROSF	Rostrenen	43.32	41	eP	P	06 03 43.4	-0.1
	comp=Z,68nm,1.4s,mb4.9						
ROSF	Rostrenen	43.32	41	eP	P	06 03 43.4	-0.1
ROSF				pmax	pmax		
	comp=Z,34nm,1.4s,mb4.9						
ETSF	Etsaut	43.34	50	eP	P	06 03 44.3	+0.6
	comp=Z,24nm,0.9s,mb4.6						
ETSF	Etsaut	43.34	50	eP	P	06 03 44.3	+0.6
ETSF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
ETRT	Tiaret	43.39	61	P	P	06 03 45.8	+1.5
ECHF	Ech Chlef	43.51	60	P	P	06 03 46.6	+1.4
ECHA	Ech Chlef	43.53	60	P	P	06 03 46.6	+1.2
EBNR	Beni Rached	43.68	59	P	P	06 03 49.0	+2.4
SGMF	Saint Gilles	43.73	42	eP	P	06 03 47.0	+0.1
EBIE	Bielsa	43.78	50	P	P	06 03 49.9	+2.5
	comp=Z,274nm,2.6s,mb5.5						
EGRA	Graus	43.79	51	P	P	06 03 48.8	+1.4
	comp=Z,63nm,1.4s,mb5.2						
EPF	Esparros	44.01	50	eP	P	06 03 49.8	+0.6
NATX	Nacogdoches	44.59	294	PFAKE		06 04 10.0	+16
NATX				LR	LR		
	comp=Z,644nm,20.0s,MS4.5						
MFF	Saint Martin d	44.69	45	eP	P	06 03 54.9	+0.2
	comp=Z,137nm,1.5s,mb5.3						
MFF	Saint Martin d	44.69	45	eP	P	06 03 54.9	+0.2
MFF				pmax	pmax		
	comp=Z,68nm,1.5s,mb5.3						
LFF	La Frestale	44.79	47	eP	P	06 03 55.3	-0.2
GRR	Gorron	44.84	42	eP	P	06 03 55.6	-0.2
	comp=Z,43nm,1.2s,mb4.8						
GRR	Gorron	44.84	42	eP	P	06 03 55.6	-0.2
GRR				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.8						
NNA	Nana	44.98	225	P	P	06 03 56.8	-0.7
	comp=Z,39nm,1.5s,mb5.0						
NNA				LR	LR		
	comp=Z,175nm,22.0s,MS3.9						
FLN	La Foliniere	45.20	42	eP	P	06 03 58.5	-0.2
	comp=Z,60nm,1.3s,mb5.0						
FLN				eR			
	comp=Z,722nm,20.8s						
FLN	La Foliniere	45.20	42	eP	P	06 03 58.5	-0.2
FLN				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.0						
FLN				MLR	MLR		
	comp=Z,720nm,20.8s,MS4.6						
LDF	La Druitiere	45.37	42	eP	P	06 03 59.8	-0.2
MTLF	Montolieu	45.42	50	eP	P	06 04 00.0	-0.5
	comp=Z,151nm,1.6s,mb5.3						
MTLF	Montolieu	45.42	50	eP	P	06 04 00.0	-0.5
MTLF				pmax	pmax		
	comp=Z,75nm,1.6s,mb5.3						
RJF	Les Rejaudoux	45.42	47	eP	P	06 03 59.8	-0.7
CAF	Calviac	45.69	47	eP	P	06 04 02.3	-0.3
	comp=Z,58nm,1.3s,mb5.0						
CAF	Calviac	45.69	47	eP	P	06 04 02.3	-0.3
CAF				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
TCF	Toulx Ste Croi	46.15	46	eP	P	06 04 06.3	0.0
	comp=Z,115nm,1.4s,mb5.3						
TCF	Toulx Ste Croi	46.15	46	eP	P	06 04 06.3	0.0
TCF				pmax	pmax		
	comp=Z,58nm,1.4s,mb5.3						
BORG	Borgarnes	46.34	14	LR	LR	06 19 19.0	
	comp=Z,281nm,18.2s,MS4.2,baz=141,slow=31						
ESK	Eskdalemuir	46.47	32	PFAKE		06 04 20.0	+11
ESK				LR	LR		
	comp=Z,117nm,20.0s,MS3.8						
EKA	Eskdalemuir Ar	46.50	32	P	P	06 04 08.1	-0.8
	comp=Z,9.1nm,1.1s,mb4.6,baz=263,slow=6.7,SNR=6.8						
BGF	Bois d'Agland	46.65	45	eP	P	06 04 10.1	-0.1
AGO	Saint Agoulin	46.71	46	eP	P	06 04 13.8	+3.2
LASF	Ste Croix	46.74	49	eP	P	06 04 11.4	+0.5
	comp=Z,73nm,1.2s,mb5.2						
PLDF	La Plantade	47.02	46	eP	P	06 04 15.0	+1.9
AVF	Avril sur Loir	47.05	45	eP	P	06 04 13.3	0.0
	comp=Z,86nm,1.2s,mb5.2						
AVF	Avril sur Loir	47.05	45	eP	P	06 04 13.3	0.0
AVF				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
SSF	Saint Saulge	47.22	45	eP	P	06 04 14.4	-0.3
	comp=Z,72nm,1.2s,mb5.2						
SSF	Saint Saulge	47.22	45	eP	P	06 04 14.4	-0.3
SSF				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2						
SMF	Signal de Mont	47.34	46	eP	P	06 04 15.4	-0.2
	comp=Z,38nm,1.1s,mb4.9						
SMF	Signal de Mont	47.34	46	eP	P	06 04 15.4	-0.2
SMF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
VIVF	Saint-Julien-l	47.48	48	eP	P	06 04 17.2	+0.4
	comp=Z,44nm,1.1s,mb5.0						
VIVF	Saint-Julien-l	47.48	48	eP	P	06 04 17.2	+0.4
VIVF				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
LOR	Lormes	47.51	45	eP	P	06 04 16.6	-0.4
	comp=Z,74nm,1.5s,mb5.2						
LOR				eR			
	comp=Z,510nm,21.0s						
LOR	Lormes	47.51	45	eP	P	06 04 16.6	-0.4
LOR				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.2						
LOR				MLR	MLR		
	comp=Z,510nm,21.0s,MS4.5						
SMRF	Simiane la Rot	47.93	49	eP	P	06 04 21.4	+1.0
	comp=Z,124nm,1.4s,mb5.5						
WMOK	Wichita Mounta	48.11	298	eP	P	06 04 22.2	+0.3
	comp=Z,12nm,1.4s,mb4.7						
WMOK				LR	LR		
	comp=Z,908nm,21.0s,MS4.7						
WMOK	Wichita Mounta	48.11	298	eP	P	06 04 22.2	+0.3
WMOK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
WMOK				MLR	MLR		
	comp=Z,908nm,21.0s,MS4.7						
BAIF	Baives	48.52	41	eP	P	06 04 24.2	-0.6
	comp=Z,95nm,1.4s,mb5.3						
ULM	Lac du Bonnet	48.58	319	P	P	06 04 25.8	+0.6
	comp=Z,9.6nm,1.1s,mb4.7,baz=70,slow=8.3,SNR=4.7						
ULM				LR	LR	06 22 57.3	
	comp=Z,805nm,19.7s,MS4.7,baz=312,slow=34						
ULM	Lac du Bonnet	48.58	319	eP	P	06 04 25.6	+0.4
	comp=Z,26nm,1.1s,mb5.2						
ULM				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
PAYG	Puerto Ayora	48.60	249	PFAKE		06 04 40.0	+14
PAYG				LR	LR		
	comp=Z,444nm,21.0s,MS4.4						
MEZF	Maizieres J'vi	48.61	43	eP	P	06 04 25.4	-0.1
	comp=Z,245nm,1.3s,mb5.8						
CPUP	Villa Florida	48.66	194	P	P	06 04 25.9	-0.3
	comp=Z,6.7nm,0.9s,mb4.7,baz=35,slow=11,SNR=17						
CPUP				LR	LR	06 23 59.6	
	comp=Z,240nm,20.0s,MS4.2,baz=232,slow=35						
CPUP	Villa Florida	48.66	194	eP	P	06 04 25.6	-0.6
	comp=Z,24nm,1.3s,mb5.1						
CPUP				LR	LR		
	comp=Z,291nm,20.0s,MS4.3						
CABF	La Chapelle	48.83	46	eP	P	06 04 27.3	+0.1
	comp=Z,135nm,1.2s,mb5.5						
CABF	La Chapelle	48.83	46	eP	P	06 04 27.3	+0.1
CABF				pmax	pmax		
	comp=Z,68nm,1.2s,mb5.5						
BNI	Bardonecchia	48.91	48	eP	P	06 04 28.6	+0.8
	comp=Z,89nm,1.4s,mb5.6						
BNI	Bardonecchia	48.91	48	eP	P	06 04 28.7	+0.8
BNI				pmax	pmax		
	comp=Z,89nm,1.4s,mb5.6						
MBDF	Montbardon	48.92	49	eP	P	06 04 28.7	+0.8
	comp=Z,106nm,1.1s,mb5.5						
MBDF	Montbardon	48.92	49	eP	P	06 04 28.7	+0.8
MBDF				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.5						
LPL	La Plagne	49.04	48	eP	P	06 04 29.7	+0.8
	comp=Z,57nm,1.2s,mb5.2						
LPL	La Plagne	49.04	48	eP	P	06 04 29.7	+0.8
LPL				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
LPG	La Plagne	49.05	48	eP	P	06 04 30.0	+1.1
	comp=Z,91nm,1.4s,mb5.3						
LPG	La Plagne	49.05	48	eP	P	06 04 30.0	+1.1
LPG				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.3						
CBKS	Cedar Bluff	49.10	303	PFAKE		06 04 40.0	+11
CBKS				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
LVC	Limon Verde	49.12	209	P	P	06 04 29.9	+0.1
	comp=Z,12nm,0.9s,mb4.9,baz=57,slow=8.0,SNR=15						
LVC	Limon Verde	49.12	209	eP	P	06 04 29.7	-0.1
	comp=Z,72nm,1.4s,mb5.5						
LVC				LR	LR		
	comp=Z,643nm,19.0s,MS4.6						
THEF	They Montfort	49.14	44	eP	P	06 04 29.7	+0.1
HAU	Haudompre	49.33	44	eP	P	06 04 30.2	-0.8
	comp=Z,40nm,1.1s,mb5.1						
HAU				eR			
	comp=Z,496nm,18.5s						
HAU	Haudompre	49.33	44	eP	P	06 04 30.2	-0.8
HAU				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
HAU				MLR	MLR		
	comp=Z,500nm,18.5s,MS4.5						
LOMF	Lomont	49.49	45	eP	P	06 04 32.7	+0.4
HINF	Hinteralfeld	49.61	45	eP	P	06 04 32.3	-0.9
	comp=Z,35nm,1.1s,mb5.0						
HINF	Hinteralfeld	49.61	45	eP	P	06 04 32.3	-0.9
HINF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
HGN	Heimansgroeve	49.78	41	eP	P	06 04 34.7	+0.2
	comp=Z,11nm,1.4s,mb4.7						
HGN				ex	x	06 04 40.5	
	comp=Z,28nm,1.8s						
HGN				eS	S	06 11 50.3	+7.7
HGN				eSSS	SSS	06 16 56.6	+18
HGN	Heimansgroeve	49.78	41	eP	P	06 04 34.7	+0.2
	comp=Z,11nm,1.4s,mb4.7						
HGN				ex	x	06 04 40.5	
	comp=Z,28nm,1.8s						
HGN				eS	S	06 11 50.3	+7.7
HGN				eSSS	SSS	06 16 56.6	+18
MOF	Molkenrain	49.80	45	eP	P	06 04 35.6	+0.9
ECH	Echery	49.90	44	eP	P	06 04 35.1	-0.4
CDF	Champ du Feu	50.02	44	eP	P	06 04 35.8	-0.6
	comp=Z,79nm,1.4s,mb5.2						
CDF	Champ du Feu	50.02	44	eP	P	06 04 35.8	-0.6
CDF				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.2						
WLS	Welschbruch	50.08	44	eP	P	06 04 36.6	-0.2
PGF	Pioggiola	50.18	52	eP	P	06 04 37.1	-0.6
	comp=Z,74nm,1.3s,mb5.3						
PGF	Pioggiola	50.18	52	eP	P	06 04 37.1	-0.6
PGF				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
RUP	Ruppelstein	50.20	42	eP	P	06 04 37.9	+0.2
LANF	Langenberg	50.50	43	eP	P	06 04 40.1	+0.1
ABH	Alteburg	50.55	42	eP	P	06 04 40.7	+0.3
WTSB	Winterswijk	50.65	39	eP	P	06 04 41.2	+0.2
WTSB				ex	x	06 04 47.9	
	comp=Z,28nm,2.2s						
WTSB	Winterswijk	50.65	39	eP	P	06 04 41.2	+0.2

WTSB *ex* x 06 04 47.9
comp=Z,28nm,2.2s
BFO Black Forest 50.69 44 *e*P **P 06 04 40.4 -1.1**
comp=Z,34nm,1.2s,mb5.2
BFO Black Forest 50.69 44 *e*P **P 06 04 40.4 -1.1**
BFO pmax pmax
comp=Z,34nm,1.2s,mb5.2
TNS Taunus Mts 51.19 42 *e*P **P 06 04 44.7 -0.5**
comp=Z,28nm,1.3s,mb5.0
TNS Taunus Mts 51.19 42 *e*P **P 06 04 44.7 -0.5**
TNS pmax pmax
comp=Z,28nm,1.3s,mb5.0
TOD Tromm 51.27 43 *e*P **P 06 04 45.5 -0.4**
DAVOX Davos 51.42 47 P **P 06 04 46.6 -0.4**
comp=Z,5.9nm,0.7s,mb4.6,baz=317,slow=14,SNR=5.9
SUMG Summit 51.45 3 *e*P **P 06 04 46.1 -0.8**
comp=Z,36nm,1.4s,mb5.1
DAVA Damuels 51.51 46⇑ *i*P **P 06 04 48.4 +0.7**
comp=Z,42nm,1.0s,mb5.3
MOTA Moosalm 52.34 46⇓ *i*P **P 06 04 54.1 +0.1**
comp=Z,55nm,1.3s,mb5.3
MOTA Moosalm 52.34 46⇓ *i*P **P 06 04 54.1 +0.1**
MOTA pmax pmax
comp=Z,55nm,1.3s,mb5.3
SQTA Sankt Quirin 52.39 46⇑ *i*P **P 06 04 54.6 +0.2**
comp=Z,54nm,1.1s,mb5.4
SQTA Sankt Quirin 52.39 46⇑ *i*P **P 06 04 54.6 +0.2**
SQTA pmax pmax
comp=Z,54nm,1.1s,mb5.4
LTX Lajitas 52.44 291 PFAKE 06 05 10.0 +15
LTX LR LR
comp=Z,685nm,22.0s,MS4.7
TXAR Lajitas Array 52.44 291 P **P 06 04 54.5 -0.5**
comp=Z,0.9nm,0.9s,mb3.7,baz=111,slow=6.6,SNR=5.5
TXAR PcP PcP 06 06 05.8 0.0
comp=Z,0.7nm,1.0s,baz=67,slow=6.9,SNR=2.5
TXAR LR LR 06 26 49.6
comp=Z,570nm,21.5s,MS4.6,baz=80,slow=36
WATA Walderalm 52.66 46⇓ *i*P **P 06 04 56.2 -0.2**
comp=Z,50nm,1.1s,mb5.4
WATA Walderalm 52.66 46⇓ *i*P **P 06 04 56.2 -0.2**
WATA pmax pmax
comp=Z,50nm,1.1s,mb5.4
WTTA Wattenberg 52.69 46⇑ *i*P **P 06 04 56.9 +0.3**
comp=Z,52nm,1.0s,mb5.4
WTTA Wattenberg 52.69 46⇑ *i*P **P 06 04 56.9 +0.3**
WTTA pmax pmax
comp=Z,52nm,1.0s,mb5.4
CLZ Clausthal 52.75 40 *e*P **P 06 04 56.0 -1.0**
comp=Z,23nm,1.2s,mb5.0
CLZ Clausthal 52.75 40 *e*P **P 06 04 56.0 -1.0**
CLZ pmax pmax
comp=Z,23nm,1.2s,mb5.0
GRA1 Grafenberg Arr 52.83 43 *e*P **P 06 04 56.6 -1.0**
comp=Z,52nm,1.3s,mb5.3
GRA1 *e*pP pP 06 05 03.0 +2.3
GRF Grafenberg Arr 52.83 43 *e*P **P 06 04 56.6 -1.0**
comp=Z,52nm,1.3s,mb5.3
GRF *e*pP pP 06 05 03.0 +2.3
GRF Grafenberg Arr 52.83 43 *e*P **P 06 04 56.6 -1.0**
GRF *e**PP pP 06 05 03.0 +2.3
GRF pmax pmax
comp=Z,52nm,1.3s,mb5.3
GRF Grafenberg Arr 52.83 43 *e*P **P 06 04 56.6 -1.0**
GRF *e**PP pP 06 05 03.0 +2.3
GRF pmax pmax
comp=Z,52nm,1.3s,mb5.3
BSEG Bad Segeberg 53.23 38 *e*P **P 06 04 59.6 -0.9**
MOX Moxa 53.26 42 *i* P **P 06 05 00.0 -0.8**
MOX S **S 06 12 38.0 +7.6**
MOX L 06 23 58.0
MOX Moxa 53.26 42 *e*P **P 06 05 00.0 -0.8**
MOX MLR MLR
comp=Z,500nm,21.0s,MS4.5
AQU L'Aquila 53.41 52 *e*P **P 06 05 01.1 -0.8**
comp=Z,68nm,1.0s,mb5.5
AQU L'Aquila 53.41 52 *e*P **P 06 05 01.2 -0.8**
AQU pmax pmax
comp=Z,68nm,1.0s,mb5.5
DGMT Dagmar 53.47 315 PFAKE 06 05 10.0 +7.7
DGMT LR LR
comp=Z,706nm,20.0s,MS4.7
SDCO Great Sand Dun 53.59 302 PFAKE 06 05 20.0 +17
SDCO LR LR
comp=Z,1μm,19.0s,MS4.9
ISCO Idaho Springs 53.70 304 *e*P **P 06 05 04.8 +0.7**
comp=Z,86nm,2.3s,mb5.3
ISCO LR LR
comp=Z,2μm,21.0s,MS5.2
ISCO Idaho Springs 53.70 304 *e*P **P 06 05 04.9 +0.7**
ISCO pmax pmax
comp=Z,86nm,2.3s,mb5.3
ISCO MLR MLR
comp=Z,2μm,21.0s,MS5.2
NKC Novy Kostel 53.71 43 *e*P **P 06 05 04.1 0.0**
NKC *e*pP pP 06 05 10.7 +3.6
NKC *e*S **S 06 12 44.5 +8.1**
NKC AMS AMS 06 24 50.0
comp=Z,400nm,16.7s
MNTX Cornudas Mount 53.72 294 PFAKE 06 05 20.0 +16
MNTX LR LR
comp=Z,730nm,20.0s,MS4.7
WET Wettzell 53.80 44 *e*P **P 06 05 03.3 -1.4**
KBA Koelnbreinsper 53.82 47⇑ *i*P **P 06 05 04.2 -0.7**
comp=Z,26nm,1.2s,mb5.0
KBA Koelnbreinsper 53.82 47⇑ *i*P **P 06 05 04.2 -0.7**
KBA pmax pmax
comp=Z,26nm,1.2s,mb5.0
VAE Valguarnera 54.05 59 P **P 06 05 07.4 +0.7**
comp=Z,16nm,0.7s,mb5.0,baz=36,slow=3.2,SNR=3.2
GORS Gorjuse 54.17 48 *e*P **P 06 05 08.8 +1.3**
JMIC Jan Mayen 54.23 14 LR LR 06 20 54.6
comp=Z,39nm,19.7s,MS3.5,baz=104,slow=28
CLL Collm 54.25 41 P **P 06 05 07.0 -1.0**
CLL *i* pP 06 05 09.4 -1.6
CLL *i* *SP sP 06 05 13.9 +1.7
CLL *e*S **S 06 12 52.0 +8.2**
CLL Collm 54.25 41 *e*P **P 06 05 07.0 -1.0**
CLL *i* *PP pP 06 05 09.4 -1.6
CLL *i* 06 05 13.9
CLL *e*S **S 06 12 52.0 +8.2**
KHC Kasperske Hory 54.25 44 *e*P **P 06 05 07.6 -0.4**
KHC *e*pP pP 06 05 13.9 +2.8
KHC *e*S **S 06 12 51.1 +7.3**
KHC AMS AMS 06 24 50.0
comp=Z,400nm,21.5s
GEC2 GERESS Array S 54.29 45 *e*P **P 06 05 07.2 -1.1**
comp=Z,41nm,1.5s,mb5.1
GEC2 GERESS Array S 54.29 45 *e*P **P 06 05 07.2 -1.1**
GEC2 pmax pmax
comp=Z,41nm,1.5s,mb5.1
GERES GERESS Array B 54.29 45 P **P 06 05 07.2 -1.2**
comp=Z,3.9nm,0.9s,mb4.3,baz=256,slow=5.5,SNR=21
GERES LR LR 06 25 37.0
comp=Z,350nm,20.4s,MS4.4,baz=251,slow=33
ANMO Albuquerque 54.42 298 P **P 06 05 09.9 +0.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=135,slow=14,SNR=4.6
ANMO Albuquerque 54.42 298 *e*P **P 06 05 08.9 -0.6**
comp=Z,82nm,2.5s,mb5.2
ANMO LR LR
comp=Z,770nm,22.0s,MS4.7
MOA Molln 54.53 46⇑ *i*P **P 06 05 09.5 -0.6**
comp=Z,30nm,1.6s,mb5.1
KONO Kongsberg 54.55 31 PFAKE 06 05 20.0 +10
KONO LR LR
comp=Z,703nm,19.0s,MS4.8
OBKA Obir 54.57 47⇑ *i*P **P 06 05 10.1 -0.4**
comp=Z,35nm,1.0s,mb5.3
LAO LASA Array 54.60 313 P **P 06 05 12.8 +2.1**
comp=Z,9.7nm,1.1s,mb4.8
LAO LR LR
comp=Z,826nm,22.0s,MS4.8
BRG Berggiesshubel 54.76 42 *e*P **P 06 05 11.4 -0.3**
comp=Z,4.1nm,0.6s,mb4.6
BRG *i* 06 05 18.7
BRG Berggiesshubel 54.76 42 *e*P **P 06 05 11.4 -0.4**
BRG *i* 06 05 18.7
BRG pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
RUE Ruedersdorf 54.94 40 P **P 06 05 12.4 -0.6**
RWWY Rawlins 54.97 307 *e*P **P 06 05 13.5 0.0**
comp=Z,57nm,1.6s,mb5.3
PRU Pruhonice 55.00 43 *e*P **P 06 05 11.2 -2.4**
PRU *e*pP pP 06 05 19.5 +2.9
PRU *e*S **S 06 13 01.2 +7.4**
PRU AMS AMS 06 26 30.0
comp=Z,300nm,15.2s
PVCC Panska Ves 55.10 43 *e*pP pP 06 05 19.2 +1.9
PVCC AMS AMS 06 24 20.0
comp=Z,400nm,16.3s
ARSA Arzberg 55.31 47⇑ *i*P **P 06 05 14.7 -1.2**
comp=Z,19nm,1.1s,mb5.0
TREC Trest 55.52 44 AMS AMS 06 25 40.0
comp=Z,400nm,15.9s
NB2 NORSAR Subarra 55.77 30 P **P 06 05 16.9 -2.0**
comp=Z,28nm,1.4s,mb5.1,baz=249,slow=7.4
NB2 NORSAR Subarra 55.77 30 P **P 06 05 16.9 -2.0**
NB2 pmax pmax
comp=Z,28nm,1.4s,mb5.1
NOA NORSAR Array B 55.77 30 P **P 06 05 17.4 -1.5**
comp=Z,3.4nm,0.9s,mb4.3,baz=250,slow=7.1,SNR=3.3
NOA LR LR 06 24 52.9
comp=Z,583nm,19.8s,MS4.7,baz=250,slow=32
DPC Dobruska-Polom 56.18 43 *e*P **P 06 05 21.7 -0.4**
DPC *e*pP pP 06 05 28.3 +3.2
DPC *e*S **S 06 13 18.5 +8.9**
DPC AMS AMS 06 26 20.0
comp=Z,300nm,14.3s
ZST Bratislava 56.46 46 *e*P **P 06 05 22.4 -1.7**
ZST *e* 06 05 29.8
ZST *e* 06 13 20.8
ZST *e*L 06 27 44.7
PDAR Pinedale Array 56.74 308 P **P 06 05 25.5 -0.7**
comp=Z,6.5nm,1.1s,mb4.6,baz=118,slow=7.4,SNR=15
PDAR LR LR 06 27 06.8
comp=Z,646nm,21.2s,MS4.7,baz=103,slow=33
BW06 Boulder Array 56.74 308 *e*P **P 06 05 25.3 -0.9**
comp=Z,13nm,1.2s,mb4.8
BW06 LR LR
comp=Z,720nm,20.0s,MS4.8
MORC Moravsky Berou 56.90 44 *e*P **P 06 05 26.6 -0.7**
comp=Z,21nm,1.5s,mb5.0
MORC Moravsky Berou 56.90 44 *e*P **P 06 05 26.6 -0.6**
MORC pmax pmax
comp=Z,21nm,1.5s,mb5.0
OKC Ostrava-Krasne 57.30 44 *e*P **P 06 05 29.4 -0.7**
OKC *e*pP pP 06 05 36.1 +3.0
OKC *e*S **S 06 13 35.0 +11**
OKC AMS AMS 06 28 50.0
comp=Z,200nm,19.9s
LKWY Lake 57.39 310 *e*P **P 06 05 31.5 +0.7**
comp=Z,31nm,1.4s,mb5.2
LKWY LR LR
comp=Z,1μm,20.0s,MS4.9
LKWY Lake 57.39 310 *e*P **P 06 05 31.5 +0.7**
LKWY pmax pmax
comp=Z,31nm,1.4s,mb5.2
LKWY MLR MLR
comp=Z,1μm,20.0s,MS4.9
SRU San Rafael 57.51 304 *e*P **P 06 05 31.7 0.0**
LOHW Long Hollow 57.52 309 *e*P **P 06 05 32.5 +0.8**
comp=Z,20nm,1.4s,mb5.0
FLWY Flagg Ranch 57.59 309 *e*P **P 06 05 31.5 -0.7**
VYHS Vyhne 57.64 45 *e*P **P 06 05 31.3 -1.2**
VYHS *e*sP sP 06 05 37.7 +1.0
REDW Red Top Meadow 57.69 309 *e*P **P 06 05 32.5 -0.5**
comp=Z,30nm,1.6s,mb5.1
IMW Indian Meadow 57.76 309 *e*P **P 06 05 33.4 0.0**
comp=Z,37nm,1.4s,mb5.2
TPAW Teton Pass 57.77 309 *e*P **P 06 05 33.1 -0.3**
comp=Z,33nm,1.5s,mb5.1
AHID Auburn Hatcher 57.87 308 *e*P **P 06 05 33.9 -0.3**
AHID LR LR
comp=Z,1μm,21.0s,MS5.0
DAU Daniels Canyon 58.03 305 *e*P **P 06 05 35.6 +0.3**
RRI2 Red Ridge 58.03 309 *e*P **P 06 05 35.0 -0.2**
comp=Z,51nm,1.5s,mb5.3
JLU Jordanelle 58.17 305 *e*P **P 06 05 36.3 0.0**
TUC Tucson 58.23 296 *e*P **P 06 05 37.0 +0.2**
comp=Z,3.5nm,1.1s,mb4.3
TUC LR LR
comp=Z,504nm,19.0s,MS4.7
TUC Tucson 58.23 296 *e*P **P 06 05 37.0 +0.2**
TUC pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
TUC MLR MLR
comp=Z,504nm,19.0s,MS4.7
HWUT Hardware Ranch 58.23 306 *e*P **P 06 05 36.0 -0.8**
comp=Z,9.4nm,0.9s,mb4.8
HWUT LR LR
comp=Z,2μm,20.0s,MS5.2
DIVS Divcibare 58.28 51⇑ *i*P **P 06 05 36.6 -0.4**
BOZ Bozeman (W) 58.28 311 *e*P **P 06 05 37.0 0.0**
comp=Z,8.7nm,1.1s,mb4.7
BOZ LR LR
comp=Z,525nm,20.0s,MS4.7
BOZ Bozeman (W) 58.28 311 *e*P **P 06 05 37.0 0.0**
BOZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
BOZ MLR MLR
comp=Z,525nm,20.0s,MS4.7
NLU North Lily Min 58.67 305 *e*P **P 06 05 40.1 +0.3**
KECS Kecovo 58.73 45 *e*P **P 06 05 37.2 -2.9**
KECS *e*sP sP 06 05 45.6 +1.2
MSU Marysvale 58.83 303 *e*P **P 06 05 41.3 +0.4**
SPUT South Promonto 58.91 306 *e*P **P 06 05 40.9 -0.5**
DLMT Dillon 58.96 311 *e*P **P 06 05 41.3 -0.4**
DUG Dugway 59.23 305 *e*P **P 06 05 43.1 -0.6**
comp=Z,9.1nm,1.0s,mb4.8
DUG LR LR
comp=Z,1μm,20.0s,MS5.1
DUG Dugway 59.23 305 *e*P **P 06 05 43.1 -0.6**
DUG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
DUG MLR MLR
comp=Z,1μm,20.0s,MS5.1
STHS Stebnicka Huta 59.28 44 *e*P **P 06 05 41.6 -2.3**
STHS *e* 06 05 51.0
CRVS Cervenica-Dubn 59.40 45 *e*P **P 06 05 45.8 +1.1**
EDM Edmonton 59.79 320 *e*P **P 06 05 47.4 +0.1**
MSO Missoula 59.90 313 *e*P **P 06 05 48.5 +0.3**
comp=Z,10nm,1.4s,mb4.7
MSO LR LR
comp=Z,467nm,20.0s,MS4.6
WALA Waterton Lakes 59.92 315 *e*P **P 06 05 48.0 -0.3**
comp=Z,29nm,1.6s,mb5.1
KOLS Kolonicke sedl 59.93 45 *e*P **P 06 05 48.6 +0.2**
KOLS *e* 06 05 55.5
UZH Uzhgorod 59.94 45 *e*P **P 06 05 50.0 +1.5**
UZH *e*S **S 06 14 17.0 +18**
HLID Hailey 60.28 309 *e*P **P 06 05 50.7 -0.2**
comp=Z,8.6nm,1.2s,mb4.7
HLID LR LR
comp=Z,805nm,19.0s,MS4.9
TRQA Tornquist 60.98 195 PFAKE 06 06 10.0 +14
TRQA LR LR
comp=Z,343nm,19.0s,MS4.5
ELK Elko 61.04 306 *e*P **P 06 05 55.7 -0.4**
comp=Z,9.3nm,1.0s,mb4.9
ELK LR LR
comp=Z,2μm,20.0s,MS5.2
ELK Elko 61.04 306 *e*P **P 06 05 55.7 -0.4**
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK MLR MLR
comp=Z,2μm,20.0s
LVV L'vov 61.10 44 *i* P **P 06 06 03.0 +6.7**
LVV *e*S **S 06 14 22.0 +8.4**
YKA Yellowknife Ar 61.52 331 P **P 06 05 56.8 -2.2**
comp=Z,2.9nm,0.9s,mb4.4,baz=102,slow=7.7,SNR=9.8
YKA LR LR 06 30 02.8
comp=Z,408nm,21.2s,MS4.5,baz=75,slow=34
VOIR 61.86 49⇓ *i*P **P 06 06 06.0 +4.5**
BURAR Bucovina Array 61.90 47⇓ *i*P **P 06 06 03.5 +1.7**
BURAR Bucovina Array 61.90 47⇓ *i*P **P 06 06 03.5 +1.7**
NEW Newport 62.05 314 *e*P **P 06 06 02.3 -0.5**
comp=Z,32nm,1.2s,mb5.3
NEW LR LR
comp=Z,821nm,20.0s,MS4.9
NEW Newport 62.05 314 *e*P **P 06 06 02.3 -0.5**
NEW pmax pmax
comp=Z,32nm,1.2s
NEW MLR MLR
comp=Z,821nm,20.0s
BMO Blue Mountains 62.30 310 *e*P **P 06 06 04.2 -0.4**
comp=Z,13nm,1.5s,mb4.8
BMO LR LR
comp=Z,538nm,19.0s,MS4.7
BMO Blue Mountains 62.30 310 *e*P **P 06 06 04.2 -0.4**
BMO pmax pmax
comp=Z,13nm,1.5s,mb4.8
BMO MLR MLR
comp=Z,538nm,19.0s,MS4.7
MLR Muntele Rosu 62.48 49⇓ *i*P **P 06 06 06.5 +0.8**
BMN Battle Mountai 62.57 305 PFAKE 06 06 20.0 +14
BMN LR LR
comp=Z,1μm,20.0s,MS5.1
PFO Pinyon Flat Ob 62.79 298 PFAKE 06 06 20.0 +12
PFO LR LR
comp=Z,110nm,22.0s,MS4.0
TPH Tonopah 62.82 303 *e*P **P 06 06 08.7 +0.7**
TPH LR LR
comp=Z,652nm,21.0s,MS4.8
FINES FINESS Array B 62.86 31 P **P 06 06 08.4 +0.5**
comp=Z,5.5nm,1.0s,mb4.6,baz=162,slow=6.0,SNR=4.5
FINES LR LR 06 29 58.9
comp=Z,489nm,18.3s,MS4.7,baz=79,slow=33
VRI Vrincioaia 63.01 48⇓ *i*P **P 06 06 09.5 +0.3**
KBS Kingsbay 63.21 11 PFAKE 06 06 20.0 +10
KBS LR LR
comp=Z,123nm,19.0s,MS4.1
DAC Darwin (Calif) 63.34 301 PFAKE 06 06 20.0 +8.5
DAC LR LR
comp=Z,347nm,21.0s,MS4.5
WVOR Wild Horse Val 63.45 308 PFAKE 06 06 20.0 +7.9
WVOR LR LR
comp=Z,1μm,22.0s,MS5.1
ARCES ARCESS Array B 63.69 22 P **P 06 06 12.7 -0.6**
comp=Z,4.7nm,0.9s,mb4.5,baz=284,slow=10.0,SNR=6.2
ARCES LR LR 06 28 38.8
comp=Z,166nm,20.9s,MS4.2,baz=29,slow=31
HAWA Hanford 63.77 312 *e*P **P 06 06 14.1 0.0**
comp=Z,2.6nm,1.3s,mb4.1
HAWA LR LR
comp=Z,52nm,19.0s,MS3.7
ISA Isabella 64.13 300 PFAKE 06 06 30.0 +13
ISA LR LR
comp=Z,112nm,19.0s,MS4.1
KEV Kevo 64.24 22 PFAKE 06 06 30.0 +13
KEV LR LR
comp=Z,279nm,19.0s,MS4.5
AKASG Malin Array Be 64.42 43 P **P 06 06 16.6 -1.8**
comp=Z,6.6nm,0.9s,mb4.7,baz=272,slow=6.2,SNR=18
MOD Modoc 64.73 307 *e*P **P 06 06 19.4 -1.1**
comp=Z,23nm,1.6s,mb5.0
MOD LR LR
comp=Z,969nm,20.0s,MS5.0
CMB Columbia Colle 65.30 303 PFAKE 06 06 40.0 +16
CMB LR LR
comp=Z,684nm,21.0s,MS4.8
SNCC San Nicolas Is 65.38 298 PFAKE 06 06 40.0 +15
SNCC LR LR
comp=Z,427nm,20.0s,MS4.6
PLCA Paso Flores 65.88 200 P **P 06 06 28.0 +0.1**
comp=Z,3.1nm,0.9s,mb4.3,baz=30,slow=5.9,SNR=6.3
PLCA LR LR 06 33 40.0
comp=Z,188nm,20.7s,MS4.3,baz=24,slow=35
OHCM Honcut 65.96 305 *e*P **P 06 06 27.7 -0.8**
SAO San Andreas Ge 66.33 302 PFAKE 06 06 40.0 +9.1
SAO LR LR
comp=Z,287nm,19.0s,MS4.5
YBH Yreka Blue Hor 66.54 307 PFAKE 06 06 40.0 +7.9
YBH LR LR
comp=Z,855nm,20.0s,MS5.0
WDC Whiskeytown Da 66.58 306 PFAKE 06 06 40.0 +7.6
WDC LR LR
comp=Z,870nm,20.0s,MS5.0
COR Corvallis 66.59 311 PFAKE 06 06 40.0 +7.6
COR LR LR
comp=Z,553nm,19.0s,MS4.8
HUMO Hull Mountain 66.60 308 PFAKE 06 06 40.0 +7.5
HUMO LR LR
comp=Z,729nm,22.0s,MS4.8
OCWA Octopus Mounta 66.81 314 PFAKE 06 06 50.0 +16
OCWA LR LR
comp=Z,845nm,21.0s,MS4.9
HOPS Hopland 67.23 304 PFAKE 06 06 50.0 +13
HOPS LR LR
comp=Z,1μm,19.0s,MS5.1
ANTO Ankara 68.14 54 PFAKE 06 06 50.0 +7.7
ANTO LR LR
comp=Z,198nm,19.0s,MS4.4
OBN Obninsk 68.49 38 PFAKE 06 07 00.0 +16
OBN LR LR
comp=Z,155nm,19.0s,MS4.3
OBN Obninsk 68.49 38⇑ *e*P **P 06 06 44.4 +0.2**
OBN *i* 06 06 51.4
OBN *e* 06 09 14.8
OBN pmax pmax
comp=Z,42nm,1.4s,mb5.3
BR131 Keskin Array S 68.81 54 *e*P **P 06 06 45.8 -0.7**
comp=Z,12nm,1.2s,mb4.7
BRTR Keskin Array B 68.81 54 P **P 06 06 46.6 +0.2**
comp=Z,4.9nm,1.0s,mb4.4,baz=252,slow=3.9,SNR=15
MOS Moscow 69.01 37 *e*P **P 06 06 53.3 +5.9**
MOS *e* 06 07 18.4
MOS *e* 06 09 23.6
INK Inuvik 69.54 337 *e*P **P 06 06 50.1 -0.3**
comp=Z,35nm,1.4s,mb5.1
INK Inuvik 69.54 337 *e*P **P 06 06 50.1 -0.3**
INK pmax pmax
comp=Z,35nm,1.4s
ANN Anapa 70.63 49 *e*P **P 06 06 57.0 -0.5**
ANN *e* 06 07 12.3
ANN *e*S S 06 16 09.5 -0.5
ANN pmax pmax
comp=Z,28nm,1.0s,mb5.2
SIT Sitka 72.11 325 PFAKE 06 07 20.0 +14
SIT LR LR
comp=Z,1μm,19.0s,MS5.2
VRHR Novokhopersk 72.14 41 *e*P **P 06 07 06.4 0.0**
VRHR pmax pmax
comp=Z,20nm,1.1s,mb5.0
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
SOC Sochi 72.49 49*c* *i*P **P 06 07 09.2 +0.6**
SOC *e* 06 07 27.2
SOC *e* 06 09 47.2
SOC *e*PPP PPP 06 11 32.6 -1.6
SOC *e*S S 06 16 32.9 +1.5
SOC *e* 06 17 09.1
SOC *e*SS SS 06 21 06.0 -6.3
SOC *e*SSS SSS 06 24 25.7 +4.0
SOC pmax pmax
comp=N,17nm,1.0s
SOC pmax pmax
comp=Z,27nm,1.0s,mb5.1
SOC pmax pmax
comp=E,9.0nm,0.8s
SOC MLR MLR
comp=N,118nm,21.0s,MS4.3
SOC MLR MLR
comp=E,148nm,21.0s,MS4.3
SOC MLR MLR
comp=Z,255nm,21.0s,MS4.5
DAWY Dawson 72.59 333 *e*P **P 06 07 09.1 +0.3**
MALT Malatya 72.75 55 *e*P **P 06 07 10.3 +0.1**
comp=Z,11nm,0.9s,mb4.8
MALT Malatya 72.75 55 *e*P **P 06 07 10.4 +0.1**
MALT pmax pmax
comp=Z,11nm,0.9s,mb4.8
TSUM Tsumeb 73.97 118 PFAKE 06 07 30.0 +12
TSUM LR LR
comp=Z,806nm,19.0s,MS5.0
GOF Gofitskoye 74.45 47 *e*P **P 06 07 19.8 -0.2**
KIV Kislovodsk 74.49 49 PFAKE 06 07 30.0 +10
KIV LR LR
comp=Z,44nm,20.0s,MS3.8
KIV Kislovodsk 74.49 49⇓ *e*P **P 06 07 21.0 +0.7**
KIV pmax pmax
comp=Z,36nm,1.4s,mb5.1
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
THY Trims Highway 75.49 333 *e*P **P 06 07 25.9 +0.3**
ILAR Eielson Array 75.53 334 P **P 06 07 25.7 -0.1**
comp=Z,3.7nm,0.9s,mb4.3,baz=68,slow=4.6,SNR=25
ILAR LR LR 06 40 05.1
comp=Z,366nm,18.7s,MS4.7,baz=285,slow=35
COLA College 75.88 334 PFAKE 06 07 40.0 +12
COLA LR LR
comp=Z,101nm,21.0s,MS4.1
DIV Divide 76.24 331 PFAKE 06 07 40.0 +10
DIV LR LR
comp=Z,1μm,19.0s,MS5.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MCK	**McKinley**	**76.72**	**334**	P	**P**	**06 07 32.5**	**-0.1**
	comp=Z,15nm,1.5s,mb4.7						
MCK				LR	LR		
	comp=Z,130nm,19.0s,MS4.3						
MCK	**McKinley**	**76.72**	**334**	P	**P**	**06 07 32.5**	**-0.1**
MCK				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
MCK				MLR	MLR		
	comp=Z,130nm,19.0s,MS4.3						
GNI	**Garni**	**77.00**	**52**	PFAKE		06 07 50.0	+15
GNI				LR	LR		
	comp=Z,153nm,20.0s,MS4.3						
GNI	**Garni**	**77.00**	**52**	*i* P	**P**	**06 07 36.4**	**+1.8**
GNI				pmax	pmax		
	comp=Z,37nm,1.7s						
GNI				MLR	MLR		
	comp=Z,100nm,23.0s						
PMR	**Palmer**	**77.59**	**332**	PFAKE		06 07 50.0	+13
PMR				LR	LR		
	comp=Z,343nm,22.0s,MS4.6						
IMA	**Indian Mountai**	**77.68**	**337**	*e*P	**P**	**06 07 39.1**	**+1.3**
	comp=Z,161nm,1.5s,mb5.7						
IMA	**Indian Mountai**	**77.68**	**337**	*e*P	**P**	**06 07 39.1**	**+1.3**
IMA				pmax	pmax		
	comp=Z,161nm,1.5s,mb5.7						
MBAR	**Mbarara**	**77.72**	**96**	*e*P	**P**	**06 07 38.3**	**-0.7**
	comp=Z,28nm,1.3s,mb5.0						
MBAR				LR	LR		
	comp=Z,467nm,20.0s,MS4.8						
MBAR	**Mbarara**	**77.72**	**96**	*e*P	**P**	**06 07 38.3**	**-0.8**
MBAR				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
MBAR				MLR	MLR		
	comp=Z,467nm,20.0s,MS4.8						
SPU	**Mount Spurr**	**79.05**	**332**	*e*P	**P**	**06 07 44.8**	**-0.6**
ARU	**Arti**	**80.11**	**33**	*e*P	**P**	**06 07 51.8**	**+0.6**
	comp=Z,39nm,1.5s,mb5.1						
ARU				LR	LR		
	comp=Z,122nm,22.0s,MS4.2						
ARU	**Arti**	**80.11**	**33**⇑	*i*P	**P**	**06 07 52.5**	**+1.3**
ARU				*e*		06 10 54.0	
ARU				*e*PPP	PPP	06 12 44.1	-2.0
ARU				*e*S	S	06 17 54.0	-0.4
ARU				*e*SS	SS	06 23 05.4	-2.4
ARU				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
KDAK	**Kodiak Island**	**80.72**	**329**	PFAKE		06 08 10.0	+16
KDAK				LR	LR		
	comp=Z,90nm,19.0s,MS4.1						
SVE	**Sverdlovsk**	**80.99**	**32**	*e*P	**P**	**06 07 57.5**	**+1.6**
SVE				*e*		06 08 03.5	
LSZ	**Lusaka**	**81.19**	**110**	PFAKE		06 08 10.0	+12
LSZ				LR	LR		
	comp=Z,521nm,19.0s,MS4.9						
TNA	**Tin City**	**82.96**	**339**	PFAKE		06 08 20.0	+14
TNA				LR	LR		
	comp=Z,285nm,20.0s,MS4.6						
LBTB	**Lobatse**	**83.26**	**120**	PFAKE		06 08 20.0	+12
LBTB				LR	LR		
	comp=Z,795nm,21.0s,MS5.1						
KMBO	**Kilima Mbogo**	**83.96**	**94**	P	**P**	**06 08 14.8**	**+2.5**
	comp=Z,9.0nm,1.0s,mb4.8,baz=313,slow=5.1,SNR=12						
KMBO				LR	LR	06 46 42.2	
	comp=Z,617nm,18.1s,MS5.0,baz=277,slow=36						
KMBO	**Kilima Mbogo**	**83.96**	**94**	P	**P**	**06 08 14.8**	**+2.5**
KMBO				LR	LR	06 46 42.2	
KMBO	**Kilima Mbogo**	**83.96**	**94**	*i* P	**P**	**06 08 15.5**	**+3.3**
KMBO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI	**Tiksi**	**87.21**	**2**	PFAKE		06 08 40.0	+13
TIXI				LR	LR		
	comp=Z,104nm,20.0s,MS4.2						
TIXI	**Tiksi**	**87.21**	**2**	*e*P	**P**	**06 08 25.3**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
BRVK	**Borovoye**	**87.68**	**33**	*e*P	**P**	**06 08 30.2**	**+0.6**
	comp=Z,8.9nm,1.2s,mb4.9						
BRVK				LR	LR		
	comp=Z,64nm,22.0s,MS4.0						
BILL	**Bilibino**	**87.83**	**348**	PFAKE		06 08 40.0	+10
BILL				LR	LR		
	comp=Z,289nm,19.0s,MS4.7						
BILL	**Bilibino**	**87.83**	**348**	*e*P	**P**	**06 08 30.9**	**+0.8**
BILL				pmax	pmax		
	comp=Z,28nm,1.9s,mb5.2						
BILL				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.7						
UNV	**Unalaska Valle**	**89.47**	**329**	PFAKE		06 08 50.0	+12
UNV				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
KURK	**Kurchatov**	**93.23**	**32**	PFAKE		06 09 10.0	+14
KURK				LR	LR		
	comp=Z,71nm,21.0s,MS4.1						
ZAL	**Zalesovo**	**93.87**	**27**	LR	LR	06 49 20.4	
	comp=Z,307nm,20.6s,MS4.8,baz=126,slow=34						
VNA1	**Neumayer--Stat**	**95.42**	**168**	*e*	**P**	**06 09 15.3**	**+10**
VNA1	**Neumayer--Stat**	**95.42**	**168**	*e*	**P**	**06 09 19.2**	**+14**
VNA1	**Neumayer--Stat**	**95.42**	**168**⇑	*i*P	**P**	**06 09 12.3**	**+7.1**
VNA1				*e*	pP	06 09 15.3	+6.9
VNA1				*e*		06 09 19.2	
VNA3	**Neumayer Olymp**	**95.65**	**169**	*e*	**P**	**06 09 09.5**	**+3.2**
VNA3	**Neumayer Olymp**	**95.65**	**169**	*e*	**P**	**06 09 12.9**	**+6.6**
VNA3	**Neumayer Olymp**	**95.65**	**169**⇑	*i*P	**P**	**06 09 07.0**	**+0.7**
VNA3				*e*	pP	06 09 09.5	0.0
VNA3				*e*		06 09 12.9	
VNA2	**Neumayer--Watz**	**95.81**	**168**	*e*	**P**	**06 09 11.6**	**+4.6**
VNA2	**Neumayer--Watz**	**95.81**	**168**	*e*	**P**	**06 09 14.9**	**+7.9**
VNA2	**Neumayer--Watz**	**95.81**	**168**⇑	*i*P	**P**	**06 09 09.0**	**+2.0**
VNA2				*e*	pP	06 09 11.6	+1.4
VNA2				*e*		06 09 14.9	
AAK	**Ala-Archa**	**95.94**	**40**	PFAKE		06 09 20.0	+12
AAK				LR	LR		
	comp=Z,49nm,19.0s,MS4.0						
YAK	**Yakutsk**	**96.86**	**2**	PFAKE		06 09 20.0	+8.1
YAK				LR	LR		
	comp=Z,175nm,19.0s,MS4.6						
SNAA	**Sanae**	**97.30**	**167**	*e*	**P**	**06 09 18.2**	**+4.5**
SNAA	**Sanae**	**97.30**	**167**⇑	*i*P	**P**	**06 09 10.9**	**-2.8**
SNAA				*e*		06 09 18.2	
RKT	**Rikitea**	**97.37**	**248**	*e*LR	LR	06 40 39.5	
	comp=Z,349nm,33.5s						
MKAR	**Makanchi Array**	**97.64**	**33**	LR	LR	06 53 13.1	
	comp=Z,205nm,19.2s,MS4.6,baz=179,slow=35						
MA2	**Magadan**	**98.26**	**352**	PFAKE		06 09 30.0	+12
MA2				LR	LR		
	comp=Z,177nm,21.0s,MS4.5						
FX1	**Attu Island--F**	**98.72**	**337**	LR	LR	06 55 11.4	
	comp=Z,14nm,19.1s,MS3.5,baz=55,slow=36						
MSEY	**Mahe Island**	**102.21**	**90**	PFAKE		06 09 50.0	+13
MSEY				LR	LR		
	comp=Z,124nm,21.0s,MS4.4						
WMQ	**Urumqi**	**102.44**	**33**	*e*P	Pdif	06 09 38.0	+0.4
WMQ				AP		06 09 43.0	
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,86nm,5.0s						
WMQ				LR	LR		
	comp=N,762nm,25.4s,MS5.3						
WMQ				LR	LR		
	comp=E,816nm,24.3s,MS5.3						
WMQ				LR	LR		
	comp=Z,764nm,25.5s,MS5.1						
PET	**Petropavlovsk**	**102.98**	**345**	PFAKE		06 09 50.0	+10
PET				LR	LR		
	comp=Z,328nm,21.0s,MS4.8						
ULN	**Ulaanbaatar**	**106.95**	**19**	PFAKE		06 14 20.0	
ULN				LR	LR		
	comp=Z,201nm,19.0s,MS4.7						
HIA	**Hailar**	**108.57**	**10**	PFAKE		06 14 20.0	
HIA				LR	LR		
	comp=Z,185nm,21.0s,MS4.6						
PPT	**Papeete**	**108.65**	**258**	*e*SS	SS	06 29 59.7	+6.2
PPT				*e*LR	LR	06 45 58.3	
	comp=Z,370nm,31.8s						
TBI	**Tubuai**	**110.14**	**252**	*e*SS	SS	06 30 18.2	+4.4
TBI				*e*LR	LR	06 46 36.7	
	comp=Z,284nm,35.2s						
MDJ	**Mudanjiang**	**114.25**	**4**	PKP	PKPdf	06 14 16.7	-6.0
LSA	**Lhasa**	**114.52**	**41**	PFAKE		06 14 30.0	+6.4
LSA				LR	LR		
	comp=Z,174nm,19.0s,MS4.7						
HHC	**Hu-ho-hao-te**	**114.68**	**19**	*e*PKP	PKPdf	06 14 20.9	-2.7
HHC				PKS	PKS	06 17 55.2	-1.0
HHC				SKS	SKS	06 21 27.5	+15
HHC				PP	PP		
	comp=Z,107nm,8.4s						
PALK	**Pallekele**	**120.34**	**67**	PFAKE		06 14 50.0	+15
PALK				LR	LR		
	comp=Z,94nm,19.0s,MS4.5						
VNDA	**Vanda**	**122.17**	**187**	PKP	PKPdf	06 14 36.5	-0.9
	comp=Z,1.2nm,1.1s,baz=289,slow=3.7,SNR=4.3						
VNDA	**Vanda**	**122.17**	**187**	PKP	PKPdf	06 14 36.5	-0.9
VNDA				LR	LR		
	comp=Z,169nm,19.0s,MS4.7						
ENH	**Enshi**	**123.48**	**26**	PFAKE		06 14 50.0	+9.0
ENH				LR	LR		
	comp=Z,166nm,20.0s,MS4.7						
KMI	**Kunming**	**124.65**	**35**	PKP	PKPdf	06 14 40.0	-3.5
KMI				XPKP		06 14 45.5	
KMI				PP	PP	06 16 30.7	-1.1
KMI				PP	PP		
	comp=Z,172nm,7.4s						
KMI				LR	LR		
	comp=N,216nm,19.1s,MS4.9						
KMI				LR	LR		
	comp=E,157nm,21.4s,MS4.9						
KMI				LR	LR		
	comp=Z,251nm,19.1s,MS4.9						
NJ2	**Nanjing**	**124.94**	**16**	*e*PKP	PKPdf	06 14 38.3	-5.5
SSE	**Sheshan**	**126.42**	**14**	PKP	PKPdf	06 14 45.7	-0.9
CASY	**Casey**	**132.54**	**167**	PFAKE		06 15 10.0	+13
CASY				LR	LR		
	comp=Z,309nm,22.0s,MS5.0						
QIZ	**Qiongzhong**	**133.36**	**32**	PFAKE		06 15 10.0	+10
QIZ				LR	LR		
	comp=Z,196nm,21.0s,MS4.8						
HNR	**Honiara**	**152.53**	**292**	PFAKE		06 15 40.0	+6.8
HNR				LR	LR		
	comp=Z,236nm,22.0s,MS5.0						
WRAB	**Tennant Creek**	**178.61**	**353**	PFAKE		06 16 00.0	+5.9
WRAB				LR	LR		
	comp=Z,158nm,22.0s						

*BJI **08** 05:59:28.8, 21.40N×45.80W, h10km, mB4.7, Ms4.8, Msz4.4*

*IDC **08** 05:59:29.6±0.6, 21.43N×45.84W, mb4.1/16, mb1 4.3/16, mb1mx4.1/24, mbtmp4.1/16, Error ellipse: s-maj=20.5km s-min=15.1km az=114.0*

*NEIC **08** 05:59:30.8±0.3, 21.40N×45.76W, h10km, mb4.5/14, Error ellipse: s-maj=8.6km s-min=7.8km az=76.0*

ISC 08 05:59:29.1±0.4**, 21.42N**±0.07×**45.80W**±0.08**, h10km, n45, σ0^{s}80**/42**, mb4.2**/29**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**26.97**	**246**	P	**P**	**06 05 14.3**	**+1.2**
	1.1nm,0.3s,mb3.9,baz=39,slow=13,SNR=3.0						
SDV	**Santo Domingo**	**26.97**	**246**	*e*P	**P**	**06 05 14.6**	**+1.5**
ROSC	**El Rosal**	**32.20**	**243**	P	**P**	**06 06 00.5**	**+0.7**
	1.8nm,0.3s,mb4.4,baz=114,slow=16,SNR=2.3						
SAML	**Samuel**	**34.68**	**211**	*e*P	**P**	**06 06 20.5**	**-0.8**
	2.0nm,0.8s,mb4.1						
BDFB	**Brasilia**	**36.90**	**184**	P	**P**	**06 06 40.2**	**+0.2**
	4.1nm,0.9s,mb4.2,baz=9.0,slow=8.9,SNR=5.5						
MDT	**Midelt**	**38.15**	**64**	P	**P**	**06 06 52.3**	**+1.9**
	2.4nm,1.1s,mb3.9,baz=263,slow=8.1,SNR=3.5						
PLAL	**Pickwick Lake**	**39.35**	**299**	*e*P	**P**	**06 07 00.6**	**+0.2**
	12nm,0.9s,mb4.6						
SIV	**San Ignacio**	**40.09**	**203**	P	**P**	**06 07 06.4**	**-0.3**
	2.2nm,0.7s,mb4.0,baz=11,slow=9.6,SNR=8.2						
DBIC	**Dimbokro**	**42.18**	**104**	*e*P	**P**	**06 07 21.2**	**-2.8**
CCM	**Cathedral Cave**	**42.36**	**303**	*e*P	**P**	**06 07 25.5**	**+0.3**
	13nm,1.0s,mb4.5						
LPAZ	**La Paz**	**43.41**	**212**	P	**P**	**06 07 34.4**	**+0.4**
	3.5nm,0.8s,mb4.1,baz=7.9,slow=12,SNR=8.4						
LPAZ	**La Paz**	**43.41**	**212**	*e*P	**P**	**06 07 34.3**	**+0.3**
ULM	**Lac du Bonnet**	**48.53**	**319**	P	**P**	**06 08 13.1**	**-1.1**
	3.4nm,0.9s,mb4.4,baz=149,slow=7.3,SNR=4.6						
LVC	**Limon Verde**	**49.23**	**209**	P	**P**	**06 08 19.2**	**-0.8**
	4.8nm,0.8s,mb4.6,baz=49,slow=5.8,SNR=6.1						
LVC	**Limon Verde**	**49.23**	**209**	*e*P	**P**	**06 08 18.8**	**-1.2**
	29nm,1.4s,mb5.1						
SUMG	**Summit**	**51.34**	**3**	*e*P	**P**	**06 08 35.3**	**-0.1**
	6.7nm,1.1s,mb4.5						
TXAR	**Lajitas Array**	**52.44**	**291**	P	**P**	**06 08 45.5**	**+1.2**
	0.2nm,0.7s,mb3.2,baz=82,slow=6.4,SNR=3.2						
TXAR				PcP	PcP	06 09 54.6	-0.4
	0.8nm,1.1s,baz=117,slow=2.0,SNR=3.7						
SDCO	**Great Sand Dun**	**53.56**	**302**	P	**P**	**06 08 52.8**	**+0.3**
CLL	**Collm**	**54.15**	**41**	P	**P**	**06 08 57.0**	**+0.4**
GERES	**GERESS Array B**	**54.19**	**45**	P	**P**	**06 08 57.1**	**+0.1**
	0.3nm,0.3s,mb3.8,baz=252,slow=4.2,SNR=4.2						
ANMO	**Albuquerque**	**54.41**	**298**	P	**P**	**06 08 58.9**	**+0.2**
PDAR	**Pinedale Array**	**56.70**	**308**	P	**P**	**06 09 15.7**	**+0.4**
	0.9nm,0.7s,mb3.9,baz=112,slow=6.2,SNR=4.9						
LOHW	**Long Hollow**	**57.48**	**309**	*e*P	**P**	**06 09 20.3**	**-0.5**
	5.7nm,1.4s,mb4.4						
IMW	**Indian Meadow**	**57.72**	**309**	*e*P	**P**	**06 09 22.5**	**0.0**
	7.2nm,1.1s,mb4.6						
TPAW	**Teton Pass**	**57.73**	**309**	*e*P	**P**	**06 09 22.6**	**+0.1**
	4.5nm,1.0s,mb4.5						
RRI2	**Red Ridge**	**58.00**	**308**	*e*P	**P**	**06 09 23.4**	**-0.9**
	22nm,1.6s,mb4.9						
JLU	**Jordanelle**	**58.14**	**305**	*e*P	**P**	**06 09 25.6**	**+0.2**
HWUT	**Hardware Ranch**	**58.20**	**306**	*e*P	**P**	**06 09 25.6**	**-0.3**
	1.9nm,0.8s,mb4.2						
BOZ	**Bozeman (W)**	**58.24**	**311**	*e*P	**P**	**06 09 26.5**	**+0.4**
	1.3nm,0.8s,mb4.0						
SPUT	**South Promonto**	**58.87**	**306**	*e*P	**P**	**06 09 30.6**	**0.0**
EDM	**Edmonton**	**59.73**	**320**	*e*P	**P**	**06 09 35.5**	**-0.8**
ELK	**Elko**	**61.01**	**306**	*e*P	**P**	**06 09 45.7**	**+0.5**
YKA	**Yellowknife Ar**	**61.45**	**330**	P	**P**	**06 09 46.7**	**-1.1**
	2.1nm,0.7s,mb4.4,baz=98,slow=7.4,SNR=11						
YKA	**Yellowknife Ar**	**61.45**	**330**	P	**P**	**06 09 46.7**	**-1.1**
NEW	**Newport**	**62.00**	**314**	*e*P	**P**	**06 09 50.9**	**-0.9**
	22nm,1.6s,mb5.0						
HAWA	**Hanford**	**63.72**	**312**	*e*P	**P**	**06 10 03.4**	**+0.2**
	0.6nm,1.2s,mb3.5						
PLCA	**Paso Flores**	**65.99**	**200**	P	**P**	**06 10 17.6**	**-0.3**
	1.2nm,0.7s,mb4.0,baz=49,slow=6.7,SNR=4.9						
BRTR	**Keskin Array B**	**68.72**	**54**	P	**P**	**06 10 34.9**	**-0.4**
	1.2nm,0.8s,mb3.9,baz=292,slow=6.7,SNR=5.2						
INK	**Inuvik**	**69.46**	**337**	*e*P	**P**	**06 10 38.9**	**-0.4**
	8.8nm,1.1s,mb4.6						
DAWY	**Dawson**	**72.52**	**333**	*e*P	**P**	**06 10 58.1**	**+0.4**
ILAR	**Eielson Array**	**75.45**	**334**	P	**P**	**06 11 14.4**	**-0.2**
	2.6nm,0.8s,mb4.2,baz=74,slow=4.6,SNR=20						
KMBO	**Kilima Mbogo**	**83.94**	**94**	P	**P**	**06 12 04.3**	**+2.8**
	0.7nm,0.4s,mb4.1,baz=320,slow=7.9,SNR=3.1						
WMQ	**Urumqi**	**102.33**	**33**	*e*P	Pdif	06 13 25.5	-1.0
NJ2	**Nanjing**	**124.83**	**16**	*e*PKP	PKPdf	06 18 27.1	-5.9
SSE	**Sheshan**	**126.31**	**14**	PKP	PKPdf	06 18 33.5	-2.2

CASC 08 06:33:20.2±2.5**, 11.64N**×**84.58W, MD3.5, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**1.61**	**176**	*e*P	Pn	06 33 51.5	+1.5
CGA2				*e*S	Sb	06 34 14.1	+2.7
LAJ	**Bijagual**	**1.82**	**166**	*e*P	Pn	06 33 53.0	+0.1

*BJI **08** 06:42:55.1, 21.30N×45.50W, h10km, mB4.8, Ms5.0, Msz4.7*

*IDC **08** 06:42:55.2±0.6, 21.38N×45.57W, mb4.1/20, mb1 4.3/21, mb1mx4.2/29, mbtmp4.1/21, MS4.0/18, Ms1 4.0/18, ms1mx3.9/22, Error ellipse: s-maj=16.9km s-min=13.3km az=108.0*

*NEIC **08** 06:42:56.1±0.3, 21.33N×45.51W, h10km, mb4.7/12, Error ellipse: s-maj=8.4km s-min=7.3km az=89.0*

ISC 08 06:42:54.6±0.4**, 21.37N**±0.06×**45.58W**±0.08**, h10km, n57, σ0^{s}83**/48**, mb4.3**/28**, MS4.0**/17**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.63**	**264**	P	**P**	**06 47 26.0**	**-0.4**
	baz=46,slow=7.4,SNR=2.8						
SJG				LR	LR	06 53 18.9	
	comp=Z,634nm,21.7s,baz=100,slow=32						
SJG	**San Juan**	**19.63**	**264**	P	**P**	**06 47 25.6**	**-0.8**
SDV	**Santo Domingo**	**27.13**	**247**	P	**P**	**06 48 41.2**	**+1.1**
	9.8nm,1.0s,mb4.3,baz=78,slow=14,SNR=4.7						
SDV				LR	LR	06 58 17.2	
	comp=Z,189nm,18.5s,MS3.7,baz=34,slow=34						
SDV	**Santo Domingo**	**27.13**	**247**	*e*P	**P**	**06 48 39.4**	**-0.6**
SAML	**Samuel**	**34.73**	**212**	*e*P	**P**	**06 49 45.0**	**-2.3**
SADO	**Sadowa**	**36.15**	**318**	LR	LR	07 01 58.1	
	comp=Z,280nm,18.6s,MS4.1,baz=117,slow=32						
BDFB	**Brasilia**	**36.85**	**184**	P	**P**	**06 50 06.2**	**+1.0**
	2.8nm,0.8s,mb4.1,baz=353,slow=11,SNR=4.2						
BDFB				LR	LR	07 04 10.5	
	comp=Z,167nm,18.7s,MS3.9,baz=200,slow=35						
MDT	**Midelt**	**38.00**	**64**	LR	LR	07 03 17.6	
	comp=Z,207nm,18.5s,MS4.0,baz=110,slow=32						
WCI	**Wyandotte Cave**	**38.78**	**305**	*e*P	**P**	**06 50 21.9**	**+0.8**
	5.3nm,0.8s,mb4.3						
SIV	**San Ignacio**	**40.12**	**204**	P	**P**	**06 50 32.2**	**-0.2**
	2.0nm,0.8s,mb3.9,baz=25,slow=11,SNR=9.6						
DBIC	**Dimbokro**	**41.97**	**104**	P	**P**	**06 50 50.1**	**+2.3**
	8.7nm,1.0s,mb4.3,baz=150,slow=4.4,SNR=4.0						
DBIC				LR	LR	07 05 38.6	
	comp=Z,234nm,18.9s,MS4.1,baz=354,slow=32						
DBIC	**Dimbokro**	**41.97**	**104**	*e*P	**P**	**06 50 44.8**	**-3.0**
DBIC				LR	LR	07 05 38.6	
LPAZ	**La Paz**	**43.47**	**212**	P	**P**	**06 51 00.3**	**+0.4**
	3.2nm,0.9s,mb4.0,baz=12,slow=8.8,SNR=12						
LPAZ				LR	LR	07 08 37.0	
	comp=Z,136nm,19.5s,MS3.9,baz=286,slow=36						
LPAZ	**La Paz**	**43.47**	**212**	*e*P	**P**	**06 51 00.9**	**+0.9**
	19nm,1.4s,mb4.6						
ULM	**Lac du Bonnet**	**48.70**	**319**	P	**P**	**06 51 41.0**	**0.0**
	4.6nm,0.8s,mb4.6,baz=115,slow=6.1,SNR=5.8						
ULM				LR	LR	07 09 52.2	
	comp=Z,169nm,18.5s,MS4.1,baz=87,slow=33						
CPUP	**Villa Florida**	**48.76**	**194**	P	**P**	**06 51 41.4**	**-0.4**
	2.3nm,0.8s,mb4.2,baz=50,slow=9.3,SNR=7.0						
CPUP				LR	LR	07 11 35.4	
	comp=Z,78nm,18.2s,MS3.7,baz=312,slow=35						
CPUP	**Villa Florida**	**48.76**	**194**	P	**P**	**06 51 41.4**	**-0.4**
CPUP				LR	LR	07 11 35.4	
LVC	**Limon Verde**	**49.28**	**209**	P	**P**	**06 51 46.0**	**+0.2**
	4.2nm,0.9s,mb4.5,baz=40,slow=9.9,SNR=6.0						
LVC	**Limon Verde**	**49.28**	**209**	*e*P	**P**	**06 51 45.4**	**-0.5**
	25nm,1.3s,mb5.1						
DAVOX	**Davos**	**51.22**	**47**	P	**P**	**06 52 01.8**	**+1.4**
	1.8nm,0.4s,mb4.4,baz=273,slow=8.1,SNR=3.1						
SUMG	**Summit**	**51.39**	**3**	*e*P	**P**	**06 52 00.7**	**-0.7**
	9.1nm,1.0s,mb4.7						
TXAR	**Lajitas Array**	**52.65**	**291**	P	**P**	**06 52 13.1**	**+1.7**
	0.4nm,0.8s,mb3.4,baz=90,slow=7.5,SNR=4.1						
TXAR				PcP	PcP	06 53 21.8	+0.4
	0.8nm,1.0s,baz=72,slow=5.7,SNR=3.6						
TXAR				LR	LR	07 13 53.7	
	comp=Z,118nm,21.2s,MS3.9,baz=155,slow=35						
TXAR	**Lajitas Array**	**52.65**	**291**	P	**P**	**06 52 13.1**	**+1.7**
TXAR				PcP	PcP	06 53 21.8	+0.4
TXAR				LR	LR	07 13 53.7	
SDCO	**Great Sand Dun**	**53.77**	**302**	P	**P**	**06 52 19.2**	**-0.3**
GERES	**GERESS Array B**	**54.09**	**45**	P	**P**	**06 52 21.2**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=214,slow=4.8,SNR=4.4						
GERES				LR	LR	07 13 12.9	
	comp=Z,81nm,19.2s,MS3.8,baz=247,slow=34						
ANMO	**Albuquerque**	**54.61**	**298**	P	**P**	**06 52 25.3**	**-0.4**
NOA	**NORSAR Array B**	**55.61**	**30**	LR	LR	07 11 48.4	
	comp=Z,126nm,20.3s,MS4.0,baz=265,slow=31						
BW06	**Boulder Array**	**56.90**	**308**	*e*P	**P**	**06 52 41.7**	**-0.5**
	7.8nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**56.90**	**308**	P	**P**	**06 52 43.5**	**+1.3**
	1.3nm,0.8s,mb4.0,baz=114,slow=5.4,SNR=5.5						
PDAR				LR	LR	07 14 32.4	
	comp=Z,119nm,20.4s,MS4.0,baz=104,slow=33						
FLWY	**Flagg Ranch**	**57.74**	**309**	P	**P**	**06 52 48.8**	**+0.7**
IMW	**Indian Meadow**	**57.91**	**309**	*e*P	**P**	**06 52 49.6**	**+0.3**
	12nm,1.2s,mb4.8						
TPAW	**Teton Pass**	**57.92**	**309**	P	**P**	**06 52 48.9**	**-0.4**
	11nm,1.2s,mb4.8						
RRI2	**Red Ridge**	**58.19**	**308**	*e*P	**P**	**06 52 51.3**	**+0.1**
	19nm,1.2s,mb5.0						
DAU	**Daniels Canyon**	**58.20**	**305**	*e*P	**P**	**06 52 52.0**	**+0.7**
JLU	**Jordanelle**	**58.34**	**305**	*e*P	**P**	**06 52 52.5**	**+0.2**
HWUT	**Hardware Ranch**	**58.40**	**306**	*e*P	**P**	**06 52 52.4**	**-0.3**
	8.7nm,1.2s,mb4.7						
SPUT	**South Promonto**	**59.07**	**306**	*e*P	**P**	**06 52 57.0**	**-0.4**
DUG	**Dugway**	**59.40**	**305**	*e*P	**P**	**06 53 00.2**	**+0.5**
	12nm,1.3s,mb4.8						
EDM	**Edmonton**	**59.91**	**320**	*e*P	**P**	**06 53 02.4**	**-0.6**
ARUT	**Antelope Range**	**60.05**	**302**	P	**P**	**06 53 04.2**	**0.0**
ELK	**Elko**	**61.21**	**306**	P	**P**	**06 53 12.9**	**+0.9**
	1.2nm,0.8s,mb4.1,baz=53,slow=2.7,SNR=8.1						
ELK	**Elko**	**61.21**	**306**	*e*P	**P**	**06 53 11.9**	**-0.1**
	5.3nm,1.0s,mb4.6						
YKA	**Yellowknife Ar**	**61.60**	**330**	P	**P**	**06 53 12.6**	**-1.7**
	2.8nm,0.8s,mb4.4,baz=99,slow=7.5,SNR=16						
YKA				LR	LR	07 17 05.2	
	comp=Z,78nm,18.4s,MS3.9,baz=105,slow=33						
NEW	**Newport**	**62.18**	**314**	P	**P**	**06 53 18.6**	**+0.1**
	2.6nm,0.7s,mb4.5,baz=83,slow=7.2,SNR=7.6						
NEW	**Newport**	**62.18**	**314**	*e*P	**P**	**06 53 18.1**	**-0.4**
	12nm,1.0s,mb5.0						
FINES	**FINESS Array B**	**62.70**	**31**	LR	LR	07 17 23.7	
	comp=Z,100nm,19.4s,MS4.0,baz=261,slow=33						
AKASG	**Malin Array Be**	**64.22**	**43**	P	**P**	**06 53 31.1**	**-0.8**
	0.4nm,0.3s,mb3.9,baz=280,slow=5.8,SNR=10						
PLCA	**Paso Flores**	**66.00**	**201**	P	**P**	**06 53 43.8**	**+0.2**
	0.8nm,0.7s,mb3.9,baz=16,slow=13,SNR=3.6						
BRTR	**Keskin Array B**	**68.59**	**54**	P	**P**	**06 54 00.2**	**+0.3**
	0.9nm,0.6s,mb3.9,baz=270,slow=7.4,SNR=4.2						
INK	**Inuvik**	**69.59**	**337**	P	**P**	**06 54 05.2**	**-0.4**
	2.4nm,0.7s,mb4.2,baz=31,slow=7.0,SNR=4.5						
DAWY	**Dawson**	**72.66**	**333**	*e*P	**P**	**06 54 23.6**	**-0.5**
ILAR	**Eielson Array**	**75.59**	**334**	P	**P**	**06 54 41.6**	**+0.6**
	3.3nm,0.8s,mb4.3,baz=70,slow=4.6,SNR=34						
ILAR				LR	LR	07 26 50.7	
	comp=Z,93nm,18.7s,MS4.1,baz=275,slow=35						
KMBO	**Kilima Mbogo**	**83.73**	**94**	LR	LR	07 34 05.9	
	comp=Z,138nm,18.9s,MS4.4,baz=98,slow=37						
MKAR	**Makanchi Array**	**97.47**	**33**	LR	LR	07 35 37.0	
	comp=Z,70nm,20.0s,MS4.2,baz=1.4,slow=32						
KMI	**Kunming**	**124.48**	**35**	PKP	PKPdf	07 01 52.9	-5.0
NJ2	**Nanjing**	**124.83**	**16**	*e*PKP	PKPdf	07 01 52.1	-6.4
SSE	**Sheshan**	**126.31**	**14**	PKP	PKPdf	07 01 59.8	-1.5

IDC 08 06:48:32.0±19.0**, 51.36N**×**179.30W, mb3.5**/4**, mb1 3.9**/4**, mb1mx3.6**/21**, mbtmp3.5**/4**, Error ellipse: s-maj=381.7km s-min=74.2km az=87.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**21.46**	**39**	P	P	06 53 21.4	-2.4
	0.4nm,0.6s,baz=234,slow=8.6,SNR=8.1						
NEW	**Newport**	**39.18**	**69**	P	P	06 56 01.7	-1.3
	1.5nm,0.7s,baz=226,slow=22,SNR=3.5						
PDAR	**Pinedale Array**	**46.61**	**72**	P	P	06 57 02.0	-1.3
	0.6nm,0.4s,baz=325,slow=4.0,SNR=10						
TXAR	**Lajitas Array**	**58.97**	**81**	P	P	06 58 33.0	-2.5
	0.2nm,0.5s,baz=300,slow=5.2,SNR=6.9						

CASC 08 07:25:59.1±3.3**, 13.57N**×**91.20W, h5km**±31km**, MD3.8, 1C-1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.94**	**50**⇑	*e*P	Pb	07 26 17.9	+0.4
IXG				*e*S	Sb	07 26 30.1	-0.1
CUSS	**Cusmapa**	**1.27**	**74**	*e*P	Pb	07 26 39.7	+17
CUSS				*e*S	Sb	07 26 59.7	+20
RTR	**El Retiro**	**1.55**	**78**	*e*P	Pn	07 26 40.2	+13
RTR				*e*S	Sb	07 27 04.1	+16
RBDL	**Robledal**	**1.57**	**70**	*e*P	Pn	07 26 40.2	+12
RBDL				*e*S	Sb	07 27 01.4	+13
SNJE	**San Jose**	**1.58**	**79**	*e*P	Pn	07 26 40.5	+13
SNJE				*e*S	Sb	07 27 03.1	+14
SNET	**Serv Nac Est T**	**1.92**	**86**	*e*P	Pn	07 26 32.8	0.0
SNET				*e*S	Sn	07 26 57.3	-0.3
LFRS	**El Faro**	**2.08**	**88**	*e*P	Pn	07 26 48.0	+13
LFRS				*e*S	Sn	07 27 15.1	+13
MRL	**Marmol**	**2.09**	**44**⇓	*e*P	Pn	07 26 34.9	-0.4
MRL				*e*S	Sn	07 27 03.1	+1.2
LCBS	**La Ceiba**	**2.16**	**87**	*e*P	Pn	07 26 49.5	+13
LCBS				*e*S	Sn	07 27 17.1	+13

*IDC **08** 07:26:34.3±2.0, 24.47S×111.91W, mb4.2/6, mb1 4.4/6, mb1mx4.1/14, mbtmp4.2/6, MS3.8/6, Ms1 3.8/6, ms1mx3.6/14, Error ellipse: s-maj=66.2km s-min=30.0km az=42.0*

*BJI **08** 07:26:35.0, 24.27S×111.51W, h10km, mB4.9, Ms4.9,*

Msz4.7

*NEIC **08** 07:26:36.7±0.3, 24.37S×111.66W, h10km, mb4.7/12, MS4.2/1, Error ellipse: s-maj=15.1km s-min=7.6km az=69.0*

ISC 08 07:26:35.0±0.5**, 24.27S**±0.07×**111.9W**±0.1**, h10km, (h9km±.4km:pP-P), n62, σ1§00**/44**, mb4.4**/17**, MS3.9**/8**, 4C-1D, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.64	142	eP	Pn	07 27 27.7	-5.0
RPN				eS	Sn	07 28 17.4	+1.3
RKT	Rikitea	21.21	268	eLR	LR	07 36 25.1	
	1μm,28.0s						
TAOE	Nuku Hiva Isla	31.06	295	eLR	LR	07 40 56.3	
	2μm,27.8s						
PPT	Papeete	35.79	273	eS	S	07 39 11.2	-1.9
PPT				eLR	LR	07 43 02.1	
	468nm,31.5s						
PPT	Papeete	35.79	273	LR	LR	07 43 30.9	
	comp=Z,65nm,21.4s,MS3.4,baz=289,slow=28						
PLCA	Paso Flores	38.12	126	LR	LR	07 45 14.2	
	comp=Z,310nm,22.0s,MS4.1,baz=282,slow=29						
PLCA	Paso Flores	38.12	126	eP	P	07 33 56.1	+0.1
LVC	Limon Verde	39.31	97	LR	LR	07 44 30.3	
	comp=Z,42nm,19.7s,MS3.3,baz=277,slow=27						
LVC	Limon Verde	39.31	97	P	P	07 34 04.2	-1.9
	3.2nm,0.6s,mb4.2						
LPAZ	La Paz	41.63	87	P	P	07 34 26.0	+0.7
	2.1nm,1.0s,mb3.7,baz=268,slow=6.6,SNR=5.6						
LPAZ				LR	LR	07 47 49.2	
	comp=Z,112nm,19.4s,MS3.8,baz=30,slow=31						
LPAZ	La Paz	41.63	87	eP	P	07 34 26.2	+0.9
	9.6nm,1.5s,mb4.2						
SAML	Samuel	48.80	80	eP	P	07 35 21.4	-1.2
	11nm,1.5s,mb4.7						
CPUP	Villa Florida	49.02	105	LR	LR	07 52 03.6	
	comp=Z,127nm,19.5s,MS3.9,baz=75,slow=31						
CPUP	Villa Florida	49.02	105	P	P	07 35 22.6	-1.6
TXAR	Lajitas Array	53.87	9	P	P	07 36 01.8	+1.1
	1.3nm,1.1s,mb3.8,baz=187,slow=10,SNR=8.7						
BDFB	Brasilia	60.18	95	P	P	07 36 44.4	-1.3
	4.4nm,0.9s,mb4.5,baz=276,slow=5.3,SNR=5.6						
BDFB				LR	LR	08 00 48.1	
	comp=Z,156nm,19.5s,MS4.2,baz=298,slow=34						
SRU	San Rafael	63.06	1	eP	P	07 37 05.7	+0.9
PLAL	Pickwick Lake	63.09	22	eP	P	07 37 04.4	-0.7
	15nm,1.4s,mb4.9						
SMCO	Snowmass	63.27	4	eP	P	07 37 07.8	+1.6
DUG	Dugway	64.13	359	eP	P	07 37 10.6	-1.3
	7.9nm,1.3s,mb4.6						
DAU	Daniels Canyon	64.35	0	eP	P	07 37 14.1	+0.9
JLU	Jordanelle	64.53	0	eP	P	07 37 14.4	0.0
VNDA	Vanda	65.69	194	P	P	07 37 21.2	-0.1
MOD	Modoc	66.30	353	eP	P	07 37 26.4	+0.6
	6.0nm,1.0s,mb4.6						
WVOR	Wild Horse Val	66.66	355	eP	P	07 37 27.5	-0.6
	6.0nm,1.0s,mb4.6						
WVOR				LR	LR		
	comp=Z,143nm,20.0s,MS4.2						
BW06	Boulder Array	66.73	2	eP	P	07 37 28.6	+0.1
	comp=Z,3.5nm,1.0s,mb4.3						
PDAR	Pinedale Array	66.73	2	P	P	07 37 28.2	-0.3
	comp=Z,1.7nm,0.7s,mb4.2,baz=166,slow=6.6,SNR=14						
HLID	Hailey	67.53	358	eP	P	07 37 34.4	+0.8
	comp=Z,9.4nm,1.2s,mb4.7						
LOHW	Long Hollow	67.55	1	eP	P	07 37 33.7	0.0
	comp=Z,8.5nm,1.4s,mb4.6						
BMO	Blue Mountains	68.96	356	eP	P	07 37 43.1	+0.7
	comp=Z,8.5nm,1.5s,mb4.5						
VNA3	Neumayer Olymp	71.07	160	e	P	07 37 56.5	+1.6
VNA3	Neumayer Olymp	71.07	160	e	P	07 38 01.6	+6.7
VNA3	Neumayer Olymp	71.07	160	e	P	07 38 09.1	+14
VNA3	Neumayer Olymp	71.07	160	⇑iP	P	07 37 54.1	-0.8
VNA3				e	pP	07 37 56.5	-1.5
VNA3				e		07 38 01.6	
VNA3				e		07 38 09.1	
VNA1	Neumayer--Stat	71.71	160	e	P	07 38 01.8	+3.1
VNA1	Neumayer--Stat	71.71	160	e	P	07 38 05.4	+6.7
VNA1	Neumayer--Stat	71.71	160	⇑iP	P	07 37 59.3	+0.6
VNA1				e	pP	07 38 01.8	-0.1
VNA1				e		07 38 05.4	
VNA2	Neumayer--Watz	71.88	160	e	P	07 38 01.7	+2.0
VNA2	Neumayer--Watz	71.88	160	e	P	07 38 06.7	+7.0
VNA2	Neumayer--Watz	71.88	160	e	P	07 38 12.0	+12
VNA2	Neumayer--Watz	71.88	160	⇑iP	P	07 37 58.8	-0.9
VNA2				e	pP	07 38 01.7	-1.2
VNA2				e		07 38 06.7	
VNA2				e		07 38 12.0	
NEW	Newport	72.35	356	eP	P	07 38 02.1	-0.8
	comp=Z,4.4nm,1.0s,mb4.3						
SNAA	Sanae	72.92	162	e	P	07 38 09.0	+3.2
SNAA	Sanae	72.92	162	e	P	07 38 12.7	+6.9
SNAA	Sanae	72.92	162	⇑iP	P	07 38 06.0	+0.2
SNAA				e	pP	07 38 09.0	0.0
SNAA				e		07 38 12.7	
ULM	Lac du Bonnet	75.52	11	P	P	07 38 20.9	-0.4
	comp=Z,2.6nm,0.8s,mb4.2,baz=180,slow=11,SNR=3.0						
EDM	Edmonton	77.17	359	eP	P	07 38 31.4	+1.0
CASY	Casey	84.20	196	P	P	07 39 06.4	-1.0
SYO	Syowa Base	84.70	170	⇓pP	pP	07 39 09.5	-3.5
YKA	Yellowknife Ar	86.48	359	P	P	07 39 19.4	+0.6
	comp=Z,3.0nm,0.9s,mb4.5,baz=174,slow=4.3,SNR=17						
SSE	Sheshan	132.91	291	PKP	PKPdf	07 45 54.6	+0.3
NJ2	Nanjing	134.97	292	ePKP	PKPdf	07 45 52.1	-6.0
AKASG	Malin Array Be	140.08	39	PKP	PKPdf	07 46 06.2	-0.6
	comp=Z,0.3nm,0.3s,baz=283,slow=2.2,SNR=4.7						
GYA	Guiyang	145.22	282	PKP	PKPdf	07 46 17.1	+0.6
GYA				PKS	PKS	07 49 52.0	+4.3
GYA				PP	PP		
	comp=Z,110nm,7.2s						
GYA				LR	LR		
	comp=N,120nm,20.8s,MS4.8						
GYA				LR	LR		
	comp=E,110nm,20.6s,MS4.8						
GYA				LR	LR		
	comp=Z,110nm,21.0s,MS4.6						
BR131	Keskin Array S	147.15	54	ePKPdf	PKPdf	07 46 17.6	-1.8
BRTR	Keskin Array B	147.15	54	PKPbc	PKPdf	07 46 19.5	+0.1
	comp=Z,3.9nm,0.9s,baz=225,slow=1.7,SNR=13						
KMI	Kunming	148.62	279	PKP	PKPdf	07 46 21.1	-1.0
BRVK	Borovoye	151.21	357	PKPdf	PKPdf	07 46 24.5	-0.8
BRVK				ePKPbc	PKPdf	07 46 30.4	+5.1
KURK	Kurchatov	152.38	346	ePKPbc	PKPdf	07 46 32.0	+4.9
WMQ	Urumqi	154.76	325	ePKP	PKPdf	07 46 30.5	-0.1
MKAR	Makanchi Array	154.83	337	PKP	PKPdf	07 46 29.2	-1.4
	comp=Z,0.2nm,0.5s,SNR=4.0						
MKAR				PKPbc	PKPdf	07 46 37.7	+7.2
	comp=Z,0.5nm,0.5s,baz=33,slow=1.1,SNR=5.2						
MKAR	Makanchi Array	154.83	337	PKP	PKPdf	07 46 29.2	-1.4
MKAR				PKPbc	PKPdf	07 46 37.7	+7.2

*NEIC **08** 07:30:46.6, 32.29S×70.30W, h5km, ML2.5(GUC), After GUC.*

GUC 08 07:30:46.6±1.1**, 32.29S×70.30W, h5km**±3km**, MD3.7, ML2.5, 8C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	0.46	212	⇑iP	Pg	07 30 56.0	+0.1
JACH				iS	Sg	07 31 02.9	+0.9
ROCH	El Roble	0.91	221	⇑iP	Pb	07 31 03.8	-0.6
ROCH				iS	Sb	07 31 16.7	+0.2
FCH	Farellones	1.03	179	⇓iP	Pb	07 31 05.5	-1.1
FCH				iS	Sb	07 31 20.0	-0.3
FCH				AMP		07 31 20.4	
	comp=E,161nm,0.2s						
CHNG	Los Chungos	1.09	291	⇑iP	Pb	07 31 07.1	-0.6
CHNG				iS	Sb	07 31 22.4	+0.3
CHNG				AMP		07 31 22.9	
	comp=N,106nm,0.3s						
CLCH	Cerro Calan	1.12	190	⇓iP	Pb	07 31 07.4	-0.7
CLCH				iS	Sb	07 31 22.9	+0.1
CLCH				AMP		07 31 27.2	
	comp=E,230nm,0.3s						
DSCH	Colegio Aleman	1.13	191	⇑iP	Pb	07 31 07.6	-0.7
DSCH				iS	Sb	07 31 23.1	0.0
DSCH				AMP		07 31 24.5	
	comp=E,346nm,0.5s						
STL	Santa Lucia	1.18	194	AMP		07 31 24.2	
	comp=N,76nm,0.2s						
FSR	Penalolen	1.20	189	⇑iP	Pb	07 31 09.0	-0.5
FSR				iS	Sb	07 31 25.6	+0.5
FSR				AMP		07 31 26.1	
	comp=E,165nm,0.5s						
CMCH	Combarbala	1.26	332	iP	Pb	07 31 09.1	-1.4
CMCH				iS	Sb	07 31 26.9	0.0
CMCH				AMP		07 31 31.6	
	comp=E,307nm,0.5s						
RCDM	Rinconada Maip	1.27	199	⇓iP	Pb	07 31 10.3	-0.3
RCDM				iS	Sb	07 31 27.4	+0.3
RCDM				AMP		07 31 27.8	
	comp=E,349nm,0.2s						
ANTU	Antumapu	1.31	192	⇓iP	Pb	07 31 10.5	-0.7
ANTU				iS	Sb	07 31 28.3	+0.1
ANTU				AMP		07 31 28.8	
	comp=E,139nm,0.3s						
PCH	Pirque	1.34	188	⇓iP	Pb	07 31 11.4	-0.4
PCH				iS	Sb	07 31 30.4	+1.3
TACH	Talagante	1.46	201	⇑iP	Pn	07 31 13.0	-0.7
TACH				iS	Sb	07 31 32.5	-0.2
LMEL	Las Melosas	1.56	177	eP	Pn	07 31 14.3	-0.8
LMEL				iS	Sb	07 31 35.6	+0.2
LMEL				AMP		07 31 50.7	
	comp=N,139nm,0.2s						
LCCH	Las Cruces	1.59	222	⇑iP	Pn	07 31 15.1	-0.5
LCCH				iS	Sb	07 31 36.7	+0.2
CHCH	Chadas Angostu	1.67	190	⇓iP	Pn	07 31 16.5	-0.1
CHCH				iS	Sb	07 31 39.0	+0.4
CACH	El Canelo	1.84	188	iS	Sn	07 31 44.6	+1.6
LNV	Longovilo	1.90	209	⇑iP	Pn	07 31 20.2	+0.1
LNV				iS	Sn	07 31 45.8	+1.1
TLL	Tololo Astrono	2.16	348	AMP		07 32 02.3	
	comp=N,262nm,0.4s						

*HEL **08** 07:34:45.9±0.3, 57.65N×22.37E, ML1.9, ML2.2(UPP), ML2.5(NAO), Explosion*

*CSEM **08** 07:34:45.1±0.3, 57.56N×22.40E, h2km, ML2.2, Error ellipse: s-maj=8.6km s-min=3.5km az=166.0, Mining explosion.*

*UPP **08** 07:34:45.6, 57.57N×22.37E, ML2.2, Mining explosion.*

*NAO **08** 07:34:47.7±2.5, 57.94N×22.31E, ML2.5*

*BER **08** 07:34:48.0±2.2, 57.87N×22.17E, ML2.5(NAO)*

ISC 08 07:34:44.1±1.0**, 57.66N**±0.06×**22.52E**±0.09**, n19, σ1§18**/32**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOTU	Gotland	2.12	272	eP	Pn	07 35 20.9	-0.4
VSU	Vasula	2.38	68	eP	Pn	07 35 27.2	+2.3
VSU				eS	Sn	07 35 58.0	+2.7
VSU	Vasula	2.38	68	Pn	Pn	07 35 27.3	+2.4
VSU				Sn	Sn	07 35 57.9	+2.6
NYNU	Nynaeshamn	2.74	301	eP	Pn	07 35 30.8	+0.7
NYNU				eS	Sn	07 36 05.5	+1.1
NYNU	Nynaeshamn	2.74	301	P	Pn	07 35 30.7	+0.6
NYNU				S	Sn	07 36 05.5	+1.1
NRTU	Norrtaelje	2.87	317	eP	Pn	07 35 32.6	+0.6
PVF	Pernaja	3.37	29	ePB	Pb	07 35 44.1	-0.4
PVF				eS	Sn	07 36 21.2	+0.8
PVF				MSG		07 36 34.8	
	comp=Z,3.5nm,0.3s						
GRAU	Graesoe	3.38	324	eP	Pn	07 35 39.8	+0.5
OSKU	Oskarshamn	3.50	265	eP	Pn	07 35 41.1	+0.2
VJF	Virojoki	3.88	40	ePB	Pb	07 35 52.5	-0.8
VJF				eSG	Sg	07 36 49.0	-4.4
FIA0	FINESS Array S	4.21	24	Pn	Pn	07 35 49.6	-1.4
	baz=211,slow=12						
FIA0				Pg	Pg	07 35 59.4	-8.8
	baz=211,slow=16						
FIA0				Sn	Sn	07 36 37.1	-4.4
	baz=210,slow=22						
FIA0				Lg		07 36 54.2	
	baz=215,slow=22						
FIA0	FINESS Array S	4.21	24	ePB	Pb	07 35 58.1	-0.8
FIA0				eSG	Sg	07 36 57.2	-7.0
FIA0	FINESS Array S	4.21	24	Pg	Pg	07 35 59.3	-8.8
	SNR=3.3						
FIA0				Sn	Sn	07 36 37.2	-4.4
FIA0				Sg	Sg	07 36 57.1	-7.1
KEF	Keuruu	4.68	14	ePB	Pb	07 36 05.4	-1.5
KEF				eSB	Sb	07 37 05.0	+0.7
KEF				MSG		07 37 11.0	
	comp=Z,1.2nm,0.3s						
KAF	Kangasniemi	4.86	22	eSB	Sb	07 37 11.3	+1.7
KAF				MSG		07 37 17.1	
	comp=Z,0.7nm,0.2s						
SUF	Sumiainen	5.39	18	eSB	Sb	07 37 25.2	+0.1
VAF	Ylistaro	5.40	1	eP	Pn	07 36 06.5	-1.4
VAF				eSB	Sb	07 37 24.6	-0.8
VAF				MSG		07 37 32.9	
	comp=Z,1.8nm,0.4s						
NB2	NORSAR Subarra	6.70	305	Pn	Pn	07 36 22.9	-3.3
	baz=116,slow=14						
NB2	NORSAR Subarra	6.70	305	eP	Pn	07 36 22.9	-3.3

*CASC **08** 08:08:00.6±2.5, 14.41N×91.78W, h81km, MD4.4, ML3.9, mb4.0(NEIC)*

*NEIC **08** 08:08:04.1±1.5, 14.23N×91.90W, h81km±9km, mb4.0/10, Error ellipse: s-maj=22.2km s-min=13.9km az=197.0*

*MEX **08** 08:08:08.3±0.8, 14.53N×91.95W, h112km±50km, MD4.6*

*IDC **08** 08:08:16.2±7.2, 15.22N×91.06W, h160km±60km, mb3.5/5, mb1 3.8/6, mb1mx3.5/19, mbtmp4.0/6, MS3.2/3, Ms1 3.2/3, ms1mx3.0/19, Error ellipse: s-maj=98.7km s-min=20.9km az=39.0*

ISC 08 08:08:00.5±0.5**, 14.20N**±0.06×**91.85W**±0.04**, h64km**±6km**, n64, σ1§27**/63**, mb4.0**/12**, 4C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	1.01	75	⇓iP	P	08 08 18.9	-0.1
PCG	Pacaya	1.22	81	eP	P	08 08 22.3	+0.4
PCG				eS	S	08 08 37.7	-0.1
IXG	Ixpaco	1.35	91	eP	P	08 08 23.5	-0.3
IXG				eS	S	08 08 41.0	-0.1
CCIG	Comitan	2.09	352	eP	P	08 08 37.2	+3.3
CCIG				eS	S	08 08 59.5	+0.7
RBDL	Robledal	2.10	92	eP	Px	08 08 46.7	
RBDL				eS	Sx	08 09 11.9	
RTR	El Retiro	2.16	98	eP	Px	08 08 47.6	
RTR				eS	Sx	08 09 15.6	
SBLS	San Blas	2.19	99	eP	Px	08 08 48.1	
SBLS				eS	Sx	08 09 13.5	
SNJE	San Jose	2.20	98	eP	Px	08 08 48.2	
SNJE				eS	Sx	08 09 16.4	
MRL	Marmol	2.26	67	⇑eP	P	08 08 36.9	+0.6
BOQS	Boqueron	2.54	100	eP	Px	08 08 52.9	
BOQS				eS	Sx	08 09 23.1	
SNET	Serv Nac Est T	2.59	101	⇑eP	P	08 08 40.3	-0.7
SCX	San Cristobal	2.64	343	iP	P	08 08 45.0	+3.3
SCX				iS	S	08 09 17.5	+5.0
LFU	La Fuente	2.69	99	⇑eP	Px	08 08 55.2	
LFU				eS	Sx	08 09 29.4	
LFRS	El Faro	2.77	102	eP	Px	08 08 56.1	
LFRS				eS	Sx	08 09 29.1	
LCBS	La Ceiba	2.84	101	eP	Px	08 08 57.0	
LCBS				eS	Sx	08 09 31.9	
SNVI	San Vicente	2.98	101	eP	Px	08 08 59.9	
SNVI				eS	Sx	08 09 35.6	
BLLM	Bellamira	3.59	102	eP	Px	08 09 08.4	
BLLM				eS	Sx	08 09 51.2	
CNCH	Conchagua	4.01	103	eP	Px	08 09 13.2	
CNCH				eS	Sx	08 09 59.5	
CMIG	Matias Romero	4.10	315	eP	P	08 09 03.8	+1.6
CMIG				eS	S	08 09 47.8	-1.6
HUIG	Huatulco	4.40	291	iS	S	08 09 57.0	+0.1
TUIG	Tuzandepetl	4.55	327	iP	P	08 09 08.1	-0.4
TUIG				eS	S	08 09 58.2	-2.3
CRIN	San Cristobal	4.90	107	eP	P	08 09 15.9	+2.6
CRIN				eS	S	08 10 09.3	-0.1
TEL3	Telica 3	5.13	108	eP	P	08 09 15.1	-1.4
TEL3				eS	S	08 10 13.6	-1.5
LEON	Leon	5.14	110	eP	P	08 09 16.7	0.0
CNGN	Cerro Negro	5.29	108	eP	P	08 09 18.2	-0.5
CNGN				eS	S	08 10 20.7	+1.7
MIRN	Miramar	5.30	109	⇑eP	P	08 09 17.6	-1.2
MIRN				eS	S	08 10 18.8	-0.5
MOMJ	Momotombo	5.46	108	eP	P	08 09 20.9	-0.2
MOMJ				eS	S	08 10 25.3	+1.9
COPN	Copaltepe	5.50	111	eP	P	08 09 20.0	-1.6
COPN				eS	S	08 10 22.8	-1.5
OXX	Oaxaca	5.50	302	eP	P	08 09 24.0	+2.3
OXX				eS	S	08 10 19.5	-4.9
VHO	Vista Hermosa	5.51	302	eP	P	08 09 22.8	+1.0
VHO				eS	S	08 10 22.4	-2.1
XAVN	Gruta Xavier	5.75	110	eP	P	08 09 23.8	-1.3
MGAN	Managua	5.82	110	eP	P	08 09 26.1	0.0
MGAN				i		08 10 40.2	
	comp=E,199nm,0.6s						
TICN	Ticuantepe	5.88	111	eP	P	08 09 27.4	+0.5
JCR	Jicaral	7.88	122	eP	P	08 09 55.3	+0.6
PPM	Popocatepetl	8.10	308	eP	P	08 09 57.5	-0.3
ACX	Acapulco	8.22	290	eP	P	08 09 58.5	-0.8
CGA2	Cerro Gallo 2	8.33	119	eP	P	08 10 02.6	+1.8
LAJ	Bijagual	8.70	119	eP	P	08 10 03.4	-2.6
LCR2	La Lucha 2	8.86	119	eP	P	08 10 09.8	+1.6
LTX	Lajitas	18.62	326	eP	P	08 12 16.7	+1.4
	comp=E,4.0nm,0.8s						
TXAR	Lajitas Array	18.62	326	P	P	08 12 17.0	+1.7
	comp=E,0.4nm,0.3s,baz=155,slow=12,SNR=72						
MNTX	Cornudas Mount	21.38	327	eP	P	08 12 45.0	+0.4
	comp=E,13nm,0.8s,mb4.3						
WMOK	Wichita Mounta	21.39	344	eP	P	08 12 42.8	-1.9
	comp=E,12nm,1.4s,mb4.0						
SDV	Santo Domingo	21.44	102	P	P	08 12 46.8	+1.5
	comp=E,4.5nm,0.5s,mb4.0,baz=303,slow=9.6,SNR=5.8						
SDV				LR	LR	08 21 08.1	
	comp=E,47nm,21.4s,baz=37,slow=37						
SDV	Santo Domingo	21.44	102	eP	P	08 12 47.3	+2.0
	comp=E,5.1nm,0.7s,mb4.0						
SIUC	Southern Illin	23.54	5	eP	P	08 12 59.0	-6.7
ANMO	Albuquerque	24.51	330	P	P	08 13 17.3	+2.1
	comp=E,2.1nm,0.5s,mb3.9,baz=145,slow=11,SNR=17						
ANMO	Albuquerque	24.51	330	eP	P	08 13 16.8	+1.6
	comp=E,2.1nm,0.6s,mb3.8						
SJG	San Juan	24.98	78	LR	LR	08 22 32.0	
	comp=E,59nm,18.9s,baz=267,slow=36						
TUC	Tucson	24.98	319	eP	P	08 13 20.2	+0.4
	comp=E,4.9nm,0.9s,mb4.0						
MSU	Marysvale	30.16	327	eP	P	08 14 07.9	+1.1
BW06	Boulder Array	32.30	335	P	P	08 14 24.2	-1.3
PDAR	Pinedale Array	32.30	335	P	P	08 14 23.5	-2.1
	comp=E,0.4nm,0.6s,mb3.4,baz=139,slow=8.3,SNR=4.5						
REDW	Red Top Meadow	33.33	334	eP	P	08 14 34.3	-0.1
SNOW	Snow King Moun	33.37	335	eP	P	08 14 34.8	0.0
	comp=E,5.4nm,0.6s,mb4.7						
ELK	Elko	33.41	327	eP	P	08 14 36.5	+1.4
	comp=E,2.0nm,0.7s,mb4.2						
HLID	Hailey	35.08	331	eP	P	08 14 49.3	0.0
	comp=E,1.6nm,0.7s,mb4.1						
WVOR	Wild Horse Val	36.41	326	eP	P	08 15 00.9	+0.2
	comp=E,2.1nm,1.0s,mb4.0						
LPAZ	La Paz	38.30	141	LR	LR	08 31 08.1	
	comp=E,42nm,20.0s,baz=68,slow=36						
YKA	Yellowknife Ar	50.87	347	P	P	08 16 54.8	-2.0
	comp=E,0.7nm,0.6s,mb3.8,baz=151,slow=7.7,SNR=5.6						
YKA	Yellowknife Ar	50.87	347	P	P	08 16 54.8	-2.0
ILAR	Eielson Array	62.72	337	P	P	08 18 19.9	-1.0
	comp=E,2.1nm,0.9s,mb4.3,baz=116,slow=5.6,SNR=17						
MKAR	Makanchi Array	119.07	5	PKP	PKPdf	08 26 42.5	+0.3
	comp=E,0.3nm,0.5s,baz=297,slow=2.7,SNR=4.1						
WRA	Warramunga Arr	135.58	256	PKP	PKPdf	08 27 20.8	+6.3
	comp=E,0.4nm,0.8s,baz=87,slow=2.6,SNR=6.0						

*NEIC **08** 08:15:55.1, 16.52N×98.42W, h18km, MD3.8(MEX), After MEX.*

MEX 08 08:15:55.1±1.3**, 16.53N×98.42W, h18km**±56km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.31	116	eP	Pb	08 16 00.3	-1.6
PNIG				eS	Sb	08 16 05.6	-0.8
ACX	Acapulco	1.48	283	iP	Pn	08 16 17.0	-4.0
ACX				iS	Sn	08 16 35.0	-4.9
VHO	Vista Hermosa	1.70	71	eP	Pn	08 16 21.3	-3.0
VHO				eS	Sn	08 16 41.5	-4.2
OXX	Oaxaca	1.71	71	iP	Pn	08 16 22.0	-2.4
OXX				iS	Sn	08 16 40.5	-5.5
CAIG	El Cayaco	1.84	286	eP	Pn	08 16 23.9	-2.4
CAIG				eS	Sn	08 16 43.2	-6.1
PLIG	Platanillo	2.12	331	iP	Pn	08 16 28.2	-2.1
PLIG				iS	Sn	08 16 52.3	-4.1
YAIG	Yautepec	2.40	345	eP	Pn	08 16 32.8	-1.4
YAIG				eS	Sn	08 16 58.1	-5.3
PPM	Popocatepetl	2.53	356	eP	Pn	08 16 30.5	-5.6
CMIG	Matias Romero	3.43	80	eP	Pn	08 16 43.9	-5.0
CMIG				eS	Sn	08 17 25.0	-4.5

*IDC **08** 08:22:00.7±0.7, 5.26N×95.94E, mb4.2/10, mb1 4.3/10, mb1mx4.1/18, mbtmp4.2/10, MS3.9/1, Ms1 3.9/1, ms1mx3.3/20, Error ellipse: s-maj=36.1km s-min=16.2km az=47.0*

*BJI **08** 08:22:04.6, 5.10N×95.80E, h30km, mb4.4, Ms4.5, Msz4.3*

*NEIC **08** 08:22:05.3±0.6, 5.08N×95.81E, h30km, mb4.6/5, Error ellipse: s-maj=17.9km s-min=11.2km az=213.0*

ISC 08 08:22:02.6±7.3**, 5.1N**±0.1×**95.9E**±0.2**, h24km**±51km**, n33, σ1§04**/28**, mb4.3**/14**, MS4.1**/2**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PKT	Phuket	3.74	38	P	Pn	08 23 05.8	+5.4
KULM	Kulim	4.79	88	ePn	Pn	08 23 15.4	+0.3
SNG	Songkhla	5.16	67	P	Pn	08 23 20.0	-0.5
	180nm,0.8s						
KSM	Kuching	14.88	104	eP	P	08 25 42.0	+8.4
CHRT	Chiangrai	15.15	14	⇑P	P	08 25 34.2	-2.8
KKM	Kota Kinabalu	20.29	86	eP	P	08 26 41.4	+1.7
KMI	Kunming	20.95	18	P	P	08 26 47.9	+1.4
KMI				AMB	AMB		
	comp=Z,18nm,0.9s						
KMI				LR	LR		
	comp=N,688nm,10.0s,MS4.3						
KMI				LR	LR		
	comp=E,309nm,13.0s,MS4.3						
KMI				LR	LR		
	comp=Z,667nm,12.0s,MS4.2						
KMI	Kunming	20.95	18	P	P	08 26 47.9	+1.4
	comp=Z,18nm,0.9s						
KMI				LR	LR		
	comp=Z,670nm,12.0s,MS4.2						
WHN	Wuhan	30.70	32	eP	P	08 28 23.5	+5.4
GTA	Gaotai	34.32	5	eP	P	08 28 50.0	+0.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	37.37	129	P	P	08 29 15.0	-0.5
	comp=Z,13nm,0.7s,mb4.8,baz=308,slow=2.0,SNR=9.2						
MKAR	Makanchi Array	43.13	346	P	P	08 30 01.8	-1.2
	comp=Z,0.5nm,0.5s,mb3.5,baz=162,slow=7.7,SNR=6.1						
WRA	Warramunga Arr	45.30	125	P	P	08 30 20.5	-0.3
	comp=Z,5.7nm,0.5s,mb4.6,baz=302,slow=9.3,SNR=47						
WRAB	Tennant Creek	45.31	125	eP	P	08 30 20.1	-0.7
	comp=Z,9.1nm,0.6s,mb4.8						
ASPA	Alice Springs	46.87	129	eP	P	08 30 33.3	+0.2
KURK	Kurchatov	47.67	345	P	P	08 30 40.6	+1.5
	comp=Z,9.6nm,1.7s,mb4.5						
CBIJ	Chichi jima	49.21	58	LR	LR	08 50 02.6	
	comp=Z,124nm,18.1s,MS3.9,baz=319,slow=34						
BVAR	Borovoye Array	52.12	341	P	P	08 31 12.5	-0.6
	comp=Z,0.6nm,0.6s,mb3.7,baz=130,slow=11,SNR=4.0						
STKA	Stephens Creek	57.00	133	eP	P	08 31 48.6	-0.5
	comp=Z,2.6nm,0.6s,mb4.4						
STKA	Stephens Creek	57.00	133	P	P	08 31 48.8	-0.3
	comp=Z,3.2nm,0.7s,mb4.5,baz=309,slow=6.9,SNR=7.8						
KMBO	Kilima Mbogo	58.86	266	P	P	08 32 02.4	+0.1
	comp=Z,1.5nm,0.8s,mb4.1,baz=110,slow=3.7,SNR=4.3						
KMBO	Kilima Mbogo	58.86	266	P	P	08 32 02.4	+0.1
BRTR	Keskin Array B	65.50	311	P	P	08 32 47.1	+0.7
	comp=Z,1.6nm,0.5s,mb4.3,baz=135,slow=8.5,SNR=7.9						
LBTB	Lobatse	74.45	242	eP	P	08 33 42.1	+0.8
	comp=Z,5.3nm,0.7s,mb4.6						
FINES	FINESS Array B	75.92	332	P	P	08 33 47.0	-1.9
	comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=3.8,SNR=4.8						
FINES	FINESS Array B	75.92	332	P	P	08 33 47.0	-1.9
ARCES	ARCESS Array B	78.41	340	P	P	08 34 01.2	-1.4
	comp=Z,4.4nm,1.2s,mb4.3,baz=90,slow=6.1,SNR=5.8						
ARCES	ARCESS Array B	78.41	340	P	P	08 34 01.2	-1.4
GERES	GERESS Array B	80.99	319	P	P	08 34 18.1	+1.2
	comp=Z,1.2nm,0.7s,mb4.0,baz=72,slow=4.2,SNR=6.9						
PDAR	Pinedale Array	127.05	23	PKP	PKPdf	08 41 08.8	-1.0
	comp=Z,1.2nm,1.1s,slow=1.5,SNR=5.2						
TXAR	Lajitas Array	140.94	28	PKP	PKPdf	08 41 32.1	-4.1
	comp=Z,0.5nm,0.9s,baz=121,slow=1.1,SNR=4.6						

CPUP Villa Florida 146.81 228 PKPbc PKPbc 08 41 45.2 +1.9
comp=Z,2.7nm,0.9s,baz=190,slow=3.9,SNR=6.1
LPAZ La Paz 160.76 234 PKPab PKPab 08 42 46.4 +0.6
comp=Z,1.0nm,0.6s,baz=84,slow=5.7,SNR=5.8

MAN 08 08:22:49.9, 18.09N×120.32E, h24km, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ABRA Dolores 0.57 139 *e*P Pb 08 23 01.6 +0.4
ABRA *e*S Sb 08 23 11.1 +2.2
CVP Callao Caves 1.48 105 *e*P Pn 08 23 15.0 -0.4
CVP *e*S Sn 08 23 32.0 -2.1
SGCP Mt. Cagua 1.65 84 *e*P Pn 08 23 17.0 -0.8
SGCP *e*S Sn 08 23 38.4 0.0
BCPH Baguio City Da 1.72 172⇑*i*P Pn 08 23 17.2 -1.5
BCPH *i* S 08 23 17.4
CAUP Cauayan 1.83 128 *e*P Pn 08 23 21.7 +1.4
SCZP Santa Cruz 2.33 190 *e*P Pn 08 23 27.2 -0.4
BALP Baler 2.62 153 *e*P Pn 08 23 32.1 +0.3
BBP Basco 2.81 33 *e*P Pn 08 23 34.4 0.0

*IDC **08** 08:24:57.2±0.8, 53.51N×164.68W, mb4.4/14, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, ML3.7/2, MS3.8/8, Ms1 3.8/8, ms1mx3.5/28, Error ellipse: s-maj=22.4km s-min=12.5km az=171.0*
*MOS **08** 08:24:58.9±1.5, 53.09N×164.77W, h33km, mb4.8/10, Error ellipse: s-maj=22.3km s-min=9.6km az=90.2*
*BJI **08** 08:24:59.6, 53.76N×164.98W, h22km, mB5.0, mb4.6, Ms4.6, Msz4.3*
*NEIC **08** 08:25:03.0±0.5, 53.42N×164.59W, h42km±3km, mb4.6/21, ML4.2(AEIC), ML4.1(PMR), Error ellipse: s-maj=6.6km s-min=3.3km az=167.0*
ISC 08 08:25:01.3±0.6, **53.30N**±0.05×**164.58W**±0.04, **h45**km±4km, **n135**, σ**1^{s}08**/137, **mb4.5**/49, **MS4.0**/12, **3C-1D, Unimak Island region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AKA Akutan 1.10 320 P **P 08 25 20.6 +0.1**
AKA S **S 08 25 37.8 +3.0**
AKUT Akutan 1.10 320 P **P 08 25 20.3 -0.2**
AKUT S **S 08 25 37.9 +3.1**
AHB Akutan Harbor 1.10 319 P **P 08 25 20.5 0.0**
WESS West Dahl Sout 1.19 356 P **P 08 25 21.3 -0.4**
AKLV Akutan Long Va 1.19 317 P **P 08 25 21.9 +0.1**
LVA Lava Point 1.22 316 P **P 08 25 22.9 +0.7**
AKGG Akutan Green G 1.23 318 P **P 08 25 23.0 +0.5**
WFAR Faris Peak 1.25 355 P **P 08 25 22.3 -0.4**
UNV Unalaska Valle 1.27 296 P **P 08 25 23.0 0.0**
UNV S **S 08 25 41.0 +1.8**
WESN West Dahl Nort 1.27 360 P **P 08 25 22.7 -0.3**
WPOG Pogromni 1.31 356 P **P 08 25 23.1 -0.5**
MTBL Makushin Table 1.42 299 P **P 08 25 25.9 +0.7**
MSW Makushin Switc 1.45 296 P **P 08 25 26.1 +0.5**
SSLW Shishaldin Wes 1.50 10 P **P 08 25 25.0 -1.4**
MCIR Makushin Cirqu 1.53 296 P **P 08 25 27.3 +0.6**
SSLN Shishaldin Nor 1.56 13 P **P 08 25 26.4 -0.7**
OKCD Okmok Cone D 2.12 275 P **P 08 25 35.4 +0.4**
OKCE Okmok Cone E 2.15 275 P **P 08 25 36.1 +0.6**
BALA Baldy Mountain 2.17 28 P **P 08 25 36.0 +0.2**
DTNA Dutton South F 2.31 35 P **P 08 25 36.4 -1.3**
DOL Dolgoi Island 2.45 40 P **P 08 25 37.8 -2.0**
HAG Hague Volcano 2.56 37 P **P 08 25 40.1 -1.2**
NIKO Nikolski 2.59 265 P **P 08 25 42.0 +0.2**
PVV Pavlof Volcano 2.65 37 P **P 08 25 43.4 +0.9**
PS1A Pavlof South-1 2.70 37 P **P 08 25 42.5 -0.8**
SDPT Sand Point 3.16 48 P **P 08 25 47.6 -2.3**
CHGN Chignik 4.67 47 *e*P **P 08 26 08.0 -3.2**
ATKA Atka Island 5.94 263 P **P 08 26 28.4 -0.5**
GSCK Great Sitkin C 7.16 264 P **P 08 26 45.4 -0.8**
MGLS Mageik LS 7.17 43 P **P 08 26 44.2 -2.1**
ADAG Mount Adagdak 7.43 265 P **P 08 26 49.3 -0.6**
KIMD Kanaga Island 7.87 264 P **P 08 26 55.1 -0.9**
KDAK Kodiak Island 8.15 52 P **P 08 26 56.2 -3.6**
SVW2 Sparrevohn 9.21 28 *e*P **P 08 27 16.0 +1.6**
RSO Redoubt South 9.65 37 P **P 08 27 24.6 +4.2**
SPU Mount Spurr 10.40 36 *e*P **P 08 27 33.0 +2.4**
TTA Tatalina 10.66 22 *e*P **P 08 27 32.5 -1.6**
SML Sawmill 12.17 39 P **P 08 27 56.6 +2.1**
DIV Divide 12.82 45 P **P 08 28 03.4 +0.1**
60nm,0.6s
MCK McKinley 13.23 32 P **P 08 28 11.3 +2.8**
11nm,1.2s
FX1 Attu Island--F 13.38 277 Pn **P 08 28 10.4 -0.1**
3.4nm,0.3s,baz=24,slow=6.9,SNR=26
IMA Indian Mountai 13.91 19 *e*P **P 08 28 20.0 +2.7**
MENT Mentasta 14.58 40 *e*P **P 08 28 28.2 +2.1**
ILAR Eielson Array 14.60 31 Pn **P 08 28 20.6 -5.7**
baz=227,slow=13,SNR=1.5
ILAR LR LR 08 34 29.1
comp=Z,563nm,18.2s,baz=246,slow=40
DAWY Dawson 16.83 40 *e*P **P 08 28 55.7 +0.9**
DLBC Dease Lake 19.90 61 P **P 08 29 30.4 -1.2**
0.1nm,0.3s,baz=309,slow=13,SNR=2.7
DLBC LR LR 08 37 18.8
comp=Z,244nm,19.5s,baz=112,slow=37
BILL Bilibino 20.24 328 *e*P **P 08 29 37.5 +2.5**
BILL pmax pmax
comp=Z,15nm,1.0s
INK Inuvik 20.99 32 P **P 08 29 38.4 -4.3**
comp=Z,20nm,0.9s,baz=237,slow=7.9,SNR=13
MA2 Magadan 25.07 302*de*P **P 08 30 22.2 -0.4**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
YKA Yellowknife Ar 27.43 51 P **P 08 30 44.6 +0.2**
comp=Z,0.9nm,0.7s,mb3.4,baz=275,slow=7.6,SNR=6.0
YKA LR LR 08 42 39.6
comp=Z,255nm,19.0s,MS3.8,baz=265,slow=39
EDM Edmonton 30.11 69 *e*P **P 08 31 08.8 +0.3**
YBH Yreka Blue Hor 30.12 95 LR LR 08 40 51.2
comp=Z,140nm,18.6s,MS3.6,baz=303,slow=32
CMB Columbia Colle 33.84 99 P **P 08 31 42.4 +1.1**
comp=Z,4.5nm,1.0s,mb4.3
ELK Elko 35.20 91 *e*P **P 08 31 53.5 +0.6**
comp=Z,3.0nm,1.3s,mb4.1
ELK Elko 35.20 91 *e*P **P 08 31 53.5 +0.6**
ELK pmax pmax
comp=Z,3.0nm,1.3s
ASAJ Asahikawa 35.31 277 P **P 08 31 53.1 -0.6**
comp=Z,24nm,0.9s,mb5.1,baz=174,slow=3.2,SNR=7.0
MTUM Tungsten Hills 35.38 98 *e*P **P 08 31 55.3 +0.8**
DUG Dugway 36.99 89 *e*P **P 08 32 08.3 +0.2**
comp=Z,3.3nm,0.9s,mb4.2
BW06 Boulder Array 37.39 84 P **P 08 32 12.0 +0.7**
PDAR Pinedale Array 37.39 84 P **P 08 32 12.6 +1.2**
comp=Z,0.3nm,0.6s,mb3.3,baz=307,slow=4.5,SNR=2.9
ARUT Antelope Range 38.15 93 *e*P **P 08 32 18.1 +0.4**
NEN Nelson 38.74 97 *e*P **P 08 32 23.4 +0.8**
SRU San Rafael 39.05 89 *e*P **P 08 32 25.5 +0.3**
PV01 Paradox Valley 40.85 89 *e*P **P 08 32 39.9 -0.2**
MJAR Matsushiro Arr 42.62 271 P **P 08 32 56.1 +1.5**
comp=Z,5.0nm,0.9s,mb4.2,baz=4.5,slow=12,SNR=7.2
MAT Matsushiro 42.62 271 P **P 08 32 55.0 +0.4**
MAT Matsushiro 42.62 271 *e*P **P 08 32 55.0 +0.4**
comp=Z,17nm,1.0s,mb4.7
MDJ Mudanjiang 42.66 286 P **P 08 32 52.4 -2.5**
MDJ AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,164nm,4.6s
MDJ LR LR
comp=N,96nm,23.1s,MS3.7
MDJ LR LR
comp=E,53nm,23.1s,MS3.7
MDJ LR LR
comp=Z,104nm,21.7s,MS3.7
BOD Bodaibo 43.65 310 *e*P **P 08 33 01.2 -1.5**
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
ANMO Albuquerque 44.23 90 P **P 08 33 09.1 +1.4**
comp=Z,0.3nm,0.4s,mb3.4,baz=340,slow=12,SNR=3.6
ANMO Albuquerque 44.23 90 *e*P **P 08 33 08.9 +1.2**
comp=Z,3.7nm,1.1s,mb4.0
CN2 Changchun 45.53 288 *e*P **P 08 33 16.6 -1.4**
MNTX Cornudas Mount 47.14 93 *e*P **P 08 33 31.4 +0.5**
comp=Z,8.7nm,1.2s,mb4.6
WMOK Wichita Mounta 48.98 85 *e*P **P 08 33 43.2 -1.9**
comp=Z,4.6nm,1.1s,mb4.4
SUMG Summit 49.00 19 *e*P **P 08 33 44.5 -0.3**
comp=Z,8.8nm,0.6s,mb5.0
LTX Lajitas 49.86 94 *e*P **P 08 33 52.1 +0.1**
comp=Z,9.7nm,1.0s,mb4.8
TXAR Lajitas Array 49.86 94 P **P 08 33 52.0 0.0**
comp=Z,1.5nm,0.6s,mb4.2,baz=299,slow=5.6,SNR=14
TXAR LR LR 08 53 22.2
comp=Z,37nm,20.9s,MS3.4,baz=335,slow=34
TXAR Lajitas Array 49.86 94 P **P 08 33 52.0 0.0**
TXAR LR LR 08 53 22.2
ULN Ulaanbaatar 52.93 302 *e*P **P 08 34 13.9 -0.9**
ZAK Zakamensk 53.13 307⇑*i*P **P 08 34 15.4 -0.9**
ZAK *e* 08 35 25.1
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
SONM Songino Array 53.28 303 P **P 08 34 16.4 -1.0**
comp=Z,6.5nm,0.9s,mb4.6,baz=45,slow=8.4,SNR=7.9
ARCES ARCESS Array B 57.26 356 P **P 08 34 44.2 -1.8**
comp=Z,3.3nm,0.8s,mb4.4,baz=27,slow=8.1,SNR=10
ARCES LR LR 09 01 32.6
comp=Z,104nm,18.2s,MS4.0,baz=238,slow=38
ARCES ARCESS Array B 57.26 356 P **P 08 34 44.2 -1.8**
ARCES LR LR 09 01 32.6
NJ2 Nanjing 57.26 281 *e*P **P 08 34 46.2 -0.3**
NJ2 PP PP 08 36 55.3 -0.1
NJ2 S **S 08 42 35.0 -2.4**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,110nm,7.2s
NJ2 LR LR
comp=N,320nm,13.5s,MS4.8
NJ2 LR LR
comp=E,330nm,12.5s,MS4.8
NJ2 LR LR
comp=Z,120nm,15.4s,MS4.1
GTA Gaotai 62.59 300 *e*P **P 08 35 22.1 -0.8**
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,44nm,4.9s
GTA LR LR
comp=N,188nm,16.4s,MS4.5
GTA LR LR
comp=E,183nm,16.3s,MS4.5
GTA LR LR
comp=Z,197nm,20.9s,MS4.3
JOF Joensuu 63.46 352 *e*p **P 08 35 25.6 -2.7**
comp=Z,3.4nm,0.5s,mb4.7
JOF Joensuu 63.46 352 *e*P **P 08 35 25.6 -2.7**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
KURK Kurchatov 63.56 321 *e*P **P 08 35 28.0 -1.0**
comp=Z,7.8nm,0.8s,mb4.8
BVA0 Borovoye Array 64.58 327 *i* P **P 08 35 35.1 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BVAR Borovoye Array 64.58 327 P **P 08 35 34.8 -0.8**
comp=Z,12nm,0.8s,mb5.0,baz=45,slow=6.3,SNR=38
BRVK Borovoye 64.59 327 *e*P **P 08 35 34.6 -1.0**
KAF Kangasniemi 64.61 354 *e*p **P 08 35 33.6 -2.0**
comp=Z,3.2nm,0.6s,mb4.5,baz=3.4,slow=6.3
KAF Kangasniemi 64.61 354 *e*P **P 08 35 33.6 -2.0**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
VOSK Vostochnaya 64.64 326 P **P 08 35 35.0 -0.9**
WMQ Urumqi 65.19 311 P **P 08 35 39.5 -0.2**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,92nm,3.7s
WMQ LR LR
comp=N,245nm,21.6s,MS4.5
WMQ LR LR
comp=E,226nm,22.6s,MS4.5
WMQ LR LR
comp=Z,184nm,18.4s,MS4.3
MKAR Makanchi Array 65.22 316 P **P 08 35 38.5 -1.4**
comp=Z,5.2nm,0.7s,mb4.7,baz=59,slow=7.1,SNR=15
MKAR LR LR 09 05 42.1
comp=Z,153nm,18.2s,MS4.2,baz=21,slow=38
FINES FINESS Array B 65.29 354 P **P 08 35 38.6 -1.5**
comp=Z,1.3nm,0.6s,mb4.2,baz=22,slow=10,SNR=6.5
FINES LR LR 09 02 44.3
comp=Z,76nm,21.5s,MS3.9,baz=354,slow=35
FINES FINESS Array B 65.29 354 P **P 08 35 38.6 -1.5**
FINES LR LR 09 02 44.3
NB2 NORSAR Subarra 65.96 2 P **P 08 35 42.7 -1.6**
comp=Z,9.1nm,1.1s,mb4.7,baz=357,slow=6.5
NOA NORSAR Array B 65.96 2 P **P 08 35 43.5 -0.9**
comp=Z,1.6nm,0.8s,mb4.1,baz=358,slow=6.6,SNR=4.6
GYA Guiyang 68.52 286⇑*i*P **P 08 36 01.7 +0.7**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
AB31 Akbulak array 71.11 331 P **P 08 36 16.2 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TKM2 Tokmak 2 71.13 318 P **P 08 36 17.6 +0.9**
SNR=5.6
USP Ospenovka 71.28 319 P **P 08 36 18.2 +0.6**
SNR=6.8
FRU Bishkek 71.60 318 P **P 08 36 20.4 +1.0**
KBK Karagaybulak 71.61 318 P **P 08 36 20.7 +1.2**
SNR=5.8
KMI Kunming 71.81 288 P **P 08 36 20.1 -0.8**
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
KMI AMB AMB
comp=Z,198nm,7.5s
KMI LR LR
comp=Z,176nm,15.7s,MS4.4
KMI Kunming 71.81 288 P **P 08 36 20.1 -0.8**
comp=Z,6.0nm,0.9s,mb4.5
KMI pP pP 08 36 35.8 +1.9
KMI sP sP 08 36 42.4 +3.6
KMI LR LR
comp=Z,180nm,15.7s,MS4.4
AAK Ala-Archa 71.82 318 P **P 08 36 21.4 +0.7**
SNR=9.3
AAK Ala-Archa 71.82 318 P **P 08 36 21.2 +0.5**
AAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
EKS2 Erkin-Say 72.08 319 P **P 08 36 23.3 +1.1**
SNR=7.6
AKASG Malin Array Be 75.73 351 P **P 08 36 42.6 -0.6**
comp=Z,1.6nm,0.5s,mb4.2,baz=5.7,slow=5.6,SNR=7.9
LDF La Druitiere 77.63 10 *e*P **P 08 36 54.2 +0.2**
comp=Z,11nm,0.7s,mb4.6
SGMF Saint Gilles 77.68 12 *e*P **P 08 36 54.5 +0.2**
GRR Gorron 77.75 11 *e*P **P 08 36 55.0 +0.3**
KHC Kasperske Hory 77.94 1 *e*P **P 08 36 55.5 -0.1**
KHC pP pP 08 37 08.5 -0.2
GERES GERESS Array B 78.22 1 P **P 08 36 57.3 +0.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=18,slow=4.2,SNR=4.5
GOF Gofitskoye 79.21 340⇑*i*P **P 08 37 02.1 -0.6**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.1
LOR Lormes 79.33 8 *e*P **P 08 37 04.1 +0.8**
comp=Z,9.5nm,0.8s,mb4.5
LOR *e*R
comp=Z,66nm,22.8s
SSF Saint Saulge 79.50 8 *e*P **P 08 37 04.7 +0.4**
comp=Z,8.0nm,0.7s,mb4.4
MFF Saint Martin d 79.60 11 *e*P **P 08 37 05.3 +0.5**
comp=Z,7.2nm,0.6s,mb4.5
AVF Avril sur Loir 79.76 8 *e*P **P 08 37 05.9 +0.2**
comp=Z,11nm,0.8s,mb4.5
SMF Signal de Mont 79.95 8 *e*P **P 08 37 06.8 +0.1**
comp=Z,19nm,1.0s,mb4.7
TCF Toulx Ste Croi 80.15 9 *e*P **P 08 37 08.5 +0.7**
KIV Kislovodsk 80.34 340 *e*P **P 08 37 10.2 +1.4**
KIV pmax pmax
comp=N,16nm,1.2s
KIV pmax pmax
comp=E,8.0nm,1.2s
KIV pmax pmax
comp=Z,18nm,1.2s,mb4.9
KIV MLR MLR
comp=N,46nm,18.0s
KIV MLR MLR
comp=Z,70nm,18.0s,MS4.0
VIVF Saint-Julien-l 81.79 8 *e*P **P 08 37 16.6 +0.2**
TI2 Plekhanov 82.03 338 *e*P **P 08 37 28.0 +10**
MBDF Montbardon 82.07 6 *e*P **P 08 37 19.8 +1.9**
comp=Z,14nm,0.9s,mb4.6
SMRF Simiane la Rot 82.74 7 *e*P **P 08 37 21.1 -0.2**
comp=Z,115nm,1.5s,mb5.4
SBF Sospel 82.98 6 *e*P **P 08 37 22.9 +0.4**
comp=Z,100nm,1.2s,mb5.4
FRF La Foret Royal 83.23 6 *e*P **P 08 37 24.1 +0.3**
LMR La Mourre 83.44 7 *e*P **P 08 37 24.9 0.0**
BRTR Keskin Array B 86.02 346 P **P 08 37 39.2 +1.6**
comp=Z,6.8nm,0.9s,mb4.9,baz=37,slow=2.5,SNR=20
HYB Hyderabad 91.21 302 *i* P **P 08 38 03.5 +0.6**
MAW Mawson 153.42 219 PKPbc PKPdf 08 44 54.8 +10
comp=Z,1.6nm,0.8s,baz=334,slow=17,SNR=6.7
MAW PKPab PKPab 08 45 07.5 -0.1
comp=Z,2.9nm,0.8s,baz=74,slow=4.1,SNR=7.4

*IDC **08** 08:26:00.8±0.6, 9.65N×125.11E, mb4.5/17, mb1 4.6/17, mb1mx4.5/23, mbtmp4.5/17, MS3.7/4, Ms1 3.7/4, ms1mx3.4/20, Error ellipse: s-maj=32.9km s-min=13.2km az=75.0*
*MAN **08** 08:26:02.6, 9.72N×125.39E, h8km, mb5.3, ML4.3, MS4.5*
MAN SURIGAO CITY - INTENSITY IV.
*MOS **08** 08:26:08.2±1.6, 9.63N×125.22E, h74km, mb4.9/16, Error ellipse: s-maj=24.4km s-min=8.5km az=116.9*
*BJI **08** 08:26:09.2, 10.20N×125.28E, h51km, mB5.1, mb4.7, Ms4.4, Msz4.1*
*NEIC **08** 08:26:10.1±1.4, 9.60N×125.14E, h76km±13km, mb4.7/19, Error ellipse: s-maj=16.8km s-min=7.0km az=74.0*
NEIC Felt [IV PIVS] at Surigao.
ISC 08 08:26:05.1±0.5, **9.67N**±0.03×**125.37E**±0.04, **h44**km±4km, **n98**, σ**1^{s}21**/105, **mb4.7**/42, **MS4.0**/7, **4C-3D, Mindanao**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SCPH Surigao 0.16 45⇑*e*P **P 08 26 05.2 -7.3**
MSLP Maasin 0.69 313 *e*P **P 08 26 16.5 -1.9**
MSLP *e*S **S 08 26 27.9 -0.4**
BUTP Butuan 0.74 160 *e*P **P 08 26 17.9 -1.2**
CGP Cagayan de Oro 1.38 209⇑*e*P **P 08 26 28.0 -0.3**
CGP *e*S **S 08 26 49.0 +3.5**
TBP Tagbilaran 1.49 271 *i* P **P 08 26 29.3 -0.6**
TBP *i* S **S 08 26 49.1 +0.8**
LLP Lapu-Lapu 1.53 295⇓*i*P **P 08 26 29.0 -1.4**
LLP *e*S **S 08 26 50.3 +1.0**
PLP Palo 1.54 345 *e*P **P 08 26 30.9 +0.3**
PLP *e*S **S 08 26 50.4 +0.9**
BIPH Bislig 1.77 146⇑*e*P **P 08 26 33.0 -0.7**
BIPH *e*S **S 08 26 57.9 +2.8**
BUKP Musuan 1.80 190 *e*P **P 08 26 34.7 +0.4**
BESP Borongan 1.92 2 *e*P **P 08 26 34.9 -1.1**
SNPH Sibulan 2.13 261⇓*e*P **P 08 26 39.0 +0.1**
SNPH *e*S **S 08 27 08.5 +4.2**
DCPH Dipolog City 2.27 242 *e*P **P 08 26 40.6 -0.2**
DAV Davao City (W) 2.59 175 *e*Pn **P 08 26 49.1 +3.7**
PAGZ Pagadian 2.67 228 *e*P **P 08 26 47.7 +1.0**
CTBH Cotabato--PC H 2.67 205⇓*e*P **P 08 26 47.3 +0.6**
CTBH *i* S **S 08 27 28.1 +10**
GUIM Jordan 2.90 289 *e*P **P 08 26 50.4 +0.4**
CNP Catarman 2.91 346 *e*P **P 08 26 49.9 -0.1**
RCP Roxas 3.19 306⇑*i*P **P 08 26 53.5 -0.6**
IPIL Ipil 3.34 236 *e*P **P 08 26 55.9 -0.2**
PVCP Virac 4.08 343 *e*P **P 08 27 07.1 +0.4**
OTRP Odiongan 4.24 309 *e*P **P 08 27 08.8 -0.1**
SJMP San Jose 5.01 304 *e*P **P 08 27 19.4 -0.3**
YHNB Yeheng 15.40 346 *e*P **P 08 29 43.2 +2.2**
JOW Kunigami 17.29 9 P **P 08 30 08.2 +3.3**
0.9nm,0.3s,baz=238,slow=9.0,SNR=5.1
JOW LR LR 08 35 36.5
comp=Z,282nm,19.3s,baz=134,slow=33
QIZ Qiongzhong 17.68 303 *e*P **P 08 30 15.2 +5.4**
34nm,1.4s
KULM Kulim 24.89 262 P **P 08 31 25.4 -0.1**
ENH Enshi 25.30 326 *e*P **P 08 31 28.3 -1.0**
39nm,1.0s,mb4.9
KMI Kunming 26.44 308 P **P 08 31 39.6 -0.3**
KMI AMB AMB
comp=Z,18nm,0.9s,mb4.6
KMI LR LR
comp=N,184nm,15.3s,MS4.0
KMI LR LR
comp=E,219nm,13.2s,MS4.0
KMI LR LR
comp=Z,242nm,19.7s
KMI Kunming 26.44 308 P **P 08 31 39.6 -0.3**
comp=Z,18nm,0.9s,mb4.6
KMI LR LR
comp=Z,240nm,19.7s,MS3.8
FITZ Fitzroy Crossi 27.59 179 *e*P **P 08 31 49.7 -0.8**
comp=Z,11nm,0.7s,mb4.6
FITZ Fitzroy Crossi 27.59 179 P **P 08 31 49.8 -0.7**
comp=Z,14nm,0.7s,mb4.7,baz=3.9,slow=8.1,SNR=13
FITZ LR LR 08 42 00.6
comp=Z,169nm,20.3s,MS3.6,baz=260,slow=35
XAN Xi'an 28.57 331 P **P 08 31 57.3 -1.9**
XAN AMB AMB
comp=Z,16nm,0.9s,mb4.8
WRAB Tennant Creek 30.71 163 *e*P **P 08 32 17.9 -0.4**
comp=Z,7.3nm,0.8s,mb4.6
WRAB Tennant Creek 30.71 163 *e*P **P 08 32 17.9 -0.4**
WRAB pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
WRA Warramunga Arr 30.72 163 P **P 08 32 17.9 -0.5**
comp=Z,1.3nm,0.6s,mb3.9,baz=344,slow=9.3,SNR=5.5
MBWA Marble Bar 31.13 190 *e*P **P 08 32 20.1 -1.9**
LZH Lanzhou 32.78 327 *e*P **P 08 32 37.7 +1.4**
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,150nm,4.6s
LZH LR LR
comp=N,460nm,14.7s
LZH LR LR
comp=Z,720nm,22.3s
LZH Lanzhou 32.78 327 *e*P **P 08 32 37.7 +1.4**
comp=Z,20nm,1.0s,mb5.0
LZH pP pP 08 32 42.5 -5.7
LZH sP sP 08 32 46.0 -7.8
LZH LR LR
comp=Z,720nm,22.3s,MS4.3
HHC Hu-ho-hao-te 33.38 341 *e*P **P 08 32 41.0 -0.4**
HHC AP pP 08 32 58.9 +5.5
HHC PP PP 08 33 54.8 +0.8
HHC PCP PcP 08 35 20.9 -1.5
HHC S **S 08 37 53.6 -4.6**
HHC SCP 08 38 57.9
HHC PCS 08 39 05.5
HHC SCS ScS 08 42 57.6 -3.8
HHC AMB AMB
comp=Z,16nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,59nm,4.5s
HHC LR LR
comp=N,460nm,14.2s,MS4.4
HHC LR LR
comp=E,175nm,14.2s,MS4.4
HHC LR LR
comp=Z,332nm,14.2s,MS4.2
MDJ Mudanjiang 35.01 5 P **P 08 32 56.3 +0.9**
CTA Charters Tower 36.01 145 P **P 08 33 04.2 +0.1**
comp=Z,8.1nm,0.9s,mb4.6,baz=326,slow=12,SNR=3.6
CTAO Charters Tower 36.01 145 *e*P **P 08 33 04.2 +0.1**
comp=Z,20nm,1.2s,mb4.9
CTAO Charters Tower 36.01 145 *e*P **P 08 33 04.2 +0.1**
CTAO pmax pmax
comp=Z,20nm,1.2s,mb4.9
GTA Gaotai 37.38 327 P **P 08 33 15.9 +0.4**
GTA AP pP 08 33 31.0 +3.5
GTA XP sP 08 33 37.6 +4.5
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,116nm,4.4s
GTA LR LR
comp=N,188nm,17.2s,MS4.1
GTA LR LR
comp=E,183nm,16.8s,MS4.1
GTA LR LR
comp=Z,197nm,22.2s
ASAJ Asahikawa 37.44 21 P **P 08 33 17.5 +1.6**
comp=Z,15nm,0.8s,mb4.9,baz=114,slow=31,SNR=5.2
LSA Lhasa 37.67 307 *e*P **P 08 33 19.8 +1.9**
comp=Z,65nm,1.3s,mb5.2
LSA Lhasa 37.67 307 *e*P **P 08 33 19.8 +1.9**
LSA pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,65nm,1.3s,mb5.2						
HNR	Honiara	39.30	118	LR	LR	08 46 32.7	
	comp=Z,124nm,20.4s,MS3.7,baz=268,slow=31						
FORT	Forrest	40.30	176	eP	P	08 33 38.2	-1.6
	comp=Z,15nm,0.8s,mb4.8						
ULN	Ulaanbaatar	41.10	341	eP	P	08 33 45.6	-0.6
	comp=Z,3.8nm,0.7s,mb4.1						
ULN	Ulaanbaatar	41.10	341	eP	P	08 33 45.6	-0.6
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
GUN	Gumba	41.32	302	eP	P	08 33 49.0	+0.8
	comp=Z,58nm,0.7s,mb5.3						
PKI	Pulchoki	41.61	301	eP	P	08 33 51.8	+1.1
DMN	Daman	41.88	301	eP	P	08 33 54.8	+1.9
GKN	Gorkha	42.39	301	eP	P	08 33 57.9	+0.7
	comp=Z,53nm,1.2s,mb5.1						
NWAO	Narrogin (SRO)	43.06	190	P	P	08 34 02.6	+0.1
	comp=Z,8.0nm,0.8s,mb4.5,baz=18,slow=9.6,SNR=4.0						
NWAO	Narrogin (SRO)	43.06	190	eP	P	08 34 03.4	+0.8
	comp=Z,12nm,0.7s,mb4.7						
NWAO	Narrogin (SRO)	43.06	190	eP	P	08 34 03.4	+0.9
NWAO				pmax	pmax		
	comp=Z,12nm,0.7s						
KOLN	Koldanda	43.20	300	eP	P	08 34 05.0	+1.2
	comp=Z,51nm,1.0s,mb5.2						
STKA	Stephens Creek	44.13	160	eP	P	08 34 10.9	-0.3
	comp=Z,3.9nm,0.6s,mb4.3						
STKA	Stephens Creek	44.13	160	P	P	08 34 11.6	+0.3
	comp=Z,4.6nm,0.5s,mb4.5,baz=332,slow=8.9,SNR=14						
STKA	Stephens Creek	44.13	160	eP	P	08 34 11.2	0.0
BOD	Bodaibo	48.83	352	eP	P	08 34 44.7	-3.2
BOD				pmax	pmax		
	comp=Z,5.0nm,2.2s,mb4.2						
MKAR	Makanchi Array	51.98	323	P	P	08 35 11.3	-0.6
	comp=Z,3.4nm,0.6s,mb4.4,baz=122,slow=8.3,SNR=32						
MA2	Magadan	53.35	16	eP	P	08 35 24.2	+2.1
	comp=Z,10.0nm,0.8s,mb4.8						
MA2	Magadan	53.35	16	eP	P	08 35 24.2	+2.1
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
AAK	Ala-Archa	55.13	316	eP	P	08 35 32.4	-2.9
	comp=Z,14nm,1.5s,mb4.8						
AAK	Ala-Archa	55.13	316	eP	P	08 35 32.4	-3.0
AAK				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.8						
KURK	Kurchatov	56.07	326	eP	P	08 35 39.2	-2.7
	comp=Z,16nm,1.4s,mb4.9						
KURK	Kurchatov	56.07	326	eP	P	08 35 39.2	-2.7
KURK				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
KKAR	Karatay Array	58.05	315	i P	P	08 35 55.4	-0.7
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BVAR	Borovoye Array	61.66	326	P	P	08 36 21.1	+0.3
	comp=Z,2.0nm,0.6s,mb4.4,baz=121,slow=8.4,SNR=2.9						
BRVK	Borovoye	61.73	326	P	P	08 36 19.3	-1.9
	comp=Z,5.5nm,0.9s,mb4.7						
BRVK	Borovoye	61.73	326	P	P	08 36 19.3	-1.9
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
KIV	Kislovodsk	78.11	313	eP	P	08 38 02.0	+0.8
	comp=Z,26nm,0.9s,mb5.2						
KIV	Kislovodsk	78.11	313	eP	P	08 38 02.0	+0.8
KIV				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
MCK	McKinley	79.49	27	eP	P	08 38 09.1	+0.7
	comp=Z,7.2nm,1.0s,mb4.6						
MCK	McKinley	79.49	27	eP	P	08 38 09.1	+0.7
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
OBN	Obninsk	81.47	324	eP	P	08 38 17.8	-1.2
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
JOF	Joensuu	83.32	333	ep	P	08 38 26.2	-2.2
	comp=Z,2.9nm,0.6s,mb4.5						
ARCES	ARCESS Array B	84.45	340	P	P	08 38 33.5	-0.4
	comp=Z,2.5nm,0.7s,mb4.4,baz=90,slow=4.9,SNR=6.6						
INK	Inuvik	85.17	21	P	P	08 38 39.3	+1.8
	comp=Z,3.9nm,1.0s,mb4.5,baz=272,slow=1.8,SNR=3.3						
INK	Inuvik	85.17	21	eP	P	08 38 38.9	+1.4
	comp=Z,8.6nm,1.1s,mb4.8						
INK	Inuvik	85.17	21	eP	P	08 38 38.9	+1.4
INK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRTR	Keskin Array B	85.23	309	P	P	08 38 39.0	+0.6
	comp=Z,1.9nm,0.8s,mb4.3,baz=108,slow=4.6,SNR=3.2						
KAF	Kangasniemi	85.75	332	ep	P	08 38 38.0	-2.5
	comp=Z,6.2nm,0.9s,mb4.8						
KAF	Kangasniemi	85.75	332	eP	P	08 38 38.0	-2.5
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
FINES	FINESS Array B	86.00	332	P	P	08 38 41.1	-0.6
	comp=Z,4.4nm,0.8s,mb4.7,baz=72,slow=6.0,SNR=7.3						
AKASG	Malin Array Be	86.47	321	P	P	08 38 43.5	-0.8
	comp=Z,5.1nm,0.9s,mb4.7,baz=66,slow=4.5,SNR=9.8						
DLBC	Dease Lake	89.36	31	P	P	08 39 00.2	+2.3
	comp=Z,1.4nm,0.7s,mb4.4,baz=134,slow=1.7,SNR=3.4						
DLBC	Dease Lake	89.36	31	P	P	08 39 00.5	+2.5
VNDA	Vanda	89.45	173	P	P	08 38 59.3	+1.2
	comp=Z,1.3nm,0.8s,mb4.3,baz=317,slow=6.1,SNR=10.0						
NB2	NORSAR Subarra	92.90	334	P	P	08 39 12.8	-1.6
	comp=Z,1.1nm,0.7s,mb4.4,baz=65,slow=4.6						
NB2	NORSAR Subarra	92.90	334	P	P	08 39 12.8	-1.6
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.3						
NOA	NORSAR Array B	92.90	334	P	P	08 39 12.8	-1.5
	comp=Z,2.5nm,0.9s,mb4.7,baz=64,slow=4.7,SNR=4.0						
YKA	Yellowknife Ar	94.66	24	P	P	08 39 24.0	+1.7
	comp=Z,1.3nm,0.7s,mb4.5,baz=302,slow=4.8,SNR=7.7						
YKA				LR	LR	09 20 29.8	
	comp=Z,34nm,19.2s,MS3.8,baz=260,slow=34						
GERES	GERESS Array B	96.62	322	P	P	08 39 31.4	-0.2
	comp=Z,0.4nm,0.3s,mb4.3,baz=68,slow=5.3,SNR=4.1						
PLCA	Paso Flores	145.99	158	PKPbc	PKPbc	08 45 43.3	+2.7
	comp=Z,3.0nm,1.0s,baz=196,slow=3.4,SNR=5.3						

IGQ 08 08:39:23.8, 2.14S×79.60W, h12^{km}±4^{km}, mb4.0, 5C-4D, Error ellipse: s-maj=4.6km s-min=2.9km az=79.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	1.31	61	⇑P	Pb	08 39 48.6	+0.7
ARRY				S	Sb	08 40 05.5	+1.0
CUSU	Cusua	1.32	58	P	Pb	08 39 49.1	+1.0
JUIV	Juive	1.34	58	P	Pb	08 39 49.8	+1.3
ULBA	Ulba	1.38	60	⇑P	Pn	08 39 50.4	+1.4
RUN5	Runtun	1.38	58	P	Pn	08 39 50.4	+1.4
QIL1	Quilotoa	1.45	27	⇑P	Pn	08 39 51.6	+1.6
QIL1				S	Sb	08 40 10.8	+2.2
PISA	Pisayambo	1.63	48	P	Pn	08 39 54.0	+1.4
CAMI	Rancho Maria	1.82	37	⇓P	Pn	08 39 57.7	+2.3
TAMB	Tambo	1.90	41	⇑P	Pn	08 39 58.2	+1.8
VC1	Cotopaxi 1	1.91	39	⇑P	Pn	08 39 58.7	+2.0
JAMA	Jama	1.96	342	P	Pn	08 39 58.9	+1.5
MAG1	Magdalena	2.06	355	P	Pn	08 40 00.4	+1.6
JUA2	San Juan 2	2.16	27	P	Pn	08 40 03.9	+3.7
TERV	Terraza Guagua	2.20	27	⇓P	Pn	08 40 03.7	+3.0
TERV				S	Sn	08 40 31.9	+4.0
GGP	Refugio Guagua	2.20	27	P	Pn	08 40 04.1	+3.3
PINO	Pino	2.21	27	⇓P	Pn	08 40 04.1	+3.2
ANTI	Antisana	2.22	41	⇓P	Pn	08 40 02.3	+1.4
YANA	Yana	2.26	27	P	Pn	08 40 03.4	+1.7
JOR1	San Jorge 1	2.34	24	P	Pn	08 40 01.7	-1.0
JOR1				S	Sn	08 40 30.5	-1.1
CAYR	Refugio Cayamb	2.67	37	P	Pn	08 40 12.6	+5.1
CAYR				S	Sn	08 40 51.4	+11
CAYA	Cayambe	2.73	36	P	Pn	08 40 14.4	+6.2
COTA	Cotacachi	2.77	27	P	Pn	08 40 11.8	+2.9
ECEN	Cerro Negro	3.37	29	P	Pn	08 40 19.9	+2.5
LORE	San Lorenzo	3.50	13	P	Pn	08 40 19.2	-0.1

PRE 08 08:42:15.4±1.3, 26.40S×27.41E, h2^{km}, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.53	184	eP	Pg	08 42 26.1	+0.1
PRYS				eS	Sg	08 42 33.4	+0.4
PRYS				AML	AML	08 42 39.7	
	comp=Z,1μm,0.5s						
SLR	Silverton	1.03	50	eP	Pb	08 42 35.8	+0.2
SLR				eS	Sb	08 42 49.3	0.0
SLR				AML	AML	08 42 55.1	
	comp=Z,514nm,0.2s						
SEK	Senekal	1.93	174	eS	Sn	08 43 14.4	-0.3
SEK				AML	AML	08 43 17.6	
	comp=Z,763nm,0.3s						
SWZ	Schweizer	2.01	247	eP	Pn	08 42 50.8	0.0
SWZ				eS	Sn	08 43 13.8	-3.0
SWZ				AML	AML	08 43 17.3	
	comp=Z,2μm,0.6s						
LBTB	Lobatse	2.13	310	eP	Pn	08 42 53.2	+0.7
LBTB				eS	Sn	08 43 19.8	-0.1
MSNA	Messina	4.69	31	eS	Sn	08 44 20.1	-4.5
MSNA				AML	AML	08 44 43.9	
	comp=Z,41nm,0.4s						
PKA	Prieska	5.25	230	eP	Pn	08 43 35.8	-0.9
PKA				eS	Sn	08 44 34.1	-4.5
PKA				AML	AML	08 45 13.8	
	comp=Z,90nm,0.5s						
CVNA	Calvinia	8.40	231	eP	P	08 44 18.6	-2.3
CVNA				eS	Sn	08 45 49.6	-7.9
CVNA				AML	AML	08 46 01.3	
	comp=Z,22nm,0.5s						

*CNRM **08** 09:03:51.9, 35.07N×2.88W, h11^{km}, MD3.0*
*MDD **08** 09:03:55.9±0.9, 34.96N×3.16W, mb3.3/4, Error ellipse: s-maj=13.0km s-min=3.8km az=131.0, PRXIMO*
*CSEM **08** 09:03:56.0±0.2, 35.08N×3.26W, h2^{km}, MD3.0, Error ellipse: s-maj=5.0km s-min=4.3km az=161.0*
*NEIC **08** 09:03:58.0, 35.08N×3.18W, MG3.3(MDD), After MDD.*
*SFS **08** 09:03:58.0, 35.08N×3.18W*
ISC 08 09:03:55.8±0.8, 35.02N±0.06×3.2W±0.1, h11^{km}±7^{km}, n20, σ0.91/33, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMEL	Melilla	0.35	36	P	Pg	09 04 03.3	+0.2
	75nm,0.1s,SNR=6.4						
EMEL				S	Sg	09 04 07.4	-0.4
	444nm,0.2s,SNR=8.2						
EMLI	Melilla	0.35	37	P	Pg	09 04 03.3	+0.2
	75nm,0.1s,SNR=6.4						
MELI	Melilla	0.35	39	P	Pg	09 04 02.9	-0.3
MELI				S	Sg	09 04 07.6	-0.4
MELI	Melilla	0.35	39	eP	Pg	09 04 02.9	-0.3
TOU	Touzarine	0.45	263	i P	Pg	09 04 05.0	-0.1
TAF	Taforalt	0.68	107	S	Sb	09 04 25.8	+7.4
EALB	Alboran	0.93	9	P	Pb	09 04 14.4	+1.0
	20nm,0.2s,SNR=7.9						
EALB				S	Sb	09 04 25.6	0.0
	45nm,0.2s,SNR=7.9						
EALB	Alboran	0.93	9	P	Pb	09 04 14.4	+0.9
	20nm,0.2s,SNR=7.9						
EALB				S	Sb	09 04 25.6	0.0
	45nm,0.2s,SNR=7.9						
TZK	Tazeka	1.23	221	P	Pb	09 04 17.0	-1.6
TZK				S	Sb	09 04 34.5	+0.2
EBER	Berja	1.89	8	P	Pn	09 04 28.2	-0.3
	0.6nm,0.1s,SNR=7.9						
EBER				S	Sn	09 04 54.4	+1.9
	3.6nm,0.3s,SNR=7.9						
EBER	Berja	1.89	8	P	Pn	09 04 28.2	-0.3
EBER				S	Sn	09 04 50.2	-2.2
EBER	Berja	1.89	8	P	Pn	09 04 28.2	-0.2
	0.6nm,0.1s,SNR=7.9						
EBER				S	Sn	09 04 50.2	-2.2
	3.6nm,0.3s,SNR=7.9						
EQUE	Quentar	2.19	355	P	Pn	09 04 33.4	+0.7
	1.3nm,0.2s,SNR=7.9						
EQUE				S	Sn	09 05 00.1	+0.1
	1.8nm,0.2s,SNR=7.9						
EQES	Quesada	2.78	2	P	Pn	09 04 42.9	+1.7
	1.8nm,0.2s,SNR=7.9						
EQES				S	Sn	09 05 14.8	-0.2
	3.5nm,0.3s,SNR=7.9						
EQES	Quesada	2.78	2	P	Pn	09 04 42.9	+1.8
	1.8nm,0.2s,SNR=7.9						
EQES				S	Sn	09 05 14.8	-0.2
	3.5nm,0.3s,SNR=7.9						
EADA	Adamuz	3.33	341	P	Pn	09 04 49.7	+0.8
	1.2nm,0.2s,SNR=7.9						
EADA				S	Sn	09 05 27.0	-1.9
	0.8nm,0.3s,SNR=7.9						
EADA	Adamuz	3.33	341	P	Pn	09 04 49.7	+0.7
	1.2nm,0.2s,SNR=7.9						
EADA				S	Sn	09 05 27.0	-1.9
	0.8nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.92	315	P	Pn	09 04 58.4	+1.1
	0.4nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.92	315	P	Pn	09 04 58.4	+1.1
	0.4nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.82	322	P	Pn	09 05 09.8	-0.3
	0.3nm,0.2s,SNR=4.0						

*CNRM **08** 09:26:46.5, 31.19N×7.96W, h6^{km}, MD4.1*
*IGIL **08** 09:26:49.4, 31.17N×7.85W, h2^{km}, ML3.4*
*INMG **08** 09:26:52.3±0.8, 31.26N×7.92W, h31^{km}±9^{km}, ML3.0, Error ellipse: s-maj=7.3km s-min=3.7km az=127.0*
CSEM 08 09:26:47.4±0.2, 31.08N×7.85W, h38^{km}±6^{km}, MD4.1, Error ellipse: s-maj=8.2km s-min=3.6km az=152.0, Morocco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIO	Tiouine	0.53	107	P	P	09 27 00.0	+1.5
TIO				S	S	09 27 07.5	+1.1
AVE	Averroes	2.24	9	P	P	09 27 25.0	+2.2
CZD	Col de Zad	3.08	50	i P	P	09 27 34.0	-0.8
CZD				i S	S	09 28 10.0	-0.8
ZFT	Errachidia	3.14	71	eP	P	09 27 36.0	+0.4
ZFT				i S	S	09 28 13.0	+0.7
MIF	Mishlifen	3.21	43	i P	P	09 27 36.0	-0.7
MIF				i S	S	09 28 13.0	-1.2
IFR	Ifrane	3.35	43	P	P	09 27 41.0	+2.4
TZK	Tazeka	4.31	45	i P	P	09 27 51.5	-0.8
EFAM	Famara	5.29	250	S	S	09 29 06.3	-0.3
	6.3nm,0.4s,SNR=5.6						
CFTV	Fuerteventura	6.03	245	S	S	09 29 22.9	-2.4
	2.1nm,0.3s,SNR=7.9						
MORF	Marmelete	6.24	354	eP	P	09 28 19.3	-0.1
MORF				eS	S	09 29 24.0	-6.5
MORF				eS	S	09 29 24.0	-6.5
MORF				AML	AML	09 29 29.6	
	comp=E,37nm,0.2s						
EGRO	El Granado	6.44	3	P	P	09 28 22.6	+0.3
	comp=E,6.4nm,0.3s,SNR=17						
EMIN	Mina Concepcio	6.74	8	P	P	09 28 26.1	-0.3
	comp=E,5.3nm,0.2s,SNR=7.9						
PBEJ	Beja	6.93	360	ePn	P	09 28 29.2	+0.1
PBEJ				eSn	S	09 29 41.8	-5.7
	comp=E,6.4nm,0.2s						
PBEJ	Beja	6.93	360	P	P	09 28 29.5	+0.4
ECAB	El Cabril	7.26	15	P	P	09 28 33.3	-0.4
	comp=E,7.0nm,0.5s,SNR=7.9						
EADA	Adamuz	7.57	20	P	P	09 28 37.9	0.0
	comp=E,9.7nm,0.2s,SNR=4.5						
EBAN	Banos Encina	7.82	24	P	P	09 28 41.4	0.0
	comp=E,4.3nm,0.2s,SNR=7.9						
PTOM	Tomar	8.53	357	ePn	P	09 28 51.9	+0.6
PTOM	Tomar	8.53	357	P	P	09 28 51.8	+0.5
PCBR	Castelo Branco	8.74	2	ePn	P	09 28 54.3	0.0
PCBR				eSn	S	09 30 25.4	-7.3
	comp=E,3.3nm,0.1s						
PCBR	Castelo Branco	8.74	2	P	P	09 28 54.0	-0.3
MTE	Manteigas	9.30	1	ePn	P	09 29 02.7	+0.7
MTE				eSn	S	09 30 39.6	-6.9
	comp=E,3.9nm,0.3s						
MTE	Manteigas	9.30	1	P	P	09 29 02.5	+0.5

*HLW **08** 09:51:44.7, 30.38N×35.33E, h18^{km}, Mb3.5*
*CSEM **08** 09:51:44.6±0.2, 30.28N×35.23E, h24^{km}, Mw3.0, Error ellipse: s-maj=4.5km s-min=1.8km az=101.0*
*GII **08** 09:51:45.1±0.2, 30.28N×35.28E, h9^{km}±2^{km}, ML2.9/5, Mw3.0/6*
ISC 08 09:51:44.7±0.8, 30.26N±0.03×35.26E±0.07, h23^{km}±5^{km}, n18, σ0.68/25, 5C, Dead Sea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRNI	Paran	0.23	292	Pg	Pb	09 51 50.7	0.0
PRNI				Sg	Sb	09 51 54.1	-0.5
HRFI	Mount Harif	0.30	220	Pg	Pb	09 51 51.6	0.0
HRFI				Sg	Sb	09 51 56.2	0.0
ZFRI	Zfri	0.30	347	Pg	Pb	09 51 51.2	-0.3
ZFRI				Sg	Sb	09 51 55.0	-1.2
KMTI	Karmit	0.49	251	Pg	Pb	09 51 54.8	+0.2
KMTI				Sg	Sb	09 52 01.2	-0.1
EIL	Elat	0.65	204	Pg	Pb	09 51 57.6	+0.3
EIL				Sg	Sb	09 52 07.1	+1.2
MASH	Mash'abbe Sade	0.83	331	Pg	Pb	09 52 00.6	+0.1
RTMM	Retamin	0.93	328	Pg	Pb	09 52 02.1	+0.2
KZIT	Kziot	0.98	311	Pg	Pb	09 52 03.3	+0.4
KZIT				Sg	Sb	09 52 17.3	+1.9
MZDA	Masada	1.05	5	Pg	Pb	09 52 03.9	-0.1
MZDA				Sg	Sb	09 52 17.4	+0.1
MKRJ	Makawir	1.33	14	Pn	Pn	09 52 08.6	+0.5
HRSH	Kfar Ka'horesh	1.49	298	⇑P	Pn	09 52 10.0	-0.6
RSH		1.49	298	P	Pn	09 52 10.0	-0.5
SLTI	Sal'it	1.98	355	Sn	Sn	09 52 43.2	+1.4
HKAT	Jabal Katrina	2.06	213	⇑P	Pn	09 52 18.6	0.0
MMLI	Mount Malkishu	2.17	4	Pn	Pn	09 52 19.9	-0.4
TR2		2.30	216	⇑P	Pn	09 52 21.8	-0.4
KOT	Kottamia	2.99	264	⇑P	Pn	09 52 30.9	-1.0
GLL	Jalalah	3.15	258	⇑P	Pn	09 52 33.4	-0.9

*NEIC **08** 10:11:06.5, 29.84S×71.00W, h64^{km}, MD3.7(GUC), After GUC.*
GUC 08 10:11:06.5±0.7, 29.84S×71.00W, h64^{km}±4^{km}, MD3.7, ML3.5, 4C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.23	251	⇑i P	P	10 11 16.7	+0.2
LSCH				i S	S	10 11 24.1	+0.2
LSCH				AMP		10 11 24.4	
	comp=N,1μm,0.3s						
TLL	Tololo Astrono	0.37	154	⇓i P	P	10 11 18.6	+0.9
TLL				i S	S	10 11 27.4	+1.5
TLL				AMP		10 11 29.4	
	comp=N,3μm,0.5s						
VACH	Vallenar	1.27	9	⇑i P	P	10 11 28.8	+0.2
VACH				i S	S	10 11 45.5	+0.5
VACH				AMP		10 11 48.6	
	comp=N,5μm,0.1s						
CMCH	Combarbala	1.33	180	⇑i P	P	10 11 29.3	-0.3
CMCH				i S	S	10 11 46.8	+0.1
CMCH				AMP		10 11 48.1	
	comp=N,2μm,0.6s						
ILCH	Illapel	1.80	185	⇓i P	P	10 11 36.0	+0.1
ILCH				AMP		10 12 08.4	
	comp=N,602nm,0.2s						
CHNG	Los Chungos	2.09	192	⇓i P	P	10 11 40.4	+0.5
CHNG				i S	S	10 12 05.8	+1.1
CHNG				AMP		10 12 13.6	
	comp=E,347nm,0.6s						
CPCH	Copiapo	2.53	13	i S	S	10 12 14.9	-1.0
JACH	Jahuel	2.86	173	i P	P	10 11 50.7	-0.2
ROCH	El Roble	3.13	180	eP	P	10 11 54.6	0.0
LCCH	Las Cruces	3.66	188	⇑i P	P	10 12 00.9	-1.2
PCH	Pirque	3.80	174	eP	P	10 12 03.7	-0.3
SFDO	San Fernando	4.76	180	eP	P	10 12 16.3	-1.2

*IDC **08** 10:21:50.3±0.5, 0.04S×97.49E, mb4.3/16, mb1 4.4/16, mb1mx4.3/20, mbtmp4.3/16, MS3.8/5, Ms1 3.8/5, ms1mx3.5/19, Error ellipse: s-maj=26.6km s-min=13.1km az=56.0*
*MOS **08** 10:21:53.6±1.3, 0.13S×97.31E, h33^{km}, mb4.9/12, Error ellipse: s-maj=41.2km s-min=13.5km az=100.2*
*NEIC **08** 10:21:54.9±0.3, 0.02S×97.58E, h30^{km}, mb4.8/9, Error ellipse: s-maj=10.9km s-min=7.7km az=68.0*
*BJI **08** 10:21:55.9, 0.06N×98.38E, h23^{km}, mB5.1, mb4.7, Ms4.7, Msz4.2*
ISC 08 10:21:53.7±0.4, 0.04S±0.06×97.60E±0.07, h33^{km}, (h22^{km}±7.4^{km}:pP-P), n63, σ1.03/62, mb4.5/38, MS4.0/11, 1C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.11	30	ePn	Pn	10 23 21.8	-2.4
KKM	Kota Kinabalu	19.54	72	eP	P	10 26 21.0	-0.6
KMI	Kunming	25.50	11	P	P	10 27 23.9	+2.9
KMI				AP	pP	10 27 28.3	-2.0
KMI				XP	sP	10 27 30.1	-4.0
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.2						
KMI				AMB	AMB		
	comp=Z,142nm,4.1s						
KMI				LR	LR		
	comp=N,355nm,15.7s,MS4.2						
KMI				LR	LR		
	comp=E,498nm,18.3s,MS4.2						
KMI	Kunming	25.50	11	P	P	10 27 23.9	+2.9
	comp=E,7.0nm,0.8s,mb4.2						
KMI				pP	pP	10 27 28.3	-2.0
KMI				sP	sP	10 27 30.1	-4.0
KMI				PP	PP	10 28 15.2	+15
KMI				PPP	PPP	10 28 27.6	+16
KMI				PcP	PcP	10 30 41.3	-12
KMI				S	S	10 32 04.4	+21
KMI				sS		10 32 13.7	
KMI				SS	SS	10 33 27.5	+40
KMI				SSS	SSS	10 33 46.7	+43
HYB	Hyderabad	25.54	314	i P	P	10 27 22.0	+0.6
LSA	Lhasa	30.20	349	eP	P	10 28 03.8	+0.3
	comp=E,10nm,0.8s,mb4.6						
LSA	Lhasa	30.20	349	eP	P	10 28 03.8	+0.3
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
ENH	Enshi	32.20	20	eP	P	10 28 19.4	-1.7
	comp=Z,12nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	32.90	125	eP	P	10 28 26.3	-1.0
	comp=Z,19nm,0.9s,mb5.0						
FITZ	Fitzroy Crossi	32.90	125	P	P	10 28 26.7	-0.6
	comp=Z,28nm,0.9s,mb5.2,baz=313,slow=2.2,SNR=15						
XAN	Xi'an	35.52	16	P	P	10 28 48.8	-0.9
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
NWAO	Narrogin (SRO)	37.59	152	P	P	10 29 07.2	+0.1
	comp=Z,11nm,0.8s,mb4.6,baz=352,slow=11,SNR=3.3						
NJ2	Nanjing	37.72	30	eP	P	10 29 09.1	+0.9
NJ2				AP	pP	10 29 18.9	+0.9
NJ2				XP	sP	10 29 22.8	+0.6
NJ2				PP	PP	10 30 38.8	+1.2
NJ2				S	S	10 34 56.0	+0.1
NJ2				XS		10 35 12.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,550nm,5.8s						
NJ2				LR	LR		
	comp=N,480nm,16.4s,MS4.6						
NJ2				LR	LR		
	comp=E,550nm,15.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,320nm,16.5s,MS4.2						
SSE	Sheshan	38.20	34	P	P	10 29 11.2	-1.1
SSE				XP	sP	10 29 23.7	-2.6
SSE				PP	PP	10 30 39.4	-3.9
SSE				PCP	PcP	10 31 23.4	-3.5
SSE				S	S	10 35 05.3	+2.0
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,46nm,2.9s,mb4.7						
SSE				LR	LR		
	comp=N,96nm,17.6s,MS3.8						
SSE				LR	LR		
	comp=E,68nm,17.8s,MS3.8						
SSE				LR	LR		
	comp=Z,117nm,19.4s,MS3.7						
SSE	Sheshan	38.20	34	P	P	10 29 11.2	-1.1
	comp=Z,24nm,0.7s,mb5.0						
SSE				sP	sP	10 29 23.7	-2.6
SSE				PP	PP	10 30 39.4	-3.9
SSE				PcP	PcP	10 31 23.4	-3.5
SSE				S	S	10 35 05.3	+2.0
SSE				sS		10 35 20.5	
SSE				SS	SS	10 37 55.3	+13
SSE				LR	LR		
	comp=Z,120nm,19.4s,MS3.7						
GTA	Gaotai	39.31	3	eP	P	10 29 22.0	+0.6
GTA				AP	pP	10 29 27.5	-3.7

GTA				XP	sP	10 29 30.8	-4.6
GTA				PP	PP	10 30 58.9	+3.2
GTA				S	S	10 35 28.9	+8.9
GTA				XS		10 35 38.4	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
GTA				AMB	AMB		
	comp=Z,48nm,5.0s						
GTA				LR	LR		
	comp=N,128nm,12.2s,MS4.1						
GTA				LR	LR		
	comp=E,136nm,12.9s,MS4.1						
GTA				LR	LR		
	comp=Z,121nm,14.1s,MS3.9						
WRA	Warramunga Arr	41.06	121	P	P	10 29 35.5	-0.5
	comp=Z,11nm,0.9s,mb4.5,baz=302,slow=9.1,SNR=47						
WRAB	Tennant Creek	41.06	121	eP	P	10 29 35.6	-0.5
	comp=Z,31nm,1.0s,mb4.9						
WRAB	Tennant Creek	41.06	121	i P	P	10 29 35.7	-0.4
ASPA	Alice Springs	42.34	126	eP	P	10 29 47.0	+0.3
HHC	Hu-ho-hao-te	42.63	16	eP	P	10 29 53.7	+4.9
HHC				AP	pP	10 30 03.5	+4.8
HHC				XP	sP	10 30 07.3	+4.5
HHC				PP	PP	10 31 35.8	+5.6
HHC				PCP	PcP	10 31 44.1	+3.0
HHC				SCP		10 35 31.3	
HHC				PCS		10 35 34.9	
HHC				S	S	10 36 16.5	+7.3
HHC				SCS	ScS	10 39 49.4	+4.2
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,129nm,4.9s						
HHC				LR	LR		
	comp=N,258nm,11.9s,MS4.5						
HHC				LR	LR		
	comp=E,252nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=Z,215nm,16.7s,MS4.1						
KS15	Wonju Array Si	46.62	34	eP	P	10 30 22.8	+2.0
AAK	Ala-Archa	47.28	337	eP	P	10 30 30.3	+4.3
	comp=Z,11nm,1.1s,mb4.7						
AAK	Ala-Archa	47.28	337	i P	P	10 30 26.4	+0.4
AAK				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.5						
SONM	Songino Array	48.29	8	P	P	10 30 34.0	+0.2
	comp=Z,3.7nm,0.8s,mb4.5,baz=188,slow=8.0,SNR=8.2						
SONM				PcP	PcP	10 32 03.1	+2.4
	comp=Z,1.9nm,0.7s,baz=207,slow=3.2,SNR=3.4						
ULN	Ulaanbaatar	48.41	9	P	P	10 30 35.5	+0.8
	comp=Z,4.3nm,0.8s,mb4.5						
ULN	Ulaanbaatar	48.41	9	eP	P	10 30 34.9	+0.2
MKAR	Makanchi Array	48.53	346	P	P	10 30 35.8	+0.1
	comp=Z,4.3nm,0.5s,mb4.8,baz=155,slow=7.9,SNR=46						
MKAR	Makanchi Array	48.53	346	eP	P	10 30 35.7	+0.1
MKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
KKAR	Karatay Array	49.33	334	P	P	10 30 42.5	+0.6
KKAR				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
ZAK	Zakamensk	50.46	5	eP	P	10 30 50.2	-0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CTA	Charters Tower	51.61	116	P	P	10 30 59.1	-0.3
	comp=Z,7.2nm,0.9s,mb4.6,baz=290,slow=12,SNR=3.5						
STKA	Stephens Creek	52.24	132	eP	P	10 31 04.6	+0.5
	comp=Z,4.0nm,0.6s,mb4.5						
STKA	Stephens Creek	52.24	132	P	P	10 31 04.8	+0.7
	comp=Z,4.6nm,0.6s,mb4.6,baz=326,slow=9.7,SNR=12						
STKA	Stephens Creek	52.24	132	eP	P	10 31 04.4	+0.3
MJAR	Matsushiro Arr	52.34	41	LR	LR	10 54 56.2	
	comp=Z,112nm,19.8s,MS3.9,baz=260,slow=38						
KURK	Kurchatov	53.08	345	eP	P	10 31 09.9	-0.2
	comp=Z,16nm,0.9s,mb5.0						
NVS	Novosibirsk	55.95	350	i P	P	10 31 34.0	+3.0
NVS				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
NVS				pmax	pmax		
	comp=N,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
BVAR	Borovoye Array	57.54	341	P	P	10 31 40.7	-1.7
	comp=E,1.7nm,0.8s,mb4.1,baz=135,slow=8.2,SNR=6.3						
AB31	Akbulak array	58.78	332	i P	P	10 31 49.7	-1.4
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BOD	Bodaibo	59.15	10	eP	P	10 31 52.8	-0.7
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KMBO	Kilima Mbogo	60.35	269	LR	LR	10 52 40.5	
	comp=Z,78nm,18.2s,MS3.9,baz=88,slow=31						
YAK	Yakutsk	66.49	16	⇑eP	P	10 32 42.4	+0.4
YAK				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
BRTR	Keskin Array B	70.23	313	P	P	10 33 05.2	-0.5
	comp=Z,1.3nm,0.6s,mb4.0,baz=108,slow=3.9,SNR=5.1						
MATP	Matopo	70.44	248	P	P	10 33 06.1	-1.1
	comp=Z,1.5nm,0.7s,mb4.0,baz=124,slow=3.6,SNR=2.3						
MAW	Mawson	71.61	193	P	P	10 33 14.4	+0.9
	comp=Z,1.4nm,0.6s,mb4.0,baz=350,slow=6.4,SNR=4.7						
OBN	Obninsk	73.87	328	eP	P	10 33 26.8	-0.2
OBN				e		10 36 12.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TIXI	Tiksi	74.33	10	eP	P	10 33 28.2	-1.1
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,110nm,15.0s,MS4.3						
SEY	Seymchan	74.74	23	i P	P	10 33 33.9	+2.0
AKASG	Malin Array Be	76.47	323	P	P	10 33 41.4	-0.6
	comp=Z,1.0nm,0.4s,mb4.1,baz=91,slow=4.4,SNR=9.2						
FINES	FINESS Array B	81.27	333	P	P	10 34 07.8	-0.1
	comp=Z,0.9nm,0.6s,mb3.9,baz=96,slow=6.3,SNR=3.0						
FINES				LR	LR	11 14 00.3	
	comp=Z,44nm,20.5s,MS3.8,baz=338,slow=38						
FINES	FINESS Array B	81.27	333	P	P	10 34 07.8	-0.1
FINES				LR	LR	11 14 00.3	
KAF	Kangasniemi	81.36	333	ep	P	10 34 08.8	+0.4
	comp=Z,6.7nm,0.9s,mb4.6						
KAF	Kangasniemi	81.36	333	eP	P	10 34 08.8	+0.4
KAF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BILL	Bilibino	82.17	21	eP	P	10 34 14.0	+1.5
BILL				e		10 37 25.1	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ARCES	ARCESS Array B	83.83	340	P	P	10 34 19.8	-1.0
	comp=Z,2.2nm,0.8s,mb4.3,baz=79,slow=4.6,SNR=3.4						
ARCES				LR	LR	11 15 23.4	
	comp=Z,45nm,19.3s,MS3.9,baz=75,slow=38						
VNDA	Vanda	84.54	169	P	P	10 34 25.4	+1.1
	comp=Z,1.1nm,1.1s,mb3.9,baz=290,slow=9.8,SNR=3.6						
VNDA	Vanda	84.54	169	P	P	10 34 25.4	+1.1
GERES	GERESS Array B	86.00	319	P	P	10 34 32.2	+0.1
	comp=Z,1.6nm,0.8s,mb4.3,baz=104,slow=5.5,SNR=8.6						
SNAA	Sanae	93.25	198	LR	LR	11 10 16.3	
	comp=Z,24nm,18.2s,MS3.7,baz=135,slow=31						
CPUP	Villa Florida	144.35	221	PKP	PKPdf	10 41 28.2	+0.9
	comp=Z,7.6nm,0.8s,baz=135,slow=4.7,SNR=22						
CPUP	Villa Florida	144.35	221	ePKPdf	PKPdf	10 41 27.8	+0.5
TXAR	Lajitas Array	144.50	33	PKP	PKPdf	10 41 28.9	+1.4
	comp=Z,2.8nm,0.7s,baz=275,slow=1.2,SNR=12						

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*IDC **08** 10:38:58.7±3.0, 51.53N×179.43E, mb3.6/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=94.0km s-min=29.9km az=174.0*

*NEIC **08** 10:40:00.5, 52.85N×173.09W, h210km, MG3.2(AEIC), After AEIC.*

ISC 08 10:39:57.7±0.7**, 53.2N**±0.3×**173.2W**±0.2**, h199**km±16km**, n8,** σ**0.67**/12**, mb3.1**/1**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.19	212	P	P	10 40 29.4	+0.4
ATKA				S	S	10 40 53.0	-0.2
ETKA	Kagalaska Isla	2.39	237	P	P	10 40 41.2	+0.4
ETKA				S	S	10 41 13.5	-0.5
ADAG	Mount Adagdak	2.42	241	P	P	10 40 42.0	+0.9
KIMD	Kanaga Island	2.87	241	P	P	10 40 47.0	+0.7
KIMD				S	S	10 41 22.7	-1.1
UNV	Unalaska Valle	4.04	78	P	P	10 41 01.4	+0.8
UNV				S	S	10 41 48.6	-0.5
SML	Sawmill	15.79	47	eP	P	10 43 29.3	-1.0
ILAR	Eielson Array	17.65	39	P	P	10 43 52.2	+0.4
	0.9nm,0.4s,baz=231,slow=8.1,SNR=68						
PDAR	Pinedale Array	42.50	78	P	P	10 47 34.0	-0.4
	0.6nm,0.8s,mb3.1,baz=324,slow=2.4,SNR=6.8						

IDC 08 10:56:00.7±1.9**, 0.27N**×**129.76E, mb3.9**/3**, mb1 4.2**/4**, mb1mx3.8**/15**, mbtmp4.0**/4**, ML3.8**/1**, Error ellipse: s-maj=83.8km s-min=26.0km az=71.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.70	192	P	P	11 00 21.4	-1.4
	0.2nm,0.3s,baz=11,slow=16,SNR=3.5						
WRA	Warramunga Arr	20.58	168	P	P	11 00 41.6	-2.4
	4.4nm,0.8s,baz=347,slow=11,SNR=25						
STKA	Stephens Creek	33.87	162	P	P	11 02 44.6	-2.8
	1.6nm,0.5s,baz=331,slow=7.0,SNR=5.4						
MKAR	Makanchi Array	62.11	325	P	P	11 06 23.6	-2.2
	1.0nm,0.8s,baz=110,slow=8.6,SNR=5.0						

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*PRU **08** 11:27:15.2, 46.32N×6.37E, M4.4*

*BGR **08** 11:27:16.1±0.6, 45.91N×6.80E, h10km, ML5.3, Error ellipse: s-maj=10.0km s-min=6.7km az=137.0*

*MOS **08** 11:27:16.6±1.1, 46.13N×6.86E, h10km, mb4.7/13, Error ellipse: s-maj=3.1km s-min=2.2km az=75.3*

*BGS **08** 11:27:16.3, 46.17N×7.17E, h10km, mb5.2*

*CSEM **08** 11:27:17.9, 46.15N×6.99E, h2km, ML5.1*

*NEIC **08** 11:27:17.4, 46.00N×6.90E, h7km, mb4.4/11, ML5.3(SZGRF), ML4.9(ZUR), ML4.9(STR), After ZUR.*

NEIC Felt [IV] at Martigny and Sion and [III] at Geneva, Switzerland. Felt in Switzerland, eastern France and northwestern Italy.

*HRVD **08** 11:27:17.4±1.2, 46.16N×6.86E, h12km, MW4.6/37, Centroid moment Tensor Solution. LP body waves: s1,c2; Mantle waves: s37,c49; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.14±.09; Mθθ0.62±.07; Mφφ-0.75±.07; Mrθ0.28±.24; Mθφ-0.49±.07; Mφr-0.26±.26; Best double couple: Mo.934×10¹⁶ NP1:φs60°, δ66°, λ169°. NP2:φs155°, δ80°, λ24°. Principal axes: T .929, Plg24°, Azm20°; N .011, Plg64°, Azm176°; P -.939, Plg9°, Azm286°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ZUR **08** 11:27:17.5, 46.03N×6.90E, h7km, ML4.9/6*

*ROM **08** 11:27:17.8±0.2, 46.02N×6.95E, h4km, Ml4.4/17, Error ellipse: s-maj=3.1km s-min=2.3km az=27.0*

*ZUR_RM **08** 11:27:17, 46.03N×6.90E, h8km, Mw4.5/33, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁵Nm; Mrr-0.92; Mθθ5.63; Mφφ-4.71; Mrθ0.69; Mθφ-2.39; Mφr-0.36; Best double couple: Mo5.74×10¹⁵ NP1:φs147°, δ88°, λ6°. NP2:φs57°, δ84°, λ178°. Principal axes: T 6.237, Plg6°, Azm13°; N -.992, Plg83°, Azm167°; P -5.245, Plg3°, Azm282°;*

*PDG **08** 11:27:17.9±0.9, 46.11N×6.81E, h10km±1km*

*STR **08** 11:27:18.5±0.4, 46.03N×6.89E, h10km±1km, Ml4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BNS **08** 11:27:18.3±0.6, 45.96N×7.00E, h15km, ML5.0*

*GEN **08** 11:27:18.6, 46.04N×6.94E, h2km, ML4.0*

*IPEC **08** 11:27:18.9±0.1, 46.02N×6.90E, h18km, ML4.8/3, Error ellipse: s-maj=0.9km s-min=0.6km az=161.0*

*IDC **08** 11:27:18.8±0.8, 46.30N×6.87E, mb4.0/10, mb1 4.3/18, mb1mx4.2/27, mbtmp4.2/18, ML4.6/7, MS3.6/17, Ms1 3.6/17, ms1mx3.5/28, Error ellipse: s-maj=17.7km s-min=9.8km az=163.0*

*LEDBW **08** 11:27:18.5±0.7, 45.99N×6.98E, h10km, ML4.9, Error ellipse: s-maj=24.0km s-min=16.0km az=115.0*

*LDG **08** 11:27:18.3±0.1, 46.03N×6.96E, h2km, Md4.5/3, Ml5.3/39, ms3.3/5, Error ellipse: s-maj=2.0km s-min=1.6km az=121.0*

*BJI **08** 11:27:18.1, 46.89N×6.87E, h7km, mB5.2, mb4.6, Ms5.2, Msz4.6*

ISC 08 11:27:16.5±0.1**, 46.104N**±0.007×**6.812E**±0.009**, h10**km**, (h13**km±2.9km**:pP-P), n728,** σ**1.47**/1035**, mb4.3**/28**, MS4.0**/19**, 127C-40D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	Vieux Emosson	0.07	124	⇓iPg	Pg	11 27 19.3	+0.5
EMV				i Sg	Sg	11 27 20.5	+0.2
EMV	Vieux Emosson	0.07	124	⇓iPg	Pg	11 27 19.3	+0.5
EMV				i Sg	Sg	11 27 20.5	+0.2
SALAN	Lac Salanfe	0.12	70	⇑iPg	Pg	11 27 20.5	+1.0
SALAN				eSg	Sg	11 27 22.6	+1.1
SALAN	Lac Salanfe	0.12	70	⇑iPg	Pg	11 27 20.5	+1.0
SALAN				eSg	Sg	11 27 22.6	+1.1
GRYON	Gryon	0.26	55	⇑iPg	Pg	11 27 23.0	+1.1
GRYON				eSg	Sg	11 27 27.0	+1.5
GRYON	Gryon	0.26	55	⇑iPg	Pg	11 27 23.0	+1.1
GRYON				eSg	Sg	11 27 27.0	+1.5
AIGLE	Aigle	0.26	23	⇑iPg	Pg	11 27 23.8	+1.9
AIGLE	Aigle	0.26	23	⇑iPg	Pg	11 27 23.8	+1.9
DIX	Grande Dixence	0.42	93	⇓iPg	Pg	11 27 25.1	+0.1
DIX	Grande Dixence	0.42	93	⇓iPg	Pg	11 27 25.1	+0.1
DIX				Sg	Sg	11 27 30.2	-0.5
SENIN	Lac Senin	0.43	52	⇑iPg	Pg	11 27 26.1	+0.9
SENIN				i Sg	Sg	11 27 32.5	+1.5
SENIN	Lac Senin	0.43	52	⇑iP	Pg	11 27 26.1	+0.9
SENIN	Lac Senin	0.43	52	ePg	Pg	11 27 26.3	+1.1
SENIN				eSg	Sg	11 27 32.3	+1.3
GIMEL	Gimel	0.57	319	⇑iPg	Pg	11 27 30.8	+2.7
GIMEL	Gimel	0.57	319	⇓iP	Pg	11 27 30.8	+2.7
GIMEL	Gimel	0.57	319	⇑iPg	Pg	11 27 30.8	+2.7
LPL	La Plagne	0.59	185	ePg	Pg	11 27 28.0	-0.4
LPL				eSg	Sg	11 27 35.0	-1.4
	8µm,0.4s						
LPG	La Plagne	0.61	184	ePg	Pg	11 27 28.4	-0.3
LPG				eSg	Sg	11 27 35.4	-1.5
	9µm,0.3s						
LKBD	Leukerbad	0.63	63	⇑iPg	Pg	11 27 29.7	+0.5
LKBD	Leukerbad	0.63	63	⇑iPg	Pg	11 27 29.7	+0.5
TORNY	Torny	0.68	9	⇑iPg	Pg	11 27 32.1	+2.0
TORNY	Torny	0.68	9	⇑iP	Pb	11 27 32.0	+2.1
TORNY	Torny	0.68	9	⇑iPg	Pg	11 27 32.1	+2.0
LSD	Ceresole Reale	0.69	159	P	Pb	11 27 29.6	-0.5
LSD	Ceresole Reale	0.69	159	P	Pb	11 27 29.6	-0.5
CABF	La Chapelle	0.71	316	ePg	Pg	11 27 33.3	+2.5
CABF				ePn	Pn	11 27 34.9	+2.5
CABF				eSg	Sg	11 27 45.0	+4.6
CABF				eSn	Sn	11 27 47.8	+4.4
	62µm,0.8s						
CABF	La Chapelle	0.71	316	eP	Pg	11 27 33.3	+2.5
CABF				e		11 27 45.0	
WIMIS	Wimmis	0.80	45	⇑iPg	Pg	11 27 33.1	+0.6
WIMIS	Wimmis	0.80	45	⇑iPg	Pg	11 27 33.1	+0.6
MMK	Mattmark	0.81	93	⇓iPg	Pg	11 27 31.4	-1.2
MMK	Mattmark	0.81	93	⇓iPg	Pg	11 27 31.7	-0.9
MMK				eSg	Sg	11 27 41.0	-2.4
MCGN	Macugnaga	0.83	100	Pg	Pg	11 27 32.0	-1.2
	8µm,0.7s						
BRANT	Les Verrieres	0.87	344	⇑iPg	Pg	11 27 36.2	+2.3
BRANT	Les Verrieres	0.87	344	⇑iPg	Pg	11 27 36.2	+2.3
TRAV		0.88	132	P	Pb	11 27 32.7	-0.7
TRAV				S	Sb	11 27 42.8	-2.2
TRAV		0.88	132	P	Pb	11 27 32.7	-0.7
TRAV				S	Sb	11 27 42.8	-2.2
ORX	Oropa	0.94	120	P	Pb	11 27 33.7	-0.8
ORX	Oropa	0.94	120	P	Pb	11 27 33.7	-0.8
ORO	Oropa	0.95	120	⇓iPg	Pg	11 27 33.8	-1.7
BNI	Bardonecchia	1.06	185	⇑iPg	Pg	11 27 36.4	-1.2
FENE	Fenestrelle	1.09	171	P	Pb	11 27 36.6	-0.4
FENE				S	Sb	11 27 50.1	-0.9
HASLI	Hasliberg	1.13	54	⇑iPg	Pg	11 27 39.0	-0.2
HASLI	Hasliberg	1.13	54	⇑iPg	Pg	11 27 39.0	-0.2
GRN	Grenoble	1.14	221	Pg	Pg	11 27 39.7	+0.4
GRN	Grenoble	1.14	221	Pg	Pg	11 27 39.5	+0.2
GRN				Sg	Sg	11 27 55.9	+1.3
GRN	Grenoble	1.14	221	Pg	Pg	11 27 39.5	+0.2
GRN				Sg	Sg	11 27 55.9	+1.3
RRL	Cesana Torines	1.18	181	P	Pb	11 27 38.7	+0.1
RRL	Cesana Torines	1.18	181	P	Pb	11 27 38.7	+0.1
LOMF	Lomont	1.25	1	Pg	Pg	11 27 42.5	+1.0
LOMF				Sg	Sg	11 28 02.7	+4.6
LOMF	Lomont	1.25	1	⇑P	Pb	11 27 42.6	+2.9
MONC	Moncucco Torin	1.29	142	Pg	Pg	11 27 42.1	-0.3
	28µm,0.7s						
BHB	Bricherasio	1.30	166	P	Pb	11 27 40.8	+0.2
BOURR	Bourrignon	1.32	12	⇑iPn	Pn	11 27 43.1	+2.0
BOURR	Bourrignon	1.32	12	⇑iP	Pn	11 27 43.1	+2.0
BOURR	Bourrignon	1.32	12	ePn	Pn	11 27 43.3	+2.2
BOURR				eSg	Sg	11 28 02.8	+2.2
FUSIO	Fusio	1.33	74	⇑iPg	Pb	11 27 41.9	+0.8
FUSIO	Fusio	1.33	74	⇓iP	Pb	11 27 41.9	+0.8
FUSIO	Fusio	1.33	74	⇑iPg	Pb	11 27 41.9	+0.8
ORIF	Oris-en-Rattie	1.35	209	ePn	Pn	11 27 42.0	+0.5
ORIF				ePg	Pg	11 27 42.5	-1.1
ORIF				eSg	Sg	11 28 00.3	-1.4
	18µm,0.4s						
ORIF	Oris-en-Rattie	1.35	209	ePg	Pg	11 27 42.5	-1.1
ORIF				eSg	Sg	11 28 00.3	-1.4
	9µm,0.4s						
ORIF	Oris-en-Rattie	1.35	209	eP	Pn	11 27 42.0	+0.5
ORIF				e		11 28 00.3	
BALST	Balsthal	1.37	26	⇑iPn	Pn	11 27 43.4	+1.6
BALST	Balsthal	1.37	26	⇑iPn	Pn	11 27 43.4	+1.6
MBDF	Montbardon	1.38	181	ePn	Pn	11 27 42.0	+0.1
MBDF				ePg	Pg	11 27 42.6	-1.4
MBDF				eSg	Sg	11 27 58.9	-3.5
	14µm,0.5s						
MBDF	Montbardon	1.38	181	ePn	Pn	11 27 42.0	+0.1
MBDF	Montbardon	1.38	181	ePg	Pg	11 27 42.6	-1.4
MBDF				eSg	Sg	11 27 58.9	-3.5
	7µm,0.5s						
MBDF	Montbardon	1.38	181	eP	Pn	11 27 42.0	+0.1
MBDF				e		11 27 58.9	
VAI	Varese	1.39	99	⇓iPg	Pg	11 27 42.2	-2.0
BBS	Basel-Blauen	1.44	19	P	Pn	11 27 44.5	+1.7
BBS	Basel-Blauen	1.44	19	Pn	Pn	11 27 44.8	+2.0
BBS				Pg	Pg	11 27 46.9	+1.6
BBS	Basel-Blauen	1.44	19	Pg	Pg	11 27 46.9	+1.6
MUO	Muotathal	1.53	55	⇑iPn	Pn	11 27 46.4	+2.4
MUO	Muotathal	1.53	55	⇑iPn	Pn	11 27 46.4	+2.4
MUGIO	Muggio	1.56	96	⇓iPg	Pg	11 27 45.5	-2.3
MUGIO	Muggio	1.56	96	⇓iPn	Pn	11 27 45.2	+0.7
MUGIO	Muggio	1.56	96	⇓iPn	Pn	11 27 45.2	+0.7
PZZ	Prazzo	1.61	173	P	Pn	11 27 46.5	+1.3
PZZ				S	Sn	11 28 04.2	-2.0
PZZ	Prazzo	1.61	173	P	Pn	11 27 46.5	+1.3
SURF	Saint Ours	1.62	180	Pg	Pg	11 27 46.4	-2.5
SURF				Sg	Sg	11 28 10.4	-0.2
DOI	San Damiano	1.63	169	Pg	Pg	11 27 46.0	-3.1
SULZ	Sulz-Cheisache	1.68	32	⇑iPn	Pn	11 27 47.3	+1.1
SULZ	Sulz-Cheisache	1.68	32	⇑iPn	Pn	11 27 47.3	+1.1
LLS	Linth-Limmern	1.69	63	⇑iPn	Pn	11 27 49.2	+2.9
LLS	Linth-Limmern	1.69	63	⇑iP	Pn	11 27 49.2	+2.9
LLS	Linth-Limmern	1.69	63	ePn	Pn	11 27 49.1	+2.8
LLS				eSg	Sg	11 28 12.1	-0.8
HINF	Hinteralfeld	1.71	1	ePn	Pn	11 27 48.2	+1.5
HINF				ePg	Pg	11 27 51.3	+0.6
HINF				eSn	Sn	11 28 09.6	+0.8
HINF				eSg	Sg	11 28 13.4	-0.2
	5µm,0.3s						
HINF	Hinteralfeld	1.71	1	eP	Pn	11 27 48.2	+1.5
HINF				e		11 28 09.6	
ZUR	Zurich	1.75	43	⇑iPn	Pn	11 27 48.7	+1.4
ZUR	Zurich	1.75	43	⇑iPn	Pn	11 27 48.7	+1.4
MOF	Molkenrain	1.76	7	⇑P	Pn	11 27 49.1	+1.7
MOF				Pg	Pg	11 27 52.4	+0.7
MOF	Molkenrain	1.76	7	Pn	Pn	11 27 49.1	+1.7
MOF				Pg	Pg	11 27 52.5	+0.8
TUE	Stuetta	1.80	77	⇓iPg	Pg	11 27 50.3	-2.1
TUE				Sg	Sg	11 28 14.9	-1.5
	10µm,0.6s						
OCF	Saint Nazaire	1.86	215	Pg	Pg	11 27 53.3	-0.4
OG26	St.-Nazaire-De	1.86	215	Pg	Pg	11 27 53.3	-0.4
VDL	Val di Lei	1.88	77	⇓iP*	Pb	11 27 51.4	+0.9
VDL	Val di Lei	1.88	77	⇓iP	Pn	11 27 51.5	+2.4
STV2	Anna di Valdie	1.89	169	P	Pn	11 27 49.9	+0.7
STV2				S	Sn	11 28 10.7	-2.6
STV2	Anna di Valdie	1.89	169	P	Pn	11 27 49.9	+0.7
STV	Sta Anna Valdi	1.90	169	P	Pn	11 27 49.6	+0.4
STV				S	Sn	11 28 10.2	-3.2
STV	Sta Anna Valdi	1.90	169	P	Pn	11 27 49.6	+0.3
FLACH	Flaach	1.90	39	⇑iP	Pn	11 27 50.4	+1.1
ENR	Entracque	1.93	167	P	Pn	11 27 50.1	+0.4
ENR				S	Sn	11 28 11.1	-3.1
HAU	Haudompre	1.93	351	ePn	Pn	11 27 51.7	+2.0
HAU				ePg	Pg	11 27 55.3	+0.3
HAU				eSg	Sg	11 28 21.1	+0.3
	7µm,0.4s						
HAU				eR			
	2µm,23.2s						
HAU	Haudompre	1.93	351	eP	Pn	11 27 51.7	+2.0
HAU				e		11 28 21.1	
WILA	Wila	1.95	47	⇑iPn	Pn	11 27 51.5	+1.5
WILA	Wila	1.95	47	⇑iPn	Pn	11 27 51.5	+1.5
FELD	Feldberg	1.95	24	P	Pn	11 27 50.7	+0.6
FELD	Feldberg	1.95	24	Pn	Pn	11 27 50.8	+0.7
FELD				Pg	Pg	11 27 56.3	+0.8
FELD	Feldberg	1.95	24	Pg	Pg	11 27 56.3	+0.8
VIVF	Saint-Julien-l	1.96	231	ePn	Pn	11 27 51.5	+1.4
VIVF				eP		11 27 54.8	
VIVF				eSn	Sn	11 28 14.8	-0.1
VIVF				eSg	Sg	11 28 19.7	-1.9
	17µm,0.4s						
VIVF	Saint-Julien-l	1.96	231	eP	Pn	11 27 51.5	+1.4
VIVF				e		11 28 14.8	
ROB	Roburent	1.96	157	P	Pn	11 27 51.1	+1.0
ROB				S	Sn	11 28 11.9	-3.1
ROB	Roburent	1.96	157	P	Pn	11 27 51.1	+0.9
PCP	Pian Castagno	1.98	141	P	Pn	11 27 51.8	+1.3
PCP				S	Sn	11 28 12.7	-3.0
PCP	Pian Castagno	1.98	141	P	Pn	11 27 51.8	+1.3
KIZ	Kirchzarten	2.00	22	⇑P	Pn	11 27 51.1	+0.3
KIZ				Pn	Pn	11 27 51.4	+0.6
KIZ				Pg	Pg	11 27 56.2	-0.3
KIZ				S	Sn	11 28 16.3	+0.2
KIZ				Sg	Sg	11 28 22.7	-0.5
KIZ	Kirchzarten	2.00	22	⇑P	Pn	11 27 51.1	+0.3
KIZ				P		11 27 56.2	
KIZ				S	Sg	11 28 22.7	-0.5
KIZ	Kirchzarten	2.00	22	PG	Pg	11 27 56.2	-0.3
KIZ	Kirchzarten	2.00	22	P	Pn	11 27 51.3	+0.5
PLONS	Plons	2.01	61	⇑iPn	Pn	11 27 53.1	+2.2
PLONS	Plons	2.01	61	⇑iPn	Pn	11 27 53.1	+2.2
TRULL	Truellikon	2.01	39	i Pg	Pg	11 27 54.9	-1.7
TRULL	Truellikon	2.01	39	⇑iPn	Pn	11 27 50.4	-0.5
TRULL	Truellikon	2.01	39	⇑iP	Pn	11 27 50.5	-0.4
TRULL	Truellikon	2.01	39	⇑iPn	Pn	11 27 50.4	-0.5
TRULL	Truellikon	2.01	39	i Pg	Pg	11 27 54.9	-1.7
SLE	Schleitheim	2.02	34	⇑iPn	Pn	11 27 51.6	+0.5
SLE	Schleitheim	2.02	34	⇑iPn	Pn	11 27 51.6	+0.5
SLE	Schleitheim	2.02	34	ePg	Pg	11 27 56.2	-0.7
FBB	Freiburg	2.03	20	P	Pn	11 27 51.9	+0.8
FBB				Pg	Pg	11 27 57.0	-0.1
FBB	Freiburg	2.03	20	P	Pn	11 27 52.1	+0.9
MDI	Monti di Nese	2.05	98	Pg	Pg	11 27 53.2	-4.2
	5µm,0.7s						
WEIN	Weingarten	2.06	46	⇑iPn	Pn	11 27 52.8	+1.1
WEIN	Weingarten	2.06	46	⇑iPn	Pn	11 27 52.8	+1.1
STEIN	Stein am Rhein	2.11	41	⇑iPn	Pn	11 27 53.2	+0.9
STEIN	Stein am Rhein	2.11	41	⇑iPn	Pn	11 27 53.2	+0.9
TOUF	Mont Tournerai	2.11	171	Pg	Pg	11 27 56.4	-2.3
LIBD	Limburg	2.12	14	⇑P	Pn	11 27 53.7	+1.2
LIBD				Pg	Pg	11 27 59.3	+0.5
ECH	Echery	2.13	6	Pn	Pn	11 27 53.8	+1.2
ECH				Sg	Sg	11 28 28.4	+1.1
ECH	Echery	2.13	6	⇑P	Pn	11 27 53.8	+1.2
ECH				Pg	Pg	11 27 59.4	+0.5
SMF	Signal de Mont	2.13	286	ePn	Pn	11 27 54.7	+2.1
SMF				ePg	Pg	11 27 59.4	+0.4
SMF				eSn	Sn	11 28 20.9	+1.6
SMF				eSg	Sg	11 28 27.6	+0.3
	3µm,0.4s						
SMF	Signal de Mont	2.13	286	eP	Pn	11 27 54.7	+2.1
SMF				e		11 28 20.9	
FIN	Finale Ligure	2.14	152	⇑ePg	Pg	11 27 54.5	-4.7
	501nm,0.4s						
AUTN	L'Aution	2.15	168	Pg	Pg	11 27 57.6	-1.9
AUTN	L'Aution	2.15	168	Pn	Pn	11 27 54.5	+1.5
AUTN				Pg	Pg	11 27 57.6	-1.9
AUTN	L'Aution	2.15	168	Pg	Pg	11 27 57.6	-1.9
SISB	Singen-Sch Ber	2.17	42	⇑P	Pn	11 27 53.9	+0.8
SISB				Pg	Pg	11 27 59.0	-0.8
SISB				Sg	Sg	11 28 29.1	+0.5
SISB	Singen-Sch Ber	2.17	42	P	Pn	11 27 54.1	+1.0
SAOF	Saorge	2.18	166	Pn	Pn	11 27 54.9	+1.5

THEF They Montfort 2.20 345 Pg Pg 11 28 01.4 +1.0
THEF They Montfort 2.20 345 ⇑P Pn 11 27 56.0 +2.4
THEF They Montfort 2.20 345 Pn Pn 11 27 55.8 +2.2
THEF Pg Pg 11 28 01.4 +1.0
THEF They Montfort 2.20 345 Pg Pg 11 28 01.4 +1.0
LIENZ Alp Oberkamor 2.20 56⇑*i*Pn Pn 11 27 55.4 +1.8
LIENZ Alp Oberkamor 2.20 56⇑*i*Pn Pn 11 27 55.4 +1.8
STOF St-Etienne Org 2.20 197 Pn Pn 11 27 55.3 +1.7
PLDF La Plantade 2.23 268 Pg Pg 11 28 01.6 +0.6
PLDF La Plantade 2.23 268 Pn Pn 11 27 56.6 +2.6
PLDF Pg Pg 11 28 01.6 +0.6
PLDF La Plantade 2.23 268 Pg Pg 11 28 01.6 +0.6
DAVOX Davos 2.23 71 Pn Pn 11 27 57.5 +3.5
350nm,0.3s,baz=253,slow=11,SNR=254
DAVOX Lg 11 28 27.5
548nm,0.3s,baz=344,slow=21,SNR=3.6
DAVOX LR LR 11 29 05.7
comp=Z,696nm,19.2s,baz=259,slow=50
DAVOX Davos 2.23 71⇑*i*Pn Pn 11 27 57.4 +3.4
DAVOX Davos 2.23 71 Pg Pg 11 27 57.6 -3.4
BERNI Berninapass 2.25 81⇓*i*Pn Pn 11 27 57.6 +3.3
BERNI Berninapass 2.25 81⇓*i*Pn Pn 11 27 57.6 +3.3
COLF Collangettes 2.26 256 Pg Pg 11 28 01.7 +0.1
COLF Collangettes 2.26 256 Pn Pn 11 27 55.9 +1.4
COLF Pg Pg 11 28 01.7 +0.1
COLF Collangettes 2.26 256 Pg Pg 11 28 01.7 +0.1
GENL Genova Univers 2.28 137 P Pn 11 27 56.9 +2.1
GENL Genova Univers 2.28 137 P Pn 11 27 56.9 +2.1
SBF Sospel 2.28 169 *e*P Pn 11 27 56.5 +1.7
SBF *e*Pg Pg 11 27 58.6 -3.5
SBF *e*Sg Sg 11 28 26.2 -6.4
9µm,0.5s
SBF Sospel 2.28 169 *e*P Pn 11 27 56.5 +1.7
SBF *e* 11 28 26.2
BOB Bobbio (Coli) 2.29 125 Pg Pg 11 27 56.9 -5.3
625nm,0.8s
SMRF Simiane la Rot 2.30 203 *e*P Pn 11 27 56.5 +1.4
SMRF *e*Pg Pg 11 27 59.7 -2.8
SMRF *e*Sg Sg 11 28 29.0 -4.2
3µm,0.7s
IMI Imperia 2.32 160 Pg Pg 11 27 57.4 -5.5
CDF Champ du Feu 2.33 8 *e*Pn Pn 11 27 56.2 +0.7
CDF *e*Pg Pg 11 28 02.5 -0.6
CDF *e*Sg Sg 11 28 33.1 -1.1
4µm,0.6s
CDF Champ du Feu 2.33 8 *e*P Pn 11 27 56.2 +0.7
CDF *e* 11 28 33.1
WLS Welschbruch 2.34 9 Pg Pg 11 28 03.4 +0.2
WLS Welschbruch 2.34 9 ⇑P Pn 11 27 56.6 +0.9
WLS Welschbruch 2.34 9 Pn Pn 11 27 56.6 +1.0
WLS Pg Pg 11 28 03.4 +0.2
WLS Welschbruch 2.34 9 Pg Pg 11 28 03.4 +0.2
LOR Lormes 2.34 301 *e*Pn Pn 11 27 58.0 +2.3
baz=126
LOR *e*Pg Pg 11 28 03.7 +0.4
baz=124
LOR *e*Sg Sg 11 28 35.8 +1.3
5µm,0.5s
LOR *e*R
1µm,24.5s
LOR Lormes 2.34 301 *e*Pg Pg 11 28 03.7 +0.4
LOR *e*Sg Sg 11 28 35.8 +1.3
2µm,0.5s
NEGI Negi 2.34 164 P Pn 11 27 57.4 +1.7
NEGI Negi 2.34 164 P Pn 11 27 57.4 +1.7
CALN Calern 2.35 179 Pg Pg 11 28 02.0 -1.5
REVF Revere 2.40 170 P Pn 11 27 57.5 +1.1
SPAK Spaichingen 2.41 33 P Pn 11 27 56.8 +0.2
SPAK Spaichingen 2.41 33 Pn Pn 11 27 56.8 +0.1
SPAK Pg Pg 11 28 04.3 -0.4
SPAK Spaichingen 2.41 33 Pg Pg 11 28 04.3 -0.4
DAVA Damuels 2.42 60⇑*i*PN Pn 11 27 58.6 +1.8
DAVA *i* PG Pg 11 28 06.8 +2.0
DAVA *i* SN Sn 11 28 33.4 +6.7
DAVA *i* SG Sg 11 28 46.5 +9.4
4µm,0.6s
DAVA Damuels 2.42 60 *e*Pn Pn 11 27 58.6 +1.8
SNR=232
DAVA ⇑*i*Pg Pg 11 28 06.8 +1.9
DAVA Damuels 2.42 60⇓*i*Sg Sg 11 28 36.2 -0.9
comp=Z,6µm,0.7s
DAVA Damuels 2.42 60 *e*Pg Pg 11 28 03.6 -1.2
DAVA *e*Sg Sg 11 28 35.5 -1.6
SFTF Sexfontaines 2.43 331 *e*Pn Pn 11 27 59.3 +2.4
baz=148
SFTF *e*Pg Pg 11 28 05.5 +0.6
baz=145
SFTF *e*Sg Sg 11 28 37.1 -0.2
21µm,0.8s
SFTF Sexfontaines 2.43 331 *e*Pg Pg 11 28 05.5 +0.6
SFTF *e*Sg Sg 11 28 37.1 -0.2
11µm,0.8s
FUORN Ofenpass 2.45 77⇑*i*Pn Pn 11 28 00.7 +3.6
FUORN Ofenpass 2.45 77⇑*i*Pn Pn 11 28 00.7 +3.6
FUORN Ofenpass 2.45 77 Pg Pg 11 28 01.0 -4.3
BFO Black Forest 2.46 24 *e*Pn Pn 11 27 57.0 -0.3
BFO ⇑P 11 27 57.1
BFO Pg Pg 11 28 04.6 -0.9
BFO *e*Sg Sg 11 28 38.0 -0.3
BFO Black Forest 2.46 24 ⇑P Pn 11 27 57.1 -0.1
BFO P Pn 11 28 04.6 -0.9
BFO S Sg 11 28 38.0 -0.3
BFO Black Forest 2.46 24 *e*Pn Pn 11 27 57.0 -0.3
BFO *e*Sg Sg 11 28 38.0 -0.3
BFO Black Forest 2.46 24 *e*Pg Pg 11 28 06.5 +1.0
BFO *e*Sg Sg 11 28 37.3 -1.0
SSF Saint Saulge 2.47 294 *e*Pn Pn 11 27 59.6 +2.1
SSF *e*Pg Pg 11 28 06.1 +0.2
SSF *e*Sn Sn 11 28 29.3 +1.2
SSF *e*Sg Sg 11 28 40.3 +1.4
2µm,0.5s
SSF Saint Saulge 2.47 294 *e*Pg Pg 11 28 06.1 +0.2
SSF *e*Sn Sn 11 28 29.3 +1.2
SSF *e*Sg Sg 11 28 40.3 +1.4
992nm,0.5s
SSF Saint Saulge 2.47 294 *e*P Pn 11 27 59.6 +2.1
SSF *e* 11 28 29.3
AVF Avril sur Loir 2.49 287 *e*Pn Pn 11 27 59.7 +1.9
AVF *e*Pg Pg 11 28 06.8 +0.6
AVF *e*Sn Sn 11 28 29.2 +0.7
AVF *e*Sg Sg 11 28 39.6 +0.2
1µm,0.3s
AVF Avril sur Loir 2.49 287 *e*P Pn 11 27 59.7 +1.9
AVF *e* 11 28 29.2
BRMO Bormio 2.50 80 Pg Pg 11 28 01.8 -4.6
GUT Gutenstein 2.52 38⇑*e*P Pn 11 27 58.3 +0.1
GUT Pg Pg 11 28 05.6 -1.2
GUT Sg Sg 11 28 39.8 -0.6
TAVF Tavernes 2.54 192 Pn Pn 11 28 00.0 +1.5
FRF La Foret Royal 2.55 183 *e*P Pn 11 27 59.4 +0.8
FRF *e*Pg Pg 11 28 03.3 -4.0
FRF *e*Sg Sg 11 28 34.9 -6.4
9µm,0.8s
FRF La Foret Royal 2.55 183 *e*P Pn 11 27 59.4 +0.8
FRF *e* 11 28 34.9
AGO Saint Agoulin 2.56 270 Pg Pg 11 28 09.3 +1.6
AGO Saint Agoulin 2.56 270 Pn Pn 11 28 01.4 +2.6
AGO Pg Pg 11 28 09.3 +1.6
AGO Saint Agoulin 2.56 270 Pg Pg 11 28 09.3 +1.6
STR Strasbourg 2.56 14 Pg Pg 11 28 08.6 +0.9
STR Strasbourg 2.56 14 Pn Pn 11 27 59.5 +0.6
STR Pg Pg 11 28 08.6 +0.9
STR Strasbourg 2.56 14 Pg Pg 11 28 08.6 +0.9
SC2M Scurtabr 2.57 130 P Pn 11 28 01.6 +2.7
MABI Malga Bissina 2.58 90 Pg Pg 11 28 01.6 -6.4
1µm,0.7s
PRAF Pradon 2.58 207 Pn Pn 11 28 00.8 +1.8
CFF Clermont-Ferra 2.60 264 *e*Pn Pn 11 28 01.1 +1.7
CFF Clermont-Ferra 2.60 264 *e*Pg Pg 11 28 08.4 -0.1
CFF *e*Sg Sg 11 28 42.3 -0.9
SAL Salo 2.64 99 Pg Pg 11 28 01.9 -7.4
PYM Petit Puy Mans 2.68 264 Pn Pn 11 28 02.8 +2.3
MEZF Maizieres J'vi 2.68 334 *e*Pn Pn 11 28 01.8 +1.3
baz=150
MEZF *e*Pg Pg 11 28 10.0 0.0
baz=150
MEZF *e*Sn Sn 11 28 33.8 +0.4
MEZF *e*Sg Sg 11 28 45.9 +0.1
18µm,0.6s
MEZF Maizieres J'vi 2.68 334 *e*Pg Pg 11 28 10.0 0.0
MEZF *e*Sn Sn 11 28 33.8 +0.4
MEZF *e*Sg Sg 11 28 45.9 +0.1

9µm,0.6s
RFYF Reffroy 2.69 341 *e*Pn Pn 11 28 01.0 +0.4
RFYF *e*Pg Pg 11 28 09.3 -0.8
baz=152
RFYF *e*Sn Sn 11 28 33.9 +0.4
RFYF *e*Sg Sg 11 28 44.9 -1.0
7µm,0.5s
RFYF Reffroy 2.69 341 *e*Pg Pg 11 28 09.3 -0.8
RFYF *e*Sn Sn 11 28 33.9 +0.4
RFYF *e*Sg Sg 11 28 44.9 -1.0
4µm,0.5s
OBER Oberstdorf 2.73 60⇑*i*Pn Pn 11 28 02.7 +1.6
CODM 2.75 128 P Pn 11 28 04.1 +2.7
CODM 2.75 128 P Pn 11 28 04.1 +2.7
UBR Uberruh 2.76 54 ⇑P Pn 11 28 02.6 +1.1
UBR Pg Pg 11 28 10.2 -1.4
UBR Sg Sg 11 28 47.0 -1.3
UBR Uberruh 2.76 54 PG Pg 11 28 10.2 -1.3
UBR Uberruh 2.76 54 P Pn 11 28 02.8 +1.2
LMR La Mourre 2.78 185 *e*Pn Pn 11 28 00.1 -1.8
LMR *e*P 11 28 02.1
LMR *e*Pg Pg 11 28 08.2 -3.8
LMR *e*Sg Sg 11 28 43.3 -5.7
1µm,0.4s
LMR La Mourre 2.78 185 *e*P Pn 11 28 00.1 -1.8
LMR *e* 11 28 43.3
BGF Bois d'Agland 2.78 281 *e*Pn Pn 11 28 03.7 +1.7
BGF *e*Pg Pg 11 28 11.8 -0.3
BGF *e*Sn Sn 11 28 36.6 +0.6
BGF *e*Sg Sg 11 28 48.8 -0.4
4µm,0.4s
BGF Bois d'Agland 2.78 281 *e*P Pn 11 28 03.7 +1.7
BGF *e* 11 28 36.6
GRAM 2.81 124 P Pn 11 28 04.8 +2.5
GRAM 2.81 124 P Pn 11 28 04.8 +2.5
TUBL Tuebingen Lnz 2.87 32⇑*e*P Pn 11 28 02.9 -0.3
TUBL Pg Pg 11 28 12.1 -1.7
TUBL Sg Sg 11 28 52.8 +0.7
TUBL Tuebingen Lnz 2.87 32⇑*e*P Pn 11 28 02.9 -0.3
TUBL S Sg 11 28 52.8 +0.7
GELF Grande-Etoile 2.89 200 Pn Pn 11 28 05.0 +1.5
LBG Lerchenberg 2.90 27 ⇑P Pn 11 28 02.9 -0.6
LBG Sg Sg 11 28 52.3 -0.7
BERF Bertagne 2.90 196 Pn Pn 11 28 07.1 +3.4
LASF Ste Croix 2.91 227 *e*Pn Pn 11 28 04.7 +0.9
LASF *e*Pg Pg 11 28 12.3 -2.4
LASF *e*Sn Sn 11 28 37.4 -1.9
LASF *e*Sg Sg 11 28 49.3 -4.2
6µm,0.5s
BACM 2.94 127 P Pn 11 28 05.8 +1.6
BACM 2.94 127 P Pn 11 28 05.8 +1.6
LANF Langenberg 2.96 13 Pn Pn 11 28 04.7 +0.3
VALM 3.00 125 P Pn 11 28 07.5 +2.5
ERBM Eremo 3.05 122 Pg Pn 11 28 08.6 +2.6
VINC Vinca 3.07 128 P Pn 11 28 08.7 +2.6
VINC Vinca 3.07 128 P Pn 11 28 08.7 +2.6
APPI Appiano 3.08 81⇓*e*Pg Pn 11 28 10.4 +4.1
3µm,1.1s
HYF Humbligny 3.10 294 *e*Pn Pn 11 28 08.7 +2.2
HYF *e*Sn Sn 11 28 45.5 +1.6
HYF *e*Sg Sg 11 29 00.0 +0.3
STU Stuttgart 3.12 30 *e*Pn Pn 11 28 05.9 -0.9
STU *e*Sg Sg 11 29 00.4 -0.1
STU Stuttgart 3.12 30 *e*Pn Pn 11 28 05.9 -0.9
STU *e*Sg Sg 11 29 00.4 0.0
STU Stuttgart 3.12 30 *e*Pg Pg 11 28 16.4 -2.4
SARO Sassorosso 3.18 126 P Pn 11 28 09.7 +2.1
SARO Sassorosso 3.18 126 P Pn 11 28 09.7 +2.0
VLC Villacollemand 3.19 126 Pg Pn 11 28 10.7 +2.9
2µm,0.9s
GSCL Gusciola 3.19 122 Pg Pn 11 28 10.5 +2.7
TCF Toulx Ste Croi 3.20 275 *e*Pn Pn 11 28 09.4 +1.5
TCF *e*Pg Pg 11 28 19.4 -1.0
TCF *e*Sn Sn 11 28 46.6 +0.1
TCF *e*Sg Sg 11 29 01.6 -1.5
3µm,0.7s
TCF Toulx Ste Croi 3.20 275 *e*P Pn 11 28 09.4 +1.5
TCF *e* 11 28 46.6
MOTA Moosalm 3.20 66⇑*i*PN Pn 11 28 09.8 +1.9
MOTA *i* SN Sn 11 28 52.6 +6.0
MOTA Moosalm 3.20 66 *i* Pn Pn 11 28 09.8 +1.9
SNR=138
MOTA Moosalm 3.20 66⇑*i*Sg Sg 11 29 01.1 -2.1
comp=Z,890nm,0.5s
SQTA Sankt Quirin 3.23 68⇑*i*PN Pn 11 28 10.6 +2.3
SQTA *i* SN Sn 11 28 53.2 +6.0
SQTA Sankt Quirin 3.23 68 *i* Pn Pn 11 28 10.6 +2.4
SNR=63
SQTA Sankt Quirin 3.23 68⇓*i*Sg Sg 11 28 59.9 -4.0
comp=Z,2µm,0.6s
KTD Kalmit 3.33 14 P Pn 11 28 09.7 -0.1
KTD Kalmit 3.33 14 P Pn 11 28 10.0 +0.3
CTI Castel Tesino 3.37 89 Pg Pn 11 28 12.9 +2.6
828nm,0.8s
BDI Bagni Di Lucca 3.37 126 Pg Pn 11 28 13.1 +2.8
1µm,0.8s
HDH Heidenheim 3.39 42 P Pn 11 28 09.5 -1.1
HDH Pg Pg 11 28 21.2 -3.0
HDH Sg Sg 11 29 06.1 -3.3
MAIM 3.41 129 P Pn 11 28 12.4 +1.6
MAIM 3.41 129 P Pn 11 28 12.4 +1.6
ZCCA Zocca 3.42 119 Pg Pn 11 28 14.3 +3.2
547nm,0.6s
GROG Isola di Gorgo 3.46 140 Pg Pn 11 28 13.1 +1.5
1µm,1.4s
PZZT Monte Pizzetto 3.48 123 Pg Pn 11 28 14.4 +2.5
1µm,0.7s
TEOL Teolo 3.48 101⇑*i*Pn Pn 11 28 12.5 +0.6
WATA Walderalm 3.50 68⇓*i*PN Pn 11 28 13.9 +1.7
WATA *i* SN Sn 11 29 00.4 +6.3
WATA Walderalm 3.50 68⇑*i*Sg Sg 11 29 11.6 -1.5
comp=Z,760nm,0.6s
SCE Schlegeis 3.51 73⇑*i*Pn Pn 11 28 15.0 +2.8
WTTA Wattenberg 3.52 69⇑*i*PN Pn 11 28 14.8 +2.4
WTTA *i* SN Sn 11 29 01.1 +6.6
WTTA Wattenberg 3.52 69 *i* Pn Pn 11 28 14.8 +2.4
SNR=115
WTTA Wattenberg 3.52 69⇓*i*Sg Sg 11 29 12.2 -1.4
comp=Z,1µm,0.7s
WTTA Wattenberg 3.52 69 *e*Sg Sg 11 29 09.9 -3.7
CAF Calviac 3.54 252 *e*Pn Pn 11 28 13.7 +1.0
CAF *e*Sg Sg 11 29 10.8 -3.5
5µm,0.7s
PII Pisa 3.55 131 Pg Pn 11 28 14.0 +1.1
170nm,0.4s
WLF Walferdange 3.59 353 *e*Pn Pn 11 28 15.6 +2.1
WLF *e*Sg Sg 11 29 15.0 -1.1
WLF Walferdange 3.59 353 *e*Pn Pn 11 28 15.2 +1.8
WLF *e*Sg Sg 11 29 15.7 -3.4
WLF Walferdange 3.59 353 P Pn 11 28 15.1 +1.7
FAU Forcella Aurin 3.59 86 *e*Pn Pn 11 28 16.7 +3.2
RUP Ruppelstein 3.60 3 ⇑P Pn 11 28 14.6 +0.9
RUP Pg Pg 11 28 26.4 -2.0
RUP Ruppelstein 3.60 3 Pn Pn 11 28 14.7 +1.1
RUP Pg Pg 11 28 26.9 -1.6
FNVD Fontana Vidola 3.61 121 Pg Pn 11 28 16.6 +2.8
1µm,0.8s
SWS Schriesheim 3.61 20 ⇑P Pn 11 28 12.6 -1.2
SWS Schriesheim 3.61 20 P Pn 11 28 12.7 -1.1
FUR Furstenfeldbru 3.68 54 *e*Pn Pn 11 28 15.2 +0.5
FUR *e*Sg Sg 11 29 16.0 -3.0
FUR Furstenfeldbru 3.68 54 *e*Pn Pn 11 28 15.2 +0.5
FUR *e*Sg Sg 11 29 16.0 -3.0
FUR Furstenfeldbru 3.68 54 *e*Pg Pg 11 28 27.1 -2.9
FUR *e*Sg Sg 11 29 14.8 -4.2
NORI Noordlinger Ri 3.68 43⇑*i*Pn Pn 11 28 13.5 -1.2
AFL Alpe Faloria 3.75 82 *e*Pn Pn 11 28 18.7 +3.1
TOD Tromm 3.75 20 P Pn 11 28 14.6 -1.2
TOD Tromm 3.75 20 Pn Pn 11 28 14.5 -1.2
SIND Sindeldorf 3.75 29 ⇑P Pn 11 28 13.8 -2.0
SIND Pg Pg 11 28 29.2 -2.2
SIND Sg Sg 11 29 18.7 -2.8
SIND Sindeldorf 3.75 29 P Pn 11 28 14.0 -1.8
SEST Monte Rota 3.79 78 Pg Pn 11 28 19.0 +2.7
3µm,1.1s
RJF Les Rejaudoux 3.79 260 *e*Pn Pn 11 28 17.7 +1.4
RJF *e*Pg Pg 11 28 29.6 -2.7
RJF *e*Sn Sn 11 29 00.5 -1.0
RJF *e*Sg Sg 11 29 19.6 -3.3
4µm,0.8s
RJF *e*R
861nm,17.6s

RJF Les Rejaudoux 3.79 260 *e*P Pn 11 28 17.7 +1.4
RJF *e* 11 29 00.5
ABH Alteburg 3.81 7 ⇑P Pn 11 28 16.9 +0.3
ABH Alteburg 3.81 7 P Pn 11 28 17.1 +0.5
SEI Scarperia 3.82 121 Pg Pn 11 28 19.6 +3.0
1µm,0.6s
CSO Casso 3.83 85⇑*e*Pn Pn 11 28 19.8 +2.9
PGF Pioggiola 3.89 155 *e*P Pn 11 28 17.8 +0.2
PGF *e*Sn Sn 11 28 57.8 -6.0
658nm,0.6s
CAE Caneva 3.92 89 *e*Pn Pn 11 28 21.3 +3.3
CAE Caneva 3.92 89⇑*e*P Pn 11 28 21.0 +2.9
VMG Vicchio 3.98 121 Pg Pn 11 28 20.5 +1.5
1µm,0.8s
MLNI Malnisio 4.03 87⇑*e*Pn Pn 11 28 22.3 +2.6
MLNI Malnisio 4.03 87⇑*e*P Pn 11 28 22.0 +2.3
CSMI Casera Mimoias 4.07 82⇑*i*P Pn 11 28 23.0 +2.8
BGG Burgeitz 4.12 5⇑*e*Pn Pn 11 28 20.9 0.0
BGG *e*Sn Sn 11 29 10.1 +0.3
CSNT Castellina Chi 4.13 128 P Pn 11 28 22.0 +0.8
PGD Poggio Sodo 4.13 121 Pg Pn 11 28 23.1 +1.9
198nm,0.7s
CORF Corte 4.16 155 Pn Pn 11 28 21.9 +0.4
FVI Forni Avoltri 4.16 81 Pg Pn 11 28 24.5 +2.9
1µm,1.1s
GRFL Gerfalco 4.19 133 Pg Pn 11 28 23.5 +1.5
91nm,0.6s
SFI Santa Sofia 4.19 120 Pg Pn 11 28 23.8 +1.8
226nm,0.5s
GIVF Givet 4.22 342 *e*Pn Pn 11 28 24.2 +1.9
GIVF *e*Sg Sg 11 29 32.6 -4.3
5µm,0.8s
TNS Taunus Mts 4.26 14 *e*Pn Pn 11 28 22.4 -0.6
TNS *e*Sg Sg 11 29 35.7 -2.7
TNS Taunus Mts 4.26 14 *e*Pn Pn 11 28 22.4 -0.6
TNS *e*Sg Sg 11 29 35.7 -2.8
MTLF Montolieu 4.28 231 *e*Pn Pn 11 28 23.7 +0.4
MTLF *e*Pg Pg 11 28 37.5 -4.5
MTLF *e*Sn Sn 11 29 10.1 -3.8
MTLF *e*Sg Sg 11 29 33.0 -6.1
3µm,0.6s
MTLF Montolieu 4.28 231 *e*P Pn 11 28 23.7 +0.4
MTLF *e* 11 29 10.1
ZOU Zoufplan 4.29 82⇓*i*Pn Pn 11 28 26.4 +3.0
ZOU Zoufplan 4.29 82⇓*i*P Pn 11 28 26.0 +2.6
MPRI Monte Prat 4.29 86⇑*i*Pn Pn 11 28 25.9 +2.5
MPRI Monte Prat 4.29 86⇓*i*P Pn 11 28 26.0 +2.6
BAIF Baives 4.33 337 *e*Pn Pn 11 28 25.5 +1.6
BAIF *e*Pg Pg 11 28 37.9 -5.0
BAIF *e*Sn Sn 11 29 14.2 -0.8
BAIF *e*Sg Sg 11 29 36.1 -4.4
3µm,0.9s
BAIF Baives 4.33 337 *e*P Pn 11 28 25.5 +1.6
BAIF *e* 11 29 14.2
BUA Buia 4.39 86⇓*e*P Pn 11 28 27.0 +2.2
TLI Talmassons 4.39 90 *e*Pn Pn 11 28 27.0 +2.3
TLI Talmassons 4.39 90⇓*i*P Pn 11 28 27.0 +2.2
PLRO Paularo 4.41 82 *e*Pn Pn 11 28 27.7 +2.6
PLRO Paularo 4.41 82⇑*i*P Pn 11 28 27.0 +1.9
RJOB Jochberg 4.41 66⇑*i*Pn Pn 11 28 26.2 +1.1
CRE Caprese Michel 4.42 122 P Pn 11 28 26.2 +1.0
LFF La Frestale 4.42 257 *e*Pn Pn 11 28 26.1 +0.8
LFF *e*Pg Pg 11 28 40.9 -3.9
LFF *e*Sn Sn 11 29 15.8 -1.7
LFF *e*Sg Sg 11 29 39.3 -4.5
2µm,0.5s
LFF La Frestale 4.42 257 *e*P Pn 11 28 26.1 +0.8
LFF *e* 11 29 15.8
BAD Bernadia 4.47 86⇑*i*Pn Pn 11 28 28.2 +2.3
BAD Bernadia 4.47 86⇑*i*P Pn 11 28 28.0 +2.1
STB Steinbach 4.49 0⇑*e*Pn Pn 11 28 26.6 +0.3
STB *e*Sn Sn 11 29 18.1 -1.1
1µm,0.9s
PTCC Patocco-Chiusa 4.55 84 Pg Pn 11 28 28.8 +1.8
199nm,0.5s
RSM Repubblica di 4.55 117 P Pn 11 28 29.4 +2.3
KLL Kalltalsperre 4.56 356⇑*e*Pn Pn 11 28 27.9 +0.7
KLL *e*Sn Sn 11 29 19.7 -1.1
704nm,1.0s
COLI Coloredo 4.57 87⇓*i*P Pn 11 28 30.0 +2.7
KBA Koelnbreinsper 4.61 75⇑*i*PN Pn 11 28 29.5 +1.6
KBA *i* SN Sn 11 29 28.5 +6.4
KBA Koelnbreinsper 4.61 75⇑*i*Sg Sg 11 29 48.8 -1.2
comp=Z,562nm,0.9s
EJON La Jonquera 4.61 219 Pn Pn 11 28 28.5 +0.5
EJON Pg Pg 11 28 43.4 -5.2
EJON Sn Sn 11 29 19.6 -2.7
EJON Lg 11 29 41.5
EJON La Jonquera 4.61 219 *e*Pn Pn 11 28 28.4 +0.4
EJON La Jonquera 4.61 219 Pg Pg 11 28 43.4 -5.2
66nm,0.4s,SNR=4.0
EJON Sn Sn 11 29 19.6 -2.7
246nm,0.9s,SNR=5.4
EJON Lg 11 29 41.5
564nm,1.1s,SNR=4.5
BADI Badiali 4.66 122 Pg Pn 11 28 29.9 +1.3
363nm,0.7s
GRA1 Grafenberg Arr 4.66 38 *e*Pn Pn 11 28 26.4 -2.2
GRA1 *e*Sg Sg 11 29 48.9 -2.6
GRF Grafenberg Arr 4.66 38 *e*Pn Pn 11 28 26.4 -2.2
GRF *e*Sg Sg 11 29 48.9 -2.7
GRF Grafenberg Arr 4.66 38 *e*Pn Pn 11 28 26.2 -2.2
GRF *e*Sg Sg 11 29 48.9 -2.6
ARCI Arcidosso 4.66 133 Pg Pn 11 28 29.8 +1.2
115nm,0.8s
LSR Lussari 4.67 83⇓*i*Pn Pn 11 28 30.8 +2.0
LSR Lussari 4.67 83⇓*i*P Pn 11 28 30.0 +1.2
FILF Fillols 4.67 222 Pn Pn 11 28 30.7 +1.9
HGN Heimansgroeve 4.70 353⇑*e*Pn Pn 11 28 30.3 +1.1
299nm,0.6s,baz=168
HGN *ex* x 11 28 38.5
HGN *e*Sn Sn 11 29 23.7 -0.7
HGN *e*Sg Sg 11 29 48.5 -4.5
2.2nm,0.1s
HGN Heimansgroeve 4.70 353⇑*e*Pn Pn 11 28 30.3 +1.1
299nm,0.6s,baz=168
HGN *ex* x 11 28 38.5
HGN *e*Sn Sn 11 29 23.7 -0.7
HGN *e*Sg Sg 11 29 48.5 -4.5
2.2nm,0.1s
LPEF Le Peyrat 4.72 230 Pn Pn 11 28 30.2 +0.8
DRE Drenchia 4.75 87⇑*i*Pn Pn 11 28 31.7 +1.8
DRE Drenchia 4.75 87⇑*i*P Pn 11 28 31.0 +1.1
CARF Carcanieres 4.78 227 Pn Pn 11 28 31.4 +1.1
CADS Cadrg 4.81 86 *i* Pn Pn 11 28 32.0 +1.2
MFF Saint Martin d 4.84 278 *e*Pn Pn 11 28 32.1 +0.9
MFF *e*Sn Sn 11 29 25.7 -2.4
MFF *e*Sg Sg 11 29 53.4 -4.3
1µm,0.8s
TRI Trieste 4.87 92 Pg Pn 11 28 32.2 +0.6
133nm,0.5s
BNS Bensberg 4.87 3⇑*e*Pn Pn 11 28 31.8 +0.2
FSSB Fossombrone 4.88 118 Pg Pn 11 28 32.4 +0.7
247nm,0.5s
SACS San Casciano d 4.89 130 Pg Pn 11 28 33.6 +1.7
207nm,1.0s
VOJS Vojsko 4.92 88 *e*Pn Pn 11 28 33.3 +0.9
VOJS *e* 11 29 17.7
VOJS *e*Sn Sn 11 29 28.0 -2.1
VOY Vojsko 4.93 88 *e*Pn Pn 11 28 33.2 +0.8
VOY *e*Sn Sn 11 29 29.6 -0.7
MATF Mathat 4.96 269 Pn Pn 11 28 34.3 +1.5
HROE Hohe Rhon--Fla 4.96 25⇑*i*Pn Pn 11 28 30.2 -2.8
ARV Arcevia 5.08 119 Pg Pn 11 28 36.0 +1.4
201nm,0.8s
WET Wettzell 5.11 51 *e*Pn Pn 11 28 33.7 -1.3
WET *e*Sg Sg 11 30 00.2 -6.2
WET Wettzell 5.11 51 *e*Pn Pn 11 28 33.7 -1.2
WET *e*Sg Sg 11 30 00.2 -6.3
WET Wettzell 5.11 51 *e*Pn Pn 11 28 33.8 -1.1
WET *e*Sg Sg 11 29 58.9 -7.6
ROTZ Rotzenmuhle 5.16 43 *e*Pn Pn 11 28 33.1 -2.5
ROTZ *e*Sg Sg 11 30 01.4 -6.7
ROTZ Rotzenmuhle 5.16 43⇑*i*Pn Pn 11 28 32.9 -2.7
MLS Moulis 5.16 234 Pn Pn 11 28 35.9 +0.3
MZEK Zeckenberg-Ebn 5.17 40 *e*Pn Pn 11 28 33.2 -2.7
SNTG Esanatoglia 5.22 121 Pg Pn 11 28 37.1 +0.6
88nm,0.4s
LCHF La Chataignera 5.26 279 Pn Pn 11 28 38.9 +1.8
MANZ Manzenberg 5.26 41⇑*i*Pn Pn 11 28 34.1 -3.0
CING Cingoli 5.30 119 Pg Pn 11 28 38.7 +1.0
285nm,0.7s
KNDS Knezji Dol 5.32 93 *i* Pn Pn 11 28 38.5 +0.6

KNDS				eSn	Sn	11 29 40.4	+0.3
	comp=Z,486nm,1.0s						
CEY	Cerknica	5.33	91	ePn	Pn	11 28 38.8	+0.8
CEY				eSn	Sn	11 29 39.1	-1.1
	comp=Z,208nm,0.5s						
CEY	Cerknica	5.33	91	ePn	Pn	11 28 38.8	+0.8
	comp=Z,208nm,0.5s						
CEY				eSn	Sn	11 29 39.1	-1.1
LDF	La Druitiere	5.33	300	ePn	Pn	11 28 38.8	+0.7
LDF				eSn	Sn	11 29 38.3	-2.0
LDF				eSg	Sg	11 30 07.0	-6.9
	comp=Z,970nm,0.6s						
BUG	Bochum--Univer	5.35	3	ePn	Pn	11 28 39.0	+0.6
LJU	Ljubljana	5.37	88	ePn	Pn	11 28 39.9	+1.3
LJU				eSn	Sn	11 29 40.5	-0.8
OBKA	Obir	5.38	83	⇑iPN	Pn	11 28 40.0	+1.2
OBKA				i SN	Sn	11 29 47.0	+5.5
OBKA	Obir	5.38	83	⇑iPn	Pn	11 28 40.0	+1.3
	SNR=25						
OBKA	Obir	5.38	83	⇑iSg	Sg	11 30 11.0	-4.5
	comp=Z,308nm,1.4s						
MOA	Molln	5.39	68	⇑iPN	Pn	11 28 38.8	-0.2
MOA				i SN	Sn	11 29 45.7	+3.8
MOA	Molln	5.39	68	i Pn	Pn	11 28 38.8	-0.2
	SNR=69						
MOA	Molln	5.39	68	⇓iSg	Sg	11 30 12.1	-3.9
	comp=Z,1μm,1.5s						
MELF	Melles	5.40	235	Pn	Pn	11 28 39.2	+0.1
GERES	GERESS Array B	5.42	57	Pn	Pn	11 28 38.6	-0.7
	comp=Z,25nm,0.3s,baz=241,slow=14,SNR=237						
GERES				Lg		11 30 08.1	
	comp=Z,42nm,0.3s,baz=246,slow=29,SNR=4.0						
GERES				LR	LR	11 31 12.3	
	comp=Z,654nm,18.7s,baz=249,slow=44						
KHC	Kasperske Hory	5.49	54	ePN	Pn	11 28 39.2	-1.1
KHC				ePG	Pg	11 28 59.6	-6.4
KHC				eSG	Sg	11 30 13.0	-6.2
	comp=Z,2μm,1.3s						
TOLF	Tolfa	5.50	135	P	Pn	11 28 41.5	+1.0
EPF	Esparros	5.55	239	ePn	Pn	11 28 40.3	-0.9
EPF				ePg	Pg	11 29 01.4	-5.9
EPF				eSg	Sg	11 30 11.1	-10
	comp=Z,1μm,0.5s						
MOX	Moxa	5.56	33	ePn	Pn	11 28 38.2	-3.0
MOX				ePg	Pg	11 29 01.8	-5.6
MOX				eSg	Sg	11 30 16.8	-4.7
MOX	Moxa	5.56	33	i P	Pn	11 28 38.1	-3.2
MOX				Pg	Pg	11 29 02.0	-5.4
MOX				Sg	Sg	11 30 15.0	-6.5
MOX				L		11 30 41.0	
MOX	Moxa	5.56	33	ePn	Pn	11 28 38.1	-3.2
MOX				ePg	Pg	11 29 01.8	-5.6
MOX				eSg	Sg	11 30 15.3	-6.2
MOX	Moxa	5.56	33	ePg	Pg	11 29 01.0	-6.4
MOX				eSg	Sg	11 30 14.1	-7.4
NKC	Novy Kostel	5.59	40	ePN	Pn	11 28 39.4	-2.4
NKC				ePG	Pg	11 29 02.1	-6.0
NKC				eSG	Sg	11 30 19.5	-3.2
	comp=Z,945nm,0.7s						
NKC	Novy Kostel	5.59	40	ePn	Pn	11 28 39.4	-2.4
NKC				ePg	Pg	11 29 02.1	-6.0
NKC				eSg	Sg	11 30 19.5	-3.2
NKC	Novy Kostel	5.59	40	ePg	Pg	11 29 02.1	-6.0
NKC				eSg	Sg	11 30 15.3	-7.4
FLN	La Foliniere	5.62	301	ePn	Pn	11 28 42.6	+0.5
	baz=121						
FLN				ePg	Pg	11 29 03.8	-4.8
	baz=122						
FLN				eSn	Sn	11 29 43.8	-3.7
FLN				eSg	Sg	11 30 18.1	-5.4
FLN				eR			
	comp=Z,533nm,22.8s						
FLN	La Foliniere	5.62	301	ePg	Pg	11 29 03.8	-4.8
FLN				eSn	Sn	11 29 43.8	-3.7
FLN				eSg	Sg	11 30 18.1	-5.4
FLN	La Foliniere	5.62	301	eP	Pn	11 28 42.6	+0.5
FLN				e		11 29 43.8	
MNS	Montasola	5.62	129	P	Pn	11 28 42.6	+0.4
EMIR	Miracle	5.66	224	Pn	Pn	11 28 44.7	+2.0
EMIR				Sn	Sn	11 29 45.4	-3.3
EMIR				Lg		11 30 15.9	
EMIR	Miracle	5.66	224	Pn	Pn	11 28 44.7	+1.9
	comp=Z,78nm,0.4s,SNR=36						
EMIR				Sn	Sn	11 29 45.4	-3.2
	comp=Z,315nm,0.8s,SNR=5.0						
EMIR				Lg		11 30 15.9	
	comp=Z,1μm,0.7s,SNR=5.2						
RESF	Ens	5.69	237	Pn	Pn	11 28 43.5	+0.4
WERD	Werda	5.69	38	ePn	Pn	11 28 40.0	-3.1
WERD				eSg	Sg	11 30 20.6	-5.2
GRR	Gorron	5.70	296	ePn	Pn	11 28 43.7	+0.4
GRR				eSn	Sn	11 29 47.4	-2.2
	comp=Z,1μm,0.5s						
LRYF	La Roche-sur-Y	5.81	278	Pn	Pn	11 28 45.1	+0.3
VIEF	Viey	5.83	239	Pn	Pn	11 28 48.3	+3.2
WTSB	Winterswijk	5.87	360	ePn	Pn	11 28 46.0	+0.4
	comp=Z,329nm,0.6s						
WTSB	Winterswijk	5.87	360	ePn	Pn	11 28 46.0	+0.4
	comp=Z,329nm,0.6s						
EBIE	Bielsa	5.87	237	Pn	Pn	11 28 45.8	+0.1
EBIE				Sn	Sn	11 29 48.9	-5.0
EBIE				Lg		11 30 20.2	
EBIE	Bielsa	5.87	237	Pn	Pn	11 28 45.8	+0.1
	comp=Z,119nm,0.5s,SNR=72						
EBIE				Sn	Sn	11 29 48.9	-5.0
	comp=Z,218nm,1.1s,SNR=5.5						
EBIE				Lg		11 30 20.2	
	comp=Z,1μm,1.0s,SNR=9.9						
NVLJ	Novalja	5.89	102	i Pn	Pn	11 28 45.2	-0.7
NVLJ				i Sn	Sn	11 29 50.2	-4.1
BOJS	Bojanci	5.93	93	ePn	Pn	11 28 47.5	+0.9
BOJS				eSn	Sn	11 29 53.4	-2.0
	comp=Z,529nm,1.1s						
FIAM	Fiamignano	5.94	128	P	Pn	11 28 49.9	+3.3
TERO	Teramo	5.98	123	Pg	Pn	11 28 48.5	+1.2
	comp=Z,149nm,0.6s						
CRES	Cresnjev	6.03	90	P	Pn	11 28 49.2	+1.2
AQU	L'Aquila	6.04	126	Pn	Pn	11 28 49.6	+1.5
	comp=Z,129nm,0.8s						
AQU	L'Aquila	6.04	126	P	Pn	11 28 49.6	+1.5
AQU				pmax	pmax		
	comp=Z,129nm,0.8s						
EGRA	Graus	6.09	232	⇓Pn	Pn	11 28 50.8	+1.9
EGRA				Sn	Sn	11 29 54.5	-4.8
EGRA				Lg		11 30 27.1	
EGRA	Graus	6.09	232	Pn	Pn	11 28 50.8	+2.0
	comp=Z,41nm,0.4s,SNR=18						
EGRA				Sn	Sn	11 29 54.5	-4.9
	comp=Z,246nm,0.9s,SNR=5.5						
EGRA				Lg		11 30 27.1	
	comp=Z,745nm,0.7s,SNR=5.2						
ARSA	Arzberg	6.10	76	⇑iPN	Pn	11 28 48.7	-0.3
ARSA				i SN	Sn	11 30 05.1	+5.4
ARSA	Arzberg	6.10	76	i Pn	Pn	11 28 48.7	-0.3
	SNR=56						
ARSA	Arzberg	6.10	76	⇑iSg	Sg	11 30 34.0	-5.7
	comp=Z,1μm,1.7s						
ETSF	Etsaut	6.17	241	ePn	Pn	11 28 48.8	-1.1
ETSF				eP		11 28 53.0	
ETSF				eSg	Sg	11 30 31.8	-10
	comp=Z,949nm,0.7s						
FDAF	Les Forges d'A	6.22	241	Pn	Pn	11 28 51.9	+1.3
ORDF	Ordiarp	6.24	245	Pn	Pn	11 28 50.0	-0.9
PTQR	Pietraquaria	6.26	128	P	Pn	11 28 53.0	+1.8
EPOB	Poblet	6.31	223	Pn	Pn	11 28 54.0	+2.1
EPOB				Pg	Pg	11 29 15.5	-6.9
EPOB				Sn	Sn	11 29 59.0	-5.8
EPOB				Lg		11 30 35.9	
EPOB	Poblet	6.31	223	Pn	Pn	11 28 54.0	+2.1
	comp=Z,31nm,0.6s,SNR=37						
EPOB	Poblet	6.31	223	Pg	Pg	11 29 15.5	-6.9
	comp=Z,47nm,0.5s,SNR=8.3						
EPOB				Sn	Sn	11 29 59.0	-5.8
	comp=Z,155nm,1.1s,SNR=5.6						
EPOB				Lg		11 30 35.9	
	comp=Z,494nm,0.9s,SNR=5.9						
LARF	Larrau	6.36	244	Pn	Pn	11 28 50.9	-1.7
OSSF	Osses	6.42	247	Pn	Pn	11 28 52.2	-1.3
PRA	Prague	6.46	49	PG	Pg	11 29 18.0	-7.6
PRA				SG	Sg	11 30 42.0	-10
SJPF	Ste Jean	6.47	245	ePn	Pn	11 28 52.4	-1.8
SJPF				eSg	Sg	11 30 42.1	-10
	comp=Z,964nm,0.7s						
PRU	Pruhonice	6.48	50	ePN	Pn	11 28 52.7	-1.6
PRU				ePG	Pg	11 29 16.3	-9.5
PRU				eSG	Sg	11 30 44.8	-7.3
	comp=Z,2μm,2.2s						
PRU	Pruhonice	6.48	50	ePn	Pn	11 28 52.6	-1.7
PRU	Pruhonice	6.48	50	ePg	Pg	11 29 18.7	-7.1
PRU				eSg	Sg	11 30 40.5	-12
INTR	Introdacqua	6.54	126	P	Pn	11 28 59.0	+3.8
EALK	Alkurruntz	6.59	247	Pn	Pn	11 28 54.7	-1.3
EALK				Pg	Pg	11 29 21.4	-6.7
EALK				Lg		11 30 47.8	
EALK	Alkurruntz	6.59	247	Pn	Pn	11 28 54.7	-1.2
	comp=Z,32nm,0.5s,SNR=14						
EALK	Alkurruntz	6.59	247	Pg	Pg	11 29 21.4	-6.8
	comp=Z,115nm,0.5s,SNR=4.0						
EALK				Lg		11 30 47.8	
	comp=Z,1μm,0.8s,SNR=5.7						
CLL	Collm	6.62	36	i Pn	Pn	11 28 54.6	-1.8
CLL				i Pg	Pg	11 29 21.4	-7.3
CLL				eSg	Sg	11 30 51.2	-5.8
CLL	Collm	6.62	36	i PN	Pn	11 28 54.6	-1.8
CLL				i PG	Pg	11 29 21.4	-7.3
CLL				i		11 29 24.9	
CLL				i		11 29 27.8	
CLL				i SG	Sg	11 30 51.2	-5.8
CLL				eL		11 31 06.0	
CLL	Collm	6.62	36	i Pn	Pn	11 28 54.6	-1.8
CLL				i Pg	Pg	11 29 21.4	-7.3
CLL				i Sg	Sg	11 30 51.2	-5.8
IPRE	Itoiz	6.71	243	Pn	Pn	11 28 57.2	-0.4
	comp=Z,103nm,0.6s,SNR=43						
IPRE				Sn	Sn	11 30 08.1	-6.8
	comp=Z,105nm,0.8s,SNR=4.9						
WIT	Witteveen	6.72	359	ePn	Pn	11 28 58.5	+0.8
	comp=Z,532nm,0.7s						
WIT	Witteveen	6.72	359	ePn	Pn	11 28 58.5	+0.8
	comp=Z,532nm,0.7s						
BRG	Berggiesshubel	6.72	42	ePn	Pn	11 28 54.7	-3.0
BRG				eSg	Sg	11 30 53.0	-7.4
BRG	Berggiesshubel	6.72	42	Pn	Pn	11 28 54.7	-3.0
	comp=Z,447nm,0.8s						
BRG				e		11 29 26.1	
BRG				Sb	Sb	11 30 34.6	0.0
BRG				Sg	Sg	11 30 53.2	-7.2
BRG	Berggiesshubel	6.72	42	P	Pn	11 28 54.7	-3.1
BRG				pmax	pmax		
	comp=Z,447nm,0.8s						
SGMF	Saint Gilles	6.74	292	ePn	Pn	11 28 57.5	-0.5
SGMF				eSn	Sn	11 30 10.6	-5.0
SGMF				eSg	Sg	11 30 53.6	-7.2
	comp=Z,585nm,0.7s						
PVCC	Panska Ves	6.81	47	ePN	Pn	11 28 59.8	+0.9
PVCC				ePG	Pg	11 29 23.4	-9.0
VKA	Vienna	6.83	68	⇑iPN	Pn	11 28 58.2	-1.0
VKA				i		11 30 14.0	
ESAC	San Caprasio	6.84	233	Pn	Pn	11 29 00.5	+1.1
ESAC				Pg	Pg	11 29 23.5	-10
ESAC				Lg		11 30 55.2	
ESAC	San Caprasio	6.84	233	Pn	Pn	11 29 00.5	+1.1
	comp=Z,54nm,0.5s,SNR=9.8						
ESAC	San Caprasio	6.84	233	Pg	Pg	11 29 23.5	-10
	comp=Z,112nm,0.5s,SNR=4.0						
ESAC				Lg		11 30 55.2	
	comp=Z,2μm,0.8s,SNR=5.2						
SOP	Sopron	6.86	73	P	Pn	11 28 58.0	-1.7
EARA	Aranguren	6.87	244	Pn	Pn	11 29 01.8	+2.0
	comp=Z,111nm,0.6s,SNR=24						
EARA				Sn	Sn	11 30 10.6	-8.2
	comp=Z,2μm,0.9s,SNR=6.6						
EARA				Lg		11 30 55.9	
	comp=Z,1μm,1.6s,SNR=5.0						
CII	Carovilli	6.96	126	Pn	Pn	11 28 56.3	-4.8
	comp=Z,112nm,1.1s						
ERTA	Horta de San J	6.97	225	Pn	Pn	11 29 02.1	+0.8
ERTA				Sn	Sn	11 30 20.6	-0.8
ERTA				Lg		11 30 56.0	
ERTA	Horta de San J	6.97	225	Pn	Pn	11 29 02.1	+0.9
	comp=Z,16nm,0.4s,SNR=18						
ERTA				Sn	Sn	11 30 20.6	-0.8
	comp=Z,111nm,1.0s,SNR=6.9						
ERTA				Lg		11 30 56.0	
	comp=Z,1μm,1.4s,SNR=6.5						
ETOS	Mallorca	6.98	206	Pn	Pn	11 29 00.7	-0.6
ETOS				Sn	Sn	11 30 13.1	-8.5
ETOS	Mallorca	6.98	206	Pn	Pn	11 29 00.7	-0.6
	comp=Z,48nm,0.5s,SNR=36						
ETOS				Sn	Sn	11 30 13.1	-8.4
	comp=Z,47nm,1.0s,SNR=7.9						
QUIF	Quistinic	7.06	288	ePn	Pn	11 29 01.7	-0.8
QUIF				eSn	Sn	11 30 18.2	-5.4
QUIF				eSg	Sg	11 31 02.5	-9.0
	comp=Z,693nm,1.0s						
SIW	Isle of Wight	7.11	313	eP	Pn	11 29 03.5	+0.3
KRUC	Moravsky	7.12	62	ePn	Pn	11 29 01.4	-2.0
KRUC				eSg	Sg	11 31 02.2	-11
	comp=Z,613nm,0.8s						
ROSF	Rostrenen	7.22	292	ePn	Pn	11 29 03.8	-0.9
ROSF				eSn	Sn	11 30 21.4	-6.3
ROSF				eSg	Sg	11 31 07.8	-9.1
	comp=Z,527nm,0.8s						
ZST	Bratislava	7.32	70	ePn	Pn	11 29 02.9	-3.3
ZST				e		11 30 26.6	
ZST				eSg	Sg	11 31 13.1	-7.2
VRAC	Vranov	7.34	61	Pn	Pn	11 29 04.3	-2.0
	comp=Z,4.3nm,0.3s,baz=255,slow=13,SNR=21						
VRAC				Sn	Sn	11 30 23.2	-7.3
	comp=Z,10nm,0.3s,baz=157,slow=18,SNR=3.6						
VRAC				Lg		11 31 08.5	
	comp=Z,9.2nm,0.3s,baz=148,slow=19,SNR=2.8						
VRAC				LR	LR	11 31 58.5	
	comp=Z,458nm,19.4s,baz=248,slow=39						
VRAC	Vranov	7.34	61	P	Pn	11 29 04.6	-1.7
VRAC	Vranov	7.34	61	ePn	Pn	11 29 04.2	-2.1
VRAC				eSg	Sg	11 31 09.6	-11
	comp=Z,1μm,1.8s						
VRAC	Vranov	7.34	61	P	Pn	11 29 04.3	-2.0
VRAC						11 30 23.2	
VRAC				pmax	pmax		
	comp=Z,4.0nm,0.3s						
VRAC				smax			
	comp=N,11nm,0.3s						
VRAC				pmax	pmax		
	comp=Z,9.0nm,0.3s						
VRAC				MLR	MLR		
	comp=Z,458nm,19.4s						
UPC	Upice	7.55	51	ePN	Pn	11 29 07.5	-1.9
UPC				ePG	Pg	11 29 36.5	-11
SMOL	Smolenice	7.61	68	eSN	Sn	11 30 29.6	-7.7
SMOL				eSG	Sg	11 31 21.0	-8.8
DPC	Dobruska-Polom	7.64	53	ePN	Pn	11 29 08.6	-2.0
DPC				ePG	Pg	11 29 38.4	-11
DPC				eSG	Sg	11 31 18.9	-12
	comp=Z,941nm,0.9s						
DPC	Dobruska-Polom	7.64	53	ePn	Pn	11 29 08.6	-2.0
	comp=Z,941nm,0.9s						
DPC				ePg	Pg	11 29 38.4	-11
DPC				eSg	Sg	11 31 18.9	-12
DPC	Dobruska-Polom	7.64	53	eP	Pn	11 29 08.6	-2.0
DPC				pmax	pmax		
	comp=Z,941nm,0.9s						
RGNG	Rignano Grg	7.73	122	Pg	Pn	11 29 10.3	-1.6
EMOS	Mosqueruela	7.82	225	Pn	Pn	11 29 14.2	+1.1
EMOS				Sn	Sn	11 30 33.0	-10
EMOS				Lg		11 31 25.5	
EMOS	Mosqueruela	7.82	225	Pn	Pn	11 29 14.2	+1.1
	comp=Z,34nm,0.7s,SNR=12						
EMOS				Sn	Sn	11 30 33.0	-10
	comp=Z,77nm,0.9s,SNR=6.8						
EMOS				Lg		11 31 25.5	
	comp=Z,1μm,1.4s,SNR=6.2						
SWK	Warminster	7.84	313	eP	Pn	11 29 13.0	-0.4
ELAN	Lanestosa	7.85	252	Pn	Pn	11 29 12.9	-0.6
ELAN				Sn	Sn	11 30 39.3	-4.0
ELAN				Lg		11 31 24.8	
ELAN	Lanestosa	7.85	252	Pn	Pn	11 29 12.9	-0.6
	comp=Z,24nm,0.3s,SNR=66						
ELAN				Sn	Sn	11 30 39.3	-4.0
	comp=Z,94nm,0.7s,SNR=7.9						
ELAN				Lg		11 31 24.8	
	comp=Z,1μm,1.9s,SNR=7.3						
SWN1	Swindon	7.85	317	eP	Pn	11 29 12.9	-0.6
JAVC	Velka Javorina	7.86	66	ePn	Pn	11 29 11.9	-1.7
KSP	Ksiaz	7.88	50	ePn	Pn	11 29 16.6	+2.6
KSP				ePg	Pg	11 29 45.9	-8.0
KSP				eSn	Sg	11 31 34.1	-4.9
KSP	Ksiaz	7.88	50	ePn	Pn	11 29 17.2	+3.2
KSP				ePg	Pg	11 29 45.4	-8.5
KSP				eSg	Sg	11 31 26.3	-13
FGMS	Monte Sant'Ang	7.93	120	P	Pn	11 29 13.1	-1.5
MORC	Moravsky Berou	8.09	59	ePn	P	11 29 13.8	-3.0
MORC	Moravsky Berou	8.09	59	ePn	P	11 29 14.4	-2.4
MORC				eSg	Sg	11 31 31.5	-14
	comp=Z,1μm,1.2s						
MORC	Moravsky Berou	8.09	59	P	P	11 29 14.5	-2.3
EIBI	Ibiza	8.14	212	Pn	P	11 29 16.8	-0.8
EIBI				Sn	Sn	11 30 41.0	-10
EIBI	Ibiza	8.14	212	Pn	P	11 29 16.8	-0.8
	comp=Z,16nm,0.5s,SNR=5.7						
EIBI				Sn	Sn	11 30 41.0	-10
	comp=Z,21nm,0.9s,SNR=7.9						
PKSM	Moragy	8.22	85	P	P	11 29 16.9	-1.8
KOLL	Kolacno	8.25	68	ePN	P	11 29 16.7	-2.4
SGO	Sicignano	8.31	129	P	P	11 29 21.0	+1.1
HGH	Gray Hill	8.41	315	eP	P	11 29 20.0	-1.4
HGH				AMb	AMB	11 29 30.4	
	comp=Z,160nm,1.3s						
OKC	Ostrava-Krasne	8.47	60	ePN	P	11 29 20.4	-1.8
OKC				ex	x	11 29 52.0	
OKC				eSG	Sg	11 31 47.0	-12
	comp=Z,2μm,1.2s						
VYHS	Vyhne	8.52	69	i PN	P	11 29 19.7	-3.1
VYHS				eSN	Sn	11 30 52.5	-7.5
HAE	Alders End	8.54	317	eP	P	11 29 21.7	-1.5
HAE				AMb	AMB	11 29 35.4	
	comp=Z,179nm,1.1s						
RAC	Raciborz	8.60	58	eP	P	11 29 23.6	-0.3
RAC				eSg	Sg	11 31 58.2	-4.4
ECHE	Chera	8.66	224	Pn	P	11 29 25.3	+0.6
ECHE				Lg		11 31 52.2	
ECHE	Chera	8.66	224	Pn	P	11 29 25.3	+0.5
	comp=Z,38nm,0.8s,SNR=17						
ECHE				Lg		11 31 52.2	
	comp=Z,134nm,0.9s,SNR=5.1						
MCH1	Michaelchurch	8.73	316	P	P	11 29 23.9	-1.9
MCH1				S	Sn	11 30 58.1	-7.2
MCH1	Michaelchurch	8.73	316	eP	P	11 29 23.8	-2.0
MCH1				eP		11 29 23.9	
MCH1				eS	Sn	11 30 58.1	-7.2
HTR	Trewern Hill	8.91	316	eP	P	11 29 26.4	-1.9
BRY	Bratogost	8.97	107	⇑iPn	P	11 29 28.0	-1.2
BRY				eSn	Sn	11 31 06.1	-5.3
CUC	Castrocucco	8.98	130	P	P	11 29 34.5	+5.2
EARI	Arriondas	9.01	256	Pn	P	11 29 28.2	-1.4
EARI				Sn	Sn	11 31 02.8	-9.4
EARI	Arriondas	9.01	256	Pn	P	11 29 28.2	-1.4
	comp=Z,82nm,0.6s,SNR=74						
EARI				Sn	Sn	11 31 02.8	-9.4
	comp=Z,45nm,0.7s,SNR=5.0						
HLM1	Long Mynd	9.01	319	eP	P	11 29 28.4	-1.3
EBEN	Beniarda	9.04	218	Pn	P	11 29 31.6	+1.6
EBEN	Beniarda	9.04	218	Pn	P	11 29 31.6	+1.5
	comp=Z,19nm,0.5s,SNR=6.8						
SSP1	Stoney Pound	9.05	318	eP	P	11 29 29.5	-0.7
SSP1				AMb	AMB	11 29 38.3	
	comp=Z,86nm,1.9s						
UPM	Unac-Piva	9.10	104	ePn	P	11 29 30.2	-0.6
UPM				eSn	Sn	11 31 09.1	-5.4
PSZ	Piszkesteto	9.12	74	⇑i	P	11 29 29.6	-1.6
PSZ				eSn	Sn	11 31 08.9	-6.1
PSZ	Piszkesteto	9.12	74	ePn	P	11 29 28.9	-2.3
PSZ	Piszkesteto	9.12	74	ePn	P	11 29 29.5	-1.7
PSZ	Piszkesteto	9.12	74	P	P	11 29 29.8	-1.4
HCY	Herceg Novi	9.14	109	⇑iPn	P	11 29 30.6	-0.9
HCY				eSn	Sn	11 31 10.5	-5.0
HCY	Herceg Novi	9.14	109	⇑iPn	P	11 29 30.6	-0.9
HCY				eSn	Sn	11 31 10.5	-5.1
NKY	Niksic	9.31	106	ePn	P	11 29 33.2	-0.6
NKY				eSn	Sn	11 31 14.6	-5.2
PLE	Pljevlja	9.38	103	ePn	P	11 29 33.9	-0.8
PLE				eSn	Sn	11 31 16.5	-4.9
SBD1	Bryn Du	9.44	320	eP	P	11 29 35.5	-0.1
BUM	Brajici-Budva	9.48	109	⇓iPn	P	11 29 34.5	-1.6
BUM				eSn	Sn	11 31 18.4	-5.3
NVSS	Nova Varos 2	9.52	101	⇓iPn	P	11 29 40.2	+3.5
DIVS	Divcibare	9.54	97	⇓iPn	P	11 29 35.8	-1.0
DIVS	Divcibare	9.54	97	i	Sx	11 31 36.5	
KECS	Kecovo	9.59	71	ePN	P	11 29 35.6	-2.0
OJC	Ojcow	9.60	60	eP	P	11 29 35.5	-2.3
OJC				ePP	PP	11 29 43.1	-2.5
OJC				eSn	Sn	11 31 22.2	-4.6
OJC				eSS	SS	11 31 33.1	-6.9
OJC				eSg	Sg	11 32 24.1	-12
OJC	Ojcow	9.60	60	eP	P	11 29 35.5	-2.3
OJC				e		11 31 22.2	
TTG	Podgorica	9.66	108	⇑iPn	P	11 29 37.4	-1.1
TTG				eSn	Sn	11 31 22.8	-5.3
BEO	Belgrade	9.68	93	ePn	P	11 29 42.5	+3.7
NIE	Niedzica	9.68	65	eP	P	11 29 37.3	-1.5
NIE				eS	Sg	11 32 27.7	-11
ETOB	Tobarra	9.68	223	Pn	P	11 29 38.7	-0.1
ETOB				Lg		11 32 26.2	
ETOB	Tobarra	9.68	223	Pn	P	11 29 38.7	-0.2
	comp=Z,38nm,0.8s,SNR=9.0						
ETOB				Lg		11 32 26.2	
	comp=Z,271nm,1.4s,SNR=4.9						
ULC	Ulcinj	9.87	110	⇑iPn	P	11 29 39.9	-1.5
ULC				eSn	Sn	11 31 27.9	-5.4
IVA	Berane	9.89	104	ePn	P	11 29 40.5	-1.3
IVA				eSn	Sn	11 31 28.8	-5.3
WPM1	Penmaenmawr	9.97	320	eP	P	11 29 42.1	-0.6
YLL	Llanberis	10.01	319	eP	P	11 29 41.6	-1.8
YRE	Yr Eifl	10.03	317	eP	P	11 29 41.9	-1.7
PVY	Plav	10.06	106	⇑iPn	P	11 29 43.7	-0.3
PVY				eSn	S	11 31 32.8	-5.3
TIP	Timpagrande	10.07	130	Pn	P	11 29 42.1	-2.2
GRUS	Gruza	10.10	98	⇑iPn	P	11 29 43.3	-1.2
EVIA	Vianos	10.15	226	Pn	P	11 29 45.0	-0.3
	comp=Z,8.3nm,0.5s						
EVIA				Lg		11 32 40.4	
EVIA	Vianos	10.15	226	Pn	P	11 29 45.0	-0.3
	comp=Z,8.3nm,0.5s,SNR=5.0						
EVIA				Lg		11 32 40.4	
	comp=Z,125nm,0.9s,SNR=6.7						
ESBB	Sonseca Array	10.18	235	Pn	P	11 29 44.8	-0.9
	comp=Z,10.0nm,0.5s,SNR=7.9						
ESDC	Sonseca Array	10.18	235	Pn	P	11 29 45.0	-0.8
	comp=Z,4.6nm,0.3s,baz=48,slow=14,SNR=24						
ESDC				Lg		11 32 37.3	
	comp=Z,0.9nm,0.3s,baz=36,slow=30,SNR=3.8						
ESDC	Sonseca Array	10.18	235	Pn	P	11 29 44.4	-1.3
	comp=Z,16nm,0.6s						
ESDC				Sn	S	11 31 32.7	-8.4
ESDC				Lg		11 32 40.8	
ESDC	Sonseca Array	10.18	235	Pn	P	11 29 44.4	-1.4
	comp=Z,16nm,0.6s,SNR=20						
ESLA	Sonseca Array	10.18	235	ePn	P	11 29 43.8	-2.0
WLF1	Llynfaes	10.21	319	eP	P	11 29 44.4	-1.7
WLF1				AMb	AMB	11 29 48.7	
	comp=Z,16nm,0.3s						
COP	Copenhagen	10.22	18	i P	P	11 29 47.0	+0.7
	comp=Z,22nm,0.7s						
COP	Copenhagen	10.22	18	eP	P	11 29 47.0	+0.7
	comp=Z,22nm,0.7s						
COP	Copenhagen	10.22	18	eP	P	11 29 47.0	+0.7
COP				pmax	pmax		
	comp=Z,22nm,0.7s						
WME	Myndd Eilian	10.24	319	eP	P	11 29 44.5	-2.0
WME				AMb	AMB	11 29 49.5	
	comp=Z,17nm,0.3s						
STHS	Stebnicka Huta	10.27	66	ePN	P	11 29 44.9	-2.0
YRC	Rhoscolyn	10.27	318	eP	P	11 29 45.9	-1.0
YRC				AMb	AMB	11 29 54.1	
	comp=Z,52nm,1.1s						
CRVS	Cervenica-Dubn	10.30	69	ePN	P	11 29 46.1	-1.3
VAE	Valguarnera	10.31	144	LR	LR	11 34 04.9	
	comp=Z,143nm,19.1s,baz=108,slow=39						
EPON	Pontenova	10.32	259	Pn	P	11 29 45.0	-2.6
	comp=Z,21nm,0.5s						
EPON				Sn	S	11 31 33.0	-11
SVIS	Svilajnac	10.33	95	⇓iPn	P	11 29 44.0	-3.8
WCB1	Church Bay	10.34	319	eP	P	11 29 45.4	-2.4
WCB1				AMb	AMB	11 29 54.2	
	comp=Z,92nm,0.9s						
BSD	Bornholm Skovb	10.38	27	i P	P	11 29 45.1	-3.3
	comp=Z,19nm,0.8s						
BSD				i		11 29 55.1	
BSD	Bornholm Skovb	10.38	27	eP	P	11 29 45.1	-3.3
	comp=Z,19nm,0.8s						

BSD *i* 11 29 55.1
BSD Bornholm Skovb 10.38 27 *e*P **P** **11 29 45.1 -3.3**
BSD pmax pmax
comp=Z,19nm,0.8s
CDU1 Dunnerdale 10.43 326 *e*P **P** **11 29 48.0 -1.1**
MUD Monsted U'grnd 10.47 7 *i* P **P** **11 29 46.9 -2.7**
comp=Z,12nm,0.5s
MUD *i* 11 29 55.1
MUD Monsted U'grnd 10.47 7 *e*P **P** **11 29 46.9 -2.7**
comp=Z,12nm,0.5s
MUD *i* 11 29 55.1
MUD Monsted U'grnd 10.47 7 *e*P **P** **11 29 46.9 -2.7**
MUD pmax pmax
comp=Z,12nm,0.5s
CKE Keswick 10.59 327 *e*P **P** **11 29 50.5 -0.8**
ECAL Calabor 10.61 252 Pn **P** **11 29 49.9 -1.6**
comp=Z,35nm,0.7s
XDE Dent Fell 10.67 326 *e*P **P** **11 29 50.9 -1.5**
ERUA La Rua 10.68 255 Pn **P** **11 29 51.6 -0.9**
comp=Z,11nm,0.5s
ERUA La Rua 10.68 255 P **P** **11 29 51.6 -0.9**
ERUA pmax pmax
comp=Z,11nm,0.5s
UZH Uzhgorod 10.80 71 *e*P **P** **11 29 53.0 -1.2**
KOLS Kolonicke sedl 10.84 69 *e*PN **P** **11 29 52.0 -2.6**
EHUE Huescar 10.84 223 Pn **P** **11 29 55.4 +0.7**
comp=Z,6.0nm,0.6s
EHUE Huescar 10.84 223 P **P** **11 29 55.4 +0.7**
EHUE pmax pmax
comp=Z,6.0nm,0.6s
GIM North Isle of 10.92 323 *e*P **P** **11 29 53.8 -1.9**
DRGR 11.00 81 P **P** **11 29 56.1 -0.8**
EQES Quesada 11.08 225 Pn **P** **11 29 57.3 -0.8**
comp=Z,7.4nm,0.5s
EQES Lg 11 33 06.2
DSB Dublin 11.13 315 *e*Pn **P** **11 29 55.6 -3.0**
EBAN Banos Encina 11.16 228 Pn **P** **11 30 00.9 +1.7**
comp=Z,4.6nm,0.5s
EBAN Banos Encina 11.16 228 P **P** **11 30 00.9 +1.7**
EBAN pmax pmax
comp=Z,5.0nm,0.5s
EKA Eskdalemuir Ar 11.18 329 Pn **P** **11 29 57.5 -1.9**
comp=Z,5.3nm,0.3s,baz=140,slow=14,SNR=60
EKA Sn **S** **11 31 56.3 -9.2**
comp=Z,6.8nm,0.3s,baz=139,slow=25,SNR=7.6
EKA Lg 11 33 14.7
baz=152,slow=28,SNR=2.2
ESK Eskdalemuir 11.19 329 *e*P **P** **11 29 58.0 -1.5**
DLF Lyons Farm 11.23 315 *e*P **P** **11 29 57.0 -3.1**
DLF *e*S **S** **11 31 54.4 -12**
DLF *e* 11 33 37.0
KWP Kalwaria 11.24 66 *e*P **P** **11 29 58.2 -2.0**
KWP *e* 11 30 36.6
SKO Skopje 11.31 106 *i* Pn **P** **11 30 01.5 +0.3**
SKO *i* 11 32 02.5
STS Santiago 11.44 259 Pn **P** **11 30 00.5 -2.4**
comp=Z,12nm,0.6s
STS Santiago 11.44 259 P **P** **11 30 00.5 -2.4**
STS pmax pmax
comp=Z,12nm,0.6s
ELOB Lobios 11.52 254 Pn **P** **11 30 02.4 -1.6**
comp=Z,13nm,0.6s
PCAB Cabril 11.57 253 *e*P **P** **11 30 02.9 -1.8**
PVRL Vila Real 11.57 251 *e*P **P** **11 30 03.4 -1.3**
EADA Adamuz 11.58 231 Pn **P** **11 30 04.6 -0.3**
comp=Z,2.7nm,0.3s
EADA Lg 11 33 26.9
DCN Croghan 11.63 314 *e*P **P** **11 30 03.0 -2.5**
DCN *e*S **S** **11 32 04.0 -12**
EMAZ Mazaricos 11.70 260 Pn **P** **11 30 04.1 -2.4**
comp=Z,39nm,0.7s
EBER Berja 11.72 222 Pn **P** **11 30 10.4 +3.7**
comp=Z,6.9nm,0.4s
EBER Lg 11 33 30.7
EZAM Zamans 11.82 256 Pn **P** **11 30 07.3 -0.8**
MTE Manteigas 11.91 247 *e*P **P** **11 30 08.0 -1.4**
MTE *e*LR LR 11 33 49.2
comp=Z,205nm,16.0s
ECAB El Cabril 12.11 233 Pn **P** **11 30 11.3 -0.7**
comp=Z,18nm,0.7s
ECAB Lg 11 33 41.2
LVV L'vov 12.12 66 *e*P **P** **11 30 02.0 -10**
PCBR Castelo Branco 12.19 244 *e*P **P** **11 30 11.0 -2.0**
VTS Vitosha 12.25 101 *e*P **P** **11 30 12.5 -1.4**
VTS Vitosha 12.25 101 P **P** **11 30 12.8 -1.1**
VTS Vitosha 12.25 101 P **P** **11 30 15.9 +2.0**
KKB Krupnik 12.46 104 *e*P **P** **11 30 16.5 -0.2**
EBAD Badajoz 12.57 239 Pn **P** **11 30 16.9 -1.2**
comp=Z,2.7nm,0.3s
EBAD Lg 11 33 58.1
BURAR Bucovina Array 12.69 77⇑ *i*P **P** **11 30 20.0 +0.2**
BURAR Bucovina Array 12.69 77⇑ *i*P **P** **11 30 20.0 +0.3**
VOIR 12.76 86⇓ *i*P **P** **11 30 22.0 +1.4**
MMB Musomiste 13.01 104 *e*P **P** **11 30 27.0 +2.9**
EMIN Mina Concepcio 13.03 235 Pn **P** **11 30 23.6 -0.7**
comp=Z,5.4nm,0.7s
EMIN Lg 11 34 09.5
SUW Suwalki 13.14 47 *e*P **P** **11 30 26.4 +0.7**
SUW *e* 11 30 36.6
PBEJ Beja 13.55 239 *e*P **P** **11 30 29.7 -1.4**
RZN Rozhen 13.64 102 *e*P **P** **11 30 33.0 +0.7**
KONO Kongsberg 13.67 6*c i*P **P** **11 30 29.0 -3.6**
VRI Vrincioaia 13.85 84⇓ *i*P **P** **11 30 43.4 +8.3**
HFS Hagfors 14.64 14 LR LR 11 37 00.2
comp=Z,160nm,19.7s,baz=180,slow=40
CFR Carcaliu 14.95 86⇑ *i*P **P** **11 30 52.9 +3.5**
NB2 NORSAR Subarra 15.19 8 P **P** **11 30 50.8 -1.6**
comp=Z,24nm,0.7s,baz=191,slow=11
NB2 NORSAR Subarra 15.19 8 P **P** **11 30 50.8 -1.6**
NB2 pmax pmax
comp=Z,24nm,0.7s
NOA NORSAR Array B 15.19 8 Pn **P** **11 30 51.1 -1.3**
comp=Z,0.9nm,0.3s,baz=191,slow=12,SNR=26
NOA LR LR 11 37 15.1
comp=Z,123nm,19.2s,baz=195,slow=40
AKASG Malin Array Be 15.56 65 Pn **P** **11 30 55.5 -1.9**
comp=Z,2.7nm,0.3s,baz=250,slow=11,SNR=8.0
AKASG Lg 11 35 31.9
baz=268,slow=25,SNR=3.1
AKASG Malin Array Be 15.56 65 Pn **P** **11 30 55.5 -1.9**
AKASG Lg 11 35 31.9
AKASG Malin Array Be 15.56 65 *i* P **P** **11 30 58.6 +1.3**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
MDT Midelt 15.91 217 Pn **P** **11 31 06.8 +4.8**
comp=Z,0.1nm,0.3s,baz=29,slow=12,SNR=8.5
MDT LR LR 11 37 11.9
comp=Z,100nm,20.6s,baz=352,slow=37
VSU Vasula 17.28 37 *e*P **P** **11 31 18.6 -0.6**
ULDT Uludag 17.33 102 *i* P **P** **11 31 24.4 +4.5**
IDI Anoyia 17.41 122 Pn **P** **11 31 24.4 +3.4**
comp=Z,0.7nm,0.3s,baz=306,slow=17,SNR=2.8
FINES FINESS Array B 19.00 29 P **P** **11 31 39.5 -1.0**
comp=Z,0.5nm,0.3s,baz=207,slow=13,SNR=23
FINES LR LR 11 38 46.2
comp=Z,100nm,20.7s,baz=195,slow=36
FINES FINESS Array B 19.00 29 P **P** **11 31 39.5 -1.0**
FINES LR LR 11 38 46.2
SGKT Sivrigoynuk 19.14 98 *i* P **P** **11 31 41.8 -0.3**
TKTP Tekketepe 19.17 106 *i* P **P** **11 31 44.4 +1.8**
ISP Isparta 19.41 107 *e*P **P** **11 31 49.1 +3.8**
KAF Kangasniemi 19.56 28 *ep* **P** **11 31 44.6 -2.3**
comp=Z,9.9nm,0.9s,baz=223,slow=11
KAF Kangasniemi 19.56 28 *e*P **P** **11 31 44.6 -2.3**
KAF pmax pmax
comp=Z,10.0nm,0.9s
BALT Daday 19.67 94 *i* P **P** **11 31 50.3 +2.0**
ANTO Ankara 19.95 99 P **P** **11 31 49.3 -2.2**
comp=Z,8.2nm,0.7s
ANTO Ankara 19.95 99 P **P** **11 31 49.3 -2.2**
ANTO pmax pmax
comp=Z,8.0nm,0.7s
ELDT Eldivan 20.12 97 *i* P **P** **11 31 55.3 +2.1**
BRTR Keskin Array B 20.60 98 P **P** **11 31 58.1 -0.1**
comp=Z,9.2nm,0.8s,baz=305,slow=9.2,SNR=18
BOYT Boyabat 20.77 93 *i* P **P** **11 31 58.1 -1.9**
OBN Obninsk 20.79 53⇑ *i*P **P** **11 31 59.6 -0.4**
OBN *e* 11 32 07.4
OBN *e*S **S** **11 35 51.3 +4.3**
OBN pmax pmax
comp=Z,39nm,1.8s
OBN MLR MLR
comp=Z,500nm,18.0s,MS3.9
CDAG Cicekdag 21.15 98 *i* P **P** **11 32 04.1 +0.3**

MOS Moscow 21.52 52 *e*P **P** **11 32 06.1 -1.4**
MOS *e* 11 32 12.4
MOS *e* 11 32 28.9
MOS *e*SS SS 11 36 34.6 -1.8
MOS MLR MLR
comp=Z,800nm,14.5s,MS4.2
VRSR Storozhevoye 21.88 65 *e*P **P** **11 32 10.1 -1.0**
comp=Z,6.0nm,0.4s,mb4.4
VRSR Storozhevoye 21.88 65 *e*P **P** **11 32 10.1 -1.0**
VRSR pmax pmax
comp=Z,40nm,0.6s,mb5.0
VRSR pmax pmax
comp=N,6.0nm,0.4s
VRSR pmax pmax
comp=E,70nm,0.9s
VOR Voronezh 21.90 63 *e*P **P** **11 32 06.8 -4.5**
VOR *i* *PP 11 32 12.8
VOR *e*S **S** **11 36 07.1 -1.0**
VOR pmax pmax
comp=Z,27nm,1.0s,mb4.6
VOR MLR MLR
comp=N,294nm,16.0s,MS3.9
VOR MLR MLR
comp=E,274nm,16.0s,MS3.9
VOR MLR MLR
comp=Z,319nm,16.0s,MS3.8
VORD Divnogorie 21.94 65 *e*P **P** **11 32 10.0 -1.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
VORD pmax pmax
comp=N,4.0nm,0.9s
VORD pmax pmax
comp=E,7.0nm,0.6s
SOC Sochi 23.38 84 *e*P **P** **11 32 26.5 +0.6**
SOC *e* 11 32 51.8
SOC *e*S **S** **11 36 41.4 +6.6**
SOC *e*SS SS 11 37 15.5 -6.0
SOC pmax pmax
comp=Z,15nm,0.7s,mb4.5
SOC pmax pmax
comp=N,4.0nm,0.5s
SOC pmax pmax
comp=E,11nm,0.7s
SOC MLR MLR
comp=N,235nm,18.0s,MS3.8
SOC MLR MLR
comp=Z,243nm,18.0s,MS3.7
SOC MLR MLR
comp=E,131nm,15.0s,MS3.8
GOF Gofitskoye 25.24 79⇓ *i*P **P** **11 32 47.3 +3.4**
GOF pmax pmax
comp=Z,20nm,1.3s,mb4.5
MESC Monte Escuro 25.25 262 *e*S **S** **11 37 14.6 +7.7**
ARCES ARCESS Array B 25.29 15 P **P** **11 32 44.2 +0.1**
comp=Z,2.9nm,0.6s,mb4.0,baz=212,slow=11,SNR=21
ARCES LR LR 11 42 55.4
comp=Z,119nm,20.5s,MS3.4,baz=24,slow=37
KIV Kislovodsk 25.32 82 *e*P **P** **11 32 45.0 +0.5**
comp=Z,35nm,1.0s,mb4.8
KIV Kislovodsk 25.32 82 *e*P **P** **11 32 45.0 +0.4**
KIV pmax pmax
comp=Z,42nm,1.0s,mb4.9
KIV MLR MLR
comp=E,121nm,18.0s
KIV MLR MLR
comp=Z,80nm,18.0s,MS3.3
APA Apatity 25.57 23 *e*P **P** **11 33 00.0 +13**
JMIC Jan Mayen 26.04 349 LR LR 11 44 21.4
comp=Z,72nm,19.1s,MS3.2,baz=100,slow=40
ASF Jabal al Asfar 26.98 110 P **P** **11 33 01.4 +1.2**
comp=Z,1.2nm,0.3s,mb3.9,baz=243,slow=4.5,SNR=2.1
GNI Garni 28.12 88 LR LR 11 45 14.4
comp=Z,56nm,18.6s,MS3.2,baz=285,slow=38
GNI Garni 28.12 88 *e*P **P** **11 33 12.9 +2.5**
GNI pmax pmax
comp=Z,28nm,1.7s
GNI MLR MLR
comp=Z,100nm,18.0s
ARU Arti 33.23 53 *e*P **P** **11 34 02.0 +6.6**
SVE Sverdlovsk 34.34 52 *e*P **P** **11 34 04.8 -0.2**
SVE *e* 11 35 22.0
SVE *e* 11 35 40.0
SVE pmax pmax
comp=Z,32nm,1.3s,mb5.1
SVE MLR MLR
comp=N,300nm,14.0s,MS4.4
SVE MLR MLR
comp=E,400nm,14.0s,MS4.4
SVE MLR MLR
comp=Z,600nm,14.0s,MS4.5
AB31 Akbulak array 35.30 65 *i* P **P** **11 34 12.5 -0.9**
BRVK Borovoye 40.52 56 *e*P **P** **11 34 57.0 +0.1**
comp=Z,2.9nm,0.6s,mb4.1
BRVK Borovoye 40.52 56 *e*P **P** **11 34 57.0 +0.1**
comp=Z,2.9nm,0.6s,mb4.1
BRVK Borovoye 40.52 56 *e*P **P** **11 34 57.0 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
DBIC Dimbokro 40.56 198 P **P** **11 35 01.2 +3.5**
comp=Z,4.2nm,0.9s,mb4.1,baz=18,slow=8.9,SNR=3.8
BVAR Borovoye Array 40.59 56 P **P** **11 34 58.4 +0.8**
comp=Z,1.2nm,0.6s,mb3.7,baz=283,slow=9.0,SNR=8.2
KKAR Karatay Array 44.37 70 *i* P **P** **11 35 28.5 0.0**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
KURK Kurchatov 46.17 57 *e*P **P** **11 35 42.0 -0.7**
comp=Z,3.1nm,0.6s,mb4.4
KURK Kurchatov 46.17 57 *e*P **P** **11 35 42.0 -0.7**
comp=Z,3.1nm,0.6s,mb4.4
KURK Kurchatov 46.17 57 *e*P **P** **11 35 42.0 -0.7**
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AAK Ala-Archa 47.18 69 *e*P **P** **11 35 49.8 -1.0**
comp=Z,4.8nm,0.8s,mb4.5
AAK Ala-Archa 47.18 69⇑ *i*P **P** **11 35 50.8 0.0**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AAK MLR MLR
comp=Z,100nm,15.0s,MS3.9
MKAR Makanchi Array 50.08 60 P **P** **11 36 12.9 -0.3**
comp=Z,1.4nm,0.7s,mb4.1,baz=296,slow=6.1,SNR=13
MKAR Makanchi Array 50.08 60 *i* P **P** **11 36 12.8 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 54.87 61 *e*P **P** **11 36 49.5 +0.4**
WMQ AP pP 11 36 54.0 +1.8
WMQ XP sP 11 36 57.0 +3.7
WMQ PCP PcP 11 37 52.0 +0.9
WMQ *e*S **S** **11 44 28.0 -0.6**
WMQ XS 11 44 36.0
WMQ SCS ScS 11 46 35.0 -0.1
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.7
WMQ AMB AMB
comp=Z,71nm,6.2s
WMQ LR LR
comp=N,1μm,16.0s,MS5.2
WMQ LR LR
comp=E,874nm,14.2s,MS5.2
WMQ LR LR
comp=Z,489nm,16.4s,MS4.7
ZAK Zakamensk 59.90 47 *e*P **P** **11 37 20.1 -4.4**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BOD Bodaibo 60.22 36 *e*P **P** **11 37 25.0 -1.6**
BOD pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
YKA Yellowknife Ar 62.11 333 P **P** **11 37 40.2 +0.9**
comp=Z,0.5nm,0.5s,mb3.9,baz=32,slow=6.1,SNR=3.9
YKA LR LR 12 03 08.4
comp=Z,75nm,20.0s,MS3.9,baz=90,slow=35
YKA Yellowknife Ar 62.11 333 P **P** **11 37 40.2 +0.9**
YKA LR LR 12 03 08.4
SONM Songino Array 63.08 48 LR LR 12 06 50.3
comp=Z,303nm,18.4s,MS4.5,baz=268,slow=38
ULM Lac du Bonnet 63.09 315 LR LR 12 04 06.8
comp=Z,61nm,18.1s,MS3.8,baz=309,slow=35
DAWY Dawson 66.99 345 *e*P **P** **11 38 10.9 0.0**
ILAR Eielson Array 67.57 348 P **P** **11 38 16.1 +1.5**
comp=Z,1.3nm,0.8s,mb4.0,baz=13,slow=6.4,SNR=15
ILAR LR LR 12 08 55.4
comp=Z,70nm,18.4s,MS3.9,baz=179,slow=37
SML Sawmill 70.59 348 P **P** **11 38 34.7 +1.5**
PDAR Pinedale Array 75.03 317 P **P** **11 39 00.7 +1.1**
comp=Z,0.2nm,0.6s,mb3.2,baz=18,slow=4.7,SNR=3.7
PDAR LR LR 12 10 58.1
comp=Z,47nm,18.9s,MS3.8,baz=237,slow=35
CN2 Changchun 75.29 41 *e*P **P** **11 39 01.6 +0.5**
WMOK Wichita Mounta 75.32 305 *e*P **P** **11 39 02.5 +1.1**
comp=Z,2.7nm,0.7s,mb4.3
WMOK Wichita Mounta 75.32 305 *e*P **P** **11 39 02.6 +1.1**
WMOK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KMI Kunming 76.22 68 P **P** **11 39 08.2 +1.4**
KMI AP pP 11 39 10.8 +0.9
KMI XP sP 11 39 12.1 +1.1
KMI PP PP 11 41 57.8 -1.9
KMI PPP PPP 11 43 43.2 -3.8
KMI S S 11 48 50.0 +0.3
KMI SS SS 11 53 44.5 -1.9
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.7
KMI AMB AMB
comp=Z,86nm,5.1s
KMI LR LR
comp=N,209nm,16.3s,MS4.6
KMI LR LR
comp=E,160nm,19.2s,MS4.6
KMI LR LR
comp=Z,152nm,17.0s,MS4.4
KMI Kunming 76.22 68 P **P** **11 39 08.2 +1.4**
comp=Z,8.0nm,0.8s,mb4.7
KMI pP pP 11 39 10.8 +0.9
KMI sP sP 11 39 12.1 +1.1
KMI PP PP 11 41 57.8 -1.9
KMI PPP PPP 11 43 43.2 -3.8
KMI S S 11 48 50.0 +0.3
KMI SS SS 11 53 44.5 -1.9
KMI SSS SSS 11 56 59.1 -2.5
KMI LR LR
comp=Z,150nm,17.0s,MS4.4
KMI Kunming 76.22 68 PcP PcP 11 39 12.1 -7.1
KMI Kunming 76.22 68 P **P** **11 39 08.2 +1.4**
KMI *PP pP 11 39 10.8 +0.9
KMI *SP sP 11 39 12.1 +1.1
KMI 11 41 57.8
KMI PPP PPP 11 43 43.2 -3.8
KMI S S 11 48 50.0 +0.3
KMI SS SS 11 53 44.5 -1.9
KMI SSS SSS 11 56 59.1 -2.5
KMI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KMI MLR MLR
comp=Z,150nm,17.0s,MS4.4
BMO Blue Mountains 76.86 323 *e*P **P** **11 39 11.4 +1.4**
comp=Z,2.7nm,0.9s,mb4.2
MOD Modoc 80.53 323 P **P** **11 39 31.6 +1.6**
comp=Z,3.4nm,1.1s,mb4.2
NJ2 Nanjing 80.93 53 *e*P **P** **11 39 33.8 +1.5**
NJ2 AP pP 11 39 38.5 +3.0
NJ2 XP sP 11 39 40.8 +4.2
NJ2 PP PP 11 42 40.8 +1.6
NJ2 S S 11 49 41.0 +1.3
NJ2 XS 11 49 50.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,520nm,9.8s
NJ2 LR LR
comp=N,2μm,21.3s,MS5.4
NJ2 LR LR
comp=E,550nm,19.2s,MS5.4
NJ2 LR LR
comp=Z,310nm,20.7s,MS4.6
TXAR Lajitas Array 82.10 304 P **P** **11 39 40.5 +2.1**
comp=Z,0.5nm,0.7s,mb3.6,baz=59,slow=3.2,SNR=6.4
TXAR LR LR 12 14 53.3
comp=Z,52nm,18.9s,MS3.9,baz=105,slow=35
TXAR Lajitas Array 82.10 304 P **P** **11 39 40.5 +2.1**
TXAR LR LR 12 14 53.3
VNDA Vanda 146.96 170 PKPbc PKPbc 11 47 03.7 +6.3
comp=Z,2.2nm,1.0s,baz=271,slow=3.9,SNR=12

*CSEM **08** 11:29:02.6±0.1, 46.01N×6.96E, h8km, ML3.7/16, Error ellipse: s-maj=2.9km s-min=1.5km az=78.0*
*NEIC **08** 11:29:03.0, 46.03N×6.94E, h2km, ML3.7(LDG), After LDG.*
*GEN **08** 11:29:03.6, 46.02N×6.94E, h2km, ML1.0*
LDG 08 11:29:03.0±0.1, 46.03N×6.94E, h2km, Ml3.7/15, Error ellipse: s-maj=2.4km s-min=1.1km az=85.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPL	**La Plagne**	**0.53**	**196**	*e*Pg	Pg	11 29 13.2	-0.4
LPL				*e*Sg	Sg	11 29 20.3	-0.3
	726nm,0.5s						
LPG	**La Plagne**	**0.54**	**194**	*e*Pg	Pg	11 29 13.5	-0.4
LPG				*e*Sg	Sg	11 29 20.7	-0.4
	376nm,0.3s						
LSD	**Ceresole Reale**	**0.59**	**165**	P	Pg	11 29 14.0	-0.7
LSD				S	Sg	11 29 21.9	-0.6
LSD	**Ceresole Reale**	**0.59**	**165**	P	Pg	11 29 14.0	-0.7
LSD				S	Sg	11 29 21.9	-0.7
ORX	**Oropa**	**0.83**	**118**	P	Pg	11 29 19.6	+0.1
ORX				S	Sg	11 29 29.7	-0.8
CABF	**La Chapelle**	**0.83**	**315**	*e*Pg	Pg	11 29 18.5	-1.1
CABF				*e*Pn	Pn	11 29 20.1	-1.4
CABF				*e*Sg	Sg	11 29 30.1	-0.6
CABF				*e*Sn	Sn	11 29 32.9	-1.6
	246nm,0.2s						
RSP	**Reno Superiore**	**0.90**	**166**	P	Pg	11 29 19.9	-1.1
RSP				S	Sg	11 29 32.4	-0.6
RSP	**Reno Superiore**	**0.90**	**166**	P	Pg	11 29 19.9	-1.1
RSP				S	Sg	11 29 32.4	-0.6
BHB	**Bricherasio**	**1.21**	**169**	P	Pb	11 29 25.8	-0.4
BHB				S	Sb	11 29 41.2	-0.9
BHB	**Bricherasio**	**1.21**	**169**	P	Pb	11 29 25.8	-0.4
BHB				S	Sb	11 29 41.2	-0.9
MBDF	**Montbardon**	**1.30**	**185**	*e*Pn	Pn	11 29 27.2	-1.0
MBDF				*e*Pg	Pg	11 29 27.8	-1.2
MBDF				*e*Sg	Sg	11 29 44.2	-2.2
	138nm,0.4s						
MBDF	**Montbardon**	**1.30**	**185**	*e*Pg	Pg	11 29 27.8	-1.2
MBDF				*e*Sg	Sg	11 29 44.2	-2.2
	69nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.33**	**214**	*e*Pg	Pg	11 29 27.7	-2.0
ORIF				*e*Sg	Sg	11 29 45.4	-2.1
	150nm,0.3s						
HINF	**Hinteralfeld**	**1.79**	**358**	*e*Pn	Pn	11 29 33.4	-1.8
HINF				*e*Pg	Pg	11 29 36.4	-2.4
HINF				*e*Sg	Sg	11 29 58.5	-4.2
	62nm,0.2s						
VIVF	**Saint-Julien-l**	**1.98**	**235**	*e*Sn	Sn	11 30 00.0	-3.6
VIVF				*e*Sg	Sg	11 30 04.6	-4.3
	562nm,0.3s						
HAU	**Haudompre**	**2.02**	**349**	*e*P	Pn	11 29 36.8	-1.7
HAU				*e*Sg	Sg	11 30 06.3	-4.0
	129nm,0.2s						
SBF	**Sospel**	**2.19**	**171**	*e*Sg	Sg	11 30 11.6	-4.3
	116nm,0.3s						
SMF	**Signal de Mont**	**2.24**	**287**	*e*Sg	Sg	11 30 13.0	-4.4
	103nm,0.3s						
CDF	**Champ du Feu**	**2.40**	**5**	*e*Sg	Sg	11 30 18.4	-4.5
	49nm,0.3s						
LOR	**Lormes**	**2.46**	**301**	*e*Sg	Sg	11 30 20.2	-4.7
	61nm,0.2s						
FRF	**La Foret Royal**	**2.47**	**185**	*e*Sg	Sg	11 30 20.1	-5.2
	46nm,0.3s						
SSF	**Saint Saulge**	**2.59**	**295**	*e*Sg	Sg	11 30 25.1	-4.1
	17nm,0.3s						
AVF	**Avril sur Loir**	**2.60**	**288**	*e*Sg	Sg	11 30 24.7	-4.8
	25nm,0.2s						
LMR	**La Mourre**	**2.71**	**187**	*e*Sg	Sg	11 30 28.9	-4.3
	20nm,0.3s						
MEZF	**Maizieres J'vi**	**2.79**	**333**	*e*Sg	Sg	11 30 31.4	-4.6
	229nm,0.4s						
LASF	**Ste Croix**	**2.93**	**229**	*e*Sg	Sg	11 30 34.6	-5.9
	18nm,0.2s						

*CSEM **08** 11:33:06.7±0.1, 46.03N×6.99E, h5km, ML3.0/10, Error ellipse: s-maj=1.4km s-min=1.0km az=83.0*
*STR **08** 11:33:07.4±0.3, 45.99N×7.04E, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **08** 11:33:07.6, 46.00N×6.90E, h5km, ML3.0(LDG), ML2.6(GEN), ML2.4(ZUR), After ZUR.*
*ZUR **08** 11:33:07.2, 46.03N×6.90E, h6km, ML2.4/7*
*LDG **08** 11:33:07.5±0.1, 46.03N×6.95E, h2km, Ml3.0/15, Error*

ellipse: s-maj=2.8km s-min=1.5km az=79.0
*GEN **08** 11:33:08.3, 45.99N×7.01E, h0km, ML2.0*
ISC 08 11:33:05.9±0.2**, 46.03N**±0.01×**6.79E**±0.02**, h3km**±2km**, n55,** σ1§29/105**, 8C-4D, Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMV	Vieux Emosson	0.08	66	⇓iPg	Pg	11 33 09.1	+1.4
EMV				i Sg	Sg	11 33 10.0	+1.2
EMV	Vieux Emosson	0.08	66	⇓iP	Pg	11 33 09.1	+1.4
SALAN	Lac Salanfe	0.17	48	⇑iPg	Pg	11 33 10.3	+0.9
SALAN				eSg	Sg	11 33 12.2	+0.5
SALAN	Lac Salanfe	0.17	48	⇑iP	Pg	11 33 10.3	+0.9
GRYON	Gryon	0.31	45	⇑iPg	Pg	11 33 12.8	+0.6
GRYON				eSg	Sg	11 33 16.4	0.0
GRYON	Gryon	0.31	45	⇑iP	Pg	11 33 12.8	+0.6
AIGLE	Aigle	0.33	20	⇑iPg	Pg	11 33 13.6	+1.0
AIGLE	Aigle	0.33	20	⇑iP	Pg	11 33 13.6	+1.0
DIX	Grande Dixence	0.43	83	⇓iPg	Pg	11 33 14.8	+0.2
DIX				eSg	Sg	11 33 19.7	-0.7
DIX	Grande Dixence	0.43	83	⇓iP	Pg	11 33 14.8	+0.2
SENIN	Lac Senin	0.48	46	⇑iPg	Pg	11 33 15.9	+0.3
SENIN				i Sg	Sg	11 33 22.0	-0.1
SENIN	Lac Senin	0.48	46	⇑iP	Pg	11 33 15.9	+0.3
LPL	La Plagne	0.52	185	ePg	Pg	11 33 17.8	+1.5
LPL				eSg	Sg	11 33 24.8	+1.7
	35nm,0.3s						
LPG	La Plagne	0.53	183	ePg	Pg	11 33 18.1	+1.5
LPG				eSg	Sg	11 33 25.3	+1.6
	35nm,0.2s						
LSD	Ceresole Reale	0.63	156	P	Pg	11 33 19.0	+0.6
LSD	Ceresole Reale	0.63	156	P	Pg	11 33 19.0	+0.5
CABF	La Chapelle	0.76	320	ePg	Pg	11 33 23.0	+1.9
CABF				ePn	Pn	11 33 24.8	+1.6
CABF				eSg	Sg	11 33 34.1	+2.8
CABF				eSn	Sn	11 33 37.6	+2.3
	115nm,0.4s						
TRAV		0.84	127	P	Pg	11 33 22.1	-0.7
TRAV				S	Sg	11 33 31.6	-2.5
TRAV		0.84	127	P	Pg	11 33 22.1	-0.7
ORX	Oropa	0.92	115	P	Pb	11 33 23.4	-0.8
ORX				S	Sb	11 33 33.3	-3.3
ORX	Oropa	0.92	115	P	Pb	11 33 23.4	-0.8
RSP	Reno Superiore	0.94	159	P	Pb	11 33 25.1	+0.6
RSP				S	Sb	11 33 36.2	-0.8
RSP	Reno Superiore	0.94	159	P	Pb	11 33 25.1	+0.6
FENE	Fenestrelle	1.02	169	P	Pb	11 33 26.3	+0.4
FENE				S	Sb	11 33 38.7	-0.7
FENE	Fenestrelle	1.02	169	P	Pb	11 33 26.3	+0.5
BHB	Bricherasio	1.23	164	P	Pb	11 33 30.8	+1.2
BHB				S	Sb	11 33 45.0	-0.7
BHB	Bricherasio	1.23	164	P	Pb	11 33 30.8	+1.3
BHB				S	Sb	11 33 45.0	-0.7
ORIF	Oris-en-Rattie	1.28	210	ePn	Pn	11 33 31.8	+1.1
ORIF				ePg	Pg	11 33 32.3	+0.7
ORIF				eSn	Sn	11 33 51.3	+2.7
	58nm,0.4s						
MBDF	Montbardon	1.30	181	ePn	Pn	11 33 31.7	+0.7
MBDF				ePg	Pg	11 33 33.8	+1.8
MBDF				eSg	Sg	11 33 48.7	-0.6
	42nm,0.5s						
LOMF	Lomont	1.32	1	Pn	Pn	11 33 32.2	+0.9
LOMF				Sg	Sg	11 33 52.4	+2.4
BBS	Basel-Blauen	1.52	19	Pg	Pg	11 33 36.3	+0.1
HINF	Hinteralfeld	1.79	1	ePg	Pg	11 33 38.8	-2.8
HINF				eSn	Sn	11 33 59.3	-2.1
HINF				eSg	Sg	11 34 03.1	-2.4
	28nm,0.2s						
MOF	Molkenrain	1.84	7	Pn	Pn	11 33 38.5	-0.2
MOF	Molkenrain	1.84	7	Pg	Pg	11 33 42.1	-0.5
MOF	Molkenrain	1.84	7	Pg	Pg	11 33 42.1	-0.5
VIVF	Saint-Julien-l	1.90	233	ePn	Pn	11 33 41.2	+1.7
VIVF				eSn	Sn	11 34 04.5	+0.2
VIVF				eSg	Sg	11 34 09.0	-0.2
	72nm,0.3s						
HAU	Haudompre	2.00	351	eSg	Sg	11 34 10.8	-1.7
	36nm,0.3s						
FELD	Feldberg	2.02	24	Pn	Pn	11 33 40.3	-1.0
FELD	Feldberg	2.02	24	Pg	Pg	11 33 45.3	-1.1
SMF	Signal de Mont	2.14	288	ePn	Pn	11 33 44.6	+1.7
SMF				ePg	Pg	11 33 48.7	+0.1
SMF				eSg	Sg	11 34 17.0	-0.1
	11nm,0.2s						
SBF	Sospel	2.21	168	ePg	Pg	11 33 48.3	-1.9
SBF				eSg	Sg	11 34 16.1	-3.6
	12nm,0.3s						
SMRF	Simiane la Rot	2.23	203	ePn	Pn	11 33 46.2	+1.9
SMRF				ePg	Pg	11 33 49.5	-0.9
SMRF				eSg	Sg	11 34 19.0	-1.1
	4.6nm,0.4s						
LOR	Lormes	2.37	303	ePn	Pn	11 33 47.7	+1.4
LOR				ePg	Pg	11 33 52.8	-0.5
LOR				eSn	Sn	11 34 15.4	-0.8
LOR				eSg	Sg	11 34 23.6	-1.3
	14nm,0.3s						
CDF	Champ du Feu	2.41	8	ePn	Pn	11 33 46.0	-0.8
CDF				ePg	Pg	11 33 50.4	-3.6
WLS	Welschbruch	2.42	9	Pn	Pn	11 33 46.3	-0.6
FRF	La Foret Royal	2.47	182	ePg	Pg	11 33 53.2	-2.1
FRF				eSg	Sg	11 34 24.6	-3.6
	9.8nm,0.4s						
SSF	Saint Saulge	2.49	296	ePn	Pn	11 33 49.4	+1.4
SSF				ePg	Pg	11 33 55.3	-0.4
SSF				eSn	Sn	11 34 18.0	-1.3
SSF				eSg	Sg	11 34 28.0	-0.9
	11nm,0.4s						
SSF	Saint Saulge	2.49	296	ePg	Pg	11 33 55.3	-0.4
SSF				eSn	Sn	11 34 18.0	-1.3
SSF				eSg	Sg	11 34 28.0	-0.9
	5.3nm,0.4s						
AVF	Avril sur Loir	2.50	289	ePn	Pn	11 33 49.4	+1.3
AVF				ePg	Pg	11 33 56.3	+0.5
AVF				eSg	Sg	11 34 28.6	-0.5
	8.1nm,0.3s						
LMR	La Mourre	2.70	184	eSg	Sg	11 34 32.9	-3.1
	3.5nm,0.3s						
MEZF	Maizieres J'vi	2.74	335	ePn	Pn	11 33 51.0	-0.6
MEZF				ePg	Pg	11 33 57.9	-2.8
BGF	Bois d'Agland	2.79	282	ePn	Pn	11 33 53.4	+1.2
BGF				ePg	Pg	11 34 01.5	-0.1
BGF				eSg	Sg	11 34 38.7	0.0
	19nm,0.4s						
LASF	Ste Croix	2.85	228	ePg	Pg	11 34 01.8	-1.1
LASF				eSn	Sn	11 34 27.1	-1.4
LASF				eSg	Sg	11 34 39.1	-1.9
	19nm,0.4s						
TCF	Toulx Ste Croi	3.20	276	ePn	Pn	11 33 59.3	+1.2
TCF				ePg	Pg	11 34 08.8	-0.9
TCF				eSn	Sn	11 34 35.7	-1.5
TCF	Toulx Ste Croi	3.20	276	ePg	Pg	11 34 08.8	-0.9
TCF				eSn	Sn	11 34 35.7	-1.5

IDC 08 11:47:25.1±1.9**, 0.79N×126.68E, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/14**, mbtmp3.9**/3**, Error ellipse: s-maj=169.1km s-min=26.5km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.93	160	P	P	11 52 20.6	-1.5
	2.3nm,0.4s,baz=339,slow=11,SNR=67						
STKA	Stephens Creek	35.43	158	P	P	11 54 22.7	-2.4
	1.1nm,0.5s,baz=336,slow=12,SNR=3.6						
MKAR	Makanchi Array	59.94	326	P	P	11 57 33.1	-2.3
	0.6nm,0.6s,baz=130,slow=8.4,SNR=5.7						

*PRU **08** 11:53:06.9, 47.04N×5.82E*
*STR **08** 11:53:10.8±0.3, 46.01N×6.97E, h5km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **08** 11:53:10.7, 46.00N×6.90E, h6km, ML3.5(LDG), ML3.2(STR), ML3.0(ZUR), ML2.8(GEN), ML2.6(ROM), After ZUR.*
*ROM **08** 11:53:10.0±0.2, 45.99N×6.94E, h5km, Md2.9/10, Ml2.6/3, Error ellipse: s-maj=2.4km s-min=2.1km az=133.0*
*CSEM **08** 11:53:10.5±0.1, 46.01N×6.97E, ML3.5/21, Error ellipse: s-maj=1.3km s-min=0.8km az=114.0*
*LDG **08** 11:53:11.4±0.1, 46.04N×6.96E, h2km, Ml3.5/29, Error ellipse: s-maj=2.0km s-min=1.4km az=123.0*
*GEN **08** 11:53:11.4, 45.99N×6.98E, ML2.0*
ZUR 08 11:53:10.5, 46.03N×6.91E, h6km, ML3.0/7**, 23C-2D, Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMV	Vieux Emosson	0.03	352	⇑iPg	Pg	11 53 12.2	+0.5
EMV				Sg	Sg	11 53 13.1	+0.6
EMV	Vieux Emosson	0.03	352	⇑iPg	Pg	11 53 12.2	+0.5
EMV				i Sg	Sg	11 53 13.0	+0.5
EMV	Vieux Emosson	0.03	352	⇑iPg	Pg	11 53 12.2	+0.5
EMV				i Sg	Sg	11 53 13.0	+0.5
SALAN	Lac Salanfe	0.12	23	⇑iPg	Pg	11 53 13.5	+0.3
SALAN				eSg	Sg	11 53 15.4	+0.5
SALAN	Lac Salanfe	0.12	23	⇑iPg	Pg	11 53 13.5	+0.3
SALAN				eSg	Sg	11 53 15.4	+0.5
GRYON	Gryon	0.26	33	⇑iPg	Pg	11 53 16.0	+0.2
GRYON				eSg	Sg	11 53 19.7	+0.3
GRYON	Gryon	0.26	33	⇑iPg	Pg	11 53 16.0	+0.2
GRYON				eSg	Sg	11 53 19.7	+0.3
AIGLE	Aigle	0.31	6	⇑iPg	Pg	11 53 16.8	0.0
AIGLE	Aigle	0.31	6	⇑iPg	Pg	11 53 16.8	0.0
DIX	Grande Dixence	0.36	82	⇓iPg	Pg	11 53 18.1	+0.4
DIX				i Sg	Sg	11 53 22.9	+0.4
DIX	Grande Dixence	0.36	82	⇓iPg	Pg	11 53 18.1	+0.4
DIX				i Sg	Sg	11 53 22.9	+0.4
SENIN	Lac Senin	0.43	39	⇑iPg	Pg	11 53 19.1	-0.1
SENIN				i Sg	Sg	11 53 25.3	+0.4
SENIN	Lac Senin	0.43	39	⇑iPg	Pg	11 53 19.1	-0.1
SENIN				i Sg	Sg	11 53 25.3	+0.4
LPL	La Plagne	0.53	193	ePg	Pg	11 53 21.1	0.0
LPL				eSg	Sg	11 53 28.4	+0.2
	107nm,0.2s						
LPG	La Plagne	0.54	191	ePg	Pg	11 53 21.5	+0.1
LPG				eSg	Sg	11 53 28.4	-0.3
	170nm,0.2s						
LSD	Ceresole Reale	0.60	163	P	Pg	11 53 22.1	-0.4
LSD				S	Sg	11 53 29.6	-1.0
LKBD	Leukerbad	0.61	54	⇑iPg	Pg	11 53 22.7	-0.1
LKBD	Leukerbad	0.61	54	⇑iPg	Pg	11 53 22.7	-0.1
GIMEL	Gimel	0.67	319	ePg	Pg	11 53 24.0	+0.1
GIMEL	Gimel	0.67	319	ePg	Pg	11 53 24.0	+0.1
MMK	Mattmark	0.74	88	Pg	Pg	11 53 24.6	-0.7
MMK	Mattmark	0.74	88	ePg	Pg	11 53 24.4	-0.9
MMK	Mattmark	0.74	88	ePg	Pg	11 53 24.4	-0.9
TORNY	Torny	0.74	3	⇑iPg	Pg	11 53 25.1	-0.3
TORNY	Torny	0.74	3	⇑iPg	Pg	11 53 25.1	-0.3
TRAV		0.79	131	P	Pb	11 53 25.4	-0.8
TRAV				S	Sg	11 53 35.3	-1.4
TRAV		0.79	131	P	Pb	11 53 25.4	-0.8
TRAV				S	Sg	11 53 35.3	-1.4
WIMIS	Wimmis	0.81	38	⇑iPg	Pg	11 53 26.1	-0.5
WIMIS	Wimmis	0.81	38	⇑iPg	Pg	11 53 26.1	-0.5
CABF	La Chapelle	0.81	316	ePg	Pg	11 53 26.3	-0.4
CABF				ePn	Pn	11 53 27.9	-0.4
CABF				eSg	Sg	11 53 38.0	+0.4
CABF				eSn	Sn	11 53 41.1	+0.4
	411nm,0.3s						
ORX	Oropa	0.85	118	P	Pb	11 53 26.4	-1.0
ORX				S	Sb	11 53 36.8	-2.0
ORX	Oropa	0.85	118	P	Pb	11 53 26.4	-0.9
ORX				S	Sb	11 53 36.8	-2.0
ORO	Oropa	0.85	118	Pg	Pg	11 53 26.6	-1.0
	134nm,0.2s						
RSP	Reno Superiore	0.91	164	P	Pb	11 53 28.1	-0.3
RSP				S	Sb	11 53 39.1	-1.5
RSP	Reno Superiore	0.91	164	P	Pb	11 53 28.1	-0.3
RSP				S	Sb	11 53 39.1	-1.5
BRANT	Les Verrieres	0.95	342	ePg	Pg	11 53 29.4	-0.2
BRANT	Les Verrieres	0.95	342	ePg	Pg	11 53 29.4	-0.2
BNI	Bardonecchia	0.99	189	Pg	Pg	11 53 29.3	-1.0
	54nm,0.5s						
GDM	Grand'Maison	0.99	214	Pg	Pg	11 53 29.2	-1.2
FENE	Fenestrelle	1.01	174	P	Pb	11 53 29.1	-0.8
FENE				S	Sb	11 53 41.9	-1.4
FENE	Fenestrelle	1.01	174	P	Pb	11 53 29.1	-0.9
FENE				S	Sb	11 53 41.9	-1.4
RRL	Cesana Torines	1.11	184	P	Pb	11 53 31.3	-0.5
RRL	Cesana Torines	1.11	184	P	Pb	11 53 31.3	-0.5
HASLI	Hasliberg	1.13	49	ePg	Pg	11 53 32.6	-0.4
HASLI	Hasliberg	1.13	49	ePg	Pg	11 53 32.6	-0.4
GRN	Grenoble	1.13	226	Pg	Pg	11 53 32.4	-0.7
GRN				Sg	Sg	11 53 47.7	-0.6
BHB	Bricherasio	1.22	168	P	Pb	11 53 33.6	+0.1
BHB	Bricherasio	1.22	168	P	Pb	11 53 33.6	+0.1
MBDF	Montbardon	1.31	184	ePn	Pn	11 53 35.1	-0.3
MBDF				ePg	Pg	11 53 36.2	-0.4
MBDF				eSg	Sg	11 53 52.3	-1.8
	107nm,0.5s						
VAI	Varese	1.31	97	Pg	Pg	11 53 35.3	-1.4
	77nm,0.6s						
LOMF	Lomont	1.32	358	Pg	Pg	11 53 35.5	-1.4
ORIF	Oris-en-Rattie	1.33	213	ePn	Pn	11 53 35.1	-0.5
ORIF				ePg	Pg	11 53 36.9	-0.1
ORIF				eSg	Sg	11 53 53.7	-1.0
	152nm,0.2s						
BOURR	Bourrignon	1.38	9	ePn	Pn	11 53 36.3	-0.1
BOURR	Bourrignon	1.38	9	ePn	Pn	11 53 36.3	-0.1
BALST	Balsthal	1.41	22	ePn	Pn	11 53 36.5	-0.4
BALST	Balsthal	1.41	22	ePn	Pn	11 53 36.5	-0.4
BBS	Basel-Blauen	1.49	16	PG	Pg	11 53 39.6	-0.7
BBS	Basel-Blauen	1.49	16	Pn	Pn	11 53 37.5	-0.5
BBS				Pg	Pg	11 53 39.6	-0.7
BBS	Basel-Blauen	1.49	16	Pg	Pg	11 53 39.6	-0.7
MUGIO	Muggio	1.49	93	Pg	Pg	11 53 38.6	-1.7
MUGIO	Muggio	1.49	93	ePn	Pn	11 53 38.5	+0.5
MUGIO	Muggio	1.49	93	ePn	Pn	11 53 38.5	+0.5
PZZ	Prazzo	1.53	175	P	Pn	11 53 39.2	+0.7
PZZ	Prazzo	1.53	175	P	Pn	11 53 39.2	+0.6
DOI	San Damiano	1.55	171	Pg	Pg	11 53 39.4	-2.0
	78nm,0.4s						
SURF	Saint Ours	1.55	182	Pg	Pg	11 53 39.8	-1.7
LLS	Linth-Limmern	1.67	60	ePn	Pn	11 53 42.1	+1.6
LLS	Linth-Limmern	1.67	60	ePn	Pn	11 53 42.1	+1.6
TUE	Stuetta	1.75	75	Pg	Pg	11 53 43.6	-1.9
	93nm,0.4s						
HINF	Hinteralfeld	1.79	359	ePn	Pn	11 53 41.3	-0.9
HINF				ePg	Pg	11 53 44.2	-2.0
HINF				eSg	Sg	11 54 06.6	-3.4
	68nm,0.2s						
STV2	Anna di Valdie	1.81	170	P	Pn	11 53 41.9	-0.7
STV2	Anna di Valdie	1.81	170	P	Pn	11 53 41.8	-0.7
STV	Sta Anna Valdi	1.81	170	P	Pn	11 53 41.9	-0.7
STV	Sta Anna Valdi	1.81	170	P	Pn	11 53 41.8	-0.8
MOF	Molkenrain	1.83	5	Pg	Pg	11 53 45.3	-1.7
MOF	Molkenrain	1.83	5	Pn	Pn	11 53 41.8	-1.0
MOF				Pg	Pg	11 53 45.3	-1.7
MOF	Molkenrain	1.83	5	Pg	Pg	11 53 45.3	-1.7
VDL	Val di Lei	1.84	75	⇑iP*	Pb	11 53 44.8	+0.6
VDL	Val di Lei	1.84	75	⇑iP	Pn	11 53 44.8	+1.9
ENR	Entracque	1.84	168	P	Pn	11 53 43.1	+0.1
ENR	Entracque	1.84	168	P	Pn	11 53 43.1	+0.1
OCF	Saint Nazaire	1.84	218	Pg	Pg	11 53 46.5	-0.8
OG26	St.-Nazaire-De	1.84	218	Pg	Pg	11 53 46.5	-0.8
ROB	Roburent	1.87	158	P	Pn	11 53 43.9	+0.6
ROB	Roburent	1.87	158	P	Pn	11 53 43.9	+0.6
PCP	Pian Castagno	1.89	142	P	Pn	11 53 44.8	+1.2
PCP	Pian Castagno	1.89	142	P	Pn	11 53 44.8	+1.2
VIVF	Saint-Julien-l	1.96	234	ePn	Pn	11 53 44.7	0.0
VIVF				eP		11 53 48.1	
VIVF				eSg	Sg	11 54 12.5	-3.3
	323nm,0.3s						
PLONS	Plons	1.99	58	ePn	Pn	11 53 46.0	+0.9
FELD	Feldberg	1.99	22	PG	Pg	11 53 48.2	-2.1
FELD	Feldberg	1.99	22	Pn	Pn	11 53 43.7	-1.5
FELD				Pg	Pg	11 53 48.0	-2.3
FELD	Feldberg	1.99	22	Pg	Pg	11 53 48.0	-2.3
HAU	Haudompre	2.01	349	ePn	Pn	11 53 44.8	-0.6
HAU				ePg	Pg	11 53 48.5	-2.2
HAU				eSg	Sg	11 54 15.0	-2.5
	76nm,0.3s						
FIN	Finale Ligure	2.04	153	P	Pn	11 53 46.7	+0.8
FIN	Finale Ligure	2.04	153	P	Pn	11 53 46.7	+0.8
KIZ	Kirchzarten	2.05	19	⇑P	Pn	11 53 44.2	-1.7
KIZ	Kirchzarten	2.05	19	PG	Pg	11 53 49.1	-2.3
KIZ	Kirchzarten	2.05	19	S	Sn	11 54 09.1	-3.0
KIZ	Kirchzarten	2.05	19	SG	Sg	11 54 15.7	-3.0
SLE	Schleitheim	2.05	32	ePn	Pn	11 53 44.5	-1.5
SLE	Schleitheim	2.05	32	ePn	Pn	11 53 44.5	-1.5
ECH	Echery	2.19	4	Pg	Pg	11 53 51.9	-2.4
ECH	Echery	2.19	4	Pn	Pn	11 53 46.6	-1.4
ECH				Pg	Pg	11 53 51.9	-2.4
ECH	Echery	2.19	4	Pg	Pg	11 53 51.9	-2.4
SBF	Sospel	2.20	170	ePn	Pn	11 53 49.6	+1.5
SBF				ePg	Pg	11 53 54.0	-0.4
SBF				eSg	Sg	11 54 19.6	-4.2
	93nm,0.5s						
SMF	Signal de Mont	2.21	287	ePn	Pn	11 53 47.7	-0.6
SMF				ePg	Pg	11 53 53.6	-1.0
SMF				eSn	Sn	11 54 14.0	-2.2
SMF				eSg	Sg	11 54 20.8	-3.3
	72nm,0.3s						
IMI	Imperia	2.23	161	Pg	Pg	11 53 50.6	-4.5
	21nm,0.4s						
IMI	Imperia	2.23	161	P	Pn	11 53 49.6	+1.0
IMI	Imperia	2.23	161	Pg	Pg	11 53 50.6	-4.5
	21nm,0.4s						
NEGI	Negi	2.26	165	P	Pn	11 53 50.2	+1.3
NEGI	Negi	2.26	165	P	Pn	11 53 50.2	+1.3
SMRF	Simiane la Rot	2.26	205	ePn	Pn	11 53 49.5	+0.5
SMRF				eP		11 53 53.8	
SMRF				eSn	Sn	11 54 18.4	+0.9
	13nm,0.2s						
SMRF	Simiane la Rot	2.26	205	ePn	Pn	11 53 49.5	+0.5
SMRF				eSn	Sn	11 54 18.4	+0.9
	6.6nm,0.2s						
THEF	They Montfort	2.29	344	Pn	Pn	11 53 48.6	-0.7
PLDF	La Plantade	2.29	270	Pg	Pg	11 53 54.5	-1.7
PLDF	La Plantade	2.29	270	Pn	Pn	11 53 49.6	+0.2
PLDF				Pg	Pg	11 53 54.5	-1.7
PLDF	La Plantade	2.29	270	Pg	Pg	11 53 54.5	-1.7
COLF	Collangettes	2.31	258	Pg	Pg	11 53 53.7	-2.8
COLF	Collangettes	2.31	258	Pn	Pn	11 53 48.7	-0.9
COLF				Pg	Pg	11 53 53.7	-2.8
COLF	Collangettes	2.31	258	Pg	Pg	11 53 53.7	-2.8
CDF	Champ du Feu	2.40	6	ePn	Pn	11 53 49.4	-1.5
CDF				ePg	Pg	11 53 55.6	-2.7
CDF				eSg	Sg	11 54 25.0	-5.3
	39nm,0.4s						
DAVA	Damuels	2.40	57	⇑iPN	Pn	11 53 51.8	+0.8
DAVA				i SN	Sn	11 54 26.4	+5.2
WLS	Welschbruch	2.40	7	Pn	Pn	11 53 49.4	-1.6
LOR	Lormes	2.44	302	ePn	Pn	11 53 51.4	-0.1
LOR				ePg	Pg	11 53 56.4	-2.7
LOR				eSn	Sn	11 54 20.5	-1.5
LOR				eSg	Sg	11 54 28.1	-3.5
	46nm,0.2s						
FRF	La Foret Royal	2.48	184	ePn	Pn	11 53 53.0	+0.9
FRF				eP		11 53 57.0	
FRF				eSg	Sg	11 54 29.0	-4.0
	24nm,0.3s						
FRF	La Foret Royal	2.48	184	ePn	Pn	11 53 53.0	+0.9
FRF				eSg	Sg	11 54 29.0	-4.0
	12nm,0.3s						
BFO	Black Forest	2.50	22	ePn	Pn	11 53 49.8	-2.6
BFO				eSg	Sg	11 54 29.1	-4.5
SFTF	Sexfontaines	2.52	330	ePn	Pn	11 53 52.3	-0.4
SFTF				ePg	Pg	11 53 58.5	-2.3
SFTF				eSg	Sg	11 54 30.0	-4.4
	73nm,0.4s						
GUT	Gutenstein	2.54	36	P	Pn	11 53 51.2	-1.8
GUT	Gutenstein	2.54	36	SG	Sg	11 54 31.5	-3.5
SSF	Saint Saulge	2.56	295	ePn	Pn	11 53 52.5	-0.8
SSF				ePg	Pg	11 53 58.8	-2.9
SSF				eSn	Sn	11 54 23.2	-2.0
SSF				eSg	Sg	11 54 33.6	-2.2
	21nm,0.3s						
SSF	Saint Saulge	2.56	295	ePg	Pg	11 53 58.8	-2.9
SSF				eSn	Sn	11 54 23.2	-2.0
SSF				eSg	Sg	11 54 33.6	-2.2
	11nm,0.3s						
AVF	Avril sur Loir	2.57	288	ePn	Pn	11 53 52.8	-0.7
AVF				ePg	Pg	11 54 00.3	-1.6
AVF				eSg	Sg	11 54 32.2	-4.0
	26nm,0.3s						
AGO	Saint Agoulin	2.63	272	Pn	Pn	11 53 54.4	+0.1
LMR	La Mourre	2.71	186	ePn	Pn	11 53 55.3	-0.1
PYM	Petit Puy Mans	2.74	266	Pg	Pg	11 54 03.1	-2.0
PYM	Petit Puy Mans	2.74	266	Pn	Pn	11 53 55.8	0.0
PYM				Pg	Pg	11 54 03.1	-2.0
PYM	Petit Puy Mans	2.74	266	Pg	Pg	11 54 03.1	-2.0
UBR	Uberruh	2.75	52	P	Pn	11 53 56.2	+0.2
UBR	Uberruh	2.75	52	PG	Pg	11 54 02.9	-2.5
UBR				SG	Sg	11 54 39.3	-2.7
MEZF	Maizieres J'vi	2.77	334	ePn	Pn	11 53 56.2	-0.2
MEZF				ePg	Pg	11 54 03.2	-2.7
MEZF				eSn	Sn	11 54 27.3	-3.3
MEZF				eSg	Sg	11 54 39.1	-3.8
	102nm,0.6s						
RFYF	Reffroy	2.77	340	ePn	Pn	11 53 55.9	-0.5
RFYF				ePg	Pg	11 54 02.4	-3.5
RFYF				eSg	Sg	11 54 37.8	-5.1
	104nm,0.2s						
BGF	Bois d'Agland	2.86	282	ePn	Pn	11 53 56.8	-0.8
BGF				ePg	Pg	11 54 04.9	-2.8
BGF				eSg	Sg	11 54 42.0	-3.8
	48nm,0.3s						
LASF	Ste Croix	2.91	229	ePn	Pn	11 53 58.2	-0.1
LASF				ePg	Pg	11 54 08.3	-0.4
LASF				eSn	Sn	11 54 30.4	-3.7
LASF				eSg	Sg	11 54 42.5	-5.0
	43nm,0.2s						
HYF	Humbligny	3.19	294	ePn	Pn	11 54 01.8	-0.4
HYF				eSg	Sg	11 54 53.7	-3.0
TCF	Toulx Ste Croi	3.27	276	ePn	Pn	11 54 02.4	-1.0
TCF				ePg	Pg	11 54 12.2	-3.6
TCF				eSn	Sn	11 54 40.0	-3.2
TCF				eSg	Sg	11 54 54.6	-4.9
	11nm,0.2s						
WTTA	Wattenberg	3.48	68	⇑iPN	Pn	11 54 07.5	+1.1
WTTA				i SN	Sn	11 54 53.5	+5.0
WTTA	Wattenberg	3.48	68	⇑iPn	Pn	11 54 07.5	+1.0
CAF	Calviac	3.58	254	ePn	Pn	11 54 06.8	-1.0
CAF				eSg	Sg	11 55 03.8	-5.9
	18nm,0.2s						
PGF	Pioggiola	3.79	156	eP	Pn	11 54 10.8	0.0
PGF				eSn	Sn	11 54 50.8	-5.5
	4.3nm,0.3s						
RJF	Les Rejaudoux	3.85	261	ePn	Pn	11 54 10.8	-0.8
RJF				eSg	Sg	11 55 12.7	-5.9
	17nm,0.3s						
MTLF	Montolieu	4.29	233	ePn	Pn	11 54 17.0	-0.9
MTLF				ePg	Pg	11 54 34.2	-1.9
MTLF				eSn	Sn	11 55 03.2	-5.7
MTLF				eSg	Sg	11 55 29.4	-3.9
	15nm,0.3s						
GIVF	Givet	4.31	342	ePn	Pn	11 54 17.3	-0.8
GIVF				eSn	Sn	11 55 05.2	-4.2
GIVF				eSg	Sg	11 55 26.0	-7.9
	18nm,0.5s						
BAIF	Baives	4.42	337	ePn	Pn	11 54 18.6	-1.1
LFF	La Frestale	4.47	258	ePn	Pn	11 54 19.5	-1.0
LFF				eSg	Sg	11 55 32.5	-6.9
	21nm,0.4s						
MFF	Saint Martin d	4.92	279	ePn	Pn	11 54 25.5	-1.3
MFF				eSn	Sn	11 55 18.7	-6.1
	2.9nm,0.2s						
LDF	La Druitiere	5.42	301	ePn	Pn	11 54 31.7	-2.2
KHC	Kasperske Hory	5.48	53	ePG	Pg	11 54 52.3	-7.5
KHC				eSN	Sn	11 55 32.8	-6.1
KHC				eSG	Sg	11 56 04.8	-8.0
EPF	Esparros	5.57	240	eSg	Sg	11 56 08.6	-7.3
	13nm,0.4s						
NKC	Novy Kostel	5.61	39	eSG	Sg	11 56 08.6	-8.6
NKC	Novy Kostel	5.61	39	eSg	Sg	11 56 08.6	-8.6
FLN	La Foliniere	5.71	301	ePn	Pn	11 54 35.7	-2.3
FLN				eSn	Sn	11 55 38.0	-6.7
GRR	Gorron	5.79	297	ePn	Pn	11 54 36.9	-2.2
GRR				eSn	Sn	11 55 40.5	-6.2
SGMF	Saint Gilles	6.83	292	ePn	Pn	11 54 50.1	-3.6
QUIF	Quistinic	7.14	289	ePn	Pn	11 54 55.2	-3.0
ROSF	Rostrenen	7.31	292	ePn	Pn	11 54 57.2	-3.3

*HEL **08** 12:43:19.9±0.4, 57.70N×22.29E, ML1.8, ML2.1(UPP), ML2.2(NAO), Explosion*
*IDC **08** 12:43:20.4±2.5, 57.89N×22.18E, mb1 3.0/4, mb1mx3.0/19, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=26.3km s-min=10.3km az=163.0*
*NAO **08** 12:43:22.1±2.7, 58.00N×22.34E, ML2.2*
*BER **08** 12:43:23.3±5.4, 57.96N×22.28E, ML2.2(NAO), Suspected explosion*
ISC 08 12:43:19.3±0.9**, 57.82N**±0.07×**22.27E**±0.07**, n24,** σ1§16/34**,**

Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	Gotland	1.99	268	eP	Pn	12 43 54.4	-0.2
GOTU				eS	Sn	12 44 21.8	+1.2
VSU	Vasula	2.45	73	eP	Pn	12 44 00.8	-0.3
VSU				eS	Sn	12 44 31.4	-0.9
VSU	Vasula	2.45	73	Pn	Pn	12 44 01.2	+0.1
VSU				Sn	Sn	12 44 33.0	+0.8
NYNU	Nynaeshamn	2.54	300	eP	Pn	12 44 03.7	+1.2
NRTU	Norrtaelje	2.66	316	eP	Pn	12 44 06.7	+2.6
GRAU	Graesoe	3.17	324	eP	Pn	12 44 10.5	-0.9
FLYU	Flymyra	3.24	317	eP	Pn	12 44 12.7	+0.3
PVF	Pernaja	3.29	33	eP	Pn	12 44 13.8	+0.6
PVF				eS	Sn	12 44 54.1	+0.4
BACU	Backbrunna	3.37	309	eP	Pn	12 44 14.8	+0.5
OSKU	Oskarshamn	3.39	262	eP	Pn	12 44 14.8	+0.2
VJF	Virojoki	3.85	43	ePB	Pb	12 44 27.9	0.0
VJF				eS	Sn	12 45 05.7	-1.9
FIA0	FINESS Array S	4.11	26	Pn	Pn	12 44 23.2	-1.6
	baz=199,slow=14						
FIA0				Pg	Pb	12 44 32.7	+0.3
	baz=205,slow=16						
FIA0				Lg		12 45 26.9	
	baz=195,slow=28						
FIA0	FINESS Array S	4.11	26	ePB	Pb	12 44 32.4	0.0
FIA0				eSG		12 45 29.6	
FIA0				MSG		12 45 30.6	
	comp=Z,1.7nm,0.3s						
FINES	FINESS Array B	4.11	26	Pn	Pn	12 44 23.8	-1.0
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=5.9						
FINES				Pg	Pb	12 44 32.9	+0.5
	comp=Z,1.0nm,0.3s,baz=208,slow=15,SNR=21						
FINES				Lg		12 45 27.0	
	comp=Z,0.8nm,0.3s,baz=214,slow=27,SNR=7.9						
FALU	Falun	4.26	312	eP	Pn	12 44 26.3	-0.6
KEF	Keuruu	4.55	16	eP	Pn	12 44 32.4	+1.4
KEF				eS	Sn	12 45 25.0	-0.4
KEF				MSG		12 45 46.4	
	comp=Z,1.2nm,0.3s						
KAF	Kangasniemi	4.75	24	eSB	Sb	12 45 43.8	+2.0
KAF				MSG		12 45 49.2	
	comp=Z,0.8nm,0.3s						
HFS	Hagfors	5.01	301	Pn	Pn	12 44 35.8	-1.7
	baz=120,slow=12						
HFS				Sn	Sn	12 45 34.1	-2.9
	baz=127,slow=28						
HFS				Lg		12 45 54.6	
	baz=82,slow=28						
HFS	Hagfors	5.01	301	eP	Pn	12 44 35.8	-1.7
HFS				eS	Sn	12 45 34.1	-2.9
HFS				eSG		12 45 54.6	
HFS	Hagfors	5.01	301	Pn	Pn	12 44 35.5	-2.0
	comp=Z,0.1nm,0.3s,baz=119,slow=15,SNR=6.4						
HFS				Lg		12 45 54.6	
	comp=Z,0.1nm,0.3s,baz=117,slow=32,SNR=4.1						
NB2	NORSAR Subarra	6.50	304	Pn	Pn	12 44 57.5	-1.1
	baz=120,slow=14						
NB2	NORSAR Subarra	6.50	304	eP	Pn	12 44 57.5	-1.1
NOA	NORSAR Array B	6.50	304	Pn	Pn	12 44 53.6	-4.9
	comp=Z,0.1nm,0.3s,baz=120,slow=21,SNR=2.4						
NOA				Lg		12 46 41.9	
	comp=Z,0.3nm,0.3s,baz=138,slow=25,SNR=2.5						
ARCES	ARCESS Array B	11.84	6	Pn	P	12 46 05.4	-6.9
	comp=Z,0.0nm,0.3s,baz=185,slow=10.0,SNR=2.5						

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*NEIC **08** 12:56:19.9±1.2, 12.41N×143.55E, h120km±13km, mb4.5/2, Error ellipse: s-maj=23.0km s-min=12.1km az=88.0*
*IDC **08** 12:56:20.1±2.0, 12.43N×143.59E, h120km±21km, mb3.6/8, mb1 3.7/8, mb1mx3.6/20, mbtmp4.0/8, Error ellipse: s-maj=32.9km s-min=20.6km az=96.0*
ISC 08 12:56:18.3±1.7**, 12.4N**±0.1×**143.5E**±0.2**, h119**km±19km**, n13, σ0ˢ56**/15**, mb4.0**/9**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.78	48	P	P	12 56 50.5	+1.1
	54nm,0.3s,baz=193,slow=5.7,SNR=44						
GUMO				S	S	12 57 12.5	-0.4
	79nm,0.3s,baz=1.4,slow=22,SNR=15						
GUMO	Guam	1.78	48	ePn	P	12 56 50.2	+0.8
GUMO				eSn	S	12 57 12.0	-0.9
JOW	Kunigami	20.28	317	P	P	13 00 46.4	-0.1
	9.3nm,0.5s,baz=100,slow=17,SNR=5.3						
PMG	Port Moresby	21.95	170	eP	P	13 00 58.0	-5.2
	36nm,1.1s,mb4.6						
WRAB	Tennant Creek	33.36	196	eP	P	13 02 47.0	-0.3
	6.9nm,1.0s,mb4.4						
WRA	Warramunga Arr	33.37	196	P	P	13 02 47.4	0.0
	1.2nm,0.8s,mb3.8,baz=19,slow=9.5,SNR=11						
SONM	Songino Array	46.97	326	P	P	13 04 39.0	+0.1
	0.6nm,0.5s,mb3.6,baz=149,slow=8.4,SNR=2.6						
MKAR	Makanchi Array	61.45	317	P	P	13 06 23.8	-0.6
	0.6nm,0.5s,mb3.9,baz=98,slow=8.6,SNR=5.8						
BVAR	Borovoye Array	70.05	322	P	P	13 07 19.4	+0.3
	1.8nm,0.3s,mb4.4,baz=105,slow=8.0,SNR=16						
ILAR	Eielson Array	70.21	25	P	P	13 07 19.6	-0.3
	0.2nm,0.5s,mb3.2,baz=235,slow=7.1,SNR=4.4						
ARCES	ARCESS Array B	87.81	342	P	P	13 08 55.7	+1.1
	1.6nm,0.8s,mb4.1,baz=76,slow=7.9,SNR=10						
ARCES	ARCESS Array B	87.81	342	P	P	13 08 55.7	+1.1
FINES	FINESS Array B	91.69	335	P	P	13 09 12.5	-0.5
	3.4nm,1.1s,mb4.5,baz=72,slow=4.4,SNR=6.5						

JMA 08 12:56:36.8±0.6**, 31.15N×143.04E, M3.8, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.36	306	eS	Sn	12 58 09.2	-3.7
BSO1	Boso 1	3.90	334	P	Pn	12 57 39.8	+0.5
BSO3	Boso 3	4.22	330	P	Pn	12 57 44.3	+0.5
BSO4	Boso 4	4.45	330	P	Pn	12 57 48.2	+1.1
JHU	Hanno	5.64	327	P	Pn	12 58 04.6	+0.6
JHO	Hitachi	5.82	340	eS	Sn	12 59 12.1	-2.8
JRY	Ryogami san	5.96	326	P	Pn	12 58 08.8	+0.4
JAG	Ashikaga	6.05	331	P	Pn	12 58 10.4	+0.7
JAG				eS	Sn	12 59 20.8	+0.2
JMK	Ichinoseki	7.92	350	P	Pn	12 58 33.7	-2.4
JMK				eS	Sn	13 00 02.7	-4.8

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*IDC **08** 12:57:48.4±0.8, 41.31S×85.16E, mb4.1/8, mb1 4.1/8, mb1mx4.1/13, mbtmp4.0/8, MS4.7/14, Ms1 4.7/14, ms1mx4.7/15, Error ellipse: s-maj=35.7km s-min=21.6km az=176.0*
*BJI **08** 12:57:49.9, 41.27S×84.65E, h6km, mB5.2, mb4.9, Ms5.2, Msz4.9*
*NEIC **08** 12:57:49.2±0.4, 41.88S×85.06E, h10km, mb5.0/9, MS4.9/4, MW5.5, Error ellipse: s-maj=17.1km s-min=12.7km az=113.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.18; $M_{\theta\theta}$1.71; $M_{\phi\phi}$-1.89; $M_{r\theta}$0.14; $M_{\theta\phi}$0.04; $M_{\phi r}$-0.75; Best double couple: $M_0$1.9×10^{17} NP1:ϕ_s46°, δ73°, λ-171°. NP2:ϕ_s313°, δ81°, λ-17°. Principal axes: T 1.72, Plg5°, Azm1°; N .41, Plg71°, Azm106°; P -2.13, Plg18°, Azm269°;*
*HRVD **08** 12:57:49.2±0.1, 41.70S×84.96E, h12km, MW5.5/71, Centroid moment Tensor Solution. LP body waves: s64,c129;Mantle waves: s71,c143; Half duration: 1ˢ3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.03; $M_{\theta\theta}$1.97±.03; $M_{\phi\phi}$-1.83±.03; $M_{r\theta}$-0.03±.06; $M_{\theta\phi}$-0.00±.03; $M_{\phi r}$0.01±.07; Best double couple: $M_0$1.9×10^{17} NP1:ϕ_s225°, δ89°, λ180°. NP2:ϕ_s315°, δ90°, λ1°. Principal axes: T 1.97, Plg1°, Azm180°; N -.137, Plg89°, Azm347°; P -1.83, Plg0°, Azm90°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 08 12:57:48.2±4.0**, 41.88S**±0.08×**85.0E**±0.1**, h13**km±24km**, h15**km±1.2km**:pP-P, n71, σ1ˢ29**/53**, mb4.6**/26**, MS4.8**/26**, 6C, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	27.02	81	LR	LR	13 11 44.1	
	comp=Z,3μm,21.5s,MS4.8,baz=234,slow=31						
CASY	Casey	28.27	158	eP	P	13 03 45.4	+2.5
CASY				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
MAW	Mawson	28.42	198	P	P	13 03 43.9	-0.3
	comp=Z,1.4nm,0.9s,mb3.6,baz=21,slow=16,SNR=2.5						
MAW				LR	LR	13 12 30.6	
	comp=Z,964nm,21.9s,MS4.4,baz=33,slow=30						
FITZ	Fitzroy Crossi	41.92	68	eP	P	13 05 48.4	+8.2
	comp=Z,9.1nm,1.0s,mb4.4						
FITZ	Fitzroy Crossi	41.92	68	P	P	13 05 42.4	+2.2
	comp=Z,4.7nm,1.0s,mb4.1,baz=207,slow=13,SNR=2.1						
STKA	Stephens Creek	45.66	97	eP	P	13 06 10.5	+0.2
	comp=Z,3.0nm,0.7s,mb4.3						
STKA	Stephens Creek	45.66	97	P	P	13 06 09.6	-0.7
	comp=Z,2.6nm,0.9s,mb4.2,baz=299,slow=12,SNR=4.9						
STKA				LR	LR	13 21 23.0	
	comp=Z,2μm,21.7s,MS5.1,baz=236,slow=31						
VNDA	Vanda	46.69	163	P	P	13 06 15.8	-2.0
	comp=Z,0.5nm,0.7s,mb3.5,baz=283,slow=7.7,SNR=6.2						
VNDA				LR	LR	13 23 51.9	
	comp=Z,1μm,20.7s,MS4.9,baz=273,slow=33						
VNDA	Vanda	46.69	163	eP	P	13 06 15.7	-2.2
VNDA				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
WRA	Warramunga Arr	46.93	78	P	P	13 06 18.0	-2.5
	comp=Z,3.7nm,0.9s,mb4.3,baz=233,slow=7.9,SNR=14						
WRAB	Tennant Creek	46.94	78	eP	P	13 06 20.2	-0.4
	comp=Z,69nm,1.8s,mb5.3						
QSPA	South Pole Qui	48.27	180	eP	P	13 06 29.3	-1.0
	comp=Z,9.6nm,1.0s,mb4.8						
SNAA	Sanae	50.21	204	⇑P	P	13 06 44.0	-1.3
SNAA	Sanae	50.21	204	⇑	P	13 06 46.7	+1.4
SNAA	Sanae	50.21	204	⇑	P	13 06 52.7	+7.4
SNAA	Sanae	50.21	204	⇑	P	13 06 59.3	+14
SNAA	Sanae	50.21	204	⇑	P	13 07 05.5	+20
SNAA	Sanae	50.21	204	P	P	13 06 50.3	+5.0
	comp=Z,0.8nm,1.0s,mb3.7,baz=136,slow=6.0,SNR=3.5						
SNAA	Sanae	50.21	204	⇑P	P	13 06 46.7	+1.4
SUR	Sutherland	50.95	259	LR	LR	13 23 33.7	
	comp=Z,609nm,18.7s,MS4.7,baz=142,slow=30						
LBTB	Lobatse	51.33	270	P	P	13 06 54.1	-0.3
	comp=Z,1.5nm,0.6s,mb4.1,baz=91,slow=3.4,SNR=3.0						
LBTB	Lobatse	51.33	270	P	P	13 06 53.2	-1.1
LBTB				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
VNA2	Neumayer--Watz	51.83	205	P	P	13 06 58.8	+1.2
VNA2	Neumayer--Watz	51.83	205		P	13 07 00.3	+2.7
VNA2	Neumayer--Watz	51.83	205		P	13 07 01.6	+4.0
VNA1	Neumayer--Stat	52.19	205	P	P	13 07 03.8	+3.5
VNA1	Neumayer--Stat	52.19	205		P	13 07 07.4	+7.1
VNA1	Neumayer--Stat	52.19	205		P	13 07 12.0	+12
VNA3	Neumayer Olymp	52.42	204	P	P	13 06 57.5	-4.6
VNA3	Neumayer Olymp	52.42	204		P	13 07 01.8	-0.3
VNA3	Neumayer Olymp	52.42	204		P	13 07 08.2	+6.1
CTA	Charters Tower	55.65	87	P	P	13 07 24.2	-2.2
	comp=Z,3.2nm,0.8s,mb4.4,baz=209,slow=19,SNR=2.5						
CTA				LR	LR	13 29 07.9	
	comp=Z,724nm,20.8s,MS4.7,baz=233,slow=34						
KMBO	Kilima Mbogo	58.98	300	LR	LR	13 27 42.5	
	comp=Z,323nm,20.1s,MS4.4,baz=282,slow=30						
RPZ	Rata Peaks	60.33	124	LR	LR	13 28 26.0	
	comp=Z,521nm,18.9s,MS4.7,baz=231,slow=30						
PMG	Port Moresby	63.15	78	LR	LR	13 31 54.7	
	comp=Z,556nm,20.0s,MS4.7,baz=221,slow=32						
QIZ	Qiongzhong	64.83	26	P	P	13 08 29.2	0.0
QIZ				S	S	13 17 08.1	-0.1
QIZ				XS		13 17 16.3	
QIZ				LR	LR		
	comp=N,465nm,18.5s						
QIZ				LR	LR		
	comp=Z,559nm,19.0s,MS4.8						
KMI	Kunming	68.67	17	P	P	13 08 54.8	+1.3
KMI				AP	pP	13 08 58.9	+1.5
KMI				XP	sP	13 09 01.3	+2.5
KMI				PCP	PcP	13 09 18.4	-0.1
KMI				PP	PP	13 11 30.8	+3.4
KMI				S	S	13 17 56.5	+1.9
KMI				XS		13 18 01.8	
KMI				SS	SS	13 22 19.8	-1.1
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,73nm,3.3s						
KMI				LR	LR		
	comp=N,698nm,17.8s,MS5.0						
KMI				LR	LR		
	comp=E,372nm,16.2s,MS5.0						
KMI				LR	LR		
	comp=Z,958nm,21.0s,MS5.0						
KMI	Kunming	68.67	17	P	P	13 08 54.8	+1.3
	comp=Z,9.0nm,0.8s,mb4.8						
KMI				pP	pP	13 08 58.9	+1.5
KMI				sP	sP	13 09 01.3	+2.5
KMI				PcP	PcP	13 09 18.4	-0.1
KMI				PP	PP	13 11 30.8	+3.4
KMI				PPP	PPP	13 13 09.5	+4.5
KMI				S	S	13 17 56.5	+1.9
KMI				sS		13 18 01.8	
KMI				PS	PS	13 18 26.9	+5.4
KMI				SS	SS	13 22 19.8	-1.1
KMI				SSS	SSS	13 25 25.6	+3.4
KMI				LR	LR		
	comp=Z,960nm,21.0s,MS5.0						
KOLN	Koldanda	69.31	359	e	P	13 08 56.1	-1.3
	comp=Z,84nm,1.9s,mb5.3						
GYA	Guiyang	70.90	21	P	P	13 09 07.8	+0.7
GYA				AP	pP	13 09 12.4	+1.4
GYA				XP	sP	13 09 14.9	+2.5
GYA				PP	PP	13 11 47.4	+1.0
GYA				S	S	13 18 22.0	+1.2
GYA				SKS	SKS	13 19 05.2	-5.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,90nm,3.8s						
GYA				LR	LR		
	comp=N,240nm,18.4s,MS4.6						
GYA				LR	LR		
	comp=E,190nm,17.9s,MS4.6						
GYA				LR	LR		
	comp=Z,210nm,18.6s,MS4.4						
LSA	Lhasa	71.45	6	eP	P	13 09 09.8	-0.6
	comp=Z,18nm,1.1s,mb4.9						
XAN	Xi'an	78.69	20	P	P	13 09 51.8	+0.2
XAN				S	S	13 19 44.0	-3.2
XAN				LR	LR		
	comp=N,359nm,23.1s,MS4.7						
XAN				LR	LR		
	comp=E,182nm,20.1s,MS4.7						
XAN				LR	LR		
	comp=Z,878nm,20.7s,MS5.1						
LZH	Lanzhou	79.49	15	eP	P	13 10 05.3	+9.3
	comp=Z,30nm,1.1s,mb5.1						
LZH				pP	pP	13 10 11.4	+11
LZH				sP	sP	13 10 16.1	+15
LZH				PP	PP	13 13 06.4	+8.3
LZH				PPP	PPP	13 14 55.0	+6.4
LZH				S	S	13 20 01.3	+5.6
LZH				sS		13 20 13.1	
LZH				SKS	SKS	13 20 17.0	+4.4
LZH				PS	PS	13 20 48.5	+7.0
LZH				SS	SS	13 25 11.0	+4.6
LZH				LR	LR		
	comp=Z,820nm,16.7s,MS5.2						
NJ2	Nanjing	79.91	29	eP	P	13 09 58.4	+0.1
NJ2				AP	pP	13 10 03.1	+0.8
NJ2				XP	sP	13 10 05.4	+1.7
NJ2				PP	PP	13 13 01.2	-0.3
NJ2				S	S	13 19 59.0	-1.1
NJ2				XS		13 20 07.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,110nm,8.0s						
NJ2				LR	LR		
	comp=N,1μm,38.5s						
NJ2				LR	LR		
	comp=E,820nm,22.0s						
NJ2				LR	LR		
	comp=Z,710nm,23.4s						
SSE	Sheshan	79.92	31	P	P	13 09 59.8	+1.4
SSE				XP	sP	13 10 04.4	+0.7
SSE				PP	PP	13 13 00.3	-1.3
SSE				S	S	13 20 05.2	+4.9
SSE				XS		13 20 10.1	
SSE				SS	SS	13 25 11.9	-1.0
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,112nm,4.6s						
SSE				LR	LR		
	comp=N,274nm,19.7s,MS5.5						
SSE				LR	LR		
	comp=E,2μm,20.0s,MS5.5						
SSE				LR	LR		
	comp=Z,383nm,16.1s,MS4.8						
SSE	Sheshan	79.92	31	P	P	13 09 59.8	+1.4
	comp=Z,28nm,0.7s,mb5.3						
SSE				sP	sP	13 10 04.4	+0.7
SSE				PP	PP	13 13 00.3	-1.3
SSE				S	S	13 20 05.2	+4.9
SSE				sS		13 20 10.1	
SSE				SS	SS	13 25 11.9	-1.0
SSE				LR	LR		
	comp=Z,380nm,16.1s,MS4.8						
USHA	Ushuaia	81.02	195	LR	LR	13 42 39.9	
	comp=Z,654nm,21.1s,MS5.0,baz=135,slow=33						
GTA	Gaotai	82.03	12	eP	P	13 10 09.8	+0.5
GTA				AP	pP	13 10 15.4	+2.1
GTA				XP	sP	13 10 18.6	+4.0
GTA				PP	PP	13 13 19.6	+0.3
GTA				S	S	13 20 22.4	+0.5
GTA				SKS	SKS	13 20 24.7	-5.8
GTA				XS		13 20 33.5	
GTA				SS	SS	13 25 44.1	-0.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
GTA				AMB	AMB		
	comp=Z,45nm,4.6s						
GTA				LR	LR		
	comp=N,353nm,24.3s,MS4.8						
GTA				LR	LR		
	comp=E,282nm,20.9s,MS4.8						
GTA				LR	LR		
	comp=Z,411nm,22.8s,MS4.7						
WMQ	Urumqi	85.35	2	eP	P	13 10 25.5	-0.5
WMQ				AP	pP	13 10 31.0	+0.9
WMQ				XP	sP	13 10 33.0	+1.6
WMQ				SKS	SKS	13 20 49.0	-3.9
WMQ				eS	S	13 20 56.0	+1.0
WMQ				XS		13 21 08.0	
WMQ				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,179nm,5.6s						
WMQ				LR	LR		
	comp=N,433nm,17.7s,MS5.0						
WMQ				LR	LR		
	comp=E,421nm,18.6s,MS5.0						
WMQ				LR	LR		
	comp=Z,470nm,22.4s,MS4.8						
HHC	Hu-ho-hao-te	85.80	20	eP	P	13 10 32.3	+3.9
HHC				XP	sP	13 10 39.2	+5.5
HHC				SKS	SKS	13 20 54.4	-1.6
HHC				S	S	13 21 03.6	+4.2
HHC				XS		13 21 14.3	
HHC				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.5						
HHC				AMB	AMB		
	comp=Z,149nm,3.9s						
HHC				LR	LR		
	comp=N,934nm,19.0s,MS5.3						
HHC				LR	LR		
	comp=E,442nm,17.8s,MS5.3						
HHC				LR	LR		
	comp=Z,1μm,20.2s,MS5.2						
MKAR	Makanchi Array	88.32	358	P	P	13 10 39.5	-0.9
	comp=Z,1.1nm,0.9s,mb4.1,baz=166,slow=5.0,SNR=7.3						
MKAR				LR	LR	13 47 42.8	
	comp=Z,975nm,20.8s,MS5.2,slow=34						
SONM	Songino Array	91.32	14	P	P	13 10 51.3	-3.2
	comp=Z,0.8nm,0.7s,mb4.2,baz=180,slow=5.8,SNR=3.7						
SONM				LR	LR	13 53 55.5	
	comp=Z,525nm,18.1s,MS5.0,baz=198,slow=37						
ULN	Ulaanbaatar	91.48	15	eP	P	13 10 55.8	+0.6
	comp=Z,7.1nm,1.1s,mb4.9						
MJAR	Matsushiro Arr	91.97	40	LR	LR	13 54 18.6	
	comp=Z,162nm,18.6s,MS4.5,baz=215,slow=37						
KURK	Kurchatov	92.38	356	eP	P	13 10 58.1	-1.1
	comp=Z,2.0nm,0.9s,mb4.5						
CN2	Changchun	92.72	28	eP	P	13 11 03.1	+2.1
BRTR	Keskin Array B	93.64	323	P	P	13 11 05.5	+0.2
	comp=Z,0.6nm,0.5s,mb4.3,baz=180,slow=7.2,SNR=3.1						
PLCA	Paso Flores	94.83	198	LR	LR	13 53 52.9	
	comp=Z,429nm,20.2s,MS4.9,baz=152,slow=35						
MDJ	Mudanjiang	94.93	30	P	P	13 11 12.6	+1.5
MDJ				AP	pP	13 11 15.9	+0.7
MDJ				XP	sP	13 11 17.2	+0.7
MDJ				PP	PP	13 15 02.0	-0.4
MDJ				S	S	13 22 28.3	+6.5
MDJ				XS		13 22 33.6	
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,167nm,4.0s						
MDJ				LR	LR		
	comp=N,165nm,29.9s,MS4.7						
MDJ				LR	LR		
	comp=E,288nm,24.9s,MS4.7						
MDJ				LR	LR		
	comp=Z,265nm,22.4s,MS4.7						
BRVK	Borovoye	95.41	351	P	P	13 11 12.2	-0.9
TBI	Tubuai	97.89	131	eLR	LR	13 43 04.7	
	comp=Z,296nm,43.8s						
PPT	Papeete	102.34	127	eLQ		13 40 52.9	
PPT				eLR	LR	13 45 10.5	
	comp=Z,525nm,28.0s						
RKT	Rikitea	105.51	142	eLR	LR	13 46 33.4	
	comp=Z,350nm,30.2s						
ILAR	Eielson Array	143.00	34	PKP	PKPdf	13 17 21.8	-2.1
	comp=Z,0.2nm,0.6s,baz=256,slow=3.7,SNR=2.7						
ILAR	Eielson Array	143.00	34	PKP	PKPdf	13 17 21.8	-2.1
DAWY	Dawson	146.32	34	PKP	PKPdf	13 17 28.7	-1.1
INK	Inuvik	146.59	25	PKPbc	PKPbc	13 17 28.6	+0.4
	comp=Z,2.5nm,0.7s,baz=306,slow=2.0,SNR=2.8						
INK	Inuvik	146.59	25	PKP	PKPdf	13 17 29.0	-1.1
YKA	Yellowknife Ar	156.31	23	PKP	PKPdf	13 17 42.5	-2.0
	comp=Z,0.1nm,0.5s,baz=333,slow=1.4,SNR=2.3						
YKA	Yellowknife Ar	156.31	23	PKP	PKPdf	13 17 42.5	-2.0
PDAR	Pinedale Array	169.21	80	PKP	PKPdf	13 17 59.2	+1.5
	comp=Z,0.2nm,0.4s,baz=288,slow=2.9,SNR=2.5						
PDAR				PKPab	PKPab	13 19 09.8	+1.2
	comp=Z,0.2nm,0.5s,baz=141,slow=21,SNR=2.2						

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*NEIC **08** 13:36:33.1±0.8, 22.34S×63.90W, h574km±20km, mb3.8/4, Error ellipse: s-maj=23.0km s-min=16.1km az=103.0*
*IDC **08** 13:36:33.9±0.8, 22.23S×63.89W, h524km±15km, mb3.5/1, mb1 3.2/8, mb1mx3.0/20, mbtmp4.0/8, Error ellipse: s-maj=21.6km s-min=13.9km az=120.0*
ISC 08 13:36:33.7±0.6**, 22.30S**±0.06×**63.8W**±0.1**, h527**km±14km**, n17, σ0ˢ61**/23**, mb4.3**/2**, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	4.75	265	P	P	13 38 01.1	+0.4
	12nm,0.3s,baz=78,slow=6.3,SNR=129						
LVC				S	S	13 39 09.2	-0.5
	4.5nm,0.3s,baz=273,slow=22,SNR=20						
LVC	Limon Verde	4.75	265	ePn	P	13 38 00.8	0.0
LVC				eSn	S	13 39 01.4	-8.3
SIV	San Ignacio	6.78	23	P	P	13 38 19.7	+0.2
	1.9nm,0.3s,baz=214,slow=9.0,SNR=19						
SIV				S	S	13 39 42.7	-0.9
	0.5nm,0.3s,baz=70,slow=22,SNR=3.4						
CPUP	Villa Florida	7.13	126	P	P	13 38 23.9	+0.9
	1.0nm,0.3s,baz=334,slow=14,SNR=24						
CPUP	Villa Florida	7.13	126	ePn	P	13 38 23.6	+0.6
	8.1nm,0.9s						
CPUP				e		13 38 37.1	
LPAZ	La Paz	7.25	325	P	P	13 38 24.8	+0.5
	0.9nm,0.3s,baz=140,slow=6.9,SNR=19						
LPAZ				S	S	13 39 51.0	-1.0
	0.1nm,0.3s,baz=250,slow=24,SNR=6.8						
LPAZ	La Paz	7.25	325	ePn	P	13 38 25.3	+1.1
	2.7nm,0.5s						
LPAZ				eS	S	13 39 53.0	+1.0
CFAA	Coronel Fontan	10.08	202	P	P	13 38 53.4	+0.2
	0.1nm,0.3s,baz=20,slow=9.2,SNR=5.0						
CFAA				S	S	13 40 43.7	-0.9
	0.2nm,0.3s,baz=35,slow=21,SNR=8.9						
CFAA	Coronel Fontan	10.08	202	P	P	13 38 53.4	+0.2
CFAA				S	S	13 40 43.7	-0.9
SAML	Samuel	13.29	3	P	P	13 39 26.2	+0.2
BDFB	Brasilia	16.32	69	P	P	13 39 56.5	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.1nm,0.3s,baz=298,slow=4.8,SNR=5.4						
PLCA	**Paso Flores**	**19.25**	**196**	P	**P**	**13 40 24.6**	**0.0**
	0.2nm,0.3s,baz=10,slow=12,SNR=4.5						
PLCA	**Paso Flores**	**19.25**	**196**	P	**P**	**13 40 25.1**	**+0.6**
	2.2nm,0.9s						
PMSA	**Palmer Station**	**42.46**	**180**	*e*P	**P**	**13 43 36.1**	**-7.0**
	25nm,1.0s,mb4.7						
DBIC	**Dimbokro**	**64.46**	**71**	P	**P**	**13 46 19.6**	**-0.6**
	3.7nm,0.9s,mb3.8,baz=160,slow=3.7,SNR=6.5						
DBIC	**Dimbokro**	**64.46**	**71**	P	**P**	**13 46 19.6**	**-0.6**
MKAR	**Makanchi Array**	**143.33**	**40**	PKP	PKPdf	13 55 07.8	+0.4
	1.2nm,0.6s,baz=304,slow=3.4,SNR=12						

*NEIC **08** 13:50:58.7±0.7, 8.24S×118.56E, h25km, mb4.4/5, Error ellipse: s-maj=23.6km s-min=12.0km az=62.0*
*IDC **08** 13:51:11.6±6.2, 8.02S×119.07E, h143km±58km, mb3.4/5, mb1 3.5/6, mb1mx3.4/15, mbtmp3.8/6, Error ellipse: s-maj=32.0km s-min=12.6km az=53.0*
ISC 08 13:50:54.3±4.0**, 8.2S**±0.1×**118.6E**±0.1**, h10**km±25km**, n14,** σ**1s08**/16**, mb4.1**/8**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.95**	**146**	*e*P	**P**	**13 53 48.0**	**+0.1**
	24nm,0.8s						
MBWA	**Marble Bar**	**12.91**	**175**	*e*P	**P**	**13 53 58.9**	**-1.7**
MBWA				*e*S	**S**	**13 56 06.4**	**-19**
WRA	**Warramunga Arr**	**19.15**	**129**	P	**P**	**13 55 21.0**	**+0.5**
	0.5nm,0.3s,baz=301,slow=13,SNR=21						
WRA				S	**S**	**13 58 50.1**	**-0.7**
	0.1nm,0.3s,baz=301,slow=22,SNR=4.5						
WRAB	**Tennant Creek**	**19.16**	**129**	*e*P	**P**	**13 55 21.0**	**+0.4**
	4.6nm,0.4s						
PMG	**Port Moresby**	**28.20**	**95**	P	**P**	**13 56 43.6**	**-6.0**
	23nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**31.78**	**141**	*e*P	**P**	**13 57 22.2**	**+1.0**
	2.3nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**31.78**	**141**	P	**P**	**13 57 22.2**	**+1.0**
	3.3nm,0.6s,mb4.4,baz=313,slow=9.5,SNR=11						
STKA	**Stephens Creek**	**31.78**	**141**	*e*P	**P**	**13 57 21.4**	**+0.2**
SONM	**Songino Array**	**56.85**	**350**	P	**P**	**14 00 41.5**	**-0.1**
	0.6nm,0.8s,mb3.7,baz=153,slow=9.7,SNR=2.5						
CASY	**Casey**	**58.24**	**184**	*e*P	**P**	**14 00 49.7**	**-1.4**
	5.0nm,1.2s,mb4.4						
MKAR	**Makanchi Array**	**63.60**	**333**	P	**P**	**14 01 26.1**	**-1.6**
	0.4nm,0.5s,mb3.7,baz=140,slow=7.7,SNR=7.7						
MAW	**Mawson**	**69.84**	**200**	P	**P**	**14 02 08.0**	**+1.0**
	1.0nm,0.9s,mb3.7,baz=37,slow=5.1,SNR=2.6						
VNDA	**Vanda**	**72.81**	**171**	P	**P**	**14 02 25.6**	**+1.0**
	0.3nm,0.4s,mb3.6,baz=314,slow=8.3,SNR=11						
SNAA	**Sanae**	**91.65**	**196**	P	**P**	**14 04 04.4**	**+1.8**
	3.4nm,1.1s,mb4.6						

*CSEM **08** 14:10:01.8±0.1, 45.99N×6.98E, ML3.6/18, Error ellipse: s-maj=1.3km s-min=0.8km az=116.0*
*STR **08** 14:10:02.7±0.3, 46.00N×6.96E, h10km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **08** 14:10:02.3, 46.00N×6.90E, h7km, ML3.5(LDG), ML3.2(STR), ML2.9(ZUR), ML2.8(GEN), ML2.7(ROM), After ZUR.*
*LDG **08** 14:10:02.9±0.1, 46.04N×6.96E, h2km, Md3.2/3, Ml3.5/27, Error ellipse: s-maj=2.1km s-min=1.4km az=123.0*
*GEN **08** 14:10:02.6, 46.01N×6.95E, h1km, ML2.0*
*ZUR_RM **08** 14:10:02, 46.03N×6.90E, h7km, Mw2.8/5, Moment Tensor Solution. s5 Moment tensor: Scale 10^{13}Nm; M_{rr}-0.26; $M_{\theta\theta}$1.74; $M_{\phi\phi}$-1.48; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.72; $M_{\phi r}$-0.01; Best double couple: $M_0$1.81×10^{13} NP1:ϕ_s57°,δ85°,λ169°. NP2:ϕ_s148°,δ79°,λ5°. Principal axes: T 1.982, Plg11°, Azm12°; N -.345, Plg78°, Azm211°; P -1.637, Plg4°, Azm103°;*
*ROM **08** 14:10:02.0±0.2, 46.01N×6.96E, h5km, Md2.8/12, Ml2.7/4 Error ellipse: s-maj=2.9km s-min=2.3km az=118.0*
ZUR 08 14:10:02.1, 46.03N×6.90E, h7km**, ML2.9**/7**, 19C-7D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.03**	**2**	⇑*i*Pg	Pg	14 10 04.1	+0.6
EMV				*i* Sg	Sg	14 10 05.0	+0.6
EMV	**Vieux Emosson**	**0.03**	**2**	⇑*i*Pg	Pg	14 10 04.1	+0.6
EMV				*i* Sg	Sg	14 10 05.0	+0.6
SALAN	**Lac Salanfe**	**0.12**	**25**	⇑*i*Pg	Pg	14 10 05.3	+0.4
SALAN				*e*Sg	Sg	14 10 07.1	+0.4
SALAN	**Lac Salanfe**	**0.12**	**25**	⇑*i*Pg	Pg	14 10 05.3	+0.4
SALAN				*e*Sg	Sg	14 10 07.1	+0.4
GRYON	**Gryon**	**0.26**	**34**	⇑*i*Pg	Pg	14 10 07.8	+0.3
GRYON				*i* Sg	Sg	14 10 11.4	+0.3
GRYON	**Gryon**	**0.26**	**34**	⇑*i*P	Pg	14 10 07.7	+0.2
GRYON	**Gryon**	**0.26**	**34**	⇑*i*Pg	Pg	14 10 07.8	+0.3
GRYON				*i* Sg	Sg	14 10 11.4	+0.3
MRGE	**Morge**	**0.29**	**156**	⇑*i*Pg	Pg	14 10 08.4	+0.4
MRGE				Sg	Sg	14 10 12.5	+0.6
	3μm,0.2s						
AIGLE	**Aigle**	**0.31**	**7**	⇑*i*Pg	Pg	14 10 08.6	+0.2
AIGLE				*i* Sg	Sg	14 10 12.7	0.0
AIGLE	**Aigle**	**0.31**	**7**	⇑*i*Pg	Pg	14 10 08.6	+0.2
AIGLE				*i* Sg	Sg	14 10 12.7	0.0
DIX	**Grande Dixence**	**0.36**	**82**	⇓*i*Pg	Pg	14 10 09.8	+0.4
DIX				Sg	Sg	14 10 14.7	+0.4
DIX	**Grande Dixence**	**0.36**	**82**	⇓*i*Pg	Pg	14 10 09.8	+0.4
DIX				*e*Sg	Sg	14 10 14.6	+0.3
DIX	**Grande Dixence**	**0.36**	**82**	⇓*i*Pg	Pg	14 10 09.8	+0.4
DIX				*e*Sg	Sg	14 10 14.6	+0.3
SENIN	**Lac Senin**	**0.43**	**40**	⇑*i*Pg	Pg	14 10 10.9	+0.1
SENIN				*e*Sg	Sg	14 10 17.0	+0.3
SENIN	**Lac Senin**	**0.43**	**40**	⇑*i*Pg	Pg	14 10 10.9	+0.1
SENIN				*e*Sg	Sg	14 10 17.0	+0.3
LPL	**La Plagne**	**0.53**	**193**	*e*Pg	Pg	14 10 12.8	+0.1
LPL				*e*Sg	Sg	14 10 19.5	-0.3
	204nm,0.3s						
LPG	**La Plagne**	**0.55**	**191**	*e*Pg	Pg	14 10 13.1	+0.1
LPG				*e*Sg	Sg	14 10 20.2	-0.2
	235nm,0.2s						
LSD	**Ceresole Reale**	**0.60**	**162**	P	Pg	14 10 14.0	-0.2
LSD				S	Sg	14 10 21.5	-0.8
LSD	**Ceresole Reale**	**0.60**	**162**	P	Pg	14 10 14.0	-0.2
LSD				S	Sg	14 10 21.5	-0.8
LKBD	**Leukerbad**	**0.62**	**55**	⇑*i*Pg	Pg	14 10 14.4	-0.1
LKBD	**Leukerbad**	**0.62**	**55**	⇑*i*Pg	Pg	14 10 14.4	-0.1
GIMEL	**Gimel**	**0.67**	**319**	⇓*i*Pg	Pg	14 10 15.5	+0.1
GIMEL	**Gimel**	**0.67**	**319**	⇓*i*Pg	Pg	14 10 15.5	+0.1
TORNY	**Torny**	**0.74**	**3**	*e*Pg	Pg	14 10 16.9	-0.1
TORNY	**Torny**	**0.74**	**3**	*e*Pg	Pg	14 10 16.9	-0.1
MMK	**Mattmark**	**0.74**	**88**	Pg	Pg	14 10 16.3	-0.7
MMK	**Mattmark**	**0.74**	**88**	*e*Pg	Pg	14 10 16.1	-0.9
MMK	**Mattmark**	**0.74**	**88**	*e*Pg	Pg	14 10 16.1	-0.9
CABF	**La Chapelle**	**0.81**	**316**	*e*Pg	Pg	14 10 17.9	-0.3
CABF				*e*Sg	Sg	14 10 29.6	+0.6
CABF				*e*Sn	Sn	14 10 32.7	+0.8
	288nm,0.3s						
WIMIS	**Wimmis**	**0.81**	**38**	*e*Pg	Pg	14 10 17.7	-0.6
WIMIS	**Wimmis**	**0.81**	**38**	*e*Pg	Pg	14 10 17.7	-0.6
ORX	**Oropa**	**0.86**	**117**	P	Pb	14 10 17.9	-1.0
ORX				S	Sb	14 10 29.0	-1.3
ORX	**Oropa**	**0.86**	**117**	P	Pb	14 10 17.9	-1.0
ORX				S	Sb	14 10 29.0	-1.4
ORO	**Oropa**	**0.86**	**118**	Pg	Pg	14 10 18.1	-1.2
	82nm,0.2s						
RSP	**Reno Superiore**	**0.92**	**164**	P	Pb	14 10 19.9	0.0
RSP				S	Sb	14 10 31.2	-0.9
RSP	**Reno Superiore**	**0.92**	**164**	P	Pb	14 10 20.0	+0.1
BRANT	**Les Verrieres**	**0.95**	**342**	*e*Pg	Pg	14 10 21.0	-0.1
BRANT	**Les Verrieres**	**0.95**	**342**	*e*Pg	Pg	14 10 21.0	-0.1
BNI	**Bardonecchia**	**0.99**	**189**	Pg	Pg	14 10 20.9	-1.1
	60nm,0.7s						
GDM	**Grand'Maison**	**0.99**	**214**	Pg	Pg	14 10 20.7	-1.3
FENE	**Fenestrelle**	**1.01**	**173**	P	Pb	14 10 21.1	-0.4
FENE				S	Sb	14 10 33.9	-0.9
FENE	**Fenestrelle**	**1.01**	**173**	P	Pb	14 10 21.1	-0.4
FENE				S	Sb	14 10 33.9	-0.9
RRL	**Cesana Torines**	**1.12**	**184**	P	Pb	14 10 23.3	0.0
RRL				S	Sb	14 10 37.4	-0.5
RRL	**Cesana Torines**	**1.12**	**184**	P	Pb	14 10 23.3	0.0
RRL				S	Sb	14 10 37.4	-0.5
GRN	**Grenoble**	**1.13**	**226**	Pg	Pg	14 10 23.9	-0.8
GRN				Sg	Sg	14 10 39.8	0.0
HASLI	**Hasliberg**	**1.13**	**50**	*e*Pg	Pg	14 10 23.7	-1.0
HASLI	**Hasliberg**	**1.13**	**50**	*e*Pg	Pg	14 10 23.7	-1.0
BHB	**Bricherasio**	**1.22**	**168**	P	Pb	14 10 25.4	+0.3
BHB				S	Sb	14 10 39.9	-0.9
BHB	**Bricherasio**	**1.22**	**168**	P	Pb	14 10 25.4	+0.3
MBDF	**Montbardon**	**1.31**	**184**	*e*Pg	Pg	14 10 27.9	-0.4
MBDF	**Montbardon**	**1.31**	**184**	*e*Sg	Sg	14 10 44.1	-1.6
	124nm,0.5s						
MBDF	**Montbardon**	**1.31**	**184**	*e*Pn	Pn	14 10 26.8	0.0
MBDF				*e*Pg	Pg	14 10 27.9	-0.4
MBDF				*e*Sg	Sg	14 10 44.1	-1.6
MBDF	**Montbardon**	**1.31**	**184**	*e*Pg	Pg	14 10 27.9	-0.4
VAI	**Varese**	**1.32**	**97**	Pg	Pg	14 10 26.9	-1.5
	31nm,0.2s						
LOMF	**Lomont**	**1.32**	**358**	Pn	Pn	14 10 27.2	+0.2
LOMF				Sg	Sg	14 10 46.1	0.0
ORIF	**Oris-en-Rattie**	**1.32**	**213**	*e*Pg	Pg	14 10 28.4	-0.2
ORIF	**Oris-en-Rattie**	**1.32**	**213**	*e*Sg	Sg	14 10 44.7	-1.5
	146nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.32**	**213**	*e*Pn	Pn	14 10 26.8	-0.3
ORIF				*e*Pg	Pg	14 10 28.4	-0.2
ORIF				*e*Sg	Sg	14 10 44.7	-1.5
ORIF	**Oris-en-Rattie**	**1.32**	**213**	*e*Pg	Pg	14 10 28.4	-0.2
BOURR	**Bourrignon**	**1.38**	**9**	*e*Pn	Pn	14 10 27.7	-0.2
BOURR	**Bourrignon**	**1.38**	**9**	*e*Pn	Pn	14 10 27.7	-0.2
BALST	**Balsthal**	**1.41**	**23**	*e*Pn	Pn	14 10 28.1	-0.2
BALST	**Balsthal**	**1.41**	**23**	*e*Pn	Pn	14 10 28.1	-0.2
BBS	**Basel-Blauen**	**1.49**	**16**	⇑P	Pn	14 10 29.1	-0.4
BBS	**Basel-Blauen**	**1.49**	**16**	PG	Pg	14 10 31.1	-0.8
BBS				SG	Sg	14 10 51.9	+0.1
MUGIO	**Muggio**	**1.50**	**93**	Pg	Pg	14 10 30.3	-1.8
DOI	**San Damiano**	**1.55**	**171**	Pg	Pg	14 10 31.0	-2.0
	113nm,0.6s						
SURF	**Saint Ours**	**1.55**	**182**	Pg	Pg	14 10 31.1	-2.0
LLS	**Linth-Limmern**	**1.67**	**60**	⇓*i*Pn	Pn	14 10 33.5	+1.5
LLS	**Linth-Limmern**	**1.67**	**60**	⇓*i*Pn	Pn	14 10 33.5	+1.5
TUE	**Stuetta**	**1.76**	**75**	Pg	Pg	14 10 35.3	-1.9
	73nm,0.4s						
HINF	**Hinteralfeld**	**1.79**	**359**	*e*Pn	Pn	14 10 32.9	-0.7
HINF				*e*Pg	Pg	14 10 36.0	-1.8
HINF				*e*Sn	Sn	14 10 54.2	-2.6
HINF				*e*Sg	Sg	14 10 58.2	-3.4
	117nm,0.3s						
STV2	**Anna di Valdie**	**1.81**	**170**	P	Pn	14 10 33.3	-0.8
STV2				S	Sn	14 10 54.1	-3.4
STV2	**Anna di Valdie**	**1.81**	**170**	P	Pn	14 10 33.3	-0.8
STV	**Sta Anna Valdi**	**1.81**	**170**	P	Pn	14 10 33.5	-0.6
STV				S	Sn	14 10 54.1	-3.5
STV	**Sta Anna Valdi**	**1.81**	**170**	P	Pn	14 10 33.5	-0.6
MOF	**Molkenrain**	**1.83**	**5**	Pg	Pg	14 10 37.0	-1.6
MOF	**Molkenrain**	**1.83**	**5**	Pn	Pn	14 10 33.4	-0.8
MOF				Pg	Pg	14 10 37.0	-1.6
MOF	**Molkenrain**	**1.83**	**5**	Pg	Pg	14 10 37.0	-1.6
OCF	**Saint Nazaire**	**1.84**	**218**	Pg	Pg	14 10 38.0	-0.8
OG26	**St.-Nazaire-De**	**1.84**	**218**	Pg	Pg	14 10 38.0	-0.8
ENR	**Entracque**	**1.84**	**168**	P	Pn	14 10 33.8	-0.7
ENR	**Entracque**	**1.84**	**168**	P	Pn	14 10 33.8	-0.7
ROB	**Roburent**	**1.87**	**158**	P	Pn	14 10 34.4	-0.4
ROB	**Roburent**	**1.87**	**158**	P	Pn	14 10 34.4	-0.5
PCP	**Pian Castagno**	**1.89**	**141**	P	Pn	14 10 35.0	-0.2
PCP	**Pian Castagno**	**1.89**	**141**	P	Pn	14 10 35.0	-0.2
VIVF	**Saint-Julien-l**	**1.96**	**234**	*e*Pn	Pn	14 10 36.2	+0.1
VIVF				*e*P		14 10 39.5	
VIVF				*e*Sg	Sg	14 11 03.7	-3.6
	321nm,0.3s						
FELD	**Feldberg**	**1.99**	**22**	⇑P	Pn	14 10 35.3	-1.3
FELD	**Feldberg**	**1.99**	**22**	PG	Pg	14 10 39.7	-2.2
FELD	**Feldberg**	**1.99**	**22**	Pn	Pn	14 10 35.3	-1.3
FELD				Pg	Pg	14 10 39.9	-2.0
FELD	**Feldberg**	**1.99**	**22**	Pg	Pg	14 10 39.9	-2.0
HAU	**Haudompre**	**2.01**	**349**	*e*Pn	Pn	14 10 36.3	-0.6
HAU				*e*Pg	Pg	14 10 39.9	-2.3
HAU				*e*Sg	Sg	14 11 06.0	-3.0
	135nm,0.3s						
FIN	**Finale Ligure**	**2.05**	**153**	Pg	Pg	14 10 39.8	-3.2
	35nm,0.6s						
FIN	**Finale Ligure**	**2.05**	**153**	P	Pn	14 10 35.7	-1.7
FIN				Pg	Pg	14 10 39.8	-3.2
FIN	**Finale Ligure**	**2.05**	**153**	P	Pn	14 10 35.7	-1.7
FIN	**Finale Ligure**	**2.05**	**153**	Pg	Pg	14 10 39.8	-3.2
	35nm,0.6s						
MONE	**Monesi**	**2.05**	**162**	P	Pn	14 10 36.7	-0.7
MONE	**Monesi**	**2.05**	**162**	P	Pn	14 10 36.7	-0.7
KIZ	**Kirchzarten**	**2.05**	**20**	⇑P	Pn	14 10 35.8	-1.6
KIZ	**Kirchzarten**	**2.05**	**20**	PG	Pg	14 10 40.6	-2.4
KIZ	**Kirchzarten**	**2.05**	**20**	S	Sn	14 11 00.9	-2.6
KIZ	**Kirchzarten**	**2.05**	**20**	SG	Sg	14 11 07.5	-2.8
LIBD	**Limburg**	**2.17**	**13**	P	Pn	14 10 38.2	-1.0
ECH	**Echery**	**2.19**	**5**	Pn	Pn	14 10 38.3	-1.2
SBF	**Sospel**	**2.20**	**170**	*e*Pn	Pn	14 10 41.2	+1.6
SBF				*e*Pg	Pg	14 10 45.4	-0.7
SBF				*e*Sg	Sg	14 11 11.4	-4.1
	66nm,0.4s						
SMF	**Signal de Mont**	**2.20**	**287**	*e*Pn	Pn	14 10 39.3	-0.3
SMF				*e*Pg	Pg	14 10 44.5	-1.6
SMF				*e*Sn	Sn	14 11 06.1	-1.4
SMF				*e*Sg	Sg	14 11 12.6	-2.9
	33nm,0.2s						
IMI	**Imperia**	**2.24**	**161**	Pg	Pg	14 10 42.2	-4.6
IMI	**Imperia**	**2.24**	**161**	P	Pn	14 10 38.4	-1.8
IMI				Pg	Pg	14 10 42.2	-4.6
IMI	**Imperia**	**2.24**	**161**	P	Pn	14 10 38.3	-1.8
IMI	**Imperia**	**2.24**	**161**	Pg	Pg	14 10 42.2	-4.6
NEGI	**Negi**	**2.26**	**165**	P	Pn	14 10 39.4	-1.0
NEGI	**Negi**	**2.26**	**165**	P	Pn	14 10 39.4	-1.0
SMRF	**Simiane la Rot**	**2.26**	**205**	*e*Pn	Pn	14 10 41.0	+0.5
SMRF				*e*P		14 10 45.5	
THEF	**They Montfort**	**2.28**	**345**	Pn	Pn	14 10 40.4	-0.4
PLDF	**La Plantade**	**2.28**	**270**	Pg	Pg	14 10 45.6	-2.1
PLDF	**La Plantade**	**2.28**	**270**	Pn	Pn	14 10 40.9	+0.1
PLDF				Pg	Pg	14 10 45.6	-2.1
PLDF	**La Plantade**	**2.28**	**270**	Pg	Pg	14 10 45.6	-2.1
COLF	**Collangettes**	**2.30**	**258**	Pg	Pg	14 10 45.5	-2.5
COLF	**Collangettes**	**2.30**	**258**	Pn	Pn	14 10 40.3	-0.7
COLF				Pg	Pg	14 10 45.5	-2.5
COLF	**Collangettes**	**2.30**	**258**	Pg	Pg	14 10 45.5	-2.5
CDF	**Champ du Feu**	**2.39**	**6**	*e*Pn	Pn	14 10 41.0	-1.4
CDF				*e*Pg	Pg	14 10 47.2	-2.7
CDF				*e*Sg	Sg	14 11 17.8	-4.0
	22nm,0.2s						
WLS	**Welschbruch**	**2.40**	**7**	Pn	Pn	14 10 41.0	-1.5
DAVA	**Damuels**	**2.41**	**58**	⇑*i*Pn	Pn	14 10 43.1	+0.6
DAVA				⇑*i*Sn	Sn	14 11 16.8	+4.2
LOR	**Lormes**	**2.43**	**302**	*e*Pn	Pn	14 10 42.5	-0.4
	baz=125						
LOR				*e*Pg	Pg	14 10 48.2	-2.4
	baz=122						
LOR				*e*Sn	Sn	14 11 12.2	-1.0
	37nm,0.2s						
LOR				*e*Sg	Sg	14 11 20.2	-2.8
LOR	**Lormes**	**2.43**	**302**	*e*Pg	Pg	14 10 48.2	-2.4
LOR				*e*Sn	Sn	14 11 12.2	-1.0
	18nm,0.2s						
LOR				*e*Sg	Sg	14 11 20.2	-2.8
FRF	**La Foret Royal**	**2.48**	**184**	*e*Pn	Pn	14 10 44.6	+1.0
FRF				*e*P		14 10 48.6	
FRF				*e*Sg	Sg	14 11 20.9	-3.7
	40nm,0.5s						
FRF	**La Foret Royal**	**2.48**	**184**	*e*Pn	Pn	14 10 44.6	+1.0
FRF				*e*Sg	Sg	14 11 20.9	-3.7
	20nm,0.5s						
SFTF	**Sexfontaines**	**2.52**	**330**	*e*Pn	Pn	14 10 43.6	-0.5
	baz=136						
SFTF				*e*Pg	Pg	14 10 50.1	-2.3
	baz=147						
SFTF				*e*Sg	Sg	14 11 21.8	-4.1
	78nm,0.5s						
SFTF	**Sexfontaines**	**2.52**	**330**	*e*Pg	Pg	14 10 50.1	-2.3
SFTF				*e*Sg	Sg	14 11 21.8	-4.1
	39nm,0.5s						
GUT	**Gutenstein**	**2.54**	**36**	P	Pn	14 10 42.6	-1.9
GUT	**Gutenstein**	**2.54**	**36**	PG	Pg	14 10 50.0	-2.8
GUT				SG	Sg	14 11 23.9	-2.8
SSF	**Saint Saulge**	**2.56**	**295**	*e*Pn	Pn	14 10 44.2	-0.5
SSF				*e*Pg	Pg	14 10 50.5	-2.6
SSF				*e*Sn	Sn	14 11 14.9	-1.5
SSF				*e*Sg	Sg	14 11 24.9	-2.3
	20nm,0.3s						
SSF	**Saint Saulge**	**2.56**	**295**	*e*Pg	Pg	14 10 50.5	-2.6
SSF				*e*Sn	Sn	14 11 14.9	-1.5
SSF				*e*Sg	Sg	14 11 24.9	-2.3
	10nm,0.3s						
AVF	**Avril sur Loir**	**2.57**	**288**	*e*Pn	Pn	14 10 44.4	-0.4
AVF				*e*Pg	Pg	14 10 52.1	-1.3
AVF				*e*Sg	Sg	14 11 24.3	-3.3
	14nm,0.2s						
AGO	**Saint Agoulin**	**2.62**	**272**	Pn	Pn	14 10 45.6	0.0
PYM	**Petit Puy Mans**	**2.73**	**265**	Pn	Pn	14 10 47.3	+0.1
UBR	**Uberruh**	**2.75**	**52**	P	Pn	14 10 45.1	-2.4
UBR	**Uberruh**	**2.75**	**52**	PG	Pg	14 10 54.6	-2.4
UBR				SG	Sg	14 11 30.7	-3.0
MEZF	**Maizieres J'vi**	**2.77**	**334**	*e*Pg	Pg	14 10 54.5	-2.9
	baz=151						
MEZF				*e*Sg	Sg	14 11 29.8	-4.6
	128nm,0.5s						
RFYF	**Reffroy**	**2.77**	**340**	*e*Pg	Pg	14 10 53.8	-3.6
	baz=148						
BGF	**Bois d'Agland**	**2.86**	**282**	*e*Pn	Pn	14 10 48.4	-0.6
BGF				*e*Pg	Pg	14 10 56.3	-2.8
BGF				*e*Sg	Sg	14 11 33.8	-3.4
	47nm,0.3s						
LASF	**Ste Croix**	**2.91**	**229**	*e*Pn	Pn	14 10 49.9	+0.2
LASF				*e*Pg	Pg	14 11 00.0	-0.2
LASF				*e*Sn	Sn	14 11 22.5	-2.9
LASF				*e*Sg	Sg	14 11 34.1	-4.9
	36nm,0.2s						
HYF	**Humbligny**	**3.18**	**294**	*e*Pn	Pn	14 10 53.4	-0.2
TCF	**Toulx Ste Croi**	**3.27**	**276**	*e*Pn	Pn	14 10 54.0	-0.8
TCF				*e*Pg	Pg	14 11 03.6	-3.7
TCF				*e*Sn	Sn	14 11 29.1	-5.3
TCF				*e*Sg	Sg	14 11 42.7	-8.2
	19nm,0.3s						
CAF	**Calviac**	**3.58**	**254**	*e*Pn	Pn	14 10 58.3	-0.9
CAF				*e*Pg	Pg	14 11 08.3	-5.2
CAF				*e*Sn	Sn	14 11 38.7	-3.5
	28nm,0.4s						
CAF				*e*Sg	Sg	14 11 58.8	-2.3
SIND	**Sindeldorf**	**3.79**	**28**	PG	Pg	14 11 12.9	-4.8
SIND				SG	Sg	14 12 03.3	-4.9
RJF	**Les Rejaudoux**	**3.84**	**261**	*e*Pg	Pg	14 11 17.5	-1.3
RJF				*e*Sg	Sg	14 12 04.3	-5.7
	27nm,0.3s						
MTLF	**Montolieu**	**4.29**	**233**	*e*Sg	Sg	14 12 17.8	-7.0
	17nm,0.3s						
GIVF	**Givet**	**4.30**	**342**	*e*Pn	Pn	14 11 09.1	-0.4
GIVF				*e*Sg	Sg	14 12 17.4	-8.0
	10nm,0.4s						
BAIF	**Baives**	**4.41**	**337**	*e*Pn	Pn	14 11 10.3	-0.8
LFF	**La Frestale**	**4.47**	**258**	*e*Sg	Sg	14 12 24.4	-6.4
	32nm,0.4s						
MFF	**Saint Martin d**	**4.91**	**279**	*e*Pn	Pn	14 11 17.0	-1.2
LDF	**La Druitiere**	**5.42**	**301**	*e*Pn	Pn	14 11 23.2	-2.1
LDF				*e*Sg	Sg	14 12 53.7	-8.8
	5.8nm,0.4s						
KHC	**Kasperske Hory**	**5.48**	**53**	*e*PN	Pn	14 11 24.0	-2.2
KHC				*e*PG	Pg	14 11 43.6	-7.9
KHC				*e*x	x	14 12 22.3	
KHC				*e*SG	Sg	14 12 55.7	-8.9
NKC	**Novy Kostel**	**5.61**	**39**	*e*SG	Sg	14 12 54.3	-15
FLN	**La Foliniere**	**5.71**	**301**	*e*Pn	Pn	14 11 27.7	-1.7
	baz=117						
FLN				*e*Sg	Sg	14 13 02.5	-10
	8.3nm,0.4s						
GRR	**Gorron**	**5.79**	**297**	*e*Pn	Pn	14 11 28.6	-1.9
ETSF	**Etsaut**	**6.19**	**242**	*e*Sg	Sg	14 13 19.4	-8.7
	4.2nm,0.3s						
SGMF	**Saint Gilles**	**6.82**	**292**	*e*Pn	Pn	14 11 42.1	-3.0
QUIF	**Quistinic**	**7.14**	**289**	*e*Pn	Pn	14 11 46.4	-3.1
ROSF	**Rostrenen**	**7.30**	**292**	*e*Pn	Pn	14 11 48.4	-3.5

*THE **08** 14:26:19.8, 38.47N×25.57E, h21km, ML2.8*
*CSEM **08** 14:26:21.6±1.2, 38.87N×25.17E, h107km±16km, ML2.8, Error ellipse: s-maj=16.8km s-min=7.8km az=22.0*
*ATH **08** 14:26:23.8, 38.61N×25.43E, h25km±6km, MD3.4/5*
*NEIC **08** 14:26:26.3, 38.72N×25.61E, h73km, After ATH.*
ISC 08 14:26:24.2±0.7**, 38.72N**±0.05×**25.27E**±0.06**, h25**km**, n20,** σ**1s58**/23**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.94**	**56**	*e*PN	**Pn**	**14 26 41.5**	**-0.4**
PRK	**Paraskevi**	**0.94**	**56**	*e*P	**Pb**	**14 26 42.5**	**+0.8**
AOS	**Alonnisos**	**1.17**	**293**	*e*Pg	**Pn**	**14 26 44.3**	**-0.9**
AOS				*e*Sg	**Sn**	**14 27 01.8**	**+1.4**
LOS	**Limnos**	**1.22**	**353**	*e*Pg	**Pn**	**14 26 43.5**	**-2.3**
LOS				*e*Sg	**Sn**	**14 27 03.4**	**+1.8**
PTL	**Penteli**	**1.29**	**239**	*e*P	**Pn**	**14 26 52.1**	**+5.2**
MPAR	**Parnis Oros**	**1.33**	**245**	*e*PN	**Pn**	**14 26 50.0**	**+2.5**
MPAR	**Parnis Oros**	**1.33**	**245**	*e*P	**Pn**	**14 26 54.3**	**+6.8**
SMG	**Samos**	**1.60**	**129**	*e*PN	**Pn**	**14 26 50.5**	**-0.8**
SMG	**Samos**	**1.60**	**129**	*e*P	**Pn**	**14 26 51.6**	**+0.3**
APE	**Apeiranthos**	**1.67**	**173**	*e*PB	**Pb**	**14 26 51.0**	**-3.0**
APE	**Apeiranthos**	**1.67**	**173**	*e*P	**Pn**	**14 26 53.5**	**+1.3**
NAIG	**Nisos Aigina**	**1.70**	**236**	*e*P	**Pn**	**14 26 58.5**	**+5.8**
XOR	**Xorichti**	**1.74**	**292**	*e*Pn	**Pn**	**14 26 51.4**	**-1.9**
XOR	**Xorichti**	**1.74**	**292**	*e*Pn	**Pn**	**14 26 51.3**	**-2.0**
MGER	**Gerania Oros**	**1.74**	**246**	*e*P	**Pn**	**14 26 59.5**	**+6.2**
ALN	**Alexandroupoli**	**2.25**	**15**	*e*Pn	**Pn**	**14 26 56.4**	**-4.2**
ALN				*e*Sn	**Sn**	**14 27 26.6**	**-1.3**
AGG	**Agios Georgios**	**2.31**	**278**	*e*Pn	**Pn**	**14 26 59.9**	**-1.6**
AGG	**Agios Georgios**	**2.31**	**278**	*e*Pn	**Pn**	**14 26 59.8**	**-1.7**
RDO	**Rodhopi**	**2.43**	**5**	*e*PN	**Pn**	**14 27 05.5**	**+2.3**
RDO	**Rodhopi**	**2.43**	**5**	*e*P	**Pn**	**14 27 05.2**	**+2.0**

IDC 08 14:31:11.9±3.9**, 4.82N**×**94.74E, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.7**/18**, mbtmp3.8**/4**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx3.0**/27**, Error ellipse: s-maj=217.5km s-min=26.6km az=53.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.17**	**347**	P	P	14 39 14.5	-1.6
	0.5nm,0.5s,baz=162,slow=9.8,SNR=8.6						
WRA	**Warramunga Arr**	**46.05**	**124**	P	P	14 39 37.8	-1.8
	1.2nm,0.7s,baz=302,slow=9.2,SNR=12						
GUMO	**Guam**	**50.15**	**76**	LR	LR	15 02 02.9	
	comp=Z,82nm,18.4s,baz=242,slow=37						
BVAR	**Borovoye Array**	**52.05**	**342**	P	P	14 40 23.5	-2.0
	0.4nm,0.4s,baz=141,slow=8.7,SNR=4.1						
ARCES	**ARCESS Array B**	**78.32**	**340**	P	P	14 43 13.4	-1.8
	1.5nm,0.9s,baz=103,slow=7.1,SNR=6.9						

*NEIC **08** 14:38:23.9±0.6, 21.52S×66.60W, h211km±15km, mb4.1/4, Error ellipse: s-maj=15.1km s-min=8.4km az=110.0*
*IDC **08** 14:38:24.2±0.8, 21.48S×66.63W, h209km±9km, mb3.8/8, mb1 3.8/15, mb1mx3.7/21, mbtmp4.2/15, Error ellipse: s-maj=15.0km s-min=10.2km az=100.0*
*GUC **08** 14:38:26.3±0.9, 22.04S×66.85W, h234km±16km, ML4.4*
ISC 08 14:38:23.1±0.6**, 21.54S**±0.04×**66.69W**±0.08**, h210**km±7km**, n36,** σ**1s48**/46**, mb3.8**/8**, 2C-1D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.32**	**242**	P	**P**	**14 39 09.3**	**+3.1**
	83nm,0.3s,baz=52,slow=7.2,SNR=642						
LVC				S	**S**	**14 39 42.2**	**+2.9**
	227nm,0.3s,baz=241,slow=21,SNR=83						
LVC	**Limon Verde**	**2.32**	**242**	⇓*i*P	**P**	**14 39 09.2**	**+3.1**
LVC				*i* S	**S**	**14 39 42.1**	**+2.7**
LVC				AMP		14 39 43.1	
	comp=E,1μm,0.4s						
LVC	**Limon Verde**	**2.32**	**242**	*e*Pn	**P**	**14 39 09.0**	**+2.8**
LVC				*e*Sn	**S**	**14 39 41.7**	**+2.3**
ANCH	**Antofagasta**	**4.05**	**238**	⇑*i*P	**P**	**14 39 28.3**	**+1.9**
ANCH				*i* S	**S**	**14 40 14.3**	**-1.2**
CPN1	**Cerro Paranal**	**4.60**	**227**	*e*P	**P**	**14 39 35.0**	**+1.7**
CPN1				*i* S	**S**	**14 40 27.0**	**-0.8**
LPAZ	**La Paz**	**5.40**	**345**	P	**P**	**14 39 45.6**	**+2.1**
	comp=E,11nm,0.3s,baz=158,slow=9.2,SNR=235						
LPAZ				S	**S**	**14 40 46.1**	**+0.1**
	baz=326,slow=22,SNR=2.0						
LPAZ	**La Paz**	**5.40**	**345**	*e*Pn	**P**	**14 39 45.7**	**+2.2**
	comp=E,92nm,0.8s						
LPAZ				*e*S	**S**	**14 40 45.1**	**-0.9**
CRCH	**Chaqaral**	**5.99**	**216**	*e*P	**P**	**14 39 51.1**	**0.0**
CRCH				*i* S	**S**	**14 40 56.8**	**-2.7**
ARE	**Arequipa**	**6.79**	**317**	*e*P	**P**	**14 40 00.0**	**-1.5**
ARE				*e*S	**S**	**14 41 13.0**	**-5.3**
SIV	**San Ignacio**	**7.66**	**45**	P	**P**	**14 40 12.9**	**+0.1**
	comp=E,4.1nm,0.3s,baz=235,slow=12,SNR=99						
SIV				S	**S**	**14 41 27.6**	**-11**
	baz=240,slow=18,SNR=3.5						

TLL Tololo Astrono 9.36 202 *i* P P 14 40 35.2 +0.5
TLL *i* S S 14 42 15.2 -2.4
CPUP Villa Florida 9.80 121 P P 14 40 41.5 +1.0
comp=E,0.1nm,0.3s,baz=326,slow=14,SNR=3.7
CPUP Villa Florida 9.80 121 *e*Pn P 14 40 39.0 -1.4
comp=E,11nm,1.1s
CFAA Coronel Fontan 10.12 188 P P 14 40 44.1 -0.5
comp=E,0.7nm,0.3s,baz=354,slow=11,SNR=29
CFAA S S 14 42 29.3 -6.1
comp=E,0.4nm,0.3s,baz=329,slow=13,SNR=5.5
CFAA Coronel Fontan 10.12 188 P P 14 40 44.1 -0.5
CFAA S S 14 42 29.3 -6.1
SAML Samuel 12.97 16 *e*P P 14 41 20.0 -0.8
comp=E,8.5nm,0.8s
TRQA Tornquist 16.95 167 *e*P P 14 42 07.4 -2.1
comp=E,3.3nm,0.5s
BDFB Brasilia 18.64 75 P P 14 42 24.7 -2.6
comp=E,0.6nm,0.3s,baz=266,slow=15,SNR=4.0
PLCA Paso Flores 19.41 189 P P 14 42 35.9 +0.7
comp=E,0.4nm,0.3s,baz=352,slow=8.9,SNR=6.7
VNA3 Neumayer Olymp 59.38 162 P 14 48 07.0 +1.9
VNA1 Neumayer--Stat 59.56 161 P 14 48 08.5 +2.2
VNA2 Neumayer--Watz 59.93 161 P 14 48 10.8 +1.9
SNAA Sanae 61.57 161 P 14 48 19.8 0.0
SNAA Sanae 61.57 161 P P 14 48 18.7 -1.2
comp=E,0.6nm,0.6s,mb3.4,baz=296,slow=6.5,SNR=7.0
SNAA PcP PcP 14 48 57.4 -1.9
comp=E,0.6nm,0.8s,baz=225,slow=1.4,SNR=4.1
SNAA Sanae 61.57 161 P P 14 48 19.8 0.0
DBIC Dimbokro 66.77 72 P P 14 48 52.4 -2.0
comp=E,1.4nm,0.5s,mb3.9,baz=217,slow=3.6,SNR=5.7
PDAR Pinedale Array 75.20 329 P P 14 49 44.2 -0.1
comp=E,0.5nm,0.5s,mb3.4,baz=130,slow=8.1,SNR=6.9
ULM Lac du Bonnet 76.00 341 P P 14 49 46.9 -1.7
comp=E,0.9nm,0.6s,mb3.6,baz=151,slow=9.6,SNR=4.8
MAW Mawson 83.69 163⇑*i*P P 14 50 30.7 +1.7
comp=E,2.7nm,0.7s,mb4.1
MAW Mawson 83.69 163 P P 14 50 30.4 +1.4
comp=E,3.3nm,0.7s,mb4.2,baz=222,slow=6.4,SNR=10
ESDC Sonseca Array 84.42 44 P P 14 50 33.5 +0.2
comp=E,0.2nm,0.3s,mb3.3,baz=237,slow=4.8,SNR=5.4
MATP Matopo 87.27 111 P P 14 50 48.2 +0.6
comp=E,7.1nm,0.8s,mb4.5,baz=253,slow=5.7,SNR=12
YKA Yellowknife Ar 91.92 340 P P 14 51 08.2 -0.1
comp=E,1.1nm,0.6s,mb4.0,baz=126,slow=4.5,SNR=10
YKA pP pP 14 52 04.1 +3.9
comp=E,1.1nm,0.9s,baz=132,slow=4.5,SNR=3.3
WRA Warramunga Arr 133.93 208 PKP PKPdf 14 57 16.9 +0.9
comp=E,0.7nm,0.7s,baz=153,slow=2.0,SNR=18
MKAR Makanchi Array 144.43 37 PKP PKPdf 14 57 34.6 +0.6
comp=E,7.0nm,0.8s,baz=288,slow=3.8,SNR=46
SONM Songino Array 153.18 10 PKP PKPdf 14 57 49.6 +1.8
comp=E,0.5nm,0.4s,baz=270,slow=2.9,SNR=3.1
SONM PKPbc PKPdf 14 57 57.4 +10
comp=E,1.4nm,0.7s,slow=1.5,SNR=4.5

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*IDC **08** 14:41:49.1±0.6, 1.24N×97.08E, mb4.5/16, mb1 4.6/16, mb1mx4.5/19, mbtmp4.5/16, MS4.0/5, Ms1 4.0/5, ms1mx3.7/23, Error ellipse: s-maj=21.2km s-min=14.8km az=52.0*
*BJI **08** 14:41:51.2, 1.05N×97.19E, h33km, mB5.1, mb4.9, Ms4.6, Msz4.4*
*MOS **08** 14:41:52.6±1.7, 1.16N×97.26E, h33km, mb5.0/20, Error ellipse: s-maj=80.1km s-min=22.3km az=110.0*
*NEIC **08** 14:41:53.2±0.3, 1.22N×97.16E, mb4.9/18, Error ellipse: s-maj=8.8km s-min=7.0km az=56.0*
NEIC Felt [II] at Gunungsitoli.
ISC 08 14:41:51.6±0.3**, 1.19N**±0.05×**97.17E**±0.05**, h26**km**, h26**km±1.9km**: pP-P, n114,** σ1§**13**/118**, mb4.7**/59**, MS4.3**/23**, 7C-4D, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
IPM Ipoh 5.11 49 P Pn 14 43 08.6 +0.1
KULM Kulim 5.35 40 *e*Pn Pn 14 43 12.0 +0.1
KULM *e*pP 14 43 18.6
KGM Kluang 6.20 82 P Pn 14 43 25.7 +1.8
UBT Ubonrachathani 15.97 29 P P 14 45 39.5 +3.1
KKTK Khon Kaen 16.04 20 P P 14 45 39.0 +1.6
432nm,0.6s
KKM Kota Kinabalu 19.60 75 *e*P P 14 46 21.1 0.0
QIZ Qiongzhong 21.64 34 P P 14 46 41.1 -1.1
QIZ *e*S S 14 50 33.2 -2.2
QIZ AMB AMB
comp=Z,21nm,1.4s,mb4.4
QIZ LR LR
comp=N,485nm,15.0s,MS4.2
QIZ LR LR
comp=E,608nm,15.1s,MS4.2
QIZ LR LR
comp=Z,571nm,12.3s,MS4.2
QIZ Qiongzhong 21.64 34 *e*P P 14 46 41.7 -0.5
comp=Z,15nm,0.8s,mb4.5
KMI Kunming 24.39 12 P P 14 47 10.9 +1.7
KMI AP 14 47 17.7
KMI XP 14 47 20.7
KMI AMB AMB
comp=Z,64nm,1.3s,mb4.9
KMI AMB AMB
comp=Z,228nm,3.4s
KMI LR LR
comp=N,2μm,15.0s,MS4.7
KMI LR LR
comp=E,794nm,14.1s,MS4.7
KMI LR LR
comp=Z,2μm,14.7s,MS4.7
KMI Kunming 24.39 12 P P 14 47 10.9 +1.7
comp=Z,64nm,1.3s,mb4.9
KMI pP 14 47 17.7
KMI sP 14 47 20.7
KMI PP PP 14 47 51.8 +7.0
KMI PPP PPP 14 48 03.9 +8.7
KMI S S 14 51 38.3 +14
KMI sS 14 51 48.7
KMI SS SS 14 52 43.3 +24
KMI SSS SSS 14 53 00.6 +25
KMI LR LR
comp=Z,2μm,14.7s,MS4.7
KMI Kunming 24.39 12 P P 14 47 10.9 +1.7
KMI *SP 14 47 20.7
KMI 14 47 51.8
KMI pmax pmax
comp=Z,64nm,1.3s,mb4.9
KMI MLR MLR
comp=Z,2μm,14.7s,MS4.7
HYB Hyderabad 24.40 312 *i* P P 14 47 12.0 +2.7
HYB *e* 14 47 18.0
HYB Hyderabad 24.40 312 *e*P P 14 47 12.0 +2.7
GYA Guiyang 26.73 19⇓*i*P P 14 47 31.1 0.0
GYA AMB AMB
comp=Z,10.0nm,1.3s,mb4.2
GYA AMB AMB
comp=Z,300nm,6.0s
GYA LR LR
comp=N,1μm,14.7s,MS4.6
GYA LR LR
comp=E,420nm,13.8s,MS4.6
GYA LR LR
comp=Z,2μm,14.7s,MS4.7
PKI Pulchoki 28.55 338 *e*P P 14 47 48.6 +1.0
DMN Daman 28.70 337 *e*P P 14 47 49.8 +0.8
comp=Z,39nm,0.9s,mb5.1
KKN Kakani 28.80 338 *e*P P 14 47 50.3 +0.5
comp=Z,63nm,1.0s,mb5.3
LSA Lhasa 28.92 349 P P 14 47 52.0 +1.1
LSA Lhasa 28.92 349 *e*P P 14 47 52.2 +1.3
comp=Z,17nm,0.7s,mb4.9
LSA *e*pP pP 14 48 00.0 +1.4
LSA Lhasa 28.92 349 *e*P P 14 47 52.2 +1.3
LSA *e**PP pP 14 48 00.0 +1.4
LSA pmax pmax
comp=Z,17nm,0.7s,mb4.9
GKN Gorkha 29.23 337 *e*P P 14 47 54.4 +0.6
KOLN Koldanda 29.45 335 *e*P P 14 47 56.6 +0.8
comp=Z,45nm,0.8s,mb5.3
CD2 Chengdu 30.21 11 P P 14 48 02.3 -0.1
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
ENH Enshi 31.19 21 *e*P P 14 48 09.2 -1.9
comp=Z,40nm,0.6s,mb5.4
ENH *e*pP pP 14 48 16.6 -2.2
MBWA Marble Bar 31.31 136 *e*P P 14 48 13.1 +0.8
comp=Z,30nm,1.4s,mb4.9
FITZ Fitzroy Crossi 33.95 126 *e*P P 14 48 34.6 -0.6
comp=Z,7.4nm,0.6s,mb4.8
FITZ Fitzroy Crossi 33.95 126 P P 14 48 34.6 -0.7
comp=Z,9.7nm,0.6s,mb4.9,baz=330,slow=3.9,SNR=14
XAN Xi'an 34.48 17 P P 14 48 38.4 -1.3
XAN PP PP 14 49 59.4 +3.5
XAN AMB AMB
comp=Z,31nm,0.9s,mb5.2
XAN LR LR
comp=N,128nm,14.7s,MS4.3
XAN LR LR
comp=E,415nm,16.0s,MS4.3
XAN LR LR
comp=Z,694nm,15.4s,MS4.5
LZH Lanzhou 35.27 9 *e*P P 14 48 46.2 -0.2
LZH AP pP 14 48 57.6 +3.4
LZH XP sP 14 49 02.6 +5.1
LZH PP PP 14 50 02.0 -3.8
LZH *e*S S 14 54 10.4 -7.3
LZH XS 14 54 30.0
LZH AMB AMB
comp=Z,50nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,250nm,4.2s
LZH LR LR
comp=E,2μm,13.5s
LZH LR LR
comp=Z,1μm,16.3s,MS4.7
LZH Lanzhou 35.27 9 *e*P P 14 48 46.2 -0.2
comp=Z,50nm,1.1s,mb5.4
LZH pP pP 14 48 57.6 +3.4
LZH sP sP 14 49 02.6 +5.1
LZH PP PP 14 50 02.0 -3.8
LZH PPP PPP 14 50 21.0 -3.3
LZH *e*S S 14 54 10.4 -7.3
LZH sS 14 54 30.0
LZH SS SS 14 56 22.0 -13
LZH LR LR
comp=Z,1μm,16.3s,MS4.7
LZH Lanzhou 35.27 9 *e*P P 14 48 46.2 -0.2
LZH *PP pP 14 48 57.6 +3.4
LZH *SP sP 14 49 02.6 +5.1
LZH 14 50 02.0
LZH PPP PPP 14 50 21.0 -3.3
LZH *e*S S 14 54 10.4 -7.3
LZH *SS 14 54 30.0
LZH pmax pmax
comp=Z,50nm,1.1s,mb5.4
LZH MLR MLR
comp=Z,1μm,16.3s,MS4.7
NJ2 Nanjing 36.88 32 *e*P P 14 48 59.9 -0.2
NJ2 AP pP 14 49 09.6 +1.7
NJ2 XP sP 14 49 13.6 +2.4
NJ2 PP PP 14 50 26.7 +0.5
NJ2 S S 14 54 43.0 +0.4
NJ2 XS 14 55 02.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,130nm,10.7s
NJ2 LR LR
comp=N,970nm,14.1s
NJ2 LR LR
comp=E,620nm,19.6s
NJ2 LR LR
comp=Z,460nm,15.6s,MS4.4
SSE Sheshan 37.43 35 P P 14 49 04.5 -0.2
SSE XP sP 14 49 17.1 +1.3
SSE PP PP 14 50 30.2 -2.7
SSE PCP PcP 14 51 22.7 -0.8
SSE S S 14 54 52.6 +1.6
SSE XS 14 55 06.7
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,77nm,3.8s
SSE LR LR
comp=N,136nm,19.5s,MS3.9
SSE LR LR
comp=E,128nm,19.0s,MS3.9
SSE LR LR
comp=Z,217nm,17.5s,MS4.0
SSE Sheshan 37.43 35 P P 14 49 04.5 -0.2
comp=Z,31nm,0.7s,mb5.2
SSE sP sP 14 49 17.1 +1.3
SSE PP PP 14 50 30.2 -2.7
SSE PcP PcP 14 51 22.7 -0.8
SSE S S 14 54 52.6 +1.6
SSE sS 14 55 06.7
SSE SS SS 14 57 35.9 +12
SSE LR LR
comp=Z,220nm,17.5s,MS4.0
GTA Gaotai 38.11 3 ⇑P P 14 49 10.7 +0.4
GTA AP pP 14 49 18.3 +0.2
GTA XP sP 14 49 21.4 0.0
GTA PP PP 14 50 41.5 +0.6
GTA PCP PcP 14 51 26.4 +0.9
GTA S S 14 55 01.1 -0.1
GTA SCP 14 55 13.2
GTA XS 14 55 13.7
GTA SS SS 14 57 38.3 -1.2
GTA AMB AMB
comp=Z,29nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,157nm,3.8s
GTA LR LR
comp=N,369nm,14.1s,MS4.5
GTA LR LR
comp=E,306nm,13.0s,MS4.5
GTA LR LR
comp=Z,433nm,14.1s,MS4.4
JOW Kunigami 39.26 47 P P 14 49 21.1 +1.0
comp=Z,27nm,0.6s,mb5.2,baz=218,slow=7.2
HHC Hu-ho-hao-te 41.57 17 *e*P P 14 49 40.9 +1.9
HHC AP pP 14 49 48.4 +1.6
HHC XP sP 14 49 52.4 +2.3
HHC AMB AMB
comp=Z,11nm,0.9s,mb4.5
HHC AMB AMB
comp=Z,125nm,3.4s
HHC LR LR
comp=N,493nm,15.5s,MS4.6
HHC LR LR
comp=E,343nm,11.9s,MS4.6
HHC LR LR
comp=Z,515nm,16.7s,MS4.5
WRA Warramunga Arr 42.05 122 P P 14 49 42.9 -0.3
comp=Z,7.0nm,0.6s,mb4.5,baz=302,slow=9.1,SNR=122
WRAB Tennant Creek 42.06 122 *e*P P 14 49 43.5 +0.2
comp=Z,9.3nm,0.6s,mb4.6
WRAB Tennant Creek 42.06 122 *e*P P 14 49 43.5 +0.3
WRAB pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
WMQ Urumqi 43.27 350⇑*i*P P 14 49 54.4 +1.6
WMQ AMB AMB
comp=Z,21nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,107nm,4.3s
WMQ LR LR
comp=N,230nm,24.8s,MS4.3
WMQ LR LR
comp=E,382nm,23.0s,MS4.3
WMQ LR LR
comp=Z,228nm,22.8s,MS4.0
ASPA Alice Springs 43.41 127 *e*P P 14 49 55.2 +1.0
DL2 Dalian 43.69 28 P P 14 49 57.1 +0.8
DL2 *e*S S 14 56 30.6 +6.4
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
DL2 LR LR
comp=N,170nm,11.6s,MS4.3
DL2 LR LR
comp=E,110nm,11.5s,MS4.3
DL2 LR LR
comp=Z,290nm,15.6s,MS4.3
JNU Nakatsue 44.83 41 P P 14 50 05.2 -0.4
baz=109,slow=6.3
UCH Uchtor 45.65 336 P P 14 50 13.5 +1.6
SNR=10
TKM2 Tokmak 2 45.81 338 P P 14 50 14.4 +1.1
SNR=6.3
KBK Karagaybulak 45.84 337 P P 14 50 15.5 +2.1
SNR=6.5
KS15 Wonju Array Si 45.84 35 *e*P P 14 50 13.6 +0.1
KS15 *e* pP 14 50 20.8 -0.6
AAK Ala-Archa 45.99 337 *e*P P 14 50 14.1 -0.5
comp=Z,11nm,1.0s,mb4.7
AAK Ala-Archa 45.99 337*c i*P P 14 50 14.6 -0.1
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
AAK MLR MLR
comp=Z,200nm,17.0s,MS4.1
EKS2 Erkin-Say 46.30 336 P P 14 50 18.5 +1.4
SNR=8.6
USP Ospenovka 46.53 337 P P 14 50 19.8 +0.9
SNR=13
SONM Songino Array 47.14 8 P P 14 50 24.0 +0.3
comp=Z,10.0nm,0.7s,mb4.8,baz=188,slow=8.7,SNR=35
SONM PcP PcP 14 51 55.7 +0.2
comp=Z,3.0nm,0.7s,baz=193,slow=3.7,SNR=5.1
MKAR Makanchi Array 47.24 346 P P 14 50 24.7 +0.2
comp=Z,9.0nm,0.5s,mb5.0,baz=160,slow=9.2,SNR=118
MKAR LR LR 15 14 01.0
comp=Z,85nm,21.7s,MS3.7,baz=177,slow=41
ULN Ulaanbaatar 47.27 9 *e*P P 14 50 24.8 +0.1
comp=Z,3.7nm,0.4s,mb4.7
ULN *e*pP pP 14 50 34.3 +1.7
ULN Ulaanbaatar 47.27 9 *e*P P 14 50 24.8 +0.1
ULN *e**PP pP 14 50 34.3 +1.7
ULN pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KKAR Karatay Array 48.05 334 *i* P P 14 50 30.9 0.0
KKAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZAK Zakamensk 49.28 5 *e*P P 14 50 39.7 -0.6
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CN2 Changchun 49.32 27 *e*P P 14 50 40.4 -0.3
CN2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
PMG Port Moresby 50.88 103 *e*P P 14 50 51.2 -1.7
comp=Z,26nm,1.1s,mb5.1
PMG Port Moresby 50.88 103 *e*P P 14 50 51.2 -1.7
PMG pmax pmax
comp=Z,26nm,1.1s
HIA Hailar 51.65 19 *e*P P 14 50 57.7 -0.7
comp=Z,15nm,0.7s,mb5.0
HIA Hailar 51.65 19 *e*P P 14 50 57.7 -0.7
HIA pmax pmax
comp=Z,15nm,0.7s
MJAR Matsushiro Arr 51.71 42 P P 14 50 57.6 -1.4
comp=Z,2.2nm,0.6s,mb4.3,baz=221,slow=6.8,SNR=5.7
KURK Kurchatov 51.79 345 *e*P P 14 50 59.2 -0.2
comp=Z,13nm,1.0s,mb4.8
KURK Kurchatov 51.79 345 *e*P P 14 50 59.2 -0.2
KURK pmax pmax
comp=Z,13nm,1.0s,mb4.8
MDJ Mudanjiang 51.88 29 P P 14 51 01.1 +0.9
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,147nm,4.9s
MDJ LR LR
comp=N,154nm,20.8s,MS4.1
MDJ LR LR
comp=E,58nm,16.1s,MS4.1
MDJ LR LR
comp=Z,211nm,16.1s,MS4.3
CTA Charters Tower 52.52 116 LR LR 15 17 50.8
comp=Z,314nm,19.4s,MS4.4,baz=149,slow=41
STKA Stephens Creek 53.37 132 P P 14 51 12.0 +0.6
comp=Z,2.8nm,0.4s,mb4.5,baz=341,slow=7.2,SNR=7.7
STKA Stephens Creek 53.37 132 *e*P P 14 51 11.8 +0.4
STKA *e*pP pP 14 51 18.6 -0.8
NVS Novosibirsk 54.68 350 *i* P P 14 51 19.0 -1.7
NVS pmax pmax
comp=Z,14nm,1.1s,mb4.9
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.5s
VOSK Vostochnaya 55.80 341 P P 14 51 27.7 -1.2
VOSK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BVA0 Borovoye Array 56.25 341 *i* P P 14 51 30.8 -1.3
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 56.25 341 P P 14 51 31.0 -1.1
comp=Z,8.1nm,0.6s,mb5.0,baz=148,slow=8.5,SNR=59
KLR Kul'dur 56.27 27 *e*P P 14 51 30.0 -2.3
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,700nm,13.5s,MS4.9
BRVK Borovoye 56.31 341 *e*P P 14 51 31.1 -1.4
comp=Z,3.5nm,0.6s,mb4.6
BRVK *e*pP pP 14 51 37.1 -3.5
BRVK Borovoye 56.31 341 *e*P P 14 51 31.1 -1.4
BRVK *e**PP pP 14 51 37.1 -3.5
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AB31 Akbulak array 57.51 332 *i* P P 14 51 40.0 -1.1
AB31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
BOD Bodaibo 58.02 11 *e*P P 14 51 43.6 -0.9
BOD pmax pmax
comp=Z,14nm,0.9s,mb5.0
CLNS Chul'man 59.75 17 *e*P P 14 51 54.7 -1.9
CLNS pmax pmax
comp=Z,13nm,0.7s,mb5.1
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.8s
KMBO Kilima Mbogo 59.96 268 LR LR 15 13 30.0
comp=E,68nm,18.7s,MS3.8,baz=109,slow=32
SVE Sverdlovsk 62.68 338 *e*P P 14 52 15.5 -0.9
SVE *e* pP 14 52 24.0 -0.6
SVE *e*S S 15 00 47.0 +5.5
SVE pmax pmax
comp=Z,20nm,0.8s,mb5.3
SVE MLR MLR
comp=N,100nm,13.0s,MS4.3
SVE MLR MLR
comp=E,100nm,13.0s,MS4.3
ARU Arti 63.18 337⇓*i*P P 14 52 18.3 -1.4
ARU *e* 14 54 36.0
ARU *e*PPP PPP 14 56 05.6 -5.8
ARU *e*S S 15 00 50.0 +2.3
ARU *e*SS SS 15 04 58.5 +2.6
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
KIV Kislovodsk 64.30 319 *e*P P 14 52 25.6 -1.6
KIV *e*S S 15 01 01.6 -0.2
KIV pmax pmax
comp=Z,15nm,1.0s,mb5.0
KIV pmax pmax
comp=E,8.0nm,1.1s
YAK Yakutsk 65.43 16 *e*P P 14 52 32.8 -1.4
comp=E,44nm,1.0s,mb5.4
YAK *e* pP 14 52 40.1 -2.3
YAK Yakutsk 65.43 16 *e*P P 14 52 32.8 -1.4
YAK *e* pP 14 52 40.2 -2.2
YAK pmax pmax
comp=Z,44nm,1.0s,mb5.4
CASY Casey 68.00 174 P P 14 52 51.0 +0.5
comp=Z,5.1nm,1.2s,mb4.4
CASY *e*pP pP 14 52 58.5 -0.2
BRTR Keskin Array B 69.10 312 P P 14 52 55.9 -1.8
comp=Z,0.5nm,0.4s,mb3.8,baz=143,slow=6.2,SNR=4.5
VOR Voronezh 69.76 326 *e*P P 14 53 05.1 +3.5
MATP Matopo 70.50 248 P P 14 53 06.8 +0.2
comp=Z,1.8nm,0.8s,mb4.1,baz=130,slow=2.9,SNR=3.4
OBN Obninsk 72.61 328*d i*P P 14 53 18.2 -0.4
OBN *e* 14 56 00.0
OBN *e*S S 15 02 41.0 +0.6
OBN pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
MAW Mawson 72.70 193 LR LR 15 22 58.4
comp=Z,131nm,18.0s,MS4.2,baz=244,slow=34
TIXI Tiksi 73.20 10 *e*P P 14 53 19.2 -2.6
TIXI pmax pmax
comp=Z,17nm,1.0s,mb4.9
TIXI MLR MLR
comp=Z,295nm,15.0s,MS4.7
SEY Seymchan 73.78 23*c i*P P 14 53 25.4 +0.1
AKASG Malin Array Be 75.25 322 P P 14 53 32.0 -2.0
comp=Z,2.1nm,0.6s,mb4.3,baz=87,slow=4.8,SNR=9.7
MLR Muntele Rosu 76.05 317⇓*i*P P 14 53 39.5 +0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BURAR	Bucovina Array	77.01	319	⇑iP	P	14 53 45.3	+1.3
BURAR	Bucovina Array	77.01	319	⇑iP	P	14 53 45.2	+1.2
DRGR		78.52	318	⇑iP	P	14 53 52.4	+0.1
FINES	FINESS Array B	79.99	333	P	P	14 53 59.5	-0.5
	comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=7.6,SNR=8.2						
BILL	Bilibino	81.18	21	eP	P	14 54 06.4	+0.2
BILL				e		14 57 11.2	
BILL				eSS	SS	15 09 31.5	-0.2
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.6						
ARCES	ARCESS Array B	82.53	340	P	P	14 54 12.1	-1.0
	comp=Z,4.3nm,0.8s,mb4.5,baz=99,slow=4.5,SNR=12						
ARCES				LR	LR	15 35 18.9	
	comp=Z,78nm,20.1s,MS4.1,baz=196,slow=39						
ARCES	ARCESS Array B	82.53	340	P	P	14 54 12.1	-1.1
ARCES				LR	LR	15 35 18.9	
GERES	GERESS Array B	84.80	319	P	P	14 54 25.4	+0.3
	comp=Z,1.2nm,0.7s,mb4.1,baz=90,slow=6.7,SNR=9.7						
VNDA	Vanda	85.82	169	P	P	14 54 31.4	+1.8
	comp=Z,0.5nm,0.8s,mb3.8,baz=264,slow=3.9,SNR=5.2						
NB2	NORSAR Subarra	87.00	331	P	P	14 54 35.3	-0.4
	comp=Z,3.4nm,1.0s,mb4.5,baz=92,slow=4.8						
NB2	NORSAR Subarra	87.00	331	P	P	14 54 35.3	-0.4
NB2				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.4						
NOA	NORSAR Array B	87.00	331	P	P	14 54 34.9	-0.8
	comp=Z,2.0nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=5.0						
ILAR	Eielson Array	99.71	23	PP	PP	14 59 33.5	-7.6
	comp=Z,0.4nm,0.9s,baz=260,slow=4.2,SNR=4.1						
YKA	Yellowknife Ar	112.10	15	PP	PP	15 01 06.9	-6.3
	comp=Z,0.3nm,0.5s,baz=321,slow=4.5,SNR=3.6						
PDAR	Pinedale Array	130.06	26	PKP	PKPdf	15 01 01.6	-2.9
	comp=Z,0.5nm,0.7s,baz=270,slow=4.4,SNR=4.2						
TXAR	Lajitas Array	143.69	32	PKhKP		15 01 22.5	
	comp=Z,0.6nm,0.6s,baz=277,slow=2.5,SNR=4.7						
CPUP	Villa Florida	144.98	222	PKP	PKPdf	15 01 29.2	-2.9
	comp=Z,1.7nm,0.6s,baz=156,slow=2.8,SNR=5.9						
CPUP	Villa Florida	144.98	222	ePKPdf	PKPdf	15 01 29.0	-3.1
CPUP				epPKPdf		15 01 35.7	

*IDC **08** 14:50:38.5±10.0, 17.71N×145.56E, h200^{km}±95^{km}, mb3.4/6, mb1 3.7/6, mb1mx3.5/17, mbtmp4.0/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/21, Error ellipse: s-maj=39.5km s-min=19.0km az=101.0*

*NEIC **08** 14:50:41.8±1.6, 17.63N×145.66E, h230^{km}±16^{km}, mb4.4/3, Error ellipse: s-maj=28.3km s-min=19.0km az=99.0*

ISC 08 14:50:41.3±0.9**, 17.6N**±0.1×**145.7E**±0.2**, h242**^{km}±10^{km}**, n14, σ1^{s}20**/12**, mb3.8**/9**, 1C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	Sarigan	0.90	176	⇑eP	P	14 51 15.3	+0.2
SAPN	Saipan	2.38	179	eP	P	14 51 26.6	-0.5
YHNB	Yeheng	23.73	291	eP	P	14 55 35.1	+1.9
ASAJ	Asahikawa	26.56	355	LR	LR	15 06 43.0	
	comp=Z,28nm,18.9s,baz=171,slow=36						
WRAB	Tennant Creek	38.93	197	eP	P	14 57 46.1	+0.5
	4.3nm,0.7s,mb4.1						
WRA	Warramunga Arr	38.94	197	P	P	14 57 45.4	-0.4
	1.4nm,0.4s,mb3.8,baz=18,slow=8.1,SNR=48						
WRA				PcP	PcP	14 59 51.0	-0.7
	0.4nm,0.4s,baz=17,slow=3.7,SNR=6.1						
FITZ	Fitzroy Crossi	40.60	210	P	P	14 57 59.4	+0.1
	2.1nm,0.3s,mb4.0,baz=16,slow=8.9,SNR=33						
MKAR	Makanchi Array	59.22	314	P	P	15 00 17.9	-1.3
	0.3nm,0.6s,mb3.1,baz=81,slow=7.5,SNR=4.3						
ILAR	Eielson Array	64.62	26	P	P	15 00 53.7	-0.9
	0.7nm,0.5s,mb3.5,baz=256,slow=5.7,SNR=8.5						
ARU	Arti	73.95	325	P	P	15 01 49.1	-2.6
	6.3nm,1.0s,mb4.2						
YKA	Yellowknife Ar	78.95	28	P	P	15 02 20.2	+1.0
	0.8nm,0.7s,mb3.5,baz=288,slow=5.5,SNR=4.6						
RES	Resolute Bay	80.48	14	P	P	15 02 29.5	+2.3
	27nm,1.0s,mb4.8						
FINES	FINESS Array B	87.88	335	P	P	15 03 03.8	-0.4
	0.6nm,0.6s,mb3.6,baz=37,slow=6.9,SNR=3.7						
LPAZ	La Paz	147.63	93	PKPbc	PKPdf	15 10 01.5	+6.6
	0.7nm,0.6s,baz=270,slow=8.1,SNR=4.6						

IDC 08 15:26:36.8±4.3**, 1.31N**×**97.34E, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.5**/17**, mbtmp3.6**/3**, Error ellipse: s-maj=159.2km s-min=30.2km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.97	122	P	P	15 34 29.7	-1.8
	0.4nm,0.5s,baz=302,slow=9.1,SNR=5.1						
SONM	Songino Array	47.00	8	P	P	15 35 10.3	-1.3
	0.4nm,0.4s,baz=173,slow=9.1,SNR=3.3						
MKAR	Makanchi Array	47.17	346	P	P	15 35 10.7	-2.3
	0.7nm,0.5s,baz=159,slow=8.9,SNR=16						

MOS 08 15:28:52.1±2.5**, 53.95N**×**110.21E, h31**^{km}**, mb4.2**/1**, 2C, Error ellipse: s-maj=48.6km s-min=19.1km az=76.5, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SYVR	Suvo	0.32	203	ePG	Pb	15 29 00.1	+0.2
SYVR				e		15 29 05.1	
SYVR				pmax	pmax		
	comp=Z,123nm,0.1s						
SYVR				smax			
	comp=N,2μm,0.1s						
YLYR	Ulyunkhan	1.08	31	⇑iPN	Pn	15 29 11.9	+0.6
YLYR				e		15 29 26.6	
YLYR				pmax	pmax		
	comp=Z,60nm,0.2s						
YLYR				smax			
	comp=N,448nm,0.3s						
OGRR	Ongureny	1.58	260	ePN	Pn	15 29 20.5	+2.0
OGRR				e		15 29 42.1	
OGRR				pmax	pmax		
	comp=Z,38nm,0.5s						
OGRR				smax			
	comp=N,196nm,1.1s						
NIZ	Nizh Angarsk	1.87	348	ePN	Pn	15 29 25.9	+3.3
NIZ				e		15 29 51.3	
NIZ				pmax	pmax		
	comp=Z,91nm,0.4s						
NIZ				smax			
	comp=N,414nm,0.5s						
KMO	Kumora	2.02	16	⇑iPN	Pn	15 29 28.1	+3.3
KMO				e		15 29 55.2	
KMO				pmax	pmax		
	comp=Z,85nm,0.3s						
KMO				smax			
	comp=N,325nm,1.0s						
YOA	Uoyan	2.35	21	ePN	Pn	15 29 35.7	+6.2
YOA				i		15 30 05.6	
YOA				pmax	pmax		
	comp=Z,81nm,0.4s						
YOA				smax			
	comp=E,330nm,0.7s						
TUP	Tupik	5.74	81	ePN	Pn	15 30 36.0	+18
TUP				e		15 31 49.5	
TUP				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TUP				smax			
	comp=N,53nm,1.1s						

*NEIC **08** 15:41:00.6, 46.02N×1.47E, h5^{km}, ML2.6(LDG), After LDG.*

*CSEM **08** 15:41:00.8±0.1, 46.02N×1.47E, h8^{km}, ML2.7/16, Error ellipse: s-maj=1.1km s-min=0.9km az=99.0*

*STR **08** 15:41:03.8±0.5, 46.03N×1.61E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 08 15:41:00.6±0.0**, 46.02N**×**1.47E, h5**^{km}**, Md2.8**/1**, Ml2.6**/17**, Error ellipse: s-maj=0.8km s-min=0.7km az=115.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TCF	Toulx Ste Croi	0.58	62	ePg	Pg	15 41 12.1	-0.1
TCF				ePn	Pn	15 41 14.0	-1.1
TCF				eSg	Sg	15 41 19.3	-0.7
	26nm,0.2s						
RJF	Les Rejaudoux	0.72	177	ePg	Pg	15 41 14.2	-0.8
RJF				eSg	Sg	15 41 23.4	-1.2
	50nm,0.2s						
BGF	Bois d'Agland	1.09	60	ePn	Pn	15 41 21.0	-1.5
BGF				eSg	Sg	15 41 35.3	-1.8
	113nm,0.4s						
PYM	Petit Puy Mans	1.11	104	Pg	Pg	15 41 22.9	+0.1
AGO	Saint Agoulin	1.16	88	Pg	Pg	15 41 23.9	+0.2
AGO				Sg	Sg	15 41 39.0	-0.2
CAF	Calviac	1.17	159	ePn	Pn	15 41 21.9	-1.7
CAF				ePg	Pg	15 41 22.8	-1.2
CAF				eSn	Sn	15 41 37.5	-2.6
	27nm,0.3s						
LFF	La Frestale	1.20	206	ePg	Pg	15 41 22.9	-1.6
LFF				eSn	Sn	15 41 38.1	-2.7
	53nm,0.4s						
MFF	Saint Martin d	1.26	298	ePn	Pn	15 41 23.2	-1.7
MFF				ePg	Pg	15 41 24.0	-1.8
MFF				eSn	Sn	15 41 39.6	-2.8
	11nm,0.2s						
HYF	Humbligny	1.48	32	ePg	Pg	15 41 28.5	-1.8
HYF				eSg	Sg	15 41 47.5	-2.6
PLDF	La Plantade	1.50	91	Pg	Pg	15 41 30.5	-0.1
PLDF				Sg	Sg	15 41 49.4	-1.2
AVF	Avril sur Loir	1.51	59	ePn	Pn	15 41 26.8	-1.7
AVF				ePg	Pg	15 41 29.0	-1.8
AVF				eSn	Sn	15 41 45.5	-3.3
AVF				eSg	Sg	15 41 47.7	-3.3
	7.0nm,0.3s						
SSF	Saint Saulge	1.75	53	ePn	Pn	15 41 29.9	-1.9
SSF				ePg	Pg	15 41 32.8	-2.7
SSF				eSg	Sg	15 41 54.7	-4.1
SSF	Saint Saulge	1.75	53	ePg	Pg	15 41 32.8	-2.7
SSF				eSg	Sg	15 41 54.7	-4.1
	3.9nm,0.3s						
SMF	Signal de Mont	1.76	68	ePn	Pn	15 41 29.9	-2.1
SMF				ePg	Pg	15 41 32.9	-2.8
SMF				eSn	Sn	15 41 51.5	-3.5
SMF				eSg	Sg	15 41 55.6	-3.5
SMF	Signal de Mont	1.76	68	ePg	Pg	15 41 32.9	-2.8
SMF				eSn	Sn	15 41 51.5	-3.5
SMF				eSg	Sg	15 41 55.6	-3.5
	3.0nm,0.2s						
LOR	Lormes	2.06	52	ePn	Pn	15 41 34.5	-1.9
	baz=236						
LOR				ePg	Pg	15 41 38.9	-2.9
	baz=235						
LOR				eSn	Sn	15 41 59.0	-3.8
LOR				eSg	Sg	15 42 04.6	-4.8
	3.8nm,0.2s						
LOR	Lormes	2.06	52	ePg	Pg	15 41 38.9	-2.9
LOR				eSn	Sn	15 41 59.0	-3.8
LOR				eSg	Sg	15 42 04.6	-4.8
	1.9nm,0.2s						
VIVF	Saint-Julien-l	2.54	116	ePn	Pn	15 41 40.6	-2.6
VIVF				ePg	Pg	15 41 47.6	-3.7
VIVF				eSg	Sg	15 42 20.5	-4.6
	2.7nm,0.2s						
LASF	Ste Croix	2.58	138	eSg	Sg	15 42 21.5	-5.0
	3.4nm,0.3s						
MTLF	Montolieu	2.73	168	eSn	Sn	15 42 14.4	-5.4
MTLF				eSg	Sg	15 42 26.7	-4.9
	4.9nm,0.4s						
LDF	La Druitiere	2.79	338	ePn	Pn	15 41 44.0	-2.8
LDF				eSn	Sn	15 42 16.0	-5.2
LDF				eSg	Sg	15 42 28.2	-5.3
	2.2nm,0.2s						
GRR	Gorron	2.85	327	eSn	Sn	15 42 17.5	-5.2
GRR				eSg	Sg	15 42 29.8	-5.7
	3.5nm,0.2s						
FLN	La Foliniere	3.04	335	ePn	Pn	15 41 47.6	-2.8
	baz=155						
FLN				eSg	Sg	15 42 36.1	-5.9
	3.1nm,0.2s						
EPF	Esparros	3.10	196	eSn	Sn	15 42 23.5	-5.5
EPF				eSg	Sg	15 42 37.8	-5.9
	3.2nm,0.3s						
ETSF	Etsaut	3.44	206	ePg	Pg	15 42 04.3	-5.1
ETSF				eSn	Sn	15 42 31.7	-6.1
	2.4nm,0.4s						

*HEL **08** 15:59:17.8±0.2, 57.82N×22.30E, ML2.2, ML2.5(NAO), Explosion*

*NAO **08** 15:59:19.0±2.2, 57.90N×22.26E, ML2.5*

*BER **08** 15:59:20.6±3.6, 57.85N×22.22E, ML2.5(NAO), Suspected explosion*

*CSEM **08** 15:59:20.7±0.3, 58.15N×22.32E, h2^{km}, ML2.2, Error ellipse: s-maj=8.9km s-min=3.9km az=8.0, Mining explosion.*

ISC 08 15:59:17.0±1.2**, 57.93N**±0.09×**22.20E**±0.08**, n24, σ0^{s}88**/39**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSU	Vasula	2.46	75	eP	Pn	15 59 58.5	-0.5
VSU				eS	Sn	16 00 29.1	-1.1
VSU	Vasula	2.46	75	Pn	Pn	15 59 58.7	-0.3
VSU				Sn	Sn	16 00 31.9	+1.8
VSU	Vasula	2.46	75	Pn	Pn	15 59 58.7	-0.3
VSU				S	Sn	16 00 29.0	-1.2
PVF	Pernaja	3.23	34	ePG	Pg	16 00 16.1	-5.4
PVF				eSB	Sb	16 00 56.1	+0.9
VJF	Virojoki	3.80	44	ePB	Pb	16 00 23.8	-1.0
VJF				eSG	Sb	16 01 15.4	+3.8
FIA0	FINESS Array S	4.04	27	Pn	Pn	16 00 21.9	+0.4
	baz=203,slow=12						
FIA0				Pg	Pg	16 00 31.9	-5.7
	baz=201,slow=16						
FIA0				Sn	Sn	16 01 09.6	-0.6
	baz=218,slow=22						
FIA0				Lg		16 01 27.0	
	baz=223,slow=28						
FIA0	FINESS Array S	4.04	27	eP	Pn	16 00 22.3	+0.8
FIA0				eS	Sn	16 01 09.0	-1.2
FIA0	FINESS Array S	4.04	27	P	Pn	16 00 22.2	+0.8
FIA0	FINESS Array S	4.04	27	Pg	Pg	16 00 31.9	-5.7
KEF	Keuruu	4.46	16	eP	Pn	16 00 28.7	+1.3
KEF				eSG	Sb	16 01 38.1	+7.3
KEF				MSG		16 01 39.6	
	comp=Z,2.9nm,0.3s						
KAF	Kangasniemi	4.68	24	eP	Pn	16 00 30.5	0.0
KAF				eS	Sn	16 01 25.1	-1.2
KAF				MSG		16 01 48.0	
	comp=Z,3.5nm,0.3s						
KAF	Kangasniemi	4.68	24	P	Pn	16 00 30.4	-0.1
HFS	Hagfors	4.92	300	Pn	Pn	16 00 34.4	+0.4
	baz=121,slow=14						
HFS				Sn	Sn	16 01 32.2	-0.3
	baz=115,slow=18						
HFS				Lg		16 01 51.9	
	baz=103,slow=28						
HFS	Hagfors	4.92	300	eP	Pn	16 00 34.4	+0.4
HFS				eS	Sn	16 01 32.2	-0.3
HFS				eSG		16 01 51.9	
HFS	Hagfors	4.92	300	Pn	Pn	16 00 34.4	+0.4
	SNR=9.8						
HFS				S	Sn	16 01 32.2	-0.3
HFS				Sg		16 01 51.8	
VAF	Ylistaro	5.14	2	eP	Pn	16 00 37.0	-0.1
VAF				eSG	Sb	16 01 58.0	+7.4
VAF				MSG		16 01 58.8	
	comp=Z,3.5nm,0.3s						
VAF	Ylistaro	5.14	2	P	Pn	16 00 36.9	-0.2
SUF	Sumiainen	5.19	21	eP	Pn	16 00 38.5	+0.7
SUF				eSG	Sb	16 01 59.6	+7.5
SUF				MSG		16 02 04.1	
	comp=Z,2.1nm,0.3s						
SUF	Sumiainen	5.19	21	P	Pn	16 00 38.4	+0.6
NB2	NORSAR Subarra	6.41	304	eP	Pn	16 00 54.5	-0.4
NB2				eSG		16 02 41.3	
NB2	NORSAR Subarra	6.41	304	Pn	Pn	16 00 54.5	-0.4
	baz=117,slow=14						
NB2				Lg		16 02 41.3	
	baz=117,slow=28						
NB2	NORSAR Subarra	6.41	304	Pn	Pn	16 00 54.5	-0.5
	SNR=8.3						
ARA0	ARCESS Array S	11.74	6	Pn	P	16 02 03.2	-5.4
	baz=188,slow=14						
ARA0	ARCESS Array S	11.74	6	eP	P	16 02 03.2	-5.4

*IDC **08** 16:01:57.2±1.4, 17.40N×100.97W, mb4.1/6, mb1 4.3/8, mb1mx4.0/21, mbtmp4.0/8, ML3.9/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/25, Error ellipse: s-maj=58.5km s-min=26.4km az=79.0*

*NEIC **08** 16:02:01.8±1.1, 17.27N×101.30W, mb4.4/14, MD4.4(MEX), Error ellipse: s-maj=20.4km s-min=8.3km az=209.0*

*MEX **08** 16:02:02.0±1.3, 17.32N×101.37W, h30^{km}±12^{km}, MD4.5*

ISC 08 16:02:00.2±0.8**, 17.34N**±0.05×**101.26W**±0.03**, h27**^{km}±5^{km}**, n60, σ1^{s}35**/74**, mb4.2**/16**, MS3.5**/4**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.33	324	iP	Pb	16 02 08.0	+0.2
ZIIG				iS	Sb	16 02 12.9	-0.1
CAIG	El Cayaco	0.99	107	iP	Pn	16 02 18.5	-0.1
CAIG				iS	Sb	16 02 30.4	-1.0
ACX	Acapulco	1.37	110	iP	Pn	16 02 24.5	+0.5
ACX				iS	Sn	16 02 43.9	+2.6
PLIG	Platanillo	1.98	58	iP	Pn	16 02 32.1	-0.5
PLIG				iS	Sn	16 02 58.3	+1.6
MOIG	Morelia	2.33	2	eP	Pn	16 02 38.8	+1.2
MOIG				iS	Sn	16 03 03.7	-1.9
YAIG	Yautepec	2.58	54	iP	Pn	16 02 40.9	-0.3
YAIG				iS	Sn	16 03 12.6	+0.6
IIZ	Mezontepec	2.66	46	iP	Pn	16 02 43.8	+1.4
CIVM	Cilcuayo	2.79	51	iP	Pn	16 02 47.6	+3.4
UNM	Universidad Na	2.80	45	eP	Pn	16 02 43.5	-0.9
UNM				eP		16 02 45.0	
UNM				iS	Sn	16 03 18.7	+1.1
UNM	Universidad Na	2.80	45	eP	Pn	16 02 43.5	-0.9
UNM				eP		16 02 45.0	
UNM				iS	Sn	16 03 23.4	+5.8
MDVM	Presa Madin	2.90	41	iP	Pn	16 02 46.0	+0.2
PPM	Popocatepetl	3.04	55	iP	Pn	16 02 47.5	-0.3
PPM				iP		16 02 47.6	
RFVM	Rio Frio	3.10	50	iP	Pn	16 02 50.2	+1.6
PNIG	Pinotepa	3.15	107	eP	Pn	16 02 48.2	-1.0
PNIG				iS	Sn	16 03 26.5	+0.1
PNIG	Pinotepa	3.15	107	eP	Pn	16 02 51.6	+2.4
PNIG				iS	Sn	16 03 30.9	+4.5
SFJM	Santa Fe	3.55	332	iP	Pn	16 02 53.5	-1.6
CJM	Chamela	4.18	301	iP	Pn	16 02 59.9	-4.1
CJM				iS	Sn	16 03 47.7	-5.0
VHO	Vista Hermosa	4.34	93	iP	Pn	16 03 06.9	+0.7
VHO				iS	Sn	16 03 55.4	-1.2
VHO	Vista Hermosa	4.34	93	iP	Pn	16 03 06.9	+0.7
VHO				iS	Sn	16 03 51.9	-4.7
OXX	Oaxaca	4.35	93	eP	Pn	16 03 06.0	-0.4
OXX				iS	Sn	16 03 56.0	-0.8
LVIG	Laguna Verde	5.17	62	eP	Pn	16 03 20.1	+2.1
LVIG				iS	Sn	16 04 15.1	-2.5
LVIG				iS	Sn	16 04 24.0	+6.4
HUIG	Huatulco	5.18	107	iS	Sn	16 04 15.6	-2.2
ZAIG	Zacatecas	5.54	347	eP	Pn	16 03 20.9	-2.3
ZAIG				iS	Sn	16 04 25.7	-1.0
CMIG	Matias Romero	6.10	91	eP	Pn	16 03 30.4	-0.8
CMIG				iS	Sn	16 04 38.1	-2.7
TXAR	Lajitas Array	12.14	350	Pn	P	16 04 52.2	-2.3
	0.2nm,0.3s,baz=138,slow=39,SNR=2.0						
TXAR				Lg		16 08 23.4	
	0.1nm,0.3s,baz=162,slow=25,SNR=3.5						
TXAR				LR	LR	16 10 25.6	
	comp=Z,173nm,19.0s,baz=115,slow=42						
MNTX	Cornudas Mount	14.78	346	eP	P	16 05 34.9	+5.5
	16nm,1.0s						
NATX	Nacogdoches	15.56	21	eP	P	16 05 42.2	+2.7
WMOK	Wichita Mounta	17.47	7	eP	P	16 06 02.2	-1.6
	4.3nm,0.6s						
ANMO	Albuquerque	18.14	346	P	P	16 06 11.6	-0.6
	baz=152,slow=11,SNR=8.7						
ANMO				Lg		16 11 30.6	
	baz=307,slow=6.2,SNR=2.1						
ANMO				LR	LR	16 14 03.3	
	comp=Z,217nm,20.1s,slow=40						
ANMO	Albuquerque	18.14	346	eP	P	16 06 12.4	+0.2
	8.8nm,1.1s						
LRAL	Lakeview Retre	20.23	37	P	P	16 06 39.1	+2.9
	16nm,0.9s						
SDCO	Great Sand Dun	20.67	350	eP	P	16 06 39.5	-1.2
	28nm,1.0s						
NEN	Nelson	21.87	329	eP	P	16 06 53.8	+0.9
WVT	Waverly	22.19	30	eP	P	16 06 58.5	+2.5
	3.2nm,0.4s,mb4.1						
SMCO	Snowmass	22.32	348	eP	P	16 06 58.4	+1.1
GOGA	Godfrey	22.63	42	P	P	16 07 05.1	+4.6
	29nm,0.9s,mb4.7						
ISCO	Idaho Springs	22.70	351	eP	P	16 07 00.1	-1.0
	4.4nm,0.6s,mb4.1						
ARUT	Antelope Range	23.01	335	eP	P	16 07 05.8	+1.6
MSU	Marysvale	23.16	338	eP	P	16 07 06.8	+1.3
TMUT	Trail Mountain	23.53	340	eP	P	16 07 10.8	+1.6
TPH	Tonopah	24.95	329	eP	P	16 07 24.7	+1.7
	11nm,1.0s,mb4.3						
HWUT	Hardware Ranch	25.75	342	eP	P	16 07 30.2	-0.2
	9.1nm,1.1s,mb4.2						
ELK	Elko	26.26	335	P	P	16 07 35.1	-0.1
	1.3nm,0.9s,mb3.5,baz=74,slow=18,SNR=2.8						
ELK				LR	LR	16 17 32.0	
	comp=Z,128nm,21.1s,MS3.4,baz=155,slow=36						
BW06	Boulder Array	26.31	346	eP	P	16 07 37.0	+1.4
	13nm,1.4s,mb4.3						
PDAR	Pinedale Array	26.31	346	P	P	16 07 35.1	-0.5
	2.6nm,0.9s,mb3.8,baz=162,slow=9.4,SNR=16						
PDAR				PcP	PcP	16 11 01.6	-0.2
	0.7nm,0.8s,baz=146,slow=5.3,SNR=3.9						
BMN	Battle Mountai	26.83	332	P	P	16 07 41.6	+1.2
	6.2nm,0.9s,mb4.1						
FWV	Forest Hill	27.02	38	eP	P	16 07 46.2	+4.1
TPAW	Teton Pass	27.33	345	P	P	16 07 46.6	+1.6
	5.1nm,0.4s,mb4.4						
DLMT	Dillon	29.51	344	eP	P	16 08 04.2	-0.4
YBH	Yreka Blue Hor	30.48	327	LR	LR	16 19 38.1	
	comp=Z,53nm,21.3s,MS3.2,baz=43,slow=35						
BMO	Blue Mountains	30.56	337	P	P	16 08 13.2	-0.7
SCHQ	Schefferville	45.78	27	P	P	16 10 19.7	-1.6
	2.8nm,0.7s,mb4.3,baz=242,slow=11,SNR=4.3						
YKA	Yellowknife Ar	46.07	351	P	P	16 10 22.4	-1.0
	2.0nm,0.7s,mb4.1,baz=162,slow=7.3,SNR=16						
INK	Inuvik	54.88	346	eP	P	16 11 29.2	-1.3
	16nm,1.0s,mb5.0						
INK				epP	pP	16 11 38.5	-0.2
ILAR	Eielson Array	56.37	338	P	P	16 11 40.2	-1.0
	0.6nm,1.0s,mb3.6,baz=155,slow=7.8,SNR=5.2						
SUMG	Summit	65.55	17	eP	P	16 12 42.9	-0.4
	9.1nm,0.8s,mb4.9						
SUMG				epP	pP	16 12 51.6	-0.1
NOA	NORSAR Array B	85.35	27	LR	LR	16 53 35.6	
	comp=Z,21nm,20.0s,MS3.5,baz=325,slow=36						
ARCES	ARCESS Array B	85.63	16	P	P	16 14 35.2	-2.1
	2.6nm,0.8s,mb4.5,baz=333,slow=2.7,SNR=4.2						
FINES	FINESS Array B	91.07	22	LR	LR	17 00 02.7	
	comp=Z,32nm,18.2s,MS3.8,baz=96,slow=38						
WRA	Warramunga Arr	127.45	258	PKP	PKPdf	16 21 05.2	-3.3
	1.0nm,0.8s,baz=84,slow=2.1,SNR=11						

*NEIC **08** 16:05:34.0, 17.31N×101.48W, h37^{km}, MD4.3(MEX), After MEX.*

MEX 08 16:05:34.5±1.0**, 17.32N**×**101.45W, h35**^{km}±15^{km}**, MD4.3, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.28	357	iP	P	16 05 41.1	-1.1
ZIIG				iS	S	16 05 45.5	-2.1
CAIG	El Cayaco	1.16	103	iP	P	16 05 51.8	-2.7
CAIG				iS	S	16 06 06.2	-3.2
ACX	Acapulco	1.53	107	iP	P	16 05 58.4	-1.4
ACX				iS	S	16 06 17.0	-1.8
ACX	Acapulco	1.53	107	iP	P	16 05 57.2	-2.6
ACX				iS	S	16 06 17.7	-1.1
MOIG	Morelia	2.36	6	iP	P	16 06 10.2	-1.4
MOIG				iS	S	16 06 38.2	-1.4
MOIG	Morelia	2.36	6	iP	P	16 06 10.2	-1.4
MOIG				iS	S	16 06 39.9	+0.2
YAIG	Yautepec	2.74	56	iP	P	16 06 15.6	-1.4
YAIG				iS	S	16 06 45.2	-4.0
YAIG	Yautepec	2.74	56	iP	P	16 06 15.6	-1.4
YAIG				iS	S	16 06 42.9	-6.3
SZVM	Salazar	2.80	44	iP	P	16 06 11.7	-6.2
IIZ	Mezontepec	2.80	48	iP	P	16 06 12.8	-5.2
UNM	Universidad Na	2.94	47	eP	P	16 06 14.0	-5.9
UNM				eP		16 06 17.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UNM				i S	S	16 06 52.4	-2.0
MDVM	Presa Madin	3.04	43	i P	P	16 06 19.1	-2.2
PPM	Popocatepetl	3.20	57	i P	P	16 06 17.3	-6.3
PPM				i P		16 06 20.5	
PPM				eP		16 06 21.2	
PPM	Popocatepetl	3.20	57	i P	P	16 06 20.5	-3.1
RFVM	Rio Frio	3.24	51	i P	P	16 06 19.9	-4.3
PNIG	Pinotepa	3.31	106	eP	P	16 06 24.6	-0.6
PNIG				i S	S	16 06 59.3	-4.6
PNIG	Pinotepa	3.31	106	eP	P	16 06 40.0	+15
PNIG				i S	S	16 07 02.5	-1.5
SFJM	Santa Fe	3.49	335	i P	P	16 06 23.5	-4.3
SFJM				i S	S	16 07 03.5	-5.0
VHO	Vista Hermosa	4.51	92	i P	P	16 06 40.8	-1.5
VHO				eS	S	16 07 29.2	-5.2
OXX	Oaxaca	4.52	92	eP	P	16 06 35.5	-6.9
HUIG	Huatulco	5.35	106	i S	S	16 07 49.1	-6.2
LTX	Lajitas	12.13	351	ePn	P	16 08 22.7	-5.1
SDCO	Great Sand Dun	20.66	351	eP	P	16 10 13.5	-0.4
SDCO				e		16 10 21.9	

MAN 08 16:06:31.6, 11.41N×125.81E, h16km, mb4.0, ML2.8, MS2.5, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.41	298	eP	Pb	16 06 40.0	0.0
PLP	Palo	0.84	254	i P	Pb	16 06 48.6	+1.1
PLP				i S	Sb	16 06 58.1	-0.2
CNP	Catarman	1.57	315	eP	Pn	16 06 58.8	-0.3
CNP				eS	Sn	16 07 19.0	-0.1
MSLP	Maasin	1.57	216	eP	Pn	16 06 58.9	-0.2
MSLP				eS	Sn	16 07 20.1	+1.0
SCPH	Surigao	1.64	191	⇑eP	Pn	16 06 58.8	-1.4
SCPH				eS	Sn	16 07 21.0	-0.1
PVCP	Virac	2.71	324	eP	Pn	16 07 15.6	+0.2
BUKP	Musuan	3.58	192	eP	Pn	16 07 27.8	0.0

IDC 08 16:18:10.6±1.7, 1.77N×124.60E, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=205.4km s-min=24.5km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.60	157	P	P	16 23 23.1	-1.1
	0.5nm,0.3s,baz=335,slow=11,SNR=37						
STKA	Stephens Creek	37.14	156	P	P	16 25 23.5	-1.6
	0.9nm,0.8s,baz=331,slow=10,SNR=2.5						
MKAR	Makanchi Array	57.98	327	P	P	16 28 04.9	-2.5
	0.3nm,0.5s,baz=117,slow=8.0,SNR=7.5						

*CSEM **08** 16:35:50.1, 45.52N×26.37E, h137km, mb4.8*
*BJI **08** 16:35:50.9, 45.50N×26.40E, h139km, mB5.0, mb4.7*
*NEIC **08** 16:35:51.0, 45.53N×26.36E, h139km, mb4.2/34, MD4.8(BUC), After BUC.*
NEIC Felt at Bucharest. Felt [III] at Chisinau, Moldova.
*MOS **08** 16:35:50.8±0.9, 45.53N×26.37E, h140km, mb4.3/9, Error ellipse: s-maj=4.7km s-min=3.4km az=96.1*
MOS Felt (II-III) at Kishinev.
*IDC **08** 16:35:51.9±0.4, 45.58N×26.21E, h133km±3km, mb3.8/13, mb1 3.9/20, mb1mx3.8/25, mbtmp4.2/20, MS2.8/3, Ms1 2.8/3, ms1mx2.5/29, Error ellipse: s-maj=11.7km s-min=9.7km az=159.0*
*BUC **08** 16:35:51.0±0.5, 45.52N×26.37E, h148km±4km, MD4.7/8, Error ellipse: s-maj=3.6km s-min=2.5km az=316.0*
*THE **08** 16:35:52.9, 45.30N×26.33E, h99km, ML4.2*
*PRU **08** 16:35:53.0, 45.50N×25.73E, M4.2*
*SOF **08** 16:35:53.6, 45.24N×26.18E, h14km, MD3.8*
ISC 08 16:35:50.9±0.1**, 45.52N**±0.02**×26.36E**±0.02**, h140km**±1km**, h132km**±2.5km**: pP-P, n255, σ1§03**/305**, mb4.1**/37**, 34C-18D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.29	264	P	P	16 36 11.4	+0.6
	562nm,0.3s,baz=16,slow=1.0,SNR=5324						
MLR				S	S	16 36 25.2	-0.7
	513nm,0.3s,baz=110,slow=23,SNR=8.9						
MLR	Muntele Rosu	0.29	264	⇑iP	P	16 36 11.5	+0.8
MLR				i S	S	16 36 26.6	+0.7
MLR	Muntele Rosu	0.29	264	⇑iP	P	16 36 11.5	+0.8
MLR				S	S	16 36 25.7	-0.2
MLR				i S	S	16 36 26.6	+0.7
PLOR	Plostina	0.39	32	⇑iP	P	16 36 11.6	+0.5
PLOR				i S	S	16 36 26.7	+0.1
ISR	Istrita	0.43	162	⇑iP	P	16 36 12.1	+0.8
VRI	Vrincioaia	0.43	37	⇑iP	P	16 36 11.9	+0.6
VRI				i S	S	16 36 27.1	+0.2
SECR		0.53	203	⇑iP	P	16 36 12.7	+0.9
SECR				i S	S	16 36 28.2	+0.4
SNX	Sinaia	0.62	254	⇑iP	P	16 36 13.2	+0.9
SNX				i S	S	16 36 29.5	+0.8
PETR		0.65	72	⇑iP	P	16 36 13.4	+0.9
PETR				i S	S	16 36 29.3	+0.3
OZUR		0.70	325	⇑iP	P	16 36 13.0	+0.2
OZUR				i S	S	16 36 28.4	-1.1
SULR		0.85	185	⇑iP	P	16 36 14.7	+0.9
SULR				i S	S	16 36 31.9	+0.6
GHRR		0.91	54	⇑iP	P	16 36 15.3	+1.1
GHRR				i S	S	16 36 32.1	0.0
TUDR		0.92	85	⇑iP	P	16 36 14.6	+0.3
TUDR				i S	S	16 36 31.8	-0.5
VOIR		0.92	265	⇓iP	P	16 36 14.9	+0.6
VOIR				i S	S	16 36 31.0	-1.3
VOIR		0.92	265	⇓P	P	16 36 14.9	+0.6
VOIR				S	S	16 36 31.4	-0.9
MTUR	Matau	0.96	252	⇓iP	P	16 36 15.6	+1.0
STFR	Stefanesti	1.00	186	⇑iP	P	16 36 15.9	+1.0
STFR				i S	S	16 36 33.6	+0.3
VARR		1.11	71	⇑iP	P	16 36 16.8	+0.8
ONCR	Oncesti	1.13	34	⇓iP	P	16 36 16.7	+0.4
ONCR				i S	S	16 36 34.5	-1.2
AMRR		1.15	142	⇑iP	P	16 36 17.1	+0.7
AMRR				i S	S	16 36 35.7	-0.3
BUC1	Bucharest	1.20	191	⇑iP	P	16 36 17.7	+0.8
BUC1				i S	S	16 36 36.3	-0.6
BUC1	Bucharest	1.20	191	P	P	16 36 17.8	+0.9
BUC1				S	S	16 36 36.8	-0.1
BUC1	Bucharest	1.20	191	P	P	16 36 17.7	+0.8
BUC1				S	S	16 36 36.7	-0.2
BUC1	Bucharest	1.20	191	⇓P	P	16 36 17.7	+0.8
BUC1				S	S	16 36 36.7	-0.2
GOLR		1.20	236	⇓iP	P	16 36 17.9	+1.0
GOLR				i S	S	16 36 37.1	+0.2
PPE	Popeni	1.27	54	⇑iP	P	16 36 18.5	+0.8
PPE				i S	S	16 36 37.7	-0.6
CFR	Carcaliu	1.30	105	⇑iP	P	16 36 18.1	+0.1
CFR				i S	S	16 36 37.1	-1.7
HARR	Harsova	1.39	126	⇑iP	P	16 36 19.5	+0.6
BERR	Berezeni	1.50	56	⇓iP	P	16 36 20.8	+0.7
BERR				i S	S	16 36 41.8	-0.8
TLCR		1.77	100	⇑iP	P	16 36 23.4	+0.3
TLCR				i S	S	16 36 47.3	-0.4
TLCR		1.77	100	P	P	16 36 23.4	+0.4
TLCR		1.77	100	P	P	16 36 23.3	+0.2
TLCR				S	S	16 36 46.7	-1.0
TLCR		1.77	100	⇑P	P	16 36 23.3	+0.2
TLCR				S	S	16 36 46.7	-1.0
MSAB	Monastry St. A	1.77	143	⇑iP	P	16 36 23.7	+0.6
MSAB				i S	S	16 36 47.1	-0.8
IAS	Iasi	1.87	26	P	P	16 36 24.9	+0.7
IAS				S	S	16 36 48.5	-1.3
IAS	Iasi	1.87	26	P	P	16 36 24.6	+0.4
IAS				S	S	16 36 48.5	-1.2
IAS	Iasi	1.87	26	⇓P	P	16 36 24.6	+0.4
IAS				S	S	16 36 48.4	-1.3
ZIMR		2.00	201	⇓iP	P	16 36 26.3	+0.6
ZIMR				i S	S	16 36 51.3	-1.1
KIS	Kishinev	2.26	48	⇓iP	P	16 36 28.5	-0.5
	4μm,0.5s						
KIS				i S	S	16 36 55.0	-3.2
	19μm,0.5s						
KIS	Kishinev	2.26	48	κ iP	P	16 36 28.5	-0.5
KIS				i S	S	16 36 55.0	-3.2
KIS				pmax	pmax		
	comp=N,1μm,0.5s						
KIS				pmax	pmax		
	comp=E,2μm,0.5s						
KIS				pmax	pmax		
	comp=Z,4μm,0.5s						
KIS				pmax	pmax		
	comp=N,2μm,0.5s						
KIS				pmax	pmax		
	comp=E,2μm,0.5s						
KIS				pmax	pmax		
	comp=Z,3μm,0.5s						
KIS				smax			
	comp=N,19μm,0.5s						
KIS				smax			
	comp=E,25μm,0.5s						
KIS				smax			
	comp=N,22μm,0.5s						
KIS				smax			
	comp=E,27μm,0.5s						
SZH	Strazhica	2.28	188	P	P	16 36 29.2	-0.1
PVL	Pavlikeni	2.42	198	P	P	16 36 32.8	+1.6
PRD	Provadia	2.44	162	P	P	16 36 32.0	+0.6
DRGR		2.83	298	P	P	16 36 35.5	-1.0
DRGR		2.83	298	P	P	16 36 35.5	-1.0
DRGR				S	S	16 37 10.4	-0.8
DRGR		2.83	298	⇑P	P	16 36 35.4	-1.1
DRGR				S	S	16 37 10.4	-0.8
KMPD	K-Podol'skiy	3.04	1	P	P	16 36 38.0	-1.2
JMB	Yambol	3.06	177	P	P	16 36 39.0	-0.4
JMB	Yambol	3.06	177	P	P	16 36 39.2	-0.2
PGB	Panagyurishte	3.37	209	P	P	16 36 43.9	+0.4
PLD	Plovdiv	3.62	200	P	P	16 36 46.0	-0.8
VTS	Vitosha	3.71	219	P	P	16 36 47.0	-0.9
VTS	Vitosha	3.71	219	P	P	16 36 47.6	-0.4
VTS	Vitosha	3.71	219	P	P	16 36 47.7	-0.2
SVIS	Svilajnac	3.85	253	⇑iPn	P	16 36 48.9	-0.9
SVIS				Sn	S	16 37 28.7	-6.3
KDZ	Kurdzhali	3.93	190	P	P	16 36 51.0	+0.1
RZN	Rozhen	4.02	198	P	P	16 36 52.0	0.0
UZH	Uzhgorod	4.17	320	i P	P	16 36 55.0	+1.0
BARS	Barje	4.24	232	⇑iPn	P	16 36 54.5	-0.4
BARS				Sn	S	16 37 41.8	-2.3
KKB	Krupnik	4.36	214	P	P	16 36 56.7	+0.1
MMB	Musomiste	4.37	207	P	P	16 36 57.0	+0.2
KOLS	Kolonicke sedl	4.40	322	i PN	P	16 36 58.0	+0.9
RDO	Rodhopi	4.42	188	eP	P	16 36 57.2	-0.1
RDO	Rodhopi	4.42	188	P	P	16 36 56.6	-0.7
NVR	Nevrokopi	4.55	204	eP	P	16 36 59.1	0.0
LVV	L'vov	4.58	341	i P	P	16 37 00.0	+0.6
ALN	Alexandroupoli	4.63	183	ePn	P	16 37 00.0	-0.2
ALN				eSn	S	16 37 50.2	-3.3
ALN	Alexandroupoli	4.63	183	ePn	P	16 37 00.0	-0.2
ALN				eSn	S	16 37 50.2	-3.3
CRVS	Cervenica-Dubn	4.75	317	i PN	P	16 37 02.0	+0.3
DIVS	Divcibare	4.75	255	⇑iPn	P	16 37 00.7	-1.1
DIVS				Sn	S	16 37 54.0	-2.3
KWP	Kalwaria	4.79	330	ePn	P	16 36 57.1	-5.3
KWP				e		16 37 03.8	
KWP				e		16 37 05.3	
KWP	Kalwaria	4.79	330	ePn	P	16 36 57.1	-5.3
KWP				e		16 37 03.8	
KWP				e		16 37 05.3	
SRS	Serrai	4.84	206	ePn	P	16 37 02.9	-0.2
KECS	Kecovo	4.99	308	i Pn	P	16 37 05.1	+0.1
SKO	Skopje	5.03	227	i Pn	P	16 37 06.0	+0.5
KNT	Kendrikon	5.04	211	ePn	P	16 37 05.6	0.0
PSZ	Piszkesteto	5.05	301	⇓ePn	P	16 37 05.0	-0.7
PSZ				eSg	S	16 38 40.0	+36
PSZ	Piszkesteto	5.05	301	eP	P	16 37 04.3	-1.4
	comp=E,18nm,0.8s						
SOH	Sokhos	5.19	206	ePn	P	16 37 07.1	-0.5
SOH				eSn	S	16 38 04.3	-2.6
STHS	Stebnicka Huta	5.21	320	P	P	16 37 08.0	+0.1
GRG	Griva	5.40	214	ePn	P	16 37 10.0	-0.5
PKSM	Moragy	5.43	280	P	P	16 37 11.1	+0.3
PKSM	Moragy	5.43	280	P	P	16 37 11.1	+0.3
PKSM	Moragy	5.43	280	P	P	16 37 11.7	+0.9
OUR	Ouranopolis	5.47	199	ePn	P	16 37 09.8	-1.5
SIM	Simferopol'	5.51	93	eP	P	16 37 12.1	+0.2
	comp=E,150nm,0.6s						
SIM	Simferopol'	5.51	93	deP	P	16 37 12.1	+0.2
SIM				eS	S	16 38 05.7	-8.9
SIM				pmax	pmax		
	comp=Z,150nm,0.6s						
AKASG	Malin Array Be	5.52	19	P	P	16 37 11.1	-0.9
	comp=Z,24nm,0.3s,baz=202,slow=12,SNR=134						
AKASG				S	S	16 38 10.6	-4.4
	comp=Z,20nm,0.3s,baz=196,slow=22,SNR=5.9						
PLG	Polygyros	5.57	204	eP	P	16 37 12.4	-0.3
NIE	Niedzica	5.65	316	⇓iPn	P	16 37 14.6	+0.8
LIA	Limnos Island	5.69	189	eP	P	16 37 14.7	+0.4
RHK1	Bakonya	5.82	279	⇑eP	P	16 37 16.7	+0.7
PAIG	Paliouri	5.93	200	ePn	P	16 37 16.5	-1.0
VYHS	Vyhne	5.94	303	i PN	P	16 37 18.0	+0.4
FNA	Florina	5.97	219	ePn	P	16 37 17.9	-0.2
OJC	Ojcow	6.44	319	ePn	P	16 37 23.8	-0.7
OJC				ePP	PP	16 37 30.6	-1.9
OJC				ePg	P	16 37 51.9	+27
OJC				eSn	S	16 38 32.5	-4.6
XOR	Xorichti	6.58	202	ePn	P	16 37 24.9	-1.5
AOS	Alonnisos	6.61	197	ePn	P	16 37 25.1	-1.6
NEO	Neokhori	6.63	202	eP	P	16 37 26.2	-0.8
JAVC	Velka Javorina	6.79	303	P	P	16 37 24.8	-4.4
OKC	Ostrava-Krasne	7.02	311	ePN	P	16 37 31.7	-0.6
SOP	Sopron	7.09	291	P	P	16 37 32.8	-0.4
MORC	Moravsky Berou	7.32	309	eP	P	16 37 35.0	-1.2
	comp=Z,9.4nm,1.2s						
MORC	Moravsky Berou	7.32	309	ePn	P	16 37 35.5	-0.7
MORC	Moravsky Berou	7.32	309	eP	P	16 37 35.0	-1.2
MORC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
VRAC	Vranov	7.63	303	P	P	16 37 40.0	-0.4
	baz=114,slow=12,SNR=26						
VRAC				LR	LR	16 40 19.1	
	comp=Z,49nm,21.4s,baz=60,slow=36						
VRAC	Vranov	7.63	303	P	P	16 37 40.4	0.0
VRAC	Vranov	7.63	303	ePn	P	16 37 40.6	+0.2
VRAC	Vranov	7.63	303	P	P	16 37 40.9	+0.5
DOBS	Dobrina	7.63	279	eP	P	16 37 41.8	+1.4
KRUC	Moravsky	7.64	301	P	P	16 37 40.1	-0.5
ARSA	Arzberg	7.69	287	⇑iP	P	16 37 42.4	+1.2
	comp=Z,6.7nm,1.0s						
BOJS	Bojanci	7.80	274	eP	P	16 37 43.9	+1.1
PERS	Pernice	7.90	282	eP	P	16 37 44.6	+0.6
PERS	Pernice	7.90	282	eP	P	16 37 45.1	+1.1
BRTR	Keskin Array B	7.90	135	P	P	16 37 44.1	+0.1
	comp=Z,0.5nm,0.3s,baz=323,slow=10,SNR=40						
BRTR				S	S	16 39 11.7	-0.5
	baz=318,slow=18,SNR=2.6						
VISS	Visnje	8.07	276	eP	P	16 37 47.3	+0.9
TREC	Trest	8.28	301	ePN	P	16 37 49.6	+0.5
DPC	Dobruska-Polom	8.29	309	eP	P	16 37 48.8	-0.4
DPC	Dobruska-Polom	8.29	309	Pn	P	16 37 48.8	-0.4
UPC	Upice	8.54	309	ePN	P	16 37 54.3	+1.7
KSP	Ksiaz	8.57	312	eP	P	16 37 53.5	+0.5
KSP	Ksiaz	8.57	312	eP	P	16 37 53.0	0.0
MOA	Molln	8.63	290	P	P	16 37 57.0	+3.2
VOJS	Vojsko	8.73	278	eP	P	16 37 56.2	+1.1
SUW	Suwalki	8.74	348	eP	P	16 37 53.5	-1.8
PRU	Pruhonice	9.12	304	eP	P	16 38 00.8	+0.5
PRU	Pruhonice	9.12	304	Pn	P	16 38 00.8	+0.5
KBA	Koelnbreinsper	9.14	284	⇑iP	P	16 38 02.9	+2.3
	comp=Z,23nm,1.2s						
KBA	Koelnbreinsper	9.14	284	⇑iP	P	16 38 02.9	+2.3
KBA				pmax	pmax		
	comp=Z,23nm,1.2s						
GERES	GERESS Array B	9.24	296	P	P	16 38 02.2	+0.4
	comp=Z,0.2nm,0.3s,baz=108,slow=13,SNR=28						
KHC	Kasperske Hory	9.40	297	ePN	P	16 38 04.6	+0.7
TIP	Timpagrande	9.52	232	eP	P	16 38 04.9	-0.6
TIP	Timpagrande	9.52	232	eP	P	16 38 04.9	-0.6
SOC	Sochi	9.73	97	eP	P	16 38 07.5	-0.8
	comp=Z,9.0nm,0.9s						
SOC				eS	S	16 39 56.1	+0.1
SOC	Sochi	9.73	97	eP	P	16 38 07.5	-0.8
SOC				e		16 39 56.1	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SOC				pmax	pmax		
	comp=N,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.8s						
VORD	Divnogorie	10.20	53	eP	P	16 38 16.3	+1.9
VORD				pmax	pmax		
	comp=N,40nm,0.6s						
VORD				pmax	pmax		
	comp=E,90nm,0.6s						
VORD				pmax	pmax		
	comp=Z,40nm,0.6s						
VRSR	Storozhevoye	10.26	52	eP	P	16 38 14.3	-0.9
	comp=Z,10.0nm,0.8s						
VRSR	Storozhevoye	10.26	52	eP	P	16 38 14.3	-0.9
VRSR				eS	S	16 40 00.7	-7.6
VRSR				pmax	pmax		
	comp=Z,20nm,0.5s						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRSR				smax			
	comp=N,100nm,0.9s						
VRSR				smax			
	comp=Z,100nm,1.6s						
VRSR				smax			
	comp=E,60nm,0.7s						
WTTA	Wattenberg	10.32	285	P	P	16 38 20.1	+4.0
NKC	Novy Kostel	10.46	302	ePN	P	16 38 19.4	+1.5
VOR	Voronezh	10.52	49	i P	P	16 38 10.1	-8.6
CLL	Collm	10.59	308	P	P	16 38 18.0	-1.6
CLL				PP	PP	16 38 42.0	+13
DAVOX	Davos	11.50	282	P	P	16 38 40.2	+8.6
	comp=E,0.8nm,0.3s,baz=85,slow=7.6,SNR=7.3						
VRHR	Novokhopersk	11.59	56	c iP	P	16 38 32.6	-0.1
VRHR				pmax	pmax		
	comp=Z,50nm,0.6s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,30nm,0.6s						
OBN	Obninsk	11.60	30	eP	P	16 38 30.2	-2.6
	comp=E,31nm,0.6s						
OBN	Obninsk	11.60	30	⇓iP	P	16 38 30.4	-2.4
OBN				e		16 40 30.9	
OBN				pmax	pmax		
	comp=Z,57nm,1.1s						
KIV	Kislovodsk	11.72	92	⇑iP	P	16 38 34.0	-0.5
GOF	Gofitskoye	11.76	86	⇑iP	P	16 38 32.2	-2.8
GOF				pmax	pmax		
	comp=Z,40nm,1.3s						
LPG	La Plagne	13.75	277	eP	P	16 39 02.1	+1.4
	comp=Z,68nm,1.4s						
LPG	La Plagne	13.75	277	eP	P	16 39 02.1	+1.4
LPG				pmax	pmax		
	comp=Z,34nm,1.4s						
LPL	La Plagne	13.76	277	eP	P	16 39 02.3	+1.5
	comp=Z,30nm,1.2s						
LPL	La Plagne	13.76	277	eP	P	16 39 02.3	+1.5
LPL				pmax	pmax		
	comp=Z,15nm,1.2s						
CABF	La Chapelle	14.12	282	eP	P	16 39 06.9	+1.6
	comp=Z,5.4nm,0.6s						
CABF	La Chapelle	14.12	282	eP	P	16 39 06.9	+1.6
CABF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LOR	Lormes	15.61	284	eP	P	16 39 25.0	+0.8
	comp=Z,5.4nm,0.7s						
LOR	Lormes	15.61	284	eP	P	16 39 25.0	+0.8
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASF	Jabal al Asfar	15.64	145	P	P	16 39 27.6	+3.0
	comp=Z,0.2nm,0.3s,baz=108,slow=3.7,SNR=3.7						
SSF	Saint Saulge	15.86	284	eP	P	16 39 27.9	+0.6
	comp=Z,2.5nm,0.7s						
SSF	Saint Saulge	15.86	284	eP	P	16 39 27.9	+0.6
SSF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	15.95	360	P	P	16 39 25.0	-3.3
	comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=8.8						
FINES	FINESS Array B	15.95	360	P	P	16 39 25.0	-3.3
FINES				Pn	P	16 39 28.2	-0.1
FINES	FINESS Array B	15.95	360	Pn	P	16 39 28.2	-0.1
AVF	Avril sur Loir	15.98	283	eP	P	16 39 29.3	+0.5
	comp=Z,3.1nm,0.5s						
AVF	Avril sur Loir	15.98	283	eP	P	16 39 29.3	+0.5
AVF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	16.46	337	P	P	16 39 33.0	-1.7
	comp=Z,0.2nm,0.3s,baz=146,slow=14,SNR=17						
HFS				LR	LR	16 47 11.6	
	comp=Z,36nm,19.7s,baz=170,slow=42						
HFA0	Hagfors New Ar	16.47	337	Pn	P	16 39 33.5	-1.3
KAF	Kangasniemi	16.62	360	ep	P	16 39 34.2	-2.4
	comp=Z,9.5nm,0.9s,baz=181,slow=13						
KAF	Kangasniemi	16.62	360	eP	P	16 39 34.2	-2.4
KAF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MTLF	Montolieu	17.36	271	eP	P	16 39 46.3	+0.5
	comp=Z,17nm,1.1s						
MTLF	Montolieu	17.36	271	eP	P	16 39 46.3	+0.5
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RJF	Les Rejaudoux	17.43	278	eP	P	16 39 52.2	+5.7
	comp=Z,17nm,1.0s						
RJF	Les Rejaudoux	17.43	278	eP	P	16 39 52.2	+5.7
RJF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
JOF	Joensuu	17.66	7	ep	P	16 39 46.9	-2.2
NAO01	NORSAR Array S	17.85	335	eP	P	16 39 49.2	-2.2
	comp=Z,25nm,0.8s						
NB2	NORSAR Subarra	17.91	336	P	P	16 39 50.4	-1.6
	comp=Z,7.2nm,0.6s,baz=146,slow=11						
NB2	NORSAR Subarra	17.91	336	P	P	16 39 50.4	-1.6
NB2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NOA	NORSAR Array B	17.91	336	P	P	16 39 50.2	-1.8
	comp=Z,0.7nm,0.3s,baz=143,slow=9.9,SNR=18						
LDF	La Druitiere	18.27	289	eP	P	16 39 55.0	-1.0
MFF	Saint Martin d	18.40	283	eP	P	16 39 55.7	-1.7
	comp=Z,26nm,1.0s						
MFF	Saint Martin d	18.40	283	eP	P	16 39 55.7	-1.7
MFF				pmax	pmax		
	comp=Z,13nm,1.0s						
FLN	La Foliniere	18.50	290	eP	P	16 39 57.1	-1.5
	comp=Z,6.1nm,0.4s						
FLN	La Foliniere	18.50	290	eP	P	16 39 57.1	-1.5
FLN				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ETSF	Etsaut	19.44	272	eP	P	16 40 08.3	-0.2
	comp=Z,31nm,1.3s						
ETSF	Etsaut	19.44	272	eP	P	16 40 08.3	-0.2
ETSF				pmax	pmax		
	comp=Z,15nm,1.3s						
EKA	Eskdalemuir Ar	21.06	308	P	P	16 40 24.1	-0.6
	comp=Z,1.7nm,0.5s,mb3.6,baz=114,slow=10,SNR=5.3						
AKTK	Aktyubinsk	21.66	65	P	P	16 40 32.7	+2.0
	comp=Z,1.0nm,0.7s,mb3.4						
AKTO	Aktyubinsk	21.66	65	P	P	16 40 32.7	+2.0
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
APA	Apatity	22.41	7	i P	P	16 40 41.0	+3.1
	comp=Z,36nm,0.8s,mb4.8						
APA	Apatity	22.41	7	⇓iP	P	16 40 41.0	+3.1
APA				pmax	pmax		
	comp=Z,36nm,0.8s,mb4.8						
ARU	Arti	22.81	50	eP	P	16 40 42.2	+0.4
	comp=Z,13nm,0.4s,mb4.7						
ARU	Arti	22.81	50	i P	P	16 40 42.5	+0.7
	comp=Z,9.0nm,0.7s,mb4.3						
ARU	Arti	22.81	50	⇓iP	P	16 40 42.5	+0.7
ARU				e		16 41 09.0	
ARU				ePPP	PPP	16 41 20.4	-8.0
ARU				eS	S	16 44 40.8	+4.2
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.3						
AB31	Akbulak array	22.93	68	i P	P	16 40 44.9	+1.9
ESDC	Sonseca Array	22.99	266	P	P	16 40 44.3	+0.7
	comp=Z,0.2nm,0.4s,mb2.9,baz=48,slow=8.9,SNR=4.1						
SVE	Sverdlovsk	24.02	50	eP	P	16 40 55.0	+1.6
SVE				e		16 41 21.0	
ARCES	ARCESS Array B	24.08	359	P	P	16 40 53.9	0.0
	comp=Z,2.4nm,0.5s,mb4.0,baz=172,slow=8.6,SNR=28						
ARCES				LR	LR	16 50 30.3	
	comp=Z,39nm,21.5s,baz=344,slow=37						
BRVK	Borovoye	29.23	59	eP	P	16 41 41.8	+0.5
	comp=Z,2.0nm,0.6s,mb4.0						
BRVK	Borovoye	29.23	59	eP	P	16 41 41.8	+0.5
	comp=Z,2.0nm,0.6s,mb4.0						
BRVK	Borovoye	29.23	59	eP	P	16 41 41.8	+0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BVA0	Borovoye Array	29.30	59	iP	P	16 41 42.3	+0.4
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
BVAR	Borovoye Array	29.30	59	P	P	16 41 42.3	+0.5
	comp=Z,2.1nm,0.7s,mb4.0,baz=274,slow=7.3,SNR=18						
BVAR				pP	pP	16 42 11.1	-0.5
	comp=Z,1.2nm,0.7s,baz=256,slow=12,SNR=3.5						
KKAR	Karatay Array	31.39	78	iP	P	16 42 01.5	+1.1
AAK	Ala-Archa	34.30	77	eP	P	16 42 26.0	+0.6
	comp=Z,15nm,1.3s,mb4.6						
AAK	Ala-Archa	34.30	77	eP	P	16 42 26.0	+0.6
	comp=Z,15nm,1.3s,mb4.6						
AAK	Ala-Archa	34.30	77	⇑iP	P	16 42 25.8	+0.4
AAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
KURK	Kurchatov	34.66	62	eP	P	16 42 28.1	-0.4
	comp=Z,3.0nm,0.6s,mb4.1						
KURK	Kurchatov	34.66	62	eP	P	16 42 28.1	-0.3
	comp=Z,3.0nm,0.6s,mb4.1						
KURK	Kurchatov	34.66	62	eP	P	16 42 28.1	-0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
ZAL	Zalesovo	37.71	55	P	P	16 42 55.1	+1.0
	comp=Z,6.5nm,0.6s,mb4.5,baz=189,slow=8.3,SNR=27						
ZAL				pP	pP	16 43 25.4	+0.3
	comp=Z,2.2nm,0.7s,baz=214,slow=7.3,SNR=3.1						
MKAR	Makanchi Array	38.07	67	P	P	16 42 58.1	+1.0
	comp=Z,2.5nm,0.5s,mb4.1,baz=272,slow=8.1,SNR=46						
MKAR				pP	pP	16 43 28.1	-0.2
	comp=Z,0.9nm,0.7s,baz=280,slow=7.2,SNR=3.0						
MKAR				PcP	PcP	16 45 09.1	-0.8
	comp=Z,0.8nm,0.9s,baz=315,slow=3.4,SNR=4.3						
WMQ	Urumqi	42.71	69	eP	P	16 43 35.5	+0.3
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,126nm,4.4s						
DBIC	Dimbokro	47.21	225	P	P	16 44 10.4	-1.0
	comp=Z,1.3nm,0.3s,mb4.1,baz=15,slow=10,SNR=14						
ZAK	Zakamensk	49.60	55	eP	P	16 44 28.8	-0.5
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
BOD	Bodaibo	51.96	43	eP	P	16 44 44.8	-2.2
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb3.7						
LSA	Lhasa	52.33	84	eP	P	16 44 51.3	+1.1
	comp=Z,7.2nm,0.7s,mb4.4						
LSA	Lhasa	52.33	84	eP	P	16 44 51.3	+1.1
	comp=Z,7.2nm,0.7s,mb4.4						
LSA	Lhasa	52.33	84	eP	P	16 44 51.3	+1.1
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
SONM	Songino Array	52.59	57	P	P	16 44 52.7	+0.8
	comp=Z,5.4nm,0.7s,mb4.4,baz=299,slow=8.3,SNR=18						
ULN	Ulaanbaatar	52.96	56	eP	P	16 44 54.9	+0.3
	comp=Z,2.1nm,0.8s,mb3.9						
ULN	Ulaanbaatar	52.96	56	eP	P	16 44 54.9	+0.3
	comp=Z,2.0nm,0.8s,mb3.9						
ULN	Ulaanbaatar	52.96	56	eP	P	16 44 54.9	+0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KMI	Kunming	63.24	81	P	P	16 46 06.5	0.0
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
KMI	Kunming	63.24	81	P	P	16 46 06.5	0.0
	comp=Z,8.0nm,0.9s,mb4.5						
GYA	Guiyang	65.09	77	P	P	16 46 19.3	+0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
MDJ	Mudanjiang	67.49	49	P	P	16 46 30.8	-2.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,119nm,5.0s						
YKA	Yellowknife Ar	67.89	342	P	P	16 46 34.3	-1.3
	comp=Z,1.3nm,0.6s,mb3.8,baz=33,slow=5.8,SNR=9.7						
NJ2	Nanjing	69.54	65	eP	P	16 46 48.6	+2.4
NJ2				AP	pP	16 47 19.6	-0.9
NJ2				XP	sP	16 47 33.5	-2.3
NJ2				PP	PP	16 49 26.2	+2.9
NJ2				S	S	16 55 46.0	+4.9
NJ2				XS		16 56 38.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,1µm,10.2s						
NJ2				LR	LR		
	comp=N,300nm,24.9s						
NJ2				LR	LR		
	comp=E,290nm,16.1s						
NJ2				LR	LR		
	comp=Z,3µm,27.4s						
ILAR	Eielson Array	69.92	357	P	P	16 46 48.2	+0.2
	comp=Z,0.8nm,0.7s,mb3.6,baz=358,slow=4.3,SNR=9.0						
DAWY	Dawson	70.18	353	eP	P	16 46 49.2	-0.3
DAWY	Dawson	70.18	353	eP	P	16 46 49.2	-0.3
LBTB	Lobatse	70.20	181	P	P	16 46 50.4	0.0
	comp=Z,5.8nm,1.1s,mb4.2						
LBTB	Lobatse	70.20	181	P	P	16 46 50.4	+0.1
	comp=Z,5.8nm,1.1s,mb4.2						
LBTB	Lobatse	70.20	181	P	P	16 46 50.4	+0.1
LBTB				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
SSE	Sheshan	71.66	64	P	P	16 46 56.5	-2.4
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,60nm,2.9s,mb4.8						
SSE	Sheshan	71.66	64	P	P	16 46 56.5	-2.4
	comp=Z,19nm,0.7s,mb4.9						
ULM	Lac du Bonnet	72.27	325	P	P	16 47 00.7	-1.5
	comp=Z,1.7nm,0.7s,mb3.9,baz=16,slow=6.0,SNR=4.2						
ULM	Lac du Bonnet	72.27	325	eP	P	16 47 00.6	-1.6
	comp=Z,2.8nm,0.7s,mb4.1						
LAO	LASA Array	79.14	329	eP	P	16 47 41.2	+0.3
	comp=Z,13nm,1.0s,mb4.5						
BW06	Boulder Array	83.73	329	eP	P	16 48 04.6	-0.2
	comp=Z,1.9nm,0.9s,mb3.8						
BW06	Boulder Array	83.73	329	eP	P	16 48 04.6	-0.2
	comp=Z,1.9nm,0.9s,mb3.8						
PDAR	Pinedale Array	83.73	329	P	P	16 48 05.0	+0.2
	comp=Z,1.6nm,0.9s,mb3.8,baz=51,slow=4.6,SNR=9.6						
BMO	Blue Mountains	84.43	335	eP	P	16 48 07.5	-0.8
	comp=Z,6.1nm,0.7s,mb4.4						
BMO	Blue Mountains	84.43	335	eP	P	16 48 07.5	-0.8
	comp=Z,6.1nm,0.7s,mb4.4						
WMOK	Wichita Mounta	85.98	318	P	P	16 48 15.7	-0.4
	comp=Z,1.4nm,0.7s,mb3.8						
WMOK	Wichita Mounta	85.98	318	P	P	16 48 15.7	-0.5
	comp=Z,1.4nm,0.7s,mb3.8						
WMOK	Wichita Mounta	85.98	318	P	P	16 48 15.7	-0.5
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
SDCO	Great Sand Dun	86.47	324	P	P	16 48 19.0	+0.5
	comp=Z,1.0nm,0.4s,mb3.9						
SDCO	Great Sand Dun	86.47	324	P	P	16 48 19.0	+0.5
	comp=Z,1.0nm,0.4s,mb3.9						
ELK	Elko	87.49	332	P	P	16 48 23.4	+0.1
ELK	Elko	87.49	332	P	P	16 48 23.4	+0.1
BDFB	Brasilia	90.46	248	P	P	16 48 38.9	+1.0
	comp=Z,1.3nm,0.5s,mb4.2,baz=175,slow=11,SNR=3.6						
BDFB	Brasilia	90.46	248	P	P	16 48 38.8	+0.9
WRA	Warramunga Arr	116.44	92	PKP	PKPdf	16 54 18.5	+0.6
	comp=Z,1.0nm,0.9s,baz=301,slow=2.0,SNR=5.9						
STKA	Stephens Creek	128.96	98	PKP	PKPdf	16 54 43.4	+1.5
	comp=Z,1.8nm,0.8s,baz=301,slow=18,SNR=5.1						

IDC 08 16:40:53.8±2.5**, 18.88S×169.78E, mb4.2**/4**, mb1 4.3**/4**, mb1mx4.0**/12**, mbtmp4.2**/4**, 1D, Error ellipse: s-maj=91.3km s-min=37.1km az=141.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.47	237	P	P	16 46 51.9	-0.9
	2.7nm,0.6s,baz=50,slow=7.3,SNR=13						
WRA	Warramunga Arr	33.40	262	P	P	16 47 33.1	-3.4
	0.4nm,0.3s,baz=96,slow=8.3,SNR=20						
ASPA	Alice Springs	33.71	255	⇓iP	P	16 47 36.4	-2.7
FITZ	Fitzroy Crossi	41.79	264	P	P	16 48 45.4	-1.6
	7.6nm,0.7s,baz=77,slow=4.0,SNR=11						
SONM	Songino Array	87.24	323	P	P	16 53 43.4	0.0
	0.7nm,0.6s,baz=143,slow=7.4,SNR=3.8						
ARCES	ARCESS Array B	124.85	346	PKP	PKPdf	16 59 54.5	-2.7
	5.8nm,1.2s,baz=45,slow=1.3,SNR=4.2						
GERES	GERESS Array B	144.41	333	PKP	PKPdf	17 00 30.5	-3.3
	0.3nm,0.5s,baz=45,slow=3.8,SNR=4.5						

MAN 08 16:48:21.9, 11.46N×125.89E, h12km, mb4.3, ML3.2, MS2.9, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.47	288	eP	Pg	16 48 31.1	-0.5
BESP				eS	Sg	16 48 38.5	+0.6
PLP	Palo	0.94	252	eP	Pb	16 48 39.7	0.0
PLP				iS	Sb	16 48 48.3	-3.6
CNP	Catarman	1.59	311	eP	Pn	16 48 49.8	-0.4
CNP				eS	Sn	16 49 11.1	+0.3
SCPH	Surigao	1.71	193	⇓eP	Pn	16 48 49.4	-2.4
BUTP	Butuan	2.49	186	eP	Pn	16 49 03.3	+0.3
PVCP	Virac	2.72	322	eP	Pn	16 49 06.0	-0.3

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*NEIC **08** 16:50:07.5, 46.00N×6.90E, h4km, ML2.2(ZUR), ML2.8(LDG), ML2.4(GEN), ML2.4(STR), After ZUR.*
*LDG **08** 16:50:07.8±0.1, 46.04N×6.95E, h2km, Md2.8/2, Ml2.8/21, Error ellipse: s-maj=2.3km s-min=1.6km az=110.0*
*CSEM **08** 16:50:07.1±0.1, 46.01N×6.96E, h2km, ML2.8/17, Error ellipse: s-maj=1.0km s-min=0.7km az=107.0*
*GEN **08** 16:50:07.5, 46.02N×6.95E, h1km, ML2.0*
*STR **08** 16:50:08.2±0.3, 46.04N×6.99E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR 08 16:50:07.5, 46.04N×6.93E, h4km±2km**, ML2.2**/12**, 8C-4D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	Vieux Emosson	0.03	325	⇓iPg	Pg	16 50 08.9	+0.4
SALAN	Lac Salanfe	0.11	17	⇑iPg	Pg	16 50 10.0	+0.1
GRYON	Gryon	0.25	31	eS	Sg	16 50 16.2	+0.3
GRYON	Gryon	0.25	31	⇑iPg	Pg	16 50 12.5	0.0
GRYON	Gryon	0.25	31	⇑iPg	Pg	16 50 12.5	0.0
AIGLE	Aigle	0.30	4	⇑iPg	Pg	16 50 13.3	-0.3
DIX	Grande Dixence	0.34	82	⇓iPg	Pg	16 50 14.5	+0.1
DIX				eSg	Sg	16 50 19.4	+0.5
SENIN	Lac Senin	0.42	38	⇑iPg	Pg	16 50 15.6	-0.3
SENIN				eSg	Sg	16 50 21.6	+0.2
LPL	La Plagne	0.54	195	ePg	Pg	16 50 17.7	-0.6
LPL				eSg	Sg	16 50 25.1	-0.3
	32nm,0.3s						
LPG	La Plagne	0.55	193	ePg	Pg	16 50 18.0	-0.6
LPG				eSg	Sg	16 50 25.2	-0.8
	31nm,0.2s						
LKBD	Leukerbad	0.60	54	⇑iPg	Pg	16 50 19.3	-0.2
LSD	Ceresole Reale	0.60	164	P	Pg	16 50 18.8	-0.7
LSD				S	Sg	16 50 26.6	-1.0
LSD	Ceresole Reale	0.60	164	P	Pg	16 50 18.8	-0.7
LSD				S	Sg	16 50 26.6	-1.0
MMK	Mattmark	0.72	88	ePg	Pg	16 50 20.9	-1.1
TORNY	Torny	0.74	2	ePg	Pg	16 50 21.7	-0.5
WIMIS	Wimmis	0.79	37	⇓iPg	Pg	16 50 22.7	-0.7
CABF	La Chapelle	0.82	315	ePg	Pg	16 50 22.9	-0.9
CABF				ePn	Pn	16 50 24.5	-1.0
CABF				eSg	Sg	16 50 34.6	-0.1
	36nm,0.2s						
CABF				eSn	Sn	16 50 37.4	-0.7
ORX	Oropa	0.84	118	P	Pb	16 50 23.1	-1.2
ORX				S	Sg	16 50 34.0	-1.5
ORX	Oropa	0.84	118	P	Pb	16 50 23.1	-1.2
ORX				S	Sg	16 50 34.0	-1.6
RSP	Reno Superiore	0.92	165	P	Pb	16 50 24.6	-0.9
RSP				S	Sb	16 50 36.3	-1.6
RSP	Reno Superiore	0.92	165	P	Pb	16 50 24.6	-1.0
RSP				S	Sb	16 50 36.3	-1.6
BRANT	Les Verrieres	0.95	341	eP	Pb	16 50 26.0	-0.2
FENE	Fenestrelle	1.01	174	P	Pb	16 50 26.2	-1.0
FENE				S	Sb	16 50 38.8	-1.8
FENE	Fenestrelle	1.01	174	P	Pb	16 50 26.2	-1.0
FENE				S	Sb	16 50 38.8	-1.8
RRL	Cesana Torines	1.12	185	P	Pb	16 50 28.2	-0.8
RRL	Cesana Torines	1.12	185	P	Pb	16 50 28.2	-0.9
GRN	Grenoble	1.15	227	Pg	Pg	16 50 30.2	-0.2
BHB	Bricherasio	1.22	169	P	Pb	16 50 29.7	-1.0
BHB				S	Sb	16 50 45.0	-1.7
BHB	Bricherasio	1.22	169	P	Pb	16 50 29.7	-1.0
BHB				S	Sb	16 50 45.0	-1.7
MBDF	Montbardon	1.31	185	ePn	Pn	16 50 31.7	-0.9
MBDF				ePg	Pg	16 50 32.8	-1.0
MBDF				eSg	Sg	16 50 49.0	-2.3
	21nm,0.5s						
LOMF	Lomont	1.32	357	Pg	Pg	16 50 33.3	-0.5
LOMF				Sg	Sg	16 50 51.7	+0.4
LOMF	Lomont	1.32	357	Pn	Pn	16 50 31.9	-0.7
LOMF				Pg	Pg	16 50 33.3	-0.5
LOMF				Sg	Sg	16 50 51.7	+0.4
LOMF	Lomont	1.32	357	Pg	Pg	16 50 33.3	-0.5
LOMF				Sg	Sg	16 50 51.7	+0.4
ORIF	Oris-en-Rattie	1.34	214	ePn	Pn	16 50 31.7	-1.3
ORIF				ePg	Pg	16 50 33.4	-0.8
ORIF				eSg	Sg	16 50 50.1	-2.0
	35nm,0.4s						
BBS	Basel-Blauen	1.48	16	Pn	Pn	16 50 34.0	-1.0
BBS				Pg	Pg	16 50 36.0	-1.1
BBS				Sg	Sg	16 50 55.9	-1.0
BBS	Basel-Blauen	1.48	16	Pg	Pg	16 50 36.0	-1.1
BBS				Sg	Sg	16 50 55.9	-1.0
HINF	Hinteralfeld	1.78	358	ePn	Pn	16 50 37.7	-1.6
HINF				ePg	Pg	16 50 40.8	-2.3
HINF				eSn	Sn	16 50 59.1	-3.5
HINF				eSg	Sg	16 51 03.1	-3.7
	13nm,0.3s						
MOF	Molkenrain	1.82	4	Pg	Pg	16 50 41.8	-2.1
MOF	Molkenrain	1.82	4	Pn	Pn	16 50 38.3	-1.6
MOF				Pg	Pg	16 50 41.8	-2.1
MOF	Molkenrain	1.82	4	Pg	Pg	16 50 41.8	-2.1
VIVF	Saint-Julien-l	1.98	234	ePn	Pn	16 50 41.1	-1.0
VIVF				eP		16 50 44.7	
VIVF				eSg	Sg	16 51 09.0	-4.3
	42nm,0.3s						
VIVF	Saint-Julien-l	1.98	234	ePn	Pn	16 50 41.1	-1.0
VIVF				eSg	Sg	16 51 09.0	-4.3
	21nm,0.3s						
HAU	Haudompre	2.01	349	ePn	Pn	16 50 41.2	-1.4
HAU				ePg	Pg	16 50 45.1	-2.5
HAU				eSn	Sn	16 51 05.3	-3.1
HAU				eSg	Sg	16 51 11.4	-3.0
	12nm,0.2s						
ECH	Echery	2.19	4	Pn	Pn	16 50 43.1	-2.0
SBF	Sospel	2.20	170	ePg	Pg	16 50 50.1	-1.4
SBF				eSg	Sg	16 51 16.4	-4.5
	5.8nm,0.3s						
SMF	Signal de Mont	2.22	287	ePn	Pn	16 50 44.3	-1.3
SMF				ePg	Pg	16 50 49.6	-2.3
SMF				eSn	Sn	16 51 10.6	-3.2
SMF				eSg	Sg	16 51 16.8	-4.7
	10nm,0.2s						
SMRF	Simiane la Rot	2.27	205	ePg	Pg	16 50 50.5	-2.4
SMRF				eSg	Sg	16 51 22.3	-0.9
	3.4nm,0.3s						
CDF	Champ du Feu	2.39	6	ePn	Pn	16 50 45.8	-2.2
CDF				ePg	Pg	16 50 52.1	-3.1
CDF				eSg	Sg	16 51 22.7	-4.3
	5.0nm,0.3s						
DAVA	Damuels	2.39	57	⇑iPn	Pn	16 50 48.5	+0.5
DAVA				⇓iSg	Sg	16 51 26.0	-1.0
	comp=Z,6.0nm,0.3s						
DAVA	Damuels	2.39	57	⇑iPn	Pn	16 50 48.5	+0.5
DAVA				iSn	Sn	16 51 22.5	+4.4
WLS	Welschbruch	2.40	7	Pn	Pn	16 50 45.8	-2.3
LOR	Lormes	2.44	301	ePn	Pn	16 50 47.5	-1.3
	baz=126						
LOR				ePg	Pg	16 50 53.1	-3.2
	baz=119						
LOR				eSg	Sg	16 51 24.7	-4.2
	7.3nm,0.2s						
LOR	Lormes	2.44	301	ePg	Pg	16 50 53.1	-3.2
LOR				eSg	Sg	16 51 24.7	-4.2
	3.7nm,0.2s						
FRF	La Foret Royal	2.48	185	eP	Pn	16 50 53.7	+4.3
FRF				eSg	Sg	16 51 25.6	-4.6
	5.6nm,0.3s						
SFTF	Sexfontaines	2.52	330	ePn	Pn	16 50 48.5	-1.4
	baz=140						
SSF	Saint Saulge	2.57	295	ePn	Pn	16 50 49.5	-1.1
SSF				ePg	Pg	16 50 55.3	-3.6
SSF				eSn	Sn	16 51 19.5	-3.2
SSF				eSg	Sg	16 51 30.0	-3.1
	4.4nm,0.3s						
SSF	Saint Saulge	2.57	295	ePg	Pg	16 50 55.3	-3.6
SSF				eSn	Sn	16 51 19.5	-3.2
SSF				eSg	Sg	16 51 30.0	-3.1
	2.2nm,0.3s						
AVF	Avril sur Loir	2.58	288	ePn	Pn	16 50 49.4	-1.4
AVF				ePg	Pg	16 50 56.4	-2.7
AVF				eSn	Sn	16 51 20.2	-2.8
AVF				eSg	Sg	16 51 28.4	-5.1
	6.3nm,0.3s						
RFYF	Reffroy	2.77	340	ePn	Pn	16 50 52.4	-1.1
RFYF				ePg	Pg	16 50 58.0	-4.9
RFYF				eSg	Sg	16 51 34.6	-5.3
	9.8nm,0.2s						
MEZF	Maizieres J'vi	2.78	333	ePg	Pg	16 50 59.7	-3.2
	baz=152						
MEZF				eSg	Sg	16 51 35.8	-4.1
	15nm,0.4s						
BGF	Bois d'Agland	2.88	282	ePn	Pn	16 50 52.0	-2.9
BGF				ePg	Pg	16 51 02.1	-2.8
BGF				eSg	Sg	16 51 37.8	-5.4
	14nm,0.4s						
LASF	Ste Croix	2.93	229	ePn	Pn	16 50 54.8	-0.9
LASF				ePg	Pg	16 51 05.0	-1.0
LASF				eSg	Sg	16 51 39.1	-5.9
	7.4nm,0.4s						
TCF	Toulx Ste Croi	3.29	276	ePn	Pn	16 50 59.1	-1.7
TCF				ePg	Pg	16 51 09.0	-4.1
TCF				eSg	Sg	16 51 50.9	-6.0
	2.9nm,0.3s						
CAF	Calviac	3.59	254	ePn	Pn	16 51 03.3	-1.9
CAF				eSg	Sg	16 51 58.9	-8.3
	4.5nm,0.4s						

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*NEIC **08** 17:27:05.3, 30.31S×71.62W, h12km, ML3.4(GUC), After GUC.*
GUC 08 17:27:05.7±1.0**, 30.32S×71.61W, h15**km±12km**, MD3.5, ML3.4, 7C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.46	129	⇓iP	Pb	17 27 14.9	+0.1
OVCH				iS	Sb	17 27 21.3	+0.2
OVCH				AMP		17 27 21.8	
	comp=E,3µm,0.3s						
LSCH	La Serena	0.52	38	⇑iP	Pb	17 27 16.9	+0.9
LSCH				iS	Sb	17 27 24.7	+1.6
LSCH				AMP		17 27 26.4	
	comp=E,2µm,0.4s						
TLL	Tololo Astrono	0.72	78	⇓iP	Pb	17 27 19.7	+0.3
TLL				iS	Sb	17 27 29.9	+1.2
TLL				AMP		17 27 34.0	
	comp=N,2µm,0.5s						
TLL	Tololo Astrono	0.72	78	⇓iP	Pb	17 27 19.6	+0.3
TLL				iS	Sb	17 27 29.8	+1.2
CMCH	Combarbala	1.00	148	⇑iP	Pb	17 27 22.7	-1.4
CMCH				iS	Sb	17 27 35.6	-1.2
CMCH				AMP		17 27 38.4	
	comp=N,5µm,0.6s						
ILCH	Illapel	1.36	164	⇑iP	Pn	17 27 29.3	-1.0
ILCH				iS	Sb	17 27 46.5	-0.8
ILCH				AMP		17 27 47.8	
	comp=E,756nm,0.4s						
CHNG	Los Chungos	1.56	176	eP	Pn	17 27 32.0	-1.1
CHNG				iS	Sb	17 27 52.1	-0.9
CHNG				AMP		17 27 57.0	
	comp=E,290nm,0.8s						
VACH	Vallenar	1.90	23	⇑iP	Pn	17 27 37.6	-0.3
VACH				iS	Sn	17 28 01.5	-0.1
VACH	Vallenar	1.90	23	⇑iP	Pn	17 27 37.6	-0.3
VACH				iS	Sn	17 28 01.4	-0.2
JACH	Jahuel	2.51	160	⇑iP	Pn	17 27 47.5	+0.8
JACH				iS	Sn	17 28 19.2	+2.0
CLCH	Cerro Calan	3.20	164	AMP		17 28 47.7	
	comp=N,223nm,0.5s						
FCH	Farellones	3.20	160	AMP		17 28 47.5	
	comp=N,100nm,0.4s						
SAN	Santiago	3.22	166	AMP		17 28 50.6	
	comp=N,188nm,0.4s						
TACH	Talagante	3.37	170	eP	Pn	17 27 58.4	-0.6
TACH	Talagante	3.37	170	⇑iP	Pn	17 27 58.3	-0.6
TACH				iS	Sn	17 28 39.5	+0.6
PCH	Pirque	3.42	164	eP	Pn	17 27 59.9	+0.3
PCH	Pirque	3.42	164	iP	Pn	17 28 00.1	+0.5
PCH				iS	Sn	17 28 41.5	+1.3
SFDO	San Fernando	4.31	173	iP	Pn	17 28 11.9	-0.3
SFDO				iS	Sn	17 29 02.6	-0.2
LVC	Limon Verde	8.05	18	ePn	P	17 29 00.2	-4.8
	comp=N,115nm,0.6s						

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*UPP **08** 17:28:58.3, 57.73N×22.42E, h0km, ML2.5, Mining explosion.*
*BER **08** 17:29:01.5±6.2, 57.78N×22.21E, ML2.0(NAO)*
*CSEM **08** 17:29:01.0±0.3, 57.98N×22.26E, h2km, ML1.9, Error ellipse: s-maj=7.2km s-min=3.3km az=173.0, Mining explosion.*
*NAO **08** 17:29:02.4±3.5, 57.96N×22.09E, ML2.0*
HEL 08 17:28:59.5±0.2**, 57.75N×22.28E, ML1.8, ML2.5**(UPP)**, ML2.0**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	Gotland	1.99	270	eP	Pn	17 29 34.4	-0.4
GOTU				eS	Sn	17 30 01.1	+0.4
VSU	Vasula	2.47	71	eP	Pn	17 29 42.4	+0.7
VSU				eS	Sn	17 30 11.7	-1.3
VSU	Vasula	2.47	71	P	Pn	17 29 42.3	+0.6
VSU				S	Sn	17 30 11.7	-1.3
NYNU	Nynaeshamn	2.58	301	eP	Pn	17 29 42.2	-1.0
NYNU	Nynaeshamn	2.58	301	P	Pn	17 29 42.1	-1.1
VIKU	Vikbolandet	3.05	287	eP	Pn	17 29 49.3	-0.7
PVF	Pernaja	3.36	32	ePB	Pb	17 29 57.4	-2.4
PVF				eS	Sn	17 30 32.5	-2.9
VJF	Virojoki	3.90	42	ePG	Pg	17 30 09.1	-8.3
VJF				eS	Sn	17 30 46.0	-3.2
FIA0	FINESS Array S	4.18	26	eP	Pn	17 30 04.2	-1.7
FIA0				eS	Sn	17 30 51.9	-4.4
FIA0	FINESS Array S	4.18	26	Pn	Pn	17 30 05.1	-0.9
	baz=200,slow=14						
FIA0				Pg	Pg	17 30 14.6	-8.4
	baz=176,slow=18						
FIA0				Sn	Sn	17 30 53.3	-2.9
	baz=203,slow=22						
FIA0				Lg		17 31 08.9	
	baz=217,slow=28						
FIA0	FINESS Array S	4.18	26	P	Pn	17 30 04.1	-1.8
FIA0	FINESS Array S	4.18	26	Pn	Pn	17 30 05.1	-0.8
	SNR=50						
FIA0	FINESS Array S	4.18	26	Pg	Pg	17 30 14.6	-8.3
	SNR=90						
FIA0				S	Sn	17 30 51.8	-4.4
KEF	Keuruu	4.62	15	eP	Pn	17 30 11.3	-0.9
KEF				eS	Sn	17 31 03.1	-4.3
KEF				MSG		17 31 27.4	
	comp=Z,1.0nm,0.3s						
KEF	Keuruu	4.62	15	P	Pn	17 30 11.3	-0.9
KEF				S	Sn	17 31 03.0	-4.4
	comp=Z,1.0nm,0.3s						
KAF	Kangasniemi	4.82	23	eP	Pn	17 30 13.2	-1.9
KAF				eSG	Sg	17 31 27.6	-12
KAF				MSG		17 31 37.4	
	comp=Z,1.1nm,0.3s						
HFS	Hagfors	5.04	302	Pn	Pn	17 30 15.8	-2.4
	baz=129,slow=16						
HFS				Sn	Sn	17 31 13.7	-4.4
	baz=104,slow=37						
HFS				Lg		17 31 34.7	
	baz=105,slow=28						
HFS	Hagfors	5.04	302	eP	Pn	17 30 15.8	-2.4
HFS				eS	Sn	17 31 13.7	-4.4
HFS				eSG	Sg	17 31 34.7	-13
HFS	Hagfors	5.04	302	Pn	Pn	17 30 15.8	-2.4
	SNR=50						
HFS				S	Sn	17 31 13.6	-4.5
HFS				Sg	Sg	17 31 34.6	-13
SUF	Sumiainen	5.35	20	eSB	Sb	17 31 37.1	-2.0
SUF				MSG		17 31 48.5	
	comp=Z,1.1nm,0.3s						
NB2	NORSAR Subarra	6.54	305	eP	Pn	17 30 36.1	-3.2
NB2				eSG	Sg	17 32 20.5	-17
NB2	NORSAR Subarra	6.54	305	Pn	Pn	17 30 36.1	-3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=121,slow=14						
NB2				Lg		17 32 20.5	

*NEIC **08** 17:45:14.6±4.1, 35.41S×178.54W, h10km, mb4.8/1, Error ellipse: s-maj=56.8km s-min=22.4km az=86.0*

ISC 08 17:45:19.1±1.6**, 36.1S**±0.2×**178.6W**±0.2**, h10**km**, n28, σ1§37**/43**, mb4.7**/1**, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.90**	**238**	PN	**Pn**	**17 46 07.2**	**+1.0**
MXZ				SN	**Sn**	**17 46 41.7**	**+0.2**
MXZ	**Matakaoa Point**	**2.90**	**238**	P	**Pn**	**17 46 07.2**	**+1.0**
MXZ				S	**Sn**	**17 46 41.8**	**+0.3**
PUZ	**Puketiti**	**3.22**	**230**	PN	**Pn**	**17 46 13.3**	**+2.5**
PUZ				SN	**Sn**	**17 46 51.7**	**+2.1**
PUZ	**Puketiti**	**3.22**	**230**	P	**Pn**	**17 46 13.5**	**+2.8**
PUZ				S	**Sn**	**17 46 51.9**	**+2.4**
MWZ	**Matawai**	**3.84**	**233**	*e*PN	**Pn**	**17 46 20.8**	**+1.3**
MWZ				SN	**Sn**	**17 47 04.2**	**-1.0**
MWZ				SN	**Sn**	**17 47 06.4**	**+1.2**
MWZ	**Matawai**	**3.84**	**233**	*e*P	**Pn**	**17 46 20.8**	**+1.3**
MWZ				S	**Sn**	**17 47 06.4**	**+1.2**
URZ	**Urewera**	**4.07**	**236**	PN	**Pn**	**17 46 22.2**	**-0.6**
URZ				*e*SN	**Sn**	**17 47 09.4**	**-1.7**
URZ	**Urewera**	**4.07**	**236**	P	**Pn**	**17 46 23.2**	**+0.4**
KNZ	**Kokohu**	**4.18**	**224**	*e*PN	**Pn**	**17 46 26.9**	**+2.5**
KNZ				SN	**Sn**	**17 47 15.9**	**+1.8**
KNZ	**Kokohu**	**4.18**	**224**	P	**Pn**	**17 46 26.9**	**+2.4**
KUZ	**Kuaotunu**	**4.63**	**260**	*e*PN	**Pn**	**17 46 26.7**	**-4.1**
KUZ	**Kuaotunu**	**4.63**	**260**	*e*P	**Pn**	**17 46 26.8**	**-4.0**
BKZ	**Black Stump Fm**	**4.98**	**230**	PN	**Pn**	**17 46 35.3**	**-0.4**
BKZ				SN	**Sn**	**17 47 33.5**	**-0.6**
BKZ	**Black Stump Fm**	**4.98**	**230**	P	**Pn**	**17 46 35.3**	**-0.4**
BKZ				S	**Sn**	**17 47 33.5**	**-0.6**
PXZ	**Pawanui**	**5.34**	**221**	*e*PN	**Pn**	**17 46 41.0**	**+0.2**
PXZ				SN	**Sn**	**17 47 42.9**	**-0.4**
CNZ	**Chateau**	**5.60**	**234**	P	**Pn**	**17 46 44.1**	**-0.4**
BFZ	**Birch Farm**	**6.14**	**220**	*e*PN	**Pn**	**17 46 51.7**	**-0.4**
BFZ				*e*SN	**Sn**	**17 48 01.5**	**-1.7**
BFZ	**Birch Farm**	**6.14**	**220**	*e*P	**Pn**	**17 46 51.8**	**-0.3**
MRZ	**Mangatainoka R**	**6.48**	**223**	*e*PN	**Pn**	**17 46 55.5**	**-1.5**
MRZ				SN	**Sn**	**17 48 07.3**	**-4.5**
MRZ	**Mangatainoka R**	**6.48**	**223**	*e*P	**Pn**	**17 46 55.8**	**-1.1**
TCW	**Tory Channel**	**7.59**	**225**	SN	**Sn**	**17 48 32.8**	**-6.6**
THZ	**Tophouse**	**8.73**	**227**	*e*PN	**P**	**17 47 24.2**	**-4.1**
THZ				*e*SN	**Sn**	**17 48 59.7**	**-8.2**
THZ	**Tophouse**	**8.73**	**227**	*e*P	**P**	**17 47 24.6**	**-3.8**
KHZ	**Kahutara**	**8.80**	**221**	*e*PN	**P**	**17 47 28.2**	**-1.2**
KHZ	**Kahutara**	**8.80**	**221**	*e*P	**P**	**17 47 28.2**	**-1.1**
LTZ	**Lake Taylor**	**9.74**	**224**	*e*SN	**Sn**	**17 49 21.5**	**-11**
MQZ	**McQueen's Vall**	**10.17**	**219**	*e*SN	**S**	**17 49 32.9**	**-10**
WRAB	**Tennant Creek**	**44.11**	**278**	*e*P	**P**	**17 53 23.1**	**-6.3**
	10nm,0.6s,mb4.7						

*LDG **08** 17:46:23.6±0.6, 15.26S×168.26E, h10km, Error ellipse: s-maj=79.1km s-min=26.6km az=120.0*
*IDC **08** 17:46:36.4±3.1, 14.77S×167.32E, h101km±26km, mb3.7/8, mb1 3.9/10, mb1mx3.8/16, mbtmp4.2/10, MS3.3/2, Ms1 3.3/2, ms1mx2.9/27, Error ellipse: s-maj=29.7km s-min=15.1km az=75.0*
*NEIC **08** 17:46:37.8±1.2, 14.78S×167.21E, h109km±10km, mb4.3/5, Error ellipse: s-maj=10.9km s-min=9.8km az=68.0*

ISC 08 17:46:36.8±1.7**, 14.78S**±0.08×**167.20E**±0.10**, h118**km±15km**, n41, σ0§94**/26**, mb4.0**/10**, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.29**	**186**	P	**P**	**17 48 21.8**	**-0.2**
	6.3nm,0.3s,baz=22,slow=17,SNR=66						
DZM				S	**S**	**17 49 38.7**	**-5.0**
	0.9nm,0.3s,baz=162,slow=23,SNR=2.8						
HNR	**Honiara**	**8.86**	**306**	P	**P**	**17 48 44.6**	**+1.4**
	3.6nm,0.3s,baz=224,slow=21,SNR=3.3						
HNR				S	**S**	**17 50 21.7**	**-0.1**
	9.3nm,0.3s,baz=57,slow=21,SNR=4.4						
HNR				LR	LR	17 51 18.0	
	comp=Z,58nm,20.9s,baz=144,slow=32						
HNR	**Honiara**	**8.86**	**306**	*e*Pn	**P**	**17 48 43.7**	**+0.5**
HNR				*e*Sn	**S**	**17 50 21.6**	**-0.2**
AFI	**Afiamalu**	**20.39**	**90**	P	**P**	**17 51 05.9**	**-0.4**
	78nm,1.1s						
CTA	**Charters Tower**	**20.66**	**252**	P	**P**	**17 51 10.2**	**+1.2**
	6.6nm,0.7s,baz=80,slow=11,SNR=6.9						
CTAO	**Charters Tower**	**20.66**	**252**	*e*P	**P**	**17 51 09.4**	**+0.3**
	7.6nm,0.7s						
STKA	**Stephens Creek**	**28.91**	**230**	⇓*i*P	**P**	**17 52 27.4**	**+0.6**
	4.3nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**28.91**	**230**	P	**P**	**17 52 27.6**	**+0.7**
	6.7nm,0.6s,mb4.4,baz=30,slow=8.0,SNR=25						
STKA	**Stephens Creek**	**28.91**	**230**	*e*P	**P**	**17 52 27.6**	**+0.7**
WRAB	**Tennant Creek**	**31.74**	**256**	*e*P	**P**	**17 52 50.6**	**-1.3**
	20nm,1.6s,mb4.6						
WRA	**Warramunga Arr**	**31.75**	**256**	P	**P**	**17 52 50.8**	**-1.2**
	0.6nm,0.8s,mb3.4,baz=88,slow=8.8,SNR=4.7						
JOW	**Kunigami**	**56.04**	**317**	LR	LR	18 15 08.2	
	comp=Z,87nm,21.9s,baz=12,slow=30						
MJAR	**Matsushiro Arr**	**57.92**	**333**	P	**P**	**17 56 18.1**	**-0.9**
	1.5nm,0.6s,mb4.2,baz=164,slow=9.1,SNR=6.0						
VNDA	**Vanda**	**62.81**	**181**	P	**P**	**17 56 52.0**	**+0.2**
	0.3nm,0.6s,mb3.4,baz=356,slow=5.0,SNR=3.2						
VNDA	**Vanda**	**62.81**	**181**	P	**P**	**17 56 50.7**	**-1.1**
CASY	**Casey**	**63.46**	**202**	P	**P**	**17 56 54.7**	**-1.4**
	1.2nm,0.6s,mb4.0						
YAK	**Yakutsk**	**82.06**	**343**	P	**P**	**17 58 44.6**	**-0.4**
SONM	**Songino Array**	**82.50**	**324**	P	**P**	**17 58 47.0**	**-0.6**
	0.8nm,0.5s,mb3.9,baz=90,slow=3.0,SNR=3.7						
LSA	**Lhasa**	**85.53**	**302**	P	**P**	**17 59 03.9**	**+0.7**
	3.5nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**86.59**	**18**	P	**P**	**17 59 07.4**	**-0.1**
	1.1nm,0.8s,mb3.9,baz=243,slow=5.4,SNR=8.0						
VNA3	**Neumayer Olymp**	**94.16**	**181**		**P**	**17 59 43.9**	**+1.2**
VNA2	**Neumayer--Watz**	**94.43**	**182**		**P**	**17 59 45.3**	**+1.4**
VNA1	**Neumayer--Stat**	**94.73**	**182**		**P**	**17 59 49.0**	**+3.7**
MKAR	**Makanchi Array**	**97.19**	**316**	P	**P**	**17 59 58.1**	**+1.0**
	0.8nm,0.8s,mb4.2,baz=76,slow=5.0,SNR=7.5						
BAIF	**Baives**	**142.19**	**342**	*e*PKP1	PKPdf	18 05 57.5	+2.5
FLN	**La Foliniere**	**144.63**	**346**	*e*PKP1	PKPbc	18 06 00.3	+1.1
	8.6nm,0.8s						
LDF	**La Druitiere**	**144.70**	**345**	*e*PKP1	PKPbc	18 06 00.5	+1.1
	19nm,1.0s						
SSF	**Saint Saulge**	**145.06**	**340**	*e*PKP1	PKPbc	18 06 02.5	+2.0
	24nm,0.9s						
GRR	**Gorron**	**145.07**	**346**	*e*PKP1	PKPbc	18 06 02.1	+1.6
	18nm,0.9s						
LPL	**La Plagne**	**145.21**	**336**	*e*PKP1	PKPbc	18 06 03.5	+2.6
	9.7nm,0.7s						
LPG	**La Plagne**	**145.22**	**336**	*e*PKP1	PKPbc	18 06 03.5	+2.6
	14nm,0.8s						
SMF	**Signal de Mont**	**145.31**	**340**	*e*PKP1	PKPbc	18 06 03.2	+2.1
	9.1nm,0.7s						
AVF	**Avril sur Loir**	**145.35**	**340**	*e*PKP1	PKPbc	18 06 03.1	+1.9
SGMF	**Saint Gilles**	**145.56**	**348**	*e*PKP1	PKPbc	18 06 03.6	+1.9
	8.1nm,0.6s						
BGF	**Bois d'Agland**	**145.72**	**341**	*e*PKP1	PKPbc	18 06 04.4	+2.3
MBDF	**Montbardon**	**145.84**	**335**	*e*PKP1	PKPbc	18 06 05.1	+2.6
	13nm,0.9s						
ORIF	**Oris-en-Rattie**	**146.04**	**336**	*e*PKP1	PKPbc	18 06 05.8	+2.8
	16nm,0.7s						
TCF	**Toulx Ste Croi**	**146.16**	**341**	*e*PKP1	PKPbc	18 06 05.7	+2.5
	7.7nm,0.8s						
SBF	**Sospel**	**146.26**	**333**	*e*PKP1	PKPbc	18 06 05.3	+1.8
	66nm,0.9s						
MFF	**Saint Martin d**	**146.55**	**344**	*e*PKP1	PKPbc	18 06 06.8	+2.7
	27nm,1.0s						
RJF	**Les Rejaudoux**	**147.25**	**341**	*e*PKP1	PKPdf	18 06 08.7	+4.9
	4.6nm,0.6s						

*NNC **08** 17:52:10.8±1.6, 40.87N×73.69E, mpv3.0, Error ellipse: s-maj=13.4km s-min=6.6km az=158.0*
*KNET **08** 17:52:12.1±0.5, 41.02N×73.81E, h3km±2km, ml2.5, Error ellipse: s-maj=4.1km s-min=2.5km az=96.0*

ISC 08 17:52:09.5±1.7**, 40.86N**±0.09×**73.4E**±0.1**, h3**km**, n10, σ1§20**/18**, 9C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.30**	**11**	⇓P	**Pb**	**17 52 33.5**	**-0.8**
	25nm,0.2s,SNR=9.1						
AML				⇑S	**Sb**	**17 52 51.0**	**-0.3**
	256nm,0.4s						
UCH	**Uchtor**	**1.63**	**32**	⇑P	**Pn**	**17 52 37.3**	**-2.0**
	9.1nm,0.2s,SNR=8.9						
UCH				⇓S	**Sb**	**17 52 57.9**	**-2.9**
	41nm,0.2s						
EKS2	**Erkin-Say**	**1.83**	**10**	⇓P	**Pn**	**17 52 43.0**	**+0.8**
	11nm,0.2s,SNR=47						
EKS2				⇑S	**Sn**	**17 53 07.2**	**+1.0**
	29nm,0.2s						
AAK	**Ala-Archa**	**1.97**	**25**	⇓P	**Pn**	**17 52 44.2**	**0.0**
	12nm,0.2s,SNR=9.5						
AAK				⇑S	**Sn**	**17 53 08.7**	**-1.1**
	51nm,0.3s						
AAK	**Ala-Archa**	**1.97**	**25**	⇓P	**Pn**	**17 52 44.1**	**-0.1**
	3.5nm,0.2s						
AAK				⇑S	**Sn**	**17 53 09.1**	**-0.7**
	15nm,0.4s						
KBK	**Karagaybulak**	**2.16**	**33**	⇓P	**Pn**	**17 52 46.5**	**-0.4**
	11nm,0.1s,SNR=9.6						
KBK				⇑S	**Sn**	**17 53 13.9**	**-0.7**
	116nm,0.4s						
CHMS	**Chumysh**	**2.38**	**26**	⇑P	**Pn**	**17 52 51.5**	**+1.4**
	16nm,0.4s,SNR=8.8						
CHMS				⇑S	**Sn**	**17 53 21.2**	**+0.9**
	17nm,0.2s						
USP	**Ospenovka**	**2.56**	**19**	⇓P	**Pn**	**17 52 53.7**	**+1.1**
	18nm,0.4s,SNR=21						
USP				⇑S	**Sn**	**17 53 27.0**	**+2.3**
	26nm,0.3s						
TKM2	**Tokmak 2**	**2.66**	**38**	⇓P	**Pn**	**17 52 54.9**	**+0.8**
	11nm,0.3s,SNR=13						
KK31	**Karatay Array**	**3.08**	**318**	Pg	**Pg**	**17 53 09.9**	**-1.2**
	1.9nm,0.4s,baz=135,slow=15,SNR=32						
KK31				⇓Lg		17 53 53.6	
	15nm,0.4s,baz=131,slow=28,SNR=20						

*BJI **08** 18:00:42.3, 8.05S×129.65E, h91km, mB5.1, mb4.6*
*MOS **08** 18:00:47.0±2.9, 7.10S×129.10E, h95km, mb4.5/6, Error ellipse: s-maj=22.3km s-min=10.0km az=112.4*
*NEIC **08** 18:00:50.5±1.1, 7.06S×129.53E, h92km±11km, mb4.7/7, Error ellipse: s-maj=14.4km s-min=6.4km az=71.0*
*IDC **08** 18:00:53.6±3.8, 7.07S×129.23E, h119km±35km, mb4.0/11, mb1 4.2/12, mb1mx4.1/15, mbtmp4.5/12, Error ellipse: s-maj=30.0km s-min=12.3km az=77.0*

ISC 08 18:00:49.8±1.7**, 7.07S**±0.06×**129.37E**±0.07**, h98**km±17km**, n55, σ1§11**/64**, mb4.6**/26**, 2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.55**	**198**	*e*P	**P**	**18 03 33.2**	**+0.4**
	26nm,0.3s						
FITZ				*e*S	**S**	**18 05 32.7**	**-7.6**
FITZ	**Fitzroy Crossi**	**11.55**	**198**	P	**P**	**18 03 33.3**	**+0.5**
	14nm,0.3s,baz=22,slow=8.8,SNR=80						
FITZ				S	**S**	**18 05 32.6**	**-7.6**
	42nm,0.3s,baz=102,slow=9.4,SNR=7.5						
WRAB	**Tennant Creek**	**13.67**	**160**	*e*P	**P**	**18 03 59.6**	**-1.1**
	48nm,0.6s						
WRAB				*e*S	**S**	**18 06 21.2**	**-9.3**
WRAB	**Tennant Creek**	**13.67**	**160**	*e*P	**P**	**18 03 59.6**	**-1.1**
WRAB				*e*S	**S**	**18 06 21.2**	**-9.3**
WRAB				pmax	pmax		
	comp=Z,48nm,0.6s						
WRA	**Warramunga Arr**	**13.68**	**160**	P	**P**	**18 03 59.8**	**-1.0**
	comp=Z,7.6nm,0.3s,baz=336,slow=13,SNR=400						
WRA				S	**S**	**18 06 21.8**	**-8.8**
	comp=Z,12nm,0.3s,baz=332,slow=24,SNR=8.6						
WB2	**Warramunga Arr**	**13.68**	**160**	⇓*i*P	**P**	**18 03 59.8**	**-1.1**
WB2				*e*S	**S**	**18 06 22.7**	**-8.0**
ASPA	**Alice Springs**	**17.07**	**166**	*e*P	**P**	**18 04 44.4**	**+0.7**
ASPA				*e*S	**S**	**18 07 39.0**	**-10**
PMG	**Port Moresby**	**17.76**	**99**	P	**P**	**18 04 57.1**	**+4.7**
	comp=Z,0.5nm,0.3s,baz=131,slow=6.6,SNR=2.8						
PMG				S	**S**	**18 08 04.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=174,slow=23,SNR=3.7						
KKM	**Kota Kinabalu**	**18.49**	**314**	*e*P	**P**	**18 05 01.5**	**+0.6**
KSM	**Kuching**	**20.83**	**293**	*e*P	**P**	**18 05 25.7**	**+0.1**
CTA	**Charters Tower**	**20.87**	**130**	P	**P**	**18 05 28.2**	**+2.3**
	comp=Z,10.0nm,1.0s,baz=296,slow=14,SNR=6.4						
CTA				S	**S**	**18 09 22.0**	**+14**
	comp=Z,2.3nm,0.5s,baz=34,slow=18,SNR=2.6						
FORT	**Forrest**	**23.62**	**183**	*e*P	**P**	**18 05 53.7**	**+0.9**
	comp=Z,48nm,0.4s,mb5.2						
STKA	**Stephens Creek**	**27.19**	**157**	⇓*i*P	**P**	**18 06 26.1**	**-0.3**
	comp=Z,7.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**27.19**	**157**	P	**P**	**18 06 26.2**	**-0.1**
	comp=Z,9.5nm,0.6s,mb4.5,baz=329,slow=9.5,SNR=20						
STKA	**Stephens Creek**	**27.19**	**157**	*e*P	**P**	**18 06 25.7**	**-0.7**
JOW	**Kunigami**	**33.72**	**358**	P	**P**	**18 07 25.2**	**+1.2**
	comp=Z,15nm,0.7s,mb4.9,baz=222,slow=4.0,SNR=5.0						
SSE	**Sheshan**	**38.75**	**349**	P	**P**	**18 08 08.8**	**+2.5**
SSE				AMB	AMB		
	comp=Z,27nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,29nm,4.3s						
SSE	**Sheshan**	**38.75**	**349**	P	**P**	**18 08 08.8**	**+2.5**
	comp=Z,27nm,0.6s,mb5.2						
NJ2	**Nanjing**	**40.17**	**346**	*e*P	**P**	**18 08 19.6**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
KMI	**Kunming**	**41.18**	**322**	P	**P**	**18 08 27.9**	**+1.5**
KMI				AP	pP	18 08 51.0	+1.6
KMI				XP	sP	18 09 04.6	+3.8
KMI				S	**S**	**18 14 36.4**	**+4.2**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,105nm,3.9s						
KMI				LR	LR		
	comp=Z,23nm,15.3s						
KMI	**Kunming**	**41.18**	**322**	P	**P**	**18 08 27.9**	**+1.5**
	comp=Z,5.0nm,1.1s,mb4.3						
KMI				pP	pP	18 08 51.0	+1.6
KMI				sP	sP	18 09 04.6	+3.8
KMI				S	**S**	**18 14 36.4**	**+4.2**
KMI				LR	LR		
	comp=Z,20nm,15.3s						
MAT	**Matsushiro**	**44.17**	**10**	P	**P**	**18 08 50.4**	**-0.3**
MAT	**Matsushiro**	**44.17**	**10**	*e*P	**P**	**18 08 50.0**	**-0.7**
	comp=Z,9.0nm,1.0s,mb4.5						
MAT	**Matsushiro**	**44.17**	**10**	*e*P	**P**	**18 08 50.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**44.17**	**10**	P	**P**	**18 08 50.0**	**-0.7**
	comp=Z,5.5nm,0.8s,mb4.3,baz=187,slow=9.5,SNR=12						
MDJ	**Mudanjiang**	**51.45**	**0**	P	**P**	**18 09 49.7**	**+2.5**
MDJ				AP	pP	18 10 11.6	+0.7
MDJ				XP	sP	18 10 22.0	+0.3
MDJ				PP	PP	18 11 48.3	+2.4
MDJ				SCP		18 14 49.6	
MDJ				PCS		18 14 59.3	
MDJ				S	**S**	**18 17 04.5**	**+6.6**
MDJ				XS		18 17 44.0	
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,102nm,4.6s						
MDJ				LR	LR		
	comp=N,17nm,15.8s						
MDJ				LR	LR		
	comp=E,38nm,14.8s						
MDJ				LR	LR		
	comp=Z,23nm,14.4s						
LSA	**Lhasa**	**51.82**	**317**	P	**P**	**18 09 51.2**	**+1.0**
PKI	**Pulchoki**	**54.70**	**311**	*e*P	**P**	**18 10 10.5**	**-0.9**
	comp=Z,22nm,0.5s,mb5.4						
KKN	**Kakani**	**54.91**	**311**	*e*P	**P**	**18 10 12.0**	**-1.0**
	comp=Z,17nm,0.5s,mb5.3						
DMN	**Daman**	**54.94**	**311**	*e*P	**P**	**18 10 12.5**	**-0.7**
	comp=Z,17nm,0.6s,mb5.2						
GKN	**Gorkha**	**55.50**	**311**	*e*P	**P**	**18 10 16.5**	**-0.8**
KOLN	**Koldanda**	**56.16**	**310**	*e*P	**P**	**18 10 21.3**	**-0.7**
	comp=Z,26nm,0.5s,mb5.5						
ULN	**Ulaanbaatar**	**58.14**	**342**	*e*P	**P**	**18 10 35.7**	**0.0**
	comp=Z,2.7nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**58.14**	**342**	*e*P	**P**	**18 10 35.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
SONM	**Songino Array**	**58.31**	**342**	P	**P**	**18 10 35.6**	**-1.2**
	comp=Z,1.4nm,0.5s,mb4.3,baz=157,slow=4.6,SNR=5.6						
WMQ	**Urumqi**	**63.11**	**327**	*e*P	**P**	**18 11 11.0**	**+1.5**
BOD	**Bodaibo**	**65.86**	**351**	*e*P	**P**	**18 11 26.2**	**-0.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.0						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**18 11 39.9**	**-0.3**
	comp=Z,2.7nm,0.4s,mb4.5,baz=125,slow=7.6,SNR=51						
MKAR				PcP	PcP	18 12 03.8	-2.2
	comp=Z,2.8nm,0.6s,baz=125,slow=5.3,SNR=7.5						
YAK	**Yakutsk**	**68.89**	**0**	*e*P	**P**	**18 11 45.0**	**-0.9**
	comp=Z,18nm,0.8s,mb4.9						
YAK	**Yakutsk**	**68.89**	**0**	*e*P	**P**	**18 11 45.0**	**-0.9**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
ZAL	**Zalesovo**	**71.37**	**334**	P	**P**	**18 12 00.0**	**-1.0**
	comp=Z,2.6nm,0.5s,mb4.3,baz=346,slow=4.9,SNR=17						
KURK	**Kurchatov**	**72.25**	**329**	*e*P	**P**	**18 12 05.3**	**-1.0**
	comp=Z,7.2nm,0.9s,mb4.5						
KURK	**Kurchatov**	**72.25**	**329**	*e*P	**P**	**18 12 05.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
VNDA	**Vanda**	**72.45**	**173**	P	**P**	**18 12 06.2**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.5,baz=11,slow=3.5,SNR=7.3						
MAW	**Mawson**	**74.66**	**201**	P	**P**	**18 12 19.8**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.0,baz=54,slow=7.3,SNR=9.5						
VOSK	**Vostochnaya**	**77.33**	**328**	P	**P**	**18 12 34.4**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
BVAR	**Borovoye Array**	**77.79**	**328**	P	**P**	**18 12 36.9**	**-0.9**
	comp=Z,2.9nm,0.8s,mb4.1,baz=153,slow=6.6,SNR=15						
AB31	**Akbulak array**	**82.17**	**322**	*i* P	**P**	**18 13 00.6**	**-0.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**93.68**	**25**	P	**P**	**18 13 54.9**	**-1.3**
	comp=Z,0.8nm,0.8s,mb4.1,baz=272,slow=4.8,SNR=5.3						
SNAA	**Sanae**	**95.45**	**194**	P	**P**	**18 14 05.6**	**+1.5**
VNA2	**Neumayer--Watz**	**97.02**	**193**	P	**P**	**18 14 13.0**	**+1.7**
VNA3	**Neumayer Olymp**	**97.28**	**192**	P	**P**	**18 14 13.9**	**+1.4**
ARCES	**ARCESS Array B**	**101.42**	**340**	P	P	18 14 29.6	-1.6
	comp=Z,0.7nm,0.5s,baz=76,slow=5.0,SNR=7.0						
CPUP	**Villa Florida**	**146.17**	**169**	PKPbc	PKPbc	18 20 20.1	+0.6
	comp=Z,3.3nm,0.9s,baz=299,slow=1.9,SNR=7.2						
LPAZ	**La Paz**	**151.04**	**143**	PKP	PKPdf	18 20 28.9	+2.6
	comp=Z,0.9nm,0.4s,baz=59,slow=12,SNR=4.0						
LPAZ				PKPbc	PKPdf	18 20 34.9	+8.6
	comp=Z,1.8nm,0.3s,baz=54,slow=4.2,SNR=11						

*IDC **08** 18:04:15.1±2.5, 43.41N×105.32W, mb1 3.7/3, mb1mx3.5/23, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=58.8km s-min=8.9km az=154.0*
*NEIC **08** 18:04:16.7±0.6, 43.70N×105.15W, ML3.3, Error ellipse: s-maj=8.4km s-min=6.8km az=103.0, Suspected Mining explosion.*
NEIC 0.0 [ ]. 70 km [45 miles] SSE of Gillette.

ISC 08 18:04:15.5±0.8**, 43.67N**±0.05×**105.21W**±0.09**, n32, σ1§03**/33**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.37**	**185**	*e*P	**Pn**	**18 04 58.3**	**+2.0**
RWWY	**Rawlins**	**2.47**	**217**	*e*P	**Pn**	**18 04 59.7**	**+2.0**
LAO	**LASA Array**	**3.10**	**347**	*e*P	**Pn**	**18 05 07.0**	**+0.3**
BW06	**Boulder Array**	**3.31**	**256**	*e*P	**Pn**	**18 05 10.0**	**+0.4**
PDAR	**Pinedale Array**	**3.31**	**256**	Pn	**Pn**	**18 05 10.2**	**+0.6**
	3.2nm,0.3s,baz=79,slow=18,SNR=53						
PDAR				Pg	**Pg**	**18 05 15.2**	**-6.3**
	19nm,0.3s,baz=74,slow=20,SNR=129						
PDAR				Lg		18 05 53.9	
	6.7nm,0.3s,baz=69,slow=36,SNR=6.4						
LKWY	**Lake**	**3.84**	**285**	P	**Pn**	**18 05 17.3**	**+0.1**
ISCO	**Idaho Springs**	**3.88**	**185**	*e*P	**Pn**	**18 05 16.8**	**-0.9**
LOHW	**Long Hollow**	**3.92**	**271**	*e*P	**Pn**	**18 05 18.6**	**+0.3**
FLWY	**Flagg Ranch**	**3.99**	**278**	*e*P	**Pn**	**18 05 20.1**	**+0.8**
SNOW	**Snow King Moun**	**4.04**	**269**	P	**Pn**	**18 05 19.7**	**-0.2**
YNR	**Norris Junctio**	**4.07**	**287**	P	**Pn**	**18 05 21.1**	**+0.7**
REDW	**Red Top Meadow**	**4.12**	**268**	P	**Pn**	**18 05 21.5**	**+0.4**
YFT	**Old Faithful**	**4.13**	**283**	P	**Pn**	**18 05 20.7**	**-0.6**
IMW	**Indian Meadow**	**4.16**	**275**	*e*P	**Pn**	**18 05 22.8**	**+1.1**
TPAW	**Teton Pass**	**4.18**	**270**	*e*P	**Pn**	**18 05 21.8**	**-0.1**
AHID	**Auburn Hatcher**	**4.40**	**260**	P	**Pn**	**18 05 25.9**	**+0.7**
RRI2	**Red Ridge**	**4.46**	**268**	*e*P	**Pn**	**18 05 26.1**	**+0.2**
SMCO	**Snowmass**	**4.68**	**197**	P	**Pn**	**18 05 30.6**	**+1.5**
DGMT	**Dagmar**	**4.85**	**8**	*e*P	**Pn**	**18 05 32.0**	**+0.5**
BOZ	**Bozeman (W)**	**4.99**	**296**	*e*P	**Pn**	**18 05 32.7**	**-0.7**
	8.1nm,0.4s						
HWUT	**Hardware Ranch**	**5.12**	**248**	*e*P	**Pn**	**18 05 34.5**	**-0.8**
TCUT	**Toone Canyon**	**5.25**	**243**	P	**Pn**	**18 05 36.6**	**-0.6**
DLMT	**Dillon**	**5.55**	**290**	P	**Pn**	**18 05 41.1**	**-0.3**
DAU	**Daniels Canyon**	**5.56**	**236**	P	**Pn**	**18 05 42.2**	**+0.8**
SPUT	**South Promonto**	**5.85**	**249**	*e*P	**Pn**	**18 05 45.7**	**+0.1**
HVU	**Hansel Valley**	**5.88**	**254**	P	**Pn**	**18 05 43.6**	**-2.5**
SRU	**San Rafael**	**6.06**	**223**	*e*P	**Pn**	**18 05 47.1**	**-1.5**
TMUT	**Trail Mountain**	**6.28**	**228**	P	**Pn**	**18 05 50.1**	**-1.6**
DUG	**Dugway**	**6.65**	**241**	*e*P	**Pn**	**18 05 55.4**	**-1.5**
MSU	**Marysvale**	**7.36**	**228**	*e*P	**Pn**	**18 06 06.1**	**-0.8**
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**P**	**18 06 29.2**	**-2.8**
	1.8nm,0.3s,baz=234,slow=12,SNR=15						
ULM				Lg		18 08 59.2	
	0.2nm,0.3s,baz=310,slow=22,SNR=2.2						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**P**	**18 08 49.0**	**+0.7**
	0.2nm,0.3s,baz=165,slow=12,SNR=5.0						

*NIED **08** 18:12:00, 23.80N×122.40E, h11km, Mw3.9 Best double couple: M0 7.49×10^14 NP1:φs63°, δ74°, λ68°. NP2:φs298°, δ27°, λ142°.*
*NEIC **08** 18:12:00.8±2.6, 23.72N×122.56E, h11km±16km, Error ellipse: s-maj=21.1km s-min=15.0km az=216.0*
*IDC **08** 18:12:00.1±1.3, 23.90N×122.56E, mb3.8/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/22, Error ellipse: s-maj=33.5km s-min=26.4km az=50.0*
*JMA **08** 18:12:03.4±0.3, 23.76N×122.41E, h36km, M3.7*

ISC 08 18:12:00.7±0.9**, 23.7N**±0.1×**122.41E**±0.04**, h11**km**, n17, σ1§09**/23**, mb3.7**/4**, MS3.4**/1**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.90**	**304**	*e*Pg	**Pg**	**18 12 19.7**	**+0.9**
HATJ	**Hateruma jima**	**1.33**	**73**	P	**Pb**	**18 12 26.0**	**+0.7**
HATJ				*e*S	**Sb**	**18 12 42.2**	**-0.1**
YHNB	**Yeheng**	**1.38**	**317**	*e*Pn	**Pn**	**18 12 26.9**	**+1.0**
IRIF	**Iriomote-Funau**	**1.38**	**61**	P	**Pn**	**18 12 26.3**	**+0.3**
IRIF				*e*S	**Sb**	**18 12 42.7**	**-0.8**
TATO	**Taipei**	**1.55**	**327**	*e*Pn	**Pn**	**18 12 29.5**	**+1.0**
JKRS	**Kuro-shima**	**1.57**	**68**	P	**Pn**	**18 12 29.3**	**+0.6**
JKRS				*e*S	**Sb**	**18 12 49.0**	**-0.1**
JIJ	**Ishigaki jima**	**1.73**	**66**	P	**Pn**	**18 12 30.9**	**-0.1**
JIJ				*e*S	**Sn**	**18 12 52.5**	**-0.8**
JTJ	**Tarama**	**2.31**	**65**	P	**Pn**	**18 12 39.9**	**+0.6**
JTJ				*e*S	**Sn**	**18 13 10.3**	**+2.4**
JOGS	**Gusukube**	**2.94**	**68**	P	**Pn**	**18 12 49.1**	**+0.7**
JKE	**Kume jima 2**	**4.77**	**55**	P	**Pn**	**18 13 12.4**	**-2.0**
JOW	**Kunigami**	**6.17**	**58**	Pn	**Pn**	**18 13 30.1**	**-4.1**
	1.5nm,0.3s,baz=216,slow=12,SNR=8.4						
JOW				Sn	**Sn**	**18 14 39.0**	**-6.5**
	0.6nm,0.3s,baz=125,slow=30,SNR=1.7						
MKAR	**Makanchi Array**	**39.49**	**316**	P	**P**	**18 19 32.2**	**-0.7**
	1.7nm,0.9s,mb3.8,baz=108,slow=9.1,SNR=11						
ZAL	**Zalesovo**	**41.29**	**327**	P	**P**	**18 19 45.7**	**-2.0**
	0.7nm,0.5s,mb3.6,baz=105,slow=8.3,SNR=3.5						
ZAL				LR	LR	18 38 59.6	
	comp=Z,49nm,19.2s,MS3.4,baz=262,slow=39						
WRA	**Warramunga Arr**	**44.88**	**164**	P	**P**	**18 20 17.8**	**+0.5**
	0.3nm,0.7s,mb3.3,baz=346,slow=8.8,SNR=5.5						
STKA	**Stephens Creek**	**58.20**	**161**	P	**P**	**18 21 52.9**	**-4.5**
FINES	**FINESS Array B**	**72.46**	**330**	P	**P**	**18 23 26.8**	**-2.1**
	2.5nm,1.1s,mb4.1,baz=117,slow=4.3,SNR=3.8						
FINES	**FINESS Array B**	**72.46**	**330**	P	**P**	**18 23 26.8**	**-2.1**

*KNET **08** 18:19:59.3±0.5, 41.02N×73.78E, h3km±2km, ml2.2, Error ellipse: s-maj=4.0km s-min=2.8km az=90.0*
*NNC **08** 18:20:02.5±5.5, 41.06N×73.76E, mpv2.6, Error ellipse: s-maj=51.0km s-min=24.9km az=148.0*

ISC 08 18:19:57.1±1.7**, 40.87N**±0.10×**73.4E**±0.1**, h3**km**, n9, σ1§16**/16**, 10C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.28**	**10**	⇓P	**Pb**	**18 20 20.9**	**-0.6**
	9.2nm,0.2s						
AML				⇑S	**Sb**	**18 20 38.0**	**-0.2**
	150nm,0.5s						
UCH	**Uchtor**	**1.60**	**32**	⇓P	**Pn**	**18 20 24.3**	**-2.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	4.0nm,0.2s,SNR=5.8						
UCH				⇑S	Sb	18 20 45.0	-2.4
	23nm,0.4s						
EKS2	Erkin-Say	1.81	9	⇑P	Pn	18 20 30.1	+0.6
	4.3nm,0.2s,SNR=12						
EKS2				⇑S	Sn	18 20 54.3	+1.0
	13nm,0.3s						
AAK	Ala-Archa	1.95	25	⇓P	Pn	18 20 31.9	+0.6
	5.2nm,0.2s						
AAK				⇑S	Sn	18 20 56.0	-0.7
	23nm,0.3s						
AAK	Ala-Archa	1.95	25	⇑P	Pn	18 20 32.1	+0.7
	2.5nm,0.4s						
AAK				⇑S	Sn	18 20 56.0	-0.6
	8.5nm,0.4s						
KBK	Karagaybulak	2.13	33	⇓P	Pn	18 20 34.0	-0.1
	5.0nm,0.2s,SNR=9.4						
KBK				⇓S	Sn	18 21 01.5	+0.2
	38nm,0.3s						
USP	Ospenovka	2.53	19	⇓P	Pn	18 20 40.8	+1.0
	6.7nm,0.4s,SNR=6.5						
USP				⇑S	Sn	18 21 14.2	+2.6
	12nm,0.3s						
TKM2	Tokmak 2	2.63	38	⇑P	Pn	18 20 42.1	+1.0
	4.0nm,0.3s,SNR=5.4						
KK31	Karatay Array	3.10	317	⇑Pn	Pg	18 20 57.8	-1.0
	0.4nm,0.2s,baz=138,slow=14,SNR=12						
KK31				Lg		18 21 40.0	
	9.5nm,0.5s,baz=130,slow=28,SNR=18						

*UPP **08** 18:29:27.2, 57.75N×22.64E, ML2.5, Mining explosion.*
*HEL **08** 18:29:29.1±0.3, 57.77N×22.35E, ML2.2, ML2.5(UPP), ML2.4(NAO), Explosion*
*IDC **08** 18:29:30.0±2.3, 57.84N×22.33E, mb1 3.1/4, mb1mx3.1/19, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=23.6km s-min=9.2km az=168.0*
*NAO **08** 18:29:30.3±2.2, 57.90N×22.25E, ML2.4*
*CSEM **08** 18:29:30.6±0.2, 58.03N×22.30E, h2km, ML2.2, Error ellipse: s-maj=4.7km s-min=2.7km az=173.0, Mining explosion.*
*BER **08** 18:29:31.3±3.9, 57.82N×22.18E, ML2.4(NAO)*
ISC 08 18:29:30.1±0.8**, 58.06N**±0.05×**22.25E**±0.06**, n35,** σ1ˢ**13**/57**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOTU	Gotland	2.00	261	eP	Pn	18 30 04.5	-1.1
GOTU				eS	Sn	18 30 32.1	+0.5
GOTU	Gotland	2.00	261	P	Pn	18 30 04.5	-1.0
GOTU				S	Sn	18 30 32.1	+0.5
VSU	Vasula	2.41	78	eP	Pn	18 30 10.1	-1.3
VSU				eS	Sn	18 30 42.4	+0.4
VSU	Vasula	2.41	78	Pn	Pn	18 30 10.2	-1.1
VSU				Sn	Sn	18 30 43.2	+1.2
VSU	Vasula	2.41	78	Pn	Pn	18 30 10.2	-1.2
VSU				S	Sn	18 30 42.3	+0.3
NYNU	Nynaeshamn	2.42	295	eP	Pn	18 30 12.1	+0.6
NYNU				eS	Sn	18 30 44.9	+2.6
VIKU	Vikbolandet	2.96	281	eP	Pn	18 30 20.7	+1.4
VIKU	Vikbolandet	2.96	281	P	Pn	18 30 20.6	+1.3
GRAU	Graesoe	2.97	322	eP	Pn	18 30 20.2	+0.7
PVF	Pernaja	3.11	35	eP	Pn	18 30 22.1	+0.7
PVF				eSG	Sg	18 31 12.2	-1.4
ESKU	Eskilstuna	3.28	293	eP	Pn	18 30 24.3	+0.6
VJF	Virojoki	3.69	45	ePB	Pb	18 30 35.4	-0.6
VJF				eSB	Sb	18 31 25.4	+3.8
FIA0	FINESS Array S	3.91	28	Pn	Pn	18 30 33.0	+0.2
	baz=202,slow=12						
FIA0				Pg	Pg	18 30 43.4	-4.8
FIA0				Sn	Sn	18 31 21.9	+1.9
	baz=216,slow=22						
FIA0				Lg		18 31 38.0	
	baz=202,slow=28						
FIA0	FINESS Array S	3.91	28	eP	Pn	18 30 33.8	+1.0
FIA0				eS	Sn	18 31 21.8	+1.7
FIA0	FINESS Array S	3.91	28	P	Pn	18 30 33.7	+1.0
FIA0	FINESS Array S	3.91	28	Pg	Pg	18 30 43.4	-4.8
FIA0				S	Sn	18 31 21.7	+1.7
FINES	FINESS Array B	3.91	28	Pn	Pn	18 30 34.1	+1.3
	0.5nm,0.3s,baz=210,slow=12,SNR=20						
FINES				Pg	Pg	18 30 43.2	-5.0
	0.9nm,0.3s,baz=204,slow=14,SNR=3.5						
FINES				Lg		18 31 38.4	
	2.9nm,0.3s,baz=207,slow=22,SNR=15						
KEF	Keuruu	4.33	17	eP	Pn	18 30 39.7	+1.0
KEF				eSG	Sb	18 31 50.4	+10
KEF				MSG		18 31 52.3	
	comp=Z,4.2nm,0.3s						
KEF	Keuruu	4.33	17	P	Pn	18 30 39.6	+0.9
KAF	Kangasniemi	4.55	25	eP	Pn	18 30 41.5	-0.3
KAF				eS	Sn	18 31 36.1	0.0
KAF				MSG		18 31 59.6	
	comp=Z,2.1nm,0.3s						
KAF	Kangasniemi	4.55	25	P	Pn	18 30 41.4	-0.4
KAF				S	Sn	18 31 36.1	-0.1
	comp=Z,2.1nm,0.3s						
HFS	Hagfors	4.88	299	eP	Pn	18 30 46.0	-0.4
HFS				eSG		18 32 03.4	
HFS	Hagfors	4.88	299	Pn	Pn	18 30 45.7	-0.7
	comp=Z,0.1nm,0.3s,baz=118,slow=15,SNR=22						
HFS				Sn	Sn	18 31 43.2	-1.3
	comp=Z,0.0nm,0.3s,baz=112,slow=19,SNR=3.1						
HFS				Lg		18 32 04.3	
	comp=Z,0.4nm,0.3s,baz=110,slow=30,SNR=15						
HFS	Hagfors	4.88	299	Pn	Pn	18 30 46.0	-0.4
	baz=128,slow=12						
HFS				Lg		18 32 03.4	
	baz=105,slow=28						
VAF	Ylistaro	5.00	2	eP	Pn	18 30 48.5	+0.2
VAF				eS	Sn	18 31 48.0	+0.2
VAF				MSG		18 32 12.4	
	comp=Z,3.6nm,0.3s						
VAF	Ylistaro	5.00	2	P	Pn	18 30 48.5	+0.2
VAF				S	Sn	18 31 47.9	+0.1
	comp=Z,3.6nm,0.3s						
SUF	Sumiainen	5.06	21	eP	Pn	18 30 49.7	+0.6
SUF				eS	Sn	18 31 48.9	-0.2
SUF				MSG		18 32 15.7	
	comp=Z,1.4nm,0.2s						
SUF	Sumiainen	5.06	21	P	Pn	18 30 49.7	+0.6
SUF				S	Sn	18 31 48.9	-0.2
	comp=Z,1.4nm,0.2s						
NB2	NORSAR Subarra	6.35	303	eP	Pn	18 31 05.5	-1.9
NB2				eSG		18 32 52.1	
NB2	NORSAR Subarra	6.35	303	Pn	Pn	18 31 05.5	-1.9
	baz=116,slow=14						
NB2				Lg		18 32 52.1	
	baz=121,slow=37						
NOA	NORSAR Array B	6.35	303	Pn	Pn	18 31 05.3	-2.0
	comp=Z,0.2nm,0.3s,baz=119,slow=20,SNR=3.2						
NOA				Sn	Sn	18 32 20.0	-1.6
	comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=2.2						
NOA				Lg		18 32 52.5	
	comp=Z,1.1nm,0.3s,baz=137,slow=26,SNR=6.4						
JOF	Joensuu	6.62	39	eP	Pn	18 31 08.4	-2.6
ARA0	ARCESS Array S	11.61	6	Pn	P	18 32 14.8	-5.2
	baz=189,slow=14						
ARA0	ARCESS Array S	11.61	6	eP	P	18 32 14.8	-5.2
ARCES	ARCESS Array B	11.61	6	Pn	P	18 32 14.6	-5.4
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=3.5						

*NEIC **08** 18:55:21.5±3.6, 10.42S×74.71W, h34km±26km, mb4.5/5, ML4.0(LIM), Error ellipse: s-maj=13.8km s-min=11.7km az=193.0*
NEIC Felt [II] at Puerto Bermudez.
*IDC **08** 18:55:23.1±4.6, 10.42S×74.68W, h45km±49km, mb3.5/7, mb1 3.8/9, mb1mx3.7/19, mbtmp3.7/9, ML3.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/20, Error ellipse: s-maj=42.2km s-min=22.7km az=62.0*
ISC 08 18:55:17.5±3.9**, 10.35S**±0.09×**74.67W**±0.06**, h16**km±30km**, n21,** σ1ˢ**04**/20**, mb4.0**/10**, MS3.3**/1**, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	2.69	232	ePn	Pn	18 56 01.1	+0.1
NNA				eSn	Sn	18 56 33.2	-0.1
LPAZ	La Paz	8.68	134	P	P	18 57 27.2	+1.8
	0.1nm,0.3s,baz=315,slow=13,SNR=4.9						
LPAZ				Lg		18 59 45.0	
	0.7nm,0.3s,baz=228,slow=21,SNR=3.8						
LPAZ	La Paz	8.68	134	ePn	P	18 57 26.8	+1.4
	3.8nm,0.6s						
LPAZ				Lg		18 59 45.0	
SAML	Samuel	11.41	84	ePn	P	18 58 01.7	-1.3
	2.0nm,0.3s						
SAML				eSn	S	19 00 04.7	-6.4
SIV	San Ignacio	14.38	114	P	P	18 58 42.0	-0.6
	0.5nm,0.3s,baz=303,slow=12,SNR=14						
SIV				Lg		19 02 36.7	
	0.6nm,0.3s,baz=230,slow=17,SNR=4.9						
ROSC	El Rosal	15.11	1	Lg		19 03 11.1	
	2.1nm,0.3s,baz=86,slow=21,SNR=1.8						
SDV	Santo Domingo	19.52	12	Lg		19 05 50.4	
	0.6nm,0.3s,baz=291,slow=21,SNR=2.2						
SDV				LR	LR	19 08 11.3	
	comp=Z,46nm,18.1s,baz=232,slow=39						
CFAA	Coronel Fontan	21.98	165	P	P	19 00 14.0	+1.4
	0.3nm,0.3s,mb3.1,baz=341,slow=13,SNR=5.7						
CPUP	Villa Florida	22.84	136	P	P	19 00 21.6	+0.4
	2.1nm,0.7s,mb3.7,baz=338,slow=8.6,SNR=7.1						
CPUP	Villa Florida	22.84	136	eP	P	19 00 21.5	+0.3
	3.1nm,0.9s,mb3.7						
BDFB	Brasilia	26.48	104	P	P	19 00 56.5	+0.4
	1.5nm,0.5s,mb3.8,baz=115,slow=5.8,SNR=2.6						
BDFB				Lg		19 09 25.2	
	3.6nm,0.7s,baz=216,slow=11,SNR=2.0						
BDFB				LR	LR	19 12 09.0	
	comp=Z,89nm,20.7s,MS3.3,baz=295,slow=38						
PLCA	Paso Flores	30.48	174	P	P	19 01 30.1	-1.9
	0.9nm,0.7s,mb3.6,baz=206,slow=10.0,SNR=3.1						
PLCA	Paso Flores	30.48	174	P	P	19 01 29.6	-2.3
	2.1nm,0.9s,mb3.9						
TXAR	Lajitas Array	48.36	325	P	P	19 04 00.2	-0.5
	0.5nm,0.3s,mb4.0,baz=124,slow=6.5,SNR=4.1						
TXAR	Lajitas Array	48.36	325	P	P	19 04 00.2	-0.5
PMSA	Palmer Station	54.85	174	eP	P	19 04 46.1	-3.0
	26nm,1.0s,mb5.2						
PDAR	Pinedale Array	61.73	331	P	P	19 05 37.8	+0.3
	0.5nm,0.7s,mb3.7,baz=141,slow=9.5,SNR=3.8						
RRI2	Red Ridge	63.01	331	eP	P	19 05 46.1	+0.1
	4.0nm,0.8s,mb4.6						
YKA	Yellowknife Ar	78.92	342	P	P	19 07 22.5	+1.0
	0.2nm,0.3s,mb3.5,baz=139,slow=6.0,SNR=4.9						
TSUM	Tsumeb	88.75	109	P	P	19 08 12.8	+0.4
	6.6nm,1.2s,mb4.8						
WRA	Warramunga Arr	138.51	224	PKP	PKPdf	19 14 44.1	-3.1
	0.6nm,0.8s,baz=131,slow=1.9,SNR=7.5						

IDC 08 19:18:15.8±5.2**, 18.38S**×**168.82E, h99**km±47km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/12**, mbtmp3.9**/4**, Error ellipse: s-maj=64.8km s-min=37.4km az=122.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.30	211	P	P	19 19 20.9	+0.6
	19nm,0.3s,baz=106,slow=18,SNR=413						
DZM				S	S	19 20 07.7	-2.0
	22nm,0.3s,baz=126,slow=23,SNR=20						
STKA	Stephens Creek	27.98	236	P	P	19 23 58.5	-0.9
	1.1nm,0.5s,baz=54,slow=8.7,SNR=6.9						
WRA	Warramunga Arr	32.58	262	P	P	19 24 37.7	-2.3
	0.2nm,0.3s,baz=92,slow=8.6,SNR=7.8						
MJAR	Matsushiro Arr	61.81	332	P	P	19 28 23.7	-2.9
	0.5nm,0.4s,baz=168,slow=8.9,SNR=4.1						
ARCES	ARCESS Array B	124.14	345	PKP	PKPdf	19 37 01.5	-0.9
	1.4nm,0.8s,baz=57,slow=2.2,SNR=11						

WEL 08 19:20:30.3±0.1**, 43.37S**×**171.95E, h6**km±1km**, ML3.5**/8**, 3C-3D, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	0.53	113	⇓PG	Pg	19 20 40.9	+0.1
CRLZ				SG	Sg	19 20 48.7	+0.7
MQZ	McQueen's Vall	0.61	124	⇓P*	Pb	19 20 42.3	-0.6
MQZ				SG	Sg	19 20 51.4	+0.8
LTZ	Lake Taylor	0.63	21	⇑P*	Pb	19 20 43.1	-0.2
LTZ				SG	Sg	19 20 51.5	0.0
RPZ	Rata Peaks	0.74	242	⇑P*	Pb	19 20 44.5	-0.6
RPZ				S*	Sb	19 20 55.6	+0.3
WVZ	Waitaha Valley	0.94	288	⇓P*	Pb	19 20 48.1	-0.4
KHZ	Kahutara	1.51	51	PN	Pn	19 20 56.3	-1.6
DSZ	Denniston Nort	1.63	356	PN	Pn	19 20 58.7	-1.0
LBZ	Lake Benmore	1.63	231	ePN	Pn	19 20 58.0	-1.7
FOZ	Fox Glacier	1.66	263	ePN	Pn	19 20 58.5	-1.6
FOZ				SN	Sn	19 21 18.3	-3.6
THZ	Tophouse	1.75	24	PN	Pn	19 20 59.9	-1.6
ODZ	Otahua Downs	1.92	209	PN	Pn	19 21 01.7	-2.2
BSWZ	Blackbirch Sta	2.18	41	PN	Pn	19 21 06.2	-1.5
NNZ	Nelson	2.40	27	ePN	Pn	19 21 09.4	-1.3
JCZ	Jackson Bay	2.42	252	ePN	Pn	19 21 09.0	-2.0
TUWZ	Tuamarina	2.44	38	ePN	Pn	19 21 09.8	-1.5
WKZ	Wanaka	2.57	234	ePN	Pn	19 21 10.3	-2.8
QRZ	Quartz Range	2.58	10	ePN	Pn	19 21 11.4	-1.9
EAZ	Earnscleugh	2.66	225	ePN	Pn	19 21 11.5	-2.9
TCW	Tory Channel	2.76	39	PN	Pn	19 21 13.5	-2.4
DUWZ	D'Urville Isla	2.96	30	ePN	Pn	19 21 17.6	-1.0
MRW	Makara Radio	2.96	44	ePN	Pn	19 21 15.6	-3.1
TUZ	Tuapeka	3.07	212	⇑ePN	Pn	19 21 17.6	-2.6
KIW	Kapiti Island	3.34	42	PN	Pn	19 21 21.6	-2.4
MLZ	Mavora Lakes	3.35	233	ePN	Pn	19 21 21.6	-2.8
MRZ	Mangatainoka R	3.83	46	PN	Pn	19 21 26.8	-4.2

WEL 08 19:26:53.1±0.5**, 37.72S**×**176.35E, h290**km±4km**, ML3.6**/9**, Error ellipse: s-maj=8.4km s-min=4.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.81	132	ePN	P	19 27 31.2	-0.6
URZ				SN	S	19 28 00.6	-1.4
MWZ	Matawai	1.11	124	ePN	P	19 27 33.1	-0.1
MWZ				SN	S	19 28 04.5	-0.1
BKZ	Black Stump Fm	1.45	176	PN	P	19 27 35.1	-0.2
BKZ				SN	S	19 28 07.5	-0.6
PUZ	Puketiti	1.55	104	PN	P	19 27 35.7	-0.2
TUVZ	Tukino	1.64	199	PN	P	19 27 36.5	0.0
WNVZ	Wahianoa	1.71	200	PN	P	19 27 36.9	0.0
PKVZ	Pokaka	1.75	206	PN	P	19 27 37.0	-0.3
PXZ	Pawanui	2.34	170	ePN	P	19 27 42.2	-0.1
PXZ				SN	S	19 28 18.9	-1.6
TSZ	Takapari Road	2.35	187	ePN	P	19 27 41.6	-0.8
TSZ				SN	S	19 28 20.4	-0.3
MRZ	Mangatainoka R	3.00	191	PN	P	19 27 47.2	-1.3
MRZ				SN	S	19 28 30.9	-0.8
KIW	Kapiti Island	3.33	199	PN	P	19 27 50.3	-1.7
DUWZ	D'Urville Isla	3.61	211	PN	P	19 27 52.9	-2.0
MRW	Makara Radio	3.73	199	PN	P	19 27 54.4	-1.9
MRW				SN	S	19 28 43.9	-1.7
TCW	Tory Channel	3.84	204	SN	S	19 28 45.5	-2.2
TUWZ	Tuamarina	4.14	206	PN	P	19 27 58.6	-2.3
TUWZ				eSN	S	19 28 51.4	-2.4
QRZ	Quartz Range	4.29	223	PN	P	19 27 59.0	-3.5
QRZ				SN	S	19 28 53.6	-3.2
THZ	Tophouse	4.83	212	ePN	P	19 28 06.2	-2.6
THZ				eSN	S	19 29 05.3	-2.7
KHZ	Kahutara	5.16	204	PN	P	19 28 10.7	-2.0
DSZ	Denniston Nort	5.33	220	ePN	P	19 28 11.7	-3.0
DSZ				eSN	S	19 29 13.5	-5.1
ODZ	Otahua Downs	8.48	209	ePN	P	19 28 50.5	-2.7

CASC 08 19:31:11.8±1.3**, 12.82N**×**88.45W, h69**km±97km**, MD3.5, 2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.63	16	eP	P	19 31 23.0	-3.0
VSM				eS	S	19 31 34.7	-1.7
BLLM	Bellamira	0.65	19	eP	P	19 31 22.8	-3.4
BLLM				eS	S	19 31 34.8	-2.1
CNCH	Conchagua	0.75	53	⇓eP	P	19 31 23.6	-3.7
CNCH				eS	S	19 31 35.4	-3.5
SNVI	San Vicente	0.87	334	eP	P	19 31 25.7	-3.1
SNVI				eS	S	19 31 38.4	-3.0
LCBS	La Ceiba	0.97	328	⇓eP	P	19 31 27.1	-3.0
LCBS				eS	S	19 31 41.3	-2.5
LFRS	El Faro	0.99	323	eP	P	19 31 27.6	-2.8
LFRS				eS	S	19 31 41.7	-2.5
BOQS	Boqueron	1.21	318	eP	P	19 31 31.1	-2.2
BOQS				eS	S	19 31 47.9	-1.5
TEL3	Telica 3	1.59	99	eP	P	19 31 38.0	-0.5
TEL3				eS	S	19 31 57.9	-0.2
CNGN	Cerro Negro	1.74	100	eP	P	19 31 40.5	0.0
MIRN	Miramar	1.74	102	eP	P	19 31 40.2	-0.3
MIRN				eS	S	19 32 02.5	+0.9
MOMJ	Momotombo	1.91	102	eP	P	19 31 42.5	-0.4
MOMJ				eS	S	19 32 05.8	+0.1
COPN	Copaltepe	1.93	109	eP	P	19 31 42.9	-0.1

*IDC **08** 20:04:40.8±1.1, 0.31N×125.48E, mb3.9/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=129.5km s-min=20.6km az=65.0*
NEIC 08 20:04:42.6±0.8**, 0.19N**×**125.11E, h15**km**, mb4.5**/4**, Error ellipse: s-maj=183.0km s-min=12.0km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	21.95	156	eP	P	20 09 35.8	-1.9
	7.9nm,0.6s						
WRA	Warramunga Arr	21.96	156	P	P	20 09 36.3	-1.4
	3.8nm,0.5s,baz=337,slow=11,SNR=55						
WB2	Warramunga Arr	21.96	156	eP	P	20 09 36.0	-1.8
ENH	Enshi	33.40	335	eP	P	20 11 17.9	-5.0
	7.3nm,0.8s						
STKA	Stephens Creek	35.51	155	P	P	20 11 38.6	-2.4
	1.9nm,0.8s,baz=333,slow=9.8,SNR=3.7						
SONM	Songino Array	50.16	344	P	P	20 13 39.0	-0.6
	0.4nm,0.7s,baz=162,slow=4.6,SNR=3.4						
SONM	Songino Array	50.16	344	P	P	20 13 39.0	-0.6
MKAR	Makanchi Array	59.58	327	P	P	20 14 46.4	-1.7
	0.3nm,0.4s,baz=120,slow=7.3,SNR=10.0						
KURK	Kurchatov	63.88	329	eP	P	20 15 14.9	-2.1
	1.7nm,0.5s						
BVAR	Borovoye Array	69.42	328	P	P	20 15 51.2	-0.9
	1.4nm,0.9s,baz=90,slow=2.9,SNR=6.4						
ARU	Arti	77.06	328	P	P	20 16 30.0	-6.7
	4.7nm,1.2s						

NNC 08 20:06:22.7±9.0**, 37.87N**×**71.31E, h231**km±104km**, mpv3.7, 2C-3D, Error ellipse: s-maj=99.0km s-min=60.3km az=20.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.26	354	⇓P	P	20 07 40.5	-1.2
	4.1nm,0.3s,baz=182,slow=13,SNR=114						
KK31				⇓S	S	20 08 45.0	+1.7
	9.2nm,0.5s,baz=163,slow=19,SNR=9.6						
AAK	Ala-Archa	5.34	26	⇑P	P	20 07 41.3	-1.5
	3.5nm,0.4s						
AAK				⇑S	S	20 08 46.0	+0.8
	9.2nm,0.5s						
MK31	Makanchi Array	12.05	39	⇓P	P	20 09 08.6	+0.4
	0.9nm,0.7s,baz=212,slow=9.4,SNR=11						
AB31	Akbulak array	14.03	328	P	P	20 09 34.2	+1.6
	0.6nm,0.4s,baz=145,slow=14,SNR=26						
AB31				S	S	20 12 04.2	+1.2
	2.7nm,0.7s,baz=153,slow=23,SNR=12						

*IDC **08** 20:31:21.5±1.9, 4.43S×101.84E, mb4.0/6, mb1 4.1/6, mb1mx3.8/16, mbtmp4.0/6, Error ellipse: s-maj=79.9km s-min=22.1km az=50.0*
*NEIC **08** 20:31:26.2±1.1, 4.53S×101.84E, h35km, mb4.5/1, Error ellipse: s-maj=55.9km s-min=13.7km az=52.0*
ISC 08 20:31:24.4±1.4**, 4.4S**±0.3×**101.9E**±0.4**, h33**km**, n9,** σ0ˢ**82**/8**, mb4.0**/7**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	24.00	135	eP	P	20 36 36.3	-0.9
	20nm,1.3s,mb4.4						
FITZ	Fitzroy Crossi	26.88	122	P	P	20 37 05.0	+0.5
	5.0nm,0.8s,mb4.1,baz=332,slow=3.1,SNR=3.4						
WRA	Warramunga Arr	35.13	119	P	P	20 38 17.6	+0.4
	0.6nm,0.6s,mb3.7,baz=298,slow=9.1,SNR=6.4						
SONM	Songino Array	52.17	4	P	P	20 40 34.8	+0.8
	1.6nm,0.6s,mb4.1,baz=185,slow=9.6,SNR=17						
MKAR	Makanchi Array	53.87	343	P	P	20 40 46.3	-0.3
	0.6nm,0.4s,mb3.8,baz=142,slow=9.1,SNR=6.4						
ZAL	Zalesovo	59.88	348	P	P	20 41 27.9	-1.4
	1.1nm,0.4s,mb4.3,baz=294,slow=6.9,SNR=6.9						
ZAL	Zalesovo	59.88	348	P	P	20 41 27.9	-1.4
BRTR	Keskin Array B	76.37	312	P	P	20 43 13.2	+0.9
	0.6nm,0.8s,mb3.6,baz=117,slow=6.4,SNR=2.7						
TXAR	Lajitas Array	145.32	42	PKPbc	PKPbc	20 51 01.3	+1.3
	0.5nm,0.4s,baz=222,slow=1.1,SNR=4.4						

IDC 08 20:31:38.4±7.9**, 19.45N**×**94.21E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/18**, mbtmp3.6**/4**, Error ellipse: s-maj=157.5km s-min=64.8km az=147.0, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHRT	Chiangrai	5.27	85	PG	Pn	20 32 54.7	-5.6
CHRT				SG	Sn	20 33 46.1	-17
MKAR	Makanchi Array	28.97	343	P	P	20 37 40.0	-1.7
	0.2nm,0.5s,baz=165,slow=8.4,SNR=4.9						
SONM	Songino Array	30.00	17	P	P	20 37 49.0	-1.9
	0.2nm,0.4s,baz=199,slow=9.9,SNR=4.3						
ZAL	Zalesovo	35.18	350	P	P	20 38 33.5	-2.4
	0.6nm,0.4s,baz=344,slow=12,SNR=2.6						
GERES	GERESS Array B	69.43	316	P	P	20 42 48.6	-1.8
	0.4nm,0.7s,baz=76,slow=4.0,SNR=3.9						

*VIE **08** 20:51:17.9±0.3, 45.90N×12.10E, h10km, mb1.8/2, ML2.5/6, Error ellipse: s-maj=2.6km s-min=1.2km az=21.0*
*NEIC **08** 20:51:18.7, 45.87N×12.13E, h12km, ML2.5(VIE), ML2.2(LJU), ML2.0(ROM), After ROM.*
*ROM **08** 20:51:18.7±0.2, 45.87N×12.13E, h12km, Md2.6/8, Ml2.0/5, Error ellipse: s-maj=5.4km s-min=2.3km az=16.0*
*PRU **08** 20:51:19.1, 45.88N×12.11E*
*CSEM **08** 20:51:19.1±0.1, 45.90N×12.09E, h20km, ML3.0/8, Error ellipse: s-maj=1.5km s-min=0.8km az=13.0*
ISC 08 20:51:19.1±0.4**, 45.95N**±0.02×**12.13E**±0.02**, h12**km±4km**, n40,** σ0ˢ**77**/65**, 12C-7D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAE	Caneva	0.22	76	⇑iPg	Pg	20 51 24.2	+0.2
CAE				i Sg	Sg	20 51 27.8	+0.5
CGRP	Cima Grappa	0.24	252	⇓iPg	Pg	20 51 24.6	+0.3
CGRP				i Sg	Sg	20 51 28.2	+0.4
CGRP	Cima Grappa	0.24	252	i Pg	Pg	20 51 24.6	+0.2
CGRP				i Sg	Sg	20 51 28.2	+0.3
FAU	Forcella Aurin	0.29	339	⇓iPg	Pg	20 51 25.4	+0.1
FAU				i Sg	Sg	20 51 30.3	+0.8
CSO	Casso	0.35	23	⇓iPg	Pg	20 51 25.9	-0.4
CSO				i Sg	Sg	20 51 30.6	-0.5
CSO	Casso	0.35	23	i Pg	Pg	20 51 25.9	-0.4
CSO				i Sg	Sg	20 51 30.6	-0.6
CTI	Castel Tesino	0.35	286	Pg	Pg	20 51 26.3	0.0
CTI				Sg	Sg	20 51 33.3	+2.1
	117nm,0.4s						
MLNI	Malnisio	0.39	60	ePg	Pg	20 51 27.3	+0.2
TEOL	Teolo	0.68	209	⇑ePg	Pg	20 51 33.3	+0.6
TEOL				eSg	Sg	20 51 42.8	+1.0
FVI	Forni Avoltri	0.79	35	Pg	Pg	20 51 35.8	+0.9
	25nm,0.4s						
APPI	Appiano	0.82	310	Pg	Pg	20 51 35.7	+0.2
	33nm,0.3s						
PLRO	Paularo	0.92	50	⇓iPg	Pg	20 51 37.7	+0.1
PLRO				i Sg	Sg	20 51 50.4	+0.3
PTCC	Patocco-Chiusa	0.96	62	Pg	Pg	20 51 38.7	+0.3
	14nm,0.2s						
DRE	Drenchia	1.08	78	⇓iPg	Pg	20 51 40.5	-0.2
DRE				i Sg	Sg	20 51 56.1	+1.0
MABI	Malga Bissina	1.13	276	Pg	Pg	20 51 41.7	0.0
	23nm,0.4s						
CADS	Cadrg	1.15	76	i Pg	Pg	20 51 41.6	-0.6
CADS				i Sg	Sg	20 51 58.1	+0.5
	comp=Z,20nm,0.2s						
CADS	Cadrg	1.15	76	i Pg	Pg	20 51 41.6	-0.6
CADS				i Sg	Sg	20 51 58.1	+0.5
	comp=Z,20nm,0.2s						
TRI	Trieste	1.17	102	Pg	Pg	20 51 41.6	-0.9
TRI				Sg	Sg	20 51 57.6	-0.6
	comp=Z,52nm,0.3s						
VOJS	Vojsko	1.23	86	i Pg	Pg	20 51 42.8	-0.8

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VOJS				i Sg	Sg	20 52 00.0	0.0
VOY	Vojsko	1.23	86	ePg	Pg	20 51 42.6	-1.2
VOY				eSg	Sg	20 51 59.9	-0.4
BRMO	Bormio	1.33	294	Pg	Pg	20 51 45.5	-0.1
	comp=Z,18nm,0.5s						
WTTA	Wattenberg	1.35	346	⇑iPG	Pg	20 51 45.9	-0.3
WTTA				i SG	Sg	20 52 04.8	+0.5
	comp=Z,6.8nm,0.2s						
WTTA	Wattenberg	1.35	346	⇑ePg	Pg	20 51 45.9	-0.2
	SNR=10						
KBA	Koelnbreinsper	1.40	36	⇑iPG	Pg	20 51 47.3	+0.1
KBA				i SG	Sg	20 52 06.4	+0.5
	comp=Z,5.0nm,0.2s						
KBA	Koelnbreinsper	1.40	36	⇑ePg	Pg	20 51 47.3	+0.1
	SNR=11						
SQTA	Sankt Quirin	1.42	334	⇑iPG	Pg	20 51 46.8	-0.6
SQTA				i SG	Sg	20 52 06.2	-0.2
	comp=Z,17nm,0.3s						
SQTA	Sankt Quirin	1.42	334	⇑ePg	Pg	20 51 46.8	-0.7
	SNR=14						
WATA	Walderalm	1.43	345	⇓iPG	Pg	20 51 46.8	-1.0
WATA				i SG	Sg	20 52 07.5	+0.6
	comp=Z,8.7nm,0.3s						
WATA	Walderalm	1.43	345	⇓ePg	Pg	20 51 46.8	-1.0
	SNR=7.1						
FUORN	Ofenpass	1.46	298	Pg	Pg	20 51 47.4	-0.8
MOTA	Moosalm	1.56	333	⇑iPG	Pg	20 51 48.9	-1.4
MOTA				i SG	Sg	20 52 11.4	+0.3
	comp=Z,14nm,0.4s						
MOTA	Moosalm	1.56	333	⇑ePg	Pg	20 51 48.9	-1.4
	SNR=17						
VISS	Visnje	1.90	94	i Pn	Pn	20 51 52.5	+0.8
VISS				i Sn	Sn	20 52 16.3	+0.7
DAVA	Damuels	2.04	312	⇑iPG	Pg	20 51 57.0	-2.9
DAVA				i SG	Sg	20 52 25.8	-1.4
	comp=Z,7.1nm,0.5s						
DAVA	Damuels	2.04	312	⇑iPg	Pg	20 51 57.0	-3.0
NVLJ	Novalja	2.38	125	i Pn	Pn	20 51 58.7	0.0
NVLJ				i Sn	Sn	20 52 27.2	-0.8
NVLJ	Novalja	2.38	125	i Pn	Pn	20 51 58.6	0.0
NVLJ				i Sn	Sn	20 52 27.2	-0.8
KHC	Kasperske Hory	3.33	17	eSN	Sn	20 52 53.4	+1.5
KHC				eSG	Sg	20 53 05.9	-4.0
CII	Carovilli	4.51	159	eP	Pn	20 52 21.9	-7.0
CII	Carovilli	4.51	159	eP	Pn	20 52 21.9	-7.0

*IDC **08** 20:53:50.6±1.0, 38.82S×91.32W, mb3.9/7, mb1 4.2/7, mb1mx4.0/15, mbtmp3.9/7, MS3.9/12, Ms1 3.9/12, ms1mx3.8/18, Error ellipse: s-maj=31.4km s-min=22.7km az=128.0*

*NEIC **08** 20:53:51.2±0.6, 38.89S×91.43W, h10km, mb4.5/5, Error ellipse: s-maj=20.4km s-min=11.9km az=107.0*

ISC 08 20:53:49.4±0.7, **38.92S**±0.10×**91.4W**±0.2, **h10**km, **n37**, σ**1^{s}04**/25, **mb4.2**/11, **MS3.8**/13, **West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	20.22	76	P	P	20 58 27.4	+0.1
	0.2nm,0.3s,baz=254,slow=12,SNR=6.0						
CFAA				LR	LR	21 04 32.3	
	comp=Z,25nm,19.1s,MS2.6,baz=246,slow=32						
CFAA	Coronel Fontan	20.22	76	P	P	20 58 27.4	+0.1
CFAA				LR	LR	21 04 32.3	
USHA	Ushuaia	22.19	143	LR	LR	21 05 50.1	
	comp=Z,567nm,18.3s,MS4.0,baz=269,slow=32						
LVC	Limon Verde	25.13	56	P	P	20 59 18.1	+2.0
	3.1nm,0.6s,mb4.0,baz=238,slow=9.2,SNR=4.9						
LVC				LR	LR	21 06 50.7	
	comp=Z,207nm,19.5s,MS3.6,baz=201,slow=31						
LPAZ	La Paz	30.37	49	P	P	21 00 02.7	-1.1
	0.6nm,0.3s,mb3.9,baz=215,slow=5.6,SNR=3.8						
LPAZ				LR	LR	21 09 28.7	
	comp=Z,257nm,21.9s,MS3.8,baz=237,slow=31						
CPUP	Villa Florida	31.12	76	LR	LR	21 11 20.3	
	comp=Z,108nm,20.3s,MS3.5,baz=100,slow=34						
SIV	San Ignacio	35.01	58	P	P	21 00 44.2	0.0
	1.0nm,0.6s,mb3.9,baz=244,slow=12,SNR=7.3						
SAML	Samuel	39.11	48	P	P	21 01 17.3	-1.4
	4.4nm,0.9s,mb4.2						
BDFB	Brasilia	44.43	71	LR	LR	21 20 06.4	
	comp=Z,201nm,18.5s,MS4.1,baz=108,slow=36						
ROSC	El Rosal	46.33	24	LR	LR	21 20 29.5	
	comp=Z,164nm,18.1s,MS4.0,baz=205,slow=35						
VNA3	Neumayer Olymp	51.07	156		P	21 02 54.1	+0.7
VNA3	Neumayer Olymp	51.07	156		P	21 03 00.3	+6.9
VNA3	Neumayer Olymp	51.07	156		P	21 03 06.7	+13
VNA3	Neumayer Olymp	51.07	156		Px	21 03 16.8	
VNA3	Neumayer Olymp	51.07	156		Px	21 03 26.0	
VNA1	Neumayer--Stat	51.61	155		P	21 02 59.2	+1.7
VNA1	Neumayer--Stat	51.61	155		P	21 03 00.7	+3.2
VNA1	Neumayer--Stat	51.61	155		P	21 03 04.9	+7.4
VNA1	Neumayer--Stat	51.61	155		P	21 03 10.5	+13
VNA1	Neumayer--Stat	51.61	155		P	21 03 16.9	+19
VNA2	Neumayer--Watz	51.85	155		P	21 02 59.2	-0.2
VNA2	Neumayer--Watz	51.85	155		P	21 03 06.6	+7.2
VNA2	Neumayer--Watz	51.85	155		Px	21 03 23.7	
SNAA	Sanae	53.14	157	eP	P	21 03 08.4	-0.6
	10.0nm,1.4s,mb4.5						
SBA	Scott Base	54.73	195	P	P	21 03 20.1	-0.5
	10nm,1.3s,mb4.7						
VNDA	Vanda	55.83	195	P	P	21 03 30.1	+1.5
	2.0nm,1.1s,mb4.1,baz=99,slow=3.1,SNR=4.7						
VNDA				LR	LR	21 23 39.5	
	comp=Z,106nm,18.8s,MS4.0,baz=139,slow=32						
VNDA	Vanda	55.83	195	eP	P	21 03 27.0	-1.6
	4.6nm,1.2s,mb4.4						
VNDA				LR	LR	21 23 39.5	
LTX	Lajitas	68.86	349	eP	P	21 04 57.6	+1.3
	11nm,1.4s,mb4.6						
TXAR	Lajitas Array	68.86	349	P	P	21 04 56.4	+0.1
	0.4nm,0.3s,mb3.8,baz=164,slow=9.1,SNR=5.4						
TXAR				LR	LR	21 29 06.6	
	comp=Z,47nm,19.9s,MS3.7,baz=310,slow=31						
TXAR	Lajitas Array	68.86	349	P	P	21 04 56.4	+0.1
TXAR				LR	LR	21 29 06.6	
MAW	Mawson	72.02	170	P	P	21 05 15.2	+0.4
	1.7nm,0.7s,mb4.1,baz=117,slow=4.5,SNR=3.4						
AFI	Afiamalu	73.99	265	LR	LR	21 29 10.5	
	comp=Z,94nm,21.2s,MS4.0,baz=114,slow=29						
PDAR	Pinedale Array	82.97	347	P	P	21 06 15.0	-0.8
	0.8nm,0.8s,mb3.8,baz=158,slow=8.0,SNR=4.1						
DZM	Mont Dzumac	85.35	245	LR	LR	21 39 33.0	
	comp=Z,114nm,18.2s,MS4.3,baz=204,slow=32						
SCHQ	Schefferville	95.72	14	LR	LR	21 47 18.0	
	comp=Z,66nm,21.1s,MS4.1,baz=355,slow=34						
HNR	Honiara	98.32	251	LR	LR	21 40 25.2	
	comp=Z,66nm,20.9s,MS4.1,baz=177,slow=28						
SONM	Songino Array	164.33	310	PKPab	PKPab	21 14 52.0	+3.2
	0.8nm,0.9s,baz=63,slow=3.3,SNR=5.2						

*NEIC **08** 21:12:20.7±1.5, 19.85N×146.54E, h120km±9km, mb4.3/5, Error ellipse: s-maj=41.9km s-min=7.5km az=84.0*

*MOS **08** 21:12:21.4±0.7, 19.88N×146.17E, h132km, mb4.4/3, Error ellipse: s-maj=32.4km s-min=11.3km az=110.1*

*IDC **08** 21:12:23.8±3.1, 19.82N×146.21E, h138km±26km, mb3.8/9, mb1 3.9/12, mb1mx3.7/24, mbtmp4.3/12, Error ellipse: s-maj=53.9km s-min=13.4km az=87.0*

ISC 08 21:12:19.6±1.5, **19.92N**±0.05×**146.2E**±0.3, **h113**km±11km, **n28**, σ**0^{s}92**/32, **mb4.2**/12, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SARN	Sarigan	3.23	188	eP	P	21 13 09.2	-0.5
SAPN	Saipan	4.70	186	eP	P	21 13 28.5	-1.1
GUMO	Guam	6.42	192	P	P	21 13 54.2	+1.1
	44nm,0.3s,baz=51,slow=1.1,SNR=17						
GUMO				S	S	21 15 06.6	+1.1
	8.0nm,0.3s,slow=20,SNR=2.5						
GUMO	Guam	6.42	192	P	P	21 13 54.2	+1.1
GUMO				ePn	P	21 13 54.4	+1.3
GUMO				S	S	21 15 06.6	+1.1
CBIJ	Chichi jima	8.05	333	P	P	21 14 13.3	-1.9
	22nm,0.3s,baz=99,slow=22,SNR=16						
CBIJ				S	S	21 15 37.0	-8.1
	6.7nm,0.3s,baz=288,slow=20,SNR=3.3						
MJAR	Matsushiro Arr	17.99	339	P	P	21 16 24.3	+0.5
	0.9nm,0.3s,baz=159,slow=11,SNR=15						
MAJO	Matsushiro	17.99	339	eP	P	21 16 23.3	-0.5
	9.1nm,0.6s						
MAJO	Matsushiro	17.99	339	eP	P	21 16 23.3	-0.5
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MAT	Matsushiro	17.99	339	P	P	21 16 24.5	+0.7
MAT	Matsushiro	17.99	339	eP	P	21 16 25.0	+1.2
	comp=Z,12nm,1.0s						
MAT	Matsushiro	17.99	339	eP	P	21 16 25.0	+1.2
MAT				pmax	pmax		
	comp=Z,12nm,1.0s						
JNU	Nakatsue	18.98	317	P	P	21 16 36.2	+1.5
	comp=Z,0.3nm,0.3s,baz=173,slow=17,SNR=4.3						
ASAJ	Asahikawa	24.32	354	P	P	21 17 30.3	+2.5
	comp=Z,5.8nm,0.7s,mb4.0,baz=229,slow=9.3,SNR=3.5						
WB2	Warramunga Arr	41.28	197	eP	P	21 19 55.0	-0.5
WRA	Warramunga Arr	41.29	197	P	P	21 19 55.2	-0.3
	comp=Z,2.0nm,0.7s,mb4.0,baz=20,slow=8.4,SNR=26						
SONM	Songino Array	42.52	320	P	P	21 20 05.6	+0.3
	comp=Z,0.6nm,0.3s,mb3.7,baz=126,slow=7.2,SNR=14						
FITZ	Fitzroy Crossi	42.84	209	P	P	21 20 07.7	-0.6
	comp=Z,3.3nm,0.5s,mb4.3,baz=12,slow=6.4,SNR=11						
ZAL	Zalesovo	57.37	322	P	P	21 21 57.8	-0.4
	comp=Z,3.6nm,0.6s,mb4.6,baz=5.6,slow=6.5,SNR=17						
MKAR	Makanchi Array	57.98	313	P	P	21 22 02.5	-0.1
	comp=Z,0.5nm,0.5s,mb3.8,baz=84,slow=8.3,SNR=12						
KURK	Kurchatov	60.70	318	eP	P	21 22 20.6	-0.7
	comp=Z,4.4nm,0.7s,mb4.6						
KURK	Kurchatov	60.70	318	eP	P	21 22 20.7	-0.6
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BVAR	Borovoye Array	65.86	320	P	P	21 22 55.3	+0.2
	comp=Z,6.4nm,0.4s,mb4.8,baz=93,slow=7.5,SNR=66						
BRVK	Borovoye	65.92	320	eP	P	21 22 54.9	-0.6
	comp=Z,3.8nm,0.7s,mb4.3						
BRVK	Borovoye	65.92	320	eP	P	21 22 54.9	-0.7
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
ARU	Arti	72.37	324	P	P	21 23 33.9	-1.0
	comp=Z,2.3nm,0.8s,mb4.1						
ARU	Arti	72.37	324	P	P	21 23 33.9	-1.0
ARU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ARCES	ARCESS Array B	81.49	342	P	P	21 24 25.8	+0.5
	comp=Z,2.1nm,0.8s,mb4.0,slow=4.9,SNR=5.1						
FINES	FINESS Array B	85.99	335	P	P	21 24 48.1	+0.1
	comp=Z,1.6nm,0.8s,mb4.0,baz=63,slow=4.3,SNR=9.7						

*TIR **08** 21:16:10.1, 41.83N×20.04E, h22km, Ml2.5*

*CSEM **08** 21:16:10.9±0.1, 41.83N×20.04E, h1km±1km, ML3.0, Error ellipse: s-maj=2.2km s-min=1.6km az=76.0*

*THE **08** 21:16:11.8, 41.82N×20.09E, h10km, ML2.9*

*PDG **08** 21:16:11.4±0.3, 41.83N×20.04E, h1km±2km*

*NEIC **08** 21:16:11.4, 41.83N×20.04E, h1km, ML3.0(PDG), ML2.9(THE), After PDG.*

ISC 08 21:16:11.0±0.3, **41.80N**±0.02×**20.08E**±0.03, **h1**km, **n28**, σ**1^{s}27**/54, **4C-6D, Albania**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PUK	Puka	0.28	330	i Pg	Pg	21 16 16.8	+0.2
PUK				i Sg	Sg	21 16 21.5	+1.1
QSH	Qafa e Shtames	0.31	206	i Pg	Pg	21 16 18.0	+0.9
QSH				i Sg	Sg	21 16 25.0	+3.8
KKS	Kukesi	0.37	42	i Pg	Pg	21 16 18.8	+0.4
KKS				i Sg	Sg	21 16 25.1	+1.8
TIR	Tirane	0.48	200	⇓iPg	Pg	21 16 20.4	-0.2
TIR				i Sg	Sg	21 16 28.5	+1.5
SDA	Shkodra	0.50	300	i Pg	Pg	21 16 20.5	-0.5
SDA				i Sg	Sg	21 16 28.7	+1.0
BCI	Bajram Curri	0.57	359	i Pg	Pg	21 16 21.4	-0.9
BCI				i Sg	Sg	21 16 30.6	+0.7
ULC	Ulcinj	0.64	285	⇑iPg	Pg	21 16 22.9	-1.0
ULC				eSg	Sg	21 16 32.7	+0.3
PVY	Plav	0.80	354	ePg	Pg	21 16 25.2	-1.8
PVY				eSg	Sg	21 16 37.9	+0.2
PVY	Plav	0.80	354	ePg	Pg	21 16 25.2	-1.8
PVY				eSg	Sg	21 16 37.8	+0.2
OHR	Ohrid	0.87	142	i Pg	Pg	21 16 28.5	+0.1
OHR				i Sg	Sg	21 16 42.4	+2.3
TTG	Podgorica	0.88	316	⇑iPg	Pg	21 16 26.4	-2.1
TTG				eSg	Sg	21 16 40.5	+0.3
BUM	Brajici-Budva	1.01	300	⇓iPg	Pg	21 16 29.6	-1.6
BUM				eSg	Sg	21 16 45.2	+0.5
SKO	Skopje	1.03	80	i Pg	Pg	21 16 31.8	+0.3
SKO				i Sg	Sg	21 16 44.6	-0.7
SKO				Lg		21 16 45.5	
	comp=Z,0.0nm,0.5s						
IVA	Berane	1.08	353	ePg	Pg	21 16 31.0	-1.6
IVA				eSg	Sg	21 16 47.4	+0.4
BIA	Bitola	1.22	129	ePn	Pn	21 16 33.6	-1.5
NKY	Niksic	1.29	322	⇓iPg	Pg	21 16 34.2	-2.6
NKY				eSg	Sg	21 16 54.1	0.0
HCY	Herceg Novi	1.34	299	⇓iPg	Pg	21 16 35.0	-2.9
HCY				eSg	Sg	21 16 55.5	-0.3
FNA	Florina	1.41	136	ePg	Pg	21 16 37.2	-1.9
FNA				eSg	Sg	21 16 57.6	-0.3
BRY	Bratogost	1.58	315	⇓iPg	Pg	21 16 39.6	-3.0
BRY				eSg	Sg	21 17 04.2	+0.4
PLE	Pljevlja	1.61	342	ePn	Pn	21 16 41.1	+0.4
PLE				eSn	Sn	21 17 04.7	+2.3
UPM	Unac-Piva	1.65	329	⇑iPn	Pn	21 16 41.8	+0.6
UPM				eSn	Sn	21 17 06.2	+2.9
NVSS	Nova Varos 2	1.73	351	⇑iPn	Pn	21 16 45.4	+3.0
NVSS				Sn	Sn	21 17 08.0	+2.5
GRG	Griva	1.94	115	ePb	Pb	21 16 44.7	-2.1
GRG				eSb	Sb	21 17 12.1	+0.6
KNT	Kendrikon	2.21	106	ePn	Pn	21 16 48.9	-0.4
KNT				eSn	Sn	21 17 18.0	+0.3
DIVS	Divcibare	2.30	358	⇓iPn	Pn	21 16 50.9	+0.3
DIVS				Sn	Sn	21 17 17.6	-2.3
DIVS	Divcibare	2.30	358	Pn	Pn	21 16 50.9	+0.4
DIVS				Sn	Sn	21 17 17.5	-2.4
SRS	Serrai	2.73	103	ePn	Pn	21 16 56.5	-0.1
AGG	Agios Georgios	3.26	148	ePn	Pn	21 17 05.1	+0.8
AGG				eSn	Sn	21 17 44.9	+0.6

*IDC **08** 21:40:44.8±0.6, 0.66N×97.33E, mb4.6/17, mb1 4.7/17, mb1mx4.7/19, mbtmp4.6/17, MS4.1/8, Ms1 4.1/8, ms1mx4.0/12, Error ellipse: s-maj=21.6km s-min=13.8km az=49.0*

*BJI **08** 21:40:47.3, 0.72N×97.36E, h24km, mB5.1, mb4.9, Ms4.8, Msz4.5*

*MOS **08** 21:40:48.1±0.9, 0.75N×97.46E, h33km, mb5.1/20, Error ellipse: s-maj=14.1km s-min=6.2km az=118.9*

*NEIC **08** 21:40:49.2±0.2, 0.63N×97.40E, h30km, mb4.9/32, MS4.0/6, Error ellipse: s-maj=5.9km s-min=4.5km az=215.0*

*HRVD **08** 21:40:49.2±1.0, 0.55N×97.03E, h16km±2km, MW4.8/41, Centroid moment Tensor Solution. LP body waves: s9,c11; Mantle waves: s41,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.99±.17; $M_{\theta\theta}$-1.32±.10; $M_{\phi\phi}$0.32±.12; $M_{r\theta}$-0.02±.25; $M_{\theta\phi}$0.19±.07; $M_{\phi r}$-1.75±.51; Best double couple: $M_0$1.919×10^{16} NP1:ϕ_s254°, δ43°, λ32°. NP2:ϕ_s140°, δ69°, λ129°. Principal axes: T 2.444, Plg50°, Azm93°; N -1.054, Plg36°, Azm304°; P -1.393, Plg15°, Azm202°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 21:40:47.7±0.3, **0.66N**±0.05×**97.42E**±0.05, **h30**km, **h30**km±1.8km**:pP-P**, **n169**, σ**0^{s}96**/178, **mb4.8**/75, **MS4.3**/29, **10C-8D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KULM	Kulim	5.61	35	eP	Pn	21 42 11.0	-0.3
SNG	Songkhla	7.21	26	P	Pn	21 42 33.0	-0.9
	360nm,0.8s						
KKTK	Khon Kaen	16.46	19	P	P	21 44 40.0	+1.7
QIZ	Qiongzhong	21.94	33	P	P	21 45 39.3	-1.5
QIZ				LR	LR		
	comp=N,600nm,16.6s,MS4.4						
QIZ				LR	LR		
	comp=E,1µm,15.7s,MS4.4						
QIZ				LR	LR		
	comp=Z,683nm,16.5s,MS4.1						
KMI	Kunming	24.86	12	P	P	21 46 10.9	+1.7
KMI				AP		21 46 18.9	
KMI				XP		21 46 23.7	
KMI				S	S	21 50 33.4	+6.1
KMI				XS		21 50 46.4	
KMI				SS	SS	21 51 30.7	+4.9
KMI				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,119nm,3.3s						
KMI				LR	LR		
	comp=N,988nm,12.5s,MS4.6						
KMI				LR	LR		
	comp=E,776nm,12.0s,MS4.6						
KMI				LR	LR		
	comp=Z,1µm,13.7s,MS4.5						
KMI	Kunming	24.86	12	P	P	21 46 10.9	+1.7
	comp=Z,17nm,1.2s,mb4.5						
KMI				pP		21 46 18.9	
KMI				sP		21 46 23.7	
KMI				PP	PP	21 46 53.0	+6.6
KMI				PPP	PPP	21 47 03.7	+6.4
KMI				S	S	21 50 33.4	+6.1
KMI				sS		21 50 46.4	
KMI				SS	SS	21 51 30.7	+4.9
KMI				SSS	SSS	21 51 48.3	+6.0
KMI				LR	LR		
	comp=Z,1µm,13.7s,MS4.5						
KMI	Kunming	24.86	12	P	P	21 46 10.9	+1.7
KMI				*PP		21 46 18.9	
KMI				*SP		21 46 23.7	
KMI						21 46 53.0	
KMI				S	S	21 50 33.4	+6.1
KMI				*SS		21 50 46.4	
KMI				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.5						
KMI				MLR	MLR		
	comp=Z,1µm,13.7s,MS4.5						
HYB	Hyderabad	24.94	313	i P	P	21 46 11.0	+0.9
HYB	Hyderabad	24.94	313	eP	P	21 46 11.0	+0.9
BLSP	Bilaspur	26.02	326	eP	P	21 46 18.0	-2.2
GYA	Guiyang	27.15	18	P	P	21 46 28.4	-2.1
GYA				AP	pP	21 46 37.6	-1.8
GYA				XP	sP	21 46 41.7	-1.7
GYA				PP	PP	21 47 14.6	-2.6
GYA				S	S	21 51 01.8	-3.3
GYA				SCP		21 53 26.1	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,110nm,3.2s						
GYA				LR	LR		
	comp=N,240nm,17.2s,MS4.0						
GYA				LR	LR		
	comp=E,270nm,17.8s,MS4.0						
GYA				LR	LR		
	comp=Z,310nm,18.0s,MS3.9						
PKI	Pulchoki	29.13	338	eP	P	21 46 48.4	0.0
	comp=Z,36nm,1.4s,mb4.9						
DMN	Daman	29.28	337	eP	P	21 46 49.5	-0.3
	comp=Z,55nm,0.8s,mb5.3						
KKN	Kakani	29.38	338	eP	P	21 46 50.9	+0.3
	comp=Z,80nm,1.0s,mb5.4						
LSA	Lhasa	29.49	349	P	P	21 46 52.5	+0.9
LSA	Lhasa	29.49	349	eP	P	21 46 52.1	+0.5
	comp=Z,26nm,1.0s,mb4.9						
LSA	Lhasa	29.49	349	eP	P	21 46 52.1	+0.5
LSA				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
GKN	Gorkha	29.82	337	eP	P	21 46 54.9	+0.3
	comp=Z,133nm,1.0s,mb5.6						
KOLN	Koldanda	30.04	335	eP	P	21 46 56.8	+0.3
CD2	Chengdu	30.68	11	P	P	21 47 01.7	-0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
ENH	Enshi	31.60	20	eP	P	21 47 09.1	-1.1
	comp=Z,7.5nm,0.5s,mb4.8						
FITZ	Fitzroy Crossi	33.44	125	eP	P	21 47 25.4	-0.9
	comp=Z,14nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	33.44	125	P	P	21 47 25.6	-0.7
	comp=Z,14nm,0.8s,mb4.9,baz=309,slow=2.5,SNR=9.8						
XAN	Xi'an	34.91	17	P	P	21 47 38.0	-0.9
XAN				AP	pP	21 47 48.3	+0.4
XAN				S	S	21 53 11.1	+3.8
XAN				AMB	AMB		
	comp=Z,26nm,0.9s,mb5.2						
XAN				LR	LR		
	comp=E,580nm,14.5s						
XAN				LR	LR		
	comp=Z,728nm,15.2s,MS4.5						
LZH	Lanzhou	35.75	9	eP	P	21 47 45.5	-0.5
LZH				AP	pP	21 47 53.2	-1.8
LZH				XP	sP	21 47 57.0	-1.9
LZH				PP	PP	21 49 08.0	+0.8
LZH				eS	S	21 53 20.0	-0.3
LZH				AMB	AMB		
	comp=Z,120nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,180nm,4.0s						
LZH				LR	LR		
	comp=E,1µm,14.3s						
LZH				LR	LR		
	comp=Z,930nm,15.4s,MS4.7						
LZH	Lanzhou	35.75	9	eP	P	21 47 45.5	-0.5
	comp=Z,120nm,1.5s,mb5.6						
LZH				pP	pP	21 47 53.2	-1.8
LZH				sP	sP	21 47 57.0	-1.9
LZH				PP	PP	21 49 08.0	+0.8
LZH				PPP	PPP	21 49 30.0	+3.3
LZH				eS	S	21 53 20.0	-0.3
LZH				sS		21 53 47.0	
LZH				SS	SS	21 55 49.2	+7.6
LZH				LR	LR		
	comp=Z,930nm,15.4s,MS4.7						
LZH	Lanzhou	35.75	9	eP	P	21 47 45.5	-0.5
LZH				*SP	sP	21 47 57.0	-1.9
LZH						21 49 08.0	
LZH				PPP	PPP	21 49 30.0	+3.3
LZH				eS	S	21 53 20.0	-0.3
LZH				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.6						
LZH				MLR	MLR		
	comp=Z,930nm,15.4s,MS4.7						
NJ2	Nanjing	37.20	31	eP	P	21 47 59.9	+1.6
NJ2				AP	pP	21 48 09.6	+2.2
NJ2				XP	sP	21 48 13.6	+2.4
NJ2				PP	PP	21 49 26.7	+1.0
NJ2				S	S	21 53 40.0	-2.7
NJ2				XS		21 53 55.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,2µm,7.2s						
NJ2				LR	LR		
	comp=N,3µm,15.2s,MS5.2						
NJ2				LR	LR		
	comp=E,1µm,16.7s,MS5.2						
NJ2				LR	LR		
	comp=Z,630nm,10.3s						
SSE	Sheshan	37.73	34	P	P	21 48 02.4	-0.3
SSE				XP	sP	21 48 15.1	-0.5
SSE				PP	PP	21 49 29.3	-2.7
SSE				PCP	PcP	21 50 17.7	-2.1
SSE				S	S	21 53 53.5	+2.9
SSE				XS		21 54 08.3	
SSE				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.7						
SSE				AMB	AMB		
	comp=Z,33nm,2.7s,mb4.6						
SSE				LR	LR		
	comp=N,311nm,22.8s,MS4.1						
SSE				LR	LR		
	comp=E,177nm,22.8s,MS4.1						
SSE				LR	LR		
	comp=Z,228nm,20.1s,MS4.0						
SSE	Sheshan	37.73	34	P	P	21 48 02.4	-0.3
	comp=Z,17nm,1.0s,mb4.7						
SSE				sP	sP	21 48 15.1	-0.5
SSE				PP	PP	21 49 29.3	-2.7
SSE				PcP	PcP	21 50 17.7	-2.1
SSE				S	S	21 53 53.5	+2.9
SSE				sS		21 54 08.3	
SSE				SS	SS	21 56 38.7	+13
SSE				LR	LR		
	comp=Z,230nm,20.1s,MS4.0						
GTA	Gaotai	38.63	3	eP	P	21 48 10.7	+0.5
GTA				AP	pP	21 48 16.3	-3.0
GTA				XP	sP	21 48 19.6	-3.5
GTA				PP	PP	21 49 38.1	-4.3
GTA				S	S	21 53 56.6	-7.5
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						

GTA AMB AMB
comp=Z,69nm,4.6s
GTA LR LR
comp=N,309nm,11.9s,MS4.5
GTA LR LR
comp=E,282nm,13.8s,MS4.5
GTA LR LR
comp=Z,312nm,13.8s,MS4.3
WRA Warramunga Arr 41.56 122 P **P** **21 48 35.2 +0.5**
comp=Z,8.8nm,0.9s,mb4.4,baz=300,slow=9.2,SNR=35
WRA PcP PcP 21 50 31.9 -0.4
comp=Z,1.1nm,0.9s,baz=296,slow=2.5,SNR=3.2
WRAB Tennant Creek 41.57 122 *eP* **P** **21 48 34.0 -0.7**
comp=Z,22nm,1.0s,mb4.7
WRAB Tennant Creek 41.57 122 *eP* **P** **21 48 34.0 -0.7**
WRAB pmax pmax
comp=Z,22nm,1.0s,mb4.7
WB2 Warramunga Arr 41.57 122 *eP* **P** **21 48 35.0 +0.2**
HHC Hu-ho-hao-te 42.01 16 *eP* **P** **21 48 39.5 +1.4**
HHC AP pP 21 48 49.4 +2.2
HHC XP sP 21 48 52.9 +1.9
HHC PP PP 21 50 21.5 +3.1
HHC PCP PcP 21 50 33.4 0.0
HHC SCP 21 54 20.6
HHC PCS 21 54 24.2
HHC S **S** **21 54 57.5 +2.8**
HHC XS 21 55 14.1
HHC SS SS 21 57 59.4 +2.6
HHC SCS ScS 21 58 36.3 +0.2
HHC AMB AMB
comp=Z,14nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,141nm,5.6s
HHC LR LR
comp=N,664nm,16.6s,MS4.7
HHC LR LR
comp=E,275nm,14.3s,MS4.7
HHC LR LR
comp=Z,532nm,16.6s,MS4.5
WMQ Urumqi 43.84 350⇑ *iP* **P** **21 48 53.8 +0.9**
WMQ AP pP 21 49 04.0 +1.9
WMQ XP sP 21 49 08.0 +2.2
WMQ PP PP 21 50 38.0 +1.4
WMQ S **S** **21 55 22.5 +1.1**
WMQ XS 21 55 38.0
WMQ SCS ScS 21 58 49.0 +1.7
WMQ AMB AMB
comp=Z,17nm,1.3s,mb4.6
WMQ AMB AMB
comp=Z,93nm,3.9s
WMQ LR LR
comp=N,652nm,26.8s,MS4.6
WMQ LR LR
comp=E,732nm,28.4s,MS4.6
WMQ LR LR
comp=Z,487nm,32.6s,MS4.2
DL2 Dalian 44.05 27 P **P** **21 48 56.1 +1.4**
DL2 *eS* **S** **21 55 30.2 +5.7**
DL2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
DL2 LR LR
comp=N,180nm,16.9s,MS4.3
DL2 LR LR
comp=E,270nm,15.5s,MS4.3
DL2 LR LR
comp=Z,270nm,11.8s,MS4.4
JNU Nakatsue 45.06 41 P **P** **21 49 03.7 +0.8**
comp=Z,9.5nm,0.8s,mb4.7,baz=218,slow=5.2,SNR=7.2
KS15 Wonju Array Si 46.13 34 *eP* **P** **21 49 11.6 +0.3**
UCH Uchtor 46.23 336 P **P** **21 49 13.7 +1.6**
SNR=9.4
KBK Karagaybulak 46.42 337 P **P** **21 49 14.8 +1.3**
SNR=10
AML Almayashu 46.48 336 P **P** **21 49 15.4 +1.3**
SNR=5.4
AAK Ala-Archa 46.58 337 *eP* **P** **21 49 14.7 -0.1**
comp=Z,6.2nm,0.9s,mb4.5
AAK Ala-Archa 46.58 337⇑ *iP* **P** **21 49 14.3 -0.5**
AAK pmax pmax
comp=Z,12nm,1.4s,mb4.6
AAK MLR MLR
comp=Z,100nm,17.0s,MS3.8
EKS2 Erkin-Say 46.89 336 P **P** **21 49 18.5 +1.2**
SNR=5.4
USP Ospenovka 47.11 337 P **P** **21 49 19.5 +0.5**
SNR=18
SNY Shenyang 47.28 27⇓ P **P** **21 49 20.7 +0.3**
SNY AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
SONM Songino Array 47.63 8 P **P** **21 49 23.4 +0.4**
comp=Z,7.1nm,0.8s,mb4.7,baz=189,slow=8.4,SNR=39
ULN Ulaanbaatar 47.75 9 *eP* **P** **21 49 24.1 +0.1**
comp=Z,3.9nm,0.8s,mb4.5
ULN Ulaanbaatar 47.75 9 *eP* **P** **21 49 24.1 +0.1**
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MKAR Makanchi Array 47.81 346 P **P** **21 49 24.8 +0.3**
comp=Z,16nm,0.5s,mb5.3,baz=159,slow=9.3,SNR=273
MKAR LR LR 22 15 01.4
comp=Z,129nm,18.8s,MS3.9,baz=174,slow=43
MKAR Makanchi Array 47.81 346 P **P** **21 49 24.8 +0.3**
MKAR LR LR 22 15 01.4
KKAR Karatay Array 48.63 334 *iP* **P** **21 49 30.7 -0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
CN2 Changchun 49.68 26 *eP* **P** **21 49 38.8 -0.1**
CN2 *e*AP pP 21 49 47.8 -0.4
CN2 *e*S **S** **21 56 45.4 +1.0**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.5
CN2 LR LR
comp=E,300nm,15.0s,MS4.5
CN2 LR LR
comp=Z,400nm,16.0s,MS4.5
ZAK Zakamensk 49.79 5 *eP* **P** **21 49 39.9 +0.3**
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
PMG Port Moresby 50.52 103 P **P** **21 49 45.7 0.0**
comp=Z,21nm,0.8s,mb5.1,baz=271,slow=5.7,SNR=4.0
MJAR Matsushiro Arr 51.94 42 P **P** **21 49 55.1 -1.1**
comp=Z,3.5nm,1.0s,mb4.2,baz=219,slow=8.0,SNR=7.7
MJAR LR LR 22 12 49.4
comp=Z,100nm,18.4s,MS3.9,baz=245,slow=37
MDJ Mudanjiang 52.23 29 P **P** **21 49 59.0 +0.7**
MDJ AP pP 21 50 07.8 +0.2
MDJ XP sP 21 50 11.6 +0.4
MDJ PP PP 21 51 57.3 -0.2
MDJ SCP 21 55 03.7
MDJ PCS 21 55 07.6
MDJ S **S** **21 57 24.1 +4.6**
MDJ XS 21 57 39.2
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,165nm,5.3s
MDJ LR LR
comp=N,189nm,18.8s,MS4.5
MDJ LR LR
comp=E,322nm,16.4s,MS4.5
MDJ LR LR
comp=Z,184nm,18.0s,MS4.2
KURK Kurchatov 52.37 345 *eP* **P** **21 49 58.0 -1.2**
comp=Z,30nm,1.2s,mb5.1
KURK Kurchatov 52.37 345 P **P** **21 49 58.8 -0.4**
KURK pmax pmax
comp=Z,15nm,1.1s,mb4.8
STKA Stephens Creek 52.83 132 *eP* **P** **21 50 02.5 -0.5**
comp=Z,11nm,1.0s,mb4.7
STKA Stephens Creek 52.83 132 P **P** **21 50 03.8 +0.8**
comp=Z,13nm,0.9s,mb4.9,baz=312,slow=7.5,SNR=12
STKA LR LR 22 14 45.6
comp=Z,294nm,20.7s,MS4.3,baz=111,slow=39
ZAL Zalesovo 54.11 351 P **P** **21 50 12.2 +0.2**
comp=Z,13nm,0.5s,mb5.1,baz=314,slow=5.6,SNR=46
NVS Novosibirsk 55.24 350 *iP* **P** **21 50 18.6 -1.7**
NVS pmax pmax
comp=N,22nm,1.6s
NVS pmax pmax
comp=E,16nm,1.6s
NVS pmax pmax
comp=Z,26nm,1.6s,mb5.0
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,6.0nm,0.9s
VOSK Vostochnaya 56.38 341 P **P** **21 50 27.1 -1.4**
VOSK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KLR Kul'dur 56.63 26 *eP* **P** **21 50 27.5 -2.9**
KLR MLR MLR
comp=N,700nm,13.0s,MS5.0
KLR MLR MLR
comp=E,500nm,13.0s,MS5.0
KLR MLR MLR
comp=Z,900nm,13.0s,MS5.0
BVA0 Borovoye Array 56.83 341 *iP* **P** **21 50 30.3 -1.4**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BRVK Borovoye 56.89 341 *eP* **P** **21 50 30.3 -1.9**
comp=Z,12nm,1.0s,mb4.9
BRVK Borovoye 56.89 341 *eP* **P** **21 50 30.3 -1.9**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb4.9
AB31 Akbulak array 58.09 332 *iP* **P** **21 50 39.1 -1.5**
AB31 pmax pmax
comp=Z,15nm,0.8s,mb5.1
BOD Bodaibo 58.49 10⇑ *iP* **P** **21 50 43.3 -0.1**
BOD pmax pmax
comp=Z,15nm,1.1s,mb4.9
AKTO Aktyubinsk 59.81 332 P **P** **21 50 50.5 -2.1**
AKTO pmax pmax
comp=Z,100nm,3.0s
CLNS Chul'man 60.19 17 *eP* **P** **21 50 58.1 +3.0**
CLNS *e* 21 51 17.1
CLNS *eS* S 21 59 32.8 +28
CLNS pmax pmax
comp=Z,6.0nm,2.7s,mb4.2
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
CLNS pmax pmax
comp=N,4.0nm,1.3s
CLNS MLR MLR
comp=Z,400nm,13.0s,MS4.7
CLNS MLR MLR
comp=N,200nm,12.0s,MS4.8
CLNS MLR MLR
comp=E,400nm,14.0s,MS4.8
KMBO Kilima Mbogo 60.20 268 P **P** **21 50 55.5 -0.2**
comp=E,3.3nm,0.8s,mb4.4,baz=37,slow=7.1,SNR=7.6
TI2 Plekhanov 62.52 318 *eP* **P** **21 51 08.0 -3.0**
SVE Sverdlovsk 63.27 338⇑ *eP* **P** **21 51 15.2 -0.5**
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.3
SVE MLR MLR
comp=E,100nm,12.0s
SVE MLR MLR
comp=Z,100nm,12.0s,MS4.2
ZEI Tsey 63.55 319 *eP* **P** **21 51 16.6 -1.2**
ZEI *i* *PP pP 21 51 32.0 +4.7
ZEI *i* 21 51 54.3
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ARU Arti 63.76 337 *eP* **P** **21 51 17.3 -1.7**
comp=Z,28nm,1.3s,mb5.1
ARU LR LR
comp=Z,61nm,20.0s,MS3.8
ARU Arti 63.76 337⇑ *iP* **P** **21 51 17.4 -1.6**
ARU *e* 21 51 53.2
ARU *e* 21 53 36.9
ARU *e*PPP PPP 21 55 08.6 -4.1
ARU *e*S **S** **21 59 51.2 +1.1**
ARU *e*SS SS 22 03 53.6 -6.1
ARU pmax pmax
comp=Z,15nm,1.1s,mb4.9
KIV Kislovodsk 64.86 319 *eP* **P** **21 51 25.0 -1.4**
comp=Z,16nm,1.1s,mb5.0
KIV Kislovodsk 64.86 319*c iP* **P** **21 51 25.1 -1.3**
KIV pmax pmax
comp=N,9.0nm,1.0s
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.0
MALT Malatya 65.65 312 *eP* **P** **21 51 31.1 -0.5**
comp=Z,7.1nm,1.0s,mb4.7
MALT Malatya 65.65 312 *eP* **P** **21 51 31.1 -0.5**
MALT pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
YAK Yakutsk 65.87 16 *eP* **P** **21 51 31.7 -0.8**
YAK LR LR
comp=Z,190nm,20.0s,MS4.3
YAK Yakutsk 65.87 16⇓ *iP* **P** **21 51 31.6 -0.9**
YAK pmax pmax
comp=Z,58nm,1.3s,mb5.5
SOC Sochi 66.67 318*c iP* **P** **21 51 35.8 -2.1**
SOC *e* 21 52 01.2
SOC *e* 21 54 04.5
SOC *e*PPP PPP 21 55 38.1 -4.9
SOC *e*S S 22 00 24.4 -1.5
SOC pmax pmax
comp=N,14nm,0.8s
SOC pmax pmax
comp=E,6.0nm,0.8s
SOC pmax pmax
comp=Z,11nm,0.8s,mb4.9
MBAR Mbarara 66.70 269⇑ *eP* **P** **21 51 39.3 +0.7**
VRHR Novokhopersk 68.69 326 *eP* **P** **21 51 48.6 -1.9**
VRHR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,1.0s
BRTR Keskin Array B 69.64 312 P **P** **21 51 55.1 -1.4**
comp=Z,7nm,0.7s,mb4.3,baz=129,slow=6.6,SNR=14
VOR Voronezh 70.34 326 *e* pP 21 52 05.2 -4.9
VOR *e* 21 52 21.7
MAW Mawson 72.24 193 *eP* **P** **21 52 11.8 0.0**
comp=E,3.0nm,0.9s,mb4.2
MAW Mawson 72.24 193 P **P** **21 52 12.0 +0.3**
comp=E,4.6nm,1.0s,mb4.4,baz=352,slow=6.4,SNR=6.0
MAW LR LR 22 17 37.9
comp=E,144nm,19.0s,MS4.3,baz=64,slow=31
MAW Mawson 72.24 193 *eP* **P** **21 52 11.8 0.0**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MOS Moscow 72.91 329 *eP* **P** **21 52 07.0 -8.8**
MOS *e* 21 52 20.0
MOS *e* 22 01 46.2
OBN Obninsk 73.19 328⇓ *iP* **P** **21 52 16.7 -0.8**
OBN *e* 21 54 58.9
OBN *eS* S 22 01 42.9 +0.8
OBN *eSS* SS 22 06 26.4 +0.2
OBN pmax pmax
comp=Z,24nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.1
TIXI Tiksi 73.67 10 *eP* **P** **21 52 16.2 -3.8**
TIXI pmax pmax
comp=Z,23nm,1.0s,mb5.1
SEY Seymchan 74.17 23⇓ *iP* **P** **21 52 22.8 -0.2**
CFR Carcaliu 75.03 317⇓ *iP* **P** **21 52 26.6 -1.8**
AKASG Malin Array Be 75.82 322 P **P** **21 52 31.7 -1.0**
comp=Z,3.8nm,0.5s,mb4.5,baz=89,slow=4.6,SNR=22
VRI Vrincioaia 76.16 317⇓ *iP* **P** **21 52 35.0 +0.2**
MLR Muntele Rosu 76.61 317⇑ *iP* **P** **21 52 37.0 -0.3**
BURAR Bucovina Array 77.57 319⇓ *iP* **P** **21 52 43.6 +1.0**
BURAR Bucovina Array 77.57 319⇓ *iP* **P** **21 52 43.6 +1.0**
JOF Joensuu 78.72 335 *ep* **P** **21 52 48.0 -0.6**
comp=Z,5.6nm,0.9s,mb4.5
DRGR 79.08 318⇑ *iP* **P** **21 52 49.9 -1.0**
KWP Kalwaria 79.62 320 *eP* **P** **21 52 54.1 +0.4**
KOLS Kolonicke sedl 79.77 320 *eP* **P** **21 52 55.2 +0.6**
SUW Suwalki 80.24 325 *eP* **P** **21 52 56.5 -0.5**
STHS Stebnicka Huta 80.52 320 *iP* **P** **21 52 59.0 +0.4**
STHS *e* 21 53 05.4
FINES FINESS Array B 80.58 333 P **P** **21 52 58.6 0.0**
comp=Z,3.0nm,0.6s,mb4.4,baz=98,slow=6.9,SNR=21
FINES LR LR 22 33 55.3
comp=Z,85nm,18.3s,MS4.1,baz=168,slow=40
KAF Kangasniemi 80.66 333 *ep* **P** **21 52 58.8 -0.2**
comp=Z,5.7nm,0.7s,mb4.6
KAF Kangasniemi 80.66 333 *eP* **P** **21 52 58.8 -0.2**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KECS Kecovo 80.86 319 *eP* **P** **21 53 00.0 -0.3**
NIE Niedzica 81.12 320 *eP* **P** **21 53 02.6 +0.9**
OJC Ojcow 81.58 321 *eP* **P** **21 53 03.8 -0.3**
VYHS Vyhne 81.94 319 *eP* **P** **21 53 06.1 +0.1**
OKC Ostrava-Krasne 82.58 320 *eP* **P** **21 53 09.5 +0.2**
MORC Moravsky Berou 82.96 320 *eP* **P** **21 53 11.1 -0.1**
comp=Z,11nm,1.2s,mb4.8
MORC Moravsky Berou 82.96 320 *eP* **P** **21 53 11.1 -0.1**
MORC pmax pmax
comp=Z,11nm,1.2s,mb4.8
ZST Bratislava 83.05 318 *eP* **P** **21 53 12.1 +0.3**
ARCES ARCESS Array B 83.11 340 P **P** **21 53 12.3 +0.7**
comp=Z,8.4nm,0.9s,mb4.8,baz=135,slow=6.9,SNR=12
ARCES LR LR 22 32 16.7
comp=Z,101nm,21.6s,MS4.2,baz=75,slow=37
ARCES ARCESS Array B 83.11 340 P **P** **21 53 12.3 +0.7**
ARCES LR LR 22 32 16.7
DPC Dobruska-Polom 83.81 320 *eP* **P** **21 53 16.2 +0.6**
GROS Grobnik 83.95 317 *eP* **P** **21 53 16.5 +0.1**
UPC Upice 84.02 321 *eP* **P** **21 53 17.4 +0.7**
BOJS Bojanci 84.03 316 *eP* **P** **21 53 16.6 -0.2**
PERS Pernice 84.23 317 *eP* **P** **21 53 17.9 +0.1**
TREC Trest 84.23 319 *eP* **P** **21 53 17.7 -0.1**
VISS Visnje 84.35 316 *eP* **P** **21 53 18.5 +0.1**
PRU Pruhonice 84.91 320 *eP* **P** **21 53 21.7 +0.6**
PVCC Panska Ves 84.94 321 *eP* **P** **21 53 22.1 +0.9**
VOJS Vojsko 85.03 316 *eP* **P** **21 53 21.6 -0.2**
AQU L'Aquila 85.13 312 *eP* **P** **21 53 22.3 -0.1**
comp=Z,28nm,1.2s,mb5.3
VNDA Vanda 85.26 169 LR LR 22 27 06.9
comp=Z,123nm,19.8s,MS4.3,baz=295,slow=33
GERES GERESS Array B 85.36 319 P **P** **21 53 23.7 +0.3**
comp=Z,4.3nm,0.9s,mb4.6,baz=104,slow=5.5,SNR=34
BRG Berggiesshubel 85.36 321 *eP* **P** **21 53 24.0 +0.6**
comp=Z,7.2nm,1.0s,mb4.8
KHC Kasperske Hory 85.47 319 *eP* **P** **21 53 24.2 +0.3**
CLL Collm 85.99 321 P **P** **21 53 26.0 -0.5**
comp=Z,logA/T=0.8,mb4.8
CLL *i* PCP PcP 21 53 29.3 -0.3
CLL Collm 85.99 321 *eP* **P** **21 53 26.0 -0.5**
comp=Z,7.0nm,1.1s,mb4.8
CLL *i* PcP PcP 21 53 29.3 -0.3
CLL Collm 85.99 321 *eP* **P** **21 53 26.0 -0.5**
CLL pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
NKC Novy Kostel 86.27 320 *eP* **P** **21 53 28.8 +0.9**
MOX Moxa 86.83 321 *iP* **P** **21 53 30.8 +0.2**
MOX Moxa 86.83 321 *eP* **P** **21 53 30.8 +0.2**
GRA1 Grafenberg Arr 87.03 320 *eP* **P** **21 53 32.3 +0.7**
comp=Z,8.0nm,0.8s,mb5.0
GRF Grafenberg Arr 87.03 320 *eP* **P** **21 53 32.3 +0.7**
comp=Z,8.0nm,0.8s,mb5.0
GRF Grafenberg Arr 87.03 320 *eP* **P** **21 53 32.3 +0.7**
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
NB2 NORSAR Subarra 87.58 331 P **P** **21 53 34.3 +0.3**
comp=Z,1.6nm,0.7s,mb4.4,baz=97,slow=4.6
NOA NORSAR Array B 87.58 331 P **P** **21 53 34.3 +0.3**
comp=Z,4.0nm,0.9s,mb4.7,baz=94,slow=4.9,SNR=6.4
NOA LR LR 22 40 09.5
comp=Z,49nm,18.5s,MS4.0,baz=155,slow=41
CDF Champ du Feu 89.61 318 *eP* **P** **21 53 44.0 +0.1**
LPG La Plagne 90.01 315 *eP* **P** **21 53 46.7 +0.8**
comp=Z,13nm,0.8s,mb5.0
LPL La Plagne 90.02 315 *eP* **P** **21 53 46.7 +0.8**
comp=Z,29nm,1.1s,mb5.2
HAU Haudompre 90.23 318 *eP* **P** **21 53 47.1 +0.2**
comp=Z,30nm,1.2s,mb5.2
HAU *eR*
comp=Z,47nm,20.2s
CABF La Chapelle 90.44 316 *eP* **P** **21 53 48.7 +0.8**
comp=Z,36nm,1.1s,mb5.3
MEZF Maizieres J'vi 91.09 318 *eP* **P** **21 53 51.4 +0.6**
BAIF Baives 91.57 320 *eP* **P** **21 53 54.0 +1.1**
comp=Z,34nm,1.1s,mb5.3
LOR Lormes 91.94 317 *eP* **P** **21 53 55.3 +0.5**
comp=Z,40nm,1.2s,mb5.3
LOR *eR*
comp=Z,52nm,18.8s
SMF Signal de Mont 91.99 317 *eP* **P** **21 53 55.5 +0.5**
comp=Z,30nm,1.1s,mb5.2
SSF Saint Saulge 92.20 317 *eP* **P** **21 53 56.6 +0.7**
AVF Avril sur Loir 92.32 317 *eP* **P** **21 53 57.0 +0.5**
comp=Z,14nm,1.1s,mb4.9
BGF Bois d'Agland 92.68 316 *eP* **P** **21 53 59.1 +0.9**
TCF Toulx Ste Croi 93.14 316 *eP* **P** **21 54 01.1 +0.8**
NEW Newport 122.81 27 PFAKE 21 59 50.0 +3.8
NEW LR LR
comp=Z,123nm,20.0s,MS4.6
PDAR Pinedale Array 130.42 26 PKP PKPdf 21 59 57.3 -3.7
comp=Z,0.4nm,0.6s,baz=56,slow=5.3,SNR=4.1
MNTX Cornudas Mount 141.23 32 *e*PKP PKPdf 22 00 18.0 -3.4
TXAR Lajitas Array 144.00 32 PKP PKPdf 22 00 21.1 -5.0
comp=Z,1.8nm,0.7s,baz=270,slow=1.3,SNR=12
CPUP Villa Florida 144.76 222 PKP PKPdf 22 00 23.1 -4.5
comp=Z,11nm,0.9s,baz=120,slow=4.8,SNR=24
CPUP Villa Florida 144.76 222 *e*PKP PKPdf 22 00 22.3 -5.3
LPAZ La Paz 158.93 222 PKP PKPdf 22 00 45.8 -2.8
comp=Z,0.8nm,0.9s,baz=107,slow=3.9,SNR=3.7

NEIC ***08*** *22:17:43.1, 16.97N×100.06W, h10km, MD3.7(MEX), After MEX.*

MEX 08 22:17:42.9±1.1, 17.01N×100.05W, h5km±12km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ACX	**Acapulco**	**0.19**	**137**	*i* P		Pg	22 17 46.0	-0.8
ACX				*i* S		Sg	22 17 49.5	+0.1
CAIG	**El Cayaco**	**0.21**	**281**	*e*P		Pg	22 17 46.4	-0.8
CAIG				*i* S		Sg	22 17 49.7	-0.4
CAIG	**El Cayaco**	**0.21**	**281**	*e*P		Pg	22 17 46.5	-0.7
CAIG				*e*S		Sg	22 17 49.1	-1.0
PLIG	**Platanillo**	**1.48**	**21**	*i* P		Pn	22 18 07.6	-2.6
PLIG				*i* S		Sb	22 18 23.9	-5.5
ZIIG	**Zihuatanejo**	**1.48**	**294**	*e*P		Pn	22 18 07.3	-2.9
ZIIG				*i* S		Sb	22 18 25.1	-4.4
ZIIG	**Zihuatanejo**	**1.48**	**294**	*e*P		Pn	22 18 07.3	-2.9
ZIIG				*e*S		Sb	22 18 26.1	-3.3
PNIG	**Pinotepa**	**1.94**	**108**	*e*P		Pn	22 18 13.0	-3.9
PNIG				*i* S		Sn	22 18 35.8	-6.1
PNIG	**Pinotepa**	**1.94**	**108**	*e*P		Pn	22 18 15.2	-1.8
PNIG				*e*S		Sn	22 18 41.2	-0.8
YAIG	**Yautepec**	**2.07**	**27**	*e*P		Pn	22 18 15.2	-3.5
YAIG				*i* S		Sn	22 18 40.9	-4.3
YAIG	**Yautepec**	**2.07**	**27**	*e*P		Pn	22 18 18.1	-0.6
YAIG				*e*S		Sn	22 18 43.5	-1.7
PPM	**Popocatepetl**	**2.46**	**33**	*e*P		Pn	22 18 24.5	+0.2
MOIG	**Morelia**	**2.87**	**338**	*e*P		Pn	22 18 27.9	-2.3
MOIG				*i* S		Sn	22 19 01.1	-4.4
MOIG	**Morelia**	**2.87**	**338**	*e*P		Pn	22 18 29.2	-0.9
MOIG				*e*S		Sn	22 19 02.8	-2.7
VHO	**Vista Hermosa**	**3.17**	**88**	*e*P		Pn	22 18 29.7	-4.8
VHO				*i* S		Sn	22 19 07.3	-5.9
VHO	**Vista Hermosa**	**3.17**	**88**	*e*P		Pn	22 18 33.7	-0.8
VHO				*e*S		Sn	22 19 11.9	-1.3

IDC ***08*** *22:38:53.5±3.2, 2.04N×96.62E, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=126.9km s-min=26.2km az=55.0*

NEIC ***08*** *22:38:57.5±0.9, 1.99N×96.64E, h30km, Error ellipse: s-maj=22.3km s-min=14.2km az=58.0*

ISC 08 22:38:55.4±1.2, 2.0N±0.2×96.6E±0.2, h30km, n7, σ0.956/7, mb3.9/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KULM	**Kulim**	**5.18**	**51**	*e*Pn		**Pn**	**22 40 12.7**	**-0.3**
WRA	**Warramunga Arr**	**42.94**	**122**	P		**P**	**22 46 54.6**	**+0.9**
	0.9nm,0.6s,mb3.6,baz=301,slow=9.2,SNR=8.4							
MKAR	**Makanchi Array**	**46.34**	**346**	P		**P**	**22 47 20.8**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=159,slow=9.1,SNR=20							
SONM	**Songino Array**	**46.44**	**9**	P		**P**	**22 47 21.7**	**+0.4**
	0.6nm,0.5s,mb3.8,baz=184,slow=9.2,SNR=7.2							
ZAL	**Zalesovo**	**52.68**	**351**	P		**P**	**22 48 09.4**	**+0.2**
	1.6nm,0.5s,mb4.2,baz=314,slow=6.5,SNR=5.9							
STKA	**Stephens Creek**	**54.31**	**132**	P		**P**	**22 48 20.6**	**-0.9**
BVAR	**Borovoye Array**	**55.32**	**341**	P		**P**	**22 48 28.1**	**-0.6**
	0.5nm,0.5s,mb3.8,baz=143,slow=7.4,SNR=5.0							

*ATH **08** 22:41:12.6, 41.16N×22.70E, h18^{km}±2^{km}, MD3.2/3*
*THE **08** 22:41:14.9, 41.09N×22.81E, h1^{km}, ML2.8*
*NEIC **08** 22:41:14.9, 41.09N×22.81E, h1^{km}, MD3.2(ATH), ML2.7(THE), After THE.*
*CSEM **08** 22:41:14.9±0.1, 41.11N×22.80E, h5^{km}, ML2.8, Error ellipse: s-maj=2.3km s-min=1.4km az=157.0*
ISC 08 22:41:14.1±0.7, **41.15N**±0.05×**22.82E**±0.04, **h16**^{km}±5^{km}, **n19**, σ**0^{s}96**/29, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNT	Kendrikon	0.06	75	ePg	Pb	22 41 17.1	-0.2
KNT				eSg	Sb	22 41 18.6	-0.8
GRG	Griva	0.37	239	ePg	Pb	22 41 21.5	-0.3
GRG				eSg	Sb	22 41 26.6	-0.4
THE	Thessaloniki	0.53	168	ePg	Pb	22 41 24.1	-0.4
THE				eSg	Sb	22 41 30.7	-0.8
THE	Thessaloniki	0.53	168	P	Pb	22 41 23.7	-0.7
THE				S	Sb	22 41 30.7	-0.8
SRS	Serrai	0.59	93	ePg	Pb	22 41 25.8	+0.3
SRS				eSg	Sb	22 41 34.2	+0.9
NVR	Nevrokopi	0.81	75	ePN	Pn	22 41 30.4	-0.3
NVR				eSN	Sn	22 41 42.1	-0.3
NVR	Nevrokopi	0.81	75	ePn	Pn	22 41 30.4	-0.3
NVR				eSn	Sn	22 41 41.7	-0.7
PLG	Polygyros	0.91	148	ePN	Pn	22 41 30.9	-1.2
PLG				eSN	Sn	22 41 43.8	-1.0
LIT	Litokhoron	1.07	194	ePg	Pb	22 41 33.8	0.0
FNA	Florina	1.15	252	ePg	Pb	22 41 35.6	+0.5
FNA				eSg	Sb	22 41 51.6	+2.0
KZN	Kozani	1.16	224	ePN	Pn	22 41 33.7	-1.9
OUR	Ouranopolis	1.20	132	ePg	Pb	22 41 36.9	+0.9
OUR				eSg	Sb	22 41 53.5	+2.4
XOR	Xorichti	1.80	171	ePb	Pb	22 41 45.8	-0.4
NEO	Neokhori	1.86	170	ePN	Pn	22 41 46.4	+0.7
RDO	Rodhopi	2.05	89	ePB	Pb	22 41 49.4	-1.1
RDO	Rodhopi	2.05	89	ePb	Pb	22 41 49.3	-1.2
AOS	Alonnisos	2.13	157	ePn	Pn	22 41 50.3	+0.7
AGG	Agios Georgios	2.15	190	ePn	Pn	22 41 50.4	+0.5
ALN	Alexandroupoli	2.46	95	ePn	Pn	22 41 55.3	+1.1

*NEIC **08** 22:51:46.4, 51.12N×179.07W, h23^{km}, ML3.6(AEIC), After AEIC.*
*IDC **08** 22:51:47.5±5.5, 50.70N×179.44W, h74^{km}±39^{km}, mb3.3/5, mb1 3.5/6, mb1mx3.4/22, mbtmp3.7/6, ML2.6/1, Error ellipse: s-maj=78.5km s-min=22.2km az=178.0*
ISC 08 22:51:43.0±1.7, **51.0N**±0.3×**179.2W**±0.1, **h33**^{km}, **n14**, σ**1^{s}21**/17, **mb3.6**/5, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	1.48	57	P	P	22 52 07.1	-0.4
KIKV	Kanaga Island	1.57	54	P	P	22 52 09.2	+0.4
KIRH	Kanaga Island	1.62	55	P	P	22 52 11.0	+1.4
ETKA	Kagalaska Isla	1.98	62	P	P	22 52 14.6	0.0
ETKA				S	S	22 52 36.9	-1.6
GSMY	Great Sitkin M	2.25	60	P	P	22 52 19.3	+0.7
GSMY				S	S	22 52 45.4	-0.1
ATKA	Atka Island	3.37	67	P	P	22 52 35.4	+0.8
FX1	Attu Island--F	5.08	295	P	P	22 53 00.6	+1.9
	0.8nm,0.3s,baz=84,slow=19,SNR=2.2						
FX1				S	S	22 54 05.0	+8.0
	0.9nm,0.3s,baz=298,slow=17,SNR=2.1						
FX1	Attu Island--F	5.08	295	P	P	22 53 01.4	+2.6
ILAR	Eielson Array	21.73	38	P	P	22 56 36.4	+3.5
	0.5nm,0.7s,mb3.1,baz=250,slow=11,SNR=4.3						
SONM	Songino Array	46.59	297	P	P	23 00 07.2	-1.9
	0.4nm,0.6s,mb3.5,baz=39,slow=9.2,SNR=2.7						
PDAR	Pinedale Array	46.69	72	P	P	23 00 10.2	+0.2
	1.1nm,0.5s,mb4.0,baz=288,slow=5.7,SNR=7.3						
MKAR	Makanchi Array	60.07	308	P	P	23 01 48.0	-0.8
	0.3nm,0.4s,mb3.7,baz=51,slow=5.6,SNR=12						
FINES	FINESS Array B	66.12	347	P	P	23 02 26.5	-1.7
	1.4nm,1.0s,mb4.0,slow=5.6,SNR=5.0						
FINES	FINESS Array B	66.12	347	P	P	23 02 26.5	-1.7

*IDC **08** 22:55:38.1±1.2, 5.37N×94.35E, mb4.3/10, mb1 4.4/10, mb1mx4.1/20, mbtmp4.2/10, Error ellipse: s-maj=57.7km s-min=18.3km az=53.0*
*MOS **08** 22:55:41.3±0.7, 5.40N×94.45E, h33^{km}, mb4.6/5, Error ellipse: s-maj=33.5km s-min=12.0km az=107.3*
*NEIC **08** 22:55:42.1±0.7, 5.27N×94.24E, h30^{km}, mb4.6/4, Error ellipse: s-maj=23.5km s-min=9.1km az=45.0*
ISC 08 22:55:41.0±0.8, **5.4N**±0.1×**94.4E**±0.1, **h30**^{km}, **n22**, σ**0^{s}97**/23, **mb4.3**/16, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.18	91	ePn	Pn	22 57 14.9	+2.1
KULM				eSn	Sn	22 58 20.3	-3.0
LSA	Lhasa	24.35	353	eP	P	23 00 58.5	+0.8
	5.5nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	38.65	128	P	P	23 03 03.5	-0.5
	3.5nm,0.7s,mb4.2,baz=352,slow=6.4,SNR=4.1						
MKAR	Makanchi Array	42.53	348	P	P	23 03 36.0	+0.4
	6.6nm,0.6s,mb4.6,baz=170,slow=7.7,SNR=73						
MKAR	Makanchi Array	42.53	348	P	P	23 03 36.0	+0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KKAR	Karatay Array	43.08	334	eP	P	23 03 40.6	+0.4
SONM	Songino Array	43.48	12	P	P	23 03 43.1	-0.3
	comp=Z,1.3nm,0.7s,mb3.8,baz=191,slow=10,SNR=8.8						
SONM				PcP	PcP	23 05 31.4	-0.2
	comp=Z,0.5nm,0.5s,baz=178,slow=4.5,SNR=3.6						
WRA	Warramunga Arr	46.63	124	P	P	23 04 09.3	+0.4
	comp=Z,1.8nm,0.6s,mb4.2,baz=303,slow=9.1,SNR=22						
WRAB	Tennant Creek	46.63	124	eP	P	23 04 07.7	-1.2
	comp=Z,6.9nm,0.8s,mb4.6						
WRAB	Tennant Creek	46.63	124	eP	P	23 04 07.7	-1.2
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
KURK	Kurchatov	47.05	346	eP	P	23 04 12.2	+0.4
	comp=Z,3.3nm,0.6s,mb4.4						
KURK	Kurchatov	47.05	346	eP	P	23 04 12.2	+0.4
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZAL	Zalesovo	49.00	352	P	P	23 04 27.3	+0.4
	comp=Z,3.7nm,0.5s,mb4.6,baz=312,slow=6.0,SNR=15						
VOSK	Vostochnaya	50.95	342	P	P	23 04 41.1	-0.7
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BVAR	Borovoye Array	51.40	342	P	P	23 04 44.6	-0.6
	comp=Z,2.4nm,0.6s,mb4.3,baz=143,slow=9.4,SNR=21						
AB31	Akbulak array	52.52	332	P	P	23 04 53.2	-0.6
BOD	Bodaibo	54.46	13	eP	P	23 05 06.9	-1.0
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
PMG	Port Moresby	54.56	105	eP	P	23 05 12.4	+3.2
	comp=Z,42nm,1.3s,mb5.3						
FINES	FINESS Array B	75.01	332	P	P	23 07 20.5	-0.8
	comp=Z,3.4nm,1.0s,mb4.2,baz=135,slow=2.7,SNR=4.2						
ARCES	ARCESS Array B	77.66	340	P	P	23 07 35.7	-0.3
	comp=Z,2.2nm,0.8s,mb4.1,baz=68,slow=6.5,SNR=6.5						
GERES	GERESS Array B	79.85	319	P	P	23 07 48.9	+0.6
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=19						
ILAR	Eielson Array	96.89	22	P	P	23 09 11.2	+0.9
	comp=Z,0.2nm,0.5s,mb3.8,baz=289,slow=4.7,SNR=4.3						

*NEIC **08** 23:50:02.9±0.4, 17.32N×97.13W, mb4.4/14, MD4.4(MEX), Error ellipse: s-maj=9.2km s-min=5.9km az=225.0*
NEIC Felt at Oaxaca.
*MEX **08** 23:50:02.9±1.2, 17.31N×97.15W, h75^{km}±8^{km}, MD4.5*
*IDC **08** 23:50:04.0±0.8, 17.37N×96.94W, h64^{km}±6^{km}, mb4.0/8, mb1 4.0/10, mb1mx3.8/21, mbtmp4.1/10, MS2.7/2, Ms1 2.7/2, ms1mx2.4/22, Error ellipse: s-maj=32.8km s-min=13.5km az=64.0*
ISC 08 23:50:01.4±0.3, **17.31N**±0.04×**97.15W**±0.02, **h71**^{km}±3^{km}, **h75**^{km}±5.8^{km}**:pP-P**, **n60**, σ**1^{s}13**/81, **mb4.2**/18, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.46	121	iP	P	23 50 14.9	+1.0
VHO				iS	S	23 50 23.6	+0.4
OXX	Oaxaca	0.46	119	iP	P	23 50 14.7	+0.7
OXX				iS	S	23 50 23.4	+0.1
PNIG	Pinotepa	1.31	226	iP	P	23 50 24.7	+0.3
PNIG				iS	S	23 50 39.7	-1.7
HUIG	Huatulco	1.82	147	eP	P	23 50 31.9	+0.6
HUIG				iS	S	23 50 52.2	-1.1
HUIG	Huatulco	1.82	147	eP	P	23 50 32.5	+1.3
HUIG				eS	S	23 50 49.0	-4.3
CMIG	Matias Romero	2.17	95	eP	P	23 50 36.1	+0.1
CMIG				iS	S	23 51 02.3	+0.5
CMIG	Matias Romero	2.17	95	eP	P	23 50 37.0	+0.9
CMIG				eS	S	23 50 56.3	-5.5
PPM	Popocatepetl	2.25	321	iP	P	23 50 36.3	-0.8
PPM				eP		23 50 38.0	
YAIG	Yautepec	2.40	311	iP	P	23 50 38.6	-0.6
YAIG				iS	S	23 51 06.9	-0.5
YAIG	Yautepec	2.40	311	eP	P	23 50 41.5	+2.2
YAIG				eS	S	23 50 59.5	-7.9
PLIG	Platanillo	2.49	296	eP	P	23 50 42.5	+1.9
PLIG				iS	S	23 51 10.1	+0.3
LVIG	Laguna Verde	2.50	16	iP	P	23 50 39.2	-1.5
LVIG				iS	S	23 51 07.9	-2.2
LVIG	Laguna Verde	2.50	16	eP	P	23 50 39.7	-1.0
LVIG				eS	S	23 50 58.7	-11
ACX	Acapulco	2.69	261	iP	P	23 50 41.6	-1.8
ACX				iS	S	23 51 15.7	+0.9
ACX	Acapulco	2.69	261	iP	P	23 50 41.5	-1.9
ACX				iS	S	23 51 04.1	-11
TUIG	Tuzandepetl	2.69	74	iP	P	23 50 43.3	-0.2
TUIG				iS	S	23 51 14.9	-0.1
UNM	Universidad Na	2.79	316	eP	P	23 50 44.2	-0.6
UNM				eP		23 50 48.0	
UNM				iS	S	23 51 18.1	+0.7
UNM	Universidad Na	2.79	316	eP	P	23 50 44.2	-0.6
UNM				eS	S	23 51 25.1	+7.8
CAIG	El Cayaco	3.00	266	iP	P	23 50 47.1	-0.6
CAIG				iS	S	23 51 21.6	-1.0
CAIG	El Cayaco	3.00	266	iP	P	23 50 47.1	-0.6
CAIG				eS	S	23 51 10.2	-12
ZIIG	Zihuatanejo	4.13	275	eS	S	23 51 49.8	-1.2
SCX	San Cristobal	4.35	97	eP	P	23 51 05.5	-1.1
SCX				iS	S	23 51 57.5	+1.0
MOIG	Morelia	4.50	302	eP	P	23 51 10.4	+1.7
MOIG				iS	S	23 51 59.9	-0.4
MOIG	Morelia	4.50	302	eP	P	23 51 10.8	+2.0
MOIG				eS	S	23 52 01.6	+1.3
CCIG	Comitan	4.90	101	eP	P	23 51 14.6	+0.3
CCIG				eS	S	23 52 08.8	-1.5
CCIG	Comitan	4.90	101	eP	P	23 51 15.5	+1.2
CCIG				eS	S	23 52 08.8	-1.5
SFJM	Santa Fe	6.41	300	iP	P	23 51 35.1	-0.1
LTX	Lajitas	13.38	335	P	P	23 53 10.3	+0.7
TXAR	Lajitas Array	13.38	335	P	P	23 53 11.9	+2.3
	0.0nm,0.3s,baz=149,slow=13,SNR=8.4						
TXAR				LR	LR	23 59 48.8	
	comp=Z,22nm,18.7s,baz=155,slow=44						
WMOK	Wichita Mounta	17.42	355	eP	P	23 53 58.5	-2.8
	2.3nm,0.8s						
WMOK				e		23 54 14.2	
OXF	Oxford	18.48	21	eP	P	23 54 12.8	-1.2
	20nm,0.4s						
ANMO	Albuquerque	19.44	336	P	P	23 54 24.9	+0.1
	baz=103,slow=16,SNR=2.5						
ANMO				LR	LR	00 02 25.0	
	comp=Z,29nm,20.3s,baz=308,slow=38						
SIUC	Southern Illin	21.49	17	P	P	23 54 40.1	-5.9
	34nm,0.8s,mb4.7						
SDCO	Great Sand Dun	21.65	342	eP	P	23 54 48.5	+1.1
	5.6nm,1.0s,mb3.9						
SDCO				e		23 55 04.8	
KSU1	Kansas State U	21.72	1	eP	P	23 54 48.5	+0.3
KSU1				e		23 54 52.2	
WCI	Wyandotte Cave	22.91	22	eP	P	23 54 59.5	-0.4
	22nm,0.9s,mb4.5						
ISCO	Idaho Springs	23.59	344	P	P	23 55 05.5	-0.9
	6.0nm,0.8s,mb4.0						
ISCO				epP		23 55 25.1	
MSU	Marysvale	24.89	331	eP	P	23 55 25.7	+6.7
ARUT	Antelope Range	24.93	328	P	P	23 55 20.6	+1.2
ARUT				epP		23 55 37.9	
ACSO	Alum Creek Sta	25.93	25	eP	P	23 55 28.0	-0.8
	8.4nm,0.6s,mb4.3						
SDV	Santo Domingo	27.12	105	P	P	23 55 40.7	+0.8
	7.5nm,0.8s,mb4.3,baz=314,slow=5.3,SNR=6.5						
HWUT	Hardware Ranch	27.20	336	P	P	23 55 41.3	+0.8
HWUT				epP	pP	23 55 57.2	+0.1
PDAR	Pinedale Array	27.49	340	pP	pP	23 56 00.1	+0.3
	0.9nm,1.0s,baz=143,slow=7.4,SNR=3.7						
ELK	Elko	28.10	330	P	P	23 55 47.1	-1.4
	2.6nm,0.7s,mb3.9,baz=217,slow=13,SNR=15						
ELK				pP	pP	23 56 06.9	+1.6
	7.5nm,0.8s,baz=5.4,slow=4.7,SNR=12						
HLID	Hailey	29.98	334	P	P	23 56 07.0	+1.6
	3.9nm,1.2s,mb3.9						
HLID				epP	pP	23 56 22.4	+0.1
SADO	Sadowa	31.28	25	P	P	23 56 15.4	-1.3
	1.7nm,0.4s,mb4.1,baz=223,slow=7.2,SNR=7.2						
SAML	Samuel	42.51	125	eP	P	23 57 49.3	-2.5
	5.5nm,1.0s,mb4.2						
SAML				epP	pP	23 58 12.2	+2.8
LPAZ	La Paz	43.95	138	P	P	23 58 05.2	+1.7
	1.4nm,0.9s,mb3.7,baz=315,slow=11,SNR=4.9						
LPAZ	La Paz	43.95	138	P	P	23 58 04.6	+1.1
	2.7nm,1.1s,mb3.9						
SCHQ	Schefferville	44.09	25	P	P	23 58 04.4	+0.3
	4.2nm,0.5s,mb4.4,baz=215,slow=7.1,SNR=15						
SCHQ	Schefferville	44.09	25	eP	P	23 58 03.5	-0.6
	6.2nm,0.6s,mb4.5						
YKA	Yellowknife Ar	46.77	349	pP	pP	23 58 41.3	-1.7
	0.9nm,0.7s,baz=154,slow=7.0,SNR=7.4						
SIV	San Ignacio	48.57	131	P	P	23 58 40.1	+0.2
	1.7nm,0.5s,mb4.2,baz=299,slow=9.1,SNR=12						
SIV				sP	sP	23 59 03.9	-1.9
	1.1nm,0.6s,baz=297,slow=11,SNR=3.3						
ILAR	Eielson Array	57.88	337	P	P	23 59 49.1	+1.1
	0.6nm,0.6s,mb3.8,baz=139,slow=5.0,SNR=7.3						
ILAR				pP	pP	00 00 07.6	+1.2
	1.2nm,0.9s,baz=130,slow=4.9,SNR=6.2						
CPUP	Villa Florida	58.12	137	P	P	23 59 47.9	-2.4
	7.4nm,1.4s,mb4.5						
BDFB	Brasilia	58.47	121	P	P	23 59 53.6	+0.8
	4.8nm,0.8s,mb4.6,baz=265,slow=7.4,SNR=5.5						
PLCA	Paso Flores	62.81	158	P	P	00 00 22.7	+0.8
	2.6nm,0.8s,mb4.2,baz=317,slow=9.4,SNR=8.9						
PLCA				sP	sP	00 00 46.6	-1.9
	1.0nm,0.8s,baz=344,slow=10,SNR=2.0						
PLCA	Paso Flores	62.81	158	eP	P	00 00 22.2	+0.3
	4.5nm,0.9s,mb4.4						
PLCA				sP	sP	00 00 46.6	-1.9
TRQA	Tornquist	64.22	150	eP	P	00 00 31.6	+0.4
	14nm,1.5s,mb4.6						
WRA	Warramunga Arr	131.29	258	PKP	PKPdf	00 09 09.3	+2.9
	0.6nm,0.6s,baz=87,slow=2.9,SNR=5.8						
WRA				pPKP		00 09 28.1	
	0.6nm,0.5s,baz=85,slow=2.6,SNR=3.8						

*NEIC **08** 23:51:16.4, 32.66S×71.64W, h29^{km}, ML2.9(GUC), After GUC.*
GUC 08 23:51:16.4±0.8, **32.66S**×**71.64W**, **h29**^{km}±3^{km}, **MD3.6**, **ML2.9**, **12C-8D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	Papudo	0.21	54	⇓iP	Pb	23 51 23.1	+0.5
PACH				iS	Sb	23 51 27.8	+1.0
IHA	Instituto Hidr	0.36	180	⇑iP	Pb	23 51 24.4	-0.3
IHA				iS	Sb	23 51 30.1	-0.2
ROCH	El Roble	0.61	121	⇑iP	Pb	23 51 28.5	-0.1
ROCH				iS	Sb	23 51 37.7	+0.8
CHNG	Los Chungos	0.78	9	iP	Pb	23 51 31.2	-0.2
CHNG				iS	Sb	23 51 41.7	0.0
CHNG				AMP		23 51 43.0	
	comp=N,310nm,0.3s						
LCCH	Las Cruces	0.81	176	⇑iP	Pb	23 51 31.4	-0.5
JACH	Jahuel	0.88	92	⇑iP	Pn	23 51 32.4	-0.6
JACH				iS	Sb	23 51 45.0	+0.5
PEL	Peldehue	0.94	121	⇑iP	Pn	23 51 33.7	0.0
PEL				iS	Sb	23 51 46.8	+0.8
RCDM	Rinconada Maip	1.08	140	⇑iP	Pn	23 51 35.7	-0.1
RCDM				iS	Sn	23 51 49.8	-0.1
RCDM				AMP		23 51 52.0	
	comp=E,445nm,0.1s						
ILCH	Illapel	1.10	21	⇓iP	Pn	23 51 35.9	-0.1
ILCH				iS	Sn	23 51 50.7	+0.5
ILCH				AMP		23 51 52.1	
	comp=E,344nm,0.5s						
SAN	Santiago	1.14	134	⇑iP	Pn	23 51 36.6	0.0
SAN				iS	Sn	23 51 51.9	+0.5
SAN				AMP		23 51 52.7	
	comp=N,538nm,0.2s						
TACH	Talagante	1.15	149	⇑iP	Pn	23 51 36.7	-0.1
TACH				iS	Sn	23 51 51.4	-0.3
DSCH	Colegio Aleman	1.16	130	⇑iP	Pn	23 51 37.0	+0.1
DSCH				iS	Sn	23 51 52.6	+0.7
DSCH				AMP		23 51 53.4	
	comp=N,1µm,0.3s						
CLCH	Cerro Calan	1.18	129	⇓iP	Pn	23 51 37.3	+0.1
CLCH				iS	Sn	23 51 53.1	+0.6
CLCH				AMP		23 51 54.0	
	comp=N,616nm,0.4s						
ANTU	Antumapu	1.24	137	iS	Sn	23 51 54.8	+0.9
ANTU				AMP		23 51 58.6	
	comp=E,312nm,0.2s						
LNV	Longovilo	1.31	172	⇓iP	Pn	23 51 39.1	+0.1
LNV				iS	Sn	23 51 56.0	+0.4
FCH	Farellones	1.31	121	⇓iP	Pn	23 51 39.3	+0.2
FCH				iS	Sn	23 51 56.9	+1.1
FCH				AMP		23 51 57.5	
	comp=E,471nm,0.2s						
PCH	Pirque	1.34	136	⇓iP	Pn	23 51 39.9	+0.3
PCH				eS	Sn	23 51 58.0	+1.4
CHCH	Chadas Angostu	1.52	147	⇓iP	Pn	23 51 42.9	+0.9
CHCH				iS	Sn	23 52 02.1	+1.2
CMCH	Combarbala	1.58	20	⇑iP	Pn	23 51 43.0	+0.1
CMCH				iS	Sn	23 52 04.0	+1.4
CMCH				AMP		23 52 07.8	
	comp=N,832nm,0.5s						
LMEL	Las Melosas	1.69	135	⇓iP	Pn	23 51 45.2	+0.7
LMEL				iS	Sn	23 52 07.9	+2.6
LMEL				AMP		23 52 10.6	
	comp=N,361nm,0.1s						
CACH	El Canelo	1.69	149	⇑iP	Pn	23 51 46.3	+1.8
CACH				iS	Sn	23 52 09.4	+4.0
CICH	Cipreses	1.94	149	⇑iP	Pn	23 51 49.2	+1.1
CICH				iS	Sn	23 52 14.1	+2.3

*IDC **09** 00:08:03.2±0.5, 4.70N×125.14E, mb4.5/17, mb1 4.6/17, mb1mx4.5/22, mbtmp4.5/17, MS4.2/13, Ms1 4.2/13, ms1mx4.0/24, Error ellipse: s-maj=24.7km s-min=10.6km az=74.0*
*MAN **09** 00:08:08.0, 4.71N×125.12E, h13^{km}, mb5.5, ML4.5, MS4.8*
*MOS **09** 00:08:08.0±1.5, 4.94N×125.25E, h33^{km}, mb5.0/10, Error ellipse: s-maj=18.8km s-min=9.1km az=108.6*
*BJI **09** 00:08:10.5, 4.93N×124.96E, h24^{km}, mB5.0, mb4.5, Ms4.5, Msz4.3*
*NEIC **09** 00:08:10.8±1.1, 4.71N×125.20E, h51^{km}±10^{km}, mb4.8/12, Error ellipse: s-maj=10.0km s-min=6.6km az=80.0*
ISC 09 00:08:06.6±0.3, **4.64N**±0.03×**125.20E**±0.06, **h28**^{km}, **h28**^{km}±2.2^{km}**:pP-P**, **n88**, σ**1^{s}31**/87, **mb4.6**/39, **MS4.3**/22, **4C-4D**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	1.46	350	⇑iP	Pn	00 08 30.7	-0.8
GSPH				iS	Sn	00 08 48.9	-1.0
KCP	Kidapawan	2.36	357	⇓eP	Pn	00 08 46.3	+2.0
KCP				iS	Sn	00 09 14.7	+2.0
DAV	Davao City (W)	2.45	9	⇓eP	Pn	00 08 48.5	+2.9
DAV	Davao City (W)	2.45	9	ePn	Pn	00 08 48.3	+2.7
MATI	Mati	2.53	25	eP	Pn	00 08 53.5	+6.8
BUKP	Musuan	3.23	358	eP	Pn	00 08 58.2	+1.5
BIPH	Bislig	3.71	18	⇑iP	Pn	00 09 05.2	+1.6
BIPH				iS	Sn	00 09 51.6	+4.8
CGP	Cagayan de Oro	3.83	353	⇓eP	Pn	00 09 05.2	0.0
BUTP	Butuan	4.33	6	eP	Pn	00 09 12.3	+0.1
SNPH	Sibulan	5.07	338	eP	Pn	00 09 29.0	+6.3
SCPH	Surigao	5.12	3	⇑eP	Pn	00 09 26.0	+2.5
KKM	Kota Kinabalu	9.05	279	ePn	P	00 10 18.8	+0.2
KSM	Kuching	15.19	259	eP	P	00 11 42.0	+0.7
QIZ	Qiongzhong	20.72	315	eP	P	00 12 47.9	+0.3
QIZ				S	S	00 16 36.3	+3.7
QIZ				LR	LR		
	comp=N,562nm,14.8s,MS4.2						
QIZ				LR	LR		
	comp=E,664nm,18.6s,MS4.2						
QIZ				LR	LR		
	comp=Z,955nm,18.0s,MS4.2						
GUMO	Guam	21.34	64	LR	LR	00 20 00.5	
	comp=Z,561nm,18.5s,MS4.0,baz=229,slow=34						
GZH	Guangzhou	21.62	329	P	P	00 13 00.0	+3.3
GZH				LR	LR		
	comp=N,945nm,17.1s,MS4.3						
GZH				LR	LR		
	comp=E,487nm,15.9s,MS4.3						
GZH				LR	LR		
	comp=Z,1µm,18.0s,MS4.3						
JOW	Kunigami	22.27	7	P	P	00 13 01.9	-1.2
	comp=Z,30nm,0.9s,mb4.7,baz=217,slow=8.7,SNR=5.6						
JOW				LR	LR	00 22 02.1	
	comp=Z,586nm,18.5s,MS4.0,baz=196,slow=38						
FITZ	Fitzroy Crossi	22.60	179	⇑iP	P	00 13 07.4	+0.9
	comp=Z,35nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	22.60	179	P	P	00 13 06.4	-0.1
	comp=Z,28nm,0.7s,mb4.8,baz=9.0,slow=11,SNR=26						
KULM	Kulim	24.46	273	eP	P	00 13 25.6	+0.8
WRAB	Tennant Creek	26.02	160	eP	P	00 13 39.1	-0.2
	comp=Z,95nm,0.8s,mb5.4						
WRAB	Tennant Creek	26.02	160	eP	P	00 13 39.2	-0.2
WRAB				pmax	pmax		
	comp=Z,95nm,0.8s,mb5.4						
WRA	Warramunga Arr	26.02	160	P	P	00 13 39.6	+0.1
	comp=Z,30nm,0.8s,mb4.8,baz=343,slow=10,SNR=56						
WRA				S	S	00 18 11.0	+4.7
	comp=Z,2.4nm,1.1s,baz=348,slow=16,SNR=3.4						
WB2	Warramunga Arr	26.03	160	eP	P	00 13 38.7	-0.8
WB2				eS	S	00 18 16.3	+10
MBWA	Marble Bar	26.19	192	eP	P	00 13 41.0	+0.1
	comp=Z,32nm,1.2s,mb4.7						
NST	Nakhon Sawan	26.96	296	P	P	00 13 44.5	-3.6
CBIJ	Chichi jima	27.60	34	P	P	00 13 50.5	-3.2
	comp=Z,74nm,0.6s,mb5.5,baz=302,slow=12,SNR=8.4						
CBIJ				LR	LR	00 22 46.1	
	comp=Z,374nm,20.9s,MS3.9,baz=164,slow=32						
NANT	Nan	27.75	302	P	P	00 13 56.0	+0.8
JNU	Nakatsue	28.83	10	P	P	00 14 03.7	-1.1
	comp=Z,12nm,0.9s,mb4.6,baz=121,slow=3.3						
ASPA	Alice Springs	29.38	164	eP	P	00 14 09.9	0.0
ENH	Enshi	29.50	332	eP	P	00 14 10.5	-0.4
	comp=Z,20nm,0.9s,mb4.8						
XAN	Xi'an	32.94	335	P	P	00 14 40.0	-1.0
XAN				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
XAN				LR	LR		
	comp=N,333nm,17.9s,MS4.2						
XAN				LR	LR		
	comp=E,321nm,19.1s,MS4.2						
XAN				LR	LR		
	comp=Z,520nm,15.5s,MS4.3						
MAJO	Matsushiro	33.93	19	eP	P	00 14 47.8	-1.9
	comp=Z,16nm,0.8s,mb5.0						
MAJO	Matsushiro	33.93	19	eP	P	00 14 47.8	-1.9
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
MAT	Matsushiro	33.93	19	P	P	00 14 47.7	-2.0
MAT	Matsushiro	33.93	19	eP	P	00 14 48.0	-1.7
	comp=Z,11nm,0.8s,mb4.8						
MAT	Matsushiro	33.93	19	eP	P	00 14 48.0	-1.7
MAT				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
MJAR	Matsushiro Arr	33.93	19	P	P	00 14 47.8	-1.8
	comp=Z,9.2nm,0.7s,mb4.8,baz=194,slow=9.4,SNR=19						
MJAR				LR	LR	00 28 24.8	
	comp=Z,293nm,18.5s,MS4.0,baz=180,slow=36						
LZH	Lanzhou	36.96	331	eP	P	00 15 16.4	+1.0
LZH				AP	pP	00 15 24.4	+0.7
LZH				XP	sP	00 15 29.1	+1.9
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,250nm,4.0s						
LZH				LR	LR		
	comp=N,1µm,14.2s						
LZH				LR	LR		
	comp=Z,2µm,16.3s,MS4.9						
LZH	Lanzhou	36.96	331	eP	P	00 15 16.4	+1.0
	comp=Z,30nm,1.0s,mb5.1						
LZH				pP	pP	00 15 24.4	+0.7
LZH				sP	sP	00 15 29.1	+1.9
LZH				PP	PP	00 16 55.0	+13
LZH				PPP	PPP	00 17 26.0	+24
LZH				eS	S	00 21 29.2	+31

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LZH				sS		00 21 45.0	
LZH				LR	LR		
	comp=Z,2µm,16.3s,MS4.9						
SNY	Shenyang	37.06	358	eP	P	00 15 22.3	+6.1
SNY				LR	LR		
	comp=N,450nm,19.8s,MS4.4						
SNY				LR	LR		
	comp=E,490nm,21.3s,MS4.4						
SNY				LR	LR		
	comp=Z,440nm,19.5s,MS4.3						
HNR	Honiara	37.34	112	P	P	00 15 19.5	+0.7
	comp=Z,57nm,0.4s,mb5.7,baz=216,slow=8.7,SNR=1.9						
HNR	Honiara	37.34	112	P	P	00 15 19.6	+0.8
STKA	Stephens Creek	39.52	158⇓	iP	P	00 15 38.0	+1.1
	comp=Z,12nm,0.9s,mb4.6						
STKA	Stephens Creek	39.52	158	P	P	00 15 37.4	+0.5
	comp=Z,7.2nm,0.7s,mb4.5,baz=341,slow=8.9,SNR=12						
MDJ	Mudanjiang	40.01	5	P	P	00 15 40.5	-0.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,129nm,5.2s						
MDJ				LR	LR		
	comp=N,100nm,19.6s,MS4.2						
MDJ				LR	LR		
	comp=E,372nm,24.1s,MS4.2						
MDJ				LR	LR		
	comp=Z,274nm,19.6s,MS4.1						
LSA	Lhasa	40.70	312	P	P	00 15 49.6	+3.0
LSA	Lhasa	40.70	312	eP	P	00 15 48.6	+2.0
	comp=Z,8.7nm,0.6s,mb4.6						
LSA	Lhasa	40.70	312	eP	P	00 15 48.6	+2.0
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
GTA	Gaotai	41.55	330	eP	P	00 15 54.0	+0.5
GTA				AP	pP	00 15 59.6	-2.3
GTA				XP	sP	00 16 01.9	-3.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb3.8						
GTA				AMB	AMB		
	comp=Z,97nm,5.4s						
GTA				LR	LR		
	comp=N,489nm,19.1s,MS4.5						
GTA				LR	LR		
	comp=E,411nm,16.8s,MS4.5						
GTA				LR	LR		
	comp=Z,624nm,18.0s,MS4.5						
KLR	Kul'dur	44.78	6	eP	P	00 16 15.7	-4.0
SONM	Songino Array	45.97	342	P	P	00 16 27.1	-2.0
	comp=Z,0.8nm,0.7s,mb3.8,baz=135,slow=6.1,SNR=4.9						
SONM				LR	LR	00 37 19.5	
	comp=Z,334nm,20.3s,MS4.3,baz=156,slow=38						
TOO	Toolangi	46.04	157	eP	P	00 16 32.0	+2.1
	comp=Z,12nm,1.4s,mb4.6						
TOO	Toolangi	46.04	157	eP	P	00 16 32.0	+2.1
TOO				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
HYB	Hyderabad	47.37	289	i P	P	00 16 41.5	+0.9
HYB	Hyderabad	47.37	289	eP	P	00 16 48.0	+7.4
WMQ	Urumqi	51.11	326	eP	P	00 17 09.0	-0.1
WMQ				AP	pP	00 17 19.0	+1.4
WMQ				XP	sP	00 17 23.0	+2.1
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,62nm,3.6s						
WMQ				LR	LR		
	comp=N,484nm,23.2s,MS4.7						
WMQ				LR	LR		
	comp=E,567nm,20.1s,MS4.7						
WMQ				LR	LR		
	comp=Z,458nm,20.8s,MS4.5						
BOD	Bodaibo	53.76	353	eP	P	00 17 24.0	-4.6
BOD				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
MKAR	Makanchi Array	55.95	326	P	P	00 17 43.3	-1.4
	comp=Z,2.3nm,0.6s,mb4.4,baz=121,slow=8.0,SNR=37						
MKAR				LR	LR	00 43 38.1	
	comp=Z,373nm,18.5s,MS4.5,baz=154,slow=38						
ZAL	Zalesovo	59.10	333	P	P	00 18 04.8	-2.1
	comp=Z,1.1nm,0.3s,mb4.4,baz=323,slow=5.1,SNR=3.1						
ZAL				LR	LR	00 46 23.9	
	comp=Z,287nm,18.5s,MS4.4,baz=338,slow=39						
KURK	Kurchatov	60.16	328	eP	P	00 18 12.7	-1.5
	comp=Z,11nm,0.8s,mb4.9						
KURK	Kurchatov	60.16	328	eP	P	00 18 12.7	-1.5
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
NVS	Novosibirsk	60.38	334	i P	P	00 18 20.7	+5.1
KKAR	Karatay Array	61.53	317	i P	P	00 18 23.8	+0.2
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
BVAR	Borovoye Array	65.73	327	P	P	00 18 48.3	-2.7
	comp=Z,1.8nm,0.8s,mb4.1,baz=122,slow=14,SNR=4.4						
BVAR				PcP	PcP	00 19 21.1	-0.9
	comp=Z,2.0nm,0.8s,baz=108,slow=4.7,SNR=5.5						
BRVK	Borovoye	65.81	327	eP	P	00 18 50.4	-1.1
	comp=Z,5.4nm,1.1s,mb4.5						
BRVK	Borovoye	65.81	327	eP	P	00 18 50.4	-1.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
BILL	Bilibino	69.08	15	eP	P	00 19 13.2	+1.3
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
AB31	Akbulak array	70.49	321	i P	P	00 19 20.1	-0.6
SVE	Sverdlovsk	72.39	329	eP	P	00 19 32.5	+0.4
SVE				e	pP	00 19 42.0	+1.2
MIR	Mirnyy	74.69	193	eP	P	00 19 49.0	+3.8
MIR				pmax	pmax		
	comp=Z,35nm,1.8s,mb5.0						
ZEI	Tsey	80.48	312	eP	P	00 20 15.5	-2.2
ZEI				i *PP	pP	00 20 24.8	-1.8
ZEI				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
IMA	Indian Mountai	82.18	24	eP	P	00 20 27.9	+1.8
MAW	Mawson	84.07	200	LR	LR	00 59 16.8	
	comp=Z,70nm,18.1s,MS4.1,baz=236,slow=36						
VNDA	Vanda	84.51	173	P	P	00 20 38.8	+1.0
	comp=Z,1.2nm,0.9s,mb4.0,baz=302,slow=13,SNR=7.7						
MALT	Malatya	84.62	308	eP	P	00 20 41.0	+1.8
ILAR	Eielson Array	84.95	25	P	P	00 20 40.2	+0.1
	comp=Z,1.5nm,0.7s,mb4.2,baz=250,slow=5.4,SNR=14						
OBN	Obninsk	85.44	325	P	P	00 20 49.5	+6.6
OBN				e		00 32 34.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.6						
ASF	Jabal al Asfar	86.12	302	P	P	00 20 46.6	-0.2
	comp=Z,5.0nm,1.1s,mb4.7,baz=306,slow=2.1,SNR=4.5						
PPT	Papeete	86.84	108	LR	LR	00 54 35.6	
	comp=Z,76nm,21.7s,MS4.1,baz=271,slow=32						
KMBO	Kilima Mbogo	88.04	269	LR	LR	00 56 37.3	
	comp=Z,100nm,19.0s,MS4.2,baz=274,slow=33						
BRTR	Keskin Array B	88.27	310	P	P	00 20 56.3	-0.7
	comp=Z,1.5nm,0.9s,mb4.2,baz=112,slow=6.7,SNR=6.4						
ARCES	ARCESS Array B	89.08	340	P	P	00 20 58.6	-1.6
	comp=Z,3.0nm,0.9s,mb4.6,baz=27,slow=8.1,SNR=2.9						
ARCES				LR	LR	01 05 40.6	
	comp=Z,123nm,18.2s,MS4.4,baz=228,slow=39						
FINES	FINESS Array B	90.32	332	P	P	00 21 05.2	-0.9
	comp=Z,1.4nm,0.8s,mb4.3,baz=90,slow=5.7,SNR=4.1						
FINES				LR	LR	01 02 52.9	
	comp=Z,124nm,18.4s,MS4.4,baz=187,slow=36						
NOA	NORSAR Array B	97.30	333	LR	LR	01 08 47.0	
	comp=Z,193nm,19.6s,MS4.6,baz=55,slow=38						
YKA	Yellowknife Ar	99.30	24	P	P	00 21 46.5	-0.6
	comp=Z,0.3nm,0.7s,mb3.9,baz=322,slow=2.1,SNR=3.7						
TXAR	Lajitas Array	122.24	51	PKP	PKPdf	00 27 00.1	-4.4
	comp=Z,0.2nm,0.6s,baz=11,slow=4.6,SNR=3.2						
TRQA	Tornquist	146.10	170	ePKPbc	PKPbc	00 27 47.6	+2.9

IDC 09 00:09:00.9±5.6, 51.46S×139.02E, mb1 3.9/1, mb1mx3.7/8, mbtmp3.9/1, ML3.5/1, Error ellipse: s-maj=326.2km s-min=52.1km az=110.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	19.66	7	P	P	00 13 31.4	-2.5
	0.1nm,0.3s,baz=156,slow=13,SNR=2.2						
ARCES	ARCESS Array B	144.89	326	PKP	PKPdf	00 28 37.1	-3.0
	3.1nm,1.0s,baz=90,slow=3.6,SNR=5.0						
GERES	GERESS Array B	145.55	288	PKPbc	PKPbc	00 28 39.3	-1.3
	0.5nm,0.7s,baz=124,slow=4.8,SNR=6.5						
MDT	Midelt	147.67	249	PKPbc	PKPdf	00 28 46.8	+0.9
	1.3nm,0.9s,baz=214,slow=3.6,SNR=3.6						

IDC 09 00:10:31.0±2.4, 57.90N×22.30E, mb1 3.3/4, mb1mx3.2/19, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=23.6km s-min=8.6km az=165.0

HEL 09 00:10:31.8±0.5, 57.82N×22.03E, ML1.8, ML1.5(UPP), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOTU	Gotland	1.86	267	eP	Pn	00 11 04.6	-0.5
NYNU	Nynaeshamn	2.43	301	eP	Pn	00 11 12.1	-1.2
GRAU	Graesoe	3.10	326	eP	Pn	00 11 23.6	+0.7
FLYU	Flymyra	3.16	319	eP	Pn	00 11 22.4	-1.4
OSKU	Oskarshamn	3.26	261	eP	Pn	00 11 24.0	-1.2
BACU	Backbrunna	3.27	311	eP	Pn	00 11 23.8	-1.6
ESKU	Eskilstuna	3.28	298	eP	Pn	00 11 24.0	-1.5
PVF	Pernaja	3.37	34	eP	Pn	00 11 24.9	-1.9
PVF				eS	Sn	00 12 08.8	+0.7
OSTU	Oestervaala	3.50	316	eP	Pn	00 11 28.1	-0.5
IGGU	Iggoen	3.90	324	eP	Pn	00 11 34.4	+0.1
VJF	Virojoki	3.94	44	eP	Pn	00 11 34.5	-0.4
VJF				eS	Sn	00 12 24.2	+1.6
FIA0	FINESS Array S	4.18	28	ePB	Pb	00 11 42.6	-3.5
FIA0				eS	Sn	00 12 25.2	-3.3
FINES	FINESS Array B	4.18	28	Pn	Pn	00 11 34.1	-4.1
	0.1nm,0.3s,baz=212,slow=12,SNR=9.7						
FINES				Pg	Pg	00 11 42.4	-13
	0.8nm,0.3s,baz=208,slow=15,SNR=20						
FINES				Sn	Sn	00 12 21.5	-7.0
	0.1nm,0.3s,baz=194,slow=23,SNR=2.3						
FINES				Lg		00 12 38.7	
	0.9nm,0.3s,baz=216,slow=26,SNR=11						
KEF	Keuruu	4.59	17	eSG	Sg	00 12 51.9	-13
KEF				MSG		00 12 54.1	
	comp=Z,1.0nm,0.2s						
KAF	Kangasniemi	4.81	25	eSB	Sb	00 12 54.0	-1.9
KAF				MSG		00 12 58.6	
	comp=Z,1.1nm,0.3s						
HFS	Hagfors	4.90	302	Pn	Pn	00 11 45.6	-2.8
	comp=Z,0.1nm,0.3s,baz=132,slow=15,SNR=22						
HFS				Sn	Sn	00 12 44.3	-2.3
	comp=Z,0.0nm,0.3s,baz=106,slow=26,SNR=3.1						
HFS				Lg		00 13 06.0	
	comp=Z,0.1nm,0.3s,baz=107,slow=31,SNR=5.1						
SUF	Sumiainen	5.33	21	eS	Sn	00 12 49.0	-8.5
NOA	NORSAR Array B	6.39	305	Pn	Pn	00 12 05.2	-4.4
	comp=Z,0.1nm,0.3s,baz=129,slow=9.2,SNR=2.6						
NOA				Sn	Sn	00 13 17.8	-6.3
	comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=2.3						
NOA				Lg		00 13 53.6	
	comp=Z,0.2nm,0.3s,baz=201,slow=3.8,SNR=3.1						
ARCES	ARCESS Array B	11.86	6	Pn	P	00 13 16.5	-8.5
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=4.0						

LDG 09 01:03:20.4±0.8, 15.19S×166.94E, h10km, Mb4.4/2, Error ellipse: s-maj=103.3km s-min=58.9km az=37.0

NEIC 09 01:03:34.7±1.4, 14.69S×167.45E, h127km±11km, mb4.7/8, Error ellipse: s-maj=15.5km s-min=8.6km az=69.0

IDC 09 01:03:34.7±3.0, 14.72S×167.36E, h121km±25km, mb4.2/11, mb1 4.3/13, mb1mx4.2/18, mbtmp4.6/13, MS3.2/1, Ms1 3.2/1, ms1mx2.8/27, Error ellipse: s-maj=25.3km s-min=14.0km az=68.0

ISC 09 01:03:34.6±1.9, 14.85S±0.08×167.2E±0.1, h129km±14km, n82, σ1.10/46, mb4.4/14, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.22	186	eP	P	01 05 19.5	+0.6
DZM				eS	S	01 06 36.8	-2.9
DZM	Mont Dzumac	7.22	186	P	P	01 05 19.2	+0.4
	21nm,0.3s,baz=41,slow=17,SNR=102						
DZM				S	S	01 06 35.0	-4.8
	baz=12,slow=22,SNR=1.1						
DZM	Mont Dzumac	7.22	186	eP	P	01 05 19.5	+0.6
DZM				eS	S	01 06 36.8	-3.0
NOUC	Port Laguerre	7.27	187	eP	P	01 05 20.9	+1.4
NOUC				eS	S	01 06 38.7	-2.2
NOUC	Port Laguerre	7.27	187	eP	P	01 05 20.9	+1.4
NOUC				eS	S	01 06 38.7	-2.2
HNR	Honiara	8.92	306	P	P	01 05 41.8	+0.2
	8.9nm,0.3s,baz=271,slow=9.7,SNR=2.7						
HNR				S	S	01 07 20.1	-0.6
	23nm,0.3s,baz=290,slow=15,SNR=2.5						
HNR				LR	LR	01 08 56.7	
	comp=Z,138nm,19.5s,baz=322,slow=36						
HNR	Honiara	8.92	306	P	P	01 05 41.8	+0.3
HNR				S	S	01 07 20.1	-0.6
HNR				LR	LR	01 08 56.6	
CTA	Charters Tower	20.66	252	eP	P	01 08 07.8	+1.9
	8.3nm,0.9s						
CTA	Charters Tower	20.66	252	P	P	01 08 07.4	+1.5
	8.9nm,0.8s,baz=87,slow=12,SNR=8.5						
CTAO	Charters Tower	20.66	252	eP	P	01 08 07.1	+1.2
	13nm,0.9s						
ARMA	Armidale	21.11	220	eP	P	01 08 13.7	+3.4
URZ	Urewera	24.91	161	P	P	01 08 48.0	+1.0
	7.5nm,0.5s,mb4.5,baz=334,slow=3.8,SNR=3.6						
STKA	Stephens Creek	28.88	230⇑	iP	P	01 09 24.4	+1.0
	7.8nm,0.4s,mb4.8						
STKA	Stephens Creek	28.88	230	P	P	01 09 24.2	+0.8
	8.4nm,0.4s,mb4.8,baz=53,slow=8.7,SNR=42						
STKA				PcP	PcP	01 12 29.2	-0.4
	3.8nm,0.7s,baz=31,slow=2.4,SNR=5.0						
RPZ	Rata Peaks	28.96	174	P	P	01 09 23.7	-0.2
	15nm,0.8s,mb4.8,baz=346,slow=3.9,SNR=8.5						
WRA	Warramunga Arr	31.75	256	P	P	01 09 47.5	-1.3
	1.0nm,0.7s,mb3.6,baz=87,slow=9.0,SNR=13						
WRA				PcP	PcP	01 12 37.5	+0.3
	1.6nm,1.1s,baz=86,slow=3.1,SNR=5.0						
VNDA	Vanda	62.74	181	P	P	01 13 46.7	-1.3
	3.8nm,0.7s,mb4.3,baz=2.7,slow=7.0,SNR=28						
VNDA	Vanda	62.74	181	eP	P	01 13 46.9	-1.0
	5.8nm,0.9s,mb4.4						
SBA	Scott Base	63.02	180	eP	P	01 13 49.7	-0.1
	18nm,0.9s,mb4.9						
CASY	Casey	63.40	202⇓	iP	P	01 13 51.6	-0.8
CASY	Casey	63.40	202	eP	P	01 13 51.8	-0.5
	8.5nm,0.7s,mb4.7						
QSPA	South Pole Qui	75.18	180	eP	P	01 15 03.9	0.0
	15nm,0.9s,mb4.6						
MAW	Mawson	81.76	202	P	P	01 15 40.2	+0.2
	2.2nm,0.4s,mb4.1,baz=230,slow=20,SNR=4.3						
SONM	Songino Array	82.56	324	P	P	01 15 45.1	+0.6
	0.7nm,0.5s,mb3.6,baz=140,slow=5.3,SNR=7.8						
ILAR	Eielson Array	86.65	18	P	P	01 16 02.6	-1.7
	1.6nm,0.7s,mb3.9,baz=236,slow=5.7,SNR=13						
SNAA	Sanae	93.43	183⇑	i	P	01 16 35.3	-0.7
SNAA	Sanae	93.43	183	e	P	01 16 36.5	+0.5
SNAA	Sanae	93.43	183	e	P	01 16 38.9	+2.9
SNAA	Sanae	93.43	183	eP	P	01 16 35.1	-0.8
	4.0nm,0.8s,mb4.6						
VNA3	Neumayer Olymp	94.10	181⇑	i	P	01 16 38.2	-0.8
VNA3	Neumayer Olymp	94.10	181	e	P	01 16 39.7	+0.7
VNA3	Neumayer Olymp	94.10	181	e	P	01 16 42.1	+3.1
VNA2	Neumayer--Watz	94.36	182⇑	i	P	01 16 39.9	-0.3
VNA2	Neumayer--Watz	94.36	182	e	P	01 16 41.5	+1.3
VNA2	Neumayer--Watz	94.36	182	e	P	01 16 43.6	+3.4
VNA1	Neumayer--Stat	94.66	182⇑	i	P	01 16 41.3	-0.3
VNA1	Neumayer--Stat	94.66	182	e	P	01 16 42.8	+1.2
MKAR	Makanchi Array	97.26	316	P	P	01 16 53.5	-0.4
	0.8nm,0.6s,mb4.2,baz=79,slow=6.2,SNR=5.4						
ZAL	Zalesovo	97.47	324	P	P	01 16 54.4	-0.3
	1.6nm,0.3s,mb4.8,baz=252,slow=5.7,SNR=3.6						
ARCES	ARCESS Array B	120.35	345	PKP	PKPdf	01 22 10.1	0.0
	1.3nm,0.4s,baz=74,slow=2.2,SNR=42						
FINES	FINESS Array B	125.81	338	PKP	PKPdf	01 22 21.7	+0.9
	2.0nm,0.8s,baz=101,slow=3.3,SNR=5.7						
LSZ	Lusaka	129.65	235	ePKPdf	PKPdf	01 22 31.3	+1.9
NAO01	NORSAR Array S	130.98	345	ePKPdf	PKPdf	01 22 31.6	+0.9
GERES	GERESS Array B	139.73	333	PKhKP		01 22 43.7	
	0.2nm,0.4s,baz=9.5,slow=6.0,SNR=2.6						
CDF	Champ du Feu	142.67	338	ePKP1	PKPdf	01 22 50.8	-1.6
DAVOX	Davos	142.97	334	PKP	PKPdf	01 22 51.8	-1.1
	3.1nm,0.6s,baz=172,slow=10,SNR=6.2						
HAU	Haudompre	143.34	338	ePKP1	PKPbc	01 22 52.8	+0.8
MEZF	Maizieres J'vi	143.36	340	ePKP1	PKPbc	01 22 52.3	+0.2
CII	Carovilli	144.43	324	ePKPdf	PKPdf	01 22 56.7	+1.0
TIP	Timpagrande	144.51	319	ePKPdf	PKPdf	01 22 56.5	+0.7
AQU	L'Aquila	144.51	326	ePKPdf	PKPdf	01 22 57.2	+1.5
CABF	La Chapelle	144.62	337	ePKP1	PKPbc	01 22 57.1	+1.3
	53nm,1.3s						
FLN	La Foliniere	144.70	346	ePKP1	PKPbc	01 22 56.1	+0.2
	29nm,1.0s						
LDF	La Druitiere	144.77	345	ePKP1	PKPbc	01 22 56.4	+0.3
	20nm,1.0s						
LOR	Lormes	144.83	340	ePKP1	PKPbc	01 22 57.3	+1.0
	41nm,1.1s						
SSF	Saint Saulge	145.13	340	ePKP1	PKPbc	01 22 58.3	+1.2
	83nm,1.0s						
GRR	Gorron	145.14	346	ePKP1	PKPbc	01 22 57.8	+0.7
	58nm,1.0s						
HYF	Humbligny	145.22	341	ePKP1	PKPbc	01 22 58.9	+1.5
LPL	La Plagne	145.28	336	ePKP1	PKPbc	01 22 59.5	+1.9
	27nm,0.9s						
LPG	La Plagne	145.29	336	ePKP1	PKPbc	01 22 59.5	+1.9
	84nm,1.3s						
SMF	Signal de Mont	145.38	340	ePKP1	PKPbc	01 22 59.1	+1.3
	67nm,1.1s						
AVF	Avril sur Loir	145.42	340	ePKP1	PKPbc	01 22 59.1	+1.2
	37nm,1.1s						
SGMF	Saint Gilles	145.63	348	ePKP1	PKPbc	01 22 59.4	+1.0
	86nm,1.1s						
BNI	Bardonecchia	145.69	335	ePKPbc	PKPbc	01 23 00.2	+1.6
ROSF	Rostrenen	145.70	349	ePKP1	PKPbc	01 22 59.7	+1.2
	60nm,1.1s						
BGF	Bois d'Agland	145.79	341	ePKP1	PKPbc	01 23 00.3	+1.5
MBDF	Montbardon	145.91	335	ePKP1	PKPbc	01 23 01.2	+2.0
QUIF	Quistinic	146.08	348	ePKP1	PKPbc	01 23 00.5	+1.0
ORIF	Oris-en-Rattie	146.12	336	ePKP1	PKPbc	01 23 01.7	+2.0
	26nm,0.8s						
TCF	Toulx Ste Croi	146.23	341	ePKP1	PKPbc	01 23 01.5	+1.6
	16nm,0.8s						
MFF	Saint Martin d	146.62	344	ePKP1	PKPbc	01 23 02.7	+1.9
	58nm,1.0s						
VIVF	Saint-Julien-l	146.63	337	ePKP1	PKPbc	01 23 03.1	+2.3
PGF	Pioggiola	146.63	330	ePKP1	PKPbc	01 23 03.2	+2.3
LMR	La Mourre	147.16	334	ePKP1	PKPdf	01 23 04.4	+4.2
	291nm,1.8s						
RJF	Les Rejaudoux	147.32	341	ePKP1	PKPdf	01 23 04.7	+4.3
CAF	Calviac	147.49	340	ePKP1	PKPdf	01 23 05.6	+4.9
	19nm,1.0s						
LASF	Ste Croix	147.60	337	ePKP1	PKPdf	01 23 05.8	+4.9
	49nm,1.2s						
LFF	La Frestale	147.89	342	ePKP1	PKPdf	01 23 06.2	+4.8
	32nm,0.8s						
MTLF	Montolieu	148.83	339	ePKP1	PKPdf	01 23 08.8	+5.8
	21nm,0.8s						
EPF	Esparros	149.74	341	ePKP1	PKPdf	01 23 11.6	+7.2
SJPF	Ste Jean	150.14	343	ePKP1	PKPdf	01 23 12.3	+7.3
	69nm,1.4s						
ETSF	Etsaut	150.14	342	ePKP1	PKPdf	01 23 12.5	+7.5
	9.7nm,0.6s						

NNC 09 01:06:30.0±9.2, 37.01N×70.80E, h116km±75km, mpv3.5, 4C, Error ellipse: s-maj=103.8km s-min=47.8km az=145.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.09	358	P	P	01 07 57.6	-1.2
	2.0nm,0.4s,baz=178,slow=13,SNR=42						
KK31				⇑S	S	01 09 06.9	-0.9
	0.5nm,0.2s,baz=187,slow=26,SNR=9.9						
AAK	Ala-Archa	6.30	26	⇑S	S	01 09 11.4	-1.4
	5.4nm,0.8s						
AB31	Akbulak array	14.56	331	⇑P	P	01 09 50.2	-1.0
	0.2nm,0.3s,baz=148,slow=14,SNR=7.8						
AB31				⇑S	S	01 12 32.3	+2.5
	0.2nm,0.4s,baz=159,slow=26						

SNSN 09 01:06:56.6, 29.42N×34.72E, h18km, Ml2.8

CSEM 09 01:06:57.5±0.2, 29.36N×34.83E, h15km, Mw2.8, Error ellipse: s-maj=6.8km s-min=1.8km az=85.0

GII 09 01:06:58.9±0.6, 29.39N×34.95E, h9km±5km, ML2.8/6, Mw2.8/3

ISC 09 01:06:58.6±0.6, 29.37N±0.03×34.9E±0.1, h21km±7km, n16, σ0.58/20, Egypt

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALWS	Ilw as Safayha	0.15	113	P	Pb	01 07 03.3	0.0
JMOS	Jabal al Moall	0.27	138	P	Pb	01 07 05.0	+0.2
EIL	Elat	0.30	8	Pg	Pb	01 07 04.8	-0.6
HAQS	Haql	0.31	176	P	Pb	01 07 05.7	+0.2
HAQS				S	Sb	01 07 11.3	+1.0
HRFI	Mount Harif	0.68	10	Pg	Pb	01 07 10.8	-0.7
HRFI				Sg	Sb	01 07 20.5	+0.1
TAYS	Tayyib Ism	0.82	182	P	Pb	01 07 13.5	-0.4
BDAS	Al Bad'	0.95	169	P	Pb	01 07 15.7	-0.5
PRNI	Paran	0.98	5	Pg	Pb	01 07 16.3	-0.5
PRNI				Sg	Sb	01 07 29.9	+0.6
ZFRI	Zfri	1.20	11	Pg	Pn	01 07 20.2	-0.2
AYUS	'Aynunah	1.22	165	P	Pn	01 07 19.4	-1.2
KZIT	Kziot	1.59	344	Pn	Pn	01 07 26.1	+0.2
KZIT				Sn	Sn	01 07 46.1	+0.1
MASH	Mash'abbe Sade	1.62	356	Pn	Pn	01 07 27.4	+1.0
RTMM	Retamin	1.69	354	Pn	Pn	01 07 27.6	+0.3
TBKS	Tabuk	1.84	128	P	Pn	01 07 30.3	+0.9
MZDA	Masada	1.97	11	Pn	Pn	01 07 31.4	+0.1
MKRJ	Makawir	2.27	16	Pn	Pn	01 07 35.0	-0.6

IDC 09 01:15:52.5±1.2, 51.65S×137.39E, mb4.3/4, mb1 4.4/5, mb1mx4.3/10, mbtmp4.3/5, MS4.0/1, Ms1 4.0/1, ms1mx3.3/23, Error ellipse: s-maj=44.9km s-min=22.8km az=77.0

NEIC 09 01:15:54.0±0.9, 51.61S×137.39E, h10km, mb4.3/2, Error ellipse: s-maj=31.7km s-min=16.8km az=79.0

ISC 09 01:15:52.2±1.6, 51.5S±0.2×137.4E±0.4, h10km, n14, σ1.27/9, mb4.3/5, MS3.9/1, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	19.89	11	eP	P	01 20 24.4	-2.0
	6.5nm,1.1s						
STKA	Stephens Creek	19.89	11	P	P	01 20 24.8	-1.6
	0.1nm,0.3s,baz=160,slow=14,SNR=5.5						
CASY	Casey	20.01	212	eP	P	01 20 34.4	+6.8
VNDA	Vanda	27.63	169	P	P	01 21 39.4	-1.8
	0.3nm,0.4s,mb3.2,baz=306,slow=17,SNR=3.1						
VNDA	Vanda	27.63	169	P	P	01 21 39.4	-1.8
URZ	Urewera	30.70	80	P	P	01 22 10.1	+1.0
	12nm,1.1s,mb4.7,baz=167,slow=8.0,SNR=3.5						
WRA	Warramunga Arr	31.62	354	P	P	01 22 17.1	-0.3
	4.1nm,0.9s,mb4.2,baz=176,slow=7.6,SNR=13						
WRAB	Tennant Creek	31.63	355	eP	P	01 22 17.8	+0.3
	11nm,0.9s,mb4.7						
CTA	Charters Tower	32.15	16	LR	LR	01 34 49.4	
	comp=Z,254nm,19.8s,MS3.9,baz=229,slow=35						
FITZ	Fitzroy Crossi	34.64	340	P	P	01 22 45.1	+1.4
	6.2nm,1.0s,mb4.5,baz=185,slow=4.1,SNR=2.2						
ARCES	ARCESS Array B	144.39	326	PKP	PKPdf	01 35 29.0	-1.0
	3.8nm,0.8s,slow=2.4,SNR=5.5						
ARCES	ARCESS Array B	144.39	326	PKP	PKPdf	01 35 29.0	-1.0
GERES	GERESS Array B	144.62	288	PKP	PKPdf	01 35 30.9	-0.1
	4.7nm,1.2s,baz=135,slow=3.8,SNR=15						
GRF	Grafenberg Arr	146.44	289	ePKP	PKPdf	01 35 37.7	+3.6

IDC 09 01:19:16.7±1.6, 51.03S×139.08E, mb3.9/3, mb1 3.9/4, mb1mx3.9/9, mbtmp3.8/4, ML3.1/1, Error ellipse: s-maj=47.5km s-min=25.6km az=81.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	19.23	7	P	P	01 23 43.8	-1.0
	0.0nm,0.3s,baz=167,slow=18,SNR=2.9						
RPZ	Rata Peaks	22.73	84	P	P	01 24 19.7	-1.4
	11nm,0.9s,baz=210,slow=8.1,SNR=4.4						
VNDA	Vanda	27.94	170	P	P	01 25 08.2	-1.8
	0.6nm,1.0s,baz=319,slow=6.0,SNR=2.5						
WRA	Warramunga Arr	31.24	351	P	P	01 25 37.0	-3.1
	1.2nm,1.0s,baz=174,slow=8.1,SNR=4.5						
ARCES	ARCESS Array B	144.55	326	PKP	PKPdf	01 38 53.1	-2.2
	2.7nm,0.9s,baz=105,slow=2.0,SNR=6.2						

BJI 09 01:20:13.0, 54.74S×26.85W, h10km, mB5.5, Ms5.6, Msz5.5

MOS ***09*** *01:20:14.3±1.0, 55.75S×27.16W, h10km, mb5.4/18, MS5.2/6, Error ellipse: s-maj=21.8km s-min=11.0km az=102.9*

NEIC ***09*** *01:20:15.1±0.2, 55.65S×27.10W, h10km, mb5.5/23, MS5.2/14, MW5.5, Error ellipse: s-maj=7.3km s-min=5.4km az=53.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.74; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-1.39; $M_{r\theta}$-0.74; $M_{\theta\phi}$1.51; $M_{\phi r}$0.68; Best double couple: $M_0$2.3×10^{17} NP1: ϕ_s156°, δ33°, λ106°. NP2: ϕ_s316°, δ58°, λ80°. Principal axes: T 1.99, Plg75°, Azm198°; N .7, Plg9°, Azm322°; P -2.69, Plg13°, Azm54°;*

HRVD ***09*** *01:20:15.1±0.2, 55.65S×26.96W, h19km, MW5.7/73, Centroid moment Tensor Solution. LP body waves: s65, c141; Mantle waves: s73, c152; Half duration: 1.6s Moment tensor: Scale 10^{17}Nm; M_{rr}2.88±.05; $M_{\theta\theta}$-1.31±.05; $M_{\phi\phi}$-1.57±.04; $M_{r\theta}$-0.86±.12; $M_{\theta\phi}$1.94±.04; $M_{\phi r}$1.87±.10; Best double couple: $M_0$3.759×10^{17} NP1: ϕ_s124°, δ30°, λ69°. NP2: ϕ_s328°, δ62°, λ102°. Principal axes: T 3.567, Plg71°, Azm264°; N .385, Plg10°, Azm142°; P -3.952, Plg16°, Azm49°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***09*** *01:20:18.6±1.4, 55.72S×27.15W, h33km±9km, mb4.8/20, mb1 4.8/21, mb1mx4.8/22, mbtmp4.9/21, ML4.3/1, MS5.2/12, Ms1 5.2/12, ms1mx5.1/15 Error ellipse: s-maj=13.3km s-min=10.2km az=54.0*

ISC 09 01:20:13.9±0.3**, 55.64S**±0.05×**27.12W**±0.10**, h10km, n233, σ1.04/98, mb5.2**/31**, MS5.3**/32**, 22C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.16**	**159**	⇑*i*P	**P**	**01 24 16.9**	**+2.0**
VNA1	**Neumayer--Stat**	**17.16**	**159**	*e*	**P**	**01 24 18.9**	**+4.0**
VNA1	**Neumayer--Stat**	**17.16**	**159**	*e*	**P**	**01 24 21.0**	**+6.1**
VNA1	**Neumayer--Stat**	**17.16**	**159**	*e*	**P**	**01 24 23.8**	**+8.9**
VNA1	**Neumayer--Stat**	**17.16**	**159**	*e*	**P**	**01 24 26.1**	**+11**
VNA3	**Neumayer Olymp**	**17.36**	**161**	⇑*i*P	**P**	**01 24 18.7**	**+1.2**
VNA3	**Neumayer Olymp**	**17.36**	**161**	*e*	**P**	**01 24 21.0**	**+3.5**
VNA3	**Neumayer Olymp**	**17.36**	**161**	*e*	**P**	**01 24 23.2**	**+5.7**
VNA3	**Neumayer Olymp**	**17.36**	**161**	*e*	**P**	**01 24 25.3**	**+7.8**
VNA3	**Neumayer Olymp**	**17.36**	**161**	*e*	**P**	**01 24 28.1**	**+11**
VNA2	**Neumayer--Watz**	**17.56**	**158**	⇑*i*P	**P**	**01 24 20.5**	**+0.6**
VNA2	**Neumayer--Watz**	**17.56**	**158**	*e*	**P**	**01 24 23.3**	**+3.4**
VNA2	**Neumayer--Watz**	**17.56**	**158**	*e*	**P**	**01 24 25.9**	**+6.0**
VNA2	**Neumayer--Watz**	**17.56**	**158**	*e*	**P**	**01 24 27.8**	**+7.9**
VNA2	**Neumayer--Watz**	**17.56**	**158**	*e*	**P**	**01 24 30.1**	**+10**
EFI	**East Falkland**	**18.67**	**269**	*e*P	**P**	**01 24 32.8**	**-1.0**
	146nm,0.9s						
EFI	**East Falkland**	**18.67**	**269**	*e*P	**P**	**01 24 33.9**	**0.0**
EFI				pmax	pmax		
	comp=Z,150nm,1.0s						
SNAA	**Sanae**	**19.10**	**157**	⇑*i*P	**P**	**01 24 37.3**	**-1.6**
SNAA	**Sanae**	**19.10**	**157**	*e*	**P**	**01 24 38.9**	**0.0**
SNAA	**Sanae**	**19.10**	**157**	*e*	**P**	**01 24 43.0**	**+4.1**
SNAA	**Sanae**	**19.10**	**157**	*e*	**P**	**01 24 44.0**	**+5.1**
SNAA	**Sanae**	**19.10**	**157**	*e*	**P**	**01 24 48.3**	**+9.4**
SNAA	**Sanae**	**19.10**	**157**	*e*	**P**	**01 24 50.5**	**+12**
SNAA	**Sanae**	**19.10**	**157**	*e*	**P**	**01 24 53.8**	**+15**
SNAA	**Sanae**	**19.10**	**157**	P	**P**	**01 24 36.7**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=317,slow=10,SNR=87						
SNAA				S	**S**	**01 28 10.6**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=305,slow=19,SNR=1.7						
SNAA				ScP		01 32 34.0	
	comp=Z,0.1nm,0.3s,baz=236,slow=1.8,SNR=9.2						
PMSA	**Palmer Station**	**20.20**	**228**	*e*P	**P**	**01 24 51.8**	**+0.6**
	comp=Z,169nm,0.8s						
MAIT	**Maitri**	**22.56**	**147**	*e*P	**P**	**01 25 16.4**	**+1.5**
MAIT				*e*S	**S**	**01 29 16.2**	**-1.0**
NVL	**N'lazarevskaya**	**22.59**	**147**	*e*P	**P**	**01 25 15.5**	**+0.4**
NVL				*e**SP		01 25 35.8	
NVL				*e*		01 25 51.2	
NVL				*e*S	**S**	**01 29 07.9**	**-10**
NVL				*e*SS	SS	01 30 12.0	+12
NVL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NVL				MLR	MLR		
	comp=Z,380nm,17.1s						
USHA	**Ushuaia**	**23.33**	**255**	P	**P**	**01 25 22.5**	**0.0**
	comp=Z,29nm,0.7s,mb4.8,baz=87,slow=10,SNR=20						
USHA				LR	LR	01 32 35.3	
	comp=Z,9μm,18.2s,MS5.3,baz=82,slow=32						
USHA				ScP		01 32 43.2	
	comp=Z,8.7nm,0.8s,baz=33,slow=3.8,SNR=3.8						
USHA	**Ushuaia**	**23.33**	**255**	P	**P**	**01 25 22.5**	**0.0**
USHA				LR	LR	01 32 35.3	
USHA				ScP		01 32 43.2	
TRQA	**Tornquist**	**29.20**	**292**	⇑*i*P	**P**	**01 26 17.9**	**+0.4**
	comp=Z,225nm,1.3s,mb5.7						
TRQA				*e*ScP		01 33 01.1	
TRQA				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
SYO	**Syowa Base**	**31.88**	**141**	⇓P	**P**	**01 26 38.2**	**-2.6**
SYO	**Syowa Base**	**31.88**	**141**	⇓pP	pP	01 26 46.4	+2.6
PLCA	**Paso Flores**	**31.97**	**279**	P	**P**	**01 26 40.1**	**-1.7**
	comp=Z,8.3nm,1.1s,mb4.5,baz=130,slow=8.4,SNR=9.7						
PLCA				PcP	PcP	01 29 31.2	-0.9
	comp=Z,3.0nm,0.7s,baz=81,slow=3.4,SNR=3.5						
PLCA				ScP		01 33 10.3	
	comp=Z,6.2nm,0.9s,baz=118,slow=3.6,SNR=8.9						
PLCA				LR	LR	01 40 26.7	
	comp=Z,3μm,18.3s,MS4.9,baz=126,slow=38						
PLCA	**Paso Flores**	**31.97**	**279**	*e*P	**P**	**01 26 40.5**	**-1.4**
	comp=Z,25nm,1.4s,mb4.9						
PLCA	**Paso Flores**	**31.97**	**279**	*e*P	**P**	**01 26 40.5**	**-1.4**
PLCA				pmax	pmax		
	comp=Z,25nm,1.4s						
QSPA	**South Pole Qui**	**34.61**	**180**	*e*P	**P**	**01 27 04.4**	**0.0**
	comp=Z,129nm,1.1s,mb5.8						
CAM4	**Nova Friburgo**	**35.17**	**335**	(P)	**P**	**01 27 04.9**	**-4.9**
CAM4				*i*		01 27 11.0	
CAM4				*i*		01 27 16.2	
CAM4				*i*		01 27 19.9	
CAM4				*i*		01 27 24.0	
CAM4				*i*		01 27 28.5	
CPUP	**Villa Florida**	**36.57**	**311**	P	**P**	**01 27 21.1**	**-0.5**
	comp=Z,104nm,1.2s,mb5.5,baz=171,slow=11,SNR=53						
CPUP				LR	LR	01 41 08.1	
	comp=Z,3μm,20.6s,MS5.1,baz=179,slow=34						
CPUP	**Villa Florida**	**36.57**	**311**	⇑*i*P	**P**	**01 27 21.6**	**0.0**
	comp=Z,119nm,1.2s,mb5.6						
CPUP				*e*ScP		01 33 30.2	
CPUP				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
CPUP	**Villa Florida**	**36.57**	**311**	⇑*i*P	**P**	**01 27 21.6**	**0.0**
CPUP				pmax	pmax		
	comp=Z,119nm,1.2s						
CPUP				MLR	MLR		
	comp=Z,4μm,20.0s						
MDZ	**Mendoza**	**36.76**	**291**	*e*P	**P**	**01 27 34.4**	**+11**
MAW	**Mawson**	**40.46**	**144**	⇑*i*P	**P**	**01 27 53.8**	**+0.2**
	comp=Z,25nm,0.6s,mb5.1						
MAW				*i* S	**S**	**01 34 00.2**	**-1.8**
MAW	**Mawson**	**40.46**	**144**	P	**P**	**01 27 53.4**	**-0.2**
	comp=Z,30nm,0.7s,mb5.1,baz=228,slow=7.7,SNR=51						
MAW				ScP		01 33 43.0	
	comp=Z,8.7nm,0.8s,baz=269,slow=8.2,SNR=6.9						
MAW				LR	LR	01 44 03.6	
	comp=Z,3μm,19.4s,MS5.1,baz=257,slow=35						
MAW	**Mawson**	**40.46**	**144**	⇑*i*P	**P**	**01 27 53.8**	**+0.2**
MAW				*i* S	**S**	**01 34 00.2**	**-1.8**
MAW				pmax	pmax		
	comp=Z,25nm,0.6s						
SUR	**Sutherland**	**40.50**	**75**	P	**P**	**01 27 55.3**	**+1.0**
	comp=Z,14nm,1.0s,mb4.7,baz=236,slow=10,SNR=4.8						
SUR				LR	LR	01 41 07.9	
	comp=Z,4μm,20.8s,MS5.3,baz=212,slow=31						
SUR	**Sutherland**	**40.50**	**75**	*e*P	**P**	**01 27 55.6**	**+1.3**
	comp=Z,38nm,1.0s,mb5.1						
SUR				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
BAO	**Brasilia Array**	**43.03**	**330**	P	**P**	**01 28 15.0**	**-0.2**
BDFB	**Brasilia**	**43.03**	**330**	P	**P**	**01 28 15.3**	**+0.1**
	comp=Z,3.7nm,0.6s,mb4.3,baz=159,slow=9.4,SNR=5.0						
BDFB				LR	LR	01 44 01.5	
	comp=Z,5μm,19.6s,MS5.4,baz=166,slow=33						
LVC	**Limon Verde**	**45.13**	**300**	⇑*i*P	**P**	**01 28 33.5**	**+1.4**
	comp=Z,88nm,0.8s,mb5.6						
LVC				*e*ScP		01 34 02.1	
LVC				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
SBA	**Scott Base**	**46.49**	**184**	⇑*i*P	**P**	**01 28 42.1**	**0.0**
	comp=Z,92nm,1.0s,mb5.7						
SBA	**Scott Base**	**46.49**	**184**	P	**P**	**01 28 43.1**	**+0.9**
SBA				pmax	pmax		
	comp=Z,91nm,1.0s,mb5.7						
VNDA	**Vanda**	**46.98**	**183**	P	**P**	**01 28 45.6**	**-0.4**
	comp=Z,52nm,0.8s,mb5.5,baz=188,slow=6.9,SNR=129						
VNDA				ScP		01 34 08.3	
	comp=Z,3.1nm,0.9s,baz=183,slow=4.7,SNR=2.9						
VNDA	**Vanda**	**46.98**	**183**	*e*P	**P**	**01 28 46.1**	**0.0**
	comp=Z,61nm,0.9s,mb5.5						
VNDA				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
VNDA	**Vanda**	**46.98**	**183**	P	**P**	**01 28 46.3**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,61nm,0.9s						
LBTB	**Lobatse**	**48.85**	**73**	P	**P**	**01 28 59.6**	**-1.7**
	comp=Z,54nm,1.3s,mb5.4,baz=232,slow=8.3,SNR=16						
LBTB	**Lobatse**	**48.85**	**73**	*e*P	**P**	**01 29 00.5**	**-0.8**
	comp=Z,52nm,1.3s,mb5.4						
LBTB	**Lobatse**	**48.85**	**73**	P	**P**	**01 29 01.1**	**-0.2**
LBTB				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.4						
TSUM	**Tsumeb**	**49.45**	**61**	P	**P**	**01 29 04.7**	**-1.2**
	comp=Z,15nm,1.1s,mb4.9,baz=197,slow=7.2,SNR=8.9						
TSUM	**Tsumeb**	**49.45**	**61**	*e*P	**P**	**01 29 05.5**	**-0.5**
	comp=Z,26nm,1.3s,mb5.1						
TSUM				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
MIR	**Mirnyy**	**50.13**	**153**	*d i*P	**P**	**01 29 10.2**	**-0.4**
MIR				pmax	pmax		
	comp=Z,126nm,2.0s,mb5.6						
LPAZ	**La Paz**	**50.17**	**305**	P	**P**	**01 29 12.5**	**+1.0**
	comp=Z,52nm,0.8s,mb5.6,baz=136,slow=6.7,SNR=135						
LPAZ				LR	LR	01 49 47.9	
	comp=Z,1μm,20.0s,MS4.9,baz=161,slow=35						
LPAZ	**La Paz**	**50.17**	**305**	⇑*i*P	**P**	**01 29 13.0**	**+1.4**
	comp=Z,99nm,0.9s,mb5.8						
LPAZ				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
LPAZ	**La Paz**	**50.17**	**305**	⇑*i*P	**P**	**01 29 13.0**	**+1.5**
LPAZ				pmax	pmax		
	comp=Z,99nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,1μm,20.0s						
ARE	**Arequipa**	**51.62**	**301**	⇑*i*P	**P**	**01 29 23.1**	**+0.6**
MATP	**Matopo**	**54.12**	**73**	P	**P**	**01 29 39.5**	**-1.5**
	comp=Z,38nm,1.1s,mb5.2,baz=214,slow=7.6,SNR=26						
CASY	**Casey**	**54.28**	**160**	⇑*i*P	**P**	**01 29 40.9**	**-0.7**
SAML	**Samuel**	**54.54**	**314**	⇑*i*P	**P**	**01 29 43.5**	**-0.8**
	comp=Z,126nm,1.3s,mb5.8						
SAML				LR	LR		
	comp=Z,3μm,21.0s,MS5.3						
DRV	**Dumont d'Urvil**	**57.63**	**174**	P	**P**	**01 30 05.0**	**-0.8**
NNA	**Nana**	**58.09**	**298**	⇑*i*P	**P**	**01 30 09.5**	**-0.1**
LSZ	**Lusaka**	**58.19**	**69**	*e*P	**P**	**01 30 09.3**	**-1.0**
	comp=Z,34nm,1.2s,mb5.3						
LSZ	**Lusaka**	**58.19**	**69**	P	**P**	**01 30 09.4**	**-0.9**
LSZ				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
DBIC	**Dimbokro**	**64.78**	**25**	P	**P**	**01 30 53.5**	**-1.2**
	comp=Z,8.3nm,0.8s,mb4.8,baz=175,slow=8.6,SNR=11						
DBIC	**Dimbokro**	**64.78**	**25**	*e*P	**P**	**01 30 55.1**	**+0.3**
	comp=Z,75nm,1.6s,mb5.5						
DBIC				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
DBIC	**Dimbokro**	**64.78**	**25**	P	**P**	**01 30 55.5**	**+0.7**
DBIC				pmax	pmax		
	comp=Z,75nm,1.6s						
ROSC	**El Rosal**	**71.67**	**310**	P	**P**	**01 31 36.8**	**-1.0**
	comp=Z,16nm,1.1s,mb4.9,baz=90,slow=23,SNR=21						
ROSC				LR	LR	02 04 38.8	
	comp=Z,1μm,19.8s,MS5.2,baz=346,slow=37						
MBAR	**Mbarara**	**71.93**	**63**	*e*P	**P**	**01 31 40.3**	**+1.0**
	comp=Z,19nm,1.3s,mb4.9						
MBAR	**Mbarara**	**71.93**	**63**	P	**P**	**01 31 41.1**	**+1.8**
MBAR				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
SDV	**Santo Domingo**	**73.75**	**315**	LR	LR	02 05 55.0	
	comp=Z,2μm,18.7s,MS5.5,baz=179,slow=37						
SDV	**Santo Domingo**	**73.75**	**315**	⇑*i*P	**P**	**01 31 49.7**	**-0.2**
	comp=Z,89nm,1.3s,mb5.5						
SDV				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
KMBO	**Kilima Mbogo**	**74.86**	**69**	P	**P**	**01 31 57.6**	**+1.2**
	comp=Z,5.2nm,1.1s,mb4.4,baz=221,slow=4.5,SNR=6.8						
KMBO				LR	LR	02 01 51.0	
	comp=Z,2μm,21.2s,MS5.5,baz=190,slow=33						
LZG	**Guadaloupe-1**	**77.25**	**326**	*e*P	**P**	**01 32 10.1**	**+0.3**
RPZ	**Rata Peaks**	**79.82**	**193**	P	**P**	**01 32 22.1**	**-1.2**
	comp=Z,12nm,0.8s,mb4.9,baz=169,slow=4.8,SNR=6.6						
RPZ				LR	LR	02 04 56.8	
	comp=Z,854nm,18.6s,MS5.1,baz=71,slow=34						
SJG	**San Juan**	**80.54**	**323**	LR	LR	02 07 28.2	
	comp=Z,2μm,21.3s,MS5.4,baz=171,slow=35						
SJG	**San Juan**	**80.54**	**323**	*e*P	**P**	**01 32 26.5**	**-1.2**
	comp=Z,106nm,1.7s,mb5.5						
RKT	**Rikitea**	**80.70**	**243**	*e*LQ		01 54 21.2	
RKT	**Rikitea**	**80.70**	**243**	*e*PP	PP	01 35 29.8	-4.6
RKT	**Rikitea**	**80.70**	**243**	*e*SS	SS	01 47 46.0	-4.7
RKT				*e*LR	LR	01 57 42.3	
	comp=Z,1μm,28.5s,baz=142						
TAU	**Tasmania Unive**	**81.71**	**176**	*e*P	**P**	**01 32 32.5**	**-0.8**
	comp=Z,109nm,1.0s,mb5.7						
TAU				LR	LR		
	comp=Z,958nm,20.0s,MS5.2						
TAU	**Tasmania Unive**	**81.71**	**176**	P	**P**	**01 32 32.9**	**-0.4**
TAU				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7						
URZ	**Urewera**	**84.20**	**199**	P	**P**	**01 32 46.0**	**-0.2**
	comp=Z,4.5nm,0.7s,mb4.7,baz=158,slow=19,SNR=1.9						
NWAO	**Narrogin (SRO)**	**86.67**	**151**	P	**P**	**01 32 58.0**	**-0.5**
	comp=Z,24nm,1.1s,mb5.3,baz=146,slow=11,SNR=2.6						
HLGC	**Holguin**	**86.78**	**315**	*e*P	**P**	**01 33 01.5**	**+2.1**
TOO	**Toolangi**	**86.94**	**174**	*e*P	**P**	**01 32 58.9**	**-0.8**
	comp=Z,8.8nm,0.8s,mb5.0						
TOO	**Toolangi**	**86.94**	**174**	*e*P	**P**	**01 32 58.9**	**-0.8**
TOO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
TBI	**Tubuai**	**87.37**	**231**	*e*LR	LR	02 00 43.5	
	comp=Z,2μm,29.0s,baz=154						
MDT	**Midelt**	**90.19**	**19**	P	**P**	**01 33 17.0**	**+1.7**
	comp=Z,10nm,1.0s,mb5.1,baz=223,slow=2.9,SNR=8.3						
STKA	**Stephens Creek**	**92.30**	**170**	*e*P	**P**	**01 33 26.2**	**+1.2**
	comp=Z,5.7nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**92.30**	**170**	P	**P**	**01 33 24.6**	**-0.4**
	comp=Z,6.8nm,0.7s,mb5.1,baz=157,slow=4.1,SNR=11						
PPT	**Papeete**	**92.47**	**234**	*e*PP	PP	01 37 01.6	-8.4
PPT	**Papeete**	**92.47**	**234**	*e*PS	PS	01 45 42.6	-2.1
PPT	**Papeete**	**92.47**	**234**	*e*SS	SS	01 50 49.9	+7.6
PPT				*e*LR	LR	02 03 01.9	
	comp=Z,3μm,31.2s,baz=155						
TAOE	**Nuku Hiva Isla**	**95.35**	**246**	*e*PP	PP	01 37 23.6	-8.5
TAOE	**Nuku Hiva Isla**	**95.35**	**246**	*e*PS	PS	01 46 05.4	-11
TAOE	**Nuku Hiva Isla**	**95.35**	**246**	*e*SS	SS	01 51 19.2	-4.0
TAOE				*e*LR	LR	02 04 23.9	
	comp=Z,3μm,22.5s						
ESDC	**Sonseca Array**	**96.98**	**18**	P	**P**	**01 33 47.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=179,slow=29,SNR=3.6						
WRA	**Warramunga Arr**	**103.09**	**162**	Pdiff	Pdif	01 34 12.7	-1.5
	comp=Z,1.7nm,0.9s,baz=195,slow=4.5,SNR=12						
WRA				PP	PP	01 38 24.1	-7.7
	comp=Z,1.4nm,1.0s,baz=192,slow=5.6,SNR=4.5						
WRA				PKiKP		01 38 33.5	
	comp=Z,4.0nm,1.1s,baz=186,slow=3.7,SNR=7.7						
WRA				PKKPbc		01 50 08.5	
	comp=Z,1.4nm,0.9s,baz=358,slow=3.0,SNR=15						
TXAR	**Lajitas Array**	**106.64**	**298**	Pdiff	Pdif	01 34 31.0	+1.3
	comp=Z,0.0nm,0.3s,baz=286,slow=17,SNR=2.4						
TXAR				PKiKP		01 38 41.0	
	comp=Z,1.3nm,1.0s,baz=133,slow=3.2,SNR=6.7						
BRTR	**Keskin Array B**	**108.11**	**45**	PP	PP	01 39 05.2	-3.3
	comp=Z,2.4nm,1.2s,baz=270,slow=4.9,SNR=3.2						
GERES	**GERESS Array B**	**109.57**	**27**	PKiKP		01 38 45.0	
	comp=Z,0.4nm,0.7s,baz=153,slow=3.0,SNR=3.8						
GRF	**Grafenberg Arr**	**109.73**	**25**	*e*PKKP	PKKP	01 50 17.5	+17
KHC	**Kasperske Hory**	**109.80**	**27**	*e*P		01 38 59.0	
AKASG	**Malin Array Be**	**115.84**	**36**	PKP	PKPdf	01 38 56.0	-3.0
	comp=Z,0.3nm,0.4s,baz=239,slow=2.2,SNR=8.4						
MSU	**Marysvale**	**118.19**	**298**	*e*PKPdf	PKPdf	01 39 01.7	-2.1
DUG	**Dugway**	**119.80**	**298**	*e*PKPdf	PKPdf	01 39 04.8	-2.0
HFS	**Hagfors**	**119.89**	**22**	PKP	PKPdf	01 39 04.1	-2.3
	comp=Z,3.4nm,0.8s,baz=180,slow=1.5,SNR=5.5						
ULM	**Lac du Bonnet**	**119.98**	**316**	PKP	PKPdf	01 39 05.3	-1.6
	comp=Z,1.5nm,0.4s,baz=100,slow=1.3,SNR=5.9						
BW06	**Boulder Array**	**120.16**	**302**	*e*PKPdf	PKPdf	01 39 05.0	-2.4
PDAR	**Pinedale Array**	**120.16**	**302**	PKP	PKPdf	01 39 05.1	-2.3
	comp=Z,0.8nm,0.3s,baz=135,slow=2.1,SNR=7.9						
NB2	**NORSAR Subarra**	**120.21**	**20**	PKPdf	PKPdf	01 39 04.6	-2.5
	comp=Z,17nm,1.4s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**120.21**	**20**	PKPd		01 39 04.6	
	baz=202,slow=1.9						
NOA	**NORSAR Array B**	**120.21**	**20**	PKP	PKPdf	01 39 04.8	-2.3
	comp=Z,1.9nm,0.7s,baz=203,slow=1.9,SNR=4.7						
HWUT	**Hardware Ranch**	**120.25**	**300**	*e*PKPdf	PKPdf	01 39 06.0	-1.7
LOHW	**Long Hollow**	**121.30**	**302**	*e*PKPdf	PKPdf	01 39 07.4	-2.3
TPAW	**Teton Pass**	**121.37**	**302**	*e*PKPdf	PKPdf	01 39 08.3	-1.5
ELK	**Elko**	**121.43**	**297**	*e*PKPdf	PKPdf	01 39 08.6	-1.4
ELK				*e*PP	PP	01 40 39.3	-3.4
ELK	**Elko**	**121.43**	**297**	PKIKP	PKPdf	01 39 09.0	-1.0
RRI2	**Red Ridge**	**121.44**	**302**	*e*PKPdf	PKPdf	01 39 08.3	-1.7
RRI2				*e*PP	PP	01 40 39.9	-2.8
IMW	**Indian Meadow**	**121.67**	**302**	*e*PKPdf	PKPdf	01 39 08.5	-1.9
FLWY	**Flagg Ranch**	**121.69**	**303**	*e*PKPdf	PKPdf	01 39 08.7	-1.8
OBN	**Obninsk**	**122.00**	**37**	⇑*i*PKIKP	PKPdf	01 39 09.5	-1.2
OBN				*e*		01 39 15.9	
OBN						01 46 18.0	
OBN				PS	PS	01 50 44.0	+7.7
OBN				SS	SS	01 57 29.1	+7.7
OBN				pmax	pmax		
	comp=Z,27nm,1.7s						
OBN				MLR	MLR		
	comp=Z,500nm,19.0s,MS5.2						
CMB	**Columbia Colle**	**122.07**	**292**	*e*PKPdf	PKPdf	01 39 10.3	-1.0
BMN	**Battle Mountai**	**122.20**	**296**	*e*PKPdf	PKPdf	01 39 10.0	-1.5
HLID	**Hailey**	**123.11**	**300**	*e*PKPdf	PKPdf	01 39 11.3	-1.7
BOZ	**Bozeman (W)**	**123.30**	**303**	*e*PKPdf	PKPdf	01 39 11.9	-1.5
BOZ				*e*PP	PP	01 40 51.3	-4.3
BEKR	**Beckwourth**	**123.41**	**293**	*e*PKPdf	PKPdf	01 39 12.6	-1.2
DLMT	**Dillon**	**123.55**	**303**	*e*PKPdf	PKPdf	01 39 12.8	-1.2
FINES	**FINESS Array B**	**124.00**	**28**	PKP	PKPdf	01 39 12.1	-2.4
	comp=Z,4.0nm,0.6s,baz=340,slow=1.6,SNR=29						
KOLN	**Koldanda**	**124.03**	**90**	*e*P	PKPdf	01 39 20.3	+4.9
	comp=Z,21nm,0.5s						
WVOR	**Wild Horse Val**	**124.39**	**296**	*e*PKPdf	PKPdf	01 39 13.9	-1.8
WVOR				*e*PP	PP	01 40 59.9	-3.1
WVOR	**Wild Horse Val**	**124.39**	**296**	PKIKP	PKPdf	01 39 15.6	-0.1
KAF	**Kangasniemi**	**124.62**	**27**	*e*pkp	PKPdf	01 39 12.6	-2.9
	comp=Z,1.4nm,0.3s,baz=173,slow=2.3						
DMN	**Daman**	**124.75**	**91**	*e*P	PKPdf	01 39 14.0	-2.7
	comp=Z,40nm,1.1s						
GKN	**Gorkha**	**124.79**	**90**	*e*P	PKPdf	01 39 13.5	-3.3
	comp=Z,56nm,1.2s						
MOD	**Modoc**	**124.86**	**295**	*e*PKPdf	PKPdf	01 39 15.5	-1.1
MOD				*e*PP	PP	01 41 02.4	-3.3
PKI	**Pulchoki**	**124.90**	**91**	*e*P	PKPdf	01 39 14.7	-2.3
	comp=Z,31nm,1.0s						
KKN	**Kakani**	**124.99**	**91**	*e*P	PKPdf	01 39 14.0	-3.2
MSO	**Missoula**	**125.26**	**303**	*e*PKPdf	PKPdf	01 39 15.0	-2.2
BMO	**Blue Mountains**	**125.47**	**299**	*e*PKPdf	PKPdf	01 39 15.8	-1.8
BMO	**Blue Mountains**	**125.47**	**299**	PKIKP	PKPdf	01 39 16.0	-1.6
YBH	**Yreka Blue Hor**	**125.99**	**293**	PKP	PKPdf	01 39 16.3	-2.4
	comp=Z,2.7nm,0.8s,baz=194,slow=8.3,SNR=3.1						
JOF	**Joensuu**	**126.62**	**29**	*e*pkp	PKPdf	01 39 17.7	-1.5
	comp=Z,3.0nm,0.6s						
WALA	**Waterton Lakes**	**126.84**	**305**	*e*PKPdf	PKPdf	01 39 18.0	-2.0
AB31	**Akbulak array**	**127.11**	**55**	*i* PKIKP	PKPdf	01 39 18.3	-2.2
AB31				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NEW	**Newport**	**127.80**	**302**	PKP	PKPdf	01 39 19.1	-2.9
	comp=Z,3.6nm,1.1s,baz=200,slow=2.6,SNR=3.6						
NEW	**Newport**	**127.80**	**302**	*e*PKIKP	PKPdf	01 39 18.8	-3.2
KKAR	**Karatay Array**	**128.03**	**67**	*i* PKIKP	PKPdf	01 39 20.4	-2.2
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SUMG	**Summit**	**128.17**	**356**	*e*PKPdf	PKPdf	01 39 20.5	-1.6
AML	**Almayashu**	**129.03**	**70**	P	PKPdf	01 39 23.5	-1.0
	SNR=13						
EKS2	**Erkin-Say**	**129.44**	**70**	P	PKPdf	01 39 24.3	-1.0
	SNR=14						
EDM	**Edmonton**	**129.48**	**309**	*e*PKPdf	PKPdf	01 39 22.3	-2.8
EDM	**Edmonton**	**129.48**	**309**	PKIKP	PKPdf	01 39 22.6	-2.5
UCH	**Uchtor**	**129.53**	**71**	P	PKPdf	01 39 24.7	-0.8
	SNR=11						
LSA	**Lhasa**	**129.77**	**94**	PKIKP	PKPdf	01 39 26.3	0.0
AAK	**Ala-Archa**	**129.80**	**70**	P	PKPdf	01 39 24.6	-1.4
	SNR=8.4						
AAK	**Ala-Archa**	**129.80**	**70**	*e*PKIKP	PKPdf	01 39 23.4	-2.6
USP	**Ospenovka**	**130.24**	**70**	P	PKPdf	01 39 25.2	-1.6
	SNR=9.8						
ARCES	**ARCESS Array B**	**130.55**	**22**	PKP	PKPdf	01 39 23.8	-2.9
	comp=Z,12nm,0.9s,baz=208,slow=1.0,SNR=16						
ARCES				SKP		01 42 54.8	
	comp=Z,4.5nm,0.9s,baz=198,slow=3.8,SNR=4.0						
ARE0	**ARCESS Array S**	**130.55**	**22**	*e*PKPdf	PKPdf	01 39 24.8	-1.9
APA	**Apatity**	**130.81**	**26**	*e*PKIKP	PKPdf	01 39 25.0	-2.2
APA				pmax	pmax		
	comp=Z,59nm,1.4s						
KEV	**Kevo**	**131.04**	**22**	*e*pkp	PKPdf	01 39 23.9	-3.7
	comp=Z,31nm,1.3s						
QIZ	**Qiongzhong**	**131.22**	**121**	*e*PKP	PKPdf	01 39 27.6	-1.7
QIZ				*e*PP	PP	01 41 49.1	+0.6
QIZ				SS	SS	01 59 15.8	-1.3
QIZ				LR	LR		
	comp=N,555nm,19.8s,MS5.3						
QIZ				LR	LR		
	comp=E,409nm,21.8s,MS5.3						
QIZ				LR	LR		
	comp=Z,957nm,21.8s,MS5.5						
ARU	**Arti**	**131.40**	**48**	*e*PKPdf	PKPdf	01 39 26.6	-2.0
ARU	**Arti**	**131.40**	**48**	*i* PKIKP	PKPdf	01 39 27.0	-1.6
ARU				*e*		01 46 35.7	
ARU				MLR	MLR		
	comp=Z,900nm,22.0s,MS5.4						
ARU				MLR	MLR		
	comp=N,600nm,24.5s,MS5.3						
ARU				MLR	MLR		
	comp=E,400nm,20.0s,MS5.3						
DAG	**Danmarks Havn**	**132.26**	**3**	⇑*i*P	PKPdf	01 39 28.3	-1.5
	comp=E,6.0nm,1.0s						
DAG	**Danmarks Havn**	**132.26**	**3**	⇑*e*PKIKP	PKPdf	01 39 28.3	-1.5
DAG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SVE	**Sverdlovsk**	**132.53**	**48**	*e*PKIKP	PKPdf	01 39 29.0	-1.8
SVE				*e*		01 46 42.0	
KMI	**Kunming**	**132.63**	**109**	PKP	PKPdf	01 39 29.1	-2.8
KMI				PP	PP	01 41 56.7	-0.1
KMI				SKKS		01 48 44.2	
KMI				PP	PP		
	comp=Z,137nm,11.0s						
KMI				LR	LR		
	comp=N,555nm,21.3s,MS5.3						
KMI				LR	LR		
	comp=E,485nm,24.2s,MS5.3						
KMI				LR	LR		
	comp=Z,646nm,18.4s						
KMI	**Kunming**	**132.63**	**109**	PKP	PKPdf	01 39 29.1	-2.8
KMI				sPKP		01 39 41.4	
KMI				PP	PP	01 41 56.7	-0.1
KMI				PKS	PKS	01 42 55.5	-8.4
KMI				PPP	PPP	01 44 38.4	-11
KMI				SKKS		01 48 44.2	
KMI				SS	SS	01 59 26.8	-7.8
KMI				SSS	SSS	02 04 27.0	-3.5
KMI				LR	LR		
	comp=Z,650nm,18.4s,MS5.4						
KMI	**Kunming**	**132.63**	**109**	PKIKP	PKPdf	01 39 29.1	-2.8
KMI						01 41 56.7	
KMI				SSS	SSS	02 04 27.0	-3.5
KMI				MLR	MLR		
	comp=Z,650nm,18.4s,MS5.4						
BRVK	**Borovoye**	**134.50**	**57**	*e*PKPdf	PKPdf	01 39 32.5	-2.0
BVA0	**Borovoye Array**	**134.53**	**57**	*i* PKIKP	PKPdf	01 39 32.7	-1.9
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BVAR	**Borovoye Array**	**134.53**	**57**	PKP	PKPdf	01 39 32.5	-2.1
	comp=Z,3.2nm,0.5s,baz=225,slow=2.1,SNR=27						
BVAR				SKPbc		01 42 59.0	
	comp=Z,3.5nm,1.0s,baz=243,slow=3.3,SNR=5.1						
VOSK	**Vostochnaya**	**134.62**	**58**	PKIKP	PKPdf	01 39 32.7	-2.1
VOSK				pmax	pmax		
	comp=Z,12nm,1.2s						
GYA	**Guiyang**	**135.79**	**112**	PKP	PKPdf	01 39 37.0	-0.6
GYA				PP	PP	01 42 21.0	+4.3
GYA				SKS	SKS	01 46 42.4	-5.3
GYA				SKKS		01 49 08.2	
GYA				SS	SS	02 00 16.6	+4.3
GYA				PP	PP		
	comp=Z,790nm,7.9s						
GYA				LR	LR		
	comp=N,2μm,20.9s,MS6.0						
GYA				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,2μm,21.0s,MS6.0						
GYA				LR	LR		
	comp=Z,2μm,21.4s,MS5.9						
YKA	Yellowknife Ar	135.89	318	PKhKP		01 39 21.9	
	comp=Z,0.4nm,0.4s,baz=122,slow=2.7,SNR=5.8						
YKA				PKP	PKPdf	01 39 34.2	-2.6
	comp=Z,3.2nm,0.6s,baz=123,slow=2.3,SNR=18						
YKA				PP	PP	01 42 11.2	-5.1
	comp=Z,1.7nm,0.8s,baz=117,slow=6.5,SNR=5.9						
YKA				SKPbc		01 43 02.1	
	comp=Z,2.4nm,0.8s,baz=122,slow=3.0,SNR=4.4						
YKA	Yellowknife Ar	135.89	318	PKP	PKPdf	01 39 21.9	-15
YKA				PKP	PKPdf	01 39 34.2	-2.6
YKA				PP	PP	01 42 11.2	-5.1
YKA				SKPbc		01 43 02.1	
YKW3	Yellowknife Ar	135.93	318	ePKPdf	PKPdf	01 39 34.4	-2.5
MKAR	Makanchi Array	136.72	71	PKhKP		01 39 30.2	
	comp=Z,0.7nm,0.6s,baz=233,slow=2.0,SNR=5.1						
MKAR				PKP	PKPdf	01 39 36.5	-2.2
	comp=Z,1.6nm,0.6s,baz=207,slow=2.7,SNR=5.3						
MKAR				SKPbc		01 43 03.8	
	comp=Z,3.2nm,1.0s,baz=180,slow=1.4,SNR=2.9						
MKAR	Makanchi Array	136.72	71	PKP	PKPdf	01 39 30.2	-8.4
MKAR				PKP	PKPdf	01 39 36.5	-2.2
MKAR				SKPbc		01 43 03.8	
MKAR	Makanchi Array	136.72	71	PKIKP	PKPdf	01 39 34.9	-3.8
MKAR				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	Kurchatov	137.19	64	ePKPdf	PKPdf	01 39 36.0	-3.4
WMQ	Urumqi	137.78	78	ePKP	PKPdf	01 39 38.4	-2.4
WMQ				PP	PP	01 42 30.0	+1.0
WMQ				SKS	SKS	01 46 44.0	-6.6
WMQ				SKKS		01 49 16.0	
WMQ				SS	SS	02 00 34.0	-1.8
WMQ				PP	PP		
	comp=Z,317nm,7.3s						
WMQ				LR	LR		
	comp=N,1μm,24.4s,MS5.6						
WMQ				LR	LR		
	comp=E,874nm,23.6s,MS5.6						
WMQ				LR	LR		
	comp=Z,1μm,27.2s,MS5.5						
DLBC	Dease Lake	140.10	307	ePKPdf	PKPdf	01 39 42.9	-1.7
ENH	Enshi	140.32	111	ePKPdf	PKPdf	01 39 43.1	-2.7
LZH	Lanzhou	141.64	100	ePKP	PKPdf	01 39 42.6	-5.3
LZH				PP	PP	01 42 50.0	-2.5
LZH				LR	LR		
	comp=N,720nm,16.4s						
LZH				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
LZH	Lanzhou	141.64	100	ePKP	PKPdf	01 39 42.6	-5.3
LZH				pPKP		01 39 52.5	
LZH				sPKP		01 39 57.9	
LZH				PP	PP	01 42 50.0	-2.5
LZH				SKS	SKS	01 46 47.0	-10
LZH				SKKS		01 49 37.0	
LZH				SS	SS	02 01 16.0	-5.2
LZH				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
LZH	Lanzhou	141.64	100	ePKIKP	PKPdf	01 39 42.6	-5.3
LZH						01 42 50.0	
LZH						01 46 47.0	
LZH				SS	SS	02 01 16.0	-5.2
LZH				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.7						
GTA	Gaotai	141.70	92	ePKP	PKPdf	01 39 43.1	-4.8
GTA				PKS	PKS	01 43 19.6	+0.2
GTA				PP	PP		
	comp=Z,162nm,8.0s						
GTA				LR	LR		
	comp=N,411nm,22.2s,MS5.4						
GTA				LR	LR		
	comp=E,529nm,20.6s,MS5.4						
GTA				LR	LR		
	comp=Z,606nm,19.1s,MS5.4						
NVS	Novosibirsk	141.82	61	ePKIKP	PKPdf	01 39 41.5	-6.1
NVS				pmax	pmax		
	comp=Z,16nm,1.7s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
ZAL	Zalesovo	142.14	63	PKhKP		01 39 41.8	
	comp=E,1.9nm,0.4s,baz=162,slow=1.6,SNR=5.5						
ZAL				PKP	PKPdf	01 39 46.1	-2.0
	comp=E,1.8nm,0.5s,baz=235,slow=2.6,SNR=7.9						
XAN	Xi'an	142.93	107	PKP	PKPdf	01 39 45.6	-4.5
XAN				LR	LR		
	comp=N,220nm,20.0s,MS5.0						
XAN				LR	LR		
	comp=E,132nm,22.4s,MS5.0						
XAN				LR	LR		
	comp=Z,401nm,23.6s,MS5.1						
YKU2	Yakutat	145.03	305	eP	PKPbc	01 39 49.1	-1.1
INK	Inuvik	145.51	321	PKPbc	PKPbc	01 39 52.4	+1.2
	comp=Z,51nm,0.6s,baz=99,slow=3.4,SNR=85						
INK	Inuvik	145.51	321	ePKIKP	PKPdf	01 39 52.4	-1.2
JOW	Kunigami	146.14	138	PKPbc	PKPbc	01 39 55.5	+1.5
	comp=Z,18nm,0.7s,baz=220,slow=6.9,SNR=3.9						
NJ2	Nanjing	146.52	121	ePKP	PKPdf	01 39 56.2	-0.2
NJ2				PKP2	PKPab	01 40 00.9	+3.0
NJ2				PP	PP	01 43 24.0	+2.1
NJ2				PKS	PKS	01 43 29.0	+1.5
NJ2				SKS	SKS	01 46 57.0	-7.4
NJ2				SKKS		01 50 07.0	
NJ2				PP	PP		
	comp=Z,210nm,7.1s						
NJ2				LR	LR		
	comp=N,300nm,33.9s,MS5.0						
NJ2				LR	LR		
	comp=E,320nm,29.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,340nm,31.3s,MS4.9						
SSE	Sheshan	146.84	125	PKP	PKPdf	01 39 53.5	-3.5
SSE				PP	PP	01 43 23.6	-0.3
SSE				SS	SS	02 02 19.7	-1.0
SSE				PP	PP		
	comp=Z,89nm,5.7s						
SSE				LR	LR		
	comp=N,637nm,19.4s,MS5.6						
SSE				LR	LR		
	comp=E,733nm,18.6s,MS5.6						
SSE				LR	LR		
	comp=Z,1μm,18.6s,MS5.7						
MENT	Mentasta	148.06	309	eP	PKPdf	01 40 00.0	+2.1
TIA	Tai'an	148.94	114	⇑PKP	PKPdf	01 40 02.3	+2.1
HHC	Hu-ho-hao-te	149.29	101	ePKP	PKPdf	01 39 58.5	-2.1
HHC				PKS	PKS	01 43 31.9	+0.7
HHC				SKS	SKS	01 47 02.4	-5.6
HHC				PP	PP		
	comp=Z,224nm,8.0s						
HHC				LR	LR		
	comp=N,287nm,19.0s,MS5.3						
HHC				LR	LR		
	comp=E,369nm,17.8s,MS5.3						
HHC				LR	LR		
	comp=Z,522nm,23.8s						
MOY	Mondy	149.59	75	ePKHKP		01 39 59.8	
MOY				pmax	pmax		
	comp=Z,143nm,2.0s						
ILAR	Eielson Array	149.87	312	PKP	PKPdf	01 39 56.2	-4.6
	comp=Z,4.0nm,1.2s,baz=8.0,slow=3.0,SNR=10						
ILAR				PKPbc	PKPdf	01 40 04.0	+3.3
	comp=Z,103nm,1.2s,baz=112,slow=1.0,SNR=111						
PMR	Palmer	150.13	305	eP	PKPdf	01 40 04.5	+3.2
PMR				ePKPab	PKPab	01 40 11.7	+0.3
ZAK	Zakamensk	150.24	79	ePKIKP	PKPdf	01 39 59.5	-2.3
ZAK				e		01 40 05.6	
ZAK				pmax	pmax		
	comp=Z,28nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SLKM	Skilak Lake	150.35	303	ePKPbc	PKPdf	01 40 05.7	+4.1
CBIJ	Chichi jima	150.44	160	PKPbc	PKPdf	01 40 04.2	+1.3
	comp=Z,26nm,0.4s,baz=285,slow=20,SNR=2.8						
SONM	Songino Array	150.66	86	PKP	PKPdf	01 40 00.4	-2.1
	comp=Z,4.4nm,1.1s,baz=210,slow=2.2,SNR=23						
SONM				PKPbc	PKPdf	01 40 06.7	+4.2
	comp=Z,35nm,0.8s,baz=222,slow=3.4,SNR=117						
KDAK	Kodiak Island	150.67	297	eP	PKPdf	01 40 06.7	+4.5
ULN	Ulaanbaatar	151.05	86	ePKPdf	PKPdf	01 40 01.7	-1.4
ULN				ePKPbc	PKPdf	01 40 07.7	+4.6
SPU	Mount Spurr	151.39	304	ePKPbc	PKPdf	01 40 07.3	+4.1
RSO	Redoubt South	151.54	302	ePKPbc	PKPdf	01 40 08.2	+4.8
IRK	Irkutsk	151.66	76	ePKIKP	PKPdf	01 40 06.7	+2.9
IRK				pmax	pmax		
	comp=Z,79nm,3.3s						
JNU	Nakatsue	152.76	137	PKPbc	PKPdf	01 40 11.1	+5.0
	comp=Z,8.0nm,0.7s,baz=86,slow=2.2,SNR=4.0						
IMA	Indian Mountai	152.85	314	eP	PKPdf	01 40 01.9	-3.2
IMA				ePKPbc	PKPdf	01 40 11.7	+6.6
SVW2	Sparrevohn	153.04	303	eP	PKPdf	01 40 01.6	-3.9
TTA	Tatalina	153.55	307	PKP2	PKPab	01 40 27.5	+1.7
MJAR	Matsushiro Arr	158.44	146	PKP	PKPdf	01 40 09.4	-4.1
	comp=Z,0.8nm,0.4s,SNR=4.6						
MJAR				PKPab	PKPab	01 40 46.6	-1.0
	comp=Z,0.9nm,0.3s,baz=207,slow=8.2,SNR=3.3						
BOD	Bodaibo	158.76	68	ePKIKP	PKPdf	01 40 09.5	-3.7
BOD				e		01 40 47.2	
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s						
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CN2	Changchun	158.83	113	ePKP	PKPdf	01 40 12.4	-1.3
CN2				PP	PP	01 44 32.3	+1.7
CN2				eSS	SS	02 04 30.3	-1.0
CN2				PP	PP		
	comp=Z,300nm,8.0s						
CN2				LR	LR		
	comp=N,300nm,21.0s,MS5.3						
CN2				LR	LR		
	comp=E,400nm,21.0s,MS5.3						
CN2				LR	LR		
	comp=Z,500nm,23.0s,MS5.3						
MDJ	Mudanjiang	161.53	117	PKP	PKPdf	01 40 14.8	-1.7
MDJ				PP	PP		
	comp=Z,146nm,4.9s						
MDJ				LR	LR		
	comp=N,313nm,15.8s						
MDJ				LR	LR		
	comp=E,231nm,26.3s						
MDJ				LR	LR		
	comp=Z,516nm,19.3s						
KLR	Kul'dur	165.64	108	ePKIKP	PKPdf	01 40 21.7	+1.3
PET	Petropavlovsk	175.72	235	i PKIKP	PKPdf	01 40 22.4	-3.2
PET				eSS	SS	02 07 16.2	-3.2
PET				e		02 14 21.3	
PET				e		02 45 53.2	
PET				pmax	pmax		
	comp=Z,500nm,23.0s						
PET				smax			
	comp=E,190nm,0.3s						

*IDC **09** 01:22:32.2±0.9, 55.56S×27.28W, mb4.8/5, mb1 5.0/5, mb1mx4.5/13, mbtmp4.8/5, Error ellipse: s-maj=37.0km s-min=22.5km az=47.0*
*NEIC **09** 01:22:33.7±0.4, 55.53S×27.15W, h10km, mb5.1/10, Error ellipse: s-maj=13.0km s-min=10.3km az=214.0*
ISC 09 01:22:32.9±1.0**, 55.6S**±0.1×**27.4W**±0.3**, h10**km**, n25, σ0.69**/15**, mb4.9**/10**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	East Falkland	18.53	269	eP	P	01 26 51.1	0.0
	40nm,0.8s						
PMSA	Palmer Station	20.12	228	eP	P	01 27 09.6	+0.2
	59nm,1.0s						
USHA	Ushuaia	23.20	255	P	P	01 27 40.4	+0.1
	13nm,0.8s,mb4.4,baz=95,slow=7.0,SNR=3.5						
TRQA	Tornquist	29.05	293	eP	P	01 28 35.1	0.0
	31nm,1.0s,mb5.0						
CPUP	Villa Florida	36.43	311	P	P	01 29 38.8	-0.7
	21nm,0.9s,mb5.0,baz=172,slow=10,SNR=8.4						
CPUP	Villa Florida	36.43	311	eP	P	01 29 39.2	-0.2
	30nm,1.0s,mb5.2						
MAW	Mawson	40.58	144	P	P	01 30 14.6	+1.0
	6.8nm,0.9s,mb4.3,baz=256,slow=6.6,SNR=3.6						
LVC	Limon Verde	44.98	300	eP	P	01 30 50.9	+1.0
	30nm,0.7s,mb5.2						
SBA	Scott Base	46.52	184	eP	P	01 31 01.0	-0.4
	16nm,0.9s,mb4.9						
VNDA	Vanda	47.02	183	P	P	01 31 04.2	-1.1
	11nm,0.7s,mb4.9,baz=196,slow=9.7,SNR=4.8						
VNDA	Vanda	47.02	183	eP	P	01 31 04.5	-0.8
	11nm,0.7s,mb4.9						
LPAZ	La Paz	50.03	305	P	P	01 31 30.1	+0.6
	18nm,0.9s,mb5.1,baz=143,slow=6.2,SNR=4.8						
LPAZ	La Paz	50.03	305	eP	P	01 31 30.4	+1.0
	20nm,0.9s,mb5.2						
SAML	Samuel	54.41	315	eP	P	01 32 01.0	-1.3
	20nm,0.8s,mb5.1						
SDV	Santo Domingo	73.61	315	eP	P	01 34 08.0	-0.2
	24nm,1.0s,mb5.1						
SUMG	Summit	128.12	356	ePKPdf	PKPdf	01 41 39.1	-1.9
ARCES	ARCESS Array B	130.56	22	PKP	PKPdf	01 41 41.5	-4.2
	6.9nm,0.9s,baz=135,slow=1.7,SNR=4.3						
ARU	Arti	131.47	48	ePKPdf	PKPdf	01 41 44.8	-2.9
BRVK	Borovoye	134.60	57	ePKPdf	PKPdf	01 41 51.1	-2.5
BVAR	Borovoye Array	134.63	57	PKP	PKPdf	01 41 50.3	-3.5
	3.2nm,0.9s,baz=243,slow=3.3,SNR=4.2						
INK	Inuvik	145.38	321	PKPbc	PKPbc	01 42 10.1	+0.3
	22nm,0.8s,baz=76,slow=3.7,SNR=4.5						
INK	Inuvik	145.38	321	ePKPdf	PKPdf	01 42 09.9	-2.4
INK				PKPbc	PKPbc	01 42 10.1	+0.3
ILAR	Eielson Array	149.73	312	PKPbc	PKPdf	01 42 21.7	+2.1
	18nm,0.8s,baz=126,slow=1.6,SNR=5.4						
SONM	Songino Array	150.80	86	PKPbc	PKPdf	01 42 24.2	+2.5
	9.3nm,0.9s,baz=216,slow=3.3,SNR=5.1						
ULN	Ulaanbaatar	151.19	86	ePKPbc	PKPdf	01 42 25.4	+3.1

*BJI **09** 01:31:33.9, 18.50S×177.90W, h564km, mB4.7, mb4.5*
*NEIC **09** 01:31:35.0±0.8, 18.47S×177.93W, h564km±9km, mb4.3/14, Error ellipse: s-maj=15.0km s-min=7.6km az=146.0*
*IDC **09** 01:31:35.4±1.3, 18.37S×178.00W, h568km±15km, mb3.8/12, mb1 4.0/14, mb1mx3.8/21, mbtmp4.7/14, Error ellipse: s-maj=22.5km s-min=9.6km az=147.0*
ISC 09 01:31:34.2±0.8**, 18.3S**±0.1×**178.00W**±0.10**, h560**km±10km**, n124, σ0.84**/45**, mb4.2**/24**, 14C-12D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.42	55	P	P	01 33 28.0	+0.7
	11nm,0.3s,baz=96,slow=4.4,SNR=6.6						
AFI				S	S	01 34 56.5	-0.9
	5.4nm,0.3s,baz=254,slow=23,SNR=3.3						
DZM	Mont Dzumac	15.07	253	P	P	01 34 44.3	+0.5
	1.9nm,0.3s,baz=70,slow=16,SNR=19						
NOUC	Port Laguerre	15.20	253	eP	P	01 34 46.3	+1.2
NOUC	Port Laguerre	15.20	253	eP	P	01 34 46.3	+1.2
URZ	Urewera	20.31	191	P	P	01 35 29.5	-4.0
	6.8nm,0.4s,baz=350,slow=5.4,SNR=8.2						
URZ				S	S	01 38 40.5	-5.5
	4.4nm,0.7s,baz=41,slow=18,SNR=2.0						
RPZ	Rata Peaks	26.93	198	P	P	01 36 30.9	-2.0
	3.4nm,0.5s,mb4.3,baz=35,slow=12,SNR=4.6						
ARMA	Armidale	30.07	241	⇑iP	P	01 37 00.9	+0.9
CNB	Canberra Magne	33.48	233	⇑iP	P	01 37 29.4	+0.6
	7.6nm,0.4s,mb4.6						
CTA	Charters Tower	33.76	261	⇑iP	P	01 37 31.8	+0.5
	6.2nm,0.4s,mb4.5						
CTA	Charters Tower	33.76	261	P	P	01 37 31.4	+0.1
	6.0nm,0.3s,mb4.5,baz=95,slow=12,SNR=17						
CTAO	Charters Tower	33.76	261	eP	P	01 37 31.6	+0.3
	11nm,0.6s,mb4.6						
TOO	Toolangi	37.21	231	eP	P	01 37 59.8	+0.2
	6.4nm,0.5s,mb4.4						
STKA	Stephens Creek	38.77	242	⇑iP	P	01 38 13.1	+0.8
	5.2nm,0.5s,mb4.3						
STKA	Stephens Creek	38.77	242	P	P	01 38 12.7	+0.4
	9.4nm,0.7s,mb4.4,baz=77,slow=8.8,SNR=20						
WRAB	Tennant Creek	44.93	260	eP	P	01 39 00.8	-0.5
	4.0nm,0.6s,mb4.1						
WRA	Warramunga Arr	44.94	260	P	P	01 39 00.8	-0.6
	2.8nm,0.7s,mb3.9,baz=98,slow=6.8,SNR=44						
WRA				PcP	PcP	01 40 29.6	-1.4
	1.7nm,0.4s,baz=92,slow=3.6,SNR=6.4						
WRA				S	S	01 44 54.4	-5.0
	2.0nm,0.9s,baz=98,slow=13,SNR=4.0						
WRA	Warramunga Arr	44.94	260	P	P	01 39 00.8	-0.6
WRA				PcP	PcP	01 40 29.6	-1.4
WRA				S	S	01 44 54.4	-5.0
FITZ	Fitzroy Crossi	53.34	261	P	P	01 40 02.3	-1.3
	5.0nm,0.6s,mb4.1,baz=161,slow=5.9,SNR=7.2						
MBWA	Marble Bar	58.35	256	eP	P	01 40 36.9	-1.3
	4.1nm,0.3s,mb4.1						
MJAR	Matsushiro Arr	68.48	323	P	P	01 41 41.9	-0.5
	8.1nm,0.5s,mb4.5,baz=156,slow=6.6,SNR=12						
MJAR	Matsushiro Arr	68.48	323	P	P	01 41 41.9	-0.5
MAJO	Matsushiro	68.48	323	eP	P	01 41 41.9	-0.5
	7.7nm,0.4s,mb4.6						
MAT	Matsushiro	68.48	323	P	P	01 41 42.0	-0.5
MAT	Matsushiro	68.48	323	eP	P	01 41 42.0	-0.5
FX1	Attu Island--F	71.33	354	P	P	01 41 58.1	-0.8
	19nm,0.6s,mb4.8,baz=205,slow=4.7,SNR=6.6						
FX1	Attu Island--F	71.33	354	eP	P	01 41 57.9	-1.1
KSM	Kuching	73.12	277	eP	P	01 42 10.2	+0.2
YBH	Yreka Blue Hor	78.61	39	P	P	01 42 40.2	+0.7
	3.5nm,0.5s,mb3.9,baz=210,slow=4.2,SNR=6.0						
MDJ	Mudanjiang	78.76	325	P	P	01 42 41.0	+0.8
MDJ				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,88nm,4.9s						
MDJ	Mudanjiang	78.76	325	eP	P	01 42 40.9	+0.7
	comp=Z,4.8nm,0.4s,mb4.2						
WVOR	Wild Horse Val	81.48	40	eP	P	01 42 54.0	-0.3
	comp=Z,3.2nm,0.8s,mb3.8						
TUC	Tucson	81.65	52	eP	P	01 42 56.5	+1.0
	comp=Z,0.7nm,0.8s,mb3.1						
ELK	Elko	82.70	43	eP	P	01 43 01.2	+0.6
	comp=Z,3.8nm,0.9s,mb3.9						
ENH	Enshi	84.83	304	eP	P	01 43 12.1	+0.8
	comp=Z,6.8nm,0.5s,mb4.4						
NEW	Newport	85.62	36	P	P	01 43 14.1	-0.6
	comp=Z,1.9nm,0.6s,mb3.9,baz=174,slow=3.5,SNR=3.9						
TXAR	Lajitas Array	85.89	57	P	P	01 43 17.4	+1.0
	comp=Z,2.8nm,0.7s,mb4.0,baz=218,slow=6.2,SNR=38						
TXAR	Lajitas Array	85.89	57	P	P	01 43 17.4	+1.0
ANMO	Albuquerque	86.06	51	eP	P	01 43 17.7	+0.6
	comp=Z,5.9nm,1.4s,mb4.0						
ILAR	Eielson Array	86.21	13	P	P	01 43 16.1	-1.0
	comp=Z,4.0nm,0.4s,mb4.4,baz=220,slow=4.9,SNR=23						
RRI2	Red Ridge	86.53	42	eP	P	01 43 20.0	+0.8
	comp=Z,2.9nm,0.6s,mb4.1						
PDAR	Pinedale Array	87.39	43	P	P	01 43 22.7	-0.5
	comp=Z,1.9nm,0.7s,mb3.8,baz=232,slow=2.3,SNR=11						
SYO	Syowa Base	88.83	193	⇑X		01 43 26.4	
MKAR	Makanchi Array	109.71	314	PKiKP		01 49 00.4	
	comp=Z,0.9nm,0.5s,baz=147,slow=2.6,SNR=8.6						
BVAR	Borovoye Array	117.42	321	PKP	PKPdf	01 49 15.4	-0.7
	comp=Z,1.6nm,0.4s,baz=105,slow=2.5,SNR=7.2						
ARCES	ARCESS Array B	126.80	350	PKP	PKPdf	01 49 33.5	-0.4
	comp=Z,2.3nm,0.4s,baz=17,slow=1.7,SNR=30						
FINES	FINESS Array B	133.70	344	PKhKP		01 49 43.6	
	comp=Z,4.2nm,1.0s,baz=90,slow=3.8,SNR=7.0						
FINES				PKP	PKPdf	01 49 46.8	-0.2
	comp=Z,4.2nm,1.0s,baz=90,slow=1.4,SNR=6.9						
NOA	NORSAR Array B	136.84	353	PKhKP		01 49 50.1	
	comp=Z,1.7nm,0.8s,baz=326,slow=1.8,SNR=3.3						
NOA				PKP	PKPdf	01 49 53.9	+1.1
	comp=Z,1.2nm,0.9s,baz=14,slow=4.0,SNR=2.8						
AKASG	Malin Array Be	141.12	332	PKhKP		01 49 55.6	
	comp=Z,3.1nm,0.4s,baz=42,slow=4.0,SNR=25						
AKASG				PKP	PKPdf	01 50 02.4	+1.7
	comp=Z,2.1nm,0.7s,baz=42,slow=2.1,SNR=6.7						
MALT	Malatya	142.59	310	ePKPdf	PKPdf	01 50 03.0	-0.7
LTHS	Al Lith	143.75	279	P	PKPbc	01 50 07.3	+1.7
KWP	Kalwaria	144.61	337	ePKPdf	PKPdf	01 50 08.3	+1.5
TLCR		145.14	326	⇓iP	PKPdf	01 50 10.3	+2.4
TLCR		145.14	326	⇓iP	PKPdf	01 50 10.3	+2.4
OJC	Ojcow	145.15	340	ePKP	PKPdf	01 50 09.7	+2.0
BURAR	Bucovina Array	145.17	332	⇓iP	PKPdf	01 50 10.7	+2.9
BURAR	Bucovina Array	145.17	332	⇓iP	PKPdf	01 50 10.7	+2.9
STHS	Stebnicka Huta	145.33	338	eP	PKPdf	01 50 10.7	+2.6
KOLS	Kolonicke sedl	145.35	336	i P	PKPdf	01 50 11.0	+2.9
BRTR	Keskin Array B	145.36	315	PKPbc	PKPbc	01 50 09.5	-0.1
	comp=Z,5.9nm,0.8s,baz=135,slow=4.4,SNR=21						
KSP	Ksiaz	145.63	344	eP	PKPdf	01 50 11.4	+2.9
NIE	Niedzica	145.66	339	⇓iPKP	PKPdf	01 50 11.8	+3.2
VRI	Vrincioaia	145.74	329	⇑iP	PKPdf	01 50 11.9	+3.0
VRI	Vrincioaia	145.74	329	⇑iP	PKPdf	01 50 11.9	+3.0
ANTO	Ankara	145.85	315	ePKPbc	PKPbc	01 50 12.3	+1.5
HARR	Harsova	145.94	326	⇑iP	PKPdf	01 50 11.3	+2.1
HARR	Harsova	145.94	326	⇑iP	PKPdf	01 50 11.3	+2.0
CLL	Collm	145.96	348	⇓iPKP1	PKPbc	01 50 12.1	+1.4
CLL				i *PPKP		01 52 28.4	
OKC	Ostrava-Krasne	146.00	341	AMS	AMS	02 21 30.0	
	comp=Z,800nm,18.1s						
UPC	Upice	146.01	344	ePKPbc	PKPbc	01 50 12.4	+1.6
DPC	Dobruska-Polom	146.07	344	ePKPbc	PKPbc	01 50 12.9	+1.9
DPC				AMS	AMS	02 24 00.0	
	comp=Z,900nm,18.3s						
MORC	Moravsky Berou	146.24	342	ePKPdf	PKPdf	01 50 11.5	+1.9
MORC				ePKPbc	PKPbc	01 50 12.6	+1.2
PVCC	Panska Ves	146.35	345	ePKPbc	PKPbc	01 50 13.6	+2.0
PVCC				AMS	AMS	02 20 40.0	
	comp=Z,2μm,23.5s						
KECS	Kecovo	146.39	338	eP	PKPdf	01 50 13.6	+3.7
MLR	Muntele Rosu	146.40	329	PKPbc	PKPbc	01 50 13.4	+1.5
	comp=Z,5.7nm,0.7s,baz=39,slow=1.7,SNR=14						
MLR	Muntele Rosu	146.40	329	⇓iP	PKPdf	01 50 13.4	+3.4
MLR	Muntele Rosu	146.40	329	⇓iP	PKPdf	01 50 13.4	+3.4
PRU	Pruhonice	146.85	345	ePKPbc	PKPbc	01 50 14.2	+1.4
PRU				ePKPab	PKPab	01 50 18.0	-1.2
PRU				AMS	AMS	02 20 10.0	
	comp=Z,1μm,19.5s						
MOX	Moxa	146.86	349	eP	PKPdf	01 50 15.0	+4.4
DRGR		146.89	334	⇑iP	PKPdf	01 50 14.1	+3.3
DRGR		146.89	334	⇑iP	PKPdf	01 50 14.1	+3.3
VYHS	Vyhne	146.95	339	eP	PKPdf	01 50 15.2	+4.4
PSZ	Piszkesteto	147.08	338	ePKPbc	PKPdf	01 50 15.1	+4.1
NKC	Novy Kostel	147.09	348	ePKPbc	PKPdf	01 50 15.1	+4.1
NKC				ePKPab	PKPab	01 50 18.7	-1.4
NKC				AMS	AMS	02 22 00.0	
	comp=Z,900nm,20.8s						
TREC	Trest	147.25	344	ePKPbc	PKPdf	01 50 15.5	+4.2
TREC				AMS	AMS	02 23 20.0	
	comp=Z,2μm,19.1s						
SMOL	Smolenice	147.39	341	ePKP	PKPdf	01 50 17.0	+5.5
ZST	Bratislava	147.77	341	ePKP	PKPdf	01 50 17.5	+5.4
KHC	Kasperske Hory	147.88	346	ePKPbc	PKPdf	01 50 17.2	+4.9
KHC				ePKPab	PKPab	01 50 22.5	-0.7
JMOS	Jabal al Moall	147.94	296	P	PKPdf	01 50 18.3	+5.3
AYUS	'Aynunah	147.99	294	P	PKPdf	01 50 18.0	+4.9
BDAS	Al Bad'	148.09	295	P	PKPdf	01 50 18.6	+5.3
HAQS	Haql	148.11	296	P	PKPdf	01 50 18.6	+5.3
GERES	GERESS Array B	148.12	345	PKP	PKPdf	01 50 10.9	-1.8
	comp=Z,0.3nm,0.7s,baz=309,slow=8.5,SNR=4.1						
GERES				PKPbc	PKPdf	01 50 17.4	+4.8
	comp=Z,4.9nm,0.7s,baz=297,slow=3.0,SNR=26						
GIVF	Givet	148.23	357	ePKP1	PKPdf	01 50 17.7	+4.9
	comp=Z,15nm,0.5s						
BAIF	Baives	148.30	357	ePKP1	PKPdf	01 50 18.0	+5.1
	comp=Z,15nm,0.7s						
WLF	Walferdange	148.57	355	ePKPbc	PKPdf	01 50 19.1	+5.8
MOA	Molln	148.90	344	⇓iP	PKPdf	01 50 19.4	+5.5
FLN	La Foliniere	149.58	3	ePKP1	PKPdf	01 50 21.0	+6.0
	comp=Z,24nm,0.8s						
CDF	Champ du Feu	149.69	353	ePKP1	PKPdf	01 50 21.3	+6.2
LDF	La Druitiere	149.77	3	ePKP1	PKPdf	01 50 21.0	+5.7
	comp=Z,10nm,0.6s						
MEZF	Maizieres J'vi	149.81	356	ePKP1	PKPdf	01 50 21.7	+6.4
KBA	Koelnbreinsper	149.85	344	⇑iP	PKPdf	01 50 21.8	+6.4
SGMF	Saint Gilles	149.93	6	ePKP1	PKPdf	01 50 21.3	+5.8
	comp=Z,14nm,0.8s						
GRR	Gorron	149.93	4	ePKP1	PKPdf	01 50 21.6	+6.1
	comp=Z,14nm,0.6s						
WATA	Walderalm	150.03	347	⇑iP	PKPdf	01 50 22.1	+6.4
WTTA	Wattenberg	150.08	347	⇓iP	PKPdf	01 50 22.6	+6.8
MOTA	Moosalm	150.12	348	⇓iP	PKPdf	01 50 22.3	+6.5
HAU	Haudompre	150.19	354	ePKP1	PKPdf	01 50 22.3	+6.4
	comp=Z,15nm,0.7s						
SQTA	Sankt Quirin	150.22	347	⇓iP	PKPdf	01 50 22.6	+6.6
HINF	Hinteralfeld	150.33	353	ePKP1	PKPdf	01 50 22.5	+6.3
	comp=Z,7.0nm,0.6s						
DAVA	Damuels	150.41	349	⇑iP	PKPdf	01 50 23.9	+7.6
VISS	Visnje	150.61	342	i P	PKPdf	01 50 23.3	+6.6
LOR	Lormes	151.10	357	ePKP1	PKPdf	01 50 24.5	+7.2
	comp=Z,19nm,0.8s						
HYF	Humbligny	151.14	359	ePKP1	PKPdf	01 50 24.9	+7.5
SSF	Saint Saulge	151.32	358	ePKP1	PKPdf	01 50 25.0	+7.4
	comp=Z,10.0nm,0.7s						
AVF	Avril sur Loir	151.60	358	ePKP1	PKPdf	01 50 25.2	+7.2
CABF	La Chapelle	151.60	354	ePKP1	PKPdf	01 50 26.1	+8.1
MFF	Saint Martin d	151.75	3	ePKP1	PKPdf	01 50 25.7	+7.4
	comp=Z,12nm,0.6s						
BGF	Bois d'Agland	151.85	359	ePKP1	PKPdf	01 50 26.1	+7.7
	comp=Z,11nm,0.7s						
TCF	Toulx Ste Croi	152.12	360	ePKP1	PKPdf	01 50 26.5	+7.7
LPG	La Plagne	152.63	353	ePKP1	PKPdf	01 50 28.8	+9.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	Montbardon	153.38	352	ePKP1	PKPdf	01 50 30.4	+10
	comp=Z,7.9nm,0.7s						
ESDC	Sonseca Array	158.12	12	PKPab	PKPab	01 51 05.0	-1.6
	comp=Z,0.8nm,0.7s,baz=354,slow=4.5,SNR=4.1						
MDT	Midelt	164.40	21	PKP	PKPdf	01 50 35.2	+1.6
	comp=Z,0.9nm,1.0s,baz=80,slow=3.2,SNR=3.6						
MDT				PKPab	PKPab	01 51 33.4	-0.6
	comp=Z,1.6nm,0.8s,baz=209,slow=21,SNR=4.3						
DBIC	Dimbokro	166.62	149	PKP	PKPdf	01 50 35.8	-0.2
	comp=Z,1.5nm,0.7s,baz=358,slow=19,SNR=4.6						

*IDC **09** 01:36:48.9±0.8, 51.53S×139.64E, mb4.2/4, mb1 4.4/5, mb1mx4.2/10, mbtmp4.2/5, ML3.9/1, Error ellipse: s-maj=32.6km s-min=21.6km az=89.0*

*NEIC **09** 01:36:50.3±0.4, 51.51S×139.53E, h10^{km}, mb4.3/5, Error ellipse: s-maj=16.2km s-min=8.5km az=100.0*

ISC 09 01:36:48.0±0.7**, 51.49S**±0.08×**139.4E**±0.3**, h10^{km}, n43, σ0^{s}50**/19**, mb4.4**/5**, 4C, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	19.67	6	eP	P	01 41 21.0	+1.2
	7.3nm,1.0s						
STKA	Stephens Creek	19.67	6	P	P	01 41 19.6	-0.3
	0.2nm,0.3s,baz=168,slow=14,SNR=5.8						
CASY	Casey	20.73	213	eP	P	01 41 30.7	-0.1
CASY	Casey	20.73	213	eP	P	01 41 30.7	-0.1
	14nm,1.0s						
RPZ	Rata Peaks	22.58	82	P	P	01 41 49.3	-0.2
	25nm,1.0s,mb4.6,baz=195,slow=6.6,SNR=8.0						
VNDA	Vanda	27.44	170	P	P	01 42 35.1	-0.3
	3.6nm,1.2s,mb3.8,baz=327,slow=9.8,SNR=5.6						
VNDA	Vanda	27.44	170	eP	P	01 42 36.3	+1.0
	7.4nm,1.4s,mb4.0						
WRA	Warramunga Arr	31.74	351	P	P	01 43 14.3	+0.1
	4.8nm,0.9s,mb4.3,baz=173,slow=7.8,SNR=12						
WRAB	Tennant Creek	31.74	351	eP	P	01 43 13.9	-0.4
	41nm,1.5s,mb5.0						
SNAA	Sanae	54.27	194	⇑i	P	01 46 16.2	+0.5
SNAA	Sanae	54.27	194	e	P	01 46 23.8	+8.1
SNAA	Sanae	54.27	194	P	P	01 46 15.5	-0.1
	1.1nm,0.9s,mb3.8,baz=125,slow=7.4,SNR=5.3						
SNAA	Sanae	54.27	194	eP	P	01 46 16.6	+1.0
	6.7nm,1.2s,mb4.5						
VNA2	Neumayer--Watz	55.59	193	e	P	01 46 32.3	+6.9
VNA2	Neumayer--Watz	55.59	193	⇑iP	P	01 46 24.9	-0.5
VNA2				e		01 46 32.3	
VNA2				e		01 50 52.0	
VNA3	Neumayer Olymp	55.60	192	e	P	01 46 32.8	+7.4
VNA3	Neumayer Olymp	55.60	192	⇑iP	P	01 46 24.8	-0.6
VNA3				e		01 46 32.8	
VNA3				e		01 50 53.2	
VNA1	Neumayer--Stat	55.96	192	e	P	01 46 36.3	+8.3
VNA1	Neumayer--Stat	55.96	192	⇑iP	P	01 46 28.3	+0.3
VNA1				e		01 46 36.3	
VNA1				e		01 50 55.4	
TXAR	Lajitas Array	128.88	90	PKP	PKPdf	01 55 58.0	-0.9
	0.1nm,0.3s,baz=180,slow=2.5,SNR=3.7						
ARCES	ARCESS Array B	145.05	326	PKPbc	PKPbc	01 56 26.2	+1.9
	9.8nm,1.0s,baz=135,slow=1.7,SNR=7.9						
ARCES	ARCESS Array B	145.05	326	PKPbc	PKPbc	01 56 26.2	+1.9
PRU	Pruhonice	145.76	290	ePKP	PKPdf	01 56 28.0	-0.8
GERES	GERESS Array B	145.78	287	PKPbc	PKPbc	01 56 28.6	+2.0
	5.4nm,1.1s,baz=146,slow=4.8,SNR=21						
ULM	Lac du Bonnet	145.80	70	ePKPdf	PKPdf	01 56 27.5	-1.4
KHC	Kasperske Hory	145.98	288	ePKP	PKPdf	01 56 30.0	+0.8
DAVOX	Davos	147.18	282	PKPbc	PKPdf	01 56 34.6	+3.3
	2.3nm,0.7s,baz=26,slow=16,SNR=4.0						
GRF	Grafenberg Arr	147.61	288	ePKP	PKPdf	01 56 34.1	+2.2
MDT	Midelt	147.88	249	PKPbc	PKPdf	01 56 36.0	+3.1
	2.2nm,1.0s,baz=79,slow=3.3,SNR=3.6						
MBDF	Montbardon	148.12	277	ePKIKP	PKPdf	01 56 37.2	+4.3
LPG	La Plagne	148.51	278	ePKIKP	PKPdf	01 56 37.8	+4.3
LPL	La Plagne	148.53	278	ePKIKP	PKPdf	01 56 37.9	+4.4
	17nm,1.2s						
ORIF	Oris-en-Rattie	148.77	276	ePKIKP	PKPdf	01 56 37.8	+3.9
CABF	La Chapelle	149.43	279	ePKIKP	PKPdf	01 56 39.0	+4.1
	12nm,0.9s						
LASF	Ste Croix	149.61	274	ePKIKP	PKPdf	01 56 38.8	+3.5
	79nm,1.4s						
HAU	Haudompre	149.87	282	ePKIKP	PKPdf	01 56 39.6	+4.0
LOR	Lormes	151.09	279	ePKIKP	PKPdf	01 56 41.3	+3.9
	4.9nm,0.8s						
AVF	Avril sur Loir	151.20	278	ePKIKP	PKPdf	01 56 41.7	+4.1
SSF	Saint Saulge	151.22	279	ePKIKP	PKPdf	01 56 41.0	+3.4
	34nm,1.5s						
BGF	Bois d'Agland	151.41	277	ePKIKP	PKPdf	01 56 42.4	+4.5
TCF	Toulx Ste Croi	151.69	276	ePKIKP	PKPdf	01 56 42.2	+3.8
BAIF	Baives	151.96	285	ePKIKP	PKPdf	01 56 42.5	+3.9
ESDC	Sonseca Array	152.06	259	PKPbc	PKPdf	01 56 44.8	+5.6
	1.4nm,0.7s,baz=296,slow=36,SNR=4.5						

*IDC **09** 01:40:50.8±0.7, 51.40S×139.60E, mb4.4/7, mb1 4.5/8, mb1mx4.4/12, mbtmp4.4/8, ML4.1/1, MS4.6/9, Ms1 4.6/9, ms1mx4.4/17, Error ellipse: s-maj=23.9km s-min=18.5km az=99.0*

*NEIC **09** 01:40:52.0±0.4, 51.35S×139.54E, h10^{km}, mb4.5/4, Error ellipse: s-maj=14.6km s-min=11.3km az=108.0*

ISC 09 01:40:50.3±0.6**, 51.39S**±0.08×**139.5E**±0.2**, h10^{km}, n55, σ1^{s}07**/17**, mb4.5**/8**, MS4.5**/8**, 3C-1D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRV	Dumont d'Urvil	15.33	179	L		01 44 00.0	
DRV				R		01 48 00.0	
STKA	Stephens Creek	19.55	5	eP	P	01 45 25.0	+4.2
	12nm,1.5s						
STKA	Stephens Creek	19.55	5	P	P	01 45 22.0	+1.2
	0.3nm,0.3s,baz=171,slow=12,SNR=9.3						
STKA				LR	LR	01 51 46.9	
	comp=Z,2μm,19.9s,baz=174,slow=34						
CASY	Casey	20.85	213	⇓iP	P	01 45 34.0	-0.3
RPZ	Rata Peaks	22.52	83	P	P	01 45 52.8	+1.6
	21nm,1.0s,mb4.5,baz=194,slow=6.7,SNR=8.8						
NWAO	Narrogin (SRO)	24.58	310	LR	LR	01 53 37.2	
	comp=Z,1μm,19.7s,MS4.4,baz=166,slow=31						
VNDA	Vanda	27.54	170	P	P	01 46 38.4	-0.1
	4.8nm,1.2s,mb4.0,baz=334,slow=11,SNR=4.4						
VNDA				LR	LR	01 55 57.2	
	comp=Z,2μm,18.6s,MS4.7,baz=258,slow=33						
VNDA	Vanda	27.54	170	eP	P	01 46 39.4	+0.9
	7.7nm,1.2s,mb4.2						
VNDA				LR	LR	01 55 57.2	
URZ	Urewera	29.40	78	P	P	01 46 53.9	-1.7
	11nm,0.9s,mb4.6,baz=236,slow=11,SNR=2.4						
WRA	Warramunga Arr	31.64	351	P	P	01 47 14.7	-1.0
	7.7nm,0.9s,mb4.5,baz=174,slow=7.8,SNR=28						
WRAB	Tennant Creek	31.64	351	eP	P	01 47 15.7	0.0
	34nm,1.3s,mb5.0						
CTA	Charters Tower	31.68	12	LR	LR	01 59 46.7	
	comp=Z,1μm,18.6s,MS4.7,baz=184,slow=36						
FITZ	Fitzroy Crossi	34.98	337	P	P	01 47 44.9	+0.3
	8.5nm,0.8s,mb4.7,baz=174,slow=12,SNR=4.1						
DZM	Mont Dzumac	35.98	46	LR	LR	01 59 05.9	
	comp=Z,692nm,21.2s,MS4.4,baz=206,slow=30						
MAW	Mawson	39.16	216	P	P	01 48 20.9	+1.6
	2.0nm,0.7s,mb4.0,baz=107,slow=4.0,SNR=4.3						
MAW				LR	LR	02 02 01.4	
	comp=Z,1μm,20.9s,MS4.7,baz=78,slow=32						
PMG	Port Moresby	42.33	11	LR	LR	02 05 53.9	
	comp=Z,1μm,18.1s,MS4.8,baz=211,slow=36						
AFI	Afiamalu	54.03	64	LR	LR	02 07 59.9	
	comp=Z,128nm,21.6s,MS4.0,baz=177,slow=30						
SNAA	Sanae	54.38	194	e	P	01 50 17.9	-0.9
SNAA	Sanae	54.38	194	P	P	01 50 17.2	-1.6
	2.5nm,1.2s,mb4.0,baz=151,slow=7.5,SNR=5.2						
SNAA				LR	LR	02 12 47.9	
	comp=Z,563nm,18.6s,MS4.7,baz=177,slow=35						
SNAA	Sanae	54.38	194	eP	P	01 50 17.0	-1.8
	11nm,1.4s,mb4.6						
VNA2	Neumayer--Watz	55.71	193	e	P	01 50 27.3	-1.2
VNA3	Neumayer Olymp	55.71	192	e	P	01 50 28.7	+0.2
VNA1	Neumayer--Stat	56.08	192	e	P	01 50 31.9	+0.8
TXAR	Lajitas Array	128.83	90	PKP	PKPdf	01 59 59.8	-1.2
	0.6nm,1.0s,baz=219,slow=5.8,SNR=3.4						
ANMO	Albuquerque	130.87	83	ePKPdf	PKPdf	02 00 03.1	-1.7
EDM	Edmonton	137.22	58	ePKPdf	PKPdf	02 00 13.0	-2.9
ARCES	ARCESS Array B	144.99	326	PKPbc	PKPbc	02 00 25.8	-0.6
	6.4nm,1.0s,baz=72,slow=3.8,SNR=9.4						
KBA	Koelnbreinsper	145.23	285	⇑iP	PKPbc	02 00 29.0	+1.4
ULM	Lac du Bonnet	145.71	70	PKPbc	PKPbc	02 00 28.9	+0.2
	1.2nm,0.6s,baz=233,slow=5.1,SNR=2.1						
PRU	Pruhonice	145.78	290	ePKP	PKPdf	02 00 30.9	-0.2
GERES	GERESS Array B	145.80	288	PKPbc	PKPbc	02 00 29.8	+0.8
	4.2nm,1.0s,baz=135,slow=3.8,SNR=18						
KHC	Kasperske Hory	145.99	288	ePKP	PKPdf	02 00 31.0	-0.5
KHC				x	x	02 00 44.5	
KHC				x	x	02 00 58.0	
SQTA	Sankt Quirin	146.59	284	⇑iP	PKPbc	02 00 33.4	+2.5
MOTA	Moosalm	146.71	284	⇑iP	PKPbc	02 00 33.5	+2.3
CLL	Collm	147.19	291	ePKP1	PKPdf	02 00 35.0	+1.6
CLL				e*PPKP		02 00 49.0	
DAVOX	Davos	147.20	282	PKPbc	PKPdf	02 00 35.4	+1.9
	3.3nm,0.9s,baz=94,slow=15,SNR=3.1						
GRF	Grafenberg Arr	147.63	288	ePKP	PKPdf	02 00 36.1	+1.9
MOX	Moxa	147.76	290	eP	PKPdf	02 00 34.0	-0.3
MDT	Midelt	147.97	249	PKPbc	PKPdf	02 00 37.9	+2.6
	2.8nm,1.1s,baz=180,slow=4.0,SNR=2.9						
MBDF	Montbardon	148.16	277	ePKIKP	PKPdf	02 00 39.6	+4.4
	25nm,1.3s						
LPG	La Plagne	148.54	278	ePKIKP	PKPdf	02 00 40.4	+4.6
LPL	La Plagne	148.56	278	ePKIKP	PKPdf	02 00 40.6	+4.8
	34nm,1.4s						
CABF	La Chapelle	149.46	280	ePKIKP	PKPdf	02 00 41.1	+3.9
CDF	Champ du Feu	149.50	284	ePKIKP	PKPdf	02 00 41.0	+3.8
LASF	Ste Croix	149.66	274	ePKIKP	PKPdf	02 00 43.0	+5.4
	45nm,1.2s						
HAU	Haudompre	149.90	282	ePKIKP	PKPdf	02 00 42.0	+4.1
MTLF	Montolieu	150.31	271	ePKIKP	PKPdf	02 00 43.2	+4.5
	30nm,1.3s						
LOR	Lormes	151.12	279	ePKIKP	PKPdf	02 00 43.8	+4.1
SSF	Saint Saulge	151.25	279	ePKIKP	PKPdf	02 00 43.4	+3.5
	10nm,0.9s						
EPF	Esparros	151.33	269	ePKIKP	PKPdf	02 00 45.5	+5.3
BGF	Bois d'Agland	151.44	278	ePKIKP	PKPdf	02 00 45.8	+5.6
	45nm,1.4s						
RJF	Les Rejaudoux	151.71	274	ePKIKP	PKPdf	02 00 46.4	+5.7
ESDC	Sonseca Array	152.13	260	PKPbc	PKPdf	02 00 48.0	+6.5
	1.3nm,0.8s,baz=129,slow=1.6,SNR=5.6						
ESDC				PKPab	PKPab	02 00 59.4	+2.3
	1.6nm,0.9s,baz=115,slow=2.9,SNR=4.7						
EVO	Evora	153.89	253	ePKIKP	PKPdf	02 00 48.3	+4.3
	21nm,1.2s						
SGMF	Saint Gilles	155.49	278	ePKIKP	PKPdf	02 00 51.3	+5.5

*NEIC **09** 01:53:17.5±0.7, 51.72N×173.85W, h53^{km}±6^{km}, mb4.2/3, ML3.7(AEIC), Error ellipse: s-maj=12.8km s-min=5.7km az=169.0*

*MOS **09** 01:53:17.6±1.2, 51.78N×173.70W, h69^{km}, mb4.3/14, Error ellipse: s-maj=20.4km s-min=12.5km az=83.0*

*IDC **09** 01:53:19.6±3.0, 51.76N×173.66W, h68^{km}±26^{km}, mb3.8/22, mb1 4.0/24, mb1mx4.0/29, mbtmp4.1/24, Error ellipse: s-maj=22.2km s-min=11.4km az=1.0*

ISC 09 01:53:16.4±0.8**, 51.70N**±0.09×**173.75W**±0.06**, h54^{km}**±6^{km}**, n68, σ1^{s}05**/73**, mb4.2**/27**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.57	331	P	P	01 53 28.8	0.0
ATKA				S	S	01 53 38.1	+0.4
GSMY	Great Sitkin M	1.47	284	P	P	01 53 40.7	-0.3
GSTD	Great Sitkin T	1.53	284	P	P	01 53 41.4	-0.4
GSTD				S	S	01 54 00.7	0.0
ETKA	Kagalaska Isla	1.66	277	P	P	01 53 42.4	-1.2
ETKA				S	S	01 54 03.0	-0.9
ADAG	Mount Adagdak	1.79	280	P	P	01 53 45.6	+0.1
KIKV	Kanaga Island	2.13	276	P	P	01 53 50.1	-0.1
KIMD	Kanaga Island	2.17	273	P	P	01 53 50.1	-0.7
NIKO	Nikolski	3.26	65	P	P	01 54 08.1	+1.8
FX1	Attu Island--F	8.11	283	P	P	01 55 14.9	+0.9
	6.8nm,0.3s,baz=266,slow=22,SNR=45						
FX1				S	S	01 56 47.5	+2.3
	0.7nm,0.3s,baz=291,slow=21,SNR=1.8						
FX1	Attu Island--F	8.11	283	P	P	01 55 14.9	+0.9
FX1				S	S	01 56 47.5	+2.2
FX1				pmax	pmax		
	comp=Z,7.0nm,0.3s						
FX1				smax			
	comp=N,1.0nm,0.3s						
IMA	Indian Mountai	17.61	28	eP	P	01 57 20.2	+1.1
	comp=N,14nm,0.9s						
IMA	Indian Mountai	17.61	28	eP	P	01 57 20.2	+1.1
IMA				pmax	pmax		
	comp=Z,14nm,0.9s						
THY	Trims Highway	18.86	41	P	P	01 57 34.1	-0.2
BILL	Bilibino	19.04	337	eP	P	01 57 40.7	+4.4
BILL				pmax	pmax		
	comp=Z,12nm,1.3s						
ILAR	Eielson Array	19.06	36	P	P	01 57 33.5	-3.0
	comp=Z,1.1nm,0.3s,baz=234,slow=8.3,SNR=56						
ILAR	Eielson Array	19.06	36	P	P	01 57 33.6	-3.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	Inuvik	25.40	34	P	P	01 58 39.6	-0.3
	comp=Z,4.9nm,0.9s,mb4.0,baz=226,slow=12,SNR=5.5						
INK	Inuvik	25.40	34	P	P	01 58 39.6	-0.3
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DLBC	Dease Lake	25.54	57	P	P	01 58 42.5	+1.3
	comp=Z,4.6nm,0.8s,mb4.0,baz=260,slow=14,SNR=6.0						
YKA	Yellowknife Ar	32.70	48	P	P	01 59 44.0	-1.3
	comp=Z,0.4nm,0.3s,mb3.8,baz=276,slow=9.8,SNR=4.8						
YKA				PcP	PcP	02 02 28.9	-1.1
	comp=Z,0.8nm,0.5s,baz=284,slow=3.1,SNR=6.1						
YKA	Yellowknife Ar	32.70	48	P	P	01 59 44.0	-1.3
YKA				PcP	PcP	02 02 28.9	-1.1
YKA	Yellowknife Ar	32.70	48	P	P	01 59 44.0	-1.3
YKA						02 02 28.9	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	Newport	35.80	73	P	P	02 00 11.8	-0.2
	comp=Z,4.0nm,0.7s,mb4.5,baz=295,slow=8.9,SNR=7.2						
NEW	Newport	35.80	73	P	P	02 00 11.8	-0.2
NEW				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HLID	Hailey	39.80	78	eP	P	02 00 46.7	+1.2
BOZ	Bozeman (W)	40.36	73	eP	P	02 00 50.5	+0.4
	comp=Z,3.9nm,0.8s,mb4.2						
ELK	Elko	40.90	82	P	P	02 00 55.3	+0.7
	comp=Z,0.4nm,0.4s,mb3.4,baz=311,slow=11,SNR=4.0						
BW06	Boulder Array	43.19	76	eP	P	02 01 13.6	+0.3
	comp=Z,2.6nm,0.6s,mb4.1						
PDAR	Pinedale Array	43.19	76	P	P	02 01 13.4	+0.2
	comp=Z,2.1nm,0.7s,mb4.0,baz=306,slow=4.2,SNR=16						
ULM	Lac du Bonnet	46.84	59	P	P	02 01 41.5	-0.8
	comp=Z,2.0nm,0.4s,mb4.4,baz=286,slow=7.6,SNR=8.2						
SONM	Songino Array	49.29	299	P	P	02 02 01.6	+0.3
	comp=Z,1.8nm,0.6s,mb4.3,baz=50,slow=7.7,SNR=14						
SONM	Songino Array	49.29	299	P	P	02 02 01.6	+0.3
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAK	Zakamensk	49.45	303	eP	P	02 02 02.4	-0.2
ZAK				e		02 03 25.1	
ZAK				e		02 04 50.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
TXAR	Lajitas Array	55.48	85	P	P	02 02 45.7	-2.2
	comp=Z,0.3nm,0.5s,mb3.6,baz=292,slow=4.9,SNR=5.7						
SCHQ	Schefferville	57.74	41	P	P	02 03 01.0	-2.6
	comp=Z,3.5nm,1.0s,mb4.3,baz=274,slow=13,SNR=2.8						
ARCES	ARCESS Array B	58.26	352	P	P	02 03 04.8	-2.1
	comp=Z,1.5nm,0.5s,mb4.3,baz=25,slow=7.6,SNR=14						
ARCES				PcP	PcP	02 03 57.4	-0.1
	comp=Z,4.1nm,0.8s,baz=31,slow=7.1,SNR=5.4						
ARCES	ARCESS Array B	58.26	352	P	P	02 03 04.8	-2.1
ARCES				PcP	PcP	02 03 57.4	-0.1
ARCES	ARCESS Array B	58.26	352	P	P	02 03 04.9	-2.1
ARCES						02 03 57.4	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	Makanchi Array	62.25	311	P	P	02 03 33.0	-1.5
	comp=Z,0.7nm,0.5s,mb4.0,baz=53,slow=6.1,SNR=7.4						
MKAR	Makanchi Array	62.25	311	P	P	02 03 33.0	-1.6
MKAR	Makanchi Array	62.25	311	P	P	02 03 33.0	-1.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	62.62	322	P	P	02 03 36.3	-0.6
	comp=Z,2.5nm,0.6s,mb4.5,baz=45,slow=6.3,SNR=11						
BVAR				PcP	PcP	02 04 15.7	+0.5
	comp=Z,2.6nm,0.5s,baz=45,slow=4.2,SNR=7.7						
BVAR	Borovoye Array	62.62	322	P	P	02 03 36.3	-0.6
BVAR						02 04 15.7	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	66.10	350	P	P	02 03 58.9	-0.3
	comp=Z,1.2nm,0.6s,mb4.1,baz=10,slow=10,SNR=6.8						
FINES	FINESS Array B	66.10	350	P	P	02 03 58.9	-0.3
FINES	FINESS Array B	66.10	350	P	P	02 03 58.9	-0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	67.54	357	P	P	02 04 08.0	-0.2
	comp=Z,1.6nm,1.0s,mb4.0,baz=172,slow=19,SNR=2.5						
NOA	NORSAR Array B	67.54	357	P	P	02 04 08.0	-0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HFS	Hagfors	68.36	356	P	P	02 04 12.3	-1.1
	comp=Z,2.9nm,0.9s,mb4.3,slow=3.0,SNR=9.1						
HFS	Hagfors	68.36	356	P	P	02 04 12.3	-1.1
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KKN	Kakani	75.04	296	eP	P	02 04 55.0	+1.2
	comp=Z,5.6nm,0.2s,mb5.1						
PKI	Pulchoki	75.14	296	eP	P	02 04 55.4	+1.1
	comp=Z,64nm,0.0s						
GKN	Gorkha	75.24	296	eP	P	02 04 55.8	+0.9
	comp=Z,25nm,0.5s						
DMN	Daman	75.28	296	eP	P	02 04 56.6	+1.5
KOLN	Koldanda	75.99	297	eP	P	02 04 59.4	+0.2
	comp=Z,11nm,0.6s,mb5.0						
AKASG	Malin Array Be	76.13	345	P	P	02 04 58.2	-1.2
	comp=Z,1.0nm,0.3s,mb4.2,baz=19,slow=6.3,SNR=5.5						
AKASG	Malin Array Be	76.13	345	P	P	02 04 58.3	-1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CLL	Collm	77.21	356	P	P	02 05 06.0	+0.4
KHC	Kasperske Hory	79.35	355	P	P	02 05 18.0	+0.6
KHC	Kasperske Hory	79.35	355	eP	P	02 05 10.5	-6.9
GERES	GERESS Array B	79.63	355	P	P	02 05 18.2	-0.7
	comp=Z,0.9nm,0.6s,mb3.9,baz=18,slow=4.2,SNR=6.4						
GERES	GERESS Array B	79.63	355	P	P	02 05 18.2	-0.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DAVOX	Davos	81.85	357	P	P	02 05 32.4	+1.7
	comp=Z,2.0nm,0.6s,mb4.2,baz=169,slow=10,SNR=4.4						
WRA	Warramunga Arr	84.51	228	P	P	02 05 44.3	-0.4
	comp=Z,0.6nm,0.6s,mb3.9,baz=32,slow=5.8,SNR=4.1						
WRA	Warramunga Arr	84.51	228	P	P	02 05 44.3	-0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	85.86	339	P	P	02 05 52.5	+1.6
	comp=Z,0.8nm,0.5s,mb4.2,slow=1.2,SNR=5.0						
BRTR	Keskin Array B	85.86	339	P	P	02 05 52.5	+1.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STKA	Stephens Creek	91.99	217	P	P	02 06 20.4	+0.2
	comp=Z,4.8nm,1.1s,mb4.8,baz=22,slow=1.0,SNR=3.4						

*NEIC **09** 01:56:27.5±0.9, 18.56S×177.78W, h570^{km}±12^{km}, mb4.4/6, Error ellipse: s-maj=19.2km s-min=10.9km az=145.0*

*IDC **09** 01:56:27.2±1.7, 18.57S×177.77W, h566^{km}±20^{km}, mb3.4/9, mb1 3.6/11, mb1mx3.5/18, mbtmp4.4/11, Error ellipse: s-maj=18.7km s-min=14.5km az=131.0*

ISC 09 01:56:26.6±0.8**, 18.6S**±0.1×**177.7W**±0.1**, h575^{km}**±14^{km}**, n50, σ0^{s}90**/20**, mb4.0**/8**, 3C-13D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.37	52	P	P	01 58 20.1	+0.4
	16nm,0.3s,baz=323,slow=20,SNR=12						
AFI				S	S	01 59 49.5	-0.4
	5.1nm,0.3s,baz=49,slow=20,SNR=3.4						
AFI	Afiamalu	7.37	52	ePn	P	01 58 20.3	+0.5
	75nm,0.6s						
DZM	Mont Dzumac	15.24	254	P	P	01 59 37.9	+0.2
	1.1nm,0.3s,baz=75,slow=19,SNR=11						
URZ	Urewera	20.10	192	P	P	02 00 22.8	-0.7
	9.9nm,0.5s,baz=18,slow=2.9,SNR=8.2						
ARMA	Armidale	30.17	241	eP	P	02 01 53.8	+1.2
CTA	Charters Tower	33.98	261	eP	P	02 02 24.9	+0.2
	2.8nm,0.4s,mb4.2						
CTA	Charters Tower	33.98	261	P	P	02 02 24.0	-0.8
	3.5nm,0.4s,mb4.4,baz=92,slow=11,SNR=6.4						
CTAO	Charters Tower	33.98	261	eP	P	02 02 24.8	0.0
	4.1nm,0.5s,mb4.3						
PMG	Port Moresby	35.22	280	P	P	02 02 34.6	-0.5
	19nm,0.9s,mb4.7,baz=104,slow=4.0,SNR=4.0						
PMG	Port Moresby	35.22	280	eP	P	02 02 34.8	-0.2
	23nm,0.9s,mb4.8						
STKA	Stephens Creek	38.87	242	eP	P	02 03 06.2	+1.4
	10.0nm,0.9s,mb4.3						
STKA	Stephens Creek	38.87	242	P	P	02 03 05.5	+0.6
	6.5nm,0.5s,mb4.4,baz=88,slow=8.5,SNR=12						
WRA	Warramunga Arr	45.15	260	P	P	02 03 53.9	-0.6
	0.9nm,0.3s,mb3.7,baz=98,slow=6.7,SNR=56						
WRA				PcP	PcP	02 05 22.9	0.0
	0.2nm,0.6s,baz=94,slow=3.1,SNR=5.1						
WRA				S	S	02 09 46.8	-6.2
	0.7nm,0.9s,baz=90,slow=12,SNR=4.6						
VNDA	Vanda	59.82	185	P	P	02 05 37.7	-0.9
	0.2nm,0.3s,baz=67,slow=7.7,SNR=5.2						
MJAR	Matsushiro Arr	68.84	323	P	P	02 06 35.0	-0.9
	4.5nm,0.5s,mb4.2,baz=155,slow=6.4,SNR=12						
MCK	McKinley	85.07	12	eP	P	02 08 03.3	+0.4
	2.3nm,0.7s,mb3.9						
TXAR	Lajitas Array	85.82	57	P	P	02 08 09.8	+2.5
	0.3nm,0.7s,mb3.0,baz=219,slow=8.0,SNR=3.9						
ILAR	Eielson Array	86.41	13	P	P	02 08 08.4	-0.8
	1.3nm,0.4s,mb3.9,baz=218,slow=5.1,SNR=31						
ARCES	ARCESS Array B	127.11	350	PKP	PKPdf	02 14 26.4	+0.9
	0.8nm,0.4s,slow=2.4,SNR=11						
FINES	FINESS Array B	134.03	344	PKP	PKPdf	02 14 40.2	+1.6
	1.3nm,0.8s,baz=45,slow=2.7,SNR=4.3						
AKASG	Malin Array Be	141.47	332	PKhKP		02 14 41.5	
	1.8nm,0.5s,baz=42,slow=4.9,SNR=5.3						
BURAR	Bucovina Array	145.52	332	⇓iP	PKPdf	02 15 04.1	+4.6
BURAR	Bucovina Array	145.52	332	⇓iP	PKPdf	02 15 04.1	+4.7
STHS	Stebnicka Huta	145.67	338	ePKP	PKPdf	02 15 03.9	+4.3
KOLS	Kolonicke sedl	145.69	336	ePKP	PKPdf	02 15 03.7	+4.0
BRTR	Keskin Array B	145.73	315	PKPbc	PKPbc	02 15 02.5	+1.0
	2.3nm,0.7s,baz=145,slow=5.3,SNR=10						
VRI	Vrincioaia	146.10	329	⇓iP	PKPdf	02 15 05.2	+4.7
VRI	Vrincioaia	146.10	329	⇓iP	PKPdf	02 15 05.2	+4.7
CLL	Collm	146.27	348	⇓iPKP1	PKPbc	02 15 05.2	+2.7
CLL				i PKP2	PKPab	02 15 06.8	-1.2
CLL	Collm	146.27	348	⇓iP	PKPdf	02 15 05.2	+4.6
CLL				i		02 15 09.4	
HARR	Harsova	146.30	326	⇓iP	PKPdf	02 15 04.9	+4.0
HARR	Harsova	146.30	326	⇓iP	PKPdf	02 15 04.9	+4.0
UPC	Upice	146.33	344	ePKPbc	PKPbc	02 15 05.5	+2.9
DPC	Dobruska-Polom	146.39	344	ePKPbc	PKPbc	02 15 05.8	+3.0
BRG	Berggiesshubel	146.49	347	i P	PKPdf	02 15 06.1	+5.2
PVCC	Panska Ves	146.67	346	ePKPbc	PKPbc	02 15 06.5	+3.1
KECS	Kecovo	146.73	338	ePKP	PKPdf	02 15 06.8	+5.3
MLR	Muntele Rosu	146.75	329	⇓iP	PKPdf	02 15 06.4	+4.8
MLR	Muntele Rosu	146.75	329	⇓iP	PKPdf	02 15 06.4	+4.8
PRU	Pruhonice	147.18	345	ePKPbc	PKPdf	02 15 07.3	+5.2
DRGR		147.24	334	⇓iP	PKPdf	02 15 07.5	+5.1
DRGR		147.24	334	⇓iP	PKPdf	02 15 07.5	+5.1
VYHS	Vyhne	147.29	339	ePKP	PKPdf	02 15 08.2	+5.8
GRF	Grafenberg Arr	148.16	349	ePKP	PKPdf	02 15 10.2	+6.5
KHC	Kasperske Hory	148.20	346	ePKPbc	PKPdf	02 15 10.6	+6.8
KHC				ePKPab	PKPab	02 15 14.8	-0.9
GERES	GERESS Array B	148.44	346	PKPbc	PKPdf	02 15 10.2	+6.1
	1.9nm,0.6s,baz=21,slow=3.0,SNR=22						
KBA	Koelnbreinsper	150.18	345	⇑iP	PKPdf	02 15 14.8	+7.8
WTTA	Wattenberg	150.40	347	⇑iP	PKPdf	02 15 16.0	+8.7
MOTA	Moosalm	150.43	348	⇑iP	PKPdf	02 15 15.6	+8.3
SQTA	Sankt Quirin	150.53	348	⇓iP	PKPdf	02 15 16.0	+8.5

JMA 09 02:16:10.0±0.6**, 44.92N**×**148.26E, h131^{km}, M4.2, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.39	230	P	P	02 16 48.9	-0.5
NEM2				eS	S	02 17 19.1	-0.3
JNK	Nakash	2.87	244	P	P	02 16 56.0	+0.2
JAK	Akkeshi	3.21	234	P	P	02 16 59.8	-0.5
JAK				eS	S	02 17 38.5	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAR	Ashorobuto	3.62	245	P	P	02 17 06.2	+0.5
ASAJ	Asahikawa	4.13	261	P	P	02 17 12.2	-0.3
JCH	Churui	4.23	239	P	P	02 17 13.2	-0.6
JCH				eS	S	02 18 01.8	-1.0
JNBK	Urakawa-nobuka	4.79	239	P	P	02 17 19.8	-1.6
JNBK				eS	S	02 18 13.3	-3.0
JKB	Kayabe	6.07	243	P	P	02 17 36.6	-2.0
JKB				eS	S	02 18 43.0	-4.3
JOT	Ohata	6.35	239	P	P	02 17 39.8	-2.5
JOT				eS	S	02 18 47.8	-6.2
JOSM	Okushiri--Mats	6.99	249	P	P	02 17 49.3	-1.7
JMK	Ichinoseki	7.94	224	eS	S	02 19 27.5	-5.0

GUC 09 02:17:04.5±0.9**,24.98S×69.59W,h45km**±5km**,MD3.5, ML2.8,1C,Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	0.82	295	⇑iP	P	02 17 20.8	+0.9
CPN1				iS	S	02 17 33.5	+2.5
CPN1				AMP		02 17 35.5	
	comp=E,425nm,0.3s						
ANCH	Antofagasta	1.50	330	iP	P	02 17 29.1	-0.3
ANCH				iS	S	02 17 48.9	+0.9
ANCH				AMP		02 17 51.4	
	comp=N,310nm,0.0s						
CRCH	Chaqaral	1.65	214	iP	P	02 17 31.8	+0.2
CRCH				iS	S	02 17 52.2	+0.5
CRCH				AMP		02 17 56.4	
	comp=N,210nm,0.2s						
LVC	Limon Verde	2.44	15	iP	P	02 17 43.7	+0.9
LVC				eS	S	02 18 12.3	+0.8

*VIE **09** 02:32:15.9±0.5,47.27N×7.63E,h8km,ML2.6/3,Error ellipse: s-maj=8.8km s-min=3.3km az=3.0*
*LDG **09** 02:32:17.3±0.1,47.25N×7.64E,h14km,Md3.0/1,Ml2.6/19, Error ellipse: s-maj=1.3km s-min=1.1km az=100.0*
*CSEM **09** 02:32:17.8±0.1,47.28N×7.61E,h25km,ML2.6/19,Error ellipse: s-maj=1.1km s-min=0.9km az=67.0*
*STR **09** 02:32:18.0±0.5,47.28N×7.67E,h10km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **09** 02:32:18.2±0.3,47.28N×7.66E,h20km,ML2.5/1,Error ellipse: s-maj=3.3km s-min=2.2km az=8.0*
*LEDBW **09** 02:32:18.2±0.4,47.27N×7.68E,h25km±2km,ML2.3,Error ellipse: s-maj=10.0km s-min=4.0km az=140.0*
*NEIC **09** 02:32:18.1,47.30N×7.70E,h25km,ML2.9(VIE), ML2.6(LDG),ML2.4(ZUR),ML2.4(STR),After ZUR.*
*ZUR **09** 02:32:18.1,47.28N×7.66E,h25km,ML2.4/21*
ISC 09 02:32:17.7±0.2**,47.27N**±0.02×**7.62E**±0.02**,h30km**±2km**, n97,**σ1s**11**/176**,22C-11D,Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALST	Balsthal	0.09	35	⇑iPg	Pb	02 32 22.5	-0.4
BALST				iSg	Sn	02 32 25.6	-0.2
BBS	Basel-Blauen	0.21	339	ePg	Pb	02 32 24.0	0.0
	SNR=21						
BBS				eSg	Sb	02 32 27.6	-0.7
	SNR=8.3						
BBS	Basel-Blauen	0.21	339	⇓P	Pb	02 32 24.1	+0.1
BBS	Basel-Blauen	0.21	339	Pg	Pb	02 32 23.9	-0.1
BBS				Sg	Sb	02 32 27.3	-1.0
BOURR	Bourrignon	0.30	296	ePg	Pb	02 32 25.4	+0.3
	SNR=23						
BOURR				eSg	Sb	02 32 30.1	0.0
	SNR=12						
BOURR	Bourrignon	0.30	296	⇓iPg	Pb	02 32 25.4	+0.4
SULZ	Sulz-Cheisache	0.42	52	ePg	Pb	02 32 26.7	-0.2
	SNR=22						
SULZ				eSg	Sb	02 32 32.7	-0.5
	SNR=19						
SULZ	Sulz-Cheisache	0.42	52	⇑iPg	Pb	02 32 26.8	-0.1
SULZ				iSg	Sb	02 32 33.3	+0.1
LOMF	Lomont	0.55	279	ePg	Pb	02 32 29.5	+0.6
	SNR=23						
LOMF				eSg	Sb	02 32 37.4	+0.9
	SNR=3.5						
LOMF	Lomont	0.55	279	P	Pb	02 32 29.5	+0.7
LOMF	Lomont	0.55	279	Pg	Pb	02 32 29.4	+0.6
LOMF				Sg	Sb	02 32 37.0	+0.5
WIMIS	Wimmis	0.60	180	⇑iPg	Pb	02 32 30.0	+0.3
HASLI	Hasliberg	0.62	144	eSg	Sb	02 32 39.0	+0.5
HASLI	Hasliberg	0.62	144	⇓iPg	Pb	02 32 30.3	+0.2
HASLI	Hasliberg	0.62	144	⇓iPg	Pb	02 32 30.3	+0.2
HASLI				eSg	Sb	02 32 39.0	+0.5
ZUR	Zurich	0.66	81	ePg	Pb	02 32 30.5	-0.1
	SNR=7.5						
ZUR				eSg	Sb	02 32 39.4	-0.1
	SNR=18						
ZUR	Zurich	0.66	81	⇑iP	Pb	02 32 30.5	-0.1
FELD	Feldberg	0.66	23	⇑Pn	Pb	02 32 30.2	-0.5
FELD				ePg	Pb	02 32 30.7	0.0
	SNR=23						
FELD				eSg	Sb	02 32 39.6	-0.1
	SNR=12						
FELD	Feldberg	0.66	23	⇑P	Pb	02 32 30.2	-0.5
FELD				P		02 32 30.8	
FELD	Feldberg	0.66	23	PG	Pb	02 32 30.8	+0.1
FELD	Feldberg	0.66	23	Pg	Pb	02 32 30.1	-0.6
FELD				Sg	Sb	02 32 39.5	-0.2
TORNY	Torny	0.67	223	⇑iP	Pb	02 32 31.6	+0.8
TORNY				eS	Sb	02 32 41.2	+1.4
MOF	Molkenrain	0.68	331	ePg	Pb	02 32 31.2	+0.3
	SNR=19						
MOF				eSg	Sb	02 32 40.5	+0.5
	SNR=5.2						
MOF	Molkenrain	0.68	331	Pg	Pb	02 32 31.2	+0.3
MOF				Sg	Sb	02 32 40.4	+0.4
FLACH	Flaach	0.71	64	⇑iP	Pb	02 32 31.1	-0.4
KIZ	Kirchzarten	0.72	16	⇑Pn	Pn	02 32 30.7	-1.1
KIZ				Pg	Pb	02 32 31.6	0.0
KIZ				Sg	Sb	02 32 41.1	-0.1
KIZ	Kirchzarten	0.72	16	PG	Pb	02 32 31.7	0.0
KIZ				SG	Sb	02 32 41.2	0.0
FBB	Freiburg	0.75	12	Pg	Pb	02 32 32.4	+0.3
MUO	Muotathal	0.75	113	eP	Pb	02 32 32.5	+0.3
HINF	Hinteralfeld	0.76	317	ePg	Pb	02 32 32.1	-0.2
HINF				ePn	Pn	02 32 32.4	0.0
HINF				eSg	Sb	02 32 42.3	-0.1
	29nm,0.3s						
HINF	Hinteralfeld	0.76	317	ePn	Pn	02 32 32.4	0.0
HINF				eSg	Sb	02 32 42.3	-0.1
	14nm,0.3s						
SLE	Schleitheim	0.77	49	ePg	Pb	02 32 32.5	0.0
	SNR=74						
SLE				eSg	Sb	02 32 42.5	-0.3
	SNR=14						
SLE	Schleitheim	0.77	49	⇑iPn	Pn	02 32 31.5	-1.1
BRANT	Les Verrieres	0.85	248	⇓iPn	Pn	02 32 33.7	0.0
BRANT				iSg	Sb	02 32 46.5	+1.6
LKBD	Leukerbad	0.88	180	⇑iP	Pn	02 32 34.9	+0.8
LKBD				iS	Sb	02 32 46.5	+0.8
LIBD	Limburg	0.89	359	eSg	Sb	02 32 46.4	+0.5
	SNR=4.8						
WILA	Wila	0.89	80	eSg	Sb	02 32 45.3	-0.6
	SNR=14						
WILA	Wila	0.89	80	⇑iPn	Pn	02 32 33.8	-0.4
SENIN	Lac Senin	0.93	194	⇑iP	Pn	02 32 35.8	+1.0
WEIN	Weingarten	0.96	74	⇑iPn	Pn	02 32 34.8	-0.5
ECH	Echery	1.00	342	ePn	Pn	02 32 36.4	+0.6
	SNR=5.1						
ECH				eSg	Sn	02 32 49.6	+0.5
	SNR=13						
ECH	Echery	1.00	342	P	Pn	02 32 36.5	+0.6
ECH				S	Sn	02 32 50.0	+0.9
ECH	Echery	1.00	342	Pn	Pn	02 32 36.7	+0.8
SISB	Singen-Sch Ber	1.00	65	Pn	Pn	02 32 35.0	-0.9
SISB				Sg	Sn	02 32 49.7	+0.7
AIGLE	Aigle	1.03	207	⇑iP	Pn	02 32 37.4	+1.1
FUSIO	Fusio	1.08	138	⇓iP	Pn	02 32 38.2	+1.2
FUSIO	Fusio	1.08	138	⇓iP	Pn	02 32 38.1	+1.1
HAU	Haudompre	1.14	311	ePn	Pn	02 32 37.3	-0.5
HAU				ePg	Pn	02 32 38.6	+0.8
HAU				eSg	Sn	02 32 53.9	+1.4
	31nm,0.3s						
SPAK	Spaichingen	1.15	43	ePn	Pn	02 32 36.6	-1.4
	SNR=3.1						
SPAK				eSg	Sn	02 32 54.0	+1.2
	SNR=1.6						
WLS	Welschbruch	1.16	351	Pg	Pn	02 32 38.9	+0.7
WLS	Welschbruch	1.16	351	Pn	Pn	02 32 39.0	+0.9
WLS				eSg	Sn	02 32 54.9	+1.8
	SNR=2.8						
BFO	Black Forest	1.17	24	⇑Pn	Pn	02 32 36.6	-1.6
BFO				Sg	Sn	02 32 54.2	+0.9
BFO	Black Forest	1.17	24	ePg	Pn	02 32 36.3	-1.9
BFO				eSg	Sn	02 32 53.8	+0.5
BFO	Black Forest	1.17	24	eSg	Sn	02 32 53.8	+0.5
CDF	Champ du Feu	1.17	349	ePn	Pn	02 32 38.0	-0.3
CDF				ePg	Pn	02 32 39.8	+1.5
CDF				eSn	Sn	02 32 53.0	-0.4
CDF				eSg	Sn	02 32 55.0	+1.6
	7.9nm,0.2s						
PLONS	Plons	1.22	100	⇑iPn	Pn	02 32 39.0	0.0
CABF	La Chapelle	1.24	239	ePn	Pn	02 32 38.8	-0.5
CABF				ePg	Pn	02 32 41.1	+1.8
CABF				eSn	Sn	02 32 54.2	-0.9
CABF				eSg	Sn	02 32 56.8	+1.7
	19nm,0.2s						
LIENZ	Alp Oberkamor	1.27	88	ePn	Pn	02 32 39.8	0.0
	SNR=1.3						
LIENZ				ePg	Pn	02 32 41.9	+2.2
	SNR=6.8						
LIENZ				eSg	Sn	02 32 58.3	+2.3
	SNR=2.8						
LIENZ	Alp Oberkamor	1.27	88	⇑iPn	Pn	02 32 39.7	-0.1
GUT	Gutenstein	1.29	51	⇑Pn	Pn	02 32 38.4	-1.6
GUT				Sg	Sn	02 32 57.9	+1.5
THEF	They Montfort	1.47	312	Pn	Pn	02 32 45.9	+3.4
THEF				Pg	Pn	02 32 48.4	+5.9
DAVA	Damuels	1.54	88	⇓iPN	Pn	02 32 43.4	-0.1
DAVA				iSG	Sn	02 33 06.8	+4.2
	4.3nm,0.1s						
DAVA	Damuels	1.54	88	⇓iPn	Pn	02 32 43.4	-0.1
TUBL	Tuebingen Lnz	1.60	37	Pn	Pn	02 32 42.4	-2.0
TUBL				Sg	Sn	02 33 07.1	+2.9
LBG	Lerchenberg	1.61	29	⇑Pn	Pn	02 32 42.3	-2.2
LBG				Sg	Sn	02 33 07.5	+3.0
UBR	Uberruh	1.74	75	⇑Pn	Pn	02 32 45.7	-0.7
STU	Stuttgart	1.84	34	eSg	Sn	02 33 17.4	+7.0
	SNR=3.8						
LPL	La Plagne	1.85	200	ePn	Pn	02 32 47.0	-1.1
LPL				ePg	Pn	02 32 52.0	+3.9
LPL				eSg	Sn	02 33 15.8	+5.1
	3.2nm,0.3s						
LPG	La Plagne	1.87	199	ePn	Pn	02 32 47.5	-0.7
LPG				ePg	Pn	02 32 52.4	+4.2
LPG				eSg	Sn	02 33 16.1	+5.1
	2.3nm,0.2s						
SFTF	Sexfontaines	1.98	299	ePn	Pn	02 32 49.7	-0.2
	baz=117						
SFTF				ePg	Pn	02 32 54.6	+4.7
	baz=124						
SFTF				eSn	Sn	02 33 12.2	-1.8
SFTF				eSg	Sn	02 33 20.3	+6.3
	8.4nm,0.2s						
SFTF	Sexfontaines	1.98	299	ePg	Pn	02 32 54.6	+4.7
SFTF				eSn	Sn	02 33 12.2	-1.8
SFTF				eSg	Sn	02 33 20.3	+6.3
	4.2nm,0.2s						
RFYF	Reffroy	1.99	314	ePn	Pn	02 32 49.1	-0.9
RFYF				ePg	Pn	02 32 54.6	+4.6
	baz=140						
RFYF				eSg	Sn	02 33 20.5	+6.4
	15nm,0.3s						
RFYF	Reffroy	1.99	314	ePg	Pn	02 32 54.6	+4.6
RFYF				eSg	Sn	02 33 20.5	+6.4
	7.7nm,0.3s						
MEZF	Maizieres J'vi	2.13	307	ePn	Pn	02 32 51.0	-1.0
MEZF				ePg	Pn	02 32 57.3	+5.3
	baz=128						
MEZF				eSg	Sn	02 33 24.7	+7.0
	9.0nm,0.3s						
MEZF	Maizieres J'vi	2.13	307	ePg	Pn	02 32 57.3	+5.3
MEZF				eSg	Sn	02 33 24.7	+7.0
	4.5nm,0.3s						
HDH	Heidenheim	2.18	52	Sg	Sn	02 33 26.5	+7.4
MOTA	Moosalm	2.37	87	⇓iPN	Pn	02 32 55.0	-0.4
MOTA				iSN	Sn	02 33 24.8	+1.0
MOTA	Moosalm	2.37	87	⇓iPn	Pn	02 32 55.0	-0.4
SQTA	Sankt Quirin	2.44	90	⇑iPN	Pn	02 32 56.0	-0.5
SQTA				iSN	Sn	02 33 27.0	+1.3
SQTA				iSG	Sn	02 33 36.9	+11
	5.0nm,0.2s						
SQTA	Sankt Quirin	2.44	90	⇑iPn	Pn	02 32 56.0	-0.4
SIND	Sindeldorf	2.47	32	Sg	Sn	02 33 34.7	+8.4
LOR	Lormes	2.56	271	ePg	Pn	02 33 04.5	+6.3
	baz=92						
LOR				eSg	Sn	02 33 37.4	+8.7
	6.1nm,0.2s						
MBDF	Montbardon	2.61	193	ePg	Pn	02 33 05.7	+6.9
MBDF				eSg	Sn	02 33 39.0	+9.2
	1.9nm,0.3s						
ORIF	Oris-en-Rattie	2.64	208	ePn	Pn	02 32 57.5	-1.8
ORIF				ePg	Pn	02 33 06.1	+6.8
ORIF				eSg	Sn	02 33 40.2	+9.5
	2.0nm,0.2s						
SMF	Signal de Mont	2.66	258	ePn	Pn	02 32 58.1	-1.5
SMF				ePg	Pn	02 33 06.2	+6.6
SMF				eSg	Sn	02 33 41.2	+10
	6.8nm,0.2s						
SSF	Saint Saulge	2.82	267	ePn	Pn	02 33 01.1	-0.7
SSF				ePg	Pn	02 33 09.8	+8.0
SSF				eSg	Sn	02 33 45.7	+11
	4.4nm,0.4s						
SSF	Saint Saulge	2.82	267	ePg	Pn	02 33 09.8	+8.0
SSF				eSg	Sn	02 33 45.7	+11
	2.2nm,0.4s						
AVF	Avril sur Loir	2.96	262	ePn	Pn	02 33 02.5	-1.3
AVF				eSg	Sn	02 33 50.2	+11
	1.5nm,0.2s						
VIVF	Saint-Julien-l	3.17	222	ePn	Pn	02 33 04.4	-2.4
VIVF				ePg	Pn	02 33 15.9	+9.1
VIVF				eSg	Sn	02 33 56.3	+12
	5.2nm,0.3s						
BGF	Bois d'Agland	3.35	260	ePn	Pn	02 33 07.5	-1.9
BGF				eSn	Sn	02 33 42.7	-5.9
BGF				eSg	Sn	02 34 02.8	+14
	5.3nm,0.3s						
HYF	Humbligny	3.39	272	eSg	Sn	02 34 05.1	+15
GRF	Grafenberg Arr	3.41	43	eSg	Sn	02 34 03.1	+13
SMRF	Simiane la Rot	3.59	204	ePn	Pn	02 33 10.8	-2.0
TCF	Toulx Ste Croi	3.85	257	ePn	Pn	02 33 14.5	-1.9
GEC2	GERESS Array S	4.37	67	ePn	Pn	02 33 21.7	-2.2
	SNR=1.4						
CAF	Calviac	4.52	241	ePn	Pn	02 33 23.3	-2.7
FLN	La Foliniere	5.64	288	ePn	Pn	02 33 39.6	-2.2

*IDC **09** 02:39:57.7±1.2,55.52S×26.80W,mb4.0/4,mb1 4.2/4, mb1mx3.9/13,mbtmp4.0/4,Error ellipse: s-maj=61.1km s-min=25.2km az=57.0*
*NEIC **09** 02:39:59.7±0.8,55.31S×26.65W,h10km,mb4.2/6,Error ellipse: s-maj=44.7km s-min=9.3km az=60.0*
ISC 09 02:40:00.1±2.0**,55.7S**±0.3×**27.7W**±1.0**,h10km,n25,** σ**1s08**/22**,mb4.2**/7**,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.27	158	e	P	02 44 10.3	+7.8
VNA1	Neumayer--Stat	17.27	158	e	P	02 44 20.0	+18
VNA1	Neumayer--Stat	17.27	158	P	P	02 44 03.8	+1.3
VNA1				e		02 44 10.3	
VNA1				e		02 44 20.0	
VNA3	Neumayer Olymp	17.46	161	e	P	02 44 12.2	+7.3
VNA3	Neumayer Olymp	17.46	161	e	P	02 44 21.4	+17
VNA3	Neumayer Olymp	17.46	161	P	P	02 44 05.6	+0.7
VNA3				e		02 44 12.2	
VNA3				e		02 44 21.4	
VNA2	Neumayer--Watz	17.66	158	e	P	02 44 14.2	+6.8
VNA2	Neumayer--Watz	17.66	158	e	P	02 44 24.1	+17
VNA2	Neumayer--Watz	17.66	158	P	P	02 44 07.5	+0.1
VNA2				e		02 44 14.2	
VNA2				e		02 44 24.1	
SNAA	Sanae	19.22	156	e	P	02 44 27.9	+1.4
SNAA	Sanae	19.22	156	e	P	02 44 35.3	+8.8
SNAA	Sanae	19.22	156	P	P	02 44 23.0	-3.5
SNAA				e		02 44 27.9	
SNAA				e		02 44 35.3	
CPUP	Villa Florida	36.34	312	P	P	02 47 04.6	-1.3
	2.8nm,1.0s,mb4.2,baz=180,slow=7.1,SNR=5.4						
CPUP	Villa Florida	36.34	312	eP	P	02 47 05.2	-0.6
	2.8nm,0.8s,mb4.2						
LVC	Limon Verde	44.85	300	eP	P	02 48 17.7	+1.6
	5.5nm,0.6s,mb4.6						
SBA	Scott Base	46.45	184	eP	P	02 48 27.5	-0.6
	0.9nm,0.6s,mb3.9						
VNDA	Vanda	46.95	183	P	P	02 48 30.6	-1.4
	2.0nm,0.7s,mb4.1,baz=185,slow=5.8,SNR=11						
VNDA	Vanda	46.95	183	eP	P	02 48 31.6	-0.4
	0.7nm,0.6s,mb3.8						
SIV	San Ignacio	47.10	314	P	P	02 48 33.4	-0.6
	1.0nm,0.6s,mb3.9,baz=159,slow=8.4,SNR=8.6						
LPAZ	La Paz	49.92	305	P	P	02 48 57.3	+1.5
	1.7nm,0.7s,mb4.2,baz=182,slow=4.1,SNR=8.0						
LPAZ	La Paz	49.92	305	eP	P	02 48 57.1	+1.3
	2.2nm,0.7s,mb4.3						
SAML	Samuel	54.32	315	eP	P	02 49 28.1	-0.8
	2.1nm,0.6s,mb4.2						
INK	Inuvik	145.32	321	PKPbc	PKPbc	02 59 36.5	-0.4
	baz=105,slow=1.6						
ILAR	Eielson Array	149.64	312	PKPbc	PKPdf	02 59 46.8	+0.1
	1.7nm,0.8s,baz=115,slow=1.4,SNR=14						
SONM	Songino Array	150.99	86	PKPbc	PKPdf	02 59 50.2	+1.0
	0.7nm,0.5s,baz=219,slow=2.5,SNR=8.1						

BJI 09 02:46:16.0,40.27N×105.11E,h30km,ML3.6,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA	Gaotai	4.17	260	P	Pn	02 47 18.9	-0.4
GTA				PG	Pn	02 47 28.5	+9.2
GTA				S	Sn	02 48 09.2	+1.6
GTA				SG	Sn	02 48 24.3	+17
GTA				Smax			
	comp=N,95nm,0.7s						
GTA				Smax			
	comp=E,75nm,0.6s						
LZH	Lanzhou	4.29	194	PG	Pn	02 47 32.7	+12
LZH				SG	Sn	02 48 27.1	+16
LZH				Smax			
	comp=N,360nm,1.1s						
LZH				Smax			
	comp=E,270nm,0.7s						
HHC	Hu-ho-hao-te	4.95	81	eP	Pn	02 47 33.3	+2.9
HHC				PG	Pn	02 47 44.6	+14
HHC				SG	Sn	02 48 49.9	+23
HHC				Smax			
	comp=N,112nm,0.7s						
HHC				Smax			
	comp=E,153nm,0.7s						

*NEIC **09** 02:53:40.1,38.13S×176.22E,h151km,MG3.8(WEL), After WEL.*
WEL 09 02:53:40.0±0.3**,38.14S×176.23E,h152km**±2km**,ML3.7**/15**, 4C,Error ellipse: s-maj=2.5km s-min=2.4km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.70	100	⇑PN	P	02 54 02.7	-0.5
URZ				SN	S	02 54 20.1	-0.8
URZ	Urewera	0.70	100	P	P	02 54 02.7	-0.4
MWZ	Matawai	1.04	101	PN	P	02 54 05.6	+0.1
MWZ				SN	S	02 54 24.7	-0.4
MWZ	Matawai	1.04	101	P	P	02 54 05.6	+0.1
BKZ	Black Stump Fm	1.05	169	⇑PN	P	02 54 05.5	-0.1
BKZ				SN	S	02 54 24.8	-0.5
BKZ	Black Stump Fm	1.05	169	P	P	02 54 05.5	-0.1
BKZ				S	S	02 54 24.8	-0.5
NGZ	Ngauruhoe	1.15	205	PN	P	02 54 07.0	+0.4
NGZ	Ngauruhoe	1.15	205	P	P	02 54 07.0	+0.4
WNVZ	Wahianoa	1.29	202	PN	P	02 54 07.8	-0.1
WNVZ	Wahianoa	1.29	202	P	P	02 54 07.8	-0.2
MOVZ	Moawhango	1.32	196	PN	P	02 54 07.7	-0.6
MOVZ	Moawhango	1.32	196	P	P	02 54 07.7	-0.6
PKVZ	Pokaka	1.35	211	PN	P	02 54 08.3	-0.2
MTVZ	Mangateitei	1.38	205	PN	P	02 54 08.7	-0.2
KNZ	Kokohu	1.43	129	⇑PN	P	02 54 09.2	-0.2
KNZ				SN	S	02 54 30.9	-1.1
KNZ	Kokohu	1.43	129	P	P	02 54 09.2	-0.2
PUZ	Puketiti	1.60	88	SN	S	02 54 33.2	-1.9
MXZ	Matakaoa Point	1.74	71	PN	P	02 54 12.2	-0.5
MXZ				eSN	S	02 54 37.3	-0.4
MXZ	Matakaoa Point	1.74	71	P	P	02 54 12.3	-0.3
TSZ	Takapari Road	1.93	186	PN	P	02 54 13.7	-1.1
TSZ				SN	S	02 54 39.6	-2.1
PXZ	Pawanui	1.96	166	⇑PN	P	02 54 14.3	-0.8
PXZ				eSN	S	02 54 40.2	-1.9
BFZ	Birch Farm	2.54	180	PN	P	02 54 20.2	-2.2
BFZ				SN	S	02 54 50.9	-3.8
BFZ	Birch Farm	2.54	180	P	P	02 54 20.2	-2.2
MRZ	Mangatainoka R	2.57	191	PN	P	02 54 20.2	-2.5
MRZ				SN	S	02 54 52.1	-3.3
MRZ	Mangatainoka R	2.57	191	eP	P	02 54 20.3	-2.5
KIW	Kapiti Island	2.91	200	PN	P	02 54 23.9	-3.1
KIW				SN	S	02 54 59.7	-3.2
KIW	Kapiti Island	2.91	200	P	P	02 54 23.9	-3.1
MTW	Mount Morrison	3.07	190	PN	P	02 54 25.6	-3.5
MTW	Mount Morrison	3.07	190	P	P	02 54 25.6	-3.5
CAW	Cannon Point	3.10	197	PN	P	02 54 26.2	-3.3
CAW				SN	S	02 55 03.0	-4.4
CAW	Cannon Point	3.10	197	P	P	02 54 26.2	-3.3
DUWZ	D'Urville Isla	3.21	213	PN	P	02 54 27.2	-3.6
TRWZ	Traveller	3.29	187	PN	P	02 54 28.5	-3.4
PAWZ	Paruwai Farm	3.30	191	PN	P	02 54 28.3	-3.7
PAWZ				eSN	S	02 55 06.3	-5.6
MRW	Makara Radio	3.31	200	PN	P	02 54 28.6	-3.5
MRW	Makara Radio	3.31	200	P	P	02 54 28.7	-3.5
MSWZ	Moikau Station	3.36	193	PN	P	02 54 29.0	-3.9
MSWZ	Moikau Station	3.36	193	P	P	02 54 29.0	-3.9
SNZO	South Karori	3.38	200	PN	P	02 54 29.0	-4.1
SNZO				eSN	S	02 55 08.4	-5.4
SNZO	South Karori	3.38	200	P	P	02 54 29.2	-3.9
TCW	Tory Channel	3.42	206	P	P	02 54 29.9	-3.8
BHW	Baring Head	3.43	197	P	P	02 54 29.8	-4.0
NNZ	Nelson	3.79	215	eP	P	02 54 34.0	-4.4
QRZ	Quartz Range	3.93	226	eP	P	02 54 35.5	-4.8
KHZ	Kahutara	4.75	205	eP	P	02 54 46.2	-4.8

*NEIC **09** 02:53:47.0±4.7,34.14N×70.37E,h93km±37km,mb3.3/2, Error ellipse: s-maj=53.2km s-min=36.8km az=56.0*
*NNC **09** 02:54:23.6±4.1,36.98N×70.01E,h150km±68km,mpv4.1, Error ellipse: s-maj=39.6km s-min=24.1km az=40.0*
ISC 09 02:54:20.1±2.4**,36.8N**±0.1×**70.2E**±0.2**,h164km**±38km**,n16,** σ**0s56**/22**,2C-5D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.98	26	P	P	02 55 47.9	+0.5
	SNR=77						
KK31	Karatay Array	6.31	2	⇓P	P	02 55 52.2	+0.3
	10nm,0.5s,baz=176,slow=12,SNR=126						
KK31				⇑S	S	02 57 02.1	-1.1
	11nm,0.6s,baz=187,slow=29						
KK31	Karatay Array	6.31	2	⇓P	P	02 55 52.2	+0.3
	10nm,0.5s						
KK31				S	S	02 57 02.1	-1.1
UCH	Uchtor	6.37	30	P	P	02 55 53.2	+0.6
	SNR=22						
EKS2	Erkin-Say	6.48	24	P	P	02 55 54.5	+0.4
	SNR=11						
AAK	Ala-Archa	6.71	28	P	P	02 55 57.4	+0.2
	SNR=11						
AAK	Ala-Archa	6.71	28	⇓P	P	02 55 57.3	+0.1
	5.0nm,0.3s						
AAK				⇑S	S	02 57 13.5	+0.8
	15nm,0.5s						
AAK	Ala-Archa	6.71	28	ePn	P	02 55 56.3	-0.9
AAK				eSn	S	02 57 13.8	+1.1
CHMS	Chumysh	7.12	28	P	P	02 56 02.4	-0.2
	SNR=7.8						
ULHL	Ulahol	7.17	39	P	P	02 56 02.7	-0.6
	SNR=9.4						
USP	Ospenovka	7.26	26	P	P	02 56 04.1	-0.4
	SNR=9.5						
TKM2	Tokmak 2	7.39	32	P	P	02 56 05.9	-0.4
	SNR=6.2						
AB31	Akbulak array	14.53	332	⇓P	P	02 57 39.2	+0.5
	0.6nm,0.3s,baz=160,slow=12						
AB31				S	S	03 00 16.1	+0.4
	0.5nm,0.5s,baz=146,slow=25						
AB31	Akbulak array	14.53	332	⇓P	P	02 57 39.2	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.6nm,0.3s						
AB31				S	**S**	**03 00 16.1**	**+0.4**
BVA0	**Borovoye Array**	**16.23**	**0**	P	**P**	**02 57 59.6**	**-0.4**
	0.1nm,0.5s,baz=160,slow=18,SNR=5.9						
BRVK	**Borovoye**	**16.27**	**0**	*e*P	**P**	**02 57 60.0**	**-0.4**
	1.5nm,0.7s						

MAN 09 03:08:55.6, 12.02N×122.01E, h19km, mb4.4, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.34**	**1**	*e*P	Pb	03 09 03.2	+0.4
OTRP				*e*S	Sb	03 09 10.4	+2.6
KALP	**Kalibo**	**0.47**	**137**	*e*P	Pb	03 09 04.5	-0.5
RCP	**Roxas**	**0.85**	**123**⇑	*e*P	Pb	03 09 11.8	+0.4
RCP				*e*S	Sb	03 09 25.3	+2.9
SJMP	**San Jose**	**0.98**	**297**	*e*P	Pb	03 09 14.7	+1.1
GUIM	**Jordan**	**1.50**	**158**	*e*P	Pn	03 09 22.6	+0.8
CUYO	**Cuyo Island**	**1.52**	**220**	*e*P	Pn	03 09 20.7	-1.3
BUSP	**Coron**	**1.77**	**270**	*e*P	Pn	03 09 28.0	+2.3

IDC ***09*** *03:18:39.6±0.7, 15.77N×145.50E, h366km±7km, mb3.8/14, mb1 3.9/17, mb1mx3.8/25, mbtmp4.6/17, Error ellipse: s-maj=16.6km s-min=11.8km az=81.0*
MOS ***09*** *03:18:39.4±0.8, 15.79N×145.44E, h374km, mb4.4/11, Error ellipse: s-maj=18.8km s-min=10.9km az=110.5*
BJI ***09*** *03:18:40.2, 16.18N×145.46E, h360km, mB4.5, mb4.3*
NEIC ***09*** *03:18:41.0±0.4, 15.76N×145.41E, h378km±4km, mb4.4/15, Error ellipse: s-maj=8.2km s-min=7.6km az=215.0*
ISC 09 03:18:39.9±0.5**, 15.75N**±0.07×**145.40E**±0.07**, h379**km±5km**, n73, σ0.84**/71**, mb4.2**/41**, 5C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**0.63**	**147**⇑	*i*P	**P**	**03 19 29.2**	**+1.2**
SARN	**Sarigan**	**1.01**	**20**	*e*P	**P**	**03 19 30.7**	**+1.6**
GUMO	**Guam**	**2.21**	**194**	P	**P**	**03 19 35.3**	**-0.5**
	155nm,0.3s,baz=177,slow=2.7,SNR=43						
GUMO				S	**S**	**03 20 18.3**	**-1.3**
	411nm,0.3s,baz=6.9,slow=24,SNR=26						
GUMO	**Guam**	**2.21**	**194**	*e*P	**P**	**03 19 35.3**	**-0.5**
GUMO				*e*S	**S**	**03 20 17.9**	**-1.6**
CBIJ	**Chichi jima**	**11.68**	**346**	P	**P**	**03 21 19.1**	**+0.4**
	2.7nm,0.3s,baz=265,slow=23,SNR=2.7						
JHJ	**Hachijo jima 2**	**18.03**	**345**	P	**P**	**03 22 25.3**	**-1.3**
	6.0nm,0.3s,baz=270,slow=20,SNR=4.2						
JOW	**Kunigami**	**19.37**	**308**	P	**P**	**03 22 40.5**	**+0.6**
	4.6nm,0.3s,baz=152,slow=11,SNR=15						
MJAR	**Matsushiro Arr**	**21.68**	**344**	P	**P**	**03 23 01.2**	**-0.9**
	1.4nm,0.5s,mb3.5,baz=175,slow=6.6,SNR=4.6						
MAT	**Matsushiro**	**21.68**	**344**	P	**P**	**03 23 01.6**	**-0.5**
MAT	**Matsushiro**	**21.68**	**344**	P	**P**	**03 23 02.0**	**-0.1**
JNU	**Nakatsue**	**21.73**	**325**	P	**P**	**03 23 02.6**	**0.0**
	7.9nm,0.4s,mb4.3,baz=61,slow=7.3,SNR=9.1						
SSE	**Sheshan**	**26.88**	**309**	P	**P**	**03 23 47.7**	**-1.8**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb4.7						
SSE				AMB	AMB		
	comp=Z,147nm,11.1s						
SSE	**Sheshan**	**26.88**	**309**	P	**P**	**03 23 47.7**	**-1.8**
	comp=Z,32nm,0.7s,mb4.7						
ASAJ	**Asahikawa**	**28.38**	**356**	P	**P**	**03 24 02.2**	**-0.4**
	comp=Z,3.2nm,0.4s,mb3.9,baz=225,slow=21,SNR=3.6						
MDJ	**Mudanjiang**	**31.73**	**338**	P	**P**	**03 24 30.6**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,139nm,5.8s						
ENH	**Enshi**	**35.91**	**300**	*e*P	**P**	**03 25 07.7**	**+0.5**
	comp=Z,6.5nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**37.10**	**197**	P	**P**	**03 25 16.7**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=14,slow=8.2,SNR=6.3						
GYA	**Guiyang**	**37.55**	**293**⇑	*i*P	**P**	**03 25 22.4**	**+1.6**
GYA				AP	pP	03 26 30.8	-3.5
GYA				XP	sP	03 27 10.2	-6.2
GYA				PCP	PcP	03 27 34.6	+4.1
GYA				S	**S**	**03 30 44.1**	**+1.9**
GYA				SCP		03 30 48.1	
GYA				PCS		03 31 22.6	
GYA				SCS	ScS	03 34 54.5	+5.8
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**38.86**	**211**	P	**P**	**03 25 31.4**	**-0.3**
	comp=Z,2.1nm,0.4s,mb3.8,baz=12,slow=2.7,SNR=12						
KMI	**Kunming**	**40.91**	**290**	P	**P**	**03 25 50.3**	**+2.0**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb3.8						
KMI	**Kunming**	**40.91**	**290**	P	**P**	**03 25 50.3**	**+2.0**
	comp=Z,6.0nm,0.9s,mb3.8						
SONM	**Songino Array**	**45.29**	**323**	P	**P**	**03 26 23.4**	**+0.3**
	comp=Z,3.1nm,0.7s,mb3.6,baz=139,slow=8.1,SNR=27						
GTA	**Gaotai**	**46.16**	**310**	P	**P**	**03 26 30.8**	**+0.9**
GTA				AP	pP	03 27 41.5	-4.5
GTA				XP	sP	03 28 19.9	-7.8
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb3.6						
ZAK	**Zakamensk**	**48.36**	**325**	*e*P	**P**	**03 26 46.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
LSA	**Lhasa**	**51.51**	**296**	*e*P	**P**	**03 27 11.5**	**+1.0**
	comp=Z,14nm,0.6s,mb4.5						
LSA	**Lhasa**	**51.51**	**296**	*e*P	**P**	**03 27 11.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.5						
WMQ	**Urumqi**	**56.05**	**312**	P	**P**	**03 27 43.3**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,112nm,5.2s						
GUN	**Gumba**	**56.09**	**293**	*e*P	**P**	**03 27 43.6**	**+0.2**
	comp=Z,32nm,0.8s,mb4.7						
PKI	**Pulchoki**	**56.52**	**293**	*e*P	**P**	**03 27 46.0**	**-0.4**
	comp=Z,17nm,0.5s,mb4.6						
KKN	**Kakani**	**56.63**	**293**	*e*P	**P**	**03 27 46.7**	**-0.4**
DMN	**Daman**	**56.78**	**293**	*e*P	**P**	**03 27 47.9**	**-0.3**
	comp=Z,15nm,0.5s,mb4.6						
GKN	**Gorkha**	**57.19**	**293**	*e*P	**P**	**03 27 50.6**	**-0.4**
	comp=Z,34nm,0.7s,mb4.8						
KOLN	**Koldanda**	**58.12**	**293**	*e*P	**P**	**03 27 57.0**	**-0.3**
	comp=Z,10nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**60.20**	**324**	P	**P**	**03 28 10.4**	**-0.5**
	comp=Z,2.1nm,0.6s,mb3.7,baz=4.9,slow=8.0,SNR=6.4						
MKAR	**Makanchi Array**	**60.32**	**315**	P	**P**	**03 28 11.9**	**+0.1**
	comp=Z,7.9nm,0.5s,mb4.4,baz=92,slow=8.5,SNR=52						
MKAR	**Makanchi Array**	**60.32**	**315**	P	**P**	**03 28 12.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**63.28**	**319**	*e*P	**P**	**03 28 31.1**	**-0.1**
	comp=Z,18nm,0.8s,mb4.7						
KURK	**Kurchatov**	**63.28**	**319**	*e*P	**P**	**03 28 31.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
PMR	**Palmer**	**64.65**	**29**	*e*P	**P**	**03 28 39.1**	**-0.7**
	comp=Z,20nm,0.8s,mb4.8						
PMR	**Palmer**	**64.65**	**29**	*e*P	**P**	**03 28 39.1**	**-0.7**
PMR				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
SML	**Sawmill**	**65.08**	**29**	*e*P	**P**	**03 28 42.2**	**-0.3**
DIV	**Divide**	**66.13**	**30**	*e*P	**P**	**03 28 48.3**	**-0.9**
	comp=Z,21nm,0.7s,mb5.0						
ILAR	**Eielson Array**	**66.41**	**26**	P	**P**	**03 28 49.1**	**-1.7**
	comp=Z,7.0nm,0.4s,mb4.7,baz=250,slow=5.8,SNR=162						
THY	**Trims Highway**	**66.60**	**27**	*e*P	**P**	**03 28 52.1**	**+0.1**
KKAR	**Karatay Array**	**68.44**	**311**	*i* P	**P**	**03 29 04.1**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
BVA0	**Borovoye Array**	**68.57**	**321**	*i* P	**P**	**03 29 04.3**	**0.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
BVAR	**Borovoye Array**	**68.57**	**321**	P	**P**	**03 29 03.6**	**-0.7**
	comp=Z,5.1nm,0.4s,mb4.6,baz=103,slow=7.7,SNR=32						
BRVK	**Borovoye**	**68.63**	**321**	*e*P	**P**	**03 29 04.4**	**-0.3**
	comp=Z,4.4nm,0.7s,mb4.3						
BRVK	**Borovoye**	**68.63**	**321**	*e*P	**P**	**03 29 04.4**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
INK	**Inuvik**	**72.19**	**23**	P	**P**	**03 29 25.4**	**-0.3**
	comp=Z,6.4nm,0.8s,mb4.4,baz=274,slow=6.7,SNR=13						
INK	**Inuvik**	**72.19**	**23**	*e*P	**P**	**03 29 25.1**	**-0.5**
	comp=Z,8.4nm,0.9s,mb4.5						
INK	**Inuvik**	**72.19**	**23**	*e*P	**P**	**03 29 25.2**	**-0.5**
INK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AB31	**Akbulak array**	**75.30**	**318**	*i* P	**P**	**03 29 43.4**	**-0.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
YKW3	**Yellowknife Ar**	**80.69**	**28**	*e*P	**P**	**03 30 12.7**	**+0.1**
YKA	**Yellowknife Ar**	**80.72**	**28**	P	**P**	**03 30 12.1**	**-0.6**
	comp=Z,5.5nm,0.6s,mb4.5,baz=288,slow=5.3,SNR=33						
BEKR	**Beckwourth**	**83.26**	**51**	*e*P	**P**	**03 30 27.2**	**+1.0**
	comp=Z,3.9nm,0.8s,mb4.3						
BMO	**Blue Mountains**	**84.11**	**45**	*e*P	**P**	**03 30 30.7**	**+0.3**
	comp=Z,7.8nm,1.0s,mb4.5						
BMO	**Blue Mountains**	**84.11**	**45**	*e*P	**P**	**03 30 30.7**	**+0.3**
BMO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
EDM	**Edmonton**	**84.11**	**36**	*e*P	**P**	**03 30 30.6**	**+0.5**
ARCES	**ARCESS Array B**	**85.20**	**342**	P	**P**	**03 30 34.7**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.0,baz=79,slow=6.2,SNR=11						
HLID	**Hailey**	**86.48**	**46**	*e*P	**P**	**03 30 42.9**	**+1.1**
	comp=Z,5.6nm,1.0s,mb4.3						
ELK	**Elko**	**86.77**	**49**	*e*P	**P**	**03 30 44.6**	**+1.3**
	comp=Z,7.2nm,1.0s,mb4.5						
ELK	**Elko**	**86.77**	**49**	*e*P	**P**	**03 30 44.7**	**+1.4**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DUG	**Dugway**	**88.70**	**49**	*e*P	**P**	**03 30 53.5**	**+1.1**
	comp=Z,1.3nm,0.6s,mb3.9						
DUG	**Dugway**	**88.70**	**49**	*e*P	**P**	**03 30 53.5**	**+1.1**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
HWUT	**Hardware Ranch**	**89.11**	**47**	*e*P	**P**	**03 30 55.2**	**+0.9**
	comp=Z,3.3nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**89.43**	**335**	P	**P**	**03 30 54.1**	**-1.2**
	comp=Z,1.5nm,0.4s,mb4.1,baz=70,slow=4.9,SNR=18						
PDAR	**Pinedale Array**	**90.09**	**45**	P	**P**	**03 30 59.0**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=267,slow=2.0,SNR=8.6						
CLL	**Collm**	**101.40**	**332**	*e**SP	PP	03 36 01.0	-5.8
VNA2	**Neumayer--Watz**	**122.43**	**190**⇑	*i*	PKPdf	03 36 51.3	+1.2
VNA3	**Neumayer Olymp**	**122.53**	**189**⇑	*i*	PKPdf	03 36 51.2	+0.9
VNA1	**Neumayer--Stat**	**122.82**	**190**⇑	*i*	PKPdf	03 36 52.6	+1.7
LPAZ	**La Paz**	**147.79**	**96**	PKPbc	PKPdf	03 37 43.9	+6.1
	comp=Z,1.6nm,0.6s,baz=292,slow=2.5,SNR=7.3						

IDC ***09*** *03:22:51.8±1.4, 29.40N×142.24E, mb3.9/5, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, ML3.1/3, Error ellipse: s-maj=49.9km s-min=16.4km az=75.0*
NEIC ***09*** *03:22:58.0±2.6, 29.55N×142.27E, h40km±23km, mb4.5/2, Error ellipse: s-maj=41.0km s-min=20.2km az=73.0*
ISC 09 03:22:55.0±0.9**, 29.42N**±0.07×**142.1E**±0.3**, h33**km**, n13, σ1.16**/18**, mb4.1**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.32**	**178**	Pn	**Pn**	**03 23 30.2**	**-1.5**
	2.9nm,0.3s,baz=328,slow=19,SNR=3.1						
CBIJ				Sn	**Sn**	**03 23 59.0**	**-0.4**
	17nm,0.3s,baz=262,slow=23,SNR=7.5						
JHJ	**Hachijo jima 2**	**4.18**	**332**	Pn	**Pn**	**03 23 57.0**	**-1.1**
	3.6nm,0.3s,baz=66,slow=19,SNR=2.3						
JHJ				Sn	**Sn**	**03 24 47.3**	**+0.8**
	7.4nm,0.3s,baz=85,slow=22,SNR=2.7						
MJAR	**Matsushiro Arr**	**7.81**	**336**	Pn	**Pn**	**03 24 48.0**	**-1.3**
	0.8nm,0.3s,baz=143,slow=12,SNR=4.7						
MJAR				Sn	**Sn**	**03 26 16.6**	**-0.9**
	0.4nm,0.3s,baz=151,slow=21,SNR=4.5						
MAJO	**Matsushiro**	**7.81**	**336**	*e*Pn	**Pn**	**03 24 48.7**	**-0.6**
MAT	**Matsushiro**	**7.81**	**336**	P	**P**	**03 24 51.0**	**+1.9**
MAT				*e*S	**S**	**03 26 16.6**	**-0.7**
MAT	**Matsushiro**	**7.81**	**336**	*e*P	**P**	**03 24 51.0**	**+1.9**
MAT				S	**S**	**03 26 17.0**	**-0.3**
SONM	**Songino Array**	**33.01**	**314**	P	**P**	**03 29 30.4**	**+1.2**
	1.1nm,1.0s,mb3.7,baz=128,slow=7.2,SNR=4.6						
MKAR	**Makanchi Array**	**48.95**	**308**	P	**P**	**03 31 38.8**	**-1.1**
	0.5nm,0.6s,mb3.7,baz=113,slow=41,SNR=3.3						
WRAB	**Tennant Creek**	**49.63**	**190**	*e*P	**P**	**03 31 48.1**	**+2.6**
	2.3nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**49.64**	**190**	P	**P**	**03 31 45.8**	**+0.2**
	1.9nm,0.7s,mb4.2,baz=8.8,slow=8.2,SNR=12						
KURK	**Kurchatov**	**51.31**	**313**	*e*P	**P**	**03 31 57.8**	**-0.1**
	5.9nm,1.1s,mb4.4						
KURK				*e*pP	pP	03 32 13.0	+5.2
BVAR	**Borovoye Array**	**56.29**	**316**	P	**P**	**03 32 36.3**	**+1.8**
	1.0nm,0.6s,mb4.0,baz=59,slow=8.6,SNR=4.3						
TXAR	**Lajitas Array**	**94.28**	**53**	P	**P**	**03 36 12.4**	**+0.1**
	1.1nm,1.0s,mb4.2,baz=225,slow=8.9,SNR=4.6						

BJI ***09*** *04:19:55.4, 21.19N×45.48W, h13km, mB5.3, Ms4.7, Msz4.3*
IDC ***09*** *04:19:56.7±0.5, 21.34N×45.81W, mb4.2/25, mb1 4.4/25, mb1mx4.3/30, mbtmp4.2/25, MS4.0/22, Ms1 4.0/22, ms1mx3.9/25, Error ellipse: s-maj=14.9km s-min=12.5km az=153.0*
NEIC ***09*** *04:19:58.2±0.2, 21.33N×45.80W, h10km, mb4.7/39, Error ellipse: s-maj=6.7km s-min=3.5km az=170.0*
CRAAG ***09*** *04:19:59.9, 21.39N×45.82W, Mb4.8*
ISC 09 04:19:56.6±0.3**, 21.37N**±0.07×**45.82W**±0.04**, h10**km**, n120, σ0.79**/107**, mb4.5**/61**, MS4.0**/23**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.40**	**264**	LR	LR	04 30 20.1	
	comp=Z,671nm,21.3s,baz=95,slow=32						
SDV	**Santo Domingo**	**26.92**	**246**	P	**P**	**04 25 40.0**	**0.0**
	3.3nm,0.6s,mb4.0,baz=68,slow=6.2,SNR=5.5						
SDV				LR	LR	04 35 28.6	
	comp=Z,202nm,18.1s,MS3.7,baz=34,slow=35						
SDV	**Santo Domingo**	**26.92**	**246**	*e*P	**P**	**04 25 40.5**	**+0.5**
	5.0nm,0.8s,mb4.1						
ROSC	**El Rosal**	**32.15**	**243**	P	**P**	**04 26 26.9**	**+0.1**
	3.1nm,0.7s,mb4.2,baz=287,slow=19,SNR=3.1						
ELN	**Prospectdale**	**34.09**	**305**	*e*P	**P**	**04 26 44.3**	**+0.8**
SADO	**Sadowa**	**36.00**	**318**	P	**P**	**04 27 00.5**	**+0.8**
	3.0nm,0.5s,mb4.5,baz=158,slow=7.8,SNR=3.5						
EVO	**Evora**	**36.65**	**54**	*e*P	**P**	**04 27 04.0**	**-1.2**
	26nm,1.3s,mb4.6						
EVO				*e*R			
	342nm,22.0s						
SCHQ	**Schefferville**	**36.98**	**340**	P	**P**	**04 27 08.5**	**+0.7**
	6.7nm,0.7s,mb4.6,baz=151,slow=6.7,SNR=8.1						
SCHQ				LR	LR	04 40 59.8	
	comp=Z,86nm,19.8s,MS3.5,baz=43,slow=34						
SCHQ	**Schefferville**	**36.98**	**340**	P	**P**	**04 27 08.5**	**+0.7**
SCHQ				LR	LR	04 40 59.8	
MDT	**Midelt**	**38.20**	**64**	P	**P**	**04 27 19.2**	**+0.9**
	4.5nm,1.1s,mb4.1,baz=280,slow=8.4,SNR=6.1						
WCI	**Wyandotte Cave**	**38.59**	**305**	*e*P	**P**	**04 27 22.7**	**+1.2**
	7.8nm,0.7s,mb4.5						
WVT	**Waverly**	**39.34**	**301**	*e*P	**P**	**04 27 28.7**	**+0.9**
PLAL	**Pickwick Lake**	**39.35**	**299**	*e*P	**P**	**04 27 28.8**	**+0.8**
	13nm,1.0s,mb4.6						
ESDC	**Sonseca Array**	**39.99**	**53**	P	**P**	**04 27 33.5**	**+0.3**
	2.9nm,0.9s,mb4.0,baz=254,slow=8.4,SNR=11						
SIV	**San Ignacio**	**40.02**	**203**	P	**P**	**04 27 33.7**	**+0.1**
	1.5nm,0.7s,mb3.8,baz=28,slow=17,SNR=2.5						
DBIC	**Dimbokro**	**42.19**	**104**	P	**P**	**04 27 50.5**	**-1.1**
	12nm,1.0s,mb4.5,baz=260,slow=8.3,SNR=6.2						
DBIC				LR	LR	04 42 57.1	
	comp=Z,248nm,18.2s,MS4.1,baz=271,slow=33						
DBIC	**Dimbokro**	**42.19**	**104**	P	**P**	**04 27 50.5**	**-1.1**
DBIC				LR	LR	04 42 57.1	
CCM	**Cathedral Cave**	**42.37**	**303**	*e*P	**P**	**04 27 53.0**	**+0.3**
	9.4nm,0.9s,mb4.4						
SJPF	**Ste Jean**	**42.89**	**49**	*e*P	**P**	**04 27 56.8**	**-0.1**
QUIF	**Quistinic**	**43.19**	**42**	*e*P	**P**	**04 27 58.9**	**-0.3**
EANR	**'Ain N'Sour**	**43.26**	**60**	P	**P**	**04 28 02.0**	**+2.0**
ROSF	**Rostrenen**	**43.28**	**41**	*e*P	**P**	**04 27 59.9**	**-0.1**
ETSF	**Etsaut**	**43.30**	**50**	*e*P	**P**	**04 28 00.9**	**+0.7**
	31nm,1.4s,mb4.5						
LPAZ	**La Paz**	**43.35**	**212**	P	**P**	**04 28 01.4**	**+0.5**
	3.5nm,0.8s,mb4.2,baz=26,slow=12,SNR=3.7						
LPAZ				LR	LR	04 45 26.9	
	comp=Z,187nm,18.4s,MS4.0,baz=275,slow=35						
LPAZ	**La Paz**	**43.35**	**212**	*e*P	**P**	**04 28 01.9**	**+0.9**
ETRT	**Tiaret**	**43.36**	**61**	P	**P**	**04 28 03.0**	**+2.2**
ECHF	**Ech Chlef**	**43.48**	**60**	P	**P**	**04 28 04.0**	**+2.2**
ECHA	**Ech Chlef**	**43.50**	**60**	P	**P**	**04 28 04.0**	**+2.1**
EBNR	**Beni Rached**	**43.65**	**59**	P	**P**	**04 28 05.0**	**+1.9**
EPF	**Esparros**	**43.97**	**50**	*e*P	**P**	**04 28 05.9**	**+0.2**
	51nm,1.6s,mb4.7						
MFF	**Saint Martin d**	**44.65**	**45**	*e*P	**P**	**04 28 11.2**	**0.0**
LFF	**La Frestale**	**44.75**	**47**	*e*P	**P**	**04 28 11.9**	**-0.1**
GRR	**Gorron**	**44.80**	**42**	*e*P	**P**	**04 28 12.3**	**0.0**
	19nm,1.0s,mb4.6						
FRB	**Frobisher Bay**	**45.03**	**346**	LR	LR	04 45 02.1	
	comp=Z,53nm,19.4s,MS3.5,baz=163,slow=33						
FLN	**La Foliniere**	**45.16**	**42**	*e*P	**P**	**04 28 15.0**	**-0.2**
FLN				*e*R			
	184nm,20.5s						
LDF	**La Druitiere**	**45.33**	**42**	*e*P	**P**	**04 28 16.3**	**-0.2**
MTLF	**Montolieu**	**45.38**	**50**	*e*P	**P**	**04 28 17.0**	**0.0**
RJF	**Les Rejaudoux**	**45.38**	**47**	*e*P	**P**	**04 28 16.4**	**-0.6**
RJF				*e*R			
	171nm,18.8s						
CAF	**Calviac**	**45.66**	**47**	*e*P	**P**	**04 28 18.8**	**-0.4**
TCF	**Toulx Ste Croi**	**46.12**	**46**	*e*P	**P**	**04 28 21.9**	**-0.9**
	22nm,1.2s,mb4.7						
BGF	**Bois d'Agland**	**46.61**	**45**	*e*P	**P**	**04 28 26.5**	**-0.2**
LASF	**Ste Croix**	**46.70**	**49**	*e*P	**P**	**04 28 26.9**	**-0.5**
	74nm,1.5s,mb5.1						
AVF	**Avril sur Loir**	**47.01**	**45**	*e*P	**P**	**04 28 29.7**	**-0.1**
	26nm,1.2s,mb4.7						
SSF	**Saint Saulge**	**47.19**	**45**	*e*P	**P**	**04 28 30.9**	**-0.3**
	18nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**47.30**	**46**	*e*P	**P**	**04 28 32.1**	**0.0**
LOR	**Lormes**	**47.47**	**45**	*e*P	**P**	**04 28 33.1**	**-0.4**
LOR				*e*R			
	130nm,18.2s						
WMOK	**Wichita Mounta**	**48.10**	**298**	*e*P	**P**	**04 28 38.3**	**-0.3**
	1.8nm,0.7s,mb4.2						
BAIF	**Baives**	**48.48**	**41**	*e*P	**P**	**04 28 40.7**	**-0.6**
ULM	**Lac du Bonnet**	**48.55**	**319**	P	**P**	**04 28 41.0**	**-0.9**
	3.3nm,0.8s,mb4.4,baz=98,slow=3.4,SNR=6.0						
ULM				LR	LR	04 47 14.9	
	comp=Z,148nm,20.0s,MS4.0,baz=15,slow=34						
ULM	**Lac du Bonnet**	**48.55**	**319**	*e*P	**P**	**04 28 41.0**	**-0.8**
	12nm,1.0s,mb4.9						
MEZF	**Maizieres J'vi**	**48.57**	**43**	*e*P	**P**	**04 28 41.8**	**-0.2**
	40nm,0.9s,mb5.1						
CPUP	**Villa Florida**	**48.71**	**194**	LR	LR	04 46 52.7	
	comp=Z,122nm,19.2s,MS3.9,baz=78,slow=33						
CABF	**La Chapelle**	**48.79**	**46**	*e*P	**P**	**04 28 43.9**	**+0.2**
	34nm,1.0s,mb5.0						
BNI	**Bardonecchia**	**48.88**	**48**	*e*P	**P**	**04 28 44.8**	**+0.4**
	11nm,1.0s,mb4.8						
MBDF	**Montbardon**	**48.88**	**49**	*e*P	**P**	**04 28 45.0**	**+0.6**
	22nm,1.0s,mb4.9						
LPL	**La Plagne**	**49.00**	**48**	*e*P	**P**	**04 28 46.2**	**+0.8**
	22nm,1.1s,mb4.8						
LPG	**La Plagne**	**49.01**	**48**	*e*P	**P**	**04 28 46.4**	**+0.9**
	32nm,1.4s,mb4.9						
LVC	**Limon Verde**	**49.17**	**209**	P	**P**	**04 28 46.6**	**-0.4**
	4.0nm,0.8s,mb4.5,baz=35,slow=9.7,SNR=4.0						
LVC	**Limon Verde**	**49.17**	**209**	*e*P	**P**	**04 28 46.8**	**-0.2**
	19nm,1.1s,mb5.0						
HAU	**Haudompre**	**49.29**	**44**	*e*P	**P**	**04 28 46.8**	**-0.7**
	12nm,0.8s,mb4.7						
HAU				*e*R			
	126nm,19.8s						
HINF	**Hinteralfeld**	**49.57**	**45**	*e*P	**P**	**04 28 49.6**	**-0.1**
CDF	**Champ du Feu**	**49.99**	**44**	*e*P	**P**	**04 28 52.4**	**-0.5**
PGF	**Pioggiola**	**50.15**	**52**	*e*P	**P**	**04 28 53.7**	**-0.5**
	43nm,1.1s,mb5.1						
SUMG	**Summit**	**51.40**	**3**	*e*P	**P**	**04 29 03.3**	**0.0**
	6.3nm,0.8s,mb4.6						
TXAR	**Lajitas Array**	**52.43**	**291**	P	**P**	**04 29 11.1**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=97,slow=8.9,SNR=6.0						
TXAR				PcP	PcP	04 30 22.6	+0.1
	0.3nm,0.8s,baz=100,slow=5.5,SNR=2.7						
TXAR				LR	LR	04 50 55.8	
	comp=Z,116nm,21.4s,MS3.9,baz=140,slow=35						
TXAR	**Lajitas Array**	**52.43**	**291**	P	**P**	**04 29 11.1**	**-0.6**
TXAR				PcP	PcP	04 30 22.6	+0.1
TXAR				LR	LR	04 50 55.8	
MOX	**Moxa**	**53.22**	**42**	*e*P	**P**	**04 29 20.0**	**+2.7**
AQU	**L'Aquila**	**53.37**	**53**	*e*P	**P**	**04 29 17.6**	**-1.0**
	22nm,0.9s,mb5.1						
FFC	**Flin Flon**	**53.40**	**323**	*e*P	**P**	**04 29 17.7**	**-0.8**
	6.9nm,0.7s,mb4.7						
JMIC	**Jan Mayen**	**54.19**	**14**	LR	LR	04 47 06.0	
	comp=Z,90nm,18.4s,MS3.9,baz=284,slow=30						
CLL	**Collm**	**54.21**	**41**	P	**P**	**04 29 24.0**	**-0.5**
CLL				*i*	pP	04 29 25.6	-2.0
CLL				*i* *SP	sP	04 29 30.6	+1.9
CLL				*e*PP	PP	04 31 33.0	+5.1
CLL	**Collm**	**54.21**	**41**	*e*P	**P**	**04 29 24.0**	**-0.5**
CLL				*i* pP	pP	04 29 25.6	-2.0
CLL				*i*		04 29 30.6	
KHC	**Kasperske Hory**	**54.21**	**44**	P	**P**	**04 29 23.5**	**-1.1**
GERES	**GERESS Array B**	**54.25**	**45**	P	**P**	**04 29 23.9**	**-0.9**
	3.3nm,1.0s,mb4.2,baz=248,slow=7.2,SNR=13						
GERES				LR	LR	04 50 03.1	
	comp=Z,119nm,18.1s,MS4.0,baz=254,slow=33						
ANMO	**Albuquerque**	**54.41**	**298**	P	**P**	**04 29 26.9**	**+0.6**
	1.0nm,0.9s,mb3.8,baz=102,slow=10.0,SNR=3.6						
ANMO				LR	LR	04 50 28.1	
	comp=Z,132nm,19.8s,MS4.0,slow=34						
SMCO	**Snowmass**	**54.73**	**303**	*e*P	**P**	**04 29 29.3**	**+0.8**
NOA	**NORSAR Array B**	**55.72**	**30**	LR	LR	04 48 59.2	
	comp=Z,148nm,18.5s,MS4.1,baz=255,slow=31						
BW06	**Boulder Array**	**56.72**	**308**	*e*P	**P**	**04 29 42.6**	**-0.2**
	8.9nm,1.3s,mb4.6						
PDAR	**Pinedale Array**	**56.72**	**308**	P	**P**	**04 29 42.1**	**-0.7**
	1.7nm,0.8s,mb4.2,baz=115,slow=6.5,SNR=15						
PDAR				LR	LR	04 51 00.5	
	comp=Z,172nm,21.1s,MS4.1,baz=96,slow=33						
PDAR	**Pinedale Array**	**56.72**	**308**	P	**P**	**04 29 42.1**	**-0.7**
PDAR				LR	LR	04 51 00.5	
SRU	**San Rafael**	**57.49**	**303**	*e*P	**P**	**04 29 48.8**	**+0.5**
LOHW	**Long Hollow**	**57.49**	**309**	*e*P	**P**	**04 29 48.2**	**-0.2**
	14nm,1.4s,mb4.8						
SNOW	**Snow King Moun**	**57.60**	**309**	*e*P	**P**	**04 29 49.4**	**+0.3**
	4.4nm,0.9s,mb4.5						
IMW	**Indian Meadow**	**57.74**	**309**	*e*P	**P**	**04 29 50.2**	**+0.2**
	21nm,1.4s,mb5.0						
TPAW	**Teton Pass**	**57.74**	**309**	*e*P	**P**	**04 29 49.7**	**-0.4**
	4.7nm,0.9s,mb4.5						
RRI2	**Red Ridge**	**58.01**	**308**	*e*P	**P**	**04 29 52.0**	**0.0**
	11nm,0.9s,mb4.9						
HWUT	**Hardware Ranch**	**58.21**	**306**	*e*P	**P**	**04 29 53.0**	**-0.3**
	5.0nm,0.9s,mb4.5						
TUC	**Tucson**	**58.22**	**296**	*e*P	**P**	**04 29 53.7**	**+0.1**
	1.3nm,0.8s,mb4.0						
BOZ	**Bozeman (W)**	**58.26**	**311**	*e*P	**P**	**04 29 53.3**	**-0.3**
	3.6nm,1.1s,mb4.3						
SPUT	**South Promonto**	**58.88**	**306**	*e*P	**P**	**04 29 57.8**	**-0.3**
DUG	**Dugway**	**59.21**	**305**	*e*P	**P**	**04 30 00.3**	**0.0**
	4.5nm,0.9s,mb4.5						
EDM	**Edmonton**	**59.76**	**320**	*e*P	**P**	**04 30 03.5**	**-0.4**
ARUT	**Antelope Range**	**59.85**	**302**	*e*P	**P**	**04 30 05.1**	**+0.3**
HLID	**Hailey**	**60.26**	**309**	*e*P	**P**	**04 30 07.2**	**-0.3**
	1.4nm,0.6s,mb4.2						
ELK	**Elko**	**61.02**	**306**	P	**P**	**04 30 12.8**	**0.0**
	2.6nm,0.7s,mb4.5,baz=71,slow=6.3,SNR=13						
ELK				LR	LR	04 54 26.4	
	comp=Z,250nm,20.8s,MS4.3,baz=91,slow=34						
ELK	**Elko**	**61.02**	**306**	*e*P	**P**	**04 30 12.3**	**-0.4**
	4.1nm,0.9s,mb4.6						
YKA	**Yellowknife Ar**	**61.48**	**330**	P	**P**	**04 30 14.4**	**-1.2**
	2.6nm,0.7s,mb4.5,baz=98,slow=7.3,SNR=23						
YKA				LR	LR	04 54 29.5	
	comp=Z,80nm,18.4s,MS3.9,baz=110,slow=34						
YKW3	**Yellowknife Ar**	**61.50**	**331**	*e*P	**P**	**04 30 14.4**	**-1.2**
NEW	**Newport**	**62.02**	**314**	P	**P**	**04 30 19.3**	**-0.1**
	3.1nm,0.6s,mb4.6,baz=95,slow=7.9,SNR=7.4						
NEW				LR	LR	04 54 52.6	
	comp=Z,177nm,21.1s,MS4.2,baz=82,slow=34						
NEW	**Newport**	**62.02**	**314**	*e*P	**P**	**04 30 19.2**	**-0.2**
	22nm,1.3s,mb5.1						
FINES	**FINESS Array B**	**62.82**	**31**	P	**P**	**04 30 25.9**	**+1.4**
	2.8nm,0.9s,mb4.4,baz=236,slow=10.0,SNR=3.5						
FINES				LR	LR	04 54 26.0	
	comp=Z,166nm,18.1s,MS4.2,baz=337,slow=33						
ARCES	**ARCESS Array B**	**63.64**	**22**	LR	LR	04 53 24.2	
	comp=Z,32nm,18.7s,MS3.5,baz=250,slow=32						
HAWA	**Hanford**	**63.74**	**312**	*e*P	**P**	**04 30 30.8**	**0.0**
	0.7nm,1.3s,mb3.5						
AKASG	**Malin Array Be**	**64.38**	**43**	P	**P**	**04 30 33.2**	**-1.7**
	3.7nm,0.9s,mb4.4,baz=272,slow=5.8,SNR=5.8						
AKASG	**Malin Array Be**	**64.38**	**43**	P	**P**	**04 30 33.2**	**-1.7**
PLCA	**Paso Flores**	**65.92**	**200**	P	**P**	**04 30 44.6**	**-0.4**
	1.8nm,1.0s,mb4.1,baz=317,slow=3.7,SNR=3.2						
YBH	**Yreka Blue Hor**	**66.52**	**307**	LR	LR	04 58 14.0	
	comp=Z,177nm,18.8s,MS4.3,baz=82,slow=34						
BRTR	**Keskin Array B**	**68.78**	**54**	P	**P**	**04 31 03.1**	**+0.1**
	2.3nm,0.8s,mb4.2,baz=284,slow=5.1,SNR=5.3						
INK	**Inuvik**	**69.50**	**337**	P	**P**	**04 31 06.2**	**-0.8**
	2.7nm,0.7s,mb4.3,baz=76,slow=6.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INK	Inuvik	69.50	337	eP	P	04 31 06.1	-0.9
	15nm,1.4s,mb4.7						
DAWY	Dawson	72.56	333	eP	P	04 31 25.1	-0.3
ILAR	Eielson Array	75.49	334	P	P	04 31 42.5	+0.1
	3.5nm,0.9s,mb4.3,baz=71,slow=4.7,SNR=37						
MBAR	Mbarara	77.71	96	eP	P	04 31 53.5	-2.4
	7.3nm,1.2s,mb4.5						
KMBO	Kilima Mbogo	83.96	94	P	P	04 32 29.1	0.0
	4.7nm,1.0s,mb4.6,baz=13,slow=5.2,SNR=5.7						
KMBO				LR	LR	05 10 57.4	
	comp=Z,149nm,18.2s,MS4.4,baz=97,slow=36						
MKAR	Makanchi Array	97.59	33	LR	LR	05 17 28.2	
	comp=Z,48nm,18.1s,MS4.0,baz=7.1,slow=35						
WMQ	Urumqi	102.40	33	eP	Pdif	04 33 53.5	-0.7
WMQ				AMB	AMB		
	comp=Z,58nm,4.6s						
WMQ				LR	LR		
	comp=N,94nm,23.0s,MS4.4						
WMQ				LR	LR		
	comp=E,88nm,22.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,107nm,26.3s,MS4.2						
VNDA	Vanda	122.22	187	PKP	PKPdf	04 38 52.8	-1.5
	comp=Z,0.8nm,0.9s,baz=270,slow=2.5,SNR=4.9						
KMI	Kunming	124.61	35	PKP	PKPdf	04 38 56.6	-3.6
KMI				XPKP		04 39 03.3	
KMI				PP	PP	04 40 47.0	-1.3
KMI				LR	LR		
	comp=N,73nm,58.7s						
KMI				LR	LR		
	comp=Z,47nm,25.8s						
KMI	Kunming	124.61	35	PKP	PKPdf	04 38 56.6	-3.6
KMI				sPKP		04 39 03.3	
KMI				PP	PP	04 40 47.0	-1.3
KMI				SS	SS	04 57 48.6	+10
KMI				SSS	SSS	05 02 25.2	+8.3
KMI				LR	LR		
	comp=Z,50nm,25.8s,MS4.1						
NJ2	Nanjing	124.90	16	ePKP	PKPdf	04 38 53.4	-7.1

*IDC **09** 04:20:27.8±1.1, 16.83S×70.59W, mb3.8/2, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, ML4.2/2, MS3.2/4, Ms1 3.2/4, ms1mx3.1/19, Error ellipse: s-maj=23.8km s-min=17.2km az=166.0*

*NEIC **09** 04:20:35.0±2.0, 16.86S×70.31W, h57km±19km, mb4.2/6, Error ellipse: s-maj=24.3km s-min=11.2km az=90.0*

ISC 09 04:20:37.5±2.3**, 16.83S**±0.07×**70.1W**±0.2**, h102**km±22km**, n21,** σ1**s**01/20**, mb4.0**/7**, 4C, Southern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.91	74	Pn	P	04 21 10.5	+1.0
	40nm,0.3s,baz=255,slow=15,SNR=1016						
LPAZ				Sn	S	04 21 40.6	+7.4
	2.6nm,0.3s,baz=329,slow=19,SNR=4.1						
LPAZ				Lg		04 21 44.9	
	3.9nm,0.3s,baz=89,slow=25,SNR=3.9						
LPAZ				LR	LR	04 22 19.6	
	comp=Z,828nm,21.5s,baz=224,slow=46						
LPAZ	La Paz	1.91	74	⇑iPn	P	04 21 10.7	+1.2
LPAZ				Sn	S	04 21 40.6	+7.4
LPAZ				Lg		04 21 44.9	
LPAZ				LR	LR	04 22 19.6	
LVC	Limon Verde	5.85	170	Pn	P	04 21 58.8	-4.3
	1.1nm,0.3s,baz=332,slow=9.8,SNR=22						
LVC				Sn	S	04 23 09.0	-0.6
	1.3nm,0.3s,baz=252,slow=20,SNR=2.0						
LVC				Lg		04 23 27.9	
	3.0nm,0.3s,baz=114,slow=13,SNR=7.3						
LVC				LR	LR	04 24 44.0	
	comp=Z,139nm,20.5s,baz=55,slow=43						
SIV	San Ignacio	8.65	86	Pn	P	04 22 39.9	-1.5
	1.2nm,0.3s,baz=267,slow=12,SNR=27						
SIV				Lg		04 25 10.0	
	0.3nm,0.3s,baz=204,slow=20,SNR=3.9						
SAML	Samuel	10.30	41	ePn	P	04 22 58.8	-4.8
CFAA	Coronel Fontan	14.80	174	LR	LR	04 28 45.5	
	comp=Z,14nm,19.8s,baz=337,slow=34						
TRQA	Tornquist	22.31	163	P	P	04 25 29.1	+1.7
	20nm,1.7s,mb4.2						
PLCA	Paso Flores	23.82	181	P	P	04 25 41.6	-0.4
	5.3nm,1.2s,mb3.8,baz=360,slow=12,SNR=4.9						
PLCA	Paso Flores	23.82	181	eP	P	04 25 44.4	+2.4
	15nm,1.4s,mb4.1						
SDCO	Great Sand Dun	63.70	329	eP	P	04 30 59.8	-0.9
	4.0nm,1.1s,mb4.2						
VNA3	Neumayer Olymp	64.83	162	⇑i	P	04 31 07.2	-0.2
VNA2	Neumayer--Watz	65.39	161	⇑i	P	04 31 10.6	-0.5
SMCO	Snowmass	65.54	329	eP	P	04 31 12.5	-0.1
SNAA	Sanae	67.03	162	⇑i	P	04 31 21.5	+0.1
SNAA	Sanae	67.03	162	eP	P	04 31 21.4	+0.1
	1.3nm,0.6s,mb3.9						
DBIC	Dimbokro	68.53	76	LR	LR	04 59 30.6	
	comp=Z,82nm,19.8s,baz=173,slow=34						
DUG	Dugway	69.29	326	eP	P	04 31 35.0	-0.9
	1.4nm,0.8s,mb3.8						
RRI2	Red Ridge	70.83	329	eP	P	04 31 46.0	+0.8
	2.2nm,0.7s,mb4.1						
YKA	Yellowknife Ar	86.44	341	P	P	04 33 09.9	+0.4
	0.2nm,0.3s,mb3.5,baz=134,slow=5.4,SNR=5.5						
MJAR	Matsushiro Arr	148.21	314	PKPbc	PKPdf	04 40 15.4	+6.9
	4.1nm,0.9s,baz=72,slow=1.6,SNR=9.2						
SONM	Songino Array	148.94	5	PKPbc	PKPdf	04 40 17.7	+8.4
	1.2nm,0.8s,baz=348,slow=1.5,SNR=8.0						

*NEIC **09** 04:51:46.9, 15.62N×93.18W, h87km, MD4.1(MEX), After MEX.*

MEX 09 04:51:47.0±0.9**, 15.61N**×**93.19W, h85**km±29km**, MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.21	56	i P	P	04 52 07.7	-1.5
CCIG				i S	S	04 52 24.9	-1.0
SCX	San Cristobal	1.24	25	i P	P	04 52 08.0	-1.6
SCX				i S	S	04 52 24.0	-2.5
CMIG	Matias Romero	2.20	312	i P	P	04 52 20.6	-1.8
CMIG				i S	S	04 52 47.5	-1.1
HUIG	Huatulco	2.82	274	i P	P	04 52 28.9	-2.1
HUIG				i S	S	04 53 00.9	-3.1
VHO	Vista Hermosa	3.70	294	i P	P	04 52 41.9	-1.4
VHO				i S	S	04 53 23.1	-2.9
VHO	Vista Hermosa	3.70	294	i P	P	04 52 41.9	-1.4
VHO				i S	S	04 53 18.2	-7.8

JMA 09 05:00:11.7±0.3**, 44.03N**×**148.03E, M4.3, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.79	249	P	Pn	05 00 44.2	+0.1
NEM2				eS	Sn	05 01 08.0	+0.2
JRA	Rausu	2.10	268	P	Pn	05 00 49.1	+0.5
JRA				eS	Sn	05 01 16.7	+0.9
JNK	Nakash	2.44	261	P	Pn	05 00 53.5	+0.1
JNK				eS	Sn	05 01 24.2	-0.1
JAK	Akkeshi	2.64	248	P	Pn	05 00 56.4	+0.2
JTKR	Abashiri--Toko	2.98	270	P	Pn	05 01 02.0	+1.0
JAR	Ashorobuto	3.18	258	P	Pn	05 01 04.8	+0.9
JOB	Onbets	3.25	251	P	Pn	05 01 05.5	+0.5
JOB				eS	Sn	05 01 45.0	-0.1
JCH	Churui	3.69	249	P	Pn	05 01 11.1	-0.1
JNBK	Urakawa-nobuka	4.24	247	P	Pn	05 01 19.1	+0.1
JKB	Kayabe	5.56	250	P	Pn	05 01 37.4	-0.3
JKB				eS	Sn	05 02 41.3	-2.0
JOT	Ohata	5.78	245	P	Pn	05 01 40.1	-0.8

MAN 09 05:02:30.9, 9.91N×**126.11E, h17**km**, mb3.7, ML2.4, MS1.9, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.63	258	⇓iP	Pb	05 02 43.2	+0.2
SCPH				eS	Sb	05 02 53.2	+2.0
BUTP	Butuan	1.05	207	eP	Pb	05 02 48.2	-2.1
MSLP	Maasin	1.25	280	eP	Pb	05 02 53.2	-0.5
BESP	Borongan	1.81	339	eP	Pn	05 03 01.6	0.0
BUKP	Musuan	2.27	207	eP	Pn	05 03 08.8	+0.5
CNP	Catarman	2.95	331	eP	Pn	05 03 17.1	-0.9
GUIM	Jordan	3.54	282	eP	Pn	05 03 25.8	-0.6

*IDC **09** 05:21:36.7±6.3, 36.13N×99.06E, mb3.8/2, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=103.2km s-min=57.6km az=171.0*

*BJI **09** 05:21:42.9, 36.72N×98.87E, h18km, mB4.6, mb4.4, ML4.0, Ms4.0, Msz3.9*

*NEIC **09** 05:21:42.2±0.9, 36.60N×98.70E, h10km, mb3.8/1, Error ellipse: s-maj=17.2km s-min=8.8km az=212.0*

*NNC **09** 05:21:49.2±29.0, 37.51N×98.72E, Error ellipse: s-maj=499.2km s-min=353.9km az=30.0*

ISC 09 05:21:40.4±0.8**, 36.69N**±0.06×**98.80E**±0.08**, h10**km**, n14,** σ1**s**07/22**, mb3.8**/2**, MS3.2**/1**, 2D, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA	Gaotai	2.83	16	P	Pn	05 22 31.1	+4.6
GTA				PG	Pg	05 22 35.5	-1.3
GTA				S	Sn	05 23 09.2	+8.3
GTA				SG	Sg	05 23 14.3	-0.2
GTA				Smax			
	comp=N,91nm,0.5s						
GTA				Smax			
	comp=E,80nm,0.6s						
LZH	Lanzhou	4.11	97	P	Pn	05 22 45.7	+1.0
LZH				PG	Pg	05 22 55.5	-7.0
LZH				S	Sn	05 23 34.0	+0.5
LZH				SG	Sg	05 23 48.1	-9.2
LZH				Smax			
	comp=N,750nm,0.8s						
LZH				Smax			
	comp=E,790nm,0.6s						
LZH				LR	LR		
	comp=N,1µm,4.7s						
LZH				LR	LR		
	comp=Z,750nm,5.4s						
CD2	Chengdu	7.09	143	ePG	Pg	05 23 52.0	-10
XAN	Xi'an	8.68	105	P	P	05 23 45.9	-3.1
XAN				AMB	AMB		
	comp=Z,10.0nm,0.5s						
ENH	Enshi	10.98	123	Pn	P	05 24 20.0	-0.6
SONM	Songino Array	12.46	24	Pn	P	05 24 41.5	+0.9
	comp=Z,0.7nm,0.3s,baz=211,slow=15,SNR=23						
SONM				Sn	S	05 26 53.5	-7.1
	comp=Z,0.1nm,0.3s,baz=207,slow=19,SNR=2.8						
ULN	Ulaanbaatar	12.71	26	ePn	P	05 24 45.0	+1.0
MK31	Makanchi Array	15.90	315	P	P	05 25 30.8	+5.0
	comp=Z,13nm,1.1s,baz=118,slow=14,SNR=28						
MK31				⇓S	S	05 28 15.6	-6.5
	comp=Z,3.2nm,0.7s,baz=123,slow=25,SNR=6.6						
MKAR	Makanchi Array	15.90	315	Pn	P	05 25 25.5	-0.2
	comp=Z,0.6nm,0.3s,baz=123,slow=15,SNR=10						
MKAR				Sn	S	05 28 17.1	-5.0
	comp=Z,0.1nm,0.3s,baz=127,slow=22,SNR=6.3						
KURK	Kurchatov	20.14	320	⇓P	P	05 26 16.5	-0.8
	comp=Z,1.7nm,0.7s						
KURK	Kurchatov	20.14	320	eP	P	05 26 16.3	-1.0
	comp=Z,4.1nm,0.8s						
BVAR	Borovoye Array	25.69	318	P	P	05 27 13.5	+1.5
	comp=Z,0.6nm,0.4s,mb3.5,baz=124,slow=11,SNR=5.7						
JOW	Kunigami	26.83	103	LR	LR	05 37 48.0	
	comp=Z,66nm,20.8s,MS3.2,baz=270,slow=37						
ARCES	ARCESS Array B	50.34	334	P	P	05 30 38.9	-0.1
	comp=Z,1.8nm,0.8s,mb4.1,baz=84,slow=8.2,SNR=5.4						

*NEIC **09** 05:23:40.9±1.9, 21.68S×176.62W, h112km±19km, mb4.2/1, Error ellipse: s-maj=24.7km s-min=14.4km az=116.0*

*IDC **09** 05:23:41.4±3.6, 21.67S×176.63W, h113km±35km, mb3.5/7, mb1 3.8/9, mb1mx3.7/15, mbtmp4.1/9, Error ellipse: s-maj=30.2km s-min=20.6km az=118.0*

ISC 09 05:23:38.7±2.1**, 21.8S**±0.1×**176.7W**±0.2**, h98**km±21km**, n15,** σ**0s51**/17**, mb3.8**/8**, 2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.08	32	P	P	05 25 48.9	+0.5
	5.5nm,0.3s,baz=216,slow=8.7,SNR=7.3						
AFI				S	S	05 27 18.7	-11
	3.2nm,0.3s,baz=246,slow=20,SNR=2.3						
AFI	Afiamalu	9.08	32	ePn	P	05 25 48.3	-0.1
AFI				S	S	05 27 18.7	-11
URZ	Urewera	17.31	197	P	P	05 27 34.8	-0.6
	3.0nm,0.3s,baz=260,slow=2.9,SNR=14						
URZ				S	S	05 30 36.7	-6.0
	1.6nm,0.3s,baz=144,slow=23,SNR=7.5						
RPZ	Rata Peaks	24.17	202	P	P	05 28 46.4	-0.3
	5.1nm,0.5s,mb4.1,baz=25,slow=19,SNR=4.6						
STKA	Stephens Creek	38.40	246	P	P	05 30 52.5	+0.4
	2.0nm,0.8s,mb4.0,baz=90,slow=11,SNR=2.9						
WRA	Warramunga Arr	45.69	263	P	P	05 31 51.9	+0.2
	0.3nm,0.7s,mb3.2,baz=96,slow=8.2,SNR=9.2						
VNDA	Vanda	56.78	185	P	P	05 33 15.5	+1.0
	0.5nm,0.8s,mb3.6,baz=37,slow=5.1,SNR=3.3						
VNDA	Vanda	56.78	185	P	P	05 33 15.5	+1.0
QSPA	South Pole Qui	68.32	180	eP	P	05 34 31.0	+0.2
	1.7nm,0.5s,mb4.1						
MAW	Mawson	80.81	200	P	P	05 35 42.2	-0.3
	0.7nm,0.5s,mb3.7,baz=96,slow=7.0,SNR=3.5						
VNA3	Neumayer Olymp	86.81	176	⇑i	P	05 36 12.3	-0.3
VNA2	Neumayer--Watz	87.26	176	⇑i	P	05 36 14.9	+0.1
PLCA	Paso Flores	87.50	133	P	P	05 36 16.9	+0.3
	0.8nm,0.6s,mb3.8,baz=266,slow=4.6,SNR=4.7						
ILAR	Eielson Array	89.26	12	P	P	05 36 23.4	-1.0
	0.3nm,0.4s,mb3.6,baz=214,slow=5.9,SNR=8.1						
AKASG	Malin Array Be	144.72	331	PKP	PKPdf	05 43 02.4	-1.2
	0.5nm,0.5s,baz=38,slow=4.5,SNR=4.7						

*MOS **09** 05:38:59.8±1.1, 1.44N×97.19E, h33km, mb5.2/23, MS4.6/5, Error ellipse: s-maj=17.5km s-min=8.1km az=101.3*

*BJI **09** 05:39:00.4, 1.11N×97.22E, h24km, mB5.1, mb5.1, Ms4.8, Msz4.6*

*IDC **09** 05:39:00.0±0.6, 1.35N×97.17E, mb4.5/19, mb1 4.6/19, mb1mx4.5/23, mbtmp4.5/19, MS4.0/4, Ms1 4.0/4, ms1mx3.8/15, Error ellipse: s-maj=18.1km s-min=14.8km az=57.0*

*NEIC **09** 05:39:03.7±0.4, 1.32N×97.14E, mb4.9/17, Error ellipse: s-maj=9.4km s-min=8.3km az=89.0*

ISC 09 05:39:01.8±0.4**, 1.32N**±0.05×**97.14E**±0.05**, h23**km**, h23**km±1.0km**: pP-P, n108,** σ1**s**05/102**, mb4.8**/60**, MS4.5**/16**, 9C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.05	50	P	Pn	05 40 19.5	+1.3
KULM	Kulim	5.28	42	ePn	Pn	05 40 21.9	+0.6
KGM	Kluang	6.22	84	P	Pn	05 40 36.0	+1.4
KSM	Kuching	13.17	89	ePn	P	05 42 13.6	+3.4
KSM				epPn		05 42 22.1	
NST	Nakhon Sawan	14.56	12	P	P	05 42 25.6	-3.1
KKTK	Khon Kaen	15.94	20	P	P	05 42 49.0	+2.5
	556nm,0.8s						
CHG	Chiang Mai	17.48	6	⇑P	P	05 43 04.7	-1.2
	16nm,1.0s						
NANT	Nan	17.72	11	⇓P	P	05 43 09.0	+0.1
	238nm,0.8s						
CHRT	Chiangrai	18.62	8	⇑P	P	05 43 20.0	-0.1
	142nm,0.8s						
KKM	Kota Kinabalu	19.60	76	P	P	05 43 31.6	-0.1
TSM	Tawau	20.92	81	P	P	05 43 46.3	+0.9
QIZ	Qiongzhong	21.56	34	P	P	05 43 51.9	0.0
QIZ				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.5						
QIZ				LR	LR		
	comp=N,591nm,16.1s,MS4.3						
QIZ				LR	LR		
	comp=E,722nm,15.3s,MS4.3						
QIZ				LR	LR		
	comp=Z,559nm,15.2s,MS4.1						
QIZ	Qiongzhong	21.56	34	eP	P	05 43 51.9	0.0
	comp=Z,19nm,0.8s,mb4.6						
KMI	Kunming	24.27	12	P	P	05 44 20.9	+2.3
KMI				AP		05 44 27.3	
KMI				AMB	AMB		
	comp=Z,91nm,1.1s,mb5.1						
KMI	Kunming	24.27	12	P	P	05 44 20.9	+2.3
	comp=Z,91nm,1.1s,mb5.1						
KMI				pP		05 44 27.3	
KMI	Kunming	24.27	12	P	P	05 44 20.9	+2.3
KMI				pmax	pmax		
	comp=Z,91nm,1.1s,mb5.1						
HYB	Hyderabad	24.29	312	i P	P	05 44 21.5	+2.7
HYB				e		05 44 31.5	
HYB				e		05 44 47.5	
HYB	Hyderabad	24.29	312	eP		05 44 31.0	
GYA	Guiyang	26.62	19	⇑iP	P	05 44 40.6	-0.1
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
GYA				AMB	AMB		
	comp=Z,320nm,6.0s						
GYA				LR	LR		
	comp=N,2µm,14.1s,MS4.8						
GYA				LR	LR		
	comp=E,680nm,13.5s,MS4.8						
GYA				LR	LR		
	comp=Z,2µm,13.8s,MS4.8						
GZH	Guangzhou	26.75	35	P	P	05 44 46.4	+4.5
GZH				LR	LR		
	comp=N,385nm,14.3s,MS4.5						
GZH				LR	LR		
	comp=E,823nm,14.0s,MS4.5						
GZH				LR	LR		
	comp=Z,1µm,14.3s,MS4.6						
PKI	Pulchoki	28.42	338	eP	P	05 44 57.7	+0.7
	comp=Z,69nm,1.0s,mb5.2						
GUN	Gumba	28.55	339	eP	P	05 44 59.4	+1.2
	comp=Z,92nm,0.8s,mb5.6						
DMN	Daman	28.57	337	eP	P	05 44 59.6	+1.2
KKN	Kakani	28.67	338	eP	P	05 44 59.9	+0.7
	comp=Z,101nm,1.1s,mb5.5						
LSA	Lhasa	28.79	349	P	P	05 45 03.2	+2.9
LSA	Lhasa	28.79	349	eP	P	05 45 01.4	+1.1
	comp=Z,22nm,0.8s,mb5.0						
LSA	Lhasa	28.79	349	eP	P	05 45 01.4	+1.1
LSA				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9						
GKN	Gorkha	29.11	337	eP	P	05 45 04.1	+0.9
	comp=Z,117nm,1.0s,mb5.6						
KOLN	Koldanda	29.32	335	eP	P	05 45 06.1	+0.9
	comp=Z,60nm,0.9s,mb5.3						
CD2	Chengdu	30.09	11	P	P	05 45 10.9	-1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.9						
ENH	Enshi	31.09	21	eP	P	05 45 19.9	-0.9
	comp=Z,19nm,0.6s,mb5.1						
ENH				epP	pP	05 45 26.6	-1.1
YHNB	Yeheng	32.98	43	eP	P	05 45 36.3	-1.0
WHN	Wuhan	33.34	28	eP	P	05 45 40.0	-0.4
FITZ	Fitzroy Crossi	34.05	126	eP	P	05 45 45.4	-1.3
	comp=Z,7.8nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	34.05	126	P	P	05 45 44.8	-1.9
	comp=Z,9.2nm,0.7s,mb4.8,baz=316,slow=2.0,SNR=7.2						
XAN	Xi'an	34.37	17	P	P	05 45 48.2	-1.1
XAN				AP	pP	05 45 55.6	-0.6
XAN				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.4						
XAN				LR	LR		
	comp=N,543nm,14.6s,MS4.5						
XAN				LR	LR		
	comp=E,317nm,12.4s,MS4.5						
XAN				LR	LR		
	comp=Z,1µm,14.6s,MS4.7						
LZH	Lanzhou	35.15	9	eP	P	05 45 55.0	-0.9
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.2						
LZH				LR	LR		
	comp=N,2µm,16.0s						
LZH				LR	LR		
	comp=Z,2µm,16.4s,MS4.8						
LZH	Lanzhou	35.15	9	eP	P	05 45 55.0	-0.9
	comp=Z,42nm,1.2s,mb5.2						
LZH				pP	pP	05 46 16.0	+13
LZH				sP	sP	05 46 23.5	+18
LZH				LR	LR		
	comp=Z,2µm,16.4s,MS4.8						
SSE	Sheshan	37.35	35	P	P	05 46 08.4	-6.2
	comp=Z,14nm,0.7s,mb4.9						
GTA	Gaotai	37.99	3	⇑P	P	05 46 20.4	+0.6
GTA				AP	pP	05 46 25.6	-1.2
GTA				XP	sP	05 46 28.8	-1.0
GTA				PP	PP	05 47 49.8	-0.2
GTA				S	S	05 52 11.2	+1.0
GTA				XS		05 52 21.1	
GTA				SS	SS	05 54 48.1	+0.6
GTA				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,62nm,4.2s						
GTA				LR	LR		
	comp=N,534nm,14.1s,MS4.6						
GTA				LR	LR		
	comp=E,427nm,13.4s,MS4.6						
GTA				LR	LR		
	comp=Z,654nm,14.5s,MS4.6						
JOW	Kunigami	39.20	47	P	P	05 46 30.4	+0.2
	comp=Z,40nm,0.7s,mb5.3,baz=256,slow=10,SNR=15						
HHC	Hu-ho-hao-te	41.46	17	eP	P	05 46 49.6	+1.0
HHC				AP	pP	05 46 56.7	+1.1
HHC				XP	sP	05 47 00.0	+1.5
HHC				PP	PP	05 48 28.8	+1.3
HHC				PCP	PcP	05 48 48.1	+1.3
HHC				SCP		05 52 35.3	
HHC				PCS		05 52 37.7	
HHC				S	S	05 53 02.7	+0.4
HHC				XS		05 53 15.7	
HHC				SS	SS	05 56 01.0	-1.1
HHC				SCS	ScS	05 56 49.1	+0.3
HHC				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,193nm,4.9s						
HHC				LR	LR		
	comp=N,835nm,14.3s,MS4.9						
HHC				LR	LR		
	comp=E,480nm,10.7s,MS4.9						
HHC				LR	LR		
	comp=Z,742nm,16.6s						
WRA	Warramunga Arr	42.15	122	P	P	05 46 54.0	-0.6
	comp=Z,4.4nm,0.7s,mb4.2,baz=303,slow=8.9,SNR=45						
WRAB	Tennant Creek	42.15	122	eP	P	05 46 54.0	-0.6
	comp=Z,4.0nm,0.4s,mb4.4						
WRAB	Tennant Creek	42.15	122	eP	P	05 46 54.0	-0.6
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
DL2	Dalian	43.60	28	P	P	05 47 07.1	+1.0
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
JNU	Nakatsue	44.76	41	P	P	05 47 15.0	-0.6
	comp=Z,27nm,0.9s,mb5.1,baz=213,slow=5.9,SNR=15						
KS15	Wonju Array Si	45.76	35	eP	P	05 47 23.5	0.0
KS15				epP	pP	05 47 30.4	-0.1
AAK	Ala-Archa	45.87	337	eP	P	05 47 22.1	-2.1
	comp=Z,8.1nm,0.8s,mb4.7						
AAK				epP	pP	05 47 29.2	-2.1
AAK	Ala-Archa	45.87	337	eP	P	05 47 22.1	-2.1
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
SNY	Shenyang	46.83	27	⇑P	P	05 47 31.5	-0.3
SONM	Songino Array	47.02	9	P	P	05 47 33.9	+0.6
	comp=Z,18nm,0.8s,mb5.0,baz=189,slow=8.8,SNR=116						
SONM				PcP	PcP	05 49 05.4	-0.4
	comp=Z,1.7nm,0.7s,baz=206,slow=3.8,SNR=2.2						
MKAR	Makanchi Array	47.11	346	P	P	05 47 34.5	+0.4
	comp=Z,5.5nm,0.5s,mb4.7,baz=160,slow=8.6,SNR=62						
MKAR				LR	LR	06 10 36.7	
	comp=Z,137nm,21.4s,MS3.9,baz=181,slow=40						
MKAR	Makanchi Array	47.11	346	P	P	05 47 34.5	+0.4
MKAR				LR	LR	06 10 36.7	
MKAR	Makanchi Array	47.11	346	i P	P	05 47 34.2	+0.2
MKAR				pmax	pmax		
	comp=Z,47nm,1.3s						
ULN	Ulaanbaatar	47.15	9	eP	P	05 47 34.4	0.0
	comp=Z,11nm,0.8s,mb4.8						
ULN				epP	pP	05 47 42.7	+1.3
ULN	Ulaanbaatar	47.15	9	eP	P	05 47 34.4	+0.1
ULN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
ZAK	Zakamensk	49.16	5	⇑iP	P	05 47 50.0	+0.1
ZAK				e		05 49 44.2	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
CN2	Changchun	49.23	27	eP	P	05 47 50.3	-0.2
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						

Azm351°; N-.27, Plg3°, Azm255°; P-3.27, Plg24°, Azm163°: nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI ***09*** *05:47:39.4, 53.17N×168.08W, h34km, mB5.2, mb5.0, Ms4.9, Msz4.6*

ISC 09 05:47:35.2±0.2, 52.46N±0.04×167.25W±0.03, h30km, h30km±2.1km: pP-P, n274, σ1§02/278, mb4.8/127, MS4.5/31, 15C-4D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
OKCD	**Okmok Cone D**	**1.10**	**332**	P	**Pn**	**05 47 55.4**	**+0.7**
NIKO	**Nikolski**	**1.10**	**298**	P	**Pn**	**05 47 55.2**	**+0.5**
NIKO				S	**Sn**	**05 48 11.0**	**+2.0**
UNV	**Unalaska Valle**	**1.46**	**18**	P	**Pn**	**05 47 59.2**	**-0.7**
UNV				S	**Sn**	**05 48 18.9**	**+0.9**
MCIR	**Makushin Cirqu**	**1.51**	**8**	P	**Pn**	**05 48 01.1**	**+0.6**
MTBL	**Makushin Table**	**1.55**	**13**	P	**Pn**	**05 48 01.3**	**+0.2**
AKUT	**Akutan**	**1.90**	**27**	P	**Pn**	**05 48 05.7**	**-0.4**
AKUT				S	**Sn**	**05 48 29.4**	**+0.2**
WESN	**West Dahl Nort**	**2.64**	**36**	P	**Pn**	**05 48 16.6**	**-0.2**
DRIA	**Deer Island**	**3.88**	**48**	P	**Pn**	**05 48 33.3**	**-1.1**
DTNA	**Dutton South F**	**4.00**	**46**	P	**Pn**	**05 48 35.5**	**-0.6**
ATKA	**Atka Island**	**4.27**	**269**	P	**Pn**	**05 48 40.0**	**+0.2**
SDPT	**Sand Point**	**4.94**	**52**	*eP*	**Pn**	**05 48 48.8**	**-0.6**
GSMY	**Great Sitkin M**	**5.42**	**269**	P	**Pn**	**05 48 55.7**	**-0.5**
GSCK	**Great Sitkin C**	**5.49**	**269**	P	**Pn**	**05 48 56.8**	**-0.4**
ETKA	**Kagalaska Isla**	**5.67**	**268**	P	**Pn**	**05 48 58.5**	**-1.1**
ADAG	**Mount Adagdak**	**5.77**	**269**	P	**Pn**	**05 49 00.3**	**-0.8**
KIMD	**Kanaga Island**	**6.19**	**267**	P	**Pn**	**05 49 05.7**	**-1.3**
CHGN	**Chignik**	**6.44**	**50**	*eP*	**Pn**	**05 49 10.5**	**0.0**
SVW2	**Sparrevohn**	**10.75**	**32**	*eP*	**P**	**05 50 11.4**	**+1.4**
RSO	**Redoubt South**	**11.31**	**39**	*eP*	**P**	**05 50 16.6**	**-1.2**
FX1	**Attu Island--F**	**11.89**	**280**	Pn	**P**	**05 50 25.6**	**0.0**
	1.9nm,0.3s,baz=40,slow=10.0,SNR=16						
FX1				Sn	**S**	**05 52 37.2**	**-1.1**
	0.6nm,0.3s,baz=252,slow=20,SNR=2.3						
FX1	**Attu Island--F**	**11.89**	**280**	P	**P**	**05 50 23.4**	**-2.3**
SPU	**Mount Spurr**	**12.04**	**38**	*eP*	**P**	**05 50 25.3**	**-2.2**
TTA	**Tatalina**	**12.07**	**25**	*eP*	**P**	**05 50 30.5**	**+2.5**
SLKM	**Skilak Lake**	**12.36**	**43**	*eP*	**P**	**05 50 29.2**	**-2.7**
SML	**Sawmill**	**13.84**	**40**	*eP*	**P**	**05 50 49.5**	**-1.8**
DIV	**Divide**	**14.56**	**45**	*eP*	**P**	**05 50 55.6**	**-5.1**
	11nm,1.2s						
IMA	**Indian Mountai**	**15.25**	**21**	*eP*	**P**	**05 51 11.5**	**+1.8**
THY	**Trims Highway**	**15.74**	**37**	*eP*	**P**	**05 51 13.7**	**-2.4**
ILAR	**Eielson Array**	**16.16**	**32**	Pn	**P**	**05 51 17.0**	**-4.5**
	0.2nm,0.3s,baz=232,slow=11,SNR=23						
ILAR				ScP		05 59 48.4	
	0.0nm,0.3s,baz=292,slow=4.1,SNR=4.5						
DAWY	**Dawson**	**18.51**	**40**	*eP*	**P**	**05 51 48.1**	**-2.8**
BILL	**Bilibino**	**20.13**	**331**	*eP*	**P**	**05 52 10.8**	**+1.6**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BILL				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.7						
PET	**Petropavlovsk**	**20.54**	**285**	*eP*	**P**	**05 52 13.9**	**+0.4**
PET				*eS*	**S**	**05 55 52.9**	**-3.8**
PET				pmax	pmax		
	comp=Z,200nm,14.5s						
PET				MLR	MLR		
	comp=Z,800nm,19.0s,MS4.1						
DLBC	**Dease Lake**	**21.73**	**59**	P	**P**	**05 52 23.8**	**-1.7**
	comp=Z,2.9nm,1.1s,mb3.6,baz=272,slow=10,SNR=2.3						
DLBC	**Dease Lake**	**21.73**	**59**	P	**P**	**05 52 23.8**	**-1.7**
DLBC				*eP*		05 52 26.9	
INK	**Inuvik**	**22.56**	**33**	P	**P**	**05 52 30.5**	**-3.1**
	comp=Z,22nm,0.9s,mb4.6,baz=234,slow=11,SNR=22						
INK				LR	LR	06 02 14.8	
	comp=Z,1μm,18.2s,MS4.4,baz=234,slow=40						
INK	**Inuvik**	**22.56**	**33**	*eP*	**P**	**05 52 29.5**	**-4.1**
	comp=Z,28nm,0.9s,mb4.7						
INK	**Inuvik**	**22.56**	**33**	*eP*	**P**	**05 52 29.5**	**-4.1**
INK				pmax	pmax		
	comp=Z,28nm,0.9s						
SEY	**Seymchan**	**23.56**	**312↑**	*eP*	**P**	**05 52 43.4**	**0.0**
BBB	**Bella Bella**	**23.73**	**75**	LR	LR	06 01 20.9	
	comp=Z,738nm,18.5s,MS4.2,baz=68,slow=35						
YKW3	**Yellowknife Ar**	**29.19**	**49**	*eP*	**P**	**05 53 33.6**	**-2.0**
YKA	**Yellowknife Ar**	**29.20**	**49**	P	**P**	**05 53 34.6**	**-1.2**
	comp=Z,2.6nm,0.9s,mb4.0,baz=262,slow=8.4,SNR=13						
YKA				PcP	PcP	05 56 41.9	-0.8
	comp=Z,0.3nm,0.5s,baz=278,slow=2.0,SNR=3.8						
YKA				LR	LR	06 06 30.7	
	comp=Z,515nm,19.0s,MS4.2,baz=255,slow=39						
YBH	**Yreka Blue Hor**	**31.69**	**52**	LR	LR	06 04 03.2	
	comp=Z,322nm,20.8s,MS4.0,baz=310,slow=31						
NEW	**Newport**	**31.73**	**77**	P	**P**	**05 53 56.9**	**-1.4**
	comp=Z,2.2nm,0.5s,mb4.2,baz=305,slow=5.6,SNR=5.5						
NEW				LR	LR	06 05 47.9	
	comp=Z,384nm,18.8s,MS4.1,baz=300,slow=35						
NEW	**Newport**	**31.73**	**77**	*eP*	**P**	**05 53 57.5**	**-0.8**
	comp=Z,5.7nm,1.0s,mb4.4						
NEW	**Newport**	**31.73**	**77**	*eP*	**P**	**05 53 57.5**	**-0.8**
NEW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
EDM	**Edmonton**	**31.92**	**67**	*eP*	**P**	**05 53 59.1**	**-0.8**
YSS	**Yuzh-Sakhalins**	**32.25**	**281**	*eP*	**P**	**05 54 03.9**	**+1.1**
YSS				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.5						
MOD	**Modoc**	**33.06**	**90**	*eP*	**P**	**05 54 09.8**	**-0.2**
	comp=Z,9.7nm,0.9s,mb4.7						
TIXI	**Tiksi**	**33.33**	**329**	*eP*	**P**	**05 54 07.6**	**-4.3**
TIXI				*eS*	**S**	**05 59 24.4**	**-5.1**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.7						
WVOR	**Wild Horse Val**	**33.78**	**88**	*eP*	**P**	**05 54 15.6**	**-0.6**
	comp=Z,16nm,0.9s,mb4.9						
WVOR	**Wild Horse Val**	**33.78**	**88**	*eP*	**P**	**05 54 15.6**	**-0.6**
WVOR				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ASAJ	**Asahikawa**	**33.79**	**276**	P	**P**	**05 54 16.0**	**-0.2**
	comp=Z,26nm,1.1s,mb5.1,baz=68,slow=17,SNR=4.5						
OHCM	**Honcut**	**33.87**	**94**	*eP*	**P**	**05 54 16.9**	**-0.1**
YAK	**Yakutsk**	**34.08**	**311**	*eP*	**P**	**05 54 16.2**	**-2.4**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
MSO	**Missoula**	**34.31**	**78**	*eP*	**P**	**05 54 20.7**	**+0.1**
	comp=Z,15nm,1.7s,mb4.7						
CMB	**Columbia Colle**	**35.35**	**95**	*eP*	**P**	**05 54 29.5**	**-0.2**
	comp=Z,18nm,1.6s,mb4.8						
CMB	**Columbia Colle**	**35.35**	**95**	*eP*	**P**	**05 54 29.5**	**-0.2**
CMB				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
HLID	**Hailey**	**35.73**	**83**	*eP*	**P**	**05 54 33.0**	**+0.1**
	comp=Z,5.6nm,1.2s,mb4.4						
ELK	**Elko**	**36.83**	**87**	P	**P**	**05 54 43.2**	**+1.1**
	comp=Z,2.3nm,0.8s,mb4.0,baz=288,slow=8.0,SNR=11						
ELK				LR	LR	06 07 46.9	
	comp=Z,392nm,19.4s,MS4.2,baz=310,slow=33						
ELK	**Elko**	**36.83**	**87**	*eP*	**P**	**05 54 43.4**	**+1.2**
	comp=Z,6.4nm,1.0s,mb4.4						
ELK	**Elko**	**36.83**	**87**	*eP*	**P**	**05 54 43.4**	**+1.2**
ELK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MTUM	**Tungsten Hills**	**36.90**	**94**	*eP*	**P**	**05 54 44.2**	**+1.5**
PTRM	**Twissleman Ran**	**37.01**	**98**	*eP*	**P**	**05 54 45.3**	**+1.6**
TPH	**Tonopah**	**37.26**	**92**	*eP*	**P**	**05 54 47.0**	**+1.2**
	comp=Z,8.4nm,1.0s,mb4.5						
IMW	**Indian Meadow**	**37.64**	**80**	*eP*	**P**	**05 54 49.6**	**+0.7**
	comp=Z,9.0nm,1.0s,mb4.5						
FLWY	**Flagg Ranch**	**37.69**	**80**	*eP*	**P**	**05 54 49.8**	**+0.5**
RRI2	**Red Ridge**	**37.72**	**81**	*eP*	**P**	**05 54 49.9**	**+0.3**
	comp=Z,12nm,1.1s,mb4.5						
REDW	**Red Top Meadow**	**37.99**	**81**	*eP*	**P**	**05 54 52.7**	**+0.8**
	comp=Z,19nm,1.4s,mb4.6						
ISA	**Isabella**	**38.05**	**96**	*eP*	**P**	**05 54 52.7**	**+0.2**
	comp=Z,31nm,1.9s,mb4.7						
ISA	**Isabella**	**38.05**	**96**	*eP*	**P**	**05 54 52.7**	**+0.2**
ISA				pmax	pmax		
	comp=Z,31nm,1.9s,mb4.7						
DAC	**Darwin (Calif)**	**38.19**	**95**	*eP*	**P**	**05 54 54.5**	**+0.9**
	comp=Z,19nm,1.1s,mb4.7						
LAO	**LASA Array**	**38.95**	**73**	*eP*	**P**	**05 54 57.7**	**-2.2**
	comp=Z,12nm,0.3s,mb5.1						
BW06	**Boulder Array**	**39.11**	**81**	*eP*	**P**	**05 55 01.0**	**-0.3**
	comp=Z,14nm,1.3s,mb4.5						
PDAR	**Pinedale Array**	**39.11**	**81**	P	**P**	**05 55 01.9**	**+0.6**
	comp=Z,5.2nm,1.0s,mb4.2,baz=308,slow=4.8,SNR=23						
ARUT	**Antelope Range**	**39.75**	**90**	*eP*	**P**	**05 55 08.5**	**+1.9**
MSU	**Marysvale**	**40.07**	**88**	*eP*	**P**	**05 55 07.8**	**-1.4**
LDFC	**Landfair**	**40.49**	**94**	*eP*	**P**	**05 55 12.5**	**-0.2**
PFO	**Pinyon Flat Ob**	**40.67**	**97**	*eP*	**P**	**05 55 14.7**	**+0.5**
	comp=Z,14nm,1.0s,mb4.5						
SRU	**San Rafael**	**40.70**	**86**	*eP*	**P**	**05 55 14.8**	**+0.4**
MJAR	**Matsushiro Arr**	**40.99**	**269**	P	**P**	**05 55 17.4**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.2,baz=37,slow=7.2,SNR=9.1						
MAJO	**Matsushiro**	**40.99**	**269**	*eP*	**P**	**05 55 16.2**	**-0.7**
	comp=Z,14nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**40.99**	**269**	*eP*	**P**	**05 55 16.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
MAT	**Matsushiro**	**40.99**	**269**	P	**P**	**05 55 17.5**	**+0.7**
MAT				*eS*	**S**	**06 01 29.0**	**+2.2**
MAT	**Matsushiro**	**40.99**	**269**	*eP*	**P**	**05 55 18.0**	**+1.2**
	comp=Z,68nm,1.8s,mb5.0						
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.2						
MAT	**Matsushiro**	**40.99**	**269**	*eP*	**P**	**05 55 18.0**	**+1.2**
MAT				pmax	pmax		
	comp=Z,68nm,1.8s,mb5.0						
MAT				MLR	MLR		
	comp=Z,350nm,20.0s,MS4.2						
BAR	**Barrett**	**41.17**	**98**	*eP*	**P**	**05 55 18.9**	**+0.6**
MDJ	**Mudanjiang**	**41.33**	**285**	P	**P**	**05 55 18.4**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,56nm,4.6s						
MDJ				LR	LR		
	comp=N,36nm,13.5s,MS4.2						
MDJ				LR	LR		
	comp=E,265nm,15.2s,MS4.2						
MDJ				LR	LR		
	comp=Z,324nm,17.4s,MS4.2						
BOD	**Bodaibo**	**42.94**	**310**	*eP*	**P**	**05 55 30.4**	**-2.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
ULM	**Lac du Bonnet**	**42.96**	**63**	P	**P**	**05 55 30.6**	**-2.0**
	comp=Z,3.1nm,0.8s,mb4.1,baz=300,slow=7.4,SNR=4.6						
ULM				LR	LR	06 15 05.2	
	comp=Z,393nm,18.8s,MS4.3,baz=267,slow=39						
CN2	**Changchun**	**44.23**	**287**	*eP*	**P**	**05 55 42.3**	**-0.8**
CN2				*eXP*	sP	05 55 55.0	-0.9
CN2				*eS*	**S**	**06 02 13.0**	**-1.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,750nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,650nm,16.0s,MS4.6						
SDCO	**Great Sand Dun**	**44.62**	**84**	*eP*	**P**	**05 55 47.4**	**+1.0**
	comp=Z,17nm,1.3s,mb4.7						
TUC	**Tucson**	**45.01**	**94**	*eP*	**P**	**05 55 49.8**	**+0.3**
	comp=Z,11nm,1.0s,mb4.7						
ANMO	**Albuquerque**	**45.87**	**87**	P	**P**	**05 55 55.5**	**-0.8**
	comp=Z,2.1nm,1.1s,mb4.0,baz=330,slow=8.3,SNR=3.9						
ANMO	**Albuquerque**	**45.87**	**87**	*eP*	**P**	**05 55 55.1**	**-1.2**
	comp=Z,8.4nm,1.3s,mb4.5						
ANMO	**Albuquerque**	**45.87**	**87**	*eP*	**P**	**05 55 55.1**	**-1.1**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SNY	**Shenyang**	**46.52**	**286**	↓P	**P**	**05 56 02.0**	**+0.7**
SNY				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
SNY				LR	LR		
	comp=N,590nm,17.7s,MS4.8						
SNY				LR	LR		
	comp=E,560nm,15.3s,MS4.8						
SNY				LR	LR		
	comp=Z,640nm,14.7s,MS4.7						
JNU	**Nakatsue**	**47.76**	**272**	P	**P**	**05 56 11.2**	**0.0**
	comp=Z,8.2nm,0.8s,mb4.8,baz=56,slow=5.3,SNR=2.7						
MNTX	**Cornudas Mount**	**48.74**	**90**	*eP*	**P**	**05 56 18.0**	**-0.8**
	comp=Z,7.6nm,0.8s,mb4.8						
SUMG	**Summit**	**50.30**	**18**	*eP*	**P**	**05 56 29.4**	**-0.9**
	comp=Z,22nm,0.9s,mb5.2						
WMOK	**Wichita Mounta**	**50.69**	**82**	*eP*	**P**	**05 56 32.5**	**-1.2**
	comp=Z,13nm,1.0s,mb4.8						
LTX	**Lajitas**	**51.45**	**91**	*eP*	**P**	**05 56 39.4**	**-0.2**
	comp=Z,8.4nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**51.45**	**91**	P	**P**	**05 56 39.5**	**0.0**
	comp=Z,2.6nm,0.5s,mb4.4,baz=303,slow=5.5,SNR=65						
TXAR				LR	LR	06 16 35.7	
	comp=Z,116nm,20.4s,MS3.9,baz=310,slow=34						
ULN	**Ulaanbaatar**	**52.00**	**302**	*eP*	**P**	**05 56 42.7**	**-0.7**
	comp=Z,15nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**52.00**	**302**	*eP*	**P**	**05 56 42.7**	**-0.7**
ULN				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ZAK	**Zakamensk**	**52.32**	**306**	*eP*	**P**	**05 56 45.0**	**-0.8**
ZAK				*e*		05 57 52.6	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**52.36**	**302**	P	**P**	**05 56 45.4**	**-0.8**
	comp=Z,12nm,1.1s,mb4.8,baz=52,slow=6.9,SNR=53						
SONM				PcP	PcP	05 57 57.8	+0.9
	comp=Z,3.4nm,1.0s,baz=39,slow=3.6,SNR=4.0						
SONM				ScP		06 01 53.4	
	comp=Z,1.3nm,1.1s,baz=180,slow=3.0,SNR=4.4						
HHC	**Hu-ho-hao-te**	**54.09**	**292**	*eP*	**P**	**05 56 58.8**	**-0.2**
HHC				AP	pP	05 57 06.2	-2.0
HHC				XP	sP	05 57 09.7	-2.1
HHC				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.2						
HHC				AMB	AMB		
	comp=Z,145nm,4.0s						
HHC				LR	LR		
	comp=N,582nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=E,225nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=Z,482nm,17.8s,MS4.6						
SCHQ	**Schefferville**	**54.47**	**44**	P	**P**	**05 56 59.0**	**-2.6**
	comp=Z,9.0nm,1.0s,mb4.7,baz=293,slow=7.9,SNR=6.3						
SCHQ				LR	LR	06 22 14.0	
	comp=Z,225nm,18.6s,MS4.3,baz=328,slow=38						
SCHQ	**Schefferville**	**54.47**	**44**	P	**P**	**05 56 59.0**	**-2.6**
SCHQ				LR	LR	06 22 14.0	
SSE	**Sheshan**	**55.07**	**277**	P	**P**	**05 57 03.5**	**-2.9**
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,59nm,3.7s						
SSE				LR	LR		
	comp=N,561nm,15.0s,MS4.8						
SSE				LR	LR		
	comp=E,255nm,15.7s,MS4.8						
SSE				LR	LR		
	comp=Z,605nm,16.1s,MS4.8						
SSE	**Sheshan**	**55.07**	**277**	P	**P**	**05 57 03.5**	**-2.9**
	comp=Z,18nm,0.7s,mb5.2						
SSE				LR	LR		
	comp=Z,610nm,16.1s,MS4.8						
NJ2	**Nanjing**	**55.81**	**280**	*eP*	**P**	**05 57 12.1**	**+0.4**
NJ2				AP	pP	05 57 22.2	+1.2
NJ2				XP	sP	05 57 26.0	+1.5
NJ2				PP	PP	05 59 18.1	+0.4
NJ2				S	**S**	**06 04 55.0**	**0.0**
NJ2				XS		06 05 12.0	
NJ2				AMB	AMB		
	comp=Z,270nm,5.2s						
NJ2				LR	LR		
	comp=N,680nm,27.8s						
NJ2				LR	LR		
	comp=E,530nm,19.8s						
NJ2				LR	LR		
	comp=Z,450nm,23.5s,MS4.5						
OXF	**Oxford**	**56.46**	**76**	*eP*	**P**	**05 57 14.7**	**-1.6**
MSNY	**Massena**	**57.37**	**57**	*eP*	**P**	**05 57 20.1**	**-2.5**
ARCES	**ARCESS Array B**	**57.96**	**355**	P	**P**	**05 57 24.0**	**-2.4**
	comp=Z,8.2nm,0.9s,mb4.8,baz=15,slow=6.3,SNR=14						
ARCES				PcP	PcP	05 58 17.8	-0.4
	comp=Z,7.4nm,0.9s,slow=6.1,SNR=5.3						
ARCES				LR	LR	06 24 57.6	
	comp=Z,414nm,18.7s,MS4.6,baz=252,slow=39						
ZAL	**Zalesovo**	**58.24**	**319**	P	**P**	**05 57 27.1**	**-1.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=76,slow=7.7,SNR=9.2						
ZAL				LR	LR	06 24 38.5	
	comp=Z,445nm,19.5s,MS4.6,baz=74,slow=38						
ACCN	**Adirondack Com**	**59.10**	**58**	*eP*	**P**	**05 57 32.9**	**-1.8**
BLA	**Blacksburg**	**59.78**	**67**	*eP*	**P**	**05 57 38.0**	**-1.6**
XAN	**Xi'an**	**60.31**	**288**	P	**P**	**05 57 42.5**	**-0.7**
XAN				AP	pP	05 57 48.7	-3.9

IDC ***09*** *05:47:32.8±0.6, 52.75N×167.24W, mb4.5/25, mb1 4.6/27, mb1mx4.6/30, mbtmp4.5/27, ML3.8/2, MS4.3/15, Ms1 4.3/15, ms1mx4.1/25, Error ellipse: s-maj=18.7km s-min=9.1km az=176.0*

MOS ***09*** *05:47:35.7±1.1, 52.38N×167.33W, h38km, mb5.0/38, Error ellipse: s-maj=12.2km s-min=6.3km az=100.5*

NEIC ***09*** *05:47:37.7±0.2, 52.55N×167.25W, mb4.9/78, MS4.4/6, ML4.1(AEIC), ML4.0(PMR), Error ellipse: s-maj=4.8km s-min=2.7km az=176.0*

HRVD ***09*** *05:47:37.7±0.5, 52.42N×167.04W, h18km±2km, MW5.0/43, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s43,c63; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.42±.25; $M_{\theta\theta}$-1.96±.16; $M_{\phi\phi}$-0.45±.14; $M_{r\theta}$2.46±.38; $M_{r\phi}$-0.59±.08; $M_{\theta\phi}$0.55±.30; Best double couple: M_o3.405×10^{16} NP1:ϕ_s248°,δ21°,λ82°. NP2:ϕ_s76°,δ69°,λ93°. Principal axes: T 3.54, Plg66°,*

XAN AMB AMB
comp=Z,20nm,1.3s,mb5.0
GTA Gaotai 61.58 298 *eP* **P** **05 57 50.9 -0.9**
GTA AP pP 05 57 58.5 -2.7
GTA XP sP 05 58 02.4 -2.2
GTA PP PP 06 00 08.2 -1.3
GTA S **S** **06 06 09.7 -0.2**
GTA XS 06 06 21.1
GTA AMB AMB
comp=Z,16nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,127nm,4.6s
GTA LR LR
comp=N,439nm,15.7s,MS4.9
GTA LR LR
comp=E,498nm,16.8s,MS4.9
GTA LR LR
comp=Z,669nm,17.6s,MS4.8
LZH Lanzhou 61.75 293 ⇑P **P** **05 57 52.5 -0.4**
LZH AP pP 05 58 04.5 +2.1
LZH XP sP 05 58 09.0 +3.3
LZH PP PP 06 00 10.0 -1.1
LZH *e*S **S** **06 06 06.8 -5.3**
LZH XS 06 06 23.5
LZH SS SS 06 10 10.0 -5.6
LZH AMB AMB
comp=Z,65nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,260nm,5.0s
LZH LR LR
comp=N,880nm,15.0s
LZH LR LR
comp=Z,940nm,16.2s,MS5.0
LZH Lanzhou 61.75 293 ⇑P **P** **05 57 52.5 -0.4**
comp=Z,65nm,1.2s,mb5.6
LZH pP pP 05 58 04.5 +2.1
LZH sP sP 05 58 09.0 +3.3
LZH PP PP 06 00 10.0 -1.1
LZH PPP PPP 06 01 38.0 -1.8
LZH *e*S **S** **06 06 06.8 -5.3**
LZH sS 06 06 23.5
LZH PS PS 06 06 27.0 -5.5
LZH SS SS 06 10 10.0 -5.6
LZH LR LR
comp=Z,940nm,16.2s,MS5.0
LZH Lanzhou 61.75 293 ⇑P **P** **05 57 52.5 -0.4**
LZH *PP pP 05 58 04.5 +2.1
LZH *SP sP 05 58 09.0 +3.3
LZH 06 00 10.0
LZH PPP PPP 06 01 38.0 -1.8
LZH *e*S **S** **06 06 06.8 -5.3**
LZH PS PS 06 06 27.0 -5.5
LZH SS SS 06 10 10.0 -5.6
LZH pmax pmax
comp=Z,65nm,1.2s,mb5.6
LZH MLR MLR
comp=Z,940nm,16.2s,MS5.0
ENH Enshi 62.69 285 *eP* **P** **05 57 58.3 -1.0**
comp=Z,7.6nm,0.9s,mb4.8
SOKR Solikamsk 62.81 337⇓*iP* **P** **05 57 58.3 -1.3**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.3
KURK Kurchatov 63.16 319 *eP* **P** **05 57 60.0 -2.1**
comp=Z,21nm,1.0s,mb5.2
KURK Kurchatov 63.16 319 P **P** **05 58 00.2 -1.8**
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
JOF Joensuu 64.04 351 *ep* **P** **05 58 04.1 -3.4**
comp=Z,20nm,1.1s,mb5.0
JOF Joensuu 64.04 351 *eP* **P** **05 58 04.1 -3.4**
JOF pmax pmax
comp=Z,20nm,1.1s,mb5.1
SVE Sverdlovsk 64.20 333 *eP* **P** **05 58 08.0 -0.7**
SVE *e* 06 00 32.0
SVE pmax pmax
comp=Z,60nm,1.3s,mb5.5
BVA0 Borovoye Array 64.37 326 *i* P **P** **05 58 08.8 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BVAR Borovoye Array 64.37 326 P **P** **05 58 09.0 -0.9**
comp=Z,15nm,0.9s,mb5.0,baz=45,slow=6.3,SNR=41
BRVK Borovoye 64.38 326 *eP* **P** **05 58 08.1 -1.8**
comp=Z,17nm,1.1s,mb5.0
BRVK Borovoye 64.38 326 *eP* **P** **05 58 08.1 -1.8**
BRVK pmax pmax
comp=Z,17nm,1.1s,mb5.0
WMQ Urumqi 64.48 309⇓*iP* **P** **05 58 10.6 -0.2**
WMQ AP pP 05 58 21.0 +0.8
WMQ XP sP 05 58 25.0 +1.4
WMQ PCP PcP 05 58 45.0 +0.4
WMQ *e*S **S** **06 06 45.0 -1.1**
WMQ XS 06 07 03.0
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,114nm,4.5s
WMQ LR LR
comp=N,475nm,17.9s,MS4.9
WMQ LR LR
comp=E,416nm,16.0s,MS4.9
WMQ LR LR
comp=Z,278nm,17.9s,MS4.5
MKAR Makanchi Array 64.67 315 P **P** **05 58 10.5 -1.4**
comp=Z,7.4nm,0.9s,mb4.7,baz=48,slow=5.0,SNR=36
MKAR LR LR 06 27 29.1
comp=Z,462nm,18.2s,MS4.7,baz=1.2,slow=37
ARU Arti 65.12 334 *eP* **P** **05 58 13.1 -1.5**
comp=Z,30nm,1.0s,mb5.3
ARU Arti 65.12 334⇑*iP* **P** **05 58 13.2 -1.4**
ARU *e* 05 58 43.7
ARU *e*S S 06 06 49.6 -4.0
ARU pmax pmax
comp=Z,34nm,1.1s,mb5.3
KAF Kangasniemi 65.27 353 *ep* **P** **05 58 13.8 -1.7**
comp=Z,3.9nm,0.5s,mb4.7,baz=5.2,slow=6.2
KAF Kangasniemi 65.27 353 *eP* **P** **05 58 13.8 -1.7**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
CD2 Chengdu 65.57 289 P **P** **05 58 18.2 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb5.2
FINES FINESS Array B 65.95 353 P **P** **05 58 18.3 -1.5**
comp=Z,12nm,0.9s,mb4.9,baz=14,slow=5.3,SNR=20
NB2 NORSAR Subarra 66.84 1 P **P** **05 58 24.4 -1.2**
comp=Z,2.2nm,0.8s,mb4.2,slow=5.8
NB2 NORSAR Subarra 66.84 1 P **P** **05 58 24.4 -1.2**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
NOA NORSAR Array B 66.84 1 P **P** **05 58 23.6 -2.0**
comp=Z,7.8nm,1.0s,mb4.7,baz=0.7,slow=6.3,SNR=7.6
NOA LR LR 06 28 31.3
comp=Z,160nm,19.3s,MS4.2,baz=315,slow=37
GYA Guiyang 67.17 284 P **P** **05 58 28.0 -0.3**
GYA AP pP 05 58 38.3 +0.6
GYA XP sP 05 58 41.4 +0.3
GYA PP PP 06 00 57.8 -0.2
GYA SCP 06 02 55.8
GYA S S 06 07 19.4 +0.3
GYA XS 06 07 34.7
GYA SS SS 06 11 38.4 -1.8
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,80nm,3.8s
GYA LR LR
comp=N,270nm,18.4s,MS4.7
GYA LR LR
comp=E,340nm,17.9s,MS4.7
GYA LR LR
comp=Z,370nm,17.6s,MS4.7
KONO Kongsberg 68.21 2⇑*eP* **P** **05 58 35.1 +0.9**
VSU Vasula 68.85 352⇑*eP* **P** **05 58 37.4 -0.8**
KMI Kunming 70.49 286 P **P** **05 58 49.2 +0.4**
KMI AP pP 05 58 59.1 +0.9
KMI XP sP 05 59 03.2 +1.6
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
KMI AMB AMB
comp=Z,184nm,5.6s
KMI LR LR
comp=Z,112nm,18.5s,MS4.2
KMI Kunming 70.49 286 P **P** **05 58 49.2 +0.4**
comp=Z,8.0nm,1.3s,mb4.5
KMI pP pP 05 58 59.1 +0.9
KMI sP sP 05 59 03.2 +1.6

KMI LR LR
comp=Z,110nm,18.5s,MS4.1
AKTO Aktyubinsk 70.57 331 P **P** **05 58 48.3 -0.5**
AKTO pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TKM2 Tokmak 2 70.63 316 P **P** **05 58 49.6 +0.3**
SNR=7.1
USP Ospenovka 70.81 317 P **P** **05 58 50.4 -0.1**
SNR=13
CHMS Chumysh 70.93 317 P **P** **05 58 51.3 +0.2**
SNR=7.3
OBN Obninsk 70.98 346⇓*eP* **P** **05 58 50.3 -1.0**
OBN *e* 05 59 02.3
OBN 05 59 10.3
OBN *e* 06 08 30.5
OBN pmax pmax
comp=Z,30nm,1.0s,mb5.2
AB31 Akbulak array 71.03 329 P **P** **05 58 50.7 -0.9**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
KBK Karagaybulak 71.12 316 P **P** **05 58 52.8 +0.5**
SNR=8.0
AAK Ala-Archa 71.33 317 P **P** **05 58 54.0 +0.4**
SNR=10
AAK Ala-Archa 71.33 317 *eP* **P** **05 58 52.6 -1.0**
comp=Z,12nm,0.8s,mb4.9
AAK Ala-Archa 71.33 317 P **P** **05 58 53.7 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
PPT Papeete 71.41 162 LR LR 06 24 13.2
comp=Z,149nm,18.2s,MS4.3,baz=314,slow=31
EKS2 Erkin-Say 71.61 317 P **P** **05 58 55.5 +0.2**
SNR=13
UCH Uchtor 71.66 316 P **P** **05 58 56.7 +1.1**
SNR=5.9
SUW Suwalki 73.54 354 *eP* **P** **05 59 05.9 -0.3**
LSA Lhasa 73.57 297 P **P** **05 59 08.7 +1.8**
LSA Lhasa 73.57 297 *eP* **P** **05 59 08.0 +1.0**
comp=Z,20nm,0.9s,mb5.0
LSA Lhasa 73.57 297 *eP* **P** **05 59 08.0 +1.1**
LSA pmax pmax
comp=Z,20nm,0.9s,mb5.0
BSEG Bad Segeberg 73.95 1 *eP* **P** **05 59 08.7 +0.1**
BSEG pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLZ Clausthal 76.05 2 *eP* **P** **05 59 21.1 +0.4**
comp=Z,24nm,1.2s,mb5.0
CLZ Clausthal 76.05 2 *eP* **P** **05 59 21.1 +0.4**
CLZ pmax pmax
comp=Z,24nm,1.2s,mb5.0
AKASG Malin Array Be 76.27 349 P **P** **05 59 20.8 -1.2**
comp=Z,18nm,0.9s,mb5.0,baz=10.0,slow=5.6,SNR=38
AKASG Malin Array Be 76.27 349 *iP* **P** **05 59 21.4 -0.6**
AKASG pmax pmax
comp=Z,18nm,0.9s
CLL Collm 76.60 360 P **P** **05 59 23.6 -0.2**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 05 59 33.2 -0.2
CLL *e*SP sP 05 59 38.0 +1.4
CLL Collm 76.60 360 *iP* **P** **05 59 23.6 -0.2**
comp=Z,17nm,1.4s,mb4.8
CLL *i* pP pP 05 59 33.2 -0.2
CLL Collm 76.60 360 *iP* **P** **05 59 23.6 -0.2**
CLL *i* *PP pP 05 59 33.2 -0.2
CLL pmax pmax
comp=Z,17nm,1.4s,mb4.8
BRG Berggiesshubel 77.03 359 *iP* **P** **05 59 27.2 +1.0**
comp=Z,12nm,1.1s,mb4.7
BRG Berggiesshubel 77.03 359 *iP* **P** **05 59 27.3 +1.0**
BRG pmax pmax
comp=Z,12nm,1.1s,mb4.7
MOX Moxa 77.26 1 *iP* **P** **05 59 28.2 +0.7**
comp=Z,logA/T=1.3,mb5.0
MOX Moxa 77.26 1 *e*PKP **P** **05 59 28.2 +0.7**
comp=Z,28nm,1.4s,mb5.0
MOX Moxa 77.26 1 *eP* **P** **05 59 28.2 +0.7**
MOX pmax pmax
comp=Z,28nm,1.4s,mb5.0
UPC Upice 77.37 358 *eP* **P** **05 59 28.4 +0.3**
PVCC Panska Ves 77.37 359 *eP* **P** **05 59 29.0 +0.9**
DPC Dobruska-Polom 77.52 358 *eP* **P** **05 59 29.3 +0.4**
OJC Ojcow 77.52 355 *eP* **P** **05 59 29.8 +0.9**
GIVF Givet 77.59 5 *eP* **P** **05 59 29.4 +0.1**
BAIF Baives 77.60 6 *eP* **P** **05 59 29.6 +0.2**
comp=Z,24nm,1.0s,mb4.8
TNS Taunus Mts 77.63 3 *eP* **P** **05 59 29.8 +0.3**
comp=Z,8.0nm,0.9s,mb4.7
TNS Taunus Mts 77.63 3 *eP* **P** **05 59 29.8 +0.3**
TNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NKC Novy Kostel 77.68 0 *eP* **P** **05 59 30.6 +0.8**
NKC x x 06 00 06.0
NKC Novy Kostel 77.68 0 *eP* **P** **05 59 30.6 +0.8**
NKC *e* 06 00 06.0
GUN Gumba 77.81 300 *eP* **P** **05 59 31.0 0.0**
comp=Z,93nm,1.3s,mb5.6
PRU Pruhonice 77.91 359 *eP* **P** **05 59 31.6 +0.5**
KWP Kalwaria 77.93 353 *eP* **P** **05 59 32.5 +1.3**
OKC Ostrava-Krasne 77.97 356 *eP* **P** **05 59 32.3 +0.9**
MORC Moravsky Berou 78.06 357 *eP* **P** **05 59 32.0 +0.2**
comp=Z,10nm,1.1s,mb4.7
GRA1 Grafenberg Arr 78.21 1 *eP* **P** **05 59 33.6 +0.8**
comp=Z,12nm,0.7s,mb4.9
GRF Grafenberg Arr 78.21 1 *eP* **P** **05 59 33.6 +0.8**
comp=Z,12nm,0.7s,mb4.9
GRF Grafenberg Arr 78.21 1 *eP* **P** **05 59 33.6 +0.8**
GRF pmax pmax
comp=Z,12nm,0.7s,mb4.9
KKN Kakani 78.22 300 *eP* **P** **05 59 33.3 0.0**
comp=Z,92nm,1.3s,mb5.5
STHS Stebnicka Huta 78.24 354 *iP* **P** **05 59 34.1 +1.2**
STHS *ep*P pP 05 59 44.2 +1.7
PKI Pulchoki 78.33 300 *eP* **P** **05 59 33.8 -0.1**
comp=Z,66nm,1.2s,mb5.4
GKN Gorkha 78.39 301 *eP* **P** **05 59 34.1 -0.1**
comp=Z,42nm,1.0s,mb5.3
DMN Daman 78.46 300 *eP* **P** **05 59 34.8 +0.2**
comp=Z,88nm,1.3s,mb5.5
FLN La Foliniere 78.53 9 *eP* **P** **05 59 34.3 -0.2**
comp=Z,34nm,1.0s,mb4.9
FLN *e*R
comp=Z,217nm,19.5s
TREC Trest 78.59 358 *eP* **P** **05 59 35.5 +0.6**
ROSF Rostrenen 78.65 11 *eP* **P** **05 59 35.6 +0.4**
comp=Z,31nm,1.1s,mb4.8
KOLS Kolonicke sedl 78.66 354 *eP* **P** **05 59 36.1 +0.9**
LDF La Druitiere 78.73 9 *eP* **P** **05 59 35.3 -0.3**
CRVS Cervenica-Dubn 78.74 354 *e* **P** **05 59 44.2 +8.5**
WET Wettzell 78.77 360 *eP* **P** **05 59 36.6 +0.8**
comp=Z,12nm,1.3s,mb4.7
WET Wettzell 78.77 360 *eP* **P** **05 59 36.6 +0.8**
WET pmax pmax
comp=Z,12nm,1.3s,mb4.7
KHC Kasperske Hory 78.78 359 *eP* **P** **05 59 36.5 +0.6**
KHC AMS AMS 06 45 00.0
comp=Z,300nm,16.7s
GRR Gorron 78.86 9 *eP* **P** **05 59 36.3 0.0**
comp=Z,48nm,1.3s,mb5.0
GEC2 GERESS Array S 79.07 359 *eP* **P** **05 59 38.2 +0.7**
comp=Z,14nm,1.3s,mb4.7
GEC2 GERESS Array S 79.07 359 *eP* **P** **05 59 38.2 +0.7**
GEC2 pmax pmax
comp=Z,14nm,1.3s,mb4.7
GERES GERESS Array B 79.07 359 P **P** **05 59 37.4 -0.1**
comp=Z,3.5nm,0.9s,mb4.3,slow=2.7,SNR=19
QUIF Quistinic 79.08 11 *eP* **P** **05 59 37.6 0.0**
KOLN Koldanda 79.12 302 *eP* **P** **05 59 38.3 +0.1**
comp=Z,48nm,1.3s,mb5.3
KECS Kecovo 79.22 355 *iP* **P** **05 59 38.5 +0.2**
VYHS Vyhne 79.29 356 *eP* **P** **05 59 39.6 +0.9**
SMOL Smolenice 79.32 357 *eP* **P** **05 59 40.9 +2.0**
CDF Champ du Feu 79.39 4 *eP* **P** **05 59 39.7 +0.5**
comp=Z,18nm,1.1s,mb4.6
BFO Black Forest 79.51 3 *eP* **P** **05 59 40.5 +0.6**
comp=Z,14nm,1.2s,mb4.8
BFO Black Forest 79.51 3 *eP* **P** **05 59 40.5 +0.6**
BFO pmax pmax
comp=Z,14nm,1.2s,mb4.8
ZST Bratislava 79.65 357 *eP* **P** **05 59 42.2 +1.6**
HAU Haudompre 79.76 4 *eP* **P** **05 59 41.6 +0.4**
HAU *e*R
comp=Z,188nm,19.2s
PSZ Piszkesteto 79.81 355 *eP* **P** **05 59 42.3 +0.8**
comp=Z,17nm,1.1s,mb4.9
HINF Hinteralfeld 79.97 4 *eP* **P** **05 59 42.6 +0.2**
comp=Z,28nm,1.2s,mb4.8

MOA Molln 80.06 359⇑*iP* **P** **05 59 43.4 +0.6**
comp=Z,10.0nm,1.2s,mb4.6
LOR Lormes 80.36 6 *eP* **P** **05 59 44.9 +0.5**
comp=Z,23nm,1.0s,mb4.8
LOR *e*R
comp=Z,191nm,20.5s
SSF Saint Saulge 80.54 6 *eP* **P** **05 59 45.8 +0.4**
comp=Z,39nm,1.2s,mb4.9
KIV Kislovodsk 80.55 339*c iP* **P** **05 59 46.8 +1.3**
KIV pmax pmax
comp=Z,29nm,1.0s,mb5.2
MOTA Moosalm 80.56 1⇑*iP* **P** **05 59 46.4 +0.9**
comp=Z,24nm,1.3s,mb5.0
ARSA Arzberg 80.64 358⇑*iP* **P** **05 59 47.2 +1.3**
comp=Z,69nm,1.9s,mb5.3
WTTA Wattenberg 80.65 1⇑*iP* **P** **05 59 47.2 +1.2**
comp=Z,41nm,1.5s,mb5.1
SQTA Sankt Quirin 80.69 1⇑*iP* **P** **05 59 47.7 +1.5**
comp=Z,24nm,1.2s,mb5.0
MFF Saint Martin d 80.70 9 *eP* **P** **05 59 46.6 +0.4**
comp=Z,72nm,1.3s,mb5.1
AVF Avril sur Loir 80.80 7 *eP* **P** **05 59 46.9 +0.1**
comp=Z,31nm,1.2s,mb4.8
ANN Anapa 80.81 342 *eP* **P** **05 59 46.0 -0.9**
ANN pmax pmax
comp=Z,50nm,1.0s,mb5.4
ANN MLR MLR
comp=N,1μm,29.0s
ANN MLR MLR
comp=Z,582nm,29.0s,MS4.8
ANN MLR MLR
comp=E,419nm,14.0s
KBA Koelnbreinsper 80.84 360⇑*iP* **P** **05 59 48.4 +1.4**
comp=E,52nm,1.3s,mb5.3
SMF Signal de Mont 80.98 6 *eP* **P** **05 59 48.0 +0.3**
comp=E,71nm,1.4s,mb5.1
CABF La Chapelle 81.14 5 *eP* **P** **05 59 49.4 +0.8**
comp=E,52nm,1.2s,mb5.0
TCF Toulx Ste Croi 81.21 7 *eP* **P** **05 59 49.3 +0.3**
comp=E,14nm,1.1s,mb4.5
PERS Pernice 81.26 358 *eP* **P** **05 59 50.1 +1.0**
SOC Sochi 81.54 341 *eP* **P** **05 59 50.9 +0.2**
SOC *e*S S 06 09 57.4 -1.7
SOC *e*SSS SSS 06 18 39.7 -2.2
SOC pmax pmax
comp=Z,32nm,1.2s,mb5.1
SOC pmax pmax
comp=N,13nm,0.9s
SOC pmax pmax
comp=E,12nm,0.9s
RJF Les Rejaudoux 82.13 8 *eP* **P** **05 59 54.0 +0.2**
comp=E,11nm,0.9s,mb4.5
RJF *e*R
comp=E,268nm,21.5s
LFF La Frestale 82.43 9 *eP* **P** **05 59 55.9 +0.6**
CAF Calviac 82.56 8 *eP* **P** **05 59 56.6 +0.6**
comp=E,25nm,1.1s,mb4.9
CPD Cerro la Pandu 82.59 70 *eP* **P** **05 59 57.3 +0.7**
BNI Bardonecchia 82.72 4 *eP* **P** **05 59 57.6 +0.8**
comp=E,15nm,1.1s,mb5.0
ORIF Oris-en-Rattie 82.82 5 *eP* **P** **05 59 57.5 +0.2**
comp=E,47nm,1.4s,mb5.0
ORIF *e*R
comp=E,262nm,21.2s
LASF Ste Croix 83.53 6 *eP* **P** **06 00 01.7 +0.8**
GNI Garni 83.67 336 LR LR 06 46 18.0
comp=E,271nm,18.0s,MS4.7,baz=178,slow=42
GNI Garni 83.67 336*c iP* **P** **06 00 04.0 +2.3**
GNI pmax pmax
comp=Z,8.0nm,1.0s
SMRF Simiane la Rot 83.74 5 *eP* **P** **06 00 03.0 +1.0**
SBF Sospel 83.94 4 *eP* **P** **06 00 04.1 +1.1**
comp=Z,70nm,1.0s,mb5.4
MTLF Montolieu 84.14 8 *eP* **P** **06 00 05.1 +1.1**
FRF La Foret Royal 84.21 4 *eP* **P** **06 00 05.3 +1.0**
comp=Z,63nm,1.1s,mb5.4
EPF Esparros 84.28 9 *eP* **P** **06 00 05.2 +0.5**
comp=Z,13nm,0.8s,mb4.8
ETSF Etsaut 84.32 10 *eP* **P** **06 00 06.1 +1.2**
comp=Z,34nm,1.3s,mb5.0
PGF Pioggiola 85.31 3 *eP* **P** **06 00 11.2 +1.3**
comp=Z,94nm,1.2s,mb5.5
BRTR Keskin Array B 86.41 344 P **P** **06 00 16.6 +1.2**
comp=Z,7.6nm,0.9s,mb4.9,baz=45,slow=1.7,SNR=22
ESDC Sonseca Array 87.09 13 P **P** **06 00 19.1 +0.4**
comp=Z,0.4nm,0.3s,mb4.1,baz=355,slow=5.2,SNR=8.0
WRAB Tennant Creek 88.08 233 *iP* **P** **06 00 23.8 -0.1**
WRAB Tennant Creek 88.08 233 *iP* **P** **06 00 29.5 +5.6**
WRA Warramunga Arr 88.09 233 P **P** **06 00 24.9 +1.0**
comp=Z,0.9nm,1.1s,mb3.9,baz=34,slow=5.7,SNR=6.3
WRA Warramunga Arr 88.09 233 P **P** **06 00 24.9 +1.0**
WRA Warramunga Arr 88.09 233 *iP* **P** **06 00 33.7 +10**
WRA pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 124.89 330 PKP PKPdf 06 06 35.2 -2.4
comp=Z,1.7nm,0.9s,baz=6.1,slow=6.0,SNR=4.3
KMBO Kilima Mbogo 124.89 330 PKP PKPdf 06 06 35.2 -2.4
TSUM Tsumeb 146.59 352 *e*PKP PKPdf 06 07 14.9 -2.2
LBTB Lobatse 150.91 335 PKPbc PKPdf 06 07 26.6 +2.7
comp=Z,16nm,1.0s,baz=74,slow=2.9,SNR=11
LBTB PKPab PKPab 06 07 34.6 +0.5
comp=Z,10nm,1.0s,baz=64,slow=4.5,SNR=4.8
LBTB Lobatse 150.91 335 *e*PKPbc PKPdf 06 07 26.6 +2.7
MAW Mawson 151.75 218 PKPbc PKPdf 06 07 28.6 +4.8
comp=Z,1.5nm,0.8s,baz=58,slow=9.5,SNR=2.8
MAW PKPab PKPab 06 07 37.5 +1.2
comp=Z,6.0nm,0.9s,baz=98,slow=5.4,SNR=3.6

IDC ***09*** *06:39:04.8±0.7, 55.72S×26.89W, mb4.3/8, mb1 4.3/9, mb1mx4.2/16, mbtmp4.2/9, ML3.6/1, MS3.6/6, Ms1 3.6/6, ms1mx3.5/14, Error ellipse: s-maj=26.8km s-min=16.2km az=35.0*

NEIC ***09*** *06:39:06.2±7.4, 55.53S×26.85W, h6$^{km}_{\perp}$46^{km}, mb4.7/10, Error ellipse: s-maj=18.8km s-min=9.3km az=219.0*

ISC 09 06:39:04.8±0.5,55.51S±0.10×26.8W±0.2,h10^{km},n38, σ1§13/27,mb4.4/14,MS3.6/5,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.22**	**159**	*e*	**P**	**06 43 20.8**	**+14**
VNA1	**Neumayer--Stat**	**17.22**	**159**⇑*iP*		**P**	**06 43 11.4**	**+4.8**
VNA1				*e*		06 43 20.8	
VNA1				*e*		06 51 23.1	
VNA3	**Neumayer Olymp**	**17.43**	**161**⇑*iP*		**P**	**06 43 11.4**	**+2.1**
VNA3				*e*		06 43 21.3	
VNA3				*e*		06 43 25.4	
VNA3				*e*		06 51 21.4	
VNA2	**Neumayer--Watz**	**17.61**	**159**⇑*iP*		**P**	**06 43 17.3**	**+5.8**
VNA2				*e*		06 43 28.2	
VNA2				*e*		06 43 32.1	
VNA2				*e*		06 51 23.6	
SNAA	**Sanae**	**19.15**	**157**⇑*i*		**P**	**06 43 29.7**	**-0.7**
SNAA	**Sanae**	**19.15**	**157**	*e*	**P**	**06 43 39.5**	**+9.1**
SNAA	**Sanae**	**19.15**	**157**	*e*	**P**	**06 43 43.2**	**+13**
SNAA	**Sanae**	**19.15**	**157**	P	**P**	**06 43 29.0**	**-1.4**
SNAA	0.2nm,0.3s,baz=314,slow=12,SNR=14			LR	LR	06 49 12.5	
	comp=Z,48nm,21.9s,baz=352,slow=32						
SNAA	**Sanae**	**19.15**	**157**⇑*iP*		**P**	**06 43 29.7**	**-0.7**
SNAA				*e*		06 43 43.2	
SNAA				*e*		06 51 26.2	
USHA	**Ushuaia**	**23.55**	**254**	P	**P**	**06 44 14.5**	**-1.1**
USHA	3.5nm,0.6s,mb4.0,baz=75,slow=8.5,SNR=8.2			LR	LR	06 51 27.5	
	comp=Z,442nm,18.4s,MS4.0,baz=71,slow=32						
TRQA	**Tornquist**	**29.33**	**292**	*eP*	**P**	**06 45 09.1**	**-0.4**
	10.0nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**34.74**	**180**	*eP*	**P**	**06 45 55.9**	**-0.6**
	31nm,0.6s,mb5.4						
CPUP	**Villa Florida**	**36.63**	**310**	P	**P**	**06 46 13.3**	**+0.3**
	2.1nm,0.5s,mb4.2,baz=168,slow=11,SNR=11						
CPUP	**Villa Florida**	**36.63**	**310**	*eP*	**P**	**06 46 13.1**	**0.0**
	7.2nm,1.1s,mb4.4						
CFAA	**Coronel Fontan**	**37.56**	**292**	P	**P**	**06 46 19.5**	**-1.4**
	0.4nm,0.6s,mb3.3,baz=139,slow=9.1,SNR=7.3						
CFAA				LR	LR	06 58 50.3	
	comp=Z,13nm,20.8s,MS2.7,baz=149,slow=32						
MAW	**Mawson**	**40.45**	**144**	P	**P**	**06 46 43.7**	**-0.9**
	3.3nm,0.8s,mb4.1,baz=250,slow=12,SNR=2.6						
LVC	**Limon Verde**	**45.23**	**299**	P	**P**	**06 47 25.4**	**+1.5**
	6.0nm,0.5s,mb4.7,baz=138,slow=2.7,SNR=23						
LVC				LR	LR	07 05 30.4	
	comp=Z,70nm,21.8s,MS3.6,baz=151,slow=35						

LVC	**Limon Verde**	**45.23**	**299**	eP	**P**	**06 47 25.8**	**+1.9**
	8.9nm,0.8s,mb4.7						
VNDA	**Vanda**	**47.13**	**183**	P	**P**	**06 47 35.4**	**-2.7**
	4.3nm,0.6s,mb4.5,baz=187,slow=6.4,SNR=34						
VNDA	**Vanda**	**47.13**	**183**	eP	**P**	**06 47 37.6**	**-0.5**
	5.2nm,0.7s,mb4.6						
LBTB	**Lobatse**	**48.63**	**73**	P	**P**	**06 47 49.6**	**-1.0**
	1.4nm,0.3s,mb4.4,baz=221,slow=10,SNR=4.9						
LPAZ	**La Paz**	**50.26**	**304**	P	**P**	**06 48 04.4**	**+1.2**
	7.0nm,0.9s,mb4.7,baz=137,slow=7.6,SNR=25						
LPAZ				LR	LR	07 09 29.2	
	comp=Z,112nm,18.1s,MS3.9,baz=75,slow=36						
LPAZ	**La Paz**	**50.26**	**304**	eP	**P**	**06 48 04.8**	**+1.6**
	8.1nm,0.8s,mb4.8						
CASY	**Casey**	**54.34**	**160**	eP	**P**	**06 48 34.4**	**+1.3**
	3.2nm,1.0s,mb4.2						
SAML	**Samuel**	**54.59**	**314**	eP	**P**	**06 48 35.3**	**-0.3**
	4.4nm,0.6s,mb4.7						
LSZ	**Lusaka**	**57.96**	**69**	eP	**P**	**06 48 59.7**	**-0.1**
	6.8nm,1.3s,mb4.5						
DBIC	**Dimbokro**	**64.58**	**24**	LR	LR	07 11 26.4	
	comp=Z,130nm,19.6s,MS4.1,baz=98,slow=30						
SDV	**Santo Domingo**	**73.79**	**315**	eP	**P**	**06 50 41.9**	**+0.7**
	3.6nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**130.35**	**21**	PKP	PKPdf	06 58 15.3	-2.0
	3.6nm,0.9s,baz=180,slow=3.6,SNR=4.1						
ARCES	**ARCESS Array B**	**130.35**	**21**	PKP	PKPdf	06 58 15.3	-2.0
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP	PKPdf	06 58 26.7	-1.2
	0.9nm,0.6s,baz=125,slow=2.2,SNR=6.3						
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP	PKPdf	06 58 26.7	-1.2
MKAR	**Makanchi Array**	**136.49**	**71**	PKP	PKPdf	06 58 27.6	-1.7
	0.3nm,0.5s,baz=209,slow=2.8,SNR=3.8						
INK	**Inuvik**	**145.53**	**321**	ePKPbc	PKPbc	06 58 43.6	+1.5
SML	**Sawmill**	**149.90**	**306**	ePKPbc	PKPdf	06 58 56.8	+4.9
ILAR	**Eielson Array**	**149.92**	**312**	PKPbc	PKPdf	06 58 55.4	+3.5
	5.6nm,1.0s,baz=137,slow=1.8,SNR=19						
SONM	**Songino Array**	**150.46**	**85**	PKPbc	PKPdf	06 58 57.7	+4.5
	3.3nm,0.6s,baz=230,slow=3.2,SNR=22						
SONM				PKPab	PKPab	06 59 04.2	-0.1
	3.6nm,1.0s,baz=216,slow=4.4,SNR=7.6						
MCK	**McKinley**	**150.60**	**310**	ePKPbc	PKPdf	06 58 58.0	+5.1

NIED ***09*** *06:42:00, 37.20N×138.90E, h8^{km}, Mw3.5 Best double couple: $M_0 2.31\times10^{14}$ NP1:ϕ_s223°, δ51°, λ109°. NP2:ϕ_s14°, δ43°, λ68°.*
IDC ***09*** *06:42:11.2±1.3, 37.28N×138.79E, mb3.5/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=22.7km s-min=12.4km az=117.0*
NEIC ***09*** *06:42:12.5±0.9, 37.17N×138.93E, h10^{km}, MG4.0(JMA), Error ellipse: s-maj=23.8km s-min=9.6km az=127.0*
JMA ***09*** *06:42:14.2, 37.17N×138.87E, h8^{km}±1^{km}, M3.7 Broadband fault plane solution: P waves. NP1:ϕ_s16°, δ37°, λ53°. NP2:ϕ_s239°, δ61°, λ114°. Principal axes: T Plg65°, Azm192°; N Plg21°, Azm47°; P Plg13°, Azm312°;*
JMA Felt III J1.
ISC 09 06:42:13.5±0.5**, 37.17N**±0.03×**138.87E**±0.06**, h23**^{km}±5^{km}**, n17, $\sigma 0^s$74**/23**, mb3.4**/3**, 5D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**57**	⇓P	**Pb**	**06 42 17.4**	**-0.8**
JHK				S	**Sb**	**06 42 20.0**	**-1.5**
JIZZ	**Izumozaki**	**0.38**	**340**	⇓P	**Pb**	**06 42 22.3**	**+0.6**
JIZZ				eS	**Sb**	**06 42 28.7**	**+1.5**
JKT	**Katashina**	**0.51**	**143**	⇓P	**Pb**	**06 42 24.0**	**+0.3**
JKT				S	**Sb**	**06 42 31.2**	**+0.5**
JGK	**Kuni**	**0.64**	**197**	P	**Pb**	**06 42 26.2**	**+0.3**
JNS	**Sasagawa**	**0.73**	**29**	P	**Pb**	**06 42 27.7**	**+0.2**
MAJO	**Matsushiro**	**0.83**	**221**	ePg	**Pb**	**06 42 28.8**	**-0.3**
MAJO				eSg	**Sb**	**06 42 39.4**	**-0.4**
MAT	**Matsushiro**	**0.83**	**221**	P	**Pb**	**06 42 28.9**	**-0.2**
MAT				S	**Sb**	**06 42 39.6**	**-0.2**
MAT	**Matsushiro**	**0.83**	**221**	P	**Pb**	**06 42 29.0**	**-0.1**
MAT	**Matsushiro**	**0.83**	**221**	eP	**Pb**	**06 42 29.0**	**-0.1**
MAT				eS	**Sb**	**06 42 40.0**	**+0.2**
MJAR	**Matsushiro Arr**	**0.83**	**220**	Pg	**Pb**	**06 42 28.9**	**-0.2**
	68nm,0.3s,baz=26,slow=18,SNR=238						
MJAR				Lg		06 42 39.3	
	164nm,0.3s,baz=24,slow=33,SNR=51						
JAG	**Ashikaga**	**0.88**	**148**	⇓P	**Pb**	**06 42 31.1**	**+1.1**
JSD	**Sado**	**0.99**	**331**	⇓P	**Pb**	**06 42 31.4**	**-0.4**
JHJ	**Hachijo jima 2**	**4.11**	**169**	Pn	**Pn**	**06 43 17.4**	**+0.8**
	15nm,0.3s,baz=56,slow=11,SNR=3.9						
SONM	**Songino Array**	**26.03**	**304**	P	**P**	**06 47 46.2**	**-0.3**
	0.3nm,0.6s,mb3.0,baz=101,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**56.97**	**185**	P	**P**	**06 51 58.2**	**-1.4**
	0.5nm,0.5s,mb3.9,baz=0.5,slow=7.5,SNR=18						
TXAR	**Lajitas Array**	**91.63**	**51**	P	**P**	**06 55 19.9**	**-0.1**
	0.2nm,1.0s,mb3.4,baz=288,slow=5.7,SNR=2.9						
TXAR	**Lajitas Array**	**91.63**	**51**	P	**P**	**06 55 19.9**	**-0.1**

NIED ***09*** *07:15:00, 35.60N×140.90E, h32^{km}, Mw4.8 Best double couple: $M_0 1.74\times10^{16}$ NP1:ϕ_s37°, δ85°, λ-20°. NP2:ϕ_s129°, δ70°, λ-174°.*
JMA ***09*** *07:15:26.5±0.1, 35.59N×140.95E, h38^{km}±1^{km}, M5.0 Broadband fault plane solution: P waves. NP1:ϕ_s126°, δ46°, λ147°. NP2:ϕ_s241°, δ67°, λ49°. Principal axes: T Plg50°, Azm104°; N Plg37°, Azm260°; P Plg12°, Azm359°;*
JMA Felt II J1.
BJI ***09*** *07:15:29.5, 35.72N×140.89E, h82^{km}, mB4.7, mb4.8, Ms4.3, Msz4.0*
MOS ***09*** *07:15:31.3±1.0, 35.85N×140.66E, h66^{km}, mb5.1/35, Error ellipse: s-maj=11.3km s-min=6.0km az=122.2*
NEIC ***09*** *07:15:32.4±0.6, 35.66N×140.63E, h69^{km}±5^{km}, mb4.8/63, MW4.8(NIED), Error ellipse: s-maj=4.8km s-min=4.6km az=153.0*
NEIC Felt at Narita. Recorded [2 JMA] in Chiba and Ibaraki; [1 JMA] in Kanagawa, Saitama and Tokyo Prefectures.
IDC ***09*** *07:15:32.8±2.3, 35.65N×140.64E, h73^{km}±21^{km}, mb4.3/25, mb1 4.5/27, mb1mx4.4/29, mbtmp4.6/27, MS3.8/3, Ms1 3.8/3, ms1mx3.5/35, Error ellipse: s-maj=14.5km s-min=10.4km az=76.0*
ISC 09 07:15:27.0±0.2**, 35.58N**±0.03×**140.85E**±0.03**, h38**^{km}**, (h45**^{km}±6.7^{km}**:pP-P), n264, $\sigma 1^s$03**/276**, mb4.8**/105**, MS4.1**/8**, 14C-16D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.12**	**4**	⇑P	**P**	**07 15 33.0**	**-0.4**
CHOJ				eS	**S**	**07 15 37.6**	**-0.4**
JCN	**Nagara**	**0.55**	**253**	⇑P	**P**	**07 15 39.7**	**+1.3**
JCN				eS	**S**	**07 15 46.6**	**0.0**
KTR	**Katsuura**	**0.61**	**225**	⇓P	**P**	**07 15 39.7**	**+0.4**
BSO4	**Boso 4**	**0.72**	**215**	⇓P	**P**	**07 15 41.0**	**+0.2**
BSO4				eS	**S**	**07 15 51.8**	**+0.9**
BSO3	**Boso 3**	**0.83**	**200**	⇓P	**P**	**07 15 41.8**	**-0.5**
JYT	**Yasato**	**0.83**	**321**	⇓P	**P**	**07 15 42.9**	**+0.5**
TOK	**Tokyo**	**0.89**	**277**	P	**P**	**07 15 44.9**	**+1.7**
BSO1	**Boso 1**	**0.93**	**173**	⇓P	**P**	**07 15 42.2**	**-1.6**
JHO	**Hitachi**	**1.05**	**348**	⇓P	**P**	**07 15 45.2**	**-0.2**
JAG	**Ashikaga**	**1.41**	**307**	P	**P**	**07 15 51.3**	**+0.7**
JIM2	**Oshima 3**	**1.45**	**234**	P	**P**	**07 15 50.3**	**-0.9**
JOD2	**Odawara 2**	**1.47**	**258**	⇑P	**P**	**07 15 52.0**	**+0.5**
ONAJ	**Iwakimizuishiy**	**1.52**	**358**	⇓P	**P**	**07 15 51.5**	**-0.7**
JSB	**Shiboa**	**1.57**	**332**	P	**P**	**07 15 53.7**	**+0.7**
JKT	**Katashina**	**1.75**	**313**	P	**P**	**07 15 56.5**	**+1.0**
JFK	**Kawauchi**	**1.78**	**1**	⇓P	**P**	**07 15 55.1**	**-0.8**
JIZS	**Izushimoda**	**1.83**	**242**	P	**P**	**07 15 56.5**	**-0.1**
JYN	**Shimob**	**1.88**	**268**	⇑P	**P**	**07 15 58.0**	**+0.7**
SHZ3	**Shizuoka 3**	**2.22**	**257**	⇑P	**P**	**07 16 03.2**	**+1.0**
JHK	**Hiroka**	**2.22**	**319**	⇓P	**P**	**07 16 03.7**	**+1.5**
JNT	**Takato**	**2.22**	**278**	⇑P	**P**	**07 16 03.8**	**+1.6**
MJAR	**Matsushiro Arr**	**2.34**	**295**	P	**P**	**07 16 06.0**	**+2.1**
	68nm,0.3s,baz=94,slow=11,SNR=525						
MAJO	**Matsushiro**	**2.34**	**295**	ePn	**P**	**07 16 05.7**	**+1.7**
MAT	**Matsushiro**	**2.34**	**295**	P	**P**	**07 16 05.9**	**+1.9**
MAT				S	**S**	**07 16 34.0**	**+2.2**
MAT	**Matsushiro**	**2.34**	**295**	P	**P**	**07 16 05.6**	**+1.6**
MAT	**Matsushiro**	**2.34**	**295**	eP	**P**	**07 16 06.0**	**+2.0**
MAT				eS	**S**	**07 16 35.0**	**+3.2**
JNY	**Yasuok**	**2.45**	**266**	⇑P	**P**	**07 16 07.0**	**+1.6**
JNS	**Sasagawa**	**2.55**	**332**	P	**P**	**07 16 07.8**	**+0.9**
JHJ	**Hachijo jima 2**	**2.61**	**200**	P	**P**	**07 16 06.0**	**-1.8**
	108nm,0.3s,baz=46,slow=2.9,SNR=24						
JHJ				S	**S**	**07 16 33.6**	**-5.0**
	494nm,0.3s,baz=273,slow=23,SNR=12						
JHJ				LR	LR	07 17 24.4	
	comp=Z,2µm,20.7s,baz=304,slow=43						
JYZW	**Yoshizawa**	**2.61**	**258**	P	**P**	**07 16 08.8**	**+1.0**
JOU	**Okura**	**2.78**	**357**	⇓P	**P**	**07 16 10.6**	**+0.4**
JGF	**Kuroka**	**2.84**	**271**	P	**P**	**07 16 13.0**	**+1.9**
JIO	**Ouri**	**2.89**	**8**	⇓P	**P**	**07 16 11.2**	**-0.6**
JYK	**Kaneyama**	**3.35**	**353**	⇓P	**P**	**07 16 19.0**	**+0.7**
OFUJ	**Ofunato**	**3.55**	**10**	P	**P**	**07 16 20.4**	**-0.7**
JRG	**Rokugo**	**3.81**	**358**	P	**P**	**07 16 25.6**	**+0.8**
MIYJ	**Miyakonagasawa**	**4.06**	**11**	P	**P**	**07 16 27.4**	**-1.0**
JTH	**Tanohata**	**4.42**	**10**	P	**P**	**07 16 32.5**	**-1.0**
JANG	**Nango**	**4.81**	**6**	P	**P**	**07 16 37.8**	**-1.2**
JOT	**Ohata**	**5.79**	**1**	P	**P**	**07 16 51.6**	**-1.1**
CBIJ	**Chichi jima**	**8.54**	**172**	P	**P**	**07 17 26.1**	**-5.0**
	55nm,0.3s,baz=336,slow=7.6,SNR=29						
CBIJ				S	**S**	**07 18 55.8**	**-11**
	37nm,0.3s,baz=283,slow=22,SNR=3.9						
JNU	**Nakatsue**	**8.60**	**256**	P	**P**	**07 17 33.0**	**+1.0**
	0.6nm,0.3s,baz=63,slow=19,SNR=8.9						
JNU				LR	LR	07 20 56.6	
	comp=Z,809nm,20.8s,baz=79,slow=38						
ASAJ	**Asahikawa**	**8.63**	**8**	P	**P**	**07 17 27.6**	**-4.7**
	9.4nm,0.3s,baz=216,slow=12,SNR=19						
ASAJ				S	**S**	**07 19 03.3**	**-6.2**
	0.6nm,0.3s,baz=160,slow=32,SNR=2.2						
ASAJ	**Asahikawa**	**8.63**	**8**	P	**P**	**07 17 27.7**	**-4.6**
ASAJ				S	**S**	**07 19 03.3**	**-6.2**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**9.28**	**23**	eP	**P**	**07 17 35.0**	**-6.3**
YUK				pmax	pmax		
	comp=Z,230nm,0.3s						
KS15	**Wonju Array Si**	**10.60**	**284**	ePn	**P**	**07 18 00.4**	**+0.9**
KUR	**Kuril'sk**	**11.02**	**27**	eP	**P**	**07 17 59.3**	**-5.8**
YSS	**Yuzh-Sakhalins**	**11.45**	**7**	eP	**P**	**07 18 06.2**	**-4.8**
	comp=Z,43nm,0.7s						
YSS	**Yuzh-Sakhalins**	**11.45**	**7**	eP	**P**	**07 18 06.0**	**-5.0**
YSS				S	**S**	**07 20 10.0**	**-8.6**
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS				MLR	MLR		
	comp=Z,900nm,19.0s						
YSS				MLR	MLR		
	comp=N,1µm,17.0s						
MDJ	**Mudanjiang**	**12.46**	**320**	P	**P**	**07 18 24.8**	**+0.2**
MDJ				S	**S**	**07 20 38.3**	**-4.9**
MDJ				PCP	PcP	07 24 03.5	+0.9
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				LR	LR		
	comp=N,203nm,12.1s						
MDJ				LR	LR		
	comp=E,183nm,7.0s						
MDJ				LR	LR		
	comp=Z,252nm,12.4s						
MDJ	**Mudanjiang**	**12.46**	**320**	eP	**P**	**07 18 24.3**	**-0.3**
	comp=Z,87nm,1.4s						
JOW	**Kunigami**	**13.84**	**234**	P	**P**	**07 18 50.4**	**+7.5**
	comp=Z,1.0nm,0.3s,baz=88,slow=18,SNR=3.9						
JOW				LR	LR	07 24 07.4	
	comp=Z,305nm,18.1s,baz=195,slow=38						
CN2	**Changchun**	**14.40**	**309**	eP	**P**	**07 18 49.7**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
SNY	**Shenyang**	**14.85**	**300**	⇑P	**P**	**07 18 56.7**	**+0.8**
SNY				LR	LR		
	comp=N,790nm,12.6s						
SNY				LR	LR		
	comp=Z,360nm,13.8s						
KLR	**Kul'dur**	**15.19**	**337**	eP	**P**	**07 18 55.0**	**-5.3**
KLR				MLR	MLR		
	comp=E,500nm,15.0s						
KLR				MLR	MLR		
	comp=Z,700nm,15.0s						
DL2	**Dalian**	**15.66**	**288**	P	**P**	**07 19 11.1**	**+4.6**
DL2				S	**S**	**07 22 04.5**	**+5.6**
DL2				AMB	AMB		
	comp=Z,30nm,0.6s						
DL2				AMB	AMB		
	comp=Z,210nm,7.5s						
DL2				LR	LR		
	comp=N,300nm,14.6s						
DL2				LR	LR		
	comp=E,420nm,12.5s						
DL2				LR	LR		
	comp=Z,580nm,16.5s						
SSE	**Sheshan**	**17.02**	**260**	P	**P**	**07 19 23.7**	**-0.1**
SSE				AP		07 19 38.0	
SSE				XP		07 19 45.8	
SSE				S	**S**	**07 22 31.5**	**+1.1**
SSE				PCP	PcP	07 24 07.7	-1.3
SSE				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SSE				AMB	AMB		
	comp=Z,96nm,6.1s						
SSE				LR	LR		
	comp=N,304nm,14.9s						
SSE				LR	LR		
	comp=E,912nm,14.9s						
SSE				LR	LR		
	comp=Z,1µm,14.2s						
SSE	**Sheshan**	**17.02**	**260**	P	**P**	**07 19 23.7**	**-0.1**
	comp=Z,10.0nm,0.8s						
SSE				pP		07 19 38.0	
SSE				sP		07 19 45.8	
SSE				S	**S**	**07 22 31.5**	**+1.1**
SSE				sS		07 22 59.6	
SSE				PcP	PcP	07 24 07.7	-1.3
NJ2	**Nanjing**	**18.61**	**265**	eP	**P**	**07 19 44.2**	**+0.7**
NJ2				AP		07 19 55.7	
NJ2				PP	PP	07 20 01.8	+2.5
NJ2				XP		07 20 04.0	
NJ2				S	**S**	**07 23 04.0**	**-2.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,100nm,3.9s						
NJ2				LR	LR		
	comp=N,2µm,18.9s						
NJ2				LR	LR		
	comp=E,2µm,20.6s						
NJ2				LR	LR		
	comp=Z,540nm,17.9s						
HIA	**Hailar**	**20.64**	**318**	eP	**P**	**07 20 02.0**	**-3.6**
	comp=Z,16nm,0.8s						
HIA	**Hailar**	**20.64**	**318**	eP	**P**	**07 20 02.0**	**-3.7**
HIA				pmax	pmax		
	comp=Z,16nm,0.8s						
PET	**Petropavlovsk**	**21.49**	**30**	eP	**P**	**07 20 26.0**	**+12**
PET				eS	**S**	**07 24 16.6**	**+11**
PET				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.6						
PET				MLR	MLR		
	comp=Z,300nm,15.0s,MS3.8						
GUMO	**Guam**	**22.20**	**170**	P	**P**	**07 20 25.7**	**+4.2**
	comp=Z,65nm,0.7s,mb5.2,baz=142,slow=9.3,SNR=4.2						
WHN	**Wuhan**	**22.74**	**265**	eP	**P**	**07 20 25.5**	**-1.3**
HHC	**Hu-ho-hao-te**	**23.54**	**292**	eP	**P**	**07 20 32.7**	**-1.8**
HHC				AP		07 20 49.7	
HHC				XP		07 20 59.0	
HHC				PP	PP	07 21 06.0	-1.3
HHC				PCP	PcP	07 24 21.8	+0.9
HHC				S	**S**	**07 24 33.3**	**-9.2**
HHC				SCP		07 27 51.9	
HHC				PCS		07 28 00.3	
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,91nm,3.9s						
HHC				LR	LR		
	comp=N,282nm,15.5s,MS3.9						
HHC				LR	LR		
	comp=E,246nm,17.8s,MS3.9						
HHC				LR	LR		
	comp=Z,286nm,14.3s,MS3.9						
CLNS	**Chul'man**	**23.84**	**338**	eP	**P**	**07 20 35.7**	**-1.5**
CLNS				e		07 20 54.6	
CLNS				ePPP	PPP	07 21 16.7	-4.7
CLNS				e		07 24 19.4	
CLNS				eS	**S**	**07 24 41.5**	**-5.9**
CLNS				eSSS	SSS	07 25 53.0	-2.3
CLNS				pmax	pmax		
	comp=Z,98nm,1.2s,mb5.1						
CLNS				pmax	pmax		
	comp=N,72nm,1.3s						
CLNS				pmax	pmax		
	comp=E,15nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=N,21nm,0.9s						
CLNS				pmax	pmax		
	comp=E,19nm,0.8s						
CLNS				smax			
	comp=N,10.0nm,0.7s						
CLNS				smax			
	comp=Z,15nm,1.1s						
CLNS				smax			
	comp=E,24nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,300nm,16.0s,MS3.9						
CLNS				MLR	MLR		
	comp=N,200nm,15.0s,MS3.9						
CLNS				MLR	MLR		
	comp=E,200nm,11.0s,MS3.9						
XAN	**Xi'an**	**26.20**	**276**	P	**P**	**07 20 57.6**	**-2.4**
XAN				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.4						
XAN				LR	LR		
	comp=N,371nm,17.9s,MS4.2						
XAN				LR	LR		
	comp=E,558nm,17.9s,MS4.2						
XAN				LR	LR		
	comp=Z,740nm,18.5s,MS4.3						
ENH	**Enshi**	**26.79**	**268**	eP	**P**	**07 21 03.0**	**-2.5**
	comp=Z,33nm,0.7s,mb5.0						
YAK	**Yakutsk**	**27.39**	**349**	⇓eP	**P**	**07 21 09.0**	**-1.6**
	comp=Z,81nm,0.8s,mb5.3						
YAK	**Yakutsk**	**27.39**	**349**	d iP	**P**	**07 21 09.4**	**-1.2**
YAK				i *PP	pP	07 21 26.2	+5.1
YAK				i		07 22 05.8	
YAK				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.8						
YAK				pmax	pmax		
	comp=N,25nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**27.82**	**307**	eP	**P**	**07 21 12.0**	**-2.7**
	comp=Z,31nm,1.3s,mb4.8						
ULN	**Ulaanbaatar**	**27.82**	**307**	d iP	**P**	**07 21 13.8**	**-0.9**
SONM	**Songino Array**	**28.25**	**306**	P	**P**	**07 21 17.1**	**-1.4**
	comp=Z,5.9nm,0.8s,mb4.3,baz=111,slow=9.0,SNR=28						
SEY	**Seymchan**	**28.30**	**11**	eP	**P**	**07 21 16.8**	**-2.0**
BOD	**Bodaibo**	**28.53**	**330**	eP	**P**	**07 21 19.2**	**-1.7**
BOD				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0						
FX1	**Attu Island--F**	**28.57**	**43**	P	**P**	**07 21 22.4**	**+1.1**
	comp=Z,7.6nm,0.6s,mb4.6,baz=321,slow=6.5,SNR=3.9						
FX1	**Attu Island--F**	**28.57**	**43**	P	**P**	**07 21 22.4**	**+1.1**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LZH	**Lanzhou**	**29.89**	**282**	eP	**P**	**07 21 31.5**	**-1.8**
LZH				AMB	AMB		
	comp=Z,45nm,1.5s,mb5.0						
LZH	**Lanzhou**	**29.89**	**282**	eP	**P**	**07 21 31.5**	**-1.8**
	comp=Z,45nm,1.5s,mb5.0						
LZH				pP	pP	07 21 39.0	-4.8
LZH				sP	sP	07 21 43.5	-5.3
LZH	**Lanzhou**	**29.89**	**282**	eP	**P**	**07 21 31.5**	**-1.8**
LZH				*SP	sP	07 21 43.5	-5.3
LZH				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.0						
GYA	**Guiyang**	**30.55**	**262**	⇑iP	**P**	**07 21 35.6**	**-3.6**
GYA				AP	pP	07 21 52.7	+2.9
GYA				XP	sP	07 22 02.4	+7.6
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb5.1						
GYA				LR	LR		
	comp=N,270nm,16.8s,MS4.1						
GYA				LR	LR		
	comp=E,240nm,16.7s,MS4.1						
GYA				LR	LR		
	comp=Z,310nm,16.4s,MS4.0						
ZAK	**Zakamensk**	**30.84**	**310**	eP	**P**	**07 21 40.1**	**-1.4**
ZAK				e		07 24 32.2	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
GTA	**Gaotai**	**32.58**	**289**	eP	**P**	**07 21 56.2**	**-0.7**
GTA				AP	pP	07 22 11.7	+4.1
GTA				PP	PP	07 23 10.2	+4.0
GTA				XS		07 27 38.5	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,74nm,5.3s						
GTA				LR	LR		
	comp=N,252nm,18.7s,MS4.1						
GTA				LR	LR		
	comp=E,281nm,18.3s,MS4.1						
GTA				LR	LR		
	comp=Z,307nm,16.8s,MS4.1						
KMI	**Kunming**	**34.31**	**263**	P	**P**	**07 22 10.0**	**-2.0**
KMI				AP	pP	07 22 30.2	+7.5
KMI				XP	sP	07 22 35.4	+7.8
KMI				PP	PP	07 23 27.5	-0.4
KMI				S	**S**	**07 27 34.1**	**-1.7**
KMI				SS	SS	07 29 42.6	-4.2
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,36nm,5.2s						
KMI				LR	LR		
	comp=N,511nm,19.9s,MS4.3						
KMI				LR	LR		
	comp=E,274nm,22.0s,MS4.3						
KMI				LR	LR		
	comp=Z,342nm,22.0s,MS4.0						
KMI	**Kunming**	**34.31**	**263**	P	**P**	**07 22 10.0**	**-2.0**
	comp=Z,12nm,1.2s,mb4.7						
KMI				pP	pP	07 22 30.2	+7.5
KMI				sP	sP	07 22 35.4	+7.8
KMI				PP	PP	07 23 27.5	-0.4
KMI				S	**S**	**07 27 34.1**	**-1.7**
KMI				SS	SS	07 29 42.6	-4.2
KMI				LR	LR		
	comp=Z,340nm,22.0s,MS4.0						
BILL	**Bilibino**	**35.55**	**16**	eP	**P**	**07 22 22.2**	**+0.1**
BILL				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
TIXI	**Tiksi**	**36.68**	**354**	eP	**P**	**07 22 24.0**	**-7.6**
TIXI				eS	**S**	**07 28 14.1**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
WMQ	**Urumqi**	**41.10**	**298**	P	**P**	**07 23 10.1**	**+1.3**
WMQ				PP	PP	07 24 49.0	+2.3
WMQ				eS	**S**	**07 29 20.0**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,84nm,3.5s						
WMQ				LR	LR		
	comp=Z,533nm,23.4s,MS4.3						
LSA	**Lhasa**	**41.90**	**277**	eP	**P**	**07 23 15.0**	**-0.5**
	comp=Z,12nm,0.8s,mb4.6						
LSA	**Lhasa**	**41.90**	**277**	eP	**P**	**07 23 15.0**	**-0.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**42.58**	**314**	P	**P**	**07 23 20.2**	**-0.5**
	comp=Z,5.1nm,0.6s,mb4.4,baz=12,slow=7.4,SNR=20						
NVS	**Novosibirsk**	**43.52**	**315**	i P	**P**	**07 23 26.8**	**-1.6**
NVS				pmax	pmax		
	comp=N,12nm,1.0s						
NVS				pmax	pmax		
	comp=E,45nm,1.0s						
NVS				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.1						
MKAR	**Makanchi Array**	**44.52**	**303**	P	**P**	**07 23 35.9**	**-0.6**
	comp=Z,6.0nm,0.6s,mb4.6,baz=83,slow=9.8,SNR=34						
MKAR	**Makanchi Array**	**44.52**	**303**	P	**P**	**07 23 35.9**	**-0.6**
MKAR	**Makanchi Array**	**44.52**	**303**	i P	**P**	**07 23 35.8**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,28nm,1.1s						
KURK	**Kurchatov**	**46.48**	**309**	eP	**P**	**07 23 50.9**	**-1.1**
	comp=Z,60nm,1.0s,mb5.5						
KURK	**Kurchatov**	**46.48**	**309**	eP	**P**	**07 23 50.9**	**-1.1**

KURK pmax pmax
comp=Z,60nm,1.0s,mb5.5
GUN Gumba 46.86 277 *e*P **P 07 23 55.9 +0.6**
comp=Z,68nm,0.8s,mb5.6
PKI Pulchoki 47.38 277 *e*P **P 07 24 00.0 +0.6**
comp=Z,51nm,1.1s,mb5.4
KKN Kakani 47.39 277 *e*P **P 07 24 00.0 +0.5**
comp=Z,50nm,0.8s,mb5.5
DMN Daman 47.61 277 *e*P **P 07 24 01.8 +0.6**
comp=Z,43nm,0.9s,mb5.5
GKN Gorkha 47.83 277 *e*P **P 07 24 02.3 -0.6**
comp=Z,124nm,1.1s,mb5.9
IMA Indian Mountai 48.17 30 *e*P **P 07 24 04.7 -0.3**
comp=Z,32nm,1.3s,mb5.2
IMA Indian Mountai 48.17 30 *e*P **P 07 24 04.7 -0.4**
IMA pmax pmax
comp=Z,32nm,1.3s,mb5.2
KDAK Kodiak Island 48.49 41 *e*P **P 07 24 07.9 +0.3**
comp=Z,12nm,0.9s,mb4.9
KOLN Koldanda 48.76 278 *e*P **P 07 24 09.8 -0.3**
comp=Z,51nm,1.1s,mb5.5
FIB Fire Island 49.58 36 P **P 07 24 15.8 -0.2**
PMR Palmer 50.06 36 *e*P **P 07 24 21.2 +1.5**
comp=Z,4.5nm,0.7s,mb4.6
PMR Palmer 50.06 36 *e*P **P 07 24 21.2 +1.5**
PMR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MCK McKinley 50.09 33 *e*P **P 07 24 19.8 -0.1**
comp=Z,6.1nm,1.1s,mb4.5
SML Sawmill 50.43 36 *e*P **P 07 24 22.5 0.0**
AAK Ala-Archa 50.79 299 *e*P **P 07 24 23.6 -1.9**
comp=Z,17nm,1.0s,mb4.9
AAK Ala-Archa 50.79 299 *e*P **P 07 24 23.9 -1.6**
AAK pmax pmax
comp=Z,19nm,1.4s,mb4.8
VOSK Vostochnaya 50.92 313 P **P 07 24 25.1 -1.2**
VOSK pmax pmax
comp=Z,26nm,1.2s,mb5.0
ILAR Eielson Array 50.97 32 P **P 07 24 26.0 -0.5**
comp=Z,5.9nm,0.6s,mb4.7,baz=270,slow=6.1,SNR=67
BVA0 Borovoye Array 51.22 313 P **P 07 24 27.3 -1.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
BVAR Borovoye Array 51.22 313 P **P 07 24 27.9 -0.7**
comp=Z,5.6nm,0.7s,mb4.6,baz=90,slow=7.4,SNR=28
BRVK Borovoye 51.28 313 *e*P **P 07 24 27.7 -1.3**
comp=Z,8.1nm,0.8s,mb4.7
BRVK Borovoye 51.28 313 *e*P **P 07 24 27.7 -1.3**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
DIV Divide 51.71 36 *e*P **P 07 24 32.4 +0.3**
comp=Z,42nm,0.7s,mb5.5
KKAR Karatay Array 53.47 301 P **P 07 24 45.1 -0.5**
KKAR pmax pmax
comp=Z,15nm,1.1s,mb4.8
DAWY Dawson 54.27 32 *e*P **P 07 24 51.5 +0.3**
FITZ Fitzroy Crossi 55.30 198 *e*P **P 07 24 58.2 -1.1**
comp=Z,12nm,0.5s,mb5.2
FITZ *i* pP 07 25 07.9 -2.6
FITZ Fitzroy Crossi 55.30 198 P **P 07 24 57.8 -1.5**
comp=Z,16nm,0.5s,mb5.3,baz=9.7,slow=8.8,SNR=18
WRAB Tennant Creek 55.55 187 *e*P **P 07 24 59.2 -1.8**
comp=Z,80nm,1.0s,mb5.7
WRAB *e* 07 25 07.5
WRAB Tennant Creek 55.55 187 *e*P **P 07 24 59.3 -1.8**
WRAB pmax pmax
comp=Z,80nm,1.0s,mb5.7
WRA Warramunga Arr 55.56 187 P **P 07 24 59.2 -2.0**
comp=Z,8.4nm,0.5s,mb5.1,baz=16,slow=8.9,SNR=82
CTA Charters Tower 55.60 174 P **P 07 25 03.3 +1.9**
comp=Z,2.3nm,0.7s,mb4.3,baz=321,slow=6.5,SNR=3.5
INK Inuvik 55.89 27 P **P 07 25 02.7 -0.1**
comp=Z,4.3nm,0.6s,mb4.7,baz=298,slow=5.4,SNR=16
INK Inuvik 55.89 27 *e*P **P 07 25 02.4 -0.4**
comp=Z,5.2nm,0.6s,mb4.7
INK Inuvik 55.89 27 *e*P **P 07 25 02.4 -0.4**
INK pmax pmax
comp=Z,5.0nm,0.6s
SVE Sverdlovsk 55.94 319 *e*P **P 07 25 00.0 -3.3**
SVE *e* 07 25 17.0
ARU Arti 57.15 319 *e*P **P 07 25 09.2 -2.9**
comp=Z,17nm,0.6s,mb5.2
ARU Arti 57.15 319⇓*i*P **P 07 25 08.6 -3.4**
ARU *e* 07 26 00.9
ARU *e* 07 27 13.0
ARU *e*S **S 07 33 01.1 -1.7**
ARU *e*SS SS 07 36 49.3 -3.9
ARU pmax pmax
comp=Z,21nm,0.9s,mb5.2
HYB Hyderabad 57.71 269 *i* P **P 07 25 15.0 -1.5**
HYB Hyderabad 57.71 269 *e*P **P 07 25 09.5 -7.0**
AB31 Akbulak array 58.53 311 P **P 07 25 20.3 -1.5**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO Aktyubinsk 59.31 312 P **P 07 25 26.4 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
MBWA Marble Bar 59.88 203 *e*P **P 07 25 30.7 -0.8**
comp=Z,31nm,0.8s,mb5.4
DZM Mont Dzumac 62.26 153 P **P 07 25 48.4 +0.9**
comp=Z,6.1nm,0.9s,mb4.7,baz=320,slow=7.1
APA Apatity 63.82 336 *e*P **P 07 25 56.5 -0.7**
APA pmax pmax
comp=Z,14nm,0.8s,mb5.0
ARCES ARCESS Array B 65.19 340 P **P 07 26 05.2 -0.8**
comp=Z,5.6nm,0.8s,mb4.7,baz=47,slow=7.8,SNR=9.7
YKW3 Yellowknife Ar 65.25 30 *e*P **P 07 26 05.7 -0.8**
YKA Yellowknife Ar 65.29 30 P **P 07 26 06.1 -0.6**
comp=Z,3.3nm,0.8s,mb4.4,baz=300,slow=6.5,SNR=20
JOF Joensuu 67.03 332 *e*p **P 07 26 16.2 -1.6**
comp=Z,2.4nm,0.4s,mb4.6
FORT Forrest 67.10 192 *e*P **P 07 26 18.7 -0.1**
comp=Z,29nm,0.6s,mb5.5
STKA Stephens Creek 67.11 179 *e*P **P 07 26 18.4 -0.4**
comp=Z,5.4nm,0.9s,mb4.6
STKA Stephens Creek 67.11 179 P **P 07 26 18.4 -0.4**
comp=Z,5.1nm,0.7s,mb4.7,baz=351,slow=8.5,SNR=5.2
OBN Obninsk 68.98 323 P **P 07 26 29.0 -1.1**
OBN *e* 07 26 51.6
OBN 07 29 10.0
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KAF Kangasniemi 69.39 333 *e*p **P 07 26 31.0 -1.5**
comp=Z,9.3nm,0.8s,mb4.8,baz=49,slow=5.8
KAF Kangasniemi 69.39 333 *e*P **P 07 26 31.0 -1.5**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FINES FINESS Array B 69.88 332 P **P 07 26 33.4 -2.2**
comp=Z,7.5nm,0.8s,mb4.7,baz=72,slow=6.0,SNR=19
FINES FINESS Array B 69.88 332 *i* P **P 07 26 34.9 -0.6**
FINES pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 71.49 44 *e*P **P 07 26 46.8 +1.4**
comp=Z,4.0nm,0.9s,mb4.3
KIV Kislovodsk 71.51 311 *e*P **P 07 26 45.2 -0.5**
comp=Z,20nm,0.6s,mb5.2
KIV Kislovodsk 71.51 311⇑*e*P **P 07 26 46.3 +0.6**
KIV *e* 07 27 03.6
KIV pmax pmax
comp=Z,34nm,1.2s,mb5.2
SUMG Summit 72.13 360 *e*P **P 07 26 49.2 +0.4**
comp=Z,16nm,0.9s,mb5.0
GNI Garni 72.21 307 *e*P **P 07 26 50.0 +0.2**
comp=Z,33nm,1.1s,mb5.2
GNI Garni 72.21 307 *e*P **P 07 26 50.0 +0.2**
GNI pmax pmax
comp=Z,33nm,1.1s
BMO Blue Mountains 73.25 47 *e*P **P 07 26 56.4 +0.5**
comp=Z,17nm,0.3s,mb5.5
MSO Missoula 74.08 44 *e*P **P 07 27 01.9 +1.2**
comp=Z,1.1nm,0.7s,mb3.9
BEKR Beckwourth 74.10 52 *e*P **P 07 27 02.1 +1.1**
AKASG Malin Array Be 75.16 322 P **P 07 27 06.0 -0.8**
comp=Z,6.6nm,0.6s,mb4.7,baz=47,slow=6.0,SNR=43
FFC Flin Flon 75.17 32 *e*P **P 07 27 06.4 -0.4**
comp=Z,8.7nm,1.0s,mb4.6
NB2 NORSAR Subarra 75.35 337 P **P 07 27 07.1 -0.6**
comp=Z,22nm,0.9s,mb5.1,baz=42,slow=5.6
NB2 NORSAR Subarra 75.35 337 P **P 07 27 07.1 -0.6**
baz=42,slow=5.9
NB2 NORSAR Subarra 75.35 337 P **P 07 27 07.1 -0.6**
NB2 pmax pmax
comp=Z,22nm,0.9s,mb5.1
NOA NORSAR Array B 75.35 337 P **P 07 27 07.4 -0.3**
comp=Z,14nm,0.7s,mb5.0,baz=39,slow=5.7,SNR=40
NAO01 NORSAR Array S 75.60 337 *e*P **P 07 27 08.0 -1.2**

comp=Z,10nm,0.8s,mb4.8
DLMT Dillon 75.70 44 *e*P **P 07 27 10.7 +0.7**
HLID Hailey 75.70 47 *e*P **P 07 27 10.9 +0.8**
comp=Z,2.2nm,1.1s,mb4.0
ELK Elko 76.84 49 *e*P **P 07 27 18.1 +1.5**
comp=Z,2.9nm,1.1s,mb4.1
MALT Malatya 77.31 308 *e*P **P 07 27 19.7 +0.4**
comp=Z,5.5nm,0.8s,mb4.5
MALT Malatya 77.31 308 *e*P **P 07 27 19.7 +0.4**
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
IMW Indian Meadow 77.52 45 *e*P **P 07 27 22.1 +1.7**
comp=Z,5.4nm,0.9s,mb4.5
RRI2 Red Ridge 77.64 45 P **P 07 27 22.2 +1.3**
comp=Z,1.5nm,0.5s,mb4.2
TPAW Teton Pass 77.76 45 *e*P **P 07 27 23.5 +1.8**
comp=Z,3.6nm,0.8s,mb4.3
HWUT Hardware Ranch 78.55 47 *e*P **P 07 27 27.3 +1.2**
comp=Z,3.1nm,1.0s,mb4.2
DUG Dugway 78.65 49 *e*P **P 07 27 27.8 +1.2**
comp=Z,4.2nm,1.0s,mb4.3
DUG Dugway 78.65 49 *e*P **P 07 27 27.8 +1.2**
DUG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BW06 Boulder Array 79.01 45 *e*P **P 07 27 29.6 +1.0**
comp=Z,1.8nm,0.6s,mb4.2
PDAR Pinedale Array 79.01 45 P **P 07 27 29.2 +0.7**
comp=Z,2.1nm,0.5s,mb4.3,baz=282,slow=1.8,SNR=23
KWP Kalwaria 79.04 324 *e*P **P 07 27 29.7 +1.2**
BR131 Keskin Array S 79.47 311 *e*P **P 07 27 31.3 +0.2**
comp=Z,5.0nm,0.8s,mb4.5
BRTR Keskin Array B 79.47 311 P **P 07 27 31.4 +0.2**
comp=Z,4.8nm,0.8s,mb4.5,baz=80,slow=3.3,SNR=8.7
STHS Stebnicka Huta 79.88 325 *e* **P 07 27 36.5 +3.4**
STHS *e* pP 07 27 47.4 +2.7
OJC Ojcow 79.99 326 *e*P **P 07 27 34.2 +0.5**
NIE Niedzica 80.31 325 *e*P **P 07 27 36.4 +1.0**
SRU San Rafael 80.71 48 *e*P **P 07 27 38.7 +1.0**
KECS Kecovo 80.89 324 *e*P **P 07 27 39.2 +0.7**
ULM Lac du Bonnet 80.97 33 P **P 07 27 38.7 -0.1**
comp=Z,3.3nm,0.8s,mb4.3,baz=319,slow=6.7,SNR=4.8
ULM Lac du Bonnet 80.97 33 *e*P **P 07 27 38.5 -0.4**
comp=Z,5.5nm,0.9s,mb4.5
MORC Moravsky Berou 81.32 327 *e*P **P 07 27 40.6 -0.1**
comp=Z,5.7nm,1.0s,mb4.5
DPC Dobruska-Polom 81.44 328 *e*P **P 07 27 41.9 +0.6**
UPC Upice 81.46 328 *e*P **P 07 27 41.3 -0.1**
VYHS Vyhne 81.66 325 *e*P **P 07 27 42.6 +0.1**
VYHS *e* pP 07 27 56.5 +2.4
ASF Jabal al Asfar 81.94 304 P **P 07 27 44.2 0.0**
comp=Z,3.8nm,0.7s,mb4.5,baz=108,slow=6.4,SNR=3.8
ASF Jabal al Asfar 81.94 304 P **P 07 27 44.2 -0.1**
ASF pmax pmax
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 82.06 329 *i* P **P 07 27 45.0 +0.4**
comp=Z,8.2nm,0.9s,mb4.7
BRG Berggiesshubel 82.06 329 *i* P **P 07 27 45.0 +0.5**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CLL Collm 82.12 330 P **P 07 27 44.7 -0.1**
comp=Z,logA/T=1.2,mb4.9
CLL Collm 82.12 330 *i* P **P 07 27 44.7 -0.1**
comp=Z,16nm,1.0s,mb4.9
CLL Collm 82.12 330 *i* P **P 07 27 44.7 -0.1**
CLL pmax pmax
comp=Z,16nm,1.0s,mb4.9
PRU Pruhonice 82.48 328 *e*P **P 07 27 46.5 -0.2**
TREC Trest 82.59 327 *e*P **P 07 27 47.8 +0.6**
SMCO Snowmass 82.80 47 P **P 07 27 51.2 +2.6**
SMCO *e* pP 07 28 01.6 +1.4
NKC Novy Kostel 83.17 330 *e*P **P 07 27 51.1 +0.9**
MOX Moxa 83.20 330 P **P 07 27 50.0 -0.3**
KHC Kasperske Hory 83.54 328 *e*P **P 07 27 52.4 +0.4**
GERES GERESS Array B 83.70 328 P **P 07 27 52.8 -0.1**
comp=Z,2.3nm,0.7s,mb4.4,baz=34,slow=4.8,SNR=17
GRA1 Grafenberg Arr 84.09 330 *e*P **P 07 27 55.5 +0.7**
comp=Z,11nm,0.9s,mb5.0
GRF Grafenberg Arr 84.09 330 *e*P **P 07 27 55.5 +0.7**
comp=Z,11nm,0.9s,mb5.0
GRF Grafenberg Arr 84.09 330 *e*P **P 07 27 55.5 +0.7**
GRF pmax pmax
comp=Z,11nm,0.9s,mb5.0
GRF Grafenberg Arr 84.09 330 *e*P **P 07 27 55.5 +0.7**
GRF pmax pmax
comp=Z,11nm,0.9s,mb5.0
MOA Molln 84.21 327⇑*i*P **P 07 27 56.4 +0.9**
comp=Z,11nm,1.2s,mb4.8
SDCO Great Sand Dun 84.61 47 *e*P **P 07 27 59.5 +1.8**
comp=Z,5.2nm,1.1s,mb4.6
TUC Tucson 84.80 54 *e*P **P 07 28 00.2 +1.4**
comp=Z,2.8nm,1.2s,mb4.3
KBA Koelnbreinsper 85.20 327⇑*i*P **P 07 28 01.0 +0.6**
comp=Z,7.7nm,1.0s,mb4.8
ANMO Albuquerque 85.87 49 *e*P **P 07 28 05.7 +1.6**
comp=Z,2.4nm,1.3s,mb4.3
ANMO Albuquerque 85.87 49 *e*P **P 07 28 04.0 0.0**
GIVF Givet 86.25 333 *e*P **P 07 28 05.2 -0.3**
BAIF Baives 86.51 334 *e*P **P 07 28 06.6 -0.1**
CDF Champ du Feu 86.69 331 *e*P **P 07 28 07.7 0.0**
comp=Z,18nm,0.8s,mb5.1
SCHQ Schefferville 86.86 16 P **P 07 28 09.1 +0.7**
comp=Z,3.9nm,0.8s,mb4.7,baz=345,slow=5.9,SNR=6.0
HINF Hinteralfeld 87.34 331 *e*P **P 07 28 10.4 -0.5**
HAU Haudompre 87.39 331 *e*P **P 07 28 10.7 -0.4**
MEZF Maizieres J'vi 87.48 332 *e*P **P 07 28 11.7 +0.2**
CABF La Chapelle 88.63 331 *e*P **P 07 28 16.8 -0.3**
comp=Z,12nm,0.9s,mb4.9
LOR Lormes 88.95 332 *e*P **P 07 28 18.3 -0.3**
LPL La Plagne 89.26 330 *e*P **P 07 28 20.0 -0.1**
SSF Saint Saulge 89.26 332 *e*P **P 07 28 20.2 +0.1**
LPG La Plagne 89.26 330 *e*P **P 07 28 20.2 +0.1**
SMF Signal de Mont 89.48 332 *e*P **P 07 28 21.1 0.0**
AVF Avril sur Loir 89.54 332 *e*P **P 07 28 21.5 +0.1**
comp=Z,13nm,0.8s,mb5.0
GRR Gorron 89.69 336 *e*P **P 07 28 21.3 -0.8**
MBDF Montbardon 89.88 329 *e*P **P 07 28 22.9 -0.1**
BGF Bois d'Agland 89.93 333 *e*P **P 07 28 23.2 0.0**
ORIF Oris-en-Rattie 90.09 330 *e*P **P 07 28 23.8 -0.2**
SBF Sospel 90.30 328 *e*P **P 07 28 25.5 +0.5**
SGMF Saint Gilles 90.37 337 *e*P **P 07 28 24.6 -0.6**
TCF Toulx Ste Croi 90.39 333 *e*P **P 07 28 25.4 0.0**
comp=Z,6.8nm,0.9s,mb4.7
ROSF Rostrenen 90.53 337 *e*P **P 07 28 25.4 -0.6**
WMOK Wichita Mounta 90.62 45 *e*P **P 07 28 27.4 +0.6**
comp=Z,2.3nm,0.8s,mb4.6
VIVF Saint-Julien-l 90.63 330 *e*P **P 07 28 26.4 -0.2**
comp=Z,10nm,0.8s,mb4.9
MFF Saint Martin d 90.98 334 *e*P **P 07 28 28.3 +0.1**
comp=Z,16nm,0.7s,mb5.2
TXAR Lajitas Array 91.37 52 P **P 07 28 31.5 +1.1**
comp=Z,1.0nm,0.7s,mb4.2,baz=298,slow=2.9,SNR=14
TXAR Lajitas Array 91.37 52 P **P 07 28 31.5 +1.1**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
RJF Les Rejaudoux 91.48 333 *e*P **P 07 28 30.8 +0.3**
comp=Z,12nm,0.8s,mb5.0
CAF Calviac 91.60 332 *e*P **P 07 28 31.6 +0.6**
comp=Z,23nm,1.1s,mb5.1
LASF Ste Croix 91.61 331 *e*P **P 07 28 31.3 +0.2**
LFF La Frestale 92.08 333 *e*P **P 07 28 33.0 -0.3**
MTLF Montolieu 92.87 331 *e*P **P 07 28 37.2 +0.3**
EPF Esparros 93.86 332 *e*P **P 07 28 41.9 +0.5**
SNAA Sanae 139.23 197⇑*i*P PKPdf 07 34 53.1 +4.0
SNAA *e* 07 35 08.6
SNAA *e* 07 37 48.5
VNA2 Neumayer--Watz 140.80 196 P PKPdf 07 34 52.5 +0.6
VNA2 *e* 07 35 06.2
VNA2 *e* 07 37 56.4
VNA3 Neumayer Olymp 141.05 195 P PKPdf 07 34 51.3 -1.0
VNA3 *e* 07 35 06.1
VNA3 *e* 07 37 55.5
VNA1 Neumayer--Stat 141.20 196⇑*i*P PKPdf 07 34 53.9 +1.3
VNA1 *e* 07 37 56.5
SAML Samuel 145.59 45 *e*PKPdf PKPdf 07 35 02.9 +1.0
LPAZ La Paz 147.81 61 PKPbc PKPdf 07 35 11.0 +5.6
comp=Z,3.8nm,0.7s,slow=2.0,SNR=13
LPAZ La Paz 147.81 61 *e*PKPbc PKPdf 07 35 10.8 +5.4
LPAZ La Paz 147.81 61 PKP2 PKPab 07 35 11.0 -1.9
LPAZ pmax pmax
comp=Z,4.0nm,0.7s
LVC Limon Verde 151.08 72 PKPbc PKPdf 07 35 19.0 +8.6
comp=Z,3.3nm,0.7s,baz=276,slow=9.0,SNR=3.7
LVC PKPab PKPab 07 35 26.6 +0.3
comp=Z,3.6nm,0.8s,baz=224,slow=3.7,SNR=4.7
SIV San Ignacio 152.36 51 PKPbc PKPdf 07 35 21.1 +8.7

comp=Z,2.0nm,0.5s,baz=298,slow=3.1,SNR=12
SIV PKPab PKPab 07 35 31.4 -0.4
comp=Z,3.0nm,0.6s,baz=299,slow=1.5,SNR=10
CFAA Coronel Fontan 155.49 89 PKPab PKPab 07 35 44.0 -0.6
comp=Z,0.1nm,0.6s,baz=279,slow=6.6,SNR=3.8

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*CRAAG **09** 07:26:39.9, 4.47S×153.37E, Mb7.3*
*BJI **09** 07:26:41.6, 4.38S×153.79E, h95km, mB7.0, mb6.1*
*MOS **09** 07:26:41.6±1.5, 4.42S×153.41E, h77km, mb6.5/52, Error ellipse: s-maj=7.6km s-min=5.3km az=96.0*
*BGS **09** 07:26:43.4, 4.54S×153.47E, h90km*
*IDC **09** 07:26:43.8±2.2, 4.50S×153.32E, h96km±20km, mb5.7/26, mb1 5.6/27, mb1mx5.6/27, mbtmp6.0/27, MS7.0/17, Ms1 7.0/17, ms1mx6.8/23, Error ellipse: s-maj=12.7km s-min=8.4km az=68.0*
*NEIC **09** 07:26:43.7±0.1, 4.54S×153.47E, h90km, mb6.3/87, ME6.2, MW7.4, Error ellipse: s-maj=4.3km s-min=3.3km az=82.0 Broadband fault plane solution: P waves. NP1:φs315°, δ50°, λ90°. NP2:φs135°, δ40°, λ90°. Principal axes: T Plg85°, Azm225°; N Plg0°, Azm0°; P Plg5°, Azm45°; Moment Tensor Solution. s52 Moment tensor: Scale 10^{20} Nm; Mrr1.63; Mθθ-1.37; Mφφ-0.27; Mrθ-0.38; Mθφ0.81; Mφr-0.08; Best double couple: Mo1.8×10^{20} NP1: φs127°, δ41°, λ104°. NP2:φs289°, δ51°, λ78°. Principal axes: T 1.7, Plg80°, Azm145°; N .12, Plg9°, Azm296°; P -1.82, Plg5°, Azm27°; Complex earthquake, with at least two events occurring after the onset observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC Felt at Rabaul and Sohano and on Lihir. Also felt at Gizo and Honiara, Solomon Islands.
*HRVD **09** 07:26:43.7±0.1, 5.20S×153.95E, h84km, MW7.7/77, Centroid moment Tensor Solution.Mantle waves: s77,c210; Half duration: 16s2 Moment tensor: Scale 10^{20} Nm; Mrr3.13±.02; Mθθ-1.32±.01; Mφφ-1.82±.01; Mrθ-1.25±.01; Mθφ1.60±.01; Mφr1.38±.02; Best double couple: Mo3.668×10^{20} NP1:φs140°, δ30°, λ91°. NP2: φs319°, δ60°, λ89°. Principal axes: T 3.638, Plg75°, Azm226°; N .049, Plg1°, Azm319°; P -3.697, Plg15°, Azm49°; nsta1 refers to body waves. nsta2 refers to mantle waves, cutoff=150s.*
ISC 09 07:26:42.7±0.1**, 4.56S**±0.02×**153.48E**±0.02**, h94**km**, h94**km±1.9km**:pP-P, n1121,** σ1s**20**/499**, mb6.2**/138**, 140C-33D, New Ireland region**

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

HNR Honiara 8.04 127 P **P 07 28 40.3 +1.8**
126nm,0.3s,baz=230,slow=3.9,SNR=28
HNR S **S 07 30 12.7 +4.2**
3μm,0.3s,baz=193,slow=8.4,SNR=5.7
HNR Honiara 8.04 127⇓*i*Pn **P 07 28 37.7 -0.8**
44μm,1.0s
HNR Honiara 8.04 127 P **P 07 28 40.3 +1.8**
HNR S **S 07 30 12.7 +4.3**
HNR pmax pmax
comp=Z,126nm,0.3s
CTA Charters Tower 16.96 204⇑*i*P **P 07 30 38.2 +2.6**
comp=Z,526nm,1.1s
CTA Charters Tower 16.96 204 P **P 07 30 38.3 +2.8**
comp=Z,3.4nm,0.3s,baz=28,slow=13,SNR=66
CTA LR LR 07 36 13.7
comp=Z,795μm,20.8s,baz=24,slow=34
CTA Charters Tower 16.96 204⇑*i*P **P 07 30 38.2 +2.6**
CTA pmax pmax
comp=Z,526nm,1.1s
CTAO Charters Tower 16.96 204 Sn **S 07 33 52.3 +13**
CTAO Charters Tower 16.96 204 *e*P **P 07 30 36.8 +1.3**
comp=Z,4μm,1.4s
CTAO *e*S **S 07 33 50.4 +11**
CTAO Charters Tower 16.96 204 *e*P **P 07 30 36.8 +1.2**
CTAO *e*S **S 07 33 50.4 +11**
CTAO pmax pmax
comp=Z,4μm,1.4s
KWAJ Kwajalein Atol 19.36 47 *e*P **P 07 31 03.1 -0.5**
comp=Z,26nm,0.9s
GUMO Guam 19.95 335 P **P 07 31 10.5 +0.6**
comp=Z,25nm,0.3s,baz=178,slow=5.8,SNR=36
GUMO Guam 19.95 335 *e*P **P 07 31 10.1 +0.3**
comp=Z,7μm,1.3s
GUMO Guam 19.95 335 P **P 07 31 10.5 +0.6**
GUMO pmax pmax
comp=Z,25nm,0.3s
DZM Mont Dzumac 21.47 145⇑*e*P **P 07 31 23.9 -1.2**
DZM Mont Dzumac 21.47 145 P **P 07 31 26.5 +1.4**
comp=Z,62nm,0.6s,mb5.1,baz=336,slow=11,SNR=32
DZM Mont Dzumac 21.47 145⇑*e*P **P 07 31 23.9 -1.3**
WRAB Tennant Creek 24.10 229 *e*P **P 07 31 50.1 -0.7**
comp=Z,2μm,0.6s,mb6.6
WRAB *e*S **S 07 36 09.7 +11**
WRAB LR LR
comp=Z,203μm,21.0s
WRAB Tennant Creek 24.10 229 *e*P **P 07 31 50.1 -0.7**
WRAB *e*S **S 07 36 09.7 +11**
WRAB pmax pmax
comp=Z,2μm,0.6s,mb6.6
WRAB MLR MLR
comp=Z,203μm,21.0s
WRA Warramunga Arr 24.11 229 P **P 07 31 51.0 0.0**
comp=Z,448nm,0.7s,mb5.9,baz=55,slow=10.0,SNR=407
WRA Warramunga Arr 24.11 229 *i* P **P 07 31 50.5 -0.4**
WRA pmax pmax
comp=Z,448nm,0.7s
ASPA Alice Springs 26.79 223 *e*P **P 07 32 14.5 -1.5**
WAKE Wake Island 27.01 28 *e*P **P 07 32 17.4 -0.7**
comp=Z,3μm,1.5s,mb6.5
RIV Riverview 29.20 184 *e*P **P 07 32 39.4 +1.7**
STKA Stephens Creek 29.37 201⇓*i*P **P 07 32 37.4 -1.9**
comp=Z,461nm,0.8s,mb6.2
STKA Stephens Creek 29.37 201 P **P 07 32 37.3 -2.0**
comp=Z,354nm,0.7s,mb6.1,baz=8.4,slow=9.0,SNR=77
STKA LR LR 07 45 31.9
comp=Z,429μm,18.4s,baz=17,slow=38
MATI Mati 29.48 293 *e*P **P 07 32 41.0 +0.6**
BIPH Bislig 29.86 295⇑*i*P **P 07 32 41.6 -2.2**
DAV Davao City (W) 30.15 292⇓*e*P **P 07 32 48.0 +1.7**
FITZ Fitzroy Crossi 30.37 241⇑*i*P **P 07 32 45.8 -2.4**
comp=Z,1μm,0.8s,mb6.5
FITZ Fitzroy Crossi 30.37 241 P **P 07 32 45.8 -2.4**
comp=Z,572nm,0.8s,mb6.3,baz=67,slow=4.4,SNR=117
FITZ LR LR 07 46 09.1
comp=Z,258μm,21.1s,baz=92,slow=38
KCP Kidapawan 30.58 292 *e*P **P 07 33 00.7 +11**
CNB Canberra Magne 30.84 187⇓*i*P **P 07 32 52.9 +0.7**
comp=Z,2μm,1.9s,mb6.6
BUTP Butuan 30.85 296 *e*P **P 07 32 54.5 +1.9**
BUKP Musuan 30.93 293 *e*P **P 07 32 52.7 -0.4**
SCPH Surigao 31.32 297⇑*e*P **P 07 32 56.9 +0.3**
CGP Cagayan de Oro 31.48 294⇓*e*P **P 07 33 00.2 +2.2**
MSLP Maasin 32.03 297 *e*P **P 07 33 04.7 +2.0**
TBP Tagbilaran 32.73 296 *e*P **P 07 33 08.4 -0.4**
LLP Lapu-Lapu 32.90 297⇓*e*P **P 07 33 11.3 +1.0**
comp=Z,251μm,1.0s
SNPH Sibulan 33.16 295 *e*P **P 07 33 14.0 +1.4**
IPIL Ipil 33.19 292 *e*P **P 07 33 15.2 +2.4**
CNP Catarman 33.28 301 *e*P **P 07 33 14.3 +0.6**
CBIJ Chichi jima 33.31 341 P **P 07 33 11.6 -2.2**
comp=Z,438nm,0.5s,mb6.5,baz=293,slow=1.3,SNR=19
TOO Toolangi 33.66 191⇑*i*P **P 07 33 17.1 +0.5**
comp=Z,566nm,1.8s,mb6.1
TOO Toolangi 33.66 191⇑*i*P **P 07 33 17.1 +0.5**
TOO pmax pmax
comp=Z,566nm,1.8s,mb6.1
PVCP Virac 34.24 302 *e*P **P 07 33 23.4 +1.5**
GUIM Jordan 34.26 296 *e*P **P 07 33 22.7 +0.7**
RCP Roxas 34.52 298 *e*P **P 07 33 26.3 +2.1**
KALP Kalibo 34.92 298 *e*P **P 07 33 37.1 +9.5**
FORT Forrest 35.40 220⇑*i*P **P 07 33 29.9 -1.7**
comp=Z,2μm,0.9s,mb6.9
AFI Afiamalu 35.48 108 P **P 07 33 32.8 +0.4**
comp=Z,122nm,0.9s,mb5.7,baz=83,slow=7.3,SNR=8.1
AFI LR LR 07 45 57.4
comp=Z,397μm,21.0s,baz=278,slow=32
AFI Afiamalu 35.48 108 *e*P **P 07 33 31.0 -1.4**
comp=Z,617nm,1.0s,mb6.4
AFI LR LR
comp=Z,411μm,21.0s
AFI Afiamalu 35.48 108 *e*P **P 07 33 31.0 -1.4**

AFI pmax pmax
comp=Z,617nm,1.0s,mb6.4
AFI MLR MLR
comp=Z,411µm,21.0s
OTRP Odiongan 35.50 299 *e*P **P 07 33 32.3 -0.3**
OUZ Omahuta 35.73 151 PN **P 07 33 39.2 +4.8**
OUZ Omahuta 35.73 151 P **P 07 33 39.2 +4.9**
CUYO Cuyo Island 35.76 296 *e*P **P 07 33 37.1 +2.3**
GQP Guinayangan 35.84 301 *e*P **P 07 33 37.7 +2.2**
BOAC Boac 36.15 300 *e*P **P 07 33 40.8 +2.7**
SJMP San Jose 36.34 298 *e*P **P 07 33 41.5 +1.8**
RAO Raoul Island 36.56 135 P **P 07 33 42.6 +1.2**
comp=Z,292nm,0.8s,mb6.2,baz=82,slow=23,SNR=2.8
RAO Raoul Island 36.56 135 *e*P **P 07 33 41.4 0.0**
comp=Z,1µm,0.9s,mb6.8
RAO LR LR
comp=Z,446µm,21.0s
RAO Raoul Island 36.56 135 *e*P **P 07 33 41.4 0.0**
RAO pmax pmax
comp=Z,1µm,0.9s,mb6.8
RAO MLR MLR
comp=Z,446µm,21.0s
TSM Tawau 36.64 283 P **P 07 33 44.4 +2.1**
POLP Polilio Island 36.67 302 *e*P **P 07 33 44.1 +1.7**
WCZ Waipu Caves 36.67 151 *e*PN **P 07 33 45.4 +3.1**
WCZ Waipu Caves 36.67 151 P **P 07 33 45.7 +3.4**
MBWA Marble Bar 36.68 240⇑ *i*P **P 07 33 42.1 -0.3**
comp=Z,1.2nm,0.4s
MBWA LR LR
comp=Z,231µm,20.0s
PGP Puerto Galera 36.94 300 *e*P **P 07 33 46.3 +1.6**
BUSP Coron 36.96 297 *e*P **P 07 33 47.0 +2.1**
ENPP El Nido 37.33 295 *e*P **P 07 33 48.5 +0.6**
BALP Baler 37.47 303 *e*P **P 07 33 48.3 -0.8**
WTAZ Waiatarua 37.58 152 *e*PN **P 07 33 59.8 +10**
WTAZ Waiatarua 37.58 152 P **P 07 34 02.1 +12**
MTAZ Motutapu 37.62 151 *e*PN **P 07 34 01.9 +12**
MTAZ Motutapu 37.62 151 P pP 07 34 09.6 -2.6
LUBP Lubang 37.66 299 *e*P **P 07 33 51.3 +0.6**
OTAZ Otara 37.76 151 P pP 07 34 10.8 -2.6
PCPH Palayan 37.78 303 *e*P **P 07 33 53.6 +1.9**
CAUP Cauayan 37.88 305 *e*P **P 07 33 54.5 +2.0**
BATP Bataraza 37.97 290 *e*P **P 07 33 54.1 +0.9**
MKAZ Moumakai 38.00 151 *e*PN **P 07 34 03.8 +11**
MKAZ Moumakai 38.00 151 *e*P **P 07 34 04.1 +11**
CVP Callao Caves 38.28 306 *e*P **P 07 33 50.0 -5.8**
TAU Tasmania Unive 38.58 187 *e*P **P 07 33 59.0 +1.0**
comp=Z,2µm,1.2s,mb6.7
TAU LR LR
comp=Z,83µm,21.0s
TAU Tasmania Unive 38.58 187 *e*P **P 07 33 59.0 +1.0**
TAU pmax pmax
comp=Z,2µm,1.2s,mb6.7
TAU MLR MLR
comp=Z,83µm,21.0s
KKM Kota Kinabalu 38.67 285 P **P 07 34 01.5 +2.4**
KKM Kota Kinabalu 38.67 285⇑ *i*P **P 07 33 59.5 +0.4**
KKM *e* 07 35 57.4
SCZP Santa Cruz 38.89 302 *e*P **P 07 33 59.2 -1.6**
HIZ Hauiti 38.99 153 *e*PN **P 07 34 13.9 +12**
HIZ Hauiti 38.99 153 P **P 07 34 14.5 +13**
ABRA Dolores 39.15 305 *e*P **P 07 34 04.0 +1.0**
BOLP Bolinao 39.18 303 *e*P **P 07 34 03.0 -0.3**
MARZ Manawahe 39.43 151 P **P 07 34 18.6 +13**
TAZ Tarawera 39.54 151 *e*PN **P 07 34 17.2 +11**
TAZ pP pP 07 34 37.1 +8.9
TAZ Tarawera 39.54 151 P **P 07 34 17.2 +11**
EDRZ Edgecumbe 39.55 151 P **P 07 34 19.4 +13**
JOW Kunigami 39.60 323 P **P 07 34 06.5 -0.3**
comp=Z,163nm,0.4s,mb6.2,baz=151,slow=8.2,SNR=60
JOW LR LR 07 48 22.6
comp=Z,54µm,21.8s,baz=324,slow=33
JHJ Hachijo jima 2 39.66 342 P **P 07 34 03.8 -3.3**
comp=Z,222nm,0.8s,mb6.0,baz=169,slow=12,SNR=8.3
BBP Basco 39.69 310 *e*P **P 07 34 08.3 +0.8**
WTVZ West Tongariro 39.81 153 P pP 07 34 28.3 -2.2
URZ Urewera 39.85 151 P **P 07 34 09.2 +0.5**
comp=Z,45nm,0.8s,mb5.3,baz=329,slow=3.7,SNR=16
URZ Urewera 39.85 151 *e*PN **P 07 34 10.7 +2.0**
URZ pP pP 07 34 33.8 +3.0
NGZ Ngauruhoe 39.87 153 *e*PN **P 07 34 20.7 +12**
NGZ Ngauruhoe 39.87 153 P **P 07 34 21.0 +12**
QRZ Quartz Range 39.96 157 *e*PN **P 07 34 09.3 -0.3**
QRZ Quartz Range 39.96 157 *e*P **P 07 34 09.6 +0.1**
WAZ Wanganui 40.07 154 *e*PN **P 07 34 13.1 +2.7**
WAZ Wanganui 40.07 154 *e*P **P 07 34 13.1 +2.7**
MWZ Matawai 40.12 150 *e*PN **P 07 34 09.7 -1.2**
MWZ PcS 07 40 07.7
MWZ Matawai 40.12 150 *e*P **P 07 34 10.7 -0.2**
PUZ Puketiti 40.28 149 *e*PN **P 07 34 11.5 -0.7**
PUZ PcS 07 40 10.9
PUZ Puketiti 40.28 149 *e*P **P 07 34 11.5 -0.7**
DSZ Denniston Nort 40.49 159 *e*PN **P 07 34 13.8 0.0**
DSZ Denniston Nort 40.49 159 *e*P **P 07 34 15.1 +1.3**
NNZ Nelson 40.62 157 *e*PN **P 07 34 14.4 -0.6**
NNZ Nelson 40.62 157 *e*P **P 07 34 14.2 -0.8**
KNZ Kokohu 40.72 151 *e*PN **P 07 34 15.9 +0.1**
KNZ PcS 07 40 30.1
THZ Tophouse 40.91 158 *e*PN **P 07 34 15.8 -1.5**
THZ ScP 07 40 08.4
THZ PcS 07 40 35.6
THZ Tophouse 40.91 158 *e*P **P 07 34 16.5 -0.8**
KIW Kapiti Island 40.95 155 *e*PN **P 07 34 17.8 +0.2**
TUWZ Tuamarina 41.03 156 *e*PN **P 07 34 16.3 -2.0**
MRZ Mangatainoka R 41.07 154 *e*PN **P 07 34 17.0 -1.6**
MRZ PcS 07 40 47.6
MRZ Mangatainoka R 41.07 154 *e*P **P 07 34 18.6 0.0**
SNZO South Karori 41.24 156 *e*PN **P 07 34 20.3 +0.3**
SNZO pP pP 07 34 36.8 -5.4
SNZO South Karori 41.24 156 *e*P **P 07 34 19.2 -0.8**
BFZ Birch Farm 41.38 154 *e*PN **P 07 34 20.9 -0.2**
BFZ Birch Farm 41.38 154 *e*P **P 07 34 20.7 -0.5**
FOZ Fox Glacier 41.40 162 *e*PN **P 07 34 21.0 -0.4**
FOZ Fox Glacier 41.40 162 *e*P **P 07 34 21.6 +0.3**
LTZ Lake Taylor 41.56 159 *e*PN **P 07 34 24.8 +2.1**
LTZ Lake Taylor 41.56 159 *e*P **P 07 34 23.0 +0.3**
JCZ Jackson Bay 41.59 163 *e*PN **P 07 34 23.0 0.0**
JCZ Jackson Bay 41.59 163 *e*P **P 07 34 24.1 +1.2**
KHZ Kahutara 41.71 158 *e*PN **P 07 34 22.4 -1.5**
KHZ PcS 07 40 45.2
KHZ Kahutara 41.71 158 *e*P **P 07 34 23.1 -0.8**
MSZ Milford Sound 41.92 165 *e*P **P 07 34 25.3 -0.3**
RPZ Rata Peaks 41.97 161 P **P 07 34 25.0 -1.0**
comp=Z,441nm,0.8s,mb6.2,baz=294,slow=3.2,SNR=59
RPZ LR LR 07 50 19.3
comp=Z,620µm,18.8s,baz=333,slow=34
RPZ Rata Peaks 41.97 161 *e*PN **P 07 34 24.9 -1.2**
RPZ Rata Peaks 41.97 161 *e*P **P 07 34 24.9 -1.1**
NACB Ninganchiao 42.19 314 *e*P **P 07 34 26.7 -1.4**
LBZ Lake Benmore 42.30 162 *e*PN **P 07 34 26.5 -2.2**
LBZ Lake Benmore 42.30 162 *e*P **P 07 34 27.4 -1.3**
CRLZ Canterbury Las 42.38 159 *e*P **P 07 34 28.5 -0.9**
DCZ Deep Cove 42.47 166 *e*PN **P 07 34 30.6 +0.5**
DCZ Deep Cove 42.47 166 *e*P **P 07 34 30.6 +0.5**
MQZ McQueen's Vall 42.51 159 *e*PN **P 07 34 30.6 +0.2**
MQZ McQueen's Vall 42.51 159 *e*P **P 07 34 30.6 +0.2**
MLZ Mavora Lakes 42.61 165 *e*PN **P 07 34 30.7 -0.5**
MLZ Mavora Lakes 42.61 165 *e*P **P 07 34 30.7 -0.5**
YHNB Yeheng 42.65 314 *e*P **P 07 34 31.6 -0.3**
TATO Taipei 42.76 315 *e*P **P 07 34 32.8 0.0**
comp=Z,720nm,0.9s,mb6.4
TATO LR LR
comp=Z,45µm,20.0s
KLBR Kellerberrin 42.96 227 *e*P **P 07 34 32.0 -2.3**
comp=Z,2µm,1.3s,mb6.6
KLBR *i* PCP PP 07 36 10.2 -7.7
MIDW Midway 43.02 39 *e*P **P 07 34 35.0 +0.2**
comp=Z,690nm,0.8s,mb6.4
ODZ Otahua Downs 43.03 162 *e*PN **P 07 34 33.5 -1.3**
ODZ Otahua Downs 43.03 162 *e*P **P 07 34 33.5 -1.2**
WHZ Wether Hill Ro 43.06 165 *e*PN **P 07 34 34.3 -0.6**
WHZ Wether Hill Ro 43.06 165 *e*P **P 07 34 34.9 0.0**
JNU Nakatsue 43.17 332 P **P 07 34 34.0 -1.9**
comp=Z,292nm,0.9s,mb6.0,baz=81,slow=7.6,SNR=52
MJAR Matsushiro Arr 43.31 342 P **P 07 34 33.7 -3.4**
comp=Z,56nm,1.1s,mb5.2,baz=158,slow=9.1,SNR=57
MJAR PP PP 07 36 20.4 -0.9
comp=Z,85nm,0.9s,baz=154,slow=10,SNR=2.9
MAJO Matsushiro 43.31 342 *e*P **P 07 34 34.9 -2.2**
comp=Z,296nm,0.9s,mb6.0
MAJO Matsushiro 43.31 342 *e*P **P 07 34 34.9 -2.2**
MAJO pmax pmax
comp=Z,296nm,0.9s,mb6.0
MAT Matsushiro 43.31 342 P **P 07 34 35.6 -1.5**
MAT S **S 07 40 56.0 -1.0**
MAT Matsushiro 43.31 342 *e*P **P 07 34 36.0 -1.1**
comp=Z,333nm,1.5s,mb5.8
MAT *e*S **S 07 41 00.0 +3.0**
MAT Matsushiro 43.31 342 *e*P **P 07 34 36.0 -1.1**
MAT *e*S **S 07 41 00.0 +3.0**
MAT pmax pmax
comp=Z,333nm,1.5s,mb5.8
KSM Kuching 43.55 277⇑ *i*P **P 07 34 39.3 0.0**
TUZ Tuapeka 43.56 164 *e*PN **P 07 34 38.1 -0.9**
TUZ Tuapeka 43.56 164 *e*P **P 07 34 38.1 -0.9**
NWAO Narrogin (SRO) 44.04 226 P **P 07 34 42.4 -0.6**
comp=Z,287nm,0.8s,mb6.0,baz=60,slow=7.6,SNR=21
NWAO LR LR 07 54 03.3
comp=Z,420µm,19.1s,baz=56,slow=37
NWAO Narrogin (SRO) 44.04 226⇑ *i*P **P 07 34 42.2 -0.8**
comp=Z,594nm,1.2s,mb6.2
NWAO Narrogin (SRO) 44.04 226⇑ *i*P **P 07 34 42.3 -0.7**
NWAO pmax pmax
comp=Z,594nm,1.2s
QZH Quanzhou 44.83 313⇑ *i*P **P 07 34 49.2 -0.3**
QZH XP sP 07 35 25.0 +2.4
QZH S **S 07 41 19.9 +0.8**
QZH XS 07 42 02.5
QZH AMB AMB
comp=Z,720nm,1.1s,mb6.3
QZH AMB AMB
comp=Z,15µm,4.8s
QZH LR LR
comp=N,65µm,15.1s
QZH LR LR
comp=E,74µm,19.8s
QZH LR LR
comp=Z,162µm,40.9s
HKC Hong Kong 46.80 306⇑ *i*P **P 07 35 08.0 +2.9**
HKC *i* S **S 07 41 50.0 +2.7**
SSE Sheshan 46.98 321 P **P 07 35 06.2 -0.2**
SSE AP pP 07 35 27.7 -1.2
SSE XP sP 07 35 38.2 -1.3
SSE PCP PcP 07 36 37.2 -0.5
SSE PP PP 07 36 57.1 -0.6
SSE SCP 07 40 22.5
SSE S **S 07 41 51.1 +1.5**
SSE XS 07 42 28.9
SSE AMB AMB
comp=Z,229nm,2.0s,mb5.6
SSE AMB AMB
comp=Z,5µm,5.9s
SSE LR LR
comp=N,32µm,30.6s
SSE LR LR
comp=E,30µm,30.9s
SSE LR LR
comp=Z,32µm,32.6s
SSE Sheshan 46.98 321 P **P 07 35 06.2 -0.2**
comp=Z,229nm,2.0s,mb5.6
SSE pP pP 07 35 27.7 -1.2
SSE sP sP 07 35 38.2 -1.3
SSE PcP PcP 07 36 37.2 -0.5
SSE PP PP 07 36 57.1 -0.6
SSE ScP 07 40 22.5
SSE S **S 07 41 51.1 +1.5**
SSE sS 07 42 28.9
SSE LR LR
comp=Z,32µm,32.6s
KS15 Wonju Array Si 48.10 332 *e*P **P 07 35 14.4 -0.6**
RAR Rarotonga 48.26 114 P **P 07 35 17.0 +0.5**
INCN Inchon 48.72 331⇑ *i*P **P 07 35 19.7 -0.1**
comp=Z,880nm,0.9s,mb6.7
INCN *e*pP pP 07 35 44.9 +2.4
INCN LR LR
comp=Z,44µm,21.0s
YUK Yuzh-Kuril'sk 48.86 353⇑ *i*P **P 07 35 19.0 -1.8**
YUK *i* S **S 07 42 16.0 +0.2**
YUK pmax pmax
comp=N,11µm,5.0s
YUK pmax pmax
comp=Z,9µm,5.0s
YUK pmax pmax
comp=N,170nm,0.5s
YUK pmax pmax
comp=Z,130nm,0.5s,mb6.1
YUK smax
comp=N,10µm,5.0s
YUK smax
comp=E,10µm,4.0s
QIZ Qiongzhong 48.93 300 P **P 07 35 22.2 +0.5**
QIZ XP sP 07 35 56.0 +1.2
QIZ PP PP 07 37 16.7 +0.7
QIZ S **S 07 42 19.2 +2.0**
QIZ XS 07 42 53.8
QIZ AMB AMB
comp=Z,216nm,1.1s,mb6.0
QIZ LR LR
comp=E,41µm,24.0s
QIZ LR LR
comp=Z,65µm,30.5s
QIZ Qiongzhong 48.93 300⇑ *i*P **P 07 35 22.1 +0.4**
comp=Z,193nm,0.9s,mb6.0
NJ2 Nanjing 49.09 320 *e*P **P 07 35 24.1 +1.4**
NJ2 AP pP 07 35 47.2 +1.8
NJ2 XP sP 07 35 58.8 +2.9
NJ2 PP PP 07 37 19.6 +2.2
NJ2 S **S 07 42 19.0 -0.2**
NJ2 XS 07 43 02.0
NJ2 AMB AMB
comp=Z,350nm,1.1s,mb6.2
NJ2 AMB AMB
comp=Z,8µm,10.0s
NJ2 LR LR
comp=N,79µm,23.9s
NJ2 LR LR
comp=E,87µm,24.8s
NJ2 LR LR
comp=Z,45µm,28.6s
ASAJ Asahikawa 49.44 350 P **P 07 35 24.4 -0.9**
comp=Z,47nm,0.6s,mb5.6,baz=215,slow=11,SNR=36
ASAJ PP PP 07 37 22.6 +2.0
comp=Z,373nm,0.8s,baz=237,slow=10,SNR=4.4
ASAJ LR LR 07 55 30.3
comp=Z,38µm,20.9s,baz=163,slow=35
ASAJ Asahikawa 49.44 350 P **P 07 35 24.4 -0.8**
ASAJ 07 37 22.7
ASAJ pmax pmax
comp=Z,47nm,0.6s
ASAJ pmax pmax
comp=Z,373nm,0.8s
MCQ Macquarie Isla 49.98 176 *e*P **P 07 35 29.3 0.0**
KGM Kluang 50.54 276 P **P 07 35 34.8 +0.6**
WHN Wuhan 51.16 316 P **P 07 35 39.0 +0.5**
WHN XP sP 07 36 14.0 +2.2
WHN S **S 07 42 47.8 0.0**
WHN LR LR
comp=N,15µm,16.0s
WHN LR LR
comp=E,29µm,15.0s
WHN LR LR
comp=Z,170µm,36.0s
VLA Vladivostok 51.32 340 *i* P **P 07 35 39.6 0.0**
UBT Ubonrachathani 51.87 293⇓ P **P 07 35 46.0 +1.9**
comp=Z,1µm,1.0s,mb6.9
YSS Yuzh-Sakhalins 52.16 351⇑ *i*P **P 07 35 44.6 -1.2**
comp=Z,343nm,1.0s,mb6.3
YSS *e*PP PP 07 37 40.3 -5.4
YSS Yuzh-Sakhalins 52.16 351*e i*P **P 07 35 45.8 0.0**
YSS *i* *SP sP 07 36 13.7 -5.5
YSS *i* 07 36 50.0
YSS *e* 07 37 40.0
YSS *i* S **S 07 43 02.0 +0.6**
YSS *i* *SS 07 43 36.0
YSS pmax pmax
comp=Z,240nm,1.3s,mb6.1
YSS pmax pmax
comp=N,3µm,6.0s
YSS pmax pmax
comp=Z,4µm,6.0s
YSS smax
comp=E,6µm,17.0s
YSS MLR MLR
comp=N,36µm,21.0s
YSS MLR MLR
comp=Z,36µm,21.0s
DL2 Dalian 52.32 329⇑ *i*P **P 07 35 45.0 -2.1**
DL2 XP sP 07 36 17.3 -3.2
DL2 PP PP 07 37 47.1 -0.3
DL2 S **S 07 43 03.9 +0.3**
DL2 XS 07 43 39.3
DL2 AMB AMB
comp=Z,130nm,1.3s,mb5.8
DL2 AMB AMB
comp=Z,4µm,7.3s
DL2 LR LR
comp=N,14µm,24.6s
DL2 LR LR
comp=E,17µm,22.5s
DL2 LR LR
comp=Z,40µm,27.1s
TIA Tai'an 52.93 323⇑ P **P 07 35 50.4 -1.3**
TIA AP pP 07 36 13.0 -1.7
TIA S **S 07 43 12.0 +0.1**
TIA AMB AMB
comp=Z,152nm,1.0s,mb6.0
TIA AMB AMB
comp=Z,6µm,6.0s
TIA LR LR
comp=N,13µm,21.0s
TIA LR LR
comp=E,30µm,21.0s
IPM Ipoh 53.18 279 P **P 07 35 53.2 -0.7**
MDJ Mudanjiang 53.44 339 P **P 07 35 55.2 -0.2**
MDJ AP pP 07 36 17.4 -1.0
MDJ XP sP 07 36 27.6 -1.3
MDJ PCP PcP 07 37 00.8 -0.4
MDJ PP PP 07 37 56.6 -1.5
MDJ SCP 07 40 50.1
MDJ PCS 07 41 00.0
MDJ S **S 07 43 22.8 +4.1**
MDJ XS 07 44 00.2
MDJ SCS ScS 07 45 35.3 +3.3
MDJ AMB AMB
comp=Z,149nm,1.6s,mb5.8
MDJ AMB AMB
comp=Z,6µm,12.6s
MDJ LR LR
comp=N,9µm,27.3s
MDJ LR LR
comp=E,43µm,27.3s
MDJ LR LR
comp=Z,28µm,27.3s
MDJ Mudanjiang 53.44 339⇑ *i*P **P 07 35 54.1 -1.3**
comp=Z,435nm,1.3s,mb6.3
MDJ *e*PP PP 07 37 51.9 -6.2
SNY Shenyang 53.60 332⇑ P **P 07 35 56.3 -0.3**
SNY S **S 07 43 21.8 +0.8**
SNY LR LR
comp=N,44µm,21.6s
SNY LR LR
comp=Z,91µm,33.6s
KULM Kulim 53.66 280 *e*P **P 07 35 54.4 -3.0**
KULM *e*PP PP 07 37 48.6 -12
CN2 Changchun 54.36 335 *e*P **P 07 36 01.0 -1.1**
CN2 *e*AP pP 07 36 23.0 -2.2
CN2 *e*S **S 07 43 30.5 -0.7**
CN2 AMB AMB
comp=Z,220nm,1.3s,mb6.0
CN2 AMB AMB
comp=Z,7µm,5.0s
CN2 LR LR
comp=N,28µm,19.0s
CN2 LR LR
comp=E,29µm,19.0s
CN2 LR LR
comp=Z,23µm,21.0s
ENH Enshi 54.49 312⇑ *i*P **P 07 36 02.4 -0.8**
comp=Z,0.9nm,0.4s
GYA Guiyang 54.79 307⇑ *i*P **P 07 36 05.6 +0.1**
GYA AP pP 07 36 29.3 +0.7
GYA XP sP 07 36 40.4 +1.3
GYA PP PP 07 38 11.8 +1.3
GYA SCP 07 40 53.3
GYA S **S 07 43 40.7 +3.6**
GYA XS 07 44 20.8
GYA SCS ScS 07 45 41.6 -0.2
GYA SS SS 07 47 24.8 +3.6
GYA AMB AMB
comp=Z,720nm,1.0s,mb6.7
GYA AMB AMB
comp=Z,17µm,9.2s
GYA LR LR
comp=N,27µm,19.5s
GYA LR LR
comp=E,30µm,20.4s
GYA LR LR
comp=Z,26µm,24.0s
SKR Severo-Kuril's 55.07 2 *e*P **P 07 36 04.0 -3.2**
SKR *e*S **S 07 43 32.0 -8.5**
SKR *e*PS PS 07 43 47.0 -20
SKR pmax pmax
comp=N,320nm,1.2s
SKR pmax pmax
comp=Z,790nm,1.2s,mb6.6
SKR MLR MLR
comp=N,30µm,20.0s
SKR MLR MLR
comp=E,44µm,20.0s
SKR MLR MLR
comp=Z,34µm,20.0s
HKL Haleakala 55.33 61 *e*P **P 07 36 09.9 +0.4**
NNT Nongplab 56.05 288 P **P 07 36 11.5 -3.2**
NST Nakhon Sawan 56.49 292 P **P 07 36 15.0 -2.8**
comp=Z,721nm,0.6s,mb6.9
PKT Phuket 56.56 283 P **P 07 36 23.0 +4.6**
TIY Taiyuan 56.76 321⇑ P **P 07 36 16.0 -3.5**
TIY S **S 07 44 10.0 +6.9**
TIY LR LR
comp=N,41µm,22.0s
KLR Kul'dur 56.81 343⇓ *i*P **P 07 36 16.0 -3.7**
KLR pmax pmax
comp=E,1µm,3.0s
KLR pmax pmax
comp=Z,2µm,3.0s
KLR pmax pmax
comp=N,4µm,12.0s
KLR pmax pmax
comp=E,2µm,12.0s
KLR pmax pmax
comp=Z,7µm,12.0s
KLR MLR MLR
comp=Z,18µm,16.0s
NANT Nan 56.91 296⇑ P **P 07 36 19.0 -1.8**
comp=Z,2µm,0.5s
XAN Xi'an 56.92 316 P **P 07 36 19.4 -1.3**
XAN AP pP 07 36 40.2 -3.7
XAN XP sP 07 36 53.5 -1.0
XAN S **S 07 44 05.7 +0.4**
XAN XS 07 44 44.5
XAN AMB AMB
comp=Z,254nm,1.8s,mb6.0
XAN AMB AMB
comp=Z,9µm,4.7s
XAN LR LR
comp=N,26µm,33.5s
XAN LR LR
comp=E,22µm,31.8s
XAN LR LR
comp=Z,47µm,38.4s
PPT Papeete 57.15 108 *e*P **P 07 36 22.9 +0.4**
comp=Z,244nm,1.2s,mb6.1
PPT Papeete 57.15 108 *e*LQ 07 51 00.4
PPT *e*LR LR 07 52 52.9
comp=Z,1423µm,33.5s
PPT Papeete 57.15 108 P **P 07 36 22.3 -0.2**
comp=Z,93nm,0.4s,mb6.1,baz=251,slow=4.8,SNR=24
PPT LR LR 07 59 10.1
comp=Z,65µm,18.2s,baz=271,slow=34
PAE Paea 57.16 108 *e*P **P 07 36 22.7 +0.2**
comp=Z,640nm,1.3s,mb6.5
KMI Kunming 57.42 304 P **P 07 36 25.4 +1.1**
KMI AP pP 07 36 47.3 -0.3
KMI XP sP 07 36 58.3 +0.1
KMI PP PP 07 38 36.4 +2.2
KMI SCP 07 41 07.3
KMI S **S 07 44 18.0 +6.1**
KMI XS 07 44 51.1
KMI SS SS 07 48 04.1 -0.2
KMI AMB AMB
comp=Z,588nm,1.4s,mb6.4
KMI AMB AMB

KMI LR LR
comp=N,45µm,21.0s
KMI LR LR
comp=E,26µm,23.8s
KMI LR LR
comp=Z,67µm,32.9s
KMI Kunming 57.42 304 P **P** **07 36 25.4 +1.1**
comp=Z,588nm,1.4s,mb6.4
KMI pP pP 07 36 47.3 -0.3
KMI sP sP 07 36 58.3 +0.1
KMI PcP PcP 07 37 22.1 +5.3
KMI PP PP 07 38 36.4 +2.2
KMI PPP PPP 07 39 56.5 +0.8
KMI ScP 07 41 07.3
KMI S **S** **07 44 18.0 +6.1**
KMI sS 07 44 51.1
KMI SS SS 07 48 04.1 -0.2
KMI SSS SSS 07 50 25.1 +0.5
KMI LR LR
comp=Z,67µm,32.9s
KMI Kunming 57.42 304 P **P** **07 36 25.4 +1.1**
KMI *PP pP 07 36 47.3 -0.3
KMI *SP sP 07 36 58.3 +0.1
KMI 07 37 22.1
KMI 07 38 36.4
KMI PPP PPP 07 39 56.5 +0.8
KMI S **S** **07 44 18.0 +6.1**
KMI SS SS 07 48 04.1 -0.2
KMI SSS SSS 07 50 25.1 +0.5
KMI pmax pmax
comp=Z,588nm,1.4s,mb6.4
TVO Taravao 57.48 108 *eP* **P** **07 36 25.5 +0.7**
comp=Z,544nm,0.7s,mb6.7
PET Petropavlovsk 57.53 4 *eP* **P** **07 36 24.7 0.0**
comp=Z,235nm,0.6s,mb6.4
PET LR LR
comp=Z,43µm,20.0s
PET Petropavlovsk 57.53 4 *ceP* **P** **07 36 23.7 -1.0**
PET *e*SP sP 07 36 56.3 -2.3
PET *e* 07 37 14.2
PET *e* 07 38 36.2
PET *i*S **S** **07 44 14.4 +1.3**
PET *e* 07 46 01.7
PET *e*SS SS 07 48 07.5 +1.7
PET *e*SSS SSS 07 50 28.5 +1.7
PET pmax pmax
comp=Z,238nm,1.3s,mb6.1
PET pmax pmax
comp=Z,4µm,5.1s
PET pmax pmax
comp=Z,196nm,0.6s,mb6.3
PET pmax pmax
comp=Z,5µm,18.0s
PET pmax pmax
comp=Z,9µm,11.3s
PET smax
comp=N,15µm,20.7s
PET smax
comp=E,14µm,23.5s
PET smax
comp=N,36µm,24.8s
PET MLR MLR
comp=Z,31µm,18.0s
PET MLR MLR
comp=Z,41µm,21.0s
TBI Tubuai 58.04 115 *eLQ* 07 51 03.1
TBI Tubuai 58.04 115 *eP* **P** **07 36 29.9 +1.3**
comp=Z,173nm,0.8s,mb6.1
TBI Tubuai 58.04 115 *eLR* LR 07 53 23.5
comp=Z,1712µm,38.2s
CHG Chiang Mai 58.50 295 ⇑P **P** **07 36 31.3 -0.5**
comp=Z,150nm,1.3s,mb5.9
PMOR Pomariorio Ree 58.54 105 *eP* **P** **07 36 32.3 +0.1**
comp=Z,882nm,1.1s,mb6.7
PMOR *e*pP pP 07 36 52.8 -2.8
comp=Z,688nm,1.0s
CD2 Chengdu 59.10 310⇑ *iP* **P** **07 36 35.0 -0.9**
CD2 PP PP 07 38 47.8 -1.4
CD2 S **S** **07 44 29.7 -4.1**
CD2 XS 07 45 11.9
CD2 SS SS 07 48 28.1 -2.9
CD2 AMB AMB
comp=Z,8µm,5.5s
CD2 LR LR
comp=N,18µm,21.6s
CD2 LR LR
comp=Z,40µm,36.0s
HHC Hu-ho-hao-te 59.25 324⇑ *iP* **P** **07 36 37.4 +0.6**
HHC AP pP 07 37 01.5 +1.3
HHC XP sP 07 37 12.5 +1.7
HHC PCP PcP 07 37 25.0 +1.2
HHC PP PP 07 38 50.6 +0.1
HHC SCP 07 41 14.5
HHC PCS 07 41 25.2
HHC S **S** **07 44 35.5 -0.1**
HHC XS 07 45 18.3
HHC SCS ScS 07 46 13.0 -1.0
HHC SS SS 07 48 32.5 -0.7
HHC AMB AMB
comp=Z,146nm,1.2s,mb5.9
HHC AMB AMB
comp=Z,9µm,12.8s
HHC LR LR
comp=N,24µm,23.8s
HHC LR LR
comp=E,26µm,23.8s
HHC LR LR
comp=Z,71µm,23.8s
FX1 Attu Island--F 59.60 14 P **P** **07 36 38.0 -1.0**
comp=Z,202nm,0.6s,mb6.3,baz=188,slow=3.9,SNR=40
FX1 Attu Island--F 59.60 14 *eP* **P** **07 36 38.0 -1.0**
FX1 Attu Island--F 59.60 14 P **P** **07 36 38.0 -1.0**
FX1 pmax pmax
comp=Z,202nm,0.6s
SMY Shemya 59.69 14 *eP* **P** **07 36 40.2 +0.6**
HIA Hailar 61.09 335⇑ *iP* **P** **07 36 48.2 -1.1**
comp=Z,370nm,0.8s,mb6.5
HIA Hailar 61.09 335⇑ *iP* **P** **07 36 48.2 -1.0**
HIA pmax pmax
comp=Z,370nm,0.8s
LZH Lanzhou 61.53 315 P **P** **07 36 53.5 +1.1**
LZH AP pP 07 37 19.6 +3.6
LZH XP sP 07 37 28.0 +1.4
LZH PP PP 07 39 14.0 +2.9
LZH S **S** **07 45 09.0 +4.1**
LZH XS 07 45 50.0
LZH AMB AMB
comp=Z,2µm,1.4s,mb7.0
LZH AMB AMB
comp=Z,18µm,5.0s
LZH LR LR
comp=E,25µm,14.6s
LZH LR LR
comp=Z,71µm,20.2s
LZH Lanzhou 61.53 315 P **P** **07 36 53.5 +1.1**
comp=Z,2µm,1.4s,mb7.0
LZH pP pP 07 37 19.6 +3.6
LZH sP sP 07 37 28.0 +1.4
LZH PP PP 07 39 14.0 +2.9
LZH PPP PPP 07 40 44.0 +3.6
LZH S **S** **07 45 09.0 +4.1**
LZH PS PS 07 45 40.0 +4.7
LZH LR LR
comp=Z,71µm,20.2s
LZH Lanzhou 61.53 315 P **P** **07 36 53.5 +1.1**
LZH *PP pP 07 37 19.6 +3.6
LZH *SP sP 07 37 28.0 +1.4
LZH 07 39 14.0
LZH PPP PPP 07 40 44.0 +3.6
LZH S **S** **07 45 09.0 +4.1**
LZH PS PS 07 45 40.0 +4.7
LZH pmax pmax
comp=Z,2µm,1.4s,mb7.0
LZH MLR MLR
comp=Z,71µm,20.2s
DRV Dumont d'Urvil 62.70 186 P **P** **07 37 02.0 +2.2**
DRV S **S** **07 45 26.0 +6.9**
DRV L 07 53 00.0
DRV R 07 57 00.0
IMP Imphal 64.77 300 *i*P **P** **07 37 13.0 -0.9**
IMP *i*x x 07 38 01.0

CLNS Chul'man 65.47 343*c iP* **P** **07 37 18.8 +0.9**
CLNS *e* pP 07 37 47.2 +5.4
CLNS *e*PS PS 07 46 32.3 +4.0
CLNS pmax pmax
comp=Z,183nm,0.7s,mb6.0
CLNS pmax pmax
comp=N,81nm,0.8s
CLNS pmax pmax
comp=E,25nm,0.5s
NIKO Nikolski 65.52 24⇑ *iP* **P** **07 37 17.8 -0.5**
GTA Gaotai 65.94 317⇑ P **P** **07 37 19.8 -1.4**
GTA AP pP 07 37 43.5 -1.6
GTA PCP PcP 07 37 48.1 -3.0
GTA XP sP 07 37 54.4 -1.0
GTA PP PP 07 39 49.7 -0.1
GTA S S 07 46 03.3 +3.8
GTA XS 07 46 45.4
GTA AMB AMB
comp=Z,474nm,1.5s,mb6.1
GTA AMB AMB
comp=Z,12µm,5.0s
GTA LR LR
comp=N,22µm,35.9s
GTA LR LR
comp=E,21µm,29.0s
GTA LR LR
comp=Z,39µm,34.0s
TAOE Nuku Hiva Isla 65.99 98 *eLQ* 07 53 30.9
TAOE Nuku Hiva Isla 65.99 98 *eP* **P** **07 37 22.6 +0.7**
comp=Z,3µm,0.9s,mb7.1
TAOE Nuku Hiva Isla 65.99 98 *eLR* LR 07 56 58.3
comp=Z,3002µm,36.2s
ULN Ulaanbaatar 66.15 328⇑ *iP* **P** **07 37 22.4 -0.1**
comp=Z,390nm,2.7s,mb5.8
ULN LR LR
comp=Z,28µm,22.0s
ULN Ulaanbaatar 66.15 328⇑ *iP* **P** **07 37 22.4 0.0**
ULN pmax pmax
comp=Z,390nm,2.7s,mb5.8
ULN MLR MLR
comp=Z,28µm,22.0s
SONM Songino Array 66.49 327 P **P** **07 37 22.3 -2.2**
comp=Z,60nm,0.8s,mb5.5,baz=141,slow=4.8,SNR=132
SONM PKP2bc 08 05 58.0
comp=Z,2.2nm,0.8s,baz=266,slow=2.2,SNR=5.1
SONM Songino Array 66.49 327 P **P** **07 37 22.3 -2.2**
SONM ⇑*e* 08 05 58.0
SHL Shillong 66.77 300 *eP* **P** **07 37 25.0 -1.7**
SHL *e*S S 07 46 14.0 +4.2
UNV Unalaska Valle 67.12 24 *eP* **P** **07 37 27.6 -0.8**
comp=Z,2µm,1.1s,mb6.8
SEY Seymchan 67.31 359⇑ *iP* **P** **07 37 29.8 +0.4**
CASY Casey 68.44 197⇓ *iP* **P** **07 37 34.2 -2.2**
LSA Lhasa 68.66 304 P **P** **07 37 38.0 -0.4**
LSA S S 07 46 41.5 +9.1
LSA LR LR
comp=E,40µm,29.1s
LSA LR LR
comp=Z,48µm,30.0s
LSA Lhasa 68.66 304 *eP* **P** **07 37 37.4 -1.0**
comp=Z,643nm,0.8s,mb6.5
LSA Lhasa 68.66 304 *eP* **P** **07 37 37.4 -1.0**
LSA pmax pmax
comp=Z,643nm,0.8s,mb6.5
YAK Yakutsk 68.88 348⇑ *iP* **P** **07 37 38.6 -0.6**
comp=Z,904nm,1.1s,mb6.5
YAK Yakutsk 68.88 348*c iP* **P** **07 37 38.5 -0.6**
YAK *i* pP 07 38 02.3 -1.0
YAK *e*S S 07 46 33.0 -1.4
YAK *e* 07 47 31.7
YAK *e*SS SS 07 51 00.5 -2.6
YAK *e*SSS SSS 07 54 09.1 +3.3
YAK pmax pmax
comp=Z,130nm,1.0s,mb5.7
YAK pmax pmax
comp=N,33nm,1.1s
YAK pmax pmax
comp=E,19nm,1.1s
YAK smax
comp=E,14µm,21.4s
YAK smax
comp=Z,3µm,16.6s
YAK smax
comp=N,4µm,22.4s
CAL Calcutta 69.07 296 *i* P **P** **07 37 41.1 +0.1**
CAL *ex* x 07 46 33.1
ZAK Zakamensk 69.64 328 *eP* **P** **07 37 44.2 +0.2**
ZAK *e* 07 40 19.1
ZAK pmax pmax
comp=Z,138nm,0.9s,mb5.8
ZAK pmax pmax
comp=Z,174nm,1.4s,mb5.7
BOD Bodaibo 69.81 339 *eP* **P** **07 37 43.3 -1.6**
BOD *e* 07 38 12.8
BOD pmax pmax
comp=Z,117nm,0.9s,mb5.7
GTK Gangtok 70.08 301 *eP* **P** **07 37 44.0 -3.1**
IRK Irkutsk 70.23 330 *eP* **P** **07 37 47.6 0.0**
IRK pmax pmax
comp=Z,517nm,4.2s
SDPT Sand Point 70.71 26 *eP* **P** **07 37 50.4 0.0**
RKT Rikitea 71.26 113 *eP* **P** **07 37 55.2 +1.0**
comp=Z,235nm,1.0s,mb6.0
RKT Rikitea 71.26 113 *eLQ* 07 56 45.7
RKT *e*LR LR 07 59 28.5
comp=Z,1204µm,34.8s
BOK Bokaro 71.56 297 *eP* **P** **07 37 55.3 -0.7**
BOK AMb AMB 07 37 59.9
comp=Z,557nm,1.4s,mb6.2
BOK *e*S S 07 47 08.2 +2.2
CHGN Chignik 72.21 26 *eP* **P** **07 37 59.3 -0.1**
GUN Gumba 72.58 301 *eP* **P** **07 38 00.8 -1.3**
comp=Z,2µm,0.9s,mb6.9
VIS Vishakhapatnam 72.62 290 *eP* **P** **07 38 01.6 -0.9**
VIS *ex* x 07 47 13.7
VIS AMS AMS 08 25 13.0
comp=Z,12µm,17.9s
PKI Pulchoki 72.89 301 *eP* **P** **07 38 02.0 -1.9**
comp=Z,3µm,1.4s,mb6.9
BILL Bilibino 72.99 5 *eP* **P** **07 38 03.2 -0.4**
BILL pmax pmax
comp=Z,284nm,1.2s,mb6.0
VNDA Vanda 73.04 178 P **P** **07 38 02.1 -1.7**
comp=Z,111nm,0.6s,mb5.8,baz=329,slow=6.4,SNR=117
VNDA LR LR 08 07 57.7
comp=Z,101µm,20.9s,baz=360,slow=34
VNDA Vanda 73.04 178 *eP* **P** **07 38 03.6 -0.2**
comp=Z,2µm,1.6s,mb6.7
VNDA LR LR
comp=Z,96µm,20.0s
VNDA Vanda 73.04 178 *eP* **P** **07 38 03.6 -0.2**
VNDA pmax pmax
comp=Z,2µm,1.6s
VNDA MLR MLR
comp=Z,96µm,20.0s
KKN Kakani 73.06 301 *eP* **P** **07 38 03.2 -1.7**
DMN Daman 73.17 300 *eP* **P** **07 38 04.1 -1.4**
comp=Z,3µm,1.0s,mb7.0
PALK Pallekele 73.57 279⇑ *iP* **P** **07 38 08.5 +0.4**
comp=Z,375nm,1.0s,mb6.1
SBA South Base 73.58 177⇑ *iP* **P** **07 38 07.8 +0.8**
comp=Z,1.7nm,0.3s
SBA LR LR
comp=Z,202µm,22.0s
GKN Gorkha 73.67 301 *eP* **P** **07 38 06.5 -1.9**
comp=Z,2µm,1.1s,mb6.9
MIR Mirnyy 74.39 201*d iP* **P** **07 38 13.0 +1.1**
MIR *i* 07 38 23.0
MIR *e* 07 41 08.0
MIR *e*S S 07 47 42.0 +4.8
MIR pmax pmax
comp=E,6µm,16.0s
KOLN Koldanda 74.50 300 *eP* **P** **07 38 11.6 -1.7**
comp=E,1µm,1.0s,mb6.7
BLSP Bilaspur 74.57 294 *eP* **P** **07 38 13.5 -0.3**
BLSP AMb AMB 07 38 16.8
comp=Z,811nm,1.1s,mb6.4
BLSP *i* x x 07 39 00.0
TNA Tin City 75.39 16⇑ *iP* **P** **07 38 16.4 -1.2**
comp=Z,161nm,1.1s,mb5.7
TNA LR LR
comp=Z,29µm,21.0s
ALBI Allahabad 75.51 297 *eP* **P** **07 38 18.5 -0.6**
KDAK Kodiak Island 75.66 27 *eP* **P** **07 38 19.6 +0.4**
WMQ Urumqi 76.03 317⇑ *iP* **P** **07 38 21.6 0.0**

WMQ PCP PcP 07 38 34.0 +0.2
WMQ AP pP 07 38 46.0 -0.2
WMQ XP sP 07 38 57.0 +0.6
WMQ PP PP 07 41 15.0 +0.1
WMQ S S 07 47 56.0 +0.3
WMQ SKS SKS 07 48 18.0 -0.5
WMQ SS SS 07 52 53.0 -0.3
WMQ AMB AMB
comp=Z,618nm,1.2s,mb6.2
WMQ AMB AMB
comp=Z,13µm,6.0s
WMQ LR LR
comp=N,24µm,25.8s
WMQ LR LR
comp=E,14µm,21.4s
WMQ LR LR
comp=Z,31µm,27.8s
SVW2 Sparrevohn 76.34 23 *eP* **P** **07 38 22.5 -0.5**
SALM Salem 76.57 283 *eP* **P** **07 38 25.0 -0.2**
HYB Hyderabad 77.06 289⇑ *iP* **P** **07 38 27.5 -0.4**
comp=Z,640nm,1.0s,mb6.3
HYB *e*PcP PcP 07 38 36.0 -2.7
HYB *e*pP pP 07 38 50.0 -2.5
HYB *e*sP sP 07 39 02.0 -0.7
HYB *e*PP PP 07 41 21.0 -2.5
HYB *e*S S 07 48 08.0 +0.6
HYB *e*ScS ScS 07 48 35.0 +2.0
HYB Hyderabad 77.06 289⇑ *eP* **P** **07 38 27.5 -0.4**
comp=Z,640nm,1.0s,mb6.3
HYB *e* 07 38 44.0
HYB *e* 07 39 02.0
HYB *e*S S 07 48 08.0 +0.6
HYB Hyderabad 77.06 289⇑ *eP* **P** **07 38 27.5 -0.4**
HYB *e* 07 38 44.0
HYB *e*S S 07 48 08.0 +0.6
HYB pmax pmax
comp=Z,640nm,1.0s,mb6.3
RSO Redoubt South 77.09 24 *eP* **P** **07 38 26.9 -0.4**
TTA Tatalina 77.30 21 *eP* **P** **07 38 30.0 +1.7**
LGTI Lohaghat 77.75 301 *eP* **P** **07 38 30.5 -1.0**
LGTI *ex* x 07 40 23.7
TIXI Tiksi 77.75 352⇑ *iP* **P** **07 38 29.1 -1.6**
TIXI Tiksi 77.75 352 *eP* **P** **07 38 28.0 -2.7**
TIXI *e* 07 48 20.9
TIXI *e* 07 49 07.2
TIXI pmax pmax
comp=Z,110nm,1.3s,mb5.4
SPU Mount Spurr 77.78 24 *eP* **P** **07 38 30.3 -0.7**
SLKM Skilak Lake 78.17 25 *eP* **P** **07 38 31.1 -2.1**
JHNI Jhansi 78.44 297 *ex* **P** **07 38 30.5 -4.9**
JHNI *ex* x 07 39 00.0
FIB Fire Island 78.54 24⇑ *iP* **P** **07 38 34.7 -0.5**
FIB Fire Island 78.54 24 P **P** **07 38 35.3 +0.1**
AKL Akola 79.01 292 *ex* x 07 40 49.2
AKL *i* x x 07 50 36.5
BHPL Bhopal 79.05 295 *eP* **P** **07 38 39.2 +0.4**
BHPL AMb AMB 07 38 41.6
comp=Z,553nm,1.1s,mb6.3
PMR Palmer 79.19 24⇑ *iP* **P** **07 38 41.4 +2.6**
comp=Z,712nm,2.5s,mb6.0
PMR LR LR
comp=Z,70µm,20.0s
PMR Palmer 79.19 24 P **P** **07 38 41.1 +2.4**
PMR pmax pmax
comp=Z,710nm,2.5s,mb6.0
SML Sawmill 79.63 24⇑ *iP* **P** **07 38 40.6 -0.5**
SML *e* pP 07 39 10.1 +4.3
IMA Indian Mountai 80.01 19 *eP* **P** **07 38 42.9 -0.2**
IMA Indian Mountai 80.01 19 P **P** **07 38 41.7 -1.4**
IMA pmax pmax
comp=Z,2µm,1.0s,mb6.9
NDI New Delhi 80.20 300 *i* P **P** **07 38 42.0 -2.8**
NDI *ex* x 07 48 38.0
DIV Divide 80.37 25⇑ *iP* **P** **07 38 44.6 -0.5**
comp=Z,313nm,1.2s,mb6.0
MCK McKinley 80.39 22⇑ *iP* **P** **07 38 43.8 -1.4**
comp=Z,207nm,1.2s,mb5.8
MCK LR LR
comp=Z,64µm,21.0s
MCK McKinley 80.39 22 P **P** **07 38 42.0 -3.1**
MCK pmax pmax
comp=Z,210nm,1.1s,mb5.9
DGAR Diego Garcia 80.54 263⇑ *eP* **P** **07 38 47.5 +0.5**
comp=Z,1µm,1.7s,mb6.5
DGAR Diego Garcia 80.54 263⇑ *eP* **P** **07 38 47.5 +0.5**
DGAR pmax pmax
comp=Z,1µm,1.7s,mb6.5
MKAR Makanchi Array 80.59 319 P **P** **07 38 44.7 -1.8**
comp=Z,255nm,1.0s,mb6.0,baz=104,slow=5.0,SNR=150
MKAR PKKPbc 07 57 27.1
comp=Z,1.5nm,0.6s,baz=266,slow=1.4,SNR=6.7
MKAR PKPPKP 08 05 35.0
comp=Z,1.8nm,0.9s,baz=270,slow=2.4,SNR=4.8
MKAR Makanchi Array 80.59 319 P **P** **07 38 44.7 -1.8**
MKAR PKKPbc 07 57 27.1
MKAR P'P' 08 05 35.0
KAD Karad 81.17 288 *eP* **P** **07 38 50.2 0.0**
KAD AMb AMB 07 38 53.5
comp=Z,482nm,1.4s,mb6.1
ZAL Zalesovo 81.34 326 P **P** **07 38 47.4 -3.0**
comp=Z,83nm,1.0s,mb5.5,baz=4.5,slow=6.2,SNR=62
THY Trims Highway 81.46 23⇑ *eP* **P** **07 38 50.4 -0.4**
ILAR Eielson Array 81.69 22 P **P** **07 38 48.5 -3.4**
comp=Z,89nm,0.9s,mb5.6,baz=253,slow=5.1,SNR=141
ILAR PKKPbc 07 57 23.6
comp=Z,3.9nm,0.8s,baz=7.4,slow=0.9,SNR=6.0
ILAR PKPPKP 08 05 29.9
comp=Z,2.0nm,0.9s,baz=353,slow=2.1,SNR=5.0
ILAR LR LR 08 12 28.9
comp=Z,82µm,21.4s,baz=243,slow=34
MENT Mentasta 82.06 24 *eP* **P** **07 38 53.7 -0.2**
AJM Ajmer 82.07 297 *eP* **P** **07 38 54.2 -0.5**
AJM AMb AMB 07 38 57.5
comp=Z,1µm,1.3s,mb6.6
NVS Novosibirsk 82.50 327 *i* P **P** **07 38 55.6 -0.7**
NVS *i* *PP pP 07 39 27.4 +6.3
NVS pmax pmax
comp=N,340nm,1.9s
NVS pmax pmax
comp=Z,1µm,1.9s,mb6.3
NVS pmax pmax
comp=E,349nm,1.4s
KSH Kashi 83.30 310⇑ *iP* **P** **07 39 03.4 +2.7**
KSH AP pP 07 39 26.5 +1.0
KSH XP sP 07 39 37.4 +1.6
KSH PP PP 07 42 17.7 +3.0
KSH SKS SKS 07 49 10.5 +0.4
KSH S S 07 49 14.2 +2.2
KSH *e*XS 07 49 53.3
KSH *e*SS SS 07 54 39.4 -2.3
KSH AMB AMB
comp=Z,14µm,3.9s
KSH LR LR
comp=N,17µm,10.1s
KSH LR LR
comp=E,17µm,12.1s
AAA Alma-Ata 83.36 314 *i* P **P** **07 39 02.5 +1.6**
AAA *i* S S 07 49 14.9 +2.4
AAA pmax pmax
comp=Z,13µm,13.2s
AAA MLR MLR
comp=Z,12µm,22.5s
ULHL Ulahol 83.65 313 P **P** **07 39 03.9 +1.5**
SNR=38
BHV Bhavnagar 83.66 292 *eP* **P** **07 39 01.0 -1.9**
SIT Sitka 83.72 31 *eP* **P** **07 39 02.3 0.0**
comp=Z,276nm,0.9s,mb6.1
SIT LR LR
comp=Z,76µm,20.0s
SIT Sitka 83.72 31 *eP* **P** **07 39 02.3 -0.1**
SIT pmax pmax
comp=Z,276nm,0.9s,mb6.1
SIT MLR MLR
comp=Z,76µm,20.0s
KURK Kurchatov 84.00 322⇑ *iP* **P** **07 39 03.7 -0.2**
comp=Z,708nm,1.1s,mb6.4
KURK Kurchatov 84.00 322⇑ *iP* **P** **07 39 03.7 -0.2**
KURK pmax pmax
comp=Z,708nm,1.1s,mb6.4
TKM2 Tokmak 2 84.25 314 P **P** **07 39 04.2 -1.2**
SNR=202
DAWY Dawson 84.29 24⇑ *iP* **P** **07 39 04.8 -0.3**
KZA Kyzart 84.34 313 P **P** **07 39 08.4 +2.6**
SNR=16

KBK **Karagaybulak** 84.67 313 P P 07 39 10.6 +3.1
SNR=99
CHMS **Chumysh** 84.88 314 P P 07 39 11.3 +2.7
SNR=266
UCH **Uchtor** 84.90 313 P P 07 39 08.8 +0.1
SNR=368
FRU **Bishkek** 84.94 314 *i* P P 07 39 09.0 +0.1
FRU *e* 07 49 34.0
FRU pmax pmax
comp=Z,11µm,5.0s
AAK **Ala-Archa** 84.99 313 P P 07 39 08.7 -0.4
SNR=181
AAK **Ala-Archa** 84.99 313 *e*P P 07 39 07.3 -1.8
comp=Z,622nm,0.8s,mb6.6
AAK *e*pP pP 07 39 35.9 +1.8
AAK *es*P sP 07 39 45.3 +1.1
AAK **Ala-Archa** 84.99 313 *c i*P P 07 39 08.2 -0.9
AAK pmax pmax
comp=Z,592nm,1.3s,mb6.4
AAK MLR MLR
comp=Z,27µm,22.0s
USP **Ospenovka** 85.11 314 P P 07 39 12.5 +2.8
SNR=313
QSPA **South Pole Qui** 85.40 180 *e*P P 07 39 09.6 -0.7
comp=Z,2µm,1.1s,mb7.0
AML **Almayashu** 85.49 313 P P 07 39 13.7 +2.1
SNR=118
EKS2 **Erkin-Say** 85.52 313 P P 07 39 11.0 -0.7
SNR=225
MAW **Mawson** 86.05 203 *e*P P 07 39 13.1 -0.6
comp=Z,319nm,0.6s,mb6.4
MAW **Mawson** 86.05 203 P P 07 39 12.0 -1.7
comp=Z,255nm,0.7s,mb6.3,baz=92,slow=7.0,SNR=70
MAW LR LR 08 14 13.7
comp=Z,108µm,21.4s,baz=84,slow=33
BHUJ **Bhuj** 86.12 294 *e*P P 07 39 15.6 +0.4
BHUJ AMb AMB 07 39 18.6
comp=Z,776nm,1.2s,mb6.5
DLBC **Dease Lake** 86.83 31⇑ *i*P P 07 39 18.1 +0.3
DLBC pP pP 07 39 43.7 +0.8
KCPM **Cahto Peak** 87.46 50 *e*P P 07 39 23.3 +2.1
KHMM **Horse Mountain** 87.51 49⇑ *e*P P 07 39 22.7 +1.2
KHMM *es*P sP 07 39 56.5 -0.1
KIPM **Iron Peak** 87.55 50 *e*P P 07 39 23.8 +2.1
HOPS **Hopland** 87.76 51⇑ *i*P P 07 39 23.1 +0.4
comp=Z,37nm,1.3s,mb5.2
KKAR **Karatay Array** 87.96 313 *i* P P 07 39 22.8 -0.8
INK **Inuvik** 87.99 21 P P 07 39 22.2 -0.9
comp=Z,58nm,0.8s,mb5.6,baz=249,slow=6.0,SNR=62
INK PKKPbc 07 57 09.4
comp=Z,7.8nm,0.8s,baz=68,slow=3.6,SNR=4.1
INK LR LR 08 16 49.0
comp=Z,87µm,21.6s,baz=210,slow=34
INK **Inuvik** 87.99 21⇑ *i*P P 07 39 22.1 -1.0
comp=Z,0.1nm,0.7s
OCWA **Octopus Mounta** 88.20 42 *e*P P 07 39 24.3 -0.3
comp=Z,119nm,0.9s,mb5.9
HUMO **Hull Mountain** 88.33 47⇑ *e*P P 07 39 24.3 -1.0
comp=Z,174nm,1.2s,mb6.0
COR **Corvallis** 88.35 45 *e*P P 07 39 26.3 +1.0
comp=Z,52nm,0.9s,mb5.6
COR *ep*P pP 07 39 51.5 +1.0
COR **Corvallis** 88.35 45 *e*P P 07 39 26.3 +1.0
COR *e**PP pP 07 39 51.5 +1.0
COR pmax pmax
comp=Z,120nm,0.9s,mb5.9
WDC **Whiskeytown Da** 88.37 49⇑ *i*P P 07 39 25.2 -0.4
comp=Z,181nm,1.4s,mb5.9
WDC **Whiskeytown Da** 88.37 49 P P 07 39 28.4 +2.8
WDC pmax pmax
comp=Z,180nm,1.3s,mb5.9
YBH **Yreka Blue Hor** 88.39 48 PKKPbc 07 57 10.3
comp=Z,3.2nm,0.9s,baz=180,slow=2.0,SNR=3.7
YBH LR LR 08 14 31.4
comp=Z,142µm,19.9s,baz=282,slow=32
YBH **Yreka Blue Hor** 88.39 48⇑ *e*P P 07 39 25.2 -0.5
comp=Z,234nm,1.4s,mb6.0
YBH **Yreka Blue Hor** 88.39 48 P P 07 39 27.3 +1.7
YBH pmax pmax
comp=Z,230nm,1.4s
SAO **San Andreas Ge** 88.76 53⇑ *e*P P 07 39 27.7 +0.2
comp=Z,119nm,1.3s,mb5.8
SAO **San Andreas Ge** 88.76 53 P P 07 39 29.7 +2.2
SAO pmax pmax
comp=Z,120nm,1.2s,mb5.8
BUOR **Burton Butte** 88.81 48 P P 07 39 29.1 +1.5
PGC **Sidney** 88.82 41 *e*P P 07 39 28.3 +0.8
comp=Z,105nm,0.9s,mb5.9
SSOR **Sweet Springs** 88.98 45 P P 07 39 29.3 +1.0
OHCM **Honcut** 89.03 51 *e*P P 07 39 29.6 +1.0
OHCM pP pP 07 39 52.0 -1.9
VOSK **Vostochnaya** 89.06 323 *i* P P 07 39 26.2 -2.3
LRV **Little Rabbit** 89.06 54 *e*P P 07 39 30.5 +1.6
STD **Studebaker Rid** 89.32 44 P P 07 39 29.8 -0.1
BVA0 **Borovoye Array** 89.46 323 *i* P P 07 39 27.9 -2.4
BVA0 pmax pmax
comp=Z,96nm,1.2s,mb5.7
BVAR **Borovoye Array** 89.46 323 P P 07 39 27.9 -2.5
comp=Z,267nm,1.0s,mb6.2,baz=108,slow=4.7,SNR=139
BVAR PKKPbc 07 57 06.9
comp=Z,1.8nm,0.6s,baz=285,slow=3.9,SNR=5.4
BRVK **Borovoye** 89.52 323 *e*P P 07 39 27.9 -2.7
comp=Z,319nm,1.1s,mb6.4
BRVK **Borovoye** 89.52 323 *e*P P 07 39 27.9 -2.8
BRVK pmax pmax
comp=Z,319nm,1.1s,mb6.4
VFP **Flag Point** 89.73 45 P P 07 39 32.6 +0.7
CMB **Columbia Colle** 89.74 52 *e*P P 07 39 32.2 +0.1
comp=Z,427nm,1.8s,mb6.3
CMB LR LR
comp=Z,94µm,22.0s
CMB **Columbia Colle** 89.74 52 *e*P P 07 39 32.2 +0.2
CMB pmax pmax
comp=Z,427nm,1.8s,mb6.3
CMB MLR MLR
comp=Z,94µm,22.0s
TTW **Tolt Reservoir** 89.86 42 P P 07 39 32.9 +0.5
BEKR **Beckwourth** 89.95 50⇑ *e*P P 07 39 32.2 -0.8
comp=Z,139nm,1.0s,mb6.0
CROR **Criterion Rigg** 90.03 45 P P 07 39 33.7 +0.5
MOD **Modoc** 90.20 48⇑ *e*P P 07 39 33.6 -0.5
comp=Z,115nm,1.8s,mb5.7
PAHR **Pah Rah Range** 90.68 50 *e*P P 07 39 37.1 +0.6
comp=Z,130nm,1.4s,mb5.9
ISA **Isabella** 91.04 54 *e*P P 07 39 37.1 -1.2
comp=Z,7.6nm,0.9s
MTUM **Tungsten Hills** 91.11 53 *e*P P 07 39 39.8 +1.3
HAWA **Hanford** 91.19 44 *e*P P 07 39 38.0 -0.6
comp=Z,15nm,1.8s
HAWA sP sP 07 40 10.2 -3.5
MWC **Mount Wilson** 91.26 56⇑ *e*P P 07 39 39.6 +0.3
MWC **Mount Wilson** 91.26 56 P P 07 39 39.8 +0.5
DAC **Darwin (Calif)** 91.80 54⇑ *e*P P 07 39 41.7 -0.1
comp=Z,6.8nm,0.7s
OD2 **Odessa Site #2** 91.84 43 P P 07 39 42.5 +0.9
TPH **Tonopah** 92.23 52⇑ *e*P P 07 39 43.5 -0.2
comp=Z,176nm,1.1s,mb6.2
TPH **Tonopah** 92.23 52 P P 07 39 45.2 +1.6
TPH pmax pmax
comp=Z,180nm,1.1s,mb6.2
BAR **Barrett** 92.31 58⇑ *e*P P 07 39 44.2 +0.1
BMN **Battle Mountai** 92.39 50⇑ *e*P P 07 39 44.1 -0.2
comp=Z,116nm,1.1s,mb6.0
BMN **Battle Mountai** 92.39 50 P P 07 39 45.9 +1.6
BMN pmax pmax
comp=Z,120nm,1.0s,mb6.1
PFO **Pinyon Flat Ob** 92.55 57⇑ *e*P P 07 39 45.0 -0.2
comp=Z,128nm,0.9s,mb6.2
PFO **Pinyon Flat Ob** 92.55 57⇑ *e*P P 07 39 45.0 -0.2
PFO pmax pmax
comp=Z,128nm,0.9s,mb6.2
BMO **Blue Mountains** 92.62 45⇑ *e*P P 07 39 44.3 -1.0
comp=Z,280nm,1.4s,mb6.4
BMO **Blue Mountains** 92.62 45 P P 07 39 44.5 -0.8
BMO pmax pmax
comp=Z,280nm,1.4s,mb6.4
NEW **Newport** 92.97 42 LR LR 08 16 47.4
comp=Z,68µm,20.4s,baz=349,slow=32
NEW **Newport** 92.97 42⇑ *e*P P 07 39 46.6 -0.2
comp=Z,341nm,1.5s,mb6.5
NEW **Newport** 92.97 42⇑ *e*P P 07 39 46.6 -0.2
NEW pmax pmax
comp=Z,341nm,1.5s
LDFC **Landfair** 93.75 55⇑ *e*P P 07 39 51.1 +0.5
ELK **Elko** 93.92 50⇑ *e*P P 07 39 50.7 -0.6
comp=Z,188nm,1.5s,mb6.2
ELK **Elko** 93.92 50⇑ *e*P P 07 39 50.7 -0.5
ELK pmax pmax
comp=Z,188nm,1.5s
NEN **Nelson** 93.99 55 *e*P P 07 39 52.6 +0.9
SYO **Syowa Base** 94.12 199 ⇓P P 07 39 47.8 -3.7
SYO **Syowa Base** 94.12 199 ⇓P P 07 39 50.1 -1.4
HLID **Hailey** 94.64 47 *e*P P 07 39 54.7 +0.3
comp=Z,37nm,0.7s,mb5.9
YKW3 **Yellowknife Ar** 94.90 28 *e*P P 07 39 53.9 -1.3
YKA **Yellowknife Ar** 94.90 28 P P 07 39 54.6 -0.6
comp=Z,27nm,0.8s,mb5.8,baz=270,slow=4.6,SNR=81
YKA PKKPbc 07 56 50.9
comp=Z,4.1nm,0.8s,baz=88,slow=2.2,SNR=7.2
YKA LR LR 08 19 03.5
comp=Z,54µm,21.4s,baz=260,slow=33
YKA **Yellowknife Ar** 94.90 28 P P 07 39 54.6 -0.6
YKA PKKPbc 07 56 50.9
YKA LR LR 08 19 03.5
MSO **Missoula** 95.06 44⇑ *e*P P 07 39 55.4 -0.9
comp=Z,38nm,0.7s,mb5.9
WALA **Waterton Lakes** 95.13 41⇑ *e*P P 07 39 56.7 +0.1
comp=Z,1.5nm,1.3s
WALA *ep*P pP 07 40 24.0 +2.0
WALA *es*P sP 07 40 36.0 +4.3
ARUT **Antelope Range** 95.20 53 *e*P P 07 39 58.4 +1.2
SVE **Sverdlovsk** 95.34 327⇑ *e*P P 07 39 59.0 +1.6
SVE *e* 07 50 20.0
EDM **Edmonton** 95.52 37⇑ *e*P P 07 39 57.8 -0.5
BGU **Big Grassy Mou** 95.60 49 *e*P P 07 39 57.9 -1.0
AB31 **Akbulak array** 95.74 319 *i* P P 07 39 58.3 -1.0
AB31 **Akbulak array** 95.74 319 *i* P P 07 39 58.2 -1.1
AB31 pmax pmax
comp=Z,139nm,1.2s,mb6.3
DUG **Dugway** 95.75 50⇑ *e*P P 07 39 59.4 -0.2
comp=Z,360nm,1.4s,mb6.6
DUG **Dugway** 95.75 50⇑ *e*P P 07 39 59.4 -0.2
DUG pmax pmax
comp=Z,361nm,1.4s,mb6.6
HVU **Hansel Valley** 95.81 49⇑ *e*P P 07 39 59.3 -0.6
HVU **Hansel Valley** 95.81 49 P P 07 40 01.2 +1.4
WBK **Wadi Bani Khal** 95.89 292 ⇓P P 07 40 01.2 +0.5
SNR=66
DLMT **Dillon** 95.98 45 *e*P P 07 40 00.5 0.0
MSU **Marysvale** 96.21 52 *e*P P 07 40 03.4 +1.6
MSU **Marysvale** 96.21 52 P P 07 40 03.8 +2.1
NLU **North Lily Min** 96.31 50⇑ *e*P P 07 40 02.2 +0.1
NLU *ep*P pP 07 40 26.7 -0.9
ARU **Arti** 96.50 326 *e*P P 07 40 01.0 -1.6
comp=Z,94nm,0.8s,mb6.3
ARU **Arti** 96.50 326⇑ *i*P P 07 40 01.8 -0.8
ARU *e* 07 43 59.5
ARU *e*PPP PPP 07 46 03.4 -3.0
ARU *e*SP SP 07 52 44.8 +7.1
ARU *e*SS SS 07 57 52.1 +1.0
ARU *e*SSS SSS 08 01 34.8 -1.8
ARU pmax pmax
comp=Z,75nm,1.0s,mb6.1
CTU **Camp Tracy** 96.57 50 *e*P P 07 40 03.5 +0.2
MPU **Maple Canyon** 96.65 50 *e*P P 07 40 04.3 +0.6
BOZ **Bozeman (W)** 96.66 45⇑ *e*P P 07 40 03.0 -0.6
comp=Z,60nm,1.0s,mb6.0
BOZ **Bozeman (W)** 96.66 45 P P 07 40 03.5 -0.1
BOZ pmax pmax
comp=Z,60nm,1.0s,mb6.0
JMDO **Jabal Madar** 96.68 292 P P 07 40 05.0 +0.7
SNR=28
BIDO **Bidbid** 96.70 293 P P 07 40 06.2 +1.9
SNR=20
HWUT **Hardware Ranch** 96.71 49 *e*P P 07 40 04.1 +0.2
comp=Z,616nm,0.8s,mb7.1
SMDO **Samad** 96.76 293 P P 07 40 05.6 +1.1
SNR=27
JLU **Jordanelle** 96.79 50 *e*P P 07 40 04.5 +0.1
RRI2 **Red Ridge** 96.89 47⇑ *e*P P 07 40 05.2 +0.5
comp=Z,346nm,0.8s,mb6.8
DAU **Daniels Canyon** 96.94 50 P P 07 40 03.1 -1.9
AKTO **Aktyubinsk** 96.97 320 P P 07 40 01.7 -3.2
AKTO pmax pmax
comp=Z,800nm,4.0s
TMUT **Trail Mountain** 96.98 51 *e*P P 07 40 05.9 +0.7
TMUT *ep*P pP 07 40 36.8 +6.2
VAN **Vannovskaya** 97.02 308⇑ *i*P P 07 40 05.0 -0.5
VAN *i* S PP 07 44 00.0 -4.6
AHID **Auburn Hatcher** 97.05 48⇑ *e*P P 07 40 05.7 +0.2
comp=Z,46nm,1.0s,mb5.9
YMR **Madison River** 97.14 46 *e*P P 07 40 06.9 +1.1
TPAW **Teton Pass** 97.16 47⇑ *e*P P 07 40 06.7 +0.7
comp=Z,107nm,0.8s,mb6.3
IMW **Indian Meadow** 97.16 46 *e*P P 07 40 06.3 +0.3
comp=Z,346nm,0.8s,mb6.8
IMW *e*PP PP 07 44 04.1 -1.5
REDW **Red Top Meadow** 97.23 47 *e*P P 07 40 06.6 +0.3
comp=Z,18nm,0.4s,mb5.8
YFT **Old Faithful** 97.23 46 *e*P P 07 40 07.1 +0.8
YFT *ep*P pP 07 40 33.0 +1.4
TUC **Tucson** 97.26 58 *e*P P 07 40 07.3 +0.6
comp=Z,59nm,1.4s,mb5.8
TUC *ep*P pP 07 40 34.6 +2.5
TUC **Tucson** 97.26 58 *e*P P 07 40 07.3 +0.6
TUC *e**PP pP 07 40 34.6 +2.5
TUC pmax pmax
comp=Z,59nm,1.4s,mb5.8
SNOW **Snow King Moun** 97.30 47 *e*P P 07 40 07.2 +0.6
comp=Z,35nm,0.6s,mb6.0
SOKR **Solikamsk** 97.30 329 *c i*P P 07 40 03.6 -2.6
SOKR *i* SS SS 07 58 13.8 +11
SOKR pmax pmax
comp=Z,60nm,1.7s,mb5.8
SOKR MLR MLR
comp=Z,19µm,23.0s
FLWY **Flagg Ranch** 97.33 46⇑ *e*P P 07 40 07.6 +0.8
YNR **Norris Junctio** 97.34 46 *e*P P 07 40 08.1 +1.4
LOHW **Long Hollow** 97.41 47 *e*P P 07 40 07.9 +0.8
comp=Z,31nm,0.5s,mb6.0
HOQ **Hoqain** 97.45 293 P P 07 40 09.3 +1.6
SNR=13
SRU **San Rafael** 97.51 51⇑ *e*P P 07 40 07.5 -0.1
SRU **San Rafael** 97.51 51 P P 07 40 08.8 +1.2
BSY **Bisya** 97.53 292 P P 07 40 08.8 +0.7
SNR=15
LKWY **Lake** 97.54 46 *e*P P 07 40 09.1 +1.5
comp=Z,390nm,1.3s,mb6.8
LKWY **Lake** 97.54 46 P P 07 40 11.1 +3.4
LKWY pmax pmax
comp=Z,390nm,1.2s,mb6.8
ARQ **Araqi** 98.17 293 P P 07 40 11.9 +0.9
SNR=32
BW06 **Boulder Array** 98.19 48⇑ *e*P P 07 40 09.9 -0.7
comp=Z,39nm,0.8s,mb6.0
PDAR **Pinedale Array** 98.19 48 P P 07 40 10.8 +0.2
comp=Z,2.9nm,0.5s,baz=258,slow=2.3,SNR=26
PDAR PKKPbc 07 56 44.3
comp=Z,3.0nm,0.5s,baz=108,slow=4.6,SNR=14
PDAR LR LR 08 22 14.2
comp=Z,81µm,19.4s,baz=226,slow=34
BANOM **Banah** 98.43 295 P P 07 40 13.5 +1.4
SNR=5.6
ASHO **Ashiyiah** 98.62 294 P P 07 40 14.0 +0.9
SNR=6.8
RES **Resolute Bay** 100.01 15 *e*Pdif P 07 40 18.1 -0.1
RES **Resolute Bay** 100.01 15 P P 07 40 18.8 +0.6
RBK **Rabkut** 100.19 287 ⇓P P 07 40 19.1 -1.2
SNR=21
SMCO **Snowmass** 100.27 51 *e*Pdif P 07 40 20.9 +0.8
LAO **LASA Array** 100.37 44 *e*Pdif P 07 40 20.9 +0.5
comp=Z,336nm,1.4s
WHFO **Wandi Hawf** 100.61 287 P P 07 40 20.5 -1.7
SNR=22
NVL **N'lazarevskaya** 100.63 192 ⇓*i*P P 07 40 21.9 +0.8
NVL pmax pmax
comp=Z,17nm,2.1s
MAIT **Maitri** 100.65 192 *e*Pdiff P 07 40 23.7 +2.6
MAIT *e*PP PP 07 44 30.6 -1.3
ANMO **Albuquerque** 100.84 55 P P 07 40 24.1 +1.2
comp=Z,0.6nm,0.3s,baz=271,slow=3.9,SNR=6.6
ANMO PP PP 07 44 35.5 +1.3
comp=Z,7.6nm,1.0s,baz=278,slow=11,SNR=4.0
ANMO PKKPbc 07 56 37.8
comp=Z,3.0nm,0.9s,baz=72,slow=3.2,SNR=5.6
ANMO **Albuquerque** 100.84 55 *e*Pdif P 07 40 23.9 +1.1
comp=Z,14nm,1.8s
ANMO LR LR
comp=Z,67µm,20.0s
ABTO **Aybut** 101.05 287 ⇑P P 07 40 23.2 -0.9
ISCO **Idaho Springs** 101.28 50 *e*Pdif P 07 40 25.1 +0.4
comp=Z,25nm,1.0s
ISCO *e*PKPdf 07 44 45.6
ISCO **Idaho Springs** 101.28 50 P P 07 40 26.3 +1.6
ISCO pmax pmax
comp=Z,25nm,1.0s
SDCO **Great Sand Dun** 101.49 53 *e*Pdif P 07 40 26.3 +0.7
comp=Z,1µm,0.8s
SDCO LR LR
comp=Z,88µm,19.0s
DGMT **Dagmar** 101.57 42 *e*Pdif P 07 40 25.0 -0.7
comp=Z,13nm,0.9s
DGMT *e*PP PP 07 44 35.9 -3.3
MNTX **Cornudas Mount** 101.86 59 *e*Pdif P 07 40 27.6 +0.1
comp=Z,1µm,0.8s
FFC **Flin Flon** 102.10 35 *e*Pdif Pdif 07 40 27.6 -0.2
comp=Z,55nm,1.4s
FFC **Flin Flon** 102.10 35 P Pdif 07 40 30.7 +2.8
SNAA **Sanae** 102.35 187⇑ *i* Pdif 07 40 29.2 +0.6
SNAA **Sanae** 102.35 187 *e* Pdif 07 40 55.4 +27
SNAA **Sanae** 102.35 187 *e* Pdif 07 41 01.3 +33
SNAA **Sanae** 102.35 187 *e* PP 07 44 41.2 -3.3
SNAA **Sanae** 102.35 187 *e* 07 45 04.6
SNAA **Sanae** 102.35 187 *e* 07 45 16.8
SNAA **Sanae** 102.35 187 P Pdif 07 40 27.8 -0.8
comp=Z,3.8nm,0.8s,baz=178,slow=4.0,SNR=25
SNAA PP PP 07 44 44.7 +0.2
comp=Z,21nm,1.1s,baz=155,slow=13,SNR=3.4
SNAA **Sanae** 102.35 187⇑ *i*P Pdif 07 40 29.2 +0.6
SNAA *e* 07 40 55.4
SNAA *e* 07 41 01.3
SNAA *e* 07 44 41.2
SNAA *e* 07 45 04.6
SNAA *e* 07 45 16.8
SNAA *e* 07 48 11.7
SNAA *e* 07 52 03.6
SNAA **Sanae** 102.35 187⇑ *i*P Pdif 07 40 29.2 +0.6
SNAA *e* 07 44 41.2
SNAA *e* 07 52 03.6
KBS **Kingsbay** 103.20 353 *e*P Pdif 07 40 28.6 -3.7
KBS *e*PP PP 07 44 47.9 -3.1
KBS *e*SKSa 07 51 04.5
TXAR **Lajitas Array** 103.42 61 Pdiff Pdif 07 40 36.4 +2.1
comp=Z,1.0nm,0.8s,baz=252,slow=3.5,SNR=9.6
TXAR PP PP 07 44 51.9 -1.8
comp=Z,7.4nm,1.1s,baz=270,slow=6.3,SNR=3.9
TXAR PKKPbc 07 56 28.9
comp=Z,7.5nm,0.7s,baz=106,slow=4.2,SNR=15
TXAR **Lajitas Array** 103.42 61 Pdif Pdif 07 40 36.4 +2.1
TXAR PP PP 07 44 51.9 -1.8
TXAR PKKPbc 07 56 28.9
VNA3 **Neumayer Olymp** 103.53 186⇑ *i*P Pdif 07 40 34.1 +0.3
VNA3 *e* 07 40 58.4
VNA3 *e* 07 41 03.7
VNA3 *e* 07 44 45.3
VNA3 *e* 07 45 12.6
VNA3 *e* 07 45 24.4
VNA3 *e* 07 48 13.6
VNA3 *e* 07 52 10.8
VNA3 *e* 07 56 47.2
VNA2 **Neumayer--Watz** 103.59 186⇑ *i*P Pdif 07 40 35.1 +1.0
VNA2 *e* 07 40 59.7
VNA2 *e* 07 41 05.5
VNA2 *e* 07 44 46.2
VNA2 *e* 07 45 13.2
VNA2 *e* 07 45 24.9
VNA2 *e* 07 48 13.1
VNA2 *e* 07 52 13.4
VNA2 *e* 07 56 47.9
VNA1 **Neumayer--Stat** 103.95 186⇑ *i*P Pdif 07 40 36.4 +0.7
VNA1 *e* 07 41 00.5
VNA1 *e* 07 41 06.2
VNA1 *e* 07 44 44.2
VNA1 *e* 07 45 11.6
VNA1 *e* 07 48 12.1
PECR **Pechory** 104.48 327 *e*P Pdif 07 40 38.0 -0.3
PECR *e* 07 44 58.0
PECR *e* 07 54 10.0
PECR pmax pmax
comp=Z,1µm,1.6s
PECR pmax pmax
comp=Z,1µm,5.0s
MAK **Makhachkala** 104.78 313 *d i*P Pdif 07 40 40.0 0.0
MAK *i* 07 51 56.0
MAK *i* 07 52 29.0
MAK *i* PS PS 07 54 06.0 -10
MAK pmax pmax
comp=Z,2µm,4.0s
APA **Apatity** 105.35 340⇓ *i*P Pdif 07 40 43.2 +1.3
APA *e* 07 52 04.0
APA *eS* 07 52 28.0
APA pmax pmax
comp=Z,20nm,0.7s
QRN **Al-Qurain** 105.82 298 *e*P Pdif 07 40 46.4 +1.5
QRN AMb AMB 07 40 57.6
comp=Z,48nm,0.9s
CBKS **Cedar Bluff** 105.91 51 *e*PKP 07 44 56.8
CBKS *e*PP PP 07 45 08.8 -3.0
KBD **Kabd** 105.99 299 *e*P Pdif 07 40 45.5 -0.2
KBD AMb AMB 07 40 48.4
comp=Z,106nm,1.0s
RDF **Al-Radifah** 106.13 299 *e*P Pdif 07 40 47.5 +1.2
RDF AMb AMB 07 40 48.5
comp=Z,66nm,1.1s
KEV **Kevo** 106.28 343 *ep* Pdif 07 40 47.7 +1.7
KEV **Kevo** 106.28 343 *ep* 07 44 59.6
DGRG **David-gareji** 106.56 312 P Pdif 07 40 46.9 -0.9
ULM **Lac du Bonnet** 106.63 39 Pdiff Pdif 07 40 50.0 +2.1
comp=Z,2.3nm,0.5s,baz=320,slow=5.2,SNR=4.7
ULM PKiKP 07 44 58.8
comp=Z,5.0nm,0.5s,baz=288,slow=4.3,SNR=8.2
ULM PKKPbc 07 56 18.4
comp=Z,4.5nm,0.9s,baz=72,slow=3.0,SNR=6.0
ARCES **ARCESS Array B** 106.84 343 Pdiff Pdif 07 40 49.9 +1.4
comp=Z,8.2nm,0.9s,baz=64,slow=6.9,SNR=19
ARCES PKiKP 07 44 57.8
comp=Z,12nm,0.9s,baz=103,slow=2.2,SNR=9.2
ARCES PP PP 07 45 17.1 -1.3
comp=Z,4.5nm,0.4s,baz=54,slow=7.5,SNR=7.3
ARCES PKKPbc 07 56 18.6
comp=Z,6.4nm,0.8s,baz=247,slow=2.2,SNR=7.6
ARCES **ARCESS Array B** 106.84 343 P Pdif 07 40 49.9 +1.5
ARCES 07 45 17.1
MTA **Mtatsminda** 106.95 312 P Pdif 07 40 48.9 -0.6
MTA S tx 07 45 31.9
TBLG **Delisi** 106.98 312 P Pdif 07 40 48.3 -1.5
TBLG S tx 07 45 19.1
VRHR **Novokhopersk** 107.18 322 *e*P Pdif 07 40 46.4 -3.9
VRHR *e* 07 45 15.6
VRHR *e*PS PS 07 54 32.9 -6.5
VRHR *e*SS SS 08 00 25.9 +7.1
VRHR pmax pmax
comp=Z,920nm,16.0s
VRHR pmax pmax
comp=N,310nm,17.0s
VRHR pmax pmax
comp=E,400nm,15.1s
VRHR pmax pmax
comp=Z,2µm,16.7s
VRHR pmax pmax
comp=N,420nm,17.3s
VRHR pmax pmax
comp=E,1µm,16.7s
VRHR MLR MLR
comp=Z,35µm,26.0s
VRHR MLR MLR
comp=N,8µm,22.0s
VRHR MLR MLR
comp=E,25µm,24.0s
GNI **Garni** 107.23 311 Pdiff Pdif 07 40 54.0 +3.1
comp=E,3.0nm,0.3s,baz=195,slow=22,SNR=5.9
GNI **Garni** 107.23 311 *e*Pdif Pdif 07 40 52.3 +1.4
comp=E,18nm,1.3s
GNI *e*PKPdf 07 44 58.4
GNI **Garni** 107.23 311 *e*P Pdif 07 40 52.3 +1.5
GNI pmax pmax
comp=Z,18nm,1.3s
ZEI **Tsey** 107.42 313 *e*P Pdif 07 40 48.2 -3.4
DAG **Danmarks Havn** 107.72 358 *j i*P Pdif 07 40 47.8 -4.4
comp=Z,4.7nm,1.2s
comp=Z,2µm,22.0s
DAG **Danmarks Havn** 107.72 358 *e*Pdu Pdif 07 40 47.8 -4.4
comp=Z,4.7nm,1.2s
DAG LR LR
comp=Z,2µm,22.0s

DAG	Danmarks Havn	107.72	358⇓	eP	Pdif	07 40 47.8	-4.4
DAG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
DAG				MLR	MLR		
	comp=Z,2µm,22.0s						
ONI	Oni	107.78	313	P	Pdif	07 40 54.4	+1.2
ONI				S	tx	07 45 14.9	
BKR	Bakuriani	107.90	312	P		07 45 23.3	
AKH	Akhalkalaki	107.96	312	P	Pdif	07 40 54.8	+0.8
KIV	Kislovodsk	108.07	315c	iP	Pdif	07 40 54.8	+0.3
KIV				i		07 45 26.3	
KIV				e		07 52 07.4	
KIV				pmax	pmax		
	comp=Z,600nm,3.8s						
KIV				MLR	MLR		
	comp=Z,19µm,23.0s						
DIGO	Kars	108.22	311	iP	Pdif	07 40 54.8	-0.3
JOF	Joensuu	108.25	336	ep	Pdif	07 40 54.2	-0.6
	comp=Z,14nm,0.7s						
JOF	Joensuu	108.25	336	ep		07 45 08.1	
HAKT	HAKKARI	108.42	308	iP	Pdif	07 40 54.6	-1.5
BHD	Baghdad	108.45	303	ex	x	07 40 31.0	
BHD				ix	x	07 45 19.0	
BHD				ix	x	07 45 58.5	
BHD				ix	x	07 52 06.0	
BHD				ix	x	07 55 28.0	
TRO	Tromso	108.59	345	eP	Pdif	07 40 51.0	-5.1
TRO				ePP	PP	07 45 27.2	-4.3
TRO				eSKSa		07 51 27.2	
VORD	Divnogorie	108.63	323	eP	Pdif	07 40 55.3	-1.4
VORD				pmax	pmax		
	comp=Z,380nm,6.6s						
VORD				pmax	pmax		
	comp=N,70nm,4.7s						
VORD				pmax	pmax		
	comp=E,180nm,6.6s						
VORD				MLR	MLR		
	comp=Z,31µm,25.0s						
VORD				MLR	MLR		
	comp=N,6µm,19.0s						
VORD				MLR	MLR		
	comp=E,28µm,29.0s						
OBN	Obninsk	108.90	327α	iP	Pdif	07 40 57.8	0.0
OBN				i		07 45 28.5	
OBN				e		08 04 44.5	
OBN				pmax	pmax		
	comp=Z,48nm,1.3s						
OBN				MLR	MLR		
	comp=Z,13µm,19.0s						
MSL	Mosul	109.10	307	ex	x	07 41 18.0	
MSL				ex	x	07 45 45.5	
MSL				ix	x	07 46 32.5	
MSL				ex	x	07 52 46.0	
MSL				ex	x	07 55 15.0	
MSL				ex	x	07 55 43.0	
ARTV	Artvin	109.16	312	iP	Pdif	07 40 57.6	-1.7
PUL	Pulkovo	110.13	333c	iP	Pdif	07 41 01.7	-1.4
PUL				eSSS	SS	08 01 12.2	+13
SOC	Sochi	110.25	315	iP	Pdif	07 41 02.0	-2.1
SOC				i		07 45 02.2	
SOC				e		07 45 40.4	
SOC				ePPP	PPP	07 47 59.9	-5.4
SOC				e		07 51 30.9	
SOC				ePS	PS	07 54 58.7	-10
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SOC				pmax	pmax		
	comp=Z,18nm,0.8s						
SOC				pmax	pmax		
	comp=N,16nm,1.0s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.7s						
KAF	Kangasniemi	110.67	336	ep	Pdif	07 41 07.7	+2.3
	comp=E,2.9nm,0.6s						
KAF	Kangasniemi	110.67	336	ep	PKPdf	07 45 03.3	-0.7
MARD	Mardin	110.76	308	iP	Pdif	07 41 05.2	-1.3
FINES	FINESS Array B	111.11	336	Pdiff	Pdif	07 41 08.0	+0.6
	comp=E,2.2nm,0.5s,baz=63,slow=5.9,SNR=17						
FINES				PKiKP		07 45 07.1	
	comp=E,2.0nm,0.5s,baz=56,slow=5.0,SNR=6.9						
FINES				PP	PP	07 45 44.0	-5.7
	comp=E,6.5nm,0.6s,baz=73,slow=8.2,SNR=3.8						
FINES				PKKPbc		07 56 05.0	
	comp=E,0.9nm,0.3s,baz=220,slow=2.8,SNR=8.6						
FINES	FINESS Array B	111.11	336	Pdif	Pdif	07 41 08.0	+0.6
FINES				PKPdf	PKPdf	07 45 07.1	+2.2
FINES				PP	PP	07 45 44.0	-5.7
FINES				PKKPbc		07 56 05.0	
KELT	Kelkit	111.36	311	iP	Pdif	07 41 08.8	-0.2
USHA	Ushuaia	111.39	155	PKiKP		07 45 08.0	
	comp=E,5.7nm,0.6s,baz=85,slow=2.9,SNR=7.2						
USHA				PKKPbc		07 56 03.6	
	comp=E,9.4nm,0.7s,baz=45,slow=3.4,SNR=8.6						
ANN	Anapa	111.54	317	iP	Pdif	07 41 07.7	-2.0
ANN				eSS	SS	08 01 27.0	+10
ANN				pmax	pmax		
	comp=Z,1µm,20.5s						
MALT	Malatya	112.39	310	ePdif	Pdif	07 41 15.3	+1.7
MALT				ePP	PP	07 45 59.1	-0.5
JMIC	Jan Mayen	112.67	354	eP	Pdif	07 41 15.4	+1.4
JMIC				ePP	PP	07 45 56.9	-4.1
SLM	Saint Louis	113.26	50	PKIKP	PKPdf	07 45 07.4	-2.3
SIM	Simferopol'	113.75	317d	iP	Pdif	07 41 23.3	+3.9
SIM				e		07 46 10.0	
SIM				pmax	pmax		
	comp=Z,580nm,16.1s						
SCO	Scoresbysund	114.10	358	iP	Pdif	07 41 20.3	-0.1
	comp=Z,8.0nm,1.2s						
SCO				i		07 46 09.3	
SCO	Scoresbysund	114.10	358	iP	Pdif	07 41 20.3	-0.1
SCO				i		07 46 09.3	
SCO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AKASG	Malin Array Be	114.69	325	Pdiff	Pdif	07 41 23.3	-0.1
	comp=Z,6.2nm,0.8s,baz=52,slow=4.5,SNR=24						
AKASG				PKP	PKPdf	07 45 11.9	-0.3
	comp=Z,28nm,0.6s,baz=58,slow=2.4,SNR=31						
AKASG				PKKPbc		07 55 51.4	
	comp=Z,5.2nm,0.5s,baz=260,slow=3.9,SNR=12						
AKASG	Malin Array Be	114.69	325	Pdif	Pdif	07 41 23.3	-0.1
AKASG				PKP	PKPdf	07 45 11.9	-0.3
AKASG				PKKPbc		07 55 51.4	
ASF	Jabal al Asfar	114.84	303	Pdiff	Pdif	07 41 25.5	+1.0
	comp=Z,1.4nm,0.4s,baz=45,slow=3.3,SNR=3.7						
ASF				PKP	PKPdf	07 45 14.6	+1.6
	comp=Z,9.9nm,0.7s,baz=349,slow=3.0,SNR=6.4						
ASF				PP	PP	07 46 15.2	-2.3
	comp=Z,37nm,1.1s,baz=300,slow=1.1,SNR=8.3						
CDAG	Cicekdag	115.13	312	iP	Pdif	07 41 23.8	-1.8
BHL	Bhannes	115.52	305	eP	PKPdf	07 45 16.4	+2.2
BR131	Keskin Array S	115.65	312	ePKPdf	PKPdf	07 45 16.7	+2.3
BRTR	Keskin Array B	115.65	312	Pdiff	Pdif	07 41 33.0	+5.1
	comp=Z,1.3nm,0.8s,baz=68,slow=6.7,SNR=3.7						
BRTR				PKP	PKPdf	07 45 15.5	+1.1
	comp=Z,5.7nm,0.8s,baz=127,slow=4.7,SNR=4.5						
KAMT	Kaman	115.69	312	P	PKPdf	07 45 14.8	+0.3
WVT	Waverly	115.71	52	ePKPdf	PKPdf	07 45 16.9	+2.3
WVT	Waverly	115.71	52	PKIKP	PKPdf	07 45 16.6	+2.0
BLO	Bloomington	115.92	48	PKIKP	PKPdf	07 45 20.2	+5.3
KMBO	Kilima Mbogo	116.03	267	PKP	PKPdf	07 45 17.6	+1.8
	comp=Z,9.8nm,0.8s,baz=41,slow=3.6,SNR=10						
KMBO	Kilima Mbogo	116.03	267	PKIKP	PKPdf	07 45 17.6	+1.9
KMBO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ANTO	Ankara	116.23	312	ePKPdf	PKPdf	07 45 18.0	+2.5
WCI	Wyandotte Cave	116.35	49	ePKPdf	PKPdf	07 45 17.2	+1.4
WCI	Wyandotte Cave	116.35	49	PKIKP	PKPdf	07 45 18.5	+2.7
SUW	Suwalki	116.38	330	ePdiff	Pdif	07 41 31.3	+0.6
SUW				ePKIKP	PKPdf	07 45 17.9	+2.5
SUW				eSKS	SKS	07 51 58.8	+1.8
SUW	Suwalki	116.38	330	ePdif	Pdif	07 41 31.3	+0.6
SUW				ePKPdf	PKPdf	07 45 17.9	+2.5
SUW				eSKS	SKS	07 51 58.8	+1.8
SUW	Suwalki	116.38	330	iPKIKP	PKPdf	07 45 17.9	+2.5
SUW				e		07 51 58.8	
KIS	Kishinev	116.47	321	eP	Pdif	07 41 30.0	-1.3
KIS				e		07 46 24.0	
KIS				ePS	PS	07 56 05.0	-2.4
KIS				MLR	MLR		
	comp=Z,18µm,23.0s						
JMOS	Jabal al Moall	116.91	300	P	PKPdf	07 45 19.6	+2.6
NB2	NORSAR Subarra	116.92	340	PKPdf	PKPdf	07 45 15.6	-0.7
	comp=Z,8.4nm,0.7s,baz=43,slow=1.9						
NB2	NORSAR Subarra	116.92	340	PKPd	PKPdf	07 45 15.6	-0.7
	baz=43,slow=2.0						
NB2	NORSAR Subarra	116.92	340	PKPd	PKPdf	07 45 15.6	-0.7
	baz=43,slow=2.0						
NOA	NORSAR Array B	116.92	340	Pdiff	Pdif	07 41 34.4	+1.5
	comp=Z,1.3nm,0.7s,baz=46,slow=4.7,SNR=2.7						
NOA				PKP	PKPdf	07 45 16.2	-0.1
	comp=Z,9.3nm,0.7s,baz=45,slow=1.9,SNR=20						
NOA				PP	PP	07 46 28.3	-3.0
	comp=Z,21nm,0.8s,baz=48,slow=1.9,SNR=5.0						
ERMK	Ermenek	117.04	309	iP	Pdif	07 41 32.8	-1.3
BDAS	Al Bad'	117.05	300	P	PKPdf	07 45 19.8	+2.5
HAQS	Haql	117.08	300	P	PKPdf	07 45 18.5	+1.1
LRAL	Lakeview Retre	117.10	55	ePKPdf	PKPdf	07 45 19.6	+2.3
KDHN	Kadinhani	117.13	311	iP	Pdif	07 41 28.3	-6.1
CSS	Prodhromos	117.15	307	ePKPdf	PKPdf	07 45 19.6	+2.2
NAO01	NORSAR Array S	117.17	340	ePKPdf	PKPdf	07 45 20.1	+3.4
KIZT	Kizilcal	117.20	312	P	PKPdf	07 45 17.6	+0.3
MDU	Mudurnu	117.20	314	P	PKPdf	07 45 19.3	+2.0
TAYS	Tayyib Ism	117.22	300	P	PKPdf	07 45 19.7	+2.1
LVV	L'vov	118.06	325	ePKIKP	PKPdf	07 45 23.0	+4.3
LVV				e		07 52 20.0	
ACSO	Alum Creek Sta	118.19	46	ePKPdf	PKPdf	07 45 20.2	+0.9
KONO	Kongsberg	118.49	340	eP	Pdif	07 41 43.4	+3.5
KONO				ePKPd		07 45 20.1	
KONO				ePP	PP	07 46 38.8	-3.6
YLV	Yalova	118.49	314	P	PKPdf	07 45 17.6	-2.2
PRD	Provadia	118.89	318	P	PKPdf	07 45 23.0	+2.4
MYNC	Murphy	118.90	52	ePKPdf	PKPdf	07 45 23.4	+2.7
MYNC	Murphy	118.90	52	PKIKP	PKPdf	07 45 23.9	+3.1
KWP	Kalwaria	118.90	326	ePdiff	Pdif	07 41 44.2	+2.2
KWP				ePKP	PKPdf	07 45 22.7	+2.3
KWP				ePP	PP	07 46 40.2	-5.3
KWP	Kalwaria	118.90	326	ePdif	Pdif	07 41 44.2	+2.2
KWP				ePKP	PKPdf	07 45 22.7	+2.3
KWP				ePP	PP	07 46 40.2	-5.3
GDZ	Gediz	118.91	313	iP	Pdif	07 41 41.4	-0.8
SADO	Sadowa	119.11	40	PKKPbc		07 55 38.5	
	comp=Z,12nm,0.7s,baz=127,slow=5.2,SNR=6.4						
KOLS	Kolonicke sedl	119.50	325	ePKP	PKPdf	07 45 22.2	+0.6
KOLS				e		07 45 49.5	
PLCA	Paso Flores	119.56	143	PKP	PKPdf	07 45 22.6	+0.7
	comp=Z,13nm,0.5s,baz=241,slow=3.4,SNR=28						
PLCA				PKKPbc		07 55 36.6	
	comp=Z,9.7nm,1.0s,baz=66,slow=5.2,SNR=8.4						
PLCA	Paso Flores	119.56	143	ePKPdf	PKPdf	07 45 23.1	+1.2
BSD	Bornholm Skovb	119.61	334	iP	PKPdf	07 45 24.9	+3.3
	comp=Z,52nm,0.7s						
BSD				e		07 46 55.8	
BSD	Bornholm Skovb	119.61	334	iPKIKP	PKPdf	07 45 24.9	+3.3
BSD				e		07 46 55.8	
BSD				pmax	pmax		
	comp=Z,52nm,0.7s						
UZH	Uzhgorod	119.64	325	eP	Pdif	07 41 49.0	+3.8
UZH				i		07 45 23.0	
UZH				e		07 46 46.0	
UZH				e		07 52 09.0	
UZH				i		07 56 32.0	
UZH				MLR	MLR		
	comp=Z,14µm,22.0s						
GKP	Gorka Klasztor	119.71	331	ePKP	PKPdf	07 45 24.5	+2.6
GKP				ePP	PP	07 46 46.1	-4.2
AKAS	Kas	119.72	309	iP	Pdif	07 41 45.7	-0.1
STHS	Stebnicka Huta	119.83	326	ePKP	PKPdf	07 45 24.3	+2.1
CRVS	Cervenica-Dubn	119.98	326	ePKP	PKPdf	07 45 24.6	+2.1
CRVS				e		07 45 55.6	
CRVS				eSKKS		08 02 59.2	
OJC	Ojcow	120.19	327	ePKPdf	PKPdf	07 45 24.7	+1.8
OJC				ePP	PP	07 46 50.6	-2.8
OJC				eSP	SP	07 56 34.2	+4.1
OJC				eSS	SS	08 03 15.7	+5.9
OJC				MLR	MLR	08 44 08.6	
	comp=Z,18µm,24.1s						
COP	Copenhagen	120.27	336	iP	Pdif	07 41 46.6	-1.2
COP				e		07 45 27.9	
COP				i		07 46 55.6	
COP				e		07 52 46.4	
COP				e		07 56 49.6	
	comp=Z,7µm,22.0s						
COP	Copenhagen	120.27	336	eP	Pdif	07 41 46.6	-1.2
COP				e		07 45 27.9	
COP				i		07 46 55.6	
COP				e		07 52 46.4	
COP				e		07 56 49.6	
COP				LR	LR		
	comp=Z,7µm,22.0s						
COP	Copenhagen	120.27	336	eP	Pdif	07 41 46.6	-1.2
COP				i		07 46 55.6	
COP				MLR	MLR		
	comp=Z,7µm,22.0s						
SCHQ	Schefferville	120.28	26	PKP	PKPdf	07 45 24.4	+1.4
	comp=Z,5.8nm,0.7s,baz=250,slow=2.6,SNR=12						
SCHQ				PKKPbc		07 55 36.0	
	comp=Z,12nm,0.8s,baz=122,slow=5.7,SNR=7.4						
SCHQ	Schefferville	120.28	26	PKP	PKPdf	07 45 24.4	+1.4
SCHQ				PKKPbc		07 55 36.0	
DALT	Dalyan (Mudla)	120.29	310	P	PKPdf	07 45 20.3	-3.1
NIE	Niedzica	120.34	327	ePKP	PKPdf	07 45 24.6	+1.4
DIM	Dimitrovgrad	120.61	317	P	PKPdf	07 45 21.5	-2.4
MCWV	Mont Chateau	120.65	46	ePKPdf	PKPdf	07 45 26.6	+2.5
FWV	Forest Hill	120.68	49	ePKPdf	PKPdf	07 45 25.2	+1.0
ALN	Alexandroupoli	120.72	316	eP	PKPdf	07 45 21.3	-2.9
KECS	Kecovo	120.75	326	ePKP	PKPdf	07 45 27.6	+3.6
KDZ	Kurdzhali	120.86	317	iP	PKPdf	07 45 26.3	+1.9
RDO	Rodhopi	120.98	316	eP	PKPdf	07 45 24.0	-0.7
MUD	Monsted U'grnd	121.01	338	iP	Pdif	07 41 56.4	+5.3
MUD				i		07 46 54.4	
MUD				i		07 53 03.1	
	comp=Z,13µm,22.0s						
MUD	Monsted U'grnd	121.01	338	eP	Pdif	07 41 56.4	+5.3
MUD				i		07 46 54.4	
MUD				i		07 53 03.1	
MUD	Monsted U'grnd	121.01	338	eP	Pdif	07 41 56.4	+5.3
MUD				i		07 46 54.4	
MUD				MLR	MLR		
	comp=Z,13µm,22.0s						
BLA	Blacksburg	121.10	49	ePKPdf	PKPdf	07 45 27.2	+2.2
BLA				esPKPdf		07 46 05.2	
BLA	Blacksburg	121.10	49	PKIKP	PKPdf	07 45 27.9	+2.9
RAC	Raciborz	121.12	328	ePKPdf	PKPdf	07 45 27.3	+2.6
RAC				ePP	PP	07 47 00.0	0.0
RAC				MLR	MLR	08 45 50.9	
	comp=Z,23µm,20.9s						
PRK	Paraskevi	121.19	314	eP	PKPdf	07 45 25.0	-0.1
OKC	Ostrava-Krasne	121.28	328	ePKPdf	PKPdf	07 45 26.7	+1.7
OKC				ePP	PP	07 47 00.1	-1.0
LRW	Lerwick	121.28	345	eP	PKPdf	07 45 25.8	+1.0
WAL1	Walls	121.29	346	eP	PKPdf	07 45 25.6	+0.8
RZN	Rozhen	121.32	317	iP	PKPdf	07 45 26.5	+1.2
PSZ	Piszkesteto	121.38	325⇓	ePKP/D	PKPdf	07 45 27.6	+2.3
PSZ	Piszkesteto	121.38	325	ePKPdf	PKPdf	07 45 27.0	+1.7
PSZ	Piszkesteto	121.38	325	PKIKP	PKPdf	07 45 27.5	+2.2
LBTB	Lobatse	121.48	237	PKP	PKPdf	07 45 27.1	+1.1
	comp=Z,18nm,0.8s,baz=146,slow=2.7,SNR=14						
LBTB	Lobatse	121.48	237	ePKPdf	PKPdf	07 45 26.9	+0.9
LBTB	Lobatse	121.48	237	PKIKP	PKPdf	07 45 27.1	+1.1
LBTB				pmax	pmax		
	comp=Z,18nm,0.8s						
MORC	Moravsky Berou	121.64	328	ePKPdf	PKPdf	07 45 26.9	+1.2
MORC	Moravsky Berou	121.64	328	PKIKP	PKPdf	07 45 28.1	+2.4
KSP	Ksiaz	121.65	330	ePKP	PKPdf	07 45 27.9	+2.3
KSP				epPKP		07 45 50.9	
KSP	Ksiaz	121.65	330	ePdif	Pdif	07 41 55.0	+1.0
KSP				ePKP	PKPdf	07 45 26.7	+1.0
KSP				ePP	PP	07 47 00.5	-3.2
KSP				eSP	SP	07 56 40.0	-3.2
KSP				eSS	SS	08 03 26.0	-2.8
KSP				LR	LR		
	comp=Z,60µm,29.8s						
KSP	Ksiaz	121.65	330	ePKIKP	PKPdf	07 45 26.7	+1.0
KSP				e		07 47 00.5	
KSP				eSP	SP	07 56 40.0	-3.2
KSP				eSS	SS	08 03 26.0	-2.8
KSP				MLR	MLR		
	comp=Z,60µm,29.8s						
VYHS	Vyhne	121.67	326	ePKP	PKPdf	07 45 27.6	+1.8
VYHS				e		07 45 53.3	
VYHS				ePP	PP	07 47 00.9	-2.9
VYHS				eSKKS		08 02 59.2	
MSNY	Massena	121.72	39	ePKPdf	PKPdf	07 45 26.7	+0.7
KARP	Karpathos	121.82	309	eP	PKPdf	07 45 28.0	+1.6
KOLL	Kolacno	121.86	326	ePKP	PKPdf	07 45 28.5	+2.4
KOLL				ePP	PP	07 46 59.0	-6.2
DPC	Dobruska-Polom	121.93	329	ePKPdf	PKPdf	07 45 27.9	+1.7
DPC				ePP	PP	07 47 01.8	-3.9
DPC				AMS	AMS	09 20 00.0	
	comp=Z,121µm,49.7s						
VTS	Vitosha	121.95	318	iP	PKPdf	07 45 28.0	+1.5
VTS	Vitosha	121.95	318	P	PKPdf	07 45 28.2	+1.7
SUR	Sutherland	121.98	227	PKP	PKPdf	07 45 28.7	+1.9
	comp=Z,14nm,0.7s,baz=156,slow=4.6,SNR=11						
SUR	Sutherland	121.98	227	ePKPdf	PKPdf	07 45 30.1	+3.3
SUR				epPKPdf		07 45 55.9	
UPC	Upice	122.00	329	ePKPdf	PKPdf	07 45 28.5	+2.1
MMB	Musomiste	122.03	317	iP	PKPdf	07 45 27.5	+0.8
BOLS	Boljevac	122.19	320	ePKP	PKPdf	07 45 28.3	+1.4
BINY	Binghamton	122.30	42	ePKPdf	PKPdf	07 45 28.5	+1.3
SRS	Serrai	122.33	317	eP	PKPdf	07 45 25.6	-1.6
LSZ	Lusaka	122.35	249	ePKPdf	PKPdf	07 45 29.0	+1.2
LSZ	Lusaka	122.35	249	PKIKP	PKPdf	07 45 29.3	+1.5
BSEG	Bad Segeberg	122.38	335	ePKPdf	PKPdf	07 45 29.2	+2.2
VRAC	Vranov	122.41	328	P	PKPdf	07 45 27.7	+0.5
SVIS	Svilajnac	122.44	321⇓	iPKP	PKPdf	07 45 28.8	+1.4
MBAR	Mbarara	122.57	266	ePKPdf	PKPdf	07 45 29.0	+0.7
MBAR				epPKPdf		07 45 59.5	
MBAR	Mbarara	122.57	266	iPKIKP	PKPdf	07 45 27.9	-0.4
SOR	Soroa	122.57	66	eP	PKPdf	07 45 30.9	+2.8
SOH	Sokhos	122.62	316	eP	PKPdf	07 45 25.4	-2.4
BEO	Belgrade	122.65	322⇓	iPKP	PKPdf	07 45 29.4	+1.6
KRUC	Moravsky	122.66	328	P	PKPdf	07 45 28.4	+0.7
PVCC	Panska Ves	122.71	330	ePKPdf	PKPdf	07 45 30.0	+2.3
PVCC				ex	x	07 47 08.8	
BARS	Barje	122.75	319⇓	iPKP	PKPdf	07 45 29.4	+1.4
PAIG	Paliouri	122.77	315	eP	PKPdf	07 45 26.6	-1.4
KNT	Kendrikon	122.78	317	eP	PKPdf	07 45 26.0	-2.1
ZST	Bratislava	122.79	327	ePKP	PKPdf	07 45 28.9	+1.0
ZST				e		07 46 02.1	
ZST				ePP	PP	07 47 08.5	-3.2
BRG	Berggiesshubel	122.80	331	Pdif	Pdif	07 41 56.0	-3.1
BRG				iPKP	PKPdf	07 45 30.0	+2.1
BRG				i		07 45 33.2	
BRG				i		07 46 16.1	
BRG				i		07 46 59.2	
BRG				PP	PP	07 47 12.0	+0.3
BRG				i		07 55 56.0	
BRG				i		07 59 04.0	
BRG				SS	SS	08 03 48.0	+4.3
BRG				LR	LR		
	comp=Z,28µm,30.0s						
BRG	Berggiesshubel	122.80	331	iPKIKP	PKPdf	07 45 30.0	+2.1
BRG						07 47 12.0	
BRG				SS	SS	08 03 48.0	+4.3
BRG				pmax	pmax		
	comp=Z,48nm,1.2s						
SDMD	Soldier's Deli	122.89	45	ePKPdf	PKPdf	07 45 30.4	+2.1
AOS	Alonnisos	122.93	314	eP	PKPdf	07 45 30.2	+1.7
GRUS	Gruza	122.95	321	ePKP	PKPdf	07 45 29.6	+1.3
THE	Thessaloniki	122.96	316	eP	PKPdf	07 45 27.1	-1.4
CLL	Collm	122.97	332	ePDIF	Pdif	07 42 01.0	+1.2
CLL				iPKIKP	PKPdf	07 45 30.1	+1.9
CLL				i*PPKP		07 45 57.8	
CLL				i		07 46 10.4	
CLL				i		07 46 17.0	
CLL				i		07 47 00.6	
CLL				iPP	PP	07 47 10.4	-2.5
CLL				i*PPP		07 47 32.9	
CLL				e*SPP		07 47 47.0	
CLL				e		07 48 14.0	
CLL				ePPP	PPP	07 50 06.0	+15
CLL				e		07 52 02.0	
CLL				ePKKP	PKKP	07 55 54.0	+7.9
CLL				eSP	SP	07 56 53.0	-2.1
CLL				ePPS	PPS	07 58 18.0	-17
CLL				eSS	SS	08 03 24.0	-22
CLL				e*SSS		08 04 36.0	
CLL				e		08 08 54.0	
CLL	Collm	122.97	332	ePdif	Pdif	07 42 01.0	+1.2
CLL				iPKP	PKPdf	07 45 30.1	+1.9
CLL				ipPKP		07 45 57.8	
CLL				iPP	PP	07 47 10.4	-2.5
CLL				ePKKP	PKKP	07 55 54.0	+7.9
CLL				LR	LR		
	comp=Z,27µm,21.5s						
CLL	Collm	122.97	332	eP	Pdif	07 42 01.0	+1.2
CLL				i		07 45 30.1	
CLL				i		07 45 57.8	
CLL				i		07 47 10.4	
CLL				pmax	pmax		
	comp=Z,99nm,0.7s						
CLL				pmax	pmax		
	comp=Z,142nm,1.1s						
CLL				MLR	MLR		
	comp=Z,27µm,21.5s						
CBN	Corbin	122.99	47	ePKPdf	PKPdf	07 45 31.9	+3.3
MIV	Mineville/With	123.00	39	ePKPdf	PKPdf	07 45 30.0	+1.5
TREC	Trest	123.00	329	ePKPdf	PKPdf	07 45 30.7	+2.4
PKSM	Moragy	123.02	324	P	PKPdf	07 45 28.8	+0.4
PRU	Pruhonice	123.06	330	ePKPdf	PKPdf	07 45 30.3	+1.9
PRU				ePP	PP	07 47 10.0	-3.6
PRU				AMS	AMS	09 18 50.0	
	comp=Z,50µm,23.2s						
PRA	Prague	123.06	330	PKPdf	PKPdf	07 45 28.0	-0.4
PRA				PP	PP	07 47 12.0	-1.6
PRA				ex	x	07 48 12.0	
PRA				ex	x	07 59 32.0	
PRA				AMS	AMS	09 19 00.0	
VKA	Vienna	123.17	327⇓	iPKP	PKPdf	07 45 29.9	+1.2
GRG	Griva	123.21	317	eP	PKPdf	07 45 26.4	-2.6
DIVS	Divcibare	123.30	321⇓	iPKP	PKPdf	07 45 29.9	+0.9
XOR	Xorichti	123.34	315	eP	PKPdf	07 45 29.9	+0.6
SOP	Sopron	123.38	326	P	PKPdf	07 45 30.7	+1.6
SKO	Skopje	123.40	318	iPKP	PKPdf	07 45 30.0	+0.7
MPAR	Parnis Oros	123.44	313	eP	PKPdf	07 45 30.0	+0.5
NSAL	Nisos Salamina	123.74	313	eP	PKPdf	07 45 31.0	+0.9
NVSS	Nova Varos 2	123.78	321⇓	iPKP	PKPdf	07 45 33.8	+3.8
BBLS	Bajina Basta -	123.78	321	ePKP	PKPdf	07 45 33.2	+3.2
CLCH	Cerro Calan	123.81	136	eP	PKPdf	07 45 31.4	+1.1
CLZ	Clausthal	123.82	333	ePKPdf	PKPdf	07 45 32.5	+2.6
BERN	Bernov	123.91	331	⇑P	PKPdf	07 45 39.9	+10
KZN	Kozani	123.93	317	eP	PKPdf	07 45 27.0	-3.4
NKC	Novy Kostel	123.94	331	ePKPdf	PKPdf	07 45 32.2	+2.0
NKC				ePP	PP	07 47 14.7	-5.0
NKC				AMS	AMS	09 18 40.0	
	comp=Z,141µm,50.0s						
HNH	Hanover	123.97	39	ePKPdf	PKPdf	07 45 32.2	+1.8
HNH				ePP	PP	07 47 12.2	-7.9
IVA	Berane	123.97	320⇑	iPKP	PKPdf	07 45 31.9	+1.5
MVH1	Achvaich	123.97	346	eP	PKPdf	07 45 30.3	+0.3
FNA	Florina	123.98	317	eP	PKPdf	07 45 29.5	-1.0
FCH	Farellones	124.02	136	eP	PKPdf	07 45 32.5	+1.7
MCD	Coleburn Disti	124.05	345	eP	PKPdf	07 45 31.9	+1.7
PVY	Plav	124.06	320⇑	iPKP	PKPdf	07 45 32.1	+1.6
REB	Eisghbrachaidh	124.06	347	eP	PKPdf	07 45 29.7	-0.5
PLE	Pljevlja	124.06	321	ePKP	PKPdf	07 45 32.8	+2.2
MOX	Moxa	124.06	332	iP	PKPdf	07 45 32.3	+1.9
	comp=Z,logA/T=1.6						
MOX				PP	PP	07 47 22.0	+1.5
MOX	Moxa	124.06	332	ePKIKP	PKPdf	07 45 32.3	+1.9
MOX				pmax	pmax		
	comp=Z,65nm,1.8s						
KHC	Kasperske Hory	124.09	329	ePKPdf	PKPdf	07 45 31.1	+0.6
KHC				ePP	PP	07 47 19.4	-1.3
KHC				AMS	AMS	09 18 30.0	
	comp=Z,98µm,47.2s						
AGG	Agios Georgios	124.09	315	eP	PKPdf	07 45 29.7	-1.1
GEC2	GERESS Array S	124.20	329	ePKPdf	PKPdf	07 45 32.7	+2.0
GERES	GERESS Array B	124.20	329	Pdiff	Pdif	07 42 07.7	+2.4
	comp=Z,0.7nm,0.6s,baz=56,slow=4.8,SNR=5.8						
GERES				PKP	PKPdf	07 45 31.6	+0.9
	comp=Z,51nm,0.7s,baz=60,slow=1.2,SNR=30						
GERES				PP	PP	07 47 13.6	-7.8
	comp=Z,40nm,0.8s,baz=53,slow=7.5,SNR=4.2						
ARSA	Arzberg	124.21	327⇑	iP	PKPdf	07 45 31.7	+1.0
MME1	Meikle Cairn	124.21	345	eP	PKPdf	07 45 29.8	-0.7
PAL	Palisades	124.22	42	ePKPdf	PKPdf	07 45 32.9	+1.9
PAL	Palisades	124.22	42	PKIKP	PKPdf	07 45 34.1	+3.2
RRR	Rubha Reidh	124.42	347	eP	PKPdf	07 45 32.5	+1.6
UPM	Unac-Piva	124.43	321⇑	iPKP	PKPdf	07 45 33.1	+1.8
WET	Wettzell	124.43	330	ePKPdf	PKPdf	07 45 33.0	+1.9
MDO	Dochfour	124.45	346	eP	PKPdf	07 45 30.3	-0.6

FFD	**Franklin Falls**	**124.48**	**39**	PKPdf	PKPdf	07 45 31.4	0.0
EVR	**Evrytania**	**124.50**	**315**	*e*P	PKPdf	07 45 32.5	+0.9
MOA	**Molln**	**124.53**	**328**	⇑*i*P	PKPdf	07 45 32.5	+1.1
MEV	**Metsovon**	**124.53**	**316**	*e*P	PKPdf	07 45 30.2	-1.4
NKY	**Niksic**	**124.57**	**320**	⇑*i*PKP	PKPdf	07 45 32.8	+1.2
VLI	**Veliai**	**124.59**	**312**	*e*P	PKPdf	07 45 35.0	+3.2
TTG	**Podgorica**	**124.60**	**320**	⇑*i*PKP	PKPdf	07 45 32.9	+1.2
KAC	**Achnashellach**	**124.62**	**346**	*e*P	PKPdf	07 45 31.8	+0.6
QUA2	**Belchertown**	**124.64**	**40**	*e*PKPdf	PKPdf	07 45 33.1	+1.4
WIT	**Witteveen**	**124.69**	**336**	*e*PKiKP		07 45 34.4	
TIR	**Tirane**	**124.73**	**318**	P	PKPdf	07 45 33.7	+1.8
BRY	**Bratogost**	**124.82**	**321**	⇑*i*PKP	PKPdf	07 45 32.9	+0.8
ULC	**Ulcinj**	**124.84**	**319**	⇑*i*PKP	PKPdf	07 45 33.7	+1.6
JAN	**Janina**	**124.85**	**316**	*e*P	PKPdf	07 45 34.0	+1.8
KPL	**Plockton**	**124.85**	**346**	*e*P	PKPdf	07 45 33.1	+1.4
DOBS	**Dobrina**	**124.88**	**325**	*i* PKPdf	PKPdf	07 45 33.7	+1.6
DOBS				*e*pPKPdf		07 46 01.3	
GRA1	**Grafenberg Arr**	**124.89**	**331**	*e*PKPdf	PKPdf	07 45 33.9	+1.9
GRF	**Grafenberg Arr**	**124.89**	**331**	*e*PKP	PKPdf	07 45 33.9	+1.9
GRFO	**Grafenberg**	**124.89**	**331**	P	PKPdf	07 45 33.9	+1.9
BUM	**Brajici-Budva**	**124.89**	**320**	⇑*i*PKP	PKPdf	07 45 33.7	+1.5
KSB	**Sheil Bridge**	**124.92**	**346**	*e*P	PKPdf	07 45 30.9	-0.9
HRV	**Harvard--Oak R**	**125.03**	**40**	*e*PKPdf	PKPdf	07 45 34.5	+2.0
HRV	**Harvard--Oak R**	**125.03**	**40**	PKIKP	PKPdf	07 45 34.7	+2.2
HCY	**Herceg Novi**	**125.08**	**320**	⇑*i*PKP	PKPdf	07 45 33.9	+1.3
WVL	**Waterville**	**125.12**	**37**	*e*PKPdf	PKPdf	07 45 34.3	+1.7
ITM	**Ithomi**	**125.15**	**313**	*e*P	PKPdf	07 45 34.1	+1.2
ITM	**Ithomi**	**125.15**	**313**	P	PKPdf	07 45 33.5	+0.6
OBKA	**Obir**	**125.18**	**326**	⇓*i*P	PKPdf	07 45 34.0	+1.3
WES	**Weston**	**125.25**	**40**	*e*PKPdf	PKPdf	07 45 33.9	+1.0
WES	**Weston**	**125.25**	**40**	PKIKP	PKPdf	07 45 38.1	+5.2
WTSB	**Winterswijk**	**125.27**	**335**	*e*PKiKP		07 45 34.1	
	comp=Z,78nm,1.7s						
WTSB				*e*x	x	07 46 02.0	
	comp=Z,1.9nm,0.6s						
KAR1	**Arisaig**	**125.27**	**346**	*e*P	PKPdf	07 45 32.2	-0.3
BOJS	**Bojanci**	**125.38**	**325**	*e*PKPdf	PKPdf	07 45 34.9	+1.9
BOJS				*e*pPKPdf		07 46 03.0	
BOJS				*e*PP	PP	07 47 28.0	-0.9
LKD	**Levkas**	**125.41**	**315**	*e*P	PKPdf	07 45 25.6	-7.7
MGV	**Manicaragua**	**125.45**	**66**	*e*P	Px	07 45 58.7	
BUG	**Bochum--Univer**	**125.46**	**335**	P	PKPdf	07 45 34.9	+1.9
LJU	**Ljubljana**	**125.47**	**326**	*e*PKPdf	PKPdf	07 45 35.0	+1.7
LJU				*e*pPKPdf		07 46 02.1	
KBA	**Koelnbreinsper**	**125.49**	**327**	⇑*i*P	PKPdf	07 45 32.8	-0.4
KEK	**Kerkira**	**125.55**	**317**	P	PKPdf	07 45 35.0	+1.5
EAB	**Aberfoyle**	**125.56**	**345**	*e*P	PKPdf	07 45 34.4	+1.3
EAB				AMb	AMB	07 45 40.5	
	comp=Z,67nm,1.4s						
EBL	**Broad Law**	**125.58**	**344**	*e*P	PKPdf	07 45 34.5	+1.3
EBL				AMb	AMB	07 45 34.8	
	comp=Z,50nm,1.8s						
EAU	**Auchinoon**	**125.63**	**344**	*e*P	PKPdf	07 45 34.6	+1.3
EAU				AMb	AMB	07 45 37.4	
	comp=Z,119nm,2.2s						
VLS	**Valsamata**	**125.69**	**315**	*e*P	PKPdf	07 45 35.2	+1.3
TNS	**Taunus Mts**	**125.82**	**333**	*e*PKPdf	PKPdf	07 45 35.7	+1.9
VOY	**Vojsko**	**125.83**	**326**	*e*PKPdf	PKPdf	07 45 35.2	+1.3
VOY				*e*		07 46 03.3	
FUR	**Furstenfeldbru**	**125.88**	**330**	*e*PKPdf	PKPdf	07 45 36.0	+2.1
SIND	**Sindeldorf**	**125.90**	**332**	⇑*e*P	PKPdf	07 45 35.7	+1.8
SIND	**Sindeldorf**	**125.90**	**332**	P	PKPdf	07 45 36.1	+2.2
ROBS	**Robic**	**125.92**	**327**	*i* PKPdf	PKPdf	07 45 34.1	0.0
ESK	**Eskdalemuir**	**126.02**	**344**	*e*PKPdf	PKPdf	07 45 36.3	+2.3
ESK	**Eskdalemuir**	**126.02**	**344**	PKIKP	PKPdf	07 45 35.7	+1.7
TOD	**Tromm**	**126.09**	**332**	*e*P	PKPdf	07 45 36.2	+1.9
TOD	**Tromm**	**126.09**	**332**	PKP	PKPdf	07 45 35.8	+1.5
TRI	**Trieste**	**126.10**	**326**	P	PKPdf	07 45 37.7	+3.3
ECK	**Cauldkaine Hil**	**126.12**	**344**	*e*P	PKPdf	07 45 33.3	-0.9
HDH	**Heidenheim**	**126.13**	**331**	*e*P	PKPdf	07 45 36.2	+1.8
ZON	**Zonda**	**126.14**	**135**	*e*P	PKPdf	07 45 43.4	+8.5
NVLJ	**Novalja**	**126.14**	**324**	*i* PKP	PKPdf	07 45 33.9	-0.6
SWS	**Schriesheim**	**126.23**	**332**	*e*P	PKPdf	07 45 36.8	+2.3
WATA	**Walderalm**	**126.26**	**329**	⇓*i*P	PKPdf	07 45 36.6	+1.9
WTTA	**Wattenberg**	**126.28**	**329**	⇑*i*P	PKPdf	07 45 35.4	+0.7
TRQA	**Tornquist**	**126.33**	**145**	*e*PKPdf	PKPdf	07 45 35.9	+0.8
TRQA				*e*sPKPdf		07 46 13.8	
CFAA	**Coronel Fontan**	**126.42**	**135**	PKP	PKPdf	07 45 35.2	-0.2
	comp=Z,6.3nm,0.6s,baz=248,slow=3.0,SNR=28						
ABH	**Alteburg**	**126.47**	**333**	*e*P	PKPdf	07 45 37.3	+2.3
ABH	**Alteburg**	**126.47**	**333**	PKP	PKPdf	07 45 36.9	+1.9
STU	**Stuttgart**	**126.49**	**331**	*e*PKPdf	PKPdf	07 45 34.5	-0.5
STU	**Stuttgart**	**126.49**	**331**	PKIKP	PKPdf	07 45 38.2	+3.1
MOTA	**Moosalm**	**126.50**	**329**	⇑*i*P	PKPdf	07 45 37.0	+1.9
SQTA	**Sankt Quirin**	**126.53**	**329**	⇑*i*P	PKPdf	07 45 37.1	+1.9
HGN	**Heimansgroeve**	**126.53**	**335**	*e*PKiKP	PKPdf	07 45 36.7	+1.6
	comp=Z,58nm,2.5s						
HGN				*e*x	x	07 46 02.0	
HGN				*e*PP	PP	07 47 31.2	-5.1
HGN				*e*PKS	PKS	07 48 52.5	-18
KTD	**Kalmit**	**126.63**	**332**	*e*P	PKPdf	07 45 37.3	+2.0
LBG	**Lerchenberg**	**126.76**	**331**	*e*P	PKPdf	07 45 37.7	+2.1
LBG	**Lerchenberg**	**126.76**	**331**	P	PKPdf	07 45 38.4	+2.8
UBR	**Uberruh**	**126.79**	**330**	*e*P	PKPdf	07 45 37.6	+1.9
UBR	**Uberruh**	**126.79**	**330**	P	PKPdf	07 45 37.9	+2.2
LANF	**Langenberg**	**127.00**	**332**	PKP	PKPdf	07 45 38.2	+2.2
GUT	**Gutenstein**	**127.01**	**331**	*e*P	PKPdf	07 45 37.7	+1.6
GUT	**Gutenstein**	**127.01**	**331**	P	PKPdf	07 45 38.6	+2.5
SPAK	**Spaichingen**	**127.15**	**331**	*e*P	PKPdf	07 45 38.1	+1.7
SPAK	**Spaichingen**	**127.15**	**331**	PKP	PKPdf	07 45 37.8	+1.4
LHO	**Holmfirth**	**127.16**	**342**	*e*P	PKPdf	07 45 37.5	+1.3
DAVA	**Damuels**	**127.17**	**330**	⇑*i*P	PKPdf	07 45 38.0	+1.6
BFO	**Black Forest**	**127.21**	**331**	*e*PKPdf	PKPdf	07 45 38.4	+1.9
WLF	**Walferdange**	**127.25**	**334**	*e*PKPdf	PKPdf	07 45 37.5	+1.0
WLF	**Walferdange**	**127.25**	**334**	PKIKP	PKPdf	07 45 39.5	+3.0
KBI1	**Birley Grange**	**127.30**	**341**	*e*P	PKPdf	07 45 35.6	-0.9
NNA	**Nana**	**127.34**	**109**	*e*PKPdf	PKPdf	07 45 38.2	+0.6
SISB	**Singen-Sch Ber**	**127.35**	**330**	P	PKPdf	07 45 41.7	+4.9
GIVF	**Givet**	**127.50**	**335**	*e*PKIKP	PKPdf	07 45 38.6	+1.6
	comp=Z,107nm,1.0s						
SLE	**Schleitheim**	**127.53**	**331**	⇑P	PKPdf	07 45 38.7	+1.6
WILA	**Wila**	**127.56**	**330**	⇓P	PKPdf	07 45 37.8	+0.6
KWE	**Weaver Farm**	**127.61**	**341**	*e*P	PKPdf	07 45 37.9	+0.7
WLS	**Welschbruch**	**127.61**	**332**	PKP	PKPdf	07 45 38.7	+1.4
CDF	**Champ du Feu**	**127.65**	**332**	*e*PKIKP	PKPdf	07 45 38.8	+1.4
	comp=Z,56nm,0.9s						
KIZ	**Kirchzarten**	**127.67**	**331**	*e*P	PKPdf	07 45 38.7	+1.3
KIZ	**Kirchzarten**	**127.67**	**331**	P	PKPdf	07 45 42.7	+5.3
LIBD	**Limburg**	**127.68**	**332**	*e*P	PKPdf	07 45 39.3	+1.9
FELD	**Feldberg**	**127.69**	**331**	*e*P	PKPdf	07 45 39.0	+1.6
ZUR	**Zurich**	**127.76**	**330**	⇓P	PKPdf	07 45 39.9	+2.3
BAIF	**Baives**	**127.79**	**335**	*e*PKIKP	PKPdf	07 45 39.3	+1.7
	comp=Z,26nm,0.7s						
ECH	**Echery**	**127.85**	**332**	PKP	PKPdf	07 45 39.1	+1.3
ECH				P		07 45 42.9	
TIP	**Timpagrande**	**127.86**	**318**	*e*PKPdf	PKPdf	07 45 39.0	+1.0
LLS	**Linth-Limmern**	**127.90**	**330**	⇑P	PKPdf	07 45 40.1	+2.2
TUE	**Stuetta**	**127.98**	**329**	P	PKPdf	07 45 38.9	+0.8
MUO	**Muotathal**	**128.00**	**330**	⇑P	PKPdf	07 45 40.0	+1.9
CUC	**Castrocucco**	**128.07**	**319**	P	PKPdf	07 45 37.5	-0.9
MOF	**Molkenrain**	**128.12**	**332**	PKP	PKPdf	07 45 39.7	+1.4
SBD1	**Bryn Du**	**128.14**	**342**	*e*P	PKPdf	07 45 39.8	+1.6
BBS	**Basel-Blauen**	**128.21**	**331**	*e*P	PKPdf	07 45 40.0	+1.5
BBS	**Basel-Blauen**	**128.21**	**331**	PKP	PKPdf	07 45 39.7	+1.2
HINF	**Hinteralfeld**	**128.28**	**332**	*e*PKIKP	PKPdf	07 45 39.9	+1.3
	comp=Z,96nm,1.0s						
AQU	**L'Aquila**	**128.30**	**323**	*e*PKPdf	PKPdf	07 45 39.8	+1.0
AQU	**L'Aquila**	**128.30**	**323**	PKIKP	PKPdf	07 45 42.0	+3.2
HLM1	**Long Mynd**	**128.36**	**342**	*e*P	PKPdf	07 45 40.1	+1.5
HLM1				AMb	AMB	07 45 44.0	
	comp=Z,64nm,1.3s						
HAU	**Haudompre**	**128.38**	**332**	*e*PKIKP	PKPdf	07 45 40.0	+1.2
	comp=Z,88nm,0.7s						
THEF	**They Montfort**	**128.38**	**333**	PKP	PKPdf	07 45 40.4	+1.6
SSP1	**Stoney Pound**	**128.52**	**342**	*e*P	PKPdf	07 45 40.3	+1.4
LMGC	**Las Mercedes**	**128.55**	**68**	*e*P	PKPdf	07 45 55.8	+16
MEZF	**Maizieres J'vi**	**128.60**	**334**	*e*PKIKP	PKPdf	07 45 40.7	+1.5
LOMF	**Lomont**	**128.62**	**331**	PKP	PKPdf	07 45 41.0	+1.7
DLF	**Lyons Farm**	**128.72**	**345**	*e*P	PKPdf	07 45 40.9	+1.6
DLF	**Lyons Farm**	**128.72**	**345**	*e*P		07 46 05.8	
MCH1	**Michaelchurch**	**128.84**	**342**	*e*P	PKPdf	07 45 40.5	+0.9
HTR	**Trewern Hill**	**128.86**	**342**	*e*P	PKPdf	07 45 41.1	+1.5
HTR				AMb	AMB	07 45 43.6	
	comp=Z,58nm,1.3s						
DCN	**Croghan**	**128.87**	**345**	*e*P	PKPdf	07 45 41.1	+1.5
DCN	**Croghan**	**128.87**	**345**	*e*P		07 46 06.0	
VALM		**128.90**	**327**	P	PKPdf	07 45 42.3	+2.5
GRAM		**128.91**	**327**	P	PKPdf	07 45 42.1	+2.2
CEL	**Celeste**	**128.91**	**317**	P	PKPdf	07 45 43.9	+3.8
LKBD	**Leukerbad**	**128.91**	**330**	⇓P	PKPdf	07 45 42.3	+2.5
SARO	**Sassorosso**	**128.92**	**326**	P	PKPdf	07 45 41.0	+1.1
MMK	**Mattmark**	**128.97**	**330**	⇑P	PKPdf	07 45 42.9	+2.9
BACM		**129.04**	**327**	P	PKPdf	07 45 41.5	+1.4
MAIM		**129.04**	**326**	P	PKPdf	07 45 41.0	+0.8
VINC	**Vinca**	**129.09**	**326**	P	PKPdf	07 45 41.5	+1.3
CODM		**129.09**	**327**	P	PKPdf	07 45 41.7	+1.4
HGH	**Gray Hill**	**129.09**	**341**	*e*P	PKPdf	07 45 40.9	+0.9
HGH				AMb	AMB	07 45 48.2	
	comp=Z,111nm,1.1s						
DIX	**Grande Dixence**	**129.23**	**330**	⇑P	PKPdf	07 45 43.2	+2.7
ORX	**Oropa**	**129.25**	**329**	P	PKPdf	07 45 42.1	+1.6
HLGC	**Holguin**	**129.26**	**67**	*e*P	PKPdf	07 45 42.0	+0.8
EMV	**Vieux Emosson**	**129.50**	**330**	⇑P	PKPdf	07 45 42.6	+1.6
CABF	**La Chapelle**	**129.50**	**331**	*e*PKIKP	PKPdf	07 45 42.4	+1.4
	comp=Z,183nm,1.0s						
PCP	**Pian Castagno**	**129.69**	**328**	P	PKPdf	07 45 42.6	+1.2
LSD	**Ceresole Reale**	**129.79**	**329**	P	PKPdf	07 45 42.7	+1.2
RSP	**Reno Superiore**	**129.95**	**329**	P	PKPdf	07 45 42.5	+0.6
LPL	**La Plagne**	**129.96**	**330**	*e*PKIKP	PKPdf	07 45 43.5	+1.6
	comp=Z,63nm,0.7s						
LPG	**La Plagne**	**129.97**	**330**	*e*PKIKP	PKPdf	07 45 43.4	+1.5
	comp=Z,95nm,0.7s						
LOR	**Lormes**	**130.06**	**333**	*e*PKIKP	PKPdf	07 45 43.7	+1.7
	comp=Z,50nm,0.7s						
FIN	**Finale Ligure**	**130.10**	**328**	P	PKPdf	07 45 43.9	+1.8
FENE	**Fenestrelle**	**130.14**	**329**	P	PKPdf	07 45 43.8	+1.6
BHB	**Bricherasio**	**130.16**	**329**	P	PKPdf	07 45 43.0	+0.7
ROB	**Roburent**	**130.22**	**328**	P	PKPdf	07 45 44.3	+2.0
BNI	**Bardonecchia**	**130.32**	**329**	*e*PKPdf	PKPdf	07 45 44.4	+1.9
BNI	**Bardonecchia**	**130.32**	**329**	PKHKP		07 45 33.1	
MOAC	**Moa**	**130.32**	**67**	*e*P	PKPdf	07 45 44.4	+1.2
SSF	**Saint Saulge**	**130.37**	**333**	*e*PKIKP	PKPdf	07 45 44.2	+1.6
	comp=Z,46nm,0.7s						
MONE	**Monesi**	**130.43**	**328**	P	PKPdf	07 45 43.3	+0.5
IMI	**Imperia**	**130.47**	**328**	P	PKPdf	07 45 44.7	+1.9
GDM	**Grand'Maison**	**130.49**	**330**	PKP	PKPdf	07 45 44.7	+1.8
MBDF	**Montbardon**	**130.50**	**329**	*e*PKIKP	PKPdf	07 45 43.9	+1.0
	comp=Z,48nm,0.7s						
ENR	**Entracque**	**130.50**	**328**	P	PKPdf	07 45 43.9	+1.0
SMF	**Signal de Mont**	**130.53**	**333**	*e*PKIKP	PKPdf	07 45 44.2	+1.3
STV	**Sta Anna Valdi**	**130.54**	**328**	P	PKPdf	07 45 43.8	+0.8
LVC	**Limon Verde**	**130.55**	**125**	PKP	PKPdf	07 45 46.0	+2.4
	comp=Z,18nm,0.6s,baz=255,slow=4.4,SNR=19						
LVC	**Limon Verde**	**130.55**	**125**	*e*PKPdf	PKPdf	07 45 45.7	+2.1
TSUM	**Tsumeb**	**130.59**	**240**	*e*PKPdf	PKPdf	07 45 45.6	+1.9
SAOF	**Saorge**	**130.59**	**328**	PKP	PKPdf	07 45 44.2	+1.1
HYF	**Humbligny**	**130.59**	**334**	*e*PKIKP	PKPdf	07 45 44.4	+1.4
AVF	**Avril sur Loir**	**130.64**	**333**	*e*PKIKP	PKPdf	07 45 44.5	+1.4
	comp=Z,42nm,0.8s						
SURF	**Saint Ours**	**130.65**	**329**	PKP	PKPdf	07 45 46.0	+2.8
GRN	**Grenoble**	**130.65**	**330**	PKP	PKPdf	07 45 45.2	+2.0
AUTN	**L'Aution**	**130.66**	**328**	PKP	PKPdf	07 45 45.5	+2.3
LDF	**La Druitiere**	**130.68**	**337**	*e*PKIKP	PKPdf	07 45 44.4	+1.3
FLN	**La Foliniere**	**130.69**	**337**	*e*PKIKP	PKPdf	07 45 44.3	+1.2
	comp=Z,50nm,0.7s						
TOUF	**Mont Tournerai**	**130.74**	**328**	PKP	PKPdf	07 45 45.4	+2.0
SBF	**Sospel**	**130.74**	**328**	*e*PKIKP	PKPdf	07 45 44.7	+1.3
	comp=Z,93nm,0.7s						
PGF	**Pioggiola**	**130.75**	**325**	*e*PKIKP	PKPdf	07 45 44.4	+0.9
	comp=Z,193nm,0.9s						
ORIF	**Oris-en-Rattie**	**130.81**	**330**	*e*PKIKP	PKPdf	07 45 45.4	+1.9
	comp=Z,115nm,0.7s						
LPA	**La Plata**	**130.86**	**146**	*ce*PKP	PKPdf	07 45 42.0	-1.9
LPA				*e*pPKP		07 46 10.0	
LPA				*e*PP	PP	07 48 01.0	-4.6
LPA				*e*SKP		07 48 59.0	
LPA				*e*PKS	PKS	07 49 09.0	-10
	comp=Z,33µm,18.0s						
REVF	**Revere**	**130.86**	**328**	PKP	PKPdf	07 45 45.1	+1.5
ARE	**Arequipa**	**130.88**	**116**	*e*P	PKPdf	07 45 48.0	+3.7
ARE				*e*		07 46 16.0	
ARE				*e*		08 00 26.0	
ARE				*e*		08 05 56.0	
BGF	**Bois d'Agland**	**131.05**	**333**	*e*PKIKP	PKPdf	07 45 45.3	+1.4
	comp=Z,71nm,0.7s						
GRR	**Gorron**	**131.13**	**337**	*e*PKIKP	PKPdf	07 45 45.5	+1.5
AGO	**Saint Agoulin**	**131.30**	**333**	PKP	PKPdf	07 45 47.9	+3.5
OCF	**Saint Nazaire**	**131.34**	**330**	PKP	PKPdf	07 45 46.7	+2.2
OG26	**St.-Nazaire-De**	**131.34**	**330**	PKP	PKPdf	07 45 46.7	+2.2
FRF	**La Foret Royal**	**131.37**	**328**	*e*PKIKP	PKPdf	07 45 46.0	+1.4
	comp=Z,69nm,0.7s						
COLF	**Collangettes**	**131.44**	**332**	PKP	PKPdf	07 45 47.1	+2.4
STOF	**St-Etienne Org**	**131.45**	**329**	PKP	PKPdf	07 45 48.1	+3.4
VIVF	**Saint-Julien-l**	**131.46**	**331**	*e*PKIKP	PKPdf	07 45 46.0	+1.3
	comp=Z,50nm,0.7s						
TCF	**Toulx Ste Croi**	**131.54**	**334**	*e*PKIKP	PKPdf	07 45 46.4	+1.6
	comp=Z,85nm,0.8s						
LMR	**La Mourre**	**131.59**	**328**	*e*PKIKP	PKPdf	07 45 46.3	+1.3
	comp=Z,116nm,1.0s						
SMRF	**Simiane la Rot**	**131.63**	**329**	*e*PKIKP	PKPdf	07 45 46.3	+1.2
	comp=Z,172nm,0.9s						
TAVF	**Tavernes**	**131.64**	**328**	PKP	PKPdf	07 45 47.9	+2.8
VILF	**Villemus**	**131.65**	**329**	PKP	PKPdf	07 45 48.3	+3.2
SGMF	**Saint Gilles**	**131.88**	**339**	*e*PKIKP	PKPdf	07 45 47.0	+1.6
	comp=Z,42nm,0.6s						
PUYF	**Puyloubier**	**131.88**	**329**	PKP	PKPdf	07 45 48.3	+2.7
PRAF	**Pradon**	**131.96**	**329**	PKP	PKPdf	07 45 49.2	+3.5
ROSF	**Rostrenen**	**132.07**	**339**	*e*PKIKP	PKPdf	07 45 46.8	+1.0
	comp=Z,31nm,0.7s						
MFF	**Saint Martin d**	**132.30**	**336**	*e*PKIKP	PKPdf	07 45 47.4	+1.1
	comp=Z,49nm,0.7s						
ROSC	**El Rosal**	**132.36**	**88**	PKP	PKPdf	07 45 48.2	+1.0
	comp=Z,39nm,0.5s,baz=83,slow=5.0,SNR=40						
QUIF	**Quistinic**	**132.38**	**339**	*e*PKIKP	PKPdf	07 45 47.5	+1.1
LASF	**Ste Croix**	**132.43**	**330**	*e*PKIKP	PKPdf	07 45 48.0	+1.4
	comp=Z,165nm,0.8s						
LCHF	**La Chataignera**	**132.49**	**336**	PKP	PKPdf	07 45 48.6	+2.0
RJF	**Les Rejaudoux**	**132.60**	**333**	*e*PKIKP	PKPdf	07 45 48.8	+1.9
	comp=Z,49nm,1.0s						
CAF	**Calviac**	**132.65**	**332**	*e*PKIKP	PKPdf	07 45 48.2	+1.2
LFF	**La Frestale**	**133.23**	**333**	*e*PKIKP	PKPdf	07 45 49.4	+1.3
MTLF	**Montolieu**	**133.77**	**331**	*e*PKIKP	PKPdf	07 45 50.1	+1.0
	comp=Z,62nm,0.9s						
LRDF	**Laroque-de-Fa**	**133.91**	**330**	PKP	PKPdf	07 45 51.4	+2.0
LPAZ	**La Paz**	**133.93**	**118**	PKhKP		07 45 38.2	
	comp=Z,1.2nm,0.5s,baz=344,slow=2.7,SNR=12						
LPAZ				PKP	PKPdf	07 45 52.3	+2.3
	comp=Z,24nm,0.6s,baz=239,slow=5.1,SNR=26						
LPAZ	**La Paz**	**133.93**	**118**	*e*PKPpre		07 45 39.3	
LPAZ				PKP	PKPdf	07 45 52.3	+2.3
LPAZ				*e*PKPdf	PKPdf	07 45 52.7	+2.6
LPAZ	**La Paz**	**133.93**	**118**	*i* PKHKP		07 45 38.2	
EJON	**La Jonquera**	**134.10**	**330**	PKP	PKPdf	07 45 49.3	-0.4
FILF	**Fillols**	**134.18**	**330**	PKP	PKPdf	07 45 52.3	+2.4
VALF	**Valcebollere**	**134.57**	**330**	PKP	PKPdf	07 45 53.6	+3.0
SALF	**Salau**	**134.70**	**331**	PKP	PKPdf	07 45 53.8	+2.9
EPF	**Esparros**	**134.90**	**332**	*e*PKIKP	PKPdf	07 45 52.5	+1.3
	comp=Z,40nm,0.8s						
RESF	**Ens**	**135.07**	**332**	PKP	PKPdf	07 45 54.8	+3.3
EMIR	**Miracle**	**135.17**	**330**	PKP	PKPdf	07 45 51.8	+0.1
REYF	**Montagne du Re**	**135.20**	**333**	PKP	PKPdf	07 45 53.9	+2.1
EBIE	**Bielsa**	**135.25**	**332**	PKP	PKPdf	07 45 49.4	-2.5
ETSF	**Etsaut**	**135.41**	**333**	*e*PKIKP	PKPdf	07 45 53.3	+1.1
	comp=Z,89nm,0.7s						
CMAH	**Djebel Manchou**	**135.42**	**320**	P	PKPdf	07 45 55.6	+3.3
FDAF	**Les Forges d'A**	**135.48**	**333**	PKP	PKPdf	07 45 55.2	+2.9
SJPF	**Ste Jean**	**135.54**	**333**	*e*PKIKP	PKPdf	07 45 53.4	+1.0
	comp=Z,38nm,0.7s						
EGRA	**Graus**	**135.55**	**331**	PKP	PKPdf	07 45 44.9	-7.5
EALK	**Alkurruntz**	**135.59**	**334**	PKP	PKPdf	07 45 53.7	+1.3
ABSA	**Djebel Ababsia**	**135.59**	**320**	P	PKPdf	07 45 55.0	+2.3
EPOB	**Poblet**	**135.82**	**330**	PKP	PKPdf	07 45 43.2	-10
CKFL	**Kef-Lekhel**	**136.00**	**320**	P	PKPdf	07 45 57.0	+3.6
SDV	**Santo Domingo**	**136.00**	**82**	PKhKP		07 45 48.0	
	comp=Z,4.2nm,0.4s,baz=196,slow=1.2,SNR=4.8						
SDV				PKP	PKPdf	07 45 54.6	+0.7
	comp=Z,45nm,0.8s,baz=305,slow=3.4,SNR=16						
SDV	**Santo Domingo**	**136.00**	**82**	*e*PKPpre		07 45 47.9	
SDV				*e*PKPdf	PKPdf	07 45 53.9	-0.1
SDV				PKP	PKPdf	07 45 54.6	+0.7
ETOS	**Mallorca**	**136.07**	**327**	PKP	PKPdf	07 45 52.1	-1.3
CASM	**Ain Smara**	**136.23**	**320**	P	PKPdf	07 45 57.0	+3.2
ESAC	**San Caprasio**	**136.29**	**332**	PKP	PKPdf	07 45 44.6	-9.1
ELAN	**Lanestosa**	**136.40**	**335**	PKP	PKPdf	07 45 42.9	-11
DFRA	**Djebel Bou Aff**	**136.44**	**321**	P	PKPdf	07 45 58.0	+3.8
ERTA	**Horta de San J**	**136.48**	**330**	PKP	PKPdf	07 45 45.8	-8.3
SET	**Setif**	**136.96**	**321**	P	PKPdf	07 46 01.0	+5.9
EARI	**Arriondas**	**137.05**	**337**	PKP	PKPdf	07 45 47.5	-7.6
CPUP	**Villa Florida**	**137.18**	**137**	PKhKP		07 45 44.9	
	comp=Z,3.7nm,0.7s,baz=328,slow=2.5,SNR=12						
CPUP				PKP	PKPdf	07 45 56.0	+0.2
	comp=Z,11nm,0.7s,baz=267,slow=3.0,SNR=12						
CPUP	**Villa Florida**	**137.18**	**137**	*e*PKPpre		07 45 45.8	
CPUP				PKP	PKPdf	07 45 56.0	+0.2
CPUP				*e*PKPdf	PKPdf	07 45 56.5	+0.6
CPUP	**Villa Florida**	**137.18**	**137**	*i* PKHKP		07 45 44.9	
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EMOS	**Mosqueruela**	**137.33**	**330**	PKP	PKPdf	07 45 48.2	-7.6
EIBI	**Ibiza**	**137.39**	**327**	PKP	PKPdf	07 45 47.2	-8.7
EPON	**Pontenova**	**137.76**	**339**	PKP	PKPdf	07 45 47.5	-9.0
ATAF	**Djebel Tarf**	**137.86**	**322**	P	PKPdf	07 45 50.3	-6.6
AKET	**Djebel Ketaf**	**137.99**	**322**	P	PKPdf	07 45 53.2	-3.9
ECHE	**Chera**	**138.17**	**330**	PKP	PKPdf	07 45 51.0	-6.3
ADJB	**Djebel Djouab**	**138.19**	**323**	P	PKPdf	07 45 51.0	-6.5
EMHD	**Djebel Mahouad**	**138.45**	**323**	P	PKPdf	07 45 54.0	-3.9
EBEN	**Beniarda**	**138.46**	**328**	PKP	PKPdf	07 45 53.5	-4.3
ERUA	**La Rua**	**138.56**	**338**	PKP	PKPdf	07 45 58.9	+0.9
STS	**Santiago**	**138.63**	**340**	PKP	PKPdf	07 45 58.5	+0.4
EMAZ	**Mazaricos**	**138.72**	**340**	PKP	PKPdf	07 45 52.5	-5.8
ECAL	**Calabor**	**138.80**	**337**	PKP	PKPdf	07 45 52.6	-5.8
SJG	**San Juan**	**138.99**	**68**	PKhKP		07 45 52.7	
	comp=Z,6.1nm,0.3s,baz=324,slow=18,SNR=4.1						
SJG				PKP	PKPdf	07 46 00.3	+1.0
	comp=Z,25nm,0.4s,baz=252,slow=0.8,SNR=7.7						
SJG	**San Juan**	**138.99**	**68**	PKP	PKPdf	07 45 52.7	-6.7
SJG				*e*PKPdf	PKPdf	07 46 01.4	+2.1
SJG	**San Juan**	**138.99**	**68**	*i* PKHKP		07 45 52.7	
SJG				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ETOB	**Tobarra**	**139.18**	**330**	PKP	PKPdf	07 45 51.4	-7.8
CPD	**Cerro la Pandu**	**139.23**	**68**	*e*PKPdf	PKPdf	07 46 01.2	+1.4
CPD	**Cerro la Pandu**	**139.23**	**68**	PKHKP		07 45 50.3	
EBNR	**Beni Rached**	**139.23**	**324**	P	PKPdf	07 45 59.0	-0.3
ELOB	**Lobios**	**139.36**	**339**	PKP	PKPdf	07 45 55.6	-3.8
ECHA	**Ech Chlef**	**139.42**	**324**	P	PKPdf	07 46 00.0	+0.3
ECHF	**Ech Chlef**	**139.43**	**324**	P	PKPdf	07 46 00.0	+0.3
PCAB	**Cabril**	**139.48**	**339**	*e*PKPdf	PKPdf	07 45 56.8	-2.8
PCAB	**Cabril**	**139.48**	**339**	*e*PKPdf	PKPdf	07 45 59.5	-0.1
ESDC	**Sonseca Array**	**139.53**	**333**	PKhKP		07 45 53.9	
	comp=Z,9.3nm,0.7s,baz=23,slow=3.0,SNR=17						
ESDC				PKP	PKPdf	07 46 00.5	+0.8
	comp=Z,7.4nm,0.8s,baz=29,slow=2.7,SNR=8.5						
ESDC	**Sonseca Array**	**139.53**	**333**	PKP	PKPdf	07 45 54.0	-5.8
ESDC				PKP	PKPdf	07 46 00.5	+0.7
MTP	**Monte Pirata**	**139.54**	**67**	*e*PKPpre		07 45 57.0	
MTP				*e*PKPdf	PKPdf	07 46 01.8	+1.4
EMUR	**La Murta**	**139.63**	**329**	PKP	PKPdf	07 45 49.5	-11
EVIA	**Vianos**	**139.66**	**330**	PKP	PKPdf	07 45 50.2	-10
EANR	**'Ain N'Sour**	**139.72**	**324**	P	PKPdf	07 45 56.0	-4.2
PVRL	**Vila Real**	**139.75**	**338**	*e*PKPdf	PKPdf	07 45 58.5	-1.6
PVRL	**Vila Real**	**139.75**	**338**	*e*PKPdf	PKPdf	07 46 02.5	+2.4
ETRT	**Tiaret**	**139.99**	**324**	P	PKPdf	07 45 56.0	-4.7
SIV	**San Ignacio**	**140.18**	**122**	PKhKP		07 45 53.3	
	comp=Z,5.9nm,0.6s,baz=244,slow=5.4,SNR=30						
SIV				PKP	PKPdf	07 46 02.4	+0.9
	comp=Z,13nm,0.5s,baz=237,slow=3.8,SNR=16						
EHUE	**Huescar**	**140.34**	**330**	PKP	PKPdf	07 45 55.0	-6.3
MTE	**Manteigas**	**140.44**	**337**	*e*PKPdf	PKPdf	07 45 49.9	-11
MTE	**Manteigas**	**140.44**	**337**	*e*PKPdf	PKPdf	07 45 53.7	-7.7
MTE	**Manteigas**	**140.44**	**337**	*e*LQ		08 29 42.3	
MTE	**Manteigas**	**140.44**	**337**	*e*PKPpre		07 45 57.6	
MTE				*e*PKPdf	PKPdf	07 46 03.3	+1.9
EQES	**Quesada**	**140.59**	**330**	PKP	PKPdf	07 45 51.9	-10
EBAN	**Banos Encina**	**140.66**	**331**	PKP	PKPdf	07 45 55.7	-6.2
ENIJ	**Nijar**	**140.79**	**329**	PKP	PKPdf	07 45 58.0	-4.2
PCBR	**Castelo Branco**	**140.89**	**337**	*e*PKPdf	PKPdf	07 45 57.1	-5.2
PCBR	**Castelo Branco**	**140.89**	**337**	*e*PKPdf	PKPdf	07 45 57.0	-5.3
EADA	**Adamuz**	**141.03**	**332**	PKP	PKPdf	07 45 55.0	-7.5
SAML	**Samuel**	**141.06**	**110**	*e*PKPpre		07 45 56.1	
SAML				*e*PKPdf	PKPdf	07 46 05.2	+1.9
EBER	**Berja**	**141.20**	**329**	PKP	PKPdf	07 45 58.0	-4.9
ECOG	**Cogollos-Vega**	**141.25**	**330**	PKP	PKPdf	07 45 57.6	-5.3
ELUQ	**Luque**	**141.37**	**331**	PKP	PKPdf	07 45 58.6	-4.6
PTOM	**Tomar**	**141.45**	**337**	*e*PKPdf	PKPdf	07 45 59.2	-4.0
PTOM	**Tomar**	**141.45**	**337**	*e*PKPdf	PKPdf	07 45 58.9	-4.3
ECAB	**El Cabril**	**141.49**	**333**	PKP	PKPdf	07 45 54.5	-8.8
ERON	**Agron**	**141.57**	**330**	PKP	PKPdf	07 45 57.3	-6.2
EGUA	**Guajares**	**141.59**	**330**	PKP	PKPdf	07 45 58.0	-5.5
EBAD	**Badajoz**	**141.62**	**335**	PKP	PKPdf	07 45 56.6	-7.0
ELOJ	**Sierra Loja**	**141.64**	**331**	PKP	PKPdf	07 45 56.9	-6.8
EALB	**Alboran**	**142.01**	**328**	PKP	PKPdf	07 45 58.0	-6.3
EVO	**Evora**	**142.22**	**336**	*e*PKIKP	PKPdf	07 46 02.2	-2.4
	comp=Z,83nm,1.0s						
EMIN	**Mina Concepcio**	**142.30**	**334**	PKP	PKPdf	07 45 59.1	-5.6
PLOU	**Loures**	**142.37**	**338**	*e*PKPdf	PKPdf	07 46 02.0	-2.8
PLOU	**Loures**	**142.37**	**338**	*e*PKPdf	PKPdf	07 46 01.1	-3.7
EMIJ	**Mijas**	**142.40**	**331**	PKP	PKPdf	07 45 58.5	-6.4
LIS	**Lisbon**	**142.51**	**337**	*e*P	PKPdf	07 45 59.2	-5.9
PBEJ	**Beja**	**142.60**	**335**	*e*PKPdf	PKPdf	07 46 02.9	-2.3
PBEJ	**Beja**	**142.60**	**335**	*e*PKPdf	PKPdf	07 45 59.8	-5.4
ESPR	**Espera**	**142.67**	**332**	PKP	PKPdf	07 46 00.5	-4.9
EJIF	**Jimena Fronter**	**142.83**	**331**	PKP	PKPdf	07 46 03.5	-2.2
EGRO	**El Granado**	**142.85**	**335**	PKP	PKPdf	07 46 01.3	-4.4
CPB	**Codrington**	**143.09**	**67**	*e*P	PKPbc	07 46 06.1	+1.3
SFS	**San Fernando**	**143.16**	**332**	*e*PKPdf	PKPdf	07 46 06.7	+0.4
SFS	**San Fernando**	**143.16**	**332**	PKIKP	PKPdf	07 46 06.6	+0.4
BPA	**Boggy Peak**	**143.22**	**68**	*e*P	PKPbc	07 46 00.7	-4.4
PTEO	**Sao Teotonio**	**143.36**	**336**	*e*PKPdf	PKPdf	07 46 05.8	-0.7
LZG	**Guadaloupe-1**	**143.53**	**69**	*e*P	PKPbc	07 46 06.0	-0.1
SEG	**Port Louis**	**143.72**	**68**	*e*P	PKPbc	07 46 05.3	-1.3
TBG	**Guadaloupe-3**	**143.72**	**69**	*e*P	PKPbc	07 46 05.7	-0.9
MGG	**Marie-Galante**	**144.01**	**69**	*e*P	PKPbc	07 46 07.0	-0.6
MDN	**Morne-Daniel**	**144.09**	**70**	*e*P	PKPbc	07 46 01.9	-5.8
DSHT	**Scott's Head**	**144.13**	**70**	*e*P	PKPbc	07 46 08.7	+0.8
DFBT	**Forest Bistro**	**144.14**	**70**	*e*P	PKPbc	07 46 08.5	+0.6
DFBT	**Forest Bistro**	**144.14**	**70**	*e*P	PKPbc	07 46 08.7	+0.8
DEG	**La Desirade**	**144.15**	**68**	*e*P	PKPbc	07 46 08.1	+0.2
FDF	**Fort de France**	**144.45**	**71**	⇓*e*P	PKPbc	07 46 09.3	+0.5
GRW	**Mount Saint Ca**	**144.46**	**76**	*e*	PKPbc	07 46 16.1	+7.3
SVB	**Belmont**	**144.66**	**74**	*e*P	PKPbc	07 46 07.2	-2.2
CRM	**Caravelle**	**144.67**	**71**	*e*P	PKPbc	07 46 08.9	-0.5
ALNG	**Atlantic LNG**	**144.70**	**79**	*e*P	PKPbc	07 46 10.0	+0.4
BUAY	**Buenos Aires**	**144.71**	**79**	*e*P	PKPbc	07 46 08.9	-0.7
MVM	**Montagne Vaucl**	**144.73**	**71**	*e*P	PKPdf	07 46 09.3	-0.3
SLB	**Belfond**	**144.75**	**73**	*e*P	PKPdf	07 46 12.0	+2.4
SIPA	**Siparia**	**144.88**	**79**	*e*P	PKPdf	07 46 12.0	+2.1
TPP	**Pointe-a-Pierr**	**144.91**	**79**	*e*P	PKPdf	07 46 13.1	+3.2
TRN	**Trinidad (W)**	**144.92**	**78**	*e*P	PKPdf	07 46 11.9	+1.9
TBH	**Brigand Hill**	**145.27**	**78**	*e*P	PKPdf	07 46 09.3	-1.2
TPR	**Prospect**	**145.46**	**77**	*e*P	PKPdf	07 46 09.9	-0.9
BOT	**Bacolet**	**145.52**	**77**	*e*	PKPdf	07 46 12.9	+2.0
STGR	**Santa Cruz**	**145.61**	**2**	*e*P	PKPdf	07 46 16.7	+6.3
	comp=Z,282nm,1.5s						
PLUZ	**Luz**	**145.63**	**3**	*e*P	PKPdf	07 46 16.6	+6.1
	comp=Z,196nm,1.1s						
PGRA	**Graciosa**	**145.66**	**2**	*e*P	PKPdf	07 46 14.5	+4.0
	comp=Z,968nm,1.6s						
PBIS	**Biscoitos**	**145.95**	**1**	*e*P	PKPdf	07 46 15.7	+4.7
	comp=Z,98nm,1.1s						
PVNV	**Vila Nova**	**145.95**	**1**	*e*P	PKPdf	07 46 16.5	+5.5
	comp=Z,99nm,1.0s						
ASBA	**Santa Barbara**	**145.99**	**1**	*e*P	PKPdf	07 46 16.1	+5.0
	comp=Z,162nm,1.0s						
PFAV	**Pico das Favas**	**146.00**	**1**	*e*P	PKPdf	07 46 16.7	+5.6
	comp=Z,78nm,1.1s						
PAMA	**Santo Amaro**	**146.01**	**2**	*e*P	PKPdf	07 46 17.3	+6.2
	comp=Z,117nm,1.1s						
PPAD	**Pico dos Padre**	**146.01**	**1**	*e*P	PKPdf	07 46 15.7	+4.6
	comp=Z,138nm,1.4s						
PSCM	**Serra do Cume**	**146.01**	**1**	*e*P	PKPdf	07 46 15.3	+4.2
	comp=Z,167nm,1.1s						
PCED	**Cedros**	**146.03**	**3**	*e*P	PKPdf	07 46 12.9	+1.7
	comp=Z,306nm,1.3s						
RIB2	**Ribeirinha**	**146.04**	**1**	*e*P	PKPdf	07 46 16.4	+5.2
	comp=Z,112nm,0.9s						
PMAN	**Manadas**	**146.06**	**2**	*e*P	PKPdf	07 46 15.7	+4.5
	comp=Z,398nm,1.1s						
ADH	**Angra Heroismo**	**146.06**	**1**	*i* P	PKPdf	07 46 22.0	+11
ADH	**Angra Heroismo**	**146.06**	**1**	*i* PP	PP	07 50 12.5	+35
PTCA	**Ponta do Capel**	**146.07**	**3**	*e*P	PKPdf	07 46 18.8	+7.6
	comp=Z,111nm,1.3s						
CALA	**Caldeira**	**146.08**	**3**	*e*P	PKPdf	07 46 15.5	+4.3
HOR	**Horta**	**146.14**	**3**	*e*P	PKPdf	07 46 16.7	+5.4
HOR	**Horta**	**146.14**	**3**	*e*P	PKPdf	07 46 16.7	+5.4
PICO	**Pico**	**146.17**	**3**	*e*P	PKPdf	07 46 13.1	+1.7
PBOI	**Pico dos Bois**	**146.24**	**3**	*e*P	PKPdf	07 46 19.1	+7.6
	comp=Z,120nm,1.1s						
BBSP	**Saint Philip**	**146.40**	**73**	*e*P	PKPdf	07 46 18.6	+6.2
PFAD	**Fenais da Ajud**	**146.86**	**358**	*e*P	PKPdf	07 46 20.0	+7.4
PSET	**Sete Cidades**	**146.89**	**359**	*e*P	PKPdf	07 46 17.4	+4.8
	comp=Z,572nm,1.2s						
MESC	**Monte Escuro**	**146.91**	**358**	*e*P	PKPdf	07 46 21.6	+8.9
LFA	**Lagoa do Fogo**	**146.93**	**358**	*e*P	PKPdf	07 46 18.6	+5.9
CML	**Cha da Macela**	**146.94**	**359**	*e*P	PKPdf	07 46 21.8	+9.1
FAC	**Faja de Cima**	**146.94**	**359**	*e*P	PKPdf	07 46 22.0	+9.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**146.94**	**358**	*e*P	PKPdf	07 46 21.7	+9.0
	comp=Z,227nm,1.5s						
FRA1	**Furnas**	**146.96**	**358**	*e*P	PKPdf	07 46 13.0	+0.2
PDA	**Ponta Delgada**	**146.96**	**359**	*i* P	PKPdf	07 46 16.0	+3.2
PDA	**Ponta Delgada**	**146.96**	**359**	*e*SS	SS	08 08 57.0	+23
PDA	**Ponta Delgada**	**146.96**	**359**	*e*LQ		08 28 12.0	
PDA				*i* LR	LR	08 36 51.0	
PSMN	**Pico do Norte,**	**147.69**	**358**	*e*P	PKPdf	07 46 21.2	+7.3
CAM4	**Nova Friburgo**	**148.98**	**150**	*e*P	PKPdf	07 46 19.4	+3.0
CAM4				*e*		07 46 23.2	
CAM4				*e*		07 46 50.4	
CAM4				*i*		07 47 09.3	
CAM4				*i*		07 47 46.5	
CAM4				*i*		07 48 02.7	
BAO	**Brasilia Array**	**150.77**	**134**	PKPdf	PKPdf	07 46 22.0	+2.6
EFAM	**Famara**	**152.64**	**335**	PKP	PKPdf	07 46 23.0	+1.2
CFTV	**Fuerteventura**	**153.50**	**335**	PKP	PKPdf	07 46 24.2	+1.2
EOSO	**Osorio**	**154.40**	**337**	PKP	PKPdf	07 46 26.0	+1.8
CCAN	**Las Canadas**	**154.65**	**339**	PKP	PKPdf	07 46 28.9	+4.4
EHIG	**Higuera**	**154.74**	**342**	PKP	PKPdf	07 46 28.0	+3.4
EGOM	**La Gomera**	**154.92**	**340**	PKP	PKPdf	07 46 25.9	+1.0
CHIE	**El Hierro**	**155.56**	**341**	PKP	PKPdf	07 46 29.5	+3.7
DBIC	**Dimbokro**	**158.34**	**277**	PKP	PKPdf	07 46 30.9	+1.2
	comp=Z,16nm,0.8s,baz=71,slow=1.5,SNR=12						
DBIC				PKPab	PKPab	07 47 05.7	-1.3
	comp=Z,156nm,0.8s,baz=78,slow=5.4,SNR=12						
DBIC	**Dimbokro**	**158.34**	**277**	*e*PKPdf	PKPdf	07 46 32.1	+2.4
DBIC	**Dimbokro**	**158.34**	**277**	PKP2	PKPab	07 47 05.7	-1.3
DBIC				pmax	pmax		
	comp=Z,156nm,0.8s						
LIC	**Lamto**	**158.54**	**275**	*e*PKIKP	PKPdf	07 46 30.3	+0.3
	comp=Z,30nm,0.8s						

IDC ***09*** *07:39:56.7±8.9, 4.79S×153.76E, h82km±81km, mb4.4/8, mb1 4.6/8, mb1mx4.4/14, mbtmp4.7/8, Error ellipse: s-maj=33.8km s-min=24.7km az=62.0*
NEIC ***09*** *07:39:58.5±4.8, 4.84S×153.76E, h99km±44km, mb4.4/3, Error ellipse: s-maj=18.1km s-min=13.7km az=57.0*
ISC 09 07:39:56.7±0.9**, 4.8S**±0.1×**153.8E**±0.2**, h100km, n14, σ0.80**/14**, mb4.5**/11**, 1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.09**	**146**	P	**P**	**07 44 34.8**	**-0.1**
	22nm,1.1s,mb4.4,baz=163,slow=21,SNR=6.9						
WRAB	**Tennant Creek**	**24.16**	**230**	P	**P**	**07 45 06.1**	**+1.3**
	9.4nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**24.17**	**230**	P	**P**	**07 45 06.4**	**+1.5**
	28nm,0.8s,mb4.7,baz=54,slow=9.7,SNR=13						
STKA	**Stephens Creek**	**29.25**	**202**	P	**P**	**07 45 50.5**	**-1.0**
	31nm,1.2s,mb4.8,baz=37,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**30.51**	**242**	P	**P**	**07 46 01.8**	**-1.0**
	72nm,0.8s,mb5.4,baz=54,slow=6.3,SNR=12						
FORT	**Forrest**	**35.40**	**220**	⇓*i*P	**P**	**07 46 44.7**	**-0.2**
	97nm,0.6s						
KLBR	**Kellerberrin**	**43.01**	**227**	*e*P	**P**	**07 47 47.1**	**-0.9**
KULM	**Kulim**	**53.99**	**280**	*e*P	**P**	**07 49 12.7**	**-0.5**
ENH	**Enshi**	**54.88**	**312**	*e*P	**P**	**07 49 19.4**	**0.0**
	3.2nm,0.4s,mb4.7						
SONM	**Songino Array**	**66.85**	**327**	P	**P**	**07 50 40.2**	**+0.1**
	1.6nm,0.5s,mb4.1,baz=139,slow=5.8,SNR=7.6						
CASY	**Casey**	**68.29**	**197**	*e*P	**P**	**07 50 48.0**	**-0.8**
	3.4nm,0.7s,mb4.3						
VNDA	**Vanda**	**72.78**	**178**	P	**P**	**07 51 16.8**	**+1.2**
	2.0nm,0.8s,mb4.0,baz=287,slow=6.3,SNR=6.2						
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**07 52 02.1**	**+0.3**
	2.5nm,0.6s,mb4.3,baz=87,slow=7.0,SNR=9.5						
MAW	**Mawson**	**85.93**	**203**	P	**P**	**07 52 26.5**	**+0.2**
	2.6nm,0.4s,mb4.5,baz=66,slow=7.9,SNR=4.7						

NEIC ***09*** *07:52:36.0±0.8, 5.39S×154.30E, h100km, mb4.0/2, Error ellipse: s-maj=18.2km s-min=16.8km az=53.0*
IDC ***09*** *07:52:42.2±11.0, 5.47S×154.30E, h160km±114km, mb3.7/7, mb1 3.8/8, mb1mx3.7/16, mbtmp4.2/8, Error ellipse: s-maj=41.4km s-min=23.4km az=3.0*
ISC 09 07:52:44.0±6.7**, 5.6S**±0.2×**154.3E**±0.2**, h189km**±61km**, n10, σ0.94**/10**, mb4.0**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.42**	**208**	P	**P**	**07 56 26.1**	**+0.7**
	0.4nm,0.3s,baz=31,slow=12,SNR=2.7						
DZM	**Mont Dzumac**	**20.20**	**146**	P	**P**	**07 57 05.0**	**-0.7**
	3.2nm,0.5s,baz=297,slow=14,SNR=5.5						
WRAB	**Tennant Creek**	**24.09**	**232**	*e*P	**P**	**07 57 43.8**	**+0.2**
	8.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**24.10**	**232**	P	**P**	**07 57 44.2**	**+0.4**
	4.3nm,0.7s,mb4.1,baz=53,slow=9.5,SNR=16						
STKA	**Stephens Creek**	**28.76**	**203**	P	**P**	**07 58 23.8**	**-2.4**
	3.5nm,1.0s,mb4.0,baz=29,slow=9.3,SNR=2.8						
FITZ	**Fitzroy Crossi**	**30.63**	**244**	P	**P**	**07 58 41.9**	**-0.9**
	5.0nm,0.6s,mb4.4,baz=46,slow=8.0,SNR=3.8						
RPZ	**Rata Peaks**	**40.77**	**161**	P	**P**	**08 00 08.9**	**+0.8**
	6.8nm,0.7s,mb4.4,baz=233,slow=6.2,SNR=4.8						
VNDA	**Vanda**	**72.03**	**178**	P	**P**	**08 03 49.7**	**+1.1**
	0.7nm,0.6s,mb3.6						
MKAR	**Makanchi Array**	**81.87**	**319**	P	**P**	**08 04 44.0**	**+0.5**
	0.5nm,0.6s,mb3.3,baz=97,slow=6.5,SNR=3.9						
ILAR	**Eielson Array**	**82.30**	**22**	P	**P**	**08 04 45.0**	**-0.4**
	0.7nm,0.6s,mb3.5,baz=244,slow=5.3,SNR=6.5						

NEIC ***09*** *08:04:14.9, 39.37S×176.33E, h64km, ML3.9(WEL), After WEL.*
WEL 09 08:04:15.2±0.1**, 39.37S**×**176.32E, h60km**±2km**, ML3.9**/17**, 23C-61D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.24**	**33**	⇑PN	P	08 04 25.1	+0.3
BKZ				SN	S	08 04 32.7	+0.6
BKZ	**Black Stump Fm**	**0.24**	**33**	⇓P	P	08 04 25.1	+0.2
BKZ				S	S	08 04 32.7	+0.7
MOVZ	**Moawhango**	**0.44**	**265**	⇓PN	P	08 04 26.3	-0.3
MOVZ				SN	S	08 04 34.2	-0.8
MOVZ	**Moawhango**	**0.44**	**265**	⇓P	P	08 04 26.3	-0.3
MOVZ				S	S	08 04 34.2	-0.8
HATZ	**Hinemaiaia**	**0.51**	**339**	PN	P	08 04 26.8	-0.5
HATZ				SN	S	08 04 35.1	-1.1
HATZ	**Hinemaiaia**	**0.51**	**339**	P	P	08 04 26.8	-0.5
TUVZ	**Tukino**	**0.53**	**281**	⇓PN	P	08 04 27.4	-0.1
TUVZ				SN	S	08 04 36.2	-0.4
TUVZ	**Tukino**	**0.53**	**281**	⇓P	P	08 04 27.4	-0.1
RITZ	**Rihia Road**	**0.53**	**317**	PN	P	08 04 27.6	+0.1
RITZ	**Rihia Road**	**0.53**	**317**	P	P	08 04 27.6	+0.1
OTVZ	**Oturere**	**0.55**	**292**	⇓PN	P	08 04 27.7	-0.1
OTVZ				*e*SN	S	08 04 35.5	-1.5
WNVZ	**Wahianoa**	**0.56**	**274**	⇓PN	P	08 04 27.7	-0.2
WNVZ				SN	S	08 04 36.5	-0.8
WNVZ	**Wahianoa**	**0.56**	**274**	⇓P	P	08 04 27.7	-0.2
NGZ	**Ngauruhoe**	**0.59**	**289**	⇓PN	P	08 04 28.1	-0.1
NGZ				SN	S	08 04 36.8	-1.0
NGZ	**Ngauruhoe**	**0.59**	**289**	⇓P	P	08 04 28.1	-0.1
DRZ	**Dome Shelter**	**0.59**	**279**	⇑PN	P	08 04 28.1	-0.1
DRZ				SN	S	08 04 36.8	-1.1
DRZ	**Dome Shelter**	**0.59**	**279**	⇑P	P	08 04 28.1	-0.1
KRVZ	**Karewarewa**	**0.59**	**297**	⇓PN	P	08 04 28.1	-0.2
KRVZ				*e*SN	S	08 04 36.5	-1.4
TRVZ	**Turoa**	**0.60**	**276**	⇓PN	P	08 04 28.2	-0.1
TRVZ				SN	S	08 04 37.3	-0.7
FWVZ	**Far West T-bar**	**0.61**	**281**	⇑PN	P	08 04 28.2	-0.2
FWVZ				SN	S	08 04 36.8	-1.4
FWVZ	**Far West T-bar**	**0.61**	**281**	⇑P	P	08 04 28.2	-0.2
WTVZ	**West Tongariro**	**0.62**	**294**	⇓PN	P	08 04 28.4	-0.2
WTVZ	**West Tongariro**	**0.62**	**294**	⇓P	P	08 04 28.4	-0.1
CNZ	**Chateau**	**0.62**	**286**	⇑PN	P	08 04 28.5	-0.1
CNZ	**Chateau**	**0.62**	**286**	P	P	08 04 28.5	-0.1
WPVZ	**Whakapapa**	**0.62**	**285**	⇓PN	P	08 04 28.5	-0.1
WPVZ				SN	S	08 04 38.1	-0.4
WPVZ	**Whakapapa**	**0.62**	**285**	⇓P	P	08 04 28.5	-0.1
KATZ	**Kakaramea**	**0.63**	**309**	⇓PN	P	08 04 28.5	-0.1
KATZ				*e*SN	S	08 04 38.3	-0.3
KATZ	**Kakaramea**	**0.63**	**309**	⇓P	P	08 04 28.5	-0.1
RATZ	**Rangitukua**	**0.66**	**319**	⇑PN	P	08 04 28.5	-0.5
RATZ	**Rangitukua**	**0.66**	**319**	⇑P	P	08 04 28.5	-0.5
MTVZ	**Mangateitei**	**0.66**	**268**	⇓PN	P	08 04 28.7	-0.2
TSZ	**Takapari Road**	**0.74**	**202**	⇓PN	P	08 04 30.1	+0.1
TSZ				SN	S	08 04 41.3	+0.2
TSZ	**Takapari Road**	**0.74**	**202**	⇓P	P	08 04 30.1	+0.1
TWVZ	**Taurewa**	**0.75**	**293**	⇓PN	P	08 04 29.3	-0.8
TWVZ	**Taurewa**	**0.75**	**293**	⇓P	P	08 04 29.3	-0.8
WHTZ	**Whakaora**	**0.76**	**338**	PN	P	08 04 30.2	0.0
WHTZ	**Whakaora**	**0.76**	**338**	P	P	08 04 30.2	0.0
PKVZ	**Pokaka**	**0.76**	**276**	⇓PN	P	08 04 29.9	-0.3
WATZ	**Wairara**	**0.80**	**325**	⇑PN	P	08 04 30.0	-0.8
WATZ	**Wairara**	**0.80**	**325**	⇑P	P	08 04 30.0	-0.8
PATZ	**Paeroa**	**0.99**	**357**	⇓PN	P	08 04 33.0	-0.3
PATZ	**Paeroa**	**0.99**	**357**	⇓P	P	08 04 33.0	-0.3
WAZ	**Wanganui**	**1.10**	**249**	⇓PN	P	08 04 35.1	+0.2
WAZ				*e*SN	S	08 04 49.7	+0.3
WAZ	**Wanganui**	**1.10**	**249**	⇓P	P	08 04 35.1	+0.3
KNZ	**Kokohu**	**1.11**	**72**	⇓PN	P	08 04 34.5	-0.4
KNZ	**Kokohu**	**1.11**	**72**	⇓P	P	08 04 34.5	-0.4
TAZ	**Tarawera**	**1.15**	**7**	⇑PN	P	08 04 35.0	-0.4
TAZ	**Tarawera**	**1.15**	**7**	⇑P	P	08 04 35.0	-0.4
UTU	**Utuhina**	**1.20**	**355**	PN	P	08 04 35.5	-0.5
UTU	**Utuhina**	**1.20**	**355**	P	P	08 04 35.5	-0.6
VRZ	**Vera Road**	**1.24**	**281**	⇓PN	P	08 04 35.9	-0.8
VRZ				*e*SN	S	08 04 51.9	-0.8
VRZ	**Vera Road**	**1.24**	**281**	⇓P	P	08 04 35.9	-0.8
URZ	**Urewera**	**1.27**	**29**	⇓PN	P	08 04 36.0	-1.1
URZ	**Urewera**	**1.27**	**29**	⇓*e*P	P	08 04 36.0	-1.1
EDRZ	**Edgecumbe**	**1.30**	**15**	⇑PN	P	08 04 36.7	-1.0
BFZ	**Birch Farm**	**1.31**	**183**	⇑PN	P	08 04 36.7	-1.1
BFZ				SN	S	08 04 52.4	-2.2
BFZ	**Birch Farm**	**1.31**	**183**	⇓*e*P	P	08 04 36.7	-1.1
LIRZ	**Lichensteins R**	**1.36**	**2**	*e*PN	P	08 04 37.9	-0.7
LIRZ	**Lichensteins R**	**1.36**	**2**	P	P	08 04 35.3	-3.3
MWZ	**Matawai**	**1.40**	**43**	⇓PN	P	08 04 37.9	-1.1
MWZ				*e*SN	S	08 04 56.7	+0.1
MWZ	**Matawai**	**1.40**	**43**	⇓P	P	08 04 37.9	-1.1
MARZ	**Manawahe**	**1.41**	**11**	PN	P	08 04 37.9	-1.3
MARZ	**Manawahe**	**1.41**	**11**	P	P	08 04 38.0	-1.2
MRZ	**Mangatainoka R**	**1.41**	**204**	⇓PN	P	08 04 37.8	-1.4
MRZ				SN	S	08 04 55.2	-1.8
MRZ	**Mangatainoka R**	**1.41**	**204**	⇓*e*P	P	08 04 37.8	-1.4
HIZ	**Hauiti**	**1.43**	**306**	⇑PN	P	08 04 38.4	-1.0
HIZ				SN	S	08 04 55.2	-2.2
HIZ	**Hauiti**	**1.43**	**306**	⇓*e*P	P	08 04 38.4	-1.0
RAEZ	**Rainy Point**	**1.50**	**273**	⇓PN	P	08 04 40.1	-0.2
RAEZ	**Rainy Point**	**1.50**	**273**	⇓P	P	08 04 40.1	-0.3
DFE	**Dawson Falls**	**1.72**	**271**	PN	P	08 04 43.6	+0.2
NEZ	**North Egmont**	**1.73**	**273**	⇑PN	P	08 04 43.5	0.0
NEZ	**North Egmont**	**1.73**	**273**	⇑P	P	08 04 43.5	0.0
PKE	**Pukeiti**	**1.82**	**275**	⇓PN	P	08 04 44.6	-0.2
PKE	**Pukeiti**	**1.82**	**275**	⇓P	P	08 04 44.6	-0.2
KIW	**Kapiti Island**	**1.84**	**216**	⇓PN	P	08 04 43.3	-1.7
KIW	**Kapiti Island**	**1.84**	**216**	⇓P	P	08 04 43.3	-1.8
NRZ	**Ngariki Road**	**1.85**	**270**	⇑PN	P	08 04 45.1	-0.1
NRZ	**Ngariki Road**	**1.85**	**270**	⇑P	P	08 04 45.1	-0.1
MTW	**Mount Morrison**	**1.89**	**199**	⇓PN	P	08 04 43.3	-2.5
MTW				SN	S	08 05 05.6	-2.9
NWEZ	**Newall Road**	**1.91**	**272**	PN	P	08 04 46.0	0.0
NWEZ	**Newall Road**	**1.91**	**272**	⇓P	P	08 04 46.1	+0.1
CAW	**Cannon Point**	**1.98**	**209**	⇓PN	P	08 04 44.6	-2.5
CAW	**Cannon Point**	**1.98**	**209**	⇓P	P	08 04 44.6	-2.4
PUZ	**Puketiti**	**1.99**	**50**	⇑PN	P	08 04 45.6	-1.5
PUZ				SN	S	08 05 10.3	-0.6
PUZ	**Puketiti**	**1.99**	**50**	⇑P	P	08 04 45.6	-1.6
TRWZ	**Traveller**	**2.08**	**193**	⇓PN	P	08 04 45.8	-2.6
PAWZ	**Paruwai Farm**	**2.12**	**199**	⇓PN	P	08 04 46.1	-2.9
MSWZ	**Moikau Station**	**2.20**	**201**	⇓PN	P	08 04 46.9	-3.2
MRW	**Makara Radio**	**2.23**	**213**	⇓PN	P	08 04 47.6	-3.0
MRW	**Makara Radio**	**2.23**	**213**	⇓P	P	08 04 47.6	-3.0
WEL	**Wellington**	**2.25**	**211**	PN	P	08 04 47.9	-2.9
WEL	**Wellington**	**2.25**	**211**	P	P	08 04 47.9	-3.0
SNZO	**South Karori**	**2.30**	**212**	*e*Pn	P	08 04 48.5	-3.0
SNZO				*e*Sn	S	08 05 00.2	-18
BHW	**Baring Head**	**2.32**	**208**	⇓PN	P	08 04 48.4	-3.3
BHW	**Baring Head**	**2.32**	**208**	⇓P	P	08 04 48.4	-3.4
DUWZ	**D'Urville Isla**	**2.33**	**231**	⇑PN	P	08 04 49.3	-2.7
MXZ	**Matakaoa Point**	**2.38**	**41**	*e*PN	P	08 04 51.0	-1.7
MXZ	**Matakaoa Point**	**2.38**	**41**	*e*P	P	08 04 51.0	-1.7
TCW	**Tory Channel**	**2.42**	**220**	⇓PN	P	08 04 50.1	-3.1
TCW	**Tory Channel**	**2.42**	**220**	⇓P	P	08 04 50.1	-3.1
TUWZ	**Tuamarina**	**2.75**	**221**	⇓PN	P	08 04 54.2	-3.7
NNZ	**Nelson**	**2.91**	**230**	PN	P	08 04 56.4	-3.8
NNZ	**Nelson**	**2.91**	**230**	P	P	08 04 56.4	-3.8
BSWZ	**Blackbirch Sta**	**2.99**	**218**	PN	P	08 04 57.4	-4.0
BSWZ	**Blackbirch Sta**	**2.99**	**218**	P	P	08 04 57.4	-4.0
QRZ	**Quartz Range**	**3.25**	**242**	⇓PN	P	08 05 01.0	-4.0
QRZ	**Quartz Range**	**3.25**	**242**	⇑P	P	08 05 01.0	-4.0
THZ	**Tophouse**	**3.53**	**226**	*e*PN	P	08 05 04.6	-4.3
THZ	**Tophouse**	**3.53**	**226**	*e*P	P	08 05 04.6	-4.3
KHZ	**Kahutara**	**3.70**	**214**	*e*PN	P	08 05 06.1	-5.2
KHZ	**Kahutara**	**3.70**	**214**	*e*P	P	08 05 06.1	-5.2
DSZ	**Denniston Nort**	**4.18**	**234**	*e*P	P	08 05 13.0	-5.0
LTZ	**Lake Taylor**	**4.58**	**221**	*e*P	P	08 05 17.9	-5.8
CRLZ	**Canterbury Las**	**5.04**	**212**	*e*PN	P	08 05 23.2	-6.8
CRLZ	**Canterbury Las**	**5.04**	**212**	*e*P	P	08 05 23.2	-6.8
MQZ	**McQueen's Vall**	**5.13**	**211**	*e*PN	P	08 05 23.9	-7.5
WVZ	**Waitaha Valley**	**5.61**	**227**	*e*PN	P	08 05 32.3	-5.5
RPZ	**Rata Peaks**	**5.87**	**221**	*e*PN	P	08 05 34.5	-7.0
RPZ	**Rata Peaks**	**5.87**	**221**	*e*P	P	08 05 34.5	-7.0
FOZ	**Fox Glacier**	**6.51**	**228**	*e*PN	P	08 05 41.9	-8.6
FOZ	**Fox Glacier**	**6.51**	**228**	*e*P	P	08 05 41.9	-8.6
LBZ	**Lake Benmore**	**6.79**	**220**	*e*PN	P	08 05 47.0	-7.4
ODZ	**Otahua Downs**	**7.06**	**215**	*e*PN	P	08 05 49.9	-8.4
ODZ	**Otahua Downs**	**7.06**	**215**	*e*P	P	08 05 49.9	-8.3
JCZ	**Jackson Bay**	**7.35**	**228**	*e*PN	P	08 05 54.1	-8.1
JCZ	**Jackson Bay**	**7.35**	**228**	*e*P	P	08 05 54.1	-8.1
TUZ	**Tuapeka**	**8.22**	**215**	*e*PN	P	08 06 05.9	-8.3
TUZ	**Tuapeka**	**8.22**	**215**	*e*P	P	08 06 05.9	-8.2

IDC ***09*** *08:24:57.9±1.7, 4.32S×153.63E, mb4.0/5, mb1 4.1/5, mb1mx3.9/13, mbtmp4.0/5, Error ellipse: s-maj=71.6km s-min=27.7km az=112.0*
NEIC 09 08:25:10.3±1.4**, 4.46S**×**153.54E, h100km, mb4.0**/1**, Error ellipse: s-maj=57.7km s-min=20.0km az=113.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.21**	**229**	*e*P	P	08 30 17.2	-1.7
	5.1nm,0.8s						
WRA	**Warramunga Arr**	**24.23**	**229**	P	P	08 30 17.6	-1.4
	3.8nm,0.7s,baz=54,slow=9.7,SNR=23						
STKA	**Stephens Creek**	**29.49**	**201**	P	P	08 31 06.0	-1.4
	1.8nm,0.5s,baz=56,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**80.56**	**319**	P	P	08 37 13.5	+0.2
	0.6nm,0.8s,baz=90,slow=5.8,SNR=4.2						
ILAR	**Eielson Array**	**81.57**	**22**	P	P	08 37 16.1	-2.0
	0.4nm,0.8s,baz=245,slow=5.3,SNR=4.5						
BVAR	**Borovoye Array**	**89.41**	**323**	P	P	08 37 55.0	-2.0
	1.0nm,0.8s,baz=79,slow=7.3,SNR=4.7						

IDC ***09*** *08:33:34.4±29.0, 4.72S×153.27E, h262km±278km, mb3.6/6, mb1 3.8/6, mb1mx3.6/14, mbtmp4.2/6, Error ellipse: s-maj=103.6km s-min=53.6km az=62.0*
NEIC 09 08:33:16.6±1.5**, 4.49S**×**153.59E, h100km, mb4.0**/2**, Error ellipse: s-maj=45.2km s-min=14.6km az=103.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.23**	**229**	*e*P	P	08 38 24.3	-1.0
	4.6nm,0.8s						
WRA	**Warramunga Arr**	**24.24**	**229**	P	P	08 38 24.9	-0.5
	11nm,0.7s,baz=54,slow=9.9,SNR=58						
STKA	**Stephens Creek**	**29.48**	**201**	P	P	08 39 11.3	-2.1
	4.7nm,1.1s,baz=42,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**29.48**	**201**	P	P	08 39 11.3	-2.1
FITZ	**Fitzroy Crossi**	**30.50**	**241**	P	P	08 39 19.7	-2.9
	7.1nm,0.6s,baz=58,slow=2.7,SNR=11						
KULM	**Kulim**	**53.76**	**280**	*e*P	P	08 42 29.2	-2.0
SONM	**Songino Array**	**66.48**	**327**	P	P	08 43 56.2	-1.4
	0.4nm,0.4s,baz=140,slow=6.0,SNR=5.2						
MKAR	**Makanchi Array**	**80.61**	**319**	P	P	08 45 18.7	-1.1
	1.1nm,0.9s,baz=101,slow=7.6,SNR=5.5						
MKAR	**Makanchi Array**	**80.61**	**319**	P	P	08 45 18.7	-1.1
KURK	**Kurchatov**	**84.01**	**322**	P	P	08 45 35.9	-1.1
	1.6nm,0.8s						
BVAR	**Borovoye Array**	**89.46**	**323**	P	P	08 46 01.2	-2.2
	1.1nm,0.8s,baz=90,slow=4.4,SNR=4.9						

BJI ***09*** *08:34:42.5, 4.91S×153.41E, h84km, mb4.8*
MOS ***09*** *08:34:42.2±1.2, 4.69S×153.87E, h95km, mb4.5/9, Error ellipse: s-maj=16.5km s-min=12.1km az=85.4*
NEIC ***09*** *08:34:43.6±1.6, 4.82S×153.78E, h95km±15km, mb4.6/16, Error ellipse: s-maj=10.4km s-min=8.4km az=106.0*
IDC ***09*** *08:34:45.8±6.0, 4.81S×153.76E, h117km±54km, mb4.2/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.6/14, MS5.3/1, Ms1 5.3/1, ms1mx4.6/25, Error ellipse: s-maj=23.3km s-min=15.6km az=74.0*
ISC 09 08:34:44.3±2.4**, 4.83S**±0.08×**153.77E**±0.08**, h116km**±24km**, n56, σ0.86**/58**, mb4.6**/32**, 1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.64**	**127**	P	**P**	**08 36 41.9**	**+7.6**
	13nm,0.3s,baz=282,slow=6.4,SNR=4.1						
HNR				S	**S**	**08 37 59.8**	**0.0**
	50nm,0.3s,baz=5.8,slow=22,SNR=10						
HNR	**Honiara**	**7.64**	**127**	*e*Pn	**P**	**08 36 32.1**	**-2.3**
	875nm,0.8s						
HNR				*e*Sn	**S**	**08 38 00.9**	**+1.0**
HNR	**Honiara**	**7.64**	**127**	*e*P	**P**	**08 36 32.1**	**-2.3**
HNR				*e*		08 38 00.9	
HNR				pmax	pmax		
	comp=Z,875nm,0.8s						
CTA	**Charters Tower**	**16.84**	**205**	*e*P	**P**	**08 38 37.0**	**+2.6**
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**16.84**	**205**	P	**P**	**08 38 36.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=26,slow=12,SNR=7.8						
CTA	**Charters Tower**	**16.84**	**205**	*e*P	**P**	**08 38 37.0**	**+2.6**
CTA				pmax	pmax		
	comp=Z,11nm,0.9s						
CTAO	**Charters Tower**	**16.84**	**205**	*e*P	**P**	**08 38 35.8**	**+1.4**
	comp=Z,29nm,1.1s						
CTAO	**Charters Tower**	**16.84**	**205**	*e*P	**P**	**08 38 35.8**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,29nm,1.1s						
DZM	**Mont Dzumac**	**21.08**	**146**	P	**P**	**08 39 21.6**	**+0.7**
	comp=Z,4.1nm,0.5s,mb4.0,baz=323,slow=13,SNR=7.6						
WRAB	**Tennant Creek**	**24.14**	**230**	*e*P	**P**	**08 39 51.4**	**+0.6**
	comp=Z,52nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**24.14**	**230**	*e*P	**P**	**08 39 51.4**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,51nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**24.15**	**230**	P	**P**	**08 39 51.6**	**+0.6**
	comp=Z,31nm,0.9s,mb4.7,baz=54,slow=9.9,SNR=37						
ASPA	**Alice Springs**	**26.79**	**224**	*e*P	**P**	**08 40 15.4**	**-0.1**
STKA	**Stephens Creek**	**29.23**	**202**	*e*P	**P**	**08 40 36.5**	**-0.9**
	comp=Z,10nm,2.0s,mb4.1						
STKA	**Stephens Creek**	**29.23**	**202**	P	**P**	**08 40 36.5**	**-1.0**
	comp=Z,9.5nm,0.9s,mb4.4,baz=41,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**30.50**	**242**	⇓*i*P	**P**	**08 40 47.8**	**-1.0**
	comp=Z,23nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.50**	**242**	P	**P**	**08 40 47.4**	**-1.5**
	comp=Z,28nm,0.6s,mb5.1,baz=59,slow=3.8,SNR=21						
FITZ				LR	LR	08 53 07.5	
	comp=Z,6µm,21.5s,baz=100,slow=36						
FORT	**Forrest**	**35.38**	**220**	*e*P	**P**	**08 41 30.2**	**-0.6**
	comp=Z,53nm,0.7s,mb5.5						
MBWA	**Marble Bar**	**36.79**	**241**	*e*P	**P**	**08 41 41.7**	**-1.1**
	comp=Z,31nm,1.1s,mb5.2						
RPZ	**Rata Peaks**	**41.62**	**161**	P	**P**	**08 42 21.9**	**-0.6**
	comp=Z,7.7nm,0.8s,mb4.5,baz=323,slow=12,SNR=4.8						
KLBR	**Kellerberrin**	**42.99**	**227**	*e*P	**P**	**08 42 33.0**	**-0.9**
	comp=Z,139nm,1.9s,mb5.4						
JNU	**Nakatsue**	**43.54**	**332**	P	**P**	**08 42 37.9**	**-0.4**
	comp=Z,9.0nm,0.8s,mb4.5,baz=103,slow=10,SNR=6.8						
KULM	**Kulim**	**53.99**	**280**	*e*P	**P**	**08 43 59.3**	**+0.2**
ENH	**Enshi**	**54.89**	**312**	*e*P	**P**	**08 44 05.2**	**-0.2**
	comp=Z,27nm,1.0s,mb5.2						
XAN	**Xi'an**	**57.31**	**316**	P	**P**	**08 44 21.7**	**-0.9**
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
HHC	**Hu-ho-hao-te**	**59.64**	**324**	*e*P	**P**	**08 44 39.6**	**+1.0**
HHC				PCP	PcP	08 45 26.2	+1.9
HHC				PP	PP	08 46 52.4	-1.0
HHC				S	**S**	**08 52 32.6**	**-5.3**
HHC				SCS	ScS	08 54 12.5	-1.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb5.0						
GTA	**Gaotai**	**66.34**	**317**	*e*P	**P**	**08 45 23.5**	**+0.6**
GTA				AP	pP	08 45 48.9	-2.7
GTA				PCP	PcP	08 45 51.4	-0.3
GTA				XP	sP	08 45 58.9	-5.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**66.54**	**328**	P	**P**	**08 45 25.1**	**+1.1**
	comp=Z,2.2nm,0.3s,mb4.5						
ULN	**Ulaanbaatar**	**66.54**	**328**	P	**P**	**08 45 25.1**	**+1.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
SONM	**Songino Array**	**66.87**	**327**	P	**P**	**08 45 25.5**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.1,baz=138,slow=6.1,SNR=11						
CASY	**Casey**	**68.27**	**197**	*e*P	**P**	**08 45 34.1**	**-0.3**
	comp=Z,6.2nm,0.9s,mb4.4						
ZAK	**Zakamensk**	**70.03**	**328**	*e*P	**P**	**08 45 45.2**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BOD	**Bodaibo**	**70.17**	**339**	*e*P	**P**	**08 45 43.4**	**-2.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
VNDA	**Vanda**	**72.76**	**178**	P	**P**	**08 46 01.4**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.1,baz=332,slow=7.3,SNR=11						
VNDA	**Vanda**	**72.76**	**178**	*e*P	**P**	**08 46 01.9**	**+0.6**
	comp=Z,3.4nm,0.8s,mb4.2						
VNDA	**Vanda**	**72.76**	**178**	*e*P	**P**	**08 46 01.9**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GUN	**Gumba**	**72.97**	**301**	*e*P	**P**	**08 46 04.3**	**+0.9**
PKI	**Pulchoki**	**73.28**	**301**	*e*P	**P**	**08 46 05.6**	**+0.3**
KKN	**Kakani**	**73.45**	**301**	*e*P	**P**	**08 46 06.8**	**+0.6**
DMN	**Daman**	**73.55**	**300**	*e*P	**P**	**08 46 07.0**	**+0.2**
	comp=Z,96nm,1.1s,mb5.4						
GKN	**Gorkha**	**74.05**	**301**	*e*P	**P**	**08 46 09.6**	**-0.2**
	comp=Z,99nm,1.1s,mb5.5						
KOLN	**Koldanda**	**74.88**	**300**	*e*P	**P**	**08 46 14.2**	**-0.3**
	comp=Z,39nm,1.0s,mb5.1						
MCK	**McKinley**	**80.52**	**22**	*e*P	**P**	**08 46 44.4**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.1						
MCK	**McKinley**	**80.52**	**22**	*e*P	**P**	**08 46 44.4**	**-0.4**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**80.99**	**319**	P	**P**	**08 46 48.2**	**+0.5**
	comp=Z,3.7nm,0.9s,mb4.2,baz=101,slow=6.2,SNR=16						
ILAR	**Eielson Array**	**81.83**	**22**	P	**P**	**08 46 50.3**	**-1.4**
	comp=Z,1.3nm,0.8s,mb3.8,baz=251,slow=5.0,SNR=11						
KURK	**Kurchatov**	**84.39**	**322**	*e*P	**P**	**08 47 05.2**	**+0.3**
	comp=Z,9.4nm,1.1s,mb4.5						
KURK	**Kurchatov**	**84.39**	**322**	*e*P	**P**	**08 47 05.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**85.39**	**313**	*e*P	**P**	**08 47 11.4**	**+1.4**
	comp=Z,7.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**85.39**	**313**	*e*P	**P**	**08 47 11.4**	**+1.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
MAW	**Mawson**	**85.91**	**203**	P	**P**	**08 47 12.4**	**+0.4**
	comp=Z,12nm,0.8s,mb4.8,baz=92,slow=7.4,SNR=13						
INK	**Inuvik**	**88.14**	**21**	P	**P**	**08 47 24.2**	**+1.5**
	comp=Z,4.0nm,1.3s,mb4.3,baz=226,slow=2.8,SNR=3.7						
BVAR	**Borovoye Array**	**89.85**	**323**	P	**P**	**08 47 30.7**	**-0.5**
	comp=Z,4.8nm,0.8s,mb4.7,baz=108,slow=4.7,SNR=19						
BRVK	**Borovoye**	**89.91**	**323**	*e*P	**P**	**08 47 31.4**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.3						
BRVK	**Borovoye**	**89.91**	**323**	*e*P	**P**	**08 47 31.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
LPAZ	**La Paz**	**133.55**	**118**	PKP	PKPdf	08 53 51.1	+3.0
	comp=Z,0.6nm,0.6s,baz=244,slow=3.7,SNR=3.5						

IDC ***09*** *08:37:08.7±1.5, 4.92S×154.17E, mb4.2/7, mb1 4.4/7, mb1mx4.2/14, mbtmp4.2/7, Error ellipse: s-maj=48.6km s-min=23.9km az=91.0*
NEIC ***09*** *08:37:21.4±1.1, 5.01S×154.06E, h100km, mb4.0/2, Error ellipse: s-maj=33.7km s-min=16.1km az=99.0*
ISC 09 08:37:19.6±1.4**, 5.0S**±0.1×**154.1E**±0.3**, h100km, n10, σ0.80**/10**, mb4.0**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.28**	**231**	*e*P	**P**	**08 42 29.4**	**+0.5**
	4.9nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**24.30**	**231**	P	**P**	**08 42 30.0**	**+0.9**
	6.4nm,0.6s,mb4.1,baz=56,slow=10.0,SNR=6.7						

STKA	**Stephens Creek**	**29.18**	**202**	P	**P**	**08 43 12.9**	**-0.8**
	2.6nm,0.7s,mb4.0,baz=37,slow=13,SNR=3.8						
FITZ	**Fitzroy Crossi**	**30.71**	**243**	P	**P**	**08 43 26.4**	**-1.1**
	20nm,0.6s,mb5.0,baz=39,slow=6.8,SNR=9.4						
SONM	**Songino Array**	**67.22**	**327**	P	**P**	**08 48 04.6**	**-0.7**
	1.0nm,0.8s,mb3.7,baz=124,slow=5.2,SNR=3.1						
VNDA	**Vanda**	**72.56**	**178**	P	**P**	**08 48 37.6**	**+0.4**
	0.7nm,0.6s,mb3.7,baz=346,slow=6.5,SNR=4.2						
VNDA	**Vanda**	**72.56**	**178**	*e*P	**P**	**08 48 37.6**	**+0.4**
	1.1nm,0.9s,mb3.7						
MKAR	**Makanchi Array**	**81.36**	**319**	P	**P**	**08 49 27.9**	**+1.2**
	0.7nm,0.6s,mb3.7,baz=104,slow=5.9,SNR=3.1						
MKAR	**Makanchi Array**	**81.36**	**319**	P	**P**	**08 49 27.9**	**+1.2**
BVAR	**Borovoye Array**	**90.21**	**323**	P	**P**	**08 50 09.7**	**-0.3**
	0.5nm,0.4s,mb4.0,baz=117,slow=6.4,SNR=3.4						

*IDC **09** 08:49:08.8±1.9, 4.29S×153.89E, mb4.0/5, mb1 4.2/5, mb1mx3.9/13, mbtmp4.0/5, Error ellipse: s-maj=51.4km s-min=33.7km az=86.0*

NEIC 09 08:49:22.0±1.4**, 4.39S×153.73E, h100km, mb4.0**/1**, Error ellipse: s-maj=33.7km s-min=21.8km az=83.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.39**	**229**	*e*P	P	08 54 32.0	-0.3
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**24.40**	**229**	P	P	08 54 31.7	-0.8
	3.9nm,0.5s,baz=54,slow=9.7,SNR=18						
STKA	**Stephens Creek**	**29.62**	**201**	P	P	08 55 17.4	-2.6
	3.1nm,1.0s,baz=40,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**29.62**	**201**	P	P	08 55 17.4	-2.6
FITZ	**Fitzroy Crossi**	**30.66**	**241**	P	P	08 55 26.4	-3.1
	3.0nm,0.6s,baz=47,slow=6.7,SNR=5.1						
KULM	**Kulim**	**53.88**	**280**	*e*P	P	08 58 35.3	-2.2
VNDA	**Vanda**	**73.20**	**178**	P	P	09 00 41.6	-1.7
	0.2nm,0.3s,baz=314,slow=7.7,SNR=2.4						
MKAR	**Makanchi Array**	**80.63**	**319**	P	P	09 01 23.9	-1.3
	0.2nm,0.6s,baz=117,slow=6.4,SNR=2.7						

*BJI **09** 08:49:36.6, 4.50S×153.59E, h52km, mB5.5, mb5.0, Ms5.5, Msz5.3*
*MOS **09** 08:49:37.6±0.9, 4.70S×153.71E, h80km, mb4.9/14, Error ellipse: s-maj=16.7km s-min=11.1km az=104.2*
*NEIC **09** 08:49:38.0±0.3, 4.83S×153.86E, mb4.7/14, Error ellipse: s-maj=11.2km s-min=6.7km az=85.0*
*IDC **09** 08:49:38.5±0.8, 4.85S×153.90E, h82km±6km, mb4.4/15, mb1 4.4/16, mb1mx4.4/19, mbtmp4.7/16, Error ellipse: s-maj=21.6km s-min=11.5km az=79.0*

ISC 09 08:49:37.8±0.3**, 4.84S**±0.05×**153.80E**±0.07**, h88km, h88km**±6.0km**:pP-P, n66, σ0^{s}88**/64**, mb4.7**/37**, 3C-3D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.61**	**127**	P	**P**	**08 51 31.4**	**+3.5**
	3.0nm,0.3s,baz=80,slow=1.3,SNR=2.5						
HNR				S	**S**	**08 52 54.1**	**+0.8**
	17nm,0.3s,baz=359,slow=21,SNR=3.7						
CTA	**Charters Tower**	**16.84**	**205**	P	**P**	**08 53 31.4**	**+2.0**
	0.2nm,0.3s,baz=33,slow=12,SNR=3.1						
DZM	**Mont Dzumac**	**21.05**	**146**	*e*P		08 54 32.5	
DZM	**Mont Dzumac**	**21.05**	**146**	P	**P**	**08 54 16.1**	**-0.5**
	7.2nm,0.8s,mb4.1,baz=1.4,slow=11,SNR=7.9						
DZM				pP		08 54 31.8	
	16nm,0.5s,baz=345,slow=14,SNR=8.0						
WRAB	**Tennant Creek**	**24.16**	**230**	*e*P	**P**	**08 54 47.8**	**+0.8**
	13nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**24.16**	**230**	*e*P	**P**	**08 54 47.8**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**24.17**	**230**	P	**P**	**08 54 47.9**	**+0.7**
	comp=Z,31nm,0.6s,mb4.8,baz=54,slow=9.9,SNR=70						
ASPA	**Alice Springs**	**26.80**	**224**	*e*P	**P**	**08 55 10.9**	**-0.9**
STKA	**Stephens Creek**	**29.23**	**202**	⇓*i*P	**P**	**08 55 32.5**	**-1.1**
	comp=Z,6.5nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**29.23**	**202**	P	**P**	**08 55 32.5**	**-1.2**
	comp=Z,9.4nm,0.8s,mb4.5,baz=2.4,slow=8.6,SNR=19						
FITZ	**Fitzroy Crossi**	**30.52**	**242**	⇑*i*P	**P**	**08 55 43.6**	**-1.6**
	comp=Z,26nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**30.52**	**242**	P	**P**	**08 55 43.7**	**-1.4**
	comp=Z,32nm,0.6s,mb5.2,baz=55,slow=4.4,SNR=54						
MBWA	**Marble Bar**	**36.82**	**241**	P	**P**	**08 56 38.3**	**-1.0**
	comp=Z,6.9nm,0.9s,mb4.6						
JOW	**Kunigami**	**40.02**	**323**	P	**P**	**08 57 06.9**	**+1.1**
	comp=Z,20nm,0.8s,mb5.0,baz=155,slow=13,SNR=4.0						
RPZ	**Rata Peaks**	**41.60**	**161**	P	**P**	**08 57 17.5**	**-1.1**
	comp=Z,14nm,0.8s,mb4.7,baz=108,slow=1.1,SNR=7.4						
JNU	**Nakatsue**	**43.57**	**332**	P	**P**	**08 57 34.4**	**-0.5**
	comp=Z,8.2nm,0.8s,mb4.5,baz=38,slow=9.6,SNR=5.4						
MJAR	**Matsushiro Arr**	**43.68**	**342**	P	**P**	**08 57 34.2**	**-1.6**
	comp=Z,1.0nm,0.5s,mb3.8,baz=164,slow=9.1,SNR=5.6						
KSM	**Kuching**	**43.90**	**277**	*e*P	**P**	**08 57 37.9**	**0.0**
SSE	**Sheshan**	**47.40**	**321**	P	**P**	**08 58 04.3**	**-1.1**
SSE				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
SSE	**Sheshan**	**47.40**	**321**	P	**P**	**08 58 04.3**	**-1.1**
	comp=Z,11nm,0.8s,mb4.6						
NJ2	**Nanjing**	**49.51**	**320**	*e*P	**P**	**08 58 22.5**	**+0.8**
NJ2				PP	PP	09 00 19.1	+2.0
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,150nm,4.1s						
NJ2				LR	LR		
	comp=N,1μm,27.8s						
NJ2				LR	LR		
	comp=E,1μm,17.8s						
NJ2				LR	LR		
	comp=Z,1μm,23.5s						
YSS	**Yuzh-Sakhalins**	**52.49**	**350**	*e*P	**P**	**08 58 43.7**	**-0.3**
YSS				pmax	pmax		
	comp=Z,29nm,1.7s,mb5.0						
KULM	**Kulim**	**54.03**	**280**	*e*P	**P**	**08 58 54.9**	**-0.9**
ENH	**Enshi**	**54.92**	**312**	*e*P	**P**	**08 59 02.0**	**-0.1**
	comp=Z,27nm,0.9s,mb5.3						
XAN	**Xi'an**	**57.34**	**316**	P	**P**	**08 59 19.2**	**-0.2**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.2						
CD2	**Chengdu**	**59.52**	**310**	⇓*i*P	**P**	**08 59 35.0**	**+0.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
HHC	**Hu-ho-hao-te**	**59.67**	**324**	*e*P	**P**	**08 59 35.9**	**+0.5**
HHC				PP	PP	09 01 48.5	-1.3
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.4						
HHC				LR	LR		
	comp=N,4μm,19.0s						
HHC				LR	LR		
	comp=E,3μm,19.0s						
HHC				LR	LR		
	comp=Z,6μm,19.0s						
LZH	**Lanzhou**	**61.96**	**315**	*e*P	**P**	**08 59 51.0**	**+0.1**
LZH				AMB	AMB		
	comp=Z,32nm,1.2s,mb5.2						
LZH	**Lanzhou**	**61.96**	**315**	*e*P	**P**	**08 59 51.0**	**+0.1**
	comp=Z,32nm,1.2s,mb5.2						
LZH				pP	pP	09 00 16.5	+3.2
LZH				sP	sP	09 00 29.0	+5.9
LZH	**Lanzhou**	**61.96**	**315**	*e*P	**P**	**08 59 51.0**	**+0.1**
LZH				*PP	pP	09 00 16.5	+3.2
LZH				*SP	sP	09 00 29.0	+5.9
LZH				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.2						
GTA	**Gaotai**	**66.37**	**317**	*e*P	**P**	**09 00 20.8**	**+1.1**
GTA				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.9						
ULN	**Ulaanbaatar**	**66.56**	**328**	*e*P	**P**	**09 00 21.3**	**+0.6**
	comp=Z,3.3nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**66.56**	**328**	*e*P	**P**	**09 00 21.3**	**+0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
SONM	**Songino Array**	**66.89**	**327**	P	**P**	**09 00 23.5**	**+0.7**
	comp=Z,2.5nm,0.8s,mb4.1,baz=143,slow=6.1,SNR=14						
SONM				pP	pP	09 00 43.6	-1.9
	comp=Z,1.0nm,0.7s,baz=152,slow=5.4,SNR=2.9						
SEY	**Seymchan**	**67.60**	**359**	*e*P	**P**	**09 00 25.8**	**-1.1**
YAK	**Yakutsk**	**69.22**	**348**	*e*P	**P**	**09 00 37.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**70.05**	**328**	*e*P	**P**	**09 00 40.9**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
BOD	**Bodaibo**	**70.19**	**339**	*e*P	**P**	**09 00 42.2**	**-0.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
VNDA	**Vanda**	**72.75**	**178**	P	**P**	**09 00 57.6**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.2,baz=323,slow=6.2,SNR=23						
VNDA	**Vanda**	**72.75**	**178**	*e*P	**P**	**09 00 57.5**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.2						
VNDA	**Vanda**	**72.75**	**178**	*e*P	**P**	**09 00 57.5**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GUN	**Gumba**	**73.00**	**301**	*e*P	**P**	**09 01 01.2**	**+1.0**
PKI	**Pulchoki**	**73.31**	**301**	*e*P	**P**	**09 01 02.3**	**+0.2**
KKN	**Kakani**	**73.48**	**301**	*e*P	**P**	**09 01 03.6**	**+0.5**
DMN	**Daman**	**73.58**	**300**	*e*P	**P**	**09 01 04.7**	**+1.0**
	comp=Z,47nm,0.9s,mb5.2						
GKN	**Gorkha**	**74.08**	**301**	*e*P	**P**	**09 01 06.8**	**+0.2**
	comp=Z,39nm,1.0s,mb5.1						
KOLN	**Koldanda**	**74.92**	**300**	*e*P	**P**	**09 01 11.6**	**+0.2**
	comp=Z,26nm,0.9s,mb5.0						
MCK	**McKinley**	**80.52**	**22**	*e*P	**P**	**09 01 41.6**	**0.0**
	comp=Z,4.5nm,1.0s,mb4.2						
MCK	**McKinley**	**80.52**	**22**	*e*P	**P**	**09 01 41.6**	**0.0**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**81.02**	**319**	P	**P**	**09 01 45.3**	**+0.7**
	comp=Z,6.3nm,0.9s,mb4.5,baz=104,slow=5.0,SNR=31						
MKAR				pP	pP	09 02 07.6	-0.3
	comp=Z,3.3nm,0.8s,baz=95,slow=7.2,SNR=3.8						
ZAL	**Zalesovo**	**81.75**	**326**	P	**P**	**09 01 48.2**	**0.0**
	comp=Z,2.0nm,0.3s,mb4.4,baz=15,slow=3.8,SNR=4.5						
ILAR	**Eielson Array**	**81.83**	**22**	P	**P**	**09 01 47.7**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.0,baz=252,slow=5.7,SNR=18						
ILAR				pP	pP	09 02 09.2	-2.5
	comp=Z,1.0nm,0.7s,baz=246,slow=5.7,SNR=3.4						
KSH	**Kashi**	**83.72**	**310**	*e*P	**P**	**09 02 01.0**	**+2.4**
KSH				*e*XP	pP	09 02 16.6	-5.5
KSH				AMB	AMB		
	comp=Z,2μm,13.8s						
KURK	**Kurchatov**	**84.42**	**322**	*e*P	**P**	**09 02 02.0**	**+0.2**
	comp=Z,9.4nm,1.0s,mb4.6						
KURK	**Kurchatov**	**84.42**	**322**	*e*P	**P**	**09 02 02.0**	**+0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**85.42**	**313**	*e*P	**P**	**09 02 07.5**	**+0.5**
	comp=Z,5.6nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**85.42**	**313**	⇓*i*P	**P**	**09 02 07.6**	**+0.6**
AAK				*i* *PP	pP	09 02 34.1	+3.5
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
MAW	**Mawson**	**85.91**	**203**	*e*P	**P**	**09 02 08.9**	**+0.1**
	comp=Z,13nm,0.8s,mb4.9						
MAW	**Mawson**	**85.91**	**203**	P	**P**	**09 02 09.4**	**+0.6**
	comp=Z,12nm,0.7s,mb5.0,baz=90,slow=5.7,SNR=21						
MAW	**Mawson**	**85.91**	**203**	*e*P	**P**	**09 02 08.9**	**+0.1**
MAW				pmax	pmax		
	comp=Z,13nm,0.8s						
BVAR	**Borovoye Array**	**89.87**	**323**	P	**P**	**09 02 27.9**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.7,baz=108,slow=4.7,SNR=27						
BRVK	**Borovoye**	**89.94**	**323**	*e*P	**P**	**09 02 28.4**	**0.0**
	comp=Z,3.4nm,0.9s,mb4.5						
BRVK	**Borovoye**	**89.94**	**323**	*e*P	**P**	**09 02 28.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
SYO	**Syowa Base**	**93.96**	**199**	⇑P	**P**	**09 02 45.0**	**-1.5**
SYO	**Syowa Base**	**93.96**	**199**	⇑PcP	PcP	09 02 47.0	-0.2
LPAZ	**La Paz**	**133.52**	**118**	PKP	PKPdf	09 08 47.1	+2.0
	comp=Z,0.6nm,0.6s,baz=244,slow=2.2,SNR=4.6						

*IDC **09** 08:51:16.8±5.6, 4.54S×153.72E, h99km±54km, mb4.5/5, mb1 4.6/6, mb1mx4.1/15, mbtmp4.9/6, Error ellipse: s-maj=40.2km s-min=32.0km az=158.0*
*NEIC **09** 08:51:17.1±0.7, 4.59S×153.71E, h100km, mb4.4/4, Error ellipse: s-maj=15.9km s-min=11.8km az=203.0*

ISC 09 08:51:16.0±4.0**, 4.6S**±0.2×**153.7E**±0.1**, h102km**±39km**, n10, σ0^{s}54**/11**, mb4.5**/9**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.83**	**128**	P	**P**	**08 53 08.5**	**-0.2**
	12nm,0.3s,baz=322,slow=19,SNR=3.9						
HNR				S	**S**	**08 54 36.5**	**+0.2**
	14nm,0.3s,slow=20,SNR=4.5						
WRAB	**Tennant Creek**	**24.22**	**229**	*e*P	**P**	**08 56 25.3**	**+0.8**
	13nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**24.23**	**229**	P	**P**	**08 56 25.5**	**+0.9**
	30nm,0.8s,mb4.7,baz=53,slow=9.7,SNR=11						
STKA	**Stephens Creek**	**29.39**	**201**	P	**P**	**08 57 11.4**	**-0.4**
	4.7nm,0.8s,mb4.2,baz=12,slow=9.3,SNR=4.0						
FITZ	**Fitzroy Crossi**	**30.53**	**242**	P	**P**	**08 57 21.3**	**-0.8**
	17nm,0.7s,mb4.9,baz=39,slow=6.5,SNR=3.4						
MBWA	**Marble Bar**	**36.83**	**240**	*e*P	**P**	**08 58 15.5**	**-0.6**
	5.4nm,0.9s,mb4.5						
CASY	**Casey**	**68.44**	**197**	*e*P	**P**	**09 02 08.3**	**-0.4**
	6.1nm,0.8s,mb4.5						
KURK	**Kurchatov**	**84.18**	**322**	*e*P	**P**	**09 03 37.5**	**+0.4**
	2.9nm,0.8s,mb4.2						
MAW	**Mawson**	**86.07**	**203**	P	**P**	**09 03 46.4**	**+0.3**
	6.1nm,0.6s,mb4.7,baz=80,slow=6.7,SNR=6.1						
BVAR	**Borovoye Array**	**89.64**	**323**	P	**P**	**09 04 03.4**	**0.0**
	1.5nm,0.8s,mb4.2,baz=90,slow=4.3,SNR=2.8						

*MOS **09** 08:55:49.3±1.0, 4.74S×153.86E, h105km, mb5.1/19, Error ellipse: s-maj=12.3km s-min=7.3km az=97.2*
*BJI **09** 08:55:50.1, 4.54S×154.01E, h107km, mB6.0, mb5.2*
*NEIC **09** 08:55:51.6±1.2, 4.80S×153.84E, h113km±11km, mb5.1/26, Error ellipse: s-maj=7.7km s-min=5.3km az=88.0*
*IDC **09** 08:55:52.1±0.5, 4.83S×153.82E, h116km±4km, mb4.6/20, mb1 4.6/22, mb1mx4.6/24, mbtmp5.0/22, Error ellipse: s-maj=14.1km s-min=9.0km az=80.0*

ISC 09 08:55:49.9±0.2**, 4.83S**±0.04×**153.82E**±0.05**, h110km, h110km**±2.8km**:pP-P, n158, σ1^{s}02**/153**, mb5.2**/64**, 30C-3D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.61**	**127**	P	**P**	**08 57 41.1**	**+1.5**
	14nm,0.3s,baz=236,slow=5.3,SNR=6.8						
HNR				S	**S**	**08 59 04.3**	**-0.4**
	46nm,0.3s,baz=359,slow=8.8,SNR=4.0						
HNR	**Honiara**	**7.61**	**127**	*e*Pn	**P**	**08 57 38.8**	**-0.8**
	544nm,0.8s						
HNR	**Honiara**	**7.61**	**127**	*e*P	**P**	**08 57 38.8**	**-0.8**
HNR				pmax	pmax		
	comp=Z,545nm,0.8s						
CTA	**Charters Tower**	**16.86**	**205**	*e*P	**P**	**08 59 43.1**	**+2.5**
	comp=Z,23nm,0.4s						
CTA	**Charters Tower**	**16.86**	**205**	P	**P**	**08 59 42.6**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=27,slow=13,SNR=13						
CTA	**Charters Tower**	**16.86**	**205**	*e*P	**P**	**08 59 43.1**	**+2.5**
CTA				pmax	pmax		
	comp=Z,23nm,0.4s						
CTAO	**Charters Tower**	**16.86**	**205**	*e*P	**P**	**08 59 41.2**	**+0.6**
	comp=Z,156nm,1.5s						
CTAO	**Charters Tower**	**16.86**	**205**	*e*P	**P**	**08 59 41.2**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,156nm,1.5s						
GUMO	**Guam**	**20.34**	**334**	P	**P**	**09 00 19.6**	**0.0**
	comp=Z,81nm,0.8s,baz=209,slow=7.9,SNR=5.4						
GUMO	**Guam**	**20.34**	**334**	*e*P	**P**	**09 00 19.2**	**-0.4**
	comp=Z,163nm,1.1s						
GUMO	**Guam**	**20.34**	**334**	*e*P	**P**	**09 00 19.2**	**-0.5**
GUMO				pmax	pmax		
	comp=Z,163nm,1.1s						
DZM	**Mont Dzumac**	**21.05**	**146**	P	**P**	**09 00 26.6**	**-0.2**
	comp=Z,30nm,1.1s,mb4.5,baz=332,slow=12,SNR=10						
WRAB	**Tennant Creek**	**24.18**	**230**	⇑*i*P	**P**	**09 00 58.1**	**+0.7**
	comp=Z,170nm,0.8s,mb5.4						
WRAB	**Tennant Creek**	**24.18**	**230**	⇑*i*P	**P**	**09 00 58.1**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,170nm,0.8s,mb5.4						
WRA	**Warramunga Arr**	**24.20**	**230**	P	**P**	**09 00 58.3**	**+0.9**
	comp=Z,108nm,0.8s,mb5.2,baz=54,slow=9.7,SNR=172						
WRA				pP		09 01 21.0	
	comp=Z,20nm,0.6s,baz=51,slow=10.0,SNR=2.8						
ARMA	**Armidale**	**25.54**	**184**	⇑*i*P	**P**	**09 01 11.2**	**+1.1**
ASPA	**Alice Springs**	**26.82**	**224**	⇑*i*P	**P**	**09 01 21.7**	**-0.3**
RIV	**Riverview**	**28.96**	**185**	*e*P	**P**	**09 01 41.6**	**+0.4**
STKA	**Stephens Creek**	**29.25**	**202**	⇑*i*P	**P**	**09 01 43.2**	**-0.6**
	comp=Z,24nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**29.25**	**202**	P	**P**	**09 01 43.3**	**-0.5**
	comp=Z,32nm,0.9s,mb5.0,baz=27,slow=13,SNR=27						
FITZ	**Fitzroy Crossi**	**30.54**	**242**	⇑*i*P	**P**	**09 01 54.2**	**-1.2**
	comp=Z,155nm,1.5s,mb5.5						
FITZ				*e*S	**S**	**09 06 45.0**	**-2.5**
FITZ	**Fitzroy Crossi**	**30.54**	**242**	P	**P**	**09 01 54.4**	**-1.0**
	comp=Z,159nm,0.8s,mb5.8,baz=57,slow=4.6,SNR=102						
CNB	**Canberra Magne**	**30.61**	**187**	*e*P	**P**	**09 01 56.2**	**+0.3**
	comp=Z,33nm,1.0s,mb5.0						
TOO	**Toolangi**	**33.47**	**192**	⇑*i*P	**P**	**09 02 20.8**	**+0.2**
	comp=Z,11nm,0.9s,mb4.7						
TOO	**Toolangi**	**33.47**	**192**	⇑*i*P	**P**	**09 02 20.8**	**+0.2**
TOO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
FORT	**Forrest**	**35.41**	**220**	*e*P	**P**	**09 02 37.0**	**-0.3**
	comp=Z,223nm,0.6s,mb6.2						
MBWA	**Marble Bar**	**36.84**	**241**	⇑*i*P	**P**	**09 02 48.6**	**-0.7**
	comp=Z,202nm,1.3s,mb5.9						
MBWA				*e*PcP	PcP	09 05 08.9	-0.5
KKM	**Kota Kinabalu**	**39.07**	**286**	*e*P	**P**	**09 03 08.3**	**+0.3**
JOW	**Kunigami**	**40.02**	**323**	P	**P**	**09 03 14.7**	**-1.0**
	comp=Z,32nm,1.0s,mb5.1,baz=146,slow=7.7						
THZ	**Tophouse**	**40.53**	**158**	*e*PN	**P**	**09 03 18.3**	**-1.5**
RPZ	**Rata Peaks**	**41.61**	**161**	P	**P**	**09 03 28.9**	**+0.3**
	comp=Z,23nm,0.8s,mb5.0,baz=39,slow=1.4,SNR=16						
RPZ	**Rata Peaks**	**41.61**	**161**	*e*PN	**P**	**09 03 29.2**	**+0.6**
KLBR	**Kellerberrin**	**43.03**	**227**	⇑*i*P	**P**	**09 03 38.9**	**-1.5**
	comp=Z,59nm,0.6s,mb5.5						
YHNB	**Yeheng**	**43.08**	**314**	*e*P	**P**	**09 03 41.6**	**+0.6**
JNU	**Nakatsue**	**43.56**	**332**	P	**P**	**09 03 44.5**	**-0.3**
	comp=Z,34nm,0.8s,mb5.1,baz=101,slow=8.0,SNR=23						
MJAR	**Matsushiro Arr**	**43.67**	**342**	P	**P**	**09 03 43.8**	**-1.7**
	comp=Z,2.3nm,0.7s,mb4.0,baz=168,slow=9.1,SNR=5.8						
MAT	**Matsushiro**	**43.67**	**342**	P	**P**	**09 03 43.9**	**-1.6**
MAT	**Matsushiro**	**43.67**	**342**	*e*P	**P**	**09 03 44.0**	**-1.5**
KSM	**Kuching**	**43.92**	**277**	⇑*i*P	**P**	**09 03 47.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**44.09**	**226**	*e*P	**P**	**09 03 47.8**	**-1.2**
	comp=Z,220nm,1.8s,mb5.6						
NWAO	**Narrogin (SRO)**	**44.09**	**226**	P	**P**	**09 03 48.3**	**-0.7**
	comp=Z,18nm,0.8s,mb4.8,baz=78,slow=7.2,SNR=5.4						
NWAO	**Narrogin (SRO)**	**44.09**	**226**	*e*P	**P**	**09 03 47.8**	**-1.2**
NWAO				pmax	pmax		
	comp=Z,221nm,1.8s						
SSE	**Sheshan**	**47.40**	**321**	P	**P**	**09 04 15.6**	**+0.4**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,2μm,10.1s						
SSE	**Sheshan**	**47.40**	**321**	P	**P**	**09 04 15.6**	**+0.4**
	comp=Z,23nm,0.8s,mb5.0						
NJ2	**Nanjing**	**49.51**	**320**	*e*P	**P**	**09 04 32.1**	**+0.6**
NJ2				AP	pP	09 04 55.4	-2.2
NJ2				XP	sP	09 05 06.8	-3.0
NJ2				PP	PP	09 06 28.8	+1.6
NJ2				S	**S**	**09 11 34.0**	**+4.8**
NJ2				XS		09 12 15.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				LR	LR		
	comp=N,15μm,27.0s						
NJ2				LR	LR		
	comp=E,10μm,24.7s						
NJ2				LR	LR		
	comp=Z,5μm,27.6s						
MCQ	**Macquarie Isla**	**49.69**	**176**	*e*P	**P**	**09 04 33.1**	**+0.6**
ASAJ	**Asahikawa**	**49.76**	**349**	P	**P**	**09 04 33.0**	**-0.2**
	comp=Z,7.4nm,0.7s,mb4.7,baz=232,slow=8.1,SNR=6.9						
KGM	**Kluang**	**50.91**	**277**	P	**P**	**09 04 42.9**	**+0.5**
VLA	**Vladivostok**	**51.69**	**340**	⇓*i*P	**P**	**09 04 47.8**	**-0.1**
YSS	**Yuzh-Sakhalins**	**52.48**	**350**	*e*P	**P**	**09 04 50.0**	**-3.7**
YSS	**Yuzh-Sakhalins**	**52.48**	**350**	*e*P	**P**	**09 04 50.9**	**-2.8**
YSS				pmax	pmax		
	comp=Z,49nm,2.5s,mb5.1						
YSS				MLR	MLR		
	comp=Z,4μm,21.0s						
IPM	**Ipoh**	**53.56**	**279**	P	**P**	**09 05 02.0**	**-0.1**
MDJ	**Mudanjiang**	**53.81**	**339**	P	**P**	**09 05 02.8**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,6μm,13.9s						
KULM	**Kulim**	**54.05**	**280**	⇑*i*P	**P**	**09 05 04.5**	**-1.2**
CN2	**Changchun**	**54.75**	**335**	*e*P	**P**	**09 05 09.3**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
ENH	**Enshi**	**54.92**	**312**	⇑*i*P	**P**	**09 05 11.5**	**-0.4**
	comp=Z,80nm,0.9s,mb5.8						
GYA	**Guiyang**	**55.22**	**307**	⇑*i*P	**P**	**09 05 14.9**	**+0.8**
GYA				AP	pP	09 05 41.5	+0.8
GYA				XP	sP	09 05 54.1	+1.1
GYA				PP	PP	09 07 22.0	+2.0
GYA				SCP		09 10 01.3	
GYA				PCS		09 10 13.0	
GYA				S	**S**	**09 12 48.9**	**+1.9**
GYA				XS		09 13 34.1	
GYA				SCS	ScS	09 14 48.9	+0.3
GYA				SS	SS	09 16 33.2	+0.6
GYA				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.3						
GYA				AMB	AMB		
	comp=Z,290nm,3.4s						
GYA				LR	LR		
	comp=N,780nm,19.4s						
GYA				LR	LR		
	comp=E,540nm,19.6s						
GYA				LR	LR		
	comp=Z,670nm,20.0s						
NST	**Nakhon Sawan**	**56.91**	**292**	P	**P**	**09 05 25.7**	**-0.5**
KLR	**Kul'dur**	**57.16**	**343**	*e*P	**P**	**09 05 24.2**	**-3.4**
KLR				pmax	pmax		
	comp=Z,35nm,1.8s,mb5.1						
NANT	**Nan**	**57.34**	**296**	P	**P**	**09 05 28.0**	**-1.2**
XAN	**Xi'an**	**57.35**	**316**	P	**P**	**09 05 28.5**	**-0.6**
XAN				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.3						
PET	**Petropavlovsk**	**57.78**	**3**	*e*P	**P**	**09 05 31.4**	**-0.4**
KMI	**Kunming**	**57.85**	**304**	P	**P**	**09 05 33.5**	**+0.8**
KMI				AP	pP	09 05 59.5	0.0
KMI				XP	sP	09 06 09.1	-2.7
KMI				PCP	PcP	09 06 22.2	-1.5
KMI				PP	PP	09 07 46.5	+2.8
KMI				S	**S**	**09 13 22.2**	**+0.6**
KMI				XS		09 14 07.0	
KMI				SS	SS	09 17 16.7	+1.1
KMI				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.2						
KMI				AMB	AMB		
	comp=Z,2μm,10.7s						
KMI				LR	LR		
	comp=N,2μm,44.6s						
KMI				LR	LR		
	comp=E,3μm,44.6s						
KMI				LR	LR		
	comp=Z,5μm,49.6s						
KMI	**Kunming**	**57.85**	**304**	P	**P**	**09 05 33.5**	**+0.8**
	comp=Z,32nm,1.3s,mb5.2						
KMI				pP	pP	09 05 59.5	0.0
KMI				sP	sP	09 06 09.1	-2.7
KMI				PcP	PcP	09 06 22.2	-1.5
KMI				PP	PP	09 07 46.5	+2.8
KMI				PPP	PPP	09 09 09.7	+3.2
KMI				S	**S**	**09 13 22.2**	**+0.6**
KMI				sS		09 14 07.0	
KMI				SS	SS	09 17 16.7	+1.1
KMI				SSS	SSS	09 19 34.9	-4.8
KMI				LR	LR		
	comp=Z,5μm,49.6s						
KMI	**Kunming**	**57.85**	**304**	P	**P**	**09 05 33.5**	**+0.8**
KMI				*PP	pP	09 05 59.5	0.0
KMI				*SP	sP	09 06 09.1	-2.7
KMI						09 06 22.2	
KMI						09 07 46.5	
KMI				PPP	PPP	09 09 09.7	+3.2
KMI				S	**S**	**09 13 22.2**	**+0.6**
KMI				SS	SS	09 17 16.7	+1.1
KMI				SSS	SSS	09 19 34.9	-4.8
KMI				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
KMI				MLR	MLR		
	comp=Z,5μm,49.6s						
PMOR	**Pomariorio Ree**	**58.15**	**105**	*e*P	**P**	**09 05 35.8**	**+0.9**
	comp=Z,82nm,1.1s,mb5.7						
HHC	**Hu-ho-hao-te**	**59.67**	**324**	*e*P	**P**	**09 05 42.5**	**-2.6**
HHC				AP	pP	09 06 09.0	-3.1
HHC				XP	sP	09 06 21.7	-2.7
HHC				PP	PP	09 07 53.7	-6.1
HHC				S	**S**	**09 13 38.6**	**-6.4**
HHC				XS		09 14 27.3	

HHC SCS ScS 09 15 17.3 -3.4
HHC SS SS 09 17 37.6 -6.2
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,945nm,5.5s
HHC LR LR
comp=N,3µm,21.4s
HHC LR LR
comp=E,2µm,19.0s
HHC LR LR
comp=Z,3µm,16.0s
FX1 Attu Island--F 59.78 13 P **P 09 05 46.3 +0.6**
comp=Z,17nm,0.6s,mb5.2,baz=120,slow=7.6,SNR=5.5
FX1 Attu Island--F 59.78 13 *e*P **P 09 05 46.6 +0.9**
HIA Hailar 61.48 335 *e*P **P 09 05 56.4 -0.9**
comp=Z,15nm,1.0s,mb5.0
HIA Hailar 61.48 335 *e*P **P 09 05 56.4 -0.9**
HIA pmax pmax
comp=Z,15nm,1.0s
LZH Lanzhou 61.96 315 ⇑P **P 09 06 01.5 +0.8**
LZH AP pP 09 06 25.7 -2.2
LZH XP sP 09 06 35.6 -4.5
LZH PP PP 09 08 22.0 +1.5
LZH *e*S **S 09 14 16.0 +1.7**
LZH XS 09 15 03.0
LZH SS SS 09 18 22.0 +1.8
LZH AMB AMB
comp=Z,240nm,1.2s,mb6.1
LZH AMB AMB
comp=Z,1µm,5.0s
LZH LR LR
comp=N,5µm,14.8s
LZH LR LR
comp=Z,7µm,19.2s
LZH Lanzhou 61.96 315 ⇑P **P 09 06 01.5 +0.8**
comp=Z,240nm,1.2s,mb6.1
LZH pP pP 09 06 25.7 -2.2
LZH sP sP 09 06 35.6 -4.5
LZH PP PP 09 08 22.0 +1.5
LZH *e*S **S 09 14 16.0 +1.7**
LZH PS PS 09 14 50.0 +2.0
LZH sS 09 15 03.0
LZH SS SS 09 18 22.0 +1.8
LZH LR LR
comp=Z,7µm,19.2s
LZH Lanzhou 61.96 315 ⇑P **P 09 06 01.5 +0.8**
LZH *PP pP 09 06 25.7 -2.2
LZH *SP sP 09 06 35.6 -4.5
LZH 09 08 22.0
LZH *e*S **S 09 14 16.0 +1.7**
LZH PS PS 09 14 50.0 +2.0
LZH SS SS 09 18 22.0 +1.8
LZH pmax pmax
comp=Z,240nm,1.2s,mb6.1
LZH MLR MLR
comp=Z,7µm,19.2s
CLNS Chul'man 65.83 343 *e*P **P 09 06 14.6 -11**
CLNS pmax pmax
comp=Z,29nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,0.5s
GTA Gaotai 66.37 317⇑*i*P **P 09 06 30.3 +0.9**
GTA AP pP 09 06 56.6 -0.2
GTA PCP PcP 09 07 00.6 +2.5
GTA XP sP 09 07 09.9 +1.0
GTA PP PP 09 08 58.8 +0.1
GTA S S 09 15 12.8 +4.1
GTA AMB AMB
comp=Z,54nm,1.0s,mb5.3
GTA LR LR
comp=N,3µm,24.8s
GTA LR LR
comp=E,3µm,19.1s
GTA LR LR
comp=Z,6µm,30.2s
ULN Ulaanbaatar 66.56 328 *e*P **P 09 06 30.4 0.0**
comp=Z,12nm,0.8s,mb4.8
ULN Ulaanbaatar 66.56 328⇑*i*P **P 09 06 30.9 +0.5**
SONM Songino Array 66.89 327 P **P 09 06 32.6 +0.1**
comp=Z,6.2nm,0.8s,mb4.5,baz=132,slow=5.7,SNR=41
SONM pP pP 09 07 00.2 +0.2
comp=Z,3.4nm,0.7s,baz=152,slow=4.3,SNR=4.4
SEY Seymchan 67.58 359 *e*P **P 09 06 33.9 -2.6**
CASY Casey 68.29 197⇑*i*P **P 09 06 40.2 -0.6**
LSA Lhasa 69.09 304⇑*i*P **P 09 06 47.6 +1.2**
comp=Z,21nm,1.0s,mb4.9
LSA Lhasa 69.09 304⇑*i*P **P 09 06 47.6 +1.2**
LSA pmax pmax
comp=Z,21nm,1.0s,mb4.9
YAK Yakutsk 69.21 348 *e*P **P 09 06 46.7 +0.1**
ZAK Zakamensk 70.05 328 *e*P **P 09 06 51.4 -0.5**
ZAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
BOK Bokaro 71.98 297 *e*P **P 09 07 01.1 -2.8**
BOK AMb AMB 09 07 06.0
comp=Z,53nm,1.6s,mb5.1
VNDA Vanda 72.77 178 P **P 09 07 07.6 +0.1**
comp=Z,6.1nm,1.0s,mb4.4,baz=336,slow=6.8,SNR=20
VNDA Vanda 72.77 178 *e*P **P 09 07 07.2 -0.4**
comp=Z,64nm,1.8s,mb5.2
VNDA Vanda 72.77 178 *e*P **P 09 07 07.2 -0.4**
VNDA pmax pmax
comp=Z,64nm,1.8s
GUN Gumba 73.01 301 *e*P **P 09 07 10.5 +0.6**
comp=Z,318nm,1.2s,mb6.0
BILL Bilibino 73.23 5⇓*i*P **P 09 07 11.4 +1.0**
BILL pmax pmax
comp=Z,21nm,1.1s,mb4.9
PKI Pulchoki 73.32 300 *e*P **P 09 07 12.1 +0.3**
comp=Z,243nm,1.5s,mb5.8
KKN Kakani 73.49 301 *e*P **P 09 07 13.3 +0.6**
comp=Z,149nm,1.1s,mb5.8
DMN Daman 73.59 300 *e*P **P 09 07 13.0 -0.4**
comp=Z,274nm,1.1s,mb5.9
GKN Gorkha 74.09 301 *e*P **P 09 07 16.5 +0.2**
comp=Z,386nm,1.3s,mb6.0
MIR Mirnyy 74.27 201*c i*P **P 09 07 17.0 +0.5**
MIR *i* pP 09 07 47.0 +2.4
MIR pmax pmax
comp=Z,205nm,1.6s,mb5.6
KOLN Koldanda 74.93 300 *e*P **P 09 07 21.4 +0.4**
comp=Z,134nm,1.0s,mb5.6
BLSP Bilaspur 74.99 294 *e*P **P 09 07 21.9 +0.5**
BLSP AMb AMB 09 07 22.9
comp=Z,102nm,1.4s,mb5.4
MDRS Chennai 75.18 285 *e*x x 09 07 11.1
WMQ Urumqi 76.45 317⇑*i*P **P 09 07 30.3 +1.0**
WMQ PCP PcP 09 07 42.0 +1.1
WMQ AP pP 09 07 59.5 +1.9
WMQ XP sP 09 08 11.0 +1.4
WMQ PP PP 09 10 25.5 +1.7
WMQ *e*S S 09 17 06.0 +1.8
WMQ AMB AMB
comp=Z,28nm,1.5s,mb4.8
TIXI Tiksi 78.06 352 *e*P **P 09 07 37.3 -0.4**
SLKM Skilak Lake 78.27 25 *e*P **P 09 07 39.6 +0.6**
BHPL Bhopal 79.47 295 *e*P **P 09 07 46.2 -0.1**
BHPL AMb AMB 09 07 48.2
comp=Z,52nm,1.8s,mb5.1
SML Sawmill 79.73 24 *e*P **P 09 07 47.2 +0.3**
IMA Indian Mountai 80.15 19 *e*P **P 09 07 49.8 +0.7**
comp=Z,39nm,0.8s,mb5.3
IMA Indian Mountai 80.15 19 *e*P **P 09 07 49.8 +0.7**
IMA pmax pmax
comp=Z,39nm,0.8s,mb5.3
MCK McKinley 80.50 22 *e*P **P 09 07 50.8 -0.2**
comp=Z,14nm,0.9s,mb4.8
MKAR Makanchi Array 81.02 319 P **P 09 07 54.5 +0.4**
comp=Z,15nm,0.9s,mb4.8,baz=101,slow=6.2,SNR=60
MKAR pP pP 09 08 24.6 +2.1
comp=Z,9.5nm,0.9s,baz=101,slow=6.2,SNR=5.7
KAD Karad 81.58 288 *e*P **P 09 07 55.4 -2.1**
ZAL Zalesovo 81.75 326 P **P 09 07 57.2 -0.5**
comp=Z,3.9nm,0.7s,mb4.3,baz=343,slow=4.8,SNR=5.3
ILAR Eielson Array 81.81 22 P **P 09 07 57.1 -0.7**
comp=Z,6.5nm,0.8s,mb4.5,baz=253,slow=5.4,SNR=50
ILAR pP pP 09 08 27.6 +1.3
comp=Z,8.1nm,0.9s,baz=258,slow=5.1,SNR=6.9
AJM Ajmer 82.50 297 *e*P **P 09 08 02.0 -0.2**
AJM AMb AMB 09 08 03.5
comp=Z,155nm,1.0s,mb5.8
NVS Novosibirsk 82.91 327 *e*P **P 09 08 01.8 -1.9**
NVS *e* 09 08 40.3
KSH Kashi 83.73 310 P **P 09 08 10.8 +2.6**
KSH AP pP 09 08 40.0 +3.2
KSH XP sP 09 08 51.7 +2.7
KSH PP PP 09 11 28.5 +4.7
KSH SKS SKS 09 18 20.1 +3.4
KSH S S 09 18 24.4 +4.3
KSH *e*XS 09 19 14.7
KSH AMB AMB
comp=Z,490nm,3.5s
KSH LR LR
comp=N,2µm,14.5s
KSH LR LR
comp=E,2µm,13.5s
DAWY Dawson 84.40 24 *e*P **P 09 08 12.2 +1.3**
KURK Kurchatov 84.42 322⇑*i*P **P 09 08 11.1 -0.2**
comp=E,46nm,1.1s,mb5.2
KURK Kurchatov 84.42 322⇑*i*P **P 09 08 11.1 -0.2**
KURK pmax pmax
comp=Z,46nm,1.1s,mb5.2
TKM2 Tokmak 2 84.68 314 P **P 09 08 14.1 +1.3**
SNR=17
KZA Kyzart 84.77 313 P **P 09 08 15.9 +2.6**
SNR=6.2
KBK Karagaybulak 85.10 313 P **P 09 08 16.4 +1.4**
SNR=8.9
CHMS Chumysh 85.31 314 P **P 09 08 16.6 +0.7**
SNR=13
UCH Uchtor 85.33 313 P **P 09 08 18.2 +2.1**
SNR=22
AAK Ala-Archa 85.42 313 P **P 09 08 18.0 +1.5**
SNR=10
AAK Ala-Archa 85.42 313⇑*e*P **P 09 08 16.7 +0.2**
comp=Z,22nm,1.1s,mb5.0
AAK Ala-Archa 85.42 313 *e*P **P 09 08 16.5 0.0**
AAK *e**PP pP 09 08 40.0 -5.3
AAK pmax pmax
comp=Z,32nm,1.3s,mb5.1
AAK MLR MLR
comp=Z,9µm,26.0s
USP Ospenovka 85.54 314 P **P 09 08 18.1 +1.0**
SNR=18
AML Almayashu 85.92 313 P **P 09 08 21.5 +2.6**
SNR=7.5
MAW Mawson 85.93 203⇑*i*P **P 09 08 18.8 +0.4**
comp=Z,36nm,0.9s,mb5.3
MAW Mawson 85.93 203 P **P 09 08 18.9 +0.5**
comp=Z,39nm,0.8s,mb5.4,baz=91,slow=6.0,SNR=57
MAW Mawson 85.93 203⇑*i*P **P 09 08 18.8 +0.4**
MAW pmax pmax
comp=Z,36nm,0.9s
EKS2 Erkin-Say 85.95 313 P **P 09 08 20.8 +1.7**
SNR=11
INK Inuvik 88.12 21 P **P 09 08 28.4 -0.6**
comp=Z,6.2nm,1.1s,mb4.6,baz=271,slow=5.6,SNR=7.5
INK pP pP 09 08 59.1 +1.1
comp=Z,14nm,1.1s,baz=219,slow=7.7,SNR=8.9
INK Inuvik 88.12 21 *e*P **P 09 08 27.8 -1.2**
comp=Z,12nm,1.2s,mb4.8
INK Inuvik 88.12 21 *e*P **P 09 08 27.8 -1.2**
INK pmax pmax
comp=Z,12nm,1.2s
KKAR Karatay Array 88.39 313 *i* P **P 09 08 31.1 +0.3**
BVA0 Borovoye Array 89.87 323 *i* P **P 09 08 37.0 -0.6**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
BVAR Borovoye Array 89.87 323 P **P 09 08 37.2 -0.3**
comp=Z,16nm,0.8s,mb5.2,baz=104,slow=6.1,SNR=80
BRVK Borovoye 89.94 323 *e*P **P 09 08 36.9 -1.0**
comp=Z,11nm,0.9s,mb5.0
BRVK Borovoye 89.94 323 *e*P **P 09 08 36.9 -1.0**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb5.0
SYO Syowa Base 93.98 199 ⇓P **P 09 08 54.5 -1.6**
SYO Syowa Base 93.98 199 ⇑pP pP 09 09 26.5 +1.2
YKA Yellowknife Ar 94.98 28 P **P 09 09 01.6 +0.8**
comp=Z,2.0nm,0.9s,mb4.6,baz=269,slow=4.7,SNR=11
EDM Edmonton 95.53 37 *e*P **P 09 09 04.0 +0.5**
AB31 Akbulak array 96.16 319 *i* P **P 09 09 04.8 -1.7**
SMCO Snowmass 100.17 51 *e*P P 09 09 25.2 +0.3
AKASG Malin Array Be 115.11 325 PKP PKPdf 09 14 18.4 +0.2
comp=Z,0.9nm,0.5s,baz=60,slow=2.1,SNR=5.1
CLL Collm 123.36 332 *i* PKIKP PKPdf 09 14 37.0 +2.9
GERES GERESS Array B 124.61 329 PKP PKPdf 09 14 37.6 +0.9
comp=Z,1.3nm,0.6s,baz=135,slow=1.9,SNR=4.5
TRQA Tornquist 125.92 145 *e*PKPdf PKPdf 09 14 40.7 +1.2
CFAA Coronel Fontan 125.99 135 PKP PKPdf 09 14 40.5 +0.8
comp=Z,0.5nm,0.8s,baz=232,slow=3.5,SNR=9.7
CFAA pPKP 09 15 11.2
comp=Z,0.3nm,0.7s,baz=154,slow=3.1,SNR=3.4
LPAZ La Paz 133.51 118 PKP PKPdf 09 14 56.5 +2.1
comp=Z,1.8nm,0.6s,baz=238,slow=6.5,SNR=11
LPAZ pPKP 09 15 27.4
comp=Z,2.1nm,1.0s,baz=278,slow=4.0,SNR=2.9
LPAZ La Paz 133.51 118 *e*PKIKP PKPdf 09 14 56.9 +2.5
SDV Santo Domingo 135.70 82 *e*PKPdf PKPdf 09 14 59.7 +1.1
CPUP Villa Florida 136.76 137 PKP PKPdf 09 15 01.1 +0.9
comp=Z,1.6nm,0.8s,baz=206,slow=3.6,SNR=3.9
SAML Samuel 140.65 110 *e*PKPdf PKPdf 09 15 08.8 +1.0
MDT Midelt 145.64 327 PKPbc PKPbc 09 15 18.1 +1.4
comp=Z,8.7nm,0.8s,baz=83,slow=2.8,SNR=20
MDT pPKPbc 09 15 49.2
comp=Z,4.4nm,0.7s,baz=356,slow=5.0,SNR=4.3
BAO Brasilia Array 150.34 134 P PKPdf 09 15 20.0 -3.8
DBIC Dimbokro 158.71 276 PKPab PKPab 09 16 13.3 -0.5
comp=Z,10nm,0.8s,baz=55,slow=6.0,SNR=15
DBIC pPKPab 09 16 44.7
comp=Z,8.0nm,1.0s,baz=76,slow=6.6,SNR=3.3

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*NEIC **09** 08:57:20.3±0.7,38.86S×91.64W,h10km,mb4.1/6,Error ellipse: s-maj=15.6km s-min=12.9km az=62.0*
*IDC **09** 08:57:21.5±1.2,38.52S×91.36W,mb4.1/7,mb1 4.3/8, mb1mx4.2/15,mbtmp4.1/8,ML3.6/1,Error ellipse: s-maj=30.4km s-min=24.7km az=160.0*
ISC 09 08:57:20.9±0.8**,38.5S**±0.1×**91.5W**±0.1**,h10**km**,n25,** σ**0**^{s}**91**/25**,mb4.1**/11**,1C,West Chile Rise**

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

PLCA Paso Flores 16.26 104 Pn **P 09 01 11.6 +0.7**
0.1nm,0.3s,baz=287,slow=9.7,SNR=2.8
PLCA Paso Flores 16.26 104 Pn **P 09 01 11.6 +0.7**
CFAA Coronel Fontan 20.18 77 P **P 09 01 57.8 -0.6**
0.6nm,0.7s,baz=239,slow=10,SNR=7.2
LVC Limon Verde 24.95 57 P **P 09 02 46.6 +0.8**
14nm,1.1s,mb4.4,baz=226,slow=9.2,SNR=7.3
LVC Limon Verde 24.95 57 *e*P **P 09 02 47.0 +1.2**
26nm,1.3s,mb4.6
LPAZ La Paz 30.14 49 P **P 09 03 34.6 +1.4**
2.1nm,1.1s,mb3.8,baz=254,slow=7.4,SNR=4.9
LPAZ La Paz 30.14 49 *e*P **P 09 03 34.1 +0.9**
2.9nm,1.2s,mb3.9
CPUP Villa Florida 31.09 77 P **P 09 03 39.3 -2.2**
3.2nm,1.0s,mb4.1,baz=263,slow=13,SNR=3.8
SIV San Ignacio 34.84 58 P **P 09 04 13.5 -0.6**
2.8nm,0.8s,mb4.2,baz=236,slow=9.2,SNR=13
SAML Samuel 38.87 48 *e*P **P 09 04 48.4 +0.2**
1.6nm,0.6s,mb3.9
VNA3 Neumayer Olymp 51.48 156 *e* **P 09 06 28.3 +0.3**
VNA3 Neumayer Olymp 51.48 156 *e* **P 09 06 33.5 +5.5**
VNA3 Neumayer Olymp 51.48 156 P **P 09 06 23.1 -4.9**
VNA3 *e* 09 06 28.3
VNA3 *e* 09 06 33.5
VNA1 Neumayer--Stat 52.02 155 *e* **P 09 06 33.0 +0.9**
VNA1 Neumayer--Stat 52.02 155 *e* **P 09 06 38.2 +6.1**
VNA1 Neumayer--Stat 52.02 155⇑*i*P **P 09 06 27.4 -4.7**
VNA1 *e* 09 06 33.0
VNA1 *e* 09 06 38.2
SNAA Sanae 53.56 157 P 09 06 38.6 -5.0
SNAA Sanae 53.56 157 *e* **P 09 06 43.4 -0.2**
SNAA Sanae 53.56 157 *e* **P 09 06 48.5 +4.9**
SNAA Sanae 53.56 157 *e*P **P 09 06 38.2 -5.4**
3.8nm,1.1s,mb4.2
VNDA Vanda 56.22 195 P **P 09 07 02.8 -0.1**
6.1nm,1.0s,mb4.6,baz=114,slow=5.9,SNR=4.7
TXAR Lajitas Array 68.43 349 P **P 09 08 25.6 +0.5**
0.7nm,0.7s,mb3.8,baz=169,slow=7.2,SNR=11
MNTX Cornudas Mount 71.03 347 *e*P **P 09 08 40.0 -0.9**
0.8nm,0.8s,mb3.7
DUG Dugway 80.72 344 *e*P **P 09 09 34.8 -0.7**
2.2nm,0.9s,mb4.1
PDAR Pinedale Array 82.53 347 P **P 09 09 46.0 +1.1**
0.7nm,0.7s,mb3.8,baz=149,slow=5.3,SNR=5.4

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*IDC **09** 09:30:59.2±14.0,24.42S×177.47W,h93km±124km, mb4.0/11,mb1 4.3/11,mb1mx4.1/18,mbtmp4.4/11,Error ellipse: s-maj=33.8km s-min=26.6km az=5.0*
*NEIC **09** 09:31:29.0±6.0,24.48S×177.94W,h377km±61km, mb4.4/20,Error ellipse: s-maj=19.1km s-min=9.3km az=100.0*
ISC 09 09:31:15.0±0.4**,24.6S**±0.1×**177.8W**±0.1**,h250**km**,n52,** σ**0**^{s}**58**/47**,mb4.2**/26**,5C,South of Fiji Islands**

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

CTA Charters Tower 33.53 270 P **P 09 37 33.7 +0.4**
4.2nm,0.5s,mb4.2,baz=84,slow=14,SNR=2.3
CTA Charters Tower 33.53 270 P **P 09 37 33.7 +0.4**
CTAO Charters Tower 33.53 270 *e*P **P 09 37 33.6 +0.3**
4.6nm,0.6s,mb4.2
WRAB Tennant Creek 44.41 266 *e*P **P 09 39 03.9 +1.0**
7.6nm,0.7s,mb4.1
WRA Warramunga Arr 44.41 266 P **P 09 39 02.2 -0.8**
6.5nm,1.1s,mb3.9,baz=97,slow=7.8,SNR=4.0
FITZ Fitzroy Crossi 52.83 265 P **P 09 40 07.1 0.0**
12nm,0.9s,mb4.3,baz=149,slow=5.9,SNR=2.5
VNDA Vanda 53.92 185 P **P 09 40 13.6 -0.6**
1.2nm,1.0s,mb3.4,baz=7.6,slow=7.8,SNR=4.8
VNDA Vanda 53.92 185 *e*P **P 09 40 13.9 -0.3**
5.5nm,1.4s,mb3.9
CASY Casey 60.44 206 *e*P **P 09 40 57.3 -2.6**
CASY Casey 60.44 206 *e*P **P 09 40 58.1 -1.8**
8.9nm,1.3s,mb4.2
QSPA South Pole Qui 65.54 180⇑*i*P **P 09 41 33.2 +0.2**
11nm,0.6s,mb4.7
YBH Yreka Blue Hor 83.30 38 P **P 09 43 15.1 +0.1**
3.0nm,0.9s,mb4.0,baz=162,slow=3.2,SNR=2.9
SNAA Sanae 83.98 178 *e* **P 09 43 23.6 +5.9**
SNAA Sanae 83.98 178 *e* **P 09 43 26.1 +8.4**
SNAA Sanae 83.98 178⇑*i*P **P 09 43 18.4 +0.7**
SNAA *e* 09 43 23.6
SNAA *e* 09 43 26.1
VNA3 Neumayer Olymp 84.11 176 *e* **P 09 43 24.7 +6.4**
VNA3 Neumayer Olymp 84.11 176 *e* **P 09 43 28.1 +10**
VNA3 Neumayer Olymp 84.11 176⇑*i*P **P 09 43 19.0 +0.7**
VNA3 *e* 09 43 24.7
VNA3 *e* 09 43 28.1
NEN Nelson 84.37 47 *e*P **P 09 43 20.3 -0.2**
VNA2 Neumayer--Watz 84.55 177 *e* **P 09 43 27.2 +6.7**
VNA2 Neumayer--Watz 84.55 177 *e* **P 09 43 29.6 +9.1**
VNA2 Neumayer--Watz 84.55 177⇑*i*P **P 09 43 22.0 +1.5**
VNA2 *e* 09 43 27.2
VNA2 *e* 09 43 29.6
VNA1 Neumayer--Stat 84.78 176 *e* **P 09 43 28.3 +6.6**
VNA1 Neumayer--Stat 84.78 176 *e* **P 09 43 31.0 +9.3**
VNA1 Neumayer--Stat 84.78 176⇑*i*P **P 09 43 22.9 +1.2**
VNA1 *e* 09 43 28.3
VNA1 *e* 09 43 31.0
TUC Tucson 85.30 51 *e*P **P 09 43 25.7 +0.5**
8.5nm,1.0s,mb4.4
BMN Battle Mountai 85.69 42 *e*P **P 09 43 27.0 +0.1**
6.1nm,0.9s,mb4.3
WVOR Wild Horse Val 86.08 40 *e*P **P 09 43 28.2 -0.5**
9.2nm,1.3s,mb4.3
PLCA Paso Flores 86.33 133 P **P 09 43 30.9 +0.9**
1.8nm,0.8s,mb3.9,baz=298,slow=11,SNR=2.9
PLCA Paso Flores 86.33 133 *e*P **P 09 43 30.1 0.0**
5.2nm,1.1s,mb4.2
ELK Elko 87.09 42 P **P 09 43 33.1 -0.5**
1.4nm,0.8s,mb3.8,baz=194,slow=5.3,SNR=4.2
ELK Elko 87.09 42 *e*P **P 09 43 33.3 -0.4**
2.3nm,0.9s,mb3.9
MNTX Cornudas Mount 88.90 54 *e*P **P 09 43 42.1 -0.3**
8.1nm,1.0s,mb4.5
TXAR Lajitas Array 89.04 57 P **P 09 43 43.2 +0.1**
1.4nm,0.8s,mb3.8,baz=213,slow=6.7,SNR=16
HLID Hailey 89.23 41 *e*P **P 09 43 43.8 +0.1**
2.0nm,0.9s,mb4.0
ANMO Albuquerque 89.75 51 P **P 09 43 46.5 +0.2**
3.4nm,1.0s,mb4.1,baz=227,slow=5.9,SNR=10
ANMO Albuquerque 89.75 51 *e*P **P 09 43 46.6 +0.3**
7.8nm,1.1s,mb4.5
NEW Newport 90.51 36 P **P 09 43 48.4 -1.1**
0.8nm,0.4s,mb4.0,baz=202,slow=6.7
RRI2 Red Ridge 90.97 42 *e*P **P 09 43 51.9 +0.2**
14nm,1.4s,mb4.7
TPAW Teton Pass 91.27 42 *e*P **P 09 43 53.3 +0.2**
9.9nm,1.3s,mb4.6
SNOW Snow King Moun 91.38 42 *e*P **P 09 43 54.0 +0.3**
12nm,1.1s,mb4.7
SMCO Snowmass 91.54 47 *e*P **P 09 43 54.8 +0.3**
LOHW Long Hollow 91.55 42 *e*P **P 09 43 54.1 -0.3**
7.6nm,1.3s,mb4.5
BW06 Boulder Array 91.74 43 *e*P **P 09 43 55.3 0.0**
4.1nm,1.0s,mb4.3
PDAR Pinedale Array 91.74 43 P **P 09 43 55.3 0.0**
3.0nm,0.9s,mb4.2,baz=234,slow=1.7,SNR=11
SDCO Great Sand Dun 91.82 49 *e*P **P 09 43 55.9 +0.1**
3.4nm,1.0s,mb4.2
BOZ Bozeman (W) 92.05 40 *e*P **P 09 43 56.8 0.0**
10nm,1.0s,mb4.7
AKASG Malin Array Be 146.61 328 PKPbc PKPbc 09 50 29.3 +2.9
2.3nm,0.8s,baz=38,slow=4.1,SNR=8.2
AKASG Malin Array Be 146.61 328 PKPbc PKPbc 09 50 29.3 +2.9
BRTR Keskin Array B 149.60 307 PKPbc PKPdf 09 50 38.6 +8.7
2.0nm,1.0s,baz=84,slow=3.7,SNR=3.0
BRTR PKPab PKPab 09 50 43.4 +0.3
1.2nm,0.8s,baz=135,slow=1.7,SNR=5.3
CLL Collm 152.03 346 *e*PKP1 PKPdf 09 50 43.0 +10
CLL *i* PKP2 PKPab 09 50 48.4 -4.4
CLL *i* 09 50 57.5
KHC Kasperske Hory 153.90 343 *e*PKPdf PKPdf 09 50 40.0 +4.2
KHC PKPbc PKPdf 09 50 45.0 +9.2

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*BJI **09** 09:31:44.8,5.25S×153.66E,h82km,mb5.0,Ms5.7,Msz5.7*
*NEIC **09** 09:31:46.6±0.3,5.16S×154.05E,h100km,mb4.7/16,Error ellipse: s-maj=9.4km s-min=7.0km az=79.0*
*IDC **09** 09:31:48.8±2.1,5.22S×154.06E,h122km±19km,mb4.4/15, mb1 4.5/16,mb1mx4.4/20,mbtmp4.8/16,Error ellipse: s-maj=16.4km s-min=10.8km az=89.0*
ISC 09 09:31:48.3±1.9**,5.23S**±0.07×**154.06E**±0.07**,h131**km±19km**, n60,** σ**0**^{s}**80**/57**,mb4.6**/30**,7C-1D,Bougainville - Solomon Islands region**

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

HNR Honiara 7.18 126 P **P 09 33 31.1 -0.9**
7.5nm,0.3s,baz=318,slow=4.2,SNR=3.5
HNR S **S 09 34 52.6 +0.2**
22nm,0.3s,baz=150,slow=20,SNR=5.8
CTA Charters Tower 16.61 207 *e*P **P 09 35 37.6 +2.8**
6.9nm,0.6s
CTA Charters Tower 16.61 207 P **P 09 35 37.1 +2.3**
0.6nm,0.3s,baz=34,slow=13,SNR=13
CTAO Charters Tower 16.61 207 *e*P **P 09 35 36.3 +1.5**
20nm,1.1s
DZM Mont Dzumac 20.60 146 *e*P **P 09 36 19.1 +0.3**
DZM Mont Dzumac 20.60 146 P **P 09 36 18.7 -0.1**
20nm,0.7s,baz=10,slow=10,SNR=16
DZM Mont Dzumac 20.60 146 *e*P **P 09 36 19.1 +0.3**
WRAB Tennant Creek 24.11 231 *e*P **P 09 36 53.6 +0.3**
72nm,0.6s,mb5.4
WRA Warramunga Arr 24.13 231 P **P 09 36 54.0 +0.7**
40nm,0.7s,mb5.1,baz=54,slow=9.5,SNR=132
WRA S **S 09 41 03.0 +4.4**
0.8nm,0.5s,baz=54,slow=16,SNR=4.8
WRA ScP 09 44 00.6
2.0nm,1.0s,baz=52,slow=2.7,SNR=4.6
ARMA Armidale 25.17 185⇑*i*P **P 09 37 03.8 +0.7**
ASPA Alice Springs 26.71 225⇑*i*P **P 09 37 16.8 -0.6**
STKA Stephens Creek 28.97 202⇑*i*P **P 09 37 36.7 -1.0**
11nm,0.7s,mb4.7
STKA Stephens Creek 28.97 202 P **P 09 37 37.0 -0.8**
13nm,0.7s,mb4.8,baz=12,slow=8.1,SNR=22
FITZ Fitzroy Crossi 30.57 243⇑*i*P **P 09 37 50.8 -1.3**
56nm,0.6s,mb5.5
FITZ Fitzroy Crossi 30.57 243 P **P 09 37 50.9 -1.1**
52nm,0.5s,mb5.5,baz=77,slow=4.1,SNR=105
FORT Forrest 35.27 221⇑*i*P **P 09 38 31.7 -0.7**
24nm,0.6s,mb5.0
MBWA Marble Bar 36.86 241 *e*P **P 09 38 45.4 -0.4**
5.4nm,0.5s,mb4.4
RPZ Rata Peaks 41.16 161 P **P 09 39 20.6 -0.6**
23nm,0.6s,mb5.0,baz=244,slow=0.9,SNR=24
JNU Nakatsue 44.02 332 P **P 09 39 44.6 0.0**
13nm,0.7s,mb4.7,baz=78,slow=6.6,SNR=15
KSM Kuching 44.20 277 *e*P **P 09 39 46.9 +0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	50.19	349	P	P	09 40 33.5	+0.9
	5.4nm,0.6s,mb4.4,baz=214,slow=26,SNR=7.1						
KULM	Kulim	54.35	280	eP	P	09 41 03.0	-1.0
ENH	Enshi	55.36	312	eP	P	09 41 10.6	-0.6
	14nm,0.9s,mb4.7						
KMI	Kunming	58.26	304	P	P	09 41 33.0	+1.3
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=E,4µm,27.0s						
KMI				LR	LR		
	comp=Z,12µm,31.1s						
KMI	Kunming	58.26	304	P	P	09 41 33.0	+1.3
	comp=Z,11nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=Z,12µm,31.1s						
HHC	Hu-ho-hao-te	60.12	324	eP	P	09 41 41.5	-2.8
HHC				AP	pP	09 42 05.5	-10
HHC				XP	sP	09 42 16.6	-14
HHC				PCP	PcP	09 42 28.9	+0.5
HHC				PP	PP	09 43 58.1	-2.2
HHC				S	S	09 49 39.4	-5.8
HHC				XS		09 50 22.3	
HHC				SCS	ScS	09 51 18.2	+0.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,2µm,13.1s						
HHC				LR	LR		
	comp=N,6µm,23.8s						
HHC				LR	LR		
	comp=E,5µm,19.0s						
HHC				LR	LR		
	comp=Z,6µm,25.0s						
LZH	Lanzhou	62.41	315	eP	P	09 41 59.5	-0.3
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
LZH	Lanzhou	62.41	315	eP	P	09 41 59.5	-0.3
	comp=Z,30nm,1.2s,mb5.0						
LZH				pP	pP	09 42 08.0	-23
LZH				sP	sP	09 42 12.0	-34
GTA	Gaotai	66.82	317	eP	P	09 42 29.2	+0.9
GTA				AP	pP	09 42 54.6	-5.7
GTA				PCP	PcP	09 42 56.6	+0.7
GTA				XP	sP	09 43 03.7	-11
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
ULN	Ulaanbaatar	67.02	328	eP	P	09 42 29.4	0.0
	comp=Z,2.6nm,0.6s,mb4.2						
SONM	Songino Array	67.35	327	P	P	09 42 31.3	-0.2
	comp=Z,3.0nm,0.5s,mb4.3,baz=135,slow=7.1,SNR=15						
CASY	Casey	67.98	197	⇑iP	P	09 42 34.1	-0.9
LSA	Lhasa	69.51	304	eP	P	09 42 45.7	+0.7
	comp=Z,8.1nm,0.7s,mb4.6						
VNDA	Vanda	72.37	178	P	P	09 43 01.4	+0.1
	comp=Z,5.5nm,0.6s,mb4.5,baz=331,slow=6.7,SNR=58						
VNDA	Vanda	72.37	178	eP	P	09 43 01.2	-0.1
	comp=Z,26nm,1.3s,mb4.8						
GUN	Gumba	73.41	301	eP	P	09 43 09.2	+0.9
PKI	Pulchoki	73.73	301	eP	P	09 43 10.5	+0.3
KKN	Kakani	73.89	301	eP	P	09 43 11.5	+0.4
DMN	Daman	74.00	301	eP	P	09 43 12.0	+0.3
	comp=Z,49nm,1.1s,mb5.1						
GKN	Gorkha	74.50	301	eP	P	09 43 14.6	0.0
	comp=Z,54nm,1.1s,mb5.2						
KOLN	Koldanda	75.33	300	eP	P	09 43 18.4	-0.9
	comp=Z,24nm,0.8s,mb4.9						
SLKM	Skilak Lake	78.53	25	eP	P	09 43 38.1	+1.8
MCK	McKinley	80.78	22	eP	P	09 43 49.0	+0.6
	comp=Z,4.4nm,0.9s,mb4.1						
MKAR	Makanchi Array	81.47	319	P	P	09 43 52.6	+0.2
	comp=Z,2.9nm,0.7s,mb4.0,baz=103,slow=6.0,SNR=21						
ILAR	Eielson Array	82.08	22	P	P	09 43 54.6	-0.6
	comp=Z,1.6nm,0.6s,mb3.8,baz=245,slow=5.3,SNR=30						
ZAL	Zalesovo	82.21	326	P	P	09 43 55.4	-0.6
	comp=Z,2.6nm,0.4s,mb4.2,baz=134,slow=0.9,SNR=5.7						
ZAL	Zalesovo	82.21	326	P	P	09 43 55.4	-0.6
DAWY	Dawson	84.66	24	eP	P	09 44 07.5	-0.6
QSPA	South Pole Qui	84.74	180	⇓iP	P	09 44 09.4	+1.1
	comp=Z,10.0nm,0.7s,mb4.7						
KURK	Kurchatov	84.87	322	eP	P	09 44 09.0	-0.5
	comp=Z,2.4nm,0.5s,mb4.2						
MAW	Mawson	85.66	203	P	P	09 44 13.5	+0.5
	comp=Z,16nm,0.6s,mb4.9,baz=104,slow=8.3,SNR=13						
INK	Inuvik	88.40	21	P	P	09 44 26.1	-0.2
	comp=Z,1.8nm,0.8s,mb4.0,baz=205,slow=7.4,SNR=5.9						
BVAR	Borovoye Array	90.33	323	P	P	09 44 34.8	-0.8
	comp=Z,2.0nm,0.6s,mb4.2,baz=104,slow=6.1,SNR=12						
SYO	Syowa Base	93.68	199	⇑P	P	09 44 50.8	+0.1
TXAR	Lajitas Array	103.24	61	PKKP	PKKP	10 01 51.3	+31
	comp=Z,0.3nm,0.8s,baz=76,slow=3.7,SNR=3.5						
AKASG	Malin Array Be	115.57	325	PKP	PKPdf	09 50 16.3	+1.4
	comp=Z,0.4nm,0.4s,baz=47,slow=1.9,SNR=4.5						
AKASG	Malin Array Be	115.57	325	PKP	PKPdf	09 50 16.3	+1.4
GERES	GERESS Array B	125.07	329	PKP	PKPdf	09 50 34.4	+1.2
	comp=Z,0.4nm,0.4s,baz=90,slow=1.3,SNR=4.4						
LPAZ	La Paz	133.11	118	PKP	PKPdf	09 50 52.2	+2.8
	comp=Z,0.8nm,0.6s,baz=257,slow=5.2,SNR=5.9						
DBIC	Dimbokro	158.98	275	PKPab	PKPab	09 52 10.5	-0.4
	comp=Z,3.8nm,0.7s,baz=32,slow=3.4,SNR=5.1						

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*NEIC **09** 09:44:57.5±1.5, 6.32S×155.08E, h96^{km}±14^{km}, mb4.5/9, Error ellipse: s-maj=10.8km s-min=9.4km az=87.0*
*IDC **09** 09:44:58.0±3.3, 6.31S×155.09E, h100^{km}±32^{km}, mb4.1/10, mb1 4.2/12, mb1mx4.2/17, mbtmp4.5/12, Error ellipse: s-maj=20.4km s-min=17.7km az=119.0*
ISC 09 09:44:56.0±2.3, **6.30S**±0.09×**155.06E**±0.09, **h96**^{km}±22^{km}, **n25**, σ**0^{s}82**/26, **mb4.3**/16, **3C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.75	123	P	P	09 46 19.7	-0.6
	9.3nm,0.3s,baz=254,slow=8.2,SNR=3.4						
HNR				S	S	09 47 26.3	+0.6
	11nm,0.3s,baz=54,slow=19,SNR=2.8						
CTA	Charters Tower	16.16	211	P	P	09 48 43.6	+4.9
	0.2nm,0.3s,baz=34,slow=16,SNR=3.7						
DZM	Mont Dzumac	19.15	146	P	P	09 49 13.8	-0.6
	1.5nm,0.3s,baz=353,slow=8.8,SNR=17						
ARMA	Armidale	24.21	187	⇑iP	P	09 50 05.9	+1.1
WRAB	Tennant Creek	24.25	234	eP	P	09 50 06.8	+1.5
	42nm,0.4s,mb5.1						
WRA	Warramunga Arr	24.27	234	P	P	09 50 07.0	+1.5
	25nm,0.4s,mb4.9,baz=59,slow=9.8,SNR=51						
WRA				PcP	PcP	09 53 44.0	-0.4
	0.5nm,0.5s,baz=61,slow=2.2,SNR=4.8						
ASPA	Alice Springs	26.68	227	eP	P	09 50 27.9	-0.2
STKA	Stephens Creek	28.39	205	eP	P	09 50 42.1	-1.4
	3.9nm,0.6s,mb4.1						
STKA	Stephens Creek	28.39	205	P	P	09 50 42.8	-0.7
	4.7nm,0.6s,mb4.2,baz=25,slow=12,SNR=17						
FITZ	Fitzroy Crossi	31.00	245	⇑iP	P	09 51 05.7	-1.1
	11nm,0.4s,mb4.9						
FITZ	Fitzroy Crossi	31.00	245	P	P	09 51 06.2	-0.5
	24nm,0.7s,mb5.0,baz=59,slow=5.0,SNR=25						
MBWA	Marble Bar	37.24	243	eP	P	09 51 59.6	-0.5
	3.4nm,0.6s,mb4.5						
RPZ	Rata Peaks	39.83	162	P	P	09 52 21.3	-0.1
	4.4nm,0.5s,mb4.5,baz=14,slow=4.3,SNR=7.9						
KSM	Kuching	45.34	278	eP	P	09 53 06.5	-0.2
ENH	Enshi	56.82	312	eP	P	09 54 32.5	-0.5
	5.1nm,0.4s,mb4.9						
CASY	Casey	67.27	198	eP	P	09 55 40.5	-1.6
	0.7nm,0.4s,mb3.8						
ULN	Ulaanbaatar	68.46	327	eP	P	09 55 49.6	-0.1
	1.4nm,0.6s,mb4.0						
SONM	Songino Array	68.79	327	P	P	09 55 52.3	+0.5
	0.8nm,0.4s,mb3.9,baz=129,slow=6.6,SNR=9.4						
VNDA	Vanda	71.27	178	P	P	09 56 05.8	-0.6
	0.9nm,0.8s,mb3.6,baz=352,slow=7.4,SNR=5.7						
VNDA	Vanda	71.27	178	eP	P	09 56 05.5	-0.9
	0.7nm,0.6s,mb3.7						
ILAR	Eielson Array	82.71	22	P	P	09 57 09.7	-0.4
	0.3nm,0.4s,mb3.5,baz=236,slow=5.7,SNR=7.1						
MKAR	Makanchi Array	82.93	319	P	P	09 57 11.5	-0.1
	1.5nm,0.8s,mb3.9,baz=117,slow=5.4,SNR=10						
QSPA	South Pole Qui	83.67	180	⇑iP	P	09 57 15.2	+0.5
	7.6nm,0.5s,mb4.8						
MAW	Mawson	85.06	203	P	P	09 57 22.5	+0.7
	3.1nm,0.3s,mb4.8,baz=82,slow=15,SNR=4.9						
INK	Inuvik	89.05	21	P	P	09 57 42.4	+1.3
	1.3nm,0.9s,mb4.0,baz=270,slow=2.0,SNR=4.6						

PRE 09 09:53:56.8±1.4, **26.14S**×**29.27E, ML3.5, Explosion, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BFT	Belfast (SA)	0.83	57	eP	Pg	09 54 12.9	-0.4
BFT				eS	Sg	09 54 23.4	-0.9
SLR	Silverton	0.98	294	eP	Pb	09 54 15.7	-0.6
SLR				eS	Sg	09 54 29.1	-0.3
SLR				AML	AML	09 54 38.8	
	comp=Z,446nm,0.7s						
PRYS	Parys	1.88	245	eP	Pn	09 54 31.7	+1.2
PRYS				eS	Sn	09 54 54.9	-0.4
PRYS				AML	AML	09 54 59.2	
	comp=Z,266nm,0.7s						
LBTB	Lobatse	3.50	288	eP	Pn	09 54 52.5	-1.1
LBTB				eS	Sn	09 55 34.2	-2.2
SWZ	Schweizer	3.68	253	eS	Sn	09 55 38.6	-2.2
SWZ				AML	AML	09 55 56.9	
	comp=Z,351nm,0.7s						
MSNA	Messina	3.84	10	eP	Pn	09 54 58.3	-0.1
MSNA				eS	Sn	09 55 42.5	-2.4
MSNA				AML	AML	09 55 56.0	
	comp=Z,103nm,0.6s						

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*FIA0 **09** 10:05:00.4, 57.69N×20.75E, ML1.9, Explosion*
*IDC **09** 10:05:01.7±2.7, 57.57N×21.68E, mb1 3.4/4, mb1mx3.2/18, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=28.8km s-min=9.7km az=163.0*
*CSEM **09** 10:05:01.7±0.1, 57.65N×21.51E, h2^{km}, ML2.6, Error ellipse: s-maj=3.5km s-min=1.8km az=165.0, Mining explosion.*
*NAO **09** 10:05:03.6±2.3, 57.73N×21.44E, ML2.4*
*BER **09** 10:05:05.8±3.9, 57.70N×21.41E, ML2.4(NAO), Suspected explosion*
*UPP **09** 10:05:06.8, 57.72N×20.87E, ML2.6, Mining explosion.*
HEL 09 10:05:01.9±0.3, **57.52N**×**21.46E, ML2.6**(UPP), **ML2.4**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOTU	Gotland	1.57	277	eP	Pn	10 05 29.6	-1.5
NYNU	Nynaeshamn	2.36	311	eP	Pn	10 05 41.9	-0.6
NYNU	Nynaeshamn	2.36	311	P	Pn	10 05 41.8	-0.7
VIKU	Vikbolandet	2.72	293	eP	Pn	10 05 46.9	-0.7
OSKU	Oskarshamn	2.92	266	eP	Pn	10 05 50.5	0.0
VSU	Vasula	2.96	69	eP	Pn	10 05 49.8	-1.2
VSU				eS	Sn	10 06 27.7	-0.1
ESKU	Eskilstuna	3.17	305	eP	Pn	10 05 53.0	-1.1
GRAU	Graesoe	3.21	333	eP	Pn	10 05 53.5	-1.0
FLYU	Flymyra	3.21	326	eP	Pn	10 05 53.6	-1.0
LNKU	Linkoeping	3.26	285	eP	Pn	10 05 54.5	-0.8
LNKU	Linkoeping	3.26	285	P	Pn	10 05 54.5	-0.8
BACU	Backbrunna	3.27	318	eS	Sn	10 06 29.9	-5.6
OSTU	Oestervaala	3.53	322	eP	Pn	10 05 57.8	-1.3
FALU	Falun	4.17	318	eP	Pn	10 06 06.9	-1.3
FIA0	FINESS Array S	4.59	29	eP	Pn	10 06 11.8	-2.4
FIA0				eS	Sn	10 07 05.3	-3.7
FIA0				eSG	Sg	10 07 23.3	-11
FIA0				eRG		10 09 29.2	
FIA0	FINESS Array S	4.59	29	Pn	Pn	10 06 11.3	-2.9
	baz=221,slow=12						
FIA0				Sn	Sn	10 07 04.3	-4.7
	baz=231,slow=22						
FIA0				Lg		10 07 21.4	
	baz=211,slow=22						
FINES	FINESS Array B	4.59	29	Pn	Pn	10 06 10.9	-3.2
	0.9nm,0.3s,baz=222,slow=12,SNR=28						
FINES				Pg	Pg	10 06 21.4	-12
	0.7nm,0.3s,baz=219,slow=15,SNR=8.7						
FINES				Sn	Sn	10 07 04.8	-4.2
	1.5nm,0.3s,baz=229,slow=23,SNR=9.3						
FINES				Lg		10 07 21.3	
	1.7nm,0.3s,baz=214,slow=26,SNR=8.7						
HFS	Hagfors	4.81	306	Pn	Pn	10 06 15.0	-2.3
	baz=112,slow=12						
HFS				Sn	Sn	10 07 10.3	-4.4
	baz=121,slow=28						
HFS				Lg		10 07 29.3	
	baz=118,slow=37						
HFS	Hagfors	4.81	306	eP	Pn	10 06 15.0	-2.3
HFS				eS	Sn	10 07 10.3	-4.4
HFS				eSG		10 07 29.3	
HFS	Hagfors	4.81	306	Pn	Pn	10 06 15.1	-2.3
	0.2nm,0.3s,baz=125,slow=13,SNR=19						
HFS				Sn	Sn	10 07 10.6	-4.2
	0.3nm,0.3s,baz=118,slow=25,SNR=8.5						
HFS				Lg		10 07 29.7	
	0.7nm,0.3s,baz=120,slow=30,SNR=10						
HFS	Hagfors	4.81	306	P	Pn	10 06 15.0	-2.4
HFS				S	Sn	10 07 10.2	-4.5
HFS				Sg		10 07 29.2	
HASU	Hassela	5.25	334	eP	Pn	10 06 21.5	-2.1
NB2	NORSAR Subarra	6.33	308	eP	Pn	10 06 35.4	-3.4
NB2				eSG		10 08 18.4	
NB2	NORSAR Subarra	6.33	308	Pn	Pn	10 06 35.4	-3.4
	baz=122,slow=14						
NB2				Lg		10 08 18.4	
	baz=120,slow=28						
NB2	NORSAR Subarra	6.33	308	P	Pn	10 06 35.3	-3.4
NB2				Sg		10 08 18.3	
NOA	NORSAR Array B	6.33	308	Pn	Pn	10 06 35.0	-3.7
	0.6nm,0.3s,baz=131,slow=12,SNR=2.9						
NOA				Sn	Sn	10 07 46.2	-6.5
	0.4nm,0.3s,baz=103,slow=18,SNR=2.5						
NOA				Lg		10 08 13.7	
	0.9nm,0.3s,baz=42,slow=18,SNR=4.2						
UMAU	Umeaa	6.40	357	eP	Pn	10 06 37.3	-2.5
BURU	Burvik	7.09	360	eP	Pn	10 06 47.2	-2.3
APA0	Apatity Array	11.41	23	Pn	P	10 07 42.9	-6.1
	baz=237,slow=12						
APA0	Apatity Array	11.41	23	eP	P	10 07 42.9	-6.1
ARA0	ARCESS Array S	12.20	7	Pn	P	10 07 51.5	-8.1
	baz=185,slow=14						
ARA0				Sn	S	10 10 01.8	-16
	baz=189,slow=28						
ARA0	ARCESS Array S	12.20	7	eP	P	10 07 51.5	-8.1
ARA0				eS	S	10 10 01.8	-16
ARCES	ARCESS Array B	12.20	7	Pn	P	10 07 51.8	-7.9
	0.4nm,0.3s,baz=186,slow=14,SNR=19						

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*NEIC **09** 10:10:18.0±0.6, 21.51S×66.52W, h216^{km}±6^{km}, mb3.7/5, Error ellipse: s-maj=15.0km s-min=7.6km az=102.0*
*IDC **09** 10:10:17.8±1.1, 21.47S×66.61W, h210^{km}±9^{km}, mb3.2/3, mb1 3.5/8, mb1mx3.4/17, mbtmp3.8/8, Error ellipse: s-maj=20.1km s-min=10.6km az=113.0*
ISC 09 10:10:17.1±0.6, **21.52S**±0.05×**66.56W**±0.09, **h223**^{km}±6^{km}, **n20**, σ**0^{s}86**/22, **mb3.6**/6, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.44	243	P	P	10 11 03.4	+1.2
	4.7nm,0.3s,baz=56,slow=7.6,SNR=36						
LVC				S	S	10 11 36.2	-0.9
	42nm,0.3s,baz=242,slow=20,SNR=62						
LVC	Limon Verde	2.44	243	ePn	P	10 11 03.3	+1.1
LVC				eSn	S	10 11 36.4	-0.7
LPAZ	La Paz	5.41	344	P	P	10 11 38.9	+0.9
	5.4nm,0.3s,baz=154,slow=8.8,SNR=153						
LPAZ				S	S	10 12 40.6	-0.3
	baz=357,slow=16,SNR=5.2						
SIV	San Ignacio	7.57	44	P	P	10 12 06.0	+0.4
	5.1nm,0.3s,baz=251,slow=12,SNR=135						
SIV				S	S	10 13 30.1	-0.2
	0.5nm,0.3s,baz=139,slow=19,SNR=3.1						
CFAA	Coronel Fontan	10.15	188	P	P	10 12 38.5	-0.3
	0.4nm,0.3s,baz=1.1,slow=15,SNR=51						
CFAA				S	S	10 14 26.1	-3.8
	0.1nm,0.3s,baz=307,slow=20,SNR=4.5						
MDZ	Mendoza	11.50	190	eP	P	10 12 56.2	+0.2
SAML	Samuel	12.92	15	ePn	P	10 13 13.0	-0.8
	3.1nm,0.9s						
PLCA	Paso Flores	19.45	189	P	P	10 14 29.1	+0.6
	0.1nm,0.3s,baz=10,slow=14,SNR=4.1						
PLCA	Paso Flores	19.45	189	P	P	10 14 32.4	+3.8
	1.8nm,0.8s						
WVT	Waverly	60.77	340	eP	P	10 20 05.4	-2.1
	4.7nm,0.7s,mb4.2						
TXAR	Lajitas Array	61.92	323	P	P	10 20 14.5	-0.9
	0.2nm,0.6s,mb2.9,baz=157,slow=9.5,SNR=4.1						
ANMO	Albuquerque	67.74	325	eP	P	10 20 52.6	-0.1
	0.6nm,0.6s,mb3.4						
SDCO	Great Sand Dun	69.40	328	eP	P	10 21 03.1	+0.3
	2.2nm,0.9s,mb3.8						
SMCO	Snowmass	71.24	328	eP	P	10 21 14.9	+1.0
MSU	Marysvale	73.46	324	eP	P	10 21 28.0	+0.9
PDAR	Pinedale Array	75.24	329	P	P	10 21 37.5	+0.4
	0.3nm,0.5s,mb3.2,baz=125,slow=9.4,SNR=4.4						
YKA	Yellowknife Ar	91.95	340	P	P	10 23 00.8	-0.2
	1.0nm,0.7s,mb3.9,baz=132,slow=5.1,SNR=5.3						
WRA	Warramunga Arr	134.00	208	PKP	PKPdf	10 29 11.0	+2.4
	0.4nm,0.7s,baz=154,slow=1.8,SNR=5.8						
MKAR	Makanchi Array	144.34	38	PKP	PKPdf	10 29 28.0	+1.6
	1.9nm,0.7s,baz=311,slow=3.9,SNR=18						
SONM	Songino Array	153.14	11	PKP	PKPdf	10 29 43.4	+3.1
	0.2nm,0.4s,slow=1.4,SNR=2.1						
SONM				PKPbc	PKPdf	10 29 50.9	+11
	0.5nm,0.6s,baz=297,slow=3.3,SNR=3.9						

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*BER **09** 10:26:17.7±2.2, 69.07N×11.50E, h10^{km}, MD2.2, ML2.5*
HEL 09 10:26:23.6±0.5, **68.98N**×**13.45E, h10**^{km}, **ML2.2, ML2.3**(UPP), **ML2.5**(BER), **Northern Norway**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOF	Lofoten	0.85	178	eP	Pb	10 26 40.0	0.0
LOF				eS	Sb	10 26 54.5	+3.3
LOF				AML	AML	10 26 55.8	
	comp=Z,271nm,0.5s						
MELSS	Ber_school_2	2.12	177	eP	Pn	10 26 54.5	-5.2
MELSS				eS	Sn	10 27 20.9	-5.5
NIKU	Nikkaluokta	2.35	116	eP	Pn	10 27 03.3	+0.4
NIKU				eS	Sn	10 27 35.8	+3.8
SALU	Saltoluokta	2.48	128	eP	Pn	10 27 04.8	+0.1
SALU				eS	Sn	10 27 38.5	+3.2
KIF	Kilpisjarvi	2.65	86	eP	Pn	10 27 06.8	-0.4
KIF				eS	Sn	10 27 36.5	-3.3
KIF				MSN		10 27 43.8	
	comp=Z,2.8nm,0.3s						
STOK	Stokkvaagen	2.66	184	eP	Pn	10 27 00.7	-6.6
STOK				eS	Sn	10 27 32.0	-8.0
KUA	Kurravaara	2.74	109	eP	Pn	10 27 08.6	+0.1
KUA				eS	Sn	10 27 46.3	+4.3
MOR8	Moi Rana	2.84	172	eP	Pn	10 27 05.2	-4.7
MOR8				eS	Sn	10 27 39.8	-4.8
MOR8				AML	AML	10 27 42.3	
	comp=Z,17nm,0.3s						
DUNU	Dundret	3.26	121	eP	Pn	10 27 15.3	-0.6
DUNU				eS	Sn	10 27 57.6	+2.5
LANU	Lannavaara	3.28	102	eP	Pn	10 27 15.6	-0.5
LANU				eS	Sn	10 27 58.1	+2.5
KTK1	Kautokeino	3.53	85	eP	Pn	10 27 19.1	-0.5
MASU	Masugnsbyn	3.54	112	eP	Pn	10 27 19.2	-0.6
ERTU	Ertsjaerv	4.12	122	eP	Pn	10 27 25.7	-2.3
ERTU				eS	Sn	10 28 17.1	+0.3
LILU	Lilltraesk	4.47	143	eP	Pn	10 27 31.1	-1.9
SJUU	Sjulsmark	4.71	134	eP	Pn	10 27 34.5	-1.9
KEV	Kevo	4.86	74	eP	Pn	10 27 37.1	-1.5
KEV				eS	Sn	10 28 29.1	-6.5
KEV				MSN		10 28 34.8	
	comp=Z,0.7nm,0.3s						
SGF	Sodankyl	5.11	101	eP	Pn	10 27 40.2	-1.9
SGF				eS	Sn	10 28 35.5	-6.4
SGF				MSN		10 28 42.5	
	comp=Z,0.9nm,0.3s						
NOD	Norderasen	5.59	173	eP	Pn	10 27 43.9	-4.9
SOLU	Sollefteaa	5.96	163	eP	Pn	10 27 49.8	-4.3
OUL	Oulu	6.24	123	eP	Pn	10 27 55.3	-2.7
OUL				eS	Sn	10 29 04.1	-6.1
KU4	Liikasenvaara	6.67	105	eP	Pn	10 28 01.0	-3.2
KU4				eS	Sn	10 29 12.4	-8.7
HASU	Hassela	6.98	168	eP	Pn	10 28 02.7	-5.8
VAF	Ylistaro	7.04	143	eP	Pn	10 28 06.1	-3.2
VAF				eS	Sn	10 29 23.0	-7.2
VAF				eSG	Sg	10 30 01.0	-17
KJN	Kajaani	7.50	124	eP	Pn	10 28 12.2	-3.6
KJN				eS	Sn	10 29 34.2	-7.6
SUF	Sumiainen	8.14	134	eP	P	10 28 21.3	-3.4
SUF				eS	Sn	10 29 49.9	-7.9
KEF	Keuruu	8.30	140	eP	P	10 28 23.1	-3.8
KAF	Kangasniemi	8.69	136	eP	P	10 28 28.1	-4.3
KAF				eS	Sn	10 30 01.5	-10
FIA0	FINESS Array S	9.21	139	eS	Sn	10 30 14.6	-10

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*IDC **09** 10:32:34.1±3.3, 51.06N×179.26E, mb3.6/4, mb1 3.8/4, mb1mx3.6/22, mbtmp3.6/4, Error ellipse: s-maj=95.8km s-min=28.9km az=1.0*
*NEIC **09** 10:32:38.9, 51.07N×179.41E, h1^{km}, ML3.3(AEIC), After AEIC.*
ISC 09 10:32:39.6±3.4, **51.1N**±0.6×**179.4E**±0.1, **h57**^{km}±14^{km}, **n10**, σ**0^{s}66**/10, **mb3.7**/4, **Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.24	71	P	P	10 33 15.3	+0.1
KIRH	Kanaga Island	2.37	68	P	P	10 33 17.4	+0.5
GSMY	Great Sitkin M	3.02	69	P	P	10 33 25.9	-0.4
SMY	Shemya	3.65	299	P	P	10 33 36.1	+1.0
ATKA	Atka Island	4.17	72	P	P	10 33 41.7	-0.7
FX1	Attu Island--F	4.24	298	eP	P	10 33 42.6	-0.7
ILAR	Eielson Array	22.21	39	P	P	10 37 32.0	0.0
	0.3nm,0.6s,mb2.9,baz=258,slow=11,SNR=4.6						
PDAR	Pinedale Array	47.51	71	P	P	10 41 11.4	+0.9
	0.8nm,0.7s,mb3.9,baz=315,slow=5.5,SNR=8.1						
MKAR	Makanchi Array	59.31	308	P	P	10 42 36.4	-1.0
	0.5nm,0.6s,mb3.7,baz=56,slow=7.2,SNR=5.0						
BVAR	Borovoye Array	60.37	319	P	P	10 42 44.9	+0.2
	1.3nm,0.6s,mb4.2,baz=53,slow=7.4,SNR=9.3						

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*IDC **09** 10:33:58.5±1.5, 4.78S×154.21E, mb4.0/6, mb1 4.2/6, mb1mx4.0/12, mbtmp4.0/6, Error ellipse: s-maj=59.8km s-min=24.8km az=105.0*
*NEIC **09** 10:34:11.4±0.9, 4.85S×154.05E, h100^{km}, mb3.9/1, Error ellipse: s-maj=36.0km s-min=14.3km az=109.0*
ISC 09 10:34:02.1±1.3, **4.8S**±0.2×**154.2E**±0.3, **h33**^{km}, **n9**, σ**0^{s}24**/9, **mb3.9**/7, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	24.50	230	eP	P	10 39 20.1	+0.2
	3.5nm,0.7s,mb3.9						
WRA	Warramunga Arr	24.51	230	P	P	10 39 20.2	+0.2
	7.3nm,0.7s,mb4.3,baz=54,slow=9.6,SNR=50						
STKA	Stephens Creek	29.43	202	P	P	10 40 04.8	-0.2
	4.2nm,1.0s,mb4.1,baz=29,slow=10,SNR=2.8						
STKA	Stephens Creek	29.43	202	P	P	10 40 04.8	-0.2
SONM	Songino Array	67.06	327	P	P	10 44 54.2	-0.1
	0.3nm,0.5s,mb3.6,baz=153,slow=6.4,SNR=2.5						
MKAR	Makanchi Array	81.24	319	P	P	10 46 16.2	-0.3
	0.6nm,0.7s,mb3.7,baz=112,slow=6.5,SNR=5.2						
MKAR	Makanchi Array	81.24	319	P	P	10 46 16.2	-0.3
ILAR	Eielson Array	81.63	22	P	P	10 46 18.5	+0.4
	0.5nm,0.8s,mb3.5,baz=248,slow=5.3,SNR=5.6						
MAW	Mawson	86.12	203	P	P	10 46 40.4	-0.2
	1.8nm,0.7s,mb4.4,baz=121,slow=7.5,SNR=5.6						

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*NEIC **09** 10:38:32.1±0.6, 5.55S×154.50E, h100^{km}, mb4.3/10, Error ellipse: s-maj=17.7km s-min=12.2km az=94.0*
*IDC **09** 10:38:36.4±6.4, 5.63S×154.48E, h138^{km}±59^{km}, mb4.0/9, mb1 4.1/10, mb1mx4.0/15, mbtmp4.4/10, Error ellipse: s-maj=25.9km s-min=18.9km az=76.0*
ISC 09 10:38:37.6±4.3, **5.7S**±0.1×**154.4E**±0.1, **h164**^{km}±39^{km}, **n24**, σ**0^{s}74**/24, **mb4.2**/15, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	16.35	208	P	P	10 42 20.3	+1.1
	0.4nm,0.3s,baz=43,slow=12,SNR=7.6						
CTAO	Charters Tower	16.35	208	eP	P	10 42 20.1	+0.8
	5.0nm,0.7s						
DZM	Mont Dzumac	20.00	146	P	P	10 42 59.0	-0.4
	10nm,0.7s,baz=305,slow=24,SNR=14						
WRAB	Tennant Creek	24.09	232	eP	P	10 43 39.7	+0.3
	25nm,0.7s,mb4.8						
WRA	Warramunga Arr	24.10	232	P	P	10 43 40.0	+0.5
	13nm,0.7s,mb4.6,baz=55,slow=9.7,SNR=85						
ASPA	Alice Springs	26.62	226	eP	P	10 44 02.1	-0.8
STKA	Stephens Creek	28.67	203	eP	P	10 44 20.1	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.67**	**203**	P	**P**	**10 44 20.4**	**-0.9**
	4.2nm,0.7s,mb4.3,baz=38,slow=13,SNR=12						
FITZ	**Fitzroy Crossi**	**30.67**	**244**	*e*P	**P**	**10 44 30.2**	**-8.9**
	5.0nm,0.9s,mb4.2						
FITZ				*e*		10 44 37.5	
MBWA	**Marble Bar**	**36.94**	**242**	*e*P	**P**	**10 45 31.1**	**-1.5**
	4.2nm,0.6s,mb4.2						
RPZ	**Rata Peaks**	**40.59**	**161**	P	**P**	**10 46 02.5**	**-0.1**
	7.4nm,0.6s,mb4.5,baz=285,slow=5.2,SNR=6.9						
KSM	**Kuching**	**44.61**	**278**	*e*P	**P**	**10 46 35.3**	**-0.3**
ULN	**Ulaanbaatar**	**67.61**	**328**	*e*P	**P**	**10 49 19.7**	**+1.0**
	1.9nm,0.5s,mb4.1						
CASY	**Casey**	**67.63**	**198**	*e*P	**P**	**10 49 18.0**	**-0.6**
	2.0nm,0.8s,mb3.9						
SONM	**Songino Array**	**67.94**	**327**	P	**P**	**10 49 20.8**	**0.0**
	1.0nm,0.5s,mb3.8,baz=146,slow=6.4,SNR=9.2						
VNDA	**Vanda**	**71.88**	**178**	P	**P**	**10 49 44.9**	**+0.8**
	2.1nm,0.8s,mb3.9,baz=319,slow=6.0,SNR=15						
VNDA	**Vanda**	**71.88**	**178**	*e*P	**P**	**10 49 44.4**	**+0.3**
	3.8nm,1.1s,mb4.0						
MCK	**McKinley**	**81.09**	**22**	*e*P	**P**	**10 50 35.0**	**-0.6**
	3.6nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**82.06**	**319**	P	**P**	**10 50 41.5**	**+0.5**
	1.2nm,0.7s,mb3.6,baz=105,slow=5.9,SNR=11						
MKAR	**Makanchi Array**	**82.06**	**319**	P	**P**	**10 50 41.5**	**+0.5**
ILAR	**Eielson Array**	**82.40**	**22**	P	**P**	**10 50 41.7**	**-0.6**
	1.4nm,0.7s,mb3.7,baz=244,slow=6.0,SNR=27						
QSPA	**South Pole Qui**	**84.26**	**180**	*e*P	**P**	**10 50 52.5**	**+1.1**
	5.0nm,0.8s,mb4.3						
MAW	**Mawson**	**85.36**	**203**	*e*P	**P**	**10 50 57.9**	**+0.8**
	5.0nm,0.6s,mb4.4						
MAW	**Mawson**	**85.36**	**203**	P	**P**	**10 50 58.1**	**+1.1**
	5.9nm,0.7s,mb4.4,baz=91,slow=5.8,SNR=20						

MAN 09 10:39:56.3, 8.02N×125.26E, h4^{km}, mb3.5, ML2.2, MS1.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.24**	**233**	*e*P	Pg	10 40 01.6	+0.4
BUKP				*e*S	Sg	10 40 04.7	+0.3
CGP	**Cagayan de Oro**	**0.70**	**308**	⇑*i*P	Pg	10 40 10.1	-0.2
CGP				*i* S	Sg	10 40 20.2	+0.6
BUTP	**Butuan**	**1.01**	**21**	*e*P	Pb	10 40 15.7	-0.2
PAGZ	**Pagadian**	**1.86**	**265**	*e*P	Pn	10 40 28.9	-0.4

CASC 09 10:42:23.9±2.2**, 7.86N×82.47W, h23^{km}±11^{km}, MD4.0, MW4.3, 2C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.95**	**347**	⇑*i*P	Pb	10 42 40.9	-0.7
BRU2				*e*S	Sb	10 42 54.1	+0.2
BUS	**Buena Vista**	**2.11**	**323**	*e*P	Pn	10 42 57.5	-1.1
BUS				*e*S	Sn	10 43 26.4	+1.9
LIO	**Limon**	**2.20**	**345**	*e*P	Pn	10 43 00.7	+0.8
LCR2	**La Lucha 2**	**2.41**	**321**	*e*P	Pn	10 43 02.5	-0.3
LCR2				*e*S	Sn	10 43 31.2	-0.7
AZU2	**Pedas**	**2.44**	**97**	⇑*i*P	Pn	10 43 03.1	-0.1
AZU2				*e*S	Sn	10 43 31.8	-0.9
LAJ	**Bijagual**	**2.58**	**321**	*e*P	Pn	10 43 06.4	+1.2
LAJ				*e*S	Sn	10 43 41.7	+5.5
CGA2	**Cerro Gallo 2**	**2.91**	**317**	*e*P	Pn	10 43 09.9	-0.1
CGA2				*e*S	Sn	10 43 44.4	-0.3
JCR	**Jicaral**	**3.28**	**307**	*e*P	Pn	10 43 14.3	-0.9

NNC 09 10:48:28.5±5.8**, 36.55N×68.38E, mpv3.9, 3C-1D, Error ellipse: s-maj=47.7km s-min=31.9km az=176.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.75**	**13**	P	Pn	10 50 11.2	0.0
	1.9nm,0.4s,baz=179,slow=11,SNR=55						
KK31				⇑S	Sn	10 51 29.9	+0.2
	1.6nm,0.3s,baz=195,slow=22						
AAK	**Ala-Archa**	**7.69**	**36**	P	Pn	10 50 21.8	-2.6
	7.4nm,0.5s						
AAK				⇓S	Sn	10 51 48.7	-4.6
	8.1nm,0.7s						
AB31	**Akbulak array**	**14.11**	**337**	⇑P	P	10 51 49.9	-1.7
	1.0nm,0.5s,baz=166,slow=12,SNR=18						
AB31				⇑S	S	10 54 25.2	-4.9
	1.8nm,0.6s,baz=159,slow=25						
BVA0	**Borovoye Array**	**16.53**	**4**	P	P	10 52 24.2	+1.1
	0.1nm,0.8s,baz=172,slow=14,SNR=4.7						

IDC 09 10:57:28.0±1.6**, 5.27S×154.37E, mb4.0**/4**, mb1 4.3**/4**, mb1mx3.9**/13**, mbtmp4.0**/4**, Error ellipse: s-maj=85.0km s-min=30.7km az=133.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.34**	**231**	P	P	11 02 48.3	-0.4
	2.8nm,0.7s,baz=54,slow=9.5,SNR=31						
FITZ	**Fitzroy Crossi**	**30.83**	**243**	P	P	11 03 46.2	-1.9
	4.7nm,0.5s,baz=70,slow=5.9,SNR=9.1						
ILAR	**Eielson Array**	**82.01**	**22**	P	P	11 09 50.0	-1.0
	0.4nm,0.9s,baz=240,slow=5.8,SNR=4.9						
MAW	**Mawson**	**85.74**	**203**	P	P	11 10 07.7	-2.1
	1.0nm,0.8s,baz=117,slow=2.3,SNR=3.2						

*IDC **09** 11:03:11.7±0.9, 4.80N×125.50E, mb3.8/7, mb1 4.0/7, mb1mx3.9/18, mbtmp3.8/7, Error ellipse: s-maj=54.9km s-min=17.4km az=79.0*
*NEIC **09** 11:03:14.8±0.6, 4.79N×125.47E, h20^{km}, mb4.3/1, Error ellipse: s-maj=34.5km s-min=10.0km az=80.0*
ISC 09 11:03:24.5±1.9**, 4.7N**±0.1**×125.4E**±0.3**, h129^{km}**±19^{km}**, n9, σ0^{s}96**/9**, mb3.7**/8**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.38**	**5**	*e*P	**P**	**11 04 04.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**22.65**	**179**	P	**P**	**11 08 15.1**	**-0.5**
	4.8nm,0.6s,mb4.1,baz=5.1,slow=8.5,SNR=8.7						
WRAB	**Tennant Creek**	**26.02**	**160**	*e*P	**P**	**11 08 47.4**	**-0.1**
	2.6nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**26.02**	**160**	P	**P**	**11 08 47.0**	**-0.6**
	2.2nm,0.6s,mb4.0,baz=339,slow=10,SNR=34						
MJAR	**Matsushiro Arr**	**33.83**	**19**	P	**P**	**11 09 54.2**	**-2.3**
	1.7nm,0.8s,mb3.8,baz=181,slow=7.4,SNR=4.3						
STKA	**Stephens Creek**	**39.52**	**158**	P	**P**	**11 10 45.5**	**+1.1**
	0.8nm,0.6s,mb3.5,baz=344,slow=16,SNR=4.0						
SONM	**Songino Array**	**45.96**	**342**	P	**P**	**11 11 36.4**	**0.0**
	0.2nm,0.8s,mb2.8,baz=153,slow=9.7,SNR=2.0						
MKAR	**Makanchi Array**	**55.99**	**326**	P	**P**	**11 12 52.0**	**0.0**
	0.4nm,0.5s,mb3.5,baz=117,slow=9.7,SNR=2.9						
ILAR	**Eielson Array**	**84.83**	**25**	P	**P**	**11 15 47.0**	**+1.5**
	0.5nm,0.9s,mb3.3,baz=244,slow=5.6,SNR=7.0						

*IDC **09** 11:05:52.8±6.5, 5.49S×154.28E, h140^{km}±59^{km}, mb3.8/9, mb1 4.0/10, mb1mx3.9/15, mbtmp4.2/10, Error ellipse: s-maj=24.6km s-min=19.7km az=60.0*
*NEIC **09** 11:05:54.2±4.4, 5.51S×154.28E, h155^{km}±41^{km}, mb4.1/2, Error ellipse: s-maj=18.4km s-min=13.4km az=206.0*
ISC 09 11:05:53.9±5.5**, 5.5S**±0.2**×154.3E**±0.1**, h166^{km}**±50^{km}**, n13, σ0^{s}60**/13**, mb4.0**/9**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.44**	**208**	P	**P**	**11 09 37.3**	**+0.7**
	0.2nm,0.3s,baz=6.9,slow=12,SNR=3.2						
DZM	**Mont Dzumac**	**20.24**	**146**	P	**P**	**11 10 17.0**	**-0.9**
	5.5nm,0.5s,baz=248,slow=5.4,SNR=16						
WRAB	**Tennant Creek**	**24.09**	**232**	*e*P	**P**	**11 10 55.6**	**+0.1**
	5.8nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**24.10**	**232**	P	**P**	**11 10 55.7**	**+0.1**
	7.7nm,0.7s,mb4.3,baz=54,slow=9.6,SNR=22						
FITZ	**Fitzroy Crossi**	**30.62**	**243**	P	**P**	**11 11 53.5**	**-1.3**
	13nm,0.8s,mb4.7,baz=90,slow=4.7,SNR=6.1						
RPZ	**Rata Peaks**	**40.82**	**161**	P	**P**	**11 13 20.8**	**+0.3**
	10.0nm,0.8s,mb4.5,baz=331,slow=4.3,SNR=6.4						
KSM	**Kuching**	**44.44**	**278**	*e*P	**P**	**11 13 49.9**	**-0.5**
SONM	**Songino Array**	**67.71**	**327**	P	**P**	**11 16 36.0**	**+0.6**
	0.5nm,0.6s,mb3.4,baz=158,slow=7.8,SNR=2.7						
VNDA	**Vanda**	**72.06**	**178**	P	**P**	**11 17 01.9**	**+0.6**
	2.4nm,0.8s,mb4.0,baz=319,slow=6.1,SNR=12						
VNDA	**Vanda**	**72.06**	**178**	*e*P	**P**	**11 17 01.1**	**-0.1**
	2.4nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**81.82**	**319**	P	**P**	**11 17 55.9**	**+0.1**
	0.5nm,0.7s,mb3.2,baz=104,slow=5.0,SNR=3.6						
ILAR	**Eielson Array**	**82.28**	**22**	P	**P**	**11 17 57.6**	**-0.1**
	0.5nm,0.7s,mb3.3,baz=244,slow=5.5,SNR=10						
MAW	**Mawson**	**85.47**	**203**	P	**P**	**11 18 14.3**	**+0.6**
	3.0nm,0.7s,mb4.2,baz=71,slow=5.3,SNR=11						

*CRAAG **09** 11:25:59.3, 31.68S×69.11W, Mb5.9*
*GUC **09** 11:26:05.2±0.8, 31.65S×69.40W, h149^{km}±10^{km}, ML5.8*
*MOS **09** 11:26:05.7±1.0, 31.69S×69.30W, h111^{km}, mb5.9/35, Error ellipse: s-maj=17.0km s-min=6.4km az=104.2*
*BJI **09** 11:26:06.6, 31.70S×69.10W, h112^{km}, mB5.6*
*IDC **09** 11:26:06.8±0.4, 31.62S×68.98W, h112^{km}±3^{km}, mb5.2/12, mb1 5.4/15, mb1mx5.4/15, mbtmp5.6/15, MS4.6/4, Ms1 4.6/4, ms1mx4.4/13, Error ellipse: s-maj=11.8km s-min=8.5km az=71.0*
*NEIC **09** 11:26:06.6±0.1, 31.68S×69.14W, mb5.8/149, MD5.5(SJA), Error ellipse: s-maj=3.5km s-min=2.7km az=77.0*
NEIC Felt [V] at San Juan and [IV] at Mendoza. Felt in Cordoba, La Rioja, Mendoza and San Juan. Also felt [IV] at Illapel; [III] at Combarbala and Valparaiso; [II] at Santiago, Chile.
ISC 09 11:26:05.6±0.1**, 31.62S**±0.02**×69.14W**±0.03**, h114^{km}**±.7^{km}**: pP-P, n599, σ0^{s}98**/387**, mb5.7**/152**, 33C-163D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.40**	**79**	⇓*i*P	**P**	**11 26 25.1**	**+2.6**
ZON				*e*S	**S**	**11 26 41.8**	**+6.6**
CFAA	**Coronel Fontan**	**0.77**	**89**	P	**P**	**11 26 24.9**	**-0.2**
	1μm,0.3s,baz=266,slow=7.0						
CFAA				S	**S**	**11 26 39.5**	**-0.3**
	baz=133,slow=19						
MDZ	**Mendoza**	**1.28**	**169**	⇓*i*P	**P**	**11 26 30.1**	**-0.5**
MDZ				*i*		11 26 31.3	
MDZ				*i* S	**S**	**11 26 46.1**	**-3.2**
CMCH	**Combarbala**	**1.65**	**285**	⇓*i*P	**P**	**11 26 35.0**	**+0.1**
CMCH				*i* S	**S**	**11 26 57.3**	**+0.3**
CMCH				AMP		11 27 00.5	
	comp=E,721μm,0.6s						
ILCH	**Illapel**	**1.73**	**269**	⇓*i*P	**P**	**11 26 35.3**	**-0.6**
ILCH				*i* S	**S**	**11 26 57.7**	**-1.0**
ILCH				AMP		11 27 01.4	
	comp=N,119μm,0.7s						
FCH	**Farellones**	**1.96**	**209**	⇑*i*P	**P**	**11 26 39.4**	**+0.7**
FCH				*i* S	**S**	**11 27 05.8**	**+2.2**
FCH				AMP		11 27 12.6	
	comp=E,30μm,0.7s						
CHNG	**Los Chungos**	**2.03**	**262**	⇑*i*P	**P**	**11 26 38.2**	**-1.4**
CHNG				*i* S	**S**	**11 27 03.6**	**-1.5**
CHNG				AMP		11 27 12.7	
	comp=E,49μm,0.3s						
OVCH	**Ovalle**	**2.04**	**299**	*e*P	**P**	**11 26 39.3**	**-0.5**
OVCH				*i* S	**S**	**11 27 04.8**	**-0.6**
OVCH				AMP		11 27 27.7	
	comp=N,37μm,0.8s						
TLL	**Tololo Astrono**	**2.04**	**315**	⇑*i*P	**P**	**11 26 40.5**	**+0.8**
TLL				*i* S	**S**	**11 27 06.2**	**+0.8**
TLL				AMP		11 27 18.8	
	comp=N,67μm,0.3s						
CLCH	**Cerro Calan**	**2.12**	**213**	⇑*i*P	**P**	**11 26 40.9**	**0.0**
CLCH				*i* S	**S**	**11 27 07.7**	**+0.3**
CLCH				AMP		11 27 20.9	
	comp=E,62μm,0.5s						
CLCH				AMP		11 27 21.6	
	comp=E,74μm,0.4s						
DSCH	**Colegio Aleman**	**2.14**	**214**	⇓*i*P	**P**	**11 26 41.1**	**0.0**
DSCH				*i* S	**S**	**11 27 07.8**	**-0.1**
DSCH				AMP		11 27 17.2	
	comp=N,48μm,0.8s						
PCH	**Pirque**	**2.30**	**210**	⇓*i*P	**P**	**11 26 43.0**	**-0.3**
RCDM	**Rinconada Maip**	**2.33**	**217**	*e*P	**P**	**11 26 43.1**	**-0.6**
LSCH	**La Serena**	**2.49**	**313**	⇑*i*P	**P**	**11 26 45.1**	**-0.8**
LSCH				*i* S	**S**	**11 27 14.2**	**-2.0**
TACH	**Talagante**	**2.53**	**216**	⇓*i*P	**P**	**11 26 45.1**	**-1.2**
IHA	**Instituto Hidr**	**2.54**	**236**	⇑*i*P	**P**	**11 26 44.3**	**-2.1**
CHCH	**Chadas Angostu**	**2.63**	**209**	⇓*i*P	**P**	**11 26 47.1**	**-0.7**
CACH	**El Canelo**	**2.77**	**206**	⇑*i*P	**P**	**11 26 49.4**	**-0.3**
VACH	**Vallenar**	**3.35**	**335**	⇑*i*P	**P**	**11 26 56.7**	**-0.6**
VACH				AMP		11 27 36.9	
	comp=N,51μm,0.6s						
CPCH	**Copiapo**	**4.38**	**346**	*e*P	**P**	**11 27 10.8**	**-0.5**
CRCH	**Chaqaral**	**5.42**	**346**	*e*P	**P**	**11 27 23.8**	**-1.6**
CPN1	**Cerro Paranal**	**7.06**	**351**	*e*P	**P**	**11 27 44.3**	**-3.5**
TRQA	**Tornquist**	**8.71**	**139**	⇑*i*Pn	**P**	**11 28 07.8**	**-2.3**
	comp=N,8μm,1.3s						
LVC	**Limon Verde**	**8.98**	**1**	P	**P**	**11 28 10.6**	**-3.1**
	comp=N,30nm,0.3s,baz=182,slow=9.0,SNR=171						
LVC				S	**S**	**11 29 50.7**	**-2.9**
	comp=N,43nm,0.3s,baz=17,slow=19,SNR=2.9						
LVC				LR	LR	11 31 22.8	
	comp=N,95nm,21.5s,baz=335,slow=35						
LVC	**Limon Verde**	**8.98**	**1**	⇑*i*P	**P**	**11 28 10.2**	**-3.5**
LVC	**Limon Verde**	**8.98**	**1**	*e*Pn	**P**	**11 28 10.2**	**-3.5**
	comp=N,296nm,0.7s						
PLCA	**Paso Flores**	**9.16**	**187**	P	**P**	**11 28 13.2**	**-2.9**
	comp=N,3.0nm,0.3s,baz=0.1,slow=13,SNR=73						
PLCA	**Paso Flores**	**9.16**	**187**	*e*Pn	**P**	**11 28 12.9**	**-3.2**
	comp=N,0.9nm,0.3s						
PLCA	**Paso Flores**	**9.16**	**187**	*e*P	**P**	**11 28 12.9**	**-3.2**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPA	**La Plata**	**9.94**	**112**	α*i*P	**P**	**11 28 24.0**	**-2.5**
	comp=Z,5μm,1.0s						
LPA				*e*sP		11 28 53.0	
LPA				*e*S	**S**	**11 30 12.0**	**-4.7**
CPUP	**Villa Florida**	**11.61**	**66**	P	**P**	**11 28 45.5**	**-3.2**
	comp=Z,8.0nm,0.3s,baz=262,slow=15,SNR=367						
CPUP				LR	LR	11 33 37.7	
	comp=Z,4μm,18.6s,baz=266,slow=39						
CPUP	**Villa Florida**	**11.61**	**66**	*e*Pn	**P**	**11 28 44.9**	**-3.8**
	comp=Z,4.1nm,1.0s						
CPUP	**Villa Florida**	**11.61**	**66**	*e*P	**P**	**11 28 44.9**	**-3.8**
CPUP				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARE	**Arequipa**	**15.24**	**351**	⇑*i*P	**P**	**11 29 37.0**	**+1.1**
LPAZ	**La Paz**	**15.29**	**4**	P	**P**	**11 29 37.7**	**+1.2**
	comp=Z,3.9nm,0.3s,baz=176,slow=9.1,SNR=381						
LPAZ				S	**S**	**11 32 32.9**	**+10**
	comp=Z,0.4nm,0.3s,baz=225,slow=18,SNR=1.4						
LPAZ				LR	LR	11 36 30.9	
	comp=Z,617nm,21.9s,baz=330,slow=41						
LPAZ	**La Paz**	**15.29**	**4**	⇑*i*Pn	**P**	**11 29 37.5**	**+0.9**
	comp=Z,233nm,1.4s						
LPAZ				*e*S	**S**	**11 32 39.3**	**+16**
LPAZ	**La Paz**	**15.29**	**4**	⇑*i*P	**P**	**11 29 37.5**	**+1.0**
LPAZ				pmax	pmax		
	comp=Z,233nm,1.4s						
SIV	**San Ignacio**	**17.21**	**27**	P	**P**	**11 29 57.4**	**-3.0**
	comp=Z,5.6nm,0.3s,baz=219,slow=14,SNR=93						
NNA	**Nana**	**20.79**	**338**	⇑*i*P	**P**	**11 30 39.3**	**-0.2**
	comp=Z,172nm,1.0s						
NNA				*e*PcP	PcP	11 34 44.0	-0.7
EFI	**East Falkland**	**21.63**	**161**	*e*P	**P**	**11 30 44.9**	**-2.7**
	comp=Z,322nm,0.9s,mb5.7						
EFI				*e*PcP	PcP	11 34 45.6	-0.5
EFI	**East Falkland**	**21.63**	**161**	P	**P**	**11 30 45.4**	**-2.2**
EFI				pmax	pmax		
	comp=Z,320nm,1.0s,mb5.6						
USHA	**Ushuaia**	**23.20**	**179**	P	**P**	**11 31 03.0**	**+0.3**
	comp=Z,286nm,0.7s,mb5.7,baz=340,slow=8.4,SNR=278						
USHA				S	**S**	**11 35 08.4**	**+6.0**
	comp=Z,5.7nm,0.7s,baz=319,slow=19,SNR=3.7						
SAML	**Samuel**	**23.23**	**15**	⇓*i*P	**P**	**11 31 03.9**	**+0.4**
	comp=Z,18nm,1.4s						
SAML				*e*PcP	PcP	11 34 49.0	-0.7
CAM4	**Nova Friburgo**	**25.36**	**75**	*e*P	**P**	**11 31 25.5**	**+1.7**
CAM4				*i*		11 31 28.9	
CAM4				*i*		11 31 35.7	
CAM4				*i*	pP	11 31 53.7	+5.6
PMSA	**Palmer Station**	**33.32**	**176**	*e*P	**P**	**11 32 33.7**	**-0.6**
	comp=Z,502nm,2.1s,mb6.0						
PMSA				*e*PcP	PcP	11 35 12.6	-1.2
ROSC	**El Rosal**	**36.61**	**351**	P	**P**	**11 33 04.5**	**+1.9**
	comp=Z,29nm,0.7s,mb5.3,baz=99,slow=23,SNR=25						
SDV	**Santo Domingo**	**40.30**	**358**	⇓*i*P	**P**	**11 33 32.4**	**-1.0**
	comp=Z,144nm,1.0s,mb5.8						
SDV				*e*PcP	PcP	11 35 34.6	-0.8
RCBR	**Riachuelo**	**40.32**	**57**	⇓*i*P	**P**	**11 33 33.4**	**0.0**
	comp=Z,391nm,1.4s,mb6.0						
RCBR				*e*pP	pP	11 33 53.6	-6.0
TPP	**Pointe-a-Pierr**	**42.35**	**11**	*e*	**P**	**11 33 52.2**	**+2.1**
TBH	**Brigand Hill**	**42.58**	**12**	*e*	**P**	**11 33 53.1**	**+1.1**
TRN	**Trinidad (W)**	**42.68**	**11**	*e*	**P**	**11 33 51.6**	**-1.3**
BOT	**Bacolet**	**43.30**	**12**	*e*	**P**	**11 33 58.6**	**+0.7**
TPR	**Prospect**	**43.31**	**12**	*e*	**P**	**11 33 53.4**	**-4.6**
GRW	**Mount Saint Ca**	**44.12**	**11**	*e*P	**P**	**11 34 04.9**	**+0.4**
MVM	**Montagne Vaucl**	**46.59**	**11**	⇓*e*P	**P**	**11 34 22.3**	**-1.8**
FDF	**Fort de France**	**46.72**	**11**	⇓*e*P	**P**	**11 34 23.1**	**-2.0**
CRM	**Caravelle**	**46.78**	**11**	⇓*e*P	**P**	**11 34 23.5**	**-2.1**
CPD	**Cerro la Pandu**	**49.47**	**4**	⇓*i*P	**P**	**11 34 44.2**	**-2.3**
CPD				*e*pP	pP	11 35 09.6	-3.7
CPD				*e*PcP	PcP	11 36 02.2	-4.9
CPD				*e*PP	PP	11 36 40.9	-1.2
CPD				*e*S	**S**	**11 41 45.6**	**+2.0**
SJG	**San Juan**	**49.53**	**4**	⇓*i*P	**P**	**11 34 44.6**	**-2.3**
	comp=Z,366nm,1.1s,mb6.2						
SJG				*e*	pP	11 35 08.9	-4.8
SJG				*e*PP	PP	11 36 41.4	-1.3
SJG	**San Juan**	**49.53**	**4**	⇓*i*P	**P**	**11 34 44.6**	**-2.3**
SJG				*e*	pP	11 35 08.9	-4.9
SJG				*e*		11 36 41.4	
SJG				pmax	pmax		
	comp=Z,366nm,1.1s						
MTP	**Monte Pirata**	**49.55**	**4**	⇓*i*P	**P**	**11 34 44.4**	**-2.6**
MTP				*e*	pP	11 35 10.7	-3.2
PCJ	**Portland Cotta**	**49.68**	**350**	⇑*i*P	**P**	**11 34 47.9**	**-0.1**
GWJ	**Greenwich**	**49.95**	**351**	⇑*i*P	**P**	**11 34 50.0**	**-0.1**
STH	**Stony Hill**	**49.96**	**350**	⇑*i*P	**P**	**11 34 50.1**	**0.0**
VNA3	**Neumayer Olymp**	**50.66**	**159**	⇓*i*P	**P**	**11 34 53.9**	**-0.9**
VNA3				*e*		11 35 13.7	
VNA3				*e*	pP	11 35 21.9	+0.1
VNA3				*e*		11 35 36.6	
VNA3				*e*		11 36 08.7	
VNA3				*e*		11 36 52.9	
VNA3				*e*		11 40 00.8	
VNA3				*e*		11 40 11.8	
VNA3				*e*S	**S**	**11 42 01.7**	**+2.3**
VNA3				*e*		11 42 28.0	
VNA1	**Neumayer--Stat**	**50.93**	**158**	⇓*i*P	**P**	**11 34 56.5**	**-0.3**
VNA1				*e*		11 35 15.1	
VNA1				*e*	pP	11 35 24.9	+1.1
VNA1				*e*		11 35 39.7	
VNA1				*e*		11 36 13.9	
VNA1				*e*		11 39 59.3	
VNA1				*e*S	**S**	**11 42 15.4**	**+12**
VNA1				*e*		11 42 35.7	
VNA2	**Neumayer--Watz**	**51.28**	**158**	⇓*i*P	**P**	**11 34 58.8**	**-0.7**
VNA2				*e*		11 35 17.5	
VNA2				*e*	pP	11 35 26.8	+0.3
VNA2				*e*		11 35 41.4	
VNA2				*e*		11 36 11.1	
VNA2				*e*		11 36 55.3	
VNA2				*e*		11 40 06.1	
VNA2				*e*		11 40 16.6	
VNA2				*e*S	**S**	**11 42 12.3**	**+4.4**
VNA2				*e*		11 42 33.2	
RCC	**Rio Carpintero**	**51.70**	**352**	*e*P	**P**	**11 35 01.9**	**-1.5**
LMGC	**Las Mercedes**	**51.94**	**351**	*e*P	**P**	**11 35 02.8**	**-2.3**
CCIG	**Comitan**	**52.50**	**332**	*i* P	**P**	**11 35 08.6**	**-0.7**
HLGC	**Holguin**	**52.63**	**352**	*e*P	**P**	**11 35 10.7**	**+0.5**
SNAA	**Sanae**	**52.88**	**159**	⇓*i*	**P**	**11 35 10.5**	**-1.0**
SNAA	**Sanae**	**52.88**	**159**	*e*	pP	11 35 29.9	-8.8
SNAA	**Sanae**	**52.88**	**159**	*e*	pP	11 35 39.8	+1.1
SNAA	**Sanae**	**52.88**	**159**	*e*	sP	11 35 52.8	+1.6
SNAA	**Sanae**	**52.88**	**159**	*e*S	**S**	**11 42 31.0**	**+1.3**
SNAA	**Sanae**	**52.88**	**159**	P	**P**	**11 35 10.4**	**-1.1**
	comp=Z,61nm,1.0s,mb5.6,baz=282,slow=5.4,SNR=468						
SNAA				S	**S**	**11 42 30.9**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=314,slow=18,SNR=5.7						
SNAA				PKPPKP		12 05 21.9	
	comp=Z,0.9nm,1.0s,baz=95,slow=6.5,SNR=3.4						
SNAA	**Sanae**	**52.88**	**159**	⇓*i*P	**P**	**11 35 10.5**	**-1.0**
SNAA				*e*		11 35 29.9	
SNAA				*e*	pP	11 35 39.8	+1.1
SNAA				*e*		11 35 52.8	
SNAA				*e*		11 36 18.7	
SNAA				*e*		11 36 59.6	
SNAA				*e*		11 39 59.0	
SNAA				*e*		11 40 10.5	
SNAA				*e*S	**S**	**11 42 31.0**	**+1.3**
SNAA				*e*		11 42 46.5	
SNAA				*e*		11 57 15.9	
SNAA	**Sanae**	**52.88**	**159**	⇓*i*P	**P**	**11 35 10.5**	**-1.0**
SNAA				*e*	pP	11 35 39.8	+1.1
SNAA				*e*		11 35 52.8	
SNAA				*e*		11 36 18.7	
SNAA				*e*S	**S**	**11 42 31.0**	**+1.3**
SNAA				*e*		11 42 46.5	
HUIG	**Huatulco**	**53.76**	**327**	*i* P	**P**	**11 35 18.6**	**0.0**
CMIG	**Matias Romero**	**54.37**	**329**	*i* P	**P**	**11 35 22.5**	**-0.6**
VHO	**Vista Hermosa**	**55.19**	**327**	*i* P	**P**	**11 35 29.9**	**+0.9**
SOR	**Soroa**	**55.71**	**344**	*e*P	**P**	**11 35 31.1**	**-1.7**
CAIG	**El Cayaco**	**56.87**	**324**	*i* P	**P**	**11 35 41.0**	**0.0**
MAIT	**Maitri**	**57.51**	**157**	*e*P	**P**	**11 35 43.8**	**-1.0**
MAIT	**Maitri**	**57.51**	**157**	*e*P	**P**	**11 35 43.4**	**-1.4**
MAIT				*e*		11 36 23.6	
NVL	**N'lazarevskaya**	**57.55**	**157**	*e*P	**P**	**11 35 41.0**	**-4.0**
NVL				*e**PP	pP	11 36 10.5	-2.2
NVL				*e*		11 36 24.7	
NVL				*e*		11 37 55.8	
NVL				*e*PPP	PPP	11 39 19.7	+2.1
NVL				*e*S	**S**	**11 43 33.9**	**+2.1**
NVL				*e*		11 45 22.5	
NVL				*e*SS	SS	11 47 23.6	-1.4
NVL				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.0						
NVL				MLR	MLR		
	comp=Z,38nm,15.5s						
QSPA	**South Pole Qui**	**58.61**	**180**	*e*P	**P**	**11 35 52.1**	**-0.3**
	comp=Z,606nm,1.5s,mb6.4						
MOIG	**Morelia**	**59.55**	**325**	*i* P	**P**	**11 36 00.3**	**+0.6**
DWPF	**Disney**	**60.54**	**348**	*e*P	**P**	**11 36 05.0**	**-1.3**
	comp=Z,505nm,1.5s,mb6.3						
DWPF				*e*PcP	PcP	11 36 49.7	+0.3
CJM	**Chamela**	**61.40**	**321**	*i* P	**P**	**11 36 12.2**	**+0.1**
NHSC	**New Hope**	**65.22**	**350**	*e*P	**P**	**11 36 36.5**	**-0.7**
	comp=Z,967nm,1.1s,mb6.5						
NHSC				*e*PcP	PcP	11 37 05.8	-2.6
SBA	**Scott Base**	**65.88**	**191**	⇓*i*P	**P**	**11 36 40.9**	**+0.2**
	comp=Z,253nm,1.7s,mb5.8						
SBA				*e*pP	pP	11 37 08.5	-0.5
SBA	**Scott Base**	**65.88**	**191**	⇓*i*P	**P**	**11 36 40.9**	**+0.2**
SBA				*e**PP	pP	11 37 08.5	-0.5
SBA				pmax	pmax		
	comp=Z,253nm,1.7s,mb5.8						
GOGA	**Godfrey**	**66.08**	**347**	⇓*i*P	**P**	**11 36 41.1**	**-1.5**
	comp=Z,408nm,1.4s,mb6.1						
GOGA				*e*PcP	PcP	11 37 10.2	-1.7
GOGA	**Godfrey**	**66.08**	**347**	⇓*i*P	**P**	**11 36 41.2**	**-1.5**
GOGA				*e*	pP	11 37 10.2	-0.8
GOGA				pmax	pmax		
	comp=Z,408nm,1.4s,mb6.1						
LRAL	**Lakeview Retre**	**66.48**	**344**	⇓*i*P	**P**	**11 36 43.8**	**-1.5**
	comp=Z,287nm,1.4s,mb5.9						
VNDA	**Vanda**	**66.89**	**191**	P	**P**	**11 36 47.2**	**+0.1**
	comp=Z,21nm,0.9s,mb5.0,baz=138,slow=5.1,SNR=88						
VNDA	**Vanda**	**66.89**	**191**	⇓*i*P	**P**	**11 36 47.3**	**+0.2**
	comp=Z,156nm,1.5s,mb5.6						
VNDA	**Vanda**	**66.89**	**191**	⇓*i*P	**P**	**11 36 47.3**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,156nm,1.5s						
SYO	**Syowa Base**	**67.17**	**158**	⇑P	**P**	**11 36 46.1**	**-2.8**
SYO	**Syowa Base**	**67.17**	**158**	⇓sP	sP	11 37 26.6	-3.1
NATX	**Nacogdoches**	**67.51**	**337**	⇓*i*P	**P**	**11 36 51.9**	**+0.2**
	comp=Z,342nm,1.0s,mb6.1						
NATX				*e*	pP	11 37 19.2	-0.9
MYNC	**Murphy**	**67.82**	**347**	⇓*i*P	**P**	**11 36 52.6**	**-0.9**
	comp=Z,408nm,1.2s,mb6.1						
MYNC				*e*	pP	11 37 21.0	-1.0
MYNC	**Murphy**	**67.82**	**347**	P	**P**	**11 36 52.7**	**-0.8**
MYNC				pmax	pmax		
	comp=Z,410nm,1.1s,mb6.2						
SWET	**Sewanee**	**68.33**	**345**	⇓*i*P	**P**	**11 36 54.7**	**-2.0**
SWET				*e*	pP	11 37 22.8	-2.3
OXF	**Oxford**	**68.50**	**342**	⇓*i*P	**P**	**11 36 56.5**	**-1.2**
	comp=Z,676nm,1.1s,mb6.4						
OXF	**Oxford**	**68.50**	**342**	⇓*i*P	**P**	**11 36 56.5**	**-1.2**
OXF				pmax	pmax		
	comp=Z,676nm,1.1s,mb6.4						
PLAL	**Pickwick Lake**	**68.60**	**343**	⇓*i*P	**P**	**11 36 57.0**	**-1.4**
	comp=Z,303nm,1.3s,mb6.0						

LTX Lajitas 68.94 328 ⇓*iP* **P 11 37 00.5 0.0**
comp=Z,62nm,0.9s,mb5.4
LTX Lajitas 68.94 328 ⇓*iP* **P 11 37 00.5 0.0**
LTX pmax pmax
comp=Z,62nm,0.9s,mb5.4
TXAR Lajitas Array 68.94 328 P **P 11 37 00.4 -0.1**
comp=Z,31nm,0.6s,mb5.3,baz=165,slow=8.0,SNR=273
TXAR pP pP 11 37 28.6 -0.4
comp=Z,18nm,0.9s,baz=149,slow=7.3,SNR=3.0
TXAR S S 11 45 57.8 +3.6
comp=Z,0.1nm,0.6s,baz=169,slow=9.2,SNR=2.5
TXAR PKPPKP 12 05 06.3
comp=Z,1.6nm,0.9s,baz=270,slow=1.3,SNR=10
TXAR Lajitas Array 68.94 328 P **P 11 37 00.4 -0.1**
TXAR pP pP 11 37 28.6 -0.4
TXAR S S 11 45 57.8 +3.6
TXAR P'P' 12 05 06.3
TZTN Tazewell 69.14 348 *eP* **P 11 37 00.2 -1.4**
MET Memphis--Engin 69.21 342 ⇓*iP* **P 11 37 01.4 -0.7**
BLA Blacksburg 69.28 350 ⇓*iP* **P 11 37 01.8 -0.7**
comp=Z,83nm,0.9s,mb5.6
BLA Blacksburg 69.28 350 ⇓*iP* **P 11 37 01.8 -0.7**
BLA pmax pmax
comp=Z,83nm,0.9s,mb5.6
ELN Prospectdale 69.35 350 *eP* **P 11 37 02.2 -0.7**
WVT Waverly 69.64 344 ⇓*iP* **P 11 37 03.3 -1.4**
comp=Z,1µm,1.1s,mb6.6
WVT *e* pP 11 37 32.0 -1.2
WVT Waverly 69.64 344 ⇓*iP* **P 11 37 03.3 -1.4**
WVT *e* pP 11 37 32.1 -1.1
WVT pmax pmax
comp=Z,1µm,1.1s,mb6.6
FWV Forest Hill 69.70 350 *eP* **P 11 37 03.6 -1.4**
HALT Halls 69.80 343 ⇓*iP* **P 11 37 04.9 -0.8**
HBAR Harrisburg 69.81 341 ⇓*iP* **P 11 37 05.3 -0.4**
CBN Corbin 69.89 353 ⇓*iP* **P 11 37 06.0 -0.1**
comp=Z,199nm,0.9s,mb5.9
GNAR Gosnell 70.03 342 ⇓*iP* **P 11 37 06.7 -0.3**
GNAR *ep*P pP 11 37 35.0 -0.7
GNAR *es*P sP 11 37 45.5 -2.4
UTMT University of 70.09 343 ⇓*iP* **P 11 37 06.9 -0.5**
comp=Z,2µm,1.1s
GLAT Glass 70.13 343 ⇓*iP* **P 11 37 07.2 -0.5**
TBI Tubuai 70.28 254 *eP* **P 11 37 08.9 +0.2**
comp=Z,163nm,1.1s,mb5.8
TBI Tubuai 70.28 254 *e*LR LR 11 58 41.4
comp=Z,3µm,36.8s
PARMO Parma 70.62 343 ⇓*iP* **P 11 37 10.3 -0.3**
PARMO *ep*P pP 11 37 38.4 -0.9
WCI Wyandotte Cave 71.31 346 ⇓*iP* **P 11 37 13.1 -1.6**
comp=Z,216nm,0.9s,mb6.0
WCI Wyandotte Cave 71.31 346 P **P 11 37 13.3 -1.4**
WCI pmax pmax
comp=Z,220nm,1.0s,mb5.9
SIUC Southern Illin 71.48 343 *eP* **P 11 37 14.6 -1.1**
comp=Z,108nm,0.8s,mb5.7
SIUC *ep*P pP 11 37 42.5 -1.9
MCWV Mont Chateau 71.61 351 ⇓*iP* **P 11 37 15.9 -0.5**
comp=Z,378nm,1.2s,mb6.1
WMOK Wichita Mounta 71.66 335 ⇓*iP* **P 11 37 15.7 -1.2**
comp=Z,373nm,1.8s,mb5.9
WMOK *ep*P pP 11 37 44.6 -1.0
WMOK Wichita Mounta 71.66 335 P **P 11 37 15.6 -1.2**
WMOK pmax pmax
comp=Z,370nm,1.7s,mb5.9
MNTX Cornudas Mount 71.72 328 ⇓*iP* **P 11 37 16.1 -1.1**
comp=Z,117nm,1.0s,mb5.7
MNTX *ep*P pP 11 37 44.0 -2.0
DBIC Dimbokro 72.09 70 P **P 11 37 19.1 -0.7**
comp=Z,155nm,0.7s,mb5.9,baz=209,slow=6.4,SNR=149
DBIC pP pP 11 37 47.0 -1.6
comp=Z,36nm,0.8s,baz=202,slow=5.1,SNR=3.5
DBIC LR LR 12 05 14.0
comp=Z,935nm,21.9s,baz=197,slow=33
DBIC Dimbokro 72.09 70 ⇓*iP* **P 11 37 19.0 -0.7**
comp=Z,209nm,0.9s,mb6.0
DBIC *ep*P pP 11 37 47.0 -1.5
DBIC Dimbokro 72.09 70 P **P 11 37 18.9 -0.8**
DBIC pmax pmax
comp=Z,210nm,0.9s
BRNJ Basking Ridge 72.12 356 *eP* **P 11 37 20.2 +0.8**
BLO Bloomington 72.27 346 ⇓*iP* **P 11 37 18.9 -1.4**
comp=Z,150nm,0.8s,mb5.9
BLO *ep*P pP 11 37 47.2 -1.9
BLO Bloomington 72.27 346 *eP* **P 11 37 19.0 -1.3**
BLO *e* pP 11 37 47.7 -1.4
BLO pmax pmax
comp=Z,150nm,0.9s,mb5.8
CCM Cathedral Cave 72.32 342 ⇓*iP* **P 11 37 20.0 -0.7**
comp=Z,583nm,1.2s,mb6.3
CCM Cathedral Cave 72.32 342 P **P 11 37 20.0 -0.7**
CCM pmax pmax
comp=Z,580nm,1.2s,mb6.3
PAL Palisades 72.40 356 *eP* **P 11 37 20.4 -0.6**
comp=Z,44nm,1.0s,mb5.2
PAL Palisades 72.40 356 P **P 11 37 21.0 -0.1**
PAL pmax pmax
comp=Z,44nm,1.0s,mb5.2
SLM Saint Louis 72.61 343 *eP* **P 11 37 21.3 -1.0**
comp=Z,348nm,1.1s,mb6.1
SLM Saint Louis 72.61 343 P **P 11 37 21.5 -0.8**
SLM pmax pmax
comp=Z,350nm,1.1s,mb6.1
ACSO Alum Creek Sta 72.64 349 ⇓*iP* **P 11 37 21.5 -1.0**
comp=Z,285nm,1.0s,mb6.1
ACSO *ep*P pP 11 37 49.8 -1.5
TVO Taravao 72.66 260 *eP* **P 11 37 23.6 +0.6**
comp=Z,399nm,1.4s,mb6.0
PMOR Pomariorio Ree 72.84 263 *eP* **P 11 37 24.3 +0.2**
comp=Z,85nm,1.4s,mb5.4
PAE Paea 73.00 259 *eP* **P 11 37 25.5 +0.5**
comp=Z,234nm,1.3s,mb5.9
PAE *ep*P pP 11 37 57.5 +3.7
comp=Z,140nm,1.1s
PPT Papeete 73.04 260 *eP* **P 11 37 25.8 +0.6**
comp=Z,145nm,1.5s,mb5.6
PPT Papeete 73.04 260 *e*LR LR 11 59 57.0
comp=Z,1µm,29.2s
PPT Papeete 73.04 260 P **P 11 37 25.8 +0.6**
comp=Z,28nm,0.5s,mb5.3,baz=80,slow=6.5,SNR=11
PPT pP pP 11 37 55.6 +1.5
comp=Z,57nm,0.9s,baz=213,slow=18,SNR=4.7
QUA2 Belchertown 73.60 358 ⇓*iP* **P 11 37 27.8 -0.2**
comp=Z,231nm,1.2s,mb5.8
ALLY Alegheny Colle 73.61 351 ⇓*iP* **P 11 37 27.4 -0.7**
WES Weston 73.67 358 ⇓*iP* **P 11 37 28.5 0.0**
comp=Z,234nm,1.3s,mb5.8
WES Weston 73.67 358 P **P 11 37 28.9 +0.5**
WES pmax pmax
comp=Z,230nm,1.2s,mb5.8
BINY Binghamton 73.73 355 ⇓*iP* **P 11 37 28.8 0.0**
comp=Z,197nm,1.2s,mb5.7
HRV Harvard--Oak R 73.80 358 ⇓*iP* **P 11 37 29.0 -0.2**
comp=Z,185nm,1.0s,mb5.8
HRV *ep*P pP 11 37 58.0 -0.1
HRV Harvard--Oak R 73.80 358 P **P 11 37 29.5 +0.3**
HRV pmax pmax
comp=Z,180nm,1.0s,mb5.8
SUR Sutherland 73.82 118 ⇓*iP* **P 11 37 30.2 +0.7**
comp=Z,232nm,1.0s,mb5.9
SUR *ep*P pP 11 37 58.1 -0.3
MAW Mawson 74.74 163 ⇓*iP* **P 11 37 33.7 -0.4**
comp=Z,35nm,0.4s,mb5.4
MAW Mawson 74.74 163 P **P 11 37 33.8 -0.3**
comp=Z,57nm,0.5s,mb5.5,baz=219,slow=6.8,SNR=246
MAW pP pP 11 38 02.7 -0.4
comp=Z,43nm,0.8s,baz=236,slow=9.1,SNR=4.7
MAW PKPPKP 12 04 56.7
comp=Z,2.3nm,0.9s,baz=353,slow=6.0,SNR=4.4
MAW Mawson 74.74 163 P **P 11 37 33.9 -0.2**
MAW pmax pmax
comp=Z,230nm,1.0s
ACCN Adirondack Com 74.76 357 ⇓*iP* **P 11 37 34.6 -0.1**
TUC Tucson 74.79 324 ⇓*iP* **P 11 37 35.3 +0.2**
comp=Z,74nm,1.4s,mb5.2
TUC Tucson 74.79 324 P **P 11 37 34.8 -0.3**
TUC pmax pmax
comp=Z,74nm,1.4s,mb5.2
KSU1 Kansas State U 74.86 338 ⇓*iP* **P 11 37 34.6 -0.8**
ANMO Albuquerque 74.94 329 ⇓*iP* **P 11 37 36.7 +0.8**
comp=Z,205nm,1.3s,mb5.7
ANMO *ep*P pP 11 38 03.9 -1.1
ANMO Albuquerque 74.94 329 P **P 11 37 36.8 +0.9**
ANMO pmax pmax
comp=Z,200nm,1.2s
HNH Hanover 75.02 358 ⇓*iP* **P 11 37 36.8 +0.7**
comp=Z,28nm,1.2s,mb4.9
HNH *es*P sP 11 38 16.9 -0.7
MIV Mineville/With 75.44 357 *eP* **P 11 37 38.2 -0.4**
LBNH Lisbon 75.54 358 ⇓*iP* **P 11 37 39.3 +0.2**
comp=Z,181nm,1.0s,mb5.8
LBNH *ep*P pP 11 38 09.1 +0.9
LBNH *es*P sP 11 38 19.7 -0.9
LBNH Lisbon 75.54 358 P **P 11 37 39.6 +0.5**
LBNH pmax pmax
comp=Z,180nm,1.0s,mb5.8
CBKS Cedar Bluff 75.64 336 ⇓*iP* **P 11 37 40.0 +0.2**
comp=Z,560nm,1.2s,mb6.2
CBKS *ep*P pP 11 38 08.8 0.0
CBKS Cedar Bluff 75.64 336 P **P 11 37 40.3 +0.5**
CBKS pmax pmax
comp=Z,560nm,1.2s,mb6.2
WVL Waterville 75.82 360 ⇓*iP* **P 11 37 41.4 +0.7**
comp=Z,678nm,1.2s,mb6.2
EMMW East Machias 75.98 1 ⇓*iP* **P 11 37 42.0 +0.4**
comp=Z,1µm,1.1s,mb6.6
EMMW *ep*P pP 11 38 10.4 -0.3
MSNY Massena 76.43 356 *eP* **P 11 37 43.9 -0.2**
MSNY *ep*P pP 11 38 13.3 +0.1
MSNY *es*P sP 11 38 24.5 -1.2
CHIE El Hierro 76.55 45 P **P 11 37 45.4 +0.2**
comp=Z,73nm,1.0s,mb5.4
SDCO Great Sand Dun 76.91 331 ⇓*iP* **P 11 37 47.8 +0.9**
comp=Z,187nm,1.3s,mb5.7
SDCO *ep*P pP 11 38 16.7 +0.6
EGOM La Gomera 77.32 45 P **P 11 37 47.8 -1.6**
comp=Z,88nm,0.9s,mb5.5
TSUM Tsumeb 77.49 105 ⇓*iP* **P 11 37 50.7 +0.2**
comp=Z,245nm,1.1s,mb5.8
CCAN Las Canadas 77.73 46 P **P 11 37 52.3 +0.6**
comp=Z,56nm,0.9s,mb5.3
PQI Presque Isle 77.94 1 ⇓*iP* **P 11 37 52.7 +0.3**
comp=Z,782nm,1.1s,mb6.3
PQI *ep*P pP 11 38 21.8 +0.1
BAR Barrett 78.15 321 ⇓*iP* **P 11 37 54.7 +0.8**
BAR *ep*P pP 11 38 24.4 +1.4
BAR *es*P sP 11 38 35.6 0.0
EOSO Osorio 78.28 47 P **P 11 37 54.0 -0.7**
comp=Z,218nm,1.1s,mb5.8
ISCO Idaho Springs 78.71 332 ⇓*iP* **P 11 37 57.6 +0.9**
comp=Z,276nm,1.5s,mb5.9
ISCO *ep*P pP 11 38 25.6 -0.4
ISCO Idaho Springs 78.71 332 P **P 11 37 57.8 +1.0**
ISCO pmax pmax
comp=Z,280nm,1.4s,mb5.9
SMCO Snowmass 78.73 331 ⇓*iP* **P 11 37 58.3 +1.3**
SMCO *ep*P pP 11 38 26.5 +0.4
PFO Pinyon Flat Ob 78.74 321 ⇓*iP* **P 11 37 58.1 +1.0**
comp=Z,313nm,1.6s,mb5.9
PFO *ep*P pP 11 38 27.6 +1.2
PFO Pinyon Flat Ob 78.74 321 P **P 11 37 58.3 +1.2**
PFO pmax pmax
comp=Z,310nm,1.6s,mb5.9
LDFC Landfair 79.17 323 ⇓*iP* **P 11 38 00.6 +1.2**
CFTV Fuerteventura 79.43 47 P **P 11 37 60.0 -1.0**
comp=Z,65nm,0.8s,mb5.5
NEN Nelson 79.48 324 ⇓*iP* **P 11 38 01.4 +0.3**
PHWY Pilot Hill 79.93 333 ⇓*iP* **P 11 38 04.0 +0.7**
PHWY *ep*P pP 11 38 32.6 -0.1
MWC Mount Wilson 80.07 321 ⇓*iP* **P 11 38 05.2 +0.9**
MWC *ep*P pP 11 38 35.2 +1.6
MWC *es*P sP 11 38 46.6 +0.3
SRU San Rafael 80.20 329 ⇓*iP* **P 11 38 05.2 +0.3**
SRU San Rafael 80.20 329 P **P 11 38 05.3 +0.4**
EFAM Famara 80.28 47 P **P 11 38 06.2 +0.7**
comp=Z,161nm,1.0s,mb5.8
MSU Marysvale 80.47 327 *eP* **P 11 38 07.2 +0.9**
MSU *ep*P pP 11 38 36.6 +1.0
MSU Marysvale 80.47 327 P **P 11 38 07.3 +1.0**
ARUT Antelope Range 80.48 326 *eP* **P 11 38 07.6 +1.2**
ARUT *ep*P pP 11 38 36.2 +0.6
ARUT Antelope Range 80.48 326 P **P 11 38 07.4 +1.0**
TMUT Trail Mountain 80.66 328 ⇓*iP* **P 11 38 08.1 +0.8**
TMUT *ep*P pP 11 38 32.8 -3.8
RWWY Rawlins 80.95 332 ⇓*iP* **P 11 38 09.5 +0.7**
comp=Z,453nm,1.2s,mb6.2
RWWY *ep*P pP 11 38 37.8 -0.4
LBTB Lobatse 81.06 114 ⇓*iP* **P 11 38 09.2 -0.5**
comp=Z,195nm,0.9s,mb5.9
LBTB *ep*P pP 11 38 38.1 -0.9
LBTB Lobatse 81.06 114 *eP* **P 11 38 09.1 -0.6**
LBTB pmax pmax
comp=Z,200nm,0.9s,mb6.0
MIR Mirnyy 81.19 173*c iP* **P 11 38 09.4 -0.1**
MIR pmax pmax
comp=Z,270nm,2.0s,mb5.7
DAC Darwin (Calif) 81.38 322 ⇓*iP* **P 11 38 12.0 +0.8**
comp=Z,518nm,1.9s,mb6.0
DAC *ep*P pP 11 38 40.4 -0.1
MPU Maple Canyon 81.44 328 ⇓*iP* **P 11 38 11.8 +0.5**
MPU *ep*P pP 11 38 42.4 +1.7
NLU North Lily Min 81.58 328 ⇓*iP* **P 11 38 12.8 +0.7**
DAU Daniels Canyon 81.59 329 *eP* **P 11 38 12.8 +0.7**
DAU *ep*P pP 11 38 42.6 +1.1
DAU Daniels Canyon 81.59 329 P **P 11 38 13.0 +0.8**
JLU Jordanelle 81.83 329 ⇓*iP* **P 11 38 13.9 +0.5**
JLU *ep*P pP 11 38 44.5 +1.7
CTU Camp Tracy 82.04 329 ⇓*iP* **P 11 38 14.3 -0.1**
DUG Dugway 82.11 328 ⇓*iP* **P 11 38 15.5 +0.6**
comp=Z,221nm,1.4s,mb5.8
DUG Dugway 82.11 328 P **P 11 38 15.6 +0.7**
DUG pmax pmax
comp=Z,220nm,1.4s,mb5.8
TCUT Toone Canyon 82.23 329 ⇓*iP* **P 11 38 16.0 +0.6**
PTRM Twissleman Ran 82.31 320 *eP* **P 11 38 17.0 +1.1**
CASY Casey 82.41 180 ⇓*iP* **P 11 38 16.0 +0.2**
CASY *ep*P pP 11 38 44.8 -0.5
TPH Tonopah 82.57 324 ⇓*iP* **P 11 38 18.0 +0.8**
comp=Z,196nm,1.4s,mb5.8
TPH Tonopah 82.57 324 P **P 11 38 18.2 +1.0**
TPH pmax pmax
comp=Z,200nm,1.3s,mb5.8
HWUT Hardware Ranch 82.70 329 ⇓*iP* **P 11 38 18.0 +0.2**
comp=Z,287nm,1.5s,mb5.9
MTUM Tungsten Hills 82.71 322 *eP* **P 11 38 18.9 +1.0**
BGU Big Grassy Mou 82.80 328 ⇓*iP* **P 11 38 18.5 +0.1**
BW06 Boulder Array 82.80 331 *eP* **P 11 38 17.5 -0.8**
comp=Z,59µm,1.4s
PDAR Pinedale Array 82.80 331 P **P 11 38 18.2 -0.1**
comp=Z,22nm,0.8s,mb5.0,baz=146,slow=5.3,SNR=130
PDAR pP pP 11 38 47.2 -0.6
comp=Z,12nm,0.8s,baz=124,slow=5.3,SNR=3.9
PDAR PKKPbc 11 56 41.0
comp=Z,2.5nm,0.8s,baz=100,slow=1.2,SNR=11
PDAR tx tx 11 57 10.6
comp=Z,1.6nm,0.8s,baz=5.1,slow=1.4,SNR=7.0
PDAR PKPPKP 12 04 44.8
comp=Z,1.0nm,1.1s,baz=315,slow=2.1,SNR=5.4
PDAR Pinedale Array 82.80 331 P **P 11 38 18.2 -0.1**
PDAR pP pP 11 38 47.2 -0.6
PDAR PKKPbc 11 56 41.0
PDAR P'P' 12 04 44.8
SPUT South Promonto 82.84 329 ⇓*iP* **P 11 38 18.9 +0.3**
LRV Little Rabbit 83.32 320 *eP* **P 11 38 22.8 +1.7**
HVU Hansel Valley 83.37 329 ⇓*iP* **P 11 38 21.2 0.0**
AHID Auburn Hatcher 83.44 330 ⇓*iP* **P 11 38 21.8 +0.3**
comp=Z,325nm,1.6s,mb5.9
ELK Elko 83.67 327 ⇓*iP* **P 11 38 23.1 +0.4**
comp=Z,83nm,1.1s,mb5.5
ELK *e* pP 11 38 54.1 +1.9
ELK Elko 83.67 327 P **P 11 38 23.3 +0.6**
ELK pmax pmax
comp=Z,83nm,1.1s
SAO San Andreas Ge 83.80 320 ⇓*iP* **P 11 38 24.4 +0.9**
comp=Z,60nm,1.3s,mb5.3
SAO San Andreas Ge 83.80 320 P **P 11 38 24.1 +0.6**
SAO pmax pmax
comp=Z,60nm,1.3s,mb5.3
REDW Red Top Meadow 83.83 331 ⇓*iP* **P 11 38 23.7 +0.3**
comp=Z,241nm,1.6s,mb5.8
SNOW Snow King Moun 83.87 331 ⇓*iP* **P 11 38 24.0 +0.3**
comp=Z,132nm,1.3s,mb5.6
SNOW *e* pP 11 38 55.0 +1.9
TPAW Teton Pass 83.97 331 ⇓*iP* **P 11 38 24.6 +0.5**
comp=Z,150nm,1.4s,mb5.6
RRI2 Red Ridge 84.01 330 ⇓*iP* **P 11 38 24.7 +0.4**
comp=Z,217nm,1.4s,mb5.8
RRI2 *e* pP 11 38 53.8 -0.2
CMB Columbia Colle 84.17 322 ⇓*iP* **P 11 38 25.4 +0.1**
comp=Z,76nm,1.3s,mb5.4
CMB Columbia Colle 84.17 322 P **P 11 38 25.7 +0.4**
CMB pmax pmax
comp=Z,76nm,1.2s,mb5.4
IMW Indian Meadow 84.30 331 ⇓*iP* **P 11 38 26.3 +0.5**
comp=Z,199nm,1.4s,mb5.8
FLWY Flagg Ranch 84.36 331 ⇓*iP* **P 11 38 27.0 +0.9**
BMN Battle Mountai 84.38 325 *eP* **P 11 38 25.8 -0.5**
comp=Z,26nm,1.1s,mb5.0
BMN *e* pP 11 38 58.0 +2.1
BMN Battle Mountai 84.38 325 P **P 11 38 26.6 +0.4**
BMN pmax pmax
comp=Z,26nm,1.1s,mb5.0
LKWY Lake 84.63 332 ⇓*iP* **P 11 38 29.0 +1.6**
comp=Z,73nm,1.4s,mb5.4
LKWY Lake 84.63 332 P **P 11 38 29.6 +2.2**
LKWY pmax pmax
comp=Z,73nm,1.3s,mb5.5
YFT Old Faithful 84.72 331 ⇓*iP* **P 11 38 29.8 +2.0**
LAO LASA Array 84.83 335 ⇓*iP* **P 11 38 28.6 +0.2**
comp=Z,259nm,1.3s,mb6.0
YNR Norris Junctio 84.87 332 ⇓*iP* **P 11 38 29.9 +1.3**
ULM Lac du Bonnet 84.89 343 P **P 11 38 28.1 -0.5**
comp=Z,68nm,0.9s,mb5.6,baz=161,slow=3.9,SNR=67
ULM pP pP 11 38 56.5 -1.7
comp=Z,22nm,0.8s,baz=126,slow=3.5,SNR=2.6
ULM PKKPbc 11 56 34.1
comp=Z,3.0nm,0.3s,baz=313,slow=2.5,SNR=16
ULM tx tx 11 57 05.3
comp=Z,2.6nm,0.7s,baz=287,slow=3.7,SNR=4.2
ULM Lac du Bonnet 84.89 343 ⇓*iP* **P 11 38 27.9 -0.7**
comp=Z,140nm,1.0s,mb5.8
ULM *e* pP 11 38 56.6 -1.5
PAHR Pah Rah Range 84.90 323 ⇓*iP* **P 11 38 30.2 +1.3**
comp=Z,166nm,1.5s,mb5.7
SAC San Andreas 84.93 320 *eP* **P 11 38 28.4 -0.7**
SAC *e* pP 11 39 00.1 +1.4
SAC San Andreas 84.93 320 P **P 11 38 30.6 +1.5**
YMR Madison River 84.95 331 ⇓*iP* **P 11 38 30.2 +1.2**
BEKR Beckwourth 85.52 323 ⇓*iP* **P 11 38 32.9 +1.0**
comp=Z,229nm,1.6s,mb5.9
BEKR *e* pP 11 39 03.5 +1.9
HLID Hailey 85.52 329 ⇓*iP* **P 11 38 32.8 +0.9**
comp=Z,141nm,1.1s,mb5.8
HLID *e* pP 11 39 01.8 +0.2
DGMT Dagmar 85.68 337 ⇓*iP* **P 11 38 33.1 +0.6**
comp=Z,526nm,1.3s,mb6.3
DGMT *e* pP 11 39 02.1 -0.1
OHCM Honcut 85.71 322 *eP* **P 11 38 33.5 +0.7**
MCMT McKenzie Canyo 85.86 330 P **P 11 38 33.9 +0.4**
BOZ Bozeman (W) 86.02 332 ⇓*iP* **P 11 38 34.0 -0.2**
comp=Z,195nm,1.5s,mb5.8
BOZ Bozeman (W) 86.02 332 *eP* **P 11 38 34.3 +0.1**
BOZ pmax pmax
comp=Z,200nm,1.5s,mb5.8
SCHQ Schefferville 86.12 1 P **P 11 38 34.1 -0.3**
comp=Z,110nm,1.0s,mb5.7,baz=166,slow=3.7,SNR=52
SCHQ Schefferville 86.12 1 ⇓*iP* **P 11 38 34.0 -0.5**
comp=Z,445nm,1.4s,mb6.2
DLMT Dillon 86.18 331 ⇓*iP* **P 11 38 35.9 +0.9**
LCCM Lewis and Clar 86.28 332 P **P 11 38 35.3 -0.2**
HOPS Hopland 86.31 321 ⇓*iP* **P 11 38 37.1 +1.3**
comp=Z,839nm,2.6s,mb6.2
SNZO South Karori 86.57 223 ⇓*iP* **P 11 38 38.1 +1.1**
comp=Z,90nm,1.3s,mb5.5
SNZO *e* pP 11 39 07.4 +0.6
WVOR Wild Horse Val 86.59 326 ⇓*iP* **P 11 38 37.7 +0.6**
comp=Z,153nm,1.4s,mb5.7
WVOR Wild Horse Val 86.59 326 P **P 11 38 37.8 +0.7**
WVOR pmax pmax
comp=Z,150nm,1.3s,mb5.8
MOD Modoc 87.01 324 ⇓*iP* **P 11 38 40.1 +0.9**
comp=Z,208nm,1.4s,mb5.9
MOD *e* pP 11 39 10.7 +1.8
LTIM Timbered Crate 87.07 323 P **P 11 38 40.1 +0.7**
KCPM Cahto Peak 87.08 321 ⇓*iP* **P 11 38 41.1 +1.5**
KCPM *e* pP 11 39 11.9 +2.6
KIPM Iron Peak 87.11 321 *eP* **P 11 38 40.9 +1.2**
KIPM *e* pP 11 39 11.4 +1.9
WDC Whiskeytown Da 87.17 322 ⇓*iP* **P 11 38 39.3 -0.6**
comp=Z,135nm,1.5s,mb5.7
WDC Whiskeytown Da 87.17 322 P **P 11 38 39.5 -0.5**
WDC pmax pmax
comp=Z,130nm,1.4s,mb5.7
LASM Arnica Sink 87.42 323 P **P 11 38 41.9 +0.8**
BMO Blue Mountains 87.82 328 ⇓*iP* **P 11 38 43.0 0.0**
comp=Z,172nm,1.8s,mb5.8
BMO *e* pP 11 39 13.5 +0.7
MSO Missoula 87.92 331 ⇓*iP* **P 11 38 44.0 +0.7**
comp=Z,92nm,1.6s,mb5.6
HOG Hogback Mounta 87.96 324 P **P 11 38 44.7 +1.0**
KHMM Horse Mountain 88.01 322 ⇓*iP* **P 11 38 45.0 +1.0**
YBH Yreka Blue Hor 88.10 323 ⇓*iP* **P 11 38 44.1 -0.3**
comp=Z,68nm,1.4s,mb5.5
YBH *e* pP 11 39 14.8 +0.6
YBH Yreka Blue Hor 88.10 323 P **P 11 38 44.6 +0.2**
YBH pmax pmax
comp=Z,68nm,1.4s
LSZ Lusaka 88.19 107 ⇓*iP* **P 11 38 46.7 +1.3**
comp=Z,135nm,1.2s,mb5.8
LSZ *e* pP 11 39 16.8 +1.6
LSZ *e*PP PP 11 42 12.5 -3.5
LSZ Lusaka 88.19 107 P **P 11 38 46.8 +1.4**
LSZ pmax pmax
comp=Z,140nm,1.2s,mb5.9
HUMO Hull Mountain 88.86 323 *eP* **P 11 38 47.9 0.0**
comp=Z,20nm,1.2s,mb5.0
PTEO Sao Teotonio 88.96 44 *eP* **P 11 38 48.9 +0.4**
comp=Z,121nm,1.0s,mb5.9
BSMT Bassoo Peak 89.08 331 P **P 11 38 49.3 +0.5**
VIPM Ingram Point 89.10 326 P **P 11 38 50.3 +1.3**
CROR Criterion Ridg 89.63 326 P **P 11 38 52.7 +1.2**
EGRO El Granado 89.69 44 P **P 11 38 50.5 -1.5**
comp=Z,55nm,1.1s,mb5.6
WALA Waterton Lakes 89.69 332 ⇓*iP* **P 11 38 52.0 +0.4**
comp=Z,231nm,1.4s,mb6.1
WALA *e* pP 11 39 20.9 -0.8
PBEJ Beja 89.79 44 *eP* **P 11 38 52.5 +0.1**
comp=Z,54nm,1.2s,mb5.6
BROR Big Rock Looko 89.81 325 P **P 11 38 52.8 +0.4**
HAWA Hanford 90.01 326 ⇓*iP* **P 11 38 53.4 +0.2**
comp=Z,15nm,1.5s,mb4.9
HAWA *e* pP 11 39 23.4 +0.2
EVO Evora 90.04 43 *eP* **P 11 38 53.4 -0.2**
comp=Z,64nm,1.0s,mb5.4
EJIF Jimena Fronter 90.21 46 P **P 11 38 55.8 +1.4**
comp=Z,12nm,0.7s,mb5.1
ESPR Espera 90.24 46 P **P 11 38 53.3 -1.2**
comp=Z,73nm,1.1s,mb5.7
EMIN Mina Concepcio 90.33 45 P **P 11 38 54.0 -0.9**
comp=Z,45nm,1.0s,mb5.5
NEW Newport 90.38 330 ⇓*iP* **P 11 38 54.2 -0.8**
comp=Z,67nm,1.5s,mb5.5
NEW *e* pP 11 39 26.7 +1.8
NEW Newport 90.38 330 P **P 11 38 54.2 -0.7**
NEW pmax pmax
comp=Z,67nm,1.5s
OD2 Odessa Site #2 90.40 329 P **P 11 38 55.5 +0.5**
FFC Flin Flon 90.53 342 ⇓*iP* **P 11 38 55.0 -0.5**
comp=Z,123nm,1.3s,mb5.9
FFC *e* pP 11 39 23.4 -2.0
PTOM Tomar 90.53 42 *eP* **P 11 38 55.9 +0.1**
comp=Z,83nm,1.2s,mb5.7
EMIJ Mijas 90.71 47 P **P 11 38 54.7 -2.1**
comp=Z,32nm,0.9s,mb5.5
EBAD Badajoz 90.77 44 P **P 11 38 57.3 +0.3**
comp=Z,16nm,0.8s,mb5.2
TBM Table Mountain 91.08 328 P **P 11 38 59.0 +0.8**
PCBR Castelo Branco 91.21 43 *eP* **P 11 38 58.8 -0.2**
comp=Z,47nm,1.5s,mb5.4
ECAB El Cabril 91.28 45 P **P 11 38 59.1 -0.3**
comp=Z,12nm,1.1s,mb4.9
ELOJ Sierra Loja 91.46 46 P **P 11 39 01.0 +0.7**
comp=Z,28nm,1.0s,mb5.3
MTE Manteigas 91.54 42 *eP* **P 11 39 00.0 -0.6**
MTE Manteigas 91.54 42 ⇓*iP* **P 11 39 00.0 -0.5**
comp=Z,34nm,1.1s,mb5.5
ELUQ Luque 91.65 46 P **P 11 39 01.9 +0.8**
comp=Z,18nm,0.6s,mb5.5
EADA Adamuz 91.85 45 P **P 11 39 02.3 +0.3**
comp=Z,17nm,1.0s,mb5.2
ECOG Cogollos-Vega 91.91 47 P **P 11 39 01.5 -0.8**
comp=Z,2.2nm,0.3s,mb4.9
PVRL Vila Real 92.03 41 *eP* **P 11 39 02.7 0.0**
comp=Z,95nm,1.3s,mb5.9
EBAN Banos Encina 92.33 46 P **P 11 39 04.8 +0.5**
comp=Z,43nm,0.9s,mb5.7

FCC Fort Churchill 92.42 347 ⇓ *i*P P **11 39 04.2 +0.1**
comp=Z,143nm,1.0s,mb6.2
FCC *e* pP 11 39 33.2 -0.9
FCC Fort Churchill 92.42 347 P **P 11 39 04.8 +0.7**
FCC pmax pmax
comp=Z,140nm,1.0s,mb6.2
RPW Rockport 92.44 328 P P **11 39 04.4 0.0**
EQES Quesada 92.54 46 P P **11 39 04.9 -0.3**
comp=Z,31nm,1.1s,mb5.5
ENIJ Nijar 92.57 48 P P **11 39 05.8 +0.5**
comp=Z,5.4nm,1.1s,mb4.8
EDM Edmonton 92.82 335 ⇓ *i*P P **11 39 04.8 -1.3**
EDM *e* pP 11 39 34.0 -2.1
EDM Edmonton 92.82 335 P P **11 39 04.5 -1.6**
EHUE Huescar 92.85 47 P P **11 39 05.9 -0.7**
comp=Z,7.8nm,0.9s,mb5.0
ECAL Calabor 93.02 41 P P **11 39 07.7 +0.5**
comp=Z,32nm,1.0s,mb5.6
ESDC Sonseca Array 93.17 45 P P **11 39 08.5 +0.5**
comp=Z,8.5nm,0.8s,mb5.2,baz=241,slow=4.1,SNR=30
ESDC pP pP 11 39 37.4 -0.7
comp=Z,0.3nm,0.3s,baz=232,slow=4.8,SNR=1.8
ESDC PP PP 11 42 39.7 -16
comp=Z,10nm,1.1s,baz=207,slow=6.6,SNR=6.0
ESLA Sonseca Array 93.17 ⇓ *i*P P **11 39 07.7 -0.4**
comp=Z,51nm,1.9s,mb5.5
AFI Afiamalu 93.24 252 LR LR 12 13 20.7
comp=Z,469nm,20.6s,baz=308,slow=30
CART Cartagena 93.70 48 ⇓ *i*P P **11 39 09.4 -1.0**
ETRT Tiaret 93.87 51 P P **11 39 13.0 +1.7**
ETOB Tobarra 94.01 47 P P **11 39 12.3 +0.5**
comp=Z,38nm,1.1s,mb5.6
EANR 'Ain N'Sour 94.07 50 P P **11 39 14.0 +1.8**
ECHF Ech Chlef 94.35 50 P P **11 39 15.0 +1.6**
ECHA Ech Chlef 94.36 50 P P **11 39 15.0 +1.5**
EBNR Beni Rached 94.55 50 P P **11 39 17.0 +2.6**
EARI Arriondas 94.75 41 P P **11 39 15.7 +0.6**
comp=Z,22nm,1.0s,mb5.5
EBEN Beniarda 94.86 47 P P **11 39 15.8 +0.1**
ECHE Chera 94.94 46 P P **11 39 16.9 +0.8**
comp=Z,25nm,0.9s,mb5.7
EMHD Djebel Mahouad 95.43 51 P P **11 39 20.0 +1.6**
EMOS Mosqueruela 95.71 46 P P **11 39 19.2 -0.4**
comp=Z,24nm,1.0s,mb5.6
ELAN Lanestosa 95.72 42 P P **11 39 20.1 +0.6**
comp=Z,32nm,0.9s,mb5.8
ESAC San Caprasio 96.53 45 P P **11 39 22.4 -0.8**
comp=Z,15nm,0.7s,mb5.5
ERTA Horta de San J 96.56 46 P P **11 39 22.5 -0.9**
comp=Z,33nm,1.0s,mb5.7
SJPF Ste Jean 96.92 43 *e*P P **11 39 25.3 +0.3**
comp=Z,86nm,1.2s,mb5.8
ETSF Etsaut 97.18 44 *e*P P **11 39 26.7 +0.5**
comp=Z,164nm,1.7s,mb5.9
EPOB Poblet 97.24 46 P P **11 39 26.9 +0.4**
comp=Z,21nm,1.1s,mb5.5
EGRA Graus 97.28 45 P P **11 39 27.6 +0.9**
comp=Z,13nm,0.8s,mb5.4
REYF Montagne du Re 97.38 44 *e*P P **11 39 28.3 +1.2**
EBIE Bielsa 97.47 44 P P **11 39 28.0 +0.5**
comp=Z,5.0nm,1.0s,mb4.9
EPF Esparros 97.79 44 *e*P P **11 39 29.3 +0.4**
MELF Melles 97.94 44 *e*P P **11 39 30.8 +1.2**
MBAR Mbarara 98.10 96 *e*P P **11 39 31.6 +0.6**
SALF Salau 98.13 44 *e*P P **11 39 31.7 +1.2**
MLS Moulis 98.19 44 *e*P P **11 39 31.5 +0.8**
QUIF Quistinic 98.77 38 *e*P P **11 39 32.3 -1.0**
comp=Z,97nm,1.1s,mb6.0
ROSF Rostrenen 98.97 38 *e*P P **11 39 32.6 -1.6**
comp=Z,91nm,1.0s,mb6.0
MTLF Montolieu 99.08 44 *e*P P **11 39 34.2 -0.6**
comp=Z,80nm,1.5s,mb5.7
LFF La Frestale 99.14 42 *e*P P **11 39 34.6 -0.5**
comp=Z,45nm,0.8s,mb5.8
SGMF Saint Gilles 99.30 38 *e*P P **11 39 34.5 -1.2**
comp=Z,48nm,1.1s,mb5.7
MFF Saint Martin d 99.62 41 *e*P P **11 39 36.6 -0.6**
comp=Z,90nm,1.2s,mb6.0
RJF Les Rejaudoux 99.80 43 *e*P P **11 39 37.4 -0.6**
comp=Z,59nm,1.4s,mb5.7
CAF Calviac 99.90 43 *e*P P **11 39 38.1 -0.4**
comp=Z,60nm,1.3s,mb5.8
GRR Gorron 100.28 39 *e*P P 11 39 39.1 -1.0
comp=Z,71nm,1.2s
LASF Ste Croix 100.48 45 *e*P P 11 39 40.9 -0.2
comp=Z,44nm,1.4s
YKA Yellowknife Ar 100.62 340 P P 11 39 40.7 -0.5
comp=Z,1.7nm,0.4s,baz=140,slow=4.8,SNR=21
YKA pP 11 40 10.6
comp=Z,3.1nm,0.8s,baz=139,slow=5.0,SNR=3.7
YKA PP PP 11 43 46.7 -5.3
comp=Z,3.1nm,1.0s,baz=142,slow=7.1,SNR=3.8
YKA PKiKP 11 44 06.5
comp=Z,0.7nm,0.4s,baz=147,slow=1.8,SNR=6.0
YKA PKKPbc 11 55 54.6
comp=Z,1.1nm,0.4s,baz=322,slow=3.6,SNR=16
YKA Yellowknife Ar 100.62 340 P P 11 39 40.7 -0.5
YKA pP 11 40 10.6
YKA PP PP 11 43 46.7 -5.3
YKW3 Yellowknife Ar 100.68 340 *e*Pdif P 11 39 41.1 -0.5
FLN La Foliniere 100.71 39 *e*P P 11 39 41.2 -0.8
comp=Z,97nm,1.3s
TCF Toulx Ste Croi 100.76 42 *e*P P 11 39 41.8 -0.5
LDF La Druitiere 100.80 39 *e*P P 11 39 41.6 -0.8
comp=Z,89nm,1.3s
BGF Bois d'Agland 101.28 42 *e*P P 11 39 44.1 -0.5
comp=Z,66nm,1.2s
VIVF Saint-Julien-l 101.40 44 *e*P P 11 39 45.2 0.0
comp=Z,47nm,1.4s
SMRF Simiane la Rot 101.46 45 *e*P P 11 39 46.1 +0.6
LMR La Mourre 101.68 46 *e*P P 11 39 46.7 +0.2
AVF Avril sur Loir 101.70 42 *e*P P 11 39 46.0 -0.5
comp=Z,76nm,1.4s
FRF La Foret Royal 101.89 46 *e*P P 11 39 47.5 +0.1
SMF Signal de Mont 101.90 42 *e*P P 11 39 47.2 -0.1
comp=Z,153nm,1.4s
SSF Saint Saulge 101.94 42 *e*P P 11 39 46.7 -0.8
comp=Z,53nm,1.2s
ORIF Oris-en-Rattie 102.15 45 *e*P Pdif 11 39 49.2 +0.7
comp=Z,35nm,1.1s
LOR Lormes 102.25 42 *e*P Pdif 11 39 48.2 -0.7
comp=Z,42nm,1.1s
MBDF Montbardon 102.59 45 *e*P Pdif 11 39 51.2 +0.8
PGF Pioggiola 102.83 48 *e*P Pdif 11 39 53.0 +1.5
LPL La Plagne 102.98 44 *e*P Pdif 11 39 53.0 +0.9
LPG La Plagne 102.98 44 *e*P Pdif 11 39 53.0 +0.9
comp=Z,46nm,1.1s
BORG Borgarnes 103.04 19 *e*Pdif Pdif 11 39 51.5 -0.4
CABF La Chapelle 103.18 43 *e*P Pdif 11 39 53.0 0.0
comp=Z,28nm,1.2s
MEZF Maizieres J'vi 103.60 41 *e*P Pdif 11 39 54.4 -0.4
BAIF Baives 103.97 40 *e*P Pdif 11 39 55.8 -0.6
THEF They Montfort 103.98 42 *e*P Pdif 11 39 57.4 +0.9
HAU Haudompre 104.07 42 *e*P Pdif 11 39 56.6 -0.3
HINF Hinteralfeld 104.26 42 *e*P Pdif 11 39 57.3 -0.4
GIVF Givet 104.33 40 *e*P Pdif 11 39 57.6 -0.3
DZM Mont Dzumac 104.61 232 PKKP PKKP 11 56 03.6 +25
comp=Z,10nm,0.9s,baz=23,slow=5.4,SNR=4.0
ECH Echery 104.64 42 *e*P Pdif 11 39 59.8 +0.4
CDF Champ du Feu 104.81 42 *e*P Pdif 11 39 59.9 -0.2
WLF Walferdange 104.83 41 *e*Pdif Pdif 11 39 57.6 -2.6
comp=Z,18nm,1.0s
WLS Welschbruch 104.85 42 *e*P Pdif 11 40 00.9 +0.6
SUMG Summit 106.05 9 *e*PKPdf 11 44 17.0
SUMG *e*PP PP 11 44 29.4 -2.9
NKC Novy Kostel 108.65 42 *e*PKP 11 44 22.3
NKC *ex* x 11 45 12.3
GERES GERESS Array B 108.75 44 PKKPbc 11 55 31.4
comp=Z,0.3nm,0.3s,baz=59,slow=5.7,SNR=3.9
GERES PKKP PKKP 11 55 43.8 +13
comp=Z,1.1nm,0.8s,baz=63,slow=4.4,SNR=4.9
KHC Kasperske Hory 108.81 43 *e*PKP 11 44 24.3
KHC *ex* x 11 45 10.7
CLL Collm 109.45 41 *e*PDIF Pdif 11 40 22.0 +1.6
CLL *i* 11 44 23.3
CLL *e*PP PP 11 44 52.0 -6.5
CLL *i* *PPP 11 45 18.7
CLL *e**SPP 11 45 31.0
CLL *e*PKKP PKKP 11 55 29.0 -0.2
CLL *e*PKKP PKKP 11 55 41.0 +12
CLL Collm 109.45 41 *e*Pdif 11 40 22.0
CLL *i* PKP 11 44 23.3
CLL *e*PKKP PKKP 11 55 29.0 -0.2
CLL *e*PKKP PKKP 11 55 41.0 +12
PRU Pruhonice 109.75 43 *ex* x 11 45 20.2

DAWY Dawson 109.99 334 *e*PKPdf 11 44 23.6
PVCC Panska Ves 110.00 42 *e*PKP 11 44 25.0
PVCC *ex* x 11 45 22.8
TREC Trest 110.01 44 *ex* x 11 45 22.6
INK Inuvik 110.32 339 Pdiff Pdif 11 40 24.4 +0.5
comp=Z,4.8nm,1.1s,baz=96,slow=2.2,SNR=5.0
INK PKiKP 11 44 23.6
comp=Z,6.4nm,1.1s,baz=100,slow=5.7,SNR=8.8
INK PKKPbc 11 55 25.1
comp=Z,3.6nm,0.7s,baz=313,slow=7.2,SNR=9.9
INK Inuvik 110.32 339 Pdif Pdif 11 40 24.4 +0.5
INK *e*PKPdf PKPdf 11 44 23.9 +0.7
INK PP PP 11 45 03.9 -0.4
INK Inuvik 110.32 339 PKIKP PKPdf 11 44 24.9 +1.7
STKA Stephens Creek 110.46 208 PKKPbc 11 55 24.1
comp=Z,5.2nm,1.1s,baz=336,slow=6.5,SNR=5.9
UPC Upice 110.83 43 *e*PP PP 11 45 00.5 -7.7
UPC *ex* x 11 45 28.4
DPC Dobruska-Polom 110.94 43 *e*PKP PKPdf 11 44 26.8 +2.0
DPC *e*PP PP 11 45 01.5 -7.5
KSP Ksiaz 111.13 43 *e*PKP PP 11 45 04.5 -5.8
KSP *e* 11 45 31.6
MORC Moravsky Berou 111.42 44 *e*PKPdf PKPdf 11 44 27.3 +1.5
MORC Moravsky Berou 111.42 44 PKIKP PKPdf 11 44 27.5 +1.7
VYHS Vyhne 111.69 46 *e*PKP PKPdf 11 44 28.0 +1.7
VYHS *e* 11 44 58.6
VYHS *e* 11 45 07.0
OKC Ostrava-Krasne 111.81 44 *e*PKP PKPdf 11 44 28.3 +1.8
OKC *e*PP PP 11 45 08.2 -6.9
PSZ Piszkesteto 112.11 47 *e*PP PP 11 45 10.7 -6.6
KECS Kecovo 112.69 46 *e*PKP PKPdf 11 44 28.7 +0.4
KECS *e*PP PP 11 45 16.0 -6.0
KECS *e* 11 54 04.6
KECS *e* 11 54 16.8
NB2 NORSAR Subarra1 112.72 31 PKKPdf 11 44 29.3
comp=Z,7.4nm,1.1s,baz=223,slow=1.9
NOA NORSAR Array B 112.72 31 PKiKP 11 44 29.1
comp=Z,2.2nm,0.8s,baz=248,slow=2.2,SNR=4.6
NOA PKKPab 11 55 24.9
comp=Z,2.1nm,0.8s,baz=67,slow=4.4,SNR=3.4
NOA tx tx 11 55 55.2
comp=Z,3.3nm,0.8s,baz=67,slow=4.5,SNR=5.9
ILAR Eielson Array 113.19 333 Pdiff Pdif 11 40 36.2 -0.4
comp=Z,0.3nm,1.0s,baz=157,slow=3.8,SNR=4.1
ILAR PKiKP 11 44 29.5
comp=Z,5.5nm,0.7s,baz=163,slow=0.9,SNR=60
ILAR PP PP 11 45 16.4 -9.0
comp=Z,2.9nm,0.9s,baz=102,slow=5.8,SNR=6.4
ILAR PKKPbc 11 55 15.3
comp=Z,1.7nm,0.9s,baz=309,slow=3.8,SNR=12
ILAR PKKP PKKP 11 55 37.8 +16
comp=Z,0.4nm,0.4s,baz=295,slow=3.6,SNR=4.6
HFS Hagfors 113.48 33 PKiKP 11 44 30.0
baz=180,slow=1.4
HFS PKKPab 11 55 22.0
comp=Z,5.7nm,0.6s,baz=108,slow=4.7,SNR=14
HFS tx tx 11 55 50.8
comp=Z,7.4nm,0.9s,baz=135,slow=4.1,SNR=5.1
STHS Stebnicka Huta 113.51 45 *e* PKPdf 11 44 50.4 +20
MCK McKinley 113.58 331 *e*PKPdf PKPdf 11 44 30.9 +1.2
MCK McKinley 113.58 331 PKIKP PKPdf 11 44 31.7 +2.0
KWP Kalwaria 114.47 46 *e*PKP PKPdf 11 44 33.7 +1.8
MLR Muntele Rosu 115.09 51 PKP PKPdf 11 44 33.9 +0.8
comp=Z,12nm,1.0s,baz=291,slow=1.6,SNR=15
MLR PP PP 11 45 31.8 -7.3
comp=Z,9.9nm,1.1s,baz=257,slow=4.4,SNR=6.7
MLR Muntele Rosu 115.09 51 ⇓ *i*P PKPdf 11 44 34.4 +1.2
MLR Muntele Rosu 115.09 51 ⇓ *i*P PKPdf 11 44 34.4 +1.2
BURAR Bucovina Array 115.34 48 ⇓ *i*P PKPdf 11 44 35.6 +2.0
BURAR Bucovina Array 115.34 48 ⇓ *i*P PKPdf 11 44 35.6 +2.0
BDAS Al Bad' 115.59 71 P PKPdf 11 44 37.2 +2.7
HAQS Haql 115.70 70 P PKPdf 11 44 36.0 +1.3
VRI Vrincioaia 115.73 50 ⇓ *i*P PKPdf 11 44 35.3 +0.9
VRI Vrincioaia 115.73 50 ⇓ *i*P PKPdf 11 44 35.3 +0.9
SUW Suwalki 116.21 41 *e*PKP PKPdf 11 44 36.1 +1.1
TTA Tatalina 116.27 329 *e*PKPdf PKPdf 11 44 49.3 +14
TIRR Tirgusor 116.39 52 ⇑ *i*P PKPdf 11 44 36.3 +0.6
TIRR Tirgusor 116.39 52 ⇑ *i*P PKPdf 11 44 36.3 +0.6
JMQS Jabal Moqyreh 116.40 71 P PKPdf 11 44 38.3 +2.2
CFR Carcaliu 116.44 52 ⇑ *i*P PKPdf 11 44 36.0 +0.3
CFR Carcaliu 116.44 52 ⇑ *i*P PKPdf 11 44 36.0 +0.3
CSS Prodhromos 116.68 64 *e*PKPdf PKPdf 11 44 38.1 +1.7
ANTO Ankara 117.96 58 *e*PKPdf PKPdf 11 44 40.6 +1.9
ANTO *e*PP PP 11 45 55.6 -3.8
ANTO Ankara 117.96 58 PKIKP PKPdf 11 44 40.9 +2.1
CTA Charters Tower 118.39 218 *e*P 11 55 00.1
comp=Z,5.6nm,0.8s
CTA Charters Tower 118.39 218 PKKPab 11 55 00.8
comp=Z,4.7nm,0.8s,baz=354,slow=4.6,SNR=5.5
ASF Jabal al Asfar 118.45 68 PKP PKPdf 11 44 41.9 +2.0
comp=Z,8.2nm,1.0s,baz=101,slow=0.6,SNR=12
QURS Qurayyt al Mil 118.50 69 P PKPdf 11 44 43.0 +2.9
BR131 Keskin Array S 118.53 59 *e*PKPdf PKPdf 11 44 41.5 +1.6
BRTR Keskin Array B 118.53 59 PKP PKPdf 11 44 41.0 +1.1
comp=Z,10nm,0.8s,baz=180,slow=3.7,SNR=27
BRTR pPKP 11 45 12.0
comp=Z,2.6nm,0.7s,baz=169,slow=0.8,SNR=2.7
BRTR PP PP 11 45 59.8 -3.6
comp=Z,3.5nm,0.9s,baz=236,slow=8.9,SNR=4.1
AKASG Malin Array Be 118.79 46 PKP PKPdf 11 44 40.5 +0.3
comp=Z,13nm,0.8s,baz=269,slow=2.7,SNR=54
AKASG pPKP 11 45 10.6
comp=Z,2.6nm,0.6s,baz=265,slow=3.2,SNR=2.8
FINES FINESS Array B 119.66 33 PKP PKPdf 11 44 42.5 +0.9
comp=Z,4.2nm,0.4s,baz=65,slow=0.4,SNR=51
FINES PKKPab 11 54 52.8
comp=Z,2.6nm,0.8s,baz=63,slow=4.3,SNR=4.7
KAMS Al Khamasin 120.14 84 P PKPdf 11 44 45.6 +2.1
AFFS 'Afif 120.31 79 P PKPdf 11 44 45.9 +2.2
SIM Simferopol' 120.42 53 *i* PKIKP PKPdf 11 44 44.8 +1.3
SIM pmax pmax
comp=Z,30µm,1.0s
HILS Ha'il 120.65 75 P PKPdf 11 44 46.1 +1.7
ASPA Alice Springs 120.76 205 *i* PKP PKPdf 11 44 44.5 -0.1
ARCES ARCESS Array B 120.85 24 PKP PKPdf 11 44 44.6 +0.9
comp=Z,3.8nm,0.4s,baz=248,slow=3.9,SNR=62
ARCES PKKPbc 11 54 49.2
comp=Z,3.3nm,0.5s,baz=82,slow=4.2,SNR=27
ARE0 ARCESS Array S 120.85 24 *e*PKPdf PKPdf 11 44 44.6 +0.8
MALT Malatya 121.65 62 *e*PKPdf PKPdf 11 44 47.5 +1.5
MALT *e*PP PP 11 46 19.8 -4.5
TNA Tin City 121.92 331 *e*PKPdf PKPdf 11 44 47.5 +1.7
MZLS Mizel 122.20 80 P PKPdf 11 44 49.3 +1.9
ANN Anapa 122.66 54 *i* PKIKP PKPdf 11 44 48.3 +0.5
ANN pmax pmax
comp=Z,148nm,1.5s
APA Apatity 123.57 27 ⇓ *i*PKIKP PKPdf 11 44 49.0 0.0
APA pmax pmax
comp=Z,79nm,1.2s
SOC Sochi 123.97 56 *d* PKIKP PKPdf 11 44 50.8 +0.4
SOC *e*PPP PPP 11 49 18.8 -0.4
SOC *e* 11 51 43.2
SOC *e*PS PS 11 56 37.4 +2.8
SOC *e*SS SS 12 03 19.2 +2.3
SOC pmax pmax
comp=N,33nm,1.0s
SOC pmax pmax
comp=E,21nm,1.0s
SOC pmax pmax
comp=Z,64nm,1.0s
WRA Warramunga Arr 124.00 207 PKP PKPdf 11 44 51.3 +0.3
comp=Z,13nm,0.4s,baz=164,slow=1.6,SNR=205
WRA pPKP 11 45 21.5
comp=Z,7.6nm,0.5s,baz=175,slow=1.5,SNR=5.4
WRA PKKPbc 11 54 37.4
comp=Z,8.5nm,0.9s,baz=339,slow=3.7,SNR=17
WRAB Tennant Creek 124.00 207 *e*PKPdf PKPdf 11 44 51.1 +0.1
WRAB Tennant Creek 124.00 207 *i* PKIKP PKPdf 11 44 51.2 +0.2
OBN Obninsk 124.04 42 *e*PKPdf PKPdf 11 44 51.2 +1.0
OBN *e* 11 45 21.8
OBN Obninsk 124.04 42 α *i*PKIKP PKPdf 11 44 51.1 +0.9
OBN *e* 11 45 21.2
OBN *e* 11 46 42.4
OBN pmax pmax
comp=Z,184nm,1.3s
OBN MLR MLR
comp=Z,200nm,20.0s
MSL Mosul 124.63 65 *ex* x 11 45 10.5
MOS Moscow 124.71 41 *e*PKIKP PKPdf 11 44 50.7 -0.7
MOS *e* 11 45 21.1
MOS *e* 11 46 39.4
MOS pmax pmax
comp=Z,181nm,1.2s
BHD Baghdad 124.76 69 *ex* x 11 44 50.0

RDF Al-Radifah 125.94 75 *e*P PKPdf 11 44 56.5 +2.0
RDF AMb AMB 11 44 57.9
comp=Z,56nm,1.0s
KBD Kabd 126.14 75 AMb AMB 11 44 59.7
comp=Z,135nm,1.5s
KIV Kislovodsk 126.16 56 *e*PKPdf PKPdf 11 44 55.5 +1.0
KIV Kislovodsk 126.16 56 κ *i*PKIKP PKPdf 11 44 55.3 +0.8
KIV 11 46 51.0
KIV *e* 12 04 09.5
KIV pmax pmax
comp=Z,85nm,1.0s
KIV MLR MLR
comp=Z,200nm,19.0s
QRN Al-Qurain 126.19 76 *e*P PKPdf 11 44 57.0 +2.0
UMR Umm Al-Rimmam 126.29 75 *e*P PKPdf 11 44 57.6 +2.5
UMR AMb AMB 11 44 58.8
comp=Z,122nm,0.8s
ZEI Tsey 126.79 58 *e*PKIKP PKPdf 11 44 56.8 +1.1
ZEI *i* 11 46 52.4
MBWA Marble Bar 126.83 190 *e*PKPdf PKPdf 11 44 57.0 +0.6
GNI Garni 126.86 61 *e*PKPdf PKPdf 11 44 58.0 +2.0
TI2 Plekhanov 127.20 59 *i* PKHKP 11 44 39.0
FITZ Fitzroy Crossi 128.56 198 *e*PKP PKPdf 11 45 00.6 +0.8
comp=Z,34nm,1.1s
FITZ *i* pPKP 11 45 31.4
FITZ Fitzroy Crossi 128.56 198 PKP PKPdf 11 45 00.5 +0.6
comp=Z,17nm,0.4s,baz=84,slow=0.4,SNR=32
FITZ pPKP 11 45 31.7
comp=Z,25nm,0.7s,baz=186,slow=4.3,SNR=5.1
FX1 Attu Island--F 130.94 315 PKP PKPdf 11 45 04.5 +1.1
comp=Z,22nm,0.4s,baz=9.5,slow=12,SNR=22
FX1 Attu Island--F 130.94 315 *e*PKPdf PKPdf 11 45 04.7 +1.3
BILL Bilibino 131.73 335 ⇑ *i*PKIKP PKPdf 11 45 06.5 +2.0
BILL pmax pmax
comp=Z,89nm,1.1s
SOKR Solikamsk 134.75 35 *d* iPKIKP PKPdf 11 45 10.9 +0.5
SOKR pmax pmax
comp=Z,60nm,1.1s
ARU Arti 136.36 40 *e*PKPdf PKPdf 11 45 15.3 +1.9
ARU *e*PP PP 11 47 54.5 -4.2
ARU Arti 136.36 40 *i* PKIKP PKPdf 11 45 14.5 +1.1
ARU *e* 11 47 54.1
AKTO Aktyubinsk 136.94 48 PKIKP PKPdf 11 45 15.1 +0.5
AKTO pmax pmax
comp=Z,48nm,1.9s
SVE Sverdlovsk 137.38 39 *e*PKIKP PKPdf 11 45 17.3 +2.0
SVE *e* 11 45 47.4
SVE *e* 11 48 13.7
SVE pmax pmax
comp=Z,380nm,1.8s
TIXI Tiksi 138.75 351 ⇑ *i*PKIKP PKPdf 11 45 17.6 +0.2
TIXI pmax pmax
comp=Z,66nm,1.0s
SEY Seymchan 139.13 332 *i* PKIKP PKPdf 11 45 19.9 +1.6
PALK Palekele 142.88 124 *e*PKPdf PKPdf 11 45 24.4 -1.9
BRVK Borovoye 143.81 42 *e*PKPdf PKPdf 11 45 26.5 -0.1
BVA0 Borovoye Array 143.89 42 *i* PKIKP PKPdf 11 45 25.4 -1.4
BVA0 pmax pmax
comp=Z,15nm,1.3s
BVAR Borovoye Array 143.89 42 PKP PKPdf 11 45 26.9 +0.1
comp=Z,14nm,0.5s,baz=297,slow=3.3,SNR=93
BVAR pPKP 11 45 59.7
comp=Z,13nm,0.8s,baz=286,slow=2.3,SNR=3.2
KAD Karad 143.89 104 *e*P PKPbc 11 45 27.1 +0.1
GUMO Guam 144.04 248 PKP PKPdf 11 45 27.5 -0.7
comp=Z,383nm,0.8s,baz=143,slow=5.1,SNR=25
GUMO pPKP 11 45 57.6
comp=Z,291nm,0.8s,baz=180,slow=1.2,SNR=4.8
GUMO Guam 144.04 248 *e*PKPdf PKPdf 11 45 27.0 -1.2
GUMO Guam 144.04 248 PKIKP PKPdf 11 45 27.2 -1.0
POO Poona 144.21 102 *e*P PKPbc 11 45 28.2 +0.2
VOSK Vostochnaya 144.33 42 PKIKP PKPdf 11 45 27.2 -0.4
VOSK pmax pmax
comp=Z,267nm,1.3s
KKAR Karatay Array 146.25 59 *i* PKIKP PKPdf 11 45 33.2 +2.0
KKAR pmax pmax
comp=Z,216nm,1.2s
YAK Yakutsk 147.23 344 *e*PKPdf PKPdf 11 45 34.0 +1.8
YAK Yakutsk 147.23 344 PKIKP PKPdf 11 45 33.2 +0.9
YAK Yakutsk 147.23 344 *e*PKIKP PKPdf 11 45 34.0 +1.7
HYB Hyderabad 147.52 108 ⇑ *i*PKP PKPdf 11 45 36.0 +1.9
comp=Z,340nm,1.0s
HYB *e*PKPAB PKPab 11 45 39.0 -2.4
HYB *e* 11 45 41.0
HYB *e*pPKP 11 46 06.0
HYB *e*pPKPAB 11 46 09.0
HYB *e* 11 46 21.5
HYB Hyderabad 147.52 108 ⇑ *e*PKIKP PKPdf 11 45 36.0 +1.9
HYB *e* 11 46 06.0
AJM Ajmer 148.03 90 *e*P PKPdf 11 45 37.5 +2.8
EKS2 Erkin-Say 148.68 59 P PKPdf 11 45 38.5 +3.2
SNR=74
AML Almayashu 148.69 60 P PKPdf 11 45 37.8 +2.5
SNR=66
USP Ospennovka 149.11 58 P PKPdf 11 45 38.6 +2.7
SNR=43
AAK Ala-Archa 149.21 59 P PKPdf 11 45 39.1 +3.0
SNR=21
AAK Ala-Archa 149.21 59 *e*PKPdf PKPdf 11 45 38.0 +1.9
AAK *e*PKPbc PKPdf 11 45 42.3 +6.2
AAK *e*PKPab PKPab 11 45 47.1 -0.4
AAK Ala-Archa 149.21 59 *e*PKHKP 11 45 38.0
AAK *e* 11 45 47.1
FRU Bishkek 149.27 58 *i* PKHKP 11 45 38.0
FRU pmax pmax
comp=Z,1µm,1.8s
UCH Uchtor 149.28 60 P PKPdf 11 45 39.2 +2.9
SNR=31
CHMS Chumysh 149.34 58 P PKPdf 11 45 38.8 +2.6
SNR=63
KURK Kurchatov 149.48 42 *e*PKPdf PKPdf 11 45 37.8 +1.5
KURK *e*PKPbc PKPdf 11 45 43.2 +6.9
KURK *e*PKPab PKPab 11 45 48.7 +0.3
KURK Kurchatov 149.48 42 *e*PKHKP 11 45 37.8
KURK *e* 11 45 48.7
KBK Karagaybulak 149.54 59 P PKPdf 11 45 43.7 +7.2
SNR=37
NVS Novosibirsk 149.64 32 *i* PKHKP 11 45 37.9
NVS pmax pmax
comp=N,33nm,1.4s
NVS pmax pmax
comp=E,260nm,1.4s
NVS pmax pmax
comp=Z,782nm,1.4s
KZA Kyzart 149.85 60 P PKPdf 11 45 45.6 +8.6
SNR=21
YUK Yuzh-Kuril'sk 149.93 304 ⇓ *i*PKHKP 11 45 41.0
YUK pmax pmax
comp=Z,4µm,1.5s
TKM2 Tokmak 2 149.96 58 P PKPdf 11 45 39.8 +2.6
SNR=12
KSM Kuching 150.01 179 *e*PKPdf PKPdf 11 45 39.4 +1.2
KSM *e*PKPbc PKPdf 11 45 44.3 +6.1
KSM *e*PKPab PKPab 11 45 51.8 +0.2
ULHL Ulahol 150.55 59 P PKPdf 11 45 46.5 +8.4
SNR=43
KSH Kashi 150.69 65 PKP PKPdf 11 45 45.1 +6.7
KSH *e*PKP2 PKPab 11 46 00.2 +6.5
KSH APKP 11 46 12.7
KSH *e*XPKP 11 46 24.1
KSH PP PP 11 49 28.7 +3.9
KSH SKS SKS 11 52 36.8 +3.9
KSH SKKS 11 56 07.3
KSH SS SS 12 08 37.3 +3.8
KSH PP PP
comp=Z,370nm,4.0s
KSH LR LR
comp=N,280nm,5.2s
KSH LR LR
comp=E,280nm,5.0s
AAA Alma-Ata 150.87 57 *i* PKIKP PKPdf 11 45 40.2 +1.6
AAA pmax pmax
comp=Z,2µm,3.0s
ZAL Zalesovo 150.92 32 PKPbc PKPdf 11 45 46.2 +7.9
baz=193,slow=3.9
YSS Yuzh-Sakhalins 151.20 311 *e*PKPdf PKPdf 11 45 40.1 +1.1
YSS *e*PKPbc PKPdf 11 45 46.5 +7.6
YSS Yuzh-Sakhalins 151.20 311 *e*PKIKP PKPdf 11 45 39.5 +0.6
YSS pmax pmax
comp=Z,250nm,1.1s
YSS pmax pmax
comp=Z,120nm,0.6s
KULM Kulim 152.11 158 *e*PKPdf PKPdf 11 45 42.4 +1.0
KULM *e*PKPbc PKPdf 11 45 49.0 +7.7

KULM				*e*PKPab	PKPab	11 45 59.7	-0.8
ASAJ	**Asahikawa**	**152.19**	**306**	PKP	PKPdf	11 45 42.3	+1.8
	comp=Z,26nm,0.6s,baz=72,slow=8.7,SNR=8.8						
ASAJ				PKPbc	PKPdf	11 45 48.9	+8.4
	comp=Z,102nm,1.0s,baz=262,slow=8.2,SNR=15						
CBIJ	**Chichi jima**	**152.38**	**269**	PKPbc	PKPdf	11 45 49.0	+7.7
	comp=Z,58nm,0.5s,baz=265,slow=21,SNR=6.7						
BLSP	**Bilaspur**	**152.75**	**103**	*e*P	PKPdf	11 45 42.4	+0.5
CLNS	**Chul'man**	**152.97**	**343**	*e*PKIKP	PKPdf	11 45 42.2	+1.0
CLNS				pmax	pmax		
	comp=Z,37nm,1.0s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,13nm,1.3s						
MKAR	**Makanchi Array**	**153.37**	**47**	PKP	PKPdf	11 45 43.7	+1.6
	comp=E,9.6nm,1.0s,baz=315,slow=1.7,SNR=36						
MKAR				PKPbc	PKPdf	11 45 51.4	+9.4
	comp=E,66nm,0.9s,baz=297,slow=3.2,SNR=87						
MKAR				PKPab	PKPab	11 46 04.4	-0.4
	comp=E,78nm,0.8s,baz=296,slow=4.2,SNR=30						
MKAR				pPKPbc		11 46 22.4	
	comp=E,16nm,0.7s,baz=330,slow=2.4,SNR=2.5						
MKAR				pPKPab		11 46 33.7	
	comp=E,20nm,0.7s,baz=298,slow=3.3,SNR=5.0						
MKAR				PP	PP	11 49 39.5	-0.1
	comp=E,3.9nm,0.8s,baz=270,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**153.37**	**47**	PKP	PKPdf	11 45 43.7	+1.6
MKAR				PKPbc	PKPdf	11 45 51.4	+9.4
MKAR				PKPab	PKPab	11 46 04.4	-0.4
MKAR				pPKPbc		11 46 22.4	
MKAR				pPKPab		11 46 33.7	
MKAR				PP	PP	11 49 39.5	-0.1
MKAR	**Makanchi Array**	**153.37**	**47**	PKIKP	PKPdf	11 45 43.7	+1.6
MKAR						11 46 22.4	
MKAR						11 49 39.5	
BOD	**Bodaibo**	**153.72**	**356**	*e*PKIKP	PKPdf	11 45 42.4	+0.2
BOD				pmax	pmax		
	comp=Z,118nm,1.3s						
PBA	**Port Blair**	**154.03**	**136**	*e*P	PKPdf	11 45 47.4	+3.5
KKM	**Kota Kinabalu**	**154.06**	**192**	*e*PKPdf	PKPdf	11 45 46.2	+2.2
KKM				*e*PKPbc	PKPdf	11 45 54.9	+11
KOLN	**Koldanda**	**156.04**	**92**	*e*P	PKPdf	11 45 47.8	+1.6
	comp=Z,214nm,1.6s						
KLR	**Kul'dur**	**156.42**	**324**	*e*PKIKP	PKPdf	11 45 43.5	-2.5
KLR				*e*		11 46 14.2	
KLR				*e*		11 46 27.3	
KLR				*e*		11 49 52.0	
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,45nm,1.6s						
BOK	**Bokaro**	**156.59**	**103**	*e*P	PKPdf	11 45 49.5	+2.4
MJAR	**Matsushiro Arr**	**156.86**	**290**	PKP	PKPdf	11 45 47.2	+0.1
	comp=Z,6.4nm,0.7s,baz=77,slow=2.1,SNR=21						
MJAR				PKPab	PKPab	11 46 18.5	-1.5
	comp=Z,11nm,0.8s,baz=111,slow=2.7,SNR=12						
MJAR				pPKPab		11 46 48.7	
	comp=Z,25nm,0.7s,baz=92,slow=3.2,SNR=17						
MAJO	**Matsushiro**	**156.86**	**290**	*e*PKPdf	PKPdf	11 45 47.2	+0.1
MAJO				*e*PKPab	PKPab	11 46 19.6	-0.4
MAT	**Matsushiro**	**156.86**	**290**	*e*PKP	PKPdf	11 45 47.6	+0.5
MAT	**Matsushiro**	**156.86**	**290**	PKIKP	PKPdf	11 45 48.0	+0.9
GKN	**Gorkha**	**156.98**	**92**	*e*P	PKPdf	11 45 47.7	+0.2
	comp=Z,207nm,1.3s						
DMN	**Daman**	**157.28**	**94**	*e*P	PKPdf	11 45 49.6	+1.7
	comp=Z,159nm,1.3s						
KKN	**Kakani**	**157.47**	**93**	*e*P	PKPdf	11 45 49.7	+1.6
PKI	**Pulchoki**	**157.52**	**94**	*e*P	PKPdf	11 45 49.6	+1.4
WMQ	**Urumqi**	**158.08**	**50**	PKP	PKPdf	11 45 49.7	+1.3
WMQ				APKP		11 46 16.0	
WMQ				PP	PP	11 50 07.0	+1.0
WMQ				PP	PP		
	comp=Z,353nm,5.5s						
WMQ				LR	LR		
	comp=N,711nm,35.8s						
WMQ				LR	LR		
	comp=E,652nm,37.2s						
WMQ				LR	LR		
	comp=Z,727nm,38.7s						
MOY	**Mondy**	**158.70**	**17**	*e*PKIKP	PKPdf	11 45 52.0	+3.1
MOY				pmax	pmax		
	comp=Z,194nm,3.2s						
IRK	**Irkutsk**	**158.84**	**11**	*e*PKIKP	PKPdf	11 45 50.2	+1.2
IRK				*e*		11 46 22.2	
IRK				*e*		11 50 07.5	
IRK				pmax	pmax		
	comp=Z,137nm,1.5s						
MDJ	**Mudanjiang**	**160.43**	**317**	PKP	PKPdf	11 45 51.5	+0.5
MDJ	**Mudanjiang**	**160.43**	**317**	*e*PKPdf	PKPdf	11 45 51.4	+0.4
ZAK	**Zakamensk**	**160.43**	**15**	⇓*i*PKIKP	PKPdf	11 45 52.6	+1.8
ZAK				*e*		11 46 34.9	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,17nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HIA	**Hailar**	**161.15**	**342**	*e*PKPdf	PKPdf	11 45 52.0	+0.4
NST	**Nakhon Sawan**	**161.35**	**146**	P	PKPdf	11 45 54.0	+1.3
	comp=Z,48nm,1.2s						
BDT	**Bhumibol Dam**	**162.09**	**140**	P	PKPab	11 47 10.0	+27
SHL	**Shillong**	**162.29**	**105**	*e*x	x	11 47 46.5	
LSA	**Lhasa**	**162.93**	**91**	*e*PKPdf	PKPdf	11 45 57.7	+3.7
LSA				*e*PKPab	PKPab	11 46 47.5	+1.2
JNU	**Nakatsue**	**163.02**	**280**	PKPab	PKPab	11 46 44.5	-2.2
	comp=Z,18nm,1.2s,slow=3.0,SNR=4.5						
JNU				pPKPab		11 47 16.2	
	comp=Z,11nm,0.8s,baz=85,slow=13,SNR=5.5						
CN2	**Changchun**	**163.27**	**321**	*e*PKP	PKPdf	11 45 53.9	0.0
CN2				*e*PP	PP	11 50 30.0	-3.1
CHG	**Chiang Mai**	**163.32**	**137**	⇓P	PKPdf	11 45 56.4	+1.8
	comp=Z,38nm,1.2s						
SONM	**Songino Array**	**163.45**	**11**	PKP	PKPdf	11 45 55.5	+1.5
	comp=Z,14nm,1.1s,baz=198,slow=0.5,SNR=51						
SONM				pPKP		11 46 26.6	
	comp=Z,2.9nm,0.9s,baz=290,slow=1.5,SNR=2.3						
SONM				PKPab	PKPab	11 46 48.1	+0.1
	comp=Z,19nm,0.8s,baz=302,slow=0.8,SNR=7.5						
SONM				PP	PP	11 50 32.1	-2.0
	comp=Z,6.1nm,1.0s,baz=16,slow=3.9,SNR=8.0						
ULN	**Ulaanbaatar**	**163.52**	**9**	*e*PKPdf	PKPdf	11 45 56.0	+2.0
NANT	**Nan**	**164.28**	**142**	⇑P	PKPdf	11 45 55.0	-0.6
	comp=Z,678nm,1.0s						
KS15	**Wonju Array Si**	**164.82**	**297**	*e*PKPdf	PKPdf	11 45 56.8	+1.1
KS15				*e*PKPab	PKPab	11 46 53.2	-1.2
GTA	**Gaotai**	**168.12**	**46**	*e*PKP	PKPdf	11 46 00.3	+2.3
GTA				APKP		11 46 30.9	
GTA				XPKP		11 46 39.6	
GTA				PKP2	PKPab	11 47 09.4	+0.7
GTA				PKS	PKS	11 49 31.6	+1.9
GTA				PP	PP		
	comp=Z,433nm,8.8s						
GTA				LR	LR		
	comp=N,180nm,18.3s						
GTA				LR	LR		
	comp=E,139nm,21.4s						
GTA				LR	LR		
	comp=Z,611nm,59.6s						
DL2	**Dalian**	**168.59**	**313**	PKPR		11 45 59.1	
DL2				APKP		11 46 30.0	
DL2				PKP2	PKPab	11 47 11.4	+0.6
DL2				PP	PP	11 50 58.9	-1.8
DL2				SS	SS	12 11 39.1	-1.9
DL2				PP	PP		
	comp=Z,120nm,4.4s						
KMI	**Kunming**	**170.36**	**130**	PKP	PKPdf	11 46 02.0	+2.2
KMI				PKP2	PKPab	11 47 18.5	-0.5
KMI				PP	PP	11 51 10.1	+0.2
KMI				PP	PP		
	comp=Z,303nm,4.9s						
KMI				LR	LR		
	comp=N,137nm,32.0s						
KMI				LR	LR		
	comp=E,145nm,20.7s						
KMI	**Kunming**	**170.36**	**130**	PKP	PKPdf	11 46 02.0	+2.2
KMI				pPKP		11 46 25.9	
KMI				sPKP		11 46 33.3	
KMI				PKPab	PKPab	11 47 18.5	-0.5
KMI				PP	PP	11 51 10.1	+0.2
KMI				PPP	PPP	11 55 18.3	+1.7
KMI				SKKS		11 57 44.3	
KMI				SS	SS	12 11 58.3	-0.4
KMI				SSS	SSS	12 18 47.7	+3.9
KMI	**Kunming**	**170.36**	**130**	PKIKP	PKPdf	11 46 02.0	+2.2
KMI						11 46 33.3	
KMI						11 47 18.5	
KMI						11 51 10.1	
KMI				PPP	PPP	11 55 18.3	+1.7
KMI				SS	SS	12 11 58.3	-0.4
KMI				SSS	SSS	12 18 47.7	+3.9
HHC	**Hu-ho-hao-te**	**170.78**	**357**	⇓PKP	PKPdf	11 46 01.8	+2.2
HHC				APKP		11 46 32.5	
HHC				XPKP		11 46 41.7	
HHC				PKP2	PKPab	11 47 19.0	-1.4
HHC				PKS	PKS	11 49 35.3	+4.1
HHC				SKS	SKS	11 52 53.9	+3.9
HHC				PP	PP		
	comp=Z,2μm,6.3s						
HHC				LR	LR		
	comp=N,215nm,20.2s						
HHC				LR	LR		
	comp=E,237nm,21.4s						
HHC				LR	LR		
	comp=Z,1μm,53.5s						
SSE	**Sheshan**	**171.15**	**269**	PKP	PKPdf	11 45 59.4	-0.7
LZH	**Lanzhou**	**172.66**	**51**	PKP	PKPdf	11 46 03.0	+2.2
LZH				APKP		11 46 34.6	
LZH				XPKP		11 46 40.0	
LZH				PKP2	PKPab	11 47 29.7	+0.8
LZH				PP	PP	11 51 19.1	-2.0
LZH				SKS	SKS	11 52 56.0	+5.2
LZH				SKKS		11 57 52.4	
LZH				PP	PP		
	comp=Z,660nm,4.8s						
LZH				LR	LR		
	comp=E,2μm,18.0s						
LZH				LR	LR		
	comp=Z,3μm,21.0s						
TIA	**Tai'an**	**173.07**	**313**	⇓PKP	PKPdf	11 46 02.3	+1.4
NJ2	**Nanjing**	**173.18**	**276**	*e*PKP	PKPdf	11 46 02.9	+1.8
NJ2				APKP		11 46 29.9	
NJ2				XPKP		11 46 40.1	
NJ2				PKP2	PKPab	11 47 33.0	+1.7
NJ2				PP	PP		
	comp=Z,230nm,11.2s						
NJ2				LR	LR		
	comp=N,2μm,37.9s						
NJ2				LR	LR		
	comp=E,1μm,27.6s						
NJ2				LR	LR		
	comp=Z,730nm,36.4s						
GYA	**Guiyang**	**173.68**	**143**	*i* PKP	PKPdf	11 46 02.8	+1.4
GYA				APKP		11 46 34.1	
GYA				PKP2	PKPab	11 47 33.7	0.0
GYA				PP	PP		
	comp=Z,640nm,8.7s						
GYA				LR	LR		
	comp=N,1μm,21.4s						
GYA				LR	LR		
	comp=E,1μm,22.7s						
GYA				LR	LR		
	comp=Z,2μm,22.8s						
CD2	**Chengdu**	**173.88**	**95**	⇑*i*PKP	PKPdf	11 46 03.6	+2.2
XAN	**Xi'an**	**177.09**	**34**	PKP	PKPdf	11 46 03.7	+1.6
ENH	**Enshi**	**178.21**	**138**	*e*PKPdf	PKPdf	11 46 04.1	+1.8

ISK ***09*** *11:42:06.3, 37.02N×28.46E, h2km, MD3.0*
CSEM ***09*** *11:42:06.9±0.2, 37.03N×28.45E, h5km, MD3.0, Error ellipse: s-maj=3.6km s-min=2.4km az=13.0*
ATH ***09*** *11:42:08.6, 37.01N×28.18E, h10km, MD3.3/3*
ISC 09 11:42:07.5±0.5**, 37.01N**±0.03×**28.39E**±0.03**, h6**km±5km**, n19,** σ0^s**94**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.15**	**326**	PG	**Pg**	**11 42 11.0**	**+0.3**
YER				SG	**Sg**	**11 42 13.8**	**+1.0**
DALT	**Dalyan (Mudla)**	**0.31**	**140**	PG	**Pg**	**11 42 12.8**	**-1.0**
DALT				SG	**Sg**	**11 42 18.3**	**+0.2**
MLSB	**Milas**	**0.56**	**300**	*e*PG	**Pg**	**11 42 19.1**	**+0.3**
BDRM	**Kayabasi**	**0.76**	**274**	*i* P	**Pg**	**11 42 22.7**	**+0.1**
BDRM				*i* S	**Sg**	**11 42 33.2**	**+0.5**
AYDN	**Tasoluk**	**0.77**	**328**	*i* P	**Pg**	**11 42 22.3**	**-0.5**
AYDN				*i* S	**Sg**	**11 42 31.9**	**-1.2**
ARG	**Arkhangelos**	**0.82**	**195**	*e*PB	**Pb**	**11 42 23.7**	**0.0**
DNZL	**Cakiroluk**	**0.86**	**38**	*i* P	**Pb**	**11 42 23.7**	**-0.7**
DNZL				*i* S	**Sg**	**11 42 38.0**	**+1.9**
BODT	**Bodrum**	**0.86**	**274**	*e*PG	**Pg**	**11 42 24.4**	**-0.4**
DENT	**Denizli**	**0.90**	**35**	*e*PG	**Pg**	**11 42 23.9**	**-1.7**
GOLH	**Golhisar**	**0.97**	**76**	*i* P	**Pb**	**11 42 26.3**	**+0.1**
GOLH				*i* S	**Sb**	**11 42 39.4**	**+0.4**
ELL	**Elmali**	**1.25**	**102**	*e*PN	**Pn**	**11 42 29.2**	**-2.2**
AKAS	**Kas**	**1.25**	**128**	*i* P	**Pb**	**11 42 33.3**	**+2.3**
AKAS				*i* S	**Sb**	**11 42 52.6**	**+5.4**
SMG	**Samos**	**1.42**	**300**	*e*PB	**Pb**	**11 42 32.7**	**-1.2**
MANT	**Manisa**	**1.48**	**5**	*i* P	**Pn**	**11 42 34.6**	**-0.2**
MANT				*i* S	**Sb**	**11 42 53.8**	**-0.3**
KHL	**Karahalli**	**1.59**	**34**	*e*PN	**Pn**	**11 42 35.9**	**-0.4**
IZM	**Izmir**	**1.65**	**328**	*e*PN	**Pn**	**11 42 38.3**	**+1.2**
KDAG	**Bornova**	**1.65**	**328**	*i* P	**Pn**	**11 42 38.2**	**+1.0**
KDAG				*i* S	**Sb**	**11 42 58.7**	**-0.2**
KARP	**Karpathos**	**1.76**	**215**	*e*PB	**Pb**	**11 42 40.0**	**+0.1**
AKS	**Akhisar**	**1.92**	**347**	*e*PN	**Pn**	**11 42 41.6**	**+0.6**

IDC 09 11:42:47.2±1.7**, 3.59S**×**152.41E, mb4.0**/3**, mb1 4.3**/3**, mb1mx3.8**/12**, mbtmp4.0**/3**, Error ellipse: s-maj=109.1km s-min=29.7km az=121.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**226**	P	P	11 48 02.8	-1.6
	3.4nm,0.7s,baz=54,slow=9.7,SNR=11						
STKA	**Stephens Creek**	**29.91**	**199**	P	P	11 48 58.2	-1.0
	2.6nm,0.9s,baz=8.7,slow=13,SNR=3.1						
ILAR	**Eielson Array**	**81.20**	**22**	P	P	11 55 04.5	-1.5
	0.4nm,0.7s,baz=243,slow=5.0,SNR=5.4						

KRSC ***09*** *11:42:48.6±1.0, 50.56N×156.96E, h84km±5km, ML4.9*
SKHL ***09*** *11:42:48.0±0.2, 50.28N×157.09E, h70km±9km, mb5.6/3, msh5.8/2*
SKHL Felt (II) at Severo-Kurilsk.
MOS ***09*** *11:42:48.0±1.2, 50.97N×156.13E, h110km, mb4.7/13, Error ellipse: s-maj=11.6km s-min=6.2km az=73.2*
MOS Felt (II) at Severo-Kuril'sk.
BJI ***09*** *11:42:50.7, 50.86N×156.38E, h146km, mB5.1, mb5.0*
IDC ***09*** *11:42:51.2±2.1, 51.08N×156.14E, h123km±18km, mb4.3/32, mb1 4.4/34, mb1mx4.4/37, mbtmp4.7/34, Error ellipse: s-maj=12.1km s-min=9.2km az=139.0*
NEIC ***09*** *11:42:52.7±0.2, 51.06N×156.15E, mb4.8/96, Error ellipse: s-maj=5.3km s-min=2.9km az=168.0*
NEIC Felt [II] at Severo-Kuril'sk.
ISC 09 11:42:47.7±0.2**, 50.80N**±0.02×**156.25E**±0.04**, h110**km**, (h128**km±4.7km**:pP-P), n307,** σ1^s**13**/337**, mb4.8**/130**, 33C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.14**	**217**	*i* P	**P**	**11 43 03.4**	**+0.3**
SKR				AMB	AMB	11 43 03.6	
	8μm,0.4s						
SKR				AMB	AMB	11 43 03.6	
	30μm,0.4s						
SKR				⇑*i*S	**S**	**11 43 14.8**	**+0.2**
SKR				A		11 43 16.0	
	120μm,1.0s						
SKR				A		11 43 16.0	
	112μm,1.0s						
SKR				A		11 43 16.0	
	112μm,1.0s						
SKR				A		11 43 19.0	
	50μm,4.0s						
SKR				A		11 43 19.0	
	25μm,4.0s						
SKR				A		11 43 19.0	
	12μm,4.0s						
SKR	**Severo-Kuril's**	**0.14**	**217**	*i* PN	**P**	**11 43 03.4**	**+0.3**
SKR				*i* S	**S**	**11 43 14.8**	**+0.2**
SKR				pmax	pmax		
	comp=N,8μm,0.4s						
SKR				pmax	pmax		
	comp=E,8μm,0.4s						
SKR				pmax	pmax		
	comp=Z,30μm,0.4s						
SKR				smax			
	comp=N,120μm,1.0s						
SKR				smax			
	comp=E,112μm,1.0s						
ALID	**Alaid**	**0.45**	**280**	*i* P	**P**	**11 43 09.1**	**+4.7**
PAU	**Pauzhetka**	**0.76**	**27**	*i* P	**P**	**11 43 09.1**	**+2.3**
PAU				*i* S	**S**	**11 43 23.8**	**+2.7**
PAU				Smax			
	comp=E,27μm,0.8s						
MIPR	**Malaya Ipel'ka**	**1.52**	**12**	*i* P	**P**	**11 43 17.7**	**+2.5**
MIPR				*e*S	**S**	**11 43 38.0**	**+2.2**
GRL	**Gorelyy**	**2.09**	**32**	*i* P	**P**	**11 43 24.4**	**+2.0**
GRL				*e*S	**S**	**11 43 51.5**	**+3.1**
RUS	**Russkaya**	**2.16**	**40**	*i* P	**P**	**11 43 23.6**	**+0.2**
RUS				*i* S	**S**	**11 43 48.7**	**-1.4**
APC	**Apacha**	**2.21**	**14**	*i* P	**P**	**11 43 25.9**	**+1.9**
APC				*e*S	**S**	**11 43 53.1**	**+2.0**
APC				Smax			
	comp=E,780nm,1.2s						
KRMR	**Karymshinskiy**	**2.35**	**29**	*i* P	**P**	**11 43 26.6**	**+0.7**
KRMR				*e*S	**S**	**11 43 55.4**	**+0.9**
PET	**Petropavlovsk**	**2.68**	**33**	P	**P**	**11 43 31.4**	**+1.0**
PET				S	**S**	**11 44 02.6**	**+0.1**
PET	**Petropavlovsk**	**2.68**	**33**	⇓*i*P	**P**	**11 43 31.0**	**+0.6**
PET				AMB	AMB	11 43 31.4	
	comp=E,130nm,0.4s						
PET				*e*S	**S**	**11 44 03.4**	**+0.9**
PET				A		11 44 04.4	
	comp=E,2μm,0.8s						
PET				A		11 44 04.4	
	comp=E,1μm,0.8s						
PET	**Petropavlovsk**	**2.68**	**33**	*i* P	**P**	**11 43 31.3**	**+0.9**
PET				*i* S	**S**	**11 44 02.5**	**0.0**
PET	**Petropavlovsk**	**2.68**	**33**	⇓*e*Pn	**P**	**11 43 31.1**	**+0.7**
PET	**Petropavlovsk**	**2.68**	**33**	⇓*i*PN	**P**	**11 43 31.0**	**+0.6**
PET				*e*S	**S**	**11 44 03.4**	**+0.9**
PET				pmax	pmax		
	comp=Z,126nm,0.4s						
PET				smax			
	comp=N,2μm,0.7s						
PET				smax			
	comp=E,1μm,0.8s						
UGLR	**Uglovaya**	**2.89**	**32**	*i* P	**P**	**11 43 35.2**	**+1.9**
UGLR				*e*S	**S**	**11 44 10.0**	**+2.4**
KOK	**Koryaka**	**2.90**	**30**	*i* P	**P**	**11 43 35.8**	**+2.4**
KOK				*e*S	**S**	**11 44 11.3**	**+3.5**
AVH	**Avacha**	**2.91**	**31**	*i* P	**P**	**11 43 35.2**	**+1.7**
AVH				*e*S	**S**	**11 44 10.0**	**+2.0**
SMAR	**Somma**	**2.93**	**32**	*e*P	**P**	**11 43 35.6**	**+1.8**
SMAR				*e*S	**S**	**11 44 08.2**	**-0.3**
SDLR	**Sedlovina**	**2.97**	**32**	*i* P	**P**	**11 43 35.7**	**+1.4**
SDLR				*e*S	**S**	**11 44 08.5**	**-1.0**
NLC	**Nalytchevo**	**3.05**	**38**	P	**P**	**11 43 34.8**	**-0.6**
NLC				S	**S**	**11 44 08.5**	**-2.9**
NLC	**Nalytchevo**	**3.05**	**38**	*i* P	**P**	**11 43 34.7**	**-0.7**
NLC				*i* S	**S**	**11 44 08.4**	**-3.0**
GNL	**Ganaly**	**3.08**	**19**	*i* P	**P**	**11 43 37.7**	**+1.9**
GNL				*e*S	**S**	**11 44 13.3**	**+1.1**
SPN	**Mys Shipunski**	**3.28**	**44**	P	**P**	**11 43 37.9**	**-0.6**
SPN				S	**S**	**11 44 13.3**	**-3.7**
SPN	**Mys Shipunski**	**3.28**	**44**	*e*P	**P**	**11 43 37.9**	**-0.6**
SPN				*i* S	**S**	**11 44 13.2**	**-3.8**
KII	**Karymskiy**	**3.79**	**30**	*e*P	**P**	**11 43 45.9**	**+0.5**
KII				*e*S	**S**	**11 44 28.0**	**-1.3**
MKZ	**Mys Kozlova**	**5.03**	**39**	P	**P**	**11 44 00.7**	**-1.5**
MKZ				S	**S**	**11 44 53.2**	**-6.4**
MKZ	**Mys Kozlova**	**5.03**	**39**	*i* P	**P**	**11 44 00.6**	**-1.6**
MKZ				*e*S	**S**	**11 44 53.1**	**-6.5**
TUMR	**Tumrok**	**5.07**	**26**	*i* P	**P**	**11 44 05.2**	**+2.4**
TUMR				*e*S	**S**	**11 45 00.5**	**-0.1**
ESO	**Esso**	**5.34**	**15**	*e*P	**P**	**11 44 08.3**	**+1.9**
ESO				*e*S	**S**	**11 45 05.4**	**-1.9**
ESO				Smax			
	comp=E,100nm,1.3s						
KMNR	**Kamenistaya**	**5.51**	**24**	*i* P	**P**	**11 44 10.5**	**+1.8**
KMNR				*e*S	**S**	**11 45 11.9**	**+0.5**
KPT	**Kopyto**	**5.70**	**23**	*i* P	**P**	**11 44 12.4**	**+1.2**
KPT				*e*S	**S**	**11 45 12.9**	**-3.0**
KOZ	**Kozyrevsk**	**5.70**	**21**	P	**P**	**11 44 13.5**	**+2.3**
KOZ	**Kozyrevsk**	**5.70**	**21**	*e*P	**P**	**11 44 13.4**	**+2.2**
KOZ				*e*S	**S**	**11 45 15.3**	**-0.6**
KOZR	**Kozyr**	**5.71**	**21**	PN	**P**	**11 44 13.5**	**+2.1**
ZLN	**Zelenaya**	**5.89**	**26**	*i* P	**P**	**11 44 16.0**	**+2.1**
ZLN				*e*S	**S**	**11 45 21.5**	**+0.7**
SRDR	**Sredinnyy**	**5.90**	**19**	*e*P	**P**	**11 44 16.4**	**+2.4**
SRDR				*e*S	**S**	**11 45 21.2**	**+0.2**
LGNR	**Loginova**	**5.92**	**25**	*e*P	**P**	**11 44 16.5**	**+2.2**
LGNR				*e*S	**S**	**11 45 21.7**	**+0.3**
CIRR	**Tsirk**	**5.97**	**25**	*e*P	**P**	**11 44 17.9**	**+3.0**
CIRR				*e*S	**S**	**11 45 22.6**	**+0.1**
KRSR	**Krestovskiy**	**6.01**	**24**	*i* P	**P**	**11 44 17.5**	**+2.0**
KRSR				*e*S	**S**	**11 45 22.1**	**-1.4**
KLY	**Klyuchi**	**6.12**	**24**	P	**P**	**11 44 18.9**	**+1.9**
KLY	**Klyuchi**	**6.12**	**24**	*i* P	**P**	**11 44 18.5**	**+1.5**
KLY				*e*S	**S**	**11 45 24.7**	**-1.5**
KBG	**Krutoberegovo**	**6.68**	**33**	*e*P	**P**	**11 44 24.6**	**-0.2**
KBG				*e*S	**S**	**11 45 35.0**	**-5.0**
KBG				Smax			
	comp=E,380nm,0.8s						
KBTR	**Krutoberegovo**	**6.69**	**33**	P	**P**	**11 44 23.5**	**-1.4**
KBTR				S	**S**	**11 45 36.0**	**-4.1**
KBTR	**Krutoberegovo**	**6.69**	**33**	*e*P	**P**	**11 44 23.4**	**-1.5**
KBTR				*e*S	**S**	**11 45 36.0**	**-4.1**
BKI	**Bering**	**7.34**	**49**	*e*P	**P**	**11 44 31.0**	**-2.8**
BKI				*i* S	**S**	**11 45 43.1**	**-13**
BKI				Smax			
	comp=E,460nm,0.6s						
OKH	**Okha**	**8.64**	**294**	*e*rx	rx	11 45 34.0	
OKH				*e*rx	rx	11 45 34.9	
UGL	**Uglegorsk**	**9.31**	**265**	*e*P	**P**	**11 45 08.0**	**+7.7**
UGL				AMB	AMB	11 45 09.5	
	comp=E,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.69**	**252**	⇑*i*P	**P**	**11 45 10.0**	**+4.7**
YSS				pP		11 45 21.0	
YSS	**Yuzh-Sakhalins**	**9.69**	**252**	⇓*i*Pn	**P**	**11 45 09.7**	**+4.4**
	comp=E,25nm,0.8s						
YSS	**Yuzh-Sakhalins**	**9.69**	**252**	*e*PN	**P**	**11 45 10.6**	**+5.3**
YSS				pmax	pmax		
	comp=Z,36nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**9.76**	**230**	*e*P	**P**	**11 45 06.0**	**-0.2**
YUK				AMB	AMB	11 45 10.0	
	comp=Z,120nm,0.5s						
YUK				AMB	AMB	11 45 10.0	
	comp=Z,230nm,0.5s						
YUK				AMB	AMB	11 45 10.0	
	comp=Z,490nm,0.5s						
YUK				*e*S	**S**	**11 46 53.6**	**-0.9**
YUK				A		11 47 06.0	
	comp=Z,180nm,0.5s						
YUK				A		11 47 06.0	
	comp=Z,130nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**9.76**	**230**	*e*PN	**P**	**11 45 06.0**	**-0.2**
YUK				S	**S**	**11 46 53.6**	**-0.9**
YUK				pmax	pmax		
	comp=N,120nm,0.4s						
YUK				pmax	pmax		
	comp=Z,490nm,0.4s						
YUK				pmax	pmax		
	comp=E,230nm,0.5s						
YUK				smax			
	comp=N,180nm,0.5s						
YUK				smax			
	comp=E,130nm,0.5s						
FX1	**Attu Island--F**	**10.67**	**72**	P	**P**	**11 45 18.0**	**-0.4**
	comp=E,7.2nm,0.3s,baz=318,slow=5.8,SNR=18						
FX1				S	**S**	**11 47 06.5**	**-10**
	comp=E,88nm,0.3s,baz=60,slow=22,SNR=22						
FX1	**Attu Island--F**	**10.67**	**72**	*e*Pn	**P**	**11 45 18.4**	**0.0**
ASAJ	**Asahikawa**	**11.40**	**239**	P	**P**	**11 45 32.4**	**+4.3**
	comp=E,4.0nm,0.3s,baz=70,slow=13,SNR=39						
ASAJ	**Asahikawa**	**11.40**	**239**	PN	**P**	**11 45 32.4**	**+4.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KAMR	**Kamenskoye**	**12.89**	**21**	*e*P	**P**	**11 45 51.4**	**+3.8**
KAMR				*e*S	**S**	**11 48 04.4**	**-4.5**
BILL	**Bilibino**	**17.99**	**12**	*e*P	**P**	**11 46 49.2**	**-2.4**
BILL				pmax	pmax		
	comp=Z,26nm,0.9s						

YAK Yakutsk 18.35 318 *e*P **P 11 46 53.6 -2.1**
comp=Z,196nm,0.7s
YAK Yakutsk 18.35 318 *e*P **P 11 46 53.6 -2.2**
YAK pmax pmax
comp=Z,196nm,0.7s
MDJ Mudanjiang 18.92 261 P **P 11 47 02.0 -0.1**
MDJ XP 11 47 44.7
MDJ S **S 11 50 30.2 +4.5**
MDJ PCP PcP 11 51 22.5 -1.0
MDJ SCP 11 54 48.0
MDJ PCS 11 55 00.4
MDJ AMB AMB
comp=Z,54nm,0.7s
MDJ AMB AMB
comp=Z,270nm,7.8s
MDJ LR LR
comp=Z,935nm,59.7s
MDJ Mudanjiang 18.92 261 *e*P **P 11 47 01.8 -0.3**
comp=Z,33nm,0.8s
MDJ *e*pP 11 47 29.4
MJAR Matsushiro Arr 19.25 229 P **P 11 47 07.8 +2.1**
comp=Z,3.4nm,0.3s,baz=24,slow=12,SNR=20
MAT Matsushiro 19.25 229 P **P 11 47 07.2 +1.5**
MAT Matsushiro 19.25 229 *e*P **P 11 47 07.0 +1.3**
HIA Hailar 23.36 281 *e*P **P 11 47 47.2 +0.7**
comp=Z,16nm,0.6s,mb4.5
HIA Hailar 23.36 281 *e*P **P 11 47 47.2 +0.7**
HIA pmax pmax
comp=Z,16nm,0.6s
JNU Nakatsue 25.65 236 P **P 11 48 10.8 +2.2**
comp=Z,25nm,0.8s,mb4.7,baz=31,slow=10,SNR=16
MCK McKinley 31.26 44 *e*P **P 11 48 56.9 -1.8**
comp=Z,3.7nm,0.8s,mb4.2
SML Sawmill 31.66 48 *e*P **P 11 49 00.2 -1.9**
JOW Kunigami 32.03 232 P **P 11 49 07.2 +1.5**
comp=Z,14nm,0.4s,mb5.1,baz=129,slow=29,SNR=9.0
ILAR Eielson Array 32.12 42 P **P 11 49 04.2 -1.9**
comp=Z,3.3nm,0.7s,mb4.2,baz=262,slow=6.1,SNR=36
SONM Songino Array 32.14 285 P **P 11 49 06.9 +0.4**
comp=Z,3.6nm,0.5s,mb4.4,baz=67,slow=8.3,SNR=17
SSE Sheshan 32.57 246 P **P 11 49 10.7 +0.3**
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,477nm,10.0s
SSE Sheshan 32.57 246 P **P 11 49 10.7 +0.3**
comp=Z,34nm,0.7s,mb5.3
ZAK Zakamensk 33.03 290 *e*P **P 11 49 14.7 +0.5**
NJ2 Nanjing 33.25 250 *e*P **P 11 49 18.8 +2.5**
NJ2 AP pP 11 49 46.4 +5.3
NJ2 PP PP 11 50 34.5 +3.5
NJ2 S **S 11 54 29.0 +1.8**
NJ2 XS 11 55 18.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 LR LR
comp=N,1µm,20.0s
NJ2 LR LR
comp=E,860nm,17.0s
NJ2 LR LR
comp=Z,430nm,22.0s
INK Inuvik 37.13 35 P **P 11 49 48.4 -0.4**
comp=Z,6.6nm,0.7s,mb4.7,baz=282,slow=7.3,SNR=20
INK Inuvik 37.13 35 *e*P **P 11 49 48.4 -0.4**
comp=Z,6.4nm,0.6s,mb4.7
INK Inuvik 37.13 35 *e*P **P 11 49 48.4 -0.4**
INK pmax pmax
comp=Z,6.0nm,0.6s
ENH Enshi 40.21 258 *e*P **P 11 50 15.1 +0.4**
comp=Z,13nm,0.4s,mb5.1
GTA Gaotai 40.49 276 *e*P **P 11 50 17.3 +0.4**
GTA AP pP 11 50 46.9 +4.6
GTA XP sP 11 51 02.5 +7.2
GTA PP PP 11 51 58.5 +3.3
GTA S **S 11 56 18.8 +1.6**
GTA SS SS 11 59 19.7 +3.8
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,111nm,4.2s
GTA LR LR
comp=N,214nm,18.7s
GTA LR LR
comp=E,231nm,16.4s
GTA LR LR
comp=Z,442nm,18.0s
DLBC Dease Lake 41.34 50 P **P 11 50 25.0 +1.4**
comp=Z,5.8nm,0.8s,mb4.5,baz=251,slow=6.0,SNR=3.1
GZH Guangzhou 43.17 246 P **P 11 50 34.9 -4.1**
GYA Guiyang 44.66 256⇑ *i*P **P 11 50 51.8 +0.9**
GYA PP PP 11 52 38.4 +0.5
GYA S **S 11 57 17.4 -0.8**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,90nm,4.0s
GYA LR LR
comp=N,260nm,18.4s
GYA LR LR
comp=E,370nm,17.8s
GYA LR LR
comp=Z,310nm,18.0s
WMQ Urumqi 45.48 289 P **P 11 50 59.0 +1.8**
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.6
WMQ AMB AMB
comp=Z,205nm,6.6s
YKA Yellowknife Ar 46.46 40 P **P 11 51 04.2 -0.5**
comp=Z,1.3nm,0.5s,mb3.9,baz=296,slow=7.1,SNR=5.6
YKA Yellowknife Ar 46.46 40 *i* P **P 11 51 06.5 +1.8**
YKA pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 46.92 302 *e*P **P 11 51 07.9 -0.6**
comp=Z,13nm,0.4s,mb5.0
KURK Kurchatov 46.92 302 *e*P **P 11 51 07.9 -0.6**
KURK pmax pmax
comp=Z,13nm,0.4s,mb5.0
MKAR Makanchi Array 47.00 295 P **P 11 51 08.6 -0.6**
comp=Z,4.0nm,0.4s,mb4.5,baz=65,slow=6.9,SNR=35
KMI Kunming 48.06 258 P **P 11 51 18.3 +0.6**
KMI AP pP 11 51 49.5 +5.9
KMI PCP PcP 11 52 46.2 +2.0
KMI SCP 11 56 26.2
KMI S **S 11 58 05.5 -0.8**
KMI SS SS 12 01 33.4 +1.4
KMI AMB AMB
comp=Z,22nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,146nm,3.4s
KMI LR LR
comp=N,209nm,24.2s
KMI LR LR
comp=E,213nm,33.9s
KMI Kunming 48.06 258 P **P 11 51 18.3 +0.6**
comp=E,22nm,1.1s,mb4.9
KMI pP pP 11 51 49.5 +5.9
KMI PcP PcP 11 52 46.2 +2.0
KMI ScP 11 56 26.2
KMI S **S 11 58 05.5 -0.8**
KMI SS SS 12 01 33.4 +1.4
KMI LR LR
comp=Z,960nm,69.8s
KMI Kunming 48.06 258 P **P 11 51 18.3 +0.6**
KMI 11 52 46.2
KMI S **S 11 58 05.5 -0.8**
KMI SS SS 12 01 33.4 +1.4
KMI pmax pmax
comp=Z,22nm,1.1s,mb4.9
KMI MLR MLR
comp=Z,960nm,69.8s
BVA0 Borovoye Array 49.94 308 *i* P **P 11 51 30.3 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BVAR Borovoye Array 49.94 308 P **P 11 51 30.5 -1.3**
comp=Z,5.7nm,0.5s,mb4.7,baz=57,slow=7.6,SNR=18
BVAR PcP PcP 11 52 49.2 -1.5
comp=Z,3.9nm,0.5s,baz=78,slow=2.3,SNR=9.9
BRVK Borovoye 49.98 308 *e*P **P 11 51 30.6 -1.4**
NLW Nelson Butte 51.53 58 P **P 11 51 43.7 -0.2**
TBM Table Mountain 51.93 59 P **P 11 51 46.3 -0.6**
EDM Edmonton 52.06 50 *e*P **P 11 51 46.4 -1.3**
NEW Newport 53.14 56 *e*P **P 11 51 54.3 -1.6**
comp=Z,10.0nm,1.1s,mb4.8
NEW Newport 53.14 56 *e*P **P 11 51 54.3 -1.6**
NEW pmax pmax
comp=Z,10.0nm,1.1s
ARU Arti 53.46 317 *e*P **P 11 51 55.3 -2.8**
comp=Z,6.9nm,0.8s,mb4.7
ARU *e*pP pP 11 52 27.0 +2.5
ARU *e*PcP PcP 11 53 02.6 -1.0
ARU Arti 53.46 317 *e*P **P 11 51 55.3 -2.8**
ARU *e* 11 53 02.6
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KTRM Thompson Ridge 53.59 66 P **P 11 51 60.0 +0.6**
AAK Ala-Archa 53.94 295 *e*P **P 11 52 00.0 -1.8**
YBH Yreka Blue Hor 54.09 66 P **P 11 52 03.6 +0.6**
comp=Z,14nm,0.7s,mb5.1,baz=343,slow=4.1,SNR=24
YBH Yreka Blue Hor 54.09 66⇑ *e*P **P 11 52 03.5 +0.6**
comp=Z,5.9nm,0.6s,mb4.8
YBH Yreka Blue Hor 54.09 66 P **P 11 52 03.6 +0.7**
YBH pmax pmax
comp=Z,14nm,0.7s
WALA Waterton Lakes 54.32 54 *e*P **P 11 52 03.2 -1.3**
comp=Z,8.7nm,0.6s,mb5.0
WALA *e*pP pP 11 52 29.9 -1.1
LHEM Herd Peak 54.44 66 P **P 11 52 06.0 +0.5**
BSMT Bassoo Peak 54.62 56 P **P 11 52 06.5 -0.2**
ARCES ARCESS Array B 54.71 341 P **P 11 52 04.0 -3.1**
comp=Z,1.9nm,0.7s,mb4.2,baz=37,slow=7.4,SNR=5.6
ARCES PcP PcP 11 53 08.5 +0.3
comp=Z,3.4nm,0.7s,baz=27,slow=4.0,SNR=3.5
ARCES ARCESS Array B 54.71 341 P **P 11 52 04.0 -3.1**
ARCES 11 53 08.6
BMO Blue Mountains 55.16 60 *e*P **P 11 52 09.8 -0.9**
comp=Z,7.3nm,0.6s,mb4.9
MOD Modoc 55.37 64⇑ *i*P **P 11 52 12.3 +0.1**
comp=Z,30nm,0.7s,mb5.4
MSO Missoula 55.72 56⇑ *e*P **P 11 52 13.6 -1.0**
comp=Z,10nm,1.1s,mb4.8
WVOR Wild Horse Val 55.97 63⇑ *i*P **P 11 52 16.5 -0.1**
comp=Z,28nm,0.8s,mb5.3
WVOR Wild Horse Val 55.97 63⇑ *i*P **P 11 52 16.5 -0.1**
WVOR pmax pmax
comp=Z,28nm,0.8s,mb5.3
CHMT Chamberlain Mo 56.02 56 P **P 11 52 15.2 -1.7**
FFC Flin Flon 56.33 43 *e*P **P 11 52 18.1 -0.8**
comp=Z,11nm,1.2s,mb4.8
OHCM Honcut 56.35 67 *e*P **P 11 52 18.5 -0.8**
SUMG Summit 56.50 5⇓ *e*P **P 11 52 18.8 -1.2**
comp=Z,37nm,0.9s,mb5.4
BEKR Beckwourth 56.66 66⇑ *e*P **P 11 52 21.2 -0.3**
comp=Z,13nm,0.9s,mb5.0
KKN Kakani 57.20 275 *e*P **P 11 52 26.4 +1.0**
comp=Z,44nm,0.5s,mb5.8
PKI Pulchoki 57.27 275 *e*P **P 11 52 26.5 +0.6**
comp=Z,43nm,1.0s,mb5.4
DLMT Dillon 57.38 57 *e*P **P 11 52 25.9 -0.5**
DLMT *e*ScP 11 57 03.9
DMN Daman 57.44 275 *e*P **P 11 52 27.6 +0.5**
comp=Z,21nm,0.5s,mb5.4
AB31 Akbulak array 57.44 309 *e*P **P 11 52 24.7 -2.2**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
GKN Gorkha 57.46 276 *e*P **P 11 52 27.5 +0.2**
comp=Z,33nm,0.4s,mb5.7
HLID Hailey 57.59 59 *e*P **P 11 52 27.7 -0.2**
comp=Z,8.0nm,1.1s,mb4.7
BOZ Bozeman (W) 57.70 56⇑ *i*P **P 11 52 28.6 -0.2**
comp=Z,14nm,0.7s,mb5.1
CMB Columbia Colle 57.85 68 *e*P **P 11 52 29.3 -0.6**
comp=Z,7.2nm,1.0s,mb4.7
CMB Columbia Colle 57.85 68 *e*P **P 11 52 29.3 -0.6**
CMB pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BMN Battle Mountai 58.09 64⇑ *i*P **P 11 52 31.6 +0.1**
comp=Z,15nm,0.8s,mb5.1
KOLN Koldanda 58.27 276 *e*P **P 11 52 32.6 -0.4**
comp=Z,20nm,0.4s,mb5.5
YMR Madison River 58.70 57⇑ *e*P **P 11 52 35.8 +0.1**
YNR Norris Junctio 58.83 56 *e*P **P 11 52 37.0 +0.5**
YFT Old Faithful 58.92 57⇑ *e*P **P 11 52 38.6 +1.4**
ELK Elko 59.00 62⇑ *e*P **P 11 52 37.9 +0.1**
comp=Z,9.1nm,0.8s,mb4.9
LKWY Lake 59.07 56 *e*P **P 11 52 39.2 +1.0**
comp=Z,19nm,0.8s,mb5.2
LKWY Lake 59.07 56 *e*P **P 11 52 39.2 +0.9**
LKWY pmax pmax
comp=Z,19nm,0.8s,mb5.2
IMW Indian Meadow 59.24 57⇑ *i*P **P 11 52 39.9 +0.5**
comp=Z,7.8nm,0.6s,mb4.9
FLWY Flagg Ranch 59.24 57⇑ *e*P **P 11 52 40.1 +0.7**
MTUM Tungsten Hills 59.38 67 *e*P **P 11 52 40.2 -0.3**
RRI2 Red Ridge 59.41 58 *e*P **P 11 52 41.0 +0.5**
comp=Z,26nm,0.7s,mb5.4
TPAW Teton Pass 59.51 58⇑ *e*P **P 11 52 41.7 +0.4**
comp=Z,21nm,0.7s,mb5.3
SNOW Snow King Moun 59.63 57⇑ *e*P **P 11 52 42.7 +0.6**
comp=Z,28nm,1.1s,mb5.2
REDW Red Top Meadow 59.65 58⇑ *i*P **P 11 52 42.8 +0.5**
comp=Z,38nm,1.3s,mb5.3
TPH Tonopah 59.67 66⇑ *i*P **P 11 52 42.2 -0.2**
comp=Z,26nm,1.2s,mb5.1
LAO LASA Array 59.78 52⇑ *e*P **P 11 52 42.9 -0.2**
comp=Z,25nm,1.0s,mb5.2
AHID Auburn Hatcher 59.92 58⇑ *e*P **P 11 52 44.0 0.0**
comp=Z,20nm,1.1s,mb5.1
HWUT Hardware Ranch 60.46 59⇑ *i*P **P 11 52 47.9 +0.1**
comp=Z,15nm,0.7s,mb5.1
DUG Dugway 60.73 61⇑ *e*P **P 11 52 49.7 0.0**
comp=Z,17nm,1.1s,mb5.0
DUG *e*ScP 11 57 13.5
BW06 Boulder Array 60.74 57 *e*P **P 11 52 49.3 -0.4**
comp=Z,19nm,0.8s,mb5.2
PDAR Pinedale Array 60.74 57 P **P 11 52 49.5 -0.3**
comp=Z,17nm,0.7s,mb5.2,baz=318,slow=2.6,SNR=147
CTU Camp Tracy 60.98 60 *e*P **P 11 52 51.0 -0.4**
JLU Jordanelle 61.21 60 *e*P **P 11 52 52.8 -0.1**
FINES FINESS Array B 61.25 335 P **P 11 52 49.6 -3.2**
comp=Z,1.1nm,0.5s,mb4.2,baz=22,slow=10,SNR=6.2
FINES PcP PcP 11 53 32.8 -1.2
comp=Z,2.3nm,0.5s,baz=27,slow=3.9,SNR=8.5
FINES FINESS Array B 61.25 335 *e*P **P 11 52 56.6 +3.7**
NLU North Lily Min 61.31 61⇑ *i*P **P 11 52 53.6 0.0**
DAU Daniels Canyon 61.45 60 P **P 11 52 54.9 +0.4**
MPU Maple Canyon 61.51 61 *e*P **P 11 52 55.1 +0.2**
MWC Mount Wilson 61.83 70⇑ *i*P **P 11 52 56.5 -0.6**
ARUT Antelope Range 62.04 64 *e*P **P 11 52 58.2 -0.3**
ULM Lac du Bonnet 62.13 44 P **P 11 52 57.4 -1.6**
comp=Z,1.3nm,0.4s,mb4.3,baz=323,slow=10,SNR=4.4
ULM Lac du Bonnet 62.13 44 *e*P **P 11 52 57.1 -1.8**
comp=Z,1.7nm,0.6s,mb4.2
TMUT Trail Mountain 62.25 61⇑ *e*P **P 11 52 59.6 -0.3**
MSU Marysvale 62.25 62 *e*P **P 11 53 00.1 +0.2**
MSU *e*ScP 11 57 18.3
KSM Kuching 62.55 234 *e*P **P 11 53 03.9 +1.6**
NEN Nelson 62.72 66 *e*P **P 11 53 02.8 -0.3**
SRU San Rafael 62.76 61⇑ *i*P **P 11 53 03.0 -0.3**
SMCO Snowmass 64.66 59⇑ *e*P **P 11 53 15.5 0.0**
KULM Kulim 64.67 245 *e*P **P 11 53 17.4 +1.2**
BORG Borgarnes 64.78 359 P **P 11 53 15.4 -0.6**
comp=Z,12nm,0.8s,mb4.8,baz=21,slow=8.0,SNR=5.2
BORG Borgarnes 64.78 359 *e*P **P 11 53 16.1 +0.2**
comp=Z,45nm,0.9s,mb5.3
ISCO Idaho Springs 64.94 57 *e*P **P 11 53 17.8 +0.3**
comp=Z,18nm,1.1s,mb4.8
NB2 NORSAR Subarra 65.04 342 P **P 11 53 15.0 -2.7**
comp=Z,1.9nm,0.5s,mb4.2,baz=25,slow=6.5
NB2 NORSAR Subarra 65.04 342 P **P 11 53 15.0 -2.7**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
NOA NORSAR Array B 65.04 342 P **P 11 53 15.2 -2.5**
comp=Z,1.6nm,0.4s,mb4.2,baz=34,slow=8.8,SNR=8.9
NOA PcP PcP 11 53 48.0 -1.5
comp=Z,1.4nm,0.5s,baz=24,slow=3.4,SNR=4.7
HFS Hagfors 65.36 340 P **P 11 53 17.4 -2.4**
comp=Z,3.8nm,0.3s,mb4.7,baz=56,slow=5.3,SNR=34
HFS PcP PcP 11 53 48.5 -2.2
comp=Z,3.1nm,0.5s,baz=76,slow=6.1,SNR=5.4
SDCO Great Sand Dun 66.49 59 *e*P **P 11 53 27.1 -0.3**
comp=Z,9.9nm,1.3s,mb4.5
TUC Tucson 67.46 66 *e*P **P 11 53 33.4 -0.1**
comp=Z,7.1nm,1.3s,mb4.3
ANMO Albuquerque 68.00 61⇑ *e*P **P 11 53 36.9 +0.1**
comp=Z,8.0nm,1.0s,mb4.5
SCHQ Schefferville 68.77 25 P **P 11 53 39.4 -1.7**
comp=Z,2.9nm,0.4s,mb4.4,baz=10,slow=5.2,SNR=13
SCHQ Schefferville 68.77 25 P **P 11 53 39.4 -1.7**
HYB Hyderabad 68.96 272 *i* P **P 11 53 43.0 0.0**
AKASG Malin Array Be 69.31 327 P **P 11 53 41.6 -2.9**
comp=Z,2.2nm,0.4s,mb4.3,baz=31,slow=6.3,SNR=11
MNTX Cornudas Mount 71.01 63⇑ *e*P **P 11 53 55.1 -0.1**
comp=Z,7.1nm,1.1s,mb4.4
WMOK Wichita Mounta 72.34 57 *e*P **P 11 54 02.0 -1.0**
comp=Z,8.6nm,0.9s,mb4.6
EKA Eskdalemuir Ar 72.86 348 P **P 11 54 04.4 -1.1**
comp=Z,11nm,0.7s,mb4.8,baz=16,slow=5.0,SNR=25
STHS Stebnicka Huta 73.02 331 *e*P **P 11 54 05.8 -0.8**
WRAB Tennant Creek 73.02 202 *i* P **P 11 54 13.6 +6.4**
WRA Warramunga Arr 73.03 202 P **P 11 54 07.8 +0.6**
comp=Z,21nm,0.8s,mb4.0,baz=17,slow=5.9,SNR=10.0
DZM Mont Dzumac 73.10 170 P **P 11 54 09.4 +1.7**
comp=Z,6.1nm,0.7s,mb4.5,baz=47,slow=16,SNR=5.1
KOLS Kolonicke sedl 73.12 330 *e*P **P 11 54 07.7 +0.5**
KOLS *e* 11 54 22.8
CLL Collm 73.60 337 P **P 11 54 10.0 +0.1**
CLL Collm 73.60 337 *i* P **P 11 54 10.0 +0.1**
FITZ Fitzroy Crossi 73.69 210 *e*P **P 11 54 12.4 +1.3**
comp=Z,6.6nm,0.7s,mb4.5
FITZ Fitzroy Crossi 73.69 210 P **P 11 54 12.5 +1.3**
comp=Z,9.9nm,0.9s,mb4.5,baz=18,slow=3.9,SNR=8.6
LTX Lajitas 73.76 64⇑ *i*P **P 11 54 11.3 -0.1**
comp=Z,14nm,0.8s,mb4.8
TXAR Lajitas Array 73.76 64 P **P 11 54 11.6 +0.2**
comp=Z,11nm,0.6s,mb4.8,baz=298,slow=4.6,SNR=194
MORC Moravsky Berou 73.78 334 *e*P **P 11 54 09.8 -1.3**
comp=Z,3.1nm,0.7s,mb4.2
VRAC Vranov 74.47 334 P **P 11 54 14.1 -1.0**
comp=Z,2.8nm,0.5s,mb4.3,baz=339,slow=14,SNR=3.1
VRAC Vranov 74.47 334 P **P 11 54 14.1 -1.0**
VRAC pmax pmax
comp=Z,3.0nm,0.5s
VYHS Vyhne 74.56 332 *e* **P 11 54 21.1 +5.5**
MLR Muntele Rosu 74.90 326 P **P 11 54 17.0 -0.5**
comp=Z,5.7nm,0.5s,mb4.6,baz=309,slow=4.7,SNR=12
MLR Muntele Rosu 74.90 326 P **P 11 54 17.0 -0.6**
MLR pmax pmax
comp=Z,6.0nm,0.5s
PALK Pallekele 75.27 263 *e*P **P 11 54 21.0 +0.7**
comp=Z,26nm,0.7s,mb5.1
DLF Lyons Farm 75.27 349 *e*P **P 11 54 18.2 -1.3**
DCN Doughan 75.31 350⇑ *i*P **P 11 54 19.1 -0.6**
KHC Kasperske Hory 75.45 336 *e*P **P 11 54 19.5 -1.1**
KHC x x 11 54 26.0
KHC Kasperske Hory 75.45 336 *e*P **P 11 54 19.5 -1.1**
KHC *e* 11 54 26.0
GERES GERESS Array B 75.68 336 P **P 11 54 21.0 -1.0**
comp=Z,1.0nm,0.4s,mb3.9,baz=346,slow=5.5,SNR=6.0
MALT Malatya 75.87 314 *e*P **P 11 54 22.4 -0.9**
comp=Z,3.9nm,0.8s,mb4.2
ASPA Alice Springs 76.72 201 *e*P **P 11 54 29.6 +1.3**
BAIF Baives 76.73 342 *e*P **P 11 54 27.3 -0.5**
WVT Waverly 76.76 48 *e*P **P 11 54 27.7 -0.6**
comp=Z,4.4nm,0.5s,mb4.4
BR131 Keskin Array S 76.81 318 *e*P **P 11 54 27.4 -1.1**
BRTR Keskin Array B 76.81 318 P **P 11 54 27.6 -0.8**
comp=Z,2.3nm,0.7s,mb4.0,baz=27,slow=2.8,SNR=6.5
BRTR Keskin Array B 76.81 318 P **P 11 54 27.7 -0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
JMDO Jabal Madar 77.93 290 P **P 11 54 34.9 -0.1**
SNR=7.2
ARQ Araqi 78.12 292 P **P 11 54 36.4 +0.3**
SNR=8.0
BSY Bisya 78.18 291 P **P 11 54 36.6 +0.3**
SNR=5.8
DAVOX Davos 78.57 337 P **P 11 54 39.0 +1.0**
comp=Z,11nm,0.7s,mb4.8,baz=3.1,slow=5.3,SNR=11
FLN La Foliniere 78.83 345 *e*P **P 11 54 37.7 -1.7**
LDF La Druitiere 78.94 344 *e*P **P 11 54 38.7 -1.3**
GRR Gorron 79.26 345 *e*P **P 11 54 40.4 -1.3**
comp=Z,48nm,0.9s,mb5.0
LOR Lormes 79.46 341 *e*P **P 11 54 42.4 -0.5**
SGMF Saint Gilles 79.67 346 *e*P **P 11 54 42.2 -1.7**
comp=Z,43nm,0.7s,mb5.1
ROSF Rostrenen 79.69 346 *e*P **P 11 54 42.4 -1.7**
comp=Z,43nm,0.8s,mb5.0
SSF Saint Saulge 79.73 341 *e*P **P 11 54 44.0 -0.3**
comp=Z,15nm,0.7s,mb4.6
AVF Avril sur Loir 80.02 341 *e*P **P 11 54 45.7 -0.2**
comp=Z,33nm,0.7s,mb5.0
SMF Signal de Mont 80.06 341 *e*P **P 11 54 45.8 -0.3**
comp=Z,47nm,0.8s,mb5.1
QUIF Quistinic 80.09 346 *e*P **P 11 54 44.5 -1.7**
BGF Bois d'Agland 80.34 342 *e*P **P 11 54 47.3 -0.3**
comp=Z,9.6nm,0.4s,mb4.7
LPL La Plagne 80.50 339 *e*P **P 11 54 49.3 +0.8**
comp=Z,22nm,0.8s,mb4.7
LPG La Plagne 80.52 339 *e*P **P 11 54 49.4 +0.9**
comp=Z,19nm,0.7s,mb4.7
TCF Toulx Ste Croi 80.73 342 *e*P **P 11 54 49.3 -0.4**
comp=Z,19nm,0.7s,mb4.7
MFF Saint Martin d 80.87 344 *e*P **P 11 54 49.6 -0.8**
comp=Z,26nm,0.6s,mb4.9
BNI Bardonecchia 80.95 339 *e*P **P 11 54 51.5 +0.7**
comp=Z,7.8nm,0.8s,mb4.6
MBDF Montbardon 81.24 339 *e*P **P 11 54 53.1 +0.7**
comp=Z,16nm,0.7s,mb4.7
ORIF Oris-en-Rattie 81.26 339 *e*P **P 11 54 52.9 +0.4**
comp=Z,30nm,0.8s,mb4.9
VIVF Saint-Julien-l 81.59 340 *e*P **P 11 54 54.6 +0.4**
comp=Z,14nm,0.7s,mb4.6
ASF Jabal al Asfar 81.62 312 P **P 11 54 55.2 +0.5**
comp=Z,4.2nm,0.7s,mb4.4,baz=104,slow=1.8,SNR=8.7
ASF Jabal al Asfar 81.62 312 P **P 11 54 55.2 +0.6**
ASF pmax pmax
comp=Z,4.0nm,0.7s
AQU L'Aquila 81.73 333 *e*P **P 11 54 56.7 +1.7**
comp=Z,32nm,0.8s,mb5.2
RJF Les Rejaudoux 81.81 342 *e*P **P 11 54 54.5 -0.8**
SBF Sospel 81.90 338 *e*P **P 11 54 56.3 +0.5**
CAF Calviac 82.07 342 *e*P **P 11 54 56.1 -0.6**
comp=Z,18nm,0.6s,mb4.8
SMRF Simiane la Rot 82.23 339 *e*P **P 11 54 58.0 +0.5**
comp=Z,15nm,0.7s,mb4.6
LFF La Frestale 82.31 343 *e*P **P 11 54 56.9 -1.0**
FRF La Foret Royal 82.37 338 *e*P **P 11 54 57.4 -0.9**
LASF Ste Croix 82.51 340 *e*P **P 11 54 58.5 -0.4**
LMR La Mourre 82.62 338 *e*P **P 11 54 59.4 -0.1**
comp=Z,58nm,1.1s,mb5.0
PGF Pioggiola 82.75 336 *e*P **P 11 54 59.7 -0.5**
comp=Z,14nm,0.6s,mb4.7
MTLF Montolieu 83.56 341 *e*P **P 11 55 03.3 -0.8**
comp=Z,22nm,0.8s,mb4.7
WHFO Wadi Hawf 83.93 291 P **P 11 55 06.1 -0.4**
SNR=39
RBK Rabkut 84.00 290 P **P 11 55 06.4 -0.5**
SNR=21
EPF Esparros 84.23 342 *e*P **P 11 55 07.0 -0.5**
comp=Z,12nm,0.6s,mb4.6
EJON La Jonquera 84.27 341 P **P 11 55 08.5 +0.7**
comp=Z,11nm,0.8s,mb4.8
EALK Alkurruntz 84.38 344 P **P 11 55 09.0 +0.8**
comp=Z,7.3nm,0.7s,mb4.6
SJPF Ste Jean 84.44 344 *e*P **P 11 55 07.5 -1.0**
comp=Z,9.3nm,0.5s,mb4.5
ETSF Etsaut 84.52 343 *e*P **P 11 55 09.0 0.0**
comp=Z,16nm,0.6s,mb4.8
EBIE Bielsa 84.60 343 P **P 11 55 10.8 +1.4**
comp=Z,12nm,0.6s,mb5.0
ABTO Aybut 84.65 291 P **P 11 55 10.1 -0.1**
SNR=7.0
ELAN Lanestosa 84.70 345 P **P 11 55 09.9 +0.1**
comp=Z,16nm,0.7s,mb5.0
EARI Arriondas 84.90 347 P **P 11 55 13.0 +2.1**
comp=Z,7.9nm,0.7s,mb4.8
EGRA Graus 85.04 342 P **P 11 55 12.2 +0.6**
comp=Z,8.5nm,0.7s,mb4.8
EPON Pontenova 85.15 348 P **P 11 55 12.0 -0.1**
comp=Z,15nm,0.5s,mb5.2
ESAC San Caprasio 85.64 343 P **P 11 55 15.4 +0.8**
comp=Z,33nm,0.7s,mb5.4
EPOB Poblet 85.70 342 P **P 11 55 14.3 -0.5**
comp=Z,13nm,0.7s,mb5.0
PVRL Vila Real 87.24 348 *e*P **P 11 55 22.1 -0.3**
comp=Z,39nm,1.1s,mb5.2
MTE Manteigas 88.08 348 *e*P **P 11 55 25.8 -0.6**
ESDC Sonseca Array 88.25 345 P **P 11 55 26.7 -0.5**
comp=Z,10nm,0.8s,mb5.0,baz=3.2,slow=4.6,SNR=29
ESDC Sonseca Array 88.25 345 P **P 11 55 26.7 -0.5**
comp=Z,13nm,0.8s,mb5.0
ETOB Tobarra 88.83 343 P **P 11 55 30.0 +0.1**
comp=Z,8.5nm,0.7s,mb4.9
EVIA Vianos 89.01 344 P **P 11 55 30.8 0.0**
comp=Z,13nm,0.6s,mb5.1
EBAN Banos Encina 89.69 344 P **P 11 55 34.1 +0.1**
comp=Z,8.5nm,0.8s,mb4.9
EADA Adamuz 89.82 345 P **P 11 55 34.7 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,6.9nm,0.9s,mb4.8						
EHUE	**Huescar**	**89.82**	**343**	P	**P**	**11 55 34.0**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.5						
ECAB	**El Cabril**	**90.05**	**346**	P	**P**	**11 55 35.0**	**-0.7**
	comp=Z,6.9nm,0.8s,mb4.8						
EMIN	**Mina Concepcio**	**90.54**	**347**	P	**P**	**11 55 37.3**	**-0.7**
	comp=Z,9.1nm,0.9s,mb4.9						
ELOJ	**Sierra Loja**	**90.75**	**344**	P	**P**	**11 55 39.6**	**+0.5**
	comp=Z,2.3nm,0.4s,mb4.7						
EJIF	**Jimena Fronter**	**91.65**	**345**	P	**P**	**11 55 43.2**	**0.0**
	comp=Z,12nm,0.7s,mb5.2						
ATD	**Arta Tunnel**	**95.37**	**295**	P	**P**	**11 56 01.5**	**+0.9**
	comp=Z,2.2nm,0.3s,mb5.1,baz=224,slow=20,SNR=3.6						
ATD	**Arta Tunnel**	**95.37**	**295**	P	**P**	**11 56 01.5**	**+0.9**
DBIC	**Dimbokro**	**120.48**	**338**	PKP	PKPdf	12 01 27.6	+1.2
	comp=Z,1.9nm,0.6s,baz=194,slow=6.5,SNR=4.1						
DBIC	**Dimbokro**	**120.48**	**338**	PKIKP	PKPdf	12 01 27.6	+1.2
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VNDA	**Vanda**	**128.09**	**178**	SKP		12 05 02.5	
	comp=Z,1.8nm,1.0s,baz=305,slow=5.2,SNR=4.9						
SIV	**San Ignacio**	**134.19**	**54**	PKP	PKPdf	12 01 55.4	+2.9
	comp=Z,1.2nm,0.7s,baz=323,slow=4.6,SNR=5.3						
SIV				SKPbc		12 05 12.3	
	comp=Z,3.4nm,0.9s,baz=338,slow=2.9,SNR=8.1						
CPUP	**Villa Florida**	**144.63**	**59**	PKP	PKPdf	12 02 11.1	+0.2
	comp=Z,3.7nm,0.6s,baz=339,slow=3.5,SNR=10						
CPUP	**Villa Florida**	**144.63**	**59**	*e*PKIKP	PKPdf	12 02 10.8	-0.2
PLCA	**Paso Flores**	**146.35**	**91**	PKPbc	PKPbc	12 02 16.5	+1.7
	comp=Z,5.9nm,0.7s,baz=271,slow=3.0,SNR=19						
PLCA	**Paso Flores**	**146.35**	**91**	*e*PKP2	PKPab	12 02 16.5	-1.6
TRQA	**Tornquist**	**150.22**	**80**	*e*PKPbc	PKPdf	12 02 26.1	+6.3
USHA	**Ushuaia**	**153.05**	**116**	PKPbc	PKPdf	12 02 32.8	+9.5
	comp=Z,3.7nm,0.5s,baz=317,slow=6.2,SNR=5.0						
SNAA	**Sanae**	**157.03**	**197**		PKPab	12 03 01.5	0.0
SNAA	**Sanae**	**157.03**	**197**		PKPab	12 03 05.4	+3.9
SNAA	**Sanae**	**157.03**	**197**		PKPab	12 03 10.1	+8.6
SNAA	**Sanae**	**157.03**	**197**	PKPab	PKPab	12 03 01.8	+0.3
	comp=Z,0.5nm,0.8s,baz=190,slow=6.4,SNR=6.9						
SNAA	**Sanae**	**157.03**	**197**	PKP2	PKPab	12 03 01.8	+0.3
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNA2	**Neumayer--Watz**	**158.44**	**195**		PKPab	12 03 01.8	-5.8
VNA2	**Neumayer--Watz**	**158.44**	**195**		PKPab	12 03 10.1	+2.5
VNA2	**Neumayer--Watz**	**158.44**	**195**		PKPab	12 03 13.3	+5.7
VNA3	**Neumayer Olymp**	**158.50**	**192**		PKPab	12 03 04.4	-3.5
VNA3	**Neumayer Olymp**	**158.50**	**192**		PKPab	12 03 09.8	+1.9

*IDC **09** 11:44:04.3±2.2, 4.74S×154.08E, mb4.4/6, mb1 4.5/6, mb1mx4.2/14, mbtmp4.4/6, Error ellipse: s-maj=67.3km s-min=30.5km az=102.0*

NEIC 09 11:44:17.4±1.4**, 4.87S×153.97E, h100**^{km}**, mb4.1**/1**, Error ellipse: s-maj=44.1km s-min=19.6km az=103.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.27**	**230**	*e*P	P	11 49 25.9	-0.6
	4.6nm,0.6s						
WRA	**Warramunga Arr**	**24.28**	**230**	P	P	11 49 26.2	-0.4
	7.9nm,0.7s,baz=53,slow=9.6,SNR=22						
STKA	**Stephens Creek**	**29.26**	**202**	P	P	11 50 09.7	-2.6
	3.2nm,0.9s,baz=21,slow=15,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.65**	**242**	P	P	11 50 21.6	-3.1
	12nm,0.6s,baz=60,slow=2.6,SNR=11						
MKAR	**Makanchi Array**	**81.15**	**319**	P	P	11 56 22.1	-1.2
	2.0nm,0.9s,baz=90,slow=4.3,SNR=4.1						
MAW	**Mawson**	**85.95**	**203**	P	P	11 56 46.1	-1.0
	1.4nm,0.7s,baz=100,slow=6.1,SNR=5.3						
BVAR	**Borovoye Array**	**90.00**	**323**	P	P	11 57 05.5	-1.2
	0.9nm,0.6s,baz=90,slow=7.2,SNR=3.0						

*GUC **09** 11:48:21.5±0.7, 31.66S×69.43W, h150^{km}±9^{km}, MD3.5, ML3.6*

*NEIC **09** 11:48:21.2±1.1, 31.66S×69.19W, h133^{km}±15^{km}, MD3.5(GUC), Error ellipse: s-maj=9.5km s-min=8.2km az=67.0*

ISC 09 11:48:20.9±0.9**, 31.64S**±0.04×**69.23W**±0.06**, h133**^{km}±8^{km}**, n17, σ0^{s}84**/29**, 6C, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.48**	**79**	*e*P	**P**	**11 48 40.2**	**-0.1**
ZON				*e*S	**S**	**11 48 54.3**	**-0.8**
JACH	**Jahuel**	**1.56**	**228**	⇑*i*P	**P**	**11 48 51.0**	**+0.8**
JACH				*i* S	**S**	**11 49 13.1**	**+0.5**
CMCH	**Combarbala**	**1.58**	**286**	⇑*i*P	**P**	**11 48 50.8**	**+0.3**
CMCH				*i* S	**S**	**11 49 13.4**	**+0.2**
CMCH				AMP		11 49 15.7	
	comp=E,3μm,0.5s						
ILCH	**Illapel**	**1.65**	**269**	*e*P	**P**	**11 48 51.7**	**+0.4**
ILCH				*i* S	**S**	**11 49 14.2**	**-0.3**
ILCH				AMP		11 49 15.2	
	comp=N,1μm,0.2s						
ILCH				AMP		11 49 16.9	
	comp=E,791nm,0.3s						
FCH	**Farellones**	**1.91**	**208**	*e*P	**P**	**11 48 55.6**	**+1.3**
FCH				*i* S	**S**	**11 49 21.7**	**+1.8**
FCH				AMP		11 49 30.9	
	comp=E,129nm,0.3s						
CHNG	**Los Chungos**	**1.95**	**262**	⇑*i*P	**P**	**11 48 54.7**	**-0.1**
CHNG				*i* S	**S**	**11 49 19.3**	**-1.4**
CHNG				AMP		11 49 24.1	
	comp=E,178nm,0.2s						
TLL	**Tololo Astrono**	**1.99**	**317**	*e*P	**P**	**11 48 56.7**	**+1.4**
TLL				*i* S	**S**	**11 49 22.7**	**+1.1**
TLL				AMP		11 49 29.1	
	comp=E,508nm,0.5s						
ROCH	**El Roble**	**2.01**	**228**	⇑*i*P	**P**	**11 48 55.9**	**+0.3**
ROCH				*i* S	**S**	**11 49 22.6**	**+0.6**
PACH	**Papudo**	**2.08**	**244**	⇑*i*P	**P**	**11 48 56.0**	**-0.4**
PACH				*i* S	**S**	**11 49 22.1**	**-1.4**
RCDM	**Rinconada Maip**	**2.28**	**215**	*e*P	**P**	**11 48 59.1**	**+0.1**
RCDM				*i* S	**S**	**11 49 27.8**	**-0.1**
RCDM				AMP		11 49 33.3	
	comp=E,214nm,0.1s						
LSCH	**La Serena**	**2.44**	**314**	*e*P	**P**	**11 49 01.2**	**+0.1**
LSCH				*i* S	**S**	**11 49 30.7**	**-1.1**
LSCH				AMP		11 49 31.1	
	comp=N,748nm,0.4s						
TACH	**Talagante**	**2.47**	**215**	*e*P	**P**	**11 49 01.3**	**-0.2**
TACH				*i* S	**S**	**11 49 31.6**	**-0.9**
CHCH	**Chadas Angostu**	**2.58**	**207**	*e*P	**P**	**11 49 03.3**	**+0.3**
LCCH	**Las Cruces**	**2.70**	**227**	*e*P	**P**	**11 49 04.1**	**-0.3**
CICH	**Cipreses**	**2.86**	**200**	*e*P	**P**	**11 49 07.2**	**+0.7**
LNV	**Longovilo**	**2.95**	**218**	⇑*i*P	**P**	**11 49 06.3**	**-1.5**
TRQA	**Tornquist**	**8.75**	**139**	*e*Pn	**P**	**11 50 24.2**	**-1.2**
	comp=N,4.5nm,0.5s						

*NEIC **09** 12:01:09.0±0.6, 5.14S×154.08E, h100^{km}, mb4.2/2, Error ellipse: s-maj=15.9km s-min=11.6km az=90.0*

*IDC **09** 12:01:12.7±6.7, 5.23S×154.04E, h134^{km}±61^{km}, mb3.8/9, mb1 3.9/10, mb1mx3.8/15, mbtmp4.2/10, Error ellipse: s-maj=24.7km s-min=19.4km az=61.0*

ISC 09 12:01:14.4±5.3**, 5.3S**±0.2×**154.0E**±0.1**, h165**^{km}±48^{km}**, n15, σ0^{s}69**/15**, mb4.1**/11**, 2C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.56**	**207**	P	**P**	**12 04 59.2**	**+0.7**
	0.2nm,0.3s,baz=32,slow=14,SNR=3.3						
DZM	**Mont Dzumac**	**20.57**	**145**	P	**P**	**12 05 41.4**	**-0.4**
	5.0nm,0.8s,baz=330,slow=16,SNR=4.8						
WRAB	**Tennant Creek**	**24.07**	**231**	*e*P	**P**	**12 06 16.0**	**+0.2**
	7.5nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**24.07**	**231**	⇑*i*P	**P**	**12 06 16.1**	**+0.2**
WRA	**Warramunga Arr**	**24.08**	**231**	P	**P**	**12 06 16.4**	**+0.4**
	12nm,0.7s,mb4.5,baz=54,slow=9.5,SNR=107						
STKA	**Stephens Creek**	**28.92**	**202**	P	**P**	**12 06 58.9**	**-1.3**
	3.9nm,0.7s,mb4.2,baz=28,slow=15,SNR=6.7						
FITZ	**Fitzroy Crossi**	**30.53**	**243**	⇑*i*P	**P**	**12 07 13.1**	**-1.5**
	17nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.53**	**243**	P	**P**	**12 07 13.2**	**-1.3**
	32nm,0.8s,mb5.1,baz=108,slow=4.5,SNR=25						
RPZ	**Rata Peaks**	**41.12**	**161**	P	**P**	**12 08 43.5**	**-0.1**
	6.8nm,0.9s,mb4.2,baz=326,slow=1.3,SNR=5.4						
ULN	**Ulaanbaatar**	**67.05**	**328**	P	**P**	**12 11 51.4**	**-0.4**
	1.8nm,0.5s,mb4.2						
SONM	**Songino Array**	**67.38**	**327**	P	**P**	**12 11 53.8**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=117,slow=3.2,SNR=3.6						
VNDA	**Vanda**	**72.32**	**178**	P	**P**	**12 12 24.0**	**+0.7**
	1.8nm,0.7s,mb3.9,baz=333,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**81.49**	**319**	P	**P**	**12 13 15.5**	**+0.8**
	0.7nm,0.7s,mb3.4,baz=101,slow=6.2,SNR=5.7						
ILAR	**Eielson Array**	**82.13**	**22**	P	**P**	**12 13 17.4**	**-0.1**
	0.4nm,0.7s,mb3.1,baz=246,slow=6.7,SNR=6.3						
MAW	**Mawson**	**85.61**	**203**	P	**P**	**12 13 35.8**	**+0.9**
	3.4nm,0.6s,mb4.3,baz=88,slow=6.8,SNR=23						

*NEIC **09** 12:31:03.9±0.6, 4.80S×153.77E, mb4.4/6, Error ellipse: s-maj=16.9km s-min=10.9km az=92.0*

*IDC **09** 12:31:04.0±0.8, 4.84S×153.78E, h101^{km}±6^{km}, mb3.9/11, mb1 4.0/12, mb1mx4.0/17, mbtmp4.2/12, Error ellipse: s-maj=22.2km s-min=15.6km az=92.0*

ISC 09 12:31:02.4±0.6**, 4.84S**±0.09×**153.82E**±0.08**, h100**^{km}±1.5^{km}**:pP-P, n21, σ0^{s}85**/21**, mb4.1**/13**, 1C, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.60**	**127**	S	**S**	**12 34 16.9**	**-0.4**
	18nm,0.3s,baz=205,slow=22,SNR=5.0						
CTA	**Charters Tower**	**16.85**	**205**	P	**P**	**12 34 55.5**	**+1.9**
	0.1nm,0.3s,baz=350,slow=6.1,SNR=3.5						
CTAO	**Charters Tower**	**16.85**	**205**	P	**P**	**12 34 55.2**	**+1.7**
	6.5nm,1.0s						
DZM	**Mont Dzumac**	**21.05**	**146**	P	**P**	**12 35 41.2**	**+1.1**
	5.0nm,0.8s,mb3.9,baz=274,slow=15,SNR=3.5						
WRAB	**Tennant Creek**	**24.17**	**230**	*e*P	**P**	**12 36 10.4**	**-0.2**
	17nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**24.18**	**230**	*e*	**P**	**12 36 10.8**	**+0.1**
WRA	**Warramunga Arr**	**24.19**	**230**	P	**P**	**12 36 11.2**	**+0.4**
	5.5nm,0.5s,mb4.2,baz=56,slow=10,SNR=88						
STKA	**Stephens Creek**	**29.24**	**202**	P	**P**	**12 36 55.7**	**-1.4**
	7.4nm,0.9s,mb4.3,baz=52,slow=16,SNR=5.3						
STKA	**Stephens Creek**	**29.24**	**202**	P	**P**	**12 36 55.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**30.53**	**242**	⇑*i*P	**P**	**12 37 06.7**	**-2.1**
	5.3nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.53**	**242**	P	**P**	**12 37 07.0**	**-1.8**
	6.5nm,0.5s,mb4.6,baz=16,slow=8.0,SNR=22						
FITZ				pP	pP	12 37 30.8	-0.5
	13nm,0.9s,baz=83,slow=2.2,SNR=4.1						
RPZ	**Rata Peaks**	**41.60**	**161**	P	**P**	**12 38 42.1**	**0.0**
	6.6nm,0.7s,mb4.5,baz=38,slow=2.0,SNR=4.8						
SONM	**Songino Array**	**66.90**	**327**	P	**P**	**12 41 46.6**	**+0.4**
	0.5nm,0.6s,mb3.5,baz=148,slow=5.3,SNR=4.1						
SONM				pP	pP	12 42 11.6	+0.2
	0.3nm,0.4s,baz=135,slow=6.3,SNR=2.8						
VNDA	**Vanda**	**72.76**	**178**	P	**P**	**12 42 21.2**	**0.0**
	1.9nm,0.9s,mb3.9,baz=326,slow=6.7,SNR=12						
VNDA	**Vanda**	**72.76**	**178**	*e*P	**P**	**12 42 21.2**	**0.0**
	46nm,2.7s,mb4.8						
MKAR	**Makanchi Array**	**81.02**	**319**	P	**P**	**12 43 08.8**	**+0.9**
	0.6nm,0.6s,mb3.6,baz=101,slow=6.2,SNR=3.9						
MKAR				pP	pP	12 43 34.0	+0.1
	0.8nm,0.7s,baz=104,slow=5.0,SNR=4.0						
ILAR	**Eielson Array**	**81.82**	**22**	P	**P**	**12 43 11.2**	**-0.4**
	0.7nm,0.9s,mb3.5,baz=239,slow=4.9,SNR=6.5						
ILAR				pP	pP	12 43 37.2	-0.5
	1.7nm,1.1s,baz=248,slow=4.9,SNR=5.6						
KURK	**Kurchatov**	**84.42**	**322**	P	**P**	**12 43 25.3**	**+0.3**
	1.0nm,0.5s,mb3.9						
MAW	**Mawson**	**85.92**	**203**	*e*P	**P**	**12 43 31.9**	**-0.2**
	3.8nm,0.9s,mb4.3						
MAW	**Mawson**	**85.92**	**203**	P	**P**	**12 43 31.9**	**-0.2**
	4.4nm,0.8s,mb4.4,baz=77,slow=4.1,SNR=14						
BVAR	**Borovoye Array**	**89.88**	**323**	P	**P**	**12 43 50.8**	**-0.5**
	0.5nm,0.4s,mb4.0,baz=124,slow=5.3,SNR=4.5						
BVAR				pP	pP	12 44 17.5	-0.5
	2.5nm,0.9s,baz=108,slow=4.7,SNR=4.9						

*IDC **09** 12:36:46.7±3.0, 2.14N×96.66E, mb4.0/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, Error ellipse: s-maj=120.8km s-min=26.4km az=55.0*

*NEIC **09** 12:36:51.1±1.1, 2.12N×96.66E, h30^{km}, mb4.2/1, Error ellipse: s-maj=22.9km s-min=15.6km az=215.0*

ISC 09 12:36:49.1±1.5**, 2.1N**±0.2×**96.6E**±0.2**, h30**^{km}**, n8, σ0^{s}30**/8**, mb4.1**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.08**	**52**	*e*Pn	**Pn**	**12 38 05.2**	**-0.1**
WRA	**Warramunga Arr**	**43.01**	**122**	P	**P**	**12 44 48.0**	**0.0**
	0.8nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=7.7						
MKAR	**Makanchi Array**	**46.20**	**346**	P	**P**	**12 45 13.5**	**+0.3**
	3.1nm,0.7s,mb4.4,baz=162,slow=8.1,SNR=19						
MKAR	**Makanchi Array**	**46.20**	**346**	P	**P**	**12 45 13.5**	**+0.3**
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**12 45 14.4**	**+0.5**
	0.8nm,0.3s,mb4.1,baz=192,slow=7.5,SNR=10						
KURK	**Kurchatov**	**50.74**	**345**	*e*P	**P**	**12 45 48.5**	**+0.1**
	2.1nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**52.54**	**351**	P	**P**	**12 46 01.6**	**-0.3**
	2.2nm,0.5s,mb4.3,baz=317,slow=7.9,SNR=7.6						
BVAR	**Borovoye Array**	**55.18**	**341**	P	**P**	**12 46 21.0**	**-0.4**
	0.9nm,0.5s,mb4.0,baz=142,slow=9.3,SNR=5.6						

*ROM **09** 12:45:16.4±0.4, 44.98N×6.56E, h12^{km}, Md2.8/7, Ml3.0/4, Error ellipse: s-maj=5.0km s-min=3.5km az=108.0*

*NEIC **09** 12:45:17.2, 45.01N×6.60E, h1^{km}, ML3.3(LDG), ML3.2(GEN), ML3.0(ROM), After GEN.*

*GEN **09** 12:45:17.2, 45.01N×6.60E, h1^{km}, ML3.0*

*STR **09** 12:45:18.9±0.3, 45.00N×6.61E, h5^{km}±1^{km}, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*CSEM **09** 12:45:18.2±0.1, 44.99N×6.74E, h5^{km}, ML3.4/14, Error ellipse: s-maj=1.2km s-min=0.9km az=61.0*

*LDG **09** 12:45:19.2±0.1, 44.99N×6.60E, h2^{km}, Md3.1/1, Ml3.3/22, Error ellipse: s-maj=2.5km s-min=1.7km az=79.0*

ISC 09 12:45:16.8±0.2**, 45.022N**±0.010×**6.60E**±0.02**, h8**^{km}±1^{km}**, n98, σ1^{s}14**/183**, 1C-1D, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNI	**Bardonecchia**	**0.06**	**61**	⇑*i*Pg	**Pg**	**12 45 19.7**	**+0.9**
BNI				Sg	**Sg**	**12 45 20.9**	**+0.8**
	8μm,0.4s						
RRL	**Cesana Torines**	**0.17**	**128**	P	**Pg**	**12 45 21.1**	**+0.7**
RRL				S	**Sg**	**12 45 23.6**	**+0.7**
MBDF	**Montbardon**	**0.32**	**157**	*e*Pg	**Pg**	**12 45 23.6**	**+0.2**
MBDF				*e*Sg	**Sg**	**12 45 27.9**	**+0.2**
	498nm,0.2s						
FENE	**Fenestrelle**	**0.33**	**88**	P	**Pg**	**12 45 23.9**	**+0.3**
FENE				S	**Sg**	**12 45 28.5**	**+0.5**
FENE	**Fenestrelle**	**0.33**	**88**	P	**Pg**	**12 45 23.9**	**+0.3**
GDM	**Grand'Maison**	**0.39**	**298**	Pg	**Pg**	**12 45 25.6**	**+0.9**
GDM				Sg	**Sg**	**12 45 31.0**	**+1.0**
RSP	**Reno Superiore**	**0.48**	**74**	P	**Pg**	**12 45 27.0**	**+0.4**
RSP				S	**Sg**	**12 45 33.7**	**+0.5**
RSP	**Reno Superiore**	**0.48**	**74**	P	**Pg**	**12 45 27.0**	**+0.4**
RSP				S	**Sg**	**12 45 33.7**	**+0.6**
LPG	**La Plagne**	**0.49**	**13**	*e*Pg	**Pg**	**12 45 27.5**	**+0.8**
LPG				*e*Sg	**Sg**	**12 45 34.1**	**+0.8**
	405nm,0.2s						
LPL	**La Plagne**	**0.50**	**11**	*e*Pg	**Pg**	**12 45 27.8**	**+0.8**
LPL				*e*Sg	**Sg**	**12 45 35.1**	**+1.3**
	487nm,0.3s						
BHB	**Bricherasio**	**0.51**	**111**	P	**Pg**	**12 45 27.2**	**+0.2**
BHB				S	**Sg**	**12 45 33.8**	**-0.1**
BHB	**Bricherasio**	**0.51**	**111**	P	**Pg**	**12 45 27.2**	**+0.2**
BHB				S	**Sg**	**12 45 33.8**	**0.0**
ORIF	**Oris-en-Rattie**	**0.52**	**259**	*e*Pg	**Pg**	**12 45 27.8**	**+0.5**
ORIF				*e*Sg	**Sg**	**12 45 34.5**	**+0.2**
	363nm,0.3s						
SURF	**Saint Ours**	**0.56**	**164**	Pg	**Pg**	**12 45 28.0**	**-0.1**
SURF				Sg	**Sg**	**12 45 36.5**	**+0.8**
LSD	**Ceresole Reale**	**0.59**	**42**	P	**Pg**	**12 45 28.8**	**+0.2**
LSD				S	**Sg**	**12 45 36.8**	**+0.2**
LSD	**Ceresole Reale**	**0.59**	**42**	P	**Pg**	**12 45 28.8**	**+0.2**
PZZ	**Prazzo**	**0.63**	**145**	P	**Pg**	**12 45 29.5**	**0.0**
PZZ				S	**Sg**	**12 45 38.0**	**+0.1**
PZZ	**Prazzo**	**0.63**	**145**	P	**Pg**	**12 45 29.5**	**0.0**
PZZ				S	**Sg**	**12 45 38.0**	**+0.1**
GRN	**Grenoble**	**0.64**	**290**	Pg	**Pg**	**12 45 31.0**	**+1.2**
GRN				Sg	**Sg**	**12 45 40.0**	**+1.6**
DOI	**San Damiano**	**0.69**	**138**	⇓*i*Pg	**Pg**	**12 45 30.3**	**-0.4**
DOI				Sg	**Sg**	**12 45 39.9**	**-0.1**
	554nm,0.3s						
MRGE	**Morge**	**0.82**	**23**	Pg	**Pg**	**12 45 33.4**	**+0.2**
	128nm,0.5s						
STV2	**Anna di Valdie**	**0.93**	**146**	P	**Pb**	**12 45 34.5**	**-0.3**
STV2				S	**Sb**	**12 45 46.8**	**-0.4**
STV2	**Anna di Valdie**	**0.93**	**146**	P	**Pb**	**12 45 34.5**	**-0.3**
STV	**Sta Anna Valdi**	**0.93**	**146**	P	**Pb**	**12 45 34.7**	**-0.1**
STV				S	**Sb**	**12 45 46.7**	**-0.4**
STV	**Sta Anna Valdi**	**0.93**	**146**	P	**Pb**	**12 45 34.7**	**-0.1**
MONC	**Moncucco Torin**	**0.94**	**86**	Pg	**Pg**	**12 45 36.8**	**+1.1**
MONC				Sg	**Sg**	**12 45 51.1**	**+2.8**
	679nm,0.5s						
TRAV		**0.95**	**58**	P	**Pb**	**12 45 35.3**	**+0.2**
TRAV				S	**Sb**	**12 45 47.5**	**0.0**
ENR	**Entracque**	**0.99**	**143**	P	**Pb**	**12 45 35.7**	**-0.1**
ENR				S	**Sb**	**12 45 48.1**	**-0.7**
ENR	**Entracque**	**0.99**	**143**	P	**Pb**	**12 45 35.7**	**-0.1**
OCF	**Saint Nazaire**	**1.02**	**245**	Pg	**Pg**	**12 45 38.7**	**+1.4**
OG26	**St.-Nazaire-De**	**1.02**	**245**	Pg	**Pg**	**12 45 38.7**	**+1.4**
TOUF	**Mont Tournerai**	**1.11**	**155**	Pg	**Pg**	**12 45 38.1**	**-0.9**
STOF	**St-Etienne Org**	**1.14**	**206**	Pg	**Pg**	**12 45 40.4**	**+0.8**
ORO	**Oropa**	**1.15**	**58**	Pg	**Pg**	**12 45 39.3**	**-0.5**
	220nm,0.2s						
ORX	**Oropa**	**1.15**	**57**	P	**Pb**	**12 45 39.1**	**+0.5**
ORX				S	**Sb**	**12 45 53.4**	**-0.1**
ORX	**Oropa**	**1.15**	**57**	P	**Pb**	**12 45 39.1**	**+0.6**
ORX				S	**Sb**	**12 45 53.4**	**0.0**
ROB	**Roburent**	**1.16**	**128**	P	**Pb**	**12 45 38.8**	**0.0**
ROB				S	**Sb**	**12 45 53.5**	**-0.3**
ROB	**Roburent**	**1.16**	**128**	P	**Pb**	**12 45 38.8**	**+0.1**
ROB				S	**Sb**	**12 45 53.5**	**-0.3**
AUTN	**L'Aution**	**1.19**	**150**	Pg	**Pg**	**12 45 39.8**	**-0.7**
AUTN				Sg	**Sg**	**12 45 56.2**	**-0.1**
MVIF	**Mont Vial**	**1.19**	**160**	Pg	**Pg**	**12 45 40.3**	**-0.4**
MVIF				Sg	**Sg**	**12 45 58.2**	**+1.6**
DIX	**Grande Dixence**	**1.20**	**28**	Pg	**Pg**	**12 45 40.9**	**0.0**
SAOF	**Saorge**	**1.24**	**146**	Pg	**Pg**	**12 45 40.7**	**-0.9**
SAOF				Sg	**Sg**	**12 45 57.8**	**-0.4**
MONE	**Monesi**	**1.25**	**138**	P	**Pb**	**12 45 40.0**	**-0.3**
MONE				S	**Sb**	**12 45 55.7**	**-0.8**
MONE	**Monesi**	**1.25**	**138**	P	**Pb**	**12 45 40.0**	**-0.3**
MONE				S	**Sb**	**12 45 55.7**	**-0.7**
SMRF	**Simiane la Rot**	**1.28**	**215**	*e*Pn	**Pn**	**12 45 42.2**	**+1.2**
SMRF				*e*Pg	**Pg**	**12 45 43.0**	**+0.6**
SMRF				*e*Sg	**Sg**	**12 45 58.9**	**-0.5**
	78nm,0.2s						
CALN	**Calern**	**1.29**	**171**	Pg	**Pg**	**12 45 42.2**	**-0.3**
CALN				Sg	**Sg**	**12 46 02.9**	**+3.2**
SBF	**Sospel**	**1.30**	**152**	*e*Pn	**Pn**	**12 45 41.9**	**+0.5**
SBF				*e*Pg	**Pg**	**12 45 43.0**	**+0.1**
SBF				*e*Sg	**Sg**	**12 46 00.0**	**-0.3**
	430nm,0.4s						
VILF	**Villemus**	**1.33**	**209**	Pg	**Pg**	**12 45 45.1**	**+1.7**
VILF				Sg	**Sg**	**12 46 04.0**	**+2.8**
VIVF	**Saint-Julien-l**	**1.38**	**264**	*e*Pn	**Pn**	**12 45 43.4**	**+1.0**
VIVF				*e*Pg	**Pg**	**12 45 44.8**	**+0.4**
VIVF				*e*Sn	**Sn**	**12 46 01.2**	**+0.2**
VIVF				*e*Sg	**Sg**	**12 46 02.8**	**0.0**
	91nm,0.2s						
FIN	**Finale Ligure**	**1.41**	**125**	P	**Pn**	**12 45 42.1**	**-0.7**
FIN	**Finale Ligure**	**1.41**	**125**	Pg	**Pg**	**12 45 43.4**	**-1.6**
	30nm,0.2s						
FIN				S	**Sb**	**12 45 58.8**	**-2.1**
MMK	**Mattmark**	**1.41**	**42**	Pg	**Pg**	**12 45 44.0**	**-1.0**
NEGI	**Negi**	**1.42**	**146**	P	**Pn**	**12 45 42.2**	**-0.7**
NEGI	**Negi**	**1.42**	**146**	P	**Pn**	**12 45 42.2**	**-0.8**
IMI	**Imperia**	**1.45**	**140**	Pg	**Pg**	**12 45 44.0**	**-1.7**
	82nm,0.2s						
IMI	**Imperia**	**1.45**	**140**	P	**Pn**	**12 45 42.8**	**-0.6**
IMI	**Imperia**	**1.45**	**140**	Pg	**Pg**	**12 45 44.0**	**-1.7**
	82nm,0.2s						
TAVF	**Tavernes**	**1.46**	**196**	Pg	**Pg**	**12 45 45.9**	**0.0**
TAVF				Sg	**Sg**	**12 46 05.8**	**+0.4**
FRF	**La Foret Royal**	**1.46**	**179**	*e*Pn	**Pn**	**12 45 44.8**	**+1.2**
FRF				*e*Pg	**Pg**	**12 45 45.8**	**-0.2**
FRF				*e*Sg	**Sg**	**12 46 04.3**	**-1.2**
	104nm,0.2s						
PCP	**Pian Castagno**	**1.47**	**108**	P	**Pn**	**12 45 44.3**	**+0.6**
PCP				S	**Sb**	**12 46 01.8**	**-0.8**
PCP	**Pian Castagno**	**1.47**	**108**	P	**Pn**	**12 45 44.3**	**+0.6**
PCP				S	**Sb**	**12 46 01.8**	**-0.8**
PRAF	**Pradon**	**1.59**	**221**	Pg	**Pg**	**12 45 48.8**	**+0.2**
PUYF	**Puyloubier**	**1.62**	**204**	Pg	**Pg**	**12 45 49.2**	**-0.1**
PUYF				Sg	**Sg**	**12 46 10.3**	**-0.6**
CABF	**La Chapelle**	**1.63**	**347**	*e*Pn	**Pn**	**12 45 47.9**	**+1.9**
CABF				*e*Pg	**Pg**	**12 45 49.8**	**+0.4**
CABF				*e*Sn	**Sn**	**12 46 08.5**	**+1.1**
CABF				*e*Sg	**Sg**	**12 46 11.9**	**+0.8**
	93nm,0.3s						
LMR	**La Mourre**	**1.69**	**182**	*e*Pn	**Pn**	**12 45 47.9**	**+1.0**
LMR				*e*Pg	**Pg**	**12 45 49.2**	**-1.4**
LMR				*e*Sn	**Sn**	**12 46 08.0**	**-0.8**
LMR				*e*Sg	**Sg**	**12 46 11.2**	**-1.9**
	95nm,0.3s						
VAI	**Varese**	**1.75**	**60**	Pg	**Pg**	**12 45 49.8**	**-1.9**
	16nm,0.2s						
BERF	**Bertagne**	**1.83**	**201**	Pg	**Pg**	**12 45 53.0**	**-0.4**
GELF	**Grande-Etoile**	**1.84**	**208**	Pg	**Pg**	**12 45 53.9**	**+0.3**
GELF				Sg	**Sg**	**12 46 18.2**	**0.0**
COLF	**Collangettes**	**2.11**	**285**	Pn	**Pn**	**12 45 53.4**	**+0.5**
LASF	**Ste Croix**	**2.18**	**245**	*e*Pn	**Pn**	**12 45 54.3**	**+0.4**
LASF				*e*Pg	**Pg**	**12 45 58.9**	**-1.4**
LASF				*e*Sn	**Sn**	**12 46 20.0**	**-1.3**
	20nm,0.4s						
PLDF	**La Plantade**	**2.30**	**295**	Pn	**Pn**	**12 45 57.2**	**+1.6**
LOMF	**Lomont**	**2.33**	**4**	Pn	**Pn**	**12 45 57.9**	**+1.8**
SMF	**Signal de Mont**	**2.52**	**311**	*e*Pn	**Pn**	**12 45 59.5**	**+0.7**
SMF				*e*Pg	**Pg**	**12 46 05.8**	**-1.4**
SMF				*e*Sg	**Sg**	**12 46 38.0**	**-2.8**
	24nm,0.2s						
BBS	**Basel-Blauen**	**2.52**	**14**	Pn	**Pn**	**12 46 00.5**	**+1.7**
PYM	**Petit Puy Mans**	**2.63**	**287**	Pn	**Pn**	**12 45 59.5**	**-0.9**
AGO	**Saint Agoulin**	**2.65**	**294**	Pn	**Pn**	**12 46 02.9**	**+2.3**
HINF	**Hinteralfeld**	**2.80**	**4**	*e*Pn	**Pn**	**12 46 03.7**	**+0.9**
HINF				*e*Pg	**Pg**	**12 46 11.8**	**-1.0**
HINF				*e*Sn	**Sn**	**12 46 35.8**	**-1.3**
HINF				*e*Sg	**Sg**	**12 46 47.9**	**-2.2**
	22nm,0.4s						
AVF	**Avril sur Loir**	**2.88**	**309**	*e*Pn	**Pn**	**12 46 05.7**	**+1.9**
AVF				*e*Pg	**Pg**	**12 46 13.3**	**-1.0**
AVF				*e*Sg	**Sg**	**12 46 48.3**	**-4.3**
	14nm,0.3s						
FRNF	**Fournols**	**2.88**	**279**	Pn	**Pn**	**12 46 04.5**	**+0.6**
LOR	**Lormes**	**2.95**	**321**	*e*Pn	**Pn**	**12 46 05.6**	**+0.8**
LOR				*e*Pg	**Pg**	**12 46 14.8**	**-0.9**
LOR				*e*Sn	**Sn**	**12 46 38.8**	**-2.0**
LOR				*e*Sg	**Sg**	**12 46 52.4**	**-2.5**
	18nm,0.3s						
SSF	**Saint Saulge**	**2.97**	**315**	*e*Pn	**Pn**	**12 46 06.5**	**+1.4**
SSF				*e*Pg	**Pg**	**12 46 14.3**	**-1.8**
SSF				*e*Sg	**Sg**	**12 46 52.9**	**-2.7**
	17nm,0.4s						
SSF	**Saint Saulge**	**2.97**	**315**	*e*Pg	**Pg**	**12 46 14.3**	**-1.8**
SSF				*e*Sg	**Sg**	**12 46 52.9**	**-2.7**
	8.4nm,0.4s						
HAU	**Haudompre**	**2.99**	**357**	*e*Pn	**Pn**	**12 46 05.8**	**+0.3**
HAU				*e*Pg	**Pg**	**12 46 14.5**	**-2.0**
HAU				*e*Sg	**Sg**	**12 46 53.9**	**-2.5**
	30nm,0.3s						
VERF	**Verneugheol**	**2.99**	**286**	Pn	**Pn**	**12 46 06.7**	**+1.2**
PGF	**Pioggiola**	**3.02**	**144**	*e*Pn	**Pn**	**12 46 07.6**	**+1.7**
PGF				*e*Sn	**Sn**	**12 46 41.4**	**-1.3**
	11nm,0.3s						
BGF	**Bois d'Agland**	**3.04**	**302**	*e*Pn	**Pn**	**12 46 06.9**	**+0.7**
BGF				*e*Sg	**Sg**	**12 46 55.4**	**-2.7**
	62nm,0.4s						
ECH	**Echery**	**3.22**	**7**	Pn	**Pn**	**12 46 08.5**	**-0.2**
CAF	**Calviac**	**3.22**	**270**	*e*Pn	**Pn**	**12 46 09.4**	**+0.7**
CAF				*e*Pg	**Pg**	**12 46 18.9**	**-2.2**
CAF				*e*Sg	**Sg**	**12 46 59.9**	**-4.2**
	8.6nm,0.3s						
CORF	**Corte**	**3.29**	**145**	Pn	**Pn**	**12 46 11.7**	**+1.9**
TCF	**Toulx Ste Croi**	**3.33**	**294**	*e*Pn	**Pn**	**12 46 11.2**	**+0.9**
TCF				*e*Sg	**Sg**	**12 47 03.9**	**-3.8**
	13nm,0.4s						
CDF	**Champ du Feu**	**3.42**	**8**	*e*Pn	**Pn**	**12 46 11.4**	**-0.2**
CDF				*e*Sn	**Sn**	**12 46 51.0**	**-1.9**
CDF				*e*Sg	**Sg**	**12 47 08.1**	**-2.7**
	13nm,0.5s						
MTLF	**Montolieu**	**3.57**	**243**	*e*Pn	**Pn**	**12 46 13.5**	**-0.2**
MTLF				*e*Pg	**Pg**	**12 46 25.1**	**-3.0**
MTLF				*e*Sn	**Sn**	**12 46 53.9**	**-2.7**
	5.1nm,0.3s						
RJF	**Les Rejaudoux**	**3.61**	**276**	*e*Pn	**Pn**	**12 46 16.3**	**+2.1**
RJF				*e*Pg	**Pg**	**12 46 26.3**	**-2.5**
RJF				*e*Sg	**Sg**	**12 47 12.2**	**-4.7**
	30nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEZF	Maizieres J'vi	3.64	344	ePn	Pn	12 46 17.3	+2.6
MEZF				ePg	Pg	12 46 26.8	-2.7
MEZF				eSg	Sg	12 47 14.5	-3.6
	36nm,0.4s						
GIVF	Givet	5.22	347	ePn	Pn	12 46 36.8	-0.4
BAIF	Baives	5.29	343	ePn	Pn	12 46 38.3	+0.2
LDF	La Druitiere	5.83	310	ePn	Pn	12 46 46.4	+0.6
GRR	Gorron	6.13	306	ePn	Pn	12 46 49.9	-0.1

*IDC **09** 12:51:06.2±1.6, 5.15S×154.10E, mb4.1/5, mb1 4.3/5, mb1mx4.0/13, mbtmp4.1/5, MS3.6/1, Ms1 3.6/1, ms1mx3.0/5, Error ellipse: s-maj=64.1km s-min=28.9km az=125.0*

NEIC 09 12:51:19.2±1.2**, 5.12S×154.12E, h100km, mb3.9**/1**, Error ellipse: s-maj=50.3km s-min=20.5km az=125.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	24.23	231	eP	P	12 56 27.3	-0.7
	4.0nm,0.8s						
WRA	Warramunga Arr	24.24	231	P	P	12 56 23.0	-5.1
	1.1nm,0.4s,baz=54,slow=9.6,SNR=14						
FITZ	Fitzroy Crossi	30.67	243	P	P	12 57 24.2	-2.5
	10nm,0.7s,baz=69,slow=5.5,SNR=10						
FITZ				LR	LR	13 10 17.1	
	comp=Z,131nm,21.6s,baz=101,slow=38						
MKAR	Makanchi Array	81.42	319	P	P	13 03 25.4	-1.3
	0.5nm,0.7s,baz=117,slow=5.4,SNR=3.9						
ILAR	Eielson Array	81.96	22	P	P	13 03 27.6	-1.4
	0.3nm,0.7s,baz=243,slow=6.0,SNR=4.2						
MAW	Mawson	85.78	203	P	P	13 03 47.0	-1.2
	0.9nm,0.7s,baz=101,slow=8.8,SNR=9.5						

*NEIC **09** 13:09:36.4±0.9, 5.10S×154.07E, h100km, mb4.1/2, Error ellipse: s-maj=28.2km s-min=14.4km az=99.0*

*IDC **09** 13:09:41.5±19.0, 5.17S×153.93E, h142km±169km, mb3.7/7, mb1 3.9/7, mb1mx3.7/13, mbtmp4.2/7, Error ellipse: s-maj=83.3km s-min=23.8km az=76.0*

ISC 09 13:09:34.6±1.2**, 5.1S**±0.1×**154.1E**±0.2**, h100km, n14, σ0.75**/14**, mb3.9**/9**, 1D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	24.25	231	eP	P	13 14 44.1	+0.5
	4.6nm,0.6s,mb4.0						
WB2	Warramunga Arr	24.25	231	⇓iP	P	13 14 44.3	+0.7
WRA	Warramunga Arr	24.26	231	P	P	13 14 44.6	+0.8
	3.4nm,0.5s,mb3.9,baz=56,slow=10,SNR=54						
WRA				pP		13 15 14.2	
	1.2nm,0.7s,baz=55,slow=12,SNR=3.4						
WRA	Warramunga Arr	24.26	231	P	P	13 14 44.6	+0.8
WRA				pP		13 15 14.2	
STKA	Stephens Creek	29.11	202	P	P	13 15 26.8	-1.4
	5.0nm,1.0s,mb4.1,baz=38,slow=15,SNR=5.0						
FITZ	Fitzroy Crossi	30.69	243	eP	P	13 15 40.9	-1.5
	7.7nm,0.5s,mb4.7						
FITZ	Fitzroy Crossi	30.69	243	P	P	13 15 41.1	-1.3
	10nm,0.5s,mb4.8,baz=47,slow=4.6,SNR=24						
SONM	Songino Array	67.29	327	P	P	13 20 21.0	+0.2
	0.2nm,0.5s,mb3.2,baz=135,slow=6.1,SNR=3.1						
VNDA	Vanda	72.48	178	P	P	13 20 52.5	+0.6
	0.6nm,0.7s,mb3.6,baz=341,slow=5.4,SNR=3.8						
VNDA	Vanda	72.48	178	P	P	13 20 52.5	+0.6
MKAR	Makanchi Array	81.43	319	P	P	13 21 42.0	-0.2
	0.6nm,0.6s,mb3.6,baz=94,slow=6.4,SNR=4.9						
MKAR	Makanchi Array	81.43	319	P	P	13 21 42.0	-0.2
KURK	Kurchatov	84.83	322	eP	P	13 21 59.2	-0.1
	2.5nm,1.0s,mb4.1						
MAW	Mawson	85.80	203	P	P	13 22 03.8	+0.1
	1.9nm,0.6s,mb4.2,baz=90,slow=7.8,SNR=14						

IDC 09 13:17:20.1±1.6**, 3.42N×127.57E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.6**/17**, mbtmp3.6**/3**, Error ellipse: s-maj=126.4km s-min=25.5km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.15	164	P	P	13 22 38.0	-1.0
	1.8nm,0.5s,baz=344,slow=10,SNR=24						
SONM	Songino Array	47.86	341	P	P	13 25 59.3	-2.4
	0.1nm,0.3s,baz=162,slow=9.1,SNR=3.0						
MKAR	Makanchi Array	58.29	325	P	P	13 27 17.2	-1.8
	0.4nm,0.5s,baz=119,slow=7.3,SNR=5.1						

*JMA **09** 13:27:02.3±0.2, 29.97N×139.36E, h450km±4km, M4.2*

*IDC **09** 13:27:03.3±0.7, 29.94N×138.76E, h413km±7km, mb3.7/18, mb1 3.8/23, mb1mx3.8/28, mbtmp4.5/23, Error ellipse: s-maj=15.3km s-min=7.4km az=85.0*

*MOS **09** 13:27:03.0±0.9, 29.94N×138.75E, h429km, mb3.9/12, Error ellipse: s-maj=17.8km s-min=7.8km az=106.6*

*BJI **09** 13:27:04.9, 30.00N×138.80E, h433km, mB4.7, mb4.5*

*NEIC **09** 13:27:04.9±0.6, 29.96N×138.83E, h434km±7km, mb4.2/18, Error ellipse: s-maj=9.7km s-min=6.0km az=90.0*

ISC 09 13:27:02.5±0.3**, 29.91N**±0.03×**139.03E**±0.06**, h428km**±3km**, n106, σ1.09**/128**, mb4.0**/39**, 3D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.27	12	P	P	13 28 11.4	+0.9
JHJ2				eS	S	13 29 05.5	+1.5
JHJ	Hachijo jima 2	3.27	11	P	P	13 28 11.6	+1.1
	233nm,0.3s,baz=149,slow=6.2,SNR=76						
JHJ				S	S	13 29 03.0	-1.1
	100nm,0.3s,baz=259,slow=23,SNR=9.5						
CBIJ	Chichi jima	3.94	135	P	P	13 28 15.9	-0.4
	79nm,0.3s,baz=271,slow=23,SNR=31						
CBIJ				S	S	13 29 13.2	-1.3
	226nm,0.3s,baz=289,slow=22,SNR=33						
TK01	Tokai 1	4.04	343	P	P	13 28 19.1	+1.9
JHHJ	Haha-jima-NKT	4.28	139	P	P	13 28 18.9	-0.7
JHHJ				eS	S	13 29 19.3	-0.8
JIM2	Oshima 3	4.81	4	P	P	13 28 24.8	+0.1
JIE	Ise	4.89	337	P	P	13 28 27.2	+1.8
JKN2	Miekihoku	4.91	332	P	P	13 28 27.0	+1.3
BSO1	Boso 1	5.01	19	P	P	13 28 26.5	-0.2
BSO1				eS	S	13 29 32.3	-0.5
BSO3	Boso 3	5.04	14	P	P	13 28 26.7	-0.2
BSO3				eS	S	13 29 31.5	-1.8
HMMJ	Hamamatsu 2	5.06	348	P	P	13 28 28.5	+1.4
HMMJ				eS	S	13 29 34.9	+1.2
BSO4	Boso 4	5.19	12	P	P	13 28 28.2	-0.2
JWY	Kouya	5.20	327	P	P	13 28 30.3	+1.8
JOD2	Odawara 2	5.34	0	P	P	13 28 30.0	0.0
JOD2				eS	S	13 29 38.2	-0.6
JNY	Yasuok	5.53	350	P	P	13 28 33.0	+1.1
JAO	Obara	5.55	345	P	P	13 28 34.2	+2.0
JEG	Eigenji	5.67	338	P	P	13 28 35.9	+2.5
JHU	Hanno	5.93	2	P	P	13 28 35.4	-0.7
JHU				eS	S	13 29 46.2	-3.6
JRY	Ryogami san	6.09	359	P	P	13 28 38.0	+0.1
JRY				eS	S	13 29 52.4	-0.6
JYT	Yasato	6.38	8	P	P	13 28 39.2	-1.7
JYT				eS	S	13 29 56.2	-2.3
JAG	Ashikaga	6.51	3	P	P	13 28 41.1	-1.3
JAG				eS	S	13 29 56.3	-4.8
MJAR	Matsushiro Arr	6.65	354	P	P	13 28 43.3	-0.6
	5.9nm,0.3s,baz=170,slow=11,SNR=41						
MJAR				S	S	13 30 03.0	-0.9
	2.6nm,0.3s,baz=194,slow=21,SNR=6.2						
MAJO	Matsushiro	6.66	354	ePn	P	13 28 43.3	-0.6
	28nm,0.4s						
MAJO	Matsushiro	6.66	354	eP	P	13 28 43.3	-0.6
MAJO				pmax	pmax		
	comp=Z,28nm,0.4s						
MAT	Matsushiro	6.66	354	P	P	13 28 43.5	-0.4
MAT				S	S	13 30 03.8	-0.2
MAT	Matsushiro	6.66	354	eP	P	13 28 44.0	+0.1
	comp=Z,22nm,0.5s						
MAT				eS	S	13 30 04.0	0.0
MAT	Matsushiro	6.66	354	eP	P	13 28 44.0	+0.1
MAT				eS	S	13 30 04.0	0.0
MAT				pmax	pmax		
	comp=Z,22nm,0.5s						
JHO	Hitachi	6.81	10	P	P	13 28 44.5	-1.1
JHO				eS	S	13 30 02.0	-5.0
JHS	Saijyo	7.12	317	P	P	13 28 50.2	+1.1
JFK	Kawauchi	7.60	11	P	P	13 28 53.9	-0.4
JFK				eS	S	13 30 20.4	-2.3
JNU	Nakatsue	7.66	297	P	P	13 28 55.7	+0.6
	comp=Z,0.8nm,0.3s,baz=43,slow=10,SNR=6.9						
JSJ	Shimokoshiki	8.21	285	P	P	13 29 09.1	+7.9
JMK	Ichinoseki	9.20	11	P	P	13 29 12.8	+0.4
JMK				eS	S	13 30 54.1	-1.1
JOW	Kunigami	9.96	255	P	P	13 29 22.1	+1.1
	comp=Z,1.6nm,0.3s,baz=109,slow=9.2,SNR=6.1						
JOT	Ohata	11.57	8	P	P	13 29 39.6	+0.6
JKB	Kayabe	12.06	7	P	P	13 29 44.8	+0.3
JKB				eS	S	13 31 54.2	+0.2
JOSM	Okushiri--Mats	12.16	2	P	P	13 29 45.8	+0.3
ASAJ	Asahikawa	14.46	10	P	P	13 30 11.0	+0.8
	comp=Z,2.3nm,0.3s,baz=223,slow=13,SNR=15						
ASAJ				S	S	13 32 47.7	+6.5
	comp=Z,0.2nm,0.3s,baz=101,slow=22,SNR=2.4						
NEM2	Nemuro 2	14.46	20	P	P	13 30 11.8	+1.6
JTKR	Abashiri--Toko	14.56	14	P	P	13 30 13.6	+2.3
YUK	Yuzh-Kuril'sk	15.11	19	⇓iP	P	13 30 17.0	+0.1
YUK				pmax	pmax		
	comp=Z,250nm,0.5s						
JWK2	Keihoku	15.55	8	P	P	13 30 24.0	+2.7
GUMO	Guam	17.11	160	P	P	13 30 40.2	+2.9
	comp=Z,6.5nm,0.3s,baz=169,slow=5.6,SNR=5.7						
GUMO	Guam	17.11	160	eP	P	13 30 41.0	+3.7
	comp=Z,66nm,0.8s						
GUMO	Guam	17.11	160	eP	P	13 30 41.0	+3.7
GUMO				pmax	pmax		
	comp=Z,67nm,0.8s						
YSS	Yuzh-Sakhalins	17.27	9	eP	P	13 30 40.4	+1.8
	comp=Z,9.7nm,0.6s						
YSS	Yuzh-Sakhalins	17.27	9	eP	P	13 30 40.4	+1.8
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HIA	Hailar	24.27	328	eP	P	13 31 44.8	-0.1
	comp=Z,5.6nm,0.6s,mb4.2						
HIA	Hailar	24.27	328	eP	P	13 31 44.8	-0.1
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC	Hu-ho-hao-te	24.82	304	eP	P	13 31 55.0	+5.0
HHC				PCP	PcP	13 35 17.3	+4.0
HHC				S	S	13 35 48.5	+7.4
HHC				SCP		13 38 16.5	
HHC				PCS		13 38 57.6	
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,65nm,3.7s						
ULN	Ulaanbaatar	30.38	315	eP	P	13 32 38.5	-0.4
	comp=Z,2.5nm,0.4s,mb3.9						
ULN	Ulaanbaatar	30.38	315	eP	P	13 32 38.5	-0.4
ULN				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
SONM	Songino Array	30.77	315	P	P	13 32 42.0	-0.3
	comp=Z,2.4nm,0.5s,mb3.8,baz=124,slow=8.4,SNR=34						
SONM				PcP	PcP	13 35 27.8	-0.1
	comp=Z,0.5nm,0.7s,baz=144,slow=3.3,SNR=3.9						
SONM				ScP		13 38 28.5	
	comp=Z,1.0nm,0.6s,baz=137,slow=2.7,SNR=9.3						
ZAK	Zakamensk	33.67	318	eP	P	13 33 06.7	-0.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.6						
FX1	Attu Island--F	33.88	38	P	P	13 33 12.1	+3.4
	comp=Z,19nm,0.6s,mb4.6,baz=144,slow=4.8,SNR=6.2						
FX1	Attu Island--F	33.88	38	eP	P	13 33 12.1	+3.4
KSM	Kuching	39.30	229	eP	P	13 33 54.6	+0.5
ZAL	Zalesovo	45.56	318	P	P	13 34 43.3	-0.2
	comp=Z,1.6nm,0.7s,mb3.5,baz=15,slow=10,SNR=7.6						
MKAR	Makanchi Array	46.56	308	P	P	13 34 50.5	-0.9
	comp=Z,2.3nm,0.7s,mb3.6,baz=93,slow=9.6,SNR=17						
MKAR				PcP	PcP	13 36 16.9	-0.9
	comp=Z,1.1nm,0.5s,baz=85,slow=12,SNR=8.0						
MKAR				ScP		13 39 29.1	
	comp=Z,0.5nm,0.5s,baz=59,slow=4.5,SNR=4.7						
PKI	Pulchoki	46.72	281	eP	P	13 34 52.3	-0.6
KKN	Kakani	46.77	281	eP	P	13 34 52.9	-0.4
	comp=Z,11nm,0.5s,mb4.5						
DMN	Daman	46.97	281	eP	P	13 34 54.3	-0.5
	comp=Z,9.9nm,0.4s,mb4.5						
GKN	Gorkha	47.26	282	eP	P	13 34 56.3	-0.7
	comp=Z,9.5nm,0.3s,mb4.5						
KOLN	Koldanda	48.21	282	eP	P	13 35 03.5	-0.7
	comp=Z,20nm,0.6s,mb4.7						
KURK	Kurchatov	49.05	313	eP	P	13 35 08.6	-1.6
	comp=Z,8.2nm,1.1s,mb4.0						
KURK	Kurchatov	49.05	313	eP	P	13 35 08.6	-1.6
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.0						
FITZ	Fitzroy Crossi	49.44	197	eP	P	13 35 13.4	-0.2
	comp=Z,9.4nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	49.44	197	P	P	13 35 14.0	+0.4
	comp=Z,9.3nm,0.6s,mb4.3,baz=5.8,slow=10,SNR=19						
WRAB	Tennant Creek	49.75	186	eP	P	13 35 15.5	-0.4
	comp=Z,18nm,0.4s,mb4.8						
WRAB	Tennant Creek	49.75	186	eP	P	13 35 15.5	-0.4
WRAB				pmax	pmax		
	comp=Z,18nm,0.4s,mb4.8						
WB2	Warramunga Arr	49.76	186	⇓iP	P	13 35 15.7	-0.3
WRA	Warramunga Arr	49.76	186	P	P	13 35 15.7	-0.3
	comp=Z,10nm,0.3s,mb4.7,baz=1.9,slow=8.0,SNR=657						
WRA				PcP	PcP	13 36 29.7	0.0
	comp=Z,1.6nm,0.5s,baz=357,slow=4.0,SNR=5.3						
WRA				ScP		13 39 45.0	
	comp=Z,0.4nm,0.6s,baz=358,slow=4.9,SNR=6.3						
CTA	Charters Tower	50.19	171	P	P	13 35 19.4	+0.3
	comp=Z,2.9nm,0.8s,mb3.6,baz=7.6,slow=6.6,SNR=4.3						
AAK	Ala-Archa	52.40	303	eP	P	13 35 33.3	-1.8
	comp=Z,1.9nm,0.5s,mb3.6						
AAK	Ala-Archa	52.40	303	eP	P	13 35 33.3	-1.8
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.6						
ASPA	Alice Springs	53.49	186	⇓iP	P	13 35 42.9	-0.4
MBWA	Marble Bar	54.06	202	eP	P	13 35 46.6	-0.8
	comp=Z,4.0nm,0.6s,mb3.8						
BVA0	Borovoye Array	54.10	316	i P	P	13 35 46.2	-1.1
BRVK	Borovoye	54.16	316	eP	P	13 35 46.5	-1.3
	comp=Z,3.1nm,0.6s,mb3.7						
BRVK	Borovoye	54.16	316	eP	P	13 35 46.5	-1.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.7						
KKAR	Karatay Array	55.21	304	i P	P	13 35 54.2	-1.1
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.7						
ILAR	Eielson Array	56.62	30	P	P	13 36 05.0	+0.2
	comp=Z,1.5nm,0.6s,mb3.5,baz=262,slow=5.2,SNR=27						
ARU	Arti	60.51	321	eP	P	13 36 30.0	-1.0
	comp=Z,8.3nm,0.5s,mb4.4						
ARU	Arti	60.51	321	eP	P	13 36 30.0	-1.0
ARU				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.4						
AB31	Akbulak array	61.16	313	i P	P	13 36 34.3	-1.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
FORT	Forrest	61.25	191	eP	P	13 36 36.8	+0.5
	comp=Z,49nm,0.5s,mb5.2						
STKA	Stephens Creek	61.49	178	eP	P	13 36 38.5	+0.6
	comp=Z,8.2nm,0.9s,mb4.2						
STKA	Stephens Creek	61.49	178	P	P	13 36 38.2	+0.4
	comp=Z,4.7nm,0.4s,mb4.3,baz=358,slow=3.0,SNR=7.6						
INK	Inuvik	61.65	25	P	P	13 36 39.4	+1.0
	comp=Z,1.8nm,0.6s,mb3.8,baz=304,slow=7.5,SNR=21						
INK	Inuvik	61.65	25	eP	P	13 36 39.1	+0.7
	comp=Z,2.1nm,0.7s,mb3.8						
INK	Inuvik	61.65	25	eP	P	13 36 39.1	+0.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	62.09	314	P	P	13 36 39.9	-1.7
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
NWAO	Narrogin (SRO)	65.81	200	P	P	13 37 05.8	+0.2
	comp=Z,13nm,0.5s,mb4.8,baz=34,slow=6.7,SNR=18						
ARCES	ARCESS Array B	69.97	340	P	P	13 37 30.9	+0.5
	comp=Z,1.8nm,0.4s,mb3.9,baz=65,slow=8.4,SNR=21						
FINES	FINESS Array B	74.20	333	P	P	13 37 54.6	-0.4
	comp=Z,1.7nm,0.3s,mb4.1,baz=62,slow=4.8,SNR=18						
SUMG	Summit	77.78	359	P	P	13 38 16.4	+1.8
	comp=Z,2.1nm,0.5s,mb4.0						
AKASG	Malin Array Be	78.71	322	P	P	13 38 19.5	-0.5
	comp=Z,0.9nm,0.4s,mb3.8,baz=50,slow=5.5,SNR=7.9						
NB2	NORSAR Subarra	79.97	337	P	P	13 38 26.5	+0.1
	comp=Z,1.2nm,0.5s,mb3.8,baz=47,slow=5.0						
NOA	NORSAR Array B	79.97	337	P	P	13 38 26.7	+0.4
	comp=Z,2.1nm,0.6s,mb3.9,baz=45,slow=5.3,SNR=5.7						
BOZ	Bozeman (W)	81.27	42	eP	P	13 38 34.4	+1.0
	comp=Z,1.1nm,0.5s,mb3.8						
BOZ	Bozeman (W)	81.27	42	eP	P	13 38 34.4	+1.0
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
BRTR	Keskin Array B	82.07	311	P	P	13 38 38.1	+0.5
	comp=Z,3.3nm,0.8s,mb4.1,baz=90,slow=4.9,SNR=10						
DUG	Dugway	83.59	47	eP	P	13 38 48.2	+2.9
	comp=Z,1.5nm,0.5s,mb4.0						
DUG	Dugway	83.59	47	eP	P	13 38 48.2	+2.9
DUG				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
PDAR	Pinedale Array	84.13	44	P	P	13 38 50.8	+2.8
	comp=Z,0.2nm,0.4s,mb3.2,baz=45,slow=4.2,SNR=4.2						
GERES	GERESS Array B	87.67	327	P	P	13 39 03.8	-1.0
	comp=Z,0.5nm,0.4s,mb3.6,baz=63,slow=4.4,SNR=3.6						

*IDC **09** 13:32:37.2±4.0, 0.12N×98.07E, mb4.3/4, mb1 4.5/4, mb1mx3.9/16, mbtmp4.3/4, Error ellipse: s-maj=156.0km s-min=25.9km az=56.0*

*NEIC **09** 13:32:43.5±1.5, 0.27N×97.83E, h30km, mb4.1/2, Error ellipse: s-maj=35.4km s-min=22.8km az=64.0*

ISC 09 13:32:41.1±1.5**, 0.3N**±0.2×**97.8E**±0.2**, h30km, n8, σ1.12**/8**, mb4.2**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.74	29	ePn	Pn	13 34 06.7	+0.1
WRA	Warramunga Arr	41.00	121	P	P	13 40 20.0	-3.4
	1.5nm,0.6s,mb3.8,baz=302,slow=8.9,SNR=13						
WRAB	Tennant Creek	41.00	121	eP	P	13 40 24.3	+0.9
	1.7nm,0.6s,mb3.9						
SONM	Songino Array	47.98	8	P	P	13 41 18.9	-0.3
	0.5nm,0.4s,mb3.9,baz=186,slow=9.9,SNR=7.8						
MKAR	Makanchi Array	48.31	346	P	P	13 41 20.3	-1.5
	3.5nm,0.6s,mb4.6,baz=152,slow=7.6,SNR=25						
MKAR	Makanchi Array	48.31	346	P	P	13 41 20.3	-1.5
KURK	Kurchatov	52.87	345	eP	P	13 41 57.5	+1.1
	2.2nm,0.8s,mb4.1						
ZAL	Zalesovo	54.59	351	P	P	13 42 09.6	+0.6
	2.8nm,0.4s,mb4.7,baz=76,slow=1.1,SNR=11						

*NEIC **09** 13:52:10.4±1.5, 4.51S×153.66E, h100km, mb4.2/4, Error ellipse: s-maj=43.3km s-min=14.9km az=106.0*

*IDC **09** 13:52:45.0±21.0, 4.72S×152.35E, h388km±197km, mb3.5/5, mb1 3.7/5, mb1mx3.4/13, mbtmp4.2/5, Error ellipse: s-maj=146.5km s-min=29.3km az=86.0*

ISC 09 13:52:09.5±1.9**, 4.4S**±0.2×**153.5E**±0.4**, h100km, n12, σ0.71**/12**, mb4.0**/8**, 2D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	24.21	229	eP	P	13 57 18.9	+0.8
	5.3nm,0.7s,mb4.0						
WB2	Warramunga Arr	24.22	229	⇓iP	P	13 57 18.7	+0.5
WRA	Warramunga Arr	24.23	229	P	P	13 57 18.9	+0.6
	6.0nm,0.4s,mb4.2,baz=54,slow=10.0,SNR=75						
FITZ	Fitzroy Crossi	30.47	241	⇓iP	P	13 58 14.0	-1.3
	6.2nm,0.7s,mb4.3						
FITZ	Fitzroy Crossi	30.47	241	P	P	13 58 14.1	-1.2
	8.4nm,0.7s,mb4.5,baz=64,slow=6.3,SNR=7.1						
KULM	Kulim	53.70	280	eP	P	14 01 22.8	-1.0
SONM	Songino Array	66.42	327	P	P	14 02 50.7	+0.5
	0.4nm,0.4s,mb3.6,baz=141,slow=5.4,SNR=6.7						
MKAR	Makanchi Array	80.54	319	P	P	14 04 13.1	+0.7
	1.0nm,0.9s,mb3.7,baz=101,slow=7.3,SNR=8.1						
MKAR	Makanchi Array	80.54	319	P	P	14 04 13.1	+0.7
KURK	Kurchatov	83.94	322	eP	P	14 04 29.6	-0.1
	1.1nm,0.3s,mb4.2						
AAK	Ala-Archa	84.95	313	eP	P	14 04 34.9	-0.1
	1.9nm,0.6s,mb4.2						
MAW	Mawson	86.18	203	P	P	14 04 39.6	-0.8
	1.6nm,0.7s,mb4.1,baz=96,slow=5.8,SNR=7.6						

*IDC **09** 14:10:00.9±1.7, 1.68N×125.95E, mb3.8/3, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=112.8km s-min=24.0km az=67.0*

ISC 09 14:10:03.9±1.5**, 1.6N**±0.3×**125.7E**±0.6**, h33km, n6, σ0.33**/6**, mb3.8**/3**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.58	180	P	P	14 14 32.2	0.0
	0.2nm,0.3s,baz=360,slow=9.8,SNR=3.7						
WRA	Warramunga Arr	23.02	159	P	P	14 15 06.9	-0.4
	1.0nm,0.3s,mb3.7,baz=337,slow=11,SNR=67						
WB2	Warramunga Arr	23.02	159	eP	P	14 15 07.7	+0.4
ASPA	Alice Springs	26.35	163	eP	P	14 15 39.0	0.0
STKA	Stephens Creek	36.54	157	P	P	14 17 08.5	0.0
	2.7nm,1.0s,mb4.0,baz=349,slow=5.2,SNR=4.3						
MKAR	Makanchi Array	58.74	326	P	P	14 20 01.0	0.0
	0.4nm,0.6s,mb3.7,baz=119,slow=7.2,SNR=7.0						

*NEIC **09** 15:02:50.0±0.5, 8.60S×80.37W, h40km, mb4.2/11, Error ellipse: s-maj=17.7km s-min=9.0km az=45.0*

*IDC **09** 15:02:55.0±7.5, 8.45S×80.45W, h77km±69km, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=83.0km s-min=28.2km az=33.0*

ISC 09 15:02:48.2±7.1**, 8.4S**±0.1×**80.4W**±0.2**, h31km**±51km**, n20, σ0.80**/19**, mb4.2**/12**, Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	5.02	136	ePn	Pn	15 03 58.9	-4.6
LPAZ	La Paz	14.33	125	P	P	15 06 14.6	+3.4
	0.2nm,0.3s,baz=311,slow=14,SNR=14						
LPAZ	La Paz	14.33	125	ePn	P	15 06 17.9	+6.7
	4.5nm,0.9s						
SAML	Samuel	17.02	93	eP	P	15 06 44.5	-1.4
	4.9nm,0.6s						
LVC	Limon Verde	17.96	143	eP	P	15 06 58.3	+0.8
	3.3nm,0.6s						
SDV	Santo Domingo	19.70	30	eP	P	15 07 18.3	0.0
	9.6nm,0.8s						
BLA	Blacksburg	45.33	360	eP	P	15 11 07.2	+1.7
	22nm,0.8s,mb5.0						
MNTX	Cornudas Mount	46.45	330	eP	P	15 11 14.1	-0.3
	0.7nm,0.7s,mb3.7						
SDCO	Great Sand Dun	51.52	335	eP	P	15 11 54.0	+0.5
	2.8nm,0.9s,mb4.2						
DUG	Dugway	56.84	331	eP	P	15 12 32.0	-0.5
	2.1nm,0.8s,mb4.2						
HWUT	Hardware Ranch	57.36	333	eP	P	15 12 35.6	-0.5
	3.9nm,0.8s,mb4.5						
PDAR	Pinedale Array	57.41	335	P	P	15 12 35.9	-0.6
	0.7nm,0.7s,mb3.8,baz=122,slow=8.5,SNR=6.7						
ELK	Elko	58.46	329	P	P	15 12 44.1	+0.3
	1.5nm,0.7s,mb4.2,baz=121,slow=5.2,SNR=8.0						
ELK	Elko	58.46	329	eP	P	15 12 43.8	0.0
	2.6nm,0.8s,mb4.3						
RRI2	Red Ridge	58.64	334	eP	P	15 12 45.0	-0.1
	4.6nm,0.8s,mb4.6						
DBIC	Dimbokro	76.77	81	P	P	15 14 39.0	-0.2
	1.5nm,0.6s,mb4.1,baz=240,slow=8.1,SNR=3.7						
SNAA	Sanae	78.20	162	P	P	15 14 45.3	-0.7
	1.1nm,0.8s,mb3.8						
MDT	Midelt	82.72	55	P	P	15 15 11.9	+1.1
	1.8nm,0.7s,mb4.2,baz=260,slow=6.1,SNR=4.9						
ILAR	Eielson Array	87.79	337	P	P	15 15 35.1	-0.2
	0.6nm,0.9s,mb3.8,baz=127,slow=4.5,SNR=5.4						
WRA	Warramunga Arr	135.73	230	PKP	PKPdf	15 22 07.2	-4.8
	0.8nm,0.7s,baz=117,slow=2.0,SNR=7.1						

*CSEM **09** 15:08:25.9, 28.90N×52.52E, h46km, ML3.5, After THR*

THR 09 15:08:25.9±1.4**, 28.90N×52.52E, h46km**±10km**, ML3.5, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.73	146	ePg	P	15 08 40.6	+0.6
GHIR				eSg	S	15 08 52.8	+2.5
GHIR				AML	AML	15 09 01.3	
	comp=N,1μm,0.6s						
GHIR	Ghir-Karzin	0.73	146	ePg	P	15 08 40.6	+0.6
	SNR=117						
GHIR				eSg	S	15 08 52.8	+2.5
	comp=N,1μm,0.6s,SNR=117						
BNDS	Bandar-Abbas	3.55	114	ePn	P	15 09 19.2	-0.8
BNDS				Sn	S	15 09 59.0	-2.2
BNDS				AML	AML	15 10 30.1	
	comp=N,95nm,1.0s						
BNDS	Bandar-Abbas	3.55	114	ePn	P	15 09 19.2	-0.8
	SNR=54						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BNDS				Sn	S	15 09 59.0	-2.2
	comp=N,95nm,1.0s,SNR=54						
KRBR	Kerman	3.85	73	ePn	P	15 09 25.1	+0.8
NASN	Na'in	3.90	4	ePn	P	15 09 24.5	-0.4
NASN				ePg	P	15 09 34.4	+10
ASAO	Ashtian	6.02	340	ePn	P	15 09 54.6	-0.1

MOS 09 15:36:42.3±1.9, 73.30N×7.33E, h10^{km}, mb4.3/5, Error ellipse: s-maj=40.3km s-min=7.2km az=96.9
CSEM 09 15:36:42.7±0.8, 73.17N×7.51E, h10^{km}, mb4.3, Error ellipse: s-maj=30.2km s-min=3.4km az=68.0
NEIC 09 15:36:43.6±0.5, 73.28N×7.08E, h10^{km}, mb4.3/6, Error ellipse: s-maj=10.3km s-min=6.8km az=65.0
IDC 09 15:36:43.0±1.0, 73.12N×6.95E, mb3.7/6, mb1 3.9/10, mb1mx3.8/21, mbtmp3.8/10, ML3.6/4, MS3.9/15, Ms1 3.9/15, ms1mx3.7/26, Error ellipse: s-maj=24.9km s-min=15.7km az=58.0
HEL 09 15:36:44.7±0.9, 73.39N×7.65E, h10^{km}, mb4.3(NEIC), ML2.6(BER), ML2.7(NAO)
BER 09 15:36:45.0±3.7, 73.33N×7.35E, h10^{km}, ML2.6, ML2.7(NAO)
NAO 09 15:36:46.8±4.3, 73.57N×8.69E, ML2.7

ISC 09 15:36:42.8±0.6, **73.28N**±0.05×**7.7E**±0.2, **h10^{km}, n74, σ1^{s}44**/84, **mb4.0**/13, **MS3.8**/12, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	Tromso	5.11	130	eP	Pn	15 38 01.0	-0.3
TRO				eS	Sn	15 38 56.1	-4.9
TRO				AML	AML	15 39 00.4	
	comp=Z,14nm,0.3s						
TRO	Tromso	5.11	130	eP	Pn	15 38 01.0	-0.3
	SNR=49						
TRO				S	Sn	15 38 56.1	-4.9
	comp=Z,14nm,0.3s						
SPA0	Spitsbergen Ar	5.36	19	Pn	Pn	15 38 02.5	-2.4
	baz=206,slow=18						
SPA0	Spitsbergen Ar	5.36	19	eP	Pn	15 38 02.5	-2.4
JMIC	Jan Mayen	5.50	253	LR	LR	15 39 33.6	
	comp=Z,695nm,19.1s,baz=17,slow=33						
LOF	Lofoten	5.51	157	eP	Pn	15 38 06.9	-0.1
LOF				AML	AML	15 39 12.1	
	comp=Z,14nm,0.5s						
LOF	Lofoten	5.51	157	P	Pn	15 38 06.9	-0.1
	comp=Z,14nm,0.5s						
KBS	Kingsbay	5.77	8	eP	Pn	15 38 07.6	-3.0
KIF	Kilpisjarvi	6.02	129	eP	Pn	15 38 14.3	+0.2
KIF				eS	Sn	15 39 18.6	-5.3
KIF	Kilpisjarvi	6.02	129	P	Pn	15 38 14.2	+0.1
KIF				S	Sn	15 39 18.5	-5.3
KTK1	Kautokeino	6.58	123	eP	Pn	15 38 23.0	+0.9
MELSS	Ber_school_2	6.76	160	eP	Pn	15 38 23.4	-1.2
MELSS				eS	Sn	15 39 31.9	-10
ARA0	ARCESS Array S	6.79	115	Pn	Pn	15 38 25.2	+0.3
	baz=326,slow=12						
ARA0				Sn	Sn	15 39 37.6	-5.5
	baz=311,slow=22						
ARA0	ARCESS Array S	6.79	115	eP	Pn	15 38 25.2	+0.3
ARA0				eS	Sn	15 39 37.6	-5.5
ARA0	ARCESS Array S	6.79	115	P	Pn	15 38 25.2	+0.2
ARA0				Sn	Sn	15 39 37.6	-5.5
	SNR=50						
ARCES	ARCESS Array B	6.79	115	Pn	Pn	15 38 25.6	+0.6
	comp=Z,2.9nm,0.3s,baz=328,slow=12,SNR=88						
ARCES				Sn	Sn	15 39 38.4	-4.7
	comp=Z,1.4nm,0.3s,baz=317,slow=22,SNR=5.5						
ARCES				LR	LR	15 41 49.1	
	comp=Z,470nm,20.8s,baz=341,slow=44						
ARCES	ARCESS Array B	6.79	115	Pn	Pn	15 38 25.6	+0.6
ARCES				Sn	Sn	15 39 38.4	-4.7
ARCES				LR	LR	15 41 49.0	
ARE0	ARCESS Array S	6.79	115	ePn	Pn	15 38 25.8	+0.8
KEV	Kevo	7.05	111	eP	Pn	15 38 28.3	-0.3
KEV				eS	Sn	15 39 43.8	-5.8
KEV	Kevo	7.05	111	P	Pn	15 38 28.3	-0.3
KEV				S	Sn	15 39 43.7	-5.9
STOK	Stokkvaagen	7.21	163	eP	Pn	15 38 28.9	-2.0
MOR8	Moi Rana	7.50	159	eP	Pn	15 38 32.8	-2.2
MOR8				eS	Sn	15 39 50.5	-11
MOR8				AML	AML	15 39 56.1	
	comp=Z,9.5nm,0.7s						
MOR8	Moi Rana	7.50	159	P	Pn	15 38 32.8	-2.2
MOR8				S	Sn	15 39 50.5	-11
	comp=Z,9.5nm,0.7s						
SGF	Sodankyl	8.58	124	eP	P	15 38 51.2	+1.2
SGF	Sodankyl	8.58	124	P	P	15 38 51.1	+1.1
APA0	Apatity Array	10.12	111	Pn	P	15 39 09.8	-1.2
	baz=332,slow=9.3						
APA0				Sn	S	15 41 00.0	-5.6
	baz=313,slow=28						
APA0	Apatity Array	10.12	111	eP	P	15 39 09.8	-1.2
APA0				eS	S	15 41 00.0	-5.6
KU4	Liikasenvaara	10.17	122	eP	P	15 39 12.3	+0.5
APA	Apatity	10.25	111	eP	P	15 39 03.5	-9.4
OUL	Oulu	10.39	133	eP	P	15 39 13.6	-1.2
KJN	Kajaani	11.65	132	eP	P	15 39 31.4	-0.7
NB2	NORSAR Subarra	12.36	172	Pn	P	15 39 39.0	-2.6
	comp=Z,4.4nm,1.0s,baz=355,slow=14						
NB2	NORSAR Subarra	12.36	172	P	P	15 39 39.0	-2.6
NB2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA	NORSAR Array B	12.36	172	Pn	P	15 39 38.6	-2.9
	comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=4.4						
NOA				LR	LR	15 44 07.2	
	comp=Z,366nm,18.8s,baz=350,slow=36						
SUMG	Summit	13.33	289	ePn	P	15 39 49.4	-5.0
HFS	Hagfors	13.40	167	eP	P	15 39 52.8	-2.6
HFS	Hagfors	13.40	167	Pn	P	15 39 52.7	-2.6
	comp=Z,0.0nm,0.3s,slow=12,SNR=4.9						
HFS				LR	LR	15 44 41.0	
	comp=Z,841nm,19.0s,baz=326,slow=36						
HFS	Hagfors	13.40	167	Pn	P	15 39 52.8	-2.6
	baz=336,slow=18						
FIA0	FINESS Array S	13.72	140	Pn	P	15 39 58.3	-1.0
	baz=344,slow=11						
FIA0	FINESS Array S	13.72	140	eP	P	15 39 58.3	-1.0
FINES	FINESS Array B	13.72	140	Pn	P	15 39 58.8	-0.5
	comp=Z,0.2nm,0.3s,baz=350,slow=12,SNR=7.0						
FINES				LR	LR	15 45 01.2	
	comp=Z,548nm,20.8s,baz=152,slow=36						
MOS	Moscow	21.35	129	eP	P	15 41 30.6	-1.4
OBN	Obninsk	21.70	131	P	P	15 41 38.0	+2.6
OBN				e		15 41 54.6	
OBN				S	S	15 45 41.0	+10
OBN				pmax	pmax		
	comp=Z,83nm,1.9s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3						
CLL	Collm	22.17	171	P	P	15 41 41.0	+0.8
	comp=Z,logA/T=1.2,mb4.4						
CLL				eS	S	15 45 50.0	+11
CLL	Collm	22.17	171	eP	P	15 41 41.0	+0.8
	comp=Z,24nm,1.4s,mb4.4						
CLL				eS	S	15 45 50.0	+11
CLL	Collm	22.17	171	eP	P	15 41 41.0	+0.8
CLL				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.4						
BRG	Berggiesshubel	22.65	170	eP	P	15 41 47.6	+2.8
	comp=Z,5.6nm,1.0s,mb4.0						
BRG				LR	LR		
	comp=Z,410nm,15.2s,MS4.0						
BRG	Berggiesshubel	22.65	170	eP	P	15 41 47.6	+2.9
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
BRG				MLR	MLR		
	comp=Z,410nm,15.2s,MS4.0						
MOX	Moxa	22.78	174	iP	P	15 41 47.3	+1.3
MOX	Moxa	22.78	174	eP	P	15 41 47.3	+1.3
GRA1	Grafenberg Arr	23.72	174	eP	P	15 41 56.1	+0.9
	comp=Z,10.0nm,1.6s,mb4.0						
GRF	Grafenberg Arr	23.72	174	eP	P	15 41 56.1	+0.9
	comp=Z,10.0nm,1.6s,mb4.0						
GRF	Grafenberg Arr	23.72	174	eP	P	15 41 56.1	+0.9
GRF				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.0						
GRF	Grafenberg Arr	23.72	174	eP	P	15 41 56.1	+0.9
GRF				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.0						
MORC	Moravsky Berou	23.97	164	eP	P	15 41 58.7	+1.1
	comp=Z,39nm,1.9s,mb4.5						
MORC	Moravsky Berou	23.97	164	eP	P	15 41 58.7	+1.0
MORC				pmax	pmax		
	comp=Z,39nm,1.9s,mb4.5						
VRAC	Vranov	24.37	166	P	P	15 42 05.0	+3.4
	comp=Z,3.0nm,0.4s,mb4.1,baz=16,slow=11,SNR=4.9						
VRAC				LR	LR	15 51 41.0	
	comp=Z,309nm,18.5s,MS3.8,baz=353,slow=37						
AKASG	Malin Array Be	24.49	146	P	P	15 42 03.5	+0.8
	comp=Z,1.4nm,0.5s,mb3.7,baz=343,slow=9.3,SNR=8.3						
GERES	GERESS Array B	24.66	171	P	P	15 42 05.5	+1.1
	comp=Z,2.9nm,1.0s,mb3.8,slow=9.3,SNR=11						
GERES				LR	LR	15 52 04.0	
	comp=Z,282nm,18.2s,MS3.8,baz=343,slow=38						
ARU	Arti	26.17	102	P	P	15 42 21.6	+3.1
DAVOX	Davos	26.60	177	LR	LR	15 52 15.6	
	comp=Z,162nm,19.7s,MS3.6,baz=184,slow=35						
MLR	Muntele Rosu	29.10	153	LR	LR	15 54 38.1	
	comp=Z,602nm,18.9s,MS4.2,baz=88,slow=37						
ZAL	Zalesovo	35.88	80	LR	LR	16 04 10.7	
	comp=Z,101nm,19.4s,MS3.6,baz=148,slow=46						
VAE	Valguarnera	36.03	171	LR	LR	16 00 04.6	
	comp=Z,253nm,18.3s,MS4.0,baz=180,slow=39						
GNI	Garni	37.63	131	LR	LR	15 59 55.9	
	comp=Z,229nm,21.7s,MS3.9,baz=320,slow=37						
FCC	Fort Churchill	38.19	304	eP	P	15 43 59.1	-4.5
	comp=Z,28nm,1.2s,mb4.9						
FCC	Fort Churchill	38.19	304	eP	P	15 43 59.1	-4.5
FCC				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.9						
ILAR	Eielson Array	41.18	344	P	P	15 44 28.6	+0.3
	comp=Z,0.7nm,0.8s,mb3.3,baz=3.1,slow=6.6,SNR=5.6						
MKAR	Makanchi Array	41.54	87	P	P	15 44 33.4	+2.0
	comp=Z,0.9nm,0.9s,mb3.4,baz=324,slow=6.1,SNR=4.0						
MKAR				LR	LR	16 05 47.2	
	comp=Z,103nm,18.3s,MS3.7,baz=358,slow=42						
ASF	Jabal al Asfar	43.81	143	LR	LR	16 06 10.6	
	comp=Z,50nm,21.5s,MS3.4,baz=360,slow=40						
SONM	Songino Array	47.32	65	P	P	15 45 20.1	+2.3
	comp=Z,1.3nm,1.1s,mb3.8,baz=324,slow=6.6,SNR=6.6						
PDAR	Pinedale Array	56.65	308	P	P	15 46 28.0	+0.1
	comp=Z,0.4nm,0.7s,mb3.5,baz=14,slow=3.7,SNR=4.2						
TXAR	Lajitas Array	68.02	299	LR	LR	16 17 15.1	
	comp=Z,162nm,19.1s,MS4.3,baz=355,slow=36						
MAW	Mawson	145.15	147	PKPbc	PKPbc	15 56 17.0	-1.8
	comp=Z,1.6nm,0.8s,baz=304,slow=8.3,SNR=5.0						

NEIC 09 15:42:07.4, 16.68N×99.55W, h17^{km}, MD4.1(MEX), After MEX.

MEX 09 15:42:07.3±0.9, **16.67N**×**99.54W, h20^{km}**±6^{km}, **MD4.2, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.41	299	iP	Pb	15 42 13.5	-2.2
ACX				iS	Sb	15 42 19.0	-2.5
CAIG	El Cayaco	0.79	299	iP	Pb	15 42 20.9	-1.3
CAIG				iS	Sb	15 42 30.3	-2.1
PNIG	Pinotepa	1.39	101	iP	Pn	15 42 28.9	-2.9
PNIG				iS	Sb	15 42 44.7	-5.0
PLIG	Platanillo	1.71	1	iP	Pn	15 42 33.6	-3.0
PLIG				iS	Sn	15 42 54.2	-3.9
ZIIG	Zihuatanejo	2.06	297	eP	Pn	15 42 38.0	-3.5
ZIIG				iS	Sn	15 43 02.0	-4.9
YAIG	Yautepec	2.23	12	eP	Pn	15 42 40.4	-3.5
YAIG				iS	Sn	15 43 06.6	-4.5
IIZ	Mezontepec	2.52	6	eP	Pn	15 42 45.0	-3.1
PPM	Popocatepetl	2.54	20	eP	Pn	15 42 45.0	-3.3
UNM	Universidad Na	2.67	7	iP	Pn	15 42 46.9	-3.3
UNM				eP		15 42 47.0	
UNM				iS	Sn	15 43 18.4	-3.9
UNM	Universidad Na	2.67	7	iP	Pn	15 42 46.9	-3.3
UNM				iS	Sn	15 43 22.2	-0.1
VHO	Vista Hermosa	2.72	81	eP	Pn	15 42 48.1	-2.8
VHO				iS	Sn	15 43 19.7	-3.9
OXX	Oaxaca	2.73	81	iP	Pn	15 42 47.5	-3.6
OXX				iS	Sn	15 43 18.0	-5.9
OXX	Oaxaca	2.73	81	iP	Pn	15 42 49.0	-2.1
OXX				iS	Sn	15 43 25.0	+1.1
MOIG	Morelia	3.38	333	eP	Pn	15 43 00.3	+0.1
MOIG				iS	Sn	15 43 36.7	-3.6
HUIG	Huatulco	3.42	105	eP	Pn	15 42 57.6	-3.2
HUIG				iS	Sn	15 43 35.7	-5.6
CMIG	Matias Romero	4.48	84	iP	Pn	15 43 12.2	-3.8
CMIG				iS	Sn	15 44 02.1	-6.1
SFJM	Santa Fe	5.04	319	iP	Pn	15 43 23.5	-0.4

NEIC 09 15:55:24.6±0.2, 11.80S×166.28E, h10^{km}, mb5.2/23, Error ellipse: s-maj=7.9km s-min=5.7km az=83.0
BJI 09 15:55:25.6, 11.23S×166.27E, h9^{km}, mB5.4, mb5.2, Ms5.0, Msz4.8
IDC 09 15:55:26.3±2.3, 11.87S×166.19E, h18^{km}±13^{km}, mb4.7/14, mb1 4.8/16, mb1mx4.8/18, mbtmp4.8/16, ML5.0/2, MS4.6/18, Ms1 4.6/18, ms1mx4.5/23, Error ellipse: s-maj=15.2km s-min=12.7km az=116.0
MOS 09 15:55:27.8±1.3, 11.79S×165.98E, h33^{km}, mb5.3/17, Error ellipse: s-maj=13.5km s-min=10.2km az=134.9

ISC 09 15:55:24.8±0.3, **11.90S**±0.05×**166.10E**±0.06, **h17^{km}**±1.1^{km}**:pP-P, n172, σ0^{s}98**/124, **mb5.2**/51, **MS4.6**/28, **15C-1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.52	292	Pn	Pn	15 57 03.7	+1.2
	78nm,0.3s,baz=156,slow=3.1,SNR=34						
HNR				Sn	Sn	15 58 15.7	-1.5
	17nm,0.3s,baz=2.4,slow=23,SNR=6.0						
HNR	Honiara	6.52	292	eP	Pn	15 57 02.8	+0.3
	1μm,1.0s						
HNR	Honiara	6.52	292	eP	Pn	15 57 02.8	+0.3
HNR				pmax	pmax		
	comp=Z,1μm,1.0s						
DZM	Mont Dzumac	10.12	178	eP	P	15 57 52.5	-0.1
DZM				eS	S	16 00 01.0	+14
DZM	Mont Dzumac	10.12	178	Pn	P	15 57 52.9	+0.3
	comp=Z,4.5nm,0.3s,baz=25,slow=17,SNR=43						
DZM				LR	LR	16 00 56.2	
	comp=Z,959nm,21.2s,baz=183,slow=32						
NOUC	Port Laguerre	10.14	179	eP	P	15 57 53.7	+0.7
CTA	Charters Tower	20.72	244	eP	P	16 00 08.2	+1.0
	comp=Z,31nm,0.9s						
CTA				eS	S	16 04 06.8	+14
CTA	Charters Tower	20.72	244	P	P	16 00 08.2	+1.1
	comp=Z,48nm,1.0s						
CTA				S	S	16 03 59.3	+6.3
	comp=Z,3.2nm,1.1s,baz=182,slow=22,SNR=2.0						
CTA				LR	LR	16 07 08.3	
	comp=Z,2μm,21.3s,MS4.4,baz=1.0,slow=34						
CTA	Charters Tower	20.72	244	eP	P	16 00 08.2	+1.0
CTA				pmax	pmax		
	comp=Z,31nm,0.9s						
CTAO	Charters Tower	20.72	244	eP	P	16 00 07.1	-0.1
	comp=Z,66nm,1.1s						
CTAO	Charters Tower	20.72	244	eP	P	16 00 07.1	-0.1
CTAO				pmax	pmax		
	comp=Z,66nm,1.1s						
AFI	Afiamalu	21.66	98	LR	LR	16 07 11.8	
	comp=Z,2μm,19.2s,MS4.5,baz=274,slow=33						
RAO	Raoul Island	22.80	142	LR	LR	16 07 50.4	
	comp=Z,1μm,19.9s,MS4.3,baz=320,slow=33						
URZ	Urewera	28.03	161	P	P	16 01 15.6	-1.6
	comp=Z,3.4nm,0.7s,mb4.1,baz=191,slow=22,SNR=2.2						
URZ				LR	LR	16 11 04.2	
	comp=Z,1μm,20.5s,MS4.5,baz=11,slow=34						
STKA	Stephens Creek	30.07	225	eP	P	16 01 36.6	+1.0
	comp=Z,18nm,1.5s,mb4.6						
STKA	Stephens Creek	30.07	225	P	P	16 01 36.0	+0.4
	comp=Z,7.6nm,0.7s,mb4.5,baz=345,slow=17,SNR=7.7						
STKA				PcP	PcP	16 04 36.8	-0.6
	comp=Z,9.4nm,1.0s,baz=267,slow=2.5,SNR=3.5						
STKA				LR	LR	16 13 25.9	
	comp=Z,2μm,19.6s,MS4.8,baz=54,slow=36						
WB2	Warramunga Arr	31.51	251	eP	P	16 01 47.6	-0.8
WB2				iS	S	16 07 01.2	+6.5
WRAB	Tennant Creek	31.51	251	eP	P	16 01 47.5	-1.0
	comp=Z,66nm,1.3s,mb5.3						
WRAB				ePcP	PcP	16 04 40.9	-0.3
WRAB	Tennant Creek	31.51	251	eP	P	16 01 47.5	-0.9
WRAB				e		16 04 40.9	
WRAB				pmax	pmax		
	comp=Z,66nm,1.3s,mb5.3						
WRA	Warramunga Arr	31.52	251	P	P	16 01 47.7	-0.8
	comp=Z,3.5nm,0.4s,mb4.5,baz=82,slow=8.5,SNR=28						
WRA				PcP	PcP	16 04 41.4	+0.1
	comp=Z,10nm,1.0s,baz=76,slow=2.8,SNR=12						
WRA				ScP		16 08 24.2	
	comp=Z,9.2nm,1.2s,baz=83,slow=3.6,SNR=15						
RPZ	Rata Peaks	31.99	173	P	P	16 01 51.4	-0.9
	comp=Z,22nm,0.8s,mb5.1,baz=332,slow=2.0,SNR=14						
RPZ				LR	LR	16 12 58.7	
	comp=Z,939nm,21.1s,MS4.5,baz=341,slow=33						
RPZ	Rata Peaks	31.99	173	P	P	16 01 51.4	-0.9
RPZ				LR	LR	16 12 58.7	
ASPA	Alice Springs	32.73	245	eP	P	16 01 58.0	-1.0
GUMO	Guam	32.93	320	P	P	16 02 00.8	-0.1
	comp=Z,38nm,0.8s,mb5.4,baz=262,slow=22,SNR=2.5						
GUMO				LR	LR	16 13 51.3	
	comp=Z,1μm,21.1s,MS4.6,baz=260,slow=34						
GUMO	Guam	32.93	320	eP	P	16 02 00.9	+0.1
	comp=Z,34nm,0.8s,mb5.3						
GUMO	Guam	32.93	320	eP	P	16 02 00.9	+0.1
GUMO				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.3						
FITZ	Fitzroy Crossi	39.50	256	eP	P	16 02 56.7	+0.2
	comp=Z,22nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	39.50	256	P	P	16 02 57.0	+0.4
	comp=Z,14nm,0.9s,mb4.7,baz=92,slow=5.4,SNR=7.5						
PPT	Papeete	43.16	103	eLQ		16 13 43.4	
PPT				eLR	LR	16 15 35.2	
	comp=Z,980nm,23.0s,baz=280						
PPT	Papeete	43.16	103	LR	LR	16 17 52.4	
	comp=Z,889nm,18.3s,MS4.7,baz=83,slow=31						
TBI	Tubuai	43.70	111	eLQ		16 13 48.5	
TBI				eLR	LR	16 15 45.1	
	comp=Z,1μm,26.0s,baz=283						
MBWA	Marble Bar	45.25	252	eP	P	16 03 44.0	+0.5
	comp=Z,28nm,1.0s,mb5.0						
NWAO	Narrogin (SRO)	49.28	237	LR	LR	16 25 12.4	
	comp=Z,2μm,18.1s,MS5.1,baz=247,slow=36						
JHJ	Hachijo jima 2	51.33	332	LR	LR	16 25 01.6	
	comp=Z,381nm,20.2s,MS4.4,baz=306,slow=35						
KKM	Kota Kinabalu	52.71	287	eP	P	16 04 41.7	+0.5
TAOE	Nuku Hiva Isla	52.90	92	eLQ		16 17 41.4	
TAOE				eLR	LR	16 19 51.2	
	comp=Z,2μm,23.1s						
MJAR	Matsushiro Arr	54.88	333	P	P	16 04 55.5	-1.5
	comp=Z,8.8nm,1.0s,mb4.8,baz=153,slow=7.7,SNR=24						
MAJO	Matsushiro	54.88	333	eP	P	16 04 55.1	-1.9
	comp=Z,30nm,1.4s,mb5.1						
MAJO	Matsushiro	54.88	333	eP	P	16 04 55.1	-1.8
MAJO				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
MAT	Matsushiro	54.88	333	P	P	16 04 55.4	-1.5
MAT				eS	S	16 12 39.0	+3.3
MAT	Matsushiro	54.88	333	eP	P	16 04 55.0	-1.9
	comp=Z,16nm,0.9s,mb5.0						
MAT	Matsushiro	54.88	333	eP	P	16 04 55.0	-1.9
MAT				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
YHNB	Yeheng	56.79	310	eP	P	16 05 10.9	+0.1
RKT	Rikitea	56.97	110	eLR	LR	16 21 50.7	
	comp=Z,880nm,23.5s						
KSM	Kuching	56.98	280	eP	P	16 05 12.3	0.0
SSE	Sheshan	60.70	316	P	P	16 05 36.5	-1.4
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,114nm,5.6s						
SSE	Sheshan	60.70	316	P	P	16 05 36.5	-1.4
	comp=Z,21nm,0.8s,mb5.3						
YSS	Yuzh-Sakhalins	62.20	342	eP	P	16 05 47.0	-0.9
	comp=Z,27nm,1.2s,mb5.3						
YSS	Yuzh-Sakhalins	62.20	342	eP	P	16 05 46.0	-1.8
YSS				e		16 06 25.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.4						
GZH	Guangzhou	62.25	304	P	P	16 05 48.5	0.0
GZH				S	S	16 14 17.2	+5.4
GZH				LR	LR		
	comp=N,157nm,13.0s						
GZH				LR	LR		
	comp=E,243nm,19.0s						
GZH				LR	LR		
	comp=Z,434nm,21.1s						
NJ2	Nanjing	62.87	316	eP	P	16 05 53.1	+0.7
NJ2				AP	pP	16 05 57.6	-0.1
NJ2				XP	sP	16 06 00.2	+0.7
NJ2				PP	PP	16 08 13.1	+0.6
NJ2				S	S	16 14 21.0	+1.5
NJ2				XS		16 14 30.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,90nm,5.4s						
NJ2				LR	LR		
	comp=N,500nm,22.2s,MS4.9						
NJ2				LR	LR		
	comp=E,660nm,22.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,540nm,24.4s,MS4.6						
QIZ	Qiongzhong	63.38	298	P	P	16 05 57.5	+1.5
QIZ				S	S	16 14 28.5	+2.3
QIZ				LR	LR		
	comp=E,184nm,20.2s						
QIZ				LR	LR		
	comp=Z,325nm,20.2s,MS4.5						
WHN	Wuhan	65.21	312	eP	P	16 06 07.6	-0.3
MDJ	Mudanjiang	65.26	332	P	P	16 06 07.6	-0.3
MDJ				AMB	AMB		
	comp=Z,19nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,176nm,9.9s						
MDJ				LR	LR		
	comp=N,231nm,19.7s,MS4.4						
MDJ				LR	LR		
	comp=E,64nm,17.6s,MS4.4						
MDJ				LR	LR		
	comp=Z,259nm,30.7s						
MDJ	Mudanjiang	65.26	332	eP	P	16 06 07.5	-0.4
	comp=Z,22nm,1.0s,mb5.1						
DL2	Dalian	65.36	323	P	P	16 06 09.3	+0.6
DL2				eS	S	16 14 57.6	+7.2
DL2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
DL2				LR	LR		
	comp=N,100nm,17.7s,MS4.3						
DL2				LR	LR		
	comp=E,130nm,16.7s,MS4.3						
DL2				LR	LR		
	comp=Z,250nm,19.8s,MS4.4						
VNDA	Vanda	65.65	181	P	P	16 06 09.5	-0.4
	comp=Z,18nm,1.1s,mb5.0,baz=350,slow=6.8,SNR=28						
VNDA	Vanda	65.65	181	eP	P	16 06 09.2	-0.8
	comp=Z,38nm,1.3s,mb5.3						
VNDA	Vanda	65.65	181	eP	P	16 06 09.2	-0.7
VNDA				pmax	pmax		
	comp=Z,38nm,1.3s						
CASY	Casey	65.71	201 ⇑	iP	P	16 06 09.8	-0.6
SBA	Scott Base	65.95	180 ⇑	iP	P	16 06 11.9	+0.1
	comp=Z,56nm,1.2s,mb5.5						
SBA	Scott Base	65.95	180 ⇑	iP	P	16 06 11.9	+0.1
SBA				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.5						
TIA	Tai'an	66.48	318	eP	P	16 06 15.7	-0.2
TIA				AMB	AMB		
	comp=Z,43nm,1.2s,mb5.3						
CN2	Changchun	66.65	329	eP	P	16 06 16.1	-0.7
CN2				eXP	sP	16 06 22.0	-1.9
CN2				eS	S	16 15 07.0	+1.0
CN2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
CN2				AMB	AMB		
	comp=Z,270nm,5.0s						
CN2				LR	LR		
	comp=N,460nm,21.0s,MS4.7						
CN2				LR	LR		
	comp=E,260nm,21.0s,MS4.7						
CN2				LR	LR		
	comp=Z,340nm,21.0s,MS4.5						
KULM	Kulim	67.28	281	eP	P	16 06 21.7	+0.4
KLR	Kul'dur	67.97	336	eP	P	16 06 21.8	-3.3
ENH	Enshi	68.70	309	eP	P	16 06 29.5	-0.4
	comp=Z,33nm,1.0s,mb5.2						
GYA	Guiyang	69.18	304 ⇑	iP	P	16 06 33.5	+0.5
GYA				AP	pP	16 06 38.0	-0.2
GYA				XP	sP	16 06 40.5	+0.4
GYA				PP	PP	16 09 08.7	+0.6
GYA				S	S	16 15 37.6	+1.1
GYA				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.1						
GYA				AMB	AMB		

comp=Z,250nm,8.1s
GYA LR LR
comp=N,480nm,18.0s,MS4.9
GYA LR LR
comp=E,510nm,18.4s,MS4.9
GYA LR LR
comp=Z,590nm,17.8s,MS4.9
XAN Xi'an 70.95 312 P P **16 06 44.1 +0.5**
XAN AP pP 16 06 49.8 +1.0
XAN AMB AMB
comp=Z,26nm,1.5s,mb4.9
NANT Nan 71.31 295 P P **16 06 45.0 -1.0**
KMI Kunming 71.86 302 P P **16 06 50.4 +1.2**
KMI AP pP 16 06 55.0 +0.5
KMI XP sP 16 06 56.9 +0.6
KMI PCP PcP 16 07 08.7 +0.5
KMI PP PP 16 09 33.6 +3.0
KMI S S 16 16 11.7 +3.9
KMI SKS SKS 16 16 50.7 -3.3
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,137nm,3.2s
KMI LR LR
comp=N,210nm,17.0s,MS4.6
KMI LR LR
comp=E,250nm,19.6s,MS4.6
KMI LR LR
comp=Z,370nm,20.5s,MS4.6
KMI Kunming 71.86 302 P P **16 06 50.4 +1.2**
comp=Z,14nm,1.2s,mb4.8
KMI pP pP 16 06 55.0 +0.5
KMI sP sP 16 06 56.9 +0.6
KMI PcP PcP 16 07 08.7 +0.5
KMI PP PP 16 09 33.6 +3.0
KMI PPP PPP 16 11 15.9 +3.5
KMI S S 16 16 11.7 +3.9
KMI PS PS 16 16 40.0 -0.2
KMI SKS SKS 16 16 50.7 -3.3
KMI SS SS 16 20 53.9 +7.8
KMI LR LR
comp=Z,370nm,20.5s,MS4.6
KMI Kunming 71.86 302 P P **16 06 50.4 +1.2**
KMI *SP sP 16 06 56.9 +0.6
KMI 16 07 08.7
KMI 16 09 33.6
KMI PPP PPP 16 11 15.9 +3.5
KMI S S 16 16 11.7 +3.9
KMI PS PS 16 16 40.0 -0.2
KMI 16 16 50.7
KMI pmax pmax
comp=Z,14nm,1.2s,mb4.8
KMI MLR MLR
comp=Z,370nm,20.5s,MS4.6
MIR Mirnyy 72.44 204*d i*P P **16 06 52.4 +0.5**
MIR pmax pmax
comp=Z,72nm,1.4s,mb5.4
HHC Hu-ho-hao-te 72.70 320 ⇑P P **16 06 55.1 +1.1**
HHC AP pP 16 06 59.9 +0.7
HHC XP sP 16 07 01.6 +0.5
HHC PCP PcP 16 07 12.3 +0.7
HHC PP PP 16 09 40.0 +2.2
HHC S S 16 16 18.4 +1.2
HHC XS 16 16 26.7
HHC SKS SKS 16 16 55.3 -4.6
HHC SCS ScS 16 16 58.4 +1.3
HHC SS SS 16 20 59.1 -0.1
HHC AMB AMB
comp=Z,42nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,145nm,4.5s
HHC LR LR
comp=N,267nm,19.0s,MS4.7
HHC LR LR
comp=E,321nm,20.2s,MS4.7
HHC LR LR
comp=Z,625nm,22.6s,MS4.8
CHG Chiang Mai 72.88 294 P P **16 06 56.6 +1.1**
comp=Z,12nm,1.3s,mb4.7
HIA Hailar 73.28 330 *eP* P **16 06 57.1 0.0**
comp=Z,45nm,1.2s,mb5.3
HIA Hailar 73.28 330 *eP* P **16 06 57.2 0.0**
HIA pmax pmax
comp=Z,45nm,1.2s
CD2 Chengdu 73.39 307 *eP* P **16 06 58.9 +0.7**
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
LZH Lanzhou 75.58 312 P P **16 07 12.3 +1.5**
LZH AP pP 16 07 18.3 +2.2
LZH XP sP 16 07 21.2 +3.3
LZH PP PP 16 10 04.1 +1.8
LZH S S 16 16 52.0 +2.5
LZH XS 16 17 06.0
LZH SKS SKS 16 17 18.0 -3.1
LZH AMB AMB
comp=Z,140nm,1.1s,mb5.8
LZH AMB AMB
comp=Z,530nm,4.0s
LZH LR LR
comp=E,480nm,15.2s
LZH LR LR
comp=Z,640nm,16.8s,MS5.0
LZH Lanzhou 75.58 312 P P **16 07 12.3 +1.5**
comp=Z,140nm,1.1s,mb5.8
LZH pP pP 16 07 18.3 +2.2
LZH sP sP 16 07 21.2 +3.3
LZH PP PP 16 10 04.1 +1.8
LZH PPP PPP 16 11 52.0 +3.6
LZH S S 16 16 52.0 +2.5
LZH sS 16 17 06.0
LZH SKS SKS 16 17 18.0 -3.1
LZH PS PS 16 17 37.0 +8.3
LZH SS SS 16 21 50.0 +6.6
LZH LR LR
comp=Z,640nm,16.8s,MS5.0
LZH Lanzhou 75.58 312 P P **16 07 12.3 +1.5**
LZH *PP pP 16 07 18.3 +2.2
LZH *SP sP 16 07 21.2 +3.3
LZH 16 10 04.1
LZH PPP PPP 16 11 52.0 +3.6
LZH S S 16 16 52.0 +2.5
LZH *SS 16 17 06.0
LZH 16 17 18.0
LZH PS PS 16 17 37.0 +8.3
LZH pmax pmax
comp=Z,140nm,1.1s,mb5.8
LZH MLR MLR
comp=Z,640nm,16.8s,MS5.0
QSPA South Pole Qui 78.11 180 *eP* P **16 07 24.1 +0.1**
comp=Z,27nm,1.1s,mb5.1
YAK Yakutsk 79.01 343 *eP* P **16 07 26.9 -2.3**
comp=Z,19nm,0.9s,mb5.0
YAK Yakutsk 79.01 343 *eP* P **16 07 26.9 -2.3**
YAK pmax pmax
comp=Z,19nm,0.9s,mb5.0
ULN Ulaanbaatar 79.19 324⇑*iP* P **16 07 31.2 +0.7**
comp=Z,89nm,1.2s,mb5.6
ULN Ulaanbaatar 79.19 324⇑*iP* P **16 07 31.2 +0.7**
ULN pmax pmax
comp=Z,89nm,1.2s,mb5.6
SONM Songino Array 79.55 324 P P **16 07 33.3 +0.8**
comp=Z,32nm,1.1s,mb5.2,baz=135,slow=5.2,SNR=116
SONM LR LR 16 42 37.6
comp=Z,211nm,19.3s,MS4.5,baz=98,slow=36
GTA Gaotai 79.89 314⇑*iP* P **16 07 36.1 +1.6**
GTA AP pP 16 07 43.3 +3.5
GTA XP sP 16 07 47.2 +5.6
GTA PP PP 16 10 41.1 +3.4
GTA S S 16 17 40.1 +4.3
GTA SKS SKS 16 17 47.3 -4.8
GTA XS 16 17 52.6
GTA AMB AMB
comp=Z,75nm,1.2s,mb5.5
GTA AMB AMB
comp=Z,402nm,4.2s
GTA LR LR
comp=N,212nm,20.2s,MS4.7
GTA LR LR
comp=E,307nm,20.5s,MS4.7
GTA LR LR
comp=Z,474nm,21.7s,MS4.8
BOD Bodaibo 81.45 335 *eP* P **16 07 41.9 -0.4**
BOD pmax pmax
comp=Z,12nm,1.3s,mb4.7

ZAK Zakamensk 82.59 325⇑*iP* P **16 07 49.0 +0.6**
ZAK pmax pmax
comp=Z,18nm,1.0s,mb5.1
IRK Irkutsk 82.96 327 *eP* P **16 07 49.6 -0.6**
IRK pmax pmax
comp=Z,46nm,2.0s,mb5.2
MAW Mawson 84.06 202⇑*iP* P **16 07 55.9 +0.4**
comp=Z,8.3nm,1.1s,mb4.8
MAW Mawson 84.06 202 P P **16 07 56.1 +0.6**
comp=Z,11nm,1.0s,mb4.9,baz=100,slow=6.7,SNR=16
MAW LR LR 16 38 49.2
comp=Z,218nm,20.7s,MS4.5,baz=307,slow=31
MAW Mawson 84.06 202⇑*iP* P **16 07 55.9 +0.4**
MAW pmax pmax
comp=Z,8.0nm,1.1s
ILAR Eielson Array 84.21 18 P P **16 07 55.1 -1.2**
comp=Z,2.3nm,0.5s,mb4.5,baz=250,slow=4.9,SNR=27
ILAR LR LR 16 46 36.2
comp=Z,179nm,18.7s,MS4.5,baz=6.6,slow=36
MOY Mondy 84.47 325 *eP* P **16 07 58.2 +0.3**
MOY pmax pmax
comp=Z,54nm,2.5s,mb5.2
PKI Pulchoki 87.35 299 *eP* P **16 08 13.3 +0.6**
comp=Z,72nm,1.2s,mb5.8
KKN Kakani 87.51 299 *eP* P **16 08 14.3 +0.8**
comp=Z,79nm,1.4s,mb5.8
DMN Daman 87.62 299 *eP* P **16 08 14.7 +0.7**
comp=Z,97nm,1.1s,mb6.0
GKN Gorkha 88.12 299 *eP* P **16 08 16.2 -0.2**
comp=Z,73nm,1.1s,mb5.8
KOLN Koldanda 88.95 299 *eP* P **16 08 20.6 +0.2**
comp=Z,38nm,1.0s,mb5.7
WMQ Urumqi 89.94 315⇑*iP* P **16 08 25.0 +0.3**
WMQ AP pP 16 08 30.0 0.0
WMQ XP sP 16 08 33.0 +1.2
WMQ PP PP 16 12 00.0 0.0
WMQ SKS SKS 16 18 53.0 -6.0
WMQ *eS* S 16 19 20.0 +5.8
WMQ AMB AMB
comp=Z,49nm,1.4s,mb5.6
WMQ AMB AMB
comp=Z,195nm,5.2s
WMQ LR LR
comp=N,185nm,21.2s,MS4.8
WMQ LR LR
comp=E,322nm,21.4s,MS4.8
WMQ LR LR
comp=Z,432nm,24.0s,MS4.8
MSU Marysvale 90.95 51 *eP* P **16 08 29.5 +0.1**
SYO Syowa Base 91.07 197⇑P P **16 08 27.8 -1.5**
HYB Hyderabad 91.20 287 *iP* P **16 08 39.0 +8.0**
PDAR Pinedale Array 93.88 47 P P **16 08 44.0 +1.2**
comp=Z,0.1nm,0.3s,baz=288,slow=2.9,SNR=2.8
MKAR Makanchi Array 94.38 317 P P **16 08 45.8 +0.8**
comp=Z,52nm,1.0s,mb5.9,baz=96,slow=6.0,SNR=174
MKAR LR LR 16 49 52.0
comp=Z,179nm,19.2s,MS4.5,baz=271,slow=35
MKAR Makanchi Array 94.38 317 *iP* P **16 08 45.4 +0.4**
MKAR pmax pmax
comp=Z,53nm,1.0s
ZAL Zalesovo 94.45 324 P P **16 08 44.7 -0.5**
comp=Z,11nm,1.1s,mb5.2,baz=8.9,slow=5.2,SNR=47
ZAL LR LR 16 50 05.4
comp=Z,235nm,20.7s,MS4.6,baz=348,slow=35
NVS Novosibirsk 95.55 325 *iP* P **16 08 49.2 -1.0**
YKA Yellowknife Ar 95.57 27 P P **16 08 52.1 +2.0**
comp=Z,1.1nm,0.5s,mb4.6,baz=257,slow=5.5,SNR=4.6
YKA LR LR 16 53 27.7
comp=Z,185nm,18.1s,MS4.6,baz=260,slow=36
MAIT Maitri 95.68 188 *eP* P **16 08 50.0 -0.4**
TXAR Lajitas Array 95.94 61 LR LR 16 44 23.7
comp=Z,480nm,21.0s,MS5.0,baz=260,slow=31
SNAA Sanae 96.29 184 P **16 08 52.0 -1.2**
SNAA Sanae 96.29 184 P **16 08 59.8 +6.6**
VNA3 Neumayer Olymp 97.00 181⇑*i* P **16 08 57.0 +0.6**
VNA3 Neumayer Olymp 97.00 181 P **16 08 59.3 +2.9**
VNA3 Neumayer Olymp 97.00 181 P **16 09 02.4 +6.0**
VNA2 Neumayer--Watz 97.25 182⇑*i* P **16 08 58.3 +0.8**
VNA2 Neumayer--Watz 97.25 182 P **16 09 01.9 +4.4**
VNA2 Neumayer--Watz 97.25 182 P **16 09 03.8 +6.3**
KURK Kurchatov 97.51 320 *eP* P **16 08 57.8 -1.4**
comp=Z,21nm,1.6s,mb5.4
KURK Kurchatov 97.51 320 *eP* P **16 08 56.2 -3.0**
VNA1 Neumayer--Stat 97.56 182 P **16 09 00.1 +1.2**
ARCES ARCESS Array B 117.24 345 PKP PKPdf 16 14 08.7 -4.1
comp=Z,1.0nm,0.6s,baz=72,slow=1.9,SNR=12
ZEI Tsey 121.51 313 *e*PKIKP PKPdf 16 14 19.4 -2.3
OBN Obninsk 121.71 329 *i* PKIKP PKPdf 16 14 19.3 -2.4
OBN pmax pmax
comp=Z,7.0nm,1.3s
FINES FINESS Array B 122.69 338 PKP PKPdf 16 14 18.8 -4.5
comp=Z,5.1nm,1.0s,baz=180,slow=3.8,SNR=4.1
MALT Malatya 126.66 309 *e*PKPdf PKPdf 16 14 29.2 -2.5
LBTB Lobatse 126.80 226 *e*PKPdf PKPdf 16 14 30.4 -1.9
KMBO Kilima Mbogo 127.57 259 PKP PKPdf 16 14 32.7 -1.4
comp=Z,27nm,0.8s,baz=28,slow=2.5,SNR=6.8
AKASG Malin Array Be 127.76 327 PKP PKPdf 16 14 30.3 -3.2
comp=Z,1.1nm,0.7s,baz=76,slow=1.2,SNR=8.1
AKASG Malin Array Be 127.76 327 PKP PKPdf 16 14 30.3 -3.2
BRTR Keskin Array B 129.79 312 PKP PKPdf 16 14 34.5 -3.2
comp=Z,1.4nm,0.8s,baz=180,slow=1.2,SNR=6.4
LSZ Lusaka 130.34 238 *e*PKPdf PKPdf 16 14 37.4 -1.9
MBAR Mbarara 133.97 257 *i* PKIKP PKPdf 16 14 44.2 -2.0
CLL Collm 135.02 336 *e*PKIKP PKPdf 16 14 46.0 -1.2
CLL *i* PP PP 16 17 20.2 -2.2
KHC Kasperske Hory 136.46 334 *e*PKPDF PKPdf 16 14 48.0 -1.8
KHC Kasperske Hory 136.46 334 *i* PKIKP PKPdf 16 14 47.8 -2.0
GERES GERESS Array B 136.62 334 PKP PKPdf 16 14 46.9 -3.2
comp=Z,1.0nm,0.8s,baz=45,slow=1.9,SNR=11
GERES SKP 16 18 21.7
comp=Z,1.5nm,0.9s,baz=27,slow=3.0,SNR=5.5
GIVF Givet 138.91 342 *e*PKIKP PKPdf 16 14 51.3 -3.0
BAIF Baives 139.14 342 *e*PKIKP PKPdf 16 14 51.7 -3.0
CDF Champ du Feu 139.54 338 *e*PKIKP PKPdf 16 14 52.9 -2.6
HAU Haudompre 140.22 339 *e*PKIKP PKPdf 16 14 53.4 -3.4
HAU *eR*
comp=Z,272nm,22.0s
CABF La Chapelle 141.49 338 *e*PKIKP PKPdf 16 14 55.6 -3.5
LDF La Druitiere 141.66 345 *e*PKIKP PKPdf 16 14 55.4 -3.9
comp=Z,23nm,1.2s
LOR Lormes 141.71 340 *e*PKIKP PKPdf 16 14 56.2 -3.2
LOR *eR*
comp=Z,348nm,19.8s
SSF Saint Saulge 142.00 341 *e*PKIKP PKPdf 16 14 56.7 -3.2
LPL La Plagne 142.16 336 *e*PKIKP PKPdf 16 14 56.6 -3.6
LPG La Plagne 142.17 336 *e*PKIKP PKPdf 16 14 56.7 -3.6
AVF Avril sur Loir 142.29 341 *e*PKIKP PKPdf 16 14 56.9 -3.5
SGMF Saint Gilles 142.54 348 *e*PKIKP PKPdf 16 14 56.6 -4.2
comp=Z,66nm,1.2s
SBF Sospel 143.22 334 *e*PKIKP PKPdf 16 14 59.0 -3.1
MFF Saint Martin d 143.50 344 *e*PKIKP PKPdf 16 14 58.8 -3.7
VIVF Saint-Julien-l 143.51 338 *e*PKIKP PKPdf 16 14 59.5 -3.0
PGF Poggiola 143.54 331 *e*PKIKP PKPdf 16 14 59.5 -3.2
comp=Z,20nm,0.9s
FRF La Foret Royal 143.80 334 *e*PKIKP PKPdf 16 14 59.8 -3.3
comp=Z,38nm,1.1s
SMRF Simiane la Rot 143.90 336 *e*PKIKP PKPdf 16 14 59.9 -3.3
LMR La Mourre 144.04 334 *e*PKIKP PKPdf 16 15 00.6 -2.9
VAE Valguarnera 144.06 320 PKP PKPdf 16 15 02.3 -1.4
comp=Z,6.3nm,0.4s,baz=64,slow=19,SNR=2.7
RJF Les Rejaudoux 144.20 341 *e*PKIKP PKPdf 16 14 59.4 -4.3
comp=Z,57nm,1.4s
RJF *eR*
comp=Z,381nm,21.3s
CAF Calviac 144.36 340 *e*PKIKP PKPdf 16 15 00.1 -3.9
comp=Z,24nm,1.1s
LASF Ste Croix 144.48 338 *e*PKIKP PKPdf 16 15 00.6 -3.7
comp=Z,63nm,1.2s
LFF La Frestale 144.77 342 *e*PKIKP PKPdf 16 15 01.3 -3.5
MTLF Montolieu 145.71 339 *e*PKIKP PKPdf 16 15 02.3 -4.1
comp=Z,26nm,1.0s
EPF Esparros 146.61 341 *e*PKIKP PKPdf 16 15 05.6 -2.4
ETSF Etsaut 147.01 342 *e*PKIKP PKPdf 16 15 05.9 -2.8
comp=Z,18nm,1.0s
SJPF Ste Jean 147.01 343 *e*PKIKP PKPdf 16 15 05.2 -3.5
ESDC Sonseca Array 150.97 344 PKPbc PKPdf 16 15 18.5 +3.5
comp=Z,0.3nm,0.4s,baz=342,slow=4.1,SNR=3.7
DBIC Dimbokro 169.67 241 PKP PKPdf 16 15 32.7 -3.2
comp=Z,12nm,1.2s,baz=253,slow=2.4,SNR=3.0
DBIC Dimbokro 169.67 241 PKP PKPdf 16 15 32.7 -3.2

*IDC **09** 16:08:41.3±2.4, 4.96S×154.50E, mb4.2/6, mb1 4.3/6, mb1mx4.1/12, mbtmp4.2/6, Error ellipse: s-maj=88.8km s-min=25.3km az=94.0*

*NEIC **09** 16:08:55.7±1.2, 5.01S×153.95E, h100km, mb4.3/2, Error ellipse: s-maj=30.5km s-min=13.6km az=99.0*

ISC 09 16:08:54.1±1.6, 5.0S±0.1×154.0E±0.3, h100km, n11, σ0§79/11, mb4.0/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.18**	**230**	*eP*		**P**	**16 14 03.2**	**+0.8**
	2.7nm,0.6s,mb3.8							
WB2	**Warramunga Arr**	**24.19**	**230**	*e*P		**P**	**16 14 03.2**	**+0.7**
WRA	**Warramunga Arr**	**24.20**	**230**	P		**P**	**16 14 03.5**	**+0.9**
	6.3nm,0.7s,mb4.1,baz=57,slow=10,SNR=82							
WRA				pP			16 14 32.9	
	1.9nm,0.8s,baz=51,slow=13,SNR=5.7							
STKA	**Stephens Creek**	**29.15**	**202**	P		**P**	**16 14 47.1**	**-0.9**
	2.7nm,0.7s,mb4.0,baz=24,slow=14,SNR=6.8							
FITZ	**Fitzroy Crossi**	**30.59**	**242**	*e*P		**P**	**16 14 59.6**	**-1.3**
	9.7nm,0.5s,mb4.8							
KSM	**Kuching**	**44.07**	**277**	*e*P		**P**	**16 16 54.1**	**-0.2**
KULM	**Kulim**	**54.21**	**280**	*e*P		**P**	**16 18 11.0**	**-1.0**
SONM	**Songino Array**	**67.10**	**327**	P		**P**	**16 19 39.6**	**+0.6**
	0.3nm,0.5s,mb3.4,baz=135,slow=5.3,SNR=4.0							
MKAR	**Makanchi Array**	**81.22**	**319**	P		**P**	**16 21 01.4**	**+0.9**
	0.6nm,0.6s,mb3.6,baz=104,slow=5.0,SNR=5.1							
ZAL	**Zalesovo**	**81.96**	**326**	P		**P**	**16 21 03.5**	**-0.6**
	0.7nm,0.3s,mb4.0,baz=9.6,slow=7.0,SNR=2.4							
MAW	**Mawson**	**85.84**	**203**	P		**P**	**16 21 23.3**	**+0.1**
	2.8nm,0.7s,mb4.3,baz=87,slow=5.0,SNR=15							

*NEIC **09** 16:12:51.9±0.8, 5.08S×154.03E, h100km, mb4.4/6, Error ellipse: s-maj=23.1km s-min=11.4km az=93.0*

*IDC **09** 16:12:55.9±20.0, 5.10S×153.98E, h135km±169km, mb3.9/7, mb1 4.0/7, mb1mx3.9/12, mbtmp4.3/7, Error ellipse: s-maj=98.5km s-min=21.4km az=77.0*

ISC 09 16:12:50.2±1.1, 5.07S±0.10×154.1E±0.2, h100km, n22, σ0§74/22, mb4.4/16, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.21**	**231**	*eP*		**P**	**16 17 59.6**	**+0.8**
	7.1nm,0.4s,mb4.3							
WB2	**Warramunga Arr**	**24.22**	**231**⇓	*iP*		**P**	**16 17 59.8**	**+0.9**
WRA	**Warramunga Arr**	**24.23**	**231**	P		**P**	**16 17 59.7**	**+0.7**
	8.1nm,0.6s,mb4.3,baz=56,slow=10.0,SNR=76							
WRA				pP			16 18 29.4	
	2.1nm,0.5s,baz=56,slow=11,SNR=3.4							
STKA	**Stephens Creek**	**29.12**	**202**	P		**P**	**16 18 43.0**	**-0.9**
	3.2nm,0.8s,mb4.0,baz=24,slow=13,SNR=6.7							
STKA	**Stephens Creek**	**29.12**	**202**	P		**P**	**16 18 43.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**30.64**	**243**	*e*P		**P**	**16 18 55.3**	**-2.2**
	20nm,0.6s,mb5.0							
KSM	**Kuching**	**44.18**	**277**	*e*P		**P**	**16 20 51.1**	**-0.1**
KULM	**Kulim**	**54.32**	**280**	*e*P		**P**	**16 22 07.7**	**-1.3**
ENH	**Enshi**	**55.25**	**312**	*e*P		**P**	**16 22 15.6**	**0.0**
	4.1nm,0.7s,mb4.6							
SONM	**Songino Array**	**67.22**	**327**	P		**P**	**16 23 36.2**	**+0.3**
	0.3nm,0.2s,mb3.7,baz=127,slow=7.2,SNR=13							
LSA	**Lhasa**	**69.42**	**304**	*e*P		**P**	**16 23 51.0**	**+1.2**
	3.6nm,0.6s,mb4.4							
VNDA	**Vanda**	**72.52**	**178**	P		**P**	**16 24 07.5**	**-0.1**
	0.7nm,0.6s,mb3.7,baz=327,slow=2.5,SNR=4.7							
VNDA	**Vanda**	**72.52**	**178**	*e*P		**P**	**16 24 07.5**	**-0.1**
	0.8nm,0.7s,mb3.7							
PKI	**Pulchoki**	**73.64**	**300**	*e*P		**P**	**16 24 14.8**	**-0.3**
KKN	**Kakani**	**73.81**	**301**	*e*P		**P**	**16 24 16.3**	**+0.2**
	14nm,0.9s,mb4.7							
DMN	**Daman**	**73.92**	**300**	*e*P		**P**	**16 24 17.0**	**+0.3**
	23nm,0.9s,mb4.9							
GKN	**Gorkha**	**74.42**	**301**	*e*P		**P**	**16 24 19.9**	**+0.3**
	22nm,0.9s,mb4.9							
KOLN	**Koldanda**	**75.25**	**300**	*e*P		**P**	**16 24 24.3**	**0.0**
	13nm,0.6s,mb4.8							
MKAR	**Makanchi Array**	**81.35**	**319**	P		**P**	**16 24 57.2**	**0.0**
	1.9nm,0.8s,mb4.0,baz=102,slow=5.3,SNR=11							
ZAL	**Zalesovo**	**82.08**	**326**	P		**P**	**16 25 00.2**	**-0.7**
	0.8nm,0.3s,mb4.0,baz=136,slow=5.8,SNR=2.7							
KURK	**Kurchatov**	**84.75**	**322**	*e*P		**P**	**16 25 14.4**	**0.0**
	2.2nm,0.8s,mb4.1							
MAW	**Mawson**	**85.81**	**203**	P		**P**	**16 25 19.7**	**+0.4**
	3.6nm,0.6s,mb4.5,baz=84,slow=5.4,SNR=24							

*IPEC **09** 16:26:23.9±0.3, 51.55N×16.26E, ML2.0/3, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*

*NEIC **09** 16:26:24.4±1.5, 51.52N×16.18E, h5km, ML2.7(VIE), ML2.5(CLL), ML2.1(BRG), Error ellipse: s-maj=16.9km s-min=6.1km az=209.0*

*CSEM **09** 16:26:24.8±0.4, 51.51N×16.19E, h2km, ML3.0/5, Error ellipse: s-maj=6.4km s-min=3.0km az=29.0*

*PRU **09** 16:26:25.5, 51.46N×16.18E*

*WAR **09** 16:26:26.3, 51.46N×16.13E, h1km, ML2.7, Mining Induced*

*VIE **09** 16:26:28.6±0.4, 51.22N×16.23E, mb2.2/3, ML2.5/3, Error ellipse: s-maj=2.9km s-min=2.5km az=81.0, Suspected Mining induced.*

ISC 09 16:26:23.7±0.7, 51.43N±0.04×16.14E±0.04, n22, σ1§22/49, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**171**⇓	*i*PG		**Pg**	**16 26 37.7**	**+2.0**
KSP				⇓*e*SG		**Sg**	**16 26 45.7**	**+2.1**
KSP	**Ksiaz**	**0.60**	**171**⇓	*i*Pg		**Pg**	**16 26 37.7**	**+2.0**
KSP				*e*Sg		**Sg**	**16 26 45.1**	**+1.5**
UPC	**Upice**	**0.93**	**185**	*e*PG		**Pg**	**16 26 43.7**	**+1.4**
DPC	**Dobruska-Polom**	**1.09**	**174**	*e*PG		**Pg**	**16 26 46.4**	**+0.9**
DPC				*e*SG		**Sg**	**16 27 01.0**	**+1.0**
DPC	**Dobruska-Polom**	**1.09**	**174**	*e*Pg		**Pg**	**16 26 46.4**	**+0.9**
DPC				*e*Sg		**Sg**	**16 27 01.3**	**+1.3**
PVCC	**Panska Ves**	**1.34**	**228**	*e*PG		**Pg**	**16 26 51.1**	**+0.6**
PVCC	**Panska Ves**	**1.34**	**228**	Pg		**Pg**	**16 26 51.1**	**+0.6**
PVCC				*e*Sg		**Sg**	**16 27 10.5**	**+2.1**
BRG	**Berggiesshubel**	**1.49**	**249**	Pg		**Pg**	**16 26 53.5**	**0.0**
BRG				Pg		**Pg**	**16 26 55.6**	**+2.1**
BRG				Sg		**Sg**	**16 27 13.0**	**-0.4**
BRG				Sg		**Sg**	**16 27 15.5**	**+2.1**
BRG	**Berggiesshubel**	**1.49**	**249**	Pg		**Pg**	**16 26 53.5**	**0.0**
PRU	**Pruhonice**	**1.77**	**216**	*e*PN		**Pn**	**16 26 56.4**	**+0.6**
PRU				*e*PG		**Pg**	**16 26 58.6**	**-0.4**
PRU				*e*SG		**Sg**	**16 27 21.8**	**-0.7**
PRU	**Pruhonice**	**1.77**	**216**	Pg		**Pg**	**16 26 58.6**	**-0.4**
PRU				Sg		**Sg**	**16 27 21.8**	**-0.7**
MORC	**Moravsky Berou**	**1.88**	**151**	*e*Pn		**Pn**	**16 26 58.3**	**+0.9**
MORC				*e*Sn		**Sn**	**16 27 21.9**	**-0.3**
MORC	**Moravsky Berou**	**1.88**	**151**	*e*Pn		**Pn**	**16 26 58.3**	**+0.9**
MORC				*e*Sn		**Sn**	**16 27 21.9**	**-0.3**
MORC				*e*Sg		**Sg**	**16 27 25.0**	**-1.4**
	13nm,0.4s							
CLL	**Collm**	**1.97**	**268**	*e*PN		**Pn**	**16 26 58.0**	**-0.7**
CLL				*i* PG		**Pg**	**16 27 02.1**	**-0.9**
CLL				*i* SG		**Sg**	**16 27 28.8**	**-0.5**
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PG		**Pg**	**16 27 04.0**	**-0.5**
OKC				*e*SG		**Sg**	**16 27 29.6**	**-2.2**
VRAC	**Vranov**	**2.15**	**172**	*e*Pn		**Pn**	**16 27 03.2**	**+2.0**
VRAC				*e*Sg		**Sg**	**16 27 34.6**	**-0.6**
	7.1nm,0.3s							
KRUC	**Moravsky**	**2.38**	**176**	*e*Pn		**Pn**	**16 27 06.6**	**+2.1**
KRUC				*e*Sg		**Sg**	**16 27 42.6**	**-0.3**
	4.8nm,0.2s							
OJC	**Ojcow**	**2.62**	**116**	*e*PG		**Pg**	**16 27 15.0**	**-1.0**
OJC				*e*SG		**Sg**	**16 27 50.0**	**-0.9**
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN		**Pn**	**16 27 09.0**	**+0.9**
NKC				*e*PG		**Pg**	**16 27 15.3**	**-0.9**
NKC				*e*SG		**Sg**	**16 27 51.1**	**-0.2**
	16nm,0.2s							
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN		**Pn**	**16 27 12.0**	**+1.0**
KHC				*e*PG		**Pg**	**16 27 17.3**	**-2.9**
KHC				*e*SN		**Sn**	**16 27 45.0**	**-1.3**
KHC				*e*SG		**Sg**	**16 27 57.2**	**-0.7**
MOX	**Moxa**	**2.96**	**256**	*e*Pg		**Pg**	**16 27 21.4**	**-1.4**
MOX				*e*Sg		**Sg**	**16 28 01.5**	**-0.8**
MOA	**Molln**	**3.79**	**199**⇑	*i*Pn		**Pn**	**16 27 25.6**	**+1.1**
MOA			⇑	*i*Sg		**Sg**	**16 28 27.9**	**-1.9**
	comp=Z,3.6nm,0.4s							

*BJI **09** 16:42:46.3, 11.48S×166.69E, h11km, mB5.2, mb5.0, Ms4.6, Msz4.5*

*NEIC **09** 16:42:47.4±0.5, 11.80S×166.30E, h10km, mb4.8/12, Error*

ellipse: s-maj=13.0km s-min=8.8km az=76.0
*MOS **09** 16:42:49.8±1.3, 11.85S×166.11E, h33km, mb5.1/8, Error ellipse: s-maj=15.5km s-min=13.8km az=7.5*
*IDC **09** 16:42:52.6±3.6, 11.85S×166.06E, h41km±30km, mb4.3/14, mb1 4.4/16, mb1mx4.3/20, mbtmp4.6/16, ML4.8/2, MS4.2/15, Ms1 4.2/15, ms1mx4.1/21, Error ellipse: s-maj=25.7km s-min=14.2km az=73.0*
ISC 09 16:42:48.0±4.1, **11.91S**±0.07×**166.07E**±0.09, **h19**km±27km, **n77**, σ**1s07**/68, **mb4.8**/29, **MS4.3**/16, **2C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.50**	**292**	P	**Pn**	**16 44 26.3**	**+1.1**
	93nm,0.3s,baz=138,slow=5.1,SNR=57						
HNR				S	**Sn**	**16 45 38.0**	**-1.5**
	19nm,0.3s,baz=15,slow=22,SNR=5.9						
HNR	**Honiara**	**6.50**	**292**	*e*P	**Pn**	**16 44 26.2**	**+1.1**
	217nm,0.5s						
HNR	**Honiara**	**6.50**	**292**	*e*P	**Pn**	**16 44 26.2**	**+1.1**
HNR				pmax	pmax		
	comp=Z,217nm,0.5s						
DZM	**Mont Dzumac**	**10.11**	**178**	*e*P	**P**	**16 45 14.6**	**-0.8**
DZM				*e*S	**S**	**16 47 27.5**	**+18**
DZM	**Mont Dzumac**	**10.11**	**178**	P	**P**	**16 45 16.1**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=9.0,slow=19,SNR=24						
DZM				S	**S**	**16 47 05.7**	**-3.6**
	comp=Z,1.3nm,0.3s,baz=131,slow=22,SNR=2.4						
DZM				LR	LR	16 47 51.5	
	comp=Z,316nm,19.6s,baz=9.9,slow=29						
DZM	**Mont Dzumac**	**10.11**	**178**	*e*P	**P**	**16 45 14.6**	**-0.8**
DZM				*e*S	**S**	**16 47 27.5**	**+18**
CTA	**Charters Tower**	**20.69**	**244**	*e*P	**P**	**16 47 30.6**	**+0.8**
	comp=Z,6.9nm,0.8s						
CTA	**Charters Tower**	**20.69**	**244**	P	**P**	**16 47 30.7**	**+1.0**
	comp=Z,6.5nm,0.8s,baz=66,slow=13,SNR=7.6						
CTA				LR	LR	16 54 40.9	
	comp=Z,952nm,19.1s,MS4.2,baz=151,slow=34						
CTA	**Charters Tower**	**20.69**	**244**	*e*P	**P**	**16 47 30.6**	**+0.8**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTAO	**Charters Tower**	**20.69**	**244**	*e*P	**P**	**16 47 31.3**	**+1.5**
	comp=Z,71nm,1.8s						
CTAO	**Charters Tower**	**20.69**	**244**	*e*P	**P**	**16 47 31.3**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,71nm,1.8s						
AFI	**Afiamalu**	**21.69**	**98**	LR	LR	16 54 13.7	
	comp=Z,697nm,20.2s,MS4.1,baz=254,slow=31						
ARMA	**Armidale**	**22.77**	**214**	*e*P	**P**	**16 47 54.6**	**+4.0**
RAO	**Raoul Island**	**22.81**	**142**	LR	LR	16 55 03.1	
	comp=Z,735nm,18.4s,MS4.2,baz=343,slow=32						
URZ	**Urewera**	**28.03**	**161**	LR	LR	16 58 27.0	
	comp=Z,595nm,21.0s,MS4.2,baz=2.9,slow=33						
STKA	**Stephens Creek**	**30.04**	**225**	*e*P	**P**	**16 49 00.3**	**+2.1**
	comp=Z,5.8nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**30.04**	**225**	P	**P**	**16 48 58.9**	**+0.7**
	comp=Z,3.3nm,0.6s,mb4.2,baz=92,slow=16,SNR=3.1						
STKA				LR	LR	17 00 49.3	
	comp=Z,915nm,20.0s,MS4.4,baz=36,slow=36						
WRAB	**Tennant Creek**	**31.48**	**251**	*e*P	**P**	**16 49 10.5**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**31.48**	**251**	*e*P	**P**	**16 49 10.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**31.48**	**251**	*e*P	**P**	**16 49 10.6**	**-0.4**
WRA	**Warramunga Arr**	**31.49**	**251**	P	**P**	**16 49 10.5**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.0,baz=83,slow=9.1,SNR=23						
WRA				PcP	PcP	16 52 03.5	-0.5
	comp=Z,3.8nm,1.0s,baz=76,slow=2.9,SNR=10						
RPZ	**Rata Peaks**	**31.98**	**173**	P	**P**	**16 49 14.9**	**-0.3**
	comp=Z,12nm,0.8s,mb4.8,baz=59,slow=3.5,SNR=7.7						
ASPA	**Alice Springs**	**32.70**	**245**	*e*P	**P**	**16 49 19.9**	**-1.7**
GUMO	**Guam**	**32.92**	**320**	LR	LR	17 01 15.5	
	comp=Z,621nm,21.4s,MS4.3,baz=132,slow=34						
FITZ	**Fitzroy Crossi**	**39.47**	**256**	P	**P**	**16 50 19.1**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.3,baz=140,slow=4.7,SNR=6.1						
PPT	**Papeete**	**43.19**	**103**	*e*LQ		17 01 17.9	
PPT				*e*LR	LR	17 03 09.1	
	comp=Z,395nm,22.8s,baz=267						
PPT	**Papeete**	**43.19**	**103**	LR	LR	17 05 53.3	
	comp=Z,327nm,20.9s,MS4.2,baz=163,slow=32						
TBI	**Tubuai**	**43.72**	**111**	*e*LQ		17 01 26.3	
TBI				*e*LR	LR	17 03 21.2	
	comp=Z,460nm,28.0s,baz=278						
MBWA	**Marble Bar**	**45.22**	**252**	*e*P	**P**	**16 51 08.7**	**+2.5**
	comp=Z,6.5nm,0.7s,mb4.6						
KKM	**Kota Kinabalu**	**52.69**	**287**	*e*P	**P**	**16 52 04.4**	**+0.5**
TAOE	**Nuku Hiva Isla**	**52.93**	**92**	*e*LR	LR	17 07 25.8	
	comp=Z,995nm,23.3s						
MJAR	**Matsushiro Arr**	**54.88**	**333**	P	**P**	**16 52 17.1**	**-2.7**
	comp=Z,5.9nm,0.7s,mb4.7,baz=187,slow=8.7,SNR=15						
MAT	**Matsushiro**	**54.88**	**333**	*e*P	**P**	**16 52 17.0**	**-2.8**
JNU	**Nakatsue**	**55.96**	**324**	P	**P**	**16 52 25.6**	**-2.0**
	comp=Z,3.2nm,0.8s,mb4.4,baz=89,slow=3.9,SNR=4.2						
KSM	**Kuching**	**56.95**	**280**	P	**P**	**16 52 35.0**	**0.0**
RKT	**Rikitea**	**57.00**	**110**	*e*LR	LR	17 09 27.0	
	comp=Z,464nm,24.8s						
ASAJ	**Asahikawa**	**59.71**	**341**	P	**P**	**16 52 52.0**	**-1.8**
	comp=Z,5.1nm,0.8s,mb4.6,baz=184,slow=5.3,SNR=4.2						
VNDA	**Vanda**	**65.64**	**181**	P	**P**	**16 53 32.2**	**-0.5**
	comp=Z,5.7nm,1.1s,mb4.5,baz=344,slow=7.1,SNR=12						
VNDA				LR	LR	17 18 24.3	
	comp=Z,106nm,19.6s,MS4.0,baz=59,slow=32						
VNDA	**Vanda**	**65.64**	**181**	*e*P	**P**	**16 53 31.9**	**-0.8**
	comp=Z,11nm,1.2s,mb4.8						
VNDA	**Vanda**	**65.64**	**181**	*e*P	**P**	**16 53 31.9**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,11nm,1.2s						
CASY	**Casey**	**65.69**	**201**	*e*P	**P**	**16 53 32.5**	**-0.7**
SBA	**Scott Base**	**65.94**	**180**	*e*P	**P**	**16 53 35.0**	**+0.3**
	comp=Z,17nm,1.1s,mb5.0						
SBA	**Scott Base**	**65.94**	**180**	*e*P	**P**	**16 53 35.0**	**+0.4**
SBA				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
KULM	**Kulim**	**67.25**	**281**	P	**P**	**16 53 44.5**	**+0.5**
ENH	**Enshi**	**68.68**	**309**	*e*P	**P**	**16 53 52.1**	**-0.6**
	comp=Z,9.2nm,0.9s,mb4.7						
MIR	**Mirnyy**	**72.42**	**204**	*e*P	**P**	**16 54 15.0**	**+0.3**
MIR				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1						
HHC	**Hu-ho-hao-te**	**72.69**	**320**	*e*P	**P**	**16 54 17.8**	**+1.0**
HHC				AP	pP	16 54 22.3	-0.4
HHC				XP	sP	16 54 24.8	0.0
HHC				PCP	PcP	16 54 35.2	+0.8
HHC				PP	PP	16 57 02.2	+1.7
HHC				S	S	17 03 41.8	+2.1
HHC				XS		17 03 50.1	
HHC				SKS	SKS	17 04 18.5	-4.3
HHC				SCS	ScS	17 04 21.2	+1.6
HHC				SS	SS	17 08 23.6	+1.9
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,112nm,3.7s						
HHC				LR	LR		
	comp=N,142nm,16.7s,MS4.5						
HHC				LR	LR		
	comp=E,187nm,16.6s,MS4.5						
HHC				LR	LR		
	comp=Z,335nm,21.4s,MS4.6						
LZH	**Lanzhou**	**75.57**	**312**	*e*P	**P**	**16 54 35.0**	**+1.5**
LZH				AP	pP	16 54 42.0	+2.5
LZH				XP	sP	16 54 46.0	+4.4
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH	**Lanzhou**	**75.57**	**312**	*e*P	**P**	**16 54 35.0**	**+1.5**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	16 54 42.0	+2.5
LZH				sP	sP	16 54 46.0	+4.4
QSPA	**South Pole Qui**	**78.10**	**180**	*e*P	**P**	**16 54 46.5**	**-0.3**
	comp=Z,23nm,0.6s,mb5.3						
ULN	**Ulaanbaatar**	**79.18**	**324**	*e*P	**P**	**16 54 54.0**	**+0.7**
	comp=Z,27nm,1.1s,mb5.1						
ULN	**Ulaanbaatar**	**79.18**	**324**	*e*P	**P**	**16 54 54.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
SONM	**Songino Array**	**79.55**	**324**	P	**P**	**16 54 56.0**	**+0.8**
	comp=Z,3.7nm,0.5s,mb4.6,baz=143,slow=5.2,SNR=40						
GTA	**Gaotai**	**79.88**	**314**	⇑P	**P**	**16 54 59.2**	**+1.9**
GTA				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.0						
GTA				LR	LR		
	comp=N,79nm,16.4s,MS4.3						
GTA				LR	LR		
	comp=E,92nm,16.8s,MS4.3						
GTA				LR	LR		
	comp=Z,157nm,13.8s,MS4.5						
BOD	**Bodaibo**	**81.44**	**335**	*e*P	**P**	**16 55 03.3**	**-1.8**
ZAK	**Zakamensk**	**82.59**	**325**	*e*P	**P**	**16 55 11.6**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
MAW	**Mawson**	**84.04**	**202**	*e*P	**P**	**16 55 18.6**	**+0.3**
	comp=Z,3.2nm,1.0s,mb4.4						
MAW	**Mawson**	**84.04**	**202**	P	**P**	**16 55 18.3**	**0.0**
	comp=Z,5.8nm,1.1s,mb4.6,baz=79,slow=6.5,SNR=5.5						
MAW	**Mawson**	**84.04**	**202**	*e*P	**P**	**16 55 18.6**	**+0.3**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**84.23**	**18**	P	**P**	**16 55 20.0**	**+0.7**
	comp=Z,1.5nm,0.6s,mb4.3,baz=240,slow=5.5,SNR=22						
ILAR				LR	LR	17 33 50.0	
	comp=Z,98nm,18.5s,MS4.2,baz=95,slow=36						
PKI	**Pulchoki**	**87.33**	**299**	*e*P	**P**	**16 55 36.2**	**+0.7**
KKN	**Kakani**	**87.49**	**299**	*e*P	**P**	**16 55 36.8**	**+0.5**
	comp=Z,67nm,1.5s,mb5.7						
DMN	**Daman**	**87.60**	**299**	*e*P	**P**	**16 55 36.8**	**0.0**
	comp=Z,41nm,1.1s,mb5.6						
GKN	**Gorkha**	**88.10**	**299**	*e*P	**P**	**16 55 39.3**	**+0.1**
	comp=Z,37nm,1.2s,mb5.5						
KOLN	**Koldanda**	**88.93**	**299**	*e*P	**P**	**16 55 43.8**	**+0.6**
	comp=Z,11nm,0.6s,mb5.4						
WMQ	**Urumqi**	**89.92**	**315**	⇑*i*P	**P**	**16 55 48.1**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,156nm,4.8s						
PDAR	**Pinedale Array**	**93.91**	**47**	LR	LR	17 32 59.2	
	comp=Z,154nm,18.9s,MS4.5,baz=266,slow=32						
MKAR	**Makanchi Array**	**94.36**	**317**	P	**P**	**16 56 08.4**	**+0.6**
	comp=Z,7.2nm,0.6s,mb5.3,baz=85,slow=6.1,SNR=67						
MKAR				LR	LR	17 38 32.4	
	comp=Z,88nm,19.9s,MS4.2,baz=182,slow=35						
MKAR	**Makanchi Array**	**94.36**	**317**	*i* P	**P**	**16 56 08.2**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**94.45**	**324**	P	**P**	**16 56 08.3**	**+0.3**
	comp=Z,1.1nm,0.5s,mb4.6,baz=360,slow=5.9,SNR=12						
ZAL				LR	LR	17 36 17.9	
	comp=Z,137nm,20.5s,MS4.4,baz=349,slow=34						
ZAL	**Zalesovo**	**94.45**	**324**	P	**P**	**16 56 08.3**	**+0.3**
ZAL				LR	LR	17 36 17.9	
YKA	**Yellowknife Ar**	**95.59**	**27**	LR	LR	17 31 50.8	
	comp=Z,123nm,21.6s,MS4.3,baz=265,slow=31						
TXAR	**Lajitas Array**	**95.97**	**61**	LR	LR	17 31 56.2	
	comp=Z,207nm,19.6s,MS4.6,baz=185,slow=31						
SNAA	**Sanae**	**96.28**	**184**		**P**	**16 56 15.2**	**-0.8**
VNA3	**Neumayer Olymp**	**96.99**	**181**		**P**	**16 56 19.4**	**+0.2**
VNA2	**Neumayer--Watz**	**97.24**	**182**		**P**	**16 56 18.9**	**-1.4**
ARCES	**ARCESS Array B**	**117.25**	**345**	PKP	PKPdf	17 01 31.6	-4.2
	comp=Z,1.8nm,0.8s,baz=73,slow=2.0,SNR=16						

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*NEIC **09** 16:58:56.6±1.4, 9.82S×113.93E, h10km, mb3.6/1, Error ellipse: s-maj=45.6km s-min=16.6km az=53.0*
*IDC **09** 16:58:56.4±2.3, 9.32S×114.45E, mb3.7/3, mb1 4.1/4, mb1mx3.7/15, mbtmp3.9/4, ML3.9/1, MS3.7/1, Ms1 3.7/1, ms1mx3.3/12, Error ellipse: s-maj=134.7km s-min=26.3km az=49.0*
ISC 09 16:58:58.3±3.5, **10.0S**±0.3×**113.9E**±0.3, **h40**km±38km, **n7**, σ**1s70**/8, **mb3.7**/4, **MS3.6**/1, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**12.47**	**154**	*e*Pn	**P**	**17 01 55.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**13.97**	**127**	Pn	**P**	**17 02 15.2**	**-0.6**
	0.4nm,0.3s,baz=339,slow=12,SNR=5.3						
FITZ				Sn	**S**	**17 04 37.4**	**-13**
	0.3nm,0.3s,baz=28,slow=5.6,SNR=3.0						
WRA	**Warramunga Arr**	**22.08**	**119**	P	**P**	**17 03 51.6**	**0.0**
	0.9nm,0.5s,mb3.5,baz=295,slow=12,SNR=11						
WRA				S	**S**	**17 07 45.7**	**-1.8**
	0.8nm,1.0s,baz=286,slow=24,SNR=2.8						
WRAB	**Tennant Creek**	**22.08**	**119**	*e*P	**P**	**17 03 53.1**	**+1.5**
	1.1nm,0.4s,mb3.6						
STKA	**Stephens Creek**	**33.66**	**134**	P	**P**	**17 05 39.9**	**+2.3**
	3.1nm,0.8s,mb4.3,baz=315,slow=16,SNR=2.8						
GUMO	**Guam**	**38.63**	**53**	LR	LR	17 20 22.9	
	comp=Z,104nm,21.0s,MS3.6,baz=339,slow=34						
MKAR	**Makanchi Array**	**63.15**	**336**	P	**P**	**17 09 23.7**	**-0.8**
	0.2nm,0.5s,mb3.5,baz=155,slow=6.7,SNR=4.2						

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*PRU **09** 17:11:03.8, 50.35N×18.81E*
WAR 09 17:11:03.2, 50.36N×18.87E, h1km, MW2.5, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**103**	*e*PG	Pg	17 11 15.0	-0.4
OJC				*e*SG	Sg	17 11 24.0	+0.4
OKC	**Ostrava-Krasne**	**0.70**	**222**	*e*PG	Pg	17 11 16.6	-0.6
NIE	**Niedzica**	**1.33**	**135**	*e*PG	Pg	17 11 29.0	-0.7
NIE				*e*SG	Sg	17 11 47.0	-0.4
DPC	**Dobruska-Polom**	**1.63**	**271**	*e*PG	Pg	17 11 31.8	-3.9
DPC				*e*SG	Sg	17 11 53.0	-4.4
	11nm,0.3s						
KSP	**Ksiaz**	**1.71**	**287**	*e*Pn	Pn	17 11 33.5	-0.8
KSP				*e*Sn	Sn	17 11 57.4	+0.4
KSP				*e*Sg	Sg	17 12 01.4	+1.4
STHS	**Stebnicka Huta**	**1.81**	**121**	*e*PN	Pn	17 11 37.2	+1.5
STHS				*e*SN	Sn	17 12 03.9	+4.4
UPC	**Upice**	**1.83**	**276**	*e*SG	Sg	17 12 00.2	-3.9
VYHS	**Vyhne**	**1.87**	**181**	*e*SN	Sn	17 12 00.7	-0.5
PRU	**Pruhonice**	**2.81**	**264**	*e*SG	Sg	17 12 31.7	-4.9
KHC	**Kasperske Hory**	**3.65**	**252**	*e*PN	Pn	17 12 00.0	-1.9
KHC				*e*PG	Pg	17 12 11.0	-4.9
KHC				*e*SG	Sg	17 12 58.2	-6.3
CLL	**Collm**	**3.84**	**287**	*e*PG	Pg	17 12 16.0	-3.7
CLL				*e*SG	Sg	17 13 08.0	-2.9

MAN 09 17:34:41.4, 9.72N×125.42E, h4km, mb3.7, ML2.5, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.09**	**47**	⇑*e*P	Pg	17 34 43.5	+0.1
SCPH				*e*S	Sg	17 34 45.5	+0.7
MSLP	**Maasin**	**0.69**	**307**	*e*P	Pg	17 34 54.8	-0.5
MSLP				*e*S	Sg	17 35 08.2	+3.7
BUTP	**Butuan**	**0.77**	**165**	*e*P	Pg	17 34 56.8	-0.1
BUKP	**Musuan**	**1.86**	**191**	*e*P	Pn	17 35 13.7	-0.7
BESP	**Borongan**	**1.87**	**1**	*e*P	Pn	17 35 14.9	+0.4
CNP	**Catarman**	**2.87**	**345**	*e*P	Pn	17 35 28.7	-0.2
IPIL	**Ipil**	**3.41**	**236**	*e*P	Pn	17 35 39.4	+3.0

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*ATH **09** 17:36:54.9, 40.02N×23.37E, h30km±1km, MD2.8/3*
*THE **09** 17:36:55.1, 39.97N×23.64E, h9km, ML2.7*
*NEIC **09** 17:36:55.1, 39.97N×23.64E, h10km, MD2.8(ATH), ML2.3(THE), After THE.*
*CSEM **09** 17:36:55.2±0.1, 39.98N×23.62E, h12km, ML2.7, Error ellipse: s-maj=4.2km s-min=2.0km az=88.0*
ISC 09 17:36:54.0±0.5, **39.98N**±0.02×**23.58E**±0.06, **h14**km±5km, **n13**, σ**0s72**/24, **1C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.09**	**123**	*e*Pg	**Pg**	**17 36 57.0**	**-0.1**
PAIG				*e*Sg	**Sg**	**17 36 58.3**	**-0.8**
PLG	**Polygyros**	**0.41**	**346**	⇑*i*PB	**Pb**	**17 37 02.9**	**+0.4**
PLG				*e*SB	**Sb**	**17 37 08.8**	**+0.5**
OUR	**Ouranopolis**	**0.47**	**41**	*e*Pg	**Pg**	**17 37 04.2**	**+0.5**
OUR				*e*Sg	**Sg**	**17 37 10.4**	**+0.1**
XOR	**Xorichti**	**0.68**	**206**	*e*Pg	**Pg**	**17 37 08.4**	**+0.6**
XOR				*e*Sg	**Sg**	**17 37 18.4**	**+1.4**
NEO	**Neokhori**	**0.72**	**202**	⇓*i*PN	**Pn**	**17 37 09.6**	**0.0**
NEO				*e*SN	**Sn**	**17 37 19.6**	**-0.8**
AOS	**Alonnisos**	**0.84**	**164**	*e*Pg	**Pg**	**17 37 10.9**	**0.0**
AOS				*e*Sg	**Sg**	**17 37 22.2**	**0.0**
SOH	**Sokhos**	**0.86**	**349**	*e*Pg	**Pg**	**17 37 11.9**	**+0.5**
SOH				*e*Sg	**Sg**	**17 37 23.7**	**+0.7**
SRS	**Serrai**	**1.14**	**1**	*e*Pg	**Pg**	**17 37 16.2**	**-0.6**
SRS				*e*Sg	**Sg**	**17 37 32.4**	**+0.2**
SRS	**Serrai**	**1.14**	**1**	*e*Pg	**Pg**	**17 37 16.2**	**-0.7**
SRS				*e*Sg	**Sg**	**17 37 32.3**	**+0.2**
KNT	**Kendrikon**	**1.29**	**337**	*e*Pg	**Pg**	**17 37 19.1**	**-0.8**
KNT				*e*Sg	**Sg**	**17 37 35.8**	**-1.4**
GRG	**Griva**	**1.33**	**318**	*e*Pg	**Pg**	**17 37 19.7**	**-0.9**
GRG				*e*Sg	**Sg**	**17 37 39.2**	**+0.8**
NVR	**Nevrokopi**	**1.39**	**9**	*e*PN	**Pn**	**17 37 20.0**	**+0.9**
KZN	**Kozani**	**1.42**	**284**	*e*PN	**Pn**	**17 37 18.5**	**-1.1**

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*IDC **09** 17:37:25.4±2.0, 4.37S×153.68E, mb4.1/5, mb1 4.4/5, mb1mx4.1/13, mbtmp4.2/5, MS3.5/1, Ms1 3.5/1, ms1mx3.0/16, Error ellipse: s-maj=49.6km s-min=35.5km az=84.0*
*NEIC **09** 17:37:38.0±1.2, 4.38S×153.52E, h100km, mb4.2/5, Error ellipse: s-maj=30.1km s-min=16.8km az=88.0*
ISC 09 17:37:36.0±1.6, **4.4S**±0.1×**153.6E**±0.3, **h100**km, **n13**, σ**0s87**/12, **mb4.0**/7, **1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.31**	**229**	*e*P	**P**	**17 42 46.3**	**+0.7**
	8.3nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**24.31**	**229**	⇓*i*P	**P**	**17 42 46.3**	**+0.7**
WRA	**Warramunga Arr**	**24.32**	**229**	P	**P**	**17 42 46.6**	**+0.9**
	5.1nm,0.6s,mb4.1,baz=54,slow=10.0,SNR=49						
STKA	**Stephens Creek**	**29.59**	**201**	*e*P	**P**	**17 43 33.0**	**-0.9**
	8.5nm,1.5s,mb4.2						
STKA	**Stephens Creek**	**29.59**	**201**	P	**P**	**17 43 32.9**	**-1.0**
	3.0nm,0.7s,mb4.0,baz=29,slow=13,SNR=9.8						
FITZ	**Fitzroy Crossi**	**30.56**	**241**	*e*P	**P**	**17 43 41.2**	**-1.3**
	6.0nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.56**	**241**	P	**P**	**17 43 41.3**	**-1.2**
	5.1nm,0.7s,mb4.4,baz=65,slow=2.9,SNR=9.2						
RAO	**Raoul Island**	**36.62**	**136**	LR	LR	17 55 06.2	
	comp=Z,70nm,21.0s,baz=18,slow=29						
KULM	**Kulim**	**53.74**	**280**	*e*P	**P**	**17 46 49.5**	**-1.1**
LSA	**Lhasa**	**68.65**	**304**	*e*P	**P**	**17 48 30.6**	**-0.3**
	2.4nm,0.6s,mb4.2						
VNDA	**Vanda**	**73.23**	**178**	P	**P**	**17 48 57.3**	**-0.1**
	1.0nm,0.7s,mb3.8,baz=329,slow=5.7,SNR=6.8						
VNDA	**Vanda**	**73.23**	**178**	*e*P	**P**	**17 48 57.5**	**+0.1**
	0.9nm,0.7s,mb3.7						
MKAR	**Makanchi Array**	**80.52**	**319**	P	**P**	**17 49 39.9**	**+1.2**
	0.1nm,0.4s,mb3.0,baz=91,slow=8.1,SNR=4.1						

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*NNC **09** 17:55:05.2±4.0, 37.45N×71.77E, h105km±202km, mpv3.9, Error ellipse: s-maj=50.4km s-min=29.7km az=152.0*
ISC 09 17:55:03.2±2.7, **37.5N**±0.2×**71.7E**±0.2, **h162**km±40km, **n11**, σ**0s79**/13, **1C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.92**	**17**	P	**P**	**17 56 16.9**	**+0.2**
	SNR=45						
UCH	**Uchtor**	**5.24**	**23**	P	**P**	**17 56 20.9**	**+0.1**
	SNR=35						
KZA	**Kyzart**	**5.37**	**29**	P	**P**	**17 56 21.9**	**-0.6**
	SNR=16						
EKS2	**Erkin-Say**	**5.45**	**16**	P	**P**	**17 56 23.9**	**+0.4**
	SNR=41						
AAK	**Ala-Archa**	**5.61**	**22**	P	**P**	**17 56 25.7**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**5.61**	**22**	⇓P	**P**	**17 56 25.9**	**+0.2**
	8.0nm,0.5s						
AAK				⇑S	**S**	**17 57 29.8**	**+0.3**
	7.9nm,0.8s						
KK31	**Karatay Array**	**5.72**	**351**	⇓P	**P**	**17 56 28.0**	**+0.8**
	2.8nm,0.3s,baz=161,slow=12,SNR=51						
KK31				⇓S	**S**	**17 57 32.1**	**-0.3**
	16nm,0.5s,baz=169,slow=21,SNR=32						
ULHL	**Ulahol**	**5.93**	**35**	P	**P**	**17 56 28.5**	**-1.4**
	SNR=21						
CHMS	**Chumysh**	**6.02**	**22**	P	**P**	**17 56 31.1**	**0.0**
	SNR=7.2						
MK31	**Makanchi Array**	**12.20**	**37**	P	**P**	**17 57 55.8**	**+3.4**
	0.5nm,0.3s,baz=210,slow=9.4,SNR=18						
BVA0	**Borovoye Array**	**15.61**	**357**	P	**P**	**17 58 34.8**	**-0.7**
	0.1nm,0.8s,baz=314,slow=38,SNR=4.8						

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*GUC **09** 17:56:55.4±0.6, 20.50S×69.54W, h138km±14km, MD4.0, ML4.3*
*NEIC **09** 17:56:55.4, 20.50S×69.54W, h138km, mb4.1/3, MD4.0(GUC), After GUC.*
*IDC **09** 17:56:55.6±1.6, 20.26S×68.83W, h105km±13km, mb3.9/4, mb1 4.1/8, mb1mx3.8/17, mbtmp4.4/8, MS2.9/1, Ms1 3.0/1, ms1mx2.5/13, Error ellipse: s-maj=31.4km s-min=12.7km az=105.0*
ISC 09 17:56:53.4±0.6, **20.34S**±0.04×**69.51W**±0.09, **h146**km±9km, **n32**, σ**1s03**/36, **mb3.9**/3, **2C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.33**	**166**	P	**P**	**17 57 33.3**	**+0.6**
	147nm,0.3s,baz=345,slow=7.9,SNR=655						
LVC				S	**S**	**17 58 02.1**	**-0.8**
	210nm,0.3s,baz=145,slow=22,SNR=35						
LVC	**Limon Verde**	**2.33**	**166**	*i* P	**P**	**17 57 33.6**	**+0.8**
LVC				*i* S	**S**	**17 58 02.6**	**-0.4**
LVC				AMP		17 58 09.9	
	comp=N,2μm,1.0s						
LVC	**Limon Verde**	**2.33**	**166**	*e*Pn	**P**	**17 57 33.3**	**+0.5**
LVC				*e*Sn	**S**	**17 57 58.7**	**-4.2**
SPCH	**San Pedro de A**	**2.84**	**155**	⇓*i*P	**P**	**17 57 40.0**	**+0.8**
SPCH				*i* S	**S**	**17 58 14.6**	**+0.3**
SPCH				AMP		17 58 38.9	
	comp=E,1μm,0.7s						
ANCH	**Antofagasta**	**3.43**	**194**	⇑*i*P	**P**	**17 57 47.3**	**+0.4**
ANCH				*i* S	**S**	**17 58 26.3**	**-1.7**
LPAZ	**La Paz**	**4.23**	**18**	P	**P**	**17 57 57.6**	**+0.1**
	comp=E,12nm,0.3s,baz=204,slow=6.4,SNR=265						
LPAZ				LR	LR	17 59 29.5	
	comp=E,140nm,18.5s,baz=125,slow=38						
LPAZ	**La Paz**	**4.23**	**18**	⇑*i*Pn	**P**	**17 57 57.5**	**0.0**
ARE	**Arequipa**	**4.29**	**334**	*e*P	**P**	**17 57 57.0**	**-1.2**
ARE				*i*		17 58 03.9	
ARE				*e*S	**S**	**17 58 49.0**	**+1.0**
CPN1	**Cerro Paranal**	**4.35**	**191**	*i* P	**P**	**17 57 59.8**	**+0.8**
CPN1				*i* S	**S**	**17 58 49.0**	**-0.5**
CRCH	**Chaqaral**	**6.07**	**189**	*i* S	**S**	**17 59 30.3**	**-0.3**
SIV	**San Ignacio**	**9.11**	**63**	P	**P**	**17 58 55.9**	**-6.7**
	comp=E,4.0nm,0.3s,baz=256,slow=13,SNR=108						
NNA	**Nana**	**10.88**	**319**	Pn	**P**	**17 59 41.2**	**+15**
CFAA	**Coronel Fontan**	**11.28**	**174**	P	**P**	**17 59 32.2**	**+1.0**
	comp=E,0.1nm,0.3s,baz=333,slow=13,SNR=3.8						
CFAA				S	**S**	**18 01 27.8**	**-7.1**
	comp=E,0.1nm,0.3s,baz=179,slow=15,SNR=5.9						
CFAA	**Coronel Fontan**	**11.28**	**174**	P	**P**	**17 59 32.2**	**+1.0**
CFAA				S	**S**	**18 01 27.8**	**-7.1**
CPUP	**Villa Florida**	**12.68**	**120**	P	**P**	**17 59 46.3**	**-3.1**
	comp=E,0.5nm,0.3s,baz=327,slow=15,SNR=16						
CPUP	**Villa Florida**	**12.68**	**120**	*e*Pn	**P**	**17 59 43.1**	**-6.3**
SAML	**Samuel**	**12.87**	**29**	*e*Pn	**P**	**17 59 47.6**	**-4.2**
	comp=E,5.2nm,0.8s						
TRQA	**Tornquist**	**18.83**	**161**	*e*P	**P**	**18 01 05.1**	**+0.8**
	comp=E,6.5nm,0.8s						
PLCA	**Paso Flores**	**20.35**	**182**	P	**P**	**18 01 25.1**	**+5.1**
	comp=E,18nm,0.9s,baz=6.0,slow=12,SNR=25						
PLCA	**Paso Flores**	**20.35**	**182**	*e*P	**P**	**18 01 24.6**	**+4.6**
	comp=E,20nm,0.9s						
BAO	**Brasilia Array**	**20.99**	**81**	P	**P**	**18 01 25.2**	**-1.3**
SDV	**Santo Domingo**	**29.06**	**358**	P	**P**	**18 02 41.4**	**-0.8**
SNAA	**Sanae**	**63.56**	**161**	P	**P**	**18 07 14.8**	**+4.7**
	comp=E,1.4nm,0.7s,mb3.9,baz=276,slow=5.5,SNR=26						
DBIC	**Dimbokro**	**68.95**	**74**	P	**P**	**18 07 45.2**	**+0.1**
	comp=E,2.1nm,0.4s,mb4.2,baz=225,slow=8.8,SNR=8.1						
DBIC	**Dimbokro**	**68.95**	**74**	P	**P**	**18 07 45.2**	**+0.1**
SYO	**Syowa Base**	**77.78**	**160**	⇓P	**P**	**18 08 39.8**	**+4.4**
VNDA	**Vanda**	**77.89**	**190**	P	**P**	**18 08 44.0**	**+8.1**
	comp=E,0.8nm,0.7s,mb3.5,baz=299,slow=0.7,SNR=4.7						
WRA	**Warramunga Arr**	**133.66**	**212**	PKP	PKPdf	18 16 00.8	+7.4
	comp=E,1.0nm,0.7s,baz=165,slow=1.7,SNR=13						
ASAJ	**Asahikawa**	**144.31**	**319**	PKP	PKPdf	18 16 18.2	+6.4
	comp=E,3.4nm,0.8s,baz=334,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**145.01**	**34**	PKP	PKPdf	18 16 19.1	+6.0
	comp=E,0.4nm,0.4s,baz=351,slow=2.2,SNR=15						
MJAR	**Matsushiro Arr**	**150.90**	**310**	PKPbc	PKPdf	18 16 36.3	+13
	comp=E,0.4nm,0.5s,baz=59,slow=4.7,SNR=4.6						
SONM	**Songino Array**	**152.37**	**6**	PKPbc	PKPdf	18 16 38.6	+14
	comp=E,0.6nm,0.4s,baz=313,slow=1.6,SNR=7.5						

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*NEIC **09** 17:57:35.0±1.8, 4.72S×154.01E, h100km, mb4.1/1, Error ellipse: s-maj=57.0km s-min=18.3km az=109.0*
*IDC **09** 17:58:03.7±23.0, 4.87S×152.91E, h336km±210km,*

mb3.4/6, mb1 3.6/6, mb1mx3.4/14, mbtmp4.1/6, Error ellipse: s-maj=141.5km s-min=29.9km az=86.0

ISC 09 17:57:33.9±2.1, **4.7S**±0.2×**153.9E**±0.4, **h100**^{km}, **n10**, σ**0^{s}81**/10, **mb3.9**/7, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.36**	**230**	*e*P	**P**	**18 02 44.7**	**+0.8**
	3.7nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**24.36**	**230**	*e*P	**P**	**18 02 44.8**	**+0.8**
WRA	**Warramunga Arr**	**24.37**	**230**	P	**P**	**18 02 44.5**	**+0.4**
	6.7nm,0.8s,mb4.0,baz=55,slow=10,SNR=64						
ASPA	**Alice Springs**	**27.00**	**224**	*e*P	**P**	**18 03 07.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.70**	**242**	*e*P	**P**	**18 03 40.0**	**-1.7**
	7.2nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.70**	**242**	P	**P**	**18 03 40.1**	**-1.6**
	8.0nm,0.6s,mb4.7,baz=45,slow=5.2,SNR=21						
SONM	**Songino Array**	**66.83**	**327**	P	**P**	**18 08 17.8**	**+0.6**
	0.3nm,0.5s,mb3.4,baz=127,slow=7.2,SNR=3.1						
MKAR	**Makanchi Array**	**80.98**	**319**	P	**P**	**18 09 39.5**	**+0.4**
	0.4nm,0.4s,mb3.6,baz=104,slow=5.9,SNR=11						
MAW	**Mawson**	**86.11**	**203**	P	**P**	**18 10 04.4**	**0.0**
	1.4nm,0.7s,mb4.0,baz=96,slow=9.2,SNR=6.0						
BVAR	**Borovoye Array**	**89.82**	**323**	P	**P**	**18 10 21.7**	**-0.8**
	0.6nm,0.7s,mb3.8,baz=108,slow=4.7,SNR=4.9						

*BJI **09** 18:01:41.1, 3.07N×128.04E, h101^{km}, mB5.2, mb4.6*
*NEIC **09** 18:01:44.4±1.6, 3.58N×128.07E, h92^{km}±15^{km}, mb4.4/11, Error ellipse: s-maj=19.5km s-min=7.1km az=71.0*
*IDC **09** 18:01:45.1±7.7, 3.51N×127.84E, h100^{km}±73^{km}, mb4.0/12, mb1 4.1/12, mb1mx3.9/21, mbtmp4.3/12, MS3.5/5, Ms1 3.5/5, ms1mx3.3/24, Error ellipse: s-maj=38.2km s-min=13.8km az=69.0*

ISC 09 18:01:40.9±1.2, **3.59N**±0.06×**128.1E**±0.1, **h76**^{km}±11^{km}, **n45**, σ**1^{s}16**/45, **mb4.3**/22, **4C**, **North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**3.78**	**332**	*e*P	**P**	**18 02 37.9**	**-0.4**
GSPH	**General Santos**	**3.96**	**309**	⇑*i*P	**P**	**18 02 38.8**	**-1.9**
DAV	**Davao City (W)**	**4.24**	**325**	*e*Pn	**P**	**18 02 47.1**	**+2.5**
KCP	**Kidapawan**	**4.50**	**319**	⇑*e*P	**P**	**18 02 49.6**	**+1.4**
KCP				*i* S	**S**	**18 03 47.0**	**+7.4**
BIPH	**Bislig**	**4.86**	**340**	⇑*i*P	**P**	**18 02 50.2**	**-3.0**
BIPH				*i* S	**S**	**18 03 37.7**	**-11**
BUKP	**Musuan**	**5.20**	**325**	*e*P	**P**	**18 02 57.9**	**+0.1**
BUKP				*e*S	**S**	**18 03 59.5**	**+2.4**
BUTP	**Butuan**	**5.86**	**336**	*e*P	**P**	**18 03 07.0**	**0.0**
PAGZ	**Pagadian**	**6.28**	**313**	*e*P	**P**	**18 03 12.0**	**-0.8**
SCPH	**Surigao**	**6.66**	**338**	⇑*e*P	**P**	**18 03 22.4**	**+4.4**
IPIL	**Ipil**	**6.86**	**308**	*e*P	**P**	**18 03 19.1**	**-1.8**
KSM	**Kuching**	**17.84**	**264**	*e*P	**P**	**18 05 46.0**	**+0.2**
GUMO	**Guam**	**19.36**	**58**	LR	LR	18 12 10.9	
	comp=Z,115nm,21.1s,baz=250,slow=32						
FITZ	**Fitzroy Crossi**	**21.68**	**186**	*e*P	**P**	**18 06 27.5**	**+0.4**
	7.9nm,1.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**21.68**	**186**	P	**P**	**18 06 26.9**	**-0.1**
	4.3nm,0.6s,mb4.0,baz=3.9,slow=9.0,SNR=8.0						
FITZ				LR	LR	18 14 34.2	
	comp=Z,144nm,20.0s,baz=312,slow=36						
WRAB	**Tennant Creek**	**24.18**	**165**	*e*P	**P**	**18 06 52.0**	**+0.6**
	32nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**24.19**	**165**	P	**P**	**18 06 52.1**	**+0.6**
	18nm,0.6s,mb4.6,baz=345,slow=11,SNR=76						
WB2	**Warramunga Arr**	**24.19**	**165**	*e*P	**P**	**18 06 51.9**	**+0.4**
ASPA	**Alice Springs**	**27.68**	**168**	*e*P	**P**	**18 07 23.3**	**-0.8**
KMI	**Kunming**	**32.42**	**314**	P	**P**	**18 08 07.2**	**+1.2**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.1						
KMI	**Kunming**	**32.42**	**314**	P	**P**	**18 08 07.2**	**+1.2**
	comp=Z,7.0nm,1.6s,mb4.1						
KS15	**Wonju Array Si**	**33.69**	**360**	*e*P	**P**	**18 08 16.3**	**-0.6**
MJAR	**Matsushiro Arr**	**34.10**	**15**	LR	LR	18 20 14.7	
	comp=Z,59nm,19.4s,baz=240,slow=32						
XAN	**Xi'an**	**35.15**	**332**	P	**P**	**18 08 28.4**	**-0.9**
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**37.55**	**161**	*e*P	**P**	**18 08 49.7**	**+0.1**
	comp=Z,3.7nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**37.55**	**161**	P	**P**	**18 08 49.4**	**-0.2**
	comp=Z,4.3nm,0.4s,mb4.7,baz=348,slow=7.2,SNR=36						
LZH	**Lanzhou**	**39.30**	**328**	*e*P	**P**	**18 09 07.0**	**+2.9**
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.0						
LZH	**Lanzhou**	**39.30**	**328**	*e*P	**P**	**18 09 07.0**	**+2.9**
	comp=Z,26nm,1.0s,mb5.0						
LZH				pP	pP	18 09 18.5	-4.2
LZH				sP	sP	18 09 24.0	-7.7
ASAJ	**Asahikawa**	**42.36**	**16**	P	**P**	**18 09 30.0**	**+0.8**
	comp=Z,1.8nm,0.4s,mb4.2,baz=192,slow=13,SNR=6.7						
LSA	**Lhasa**	**43.52**	**311**	P	**P**	**18 09 41.2**	**+2.3**
	comp=Z,3.5nm,0.7s,mb4.2						
GTA	**Gaotai**	**43.90**	**328**	*e*P	**P**	**18 09 42.2**	**+0.3**
GTA				AMB	AMB		
	comp=Z,1.0nm,0.9s,mb3.5						
GTA				AMB	AMB		
	comp=Z,73nm,6.1s						
GTA				LR	LR		
	comp=N,90nm,16.7s						
GTA				LR	LR		
	comp=E,78nm,14.1s						
GTA				LR	LR		
	comp=Z,144nm,13.7s						
ULN	**Ulaanbaatar**	**47.67**	**341**	*e*P	**P**	**18 10 11.3**	**-0.3**
	comp=Z,6.6nm,0.8s,mb4.5						
SONM	**Songino Array**	**47.86**	**340**	P	**P**	**18 10 12.7**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.2,baz=149,slow=7.3,SNR=18						
MKAR	**Makanchi Array**	**58.42**	**325**	P	**P**	**18 11 30.4**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.4,baz=132,slow=8.5,SNR=15						
MKAR				LR	LR	18 39 27.5	
	comp=Z,46nm,18.8s,baz=236,slow=39						
MKAR	**Makanchi Array**	**58.42**	**325**	P	**P**	**18 11 30.4**	**-0.8**
MKAR				LR	LR	18 39 27.5	
ZAL	**Zalesovo**	**61.32**	**332**	P	**P**	**18 11 50.3**	**-0.5**
	comp=Z,0.9nm,0.3s,mb4.2,baz=13,slow=16,SNR=4.3						
URZ	**Urewera**	**61.54**	**137**	P	**P**	**18 11 52.2**	**-0.4**
	comp=Z,6.2nm,0.7s,mb4.8,baz=337,slow=7.7,SNR=3.8						
KURK	**Kurchatov**	**62.57**	**327**	*e*P	**P**	**18 11 58.4**	**-0.8**
	comp=Z,4.8nm,0.5s,mb4.7						
BVAR	**Borovoye Array**	**68.16**	**327**	P	**P**	**18 12 33.7**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.1,baz=124,slow=5.3,SNR=8.5						
BRVK	**Borovoye**	**68.23**	**327**	*e*P	**P**	**18 12 33.7**	**-1.7**
	comp=Z,3.5nm,0.8s,mb4.2						
CASY	**Casey**	**70.84**	**187**	*e*P	**P**	**18 12 51.7**	**+0.5**
	comp=Z,4.3nm,0.9s,mb4.3						
VNDA	**Vanda**	**83.12**	**173**	P	**P**	**18 13 59.1**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=306,slow=8.8,SNR=4.0						
VNDA	**Vanda**	**83.12**	**173**	*e*P	**P**	**18 14 00.2**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.6						
ILAR	**Eielson Array**	**84.67**	**25**	P	**P**	**18 14 09.0**	**+1.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=243,slow=6.0,SNR=3.5						
ARCES	**ARCESS Array B**	**91.03**	**340**	P	**P**	**18 14 36.9**	**-0.8**
	comp=Z,1.1nm,0.8s,mb4.1,baz=76,slow=5.0,SNR=4.2						
NOA	**NORSAR Array B**	**99.50**	**334**	LR	LR	19 02 42.7	
	comp=Z,15nm,19.1s,baz=310,slow=37						

GUC 09 18:05:52.1±0.3, **33.19S**×**70.19W**, **h6**^{km}±1^{km}, **MD3.7**, **ML1.9**, **1C-1D**, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.16**	**210**	⇑*i*P	Pg	18 05 56.3	+0.7
FCH				*i* P		18 05 56.3	
FCH				*i* S	Sg	18 05 59.5	+1.6
FCH				AMP		18 06 00.6	
	comp=E,428nm,0.2s						
CLCH	**Cerro Calan**	**0.36**	**234**	⇓*i*P	Pg	18 05 59.5	+0.2
CLCH				*i* S	Sg	18 06 05.4	+1.2
CLCH				AMP		18 06 06.7	
	comp=E,267nm,0.6s						
CHCH	**Chadas Angostu**	**0.84**	**207**	*e*P	Pb	18 06 08.5	-0.2
CHCH				*i* S	Sb	18 06 20.6	+0.7
LNV	**Longovilo**	**1.27**	**233**	*i* S	Sb	18 06 32.5	-0.1

*IDC **09** 18:27:01.4±6.5, 48.06N×152.43E, h139^{km}±89^{km}, mb3.3/7, mb1 3.5/8, mb1mx3.4/20, mbtmp3.8/8, Error ellipse: s-maj=167.9km s-min=49.6km az=154.0*
*NEIC **09** 18:27:11.8±7.7, 48.54N×151.80E, h200^{km}, mb3.8/1, Error ellipse: s-maj=177.0km s-min=27.4km az=151.0*

ISC 09 18:27:03.1±1.8, **46.4N**±0.3×**152.8E**±0.3, **h259**^{km}±16^{km}, **n24**, σ**0^{s}90**/29, **mb3.4**/8, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.88**	**241**	P	**P**	**18 28 29.5**	**-1.1**
NEM2				*e*S	**S**	**18 29 37.7**	**-1.4**
JRA	**Rausu**	**5.99**	**248**	P	**P**	**18 28 31.8**	**-0.1**
JNK	**Nakash**	**6.41**	**247**	P	**P**	**18 28 37.8**	**+0.7**
JAK	**Akkeshi**	**6.73**	**242**	P	**P**	**18 28 40.6**	**-0.5**
JAK				*e*S	**S**	**18 29 57.3**	**-0.6**
JAR	**Ashorobuto**	**7.15**	**247**	P	**P**	**18 28 46.0**	**-0.5**
JKK2	**Kamakawa 2**	**7.57**	**254**	P	**P**	**18 28 52.7**	**+1.0**
ASAJ	**Asahikawa**	**7.58**	**256**	P	**P**	**18 28 53.2**	**+1.3**
	2.6nm,0.3s,baz=74,slow=14,SNR=29						
ASAJ	**Asahikawa**	**7.58**	**256**	P	**P**	**18 28 53.1**	**+1.2**
JCH	**Churui**	**7.76**	**244**	P	**P**	**18 28 54.3**	**+0.1**
JCH				*e*S	**S**	**18 30 20.8**	**-0.4**
JFR	**Furan**	**7.97**	**250**	P	**P**	**18 28 58.3**	**+1.4**
JNBK	**Urakawa-nobuka**	**8.32**	**244**	P	**P**	**18 29 01.1**	**-0.1**
JNBK				*e*S	**S**	**18 30 33.7**	**-0.2**
JKB	**Kayabe**	**9.61**	**246**	P	**P**	**18 29 17.7**	**+0.3**
JKB				*e*S	**S**	**18 31 03.4**	**+0.4**
JYM2	**Yakumo 2**	**9.91**	**249**	P	**P**	**18 29 21.7**	**+0.5**
JANG	**Nango**	**10.21**	**238**	*e*S	**S**	**18 31 16.4**	**-0.2**
JTH	**Tanohata**	**10.29**	**235**	*e*S	**S**	**18 31 19.0**	**+0.5**
SONM	**Songino Array**	**31.26**	**290**	P	**P**	**18 33 01.3**	**+0.7**
	0.2nm,0.4s,mb3.0,baz=80,slow=8.8,SNR=3.1						
MKAR	**Makanchi Array**	**46.92**	**298**	P	**P**	**18 35 09.9**	**+0.7**
	0.5nm,0.8s,mb2.9,baz=65,slow=8.3,SNR=3.8						
KURK	**Kurchatov**	**47.39**	**304**	*e*P	**P**	**18 35 12.0**	**-0.8**
	4.9nm,1.2s,mb3.7						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**18 36 28.1**	**-2.8**
	1.8nm,0.8s,mb3.5,baz=36,slow=7.8,SNR=3.4						
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**18 37 10.3**	**-1.6**
	0.7nm,0.5s,mb3.5,baz=32,slow=7.9,SNR=14						
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**18 37 10.3**	**-1.6**
NOA	**NORSAR Array B**	**68.48**	**341**	P	**P**	**18 37 38.1**	**-0.3**
	0.6nm,0.4s,mb3.6,baz=25,slow=6.3,SNR=2.8						
AKASG	**Malin Array Be**	**71.72**	**326**	P	**P**	**18 37 58.3**	**+0.2**
	0.6nm,0.4s,mb3.6,baz=33,slow=5.9,SNR=6.7						
GERES	**GERESS Array B**	**78.67**	**334**	P	**P**	**18 38 39.2**	**+1.8**
	0.4nm,0.4s,mb3.5,baz=34,slow=4.8,SNR=5.8						

IDC 09 19:20:42.4±1.6, **4.63N**×**126.49E**, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.6**/17, **mbtmp3.6**/3, **Error ellipse: s-maj=131.0km s-min=25.6km az=68.0**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.61**	**163**	P	P	19 26 13.7	-1.6
	1.3nm,0.7s,baz=343,slow=10,SNR=11						
SONM	**Songino Array**	**46.37**	**341**	P	P	19 29 10.8	-1.4
	0.3nm,0.5s,baz=157,slow=9.1,SNR=4.3						
MKAR	**Makanchi Array**	**56.68**	**325**	P	P	19 30 27.4	-2.6
	0.4nm,0.5s,baz=117,slow=7.6,SNR=9.1						

*IDC **09** 19:46:58.8±1.4, 4.70S×154.04E, mb4.2/7, mb1 4.4/7, mb1mx4.2/13, mbtmp4.2/7, Error ellipse: s-maj=50.6km s-min=22.0km az=108.0*
*NEIC **09** 19:47:12.3±0.4, 4.70S×153.76E, h100^{km}, mb4.3/8, Error ellipse: s-maj=10.8km s-min=6.9km az=223.0*

ISC 09 19:47:14.2±4.2, **4.8S**±0.1×**153.8E**±0.1, **h136**^{km}±42^{km}, **n20**, σ**0^{s}66**/20, **mb4.0**/14, **1D**, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.62**	**128**	*e*Sn	**S**	**19 50 28.9**	**+0.1**
WRAB	**Tennant Creek**	**24.21**	**230**	*e*P	**P**	**19 52 20.2**	**+0.5**
	15nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**24.22**	**230**	*e*P	**P**	**19 52 20.6**	**+0.9**
WRA	**Warramunga Arr**	**24.23**	**230**	P	**P**	**19 52 20.6**	**+0.8**
	4.3nm,0.4s,mb4.3,baz=56,slow=10,SNR=64						
ASPA	**Alice Springs**	**26.86**	**224**	⇓*i*P	**P**	**19 52 44.0**	**-0.2**
STKA	**Stephens Creek**	**29.28**	**202**	P	**P**	**19 53 05.5**	**-0.5**
	2.8nm,0.9s,mb4.0,baz=11,slow=17,SNR=2.6						
FITZ	**Fitzroy Crossi**	**30.57**	**242**	*e*P	**P**	**19 53 16.0**	**-1.5**
	5.1nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.57**	**242**	P	**P**	**19 53 15.6**	**-1.9**
	6.7nm,0.4s,mb4.8,baz=50,slow=4.4,SNR=18						
KSM	**Kuching**	**43.93**	**277**	*e*P	**P**	**19 55 09.2**	**-0.4**
ENH	**Enshi**	**54.91**	**312**	*e*P	**P**	**19 56 32.4**	**-0.9**
	9.4nm,1.0s,mb4.5						
SONM	**Songino Array**	**66.87**	**327**	P	**P**	**19 57 53.7**	**-0.2**
	0.7nm,0.5s,mb3.8,baz=138,slow=5.7,SNR=11						
CASY	**Casey**	**68.32**	**197**	*e*P	**P**	**19 58 02.1**	**-0.5**
	4.8nm,1.1s,mb4.1						
LSA	**Lhasa**	**69.08**	**304**	*e*P	**P**	**19 58 08.8**	**+1.0**
	2.1nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**81.00**	**319**	P	**P**	**19 59 15.6**	**+0.2**
	0.8nm,0.4s,mb3.7,baz=92,slow=8.2,SNR=20						
MKAR	**Makanchi Array**	**81.00**	**319**	P	**P**	**19 59 15.6**	**+0.2**
ILAR	**Eielson Array**	**81.77**	**22**	P	**P**	**19 59 18.6**	**-0.4**
	0.9nm,0.9s,mb3.4,baz=247,slow=6.9,SNR=4.9						
KURK	**Kurchatov**	**84.40**	**322**	*e*P	**P**	**19 59 32.7**	**+0.1**
	3.5nm,1.1s,mb4.0						
AAK	**Ala-Archa**	**85.41**	**313**	*e*P	**P**	**19 59 38.6**	**+0.8**
	1.4nm,0.5s,mb4.0						
MAW	**Mawson**	**85.97**	**203**	P	**P**	**19 59 40.1**	**+0.2**
	1.7nm,0.9s,mb3.8,baz=106,slow=12,SNR=5.5						
BRVK	**Borovoye**	**89.92**	**323**	*e*P	**P**	**19 59 59.3**	**+0.2**
	1.2nm,0.8s,mb3.9						

*CNRM **09** 19:48:09.2, 35.05N×3.85W, h2^{km}, MD3.2*
*CSEM **09** 19:48:11.9±0.1, 34.93N×3.96W, h30^{km}, MD3.2, Error ellipse: s-maj=3.0km s-min=2.1km az=112.0*
*NEIC **09** 19:48:13.3, 35.09N×3.97W, MG3.1(MDD), After MDD.*

MDD 09 19:48:13.4±1.9, **34.94N**×**3.93W**, **h6**^{km}±17^{km}, **mbLg2.1**/12, **1C**, **Error ellipse: s-maj=5.6km s-min=4.0km az=113.0**, **PRXIMO**, **Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TZK	**Tazeka**	**0.87**	**194**	*i* P	Pb	19 48 27.0	-3.6
TZK				*i* S	Sb	19 48 41.0	-1.3
EMEL	**Melilla**	**0.88**	**65**	⇑P	Pb	19 48 28.4	-2.2
	81nm,0.2s,SNR=18						
EMEL				S	Sb	19 48 40.0	-2.3
	262nm,0.2s,SNR=5.5						
EMLI	**Melilla**	**0.88**	**66**	P	Pb	19 48 28.7	-2.0
	81nm,0.2s,SNR=18						
EMLI				S	Sb	19 48 40.7	-1.8
	262nm,0.2s,SNR=5.5						
EALB	**Alboran**	**1.24**	**36**	P	Pb	19 48 33.3	-3.5
	2.3nm,0.2s,SNR=7.9						
EALB				S	Sb	19 48 49.1	-3.7
	21nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.24**	**36**	P	Pb	19 48 33.7	-3.1
EALB				S	Sb	19 48 49.2	-3.6
EALB	**Alboran**	**1.24**	**36**	P	Pb	19 48 33.7	-3.1
	2.3nm,0.2s,SNR=7.9						
EALB				S	Sb	19 48 49.2	-3.7
	21nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.76**	**337**	P	Pn	19 48 40.1	-4.6
	1.7nm,0.2s,SNR=5.9						
EMIJ				S	Sn	19 49 01.7	-6.0
	26nm,0.5s,SNR=5.7						
EMIJ	**Mijas**	**1.76**	**337**	P	Pn	19 48 40.6	-4.1
EMIJ				S	Sn	19 49 01.7	-6.0
EMIJ	**Mijas**	**1.76**	**337**	P	Pn	19 48 40.6	-4.1
	1.7nm,0.2s,SNR=5.9						
EMIJ				S	Sn	19 49 01.7	-6.0
	26nm,0.5s,SNR=5.7						
MIF	**Mishlifen**	**1.87**	**216**	*e*P	Pn	19 48 42.0	-4.2
MIF				*i* S	Sn	19 49 07.0	-3.4
CZD	**Col de Zad**	**2.11**	**206**	*e*P	Pn	19 48 46.0	-3.8
CZD				*i* S	Sn	19 49 12.5	-4.2
EBER	**Berja**	**2.13**	**23**	P	Pn	19 48 47.2	-2.8
	0.5nm,0.0s,SNR=7.9						
EBER				S	Sn	19 49 12.8	-4.2
	8.5nm,0.3s,SNR=5.3						
EBER	**Berja**	**2.13**	**23**	P	Pn	19 48 46.7	-3.2
EBER				S	Sn	19 49 12.8	-4.2
EBER	**Berja**	**2.13**	**23**	P	Pn	19 48 46.7	-3.3
	0.5nm,0.0s,SNR=7.9						
EBER				S	Sn	19 49 12.8	-4.2
	8.5nm,0.3s,SNR=5.3						
EQUE	**Quentar**	**2.30**	**10**	P	Pn	19 48 49.2	-3.2
	0.1nm,0.1s,SNR=7.9						
EQUE				S	Sn	19 49 16.8	-4.5
	3.0nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.48**	**321**	P	Pn	19 48 52.9	-2.1
	0.3nm,0.1s,SNR=7.9						
ESPR				S	Sn	19 49 21.0	-4.9
	8.2nm,0.5s,SNR=7.9						
ESPR	**Espera**	**2.48**	**321**	P	Pn	19 48 52.9	-2.1
	0.3nm,0.1s,SNR=7.9						
ESPR				S	Sn	19 49 21.0	-5.0
	8.2nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.94**	**13**	P	Pn	19 48 59.2	-2.4
	1.2nm,0.2s,SNR=4.6						
EQES				S	Sn	19 49 32.3	-5.3
	5.0nm,0.3s						
EQES	**Quesada**	**2.94**	**13**	P	Pn	19 49 00.4	-1.2
EQES				S	Sn	19 49 32.3	-5.3
EQES	**Quesada**	**2.94**	**13**	P	Pn	19 49 00.4	-1.2
	1.2nm,0.2s,SNR=4.6						
EQES				S	Sn	19 49 32.3	-5.3
	5.0nm,0.3s						
EHUE	**Huescar**	**3.07**	**20**	P	Pn	19 49 01.0	-2.4
	0.4nm,0.3s,SNR=7.9						
EHUE				S	Sn	19 49 34.7	-6.1
	0.8nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**3.07**	**20**	P	Pn	19 49 01.2	-2.2
EHUE				S	Sn	19 49 34.7	-6.1
EHUE	**Huescar**	**3.07**	**20**	P	Pn	19 49 01.2	-2.2
	0.4nm,0.3s,SNR=7.9						
EHUE				S	Sn	19 49 34.7	-6.1
	0.8nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.26**	**351**	P	Pn	19 49 02.5	-3.7
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	19 49 38.3	-7.5
	2.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.26**	**351**	P	Pn	19 49 02.5	-3.7
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	19 49 38.3	-7.5
	2.0nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.59**	**323**	P	Pn	19 49 06.4	-4.3
	0.8nm,0.2s,SNR=7.4						
EMIN				S	Sn	19 49 47.0	-7.0
	0.7nm,0.2s						
EMIN	**Mina Concepcio**	**3.59**	**323**	P	Pn	19 49 06.4	-4.4
	0.8nm,0.2s,SNR=7.4						
EMIN				S	Sn	19 49 47.0	-7.0
	0.7nm,0.2s						
EGRO	**El Granado**	**3.87**	**313**	P	Pn	19 49 09.8	-5.0
	0.0nm,0.2s,SNR=5.1						
EGRO				S	Sn	19 49 54.5	-6.5
	0.6nm,0.3s						
EGRO	**El Granado**	**3.87**	**313**	P	Pn	19 49 11.1	-3.7
EGRO				S	Sn	19 49 52.7	-8.4
EGRO	**El Granado**	**3.87**	**313**	P	Pn	19 49 11.1	-3.6
	SNR=5.1						
EGRO				S	Sn	19 49 52.7	-8.4
	0.6nm,0.3s						
ETOB	**Tobarra**	**4.16**	**27**	P	Pn	19 49 14.3	-4.7
	0.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.16**	**27**	P	Pn	19 49 16.2	-2.7
ETOB	**Tobarra**	**4.16**	**27**	P	Pn	19 49 16.2	-2.8
EBAD	**Badajoz**	**4.54**	**328**	P	Pn	19 49 20.0	-4.3
	0.7nm,0.2s,SNR=7.9						
EBAD				S	Sn	19 50 11.0	-7.1
	3.3nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.54**	**328**	P	Pn	19 49 20.0	-4.3
	0.7nm,0.2s,SNR=7.9						
EBAD				S	Sn	19 50 08.2	-10
	3.3nm,0.3s,SNR=7.9						

*MOS **09** 19:55:04.7±1.1, 55.89S×27.65W, h10^{km}, mb5.9/11, Error ellipse: s-maj=21.5km s-min=10.9km az=104.9*
*IDC **09** 19:55:20.7±0.8, 56.06S×28.03W, h131^{km}±5^{km}, mb5.1/18, mb1 5.2/19, mb1mx5.2/20, mbtmp5.5/19, MS4.3/16, Ms1 4.3/16, ms1mx4.3/19, Error ellipse: s-maj=10.4km s-min=6.6km az=33.0*
*BJI **09** 19:55:21.8, 56.00S×27.90W, h142^{km}, mB5.4*
*NEIC **09** 19:55:21.8±1.1, 56.04S×27.91W, h143^{km}±9^{km}, mb5.7/29, Error ellipse: s-maj=6.4km s-min=4.7km az=223.0*
*HRVD **09** 19:55:21.8±0.3, 56.07S×27.56W, h119^{km}±4^{km}, MW5.6/67, Centroid moment Tensor Solution. LP body waves: s27,c31;Mantle waves: s67,c122; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.81±.17; $M_{\theta\theta}$0.94±.15; $M_{\phi\phi}$-1.75±.14; $M_{r\theta}$-2.02±.09; $M_{\theta\phi}$0.39±.12; $M_{\phi r}$1.49±.09; Best double couple: $M_0$2.956×10^{17} NP1:ϕ_s207°, δ29°, λ162°. NP2:ϕ_s313°, δ81°, λ62°. Principal axes: T 3.027, Plg46°, Azm194°; N -.142, Plg28°, Azm318°; P -2.886, Plg31°, Azm66°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 09 19:55:18.6±1.2, **56.01S**±0.04×**27.95W**±0.09, **h125**^{km}±10^{km}, **n292**, σ**1^{s}07**/115, **mb5.7**/39, **17C-12D**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.00**	**157**		**P**	**19 59 10.0**	**+0.4**
VNA1	**Neumayer--Stat**	**17.00**	**157**		**P**	**19 59 11.7**	**+2.1**
VNA1	**Neumayer--Stat**	**17.00**	**157**		**P**	**19 59 19.6**	**+10**
VNA1	**Neumayer--Stat**	**17.00**	**157**			19 59 32.7	
VNA1	**Neumayer--Stat**	**17.00**	**157**			20 07 12.5	
VNA3	**Neumayer Olymp**	**17.18**	**160**		**P**	**19 59 12.6**	**+0.8**
VNA3	**Neumayer Olymp**	**17.18**	**160**		**P**	**19 59 14.1**	**+2.3**
VNA3	**Neumayer Olymp**	**17.18**	**160**		**P**	**19 59 20.0**	**+8.2**
VNA3	**Neumayer Olymp**	**17.18**	**160**	S	Sx	20 02 38.5	
VNA3	**Neumayer Olymp**	**17.18**	**160**			20 07 12.2	
VNA2	**Neumayer--Watz**	**17.39**	**157**		**P**	**19 59 14.5**	**0.0**
VNA2	**Neumayer--Watz**	**17.39**	**157**		**P**	**19 59 15.6**	**+1.1**
VNA2	**Neumayer--Watz**	**17.39**	**157**		**P**	**19 59 23.0**	**+8.5**
VNA2	**Neumayer--Watz**	**17.39**	**157**	S	Sx	20 02 42.6	
VNA2	**Neumayer--Watz**	**17.39**	**157**			20 07 12.9	
EFI	**East Falkland**	**18.21**	**271**	*e*P	**P**	**19 59 23.1**	**-1.0**
	235nm,1.0s						
EFI	**East Falkland**	**18.21**	**271**	*e*P	**P**	**19 59 23.1**	**-1.0**
EFI				pmax	pmax		
	comp=Z,240nm,1.0s						
SNAA	**Sanae**	**18.96**	**156**	P	**P**	**19 59 30.3**	**-1.8**
	comp=Z,99nm,0.3s,baz=314,slow=9.1,SNR=8144						
SNAA				S	**S**	**20 02 56.9**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=187,slow=17,SNR=2.2						
SNAA				PcP	PcP	20 03 50.9	-1.5
	comp=Z,0.6nm,0.3s,baz=257,slow=4.2,SNR=4.0						
SNAA				LR	LR	20 05 22.7	
	comp=Z,340nm,18.9s,baz=326,slow=32						
SNAA				ScP		20 07 14.2	
	comp=Z,1.2nm,0.3s,baz=309,slow=0.6,SNR=23						
SNAA	**Sanae**	**18.96**	**156**	⇑*i*P	**P**	**19 59 30.2**	**-1.8**
	comp=Z,2.3nm,0.6s						
SNAA	**Sanae**	**18.96**	**156**	⇑*i*P	**P**	**19 59 30.3**	**-1.8**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PMSA	**Palmer Station**	**19.61**	**229**	*e*P	**P**	**19 59 40.0**	**+1.0**
	comp=Z,1μm,0.9s						
TRIS	**Tristan da Cun**	**21.69**	**36**	*e*P	**P**	**20 00 01.9**	**+1.8**
	comp=Z,575nm,1.0s,mb5.9						
MAIT	**Maitri**	**22.51**	**146**	⇑*i*P	**P**	**20 00 07.7**	**0.0**
MAIT				*e*S	**S**	**20 04 02.3**	**+1.0**
MAIT	**Maitri**	**22.51**	**146**	*i* P	**P**	**20 00 07.0**	**-0.6**
NVL	**N'lazarevskaya**	**22.54**	**146**	⇓*i*P	**P**	**20 00 08.1**	**+0.2**
NVL				*i* *PP		20 00 51.4	
NVL				*i* S	**S**	**20 04 04.9**	**+3.2**
NVL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NVL				MLR	MLR		
	comp=Z,38nm,18.3s						
USHA	**Ushuaia**	**22.78**	**256**	P	**P**	**20 00 11.6**	**+1.1**
	comp=Z,123nm,0.9s,mb5.2,baz=77,slow=8.6,SNR=38						
USHA				PcP	PcP	20 03 59.2	-0.5
	comp=Z,7.0nm,0.6s,baz=57,slow=6.1,SNR=4.3						
USHA				LR	LR	20 06 24.0	
	comp=Z,1μm,18.7s,baz=82,slow=29						
USHA				ScP		20 07 22.7	
	comp=Z,32nm,0.7s,baz=88,slow=2.3,SNR=14						
TRQA	**Tornquist**	**28.91**	**294**	*e*P	**P**	**20 01 06.6**	**-1.1**
	comp=Z,51nm,0.8s,mb5.2						
PLCA	**Paso Flores**	**31.57**	**281**	P	**P**	**20 01 29.1**	**-2.0**
	comp=Z,26nm,0.8s,mb5.0,baz=137,slow=8.1,SNR=53						
PLCA				PcP	PcP	20 04 20.0	-0.7
	comp=Z,9.5nm,0.8s,baz=210,slow=2.5,SNR=5.0						
PLCA				ScP		20 07 49.1	
	comp=Z,27nm,0.9s,baz=120,slow=2.8,SNR=20						
PLCA				LR	LR	20 13 57.7	
	comp=Z,1μm,18.9s,baz=125,slow=35						
PLCA	**Paso Flores**	**31.57**	**281**	*e*P	**P**	**20 01 28.6**	**-2.5**
	comp=Z,30nm,0.9s,mb5.0						
PLCA	**Paso Flores**	**31.57**	**281**	*e*P	**P**	**20 01 28.6**	**-2.5**
PLCA				pmax	pmax		
	comp=Z,30nm,0.9s						
SYO	**Syowa Base**	**31.89**	**141**	⇓P	**P**	**20 01 30.5**	**-3.0**
SYO	**Syowa Base**	**31.89**	**141**	⇑X	pP	20 01 55.9	-5.1

QSPA South Pole Qui 34.24 180 *eP* **P** **20 01 53.7 0.0**
comp=Z,783nm,1.0s,mb6.5
CPUP Villa Florida 36.47 312 P **P** **20 02 12.8 -0.1**
comp=Z,54nm,1.0s,mb5.4,baz=172,slow=11,SNR=58
CPUP PcP PcP 20 04 34.3 -0.4
comp=Z,16nm,0.9s,baz=162,slow=3.7,SNR=9.4
CPUP ScP 20 08 07.5
comp=Z,64nm,0.8s,baz=164,slow=4.0,SNR=40
CPUP LR LR 20 13 56.5
comp=Z,440nm,20.0s,baz=175,slow=31
CPUP Villa Florida 36.47 312 *eP* **P** **20 02 12.4 -0.6**
comp=Z,65nm,1.0s,mb5.5
CPUP Villa Florida 36.47 312 *eP* **P** **20 02 12.4 -0.6**
CPUP pmax pmax
comp=Z,65nm,1.0s
CFAA Coronel Fontan 37.15 294 P **P** **20 02 17.3 -1.4**
comp=Z,12nm,0.8s,mb4.9,baz=147,slow=8.7,SNR=125
CFAA PcP PcP 20 04 36.4 -0.3
comp=Z,2.8nm,0.6s,baz=157,slow=2.8,SNR=6.4
CFAA S **S** **20 07 50.5 -4.8**
comp=Z,1.2nm,0.7s,baz=300,slow=17,SNR=8.8
CFAA ScP 20 08 08.5
comp=Z,1.7nm,0.5s,baz=155,slow=5.5,SNR=10.0
CFAA LR LR 20 14 32.4
comp=Z,87nm,21.4s,baz=142,slow=31
CFAA Coronel Fontan 37.15 294 P **P** **20 02 17.3 -1.4**
CFAA PcP PcP 20 04 36.4 -0.3
CFAA S **S** **20 07 50.5 -4.8**
CFAA ScP 20 08 08.5
CFAA LR LR 20 14 32.4
ZON Zonda 37.43 294 *eP* **P** **20 02 23.1 +2.1**
MAW Mawson 40.44 144⇑ *iP* **P** **20 02 45.2 -0.3**
comp=Z,64nm,0.8s,mb5.5
MAW *i* PCP PcP 20 04 46.5 -0.2
MAW *i* SCP 20 08 22.7
MAW *i* SCS ScS 20 12 37.2 +1.2
MAW Mawson 40.44 144 P **P** **20 02 45.3 -0.2**
comp=Z,68nm,0.8s,mb5.5,baz=236,slow=8.5,SNR=160
MAW PcP PcP 20 04 46.6 -0.1
comp=Z,40nm,1.0s,baz=252,slow=5.4,SNR=5.0
MAW ScP 20 08 22.8
comp=Z,129nm,1.0s,baz=232,slow=4.2,SNR=39
MAW S **S** **20 08 43.3 -1.0**
comp=Z,12nm,0.9s,baz=270,slow=16,SNR=1.8
MAW Mawson 40.44 144⇑ *iP* **P** **20 02 45.2 -0.3**
MAW *i* 20 04 46.5
MAW pmax pmax
comp=Z,64nm,0.8s
SUR Sutherland 41.04 76 P **P** **20 02 51.6 +0.8**
comp=Z,43nm,1.0s,mb5.2,baz=233,slow=7.4,SNR=11
SUR ScP 20 08 27.7
comp=Z,48nm,0.9s,baz=229,slow=3.6,SNR=15
SUR LR LR 20 16 38.8
comp=Z,1μm,19.4s,baz=183,slow=31
SUR Sutherland 41.04 76 *eP* **P** **20 02 50.6 -0.2**
comp=Z,180nm,1.5s,mb5.7
BAO Brasilia Array 43.12 331 P **P** **20 03 10.0 +2.1**
LVC Limon Verde 44.91 301 P **P** **20 03 23.5 +1.2**
comp=Z,148nm,0.8s,mb5.8,baz=152,slow=4.8,SNR=103
LVC PcP PcP 20 05 03.1 +1.1
comp=Z,29nm,0.7s,baz=203,slow=2.9,SNR=4.3
LVC ScP 20 08 40.8
comp=Z,24nm,0.6s,baz=184,slow=2.1,SNR=11
LVC S **S** **20 09 52.0 +2.1**
comp=Z,5.4nm,0.6s,baz=344,slow=23,SNR=7.9
LVC LR LR 20 20 44.5
comp=Z,226nm,20.8s,baz=162,slow=34
LVC Limon Verde 44.91 301 *eP* **P** **20 03 23.3 +1.0**
comp=Z,184nm,0.9s,mb5.8
LVC *e*ScP 20 08 39.6
SBA Scott Base 46.09 184 *eP* **P** **20 03 31.1 +0.2**
comp=Z,497nm,1.1s,mb6.2
SBA Scott Base 46.09 184 *eP* **P** **20 03 31.1 +0.2**
SBA pmax pmax
comp=Z,497nm,1.1s,mb6.2
VNDA Vanda 46.60 183 P **P** **20 03 35.3 +0.4**
comp=Z,297nm,0.9s,mb6.0,baz=186,slow=6.3,SNR=914
VNDA ScP 20 08 47.2
comp=Z,10nm,0.7s,baz=237,slow=2.5,SNR=7.5
VNDA S **S** **20 10 11.8 -1.5**
comp=Z,1.4nm,0.7s,baz=262,slow=6.7,SNR=1.6
VNDA LR LR 20 22 12.2
comp=Z,243nm,20.0s,baz=175,slow=35
VNDA Vanda 46.60 183⇑ *eP* **P** **20 03 35.1 +0.2**
comp=Z,374nm,0.9s,mb6.1
VNDA *e*ScP 20 08 46.7
VNDA Vanda 46.60 183⇑ *eP* **P** **20 03 35.1 +0.2**
VNDA pmax pmax
comp=Z,374nm,0.9s
LBTB Lobatse 49.40 74 P **P** **20 03 56.6 -0.7**
comp=Z,144nm,0.8s,mb6.0,baz=228,slow=8.3,SNR=180
LBTB ScP 20 09 01.6
comp=Z,26nm,0.8s,baz=230,slow=5.0,SNR=15
LBTB Lobatse 49.40 74 *eP* **P** **20 03 56.1 -1.3**
comp=Z,176nm,0.9s,mb6.0
LBTB *e*ScP 20 09 00.7
LPAZ La Paz 50.01 306 P **P** **20 04 03.3 +1.3**
comp=Z,78nm,0.8s,mb5.7,baz=142,slow=5.8,SNR=264
LPAZ ScP 20 09 03.3
comp=Z,12nm,0.8s,baz=136,slow=5.3,SNR=9.6
LPAZ S **S** **20 11 02.1 +0.5**
comp=Z,1.4nm,0.5s,baz=31,slow=19,SNR=3.5
LPAZ LR LR 20 25 45.3
comp=Z,202nm,20.1s,baz=147,slow=36
LPAZ La Paz 50.01 306 *eP* **P** **20 04 03.1 +1.1**
comp=Z,53nm,0.6s,mb5.7
LPAZ *e*ScP 20 09 02.6
LPAZ *e*S **S** **20 10 58.5 -3.2**
LPAZ La Paz 50.01 306 *eP* **P** **20 04 03.1 +1.1**
LPAZ pmax pmax
comp=Z,53nm,0.6s
MIR Mirnyy 50.02 153 *eP* **P** **20 04 00.0 -1.4**
MIR *e* 20 05 20.0
MIR *e* 20 05 58.0
MIR *e*S **S** **20 11 02.0 +0.9**
MIR pmax pmax
comp=N,505nm,2.0s
MIR smax
comp=N,500nm,5.0s
TSUM Tsumeb 50.03 62 P **P** **20 04 01.7 -0.4**
comp=N,71nm,0.9s,mb5.6,baz=197,slow=7.0,SNR=93
TSUM ScP 20 09 04.4
comp=N,3.7nm,0.9s,baz=321,slow=6.5,SNR=3.1
TSUM LR LR 20 20 44.5
comp=N,350nm,21.3s,baz=216,slow=30
TSUM Tsumeb 50.03 62 *eP* **P** **20 04 01.4 -0.8**
comp=N,97nm,0.9s,mb5.7
ARE Arequipa 51.42 302⇑ *iP* **P** **20 04 13.0 +0.3**
CASY Casey 54.09 161⇑ *iP* **P** **20 04 31.4 -0.4**
CASY *i* SCP 20 09 20.4
SAML Samuel 54.47 316⇓ *eP* **P** **20 04 34.4 -0.9**
comp=N,76nm,1.0s,mb5.7
SAML *e*pP pP 20 05 03.8 -1.2
SAML *e*ScP 20 09 21.0
MATP Matopo 54.67 73 P **P** **20 04 35.3 -1.4**
comp=N,146nm,0.9s,mb6.0,baz=210,slow=9.4
MATP ScP 20 09 25.0
comp=N,20nm,1.0s,baz=207,slow=5.3,SNR=6.5
MATP S **S** **20 12 04.2 -0.9**
comp=N,4.5nm,1.2s,baz=282,slow=20,SNR=5.7
DRV Dumont d'Urvil 57.31 174 P **P** **20 04 56.0 +1.1**
DRV S **S** **20 12 40.0 +0.6**
NNA Nana 57.86 299⇑ *iP* **P** **20 04 58.8 -0.6**
comp=N,135nm,1.1s,mb5.9
LSZ Lusaka 58.76 70⇓ *iP* **P** **20 05 04.4 -1.2**
comp=N,169nm,0.9s,mb6.1
LSZ Lusaka 58.76 70⇓ *iP* **P** **20 05 04.4 -1.2**
LSZ pmax pmax
comp=Z,169nm,0.9s,mb6.1
DBIC Dimbokro 65.31 25 P **P** **20 05 48.8 -0.5**
comp=Z,129nm,0.7s,mb5.9,baz=172,slow=7.0,SNR=209
DBIC LR LR 20 29 24.8
comp=Z,202nm,18.3s,baz=176,slow=31
DBIC PKPPKP 20 34 29.3
comp=Z,11nm,1.2s,baz=114,slow=1.3,SNR=4.1
DBIC Dimbokro 65.31 25⇓ *iP* **P** **20 05 48.7 -0.7**
comp=Z,138nm,0.8s,mb5.8
DBIC Dimbokro 65.31 25⇓ *iP* **P** **20 05 48.7 -0.7**
DBIC pmax pmax
comp=Z,138nm,0.8s
ROSC El Rosal 71.55 310 P **P** **20 06 28.1 +0.3**
comp=Z,31nm,0.8s,mb5.2,baz=148,slow=4.8,SNR=14
ROSC S S 20 15 37.5 +2.4
comp=Z,6.3nm,0.4s,baz=106,slow=20,SNR=3.9
ROSC LR LR 20 38 22.6
comp=Z,198nm,18.8s,baz=192,slow=36

MBAR Mbarara 72.51 64⇓ *iP* **P** **20 06 34.7 +1.3**
comp=Z,149nm,1.4s,mb5.6
MBAR Mbarara 72.51 64 P **P** **20 06 34.8 +1.3**
MBAR pmax pmax
comp=Z,150nm,1.3s,mb5.7
SDV Santo Domingo 73.68 316 P **P** **20 06 40.5 +0.3**
comp=Z,66nm,0.8s,mb5.4,baz=194,slow=4.1,SNR=42
SDV S S 20 15 58.5 -0.6
comp=Z,2.8nm,0.3s,baz=335,slow=15,SNR=6.6
SDV Santo Domingo 73.68 316⇑ *iP* **P** **20 06 40.2 -0.1**
comp=Z,81nm,0.9s,mb5.5
KMBO Kilima Mbogo 75.42 70 P **P** **20 06 53.5 +3.3**
comp=Z,16nm,1.1s,mb4.7,baz=213,slow=5.8,SNR=26
KMBO LR LR 20 37 52.7
comp=Z,604nm,18.5s,baz=277,slow=34
BBL Barber's Block 76.63 327 *eP* PcP 20 07 06.6 -1.6
DCZ Deep Cove 78.09 191 *ePN* **P** **20 07 03.6 -0.8**
MLZ Mavora Lakes 78.11 192 *ePN* **P** **20 07 04.2 -0.4**
RPZ Rata Peaks 79.36 194 LR LR 20 40 07.9
comp=Z,316nm,19.6s,baz=93,slow=34
RPZ Rata Peaks 79.36 194 *ePN* **P** **20 07 11.5 +0.1**
LTZ Lake Taylor 80.10 195 *ePN* **P** **20 07 15.4 -0.1**
RKT Rikitea 80.12 243 *eP* **P** **20 07 16.8 +0.9**
comp=Z,180nm,1.1s,mb5.8
RKT Rikitea 80.12 243 *e*LR LR 20 32 18.2
comp=Z,799nm,36.0s
MTP Monte Pirata 80.34 324 *eP* **P** **20 07 16.5 -0.7**
SJG San Juan 80.55 323 *eP* **P** **20 07 17.2 -1.2**
THZ Tophouse 81.01 196 *ePN* **P** **20 07 19.9 -0.3**
THZ *e*SN S 20 17 19.6 +2.2
SNZO South Karori 81.17 197 *eP* **P** **20 07 20.6 -0.5**
comp=Z,348nm,1.1s,mb6.1
DSZ Denniston Nort 81.19 195 *ePN* **P** **20 07 19.4 -1.8**
TAU Tasmania Unive 81.37 176⇑ *eP* **P** **20 07 21.6 -0.6**
comp=Z,392nm,0.9s,mb6.2
TAU Tasmania Unive 81.37 176⇑ *eP* **P** **20 07 21.6 -0.6**
TAU pmax pmax
comp=Z,392nm,0.9s,mb6.2
QRZ Quartz Range 81.98 196 *ePN* **P** **20 07 23.3 -2.1**
TUVZ Tukino 82.99 198 *ePN* **P** **20 07 30.6 +0.1**
TOO Toolangi 86.62 175 *eP* **P** **20 07 48.9 +0.5**
comp=Z,40nm,0.8s,mb5.4
TOO Toolangi 86.62 175 *eP* **P** **20 07 48.9 +0.5**
TOO pmax pmax
comp=Z,40nm,0.8s,mb5.4
TBI Tubuai 86.78 232 *eP* **P** **20 07 49.3 -0.2**
comp=Z,267nm,1.0s,mb6.1
TBI Tubuai 86.78 232 *e*LR LR 20 35 49.3
comp=Z,1μm,31.8s
KLBR Kellerberrin 87.98 151⇓ *iP* **P** **20 07 55.3 +0.2**
comp=Z,141nm,0.8s,mb6.0
CNB Canberra Magne 89.01 178⇓ *iP* **P** **20 08 01.0 +1.1**
comp=Z,33nm,1.1s,mb5.7
ATD Arta Tunnel 89.04 68 P **P** **20 08 02.5 +2.0**
comp=Z,19nm,1.0s,mb5.1,baz=229,slow=3.6,SNR=11
ATD Arta Tunnel 89.04 68 P **P** **20 08 02.5 +2.0**
RIV Riverview 90.52 179⇓ *iP* **P** **20 08 07.5 +0.5**
MDT Midelt 90.69 19 PKPPKP 20 33 45.5
comp=Z,3.3nm,0.8s,baz=250,slow=9.4,SNR=8.3
FORT Forrest 91.17 160 *eP* **P** **20 08 10.6 +0.5**
comp=Z,55nm,0.7s,mb5.8
TVO Taravao 91.54 235 *eP* **P** **20 08 12.4 +0.3**
comp=Z,296nm,1.0s,mb6.5
PAE Paea 91.80 234 *eP* **P** **20 08 13.9 +0.6**
comp=Z,46nm,1.0s,mb5.7
PAE *e*pP pP 20 08 47.9 +2.0
comp=Z,65nm,1.2s
PPT Papeete 91.88 234 *eP* **P** **20 08 13.6 -0.1**
comp=Z,31nm,1.2s,mb5.4
PPT Papeete 91.88 234 *e*LR LR 20 38 13.1
comp=Z,2μm,31.8s
PPT Papeete 91.88 234 LR LR 20 40 59.6
comp=Z,247nm,18.6s,baz=270,slow=30
STKA Stephens Creek 92.01 171 *eP* **P** **20 08 13.8 -0.2**
comp=Z,23nm,0.8s,mb5.5
STKA Stephens Creek 92.01 171 P **P** **20 08 14.1 +0.1**
comp=Z,26nm,0.7s,mb5.5,baz=159,slow=4.3,SNR=39
STKA LR LR 20 51 59.4
comp=Z,226nm,18.2s,baz=308,slow=37
PMOR Pomariorio Ree 93.33 237 *eP* **P** **20 08 20.8 +0.4**
comp=Z,64nm,1.4s,mb5.8
ESDC Sonseca Array 97.47 18 P **P** **20 08 40.6 +1.9**
comp=Z,1.0nm,0.6s,baz=194,slow=5.7,SNR=7.1
ESDC PKKPbc 20 25 15.7
comp=Z,0.7nm,0.6s,baz=10,slow=3.7,SNR=4.4
MBWA Marble Bar 98.40 150 *eP* **P** **20 08 42.6 -0.7**
comp=Z,23nm,1.2s,mb5.6
ASPA Alice Springs 99.16 163⇓ *i* PDIF **P** **20 08 46.2 -0.5**
ASPA *i* PP PP 20 12 47.2 -5.3
DZM Mont Dzumac 101.28 194 P P 20 08 55.1 -1.1
comp=Z,9.1nm,1.0s,baz=141,slow=19,SNR=2.9
WRA Warramunga Arr 102.88 163 P Pdif 20 09 02.3 -1.0
comp=Z,4.8nm,0.9s,baz=196,slow=4.3,SNR=28
WRA PP PP 20 13 16.7 -4.6
comp=Z,9.0nm,1.0s,baz=189,slow=6.2,SNR=5.8
WRA PKKPbc 20 25 00.7
comp=Z,0.9nm,0.4s,baz=357,slow=2.8,SNR=9.0
WRA SKKPbc 20 28 28.2
comp=Z,1.2nm,0.8s,baz=345,slow=2.6,SNR=5.1
WB2 Warramunga Arr 102.88 163 *e*PDIF Pdif 20 09 02.6 -0.8
WB2 *e*PP PP 20 13 11.7 -10
WB2 *i* SKS SKS 20 19 27.0 -2.8
FITZ Fitzroy Crossi 102.88 154 P Pdif 20 09 02.4 -1.0
comp=Z,4.6nm,0.8s,baz=192,slow=5.2,SNR=3.4
FITZ PP PP 20 13 17.5 -3.9
comp=Z,7.9nm,0.8s,baz=168,slow=4.5,SNR=3.6
ASF Jabal al Asfar 103.65 52 PP PP 20 13 20.4 -6.1
comp=Z,2.4nm,0.9s,baz=8.1,slow=6.5,SNR=3.9
CTA Charters Tower 104.05 174 Pdiff Pdif 20 09 06.8 -1.7
comp=Z,3.2nm,0.8s,baz=241,slow=6.3,SNR=3.3
CTA PP PP 20 13 27.2 -2.4
comp=Z,14nm,1.0s,baz=187,slow=7.2,SNR=6.5
SKO Skopje 106.18 36 *e*PKP 20 13 28.0
TXAR Lajitas Array 106.39 298 Pdiff Pdif 20 09 19.8 +1.2
comp=Z,0.5nm,0.3s,baz=124,slow=4.5,SNR=4.1
BRTR Keskin Array B 108.69 46 Pdiff Pdif 20 09 33.2 +4.7
comp=Z,0.3nm,0.4s,baz=12,slow=11,SNR=2.5
BRTR PP PP 20 13 59.0 -5.4
comp=Z,3.9nm,1.0s,baz=191,slow=6.3,SNR=8.5
BRTR PKKPbc 20 24 41.2
comp=Z,1.5nm,0.8s,baz=72,slow=3.9,SNR=4.8
BRTR PKKP PKKP 20 24 55.0 +14
comp=Z,4.2nm,0.9s,baz=63,slow=2.8,SNR=10
GERES GERESS Array B 110.11 28 PKiKP 20 13 35.9
comp=Z,1.6nm,1.0s,baz=202,slow=7.2,SNR=5.7
GERES PP PP 20 14 02.0 -12
comp=Z,1.9nm,0.7s,baz=211,slow=7.8,SNR=7.9
GERES PKKPbc 20 24 36.5
comp=Z,1.1nm,0.7s,slow=2.7,SNR=9.6
KHC Kasperske Hory 110.34 28 *e*PKP PKPdf 20 13 39.5 +4.8
KHC *e* x x 20 13 54.5
KHC Kasperske Hory 110.34 28 *e*PKP PKPdf 20 13 39.5 +4.8
KHC *e* 20 13 54.5
KHC *e*P 20 24 36.6
KHC *e* 20 24 46.6
MLR Muntele Rosu 110.81 37 PP PP 20 14 13.0 -6.3
comp=Z,4.3nm,1.1s,baz=288,slow=12,SNR=6.7
MLR PKKPab 20 24 45.7
comp=Z,2.5nm,0.8s,baz=49,slow=7.4,SNR=4.6
NKC Novy Kostel 111.07 26 *eP* 20 24 35.0
NKC *ex* x 20 24 43.2
VYHS Vyhne 111.22 31 *eP* 20 24 33.8
VYHS *e* 20 24 43.6
PRU Pruhonice 111.38 28 *eP* 20 24 33.4
PRU *ex* x 20 24 42.5
KECS Kecovo 111.70 32 *eP* 20 24 33.0
KECS *e* 20 24 42.0
BRG Berggiesshubel 112.03 27 *eP* 20 24 31.6
BRG *e* 20 24 39.6
DPC Dobruska-Polom 112.19 29 *eP* 20 24 31.2
DPC *ex* x 20 24 38.9
CLL Collm 112.19 26 *i* P 20 24 30.7
CLL *i* 20 24 38.2
CLL *i* 20 24 50.1
UPC Upice 112.24 29 *eP* 20 24 31.4
UPC *ex* x 20 24 39.0
ANMO Albuquerque 112.33 300 SKKPbc 20 28 04.5
comp=Z,1.4nm,0.7s,baz=53,slow=3.5,SNR=3.3
CRVS Cervenica-Dubn 112.36 33 *eP* 20 24 34.5
CRVS *e* 20 24 39.0
TUC Tucson 112.38 295 *e*PKP PKPdf 20 13 40.2 +1.1
TUC Tucson 112.38 295 PKIKP PKPdf 20 13 40.6 +1.5
KOLS Kolonicke sedl 112.64 33 *eP* 20 24 33.2
KOLS *e* 20 24 37.2
KOLS *e* 20 24 43.6

STHS Stebnicka Huta 112.76 32 *eP* 20 24 29.6
STHS *e* 20 24 37.7
EKA Eskdalemuir Ar 112.81 15 PKiKP 20 13 44.1
comp=Z,4.7nm,1.1s,baz=77,slow=11,SNR=3.8
HYB Hyderabad 113.48 94 *i* P PKPdf 20 13 46.0 +4.4
SDCO Great Sand Dun 114.10 302 *e*PKP PKPdf 20 13 44.0 +1.6
SOC Sochi 114.41 48 *i* PKIKP PKPdf 20 13 40.7 -2.2
SOC *e* 20 14 43.7
SOC *e*PPP PPP 20 17 10.2 -1.3
SOC *e*PS PS 20 24 21.1 +0.6
SOC *e*SSS SSS 20 34 43.7 +1.4
SOC pmax pmax
comp=N,46nm,1.1s
SOC pmax pmax
comp=E,29nm,1.1s
SOC pmax pmax
comp=Z,35nm,1.1s
ANN Anapa 114.48 45 *i* PKIKP PKPdf 20 13 37.2 -5.8
ANN *e* 20 14 43.8
ANN *e*SP SP 20 24 09.6 +2.8
ANN pmax pmax
comp=Z,107nm,6.3s
SCHQ Schefferville 114.95 336 PKP PKPdf 20 13 43.3 -0.4
comp=Z,3.0nm,0.6s,baz=95,slow=1.6,SNR=4.5
SCHQ SKP 20 17 07.0
comp=Z,7.7nm,0.7s,baz=30,slow=0.6,SNR=8.7
ISCO Idaho Springs 115.79 303 *e*PKPdf PKPdf 20 13 47.0 +1.3
ISCO Idaho Springs 115.79 303 *e*PKIKP PKPdf 20 13 48.0 +2.3
SMCO Snowmass 115.94 302 *e*PKPdf PKPdf 20 13 48.1 +2.1
KIV Kislovodsk 115.96 49 *i* PKIKP PKPdf 20 13 50.0 +4.1
KIV 20 14 52.0
KIV *e*PS PS 20 24 27.4 -7.6
AKASG Malin Array Be 116.42 37 PKP PKPdf 20 13 47.0 +0.5
comp=Z,0.2nm,0.3s,baz=244,slow=2.2,SNR=6.5
AKASG PP PP 20 14 54.0 -5.4
comp=Z,0.3nm,0.3s,baz=214,slow=7.0,SNR=7.8
AKASG SKP 20 17 09.4
comp=Z,2.7nm,0.6s,baz=245,slow=1.9,SNR=9.2
AKASG PKKPbc 20 24 17.1
comp=Z,4.4nm,0.8s,baz=32,slow=4.2,SNR=18
MSU Marysvale 117.95 298 *e*PKPdf PKPdf 20 13 51.9 +2.1
MSU Marysvale 117.95 298 PKIKP PKPdf 20 13 52.4 +2.6
ARUT Antelope Range 118.02 297 PKIKP PKPdf 20 13 47.5 -2.5
TMUT Trail Mountain 118.08 299 *e*PKPdf PKPdf 20 13 51.9 +1.9
DAU Daniels Canyon 118.97 300 *e*PKPdf PKPdf 20 13 53.8 +2.0
DAU Daniels Canyon 118.97 300 PKIKP PKPdf 20 13 54.4 +2.6
NLU North Lily Min 119.02 299 *e*PKPdf PKPdf 20 13 53.1 +1.3
DUG Dugway 119.56 299 *e*PKPdf PKPdf 20 13 54.0 +1.4
ULM Lac du Bonnet 119.92 317 PKP PKPdf 20 13 53.4 +0.1
comp=Z,8.0nm,0.7s,baz=113,slow=1.2,SNR=7.3
ULM SKP 20 17 16.7
comp=Z,12nm,0.7s,baz=175,slow=0.4,SNR=12
ULM PKKPbc 20 24 03.3
comp=Z,3.1nm,0.8s,baz=324,slow=5.6,SNR=3.9
BW06 Boulder Array 119.96 303 *e*PKPdf PKPdf 20 13 53.8 +0.2
PDAR Pinedale Array 119.96 303 PKP PKPdf 20 13 54.0 +0.5
comp=Z,1.8nm,0.5s,baz=128,slow=4.5,SNR=12
PDAR PP PP 20 15 20.6 -2.9
comp=Z,3.1nm,1.1s,baz=124,slow=5.3,SNR=4.5
PDAR SKP 20 17 17.8
comp=Z,2.6nm,0.7s,baz=144,slow=5.5,SNR=8.3
HWUT Hardware Ranch 120.03 301 *e*PKPdf PKPdf 20 13 54.5 +0.8
MTUM Tungsten Hills 120.31 293 *e*PKPdf PKPdf 20 13 55.8 +1.4
HFS Hagfors 120.41 23 PKP PKPdf 20 13 53.7 -0.4
comp=Z,1.4nm,0.5s,baz=162,slow=4.7,SNR=8.3
HFS PP PP 20 15 20.6 -5.6
comp=Z,6.9nm,0.7s,baz=194,slow=6.1,SNR=7.6
HFS SKP 20 17 18.2
comp=Z,4.5nm,0.7s,baz=180,slow=7.4,SNR=5.2
HFS PKKPbc 20 24 01.6
comp=Z,1.1nm,0.6s,baz=90,slow=5.9,SNR=4.4
NB2 NORSAR Subarra 120.72 21 PKPdf PKPdf 20 13 55.4 +0.7
comp=Z,1.0nm,0.8s,baz=202,slow=1.9
NOA NORSAR Array B 120.72 21 PKP PKPdf 20 13 55.1 +0.5
comp=Z,5.0nm,1.0s,baz=204,slow=1.9,SNR=6.0
NOA PP PP 20 15 22.1 -6.2
comp=Z,1.9nm,0.8s,baz=221,slow=8.3,SNR=3.2
NOA SKP 20 17 19.9
comp=Z,2.6nm,0.7s,baz=206,slow=2.0,SNR=7.8
NOA PKKPbc 20 24 00.7
comp=Z,8.8nm,0.9s,baz=25,slow=3.3,SNR=17
NOA NORSAR Array B 120.72 21 PKP PKPdf 20 13 55.1 +0.5
NOA PP PP 20 15 22.1 -6.2
NOA SKP 20 17 19.9
NOA PKKPbc 20 24 00.7
HVU Hansel Valley 120.75 300 *e*PKPdf PKPdf 20 13 55.9 +0.6
HVU Hansel Valley 120.75 300 PKIKP PKPdf 20 13 57.0 +1.8
TPAW Teton Pass 121.17 302 *e*PKPdf PKPdf 20 13 57.6 +1.6
ELK Elko 121.18 297 PKP PKPdf 20 13 58.0 +1.9
comp=Z,7.6nm,0.9s,baz=162,slow=1.4,SNR=19
ELK SKP 20 17 21.0
comp=Z,8.3nm,1.1s,baz=115,slow=6.4,SNR=7.6
ELK Elko 121.18 297 *e*PKPdf PKPdf 20 13 57.8 +1.7
ELK *e*SKPdf 20 17 19.8
ELK Elko 121.18 297 *e*PKIKP PKPdf 20 13 57.9 +1.8
RRI2 Red Ridge 121.24 302 *e*PKPdf PKPdf 20 13 57.6 +1.5
IMW Indian Meadow 121.47 303 *e*PKPdf PKPdf 20 13 57.8 +1.2
IMW *e*SKPdf 20 17 20.2
FLWY Flagg Ranch 121.50 303 *e*PKPdf PKPdf 20 13 58.3 +1.7
CMB Columbia Colle 121.77 292 *e*PKPdf PKPdf 20 13 58.6 +1.3
CMB *e*SKPdf 20 17 21.5
CMB Columbia Colle 121.77 292 PKIKP PKPdf 20 13 59.4 +2.1
YFT Old Faithful 121.84 303 *e*PKPdf PKPdf 20 13 59.0 +1.8
BMN Battle Mountai 121.94 296 *e*PKPdf PKPdf 20 13 58.6 +1.1
BMN *e*SKPdf 20 17 21.8
BMN Battle Mountai 121.94 296 PKIKP PKPdf 20 13 59.5 +2.0
OBN Obninsk 122.57 38 *e*PKP PKPdf 20 13 55.1 -3.2
OBN Obninsk 122.57 38 *i* PKIKP PKPdf 20 13 55.0 -3.3
OBN *e* 20 14 01.1
OBN 20 15 36.0
OBN *e*PS PS 20 25 37.7 +3.7
OBN pmax pmax
comp=Z,18nm,1.7s
OBN MLR MLR
comp=Z,100nm,19.0s
HLID Hailey 122.89 300 *e*PKPdf PKPdf 20 13 59.3 +0.1
BEKR Beckwourth 123.12 293 *e*PKPdf PKPdf 20 14 01.6 +1.8
BEKR *e*SKPdf 20 17 24.6
WVOR Wild Horse Val 124.14 297 *e*PKPdf PKPdf 20 14 03.2 +1.5
WVOR *e*SKPdf 20 17 26.5
WVOR Wild Horse Val 124.14 297 PKIKP PKPdf 20 14 04.0 +2.2
KOLN Koldanda 124.49 91 *eP* PKPdf 20 14 02.3 -0.5
comp=Z,44nm,0.8s
FINES FINESS Array B 124.54 28 PKP PKPdf 20 14 02.5 +0.6
comp=Z,5.7nm,0.5s,baz=102,slow=1.5,SNR=57
FINES SKP 20 17 26.1
comp=Z,5.1nm,0.6s,baz=180,slow=1.9,SNR=8.5
FINES PKKPbc 20 23 45.0
comp=Z,2.3nm,0.8s,baz=45,slow=3.9,SNR=5.7
FINES SKKPbc 20 27 20.4
comp=Z,1.1nm,0.6s,baz=27,slow=4.3,SNR=6.6
FINES FINESS Array B 124.54 28 PKIKP PKPdf 20 14 02.5 +0.6
FINES S 20 27 20.4
LTIM Timbered Crate 124.67 294 P PKPdf 20 14 04.9 +2.2
WDC Whiskeytown Da 124.78 292 *e*PKPdf PKPdf 20 14 03.4 +0.5
WDC *e*SKPdf 20 17 27.7
WDC Whiskeytown Da 124.78 292 PKIKP PKPdf 20 14 04.4 +1.5
CHMT Chamberlain Mo 124.81 304 P PKPdf 20 14 04.5 +1.7
MSO Missoula 125.07 303 *e*PKPdf PKPdf 20 14 04.6 +1.3
KAF Kangasniemi 125.16 28 epkp PKPdf 20 14 03.6 +0.6
comp=Z,9.5nm,0.5s,baz=229,slow=1.5
DMN Daman 125.21 92 *eP* PKPdf 20 14 04.8 +0.7
comp=Z,26nm,0.8s
BMO Blue Mountains 125.25 299 *e*PKPdf PKPdf 20 14 04.6 +1.0
BMO *e*SKPdf 20 17 28.1
BMO Blue Mountains 125.25 299 PKIKP PKPdf 20 14 04.9 +1.2
GKN Gorkha 125.25 91 *eP* PKPdf 20 14 04.2 0.0
comp=Z,20nm,0.5s
PKI Pulchoki 125.35 92 *eP* PKPdf 20 14 04.7 +0.3
LHEM Herd Peak 125.37 294 P PKPdf 20 14 06.2 +2.2
KKN Kakani 125.45 92 *eP* PKPdf 20 14 05.1 +0.6
comp=Z,15nm,0.6s
YBH Yreka Blue Hor 125.70 293 PKP PKPdf 20 14 05.5 +0.9
comp=Z,9.3nm,0.8s,baz=128,slow=2.9,SNR=14
YBH Yreka Blue Hor 125.70 293 *e*PKPdf PKPdf 20 14 05.0 +0.3
YBH Yreka Blue Hor 125.70 293 PKIKP PKPdf 20 14 06.1 +1.5
FFC Flin Flon 125.75 317 *e*PKPdf PKPdf 20 14 04.2 -0.2
HUMO Hull Mountain 126.46 294 *e*PKPdf PKPdf 20 14 07.7 +1.6
HUMO *e*SKPdf 20 17 32.5
NANT Nan 126.68 113 P PKPdf 20 14 06.0 -1.1
JOF Joensuu 127.17 30 epkp PKPdf 20 14 07.8 +0.9
comp=Z,6.9nm,0.5s
HAWA Hanford 127.44 299 *e*PKPdf PKPdf 20 14 09.7 +1.8
HAWA *e*SKPdf 20 17 33.3

NEW Newport 127.60 303 PKP PKPdf 20 14 08.8 +0.7
comp=Z,8.7nm,1.0s,baz=222,slow=6.5,SNR=7.2
NEW Newport 127.60 303 ePKIKP PKPdf 20 14 08.3 +0.2
EPH Ephrata 128.15 300 P PKPdf 20 14 11.1 +1.9
SUMG Summit 128.50 356 ePKPdf PKPdf 20 14 11.1 +1.8
EDM Edmonton 129.35 309 ePKPdf PKPdf 20 14 11.7 +0.4
EDM Edmonton 129.35 309 PKIKP PKPdf 20 14 12.3 +1.0
HTW Haystack Looko 129.52 299 P PKPdf 20 14 13.1 +1.3
LSA Lhasa 130.20 95 PKP PKPdf 20 14 16.2 +2.6
LSA Lhasa 130.20 95 ePKPdf PKPdf 20 14 15.1 +1.5
LSA eSKPbc 20 17 25.4
AAK Ala-Archa 130.36 71 ePKPdf PKPdf 20 14 14.3 +0.7
AAK eSKPbc 20 17 26.2
ARCES ARCESS Array B 131.06 22 PKP PKPdf 20 14 15.1 +0.9
comp=Z,4.7nm,0.5s,baz=206,slow=2.1,SNR=40
ARCES PP PP 20 16 33.1 -4.1
comp=Z,10.0nm,0.8s,baz=225,slow=5.1,SNR=7.9
ARCES SKPbc 20 17 26.1
comp=Z,37nm,0.7s,baz=207,slow=2.7,SNR=35
ARCES SKKPbc 20 27 01.6
comp=Z,2.2nm,0.7s,slow=1.2,SNR=3.8
ARE0 ARCESS Array S 131.06 22 ePKPdf PKPdf 20 14 15.4 +1.2
APA Apatity 131.35 27 ePKIKP PKPdf 20 14 13.5 -1.3
KEV Kevo 131.56 22 epkp PKPdf 20 14 15.4 +0.3
ARU Arti 131.99 48 i PKIKP PKPdf 20 14 17.2 +1.0
ARU e 20 16 38.6
DAG Danmarks Havn 132.65 3⇓ iP PKPdf 20 14 11.0 -6.1
comp=Z,3.8nm,1.1s
DAG i 20 17 34.4
DAG Danmarks Havn 132.65 3⇓ eP PKPdf 20 14 11.0 -6.1
DAG i 20 17 34.4
KMI Kunming 132.94 110 PKP PKPdf 20 14 19.0 +0.1
KMI PP PP 20 16 52.0 +2.5
KMI SKKS 20 23 29.4
KMI SS SS 20 34 15.7 -3.4
KMI PP PP
comp=Z,3μm,2.0s
KMI PP PP
comp=Z,71nm,9.4s
KMI LR LR
comp=N,108nm,14.1s
KMI LR LR
comp=E,60nm,22.6s
KMI LR LR
comp=Z,126nm,18.9s
KMI Kunming 132.94 110 PKP PKPdf 20 14 19.0 +0.1
KMI sPKP 20 15 06.3
KMI PP PP 20 16 52.0 +2.5
KMI SKKS 20 23 29.4
KMI SS SS 20 34 15.7 -3.4
KMI SSS SSS 20 39 20.1 +2.9
KMI LR LR
comp=Z,130nm,18.9s
KMI Kunming 132.94 110 PKIKP PKPdf 20 14 19.0 +0.1
KMI 20 16 52.0
KMI SSS SSS 20 39 20.1 +2.9
KMI MLR MLR
comp=Z,130nm,18.9s
SVE Sverdlovsk 133.12 49 ePKIKP PKPdf 20 14 21.0 +2.6
SVE e 20 16 46.0
SVE pmax pmax
comp=Z,60nm,1.7s
SVE MLR MLR
comp=E,100nm,16.0s
SVE MLR MLR
comp=Z,200nm,16.0s
BRVK Borovoye 135.09 58 ePKP PKPdf 20 14 19.2 -2.9
BRVK ePKPdf PKPdf 20 14 22.6 +0.4
BRVK ePP PP 20 16 58.5 -3.9
BRVK eSKPbc 20 17 41.2
BVA0 Borovoye Array 135.12 58 i PKIKP PKPdf 20 14 27.4 +5.2
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 135.12 58 SKKPbc 20 26 43.5
comp=Z,1.7nm,0.6s,baz=50,slow=3.4,SNR=6.7
YKA Yellowknife Ar 135.85 318 PKP PKPdf 20 14 24.1 +0.9
comp=Z,20nm,0.8s,baz=128,slow=2.4,SNR=18
YKA PP PP 20 17 04.2 -2.4
comp=Z,4.7nm,1.0s,baz=121,slow=7.1,SNR=4.0
YKA SKPbc 20 17 42.5
comp=Z,31nm,0.8s,baz=123,slow=2.1,SNR=28
YKA SKKPbc 20 26 46.0
comp=Z,6.1nm,1.0s,baz=306,slow=4.7,SNR=5.5
YKA Yellowknife Ar 135.85 318 PKP PKPdf 20 14 24.1 +0.9
YKA PP PP 20 17 04.2 -2.4
YKA SKPbc 20 17 42.5
YKA SKKPbc 20 26 46.0
YKW3 Yellowknife Ar 135.90 318 ePKPdf PKPdf 20 14 23.7 +0.4
YKW3 eSKPbc 20 17 41.9
YKW3 eSKPdf 20 17 44.9
GYA Guiyang 136.08 113 PKP PKPdf 20 14 26.2 +1.5
GYA PKS PKS 20 18 01.4 +1.5
GYA PP PP
comp=Z,380nm,7.8s
GYA LR LR
comp=N,1μm,20.8s
GYA LR LR
comp=E,2μm,22.4s
GYA LR LR
comp=Z,2μm,22.8s
MKAR Makanchi Array 137.28 72 PKhKP 20 14 24.7
comp=Z,2.1nm,0.8s,SNR=9.4
MKAR PKP PKPdf 20 14 28.4 +2.1
comp=Z,3.3nm,0.6s,baz=208,slow=0.7,SNR=11
MKAR SKPbc 20 17 47.2
comp=Z,19nm,0.7s,baz=236,slow=2.9,SNR=34
MKAR SKKPbc 20 26 36.9
comp=Z,0.7nm,0.6s,baz=44,slow=3.3,SNR=7.6
MKAR Makanchi Array 137.28 72 PKP PKPdf 20 14 24.7 -1.6
MKAR PKP PKPdf 20 14 28.4 +2.1
MKAR SKPbc 20 17 47.2
MKAR SKKPbc 20 26 36.9
RES Resolute Bay 137.66 339 ePKPdf PKPdf 20 14 26.0 -0.4
RES eSKPbc 20 17 49.2
RES eSKPdf 20 17 50.5
KURK Kurchatov 137.77 65 ePKPdf PKPdf 20 14 28.2 +1.0
KURK eSKPbc 20 17 49.6
KURK Kurchatov 137.77 65 PKIKP PKPdf 20 14 28.4 +1.3
CD2 Chengdu 138.08 106 PKP PKPdf 20 14 28.9 +0.6
WMQ Urumqi 138.31 79 PKP PKPdf 20 14 28.2 -0.1
WMQ XPKP 20 15 28.0
WMQ PP PP 20 17 24.0 +1.3
WMQ SKS SKS 20 21 21.0 -3.3
WMQ SKKS 20 23 57.0
WMQ PP PP
comp=Z,199nm,3.8s
WMQ LR LR
comp=N,404nm,26.2s
WMQ LR LR
comp=E,173nm,24.8s
WMQ LR LR
comp=Z,218nm,24.8s
DLBC Dease Lake 139.95 307 PKhKP 20 14 24.8
comp=Z,2.7nm,0.6s,baz=153,slow=6.2,SNR=4.1
DLBC PKP PKPdf 20 14 32.8 +2.0
comp=Z,7.7nm,1.0s,baz=156,slow=3.8,SNR=7.2
DLBC SKPbc 20 17 55.4
comp=Z,31nm,0.8s,baz=86,slow=0.8,SNR=34
DLBC Dease Lake 139.95 307 PKP PKPdf 20 14 24.8 -6.1
DLBC PKPdf PKPdf 20 14 31.9 +1.0
DLBC eSKPdf 20 17 54.9
ENH Enshi 140.61 113 ePKPdf PKPdf 20 14 32.4 -0.4
ENH eSKPbc 20 17 57.3
LZH Lanzhou 142.03 101 PKP PKPdf 20 14 35.9 +0.8
LZH APKP 20 15 17.1
LZH XPKP 20 15 31.4
LZH PP PP 20 17 48.0 +3.0
LZH SKS SKS 20 21 28.1 -2.4
LZH SKKS 20 24 17.3
LZH SS SS 20 36 07.3 +0.9
LZH PP PP
comp=Z,590nm,4.5s
LZH LR LR
comp=E,530nm,17.0s
LZH LR LR
comp=Z,380nm,21.0s
GTA Gaotai 142.15 93 ePKP PKPdf 20 14 34.2 -1.0
GTA PKS PKS 20 18 08.8 -1.0
GTA PP PP
comp=Z,292nm,4.2s
GTA LR LR
comp=N,77nm,17.2s
GTA LR LR
comp=E,109nm,21.0s
GTA LR LR
comp=Z,140nm,19.1s
NVS Novosibirsk 142.40 62 i PKIKP PKPdf 20 14 32.5 -2.6
NVS i 20 17 44.6
NVS pmax pmax
comp=Z,39nm,0.9s
ZAL Zalesovo 142.72 64 PKhKP 20 14 32.5
comp=Z,2.7nm,0.6s,baz=260,slow=3.8,SNR=11
ZAL PKP PKPdf 20 14 38.7 +3.1
comp=Z,9.1nm,0.7s,baz=234,slow=4.6,SNR=30
ZAL SKPbc 20 18 02.4
comp=Z,9.0nm,0.8s,baz=237,slow=3.1,SNR=11
ZAL SKKPbc 20 26 16.1
comp=Z,1.6nm,0.9s,baz=96,slow=4.3,SNR=4.2
ZAL Zalesovo 142.72 64 PKP PKPdf 20 14 32.5 -3.2
ZAL PKP PKPdf 20 14 38.7 +3.1
ZAL SKPbc 20 18 02.4
ZAL SKKPbc 20 26 16.1
XAN Xi'an 143.26 108 PKP PKPdf 20 14 36.8 -0.4
MIDW Midway 144.67 231 ePKPdf PKPdf 20 14 39.9 +0.1
INK Inuvik 145.50 321 PKPbc PKPbc 20 14 41.9 +1.1
comp=Z,67nm,0.5s,baz=96,slow=3.5,SNR=159
INK SKPbc 20 18 08.3
comp=Z,87nm,0.9s,baz=64,slow=2.1,SNR=24
INK Inuvik 145.50 321 ePKPbc PKPbc 20 14 41.9 +1.2
INK eSKPbc 20 18 08.5
INK Inuvik 145.50 321 PKP2 PKPab 20 14 40.6 -2.3
NJ2 Nanjing 146.72 122 ePKP PKPdf 20 14 47.1 +3.9
NJ2 PKP2 PKPab 20 14 52.4 +3.6
NJ2 PP PP 20 18 20.0 +6.7
NJ2 PP PP
comp=Z,80nm,10.6s
NJ2 LR LR
comp=N,510nm,36.8s
NJ2 LR LR
comp=E,400nm,25.6s
NJ2 LR LR
comp=Z,360nm,34.8s
SSE Sheshan 147.01 126 PKP PKPdf 20 14 47.3 +3.6
SSE PP PP 20 18 20.6 +5.6
SSE LR LR
comp=N,38nm,30.7s
SSE LR LR
comp=E,92nm,30.6s
SSE LR LR
comp=Z,79nm,32.4s
MENT Mentasta 147.93 309 eP PKPdf 20 14 44.6 +0.4
HHC Hu-ho-hao-te 149.67 103 ePKP PKPdf 20 14 50.2 +2.5
HHC PKS PKS 20 18 23.4 +1.9
HHC SKS SKS 20 21 46.7 +5.4
HHC PP PP
comp=Z,35nm,5.0s
HHC LR LR
comp=N,108nm,14.3s
HHC LR LR
comp=E,102nm,15.5s
HHC LR LR
comp=Z,203nm,14.3s
ILAR Eielson Array 149.77 312 PKPbc PKPdf 20 14 53.3 +6.2
comp=Z,107nm,0.9s,baz=124,slow=1.6,SNR=214
ILAR SKPbc 20 18 18.6
comp=Z,18nm,1.1s,baz=129,slow=1.0,SNR=6.6
PMR Palmer 149.96 305 ePKPdf PKPdf 20 14 49.5 +2.1
PMR ePKPab PKPab 20 14 59.5 -1.3
MOY Mondy 150.13 77 ePKHKP 20 14 50.0
MOY pmax pmax
comp=Z,88nm,2.0s
SLKM Skilak Lake 150.16 303 ePKPbc PKPdf 20 14 54.6 +6.8
SLKM Skilak Lake 150.16 303 PKIKP PKPdf 20 14 55.1 +7.3
KDAK Kodiak Island 150.42 297 ePKPbc PKPdf 20 14 55.4 +7.1
ZAK Zakamensk 150.76 80 ePKIKP PKPdf 20 14 49.6 +0.6
ZAK e 20 14 56.5
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ZAK pmax pmax
comp=Z,22nm,1.1s
ZAK pmax pmax
comp=Z,12nm,1.1s
ZAK pmax pmax
comp=Z,11nm,1.4s
SONM Songino Array 151.15 87 PKP PKPdf 20 14 51.1 +1.4
comp=Z,2.7nm,1.0s,baz=206,slow=2.7,SNR=20
SONM PKPbc PKPdf 20 14 57.4 +7.7
comp=Z,11nm,0.4s,baz=223,slow=3.1,SNR=140
SONM SKKPbc 20 25 37.3
comp=Z,1.5nm,0.8s,baz=41,slow=4.4,SNR=5.7
SPU Mount Spurr 151.21 304 ePKPbc PKPdf 20 14 56.4 +7.0
ULN Ulaanbaatar 151.53 87 ePKPdf PKPdf 20 14 51.7 +1.4
ULN ePKPbc PKPdf 20 14 58.4 +8.1
SVW2 Sparrevohn 152.84 303 eP PKPdf 20 15 00.3 +8.6
MAJO Matsushiro 158.38 148 ePKPdf PKPdf 20 15 00.1 +0.3
MAJO ePKPab PKPab 20 15 36.3 -1.1
MAT Matsushiro 158.38 148 PKP PKPdf 20 15 01.0 +1.1
MAT Matsushiro 158.38 148 ePKIKP PKPdf 20 15 01.0 +1.1
MJAR Matsushiro Arr 158.38 148 PKP PKPdf 20 15 01.1 +1.2
comp=Z,6.4nm,1.1s,baz=181,slow=1.6,SNR=19
MJAR PKPab PKPab 20 15 36.6 -0.8
comp=Z,18nm,0.9s,baz=196,slow=4.8,SNR=19
MJAR PP PP 20 19 15.8 -2.9
comp=Z,5.5nm,1.1s,baz=192,slow=5.9,SNR=6.4
CN2 Changchun 159.11 115 ePKP PKPdf 20 15 01.9 +1.4
CN2 PKP2 PKPab 20 15 39.9 -0.4
CN2 ePP PP 20 19 23.0 +0.9
CN2 eSS SS 20 39 18.7 +4.7
BOD Bodaibo 159.33 69 ePKIKP PKPdf 20 15 00.1 -0.2
BOD e 20 15 39.9
BOD pmax pmax
comp=Z,10.0nm,1.0s
BOD pmax pmax
comp=Z,15nm,1.3s
MDJ Mudanjiang 161.77 119 PKP PKPdf 20 15 04.3 +1.1
MDJ LR LR
comp=N,68nm,39.4s
MDJ LR LR
comp=E,84nm,41.0s
MDJ LR LR
comp=Z,120nm,46.0s
MDJ Mudanjiang 161.77 119 ePKPdf PKPdf 20 15 04.6 +1.4
KLR Kul'dur 165.96 110 ePKIKP PKPdf 20 15 05.2 -1.9
BILL Bilibino 166.26 337 ePKIKP PKPdf 20 15 04.2 -2.6
BILL pmax pmax
comp=Z,8.0nm,0.9s
YAK Yakutsk 167.04 53 ePKPdf PKPdf 20 15 08.0 +0.5
YAK ePKPab PKPab 20 16 14.3 +0.2
YSS Yuzh-Sakhalins 169.25 144 ePKPdf PKPdf 20 15 10.8 +1.5
YSS ePKPab PKPab 20 16 24.0 -0.3
YSS Yuzh-Sakhalins 169.25 144⇑ ePKIKP PKPdf 20 15 10.0 +0.7
YSS e 20 16 23.0
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,60nm,1.0s
SEY Seymchan 173.05 359 i PKIKP PKPdf 20 15 10.2 -0.7

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*NEIC **09** 20:55:44.9±5.6, 7.79S×128.58E, h203km±66km, mb3.9/1, Error ellipse: s-maj=60.2km s-min=16.3km az=212.0*
*IDC **09** 20:55:48.6±7.7, 8.07S×128.56E, h251km±92km, mb3.3/4, mb1 3.4/6, mb1mx3.3/14, mbtmp3.9/6, Error ellipse: s-maj=59.6km s-min=50.5km az=41.0*
ISC 09 20:55:44.1±3.2**, 7.8S**±0.1×**128.5E**±0.1**, h208**km±35km**, n9, σ0.59**/12**, mb3.6**/5**, Banda Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 10.63 195 P P 20 58 12.3 +0.1
2.1nm,0.3s,baz=18,slow=7.4,SNR=30
FITZ S S 21 00 07.8 -0.5
2.4nm,0.3s,baz=339,slow=17,SNR=6.9
WRAB Tennant Creek 13.34 155 P P 20 58 46.7 +0.2
WRAB eS S 21 01 11.6 +1.2
WRA Warramunga Arr 13.34 156 P P 20 58 45.8 -0.7
0.2nm,0.3s,baz=335,slow=13,SNR=9.8
WRA S S 21 01 10.1 -0.5
0.7nm,0.3s,baz=330,slow=21,SNR=125
KSM Kuching 20.34 296 eP P 21 00 06.8 +0.9
SONM Songino Array 58.73 343 P P 21 05 21.8 -0.4
0.9nm,0.9s,mb3.4,baz=166,slow=7.9,SNR=6.4
MKAR Makanchi Array 68.08 328 P P 21 06 23.5 +0.3
0.8nm,0.4s,mb3.7,baz=116,slow=8.3,SNR=28
ZAL Zalesovo 71.64 335 P P 21 06 43.8 -0.8
1.0nm,0.6s,mb3.6,baz=340,slow=6.4,SNR=4.4
KURK Kurchatov 72.42 329 eP P 21 06 49.2 -0.1
1.3nm,0.5s,mb3.8

BVAR Borovoye Array 77.94 328 P P 21 07 20.8 +0.3
0.6nm,0.5s,mb3.5,baz=127,slow=7.2,SNR=7.5

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*IDC **09** 20:55:47.0±2.5, 57.72N×22.38E, mb1 3.3/4, mb1mx3.2/18, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=24.8km s-min=9.9km az=167.0*
HEL 09 20:55:48.2±0.5**, 57.81N×22.31E, ML1.9, ML1.8**(UPP)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GOTU Gotland 2.01 268 eP Pn 20 56 23.0 -0.7
NYNU Nynaeshamn 2.56 300 eP Pn 20 56 30.8 -0.9
NRTU Norrtaelje 2.68 316 eP Pn 20 56 32.5 -0.8
GRAU Graesoe 3.19 324 eP Pn 20 56 39.2 -1.4
FLYU Flymyra 3.26 317 eP Pn 20 56 41.6 0.0
PVF Pernaja 3.29 32 eP Pn 20 56 41.9 -0.2
PVF eS Sn 20 57 19.3 -3.2
BACU Backbrunna 3.39 309 eP Pn 20 56 42.7 -0.7
ESKU Eskilstuna 3.41 297 eP Pn 20 56 42.7 -1.1
OSTU Oestervaala 3.61 314 eP Pn 20 56 45.7 -0.8
FIA0 FINESS Array S 4.11 26 eP Pn 20 56 52.2 -1.5
FIA0 eS Sn 20 57 39.6 -3.6
FINES FINESS Array B 4.11 26 Pn Pn 20 56 52.8 -0.9
0.2nm,0.3s,baz=206,slow=12,SNR=7.8
FINES Pg Pg 20 57 01.8 -8.5
1.0nm,0.3s,baz=208,slow=15,SNR=26
FINES Sn Sn 20 57 37.5 -5.7
0.1nm,0.3s,baz=205,slow=20,SNR=3.5
FINES Lg 20 57 56.9
0.7nm,0.3s,baz=204,slow=25,SNR=8.7
FALU Falun 4.28 312 eP Pn 20 56 54.4 -1.7
KEF Keuruu 4.55 15 eP Pn 20 56 58.0 -1.9
KEF eS Sn 20 57 48.6 -5.8
KAF Kangasniemi 4.76 23 eP Pn 20 57 00.8 -2.0
KAF eS Sn 20 57 55.8 -3.7
KAF eSG Sg 20 58 14.9 -12
KAF MSG 20 58 18.2
comp=Z,1.3nm,0.3s
HFS Hagfors 5.03 301 Pn Pn 20 57 02.6 -4.0
comp=Z,0.1nm,0.3s,baz=124,slow=15,SNR=11
HFS Sn Sn 20 58 02.6 -3.8
comp=Z,0.1nm,0.3s,baz=108,slow=27,SNR=3.8
HFS Lg 20 58 26.4
comp=Z,0.1nm,0.3s,baz=114,slow=32,SNR=5.4
SUF Sumiainen 5.28 20 eSG Sg 20 58 29.4 -15
SUF MSG 20 58 34.5
comp=Z,1.4nm,0.4s
NOA NORSAR Array B 6.52 304 Pn Pn 20 57 24.5 -3.2
comp=Z,0.1nm,0.3s,baz=115,slow=15,SNR=2.6
NOA Sn Sn 20 58 37.8 -6.0
comp=Z,0.1nm,0.3s,baz=136,slow=25,SNR=2.2
NOA Lg 20 59 14.5
comp=Z,0.3nm,0.3s,baz=46,slow=16,SNR=3.6
ARCES ARCESS Array B 11.85 5 Pn P 20 58 33.5 -7.8
comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=3.1

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*IDC **09** 21:08:31.3±1.0, 4.29S×153.86E, mb4.4/8, mb1 4.5/8, mb1mx4.3/14, mbtmp4.3/8, Error ellipse: s-maj=46.4km s-min=20.8km az=92.0*
*NEIC **09** 21:08:44.3±7.1, 4.38S×153.64E, h100km±60km, mb4.3/6, Error ellipse: s-maj=27.4km s-min=12.5km az=78.0*
ISC 09 21:08:42.9±0.9**, 4.39S**±0.09×**153.6E**±0.2**, h100**km**, n26, σ0.77**/25**, mb4.3**/18**, New Ireland region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRAB Tennant Creek 24.32 229 eP P 21 13 53.1 +0.6
13nm,0.7s,mb4.4
WB2 Warramunga Arr 24.32 229 eP P 21 13 53.1 +0.5
WRA Warramunga Arr 24.33 229 P P 21 13 53.3 +0.6
8.4nm,0.6s,mb4.3,baz=54,slow=9.9,SNR=85
WRA PcP PcP 21 17 30.5 -0.5
0.4nm,0.9s,baz=58,slow=2.6,SNR=5.0
STKA Stephens Creek 29.59 201 eP P 21 14 40.0 -0.7
5.3nm,0.9s,mb4.2
STKA Stephens Creek 29.59 201 P P 21 14 40.2 -0.5
7.4nm,0.9s,mb4.3,baz=40,slow=12,SNR=12
STKA Stephens Creek 29.59 201 eP P 21 14 39.9 -0.8
FITZ Fitzroy Crossi 30.57 241 eP P 21 14 48.0 -1.6
8.3nm,0.6s,mb4.6
JNU Nakatsue 43.08 332 P P 21 16 35.0 +0.3
5.2nm,0.7s,mb4.4,baz=98,slow=7.1,SNR=4.4
KSM Kuching 43.66 277 eP P 21 16 39.9 +0.1
KULM Kulim 53.77 280 eP P 21 17 56.6 -1.1
LSA Lhasa 68.68 304 eP P 21 19 39.2 +1.2
4.7nm,0.8s,mb4.4
PKI Pulchoki 72.92 300 eP P 21 20 04.1 +0.5
17nm,1.2s,mb4.7
KKN Kakani 73.09 301 eP P 21 20 05.0 +0.5
12nm,0.7s,mb4.9
DMN Daman 73.19 300 eP P 21 20 05.6 +0.5
27nm,0.9s,mb5.1
VNDA Vanda 73.21 178 P P 21 20 05.0 +0.7
0.6nm,0.6s,mb3.6,baz=324,slow=5.8,SNR=12
VNDA Vanda 73.21 178 eP P 21 20 04.7 +0.4
1.5nm,0.7s,mb3.9
GKN Gorkha 73.69 301 eP P 21 20 08.1 0.0
16nm,0.8s,mb4.8
KOLN Koldanda 74.53 300 eP P 21 20 10.5 -2.4
10nm,0.7s,mb4.7
MKAR Makanchi Array 80.55 319 P P 21 20 46.1 +0.3
0.8nm,0.7s,mb3.7,baz=90,slow=8.3,SNR=9.4
KURK Kurchatov 83.94 322 eP P 21 21 03.3 +0.2
1.3nm,0.9s,mb3.8
MAW Mawson 86.26 203 P P 21 21 14.2 0.0
1.8nm,1.0s,mb4.0,baz=89,slow=7.1,SNR=5.4
BVAR Borovoye Array 89.40 323 P P 21 21 29.1 -0.4
2.0nm,0.8s,mb4.2,baz=104,slow=6.1,SNR=12
BRVK Borovoye 89.47 323 eP P 21 21 29.6 -0.2
2.1nm,1.1s,mb4.1
YKA Yellowknife Ar 94.68 28 P P 21 21 53.2 -0.4
1.1nm,0.6s,mb4.5,baz=19,slow=5.1,SNR=2.7
YKA Yellowknife Ar 94.68 28 P P 21 21 53.2 -0.4
GERES GERESS Array B 124.12 329 PKP PKPdf 21 27 32.1 +2.1
0.4nm,0.5s,baz=63,slow=3.0,SNR=4.7

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*NEIC **09** 21:10:18.9±0.4, 73.28N×6.17E, h10km, mb4.3/16, Error ellipse: s-maj=8.6km s-min=6.8km az=66.0*
*MOS **09** 21:10:18.3±2.1, 73.23N×5.96E, h10km, mb4.4/15, Error ellipse: s-maj=30.1km s-min=4.6km az=93.6*
*HEL **09** 21:10:19.9±0.8, 73.33N×6.99E, h10km, mb4.3(NEIC), MD3.2(BER), ML2.5(BER)*
*IDC **09** 21:10:19.4±0.9, 73.08N×6.16E, mb3.8/9, mb1 4.0/14, mb1mx3.9/24, mbtmp3.8/14, ML3.6/5, MS3.7/16, Ms1 3.7/16, ms1mx3.6/27, Error ellipse: s-maj=20.0km s-min=15.0km az=49.0*
*CSEM **09** 21:10:20.6, 73.46N×7.84E, h2km, mb4.9*
*NAO **09** 21:10:20.4±2.8, 73.44N×7.59E, ML2.5*
*BER **09** 21:10:23.9±3.5, 73.18N×7.73E, MD2.5, ML2.5, ML2.5(NAO)*
ISC 09 21:10:20.3±0.6**, 72.91N**±0.06×**7.3E**±0.1**, h10**km**, n133, σ1.40**/140**, mb4.1**/25**, MS3.7**/13**, 3C, Norwegian Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TRO Tromso 5.00 126 eP Pn 21 11 37.2 0.0
TRO eS Sn 21 12 32.5 -3.2
TRO AML AML 21 12 42.0
comp=Z,8.5nm,0.5s
TRO Tromso 5.00 126 eP Pn 21 11 37.3 +0.1
TRO eS Sn 21 12 32.5 -3.2
TRO Tromso 5.00 126 eP Pn 21 11 37.3 +0.1
TRO eS Sn 21 12 32.5 -3.2
LOF Lofoten 5.24 153 eP Pn 21 11 44.3 +3.6
LOF eS Sn 21 12 41.3 -0.6
LOF AML AML 21 12 44.5
comp=Z,15nm,0.4s
LOF Lofoten 5.24 153 P Pn 21 11 44.2 +3.5
LOF eS Sn 21 12 41.3 -0.6
JMIC Jan Mayen 5.26 256 Pn Pn 21 11 33.6 -7.3
comp=Z,4.9nm,0.3s,baz=131,slow=15,SNR=7.4
JMIC LR LR 21 13 09.6
comp=Z,496nm,18.6s,baz=73,slow=34
SPA0 Spitsbergen Ar 5.76 19 Pn Pn 21 11 39.0 -8.9
baz=218,slow=18
SPA0 Spitsbergen Ar 5.76 19 eP Pn 21 11 39.0 -8.9
KIF Kilpisjarvi 5.91 125 eP Pn 21 11 50.9 +0.8
KIF eS Sn 21 12 57.6 -1.1

KBS	**Kingsbay**	**6.15**	**8**	*e*P	**Pn**	**21 11 45.2**	**-8.4**
MELSS	**Ber_school_2**	**6.47**	**157**	*e*P	**Pn**	**21 12 00.3**	**+2.3**
MELSS				*e*S	**Sn**	**21 13 10.2**	**-2.5**
KTK1	**Kautokeino**	**6.52**	**119**	*e*P	**Pn**	**21 11 59.9**	**+1.3**
ARA0	**ARCESS Array S**	**6.78**	**111**	Pn	**Pn**	**21 12 01.4**	**-0.9**
	baz=321,slow=12						
ARA0				Sn	**Sn**	**21 13 17.8**	**-2.6**
	baz=309,slow=22						
ARA0	**ARCESS Array S**	**6.78**	**111**	*e*P	**Pn**	**21 12 01.4**	**-0.9**
ARA0				*e*S	**Sn**	**21 13 17.8**	**-2.6**
ARCES	**ARCESS Array B**	**6.78**	**111**	Pn	**Pn**	**21 12 03.1**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=327,slow=12,SNR=75						
ARCES				Sn	**Sn**	**21 13 17.9**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=310,slow=24,SNR=2.6						
ARCES				LR	LR	21 15 26.1	
	comp=Z,292nm,19.3s,baz=318,slow=43						
ARCES	**ARCESS Array B**	**6.78**	**111**	Pn	**Pn**	**21 12 03.1**	**+0.8**
ARCES				Sn	**Sn**	**21 13 17.9**	**-2.5**
ARCES				LR	LR	21 15 26.1	
ARE0	**ARCESS Array S**	**6.78**	**111**	*e*Pn	**Pn**	**21 12 03.1**	**+0.8**
ARE0	**ARCESS Array S**	**6.78**	**111**	*e*Pn	**Pn**	**21 12 03.2**	**+0.9**
STOK	**Stokkvaagen**	**6.91**	**160**	*e*P	**Pn**	**21 12 05.7**	**+1.6**
STOK				*e*S	**Sn**	**21 13 21.4**	**-2.1**
STOK				AML	AML	21 13 26.3	
	comp=Z,11nm,0.7s						
KEV	**Kevo**	**7.06**	**107**	*e*P	**Pn**	**21 12 05.1**	**-1.3**
KEV				*e*S	**Sn**	**21 13 18.2**	**-9.3**
KEV	**Kevo**	**7.06**	**107**	P	**Pn**	**21 12 05.0**	**-1.4**
MOR8	**Moi Rana**	**7.22**	**156**	*e*P	**Pn**	**21 12 09.9**	**+1.4**
MOR8				*e*S	**Sn**	**21 13 29.0**	**-2.4**
MOR8				AML	AML	21 13 32.6	
	comp=Z,9.3nm,0.4s						
DAG	**Danmarks Havn**	**7.75**	**312**	*e*P	**Pn**	**21 12 04.5**	**-11**
DAG	**Danmarks Havn**	**7.75**	**312**⇑	*i*P	**Pn**	**21 12 04.5**	**-11**
	comp=Z,3.0nm,0.8s						
DAG	**Danmarks Havn**	**7.75**	**312**⇑	*e*P	**Pn**	**21 12 04.5**	**-11**
	comp=Z,3.0nm,0.8s						
DAG	**Danmarks Havn**	**7.75**	**312**⇑	*e*P	**Pn**	**21 12 04.5**	**-11**
DAG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SGF	**Sodankyl**	**8.50**	**121**	*e*P	**P**	**21 12 28.0**	**+1.5**
SGF	**Sodankyl**	**8.50**	**121**	P	**P**	**21 12 27.9**	**+1.4**
SCO	**Scoresbysund**	**9.44**	**269**	*i* P	**P**	**21 12 31.6**	**-7.8**
	comp=Z,13nm,0.6s						
SCO	**Scoresbysund**	**9.44**	**269**	*e*P	**P**	**21 12 31.6**	**-7.8**
	comp=Z,13nm,0.6s						
SCO	**Scoresbysund**	**9.44**	**269**	*e*P	**P**	**21 12 31.6**	**-7.8**
SCO				pmax	pmax		
	comp=Z,13nm,0.6s						
KU4	**Liikasenvaara**	**10.11**	**119**	*e*P	**P**	**21 12 49.0**	**+0.6**
APA0	**Apatity Array**	**10.12**	**109**	Pn	**P**	**21 12 46.5**	**-2.1**
	baz=314,slow=9.3						
APA0	**Apatity Array**	**10.12**	**109**	*e*P	**P**	**21 12 46.5**	**-2.1**
APA0	**Apatity Array**	**10.12**	**109**	Pn	**P**	**21 12 46.5**	**-2.1**
OUL	**Oulu**	**10.26**	**130**	*e*P	**P**	**21 12 54.2**	**+3.8**
MOL	**Molde**	**10.39**	**179**	*e*	**P**	**21 12 56.5**	**+4.3**
KJN	**Kajaani**	**11.52**	**130**	*e*P	**P**	**21 13 08.7**	**+0.9**
NB2	**NORSAR Subarra**	**12.02**	**171**	Pn	**P**	**21 13 14.8**	**+0.3**
	baz=357,slow=18						
NB2	**NORSAR Subarra**	**12.02**	**171**	*e*P	**P**	**21 13 14.8**	**+0.3**
NOA	**NORSAR Array B**	**12.02**	**171**	Pn	**P**	**21 13 14.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=348,slow=12,SNR=3.0						
NOA				LR	LR	21 17 43.8	
	comp=Z,231nm,18.5s,baz=350,slow=36						
KAF	**Kangasniemi**	**12.97**	**137**	*e*p	**P**	**21 13 26.4**	**-0.7**
	comp=Z,8.1nm,0.9s						
KAF	**Kangasniemi**	**12.97**	**137**	*e*P	**P**	**21 13 26.4**	**-0.7**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BORG	**Borgarnes**	**13.01**	**246**	LR	LR	21 16 58.8	
	comp=Z,272nm,18.2s,baz=287,slow=31						
HFS	**Hagfors**	**13.07**	**166**	*e*P	**P**	**21 13 29.0**	**+0.4**
HFS	**Hagfors**	**13.07**	**166**	Pn	**P**	**21 13 29.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=14						
HFS				LR	LR	21 18 18.1	
	comp=Z,475nm,18.5s,baz=340,slow=36						
HFS	**Hagfors**	**13.07**	**166**	P	**P**	**21 13 29.0**	**+0.4**
	baz=2.4,slow=14						
JOF	**Joensuu**	**13.36**	**126**	*e*p	**P**	**21 13 30.0**	**-2.4**
	comp=Z,10.0nm,0.9s						
FIA0	**FINESS Array S**	**13.53**	**138**	Pn	**P**	**21 13 33.2**	**-1.1**
	baz=339,slow=14						
FIA0	**FINESS Array S**	**13.53**	**138**	*e*P	**P**	**21 13 33.2**	**-1.1**
FINES	**FINESS Array B**	**13.53**	**138**	Pn	**P**	**21 13 35.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=349,slow=9.7,SNR=8.2						
FINES				LR	LR	21 18 38.1	
	comp=Z,357nm,20.7s,baz=156,slow=36						
FINES	**FINESS Array B**	**13.53**	**138**	Pn	**P**	**21 13 35.0**	**+0.6**
FINES				LR	LR	21 18 38.1	
SUW	**Suwalki**	**20.12**	**152**	*e*P	**P**	**21 14 58.6**	**+1.9**
	comp=Z,42nm,0.9s						
SUW	**Suwalki**	**20.12**	**152**	*e*P	**P**	**21 14 58.6**	**+1.8**
	comp=Z,42nm,0.9s						
SUW	**Suwalki**	**20.12**	**152**	*e*P	**P**	**21 14 58.6**	**+1.8**
SUW				pmax	pmax		
	comp=Z,42nm,0.9s						
OBN	**Obninsk**	**21.57**	**130**	P	**P**	**21 15 13.0**	**+1.4**
OBN				*e*		21 15 18.1	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
CLL	**Collm**	**21.83**	**170**	P	**P**	**21 15 18.0**	**+3.7**
	comp=Z,logA/T=0.9,mb4.1						
CLL				*e*		21 15 27.0	
CLL				*e*S	**S**	**21 19 20.0**	**+10**
CLL	**Collm**	**21.83**	**170**	*e*P	**P**	**21 15 18.0**	**+3.7**
	comp=Z,14nm,1.7s,mb4.1						
CLL				*e*		21 15 27.0	
CLL				*e*S	**S**	**21 19 20.0**	**+10**
CLL	**Collm**	**21.83**	**170**	*e*P	**P**	**21 15 18.0**	**+3.7**
CLL				*e*S	**S**	**21 19 20.0**	**+10**
CLL				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.1						
BRG	**Berggiesshubel**	**22.31**	**169**	*e*P	**P**	**21 15 21.9**	**+2.8**
	comp=Z,8.2nm,1.3s,mb4.0						
BRG				LR	LR		
	comp=Z,249µm,12.9s						
BRG	**Berggiesshubel**	**22.31**	**169**	*e*P	**P**	**21 15 21.9**	**+2.8**
	comp=Z,8.2nm,1.3s,mb4.0						
BRG	**Berggiesshubel**	**22.31**	**169**	*e*P	**P**	**21 15 21.9**	**+2.8**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.0						
BRG				MLR	MLR		
	comp=Z,249µm,12.9s						
MOX	**Moxa**	**22.43**	**173**	*i* P	**P**	**21 15 25.1**	**+4.8**
	comp=Z,logA/T=1.1,mb4.3						
MOX	**Moxa**	**22.43**	**173**	*e*P	**P**	**21 15 25.1**	**+4.8**
	comp=Z,20nm,1.6s,mb4.3						
MOX	**Moxa**	**22.43**	**173**	*e*P	**P**	**21 15 25.1**	**+4.8**
MOX				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.3						
PVCC	**Panska Ves**	**22.69**	**168**	*e*P	**P**	**21 15 28.3**	**+5.6**
NKC	**Novy Kostel**	**22.88**	**171**	*e*P	**P**	**21 15 29.6**	**+5.1**
NKC	**Novy Kostel**	**22.88**	**171**	P	**P**	**21 15 29.6**	**+5.1**
BAIF	**Baives**	**22.97**	**185**	*e*P	**P**	**21 15 25.5**	**+0.1**
DPC	**Dobruska-Polom**	**22.99**	**165**	*e*P	**P**	**21 15 24.9**	**-0.7**
PRU	**Pruhonice**	**23.23**	**168**	*e*P	**P**	**21 15 33.0**	**+5.1**
PRU				AMS	AMS	21 24 30.0	
	comp=Z,300nm,22.1s						
PRU	**Pruhonice**	**23.23**	**168**	*e*P	**P**	**21 15 33.0**	**+5.1**
PRU				LR	LR		
	comp=Z,300nm,22.1s,MS3.7						
PRU	**Pruhonice**	**23.23**	**168**	P	**P**	**21 15 33.0**	**+5.1**
GRA1	**Grafenberg Arr**	**23.37**	**173**	*e*P	**P**	**21 15 34.3**	**+5.0**
	comp=Z,5.0nm,1.2s,mb3.8						
GRF	**Grafenberg Arr**	**23.37**	**173**	*e*P	**P**	**21 15 34.3**	**+5.0**
	comp=Z,5.0nm,1.2s,mb3.8						
GRF	**Grafenberg Arr**	**23.37**	**173**	*e*P	**P**	**21 15 34.3**	**+5.0**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.8						
GRF	**Grafenberg Arr**	**23.37**	**173**	*e*P	**P**	**21 15 34.3**	**+5.0**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.8						
MORC	**Moravsky Berou**	**23.66**	**163**	*e*P	**P**	**21 15 36.4**	**+4.3**
	comp=Z,4.7nm,0.8s,mb4.0						
MORC	**Moravsky Berou**	**23.66**	**163**	*e*P	**P**	**21 15 36.4**	**+4.3**
	comp=Z,4.7nm,0.8s,mb4.0						
MORC	**Moravsky Berou**	**23.66**	**163**	*e*P	**P**	**21 15 36.4**	**+4.3**
MORC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
KHC	**Kasperske Hory**	**24.03**	**170**	*e*P	**P**	**21 15 40.5**	**+4.8**
KHC				AMS	AMS	21 25 20.0	
	comp=Z,200nm,14.6s						
VRAC	**Vranov**	**24.05**	**165**	P	**P**	**21 15 39.6**	**+3.7**
	comp=Z,8.9nm,1.0s,mb4.1,baz=349,slow=12,SNR=7.0						
VRAC				LR	LR	21 25 26.9	
	comp=Z,202nm,18.2s,MS3.6,baz=354,slow=37						
AKASG	**Malin Array Be**	**24.27**	**145**	P	**P**	**21 15 41.4**	**+3.4**
	comp=Z,3.2nm,0.7s,mb3.8,baz=345,slow=9.4,SNR=9.0						
AKASG	**Malin Array Be**	**24.27**	**145**	P	**P**	**21 15 41.4**	**+3.4**
GERES	**GERESS Array B**	**24.32**	**170**	P	**P**	**21 15 42.3**	**+3.7**
	comp=Z,2.6nm,0.9s,mb3.7,slow=8.0,SNR=18						
GERES				LR	LR	21 25 32.0	
	comp=Z,157nm,18.3s,MS3.5,baz=105,slow=37						
STHS	**Stebnicka Huta**	**24.39**	**158**	*e*P	**P**	**21 15 44.4**	**+5.2**
FLN	**La Foliniere**	**24.48**	**192**	*e*P	**P**	**21 15 39.2**	**-0.9**
FLN				*e*R			
	comp=Z,95nm,19.4s						
MEZF	**Maizieres J'vi**	**24.51**	**184**	*e*P	**P**	**21 15 40.5**	**+0.1**
	comp=Z,8.2nm,0.6s,mb4.1						
LDF	**La Druitiere**	**24.62**	**192**	*e*P	**P**	**21 15 40.3**	**-1.2**
	comp=Z,48nm,1.5s,mb4.5						
LDF	**La Druitiere**	**24.62**	**192**	*e*P	**P**	**21 15 40.3**	**-1.2**
LDF				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.5						
GRR	**Gorron**	**24.88**	**193**	*e*P	**P**	**21 15 43.2**	**-0.7**
CRVS	**Cervenica-Dubn**	**24.92**	**157**	*e*P	**P**	**21 15 48.7**	**+4.4**
KOLS	**Kolonicke sedl**	**24.98**	**156**	*e*P	**P**	**21 15 49.5**	**+4.6**
VYHS	**Vyhne**	**25.05**	**162**	*e*P	**P**	**21 15 50.4**	**+4.8**
ROSF	**Rostrenen**	**25.11**	**197**	*e*P	**P**	**21 15 45.0**	**-1.2**
	comp=Z,43nm,1.1s,mb4.6						
ROSF	**Rostrenen**	**25.11**	**197**	*e*P	**P**	**21 15 45.0**	**-1.2**
ROSF				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.6						
SGMF	**Saint Gilles**	**25.13**	**196**	*e*P	**P**	**21 15 45.1**	**-1.3**
KECS	**Kecovo**	**25.22**	**159**	*e*P	**P**	**21 15 51.3**	**+4.1**
KECS				*e*		21 16 01.7	
LOR	**Lormes**	**25.77**	**185**	*e*P	**P**	**21 15 52.1**	**-0.3**
	comp=Z,6.8nm,0.7s,mb4.0						
LOR				*e*R			
	comp=Z,80nm,19.5s						
LOR	**Lormes**	**25.77**	**185**	*e*P	**P**	**21 15 52.1**	**-0.3**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
LOR				MLR	MLR		
	comp=Z,80nm,19.5s,MS3.3						
SSF	**Saint Saulge**	**25.99**	**186**	*e*P	**P**	**21 15 54.1**	**-0.3**
ARU	**Arti**	**26.24**	**101**	*e*P	**P**	**21 16 00.2**	**+3.6**
DAVOX	**Davos**	**26.24**	**176**	LR	LR	21 26 15.6	
	comp=Z,120nm,21.8s,MS3.4,baz=5.7,slow=36						
AVF	**Avril sur Loir**	**26.27**	**186**	*e*P	**P**	**21 15 56.8**	**-0.2**
TCF	**Toulx Ste Croi**	**26.81**	**188**	*e*P	**P**	**21 16 01.3**	**-0.7**
	comp=Z,13nm,1.1s,mb4.1						
TCF	**Toulx Ste Croi**	**26.81**	**188**	*e*P	**P**	**21 16 01.3**	**-0.7**
TCF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
LPL	**La Plagne**	**27.48**	**181**	*e*P	**P**	**21 16 07.8**	**-0.3**
	comp=Z,23nm,1.5s,mb4.2						
LPL	**La Plagne**	**27.48**	**181**	*e*P	**P**	**21 16 07.8**	**-0.3**
LPL				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.2						
LPG	**La Plagne**	**27.50**	**181**	*e*P	**P**	**21 16 08.5**	**+0.2**
ORIF	**Oris-en-Rattie**	**28.09**	**182**	*e*P	**P**	**21 16 13.8**	**+0.2**
ORIF				*e*R			
	comp=Z,148nm,22.1s						
MBDF	**Montbardon**	**28.27**	**181**	*e*P	**P**	**21 16 15.5**	**+0.2**
MLR	**Muntele Rosu**	**28.84**	**152**	LR	LR	21 28 15.2	
	comp=Z,387nm,18.8s,MS4.0,baz=185,slow=37						
SBF	**Sospel**	**29.13**	**180**	*e*P	**P**	**21 16 23.1**	**+0.1**
FRF	**La Foret Royal**	**29.44**	**181**	*e*P	**P**	**21 16 25.5**	**-0.3**
	comp=Z,21nm,1.2s,mb4.5						
FRF	**La Foret Royal**	**29.44**	**181**	*e*P	**P**	**21 16 25.5**	**-0.3**
FRF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
PGF	**Pioggiola**	**30.46**	**177**	*e*P	**P**	**21 16 34.4**	**-0.5**
	comp=Z,47nm,1.3s,mb4.8						
PGF	**Pioggiola**	**30.46**	**177**	*e*P	**P**	**21 16 34.4**	**-0.5**
PGF				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
BVAR	**Borovoye Array**	**32.65**	**93**	P	**P**	**21 16 56.1**	**+2.2**
	comp=Z,3.5nm,0.8s,mb4.3,baz=321,slow=9.5,SNR=14						
SCHQ	**Schefferville**	**34.30**	**279**	LR	LR	21 29 19.0	
	comp=Z,146nm,20.6s,MS3.7,baz=176,slow=34						
EVO	**Evora**	**35.28**	**201**	*e*P	**P**	**21 17 15.0**	**-1.9**
	comp=Z,10nm,1.0s,mb4.4						
BRTR	**Keskin Array B**	**35.67**	**144**	P	**P**	**21 17 21.1**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=348,slow=12,SNR=2.8						
KURK	**Kurchatov**	**37.11**	**87**	*e*P	**P**	**21 17 34.4**	**+2.2**
	comp=Z,5.8nm,0.9s,mb4.4						
KURK	**Kurchatov**	**37.11**	**87**	*e*P	**P**	**21 17 34.4**	**+2.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
YKA	**Yellowknife Ar**	**39.32**	**322**	LR	LR	21 33 55.1	
	comp=Z,200nm,19.2s,MS4.0,baz=335,slow=36						
ILAR	**Eielson Array**	**41.49**	**344**	P	**P**	**21 18 06.0**	**-2.4**
	comp=Z,0.6nm,0.8s,mb3.2,slow=7.2,SNR=4.5						
MKAR	**Makanchi Array**	**41.71**	**86**	P	**P**	**21 18 13.2**	**+3.0**
	comp=Z,1.6nm,0.9s,mb3.7,baz=315,slow=6.9,SNR=6.9						
MKAR				LR	LR	21 38 10.8	
	comp=Z,81nm,19.6s,MS3.6,baz=3.4,slow=40						
ULM	**Lac du Bonnet**	**46.42**	**300**	LR	LR	21 37 43.2	
	comp=Z,158nm,18.1s,MS4.0,baz=57,slow=36						
SONM	**Songino Array**	**47.60**	**64**	P	**P**	**21 18 56.7**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=346,slow=5.9,SNR=6.0						
PDAR	**Pinedale Array**	**56.76**	**308**	P	**P**	**21 20 01.1**	**-5.2**
	comp=Z,1.6nm,1.1s,mb4.0,slow=5.4,SNR=5.3						
PDAR				LR	LR	21 45 39.4	
	comp=Z,49nm,18.1s,MS3.6,baz=267,slow=38						
TXAR	**Lajitas Array**	**68.07**	**298**	LR	LR	21 50 50.9	
	comp=Z,112nm,18.6s,MS4.1,baz=25,slow=36						
SNAA	**Sanae**	**144.50**	**185**	PKP	PKPdf	21 29 53.6	-4.1
	comp=Z,1.0nm,0.9s,baz=87,slow=2.6,SNR=7.3						
SNAA	**Sanae**	**144.50**	**185**	PKIKP	PKPdf	21 29 53.6	-4.1
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MAW	**Mawson**	**144.92**	**147**	PKPbc	PKPbc	21 29 57.0	+1.3
	comp=Z,1.3nm,0.9s,baz=281,slow=5.6,SNR=3.9						

NEIC 09 21:19:22.8, 62.52N×147.80W, h47km, ML3.5(AEIC), ML3.5(PMR), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCM	**Sheep Creek Mo**	**0.73**	**162**	P	P	21 19 35.9	-1.0
SML	**Sawmill**	**0.76**	**199**	P	P	21 19 36.4	-0.9
SML				S	S	21 19 47.5	-0.4
GHO	**Glory Hole Cre**	**0.92**	**215**	P	P	21 19 38.5	-0.9
HUR	**Hurricane**	**0.96**	**299**	P	P	21 19 39.0	-1.1
HUR				S	S	21 19 52.2	-0.7
RND	**Reindeer**	**1.01**	**332**	P	P	21 19 39.7	-1.1
SDG	**Sourdough**	**1.05**	**89**	P	P	21 19 40.4	-0.9
PMR	**Palmer**	**1.12**	**214**	P	P	21 19 41.2	-1.1
PMR				S	S	21 19 56.3	-0.6
CUT	**Chulitna**	**1.15**	**265**	P	P	21 19 41.5	-1.2
KNK	**Knik Glacier**	**1.16**	**196**	P	P	21 19 42.2	-0.6
PAX	**Paxson**	**1.17**	**66**	P	P	21 19 42.0	-1.0
TZL	**Tazlina**	**1.21**	**112**	P	P	21 19 42.9	-0.7
THY	**Trims Highway**	**1.30**	**45**	P	P	21 19 44.3	-0.6
THY				S	S	21 20 01.0	-0.4
MCK	**McKinley**	**1.32**	**338**	P	P	21 19 44.5	-0.8
MCK				S	S	21 20 01.3	-0.7
CFI	**College Fiord**	**1.34**	**179**	P	P	21 19 44.5	-1.2
KLU	**Klutina**	**1.36**	**138**	P	P	21 19 44.7	-1.2
VLZ	**Valdez**	**1.56**	**153**	P	P	21 19 46.8	-1.8
GLI	**Glacier Island**	**1.68**	**168**	P	P	21 19 48.7	-1.7
PWL	**Port Wells**	**1.69**	**189**	P	P	21 19 49.2	-1.2
DIV	**Divide**	**1.70**	**145**	P	P	21 19 48.6	-1.9
DIV				S	S	21 20 09.8	-1.4
RC01	**Rabbit Creek A**	**1.71**	**213**	P	P	21 19 49.4	-1.3
WACK	**Wrangell Chich**	**1.71**	**107**	P	P	21 19 50.0	-0.8
KTH	**Kantishna Hill**	**1.76**	**307**	P	P	21 19 50.3	-1.1
FIB	**Fire Island**	**1.77**	**221**	P	P	21 19 51.7	+0.2
BWN	**Browne**	**1.82**	**336**	P	P	21 19 50.2	-2.1
FID	**Port Fidalgo**	**1.89**	**160**	P	P	21 19 51.7	-1.5
HDA	**Harding Lake**	**1.93**	**11**	P	P	21 19 52.9	-0.9
WRH	**Wood River Hil**	**1.96**	**356**	P	P	21 19 52.8	-1.5
DOT	**Dot Lake**	**2.04**	**55**	P	P	21 19 54.1	-1.4
CCB	**Clear Creek Bu**	**2.13**	**360**	P	P	21 19 55.0	-1.7
STLK	**Strandline Lak**	**2.16**	**243**	P	P	21 19 56.2	-0.9
MPA	**Moose Pass**	**2.17**	**201**	P	P	21 19 56.6	-0.7
GLB	**Gilahina Butte**	**2.17**	**118**	P	P	21 19 55.9	-1.4
BMRM	**Bremner River**	**2.18**	**134**	P	P	21 19 55.4	-2.0
IL1	**Eielson Array**	**2.29**	**10**	P	P	21 19 57.4	-1.7
SLKM	**Skilak Lake**	**2.33**	**211**	*e*P	P	21 19 59.6	0.0
CGLM	**Capps Glacier**	**2.33**	**240**	P	P	21 19 58.5	-1.1
COLA	**College**	**2.36**	**360**	P	P	21 19 58.4	-1.7
SPU	**Mount Spurr**	**2.42**	**238**	*e*P	P	21 20 00.4	-0.5
MDM	**Murphy Dome**	**2.45**	**356**	P	P	21 19 59.6	-1.8
SEW	**Seward**	**2.55**	**199**	P	P	21 20 01.4	-1.3
MLY	**Manley**	**2.84**	**334**	P	P	21 20 04.8	-1.9
BALM	**Baldy**	**2.99**	**117**	P	P	21 20 06.5	-2.5
RSO	**Redoubt South**	**3.15**	**231**	*e*P	P	21 20 10.5	-0.7
WAX	**Waxell Ridge**	**3.16**	**129**	P	P	21 20 09.5	-1.8
PRP	**Porcupine Dome**	**3.17**	**17**	P	P	21 20 10.1	-1.4
CTGM	**Chitina Glacie**	**3.45**	**114**	P	P	21 20 13.5	-1.9
TT01	**Tatalina**	**3.80**	**279**	P	P	21 20 18.1	-2.3
SVW2	**Sparrevohn**	**3.96**	**252**	P	P	21 20 20.7	-1.9
PCA	**Pinnacle**	**4.38**	**120**	P	P	21 20 25.6	-3.0
COLD	**Coldfoot**	**4.83**	**349**	P	P	21 20 32.3	-2.7
PNL	**Peninsula**	**4.98**	**121**	P	P	21 20 33.5	-3.6
BM3	**Burnt Mountain**	**5.10**	**14**	P	P	21 20 35.9	-2.9
KDAK	**Kodiak Island**	**5.32**	**209**	*e*P	P	21 20 39.0	-2.7
WHY	**Whitehorse**	**6.44**	**101**	P	P	21 20 53.5	-4.0

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*NEIC **09** 21:34:57.2±6.8, 5.00S×153.96E, h137km±58km, mb4.0/5, Error ellipse: s-maj=34.6km s-min=16.8km az=64.0*
*IDC **09** 21:34:59.4±14.0, 5.03S×153.93E, h157km±123km, mb3.8/8, mb1 3.9/9, mb1mx3.7/15, mbtmp4.2/9, ML3.7/1, Error ellipse: s-maj=68.3km s-min=24.8km az=71.0*
ISC 09 21:34:56.9±7.7, **5.0S**±0.2×**153.9E**±0.3, **h147**km±64km, **n17, σ0^{s}73**/17, **mb4.0**/10, **1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.73**	**206**	P	**P**	**21 38 45.1**	**+1.1**
	0.2nm,0.3s,baz=23,slow=11,SNR=3.9						
CTAO	**Charters Tower**	**16.73**	**206**	*e*P	**P**	**21 38 43.0**	**-1.0**
	5.7nm,0.9s						
WRAB	**Tennant Creek**	**24.14**	**230**	*e*P	**P**	**21 40 01.2**	**+0.5**
	6.9nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**24.15**	**230**⇓	*i*P	**P**	**21 40 01.4**	**+0.6**
WRA	**Warramunga Arr**	**24.16**	**230**	P	**P**	**21 40 01.3**	**+0.4**
	6.9nm,0.7s,mb4.3,baz=56,slow=10.0,SNR=78						
WRA				pP		21 40 30.4	
	1.0nm,0.5s,baz=56,slow=10,SNR=5.7						
STKA	**Stephens Creek**	**29.10**	**202**	P	**P**	**21 40 45.1**	**-0.9**
	2.7nm,0.7s,mb4.1,baz=155,slow=24,SNR=7.1						
FITZ	**Fitzroy Crossi**	**30.55**	**243**	*e*P	**P**	**21 40 57.9**	**-1.1**
	11nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.55**	**243**	P	**P**	**21 40 58.1**	**-1.0**
	16nm,0.6s,mb4.9,baz=63,slow=3.4,SNR=30						
KSM	**Kuching**	**44.06**	**277**	*e*P	**P**	**21 42 52.5**	**+0.2**
KULM	**Kulim**	**54.20**	**280**	*e*P	**P**	**21 44 09.2**	**-0.7**
VNDA	**Vanda**	**72.56**	**178**	P	**P**	**21 46 08.8**	**-0.5**
	0.6nm,0.7s,mb3.4,baz=339,slow=5.2,SNR=4.9						
VNDA	**Vanda**	**72.56**	**178**	*e*P	**P**	**21 46 09.5**	**+0.3**
	0.7nm,0.7s,mb3.5						
MKAR	**Makanchi Array**	**81.25**	**319**	P	**P**	**21 46 59.3**	**+1.2**
	0.5nm,0.6s,mb3.3,baz=108,slow=6.9,SNR=5.6						
ZAL	**Zalesovo**	**81.99**	**326**	P	**P**	**21 47 01.4**	**-0.4**
	0.6nm,0.4s,mb3.5,baz=215,slow=7.6,SNR=2.4						
KURK	**Kurchatov**	**84.65**	**322**	*e*P	**P**	**21 47 15.6**	**+0.4**
	0.9nm,0.5s,mb3.8						
MAW	**Mawson**	**85.79**	**203**	P	**P**	**21 47 21.1**	**+0.6**
	2.3nm,0.6s,mb4.1,baz=99,slow=7.8,SNR=13						
BVAR	**Borovoye Array**	**90.11**	**323**	P	**P**	**21 47 40.4**	**-0.9**
	0.9nm,0.8s,mb3.7,baz=117,slow=6.6,SNR=5.9						

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*NEIC **09** 21:37:37.5, 47.00N×0.57E, h3km, ML3.7(LDG), ML3.5(STR), After LDG.*
NEIC Felt at Chatellerault and Tours.
*LDG **09** 21:37:37.5±0.1, 47.00N×0.57E, h3km, Md3.6/1, Ml3.7/43, Error ellipse: s-maj=1.2km s-min=1.0km az=14.0*
*CSEM **09** 21:37:37.4±0.0, 47.00N×0.56E, h5km, ML3.7/39, Error ellipse: s-maj=0.7km s-min=0.6km az=28.0*
*BGS **09** 21:37:40.7±0.2, 47.55N×1.82E, h2km, ML2.9*
STR 09 21:37:37.8±0.4, **46.95N×0.57E, h10**km±1km, **Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.60**	**235**	*e*Pg	Pg	21 37 49.2	-0.8
MFF				*e*Sg	Sg	21 37 57.6	-0.5
	117nm,0.2s						
LCHF	**La Chataignera**	**0.94**	**253**	Pg	Pg	21 37 57.0	+0.3
LCHF				Sg	Sg	21 38 09.4	0.0
MATF	**Mathat**	**1.27**	**208**	Pg	Pg	21 38 01.8	-1.4
MATF				Sg	Sg	21 38 19.3	-0.8
TCF	**Toulx Ste Croi**	**1.31**	**120**	*e*Pn	Pn	21 38 01.9	-0.3
TCF				*e*Pg	Pg	21 38 02.6	-1.4
TCF				*e*Sn	Sn	21 38 18.3	-1.5
	316nm,0.2s						
TCF				*e*Sg	Sg	21 38 19.9	-1.6
	330nm,0.2s						
HYF	**Humbligny**	**1.45**	**77**	*e*Pn	Pn	21 38 03.0	-1.2
HYF				*e*Pg	Pg	21 38 04.5	-2.3
HYF				*e*Sg	Sg	21 38 22.5	-3.6
HYF	**Humbligny**	**1.45**	**77**	*e*Pg	Pg	21 38 04.5	-2.3
HYF				*e*Sg	Sg	21 38 22.5	-3.6
LRYF	**La Roche-sur-Y**	**1.50**	**256**	Pg	Pg	21 38 05.7	-2.1
LRYF				Sg	Sg	21 38 24.7	-3.2
BGF	**Bois d'Agland**	**1.61**	**103**	*e*Pn	Pn	21 38 05.9	-0.6
BGF				*e*Pg	Pg	21 38 07.7	-2.4
BGF				*e*Sn	Sn	21 38 25.0	-2.5
BGF				*e*Sg	Sg	21 38 28.9	-2.7
	509nm,0.3s						
LDF	**La Druitiere**	**1.71**	**344**	*e*Pn	Pn	21 38 05.3	-2.6
LDF				*e*Pg	Pg	21 38 08.3	-3.7
LDF				*e*Sn	Sn	21 38 26.1	-3.9
	230nm,0.4s						
LDF				*e*Sg	Sg	21 38 29.5	-5.3
	132nm,0.2s						
GRR	**Gorron**	**1.73**	**327**	*e*Pn	Pn	21 38 05.8	-2.5
GRR				*e*Pg	Pg	21 38 08.6	-3.8
GRR				*e*Sn	Sn	21 38 26.3	-4.3
	71nm,0.2s						
GRR				*e*Sg	Sg	21 38 29.9	-5.7
	116nm,0.3s						
RJF	**Les Rejaudoux**	**1.77**	**158**	*e*Pn	Pn	21 38 08.2	-0.6
RJF				*e*Pg	Pg	21 38 11.0	-2.2
RJF				*e*Sn	Sn	21 38 29.3	-2.3
	206nm,0.2s						
RJF				*e*Sg	Sg	21 38 34.1	-2.8
	210nm,0.2s						
RENF	**Rennes**	**1.90**	**309**	Pg	Pg	21 38 11.8	-3.9
RENF	**Rennes**	**1.90**	**309**	Pn	Pn	21 38 09.4	-1.2
RENF				Pg	Pg	21 38 11.8	-3.9
AVF	**Avril sur Loir**	**1.92**	**94**	*e*Pn	Pn	21 38 09.8	-1.1
AVF				*e*Pg	Pg	21 38 12.9	-3.2
AVF				*e*Sn	Sn	21 38 32.4	-2.8
AVF				*e*Sg	Sg	21 38 37.0	-4.6
	89nm,0.3s						
FLN	**La Foliniere**	**1.95**	**339**	*e*Pn	Pn	21 38 09.3	-2.0
	baz=160						
FLN				*e*Pg	Pg	21 38 13.0	-3.7
	baz=162						
FLN				*e*Sn	Sn	21 38 31.4	-4.6
FLN				*e*Sg	Sg	21 38 36.5	-6.2
	77nm,0.2s						
FLN	**La Foliniere**	**1.95**	**339**	*e*Pg	Pg	21 38 13.0	-3.7
FLN				*e*Sn	Sn	21 38 31.4	-4.6
FLN				*e*Sg	Sg	21 38 36.5	-6.2
	39nm,0.2s						
AGO	**Saint Agoulin**	**1.98**	**116**	Pn	Pn	21 38 12.1	+0.3
AGO				Sg	Sg	21 38 41.2	-2.7
SSF	**Saint Saulge**	**2.01**	**86**	*e*Pn	Pn	21 38 11.1	-1.2
SSF				*e*Pg	Pg	21 38 15.0	-3.0
SSF				*e*Sn	Sn	21 38 34.4	-3.3
	99nm,0.3s						
SSF				*e*Sg	Sg	21 38 39.9	-5.0
	94nm,0.3s						
SSF	**Saint Saulge**	**2.01**	**86**	*e*Pg	Pg	21 38 15.0	-3.0
SSF				*e*Sn	Sn	21 38 34.4	-3.3
	49nm,0.3s						
SSF				*e*Sg	Sg	21 38 39.9	-5.0
	47nm,0.3s						
LFF	**La Frestale**	**2.01**	**177**	*e*Pn	Pn	21 38 12.0	-0.3
LFF				*e*Pg	Pg	21 38 16.1	-2.0
LFF				*e*Sn	Sn	21 38 35.4	-2.3
	217nm,0.3s						
LFF				*e*Sg	Sg	21 38 41.5	-3.4
	211nm,0.3s						
FRNF	**Fournols**	**2.09**	**138**	Pg	Pg	21 38 17.0	-2.5
FRNF	**Fournols**	**2.09**	**138**	Pn	Pn	21 38 12.7	-0.6
FRNF				Pg	Pg	21 38 17.0	-2.5
FRNF	**Fournols**	**2.09**	**138**	Pg	Pg	21 38 17.0	-2.5
SMF	**Signal de Mont**	**2.27**	**97**	*e*Pn	Pn	21 38 14.5	-1.4
SMF				*e*Pg	Pg	21 38 18.6	-4.5
SMF				*e*Sn	Sn	21 38 40.8	-3.4

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SMF				eSg	Sg	21 38 48.4	-5.0
	84nm,0.2s						
LOR	Lormes	2.27	81	ePn	Pn	21 38 14.4	-1.5
	baz=264						
LOR				ePg	Pg	21 38 19.7	-3.4
	baz=265						
LOR				eSn	Sn	21 38 40.4	-3.8
LOR				eSg	Sg	21 38 47.7	-5.7
	110nm,0.2s						
LOR	Lormes	2.27	81	ePg	Pg	21 38 19.7	-3.4
LOR				eSn	Sn	21 38 40.4	-3.8
LOR				eSg	Sg	21 38 47.7	-5.7
	55nm,0.2s						
CAF	Calviac	2.28	152	ePn	Pn	21 38 15.0	-1.1
CAF				ePg	Pg	21 38 20.6	-2.7
CAF				eSn	Sn	21 38 41.8	-2.6
CAF				eSg	Sg	21 38 50.4	-3.3
	106nm,0.2s						
PLDF	La Plantade	2.33	114	Pn	Pn	21 38 17.2	+0.5
PLDF				Sg	Sg	21 38 50.7	-4.6
SGMF	Saint Gilles	2.49	303	ePn	Pn	21 38 17.1	-1.9
SGMF				ePg	Pg	21 38 23.0	-4.5
SGMF				eSg	Sg	21 38 53.3	-7.3
	59nm,0.3s						
COLF	Collangettes	2.60	122	Pn	Pn	21 38 20.6	0.0
QUIF	Quistinic	2.71	292	ePn	Pn	21 38 20.3	-2.0
QUIF				ePg	Pg	21 38 27.8	-4.2
QUIF				eSg	Sg	21 39 01.1	-7.1
	93nm,0.4s						
JRS	Jersey	2.87	322	eP	Pn	21 38 29.5	+5.0
JRS				eS	Sn	21 39 05.3	+5.9
JRS				AML	AML	21 39 13.1	
	comp=Z,33nm,0.4s						
JSA	Saint Aubin	2.90	322	eP	Pn	21 38 30.1	+5.2
JLP	Les Platons	2.91	323	eP	Pn	21 38 30.1	+5.0
JVM	Valle D.L. Mar	2.93	322	eP	Pn	21 38 30.9	+5.5
ROSF	Rostrenen	2.95	299	ePn	Pn	21 38 23.3	-2.3
ROSF				ePg	Pg	21 38 31.4	-5.2
ROSF				eSn	Sn	21 38 55.9	-5.5
ROSF				eSg	Sg	21 39 08.5	-7.4
	comp=Z,29nm,0.2s						
SFTF	Sexfontaines	3.27	66	ePn	Pn	21 38 28.0	-2.3
	baz=256						
SFTF				ePg	Pg	21 38 37.9	-5.3
	baz=252						
SFTF				eSn	Sn	21 39 04.5	-5.2
SFTF				eSg	Sg	21 39 19.9	-7.0
	comp=Z,45nm,0.3s						
SFTF	Sexfontaines	3.27	66	ePg	Pg	21 38 37.9	-5.3
SFTF				eSn	Sn	21 39 04.5	-5.2
SFTF				eSg	Sg	21 39 19.9	-7.0
	comp=Z,22nm,0.3s						
MEZF	Maizieres J'vi	3.40	61	ePn	Pn	21 38 29.8	-2.2
	baz=238						
MEZF				ePg	Pg	21 38 40.0	-5.7
	baz=249						
MEZF				eSn	Sn	21 39 06.8	-6.1
MEZF				eSg	Sg	21 39 23.9	-7.1
	comp=Z,59nm,0.4s						
MEZF	Maizieres J'vi	3.40	61	ePg	Pg	21 38 40.0	-5.7
MEZF				eSn	Sn	21 39 06.8	-6.1
MEZF				eSg	Sg	21 39 23.9	-7.1
	comp=Z,29nm,0.4s						
VIVF	Saint-Julien-l	3.55	125	ePn	Pn	21 38 33.0	-1.1
VIVF				ePg	Pg	21 38 43.9	-4.8
VIVF				eSg	Sg	21 39 29.5	-6.5
	comp=Z,46nm,0.4s						
LASF	Ste Croix	3.69	140	ePn	Pn	21 38 35.4	-0.7
LASF				ePg	Pg	21 38 46.8	-4.6
LASF				eSg	Sg	21 39 34.3	-6.3
	comp=Z,28nm,0.5s						
RFYF	Reffroy	3.71	61	ePn	Pn	21 38 33.2	-3.2
RFYF				ePg	Pg	21 38 45.6	-6.3
	baz=233						
RFYF				eSg	Sg	21 39 33.1	-8.2
	comp=Z,42nm,0.3s						
RFYF	Reffroy	3.71	61	ePg	Pg	21 38 45.6	-6.3
RFYF				eSg	Sg	21 39 33.1	-8.2
	comp=Z,21nm,0.3s						
MTLF	Montolieu	3.79	162	ePn	Pn	21 38 36.0	-1.6
MTLF				ePg	Pg	21 38 48.5	-5.0
MTLF				eSn	Sn	21 39 17.7	-5.1
MTLF				eSg	Sg	21 39 38.1	-6.0
	comp=Z,22nm,0.3s						
CABF	La Chapelle	3.81	93	ePn	Pn	21 38 36.1	-1.7
CABF				ePg	Pg	21 38 48.1	-5.7
CABF				eSn	Sn	21 39 18.0	-5.1
CABF				eSg	Sg	21 39 36.7	-7.9
	comp=Z,58nm,0.6s						
THEF	They Montfort	3.88	69	Pn	Pn	21 38 35.8	-3.1
EPF	Esparros	3.92	182	ePn	Pn	21 38 37.1	-2.4
EPF				eSn	Sn	21 39 21.2	-4.9
EPF				eSg	Sg	21 39 42.2	-6.2
	comp=Z,24nm,0.2s						
EPF	Esparros	3.92	182	ePn	Pn	21 38 37.1	-2.4
EPF				eSg	Sg	21 39 42.2	-6.2
	comp=Z,12nm,0.2s						
BAIF	Baives	3.94	37	ePn	Pn	21 38 37.3	-2.4
BAIF				ePg	Pg	21 38 50.4	-6.1
BAIF				eSn	Sn	21 39 19.4	-7.1
	comp=Z,14nm,0.3s						
BAIF				eSg	Sg	21 39 39.7	-9.3
EALK	Alkurruntz	4.01	202	Pn	Pn	21 38 39.6	-1.1
EALK				Pg	Pg	21 38 51.7	-6.1
EALK				Sn	Sn	21 39 23.5	-4.8
EALK				Lg		21 39 43.6	
EALK	Alkurruntz	4.01	202	Pn	Pn	21 38 39.7	-1.0
	comp=Z,5.0nm,0.5s,SNR=6.8						
EALK	Alkurruntz	4.01	202	Pg	Pg	21 38 51.7	-6.2
	comp=Z,6.6nm,0.4s,SNR=4.7						
EALK				Sn	Sn	21 39 23.5	-4.8
	comp=Z,6.7nm,0.3s,SNR=4.5						
SJPF	Ste Jean	4.04	199	ePn	Pn	21 38 37.2	-4.0
SJPF				ePg	Pg	21 38 53.5	-5.0
SJPF				eSn	Sn	21 39 23.0	-6.1
SJPF				eSg	Sg	21 39 44.6	-7.8
	comp=Z,24nm,0.4s						
ETSF	Etsaut	4.13	192	ePn	Pn	21 38 39.3	-3.1
ETSF				ePg	Pg	21 38 54.2	-6.1
ETSF				eSn	Sn	21 39 25.7	-5.7
ETSF				eSg	Sg	21 39 48.1	-7.2
	comp=Z,16nm,0.3s						
ORIF	Oris-en-Rattie	4.22	117	ePn	Pn	21 38 43.2	-0.6
ORIF				eSg	Sg	21 39 50.8	-7.7
	comp=Z,21nm,0.5s						
GIVF	Givet	4.24	40	ePn	Pn	21 38 41.2	-2.7
GIVF				ePg	Pg	21 38 55.3	-7.1
GIVF				eSn	Sn	21 39 26.6	-7.4
GIVF				eSg	Sg	21 39 48.7	-10
	comp=Z,24nm,0.4s						
EBIE	Bielsa	4.27	184	Pn	Pn	21 38 43.8	-0.7
EBIE				Sn	Sn	21 39 34.7	-0.3
EBIE	Bielsa	4.27	184	Pn	Pn	21 38 43.8	-0.7
	SNR=16						
EBIE				Sn	Sn	21 39 34.7	-0.3
	comp=Z,0.2nm,0.2s,SNR=4.8						
HINF	Hinteralfeld	4.36	76	ePn	Pn	21 38 41.9	-3.7
HINF				ePg	Pg	21 38 58.3	-6.5
HINF				eSn	Sn	21 39 30.1	-7.0
HINF				eSg	Sg	21 39 52.6	-10
	comp=Z,47nm,0.4s						
EARA	Aranguren	4.45	201	Pn	Pn	21 38 44.7	-2.2
	comp=Z,0.3nm,0.1s,SNR=7.9						
EARA				Sn	Sn	21 39 36.3	-3.1
	comp=Z,1.2nm,0.1s,SNR=7.9						
LPL	La Plagne	4.51	106	ePn	Pn	21 38 47.5	-0.3
LPL				eSg	Sg	21 39 58.1	-10
	comp=Z,10nm,0.5s						
LPG	La Plagne	4.53	106	ePn	Pn	21 38 47.9	-0.2
LPG				eSg	Sg	21 40 00.0	-8.6
	comp=Z,15nm,0.4s						
MOF	Molkenrain	4.55	76	Pn	Pn	21 38 45.3	-3.0
SMRF	Simiane la Rot	4.61	128	ePn	Pn	21 38 50.2	+1.0
SMRF				eSg	Sg	21 40 02.7	-8.6
	comp=Z,15nm,0.6s						
ECH	Echery	4.63	72	Pn	Pn	21 38 45.2	-4.4
ELAN	Lanestosa	4.67	219	Pn	Pn	21 38 47.5	-2.6
ELAN				Sn	Sn	21 39 38.6	-6.5
ELAN	Lanestosa	4.67	219	Pn	Pn	21 38 47.5	-2.7
	comp=Z,3.1nm,0.3s,SNR=13						
ELAN				Sn	Sn	21 39 38.6	-6.5
	comp=Z,1.4nm,0.3s,SNR=7.9						
EGRA	Graus	4.76	182	Pn	Pn	21 38 52.6	+1.3
EGRA				Sn	Sn	21 39 43.5	-3.7
EGRA	Graus	4.76	182	Pn	Pn	21 38 52.6	+1.3
	comp=Z,2.2nm,0.3s,SNR=11						
EGRA				Sn	Sn	21 39 43.5	-3.7
	comp=Z,0.3nm,0.2s,SNR=7.9						
CDF	Champ du Feu	4.76	70	ePn	Pn	21 38 46.9	-4.5
CDF				ePg	Pg	21 39 06.1	-6.7
CDF				eSn	Sn	21 39 38.6	-8.7
CDF				eSg	Sg	21 40 04.5	-12
	comp=Z,15nm,0.3s						
EJON	La Jonquera	4.79	159	Pn	Pn	21 38 51.4	-0.5
EJON	La Jonquera	4.79	159	Pn	Pn	21 38 51.4	-0.4
	comp=Z,1.6nm,0.4s,SNR=5.1						
WLS	Welschbruch	4.81	70	Pn	Pn	21 38 47.8	-4.3
MBDF	Montbardon	4.87	115	eSg	Sg	21 40 11.1	-8.9
	comp=Z,7.6nm,0.5s						
EMIR	Miracle	5.08	172	Pn	Pn	21 38 57.0	+1.1
EMIR				Sn	Sn	21 39 53.6	-1.8
EMIR	Miracle	5.08	172	Pn	Pn	21 38 57.0	+1.1
	comp=Z,4.9nm,0.8s,SNR=8.0						
EMIR				Sn	Sn	21 39 53.6	-1.8
	comp=Z,1.3nm,0.2s,SNR=7.9						
ESAC	San Caprasio	5.28	188	Pn	Pn	21 38 58.4	-0.3
ESAC				Sn	Sn	21 39 57.1	-3.3
ESAC	San Caprasio	5.28	188	Pn	Pn	21 38 58.4	-0.3
	comp=Z,6.2nm,0.5s,SNR=7.9						
ESAC				Sn	Sn	21 39 57.1	-3.3
	comp=Z,0.1nm,0.2s,SNR=7.9						
EARI	Arriondas	5.48	230	Pn	Pn	21 38 59.5	-2.1
EARI				Sn	Sn	21 39 57.0	-8.4
EARI	Arriondas	5.48	230	Pn	Pn	21 38 59.5	-2.0
	comp=Z,4.6nm,0.9s,SNR=9.7						
EPOB	Poblet	5.61	176	Pn	Pn	21 39 04.3	+1.0
EPOB				Sn	Sn	21 40 04.9	-3.7
EPOB	Poblet	5.61	176	Sn	Sn	21 40 04.9	-3.7
	comp=Z,0.3nm,0.1s,SNR=7.9						
ERTA	Horta de San J	5.99	182	Pn	Pn	21 39 09.9	+1.1
ERTA				Sn	Sn	21 40 14.9	-3.3
ERTA	Horta de San J	5.99	182	Sn	Sn	21 40 14.9	-3.4
	comp=Z,0.8nm,0.3s,SNR=7.9						
EPON	Pontenova	6.55	239	Pn	Pn	21 39 13.5	-3.1
EPON				Sn	Sn	21 40 21.3	-11
EPON	Pontenova	6.55	239	Pn	Pn	21 39 13.5	-3.1
	comp=Z,0.4nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	6.63	187	Pn	Pn	21 39 19.0	+1.3
EMOS				Sn	Sn	21 40 29.2	-4.9
EMOS	Mosqueruela	6.63	187	Sn	Sn	21 40 29.2	-4.9
	comp=Z,4.4nm,0.9s,SNR=7.9						
ECAL	Calabor	7.24	229	Pn	Pn	21 39 22.5	-3.8
ECAL				Sn	Sn	21 40 38.9	-11
PGF	Pioggiola	7.44	123	ePg	Pg	21 39 54.6	-12
PGF				eSn	Sn	21 40 46.3	-8.1
	comp=Z,5.7nm,0.8s						
ESDC	Sonseca Array	7.99	206	Pn	Pn	21 39 32.6	-4.2
ESDC				Sn	Sn	21 40 58.7	-9.3
ESDC	Sonseca Array	7.99	206	Pn	Pn	21 39 32.6	-4.1
	comp=Z,0.8nm,0.2s,SNR=7.9						
ELOB	Lobios	8.00	234	Pn	Pn	21 39 33.0	-3.9
ELOB				Sn	Sn	21 40 56.2	-12
ELOB	Lobios	8.00	234	Pn	Pn	21 39 33.0	-3.9
	comp=Z,0.7nm,0.2s,SNR=7.9						

*NEIC **09** 22:11:23.5, 34.72N×25.74E, h7km, MD3.6(ATH), After ATH.*
*CSEM **09** 22:11:23.5, 34.72N×25.74E, h7km, MD3.7/2, After ATH*
ATH 09 22:11:23.8, 34.72N×25.74E, h10km±2km**, MD4.5**/7**, 3C, Crete**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
XRY	Khrisi	0.16	346	ePG	Pg	22 11 27.8	+0.4
XRY				eSG	Sg	22 11 30.5	+0.6
NPS	Neapolis	0.55	349	⥣iPB	Pb	22 11 33.8	-1.3
NPS	Neapolis	0.55	349	⥣iPb	Pb	22 11 33.6	-1.5
NPS				eSb	Sb	22 11 41.4	-1.3
KARP	Karpathos	1.43	54	ePG	Pg	22 11 50.2	-2.2
KARP				eSB	Sb	22 12 10.1	+1.9
KARP	Karpathos	1.43	54	ePg	Pg	22 11 50.0	-2.4
KARP				eSb	Sb	22 12 10.1	+1.9
VAM	Vamos	1.44	299	⥣iPb	Pb	22 11 50.9	+0.7
VAM				eSb	Sb	22 12 10.6	+2.1
APE	Apeiranthos	2.35	356	ePN	Pn	22 12 04.4	+1.3
ARG	Arkhangelos	2.45	52	ePN	Pn	22 12 06.8	+2.2
KYTH	Kithira	2.70	306	ePN	Pn	22 12 10.0	+1.9
VLI	Veliai	3.03	312	ePN	Pn	22 12 13.9	+1.1
VLI	Veliai	3.03	312	ePn	Pn	22 12 13.4	+0.6

*IDC **09** 22:21:12.3±1.1, 4.33S×153.81E, mb4.2/8, mb1 4.3/9, mb1mx4.2/13, mbtmp4.2/9, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx3.2/14, Error ellipse: s-maj=47.0km s-min=20.2km az=96.0*
*NEIC **09** 22:21:25.1±0.7, 4.40S×153.62E, h100km, mb4.3/7, Error ellipse: s-maj=19.8km s-min=10.5km az=102.0*
ISC 09 22:21:15.8±0.9**, 4.35S**±0.09×**153.7E**±0.2**, h33**km**, n22, σ0ˢ83**/20**, mb4.2**/14**, MS3.7**/2**, 1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CTA	Charters Tower	17.25	204	P	P	22 25 15.0	-0.9
	0.3nm,0.3s,baz=39,slow=16,SNR=2.3						
CTA	Charters Tower	17.25	204	P	P	22 25 15.0	-0.9
WRAB	Tennant Creek	24.42	229	eP	P	22 26 33.6	+0.9
	8.6nm,0.5s,mb4.4						
WB2	Warramunga Arr	24.43	229	⥥iP	P	22 26 33.7	+0.9
WRA	Warramunga Arr	24.44	229	P	P	22 26 34.0	+1.1
	8.1nm,0.5s,mb4.4,baz=53,slow=9.9,SNR=64						
WRA				PcP	PcP	22 30 11.4	-1.2
	0.2nm,0.5s,baz=51,slow=2.5,SNR=4.5						
STKA	Stephens Creek	29.66	201	P	P	22 27 20.6	0.0
	4.5nm,0.6s,mb4.4,baz=20,slow=12,SNR=16						
FITZ	Fitzroy Crossi	30.69	241	eP	P	22 27 28.5	-1.5
	4.5nm,0.6s,mb4.5						
RAO	Raoul Island	36.53	136	LR	LR	22 38 44.5	
	comp=Z,126nm,21.2s,MS3.7,baz=20,slow=29						
KSM	Kuching	43.78	277	eP	P	22 29 20.3	-0.3
KULM	Kulim	53.88	280	eP	P	22 30 37.6	-1.0
SONM	Songino Array	66.45	327	P	P	22 32 03.8	-0.3
	0.6nm,0.7s,mb3.7,baz=132,slow=4.0,SNR=3.9						
LSA	Lhasa	68.76	304	eP	P	22 32 20.6	+1.8
	4.6nm,0.8s,mb4.5						
VNDA	Vanda	73.24	178	P	P	22 32 45.2	+0.2
	1.2nm,0.7s,mb3.9,baz=341,slow=6.9,SNR=12						
VNDA	Vanda	73.24	178	eP	P	22 32 45.1	0.0
	0.9nm,0.5s,mb4.0						
MKAR	Makanchi Array	80.60	319	P	P	22 33 27.5	+0.8
	1.7nm,0.9s,mb4.0,baz=88,slow=8.1,SNR=6.6						
ZAL	Zalesovo	81.31	326	P	P	22 33 30.2	-0.1
	0.8nm,0.3s,mb4.2,baz=220,slow=2.9,SNR=3.3						
ILAR	Eielson Array	81.40	22	P	P	22 33 30.9	+0.3
	1.0nm,0.9s,mb3.7,baz=268,slow=4.6,SNR=4.7						
KURK	Kurchatov	83.99	322	eP	P	22 33 43.0	-1.1
	2.4nm,1.0s,mb4.3						
AAK	Ala-Archa	85.04	313	eP	P	22 33 49.8	+0.3
	3.8nm,0.9s,mb4.5						
MAW	Mawson	86.34	203	P	P	22 33 55.1	-0.2
	1.7nm,0.7s,mb4.4,baz=105,slow=8.4,SNR=4.5						
BRVK	Borovoye	89.51	323	eP	P	22 34 10.2	-0.7
	1.6nm,0.8s,mb4.4						
PDAR	Pinedale Array	97.86	48	LR	LR	23 15 30.3	
	comp=Z,32nm,19.5s,MS3.8,baz=67,slow=33						

*NEIC **09** 22:31:13.9±0.8, 21.89S×179.35W, h586km±10km, mb4.4/8, Error ellipse: s-maj=11.0km s-min=10.2km az=155.0*
*IDC **09** 22:31:14.4±2.0, 21.83S×179.38W, h584km±23km, mb3.4/7, mb1 3.6/10, mb1mx3.5/16, mbtmp4.5/10, Error ellipse: s-maj=20.0km s-min=15.7km az=105.0*
ISC 09 22:31:13.6±1.2**, 21.9S**±0.1×**179.4W**±0.1**, h593**km±17km**, n57, σ0ˢ75**/26**, mb4.0**/13**, 3C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AFI	Afiamalu	10.77	44	P	P	22 33 39.7	-0.4
	2.5nm,0.3s,baz=172,slow=19,SNR=3.6						
DZM	Mont Dzumac	13.11	267	P	P	22 34 04.9	+1.5
	1.0nm,0.3s,baz=90,slow=21,SNR=11						
URZ	Urewera	16.59	190	P	P	22 34 36.2	-0.7
	2.8nm,0.3s,baz=339,slow=2.7,SNR=16						
CTA	Charters Tower	32.06	267	eP	P	22 36 55.3	+0.7
	3.9nm,0.4s,mb4.4						
CTA	Charters Tower	32.06	267	P	P	22 36 55.5	+0.8
	4.4nm,0.4s,mb4.5,baz=89,slow=11,SNR=11						
CTAO	Charters Tower	32.06	267	eP	P	22 36 55.1	+0.5
	4.9nm,0.4s,mb4.5						
STKA	Stephens Creek	36.00	246	P	P	22 37 28.0	+0.8
	3.2nm,0.5s,mb4.1,baz=114,slow=12,SNR=12						
STKA	Stephens Creek	36.00	246	P	P	22 37 28.0	+0.8
WB2	Warramunga Arr	43.10	264	eP	P	22 38 23.4	-1.1
WRAB	Tennant Creek	43.10	264	eP	P	22 38 23.8	-0.7
	20nm,0.8s,mb4.7						
WRA	Warramunga Arr	43.11	264	P	P	22 38 24.0	-0.5
	5.5nm,0.3s,mb4.6,baz=96,slow=8.1,SNR=626						
FITZ	Fitzroy Crossi	51.54	264	eP	P	22 39 27.5	-0.5
	11nm,0.6s,mb4.4						
MBWA	Marble Bar	56.26	259	eP	P	22 39 59.9	-1.1
	10nm,0.3s,mb4.5						
VNDA	Vanda	56.42	185	P	P	22 40 01.9	+0.5
	1.0nm,0.7s,mb3.2,baz=354,slow=6.7,SNR=13						
VNDA	Vanda	56.42	185	eP	P	22 40 01.6	+0.2
	1.0nm,0.7s,mb3.1						
CASY	Casey	62.15	205	eP	P	22 40 38.3	-1.2
	2.3nm,0.5s,mb3.7						
QSPA	South Pole Qui	68.19	180	eP	P	22 41 17.3	+0.5
	3.7nm,0.6s,mb4.0						
KKM	Kota Kinabalu	68.84	286	eP	P	22 41 21.9	+0.2
MJAR	Matsushiro Arr	70.55	325	P	P	22 41 31.5	+0.1
	3.2nm,0.5s,mb4.1,baz=153,slow=6.2,SNR=12						
KSM	Kuching	72.30	279	eP	P	22 41 42.0	0.0
MAW	Mawson	79.81	200	P	P	22 42 22.5	+0.6
	1.7nm,0.5s,mb3.6,baz=113,slow=6.4,SNR=9.6						
KULM	Kulim	82.66	279	eP	P	22 42 37.8	+0.4
SNAA	Sanae	86.66	179	eP	P	22 42 54.6	-1.0
	0.8nm,0.4s,mb3.8						
VNA3	Neumayer Olymp	86.85	177		P	22 42 57.4	+0.9
VNA2	Neumayer--Watz	87.27	177		P	22 42 59.5	+1.0
ILAR	Eielson Array	89.96	13	P	P	22 43 11.3	+0.1
	0.4nm,0.6s,mb3.4,baz=209,slow=5.7,SNR=4.1						
MKAR	Makanchi Array	111.18	313	PKiKP		22 48 40.9	
	0.8nm,0.7s,baz=179,slow=2.0,SNR=11						
ARCES	ARCESS Array B	130.03	349	PKP	PKPdf	22 49 16.9	+0.8
	1.8nm,0.4s,baz=42,slow=1.2,SNR=20						
FINES	FINESS Array B	136.71	342	PKP	PKPdf	22 49 31.4	+2.7
	1.3nm,0.7s,baz=46,slow=1.7,SNR=7.8						
NB2	NORSAR Subarra	140.18	352	PKPabc	PKPdf	22 49 30.0	-5.0
	4.0nm,1.2s,baz=10.0,slow=3.1						
BLJS	Baljurashi	141.70	275	P	PKPdf	22 49 36.5	-2.3
HILS	Ha'il	142.26	287	P	PKPdf	22 49 38.9	-0.7
LTHS	Al Lith	142.87	275	P	PKPdf	22 49 41.7	+0.8
AKASG	Malin Array Be	143.55	329	PKP	PKPdf	22 49 41.0	0.0
	6.3nm,0.5s,baz=39,slow=4.3,SNR=27						
YNBS	Yanbu' al Bahr	145.56	281	P	PKPdf	22 49 49.8	+4.4
UMJS	Umm Lajj	146.23	283	P	PKPdf	22 49 49.1	+2.6
BR131	Keskin Array S	146.74	310	ePKPbc	PKPbc	22 49 51.1	+2.1
BRTR	Keskin Array B	146.74	310	PKPbc	PKPbc	22 49 51.2	+2.2
	2.9nm,0.6s,baz=125,slow=4.1,SNR=14						
TBKS	Tabuk	146.89	288	P	PKPdf	22 49 52.8	+5.3
KWP	Kalwaria	147.25	333	ePKPbc	PKPdf	22 49 52.2	+4.8
BURAR	Bucovina Array	147.57	328	⥣iP	PKPdf	22 49 54.3	+6.3
CFR	Carcaliu	147.60	322	⥣iP	PKPdf	22 49 52.3	+4.2
KOLS	Kolonicke sedl	147.96	333	i PKP	PKPdf	22 49 55.3	+6.7
STHS	Stebnicka Huta	148.02	334	ePKP	PKPdf	22 49 54.7	+6.1
CRVS	Cervenica-Dubn	148.33	333	ePKP	PKPdf	22 49 55.8	+6.7
MLR	Muntele Rosu	148.62	325	⥣iP	PKPdf	22 49 56.1	+6.4
UPC	Upice	148.97	341	ePKPbc	PKPdf	22 49 57.2	+7.2
DPC	Dobruska-Polom	149.01	340	ePKPbc	PKPdf	22 49 57.4	+7.3
DPC				ePKPab	PKPab	22 50 04.8	+0.6
KECS	Kecovo	149.06	334	ePKP	PKPdf	22 49 57.9	+7.7
MORC	Moravsky Berou	149.10	338	ePKPbc	PKPdf	22 49 56.7	+6.4
PVCC	Panska Ves	149.38	342	ePKPbc	PKPdf	22 49 58.3	+7.6
VYHS	Vyhne	149.71	336	ePKP	PKPdf	22 49 58.6	+7.3
PRU	Pruhonice	149.87	342	ePKPbc	PKPdf	22 49 59.1	+7.6
PRU				ePKPab	PKPab	22 50 07.6	-0.2
TREC	Trest	150.20	340	ePKPbc	PKPdf	22 49 59.8	+7.8
NKC	Novy Kostel	150.21	345	ePKPbc	PKPdf	22 50 00.1	+8.1
NKC				ePKPab	PKPab	22 50 09.0	-0.2
KHC	Kasperske Hory	150.91	342	ePKPbc	PKPdf	22 50 01.5	+8.4
KHC				ePKPab	PKPab	22 50 12.2	0.0
GERES	GERESS Array B	151.14	342	PKPbc	PKPdf	22 50 01.9	+8.5
	1.5nm,0.4s,baz=29,slow=1.9,SNR=22						
GERES				PKPab	PKPab	22 50 12.8	-0.3
	0.5nm,0.4s,baz=18,slow=4.2,SNR=5.2						

*NEIC **09** 23:02:31.7, 16.53N×93.95W, h130km, MD3.8(MEX), After MEX.*
MEX 09 23:02:32.0±1.1**, 16.52N×93.95W, h126**km±18km**, MD3.8, 3C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.06	303	⥣iP	P	23 02 54.1	-1.4
CMIG				i S	S	23 03 11.1	-2.1
SCX	San Cristobal	1.28	80	i P	P	23 02 55.5	-2.3
SCX				i S	S	23 03 15.0	-2.3
CCIG	Comitan	1.76	97	⥣iP	P	23 03 02.6	-0.6
CCIG				i S	S	23 03 25.4	-1.7
HUIG	Huatulco	2.20	251	i P	P	23 03 05.8	-3.1
HUIG				i S	S	23 03 35.2	-1.5
OXX	Oaxaca	2.71	282	i P	P	23 03 14.0	-1.6
OXX				i S	S	23 03 45.0	-3.6
VHO	Vista Hermosa	2.72	282	⥣iP	P	23 03 14.6	-1.0
VHO				i S	S	23 03 45.9	-2.9

*NEIC **09** 23:13:35.3, 17.29N×94.79W, h147km, MD3.8(MEX), After MEX.*
MEX 09 23:13:35.2±0.7**, 17.30N×94.79W, h147**km±6km**, MD3.8, 1C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.23	202	⥣iP	P	23 13 54.3	-1.3
CMIG				i S	S	23 14 07.9	-3.2
OXX	Oaxaca	1.86	263	i P	P	23 14 07.0	-1.8
OXX				i S	S	23 14 32.0	-2.6
VHO	Vista Hermosa	1.87	263	i P	P	23 14 07.6	-1.4
VHO				i S	S	23 14 32.6	-2.3
HUIG	Huatulco	1.98	220	i P	P	23 14 08.5	-1.7
HUIG				i S	S	23 14 34.9	-2.2
CCIG	Comitan	2.74	111	eP	P	23 14 17.5	-2.3
CCIG				i S	S	23 14 49.7	-4.2

*IDC **09** 23:47:09.8±0.5, 1.16N×97.20E, mb4.6/21, mb1 4.6/21, mb1mx4.5/24, mbtmp4.6/21, MS4.2/11, Ms1 4.2/11, ms1mx3.9/27, Error ellipse: s-maj=19.0km s-min=12.8km az=62.0*
*BJI **09** 23:47:11.9, 1.17N×97.46E, h22km, mB5.1, mb5.1, Ms4.7, Msz4.4*
*NEIC **09** 23:47:13.5±0.2, 1.15N×97.25E, mb4.9/40, Error ellipse: s-maj=6.5km s-min=5.7km az=32.0*
*MOS **09** 23:47:13.5±0.9, 1.28N×97.34E, h33km, mb5.2/39, Error ellipse: s-maj=13.6km s-min=6.2km az=113.8*
ISC 09 23:47:11.9±0.3**, 1.17N**±0.04×**97.28E**±0.04**, h23**km**, h23**km±1.0km**:pP-P, n176, σ1ˢ01**/165**, mb4.8**/87**, MS4.4**/23**, 11C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KULM	Kulim	5.30	39	⥣iPn	Pn	23 48 32.8	+1.0
KSM	Kuching	13.03	89	ePn	P	23 50 20.7	+2.3
NST	Nakhon Sawan	14.69	11	P	P	23 50 41.0	+0.7
PALK	Pallekele	17.60	291	ePn	P	23 51 16.4	-1.3
CHG	Chiang Mai	17.61	5	⥣P	P	23 51 18.1	+0.4
	20nm,0.9s						
NANT	Nan	17.84	11	⥥P	P	23 51 21.0	+0.5
	775nm,0.8s						
CHRT	Chiangrai	18.75	7	P	P	23 51 30.0	-1.7
	192nm,1.0s						
KKM	Kota Kinabalu	19.50	75	eP	P	23 51 40.2	-0.4
QIZ	Qiongzhong	21.61	34	P	P	23 52 02.6	+0.1
QIZ				AMB	AMB		
	comp=Z,32nm,1.5s,mb4.5						
QIZ				LR	LR		
	comp=E,913nm,15.1s						
QIZ				LR	LR		
	comp=Z,874nm,13.6s,MS4.3						
QIZ	Qiongzhong	21.61	34	eP	P	23 52 02.7	+0.3
	comp=Z,70nm,1.3s,mb4.9						
KMI	Kunming	24.39	12	P	P	23 52 31.7	+1.8
KMI				AP		23 52 38.4	
KMI				XP		23 52 40.9	
KMI				AMB	AMB		
	comp=Z,136nm,1.1s,mb5.3						
KMI				AMB	AMB		
	comp=Z,371nm,3.1s						

KMI LR LR
comp=N,2µm,16.0s,MS4.7
KMI LR LR
comp=E,626nm,13.7s,MS4.7
KMI LR LR
comp=Z,2µm,15.3s,MS4.7
KMI Kunming 24.39 12 P **P** **23 52 31.7 +1.8**
comp=Z,136nm,1.1s,mb5.3
KMI pP 23 52 38.4
KMI sP 23 52 40.9
KMI PP PP 23 53 15.5 +10
KMI PPP PPP 23 53 26.8 +11
KMI PcP PcP 23 55 58.1 -12
KMI S **S** **23 57 01.5 +16**
KMI sS 23 57 12.5
KMI SS SS 23 58 12.1 +32
KMI SSS SSS 23 58 25.7 +29
KMI ScP 23 59 35.8
KMI LR LR
comp=Z,2µm,15.3s,MS4.7
KMI Kunming 24.39 12 P **P** **23 52 31.7 +1.8**
KMI *SP 23 52 40.9
KMI 23 53 15.5
KMI pmax pmax
comp=Z,136nm,1.1s,mb5.3
KMI MLR MLR
comp=Z,2µm,15.3s,MS4.7
HYB Hyderabad 24.49 312 *i* P **P** **23 52 34.0 +3.1**
HYB Hyderabad 24.49 312 *eP* **P** **23 52 34.0 +3.1**
GYA Guiyang 26.72 19⇑ *iP* **P** **23 52 51.6 -0.1**
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.5
PKI Pulchoki 28.61 338 *eP* **P** **23 53 10.0 +1.1**
comp=Z,95nm,1.2s,mb5.4
DMN Daman 28.77 337 *eP* **P** **23 53 10.5 +0.3**
comp=Z,54nm,0.9s,mb5.3
KKN Kakani 28.86 338 *eP* **P** **23 53 11.6 +0.5**
comp=Z,93nm,1.0s,mb5.5
LSA Lhasa 28.97 349 P **P** **23 53 13.7 +1.7**
LSA Lhasa 28.97 349 *eP* **P** **23 53 13.3 +1.3**
comp=Z,21nm,0.8s,mb4.9
LSA Lhasa 28.97 349 *eP* **P** **23 53 13.3 +1.3**
LSA pmax pmax
comp=Z,21nm,0.8s,mb4.9
GKN Gorkha 29.30 337 *eP* **P** **23 53 15.6 +0.5**
comp=Z,84nm,1.1s,mb5.4
KOLN Koldanda 29.52 335 *eP* **P** **23 53 17.9 +0.9**
comp=Z,54nm,0.7s,mb5.4
CD2 Chengdu 30.21 11 P **P** **23 53 21.8 -1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
ENH Enshi 31.18 21 *eP* **P** **23 53 30.3 -1.4**
comp=Z,68nm,0.9s,mb5.5
ENH epP pP 23 53 37.2 -1.3
FITZ Fitzroy Crossi 33.84 126 *eP* **P** **23 53 53.8 -1.2**
comp=Z,8.0nm,0.8s,mb4.7
FITZ Fitzroy Crossi 33.84 126 P **P** **23 53 53.9 -1.1**
comp=Z,9.5nm,0.8s,mb4.8,baz=329,slow=3.9,SNR=9.9
XAN Xi'an 34.47 17 P **P** **23 53 59.1 -1.2**
XAN AP pP 23 54 05.6 -1.5
XAN AMB AMB
comp=Z,52nm,1.0s,mb5.4
LZH Lanzhou 35.27 9⇑ P **P** **23 54 06.5 -0.6**
LZH AP pP 23 54 13.5 -0.5
LZH XP sP 23 54 18.5 +1.6
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.3
LZH LR LR
comp=E,2µm,17.0s
LZH LR LR
comp=Z,1µm,17.6s,MS4.8
LZH Lanzhou 35.27 9⇑ P **P** **23 54 06.5 -0.6**
comp=Z,56nm,1.5s,mb5.3
LZH pP pP 23 54 13.5 -0.5
LZH sP sP 23 54 18.5 +1.6
LZH LR LR
comp=Z,1µm,17.6s,MS4.8
LZH Lanzhou 35.27 9⇑ P **P** **23 54 06.5 -0.6**
LZH *SP sP 23 54 18.5 +1.6
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,1µm,17.6s,MS4.8
NJ2 Nanjing 36.85 31 *eP* **P** **23 54 18.1 -2.4**
NJ2 AP pP 23 54 28.0 +0.7
NJ2 XP sP 23 54 32.1 +1.9
NJ2 PP PP 23 55 40.3 -6.1
NJ2 S **S** **23 59 55.0 -8.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 LR LR
comp=N,1µm,20.0s,MS4.8
NJ2 LR LR
comp=E,860nm,17.0s,MS4.8
NJ2 LR LR
comp=Z,430nm,22.0s,MS4.2
GTA Gaotai 38.13 3⇑ *iP* **P** **23 54 31.4 +0.2**
GTA AP pP 23 54 39.9 +1.9
GTA XP sP 23 54 42.9 +2.0
GTA PP PP 23 56 01.1 -0.7
GTA PCP PcP 23 56 47.1 +0.8
GTA AMB AMB
comp=Z,41nm,1.0s,mb5.1
GTA AMB AMB
comp=Z,108nm,4.2s
GTA LR LR
comp=N,406nm,17.2s,MS4.4
GTA LR LR
comp=E,333nm,15.3s,MS4.4
GTA LR LR
comp=Z,466nm,17.6s,MS4.3
NWAO Narrogin (SRO) 38.79 153 P **P** **23 54 35.2 -1.6**
comp=Z,8.5nm,0.8s,mb4.5,baz=34,slow=11,SNR=1.9
JOW Kunigami 39.20 47 P **P** **23 54 41.3 +1.0**
comp=Z,33nm,0.8s,mb5.1,baz=296,slow=4.2,SNR=3.7
HHC Hu-ho-hao-te 41.57 16 *eP* **P** **23 55 00.8 +1.2**
HHC AP pP 23 55 06.6 +0.1
HHC XP sP 23 55 09.7 +0.3
HHC PP PP 23 56 39.9 +1.1
HHC PCP PcP 23 56 59.1 +1.8
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,87nm,2.9s,mb4.9
HHC LR LR
comp=N,680nm,13.1s,MS4.8
HHC LR LR
comp=E,403nm,14.3s,MS4.8
HHC LR LR
comp=Z,668nm,14.3s,MS4.7
WRA Warramunga Arr 41.95 122 P **P** **23 55 03.1 +0.1**
comp=Z,7.3nm,0.7s,mb4.4,baz=300,slow=9.1,SNR=59
WRAB Tennant Creek 41.95 122 *eP* **P** **23 55 02.4 -0.7**
comp=Z,28nm,1.0s,mb4.8
WRAB Tennant Creek 41.95 122 *eP* **P** **23 55 02.4 -0.7**
WRAB pmax pmax
comp=Z,28nm,1.0s,mb4.8
WB2 Warramunga Arr 41.96 122 *eP* **P** **23 55 02.7 -0.4**
KSH Kashi 42.83 336 P **P** **23 55 11.7 +1.7**
KSH *eA*P pP 23 55 16.3 -0.6
KSH *eX*P sP 23 55 26.1 +6.3
KSH AMB AMB
comp=Z,40nm,1.2s,mb5.0
WMQ Urumqi 43.32 350⇓ *iP* **P** **23 55 15.4 +1.5**
WMQ AMB AMB
comp=Z,42nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,162nm,4.5s
WMQ LR LR
comp=N,325nm,26.2s,MS4.4
WMQ LR LR
comp=E,499nm,21.8s,MS4.4
WMQ LR LR
comp=Z,328nm,27.4s
DL2 Dalian 43.67 28 P **P** **23 55 17.7 +0.9**
DL2 AP pP 23 55 24.3 +0.6
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
DL2 LR LR
comp=N,150nm,17.3s,MS4.1
DL2 LR LR
comp=E,130nm,18.2s,MS4.1
DL2 LR LR
comp=Z,320nm,16.0s,MS4.3
JNU Nakatsue 44.78 41 P **P** **23 55 25.1 -0.7**
comp=Z,14nm,0.9s,mb4.8,baz=220,slow=16,SNR=6.1
UCH Uchtor 45.71 336 P **P** **23 55 34.6 +1.5**
SNR=14
KS15 Wonju Array Si 45.80 34 *eP* **P** **23 55 34.2 +0.3**
KS15 *epP* pP 23 55 41.3 +0.5
TKM2 Tokmak 2 45.88 338 P **P** **23 55 35.5 +1.1**
SNR=13
KBK Karagaybulak 45.90 337 P **P** **23 55 36.7 +2.1**
SNR=16
AML Almayashu 45.97 336 P **P** **23 55 36.6 +1.5**
SNR=11
AAK Ala-Archa 46.06 337 *eP* **P** **23 55 35.2 -0.7**
comp=Z,12nm,1.0s,mb4.8
AAK *epP* pP 23 55 40.5 -2.3
AAK Ala-Archa 46.06 337 *eP* **P** **23 55 35.2 -0.7**
AAK *e**PP pP 23 55 40.5 -2.3
AAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
EKS2 Erkin-Say 46.37 336 P **P** **23 55 39.7 +1.4**
SNR=13
USP Ospenovka 46.59 337 P **P** **23 55 40.9 +0.8**
SNR=31
SONM Songino Array 47.15 8 P **P** **23 55 45.0 +0.5**
comp=Z,21nm,0.8s,mb5.1,baz=190,slow=8.6,SNR=50
SONM PcP PcP 23 57 15.7 -0.6
comp=Z,5.7nm,0.8s,baz=180,slow=4.3,SNR=5.9
SONM LR LR 00 18 19.3
comp=Z,795nm,18.5s,MS4.7,baz=85,slow=40
ULN Ulaanbaatar 47.28 9 *eP* **P** **23 55 45.7 +0.2**
comp=Z,18nm,0.9s,mb5.0
ULN Ulaanbaatar 47.28 9 *eP* **P** **23 55 45.7 +0.2**
ULN pmax pmax
comp=Z,18nm,0.9s,mb5.0
MKAR Makanchi Array 47.29 346 P **P** **23 55 45.8 +0.3**
comp=Z,13nm,0.8s,mb4.9,baz=157,slow=9.2,SNR=74
MKAR LR LR 00 19 46.9
comp=Z,167nm,20.8s,MS4.0,baz=171,slow=41
KKAR Karatay Array 48.12 334 *iP* **P** **23 55 51.7 -0.4**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ZAK Zakamensk 49.30 5 *eP* **P** **23 56 00.7 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
HIA Hailar 51.65 19 *eP* **P** **23 56 18.8 -0.2**
comp=Z,24nm,0.8s,mb5.2
HIA Hailar 51.65 19 *eP* **P** **23 56 18.8 -0.2**
HIA pmax pmax
comp=Z,24nm,0.8s
MJAR Matsushiro Arr 51.66 42 P **P** **23 56 18.6 -0.7**
comp=Z,4.5nm,0.8s,mb4.5,baz=215,slow=6.0,SNR=12
MJAR LR LR 00 18 25.7
comp=Z,139nm,20.4s,MS4.0,baz=240,slow=36
KURK Kurchatov 51.84 345 *eP* **P** **23 56 20.2 -0.3**
comp=Z,24nm,1.0s,mb5.1
KURK Kurchatov 51.84 345 *eP* **P** **23 56 20.2 -0.3**
KURK pmax pmax
comp=Z,24nm,1.0s,mb5.1
MDJ Mudanjiang 51.86 29 P **P** **23 56 21.0 +0.3**
MDJ AMB AMB
comp=Z,21nm,0.8s,mb5.1
MDJ AMB AMB
comp=Z,86nm,4.5s
CTA Charters Tower 52.42 117 LR LR 00 20 31.9
comp=Z,241nm,20.9s,MS4.2,baz=44,slow=38
OPO Ambohidratompo 52.98 246 P **P** **23 56 29.8 +0.3**
comp=Z,5.6nm,0.9s,mb4.5,baz=93,slow=6.7,SNR=5.0
STKA Stephens Creek 53.27 132 *eP* **P** **23 56 32.0 +0.6**
comp=Z,7.1nm,0.9s,mb4.6
STKA Stephens Creek 53.27 132 P **P** **23 56 31.7 +0.3**
comp=Z,12nm,1.1s,mb4.7,baz=311,slow=12,SNR=8.5
STKA LR LR 00 21 01.6
comp=Z,395nm,18.3s,MS4.5,baz=118,slow=38
ZAL Zalesovo 53.59 351 P **P** **23 56 33.3 -0.1**
comp=Z,16nm,0.9s,mb5.0,baz=293,slow=6.5,SNR=91
NVS Novosibirsk 54.72 350 *iP* **P** **23 56 40.1 -1.6**
NVS *e* 23 56 57.9
NVS pmax pmax
comp=N,13nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,22nm,1.0s,mb5.1
VOSK Vostochnaya 55.86 341 P **P** **23 56 48.7 -1.3**
VOSK pmax pmax
comp=Z,14nm,1.0s,mb5.0
KLR Kul'dur 56.25 27 *eP* **P** **23 56 49.8 -3.0**
KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,800nm,12.0s,MS5.0
BVA0 Borovoye Array 56.31 341 *iP* **P** **23 56 52.1 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BVAR Borovoye Array 56.31 341 P **P** **23 56 52.0 -1.2**
comp=Z,11nm,0.8s,mb4.9,baz=143,slow=7.4,SNR=49
BRVK Borovoye 56.37 341 *eP* **P** **23 56 52.2 -1.5**
comp=Z,9.4nm,0.9s,mb4.8
BRVK Borovoye 56.37 341 *eP* **P** **23 56 52.2 -1.4**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
AB31 Akbulak array 57.58 332 *iP* **P** **23 57 01.1 -1.2**
AB31 pmax pmax
comp=Z,12nm,0.8s,mb5.0
BOD Bodaibo 58.03 10 *eP* **P** **23 57 04.6 -0.7**
BOD pmax pmax
comp=Z,27nm,0.9s,mb5.3
ASAJ Asahikawa 58.64 37 P **P** **23 57 10.2 +0.4**
comp=Z,8.4nm,0.9s,mb4.8,baz=241,slow=13,SNR=4.2
AKTO Aktyubinsk 59.30 332 P **P** **23 57 12.6 -1.7**
AKTO pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
KMBO Kilima Mbogo 60.07 268 LR LR 00 18 35.4
comp=Z,87nm,20.1s,MS3.9,baz=91,slow=31
YSS Yuzh-Sakhalins 60.33 34 *eP* **P** **23 57 21.4 0.0**
comp=Z,38nm,1.3s,mb5.3
YSS Yuzh-Sakhalins 60.33 34⇓ *iP* **P** **23 57 21.6 +0.2**
YSS *e* 23 57 36.1
YSS pmax pmax
comp=Z,60nm,1.3s,mb5.5
GNI Garni 61.37 316 *eP* **P** **23 57 27.8 -0.8**
comp=Z,8.3nm,0.8s,mb4.9
GNI Garni 61.37 316 *eP* **P** **23 57 27.8 -0.8**
GNI pmax pmax
comp=Z,8.0nm,0.8s
SVE Sverdlovsk 62.75 338 *eP* **P** **23 57 36.3 -1.2**
SVE *e* pP 23 57 42.6 -2.1
SVE *e* 23 58 19.0
SVE *e* 00 06 06.0
SVE pmax pmax
comp=Z,40nm,1.4s,mb5.4
ZEI Tsey 63.08 318 *eP* **P** **23 57 39.3 -0.6**
ZEI *i* *PP pP 23 57 47.7 +0.6
ZEI *i* 23 59 54.0
ZEI pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
ARU Arti 63.24 337⇑ *iP* **P** **23 57 39.4 -1.4**
ARU *e* 23 58 12.6
ARU *e* 23 59 55.6
ARU *eS* **S** **00 06 05.5 -4.0**
ARU *eSS* SS 00 10 09.5 -8.4
ARU pmax pmax
comp=Z,12nm,0.9s,mb5.0
KIV Kislovodsk 64.38 319 *eP* **P** **23 57 48.0 -0.6**
comp=Z,14nm,1.0s,mb4.9
KIV Kislovodsk 64.38 319 *iP* **P** **23 57 47.8 -0.7**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.9
MALT Malatya 65.21 312 *eP* **P** **23 57 53.6 -0.4**
comp=Z,2.7nm,0.8s,mb4.3
MALT Malatya 65.21 312 *eP* **P** **23 57 53.6 -0.3**
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YAK Yakutsk 65.43 16 *eP* **P** **23 57 53.7 -1.3**
comp=Z,44nm,0.8s,mb5.5
YAK Yakutsk 65.43 16*c iP* **P** **23 57 54.0 -0.9**
YAK pmax pmax
comp=Z,59nm,0.8s,mb5.7
MBAR Mbarara 66.56 269 *eP* **P** **23 58 03.1 +0.1**
comp=Z,8.8nm,1.3s,mb4.6
MBAR Mbarara 66.56 269⇑ *eP* **P** **23 58 10.3 +7.3**
CASY Casey 67.96 174 *eP* **P** **23 58 11.4 +0.5**
comp=Z,7.4nm,1.2s,mb4.6
CASY *epP* pP 23 58 18.8 +0.6
VRHR Novokhopersk 68.20 326 *eP* **P** **23 58 10.3 -2.4**
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,10.0nm,0.8s
BR131 Keskin Array S 69.19 312 *eP* **P** **23 58 17.9 -1.1**
comp=E,1.8nm,0.7s,mb4.1
BR131 *epP* pP 23 58 25.4 -0.8
BRTR Keskin Array B 69.19 312 P **P** **23 58 17.0 -2.0**
comp=E,2.3nm,0.8s,mb4.2,baz=130,slow=7.0,SNR=12
VRSR Storozhevoye 69.63 325 *eP* **P** **23 58 19.9 -1.6**
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=E,7.0nm,0.8s
PET Petropavlovsk 72.21 34 *eP* **P** **23 58 36.5 -0.6**
comp=E,20nm,0.8s,mb5.1
PET Petropavlovsk 72.21 34 *eP* **P** **23 58 36.5 -0.6**
PET pmax pmax
comp=Z,20nm,0.8s,mb5.1
OBN Obninsk 72.69 328 P **P** **23 58 38.8 -1.0**
OBN *e* pP 23 58 46.4 -0.6
OBN 23 58 55.0
OBN pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
MAW Mawson 72.70 193 P **P** **23 58 40.7 +1.1**
comp=Z,2.1nm,0.9s,mb4.0,baz=42,slow=9.1,SNR=3.9
TIXI Tiksi 73.20 10 *eP* **P** **23 58 38.4 -4.1**
TIXI *eS* S 00 08 06.8 -1.1
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,313nm,16.0s,MS4.7
SEY Seymchan 73.76 23 *eP* **P** **23 58 46.7 +0.8**
LBTB Lobatse 73.94 244 *eP* **P** **23 58 48.2 +0.5**
comp=Z,10nm,1.0s,mb4.7
LBTB *epP* pP 23 58 54.9 -0.1
LBTB Lobatse 73.94 244 *eP* **P** **23 58 48.2 +0.4**
LBTB *e**PP pP 23 58 54.9 -0.1
LBTB pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TIRR Tirgusor 74.20 316 *eP* **P** **23 58 47.8 -1.0**
AKASG Malin Array Be 75.33 322 P **P** **23 58 53.5 -1.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=92,slow=4.8,SNR=15
SUW Suwalki 79.75 325 *eP* **P** **23 59 19.2 -0.4**
FINES FINESS Array B 80.06 332 P **P** **23 59 20.9 -0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=101,slow=9.7,SNR=11
FINES LR LR 00 41 50.7
comp=Z,57nm,20.6s,MS3.9,baz=129,slow=41
MORC Moravsky Berou 82.48 320 *eP* **P** **23 59 34.2 +0.2**
comp=Z,2.0nm,1.0s,mb4.0
MORC *epP* pP 23 59 42.2 +0.9
MORC Moravsky Berou 82.48 320 *eP* **P** **23 59 34.2 +0.2**
MORC *e**PP pP 23 59 42.2 +0.8
MORC pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
ARCES ARCESS Array B 82.59 340 P **P** **23 59 34.7 +0.5**
comp=Z,3.5nm,0.8s,mb4.5,baz=98,slow=4.5,SNR=16
ARCES LR LR 00 40 43.2
comp=Z,151nm,20.0s,MS4.4,baz=311,slow=39
ARCES ARCESS Array B 82.59 340 P **P** **23 59 34.7 +0.4**
ARCES LR LR 00 40 43.2
URZ Urewera 82.73 129 LR LR 00 36 09.0
comp=Z,141nm,21.0s,MS4.3,baz=73,slow=36
PRU Pruhonice 84.43 320 *eP* **P** **23 59 43.6 -0.4**
BRG Berggiesshubel 84.89 321 *eP* **P** **23 59 47.0 +0.8**
comp=Z,3.4nm,0.8s,mb4.5
BRG *e* pP 23 59 54.1 +0.5
BRG Berggiesshubel 84.89 321 *eP* **P** **23 59 47.0 +0.8**
BRG *e* pP 23 59 54.1 +0.5
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
GERES GERESS Array B 84.89 319 P **P** **23 59 47.1 +0.8**
comp=Z,3.3nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=23
KHC Kasperske Hory 84.99 319 *eP* **P** **23 59 44.5 -2.3**
CLL Collm 85.51 321 *iP* **P** **23 59 45.7 -3.6**
CLL *i* 23 59 50.2
VNDA Vanda 85.78 169 P **P** **23 59 51.6 +1.5**
comp=Z,0.6nm,0.8s,mb3.9,baz=325,slow=4.2,SNR=3.7
VNDA LR LR 00 35 47.5
comp=Z,120nm,18.9s,MS4.3,baz=312,slow=34
RAO Raoul Island 86.03 119 LR LR 00 37 33.8
comp=Z,139nm,20.4s,MS4.3,baz=349,slow=35
GRF Grafenberg Arr 86.56 320 *e*PKP **P** **23 59 55.5 +0.9**
NB2 NORSAR Subarra 87.07 331 P **P** **23 59 56.6 -0.2**
comp=Z,6.1nm,1.0s,mb4.8,baz=93,slow=5.0
NB2 NORSAR Subarra 87.07 331 P **P** **23 59 56.6 -0.2**
NB2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
NOA NORSAR Array B 87.07 331 P **P** **23 59 57.1 +0.4**
comp=Z,3.1nm,0.9s,mb4.5,baz=94,slow=5.0,SNR=8.1
PGF Pioggiola 87.95 312 *eP* **P** **00 00 02.3 +0.8**
SBF Sospel 89.09 314 *eP* **P** **00 00 07.2 +0.3**
comp=Z,21nm,0.8s,mb5.2
SBF Sospel 89.09 314 *eP* **P** **00 00 07.2 +0.3**
SBF pmax pmax
comp=Z,11nm,0.8s,mb5.2
LPG La Plagne 89.55 315 *eP* **P** **00 00 09.7 +0.7**
comp=Z,10nm,0.9s,mb4.8
LPG La Plagne 89.55 315 *eP* **P** **00 00 09.7 +0.7**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
MBDF Montbardon 89.55 315 *eP* **P** **00 00 09.6 +0.6**
comp=Z,11nm,1.0s,mb4.8
MBDF Montbardon 89.55 315 *eP* **P** **00 00 09.6 +0.6**
MBDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
LPL La Plagne 89.56 315 *eP* **P** **00 00 09.7 +0.6**
comp=Z,9.2nm,0.9s,mb4.8
LPL La Plagne 89.56 315 *eP* **P** **00 00 09.7 +0.6**
LPL pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
FRF La Foret Royal 89.66 313 *eP* **P** **00 00 10.0 +0.4**
comp=Z,11nm,0.9s,mb4.9
FRF La Foret Royal 89.66 313 *eP* **P** **00 00 10.0 +0.4**
FRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
CABF La Chapelle 89.98 316 *eP* **P** **00 00 11.7 +0.7**
comp=Z,24nm,1.2s,mb5.1
CABF La Chapelle 89.98 316 *eP* **P** **00 00 11.7 +0.7**
CABF pmax pmax
comp=Z,12nm,1.2s,mb5.1
ORIF Oris-en-Rattie 90.18 315 *eP* **P** **00 00 12.5 +0.5**
comp=Z,19nm,1.3s,mb5.0
ORIF *eR*
comp=Z,74nm,20.8s
SMRF Simiane la Rot 90.43 314 *eP* **P** **00 00 13.2 +0.1**
MEZF Maizieres J'vi 90.62 318 *eP* **P** **00 00 14.4 +0.5**
GIVF Givet 90.69 320 *eP* **P** **00 00 14.6 +0.4**
VIVF Saint-Julien-l 91.04 315 *eP* **P** **00 00 16.4 +0.5**
comp=Z,8.1nm,0.9s,mb4.7
VIVF Saint-Julien-l 91.04 315 *eP* **P** **00 00 16.4 +0.5**
VIVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
BAIF Baives 91.09 320 *eP* **P** **00 00 17.0 +1.0**
comp=Z,14nm,0.8s,mb5.0
BAIF Baives 91.09 320 *eP* **P** **00 00 17.0 +1.0**
BAIF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
LOR Lormes 91.48 317 *eP* **P** **00 00 18.4 +0.5**
comp=Z,19nm,1.0s,mb5.1
LOR *eR*
comp=Z,75nm,19.5s
LOR Lormes 91.48 317 *eP* **P** **00 00 18.4 +0.5**
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,70nm,19.5s,MS4.1
SMF Signal de Mont 91.53 317 *eP* **P** **00 00 18.5 +0.4**
comp=Z,13nm,0.9s,mb5.0
SMF Signal de Mont 91.53 317 *eP* **P** **00 00 18.5 +0.4**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
LASF Ste Croix 91.66 314 *eP* **P** **00 00 18.5 -0.3**
SSF Saint Saulge 91.73 317 *eP* **P** **00 00 19.7 +0.7**
comp=Z,7.8nm,1.0s,mb4.7
SSF Saint Saulge 91.73 317 *eP* **P** **00 00 19.7 +0.7**
SSF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
AVF Avril sur Loir 91.85 317 *eP* **P** **00 00 20.1 +0.5**
comp=Z,15nm,1.1s,mb4.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AVF	**Avril sur Loir**	**91.85**	**317**	*e*P	**P**	**00 00 20.1**	**+0.5**
AVF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
BGF	**Bois d'Agland**	**92.22**	**316**	*e*P	**P**	**00 00 22.2**	**+0.9**
MTLF	**Montolieu**	**92.90**	**313**	*e*P	**P**	**00 00 24.4**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.8						
MTLF	**Montolieu**	**92.90**	**313**	*e*P	**P**	**00 00 24.4**	**-0.1**
MTLF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.8						
EPF	**Esparros**	**94.29**	**313**	*e*P	**P**	**00 00 30.6**	**-0.3**
ULM	**Lac du Bonnet**	**127.55**	**11**	PKP	PKPdf	00 06 15.6	-4.3
	comp=Z,1.1nm,0.8s,baz=50,slow=5.4,SNR=3.1						
ULM	**Lac du Bonnet**	**127.55**	**11**	PKP	PKPdf	00 06 15.6	-4.3
ELK	**Elko**	**128.86**	**32**	PKP	PKPdf	00 06 19.8	-2.9
	comp=Z,0.8nm,0.7s,baz=301,slow=3.1,SNR=4.1						
PDAR	**Pinedale Array**	**130.04**	**26**	PKP	PKPdf	00 06 20.8	-4.1
	comp=Z,0.9nm,0.8s,baz=45,slow=2.6,SNR=5.4						
ANMO	**Albuquerque**	**137.75**	**29**	*e*PKPdf	PKPdf	00 06 38.2	-1.3
ANMO	**Albuquerque**	**137.75**	**29**	⇑*i*PKIKP	PKPdf	00 06 38.9	-0.6
TXAR	**Lajitas Array**	**143.65**	**32**	PKP	PKPdf	00 06 44.9	-5.3
	comp=Z,1.5nm,0.8s,baz=197,slow=0.5,SNR=10						
CPUP	**Villa Florida**	**145.03**	**222**	PKP	PKPdf	00 06 47.6	-5.0
	comp=Z,5.1nm,0.9s,baz=162,slow=5.0,SNR=7.6						
CPUP	**Villa Florida**	**145.03**	**222**	*e*PKIKP	PKPdf	00 06 49.9	-2.7
NATX	**Nacogdoches**	**145.35**	**18**	*e*PKPdf	PKPdf	00 06 50.7	-2.4

*NEIC **10** 00:21:15.6±2.6, 5.19S×153.77E, h59^{km}±21^{km}, mb4.0/1, Error ellipse: s-maj=23.1km s-min=15.2km az=224.0*
*IDC **10** 00:21:15.8±5.3, 5.19S×153.74E, h62^{km}±45^{km}, mb3.7/6, mb1 3.9/7, mb1mx3.8/14, mbtmp4.1/7, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/22, Error ellipse: s-maj=35.3km s-min=23.1km az=52.0*
ISC 10 00:21:12.0±4.3**, 5.2S**±0.2×**153.8E**±0.1**, h41**^{km}±36^{km}**, n9,** σ**0^{s}52**/9**, mb3.9**/6**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.43**	**125**	LR	LR	00 25 16.0	
	comp=Z,68nm,20.8s,baz=297,slow=32						
PMG	**Port Moresby**	**7.81**	**237**	P	**P**	**00 23 06.1**	**+0.3**
	4.8nm,0.3s,baz=59,slow=8.2,SNR=8.2						
PMG				S	**S**	**00 24 33.3**	**-0.7**
	1.6nm,0.3s,baz=50,slow=24,SNR=3.3						
DZM	**Mont Dzumac**	**20.79**	**145**	P	**P**	**00 25 52.1**	**-0.1**
	4.8nm,0.5s,baz=164,slow=23,SNR=23						
WRAB	**Tennant Creek**	**23.95**	**231**	P	**P**	**00 26 24.5**	**+1.0**
	4.9nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**23.96**	**231**	P	**P**	**00 26 24.3**	**+0.7**
	0.5nm,0.4s,mb3.3,baz=55,slow=10.0,SNR=6.6						
SONM	**Songino Array**	**67.17**	**327**	P	**P**	**00 32 03.8**	**-0.1**
	0.3nm,0.4s,mb3.7,baz=135,slow=6.1,SNR=3.7						
VNDA	**Vanda**	**72.43**	**178**	P	**P**	**00 32 35.0**	**-0.6**
	1.3nm,0.8s,mb3.9,baz=320,slow=6.4,SNR=8.8						
MKAR	**Makanchi Array**	**81.25**	**319**	P	**P**	**00 33 25.1**	**-0.4**
	1.0nm,0.7s,mb3.9,baz=98,slow=6.2,SNR=9.2						
MAW	**Mawson**	**85.61**	**203**	P	**P**	**00 33 46.9**	**-0.2**
	1.1nm,0.4s,mb4.4,baz=74,slow=5.3,SNR=8.3						

*BJI **10** 00:33:52.6, 4.60S×153.60E, h131^{km}, mB4.7, mb4.7*
*NEIC **10** 00:33:52.6±1.3, 4.59S×153.64E, h131^{km}±12^{km}, mb4.9/6, Error ellipse: s-maj=11.1km s-min=9.4km az=179.0*
*IDC **10** 00:33:52.9±4.0, 4.63S×153.70E, h134^{km}±35^{km}, mb3.9/9, mb1 4.0/11, mb1mx4.0/16, mbtmp4.3/11, MS3.3/2, Ms1 3.3/2, ms1mx3.0/22, Error ellipse: s-maj=26.1km s-min=17.2km az=67.0*
ISC 10 00:33:53.1±1.7**, 4.72S**±0.09×**153.67E**±0.07**, h147**^{km}±16^{km}**, n31,** σ**0^{s}95**/33**, mb4.3**/14**, 1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.80**	**127**	S	**S**	**00 37 07.9**	**-4.0**
	7.4nm,0.3s,baz=180,slow=13,SNR=3.7						
HNR	**Honiara**	**7.80**	**127**	P	**P**	**00 35 45.1**	**+0.3**
PMG	**Port Moresby**	**7.96**	**234**	P	**P**	**00 35 47.0**	**-0.1**
	42nm,0.3s,baz=45,slow=6.6,SNR=58						
PMG				S	**S**	**00 37 15.9**	**0.0**
	6.5nm,0.3s,baz=62,slow=14,SNR=3.8						
PMG				LR	LR	00 38 57.1	
	comp=Z,162nm,19.6s,baz=87,slow=38						
PMG	**Port Moresby**	**7.96**	**234**	*e*P	**P**	**00 35 45.6**	**-1.5**
	183nm,0.8s						
CTA	**Charters Tower**	**16.90**	**205**	*e*P	**P**	**00 37 51.2**	**+8.8**
	4.4nm,0.6s						
CTA	**Charters Tower**	**16.90**	**205**	P	**P**	**00 37 43.6**	**+1.3**
	0.2nm,0.3s,baz=19,slow=17,SNR=2.9						
CTA				LR	LR	00 43 08.3	
	comp=Z,123nm,18.6s,baz=232,slow=33						
CTA	**Charters Tower**	**16.90**	**205**	P	**P**	**00 37 43.6**	**+1.3**
CTA				*e*P		00 37 51.2	
CTA				LR	LR	00 43 08.3	
DZM	**Mont Dzumac**	**21.23**	**145**	P	**P**	**00 38 30.1**	**+1.4**
	3.3nm,0.8s,mb3.7,baz=322,slow=19,SNR=4.4						
WRAB	**Tennant Creek**	**24.14**	**230**	*e*P	**P**	**00 38 57.4**	**+0.5**
	32nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**24.14**	**230**	*e*P	**P**	**00 38 57.6**	**+0.6**
WRA	**Warramunga Arr**	**24.15**	**230**	P	**P**	**00 38 57.7**	**+0.6**
	19nm,0.5s,mb4.9,baz=54,slow=10.0,SNR=162						
ARMA	**Armidale**	**25.64**	**184**	*e*P	**P**	**00 39 11.8**	**+0.9**
ASPA	**Alice Springs**	**26.80**	**223**	*e*P	**P**	**00 39 21.4**	**-0.2**
STKA	**Stephens Creek**	**29.30**	**201**	P	**P**	**00 39 43.1**	**-0.9**
	2.9nm,0.6s,mb4.2,baz=38,slow=15,SNR=6.9						
STKA	**Stephens Creek**	**29.30**	**201**	*e*P	**P**	**00 39 43.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.46**	**242**	⇓*i*P	**P**	**00 39 53.2**	**-1.3**
	14nm,0.5s,mb4.9						
FORT	**Forrest**	**35.40**	**220**	*e*P	**P**	**00 40 36.4**	**-0.4**
	28nm,0.6s,mb5.1						
MBWA	**Marble Bar**	**36.76**	**241**	*e*P	**P**	**00 40 47.7**	**-0.6**
RPZ	**Rata Peaks**	**41.77**	**161**	P	**P**	**00 41 28.4**	**-1.1**
	5.8nm,0.8s,mb4.3,baz=79,slow=9.2,SNR=3.7						
CN2	**Changchun**	**54.58**	**335**	*e*P	**P**	**00 43 09.7**	**+1.2**
HHC	**Hu-ho-hao-te**	**59.48**	**324**	*e*P	**P**	**00 43 45.3**	**+2.2**
HHC				AP	pP	00 44 15.5	-2.4
HHC				XP	sP	00 44 29.6	-4.4
HHC				PP	PP	00 45 58.8	+0.9
HHC				S	**S**	**00 51 43.7**	**+4.7**
HHC				XS		00 52 36.0	
HHC				SCS	ScS	00 53 20.0	+5.2
HHC				SS	SS	00 55 42.7	+4.8
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,81nm,2.9s,mb5.0						
HHC				LR	LR		
	comp=N,134nm,16.6s						
HHC				LR	LR		
	comp=E,75nm,13.1s						
HHC				LR	LR		
	comp=Z,84nm,14.3s						
SONM	**Songino Array**	**66.72**	**327**	P	**P**	**00 44 29.5**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.0,baz=142,slow=6.6,SNR=7.5						
CASY	**Casey**	**68.35**	**197**	*e*P	**P**	**00 44 39.8**	**-0.6**
VNDA	**Vanda**	**72.88**	**178**	P	**P**	**00 45 07.7**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=346,slow=6.6,SNR=8.2						
VNDA	**Vanda**	**72.88**	**178**	*e*P	**P**	**00 45 08.1**	**+0.7**
WMQ	**Urumqi**	**76.27**	**317**	*e*P	**P**	**00 45 27.5**	**+0.2**
MKAR	**Makanchi Array**	**80.83**	**319**	P	**P**	**00 45 52.3**	**+0.2**
	comp=Z,0.9nm,0.3s,mb3.8,baz=89,slow=8.7,SNR=23						
ILAR	**Eielson Array**	**81.76**	**22**	P	**P**	**00 45 55.1**	**-1.5**
	comp=Z,0.8nm,0.8s,mb3.4,baz=237,slow=6.0,SNR=5.9						
KURK	**Kurchatov**	**84.23**	**322**	P	**P**	**00 46 08.6**	**-0.8**
	comp=Z,1.8nm,0.8s,mb3.9						
MAW	**Mawson**	**85.98**	**203**	*e*P	**P**	**00 46 18.2**	**+0.6**
	comp=Z,4.1nm,0.6s,mb4.3						
MAW	**Mawson**	**85.98**	**203**	P	**P**	**00 46 18.1**	**+0.5**
	comp=Z,6.2nm,0.7s,mb4.5,baz=98,slow=6.4,SNR=23						

*IDC **10** 00:49:23.3±1.3, 5.06S×146.09E, mb4.4/5, mb1 4.4/7, mb1mx4.2/13, mbtmp4.3/7, ML3.8/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/19, Error ellipse: s-maj=39.9km s-min=26.1km az=103.0*
*NEIC **10** 00:49:24.9±0.9, 5.04S×146.06E, h10^{km}, mb4.4/2, Error ellipse: s-maj=20.3km s-min=15.6km az=113.0*
ISC 10 00:49:25.2±6.0**, 5.1S**±0.1×**146.1E**±0.2**, h21**^{km}±42^{km}**, n12,** σ**0^{s}65**/12**, mb4.2**/5**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.39**	**166**	Pn	**Pn**	**00 50 33.0**	**+0.4**
	19nm,0.3s,baz=345,slow=5.9,SNR=24						
PMG				Sn	**Sn**	**00 51 23.8**	**0.0**
	13nm,0.3s,baz=146,slow=21,SNR=8.0						
PMG				LR	LR	00 51 48.7	
	comp=Z,103nm,20.0s,baz=32,slow=33						
CTA	**Charters Tower**	**14.88**	**179**	LR	LR	00 57 29.1	
	comp=Z,76nm,19.0s,baz=228,slow=32						
WRAB	**Tennant Creek**	**18.62**	**217**	*e*P	**P**	**00 53 43.3**	**-0.5**
	6.1nm,0.6s						
WB2	**Warramunga Arr**	**18.63**	**217**	*e*P	**P**	**00 53 44.7**	**+0.8**
WRA	**Warramunga Arr**	**18.63**	**217**	P	**P**	**00 53 42.7**	**-1.3**
	0.6nm,0.3s,baz=39,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**23.76**	**235**	*e*P	**P**	**00 54 38.3**	**+0.8**
	12nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**23.76**	**235**	P	**P**	**00 54 38.7**	**+1.2**
	15nm,0.4s,mb4.8,baz=26,slow=6.6,SNR=36						
STKA	**Stephens Creek**	**26.95**	**188**	P	**P**	**00 55 06.8**	**-0.6**
	1.6nm,0.4s,mb3.9,baz=355,slow=16,SNR=4.8						
VNDA	**Vanda**	**72.84**	**176**	P	**P**	**01 00 54.2**	**+0.1**
	2.5nm,0.6s,mb4.4,baz=330,slow=6.7,SNR=40						
VNDA	**Vanda**	**72.84**	**176**	P	**P**	**01 00 54.2**	**+0.1**
MAW	**Mawson**	**82.69**	**203**	P	**P**	**01 01 48.8**	**+0.3**
	2.4nm,0.7s,mb4.3,baz=61,slow=6.3,SNR=8.3						
ILAR	**Eielson Array**	**85.05**	**23**	P	**P**	**01 02 00.1**	**-0.3**
	0.4nm,0.6s,mb3.8,baz=250,slow=5.7,SNR=6.1						

*ISK **10** 00:51:36.7, 39.36N×33.13E, h6^{km}, MD3.7*
*NEIC **10** 00:51:36.0, 39.37N×33.12E, h6^{km}, MD3.7(ISK), After ISK.*
*CSEM **10** 00:51:36.7, 39.36N×33.13E, h6^{km}, MD3.7, After ISK*
ISC 10 00:51:37.1±0.6**, 39.37N**±0.03×**33.14E**±0.03**, h8**^{km}±5^{km}**, n41,** σ**0^{s}80**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.44**	**90**	*i* PG	**Pg**	**00 51 46.0**	**-0.1**
BR131	**Keskin Array S**	**0.52**	**47**	*e*P	**Pg**	**00 51 47.3**	**-0.3**
BR131				*e*S	**Sg**	**00 51 54.5**	**-0.1**
ANTO	**Ankara**	**0.56**	**332**	*i* PG	**Pg**	**00 51 47.6**	**-0.8**
ANTO				*i* SG	**Sg**	**00 51 56.5**	**+0.5**
ANTO	**Ankara**	**0.56**	**332**	*e*P	**Pg**	**00 51 47.8**	**-0.7**
LOD	**Lodumlu**	**0.59**	**331**	*i* PG	**Pg**	**00 51 48.6**	**-0.4**
LOD				*i* SG	**Sg**	**00 51 58.2**	**+1.2**
CDAG	**Cicekdag**	**0.98**	**75**	*i* P	**Pb**	**00 51 54.6**	**-1.5**
CDAG				*i* S	**Sb**	**00 52 07.2**	**-1.8**
KIZT	**Kizilcal**	**1.10**	**244**	*i* PN	**Pn**	**00 51 57.7**	**-1.0**
ELDT	**Eldivan**	**1.14**	**11**	*i* P	**Pb**	**00 51 57.5**	**-1.1**
ELDT				*i* S	**Sb**	**00 52 14.4**	**+1.0**
KDHN	**Kadinhani**	**1.17**	**224**	*i* P	**Pb**	**00 51 57.8**	**-1.3**
KDHN				*i* S	**Sb**	**00 52 14.4**	**+0.1**
CANT	**Cankiri**	**1.28**	**16**	*i* PN	**Pn**	**00 52 02.0**	**+0.6**
CORM	**Corum**	**1.40**	**54**	*i* PN	**Pn**	**00 52 02.7**	**-0.4**
NIG	**Nigde**	**1.71**	**137**	PN	**Pn**	**00 52 07.5**	**+0.1**
YOZ	**Yozgat**	**1.71**	**80**	PN	**Pn**	**00 52 08.3**	**+0.9**
CTKT	**Corum**	**1.78**	**45**	*i* P	**Pn**	**00 52 08.0**	**-0.4**
CTKT				*i* S	**Sn**	**00 52 30.5**	**-1.0**
ESKT	**Eskisehir**	**1.78**	**275**	PN	**Pn**	**00 52 08.8**	**+0.3**
TOS	**Tosya**	**1.79**	**22**	PN	**Pn**	**00 52 09.2**	**+0.5**
MDU	**Mudurnu**	**1.84**	**307**	*e*PN	**Pn**	**00 52 10.2**	**+0.8**
SAFT	**Safranbolu**	**1.90**	**350**	*e*PN	**Pn**	**00 52 11.0**	**+0.8**
BORA	**Eskisehir**	**2.14**	**285**	*i* P	**Pn**	**00 52 12.3**	**-1.3**
BORA				*i* S	**Sn**	**00 52 46.6**	**+6.0**
BNN	**Bunyan**	**2.17**	**103**	*e*PN	**Pn**	**00 52 15.0**	**+1.0**
GPA	**Golpazari**	**2.37**	**294**	*e*PN	**Pn**	**00 52 16.4**	**-0.5**
ALT	**Altintas**	**2.38**	**263**	*e*PN	**Pn**	**00 52 17.1**	**+0.1**
BYBT	**Boyabat**	**2.43**	**30**	*e*PN	**Pn**	**00 52 18.2**	**+0.3**
BOYT	**Boyabat**	**2.45**	**33**	*i* P	**Pn**	**00 52 17.0**	**-1.1**
BOYT				*i* S	**Sn**	**00 52 49.0**	**+0.5**
HDMB	**Hadim**	**2.46**	**192**	*e*PN	**Pn**	**00 52 18.7**	**+0.5**
ISP	**Isparta**	**2.57**	**234**	*e*PN	**Pn**	**00 52 19.6**	**-0.2**
ISP	**Isparta**	**2.57**	**234**	*e*P	**Pn**	**00 52 19.5**	**-0.2**
KARA	**Karaisali**	**2.59**	**144**	*e*PN	**Pn**	**00 52 20.9**	**+0.8**
MERS	**Mersin**	**2.73**	**156**	*e*PN	**Pn**	**00 52 22.6**	**+0.5**
TOKT	**Tokat**	**2.79**	**69**	*e*PN	**Pn**	**00 52 23.7**	**+0.8**
KOZT	**Kozan**	**2.83**	**131**	*e*PN	**Pn**	**00 52 24.1**	**+0.6**
SVSK	**Karacayir**	**3.03**	**78**	*e*PN	**Pn**	**00 52 26.8**	**+0.5**
HRT	**Hereke**	**3.03**	**300**	*e*PN	**Pn**	**00 52 25.9**	**-0.5**
CEYT	**Ceyhan**	**3.13**	**138**	*e*PN	**Pn**	**00 52 28.7**	**+1.0**
YLV	**Yalova**	**3.13**	**294**	*e*PN	**Pn**	**00 52 27.3**	**-0.5**
IKL	**Isikli**	**3.16**	**172**	*e*PN	**Pn**	**00 52 28.5**	**+0.3**
MYA	**Malataya**	**4.25**	**103**	*e*PN	**Pn**	**00 52 44.5**	**+0.7**
MALT	**Malatya**	**4.26**	**103**	P	**Pn**	**00 52 41.6**	**-2.2**
YER	**Yerkesik**	**4.43**	**241**	*e*PN	**Pn**	**00 52 46.7**	**+0.5**
PTK	**Pertek**	**4.88**	**94**	*e*PN	**Pn**	**00 52 53.0**	**+0.3**
GUMT	**Gumushane**	**4.99**	**75**	*e*PN	**Pn**	**00 52 54.9**	**+0.7**

*IDC **10** 01:04:14.7±2.4, 57.75N×22.40E, mb1 3.2/4, mb1mx3.1/18, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=23.4km s-min=9.0km az=164.0*
HEL 10 01:04:16.0±0.2**, 57.82N**×**22.20E, ML1.5, ML1.9**(UPP)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOTU	**Gotland**	**1.95**	**268**	*e*P	Pn	01 04 50.1	-0.5
VSU	**Vasula**	**2.49**	**73**	*e*P	Pn	01 04 55.7	-2.8
VSU				*e*S	Sn	01 05 28.1	-1.8
NYNU	**Nynaeshamn**	**2.51**	**300**	*e*P	Pn	01 04 57.9	-0.8
NRTU	**Norrtaelje**	**2.63**	**317**	*e*P	Pn	01 04 59.4	-1.1
GRAU	**Graesoe**	**3.15**	**325**	*e*P	Pn	01 05 05.8	-2.1
FLYU	**Flymyra**	**3.22**	**318**	*e*P	Pn	01 05 08.3	-0.5
PVF	**Pernaja**	**3.32**	**33**	*e*S	Sn	01 05 51.9	+0.8
BACU	**Backbrunna**	**3.34**	**310**	*e*P	Pn	01 05 09.6	-1.0
ESKU	**Eskilstuna**	**3.36**	**297**	*e*P	Pn	01 05 09.8	-1.0
OSTU	**Oestervaala**	**3.56**	**315**	*e*P	Pn	01 05 12.7	-1.1
VJF	**Virojoki**	**3.88**	**43**	*e*P	Pn	01 05 17.2	-1.0
VJF				*e*SG	Sg	01 06 18.2	-6.9
FIA0	**FINESS Array S**	**4.14**	**27**	*e*P	Pn	01 05 20.1	-1.7
FIA0				*e*S	Sn	01 06 09.0	-2.7
FIA0				*e*SG	Sg	01 06 23.0	-11
FINES	**FINESS Array B**	**4.14**	**27**	Pn	Pn	01 05 20.0	-1.9
	0.2nm,0.3s,baz=208,slow=12,SNR=9.2						
FINES				Pg	Pg	01 05 28.8	-10
	1.0nm,0.3s,baz=210,slow=15,SNR=27						
FINES				Sn	Sn	01 06 07.2	-4.5
	0.2nm,0.3s,baz=209,slow=17,SNR=2.7						
FINES				Lg		01 06 24.4	
	0.8nm,0.3s,baz=203,slow=29,SNR=10.0						
KEF	**Keuruu**	**4.57**	**16**	*e*P	Pn	01 05 26.4	-1.5
KEF				*e*SG	Sg	01 06 36.7	-11
KEF				MSG		01 06 38.3	
	comp=Z,0.7nm,0.2s						
KAF	**Kangasniemi**	**4.78**	**24**	*e*P	Pn	01 05 27.0	-4.0
KAF				*e*SG	Sg	01 06 42.1	-13
KAF				MSG		01 06 45.4	
	comp=Z,0.5nm,0.2s						
HFS	**Hagfors**	**4.98**	**301**	Pn	Pn	01 05 31.2	-2.6
	comp=Z,0.1nm,0.3s,baz=125,slow=15,SNR=16						
HFS				Sn	Sn	01 06 30.3	-2.6
	comp=Z,0.1nm,0.3s,baz=90,slow=17,SNR=3.7						
HFS				Lg		01 06 53.9	
	comp=Z,0.2nm,0.3s,baz=113,slow=31,SNR=11						
SUF	**Sumiainen**	**5.30**	**20**	*e*P	Pn	01 05 36.6	-1.6
SUF				MSG		01 06 59.0	
	comp=Z,0.3nm,0.1s						
NOA	**NORSAR Array B**	**6.47**	**305**	Pn	Pn	01 05 50.6	-4.2
	comp=Z,0.2nm,0.3s,baz=99,slow=11,SNR=2.8						
NOA				Sn	Sn	01 07 04.3	-6.0
	comp=Z,0.1nm,0.3s,baz=149,slow=16,SNR=2.5						
NOA				Lg		01 07 42.3	
	comp=Z,0.5nm,0.3s,baz=121,slow=18,SNR=3.7						
ARCES	**ARCESS Array B**	**11.85**	**6**	Pn	P	01 07 01.4	-7.7
	comp=Z,0.1nm,0.3s,baz=190,slow=14,SNR=2.9						

*CSEM **10** 01:09:59.7±0.1, 38.58N×57.46E, h2^{km}, mb3.9, Error ellipse: s-maj=2.4km s-min=1.5km az=162.0*
*MOS **10** 01:10:01.2±1.1, 38.33N×57.27E, h38^{km}, mb3.9/1, Error ellipse: s-maj=27.9km s-min=15.9km az=35.4*
*TEH **10** 01:10:06.6, 38.24N×57.46E, h10^{km}, Mn3.6*
*NNC **10** 01:10:13.7±3.8, 39.11N×58.58E, Error ellipse: s-maj=34.6km s-min=22.6km az=12.0*
ISC 10 01:10:00.4±0.4**, 38.66N**±0.04×**57.41E**±0.05**, h10**^{km}**, n36,** σ**1^{s}14**/39**, mb3.7**/1**, 3C-6D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAN	**Vannovskaya**	**0.90**	**142**	*i* P	**Pb**	**01 10 15.4**	**-2.2**
VAN	**Vannovskaya**	**0.90**	**142**	⇑*i*P	**Pb**	**01 10 15.4**	**-2.2**
ASH	**Ashkhabad**	**1.02**	**133**	⇑*i*P	**Pb**	**01 10 19.5**	**-0.2**
ASH				*e*S	**Sb**	**01 10 34.0**	**+1.0**
IEMG	**Emamqoli**	**1.59**	**141**	Pg	**Pn**	**01 10 23.7**	**-5.0**
ISFR	**Esferayen**	**1.68**	**164**	Pg	**Pn**	**01 10 23.4**	**-6.6**
IQHU	**Quchan**	**1.82**	**150**	Pg	**Pn**	**01 10 26.3**	**-5.8**
IKRD	**Kardeh**	**2.08**	**155**	Pn	**Pn**	**01 10 42.6**	**+6.8**
IPAY	**Payeh**	**2.54**	**150**	Pn	**Pn**	**01 10 42.2**	**-0.2**
MHI	**Mashhad**	**2.86**	**144**	Pn	**Pn**	**01 10 48.6**	**+1.6**
IMYA	**Miamay**	**3.15**	**136**	Pn	**Pn**	**01 10 51.3**	**+0.2**
IANJ	**Anjiloo**	**4.24**	**222**	Pn	**Pn**	**01 11 07.7**	**+1.2**
ISHM	**Shahmirzad**	**4.34**	**230**	Pn	**Pn**	**01 11 08.9**	**+0.9**
IFIR	**Firoozkooh**	**4.78**	**232**	Pn	**Pn**	**01 11 15.0**	**+0.7**
IFIR	**Firoozkooh**	**4.78**	**232**	Lg		01 12 28.9	
ILAS	**Lasjerd**	**4.83**	**229**	Pn	**Pn**	**01 11 15.1**	**+0.1**
IDMV	**Damavand**	**5.28**	**236**	Pn	**Pn**	**01 11 22.1**	**+0.8**
IAFJ	**Afjeh**	**5.33**	**240**	Pn	**Pn**	**01 11 23.2**	**+1.2**
IVRN	**Varamin**	**5.84**	**233**	Lg		01 13 01.5	
IVRN	**Varamin**	**5.84**	**233**	Pn	**Pn**	**01 11 29.9**	**+0.7**
IRAZ	**Razeghan**	**6.80**	**244**	Pn	**Pn**	**01 11 50.9**	**+8.1**
ICHK	**Chekchek**	**6.85**	**202**	Pn	**Pn**	**01 11 40.9**	**-2.5**
IBAF	**Bafgh**	**7.21**	**193**	Pn	**Pn**	**01 11 46.3**	**-2.2**
ISAD	**Sadrabad**	**7.38**	**205**	Pn	**Pn**	**01 11 48.7**	**-2.2**
IPIR	**Pirpir**	**7.97**	**224**	Pn	**Pn**	**01 11 52.9**	**-6.3**
AB31	**Akbulak array**	**10.75**	**9**	Pn	**P**	**01 12 42.0**	**+4.6**
	0.5nm,0.4s,baz=207,slow=14,SNR=12						
AB31				⇓Sn	**S**	**01 14 38.7**	**-0.2**
	1.5nm,0.4s,baz=214,slow=25,SNR=6.3						
KK31	**Karatay Array**	**10.87**	**62**	⇓Pn	**P**	**01 12 39.2**	**+0.2**
	0.4nm,0.3s						
KK31				⇓Sn	**S**	**01 14 34.0**	**-7.7**
	1.5nm,0.4s						
KIV	**Kislovodsk**	**12.27**	**300**	*i* P	**P**	**01 12 57.0**	**-1.0**
	9.0nm,1.3s						
KIV	**Kislovodsk**	**12.27**	**300**	*i* P	**P**	**01 12 57.0**	**-1.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GOF	**Gofitskoye**	**12.47**	**305**	*e*P	**P**	**01 13 01.0**	**+0.3**
AAK	**Ala-Archa**	**13.57**	**68**	*e*P	**P**	**01 13 16.0**	**+0.7**
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**13.57**	**68**	*e*P	**P**	**01 13 16.0**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SOC	**Sochi**	**14.21**	**296**	*e*P	**P**	**01 13 20.4**	**-3.3**
SOC				*e*		01 15 58.6	
SOC				pmax	pmax		
	comp=N,28nm,1.2s						
SOC				pmax	pmax		
	comp=E,20nm,1.2s						
SOC				pmax	pmax		
	comp=Z,35nm,1.2s						
SOC				MLR	MLR		
	comp=Z,135nm,18.0s						
SOC				MLR	MLR		
	comp=N,84nm,15.0s						
VOSK	**Vostochnaya**	**16.92**	**29**	⇑Pn	**P**	**01 13 57.3**	**-1.3**
	comp=N,0.9nm,0.4s						
VOSK				⇓Sn	**S**	**01 17 00.8**	**-5.0**
	comp=N,2.8nm,0.8s						
BVA0	**Borovoye Array**	**16.94**	**28**	⇓Pn	**P**	**01 13 59.4**	**+0.5**
	comp=N,0.3nm,0.7s,baz=198,slow=8.8,SNR=9.7						
BVA0				⇓Sn	**S**	**01 16 59.4**	**-6.7**
	comp=N,0.5nm,0.8s,baz=214,slow=27,SNR=5.3						
KURK	**Kurchatov**	**19.23**	**44**	*e*P	**P**	**01 14 27.6**	**+0.5**
OBN	**Obninsk**	**21.63**	**326**	*e*P	**P**	**01 14 52.8**	**+0.2**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						

*NEIC **10** 01:20:14.9±2.5, 5.55S×154.37E, h142^{km}±21^{km}, mb4.3/1, Error ellipse: s-maj=18.4km s-min=13.9km az=52.0*
*IDC **10** 01:20:14.1±4.1, 5.57S×154.38E, h134^{km}±36^{km}, mb3.7/10, mb1 3.9/11, mb1mx3.9/16, mbtmp4.2/11, Error ellipse: s-maj=25.3km s-min=17.8km az=64.0*
ISC 10 01:20:14.0±3.4**, 5.6S**±0.1×**154.4E**±0.2**, h149**^{km}±29^{km}**, n13,** σ**0^{s}86**/13**, mb3.8**/10**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.11**	**241**	P	**P**	**01 22 09.4**	**-0.4**
	14nm,0.3s,baz=61,slow=7.0,SNR=32						
CTA	**Charters Tower**	**16.45**	**208**	P	**P**	**01 23 59.6**	**+1.9**
	0.1nm,0.3s,baz=6.5,slow=14,SNR=2.7						
DZM	**Mont Dzumac**	**20.14**	**146**	P	**P**	**01 24 38.0**	**-0.5**
	3.7nm,0.5s,baz=316,slow=19,SNR=20						
WRAB	**Tennant Creek**	**24.15**	**232**	*e*P	**P**	**01 25 17.8**	**0.0**
	7.2nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**24.16**	**232**	P	**P**	**01 25 18.1**	**+0.3**
	4.4nm,0.7s,mb4.1,baz=55,slow=9.6,SNR=14						
STKA	**Stephens Creek**	**28.78**	**203**	P	**P**	**01 25 58.7**	**-1.4**
	2.7nm,0.6s,mb4.1,baz=30,slow=14,SNR=5.2						
FITZ	**Fitzroy Crossi**	**30.70**	**244**	P	**P**	**01 26 15.8**	**-1.5**
	2.3nm,0.7s,mb4.0,baz=83,slow=2.1,SNR=5.3						
RPZ	**Rata Peaks**	**40.74**	**161**	P	**P**	**01 27 41.8**	**0.0**
	2.8nm,0.6s,mb4.0,baz=326,slow=3.6,SNR=5.8						
SONM	**Songino Array**	**67.80**	**327**	P	**P**	**01 30 58.7**	**+0.7**
	0.6nm,0.9s,mb3.3,baz=143,slow=6.0,SNR=3.0						
VNDA	**Vanda**	**72.02**	**178**	P	**P**	**01 31 23.4**	**+0.4**
	1.1nm,0.8s,mb3.6,baz=337,slow=6.8,SNR=8.0						
MKAR	**Makanchi Array**	**81.93**	**319**	P	**P**	**01 32 18.9**	**+0.4**
	0.7nm,0.8s,mb3.3,baz=90,slow=7.2,SNR=4.1						
ILAR	**Eielson Array**	**82.28**	**22**	P	**P**	**01 32 19.4**	**-0.5**
	0.3nm,0.6s,mb3.1,baz=239,slow=5.9,SNR=5.8						
MAW	**Mawson**	**85.47**	**203**	P	**P**	**01 32 36.6**	**+0.8**
	0.8nm,0.5s,mb3.7,baz=99,slow=5.2,SNR=12						

*BJI **10** 01:24:30.3, 4.86S×154.42E, h92^{km}, mB5.5, mb5.2*
*NEIC **10** 01:24:32.0±0.1, 5.15S×154.08E, mb5.4/38, MW5.6, Error ellipse: s-maj=6.5km s-min=4.1km az=80.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.96; $M_{\theta\theta}$0.47; $M_{\phi\phi}$-2.43; $M_{r\theta}$-1.31; $M_{\theta\phi}$0.71; $M_{\phi r}$1.36; Best double couple: $M_0 3\times10^{17}$ NP1:ϕ_s191°, δ32°, λ130°. NP2:ϕ_s326°, δ66°, λ68°. Principal axes: T 2.86, Plg62°, Azm201°; N .28, Plg20°, Azm335°; P -3.14, Plg18°, Azm72°;*
*HRVD **10** 01:24:32.0±0.2, 5.42S×153.98E, h109^{km}±1^{km}, MW5.5/69, Centroid moment Tensor Solution. LP body waves: s60,c106;Mantle waves: s69,c138; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.45±.05; $M_{\theta\theta}$-0.41±.06; $M_{\phi\phi}$-1.04±.06; $M_{r\theta}$-1.10±.04; $M_{\theta\phi}$0.63±.06; $M_{\phi r}$1.10±.04; Best double couple: $M_0 2.119\times10^{17}$ NP1: ϕ_s157°, δ22°, λ107°. NP2:ϕ_s319°, δ69°, λ83°. Principal axes: T 2.15, Plg66°, Azm217°; N -.06, Plg6°, Azm321°; P -2.088, Plg23°, Azm54°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **10** 01:24:32.4±0.5, 5.25S×154.08E, h100^{km}±3^{km}, mb4.8/18, mb1 4.9/18, mb1mx4.9/19, mbtmp5.1/18, MS4.3/13, Ms1 4.3/13, ms1mx4.2/17 Error ellipse: s-maj=13.6km s-min=8.9km az=79.0*
*MOS **10** 01:24:33.6±0.9, 5.12S×154.04E, h120^{km}, mb5.1/28, Error ellipse: s-maj=10.6km s-min=7.0km az=100.9*
ISC 10 01:24:30.9±0.2**, 5.17S**±0.03×**154.08E**±0.04**, h97**^{km}**, h97**^{km}±1.1^{km}**:pP-P, n261,** σ**1^{s}00**/209**, mb5.2**/81**, 26C-6D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.20**	**126**	P	**P**	**01 26 17.9**	**+2.7**
	11nm,0.3s,baz=196,slow=5.6,SNR=9.0						
HNR				S	**S**	**01 27 36.1**	**+0.1**
	26nm,0.3s,baz=202,slow=22,SNR=3.4						
HNR	**Honiara**	**7.20**	**126**	*e*P	**P**	**01 26 17.7**	**+2.5**
	736nm,0.9s						
HNR	**Honiara**	**7.20**	**126**	*e*P	**P**	**01 26 17.7**	**+2.5**
HNR				pmax	pmax		
	comp=Z,736nm,0.9s						
PMG	**Port Moresby**	**8.05**	**238**	P	**P**	**01 26 30.0**	**+3.3**
	comp=Z,118nm,0.3s,baz=47,slow=7.1,SNR=179						
PMG				S	**S**	**01 27 58.5**	**+1.7**
	comp=Z,27nm,0.3s,baz=105,slow=11,SNR=3.0						
PMG				LR	LR	01 29 37.2	
	comp=Z,2μm,18.2s,baz=112,slow=38						
PMG	**Port Moresby**	**8.05**	**238**	*e*P	**P**	**01 26 30.0**	**+3.2**
	comp=Z,1μm,0.8s						
PMG	**Port Moresby**	**8.05**	**238**	*d i*P	**P**	**01 26 29.6**	**+2.8**
CTA	**Charters Tower**	**16.67**	**206**	⇑*i*P	**P**	**01 28 22.6**	**+2.7**
	comp=Z,42nm,0.9s						
CTA				*e*S	**S**	**01 31 28.2**	**+7.2**
CTA	**Charters Tower**	**16.67**	**206**	P	**P**	**01 28 21.4**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=35,slow=13,SNR=26						
CTA				S	**S**	**01 31 24.6**	**+3.6**
	comp=Z,0.4nm,0.3s,baz=53,slow=9.6,SNR=2.0						

CTA LR LR 01 33 47.5
comp=Z,982nm,19.6s,baz=29,slow=33
CTA Charters Tower 16.67 206⇑ *iP* **P 01 28 22.6 +2.7**
CTA *eS* **S 01 31 28.2 +7.2**
CTA pmax pmax
comp=Z,42nm,0.9s
CTAO Charters Tower 16.67 206 *eP* **P 01 28 21.9 +2.0**
comp=Z,84nm,1.0s
CTAO Charters Tower 16.67 206 *eP* **P 01 28 21.9 +2.0**
CTAO pmax pmax
comp=Z,84nm,1.0s
KWAJ Kwajalein Atol 19.36 44 *eP* **P 01 28 52.3 +0.9**
comp=Z,2µm,1.6s
DZM Mont Dzumac 20.63 146⇑ *eP* **P 01 29 04.5 -0.2**
DZM Mont Dzumac 20.63 146 P **P 01 29 04.2 -0.5**
DZM S **S 01 32 45.7 +1.0**
comp=Z,115nm,0.9s,baz=341,slow=9.5,SNR=71
comp=Z,6.6nm,1.0s,baz=315,slow=19,SNR=2.2
DZM Mont Dzumac 20.63 146⇑ *eP* **P 01 29 04.5 -0.2**
GUMO Guam 20.75 334 P **P 01 29 07.0 +1.1**
comp=Z,92nm,0.8s,baz=193,slow=15,SNR=7.3
GUMO Guam 20.75 334 *eP* **P 01 29 06.1 +0.2**
comp=Z,66nm,0.8s
GUMO Guam 20.75 334 *eP* **P 01 29 06.1 +0.2**
GUMO pmax pmax
comp=Z,66nm,0.8s
WRAB Tennant Creek 24.16 231 *eP* **P 01 29 39.3 0.0**
comp=Z,220nm,0.8s,mb5.5
WRAB Tennant Creek 24.16 231*c iP* **P 01 29 40.2 +0.9**
WB2 Warramunga Arr 24.17 231 *eP* **P 01 29 39.8 +0.4**
WRA Warramunga Arr 24.18 231 P **P 01 29 39.7 +0.3**
comp=Z,129nm,0.7s,mb5.4,baz=56,slow=10,SNR=354
WRA S **S 01 33 49.0 +1.3**
comp=Z,3.4nm,0.9s,baz=57,slow=15,SNR=7.8
WRA ScP 01 36 45.9
comp=Z,5.3nm,1.0s,baz=59,slow=2.7,SNR=3.1
ARMA Armidale 25.23 185⇑ *iP* **P 01 29 50.1 +0.7**
ASPA Alice Springs 26.76 225⇑ *iP* **P 01 30 03.1 -0.6**
RIV Riverview 28.65 185 *eP* **P 01 30 20.7 +0.1**
STKA Stephens Creek 29.03 202⇑ *iP* **P 01 30 23.0 -1.1**
comp=Z,49nm,0.8s,mb5.2
STKA Stephens Creek 29.03 202 P **P 01 30 23.2 -0.9**
comp=Z,60nm,0.8s,mb5.3,baz=7.6,slow=8.5,SNR=52
STKA ScP 01 37 00.8
comp=Z,9.0nm,1.1s,baz=176,slow=20,SNR=2.0
STKA LR LR 01 41 05.1
comp=Z,720nm,19.8s,baz=19,slow=34
CNB Canberra Magne 30.32 188 *eP* **P 01 30 35.2 -0.2**
comp=Z,44nm,0.9s,mb5.1
FITZ Fitzroy Crossi 30.61 243 *eP* **P 01 30 36.7 -1.5**
comp=Z,367nm,0.7s,mb6.2
FITZ Fitzroy Crossi 30.61 243 P **P 01 30 36.7 -1.5**
comp=Z,353nm,0.7s,mb6.2,baz=60,slow=5.3,SNR=521
FITZ LR LR 01 43 44.0
comp=Z,677nm,18.5s,baz=77,slow=38
TOO Toolangi 33.19 193 *eP* **P 01 31 00.3 -0.2**
comp=Z,18nm,0.8s,mb5.0
TOO Toolangi 33.19 193 *eP* **P 01 31 00.3 -0.2**
TOO pmax pmax
comp=Z,18nm,0.8s,mb5.0
FORT Forrest 35.33 221 *eP* **P 01 31 17.9 -0.9**
comp=Z,121nm,0.7s,mb5.8
MBWA Marble Bar 36.90 241 *eP* **P 01 31 30.8 -1.3**
comp=Z,187nm,1.3s,mb5.9
TSM Tawau 37.36 284 P **P 01 31 37.1 +1.1**
TAU Tasmania Unive 38.06 188 *eP* **P 01 31 41.6 +0.1**
comp=Z,204nm,1.4s,mb5.8
TAU Tasmania Unive 38.06 188 *eP* **P 01 31 41.6 0.0**
TAU pmax pmax
comp=Z,204nm,1.4s,mb5.8
URZ Urewera 39.04 151 P **P 01 31 49.6 -0.1**
comp=Z,13nm,0.8s,mb4.8,baz=110,slow=4.1,SNR=5.5
JOW Kunigami 40.44 323 P **P 01 32 02.5 +1.0**
comp=Z,32nm,0.5s,mb5.4,baz=134,slow=22,SNR=5.9
JOW LR LR 01 47 58.6
comp=Z,217nm,18.6s,baz=208,slow=35
SNZO South Karori 40.45 156 *eP* **P 01 32 00.8 -0.6**
comp=Z,50nm,1.1s,mb5.3
RPZ Rata Peaks 41.21 161 P **P 01 32 07.2 -0.4**
comp=Z,216nm,0.8s,mb6.0,baz=10,slow=3.2,SNR=136
RPZ Rata Peaks 41.21 161 *ePN* **P 01 32 06.8 -0.8**
RPZ Rata Peaks 41.21 161 *eP* **P 01 32 07.2 -0.4**
LBZ Lake Benmore 41.55 163 *ePN* **P 01 32 09.3 -1.1**
LBZ Lake Benmore 41.55 163 *eP* **P 01 32 09.3 -1.1**
MQZ McQueen's Vall 41.73 160 PN **P 01 32 11.2 -0.7**
MQZ McQueen's Vall 41.73 160 P **P 01 32 11.2 -0.7**
MLZ Mavora Lakes 41.87 165 *ePN* **P 01 32 13.1 +0.1**
MLZ Mavora Lakes 41.87 165 *eP* **P 01 32 13.1 +0.1**
ODZ Otahua Downs 42.28 163 PN **P 01 32 15.5 -0.8**
ODZ Otahua Downs 42.28 163 P **P 01 32 15.5 -0.9**
KLBR Kellerberrin 42.99 228⇑ *iP* **P 01 32 21.0 -1.4**
comp=Z,29nm,0.5s,mb5.3
NACB Ninganchiao 43.03 314 *eP* **P 01 32 22.7 -0.1**
YHNB Yeheng 43.50 314 *eP* **P 01 32 27.3 +0.7**
NWAO Narrogin (SRO) 44.05 226 LR LR 01 50 42.0
comp=Z,820nm,20.2s,baz=62,slow=36
MJAR Matsushiro Arr 44.07 342 P **P 01 32 29.3 -1.7**
comp=Z,4.9nm,0.7s,mb4.3,baz=148,slow=7.1,SNR=9.3
MJAR pP pP 01 32 55.6 +1.7
comp=Z,1.2nm,0.4s,baz=173,slow=9.3,SNR=2.3
MJAR LR LR 01 47 45.7
comp=Z,141nm,20.0s,baz=150,slow=32
MAJO Matsushiro 44.07 342 *eP* **P 01 32 30.5 -0.6**
comp=Z,6.5nm,0.5s,mb4.6
MAJO Matsushiro 44.07 342 *eP* **P 01 32 30.5 -0.5**
MAJO pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
MAT Matsushiro 44.07 342 P **P 01 32 30.0 -1.0**
MAT S **S 01 38 56.0 +0.4**
MAT Matsushiro 44.07 342 *eP* **P 01 32 30.0 -1.0**
comp=Z,4.8nm,0.7s,mb4.3
MAT *eS* **S 01 38 57.0 +1.4**
MAT Matsushiro 44.07 342 *eP* **P 01 32 30.0 -1.0**
MAT *eS* **S 01 38 57.0 +1.4**
MAT pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
KSM Kuching 44.22 277 *eP* **P 01 32 32.3 -0.2**
QZH Quanzhou 45.67 313 P **P 01 32 45.0 +1.0**
QZH AMB AMB
comp=Z,100nm,0.7s,mb5.7
SSE Sheshan 47.82 321 *eP* **P 01 33 01.1 +0.3**
SSE AP pP 01 33 22.7 -1.2
SSE XP sP 01 33 33.8 -1.0
SSE PCP PcP 01 34 29.4 +0.9
SSE PP PP 01 34 53.4 +0.4
SSE S **S 01 39 50.4 +1.4**
SSE XS 01 40 29.9
SSE SCS ScS 01 42 46.7 +5.3
SSE AMB AMB
comp=Z,19nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,124nm,5.2s
SSE LR LR
comp=N,157nm,20.1s
SSE LR LR
comp=E,318nm,20.1s
SSE LR LR
comp=Z,256nm,27.3s
SSE Sheshan 47.82 321 *eP* **P 01 33 01.1 +0.3**
comp=Z,19nm,0.8s,mb5.0
SSE pP pP 01 33 22.7 -1.2
SSE sP sP 01 33 33.8 -1.0
SSE PcP PcP 01 34 29.4 +0.9
SSE PP PP 01 34 53.4 +0.4
SSE S **S 01 39 50.4 +1.4**
SSE sS 01 40 29.9
SSE ScS ScS 01 42 46.7 +5.3
SSE LR LR
comp=Z,260nm,27.3s
GZH Guangzhou 48.69 307 P **P 01 33 07.4 -0.2**
GZH S **S 01 40 01.9 +0.6**
GZH LR LR
comp=N,149nm,14.7s
GZH LR LR
comp=E,296nm,23.1s
GZH LR LR
comp=Z,363nm,18.4s
KS15 Wonju Array Si 48.91 332 *eP* **P 01 33 08.8 -0.3**
INCN Inchon 49.54 331 *eP* **P 01 33 13.8 -0.1**
comp=Z,73nm,0.7s,mb5.7
QIZ Qiongzhong 49.75 300 P **P 01 33 17.7 +1.9**
QIZ XP sP 01 33 52.6 +2.7
QIZ S **S 01 40 16.9 +0.8**
QIZ XS 01 40 57.5
QIZ AMB AMB
comp=Z,26nm,1.2s,mb5.0
QIZ AMB AMB
comp=Z,274nm,8.9s
NJ2 Nanjing 49.93 320 *eP* **P 01 33 15.8 -1.2**
NJ2 PP PP 01 35 11.1 -2.4
NJ2 S **S 01 40 17.0 -1.5**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,88nm,4.2s
NJ2 LR LR
comp=N,550nm,12.7s
NJ2 LR LR
comp=E,350nm,13.8s
NJ2 LR LR
comp=Z,210nm,15.7s
KGM Kluang 51.20 277 P **P 01 33 27.4 +0.5**
WHN Wuhan 52.00 316⇑ P **P 01 33 33.4 +0.7**
YSS Yuzh-Sakhalins 52.85 350 P **P 01 33 38.0 -0.8**
MDJ Mudanjiang 54.21 339 P **P 01 33 48.9 +0.1**
MDJ AP pP 01 34 10.5 -2.0
MDJ XP sP 01 34 21.6 -1.7
MDJ PP PP 01 35 50.8 -2.1
MDJ SCP 01 38 43.2
MDJ PCS 01 38 53.0
MDJ S **S 01 41 13.9 -2.8**
MDJ XS 01 41 54.9
MDJ SCS ScS 01 43 28.1 +3.1
MDJ SS SS 01 44 57.7 -1.7
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,95nm,5.3s
MDJ LR LR
comp=N,195nm,27.8s
MDJ LR LR
comp=E,293nm,39.0s
MDJ LR LR
comp=Z,153nm,29.7s
KULM Kulim 54.35 280 *eP* **P 01 33 48.1 -2.2**
KKTK Khon Kaen 55.00 294⇑ P **P 01 33 54.0 -1.0**
comp=Z,864nm,0.7s
CN2 Changchun 55.16 335 *eP* **P 01 33 55.3 -0.4**
CN2 *e*XP sP 01 34 29.0 -1.3
CN2 *eS* **S 01 41 29.0 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,500nm,4.0s
ENH Enshi 55.34 312 *eP* **P 01 33 56.6 -0.6**
comp=Z,41nm,0.8s,mb5.5
GYA Guiyang 55.63 307⇑ *iP* **P 01 34 01.2 +1.8**
GYA AP pP 01 34 23.6 +0.4
GYA XP sP 01 34 36.2 +2.2
GYA PP PP 01 36 08.4 +2.5
GYA SCP 01 38 46.8
GYA S **S 01 41 39.8 +3.9**
GYA XS 01 42 21.4
GYA SS SS 01 45 27.8 +5.6
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,580nm,9.0s
GYA LR LR
comp=N,2µm,18.4s
GYA LR LR
comp=E,2µm,17.6s
GYA LR LR
comp=Z,3µm,17.9s
PPT Papeete 56.40 108 *eP* **P 01 34 05.9 +0.9**
comp=Z,28nm,1.5s,mb5.1
PPT Papeete 56.40 108 *eLR* LR 01 50 35.7
comp=Z,768nm,34.5s
PAE Paea 56.41 108 *eP* **P 01 34 05.8 +0.8**
comp=Z,54nm,1.2s,mb5.5
TVO Taravao 56.73 108 *eP* **P 01 34 08.3 +1.0**
comp=Z,38nm,0.7s,mb5.5
TBI Tubuai 57.25 114 *eLR* LR 01 51 04.2
comp=Z,930nm,38.2s
NST Nakhon Sawan 57.27 292⇓ *iP* **P 01 34 11.8 +0.7**
comp=Z,67nm,0.7s,mb5.8
KLR Kul'dur 57.56 343 *eP* **P 01 34 09.7 -3.0**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,50nm,1.8s,mb5.2
NANT Nan 57.71 296⇑ P **P 01 34 12.0 -2.2**
comp=Z,215nm,1.0s,mb6.1
XAN Xi'an 57.76 316 P **P 01 34 13.7 -0.7**
XAN S **S 01 42 03.2 -0.7**
XAN AMB AMB
comp=Z,26nm,1.1s,mb5.2
XAN AMB AMB
comp=Z,174nm,10.0s
XAN LR LR
comp=N,165nm,30.6s
XAN LR LR
comp=E,131nm,27.3s
XAN LR LR
comp=Z,302nm,44.0s
PMOR Pomariorio Ree 57.82 104 *eP* **P 01 34 15.5 +0.5**
comp=Z,80nm,1.2s,mb5.6
PET Petropavlovsk 58.10 3 *eP* **P 01 34 17.0 +0.6**
PET *e**SP sP 01 34 48.3 -3.0
PET *e* 01 36 32.3
PET *eS* **S 01 42 13.2 +5.2**
PET *e*SSS SSS 01 48 23.7 -3.2
PET pmax pmax
comp=Z,36nm,0.5s,mb5.7
PET pmax pmax
comp=Z,200nm,16.8s
PET pmax pmax
comp=Z,100nm,16.5s
PET smax
comp=E,400nm,16.5s
PET smax
comp=N,400nm,15.2s
PET pmax pmax
comp=N,300nm,25.7s
KMI Kunming 58.24 304 P **P 01 34 19.3 +1.5**
KMI AP pP 01 34 43.9 +2.0
KMI XP sP 01 34 56.6 +3.8
KMI PCP PcP 01 35 07.7 -0.1
KMI PP PP 01 36 29.1 -0.4
KMI S **S 01 42 13.9 +3.6**
KMI SS SS 01 46 06.4 +1.3
KMI AMB AMB
comp=Z,78nm,1.0s,mb5.7
KMI AMB AMB
comp=Z,354nm,5.1s
KMI LR LR
comp=N,394nm,21.1s
KMI LR LR
comp=E,208nm,18.0s
KMI LR LR
comp=Z,341nm,30.7s
KMI Kunming 58.24 304 P **P 01 34 19.3 +1.5**
comp=Z,78nm,1.0s,mb5.7
KMI pP pP 01 34 43.9 +2.0
KMI sP sP 01 34 56.6 +3.8
KMI PcP PcP 01 35 07.7 -0.1
KMI PP PP 01 36 29.1 -0.4
KMI PPP PPP 01 37 49.7 -3.2
KMI S **S 01 42 13.9 +3.6**
KMI PS PS 01 42 43.0 +3.9
KMI sS 01 42 59.2
KMI SS SS 01 46 06.4 +1.3
KMI SSS SSS 01 48 38.6 +8.2
KMI LR LR
comp=Z,340nm,30.7s
KMI Kunming 58.24 304 P **P 01 34 19.3 +1.5**
KMI *PP pP 01 34 43.9 +2.0
KMI 01 35 07.7
KMI 01 36 29.1
KMI PPP PPP 01 37 49.7 -3.2
KMI S **S 01 42 13.9 +3.6**
KMI SS SS 01 46 06.4 +1.3
KMI pmax pmax
comp=Z,78nm,1.0s,mb5.7
KMI MLR MLR
comp=Z,340nm,30.7s
CHRT Chiangrai 58.88 297 ⇑P **P 01 34 32.0 +10**
comp=Z,218nm,0.8s,mb6.2
CHG Chiang Mai 59.29 295 ⇑P **P 01 34 25.6 +0.5**
comp=Z,36nm,0.9s,mb5.4
CD2 Chengdu 59.94 310⇑ *iP* **P 01 34 29.7 +0.2**
CD2 AP pP 01 34 53.8 +0.2
CD2 PP PP 01 36 40.6 -4.0
CD2 S **S 01 42 31.8 -0.4**
CD2 XS 01 43 11.7
CD2 SS SS 01 46 28.8 -2.5
CD2 AMB AMB
comp=Z,90nm,0.7s,mb5.9
CD2 AMB AMB
comp=Z,220nm,3.7s
CD2 LR LR
comp=E,180nm,18.6s
CD2 LR LR
comp=Z,150nm,21.0s
HHC Hu-ho-hao-te 60.09 324 *eP* **P 01 34 30.0 -0.3**
HHC AP pP 01 34 54.1 -0.4
HHC XP sP 01 35 05.2 -0.2
HHC PCP PcP 01 35 17.8 +2.9
HHC PP PP 01 36 43.9 -1.9
HHC PCS 01 39 16.8
HHC S **S 01 42 28.2 -5.7**
HHC XS 01 43 09.9
HHC SCS ScS 01 44 05.8 -1.9
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.4
HHC LR LR
comp=N,153nm,13.1s
HHC LR LR
comp=E,155nm,14.3s
HHC LR LR
comp=Z,275nm,30.9s
HIA Hailar 61.89 335 *eP* **P 01 34 41.7 -0.7**
comp=Z,8.2nm,0.6s,mb4.9
HIA Hailar 61.89 335 *eP* **P 01 34 41.7 -0.7**
HIA pmax pmax
comp=Z,8.0nm,0.6s
DRV Dumont d'Urvil 62.17 186 P **P 01 34 44.0 0.0**
DRV S **S 01 42 58.0 -2.0**
LZH Lanzhou 62.38 315 P **P 01 34 46.7 +0.9**
LZH AP pP 01 35 10.5 +0.3
LZH XP sP 01 35 19.3 -1.7
LZH PCP PcP 01 35 26.4 +2.2
LZH PP PP 01 37 06.0 -0.1
LZH S **S 01 43 04.0 +0.9**
LZH XS 01 43 49.0
LZH SS SS 01 47 12.4 +2.2
LZH AMB AMB
comp=Z,90nm,1.2s,mb5.7
LZH AMB AMB
comp=Z,700nm,4.0s
LZH LR LR
comp=E,420nm,15.0s
LZH LR LR
comp=Z,410nm,15.4s
LZH Lanzhou 62.38 315 P **P 01 34 46.7 +0.9**
comp=Z,90nm,1.2s,mb5.7
LZH Lanzhou 62.38 315 P **P 01 34 46.7 +0.9**
LZH pmax pmax
comp=Z,90nm,1.2s,mb5.7
TAOE Nuku Hiva Isla 65.32 97 *eLR* LR 01 54 24.6
comp=Z,2µm,36.1s
CLNS Chul'man 66.22 343 *eP* **P 01 35 11.0 +0.5**
CLNS pmax pmax
comp=Z,14nm,0.7s,mb4.9
CLNS pmax pmax
comp=N,8.0nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,0.8s
GTA Gaotai 66.79 317⇑ *iP* **P 01 35 15.3 +0.9**
GTA AP pP 01 35 39.1 +0.1
GTA PCP PcP 01 35 43.6 +1.2
GTA XP sP 01 35 50.1 +0.6
GTA PP PP 01 37 45.7 +1.3
GTA S S 01 43 58.3 +1.0
GTA XS 01 44 41.0
GTA SS SS 01 48 19.7 +1.0
GTA AMB AMB
comp=Z,44nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,275nm,4.2s
GTA LR LR
comp=N,202nm,20.6s
GTA LR LR
comp=E,145nm,21.0s
GTA LR LR
comp=Z,223nm,32.5s
ULN Ulaanbaatar 66.98 328 *eP* **P 01 35 15.3 -0.1**
comp=Z,8.2nm,0.6s,mb4.7
ULN Ulaanbaatar 66.98 328 *eP* **P 01 35 15.3 -0.1**
ULN pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
SONM Songino Array 67.31 327 P **P 01 35 17.9 +0.4**
comp=Z,13nm,0.6s,mb5.0,baz=149,slow=6.5,SNR=50
SONM LR LR 02 04 07.9
comp=Z,154nm,21.2s,baz=133,slow=35
SEY Seymchan 67.92 359 *eP* **P 01 35 13.5 -7.5**
CASY Casey 68.05 197⇑ *iP* **P 01 35 20.5 -1.2**
LSA Lhasa 69.49 304 P **P 01 35 32.0 +0.7**
LSA Lhasa 69.49 304 *eP* **P 01 35 32.5 +1.2**
comp=Z,46nm,0.8s,mb5.4
LSA Lhasa 69.49 304 *eP* **P 01 35 32.5 +1.2**
LSA pmax pmax
comp=Z,47nm,0.8s,mb5.4
YAK Yakutsk 69.59 348 *eP* **P 01 35 30.6 -0.7**
YAK Yakutsk 69.59 348*c iP* **P 01 35 31.1 -0.2**
YAK pmax pmax
comp=Z,29nm,1.7s,mb4.8
ZAK Zakamensk 70.47 328⇑ *iP* **P 01 35 37.2 +0.4**
ZAK *e* pP 01 36 02.4 +0.7
ZAK pmax pmax
comp=Z,17nm,0.8s,mb4.9
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
RKT Rikitea 70.48 113 *eLR* LR 01 57 11.0
comp=Z,546nm,36.8s
BOD Bodaibo 70.59 339 *eP* **P 01 35 36.6 -0.8**
BOD pmax pmax
comp=Z,13nm,0.7s,mb4.9
MOY Mondy 72.39 329 *eP* **P 01 35 48.8 +0.6**
MOY pmax pmax
comp=Z,42µm,3.0s
VNDA Vanda 72.42 178 P **P 01 35 47.8 -0.3**
comp=Z,37nm,0.7s,mb5.3,baz=335,slow=6.5,SNR=232
VNDA pP pP 01 36 13.1 0.0
comp=Z,6.8nm,0.7s,baz=319,slow=6.9,SNR=2.3
VNDA LR LR 02 05 07.1
comp=Z,141nm,19.1s,baz=360,slow=34
VNDA Vanda 72.42 178 *eP* **P 01 35 47.2 -0.9**
comp=Z,66nm,1.0s,mb5.4
VNDA Vanda 72.42 178 *eP* **P 01 35 47.2 -0.9**
VNDA pmax pmax
comp=Z,66nm,1.0s
SBA Scott Base 72.95 177 *eP* **P 01 35 51.3 +0.2**
comp=Z,80nm,1.1s,mb5.5
SBA Scott Base 72.95 177 *eP* **P 01 35 51.3 +0.2**
SBA pmax pmax
comp=Z,81nm,1.1s,mb5.5
BILL Bilibino 73.54 5 *eP* **P 01 35 55.1 +0.4**
BILL *e* 01 36 10.4
BILL *e**PP pP 01 36 21.5 +1.8
BILL *eS* S 01 45 13.0 -2.3
BILL pmax pmax
comp=Z,11nm,0.9s,mb4.6
BILL MLR MLR
comp=Z,200nm,20.0s
PKI Pulchoki 73.71 301 *eP* **P 01 35 56.2 -0.3**
comp=Z,144nm,1.1s,mb5.6
PKI Pulchoki 73.71 301 *eP* **P 01 35 56.2 -0.3**
PKI pmax pmax
comp=Z,72nm,1.1s,mb5.3
KKN Kakani 73.88 301 *eP* **P 01 35 57.9 +0.4**
comp=Z,116nm,0.9s,mb5.6
KKN Kakani 73.88 301 *eP* **P 01 35 57.9 +0.4**
KKN pmax pmax
comp=Z,58nm,0.9s,mb5.3
DMN Daman 73.98 300 *eP* **P 01 35 58.5 +0.4**
comp=Z,274nm,1.1s,mb5.9
MIR Mirnyy 74.05 201*d iP* **P 01 35 58.6 +0.9**
MIR pmax pmax
comp=Z,103nm,1.2s,mb5.4
GKN Gorkha 74.48 301 *eP* **P 01 36 01.2 +0.2**
comp=Z,230nm,1.1s,mb5.8
KOLN Koldanda 75.32 300 *eP* **P 01 36 05.3 -0.4**
comp=Z,91nm,0.8s,mb5.6
BLSP Bilaspur 75.36 294 *eP* **P 01 36 06.1 0.0**

BLSP				AMb	AMB	01 36 07.1	
	comp=Z,80nm,1.5s,mb5.2						
WMQ	**Urumqi**	**76.87**	**317**	⇑*i*P	**P**	**01 36 14.7**	**+0.5**
WMQ				PCP	PcP	01 36 26.0	+0.8
WMQ				AP	pP	01 36 40.0	+0.6
WMQ				XP	sP	01 36 51.0	+1.1
WMQ				PP	PP	01 39 11.0	+1.6
WMQ				S	S	01 45 52.5	0.0
WMQ				SKS	SKS	01 46 13.0	+0.8
WMQ				SS	SS	01 50 50.0	-3.4
WMQ				AMB	AMB		
	comp=Z,27nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,277nm,4.4s						
WMQ				LR	LR		
	comp=N,644nm,27.4s						
WMQ				LR	LR		
	comp=E,242nm,25.8s						
WMQ				LR	LR		
	comp=Z,375nm,32.0s						
HYB	**Hyderabad**	**77.81**	**289**	*i* P	**P**	**01 36 19.0**	**-0.8**
HYB				*e*	pP	01 36 44.5	-0.6
HYB				*e*		01 36 50.0	
HYB	**Hyderabad**	**77.81**	**289**	*e*P	**P**	**01 36 19.0**	**-0.8**
BHPL	**Bhopal**	**79.84**	**295**	*e*P	**P**	**01 36 30.6**	**-0.2**
BHPL				AMb	AMB	01 36 31.5	
	comp=Z,54nm,0.8s,mb5.4						
IMA	**Indian Mountai**	**80.38**	**19**	*e*P	**P**	**01 36 33.5**	**+0.7**
	comp=Z,54nm,0.6s,mb5.6						
IMA	**Indian Mountai**	**80.38**	**19**	*e*P	**P**	**01 36 33.5**	**+0.7**
IMA				pmax	pmax		
	comp=Z,55nm,0.6s,mb5.6						
SONA	**Sohna**	**81.05**	**300**	*e*P	**P**	**01 36 35.8**	**-1.3**
AYAN	**Aya Nagar**	**81.05**	**300**	*e*P	**P**	**01 36 36.4**	**-0.7**
MKAR	**Makanchi Array**	**81.44**	**319**	P	**P**	**01 36 39.1**	**+0.4**
	comp=Z,13nm,0.7s,mb4.9,baz=102,slow=6.0,SNR=76						
MKAR				pP	pP	01 37 05.4	+1.2
	comp=Z,17nm,0.9s,baz=90,slow=4.9,SNR=3.4						
KUDL	**Kundal**	**81.54**	**299**	*e*P	**P**	**01 36 38.4**	**-1.3**
KAD	**Karad**	**81.92**	**288**	*e*P	**P**	**01 36 41.3**	**-0.6**
KAD				AMb	AMB	01 36 42.6	
	comp=Z,124nm,0.8s,mb5.8						
ILAR	**Eielson Array**	**82.02**	**22**	P	**P**	**01 36 40.8**	**-0.6**
	comp=Z,5.9nm,0.6s,mb4.6,baz=244,slow=5.5,SNR=82						
ILAR				pP	pP	01 37 07.0	+0.1
	comp=Z,9.0nm,0.9s,baz=259,slow=4.9,SNR=9.6						
ILAR				LR	LR	02 10 56.5	
	comp=Z,132nm,18.8s,baz=228,slow=34						
KHET	**Khetri**	**82.12**	**299**	*e*P	**P**	**01 36 42.4**	**-0.3**
ZAL	**Zalesovo**	**82.17**	**326**	P	**P**	**01 36 42.5**	**+0.1**
	comp=Z,11nm,0.5s,mb5.0,baz=358,slow=6.0,SNR=35						
POO	**Poona**	**82.41**	**289**	*e*P	**P**	**01 36 44.0**	**-0.4**
POO				AMb	AMB	01 36 46.8	
	comp=Z,97nm,1.5s,mb5.4						
NVS	**Novosibirsk**	**83.33**	**327**	*i* P	**P**	**01 36 47.4**	**-0.9**
NVS				*e*		01 40 07.8	
NVS				*i* S	S	01 46 57.4	-2.1
NVS				*e*		01 47 53.4	
NVS				*i* PS	PS	01 48 12.5	+6.7
NVS				pmax	pmax		
	comp=N,22nm,1.6s						
NVS				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=E,40nm,1.8s						
NVS				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.5						
NVS				pmax	pmax		
	comp=N,6.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,13nm,1.5s						
NVS				smax			
	comp=N,43nm,2.3s						
NVS				smax			
	comp=E,39nm,2.5s						
KSH	**Kashi**	**84.14**	**310**	⇑*i*P	**P**	**01 36 55.2**	**+2.5**
KSH				AP	pP	01 37 19.5	+1.2
KSH				XP	sP	01 37 29.5	+0.7
KSH				PP	PP	01 40 12.0	+2.7
KSH				SKS	SKS	01 47 05.6	+2.3
KSH				S	S	01 47 11.7	+3.7
KSH				XS		01 47 55.3	
KSH				SS	SS	01 52 46.3	+5.0
KSH				AMB	AMB		
	comp=Z,480nm,3.4s						
KSH				LR	LR		
	comp=N,170nm,4.8s						
KSH				LR	LR		
	comp=E,230nm,5.2s						
ULHL	**Ulahol**	**84.50**	**313**	P	**P**	**01 36 55.2**	**+0.8**
	SNR=5.8						
QSPA	**South Pole Qui**	**84.80**	**180**	*e*P	**P**	**01 36 55.3**	**+0.2**
	comp=E,70nm,1.1s,mb5.5						
KURK	**Kurchatov**	**84.84**	**322**	*e*P	**P**	**01 36 55.4**	**-0.5**
	comp=E,44nm,1.1s,mb5.3						
KURK				*e*pP	pP	01 37 21.3	-0.3
KURK	**Kurchatov**	**84.84**	**322**	*e*P	**P**	**01 36 55.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3						
TKM2	**Tokmak 2**	**85.10**	**314**	P	**P**	**01 36 58.3**	**+0.8**
	SNR=17						
KZA	**Kyzart**	**85.18**	**313**	P	**P**	**01 37 00.0**	**+2.2**
	SNR=12						
KBK	**Karagaybulak**	**85.52**	**313**	P	**P**	**01 37 00.9**	**+1.4**
	SNR=6.5						
CHMS	**Chumysh**	**85.72**	**314**	P	**P**	**01 37 01.1**	**+0.6**
	SNR=9.2						
MAW	**Mawson**	**85.72**	**203**	⇑*i*P	**P**	**01 36 59.5**	**-0.4**
	comp=Z,55nm,0.6s,mb5.7						
MAW	**Mawson**	**85.72**	**203**	P	**P**	**01 36 59.6**	**-0.3**
	comp=Z,70nm,0.7s,mb5.7,baz=88,slow=5.8,SNR=204						
MAW				pP	pP	01 37 25.7	+0.1
	comp=Z,12nm,0.8s,baz=140,slow=12,SNR=2.2						
MAW				LR	LR	02 13 45.2	
	comp=Z,150nm,18.6s,baz=65,slow=34						
MAW	**Mawson**	**85.72**	**203**	⇑*i*P	**P**	**01 36 59.5**	**-0.4**
MAW				pmax	pmax		
	comp=Z,55nm,0.6s						
UCH	**Uchtor**	**85.75**	**313**	P	**P**	**01 37 02.3**	**+1.7**
	SNR=12						
FRU	**Bishkek**	**85.79**	**314**	*e*P	**P**	**01 36 59.0**	**-1.8**
FRU				*e*	pP	01 37 26.0	-0.5
FRU				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
AAK	**Ala-Archa**	**85.84**	**313**	P	**P**	**01 37 02.0**	**+0.9**
	SNR=6.1						
AAK	**Ala-Archa**	**85.84**	**313**	*e*P	**P**	**01 37 00.5**	**-0.6**
	comp=Z,11nm,1.1s,mb4.7						
AAK				*e*pP	pP	01 37 26.3	-0.5
AAK	**Ala-Archa**	**85.84**	**313**	*e*P	**P**	**01 37 00.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
USP	**Ospenovka**	**85.95**	**314**	P	**P**	**01 37 02.0**	**+0.4**
	SNR=9.2						
AML	**Almayashu**	**86.33**	**313**	P	**P**	**01 37 04.9**	**+1.4**
	SNR=20						
EKS2	**Erkin-Say**	**86.36**	**313**	P	**P**	**01 37 04.7**	**+1.1**
	SNR=9.1						
BHUJ	**Bhuj**	**86.91**	**294**	*e*P	**P**	**01 37 07.0**	**+0.2**
DLBC	**Dease Lake**	**87.04**	**31**	P	**P**	**01 37 07.4**	**+0.9**
	comp=Z,2.5nm,0.8s,mb4.2,baz=236,slow=3.8,SNR=5.8						
DLBC				pP	pP	01 37 32.3	0.0
	comp=Z,3.1nm,0.9s,baz=285,slow=12,SNR=2.9						
DLBC	**Dease Lake**	**87.04**	**31**	*e*P	**P**	**01 37 07.8**	**+1.2**
DLBC				*e*pP	pP	01 37 31.5	-0.8
INK	**Inuvik**	**88.34**	**21**	*e*P	**P**	**01 37 12.1**	**-0.4**
	comp=Z,14nm,1.3s,mb4.8						
INK				*e*pP	pP	01 37 38.1	-0.4
INK	**Inuvik**	**88.34**	**21**	*e*P	**P**	**01 37 12.1**	**-0.4**
INK				pmax	pmax		
	comp=Z,14nm,1.3s						
KKAR	**Karatay Array**	**88.80**	**313**	P	**P**	**01 37 15.0**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VOSK	**Vostochnaya**	**89.89**	**323**	P	**P**	**01 37 18.0**	**-2.2**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
BVA0	**Borovoye Array**	**90.29**	**323**	*i* P	**P**	**01 37 20.9**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**90.29**	**323**	P	**P**	**01 37 21.1**	**-1.0**
	comp=Z,7.2nm,0.6s,mb5.0,baz=104,slow=6.1,SNR=58						
BVAR				pP	pP	01 37 47.4	-0.6
	comp=Z,24nm,0.9s,baz=108,slow=4.7,SNR=6.6						
BRVK	**Borovoye**	**90.36**	**323**	*e*P	**P**	**01 37 20.6**	**-1.7**
	comp=Z,5.9nm,0.9s,mb4.7						
BRVK				*e*pP	pP	01 37 46.8	-1.5
BRVK	**Borovoye**	**90.36**	**323**	*e*P	**P**	**01 37 20.6**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
SYO	**Syowa Base**	**93.75**	**199**	⇓P	**P**	**01 37 35.0**	**-2.6**
SYO	**Syowa Base**	**93.75**	**199**	⇓PcP	PcP	01 37 37.0	-1.3
SYO	**Syowa Base**	**93.75**	**199**	⇓pP	pP	01 38 02.3	-1.3
YKA	**Yellowknife Ar**	**95.16**	**28**	P	**P**	**01 37 45.2**	**+1.0**
	comp=Z,1.0nm,0.5s,mb4.5,baz=270,slow=4.6,SNR=5.4						
YKA				pP	pP	01 38 10.5	+0.3
	comp=Z,3.2nm,0.8s,baz=270,slow=4.7,SNR=3.5						
YKA				LR	LR	02 17 05.4	
	comp=Z,126nm,20.3s,baz=265,slow=33						
YKA	**Yellowknife Ar**	**95.16**	**28**	P	**P**	**01 37 45.2**	**+1.0**
YKA				pP	pP	01 38 10.6	+0.3
YKA				LR	LR	02 17 05.4	
AB31	**Akbulak array**	**96.58**	**319**	*i* P	**P**	**01 37 49.0**	**-1.9**
PDAR	**Pinedale Array**	**98.15**	**48**	P	**P**	**01 37 58.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=166,slow=3.7,SNR=3.3						
PDAR				PP	PP	01 41 58.9	-2.3
	comp=Z,1.2nm,1.0s,baz=270,slow=5.9,SNR=4.5						
PDAR				LR	LR	02 15 25.5	
	comp=Z,204nm,19.8s,baz=257,slow=31						
SNAA	**Sanae**	**101.83**	**187**	⇑*i*P	P	01 38 05.6	-8.5
SNAA	**Sanae**	**101.83**	**187**	*e*	P	01 38 16.3	+2.2
SNAA	**Sanae**	**101.83**	**187**	*e*	P	01 38 27.7	+14
SNAA	**Sanae**	**101.83**	**187**	*e*	P	01 38 36.6	+22
SNAA	**Sanae**	**101.83**	**187**	*e*	PP	01 42 21.8	-6.5
SNAA	**Sanae**	**101.83**	**187**	*e*		01 42 45.0	
SNAA	**Sanae**	**101.83**	**187**	*e*		01 42 56.6	
VNA3	**Neumayer Olymp**	**102.99**	**185**	⇑*i*Pdif	Pdif	01 38 19.8	+0.6
VNA3				*e*		01 38 29.7	
VNA3				*e*		01 38 43.7	
VNA3				*e*		01 38 52.1	
VNA3				*e*		01 42 40.2	
VNA3				*e*		01 43 03.4	
VNA3				*e*		01 43 14.6	
VNA2	**Neumayer--Watz**	**103.06**	**186**	⇑*i*Pdif	Pdif	01 38 18.6	-1.0
VNA2				*e*		01 38 29.1	
VNA2				*e*		01 38 43.1	
VNA2				*e*		01 38 51.6	
VNA2				*e*		01 42 38.9	
VNA2				*e*		01 43 03.2	
VNA2				*e*		01 43 14.1	
TXAR	**Lajitas Array**	**103.19**	**61**	PKKPbc		01 54 16.4	
	comp=Z,0.5nm,0.7s,baz=114,slow=4.2,SNR=7.4						
VNA1	**Neumayer--Stat**	**103.42**	**186**	⇑*i*Pdif	Pdif	01 38 20.3	-0.8
VNA1				*e*		01 38 30.9	
VNA1				*e*		01 38 45.1	
VNA1				*e*		01 38 53.5	
VNA1				*e*		01 42 40.7	
VNA1				*e*		01 43 04.1	
VNA1				*e*		01 43 15.1	
ARCES	**ARCESS Array B**	**107.58**	**343**	PKiKP		01 42 46.9	
	comp=Z,1.3nm,0.7s,baz=86,slow=2.3,SNR=11						
ARCES	**ARCESS Array B**	**107.58**	**343**	PKPdf		01 42 46.9	
SOC	**Sochi**	**111.10**	**315**	*i* PKIKP	PKPdf	01 42 51.9	-1.2
SOC				*e*		01 43 30.6	
SOC				*e*PS	PS	01 53 01.0	-4.0
SOC				*e*SSS	SSS	02 03 12.1	+2.1
FINES	**FINESS Array B**	**111.91**	**336**	Pdiff	Pdif	01 38 58.3	-0.4
	comp=Z,0.8nm,0.7s,baz=205,slow=32,SNR=3.6						
FINES				PKiKP		01 42 55.5	
	comp=Z,1.6nm,0.9s,baz=90,slow=1.4,SNR=5.7						
FINES	**FINESS Array B**	**111.91**	**336**	Pdif	Pdif	01 38 58.3	-0.4
FINES				PKPdf	PKPdf	01 42 55.5	+1.4
AKASG	**Malin Array Be**	**115.53**	**325**	PKP	PKPdf	01 43 01.4	-0.2
	comp=Z,1.7nm,0.5s,baz=53,slow=2.9,SNR=9.1						
AKASG	**Malin Array Be**	**115.53**	**325**	PKP	PKPdf	01 43 01.4	-0.2
BRTR	**Keskin Array B**	**116.49**	**312**	PP	PP	01 44 13.4	-3.2
	comp=Z,1.1nm,1.0s,baz=117,slow=8.3,SNR=4.5						
HFS	**Hagfors**	**117.48**	**339**	PKP	PKPdf	01 43 04.6	-0.5
	comp=Z,0.9nm,0.5s,baz=68,slow=7.8,SNR=6.6						
NB2	**NORSAR Subarra**	**117.68**	**341**	PKPdf	PKPdf	01 43 05.6	+0.1
	comp=Z,3.2nm,1.4s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**117.68**	**341**	PKP	PKPdf	01 43 05.7	+0.2
	comp=Z,0.5nm,0.5s,baz=79,slow=1.8,SNR=3.2						
BRG	**Berggiesshubel**	**123.61**	**331**	*e*P	PKPdf	01 43 18.5	+1.2
CLL	**Collm**	**123.78**	**332**	*i* PKIKP	PKPdf	01 43 18.2	+0.6
	comp=Z,logA/T=0.9						
TREC	**Trest**	**123.82**	**329**	*e*PKPdf	PKPdf	01 43 18.6	+0.9
NKC	**Novy Kostel**	**124.75**	**331**	*e*PKPdf	PKPdf	01 43 19.9	+0.4
KHC	**Kasperske Hory**	**124.91**	**329**	*e*PKPdf	PKPdf	01 43 20.5	+0.7
KHC				*e*x	x	01 43 57.0	
GERES	**GERESS Array B**	**125.02**	**329**	PKP	PKPdf	01 43 20.7	+0.7
	comp=Z,2.1nm,0.5s,baz=71,slow=1.8,SNR=43						
GERES				pPKP		01 43 49.3	
	comp=Z,1.3nm,0.4s,baz=68,slow=1.9,SNR=2.7						
GRA1	**Grafenberg Arr**	**125.70**	**331**	*e*PKP	PKPdf	01 43 22.0	+0.7
GRF	**Grafenberg Arr**	**125.70**	**331**	*e*PKP	PKPdf	01 43 22.0	+0.7
BOJS	**Bojanci**	**126.21**	**325**	*i* PKPbc	PKPdf	01 43 23.8	+1.4
VOJS	**Vojsko**	**126.67**	**326**	*e*PKPbc	PKPdf	01 43 24.2	+1.0
EKA	**Eskdalemuir Ar**	**126.74**	**344**	PKP	PKPdf	01 43 24.3	+1.2
	comp=Z,0.8nm,0.5s,baz=23,slow=3.3,SNR=6.3						
GIVF	**Givet**	**128.29**	**335**	*e*PKIKP	PKPdf	01 43 26.7	+0.4
DAVOX	**Davos**	**128.32**	**329**	PKP	PKPdf	01 43 27.4	+1.0
	comp=Z,3.2nm,0.5s,baz=216,slow=3.9,SNR=14						
CDF	**Champ du Feu**	**128.46**	**332**	*e*PKIKP	PKPdf	01 43 27.1	+0.4
HINF	**Hinteralfeld**	**129.09**	**332**	*e*PKIKP	PKPdf	01 43 28.0	+0.1
	comp=Z,5.5nm,0.6s						
MEZF	**Maizieres J'vi**	**129.40**	**334**	*e*PKIKP	PKPdf	01 43 29.2	+0.7
	comp=Z,8.2nm,0.7s						
CABF	**La Chapelle**	**130.32**	**331**	*e*PKIKP	PKPdf	01 43 32.1	+1.8
	comp=Z,8.7nm,0.7s						
LPL	**La Plagne**	**130.78**	**330**	*e*PKIKP	PKPdf	01 43 32.0	+0.8
	comp=Z,3.5nm,0.5s						
LPG	**La Plagne**	**130.79**	**330**	*e*PKIKP	PKPdf	01 43 32.2	+1.0
	comp=Z,3.2nm,0.5s						
LOR	**Lormes**	**130.86**	**333**	*e*PKIKP	PKPdf	01 43 32.5	+1.2
	comp=Z,14nm,1.2s						
LOR				*e*R			
	comp=Z,62nm,20.8s						
SSF	**Saint Saulge**	**131.17**	**333**	*e*PKIKP	PKPdf	01 43 32.6	+0.7
	comp=Z,4.2nm,0.8s						
MBDF	**Montbardon**	**131.32**	**329**	*e*PKIKP	PKPdf	01 43 32.5	+0.3
	comp=Z,4.8nm,0.8s						
SMF	**Signal de Mont**	**131.34**	**333**	*e*PKIKP	PKPdf	01 43 32.6	+0.4
	comp=Z,3.3nm,0.5s						
AVF	**Avril sur Loir**	**131.45**	**333**	*e*PKIKP	PKPdf	01 43 33.6	+1.2
FLN	**La Foliniere**	**131.47**	**338**	*e*PKIKP	PKPdf	01 43 33.3	+0.9
	comp=Z,4.5nm,0.6s						
FLN				*e*R			
	comp=Z,107nm,22.4s						
LDF	**La Druitiere**	**131.47**	**337**	*e*PKIKP	PKPdf	01 43 33.4	+1.0
SBF	**Sospel**	**131.57**	**328**	*e*PKIKP	PKPdf	01 43 32.8	+0.1
PGF	**Pioggiola**	**131.59**	**326**	*e*PKIKP	PKPdf	01 43 33.3	+0.5
	comp=Z,25nm,0.9s						
ORIF	**Oris-en-Rattie**	**131.63**	**330**	*e*PKIKP	PKPdf	01 43 32.7	-0.1
	comp=Z,4.3nm,0.5s						
ORIF				*e*R			
	comp=Z,57nm,21.0s						
GRR	**Gorron**	**131.92**	**338**	*e*PKIKP	PKPdf	01 43 34.4	+1.2
FRF	**La Foret Royal**	**132.19**	**328**	*e*PKIKP	PKPdf	01 43 34.2	+0.3
	comp=Z,4.1nm,0.6s						
VIVF	**Saint-Julien-l**	**132.27**	**331**	*e*PKIKP	PKPdf	01 43 34.8	+0.8
	comp=Z,3.2nm,0.6s						
TCF	**Toulx Ste Croi**	**132.34**	**334**	*e*PKIKP	PKPdf	01 43 34.9	+0.8
	comp=Z,7.6nm,0.8s						
LMR	**La Mourre**	**132.42**	**328**	*e*PKIKP	PKPdf	01 43 34.8	+0.4
	comp=Z,3.5nm,0.5s						
SMRF	**Simiane la Rot**	**132.45**	**329**	*e*PKIKP	PKPdf	01 43 34.7	+0.3
ROSF	**Rostrenen**	**132.84**	**339**	*e*PKIKP	PKPdf	01 43 35.9	+0.9
MFF	**Saint Martin d**	**133.09**	**336**	*e*PKIKP	PKPdf	01 43 36.3	+0.8
LPAZ	**La Paz**	**133.12**	**118**	PKP	PKPdf	01 43 37.9	+1.5
	comp=Z,2.4nm,0.7s,baz=80,slow=1.1,SNR=9.6						
LPAZ				SKPbc		01 46 58.3	
	comp=Z,3.4nm,1.0s,baz=271,slow=6.7,SNR=5.5						
LASF	**Ste Croix**	**133.24**	**331**	*e*PKIKP	PKPdf	01 43 36.0	+0.1
RJF	**Les Rejaudoux**	**133.41**	**333**	*e*PKIKP	PKPdf	01 43 37.1	+1.0
RJF				*e*R			
	comp=Z,93nm,22.2s						
CAF	**Calviac**	**133.45**	**333**	*e*PKIKP	PKPdf	01 43 36.8	+0.6
MTLF	**Montolieu**	**134.58**	**331**	*e*PKIKP	PKPdf	01 43 39.3	+0.9
	comp=Z,4.5nm,0.7s						
SDV	**Santo Domingo**	**135.49**	**83**	*e*PKP	PKPdf	01 43 41.0	+0.1
ETSF	**Etsaut**	**136.22**	**333**	*e*PKIKP	PKPdf	01 43 43.6	+2.2
	comp=Z,6.9nm,0.5s						
CPUP	**Villa Florida**	**136.34**	**137**	PKP	PKPdf	01 43 43.1	+1.1
	comp=Z,1.8nm,0.9s,baz=76,slow=11,SNR=3.3						
ESDC	**Sonseca Array**	**140.34**	**333**	PKP	PKPdf	01 43 52.0	+3.0
	comp=Z,0.3nm,0.4s,baz=6.6,slow=2.0,SNR=4.3						
MDT	**Midelt**	**146.06**	**327**	PKPbc	PKPbc	01 44 01.8	+1.5
	comp=Z,3.4nm,0.5s,baz=62,slow=4.0,SNR=26						
MDT				pPKPbc		01 44 28.4	
	comp=Z,10nm,1.0s,baz=6.0,slow=8.7,SNR=3.8						
BAO	**Brasilia Array**	**149.92**	**134**	PKPdf	PKPdf	01 44 07.0	+1.2
DBIC	**Dimbokro**	**158.99**	**275**	PKPab	PKPab	01 44 56.7	-0.9
	comp=Z,15nm,0.7s,baz=71,slow=5.1,SNR=17						
DBIC				pPKPab		01 45 25.6	
	comp=Z,8.7nm,1.0s,baz=77,slow=6.0,SNR=4.9						
LIC	**Lamto**	**159.18**	**274**	*e*PKP2	PKPab	01 44 56.7	-1.7
	comp=Z,121nm,1.2s						

ATH ***10*** *01:24:40.7, 40.33N×23.97E, h23km±1km, MD3.1/4*
CSEM ***10*** *01:24:40.9±0.2, 40.35N×23.98E, h10km, ML2.5, Error ellipse: s-maj=4.0km s-min=2.8km az=68.0*
THE ***10*** *01:24:41.2, 40.35N×23.93E, h10km, ML2.5*
NEIC ***10*** *01:24:41.2, 40.35N×23.93E, h1km, MD3.1(ATH), ML2.2(THE), After THE.*
ISC 10 01:24:40.4±0.5**, 40.34N**±0.03×**23.94E**±0.04**, h9**km±5km**, n17, σ0s75**/27**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.03**	**108**	*e*Pg	**Pg**	**01 24 42.4**	**+0.3**
PLG	**Polygyros**	**0.38**	**275**	⇑*i*PB	**Pb**	**01 24 49.0**	**+0.1**
PLG				*e*SB	**Sb**	**01 24 54.6**	**0.0**
PAIG	**Paliouri**	**0.46**	**206**	*e*Pg	**Pg**	**01 24 50.5**	**+0.7**
PAIG				*e*Sg	**Sg**	**01 24 56.5**	**+0.5**
SOH	**Sokhos**	**0.66**	**317**	*e*Pg	**Pg**	**01 24 53.2**	**-0.3**
SOH				*e*Sg	**Sg**	**01 25 01.9**	**-0.4**
SOH	**Sokhos**	**0.66**	**317**	*e*Pg	**Pg**	**01 24 53.2**	**-0.4**
SOH				*e*Sg	**Sg**	**01 25 02.0**	**-0.4**
THE	**Thessaloniki**	**0.80**	**291**	*e*Pg	**Pg**	**01 24 55.9**	**-0.5**
SRS	**Serrai**	**0.82**	**341**	*e*Pg	**Pg**	**01 24 56.5**	**-0.3**
SRS				*e*Sg	**Sg**	**01 25 08.8**	**+1.1**
LOS	**Limnos**	**0.96**	**115**	*e*Pg	**Pg**	**01 24 58.6**	**-1.1**
NVR	**Nevrokopi**	**1.01**	**357**	*e*PN	**Pn**	**01 25 00.0**	**-0.6**
NVR				*e*SN	**Sn**	**01 25 14.6**	**-0.4**
LIA	**Limnos Island**	**1.05**	**115**	*e*PN	**Pn**	**01 25 00.4**	**-0.8**
XOR	**Xorichti**	**1.14**	**211**	*e*Pg	**Pg**	**01 25 03.1**	**0.0**
XOR				*e*Sg	**Sg**	**01 25 19.4**	**+1.2**
KNT	**Kendrikon**	**1.14**	**316**	*e*Pg	**Pg**	**01 25 02.4**	**-0.8**
KNT				*e*Sg	**Sg**	**01 25 18.8**	**+0.4**
AOS	**Alonnisos**	**1.17**	**182**	*e*Pg	**Pg**	**01 25 02.4**	**-1.5**
NEO	**Neokhori**	**1.18**	**208**	*e*PN	**Pn**	**01 25 03.0**	**0.0**
GRG	**Griva**	**1.32**	**298**	*e*Pg	**Pg**	**01 25 05.9**	**-1.0**
GRG				*e*Sg	**Sg**	**01 25 25.4**	**+0.9**
RDO	**Rodhopi**	**1.45**	**56**	*e*PN	**Pn**	**01 25 07.5**	**+0.5**
ALN	**Alexandroupoli**	**1.69**	**70**	*e*Pb	**Pb**	**01 25 11.7**	**+0.3**
ALN				*e*Sb	**Sb**	**01 25 34.5**	**+1.8**

WEL 10 01:26:32.1±0.2**, 37.07S**×**177.18E, h207**km±1km**, ML3.5**/2**, Error ellipse: s-maj=3.1km s-min=1.6km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.19**	**183**	PN	P	01 27 03.9	-0.3
URZ				SN	S	01 27 28.2	-0.8
URZ				SN	S	01 27 28.4	-0.6
MWZ	**Matawai**	**1.30**	**168**	PN	P	01 27 04.7	-0.3
MWZ				SN	S	01 27 29.9	-0.5
KNZ	**Kokohu**	**1.99**	**169**	*e*PN	P	01 27 11.0	-0.3
KNZ				*e*SN	S	01 27 40.6	-0.9
KIW	**Kapiti Island**	**4.18**	**204**	*e*SN	S	01 28 26.2	-1.1

IDC ***10*** *01:33:03.0±6.6, 25.97N×96.52E, mb4.1/12, mb1 4.3/12, mb1mx4.0/24, mbtmp4.1/12, Error ellipse: s-maj=143.1km s-min=72.0km az=129.0*
ISC 10 01:33:08.1±10.0**, 27.0N**±0.2×**96.2E**±0.2**, h5**km±63km**, n21, σ0s62**/21**, mb4.3**/15**, 1C, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**9.62**	**276**	*e*P	**P**	**01 35 30.6**	**+0.3**
	20nm,0.5s						
KKN	**Kakani**	**9.74**	**277**	*e*P	**P**	**01 35 32.9**	**+0.9**
	21nm,0.4s						
DMN	**Daman**	**9.89**	**276**	*e*P	**P**	**01 35 34.2**	**+0.2**
	11nm,0.3s						
BDT	**Bhumibol Dam**	**10.03**	**164**	⇑P	**P**	**01 35 36.0**	**0.0**
GKN	**Gorkha**	**10.32**	**278**	*e*P	**P**	**01 35 39.9**	**0.0**
	16nm,0.3s						
KOLN	**Koldanda**	**11.23**	**277**	*e*P	**P**	**01 35 50.9**	**-1.5**
	6.6nm,0.4s						
MKAR	**Makanchi Array**	**22.62**	**335**	P	**P**	**01 38 16.3**	**+5.3**
	0.9nm,0.4s,mb3.5,baz=147,slow=8.7,SNR=1.1						
RDF	**Al-Radifah**	**42.78**	**284**	*e*P	**P**	**01 41 08.8**	**+0.4**
RDF				AMb	AMB	01 41 09.5	
	comp=Z,29nm,0.7s,mb5.1						
MIB	**Mutribah**	**42.83**	**286**	*e*P	**P**	**01 41 09.3**	**+0.6**
MIB				AMb	AMB	01 41 10.0	
	comp=Z,31nm,0.5s,mb5.3						
NAY	**Al-Naaiem**	**43.00**	**285**	*e*P	**P**	**01 41 10.5**	**+0.3**
NAY				AMb	AMB	01 41 11.3	
	comp=Z,21nm,0.7s,mb5.0						
BRTR	**Keskin Array B**	**52.81**	**301**	P	**P**	**01 42 25.2**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=102,slow=7.8,SNR=5.0						
AKASG	**Malin Array Be**	**55.23**	**315**	P	**P**	**01 42 43.4**	**-0.9**
	comp=Z,2.0nm,0.4s,mb4.5,baz=78,slow=6.8,SNR=14						
FINES	**FINESS Array B**	**57.21**	**327**	P	**P**	**01 42 59.2**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=90,slow=5.7,SNR=6.2						
MLR	**Muntele Rosu**	**57.80**	**309**	P	**P**	**01 43 03.1**	**+0.4**
	comp=Z,2.7nm,0.6s,mb4.5,baz=122,slow=9.5						
ARCES	**ARCESS Array B**	**58.25**	**337**	P	**P**	**01 43 05.9**	**+0.4**
	comp=Z,1.2nm,0.4s,mb4.2,baz=84,slow=8.2,SNR=12						
HFS	**Hagfors**	**63.32**	**326**	P	**P**	**01 43 40.0**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=127,slow=7.4,SNR=6.6						
VRAC	**Vranov**	**63.48**	**314**	P	**P**	**01 43 41.1**	**-0.1**
	comp=Z,4.7nm,0.7s,mb4.7,baz=94,slow=6.5,SNR=9.0						
NOA	**NORSAR Array B**	**64.39**	**327**	P	**P**	**01 43 46.6**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=82,slow=6.2,SNR=3.5						
GERES	**GERESS Array B**	**65.43**	**314**	P	**P**	**01 43 54.0**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=66,slow=5.3,SNR=5.2						
DAVOX	**Davos**	**68.46**	**312**	P	**P**	**01 44 12.9**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.5,baz=67,slow=7.7,SNR=4.2						
EKA	**Eskdalemuir Ar**	**73.30**	**324**	P	**P**	**01 44 42.0**	**-0.1**
	comp=Z,2.6nm,1.0s,mb4.1,baz=67,slow=6.4,SNR=3.6						

IDC ***10*** *01:41:04.9±3.1, 2.76N×96.02E, mb3.9/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, MS4.0/2, Ms1 4.0/2, ms1mx3.5/18, Error ellipse: s-maj=119.7km s-min=26.5km az=56.0*
NEIC ***10*** *01:41:08.6±0.9, 2.64N×95.88E, h30km, mb3.9/1, Error ellipse: s-maj=21.7km s-min=12.1km az=45.0*
ISC 10 01:41:06.7±1.2**, 2.7N**±0.2×**95.9E**±0.2**, h30**km**, n10, σ0s19**/8**, mb3.9**/6**, MS4.0**/2**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.43**	**61**	*e*P	**Pn**	**01 42 27.9**	**0.0**
WRA	**Warramunga Arr**	**43.93**	**122**	P	**P**	**01 49 13.1**	**+0.1**
	0.4nm,0.6s,mb3.3,baz=302,slow=9.2,SNR=3.6						
WRAB	**Tennant Creek**	**43.94**	**122**	P	**P**	**01 49 13.1**	**-0.1**
MKAR	**Makanchi Array**	**45.52**	**347**	P	**P**	**01 49 25.1**	**-0.4**
	1.1nm,0.5s,mb4.1,baz=159,slow=9.3,SNR=9.5						
SONM	**Songino Array**	**45.91**	**10**	P	**P**	**01 49 28.7**	**+0.2**
	1.9nm,0.7s,mb4.2,baz=191,slow=8.8,SNR=12						
KURK	**Kurchatov**	**50.05**	**346**	P	**P**	**01 50 00.9**	**+0.2**
	0.9nm,0.7s,mb3.9						
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**01 50 14.7**	**-0.2**
	1.7nm,0.6s,mb4.2,baz=322,slow=6.2,SNR=6.8						
BVAR	**Borovoye Array**	**54.45**	**341**	P	**P**	**01 50 33.7**	**+0.1**
	0.6nm,0.6s,mb3.7,baz=153,slow=9.7,SNR=4.9						
FINES	**FINESS Array B**	**78.10**	**333**	LR	LR	02 29 18.7	
	comp=Z,104nm,18.6s,MS4.2,baz=244,slow=37						
NOA	**NORSAR Array B**	**85.09**	**331**	LR	LR	02 38 34.3	
	comp=Z,47nm,18.4s,MS3.9,baz=45,slow=40						

THR ***10*** *02:02:13.8±1.2, 30.80N×56.95E, h15km±13km, ML3.7*
CSEM ***10*** *02:02:14.3±0.1, 30.82N×56.90E, h16km, ML3.7, Error ellipse: s-maj=3.4km s-min=2.2km az=120.0*
TEH ***10*** *02:02:16.8, 30.82N×56.89E, h10km, Mn3.8*
ISC 10 02:02:13.7±0.6**, 30.83N**±0.03×**56.92E**±0.06**, h10**km**, n30, σ1s03**/31**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.85**	**189**	*e*Pg	**Pg**	**02 02 29.2**	**-1.6**
KRBR				*e*Sg	**Sg**	**02 02 41.5**	**-0.8**
KRBR				AML	AML	02 02 44.4	
	comp=N,2μm,0.2s						

KRBR	**Kerman**	**0.85**	**189**	*e*Pg	**Pg**	**02 02 29.2**	**-1.6**
	SNR=92						
KRBR				*e*Sg	**Sg**	**02 02 41.5**	**-0.8**
	SNR=92						
IBAF	**Bafgh**	**1.39**	**304**	Pg	**Pg**	**02 02 39.5**	**-2.0**
IMEH	**Mehriz**	**2.06**	**286**	Pn	**Pn**	**02 02 50.1**	**+1.3**
ICHK	**Chekchek**	**2.57**	**304**	Pn	**Pn**	**02 02 57.4**	**+1.2**
BNDS	**Bandar-Abbas**	**3.48**	**191**	*e*Pn	**Pn**	**02 03 10.2**	**+1.2**
BNDS				AML	AML	02 03 56.8	
	comp=N,140nm,0.5s						
IPAR	**Pars**	**3.49**	**255**	Pn	**Pn**	**02 03 10.6**	**+1.4**
ZHSF	**Zahedan**	**3.55**	**109**	*e*Pn	**Pn**	**02 03 10.0**	**-0.1**
ISRV	**Sarvestan**	**3.60**	**247**	Pn	**Pn**	**02 03 12.0**	**+1.2**
NASN	**Na'in**	**4.02**	**300**	*e*Pn	**Pn**	**02 03 17.6**	**+0.8**
NASN				AML	AML	02 04 30.6	
	comp=N,124nm,0.5s						
NASN	**Na'in**	**4.02**	**300**	*e*Pn	**Pn**	**02 03 17.5**	**+0.8**
	SNR=42						
IMOK	**Mook**	**4.06**	**245**	Pn	**Pn**	**02 03 18.0**	**+0.7**
GHIR	**Ghir-Karzin**	**4.26**	**235**	*e*Pn	**Pn**	**02 03 20.4**	**+0.2**
IGAR	**Garneh**	**4.27**	**291**	Pn	**Pn**	**02 03 20.2**	**-0.2**
IZEF	**Zefreh**	**4.42**	**299**	Pn	**Pn**	**02 03 21.5**	**-0.9**
IKLH	**Kalahroud**	**5.17**	**300**	Pn	**Pn**	**02 03 31.8**	**-1.3**
IPIR	**Pirpir**	**5.46**	**291**	Pn	**Pn**	**02 03 33.9**	**-3.3**
MHI	**Mashhad**	**5.87**	**21**	Pn	**Pn**	**02 03 43.2**	**+0.3**
IPAY	**Payeh**	**5.87**	**17**	Pn	**Pn**	**02 03 43.2**	**+0.3**
IFIR	**Firoozkooh**	**5.94**	**325**	Pn	**Pn**	**02 03 43.5**	**-0.4**
IFIR	**Firoozkooh**	**5.94**	**325**	Lg		02 05 21.6	
IVRN	**Varamin**	**6.03**	**315**	Lg		02 05 23.8	
IVRN	**Varamin**	**6.03**	**315**	Pn	**Pn**	**02 03 44.6**	**-0.6**
IKRD	**Kardeh**	**6.08**	**12**	Pn	**Pn**	**02 03 49.2**	**+3.3**
IMYA	**Miamay**	**6.11**	**25**	Pn	**Pn**	**02 03 45.8**	**-0.5**
IDMV	**Damavand**	**6.26**	**320**	Pn	**Pn**	**02 03 48.1**	**-0.4**
DAMV	**Damavand**	**6.34**	**320**	*e*Pn	**Pn**	**02 03 49.5**	**-0.1**
IAFJ	**Afjeh**	**6.64**	**320**	Pn	**Pn**	**02 03 54.1**	**+0.2**
IAFJ				Sn	**Sn**	**02 05 04.9**	**-5.5**
IRAZ	**Razeghan**	**7.43**	**310**	Pn	**Pn**	**02 04 14.7**	**+10**
IRAZ	**Razeghan**	**7.43**	**310**	Sn	**Sn**	**02 05 23.8**	**-6.3**

JSN 10 02:17:02.3±1.6**,18.45N×79.15W,h30**km±999km**,MD3.7, 4C,North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**1.23**	**92**	⇑*e*P	Pn	02 17 21.4	-2.3
MCJ	**Malvern**	**1.49**	**110**	⇑*i*P	Pn	02 17 25.5	-1.8
MCJ				*i* S	Sn	02 17 43.1	-2.7
PCJ	**Portland Cotta**	**2.02**	**110**	⇑*i*P	Pn	02 17 34.4	-0.7
PCJ				*i* S	Sn	02 17 57.5	-2.0
STH	**Stony Hill**	**2.26**	**99**	*e*P	Pn	02 17 36.8	-1.6
STH				*e*S	Sn	02 18 03.3	-2.2
HOJ	**Hope**	**2.33**	**101**	⇑*e*P	Pn	02 17 38.9	-0.5

*IDC **10** 02:38:45.0±3.1, 4.45S×154.17E, h73km±26km, mb3.9/5, mb1 4.1/7, mb1mx3.9/14, mbtmp4.4/7, MS3.2/2, Ms1 3.2/2, ms1mx2.9/20, Error ellipse: s-maj=44.3km s-min=19.0km az=109.0*
*NEIC **10** 02:38:56.5±3.6, 4.57S×153.35E, h153km±25km, mb4.5/2, Error ellipse: s-maj=40.5km s-min=16.4km az=88.0*
ISC 10 02:38:53.5±3.9**,4.6S**±0.1×**153.6E**±0.2**,h149**km±32km**,n13, σ0.55**/14**,mb4.1**/7**,1C,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.97**	**232**	P	**P**	**02 40 47.0**	**-0.4**
	36nm,0.3s,baz=40,slow=5.4,SNR=51						
PMG				S	**S**	**02 42 16.8**	**+0.5**
	11nm,0.3s,baz=140,slow=22,SNR=12						
PMG				LR	LR	02 43 56.5	
	comp=Z,231nm,20.5s,baz=62,slow=36						
CTA	**Charters Tower**	**17.00**	**204**	P	**P**	**02 42 44.0**	**+0.3**
	0.1nm,0.3s,baz=65,slow=14,SNR=3.1						
GUMO	**Guam**	**19.98**	**335**	LR	LR	02 49 51.9	
	comp=Z,47nm,20.5s,baz=102,slow=33						
WRAB	**Tennant Creek**	**24.15**	**229**	*e*P	**P**	**02 43 57.3**	**+0.1**
	7.2nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**24.16**	**229**	*e*P	**P**	**02 43 56.8**	**-0.4**
WRA	**Warramunga Arr**	**24.17**	**229**	P	**P**	**02 43 57.8**	**+0.5**
	9.3nm,0.4s,mb4.7,baz=54,slow=10.0,SNR=113						
WRA				S	**S**	**02 48 18.0**	**+16**
	3.0nm,1.0s,baz=46,slow=16,SNR=4.8						
STKA	**Stephens Creek**	**29.40**	**201**	P	**P**	**02 44 44.8**	**-0.3**
	2.8nm,0.7s,mb4.1,baz=41,slow=15,SNR=5.8						
FITZ	**Fitzroy Crossi**	**30.43**	**242**	⇑*i*P	**P**	**02 44 52.9**	**-1.4**
	7.3nm,0.6s,mb4.6						
MAT	**Matsushiro**	**43.33**	**342**	P	**P**	**02 46 42.5**	**+0.1**
SONM	**Songino Array**	**66.52**	**327**	P	**P**	**02 49 29.4**	**-0.1**
	0.6nm,0.4s,mb3.7,baz=140,slow=6.3,SNR=9.6						
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**02 50 51.7**	**+0.6**
	0.4nm,0.5s,mb3.3,baz=117,slow=6.4,SNR=4.3						
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**02 50 51.7**	**+0.6**
MAW	**Mawson**	**86.08**	**203**	P	**P**	**02 51 18.6**	**+0.4**
	1.9nm,0.5s,mb4.1,baz=116,slow=8.2,SNR=11						

PGC 10 02:39:40.7,58.29N×133.54W,h1km**,ML3.3**/4**,Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**1.86**	**84**	Pn	Pn	02 40 12.5	-1.5
DLBC				Pg	Pg	02 40 14.1	-3.8
DLBC				Sn	Sn	02 40 37.9	-0.6
DLBC				Sg	Sg	02 40 39.1	-3.5
DLBC				Trac		02 40 39.8	
	comp=Z,157nm,0.6s						
PLBC	**Pleasant Camp**	**1.88**	**310**	Pn	Pn	02 40 13.1	-1.2
PLBC				Pg	Pg	02 40 14.6	-3.6
PLBC				Sn	Sn	02 40 38.2	-0.7
PLBC				Sg	Sg	02 40 39.8	-3.4
WHY	**Whitehorse**	**2.48**	**345**	Pn	Pn	02 40 21.2	-1.6
WHY				Pg	Pg	02 40 23.1	-7.1
WHY				Sn	Sn	02 40 51.2	-3.0
WHY				Sg	Sg	02 40 58.0	-5.2
WHY				Trac		02 41 04.3	
	comp=Z,69nm,0.5s						
HYT	**Haines Junctio**	**3.25**	**323**	Pn	Pn	02 40 32.8	-1.1
HYT				Pg	Pg	02 40 39.3	-6.3
HYT				Sg	Sg	02 41 21.1	-7.7
HYT				Trac		02 41 27.0	
	comp=Z,42nm,0.6s						
RUBB	**Prince Rupert**	**4.37**	**154**	Pn	Pn	02 40 48.2	-1.5
RUBB				Sg	Sg	02 41 58.2	-8.0
RUBB				Trac		02 42 12.2	
	comp=Z,77nm,0.9s						
INK	**Inuvik**	**10.06**	**0**	Pn	P	02 42 06.1	-3.2

IDC 10 02:45:25.8±7.2**,4.52S×153.25E,h159**km±54km**,mb3.7**/5**, mb1 3.9**/6**,mb1mx3.7**/14**,mbtmp4.2**/6**,Error ellipse: s-maj=53.1km s-min=32.8km az=69.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.75**	**231**	P	P	02 47 15.5	-1.3
	9.3nm,0.3s,baz=49,slow=5.4,SNR=9.7						
PMG				S	S	02 48 44.0	+0.8
	0.7nm,0.3s,baz=109,slow=22,SNR=4.1						
WB2	**Warramunga Arr**	**23.95**	**229**	*e*P	P	02 50 27.4	+0.7
WRA	**Warramunga Arr**	**23.96**	**229**	P	P	02 50 26.8	0.0
	4.8nm,0.8s,baz=52,slow=9.7,SNR=11						
WRA				PcP	PcP	02 54 03.5	-2.4
	0.4nm,1.0s,baz=56,slow=1.8,SNR=4.7						
STKA	**Stephens Creek**	**29.32**	**201**	P	P	02 51 13.0	-2.8
	4.1nm,1.0s,baz=22,slow=14,SNR=3.2						
FITZ	**Fitzroy Crossi**	**30.18**	**241**	P	P	02 51 20.2	-3.3
	4.4nm,0.7s,baz=100,slow=4.5,SNR=7.0						
VNDA	**Vanda**	**73.09**	**178**	P	P	02 56 38.1	-1.8
	1.1nm,0.8s,baz=332,slow=7.0,SNR=7.2						
MKAR	**Makanchi Array**	**80.41**	**319**	P	P	02 57 20.1	-1.0
	0.3nm,0.6s,baz=117,slow=5.4,SNR=3.7						

*IDC **10** 02:48:18.4±4.9, 43.29N×147.51E, mb3.6/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=131.7km s-min=45.7km az=10.0*
*JMA **10** 02:48:45.7±0.4, 44.64N×148.90E, h103km, M3.6*
ISC 10 02:48:45.7±1.4**,44.6N**±0.2×**148.6E**±0.2**,h187**km±13km**, n13,σ1.17**/17**,mb3.4**/4**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.40**	**239**	P	**P**	**02 49 26.9**	**-1.2**
NEM2				*e*S	**S**	**02 49 58.5**	**-2.3**
JRA	**Rausu**	**2.56**	**255**	P	**P**	**02 49 29.6**	**-0.5**
JNK	**Nakash**	**2.96**	**250**	P	**P**	**02 49 34.9**	**+0.2**
JAK	**Akkeshi**	**3.24**	**241**	P	**P**	**02 49 37.9**	**-0.3**
JAK				*e*S	**S**	**02 50 18.5**	**-0.2**
JAR	**Ashorobuto**	**3.71**	**250**	P	**P**	**02 49 45.7**	**+1.7**
JOB	**Onbets**	**3.83**	**245**	P	**P**	**02 49 46.6**	**+1.0**
JOB				*e*S	**S**	**02 50 33.7**	**+1.8**
JCH	**Churui**	**4.28**	**244**	P	**P**	**02 49 52.2**	**+0.9**
JCH				*e*S	**S**	**02 50 42.2**	**+0.3**
JKB	**Kayabe**	**6.14**	**246**	*e*S	**S**	**02 51 25.8**	**+0.6**
JANG	**Nango**	**6.72**	**233**	*e*S	**S**	**02 51 37.5**	**-1.4**
ILAR	**Eielson Array**	**40.17**	**37**	P	**P**	**02 56 08.8**	**+4.0**
	0.3nm,0.7s,mb3.1,baz=283,slow=7.6,SNR=4.3						
FINES	**FINESS Array B**	**64.54**	**333**	P	**P**	**02 59 02.9**	**-1.3**
	0.4nm,0.5s,mb3.5,baz=31,slow=11,SNR=5.6						
NOA	**NORSAR Array B**	**69.14**	**339**	P	**P**	**02 59 31.7**	**-1.2**
	0.7nm,0.8s,mb3.5,baz=32,slow=7.4,SNR=2.8						
TXAR	**Lajitas Array**	**81.32**	**57**	P	**P**	**03 00 43.9**	**+1.3**
	0.5nm,0.5s,mb3.4,baz=299,slow=4.7,SNR=5.5						

*ATH **10** 02:48:47.0, 39.35N×21.51E, h23km±1km, MD3.3/6*
*THE **10** 02:48:47.8, 39.34N×21.56E, h10km, ML2.9*
*NEIC **10** 02:48:47.1, 39.35N×21.51E, h24km, MD3.3(ATH), ML2.9(THE), After ATH.*
*CSEM **10** 02:48:47.7±0.1, 39.38N×21.52E, h10km, MD3.3, Error ellipse: s-maj=2.4km s-min=1.5km az=34.0*
ISC 10 02:48:46.4±0.5**,39.38N**±0.02×**21.58E**±0.03**,h3**km±4km**, n27,σ0.94**/42**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.49**	**327**	*e*Pg	**Pg**	**02 48 56.5**	**+0.2**
MEV				*e*Sg	**Sg**	**02 49 05.5**	**+2.7**
EVR	**Evrytania**	**0.49**	**159**	*e*PB	**Pb**	**02 48 56.8**	**-0.6**
EVR				*e*SB	**Sb**	**02 49 04.9**	**+0.2**
EVR	**Evrytania**	**0.49**	**159**	*e*Pb	**Pb**	**02 48 56.8**	**-0.6**
EVR				*e*Sb	**Sb**	**02 49 05.4**	**+0.7**
JAN	**Janina**	**0.63**	**297**	*e*PN	**Pg**	**02 48 58.7**	**-0.3**
JAN				*e*SN	**Sg**	**02 49 07.5**	**+0.1**
AGG	**Agios Georgios**	**0.68**	**121**	*e*Pg	**Pg**	**02 49 01.4**	**+1.3**
AGG				*e*Sg	**Sg**	**02 49 10.1**	**+0.9**
KZN	**Kozani**	**0.94**	**9**	*e*PN	**Pn**	**02 49 05.6**	**-0.8**
KZN				*e*SN	**Sn**	**02 49 20.1**	**-0.5**
LKD	**Levkas**	**0.98**	**228**	*e*Pg	**Pg**	**02 49 04.5**	**-1.6**
LKD				*e*Sg	**Sg**	**02 49 19.7**	**+0.6**
LIT	**Litokhoron**	**1.01**	**44**	*e*Pg	**Pg**	**02 49 07.2**	**+0.6**
XOR	**Xorichti**	**1.25**	**90**	*e*Pg	**Pg**	**02 49 11.6**	**+0.2**
NEO	**Neokhori**	**1.28**	**93**	*e*PN	**Pn**	**02 49 11.8**	**+0.6**
NEO				*e*SN	**Sn**	**02 49 30.6**	**+1.5**
LKR	**Lokris**	**1.32**	**123**	*e*PN	**Pn**	**02 49 12.8**	**+0.9**
FNA	**Florina**	**1.42**	**354**	*e*Pg	**Pg**	**02 49 13.5**	**-1.2**
FNA				*e*Sg	**Sg**	**02 49 32.8**	**-0.7**
KEK	**Kerkira**	**1.42**	**284**	*e*PN	**Pn**	**02 49 13.2**	**0.0**
VLS	**Valsamata**	**1.42**	**213**	*e*PN	**Pn**	**02 49 12.5**	**-0.8**
VLS				*e*SN	**Sn**	**02 49 32.3**	**-0.5**
BIA	**Bitola**	**1.65**	**353**	*i* Pn	**Pn**	**02 49 16.4**	**-0.2**
BIA				*i* Sn	**Sn**	**02 49 40.5**	**+1.9**
GRG	**Griva**	**1.70**	**22**	*e*Pb	**Pb**	**02 49 17.4**	**-0.7**
PAIG	**Paliouri**	**1.71**	**71**	*e*Pb	**Pb**	**02 49 17.1**	**-1.1**
PAIG				*e*Sb	**Sb**	**02 49 38.9**	**-1.3**
PLG	**Polygyros**	**1.75**	**55**	*e*PB	**Pb**	**02 49 17.9**	**-1.0**
PLG	**Polygyros**	**1.75**	**55**	*e*Pb	**Pb**	**02 49 17.8**	**-1.1**
AOS	**Alonnisos**	**1.80**	**96**	*e*Pb	**Pb**	**02 49 19.0**	**-0.7**
AOS				*e*Sb	**Sb**	**02 49 42.0**	**-0.6**
SOH	**Sokhos**	**1.98**	**43**	*e*Pn	**Pn**	**02 49 22.0**	**+0.6**
KNT	**Kendrikon**	**2.05**	**29**	*e*Pn	**Pn**	**02 49 23.0**	**+0.7**
KNT				*e*Sn	**Sn**	**02 49 49.1**	**+0.4**
OUR	**Ouranopolis**	**2.08**	**62**	*e*Pn	**Pn**	**02 49 23.1**	**+0.3**
OUR				*e*Sn	**Sn**	**02 49 49.2**	**-0.4**
SRS	**Serrai**	**2.32**	**41**	*e*Pn	**Pn**	**02 49 26.2**	**0.0**
SKO	**Skopje**	**2.60**	**358**	*e*Pn	**Pn**	**02 49 31.0**	**+0.9**
NVR	**Nevrokopi**	**2.63**	**41**	*e*PN	**Pn**	**02 49 31.8**	**+1.2**
NVR	**Nevrokopi**	**2.63**	**41**	*e*Pb	**Pb**	**02 49 31.9**	**-2.1**

*IDC **10** 02:49:18.4±0.6, 1.83N×96.96E, mb4.3/19, mb1 4.4/19, mb1mx4.4/21, mbtmp4.3/19, MS3.9/4, Ms1 3.9/4, ms1mx3.5/29, Error ellipse: s-maj=20.7km s-min=13.4km az=55.0*
*BJI **10** 02:49:21.0, 1.77N×97.00E, h31km, mB4.8, mb4.9, Ms4.5, Msz4.2*
*MOS **10** 02:49:21.6±0.8, 1.89N×97.07E, h33km, mb4.9/12, Error ellipse: s-maj=16.4km s-min=8.0km az=106.0*
*NEIC **10** 02:49:22.9±0.3, 1.81N×96.95E, h30km, mb4.8/12, MS4.1/1, Error ellipse: s-maj=8.7km s-min=5.9km az=48.0*
NEIC Felt [III] at Gunungsitoli. Also felt [III] at Sinabang, Simeulue. Felt [II] at Takengon, Sumatra.
ISC 10 02:49:21.8±0.4**,1.84N**±0.06×**97.01E**±0.06**,h33**km**, (h23**km±5.8km**:pP-P),n78,σ0.94**/75**,mb4.6**/43**,MS4.2**/11**, 4C-1D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.99**	**47**	*e*P	**P**	**02 50 37.0**	**+0.6**
KSM	**Kuching**	**13.30**	**91**	P	**P**	**02 52 32.5**	**+1.6**
KKTK	**Khon Kaen**	**15.50**	**21**	P	**P**	**02 53 00.0**	**+0.2**
NANT	**Nan**	**17.24**	**12**	P	**P**	**02 53 24.0**	**+2.3**
KMI	**Kunming**	**23.80**	**13**	P	**P**	**02 54 32.8**	**+0.1**
KMI				AP		02 54 42.1	
KMI				XP		02 54 46.2	
KMI				S	**S**	**02 58 52.8**	**+10**
KMI				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,114nm,6.7s						
KMI				LR	LR		
	comp=N,508nm,15.5s,MS4.1						
KMI				LR	LR		
	comp=E,241nm,16.4s,MS4.1						
KMI				LR	LR		
	comp=Z,490nm,12.9s,MS4.2						
KMI	**Kunming**	**23.80**	**13**	P	**P**	**02 54 32.8**	**+0.1**
	comp=Z,19nm,0.9s,mb4.5						
KMI				pP		02 54 42.1	
KMI				sP		02 54 46.2	
KMI				PP	PP	02 55 13.2	+6.9
KMI				PPP	PPP	02 55 25.6	+9.3
KMI				S	**S**	**02 58 52.8**	**+10**
KMI				sS		02 59 08.9	
KMI				SS	SS	02 59 54.9	+22
KMI				SSS	SSS	03 00 11.7	+22
KMI				LR	LR		
	comp=Z,490nm,12.9s,MS4.2						
KMI	**Kunming**	**23.80**	**13**	P	**P**	**02 54 32.8**	**+0.1**
KMI				*PP		02 54 42.1	
KMI				*SP		02 54 46.2	
KMI						02 55 13.2	
KMI				SS	SS	02 59 54.9	+22
KMI				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.5						
KMI				MLR	MLR		
	comp=Z,490nm,12.9s,MS4.2						
HYB	**Hyderabad**	**23.84**	**312**	*i* P	**P**	**02 54 36.0**	**+2.8**
GZH	**Guangzhou**	**26.40**	**36**	P	**P**	**02 55 02.5**	**+5.0**
GZH				LR	LR		
	comp=N,431nm,13.7s,MS4.3						
GZH				LR	LR		
	comp=E,556nm,15.6s,MS4.3						
GZH				LR	LR		
	comp=Z,544nm,14.0s,MS4.2						
PKI	**Pulchoki**	**27.89**	**338**	*e*P	**P**	**02 55 11.7**	**+0.7**
GUN	**Gumba**	**28.02**	**339**	*e*P	**P**	**02 55 12.9**	**+0.7**
	comp=Z,51nm,0.6s,mb5.3						
DMN	**Daman**	**28.04**	**337**	*e*P	**P**	**02 55 12.2**	**-0.2**
KKN	**Kakani**	**28.14**	**338**	*e*P	**P**	**02 55 13.3**	**+0.1**
	comp=Z,98nm,1.4s,mb5.2						
KKN	**Kakani**	**28.14**	**338**	*e*P	**P**	**02 55 13.3**	**+0.1**
KKN				pmax	pmax		
	comp=Z,49nm,1.4s,mb4.9						
GKN	**Gorkha**	**28.58**	**337**	*e*P	**P**	**02 55 17.4**	**+0.2**
	comp=Z,8.6nm,0.3s,mb5.0						
KOLN	**Koldanda**	**28.80**	**335**	*e*P	**P**	**02 55 19.6**	**+0.5**
	comp=Z,18nm,0.6s,mb5.0						
XAN	**Xi'an**	**33.91**	**18**	P	**P**	**02 56 02.4**	**-1.6**
XAN				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**34.46**	**126**	P	**P**	**02 56 07.4**	**-1.4**
	comp=Z,5.4nm,0.9s,mb4.5,baz=343,slow=5.3,SNR=3.2						
FITZ				LR	LR	03 09 47.7	
	comp=Z,236nm,21.9s,MS3.9,baz=281,slow=36						
GTA	**Gaotai**	**37.48**	**4**	*e*P	**P**	**02 56 34.3**	**+0.1**
GTA				AP	pP	02 56 39.5	-4.5
GTA				XP	sP	02 56 42.9	-5.3
GTA				PP	PP	02 58 05.0	+2.3
GTA				S	**S**	**03 02 27.1**	**+6.8**
GTA				XS		03 02 36.7	
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,105nm,6.1s						
GTA				LR	LR		
	comp=N,85nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=E,176nm,16.4s,MS4.0						
GTA				LR	LR		
	comp=Z,149nm,14.5s,MS3.9						
NWAO	**Narrogin (SRO)**	**39.51**	**153**	LR	LR	03 12 15.7	
	comp=Z,254nm,20.7s,MS4.0,baz=185,slow=35						
HHC	**Hu-ho-hao-te**	**41.00**	**17**	*e*P	**P**	**02 57 04.8**	**+1.3**
HHC				AP	pP	02 57 14.4	+1.1
HHC				XP	sP	02 57 18.2	+0.7
HHC				PP	PP	02 58 43.0	+2.0
HHC				PCP	PcP	02 59 05.6	+1.8
HHC				PCS		03 02 52.8	
HHC				S	**S**	**03 03 13.0**	**-0.3**
HHC				XS		03 03 33.2	
HHC				SS	SS	03 06 14.9	+3.3
HHC				SCS	ScS	03 07 04.4	+1.0
HHC				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,95nm,5.5s						
HHC				LR	LR		
	comp=N,352nm,14.3s,MS4.5						
HHC				LR	LR		
	comp=E,330nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=Z,239nm,13.1s,MS4.2						
WRA	**Warramunga Arr**	**42.53**	**122**	P	**P**	**02 57 15.6**	**-0.8**
	comp=Z,1.4nm,0.5s,mb4.0,baz=301,slow=9.1,SNR=23						
WRAB	**Tennant Creek**	**42.54**	**122**	*e*P	**P**	**02 57 15.8**	**-0.6**
	comp=Z,70nm,1.6s,mb5.1						
WRAB	**Tennant Creek**	**42.54**	**122**	*e*P	**P**	**02 57 15.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,70nm,1.6s,mb5.1						
WMQ	**Urumqi**	**42.61**	**350**	*e*P	**P**	**02 57 18.9**	**+2.2**
JNU	**Nakatsue**	**44.45**	**42**	P	**P**	**02 57 32.0**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.4,baz=268,slow=12,SNR=4.7						
AAK	**Ala-Archa**	**45.34**	**337**	*e*P	**P**	**02 57 38.3**	**-0.4**
	comp=Z,14nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**45.34**	**337**	*e*P	**P**	**02 57 38.3**	**-0.4**
AAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.6						
SNY	**Shenyang**	**46.42**	**27**	⇑P	**P**	**02 57 47.0**	**-0.3**
SNY				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
SNY				AMB	AMB		
	comp=Z,110nm,5.1s						
SNY				LR	LR		
	comp=N,330nm,16.7s						
SNY				LR	LR		
	comp=Z,230nm,19.6s,MS4.1						
SONM	**Songino Array**	**46.53**	**9**	P	**P**	**02 57 48.2**	**+0.1**
	comp=Z,5.4nm,0.7s,mb4.6,baz=188,slow=9.4,SNR=40						
SONM				PcP	PcP	02 59 22.1	-0.4
	comp=Z,2.2nm,0.7s,baz=196,slow=3.7,SNR=5.1						
MKAR	**Makanchi Array**	**46.58**	**346**	P	**P**	**02 57 48.4**	**0.0**
	comp=Z,4.8nm,0.7s,mb4.6,baz=161,slow=9.0,SNR=31						
MKAR				LR	LR	03 21 12.5	
	comp=Z,111nm,19.1s,MS3.8,baz=180,slow=41						
MKAR	**Makanchi Array**	**46.58**	**346**	P	**P**	**02 57 48.8**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,11nm,0.9s						
KKAR	**Karatay Array**	**47.40**	**334**	P	**P**	**02 57 55.1**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZAK	**Zakamensk**	**48.66**	**5**	*e*P	**P**	**02 58 04.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
KURK	**Kurchatov**	**51.13**	**345**	*e*P	**P**	**02 58 23.0**	**-0.5**
	comp=Z,17nm,1.1s,mb4.9						
KURK	**Kurchatov**	**51.13**	**345**	P	**P**	**02 58 23.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
MJAR	**Matsushiro Arr**	**51.35**	**43**	P	**P**	**02 58 25.1**	**-0.4**
	comp=Z,4.6nm,0.7s,mb4.5,baz=218,slow=6.1,SNR=15						
MJAR				LR	LR	03 21 47.8	
	comp=Z,118nm,20.2s,MS3.9,baz=245,slow=38						
ZAL	**Zalesovo**	**52.89**	**351**	P	**P**	**02 58 37.1**	**+0.4**
	comp=Z,24nm,0.5s,mb5.4,baz=312,slow=5.5,SNR=69						
CTA	**Charters Tower**	**52.96**	**117**	*e*P	**P**	**02 58 37.9**	**+0.2**
	comp=Z,4.6nm,0.8s,mb4.5						
CTA	**Charters Tower**	**52.96**	**117**	P	**P**	**02 58 37.5**	**-0.1**
	comp=Z,4.0nm,0.7s,mb4.4,baz=289,slow=8.0,SNR=6.2						
CTA	**Charters Tower**	**52.96**	**117**	*e*P	**P**	**02 58 37.9**	**+0.2**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STKA	**Stephens Creek**	**53.92**	**132**	P	**P**	**02 58 44.7**	**0.0**
	comp=Z,2.9nm,0.6s,mb4.4,baz=358,slow=15,SNR=5.0						
STKA	**Stephens Creek**	**53.92**	**132**	P	**P**	**02 58 44.7**	**0.0**
NVS	**Novosibirsk**	**54.02**	**350**	⇑*i*P	**P**	**02 58 43.8**	**-1.2**
NVS				*i*	pP	02 58 52.0	-3.1
NVS				pmax	pmax		
	comp=N,11nm,0.9s						
NVS				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
NVS				pmax	pmax		
	comp=E,9.0nm,1.0s						
VOSK	**Vostochnaya**	**55.14**	**341**	P	**P**	**02 58 52.2**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
BVA0	**Borovoye Array**	**55.59**	**341**	*i* P	**P**	**02 58 55.7**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**55.59**	**341**	P	**P**	**02 58 55.3**	**-1.2**
	comp=Z,9.8nm,0.7s,mb5.0,baz=145,slow=8.6,SNR=46						
BRVK	**Borovoye**	**55.65**	**341**	*e*P	**P**	**02 58 55.4**	**-1.5**
	comp=Z,8.3nm,1.0s,mb4.7						
BRVK	**Borovoye**	**55.65**	**341**	*e*P	**P**	**02 58 55.4**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KLR	**Kul'dur**	**55.77**	**27**	*e*P	**P**	**02 58 54.8**	**-3.0**
KLR				MLR	MLR		
	comp=N,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,700nm,14.0s,MS4.9						
BOD	**Bodaibo**	**57.42**	**11**	*e*P	**P**	**02 59 08.8**	**-0.7**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ASAJ	**Asahikawa**	**58.27**	**37**	P	**P**	**02 59 16.1**	**+0.5**
	comp=Z,3.9nm,0.4s,mb4.8,baz=63,slow=29,SNR=4.3						
AKTO	**Aktyubinsk**	**58.58**	**332**	P	**P**	**02 59 16.5**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
KMBO	**Kilima Mbogo**	**59.82**	**268**	P	**P**	**02 59 27.1**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=49,slow=15,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**59.93**	**35**	*e*P	**P**	**02 59 26.9**	**-0.3**
	comp=Z,35nm,1.1s,mb5.3						
YSS	**Yuzh-Sakhalins**	**59.93**	**35**	⇑*i*P	**P**	**02 59 27.2**	**+0.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
KIV	**Kislovodsk**	**63.70**	**319**	*e*P	**P**	**03 00 02.3**	**+10**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
YAK	**Yakutsk**	**64.86**	**16**	*e*P	**P**	**02 59 58.6**	**-1.1**
	comp=Z,51nm,0.9s,mb5.5						
YAK				LR	LR		
	comp=Z,129nm,20.0s,MS4.1						
YAK	**Yakutsk**	**64.86**	**16**	*e*P	**P**	**02 59 58.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
BRTR	**Keskin Array B**	**68.54**	**312**	P	**P**	**03 00 22.8**	**-0.6**
	comp=E,1.1nm,0.8s,mb3.8,baz=143,slow=6.2,SNR=6.0						
MAW	**Mawson**	**73.29**	**193**	P	**P**	**03 00 51.9**	**+0.4**
	comp=E,1.0nm,0.6s,mb3.9,baz=7.7,slow=9.8,SNR=4.1						
AKASG	**Malin Array Be**	**74.64**	**322**	P	**P**	**03 00 58.5**	**-1.1**
	comp=E,0.7nm,0.3s,mb4.0,baz=89,slow=5.5,SNR=10						
AKASG	**Malin Array Be**	**74.64**	**322**	P	**P**	**03 00 58.5**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES	FINESS Array B	79.35	332	P	P	03 01 25.6	-0.2
	comp=E,2.0nm,0.6s,mb4.2,baz=93,slow=6.5,SNR=17						
SYO	Syowa Base	80.55	198	⇑P	P	03 01 34.0	+1.9
SYO	Syowa Base	80.55	198	⇓pP	pP	03 01 43.5	+1.0
ARCES	ARCESS Array B	81.87	340	P	P	03 01 38.7	-0.3
	comp=E,5.2nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=7.9						
GERES	GERESS Array B	84.21	319	P	P	03 01 51.5	+0.1
	comp=E,3.3nm,0.8s,mb4.5,baz=104,slow=5.5,SNR=22						
CLL	Collm	84.82	321	e*PP	pP	03 02 04.0	-0.8
GRF	Grafenberg Arr	85.88	320	eP	P	03 02 01.0	+1.5
NB2	NORSAR Subarra	86.36	331	P	P	03 02 02.1	+0.5
	comp=E,1.3nm,0.8s,mb4.2,baz=97,slow=4.6						
NB2	NORSAR Subarra	86.36	331	P	P	03 02 02.1	+0.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.1						
NOA	NORSAR Array B	86.36	331	P	P	03 02 01.5	-0.1
	comp=Z,2.4nm,0.8s,mb4.5,baz=94,slow=5.0,SNR=6.5						
VNDA	Vanda	86.49	169	P	P	03 02 02.9	+0.9
	comp=Z,0.3nm,0.5s,mb3.8,baz=299,slow=2.7,SNR=3.8						
PDAR	Pinedale Array	129.55	25	PKP	PKPdf	03 08 29.3	+1.4
	comp=Z,0.5nm,0.7s,baz=270,slow=3.0,SNR=4.3						
TXAR	Lajitas Array	143.22	31	PKhKP		03 08 51.9	
	comp=Z,0.2nm,0.5s,baz=304,slow=3.3,SNR=4.6						
CPUP	Villa Florida	145.34	223	PKPbc	PKPbc	03 08 58.4	+0.8
	comp=Z,5.4nm,0.9s,baz=132,slow=4.9,SNR=7.1						
CPUP	Villa Florida	145.34	223	ePKIKP	PKPdf	03 08 57.3	+0.2

IDC 10 02:59:14.3±3.4, 6.92S×154.60E, mb3.9/4, mb1 4.1/4, mb1mx3.9/13, mbtmp4.0/4, MS3.2/1, Ms1 3.2/1, ms1mx2.9/18, Error ellipse: s-maj=104.7km s-min=33.7km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.77	251	LR	LR	03 03 41.1	
	comp=Z,173nm,18.4s,baz=42,slow=34						
WRA	Warramunga Arr	23.54	235	P	P	03 04 26.0	-1.3
	1.6nm,0.9s,baz=59,slow=9.5,SNR=6.9						
FITZ	Fitzroy Crossi	30.33	246	P	P	03 05 28.1	-2.0
	4.3nm,0.8s,baz=56,slow=3.6,SNR=2.8						
SONM	Songino Array	69.06	327	P	P	03 10 22.3	-1.8
	0.6nm,0.8s,baz=126,slow=4.3,SNR=4.8						
MKAR	Makanchi Array	83.08	319	P	P	03 11 42.1	-1.2
	1.4nm,0.9s,baz=91,slow=6.6,SNR=7.5						
GERES	GERESS Array B	126.78	329	PKP	PKPdf	03 18 20.1	-1.8
	0.2nm,0.5s,baz=90,slow=2.0,SNR=4.3						

*BJI **10** 03:28:56.0, 5.50S×153.60E, h88km, mb4.7, Ms4.0, Msz3.6*
*IDC **10** 03:28:56.2±3.1, 5.53S×153.54E, h76km±27km, mb4.1/11, mb1 4.2/14, mb1mx4.1/19, mbtmp4.5/14, MS3.9/8, Ms1 3.9/8, ms1mx3.8/17, Error ellipse: s-maj=20.9km s-min=18.1km az=50.0*
*NEIC **10** 03:28:57.2±1.3, 5.55S×153.57E, h88km±11km, mb4.5/7, Error ellipse: s-maj=11.9km s-min=9.0km az=188.0*
ISC 10 03:28:54.9±1.9, 5.6S±0.1×153.63E±0.06, h80km±17km, n33, σ1^{s}02/33, mb4.3/14, 2C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.35	122	P	P	03 30 43.6	+2.1
	16nm,0.3s,baz=219,slow=6.5,SNR=2.8						
HNR				S	S	03 32 03.3	-0.8
	3.5nm,0.3s,baz=194,slow=9.1,SNR=2.9						
HNR				LR	LR	03 32 57.3	
	comp=Z,491nm,18.1s,baz=299,slow=32						
PMG	Port Moresby	7.47	239	P	P	03 30 42.1	-1.0
	5.1nm,0.3s,baz=85,slow=6.3,SNR=10						
PMG				S	S	03 32 01.4	-5.7
	3.3nm,0.3s,baz=75,slow=18,SNR=2.3						
PMG				LR	LR	03 33 34.2	
	comp=Z,1μm,20.2s,baz=60,slow=38						
PMG	Port Moresby	7.47	239	P	P	03 30 42.1	-1.0
PMG				S	S	03 32 01.4	-5.7
PMG				LR	LR	03 33 34.2	
CTA	Charters Tower	16.12	206	eP	P	03 32 39.1	+1.0
	14nm,1.9s						
CTA	Charters Tower	16.12	206	P	P	03 32 38.6	+0.5
	0.3nm,0.3s,baz=48,slow=15,SNR=6.3						
NOUC	Port Laguerre	20.51	145	eP	P	03 33 28.2	-0.7
NOUC	Port Laguerre	20.51	145	eP	P	03 33 28.2	-0.7
DZM	Mont Dzumac	20.57	144	eP	P	03 33 28.8	-0.7
DZM	Mont Dzumac	20.57	144	P	P	03 33 28.9	-0.6
	25nm,0.5s,baz=318,slow=9.9,SNR=67						
DZM	Mont Dzumac	20.57	144	eP	P	03 33 28.8	-0.7
WRAB	Tennant Creek	23.57	231	eP	P	03 34 00.4	+1.2
	35nm,1.3s,mb4.5						
WB2	Warramunga Arr	23.58	231	eP	P	03 34 00.1	+0.9
WRA	Warramunga Arr	23.59	231	P	P	03 33 59.6	+0.3
	5.5nm,0.6s,mb4.0,baz=54,slow=9.6,SNR=49						
WRA				PcP	PcP	03 37 44.1	+0.1
	2.8nm,0.7s,baz=57,slow=2.3,SNR=12						
STKA	Stephens Creek	28.50	202	eP	P	03 34 44.0	-1.0
	5.5nm,1.0s,mb4.1						
STKA	Stephens Creek	28.50	202	P	P	03 34 43.7	-1.3
	6.0nm,0.9s,mb4.2,baz=0.8,slow=14,SNR=5.7						
STKA				LR	LR	03 46 19.5	
	comp=Z,303nm,20.9s,baz=22,slow=37						
FITZ	Fitzroy Crossi	30.04	243	⇑iP	P	03 34 57.4	-1.4
	6.6nm,0.5s,mb4.5						
FITZ	Fitzroy Crossi	30.04	243	P	P	03 34 57.4	-1.4
	7.3nm,0.5s,mb4.6,baz=52,slow=4.3,SNR=29						
FITZ				LR	LR	03 47 41.8	
	comp=Z,345nm,20.2s,baz=84,slow=38						
CBIJ	Chichi jima	34.30	342	LR	LR	03 47 28.0	
	comp=Z,106nm,21.4s,baz=132,slow=32						
URZ	Urewera	38.92	150	P	P	03 36 14.5	+0.1
	5.4nm,0.3s,mb4.9,baz=29,slow=9.3,SNR=8.0						
MJAR	Matsushiro Arr	44.30	342	LR	LR	03 53 18.5	
	comp=Z,166nm,19.6s,baz=185,slow=33						
GTA	Gaotai	66.77	317	eP	P	03 39 40.6	+0.4
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
SONM	Songino Array	67.40	328	P	P	03 39 43.4	-0.6
	comp=Z,1.2nm,0.8s,mb3.8,baz=154,slow=7.7,SNR=2.6						
CASY	Casey	67.54	197	⇑iP	P	03 39 44.5	0.0
VNDA	Vanda	72.05	178	P	P	03 40 12.2	+0.3
	comp=Z,2.5nm,1.0s,mb4.0,baz=332,slow=6.5,SNR=11						
SBA	Scott Base	72.58	177	P	P	03 40 12.5	-2.4
	comp=Z,6.1nm,0.9s,mb4.4						
MKAR	Makanchi Array	81.44	319	P	P	03 41 04.8	0.0
	comp=Z,1.8nm,0.5s,mb4.2,baz=92,slow=7.9,SNR=12						
MKAR				LR	LR	04 17 17.3	
	comp=Z,43nm,19.8s,baz=182,slow=36						
MKAR	Makanchi Array	81.44	319	P	P	03 41 04.8	0.0
MKAR				LR	LR	04 17 17.3	
ILAR	Eielson Array	82.55	22	P	P	03 41 10.4	+0.3
	comp=Z,0.2nm,0.5s,mb3.2,baz=256,slow=3.7,SNR=5.9						
ILAR				LR	LR	04 13 42.6	
	comp=Z,96nm,19.9s,baz=178,slow=32						
QSPA	South Pole Qui	84.41	180	eP	P	03 41 20.9	+1.7
	comp=Z,20nm,0.8s,mb5.0						
MAW	Mawson	85.19	203	eP	P	03 41 24.5	+1.2
	comp=Z,5.3nm,1.4s,mb4.3						
MAW	Mawson	85.19	203	P	P	03 41 24.8	+1.5
	comp=Z,4.4nm,0.7s,mb4.5,baz=88,slow=4.9,SNR=17						
BVAR	Borovoye Array	90.34	323	P	P	03 41 47.5	-0.8
	comp=Z,3.1nm,0.8s,mb4.5,baz=104,slow=6.1,SNR=10						
GERES	GERESS Array B	125.13	329	PKP	PKPdf	03 47 47.1	+0.7
	comp=Z,0.4nm,0.7s,SNR=3.9						

*TEH **10** 03:30:28.9, 26.21N×61.61E, h10km, Mn4.5*
*THR **10** 03:30:35.8±0.8, 26.60N×61.34E, h46km±14km, ML4.4*
*MOS **10** 03:30:35.2±0.8, 26.87N×61.12E, h33km, mb5.0/66, Error ellipse: s-maj=6.9km s-min=3.7km az=123.7*
*CSEM **10** 03:30:36.3±0.1, 26.70N×61.09E, h50km, mb4.8/85, Ms3.3, Error ellipse: s-maj=2.1km s-min=1.6km az=3.0*
*BJI **10** 03:30:38.4, 26.80N×61.20E, h49km, mB4.9, mb4.8, Ms4.2, Msz4.0*
*IDC **10** 03:30:38.5±0.5, 26.83N×61.19E, h49km±4km, mb4.5/22, mb1 4.6/23, mb1mx4.6/25, mbtmp4.8/23, MS3.7/10, Ms1 3.7/10, ms1mx3.6/23, Error ellipse: s-maj=11.7km s-min=10.9km az=7.0*
*NEIC **10** 03:30:38.4±0.2, 26.83N×61.16E, mb4.8/91, Error ellipse: s-maj=4.2km s-min=2.7km az=198.0*
*OMAN **10** 03:30:44.6±0.3, 26.32N×60.72E, h30km, Error ellipse: s-maj=6.1km s-min=4.6km az=276.0*
ISC 10 03:30:36.0±0.2, 26.76N±0.02×61.15E±0.02, h48km, h48km±1.1km:pP-P, n427, σ1^{s}05/426, mb4.8/133, MS3.7/22, 29C-19D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZHSF	Zahedan	2.85	353	eP	P	03 31 21.9	+1.6
ZHSF				AML	AML	03 31 34.8	
	comp=N,944nm,0.4s						
ZHSF				eSg	S	03 32 09.6	+16
ZHSF	Zahedan	2.85	353	eP	P	03 31 21.9	+1.6
	SNR=54						
ZHSF				eSg	S	03 32 09.6	+16
	SNR=97						
BIDO	Bidbid	4.24	221	P	P	03 31 39.0	-0.8
	SNR=65						
BIDO				⇓S	S	03 32 21.2	-7.4
BANOM	Banah	4.43	260	⇓P	P	03 31 43.5	+1.0
	SNR=333						
BNDS	Bandar-Abbas	4.48	279	eP	P	03 31 45.1	+1.8
WBK	Wadi Bani Khal	4.59	206	P	P	03 31 43.4	-1.3
	SNR=178						
WBK				⇑S	S	03 32 31.3	-6.1
SMDO	Samad	4.64	218	P	P	03 31 45.1	-0.4
	SNR=119						
HOQ	Hoqain	4.71	229	P	P	03 31 45.3	-1.1
	SNR=89						
HOQ				⇑S	S	03 32 33.6	-6.8
KRBR	Kerman	5.02	311	ePN	P	03 31 52.9	+2.1
KRBR				AML	AML	03 33 24.0	
	comp=N,276nm,0.6s						
ASHO	Ashiyiah	5.04	247	P	P	03 31 50.5	-0.5
	SNR=179						
JMDO	Jabal Madar	5.18	213	P	P	03 31 52.9	-0.1
	SNR=175						
BSY	Bisya	5.38	223	P	P	03 31 57.0	+1.2
	SNR=242						
ARQ	Araqi	5.41	232	P	P	03 31 58.6	+2.4
	SNR=128						
ARQ				⇓S	S	03 32 56.6	-1.4
IBAF	Bafgh	6.85	316	Pn	P	03 32 17.1	+0.7
IMEH	Mehriz	7.34	310	Pn	P	03 32 23.9	+0.6
GHIR	Ghir-Karzin	7.41	284	ePn	P	03 32 24.6	+0.5
ISRV	Sarvestan	7.56	292	Pn	P	03 32 26.3	0.0
IPAR	Pars	7.77	295	Pn	P	03 32 29.3	+0.1
IMOK	Mook	7.80	289	Pn	P	03 32 29.1	-0.5
ICHK	Chekchek	8.02	315	Pn	P	03 32 33.6	+1.0
JASL	Jaisalmer	8.71	87	eP	P	03 32 40.4	-1.8
NASN	Na'in	9.42	312	ePN	P	03 32 52.8	+0.9
NASN				Sn	S	03 34 34.6	-2.8
IMYA	Miamay	9.59	355	Pn	P	03 32 53.4	-0.9
IPAY	Payeh	9.83	350	Pn	P	03 32 57.5	-0.1
SBDP	Sheikh Budin	10.05	54	P	P	03 32 58.8	-1.9
SBDP				S	S	03 34 42.0	-11
IKRD	Kardeh	10.22	348	Pn	P	03 33 00.3	-2.7
HASS	Wahat al Ahsa'	10.43	264	P	P	03 33 05.0	-0.8
THW	Thamme Wali	10.99	54	⇑P	P	03 33 11.3	-2.1
WHFO	Wadi Hawf	11.14	219	P	P	03 33 13.8	-1.7
	SNR=37						
RBK	Rabkut	11.24	216	⇑P	P	03 33 15.2	-1.6
	SNR=36						
IFIR	Firoozkooh	11.39	323	Pn	P	03 33 18.4	-0.5
IFIR				Lg		03 36 45.3	
IVRN	Varamin	11.52	318	Pn	P	03 33 20.7	+0.2
IVRN				Sn	S	03 35 28.9	+0.2
CEP	Cherat	11.65	50	⇓P	P	03 33 20.5	-1.9
IDMV	Damavand	11.75	321	Pn	P	03 33 23.8	+0.2
DAMV	Damavand	11.82	321	ePn	P	03 33 26.3	+1.7
ABTO	Aybut	11.86	219	⇓P	P	03 33 22.6	-2.6
	SNR=17						
QRN	Al-Qurain	11.89	283	eP	P	03 33 22.8	-2.7
AJM	Ajmer	12.08	88	i x	x	03 33 32.5	
AJM				eS	S	03 35 25.6	-17
IAFJ	Afjeh	12.13	321	Pn	P	03 33 29.4	+0.7
KBD	Kabd	12.13	285	eP	P	03 33 26.1	-2.8
KBD				AML	AML	03 35 31.9	
	comp=Z,248nm,0.2s						
UMR	Umm Al-Rimmam	12.18	286	eP	P	03 33 27.5	-1.9
UMR				AML	AML	03 35 35.8	
	comp=Z,187nm,0.3s						
UMR	Umm Al-Rimmam	12.18	286	eP	P	03 33 27.8	-1.6
RDF	Al-Radifah	12.23	283	eP	P	03 33 27.7	-2.4
RDF				AML	AML	03 35 35.0	
	comp=Z,100nm,0.3s						
ASAO	Ashtian	12.32	312	ePn	P	03 33 33.1	+1.8
CHCP	Chirah Chowk	12.52	54	P	P	03 33 32.0	-2.0
MIB	Mutribah	12.54	287	eP	P	03 33 31.8	-2.5
MIB				AML	AML	03 35 44.9	
	comp=Z,172nm,0.6s						
IRAZ	Razeghan	12.90	315	Pn	P	03 33 50.0	+11
KHET	Khetri	13.09	81	eP	P	03 33 39.3	-2.2
KUDL	Kundal	13.69	81	eP	P	03 33 47.2	-2.2
KUDL				AMb	AMB	03 34 00.1	
	comp=Z,11nm,1.1s						
SONA	Sohna	14.22	80	eP	P	03 33 55.0	-1.4
AYAN	Aya Nagar	14.27	79	ex	x	03 34 04.5	
AYAN				AMb	AMB	03 34 06.6	
	comp=Z,30nm,1.3s						
MZLS	Mizel	14.66	263	P	P	03 34 00.4	-1.8
ASOR	Ausora	14.85	79	eP	P	03 34 01.3	-3.3
ASOR				AMb	AMB	03 34 02.0	
	comp=Z,28nm,0.6s						
AGRA	Agra	14.98	84	eP	P	03 34 03.9	-2.4
AGRA				AMb	AMB	03 34 04.9	
	comp=Z,13nm,0.9s						
BHPL	Bhopal	15.16	100	ex	x	03 36 34.6	
KALG	Kalgarh	15.77	76	eP	P	03 34 14.8	-1.6
BHD	Baghdad	15.90	298	i x	x	03 34 18.0	
BHD				ex	x	03 37 17.5	
KAMS	Al Khamasin	16.49	251	P	P	03 34 22.7	-2.9
AFFS	'Afif	16.65	264	P	P	03 34 28.7	+1.1
HILS	Ha'il	17.25	276	P	P	03 34 34.6	-0.6
KKAR	Karatay Array	18.00	23	P	P	03 34 41.7	-2.6
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
AML	Almayashu	18.46	31	P	P	03 34 49.5	-0.5
	SNR=6.7						
HYB	Hyderabad	18.60	116	i P	P	03 35 03.0	+11
HYB	Hyderabad	18.60	116	eP	P	03 35 03.0	+11
EKS2	Erkin-Say	18.92	30	P	P	03 34 54.5	-0.9
	SNR=45						
GNI	Garni	19.08	319	P	P	03 34 57.2	-0.1
	comp=Z,2.9nm,0.3s,baz=334,slow=1.2,SNR=24						
GNI				LR	LR	03 43 11.7	
	comp=Z,211nm,19.4s,baz=148,slow=40						
GNI	Garni	19.08	319	eP	P	03 34 57.4	+0.1
	comp=Z,129nm,1.1s						
GNI	Garni	19.08	319	eP	P	03 34 57.4	+0.1
	comp=Z,129nm,1.1s						
GNI	Garni	19.08	319	eP	P	03 34 57.4	+0.1
GNI				pmax	pmax		
	comp=Z,129nm,1.1s						
KZA	Kyzart	19.16	34	P	P	03 34 57.6	-0.5
	SNR=37						
BLJS	Baljurashi	19.21	253	P	P	03 34 59.9	+1.1
AAK	Ala-Archa	19.22	31	P	P	03 34 58.1	-0.8
	SNR=15						
AAK	Ala-Archa	19.22	31	eP	P	03 34 56.6	-2.2
	comp=Z,16nm,0.6s						
AAK	Ala-Archa	19.22	31	eP	P	03 34 56.7	-2.1
	comp=Z,16nm,0.6s						
AAK	Ala-Archa	19.22	31	eP	P	03 34 56.7	-2.1
AAK				pmax	pmax		
	comp=Z,16nm,0.6s						
FRU	Bishkek	19.43	31	eP	P	03 35 01.0	-0.2
	comp=Z,49nm,1.5s						
FRU	Bishkek	19.43	31	eP	P	03 35 01.0	-0.2
FRU				pmax	pmax		
	comp=Z,49nm,1.5s						
KBK	Karagaybulak	19.45	32	P	P	03 35 01.3	0.0
	SNR=12						
CHMS	Chumysh	19.62	31	P	P	03 35 02.8	-0.5
	SNR=5.5						
BLSP	Bilaspur	19.64	99	ex	x	03 34 56.4	
USP	Ospenovka	19.72	30	P	P	03 35 03.3	-1.0
	SNR=8.4						
ULHL	Ulahol	19.78	35	P	P	03 35 04.7	-0.2
	SNR=16						
TKM2	Tokmak 2	19.96	32	P	P	03 35 05.7	-1.2
	SNR=36						
KOLN	Koldanda	19.98	82	eP	P	03 35 07.8	+0.6
	comp=Z,186nm,1.2s						
DIGO	Kars	20.07	317	i P	P	03 35 10.7	+2.8
BEST	Besiri	20.09	308	i P	P	03 35 08.0	-0.3
MARD	Mardin	20.18	306	i P	P	03 35 09.1	-0.1
BNGL	BINGOL	20.68	311	i P	P	03 35 13.7	-0.7
GKN	Gorkha	20.89	81	eP	P	03 35 17.2	+0.6
	comp=Z,119nm,1.0s						
ERZM	Erzurum	21.04	314	i P	P	03 35 17.1	-0.9
ZEI	Tsey	21.28	323	eP	P	03 35 18.0	-2.5
ZEI				i *PP		03 35 26.6	
ZEI				eS	S	03 39 10.0	+0.8
ZEI				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.0						
DMN	Daman	21.32	82	eP	P	03 35 22.3	+1.3
	comp=Z,92nm,0.9s,mb5.1						
KKN	Kakani	21.47	82	eP	P	03 35 23.6	+1.2
	comp=Z,82nm,0.7s,mb5.1						
KKN	Kakani	21.47	82	eP	P	03 35 23.6	+1.2
KKN				pmax	pmax		
	comp=Z,41nm,0.7s,mb4.9						
PKI	Pulchoki	21.59	82	eP	P	03 35 24.9	+1.2
	comp=Z,49nm,0.7s,mb5.0						
PKI	Pulchoki	21.59	82	eP	P	03 35 24.9	+1.2
PKI				pmax	pmax		
	comp=Z,25nm,0.7s,mb4.8						
ASF	Jabal al Asfar	21.77	290	P	P	03 35 28.2	+2.8
	comp=Z,100nm,0.9s,mb5.2,baz=332,slow=5.4,SNR=119						
ASF				S	S	03 39 18.9	+0.6
	comp=Z,4.7nm,0.7s,baz=24,slow=23,SNR=4.1						
ASF				LR	LR	03 46 06.6	
	comp=Z,114nm,18.5s,MS3.3,baz=179,slow=43						
ELZG	Elazig	21.97	308	i P	P	03 35 26.4	-1.0
GUN	Gumba	21.99	81	eP	P	03 35 29.6	+2.0
	comp=Z,298nm,1.0s,mb5.7						
MALT	Malatya	22.29	307	eP	P	03 35 30.6	+0.1
	comp=Z,17nm,0.8s,mb4.5						
MALT	Malatya	22.29	307	eP	P	03 35 30.6	+0.1
	comp=Z,17nm,0.8s,mb4.5						
MALT	Malatya	22.29	307	eP	P	03 35 30.6	+0.1
MALT				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.5						
GZT	Gaziantep	22.55	304	i P	P	03 35 33.2	+0.1
KELT	Kelkit	22.55	312	i P	P	03 35 32.9	-0.2
BOK	Bokaro	22.55	92	eP	P	03 35 37.1	+3.9
KIV	Kislovodsk	22.74	324	eP	P	03 35 35.5	+0.6
	comp=Z,60nm,0.8s,mb5.1						
KIV	Kislovodsk	22.74	324	eP	P	03 35 35.5	+0.6
	comp=Z,60nm,0.8s,mb5.1						
KIV	Kislovodsk	22.74	324c	iP	P	03 35 36.1	+1.2
KIV				e		03 35 45.2	
KIV				e		03 35 52.7	
KIV				e		03 39 26.6	
KIV				pmax	pmax		
	comp=Z,225nm,1.7s,mb5.3						
ATD	Arta Tunnel	22.94	232	P	P	03 35 40.2	+3.1
	comp=Z,37nm,1.0s,mb4.8,baz=20,slow=5.7,SNR=17						
ATD				LR	LR	03 45 11.1	
	comp=Z,151nm,20.6s,MS3.4,baz=359,slow=38						
ATD	Arta Tunnel	22.94	232	P	P	03 35 40.2	+3.0
KAHT	Ahir Dag	23.16	304	i P	P	03 35 41.2	+2.1
COBT	Iskenderun	23.26	301	i P	P	03 35 40.8	+0.7
GRSN	GIRESUNGRSN	23.59	313	i P	P	03 35 43.7	+0.6
AKTO	Aktyubinsk	23.76	355	P	P	03 35 44.2	-0.5
AKTO				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.1						
SOC	Sochi	24.15	320	eP	P	03 35 48.2	-0.4
SOC				e		03 36 16.6	
SOC				eS	S	03 40 00.3	-0.1
SOC				pmax	pmax		
	comp=N,18nm,0.9s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.9s						
SOC				pmax	pmax		
	comp=Z,44nm,0.9s,mb4.9						
SOC				MLR	MLR		
	comp=N,78nm,13.0s,MS3.5						
SOC				MLR	MLR		
	comp=E,79nm,13.0s,MS3.5						
SOC				MLR	MLR		
	comp=Z,164nm,13.0s,MS3.7						
AVNT	Avonos	25.05	305	i P	P	03 35 58.7	+1.3
CSS	Prodhromos	25.18	296	eP	P	03 35 59.0	+0.4
	comp=Z,21nm,0.6s,mb4.8						
CSS	Prodhromos	25.18	296	eP	P	03 35 59.0	+0.4
	comp=Z,21nm,0.6s,mb4.8						
CDAG	Cicekdag	25.71	307	i P	P	03 36 03.5	-0.1
CTKT	Corum	25.81	309	i P	P	03 36 03.9	-0.5
ERMK	Ermenek	25.88	299	i P	P	03 36 08.2	+3.1
MKAR	Makanchi Array	26.05	34	P	P	03 36 07.0	+0.4
	comp=Z,5.0nm,0.6s,mb4.2,baz=225,slow=8.6,SNR=39						
MKAR				pP	pP	03 36 20.1	+1.3
	comp=Z,4.9nm,0.7s,baz=214,slow=8.7,SNR=7.3						
MKAR				LR	LR	03 48 40.6	
	comp=Z,181nm,21.7s,MS3.6,baz=181,slow=42						
BOYT	Boyabat	26.07	311	i P	P	03 36 05.8	-1.0
ANN	Anapa	26.19	320	eP	P	03 36 07.3	-0.7
ANN				pmax	pmax		
	comp=Z,24nm,0.7s,mb4.8						
BRTR	Keskin Array B	26.27	306	P	P	03 36 08.9	+0.1
	comp=Z,12nm,0.8s,mb4.5,baz=130,slow=9.6,SNR=27						
BRTR				PcP	PcP	03 39 35.0	+0.2
	comp=Z,1.8nm,0.8s,baz=134,slow=4.7,SNR=4.2						
BRTR				pPcP		03 39 50.1	
	comp=Z,1.0nm,0.7s,baz=138,slow=5.7,SNR=3.8						
BRTR	Keskin Array B	26.27	306	PcP	PcP	03 39 35.0	+0.3
BR131	Keskin Array S	26.27	306	eP	P	03 36 08.5	-0.3
	comp=Z,13nm,0.8s,mb4.5						
BR131	Keskin Array S	26.27	306	eP	P	03 36 08.5	-0.3
	comp=Z,13nm,0.8s,mb4.5						
LSA	Lhasa	26.56	77	eP	P	03 36 12.3	+0.8
	comp=Z,10nm,0.6s,mb4.5						
LSA	Lhasa	26.56	77	eP	P	03 36 12.3	+0.8
	comp=Z,10nm,0.6s,mb4.5						
LSA	Lhasa	26.56	77	eP	P	03 36 12.3	+0.8
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
ANTO	Ankara	26.93	306	eP	P	03 36 14.4	-0.4
	comp=Z,29nm,1.0s,mb4.8						
ANTO	Ankara	26.93	306	eP	P	03 36 14.4	-0.5
	comp=Z,29nm,1.0s,mb4.8						
ANTO	Ankara	26.93	306	eP	P	03 36 14.5	-0.4
ANTO				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.8						
VOSK	Vostochnaya	26.95	13	P	P	03 36 14.7	-0.2
VOSK				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.8						
BVA0	Borovoye Array	27.12	12	i P	P	03 36 16.5	+0.1
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
BVAR	Borovoye Array	27.12	12	P	P	03 36 16.5	0.0
	comp=Z,48nm,0.9s,mb5.0,baz=190,slow=9.0,SNR=115						
BRVK	Borovoye	27.14	12	eP	P	03 36 16.1	-0.5
	comp=Z,27nm,0.9s,mb4.8						
BRVK	Borovoye	27.14	12	eP	P	03 36 16.0	-0.6
	comp=Z,27nm,0.9s,mb4.8						
BRVK	Borovoye	27.14	12	eP	P	03 36 16.1	-0.5
BRVK				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.8						
WMQ	Urumqi	27.38	45	eP	P	03 36 21.2	+2.3
WMQ				AP	pP	03 36 33.0	+1.8
WMQ				XP	sP	03 36 38.5	+1.5
WMQ				PP	PP	03 37 09.0	+1.7
WMQ				PCP	PcP	03 39 40.0	+2.7
WMQ				S	S	03 40 56.0	+2.2
WMQ				XS		03 41 15.0	
WMQ				SS	SS	03 42 14.0	+0.9
WMQ				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,109nm,4.2s						
WMQ				LR	LR		
	comp=N,244nm,19.0s,MS4.0						
WMQ				LR	LR		
	comp=E,310nm,22.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,400nm,26.2s,MS3.9						
KURK	Kurchatov	27.39	25	eP	P	03 36 18.1	-0.8
	comp=Z,23nm,1.0s,mb4.7						
KURK	Kurchatov	27.39	25	eP	P	03 36 18.1	-0.8
	comp=Z,23nm,1.0s,mb4.7						
KURK	Kurchatov	27.39	25	P	P	03 36 18.8	-0.1
KURK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
SGKT	Sivrigoynuk	27.71	307	i P	P	03 36 21.4	-0.5
ISP	Isparta	28.04	301	eP	P	03 36 25.1	+0.1
	comp=Z,42nm,1.1s,mb5.0						
ISP	Isparta	28.04	301c	iP	P	03 36 25.5	+0.6
TKTP	Tekketepe	28.23	301	i P	P	03 36 26.9	+0.2
ESKT	Eskisehir	28.24	304	i P	P	03 36 26.0	-0.7
SIM	Simferopol'	28.25	317d	iP	P	03 36 26.9	+0.2
SIM				eS	S	03 41 07.6	-0.2
SIM				pmax	pmax		

comp=Z,30nm,0.9s,mb4.9
SIM smax
comp=N,75nm,0.9s
SIM smax
comp=E,44nm,0.9s
ULDT Uludag 29.68 305 *i* P **P 03 36 38.4 -1.1**
SVE Sverdlovsk 30.04 359 *eP* **P 03 36 42.7 +0.2**
SVE *e* 03 43 36.0
SVE pmax pmax
comp=Z,20nm,1.4s,mb4.7
SVE MLR MLR
comp=E,100nm,15.0s
SVE MLR MLR
comp=Z,200nm,15.0s,MS3.9
HARR Harsova 32.07 313 ⇓ *i* P **P 03 36 58.9 -1.6**
CFR Carcaliu 32.12 314 ⇓ *i* P **P 03 36 59.9 -1.1**
ZAL Zalesovo 32.28 26 P **P 03 37 01.3 -1.0**
comp=Z,7.6nm,0.5s,mb4.8,baz=231,slow=6.4,SNR=20
ZAL LR LR 03 52 26.1
comp=Z,168nm,21.0s,MS3.7,baz=246,slow=41
NVS Novosibirsk 32.37 24 ⇑ *i* P **P 03 37 02.2 -0.9**
NVS *i* *PP pP 03 37 15.3 -0.3
NVS *e* 03 38 09.0
NVS *eS* **S 03 42 09.7 -3.0**
NVS pmax pmax
comp=N,25nm,0.9s
NVS pmax pmax
comp=E,13nm,0.9s
NVS pmax pmax
comp=Z,30nm,0.9s,mb5.1
NVS pmax pmax
comp=Z,13nm,0.9s,mb4.8
NVS smax
comp=N,12nm,1.8ns
NVS smax
comp=E,22nm,1.7s
SOKR Solikamsk 32.93 356 ⇓ *i* P **P 03 37 08.2 +0.3**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.3
VRI Vrincioaia 33.31 314 ⇓ *i* P **P 03 37 13.8 +2.5**
OBN Obninsk 33.52 334 *eP* **P 03 37 12.6 -0.4**
comp=Z,56nm,1.0s,mb5.5
OBN Obninsk 33.52 334 *eP* **P 03 37 12.6 -0.4**
comp=Z,56nm,1.0s,mb5.5
OBN Obninsk 33.52 334 *c i* P **P 03 37 12.7 -0.3**
OBN *e* 03 38 27.7
OBN pmax pmax
comp=Z,71nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.5
MOS Moscow 33.59 336 *eP* **P 03 37 12.1 -1.5**
MLR Muntele Rosu 33.67 313 ⇓ *i* P **P 03 37 17.1 +2.7**
AKASG Malin Array Be 34.08 323 P **P 03 37 17.3 -0.6**
comp=Z,14nm,0.5s,mb5.1,baz=125,slow=7.7,SNR=121
AKASG PcP PcP 03 39 54.3 -0.5
comp=Z,0.6nm,0.5s,baz=110,slow=2.9,SNR=4.0
AKASG pPcP 03 40 08.9
comp=Z,1.0nm,0.5s,baz=83,slow=3.4,SNR=4.2
AKASG Malin Array Be 34.08 323 P **P 03 37 17.3 -0.6**
AKASG PcP PcP 03 39 54.3 -0.5
AKASG pPcP 03 40 08.9
AKASG Malin Array Be 34.08 323 PcP PcP 03 39 54.3 -0.5
VOIR 34.24 312 ⇑ *iP* **P 03 37 19.8 +0.5**
GTA Gaotai 34.51 59 *eP* **P 03 37 23.4 +1.7**
GTA AP pP 03 37 36.0 +1.7
GTA XP sP 03 37 40.5 +0.1
GTA PP PP 03 38 44.2 +5.4
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,116nm,6.5s
GTA LR LR
comp=N,139nm,14.5s,MS3.9
GTA LR LR
comp=E,124nm,16.4s,MS3.9
GTA LR LR
comp=Z,104nm,14.9s,MS3.7
BURAR Bucovina Array 34.95 316 ⇓ *i* P **P 03 37 26.0 +0.6**
BURAR Bucovina Array 34.95 316 ⇓ *i* P **P 03 37 26.0 +0.6**
CHG Chiang Mai 35.63 95 P **P 03 37 31.6 +0.2**
comp=Z,13nm,1.3s,mb4.7
SKO Skopje 35.77 305 *i* P **P 03 37 32.2 -0.3**
KMBO Kilima Mbogo 36.05 223 P **P 03 37 37.4 +2.3**
comp=Z,9.2nm,0.8s,mb4.8,baz=37,slow=13,SNR=24
KMBO LR LR 03 52 25.6
comp=Z,112nm,19.7s,MS3.6,baz=275,slow=36
KMBO Kilima Mbogo 36.05 223 P **P 03 37 37.3 +2.2**
KMBO Kilima Mbogo 36.05 223 *i* P **P 03 37 37.9 +2.8**
KMBO pmax pmax
comp=Z,9.0nm,0.8s
DRGR 36.23 314 ⇑ *iP* **P 03 37 36.3 0.0**
KOLS Kolonicke sedl 37.28 317 *eP* **P 03 37 46.0 +1.0**
KOLS *e* pP 03 37 56.0 -1.8
KWP Kalwaria 37.29 318 *eP* **P 03 37 45.8 +0.7**
KMI Kunming 37.32 83 P **P 03 37 46.2 +0.6**
KMI AP pP 03 37 59.9 +1.5
KMI XP sP 03 38 05.5 +1.2
KMI PP PP 03 39 12.7 -1.1
KMI PPP PPP 03 39 36.8 +2.0
KMI PcP PcP 03 40 07.8 +3.2
KMI S **S 03 43 30.6 +1.3**
KMI XS 03 43 51.4
KMI SS SS 03 46 03.3 +0.4
KMI AMB AMB
comp=Z,49nm,0.9s,mb5.3
KMI AMB AMB
comp=Z,57nm,3.1s
KMI LR LR
comp=N,98nm,14.7s,MS3.8
KMI LR LR
comp=E,85nm,16.4s,MS3.8
KMI LR LR
comp=Z,120nm,12.9s,MS3.9
KMI Kunming 37.32 83 P **P 03 37 46.2 +0.6**
comp=Z,49nm,0.9s,mb5.3
KMI pP pP 03 37 59.9 +1.5
KMI sP sP 03 38 05.5 +1.2
KMI PP PP 03 39 12.7 -1.1
KMI PPP PPP 03 39 36.8 +2.0
KMI PcP PcP 03 40 07.8 +3.2
KMI S **S 03 43 30.6 +1.3**
KMI sS 03 43 51.4
KMI SS SS 03 46 03.3 +0.4
KMI SSS SSS 03 46 31.0 -4.0
KMI LR LR
comp=Z,120nm,12.9s,MS3.9
KMI Kunming 37.32 83 P **P 03 37 46.2 +0.6**
KMI *PP pP 03 37 59.9 +1.5
KMI 03 39 12.7
KMI PPP PPP 03 39 36.8 +2.0
KMI 03 40 07.8
KMI S **S 03 43 30.6 +1.3**
KMI *SS 03 43 51.4
KMI SS SS 03 46 03.3 +0.4
KMI SSS SSS 03 46 31.0 -4.0
KMI pmax pmax
comp=Z,49nm,0.9s,mb5.3
KMI MLR MLR
comp=Z,120nm,12.9s,MS3.9
LZH Lanzhou 37.35 65 *eP* **P 03 37 47.0 +1.2**
LZH AP pP 03 38 05.0 +6.5
LZH PP PP 03 39 10.0 -4.1
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.0
LZH Lanzhou 37.35 65 *eP* **P 03 37 47.0 +1.2**
comp=Z,26nm,1.0s,mb5.0
LZH pP pP 03 38 05.0 +6.5
LZH sP sP 03 38 13.0 +8.6
LZH PP PP 03 39 10.0 -4.1
CD2 Chengdu 37.39 73 P **P 03 37 46.7 +0.6**
NST Nakhon Sawan 37.84 99 P **P 03 37 51.0 +1.0**
IDID Didziasalis 37.89 328 *eP* **P 03 37 50.5 +0.5**
IDID AMb AMB 03 37 52.3
comp=Z,24nm,1.0s,mb4.9
IDID Didziasalis 37.89 328 *eP* **P 03 37 50.5 +0.4**
comp=Z,24nm,1.0s,mb4.9,SNR=26
STHS Stebnicka Huta 38.09 317 *epP* pP 03 38 06.4 +1.9
KECS Kecovo 38.22 316 *eP* **P 03 37 53.5 +0.6**
ISAL Salakas 38.33 328 *eP* **P 03 37 54.1 +0.5**
ISAL AMb AMB 03 37 56.0
comp=Z,15nm,1.1s,mb4.7
ISAL Salakas 38.33 328 *eP* **P 03 37 54.2 +0.5**
comp=Z,15nm,1.1s,mb4.7,SNR=26
IZAR Zarasai 38.37 329 *eP* **P 03 37 54.6 +0.5**
IZAR AMb AMB 03 37 56.4
comp=Z,25µm,1.1s
IZAR Zarasai 38.37 329 *eP* **P 03 37 54.6 +0.6**
comp=Z,25µm,1.1s,SNR=26
TIP Timpagrande 38.89 300 *eP* **P 03 37 59.1 +0.6**
TIP Timpagrande 38.89 300 *eP* **P 03 37 59.1 +0.6**
SUW Suwalki 38.96 325 *eP* **P 03 37 59.6 +0.6**
OJC Ojcow 39.25 318 *eP* **P 03 38 01.8 +0.4**
VYHS Vyhne 39.27 315 *eP* **P 03 38 01.8 +0.2**
VSU Vasula 39.76 332 ⇑ *eP* **P 03 38 05.9 +0.3**
ZAK Zakamensk 39.77 42 ⇑ *iP* **P 03 38 08.3 +2.5**
ZAK *e* pP 03 38 20.7 +2.1
ZAK *e* 03 40 02.2
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
MORC Moravsky Berou 40.47 316 *eP* **P 03 38 10.8 -0.8**
comp=Z,2.4nm,0.6s,mb4.1
MORC Moravsky Berou 40.47 316 *eP* **P 03 38 10.8 -0.8**
comp=Z,2.4nm,0.6s,mb4.1
MORC Moravsky Berou 40.47 316 *eP* **P 03 38 10.8 -0.8**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
GYA Guiyang 40.52 80 P **P 03 38 12.6 +0.4**
GYA PCP PcP 03 40 15.8 +1.1
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
BOJS Bojanci 40.89 310 *eP* **P 03 38 15.6 +0.6**
VRAC Vranov 40.92 315 *eP* **P 03 38 15.3 0.0**
SONM Songino Array 40.97 47 P **P 03 38 17.5 +1.8**
comp=Z,2.7nm,0.9s,mb3.9,baz=257,slow=8.6,SNR=19
SONM pP pP 03 38 30.0 +1.5
comp=Z,3.7nm,0.7s,baz=254,slow=9.2,SNR=12
SONM PP PP 03 39 53.1 -0.4
comp=Z,2.1nm,0.9s,baz=239,slow=8.6,SNR=3.8
ARSA Arzberg 41.08 312 ⇑ *iP* **P 03 38 16.9 +0.3**
comp=Z,9.9nm,0.9s,mb4.4
JOF Joensuu 41.13 340 *ep* **P 03 38 16.2 -0.7**
DPC Dobruska-Polom 41.40 317 *eP* **P 03 38 19.3 +0.1**
ULN Ulaanbaatar 41.40 47 *eP* **P 03 38 20.7 +1.5**
comp=Z,2.7nm,0.5s,mb4.1
ULN Ulaanbaatar 41.40 47 *eP* **P 03 38 20.7 +1.5**
comp=Z,2.7nm,0.5s,mb4.1
ULN Ulaanbaatar 41.40 47 *eP* **P 03 38 20.7 +1.5**
ULN pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
LJU Ljubljana 41.49 310 *eP* **P 03 38 20.1 +0.1**
CEY Cerknica 41.50 310 *eP* **P 03 38 20.2 +0.1**
XAN Xi'an 41.53 68 P **P 03 38 21.3 +0.8**
XAN AMB AMB
comp=Z,13nm,1.0s,mb4.5
KSP Ksiaz 41.56 318 *eP* **P 03 38 20.7 +0.2**
TREC Trest 41.61 315 *eP* **P 03 38 21.5 +0.6**
UPC Upice 41.63 317 *eP* **P 03 38 21.9 +0.8**
GKP Gorka Klasztor 41.84 321 *eP* **P 03 38 23.6 +0.8**
FINES FINESS Array B 41.89 336 P **P 03 38 23.2 +0.2**
comp=Z,16nm,0.4s,mb5.0,baz=127,slow=8.6,SNR=251
FINES pP pP 03 38 37.1 +1.2
comp=Z,3.0nm,0.4s,baz=128,slow=7.7,SNR=3.9
FINES PP PP 03 40 01.0 -2.5
comp=Z,2.3nm,0.7s,baz=102,slow=13,SNR=2.7
VOJS Vojsko 41.93 310 *eP* **P 03 38 24.2 +0.7**
MOA Molln 42.04 313 ⇑ *iP* **P 03 38 24.5 0.0**
comp=Z,15nm,0.9s,mb4.6
MOA Molln 42.04 313 *i* P **P 03 38 24.5 +0.1**
comp=Z,15nm,0.9s,mb4.6,SNR=16
KAF Kangasniemi 42.24 336 *ep* **P 03 38 25.3 -0.6**
comp=Z,10nm,0.5s,mb4.7,baz=130,slow=8.2
KAF Kangasniemi 42.24 336 *eP* **P 03 38 25.3 -0.6**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
PRU Pruhonice 42.39 316 *eP* **P 03 38 27.3 0.0**
KBA Koelnbreinsper 42.49 311 ⇑ *iP* **P 03 38 28.4 +0.2**
comp=Z,11nm,1.0s,mb4.5
KBA Koelnbreinsper 42.49 311 ⇑ *iP* **P 03 38 28.4 +0.2**
KBA pmax pmax
comp=Z,11nm,1.0s,mb4.4
PVCC Panska Ves 42.52 317 *eP* **P 03 38 28.4 0.0**
GEC2 GERESS Array S 42.64 314 *eP* **P 03 38 29.4 +0.1**
comp=Z,16nm,1.0s,mb4.7
GEC2 GERESS Array S 42.64 314 *eP* **P 03 38 29.4 +0.1**
GEC2 pmax pmax
comp=Z,16nm,1.0s,mb4.7
GERES GERESS Array B 42.64 314 P **P 03 38 29.3 0.0**
comp=Z,7.4nm,0.8s,mb4.5,baz=112,slow=7.2,SNR=65
GERES pP pP 03 38 43.5 +1.2
comp=Z,3.1nm,0.8s,baz=108,slow=8.4,SNR=5.7
GERES LR LR 03 58 42.0
comp=Z,48nm,18.4s,MS3.4,baz=324,slow=40
KHC Kasperske Hory 42.78 314 *eP* **P 03 38 30.5 0.0**
KHC pP pP 03 38 43.5 +0.1
KHC Kasperske Hory 42.78 314 *eP* **P 03 38 30.5 0.0**
KHC *e* pP 03 38 43.5 +0.1
HHC Hu-ho-hao-te 43.61 58 *eP* **P 03 38 38.4 +1.0**
HHC AP pP 03 38 48.6 -1.7
HHC XP sP 03 38 54.7 -1.3
HHC S **S 03 45 02.8 -0.2**
HHC XS 03 45 30.1
HHC SS SS 03 48 09.5 -1.8
HHC SCS ScS 03 48 32.1 +2.0
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,72nm,5.0s
HHC LR LR
comp=N,162nm,13.1s,MS4.2
HHC LR LR
comp=E,114nm,14.3s,MS4.2
HHC LR LR
comp=Z,77nm,14.3s,MS3.8
WTTA Wattenberg 43.67 311 ⇑ *iP* **P 03 38 37.4 -0.4**
comp=Z,29nm,1.1s,mb4.9
WTTA Wattenberg 43.67 311 ⇑ *iP* **P 03 38 37.4 -0.4**
WTTA pmax pmax
comp=Z,29nm,1.1s,mb4.9
CLL Collm 43.69 317 P **P 03 38 38.0 +0.1**
comp=Z,logA/T=1.4,mb4.9
CLL *e* *PP pP 03 38 51.0 +0.2
CLL *e* *SP sP 03 38 58.0 +1.5
CLL Collm 43.69 317 *i* P **P 03 38 38.0 +0.1**
comp=Z,27nm,1.1s,mb4.9
CLL *ep* pP 03 38 51.0 +0.2
CLL Collm 43.69 317 *i* P **P 03 38 38.0 +0.1**
CLL *e* *PP pP 03 38 51.0 +0.2
CLL pmax pmax
comp=Z,27nm,1.1s,mb4.9
WATA Walderalm 43.72 311 ⇓ *iP* **P 03 38 37.4 -0.8**
comp=Z,12nm,1.1s,mb4.5
WATA Walderalm 43.72 311 ⇓ *iP* **P 03 38 37.4 -0.8**
WATA pmax pmax
comp=Z,12nm,1.1s,mb4.5
SQTA Sankt Quirin 43.95 311 ⇓ *iP* **P 03 38 39.7 -0.3**
comp=Z,9.3nm,1.0s,mb4.5
SQTA Sankt Quirin 43.95 311 ⇓ *iP* **P 03 38 39.7 -0.3**
SQTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MOTA Moosalm 44.04 311 ⇑ *iP* **P 03 38 40.0 -0.8**
comp=Z,10nm,1.1s,mb4.5
MOTA Moosalm 44.04 311 ⇑ *iP* **P 03 38 40.0 -0.8**
MOTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
APA Apatity 44.17 345 ⇓ *iP* **P 03 38 42.0 +0.5**
APA *i* pP 03 38 55.5 +1.1
APA pmax pmax
comp=Z,20nm,0.8s,mb4.9
MOX Moxa 44.37 316 *eP* **P 03 38 44.0 +0.6**
GRA1 Grafenberg Arr 44.41 315 *eP* **P 03 38 44.3 +0.6**
comp=Z,30nm,1.5s,mb4.8
GRF Grafenberg Arr 44.41 315 *eP* **P 03 38 44.3 +0.6**
comp=Z,30nm,1.5s,mb4.8
GRF Grafenberg Arr 44.41 315 *eP* **P 03 38 44.3 +0.6**
GRF pmax pmax
comp=Z,30nm,1.5s,mb4.8
GRF Grafenberg Arr 44.41 315 *eP* **P 03 38 44.3 +0.6**
GRF pmax pmax
comp=Z,30nm,1.5s,mb4.8
DAVA Damuels 44.85 311 ⇑ *iP* **P 03 38 46.8 -0.5**
comp=Z,31nm,1.0s,mb5.1
CLZ Clausthal 45.41 318 *eP* **P 03 38 52.4 +0.7**
comp=Z,29nm,1.1s,mb5.0
CLZ Clausthal 45.41 318 *eP* **P 03 38 52.4 +0.7**
CLZ pmax pmax
comp=Z,29nm,1.1s,mb5.0
BSEG Bad Segeberg 45.96 320 *eP* **P 03 38 56.9 +0.9**
SBF Sospel 46.21 306 *eP* **P 03 38 57.8 -0.3**
comp=Z,37nm,0.8s,mb5.0
SBF Sospel 46.21 306 *eP* **P 03 38 57.8 -0.3**
SBF pmax pmax
comp=Z,19nm,0.8s,mb5.1
TNS Taunus Mts 46.27 315 *eP* **P 03 38 59.4 +0.9**
comp=Z,16nm,1.1s,mb4.9
TNS Taunus Mts 46.27 315 *eP* **P 03 38 59.4 +0.9**
TNS pmax pmax
comp=Z,16nm,1.1s,mb4.9
WHN Wuhan 46.48 72 P **P 03 39 01.5 +1.1**
WHN AP pP 03 39 15.6 +2.2
MBDF Montbardon 46.74 307 *eP* **P 03 39 02.7 +0.5**
comp=Z,18nm,0.7s,mb4.8
MBDF Montbardon 46.74 307 *eP* **P 03 39 02.7 +0.5**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CDF Champ du Feu 46.75 312 *eP* **P 03 39 01.4 -0.9**
comp=Z,2.7nm,0.5s,mb4.1
CDF Champ du Feu 46.75 312 *eP* **P 03 39 01.4 -0.9**
CDF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
FRF La Foret Royal 46.77 306 *eP* **P 03 39 02.0 -0.5**
LPG La Plagne 46.81 308 *eP* **P 03 39 02.5 -0.3**
comp=Z,19nm,1.0s,mb4.7
LPG La Plagne 46.81 308 *eP* **P 03 39 02.5 -0.3**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LPL La Plagne 46.82 308 *eP* **P 03 39 02.5 -0.4**
comp=Z,9.5nm,0.7s,mb4.5
LPL La Plagne 46.82 308 *eP* **P 03 39 02.5 -0.4**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BNI Bardonecchia 46.83 308 *eP* **P 03 39 01.7 -1.2**
comp=Z,14nm,0.8s,mb4.9
BNI Bardonecchia 46.83 308 *eP* **P 03 39 01.7 -1.2**
comp=Z,14nm,0.8s,mb4.9
BNI Bardonecchia 46.83 308 *eP* **P 03 39 01.7 -1.2**
BNI pmax pmax
comp=Z,14nm,0.8s,mb4.9
LMR La Mourre 46.86 305 *eP* **P 03 39 02.9 -0.3**
OPO Ambohidratompo 47.06 198 P **P 03 39 06.2 +1.1**
comp=Z,3.0nm,0.8s,mb4.3,baz=93,slow=12,SNR=4.5
KEV Kevo 47.35 345 *ep* **P 03 39 06.4 -0.4**
comp=Z,9.4nm,0.4s,mb5.1
KEV Kevo 47.35 345 *eP* **P 03 39 06.4 -0.4**
KEV pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
CABF La Chapelle 47.36 310 *eP* **P 03 39 07.1 0.0**
ORIF Oris-en-Rattie 47.38 307 *eP* **P 03 39 06.4 -0.9**
comp=Z,8.3nm,0.8s,mb4.4
ORIF *eR*
comp=Z,61nm,20.0s
ARCES ARCESS Array B 47.56 344 P **P 03 39 07.5 -0.8**
comp=Z,6.5nm,0.5s,mb4.9,baz=142,slow=8.5,SNR=56
ARCES PP PP 03 40 59.2 -0.3
comp=Z,7.1nm,1.0s,baz=135,slow=6.9,SNR=3.6
ARCES LR LR 04 01 14.5
comp=Z,241nm,18.2s,MS4.2,baz=66,slow=39
ARCES ARCESS Array B 47.56 344 PP PP 03 40 59.2 -0.3
ARE0 ARCESS Array S 47.56 344 *eP* **P 03 39 07.8 -0.6**
ARE0 ARCESS Array S 47.56 344 *eP* **P 03 39 07.8 -0.6**
SMRF Simiane la Rot 47.56 306 *eP* **P 03 39 07.6 -1.1**
comp=Z,4.7nm,0.6s,mb4.4
WLF Walferdange 47.65 314 *eP* **P 03 39 10.0 +0.7**
comp=Z,7.5nm,0.9s,mb4.7
WLF Walferdange 47.65 314 *eP* **P 03 39 10.0 +0.7**
comp=Z,7.5nm,0.9s,mb4.7
WLF Walferdange 47.65 314 *eP* **P 03 39 10.0 +0.7**
WLF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
KTK1 Kautokeino 47.78 343 *eP* **P 03 39 09.9 -0.2**
KTK1 AMb AMB 03 39 13.8
comp=Z,49nm,1.9s,mb5.2
KTK1 *epP* pP 03 39 23.3 +0.2
KTK1 Kautokeino 47.78 343 *eP* **P 03 39 09.9 -0.2**
comp=Z,49nm,1.9s,mb5.2
KTK1 Kautokeino 47.78 343 *eP* **P 03 39 09.9 -0.2**
comp=Z,49nm,1.9s,mb5.2,SNR=38
KTK1 *epP* pP 03 39 23.3 +0.2
SNR=142
NB2 NORSAR Subarra 47.83 330 P **P 03 39 10.0 -0.6**
comp=Z,21nm,0.9s,mb5.2,baz=112,slow=7.9
NB2 NORSAR Subarra 47.83 330 P **P 03 39 10.0 -0.6**
baz=112,slow=7.9
NB2 NORSAR Subarra 47.83 330 P **P 03 39 10.0 -0.6**
NB2 pmax pmax
comp=Z,21nm,0.9s,mb5.2
NOA NORSAR Array B 47.83 330 P **P 03 39 10.3 -0.3**
comp=Z,11nm,0.7s,mb5.0,baz=112,slow=7.9,SNR=44
NOA pP pP 03 39 22.6 -1.0
comp=Z,7.9nm,1.0s,baz=119,slow=7.4,SNR=5.5
NOA PP PP 03 40 57.9 -4.0
comp=Z,1.8nm,0.8s,baz=108,slow=10,SNR=3.2
NOA LR LR 04 03 22.7
comp=Z,46nm,18.3s,MS3.5,baz=120,slow=41
NOA NORSAR Array B 47.83 330 P **P 03 39 10.3 -0.3**
NOA pP pP 03 39 22.6 -1.0
NOA PP PP 03 40 57.9 -4.0
NOA LR LR 04 03 22.7
KONO Kongsberg 48.07 328 ⇑ *eP* **P 03 39 13.4 +0.9**
BOD Bodaibo 48.14 35 *eP* **P 03 39 13.5 +0.5**
BOD *e* pP 03 39 26.5 +0.5
BOD pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BOD pmax pmax
comp=Z,38nm,1.0s,mb5.4
MEZF Maizieres J'vi 48.23 312 *eP* **P 03 39 13.8 -0.1**
comp=Z,13nm,0.7s,mb4.8
VIVF Saint-Julien-l 48.24 307 *eP* **P 03 39 13.4 -0.6**
comp=Z,18nm,1.0s,mb4.8
VIVF Saint-Julien-l 48.24 307 *eP* **P 03 39 13.4 -0.6**
VIVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
GIVF Givet 48.55 314 *eP* **P 03 39 17.3 +0.9**
comp=Z,62nm,1.1s,mb5.3
GIVF Givet 48.55 314 *eP* **P 03 39 17.3 +0.9**
GIVF pmax pmax
comp=Z,31nm,1.1s,mb5.2
LASF Ste Croix 48.80 306 *eP* **P 03 39 18.1 -0.2**
comp=Z,12nm,0.6s,mb4.8
MOR8 Moi Rana 48.83 337 *eP* **P 03 39 17.7 -0.5**
MOR8 AMb AMB 03 39 41.1
comp=Z,38nm,2.2s,mb5.0
MOR8 Moi Rana 48.83 337 *eP* **P 03 39 17.7 -0.5**
comp=Z,38nm,2.2s,mb5.0,SNR=37
SMF Signal de Mont 48.90 310 *eP* **P 03 39 18.7 -0.4**
comp=Z,25nm,0.7s,mb5.1
SMF Signal de Mont 48.90 310 *eP* **P 03 39 18.7 -0.4**
SMF pmax pmax
comp=Z,13nm,0.7s,mb5.1
LOR Lormes 48.93 311 *eP* **P 03 39 18.7 -0.6**
comp=Z,9.3nm,0.8s,mb4.6
LOR *eR*
comp=Z,70nm,23.0s
LOR Lormes 48.93 311 *eP* **P 03 39 18.7 -0.6**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LOR MLR MLR
comp=Z,70nm,23.0s,MS3.6
BAIF Baives 48.94 314 *eP* **P 03 39 20.3 +1.0**
NSS Namsos 48.96 334 *eP* **P 03 39 18.5 -0.8**
SSF Saint Saulge 49.16 310 *eP* **P 03 39 20.7 -0.3**
comp=Z,6.8nm,0.7s,mb4.8
SSF Saint Saulge 49.16 310 *eP* **P 03 39 20.7 -0.3**
SSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
AVF Avril sur Loir 49.25 310 *eP* **P 03 39 21.1 -0.6**
comp=Z,7.4nm,0.7s,mb4.5
AVF Avril sur Loir 49.25 310 *eP* **P 03 39 21.1 -0.6**
AVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
TRO Tromso 49.36 342 *eP* **P 03 39 21.2 -1.1**
TRO AMb AMB 03 39 22.9
comp=Z,44nm,1.0s,mb5.5
TRO *epP* pP 03 39 34.8 -0.5
TRO Tromso 49.36 342 *eP* **P 03 39 21.2 -1.1**
comp=Z,44nm,1.0s,mb5.5
TRO Tromso 49.36 342 *eP* **P 03 39 21.2 -1.1**
comp=Z,44nm,1.0s,mb5.5,SNR=37
TRO *epP* pP 03 39 34.8 -0.5
SNR=143
BGF Bois d'Agland 49.58 310 *eP* **P 03 39 24.0 -0.3**
comp=Z,11nm,0.7s,mb4.7
BGF Bois d'Agland 49.58 310 *eP* **P 03 39 24.0 -0.3**

BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ETOS Mallorca 49.68 301 P pP 03 39 33.2 -5.0
comp=Z,23nm,0.8s,SNR=4.8
HYF Humbligny 49.76 310 *e*P **P 03 39 25.9 +0.2**
MTLF Montolieu 49.99 305 *e*P **P 03 39 27.7 +0.2**
comp=Z,14nm,0.6s,mb4.9
MTLF Montolieu 49.99 305 *e*P **P 03 39 27.7 +0.2**
MTLF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MOL Molde 50.01 331 *e*P **P 03 39 30.5 +3.1**
MOL Molde 50.01 331 *e*P **P 03 39 30.9 +3.5**
MOL Molde 50.01 331 *e*P **P 03 39 30.9 +3.5**
TCF Toulx Ste Croi 50.02 309 *e*P **P 03 39 27.4 -0.3**
comp=Z,8.3nm,0.7s,mb4.6
TCF Toulx Ste Croi 50.02 309 *e*P **P 03 39 27.4 -0.3**
TCF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
NJ2 Nanjing 50.04 69 *e*P **P 03 39 30.2 +2.1**
NJ2 AP pP 03 39 42.4 +1.3
NJ2 XP sP 03 39 48.1 +1.4
NJ2 PP PP 03 41 26.0 +1.8
NJ2 S **S 03 46 37.0 +2.7**
NJ2 XS 03 46 59.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,702nm,5.2s
NJ2 LR LR
comp=N,420nm,15.3s,MS4.6
NJ2 LR LR
comp=E,350nm,17.8s,MS4.6
NJ2 LR LR
comp=Z,250nm,16.6s,MS4.3
CAF Calviac 50.09 307 *e*P **P 03 39 28.3 0.0**
comp=Z,14nm,0.7s,mb4.8
CAF Calviac 50.09 307 *e*P **P 03 39 28.3 0.0**
CAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
RJF Les Rejaudoux 50.48 308 *e*P **P 03 39 31.4 +0.2**
comp=Z,22nm,0.6s,mb5.1
RJF *e*R
comp=Z,62nm,21.2s
RJF Les Rejaudoux 50.48 308 *e*P **P 03 39 31.4 +0.2**
RJF pmax pmax
comp=Z,11nm,0.6s,mb5.1
RJF MLR MLR
comp=Z,60nm,21.2s,MS3.6
EMIR Miracle 50.54 303 P pP 03 39 42.2 -2.6
comp=Z,12nm,0.7s,SNR=5.5
EIBI Ibiza 50.87 300 P pP 03 39 44.4 -2.9
comp=Z,42nm,4.4s,SNR=7.9
EPOB Poblet 50.90 303 P **P 03 39 36.9 +2.5**
comp=Z,11nm,0.8s,mb4.8
EPOB Poblet 50.90 303 P **P 03 39 36.9 +2.4**
comp=Z,11nm,0.8s,mb4.8
LFF La Frestale 51.03 307 *e*P **P 03 39 35.6 +0.2**
comp=Z,22nm,0.6s,mb5.0
LFF La Frestale 51.03 307 *e*P **P 03 39 35.6 +0.2**
LFF pmax pmax
comp=Z,11nm,0.6s,mb5.0
EPF Esparros 51.37 305 *e*P **P 03 39 37.8 -0.2**
comp=Z,3.9nm,0.7s,mb4.2
EPF Esparros 51.37 305 *e*P **P 03 39 37.8 -0.2**
EPF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ERTA Horta de San J 51.49 302 P **P 03 39 43.9 +5.0**
comp=Z,5.3nm,0.6s,mb4.7
ERTA Horta de San J 51.49 302 P **P 03 39 43.9 +5.0**
comp=Z,5.3nm,0.6s,mb4.7,SNR=5.5
MFF Saint Martin d 51.65 310 *e*P **P 03 39 39.2 -0.8**
comp=Z,6.5nm,0.7s,mb4.4
MFF Saint Martin d 51.65 310 *e*P **P 03 39 39.2 -0.8**
MFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LDF La Druitiere 51.67 312 *e*P **P 03 39 39.5 -0.6**
comp=Z,26nm,0.5s,mb5.1
LDF La Druitiere 51.67 312 *e*P **P 03 39 39.5 -0.6**
LDF pmax pmax
comp=Z,13nm,0.5s,mb5.1
FLN La Foliniere 51.91 312 *e*P **P 03 39 41.5 -0.4**
comp=Z,25nm,0.7s,mb5.0
FLN *e*R
comp=Z,57nm,22.0s
FLN La Foliniere 51.91 312 *e*P **P 03 39 41.5 -0.4**
FLN pmax pmax
comp=Z,13nm,0.7s,mb5.0
FLN MLR MLR
comp=Z,60nm,22.0s,MS3.6
ETSF Etsaut 52.04 305 *e*P **P 03 39 43.3 +0.3**
comp=Z,17nm,0.9s,mb4.7
ETSF Etsaut 52.04 305 *e*P **P 03 39 43.3 +0.3**
ETSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
EMOS Mosqueruela 52.15 302 P **P 03 39 49.0 +5.1**
comp=Z,18nm,0.7s,mb5.1
EMOS Mosqueruela 52.15 302 P **P 03 39 49.0 +5.2**
comp=Z,18nm,0.7s,mb5.1
GRR Gorron 52.15 312 *e*P **P 03 39 42.9 -0.8**
comp=Z,6.9nm,0.4s,mb4.7
SSE Sheshan 52.17 70 *e*P **P 03 39 43.8 -0.4**
SSE AP pP 03 39 58.6 +1.3
SSE XP sP 03 40 04.7 +1.9
SSE PCP PcP 03 40 55.7 +0.2
SSE PP PP 03 41 43.6 0.0
SSE S **S 03 47 05.2 +1.5**
SSE XS 03 47 28.1
SSE SCS ScS 03 49 31.7 +5.1
SSE SS SS 03 50 43.6 +4.0
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,60nm,4.8s
SSE LR LR
comp=N,30nm,20.2s,MS3.7
SSE LR LR
comp=E,62nm,20.2s,MS3.7
SSE LR LR
comp=Z,72nm,21.2s,MS3.7
SSE Sheshan 52.17 70 *e*P **P 03 39 43.8 -0.4**
comp=Z,28nm,0.8s,mb5.2
SSE pP pP 03 39 58.6 +1.3
SSE sP sP 03 40 04.7 +1.9
SSE PcP PcP 03 40 55.7 +0.2
SSE PP PP 03 41 43.6 0.0
SSE S **S 03 47 05.2 +1.5**
SSE sS 03 47 28.1
SSE ScS ScS 03 49 31.7 +5.1
SSE SS SS 03 50 43.6 +4.0
SSE LR LR
comp=Z,70nm,21.2s,MS3.7
SJPF Ste Jean 52.51 305 *e*P **P 03 39 47.0 +0.5**
ECHE Chera 52.60 301 P **P 03 39 50.2 +3.0**
comp=Z,8.7nm,0.7s,mb4.8
ECHE Chera 52.60 301 P **P 03 39 50.2 +3.0**
comp=Z,8.7nm,0.7s,mb4.8,SNR=6.5
IPRE Itoiz 52.63 305 P pP 03 39 59.0 -1.5
comp=Z,6.1nm,0.7s,SNR=4.6
LSZ Lusaka 52.65 221 *e*P **P 03 39 48.4 +0.5**
comp=Z,21nm,1.6s,mb4.8
LSZ Lusaka 52.65 221 *e*P **P 03 39 48.4 +0.5**
comp=Z,21nm,1.6s,mb4.8
EALK Alkurruntz 52.71 305 P pP 03 39 55.2 -6.0
comp=Z,7.6nm,0.6s,SNR=6.2
ETOB Tobarra 53.15 300 P pP 03 40 06.2 +1.6
comp=Z,24nm,0.8s,SNR=12
SGMF Saint Gilles 53.28 312 *e*P **P 03 39 52.0 -0.2**
comp=Z,17nm,0.6s,mb4.8
QUIF Quistinic 53.70 311 *e*P **P 03 39 54.6 -0.7**
CLNS Chul'man 53.73 38 *e*P sP 03 40 10.4 -3.7
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=Z,24nm,0.9s,mb5.1
ROSF Rostrenen 53.76 312 *e*P **P 03 39 55.4 -0.3**
comp=Z,7.9nm,0.5s,mb4.6
CN2 Changchun 53.86 54 *e*P **P 03 39 57.6 +1.0**
EVIA Vianos 53.90 300 P **P 03 39 58.8 +1.9**
comp=Z,14nm,0.8s,mb5.0,SNR=6.0
EHUE Huescar 54.08 299 P **P 03 39 58.5 +0.3**
comp=Z,4.2nm,0.7s,mb4.5
EHUE Huescar 54.08 299 P **P 03 39 58.5 +0.3**
comp=Z,4.2nm,0.7s,mb4.5,SNR=6.5
EQES Quesada 54.45 299 P **P 03 40 01.0 0.0**
comp=Z,7.7nm,0.9s,mb4.6
EQES Quesada 54.45 299 P **P 03 40 01.0 0.0**
comp=Z,7.7nm,0.9s,mb4.6,SNR=11
ESDC Sonseca Array 54.89 301 P **P 03 40 03.7 -0.4**
comp=Z,0.7nm,0.4s,mb4.0,baz=72,slow=7.1,SNR=7.8
ESDC pP pP 03 40 17.5 +0.2
comp=Z,3.7nm,0.6s,baz=68,slow=7.3,SNR=15
EBAN Banos Encina 54.96 299 P **P 03 40 04.4 -0.3**
comp=Z,7.0nm,0.6s,mb4.9
EBAN Banos Encina 54.96 299 P **P 03 40 04.4 -0.2**
comp=Z,7.0nm,0.6s,mb4.8,SNR=6.5
ERON Agron 55.15 298 P pP 03 40 20.4 +1.1
comp=Z,6.8nm,0.6s,SNR=8.1
ELOJ Sierra Loja 55.40 298 P pP 03 40 21.5 +0.3
comp=Z,2.0nm,0.4s,SNR=4.9
EADA Adamuz 55.58 299 P pP 03 40 23.0 +0.6
comp=Z,19nm,1.1s,SNR=9.3
YAK Yakutsk 56.68 32 *e*P **P 03 40 16.9 +0.2**
comp=Z,59nm,0.9s,mb5.6
YAK Yakutsk 56.68 32 *e*P **P 03 40 16.9 +0.2**
comp=Z,59nm,0.9s,mb5.6
YAK Yakutsk 56.68 32 *e*P **P 03 40 16.9 +0.2**
YAK pmax pmax
comp=Z,59nm,0.9s,mb5.6
MDJ Mudanjiang 56.76 53 P **P 03 40 16.6 -0.9**
MDJ AP pP 03 40 27.9 -2.9
MDJ XP sP 03 40 33.0 -3.3
MDJ PCP PcP 03 41 12.0 -0.8
MDJ PP PP 03 42 22.1 -3.4
MDJ SCP 03 45 08.7
MDJ PCS 03 45 12.6
MDJ S **S 03 48 06.3 +1.2**
MDJ XS 03 48 26.0
MDJ SCS ScS 03 50 02.4 +3.5
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.7
MDJ AMB AMB
comp=Z,82nm,5.8s
MDJ LR LR
comp=N,62nm,32.3s
MDJ LR LR
comp=E,26nm,21.0s
MDJ LR LR
comp=Z,32nm,22.6s
ESPR Espera 56.79 298 P pP 03 40 31.1 -0.1
comp=Z,7.7nm,0.6s,SNR=7.1
KLR Kul'dur 57.80 47 *e*P **P 03 40 21.7 -3.0**
EVO Evora 58.18 300 *e*P **P 03 40 26.9 -0.6**
comp=Z,28nm,1.1s,mb4.9
EVO *e*R
comp=Z,64nm,22.8s
DAG Danmarks Havn 61.82 345⇑*i*P **P 03 40 52.0 0.0**
comp=Z,3.0nm,0.8s,mb4.5
DAG Danmarks Havn 61.82 345⇑*e*P **P 03 40 52.0 0.0**
comp=Z,3.0nm,0.8s,mb4.5
DAG Danmarks Havn 61.82 345⇑*e*P **P 03 40 52.0 0.0**
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LBTB Lobatse 61.86 217 *e*P **P 03 40 53.3 +0.4**
comp=Z,42nm,1.2s,mb5.4
LBTB *e* pP 03 41 07.0 +0.6
TSUM Tsumeb 62.24 227 *e*P **P 03 40 55.6 +0.1**
comp=Z,11nm,1.0s,mb4.9
TSUM *e*pP pP 03 41 09.2 +0.2
TSUM Tsumeb 62.24 227 *e*P **P 03 40 55.6 +0.1**
comp=Z,11nm,1.0s,mb4.9
TSUM *e*pP pP 03 41 09.2 +0.2
MAT Matsushiro 64.73 60 P **P 03 41 10.4 -1.3**
MAT Matsushiro 64.73 60 P **P 03 41 10.0 -1.7**
comp=Z,5.0nm,0.9s,mb4.5
MAT Matsushiro 64.73 60 P **P 03 41 10.0 -1.7**
MAT pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MJAR Matsushiro Arr 64.74 60 P **P 03 41 11.8 0.0**
comp=Z,2.9nm,0.9s,mb4.3,baz=274,slow=7.7,SNR=10
MJAR pP pP 03 41 25.7 +0.4
comp=Z,0.5nm,0.3s,baz=297,slow=5.6,SNR=3.8
YSS Yuzh-Sakhalins 65.44 48 *e*P **P 03 41 15.5 -0.5**
YSS *e* pP 03 41 29.0 -0.7
DBIC Dimbokro 65.62 265 P **P 03 41 17.9 +0.1**
comp=Z,11nm,0.8s,mb4.9,baz=47,slow=6.4,SNR=14
DBIC LR LR 04 11 11.8
comp=Z,65nm,21.4s,MS3.8,baz=1.9,slow=37
LIC Lamto 65.97 265 *e*P **P 03 41 20.3 +0.3**
comp=Z,21nm,0.9s,mb5.2
SEY Seymchan 67.08 30⇑*e*P **P 03 41 28.0 +1.8**
SEY *i* *PP pP 03 41 41.5 +1.7
SUMG Summit 67.53 341 *e*P **P 03 41 29.1 +0.3**
comp=Z,7.1nm,0.7s,mb4.8
SUMG *e*pP pP 03 41 42.5 -0.1
SUMG Summit 67.53 341 *e*P **P 03 41 29.1 +0.2**
comp=Z,7.1nm,0.7s,mb4.8
SUMG *e*pP pP 03 41 42.5 -0.1
BILL Bilibino 70.90 23 *e*P **P 03 41 56.8 +7.2**
BILL pmax pmax
comp=Z,14nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
FITZ Fitzroy Crossi 76.83 118 P **P 03 42 24.9 -0.1**
comp=Z,16nm,0.7s,mb5.1,baz=323,slow=3.4,SNR=16
FITZ Fitzroy Crossi 76.83 118 *e*P **P 03 42 24.7 -0.3**
comp=Z,12nm,0.7s,mb5.0
NWAO Narrogin (SRO) 79.79 135 P **P 03 42 40.6 -0.4**
comp=Z,15nm,0.8s,mb5.0,baz=333,slow=6.8,SNR=7.1
INK Inuvik 84.59 5 P **P 03 43 05.3 +0.3**
comp=Z,3.7nm,0.9s,mb4.5
INK Inuvik 84.59 5 P **P 03 43 05.3 +0.3**
INK pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 84.75 115 P **P 03 43 07.3 +0.4**
comp=Z,5.9nm,0.8s,mb4.8,baz=320,slow=4.6,SNR=38
WRA pP pP 03 43 21.0 +0.1
comp=Z,2.0nm,0.7s,baz=314,slow=4.4,SNR=4.9
WRAB Tennant Creek 84.76 115 *e*P **P 03 43 06.5 -0.4**
comp=Z,7.4nm,0.9s,mb4.8
WRAB Tennant Creek 84.76 115 *i* P **P 03 43 06.9 0.0**
WB2 Warramunga Arr 84.77 115⇓*i*P **P 03 43 07.1 +0.1**
ILAR Eielson Array 86.19 12 P **P 03 43 13.3 +0.5**
comp=Z,1.1nm,0.8s,mb4.1,baz=333,slow=3.8,SNR=7.6
ILAR pP pP 03 43 27.0 0.0
comp=Z,2.8nm,0.9s,baz=339,slow=3.8,SNR=12
ILAR PP PP 03 46 31.5 -4.1
comp=Z,0.7nm,0.8s,baz=329,slow=6.6,SNR=4.3
PMG Port Moresby 90.65 100⇑*e*P **P 03 43 41.4 +6.0**
YKA Yellowknife Ar 90.99 358 P **P 03 43 43.0 +7.2**
comp=Z,2.6nm,0.8s,mb4.6,baz=355,slow=5.4,SNR=4.1
YKA Yellowknife Ar 90.99 358 *i* P **P 03 43 44.4 +8.6**
YKA pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 94.09 179 P **P 03 43 52.0 +2.2**
comp=Z,4.9nm,0.8s,mb5.0,baz=2.1,slow=5.9,SNR=8.5
MAW Mawson 94.09 179 *e*P **P 03 43 52.2 +2.3**
comp=Z,9.0nm,1.4s,mb5.0
MAW *e*pP pP 03 44 05.8 +1.6
MAW Mawson 94.09 179 *e*P **P 03 43 52.2 +2.3**
MAW *e**PP pP 03 44 05.8 +1.7
MAW pmax pmax
comp=Z,9.0nm,1.4s
VNA2 Neumayer--Watz 108.39 199⇑*i*PKPdf 03 49 01.0
VNA2 *e* 03 49 18.5
VNA2 *e* 03 49 26.0
VNA3 Neumayer Olymp 109.19 199⇑*i*PKPdf 03 49 02.4
VNA3 *e* 03 49 19.8
VNA3 *e* 03 49 26.6
PDAR Pinedale Array 110.29 353 PP PP 03 49 39.5 -3.0
comp=Z,0.4nm,0.8s,baz=11,slow=7.6,SNR=4.2
TXAR Lajitas Array 122.35 344 PKP PKPdf 03 49 29.3 +2.9
comp=Z,0.6nm,0.7s,baz=180,slow=1.8,SNR=6.0
TXAR pPKP 03 49 43.9
comp=Z,0.5nm,0.7s,baz=169,slow=4.6,SNR=3.7
CPUP Villa Florida 125.47 256 PKP PKPdf 03 49 34.4 +1.9
comp=Z,3.0nm,0.9s,baz=70,slow=4.5,SNR=6.1
CPUP pPKP 03 49 49.0
comp=Z,1.2nm,0.7s,baz=9.9,slow=14,SNR=2.1

NNC 10 03:34:00.2±8.5**,36.75N**×**70.51E,h124**^{km}±189^{km}**,mpv3.8, 3C-2D,Error ellipse: s-maj=73.7km s-min=59.9km az=41.0,Hindu Kush region**

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

KK31 Karatay Array 6.35 0 ⇑P P 03 35 32.0 -0.6
2.5nm,0.5s,baz=191,slow=16,SNR=22
KK31 ⇓S S 03 36 43.9 -0.2
1.7nm,0.4s,baz=183,slow=23,SNR=7.7
AAK Ala-Archa 6.63 26 ⇓P P 03 35 34.3 -2.1
9.2nm,0.8s
AAK ⇑S S 03 36 49.7 -1.4
6.1nm,0.6s
AB31 Akbulak array 14.68 332 ⇑P P 03 37 23.2 +0.6
5.9nm,1.1s,baz=193,slow=20,SNR=5.0
AB31 S S 03 40 00.3 -1.8
7.3nm,1.1s,baz=191,slow=18,SNR=4.8

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*NEIC **10** 03:38:52.1,32.71N×15.25W,h27^{km},MG3.2(MDD),After MDD.*
*CSEM **10** 03:38:52.1,32.71N×15.25W,h27^{km},mb3.2/8,After MDD*
MDD 10 03:38:52.3±2.6**,32.72N**×**15.26W,h30**^{km}±41^{km}**,mb4.1**/5**, Error ellipse: s-maj=27.1km s-min=8.4km az=123.0, PRXIMO,Madeira Islands region**

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

EFAM Famara 3.88 157 P Pn 03 39 50.4 -1.0
1.2nm,0.1s,SNR=7.9
EFAM S Sn 03 40 30.5 -6.1
0.5nm,0.4s,SNR=7.9
EFAM Famara 3.88 157 P Pn 03 39 50.2 -1.2
EFAM S Sn 03 40 30.5 -6.1
EFAM Famara 3.88 157 P Pn 03 39 50.2 -1.2
0.1nm,0.2s,SNR=7.9
EFAM S Sn 03 40 30.5 -6.0
0.5nm,0.4s,SNR=7.9
CFTV Fuerteventura 4.41 166 P Pn 03 39 55.6 -3.4
2.2nm,0.1s,SNR=4.0
CFTV S Sn 03 40 41.8 -8.3
2.2nm,0.1s,SNR=6.6
CFTV Fuerteventura 4.41 166 P Pn 03 39 55.5 -3.5
CFTV S Sn 03 40 41.8 -8.3
CFTV Fuerteventura 4.41 166 P Pn 03 39 55.5 -3.5
3.1nm,0.6s,SNR=7.9
CFTV S Sn 03 40 41.8 -8.2
2.2nm,0.1s,SNR=6.6
CCAN Las Canadas 4.63 195 P Pn 03 39 59.5 -2.6
0.3nm,0.2s,SNR=7.9
CCAN S Sn 03 40 47.8 -7.8
0.6nm,0.3s,SNR=7.9
CCAN Las Canadas 4.63 195 P Pn 03 39 59.5 -2.7
CCAN S Sn 03 40 47.8 -7.8
EOSO Osorio 4.64 183 P Pn 03 39 59.8 -2.5
0.4nm,0.1s,SNR=7.9
EOSO S Sn 03 40 49.7 -6.1
8.8nm,0.2s,SNR=7.4
EOSO Osorio 4.64 183 P Pn 03 39 59.8 -2.5
0.5nm,0.3s,SNR=7.9
EOSO S Sn 03 40 49.7 -6.1
8.8nm,0.2s,SNR=7.4
CHIO Chio 4.66 197 S Sn 03 40 51.6 -4.8
9.3nm,0.3s,SNR=6.9
EHIG Higuera 4.69 209 P Pn 03 40 00.1 -2.9
1.5nm,0.1s,SNR=7.9
EHIG S Sn 03 40 50.7 -6.4
3.1nm,0.2s,SNR=8.4
EHIG Higuera 4.69 209 P Pn 03 40 00.1 -2.9
5.8nm,0.3s,SNR=7.9
EHIG S Sn 03 40 50.7 -6.4
3.1nm,0.2s,SNR=8.4
EGOM La Gomera 4.85 201 P Pn 03 40 01.9 -3.3
0.8nm,0.1s,SNR=7.9
EGOM S Sn 03 40 53.8 -7.2
14nm,0.4s,SNR=7.8
EGOM La Gomera 4.85 201 P Pn 03 40 02.2 -3.0
EGOM S Sn 03 40 53.8 -7.2
EGOM La Gomera 4.85 201 P Pn 03 40 02.2 -3.0
0.9nm,0.4s,SNR=7.9
EGOM S Sn 03 40 53.8 -7.2
14nm,0.4s,SNR=7.8
CHIE El Hierro 5.50 206 S Sn 03 41 09.8 -7.5
0.1nm,0.3s,SNR=7.9
EGRO El Granado 7.98 51 S Sn 03 42 08.6 -11
0.3nm,0.1s,SNR=7.9
EGRO El Granado 7.98 51 S Sn 03 42 08.6 -11
0.3nm,0.1s,SNR=7.9
EMIN Mina Concepcio 8.64 52 P P 03 40 54.9 -3.5
0.5nm,0.2s,SNR=7.9
EMIN S Sn 03 42 23.9 -12
0.1nm,0.3s,SNR=7.9
EMIN Mina Concepcio 8.64 52 P P 03 40 54.6 -3.8
EMIN S Sn 03 42 23.9 -12
EMIN Mina Concepcio 8.64 52 P P 03 40 54.6 -3.8
0.1nm,0.2s,SNR=7.9
EMIN S Sn 03 42 23.9 -12
0.1nm,0.3s,SNR=7.9
ESPR Espera 8.77 59 P P 03 40 57.0 -3.1
1.0nm,0.1s,SNR=4.0
EBAD Badajoz 9.01 46 P P 03 40 59.3 -4.2
0.3nm,0.1s,SNR=7.9
EBAD S Sn 03 42 31.4 -14
1.2nm,0.3s,SNR=7.9
EBAD Badajoz 9.01 46 P P 03 40 59.0 -4.5
EBAD S Sn 03 42 32.8 -12
EBAD Badajoz 9.01 46 P P 03 40 59.0 -4.5
0.1nm,0.3s,SNR=7.9
EBAD S Sn 03 42 32.8 -12
1.2nm,0.3s,SNR=7.9
EADA Adamuz 10.27 55 P P 03 41 15.8 -4.9
0.7nm,0.4s,SNR=7.9
EADA S S 03 43 02.7 -13
1.3nm,1.4s,SNR=7.9

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*CSEM **10** 04:04:12.2±0.1,30.63N×50.24E,h18^{km},ML3.6,Error ellipse: s-maj=3.7km s-min=1.8km az=51.0*
*THR **10** 04:04:13.3±1.2,30.58N×50.15E,h43^{km}±18^{km},ML3.6*
*TEH **10** 04:04:15.1,30.66N×50.35E,h10^{km},Mn3.8*
ISC 10 04:04:15.5±0.7**,30.75N**±0.05×**50.34E**±0.06**,h33**^{km}**,n27,** σ**1**§**06**/31**,Northern and central Iran**

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

SHGR Shooshtar-Gavs 1.89 316 *e*Pg **P 04 04 47.1 +1.2**
SHGR *e*Sg **S 04 05 13.1 +4.2**
IPIR Pirpir 1.99 13 Pn **Pn 04 04 48.5 +1.0**
IGAR Garneh 2.18 46 Pn **Pn 04 04 52.2 +2.0**
IPAR Pars 2.51 110 Pn **Pn 04 04 55.0 +0.1**
IMOK Mook 2.67 129 Pn **Pn 04 04 56.3 -0.9**
IZEF Zefreh 2.73 38 Pn **Pn 04 04 59.4 +1.3**
ISRV Sarvestan 2.76 119 Pn **Pn 04 04 58.4 -0.1**
IKLH Kalahroud 2.77 22 Pn **Pn 04 04 59.6 +0.9**
NASN Na'in 2.93 45 *e*Pn **Pn 04 05 02.4 +1.5**
NASN AML AML 04 05 57.0
comp=N,92nm,0.7s
GHIR Ghir-Karzin 3.36 136 *e*Pn **Pn 04 05 05.3 -1.7**
GHIR AML AML 04 05 52.9
comp=N,114nm,0.7s
QAM Qamsar 3.38 21 Pn **Pn 04 05 06.0 -1.3**
IMEH Mehriz 3.72 79 Pn **Pn 04 05 12.7 +0.6**
ICHK Chekchek 3.78 66 Pn **Pn 04 05 13.8 +0.8**
ASAO Ashtian 3.80 356 *e*Pn **Pn 04 05 13.8 +0.6**
IKOM Komasi 4.17 326 Pn **Pn 04 05 19.5 +0.9**
IVRN Varamin 4.40 15 Pn **Pn 04 05 21.8 0.0**
IVRN Sn **Sn 04 06 12.2 -0.3**
IBAF Bafgh 4.56 78 Pn **Pn 04 05 24.1 +0.1**
IRAZ Razeghan 4.66 356 Pn **Pn 04 05 37.2 +12**
IGHG Ghaleghazi 4.79 319 Pn **Pn 04 05 28.0 +0.7**
IMHD Mahdasht 4.94 3 Pn **Pn 04 05 36.9 +7.5**
SNGE Sanandaj 5.01 331 *e*Pn **Pn 04 05 28.2 -2.2**
SNGE AML AML 04 07 00.1
comp=N,55nm,0.5s
IDMV Damavand 5.02 16 Pn **Pn 04 05 29.7 -0.9**
ILIN Laeen 5.04 327 Pn **Pn 04 05 31.2 +0.4**
DAMV Damavand 5.06 15 *e*Pn **Pn 04 05 30.7 -0.4**
IDHR Dehrash 5.16 321 Pn **Pn 04 05 31.0 -1.6**
IAFJ Afjeh 5.22 12 Pn **Pn 04 05 32.9 -0.5**
IAFJ Sn **Sn 04 06 32.0 -1.3**
IFIR Firoozkooh 5.29 22 Pn **Pn 04 05 34.1 -0.2**
IFIR Sn **Sn 04 06 33.3 -1.5**

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*STR **10** 04:13:09.0±0.4,42.84N×1.62W,h10^{km}±1^{km},Ml2.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **10** 04:13:11.4±0.1,42.82N×1.43W,mbLg2.4/19,Error ellipse: s-maj=1.3km s-min=0.9km az=12.0,PRXIMO II-III GURPEGUI IN NAGORE RIZ II-III URROZ ZUNZARREN I ARDAITZ S*
MDD EMS: II-III AOIZ S ARDANAZ BEORTEGUI.
*CSEM **10** 04:13:11.6±0.1,42.78N×1.42W,ML2.8/19*

*NEIC **10** 04:13:12.8, 42.80N×1.37W, h5km, ML2.8(LDG), ML2.7(STR), MN2.4(MDD), After LDG.*
NEIC Felt [III] at Aoiz, Aos, Ardanaz, Beortegui, Lizoain, Nagore, Urroz and Zunzarren; [I] at Ardaiz, Spain.
*LDG **10** 04:13:12.8±0.4, 42.80N×1.37W, h5km, Md2.9/2, Ml2.8/20, Error ellipse: s-maj=7.3km s-min=4.0km az=39.0*
ISC 10 04:13:10.1±0.3**, 42.87N**±0.02×**1.51W**±0.02**, h13**km±2km**, n85, σ1ˢ21**/133**, 3C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.08**	**342**	⇑Pg	**Pg**	**04 13 14.1**	**+1.0**
	98nm,0.1s,SNR=18						
IUSE				Lg		04 13 15.5	
	391nm,0.3s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**207**	⇑Pg	**Pg**	**04 13 13.7**	**+0.3**
	653nm,0.1s,SNR=18						
EARA				Lg		04 13 15.8	
	4μm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.13**	**119**	⇑Pg	**Pg**	**04 13 12.1**	**-1.6**
	379nm,0.1s,SNR=18						
IPRE				Lg		04 13 12.8	
	2μm,0.4s,SNR=7.9						
IPRE	**Itoiz**	**0.13**	**119**	Pg	**Pg**	**04 13 12.1**	**-1.6**
	1μm,0.3s,SNR=18						
IPRE				Lg		04 13 13.0	
	2μm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**0.32**	**41**	*e*Pg	**Pg**	**04 13 17.3**	**+0.3**
SJPF				*e*Sg	**Sg**	**04 13 22.0**	**+0.4**
	322nm,0.4s						
EALK	**Alkurruntz**	**0.35**	**1**	Pg	**Pg**	**04 13 18.9**	**+1.4**
	5.6nm,0.1s,SNR=24						
EALK				Lg		04 13 23.9	
	356nm,0.4s,SNR=6.1						
EALK	**Alkurruntz**	**0.35**	**1**	Pg	**Pg**	**04 13 18.9**	**+1.4**
EALK				Lg		04 13 24.8	
EALK	**Alkurruntz**	**0.35**	**1**	Pg	**Pg**	**04 13 18.9**	**+1.4**
	24nm,0.3s,SNR=24						
EALK				Lg		04 13 24.8	
	92nm,0.3s,SNR=6.1						
LARF	**Larrau**	**0.42**	**66**	Pg	**Pg**	**04 13 18.7**	**-0.2**
LARF				Sg	**Sg**	**04 13 25.4**	**+0.7**
LARF	**Larrau**	**0.42**	**66**	P	**Pb**	**04 13 18.7**	**-0.1**
LARF				S	**Sb**	**04 13 25.5**	**+0.7**
OSSF	**Osses**	**0.43**	**25**	Pg	**Pg**	**04 13 19.3**	**+0.3**
OSSF				Sg	**Sg**	**04 13 25.7**	**+0.8**
OSSF	**Osses**	**0.43**	**25**	P	**Pg**	**04 13 19.3**	**+0.3**
OSSF				S	**Sb**	**04 13 25.6**	**+0.6**
ORDF	**Ordiarp**	**0.55**	**51**	Pg	**Pg**	**04 13 21.3**	**0.0**
ORDF				Sg	**Sg**	**04 13 29.7**	**+1.0**
ORDF	**Ordiarp**	**0.55**	**51**	P	**Pb**	**04 13 21.4**	**+0.4**
ORDF				S	**Sb**	**04 13 29.8**	**+1.4**
FDAF	**Les Forges d'A**	**0.70**	**94**	Pg	**Pg**	**04 13 23.5**	**-0.8**
FDAF				Sg	**Sg**	**04 13 35.5**	**+1.8**
FDAF	**Les Forges d'A**	**0.70**	**94**	P	**Pb**	**04 13 23.7**	**+0.1**
FDAF				S	**Sb**	**04 13 33.3**	**+0.5**
ETSF	**Etsaut**	**0.70**	**87**	*e*Pg	**Pg**	**04 13 23.3**	**-1.1**
ETSF				*e*Sg	**Sg**	**04 13 31.9**	**-1.9**
	73nm,0.3s						
REYF	**Montagne du Re**	**0.85**	**76**	Pg	**Pg**	**04 13 26.2**	**-1.0**
REYF	**Montagne du Re**	**0.85**	**76**	P	**Pb**	**04 13 26.7**	**+0.5**
REYF				S	**Sb**	**04 13 38.2**	**+1.0**
VIEF	**Viey**	**1.13**	**89**	Pn	**Pn**	**04 13 30.8**	**-0.8**
VIEF				Sg	**Sg**	**04 13 48.9**	**+0.9**
VIEF	**Viey**	**1.13**	**89**	P	**Pb**	**04 13 31.4**	**+0.4**
VIEF				S	**Sb**	**04 13 47.5**	**+2.2**
LABF	**Labassere**	**1.18**	**81**	Pg	**Pg**	**04 13 32.2**	**-1.6**
LABF	**Labassere**	**1.18**	**81**	P	**Pb**	**04 13 32.2**	**+0.4**
LABF				S	**Sb**	**04 13 48.3**	**+1.5**
EBIE	**Bielsa**	**1.23**	**98**	Pg	**Pg**	**04 13 33.1**	**-1.8**
	20nm,0.3s,SNR=80						
EBIE				Lg		04 13 49.9	
	44nm,0.2s,SNR=10						
EBIE	**Bielsa**	**1.23**	**98**	Pg	**Pg**	**04 13 33.4**	**-1.4**
EBIE				Lg		04 13 49.4	
EBIE	**Bielsa**	**1.23**	**98**	Pg	**Pg**	**04 13 33.4**	**-1.5**
	30nm,0.4s,SNR=80						
RESF	**Ens**	**1.36**	**92**	Pg	**Pg**	**04 13 36.2**	**-1.3**
RESF				Sg	**Sg**	**04 13 56.4**	**+0.7**
RESF	**Ens**	**1.36**	**92**	P	**Pn**	**04 13 36.1**	**+1.2**
RESF				S	**Sb**	**04 13 54.9**	**+2.8**
EPF	**Esparros**	**1.37**	**83**	*e*Pn	**Pn**	**04 13 35.4**	**+0.4**
EPF				*e*Pg	**Pg**	**04 13 36.4**	**-1.2**
EPF				*e*Sg	**Sg**	**04 13 55.6**	**-0.3**
	55nm,0.3s						
ESAC	**San Caprasio**	**1.38**	**146**	Pg	**Pg**	**04 13 36.4**	**-1.5**
	42nm,0.2s,SNR=34						
ESAC				Lg		04 13 55.9	
	167nm,0.3s,SNR=13						
ESAC	**San Caprasio**	**1.38**	**146**	Pg	**Pg**	**04 13 36.8**	**-1.1**
ESAC				Lg		04 13 51.4	
ESAC	**San Caprasio**	**1.38**	**146**	Pg	**Pg**	**04 13 36.8**	**-1.1**
	59nm,0.3s,SNR=34						
ELAN	**Lanestosa**	**1.45**	**285**	Pg	**Pg**	**04 13 39.6**	**+0.4**
	5.8nm,0.2s,SNR=18						
ELAN				Lg		04 14 01.0	
	10nm,0.2s,SNR=6.2						
ELAN	**Lanestosa**	**1.45**	**285**	Pg	**Pg**	**04 13 39.6**	**+0.3**
	12nm,0.6s,SNR=18						
EGRA	**Graus**	**1.51**	**116**	Pg	**Pg**	**04 13 39.2**	**-1.2**
	31nm,0.3s,SNR=118						
EGRA				Lg		04 13 58.6	
	20nm,0.3s,SNR=6.5						
EGRA	**Graus**	**1.51**	**116**	Pg	**Pg**	**04 13 39.2**	**-1.2**
EGRA				Lg		04 14 00.3	
MELF	**Melles**	**1.67**	**89**	P	**Pn**	**04 13 41.4**	**+2.1**
SALF	**Salau**	**1.99**	**92**	Pg	**Pg**	**04 13 47.9**	**-2.1**
ERTA	**Horta de San J**	**2.36**	**144**	Pn	**Pn**	**04 13 50.6**	**+1.4**
	0.5nm,0.2s,SNR=7.9						
ERTA				Pg	**Pg**	**04 13 52.9**	**-4.3**
	1.8nm,0.2s,SNR=8.5						
ERTA				Lg		04 14 24.9	
	16nm,0.3s,SNR=5.9						
ERTA	**Horta de San J**	**2.36**	**144**	Pn	**Pn**	**04 13 51.0**	**+1.8**
ERTA				Lg		04 14 21.8	
ERTA	**Horta de San J**	**2.36**	**144**	Pn	**Pn**	**04 13 51.0**	**+1.9**
	3.8nm,0.3s,SNR=8.5						
EMIR	**Miracle**	**2.44**	**112**	Pn	**Pn**	**04 13 51.7**	**+1.3**
	0.6nm,0.1s,SNR=8.4						
EMIR				Pg	**Pg**	**04 13 55.5**	**-3.5**
	6.7nm,0.3s,SNR=22						
EMIR				Lg		04 14 27.5	
	20nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.44**	**112**	Pn	**Pn**	**04 13 51.7**	**+1.3**
EMIR				Pg	**Pg**	**04 13 54.9**	**-4.2**
EMIR				Lg		04 14 26.6	
EMIR	**Miracle**	**2.44**	**112**	Pn	**Pn**	**04 13 51.7**	**+1.3**
	9.0nm,0.3s,SNR=8.4						
EMIR	**Miracle**	**2.44**	**112**	Pg	**Pg**	**04 13 54.8**	**-4.2**
	6.4nm,0.3s,SNR=22						
EPOB	**Poblet**	**2.45**	**127**	Pn	**Pn**	**04 13 50.6**	**+0.1**
	0.6nm,0.1s,SNR=6.7						
EPOB				Pg	**Pg**	**04 13 55.1**	**-4.0**
	1.8nm,0.2s,SNR=7.9						
EPOB				Lg		04 14 26.4	
	9.8nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.45**	**127**	Pn	**Pn**	**04 13 51.5**	**+1.0**
EPOB				Lg		04 14 26.4	
EPOB	**Poblet**	**2.45**	**127**	Pn	**Pn**	**04 13 51.5**	**+1.0**
	11nm,0.7s,SNR=6.7						
EMOS	**Mosqueruela**	**2.62**	**162**	Pn	**Pn**	**04 13 53.3**	**+0.4**
	0.5nm,0.3s,SNR=7.9						
EMOS				Pg	**Pg**	**04 13 59.2**	**-3.3**
	0.5nm,0.2s,SNR=6.7						
EMOS				Lg		04 14 32.0	
	3.7nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**2.62**	**162**	Pg	**Pg**	**04 13 57.0**	**-5.6**
EMOS	**Mosqueruela**	**2.62**	**162**	Pg	**Pg**	**04 13 57.0**	**-5.5**
	3.8nm,0.4s,SNR=6.7						
LFF	**La Frestale**	**2.63**	**37**	*e*Pn	**Pn**	**04 13 53.7**	**+0.6**
LFF				*e*Sn	**Sn**	**04 14 24.8**	**-0.3**
	11nm,0.3s						
EARI	**Arriondas**	**2.74**	**280**	Pn	**Pn**	**04 13 58.0**	**+3.3**
	0.1nm,0.2s,SNR=7.9						
EARI				Pg	**Pg**	**04 14 04.6**	**-0.4**
	0.7nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**04 14 30.8**	**+2.9**
	0.3nm,0.1s,SNR=7.9						
EARI				Lg		04 14 40.5	
	3.3nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**2.74**	**280**	Pn	**Pn**	**04 13 57.0**	**+2.4**
EARI				Sn	**Sn**	**04 14 30.8**	**+2.9**
EARI	**Arriondas**	**2.74**	**280**	Pn	**Pn**	**04 13 57.0**	**+2.3**
	0.1nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**04 14 30.8**	**+2.9**
	17nm,0.9s,SNR=7.9						
MTLF	**Montolieu**	**2.77**	**79**	*e*Pn	**Pn**	**04 13 56.0**	**+0.9**
MTLF				*e*Sn	**Sn**	**04 14 26.9**	**-1.8**
	7.6nm,0.4s						
RJF	**Les Rejaudoux**	**3.27**	**41**	*e*Pn	**Pn**	**04 14 03.0**	**+0.9**
RJF				*e*Sn	**Sn**	**04 14 40.1**	**-1.1**
	5.0nm,0.2s						
EJON	**La Jonquera**	**3.27**	**96**	Pg	**Pg**	**04 14 10.0**	**-5.5**
	4.5nm,0.4s,SNR=9.0						
EJON				Lg		04 14 53.2	
	1.8nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.27**	**96**	Pg	**Pg**	**04 14 11.1**	**-4.4**
	5.4nm,0.5s,SNR=9.0						
CAF	**Calviac**	**3.30**	**50**	*e*Pn	**Pn**	**04 14 04.5**	**+1.9**
CAF				*e*Sn	**Sn**	**04 14 40.4**	**-1.7**
	5.7nm,0.3s						
ESDC	**Sonseca Array**	**3.69**	**211**	Pn	**Pn**	**04 14 09.0**	**+0.9**
	0.7nm,0.2s,baz=36,slow=13,SNR=4.4						
ESDC				Sn	**Sn**	**04 14 47.6**	**-4.2**
	1.3nm,0.3s,baz=40,slow=18,SNR=4.0						
ESDC				Lg		04 15 09.0	
	1.9nm,0.3s,baz=37,slow=29,SNR=7.4						
MFF	**Saint Martin d**	**3.86**	**14**	*e*Pn	**Pn**	**04 14 11.9**	**+1.4**
MFF				*e*Sn	**Sn**	**04 14 57.2**	**+1.1**
	2.8nm,0.2s						
ECAL	**Calabor**	**3.98**	**258**	Pn	**Pn**	**04 14 11.3**	**-0.9**
	1.2nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**04 14 57.3**	**-1.9**
	3.5nm,0.3s,SNR=7.9						
ECAL				Lg		04 15 20.5	
	5.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.98**	**258**	Pn	**Pn**	**04 14 13.2**	**+0.9**
ECAL				Sn	**Sn**	**04 14 57.3**	**-1.8**
ECAL	**Calabor**	**3.98**	**258**	Pn	**Pn**	**04 14 13.2**	**+1.0**
ECAL				Sn	**Sn**	**04 14 57.3**	**-1.9**
LASF	**Ste Croix**	**4.09**	**71**	*e*Pn	**Pn**	**04 14 13.5**	**-0.3**
LASF				*e*Sn	**Sn**	**04 14 58.3**	**-3.7**
	5.3nm,0.4s						
ETOB	**Tobarra**	**4.22**	**180**	Pn	**Pn**	**04 14 15.2**	**-0.5**
	0.1nm,0.2s,SNR=4.0						
ETOB				Lg		04 15 25.4	
	0.1nm,0.2s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.33**	**37**	*e*Pn	**Pn**	**04 14 18.0**	**+0.8**
TCF				*e*Sn	**Sn**	**04 15 05.5**	**-2.6**
	5.7nm,0.4s						
BGF	**Bois d'Agland**	**4.82**	**39**	*e*Pn	**Pn**	**04 14 24.6**	**+0.4**
BGF				*e*Sn	**Sn**	**04 15 17.7**	**-2.8**
	19nm,0.5s						
VIVF	**Saint-Julien-l**	**4.89**	**64**	*e*Pn	**Pn**	**04 14 24.4**	**-0.8**
VIVF				*e*Sn	**Sn**	**04 15 18.1**	**-4.2**
	2.4nm,0.4s						
ELOB	**Lobios**	**4.95**	**261**	Pn	**Pn**	**04 14 25.0**	**-1.1**
	0.5nm,0.1s,SNR=7.9						
ELOB				Lg		04 15 48.3	
	0.6nm,0.3s,SNR=7.9						
QUIF	**Quistinic**	**5.18**	**348**	*e*Pn	**Pn**	**04 14 29.6**	**+0.4**
QUIF				*e*Sn	**Sn**	**04 15 27.9**	**-1.6**
	1.9nm,0.3s						
EQES	**Quesada**	**5.20**	**194**	Pn	**Pn**	**04 14 30.4**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EQES				Pg	**Pg**	**04 14 46.5**	**-7.4**
	3.3nm,0.4s,SNR=5.0						
EQES				Lg		04 15 54.4	
	2.1nm,0.3s,SNR=7.9						
AVF	**Avril sur Loir**	**5.23**	**40**	*e*Pn	**Pn**	**04 14 29.4**	**-0.5**
AVF				*e*Sn	**Sn**	**04 15 27.2**	**-3.6**
	1.3nm,0.3s						
EADA	**Adamuz**	**5.25**	**207**	Pn	**Pn**	**04 14 30.2**	**+0.1**
	0.6nm,0.2s,SNR=7.9						
EADA				Lg		04 15 57.1	
	0.1nm,0.3s,SNR=7.9						
SMRF	**Simiane la Rot**	**5.28**	**75**	*e*Pn	**Pn**	**04 14 30.3**	**-0.3**
SMF	**Signal de Mont**	**5.37**	**43**	*e*Pn	**Pn**	**04 14 31.5**	**-0.4**
SMF				*e*Sn	**Sn**	**04 15 30.2**	**-4.0**
	1.2nm,0.2s						
SGMF	**Saint Gilles**	**5.43**	**353**	*e*Sn	**Sn**	**04 15 33.4**	**-2.5**
	2.1nm,0.4s						
SSF	**Saint Saulge**	**5.50**	**39**	*e*Pn	**Pn**	**04 14 33.9**	**+0.2**
SSF				*e*Sn	**Sn**	**04 15 33.4**	**-4.1**
	1.1nm,0.3s						
GRR	**Gorron**	**5.54**	**5**	*e*Sn	**Sn**	**04 15 32.3**	**-6.2**
	1.6nm,0.3s						
ROSF	**Rostrenen**	**5.61**	**348**	*e*Pn	**Pn**	**04 14 35.5**	**+0.3**
ROSF				*e*Sn	**Sn**	**04 15 36.3**	**-3.9**
	5.6nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.72**	**66**	*e*Pn	**Pn**	**04 14 34.8**	**-2.1**
LDF	**La Druitiere**	**5.81**	**9**	*e*Pn	**Pn**	**04 14 38.1**	**0.0**
LDF				*e*Sn	**Sn**	**04 15 40.3**	**-5.0**
	1.3nm,0.3s						
LOR	**Lormes**	**5.81**	**39**	*e*Pn	**Pn**	**04 14 37.1**	**-1.1**
LOR				*e*Sn	**Sn**	**04 15 41.4**	**-4.1**
	1.5nm,0.3s						
FLN	**La Foliniere**	**5.94**	**7**	*e*Pn	**Pn**	**04 14 40.2**	**+0.3**

IDC 10 04:19:52.9±10.0**, 12.31S**×**165.99E, h100**km±112km**, mb3.6**/4**, mb1 3.7**/5**, mb1mx3.6**/14**, mbtmp3.8**/5**, ML3.6**/1**, MS3.4**/3**, Ms1 3.4**/3**, ms1mx2.9**/33**, Error ellipse: s-maj=81.0km s-min=37.9km az=157.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.59**	**295**	LR	LR	04 23 44.7	
	comp=Z,86nm,20.7s,baz=102,slow=35						
DZM	**Mont Dzumac**	**9.71**	**178**	P	P	04 22 09.6	-1.7
	0.5nm,0.3s,baz=38,slow=21,SNR=7.8						
DZM				S	S	04 23 57.7	-1.6
	baz=217,slow=14,SNR=1.7						
PMG	**Port Moresby**	**18.72**	**277**	LR	LR	04 30 11.8	
	comp=Z,137nm,20.9s,baz=85,slow=33						
RAO	**Raoul Island**	**22.54**	**141**	LR	LR	04 32 10.4	
	comp=Z,262nm,19.6s,baz=213,slow=33						
WRA	**Warramunga Arr**	**31.30**	**252**	P	P	04 26 04.3	-1.7
	0.5nm,0.6s,baz=84,slow=9.0,SNR=11						
SONM	**Songino Array**	**79.83**	**324**	P	P	04 31 50.2	-1.7
	0.4nm,0.5s,baz=153,slow=6.4,SNR=3.4						
ILAR	**Eielson Array**	**84.63**	**18**	P	P	04 32 15.6	-0.6
	0.3nm,0.5s,baz=240,slow=5.4,SNR=5.8						
MKAR	**Makanchi Array**	**94.61**	**317**	P	P	04 33 01.9	-1.8
	1.6nm,0.7s,baz=92,slow=6.5,SNR=13						

*IDC **10** 04:24:54.2±2.9, 4.42S×153.61E, h106km±22km, mb3.8/4, mb1 4.1/5, mb1mx3.8/13, mbtmp4.3/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/24, Error ellipse: s-maj=35.1km s-min=21.3km az=136.0*
*NEIC **10** 04:24:58.3±4.5, 4.51S×153.46E, h139km±31km, mb4.4/1, Error ellipse: s-maj=45.1km s-min=25.7km az=82.0*
ISC 10 04:24:57.2±5.3**, 4.6S**±0.2×**153.5E**±0.3**, h142**km±41km**, n9, σ0ˢ45**/10**, mb4.0**/5**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.92**	**232**	P	**P**	**04 26 50.7**	**+0.1**
	15nm,0.3s,baz=46,slow=9.6,SNR=22						
PMG				S	**S**	**04 28 18.6**	**-0.3**
	4.8nm,0.3s,baz=120,slow=21,SNR=10						
CTA	**Charters Tower**	**16.96**	**204**	LR	LR	04 34 39.5	
	comp=Z,93nm,20.0s,baz=222,slow=34						
WRAB	**Tennant Creek**	**24.10**	**229**	*e*P	**P**	**04 30 01.5**	**+0.5**
	8.3nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**24.11**	**229**	*e*P	**P**	**04 30 01.3**	**+0.2**
WRA	**Warramunga Arr**	**24.12**	**229**	P	**P**	**04 30 01.6**	**+0.4**
	6.0nm,0.6s,mb4.3,baz=53,slow=9.7,SNR=37						
WRA				S	**S**	**04 34 14.8**	**+9.3**
	0.5nm,0.9s,baz=49,slow=16,SNR=2.7						
STKA	**Stephens Creek**	**29.37**	**201**	P	**P**	**04 30 48.2**	**-0.9**
	4.3nm,0.7s,mb4.3,baz=35,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**29.37**	**201**	P	**P**	**04 30 48.2**	**-0.9**
VNDA	**Vanda**	**73.03**	**178**	P	**P**	**04 36 13.2**	**+0.3**
	1.1nm,0.7s,mb3.7,baz=341,slow=6.6,SNR=10.0						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**04 36 55.1**	**-0.4**
	0.5nm,0.7s,mb3.2,baz=104,slow=5.0,SNR=4.4						

IDC 10 04:33:07.3±3.4**, 17.51N**×**145.72E, h108**km±34km**, mb3.4**/5**, mb1 3.7**/6**, mb1mx3.5**/20**, mbtmp3.8**/6**, Error ellipse: s-maj=44.4km s-min=23.8km az=104.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.98**	**192**	P	P	04 34 06.9	-0.6
	14nm,0.3s,baz=31,slow=5.9,SNR=6.0						
GUMO				S	S	04 34 52.7	-0.9
	17nm,0.3s,baz=5.8,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**38.86**	**197**	P	P	04 40 21.6	-2.1
	0.3nm,0.3s,baz=17,slow=8.7,SNR=8.6						
MKAR	**Makanchi Array**	**59.30**	**314**	P	P	04 42 59.0	-0.9
	0.1nm,0.4s,baz=80,slow=8.8,SNR=2.7						
ILAR	**Eielson Array**	**64.70**	**26**	P	P	04 43 33.1	-2.6
	0.5nm,0.6s,baz=252,slow=6.1,SNR=13						
INK	**Inuvik**	**70.45**	**23**	P	P	04 44 09.6	-1.9
	1.4nm,0.8s,baz=293,slow=6.9,SNR=5.6						
FINES	**FINESS Array B**	**87.97**	**335**	P	P	04 45 43.7	-2.2
	2.8nm,1.1s,baz=45,slow=5.9,SNR=3.3						
LPAZ	**La Paz**	**147.61**	**93**	PKPbc	PKPdf	04 52 41.1	+4.2
	0.7nm,0.7s,baz=254,slow=3.7,SNR=5.5						

*SOF **10** 04:56:49.0, 45.58N×27.16E, h9km, MD3.5*
*IDC **10** 04:56:49.8±1.7, 45.19N×27.46E, mb3.6/3, mb1 3.6/7, mb1mx3.4/19, mbtmp3.5/7, ML3.4/3, Error ellipse: s-maj=19.3km s-min=10.8km az=152.0*
*BUC **10** 04:56:53.8±0.3, 45.24N×27.23E, h10km, MD4.0/5, Error ellipse: s-maj=4.8km s-min=2.9km az=33.0*
*CSEM **10** 04:56:53.0±0.1, 45.37N×27.36E, h20km, MD4.0/6, Error ellipse: s-maj=3.2km s-min=2.3km az=48.0*
*NEIC **10** 04:56:55.4, 45.26N×27.21E, h22km, ML4.0(BUC), After BUC.*
*MOS **10** 04:56:55.2±1.7, 45.27N×27.16E, h32km, mb4.0/2, Error ellipse: s-maj=10.2km s-min=5.4km az=88.4*
ISC 10 04:56:55.0±0.3**, 45.27N**±0.02×**27.25E**±0.04**, h33**km**, n63, σ1ˢ29**/83**, mb3.6**/3**, 12C-11D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISR	**Istrita**	**0.52**	**253**	⇑P	**P**	**04 57 04.4**	**-1.4**
ISR				*i* S	**S**	**04 57 13.0**	**-0.6**
ISR	**Istrita**	**0.52**	**253**	⇑P	**P**	**04 57 04.4**	**-1.4**
ISR				*i* S	**S**	**04 57 13.0**	**-0.6**
CFR	**Carcaliu**	**0.63**	**98**	⇑*i*P	**P**	**04 57 05.6**	**-1.8**
CFR				*i* S	**S**	**04 57 17.0**	**+0.6**
CFR	**Carcaliu**	**0.63**	**98**	⇑*i*P	**P**	**04 57 05.6**	**-1.8**
AMRR		**0.66**	**175**	⇓*i*P	**P**	**04 57 06.5**	**-1.3**
AMRR				*i* S	**S**	**04 57 17.0**	**-0.1**
VRI	**Vrincioaia**	**0.70**	**328**	⇑*i*P	**P**	**04 57 08.6**	**+0.2**
VRI				*i* S	**S**	**04 57 19.6**	**+1.5**
VRI	**Vrincioaia**	**0.70**	**328**	⇑*i*P	**P**	**04 57 08.6**	**+0.2**
VRI	**Vrincioaia**	**0.70**	**328**	P	**P**	**04 57 08.9**	**+0.5**
PLOR	**Plostina**	**0.72**	**324**	⇓*i*P	**P**	**04 57 09.0**	**+0.4**
PLOR				*i* S	**S**	**04 57 20.0**	**+1.4**
VARR		**0.74**	**35**	⇑*i*P	**P**	**04 57 09.4**	**+0.4**
VARR				*i* S	**S**	**04 57 20.7**	**+1.5**
HARR	**Harsova**	**0.76**	**140**	⇓*i*P	**P**	**04 57 08.9**	**-0.2**
HARR				*i* S	**S**	**04 57 20.5**	**+1.0**
HARR	**Harsova**	**0.76**	**140**	⇓*i*P	**P**	**04 57 08.9**	**-0.2**
HARR				*i* S	**S**	**04 57 20.5**	**+1.0**
SULR		**0.92**	**230**	⇑*i*P	**P**	**04 57 11.6**	**+0.1**
SULR				*i* S	**S**	**04 57 23.0**	**-0.8**
MLR	**Muntele Rosu**	**0.95**	**284**	Pg	**P**	**04 57 12.5**	**+0.6**
	26nm,0.3s,baz=62,slow=3.6,SNR=277						
MLR				Lg		04 57 26.7	
	66nm,0.3s,baz=186,slow=21,SNR=17						
MLR	**Muntele Rosu**	**0.95**	**284**	⇓*i*P	**P**	**04 57 12.1**	**+0.2**
MLR				*i* S	**S**	**04 57 26.8**	**+2.4**
MLR	**Muntele Rosu**	**0.95**	**284**	⇓*i*P	**P**	**04 57 12.2**	**+0.3**
MLR				*i* S	**S**	**04 57 26.8**	**+2.4**
MLR	**Muntele Rosu**	**0.95**	**284**	P	**P**	**04 57 12.5**	**+0.6**
MLR				pmax	pmax		
	comp=Z,26nm,0.3s						
MLR				pmax	pmax		
	comp=Z,67nm,0.3s						
TLCR		**1.11**	**94**	⇓*i*P	**P**	**04 57 15.8**	**+1.6**
TLCR				*i* S	**S**	**04 57 33.3**	**+4.8**
TLCR		**1.11**	**94**	P	**P**	**04 57 15.9**	**+1.7**
TIRR	**Tirgusor**	**1.16**	**134**	⇓*i*P	**P**	**04 57 15.8**	**+0.9**
TIRR				*i* S	**S**	**04 57 33.5**	**+3.7**
TIRR	**Tirgusor**	**1.16**	**134**	⇓*i*P	**P**	**04 57 15.8**	**+0.9**
TIRR				*i* S	**S**	**04 57 33.5**	**+3.7**
TIRR	**Tirgusor**	**1.16**	**134**	P	**P**	**04 57 16.0**	**+1.1**
SNX	**Sinaia**	**1.23**	**275**	⇓*i*P	**P**	**04 57 17.1**	**+1.2**
SNX	**Sinaia**	**1.23**	**275**	⇓*i*P	**P**	**04 57 17.1**	**+1.2**
BUC1	**Bucharest**	**1.27**	**224**	P	**P**	**04 57 17.6**	**+1.2**
BUC1	**Bucharest**	**1.27**	**224**	P	**P**	**04 57 17.7**	**+1.3**
MTUR	**Matau**	**1.55**	**269**	⇑*i*P	**P**	**04 57 22.0**	**+1.5**
MTUR	**Matau**	**1.55**	**269**	⇑*i*P	**P**	**04 57 21.9**	**+1.4**
VOIR		**1.56**	**277**	⇑*i*P	**P**	**04 57 22.0**	**+1.3**
VOIR				*i* S	**S**	**04 57 43.7**	**+3.7**
VOIR		**1.56**	**277**	⇑*i*P	**P**	**04 57 22.0**	**+1.2**
VOIR				*i* S	**S**	**04 57 43.7**	**+3.7**
KIS	**Kishinev**	**2.04**	**32**	*e*P	**P**	**04 57 34.0**	**+6.4**
KIS				*i* S	**S**	**04 57 58.0**	**+5.9**
KIS				smax			
	comp=E,2μm,1.0s						
KIS				smax			
	comp=N,2μm,1.0s						
KIS				smax			
	comp=E,2μm,1.0s						
PRD	**Provadia**	**2.07**	**177**	*i* P	**P**	**04 57 30.0**	**+2.0**
SZH	**Strazhica**	**2.22**	**206**	*i* P	**P**	**04 57 31.0**	**+0.9**
PVL	**Pavlikeni**	**2.47**	**215**	*i* P	**P**	**04 57 36.0**	**+2.2**
BURAR	**Bucovina Array**	**2.73**	**330**	P	**P**	**04 57 38.5**	**+1.0**
JMB	**Yambol**	**2.84**	**190**	*i* P	**P**	**04 57 40.0**	**+0.9**
DRGR		**3.51**	**297**	P	**P**	**04 57 47.8**	**-0.7**
DRGR		**3.51**	**297**	P	**P**	**04 57 47.8**	**-0.7**
PGB	**Panagyurishte**	**3.52**	**220**	*i* P	**P**	**04 57 49.0**	**+0.4**
KDZ	**Kurdzhali**	**3.86**	**201**	*i* P	**P**	**04 57 53.8**	**+0.3**
VTS	**Vitosha**	**3.96**	**229**	*i* P	**P**	**04 57 53.5**	**-1.4**
VTS	**Vitosha**	**3.96**	**229**	P	**P**	**04 57 54.0**	**-0.9**
RZN	**Rozhen**	**4.03**	**208**	*i* P	**P**	**04 57 54.8**	**-1.1**
MMB	**Musomiste**	**4.49**	**216**	*i* P	**P**	**04 58 01.8**	**-0.6**
KKB	**Krupnik**	**4.55**	**223**	*i* P	**P**	**04 58 02.5**	**-0.9**
KOLS	**Kolonicke sedl**	**5.00**	**319**	*e*PN	**Pn**	**04 58 09.0**	**-0.8**
SKO	**Skopje**	**5.35**	**234**	*e*Pn	**Pn**	**04 58 08.0**	**-6.8**
AKASG	**Malin Array Be**	**5.59**	**13**	Pn	**Pn**	**04 58 15.7**	**-2.5**
	comp=E,1.1nm,0.3s,baz=195,slow=12,SNR=5.2						
AKASG				Sn	**Sn**	**04 59 18.0**	**-4.1**
	comp=E,3.5nm,0.3s,baz=261,slow=29,SNR=5.5						
AKASG				Lg		04 59 48.3	
	comp=E,4.8nm,0.3s,baz=196,slow=30,SNR=8.0						
AKASG	**Malin Array Be**	**5.59**	**13**	P	**P**	**04 58 15.7**	**-2.3**
AKASG						04 59 18.0	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				smax			
	comp=N,4.0nm,0.3s						
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KECS	**Kecovo**	**5.64**	**307**	*e*PN	**Pn**	**04 58 19.0**	**+0.2**
PSZ	**Piszkesteto**	**5.72**	**300**	*e*P	**P**	**04 58 17.5**	**-2.2**
PSZ	**Piszkesteto**	**5.72**	**300**	*e*P	**P**	**04 58 17.5**	**-2.2**
STHS	**Stebnicka Huta**	**5.82**	**318**	*e*PN	**Pn**	**04 58 20.5**	**-0.8**
BRTR	**Keskin Array B**	**7.28**	**137**	Pn	**Pn**	**04 58 39.3**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=5.8						
BRTR				Sn	**Sn**	**04 59 57.6**	**-6.6**
	comp=Z,0.2nm,0.3s,baz=299,slow=19,SNR=2.3						
FINES	**FINESS Array B**	**16.22**	**358**	Pn	**P**	**05 00 34.0**	**-7.5**
	comp=Z,0.1nm,0.3s,baz=158,slow=15,SNR=2.9						
FINES	**FINESS Array B**	**16.22**	**358**	*i* P	**P**	**05 00 41.8**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**16.95**	**336**	P	**P**	**05 00 49.6**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=104,slow=12,SNR=4.7						
NOA	**NORSAR Array B**	**18.40**	**335**	P	**P**	**05 01 06.5**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=154,slow=9.5,SNR=3.0						
ESDC	**Sonseca Array**	**23.60**	**267**	P	**P**	**05 02 02.9**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.2,baz=63,slow=9.2,SNR=3.5						
ARCES	**ARCESS Array B**	**24.35**	**359**	P	**P**	**05 02 09.3**	**-1.1**
	comp=Z,1.9nm,0.9s,mb3.5,baz=185,slow=10.0,SNR=3.7						
ARCES	**ARCESS Array B**	**24.35**	**359**	P	**P**	**05 02 09.3**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DBIC	**Dimbokro**	**47.48**	**226**	P	**P**	**05 05 26.6**	**-2.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=40,slow=8.6,SNR=4.7						
DBIC	**Dimbokro**	**47.48**	**226**	P	**P**	**05 05 26.7**	**-2.0**
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						

CASC 10 05:04:08.8±3.3**, 13.64N**×**89.96W, h81**km±17km**, MD3.5, 2C-6D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.40**	**50**	*e*P	P	05 04 34.0	+12
RTR				*e*S	S	05 04 45.6	+14
SNJE	**San Jose**	**0.41**	**56**	⇓*e*P	P	05 04 34.0	+12

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNJE				*e*S	S	05 04 46.1	+14
RBDL	**Robledal**	**0.54**	**29**	*e*P	P	05 04 35.3	+12
RBDL				*e*S	S	05 04 47.1	+13
BOQS	**Boqueron**	**0.67**	**82**	*e*P	P	05 04 37.0	+13
BOQS				*e*S	S	05 04 49.3	+13
SNET	**Serv Nac Est T**	**0.71**	**86**⇓	*e*P	P	05 04 25.1	+0.3
SNET				*e*S	S	05 04 37.0	+0.3
IXG	**Ixpaco**	**0.72**	**318**⇓	*e*P	P	05 04 24.6	-0.3
IXG				*e*S	S	05 04 37.1	+0.2
LFRS	**El Faro**	**0.87**	**91**⇑	*e*P	P	05 04 39.2	+13
LFRS				*e*S	S	05 04 53.4	+13
MTO2	**Montecristo 2**	**0.95**	**37**	*e*P	P	05 04 39.7	+12
MTO2				*e*S	S	05 04 55.3	+14
LCBS	**La Ceiba**	**0.95**	**89**⇓	*e*P	P	05 04 40.8	+13
LCBS				*e*S	S	05 04 54.5	+13
SNVI	**San Vicente**	**1.09**	**91**⇑	*e*P	P	05 04 43.0	+14
SNVI				*e*S	S	05 04 57.8	+13
MRL	**Marmol**	**1.44**	**10**⇓	*e*P	P	05 04 35.8	+1.9
MRL				*e*S	S	05 04 51.4	-1.0
TP2	**Tecpan 2**	**1.54**	**318**⇓	*e*P	P	05 04 36.3	+1.2
TP2				*e*S	S	05 04 57.2	+2.7

MAN 10 05:04:11.1, 8.19N×125.87E, h6^{km}, mb3.5, ML2.2, MS1.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.48**	**91**⇓	*i*P	Pg	05 04 18.7	-2.1
BIPH				*i* S	Sg	05 04 30.9	+3.5
BUTP	**Butuan**	**0.81**	**342**	*e*P	Pb	05 04 26.2	-1.0
BUKP	**Musuan**	**0.86**	**249**	*e*P	Pb	05 04 27.1	-0.9
BUKP				*e*S	Sb	05 04 46.6	+7.0
SCPH	**Surigao**	**1.62**	**347**	*e*P	Sb	05 04 59.9	-1.9

*LDG **10** 05:05:36.6±0.2, 20.80S×167.90E, h10^{km}, Mb5.1/2, Ms4.0/7, Error ellipse: s-maj=26.5km s-min=3.6km az=130.0*

*BJI **10** 05:05:37.6, 20.91S×168.55E, h31^{km}, mB5.1, mb4.8, Ms4.7, Msz4.4*

*MOS **10** 05:05:38.9±1.4, 20.99S×168.41E, h33^{km}, mb5.2/12, Error ellipse: s-maj=39.0km s-min=17.9km az=116.9*

*NEIC **10** 05:05:39.0±0.2, 20.96S×168.43E, mb4.9/17, MS4.3/5, Error ellipse: s-maj=8.2km s-min=7.4km az=121.0*

*IDC **10** 05:05:39.3±7.8, 20.97S×168.31E, h28^{km}±53^{km}, mb4.4/15, mb1 4.5/17, mb1mx4.5/19, mbtmp4.6/17, ML4.2/2, MS4.0/14, Ms1 4.0/14, ms1mx3.9/20, Error ellipse: s-maj=22.1km s-min=16.2km az=71.0*

*HRVD **10** 05:05:39.0±0.5, 21.07S×168.35E, h15^{km}±1^{km}, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s50,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.45±.34; $M_{\theta\theta}$-0.29±.20; $M_{\phi\phi}$3.75±.23; $M_{r\theta}$-1.25±.77; $M_{\theta\phi}$-0.36±.13; $M_{\phi r}$1.15±.51; Best double couple: $M_0$4.005×10^{16} NP1:ϕ_s12°, δ38°, λ-63°. NP2:ϕ_s158°, δ57°, λ-110°. Principal axes: T 4.002, Plg10°, Azm262°; N .012, Plg16°, Azm169°; P -4.008, Plg71°, Azm22°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 05:05:38.3±0.3**, 21.02S**±0.05×**168.36E**±0.06**, h33^{km}, h33^{km}**±1.4^{km}**: pP-P, n236,** σ**1^{s}07**/95**, mb4.8**/38**, MS4.2**/18**, 15C-23D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.07**	**239**⇑	*e*P	**P**	**05 06 10.9**	**-0.4**
DZM				*e*S	**S**	**05 06 36.8**	**+0.7**
DZM	**Mont Dzumac**	**2.07**	**239**	Pn	**P**	**05 06 10.7**	**-0.5**
	112nm,0.3s,baz=60,slow=18,SNR=3100						
DZM				Sn	**S**	**05 06 35.6**	**-0.6**
	526nm,0.3s,baz=8.5,slow=21,SNR=9.7						
DZM				LR	LR	05 06 57.5	
	comp=Z,4μm,20.4s,baz=192,slow=38						
DZM	**Mont Dzumac**	**2.07**	**239**⇑	*e*P	**P**	**05 06 10.9**	**-0.4**
DZM				*e*S	**S**	**05 06 36.8**	**+0.7**
HNR	**Honiara**	**14.08**	**324**	LR	LR	05 12 55.9	
	comp=Z,263nm,21.0s,baz=127,slow=31						
ARMA	**Armidale**	**17.73**	**235**	*e*P	**P**	**05 09 46.2**	**+2.0**
URZ	**Urewera**	**18.77**	**158**	P	**P**	**05 09 57.9**	**+0.8**
	0.5nm,0.3s,baz=355,slow=7.8,SNR=5.3						
URZ				LR	LR	05 16 20.8	
	comp=Z,677nm,18.3s,baz=101,slow=34						
AFI	**Afiamalu**	**20.21**	**73**	LR	LR	05 16 26.0	
	comp=Z,706nm,21.8s,MS4.0,baz=210,slow=32						
CTA	**Charters Tower**	**20.72**	**269**⇑	*i*P	**P**	**05 10 19.3**	**+0.8**
	13nm,0.9s						
CTA				*e*		05 10 22.8	
CTA				*e*		05 10 32.1	
CTA	**Charters Tower**	**20.72**	**269**	P	**P**	**05 10 18.9**	**+0.4**
	30nm,0.8s,baz=89,slow=12,SNR=15						
CTA				LR	LR	05 17 47.4	
	comp=Z,1μm,19.3s,MS4.2,baz=86,slow=35						
CTAO	**Charters Tower**	**20.72**	**269**	*e*P	**P**	**05 10 19.0**	**+0.6**
	178nm,1.4s						
RPZ	**Rata Peaks**	**22.75**	**175**	P	**P**	**05 10 39.7**	**+1.1**
	34nm,0.9s,mb4.8,baz=13,slow=3.9,SNR=17						
PMG	**Port Moresby**	**23.45**	**296**	P	**P**	**05 10 45.7**	**-0.1**
	19nm,0.8s,mb4.6,baz=214,slow=6.1,SNR=4.8						
PMG				LR	LR	05 18 29.0	
	comp=Z,531nm,20.7s,MS4.0,baz=328,slow=33						
PMG	**Port Moresby**	**23.45**	**296**	*e*P	**P**	**05 10 45.1**	**-0.7**
	22nm,0.9s,mb4.6						
PMG	**Port Moresby**	**23.45**	**296**⇓	*e*P	**P**	**05 10 46.9**	**+1.1**
STKA	**Stephens Creek**	**26.22**	**240**	*e*P	**P**	**05 11 13.1**	**+1.0**
	12nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**26.22**	**240**	P	**P**	**05 11 12.3**	**+0.3**
	5.7nm,0.9s,mb4.1,baz=52,slow=7.4,SNR=3.8						
STKA				LR	LR	05 20 57.9	
	comp=Z,968nm,20.2s,MS4.3,baz=172,slow=35						
WB2	**Warramunga Arr**	**31.84**	**266**	*e*P	**P**	**05 12 01.0**	**-1.6**
WB2				*i*	pP	05 12 10.8	-1.4
WRAB	**Tennant Creek**	**31.84**	**266**	*e*P	**P**	**05 12 00.6**	**-2.0**
WRAB	**Tennant Creek**	**31.84**	**266***c*	*i*P	**P**	**05 12 11.0**	**+8.4**
WRA	**Warramunga Arr**	**31.85**	**266**	P	**P**	**05 12 00.7**	**-2.0**
	2.8nm,0.9s,mb4.1,baz=90,slow=7.4,SNR=14						
ASPA	**Alice Springs**	**31.94**	**259**⇑	*i*P	**P**	**05 12 02.5**	**-0.9**
ASPA				*e*	pP	05 12 12.2	-0.8
TBI	**Tubuai**	**39.03**	**101**	*e*LQ		05 21 58.0	
TBI				*e*LR	LR	05 23 35.9	
	572nm,29.2s						
PPT	**Papeete**	**39.77**	**92**	*e*S	**S**	**05 19 04.2**	**-7.3**
PPT				*e*LQ		05 22 20.5	
PPT				*e*LR	LR	05 23 57.1	
	1μm,29.2s,baz=249						
PPT	**Papeete**	**39.77**	**92**	LR	LR	05 25 55.6	
	comp=Z,159nm,21.7s,MS3.8,baz=303,slow=30						
FITZ	**Fitzroy Crossi**	**40.27**	**267**	*e*P	**P**	**05 13 14.3**	**+0.3**
	15nm,0.8s,mb4.8						
FITZ				*e*		05 13 18.0	
FITZ				*e*	pP	05 13 24.5	+0.6
GUMO	**Guam**	**41.42**	**324**	LR	LR	05 28 31.3	
	comp=Z,61nm,19.2s,MS3.5,baz=146,slow=33						
TAOE	**Nuku Hiva Isla**	**51.00**	**84**	*e*LR	LR	05 29 08.9	
	2μm,30.1s						
RKT	**Rikitea**	**52.28**	**103**	*e*LR	LR	05 29 40.7	
	324nm,31.2s,baz=257						
VNDA	**Vanda**	**56.64**	**182**	P	**P**	**05 15 19.0**	**-1.1**
	5.2nm,1.0s,mb4.5,baz=2.8,slow=6.4,SNR=24						
VNDA				LR	LR	05 37 01.6	
	comp=Z,87nm,18.9s,MS3.9,baz=179,slow=33						
VNDA	**Vanda**	**56.64**	**182**	*e*P	**P**	**05 15 18.1**	**-2.0**
	3.7nm,0.9s,mb4.4						
VNDA				LR	LR		
	comp=Z,204nm,20.0s,MS4.2						
SBA	**Scott Base**	**56.89**	**180**	*e*P	**P**	**05 15 20.6**	**-1.3**
	comp=Z,30nm,0.9s,mb5.3						
CASY	**Casey**	**58.17**	**204**⇓	*i*P	**P**	**05 15 29.8**	**-1.2**
KSM	**Kuching**	**60.98**	**284**	*e*P	**P**	**05 15 50.0**	**-1.1**
MJAR	**Matsushiro Arr**	**63.94**	**333**	P	**P**	**05 16 08.9**	**-1.6**
	comp=Z,5.7nm,0.9s,mb4.6,baz=157,slow=6.3,SNR=12						
MAT	**Matsushiro**	**63.95**	**333**	P	**P**	**05 16 07.5**	**-3.0**
MAT	**Matsushiro**	**63.95**	**333**	P	**P**	**05 16 08.0**	**-2.5**
	comp=Z,7.6nm,0.9s,mb4.7						
MIR	**Mirnyy**	**65.08**	**205***c*	*i*P	**P**	**05 16 17.4**	**0.0**
MIR				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.1						
SSE	**Sheshan**	**68.80**	**318**	*e*P	**P**	**05 16 41.2**	**-0.2**
SSE				AP	pP	05 16 50.5	-1.3
SSE				XP	sP	05 16 53.8	-1.7
SSE				PCP	PcP	05 17 04.7	-1.3
SSE				S	S	05 25 44.0	+2.6
SSE				XS		05 26 00.9	
SSE				SCS	ScS	05 26 39.0	+3.6
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,132nm,6.1s						
SSE				LR	LR		
	comp=N,49nm,39.2s,MS3.8						
SSE				LR	LR		
	comp=E,85nm,39.2s,MS3.8						
SSE				LR	LR		
	comp=Z,61nm,17.4s						
SSE	**Sheshan**	**68.80**	**318**	*e*P	**P**	**05 16 41.2**	**-0.2**
	comp=Z,28nm,0.7s,mb5.3						
SSE				pP	pP	05 16 50.5	-1.3
SSE				sP	sP	05 16 53.8	-1.7
SSE				PcP	PcP	05 17 04.7	-1.3
SSE				PP	PP	05 19 09.5	-6.3
SSE				S	S	05 25 44.0	+2.6
SSE				sS		05 26 00.9	
SSE				ScS	ScS	05 26 39.0	+3.6
SSE				SS	SS	05 30 24.1	+16
SSE				LR	LR		
	comp=Z,60nm,17.4s,MS3.9						
ASAJ	**Asahikawa**	**68.98**	**340**	P	**P**	**05 16 42.6**	**+0.3**
	comp=Z,16nm,0.9s,mb4.9,baz=251,slow=15,SNR=7.5						
QSPA	**South Pole Qui**	**69.05**	**180**	*e*P	**P**	**05 16 41.9**	**-0.2**
	comp=Z,29nm,1.0s,mb5.2						
NJ2	**Nanjing**	**70.92**	**317**	*e*P	**P**	**05 16 54.5**	**+0.1**
NJ2				AP	pP	05 17 05.4	+0.7
NJ2				XP	sP	05 17 09.0	+0.6
NJ2				PP	PP	05 19 32.1	-1.7
NJ2				S	S	05 26 03.0	-3.2
NJ2				XS		05 26 20.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,600nm,4.8s						
NJ2				LR	LR		
	comp=N,440nm,17.4s,MS4.9						
NJ2				LR	LR		
	comp=E,290nm,14.8s,MS4.9						
YSS	**Yuzh-Sakhalins**	**71.49**	**342**⇑	*e*P	**P**	**05 16 58.7**	**+1.2**
YSS				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
WHN	**Wuhan**	**72.94**	**313**	*e*P	**P**	**05 17 05.8**	**-0.7**
MDJ	**Mudanjiang**	**74.30**	**332**	P	**P**	**05 17 14.5**	**+0.5**
MDJ				AP	pP	05 17 24.3	-0.1
MDJ				PCP	PcP	05 17 28.4	-0.7
MDJ				PP	PP	05 20 01.3	-0.7
MDJ				S	S	05 26 48.2	+3.8
MDJ				XS		05 27 04.0	
MDJ				SCS	ScS	05 27 23.2	+4.5
MDJ				SS	SS	05 31 37.0	+4.3
MDJ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,44nm,5.5s						
MDJ				LR	LR		
	comp=N,99nm,48.4s						
MDJ				LR	LR		
	comp=E,39nm,33.0s						
MDJ				LR	LR		
	comp=Z,49nm,24.2s						
MDJ	**Mudanjiang**	**74.30**	**332**	*e*P	**P**	**05 17 14.0**	**-0.1**
	comp=Z,4.5nm,0.8s,mb4.5						
CN2	**Changchun**	**75.55**	**329**	*e*P	**P**	**05 17 23.0**	**+1.7**
GYA	**Guiyang**	**76.17**	**306**⇑	*i*P	**P**	**05 17 25.8**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
ENH	**Enshi**	**76.17**	**310**	*e*P	**P**	**05 17 24.1**	**-1.0**
	comp=Z,4.3nm,0.5s,mb4.6						
MAW	**Mawson**	**76.48**	**202**⇑	*i*P	**P**	**05 17 26.9**	**+0.8**
	comp=Z,8.5nm,0.9s,mb4.7						
MAW	**Mawson**	**76.48**	**202**	P	**P**	**05 17 26.6**	**+0.5**
	comp=Z,9.3nm,0.8s,mb4.8,baz=112,slow=7.6,SNR=19						
KLR	**Kul'dur**	**77.15**	**336**	*e*P	**P**	**05 17 27.2**	**-3.1**
NANT	**Nan**	**77.16**	**296**	P	**P**	**05 17 30.0**	**-0.9**
CHRT	**Chiangrai**	**78.42**	**297**	⇑P	**P**	**05 17 39.0**	**+1.2**
	comp=Z,132nm,1.1s,mb5.8						
KMI	**Kunming**	**78.52**	**303**	P	**P**	**05 17 39.8**	**+1.5**
KMI				AP	pP	05 17 49.8	+1.1
KMI				XP	sP	05 17 53.3	+1.0
KMI				PP	PP	05 20 42.1	+4.2
KMI				S	S	05 27 35.4	+4.5
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,107nm,4.7s						
KMI				LR	LR		
	comp=N,105nm,16.3s,MS4.4						
KMI				LR	LR		
	comp=E,115nm,15.2s,MS4.4						
KMI				LR	LR		
	comp=Z,121nm,14.1s,MS4.4						
KMI	**Kunming**	**78.52**	**303**	P	**P**	**05 17 39.8**	**+1.5**
	comp=Z,24nm,1.1s,mb5.0						
KMI				pP	pP	05 17 49.8	+1.1
KMI				sP	sP	05 17 53.3	+1.0
KMI				PP	PP	05 20 42.1	+4.2
KMI				S	S	05 27 35.4	+4.5
KMI				SS	SS	05 32 44.0	+6.5
KMI				SSS	SSS	05 36 01.8	+5.8
KMI				LR	LR		
	comp=Z,120nm,14.1s,MS4.4						
CHG	**Chiang Mai**	**78.65**	**295**	⇓P	**P**	**05 17 40.2**	**+1.1**
	comp=Z,21nm,0.8s,mb5.1						
CD2	**Chengdu**	**80.67**	**308**	P	**P**	**05 17 50.4**	**+0.6**
HHC	**Hu-ho-hao-te**	**81.03**	**320**	*e*P	**P**	**05 17 52.9**	**+1.4**
HHC				AP	pP	05 18 05.0	+3.0
HHC				XP	sP	05 18 11.2	+5.6
HHC				PP	PP	05 21 01.6	+2.9
HHC				S	S	05 27 57.9	+0.9
HHC				SKS	SKS	05 28 03.8	+0.8
HHC				SS	SS	05 33 19.0	+4.1
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,102nm,4.4s						
HHC				LR	LR		
	comp=N,178nm,15.5s,MS4.7						
HHC				LR	LR		
	comp=E,213nm,16.7s,MS4.7						
HHC				LR	LR		
	comp=Z,139nm,14.3s,MS4.5						
SYO	**Syowa Base**	**83.00**	**196**	⇑P	**P**	**05 17 59.5**	**-1.6**
LZH	**Lanzhou**	**83.31**	**313**	*e*P	**P**	**05 18 04.5**	**+1.2**
LZH				AP	pP	05 18 14.5	+0.7
LZH				XP	sP	05 18 18.5	+1.2
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
LZH	**Lanzhou**	**83.31**	**313**	*e*P	**P**	**05 18 04.5**	**+1.2**
	comp=Z,30nm,1.5s,mb5.1						
LZH				pP	pP	05 18 14.5	+0.7
LZH				sP	sP	05 18 18.5	+1.2
SEY	**Seymchan**	**84.62**	**353**⇑	*e*P	**P**	**05 18 09.2**	**-0.1**
SNAA	**Sanae**	**87.36**	**183**	*e*	**P**	**05 18 23.9**	**+1.4**
SNAA	**Sanae**	**87.36**	**183**	*e*	**P**	**05 18 32.2**	**+10**
SNAA	**Sanae**	**87.36**	**183**	*e*	**P**	**05 18 34.4**	**+12**
SNAA	**Sanae**	**87.36**	**183**⇓	*i*P	**P**	**05 18 22.1**	**-0.4**
SNAA				*e*		05 18 23.9	
SNAA				*e*	pP	05 18 32.2	-0.9
SNAA				*e*	pP	05 18 34.4	+1.3
GTA	**Gaotai**	**87.75**	**314**	*e*P	**P**	**05 18 26.6**	**+1.4**
GTA				AP	pP	05 18 36.0	+0.2
GTA				XP	sP	05 18 39.2	0.0
GTA				PP	PP	05 21 55.8	+2.3
GTA				SKS	SKS	05 28 48.8	+0.5
GTA				S	S	05 29 06.4	+3.1
GTA				XS		05 29 22.8	
GTA				SS	SS	05 34 58.6	+4.9
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,106nm,4.6s						
GTA				LR	LR		
	comp=N,91nm,17.2s,MS4.5						
GTA				LR	LR		
	comp=E,148nm,18.3s,MS4.5						
GTA				LR	LR		
	comp=Z,118nm,16.1s,MS4.4						
ULN	**Ulaanbaatar**	**87.80**	**324**	*e*P	**P**	**05 18 25.8**	**+0.6**
	comp=Z,18nm,1.1s,mb5.2						
ULN				*e*pP	pP	05 18 35.8	0.0
ULN	**Ulaanbaatar**	**87.80**	**324**	*e*P	**P**	**05 18 26.1**	**+0.9**
VNA3	**Neumayer Olymp**	**87.98**	**181**⇓	*i*P	**P**	**05 18 25.1**	**-0.4**
VNA3	**Neumayer Olymp**	**87.98**	**181**	*e*	**P**	**05 18 26.9**	**+1.4**
VNA3	**Neumayer Olymp**	**87.98**	**181**	*e*	**P**	**05 18 35.1**	**+10**
VNA3	**Neumayer Olymp**	**87.98**	**181**	*e*	**P**	**05 18 37.8**	**+12**
VNA3	**Neumayer Olymp**	**87.98**	**181**⇑	*i*P	**P**	**05 18 25.1**	**-0.4**
VNA3				*e*		05 18 26.9	
VNA3				*e*	pP	05 18 35.1	-1.0
VNA3				*e*	pP	05 18 37.8	+1.7
VNA3				*e*		05 23 27.3	
SONM	**Songino Array**	**88.14**	**323**	P	**P**	**05 18 27.2**	**+0.3**
	comp=Z,6.9nm,0.9s,mb4.9,baz=135,slow=4.8,SNR=23						
SONM				PKKPbc		05 36 11.5	
	comp=Z,0.7nm,0.8s,baz=209,slow=3.1,SNR=3.7						
SONM				LR	LR	05 56 50.7	
	comp=Z,44nm,19.1s,MS3.9,baz=236,slow=35						
VNA2	**Neumayer--Watz**	**88.26**	**181**	*e*	**P**	**05 18 28.4**	**+1.5**
VNA2	**Neumayer--Watz**	**88.26**	**181**	*e*	**P**	**05 18 36.9**	**+10**
VNA2	**Neumayer--Watz**	**88.26**	**181**	*e*	**P**	**05 18 39.4**	**+13**
VNA2	**Neumayer--Watz**	**88.26**	**181**⇓	*i*P	**P**	**05 18 26.8**	**-0.1**
VNA2				*e*		05 18 28.4	
VNA2				*e*	pP	05 18 36.9	-0.6
VNA2				*e*	pP	05 18 39.4	+1.9
VNA2				*e*		05 23 27.5	
YAK	**Yakutsk**	**88.31**	**343***d*	*i*P	**P**	**05 18 27.4**	**+0.1**
YAK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.3						
VNA1	**Neumayer--Stat**	**88.55**	**181**	*e*	**P**	**05 18 30.4**	**+2.1**
VNA1	**Neumayer--Stat**	**88.55**	**181**	*e*	**P**	**05 18 39.4**	**+11**
VNA1	**Neumayer--Stat**	**88.55**	**181**	*e*	**P**	**05 18 41.7**	**+13**
VNA1	**Neumayer--Stat**	**88.55**	**181**⇓	*i*P	**P**	**05 18 28.5**	**+0.2**
VNA1				*e*		05 18 30.4	
VNA1				*e*	pP	05 18 39.4	+0.5
VNA1				*e*	pP	05 18 41.7	+2.8
BILL	**Bilibino**	**88.81**	**359**	*e*P	**P**	**05 18 29.5**	**-0.1**
BILL				*e*	pP	05 18 39.3	-0.9
BILL				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.3						
CMB	**Columbia Colle**	**88.95**	**48**	*e*P	**P**	**05 18 29.8**	**-1.2**
	comp=Z,11nm,1.2s,mb5.0						
CMB				LR	LR		
	comp=Z,193nm,19.0s,MS4.5						
YBH	**Yreka Blue Hor**	**89.14**	**44**	P	**P**	**05 18 31.5**	**-0.3**
	comp=Z,7.4nm,1.1s,mb5.0,baz=153,slow=4.5,SNR=3.3						
MTUM	**Tungsten Hills**	**89.93**	**50**	*e*P	**P**	**05 18 35.7**	**+0.1**
MTUM				*e*pP	pP	05 18 45.4	-0.8
BOD	**Bodaibo**	**90.56**	**334**	*e*P	**P**	**05 18 37.0**	**-1.0**
BOD				pmax	pmax		
	comp=Z,11nm,1.4s,mb5.0						
ZAK	**Zakamensk**	**91.25**	**324**⇓	*i*P	**P**	**05 18 41.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**92.17**	**18**	P	**P**	**05 18 44.0**	**-1.4**
	comp=Z,0.9nm,0.8s,mb4.2,baz=243,slow=6.4,SNR=7.1						
ELK	**Elko**	**93.72**	**48**	*e*P	**P**	**05 18 52.5**	**-0.5**
ELK				LR	LR		
	comp=Z,89nm,20.0s,MS4.2						
DLBC	**Dease Lake**	**93.99**	**28**	P	**P**	**05 18 53.3**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.5,baz=230,slow=17,SNR=3.0						
NEW	**Newport**	**95.66**	**40**	LR	LR	06 01 40.1	
	comp=Z,49nm,18.0s,MS4.0,baz=232,slow=35						
WMQ	**Urumqi**	**97.83**	**314**	*e*P	**P**	**05 19 12.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,102nm,4.1s						
ANMO	**Albuquerque**	**97.98**	**56**	*i* P	**P**	**05 19 03.6**	**-8.9**
TXAR	**Lajitas Array**	**98.33**	**62**	P	**P**	**05 19 16.4**	**+2.2**
	comp=Z,0.2nm,0.7s,mb3.8,baz=217,slow=6.3,SNR=4.6						
TXAR				LR	LR	05 56 49.2	
	comp=Z,84nm,18.2s,MS4.3,baz=205,slow=31						
TXAR	**Lajitas Array**	**98.33**	**62**	P	**P**	**05 19 16.4**	**+2.2**
TXAR				LR	LR	05 56 49.2	
PDAR	**Pinedale Array**	**98.42**	**48**	P	**P**	**05 19 14.9**	**+0.6**
	comp=Z,0.3nm,0.8s,mb3.9,baz=270,slow=0.9,SNR=2.9						
PDAR				LR	LR	05 56 38.3	
	comp=Z,56nm,19.6s,MS4.1,baz=66,slow=31						
MKAR	**Makanchi Array**	**102.42**	**315**	P	Pdif	05 19 32.3	+0.1
	comp=Z,0.7nm,0.8s,baz=101,slow=6.2,SNR=6.1						
MKAR				PKKPbc		05 35 32.5	
	comp=Z,1.6nm,0.8s,baz=288,slow=3.8,SNR=12						
MKAR	**Makanchi Array**	**102.42**	**315**	P	Pdif	05 19 32.3	+0.1
MKAR				PKKPbc		05 35 32.5	
BVAR	**Borovoye Array**	**111.25**	**320**	PKiKP		05 24 11.9	
	comp=Z,0.4nm,0.5s,baz=135,slow=2.0,SNR=3.9						
ARU	**Arti**	**118.18**	**324**	*e*PKIKP	PKPdf	05 24 37.5	+16
ARCES	**ARCESS Array B**	**126.56**	**345**	PKP	PKPdf	05 24 38.0	+0.3
	comp=Z,8.0nm,0.7s,slow=1.2,SNR=20						
ARCES	**ARCESS Array B**	**126.56**	**345**	PKP	PKPdf	05 24 38.0	+0.2
SJG	**San Juan**	**128.76**	**83**	*e*PKP	PKPdf	05 24 42.1	-1.2
KIV	**Kislovodsk**	**129.80**	**310**	*e*PKIKP	PKPdf	05 24 42.4	-2.2
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN	**Obninsk**	**130.51**	**326**	*i* PKIKP	PKPdf	05 24 46.9	+1.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**131.90**	**337**	PKP	PKPdf	05 24 48.6	+0.5
	comp=Z,3.3nm,0.9s,baz=108,slow=6.0,SNR=7.8						
FINES	**FINESS Array B**	**131.90**	**337**	*i* PKIKP	PKPdf	05 24 49.0	+0.9
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SOC	**Sochi**	**131.98**	**310**	*i* PKIKP	PKPdf	05 24 52.0	+3.3
SOC				*e*		05 27 12.5	
SOC				*e*PPP	PPP	05 30 06.1	+0.9
SOC				*e*SS	SS	05 44 48.3	+2.4
SOC				pmax	pmax		
	comp=N,10.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,23nm,0.7s						
SOC				pmax	pmax		
	comp=Z,16nm,0.7s						
AKASG	**Malin Array Be**	**136.43**	**323**	PKP	PKPdf	05 24 56.7	-0.1
	comp=Z,2.8nm,0.9s,baz=66,slow=2.1,SNR=7.0						
NB2	**NORSAR Subarra**	**136.93**	**344**	PKPdf	PKPdf	05 24 59.3	+1.9
	comp=Z,5.4nm,1.2s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**136.93**	**344**	PKP	PKPdf	05 24 57.5	0.0
	comp=Z,2.9nm,0.8s,baz=33,slow=1.9,SNR=9.7						
NOA	**NORSAR Array B**	**136.93**	**344**	PKP	PKPdf	05 24 57.5	0.0
BRTR	**Keskin Array B**	**137.22**	**306**	PKP	PKPdf	05 25 01.1	+2.5
	comp=Z,1.5nm,0.9s,slow=1.2,SNR=4.1						
KOLS	**Kolonicke sedl**	**141.20**	**324**	*e*PKP	PKPdf	05 25 07.2	+1.7
STHS	**Stebnicka Huta**	**141.48**	**325**	*e*PKP	PKPdf	05 25 08.7	+2.8
OKC	**Ostrava-Krasne**	**142.82**	**328**	*e*PKP	PKPdf	05 25 13.3	+5.1
DPC	**Dobruska-Polom**	**143.36**	**330**	*e*PKP	PKPdf	05 25 07.2	-1.9
UPC	**Upice**	**143.40**	**330**	*e*PKP	PKPdf	05 25 07.6	-1.5
VRAC	**Vranov**	**143.93**	**328**	*e*PKP	PKPdf	05 25 11.0	+0.9
PVCC	**Panska Ves**	**144.04**	**331**	*e*PKP	PKPdf	05 25 10.0	-0.2
BRG	**Berggiesshubel**	**144.07**	**332**	*e*P	PKPbc	05 25 10.2	+0.6
BRG				*e*		05 25 22.6	
BRG	**Berggiesshubel**	**144.07**	**332**	*e*PKIKP	PKPdf	05 25 10.1	-0.2
BRG				pmax	pmax		
	comp=Z,18nm,1.1s						
BRG	**Berggiesshubel**	**144.07**	**332**	*e*PKIKP	PKPdf	05 25 10.2	-0.1
BRG				*e*		05 25 22.6	
BRG				pmax	pmax		
	comp=Z,18nm,1.1s						
BRG				pmax	pmax		
	comp=Z,22nm,1.6s						
CLL	**Collm**	**144.15**	**333**	*i* PKIKP	PKPdf	05 25 09.5	-0.9
	comp=Z,logA/T=1.4						
CLL				*i* *PPKP		05 25 20.3	
CLL	**Collm**	**144.15**	**333**	*i* PKIKP	PKPdf	05 25 09.5	-0.9
CLL				*i*		05 25 20.3	
CLL				pmax	pmax		
	comp=Z,23nm,1.0s						
ZST	**Bratislava**	**144.40**	**326**	*e*PKP	PKPdf	05 25 12.0	+1.0
PRU	**Pruhonice**	**144.44**	**331**	*e*PKP	PKPdf	05 25 11.3	+0.3
TREC	**Trest**	**144.48**	**329**	*e*PKP	PKPdf	05 25 11.4	+0.3
GRUS	**Gruza**	**144.78**	**318**	*e*PKP	PKPdf	05 25 12.7	+0.9
CLZ	**Clausthal**	**144.79**	**336**	*e*PKIKP	PKPdf	05 25 12.5	+1.0
DIVS	**Divcibare**	**145.12**	**319**⇓	*i*PKP	PKPdf	05 25 14.1	+1.7
NKC	**Novy Kostel**	**145.19**	**333**	*e*PKP	PKPdf	05 25 13.9	+1.6
NKC				*e*pPKP		05 25 22.3	
SKO	**Skopje**	**145.22**	**314**	*i* PKP	PKPdf	05 25 14.0	+1.4
MOX	**Moxa**	**145.23**	**334**⇓	*i*P	PKPdf	05 25 13.9	+1.6
	comp=Z,logA/T=1.7						
MOX				pPKP		05 25 24.0	
MOX	**Moxa**	**145.23**	**334**⇓	*e*PKP	PKPdf	05 25 13.9	+1.6
MOX				*e*pPKP		05 25 23.8	
MOX	**Moxa**	**145.23**	**334**	*e*PKIKP	PKPdf	05 25 13.9	+1.6
MOX				*e*		05 25 23.8	
MOX				pmax	pmax		
	comp=Z,64nm,1.3s						
WIT	**Witteveen**	**145.26**	**340**	*e*PKP	PKPdf	05 25 14.7	+2.4

	comp=Z,389nm,1.4s						
KHC	Kasperske Hory	145.49	330	*e*PKP	PKPdf	05 25 14.4	+1.6
KHC				*e*pPKP		05 25 23.4	
KHC				x	x	05 25 38.0	
KHC	Kasperske Hory	145.49	330	*e*PKP	PKPdf	05 25 14.4	+1.6
KHC				*e*		05 25 23.4	
KHC				*e*		05 25 38.0	
GEC2	GERESS Array S	145.64	330	*e*PKP2	PKPab	05 25 15.0	-0.7
GERES	GERESS Array B	145.64	330	PKPbc	PKPbc	05 25 14.7	+0.9
	comp=Z,16nm,0.8s,baz=45,slow=3.8,SNR=113						
WET	Wettzell	145.80	331	*e*PKP2	PKPab	05 25 15.2	-1.2
ARSA	Arzberg	145.82	326	⇓*i*P	PKPdf	05 25 15.8	+2.3
WTSB	Winterswijk	145.94	340	*e*PKP	PKPdf	05 25 15.8	+2.2
	comp=Z,37nm,1.2s						
MOA	Molln	146.06	328	⇑*i*P	PKPdf	05 25 16.4	+2.5
GRF	Grafenberg Arr	146.12	333	*e*PKP	PKPdf	05 25 16.7	+2.8
PERS	Pernice	146.43	326	*e*PKPbc	PKPbc	05 25 17.3	+1.5
TNS	Taunus Mts	146.81	336	*e*PKP2	PKPab	05 25 18.7	-1.5
KBA	Koelnbreinsper	147.04	328	⇑*i*P	PKPdf	05 25 18.8	+3.3
SIND	Sindeldorf	147.06	334	⇓*e*P	PKPdf	05 25 19.4	+3.9
BOJS	Bojanci	147.08	324	*e*PKPdf	PKPdf	05 25 14.1	-1.5
BOJS				*e*PKPbc	PKPdf	05 25 19.7	+4.1
VISS	Visnje	147.12	325	*e*PKPdf	PKPdf	05 25 12.8	-2.9
VISS				*e*PKPbc	PKPdf	05 25 19.5	+3.8
TOD	Tromm	147.17	335	⇓*e*P	PKPdf	05 25 19.7	+4.0
TOD	Tromm	147.17	335	PKP	PKPdf	05 25 19.8	+4.1
HGN	Heimansgroeve	147.25	339	*e*PKP	PKPdf	05 25 19.3	+3.6
	comp=Z,41nm,1.3s						
SWS	Schriesheim	147.31	335	*e*P	PKPdf	05 25 19.9	+4.0
HDH	Heidenheim	147.40	333	*e*P	PKPdf	05 25 20.3	+4.2
ABH	Alteburg	147.43	337	⇓*e*P	PKPdf	05 25 20.8	+4.7
VOJS	Vojsko	147.47	326	*e*PKPbc	PKPdf	05 25 19.9	+3.7
DLF	Lyons Farm	147.54	354	⇓*i*P	PKPdf	05 25 18.8	+2.7
DCN	Croghan	147.56	355	⇓*i*P	PKPdf	05 25 18.8	+2.6
STU	Stuttgart	147.68	334	*e*PKP	PKPdf	05 25 17.5	+1.0
KTD	Kalmit	147.68	336	*e*P	PKPdf	05 25 21.2	+4.7
WTTA	Wattenberg	147.74	330	⇓*i*P	PKPdf	05 25 16.8	+0.2
LBG	Lerchenberg	147.92	334	*e*P	PKPdf	05 25 22.0	+5.1
MOTA	Moosalm	147.93	330	⇑*i*P	PKPdf	05 25 18.4	+1.4
LANF	Langenberg	148.06	336	PKP	PKPdf	05 25 22.4	+5.3
WLF	Walferdange	148.11	338	*e*PKPbc	PKPdf	05 25 21.9	+4.7
UBR	Uberruh	148.13	332	⇓*e*P	PKPdf	05 25 22.1	+4.8
GIVF	Givet	148.19	340	*e*PKP1	PKPdf	05 25 21.9	+4.6
	comp=Z,165nm,1.0s						
GUT	Gutenstein	148.26	333	⇓*e*P	PKPdf	05 25 22.3	+4.8
SPAK	Spaichingen	148.37	334	*e*P	PKPdf	05 25 22.5	+4.9
BFO	Black Forest	148.38	334	*e*PKP2	PKPab	05 25 22.5	-4.0
BAIF	Baives	148.42	340	*e*PKP1	PKPdf	05 25 22.6	+5.0
	comp=Z,134nm,1.1s						
DAVA	Damuels	148.53	331	⇓*i*P	PKPdf	05 25 23.3	+5.4
WLS	Welschbruch	148.70	335	PKP	PKPdf	05 25 23.7	+5.5
CDF	Champ du Feu	148.73	335	*e*PKP1	PKPdf	05 25 23.2	+5.0
	comp=Z,89nm,1.2s						
LIBD	Limburg	148.81	335	*e*P	PKPdf	05 25 23.9	+5.6
KIZ	Kirchzarten	148.84	334	*e*P	PKPdf	05 25 23.8	+5.4
FELD	Feldberg	148.87	334	⇓*e*P	PKPdf	05 25 24.0	+5.6
FELD	Feldberg	148.87	334	PKP	PKPdf	05 25 23.9	+5.5
ECH	Echery	148.94	335	PKP	PKPdf	05 25 23.9	+5.4
MOF	Molkenrain	149.24	335	PKP	PKPdf	05 25 24.5	+5.5
THEF	They Montfort	149.37	337	PKP	PKPdf	05 25 25.4	+6.2
HINF	Hinteralfeld	149.38	335	*e*PKP1	PKPdf	05 25 24.7	+5.4
BBS	Basel-Blauen	149.40	334	PKP	PKPdf	05 25 25.0	+5.7
MEZF	Maizieres J'vi	149.48	338	*e*PKP1	PKPdf	05 25 25.6	+6.2
	comp=Z,246nm,1.1s						
TIP	Timpagrande	149.67	313	*e*PKP	PKPdf	05 25 21.3	+1.3
LOMF	Lomont	149.77	335	PKP	PKPdf	05 25 26.7	+6.8
CABF	La Chapelle	150.67	335	*e*PKP1	PKPdf	05 25 28.5	+7.2
	comp=Z,119nm,1.1s						
FLN	La Foliniere	150.91	345	*e*PKP1	PKPdf	05 25 28.2	+6.6
	comp=Z,146nm,0.9s						
FLN				*e*R			
	comp=Z,45nm,21.8s						
LOR	Lormes	150.95	338	*e*PKP1	PKPdf	05 25 28.7	+7.0
	comp=Z,84nm,1.0s						
LOR				*e*R			
	comp=Z,50nm,21.2s						
LDF	La Druitiere	150.98	344	*e*PKP1	PKPdf	05 25 28.3	+6.6
	comp=Z,106nm,1.1s						
SSF	Saint Saulge	151.25	338	*e*PKP1	PKPdf	05 25 29.4	+7.2
	comp=Z,90nm,1.0s						
LPL	La Plagne	151.28	333	*e*PKP1	PKPdf	05 25 30.0	+7.8
	comp=Z,63nm,1.0s						
LPG	La Plagne	151.28	332	*e*PKP1	PKPdf	05 25 30.1	+7.8
	comp=Z,59nm,0.9s						
GRR	Gorron	151.35	345	*e*PKP1	PKPdf	05 25 29.4	+7.1
	comp=Z,78nm,1.0s						
HYF	Humbligny	151.37	339	*e*PKP1	PKPdf	05 25 30.0	+7.7
SMF	Signal de Mont	151.49	337	*e*PKP1	PKPdf	05 25 29.7	+7.2
	comp=Z,54nm,1.0s						
AVF	Avril sur Loir	151.54	338	*e*PKP1	PKPdf	05 25 29.6	+7.0
	comp=Z,55nm,1.1s						
BNI	Bardonecchia	151.66	332	*e*PKPdf	PKPdf	05 25 23.5	+0.7
BNI				*e*PKPbc	PKPdf	05 25 30.6	+7.7
GDM	Grand'Maison	151.79	333	PKP	PKPdf	05 25 31.6	+8.6
SGMF	Saint Gilles	151.86	347	*e*PKP1	PKPdf	05 25 30.2	+7.2
	comp=Z,98nm,1.0s						
MBDF	Montbardon	151.88	331	*e*PKP1	PKPdf	05 25 30.8	+7.6
	comp=Z,29nm,1.0s						
GRN	Grenoble	151.91	333	PKP	PKPdf	05 25 31.9	+8.7
BGF	Bois d'Agland	151.92	338	*e*PKP1	PKPdf	05 25 30.9	+7.7
	comp=Z,54nm,0.9s						
ROSF	Rostrenen	151.93	348	*e*PKP1	PKPdf	05 25 30.2	+7.1
	comp=Z,66nm,1.1s						
SURF	Saint Ours	152.05	331	PKP	PKPdf	05 25 32.4	+9.0
ORIF	Oris-en-Rattie	152.12	333	*e*PKP1	PKPdf	05 25 31.5	+8.0
	comp=Z,53nm,0.8s						
ORIF				*e*R			
	comp=Z,44nm,22.2s						
AUTN	L'Aution	152.14	330	PKP	PKPdf	05 25 32.1	+8.5
PLDF	La Plantade	152.15	337	PKP	PKPdf	05 25 33.1	+10
TOUF	Mont Tournerai	152.21	330	PKP	PKPdf	05 25 31.9	+8.2
SBF	Sospel	152.24	330	*e*PKP1	PKPdf	05 25 31.4	+7.7
	comp=Z,61nm,1.1s						
AGO	Saint Agoulin	152.25	338	PKP	PKPdf	05 25 33.3	+10
QUIF	Quistinic	152.31	348	*e*PKP1	PKPdf	05 25 31.0	+7.3
	comp=Z,34nm,1.0s						
TCF	Toulx Ste Croi	152.37	339	*e*PKP1	PKPdf	05 25 31.8	+8.0
	comp=Z,58nm,1.0s						
PGF	Pioggiola	152.41	326	*e*PKP1	PKPdf	05 25 32.0	+8.0
	comp=Z,104nm,1.1s						
CALN	Calern	152.58	330	PKP	PKPdf	05 25 32.8	+8.6
VIVF	Saint-Julien-l	152.67	334	*e*PKP1	PKPdf	05 25 32.7	+8.4
	comp=Z,46nm,0.9s						
MFF	Saint Martin d	152.81	342	*e*PKP1	PKPdf	05 25 32.6	+8.2
	comp=Z,49nm,1.1s						
FRF	La Foret Royal	152.84	330	*e*PKP1	PKPdf	05 25 32.8	+8.2
	comp=Z,40nm,1.1s						
SMRF	Simiane la Rot	153.00	332	*e*PKP1	PKPdf	05 25 33.8	+9.0
	comp=Z,70nm,1.1s						
LMR	La Mourre	153.08	330	*e*PKP1	PKPdf	05 25 33.3	+8.4
	comp=Z,42nm,1.1s						
RJF	Les Rejaudoux	153.46	339	*e*PKP1	PKPdf	05 25 34.3	+8.9
	comp=Z,34nm,1.1s						
RJF				*e*R			
	comp=Z,38nm,22.5s						
LASF	Ste Croix	153.65	334	*e*PKP1	PKPdf	05 25 34.9	+9.2
	comp=Z,25nm,0.9s						
LFF	La Frestale	154.04	340	*e*PKP1	PKPdf	05 25 35.6	+9.4
MTLF	Montolieu	154.91	336	*e*PKP1	PKPdf	05 25 37.4	+10
	comp=Z,10nm,0.9s						
EPF	Esparros	155.87	338	*e*PKP1	PKPdf	05 25 39.8	+11
ETSF	Etsaut	156.29	339	*e*PKP1	PKPdf	05 25 41.6	+12
SJPF	Ste Jean	156.31	341	*e*PKP1	PKPdf	05 25 42.8	+14
DBIC	Dimbokro	164.30	206	PKPab	PKPab	05 26 35.1	-0.3
	comp=Z,7.8nm,1.0s,baz=167,slow=3.0,SNR=5.1						
MDT	Midelt	166.69	333	PKP	PKPdf	05 25 42.2	+1.6
	comp=Z,2.1nm,1.1s,baz=276,slow=4.3,SNR=3.7						

*NEIC **10** 05:07:28.9, 63.05N×150.95W, h124^{km}, MG3.4(AEIC), After AEIC.*
*IDC **10** 05:07:28.8±5.4, 63.18N×151.20W, h128^{km}±42^{km}, mb3.3/5, mb1 3.4/8, mb1mx3.3/21, mbtmp3.6/8, Error ellipse: s-maj=56.0km s-min=19.9km az=44.0*
ISC 10 05:07:27.5±0.3**, 63.02N**±0.02×**150.94W**±0.07**, h134**^{km}±4^{km}**, n57,** σ0^{s}82/73**, mb3.5**/5**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.53	1	P	P	05 07 47.7	+0.3
KTH				S	S	05 08 01.5	-1.0
HUR	Hurricane	0.60	94	P	P	05 07 48.1	+0.4
CUT	Chulitna	0.69	153	P	P	05 07 49.0	+0.6
RND	Reindeer	1.02	67	P	P	05 07 51.6	+0.5
MCK	McKinley	1.15	51	P	P	05 07 52.9	+0.5
MCK				S	S	05 08 10.7	-0.8
BWN	Browne	1.33	29	P	P	05 07 55.2	+0.8
GHO	Glory Hole Cre	1.57	142	P	P	05 07 58.0	+1.0
GHO				S	S	05 08 20.4	+0.8
STLK	Strandline Lak	1.58	196	P	P	05 07 57.5	+0.3
STLK				S	S	05 08 20.2	+0.2
PMR	Palmer	1.67	149	*e*P	P	05 07 58.5	+0.4
SML	Sawmill	1.72	134	P	P	05 07 59.1	+0.4
NEA	Nenana	1.77	27	P	P	05 07 59.2	-0.1
BGL	Barrier Glacie	1.89	202	P	P	05 08 02.1	+1.3
FIB	Fire Island	1.90	169	P	P	05 08 02.1	+1.3
SPU	Mount Spurr	1.92	196	P	P	05 08 01.3	+0.3
SPU				S	S	05 08 26.4	-0.3
WRH	Wood River Hil	1.93	40	P	P	05 08 01.4	+0.2
CKL	Chakachamna La	1.95	200	P	P	05 08 02.2	+0.8
KNK	Knik Glacier	1.99	143	P	P	05 08 02.7	+0.8
RC01	Rabbit Creek A	2.02	163	P	P	05 08 03.1	+0.8
RC01				S	S	05 08 28.4	-0.4
SCM	Sheep Creek Mo	2.06	124	P	P	05 08 03.0	+0.2
SCM				S	S	05 08 30.5	+0.7
CCB	Clear Creek Bu	2.14	39	P	P	05 08 03.9	0.0
MDM	Murphy Dome	2.28	30	P	P	05 08 05.6	-0.1
MDM				S	S	05 08 35.3	+0.5
COLA	College	2.31	35	P	P	05 08 05.9	-0.1
TTA	Tatalina	2.32	270	*e*P	P	05 08 05.8	-0.4
TT01	Tatalina	2.32	269	P	P	05 08 05.9	-0.3
CFI	College Fiord	2.37	140	P	P	05 08 07.4	+0.5
THY	Trims Highway	2.38	78	P	P	05 08 08.4	+1.4
PAX	Paxson	2.50	89	P	P	05 08 09.2	+0.7
IL1	Eielson Array	2.51	44	P	P	05 08 08.6	-0.1
ILAR	Eielson Array	2.51	44	P	P	05 08 08.4	-0.2
	6.0nm,0.3s,baz=227,slow=12,SNR=234						
ILAR				S	S	05 08 39.8	-0.2
	4.6nm,0.3s,baz=223,slow=16,SNR=8.8						
SDG	Sourdough	2.53	99	P	P	05 08 09.7	+0.8
SLKM	Skilak Lake	2.55	172	P	P	05 08 09.9	+0.8
SLKM				S	S	05 08 39.8	-1.0
MPA	Moose Pass	2.65	163	P	P	05 08 10.6	+0.1
MPA				S	S	05 08 41.2	-1.9
RSO	Redoubt South	2.71	199	*e*P	P	05 08 11.7	+0.4
KLU	Klutina	2.81	121	P	P	05 08 12.1	-0.4
GLI	Glacier Island	2.81	138	P	P	05 08 12.7	+0.1
GLI				S	S	05 08 47.0	0.0
VLZ	Valdez	2.88	129	P	P	05 08 12.7	-0.8
VLZ				S	S	05 08 46.6	-1.9
SVW2	Sparrevohn	2.92	231	*e*P	P	05 08 13.8	-0.1
SEW	Seward	3.01	166	P	P	05 08 15.2	-0.1
SEW				S	S	05 08 50.2	-1.3
DIV	Divide	3.08	126	P	P	05 08 15.3	-0.9
DIV				S	S	05 08 51.6	-1.6
DOT	Dot Lake	3.17	75	P	P	05 08 16.9	-0.3
IM3	Indian Mountai	3.21	339	P	P	05 08 17.2	-0.7
IMA	Indian Mountai	3.28	340	*e*P	P	05 08 17.4	-1.4
MENT	Mentasta	3.30	88	*e*P	P	05 08 19.1	+0.1
LTI	Latouche	3.34	152	P	P	05 08 18.9	-0.6
CNPM	China Poot	3.51	182	P	P	05 08 22.2	+0.4
BMRM	Bremner River	3.63	122	P	P	05 08 23.1	-0.3
GLB	Gilahina Butte	3.69	112	P	P	05 08 24.2	0.0
GLB				S	S	05 09 05.9	-1.8
COLD	Coldfoot	4.24	4	P	P	05 08 31.3	-0.2
BALM	Baldy	4.51	112	P	P	05 08 34.8	-0.4
BM3	Burnt Mountain	5.16	28	P	P	05 08 43.4	-0.3
INK	Inuvik	8.91	46	P	P	05 09 34.4	+0.2
	0.1nm,0.3s,baz=254,slow=16,SNR=3.0						
YKA	Yellowknife Ar	16.51	76	P	P	05 11 13.6	+1.7
	0.1nm,0.3s,baz=286,slow=9.7,SNR=3.0						
PDAR	Pinedale Array	31.34	111	P	P	05 13 38.8	+1.8
	0.5nm,0.8s,mb3.3,baz=315,slow=4.2,SNR=4.2						
TXAR	Lajitas Array	45.25	115	P	P	05 15 34.3	+1.6
	0.3nm,0.5s,mb3.2,baz=325,slow=7.8,SNR=5.0						
BVAR	Borovoye Array	59.84	333	P	P	05 17 19.4	-1.1
	0.8nm,0.6s,mb3.7,baz=45,slow=8.4,SNR=5.0						
MKAR	Makanchi Array	62.68	322	P	P	05 17 37.9	-1.7
	0.5nm,0.4s,mb3.7,baz=46,slow=7.8,SNR=7.0						
AKASG	Malin Array Be	66.62	360	P	P	05 18 03.5	-1.3
	0.7nm,0.5s,mb3.8,baz=360,slow=6.0,SNR=7.1						

*IDC **10** 06:34:55.9±5.1, 13.21S×166.84E, h152^{km}±47^{km}, mb3.4/5, mb1 3.6/6, mb1mx3.5/15, mbtmp3.9/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/14, Error ellipse: s-maj=37.6km s-min=29.6km az=82.0*
*NEIC **10** 06:34:56.4±3.0, 13.24S×166.82E, h157^{km}±27^{km}, mb4.1/1, Error ellipse: s-maj=30.9km s-min=22.7km az=74.0*
ISC 10 06:34:57.0±3.8**, 13.4S**±0.2×**166.7E**±0.3**, h174**^{km}±34^{km}**, n8,** σ**1^{s}06**/8**, mb3.5**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.64	182	P	P	06 37 00.5	+0.9
	1.5nm,0.3s,baz=7.2,slow=24,SNR=26						
DZM				S	S	06 38 34.6	-0.8
	1.7nm,0.3s,baz=132,slow=21,SNR=8.9						
STKA	Stephens Creek	29.48	227	LR	LR	06 52 07.9	
	comp=Z,100nm,19.9s,baz=204,slow=35						
WRA	Warramunga Arr	31.67	254	P	P	06 41 05.8	-0.5
	0.3nm,0.6s,mb3.2,baz=84,slow=9.1,SNR=5.9						
VNDA	Vanda	64.18	181	P	P	06 45 15.0	+0.2
	0.3nm,0.6s,mb3.3,baz=360,slow=7.5,SNR=3.4						
QSPA	South Pole Qui	76.63	180	*e*P	P	06 46 30.3	+0.8
	3.1nm,0.7s,mb4.0						
SONM	Songino Array	81.11	324	P	P	06 46 54.5	+0.2
	0.3nm,0.5s,mb3.2,baz=140,slow=6.1,SNR=5.1						
ILAR	Eielson Array	85.42	18	P	P	06 47 14.3	-1.3
	0.5nm,0.6s,mb3.4,baz=236,slow=5.3,SNR=9.1						
MKAR	Makanchi Array	95.87	317	P	P	06 48 05.4	+0.5
	0.6nm,0.5s,mb4.2,baz=84,slow=6.4,SNR=7.0						

*NEIC **10** 06:44:11.3±4.5, 4.50S×153.37E, h147^{km}±28^{km}, mb4.3/1, Error ellipse: s-maj=58.2km s-min=19.6km az=96.0*
*IDC **10** 06:44:11.6±7.3, 4.52S×153.36E, h151^{km}±53^{km}, mb3.6/5, mb1 3.8/6, mb1mx3.6/15, mbtmp4.1/6, MS3.0/4, Ms1 3.0/4, ms1mx2.8/24, Error ellipse: s-maj=68.0km s-min=28.9km az=95.0*
ISC 10 06:44:09.3±5.1**, 4.5S**±0.2×**153.5E**±0.3**, h150**^{km}±39^{km}**, n11,** σ**0^{s}70**/9**, mb3.9**/6**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.94	232	P	P	06 46 02.8	0.0
	6.1nm,0.3s,baz=61,slow=8.5,SNR=12						
PMG				S	S	06 47 31.3	0.0
	2.4nm,0.3s,baz=138,slow=20,SNR=9.6						
PMG				LR	LR	06 49 14.2	
	comp=Z,36nm,19.7s,baz=94,slow=39						
HNR	Honiara	8.06	128	LR	LR	06 48 57.9	
	comp=Z,74nm,21.4s,baz=132,slow=35						
CTA	Charters Tower	17.00	204	LR	LR	06 53 15.8	
	comp=Z,72nm,20.8s,baz=235,slow=32						
WRAB	Tennant Creek	24.13	229	P	P	06 49 13.1	+0.4
	3.7nm,0.4s,mb4.3						
WB2	Warramunga Arr	24.13	229	*e*P	P	06 49 13.6	+0.8
WRA	Warramunga Arr	24.14	229	P	P	06 49 13.4	+0.5
	2.7nm,0.5s,mb4.0,baz=54,slow=9.9,SNR=45						
STKA	Stephens Creek	29.41	201	P	P	06 50 00.5	-0.5
	3.2nm,1.0s,mb4.0,baz=20,slow=12,SNR=3.7						
FITZ	Fitzroy Crossi	30.39	241	P	P	06 50 08.2	-1.5
	1.6nm,0.3s,mb4.2,baz=29,slow=7.6,SNR=8.2						
JNU	Nakatsue	43.13	332	LR	LR	07 08 16.1	
	comp=Z,40nm,18.5s,baz=181,slow=34						
SONM	Songino Array	66.45	327	P	P	06 54 44.3	-0.5
	0.3nm,0.5s,mb3.4,baz=142,slow=5.9,SNR=4.3						
MKAR	Makanchi Array	80.56	319	P	P	06 56 07.2	+0.7
	0.5nm,0.5s,mb3.4,baz=115,slow=7.7,SNR=4.4						

*NEIC **10** 06:45:13.7, 38.55S×177.63E, h43^{km}, ML3.9(WEL), After WEL.*
WEL 10 06:45:13.7±0.1**, 38.55S**×**177.63E, h45**^{km}±1^{km}**, ML3.9**/11**, 10C-26D, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MWZ	Matawai	0.23	340	⇓PN	P	06 45 21.2	-0.5
MWZ				SN	S	06 45 27.4	+0.1
MWZ	Matawai	0.23	340	⇓P	P	06 45 21.2	-0.5
MWZ				S	S	06 45 27.4	+0.1
KNZ	Kokohu	0.47	175	⇑PN	P	06 45 24.1	-0.2
KNZ				SN	S	06 45 32.4	+0.6
KNZ	Kokohu	0.47	175	⇑P	P	06 45 24.1	-0.2
URZ	Urewera	0.50	306	⇓PN	P	06 45 24.4	-0.2
URZ				SN	S	06 45 33.0	+0.6
URZ				SN	S	06 45 33.0	+0.6
PUZ	Puketiti	0.69	46	⇓PN	P	06 45 26.9	-0.2
PUZ				SN	S	06 45 37.4	+0.4
PUZ	Puketiti	0.69	46	⇓P	P	06 45 26.9	-0.2
EDRZ	Edgecumbe	0.83	302	⇓PN	P	06 45 28.6	-0.4
EDRZ	Edgecumbe	0.83	302	⇓P	P	06 45 28.6	-0.5
TAZ	Tarawera	0.93	290	PN	P	06 45 30.3	-0.3
TAZ	Tarawera	0.93	290	P	P	06 45 30.3	-0.3
MARZ	Manawahe	0.94	307	⇓PN	P	06 45 29.9	-0.7
MARZ	Manawahe	0.94	307	⇓P	P	06 45 29.9	-0.7
MKRZ	Makatiti	1.00	294	PN	P	06 45 31.9	+0.4
MKRZ	Makatiti	1.00	294	P	P	06 45 31.9	+0.4
BKZ	Black Stump Fm	1.08	235	⇓PN	P	06 45 32.4	-0.2
BKZ				SN	S	06 45 46.7	+0.1
BKZ	Black Stump Fm	1.08	235	⇑P	P	06 45 32.4	-0.2
WIZ	White Island	1.08	341	PN	P	06 45 31.5	-1.1
WIZ	White Island	1.08	341	P	P	06 45 31.5	-1.1
PATZ	Paeroa	1.09	279	⇓PN	P	06 45 32.3	-0.4
PATZ	Paeroa	1.09	279	⇓P	P	06 45 32.3	-0.4
LIRZ	Lichensteins R	1.12	299	PN	P	06 45 32.2	-1.0
LIRZ	Lichensteins R	1.12	299	P	P	06 45 32.2	-0.9
MXZ	Matakaoa Point	1.12	29	⇓PN	P	06 45 33.0	-0.2
MXZ	Matakaoa Point	1.12	29	⇓P	P	06 45 33.0	-0.2
UTU	Utuhina	1.19	288	PN	P	06 45 33.3	-0.8
UTU	Utuhina	1.19	288	P	P	06 45 33.3	-0.8
KATZ	Kakaramea	1.57	254	PN	P	06 45 38.8	-0.8
KATZ	Kakaramea	1.57	254	P	P	06 45 38.8	-0.8
PXZ	Pawanui	1.59	202	⇓PN	P	06 45 37.4	-2.6
PXZ				SN	S	06 45 57.5	-1.9
KRVZ	Karewarewa	1.64	250	⇑PN	P	06 45 39.5	-1.1
OTVZ	Oturere	1.65	248	⇑PN	P	06 45 39.8	-1.0
WTVZ	West Tongariro	1.69	250	⇓PN	P	06 45 40.2	-1.1
WTVZ	West Tongariro	1.69	250	⇓P	P	06 45 40.2	-1.1
MOVZ	Moawhango	1.69	239	PN	P	06 45 40.2	-1.1
MOVZ	Moawhango	1.69	239	P	P	06 45 40.2	-1.1
TUVZ	Tukino	1.70	244	PN	P	06 45 40.7	-0.7
TUVZ	Tukino	1.70	244	P	P	06 45 40.7	-0.7
NGZ	Ngauruhoe	1.70	248	PN	P	06 45 40.3	-1.2
NGZ	Ngauruhoe	1.70	248	P	P	06 45 40.3	-1.2
CNZ	Chateau	1.75	248	PN	P	06 45 41.1	-1.0
CNZ	Chateau	1.75	248	P	P	06 45 41.1	-1.0
WPVZ	Whakapapa	1.75	247	PN	P	06 45 41.3	-0.8
WPVZ	Whakapapa	1.75	247	P	P	06 45 41.3	-0.9
WNVZ	Wahianoa	1.76	243	PN	P	06 45 41.2	-1.1
FWVZ	Far West T-bar	1.76	246	PN	P	06 45 41.6	-0.8
FWVZ	Far West T-bar	1.76	246	P	P	06 45 41.6	-0.8
TWVZ	Taurewa	1.79	252	PN	P	06 45 41.8	-0.8
TWVZ	Taurewa	1.79	252	P	P	06 45 41.8	-0.9
MTVZ	Mangateitei	1.88	243	PN	P	06 45 42.9	-1.0
PKVZ	Pokaka	1.93	247	PN	P	06 45 44.4	-0.2
TSZ	Takapari Road	1.98	220	⇓*e*PN	P	06 45 42.8	-2.6
TSZ	Takapari Road	1.98	220	⇓*e*P	P	06 45 42.8	-2.7
BFZ	Birch Farm	2.38	206	⇓PN	P	06 45 47.4	-3.7
BFZ	Birch Farm	2.38	206	⇑P	P	06 45 47.4	-3.7
RAEZ	Rainy Point	2.63	253	*e*PN	P	06 45 53.3	-1.3
RAEZ	Rainy Point	2.63	253	P	P	06 45 54.6	0.0
MRZ	Mangatainoka R	2.63	216	⇓PN	P	06 45 50.7	-4.1
MRZ				SN	S	06 46 21.3	-4.4
MRZ	Mangatainoka R	2.63	216	⇓P	P	06 45 50.7	-4.1
NEZ	North Egmont	2.85	254	⇑PN	P	06 45 57.2	-0.5
NEZ	North Egmont	2.85	254	⇑P	P	06 45 58.0	+0.2
PKE	Pukeiti	2.91	256	PN	P	06 45 58.5	-0.2
PKE	Pukeiti	2.91	256	⇑P	P	06 45 58.5	-0.2
NRZ	Ngariki Road	2.98	254	PN	P	06 45 59.0	-0.8
NRZ	Ngariki Road	2.98	254	P	P	06 45 56.7	-3.0
NWEZ	Newall Road	3.02	255	PN	P	06 46 00.7	+0.4
NWEZ	Newall Road	3.02	255	P	P	06 46 00.7	+0.5
MTW	Mount Morrison	3.08	211	PN	P	06 45 56.1	-5.0
MTW	Mount Morrison	3.08	211	P	P	06 45 56.1	-4.9
KIW	Kapiti Island	3.12	221	⇓PN	P	06 45 57.3	-4.3
KIW	Kapiti Island	3.12	221	⇓P	P	06 45 57.3	-4.3
CAW	Cannon Point	3.23	217	⇓PN	P	06 45 57.9	-5.2
CAW	Cannon Point	3.23	217	⇓P	P	06 45 57.9	-5.2
PAWZ	Paruwai Farm	3.29	210	⇑PN	P	06 45 58.7	-5.4
MSWZ	Moikau Station	3.39	212	P	P	06 45 59.9	-5.6
MRW	Makara Radio	3.50	219	P	P	06 46 01.5	-5.5
BHW	Baring Head	3.55	216	P	P	06 46 01.8	-6.0
SNZO	South Karori	3.55	218	P	P	06 46 02.1	-5.7
TCW	Tory Channel	3.70	223	P	P	06 46 04.3	-5.6
NNZ	Nelson	4.21	229	P	P	06 46 12.2	-4.9
BSWZ	Blackbirch Sta	4.27	221	P	P	06 46 11.4	-6.5
QRZ	Quartz Range	4.54	238	P	P	06 46 16.5	-5.2
THZ	Tophouse	4.83	227	*e*P	P	06 46 19.8	-6.1
DSZ	Denniston Nort	5.48	233	*e*P	P	06 46 28.6	-6.3
LTZ	Lake Taylor	5.87	222	*e*P	P	06 46 32.5	-7.8
RPZ	Rata Peaks	7.16	222	*e*SN	S	06 48 04.7	-15
LBZ	Lake Benmore	8.07	221	PN	P	06 47 03.0	-8.0
LBZ	Lake Benmore	8.07	221	P	P	06 47 03.0	-8.1
ODZ	Otahua Downs	8.32	217	*e*P	P	06 47 05.9	-8.6

CASC 10 06:50:49.0±2.2**, 11.47N**×**85.56W, h4**^{km}±3^{km}**, MD4.1, ML3.7, 7C-3D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MADN	Villa Maderas	0.07	156	⇑*i*P	Pg	06 50 51.3	+0.7
CONN	Concepcion	0.11	325	⇓*i*P	Pg	06 50 51.9	+0.5
SSNN	San Juan del S	0.34	237	*e*P	Pg	06 50 56.1	+0.3
SSNN				*e*S	Sg	06 51 02.9	+2.6
APON	Apoyo	0.66	312	⇓*e*P	Pg	06 51 02.0	-0.2
APON				*e*S	Sg	06 51 12.4	+1.3
TICN	Ticuantepe	0.86	310	*e*P	Pb	06 51 05.5	-0.6
TICN				*e*S	Sg	06 51 20.2	+2.5
CRUN	El Crucero	0.88	305	⇑*e*P	Pb	06 51 06.4	0.0
CRUN				*e*S	Sb	06 51 22.5	+4.2
WILN	Americas 2	0.92	318	*e*P	Pb	06 51 06.0	-1.0
WILN				*e*S	Sb	06 51 19.2	-0.2
MGAN	Managua	0.95	315	⇑*e*P	Pb	06 51 06.7	-0.9
MGAN				*e*S	Sb	06 51 20.2	-0.1
MGAN				*i*		06 51 23.2	
	comp=E,2μm,0.5s						
XAVN	Gruta Xavier	1.00	312	*e*P	Pb	06 51 07.9	-0.7
XAVN				*e*S	Sb	06 51 23.5	+1.5
PYTN	Playitas	1.16	335	⇑*e*P	Pb	06 51 10.2	-1.0
PYTN				*e*S	Sb	06 51 26.5	-0.1
COPN	Copaltepe	1.23	305	*e*P	Pb	06 51 11.2	-1.1
COPN				*e*S	Sb	06 51 27.8	-0.6
FORC	Fortuna	1.33	139	⇑*e*P	Pb	06 51 13.1	-0.9
FORC				*e*S	Sb	06 51 31.9	+0.7
MOMJ	Momotombo	1.33	314	⇑*e*P	Pb	06 51 12.4	-1.8
MOMJ				*e*S	Sb	06 51 30.9	-0.6
MIRN	Miramar	1.48	311	*e*P	Pn	06 51 15.0	-1.5
MIRN				*e*S	Sb	06 51 36.6	+0.9
CNGN	Cerro Negro	1.51	313	⇑*e*P	Pn	06 51 17.2	+0.4
CNGN				*e*S	Sb	06 51 36.6	+0.1
LEON	Leon	1.60	306	*e*P	Pn	06 51 16.8	-1.5
LEON				*e*S	Sb	06 51 39.2	-0.1
TEL3	Telica 3	1.66	311	*e*P	Pn	06 51 17.7	-1.4
TEL3				*e*S	Sb	06 51 41.5	+0.4
JCR	Jicaral	1.67	165	⇓*e*P	Pn	06 51 19.2	0.0
JCR				*e*S	Sb	06 51 40.8	-0.5
TELN	Telica	1.68	312	*e*P	Pn	06 51 18.7	-0.5
CGA2	Cerro Gallo 2	1.81	143	*e*P	Pn	06 51 21.1	0.0
CGA2				*e*S	Sn	06 51 46.1	+1.5
CRIN	San Cristobal	1.90	310	*e*P	Pn	06 51 21.7	-0.8
CRIN				*e*S	Sn	06 51 48.8	+1.8
SJS	Escuela Geolog	2.13	136	*e*S	Sn	06 51 55.1	+2.3
LAJ	Bijagual	2.14	138	*e*P	Pn	06 51 23.9	-1.9
LAJ				*e*S	Sn	06 51 51.1	-2.0
LCR2	La Lucha 2	2.30	138	*e*P	Pn	06 51 27.6	-0.7
BUS	Buena Vista	2.60	137	*e*P	Pn	06 51 33.0	+0.4
BUS				*e*S	Sn	06 52 06.9	+1.9

JMA 10 07:09:31.8±0.5**, 44.01N**×**147.94E, M3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.72	249	P	Pn	07 10 03.1	-0.1
NEM2				*e*S	Sb	07 10 26.3	+0.2
JRA	Rausu	2.04	269	P	Pn	07 10 08.1	+0.4
JRA				*e*S	Sn	07 10 35.0	+0.8
JNK	Nakash	2.37	261	P	Pn	07 10 12.5	0.0
JNK				*e*S	Sn	07 10 42.8	+0.1
JAK	Akkeshi	2.57	248	P	Pn	07 10 15.1	-0.2
JAK				*e*S	Sn	07 10 46.5	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAR	Ashorobuto	3.11	258	P	Pn	07 10 23.5	+0.4
JAR				eS	Sn	07 11 02.9	+1.4
JOB	Onbets	3.19	251	eS	Sn	07 11 03.6	+0.2
JCH	Churui	3.62	249	P	Pn	07 10 30.3	0.0
JCH				eS	Sn	07 11 14.4	0.0
JNBK	Urakawa-nobuka	4.17	247	P	Pn	07 10 39.1	+1.0
JKB	Kayabe	5.50	250	P	Pn	07 10 56.5	-0.4

IGQ 10 07:11:12.3, 2.76S×77.49W, h12km±4km, mb4.6, 1C-4D, Error ellipse: s-maj=7.9km s-min=3.6km az=127.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	1.57	322	⇓P	Pn	07 11 42.2	+2.1
ULBA	Ulba	1.59	325	⇓P	Pn	07 11 42.5	+2.1
RETU	Refugio	1.61	324	P	Pn	07 11 43.8	+3.1
RETU				S	Sn	07 12 04.1	+2.6
RUN5	Runtun	1.62	325	⇓P	Pn	07 11 42.9	+1.9
CUSU	Cusua	1.64	323	⇓P	Pn	07 11 43.3	+2.2
JUIV	Juive	1.64	324	⇑P	Pn	07 11 43.2	+2.1
JUIV				S	Sn	07 12 03.7	+1.3
PISA	Pisayambo	1.91	332	P	Pn	07 11 46.9	+1.9
PISA				S	Sn	07 12 11.1	+2.0
TAMB	Tambo	2.23	337	P	Pn	07 11 51.3	+1.8
VC1	Cotopaxi 1	2.29	337	P	Pn	07 11 52.2	+1.8
CAMI	Rancho Maria	2.30	334	P	Pn	07 11 53.0	+2.4
NAS1	Nasa	2.33	335	P	Pn	07 11 53.5	+2.5
NAS1				S	Sn	07 12 23.9	+4.1
QIL1	Quilotoa	2.38	323	P	Pn	07 11 55.7	+3.9
QIL1				S	Sn	07 12 24.2	+3.0
ANTI	Antisana	2.39	344	P	Pn	07 11 52.4	+0.6
ECOPE	Copete-Rev Vol	2.63	357	P	Pn	07 11 56.9	+1.5
LAV3	Lava3-Reventad	2.65	357	P	Pn	07 11 56.1	+0.6
CONE	Cono NE Rev Vo	2.67	357	P	Pn	07 11 59.5	+3.6
CONE				S	Sn	07 12 31.5	+3.0
JUA2	San Juan 2	2.76	336	P	Pn	07 12 02.8	+5.6
JUA2				S	Sn	07 12 37.9	+7.2
GGP	Refugio Guagua	2.79	337	P	Pn	07 12 02.4	+4.8
TERV	Terraza Guagua	2.79	337	P	Pn	07 12 03.6	+5.9
CAYR	Refugio Cayamb	2.80	349	P	Pn	07 12 00.9	+3.1
CAYR				S	Sn	07 12 35.4	+3.7
PINO	Pino	2.81	337	P	Pn	07 12 03.1	+5.2
YANA	Yana	2.83	338	P	Pn	07 12 02.8	+4.5
YANA				S	Sn	07 12 39.0	+6.4
CAYA	Cayambe	2.85	350	P	Pn	07 12 02.6	+4.1
JOR1	San Jorge 1	2.97	337	P	Pn	07 12 01.9	+1.8
JOR1				S	Sn	07 12 36.7	+0.7
COTA	Cotacachi	3.18	345	P	Pn	07 12 10.7	+7.5
MAG1	Magdalena	3.51	319	P	Pn	07 12 15.8	+8.0
ECEN	Cerro Negro	3.59	352	P	Pn	07 12 14.8	+5.9

BJI 10 07:17:02.6, 23.50S×179.30E, h557km, mB4.4, mb4.3
NEIC 10 07:17:02.6±0.2, 23.53S×179.26E, mb4.9/15, Error ellipse: s-maj=8.0km s-min=5.5km az=105.0
IDC 10 07:17:03.9±0.5, 23.52S×179.17E, h566km±5km, mb3.9/17, mb1 4.0/18, mb1mx4.0/19, mbtmp4.7/18, Error ellipse: s-maj=10.0km s-min=9.2km az=147.0
ISC 10 07:17:01.6±0.7, **23.49S**±0.04×**179.21E**±0.06, **h554**km±9km, **h568**km±4.2km**: pP-P, n173,** σ1^{s}10/129, **mb4.5**/29, **3C-16D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.29	156	P	P	07 18 45.2	+1.3
	139nm,0.3s,baz=70,slow=23,SNR=11						
RAO				S	S	07 20 06.8	+1.7
	51nm,0.3s,baz=73,slow=23,SNR=2.2						
DZM	Mont Dzumac	11.86	274	P	P	07 19 40.2	+1.1
	1.1nm,0.3s,baz=89,slow=15,SNR=17						
OUZ	Omahuta	12.67	201	PN	P	07 19 50.8	+3.5
OUZ	Omahuta	12.67	201	P	P	07 19 50.8	+3.5
AFI	Afiamalu	12.79	43	P	P	07 19 43.8	-4.8
	12nm,0.3s,baz=21,slow=3.8,SNR=22						
AFI				S	S	07 21 55.0	-7.6
	2.4nm,0.3s,baz=252,slow=20,SNR=4.3						
AFI	Afiamalu	12.79	43	eP	P	07 19 43.6	-4.9
	283nm,0.9s						
PUZ	Puketiti	14.56	183	ePN	P	07 20 04.3	-1.9
PUZ				SN	S	07 22 37.5	+2.5
PUZ	Puketiti	14.56	183	eP	P	07 20 05.6	-0.6
URZ	Urewera	14.84	186	P	P	07 20 07.2	-1.7
	9.0nm,0.3s,baz=18,slow=2.7,SNR=40						
URZ				S	S	07 22 39.3	-0.6
	4.3nm,0.3s,baz=158,slow=21,SNR=14						
URZ	Urewera	14.84	186	ePN	P	07 20 07.0	-1.9
URZ				SN	S	07 22 39.2	-0.7
URZ	Urewera	14.84	186	eP	P	07 20 07.4	-1.5
MWZ	Matawai	14.87	185	ePN	P	07 20 07.3	-2.0
MWZ				SN	S	07 22 42.5	+1.9
MWZ	Matawai	14.87	185	eP	P	07 20 09.1	-0.2
KNZ	Kokohu	15.54	184	SN	S	07 22 55.1	+2.6
VRZ	Vera Road	16.04	193	SN	S	07 23 10.0	+8.6
RAEZ	Rainy Point	16.28	193	PN	P	07 20 26.9	+4.0
PKE	Pukeiti	16.28	195	PN	P	07 20 27.2	+4.3
NEZ	North Egmont	16.32	194	PN	P	07 20 27.2	+3.8
NWEZ	Newall Road	16.38	195	PN	P	07 20 28.2	+4.2
PXZ	Pawanui	16.62	186	PN	P	07 20 26.0	-0.2
PXZ				SN	S	07 23 11.8	+0.3
TSZ	Takapari Road	16.75	189	ePN	P	07 20 26.6	-0.9
TSZ	Takapari Road	16.75	189	eP	P	07 20 26.6	-0.9
BFZ	Birch Farm	17.33	188	ePN	P	07 20 32.0	-1.1
BFZ	Birch Farm	17.33	188	eP	P	07 20 32.0	-1.1
MRZ	Mangatainoka R	17.40	189	ePN	P	07 20 32.5	-1.3
MRZ	Mangatainoka R	17.40	189	eP	P	07 20 32.5	-1.3
KIW	Kapiti Island	17.70	191	PN	P	07 20 35.7	-0.9
KIW	Kapiti Island	17.70	191	P	P	07 20 35.7	-1.0
CAW	Cannon Point	17.91	190	PN	P	07 20 38.1	-0.6
MRW	Makara Radio	18.09	191	PN	P	07 20 40.2	-0.2
MRW	Makara Radio	18.09	191	P	P	07 20 40.2	-0.2
TCW	Tory Channel	18.15	192	PN	P	07 20 40.9	-0.1
TCW	Tory Channel	18.15	192	P	P	07 20 40.9	-0.1
SNZO	South Karori	18.17	191	ePN	P	07 20 41.2	0.0
SNZO	South Karori	18.17	191	eP	P	07 20 41.2	0.0
QRZ	Quartz Range	18.18	196	ePN	P	07 20 42.3	+1.0
QRZ	Quartz Range	18.18	196	eP	P	07 20 43.0	+1.7
NNZ	Nelson	18.34	194	PN	P	07 20 43.0	+0.2
NNZ				SN	S	07 23 38.9	-2.1
NNZ	Nelson	18.34	194	P	P	07 20 43.0	+0.2
TUWZ	Tuamarina	18.43	193	PN	P	07 20 43.3	-0.3
THZ	Tophouse	18.97	195	ePN	P	07 20 47.8	-0.9
THZ	Tophouse	18.97	195	eP	P	07 20 48.7	0.0
DSZ	Denniston Nort	19.23	197	ePN	P	07 20 51.3	+0.1
DSZ	Denniston Nort	19.23	197	eP	P	07 20 52.2	+1.0
KHZ	Kahutara	19.46	193	ePN	P	07 20 52.1	-1.2
KHZ	Kahutara	19.46	193	eP	P	07 20 52.1	-1.2
LTZ	Lake Taylor	20.09	195	PN	P	07 20 57.9	-1.2
LTZ	Lake Taylor	20.09	195	P	P	07 20 57.9	-1.3
WVZ	Waitaha Valley	20.76	198	ePN	P	07 21 05.0	-0.4
WVZ	Waitaha Valley	20.76	198	eP	P	07 21 05.0	-0.3
RPZ	Rata Peaks	21.27	196	P	P	07 21 09.3	-0.7
	38nm,0.6s,mb5.2,baz=13,slow=1.7,SNR=39						
RPZ				S	S	07 24 25.8	-3.8
	13nm,1.1s,baz=343,slow=19,SNR=4.5						
RPZ	Rata Peaks	21.27	196	ePN	P	07 21 08.5	-1.5
RPZ	Rata Peaks	21.27	196	eP	P	07 21 09.2	-0.8
FOZ	Fox Glacier	21.51	199	ePN	P	07 21 10.5	-1.7
FOZ	Fox Glacier	21.51	199	eP	P	07 21 10.7	-1.5
LBZ	Lake Benmore	22.12	197	ePN	P	07 21 15.2	-2.6
LBZ	Lake Benmore	22.12	197	eP	P	07 21 15.2	-2.6
JCZ	Jackson Bay	22.26	200	ePN	P	07 21 18.7	-0.3
JCZ	Jackson Bay	22.26	200	eP	P	07 21 18.9	-0.1
ODZ	Otahua Downs	22.61	196	ePN	P	07 21 20.8	-1.4
ODZ	Otahua Downs	22.61	196	eP	P	07 21 20.8	-1.4
MLZ	Mavora Lakes	23.59	200	ePN	P	07 21 31.2	+0.3
ARMA	Armidale	25.50	248	eP	P	07 21 50.0	+2.0
CNB	Canberra Magne	28.44	239	eP	P	07 22 14.9	+1.2
	19nm,0.6s,mb4.9						
PPT	Papeete	29.78	84	eP	P	07 22 24.3	-1.1
	22nm,1.2s,mb4.5						
PPT	Papeete	29.78	84	P	P	07 22 25.3	-0.1
	7.7nm,0.6s,mb4.4,baz=219,slow=13,SNR=2.5						
TVO	Taravao	30.02	85	eP	P	07 22 26.3	-1.2
	37nm,0.9s,mb4.9						
CTA	Charters Tower	30.75	270	⇓iP	P	07 22 34.6	+0.9
	51nm,0.5s,mb5.3						
CTA				e		07 23 36.8	
CTA	Charters Tower	30.75	270	P	P	07 22 34.4	+0.8
	62nm,0.5s,mb5.4,baz=96,slow=10,SNR=167						
CTA				PcP	PcP	07 25 14.4	0.0
	5.1nm,0.6s,baz=122,slow=2.9,SNR=3.8						
CTAO	Charters Tower	30.75	270	eP	P	07 22 34.5	+0.8
	58nm,0.5s,mb5.4						
TOO	Toolangi	32.07	236	eP	P	07 22 45.2	+0.5
	6.3nm,0.4s,mb4.5						
PMOR	Pomariorio Ree	32.12	81	eP	P	07 22 44.3	-1.0
	34nm,1.2s,mb4.8						
PMG	Port Moresby	33.67	289	P	P	07 22 58.7	+0.3
	105nm,0.7s,mb5.5,baz=88,slow=5.0,SNR=33						
PMG	Port Moresby	33.67	289	eP	P	07 22 58.4	+0.1
	103nm,0.8s,mb5.4						
STKA	Stephens Creek	34.21	247	P	P	07 23 04.0	+1.3
	3.3nm,0.3s,mb4.3,baz=95,slow=11,SNR=5.9						
STKA				PcP	PcP	07 25 24.0	+0.1
	5.3nm,0.5s,baz=83,slow=5.8,SNR=5.4						
STKA	Stephens Creek	34.21	247	P	P	07 23 04.0	+1.3
STKA				PcP	PcP	07 25 24.0	+0.1
WB2	Warramunga Arr	41.70	266	⇓iP	P	07 24 03.4	-0.4
WRAB	Tennant Creek	41.70	266	eP	P	07 24 03.3	-0.5
	47nm,1.1s,mb4.9						
WRA	Warramunga Arr	41.71	266	P	P	07 24 03.4	-0.5
	20nm,0.6s,mb4.8,baz=103,slow=8.4,SNR=203						
WRA				PcP	PcP	07 25 45.9	-1.9
	4.3nm,0.8s,baz=97,slow=3.3,SNR=6.8						
WRA				ScP		07 28 48.0	
	1.7nm,0.8s,baz=103,slow=3.9,SNR=5.4						
WRA				S	S	07 29 38.0	-4.0
	1.6nm,0.7s,baz=99,slow=13,SNR=7.3						
FORT	Forrest	45.78	249	eP	P	07 24 35.3	-0.2
	41nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	50.14	266	⇓iP	P	07 25 08.0	-0.4
	18nm,0.7s,mb4.6						
FITZ	Fitzroy Crossi	50.14	266	P	P	07 25 08.1	-0.3
	22nm,0.6s,mb4.8,baz=118,slow=4.8,SNR=37						
KLBR	Kellerberrin	54.48	247	eP	P	07 25 38.6	-0.7
	112nm,1.6s,mb4.9						
VNDA	Vanda	54.73	185	P	P	07 25 41.2	+0.7
	1.0nm,0.4s,mb3.4,baz=5.2,slow=7.4,SNR=18						
VNDA				PcP	PcP	07 26 34.0	-0.6
	2.4nm,0.6s,baz=0.1,slow=5.1,SNR=8.6						
VNDA	Vanda	54.73	185	P	P	07 25 41.2	+0.7
VNDA				PcP	PcP	07 26 34.0	-0.6
CASY	Casey	60.17	206	⇑iP	P	07 26 17.0	-0.5
QSPA	South Pole Qui	66.59	180	⇓iP	P	07 26 59.8	+1.6
	26nm,0.6s,mb4.9						
MJAR	Matsushiro Arr	71.15	326	P	P	07 27 24.6	-1.4
	2.0nm,0.6s,mb3.8,baz=156,slow=4.3,SNR=5.1						
KSM	Kuching	71.32	280	eP	P	07 27 26.1	-1.3
MAW	Mawson	77.88	201	⇓iP	P	07 28 04.2	+1.3
	14nm,0.6s,mb4.5						
MAW	Mawson	77.88	201	P	P	07 28 03.7	+0.8
	18nm,0.6s,mb4.6,baz=131,slow=6.1,SNR=64						
MDJ	Mudanjiang	81.52	327	P	P	07 28 22.7	+0.4
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,42nm,5.7s						
CN2	Changchun	83.13	324	eP	P	07 28 33.2	+2.7
SYO	Syowa Base	83.24	194	⇑P	P	07 28 29.4	-1.1
SYO	Syowa Base	83.24	194	⇓pP	pP	07 30 23.4	-7.4
CMB	Columbia Colle	83.40	44	eP	P	07 28 32.0	0.0
	comp=Z,6.2nm,0.9s,mb4.1						
YBH	Yreka Blue Hor	84.23	40	P	P	07 28 36.4	+0.4
	comp=Z,3.5nm,0.8s,mb4.0,baz=118,slow=18,SNR=4.8						
NVAR	Mina Array Bea	84.96	44	P	P	07 28 39.5	-0.1
	comp=Z,1.6nm,0.7s,mb3.6,baz=217,slow=7.3,SNR=13						
NVAR	Mina Array Bea	84.96	44	P	P	07 28 39.5	-0.1
SNAA	Sanae	85.09	179	e	P	07 28 40.5	+1.1
SNAA	Sanae	85.09	179	e	P	07 28 41.5	+2.1
SNAA	Sanae	85.09	179	⇓iP	P	07 28 39.4	0.0
SNAA				e		07 28 40.5	
SNAA				e		07 28 41.5	
LDFC	Landfair	85.22	49	P	P	07 28 40.7	-0.3
VNA3	Neumayer Olymp	85.33	177	e	P	07 28 41.5	+0.9
VNA3	Neumayer Olymp	85.33	177	e	P	07 28 42.8	+2.2
VNA3	Neumayer Olymp	85.33	177	⇓iP	P	07 28 40.8	+0.2
VNA3				e		07 28 41.5	
VNA3				e		07 28 42.8	
VNA3				e		07 29 44.1	
VNA3				e	pP	07 30 44.6	+3.1
VNA2	Neumayer--Watz	85.73	178	⇓iP	P	07 28 43.0	+0.4
VNA2				e		07 29 45.8	
VNA2				e	pP	07 30 48.5	+4.9
VNA1	Neumayer--Stat	85.98	178	e	P	07 28 45.4	+1.7
VNA1	Neumayer--Stat	85.98	178	e	P	07 28 46.3	+2.6
VNA1	Neumayer--Stat	85.98	178	⇓iP	P	07 28 44.5	+0.8
VNA1				e		07 28 45.4	
VNA1				e		07 28 46.3	
VNA1				e		07 29 45.3	
VNA1				e	pP	07 30 48.6	+3.8
ELK	Elko	88.22	44	P	P	07 28 54.8	-0.2
	comp=Z,1.5nm,0.5s,mb4.0,baz=166,slow=3.8,SNR=5.5						
ELK	Elko	88.22	44	eP	P	07 28 55.1	+0.1
	comp=Z,3.9nm,1.1s,mb4.0						
PLCA	Paso Flores	89.07	135	P	P	07 29 00.2	+1.2
	comp=Z,2.8nm,0.7s,mb4.2,baz=192,slow=4.7,SNR=11						
TMUT	Trail Mountain	90.08	47	eP	P	07 29 04.4	+0.8
SRU	San Rafael	90.45	47	eP	P	07 29 05.8	+0.4
TXAR	Lajitas Array	90.83	58	P	P	07 29 07.8	+0.5
	comp=Z,3.6nm,0.9s,mb4.3,baz=209,slow=6.8,SNR=38						
TXAR				pP	pP	07 31 10.8	+1.2
	comp=Z,0.2nm,0.7s,baz=194,slow=5.2,SNR=3.8						
TXAR				PKKPbc		07 46 30.8	
	comp=Z,0.3nm,0.5s,baz=160,slow=2.9,SNR=8.9						
ILAR	Eielson Array	91.80	14	P	P	07 29 11.7	+0.8
	comp=Z,0.4nm,0.7s,mb3.6,baz=243,slow=5.4,SNR=6.3						
ILAR				pP	pP	07 31 14.6	+1.2
	comp=Z,1.9nm,0.9s,baz=225,slow=5.5,SNR=6.7						
ILAR				PP	PP	07 32 53.5	-7.9
	comp=Z,0.8nm,0.8s,baz=222,slow=7.1,SNR=4.8						
ILAR				PKKPbc		07 46 25.2	
	comp=Z,0.2nm,0.6s,baz=358,slow=3.7,SNR=4.4						
BW06	Boulder Array	92.90	44	P	P	07 29 15.8	-0.7
	comp=Z,2.9nm,0.7s,mb4.4						
PDAR	Pinedale Array	92.90	44	P	P	07 29 16.5	0.0
	comp=Z,1.0nm,0.7s,mb4.0,baz=207,slow=1.9,SNR=9.4						
PDAR				PKKPbc		07 46 23.6	
	comp=Z,0.5nm,0.7s,baz=45,slow=2.1,SNR=4.3						
SDCO	Great Sand Dun	93.25	50	eP	P	07 29 18.2	0.0
	comp=Z,0.8nm,0.6s,mb3.9						
MKAR	Makanchi Array	111.34	313	PKiKP		07 34 32.3	
	comp=Z,0.8nm,0.5s,baz=180,slow=0.7,SNR=10						
MKAR				SKP		07 37 17.4	
	comp=Z,0.4nm,0.8s,baz=135,slow=1.7,SNR=4.1						
MKAR				PKKPbc		07 45 30.4	
	comp=Z,0.6nm,0.7s,baz=270,slow=2.4,SNR=5.7						
MKAR				PKKPab		07 45 41.8	
	comp=Z,1.5nm,0.6s,baz=280,slow=4.4,SNR=12						
FRB	Frobisher Bay	120.63	29	PKP	PKPdf	07 34 49.8	-0.2
	comp=Z,8.8nm,0.7s,baz=354,slow=3.6,SNR=14						
KEV	Kevo	130.86	348	ep	PKPdf	07 35 10.2	+0.7
ARCES	ARCESS Array B	131.33	348	PKP	PKPdf	07 35 10.5	+0.1
	comp=Z,5.8nm,0.7s,baz=56,slow=1.8,SNR=18						
ARCES				SKPbc		07 37 45.2	
	comp=Z,3.1nm,0.7s,baz=34,slow=4.4,SNR=6.1						
ARCES	ARCESS Array B	131.33	348	PKP	PKPdf	07 35 10.5	+0.1
ARCES				SKPbc		07 37 45.2	
JOF	Joensuu	135.10	340	ep	PKPdf	07 35 16.1	-1.4
	comp=Z,5.9nm,0.6s						
KMBO	Kilima Mbogo	135.66	242	PKP	PKPdf	07 35 22.0	+2.1
	comp=Z,1.8nm,0.7s,baz=15,slow=6.8,SNR=5.0						
KAF	Kangasniemi	137.23	342	ep	PKPdf	07 35 20.6	-0.8
	comp=Z,5.0nm,0.6s						
FINES	FINESS Array B	137.82	341	PKhKP		07 35 11.9	
	comp=Z,2.6nm,1.1s,baz=104,slow=31,SNR=3.9						
FINES				PKP	PKPdf	07 35 23.5	+0.9
	comp=Z,1.7nm,0.5s,baz=74,slow=2.6,SNR=11						
FINES				SKPbc		07 38 05.5	
	comp=Z,3.5nm,0.6s,baz=51,slow=5.1,SNR=13						
FINES	FINESS Array B	137.82	341	PKP	PKPdf	07 35 23.5	+0.9
FINES				SKPbc		07 38 05.5	
NB2	NORSAR Subarra	141.56	351	PKPabc	PKPdf	07 35 25.1	-4.0
	comp=Z,1.0nm,0.5s,baz=16,slow=3.1						
NOA	NORSAR Array B	141.56	351	PKhKP		07 35 25.4	
	comp=Z,3.4nm,0.6s,baz=16,slow=4.7,SNR=15						
NOA				SKPbc		07 38 15.4	
	comp=Z,1.7nm,0.8s,baz=16,slow=4.2,SNR=6.5						
MALT	Malatya	143.53	303	ePKP	PKPdf	07 35 33.5	+0.3
AKASG	Malin Array Be	144.23	327	PKP	PKPdf	07 35 34.1	+0.1
	comp=Z,8.5nm,0.5s,baz=44,slow=4.1,SNR=60						
AKASG				SKPbc		07 38 20.2	
	comp=Z,1.2nm,0.5s,baz=45,slow=2.6,SNR=5.6						
YNBS	Yanbu‘ al Bahr	144.61	279	P	PKPdf	07 35 38.3	+2.8
UMJS	Umm Lajj	145.32	281	P	PKPdf	07 35 40.4	+3.7
ASF	Jabal al Asfar	145.71	293	PKPbc	PKPbc	07 35 40.7	+2.1
	comp=Z,9.8nm,0.8s,baz=324,slow=1.1,SNR=11						
TBKS	Tabuk	146.16	286	P	PKPdf	07 35 42.7	+4.7
JMQS	Jabal Moqyreh	146.75	287	P	PKPdf	07 35 44.1	+5.1
BR131	Keskin Array S	146.75	307	ePKPbc	PKPbc	07 35 42.3	+1.5
BRTR	Keskin Array B	146.75	307	PKPbc	PKPbc	07 35 42.9	+2.1
	comp=Z,5.9nm,0.7s,baz=142,slow=4.7,SNR=14						
BRTR				pPKPbc		07 37 53.0	
	comp=Z,1.1nm,0.8s,baz=135,slow=1.7,SNR=3.2						
ANTO	Ankara	147.32	308	ePKPbc	PKPdf	07 35 44.2	+4.7
JMOS	Jabal al Moall	147.41	288	P	PKPdf	07 35 45.7	+5.6
BDAS	Al Bad‘	147.43	286	P	PKPdf	07 35 45.6	+5.5
ALWS	Ilw as Safayha	147.45	288	P	PKPdf	07 35 45.8	+5.7
HAQS	Haql	147.57	288	P	PKPdf	07 35 46.1	+5.8
TAYS	Tayyib Ism	147.63	287	P	PKPdf	07 35 46.2	+5.7
CFR	Carcaliu	148.05	320	⇑iP	PKPdf	07 35 45.3	+4.8
BURAR	Bucovina Array	148.22	326	⇓iP	PKPdf	07 35 46.9	+6.2
KOLS	Kolonicke sedl	148.76	330	ePKP	PKPdf	07 35 48.3	+6.8
OJC	Ojcow	148.85	334	ePKP	PKPdf	07 35 47.9	+6.3
STHS	Stebnicka Huta	148.86	332	ePKP	PKPdf	07 35 48.7	+7.0
MLR	Muntele Rosu	149.14	322	PKPbc	PKPdf	07 35 48.1	+5.9
	comp=Z,3.7nm,0.4s,baz=345,slow=3.7,SNR=8.0						
MLR	Muntele Rosu	149.14	322	⇓iP	PKPdf	07 35 48.5	+6.2
MLR	Muntele Rosu	149.14	322	⇓iP	PKPdf	07 35 48.5	+6.2
CRVS	Cervenica-Dubn	149.15	331	ePKP	PKPdf	07 35 51.4	+9.3
NIE	Niedzica	149.26	333	⇓ePKP	PKPdf	07 35 49.5	+7.2
KSP	Ksiaz	149.64	338	ePKP	PKPdf	07 35 50.0	+7.1
VOIR		149.68	323	⇓iP	PKPdf	07 35 50.3	+7.2
OKC	Ostrava-Krasne	149.80	335	ePKPbc	PKPdf	07 35 50.0	+6.8
UPC	Upice	150.02	338	ePKPbc	PKPdf	07 35 50.8	+7.3
DPC	Dobruska-Polom	150.05	338	ePKPbc	PKPdf	07 35 51.0	+7.5
MORC	Moravsky Berou	150.08	336	ePKPbc	PKPdf	07 35 50.6	+7.0
CLL	Collm	150.25	342	ePKIKP	PKPdf	07 35 47.0	+3.2
CLL				i PKP1	PKPdf	07 35 51.1	+7.3
CLL				i PKP2	PKPab	07 36 00.3	-0.3
CLL				i *PPKP		07 38 00.1	
CLL	Collm	150.25	342	ePKP	PKPdf	07 35 47.0	+3.2
CLL				⇓iPKP	PKPdf	07 35 51.1	+7.3
CLL				i PKP	PKPdf	07 36 00.3	+16
CLL				i pPKP		07 38 00.1	
PVCC	Panska Ves	150.47	340	ePKPbc	PKPdf	07 35 51.8	+7.6
VYHS	Vyhne	150.59	333	ePKP	PKPdf	07 35 52.0	+7.6
PRU	Pruhonice	150.95	339	ePKPbc	PKPdf	07 35 52.7	+7.8
MOX	Moxa	151.22	343	ePKP	PKPdf	07 35 52.5	+7.2
KHC	Kasperske Hory	152.01	340	ePKPbc	PKPdf	07 35 54.8	+8.4
KHC				ePKPab	PKPab	07 36 07.3	-0.8
KHC				epPKP		07 38 03.0	
KHC				x	x	07 38 09.5	
GRF	Grafenberg Arr	152.19	343	ePKP	PKPdf	07 35 55.4	+8.7
GERES	GERESS Array B	152.22	339	PKP	PKPdf	07 35 48.3	+1.6
	comp=Z,0.7nm,0.8s,SNR=5.1						
GERES				PKPbc	PKPdf	07 35 54.9	+8.2
	comp=Z,4.6nm,0.7s,baz=45,slow=1.9,SNR=24						
GERES				PKPab	PKPab	07 36 08.6	-0.4
	comp=Z,0.8nm,0.8s,baz=63,slow=6.0,SNR=4.4						
GERES				pPKP		07 38 01.3	
	comp=Z,0.9nm,0.7s,baz=180,slow=4.0,SNR=2.4						
GERES				pPKPbc		07 38 08.2	
	comp=Z,0.6nm,0.6s,SNR=5.6						
DBIC	Dimbokro	162.83	166	PKP	PKPdf	07 36 01.9	+1.3
	comp=Z,4.4nm,0.6s,baz=198,slow=1.9,SNR=7.7						
DBIC				PKPab	PKPab	07 36 55.5	-0.1
	comp=Z,7.1nm,0.8s,baz=151,slow=5.8,SNR=6.1						

NEIC 10 07:37:00.4, 36.71N×10.91W, MG3.5(MDD), After MDD.
MDD 10 07:37:00.5±3.1, 36.67N×11.05W, h16km±143km, mb3.5/3, Error ellipse: s-maj=159.0km s-min=32.0km az=57.0, PRXIMO
CSEM 10 07:37:01.2±0.7, 36.66N×10.83W, h2km, ML2.8/6, Error ellipse: s-maj=16.2km s-min=11.7km az=134.0
ISC 10 07:37:01.3±1.9, **36.7N**±0.1×**10.7W**±0.1, **h10km, n17,** σ1^s**00**/30, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.78	63	ePn	Pn	07 37 33.4	+1.0
PTEO				eSn	Sn	07 37 57.7	+2.4
	2.8nm,0.1s						
PTEO	Sao Teotonio	1.78	63	ePn	Pn	07 37 33.4	+1.0
PTEO				eSn	Sn	07 37 57.7	+2.4
	2.8nm,0.1s						
PLOU	Loures	2.47	30	eSn	Sn	07 38 12.4	-0.5
PBEJ	Beja	2.60	60	eSn	Sn	07 38 17.2	+1.0
EGRO	El Granado	2.70	72	Pn	Pn	07 37 46.0	+0.4
	0.5nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	07 38 19.9	+1.2
	0.8nm,0.1s,SNR=7.9						
EGRO	El Granado	2.70	72	Pn	Pn	07 37 46.0	+0.4
	0.5nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	07 38 19.9	+1.3
	0.8nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.38	71	Pn	Pn	07 37 55.0	-0.3
	0.2nm,0.1s,SNR=6.8						
EMIN				Sn	Sn	07 38 35.6	-0.3
	0.5nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.38	71	Pn	Pn	07 37 55.0	-0.3
	0.2nm,0.1s,SNR=6.8						
EMIN				Sn	Sn	07 38 35.6	-0.3
	0.5nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.56	54	Pn	Pn	07 37 58.2	+0.5
	0.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	07 38 39.4	-0.9
	3.2nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.56	54	Pn	Pn	07 37 58.2	+0.5
	0.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	07 38 39.4	-0.9
	3.2nm,0.2s,SNR=7.9						
ESPR	Espera	3.90	87	Pn	Pn	07 38 02.8	+0.2
	2.1nm,0.1s,SNR=7.9						
ESPR	Espera	3.90	87	Pn	Pn	07 38 02.8	+0.2
	2.1nm,0.1s,SNR=7.9						
ECAB	El Cabril	4.42	71	Pn	Pn	07 38 09.5	-0.6
	0.5nm,0.1s,SNR=6.0						
ECAB				Sn	Sn	07 39 00.2	-2.0
	0.4nm,0.1s,SNR=7.9						
ECAB	El Cabril	4.42	71	Pn	Pn	07 38 09.5	-0.6
ECAB				Sn	Sn	07 39 00.2	-2.0
ECAB	El Cabril	4.42	71	Pn	Pn	07 38 09.5	-0.5
	0.5nm,0.1s,SNR=6.0						
ECAB				Sn	Sn	07 39 00.2	-2.0
	0.4nm,0.1s,SNR=7.9						
EADA	Adamuz	5.08	72	Pn	Pn	07 38 18.5	-0.9
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	07 39 18.1	-0.8
	0.5nm,0.1s,SNR=7.9						
EADA	Adamuz	5.08	72	Pn	Pn	07 38 18.5	-0.9
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	07 39 18.1	-0.8
	0.5nm,0.1s,SNR=7.9						

NEIC 10 07:38:20.3±3.2, 4.46S×153.66E, h126km±25km, mb4.2/1, Error ellipse: s-maj=32.3km s-min=18.0km az=102.0
IDC 10 07:38:20.7±5.6, 4.46S×153.56E, h128km±46km, mb3.8/8, mb1 3.9/9, mb1mx3.8/16, mbtmp4.2/9, MS3.2/2, Ms1 3.2/2, ms1mx2.9/16, Error ellipse: s-maj=40.8km s-min=23.3km az=92.0
ISC 10 07:38:20.4±2.8, **4.5S**±0.2×**153.56E**±0.07, **h137**km±24km, **n13,** σ0^s**82**/13, **mb3.9**/9, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.00	232	P	P	07 40 15.3	+0.3
	4.8nm,0.3s,baz=45,slow=7.2,SNR=8.6						
PMG				S	S	07 41 43.6	-0.8
	4.1nm,0.3s,baz=141,slow=19,SNR=14						
PMG				LR	LR	07 42 42.4	
	comp=Z,102nm,21.6s,baz=73,slow=33						
HNR	Honiara	8.02	128	S	S	07 41 44.6	+0.1
	30nm,0.3s,baz=41,slow=22,SNR=6.1						
CTA	Charters Tower	17.05	204	LR	LR	07 47 45.1	
	comp=Z,155nm,20.3s,baz=313,slow=33						
WRAB	Tennant Creek	24.19	229	eP	P	07 43 26.2	+0.6
	4.9nm,0.5s,mb4.3						
WB2	Warramunga Arr	24.20	229	eP	P	07 43 27.7	+2.1
WRA	Warramunga Arr	24.21	229	P	P	07 43 26.2	+0.5
	3.9nm,0.6s,mb4.1,baz=52,slow=9.7,SNR=28						
STKA	Stephens Creek	29.46	201	P	P	07 44 12.6	-1.1
	2.4nm,0.6s,mb4.1,baz=9.5,slow=14,SNR=5.7						
FITZ	Fitzroy Crossi	30.46	241	P	P	07 44 21.7	-1.0
	4.8nm,0.8s,mb4.3,baz=334,slow=4.3,SNR=6.6						
VNDA	Vanda	73.10	178	P	P	07 49 37.5	+0.5
	1.0nm,0.7s,mb3.7,baz=325,slow=6.7,SNR=7.2						
MKAR	Makanchi Array	80.60	319	P	P	07 50 19.7	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.2nm,1.0s,mb3.5,baz=101,slow=6.2,SNR=7.1						
ILAR	**Eielson Array**	**81.60**	**22**	P	**P**	**07 50 23.3**	**-0.8**
	0.5nm,0.9s,mb3.1,baz=265,slow=4.8,SNR=4.5						
MAW	**Mawson**	**86.13**	**203**	P	**P**	**07 50 46.1**	**-0.6**
	2.3nm,0.9s,mb3.9,baz=123,slow=1.6,SNR=3.8						
BVAR	**Borovoye Array**	**89.45**	**323**	P	**P**	**07 51 02.8**	**0.0**
	0.9nm,0.7s,mb3.8,baz=90,slow=4.3,SNR=5.7						

*NEIC **10** 07:39:34.3,45.22N×27.22E,h11km,MD3.6(BUC),After BUC.*
*BUC **10** 07:39:34.4±0.4,45.23N×27.22E,h7km±5km,MD3.5/4, Error ellipse: s-maj=5.7km s-min=2.8km az=34.0*
*CSEM **10** 07:39:34.4±0.4,45.23N×27.22E,h7km±5km,MD3.5/4, Error ellipse: s-maj=5.7km s-min=2.8km az=34.0,After BUC*
ISC 10 07:39:35.2±0.9**,45.25N**±0.05×**27.25E**±0.05**,h9km**±8km**, n26,**σ**0^{s}97**/38**,14C-8D,Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRD	**Bordesti**	**0.34**	**333**	⇑iP	**Pg**	**07 39 42.3**	**+0.1**
BRD	**Bordesti**	**0.34**	**333**	⇑iP	**Pg**	**07 39 42.3**	**+0.1**
ISR	**Istrita**	**0.52**	**256**	⇑iP	**Pg**	**07 39 44.7**	**-0.9**
ISR				iS	**Sg**	**07 39 54.3**	**+1.7**
ISR	**Istrita**	**0.52**	**256**	⇑iP	**Pg**	**07 39 44.7**	**-1.0**
ISR				iS	**Sg**	**07 39 54.3**	**+1.7**
CFR	**Carcaliu**	**0.63**	**96**	⇓iP	**Pb**	**07 39 47.5**	**-0.5**
CFR				iS	**Sb**	**07 39 57.2**	**+0.6**
CFR	**Carcaliu**	**0.63**	**96**	⇓iP	**Pb**	**07 39 47.5**	**-0.5**
CFR				iS	**Sb**	**07 39 57.2**	**+0.6**
VRI	**Vrincioaia**	**0.72**	**329**	⇑iP	**Pb**	**07 39 49.9**	**+0.4**
VRI	**Vrincioaia**	**0.72**	**329**	⇑iP	**Pb**	**07 39 49.9**	**+0.4**
HARR	**Harsova**	**0.74**	**139**	⇑iP	**Pb**	**07 39 49.1**	**-0.7**
HARR				iS	**Sb**	**07 40 01.2**	**+1.4**
HARR	**Harsova**	**0.74**	**139**	⇑iP	**Pb**	**07 39 49.1**	**-0.7**
HARR				iS	**Sb**	**07 40 01.2**	**+1.4**
MLR	**Muntele Rosu**	**0.95**	**285**	⇑iP	**Pb**	**07 39 53.8**	**+0.3**
MLR				iS	**Sb**	**07 40 10.4**	**+4.5**
MLR	**Muntele Rosu**	**0.95**	**285**	⇑iP	**Pb**	**07 39 53.8**	**+0.4**
MLR				iS	**Sb**	**07 40 10.4**	**+4.4**
TIRR	**Tirgusor**	**1.14**	**133**	⇓iP	**Pb**	**07 39 57.0**	**+0.3**
TIRR				iS	**Sb**	**07 40 15.0**	**+3.5**
TIRR	**Tirgusor**	**1.14**	**133**	⇓iP	**Pb**	**07 39 57.0**	**+0.2**
TIRR				iS	**Sb**	**07 40 15.0**	**+3.4**
SNX	**Sinaia**	**1.23**	**276**	⇓iP	**Pb**	**07 39 57.8**	**-0.4**
SNX	**Sinaia**	**1.23**	**276**	⇓iP	**Pb**	**07 39 57.8**	**-0.4**
MTUR	**Matau**	**1.55**	**270**	⇑iP	**Pn**	**07 40 02.0**	**-1.1**
MTUR	**Matau**	**1.55**	**270**	⇑iP	**Pn**	**07 40 02.0**	**-1.1**
VOIR		**1.56**	**278**	⇓iP	**Pn**	**07 40 03.3**	**-0.1**
VOIR				iS	**Sb**	**07 40 25.3**	**+1.6**
VOIR		**1.56**	**278**	⇓iP	**Pn**	**07 40 03.3**	**-0.1**
VOIR				iS	**Sb**	**07 40 25.3**	**+1.6**
PRD	**Provadia**	**2.05**	**177**	iP	**Pn**	**07 40 10.0**	**-0.4**
BURAR	**Bucovina Array**	**2.75**	**330**	⇑iP	**Pn**	**07 40 20.2**	**-0.2**
BURAR	**Bucovina Array**	**2.75**	**330**	⇑iP	**Pn**	**07 40 20.2**	**-0.2**
PGB	**Panagyurishte**	**3.50**	**221**	iP	**Pn**	**07 40 30.0**	**-1.0**
VTS	**Vitosha**	**3.95**	**229**	iP	**Pn**	**07 40 33.5**	**-3.9**
RZN	**Rozhen**	**4.01**	**208**	iP	**Pn**	**07 40 37.0**	**-1.2**

CASC 10 08:00:03.9±1.8**,11.46N**×**85.55W,h11km**±3km**,MD3.6, ML3.0,5C-3D,Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.05**	**164**	iP	Pg	08 00 06.5	+0.4
CONN	**Concepcion**	**0.13**	**324**	⇓eP	Pg	08 00 07.0	-0.1
CONN				eS	Sg	08 00 10.2	+1.0
SSNN	**San Juan del S**	**0.34**	**240**	⇑eP	Pg	08 00 11.3	+0.4
SSNN				eS	Sg	08 00 16.6	+0.9
APON	**Apoyo**	**0.68**	**312**	⇑eP	Pb	08 00 17.1	-0.3
APON				eS	Sb	08 00 27.5	+1.0
LIM1	**Limonal**	**0.81**	**159**	⇓eP	Pb	08 00 18.9	-0.6
LIM1				eS	Sb	08 00 30.1	0.0
TICN	**Ticuantepe**	**0.88**	**311**	eP	Pb	08 00 19.7	-1.1
CRUN	**El Crucero**	**0.90**	**305**	eP	Pb	08 00 22.3	+1.1
CRUN				eS	Sb	08 00 34.5	+1.5
WILN	**Americas 2**	**0.94**	**318**	eP	Pb	08 00 21.3	-0.4
WILN				eS	Sb	08 00 33.9	0.0
MGAN	**Managua**	**0.97**	**315**	⇓eP	Pb	08 00 21.8	-0.4
MGAN				eS	Sb	08 00 35.1	+0.3
MGAN				i		08 00 37.4	
	comp=E,380nm,0.6s						
XAVN	**Gruta Xavier**	**1.03**	**312**	eP	Pb	08 00 23.0	-0.3
XAVN				eS	Sb	08 00 38.2	+1.7
COPN	**Copaltepe**	**1.25**	**305**	⇑eP	Pb	08 00 26.7	-0.4
COPN				eS	Sb	08 00 43.1	+0.1
MOMJ	**Momotombo**	**1.35**	**314**	eP	Pb	08 00 26.7	-2.1
MOMJ				eS	Sb	08 00 46.4	+0.3
MIRN	**Miramar**	**1.50**	**311**	⇑iP	Pn	08 00 30.3	-0.6
MIRN				eS	Sb	08 00 51.7	+1.4
LEON	**Leon**	**1.62**	**306**	⇑eP	Pn	08 00 32.2	-0.5
LEON				eS	Sn	08 00 53.8	0.0
JCR	**Jicaral**	**1.66**	**165**	eP	Pn	08 00 32.9	-0.3
JCR				eS	Sn	08 00 55.3	+0.7
CGA2	**Cerro Gallo 2**	**1.79**	**143**	eP	Pn	08 00 35.5	+0.5
CGA2				eS	Sn	08 00 59.2	+1.3
LCR2	**La Lucha 2**	**2.28**	**138**	eP	Pn	08 00 41.6	-0.5

*NEIC **10** 08:27:39.0±0.8,8.10S×112.93E,h150km,Error ellipse: s-maj=47.6km s-min=15.8km az=47.0*
*IDC **10** 08:27:40.4±11.0,8.10S×113.00E,h161km±109km, mb3.4/4,mb1 3.6/5,mb1mx3.4/15,mbtmp3.9/5,Error ellipse: s-maj=83.9km s-min=22.6km az=62.0*
ISC 10 08:27:37.1±1.3**,8.1S**±0.3×**112.9E**±0.3**,h150km,n7,** σ**0^{s}33**/7**,mb3.7**/4**,Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.93**	**130**	P	**P**	**08 31 14.8**	**+0.5**
	0.8nm,0.3s,baz=327,slow=8.8,SNR=9.0						
FITZ				S	**S**	**08 33 56.9**	**-9.0**
	0.2nm,0.3s,baz=186,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**23.90**	**122**	P	**P**	**08 32 38.1**	**-0.3**
	1.2nm,0.5s,mb3.7,baz=295,slow=12,SNR=17						
WRA				pP		08 33 08.8	
	0.7nm,0.7s,baz=293,slow=12,SNR=4.7						
STKA	**Stephens Creek**	**35.70**	**136**	P	**P**	**08 34 22.6**	**-0.4**
	2.3nm,0.4s,mb4.2,baz=321,slow=10,SNR=9.9						
MKAR	**Makanchi Array**	**61.03**	**336**	P	**P**	**08 37 37.3**	**+0.1**
	0.7nm,0.6s,mb3.7,baz=146,slow=7.5,SNR=8.2						
VNDA	**Vanda**	**73.88**	**170**	P	**P**	**08 38 56.9**	**+0.1**
	0.2nm,0.4s,mb3.2,baz=327,slow=5.8,SNR=4.4						
VNDA	**Vanda**	**73.88**	**170**	P	**P**	**08 38 56.9**	**+0.1**
CPUP	**Villa Florida**	**144.50**	**195**	PKP	PKPdf	08 46 58.1	+1.8
	3.5nm,0.9s,baz=170,slow=3.4,SNR=4.8						

*NEIC **10** 09:20:01.9,16.09N×97.38W,h16km,MD3.9(MEX),After MEX.*
MEX 10 09:20:02.0±0.9**,16.09N**×**97.38W,h18km**±55km**,MD3.9,2C, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.78**	**293**	iP	Pb	09 20 13.6	-3.1
PNIG				iS	Sb	09 20 24.7	-2.0
VHO	**Vista Hermosa**	**1.16**	**32**	⇑iP	Pb	09 20 20.4	-2.7
VHO				iS	Sb	09 20 33.5	-4.3
OXX	**Oaxaca**	**1.17**	**33**	iP	Pb	09 20 20.5	-2.9
OXX				iS	Sb	09 20 34.0	-4.1
OXX	**Oaxaca**	**1.17**	**33**	eP	Pb	09 20 20.5	-2.9
OXX				iS	Sb	09 20 34.0	-4.1
HUIG	**Huatulco**	**1.27**	**105**	iP	Pn	09 20 22.0	-3.0
HUIG				iS	Sb	09 20 36.1	-4.8
ACX	**Acapulco**	**2.55**	**288**	eP	Pn	09 20 40.0	-3.4
ACX				iS	Sn	09 21 11.0	-3.3
CMIG	**Matias Romero**	**2.59**	**67**	⇑iP	Pn	09 20 40.0	-4.0
CMIG				iS	Sn	09 21 10.1	-5.2
PPM	**Popocatepetl**	**3.19**	**338**	eP	Pn	09 20 49.0	-3.5
LVIG	**Laguna Verde**	**3.73**	**14**	eP	Pn	09 20 58.2	-1.9
LVIG				iS	Sn	09 21 37.0	-7.0

*NEIC **10** 09:21:42.5,16.11N×97.29W,h13km,MD3.8(MEX),After MEX.*
MEX 10 09:21:42.5±0.5**,16.15N**×**97.30W,h9km**±10km**,MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.83**	**287**	iP	Pb	09 21 56.0	-2.7
PNIG				iS	Sb	09 22 07.6	-2.2
VHO	**Vista Hermosa**	**1.06**	**30**	iP	Pb	09 22 00.1	-2.6
VHO				iS	Sb	09 22 13.3	-3.2
OXX	**Oaxaca**	**1.08**	**31**	iP	Pb	09 22 00.0	-2.9
OXX				iS	Sb	09 22 13.5	-3.4
HUIG	**Huatulco**	**1.21**	**108**	iP	Pb	09 22 02.7	-2.4
CMIG	**Matias Romero**	**2.50**	**68**	iP	Pn	09 22 20.1	-3.9
CMIG				iS	Sn	09 22 48.9	-6.0
ACX	**Acapulco**	**2.61**	**286**	eP	Pn	09 22 22.5	-3.2
ACX				iS	Sn	09 22 54.0	-3.9

*CSEM **10** 09:27:17.8±0.1,31.93N×55.06E,h2km,ML3.4,Error ellipse: s-maj=3.8km s-min=1.9km az=55.0*
*TEH **10** 09:27:20.2,31.84N×55.06E,h10km,Mn3.4*
*THR **10** 09:27:20.1±1.5,31.80N×54.80E,h14km±12km,ML3.4*
ISC 10 09:27:18.8±0.6**,31.88N**±0.05×**55.02E**±0.08**,h10km,n23,** σ**1^{s}27**/25**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.55**	**122**	Pg	**Pg**	**09 27 29.2**	**-0.8**
IMEH	**Mehriz**	**0.60**	**215**	Pg	**Pg**	**09 27 31.3**	**+0.4**
ICHK	**Chekchek**	**0.63**	**305**	Pg	**Pg**	**09 27 28.2**	**-3.3**
NASN	**Na'in**	**2.08**	**297**	ePg	**Pg**	**09 27 55.2**	**-5.2**
NASN				eSg	**Sg**	**09 28 22.7**	**-5.5**
NASN				AML	AML	09 28 25.6	
	comp=N,182nm,0.4s						
NASN	**Na'in**	**2.08**	**297**	ePg	**Pg**	**09 27 55.2**	**-5.2**
	SNR=90						
NASN				eSg	**Sg**	**09 28 22.7**	**-5.4**
	comp=N,182nm,0.4s,SNR=90						
KRBR	**Kerman**	**2.42**	**141**	ePn	**Pn**	**09 28 01.5**	**+2.4**
KRBR				eSg	**Sg**	**09 28 38.2**	**-1.1**
KRBR				AML	AML	09 28 45.8	
	comp=N,286nm,0.7s						
IGAR	**Garneh**	**2.42**	**279**	Pn	**Pn**	**09 28 01.8**	**+2.7**
IZEF	**Zefreh**	**2.49**	**295**	Pn	**Pn**	**09 27 59.2**	**-0.9**
IPAR	**Pars**	**2.65**	**220**	Pn	**Pn**	**09 28 06.7**	**+4.3**
ISRV	**Sarvestan**	**2.98**	**214**	Pn	**Pn**	**09 28 13.3**	**+6.1**
IKLH	**Kalahroud**	**3.23**	**297**	Pn	**Pn**	**09 28 09.1**	**-1.6**
IMOK	**Mook**	**3.46**	**216**	Pn	**Pn**	**09 28 17.5**	**+3.6**
IPIR	**Pirpir**	**3.58**	**284**	Pn	**Pn**	**09 28 15.2**	**-0.5**
GHIR	**Ghir-Karzin**	**3.99**	**207**	ePn	**Pn**	**09 28 21.1**	**-0.5**
GHIR	**Ghir-Karzin**	**3.99**	**207**	ePn	**Pn**	**09 28 21.0**	**-0.5**
	SNR=52						
IVRN	**Varamin**	**4.15**	**319**	Pn	**Pn**	**09 28 24.1**	**+0.4**
IVRN				Sn	**Sn**	**09 29 11.3**	**-1.5**
IFIR	**Firoozkooh**	**4.20**	**334**	Lg		09 29 32.5	
IFIR	**Firoozkooh**	**4.20**	**334**	Pn	**Pn**	**09 28 24.5**	**+0.1**
IDMV	**Damavand**	**4.44**	**327**	Pn	**Pn**	**09 28 28.1**	**+0.2**
DAMV	**Damavand**	**4.52**	**327**	ePn	**Pn**	**09 28 30.6**	**+1.7**
IAFJ	**Afjeh**	**4.82**	**326**	Lg		09 29 51.5	
IAFJ	**Afjeh**	**4.82**	**326**	Pn	**Pn**	**09 28 34.1**	**+0.8**
ASAO	**Ashtian**	**4.96**	**304**	ePn	**Pn**	**09 28 35.5**	**+0.3**

*NEIC **10** 09:38:42.5±3.9,5.04S×153.83E,h149km±27km,mb4.8/2, Error ellipse: s-maj=36.3km s-min=21.5km az=73.0*
*IDC **10** 09:38:42.6±6.9,5.08S×153.84E,h150km±52km,mb4.0/6, mb1 4.1/8,mb1mx3.8/16,mbtmp4.4/8,MS3.2/1,Ms1 3.2/1, ms1mx2.6/19,Error ellipse: s-maj=50.1km s-min=27.0km az=72.0*
ISC 10 09:38:41.8±4.6**,5.1S**±0.2×**153.9E**±0.2**,h156km**±35km**,n12,** σ**0^{s}65**/13**,mb4.2**/7**,1D,New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.92**	**237**	P	**P**	**09 40 34.7**	**-0.4**
	13nm,0.3s,baz=43,slow=7.7,SNR=22						
PMG				S	**S**	**09 42 03.4**	**+0.1**
	2.1nm,0.3s,baz=322,slow=19,SNR=2.4						
CTA	**Charters Tower**	**16.66**	**206**	P	**P**	**09 42 28.2**	**+0.6**
	0.1nm,0.3s,baz=19,slow=13,SNR=5.3						
CTA				LR	LR	09 47 36.2	
	comp=Z,74nm,18.6s,baz=230,slow=32						
WRAB	**Tennant Creek**	**24.06**	**230**	eP	**P**	**09 43 44.4**	**+0.4**
	22nm,1.0s,mb4.6						
WRAB				ePP	PP	09 44 14.1	-10
WB2	**Warramunga Arr**	**24.06**	**230**	⇓iP	**P**	**09 43 44.5**	**+0.5**
WRA	**Warramunga Arr**	**24.07**	**230**	P	**P**	**09 43 44.7**	**+0.6**
	9.1nm,0.7s,mb4.4,baz=56,slow=10.0,SNR=60						
STKA	**Stephens Creek**	**29.04**	**202**	P	**P**	**09 44 28.3**	**-1.2**
	2.8nm,0.8s,mb4.1,baz=36,slow=14,SNR=8.0						
STKA	**Stephens Creek**	**29.04**	**202**	P	**P**	**09 44 28.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**30.46**	**243**	eP	**P**	**09 44 40.7**	**-1.5**
	13nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**30.46**	**243**	P	**P**	**09 44 41.1**	**-1.1**
	19nm,0.6s,mb5.0,baz=76,slow=4.1,SNR=33						
VNDA	**Vanda**	**72.52**	**178**	P	**P**	**09 49 52.8**	**-0.1**
	0.9nm,0.7s,mb3.6,baz=340,slow=3.7,SNR=5.5						
MKAR	**Makanchi Array**	**81.22**	**319**	P	**P**	**09 50 42.0**	**+0.3**
	1.1nm,0.8s,mb3.5,baz=100,slow=6.1,SNR=9.5						
MAW	**Mawson**	**85.72**	**203**	P	**P**	**09 51 04.2**	**+0.3**
	2.4nm,0.6s,mb4.1,baz=88,slow=6.9,SNR=12						

*TIR **10** 09:58:33.5,41.29N×21.18E,h34km,Ml2.4*
*ATH **10** 09:58:34.5,41.54N×20.99E,h16km±3km,MD3.4/4*
*THE **10** 09:58:36.8,41.36N×21.04E,h5km,ML2.9*
*NEIC **10** 09:58:36.7,41.36N×21.04E,h18km,MD3.4(ATH), MD3.3(PDG),ML3.0(SKO),ML2.9(THE),After SKO.*
*CSEM **10** 09:58:36.2±0.2,41.43N×21.16E,h0km,ML3.0,Error ellipse: s-maj=2.3km s-min=1.9km az=90.0*
*PDG **10** 09:58:36.3±0.2,41.41N×20.84E,h10km±1km*
*SKO **10** 09:58:36.4,41.40N×21.01E,h6km,ML3.0*
*SOF **10** 09:58:59.3,42.04N×23.35E,h10km,MD2.6*
ISC 10 09:58:36.0±0.3**,41.39N**±0.02×**21.06E**±0.02**,h10km,n41,** σ**1^{s}35**/70**,15C-2D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.34**	**215**	⇑iPg	**Pg**	**09 58 42.4**	**-0.6**
OHR				iSg	**Sg**	**09 58 48.0**	**+0.3**
BIA	**Bitola**	**0.42**	**151**	iPg	**Pg**	**09 58 44.1**	**-0.5**
BIA				iSg	**Sg**	**09 58 52.0**	**+1.7**
FNA	**Florina**	**0.65**	**158**	ePg	**Pg**	**09 58 48.4**	**-0.7**
FNA				eSg	**Sg**	**09 58 58.6**	**+0.8**
SKO	**Skopje**	**0.65**	**26**	iPg	**Pg**	**09 58 48.2**	**-0.9**
SKO				iSg	**Sg**	**09 58 57.0**	**-0.9**
SKO				Smax		09 58 58.0	
	comp=Z,0.4nm,0.3s						
QSH	**Qafa e Shtames**	**0.88**	**279**	ipg?	**Pg**	**09 58 50.2**	**-3.4**
QSH				iSg	**Sg**	**09 59 03.2**	**-2.2**
TIR	**Tirane**	**0.90**	**268**	⇓ipg?	**Pg**	**09 58 55.0**	**+1.0**
TIR				iSg	**Sg**	**09 59 04.0**	**-2.1**
GRG	**Griva**	**1.10**	**113**	ePg	**Pg**	**09 58 57.3**	**-0.8**
GRG				eSg	**Sg**	**09 59 13.4**	**+0.6**
VAY	**Valandovo**	**1.14**	**93**	⇑iPg	**Pg**	**09 58 57.4**	**-1.4**
VAY				iSg	**Sg**	**09 59 13.4**	**-0.7**
VAY	**Valandovo**	**1.14**	**93**	⇑iPg	**Pg**	**09 58 53.4**	**-5.4**
KZN	**Kozani**	**1.21**	**153**	ePN	**Pn**	**09 59 00.8**	**+1.8**
KZN				eSN	**Sn**	**09 59 19.1**	**+3.7**
KNT	**Kendrikon**	**1.41**	**99**	ePg	**Pg**	**09 59 02.2**	**-1.9**
KNT				eSg	**Sg**	**09 59 22.8**	**-0.1**
KNT	**Kendrikon**	**1.41**	**99**	ePg	**Pg**	**09 59 02.2**	**-1.9**
KNT				eSg	**Sg**	**09 59 22.8**	**-0.1**
PVY	**Plav**	**1.45**	**327**	⇑iPg	**Pg**	**09 59 00.9**	**-4.2**
PVY				eSg	**Sg**	**09 59 22.5**	**-2.0**
ULC	**Ulcinj**	**1.47**	**294**	⇑iPg	**Pg**	**09 59 00.5**	**-5.0**
ULC				eSg	**Sg**	**09 59 21.5**	**-3.5**
BARS	**Barje**	**1.54**	**21**	⇓iPn	**Pn**	**09 59 03.7**	**0.0**
BARS				Sn	**Sn**	**09 59 26.2**	**+2.4**
BARS	**Barje**	**1.54**	**21**	Pn	**Pn**	**09 59 03.7**	**0.0**
BARS				Sn	**Sn**	**09 59 26.2**	**+2.3**
KKB	**Krupnik**	**1.59**	**72**	iP	**Pn**	**09 59 05.0**	**+0.6**
MEV	**Metsovon**	**1.61**	**175**	ePg	**Pg**	**09 59 05.6**	**-2.5**
LIT	**Litokhoron**	**1.68**	**139**	ePb	**Pb**	**09 59 06.0**	**-0.7**
TTG	**Podgorica**	**1.70**	**308**	⇑iPg	**Pg**	**09 59 05.4**	**-4.6**
TTG				eSg	**Sg**	**09 59 29.5**	**-3.1**
IVA	**Berane**	**1.71**	**330**	⇑iPn	**Pn**	**09 59 05.8**	**-0.4**
IVA				eSn	**Sn**	**09 59 31.5**	**+3.2**
IVA	**Berane**	**1.71**	**330**	⇑iPn	**Pn**	**09 59 05.8**	**-0.4**
IVA				eSn	**Sn**	**09 59 31.5**	**+3.2**
JAN	**Janina**	**1.74**	**185**	ePN	**Pn**	**09 59 08.0**	**+1.5**
JAN				eSN	**Sn**	**09 59 33.1**	**+4.2**
BUM	**Brajici-Budva**	**1.85**	**300**	⇑iPn	**Pn**	**09 59 07.5**	**-0.7**
BUM				eSn	**Sn**	**09 59 34.1**	**+2.2**
KEK	**Kerkira**	**1.93**	**210**	ePN	**Pn**	**09 59 10.2**	**+0.9**
SRS	**Serrai**	**1.93**	**97**	ePb	**Pb**	**09 59 08.9**	**-2.0**
SRS				eSb	**Sb**	**09 59 35.8**	**+0.9**
VTS	**Vitosha**	**2.00**	**52**	iP	**Pn**	**09 59 11.0**	**+0.7**
MMB	**Musomiste**	**2.02**	**83**	iP	**Pn**	**09 59 10.5**	**0.0**
PLG	**Polygyros**	**2.08**	**118**	ePB	**Pb**	**09 59 11.8**	**-1.5**
NKY	**Niksic**	**2.09**	**314**	⇑iPn	**Pn**	**09 59 12.1**	**+0.4**
NKY				eSn	**Sn**	**09 59 40.0**	**+2.1**
NVR	**Nevrokopi**	**2.11**	**90**	ePN	**Pn**	**09 59 12.5**	**+0.6**
HCY	**Herceg Novi**	**2.18**	**300**	⇑iPn	**Pn**	**09 59 12.8**	**-0.1**
HCY				eSn	**Sn**	**09 59 41.9**	**+1.7**
PLE	**Pljevlja**	**2.30**	**328**	ePn	**Pn**	**09 59 15.3**	**+0.7**
PLE				eSn	**Sn**	**09 59 45.4**	**+2.2**
NVSS	**Nova Varos 2**	**2.34**	**335**	⇑iPn	**Pn**	**09 59 13.1**	**-2.1**
NVSS				eSn	**Sn**	**09 59 43.9**	**-0.4**
BRY	**Bratogost**	**2.40**	**310**	⇑iPn	**Pn**	**09 59 15.8**	**-0.3**
BRY				eSn	**Sn**	**09 59 47.5**	**+1.6**
UPM	**Unac-Piva**	**2.41**	**319**	⇑iPn	**Pn**	**09 59 16.6**	**+0.4**
UPM				eSn	**Sn**	**09 59 48.1**	**+2.0**
EVR	**Evrytania**	**2.54**	**167**	ePN	**Pn**	**09 59 19.0**	**+1.1**
AGG	**Agios Georgios**	**2.56**	**157**	ePn	**Pn**	**09 59 18.3**	**+0.1**
AGG				eSn	**Sn**	**09 59 49.2**	**-0.5**
XOR	**Xorichti**	**2.59**	**140**	ePn	**Pn**	**09 59 18.4**	**-0.4**
RZN	**Rozhen**	**2.76**	**83**	iP	**Pn**	**09 59 21.5**	**+0.3**
DIVS	**Divcibare**	**2.82**	**344**	⇑iPn	**Pn**	**09 59 20.6**	**-1.4**
DIVS				Sn	**Sn**	**09 59 59.1**	**+2.7**

*MOS **10** 10:04:05.0±1.2,53.99N×160.45E,h27km,mb4.8/18,Error ellipse: s-maj=14.9km s-min=7.4km az=82.3*
*IDC **10** 10:04:06.8±4.5,53.87N×160.18E,h34km±38km,mb3.9/13, mb1 4.2/14,mb1mx4.0/23,mbtmp4.1/14,ML3.8/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/32,Error ellipse: s-maj=23.4km s-min=16.0km az=160.0*
*KRSC **10** 10:04:08.1±0.6,53.67N×160.66E,h28km±4km,ML4.6*
*NEIC **10** 10:04:09.8±1.4,53.85N×160.22E,h58km±13km,mb4.6/19, Error ellipse: s-maj=12.7km s-min=9.4km az=144.0*
ISC 10 10:04:08.2±0.4**,53.65N**±0.02×**160.69E**±0.06**,h64km**±3km**, n108,**σ**1^{s}00**/149**,mb4.4**/32**,1C-1D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.68**	**216**	iP	**P**	**10 04 21.9**	**-0.7**
SPN				iS	**S**	**10 04 31.6**	**-1.7**
KII	**Karymskiy**	**0.83**	**298**	iP	**P**	**10 04 23.7**	**-0.7**
KII				eS	**S**	**10 04 35.4**	**-1.0**
NLC	**Nalytchevo**	**0.94**	**240**	iP	**P**	**10 04 25.3**	**-0.5**
NLC				iS	**S**	**10 04 37.9**	**-1.0**
MKZ	**Mys Kozlova**	**1.10**	**34**	iP	**P**	**10 04 27.2**	**-0.8**
MKZ				iS	**S**	**10 04 40.8**	**-1.8**
SDLR	**Sedlovina**	**1.14**	**252**	iP	**P**	**10 04 28.6**	**+0.1**
SDLR				iS	**S**	**10 04 43.9**	**+0.3**
SMAR	**Somma**	**1.19**	**252**	iP	**P**	**10 04 29.2**	**0.0**
SMAR				iS	**S**	**10 04 44.4**	**-0.5**
UGLR	**Uglovaya**	**1.20**	**249**	iP	**P**	**10 04 29.4**	**+0.1**
UGLR				iS	**S**	**10 04 45.1**	**0.0**
AVH	**Avacha**	**1.23**	**252**	iP	**P**	**10 04 29.9**	**+0.2**
AVH				iS	**S**	**10 04 46.0**	**+0.3**
KOK	**Koryaka**	**1.28**	**255**	iP	**P**	**10 04 30.4**	**-0.1**
KOK				iS	**S**	**10 04 46.4**	**-0.5**
PET	**Petropavlovsk**	**1.37**	**244**	P	**P**	**10 04 31.9**	**+0.1**
PET				S	**S**	**10 04 49.0**	**-0.3**
PET	**Petropavlovsk**	**1.37**	**244**	iP	**P**	**10 04 31.7**	**-0.1**
PET				iS	**S**	**10 04 48.9**	**-0.4**
PET	**Petropavlovsk**	**1.37**	**244**	eP	**P**	**10 04 31.4**	**-0.4**
PET				eS	**S**	**10 04 48.9**	**-0.4**
PET	**Petropavlovsk**	**1.37**	**244**	⇓iPN	**P**	**10 04 31.3**	**-0.5**
PET				iS	**S**	**10 04 48.7**	**-0.6**
PET				pmax	pmax		
	comp=Z,311nm,0.6s						
PET				smax			
	comp=E,3μm,0.4s						
PET				smax			
	comp=N,6μm,0.5s						
GNL	**Ganaly**	**1.63**	**273**	iP	**P**	**10 04 35.3**	**-0.1**
GNL				eS	**S**	**10 04 56.1**	**+0.7**
TUMR	**Tumrok**	**1.67**	**349**	iP	**P**	**10 04 35.9**	**+0.1**
TUMR				iS	**S**	**10 04 56.2**	**0.0**
KRMR	**Karymshinskiy**	**1.74**	**243**	eP	**P**	**10 04 36.3**	**-0.5**
KRMR				iS	**S**	**10 04 56.9**	**-1.1**
RUS	**Russkaya**	**1.79**	**228**	P	**P**	**10 04 37.6**	**+0.1**
RUS				S	**S**	**10 04 59.0**	**-0.1**
RUS	**Russkaya**	**1.79**	**228**	eP	**P**	**10 04 37.1**	**-0.4**
RUS				eS	**S**	**10 04 58.7**	**-0.4**
GRL	**Gorelyy**	**1.92**	**236**	eP	**P**	**10 04 40.2**	**+0.9**
GRL				eS	**S**	**10 05 03.4**	**+1.1**
KMNR	**Kamenistaya**	**2.13**	**353**	iP	**P**	**10 04 42.7**	**+0.5**
KMNR				iS	**S**	**10 05 08.2**	**+0.8**
APC	**Apacha**	**2.24**	**252**	iP	**P**	**10 04 44.6**	**+0.8**
APC				iS	**S**	**10 05 11.3**	**+1.1**
APC				Smax			
	comp=N,430nm,1.4s						
KPT	**Kopyto**	**2.34**	**354**	iP	**P**	**10 04 45.4**	**+0.2**
KPT				eS	**S**	**10 05 13.1**	**+0.4**
ZLN	**Zelenaya**	**2.37**	**2**	iP	**P**	**10 04 46.5**	**+0.8**
ZLN				iS	**S**	**10 05 15.3**	**+1.7**
LGNR	**Loginova**	**2.44**	**0**	iP	**P**	**10 04 48.2**	**+1.6**
LGNR				iS	**S**	**10 05 17.5**	**+2.2**
KOZ	**Kozyrevsk**	**2.46**	**349**	P	**P**	**10 04 46.8**	**-0.1**
KOZ				S	**S**	**10 05 14.5**	**-1.3**
KOZ	**Kozyrevsk**	**2.46**	**349**	iP	**P**	**10 04 46.9**	**0.0**
KOZ				iS	**S**	**10 05 14.7**	**-1.1**
KOZR	**Kozyr**	**2.46**	**350**	PN	**P**	**10 04 46.8**	**-0.2**
CIRR	**Tsirk**	**2.47**	**1**	iP	**P**	**10 04 47.8**	**+0.7**
CIRR				eS	**S**	**10 05 17.6**	**+1.5**
ESO	**Esso**	**2.55**	**334**	iP	**P**	**10 04 47.6**	**-0.7**
ESO				eS	**S**	**10 05 16.5**	**-1.7**
ESO				Smax			
	comp=N,320nm,0.7s						
KRSR	**Krestovskiy**	**2.57**	**359**	iP	**P**	**10 04 48.6**	**+0.1**
KRSR				eS	**S**	**10 05 18.6**	**-0.1**
KLY	**Klyuchi**	**2.67**	**360**	P	**P**	**10 04 50.3**	**+0.4**
KLY				S	**S**	**10 05 21.5**	**+0.4**
KLY	**Klyuchi**	**2.67**	**360**	iP	**P**	**10 04 50.3**	**+0.4**
KLY				iS	**S**	**10 05 21.6**	**+0.5**
SRDR	**Sredinnyy**	**2.73**	**349**	eP	**P**	**10 04 49.9**	**-0.9**
SRDR				eS	**S**	**10 05 20.7**	**-2.0**
MIPR	**Malaya Ipel'ka**	**2.75**	**241**	iP	**P**	**10 04 51.8**	**+0.8**
MIPR				eS	**S**	**10 05 24.2**	**+1.2**
KBTR	**Krutoberegovo**	**2.84**	**25**	P	**P**	**10 04 53.1**	**+0.7**
KBTR				S	**S**	**10 05 26.9**	**+1.4**
KBTR	**Krutoberegovo**	**2.84**	**25**	eP	**P**	**10 04 53.0**	**+0.6**
KBTR				eS	**S**	**10 05 26.8**	**+1.3**
SVLR	**Shiveluch**	**2.95**	**6**	iP	**P**	**10 04 54.7**	**+0.8**
SVLR				eS	**S**	**10 05 28.8**	**+0.6**
PAU	**Pauzhetka**	**3.22**	**229**	iP	**P**	**10 04 59.2**	**+1.6**
PAU				eS	**S**	**10 05 36.5**	**+1.5**
PAU				Smax			
	comp=N,310nm,1.0s						
BKI	**Bering**	**3.46**	**61**	iP	**P**	**10 05 00.4**	**-0.6**
BKI				iS	**S**	**10 05 37.4**	**-3.6**
BKI				Smax			
	comp=N,120nm,0.2s						
ALID	**Alaid**	**4.21**	**231**	eP	**P**	**10 05 11.9**	**+0.4**
ALID				eS	**S**	**10 05 58.5**	**-1.3**
OSSR	**Ossora**	**5.77**	**12**	eP	**P**	**10 05 34.5**	**+1.4**
OSSR				eS	**S**	**10 06 37.6**	**-1.1**
FX1	**Attu Island--F**	**7.53**	**91**	Pn	**P**	**10 05 57.2**	**-0.4**
	comp=N,4.4nm,0.3s,baz=90,slow=20,SNR=4.4						
FX1				Sn	**S**	**10 07 18.1**	**-4.1**
	comp=N,4.4nm,0.3s,baz=90,slow=19,SNR=6.0						
YSS	**Yuzh-Sakhalins**	**13.26**	**247**	ePN	**P**	**10 07 18.0**	**+3.0**
ASAJ	**Asahikawa**	**15.21**	**238**	Pn	**P**	**10 07 40.0**	**-0.3**
	comp=N,0.5nm,0.3s,baz=107,slow=21,SNR=5.1						
ASAJ				LR	LR	10 13 02.5	
	comp=N,60nm,21.1s,baz=334,slow=36						
ASAJ	**Asahikawa**	**15.21**	**238**	P	**P**	**10 07 40.0**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,60nm,21.1s						
YAK	**Yakutsk**	**18.35**	**310**	eP	**P**	**10 08 16.1**	**-3.2**
	comp=Z,26nm,0.6s						
YAK	**Yakutsk**	**18.35**	**310**	⇑eP	**P**	**10 08 17.0**	**-2.4**
YAK				pmax	pmax		
	comp=Z,21nm,0.7s						
MAJO	**Matsushiro**	**23.17**	**231**	eP	**P**	**10 09 11.0**	**+1.5**
	comp=Z,8.8nm,0.6s,mb4.4						
MAJO	**Matsushiro**	**23.17**	**231**	eP	**P**	**10 09 11.0**	**+1.5**

MAJO pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
MAT Matsushiro 23.17 231 P **P 10 09 10.7 +1.2**
MAT Matsushiro 23.17 231 *e*P **P 10 09 11.0 +1.5**
comp=Z,6.8nm,0.7s,mb4.2
MAT Matsushiro 23.17 231 *e*P **P 10 09 11.0 +1.5**
MAT pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
MJAR Matsushiro Arr 23.17 231 P **P 10 09 10.6 +1.0**
comp=Z,5.5nm,0.8s,mb4.0,baz=23,slow=12,SNR=19
HIA Hailar 25.62 277 *e*P **P 10 09 29.9 -3.0**
HIA *e*pP pP 10 09 50.1 +1.9
BOD Bodaibo 26.19 298 *e*P **P 10 09 32.7 -5.4**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
ILAR Eielson Array 28.17 46 P **P 10 09 55.1 -1.0**
comp=Z,1.0nm,0.8s,mb3.5,baz=268,slow=8.4,SNR=8.8
YKA Yellowknife Ar 42.51 43 P **P 10 11 59.1 +0.9**
comp=Z,2.1nm,0.8s,mb3.9,baz=298,slow=8.3,SNR=4.3
KURK Kurchatov 47.74 302 *e*P **P 10 12 36.1 -4.0**
comp=Z,4.5nm,0.5s,mb4.8
KURK Kurchatov 47.74 302 *e*P **P 10 12 36.1 -4.0**
KURK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
MKAR Makanchi Array 48.23 296 P **P 10 12 40.3 -3.7**
comp=Z,1.1nm,0.5s,mb4.2,baz=57,slow=6.5,SNR=15
BVAR Borovoye Array 50.32 308 P **P 10 12 55.9 -4.1**
comp=Z,1.6nm,0.3s,mb4.5,baz=60,slow=8.1,SNR=8.5
BVAR PcP PcP 10 14 16.4 -1.7
comp=Z,1.0nm,0.6s,baz=90,slow=2.9,SNR=4.5
PDAR Pinedale Array 56.94 61 P **P 10 13 50.1 +1.3**
comp=Z,0.9nm,0.8s,mb3.8,baz=334,slow=3.4,SNR=6.9
FINES FINESS Array B 59.75 337 P **P 10 14 05.6 -2.5**
comp=Z,1.3nm,0.6s,mb4.2,baz=40,slow=6.1,SNR=8.0
FINES FINESS Array B 59.75 337 *i* P **P 10 14 06.3 -1.8**
FINES pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 63.11 344 P **P 10 14 28.4 -2.3**
comp=Z,2.0nm,0.4s,mb4.6,baz=24,slow=6.5
NOA NORSAR Array B 63.11 344 P **P 10 14 28.7 -2.1**
comp=Z,3.5nm,0.7s,mb4.6,baz=21,slow=6.7,SNR=13
AKASG Malin Array Be 68.32 329 P **P 10 15 01.2 -2.8**
comp=Z,1.0nm,0.3s,mb4.3,baz=28,slow=6.7,SNR=6.4
TXAR Lajitas Array 70.09 68 P **P 10 15 16.4 +1.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=299,slow=5.2,SNR=16
CLL Collm 71.96 339 P **P 10 15 25.0 -1.1**
KHC Kasperske Hory 73.89 338 *e*P **P 10 15 36.5 -0.8**
GERES GERESS Array B 74.13 338 P **P 10 15 38.2 -0.6**
comp=Z,1.1nm,0.5s,mb4.0,baz=37,slow=5.6,SNR=12
BAIF Baives 74.78 345 *e*P **P 10 15 41.7 -0.7**
comp=Z,10.0nm,0.8s,mb4.5
BAIF Baives 74.78 345 *e*P **P 10 15 41.7 -0.7**
BAIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CDF Champ du Feu 75.85 342 *e*P **P 10 15 48.0 -0.6**
comp=Z,17nm,1.1s,mb4.6
CDF Champ du Feu 75.85 342 *e*P **P 10 15 48.0 -0.6**
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
HAU Haudompre 76.41 343 *e*P **P 10 15 51.4 -0.4**
WRA Warramunga Arr 76.73 205 P **P 10 15 54.1 -0.1**
comp=Z,1.6nm,1.1s,mb3.9,baz=17,slow=6.0,SNR=4.5
GRR Gorron 77.14 347 *e*P **P 10 15 55.2 -0.7**
comp=Z,8.2nm,0.7s,mb4.5
GRR Gorron 77.14 347 *e*P **P 10 15 55.2 -0.7**
GRR pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LOR Lormes 77.55 344 *e*P **P 10 15 57.6 -0.5**
comp=Z,9.9nm,0.9s,mb4.5
LOR Lormes 77.55 344 *e*P **P 10 15 57.6 -0.5**
LOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CABF La Chapelle 77.80 342 *e*P **P 10 15 59.5 0.0**
SSF Saint Saulge 77.81 344 *e*P **P 10 15 59.1 -0.4**
comp=Z,11nm,1.1s,mb4.4
SSF Saint Saulge 77.81 344 *e*P **P 10 15 59.1 -0.4**
SSF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
AVF Avril sur Loir 78.09 344 *e*P **P 10 16 00.5 -0.6**
comp=Z,14nm,1.0s,mb4.5
AVF Avril sur Loir 78.09 344 *e*P **P 10 16 00.5 -0.6**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SMF Signal de Mont 78.16 344 *e*P **P 10 16 01.2 -0.3**
comp=Z,18nm,1.1s,mb4.6
SMF Signal de Mont 78.16 344 *e*P **P 10 16 01.2 -0.3**
SMF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LPL La Plagne 78.74 342 *e*P **P 10 16 05.6 +0.9**
comp=Z,18nm,0.9s,mb4.7
LPL La Plagne 78.74 342 *e*P **P 10 16 05.6 +0.9**
LPL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LPG La Plagne 78.75 342 *e*P **P 10 16 05.9 +1.1**
comp=Z,23nm,0.9s,mb4.8
LPG La Plagne 78.75 342 *e*P **P 10 16 05.9 +1.1**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.8
TCF Toulx Ste Croi 78.76 345 *e*P **P 10 16 04.4 -0.4**
ORIF Oris-en-Rattie 79.47 342 *e*P **P 10 16 09.4 +0.7**
comp=Z,9.2nm,0.8s,mb4.5
ORIF Oris-en-Rattie 79.47 342 *e*P **P 10 16 09.4 +0.7**
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MBDF Montbardon 79.49 341 *e*P **P 10 16 08.7 -0.1**
VIVF Saint-Julien-l 79.75 343 *e*P **P 10 16 10.8 +0.6**
comp=Z,12nm,1.0s,mb4.5
VIVF Saint-Julien-l 79.75 343 *e*P **P 10 16 10.8 +0.6**
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CAF Calviac 80.11 345 *e*P **P 10 16 11.9 -0.3**
comp=Z,15nm,1.0s,mb4.6
CAF Calviac 80.11 345 *e*P **P 10 16 11.9 -0.3**
CAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
FRF La Foret Royal 80.64 341 *e*P **P 10 16 14.7 -0.3**
comp=Z,6.1nm,0.7s,mb4.3
FRF La Foret Royal 80.64 341 *e*P **P 10 16 14.7 -0.3**
FRF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LASF Ste Croix 80.65 343 *e*P **P 10 16 15.9 +0.9**
LMR La Mourre 80.89 341 *e*P **P 10 16 16.4 +0.1**
comp=Z,44nm,1.1s,mb5.0
LMR La Mourre 80.89 341 *e*P **P 10 16 16.4 +0.1**
LMR pmax pmax
comp=Z,22nm,1.1s,mb5.0
PGF Pioggiola 81.14 339 *e*P **P 10 16 17.2 -0.4**
comp=Z,20nm,0.9s,mb4.7
PGF Pioggiola 81.14 339 *e*P **P 10 16 17.2 -0.4**
PGF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ESDC Sonseca Array 86.11 348 P **P 10 16 43.9 +1.3**
comp=Z,1.4nm,0.6s,mb4.4,baz=2.6,slow=4.7,SNR=6.3

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*IDC **10** 10:16:05.4±7.1, 21.38S×169.73E, h56km±52km, mb4.0/5, mb1 4.1/6, mb1mx3.9/14, mbtmp4.3/6, ML4.2/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/26, Error ellipse: s-maj=56.5km s-min=39.5km az=131.0*
*LDG **10** 10:16:06.1±0.3, 18.99S×166.73E, h10km, Error ellipse: s-maj=78.1km s-min=4.1km az=90.0*
ISC 10 10:16:02.9±4.1**, 21.5S**±0.2×**169.8E**±0.2**, h58**km±30km**, n30, σ0.98**/14**, mb4.1**/5**, MS3.4**/2**, 3C, Southeast of Loyalty Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DZM Mont Dzumac 3.21 259 *e*P **P 10 16 52.4 +0.3**
DZM *e*S **S 10 17 28.2 -1.1**
DZM Mont Dzumac 3.21 259 P **P 10 16 52.7 +0.6**
27nm,0.3s,baz=250,slow=16,SNR=1109
DZM S **S 10 17 28.8 -0.6**
47nm,0.3s,baz=210,slow=20,SNR=23
HNR Honiara 15.31 320 LR LR 10 24 08.4
comp=Z,88nm,21.4s,baz=204,slow=32
CTA Charters Tower 22.09 269 P **P 10 20 56.0 +1.3**
3.4nm,0.7s,mb3.9,baz=90,slow=9.5,SNR=6.6
CTA LR LR 10 28 13.2
comp=Z,108nm,20.6s,MS3.2,baz=47,slow=33
PMG Port Moresby 24.90 295 P **P 10 21 23.3 +1.2**
10nm,0.6s,mb4.5,baz=141,slow=10,SNR=6.3
STKA Stephens Creek 27.20 242 P **P 10 21 43.7 +0.4**
2.3nm,0.9s,mb3.7,baz=83,slow=8.1,SNR=3.4
WRA Warramunga Arr 33.20 266 P **P 10 22 35.6 -0.8**
2.8nm,0.6s,mb4.4,baz=98,slow=8.3,SNR=35
MJAR Matsushiro Arr 65.00 332 P **P 10 26 37.8 -1.4**
0.9nm,0.6s,mb4.0,baz=149,slow=7.2,SNR=5.8
SNAA Sanae 86.95 182⇑*i* **P 10 28 42.8 +0.6**
SNAA Sanae 86.95 182 *e* pP 10 28 56.8 -2.0
VNA3 Neumayer Olymp 87.51 180⇑*i* **P 10 28 43.4 -1.6**
VNA3 Neumayer Olymp 87.51 180 *e* **P 10 28 55.3 +10**
VNA3 Neumayer Olymp 87.51 180 *e* pP 10 28 59.7 -1.8
VNA2 Neumayer--Watz 87.81 181⇑*i* **P 10 28 46.1 -0.3**
VNA2 Neumayer--Watz 87.81 181 *e* **P 10 28 58.0 +12**
VNA2 Neumayer--Watz 87.81 181 *e* pP 10 29 01.9 -1.1
ANMO Albuquerque 97.11 55 LR LR 11 06 00.3
comp=Z,18nm,20.6s,MS3.5,baz=85,slow=31
ARCES ARCESS Array B 127.38 345 PKP PKPdf 10 35 04.2 +3.5
1.1nm,0.6s,baz=45,slow=2.6,SNR=4.2
GERES GERESS Array B 146.73 331 PKPbc PKPbc 10 35 38.8 +0.9
3.7nm,0.7s,baz=34,slow=2.5,SNR=29
GIVF Givet 149.09 341 *e*PKP1 PKPdf 10 35 45.1 +4.9
BAIF Baives 149.31 342 *e*PKP1 PKPdf 10 35 45.8 +5.3
CDF Champ du Feu 149.72 337 *e*PKP1 PKPdf 10 35 46.5 +5.2
HAU Haudompre 150.40 337 *e*PKP1 PKPdf 10 35 48.2 +5.9
CABF La Chapelle 151.67 336 *e*PKP1 PKPdf 10 35 51.7 +7.4
12nm,0.8s
LDF La Druitiere 151.79 346 *e*PKP1 PKPdf 10 35 52.9 +8.5
LOR Lormes 151.89 340 *e*PKP1 PKPdf 10 35 52.4 +7.8
LPL La Plagne 152.32 334 *e*PKP1 PKPdf 10 35 53.2 +8.0
5.1nm,0.7s
LPG La Plagne 152.33 334 *e*PKP1 PKPdf 10 35 53.4 +8.1
8.9nm,0.9s
ORIF Oris-en-Rattie 153.16 334 *e*PKP1 PKPdf 10 35 54.6 +8.2
9.4nm,0.9s
SBF Sospel 153.33 331 *e*PKP1 PKPdf 10 35 56.2 +10
46nm,1.0s

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*JMA **10** 10:23:25.2±0.2, 43.24N×147.27E, h39km, M3.6*
*IDC **10** 10:23:28.9±6.0, 43.24N×147.29E, h81km±42km, mb3.4/4, mb1 3.5/5, mb1mx3.3/21, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=139.8km s-min=36.7km az=7.0*
ISC 10 10:23:25.7±1.4**, 43.2N**±0.1×**147.3E**±0.1**, h62**km±13km**, n17, σ0.66**/24**, mb3.6**/4**, Kuril Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
NEM2 Nemuro 2 1.11 277 P **P 10 23 45.0 -0.5**
NEM2 *e*S **S 10 23 59.5 -0.7**
JRA Rausu 1.70 295 P **P 10 23 53.2 -0.4**
JRA *e*S **S 10 24 14.2 -0.1**
JNK Nakash 1.88 281 P **P 10 23 55.9 -0.2**
JNK *e*S **S 10 24 18.2 -0.4**
JAK Akkeshi 1.89 263 P **P 10 23 56.0 -0.3**
JAK *e*S **S 10 24 18.6 -0.3**
JOB Onbets 2.53 263 P **P 10 24 04.9 -0.4**
JOB *e*S **S 10 24 34.5 -0.4**
JTKR Abashiri--Toko 2.54 288 P **P 10 24 05.8 +0.4**
JAR Ashorobuto 2.54 272 P **P 10 24 05.7 +0.1**
JAR *e*S **S 10 24 35.9 +0.5**
JCH Churui 2.92 259 P **P 10 24 10.5 -0.4**
JMP Maruseppu 2.93 286 P **P 10 24 11.1 +0.1**
JEM Erimo 3.26 249 P **P 10 24 16.8 +1.1**
JFR Furan 3.41 270 P **P 10 24 18.5 +0.8**
JNBK Urakawa-nobuka 3.45 255 P **P 10 24 18.0 -0.3**
ASAJ Asahikawa 3.49 286 P **P 10 24 20.6 +1.7**
0.6nm,0.3s,baz=135,slow=10.0,SNR=6.3
ASAJ S **S 10 25 02.6 +3.4**
0.7nm,0.3s,baz=300,slow=20,SNR=2.7
SONM Songino Array 28.74 294 P **P 10 29 18.9 -0.2**
1.2nm,0.6s,mb3.8,baz=90,slow=12,SNR=3.6
MKAR Makanchi Array 44.89 298 P **P 10 31 35.2 -0.2**
0.6nm,0.6s,mb3.6,baz=77,slow=8.8,SNR=7.6
NOA NORSAR Array B 70.10 339 P **P 10 34 31.8 -0.8**
0.9nm,0.8s,mb3.7,baz=31,slow=6.4,SNR=3.3
TXAR Lajitas Array 82.87 56 P **P 10 35 45.0 +0.3**
0.2nm,0.5s,mb3.4,baz=290,slow=3.8,SNR=3.9

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*BJI **10** 10:35:21.5, 5.11S×154.14E, h104km, mB4.9, mb4.8*
*IDC **10** 10:35:25.7±3.6, 4.42S×153.52E, h77km±33km, mb4.2/13, mb1 4.4/13, mb1mx4.3/17, mbtmp4.6/13, MS3.8/12, Ms1 3.8/12, ms1mx3.8/16, Error ellipse: s-maj=21.9km s-min=12.6km az=93.0*
*MOS **10** 10:35:27.1±0.8, 4.34S×153.68E, h105km, mb4.9/9, Error ellipse: s-maj=13.4km s-min=11.3km az=78.2*
*NEIC **10** 10:35:28.6±1.2, 4.41S×153.60E, h105km±11km, mb4.9/20, Error ellipse: s-maj=10.0km s-min=8.4km az=80.0*
*HRVD **10** 10:35:28.6±0.2, 4.68S×153.53E, h103km±2km, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s42,c62;Mantle waves: s63,c111; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.59±.19; $M_{\theta\theta}$-1.59±.23; $M_{\phi\phi}$-4.00±.23; $M_{r\theta}$-2.84±.16; $M_{\theta\phi}$2.72±.19; $M_{\phi r}$2.19±.15; Best double couple: $M_0$6.719×10^{16} NP1: ϕ_s157°,δ30°,λ108°. NP2:ϕ_s317°,δ61°,λ80°. Principal axes: T 6.722, Plg72°, Azm203°; N -.006, Plg9°, Azm322°; P -6.716, Plg16°, Azm54°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 10:35:27.6±1.5**, 4.45S**±0.07×**153.63E**±0.05**, h112**km±15km**, n67, σ0.92**/69**, mb4.7**/31**, 5C, New Ireland region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
HNR Honiara 7.99 129 S **S 10 38 51.3 -0.4**
9.7nm,0.3s,baz=347,slow=21,SNR=7.2
HNR Honiara 7.99 129 P **P 10 37 21.8 -0.6**
364nm,0.8s
HNR Honiara 7.99 129 P **P 10 37 21.8 -0.6**
HNR pmax pmax
comp=Z,364nm,0.8s
PMG Port Moresby 8.09 232 P **P 10 37 24.6 +0.8**
comp=Z,42nm,0.3s,baz=42,slow=4.8,SNR=60
PMG S **S 10 38 54.1 -0.1**
comp=Z,12nm,0.3s,baz=170,slow=22,SNR=22
PMG Port Moresby 8.09 232 *e*P **P 10 37 22.4 -1.4**
comp=Z,323nm,0.9s
PMG Port Moresby 8.09 232*c i*P **P 10 37 24.5 +0.7**
CTA Charters Tower 17.12 204 *e*P **P 10 39 24.4 +2.9**
comp=Z,7.5nm,0.9s
CTA *e*S **S 10 42 33.4 +6.9**
CTA Charters Tower 17.12 204 P **P 10 39 22.3 +0.8**
comp=Z,0.2nm,0.3s,baz=31,slow=12,SNR=7.3
CTA Charters Tower 17.12 204 *e*P **P 10 39 24.4 +2.9**
CTA *e*S **S 10 42 33.4 +6.9**
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTAO Charters Tower 17.12 204 *e*P **P 10 39 23.3 +1.8**
comp=Z,14nm,1.0s
CTAO Charters Tower 17.12 204 *e*P **P 10 39 23.3 +1.8**
CTAO pmax pmax
comp=Z,14nm,1.0s
GUMO Guam 19.92 334 LR LR 10 46 35.6
comp=Z,81nm,20.0s,baz=125,slow=34
DZM Mont Dzumac 21.48 146 P **P 10 40 10.2 +1.7**
comp=Z,4.4nm,0.8s,mb3.8,baz=321,slow=16,SNR=6.8
DZM LR LR 10 45 59.0
comp=Z,113nm,19.0s,baz=22,slow=29
WRAB Tennant Creek 24.28 229 *e*P **P 10 40 35.6 -0.3**
comp=Z,46nm,0.8s,mb4.9
WRAB Tennant Creek 24.28 229⇑*e*P **P 10 40 35.9 +0.1**
WB2 Warramunga Arr 24.29 229 *e*P **P 10 40 36.0 +0.1**
WB2 *e*S **S 10 44 53.0 +9.3**
WRA Warramunga Arr 24.30 229 P **P 10 40 36.0 0.0**
comp=Z,23nm,0.5s,mb4.8,baz=53,slow=9.9,SNR=140
WRA PcP PcP 10 44 16.7 +2.5
comp=Z,2.3nm,0.8s,baz=44,slow=2.0,SNR=5.0
WRA S **S 10 44 50.1 +6.2**
comp=Z,1.8nm,0.9s,baz=46,slow=18,SNR=3.9
STKA Stephens Creek 29.53 201 *e*P **P 10 41 22.9 -0.9**
comp=Z,8.0nm,0.9s,mb4.3
STKA Stephens Creek 29.53 201 P **P 10 41 22.2 -1.7**
comp=Z,9.0nm,0.8s,mb4.5,baz=37,slow=16,SNR=14
STKA LR LR 10 54 15.4
comp=Z,474nm,18.0s,baz=17,slow=38
FITZ Fitzroy Crossi 30.55 241⇑*i*P **P 10 41 30.7 -2.3**
comp=Z,19nm,0.6s,mb5.0
FITZ Fitzroy Crossi 30.55 241 P **P 10 41 30.7 -2.3**
comp=Z,22nm,0.5s,mb5.2,baz=56,slow=4.5,SNR=28
FITZ LR LR 10 55 55.2
comp=Z,245nm,18.8s,baz=96,slow=40
FORT Forrest 35.58 220 *e*P **P 10 42 15.9 -0.3**
comp=Z,21nm,0.5s,mb5.3
MBWA Marble Bar 36.86 240 *e*P **P 10 42 27.4 +0.4**
comp=Z,14nm,0.9s,mb4.9
RPZ Rata Peaks 42.03 161 P **P 10 43 10.3 +0.7**
comp=Z,6.7nm,0.8s,mb4.5,baz=82,slow=2.9,SNR=7.0
JNU Nakatsue 43.14 332 P **P 10 43 18.2 -0.5**
comp=Z,18nm,0.8s,mb4.8,baz=93,slow=5.8,SNR=9.6
MJAR Matsushiro Arr 43.25 342 P **P 10 43 19.7 +0.1**
comp=Z,0.9nm,0.6s,mb3.7,baz=56,slow=4.0,SNR=5.1
MJAR LR LR 10 58 01.8
comp=Z,117nm,20.4s,baz=180,slow=31
SSE Sheshan 46.98 321 *e*P **P 10 43 50.5 +1.1**
SSE PCP PcP 10 45 15.8 -4.6
SSE PP PP 10 45 43.6 +2.7
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,112nm,6.1s
SSE LR LR
comp=N,78nm,35.0s
SSE LR LR
comp=E,92nm,35.0s
SSE LR LR
comp=Z,115nm,34.8s
NJ2 Nanjing 49.10 320 *e*P **P 10 44 08.2 +2.4**
NJ2 PP PP 10 46 05.9 +5.3
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
NJ2 AMB AMB
comp=Z,540nm,4.9s
NJ2 LR LR
comp=N,580nm,15.2s
NJ2 LR LR
comp=E,480nm,19.4s
NJ2 LR LR
comp=Z,290nm,15.9s
KULM Kulim 53.79 280 *e*P **P 10 44 39.8 -1.5**
KMI Kunming 57.48 303 P **P 10 45 08.6 +1.0**
KMI PP PP 10 47 18.8 +0.9
KMI S **S 10 53 02.1 +7.9**
KMI SS SS 10 56 51.0 +3.9
KMI AMB AMB
comp=Z,15nm,1.0s,mb5.0
KMI AMB AMB
comp=Z,122nm,7.1s
KMI LR LR
comp=N,116nm,15.7s
KMI LR LR
comp=E,146nm,13.9s
KMI LR LR
comp=Z,75nm,19.3s
KMI Kunming 57.48 303 P **P 10 45 08.6 +1.0**
comp=Z,15nm,1.0s,mb5.0
KMI pP pP 10 45 21.3 -13
KMI sP sP 10 45 25.9 -21
KMI PP PP 10 47 18.8 +0.9
KMI S **S 10 53 02.1 +7.9**
KMI sS 10 53 23.2
KMI SS SS 10 56 51.0 +3.9
KMI LR LR
comp=Z,80nm,19.3s
LZH Lanzhou 61.56 315 *e*P **P 10 45 35.0 -0.5**
LZH AMB AMB
comp=Z,26nm,1.2s,mb5.1
LZH Lanzhou 61.56 315 *e*P **P 10 45 35.0 -0.5**
comp=Z,26nm,1.2s,mb5.1
LZH pP pP 10 45 46.5 -17
LZH sP sP 10 45 52.5 -23
GTA Gaotai 65.96 317 *e*P **P 10 46 04.8 +0.5**
GTA AP pP 10 46 29.6 -2.5
GTA PCP PcP 10 46 32.7 -1.2
GTA XP sP 10 46 39.7 -4.6
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.2
SONM Songino Array 66.47 327 P **P 10 46 07.2 -0.2**
comp=Z,1.8nm,0.5s,mb4.1,baz=145,slow=5.7,SNR=4.2
SONM LR LR 11 12 46.3
comp=Z,65nm,19.6s,baz=3.4,slow=34
CASY Casey 68.59 197 *e*P **P 10 46 19.8 -0.4**
comp=Z,9.7nm,1.4s,mb4.4
LSA Lhasa 68.72 304 P **P 10 46 21.5 -0.1**
LSA Lhasa 68.72 304 *e*P **P 10 46 22.9 +1.2**
comp=Z,14nm,0.6s,mb5.0
LSA Lhasa 68.72 304 *e*P **P 10 46 22.9 +1.2**
LSA pmax pmax
comp=Z,14nm,0.6s,mb5.0
ZAK Zakamensk 69.62 328 *e*P **P 10 46 23.5 -3.3**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
PKI Pulchoki 72.97 300 *e*P **P 10 46 47.3 +0.1**
comp=Z,22nm,0.8s,mb5.0
PKI Pulchoki 72.97 300 *e*P **P 10 46 47.3 +0.1**
PKI pmax pmax
comp=Z,11nm,0.8s,mb4.7
KKN Kakani 73.13 301 *e*P **P 10 46 47.8 -0.3**
comp=Z,28nm,0.7s,mb5.2
KKN Kakani 73.13 301 *e*P **P 10 46 47.8 -0.3**
KKN pmax pmax
comp=Z,14nm,0.7s,mb4.9
VNDA Vanda 73.15 178 P **P 10 46 47.5 +0.2**
comp=Z,3.7nm,0.7s,mb4.3,baz=332,slow=5.8,SNR=18
VNDA LR LR 11 17 46.9
comp=Z,44nm,19.6s,baz=334,slow=35
VNDA Vanda 73.15 178 *e*P **P 10 46 48.0 +0.6**
comp=Z,4.5nm,0.8s,mb4.3
VNDA *e*PP PP 10 49 32.8 -0.8
VNDA Vanda 73.15 178 *e*P **P 10 46 48.0 +0.7**
VNDA *e* 10 49 32.8
VNDA pmax pmax
comp=Z,4.0nm,0.8s
DMN Daman 73.23 300 *e*P **P 10 46 49.1 +0.3**
comp=Z,56nm,0.9s,mb5.4
GKN Gorkha 73.73 301 *e*P **P 10 46 51.6 -0.1**
comp=Z,39nm,0.8s,mb5.2
MIR Mirnyy 74.55 201 *e*P **P 10 46 57.0 +1.4**
MIR *e* pP 10 47 27.0 +2.9
MIR pmax pmax
comp=Z,34nm,1.4s,mb4.9
KOLN Koldanda 74.57 300 *e*P **P 10 46 55.9 -0.6**
comp=Z,23nm,0.8s,mb5.0
MKAR Makanchi Array 80.61 319 P **P 10 47 29.3 -0.1**
comp=Z,2.6nm,0.8s,mb4.1,baz=90,slow=6.1,SNR=17
MKAR LR LR 11 19 54.0
comp=Z,52nm,20.6s,baz=181,slow=33
MKAR Makanchi Array 80.61 319 P **P 10 47 29.3 -0.1**
MKAR LR LR 11 19 54.0
ZAL Zalesovo 81.33 326 P **P 10 47 32.8 -0.3**
comp=Z,2.1nm,0.3s,mb4.5,baz=39,slow=1.6,SNR=5.4
ZAL LR LR 11 22 07.2
comp=Z,65nm,20.5s,baz=176,slow=34
ILAR Eielson Array 81.53 22 P **P 10 47 33.4 -0.5**
comp=Z,1.8nm,0.8s,mb4.0,baz=350,slow=2.2,SNR=6.5
ILAR LR LR 11 17 14.3
comp=Z,77nm,21.6s,baz=190,slow=31
KURK Kurchatov 84.00 322⇑*e*P **P 10 47 46.5 -0.2**
AAK Ala-Archa 85.02 313 *e*P **P 10 47 52.2 +0.2**
comp=Z,8.6nm,1.0s,mb4.6
AAK Ala-Archa 85.02 313 *e*P **P 10 47 52.2 +0.2**
AAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MAW Mawson 86.21 203 P **P 10 47 56.7 -0.5**
comp=Z,5.4nm,0.9s,mb4.5,baz=28,slow=0.7,SNR=8.5
MAW Mawson 86.21 203 *e*P **P 10 47 57.6 +0.3**
comp=Z,20nm,1.4s,mb4.9
MAW Mawson 86.21 203 *e*P **P 10 47 57.6 +0.3**
MAW pmax pmax
comp=Z,20nm,1.4s
SYO Syowa Base 94.27 199 ⇑P **P 10 48 33.6 -1.3**
YKA Yellowknife Ar 94.73 28 LR LR 11 32 21.4
comp=Z,43nm,18.6s,baz=270,slow=36
TMUT Trail Mountain 96.79 51 *e*P **P 10 48 55.6 +8.4**
PDAR Pinedale Array 98.00 48 LR LR 11 32 57.7
comp=Z,66nm,18.3s,baz=242,slow=35
CLL Collm 122.94 332 *e*PKIKP PKPdf 10 54 15.0 +4.2
GERES GERESS Array B 124.18 329 PKP PKPdf 10 54 14.9 +1.6
comp=Z,1.0nm,0.6s,baz=90,slow=1.3,SNR=10

WEL 10 10:36:10.3±0.4**, 37.07S**×**176.83E, h240**km±4km**, ML3.5**/11**, 2C, Error ellipse: s-maj=5.8km s-min=4.8km az=90.0, North Island**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
URZ Urewera 1.21 170 *e*PN P 10 36 45.2 -0.7
URZ SN S 10 37 13.5 0.0
MWZ Matawai 1.38 157 *e*PN P 10 36 47.0 -0.1
MWZ SN S 10 37 15.0 -0.7
PUZ Puketiti 1.52 132 ⇑PN P 10 36 47.9 -0.3
PUZ SN S 10 37 16.1 -1.3
KNZ Kokohu 2.06 161 *e*PN P 10 36 52.7 -0.2
KNZ SN S 10 37 24.9 -0.8

BKZ	Black Stump Fm	2.12	187	⇑PN	P	10 36 53.2	-0.2
BKZ				SN	S	10 37 26.4	-0.3
CNZ	Chateau	2.36	205	*e*PN	P	10 36 56.5	+0.7
WNVZ	Wahianoa	2.46	203	PN	P	10 36 57.1	+0.3
PXZ	Pawanui	2.96	180	PN	P	10 37 01.5	-0.7
PXZ				SN	S	10 37 40.5	-2.0
TSZ	Takapari Road	3.07	193	PN	P	10 37 01.8	-1.6
MRZ	Mangatainoka R	3.72	195	*e*PN	P	10 37 09.2	-1.8
KIW	Kapiti Island	4.08	201	PN	P	10 37 13.1	-2.0
CAW	Cannon Point	4.26	198	PN	P	10 37 15.2	-2.2
TCW	Tory Channel	4.59	205	SN	S	10 38 14.0	-2.7
TUWZ	Tuamarina	4.90	206	PN	P	10 37 22.6	-2.6
NNZ	Nelson	4.94	212	PN	P	10 37 22.7	-2.9

*IDC **10** 10:51:20.9±1.1, 28.84S×178.00W, h112^{km}±19^{km}, mb3.9/5, mb1 4.1/5, mb1mx3.7/14, mbtmp4.3/5, MS3.2/2, Ms1 3.3/2, ms1mx3.1/14, Error ellipse: s-maj=68.6km s-min=27.9km az=163.0*

ISC 10 10:51:01.2±2.5, **29.81S**±0.07×**175.4W**±0.2, **h120**^{km}±19^{km}, **n27**, σ**1^{s}42**/22, **mb4.2**/5, **4C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.29	283	P	P	10 51 38.2	-0.7
	362nm,0.3s,baz=66,slow=19,SNR=19						
RAO				S	S	10 51 51.6	-16
	3µm,0.3s,baz=73,slow=19,SNR=30						
PUZ	Puketiti	9.79	211	SN	S	10 55 16.5	+7.9
KNZ	Kokohu	10.84	210	SN	S	10 55 36.2	+2.8
TSZ	Takapari Road	12.45	212	SN	S	10 56 13.1	+1.5
BFZ	Birch Farm	12.82	210	SN	S	10 56 22.7	+2.3
MRZ	Mangatainoka R	13.11	212	SN	S	10 56 27.0	0.0
KIW	Kapiti Island	13.58	213	SN	S	10 56 37.8	-0.1
CAW	Cannon Point	13.70	212	SN	S	10 56 40.0	-0.8
MRW	Makara Radio	13.96	213	SN	S	10 56 46.1	-0.8
TCW	Tory Channel	14.15	214	SN	S	10 56 47.4	-4.0
THZ	Tophouse	15.24	215	SN	S	10 57 14.2	-2.3
KHZ	Kahutara	15.43	212	SN	S	10 57 19.5	-1.4
DZM	Mont Dzumac	18.06	291	LR	LR	10 59 12.3	
	comp=Z,49nm,19.4s,baz=31,slow=30						
CTA	Charters Tower	35.97	277	P	P	10 57 51.4	-0.9
	1.5nm,0.4s,mb4.3,baz=101,slow=13,SNR=11						
STKA	Stephens Creek	36.83	256	P	P	10 58 01.7	+2.4
	1.2nm,0.5s,mb4.0,baz=98,slow=15,SNR=6.3						
WRA	Warramunga Arr	46.36	270	P	P	10 59 17.1	-0.1
	1.8nm,0.4s,mb4.2,baz=107,slow=7.5,SNR=53						
FITZ	Fitzroy Crossi	54.65	268	P	P	11 00 21.4	+1.4
	2.8nm,0.3s,mb4.7,baz=121,slow=3.5,SNR=14						
SNAA	Sanae	78.67	178	⇑*i*	P	11 02 53.0	+2.2
VNA3	Neumayer Olymp	78.73	175	⇑*i*	P	11 02 50.3	-0.8
MJAR	Matsushiro Arr	79.08	324	P	P	11 03 00.8	+7.0
	1.5nm,0.8s,mb3.9,baz=139,slow=6.2,SNR=5.6						
VNA2	Neumayer--Watz	79.19	176	⇑*i*	P	11 02 53.1	-0.6
VNA1	Neumayer--Stat	79.41	176	⇑*i*	P	11 02 53.3	-1.5
LPAZ	La Paz	96.29	113	LR	LR	11 42 03.7	
	comp=Z,23nm,20.9s,baz=244,slow=31						
MKAR	Makanchi Array	119.14	310	PKP	PKPdf	11 09 51.4	+16
	0.3nm,0.5s,baz=90,slow=1.4,SNR=4.3						
BVAR	Borovoye Array	127.56	316	PKP	PKPdf	11 10 08.1	+16
	0.9nm,0.5s,baz=135,slow=4.1,SNR=5.2						
FINES	FINESS Array B	145.33	342	PKP	PKPdf	11 10 39.2	+15
	0.8nm,0.6s,baz=63,slow=4.3,SNR=6.1						
AKASG	Malin Array Be	152.16	325	PKPbc	PKPdf	11 10 58.2	+23
	3.5nm,0.6s,baz=42,slow=3.0,SNR=16						

IDC 10 11:44:21.6±1.5, **11.44N**×**144.58E, mb3.4**/4, **mb1 3.7**/4, **mb1mx3.6**/19, **mbtmp3.4**/4, **Error ellipse: s-maj=64.9km s-min=27.9km az=98.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	25.65	348	P	P	11 49 52.3	-2.4
	0.9nm,0.8s,baz=167,slow=6.1,SNR=4.2						
WRA	Warramunga Arr	32.77	198	P	P	11 50 56.4	-2.3
	0.4nm,0.5s,baz=20,slow=9.8,SNR=6.8						
MKAR	Makanchi Array	62.85	317	P	P	11 54 50.0	-1.6
	0.1nm,0.3s,baz=90,slow=7.4,SNR=2.0						
ILAR	Eielson Array	70.62	25	P	P	11 55 38.8	-1.8
	0.2nm,0.6s,baz=258,slow=5.6,SNR=5.6						

*IDC **10** 12:20:53.0±5.6, 4.89S×153.88E, h129^{km}±46^{km}, mb3.8/9, mb1 4.0/11, mb1mx3.9/15, mbtmp4.3/11, MS3.5/5, Ms1 3.5/5, ms1mx3.3/18, Error ellipse: s-maj=43.4km s-min=18.0km az=88.0*

*BJI **10** 12:20:54.3, 4.90S×153.13E, h125^{km}, mb4.7*

*NEIC **10** 12:20:55.0±2.1, 4.91S×153.81E, h146^{km}±16^{km}, mb4.7/12, Error ellipse: s-maj=17.7km s-min=8.4km az=88.0*

ISC 10 12:20:54.2±3.3, **4.92S**±0.09×**153.8E**±0.2, **h151**^{km}±27^{km}, **n33**, σ**0^{s}67**/31, **mb4.3**/21, **1C-1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.93	235	P	P	12 22 47.5	-0.2
	23nm,0.3s,baz=36,slow=11,SNR=81						
PMG				S	S	12 24 15.9	-0.2
	7.4nm,0.3s,baz=36,slow=21,SNR=3.2						
PMG	Port Moresby	7.93	235	*e*P	P	12 22 48.0	+0.4
	147nm,0.7s						
CTA	Charters Tower	16.75	205	P	P	12 24 42.2	+0.7
	0.7nm,0.3s,baz=38,slow=13,SNR=3.0						
CTA				LR	LR	12 30 08.7	
	comp=Z,88nm,21.8s,baz=37,slow=33						
CTA	Charters Tower	16.75	205	P	P	12 24 42.2	+0.7
CTA				LR	LR	12 30 08.7	
GUMO	Guam	20.40	334	LR	LR	12 32 24.5	
	comp=Z,32nm,18.3s,baz=62,slow=34						
WRAB	Tennant Creek	24.08	230	*e*P	P	12 25 57.9	+0.8
	20nm,0.8s,mb4.7						
WRAB				*e*		12 26 27.1	
WB2	Warramunga Arr	24.09	230	⇓*i*P	P	12 25 57.9	+0.8
WRA	Warramunga Arr	24.10	230	P	P	12 25 57.5	+0.3
	12nm,0.8s,mb4.5,baz=54,slow=9.7,SNR=103						
STKA	Stephens Creek	29.14	202	P	P	12 26 42.4	-1.0
	2.1nm,0.6s,mb4.0,baz=11,slow=13,SNR=5.6						
STKA	Stephens Creek	29.14	202	*e*P	P	12 26 42.3	-1.0
FITZ	Fitzroy Crossi	30.45	242	⇑*i*P	P	12 26 53.9	-1.2
	15nm,0.6s,mb4.9						
FORT	Forrest	35.31	220	*e*P	P	12 27 36.2	-0.5
	31nm,0.6s,mb5.1						
MBWA	Marble Bar	36.75	241	*e*P	P	12 27 47.9	-1.0
	20nm,1.1s,mb4.7						
RPZ	Rata Peaks	41.54	161	LR	LR	12 42 51.3	
	comp=Z,161nm,19.2s,baz=188,slow=32						
KLBR	Kellerberrin	42.93	227	*e*P	P	12 28 39.1	-0.7
	36nm,1.4s,mb4.8						
JNU	Nakatsue	43.62	332	P	P	12 28 44.7	-0.6
	7.1nm,0.8s,mb4.3,baz=137,slow=5.3,SNR=4.6						
GTA	Gaotai	66.40	317	*e*P	P	12 31 30.3	+0.9
GTA				PCP	PcP	12 32 01.0	+3.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
SONM	Songino Array	66.94	327	P	P	12 31 32.5	-0.1
	comp=Z,0.7nm,0.4s,mb3.8,baz=142,slow=5.5,SNR=6.6						
VNDA	Vanda	72.67	178	P	P	12 32 06.6	-0.2
	comp=Z,0.4nm,0.8s,mb3.2,baz=317,slow=5.9,SNR=3.5						
VNDA	Vanda	72.67	178	P	P	12 32 06.6	-0.2
PKI	Pulchoki	73.33	301	*e*P	P	12 32 11.9	+0.4
	comp=Z,14nm,0.8s,mb4.8						
KKN	Kakani	73.49	301	*e*P	P	12 32 12.6	+0.1
	comp=Z,12nm,0.5s,mb4.9						
DMN	Daman	73.59	300	*e*P	P	12 32 13.9	+0.8
	comp=Z,28nm,0.9s,mb5.0						
GKN	Gorkha	74.10	301	*e*P	P	12 32 16.4	+0.4
	comp=Z,24nm,0.8s,mb5.0						
KOLN	Koldanda	74.93	300	*e*P	P	12 32 20.9	+0.1
	comp=Z,11nm,0.6s,mb4.7						
MKAR	Makanchi Array	81.05	319	P	P	12 32 54.2	+0.4
	comp=Z,1.9nm,0.8s,mb3.8,baz=105,slow=7.0,SNR=13						
MKAR				LR	LR	13 09 01.6	
	comp=Z,23nm,19.4s,baz=180,slow=36						
MKAR	Makanchi Array	81.05	319	P	P	12 32 54.2	+0.4
MKAR				LR	LR	13 09 01.6	
ZAL	Zalesovo	81.80	326	P	P	12 32 57.0	-0.6
	comp=Z,1.1nm,0.5s,mb3.8,baz=321,slow=1.2,SNR=4.2						
ILAR	Eielson Array	81.91	22	P	P	12 32 56.9	-1.1
	comp=Z,0.9nm,0.9s,mb3.4,baz=246,slow=6.1,SNR=7.2						
QSPA	South Pole Qui	85.04	180	*e*P	P	12 33 14.4	+1.0
	comp=Z,0.9nm,0.7s,mb3.6						
MAW	Mawson	85.83	203	P	P	12 33 18.0	+0.5
	comp=Z,2.6nm,0.6s,mb4.1,baz=87,slow=2.7,SNR=6.1						
MAW	Mawson	85.83	203	*e*P	P	12 33 17.8	+0.3
	comp=Z,2.2nm,0.7s,mb4.0						
PDAR	Pinedale Array	98.22	48	LR	LR	13 18 34.5	
	comp=Z,40nm,18.9s,baz=247,slow=35						

MAN 10 12:21:21.1, 13.42N×120.73E, h97^{km}, mb3.6, ML2.3, MS1.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJMP	San Jose	1.03	158	*e*P	P	12 21 43.1	+1.2
SJMP				*e*S	S	12 22 02.4	+5.0
BOAC	Boac	1.08	88	*e*P	P	12 21 44.2	+1.6
BUSP	Coron	1.50	200	*e*P	P	12 21 48.1	+0.5
OTRP	Odiongan	1.64	130	*e*P	P	12 21 49.2	-0.2
ENPP	El Nido	2.54	210	*e*P	P	12 22 01.5	-0.1
CUYO	Cuyo Island	2.57	174	*e*P	P	12 22 01.8	-0.1

*ROM **10** 12:33:19.1±0.5, 44.57N×6.85E, h12^{km}, Md2.7/5, Ml2.4/4, Error ellipse: s-maj=8.7km s-min=2.8km az=116.0*

*STR **10** 12:33:20.6±0.2, 44.64N×6.96E, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*CSEM **10** 12:33:20.2±0.1, 44.64N×6.98E, h5^{km}, ML3.0/15, Error ellipse: s-maj=1.5km s-min=0.9km az=52.0*

*GEN **10** 12:33:20.5, 44.59N×6.89E, h6^{km}, ML2.0*

*NEIC **10** 12:33:22.0, 44.55N×6.89E, h2^{km}, MD2.7(ROM), ML3.0(LDG), ML2.9(GEN), ML2.7(STR), After LDG.*

*LDG **10** 12:33:22.0±0.1, 44.55N×6.89E, h2^{km}, Md3.0/3, Ml3.0/18, Error ellipse: s-maj=2.7km s-min=1.8km az=68.0*

ISC 10 12:33:19.9±0.2, **44.60N**±0.01×**6.89E**±0.02, **h13**^{km}±2^{km}, **n83**, σ**0^{s}95**/127, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	Montbardon	0.15	325	*e*Pg	Pg	12 33 23.7	+0.1
MBDF				*e*Sg	Sg	12 33 26.1	0.0
	1µm,0.3s						
PZZ	Prazzo	0.18	123	P	Pg	12 33 24.7	+0.6
PZZ				S	Sg	12 33 27.1	+0.2
PZZ	Prazzo	0.18	123	P	Pg	12 33 24.7	+0.6
DOI	San Damiano	0.27	111	Pg	Pg	12 33 26.0	+0.3
DOI				Sg	Sg	12 33 30.0	+0.4
	2µm,0.2s						
RRL	Cesana Torines	0.33	346	P	Pg	12 33 27.2	+0.5
RRL				S	Sg	12 33 32.2	+0.8
RRL	Cesana Torines	0.33	346	P	Pg	12 33 27.2	+0.4
BHB	Bricherasio	0.36	48	P	Pg	12 33 27.8	+0.5
BHB				S	Sg	12 33 32.7	+0.4
BHB	Bricherasio	0.36	48	P	Pg	12 33 27.8	+0.5
STV	Sta Anna Valdi	0.47	139	P	Pg	12 33 29.3	-0.3
STV				S	Sg	12 33 35.5	-0.6
STV	Sta Anna Valdi	0.47	139	P	Pg	12 33 29.3	-0.3
STV2	Anna di Valdie	0.47	139	P	Pg	12 33 29.4	-0.1
STV2				S	Sg	12 33 35.4	-0.6
STV2	Anna di Valdie	0.47	139	P	Pg	12 33 29.4	-0.2
BNI	Bardonecchia	0.47	341	Pg	Pg	12 33 29.7	+0.1
BNI				Sg	Sg	12 33 37.4	+1.3
	68nm,0.6s						
ENR	Entracque	0.53	135	P	Pb	12 33 30.6	0.0
ENR				S	Sb	12 33 37.3	-0.6
ENR	Entracque	0.53	135	P	Pb	12 33 30.5	-0.1
RSP	Reno Superiore	0.61	25	P	Pb	12 33 32.3	+0.4
RSP				S	Sb	12 33 40.2	+0.1
RSP	Reno Superiore	0.61	25	P	Pb	12 33 32.3	+0.4
TOUF	Mont Tournerai	0.64	156	Pg	Pg	12 33 32.7	-0.2
AUTN	L'Aution	0.72	147	Pg	Pg	12 33 34.7	+0.3
AUTN				Sg	Sg	12 33 44.6	+0.5
MVIF	Mont Vial	0.73	165	Pg	Pg	12 33 34.7	+0.1
MVIF				Sg	Sg	12 33 45.6	+1.1
ROB	Roburent	0.77	113	P	Pb	12 33 35.2	+0.7
ROB				S	Sb	12 33 44.5	-0.1
ROB	Roburent	0.77	113	P	Pb	12 33 35.2	+0.6
SAOF	Saorge	0.78	142	Pg	Pg	12 33 35.6	0.0
SAOF				Sg	Sg	12 33 46.4	+0.4
ORIF	Oris-en-Rattie	0.79	294	*e*Pg	Pg	12 33 35.2	-0.5
ORIF				*e*Sg	Sg	12 33 45.3	-1.0
	136nm,0.3s						
MONE	Monesi	0.81	130	P	Pb	12 33 35.5	+0.1
MONE				S	Sb	12 33 46.0	+0.1
MONE	Monesi	0.81	130	P	Pb	12 33 35.5	+0.2
GDM	Grand'Maison	0.82	318	Pg	Pg	12 33 36.1	-0.2
SBF	Sospel	0.84	152	*e*Pg	Pg	12 33 36.5	-0.2
SBF				*e*Sg	Sg	12 33 46.8	-1.1
	157nm,0.3s						
CALN	Calern	0.85	180	Pg	Pg	12 33 37.1	+0.1
MONC	Moncucco Torin	0.87	57	Pg	Pg	12 33 38.1	+0.7
	161nm,0.4s						
LSD	Ceresole Reale	0.88	12	P	Pb	12 33 37.2	+0.8
LSD				S	Sb	12 33 48.6	+0.8
LSD	Ceresole Reale	0.88	12	P	Pb	12 33 37.2	+0.8
LPG	La Plagne	0.90	354	*e*Pg	Pg	12 33 37.7	-0.3
LPG				*e*Sg	Sg	12 33 48.9	-1.2
	51nm,0.3s						
LPL	La Plagne	0.92	353	*e*Pg	Pg	12 33 37.8	-0.6
LPL				*e*Sg	Sg	12 33 52.3	+1.6
	54nm,0.3s						
REVF	Revere	0.93	158	Pg	Pg	12 33 38.5	0.0
STOF	St-Etienne Org	0.93	230	Pg	Pg	12 33 39.5	+1.0
NEGI	Negi	0.95	142	P	Pb	12 33 38.5	+0.7
NEGI	Negi	0.95	142	P	Pb	12 33 38.5	+0.7
IMI	Imperia	1.00	134	Pg	Pg	12 33 39.1	-0.8
IMI				Sg	Sg	12 33 52.5	-0.7
	69nm,0.2s						
FIN	Finale Ligure	1.02	112	Pg	Pg	12 33 39.5	-0.9
	152nm,0.6s						
GRN	Grenoble	1.04	309	Pg	Pg	12 33 40.9	+0.2
GRN				Sg	Sg	12 33 54.6	0.0
FRF	La Foret Royal	1.06	190	*e*Pg	Pg	12 33 39.9	-1.2
FRF				*e*Sg	Sg	12 33 54.2	-1.0
	134nm,0.2s						
TRAV		1.09	33	P	Pb	12 33 40.5	+0.3
TRAV		1.09	33	P	Pb	12 33 40.5	+0.3
VILF	Villemus	1.13	229	Pn	Pn	12 33 43.1	+1.7
VILF				Sg	Sg	12 33 59.8	+2.1
SMRF	Simiane la Rot	1.14	237	*e*Pg	Pg	12 33 42.5	-0.1
SMRF				*e*Sg	Sg	12 33 57.1	-0.7
	107nm,0.3s						
OG26	St.-Nazaire-De	1.14	269	Pg	Pg	12 33 44.0	+1.3
OCF	Saint Nazaire	1.14	269	Pg	Pg	12 33 44.0	+1.3
TAVF	Tavernes	1.15	212	Pn	Pn	12 33 42.9	+1.2
MRGE	Morge	1.17	6	Pg	Pg	12 33 42.9	-0.5
	58nm,0.5s						
PCP	Pian Castagno	1.18	92	P	Pb	12 33 42.1	+0.4
PCP	Pian Castagno	1.18	92	P	Pb	12 33 42.1	+0.4
ORX	Oropa	1.29	36	P	Pb	12 33 43.2	-0.3
ORX	Oropa	1.29	36	P	Pb	12 33 43.2	-0.3
LMR	La Mourre	1.30	192	*e*Pg	Pg	12 33 44.6	-1.3
LMR				*e*Sn	Sn	12 34 01.8	+0.7
	57nm,0.2s						
MCGN	Macugnaga	1.56	29	Pg	Pg	12 33 48.0	-3.1
	11nm,0.3s						
VIVF	Saint-Julien-l	1.60	280	*e*Pn	Pn	12 33 49.4	+1.2
VIVF				*e*Pg	Pg	12 33 51.6	-0.3
VIVF				*e*Sg	Sg	12 34 12.8	-0.5
	50nm,0.4s						
VAI	Varese	1.83	46	Pg	Pg	12 33 51.8	-4.7
	12nm,0.5s						
SC2M	Scurtabr	1.90	95	P	Pn	12 33 52.6	+0.2
CABF	La Chapelle	2.09	345	*e*Pn	Pn	12 33 57.6	+2.5
CABF				*e*Sg	Sg	12 34 26.7	-2.7
	13nm,0.4s						
LASF	Ste Croix	2.24	257	*e*Pn	Pn	12 33 57.4	+0.1
LASF				*e*Sn	Sn	12 34 24.8	-0.2
	14nm,0.3s						
PGF	Pioggiola	2.56	143	*e*Pn	Pn	12 34 02.2	+0.3
PGF				*e*Sn	Sn	12 34 31.4	-1.8
	10nm,0.2s						
SMF	Signal de Mont	2.96	315	*e*Pn	Pn	12 34 08.8	+1.2
SMF				*e*Sn	Sn	12 34 42.4	-0.9
SMF				*e*Sg	Sg	12 34 53.2	-5.2
	14nm,0.4s						
HINF	Hinteralfeld	3.21	360	*e*Pn	Pn	12 34 12.6	+1.4
HINF				*e*Pg	Pg	12 34 22.0	-2.1
HINF				*e*Sn	Sn	12 34 49.0	-0.8
	3.2nm,0.3s						
AVF	Avril sur Loir	3.31	313	*e*Pn	Pn	12 34 13.8	+1.3
AVF				*e*Sg	Sg	12 35 05.3	-4.7
	8.2nm,0.4s						
LOR	Lormes	3.40	323	*e*Pn	Pn	12 34 14.9	+1.0
LOR				*e*Sn	Sn	12 34 53.4	-1.1
LOR				*e*Sg	Sg	12 35 07.3	-5.9
SSF	Saint Saulge	3.41	317	*e*Pn	Pn	12 34 15.3	+1.3
SSF				*e*Sg	Sg	12 35 07.8	-5.8
	3.0nm,0.4s						
HAU	Haudompre	3.42	354	*e*Pn	Pn	12 34 15.5	+1.3
HAU				*e*Sn	Sn	12 34 53.9	-1.2
	6.0nm,0.3s						
BGF	Bois d'Agland	3.45	306	*e*Pn	Pn	12 34 15.7	+1.2
BGF				*e*Sg	Sg	12 35 10.9	-3.8
	21nm,0.4s						
CAF	Calviac	3.45	277	*e*Pn	Pn	12 34 15.2	+0.6
MTLF	Montolieu	3.60	251	*e*Pn	Pn	12 34 16.5	-0.2
MTLF				*e*Sn	Sn	12 34 57.2	-2.4
	3.8nm,0.3s						
TCF	Toulx Ste Croi	3.70	299	*e*Pn	Pn	12 34 19.3	+1.2
CDF	Champ du Feu	3.82	4	*e*Pn	Pn	12 34 20.2	+0.4
CDF				*e*Sn	Sn	12 35 04.2	-0.9
CDF				*e*Sg	Sg	12 35 25.2	-1.9
	2.4nm,0.4s						
RJF	Les Rejaudoux	3.88	282	*e*Pn	Pn	12 34 21.6	+1.0
EPF	Esparros	5.00	254	*e*Pn	Pn	12 34 34.4	-2.1
MFF	Saint Martin d	5.33	295	*e*Pn	Pn	12 34 41.6	+0.5
BAIF	Baives	5.76	342	*e*Pn	Pn	12 34 46.7	-0.5
LDF	La Druitiere	6.27	312	*e*Pn	Pn	12 34 54.5	+0.1
KHC	Kasperske Hory	6.44	43	*e*SN	Sn	12 36 11.0	0.0
GRR	Gorron	6.55	308	*e*Pn	Pn	12 34 57.2	-1.2
FLN	La Foliniere	6.56	312	*e*Pn	Pn	12 34 58.2	-0.3
SGMF	Saint Gilles	7.48	303	*e*Pn	Pn	12 35 10.0	-1.4
ROSF	Rostrenen	7.95	302	*e*Pn	Pn	12 35 16.3	-1.7

*CSEM **10** 12:35:32.2±0.1, 44.62N×6.96E, h2^{km}, MD2.3/1, ML2.4/8, Error ellipse: s-maj=2.3km s-min=1.4km az=66.0*

*GEN **10** 12:35:32.6, 44.58N×6.87E, h9^{km}, ML2.0*

*STR **10** 12:35:33.2±0.2, 44.57N×6.85E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **10** 12:35:33.2, 44.57N×6.85E, h5^{km}, ML2.5(LDG), ML2.5(GEN), ML2.2(STR), After STR.*

*LDG **10** 12:35:34.1±0.1, 44.55N×6.88E, h2^{km}, Md2.3/2, Ml2.5/8, Error ellipse: s-maj=3.2km s-min=1.8km az=62.0*

ISC 10 12:35:32.3±0.2, **44.58N**±0.01×**6.88E**±0.02, **h11**^{km}±2^{km}, **n58**, σ**0^{s}66**/84, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.11	205	Pg	Pg	12 35 35.4	+0.2
SURF				Sg	Sg	12 35 37.3	+0.1
MBDF	Montbardon	0.17	332	*e*Pg	Pg	12 35 36.1	0.0
MBDF				*e*Sg	Sg	12 35 38.4	-0.2
	295nm,0.3s						
PZZ	Prazzo	0.18	115	P	Pg	12 35 36.9	+0.6
PZZ				S	Sg	12 35 39.6	+0.6
PZZ	Prazzo	0.18	115	P	Pg	12 35 36.9	+0.6
RRL	Cesana Torines	0.35	349	P	Pg	12 35 39.7	+0.2
RRL				S	Sg	12 35 44.5	+0.3
RRL	Cesana Torines	0.35	349	P	Pg	12 35 39.7	+0.3
BHB	Bricherasio	0.38	46	P	Pg	12 35 39.9	-0.1
BHB				S	Sg	12 35 45.3	0.0
BHB	Bricherasio	0.38	46	P	Pg	12 35 39.9	-0.2
STV	Sta Anna Valdi	0.46	136	P	Pg	12 35 41.6	-0.1
STV				S	Sg	12 35 47.8	-0.3
STV	Sta Anna Valdi	0.46	136	P	Pg	12 35 41.6	-0.1
ENR	Entracque	0.53	132	P	Pg	12 35 42.8	-0.2
ENR				S	Sg	12 35 49.7	-0.4
ENR	Entracque	0.53	132	P	Pg	12 35 42.8	-0.1
TOUF	Mont Tournerai	0.63	155	Pg	Pg	12 35 45.0	+0.1
RSP	Reno Superiore	0.63	25	P	Pb	12 35 44.6	-0.3
RSP				S	Sb	12 35 52.8	-0.6
RSP	Reno Superiore	0.63	25	P	Pb	12 35 44.6	-0.3
RSP				S	Sb	12 35 52.8	-0.6
AUTN	L'Aution	0.71	146	Pg	Pg	12 35 46.9	+0.4
AUTN				Sg	Sg	12 35 56.7	+0.7
MVIF	Mont Vial	0.71	164	Pg	Pg	12 35 46.9	+0.3
MVIF				Sg	Sg	12 35 56.9	+0.7
ROB	Roburent	0.77	112	P	Pb	12 35 47.2	0.0
ROB				S	Sb	12 35 57.0	-0.4
ROB	Roburent	0.77	112	P	Pb	12 35 47.2	0.0
ROB				S	Sb	12 35 57.0	-0.4
SAOF	Saorge	0.77	140	Pg	Pg	12 35 48.1	+0.4
SAOF				Sg	Sg	12 35 58.0	0.0
ORIF	Oris-en-Rattie	0.79	296	*e*Pg	Pg	12 35 47.6	-0.5
ORIF				*e*Sg	Sg	12 35 57.6	-1.1
	30nm,0.3s						
MONE	Monesi	0.80	128	P	Pb	12 35 47.8	-0.1
MONE	Monesi	0.80	128	P	Pb	12 35 47.8	0.0
SBF	Sospel	0.82	151	*e*Pg	Pg	12 35 48.9	+0.1
SBF				*e*Sg	Sg	12 35 59.3	-0.5
	24nm,0.3s						
GDM	Grand'Maison	0.82	319	Pg	Pg	12 35 48.5	-0.4
CALN	Calern	0.83	179	Pg	Pg	12 35 49.9	+1.0
LSD	Ceresole Reale	0.90	13	P	Pb	12 35 49.3	-0.1
LSD	Ceresole Reale	0.90	13	P	Pb	12 35 49.3	-0.1
LPG	La Plagne	0.92	354	*e*Pg	Pg	12 35 50.1	-0.7
LPG				*e*Sg	Sg	12 36 02.2	-0.9
	9.1nm,0.2s						
LPL	La Plagne	0.94	354	*e*Pg	Pg	12 35 50.5	-0.7
LPL				*e*Sg	Sg	12 36 04.4	+0.6
	11nm,0.3s						
IMI	Imperia	0.99	132	P	Pb	12 35 50.7	-0.2
IMI	Imperia	0.99	132	P	Pb	12 35 50.7	-0.3
FIN	Finale Ligure	1.02	111	P	Pb	12 35 51.0	-0.6
FIN	Finale Ligure	1.02	111	P	Pb	12 35 51.0	-0.6
FRF	La Foret Royal	1.03	189	*e*Pg	Pg	12 35 52.4	-0.6
FRF				*e*Sg	Sg	12 36 06.3	-0.5
	20nm,0.2s						
GRN	Grenoble	1.04	310	Pg	Pg	12 35 53.3	+0.1
GRN				Sg	Sg	12 36 06.8	-0.3
SMRF	Simiane la Rot	1.11	238	*e*Pg	Pg	12 35 54.9	+0.3
SMRF				*e*Sg	Sg	12 36 09.4	-0.1
	16nm,0.2s						
PCP	Pian Castagno	1.19	91	P	Pb	12 35 54.4	-0.1
PCP	Pian Castagno	1.19	91	P	Pb	12 35 54.4	-0.1
LMR	La Mourre	1.27	192	*e*Pg	Pg	12 35 57.0	-0.8
LMR				*e*Sn	Sn	12 36 14.1	+0.8
	13nm,0.2s						
ORX	Oropa	1.31	36	P	Pb	12 35 55.3	-1.1
ORX	Oropa	1.31	36	P	Pb	12 35 55.3	-1.2
VIVF	Saint-Julien-l	1.60	281	*e*Pn	Pn	12 36 01.8	+1.1
VIVF				*e*Pg	Pg	12 36 04.1	-0.1
VIVF				*e*Sg	Sg	12 36 25.0	-0.5
	6.5nm,0.3s						
CABF	La Chapelle	2.10	345	*e*Pn	Pn	12 36 09.7	+1.7
LASF	Ste Croix	2.23	258	*e*Pn	Pn	12 36 09.8	+0.1
LASF				*e*Sn	Sn	12 36 35.2	-2.3
	1.6nm,0.2s						
PGF	Pioggiola	2.55	142	*e*Pn	Pn	12 36 14.6	+0.2
PGF				*e*Sn	Sn	12 36 43.7	-2.0
	2.8nm,0.3s						
SMF	Signal de Mont	2.97	315	*e*Pn	Pn	12 36 21.1	+0.8
HINF	Hinteralfeld	3.24	360	*e*Pn	Pn	12 36 24.7	+0.6
AVF	Avril sur Loir	3.31	313	*e*Pn	Pn	12 36 26.1	+0.9
LOR	Lormes	3.42	323	*e*Pn	Pn	12 36 27.4	+0.7
SSF	Saint Saulge	3.42	318	*e*Pn	Pn	12 36 27.9	+1.1
HAU	Haudompre	3.44	354	*e*Pn	Pn	12 36 27.6	+0.5
CAF	Calviac	3.45	277	*e*Pn	Pn	12 36 27.6	+0.5
BGF	Bois d'Agland	3.45	306	*e*Pn	Pn	12 36 27.9	+0.7
MTLF	Montolieu	3.59	251	*e*Pn	Pn	12 36 28.9	-0.2
TCF	Toulx Ste Croi	3.70	299	*e*Pn	Pn	12 36 31.6	+0.8
CDF	Champ du Feu	3.84	4	*e*Pn	Pn	12 36 32.7	0.0
MFF	Saint Martin d	5.33	295	*e*Pn	Pn	12 36 53.0	-0.8

*IDC **10** 12:36:33.2±6.4, 4.65S×153.64E, h92^{km}±54^{km}, mb3.5/5, mb1 3.8/6, mb1mx3.6/14, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=49.6km s-min=28.5km az=98.0*

ISC 10 12:36:33.7±4.8, **4.7S**±0.2×**153.5E**±0.2, **h109**^{km}±40^{km}, **n8**, σ**0^{s}69**/9, **mb3.7**/6, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.88	233	P	P	12 38 27.3	+0.2
	13nm,0.3s,baz=69,slow=6.9,SNR=38						
PMG				S	S	12 39 54.5	-0.6
	3.1nm,0.3s,baz=302,slow=18,SNR=5.0						
WB2	Warramunga Arr	24.06	229	*e*P	P	12 41 41.3	+1.2
WRA	Warramunga Arr	24.07	229	P	P	12 41 41.5	+1.3
	3.3nm,0.4s,mb4.0,baz=56,slow=10,SNR=55						
STKA	Stephens Creek	29.27	201	P	P	12 42 27.2	-0.7
	2.2nm,0.8s,mb3.8,slow=15,SNR=2.8						
FITZ	Fitzroy Crossi	30.36	242	*e*P	P	12 42 37.2	-0.6
	4.0nm,0.6s,mb4.2						
VNDA	Vanda	72.91	178	P	P	12 47 52.2	-0.2
	0.6nm,0.8s,mb3.5,baz=333,slow=6.8,SNR=4.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	80.73	319	P	P	12 48 36.2	-0.3
	0.6nm,0.8s,mb3.5,baz=113,slow=6.3,SNR=5.2						
ILAR	Eielson Array	81.78	22	P	P	12 48 41.5	-0.1
	0.3nm,0.9s,mb3.1,baz=254,slow=5.7,SNR=4.5						

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*IDC **10** 13:14:37.8±2.1, 5.60S×153.48E, mb4.1/7, mb1 4.3/8, mb1mx4.1/16, mbtmp4.1/8, ML3.4/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/18, Error ellipse: s-maj=70.4km s-min=21.6km az=129.0*

*NEIC **10** 13:14:55.0±4.8, 5.18S×152.13E, h84^{km}±32^{km}, mb4.6/2, Error ellipse: s-maj=62.1km s-min=21.7km az=97.0*

ISC 10 13:14:41.2±1.7, **5.7S**±0.3×**153.4E**±0.3, **h33**^{km}, **n15**, σ**0^{s}46**/12, **mb4.2**/9, **MS3.4**/2, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.25	239	Pn	Pn	13 16 27.8	0.0
	3.3nm,0.3s,baz=45,slow=5.3,SNR=6.6						
PMG				Sn	Sn	13 17 49.7	-0.1
	2.5nm,0.3s,baz=292,slow=23,SNR=8.6						
PMG				LR	LR	13 19 06.9	
	comp=Z,177nm,21.7s,baz=278,slow=37						
CTA	Charters Tower	15.95	205	LR	LR	13 23 34.8	
	comp=Z,123nm,19.1s,baz=192,slow=34						
GUMO	Guam	20.94	336	LR	LR	13 27 08.9	
	comp=Z,63nm,18.7s,MS3.0,baz=306,slow=36						
WRA	Warramunga Arr	23.38	231	P	P	13 19 48.8	+0.8
	1.1nm,0.5s,mb3.6,baz=54,slow=9.7,SNR=24						
STKA	Stephens Creek	28.34	202	LR	LR	13 31 40.4	
	comp=Z,222nm,19.9s,MS3.8,baz=24,slow=36						
FITZ	Fitzroy Crossi	29.83	243	P	P	13 20 46.9	-0.9
	4.6nm,0.8s,mb4.3,baz=46,slow=6.0,SNR=6.4						
CASY	Casey	67.38	197	eP	P	13 25 41.9	+6.9
	5.2nm,0.4s,mb4.9						
SONM	Songino Array	67.39	328	P	P	13 25 35.4	0.0
	0.8nm,0.5s,mb4.0,baz=144,slow=7.0,SNR=6.1						
MKAR	Makanchi Array	81.40	319	P	P	13 26 56.7	+0.4
	0.8nm,0.7s,mb3.7,baz=94,slow=6.2,SNR=8.7						
MKAR	Makanchi Array	81.40	319	P	P	13 26 56.7	+0.4
ZAL	Zalesovo	82.23	326	P	P	13 27 00.2	-0.3
	1.6nm,0.3s,mb4.5,baz=359,slow=8.7,SNR=4.2						
ILAR	Eielson Array	82.72	22	P	P	13 27 02.3	-0.5
	0.4nm,0.8s,mb3.5,baz=239,slow=5.3,SNR=5.4						
KURK	Kurchatov	84.84	322	eP	P	13 27 14.4	+0.6
	4.7nm,1.1s,mb4.5						
BVAR	Borovoye Array	90.31	323	P	P	13 27 40.1	0.0
	2.3nm,0.8s,mb4.6,baz=108,slow=4.7,SNR=12						
GERES	GERESS Array B	125.12	329	PKP	PKPdf	13 33 41.6	+3.0
	0.6nm,0.7s,baz=326,slow=3.5,SNR=3.4						

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*PRU **10** 13:25:27.4, 44.77N×6.36E*

*ROM **10** 13:25:28.4±0.4, 44.62N×6.92E, h10^{km}, Md3.2/14, Ml3.1/4, Error ellipse: s-maj=7.4km s-min=2.3km az=123.0*

*GEN **10** 13:25:28.9, 44.58N×6.86E, h6^{km}, ML3.0*

*CSEM **10** 13:25:29.2±0.1, 44.59N×7.01E, ML3.6/26, Error ellipse: s-maj=2.6km s-min=1.5km az=108.0*

*LDG **10** 13:25:30.6±0.1, 44.56N×6.89E, h2^{km}, Md3.3/4, Ml3.6/37, Error ellipse: s-maj=2.2km s-min=1.8km az=76.0*

*IDC **10** 13:25:30.6±2.1, 44.86N×6.74E, mb3.2/1, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, ML4.1/4, Error ellipse: s-maj=40.0km s-min=18.1km az=144.0*

*STR **10** 13:25:31.0±0.2, 44.54N×6.92E, h10^{km}±1^{km}, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **10** 13:25:31.0, 44.54N×6.92E, h10^{km}, ML3.6(LDG), ML3.4(SZGRF), ML3.2(STR), ML3.1(ROM), ML3.0(GEN), After STR.*

*ZUR **10** 13:25:33.7, 44.88N×7.37E, h5^{km}, ML2.9/14*

ISC 10 13:25:28.4±0.2, **44.587N**±0.010×**6.84E**±0.01, **h11**^{km}±1^{km}, **n182**, σ**1^{s}18**/292, **16C-9D**, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.11	189	Pg	Pg	13 25 31.7	+0.4
MBDF	Montbardon	0.15	342	ePg	Pg	13 25 32.3	+0.4
MBDF				eSg	Sg	13 25 34.5	+0.2
	6μm,0.3s						
PZZ	Prazzo	0.21	113	P	Pg	13 25 33.1	+0.2
PZZ				S	Sg	13 25 35.9	-0.1
PZZ	Prazzo	0.21	113	P	Pg	13 25 33.1	+0.1
DOI	San Damiano	0.31	106	⇑iPg	Pg	13 25 34.6	-0.2
DOI				Sg	Sg	13 25 38.7	-0.4
RRL	Cesana Torines	0.34	354	P	Pg	13 25 35.8	+0.5
RRL	Cesana Torines	0.34	354	P	Pg	13 25 35.8	+0.4
BHB	Bricherasio	0.40	50	P	Pg	13 25 36.5	0.0
BHB				S	Sg	13 25 41.5	-0.6
BHB	Bricherasio	0.40	50	P	Pg	13 25 36.5	-0.1
BNI	Bardonecchia	0.48	347	⇓iPg	Pg	13 25 38.3	+0.2
STV	Sta Anna Valdi	0.49	134	P	Pg	13 25 37.9	-0.5
STV				S	Sg	13 25 44.3	-0.7
STV	Sta Anna Valdi	0.49	134	P	Pg	13 25 37.9	-0.5
STV2	Anna di Valdie	0.49	134	P	Pg	13 25 38.0	-0.4
STV2				S	Sg	13 25 44.3	-0.7
STV2	Anna di Valdie	0.49	134	P	Pg	13 25 38.0	-0.4
ENR	Entracque	0.55	130	P	Pg	13 25 39.4	-0.2
ENR				S	Sg	13 25 46.3	-0.8
ENR	Entracque	0.55	130	P	Pg	13 25 39.4	-0.2
ENR				S	Sg	13 25 46.3	-0.8
RSP	Reno Superiore	0.64	28	P	Pb	13 25 41.2	+0.1
RSP				S	Sb	13 25 49.3	-0.4
RSP	Reno Superiore	0.64	28	P	Pb	13 25 41.2	+0.1
RSP				S	Sb	13 25 49.3	-0.4
TOUF	Mont Tournerai	0.65	152	Pg	Pg	13 25 41.4	0.0
MVIF	Mont Vial	0.73	162	Pg	Pg	13 25 43.3	+0.3
MVIF				Sg	Sg	13 25 53.1	+0.3
AUTN	L'Aution	0.73	144	Pg	Pg	13 25 43.2	+0.1
AUTN	L'Aution	0.73	144	Pg	Pg	13 25 43.0	-0.1
AUTN				Sg	Sg	13 25 52.7	-0.1
AUTN				Sg	Sg	13 25 53.3	+0.5
AUTN	L'Aution	0.73	144	Pg	Pg	13 25 43.0	-0.1
AUTN				Sg	Sg	13 25 52.7	-0.1
AUTN				Sg	Sg	13 25 53.3	+0.5
AUTN	L'Aution	0.73	144	Pg	Pg	13 25 43.0	-0.1
AUTN				Sg	Sg	13 25 52.7	-0.1
ORIF	Oris-en-Rattie	0.76	296	ePg	Pg	13 25 43.9	+0.3
ORIF				eSg	Sg	13 25 53.9	+0.1
	638nm,0.3s						
SAOF	Saorge	0.79	139	Pg	Pg	13 25 44.0	-0.3
SAOF				Sg	Sg	13 25 54.8	-0.2
ROB	Roburent	0.80	111	P	Pb	13 25 43.8	0.0
ROB				S	Sb	13 25 53.8	-0.5
ROB	Roburent	0.80	111	P	Pb	13 25 43.8	+0.1
ROB				S	Sb	13 25 53.8	-0.5
GDM	Grand'Maison	0.80	321	Pg	Pg	13 25 44.6	+0.1
MONE	Monesi	0.83	127	P	Pb	13 25 44.3	-0.1
MONE				S	Sb	13 25 54.6	-0.6
MONE	Monesi	0.83	127	P	Pb	13 25 44.3	-0.1
MONE				S	Sb	13 25 54.7	-0.6
CALN	Calern	0.83	177	Pg	Pg	13 25 45.7	+0.5
SBF	Sospel	0.84	149	ePg	Pg	13 25 45.0	-0.3
SBF				eSg	Sg	13 25 56.4	-0.2
	665nm,0.4s						
STOF	St-Etienne Org	0.89	229	Pg	Pg	13 25 48.3	+2.1
LSD	Ceresole Reale	0.90	15	P	Pb	13 25 45.9	+0.3
LSD				S	Sb	13 25 57.5	+0.2
LSD	Ceresole Reale	0.90	15	P	Pb	13 25 45.9	+0.4
LSD				S	Sb	13 25 57.5	+0.2
LPG	La Plagne	0.91	356	ePg	Pg	13 25 46.3	-0.4
LPG				eSg	Sg	13 25 59.6	+0.6
	223nm,0.3s						
MONC	Moncucco Torin	0.92	58	⇑iPg	Pg	13 25 46.7	-0.1
	1μm,0.6s						
REVF	Revere	0.93	155	Pg	Pg	13 25 47.1	+0.1
LPL	La Plagne	0.93	356	ePg	Pg	13 25 46.7	-0.4
LPL				eSg	Sg	13 25 59.3	-0.3
	320nm,0.3s						
NEGI	Negi	0.97	139	P	Pb	13 25 46.8	+0.1
NEGI				S	Sb	13 25 58.4	-0.8
NEGI	Negi	0.97	139	P	Pb	13 25 46.8	+0.1
NEGI				S	Sb	13 25 58.4	-0.8
GRN	Grenoble	1.01	311	Pg	Pg	13 25 49.2	+0.5
IMI	Imperia	1.02	131	P	Pb	13 25 47.5	0.0
IMI	Imperia	1.02	131	Pg	Pg	13 25 47.8	-0.9
IMI				S	Sb	13 25 59.9	-0.7
FRF	La Foret Royal	1.03	188	ePg	Pg	13 25 48.6	-0.5
FRF				eSg	Sg	13 26 03.7	+0.7
	733nm,0.4s						
FIN	Finale Ligure	1.05	110	⇑iPg	Pg	13 25 48.2	-1.3
FIN	Finale Ligure	1.05	110	P	Pb	13 25 48.0	-0.1
FIN	Finale Ligure	1.05	110	⇑iPg	Pg	13 25 48.2	-1.3
VILF	Villemus	1.09	228	Pn	Pn	13 25 52.0	+2.5
VILF				Sg	Sg	13 26 08.6	+3.8
SMRF	Simiane la Rot	1.09	236	ePg	Pg	13 25 50.8	+0.5
SMRF				eSg	Sg	13 26 05.3	+0.4
	639nm,0.4s						
OG26	St.-Nazaire-De	1.09	270	Pg	Pg	13 25 52.6	+2.3
OCF	Saint Nazaire	1.10	270	Pg	Pg	13 25 52.6	+2.3
TAVF	Tavernes	1.12	210	Pn	Pn	13 25 51.8	+1.9
TAVF				Sg	Sg	13 26 08.9	+3.1
TRAV		1.13	35	P	Pb	13 25 49.0	-0.5
TRAV		1.13	35	P	Pb	13 25 49.0	-0.4
MRGE	Morge	1.19	8	⇑iPg	Pg	13 25 51.1	-1.2
	309nm,0.5s						
PCP	Pian Castagno	1.22	92	P	Pb	13 25 50.9	-0.1
PCP	Pian Castagno	1.22	92	P	Pb	13 25 50.9	-0.1
LMR	La Mourre	1.27	191	ePg	Pg	13 25 52.9	-1.0
LMR				eSg	Sg	13 26 09.9	-1.0
	315nm,0.3s						
ORO	Oropa	1.32	38	Pg	Pg	13 25 51.6	-3.2
	167nm,0.2s						
ORX	Oropa	1.32	37	P	Pb	13 25 51.8	-1.0
ORX	Oropa	1.32	37	P	Pb	13 25 51.8	-1.0
PUYF	Puyloubier	1.33	218	Pn	Pn	13 25 55.6	+2.6
PUYF				Sg	Sg	13 26 13.4	+0.5
PRAF	Pradon	1.43	237	Pn	Pn	13 25 57.8	+3.4
BERF	Bertagne	1.52	213	Pn	Pn	13 25 58.6	+3.0
BERF				Sg	Sg	13 26 18.6	-0.4
DIX	Grande Dixence	1.55	15	Pg	Pg	13 25 57.5	-1.8
DIX	Grande Dixence	1.55	15	⇑iP*	Pb	13 25 57.4	+0.8
SALAN	Lac Salanfe	1.56	4	⇓iPn	Pn	13 25 58.1	+1.9
VIVF	Saint-Julien-l	1.56	281	ePn	Pn	13 25 57.8	+1.5
VIVF				eSg	Sg	13 26 20.2	-0.4
	303nm,0.4s						
GELF	Grande-Etoile	1.57	221	Pn	Pg	13 25 59.8	-0.1
GELF				Sg	Sg	13 26 22.4	+1.5
MMK	Mattmark	1.67	28	Pg	Pg	13 25 57.9	-3.8
MMK	Mattmark	1.67	28	eP*	Pb	13 25 57.8	-0.8
GRYON	Gryon	1.68	7	ePn	Pn	13 26 00.5	+2.6
GRYON	Gryon	1.68	7	eP	Pn	13 26 00.4	+2.5
AIGLE	Aigle	1.76	3	ePn	Pn	13 26 02.3	+3.3
SENIN	Lac Senin	1.81	10	ePn	Pn	13 26 02.8	+3.1
VAI	Varese	1.87	46	⇑iPg	Pn	13 26 00.5	-0.2
	59nm,0.5s						
GIMEL	Gimel	1.99	349	⇓iPn	Pn	13 26 04.9	+2.6
MUGIO	Muggio	2.05	49	⇓iPn	Pn	13 26 03.2	-0.1
CABF	La Chapelle	2.09	346	ePn	Pn	13 26 05.6	+1.8
CABF				eSg	Sg	13 26 35.6	-2.5
	55nm,0.3s						
LASF	Ste Croix	2.20	258	ePn	Pn	13 26 06.1	+0.8
LASF				eSn	Sn	13 26 31.7	-1.0
	81nm,0.4s						
FUSIO	Fusio	2.27	34	ePn	Pn	13 26 05.9	-0.5
MDI	Monti di Nese	2.36	59	Pg	Pn	13 26 07.7	+0.1
	88nm,0.8s						
HASLI	Hasliberg	2.36	23	⇑iPn	Pn	13 26 11.2	+3.5
BRANT	Les Verrieres	2.37	354	⇓iPn	Pn	13 26 10.0	+2.2
COLF	Collangettes	2.41	294	Pn	Pn	13 26 09.9	+1.5
ERBM	Eremo	2.56	92	Pg	Pn	13 26 11.9	+1.3
	51nm,0.8s						
PGF	Pioggiola	2.57	142	ePn	Pn	13 26 10.4	-0.3
PGF				eSn	Sn	13 26 40.1	-2.2
	85nm,0.5s						
VLC	Villacollemand	2.58	98	eP	Pn	13 26 10.8	-0.1
VLC	Villacollemand	2.58	98	eP	Pn	13 26 10.8	0.0
TUE	Stuetta	2.58	42	Pg	Pn	13 26 11.3	+0.4
	52nm,0.5s						
VDL	Val di Lei	2.65	43	ePn	Pn	13 26 12.1	+0.2
LOMF	Lomont	2.77	360	Pg	Pg	13 26 23.5	-0.1
LOMF	Lomont	2.77	360	Pn	Pn	13 26 17.2	+3.7
LOMF				Pg	Pg	13 26 23.5	-0.1
BERNI	Berninapass	2.89	50	ePn	Pn	13 26 15.6	+0.3
BBS	Basel-Blauen	2.92	9	Pn	Pn	13 26 17.4	+1.8
SMF	Signal de Mont	2.94	315	ePn	Pn	13 26 17.4	+1.4
SMF				ePg	Pg	13 26 26.4	-0.7
SMF				eSn	Sn	13 26 52.5	+0.9
SMF				eSg	Sg	13 27 01.7	-4.7
	69nm,0.3s						
DAVOX	Davos	3.06	43	Pn	Pn	13 26 18.1	+0.4
	5.9nm,0.3s,baz=178,slow=7.9,SNR=32						
DAVOX				Sn	Sn	13 26 57.1	+2.5
	4.3nm,0.3s,baz=304,slow=18,SNR=4.4						
DAVOX				Lg		13 27 02.8	
	4.5nm,0.3s,baz=322,slow=19,SNR=4.6						
DAVOX	Davos	3.06	43	⇓iPn	Pn	13 26 18.4	+0.7
BRMO	Bormio	3.12	52	Pg	Pn	13 26 19.2	+0.7
	9.0nm,0.3s						
FRNF	Fournols	3.13	286	Pn	Pn	13 26 21.4	+2.7
FUORN	Ofenpass	3.15	49	⇓iPn	Pn	13 26 19.8	+0.9
HINF	Hinteralfeld	3.23	0	ePn	Pn	13 26 21.0	+0.9
HINF				eSn	Sn	13 26 57.6	-1.3
HINF				eSg	Sg	13 27 12.1	-3.9
	49nm,0.6s						
MOF	Molkenrain	3.27	4	Pn	Pn	13 26 21.3	+0.6
MOF				Pg	Pg	13 26 32.0	-1.7
AVF	Avril sur Loir	3.29	313	ePn	Pn	13 26 22.3	+1.4
AVF				ePg	Pg	13 26 29.4	-4.7
AVF				eSn	Sn	13 27 00.0	-0.4
AVF				eSg	Sg	13 27 12.2	-5.7
	36nm,0.4s						
VERF	Verneugheol	3.29	292	Pn	Pn	13 26 22.4	+1.5
FELD	Feldberg	3.39	13	Pn	Pn	13 26 23.0	+0.7
LOR	Lormes	3.39	323	ePn	Pn	13 26 23.4	+1.0
	baz=147						
LOR				eSn	Sn	13 27 01.5	-1.5
LOR				eSg	Sg	13 27 16.5	-4.9
	36nm,0.3s						
SSF	Saint Saulge	3.40	318	ePn	Pn	13 26 24.1	+1.7
SSF				ePg	Pg	13 26 32.9	-3.3
SSF				eSn	Sn	13 27 01.2	-1.9
SSF				eSg	Sg	13 27 15.8	-5.7
	18nm,0.3s						
SSF	Saint Saulge	3.40	318	ePg	Pg	13 26 32.9	-3.3
SSF				eSn	Sn	13 27 01.2	-1.9
SSF				eSg	Sg	13 27 15.8	-5.7
	9.1nm,0.3s						
CAF	Calviac	3.42	277	ePn	Pn	13 26 23.8	+1.1
CAF				eSn	Sn	13 27 02.9	-0.7
	13nm,0.3s						
BGF	Bois d'Agland	3.42	307	ePn	Pn	13 26 24.4	+1.6
BGF				ePg	Pg	13 26 32.4	-4.4
BGF				eSg	Sg	13 27 18.6	-3.9
	152nm,0.4s						
DAVA	Damuels	3.44	37	⇓iPN	Pn	13 26 24.2	+1.2
DAVA				i SN	Sn	13 27 05.6	+1.5
DAVA	Damuels	3.44	37	⇓iPn	Pn	13 26 24.2	+1.2
	SNR=16						
HAU	Haudompre	3.44	355	ePn	Pn	13 26 23.9	+0.9
HAU				eSn	Sn	13 27 02.1	-2.0
	35nm,0.4s						
MTLF	Montolieu	3.56	251	ePn	Pn	13 26 25.0	+0.3
MTLF				eSn	Sn	13 27 06.0	-1.2
	20nm,0.3s						
EJON	La Jonquera	3.58	235	Pn	Pn	13 26 25.6	+0.6
EJON				Sn	Sn	13 27 06.7	-1.0
EJON	La Jonquera	3.58	235	Pn	Pn	13 26 25.6	+0.6
	2.3nm,0.3s,SNR=4.5						
EJON				Sn	Sn	13 27 06.7	-1.0
	13nm,0.4s						
ECH	Echery	3.64	3	Pn	Pn	13 26 26.5	+0.7
TCF	Toulx Ste Croi	3.67	299	ePn	Pn	13 26 27.6	+1.2
TCF				eSn	Sn	13 27 09.5	-0.6
	30nm,0.5s						
TCF				eSg	Sg	13 27 26.9	-3.8
	18nm,0.3s						
THEF	They Montfort	3.69	351	Pn	Pn	13 26 27.7	+1.1
CRE	Caprese Michel	3.81	103	Pg	Pn	13 26 28.2	-0.1
SFTF	Sexfontaines	3.83	342	ePn	Pn	13 26 29.8	+1.3
	baz=146						
SFTF				eSn	Sn	13 27 11.6	-2.4
	20nm,0.2s						
CDF	Champ du Feu	3.84	4	ePn	Pn	13 26 28.8	+0.1
CDF				ePg	Pg	13 26 43.9	-1.1
CDF				eSn	Sn	13 27 11.5	-2.8
	11nm,0.2s						
CDF				eSg	Sg	13 27 32.6	-3.6
	25nm,0.6s						
RJF	Les Rejaudoux	3.84	283	ePn	Pn	13 26 30.1	+1.3
RJF				ePg	Pg	13 26 40.9	-4.2
RJF				eSg	Sg	13 27 32.5	-3.9
	36nm,0.4s						
WLS	Welschbruch	3.84	5	Pn	Pn	13 26 28.9	+0.1
BFO	Black Forest	3.88	15	ePn	Pn	13 26 28.8	-0.6
BFO				eSn	Sn	13 27 14.9	-0.6
HYF	Humbligny	3.97	314	ePn	Pn	13 26 32.2	+1.6
HYF				eSg	Sg	13 27 35.5	-5.1
SQTA	Sankt Quirin	4.03	48	⇑iPN	Pn	13 26 32.3	+0.8
SQTA				i SN	Sn	13 27 20.6	+1.4
SQTA	Sankt Quirin	4.03	48	⇑iPn	Pn	13 26 32.3	+0.8
	SNR=7.3						
MOTA	Moosalm	4.06	46	⇑iPN	Pn	13 26 32.2	+0.4
MOTA				i SN	Sn	13 27 21.1	+1.2
MOTA	Moosalm	4.06	46	⇑iPn	Pn	13 26 32.2	+0.3
	SNR=17						
MEZF	Maizieres J'vi	4.11	343	ePn	Pn	13 26 33.7	+1.2
	baz=160						
MEZF				eSn	Sn	13 27 18.0	-3.1
MEZF				eSg	Sg	13 27 40.0	-5.1
	32nm,0.5s						
RFYF	Reffroy	4.15	347	ePn	Pn	13 26 34.4	+1.2
RFYF				eSn	Sn	13 27 19.3	-2.9
	53nm,0.3s						
WTTA	Wattenberg	4.29	50	⇑iPN	Pn	13 26 35.8	+0.7
WTTA				i SN	Sn	13 27 26.1	+0.4
WTTA	Wattenberg	4.29	50	⇑iPn	Pn	13 26 35.8	+0.7
LFF	La Frestale	4.36	277	ePn	Pn	13 26 37.2	+1.1
LFF				eSg	Sg	13 27 47.9	-5.5
	64nm,0.7s						
EMIR	Miracle	4.71	237	Pn	Pn	13 26 40.9	-0.1
EMIR				Sn	Sn	13 27 36.2	-0.1
EMIR	Miracle	4.71	237	Pn	Pn	13 26 40.9	-0.2
	2.9nm,0.0s,SNR=7.9						
EMIR				Sn	Sn	13 27 36.2	-0.1
	1.6nm,0.1s,SNR=5.4						
PTCC	Patocco-Chiusa	4.93	66	Pg	Pn	13 26 43.8	-0.4
	3.0nm,0.3s						
EPF	Esparros	4.95	254	ePn	Pn	13 26 43.5	-1.0
EPF				ePg	Pg	13 27 00.0	-7.2
EPF				eSn	Sn	13 27 40.1	-2.4
	6.1nm,0.4s						
WLF	Walferdange	5.10	355	P	Pn	13 26 45.6	-1.0
WLF	Walferdange	5.10	355	P	Pn	13 26 45.6	-1.0
KBA	Koelnbreinsper	5.19	59	⇑iPN	Pn	13 26 48.1	+0.3
KBA				i SN	Sn	13 27 49.3	+0.9
KBA	Koelnbreinsper	5.19	59	⇑iPn	Pn	13 26 48.1	+0.3
EBIE	Bielsa	5.21	251	Pn	Pn	13 26 48.5	+0.3
EBIE				Sn	Sn	13 27 47.0	-2.1
EBIE	Bielsa	5.21	251	Pn	Pn	13 26 48.5	+0.3
	5.3nm,0.3s,SNR=22						
EBIE				Sn	Sn	13 27 47.0	-2.1
	3.1nm,0.4s,SNR=6.5						
MFF	Saint Martin d	5.30	295	ePn	Pn	13 26 50.2	+0.8
MFF				eSg	Sg	13 28 15.8	-9.0
	22nm,0.6s						
EGRA	Graus	5.32	246	Pn	Pn	13 26 49.0	-0.6
EGRA				Sn	Sn	13 27 55.8	+4.2
EGRA	Graus	5.32	246	Pn	Pn	13 26 49.0	-0.7
	3.7nm,0.5s,SNR=7.9						
EPOB	Poblet	5.32	235	Pn	Pn	13 26 48.7	-1.0
	0.7nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	13 27 50.6	-1.1
	3.7nm,0.5s,SNR=7.9						
ETSF	Etsaut	5.62	255	ePn	Pn	13 26 54.0	+0.1
ETSF				eSn	Sn	13 27 56.2	-2.9
	10nm,0.4s						
ETOS	Mallorca	5.67	213	Pn	Pn	13 26 54.6	0.0
	0.8nm,0.3s,SNR=7.9						
GIVF	Givet	5.69	347	ePn	Pn	13 26 55.3	+0.5
TNS	Taunus Mts	5.74	10	ePn	Pn	13 26 55.6	-0.1
BAIF	Baives	5.76	343	ePn	Pn	13 26 56.3	+0.4
BAIF				eSn	Sn	13 27 59.2	-3.5
	11nm,0.4s						
ERTA	Horta de San J	6.00	235	Pn	Pn	13 27 00.3	+1.0
ERTA				Sn	Sn	13 28 06.1	-2.8
ERTA	Horta de San J	6.00	235	Pn	Pn	13 27 00.3	+1.0
ERTA				Sn	Sn	13 28 06.1	-2.7
	0.7nm,0.5s,SNR=7.9						
WET	Wettzell	6.16	40	ePn	Pn	13 26 59.0	-2.5
LDF	La Druitiere	6.25	312	ePn	Pn	13 27 02.5	-0.3
LDF				eSn	Sn	13 28 09.1	-5.8
	9.2nm,0.5s						
GEC2	GERESS Array S	6.36	46	ePn	Pn	13 27 02.2	-2.1
GEC2				eSn	Sn	13 28 08.3	-9.4
GERES	GERESS Array B	6.36	46	Pn	Pn	13 27 02.6	-1.7
	4.8nm,0.3s,baz=230,slow=13,SNR=78						
GERES				Sn	Sn	13 28 13.0	-4.7
	0.9nm,0.3s,baz=234,slow=18,SNR=4.4						
KHC	Kasperske Hory	6.48	43	ePN	Pn	13 27 04.3	-1.8
KHC				x	x	13 27 08.5	
KHC				eSN	Sn	13 28 13.6	-7.2
KHC				x	x	13 28 19.0	
KHC	Kasperske Hory	6.48	43	ePn	Pn	13 27 04.3	-1.8
KHC				eSn	Sn	13 28 13.6	-7.2
KHC				e		13 28 19.0	
GRR	Gorron	6.53	308	ePn	Pn	13 27 06.4	-0.4
GRR				eSn	Sn	13 28 16.3	-5.7
	8.2nm,0.3s						
FLN	La Foliniere	6.54	312	ePn	Pn	13 27 06.1	-0.8
	baz=136						
FLN				eSn	Sn	13 28 17.0	-5.3
	17nm,0.6s						
EMOS	Mosqueruela	6.85	235	Pn	Pn	13 27 12.2	+0.9
EMOS				Sn	Sn	13 28 26.3	-3.8
EMOS	Mosqueruela	6.85	235	Pn	Pn	13 27 12.2	+0.9
	1.7nm,0.2s,SNR=7.9						
SGMF	Saint Gilles	7.45	303	ePn	Pn	13 27 18.8	-0.9
ELAN	Lanestosa	7.54	263	Pn	Pn	13 27 19.6	-1.3
ELAN				Sn	Sn	13 28 41.8	-5.4
ELAN	Lanestosa	7.54	263	Pn	Pn	13 27 19.6	-1.3
	0.5nm,0.3s,SNR=7.9						
QUIF	Quistinic	7.69	299	ePn	Pn	13 27 22.0	-1.0
QUIF				eSg	Sg	13 29 32.3	-12
	7.7nm,0.6s						
CLL	Collm	7.89	29	eSG	Sg	13 29 44.0	-7.2
ROSF	Rostrenen	7.92	302	ePn	Pn	13 27 25.6	-0.7
EARI	Arriondas	8.79	266	Pn	P	13 27 36.3	-2.0
EARI				Sn	Sn	13 29 11.3	-7.0
ESDC	Sonseca Array	9.40	242	Pn	P	13 27 46.5	-0.4
	0.4nm,0.3s,baz=55,slow=14,SNR=5.9						
ESDC	Sonseca Array	9.40	242	Pn	P	13 27 45.6	-1.2
EKA	Eskdalemuir Ar	12.52	333	Pn	P	13 28 28.0	-1.2
	0.6nm,0.3s,baz=140,slow=15,SNR=11						
ESK	Eskdalemuir	12.52	333	eP	P	13 28 28.3	-0.9
	0.2nm,0.8s						
BRTR	Keskin Array B	20.41	94	P	P	13 30 12.1	+4.0
	0.7nm,0.6s,baz=280,slow=8.8,SNR=2.0						
RSO	Redoubt South	73.99	350	eP	P	13 37 08.0	+3.0

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*STR **10** 13:32:41.4±1.3, 44.60N×6.89E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **10** 13:32:41.4, 44.60N×6.89E, h5^{km}, ML2.5(GEN), ML2.4(LDG), ML2.1(STR), After STR.*

*LDG **10** 13:32:41.8±0.1, 44.57N×6.88E, h2^{km}, Md2.4/3, Ml2.4/9, Error ellipse: s-maj=3.7km s-min=2.2km az=58.0*

ISC 10 13:32:40.2±0.2, **44.58N**±0.01×**6.86E**±0.02, **h12**^{km}±2^{km}, **n41**, σ**0^{s}73**/67, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.10	198	Pg	Pg	13 32 43.4	+0.3
SURF				Sg	Sg	13 32 45.3	+0.2
MBDF	Montbardon	0.16	338	ePg	Pg	13 32 44.0	-0.1
MBDF				eSg	Sg	13 32 46.3	-0.3
	205nm,0.3s						
PZZ	Prazzo	0.19	112	P	Pg	13 32 44.7	+0.2
PZZ				S	Sg	13 32 47.6	+0.1
RRL	Cesana Torines	0.35	352	P	Pg	13 32 47.5	0.0
RRL				S	Sg	13 32 52.2	-0.1
BHB	Bricherasio	0.39	48	P	Pg	13 32 48.1	-0.2
BHB				S	Sg	13 32 53.4	-0.4
STV	Sta Anna Valdi	0.47	135	P	Pg	13 32 49.8	-0.1
STV				S	Sg	13 32 56.0	-0.4
STV2	Anna di Valdie	0.47	134	P	Pg	13 32 49.7	-0.2
STV2				S	Sg	13 32 56.0	-0.4
BNI	Bardonecchia	0.49	345	ePg	Pg	13 32 50.0	-0.3
BNI				eSg	Sg	13 32 57.9	+0.9
ENR	Entracque	0.54	131	P	Pb	13 32 50.8	-0.2
ENR				S	Sg	13 32 57.9	-0.4
RSP	Reno Superiore	0.64	26	P	Pb	13 32 52.8	-0.1
RSP				S	Sb	13 33 01.2	-0.3
AUTN	L'Aution	0.71	145	Pg	Pg	13 32 54.9	+0.3
AUTN				Sg	Sg	13 33 04.3	+0.1
MVIF	Mont Vial	0.71	163	Pg	Pg	13 32 55.8	+1.2
ORIF	Oris-en-Rattie	0.78	296	ePg	Pg	13 32 55.6	-0.2
ORIF				eSg	Sg	13 33 05.5	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	16nm,0.3s						
SAOF	**Saorge**	**0.78**	**139**	Pg	**Pg**	**13 32 56.7**	**+0.9**
SAOF				Sg	**Sg**	**13 33 06.0**	**-0.3**
ROB	**Roburent**	**0.78**	**111**	P	**Pb**	**13 32 55.4**	**+0.2**
ROB				S	**Sb**	**13 33 05.2**	**-0.3**
MONE	**Monesi**	**0.81**	**127**	P	**Pb**	**13 32 56.1**	**+0.3**
MONE				S	**Sb**	**13 33 06.4**	**-0.1**
CALN	**Calern**	**0.82**	**178**	Pg	**Pg**	**13 32 58.9**	**+2.1**
SBF	**Sospel**	**0.83**	**150**	*e*Pg	**Pg**	**13 32 56.3**	**-0.5**
SBF				*e*Sg	**Sg**	**13 33 08.1**	**+0.2**
	14nm,0.2s						
LSD	**Ceresole Reale**	**0.91**	**13**	P	**Pb**	**13 32 57.5**	**+0.2**
LPG	**La Plagne**	**0.92**	**355**	*e*Pg	**Pg**	**13 32 58.0**	**-0.8**
LPG				*e*Sg	**Sg**	**13 33 10.4**	**-0.7**
	7.6nm,0.3s						
LPL	**La Plagne**	**0.94**	**355**	*e*Pg	**Pg**	**13 32 58.4**	**-0.7**
LPL				*e*Sg	**Sg**	**13 33 11.1**	**-0.7**
	7.8nm,0.2s						
NEGI	**Negi**	**0.95**	**140**	P	**Pb**	**13 32 58.4**	**+0.3**
IMI	**Imperia**	**1.00**	**132**	P	**Pb**	**13 32 59.3**	**+0.4**
FRF	**La Foret Royal**	**1.03**	**189**	*e*Pg	**Pg**	**13 33 00.4**	**-0.4**
FRF				*e*Sg	**Sg**	**13 33 14.4**	**-0.2**
	22nm,0.3s						
FIN	**Finale Ligure**	**1.04**	**110**	P	**Pb**	**13 32 59.8**	**+0.2**
SMRF	**Simiane la Rot**	**1.10**	**237**	*e*Pg	**Pg**	**13 33 03.2**	**+1.0**
SMRF				*e*Sg	**Sg**	**13 33 17.2**	**+0.2**
	15nm,0.3s						
PCP	**Pian Castagno**	**1.21**	**91**	P	**Pb**	**13 33 02.5**	**0.0**
LMR	**La Mourre**	**1.27**	**192**	*e*Pn	**Pn**	**13 33 04.4**	**+0.6**
LMR				*e*Pg	**Pg**	**13 33 05.3**	**-0.3**
LMR				*e*Sg	**Sg**	**13 33 21.5**	**-1.1**
	13nm,0.2s						
ORX	**Oropa**	**1.32**	**37**	P	**Pb**	**13 33 03.9**	**-0.6**
VIVF	**Saint-Julien-l**	**1.58**	**281**	*e*Pn	**Pn**	**13 33 09.8**	**+1.5**
VIVF				*e*Sg	**Sg**	**13 33 32.1**	**-0.9**
	8.6nm,0.4s						
CABF	**La Chapelle**	**2.10**	**345**	*e*Pn	**Pn**	**13 33 17.4**	**+1.6**
LASF	**Ste Croix**	**2.21**	**258**	*e*Pn	**Pn**	**13 33 17.4**	**+0.1**
LASF				*e*Sn	**Sn**	**13 33 43.3**	**-1.4**
	1.8nm,0.3s						
PGF	**Pioggiola**	**2.56**	**142**	*e*Pn	**Pn**	**13 33 22.3**	**+0.1**
PGF				*e*Sn	**Sn**	**13 33 51.5**	**-2.0**
	1.8nm,0.2s						
SMF	**Signal de Mont**	**2.96**	**315**	*e*Pn	**Pn**	**13 33 28.9**	**+0.9**
AVF	**Avril sur Loir**	**3.31**	**313**	*e*Pn	**Pn**	**13 33 32.3**	**-0.6**
LOR	**Lormes**	**3.41**	**323**	*e*Pn	**Pn**	**13 33 35.1**	**+0.8**
SSF	**Saint Saulge**	**3.41**	**318**	*e*Pn	**Pn**	**13 33 35.4**	**+1.0**
BGF	**Bois d'Agland**	**3.44**	**307**	*e*Pn	**Pn**	**13 33 36.2**	**+1.4**
MTLF	**Montolieu**	**3.57**	**251**	*e*Pn	**Pn**	**13 33 36.8**	**+0.2**
MTLF				*e*Sn	**Sn**	**13 34 17.5**	**-1.7**
	1.8nm,0.4s						
TCF	**Toulx Ste Croi**	**3.69**	**299**	*e*Pn	**Pn**	**13 33 39.6**	**+1.2**
EPF	**Esparros**	**4.96**	**254**	*e*Pn	**Pn**	**13 33 55.2**	**-1.2**

*NEIC **10** 13:55:54.9, 44.59N×6.87E, h8^{km}, ML2.5(GEN), ML2.2(LDG), ML2.0(STR), After GEN.*
*STR **10** 13:55:55.7±0.4, 44.55N×6.84E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 13:55:55.3±0.1, 44.61N×6.90E, h2^{km}, Md2.3/3, Ml2.2/7, Error ellipse: s-maj=2.9km s-min=1.5km az=64.0*
ISC 10 13:55:54.2±0.3**, 44.59N**±0.01×**6.85E**±0.03**, h14**^{km}±2^{km}**, n33, σ0^{s}59**/59**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.11**	**195**	Pg	**Pg**	**13 55 57.5**	**0.0**
SURF				Sg	**Sg**	**13 55 59.4**	**-0.3**
MBDF	**Montbardon**	**0.15**	**338**	*e*Pg	**Pg**	**13 55 58.2**	**+0.1**
MBDF				*e*Sg	**Sg**	**13 56 00.7**	**-0.1**
	95nm,0.2s						
PZZ	**Prazzo**	**0.20**	**114**	P	**Pg**	**13 55 59.0**	**+0.2**
PZZ				S	**Sg**	**13 56 01.9**	**0.0**
RRL	**Cesana Torines**	**0.34**	**352**	P	**Pg**	**13 56 01.7**	**+0.3**
RRL				S	**Sg**	**13 56 06.5**	**+0.2**
BHB	**Bricherasio**	**0.39**	**49**	P	**Pg**	**13 56 02.4**	**0.0**
BHB				S	**Sg**	**13 56 07.2**	**-0.6**
STV	**Sta Anna Valdi**	**0.48**	**135**	P	**Pb**	**13 56 04.0**	**0.0**
STV				S	**Sb**	**13 56 10.3**	**-0.2**
STV2	**Anna di Valdie**	**0.48**	**135**	P	**Pb**	**13 56 04.0**	**0.0**
STV2				S	**Sb**	**13 56 10.3**	**-0.3**
ENR	**Entracque**	**0.54**	**131**	P	**Pb**	**13 56 05.2**	**+0.2**
ENR				S	**Sb**	**13 56 12.1**	**-0.2**
RSP	**Reno Superiore**	**0.64**	**27**	P	**Pb**	**13 56 06.9**	**+0.3**
RSP				S	**Sb**	**13 56 15.0**	**0.0**
TOUF	**Mont Tournerai**	**0.64**	**153**	Pg	**Pg**	**13 56 07.1**	**-0.1**
TOUF				Sg	**Sg**	**13 56 16.1**	**+0.3**
AUTN	**L'Aution**	**0.72**	**145**	Pg	**Pg**	**13 56 09.4**	**+0.6**
AUTN				Sg	**Sg**	**13 56 18.7**	**+0.2**
ORIF	**Oris-en-Rattie**	**0.77**	**296**	*e*Pg	**Pg**	**13 56 09.8**	**0.0**
ORIF				*e*Sg	**Sg**	**13 56 19.5**	**-0.6**
	7.3nm,0.2s						
SAOF	**Saorge**	**0.78**	**140**	Pg	**Pg**	**13 56 10.3**	**+0.3**
SAOF				Sg	**Sg**	**13 56 20.3**	**-0.3**
ROB	**Roburent**	**0.79**	**111**	P	**Pb**	**13 56 09.5**	**+0.4**
ROB				S	**Sb**	**13 56 19.3**	**-0.1**
MONE	**Monesi**	**0.82**	**128**	P	**Pb**	**13 56 10.1**	**+0.4**
MONE				S	**Sb**	**13 56 20.4**	**0.0**
CALN	**Calern**	**0.83**	**178**	Pg	**Pg**	**13 56 13.2**	**+2.2**
CALN				Sg	**Sg**	**13 56 22.2**	**0.0**
SBF	**Sospel**	**0.83**	**150**	*e*Pg	**Pg**	**13 56 10.7**	**-0.3**
SBF				*e*Sg	**Sg**	**13 56 21.1**	**-1.2**
	8.6nm,0.3s						
LSD	**Ceresole Reale**	**0.90**	**14**	P	**Pb**	**13 56 11.8**	**+0.7**
LSD				S	**Sb**	**13 56 23.1**	**+0.5**
LPG	**La Plagne**	**0.92**	**356**	*e*Pg	**Pg**	**13 56 12.2**	**-0.5**
LPG				*e*Sg	**Sg**	**13 56 25.2**	**+0.2**
	4.2nm,0.2s						
LPL	**La Plagne**	**0.94**	**355**	*e*Pg	**Pg**	**13 56 12.7**	**-0.3**
LPL				*e*Sg	**Sg**	**13 56 25.3**	**-0.3**
	4.6nm,0.2s						
NEGI	**Negi**	**0.96**	**140**	P	**Pb**	**13 56 12.3**	**+0.2**
IMI	**Imperia**	**1.00**	**132**	P	**Pb**	**13 56 13.1**	**+0.2**
FRF	**La Foret Royal**	**1.03**	**188**	*e*Pg	**Pg**	**13 56 14.4**	**-0.6**
FRF				*e*Sg	**Sg**	**13 56 29.8**	**+0.9**
	7.7nm,0.3s						
FIN	**Finale Ligure**	**1.04**	**111**	P	**Pb**	**13 56 13.5**	**-0.1**
SMRF	**Simiane la Rot**	**1.10**	**237**	*e*Pg	**Pg**	**13 56 17.3**	**+1.0**
SMRF				*e*Sg	**Sg**	**13 56 31.8**	**+0.7**
	6.1nm,0.2s						
PCP	**Pian Castagno**	**1.21**	**91**	P	**Pb**	**13 56 16.8**	**+0.3**
LMR	**La Mourre**	**1.27**	**191**	*e*Pg	**Pg**	**13 56 19.4**	**-0.4**
LMR				*e*Sg	**Sg**	**13 56 35.8**	**-1.1**
	6.0nm,0.3s						
ORX	**Oropa**	**1.32**	**37**	P	**Pb**	**13 56 17.8**	**-0.5**
VIVF	**Saint-Julien-l**	**1.58**	**281**	*e*Pn	**Pn**	**13 56 22.9**	**+0.9**
VIVF				*e*Pg	**Pg**	**13 56 26.1**	**+0.3**
VIVF				*e*Sg	**Sg**	**13 56 44.0**	**-2.9**
	2.7nm,0.3s						
CABF	**La Chapelle**	**2.10**	**345**	*e*Pn	**Pn**	**13 56 29.6**	**+0.2**
PGF	**Pioggiola**	**2.56**	**142**	*e*Pn	**Pn**	**13 56 36.5**	**+0.4**
PGF				*e*Sn	**Sn**	**13 57 06.0**	**-1.4**
	0.9nm,0.2s						
LOR	**Lormes**	**3.40**	**323**	*e*Pn	**Pn**	**13 56 47.5**	**-0.5**
TCF	**Toulx Ste Croi**	**3.69**	**299**	*e*Pn	**Pn**	**13 56 51.5**	**-0.6**

*IDC **10** 14:02:30.7±9.0, 42.87N×147.40E, h54^{km}±64^{km}, mb3.4/3, mb1 3.5/4, mb1mx3.2/21, mbtmp3.7/4, Error ellipse: s-maj=135.9km s-min=55.5km az=13.0*
*JMA **10** 14:02:31.0±0.3, 43.28N×147.06E, h34^{km}±4^{km}, M3.6*
ISC 10 14:02:31.6±1.6**, 43.3N**±0.1×**147.1E**±0.1**, h48**^{km}±15^{km}**, n16, σ0^{s}79**/23**, mb3.5**/3**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.98**	**275**	P	**P**	**14 02 48.5**	**-0.7**
NEM2				*e*S	**S**	**14 03 01.3**	**-1.0**
JRA	**Rausu**	**1.57**	**295**	P	**P**	**14 02 57.2**	**-0.3**
JRA				*e*S	**S**	**14 03 16.5**	**-0.3**
JNK	**Nakash**	**1.75**	**280**	P	**P**	**14 02 59.2**	**-0.9**
JNK				*e*S	**S**	**14 03 20.4**	**-0.9**
JAK	**Akkeshi**	**1.77**	**261**	P	**P**	**14 03 00.3**	**-0.1**
JAK				*e*S	**S**	**14 03 21.4**	**-0.5**
JTKR	**Abashiri--Toko**	**2.41**	**287**	P	**P**	**14 03 09.7**	**+0.3**
JTKR				*e*S	**S**	**14 03 38.9**	**+1.1**
JOB	**Onbets**	**2.41**	**262**	P	**P**	**14 03 09.5**	**0.0**
JAR	**Ashorobuto**	**2.42**	**271**	P	**P**	**14 03 09.3**	**-0.3**
JAR				*e*S	**S**	**14 03 38.7**	**+0.5**
JMP	**Maruseppu**	**2.80**	**286**	P	**P**	**14 03 16.3**	**+1.3**
JCH	**Churui**	**2.82**	**257**	P	**P**	**14 03 15.3**	**0.0**
JEM	**Erimo**	**3.17**	**248**	P	**P**	**14 03 21.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**3.35**	**254**	P	**P**	**14 03 22.5**	**-0.3**
ASAJ	**Asahikawa**	**3.36**	**286**	P	**P**	**14 03 25.3**	**+2.4**
	2.2nm,0.3s,baz=154,slow=7.0,SNR=28						
ASAJ				S	**S**	**14 04 08.3**	**+6.4**
	1.2nm,0.3s,baz=54,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**44.76**	**298**	P	**P**	**14 10 41.7**	**-0.1**
	0.2nm,0.4s,mb3.3,baz=76,slow=9.4,SNR=4.6						
FINES	**FINESS Array B**	**65.26**	**333**	P	**P**	**14 13 09.3**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=45,slow=9.8,SNR=8.3						
NB2	**NORSAR Subarra**	**70.01**	**339**	P	**P**	**14 13 39.4**	**-0.2**
	0.1nm,0.6s,mb2.9,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**70.01**	**339**	P	**P**	**14 13 39.4**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=32,slow=6.3,SNR=4.1						

IDC 10 14:22:08.2±3.1**, 1.68S**×**99.90E, mb3.9**/5**, mb1 4.1**/5**, mb1mx3.8**/15**, mbtmp3.9**/5**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx3.0**/19**, Error ellipse: s-maj=145.4km s-min=21.8km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.25**	**121**	P	P	14 29 29.9	-2.1
	1.3nm,0.6s,baz=303,slow=9.1,SNR=19						
CTA	**Charters Tower**	**48.83**	**115**	LR	LR	14 53 15.8	
	comp=Z,125nm,21.0s,baz=84,slow=38						
STKA	**Stephens Creek**	**49.44**	**132**	P	P	14 31 00.9	-1.3
	3.2nm,1.1s,baz=333,slow=11,SNR=4.0						
SONM	**Songino Array**	**49.64**	**6**	P	P	14 31 01.9	-1.6
	0.8nm,1.0s,baz=191,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**50.69**	**344**	P	P	14 31 09.4	-2.2
	1.0nm,0.6s,baz=147,slow=8.0,SNR=12						
ZAL	**Zalesovo**	**56.83**	**349**	P	P	14 31 54.1	-2.7
	1.4nm,0.6s,baz=282,slow=3.7,SNR=7.2						
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	14 41 46.5	-2.7
	0.4nm,0.3s,baz=180,slow=1.3,SNR=3.5						

CASC 10 14:27:09.1±2.3**, 11.38N**×**86.97W, h32**^{km}±23^{km}**, MD4.0, ML3.6, 7C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.88**	**25**⇑	*e*P	Pn	14 27 25.0	-0.3
TICN	**Ticuantepe**	**0.97**	**48**⇑	*e*P	Pn	14 27 26.5	-0.2
XAVN	**Gruta Xavier**	**0.99**	**39**⇓	*e*P	Pn	14 27 26.5	-0.5
XAVN				*e*S	Sn	14 27 41.9	+2.0
LEON	**Leon**	**1.03**	**4**⇑	*e*P	Pn	14 27 27.2	-0.4
LEON				*e*S	Sn	14 27 42.4	+1.3
APON	**Apoyo**	**1.04**	**59**⇓	*e*P	Pn	14 27 27.1	-0.5
MGAN	**Managua**	**1.04**	**43**	*e*P	Pn	14 27 27.4	-0.3
MGAN				*e*S	Sn	14 27 41.7	+0.4
MGAN				*i*		14 27 46.2	
	comp=E,1μm,0.5s						
MIRN	**Miramar**	**1.09**	**14**⇓	*e*P	Pn	14 27 28.0	-0.3
MIRN				*e*S	Sn	14 27 43.2	+0.8
WILN	**Americas 2**	**1.09**	**45**⇓	*e*P	Pn	14 27 27.9	-0.5
WILN				*e*S	Sn	14 27 42.2	-0.3
SSNN	**San Juan del S**	**1.10**	**95**⇑	*e*P	Pn	14 27 28.3	-0.3
SSNN				*e*S	Sn	14 27 44.3	+1.5
MOMJ	**Momotombo**	**1.11**	**22**⇓	*e*P	Pn	14 27 28.1	-0.5
MOMJ				*e*S	Sn	14 27 41.7	-1.2
CNGN	**Cerro Negro**	**1.15**	**13**⇑	*e*P	Pn	14 27 28.9	-0.3
TEL3	**Telica 3**	**1.19**	**6**⇓	*i*P	Pn	14 27 29.8	-0.1
TEL3				*e*S	Sn	14 27 47.2	+2.1
TELN	**Telica**	**1.23**	**6**	*e*P	Pn	14 27 29.1	-1.2
TELN				*e*S	Sn	14 27 45.9	0.0
CRIN	**San Cristobal**	**1.32**	**357**⇑	*e*P	Pn	14 27 31.9	+0.3
CRIN				*e*S	Sn	14 27 49.5	+1.3
CONN	**Concepcion**	**1.33**	**82**⇑	*e*P	Pn	14 27 31.1	-0.8
MADN	**Villa Maderas**	**1.41**	**89**	*e*P	Pn	14 27 32.0	-0.9
PYTN	**Playitas**	**1.46**	**38**	*e*P	Pn	14 27 33.2	-0.5
LCBS	**La Ceiba**	**2.99**	**319**	*e*P	Pn	14 28 10.5	+15
LCBS				*e*S	Sn	14 28 46.1	+15
LFRS	**El Faro**	**3.02**	**318**	*e*P	Pn	14 28 11.3	+15
LFRS				*e*S	Sn	14 28 45.1	+14

*IDC **10** 14:58:02.6±5.8, 4.82S×153.87E, h134^{km}±47^{km}, mb3.7/4, mb1 4.0/5, mb1mx3.7/15, mbtmp4.2/5, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=79.2km s-min=31.4km az=128.0*
ISC 10 14:58:01.7±4.6**, 4.9S**±0.3×**154.0E**±0.3**, h142**^{km}±36^{km}**, n9, σ0^{s}73**/10**, mb4.1**/6**, 1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.09**	**236**	P	**P**	**14 59 57.3**	**-0.1**
	13nm,0.3s,baz=38,slow=5.7,SNR=16						
PMG				S	**S**	**15 01 27.6**	**0.0**
	2.3nm,0.3s,baz=46,slow=23,SNR=3.7						
PMG				LR	LR	15 02 52.1	
	comp=Z,60nm,20.1s,baz=144,slow=36						
WB2	**Warramunga Arr**	**24.24**	**230**	*e*P	**P**	**15 03 07.9**	**+1.0**
WRA	**Warramunga Arr**	**24.25**	**230**	P	**P**	**15 03 07.8**	**+0.8**
	5.6nm,0.7s,mb4.2,baz=53,slow=9.7,SNR=34						
FITZ	**Fitzroy Crossi**	**30.62**	**242**⇓	*i*P	**P**	**15 04 03.5**	**-1.4**
	5.9nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.62**	**242**	P	**P**	**15 04 03.3**	**-1.6**
	7.3nm,0.6s,mb4.6,baz=57,slow=4.4,SNR=14						
FORT	**Forrest**	**35.45**	**220**	*e*P	**P**	**15 04 46.3**	**+0.1**
	21nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**43.08**	**228**	*e*P	**P**	**15 05 48.7**	**-0.7**
	47nm,1.5s,mb4.9						
MKAR	**Makanchi Array**	**81.15**	**319**	P	**P**	**15 10 03.5**	**+0.6**
	0.3nm,0.5s,mb3.2,baz=91,slow=6.9,SNR=6.5						
ILAR	**Eielson Array**	**81.82**	**22**	P	**P**	**15 10 05.8**	**-0.3**
	0.3nm,0.9s,mb2.9,baz=252,slow=5.7,SNR=4.2						

*MAN **10** 14:59:56.1, 18.78N×121.02E, h13^{km}, mb4.3, ML3.2, MS3.0*
ISC 10 14:59:53.8±2.7**, 18.9N**±0.1×**121.0E**±0.1**, h10**^{km}**, n5, σ1^{s}10**/7**, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.21**	**122**	*e*P	**Pb**	**15 00 15.7**	**-0.6**
ABRA	**Dolores**	**1.26**	**191**	*e*P	**Pb**	**15 00 15.1**	**-2.0**
ABRA				*e*S	**Sb**	**15 00 33.5**	**+0.3**
CVP	**Callao Caves**	**1.43**	**145**⇑	*e*P	**Pn**	**15 00 19.5**	**-0.4**
CVP				*i* S	**Sb**	**15 00 38.0**	**-0.2**
CAUP	**Cauayan**	**2.10**	**157**	*e*P	**Pn**	**15 00 31.3**	**+1.8**
BALP	**Baler**	**3.18**	**169**	*e*P	**Pn**	**15 00 45.9**	**+1.0**

MEX 10 15:12:35.5±2.0**, 17.45N**×**99.27W, h16**^{km}±33^{km}**, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.85**	**227**	*i* P	Pb	15 12 48.0	-3.3
ACX				*e*S	Sb	15 12 58.0	-4.3
PLIG	**Platanillo**	**0.96**	**347**	*e*P	Pb	15 12 52.2	-1.1
PLIG				*i* S	Sb	15 13 02.8	-2.7
CAIG	**El Cayaco**	**1.03**	**247**	*i* P	Pb	15 12 53.0	-1.6
CAIG				*i* S	Sb	15 13 04.7	-2.9
PPM	**Popocatepetl**	**1.72**	**21**	*e*P	Pn	15 13 01.5	-3.6
OXX	**Oaxaca**	**2.46**	**98**	*e*P	Pn	15 13 16.0	+0.3

*IDC **10** 15:16:39.8±1.7, 5.48S×147.13E, h194^{km}±16^{km}, mb3.6/7, mb1 3.9/11, mb1mx3.8/15, mbtmp4.3/11, Error ellipse: s-maj=18.7km s-min=12.5km az=117.0*
*NEIC **10** 15:16:40.3±1.4, 5.39S×147.14E, h199^{km}±13^{km}, mb4.3/6, Error ellipse: s-maj=13.7km s-min=10.2km az=156.0*
ISC 10 15:16:37.8±1.5**, 5.36S**±0.09×**147.1E**±0.1**, h189**^{km}±13^{km}**, n26, σ0^{s}87**/28**, mb4.1**/11**, 3C-2D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.02**	**180**	P	**P**	**15 17 41.1**	**+0.9**
	34nm,0.3s,baz=4.1,slow=4.9,SNR=155						
PMG				S	**S**	**15 18 26.4**	**-2.0**
	44nm,0.3s,baz=77,slow=22,SNR=12						
PMG	**Port Moresby**	**4.02**	**180**⇓	*i*P	**P**	**15 17 41.2**	**+1.0**
PMG				*e*S	**S**	**15 18 28.2**	**-0.2**
HNR	**Honiara**	**13.34**	**108**	P	**P**	**15 19 41.6**	**+0.7**
	3.3nm,0.3s,baz=278,slow=18,SNR=2.2						
CTA	**Charters Tower**	**14.67**	**183**⇑	*i*P	**P**	**15 19 59.5**	**+1.9**
	5.1nm,0.5s						
CTA	**Charters Tower**	**14.67**	**183**	P	**P**	**15 19 58.0**	**+0.3**
	0.9nm,0.3s,baz=355,slow=11,SNR=14						
CTAO	**Charters Tower**	**14.67**	**183**	*e*P	**P**	**15 19 59.6**	**+2.0**
	9.4nm,0.8s						
WRAB	**Tennant Creek**	**19.09**	**219**	*e*P	**P**	**15 20 47.2**	**-1.1**
	38nm,0.6s						
WRAB				*e*S	**S**	**15 24 06.0**	**-3.9**
WB2	**Warramunga Arr**	**19.10**	**219**⇓	*i*P	**P**	**15 20 48.3**	**-0.1**
WB2				*e*S	**S**	**15 24 10.8**	**+0.8**
WRA	**Warramunga Arr**	**19.10**	**220**	P	**P**	**15 20 48.2**	**-0.3**
	5.9nm,0.3s,baz=47,slow=12,SNR=142						
WRA				S	**S**	**15 24 11.6**	**+1.4**
	0.2nm,0.3s,baz=40,slow=20,SNR=5.1						
FITZ	**Fitzroy Crossi**	**24.52**	**237**⇑	*i*P	**P**	**15 21 42.3**	**+0.8**
	53nm,0.4s,mb5.4						
FITZ	**Fitzroy Crossi**	**24.52**	**237**	P	**P**	**15 21 42.1**	**+0.6**
	68nm,0.4s,mb5.5,baz=32,slow=7.9,SNR=123						
DZM	**Mont Dzumac**	**25.01**	**133**	P	**P**	**15 21 46.1**	**0.0**
	3.2nm,0.6s,mb4.1,baz=43,slow=18,SNR=5.8						
STKA	**Stephens Creek**	**26.89**	**190**	P	**P**	**15 22 02.1**	**-1.1**
	3.0nm,0.8s,mb4.0,baz=5.3,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**26.89**	**190**	*e*P	**P**	**15 22 02.2**	**-1.0**
MBWA	**Marble Bar**	**30.86**	**237**	*e*P	**P**	**15 22 37.6**	**-1.1**
	0.9nm,0.4s,mb3.9						
KLBR	**Kellerberrin**	**37.92**	**223**⇑	*i*P	**P**	**15 23 37.9**	**-0.8**
	59nm,1.6s,mb5.0						
SONM	**Songino Array**	**63.91**	**331**	P	**P**	**15 26 53.4**	**+0.8**
	1.2nm,0.8s,mb3.8,baz=146,slow=6.0,SNR=8.3						
VNDA	**Vanda**	**72.54**	**177**	P	**P**	**15 27 44.9**	**-0.6**
	0.7nm,0.5s,mb3.7,baz=322,slow=7.0,SNR=6.1						
MKAR	**Makanchi Array**	**77.08**	**320**	P	**P**	**15 28 12.3**	**+0.5**
	1.0nm,0.7s,mb3.5,baz=104,slow=6.7,SNR=8.4						
MKAR				pP	pP	15 29 01.3	+3.6
	0.9nm,0.9s,baz=108,slow=3.8,SNR=5.4						
MKAR	**Makanchi Array**	**77.08**	**320**	P	**P**	**15 28 12.3**	**+0.5**
MKAR				pP	pP	15 29 01.3	+3.6
ZAL	**Zalesovo**	**78.54**	**328**	P	**P**	**15 28 19.3**	**-0.3**
	0.9nm,0.5s,mb3.7,baz=22,slow=8.5,SNR=4.8						
QSPA	**South Pole Qui**	**84.61**	**180**	*e*P	**P**	**15 28 50.6**	**0.0**
	4.7nm,1.2s,mb4.1						
QSPA				*e*	pP	15 29 39.9	+2.7
QSPA				*e*		15 30 00.1	
ILAR	**Eielson Array**	**84.84**	**23**	P	**P**	**15 28 51.6**	**-0.4**
	1.4nm,0.6s,mb3.9,baz=254,slow=5.2,SNR=16						
PHWY	**Pilot Hill**	**106.59**	**49**	*e*PKPdf		15 34 41.3	
GERES	**GERESS Array B**	**121.45**	**326**	PKP	PKPdf	15 35 10.0	+1.2
	0.6nm,0.5s,baz=27,slow=2.2,SNR=7.1						
MTP	**Monte Pirata**	**145.66**	**66**	*e*PKPdf	PKPdf	15 35 56.9	+2.4

*NNC **10** 15:27:26.9±14.0, 36.92N×69.24E, h34^{km}±386^{km}, mpv4.2, Error ellipse: s-maj=203.9km s-min=66.3km az=173.0*
ISC 10 15:27:26.9±2.7**, 37.0N**±0.1×**69.4E**±0.2**, h72**^{km}±59^{km}**, n13, σ1^{s}18**/16**, 5C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.09**	**31**	P	**P**	**15 28 56.1**	**-0.1**
	SNR=6.3						
KK31	**Karatay Array**	**6.16**	**7**	⇑S	**S**	**15 30 08.5**	**+1.6**
	48nm,0.7s,baz=185,slow=39,SNR=12						
KK09	**Karatay Array**	**6.17**	**7**	P	**P**	**15 28 56.1**	**-1.2**
EKS2	**Erkin-Say**	**6.57**	**29**	P	**P**	**15 29 01.9**	**-1.0**
	SNR=7.9						
KZA	**Kyzart**	**6.78**	**40**	P	**P**	**15 29 07.7**	**+1.9**
	SNR=8.2						
AAK	**Ala-Archa**	**6.84**	**33**	P	**P**	**15 29 04.3**	**-2.4**
	SNR=9.9						
AAK	**Ala-Archa**	**6.84**	**33**	⇑P	**P**	**15 29 05.5**	**-1.2**
	8.7nm,0.6s						
AAK				⇑S	**S**	**15 30 23.3**	**-0.4**
	33nm,0.8s						
KBK	**Karagaybulak**	**7.07**	**35**	P	**P**	**15 29 10.8**	**+1.1**
	SNR=5.8						
CHMS	**Chumysh**	**7.25**	**33**	P	**P**	**15 29 12.3**	**0.0**
	SNR=11						
USP	**Ospenovka**	**7.37**	**30**	P	**P**	**15 29 12.6**	**-1.3**
	SNR=19						
TKM2	**Tokmak 2**	**7.57**	**37**	P	**P**	**15 29 17.4**	**+0.7**
	SNR=10						
AB31	**Akbulak array**	**14.06**	**334**	⇓P	**P**	**15 30 49.9**	**+6.1**
	1.1nm,0.4s,baz=145,slow=12,SNR=32						
AB31				⇓S	**S**	**15 33 12.5**	**-5.9**
	1.7nm,0.5s,baz=142,slow=24,SNR=6.4						
AKTO	**Aktyubinsk**	**15.74**	**332**	⇑P	**P**	**15 31 06.8**	**+1.4**
	0.3nm,0.8s						
AKTO				⇑S	**S**	**15 33 56.7**	**-0.9**
	0.6nm,0.8s						

*IDC **10** 16:08:46.4±2.1, 4.35S×153.67E, h95^{km}±17^{km}, mb4.1/12, mb1 4.2/14, mb1mx4.1/18, mbtmp4.4/14, MS3.3/3, Ms1 3.3/3, ms1mx3.0/16, Error ellipse: s-maj=18.3km s-min=11.7km az=99.0*
*MOS **10** 16:08:47.6±0.8, 4.32S×153.52E, h116^{km}, mb4.7/6, Error ellipse: s-maj=13.8km s-min=12.4km az=101.9*
*BJI **10** 16:08:48.4, 4.33S×154.32E, h153^{km}, mB5.0, mb4.7*
*NEIC **10** 16:08:50.1±1.1, 4.44S×153.53E, h128^{km}±11^{km}, mb4.7/15, Error ellipse: s-maj=8.9km s-min=7.5km az=75.0*
ISC 10 16:08:48.8±1.6**, 4.47S**±0.07×**153.51E**±0.05**, h125**^{km}±15^{km}**, n61, σ0^{s}98**/61**, mb4.6**/31**, 6C-2D, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.99**	**232**	P	**P**	**16 10 43.5**	**+0.2**
	18nm,0.3s,baz=37,slow=7.7,SNR=69						
PMG				S	**S**	**16 12 11.9**	**-0.6**
	5.0nm,0.3s,baz=116,slow=21,SNR=18						
PMG	**Port Moresby**	**7.99**	**232**	*e*Pn	**P**	**16 10 43.1**	**-0.2**
	80nm,0.6s						
PMG				*e*Sn	**S**	**16 12 12.5**	**0.0**
PMG	**Port Moresby**	**7.99**	**232**	*e*P	**P**	**16 10 43.1**	**-0.2**
PMG				*e*		16 12 12.5	
PMG				pmax	pmax		
	comp=Z,80nm,0.6s						
HNR	**Honiara**	**8.07**	**128**	P	**P**	**16 10 44.9**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=102,slow=1.3,SNR=2.8						
HNR				S	**S**	**16 12 14.1**	**-0.3**
	comp=Z,20nm,0.3s,baz=52,slow=22,SNR=6.2						
HNR				LR	LR	16 12 59.4	
	comp=Z,63nm,18.0s,baz=152,slow=32						
CTA	**Charters Tower**	**17.05**	**204**	P	**P**	**16 12 43.0**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=41,slow=15,SNR=6.0						
DZM	**Mont Dzumac**	**21.52**	**146**	P	**P**	**16 13 29.4**	**+0.5**
	comp=Z,4.6nm,0.8s,mb3.9,baz=259,slow=21,SNR=8.4						
DZM				LR	LR	16 20 19.0	
	comp=Z,66nm,21.9s,baz=24,slow=32						
WRAB	**Tennant Creek**	**24.18**	**229**	*e*P	**P**	**16 13 54.9**	**+0.1**
	comp=Z,31nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**24.18**	**229**⇑	*e*P	**P**	**16 13 55.0**	**+0.2**
WB2	**Warramunga Arr**	**24.18**	**229**⇑	*i*P	**P**	**16 13 55.2**	**+0.3**
WRA	**Warramunga Arr**	**24.19**	**229**	P	**P**	**16 13 55.3**	**+0.3**
	comp=Z,23nm,0.6s,mb4.7,baz=54,slow=10.0,SNR=185						
WRA				PcP	PcP	16 17 32.1	-1.4
	comp=Z,2.1nm,0.6s,baz=55,slow=2.4,SNR=7.4						
WRA				S	**S**	**16 18 11.8**	**+11**
	comp=Z,1.7nm,0.8s,baz=37,slow=16,SNR=4.7						
WRA				ScP		16 21 01.9	
	comp=Z,0.5nm,1.0s,baz=51,slow=3.4,SNR=3.3						
STKA	**Stephens Creek**	**29.47**	**201**	*e*P	**P**	**16 14 42.1**	**-1.1**
	comp=Z,6.3nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**29.47**	**201**	P	**P**	**16 14 41.9**	**-1.3**
	comp=Z,7.6nm,0.6s,mb4.5,baz=34,slow=15,SNR=20						
STKA				LR	LR	16 27 15.9	
	comp=Z,158nm,19.5s,baz=23,slow=37						
FITZ	**Fitzroy Crossi**	**30.44**	**241**⇓	*i*P	**P**	**16 14 50.6**	**-1.3**
	comp=Z,16nm,0.8s,mb4.7						
FORT	**Forrest**	**35.49**	**220**⇓	*i*P	**P**	**16 15 34.9**	**-0.4**
	comp=Z,38nm,0.6s,mb5.4						
RPZ	**Rata Peaks**	**42.05**	**161**	P	**P**	**16 16 29.1**	**-0.5**
	comp=Z,4.4nm,0.6s,mb4.3,baz=188,slow=0.8,SNR=8.1						
KLBR	**Kellerberrin**	**43.04**	**227**⇑	*i*P	**P**	**16 16 36.4**	**-1.5**
	comp=Z,16nm,0.7s,mb4.8						
JNU	**Nakatsue**	**43.10**	**332**	P	**P**	**16 16 37.5**	**-0.9**
	comp=Z,9.8nm,0.7s,mb4.6,baz=151,slow=7.4,SNR=7.6						
MJAR	**Matsushiro Arr**	**43.23**	**342**	P	**P**	**16 16 37.5**	**-1.9**
	comp=Z,0.6nm,0.5s,mb3.6,baz=60,slow=2.7,SNR=4.4						
SSE	**Sheshan**	**46.93**	**321**	*e*P	**P**	**16 17 08.9**	**+0.1**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,171nm,5.5s						
SSE	**Sheshan**	**46.93**	**321**	*e*P	**P**	**16 17 08.9**	**+0.1**
	comp=Z,29nm,0.7s,mb5.1						
NJ2	**Nanjing**	**49.04**	**320**	*e*P	**P**	**16 17 26.5**	**+1.4**
NJ2				PP	PP	16 19 24.1	+4.1
NJ2				AMB	AMB		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,446nm,5.6s						
NJ2				LR	LR		
	comp=N,1µm,15.5s						
NJ2				LR	LR		
	comp=E,990nm,15.1s						
NJ2				LR	LR		
	comp=Z,370nm,15.5s						
KULM	Kulim	53.68	280	eP	P	16 17 58.9	-1.4
KMI	Kunming	57.39	304	P	P	16 18 27.0	+0.3
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=Z,34nm,17.2s						
KMI	Kunming	57.39	304	P	P	16 18 27.0	+0.3
	comp=Z,8.0nm,1.0s,mb4.7						
KMI				pP	pP	16 18 47.5	-9.2
KMI				sP	sP	16 19 00.0	-11
KMI				LR	LR		
	comp=Z,30nm,17.2s						
KMI	Kunming	57.39	304	P	P	16 18 27.0	+0.3
KMI				*SP	sP	16 19 00.0	-11
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KMI				MLR	MLR		
	comp=Z,30nm,17.2s						
SONM	Songino Array	66.43	327	P	P	16 19 26.5	-0.3
	comp=Z,1.3nm,0.6s,mb3.9,baz=146,slow=5.9,SNR=7.6						
LSA	Lhasa	68.64	304	eP	P	16 19 42.0	+1.2
	comp=Z,22nm,0.2s,mb5.6						
LSA	Lhasa	68.64	304	eP	P	16 19 42.0	+1.2
LSA				pmax	pmax		
	comp=Z,22nm,0.2s,mb5.6						
YAK	Yakutsk	68.80	348c	iP	P	16 19 35.5	-5.7
YAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ZAK	Zakamensk	69.58	328	eP	P	16 19 43.2	-3.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
PKI	Pulchoki	72.88	300	eP	P	16 20 06.2	-0.1
	comp=Z,31nm,1.1s,mb5.0						
PKI	Pulchoki	72.88	300	eP	P	16 20 06.2	-0.1
PKI				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
KKN	Kakani	73.04	301	eP	P	16 20 07.5	+0.2
	comp=Z,25nm,0.7s,mb5.1						
KKN	Kakani	73.04	301	eP	P	16 20 07.5	+0.2
KKN				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
VNDA	Vanda	73.13	178	P	P	16 20 07.2	+0.3
	comp=Z,2.5nm,0.6s,mb4.2,baz=326,slow=6.4,SNR=12						
DMN	Daman	73.14	300	eP	P	16 20 07.2	-0.7
	comp=Z,56nm,0.9s,mb5.4						
GKN	Gorkha	73.64	301	eP	P	16 20 10.4	-0.4
	comp=Z,53nm,1.0s,mb5.2						
KOLN	Koldanda	74.48	300	eP	P	16 20 10.6	-5.0
	comp=Z,20nm,0.5s,mb5.1						
MKAR	Makanchi Array	80.55	319	P	P	16 20 48.7	0.0
	comp=Z,2.4nm,0.7s,mb4.1,baz=91,slow=8.7,SNR=24						
ZAL	Zalesovo	81.28	326	P	P	16 20 51.7	-0.7
	comp=Z,1.4nm,0.6s,mb4.0,baz=31,slow=1.3,SNR=6.6						
ILAR	Eielson Array	81.59	22	P	P	16 20 52.3	-1.5
	comp=Z,1.7nm,0.9s,mb3.9,baz=255,slow=5.4,SNR=11						
KURK	Kurchatov	83.95	322	eP	P	16 21 05.6	-0.5
	comp=Z,5.3nm,1.0s,mb4.3						
KURK	Kurchatov	83.95	322	⇑eP	P	16 21 05.7	-0.4
TKM2	Tokmak 2	84.21	314	P	P	16 21 08.6	+1.0
	SNR=8.3						
KZA	Kyzart	84.30	313	P	P	16 21 10.3	+2.2
	SNR=6.1						
KBK	Karagaybulak	84.63	313	P	P	16 21 10.8	+1.1
	SNR=6.3						
CHMS	Chumysh	84.84	314	P	P	16 21 11.5	+0.8
	SNR=8.4						
AAK	Ala-Archa	84.95	313	P	P	16 21 12.2	+0.9
	SNR=6.1						
AAK	Ala-Archa	84.95	313	eP	P	16 21 11.1	-0.2
	comp=Z,7.2nm,0.8s,mb4.7						
AAK	Ala-Archa	84.95	313c	iP	P	16 21 11.3	0.0
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
USP	Ospenovka	85.07	314	P	P	16 21 12.7	+0.8
	SNR=11						
AML	Almayashu	85.45	313	P	P	16 21 15.9	+2.1
	SNR=14						
EKS2	Erkin-Say	85.48	313	P	P	16 21 15.1	+1.2
	SNR=8.5						
QSPA	South Pole Qui	85.49	180	eP	P	16 21 13.1	0.0
	comp=Z,4.2nm,0.7s,mb4.5						
MAW	Mawson	86.14	203	P	P	16 21 16.6	0.0
	comp=Z,3.3nm,0.6s,mb4.4,baz=99,slow=6.5,SNR=7.3						
BRVK	Borovoye	89.47	323	eP	P	16 21 31.8	-1.0
	comp=Z,2.6nm,0.9s,mb4.3						
BRVK	Borovoye	89.47	323	eP	P	16 21 31.8	-0.9
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
KIV	Kislovodsk	108.03	315	eP	Pdif	16 22 55.3	-1.3
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,200nm,24.0s						
AKASG	Malin Array Be	114.64	325	PKP	PKPdf	16 27 14.4	+0.1
	comp=Z,0.4nm,0.4s,baz=64,slow=1.5,SNR=4.6						
GERES	GERESS Array B	124.14	329	PKP	PKPdf	16 27 33.6	+0.9
	comp=Z,1.1nm,0.6s,baz=90,slow=1.3,SNR=12						
DBIC	Dimbokro	158.36	277	PKPab	PKPab	16 29 08.6	-0.8
	comp=Z,2.9nm,0.7s,baz=217,slow=9.1,SNR=4.2						

*ROM **10** 16:30:43.5±0.3, 44.55N×6.85E, h5km, Md2.5/4, Ml1.9/2, Error ellipse: s-maj=5.6km s-min=2.4km az=45.0*
*NEIC **10** 16:30:44.4, 44.59N×6.84E, h4km, ML2.7(GEN), ML2.5(LDG), ML2.3(STR), ML1.9(ROM), After GEN.*
*CSEM **10** 16:30:44.3±0.1, 44.61N×6.97E, ML2.4/9, Error ellipse: s-maj=1.7km s-min=0.8km az=68.0*
*GEN **10** 16:30:44.4, 44.59N×6.84E, h4km, ML2.0*
*STR **10** 16:30:45.3±0.3, 44.61N×6.96E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 16:30:46.2±0.2, 44.56N×6.89E, h2km, Md2.7/2, Ml2.5/11, Error ellipse: s-maj=5.6km s-min=3.3km az=71.0*
ISC 10 16:30:44.2±0.2**, 44.59N**±0.01×**6.86E**±0.02**, h11**km±2km**, n64, σ0.75**/109**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	Montbardon	0.15	336	ePg	Pg	16 30 48.1	+0.2
MBDF				eSg	Sg	16 30 50.3	-0.1
	610nm,0.2s						
PZZ	Prazzo	0.19	115	P	Pg	16 30 49.0	+0.5
PZZ				S	Sg	16 30 52.1	+0.7
PZZ	Prazzo	0.19	115	P	Pg	16 30 49.0	+0.5
DOI	San Damiano	0.29	106	Pg	Pg	16 30 50.3	0.0
DOI				Sg	Sg	16 30 54.6	+0.2
	140nm,0.2s						
RRL	Cesana Torines	0.34	351	P	Pg	16 30 51.2	-0.1
RRL	Cesana Torines	0.34	351	P	Pg	16 30 51.2	-0.1
BHB	Bricherasio	0.39	48	P	Pg	16 30 52.2	0.0
BHB				S	Sg	16 30 57.5	-0.1
BHB	Bricherasio	0.39	48	P	Pg	16 30 52.2	0.0
STV	Sta Anna Valdi	0.48	135	P	Pg	16 30 53.9	-0.1
STV				S	Sg	16 31 00.4	0.0
STV	Sta Anna Valdi	0.48	135	P	Pg	16 30 53.9	-0.1
STV2	Anna di Valdie	0.48	135	P	Pg	16 30 53.8	-0.1
STV2				S	Sg	16 31 00.4	-0.1
BNI	Bardonecchia	0.48	345	Pg	Pg	16 30 54.6	+0.5
BNI				eSg	Sg	16 31 00.9	+0.2
BNI	Bardonecchia	0.48	345	Pg	Pg	16 30 54.6	+0.5
	20nm,0.3s						
BNI				eSg	Sg	16 31 00.9	+0.2
ENR	Entracque	0.54	131	P	Pg	16 30 54.9	-0.3
ENR				S	Sg	16 31 02.3	-0.2
ENR	Entracque	0.54	131	P	Pg	16 30 54.9	-0.3
RSP	Reno Superiore	0.63	26	P	Pb	16 30 56.8	0.0
RSP				S	Sb	16 31 05.1	-0.3
RSP	Reno Superiore	0.63	26	P	Pb	16 30 56.8	0.0
RSP				S	Sb	16 31 05.1	-0.3
TOUF	Mont Tournerai	0.64	154	Pg	Pg	16 30 57.1	0.0
AUTN	L'Aution	0.72	145	Pg	Pg	16 30 58.8	+0.1
AUTN				Sg	Sg	16 31 08.3	0.0
MVIF	Mont Vial	0.72	163	Pg	Pg	16 30 59.0	+0.3
MVIF				Sg	Sg	16 31 09.5	+1.1
ORIF	Oris-en-Rattie	0.77	296	ePg	Pg	16 30 59.6	-0.2
ORIF				eSg	Sg	16 31 09.5	-0.7
	30nm,0.3s						
SAOF	Saorge	0.78	140	Pg	Pg	16 30 59.9	0.0
SAOF				Sg	Sg	16 31 10.1	-0.3
ROB	Roburent	0.78	111	P	Pb	16 30 59.5	+0.2
ROB				S	Sb	16 31 09.7	0.0
ROB	Roburent	0.78	111	P	Pb	16 30 59.5	+0.2
ROB				S	Sb	16 31 09.6	0.0
MONE	Monesi	0.82	128	P	Pb	16 31 00.2	+0.2
MONE				S	Sb	16 31 10.9	+0.2
MONE	Monesi	0.82	128	P	Pb	16 31 00.2	+0.2
MONE				S	Sb	16 31 10.9	+0.2
SBF	Sospel	0.83	150	ePg	Pg	16 31 00.8	-0.2
SBF				eSg	Sg	16 31 11.8	-0.3
	39nm,0.3s						
CALN	Calern	0.83	178	Pg	Pg	16 31 01.5	+0.5
LSD	Ceresole Reale	0.90	13	P	Pb	16 31 01.6	+0.3
LSD				S	Sb	16 31 13.2	+0.1
LSD	Ceresole Reale	0.90	13	P	Pb	16 31 01.6	+0.3
LSD				S	Sb	16 31 13.2	+0.2
MONC	Moncucco Torin	0.90	57	Pg	Pg	16 31 02.8	+0.4
	79nm,0.3s						
LPG	La Plagne	0.92	355	ePg	Pg	16 31 02.2	-0.4
LPG				eSg	Sg	16 31 13.9	-1.0
	14nm,0.2s						
LPL	La Plagne	0.94	355	ePg	Pg	16 31 02.4	-0.6
LPL				eSn	Sn	16 31 15.4	-1.1
	15nm,0.2s						
NEGI	Negi	0.95	140	P	Pb	16 31 02.6	+0.3
NEGI				S	Sb	16 31 14.9	+0.2
NEGI	Negi	0.95	140	P	Pb	16 31 02.6	+0.3
NEGI				S	Sb	16 31 14.9	+0.2
IMI	Imperia	1.00	132	P	Pb	16 31 03.4	+0.3
IMI	Imperia	1.00	132	Pg	Pg	16 31 03.7	-0.6
	10.0nm,0.1s						
IMI				S	Sb	16 31 16.0	-0.1
FRF	La Foret Royal	1.03	189	ePg	Pg	16 31 04.5	-0.5
FRF				eSg	Sg	16 31 18.6	-0.3
	19nm,0.2s						
FIN	Finale Ligure	1.04	111	P	Pb	16 31 03.8	+0.1
FIN	Finale Ligure	1.04	111	Pg	Pg	16 31 04.0	-1.0
	12nm,0.1s						
FIN				S	Sb	16 31 16.9	-0.2
SMRF	Simiane la Rot	1.10	237	ePg	Pg	16 31 07.0	+0.6
SMRF				eSg	Sg	16 31 22.5	+1.3
	23nm,0.3s						
TRAV		1.12	34	P	Pb	16 31 05.2	+0.1
TRAV				S	Sb	16 31 19.4	-0.1
TRAV		1.12	34	P	Pb	16 31 05.2	+0.1
TRAV				S	Sb	16 31 19.4	-0.1
PCP	Pian Castagno	1.21	91	P	Pb	16 31 06.8	+0.2
PCP				S	Sb	16 31 21.9	-0.1
PCP	Pian Castagno	1.21	91	P	Pb	16 31 06.8	+0.2
PCP				S	Sb	16 31 21.9	-0.1
LMR	La Mourre	1.28	192	ePg	Pg	16 31 09.3	-0.5
LMR				eSg	Sg	16 31 25.7	-1.1
	15nm,0.2s						
ORX	Oropa	1.31	37	P	Pb	16 31 07.4	-1.0
ORX	Oropa	1.31	37	P	Pb	16 31 07.4	-1.1
VIVF	Saint-Julien-l	1.58	281	ePn	Pn	16 31 13.8	+1.4
VIVF				eSg	Sg	16 31 35.6	-1.4
	5.8nm,0.3s						
CABF	La Chapelle	2.10	345	ePn	Pn	16 31 21.7	+1.9
LASF	Ste Croix	2.21	258	ePn	Pn	16 31 21.8	+0.4
LASF				eSn	Sn	16 31 47.7	-1.3
	1.8nm,0.2s						
PGF	Pioggiola	2.56	142	ePn	Pn	16 31 26.0	-0.4
PGF				eSn	Sn	16 31 56.7	-1.2
	3.5nm,0.2s						
SMF	Signal de Mont	2.96	315	ePn	Pn	16 31 34.0	+2.0
SMF				ePg	Pg	16 31 41.2	-2.0
SMF				eSg	Sg	16 32 17.8	-4.8
	4.6nm,0.3s						
SMF	Signal de Mont	2.96	315	ePg	Pg	16 31 41.2	-2.0
SMF				eSg	Sg	16 32 17.8	-4.8
	2.3nm,0.3s						
AVF	Avril sur Loir	3.30	313	ePn	Pn	16 31 38.4	+1.5
AVF				ePg	Pg	16 31 45.7	-4.5
AVF	Avril sur Loir	3.30	313	ePg	Pg	16 31 45.7	-4.5
LOR	Lormes	3.40	323	ePn	Pn	16 31 38.8	+0.4
LOR				eSn	Sn	16 32 17.5	-1.7
	2.2nm,0.3s						
SSF	Saint Saulge	3.41	318	ePn	Pn	16 31 39.9	+1.4
CAF	Calviac	3.43	277	ePn	Pn	16 31 39.5	+0.7
BGF	Bois d'Agland	3.44	306	ePn	Pn	16 31 40.3	+1.4
BGF				ePg	Pg	16 31 48.2	-4.7
MTLF	Montolieu	3.57	251	ePn	Pn	16 31 41.0	+0.2
MTLF				eSn	Sn	16 32 21.6	-1.9
	0.9nm,0.2s						
TCF	Toulx Ste Croi	3.69	299	ePn	Pn	16 31 43.5	+1.1
CDF	Champ du Feu	3.84	4	ePn	Pn	16 31 44.6	0.0
MFF	Saint Martin d	5.31	295	ePn	Pn	16 32 06.1	+0.6

*NNC **10** 16:41:10.0±9.7, 37.99N×69.59E, h310km±74km, mpv3.7, Error ellipse: s-maj=100.2km s-min=60.2km az=27.0*
*MOS **10** 16:41:19.6±1.2, 39.03N×68.86E, h33km, mb4.0/1, Error ellipse: s-maj=26.8km s-min=12.8km az=80.9*
*IDC **10** 16:41:22.8±8.6, 39.04N×69.11E, h49km±58km, mb3.6/4, mb1 3.6/7, mb1mx3.4/22, mbtmp3.7/7, ML3.3/2, Error ellipse: s-maj=100.8km s-min=39.6km az=172.0*
*NEIC **10** 16:41:24.4±3.7, 39.20N×69.06E, h55km±25km, mb3.7/1, Error ellipse: s-maj=42.4km s-min=19.2km az=185.0*
ISC 10 16:41:23.1±2.8**, 39.1N**±0.2×**69.1E**±0.1**, h68**km±22km**, n26, σ1.00**/30**, mb3.8**/4**, 5C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.11	15	P	P	16 42 25.5	+0.6
	2.2nm,0.2s,baz=205,slow=16,SNR=141						
KK31				S	S	16 43 36.4	+24
	51nm,0.7s,baz=192,slow=26,SNR=12						
KKAR	Karatay Array	4.11	15	PN	P	16 42 25.5	+0.5
KKAR						16 43 18.3	
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KKAR				smax			
	comp=Z,1.0nm,0.2s						
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AML	Almayashu	4.61	48	P	P	16 42 32.0	0.0
	SNR=68						
EKS2	Erkin-Say	5.00	44	P	P	16 42 37.9	+0.5
	SNR=16						
AAK	Ala-Archa	5.38	48	P	P	16 42 43.1	+0.4
	SNR=7.0						
AAK	Ala-Archa	5.38	48	⇑P	P	16 42 42.9	+0.3
	comp=Z,5.6nm,0.5s						
AAK				⇑S	S	16 43 49.7	+5.7
	comp=Z,15nm,0.6s						
AAK	Ala-Archa	5.38	48	ePn	P	16 42 41.8	-0.9
	comp=Z,8.3nm,0.6s						
AAK				Sn	S	16 43 42.4	-1.6
AAK	Ala-Archa	5.38	48	ePN	P	16 42 41.8	-0.8
AAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KZA	Kyzart	5.53	56	P	P	16 42 45.8	+1.1
	SNR=7.1						
KBK	Karagaybulak	5.66	50	P	P	16 42 47.5	+0.9
	SNR=9.6						
CHMS	Chumysh	5.76	46	P	P	16 42 48.4	+0.5
	SNR=10						
USP	Ospenovka	5.80	43	P	P	16 42 48.4	-0.1
	SNR=15						
TKM2	Tokmak 2	6.20	50	P	P	16 42 51.9	-2.2
	SNR=9.1						
AB31	Akbulak array	12.05	330	⇓P	P	16 44 11.3	-2.5
	comp=Z,0.5nm,0.3s						
AB31				⇑S	S	16 46 27.8	+0.6
	comp=Z,1.3nm,0.5s,baz=154,slow=24,SNR=4.2						
AB31	Akbulak array	12.05	330	P	P	16 44 11.2	-2.6
MKAR	Makanchi Array	12.32	47	P	P	16 44 17.1	-0.3
	comp=Z,0.1nm,0.3s,baz=236,slow=16,SNR=5.1						
VOSK	Vostochnaya	13.65	5	⇓P	P	16 44 23.0	-12
	comp=Z,0.8nm,0.6s						
AKTO	Aktyubinsk	13.75	329	⇑P	P	16 44 25.4	-11
	comp=Z,0.6nm,0.6s						
AKTO				⇑S	S	16 47 11.9	+4.4
	comp=Z,0.4nm,0.7s						
BVAR	Borovoye Array	13.92	3	P	P	16 44 37.6	-0.8
	comp=Z,0.4nm,0.3s,baz=188,slow=10,SNR=6.7						
ZAL	Zalesovo	18.26	31	P	P	16 45 32.4	-0.8
	comp=Z,0.3nm,0.3s,baz=249,slow=7.0,SNR=4.0						
FINES	FINESS Array B	34.46	325	P	P	16 48 06.6	+0.6
	comp=Z,0.3nm,0.3s,mb3.6,baz=121,slow=8.1,SNR=10						
NB2	NORSAR Subarra	41.38	321	P	P	16 49 04.1	+0.3
	comp=Z,1.0nm,0.7s,mb3.8,baz=95,slow=7.9						
NB2	NORSAR Subarra	41.38	321	P	P	16 49 04.1	+0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
NOA	NORSAR Array B	41.38	321	P	P	16 49 04.4	+0.6
	comp=Z,0.6nm,0.5s,mb3.7,baz=98,slow=8.4,SNR=3.5						
ESDC	Sonseca Array	54.92	296	P	P	16 50 48.7	-0.4
	comp=Z,0.4nm,0.4s,mb3.9,baz=60,slow=7.6,SNR=6.7						
INK	Inuvik	71.54	9	P	P	16 52 38.6	+0.5
	comp=Z,0.9nm,0.5s,mb3.9,baz=345,slow=7.8,SNR=5.5						

*NEIC **10** 16:42:33.0, 45.22N×27.24E, h1km, MD3.6(BUC), After BUC.*
*BUC **10** 16:42:33.5±0.4, 45.17N×27.20E, h6km, MD3.5/5, Error ellipse: s-maj=8.3km s-min=3.0km az=18.0*
*CSEM **10** 16:42:33.4, 45.17N×27.22E, h5km, MD3.5/6, After BUC*
ISC 10 16:42:34.5±0.4**, 45.23N**±0.04×**27.25E**±0.04**, h6**km**, n26, σ1.17**/43**, 8C-11D, Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISR	Istrita	0.51	258	⇓iP	Pg	16 42 43.5	-1.3
CFR	Carcaliu	0.63	95	⇓iP	Pg	16 42 47.0	-0.1
CFR				iS	Sg	16 42 56.3	+0.8
CFR	Carcaliu	0.63	95	⇓iP	Pg	16 42 46.0	-1.1
CFR				iS	Sg	16 42 55.4	0.0
CFR	Carcaliu	0.63	95	⇓iP	Pg	16 42 46.0	-1.1
CFR				iS	Sg	16 42 55.4	-0.1
HARR	Harsova	0.72	138	⇓iP	Pg	16 42 47.6	-1.4
HARR				iS	Sg	16 42 58.7	0.0
HARR	Harsova	0.72	138	⇓iP	Pg	16 42 47.6	-1.5
HARR				iS	Sg	16 42 58.7	0.0
VRI	Vrincioaia	0.73	330	⇓iP	Pg	16 42 48.4	-0.8
VRI				iS	Sg	16 42 58.2	-0.8
VRI	Vrincioaia	0.73	330	⇑iP	Pg	16 42 49.4	+0.1
VRI				iS	Sg	16 43 02.5	+3.5
VRI	Vrincioaia	0.73	330	⇑iP	Pg	16 42 49.3	+0.1
MLR	Muntele Rosu	0.96	286	⇑iP	Pb	16 42 53.0	-0.2
MLR				iS	Sb	16 43 08.1	+2.2
MLR	Muntele Rosu	0.96	286	⇑iP	Pb	16 42 53.0	-0.2
MLR				iS	Sb	16 43 08.1	+2.2
TLCR		1.11	92	⇑iP	Pb	16 42 56.0	+0.3
TLCR				iS	Sb	16 43 10.9	+0.7
TLCR		1.11	92	⇑iP	Pb	16 42 56.0	+0.3
TLCR				iS	Sb	16 43 10.9	+0.7
TIRR	Tirgusor	1.13	133	⇑iP	Pb	16 42 55.5	-0.6
TIRR				iS	Sb	16 43 13.5	+2.6
TIRR	Tirgusor	1.13	133	⇑iP	Pb	16 42 55.5	-0.6
TIRR				iS	Sb	16 43 13.5	+2.6
MTUR	Matau	1.55	271	⇓iP	Pn	16 43 01.5	-1.3
MTUR				iS	Sb	16 43 24.2	+1.2
MTUR	Matau	1.55	271	⇓iP	Pn	16 43 01.5	-1.3
MTUR				iS	Sb	16 43 24.2	+1.2
VOIR		1.57	278	⇓iP	Pn	16 43 02.3	-0.8
VOIR				iS	Sb	16 43 24.7	+1.1
VOIR		1.57	278	⇓iP	Pn	16 43 02.3	-0.8
VOIR				iS	Sb	16 43 24.7	+1.1
PSN	Preselentsi	1.69	156	iP	Pn	16 43 06.0	+1.2
PRD	Provadia	2.03	177	iP	Pn	16 43 10.0	+0.2
PVL	Pavlikeni	2.44	215	eP	Pn	16 43 16.0	+0.4
VTS	Vitosha	3.94	229	iP	Pn	16 43 33.5	-3.4
KKB	Krupnik	4.53	223	iP	Pn	16 43 42.0	-3.3
KTK1	Kautokeino	23.93	356	eP	P	16 47 49.4	-0.3
TRO	Tromso	24.83	353	eP	P	16 47 52.4	-6.0

*CSEM **10** 16:56:46.7±0.9, 38.61N×28.81W, h6km±3km, ML1.6, Error ellipse: s-maj=9.6km s-min=5.6km az=68.0, After PDA*
*PDA **10** 16:56:46.7±0.9, 38.61N×28.81W, h6km±3km, MD2.7, ML1.6, Error ellipse: s-maj=9.6km s-min=5.6km az=68.0*
SVSA 10 16:56:46.7±0.9**, 38.61N**×**28.81W, h6**km±3km**, MD2.7, ML1.6, Error ellipse: s-maj=9.6km s-min=5.6km az=68.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.09	76	eP	Pg	16 56 48.3	-0.5
PCED				eS	Sg	16 56 50.1	0.0
	49nm,0.1s						
CALA	Caldeira	0.09	108	eP	Pg	16 56 48.7	-0.1
CALA				eS	Sg	16 56 50.4	+0.2
HOR	Horta	0.16	120	eS	Sg	16 56 52.0	-0.4
PICO	Pico	0.32	109	eP	Pg	16 56 52.8	-0.4
PICO				eS	Sg	16 56 56.7	-0.8

*CRAAG **10** 16:57:42.4, 5.08N×95.03E, Mb5.8*
*BJI **10** 16:57:45.5, 4.75N×94.98E, h52km, mB5.8, mb5.8, Ms5.7, Msz5.5*
*MOS **10** 16:57:45.8±1.1, 4.99N×95.13E, h39km, mb6.0/70, MS5.2/40, Error ellipse: s-maj=8.2km s-min=3.9km az=121.2*
*BGS **10** 16:57:47.2, 4.86N×95.04E, h40km, mb5.5*
*NEIC **10** 16:57:47.3±0.1, 4.86N×95.04E, h41km, mb5.8/139, ME5.1, MS5.5/139, MW5.8, Error ellipse: s-maj=4.6km s-min=3.0km az=207.0 Broadband fault plane solution: P waves. NP1:φs130°, δ70°, λ90°. NP2:φs310°, δ20°, λ90°. Principal axes: T Plg65°, Azm40°; N Plg0°, Azm0°; P Plg25°, Azm220°; Moment Tensor Solution. s38 Moment tensor: Scale 10^17 Nm; Mrr5.19; Mθθ-2.71; Mφφ-2.48; Mrθ3.38; Mθφ0.73; Mφr-2.52; Best double couple: Mo6×10^17 NP1:φs310°, δ23°, λ92°. NP2:φs128°, δ67°, λ89°. Principal axes: T 6.92, Plg68°, Azm36°; N -1.86, Plg1°, Azm128°; P -5.06, Plg22°, Azm218°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by a larger event about 2 seconds later. Depth from synthetics of broadband displacement seismograms based on larger event. Energy computed from BB mechanism.*
NEIC Felt [IV] at Banda Aceh.
*HRVD **10** 16:57:47.3±0.1, 4.61N×94.98E, h46km, MW5.8/66, Centroid moment Tensor Solution. LP body waves: s66,c153; Mantle waves: s66,c191; Half duration: 1.9 Moment tensor: Scale 10^17Nm; Mrr3.84±.07; Mθθ-2.26±.06; Mφφ-1.58±.07; Mrθ3.04±.06; Mθφ2.35±.05; Mφr-2.44±.07; Best double couple: Mo5.634×10^17 NP1: φs313°, δ23°, λ93°. NP2:φs129°, δ67°, λ89°. Principal axes: T 5.408, Plg68°, Azm37°; N .451, Plg1°, Azm130°; P -5.859, Plg22°, Azm220°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **10** 16:57:50.1±1.1, 4.89N×95.17E, h64km±8km, mb5.2/33, mb1 5.2/33, mb1mx5.2/34, mbtmp5.5/33, MS5.2/22, Ms1 5.2/22, ms1mx5.1/28 Error ellipse: s-maj=12.5km s-min=7.3km az=45.0*
ISC 10 16:57:47.2±0.1**, 4.84N**±0.03×**95.09E**±0.02**, h54**km**, h54**km±1.6km**: pP-P, n893, σ1.01**/756**, mb5.7**/223**, MS5.4**/197**, 195C-26D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PKT	Phuket	4.46	44	P	P	16 59 02.0	+8.1
KULM	Kulim	5.55	85	eP	P	16 59 09.8	+0.6
KULM				eSn	S	17 00 15.0	+2.4
IPM	Ipoh	5.92	92	P	P	16 59 14.9	+0.5
IPM	Ipoh	5.92	92	P	P	16 59 14.8	+0.5
PBA	Port Blair	7.16	341	eP	P	16 59 32.4	+0.7
PBA				ex	x	17 00 53.6	
KGM	Kluang	8.68	109	P	P	16 59 52.0	-0.6
NNT	Nongplab	8.96	30	P	P	16 59 58.5	+2.0
NST	Nakhon Sawan	11.85	24	⇑P	P	17 00 39.0	+3.1
	358nm,0.6s						
KKTK	Khon Kaen	13.72	33	PN	P	17 01 02.0	+1.3
KKTK				PG	P	17 01 05.5	+4.8
UBT	Ubonrachathani	14.22	43	P	P	17 01 12.5	+5.2
CHG	Chiang Mai	14.39	15	⇑P	P	17 01 11.2	+1.7
	150nm,0.8s						
PALK	Pallekele	14.51	280	ePn	P	17 01 09.5	-1.7
	123nm,0.9s						
PALK				eS	S	17 03 35.7	-15
NANT	Nan	14.92	21	⇑P	P	17 01 18.0	+1.6
	2µm,0.9s						
KSM	Kuching	15.56	102	ePn	P	17 01 24.9	+0.2

CHRT	Chiangrai	15.62	17	⇑P	P	17 01 28.0	+2.5
	1μm,0.9s						
MDRS	Chennai	16.78	300	AMb	AMB	17 01 48.5	
	comp=Z,190nm,0.9s						
VIS	Vishakhapatnam	17.21	319	eP	P	17 01 43.7	-1.8
VIS				AMb	AMB	17 01 53.2	
	comp=Z,415nm,2.0s						
VIS				ex	x	17 04 45.4	
SALM	Salem	18.02	293	eP	P	17 01 59.0	+3.4
SALM				ex	x	17 05 00.0	
CAL	Calcutta	18.77	340	eP	P	17 02 01.9	-2.6
CAL				eS	S	17 05 30.5	+2.0
IMP	Imphal	19.86	357	eP	P	17 02 16.0	-0.6
IMP				ex	x	17 02 27.0	
IMP				ex	x	17 06 55.0	
QIZ	Qiongzhong	20.15	44	P	P	17 02 20.5	+0.8
QIZ				AP		17 02 30.8	
QIZ				XP		17 02 35.8	
QIZ				PP	PP	17 02 41.5	+1.0
QIZ				S	S	17 06 00.5	+2.6
QIZ				XS		17 06 15.2	
QIZ				SS	SS	17 06 30.7	+1.7
QIZ				AMB	AMB		
	comp=Z,2μm,12.5s						
QIZ				LR	LR		
	comp=E,12μm,19.5s						
QIZ				LR	LR		
	comp=Z,13μm,19.3s,MS5.3						
QIZ	Qiongzhong	20.15	44	ePn	P	17 02 20.8	+1.1
	comp=Z,1μm,1.6s						
QIZ				e		17 02 36.2	
QIZ				LR	LR		
	comp=Z,14μm,20.0s,MS5.3						
HYB	Hyderabad	20.46	309	iP	P	17 02 23.0	+0.2
	comp=Z,143nm,0.8s						
HYB				e		17 05 58.0	
HYB				eS	S	17 06 08.0	+4.2
HYB	Hyderabad	20.46	309	eP	P	17 02 23.0	+0.2
	comp=Z,143nm,0.8s						
HYB				eS	S	17 06 08.0	+4.2
HYB	Hyderabad	20.46	309	eP	P	17 02 23.0	+0.2
HYB				eS	S	17 06 08.0	+4.2
HYB				pmax	pmax		
	comp=Z,143nm,0.8s						
SHL	Shillong	20.84	352	eP	P	17 02 24.5	-2.2
	comp=Z,221nm,0.5s						
SHL				eS	S	17 06 14.0	+2.9
KKM	Kota Kinabalu	21.06	86	P	P	17 02 31.2	+2.1
KKM	Kota Kinabalu	21.06	86	eP	P	17 02 29.6	+0.5
BLSP	Bilaspur	21.28	325	eP	P	17 02 31.8	+0.6
BLSP				AMb	AMB	17 02 35.2	
	comp=Z,837nm,1.2s,mb5.9						
BLSP				eS	S	17 06 23.7	+4.2
KMI	Kunming	21.46	19	P	P	17 02 34.9	+1.9
KMI				AP		17 02 43.2	
KMI				XP		17 02 47.5	
KMI				PP	PP	17 02 59.4	+1.0
KMI				S	S	17 06 29.1	+6.3
KMI				XS		17 06 43.1	
KMI				AMB	AMB		
	comp=Z,295nm,0.8s,mb5.7						
KMI				AMB	AMB		
	comp=Z,2μm,5.5s						
KMI				LR	LR		
	comp=N,14μm,15.9s,MS5.5						
KMI				LR	LR		
	comp=E,9μm,17.4s,MS5.5						
KMI				LR	LR		
	comp=Z,16μm,23.8s						
KMI	Kunming	21.46	19	P	P	17 02 34.9	+1.9
	comp=Z,295nm,0.8s,mb5.7						
KMI				pP		17 02 43.2	
KMI				sP		17 02 47.5	
KMI				PP	PP	17 02 59.4	+1.0
KMI				PPP	PPP	17 03 09.9	+1.5
KMI				S	S	17 06 29.1	+6.3
KMI				sS		17 06 43.1	
KMI				SS	SS	17 07 07.3	+6.4
KMI				SSS	SSS	17 07 22.4	+6.0
KMI				LR	LR		
	comp=Z,16μm,23.8s,MS5.3						
KMI	Kunming	21.46	19	P	P	17 02 34.9	+1.9
KMI				*SP		17 02 47.5	
KMI						17 02 59.4	
KMI				PPP	PPP	17 03 09.9	+1.5
KMI				S	S	17 06 29.1	+6.3
KMI				*SS		17 06 43.1	
KMI				SS	SS	17 07 07.3	+6.4
KMI				pmax	pmax		
	comp=Z,295nm,0.8s,mb5.7						
KMI				MLR	MLR		
	comp=Z,16μm,23.8s,MS5.3						
MNGI	Mangalore	21.57	293	ix	x	17 02 40.3	
MNGI				iS	S	17 06 31.4	+6.6
LATR	Latur	22.58	308	eP	P	17 02 47.0	+2.8
TSM	Tawau	22.72	90	P	P	17 02 46.2	+0.6
AKL	Akola	23.61	313	ex	x	17 05 06.5	
AKL				ex	x	17 09 17.0	
KAD	Karad	23.93	303	eP	P	17 02 59.8	+2.5
KAD				AMb	AMB	17 03 05.1	
	comp=Z,222nm,2.0s,mb5.2						
GYA	Guiyang	24.18	26	⇑iP	P	17 02 59.4	-0.3
GYA				AP		17 03 10.9	
GYA				XP		17 03 16.8	
GYA				PP	PP	17 03 36.0	+0.2
GYA				S	S	17 07 14.9	+3.8
GYA				XS		17 07 32.5	
GYA				SS	SS	17 08 09.7	+3.1
GYA				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,1μm,7.8s						
GYA				LR	LR		
	comp=N,13μm,15.9s,MS5.5						
GYA				LR	LR		
	comp=E,5μm,15.0s,MS5.5						
GYA				LR	LR		
	comp=Z,16μm,16.8s,MS5.6						
PKI	Pulchoki	24.41	339	eP	P	17 03 01.1	-0.9
	comp=Z,212nm,0.7s,mb5.7						
PKI	Pulchoki	24.41	339	eP	P	17 03 01.1	-0.9
PKI				pmax	pmax		
	comp=Z,106nm,0.7s,mb5.4						
DMN	Daman	24.56	338	eP	P	17 03 03.1	-0.3
	comp=Z,407nm,0.7s,mb6.0						
KKN	Kakani	24.66	339	eP	P	17 03 02.8	-1.6
POO	Poona	24.81	305	AMb	AMB	17 03 11.4	
	comp=Z,109nm,1.4s,mb5.2						
LSA	Lhasa	25.01	352	P	P	17 03 08.0	+0.3
LSA				S	S	17 07 23.0	-2.1
LSA				XS		17 07 45.3	
LSA				AMB	AMB		
	comp=Z,60nm,0.5s,mb5.4						
LSA				AMB	AMB		
	comp=Z,2μm,10.2s						
LSA				LR	LR		
	comp=N,4μm,24.4s,MS5.1						
LSA				LR	LR		
	comp=E,6μm,24.8s,MS5.1						
LSA				LR	LR		
	comp=Z,10μm,24.8s,MS5.2						
LSA	Lhasa	25.01	352	eP	P	17 03 07.7	+0.1
	comp=Z,193nm,0.6s,mb5.8						
LSA				LR	LR		
	comp=Z,6μm,20.0s,MS5.1						
LSA	Lhasa	25.01	352	eP	P	17 03 07.7	0.0
LSA				pmax	pmax		
	comp=Z,193nm,0.6s,mb5.8						
LSA				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.1						
BHPL	Bhopal	25.01	319	eP	P	17 03 09.2	+1.4
BHPL				AMb	AMB	17 03 14.3	
	comp=Z,420nm,1.3s,mb5.8						
BHPL				ix	x	17 07 55.4	
GKN	Gorkha	25.09	338	eP	P	17 03 07.4	-1.1
	comp=Z,410nm,0.8s,mb6.0						
KOLN	Koldanda	25.29	336	eP	P	17 03 10.6	+0.2
	comp=Z,1μm,0.7s,mb6.5						
HKC	Hong Kong	25.35	45	P	P	17 03 12.0	+1.1
DGAR	Diego Garcia	25.66	242	eP	P	17 03 13.3	-0.6
	comp=Z,1μm,1.8s,mb6.1						
DGAR				LR	LR		
	comp=Z,3μm,22.0s,MS4.8						
DGAR	Diego Garcia	25.66	242	eP	P	17 03 13.3	-0.6
DGAR				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.1						
DGAR				MLR	MLR		
	comp=Z,3μm,22.0s,MS4.8						
BOM	Bombay	25.84	305	ex	P	17 03 12.1	-3.5
	comp=Z,409nm,2.2s,mb5.6						
BOM				eS	S	17 07 42.3	+3.3
LUBP	Lubang	26.32	69	eP	P	17 03 20.1	0.0
CUYO	Cuyo Island	26.36	75	iP	P	17 03 21.3	+0.9
SJMP	San Jose	26.80	72	iP	P	17 03 25.2	+0.7
BOLP	Bolinao	26.92	63	eP	P	17 03 19.5	-6.0
CD2	Chengdu	27.19	16	⇑iP	P	17 03 27.0	-0.9
CD2				AP	pP	17 03 38.0	-3.4
CD2				XP	sP	17 03 44.6	-3.4
CD2				S	S	17 08 01.4	+0.5
CD2				XS		17 08 25.7	
CD2				SS	SS	17 09 18.9	-0.5
CD2				AMB	AMB		
	comp=Z,140nm,0.6s,mb5.7						
CD2				LR	LR		
	comp=N,5μm,18.6s						
CD2				LR	LR		
	comp=Z,4μm,20.4s,MS5.0						
BCPH	Baguio City Da	27.51	63	⇓eP	P	17 03 31.9	+0.9
OTRP	Odiongan	27.64	73	eP	P	17 03 32.2	+0.1
BOAC	Boac	27.74	70	eP	P	17 03 32.9	-0.1
BHV	Bhavnagar	27.88	309	eP	P	17 03 32.0	-2.2
ABRA	Dolores	28.12	61	eP	P	17 03 37.0	+0.6
RCP	Roxas	28.16	75	⇑eP	P	17 03 37.7	+0.9
BALP	Baler	28.18	65	eP	P	17 03 37.2	+0.2
POLP	Polilio Island	28.19	68	eP	P	17 03 37.5	+0.5
ENH	Enshi	28.71	27	eP	P	17 03 40.4	-1.2
	comp=Z,118nm,0.7s,mb5.7						
ENH				ePcP	PcP	17 06 50.3	-0.8
ENH				eS	S	17 08 25.9	+0.5
ENH				LR	LR		
	comp=Z,16μm,20.0s,MS5.6						
CAUP	Cauayan	28.82	63	eP	P	17 03 42.8	0.0
AJM	Ajmer	29.07	320	eP	P	17 03 45.5	+0.6
AJM				AMb	AMB	17 03 50.5	
	comp=Z,127nm,2.0s,mb5.3						
CVP	Callao Caves	29.11	62	eP	P	17 03 45.5	+0.3
NDI	New Delhi	29.16	326	eP	P	17 03 43.0	-2.6
	comp=Z,160nm,1.0s,mb5.7						
NDI				ex	x	17 09 27.0	
PVCP	Virac	29.95	71	eP	P	17 03 47.1	-5.6
QZH	Quanzhou	30.15	46	⇓iP	P	17 03 55.7	+1.3
QZH				S	S	17 08 53.5	+5.3
QZH				AMB	AMB		
	comp=Z,290nm,1.0s,mb6.0						
QZH				LR	LR		
	comp=N,9μm,16.6s,MS5.6						
QZH				LR	LR		
	comp=E,4μm,12.1s,MS5.6						
QZH				LR	LR		
	comp=Z,14μm,18.5s						
DAV	Davao City (W)	30.40	84	PFAKE		17 04 10.0	+13
DAV				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
WHN	Wuhan	31.35	33	P	P	17 04 05.3	+0.3
WHN				S	S	17 09 04.0	-3.2
WHN				LR	LR		
	comp=N,7μm,17.2s,MS5.9						
WHN				LR	LR		
	comp=E,22μm,18.2s,MS5.9						
WHN				LR	LR		
	comp=Z,23μm,16.4s,MS5.9						
BHK	Bhakra	31.73	329	ex	x	17 04 20.0	
XAN	Xi'an	31.77	22	P	P	17 04 07.5	-1.1
XAN				AP	pP	17 04 24.9	+2.4
XAN				S	S	17 09 10.3	-3.3
XAN				XS		17 09 34.0	
XAN				AMB	AMB		
	comp=Z,858nm,0.8s,mb6.6						
XAN				LR	LR		
	comp=N,6μm,15.8s,MS5.5						
XAN				LR	LR		
	comp=E,7μm,15.8s,MS5.5						
XAN				LR	LR		
	comp=Z,16μm,17.3s,MS5.8						
NACB	Ninganchiao	31.94	50	eP	P	17 04 09.7	-0.6
YHNB	Yeheng	32.04	49	eP	P	17 04 10.9	-0.2
LZH	Lanzhou	32.12	13	⇑P	P	17 04 10.6	-1.1
LZH				AP	pP	17 04 21.3	-4.3
LZH				XP	sP	17 04 27.4	-4.9
LZH				PP	PP	17 05 17.2	-2.4
LZH				PCP	PcP	17 07 02.9	+3.0
LZH				S	S	17 09 13.0	-6.1
LZH				AMB	AMB		
	comp=Z,250nm,1.0s,mb6.0						
LZH				AMB	AMB		
	comp=Z,1μm,4.0s						
LZH				LR	LR		
	comp=N,12μm,18.0s						
LZH				LR	LR		
	comp=Z,15μm,21.0s,MS5.7						
LZH	Lanzhou	32.12	13	⇑P	P	17 04 10.6	-1.1
	comp=Z,250nm,1.0s,mb6.0						
LZH				pP	pP	17 04 21.3	-4.3
LZH				sP	sP	17 04 27.4	-4.9
LZH				PP	PP	17 05 17.2	-2.4
LZH				PPP	PPP	17 05 25.0	-10
LZH				PcP	PcP	17 07 02.9	+3.0
LZH				S	S	17 09 13.0	-6.1
LZH				sS		17 09 35.4	
LZH				ScP		17 10 41.7	
LZH				PcS		17 10 47.7	
LZH				SS	SS	17 11 05.0	-10
LZH				ScS	ScS	17 14 39.4	+4.4
LZH				LR	LR		
	comp=Z,15μm,21.0s,MS5.7						
LZH	Lanzhou	32.12	13	⇑P	P	17 04 10.6	-1.1
LZH				*PP	pP	17 04 21.3	-4.3
LZH				*SP	sP	17 04 27.4	-4.9
LZH						17 05 17.2	
LZH				PPP	PPP	17 05 25.0	-10
LZH						17 07 02.9	
LZH				S	S	17 09 13.0	-6.1
LZH				*SS		17 09 35.4	
LZH				SS	SS	17 11 05.0	-10
LZH						17 14 39.4	
LZH				pmax	pmax		
	comp=Z,250nm,1.0s,mb6.0						
LZH				MLR	MLR		
	comp=Z,15μm,21.0s,MS5.7						
TATO	Taipei	32.30	49	PFAKE		17 04 20.0	+6.7
TATO				LR	LR		
	comp=Z,7μm,22.0s,MS5.3						
GTA	Gaotai	34.68	6	⇑iP	P	17 04 33.1	-0.6
GTA				AP	pP	17 04 44.1	-3.6
GTA				XP	sP	17 04 49.7	-4.8
GTA				PP	PP	17 05 50.4	-1.4
GTA				PCP	PcP	17 07 07.3	+0.3
GTA				S	S	17 09 58.6	-0.1
GTA				XS		17 10 19.2	
GTA				SCP		17 10 48.9	
GTA				PCS		17 10 54.0	
GTA				SS	SS	17 12 12.9	-0.9
GTA				SCS	ScS	17 14 48.8	+0.6
GTA				AMB	AMB		
	comp=Z,89nm,0.6s,mb5.9						
GTA				AMB	AMB		
	comp=Z,680nm,5.0s						
GTA				LR	LR		
	comp=N,4μm,19.9s,MS5.2						
GTA				LR	LR		
	comp=E,4μm,24.1s,MS5.2						
GTA				LR	LR		
	comp=Z,5μm,26.4s,MS5.1						
NJ2	Nanjing	35.05	37	eP	P	17 04 35.8	-1.1
NJ2				AP	pP	17 04 50.8	-0.1
NJ2				XP	sP	17 04 58.5	+0.8
NJ2				PP	PP	17 05 58.1	+1.5
NJ2				S	S	17 10 02.0	-2.5
NJ2				XS		17 10 28.0	
NJ2				AMB	AMB		
	comp=Z,220nm,0.9s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,650nm,5.6s						
NJ2				LR	LR		
	comp=N,8μm,11.8s,MS6.0						
NJ2				LR	LR		
	comp=E,16μm,11.8s,MS6.0						
NJ2				LR	LR		
	comp=Z,15μm,13.9s,MS5.9						
MBWA	Marble Bar	35.38	138	eP	P	17 04 38.8	-1.1
	comp=Z,140nm,1.4s,mb5.7						
MBWA				LR	LR		
	comp=Z,4μm,22.0s,MS5.1						
SSE	Sheshan	35.83	40	eP	P	17 04 43.1	-0.5
SSE				AP	pP	17 04 54.0	-3.7
SSE				XP	sP	17 04 58.7	-5.7
SSE				PP	PP	17 06 05.8	-0.2
SSE				S	S	17 10 19.6	+3.0
SSE				XS		17 10 37.6	
SSE				SCS	ScS	17 14 55.0	+0.5
SSE				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,124nm,3.6s						
SSE				LR	LR		
	comp=N,2μm,16.1s,MS5.4						
SSE				LR	LR		
	comp=E,5μm,16.1s,MS5.4						
SSE				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
SSE	Sheshan	35.83	40	eP	P	17 04 43.1	-0.5
	comp=Z,52nm,0.7s,mb5.6						
SSE				pP	pP	17 04 54.0	-3.7
SSE				sP	sP	17 04 58.7	-5.7
SSE				PP	PP	17 06 05.8	-0.2
SSE				S	S	17 10 19.6	+3.0
SSE				sS		17 10 37.6	
SSE				SS	SS	17 12 56.8	+17
SSE				ScS	ScS	17 14 55.0	+0.5
SSE				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
TIY	Taiyuan	36.35	24	PR	P	17 04 47.0	-0.9
TIY				S	S	17 10 25.0	+0.5
TIY				LR	LR		
	comp=N,17μm,18.0s						
TIY				LR	LR		
	comp=Z,3μm,15.0s,MS5.2						
TIA	Tai'an	37.22	30	P	P	17 04 55.4	+0.2
TIA				S	S	17 10 33.9	-3.9
TIA				AMB	AMB		
	comp=Z,242nm,0.9s,mb6.0						
TIA				LR	LR		
	comp=N,4μm,16.0s,MS5.6						
TIA				LR	LR		
	comp=E,6μm,16.0s,MS5.6						
FITZ	Fitzroy Crossi	37.78	128	⇓iP	P	17 04 59.1	-1.0
	comp=E,102nm,0.8s,mb5.6						
FITZ	Fitzroy Crossi	37.78	128	P	P	17 04 59.0	-1.1
	comp=E,32nm,0.6s,mb5.2,baz=317,slow=3.5,SNR=58						
FITZ				ScP		17 10 59.1	
	comp=E,33nm,0.9s,baz=296,slow=2.4,SNR=6.3						
FITZ				LR	LR	17 22 32.7	
	comp=E,3μm,19.4s,MS5.2,baz=287,slow=39						
JOW	Kunigami	38.48	52	P	P	17 05 06.0	+0.2
	comp=E,206nm,0.8s,mb5.9,baz=252,slow=4.7						
JOW				LR	LR	17 20 52.6	
	comp=E,6μm,21.8s,MS5.4,baz=238,slow=36						
KSH	Kashi	38.61	336	⇑iP	P	17 05 07.4	+0.6
KSH				AP	pP	17 05 19.2	-1.7
KSH				XP	sP	17 05 24.6	-2.9
KSH				PP	PP	17 06 39.4	0.0
KSH				PCP	PcP	17 07 19.6	+0.7
KSH				S	S	17 10 58.5	-0.4
KSH				SCP		17 11 01.2	
KSH				PCS		17 11 09.2	
KSH				XS		17 11 19.1	
KSH				SS	SS	17 13 39.5	-2.8
KSH				SCS	ScS	17 15 11.6	+1.5
KSH				AMB	AMB		
	comp=Z,1μm,2.8s,mb6.2						
KSH				LR	LR		
	comp=N,1μm,7.4s						
KSH				LR	LR		
	comp=E,2μm,6.2s						
HHC	Hu-ho-hao-te	38.78	20	⇑P	P	17 05 09.2	+1.0
HHC				AP	pP	17 05 21.3	-1.0
HHC				XP	sP	17 05 27.2	-1.7
HHC				PP	PP	17 06 41.3	-0.2
HHC				PCP	PcP	17 07 18.8	-0.6
HHC				S	S	17 11 00.6	-0.9
HHC				SCP		17 11 03.0	
HHC				PCS		17 11 08.9	
HHC				XS		17 11 23.3	
HHC				SS	SS	17 13 47.2	+1.1
HHC				SCS	ScS	17 15 12.8	+1.7
HHC				AMB	AMB		
	comp=Z,224nm,0.9s,mb5.9						
HHC				AMB	AMB		
	comp=Z,592nm,4.2s						
HHC				LR	LR		
	comp=N,11μm,17.8s,MS5.8						
HHC				LR	LR		
	comp=E,4μm,16.6s,MS5.8						
HHC				LR	LR		
	comp=Z,12μm,19.0s,MS5.7						
WBK	Wadi Bani Khal	39.12	300	P	P	17 05 13.7	+2.5
	SNR=10						
WMQ	Urumqi	39.37	352	⇑iP	P	17 05 13.0	0.0
WMQ				AP	pP	17 05 25.0	-2.2
WMQ				XP	sP	17 05 31.0	-2.7
WMQ				PP	PP	17 06 48.0	+0.2
WMQ				S	S	17 11 10.0	-0.2
WMQ				XS		17 11 31.0	
WMQ				SS	SS	17 14 00.0	+1.2
WMQ				AMB	AMB		
	comp=Z,154nm,0.8s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,1μm,3.6s						
WMQ				LR	LR		
	comp=N,2μm,18.2s						
WMQ				LR	LR		
	comp=E,3μm,26.4s						
WMQ				LR	LR		
	comp=Z,2μm,26.5s						
JMDO	Jabal Madar	39.78	300	P	P	17 05 18.8	+2.2
	SNR=12						
SMDO	Samad	40.07	300	P	P	17 05 21.4	+2.4
	SNR=15						
BIDO	Bidbid	40.17	301	P	P	17 05 22.8	+2.9
	SNR=16						
MSEY	Mahe Island	40.68	257	PFAKE		17 05 40.0	+16
MSEY				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
BSY	Bisya	40.70	300	P	P	17 05 26.8	+2.5
	SNR=28						
ULHL	Ulahol	40.85	338	P	P	17 05 26.4	+1.0
	SNR=17						
HOQ	Hoqain	40.89	301	P	P	17 05 28.6	+2.7
	SNR=9.2						
KZA	Kyzart	41.08	337	P	P	17 05 28.6	+1.3
	SNR=9.8						
ARQ	Araqi	41.48	300	⇑P	P	17 05 33.6	+2.8
AAA	Alma-Ata	41.51	340	iP	P	17 05 32.0	+1.3
AAA				iS	S	17 11 45.0	+2.8
AAA				pmax	pmax		
	comp=Z,4μm,4.4s						
AAA				smax			
	comp=E,3μm,8.5s						
AAA				MLR	MLR		
	comp=Z,2μm,18.4s,MS5.1						
DL2	Dalian	41.58	32	⇑iP	P	17 05 32.7	+1.3
DL2				AP	pP	17 05 46.6	+1.0
DL2				S	S	17 11 45.0	+1.6
DL2				AMB	AMB		
	comp=Z,760nm,2.3s,mb5.9						
DL2				LR	LR		
	comp=N,3μm,17.9s,MS5.3						
DL2				LR	LR		
	comp=E,2μm,16.2s,MS5.3						
DL2				LR	LR		
	comp=Z,3μm,16.6s,MS5.2						
TKM2	Tokmak 2	41.68	338	P	P	17 05 32.8	+0.7
	SNR=151						
KBK	Karagaybulak	41.69	338	P	P	17 05 33.9	+1.6
	SNR=286						
AML	Almayashu	41.74	336	P	P	17 05 34.1	+1.5
	SNR=73						
AAK	Ala-Archa	41.85	337	⇑eP	P	17 05 33.6	+0.1
	comp=Z,222nm,0.9s,mb5.8						
AAK				LR	LR		
	comp=Z,951nm,19.0s,MS4.7						
AAK	Ala-Archa	41.85	337	P	P	17 05 34.9	+1.4
AAK				pmax	pmax		

comp=Z,1μm,1.9s,mb6.3
RBK Rabkut 41.93 291 ⇑P **P 17 05 34.4 -0.1**
FRU Bishkek 41.97 337⇑*i*P **P 17 05 34.5 0.0**
FRU *e*S **S 17 11 52.0 +3.0**
FRU pmax pmax
comp=Z,2μm,2.0s,mb6.3
FRU pmax pmax
comp=Z,3μm,3.0s
FRU smax
comp=E,3μm,7.0s
FRU MLR MLR
comp=Z,4μm,18.0s,MS5.3
CHMS Chumysh 42.06 338 P **P 17 05 35.9 +0.6**
SNR=127
EKS2 Erkin-Say 42.15 336 P **P 17 05 37.4 +1.4**
SNR=32
KLBR Kellerberrin 42.18 151 *e*P **P 17 05 37.4 +1.0**
comp=Z,22nm,0.8s,mb4.8
ASHO Ashiyiah 42.36 302 ⇑P **P 17 05 39.6 +1.6**
SNR=13
USP Ospenovka 42.38 338 P **P 17 05 38.8 +0.8**
SNR=383
WHFO Wadi Hawf 42.42 291 ⇑P **P 17 05 38.7 +0.1**
SNR=12
BANOM Banah 42.62 304 ⇑P **P 17 05 41.8 +1.7**
NWAO Narrogin (SRO) 43.04 152 P **P 17 05 43.3 -0.1**
comp=Z,7.3nm,0.7s,baz=350,slow=16,SNR=6.6
NWAO Narrogin (SRO) 43.04 152 *e*P **P 17 05 43.2 -0.3**
comp=Z,53nm,1.1s,mb5.2
NWAO LR LR
comp=Z,3μm,20.0s,MS5.2
NWAO Narrogin (SRO) 43.04 152 *e*P **P 17 05 43.2 -0.2**
NWAO pmax pmax
comp=Z,53nm,1.0s
NWAO MLR MLR
comp=Z,3μm,20.0s
MKAR Makanchi Array 43.24 347 P **P 17 05 44.5 -0.4**
comp=Z,274nm,0.7s,mb6.1,baz=166,slow=7.7,SNR=638
MKAR PcP PcP 17 07 33.6 -0.2
comp=Z,22nm,0.8s,baz=163,slow=3.4,SNR=2.2
MKAR LR LR 17 27 07.2
comp=Z,2μm,20.0s,MS4.9,baz=170,slow=41
INCN Inchon 43.42 37 *e*P **P 17 05 45.3 -1.2**
comp=Z,202nm,0.9s,mb5.8
INCN *e*pP pP 17 05 59.1 -1.6
INCN LR LR
comp=Z,7μm,19.0s,MS5.6
JNU Nakatsue 43.62 45 P **P 17 05 48.5 +0.3**
comp=Z,123nm,0.7s,mb5.8,baz=271,slow=3.2,SNR=40
JNU LR LR 17 26 25.7
comp=Z,6μm,19.2s,MS5.5,baz=58,slow=39
SONM Songino Array 43.92 11 P **P 17 05 49.7 -0.7**
comp=Z,56nm,0.9s,mb5.3,baz=191,slow=9.2,SNR=125
SONM PcP PcP 17 07 35.6 -0.6
comp=Z,33nm,0.8s,baz=190,slow=3.5,SNR=14
SONM ScP 17 11 23.7
comp=Z,7.1nm,1.0s,baz=208,slow=5.6,SNR=6.3
SONM LR LR 17 26 44.0
comp=Z,4μm,18.2s,MS5.4,baz=192,slow=40
ULN Ulaanbaatar 44.08 12 *e*P **P 17 05 50.5 -1.2**
comp=Z,40nm,0.8s,mb5.2
ULN *e*PcP PcP 17 07 36.4 -0.3
ULN *e*ScP 17 11 25.8
ULN LR LR
comp=Z,6μm,19.0s,MS5.5
ULN Ulaanbaatar 44.08 12 *e*P **P 17 05 50.5 -1.2**
ULN *e* 17 07 36.4
ULN pmax pmax
comp=Z,40nm,0.8s,mb5.2
ULN MLR MLR
comp=Z,6μm,19.0s,MS5.5
KS15 Wonju Array Si 44.15 38 *e*P **P 17 05 52.0 -0.4**
KS15 *e*ScP 17 11 25.9
SNY Shenyang 44.74 30⇑*i*P **P 17 05 57.1 0.0**
SNY S **S 17 12 29.1 -0.3**
SNY AMB AMB
comp=Z,250nm,0.8s,mb6.1
SNY AMB AMB
comp=Z,1μm,5.6s
SNY LR LR
comp=N,5μm,17.6s,MS5.6
SNY LR LR
comp=E,4μm,20.4s,MS5.6
SNY LR LR
comp=Z,5μm,19.1s,MS5.5
WRA Warramunga Arr 45.77 124 P **P 17 06 05.2 -0.3**
comp=Z,80nm,0.5s,mb5.9,baz=301,slow=9.2,SNR=606
WRA ScP 17 11 30.8
comp=Z,6.0nm,0.9s,baz=304,slow=3.9,SNR=7.2
WRA S **S 17 12 42.9 -1.5**
comp=Z,8.7nm,1.2s,baz=295,slow=16,SNR=7.2
WRA Warramunga Arr 45.77 124 P **P 17 06 05.2 -0.3**
WRA S **S 17 12 42.9 -1.4**
WRAB Tennant Creek 45.77 124⇑*e*P **P 17 06 05.4 -0.1**
comp=Z,243nm,0.8s,mb6.2
WRAB LR LR
comp=Z,2μm,22.0s,MS5.0
WRAB Tennant Creek 45.77 124 P **P 17 06 05.6 0.0**
WRAB pmax pmax
comp=Z,240nm,0.9s,mb6.1
WB2 Warramunga Arr 45.78 124⇑*i*P **P 17 06 05.3 -0.3**
WB2 *e*S **S 17 12 43.2 -1.3**
ZAK Zakamensk 45.91 7 *e*P **P 17 06 05.4 -0.8**
ZAK *e* 17 07 45.3
ZAK pmax pmax
comp=Z,26nm,1.0s,mb5.1
ZAK pmax pmax
comp=Z,17nm,0.9s,mb5.0
ZAK pmax pmax
comp=Z,6.0nm,1.2s
MOY Mondy 46.93 5 *e*P **P 17 06 13.5 -0.7**
MOY pmax pmax
comp=Z,89nm,2.6s,mb5.2
CN2 Changchun 47.12 30 ⇑P **P 17 06 15.8 -0.1**
CN2 *e*AP pP 17 06 27.0 -3.2
CN2 *e*PP PP 17 08 06.7 +0.1
CN2 *e*S **S 17 13 04.7 +1.4**
CN2 AMB AMB
comp=Z,70nm,0.6s,mb5.8
CN2 AMB AMB
comp=Z,900nm,6.0s
CN2 LR LR
comp=N,4μm,18.0s,MS5.6
CN2 LR LR
comp=E,4μm,18.0s,MS5.6
CN2 LR LR
comp=Z,6μm,19.0s,MS5.6
FORT Forrest 47.40 140 *e*P **P 17 06 18.4 +0.1**
comp=Z,124nm,0.6s,mb6.0
KURK Kurchatov 47.76 346⇑*i*P **P 17 06 20.7 -0.1**
comp=Z,366nm,1.0s,mb6.4
KURK LR LR
comp=Z,435nm,19.0s,MS4.5
KURK Kurchatov 47.76 346⇑*i*P **P 17 06 20.7 -0.1**
KURK pmax pmax
comp=Z,366nm,1.0s,mb6.4
KURK MLR MLR
comp=Z,435nm,19.0s,MS4.5
IRK Irkutsk 47.86 8 *e*P **P 17 06 20.6 -0.9**
IRK pmax pmax
comp=Z,148nm,2.7s,mb5.5
HASS Wahat al Ahsa' 47.98 300 P **P 17 06 23.7 +0.9**
HIA Hailar 48.96 21⇑*e*P **P 17 06 29.7 -0.3**
comp=Z,107nm,0.8s,mb5.9
HIA PcP PcP 17 07 51.1 -2.7
HIA *e*ScP 17 11 44.2
HIA LR LR
comp=Z,18μm,19.0s,MS6.1
HIA Hailar 48.96 21⇑*e*P **P 17 06 29.7 -0.4**
HIA 17 07 51.1
HIA pmax pmax
comp=Z,107nm,0.8s
HIA MLR MLR
comp=Z,18μm,19.0s
ZAL Zalesovo 49.66 352 P **P 17 06 35.0 -0.4**
comp=Z,105nm,0.8s,mb5.9,baz=303,slow=5.6,SNR=237
ZAL S **S 17 13 40.4 +1.7**
comp=Z,2.0nm,0.6s,baz=181,slow=22,SNR=5.7
GUMO Guam 49.81 76 LR LR 17 28 09.5
comp=Z,1μm,19.9s,MS4.9,baz=257,slow=37
GUMO Guam 49.81 76 PFAKE 17 06 50.0 +13
GUMO LR LR
comp=Z,2μm,21.0s,MS5.1
MDJ Mudanjiang 49.82 32 P **P 17 06 37.3 +0.5**
MDJ AP pP 17 06 48.2 -3.0
MDJ XP sP 17 06 53.4 -4.1
MDJ PCP PcP 17 07 56.3 -0.8
MDJ SCP 17 11 49.2
MDJ PCS 17 11 53.8
MDJ S **S 17 13 45.2 +4.1**
MDJ XS 17 14 04.2
MDJ AMB AMB
comp=Z,210nm,1.4s,mb6.0
MDJ AMB AMB
comp=Z,745nm,5.4s
MDJ LR LR
comp=N,1μm,22.2s,MS5.4
MDJ LR LR
comp=E,4μm,17.8s,MS5.4
MDJ LR LR
comp=Z,6μm,23.5s
MDJ Mudanjiang 49.82 32⇑*e*P **P 17 06 37.2 +0.4**
comp=Z,399nm,1.3s,mb6.3
MDJ LR LR
comp=Z,5μm,22.0s,MS5.5
CBIJ Chichi jima 50.00 58 LR LR 17 28 45.8
comp=Z,1μm,19.7s,MS4.8,baz=283,slow=37
JHJ Hachijo jima 2 50.20 50 P **P 17 06 40.5 +0.7**
comp=Z,178nm,0.9s,mb6.1,baz=190,slow=9.8,SNR=9.0
RYDS Riyadh 50.38 297 P **P 17 06 42.9 +1.6**
MAJO Matsushiro 50.54 45⇑*e*P **P 17 06 41.6 -0.8**
comp=Z,47nm,0.7s,mb5.5
MAJO *e*PcP PcP 17 07 59.6 -0.2
MAJO *e*ScP 17 11 52.4
MAJO LR LR
comp=Z,6μm,21.0s,MS5.5
MAJO Matsushiro 50.54 45⇑*e*P **P 17 06 41.6 -0.8**
MAJO *e* 17 07 59.6
MAJO pmax pmax
comp=Z,47nm,0.7s,mb5.5
MAJO MLR MLR
comp=Z,6μm,21.0s,MS5.5
MAT Matsushiro 50.54 45 P **P 17 06 41.5 -0.9**
MAT Matsushiro 50.54 45 *e*P **P 17 06 42.0 -0.4**
comp=Z,445nm,0.7s,mb6.5
MAT LR LR
comp=Z,6μm,21.0s,MS5.6
MAT Matsushiro 50.54 45 *e*P **P 17 06 42.0 -0.4**
MAT pmax pmax
comp=Z,445nm,0.7s,mb6.5
MAT MLR MLR
comp=Z,6μm,21.0s,MS5.6
MJAR Matsushiro Arr 50.55 45 P **P 17 06 41.8 -0.6**
comp=Z,20nm,0.6s,mb5.2,baz=144,slow=2.7,SNR=78
MJAR PcP PcP 17 07 59.4 -0.5
comp=Z,37nm,0.8s,baz=232,slow=4.1,SNR=13
MJAR ScP 17 11 51.1
comp=Z,14nm,1.1s,baz=228,slow=3.6,SNR=14
MJAR LR LR 17 29 42.4
comp=Z,5μm,20.8s,MS5.5,baz=255,slow=38
QRN Al-Qurain 50.59 304 *e*P **P 17 06 43.1 +0.2**
QRN AMb AMB 17 07 02.0
comp=Z,350nm,1.2s,mb6.2
NVS Novosibirsk 50.77 351 *e*P **P 17 06 41.7 -2.1**
NVS *e*S **S 17 13 49.5 -4.5**
NVS pmax pmax
comp=N,163nm,1.0s
NVS pmax pmax
comp=E,99nm,1.0s
NVS pmax pmax
comp=Z,237nm,1.0s,mb6.1
NVS smax
comp=N,163nm,1.9s
NVS smax
comp=E,134nm,1.9s
KBD Kabd 50.91 304 *e*P **P 17 06 45.4 +0.1**
KBD AMb AMB 17 06 48.8
comp=Z,783nm,1.3s,mb6.5
RDF Al-Radifah 50.95 304 *e*P **P 17 06 46.3 +0.7**
RDF AMb AMB 17 06 49.7
comp=Z,347nm,0.8s,mb6.3
UMR Umm Al-Rimmam 51.02 304 *e*P **P 17 06 46.3 +0.2**
MIB Mutribah 51.41 305 *e*P **P 17 06 49.2 +0.2**
MIB AMb AMB 17 06 52.9
comp=Z,407nm,0.9s,mb6.4
KAMS Al Khamasin 51.41 292 P **P 17 06 49.7 +0.5**
MZLS Mizel 51.61 297 P **P 17 06 51.5 +0.9**
VOSK Vostochnaya 51.70 342 *i* P **P 17 06 50.3 -0.6**
ATD Arta Tunnel 52.07 281 P **P 17 06 55.5 +1.3**
comp=Z,6.3nm,0.6s,mb4.7,baz=256,slow=23,SNR=4.9
ATD LR LR 17 25 26.6
comp=Z,808nm,19.8s,MS4.8,baz=97,slow=32
BVA0 Borovoye Array 52.15 341 P **P 17 06 53.6 -0.6**
BVA0 pmax pmax
comp=Z,63nm,0.9s,mb5.5
BVAR Borovoye Array 52.15 341 P **P 17 06 53.5 -0.7**
comp=Z,331nm,0.7s,mb6.4,baz=145,slow=9.5,SNR=595
BVAR S **S 17 14 13.9 +0.9**
comp=Z,5.4nm,0.8s,baz=135,slow=13,SNR=6.3
BRVK Borovoye 52.21 341⇑*i*P **P 17 06 53.9 -0.8**
comp=Z,222nm,0.8s,mb6.1
BRVK LR LR
comp=Z,395nm,21.0s,MS4.4
BRVK Borovoye 52.21 341⇑*i*P **P 17 06 53.9 -0.8**
BRVK pmax pmax
comp=Z,222nm,0.8s,mb6.1
BRVK MLR MLR
comp=Z,395nm,21.0s,MS4.4
AB31 Akbulak array 53.33 332 *i* P **P 17 07 02.6 -0.6**
AFFS 'Afif 53.55 296 P **P 17 07 06.1 +0.9**
PMG Port Moresby 53.78 105 P **P 17 07 05.9 -1.0**
comp=Z,61nm,0.6s,mb5.7,baz=344,slow=5.1,SNR=46
PMG Port Moresby 53.78 105 *e*P **P 17 07 05.9 -1.1**
comp=Z,54nm,0.6s,mb5.7
PMG LR LR
comp=Z,2μm,21.0s,MS5.1
PMG Port Moresby 53.78 105 *e*P **P 17 07 05.9 -1.1**
PMG pmax pmax
comp=Z,54nm,0.6s
PMG MLR MLR
comp=Z,2μm,21.0s
KLR Kul'dur 54.03 29 *e*P **P 17 07 05.4 -2.9**
KLR *e* 17 09 07.5
KLR *e*S **S 17 14 32.0 -6.7**
KLR *e* 17 18 16.0
KLR pmax pmax
comp=E,400nm,2.0s
KLR pmax pmax
comp=Z,300nm,2.0s,mb5.9
KLR pmax pmax
comp=E,500nm,7.5s
KLR pmax pmax
comp=Z,1μm,7.5s
KLR MLR MLR
comp=N,3μm,14.0s,MS5.6
KLR MLR MLR
comp=E,2μm,14.0s,MS5.6
KLR MLR MLR
comp=Z,6μm,14.0s,MS5.8
BLJS Baljurashi 54.11 291 P **P 17 07 10.6 +1.4**
BOD Bodaibo 54.88 12 *e*P **P 17 07 12.7 -1.7**
BOD pmax pmax
comp=Z,72nm,1.0s,mb5.7
BHD Baghdad 54.94 308 *ex* x 17 07 10.0
BHD *ex* x 17 07 25.5
BHD *ex* x 17 14 45.0
AKTO Aktyubinsk 55.05 332 P **P 17 07 14.5 -1.2**
AKTO pmax pmax
comp=Z,55nm,1.1s,mb5.5
HILS Ha'il 55.40 300 P **P 17 07 19.6 +1.1**
CTA Charters Tower 56.03 118 *e*P **P 17 07 22.3 -0.9**
comp=Z,29nm,1.1s,mb5.2
CTA Charters Tower 56.03 118 P **P 17 07 22.2 -0.9**
comp=Z,22nm,0.7s,mb5.3,baz=295,slow=8.0,SNR=33
CTA LR LR 17 32 38.6
comp=Z,4μm,21.5s,MS5.5,baz=286,slow=37
CTA Charters Tower 56.03 118 *e*P **P 17 07 22.3 -0.9**
CTA pmax pmax
comp=Z,29nm,1.1s
CTAO Charters Tower 56.03 118 *e*P **P 17 07 22.4 -0.8**
comp=Z,66nm,1.1s,mb5.6
CTAO LR LR
comp=Z,5μm,22.0s,MS5.5
CTAO Charters Tower 56.03 118 *e*P **P 17 07 22.4 -0.8**
CTAO pmax pmax
comp=Z,66nm,1.1s,mb5.6
CTAO MLR MLR
comp=Z,5μm,22.0s,MS5.5
ERM Erimo 56.49 42 PFAKE 17 07 40.0 +14
ERM LR LR
comp=Z,1.0nm,22.0s
CLNS Chul'man 56.96 19 *e*P **P 17 07 28.6 -0.7**
CLNS *e* 17 08 20.2
CLNS *e* 17 09 30.3
CLNS *e*PPP PPP 17 10 50.3 -7.4
CLNS *e*S **S 17 15 30.0 +12**
CLNS *e*SS SS 17 19 06.0 -1.7
CLNS pmax pmax
comp=Z,13nm,0.6s,mb5.1
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=E,13nm,0.8s
CLNS pmax pmax
comp=N,25nm,0.8s
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.1
CLNS smax
comp=N,396nm,5.0s
CLNS smax
comp=Z,380nm,4.7s
CLNS smax
comp=E,284nm,4.6s
CLNS MLR MLR
comp=N,3μm,15.0s,MS5.8
CLNS MLR MLR
comp=Z,6μm,15.0s,MS5.8
CLNS MLR MLR
comp=E,5μm,17.0s,MS5.8
GNI Garni 57.23 315 P **P 17 07 31.4 -0.1**
comp=E,39nm,0.7s,mb5.5,baz=346,slow=2.5,SNR=22
GNI Garni 57.23 315⇑*e*P **P 17 07 30.7 -0.8**
comp=E,196nm,1.3s,mb6.0
GNI LR LR
comp=Z,792nm,19.0s,MS4.8
GNI Garni 57.23 315 P **P 17 07 31.4 -0.1**
GNI pmax pmax
comp=Z,200nm,1.3s
DGRG David-gareji 57.34 317 P **P 17 07 31.0 -1.3**
STKA Stephens Creek 57.35 133 *e*P **P 17 07 31.3 -1.2**
comp=Z,24nm,0.9s,mb5.2
STKA Stephens Creek 57.35 133 P **P 17 07 31.6 -0.8**
comp=Z,12nm,0.7s,mb5.1,baz=298,slow=8.1,SNR=20
STKA LR LR 17 35 12.7
comp=Z,2μm,20.3s,MS5.2,baz=303,slow=39
SAMG Sameba 57.83 317 P **P 17 07 33.3 -2.3**
MTA Mtatsminda 57.84 317 P **P 17 07 34.9 -0.8**
TI2 Plekhanov 57.89 317 *i* P **P 17 07 34.8 -1.3**
TI2 *e*S **S 17 15 32.0 +2.1**
TI2 pmax pmax
comp=Z,100nm,0.4s,mb6.2
TBLG Delisi 57.89 317 P **P 17 07 35.4 -0.7**
KMBO Kilima Mbogo 58.08 266 P **P 17 07 39.0 +1.3**
comp=Z,11nm,1.0s,mb4.9,baz=60,slow=11,SNR=21
KMBO LR LR 17 28 37.9
comp=Z,4μm,20.9s,MS5.5,baz=94,slow=32
KMBO Kilima Mbogo 58.08 266 P **P 17 07 39.0 +1.3**
KMBO LR LR 17 28 37.9
KMBO Kilima Mbogo 58.08 266 *i* P **P 17 07 39.7 +1.9**
KMBO pmax pmax
comp=Z,11nm,1.0s
YNBS Yanbu' al Bahr 58.12 296 P **P 17 07 38.6 +0.6**
SVE Sverdlovsk 58.55 339⇑*i*P **P 17 07 39.7 -0.8**
SVE *e* pP 17 07 53.0 -2.3
SVE *e* 17 09 52.0
SVE *e*PPP PPP 17 11 12.0 -4.0
SVE *e*S 17 15 58.0
SVE *e* 17 16 03.0
SVE pmax pmax
comp=Z,280nm,2.5s,mb5.8
SVE MLR MLR
comp=N,2μm,17.0s,MS5.2
SVE MLR MLR
comp=E,400nm,17.0s,MS5.2
SVE MLR MLR
comp=Z,2μm,17.0s,MS5.3
YSS Yuzh-Sakhalins 58.62 36⇑*e*P **P 17 07 40.7 -0.3**
comp=Z,348nm,0.9s,mb6.4
YSS LR LR
comp=Z,3μm,20.0s,MS5.3
YSS Yuzh-Sakhalins 58.62 36α*i*P **P 17 07 40.6 -0.4**
YSS *i* *PP pP 17 07 56.2 +0.4
YSS *e*S **S 17 15 39.0 -0.3**
YSS *e*SS SS 17 19 40.0 +5.6
YSS pmax pmax
comp=Z,1μm,3.5s
YSS pmax pmax
comp=N,120nm,1.0s
YSS pmax pmax
comp=E,120nm,1.0s
YSS pmax pmax
comp=Z,370nm,1.0s,mb6.4
YSS MLR MLR
comp=E,2μm,17.0s
YSS MLR MLR
comp=Z,2μm,17.0s,MS5.4
BKR Bakuriani 58.74 317 P **P 17 07 40.3 -1.6**
UMJS Umm Lajj 58.89 296 P **P 17 07 44.4 +1.2**
ZEI Tsey 58.90 318 *e*P **P 17 07 39.8 -3.3**
ZEI *i* *PP pP 17 07 58.7 +0.8
ZEI *i* 17 08 30.8
ZEI pmax pmax
comp=Z,32nm,0.8s,mb5.4
ARU Arti 59.03 337⇑*e*P **P 17 07 42.4 -1.4**
comp=Z,362nm,1.3s,mb6.2
ARU LR LR
comp=Z,543nm,19.0s,MS4.7
ARU Arti 59.03 337⇑*i*P **P 17 07 42.5 -1.3**
ARU *e* pP 17 07 57.5 -1.1
ARU *e* 17 08 32.2
ARU *e* 17 09 49.8
ARU *e*PPP PPP 17 11 14.5 -6.7
ARU *i* S **S 17 15 45.0 +0.3**
ARU *e* 17 17 26.5
ARU *e*SS SS 17 19 41.9 +0.9
ARU pmax pmax
comp=Z,264nm,1.6s,mb6.0
ARU MLR MLR
comp=N,1μm,18.0s,MS5.1
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.2
ARU MLR MLR
comp=E,400nm,19.0s,MS5.1
ONI Oni 59.12 318 P **P 17 07 44.1 -0.5**
TBKS Tabuk 60.11 300 P **P 17 07 52.8 +1.1**
QURS Qurayyt al Mil 60.13 303 P **P 17 07 52.3 +0.5**
KIV Kislovodsk 60.20 319⇑*e*P **P 17 07 50.8 -1.2**
comp=E,218nm,1.2s,mb6.1
KIV LR LR
comp=Z,256nm,21.0s,MS4.3
KIV Kislovodsk 60.20 319*c i*P **P 17 07 50.6 -1.4**
KIV *e**PP pP 17 08 06.9 +0.1
KIV pmax pmax
comp=Z,146nm,0.9s,mb6.0
GOF Gofitskoye 60.44 320⇑*i*P **P 17 07 52.0 -1.6**
GOF pmax pmax
comp=Z,100nm,1.0s,mb5.8
ASF Jabal al Asfar 60.67 304 P **P 17 07 56.1 +0.7**
comp=Z,16nm,1.1s,mb5.1,baz=10,slow=2.0,SNR=20
ASF LR LR 17 35 05.7
comp=Z,1μm,19.8s,MS5.1,baz=158,slow=37
JMQS Jabal Moqyreh 60.82 300 P **P 17 07 57.1 +0.6**
MALT Malatya 61.15 311⇑*e*P **P 17 07 58.1 -0.5**
comp=Z,98nm,1.3s,mb5.8
MALT Malatya 61.15 311⇑*e*P **P 17 07 58.1 -0.4**
MALT pmax pmax
comp=Z,98nm,1.3s,mb5.8
BDAS Al Bad' 61.40 300 P **P 17 08 00.5 +0.1**
JMOS Jabal al Moall 61.53 301 P **P 17 08 01.7 +0.5**
ALWS Ilw as Safayha 61.60 301 P **P 17 08 02.1 +0.4**
TAYS Tayyib Ism 61.62 300 P **P 17 08 02.2 +0.3**
HAQS Haql 61.67 300 P **P 17 08 02.4 +0.3**
ZFRI Zfri 61.75 302 P **P 17 08 02.9 +0.2**
EIL Elat 61.77 301 P **P 17 08 03.0 +0.2**
PRNI Paran 61.85 302 P **P 17 08 03.8 +0.4**
SOKR Solikamsk 61.95 339*c i*P **P 17 08 02.1 -1.5**
SOKR *i* pP 17 08 16.0 -2.5
SOKR *i* S **S 17 16 20.0 -2.0**
SOKR PS PS 17 16 45.3 -1.2
SOKR SS SS 17 20 25.4 -1.2
SOKR pmax pmax
comp=Z,240nm,0.9s,mb6.3
SOKR MLR MLR
comp=Z,2μm,18.0s,MS5.4
SOC Sochi 62.03 317⇑*i*P **P 17 08 02.1 -2.3**

SOC	**Sochi**	**62.03 317c**	*i*P	**P**	**17 08 02.3**	**-2.1**
SOC			*e*		17 08 39.1	
SOC			*e*		17 10 17.1	
SOC			*e*PPP	PPP	17 11 51.6	-1.3
SOC			*i* S	**S**	**17 16 19.1**	**-4.1**
SOC			*e*		17 17 45.7	
SOC			pmax	pmax		
	comp=Z,125nm,1.1s,mb6.0					
SOC			pmax	pmax		
	comp=N,18nm,0.9s					
SOC			pmax	pmax		
	comp=E,26nm,1.2s					
SOC			MLR	MLR		
	comp=Z,418nm,19.0s,MS4.6					
SOC			MLR	MLR		
	comp=N,260nm,17.0s,MS4.7					
SOC			MLR	MLR		
	comp=E,430nm,19.0s,MS4.7					
KMTI	**Karmit**	**62.04 301**	P	**P**	**17 08 04.9**	**+0.3**
BHL	**Bhannes**	**62.10 306**	*e*P	**P**	**17 08 05.2**	**+0.2**
SLTI	**Sal'it**	**62.22 304**	P	**P**	**17 08 06.2**	**+0.4**
HNTI	**Hanita**	**62.30 305**	P	**P**	**17 08 06.6**	**+0.3**
OFRI	**'Ofer**	**62.35 304**	P	**P**	**17 08 07.1**	**+0.4**
YAK	**Yakutsk**	**62.57 18⇑**	*e*P	**P**	**17 08 05.6**	**-2.1**
	comp=E,222nm,0.8s,mb6.3					
YAK			LR	LR		
	comp=Z,9µm,19.0s,MS5.9					
YAK	**Yakutsk**	**62.57 18c**	*i*P	**P**	**17 08 05.7**	**-2.0**
YAK			*e**PP	pP	17 08 13.8	-8.9
YAK			*e*	pP	17 08 24.8	+2.1
YAK			*e*S	**S**	**17 16 28.6**	**-1.1**
YAK			*e*		17 17 48.6	
YAK			pmax	pmax		
	comp=Z,98nm,0.9s,mb5.9					
YAK			pmax	pmax		
	comp=N,32nm,1.1s					
YAK			pmax	pmax		
	comp=E,22nm,1.1s					
YAK			pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2					
YAK			pmax	pmax		
	comp=N,9.0nm,1.0s					
YAK			pmax	pmax		
	comp=E,8.0nm,1.6s					
YAK			smax			
	comp=N,20nm,1.0s					
YAK			smax			
	comp=Z,5.0nm,0.9s					
YAK			smax			
	comp=E,11nm,1.2s					
YAK			MLR	MLR		
	comp=N,3µm,17.0s,MS5.7					
YAK			MLR	MLR		
	comp=Z,5µm,17.0s,MS5.8					
YAK			MLR	MLR		
	comp=E,4µm,18.0s,MS5.7					
TOO	**Toolangi**	**63.01 137**	*e*P	**P**	**17 08 12.0**	**+1.0**
	comp=E,38nm,1.1s,mb5.4					
TOO	**Toolangi**	**63.01 137**	*e*P	**P**	**17 08 12.0**	**+1.0**
TOO			pmax	pmax		
	comp=Z,38nm,1.1s,mb5.4					
VRHR	**Novokhopersk**	**63.95 326c**	*i*P	**P**	**17 08 14.9**	**-2.1**
VRHR			*e**PP	pP	17 08 26.6	-5.4
VRHR			*e**SP	sP	17 08 31.8	-6.3
VRHR			*e*S	**S**	**17 16 42.8**	**-4.3**
VRHR			*e*		17 17 03.9	
VRHR			*e*		17 18 03.1	
VRHR			*e*SSS	SSS	17 23 49.4	+2.4
VRHR			pmax	pmax		
	comp=Z,90nm,0.6s,mb6.0					
VRHR			pmax	pmax		
	comp=N,20nm,0.7s					
VRHR			pmax	pmax		
	comp=E,30nm,0.8s					
VRHR			smax			
	comp=N,680nm,3.2s					
VRHR			smax			
	comp=Z,130nm,2.6s					
VRHR			smax			
	comp=E,530nm,1.7s					
VRHR			MLR	MLR		
	comp=Z,1µm,16.0s,MS5.1					
VRHR			MLR	MLR		
	comp=N,410nm,25.0s					
VRHR			MLR	MLR		
	comp=E,870nm,16.0s					
ANN	**Anapa**	**64.00 318**	*e*P	**P**	**17 08 12.8**	**-4.6**
ANN			*e**PP	pP	17 08 31.0	-1.4
ANN			*e*		17 08 47.0	
ANN			*e*PPP	PPP	17 12 11.9	-0.6
ANN			*e*S	**S**	**17 16 41.2**	**-6.6**
ANN			pmax	pmax		
	comp=Z,73nm,1.4s,mb5.5					
CSS	**Prodhromos**	**64.21 307**	P	**P**	**17 08 18.0**	**-0.9**
	comp=Z,1.1nm,0.7s					
MAMC	**Mammari**	**64.35 307**	P	**P**	**17 08 19.4**	**-0.4**
MBAR	**Mbarara**	**64.51 267**	*e*P	**P**	**17 08 20.9**	**-0.3**
	comp=Z,43nm,1.3s,mb5.3					
MBAR			LR	LR		
	comp=Z,1µm,21.0s,MS5.1					
MBAR	**Mbarara**	**64.51 267**	*i* P	**P**	**17 08 23.8**	**+2.6**
SZAC	**Souni-Zanaja**	**64.53 306**	P	**P**	**17 08 20.2**	**-0.8**
CNB	**Canberra Magne**	**64.68 133**	*e*P	**P**	**17 08 21.8**	**-0.2**
	comp=Z,47nm,0.9s,mb5.5					
ALFC	**Alevga**	**64.84 307**	P	**P**	**17 08 21.4**	**-1.6**
	comp=Z,2.0nm,0.6s					
BR131	**Keskin Array S**	**65.13 312⇑**	*i*P	**P**	**17 08 23.6**	**-1.2**
	comp=Z,27nm,0.6s,mb5.5					
BR131			LR	LR		
	comp=Z,750nm,22.0s,MS4.8					
BRTR	**Keskin Array B**	**65.13 312**	P	**P**	**17 08 23.6**	**-1.2**
	comp=Z,42nm,0.8s,mb5.5,baz=127,slow=7.3,SNR=95					
VORD	**Divnogorie**	**65.22 325c**	*i*P	**P**	**17 08 22.9**	**-2.3**
VORD			*e**SP	sP	17 08 40.4	-5.9
VORD			*e*S	S	17 16 59.6	-3.1
VORD			pmax	pmax		
	comp=Z,50nm,0.6s,mb5.7					
VORD			pmax	pmax		
	comp=N,30nm,0.7s					
VORD			pmax	pmax		
	comp=E,30nm,0.8s					
VORD			smax			
	comp=E,200nm,1.4s					
VORD			smax			
	comp=Z,40nm,1.5s					
VORD			smax			
	comp=N,90nm,1.1s					
VORD			MLR	MLR		
	comp=Z,740nm,17.0s,MS5.0					
VORD			MLR	MLR		
	comp=N,1µm,27.0s					
VORD			MLR	MLR		
	comp=E,950nm,24.0s					
PECR	**Pechory**	**65.23 332**	*i* P	**P**	**17 08 24.0**	**-1.2**
PECR			*e*S	S	17 17 01.0	-1.8
PECR			*e*		17 17 25.4	
PECR			*e*		17 17 36.4	
PECR			*e*		17 18 14.7	
PECR			pmax	pmax		
	comp=Z,1.0nm,1.4s					
PECR			pmax	pmax		
	comp=Z,800nm,6.0s					
PECR			smax			
	comp=N,1µm,8.0s					
PECR			smax			
	comp=E,500nm,4.0s					
PECR			MLR	MLR		
	comp=Z,1µm,22.0s,MS5.0					
PECR			MLR	MLR		
	comp=N,600nm,19.0s,MS5.0					
PECR			MLR	MLR		
	comp=E,600nm,19.0s,MS5.0					
VRSR	**Storozhevoye**	**65.38 325c**	*i*P	**P**	**17 08 24.0**	**-2.2**
VRSR			*e*		17 08 56.6	
VRSR			*e*S	S	17 17 00.8	-3.9
VRSR			*e*SS	SS	17 21 17.8	-2.5
VRSR			pmax	pmax		
	comp=Z,150nm,1.6s,mb5.8					
VRSR			pmax	pmax		
	comp=N,30nm,1.1s					
VRSR			pmax	pmax		
	comp=E,50nm,0.9s					
VRSR			smax			
	comp=N,150nm,1.1s					
VRSR			smax			
	comp=Z,10.0nm,1.1s					
VRSR			smax			
	comp=E,30nm,1.3s					
VRSR			MLR	MLR		
	comp=Z,1µm,20.0s,MS5.1					
VRSR			MLR	MLR		
	comp=N,700nm,22.0s,MS5.0					
VRSR			MLR	MLR		
	comp=E,760nm,20.0s,MS5.0					
VOR	**Voronezh**	**65.60 326**	*e*P	**P**	**17 08 25.5**	**-2.1**
VOR			*e**PP	pP	17 08 40.0	-2.7
VOR			S	S	17 17 05.0	-2.3
VOR			pmax	pmax		
	comp=N,80nm,1.7s					
VOR			pmax	pmax		
	comp=E,170nm,1.7s					
VOR			pmax	pmax		
	comp=Z,360nm,1.7s,mb6.1					
VOR			pmax	pmax		
	comp=N,50nm,2.0s					
VOR			pmax	pmax		
	comp=Z,70nm,2.0s,mb5.3					
VOR			pmax	pmax		
	comp=E,70nm,1.8s					
VOR			smax			
	comp=E,140nm,2.4s					
VOR			smax			
	comp=N,100nm,2.3s					
ANTO	**Ankara**	**65.79 312⇑**	*e*P	**P**	**17 08 27.9**	**-1.2**
	comp=N,83nm,0.9s,mb5.8					
ANTO			LR	LR		
	comp=Z,640nm,19.0s,MS4.8					
ANTO	**Ankara**	**65.79 312**	P	**P**	**17 08 28.1**	**-1.0**
ANTO			pmax	pmax		
	comp=Z,83nm,0.9s,mb5.8					
HNR	**Honiara**	**66.17 102**	P	**P**	**17 08 30.4**	**-1.4**
	comp=Z,122nm,0.8s,mb6.0,baz=216,slow=5.8,SNR=6.1					
HNR	**Honiara**	**66.17 102**	*e*P	**P**	**17 08 30.3**	**-1.5**
	comp=Z,178nm,0.8s,mb6.2					
HNR			LR	LR		
	comp=Z,892nm,22.0s,MS4.9					
HNR	**Honiara**	**66.17 102**	P	**P**	**17 08 31.0**	**-0.8**
HNR			pmax	pmax		
	comp=Z,180nm,0.9s,mb6.1					
SIM	**Simferopol'**	**66.28 317c**	*i*P	**P**	**17 08 31.1**	**-0.9**
SIM			*e**PP	pP	17 08 48.0	+0.9
SIM			*e*		17 11 02.0	
SIM			*e*S	S	17 17 12.3	-3.4
SIM			*e**SS		17 17 39.0	
SIM			pmax	pmax		
	comp=Z,90nm,0.7s,mb5.9					
TAU	**Tasmania Unive**	**66.95 141**	*e*P	**P**	**17 08 36.6**	**+0.3**
TAU			LR	LR		
	comp=Z,678nm,21.0s,MS4.8					
ISP	**Isparta**	**67.06 309⇑**	*e*P	**P**	**17 08 35.5**	**-1.5**
	comp=Z,215nm,1.3s,mb6.0					
ISP	**Isparta**	**67.06 309**	P	**P**	**17 08 37.2**	**+0.1**
ISP			pmax	pmax		
	comp=Z,220nm,1.2s,mb6.1					
MOS	**Moscow**	**68.15 329α**	*i*P	**P**	**17 08 42.6**	**-1.0**
MOS			*i* *PP	pP	17 08 56.7	-2.0
MOS			*e*		17 09 10.4	
MOS			*e*		17 11 10.2	
MOS			*i* S	S	17 17 35.4	-2.6
MOS			*i* *SS		17 17 56.5	
MOS			*e*		17 18 34.4	
MOS			pmax	pmax		
	comp=Z,309nm,0.7s,mb6.4					
MOS			pmax	pmax		
	comp=Z,1µm,1.5s,mb6.7					
MOS			smax			
	comp=N,800nm,2.5s					
SKR	**Severo-Kuril's**	**68.18 37**	*e*P	**P**	**17 08 37.0**	**-6.8**
SKR			*e*	pP	17 08 50.0	-9.0
SKR			*e*		17 11 16.0	
SKR			*e*S	S	17 17 40.0	+1.5
SKR			*e*PS	PS	17 18 04.0	-6.8
SKR			*e*		17 18 10.0	
SKR			pmax	pmax		
	comp=N,120nm,0.8s					
SKR			pmax	pmax		
	comp=E,120nm,0.8s					
SKR			pmax	pmax		
	comp=Z,310nm,0.8s,mb6.4					
SKR			smax			
	comp=E,3µm,10.0s					
SKR			MLR	MLR		
	comp=N,3µm,20.0s,MS5.7					
SKR			MLR	MLR		
	comp=E,3µm,20.0s,MS5.7					
SKR			MLR	MLR		
	comp=Z,4µm,20.0s,MS5.6					
OBN	**Obninsk**	**68.44 328⇑**	*e*P	**P**	**17 08 44.0**	**-1.3**
	comp=Z,146nm,0.8s,mb6.1					
OBN			LR	LR		
	comp=Z,270nm,19.0s,MS4.5					
OBN	**Obninsk**	**68.44 328c**	*i*P	**P**	**17 08 44.0**	**-1.4**
OBN			*i*	pP	17 08 59.4	-1.1
OBN			*i*		17 09 05.7	
OBN			*e*		17 11 16.1	
OBN			*i* S	S	17 17 37.9	-3.6
OBN			*e*SS	SS	17 22 03.1	-4.3
OBN			pmax	pmax		
	comp=Z,405nm,1.4s,mb6.3					
OBN			MLR	MLR		
	comp=Z,700nm,14.0s,MS5.0					
LSZ	**Lusaka**	**69.19 252**	*e*P	**P**	**17 08 51.1**	**+0.5**
	comp=Z,72nm,1.4s,mb5.4					
LSZ			LR	LR		
	comp=Z,6µm,20.0s,MS5.8					
LSZ	**Lusaka**	**69.19 252**	P	**P**	**17 08 51.2**	**+0.5**
LSZ			pmax	pmax		
	comp=Z,72nm,1.4s,mb5.4					
KARP	**Karpathos**	**69.28 306**	*e*P	**P**	**17 08 47.0**	**-3.9**
TIXI	**Tiksi**	**70.01 11⇑**	*i*P	**P**	**17 08 52.9**	**-1.9**
TIXI			LR	LR		
	comp=Z,5µm,19.0s,MS5.8					
TIXI	**Tiksi**	**70.01 11**	*e*P	**P**	**17 08 49.3**	**-5.5**
TIXI			*e*		17 09 10.6	
TIXI			*e*PPP	PPP	17 13 08.8	-3.2
TIXI			*e*S	S	17 17 55.0	-4.8
TIXI			*e*		17 18 48.8	
TIXI			*e*SS	SS	17 22 23.8	-7.6
TIXI			pmax	pmax		
	comp=Z,184nm,1.0s,mb6.0					
TIXI			pmax	pmax		
	comp=N,27nm,0.7s					
TIXI			pmax	pmax		
	comp=E,29nm,0.7s					
TIXI			pmax	pmax		
	comp=Z,334nm,1.2s,mb6.1					
TIXI			MLR	MLR		
	comp=Z,4µm,17.0s,MS5.8					
PSN	**Preselentsi**	**70.05 315**	*i* P	**P**	**17 08 55.0**	**-0.5**
TIRR	**Tirgusor**	**70.06 316⇑**	*i*P	**P**	**17 08 54.7**	**-0.8**
KIS	**Kishinev**	**70.39 318α**	*i*P	**P**	**17 08 56.0**	**-1.5**
KIS			*i*	pP	17 09 13.0	+0.3
KIS			*e*		17 11 34.0	
KIS			*i* S	S	17 18 00.0	-4.7
KIS			*e*PS	PS	17 18 26.0	-13
KIS			pmax	pmax		
	comp=Z,1µm,2.0s,mb6.5					
KIS			MLR	MLR		
	comp=Z,600nm,20.0s,MS4.8					
KIS			MLR	MLR		
	comp=Z,500nm,20.0s					
CFR	**Carcaliu**	**70.42 316⇓**	*i*P	**P**	**17 08 56.2**	**-1.5**
PET	**Petropavlovsk**	**70.44 35**	*e*P	**P**	**17 08 56.8**	**-0.9**
	comp=Z,126nm,0.8s,mb5.9					
PET			LR	LR		
	comp=Z,3µm,20.0s,MS5.5					
PET	**Petropavlovsk**	**70.44 35**	*e*P	**P**	**17 08 56.9**	**-0.8**
PET			*e**PP	pP	17 09 11.7	-1.2
PET			*e*		17 09 21.3	
PET			*e*PPP	PPP	17 13 10.3	-6.3
PET			*e*S	S	17 18 04.2	-0.9
PET			pmax	pmax		
	comp=Z,170nm,0.8s,mb6.0					
PET			pmax	pmax		
	comp=Z,700nm,15.4s					
PET			pmax	pmax		
	comp=Z,75nm,1.1s,mb5.5					
PET			pmax	pmax		
	comp=Z,400nm,28.8s					
PET			pmax	pmax		
	comp=Z,300nm,14.5s					
PET			smax			
	comp=E,400nm,20.5s					
PET			MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5					
PET			MLR	MLR		
	comp=Z,3µm,20.0s					
HARR	**Harsova**	**70.45 316⇓**	*i*P	**P**	**17 08 56.6**	**-1.3**
NPS	**Neapolis**	**70.49 306**	*e*P	**P**	**17 08 59.7**	**+1.4**
PRD	**Provadia**	**70.50 314**	*i* P	**P**	**17 08 57.5**	**-0.7**
PPE	**Popeni**	**70.86 317⇓**	*i*P	**P**	**17 08 59.7**	**-0.7**
PPE	**Popeni**	**70.86 317⇓**	*i*P	**P**	**17 08 59.6**	**-0.7**
JMB	**Yambol**	**70.94 313**	*i* P	**P**	**17 09 05.5**	**+4.6**
WAKE	**Wake Island**	**71.02 71**	PFAKE		17 09 10.0	+8.2
WAKE			LR	LR		
	comp=Z,2µm,21.0s,MS5.3					
ALN	**Alexandroupoli**	**71.05 312**	*e*P	**P**	**17 09 01.0**	**-0.6**
IDI	**Anoyia**	**71.08 306**	P	**P**	**17 09 01.8**	**-0.1**
	comp=Z,46nm,0.6s,mb5.6,baz=82,slow=8.1,SNR=49					
AKASG	**Malin Array Be**	**71.11 322**	P	**P**	**17 09 00.1**	**-1.6**
	comp=Z,32nm,0.6s,mb5.4,baz=88,slow=5.7,SNR=156					
AKASG			S	S	17 18 07.0	-5.8
	comp=Z,4.3nm,1.2s,baz=97,slow=10,SNR=10					
MIR	**Mirnyy**	**71.23 181**	*e*P	**P**	**17 09 09.0**	**+6.8**
MIR			pmax	pmax		
	comp=Z,81nm,2.0s,mb5.3					
MIR			MLR	MLR		
	comp=N,2µm,20.0s,MS5.4					
MIR			MLR	MLR		
	comp=E,550nm,20.0s,MS5.4					
MIR			MLR	MLR		
	comp=Z,4µm,20.0s,MS5.7					
SEY	**Seymchan**	**71.28 24⇑**	*i*P	**P**	**17 09 01.4**	**-1.2**
ISR	**Istrita**	**71.50 316⇓**	*i*P	**P**	**17 09 04.4**	**+0.2**
ISR	**Istrita**	**71.50 316⇓**	*i*P	**P**	**17 09 04.4**	**+0.1**
VRI	**Vrincioaia**	**71.54 317⇓**	*i*P	**P**	**17 09 04.6**	**+0.2**
VRI	**Vrincioaia**	**71.54 317⇓**	*i*P	**P**	**17 09 04.6**	**+0.2**
VRI	**Vrincioaia**	**71.54 317**	P	**P**	**17 09 04.9**	**+0.5**
DIM	**Dimitrovgrad**	**71.63 313**	*i* P	**P**	**17 09 04.0**	**-1.0**
KDZ	**Kurdzhali**	**71.65 312**	*i* P	**P**	**17 09 04.0**	**-1.1**
VAM	**Vamos**	**71.65 306⇑**	*i*P	**P**	**17 09 05.0**	**-0.3**
BUC1	**Bucharest**	**71.71 315**	P	**P**	**17 09 06.0**	**+0.6**
CASY	**Casey**	**71.82 173**	*e*P	**P**	**17 09 05.5**	**-0.3**
PVL	**Pavlikeni**	**71.99 314**	*i* P	**P**	**17 09 07.0**	**-0.1**
MLR	**Muntele Rosu**	**72.00 316**	P	**P**	**17 09 07.4**	**+0.3**
	comp=Z,61nm,0.8s,mb5.6,baz=154,slow=1.6,SNR=3.1					
MLR	**Muntele Rosu**	**72.00 316⇓**	*i*P	**P**	**17 09 07.1**	**0.0**
MLR	**Muntele Rosu**	**72.00 316⇓**	*i*P	**P**	**17 09 07.1**	**0.0**
MLR	**Muntele Rosu**	**72.00 316**	P	**P**	**17 09 07.6**	**+0.5**
RZN	**Rozhen**	**72.17 312**	*i* P	**P**	**17 09 07.0**	**-1.2**
SNX	**Sinaia**	**72.26 316⇑**	*i*P	**P**	**17 09 07.7**	**-1.0**
SNX	**Sinaia**	**72.26 316⇑**	*i*P	**P**	**17 09 07.7**	**-1.1**
AOS	**Alonnisos**	**72.41 309**	*e*P	**P**	**17 09 08.6**	**-1.1**
OUR	**Ouranopolis**	**72.50 311**	*e*P	**P**	**17 09 09.5**	**-0.8**
MTUR	**Matau**	**72.55 316⇑**	*i*P	**P**	**17 09 12.1**	**+1.6**
VOIR		**72.60 316⇓**	*i*P	**P**	**17 09 09.8**	**-1.0**
PAIG	**Paliouri**	**72.67 310**	*e*P	**P**	**17 09 10.4**	**-0.9**
VLI	**Veliai**	**72.83 307**	*e*P	**P**	**17 09 12.0**	**-0.3**
MMB	**Musomiste**	**72.89 312**	*i* P	**P**	**17 09 11.0**	**-1.5**
SRS	**Serrai**	**72.91 311**	*e*P	**P**	**17 09 11.3**	**-1.3**
BURAR	**Bucovina Array**	**72.92 318⇑**	*i*P	**P**	**17 09 13.0**	**+0.4**
BURAR	**Bucovina Array**	**72.92 318⇑**	*i*P	**P**	**17 09 13.0**	**+0.4**
XOR	**Xorichti**	**72.97 310**	*e*P	**P**	**17 09 11.1**	**-1.9**
MNK	**Minsk**	**72.98 326**	*e*P	**P**	**17 09 10.0**	**-2.7**
SOH	**Sokhos**	**73.05 311**	*e*P	**P**	**17 09 11.8**	**-1.7**
PUL	**Pulkovo**	**73.31 331**	*i* P	**P**	**17 09 14.6**	**0.0**
PUL			pmax	pmax		
	comp=Z,168nm,0.6s,mb6.2					
PUL			pmax	pmax		
	comp=Z,740nm,2.2s,mb6.2					
PUL			MLR	MLR		
	comp=Z,2µm,21.0s,MS5.3					
PUL			MLR	MLR		
	comp=N,1µm,25.0s,MS5.2					
PUL			MLR	MLR		
	comp=E,1µm,20.0s,MS5.2					
THE	**Thessaloniki**	**73.31 311**	*e*P	**P**	**17 09 15.5**	**+0.5**
KKB	**Krupnik**	**73.40 312**	*i* P	**P**	**17 09 14.5**	**-1.0**
VTS	**Vitosha**	**73.42 313**	*i* P	**P**	**17 09 15.0**	**-0.6**
VTS	**Vitosha**	**73.42 313**	P	**P**	**17 09 15.3**	**-0.3**
KNT	**Kendrikon**	**73.44 311**	*e*P	**P**	**17 09 14.5**	**-1.2**
AGG	**Agios Georgios**	**73.58 309**	*e*P	**P**	**17 09 14.7**	**-2.0**
LBTB	**Lobatse**	**73.65 242**	*e*P	**P**	**17 09 17.8**	**+0.5**
	comp=E,56nm,1.0s,mb5.5					
LBTB	**Lobatse**	**73.65 242**	P	**P**	**17 09 18.3**	**+1.0**
LBTB			pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5					
ITM	**Ithomi**	**73.68 307**	*e*P	**P**	**17 09 15.8**	**-1.5**
GRG	**Griva**	**73.78 311**	*e*P	**P**	**17 09 16.4**	**-1.4**
IDID	**Didziasalis**	**73.81 326**	*e*P	**P**	**17 09 17.1**	**-0.5**
IDID			AMb	AMB	17 09 21.2	
	comp=Z,49nm,1.0s,mb5.4					
EVR	**Evrytania**	**73.97 309**	*e*P	**P**	**17 09 17.8**	**-1.1**
JOF	**Joensuu**	**73.98 335**	*e*p	**P**	**17 09 18.0**	**-0.4**
	comp=Z,77nm,0.7s,mb5.7					
IIGN	**Ignalina**	**74.10 326**	*e*P	**P**	**17 09 18.8**	**-0.5**
LVV	**L'vov**	**74.14 320d**	*i*P	**P**	**17 09 24.8**	**+5.2**
LVV			*e*S	S	17 18 50.0	+2.8
ISAL	**Salakas**	**74.21 327**	*e*P	**P**	**17 09 19.4**	**-0.5**
ISAL			AMb	AMB	17 09 23.0	
	comp=Z,26nm,1.1s,mb5.1					
ISAL			*e*pP	pP	17 09 31.8	-3.5
DRGR		**74.45 317⇓**	*i*P	**P**	**17 09 20.5**	**-1.0**
BARS	**Barje**	**74.46 313⇑**	*i*P	**P**	**17 09 20.2**	**-1.5**
FNA	**Florina**	**74.53 311**	*e*P	**P**	**17 09 20.3**	**-1.8**
SKO	**Skopje**	**74.63 312**	*i* P	**P**	**17 09 21.5**	**-1.2**
VSU	**Vasula**	**74.66 330⇑**	*i*P	**P**	**17 09 21.7**	**-0.8**
DZM	**Mont Dzumac**	**74.68 114**	*e*P	**P**	**17 09 22.6**	**-0.7**
DZM	**Mont Dzumac**	**74.68 114**	P	**P**	**17 09 24.1**	**+0.8**
	comp=Z,18nm,1.0s,mb5.0,baz=151,slow=1.0,SNR=10					
DZM			LR	LR	17 45 31.0	
	comp=Z,1µm,19.5s,MS5.2,baz=54,slow=38					
DZM	**Mont Dzumac**	**74.68 114**	*e*P	**P**	**17 09 22.6**	**-0.7**
JAN	**Janina**	**74.80 310**	*e*P	**P**	**17 09 22.7**	**-1.0**
VLS	**Valsamata**	**74.84 308**	*e*P	**P**	**17 09 22.5**	**-1.5**
LKD	**Levkas**	**74.85 309**	*e*P	**P**	**17 09 22.9**	**-1.1**
KWP	**Kalwaria**	**74.94 320**	*e*P	**P**	**17 09 24.6**	**+0.3**
KWP			*e*		17 09 26.6	
KWP			*e*S	S	17 18 55.3	-0.9
KWP			MLR	MLR	17 37 56.4	
	comp=Z,1µm,39.0s,MS4.9					
KWP	**Kalwaria**	**74.94 320**	*e*P	**P**	**17 09 24.6**	**+0.3**
KWP			*e*S	S	17 18 55.3	-0.9
APA	**Apatity**	**75.00 340⇓**	*i*P	**P**	**17 09 23.3**	**-1.0**
APA			*e*S	S	17 19 00.0	+3.5
APA			*i*		17 19 18.0	
APA			pmax	pmax		
	comp=Z,150nm,0.8s,mb6.0					
APA			MLR	MLR		
	comp=Z,1µm,20.0s,MS5.3					
UZH	**Uzhgorod**	**75.04 319d**	*i*P	**P**	**17 09 24.8**	**0.0**
KOLS	**Kolonicke sedl**	**75.10 319**	*i* P	**P**	**17 09 25.8**	**+0.6**
SUW	**Suwalki**	**75.51 325**	*e*P	**P**	**17 09 26.6**	**-0.8**
SUW			*e*		17 09 28.7	
SUW			*e*S	S	17 19 01.4	-0.9
SUW			MLR	MLR	17 41 49.5	
	comp=Z,1µm,28.0s,MS5.0					
SUW	**Suwalki**	**75.51 325**	*e*P	**P**	**17 09 26.6**	**-0.8**
SUW			*e*S	S	17 19 01.4	-0.9
KEK	**Kerkira**	**75.61 310**	*e*P	**P**	**17 09 26.7**	**-1.6**
CRVS	**Cervenica-Dubn**	**75.62 319**	*i* P	**P**	**17 09 28.7**	**+0.5**
CRVS			*e*		17 09 31.8	
MAW	**Mawson**	**75.78 192**	*e*P	**P**	**17 09 30.9**	**+2.2**
	comp=Z,8.0nm,0.8s,mb4.7					
MAW	**Mawson**	**75.78 192**	P	**P**	**17 09 30.2**	**+1.5**
	comp=Z,3.2nm,0.7s,baz=342,slow=7.6,SNR=5.7					
MAW			LR	LR	17 36 45.8	
	comp=Z,2µm,20.6s,MS5.3,baz=23,slow=31					
MAW	**Mawson**	**75.78 192**	*e*P	**P**	**17 09 30.9**	**+2.2**
MAW			pmax	pmax		
	comp=Z,8.0nm,0.8s					
PVY	**Plav**	**75.79 313⇑**	*i*P	**P**	**17 09 27.8**	**-1.4**
FINES	**FINESS Array B**	**75.82 332**	P	**P**	**17 09 28.4**	**-0.6**
	comp=Z,51nm,0.7s,mb5.6,baz=93,slow=6.2,SNR=250					
FINES			S	S	17 19 05.3	-0.3
	comp=Z,12nm,1.3s,baz=153,slow=13,SNR=5.6					
FINES			LR	LR	17 47 55.1	
	comp=Z,1µm,21.2s,MS5.1,baz=259,slow=40					
FINES	**FINESS Array B**	**75.82 332**	P	**P**	**17 09 28.4**	**-0.6**
FINES			S	S	17 19 05.3	-0.3
FINES			LR	LR	17 47 55.1	
STHS	**Stebnicka Huta**	**75.85 320**	*i* P	**P**	**17 09 29.9**	**+0.4**
IVA	**Berane**	**75.88 313⇑**	*i*P	**P**	**17 09 28.4**	**-1.4**
KAF	**Kangasniemi**	**75.91 333**	*e*p	**P**	**17 09 29.1**	**-0.4**

comp=Z,113nm,1.1s,mb5.7,baz=101,slow=5.3
KAF Kangasniemi 75.91 333 *e*P **P** **17 09 29.1 -0.4**
KAF pmax pmax
comp=Z,113nm,1.1s,mb5.7
DIVS Divcibare 75.95 314⇓ *i*P **P** **17 09 26.3 -3.9**
NVSS Nova Varos 2 76.09 314⇑ *i*P **P** **17 09 30.2 -0.8**
KECS Kecovo 76.20 319 *i* P **P** **17 09 31.5 0.0**
KECS *e* 17 09 34.3
KECS *es*P sP 17 09 48.8 -4.0
KECS Kecovo 76.20 319 *i* P **P** **17 09 31.5 0.0**
KECS *e* pP 17 09 48.8 +2.0
ULC Ulcinj 76.25 312⇑ *i*P **P** **17 09 29.9 -2.0**
PLE Pljevlja 76.29 313⇑ *i*P **P** **17 09 30.7 -1.4**
TTG Podgorica 76.29 312⇑ *i*P **P** **17 09 30.0 -2.2**
NIE Niedzica 76.45 320⇑ *i*P **P** **17 09 33.5 +0.6**
WAR Warsaw 76.45 323 *e*P **P** **17 09 35.0 +2.2**
WAR *ep*P pP 17 09 49.4 +1.3
WAR MLR MLR 17 40 17.9
comp=Z,1μm,36.6s,MS4.9
WAR Warsaw 76.45 323 *e*P **P** **17 09 35.0 +2.2**
WAR *ep*P pP 17 09 49.4 +1.2
WAR LR LR
comp=Z,1μm,36.6s,MS4.9
PSZ Piszkesteto 76.51 318⇑ *i*P **P** **17 09 33.3 +0.1**
PSZ Piszkesteto 76.51 318⇑ *i*P **P** **17 09 33.1 -0.1**
comp=Z,201nm,1.2s,mb5.9
PSZ Piszkesteto 76.51 318 P **P** **17 09 33.6 +0.4**
NKY Niksic 76.53 313⇑ *i*P **P** **17 09 31.7 -1.8**
BUM Brajici-Budva 76.55 312⇑ *i*P **P** **17 09 32.2 -1.4**
UPM Unac-Piva 76.63 313⇑ *i*P **P** **17 09 32.3 -1.7**
HCY Herceg Novi 76.86 312⇑ *i*P **P** **17 09 33.2 -2.1**
BRY Bratogost 76.87 313⇑ *i*P **P** **17 09 33.4 -2.0**
OJC Ojcow 76.89 320⇑ *i*P **P** **17 09 35.5 +0.1**
OJC *es*P sP 17 09 51.8 -4.9
OJC *eS* S 17 19 19.0 +1.4
OJC MLR MLR 17 53 52.0
comp=Z,800nm,20.9s,MS5.0
PKSM Moragy 77.15 316 P **P** **17 09 36.9 0.0**
VYHS Vyhne 77.29 319 *i* P **P** **17 09 37.8 +0.2**
VYHS *e* 17 09 39.9
VYHS *es*P sP 17 09 54.6 -4.3
VYHS *eS* S 17 19 21.3 -0.6
VYHS Vyhne 77.29 319 *i* P **P** **17 09 37.8 +0.2**
VYHS *e* pP 17 09 54.6 +1.6
VYHS *eS* S 17 19 21.3 -0.6
SRO2 Moca 77.49 318 *e*P **P** **17 09 39.2 +0.5**
SRO Srobarova 77.55 318 *e*P **P** **17 09 40.0 +0.9**
SRO1 Iza 77.60 318 *e*P **P** **17 09 40.0 +0.7**
SRO1 *e* 17 09 42.4
SRO1 *e* pP 17 10 00.1 +5.4
RAC Raciborz 77.90 320 *e*P **P** **17 09 41.9 +1.0**
RAC *eS* S 17 19 26.8 -1.6
RAC MLR MLR 17 54 40.3
comp=Z,1μm,21.3s,MS5.1
OKC Ostrava-Krasne 77.90 320⇑ *i*P **P** **17 09 41.3 +0.4**
OKC *ep*P pP 17 09 58.2 +1.9
OKC *eS* S 17 19 30.9 +2.5
OKC *eS*KS SKS 17 19 52.8 +7.9
OKC AMS AMS 17 53 30.0
comp=Z,500nm,16.6s
TIP Timpagrande 77.92 309 *e*P **P** **17 09 41.2 0.0**
KEV Kevo 77.99 341 *e*P **P** **17 09 40.9 -0.1**
comp=Z,117nm,0.8s,mb5.9
KEV LR LR
comp=Z,2μm,20.0s,MS5.4
KEV Kevo 77.99 341 P **P** **17 09 41.0 0.0**
KEV pmax pmax
comp=Z,110nm,0.8s,mb5.8
DRV Dumont d'Urvil 78.22 163 P **P** **17 09 47.0 +4.7**
DRV S S 17 19 33.0 +1.5
SMOL Smolenice 78.22 318 *e* sP 17 10 05.5 +1.4
MORC Moravsky Berou 78.28 320⇑ *e*P **P** **17 09 43.3 +0.3**
comp=Z,265nm,1.4s,mb6.0
MORC *e* pP 17 09 58.6 +0.2
MORC Moravsky Berou 78.28 320 *e*P **P** **17 09 43.4 +0.4**
MORC pmax pmax
comp=Z,260nm,1.4s,mb6.0
ZST Bratislava 78.40 318 *e*P **P** **17 09 44.3 +0.6**
ZST *e* 17 09 46.5
ZST *es*P sP 17 10 01.2 -3.9
ZST *eS* S 17 19 31.2 -2.6
ZST *eL* 17 55 37.8
ZST Bratislava 78.40 318 *e*P **P** **17 09 44.3 +0.6**
ZST *e* pP 17 10 01.2 +2.1
ZST *eS* S 17 19 31.2 -2.6
ARCES ARCESS Array B 78.42 340 P **P** **17 09 43.5 +0.1**
comp=Z,59nm,0.5s,mb5.8,baz=94,slow=5.2,SNR=347
ARCES PP PP 17 12 45.0 +2.0
comp=Z,27nm,0.9s,baz=97,slow=9.8,SNR=4.4
ARCES LR LR 17 47 42.5
comp=Z,2μm,21.7s,MS5.4,baz=109,slow=38
ARCES ARCESS Array B 78.42 340 P **P** **17 09 43.5 +0.1**
ARCES PP PP 17 12 45.0 +2.0
ARCES LR LR 17 47 42.5
ARE0 ARCESS Array S 78.42 340⇑ *e*P **P** **17 09 43.5 +0.1**
BILL Bilibino 78.55 21 *e*P **P** **17 09 43.1 -1.0**
BILL *e**PP pP 17 09 59.7 +0.2
BILL *e* 17 12 41.8
BILL *eS* S 17 19 34.4 -0.6
BILL pmax pmax
comp=Z,56nm,0.9s,mb5.5
BILL MLR MLR
comp=Z,7μm,17.0s,MS6.1
SOP Sopron 78.72 318 *e*P **P** **17 09 45.6 +0.1**
VRAC Vranov 78.85 319 *e*P **P** **17 09 46.3 +0.1**
VRAC Vranov 78.85 319 P **P** **17 09 46.4 +0.2**
GKP Gorka Klasztor 78.88 323 *e*P **P** **17 09 46.4 +0.2**
GKP *e* 17 09 48.2
GKP *eS* S 17 19 39.2 +0.4
GKP MLR MLR 17 42 20.0
comp=Z,1μm,31.2s,MS5.0
GKP Gorka Klasztor 78.88 323 *e*P **P** **17 09 46.4 +0.2**
GKP *eS* S 17 19 39.2 +0.4
GKP LR LR
comp=Z,1μm,31.2s,MS5.0
VKA Vienna 78.93 318⇑ *i*P **P** **17 09 48.1 +1.5**
comp=Z,840nm,2.5s,mb6.2
KTK1 Kautokeino 79.05 340⇑ *i*P **P** **17 09 46.5 -0.3**
KTK1 AMb AMB 17 09 50.7
comp=Z,348nm,0.9s,mb6.3
KTK1 Kautokeino 79.05 340⇑ *i*P **P** **17 09 46.5 -0.3**
comp=Z,348nm,0.9s,mb6.3
DPC Dobruska-Polom 79.12 320⇑ *i*P **P** **17 09 48.4 +0.8**
DPC *ep*P pP 17 10 04.4 +1.3
DPC *eS* S 17 19 41.0 -0.4
DPC *eS*KS SKS 17 20 02.9 +9.3
DPC AMS AMS 17 53 10.0
comp=Z,800nm,18.5s
KSP Ksiaz 79.19 321 *e*P **P** **17 09 48.6 +0.6**
KSP *e* 17 09 50.8
KSP *eS* S 17 19 45.3 +3.1
KSP MLR MLR 17 40 31.7
comp=Z,2μm,31.5s,MS5.2
KSP Ksiaz 79.19 321⇑ *e*P **P** **17 09 48.3 +0.3**
KSP *ep*P pP 17 10 04.4 +1.0
KSP *eS* S 17 19 42.0 -0.1
KSP *eSS* SSS 17 28 09.0 -2.8
KSP LR LR
comp=Z,2μm,20.1s,MS5.5
KSP Ksiaz 79.19 321⇑ *e*P **P** **17 09 48.3 +0.3**
KSP *e* 17 09 50.5
KSP *e**PP pP 17 10 04.4 +1.0
KSP *eS* S 17 19 42.0 -0.1
KSP *eSS* SSS 17 28 09.0 -2.8
UPC Upice 79.34 320⇑ *i*P **P** **17 09 49.4 +0.6**
UPC *ep*P pP 17 10 04.7 +0.5
UPC *eS* S 17 19 43.2 -0.5
ARSA Arzberg 79.38 317⇑ *i*P **P** **17 09 49.5 +0.4**
comp=Z,550nm,2.0s,mb6.1
ARSA Arzberg 79.38 317 *i* P **P** **17 09 49.5 +0.4**
comp=Z,550nm,2.0s,mb6.2,SNR=40
SUR Sutherland 79.41 236 P **P** **17 09 50.3 +0.8**
comp=Z,152nm,1.4s,mb5.7
SUR *e*PcP PcP 17 09 56.9 -0.9
SUR LR LR
comp=Z,481nm,19.0s,MS4.9
BOJS Bojanci 79.44 315 *e*P **P** **17 09 49.5 0.0**
BOJS *e*PcP PcP 17 09 51.5 -6.1
BOJS *e* pP 17 10 06.5 +1.6
BOJS *eS* S 17 19 42.8 -2.1
TREC Trest 79.57 319⇑ *i*P **P** **17 09 50.3 +0.2**
TREC *ep*P pP 17 10 07.0 +1.5
PERS Pernice 79.61 316 *i* P **P** **17 09 50.7 +0.3**
PERS *i* PcP PcP 17 09 52.7 -5.7
NVLJ Novalja 79.65 314 *i* P **P** **17 09 49.6 -1.1**
TSUM Tsumeb 79.84 250 *e*P **P** **17 09 51.9 -0.3**
comp=Z,31nm,1.0s,mb5.2
TSUM LR LR
comp=Z,2μm,20.0s,MS5.5
LJU Ljubljana 79.98 316 *e*P **P** **17 09 52.9 +0.5**
LJU *e*PcP PcP 17 09 54.8 -5.2
LJU *i* pP 17 10 09.9 +2.1
LJU *eS* S 17 19 49.9 -0.6
OBKA Obir 80.00 316⇑ *i*P **P** **17 09 52.9 +0.5**
comp=Z,690nm,2.5s,mb6.1
OBKA Obir 80.00 316 *i* P **P** **17 09 52.9 +0.4**
comp=Z,690nm,2.5s,mb6.1,SNR=31
PRU Pruhonice 80.23 320⇑ *i*P **P** **17 09 54.0 +0.4**
PRU *ep*P pP 17 10 10.0 +0.9
PRU *eS* S 17 19 52.1 -1.0
PRU *eSKS* SKS 17 20 10.2 +8.6
PRU AMS AMS 17 51 30.0
comp=Z,800nm,18.7s
PVCC Panska Ves 80.26 320⇑ *i*P **P** **17 09 54.3 +0.6**
PVCC *ep*P pP 17 10 10.2 +1.0
PVCC *eS* S 17 19 54.6 +1.3
PVCC AMS AMS 17 51 30.0
comp=Z,1μm,18.8s
MOA Molln 80.27 318⇑ *i*P **P** **17 09 53.8 -0.1**
comp=Z,221nm,2.0s,mb5.7
MOA Molln 80.27 318 *i* P **P** **17 09 53.8 -0.1**
comp=Z,221nm,2.0s,mb5.7,SNR=18
VOY Vojsko 80.42 316 *e*P **P** **17 09 54.4 -0.3**
VOY *e* pP 17 10 11.6 +1.4
BSD Bornholm Skovb 80.43 325⇓ *i*P **P** **17 09 54.1 -0.5**
comp=Z,143nm,0.7s,mb6.0
BSD Bornholm Skovb 80.43 325⇓ *i*P **P** **17 09 54.1 -0.5**
BSD pmax pmax
comp=Z,140nm,0.7s,mb6.0
AQU L'Aquila 80.62 312 *e*P **P** **17 09 55.9 +0.1**
comp=Z,180nm,1.1s,mb5.9
AQU L'Aquila 80.62 312 P **P** **17 09 56.1 +0.3**
AQU pmax pmax
comp=Z,180nm,1.1s,mb5.9
BRG Berggiesshubel 80.68 321 *i* P **P** **17 09 56.2 +0.3**
comp=Z,28nm,0.8s,mb5.2
BRG *i* pP 17 10 15.1 +3.6
BRG PP PP 17 13 02.0 0.0
BRG *e* 17 13 09.4
BRG S S 17 19 56.0 -1.7
BRG *e* 17 19 59.2
BRG LR LR
comp=Z,1μm,17.5s,MS5.3
BRG Berggiesshubel 80.68 321 *i* P **P** **17 09 56.3 +0.3**
BRG *i* pP 17 10 15.1 +3.7
BRG 17 13 02.0
BRG pmax pmax
comp=Z,28nm,0.8s,mb5.2
BRG pmax pmax
comp=Z,203nm,1.7s,mb5.8
BRG pmax pmax
comp=Z,48nm,1.1s,mb5.3
BRG MLR MLR
comp=N,1μm,21.6s,MS5.3
BRG MLR MLR
comp=E,1μm,20.6s,MS5.3
BRG MLR MLR
comp=Z,1μm,17.5s,MS5.3
TRO Tromso 80.68 340 *e*P **P** **17 09 54.3 -1.3**
TRO *eS* S 17 19 57.3 -0.1
TRO AMS AMS 17 49 14.3
comp=Z,1μm,21.8s,MS5.2
TRO Tromso 80.68 340 *e*P **P** **17 09 52.2 -3.4**
GEC2 GERESS Array S 80.71 319 *e*P **P** **17 09 56.6 +0.4**
comp=Z,233nm,1.2s,mb6.0
GEC2 *eS* S 17 19 58.3 +0.3
GEC2 GERESS Array S 80.71 319 *e*P **P** **17 09 56.6 +0.4**
GEC2 *eS* S 17 19 58.3 +0.3
GEC2 pmax pmax
comp=Z,233nm,1.2s,mb6.0
GERES GERESS Array B 80.71 319 P **P** **17 09 56.6 +0.4**
comp=Z,74nm,0.9s,mb5.6,baz=90,slow=5.3,SNR=233
GERES S S 17 20 00.1 +2.0
comp=Z,1.0nm,0.9s,baz=63,slow=9.0,SNR=7.1
KHC Kasperske Hory 80.81 319⇑ *i*P **P** **17 09 56.8 +0.1**
KHC *ep*P pP 17 10 13.4 +1.3
KHC *eS* S 17 19 59.3 +0.2
KHC *ex* x 17 20 20.7
KHC AMS AMS 17 56 00.0
comp=Z,700nm,19.8s
KHC Kasperske Hory 80.81 319⇑ *i*P **P** **17 09 56.8 +0.1**
KHC *e**PP pP 17 10 13.4 +1.3
KHC *eS* S 17 19 59.3 +0.2
KHC MLR MLR
comp=Z,700nm,19.8s,MS5.0
KBA Koelnbreinsper 80.85 317⇑ *i*P **P** **17 09 56.8 -0.2**
comp=Z,447nm,3.2s
KBA Koelnbreinsper 80.85 317 *i* P **P** **17 09 56.8 -0.2**
comp=Z,447nm,3.2s,SNR=21
RUE Ruedersdorf 80.89 322 *e*P **P** **17 09 57.3 +0.2**
comp=Z,169nm,0.8s,mb6.0
RUE *ep*P pP 17 10 10.1 -2.4
WET Wettzell 81.27 319 *e*P **P** **17 09 59.5 +0.4**
comp=Z,688nm,2.5s,mb6.1
WET *eS* S 17 20 04.6 +0.8
WET Wettzell 81.27 319 *e*P **P** **17 09 59.5 +0.4**
WET *eS* S 17 20 04.6 +0.8
WET pmax pmax
comp=Z,688nm,2.5s,mb6.1
CLL Collm 81.30 321⇑ P **P** **17 09 58.9 -0.3**
comp=Z,logA/T=1.9,mb5.6
CLL *i* PCP PcP 17 10 05.7 +0.1
CLL *e**SP sP 17 10 16.0 -4.7
CLL *ePP PP 17 13 03.0 -4.3
CLL *e**SPP 17 13 24.0
CLL *e* 17 15 59.0
CLL *e* 17 18 13.0
CLL *eS* S 17 20 03.0 -1.1
CLL *e**SS 17 20 24.0
CLL *eSP SP 17 20 44.0 -8.3
CLL *ePS PS 17 21 00.0 +0.6
CLL *eSS SS 17 25 25.0 +1.3
CLL *ePKKP PKKP 17 28 25.0 +12
CLL *eSSS SSS 17 28 37.0 -9.3
CLL *e 17 31 19.0
CLL *eSKKP 17 31 55.0
CLL Collm 81.30 321⇑ *i*P **P** **17 09 58.9 -0.3**
comp=Z,117nm,1.4s,mb5.6
CLL *i* PcP PcP 17 10 05.7 +0.1
CLL *esP sP 17 10 16.0 -4.7
CLL *eS* S 17 20 03.0 -1.1
CLL *e**SS 17 20 24.0
CLL *ePKKP PKKP 17 28 25.0 +12
CLL Collm 81.30 321⇑ *i*P **P** **17 09 58.9 -0.3**
CLL *i* 17 10 05.7
CLL *e**SP sP 17 10 16.0 -4.7
CLL *eS* S 17 20 03.0 -1.1
CLL pmax pmax
comp=Z,117nm,1.4s,mb5.6
NKC Novy Kostel 81.59 320⇑ *i*P **P** **17 10 03.1 +2.3**
NKC *ep*P pP 17 10 22.6 +6.3
NKC *eS* S 17 20 08.2 +1.0
NKC *ex* x 17 20 27.5
NKC AMS AMS 17 52 20.0
comp=Z,1μm,18.9s
NKC Novy Kostel 81.59 320⇑ *i*P **P** **17 10 03.1 +2.3**
NKC *e**PP pP 17 10 22.6 +6.3
NKC *eS* S 17 20 08.2 +1.0
NKC MLR MLR
comp=Z,1μm,18.9s,MS5.3
COP Copenhagen 81.88 325 *eS* S 17 20 10.9 +0.9
comp=Z,370nm,20.0s
COP Copenhagen 81.88 325 *i* P **P** **17 10 02.5 +0.3**
comp=Z,46nm,0.7s,mb5.5
COP *eS* S 17 20 10.9 +0.9
COP LR LR
comp=Z,370nm,20.0s,MS4.7
COP Copenhagen 81.88 325 *i* P **P** **17 10 02.5 +0.3**
COP *eS* S 17 20 10.9 +0.9
COP pmax pmax
comp=Z,46nm,0.7s,mb5.5
COP MLR MLR
comp=Z,370nm,20.0s,MS4.7
WTTA Wattenberg 82.03 317⇑ *i*P **P** **17 10 02.8 -0.3**
comp=Z,254nm,1.6s,mb5.9
WTTA Wattenberg 82.03 317 *i* P **P** **17 10 02.8 -0.2**
comp=Z,254nm,1.6s,mb5.9,SNR=67
WATA Walderalm 82.07 317⇓ *i*P **P** **17 10 02.8 -0.5**
comp=Z,90nm,1.4s,mb5.5
MOX Moxa 82.14 320 *i* P **P** **17 10 03.8 +0.2**
comp=Z,logA/T=1.9,mb5.6
MOX pP pP 17 10 22.0 +2.9
MOX S S 17 20 15.0 +2.3
MOX L 17 54 20.0
MOX Moxa 82.14 320 *e*P **P** **17 10 03.8 +0.2**
comp=Z,170nm,1.9s,mb5.7
MOX *ep*P pP 17 10 22.0 +2.9
MOX *eS* S 17 20 15.0 +2.3
MOX LR LR
comp=Z,700nm,18.0s,MS5.1
MOX Moxa 82.14 320 *e*P **P** **17 10 03.8 +0.2**
MOX *e* pP 17 10 22.0 +2.9
MOX pmax pmax
comp=Z,170nm,1.9s,mb5.7
MOX MLR MLR
comp=Z,700nm,18.0s,MS5.1
MELSS Ber_school_2 82.18 337 *e*P **P** **17 10 03.1 -0.3**
FUR Furstenfeldbru 82.29 318 *e*P **P** **17 10 04.3 -0.1**
comp=Z,244nm,1.7s,mb5.9
FUR Furstenfeldbru 82.29 318 *e*P **P** **17 10 04.3 -0.1**
FUR pmax pmax
comp=Z,244nm,1.7s,mb5.9
SQTA Sankt Quirin 82.32 317⇑ *i*P **P** **17 10 04.4 -0.2**
comp=Z,126nm,1.3s,mb5.7
SQTA Sankt Quirin 82.32 317 *i* P **P** **17 10 04.4 -0.1**
comp=Z,126nm,1.3s,mb5.7,SNR=66
GRA1 Grafenberg Arr 82.37 319 *e*P **P** **17 10 05.4 +0.6**
comp=Z,119nm,1.1s,mb5.7
GRA1 *eS* S 17 20 15.9 +0.9
GRA1 LR LR
comp=Z,1μm,20.7s,MS5.2
GRF Grafenberg Arr 82.37 319 *e*P **P** **17 10 05.4 +0.6**
comp=Z,119nm,1.1s,mb5.7
GRF *eS* S 17 20 15.9 +0.9
GRF LR LR
comp=Z,1μm,20.7s,MS5.2
MOTA Moosalm 82.39 317⇑ *i*P **P** **17 10 04.5 -0.4**
comp=Z,128nm,1.3s,mb5.7
STOK Stokkvaagen 82.41 336 *e*P **P** **17 10 04.5 -0.1**
STOK AMb AMB 17 10 08.6
comp=Z,136nm,2.2s,mb5.5
STOK Stokkvaagen 82.41 336 *e*P **P** **17 10 04.5 -0.1**
comp=Z,136nm,2.3s,mb5.5
NSS Namsos 82.69 334 AMS AMS 17 51 54.4
comp=Z,934nm,20.7s,MS5.1
MAIM 82.78 314 P **P** **17 10 06.3 -0.7**
SYO Syowa Base 82.81 197⇓ *e*P **P** 17 10 23.0 +0.8
SYO Syowa Base 82.81 197⇓ *i*P **P** 17 10 29.1 +1.0
NB2 NORSAR Subarra 82.82 331 P **P** **17 10 06.4 -0.4**
comp=Z,116nm,1.2s,mb5.8,baz=93,slow=5.0
NB2 NORSAR Subarra 82.82 331 P **P** **17 10 06.4 -0.4**
baz=93,slow=5.1
NOA NORSAR Array B 82.82 331 P **P** **17 10 06.3 -0.5**
comp=Z,41nm,1.0s,mb5.4,baz=95,slow=4.9,SNR=42
NOA PP PP 17 13 19.6 +0.3
comp=Z,3.5nm,0.6s,baz=98,slow=8.6,SNR=4.1
NOA LR LR 17 52 58.2
comp=Z,734nm,18.1s,MS5.1,baz=85,slow=40
NOA NORSAR Array B 82.82 331 P **P** **17 10 06.3 -0.5**
NOA PP PP 17 13 19.6 +0.3
NOA LR LR 17 52 58.2
SARO Sassorosso 82.84 314 P **P** **17 10 07.3 0.0**
VLC Villacollemand 82.86 314 *e*P **P** **17 10 06.9 -0.5**
comp=Z,43nm,1.0s,mb5.4
FUORN Ofenpass 82.95 316⇑ *i*P **P** **17 10 08.5 +0.7**
CLZ Clausthal 82.96 322 *e*P **P** **17 10 08.0 +0.3**
comp=Z,99nm,1.0s,mb5.8
CLZ Clausthal 82.96 322 *e*P **P** **17 10 08.0 +0.3**
CLZ pmax pmax
comp=Z,99nm,1.0s,mb5.8
VALM 82.96 314 P **P** **17 10 07.5 -0.4**
NAO01 NORSAR Array S 82.97 331 *e*P **P** **17 10 07.1 -0.5**
comp=Z,26nm,0.8s,mb5.3
NAO01 LR LR
comp=Z,1μm,20.0s,MS5.2
HDH Heidenheim 83.01 318⇑ *e*P **P** **17 10 07.8 -0.3**
VINC Vinca 83.02 314 P **P** **17 10 07.5 -0.8**
BSEG Bad Segeberg 83.04 324 *e*P **P** **17 10 08.5 +0.4**
BSEG pmax pmax
comp=Z,140nm,1.0s,mb6.0
UBR Uberruh 83.07 317⇑ *e*P **P** **17 10 08.3 -0.1**
BACM 83.08 314 P **P** **17 10 08.3 -0.2**
GRAM 83.09 314 P **P** **17 10 08.5 0.0**
BERNI Berninapass 83.12 316⇑ *i*P **P** **17 10 09.6 +0.9**
DAVOX Davos 83.22 316 P **P** **17 10 10.0 +0.8**
comp=Z,121nm,0.5s,mb6.2,baz=124,slow=4.8,SNR=254
DAVOX S S 17 20 24.1 +0.4
comp=Z,21nm,1.1s,baz=37,slow=22,SNR=16
DAVOX Davos 83.22 316⇑ *i*P **P** **17 10 09.9 +0.7**
DAVOX Davos 83.22 316⇑ *i*P **P** **17 10 10.0 +0.8**
DAVA Damuels 83.22 317⇑ *i*P **P** **17 10 09.6 +0.4**
comp=Z,581nm,2.8s,mb6.1
CODM 83.24 314 P **P** **17 10 08.9 -0.4**
RPZ Rata Peaks 83.25 135 LR LR 17 46 20.6
comp=Z,2μm,19.9s,MS5.5,baz=199,slow=35
SIND Sindeldorf 83.41 319⇑ *e*P **P** **17 10 10.4 +0.3**
VDL Val di Lei 83.50 316⇑ *i*P **P** **17 10 10.9 +0.3**
VDL Val di Lei 83.50 316*c i*P **P** **17 10 10.9 +0.3**
PLONS Plons 83.56 317⇑ *i*P **P** **17 10 11.3 +0.4**
KONO Kongsberg 83.57 329 *e*P **P** **17 10 11.3 +0.6**
KONO *e*PP PP 17 13 19.9 -5.4
KONO *eS* S 17 20 27.6 +0.7
KONO Kongsberg 83.57 329 P **P** **17 10 11.0 +0.3**
KONO pmax pmax
comp=Z,110nm,1.1s,mb5.9
VSL Villasalto 83.64 309 *e*P **P** **17 10 11.4 -0.1**
comp=Z,73nm,1.0s,mb5.8
STU Stuttgart 83.68 318 *e*P **P** **17 10 11.5 0.0**
comp=Z,52nm,0.8s,mb5.7
STU Stuttgart 83.68 318 P **P** **17 10 11.6 +0.1**
STU pmax pmax
comp=Z,52nm,0.9s,mb5.7
QRZ Quartz Range 83.69 132 PN **P** **17 10 11.9 +0.2**
MUD Monsted U'grnd 83.74 326 *i* S S 17 20 30.7 +2.0
comp=Z,560nm,19.0s
MUD Monsted U'grnd 83.74 326 *i* P **P** **17 10 12.3 +0.7**
comp=Z,52nm,0.8s,mb5.7
MUD *i* S S 17 20 30.7 +2.0
MUD Monsted U'grnd 83.74 326 *i* P **P** **17 10 12.3 +0.7**
MUD *i* S S 17 20 30.7 +2.0
MUD pmax pmax
comp=Z,52nm,0.8s,mb5.7
MUD MLR MLR
comp=Z,570nm,19.0s,MS5.0
GUT Gutenstein 83.74 318⇑ *e*P **P** **17 10 11.8 0.0**
MUGIO Muggio 83.80 316⇑ *i*P **P** **17 10 11.4 -0.8**
LLS Linth-Limmern 83.82 316⇑ *i*P **P** **17 10 12.4 +0.2**
LLS Linth-Limmern 83.82 316⇑ *i*P **P** **17 10 12.5 +0.3**
LLS Linth-Limmern 83.82 316*c i*P **P** **17 10 12.5 +0.3**
PGF Pioggiola 83.88 312⇑ *i*P **P** **17 10 12.9 +0.3**
comp=Z,50nm,0.8s,mb5.4
DOMB Dombas 83.89 332 *e*P **P** **17 10 12.7 +0.5**
DOMB AMb AMB 17 10 16.7
comp=Z,102nm,1.4s,mb5.8
DOMB *e* pP 17 10 24.8 -2.9
DOMB Dombas 83.89 332 *e*P **P** **17 10 12.7 +0.5**
comp=Z,102nm,1.4s,mb5.8
LTZ Lake Taylor 83.91 134 *e*PN **P** **17 10 12.7 -0.1**
TOD Tromm 83.94 319 *e*P **P** **17 10 12.9 +0.2**
TOD Tromm 83.94 319 *e*P **P** **17 10 12.8 +0.1**
LBG Lerchenberg 83.95 318 *e*P **P** **17 10 12.9 +0.1**
SPAK Spaichingen 83.96 318 *e*P **P** **17 10 13.2 +0.3**
KBS Kingsbay 83.96 349 *e*P **P** **17 10 12.1 -0.2**
KBS *e*PP PP 17 13 27.2 -0.9
KBS AMS AMS 17 54 50.6
comp=Z,1μm,21.5s,MS5.2
KBS Kingsbay 83.96 349 *e*P **P** **17 10 12.1 -0.2**
KBS LR LR
comp=Z,2μm,20.0s,MS5.6
SWS Schriesheim 84.00 319⇑ *e*P **P** **17 10 13.3 +0.2**
MUO Muotathal 84.07 317⇑ *i*P **P** **17 10 14.0 +0.5**
THZ Tophouse 84.16 133 PN **P** **17 10 13.5 -0.5**
THZ pP pP 17 10 24.5 -5.2
SLE Schleitheim 84.16 317⇑ *i*P **P** **17 10 13.6 -0.3**
SLE Schleitheim 84.16 317*c i*P **P** **17 10 13.6 -0.3**
TNS Taunus Mts 84.16 320 *e*P **P** **17 10 14.3 +0.4**
comp=Z,64nm,0.9s,mb5.8
TNS Taunus Mts 84.16 320 *e*P **P** **17 10 14.3 +0.4**
TNS pmax pmax
comp=Z,64nm,0.9s,mb5.8
PCP Pian Castagno 84.17 314 P **P** **17 10 13.4 -0.7**

BFO Black Forest 84.26 318 *e*P **P 17 10 14.2 -0.2**
comp=Z,105nm,1.5s,mb5.8
BFO Black Forest 84.26 318 *e*P **P 17 10 14.2 -0.2**
BFO pmax pmax
comp=Z,105nm,1.5s,mb5.8
HASLI Hasliberg 84.41 316⇑*i*P **P 17 10 15.4 +0.2**
KTD Kalmit 84.41 319 *e*P **P 17 10 15.0 -0.1**
KTD Kalmit 84.41 319 *e*P **P 17 10 14.9 -0.2**
SULZ Sulz-Cheisache 84.42 317⇑*i*P **P 17 10 14.9 -0.3**
FIN Finale Ligure 84.42 314 P **P 17 10 15.2 -0.1**
FELD Feldberg 84.49 318 *e*P **P 17 10 15.5 0.0**
KIZ Kirchzarten 84.54 318⇑*e*P **P 17 10 15.6 -0.2**
ORX Oropa 84.55 315 P **P 17 10 14.1 -1.8**
LANF Langenberg 84.60 319 *e*P **P 17 10 16.5 +0.4**
MOL Molde 84.60 332⇑*i*P **P 17 10 16.9 +1.1**
MOL AMb AMB 17 10 21.3
comp=Z,190nm,1.4s,mb6.0
MOL Molde 84.60 332⇑*i*P **P 17 10 16.9 +1.1**
comp=Z,190nm,1.4s,mb6.0
IMI Imperia 84.66 314 P **P 17 10 16.1 -0.4**
ROB Roburent 84.66 314 P **P 17 10 15.9 -0.6**
BALST Balsthal 84.71 317⇑*i*P **P 17 10 16.7 0.0**
TRAV 84.72 315 P **P 17 10 15.2 -1.6**
ABH Alteburg 84.75 320 *e*P **P 17 10 17.4 +0.6**
ABH Alteburg 84.75 320 *e*P **P 17 10 17.5 +0.7**
LIBD Limburg 84.75 318 *e*P **P 17 10 17.6 +0.7**
LIBD Limburg 84.75 318 *e*P **P 17 10 18.4 +1.5**
LKBD Leukerbad 84.78 316⇑*i*P **P 17 10 17.6 +0.6**
NEGI Negi 84.80 313 P **P 17 10 17.0 -0.2**
SNART Snartemo 84.80 328 *e*P **P 17 10 17.4 +0.6**
SNART AMb AMB 17 10 21.9
comp=Z,75nm,1.3s,mb5.7
SNART Snartemo 84.80 328 *e*P **P 17 10 17.4 +0.6**
comp=Z,75nm,1.3s,mb5.7
BBS Basel-Blauen 84.83 317 *e*P **P 17 10 17.3 0.0**
BBS Basel-Blauen 84.83 317 *e*P **P 17 10 18.4 +1.1**
WLS Welschbruch 84.91 318 *e*P **P 17 10 17.6 0.0**
DIX Grande Dixence 84.94 316⇑*i*P **P 17 10 18.9 +1.1**
DIX Grande Dixence 84.94 316*c*P **P 17 10 18.9 +1.1**
CDF Champ du Feu 84.96 318⇑*i*P **P 17 10 17.8 -0.1**
comp=Z,52nm,1.0s,mb5.3
ENR Entracque 84.99 314 P **P 17 10 17.9 -0.3**
SBF Sospel 84.99 313⇑*i*P **P 17 10 18.5 +0.3**
comp=Z,168nm,0.7s,mb6.0
AUTN L'Aution 84.99 314 *e*P **P 17 10 21.0 +2.8**
AUTN L'Aution 84.99 314 *e*P **P 17 10 18.8 +0.6**
AUTN L'Aution 84.99 314 *e*P **P 17 10 18.8 +0.6**
SENIN Lac Senin 85.01 316⇑*i*P **P 17 10 18.7 +0.5**
REVF Revere 85.04 313 *e*P **P 17 10 17.9 -0.5**
ECH Echery 85.05 318 *e*P **P 17 10 18.7 +0.4**
STV2 Anna di Valdie 85.06 314 P **P 17 10 18.3 -0.2**
STV Sta Anna Valdi 85.06 314 P **P 17 10 17.3 -1.2**
MOF Molkenrain 85.07 317 *e*P **P 17 10 18.6 +0.1**
RSP Reno Superiore 85.07 315 P **P 17 10 16.8 -1.7**
ODD1 Odda 85.08 330 *e*P **P 17 10 18.1 -0.1**
ODD1 AMb AMB 17 10 22.3
comp=Z,107nm,1.7s,mb5.7
ODD1 Odda 85.08 330 *e*P **P 17 10 18.1 -0.1**
comp=Z,107nm,1.7s,mb5.7
BHB Bricherasio 85.08 314 P **P 17 10 16.7 -1.9**
TOUF Mont Tournerai 85.12 314 *e*P **P 17 10 19.4 +0.6**
LSD Ceresole Reale 85.14 315 P **P 17 10 18.1 -0.7**
WTSB Winterswijk 85.17 322⇑*i*P **P 17 10 19.2 +0.4**
WTSB *i* x x 17 10 21.1
comp=Z,70nm,1.7s
WTSB *i* x x 17 10 36.2
BLS5 Blasjo 85.17 329⇑*i*P **P 17 10 20.6 +1.9**
BLS5 AMb AMB 17 10 24.9
comp=Z,101nm,1.1s,mb5.9
BLS5 Blasjo 85.17 329⇑*i*P **P 17 10 20.6 +1.9**
comp=Z,101nm,1.1s,mb5.9
MVIF Mont Vial 85.19 314 *e*P **P 17 10 19.4 +0.2**
WIT Witteveen 85.22 322⇑*e*P **P 17 10 22.2 +3.1**
comp=Z,411nm,1.5s,mb6.3
WIT *ex* x 17 10 38.4
SALAN Lac Salanfe 85.24 316⇑*i*P **P 17 10 19.9 +0.6**
ABSA Djebel Ababsia 85.25 306 P **P 17 10 21.0 +1.4**
HINF Hinteralfeld 85.26 317⇑*i*P **P 17 10 18.9 -0.5**
comp=Z,19nm,0.6s,mb5.1
CMAH Djebel Manchou 85.28 306 P **P 17 10 20.5 +0.7**
LOMF Lomont 85.30 317 *e*P **P 17 10 19.7 +0.1**
CALN Calern 85.39 313 *e*P **P 17 10 20.8 +0.7**
SNZO South Karori 85.40 132 PFAKE 17 10 30.0 +10
SNZO LR LR
comp=Z,2µm,22.0s,MS5.5
RRL Cesana Torines 85.42 315 P **P 17 10 18.4 -1.8**
LPG La Plagne 85.42 315⇑*i*P **P 17 10 20.9 +0.7**
comp=Z,71nm,0.6s,mb5.7
LPL La Plagne 85.43 315⇑*i*P **P 17 10 20.9 +0.6**
comp=Z,109nm,0.7s,mb5.8
MBDF Montbardon 85.43 314⇑*i*P **P 17 10 20.1 -0.2**
comp=Z,50nm,0.6s,mb5.5
BNI Bardonecchia 85.49 315 *e*P **P 17 10 19.8 -0.8**
comp=Z,44nm,0.8s,mb5.7
BNI Bardonecchia 85.49 315 P **P 17 10 20.7 +0.1**
BNI pmax pmax
comp=Z,45nm,0.9s,mb5.6
FRF La Foret Royal 85.57 313⇑*i*P **P 17 10 21.5 +0.5**
comp=Z,137nm,1.1s,mb5.8
HAU Haudompre 85.60 318⇑*i*P **P 17 10 21.0 0.0**
comp=Z,174nm,1.0s,mb5.9
HAU *e*R
comp=Z,344nm,22.2s
WLF Walferdange 85.66 319 *e*P **P 17 10 21.7 +0.4**
comp=Z,146nm,1.5s,mb6.0
WLF *e*PcP PcP 17 10 24.2 -0.5
WLF Walferdange 85.66 319 P **P 17 10 22.4 +1.1**
WLF pmax pmax
comp=Z,150nm,1.5s,mb6.0
LMR La Mourre 85.68 313⇑*i*P **P 17 10 21.9 +0.3**
comp=Z,87nm,1.1s,mb5.6
GIMEL Gimel 85.71 316⇑*i*P **P 17 10 22.2 +0.6**
CAEH 'Ain El Ouahch 85.73 306 P **P 17 10 24.0 +2.0**
HGN Heimansgroeve 85.75 320 *e*P **P 17 10 22.4 +0.6**
comp=Z,33nm,1.5s,mb5.3
HGN *e*PP PP 17 13 42.7 -0.2
HGN *e*PPP PPP 17 15 33.3 -6.7
HGN *ex* x 17 17 27.2
HGN *e*S S 17 20 48.5 -0.1
HGN *e*SS SS 17 26 26.0 -3.5
HGN *e*SSS SSS 17 30 39.9 +41
HGN x 17 33 23.6
KMY Karmoy 85.80 329 *e*P **P 17 10 22.3 +0.5**
KMY AMb AMB 17 10 26.6
comp=Z,142nm,1.6s,mb6.0
KMY Karmoy 85.80 329 *e*P **P 17 10 22.3 +0.5**
comp=Z,142nm,1.6s,mb6.0
FOO Floro 85.80 331 *e*P **P 17 10 22.2 +0.5**
FOO AMb AMB 17 10 26.7
comp=Z,121nm,2.0s,mb5.8
FOO Floro 85.80 331 *e*P **P 17 10 22.2 +0.5**
comp=Z,121nm,2.0s,mb5.8
THEF They Montfort 85.83 318 *e*P **P 17 10 22.2 0.0**
CABF La Chapelle 85.83 316⇑*i*P **P 17 10 22.8 +0.6**
comp=Z,94nm,0.8s,mb5.8
CKFL Kef-Lekhel 85.85 306 P **P 17 10 24.5 +1.9**
CASM Ain Smara 86.04 306 P **P 17 10 25.0 +1.5**
ORIF Oris-en-Rattie 86.06 315⇑*i*P **P 17 10 23.5 +0.1**
comp=Z,41nm,0.6s,mb5.5
ORIF *e*R
comp=Z,886nm,21.8s
SMRF Simiane la Rot 86.33 314⇑*i*P **P 17 10 25.7 +1.0**
comp=Z,204nm,1.5s,mb5.8
BKZ Black Stump Fm 86.38 130 *e*PN **P 17 10 24.4 -0.7**
MEZF Maizieres J'vi 86.44 318⇑*i*P **P 17 10 25.3 +0.2**
OCF Saint Nazaire 86.49 314 *e*P **P 17 10 26.3 +0.8**
OG26 St.-Nazaire-De 86.49 314 *e*P **P 17 10 26.3 +0.8**
GIVF Givet 86.50 320⇑*i*P **P 17 10 25.8 +0.4**
comp=Z,48nm,0.9s,mb5.4
DFRA Djebel Bou Aff 86.52 306 P **P 17 10 27.5 +1.6**
CMER Merouana 86.56 305 P **P 17 10 23.5 -2.6**
URZ Urewera 86.72 129 *e*PN **P 17 10 23.5 -3.2**
URZ pP pP 17 10 34.2 -8.3
BAIF Baives 86.89 320⇑*i*P **P 17 10 28.0 +0.7**
comp=Z,114nm,1.0s,mb5.8
VIVF Saint-Julien-l 86.92 315⇑*i*P **P 17 10 28.0 +0.4**
comp=Z,66nm,0.9s,mb5.5
SET Setif 86.93 306 P **P 17 10 30.0 +2.1**
MWZ Matawai 87.06 129 PN **P 17 10 27.6 -0.8**
LOR Lormes 87.32 317⇑*i*P **P 17 10 29.6 +0.1**
comp=Z,118nm,1.0s,mb5.8
LOR *e*R
comp=Z,634nm,22.8s
SMF Signal de Mont 87.38 316⇑*i*P **P 17 10 29.9 +0.1**
comp=Z,72nm,0.7s,mb5.7
LASF Ste Croix 87.56 314⇑*i*P **P 17 10 31.3 +0.6**
comp=Z,247nm,1.5s,mb5.9
COLF Collangettes 87.56 315 *e*P **P 17 10 31.3 +0.6**
SSF Saint Saulge 87.58 317⇑*i*P **P 17 10 31.0 +0.3**
comp=Z,19nm,0.6s,mb5.2
PLDF La Plantade 87.58 316 *e*P **P 17 10 32.4 +1.6**
AVF Avril sur Loir 87.70 317⇑*i*P **P 17 10 31.4 +0.1**
comp=Z,74nm,1.1s,mb5.5
AGO Saint Agoulin 87.91 316 *e*P **P 17 10 34.0 +1.6**
PYM Petit Puy Mans 88.03 316 *e*P **P 17 10 34.6 +1.7**
BGF Bois d'Agland 88.07 316⇑*e*P **P 17 10 33.6 +0.5**
comp=Z,100nm,1.0s,mb5.7
MENF Mencas 88.17 320 *e*P **P 17 10 34.0 +0.6**
VERF Verneugheol 88.39 316 *e*P **P 17 10 35.5 +0.9**
TCF Toulx Ste Croi 88.53 316⇑*i*P **P 17 10 35.8 +0.5**
comp=Z,84nm,1.2s,mb5.6
CAF Calviac 88.76 315⇑*i*P **P 17 10 37.3 +0.9**
comp=Z,43nm,0.9s,mb5.5
ABA Alger-Bouzarea 88.78 307 P **P 17 10 35.0 -1.7**
MTLF Montolieu 88.80 313⇑*i*P **P 17 10 37.3 +0.6**
comp=Z,43nm,1.0s,mb5.5
EMHD Djebel Mahouad 88.90 306 P **P 17 10 41.5 +4.2**
LRW Lerwick 88.96 330 *e*P **P 17 10 38.1 +1.1**
RJF Les Rejaudoux 89.11 315 *e*P **P 17 10 38.9 +0.8**
comp=Z,103nm,1.2s,mb5.8
RJF *e*R
comp=Z,606nm,22.5s
WAL1 Walls 89.16 330 *e*P **P 17 10 38.9 +1.0**
LFF La Frestale 89.70 315⇑*i*P **P 17 10 41.8 +1.0**
comp=Z,109nm,1.2s,mb5.8
RAO Raoul Island 89.72 119 PFAKE 17 10 50.0 +8.7
RAO LR LR
comp=Z,1µm,19.0s,MS5.4
VNDA Vanda 89.79 168 P **P 17 10 41.5 +0.9**
comp=Z,4.7nm,1.1s,mb4.7,baz=311,slow=5.4,SNR=10
VNDA PKKPbc 17 28 13.8
comp=Z,1.5nm,1.1s,baz=144,slow=1.3,SNR=3.8
VNDA LR LR 17 49 35.9
comp=Z,2µm,18.3s,MS5.5,baz=302,slow=35
VNDA Vanda 89.79 168 *e*P **P 17 10 41.1 +0.5**
comp=Z,36nm,1.5s,mb5.5
VNDA LR LR
comp=Z,2µm,19.0s,MS5.5
VNDA Vanda 89.79 168 P **P 17 10 41.7 +1.1**
VNDA pmax pmax
comp=Z,36nm,1.4s
LDF La Druitiere 89.85 319⇑*i*P **P 17 10 42.0 +0.5**
comp=Z,112nm,0.9s,mb5.9
JMIC Jan Mayen 89.87 341 P **P 17 10 42.8 +1.8**
comp=Z,70nm,0.6s,mb6.2,baz=289,slow=2.5,SNR=8.8
JMIC Jan Mayen 89.87 341 *e*P **P 17 10 42.8 +1.8**
JMIC *e*SKSa 17 21 05.3
JMIC AMS AMS 17 56 52.5
comp=Z,826nm,22.5s,MS5.1
EBNR Beni Rached 90.03 306 P **P 17 10 47.0 +4.4**
FLN La Foliniere 90.07 319⇑*i*P **P 17 10 43.0 +0.5**
comp=Z,177nm,1.0s,mb6.0
FLN *e*R
comp=Z,761nm,21.8s
MFF Saint Martin d 90.11 317⇑*i*P **P 17 10 43.3 +0.6**
comp=Z,126nm,1.1s,mb5.9
KBI1 Birley Grange 90.12 323 *e*P **P 17 10 42.6 +0.1**
ECHA Ech Chlef 90.18 306 P **P 17 10 47.5 +4.2**
ECHF Ech Chlef 90.20 306 P **P 17 10 47.5 +4.1**
EPF Esparros 90.20 313⇑*i*P **P 17 10 43.8 +0.6**
comp=Z,24nm,1.1s,mb5.1
LHO Holmfirth 90.27 324⇑*e*P **P 17 10 43.8 +0.5**
ETRT Tiaret 90.32 305 P **P 17 10 48.5 +4.5**
KWE Weaver Farm 90.34 323⇑*e*P **P 17 10 44.1 +0.4**
GRR Gorron 90.36 318⇑*i*P **P 17 10 44.5 +0.6**
comp=Z,209nm,1.5s,mb6.0
EANR 'Ain N'Sour 90.42 306 P **P 17 10 49.5 +5.1**
MCD Coleburn Disti 90.42 328 *e*P **P 17 10 43.6 -0.3**
EBL Broad Law 90.60 326 *e*P **P 17 10 45.2 +0.4**
EBL AMb AMB 17 10 49.1
comp=Z,66nm,1.9s,mb5.6
DAG Danmarks Havn 90.62 348*j iP* **P 17 10 44.0 -0.5**
comp=Z,22nm,0.5s,mb5.7
comp=Z,1µm,21.0s
DAG Danmarks Havn 90.62 348 *i* Pdu **P 17 10 44.0 -0.5**
comp=Z,22nm,0.5s,mb5.7
DAG LR LR
comp=Z,1µm,21.0s,MS5.4
DAG Danmarks Havn 90.62 348*j iP* **P 17 10 44.0 -0.5**
DAG pmax pmax
comp=Z,22nm,0.5s,mb5.7
DAG MLR MLR
comp=N,860nm,21.0s,MS5.3
DAG MLR MLR
comp=Z,1µm,21.0s,MS5.4
DAG MLR MLR
comp=E,850nm,20.0s,MS5.3
ECK Cauldkaine Hil 90.75 325⇑*e*P **P 17 10 45.9 +0.4**
ECK AMb AMB 17 10 50.0
comp=Z,83nm,2.2s,mb5.7
ESK Eskdalemuir 90.77 326 *e*P **P 17 10 46.2 +0.6**
comp=Z,38nm,1.0s,mb5.7
ESK LR LR
comp=Z,205nm,20.0s,MS4.6
EAU Auchinoon 90.82 326 *e*P **P 17 10 47.2 +1.4**
EAU AMb AMB 17 10 57.2
comp=Z,63nm,1.5s,mb5.7
MVH1 Achvaich 90.85 328⇑*e*P **P 17 10 46.4 +0.4**
ETSF Etsaut 90.87 313 *e*P **P 17 10 47.5 +1.1**
comp=Z,48nm,0.9s,mb5.5
SBA Scott Base 90.89 168 *e*P **P 17 10 46.5 +0.8**
comp=Z,3.4nm,0.3s,mb5.2
SBA LR LR
comp=Z,1µm,20.0s,MS5.3
MDO Dochfour 91.03 328⇑*e*P **P 17 10 47.3 +0.5**
LARF Larrau 91.17 313 *e*P **P 17 10 49.1 +1.3**
EAB Aberfoyle 91.25 327 *e*P **P 17 10 48.1 +0.3**
EAB AMb AMB 17 10 52.9
comp=Z,82nm,1.8s,mb5.8
SJPF Ste Jean 91.33 313⇑*i*P **P 17 10 49.6 +1.1**
comp=Z,68nm,1.0s,mb5.6
SGMF Saint Gilles 91.51 319⇑*i*P **P 17 10 49.6 +0.4**
comp=Z,88nm,1.1s,mb5.7
KAC Achnashellach 91.52 328 *e*P **P 17 10 49.4 +0.4**
KPL Plockton 91.74 328 *e*P **P 17 10 50.3 +0.2**
KAR1 Arisaig 91.92 327 *e*P **P 17 10 51.1 +0.3**
HSA Swansea 91.94 322 *e*P **P 17 10 51.7 +0.6**
QUIF Quistinic 91.96 318⇑*i*P **P 17 10 51.5 +0.2**
comp=Z,117nm,1.2s,mb5.8
ROSF Rostrenen 91.97 319⇑*i*P **P 17 10 51.9 +0.6**
comp=Z,95nm,1.1s,mb5.7
ESDC Sonseca Array 93.88 310 P **P 17 11 01.1 +0.8**
comp=Z,4.4nm,0.6s,mb5.1,baz=62,slow=4.0,SNR=38
ESLA Sonseca Array 93.88 310 *e*P **P 17 11 00.8 +0.5**
comp=Z,8.7nm,1.3s,mb5.0
ESLA LR LR
comp=Z,3µm,20.0s,MS5.8
QSPA South Pole Qui 94.76 180 PFAKE 17 11 20.0 +17
QSPA LR LR
comp=Z,5µm,21.0s,MS6.0
SVW2 Sparrevohn 94.99 27 *e*P **P 17 11 06.0 +1.2**
CHGN Chignik 95.06 32 *e*P **P 17 11 05.9 +0.7**
SPU Mount Spurr 96.56 27 *e*P **P 17 11 12.1 +0.2**
BORG Borgarnes 96.57 337 PFAKE 17 11 20.0 +8.1
BORG LR LR
comp=Z,585nm,22.0s,MS5.0
COLA College 96.76 23 *e*P **P 17 11 10.2 -2.6**
COLA LR LR
comp=Z,80nm,22.0s
SNAA Sanae 97.06 198 P pP 17 11 30.8 +0.9
SNAA Sanae 97.06 198 sP 17 11 36.8 +1.4
ILAR Eielson Array 97.18 22 P **P 17 11 12.9 -1.7**
comp=Z,8.1nm,0.7s,mb5.3,baz=256,slow=6.6,SNR=7.0
ILAR PP PP 17 15 11.2 -2.8
comp=Z,3.0nm,0.8s,baz=296,slow=7.0,SNR=6.0
ILAR S 17 21 44.2
comp=Z,0.4nm,0.9s,baz=285,slow=4.4,SNR=4.3
ILAR LR LR 18 02 34.4
comp=Z,1µm,19.4s,MS5.5,baz=323,slow=40
SUMG Summit 97.29 347 *e*P **P 17 11 15.5 +0.4**
comp=Z,22nm,0.8s,mb5.6
KDAK Kodiak Island 97.59 30 PFAKE 17 11 30.0 +13
KDAK LR LR
comp=Z,401nm,21.0s,MS4.9
PMR Palmer 97.68 26 PFAKE 17 11 30.0 +13
PMR LR LR
comp=Z,2µm,19.0s,MS5.7
VNA2 Neumayer--Watz 98.62 199 P **P 17 11 35.4 +14**
VNA2 Neumayer--Watz 98.62 199 **P 17 11 39.3 +18**
VNA2 Neumayer--Watz 98.62 199 17 15 54.2
DBIC Dimbokro 99.28 278 LR LR 17 56 05.8
comp=Z,1µm,19.6s,MS5.4,baz=67,slow=35
DBIC Dimbokro 99.28 278 PFAKE 17 11 40.0 +15
DBIC LR LR
comp=Z,1µm,20.0s,MS5.5
VNA3 Neumayer Olymp 99.29 198 P **P 17 11 36.6 +12**
VNA3 Neumayer Olymp 99.29 198 PP 17 15 23.6 -6.2
VNA3 Neumayer Olymp 99.29 198 17 15 54.9
MENT Mentasta 99.30 23 *e*P **P 17 11 26.3 +2.0**
INK Inuvik 99.62 16 P **P 17 11 25.8 +0.1**
comp=Z,9.6nm,0.6s,mb5.4,baz=333,slow=3.9,SNR=6.1
INK Inuvik 99.62 16 *e*Pdif **P 17 11 26.1 +0.4**
comp=Z,18nm,0.8s,mb5.5
INK Inuvik 99.62 16 P **P 17 11 26.4 +0.7**
INK pmax pmax
comp=Z,18nm,0.9s
DAWY Dawson 100.33 21 *e*Pdif P 17 11 30.0 +1.0
RES Resolute Bay 100.37 3 *e*Pdif P 17 11 31.8 +2.8
comp=Z,26nm,0.9s
RES Resolute Bay 100.37 3 P P 17 11 32.6 +3.6
RES pmax pmax
comp=Z,26nm,0.9s
RAR Rarotonga 105.84 111 PFAKE 17 16 20.0
RAR LR LR
comp=Z,1.0nm,20.0s
SIT Sitka 106.07 26 PFAKE 17 16 20.0
SIT LR LR
comp=Z,3µm,22.0s,MS5.8
POHA Pohakuloa 106.45 68 PFAKE 17 16 20.0
POHA LR LR
comp=Z,11µm,21.0s,MS6.4
YKA Yellowknife Ar 109.13 14 Pdiff Pdif 17 12 10.6 +2.8
comp=Z,0.9nm,0.6s,baz=332,slow=4.7,SNR=4.9
YKA PKiKP 17 16 10.1
comp=Z,0.5nm,0.5s,baz=270,slow=2.8,SNR=3.8
YKA PP PP 17 16 38.6 -5.9
comp=Z,3.6nm,0.7s,baz=334,slow=7.5,SNR=9.2
CMLA Cha da Macela 110.55 313 PFAKE 17 16 30.0 +16
CMLA LR LR
comp=Z,4µm,20.0s,MS6.0
OCWA Octopus Mounta 117.31 29 PFAKE 17 16 40.0 +13
OCWA LR LR
comp=Z,1µm,21.0s,MS5.6
EDM Edmonton 117.38 19 *e*PKPdf PKPdf 17 16 28.1 +1.4
EDM Edmonton 117.38 19 PKIKP PKPdf 17 16 28.3 +1.6
PMSA Palmer Station 118.34 190 PFAKE 17 16 40.0 +12
PMSA LR LR
comp=Z,1µm,20.0s,MS5.5
SCHQ Schefferville 118.67 348 PKP PKPdf 17 16 30.3 +1.1
comp=Z,4.9nm,0.7s,baz=11,slow=2.0,SNR=9.5
SCHQ PP PP 17 17 49.9 -2.6
comp=Z,11nm,0.7s,baz=16,slow=6.3,SNR=7.8
SCHQ Schefferville 118.67 348 PKP PKPdf 17 16 30.3 +1.1
SCHQ PP PP 17 17 49.9 -2.6
SCHQ LR LR
comp=Z,2µm,21.0s,MS5.6
FFC Flin Flon 118.97 11 *e*PKPdf PKPdf 17 16 30.7 +0.9
FFC LR LR
comp=Z,622nm,22.0s,MS5.2
COR Corvallis 119.96 31 PFAKE 17 16 50.0 +18
COR LR LR
comp=Z,1µm,22.0s,MS5.5
NEW Newport 120.07 24 *e*PKPdf PKPdf 17 16 33.7 +1.6
NEW LR LR
comp=Z,2µm,20.0s,MS5.8
OD2 Odessa Site #2 120.08 26 P PKPdf 17 16 33.9 +1.7
VFP Flag Point 120.36 29 P PKPdf 17 16 35.0 +2.2
HAWA Hanford 120.47 27 *e*PKPdf PKPdf 17 16 34.9 +1.9
HAWA LR LR
comp=Z,99nm,20.0s,MS4.5
WALA Waterton Lakes 120.67 22 *e*PKPdf PKPdf 17 16 33.9 +0.7
VIPM Ingram Point 121.36 29 P PKPdf 17 16 36.8 +2.1
LNOR Lincton Mounta 121.43 27 P PKPdf 17 16 36.3 +1.5
HUMO Hull Mountain 121.52 32 *e*PKPdf PKPdf 17 16 37.0 +2.0
HUMO LR LR
comp=Z,1µm,22.0s,MS5.5
YBH Yreka Blue Hor 122.26 33 PFAKE 17 16 50.0 +13
YBH LR LR
comp=Z,888nm,20.0s,MS5.4
MSO Missoula 122.50 23 *e*PKPdf PKPdf 17 16 37.8 +1.0
MSO LR LR
comp=Z,2µm,19.0s,MS5.7
BMO Blue Mountains 122.65 27 *e*PKPdf PKPdf 17 16 37.5 +0.3
BMO LR LR
comp=Z,953nm,22.0s,MS5.4
BMO Blue Mountains 122.65 27 PKIKP PKPdf 17 16 38.4 +1.2
KIPM Iron Peak 123.14 35 *e*PKPdf PKPdf 17 16 40.7 +2.4
WDC Whiskeytown Da 123.15 34 *e*PKPdf PKPdf 17 16 39.0 +0.8
WDC LR LR
comp=Z,1µm,21.0s,MS5.5
WDC Whiskeytown Da 123.15 34 PKIKP PKPdf 17 16 40.2 +1.9
LTIM Timbered Crate 123.31 33 P PKPdf 17 16 40.4 +1.8
MOD Modoc 123.41 31 *e*PKPdf PKPdf 17 16 40.7 +2.0
MOD LR LR
comp=Z,2µm,21.0s,MS5.7
LBCM Butte Creek Ri 123.62 33 P PKPdf 17 16 41.1 +2.0
WVOR Wild Horse Val 123.86 30 *e*PKPdf PKPdf 17 16 41.8 +2.2
WVOR LR LR
comp=Z,1µm,20.0s,MS5.6
WVOR Wild Horse Val 123.86 30 PKIKP PKPdf 17 16 42.1 +2.5
HOPS Hopland 123.92 35 PFAKE 17 16 50.0 +10
HOPS LR LR
comp=Z,1µm,22.0s,MS5.4
DLMT Dillon 124.24 23 *e*PKPdf PKPdf 17 16 41.9 +1.6
DGMT Dagmar 124.29 15 PFAKE 17 16 50.0 +10
DGMT LR LR
comp=Z,2µm,21.0s,MS5.8
ULM Lac du Bonnet 124.32 9 PKP PKPdf 17 16 41.2 +1.0
comp=Z,18nm,0.7s,baz=358,slow=2.6,SNR=23
ULM Lac du Bonnet 124.32 9 *e*PKPdf PKPdf 17 16 40.9 +0.6
ULM LR LR
comp=Z,1µm,20.0s,MS5.6
BOZ Bozeman (W) 124.38 22 *e*PKPdf PKPdf 17 16 42.1 +1.6
BOZ LR LR
comp=Z,2µm,19.0s,MS5.8
BOZ Bozeman (W) 124.38 22 PKIKP PKPdf 17 16 42.2 +1.7
OHCM Honcut 124.59 34 *e*PKPdf PKPdf 17 16 42.8 +1.7
BEKR Beckwourth 124.84 33 *e*PKPdf PKPdf 17 16 43.5 +1.9
HLID Hailey 124.95 26 *e*PKPdf PKPdf 17 16 43.8 +2.1
HLID LR LR
comp=Z,2µm,22.0s,MS5.7
LAO LASA Array 125.33 18 *e*PKPdf PKPdf 17 16 43.7 +1.4
LAO *es*PKPdf 17 17 00.9
LAO LR LR
comp=Z,2µm,19.0s,MS5.8
YMR Madison River 125.45 23 *e*PKPdf PKPdf 17 16 45.3 +2.7
YNR Norris Junctio 125.52 22 *e*PKPdf PKPdf 17 16 46.0 +3.2
YFT Old Faithful 125.69 23 *e*PKPdf PKPdf 17 16 46.6 +3.5
LKWY Lake 125.76 22 PFAKE 17 17 00.0 +17
LKWY LR LR
comp=Z,3µm,21.0s,MS5.9
FLWY Flagg Ranch 126.05 23 *e*PKPdf PKPdf 17 16 46.4 +2.6
BMN Battle Mountai 126.07 30 *e*PKPdf PKPdf 17 16 46.6 +2.7
BMN LR LR
comp=Z,813nm,22.0s,MS5.3
BMN Battle Mountai 126.07 30 PKIKP PKPdf 17 16 48.2 +4.3
CMB Columbia Colle 126.11 35 *e*PKPdf PKPdf 17 16 45.9 +1.9
CMB LR LR
comp=Z,795nm,19.0s,MS5.4
IMW Indian Meadow 126.11 23 *e*PKPdf PKPdf 17 16 45.8 +1.9
SAO San Andreas Ge 126.37 36 PFAKE 17 17 00.0 +15
SAO LR LR
comp=Z,967nm,22.0s,MS5.4
RRI2 Red Ridge 126.42 24 *e*PKPdf PKPdf 17 16 46.5 +1.9
PQI Presque Isle 126.57 346 PFAKE 17 17 00.0 +15
PQI LR LR
comp=Z,7µm,19.0s,MS6.3
REDW Red Top Meadow 126.60 23 *e*PKPdf PKPdf 17 16 46.6 +1.7
REDW *e* 17 17 08.1
ELK Elko 126.80 29 *e*PKPdf PKPdf 17 16 47.5 +2.1
ELK SKPdf 17 20 19.6
ELK LR LR
comp=Z,1µm,22.0s,MS5.5
ELK Elko 126.80 29 PKIKP PKPdf 17 16 47.9 +2.6
LRV Little Rabbit 126.85 36 *e*PKPdf PKPdf 17 16 48.4 +2.9
NVAR Mina Array Bea 126.98 33 PKP PKPdf 17 16 48.6 +2.8
comp=Z,18nm,0.8s,baz=355,slow=1.8,SNR=48
AHID Auburn Hatcher 127.00 24 PFAKE 17 17 00.0 +14
AHID LR LR
comp=Z,2µm,19.0s,MS5.8
HVU Hansel Valley 127.10 26 *e*PKPdf PKPdf 17 16 47.6 +1.7
HVU Hansel Valley 127.10 26 PKIKP PKPdf 17 16 48.6 +2.7
BW06 Boulder Array 127.61 23 PFAKE 17 17 00.0 +13
BW06 LR LR

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2µm,22.0s,MS5.8						
PDAR	**Pinedale Array**	**127.61**	**23**	PKP	PKPdf	17 16 48.7	+1.9
	comp=Z,15nm,0.8s,baz=90,slow=3.0,SNR=39						
PDAR				SKP		17 20 21.9	
	comp=Z,2.7nm,1.1s,baz=297,slow=3.3,SNR=4.2						
MTUM	**Tungsten Hills**	**127.61**	**34**	*e*PKPdf	PKPdf	17 16 49.9	+2.9
HWUT	**Hardware Ranch**	**127.77**	**25**	*e*PKPdf	PKPdf	17 16 48.6	+1.5
HWUT				PP	PP	17 18 52.9	-0.6
HWUT				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
TPH	**Tonopah**	**127.82**	**32**	*e*PKPdf	PKPdf	17 16 50.0	+2.5
TPH				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
TPH	**Tonopah**	**127.82**	**32**	PKIKP	PKPdf	17 16 50.4	+3.0
EFI	**East Falkland**	**128.26**	**201**	PFAKE		17 17 00.0	+12
EFI				LR	LR		
	comp=Z,498nm,22.0s,MS5.2						
DUG	**Dugway**	**128.37**	**27**	*e*PKPdf	PKPdf	17 16 50.4	+2.0
DUG				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
DUG	**Dugway**	**128.37**	**27**	PKIKP	PKPdf	17 16 50.6	+2.2
ISA	**Isabella**	**128.87**	**35**	PFAKE		17 17 00.0	+11
ISA				LR	LR		
	comp=Z,261nm,20.0s,MS4.9						
DAC	**Darwin (Calif)**	**128.93**	**34**	*e*PKPdf	PKPdf	17 16 51.5	+2.0
DAC				LR	LR		
	comp=Z,928nm,22.0s,MS5.4						
DAC	**Darwin (Calif)**	**128.93**	**34**	PKIKP	PKPdf	17 16 52.1	+2.5
WVL	**Waterville**	**128.95**	**346**	PFAKE		17 17 00.0	+11
WVL				LR	LR		
	comp=Z,6µm,21.0s,MS6.2						
MPU	**Maple Canyon**	**129.04**	**26**	*e*PKPdf	PKPdf	17 16 51.1	+1.4
LBNH	**Lisbon**	**129.77**	**348**	PFAKE		17 17 00.0	+9.1
LBNH				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
TMUT	**Trail Mountain**	**129.82**	**27**	*e*PKPdf	PKPdf	17 16 53.7	+2.5
SNCC	**San Nicolas Is**	**129.90**	**38**	PFAKE		17 17 00.0	+8.5
SNCC				LR	LR		
	comp=Z,778nm,22.0s,MS5.4						
MSU	**Marysvale**	**130.01**	**28**	*e*PKPdf	PKPdf	17 16 54.1	+2.5
MSU	**Marysvale**	**130.01**	**28**	PKIKP	PKPdf	17 16 54.4	+2.8
MWC	**Mount Wilson**	**130.12**	**36**	*e*PKPdf	PKPdf	17 16 52.8	+0.9
MWC	**Mount Wilson**	**130.12**	**36**	PKIKP	PKPdf	17 16 55.7	+3.8
MIV	**Mineville/With**	**130.24**	**349**	*e*PKPdf	PKPdf	17 16 54.0	+2.1
MIV				*e*SKP		17 20 13.5	
SRU	**San Rafael**	**130.27**	**26**	*e*PKPdf	PKPdf	17 16 54.2	+2.2
SRU				SKPab		17 20 12.8	
SRU	**San Rafael**	**130.27**	**26**	PKIKP	PKPdf	17 16 54.8	+2.8
NEN	**Nelson**	**130.90**	**33**	*e*PKPdf	PKPdf	17 16 56.5	+3.2
NEN				*e*SKP		17 20 16.4	
RCBR	**Riachuelo**	**131.21**	**267**	PFAKE		17 17 10.0	+16
RCBR				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
HRV	**Harvard--Oak R**	**131.34**	**347**	PFAKE		17 17 10.0	+16
HRV				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
WES	**Weston**	**131.40**	**347**	PFAKE		17 17 10.0	+16
WES				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
PFO	**Pinyon Flat Ob**	**131.49**	**36**	*e*PKPdf	PKPdf	17 16 51.5	-3.0
PFO				*e*SKP		17 20 16.4	
PFO				LR	LR		
	comp=Z,252nm,21.0s,MS4.9						
PFO	**Pinyon Flat Ob**	**131.49**	**36**	PKIKP	PKPdf	17 16 53.2	-1.3
ISCO	**Idaho Springs**	**131.66**	**21**	*e*PKPdf	PKPdf	17 16 56.8	+2.1
ISCO				*e*SKPbc		17 20 19.0	
ISCO				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
ISCO	**Idaho Springs**	**131.66**	**21**	PKIKP	PKPdf	17 16 57.1	+2.4
SMCO	**Snowmass**	**131.69**	**23**	*e*PKPdf	PKPdf	17 16 58.3	+3.5
SMCO				*e*PP	PP	17 19 14.8	-4.5
SMCO				*e*SKPbc		17 20 17.0	
BINY	**Binghamton**	**132.49**	**351**	*e*PKPdf	PKPdf	17 16 57.6	+1.4
BINY				*e*PP	PP	17 19 19.2	-4.8
BINY				*e*SKPbc		17 20 20.4	
BINY				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
SDCO	**Great Sand Dun**	**133.50**	**23**	PFAKE		17 17 10.0	+12
SDCO				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
CBKS	**Cedar Bluff**	**134.45**	**16**	PFAKE		17 17 10.0	+10
CBKS				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
ACSO	**Alum Creek Sta**	**135.12**	**358**	*e*PKPdf	PKPdf	17 17 03.7	+2.6
ACSO				PP	PP	17 19 39.3	-1.4
ACSO				*e*SKPbc		17 20 30.6	
ACSO				LR	LR		
	comp=Z,865nm,21.0s,MS5.5						
MCWV	**Mont Chateau**	**135.48**	**354**	PFAKE		17 17 20.0	+18
MCWV				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
ANMO	**Albuquerque**	**135.53**	**26**	*e*PKPdf	PKPdf	17 17 03.5	+1.5
ANMO				*e*SKPbc		17 20 29.2	
ANMO				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
ANMO	**Albuquerque**	**135.53**	**26**	PKHKP		17 16 53.6	
CBN	**Corbin**	**136.61**	**351**	PFAKE		17 17 20.0	+16
CBN				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
CCM	**Cathedral Cave**	**136.92**	**7**	*e*PKPpre		17 16 59.0	
CCM				*e*PKPdf	PKPdf	17 17 04.4	-0.1
CCM				PP	PP	17 19 47.4	-4.2
CCM				*e*SKPbc		17 20 34.3	
CCM				LR	LR		
	comp=Z,1µm,22.0s,MS5.6						
CCM	**Cathedral Cave**	**136.92**	**7**	PKIKP	PKPdf	17 16 59.1	-5.4
WCI	**Wyandotte Cave**	**137.13**	**2**	PFAKE		17 17 20.0	+15
WCI				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
BLA	**Blacksburg**	**137.96**	**355**	PFAKE		17 17 20.0	+14
BLA				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
BBSR	**BB Station**	**138.30**	**334**	PFAKE		17 17 20.0	+13
BBSR				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
WMOK	**Wichita Mounta**	**138.52**	**17**	PFAKE		17 17 20.0	+13
WMOK				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
WMOK	**Wichita Mounta**	**138.52**	**17**	PKHKP		17 16 58.2	
MNTX	**Cornudas Mount**	**138.76**	**27**	*e*PKPpre		17 17 00.7	
MNTX				*e*PKPdf	PKPdf	17 17 09.8	+1.8
MNTX				PP	PP	17 19 56.9	-6.8
MNTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
WVT	**Waverly**	**139.16**	**4**	*e*PKPpre		17 17 02.9	
WVT				*e*PKPdf	PKPdf	17 17 09.5	+0.9
WVT				*e*SKPdf		17 20 40.9	
WVT				*e*SKPab		17 20 49.2	
WVT				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
WVT	**Waverly**	**139.16**	**4**	PKHKP		17 17 03.4	
PLAL	**Pickwick Lake**	**140.28**	**4**	PFAKE		17 17 20.0	+9.3
PLAL				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
MYNC	**Murphy**	**140.29**	**359**	PFAKE		17 17 20.0	+9.3
MYNC				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
OXF	**Oxford**	**140.63**	**6**	PFAKE		17 17 20.0	+8.6
OXF				LR	LR		
	comp=Z,918nm,20.0s,MS5.5						
TRQA	**Tornquist**	**140.89**	**209**	PFAKE		17 17 30.0	+18
TRQA				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
LTX	**Lajitas**	**141.54**	**27**	*e*PKPpre		17 17 11.3	
LTX				*e*PKPdf	PKPdf	17 17 16.1	+3.0
LTX				*e*SKPbc		17 20 47.9	
LTX				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
LTX	**Lajitas**	**141.54**	**27**	PKIKP	PKPdf	17 17 11.4	-1.7
TXAR	**Lajitas Array**	**141.54**	**27**	PKhKP		17 17 09.9	
	comp=Z,4.4nm,0.6s,baz=267,slow=0.8,SNR=21						
TXAR				PKP	PKPdf	17 17 15.8	+2.7
	comp=Z,13nm,0.7s,baz=160,slow=0.6,SNR=27						
TXAR				PP	PP	17 20 18.9	-1.7
	comp=Z,2.5nm,0.7s,baz=333,slow=2.8,SNR=4.5						
TXAR				SKPbc		17 20 47.3	
	comp=Z,3.6nm,0.7s,slow=1.3,SNR=4.1						
TXAR	**Lajitas Array**	**141.54**	**27**	PKP	PKPdf	17 17 09.9	-3.2
TXAR				PKP	PKPdf	17 17 15.8	+2.7
TXAR				PP	PP	17 20 18.9	-1.7
TXAR				SKPbc		17 20 47.3	
GOGA	**Godfrey**	**141.93**	**358**	PFAKE		17 17 30.0	+16
GOGA				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
NHSC	**New Hope**	**142.00**	**354**	PFAKE		17 17 30.0	+16
NHSC				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
PLCA	**Paso Flores**	**142.01**	**198**	PKhKP		17 17 10.6	
	comp=Z,3.2nm,0.7s,baz=348,slow=3.2,SNR=3.7						
PLCA				PKP	PKPdf	17 17 16.4	+2.8
	comp=Z,2.0nm,0.7s,baz=180,slow=1.0,SNR=1.5						
PLCA	**Paso Flores**	**142.01**	**198**	PKP	PKPdf	17 17 10.6	-2.9
PLCA				PKP	PKPdf	17 17 16.4	+2.8
PLCA				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
LRAL	**Lakeview Retre**	**142.28**	**3**	*e*PKPpre		17 17 09.6	
LRAL				*e*PKPdf	PKPdf	17 17 18.0	+3.8
LRAL				*e*PP	PP	17 20 21.0	-3.9
LRAL				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
NATX	**Nacogdoches**	**142.44**	**14**	*e*PKPdf	PKPdf	17 17 11.4	-3.2
NATX				*e*SKPbc		17 20 49.8	
NATX				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
CPUP	**Villa Florida**	**146.06**	**228**	PKPbc	PKPbc	17 17 23.6	+1.6
	comp=Z,11nm,0.9s,baz=116,slow=5.5,SNR=14						
CPUP	**Villa Florida**	**146.06**	**228**	*e*PKPdf	PKPdf	17 17 23.2	+2.2
CPUP				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
CPUP	**Villa Florida**	**146.06**	**228**	PKP2	PKPab	17 17 23.4	-1.3
DWPF	**Disney**	**147.07**	**354**	*e*PKPbc	PKPdf	17 17 26.4	+3.7
DWPF				*e*sPKPdf		17 17 41.8	
DWPF				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
DEG	**La Desirade**	**148.41**	**312**	*e*P	PKPdf	17 17 27.5	+2.4
BCG	**Bois Riant Cap**	**148.96**	**313**	*e*P	PKPdf	17 17 30.4	+4.5
LZG	**Guadaloupe-1**	**149.04**	**313**	*e*P	PKPdf	17 17 32.0	+5.9
TBG	**Guadaloupe-3**	**149.13**	**312**	*e*P	PKPdf	17 17 31.5	+5.3
SFJM	**Santa Fe**	**149.17**	**35**	*e*P	PKPdf	17 17 26.0	-0.2
MTP	**Monte Pirata**	**150.27**	**321**	*e*PKPbc	PKPdf	17 17 33.4	+5.4
CPD	**Cerro la Pandu**	**150.54**	**321**	*e*PKPbc	PKPdf	17 17 35.3	+6.9
CPD				*e*PKPab	PKPab	17 17 42.7	-0.2
CPD	**Cerro la Pandu**	**150.54**	**321**	PKIKP	PKPdf	17 17 27.6	-0.8
SJG	**San Juan**	**150.63**	**321**	*e*PKPbc	PKPdf	17 17 35.5	+7.0
SJG				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
SJG	**San Juan**	**150.63**	**321**	PKIKP	PKPdf	17 17 35.6	+7.1
MOIG	**Morelia**	**150.84**	**33**	*e*P	PKPdf	17 17 29.5	+0.7
UNM	**Universidad Na**	**152.18**	**30**	*e*P	PKPdf	17 17 32.0	+1.2
PPM	**Popocatepetl**	**152.67**	**29**	*e*P	PKPdf	17 17 33.0	+1.5
OXX	**Oaxaca**	**155.29**	**28**	*i* P	PKPdf	17 17 38.0	+2.9
LVC	**Limon Verde**	**156.52**	**220**	*e*P	PKPdf	17 17 36.4	-0.1
LVC				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
SAML	**Samuel**	**158.05**	**258**	*e*PKPdf	PKPdf	17 17 39.5	+0.6
SAML				*e*PKPab	PKPab	17 18 13.9	-1.0
SAML				LR	LR		
	comp=Z,1µm,21.0s,MS5.8						
LPAZ	**La Paz**	**159.99**	**234**	PKP	PKPdf	17 17 43.4	+2.4
	comp=Z,6.4nm,1.0s,baz=22,slow=4.6,SNR=17						
LPAZ				PKPab	PKPab	17 18 24.9	+1.8
	comp=Z,4.5nm,0.8s,baz=160,slow=9.4,SNR=4.9						
LPAZ	**La Paz**	**159.99**	**234**	*e*PKPdf	PKPdf	17 17 43.7	+2.8
LPAZ				sPKPdf		17 18 02.8	
LPAZ				*e*PKPab	PKPab	17 18 25.1	+2.0
LPAZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.8						
LPAZ	**La Paz**	**159.99**	**234**	PKIKP	PKPdf	17 17 43.9	+3.0
SDV	**Santo Domingo**	**160.29**	**314**	*e*PKPdf	PKPdf	17 17 42.4	+1.1
SDV				*e*PKPab	PKPab	17 18 24.7	+0.2
SDV				LR	LR		
	comp=Z,872nm,22.0s						
ROSC	**El Rosal**	**165.70**	**312**	PKP	PKPdf	17 17 48.2	+1.5
	comp=Z,19nm,0.6s,baz=97,slow=2.8,SNR=8.2						
ROSC				PKPab	PKPab	17 18 48.5	+0.5
	comp=Z,10nm,0.3s,baz=117,slow=1.5,SNR=2.2						
NNA	**Nana**	**169.32**	**228**	PFAKE		17 18 00.0	+11
NNA				LR	LR		
	comp=Z,314nm,22.0s						
PAYG	**Puerto Ayora**	**173.22**	**53**	PFAKE		17 18 00.0	+8.7
PAYG				LR	LR		
	comp=Z,1µm,22.0s						

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*NEIC **10** 17:36:55.8, 38.34S×176.03E, h169km, MG4.2(WEL), After WEL.*
WEL 10 17:36:55.6±0.3**, 38.34S**×**176.04E, h171**km±2km**, ML3.8**/8**, 15C, Error ellipse: s-maj=2.3km s-min=1.4km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.44**	**213**	⇑PN	P	17 37 19.3	-0.2
WATZ				SN	S	17 37 37.8	0.0
RITZ	**Rihia Road**	**0.65**	**193**	PN	P	17 37 20.4	0.0
RITZ	**Rihia Road**	**0.65**	**193**	P	P	17 37 20.4	0.0
KATZ	**Kakaramea**	**0.69**	**203**	⇑PN	P	17 37 20.4	-0.1
KATZ	**Kakaramea**	**0.69**	**203**	P	P	17 37 20.4	-0.2
URZ	**Urewera**	**0.84**	**85**	⇑PN	P	17 37 21.1	-0.4
URZ				SN	S	17 37 40.0	-1.4
URZ	**Urewera**	**0.84**	**85**	P	P	17 37 21.1	-0.4
WTVZ	**West Tongariro**	**0.85**	**204**	⇑PN	P	17 37 21.4	-0.1
WTVZ	**West Tongariro**	**0.85**	**204**	P	P	17 37 21.4	-0.1
TWVZ	**Taurewa**	**0.87**	**213**	⇑PN	P	17 37 21.4	-0.2
TWVZ	**Taurewa**	**0.87**	**213**	P	P	17 37 21.4	-0.2
OTVZ	**Oturere**	**0.87**	**200**	PN	P	17 37 21.6	0.0
BKZ	**Black Stump Fm**	**0.90**	**157**	⇑PN	P	17 37 21.8	+0.1
BKZ				SN	S	17 37 40.6	-1.4
BKZ	**Black Stump Fm**	**0.90**	**157**	P	P	17 37 21.8	0.0
BKZ				S	S	17 37 40.6	-1.4
NGZ	**Ngauruhoe**	**0.90**	**202**	PN	P	17 37 21.6	-0.2
CNZ	**Chateau**	**0.94**	**204**	PN	P	17 37 22.0	-0.1
CNZ	**Chateau**	**0.94**	**204**	P	P	17 37 22.0	-0.1
WPVZ	**Whakapapa**	**0.94**	**204**	⇑PN	P	17 37 22.1	-0.1
WPVZ	**Whakapapa**	**0.94**	**204**	P	P	17 37 22.1	0.0
HIZ	**Hauiti**	**0.95**	**259**	⇑PN	P	17 37 21.7	-0.5
HIZ				SN	S	17 37 41.7	-0.9
HIZ	**Hauiti**	**0.95**	**259**	P	P	17 37 21.7	-0.4
TUVZ	**Tukino**	**0.97**	**198**	⇑PN	P	17 37 22.3	0.0
TUVZ	**Tukino**	**0.97**	**198**	P	P	17 37 22.3	0.0
FWVZ	**Far West T-bar**	**0.99**	**203**	PN	P	17 37 22.3	-0.1
FWVZ	**Far West T-bar**	**0.99**	**203**	P	P	17 37 22.3	-0.1
TRVZ	**Turoa**	**1.03**	**202**	PN	P	17 37 22.8	0.0
WNVZ	**Wahianoa**	**1.04**	**199**	⇑PN	P	17 37 22.8	-0.1
WNVZ	**Wahianoa**	**1.04**	**199**	P	P	17 37 22.8	-0.1
MOVZ	**Moawhango**	**1.09**	**192**	⇑PN	P	17 37 22.7	-0.5
MOVZ	**Moawhango**	**1.09**	**192**	P	P	17 37 22.7	-0.6
PKVZ	**Pokaka**	**1.09**	**210**	⇑PN	P	17 37 22.9	-0.4
MTVZ	**Mangateitei**	**1.13**	**203**	PN	P	17 37 23.2	-0.4
MWZ	**Matawai**	**1.17**	**90**	PN	P	17 37 24.0	0.0
MWZ				SN	S	17 37 44.9	-1.0
MWZ	**Matawai**	**1.17**	**90**	P	P	17 37 24.0	0.0
MWZ				S	S	17 37 44.9	-1.0
VRZ	**Vera Road**	**1.27**	**232**	PN	P	17 37 24.3	-0.6
VRZ				SN	S	17 37 47.5	-0.1
VRZ	**Vera Road**	**1.27**	**232**	P	P	17 37 24.3	-0.7
KNZ	**Kokohu**	**1.45**	**118**	PN	P	17 37 26.8	+0.2
KNZ				SN	S	17 37 49.3	-1.3
KNZ	**Kokohu**	**1.45**	**118**	*e*P	P	17 37 26.8	+0.2
RAEZ	**Rainy Point**	**1.60**	**233**	PN	P	17 37 27.8	-0.3
RAEZ	**Rainy Point**	**1.60**	**233**	P	P	17 37 27.8	-0.3
WAZ	**Wanganui**	**1.63**	**210**	⇑PN	P	17 37 27.5	-1.0
WAZ	**Wanganui**	**1.63**	**210**	P	P	17 37 27.6	-0.9
TSZ	**Takapari Road**	**1.72**	**182**	PN	P	17 37 28.5	-0.8
TSZ	**Takapari Road**	**1.72**	**182**	*e*P	P	17 37 28.5	-0.8
PUZ	**Puketiti**	**1.77**	**82**	PN	P	17 37 29.2	-0.7
PUZ				SN	S	17 37 54.7	-1.6
PUZ	**Puketiti**	**1.77**	**82**	*e*P	P	17 37 29.6	-0.2
NEZ	**North Egmont**	**1.78**	**238**	PN	P	17 37 29.7	-0.2
NEZ	**North Egmont**	**1.78**	**238**	P	P	17 37 29.7	-0.3
PXZ	**Pawanui**	**1.80**	**160**	⇑PN	P	17 37 30.0	-0.3
PXZ				SN	S	17 37 55.4	-1.5
PKE	**Pukeiti**	**1.82**	**241**	PN	P	17 37 29.7	-0.7
PKE	**Pukeiti**	**1.82**	**241**	P	P	17 37 29.7	-0.7
BFZ	**Birch Farm**	**2.34**	**176**	PN	P	17 37 34.8	-1.6
MRZ	**Mangatainoka R**	**2.34**	**189**	⇑PN	P	17 37 34.5	-2.0
MRZ	**Mangatainoka R**	**2.34**	**189**	P	P	17 37 34.5	-1.9
KIW	**Kapiti Island**	**2.66**	**199**	PN	P	17 37 37.6	-2.7
KIW	**Kapiti Island**	**2.66**	**199**	P	P	17 37 37.6	-2.7
MTW	**Mount Morrison**	**2.84**	**188**	PN	P	17 37 39.6	-2.9
MTW	**Mount Morrison**	**2.84**	**188**	P	P	17 37 39.6	-2.9
CAW	**Cannon Point**	**2.86**	**195**	PN	P	17 37 39.9	-2.8
CAW	**Cannon Point**	**2.86**	**195**	P	P	17 37 39.9	-2.8
DUWZ	**D'Urville Isla**	**2.95**	**213**	PN	P	17 37 40.6	-3.2
MRW	**Makara Radio**	**3.06**	**199**	PN	P	17 37 42.1	-3.1
TRWZ	**Traveller**	**3.07**	**185**	PN	P	17 37 42.4	-2.9
PAWZ	**Paruwai Farm**	**3.07**	**189**	PN	P	17 37 42.4	-3.0
WEL	**Wellington**	**3.10**	**198**	PN	P	17 37 42.5	-3.2
WEL	**Wellington**	**3.10**	**198**	P	P	17 37 42.5	-3.2
MSWZ	**Moikau Station**	**3.13**	**191**	PN	P	17 37 42.8	-3.3
MSWZ	**Moikau Station**	**3.13**	**191**	P	P	17 37 42.8	-3.3
SNZO	**South Karori**	**3.14**	**199**	PN	P	17 37 42.7	-3.4
SNZO	**South Karori**	**3.14**	**199**	P	P	17 37 42.7	-3.5
SNZO				*e*		17 38 19.3	
TCW	**Tory Channel**	**3.17**	**205**	PN	P	17 37 43.3	-3.3
TCW	**Tory Channel**	**3.17**	**205**	P	P	17 37 43.3	-3.3
BHW	**Baring Head**	**3.19**	**196**	PN	P	17 37 43.4	-3.4
BHW	**Baring Head**	**3.19**	**196**	P	P	17 37 43.4	-3.5
TUWZ	**Tuamarina**	**3.48**	**207**	PN	P	17 37 46.6	-3.9
NNZ	**Nelson**	**3.53**	**215**	PN	P	17 37 47.0	-4.2
NNZ	**Nelson**	**3.53**	**215**	P	P	17 37 47.2	-3.9
QRZ	**Quartz Range**	**3.68**	**226**	*e*PN	P	17 37 48.5	-4.5
QRZ	**Quartz Range**	**3.68**	**226**	*e*P	P	17 37 48.5	-4.5
BSWZ	**Blackbirch Sta**	**3.76**	**206**	PN	P	17 37 50.5	-3.6
BSWZ				*e*SN	S	17 38 33.1	-5.9
BSWZ	**Blackbirch Sta**	**3.76**	**206**	P	P	17 37 50.5	-3.5
THZ	**Tophouse**	**4.18**	**214**	*e*PN	P	17 37 53.4	-6.1
THZ				SN	S	17 38 43.5	-5.2
THZ	**Tophouse**	**4.18**	**214**	*e*P	P	17 37 55.2	-4.3
KHZ	**Kahutara**	**4.50**	**204**	PN	P	17 37 59.6	-4.0
KHZ				SN	S	17 38 48.8	-7.3
KHZ	**Kahutara**	**4.50**	**204**	P	P	17 37 59.6	-4.0
DSZ	**Denniston Nort**	**4.71**	**222**	*e*PN	P	17 38 00.6	-5.7
DSZ				SN	S	17 38 54.2	-6.8
DSZ	**Denniston Nort**	**4.71**	**222**	*e*P	P	17 38 00.9	-5.4
LTZ	**Lake Taylor**	**5.28**	**212**	*e*PN	P	17 38 08.7	-5.2
LTZ	**Lake Taylor**	**5.28**	**212**	*e*P	P	17 38 08.7	-5.2
MQZ	**McQueen's Vall**	**5.94**	**204**	*e*PN	P	17 38 16.4	-6.1
MQZ	**McQueen's Vall**	**5.94**	**204**	*e*P	P	17 38 16.4	-6.1
RPZ	**Rata Peaks**	**6.56**	**213**	PN	P	17 38 25.2	-5.5
RPZ	**Rata Peaks**	**6.56**	**213**	P	P	17 38 25.2	-5.5
LBZ	**Lake Benmore**	**7.47**	**214**	*e*PN	P	17 38 36.1	-6.8
LBZ	**Lake Benmore**	**7.47**	**214**	*e*P	P	17 38 37.1	-5.7
ODZ	**Otahua Downs**	**7.82**	**209**	*e*PN	P	17 38 41.3	-6.1
ODZ	**Otahua Downs**	**7.82**	**209**	*e*P	P	17 38 41.7	-5.7
JCZ	**Jackson Bay**	**7.93**	**221**	PN	P	17 38 43.4	-5.5
JCZ	**Jackson Bay**	**7.93**	**221**	*e*P	P	17 38 43.4	-5.5
TUZ	**Tuapeka**	**8.97**	**210**	PN	P	17 38 57.7	-4.9
TUZ	**Tuapeka**	**8.97**	**210**	*e*P	P	17 38 57.7	-4.9
QSPA	**South Pole Qui**	**51.78**	**180**	P	P	17 45 46.0	-1.1

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*NEIC **10** 17:54:26.0±5.0, 4.76S×153.80E, h143km±33km, mb4.6/1, Error ellipse: s-maj=61.2km s-min=20.0km az=96.0*
*IDC **10** 17:54:27.5±7.0, 4.77S×153.68E, h153km±53km, mb3.8/6, mb1 4.0/7, mb1mx3.7/16, mbtmp4.3/7, Error ellipse: s-maj=61.6km s-min=25.7km az=93.0*
ISC 10 17:54:24.9±5.2**, 4.8S**±0.2×**153.8E**±0.3**, h150**km±41km**, n9,** σ**0^{s}68**/10**, mb3.9**/6**, 1C-1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.05**	**235**	P	**P**	**17 56 20.0**	**0.0**
	14nm,0.3s,baz=46,slow=11,SNR=64						
PMG				S	**S**	**17 57 49.7**	**0.0**
	5.0nm,0.3s,baz=71,slow=16,SNR=7.5						
WB2	**Warramunga Arr**	**24.21**	**230**	⇑*i*P	**P**	**17 59 30.2**	**+1.0**
WRA	**Warramunga Arr**	**24.22**	**230**	P	**P**	**17 59 29.9**	**+0.6**
	4.9nm,0.7s,mb4.2,baz=54,slow=10,SNR=70						
STKA	**Stephens Creek**	**29.28**	**202**	P	**P**	**18 00 15.0**	**-0.4**
	4.0nm,1.0s,mb4.1,baz=355,slow=12,SNR=2.1						
FITZ	**Fitzroy Crossi**	**30.57**	**242**	⇓*i*P	**P**	**18 00 25.6**	**-1.3**
	6.8nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.57**	**242**	P	**P**	**18 00 25.5**	**-1.5**
	7.9nm,0.6s,mb4.7,baz=63,slow=4.5,SNR=12						
SONM	**Songino Array**	**66.87**	**327**	P	**P**	**18 05 02.7**	**-0.3**
	0.3nm,0.4s,mb3.4,baz=138,slow=5.6,SNR=5.7						
MKAR	**Makanchi Array**	**81.00**	**319**	P	**P**	**18 06 25.1**	**+0.7**
	0.4nm,0.5s,mb3.3,baz=101,slow=6.4,SNR=6.7						
BVAR	**Borovoye Array**	**89.86**	**323**	P	**P**	**18 07 07.6**	**-0.2**
	1.3nm,0.7s,mb3.9,baz=68,slow=7.8,SNR=5.7						

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*MOS **10** 18:07:16.7±1.2, 35.80N×70.68E, h33km, mb4.2/6, Error ellipse: s-maj=13.5km s-min=7.3km az=97.2*
*BJI **10** 18:07:19.8, 36.03N×70.62E, h76km, mb4.3, Ms3.9*
*NEIC **10** 18:07:20.3±1.3, 35.91N×70.86E, h48km±12km, mb3.9/6, Error ellipse: s-maj=15.2km s-min=6.4km az=55.0*
*IDC **10** 18:07:24.4±7.3, 36.01N×70.97E, h84km±60km, mb3.6/10, mb1 3.8/12, mb1mx3.6/20, mbtmp3.9/12, ML3.6/2, Error ellipse: s-maj=42.9km s-min=18.9km az=21.0*
*NNC **10** 18:07:33.0±7.5, 36.73N×70.64E, h176km±75km, mpv4.5, Error ellipse: s-maj=67.5km s-min=43.7km az=37.0*
ISC 10 18:07:24.0±0.7**, 36.14N**±0.04×**70.92E**±0.08**, h90**km±7km**, n64,** σ**1^{s}10**/73**, mb3.9**/15**, 6C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.45**	**160**	⇓P	**P**	**18 08 04.1**	**+1.2**
CHCP	**Chirah Chowk**	**3.13**	**141**	P	**P**	**18 08 13.2**	**+0.8**
THW	**Thamme Wali**	**3.40**	**168**	P	**P**	**18 08 16.4**	**+0.3**
SARP	**Sargodha**	**4.45**	**160**	P	**P**	**18 08 29.2**	**-1.3**
KSH	**Kashi**	**5.23**	**48**	P	**P**	**18 08 44.4**	**+3.2**
KSH				S	**S**	**18 09 41.7**	**+0.9**
KSH				Smax			
	comp=N,140nm,0.4s						
KSH				Smax			
	comp=E,140nm,0.7s						
AML	**Almayashu**	**6.36**	**19**	P	**P**	**18 08 57.3**	**+0.5**
	SNR=72						
KZA	**Kyzart**	**6.82**	**28**	P	**P**	**18 09 03.7**	**+0.5**
	SNR=18						
EKS2	**Erkin-Say**	**6.88**	**18**	P	**P**	**18 09 04.3**	**+0.3**
	SNR=28						
KK31	**Karatay Array**	**6.96**	**358**	P	**P**	**18 09 04.2**	**-0.9**
	comp=E,17nm,0.4s,baz=187,slow=14,SNR=218						
KK31				⇓S	**S**	**18 10 18.2**	**-5.2**
	comp=E,91nm,0.5s						
KKAR	**Karatay Array**	**6.96**	**358**	*e*P	**P**	**18 09 04.2**	**-1.0**
KKAR				S	**S**	**18 10 18.1**	**-5.3**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KKAR				smax			
	comp=Z,143nm,0.7s						
AAK	**Ala-Archa**	**7.05**	**22**	P	**P**	**18 09 06.8**	**+0.5**
	SNR=32						
AAK	**Ala-Archa**	**7.05**	**22**	⇑P	**P**	**18 09 06.7**	**+0.3**
	comp=Z,12nm,0.3s						
AAK				⇓S	**S**	**18 10 24.2**	**-1.3**
	comp=Z,27nm,0.7s						
AAK	**Ala-Archa**	**7.05**	**22**	P	**P**	**18 09 06.6**	**+0.2**
AAK				S	**S**	**18 10 24.2**	**-1.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
AAK				smax			
	comp=Z,23nm,0.7s						
KBK	**Karagaybulak**	**7.22**	**24**	P	**P**	**18 09 09.4**	**+0.8**
	SNR=12						
CHMS	**Chumysh**	**7.46**	**22**	P	**P**	**18 09 12.4**	**+0.4**
	SNR=16						
USP	**Ospenovka**	**7.63**	**20**	P	**P**	**18 09 14.8**	**+0.4**
	SNR=18						
TKM2	**Tokmak 2**	**7.67**	**27**	P	**P**	**18 09 15.2**	**+0.3**
	SNR=28						
MK31	**Makanchi Array**	**13.62**	**35**	P	**P**	**18 10 33.1**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=213,slow=14,SNR=12						
MKAR	**Makanchi Array**	**13.62**	**35**	P	**P**	**18 10 33.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=220,slow=9.5,SNR=11						
GKN	**Gorkha**	**14.17**	**121**	*e*P	**P**	**18 10 36.9**	**-4.6**
	comp=Z,17nm,0.4s						
GKN	**Gorkha**	**14.17**	**121**	*e*P	**P**	**18 10 37.2**	**-4.3**
	comp=Z,17nm,0.4s						
GKN				*e*S	**S**	**18 13 04.6**	**-12**
GKN	**Gorkha**	**14.17**	**121**	*e*P	**P**	**18 10 37.2**	**-4.3**
DMN	**Daman**	**14.74**	**121**	*e*P	**P**	**18 10 44.9**	**-4.0**
	comp=Z,22nm,0.5s						
DMN	**Daman**	**14.74**	**121**	*e*P	**P**	**18 10 45.2**	**-3.7**
	comp=Z,22nm,0.5s						
KKN	**Kakani**	**14.74**	**120**	*e*P	**P**	**18 10 44.4**	**-4.6**
	comp=Z,20nm,0.6s						
KKN	**Kakani**	**14.74**	**120**	*e*P	**P**	**18 10 44.7**	**-4.3**
	comp=Z,21nm,0.6s						
KKN				*e*S	**S**	**18 13 18.3**	**-12**
KKN	**Kakani**	**14.74**	**120**	*e*P	**P**	**18 10 44.4**	**-4.6**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PKI	**Pulchoki**	**14.97**	**121**	*e*P	**P**	**18 10 48.2**	**-3.7**
PKI	**Pulchoki**	**14.97**	**121**	*e*P	**P**	**18 10 48.6**	**-3.3**
	comp=Z,23nm,0.6s						

AB31	**Akbulak array**	**15.37**	**332**	⇑P	**P**	**18 10 54.3**	**-2.5**
	comp=Z,4.0nm,0.3s						
AB31				⇑S	**S**	**18 13 33.5**	**-11**
	comp=Z,2.2nm,0.5s						
KURK	**Kurchatov**	**15.59**	**18**	P	**P**	**18 11 00.1**	**+0.6**
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**15.59**	**18**	*i* P	**P**	**18 11 02.4**	**+2.8**
VOSK	**Vostochnaya**	**16.58**	**0**	⇑P	**P**	**18 11 10.2**	**-1.8**
	comp=Z,3.8nm,0.8s						
BVAR	**Borovoye Array**	**16.89**	**359**	P	**P**	**18 11 15.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=174,slow=13,SNR=8.8						
BRVK	**Borovoye**	**16.92**	**359**	P	**P**	**18 11 15.3**	**-0.9**
	comp=Z,8.4nm,1.4s						
BRVK	**Borovoye**	**16.92**	**359**	P	**P**	**18 11 15.3**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
AKTO	**Aktyubinsk**	**17.06**	**331**	⇑P	**P**	**18 11 17.6**	**-0.3**
	comp=Z,2.9nm,0.8s						
AKTO				⇑S	**S**	**18 14 14.1**	**-9.1**
	comp=Z,1.0nm,1.2s						
LSA	**Lhasa**	**18.14**	**105**	P	**P**	**18 11 30.9**	**-0.3**
	comp=Z,18nm,2.0s						
LSA	**Lhasa**	**18.14**	**105**	P	**P**	**18 11 30.9**	**-0.4**
LSA				pmax	pmax		
	comp=Z,17nm,2.0s						
ZAL	**Zalesovo**	**20.25**	**24**	P	**P**	**18 11 53.9**	**-0.2**
	comp=Z,4.4nm,0.4s,baz=244,slow=6.1,SNR=16						
SVE	**Sverdlovsk**	**21.83**	**345**	*e*P	**P**	**18 12 11.7**	**+1.8**
ARU	**Arti**	**21.95**	**341**	*e*P	**P**	**18 12 12.5**	**+1.3**
	comp=Z,13nm,1.0s,mb4.2						
ARU	**Arti**	**21.95**	**341**	⇓*i*P	**P**	**18 12 15.4**	**+4.2**
ARU				*e*		18 12 37.8	
ARU				*e*PPP	PPP	18 12 48.2	-2.7
ARU				*e*SS	SS	18 16 54.4	+6.8
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.2						
KIV	**Kislovodsk**	**22.90**	**299**	*e*P	**P**	**18 12 25.7**	**+5.3**
KIV				*e*		18 16 05.7	
KIV				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.7						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s						
GTA	**Gaotai**	**23.03**	**73**	*e*P	**P**	**18 12 24.2**	**+2.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.7						
SONM	**Songino Array**	**28.59**	**55**	P	**P**	**18 13 14.0**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.5,baz=265,slow=9.7,SNR=8.5						
AKASG	**Malin Array Be**	**33.12**	**309**	P	**P**	**18 13 53.2**	**-0.1**
	comp=Z,0.9nm,0.4s,mb3.9,baz=80,slow=8.2,SNR=5.7						
JOF	**Joensuu**	**36.15**	**330**	*e*p	**P**	**18 14 18.4**	**-0.6**
	comp=Z,2.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**37.75**	**326**	P	**P**	**18 14 32.9**	**+0.5**
	comp=Z,0.6nm,0.4s,mb3.7,baz=118,slow=9.5,SNR=12						
FINES	**FINESS Array B**	**37.75**	**326**	*i* P	**P**	**18 14 34.4**	**+2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**37.90**	**327**	*e*p	**P**	**18 14 34.6**	**+1.0**
NJ2	**Nanjing**	**39.59**	**82**	*e*P	**P**	**18 14 46.9**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**41.45**	**338**	P	**P**	**18 15 04.8**	**+1.9**
	comp=Z,3.5nm,0.8s,mb4.2,baz=124,slow=8.7,SNR=9.3						
NB2	**NORSAR Subarra**	**44.63**	**323**	P	**P**	**18 15 28.7**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.7,baz=97,slow=7.9						
NB2	**NORSAR Subarra**	**44.63**	**323**	P	**P**	**18 15 28.7**	**0.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	**NORSAR Array B**	**44.63**	**323**	P	**P**	**18 15 28.8**	**0.0**
	comp=Z,1.2nm,0.6s,mb3.8,baz=100,slow=7.7,SNR=5.7						
MJAR	**Matsushiro Arr**	**53.15**	**68**	P	**P**	**18 16 34.4**	**-0.4**
	comp=Z,1.2nm,1.2s,mb3.8,baz=293,slow=9.5,SNR=4.1						
INK	**Inuvik**	**74.27**	**9**	*e*P	**P**	**18 18 52.8**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.0						
INK	**Inuvik**	**74.27**	**9**	*e*P	**P**	**18 18 52.8**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**75.14**	**16**	P	**P**	**18 18 56.9**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.6,baz=316,slow=3.7,SNR=11						
YKA	**Yellowknife Ar**	**81.61**	**3**	P	**P**	**18 19 32.9**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=351,slow=5.2,SNR=6.8						
YKA	**Yellowknife Ar**	**81.61**	**3**	P	**P**	**18 19 32.9**	**+0.1**
YKA	**Yellowknife Ar**	**81.61**	**3**	*i* P	**P**	**18 19 33.4**	**+0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**18 19 34.0**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.5,baz=325,slow=4.9,SNR=12						

*IDC **10** 18:23:28.1±4.4, 6.04S×147.47E, h52km±38km, mb3.8/5, mb1 3.9/8, mb1mx3.8/15, mbtmp4.0/8, ML3.5/3, Error ellipse: s-maj=39.0km s-min=26.4km az=95.0*
*NEIC **10** 18:23:29.7±2.8, 6.10S×147.49E, h61km±22km, mb4.5/3, Error ellipse: s-maj=26.2km s-min=22.5km az=58.0*
ISC 10 18:23:27.1±3.1**, 6.0S**±0.1×**147.4E**±0.2**, h58**km±26km**, n15, σ0.94**/17**, mb4.1**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.37**	**184**	P	**P**	**18 24 18.6**	**-0.1**
	8.2nm,0.3s,baz=17,slow=11,SNR=48						
PMG				S	**S**	**18 24 57.4**	**-0.3**
	10nm,0.3s,baz=17,slow=20,SNR=3.5						
PMG	**Port Moresby**	**3.37**	**184**	*e*Pn	**P**	**18 24 18.3**	**-0.4**
PMG				Sn	**S**	**18 24 58.9**	**+1.2**
CTA	**Charters Tower**	**14.03**	**185**	P	**P**	**18 26 45.1**	**+0.6**
	0.2nm,0.3s,baz=355,slow=11,SNR=5.1						
CTAO	**Charters Tower**	**14.03**	**185**	*e*P	**P**	**18 26 45.1**	**+0.5**
WRAB	**Tennant Creek**	**18.77**	**221**	*e*P	**P**	**18 27 45.7**	**+1.3**
WB2	**Warramunga Arr**	**18.78**	**221**	*e*P	**P**	**18 27 43.2**	**-1.2**
WRA	**Warramunga Arr**	**18.79**	**221**	P	**P**	**18 27 42.8**	**-1.7**
	0.4nm,0.3s,baz=43,slow=12,SNR=22						
WRA				PcP	PcP	18 32 10.1	+0.4
	baz=34,slow=2.3,SNR=4.6						
FITZ	**Fitzroy Crossi**	**24.41**	**239**	*e*P	**P**	**18 28 43.3**	**+1.7**
	9.6nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**24.41**	**239**	P	**P**	**18 28 41.7**	**0.0**
	12nm,0.6s,mb4.5,baz=51,slow=7.3,SNR=18						
STKA	**Stephens Creek**	**26.29**	**191**	P	**P**	**18 28 58.8**	**-0.5**
	3.4nm,0.8s,mb3.9,baz=17,slow=11,SNR=5.6						
SONM	**Songino Array**	**64.62**	**331**	P	**P**	**18 34 01.9**	**+0.9**
	0.5nm,0.8s,mb3.6,baz=135,slow=6.1,SNR=3.4						
VNDA	**Vanda**	**71.87**	**177**	P	**P**	**18 34 45.1**	**-0.3**
	0.5nm,0.8s,mb3.5,baz=338,slow=5.7,SNR=3.8						
VNDA	**Vanda**	**71.87**	**177**	P	**P**	**18 34 45.3**	**-0.2**
	16nm,2.2s,mb4.5						
QSPA	**South Pole Qui**	**83.95**	**180**	*e*P	**P**	**18 35 52.4**	**+0.7**
	2.8nm,0.6s,mb4.6						
QSPA				*e*	pP	18 36 04.7	-3.4
ILAR	**Eielson Array**	**85.34**	**23**	P	**P**	**18 35 58.1**	**-0.8**
	0.6nm,0.7s,mb3.8,baz=244,slow=5.3,SNR=6.6						

IDC 10 18:33:59.9±4.9**, 8.02N**×**92.17E, mb3.4**/3**, mb1 3.5**/3**, mb1mx3.3**/18**, mbtmp3.4**/3**, Error ellipse: s-maj=175.0km s-min=33.5km az=63.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.55**	**349**	P	P	18 41 32.5	-1.8
	0.5nm,0.9s,baz=166,slow=5.9,SNR=2.7						
SONM	**Songino Array**	**41.47**	**14**	P	P	18 41 48.7	-1.5
	0.4nm,0.8s,baz=207,slow=9.7,SNR=2.3						
WRA	**Warramunga Arr**	**49.95**	**124**	P	P	18 42 55.9	-2.1
	0.4nm,0.7s,baz=304,slow=8.5,SNR=4.6						

IDC 10 18:47:47.8±2.8**, 22.44S**×**174.67W, mb4.1**/3**, mb1 4.3**/4**, mb1mx3.9**/16**, mbtmp4.2**/4**, ML3.7**/1**, Error ellipse: s-maj=73.8km s-min=39.4km az=118.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.27**	**202**	P	P	18 51 50.7	-1.2
	0.3nm,0.3s,baz=45,slow=19,SNR=3.7						
CTA	**Charters Tower**	**36.42**	**266**	P	P	18 54 55.2	-1.0
	1.0nm,0.3s,baz=90,slow=9.0,SNR=4.1						
WRA	**Warramunga Arr**	**47.42**	**263**	P	P	18 56 23.4	-2.8
	0.7nm,0.4s,baz=96,slow=8.4,SNR=33						
MJAR	**Matsushiro Arr**	**73.62**	**322**	P	P	18 59 23.9	-1.1
	1.0nm,0.7s,baz=138,slow=6.9,SNR=7.3						
AKASG	**Malin Array Be**	**146.18**	**332**	PKPbc	PKPbc	19 07 28.1	-1.8
	0.7nm,0.5s,baz=40,slow=3.6,SNR=7.4						

*IDC **10** 18:54:59.7±2.9, 4.40S×153.83E, h79km±23km, mb3.7/6, mb1 4.0/7, mb1mx3.8/14, mbtmp4.1/7, Error ellipse: s-maj=34.3km s-min=16.5km az=119.0*
*NEIC **10** 18:55:04.5±2.6, 4.47S×153.58E, h117km±19km, mb4.4/2, Error ellipse: s-maj=24.5km s-min=12.8km az=89.0*
ISC 10 18:55:02.2±2.8**, 4.5S**±0.1×**153.63E**±0.07**, h112**km±24km**, n17, σ0.60**/18**, mb3.9**/8**, 1C-1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.99**	**129**	S	**S**	**18 58 26.1**	**-0.1**
	2.4nm,0.3s,baz=340,slow=20,SNR=2.5						
PMG	**Port Moresby**	**8.09**	**232**	P	**P**	**18 56 58.9**	**+0.6**
	12nm,0.3s,baz=41,slow=5.7,SNR=53						
PMG				S	**S**	**18 58 28.4**	**-0.2**
	4.6nm,0.3s,baz=128,slow=20,SNR=12						
PMG	**Port Moresby**	**8.09**	**232**	*e*Pn	**P**	**18 56 58.6**	**+0.4**
	50nm,0.6s						
WRAB	**Tennant Creek**	**24.27**	**229**	*e*P	**P**	**19 00 10.4**	**0.0**
	11nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**24.28**	**229**	⇑*i*P	**P**	**19 00 11.2**	**+0.8**
WRA	**Warramunga Arr**	**24.29**	**229**	P	**P**	**19 00 11.1**	**+0.6**
	8.1nm,0.5s,mb4.3,baz=53,slow=9.9,SNR=93						
WRA				S	**S**	**19 04 27.7**	**+9.3**
	0.7nm,1.0s,baz=44,slow=17,SNR=2.8						
STKA	**Stephens Creek**	**29.52**	**201**	P	**P**	**19 00 57.6**	**-0.8**
	2.9nm,0.7s,mb4.0,baz=18,slow=13,SNR=8.6						
STKA	**Stephens Creek**	**29.52**	**201**	*e*P	**P**	**19 00 57.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.55**	**241**	⇓*i*P	**P**	**19 01 06.1**	**-1.5**
	6.4nm,1.3s,mb4.2						
MBWA	**Marble Bar**	**36.85**	**240**	*e*P	**P**	**19 02 01.6**	**0.0**
SONM	**Songino Array**	**66.48**	**327**	P	**P**	**19 05 41.8**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=151,slow=6.6,SNR=3.9						
VNDA	**Vanda**	**73.14**	**178**	P	**P**	**19 06 21.8**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=343,slow=7.6,SNR=3.9						
VNDA	**Vanda**	**73.14**	**178**	P	**P**	**19 06 21.8**	**-0.1**
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**19 07 04.2**	**+0.1**
	0.7nm,0.8s,mb3.5,baz=90,slow=3.6,SNR=4.3						
ZAL	**Zalesovo**	**81.33**	**326**	P	**P**	**19 07 07.7**	**0.0**
	0.5nm,0.4s,mb3.7,baz=270,slow=8.1,SNR=2.7						
QSPA	**South Pole Qui**	**85.50**	**180**	*e*P	**P**	**19 07 29.2**	**+1.0**
GERES	**GERESS Array B**	**124.19**	**329**	PKP	PKPdf	19 13 49.3	+1.4
	0.3nm,0.7s,baz=45,slow=3.8,SNR=3.5						

*NEIC **10** 18:55:04.7, 16.06N×98.64W, h15km, MD3.9(MEX), After MEX.*
MEX 10 18:55:04.6±0.9**, 16.04N**×**98.65W, h23**km±28km**, MD3.9, 1C, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**55**	⇑*i*P	Pb	18 55 14.1	-2.4
PNIG				*i* S	Sb	18 55 22.5	-2.1
ACX	**Acapulco**	**1.47**	**304**	*e*P	Pn	18 55 28.0	-2.0
ACX				*i* S	Sn	18 55 45.0	-3.7
CAIG	**El Cayaco**	**1.85**	**303**	*e*P	Pn	18 55 32.4	-3.1
CAIG				*i* S	Sn	18 55 54.5	-3.8
CAIG	**El Cayaco**	**1.85**	**303**	*e*P	Pn	18 55 32.4	-3.1
CAIG				*i* S	Sn	18 55 51.5	-6.9
VHO	**Vista Hermosa**	**2.10**	**61**	*i* P	Pn	18 55 36.6	-2.5
VHO				*i* S	Sn	18 56 01.9	-2.8
OXX	**Oaxaca**	**2.11**	**60**	*e*P	Pn	18 55 36.0	-3.2
OXX				*i* S	Sn	18 56 02.0	-3.0
PLIG	**Platanillo**	**2.48**	**341**	*i* P	Pn	18 55 42.5	-1.9
PLIG				*i* S	Sn	18 56 08.7	-5.6
YAIG	**Yautepec**	**2.83**	**352**	*e*P	Pn	18 55 45.9	-3.7
YAIG				*i* S	Sn	18 56 19.5	-3.8
PPM	**Popocatepetl**	**3.01**	**0**	*e*P	Pn	18 55 50.0	-2.0
CMIG	**Matias Romero**	**3.75**	**73**	*i* P	Pn	18 55 58.7	-3.9
CMIG				*i* S	Sn	18 56 41.5	-5.1

*NNC **10** 18:57:10.8±58.0, 43.62N×83.47E, mpv3.1, Error ellipse: s-maj=635.3km s-min=375.4km az=165.0*
BJI 10 18:57:14.9, 43.78N×**83.80E, h11**km**, ML3.2, 1C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.82**	**88**	P	Pn	18 58 02.5	+1.7
WMQ				S	Sn	18 58 36.1	+1.0
WMQ				Smax			
	comp=N,61nm,0.4s						
WMQ				Smax			
	comp=E,60nm,0.5s						
MK31	**Makanchi Array**	**3.20**	**341**	⇑Pn	Pn	18 58 06.3	+0.2
	comp=E,2.1nm,0.3s,baz=160,slow=17,SNR=215						
MK31				⇓Lg		18 58 54.0	
	comp=E,7.2nm,0.3s,baz=167,slow=29,SNR=10						

*IDC **10** 19:19:13.8±5.4, 3.92S×153.64E, h67km±42km, mb4.0/3, mb1 4.0/4, mb1mx3.6/13, mbtmp4.2/4, ML3.4/1, Error ellipse: s-maj=93.9km s-min=39.2km az=163.0*
*NEIC **10** 19:19:17.7±3.5, 3.96S×153.58E, h100km, mb4.3/2, Error ellipse: s-maj=62.0km s-min=36.7km az=199.0*
ISC 10 19:19:07.5±4.2**, 3.5S**±0.3×**153.8E**±0.2**, h49**km±33km**, n8, σ0.83**/9**, mb4.2**/5**, 1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.48**	**134**	S	**S**	**19 22 45.6**	**0.0**
	5.3nm,0.3s,baz=26,slow=17,SNR=3.3						
CTA	**Charters Tower**	**18.01**	**203**	P	**P**	**19 23 16.6**	**+0.5**
	0.1nm,0.3s,baz=28,slow=11,SNR=2.8						
WRAB	**Tennant Creek**	**24.99**	**228**	*e*P	**P**	**19 24 28.4**	**0.0**
	7.8nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**25.00**	**228**	⇓*i*P	**P**	**19 24 28.7**	**+0.3**
WRA	**Warramunga Arr**	**25.00**	**228**	P	**P**	**19 24 28.9**	**+0.4**
	6.5nm,0.8s,mb4.2,baz=53,slow=9.7,SNR=34						
WRA				S	**S**	**19 28 46.5**	**+0.1**
	0.3nm,0.6s,baz=46,slow=17,SNR=3.4						
STKA	**Stephens Creek**	**30.43**	**201**	P	**P**	**19 25 15.0**	**-2.6**
	4.3nm,0.7s,mb4.3,baz=44,slow=12,SNR=9.4						
FITZ	**Fitzroy Crossi**	**31.12**	**240**	*e*P	**P**	**19 25 23.5**	**-0.4**
	4.1nm,0.6s,mb4.4						
VNDA	**Vanda**	**74.05**	**178**	P	**P**	**19 30 40.4**	**+0.8**
	1.2nm,0.8s,mb3.9,baz=338,slow=7.0,SNR=9.8						

*GUC **10** 19:27:57.2±0.9, 27.62S×70.20W, h84km±6km, ML4.4*
*NEIC **10** 19:27:57.2, 27.62S×70.20W, h84km, mb3.7/1, After GUC.*
*IDC **10** 19:27:57.9±0.7, 27.59S×69.97W, h86km±6km, mb3.4/2, mb1 3.7/5, mb1mx3.6/15, mbtmp3.7/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/11, Error ellipse: s-maj=33.6km s-min=10.4km az=81.0*
ISC 10 19:27:56.0±0.5**, 27.61S**±0.03×**70.1W**±0.1**, h88**km±6km**, n22, σ0.88**/27**, mb3.6**/2**, 3C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.36**	**315**	⇓*i*P	**P**	**19 28 10.0**	**+0.4**
CPCH				*i* S	**S**	**19 28 19.7**	**-0.2**
CPCH				AMP		19 28 20.0	
	comp=E,128μm,0.1s						
VACH	**Vallenar**	**1.14**	**212**	⇓*i*P	**P**	**19 28 17.9**	**+0.4**
VACH				*i* S	**S**	**19 28 33.3**	**-0.3**
VACH				AMP		19 28 34.5	
	comp=E,22μm,0.1s						
CRCH	**Chaqaral**	**1.36**	**339**	⇑*i*P	**P**	**19 28 21.2**	**+0.9**
CRCH				*i* S	**S**	**19 28 37.9**	**-0.4**
CRCH				AMP		19 28 38.8	
	comp=E,5μm,0.5s						
LSCH	**La Serena**	**2.51**	**204**	*i* P	**P**	**19 28 35.5**	**-0.2**
LSCH				*i* S	**S**	**19 29 05.0**	**-0.3**
LSCH				AMP		19 29 23.6	
	comp=E,738nm,0.2s						
TLL	**Tololo Astrono**	**2.62**	**194**	*i* P	**P**	**19 28 38.3**	**+0.9**
TLL				*i* S	**S**	**19 29 09.2**	**+1.0**
TLL				AMP		19 29 33.2	
	comp=N,680nm,0.7s						
CMCH	**Combarbala**	**3.64**	**193**	⇑*i*P	**P**	**19 28 50.4**	**-1.0**
CMCH				*i* S	**S**	**19 29 32.0**	**-1.3**
ZON	**Zonda**	**4.10**	**163**	⇑*i*P	**P**	**19 29 02.4**	**+4.7**
ZON				*e*S	**S**	**19 29 51.3**	**+6.5**
CFAA	**Coronel Fontan**	**4.28**	**159**	P	**P**	**19 29 02.3**	**+2.0**
	comp=N,1.8nm,0.3s,baz=334,slow=13,SNR=155						
CFAA				S	**S**	**19 29 49.0**	**-0.3**
	comp=N,2.5nm,0.3s,baz=199,slow=16,SNR=11						
LVC	**Limon Verde**	**5.09**	**12**	P	**P**	**19 29 11.0**	**-0.4**
	comp=N,2.1nm,0.3s,baz=156,slow=9.3,SNR=47						
LVC				S	**S**	**19 30 08.1**	**-1.2**
	comp=N,14nm,0.3s,baz=335,slow=22,SNR=11						
LVC	**Limon Verde**	**5.09**	**12**	*e*P	**P**	**19 29 10.8**	**-0.5**
LVC				*i* S	**S**	**19 30 08.1**	**-1.2**
LVC	**Limon Verde**	**5.09**	**12**	*e*Pn	**P**	**19 29 10.9**	**-0.4**
	comp=N,47nm,0.6s						
LVC				Sn	**S**	**19 30 07.4**	**-1.9**
LPAZ	**La Paz**	**11.41**	**9**	P	**P**	**19 30 39.3**	**+1.8**
	comp=N,0.2nm,0.3s,baz=199,slow=5.5,SNR=5.7						
CPUP	**Villa Florida**	**11.44**	**86**	LR	LR	19 35 34.6	
	comp=N,65nm,20.0s,baz=185,slow=40						
TRQA	**Tornquist**	**12.43**	**149**	*e*P	**P**	**19 30 50.1**	**-0.9**
	comp=N,83nm,2.4s						
SAML	**Samuel**	**19.67**	**21**	*e*Pn	**P**	**19 32 20.4**	**-0.2**
	comp=N,2.6nm,0.7s						
SNAA	**Sanae**	**56.90**	**160**	pP	pP	19 37 55.7	-0.1
	comp=N,0.4nm,0.7s,baz=276,slow=6.0,SNR=3.6						
TXAR	**Lajitas Array**	**65.12**	**328**	P	**P**	**19 38 29.6**	**-0.3**
	comp=N,0.6nm,0.7s,mb3.6,baz=151,slow=8.8,SNR=7.1						
TXAR				pP	pP	19 38 52.5	+0.1
	comp=N,0.3nm,0.4s,baz=124,slow=6.5,SNR=2.1						
PDAR	**Pinedale Array**	**78.91**	**331**	P	**P**	**19 39 51.6**	**+0.4**
	comp=N,0.5nm,0.5s,mb3.6,baz=135,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**127.15**	**209**	PKP	PKPdf	19 46 52.1	+1.4
	comp=N,0.6nm,0.6s,baz=165,slow=1.6,SNR=9.2						
WRA				pPKP		19 47 16.3	
	comp=N,0.4nm,0.7s,baz=164,slow=1.5,SNR=2.8						
ZAL	**Zalesovo**	**147.87**	**28**	PKPbc	PKPdf	19 47 33.1	+5.9
	comp=N,2.8nm,0.6s,baz=117,slow=1.4,SNR=12						
ZAL				pPKPbc		19 47 55.6	
	comp=N,0.9nm,0.6s,baz=157,slow=3.3,SNR=2.1						
MKAR	**Makanchi Array**	**151.06**	**41**	PKPbc	PKPdf	19 47 40.6	+8.1
	comp=N,1.6nm,0.7s,baz=323,slow=2.0,SNR=11						
MKAR				pPKPbc		19 48 04.3	
	comp=N,0.9nm,0.6s,baz=336,slow=2.2,SNR=5.3						
SONM	**Songino Array**	**159.62**	**7**	PKPab	PKPab	19 48 25.3	+0.3
	comp=N,0.2nm,0.5s,baz=11,slow=7.3,SNR=2.5						

*BJI **10** 19:31:34.6, 4.95S×154.58E, h136km, mB5.2, mb4.5*
*IDC **10** 19:31:35.7±2.1, 5.45S×154.28E, h142km±19km, mb4.3/13, mb1 4.4/16, mb1mx4.3/20, mbtmp4.8/16, MS3.6/4, Ms1 3.7/4, ms1mx3.3/17, Error ellipse: s-maj=13.9km s-min=12.9km az=53.0*
*NEIC **10** 19:31:36.6±1.3, 5.47S×154.24E, h151km±12km, mb4.6/14, Error ellipse: s-maj=10.0km s-min=8.5km az=62.0*
ISC 10 19:31:35.4±1.3**, 5.49S**±0.07×**154.28E**±0.05**, h154**km±12km**, n46, σ0.89**/47**, mb4.5**/20**, 5C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.85**	**125**	P	**P**	**19 33 14.9**	**+0.5**
	5.4nm,0.3s,baz=142,slow=12,SNR=3.3						
HNR				S	**S**	**19 34 30.9**	**-0.5**
	5.9nm,0.3s,baz=276,slow=16,SNR=4.1						
HNR	**Honiara**	**6.85**	**125**	P	**P**	**19 33 15.9**	**+1.4**
	76nm,0.9s						
PMG	**Port Moresby**	**8.06**	**241**	P	**P**	**19 33 30.6**	**0.0**
	17nm,0.3s,baz=52,slow=5.5,SNR=78						
PMG				S	**S**	**19 35 01.0**	**+0.4**
	7.2nm,0.3s,baz=12,slow=20,SNR=4.9						
PMG				LR	LR	19 36 45.7	
	comp=Z,156nm,18.1s,baz=41,slow=38						
PMG	**Port Moresby**	**8.06**	**241**	*e*Pn	**P**	**19 33 29.9**	**-0.8**
	200nm,0.7s						
PMG				*e*Sn	**S**	**19 35 00.5**	**-0.1**
CTA	**Charters Tower**	**16.48**	**208**	⇑*i*P	**P**	**19 35 20.8**	**+1.6**
	6.6nm,0.6s						
CTA	**Charters Tower**	**16.48**	**208**	P	**P**	**19 35 20.7**	**+1.5**
	0.6nm,0.3s,baz=27,slow=11,SNR=16						
CTAO	**Charters Tower**	**16.48**	**208**	*e*P	**P**	**19 35 20.7**	**+1.5**
	8.9nm,0.7s						
DZM	**Mont Dzumac**	**20.26**	**146**	*e*P	**P**	**19 35 59.7**	**-0.8**
DZM	**Mont Dzumac**	**20.26**	**146**	P	**P**	**19 36 00.3**	**-0.2**
	22nm,0.5s,baz=324,slow=9.9,SNR=76						
DZM	**Mont Dzumac**	**20.26**	**146**	*e*P	**P**	**19 35 59.7**	**-0.8**
WRAB	**Tennant Creek**	**24.12**	**232**	*e*P	**P**	**19 36 38.6**	**+0.2**
	66nm,0.6s,mb5.3						
WB2	**Warramunga Arr**	**24.13**	**232**	⇑*i*P	**P**	**19 36 38.9**	**+0.4**
WRA	**Warramunga Arr**	**24.14**	**232**	P	**P**	**19 36 39.1**	**+0.5**
	41nm,0.7s,mb5.1,baz=53,slow=9.5,SNR=264						
STKA	**Stephens Creek**	**28.82**	**203**	⇑*i*P	**P**	**19 37 20.0**	**-1.3**
	8.9nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**28.82**	**203**	P	**P**	**19 37 20.0**	**-1.3**
	10nm,0.6s,mb4.7,baz=3.5,slow=9.2,SNR=27						
STKA				LR	LR	19 47 50.7	
	comp=Z,173nm,18.2s,baz=23,slow=34						
FITZ	**Fitzroy Crossi**	**30.65**	**243**	⇑*i*P	**P**	**19 37 36.1**	**-1.6**
	37nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**30.65**	**243**	P	**P**	**19 37 36.3**	**-1.4**
	44nm,0.7s,mb5.3,baz=41,slow=7.7,SNR=68						
MBWA	**Marble Bar**	**36.93**	**242**	*e*P	**P**	**19 38 30.6**	**-0.7**
TAU	**Tasmania Unive**	**37.77**	**188**	*e*P	**P**	**19 38 36.7**	**-1.5**
KKM	**Kota Kinabalu**	**39.69**	**286**	P	**P**	**19 38 55.0**	**+0.7**
SNZO	**South Karori**	**40.07**	**156**	*e*P	**P**	**19 38 57.3**	**+0.1**
RPZ	**Rata Peaks**	**40.84**	**161**	P	**P**	**19 39 03.6**	**+0.1**
	38nm,0.8s,mb5.1,baz=351,slow=3.6,SNR=35						
KLBR	**Kellerberrin**	**42.93**	**228**	⇑*i*P	**P**	**19 39 19.5**	**-1.2**
	15nm,0.7s,mb4.7						
MJAR	**Matsushiro Arr**	**44.43**	**341**	P	**P**	**19 39 31.3**	**-1.4**
	0.5nm,0.4s,mb3.5,baz=151,slow=6.5,SNR=5.7						
MAJO	**Matsushiro**	**44.43**	**341**	P	**P**	**19 39 31.6**	**-1.1**
	1.8nm,0.5s,mb4.0						
KSM	**Kuching**	**44.46**	**278**	*e*P	**P**	**19 39 33.1**	**0.0**
KULM	**Kulim**	**54.61**	**280**	*e*P	**P**	**19 40 46.9**	**-3.8**
KMI	**Kunming**	**58.59**	**304**	P	**P**	**19 41 19.6**	**+1.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,177nm,4.9s						
KMI				LR	LR		
	comp=Z,314nm,17.8s						
KMI	**Kunming**	**58.59**	**304**	P	**P**	**19 41 19.6**	**+1.0**
	comp=Z,10.0nm,1.3s,mb4.5						
KMI				pP	pP	19 41 43.9	-11
KMI				LR	LR		
	comp=Z,310nm,17.8s						
ULN	**Ulaanbaatar**	**67.36**	**328**	*e*P	**P**	**19 42 17.2**	**+1.2**
	comp=Z,5.6nm,1.1s,mb4.3						
SONM	**Songino Array**	**67.69**	**327**	P	**P**	**19 42 18.2**	**+0.1**
	comp=Z,1.4nm,0.5s,mb3.9,baz=147,slow=7.6,SNR=12						
CASY	**Casey**	**67.80**	**198**	*e*P	**P**	**19 42 17.8**	**-0.7**
	comp=Z,4.5nm,0.8s,mb4.2						
LSA	**Lhasa**	**69.84**	**304**	*e*P	**P**	**19 42 32.8**	**+1.2**
VNDA	**Vanda**	**72.10**	**178**	P	**P**	**19 42 44.8**	**+0.5**
	comp=Z,9.6nm,0.7s,mb4.6,baz=328,slow=6.4,SNR=76						
VNDA	**Vanda**	**72.10**	**178**	*e*P	**P**	**19 42 44.6**	**+0.3**
	comp=Z,9.2nm,0.8s,mb4.6						
SBA	**Scott Base**	**72.62**	**177**	*e*P	**P**	**19 42 48.6**	**+1.3**
	comp=Z,7.2nm,0.8s,mb4.5						
HYB	**Hyderabad**	**78.11**	**289**	*i* P	**P**	**19 43 19.0**	**-0.5**
HYB	**Hyderabad**	**78.11**	**289**	*e*P	**P**	**19 43 19.0**	**-0.5**
MKAR	**Makanchi Array**	**81.81**	**319**	P	**P**	**19 43 39.1**	**+0.5**
	comp=Z,1.8nm,0.6s,mb3.9,baz=102,slow=7.0,SNR=20						
ILAR	**Eielson Array**	**82.24**	**22**	P	**P**	**19 43 40.4**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.1,baz=244,slow=5.5,SNR=44						
ILAR				LR	LR	20 21 56.9	
	comp=Z,41nm,18.3s,slow=37						
ZAL	**Zalesovo**	**82.55**	**326**	P	**P**	**19 43 41.8**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.0,baz=339,slow=7.3,SNR=4.7						
QSPA	**South Pole Qui**	**84.48**	**180**	*e*P	**P**	**19 43 52.6**	**+1.1**
	comp=Z,18nm,0.7s,mb4.9						
MAW	**Mawson**	**85.51**	**203**	P	**P**	**19 43 57.6**	**+0.9**
	comp=Z,15nm,0.6s,mb4.9,baz=92,slow=4.9,SNR=24						
INK	**Inuvik**	**88.57**	**21**	P	**P**	**19 44 11.5**	**+0.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=214,slow=3.6,SNR=3.5						
PDAR	**Pinedale Array**	**98.22**	**48**	LR	LR	20 23 06.7	
	comp=Z,42nm,19.3s,baz=258,slow=32						
GERES	**GERESS Array B**	**125.40**	**329**	PKP	PKPdf	19 50 19.9	+1.7
	comp=Z,0.8nm,0.6s,baz=67,slow=0.9,SNR=9.0						

*IDC **10** 19:35:46.5±1.9, 10.35N×91.40E, mb4.0/6, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, Error ellipse: s-maj=84.5km s-min=20.3km az=61.0*
*BJI **10** 19:35:51.0, 10.50N×91.70E, h30km, mb4.0*
*NEIC **10** 19:35:52.0±1.1, 10.50N×91.73E, h30km, mb4.2/2, Error ellipse: s-maj=38.5km s-min=13.0km az=67.0*
ISC 10 19:35:49.8±1.3**, 10.5N**±0.1×**91.7E**±0.3**, h30**km**, n10, σ0.62**/10**, mb4.0**/8**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**19.11**	**359**	P	**P**	**19 40 14.0**	**+0.8**
LSA	**Lhasa**	**19.11**	**359**	*e*P	**P**	**19 40 14.4**	**+1.3**
	3.9nm,0.6s						

ENH Enshi 25.71 38 eP P 19 41 18.6 -0.7
18nm,1.0s,mb4.6
GTA Gaotai 29.69 13 eP P 19 41 54.6 -0.8
GTA AMB AMB
comp=Z,3.0nm,1.7s,mb3.8
MKAR Makanchi Array 37.05 349 P P 19 42 59.1 +0.2
comp=Z,1.2nm,0.6s,mb3.9,baz=168,slow=8.6,SNR=10
SONM Songino Array 39.22 16 P P 19 43 17.8 +0.6
comp=Z,0.5nm,0.5s,mb3.5,baz=205,slow=7.4,SNR=3.9
FITZ Fitzroy Crossi 43.93 130 P P 19 43 56.5 +0.4
comp=Z,3.8nm,0.9s,mb4.1,baz=326,slow=7.3,SNR=5.5
WRA Warramunga Arr 51.73 126 P P 19 44 57.0 +0.1
comp=Z,0.6nm,0.4s,mb3.9,baz=300,slow=9.9,SNR=19
STKA Stephens Creek 63.64 133 P P 19 46 20.8 0.0
comp=Z,4.5nm,0.9s,mb4.5,baz=304,slow=9.1,SNR=3.7
FINES FINESS Array B 69.28 332 P P 19 46 55.4 -0.8
comp=Z,1.6nm,0.9s,mb3.9,baz=112,slow=7.5,SNR=4.0

NIED ***10*** *20:06:00, 37.00N×141.30E, h50km, Mw4.5 Best double couple: $M_0$6.19×10^{15} NP1:ϕ_s22°, δ73°, λ84°. NP2:ϕ_s222°, δ18°, λ109°.*

BJI ***10*** *20:06:49.0, 36.75N×141.08E, h60km, mB4.8, mb4.5, Ms4.0, Msz3.7*

NEIC ***10*** *20:06:51.0±0.2, 37.07N×141.19E, mb4.7/38, MW4.5(NIED), Error ellipse: s-maj=6.3km s-min=4.4km az=138.0*

NEIC Recorded [3 JMA] in Fukushima, [2 JMA] in Miyagi and [1 JMA] in Chiba, Ibaraki, Iwate and Tochigi Prefectures.

JMA ***10*** *20:06:50.5±0.1, 37.06N×141.17E, h50km±1km, M4.5 Broadband fault plane solution: P waves. NP1:ϕ_s203°, δ22°, λ90°. NP2:ϕ_s23°, δ68°, λ90°. Principal axes: T Plg67°, Azm293°; N Plg0°, Azm23°; P Plg23°, Azm113°;*

JMA Felt III J1.

IDC ***10*** *20:06:51.1±0.6, 37.00N×141.27E, h54km±6km, mb4.1/17, mb1 4.3/22, mb1mx4.3/27, mbtmp4.4/22, MS3.4/10, Ms1 3.5/10, ms1mx3.4/22 Error ellipse: s-maj=10.6km s-min=8.0km az=133.0*

MOS ***10*** *20:06:51.9±0.8, 37.38N×140.89E, h54km, mb5.0/34, Error ellipse: s-maj=9.4km s-min=5.9km az=115.3*

ISC 10 20:06:48.7±0.5**, 37.01N**±0.03×**141.29E**±0.05**, h51**km±3km**, h61**km±6.0km**:pP-P, n180,** σ1^s**06**/189**, mb4.6**/72**, MS3.8**/11**, 3C-11D, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ONAJ Iwakimizuishiy 0.40 283 ⇓P P 20 06 59.7 +0.7
ONAJ S S 20 07 06.0 -0.3
JFK Kawauchi 0.48 317 ⇓P P 20 07 00.3 +0.4
JFK S S 20 07 07.1 -0.8
JHO Hitachi 0.70 236 ⇓P P 20 07 03.3 +0.8
JHO S S 20 07 12.4 -0.4
JFT Otama 0.91 304 ⇓P P 20 07 06.6 +1.2
JFT eS S 20 07 17.8 0.0
JMM Marumori 0.94 335 ⇓P P 20 07 06.1 +0.3
JMM eS S 20 07 17.8 -0.7
JFY Yanaizu 1.32 288 ⇓P P 20 07 11.7 +0.3
JOU Okura 1.44 340 ⇓P P 20 07 13.3 +0.3
JIO Ouri 1.44 2 ⇓P P 20 07 13.2 +0.2
JIO eS S 20 07 29.5 -1.5
JYS Shirataka 1.55 322 ⇓P P 20 07 15.1 +0.6
JYS eS S 20 07 33.8 +0.2
JAG Ashikaga 1.58 249 ⇓P P 20 07 15.5 +0.5
MJAR Matsushiro Arr 2.51 260 P P 20 07 29.0 +0.9
55nm,0.3s,baz=82,slow=16,SNR=434
MJAR S S 20 08 00.7 +3.0
60nm,0.3s,baz=48,slow=16,SNR=11
MAJO Matsushiro 2.52 260 eP P 20 07 28.7 +0.5
MAT Matsushiro 2.52 260 P P 20 07 29.3 +1.2
MAT eS S 20 07 58.9 +1.2
MAT Matsushiro 2.52 260 eP P 20 07 29.0 +0.9
MAT S S 20 08 01.0 +3.3
JHJ Hachijo jima 2 4.07 198 P P 20 07 51.0 +0.9
136nm,0.3s,baz=110,slow=2.0,SNR=32
JHJ S S 20 08 35.2 -1.9
175nm,0.3s,baz=243,slow=23,SNR=11
JHJ LR LR 20 09 05.8
comp=Z,98nm,19.4s,baz=28,slow=33
ASAJ Asahikawa 7.17 8 P P 20 08 32.1 -1.3
6.2nm,0.3s,baz=206,slow=15,SNR=60
ASAJ S S 20 09 51.9 -2.5
3.8nm,0.3s,baz=198,slow=20,SNR=3.0
ASAJ Asahikawa 7.17 8 P P 20 08 32.2 -1.3
ASAJ S S 20 09 51.9 -2.5
ASAJ pmax pmax
comp=Z,6.0nm,0.3s
ASAJ smax
comp=N,4.0nm,0.3s
YUK Yuzh-Kuril'sk 7.83 25 P P 20 08 43.0 +0.3
YUK S S 20 10 02.7 -8.2
YUK smax
comp=N,420nm,0.5s
YUK smax
comp=E,380nm,0.5s
YUK smax
comp=N,2μm,1.0s
YUK smax
comp=E,1μm,1.0s
JNU Nakatsue 9.37 249 P P 20 09 03.6 -0.2
comp=E,0.6nm,0.3s,baz=67,slow=14,SNR=7.8
JNU LR LR 20 12 51.4
comp=E,219nm,20.4s,baz=63,slow=38
CBIJ Chichi jima 9.91 175 P P 20 09 10.3 -1.0
comp=E,12nm,0.3s,baz=286,slow=16,SNR=5.6
CBIJ S S 20 10 51.4 -11
comp=E,10nm,0.3s,baz=270,slow=20,SNR=5.4
YSS Yuzh-Sakhalins 10.00 6 eP P 20 09 10.6 -1.8
YSS Yuzh-Sakhalins 10.00 6 eP P 20 09 10.4 -2.0
KS15 Wonju Array Si 10.70 276 eP P 20 09 22.6 +0.7
MDJ Mudanjiang 11.66 314 P P 20 09 38.3 +3.3
MDJ AMB AMB
comp=Z,30nm,0.9s
MDJ AMB AMB
comp=Z,153nm,5.6s
MDJ LR LR
comp=N,120nm,26.8s
MDJ LR LR
comp=E,173nm,26.8s
MDJ LR LR
comp=Z,277nm,23.8s
MDJ Mudanjiang 11.66 314 eP P 20 09 37.8 +2.8
comp=Z,20nm,0.8s
KLR Kul'dur 14.04 333 eP P 20 10 09.2 +2.8
SNY Shenyang 14.50 295 ⇑P P 20 10 13.0 +0.5
SNY XP 20 10 26.5
SNY S S 20 12 55.6 +3.1
SNY AMB AMB
comp=Z,20nm,0.9s
SNY AMB AMB
comp=Z,140nm,5.1s
SNY LR LR
comp=E,470nm,14.2s
SNY LR LR
comp=Z,290nm,14.2s
SSE Sheshan 17.66 256 eP P 20 10 47.2 -5.5
SSE AP 20 11 01.3
SSE XP 20 11 11.8
SSE S S 20 14 01.9 -3.3
SSE AMB AMB
comp=Z,34nm,0.7s
SSE AMB AMB
comp=Z,295nm,7.0s
SSE LR LR
comp=N,47nm,21.0s
SSE LR LR
comp=E,144nm,21.0s
SSE LR LR
comp=Z,157nm,25.2s
SSE Sheshan 17.66 256 eP P 20 10 47.2 -5.5
comp=Z,34nm,0.7s
SSE pP 20 11 01.3
SSE sP 20 11 11.8
SSE S S 20 14 01.9 -3.3
SSE sS 20 14 22.6
NJ2 Nanjing 19.12 262 eP P 20 11 07.4 -2.8
NJ2 AP 20 11 21.1
NJ2 PP PP 20 11 26.4 -1.2
NJ2 S S 20 14 30.0 -8.0
NJ2 XS 20 14 51.0
NJ2 AMB AMB
comp=Z,30nm,1.2s
NJ2 AMB AMB
comp=Z,220nm,4.0s
NJ2 LR LR
comp=N,2μm,15.0s
NJ2 LR LR
comp=E,1μm,16.2s
NJ2 LR LR
comp=Z,380nm,15.8s
HHC Hu-ho-hao-te 23.38 289 eP P 20 11 57.1 +3.6
HHC AMB AMB
comp=Z,7.0nm,0.6s,mb4.3
HHC AMB AMB
comp=Z,94nm,4.0s
HHC LR LR
comp=N,131nm,9.9s
HHC LR LR
comp=E,186nm,13.9s
GUMO Guam 23.54 171 LR LR 20 19 29.5
comp=E,24nm,20.6s,baz=306,slow=32
YAK Yakutsk 26.07 348 eP P 20 12 18.2 -0.8
comp=E,25nm,0.8s,mb4.8
YAK Yakutsk 26.07 348 eP P 20 12 18.2 -0.8
YAK pmax pmax
comp=Z,25nm,0.8s,mb4.8
XAN Xi'an 26.44 273 P P 20 12 23.2 +0.5
XAN AMB AMB
comp=Z,8.0nm,0.6s,mb4.4
SEY Seymchan 26.83 11 iP P 20 12 28.1 +2.1
ENH Enshi 27.23 265 eP P 20 12 28.5 -1.5
comp=Z,15nm,0.7s,mb4.6
ULN Ulaanbaatar 27.28 304 eP P 20 12 29.5 -0.8
comp=Z,17nm,0.9s,mb4.6
ULN PcP PcP 20 15 48.2 -1.0
ULN Ulaanbaatar 27.28 304 eP P 20 12 29.5 -0.8
ULN 20 15 48.3
ULN pmax pmax
comp=Z,17nm,0.9s,mb4.6
BOD Bodaibo 27.50 328 eP P 20 12 30.3 -1.8
BOD pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
SONM Songino Array 27.71 304 P P 20 12 32.7 -1.5
comp=Z,5.9nm,0.5s,mb4.5,baz=105,slow=8.9,SNR=23
SONM PcP PcP 20 15 50.2 -0.1
comp=Z,0.8nm,0.6s,baz=116,slow=2.3,SNR=3.9
SONM LR LR 20 24 06.4
comp=Z,114nm,18.4s,MS3.5,baz=295,slow=37
LZH Lanzhou 29.97 280 eP P 20 12 53.5 -1.0
LZH AP pP 20 13 11.5 +4.0
LZH AMB AMB
comp=Z,26nm,1.0s,mb4.9
LZH LR LR
comp=E,700nm,16.0s
LZH LR LR
comp=Z,760nm,20.0s,MS4.3
LZH Lanzhou 29.97 280 eP P 20 12 53.5 -1.0
comp=Z,26nm,1.0s,mb4.9
LZH pP pP 20 13 11.5 +4.0
LZH sP sP 20 13 20.0 +6.3
LZH LR LR
comp=Z,760nm,20.0s,MS4.3
ZAK Zakamensk 30.20 308 eP P 20 12 55.6 -0.8
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
ZAK pmax pmax
comp=Z,1.0nm,0.9s
GYA Guiyang 31.12 260 ⇓iP P 20 13 03.0 -1.7
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.0
GTA Gaotai 32.47 287 eP P 20 13 15.3 -1.1
GTA PCP PcP 20 16 03.5 +0.8
GTA AMB AMB
comp=Z,5.0nm,0.6s,mb4.5
QIZ Qiongzhong 32.83 246 eP P 20 13 20.1 +0.4
BILL Bilibino 34.08 16 eP P 20 13 22.8 -7.2
BILL e*PP pP 20 13 41.8 -1.4
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KMI Kunming 34.86 261 P P 20 13 35.4 -1.7
KMI AP pP 20 13 53.1 +2.7
KMI AMB AMB
comp=Z,9.0nm,1.3s,mb4.5
KMI AMB AMB
comp=Z,214nm,5.7s
KMI LR LR
comp=N,272nm,20.6s,MS4.2
KMI LR LR
comp=E,320nm,18.3s,MS4.2
KMI LR LR
comp=Z,239nm,24.0s
KMI Kunming 34.86 261 P P 20 13 35.4 -1.7
comp=Z,9.0nm,1.3s,mb4.5
KMI pP pP 20 13 53.1 +2.7
KMI sP sP 20 14 00.6 +3.9
KMI PP PP 20 15 11.6 +16
KMI LR LR
comp=Z,240nm,24.0s,MS3.9
WMQ Urumqi 40.76 297 P P 20 14 26.5 +0.2
WMQ AMB AMB
comp=Z,30nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,92nm,5.0s
WMQ LR LR
comp=N,99nm,19.7s,MS3.8
WMQ LR LR
comp=E,106nm,21.2s,MS3.8
WMQ LR LR
comp=Z,179nm,28.0s
ZAL Zalesovo 41.87 312 P P 20 14 35.2 0.0
comp=Z,13nm,0.7s,mb4.7,baz=20,slow=8.1,SNR=60
ZAL LR LR 20 33 20.9
comp=Z,95nm,18.0s,MS3.7,baz=66,slow=38
LSA Lhasa 42.11 275 eP P 20 14 38.4 +0.8
comp=Z,11nm,1.0s,mb4.4
LSA Lhasa 42.11 275 eP P 20 14 38.4 +0.9
LSA pmax pmax
comp=Z,11nm,1.0s,mb4.4
NVS Novosibirsk 42.78 314 eP P 20 14 41.3 -1.4
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,15nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s,mb4.7
MKAR Makanchi Array 44.05 302 P P 20 14 52.8 -0.3
comp=Z,9.1nm,0.9s,mb4.5,baz=84,slow=10,SNR=60
MKAR PcP PcP 20 16 37.9 -0.4
comp=Z,1.0nm,0.6s,baz=65,slow=4.0,SNR=3.1
MKAR LR LR 20 34 20.6
comp=Z,52nm,19.3s,MS3.5,baz=5.9,slow=38
KSM Kuching 45.46 226 eP P 20 15 05.0 +0.1
KURK Kurchatov 45.87 308 eP P 20 15 06.5 -1.0
comp=Z,31nm,1.0s,mb5.2
KURK e pP 20 15 23.5 +2.4
KURK Kurchatov 45.87 308 eP P 20 15 06.5 -1.1
KURK e pP 20 15 23.5 +2.4
KURK pmax pmax
comp=Z,31nm,1.0s,mb5.2
PKI Pulchoki 47.58 275 eP P 20 15 21.0 -0.4
comp=Z,26nm,0.8s,mb5.3
PKI Pulchoki 47.58 275 eP P 20 15 21.0 -0.4
PKI pmax pmax
comp=Z,13nm,0.8s,mb5.0
KKN Kakani 47.59 276 eP P 20 15 21.3 -0.1
comp=Z,44nm,0.7s,mb5.6
KKN Kakani 47.59 276 eP P 20 15 21.3 -0.1
KKN pmax pmax
comp=Z,22nm,0.7s,mb5.3
DMN Daman 47.80 276 eP P 20 15 22.7 -0.4
comp=Z,14nm,0.8s,mb5.1
GKN Gorkha 48.01 276 eP P 20 15 24.5 -0.2
comp=Z,110nm,1.0s
KOLN Koldanda 48.93 277 eP P 20 15 31.6 -0.2
comp=Z,46nm,1.1s,mb5.4
TKM2 Tokmak 2 49.55 298 P P 20 15 36.8 +0.4
SNR=9.4
ILAR Eielson Array 49.57 32 P P 20 15 37.0 +0.7
comp=Z,2.3nm,0.7s,mb4.3,baz=270,slow=6.4,SNR=25
ILAR pP pP 20 15 50.4 +0.5
comp=Z,0.7nm,0.6s,baz=264,slow=5.6,SNR=4.2
KZA Kyzart 50.04 297 P P 20 15 41.3 +1.1
SNR=7.4
KBK Karagaybulak 50.09 298 P P 20 15 40.7 +0.2
SNR=11
VOSK Vostochnaya 50.22 312 P P 20 15 39.3 -2.1
VOSK pmax pmax
comp=Z,11nm,0.8s,mb4.9
AAK Ala-Archa 50.41 298 eP P 20 15 41.4 -1.6
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 50.41 298 P P 20 15 42.3 -0.7
AAK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BVA0 Borovoye Array 50.51 312 iP P 20 15 42.6 -1.0
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 50.51 312 P P 20 15 42.8 -0.8
comp=Z,7.0nm,0.7s,mb4.7,baz=73,slow=6.9,SNR=28
BVAR PcP PcP 20 17 00.5 -0.7
comp=Z,4.9nm,0.6s,baz=84,slow=3.4,SNR=9.6
BRVK Borovoye 50.57 312 eP P 20 15 42.9 -1.1
comp=Z,6.5nm,0.8s,mb4.6
BRVK ePcP PcP 20 17 01.0 -0.4
BRVK Borovoye 50.57 312 eP P 20 15 42.9 -1.1
BRVK e 20 17 01.0
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
EKS2 Erkin-Say 50.91 299 P P 20 15 46.0 -0.7
SNR=6.0
AML Almayashu 51.13 298 P P 20 15 49.0 +0.6
SNR=16
KKAR Karatay Array 53.05 300 iP P 20 16 01.2 -1.6
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
INK Inuvik 54.46 27 P P 20 16 12.9 +0.1
comp=Z,2.0nm,0.7s,mb4.2,baz=330,slow=6.2,SNR=6.6
INK PcP PcP 20 17 15.6 -0.1
comp=Z,1.2nm,0.9s,baz=116,slow=0.4,SNR=3.7
SVE Sverdlovsk 55.10 319 eP P 20 16 16.6 -1.0
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.4
ARU Arti 56.31 319 eP P 20 16 25.1 -1.3
comp=Z,20nm,0.8s,mb5.2
ARU Arti 56.31 319 ⇑iP P 20 16 25.2 -1.2
ARU e 20 18 31.4
ARU ePPP PPP 20 19 48.4 -2.6
ARU eS S 20 24 13.4 +2.4
ARU pmax pmax
comp=Z,25nm,0.8s,mb5.3
FITZ Fitzroy Crossi 56.77 198 eP P 20 16 30.2 +0.1
comp=Z,5.6nm,1.3s,mb4.4
FITZ Fitzroy Crossi 56.77 198 P P 20 16 30.0 -0.1
comp=Z,3.8nm,0.6s,mb4.6,baz=0.9,slow=8.7,SNR=9.0
WRAB Tennant Creek 57.01 188 eP P 20 16 31.3 -0.5
comp=Z,1.2nm,0.5s,mb4.2
WRAB Tennant Creek 57.01 188 eP P 20 16 31.3 -0.6
WRAB pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
WB2 Warramunga Arr 57.02 188 eP P 20 16 31.1 -0.8
WRA Warramunga Arr 57.02 188 P P 20 16 30.5 -1.5
comp=Z,1.7nm,0.5s,mb4.3,baz=5.1,slow=7.3,SNR=41
WRA pP pP 20 16 45.2 -0.8
comp=Z,4.8nm,0.7s,baz=2.7,slow=7.3,SNR=16
AB31 Akbulak array 57.88 310 P P 20 16 36.1 -1.5
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
AKTO Aktyubinsk 58.62 312 P P 20 16 41.1 -1.6
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KEV Kevo 63.43 339 ep P 20 17 17.4 +2.4
comp=Z,32nm,1.6s,mb5.2
KEV Kevo 63.43 339 eP P 20 17 17.4 +2.4
KEV pmax pmax
comp=Z,32nm,1.6s,mb5.2
ARCES ARCESS Array B 63.98 339 P P 20 17 18.9 +0.4
comp=Z,4.1nm,0.8s,mb4.5,baz=53,slow=6.1,SNR=6.3
ARCES LR LR 20 46 22.5
comp=Z,64nm,21.3s,MS3.8,baz=1.9,slow=37
JOF Joensuu 65.94 332 ep P 20 17 29.9 -1.3
comp=Z,4.1nm,0.8s,mb4.5
OBN Obninsk 68.06 323 iP P 20 17 43.7 -0.9
OBN pmax pmax
comp=Z,18nm,1.6s,mb4.8
KAF Kangasniemi 68.28 333 ep P 20 17 44.7 -1.2
comp=Z,4.3nm,0.6s,mb4.7,baz=52,slow=6.6
KAF Kangasniemi 68.28 333 eP P 20 17 44.7 -1.2
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
STKA Stephens Creek 68.53 180 P P 20 17 51.8 +3.8
comp=Z,1.6nm,0.6s,mb4.1,baz=337,slow=13,SNR=3.0
FINES FINESS Array B 68.79 332 P P 20 17 48.5 -0.5
comp=Z,4.6nm,0.7s,mb4.5,baz=63,slow=8.5,SNR=19
FINES LR LR 20 50 20.6
comp=Z,32nm,21.0s,MS3.5,baz=174,slow=38
KIV Kislovodsk 70.85 311 eP P 20 18 02.2 +0.3
comp=Z,33nm,1.1s,mb5.2
KIV Kislovodsk 70.85 311 c iP P 20 18 01.9 0.0
KIV e 20 18 22.9
KIV eS S 20 27 10.2 -1.7
KIV pmax pmax
comp=Z,31nm,1.1s,mb5.2
SOC Sochi 72.84 312 eP P 20 18 10.8 -2.9
SOC e pP 20 18 28.0 -0.2
SOC e 20 20 52.7
SOC ePPP PPP 20 22 41.4 +0.1
SOC eS S 20 27 30.4 -4.3
SOC e 20 28 23.2
SOC eSSS SSS 20 35 25.8 -2.1
SOC pmax pmax
comp=N,6.0nm,0.8s
SOC pmax pmax
comp=Z,14nm,0.8s,mb4.9
SOC pmax pmax
comp=E,5.0nm,0.6s
ANN Anapa 73.47 314 eP P 20 18 16.7 -0.7
ANN e*PP pP 20 18 39.8 +7.9
ANN eS S 20 27 45.8 +4.0
ANN pmax pmax
comp=Z,32nm,1.7s,mb5.0
NB2 NORSAR Subarra 74.17 337 P P 20 18 21.0 -0.1
comp=Z,7.1nm,0.8s,mb4.7,baz=39,slow=5.8
NB2 NORSAR Subarra 74.17 337 P P 20 18 21.0 -0.1
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 74.17 337 P P 20 18 21.1 -0.1
comp=Z,4.7nm,0.8s,mb4.5,baz=39,slow=5.8,SNR=19
NOA LR LR 20 54 06.4
comp=Z,55nm,18.1s,MS3.9,baz=40,slow=38
AKASG Malin Array Be 74.25 322 P P 20 18 21.3 -0.5
comp=Z,3.1nm,0.4s,mb4.6,baz=47,slow=6.1,SNR=18
NVAR Mina Array Bea 75.08 53 P P 20 18 29.4 +2.6
comp=Z,0.5nm,0.6s,mb3.6,baz=285,slow=7.9,SNR=4.0
NVAR pP pP 20 18 43.7 +2.3
comp=Z,1.4nm,0.8s,baz=284,slow=5.2,SNR=6.5
NVAR Mina Array Bea 75.08 53 P P 20 18 29.4 +2.6
NVAR pP pP 20 18 43.7 +2.3
UMR Umm Al-Rimmam 75.48 296 eP P 20 18 29.3 -0.1
MIB Mutribah 75.61 296 eP P 20 18 29.7 -0.4
MIB AMb AMB 20 18 30.6
comp=Z,33nm,0.5s,mb5.5
KBD Kabd 75.71 296 eP P 20 18 30.1 -0.6
KBD AMb AMB 20 18 31.0
comp=Z,98nm,0.5s
QRN Al-Qurain 75.79 295 eP P 20 18 30.9 -0.2
QRN AMb AMB 20 18 31.7
comp=Z,59nm,0.5s
RDF Al-Radifah 75.96 296 eP P 20 18 32.1 +0.1
RDF AMb AMB 20 18 33.1
comp=Z,50nm,0.7s,mb5.6
NAY Al-Naaiem 76.00 296 eP P 20 18 32.0 -0.3
NAY AMb AMB 20 18 33.0
comp=Z,21nm,0.6s,mb5.3
MALT Malatya 76.71 308 eP P 20 18 37.1 +0.9
comp=Z,4.1nm,1.1s,mb4.3
MALT Malatya 76.71 308 eP P 20 18 37.1 +1.0
MALT pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
PDAR Pinedale Array 77.76 45 P P 20 18 43.6 +1.8
comp=Z,0.6nm,0.6s,mb3.7,baz=288,slow=1.7,SNR=6.1
KWP Kalwaria 78.09 324 eP P 20 18 44.4 +0.9
KOLS Kolonicke sedl 78.78 324 eP P 20 18 47.6 +0.2
BR131 Keskin Array S 78.79 311 eP P 20 18 47.4 -0.2
comp=Z,2.8nm,0.8s,mb4.2
BRTR Keskin Array B 78.79 311 P P 20 18 48.1 +0.5
comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=4.9,SNR=9.4
STHS Stebnicka Huta 78.92 325 eP P 20 18 49.8 +1.7
OJC Ojcow 79.00 326 eP P 20 18 48.9 +0.4
NIE Niedzica 79.35 325 eP P 20 18 51.2 +0.8
KECS Kecovo 79.94 325 eP P 20 18 53.9 +0.3
OKC Ostrava-Krasne 80.01 327 eP P 20 18 54.5 +0.5
MORC Moravsky Berou 80.32 327 eP P 20 18 56.1 +0.5
comp=Z,5.4nm,1.2s,mb4.3
MORC Moravsky Berou 80.32 327 eP P 20 18 56.1 +0.4
MORC pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
DPC Dobruska-Polom 80.42 328 eP P 20 18 57.1 +0.9

UPC	Upice	80.44	328	eP	P	20 18 56.6	+0.3
PSZ	Piszkesteto	80.62	324	eP	P	20 18 58.0	+0.7
	comp=Z,4.6nm,0.9s,mb4.4						
PSZ	Piszkesteto	80.62	324	eP	P	20 18 58.0	+0.7
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
VYHS	Vyhne	80.69	325	eP	P	20 18 57.8	+0.2
BRG	Berggiesshubel	81.02	329	eP	P	20 19 00.3	+1.0
	comp=Z,7.3nm,1.2s,mb4.5						
BRG				e		20 36 46.2	
BRG	Berggiesshubel	81.02	329	eP	P	20 19 00.3	+1.0
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
PVCC	Panska Ves	81.03	329	eP	P	20 19 00.0	+0.6
CLL	Collm	81.07	330	P	P	20 18 59.6	0.0
	comp=Z,logA/T=0.8,mb4.5						
CLL				i PCP	PcP	20 19 03.3	-2.8
CLL				e*PP	pP	20 19 12.0	-2.2
CLL				ePP	PP	20 21 49.0	-18
CLL	Collm	81.07	330	i P	P	20 18 59.6	0.0
	comp=Z,7.0nm,1.0s,mb4.5						
CLL				i		20 19 03.3	
CLL				e	pP	20 19 12.0	-2.2
CLL	Collm	81.07	330	i P	P	20 18 59.6	0.0
CLL				e	pP	20 19 12.0	-2.2
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
PRU	Pruhonice	81.45	328	eP	P	20 19 00.8	-0.8
TREC	Trest	81.58	328	eP	P	20 19 02.6	+0.3
KHC	Kasperske Hory	82.51	328	eP	P	20 19 07.6	+0.5
GERES	GERESS Array B	82.68	328	P	P	20 19 08.5	+0.6
	comp=Z,1.5nm,0.6s,mb4.2,baz=36,slow=5.6,SNR=20						
GERES				LR	LR	20 59 29.3	
	comp=Z,50nm,19.7s,MS3.9,baz=142,slow=38						
GRA1	Grafenberg Arr	83.04	330	eP	P	20 19 10.8	+1.1
	comp=Z,8.0nm,0.9s,mb4.8						
GRF	Grafenberg Arr	83.04	330	eP	P	20 19 10.8	+1.1
	comp=Z,8.0nm,0.9s,mb4.8						
GRF	Grafenberg Arr	83.04	330	eP	P	20 19 10.8	+1.1
GRF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
GRF	Grafenberg Arr	83.04	330	eP	P	20 19 10.8	+1.1
GRF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
CDF	Champ du Feu	85.62	331	eP	P	20 19 23.3	+0.7
	comp=Z,17nm,1.0s,mb4.9						
CDF	Champ du Feu	85.62	331	eP	P	20 19 23.3	+0.7
CDF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
HAU	Haudompre	86.31	332	eP	P	20 19 26.4	+0.4
HAU				eR			
	comp=Z,72nm,18.8s						
MEZF	Maizieres J'vi	86.38	333	eP	P	20 19 27.2	+0.8
LOR	Lormes	87.86	333	eP	P	20 19 34.2	+0.7
	comp=Z,6.4nm,0.9s,mb4.5						
LOR				eR			
	comp=Z,52nm,19.0s						
LOR	Lormes	87.86	333	eP	P	20 19 34.2	+0.7
LOR				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
LOR				MLR	MLR		
	comp=Z,50nm,19.0s,MS4.0						
SSF	Saint Saulge	88.16	333	eP	P	20 19 36.7	+1.7
	comp=Z,8.7nm,1.0s,mb4.6						
SSF	Saint Saulge	88.16	333	eP	P	20 19 36.7	+1.7
SSF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
LPL	La Plagne	88.20	330	eP	P	20 19 35.8	+0.6
LPG	La Plagne	88.21	330	eP	P	20 19 35.9	+0.6
	comp=Z,3.9nm,0.7s,mb4.5						
LPG	La Plagne	88.21	330	eP	P	20 19 35.9	+0.6
LPG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
AVF	Avril sur Loir	88.44	333	eP	P	20 19 37.0	+0.7
	comp=Z,10nm,0.9s,mb4.8						
AVF	Avril sur Loir	88.44	333	eP	P	20 19 37.0	+0.7
AVF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
MBDF	Montbardon	88.84	329	eP	P	20 19 39.9	+1.6
ORIF	Oris-en-Rattie	89.04	330	eP	P	20 19 39.5	+0.3
	comp=Z,4.3nm,0.8s,mb4.5						
ORIF				eR			
	comp=Z,59nm,19.2s						
SBF	Sospel	89.27	329	eP	P	20 19 41.1	+0.8
	comp=Z,29nm,1.0s,mb5.3						
SBF	Sospel	89.27	329	eP	P	20 19 41.1	+0.8
SBF				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.3						
VIVF	Saint-Julien-l	89.57	331	eP	P	20 19 42.6	+0.9
	comp=Z,7.8nm,1.0s,mb4.7						
VIVF	Saint-Julien-l	89.57	331	eP	P	20 19 42.6	+0.9
VIVF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
TXAR	Lajitas Array	90.22	52	P	P	20 19 47.4	+2.3
	comp=Z,0.6nm,0.6s,mb4.1,baz=315,slow=5.1,SNR=1.0						
SNAA	Sanae	140.69	197		PKPdf	20 26 13.8	+2.1
SNAA	Sanae	140.69	197		PKPdf	20 26 33.2	+21
VNA2	Neumayer--Watz	142.27	196		PKPdf	20 26 16.7	+2.3
VNA2	Neumayer--Watz	142.27	196		PKPdf	20 26 34.9	+20
VNA2	Neumayer--Watz	142.27	196		PKPdf	20 26 36.3	+22
VNA2	Neumayer--Watz	142.27	196		PKPdf	20 26 43.7	+29
VNA3	Neumayer Olymp	142.52	195		PKPdf	20 26 26.9	+12
VNA3	Neumayer Olymp	142.52	195		PKPdf	20 26 45.5	+31
LPAZ	La Paz	146.79	59	PKPbc	PKPbc	20 26 29.0	+3.6
	comp=Z,2.5nm,0.5s,baz=0.4,slow=4.6,SNR=18						
LPAZ	La Paz	146.79	59	ePKP2	PKPab	20 26 28.9	-0.2

MEX 10 20:15:57.1±1.1, 16.81N×99.79W, h34^{km}±11^{km}, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.14	294	i P	P	20 16 01.5	-1.7
ACX				i S	S	20 16 06.0	-1.5
CAIG	El Cayaco	0.52	297	eP	P	20 16 06.4	-1.4
CAIG				i S	S	20 16 13.2	-2.4
PLIG	Platanillo	1.59	10	i P	P	20 16 22.0	-1.3
PLIG				i S	S	20 16 41.2	-1.8

*NEIC **10** 20:47:04.7±2.6, 5.44S×147.28E, h186^{km}±22^{km}, mb4.5/3, Error ellipse: s-maj=31.4km s-min=18.5km az=145.0*
*IDC **10** 20:47:05.6±3.2, 5.68S×147.40E, h189^{km}±24^{km}, mb3.6/4, mb1 3.8/6, mb1mx3.6/13, mbtmp4.1/6, Error ellipse: s-maj=34.1km s-min=28.3km az=136.0*
ISC 10 20:47:05.4±2.5, 5.7S±0.2×147.4E±0.2, h204^{km}±22^{km}, n13, $\sigma 0^{s}42$/14, mb4.1/5, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.67	184	P	P	20 48 04.3	+0.4
	5.9nm,0.3s,baz=339,slow=5.9,SNR=22						
PMG				S	S	20 48 48.8	-0.3
	8.5nm,0.3s,baz=68,slow=6.2,SNR=7.5						
CTA	Charters Tower	14.33	184	P	P	20 50 25.4	+5.0
	0.6nm,0.3s,baz=5.9,slow=12,SNR=6.0						
WRAB	Tennant Creek	19.02	221	eP	P	20 51 13.7	-0.2
	15nm,0.6s						
WB2	Warramunga Arr	19.02	221	⇓ iP	P	20 51 14.0	+0.1
WRA	Warramunga Arr	19.03	221	P	P	20 51 14.0	0.0
	2.4nm,0.3s,baz=48,slow=12,SNR=99						
KNA	Kununurra	20.86	240	eP	P	20 51 33.2	+0.7
	0.8nm,0.2s						
FITZ	Fitzroy Crossi	24.59	238	eP	P	20 52 07.8	-0.6
	9.2nm,0.5s,mb4.7						
FITZ	Fitzroy Crossi	24.59	238	P	P	20 52 08.1	-0.3
	13nm,0.5s,mb4.8,baz=39,slow=5.8,SNR=26						
STKA	Stephens Creek	26.59	191	P	P	20 52 26.9	+0.1
	9.0nm,1.3s,mb4.2,baz=29,slow=10,SNR=4.8						
KLBR	Kellerberrin	37.88	223	eP	P	20 54 03.9	-0.4
	83nm,1.8s,mb5.0						
VNDA	Vanda	72.17	177	P	P	20 58 09.8	+0.6
	0.6nm,0.5s,mb3.5,baz=343,slow=3.5,SNR=3.3						
ILAR	Eielson Array	85.05	23	P	P	20 59 19.2	+0.3
	0.3nm,0.7s,mb3.2,baz=259,slow=5.0,SNR=4.1						
KEBM	Edson Butte	92.55	47	eP	P	20 59 54.2	-0.7

*NEIC **10** 20:50:42.9, 41.11N×2.04W, h8^{km}, ML2.7(LDG), MN2.4(MDD), After MDD.*
*CSEM **10** 20:50:43.7±0.1, 41.20N×2.10W, h20^{km}, ML2.8/3, Error ellipse: s-maj=3.6km s-min=2.2km az=123.0*
*LDG **10** 20:50:49.2±0.1, 41.44N×1.53W, h5^{km}, Md2.5/3, Ml2.7/6, Error ellipse: s-maj=4.0km s-min=1.6km az=136.0*
MDD 10 20:50:42.0±0.5, 41.15N×2.11W, h3^{km}±5^{km}, mbLg2.3/20, Error ellipse: s-maj=4.3km s-min=3.2km az=122.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAC	San Caprasio	1.36	65	Pg	Pg	20 51 06.9	-2.2
	SNR=27						
ESAC				Lg		20 51 26.1	
	155nm,0.2s,SNR=19						
ESAC	San Caprasio	1.36	65	Pg	Pg	20 51 06.9	-2.1
ESAC				Lg		20 51 26.2	
ESAC	San Caprasio	1.36	65	Pg	Pg	20 51 06.9	-2.2
	34nm,0.3s,SNR=27						
ESAC				Lg		20 51 26.2	
	179nm,0.3s,SNR=19						
EMOS	Mosqueruela	1.47	122	Pg	Pg	20 51 09.3	-2.0
	1.5nm,0.2s,SNR=19						
EMOS				Lg		20 51 28.3	
	13nm,0.3s,SNR=7.3						
EMOS	Mosqueruela	1.47	122	Pg	Pg	20 51 09.7	-1.6
EMOS				Lg		20 51 28.3	
EMOS	Mosqueruela	1.47	122	Pg	Pg	20 51 09.7	-1.6
	7.5nm,0.4s,SNR=19						
EMOS				Lg		20 51 28.3	
	11nm,0.3s,SNR=7.3						
EARA	Aranguren	1.67	13	Pg	Pg	20 51 12.7	-2.5
	6.8nm,0.2s,SNR=14						
EARA				Lg		20 51 33.7	
	15nm,0.1s,SNR=7.9						
EARA	Aranguren	1.67	13	Pg	Pg	20 51 13.1	-2.1
	7.4nm,0.2s,SNR=14						
EARA				Lg		20 51 35.0	
	23nm,0.3s,SNR=7.9						
IPRE	Itoiz	1.75	18	Lg		20 51 35.7	
	6.1nm,0.2s,SNR=4.0						
ECHE	Chera	1.79	150	Pg	Pg	20 51 13.9	-3.7
	2.0nm,0.3s,SNR=7.9						
ECHE				Lg		20 51 37.7	
	3.6nm,0.4s,SNR=7.9						
IUSE	Utxeti	1.84	13	Lg		20 51 40.5	
	6.1nm,0.4s,SNR=7.9						
ERTA	Horta de San J	1.86	95	Pn	Pn	20 51 14.0	-0.9
	0.1nm,0.1s,SNR=7.9						
ERTA				Pg	Pg	20 51 16.0	-3.0
	1.9nm,0.1s,SNR=10						
ERTA				Lg		20 51 40.9	
	22nm,0.2s,SNR=13						
ERTA	Horta de San J	1.86	95	Pn	Pn	20 51 13.5	-1.5
ERTA				Pg	Pg	20 51 16.0	-3.0
ERTA				Lg		20 51 40.7	
ERTA	Horta de San J	1.86	95	Pn	Pn	20 51 13.5	-1.5
	SNR=7.9						
ERTA	Horta de San J	1.86	95	Pg	Pg	20 51 16.0	-3.0
	3.3nm,0.4s,SNR=10						
ERTA				Lg		20 51 40.7	
	19nm,0.2s,SNR=13						
ESDC	Sonseca Array	2.04	224	Pn	Pn	20 51 14.7	-3.0
	1.6nm,0.2s,baz=45,slow=18,SNR=39						
ESDC				Pg	Pg	20 51 18.7	-4.1
	11nm,0.2s,baz=46,slow=18,SNR=7.9						
ESDC				Lg		20 51 40.9	
	20nm,0.6s,baz=43,slow=30,SNR=4.0						
ESDC	Sonseca Array	2.04	224	Pn	Pn	20 51 15.6	-2.1
ESDC				Sn	Sn	20 51 43.3	-0.8
ESDC	Sonseca Array	2.04	224	Pn	Pn	20 51 15.6	-2.1
	4.8nm,0.3s,SNR=39						
ESDC				Sn	Sn	20 51 43.3	-0.8
	5.1nm,0.3s,SNR=4.0						
ESLA	Sonseca Array	2.04	224	ePn	Pn	20 51 18.6	+0.9
ESLA				eSn	Sn	20 51 43.8	-0.3
ESLA	Sonseca Array	2.04	224	ePn	Pn	20 51 18.6	+0.9
ESLA				eSn	Sn	20 51 43.8	-0.3
SJPF	Ste Jean	2.07	18	ePn	Pn	20 51 17.9	-0.1
SJPF				eSg	Sg	20 51 42.4	-8.4
	8.1nm,0.3s						
ETSF	Etsaut	2.09	33	ePn	Pn	20 51 16.7	-1.7
ETSF				eSg	Sg	20 51 40.9	-11
	12nm,0.3s						
EGRA	Graus	2.09	59	Pn	Pn	20 51 16.9	-1.5
	5.0nm,0.3s,SNR=12						
EGRA				Lg		20 51 48.6	
	10.0nm,0.4s,SNR=5.4						
EALK	Alkurruntz	2.12	12	Pn	Pn	20 51 17.5	-1.2
	5.0nm,0.2s,SNR=4.0						
EALK				Sn	Sn	20 51 42.4	-3.5
	7.9nm,0.3s,SNR=7.9						
EALK	Alkurruntz	2.12	12	Pn	Pn	20 51 17.5	-1.2
EALK				Sn	Sn	20 51 44.6	-1.3
EALK	Alkurruntz	2.12	12	Pn	Pn	20 51 17.5	-1.2
	SNR=4.0						
EALK				Sn	Sn	20 51 44.6	-1.2
	SNR=7.9						
EBIE	Bielsa	2.27	47	Pn	Pn	20 51 19.6	-1.4
	1.3nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	20 51 46.1	-3.9
	2.6nm,0.2s,SNR=7.9						
EBIE	Bielsa	2.27	47	Pn	Pn	20 51 19.6	-1.4
EBIE				Sn	Sn	20 51 47.4	-2.5
EBIE	Bielsa	2.27	47	Pn	Pn	20 51 19.6	-1.4
	SNR=7.9						
EBIE				Sn	Sn	20 51 47.4	-2.5
	SNR=7.9						
ELAN	Lanestosa	2.30	335	Pn	Pn	20 51 19.7	-1.7
	6.5nm,0.3s,SNR=4.0						
ELAN				Sn	Sn	20 51 47.5	-3.0
	1.6nm,0.1s,SNR=7.9						
ELAN				Lg		20 51 54.8	
	SNR=7.9						
ELAN	Lanestosa	2.30	335	Pn	Pn	20 51 19.7	-1.7
ELAN				Lg		20 51 59.5	
ELAN	Lanestosa	2.30	335	Pn	Pn	20 51 19.7	-1.7
	8.7nm,0.8s,SNR=4.0						
ELAN				Lg		20 51 59.5	
	SNR=7.9						
EPOB	Poblet	2.41	84	Pn	Pn	20 51 20.7	-2.2
	0.9nm,0.1s,SNR=7.8						
EPOB				Lg		20 51 58.2	
	8.2nm,0.2s,SNR=6.6						
EPOB	Poblet	2.41	84	Pn	Pn	20 51 20.7	-2.2
EPOB				Lg		20 51 57.9	
EPOB	Poblet	2.41	84	Pn	Pn	20 51 20.7	-2.2
	4.0nm,0.7s,SNR=7.8						
EPOB				Lg		20 51 57.9	
	6.6nm,0.2s,SNR=6.6						
EVIA	Vianos	2.53	187	Pg	Pg	20 51 29.2	-3.2
	1.8nm,0.2s,SNR=7.9						
EVIA				Lg		20 52 01.2	
	11nm,0.4s,SNR=8.7						
EVIA	Vianos	2.53	187	Pg	Pg	20 51 29.2	-3.2
EVIA				Lg		20 52 01.4	
EVIA	Vianos	2.53	187	Pg	Pg	20 51 29.2	-3.2
	SNR=7.9						
EVIA				Lg		20 52 01.4	
	9.4nm,0.3s,SNR=8.7						
ETOB	Tobarra	2.54	170	Pg	Pg	20 51 29.2	-3.4
	4.0nm,0.8s,SNR=12						
ETOB				Lg		20 52 02.6	
	2.4nm,0.2s,SNR=7.9						
ETOB	Tobarra	2.54	170	Pg	Pg	20 51 29.2	-3.4
ETOB				Lg		20 52 03.2	
ETOB	Tobarra	2.54	170	Pg	Pg	20 51 29.2	-3.5
	4.0nm,0.8s,SNR=12						
ETOB				Lg		20 52 03.2	
	2.8nm,0.3s,SNR=7.9						
EPF	Esparros	2.62	43	ePn	Pn	20 51 23.3	-2.6
EPF				ePg	Pg	20 51 28.3	-5.9
EPF				eSg	Sg	20 51 55.4	-14
	17nm,0.5s						
EMIR	Miracle	2.83	73	Pn	Pn	20 51 27.5	-1.5
	2.2nm,0.2s,SNR=4.0						
EMIR				Sn	Sn	20 52 00.2	-3.8
	4.5nm,0.2s,SNR=7.9						
EMIR				Lg		20 52 10.5	
	25nm,0.3s,SNR=6.7						
EMIR	Miracle	2.83	73	Pn	Pn	20 51 27.5	-1.5
EMIR				Sn	Sn	20 52 00.2	-3.8
EMIR				Lg		20 52 11.4	
EMIR	Miracle	2.83	73	Pn	Pn	20 51 27.5	-1.5
	6.2nm,0.8s,SNR=4.0						
EMIR				Sn	Sn	20 52 00.2	-3.9
	SNR=7.9						
EMIR				Lg		20 52 11.4	
	21nm,0.4s,SNR=6.7						
EARI	Arriondas	3.15	314	Pn	Pn	20 51 33.2	-0.2
	1.3nm,0.4s,SNR=7.9						
EARI				Lg		20 52 18.9	
	1.6nm,0.3s,SNR=7.9						
EBAN	Banos Encina	3.25	204	Pg	Pg	20 51 40.6	-6.2
	1.5nm,0.2s,SNR=4.0						
EBAN				Lg		20 52 21.7	
	2.3nm,0.2s,SNR=7.9						
EHUE	Huescar	3.35	187	Pg	Pg	20 51 44.4	-4.4
	0.4nm,0.2s,SNR=7.2						
EHUE				Lg		20 52 26.8	
	1.2nm,0.2s,SNR=5.4						
EHUE	Huescar	3.35	187	Pg	Pg	20 51 44.4	-4.4
EHUE				Lg		20 52 27.5	
EHUE	Huescar	3.35	187	Pg	Pg	20 51 44.4	-4.5
	0.7nm,0.4s,SNR=7.2						
EHUE				Lg		20 52 27.5	
	1.3nm,0.3s,SNR=5.4						
EMUR	La Murta	3.37	168	Pg	Pg	20 51 45.0	-4.3
	1.1nm,0.3s,SNR=7.9						
EMUR				Lg		20 52 29.0	
	2.0nm,0.4s,SNR=7.9						
EQES	Quesada	3.43	193	Pg	Pg	20 51 44.1	-6.2
	3.0nm,0.3s,SNR=7.9						
EQES				Lg		20 52 31.1	
	8.6nm,0.3s,SNR=7.9						
EQES	Quesada	3.43	193	Pg	Pg	20 51 45.4	-5.0
EQES				Lg		20 52 30.3	
EQES	Quesada	3.43	193	Pg	Pg	20 51 45.4	-4.9
	SNR=7.9						
EQES				Lg		20 52 30.3	
	7.0nm,0.3s,SNR=7.9						
EADA	Adamuz	3.54	213	Pn	Pn	20 51 36.6	-2.4
	0.5nm,0.1s,SNR=7.9						
EADA				Pg	Pg	20 51 46.8	-5.8
	0.9nm,0.2s,SNR=9.3						
EADA				Sn	Sn	20 52 17.1	-4.8
	1.0nm,0.2s,SNR=7.9						
EADA				Lg		20 52 35.4	
	1.4nm,0.2s,SNR=7.9						
EADA	Adamuz	3.54	213	Pn	Pn	20 51 36.6	-2.4
EADA				Pg	Pg	20 51 46.8	-5.8
EADA				Sn	Sn	20 52 17.1	-4.8
EADA				Lg		20 52 34.6	
EADA	Adamuz	3.54	213	Pn	Pn	20 51 36.6	-2.4
	SNR=7.9						
EADA	Adamuz	3.54	213	Pg	Pg	20 51 46.8	-5.8
	1.2nm,0.3s,SNR=9.3						
EADA				Sn	Sn	20 52 17.1	-4.8
	SNR=7.9						
EADA				Lg		20 52 34.7	
	SNR=7.9						
ECAL	Calabor	3.56	284	Pn	Pn	20 51 36.2	-3.1
	3.5nm,0.3s,SNR=4.0						
ECAL				Pg	Pg	20 51 47.3	-5.8
	3.4nm,0.3s,SNR=7.9						
ECAL				Sn	Sn	20 52 17.1	-5.5
	2.7nm,0.2s,SNR=7.9						
ECAL				Lg		20 52 35.6	
	15nm,0.3s,SNR=4.0						
ECAL	Calabor	3.56	284	Pn	Pn	20 51 36.7	-2.6
ECAL				Lg		20 52 38.8	
ECAL	Calabor	3.56	284	Pn	Pn	20 51 36.7	-2.6
	SNR=4.0						
ECAL				Lg		20 52 38.8	
	6.8nm,0.3s,SNR=4.0						
MTLF	Montolieu	3.89	54	ePn	Pn	20 51 40.7	-3.2
MTLF				ePg	Pg	20 51 53.0	-6.5
MTLF				eSg	Sg	20 52 34.6	-17
	3.4nm,0.3s						
EJON	La Jonquera	3.95	69	Lg		20 52 47.9	
	3.3nm,0.2s,SNR=7.9						
EJON	La Jonquera	3.95	69	Lg		20 52 46.7	
	SNR=7.9						
EQUE	Quentar	4.07	195	Pn	Pn	20 51 45.8	-0.8
	0.1nm,0.2s,SNR=4.0						
EQUE				Lg		20 52 49.1	
	2.2nm,0.3s,SNR=6.0						
EBER	Berja	4.29	188	Lg		20 52 55.8	
	1.3nm,0.2s,SNR=7.9						
LFF	La Frestale	4.32	28	ePn	Pn	20 51 47.3	-2.8
LFF				eSn	Sn	20 52 30.6	-11
	3.5nm,0.3s						
EPON	Pontenova	4.33	302	Lg		20 52 54.7	
	4.9nm,0.3s,SNR=7.9						
EBAD	Badajoz	4.46	239	Sn	Sn	20 52 37.4	-8.0
	4.9nm,0.3s,SNR=4.7						
EBAD				Lg		20 53 04.5	
	2.4nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.46	239	Sn	Sn	20 52 38.3	-7.1
	2.4nm,0.4s,SNR=4.7						
EBAD				Lg		20 53 04.5	
	SNR=7.9						
ELOB	Lobios	4.53	281	Lg		20 53 02.1	
	1.2nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.89	228	Sn	Sn	20 52 47.9	-8.2
	0.2nm,0.2s,SNR=7.9						
EMIN				Lg		20 53 16.6	
	3.0nm,0.4s,SNR=7.9						
EVO	Evora	5.24	242	ePn	Pn	20 52 14.0	+11
EVO				eSn	Sn	20 53 17.9	+13
	3.0nm,0.3s						
LASF	Ste Croix	5.28	54	ePn	Pn	20 51 59.7	-4.0

*MOS **10** 20:51:05.9±0.7, 28.14N×139.81E, h415^{km}, mb3.6/4, Error ellipse: s-maj=32.4km s-min=10.2km az=114.9*
*JMA **10** 20:51:06.2±0.2, 28.27N×140.24E, h432^{km}, M3.8*
*IDC **10** 20:51:06.6±0.7, 28.22N×140.14E, h408^{km}±14^{km}, mb3.3/10, mb1 3.4/13, mb1mx3.3/21, mbtmp4.1/13, Error ellipse: s-maj=45.9km s-min=12.3km az=74.0*
*NEIC **10** 20:51:07.4±1.1, 28.18N×140.06E, h420^{km}±12^{km}, mb3.5/4, Error ellipse: s-maj=23.1km s-min=9.6km az=78.0*
ISC 10 20:51:06.1±0.4, 28.24N±0.04×140.1E±0.2, h418^{km}±6^{km}, n49, $\sigma 0^{s}86$/61, mb3.6/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.21	121	P	P	20 52 05.7	+0.2
	69nm,0.3s,baz=305,slow=21,SNR=69						
CBIJ				S	S	20 52 50.4	-1.7
	101nm,0.3s,baz=279,slow=23,SNR=13						
JHHJ	Haha-jima-NKT	2.48	130	P	P	20 52 07.6	+0.4
JHHJ				S	S	20 52 56.0	+0.6
JHJ2	Mitsune	4.86	358	P	P	20 52 29.2	+1.0
JHJ	Hachijo jima 2	4.87	357	P	P	20 52 29.3	+1.1
	25nm,0.3s,baz=69,slow=22,SNR=22						
TK01	Tokai 1	5.89	340	P	P	20 52 39.9	+1.1
BSO1	Boso 1	6.44	7	P	P	20 52 45.5	+0.7
BSO1				S	S	20 54 03.0	+0.4
JIM2	Oshima 3	6.48	356	P	P	20 52 45.8	+0.6
JIM2				S	S	20 54 04.1	+0.8
BSO3	Boso 3	6.55	3	P	P	20 52 46.3	+0.3
BSO3				eS	S	20 54 04.3	-0.5
BSO4	Boso 4	6.73	2	S	S	20 54 09.2	+0.8
JIE	Ise	6.76	336	P	P	20 52 48.2	-0.1
JOD2	Odawara 2	7.05	354	P	P	20 52 52.3	+0.8
JOD2				S	S	20 54 13.5	-1.2
JHU	Hanno	7.62	355	P	P	20 52 57.2	-0.7
JRY	Ryogami san	7.81	353	P	P	20 53 00.2	+0.1
JRY				eS	S	20 54 28.1	-2.0
JAG	Ashikaga	8.18	357	P	P	20 53 03.2	-1.0
JAG				S	S	20 54 34.3	-3.2
JHO	Hitachi	8.36	3	P	P	20 53 06.4	+0.1
JHO				S	S	20 54 39.3	-1.9
MJAR	Matsushiro Arr	8.42	350	P	P	20 53 06.2	-0.8
	0.6nm,0.3s,baz=159,slow=10,SNR=6.7						
MAT	Matsushiro	8.42	350	P	P	20 53 09.1	+2.1
MAT				S	S	20 54 41.7	-0.8
MAT	Matsushiro	8.42	350	P	P	20 53 09.0	+2.0
MAT				eS	S	20 54 42.0	-0.5
JFK	Kawauchi	9.13	4	P	P	20 53 15.6	+0.6
JFK				S	S	20 54 57.6	+0.6
ENH	Enshi	26.70	282	P	P	20 56 10.8	-0.4
ULN	Ulaanbaatar	32.19	317	eP	P	20 56 60.0	+1.3
	1.2nm,0.6s,mb3.4						
ULN	Ulaanbaatar	32.19	317	eP	P	20 57 00.0	+1.3
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
SONM	Songino Array	32.58	316	P	P	20 57 02.8	+0.9
	comp=Z,1.2nm,0.5s,mb3.5,baz=125,slow=8.1,SNR=7.6						
WRAB	Tennant Creek	48.21	187	eP	P	20 59 07.6	-1.1
WRA	Warramunga Arr	48.22	187	P	P	20 59 08.1	-0.6
	comp=Z,1.0nm,0.4s,mb3.5,baz=4.4,slow=7.7,SNR=39						
MKAR	Makanchi Array	48.28	309	P	P	20 59 08.6	-0.3
	comp=Z,0.6nm,0.6s,mb3.1,baz=87,slow=10.0,SNR=8.4						
MKAR				PcP	PcP	21 00 28.3	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.8nm,0.7s,baz=79,slow=6.2,SNR=6.7						
KURK	**Kurchatov**	**50.83**	**314**	*e*P	**P**	**20 59 27.3**	**-0.6**
	comp=Z,1.5nm,0.6s,mb3.4						
KURK	**Kurchatov**	**50.83**	**314**	*e*P	**P**	**20 59 27.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.5						
VOSK	**Vostochnaya**	**55.57**	**316**	P	**P**	**21 00 01.3**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
BVA0	**Borovoye Array**	**55.92**	**317**	*i* P	**P**	**21 00 03.8**	**-0.7**
BRVK	**Borovoye**	**55.98**	**317**	*e*P	**P**	**21 00 04.7**	**-0.2**
	comp=Z,2.2nm,0.9s,mb3.5						
BRVK	**Borovoye**	**55.98**	**317**	*e*P	**P**	**21 00 04.7**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
KKAR	**Karatay Array**	**56.88**	**305**	P	**P**	**21 00 10.9**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
STKA	**Stephens Creek**	**59.80**	**178**	P	**P**	**21 00 31.0**	**-0.2**
	comp=Z,2.8nm,0.9s,mb3.7,baz=125,slow=18,SNR=6.3						
STKA	**Stephens Creek**	**59.80**	**178**	*e*P	**P**	**21 00 30.0**	**-1.1**
ARU	**Arti**	**62.35**	**322**	*e*P	**P**	**21 00 47.6**	**0.0**
	comp=Z,11nm,0.4s,mb4.7						
ARU	**Arti**	**62.35**	**322**	*e*P	**P**	**21 00 47.5**	**-0.1**
AB31	**Akbulak array**	**62.94**	**314**	*i* P	**P**	**21 00 51.2**	**-0.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
AKTO	**Aktyubinsk**	**63.89**	**315**	P	**P**	**21 00 57.0**	**-0.6**
KEV	**Kevo**	**71.27**	**340**	*e*p	**P**	**21 01 43.3**	**+0.8**
	comp=Z,0.4nm,0.3s,mb3.4						
ARCES	**ARCESS Array B**	**71.83**	**340**	P	**P**	**21 01 46.9**	**+1.0**
	comp=Z,4.0nm,0.8s,mb4.0,baz=68,slow=8.8,SNR=14						
JOF	**Joensuu**	**73.21**	**333**	*e*p	**P**	**21 01 53.1**	**-0.8**
	comp=Z,1.8nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**75.61**	**334**	*e*p	**P**	**21 02 07.8**	**+0.4**
	baz=50,slow=4.7						
FINES	**FINESS Array B**	**76.08**	**333**	P	**P**	**21 02 10.6**	**+0.6**
	comp=Z,1.6nm,0.3s,mb4.1,baz=72,slow=4.4,SNR=60						
AKASG	**Malin Array Be**	**80.57**	**323**	P	**P**	**21 02 34.8**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.6,baz=52,slow=6.3,SNR=4.8						
NB2	**NORSAR Subarra**	**81.84**	**337**	P	**P**	**21 02 40.9**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.6,baz=52,slow=4.6						
NOA	**NORSAR Array B**	**81.84**	**337**	P	**P**	**21 02 40.8**	**+0.3**
	comp=Z,1.3nm,0.7s,mb3.8,baz=47,slow=4.8,SNR=5.1						
BRTR	**Keskin Array B**	**83.83**	**312**	P	**P**	**21 02 51.8**	**+0.6**
	comp=Z,1.4nm,0.7s,mb3.8,baz=86,slow=3.8,SNR=6.5						
GERES	**GERESS Array B**	**89.54**	**328**	P	**P**	**21 03 18.4**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.3,baz=45,slow=7.5,SNR=4.6						

*NEIC **10** 20:53:58.5, 33.35S×72.45W, h32^{km}, ML3.5(GUC), After GUC.*

GUC 10 20:53:58.5±0.7**, 33.35S×72.45W, h32**^{km}±3^{km}**, MD3.9, ML3.5, 6C-5D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.75**	**100**	⇑*i*P	Pn	20 54 12.6	-0.3
LCCH				*i* S	Sb	20 54 23.0	-0.1
IHA	**Instituto Hidr**	**0.75**	**65**	*e*P	Pn	20 54 12.5	-0.4
IHA				*i* S	Sb	20 54 23.2	0.0
LNV	**Longovilo**	**1.06**	**125**	⇑*i*P	Pn	20 54 17.5	+0.2
LNV				*i* S	Sn	20 54 31.3	+0.3
ROCH	**El Roble**	**1.27**	**73**	*e*P	Pn	20 54 20.7	+0.4
ROCH				*i* S	Sn	20 54 38.3	+2.0
TACH	**Talagante**	**1.30**	**104**	⇓*i*P	Pn	20 54 21.0	+0.2
RCDM	**Rinconada Maip**	**1.38**	**96**	*e*P	Pn	20 54 22.3	+0.4
RCDM				*i* S	Sn	20 54 40.6	+1.4
RCDM				AMP		20 54 42.5	
	comp=N,924nm,0.4s						
PEL	**Peldehue**	**1.50**	**83**	*e*P	Pn	20 54 24.6	+1.1
SAN	**Santiago**	**1.50**	**94**	*i* P	Pn	20 54 24.1	+0.5
SAN				*i* S	Sn	20 54 44.1	+1.9
SAN				AMP		20 54 52.9	
	comp=N,1μm,0.5s						
STL	**Santa Lucia**	**1.52**	**94**	*e*P	Pn	20 54 24.3	+0.4
STL				*i* S	Sn	20 54 43.9	+1.3
STL				AMP		20 54 54.2	
	comp=E,562nm,0.6s						
ANTU	**Antumapu**	**1.54**	**99**	*i* P	Pn	20 54 25.2	+1.1
ANTU				*i* S	Sn	20 54 44.8	+1.7
ANTU				AMP		20 54 54.3	
	comp=N,1μm,0.6s						
DSCH	**Colegio Aleman**	**1.58**	**92**	*e*P	Pn	20 54 25.7	+1.0
DSCH				*i* S	Sn	20 54 46.0	+1.9
DSCH				AMP		20 54 55.4	
	comp=E,2μm,0.4s						
CLCH	**Cerro Calan**	**1.60**	**92**	⇑*i*P	Pn	20 54 26.1	+1.0
CLCH				*i* S	Sn	20 54 47.3	+2.5
CLCH				AMP		20 55 01.2	
	comp=E,1μm,0.7s						
CLCH				AMP		20 55 01.8	
	comp=E,2μm,0.7s						
CHCH	**Chadas Angostu**	**1.61**	**112**	⇓*i*P	Pn	20 54 25.6	+0.5
CHCH				*i* S	Sn	20 54 47.3	+2.3
FSR	**Penalolen**	**1.62**	**95**	*i* P	Pn	20 54 26.4	+1.1
FSR				*i* S	Sn	20 54 47.1	+2.0
FSR				AMP		20 54 53.4	
	comp=N,1μm,0.4s						
PCH	**Pirque**	**1.64**	**100**	⇓*i*P	Pn	20 54 26.6	+1.0
PCH				*i* S	Sn	20 54 48.7	+2.9
CACH	**El Canelo**	**1.72**	**117**	⇓*i*P	Pn	20 54 28.4	+1.7
SFDO	**San Fernando**	**1.74**	**137**	⇑*i*P	Pn	20 54 27.7	+0.7
FCH	**Farellones**	**1.81**	**90**	⇑*i*P	Pn	20 54 29.2	+1.2
FCH				*i* S	Sn	20 54 52.1	+2.1
FCH				AMP		20 54 59.6	
	comp=N,782nm,0.3s						
NICH	**Los Niches**	**1.94**	**149**	*e*P	Pn	20 54 30.9	+1.1
LMEL	**Las Melosas**	**1.94**	**105**	⇑*i*P	Pn	20 54 30.9	+1.0
LMEL				*i* S	Sn	20 54 55.5	+2.1
LMEL				AMP		20 55 04.2	
	comp=N,606nm,0.4s						
CICH	**Cipreses**	**1.95**	**120**	⇓*i*P	Pn	20 54 31.2	+1.2
CICH				*i* S	Sn	20 54 55.5	+1.9

*ATH **10** 21:40:36.9, 34.76N×28.53E, h37^{km}±19^{km}, MD3.6/8*
*NEIC **10** 21:40:36.9, 34.76N×28.53E, h37^{km}, MD3.6(ATH), After ATH.*
*CSEM **10** 21:40:36.4±0.0, 34.67N×28.61E, h30^{km}, MD3.6, Error ellipse: s-maj=1.5km s-min=1.0km az=59.0*
*ISK **10** 21:40:37.0, 34.74N×28.35E, h44^{km}, MD3.6*
*HLW **10** 21:40:39.3, 34.59N×28.56E, h25^{km}, Mb3.7*
*IDC **10** 21:40:40.0±4.1, 34.83N×28.42E, h40^{km}±31^{km}, mb3.9/3, mb1 3.9/5, mb1mx3.5/18, mbtmp3.9/5, ML3.4/2, Error ellipse: s-maj=49.9km s-min=13.4km az=164.0*

ISC 10 21:40:36.6±0.3**, 34.64N**±0.02×**28.55E**±0.03**, h51**^{km}±12^{km}**, n73, σ1^{s}06**/89**, mb3.9**/3**, 18C-4D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.45**	**309**	*e*PN	**P**	**21 41 01.2**	**+0.2**
KARP				*e*SN	**S**	**21 41 19.4**	**+0.4**
ARG	**Arkhangelos**	**1.61**	**348**	*e*PN	**P**	**21 41 03.6**	**+0.5**
ARG				*e*SN	**S**	**21 41 21.9**	**-0.9**
AKAS	**Kas**	**1.81**	**28**	*i* P	**P**	**21 41 06.6**	**+0.6**
AKAS				*i* S	**S**	**21 41 27.8**	**0.0**
DALT	**Dalyan (Mudla)**	**2.12**	**2**	PN	**P**	**21 41 09.5**	**-0.9**
DALT				SN	**S**	**21 41 33.8**	**-1.8**
XRY	**Khrisi**	**2.36**	**276**	*e*PN	**P**	**21 41 14.7**	**+0.9**
ELL	**Elmali**	**2.38**	**27**	PN	**P**	**21 41 15.0**	**+1.0**
NPS	**Neapolis**	**2.49**	**285**	*e*PN	**P**	**21 41 16.6**	**+1.0**
NPS				*e*SN	**S**	**21 41 44.5**	**-0.3**
YER	**Yerkesik**	**2.50**	**355**	*e*PN	**P**	**21 41 15.3**	**-0.4**
BDRM	**Kayabasi**	**2.58**	**340**	*i* P	**P**	**21 41 16.1**	**-0.8**
BDRM				*i* S	**S**	**21 41 42.6**	**-4.5**
BODT	**Bodrum**	**2.62**	**338**	PN	**P**	**21 41 15.8**	**-1.6**
GOLH	**Golhisar**	**2.72**	**17**	*i* P	**P**	**21 41 19.7**	**+0.8**
GOLH				*i* S	**S**	**21 41 49.2**	**-1.5**
IDI	**Anoyia**	**3.07**	**283**	P	**P**	**21 41 24.7**	**+0.9**
	3.1nm,0.3s,baz=101,slow=10,SNR=26						
IDI				S	**S**	**21 41 58.4**	**-1.2**
	3.5nm,0.3s,baz=304,slow=18,SNR=7.9						
DENT	**Denizli**	**3.13**	**7**	PN	**P**	**21 41 25.1**	**+0.4**
BCK	**Bucak**	**3.26**	**30**	PN	**P**	**21 41 28.1**	**+1.5**
SMG	**Samos**	**3.36**	**336**	*e*PN	**P**	**21 41 27.0**	**-0.9**
APE	**Apeiranthos**	**3.44**	**316**	*e*PN	**P**	**21 41 27.2**	**-1.9**
APE	**Apeiranthos**	**3.44**	**316**	*e*Pn	**P**	**21 41 29.0**	**-0.1**
ISP	**Isparta**	**3.57**	**26**	*e*PN	**P**	**21 41 31.1**	**+0.2**
ISP	**Isparta**	**3.57**	**26**	*e*Pn	**P**	**21 41 31.8**	**+0.9**
LEF	**Lefka**	**3.60**	**81**	*e*PN	**P**	**21 41 34.6**	**+3.2**
VAM	**Vamos**	**3.65**	**283**	*e*PN	**P**	**21 41 32.7**	**+0.7**
GVD	**Gavdhos**	**3.68**	**274**	Pn	**P**	**21 41 30.7**	**-1.7**
GVD				*e*Sn	**S**	**21 42 10.5**	**-4.4**
GVD	**Gavdhos**	**3.68**	**274**	Pn	**P**	**21 41 30.7**	**-1.7**
GVD				*e*Sn	**S**	**21 42 10.5**	**-4.4**
HMAT	**Matruh**	**3.74**	**199**	⇓P	**P**	**21 41 34.5**	**+1.2**
HMAT				S	**S**	**21 42 13.9**	**-2.6**
IZM	**Izmir**	**3.89**	**345**	*e*PN	**P**	**21 41 34.7**	**-0.7**
HDMB	**Hadim**	**3.95**	**53**	*e*PN	**P**	**21 41 37.5**	**+1.2**
HBRG	**Burj al ‘Arab**	**4.20**	**165**	⇑P	**P**	**21 41 40.3**	**+0.5**
SLUM		**4.21**	**223**	⇑P	**P**	**21 41 41.0**	**+1.1**
SLUM				S	**S**	**21 42 25.4**	**-2.9**
IKL	**Isikli**	**4.49**	**68**	*e*PN	**P**	**21 41 45.0**	**+1.1**
KONT	**Konya--Tatoy**	**4.51**	**42**	*e*PN	**P**	**21 41 45.5**	**+1.3**
KIZT	**Kizilcal**	**5.01**	**31**	*e*PN	**P**	**21 41 51.5**	**+0.4**
VLI	**Veliai**	**5.01**	**296**	*e*PN	**P**	**21 41 50.5**	**-0.7**
HMYD	**Mayadein**	**5.20**	**158**	⇑P	**P**	**21 41 54.3**	**+0.6**
ESKT	**Eskisehir**	**5.21**	**20**	*e*PN	**P**	**21 41 54.0**	**+0.1**
HNAT	**Natroun**	**5.29**	**160**	⇑P	**P**	**21 41 55.7**	**+0.7**
KOT	**Kottamia**	**5.46**	**148**	⇑P	**P**	**21 41 58.3**	**+0.9**
HHAG	**Hagoal**	**5.56**	**146**	⇑P	**P**	**21 41 59.2**	**+0.5**
HHAG	**Hagoal**	**5.56**	**146**	P	**P**	**21 41 59.2**	**+0.4**
AMAG	**Maghara**	**5.60**	**134**	⇑P	**P**	**21 41 59.3**	**0.0**
HSAF	**As Saff**	**5.62**	**152**	⇑P	**P**	**21 42 00.4**	**+0.8**
HRSH	**Kfar Ka’horesh**	**5.70**	**129**	⇑P	**P**	**21 42 01.1**	**+0.4**
RSH		**5.70**	**129**	P	**P**	**21 42 01.1**	**+0.4**
GLL	**Jalalah**	**5.72**	**151**	⇑P	**P**	**21 42 01.4**	**+0.5**
HNTI	**Hanita**	**5.73**	**104**	Sn	**S**	**21 43 05.6**	**-0.9**
OFRI	**‘Ofer**	**5.74**	**109**	Sn	**S**	**21 43 06.8**	**+0.2**
SWA1		**5.88**	**205**	⇑P	**P**	**21 42 03.3**	**+0.1**
SWA1				S	**S**	**21 43 05.1**	**-5.1**
KARA	**Karaisali**	**5.89**	**62**	*e*PN	**P**	**21 42 06.2**	**+2.8**
SLTI	**Sal’it**	**5.93**	**112**	Sn	**S**	**21 43 09.9**	**-1.7**
SWA2		**5.99**	**207**	⇑P	**P**	**21 42 04.9**	**+0.2**
MMLI	**Mount Malkishu**	**6.15**	**109**	Sn	**S**	**21 43 16.3**	**-0.6**
KZIT	**Kziot**	**6.18**	**125**	Sn	**S**	**21 43 14.8**	**-2.8**
KAMT	**Kaman**	**6.27**	**40**	*e*PN	**P**	**21 42 09.3**	**+0.5**
AWBH		**6.31**	**177**	⇓P	**P**	**21 42 09.5**	**+0.2**
MASH	**Mash‘abbe Sade**	**6.39**	**123**	Sn	**S**	**21 43 20.3**	**-2.5**
BR131	**Keskin Array S**	**6.50**	**37**	*e*Pn	**P**	**21 42 11.6**	**-0.4**
	2.6nm,0.3s						
BR131	**Keskin Array S**	**6.50**	**37**	*e*Pn	**P**	**21 42 11.6**	**-0.4**
	2.6nm,0.3s						
BRTR	**Keskin Array B**	**6.50**	**37**	P	**P**	**21 42 12.0**	**0.0**
	1.3nm,0.3s,baz=220,slow=14,SNR=22						
BRTR				S	**S**	**21 43 24.5**	**-1.1**
	0.4nm,0.3s,baz=214,slow=24,SNR=4.1						
BRTR	**Keskin Array B**	**6.50**	**37**	P	**P**	**21 42 12.0**	**0.0**
BRTR				S	**S**	**21 43 24.5**	**-1.1**
HNKL	**Nakhl**	**6.58**	**134**	⇑P	**P**	**21 42 13.4**	**+0.3**
HNKL				S	**S**	**21 43 22.4**	**-5.1**
MZDA	**Masada**	**6.62**	**118**	Sn	**S**	**21 43 26.0**	**-2.6**
MKRJ	**Makawir**	**6.70**	**115**	Sn	**S**	**21 43 29.5**	**-1.2**
PRNI	**Paran**	**6.93**	**126**	Sn	**S**	**21 43 32.2**	**-4.1**
EIL	**Elat**	**7.35**	**131**	Sn	**S**	**21 43 41.9**	**-4.8**
HBST	**Basata**	**7.54**	**134**	⇓P	**P**	**21 42 26.9**	**+0.4**
NUB		**7.63**	**135**	⇑P	**P**	**21 42 27.8**	**+0.1**
TR2		**7.64**	**143**	⇑P	**P**	**21 42 27.7**	**-0.2**
HKAT	**Jabal Katrina**	**7.67**	**141**	⇓P	**P**	**21 42 28.7**	**+0.5**
HDHB	**Dhahab**	**7.85**	**137**	⇑P	**P**	**21 42 31.3**	**+0.6**
TR1		**8.07**	**144**	⇑P	**P**	**21 42 33.4**	**-0.3**
HHRG	**Al Ghardaqah**	**8.56**	**148**	⇑P	**P**	**21 42 40.3**	**-0.2**
FINES	**FINESS Array B**	**26.87**	**357**	P	**P**	**21 46 14.2**	**+0.1**
	2.3nm,1.0s,mb3.7,baz=158,slow=10,SNR=4.0						
ARCES	**ARCESS Array B**	**34.99**	**358**	P	**P**	**21 47 26.4**	**+0.8**
	9.3nm,1.1s,mb4.6,baz=168,slow=8.3,SNR=3.4						
MKAR	**Makanchi Array**	**41.74**	**56**	P	**P**	**21 48 25.0**	**+2.9**
	0.7nm,0.6s,mb3.5,baz=278,slow=6.4,SNR=9.7						

IDC 10 21:56:44.7±1.6**, 5.56S×154.67E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.8**/12**, mbtmp3.8**/4**, Error ellipse: s-maj=74.1km s-min=32.8km az=119.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.40**	**232**	P	P	22 02 05.9	-0.2
	1.1nm,0.7s,baz=57,slow=9.9,SNR=10						
MKAR	**Makanchi Array**	**82.12**	**319**	P	P	22 09 07.1	-1.6
	0.5nm,0.8s,baz=104,slow=5.9,SNR=3.6						
ILAR	**Eielson Array**	**82.17**	**22**	P	P	22 09 07.5	-1.0
	0.3nm,0.8s,baz=251,slow=4.0,SNR=4.3						
MAW	**Mawson**	**85.59**	**203**	P	P	22 09 24.1	-1.7
	2.5nm,0.5s,baz=90,slow=6.1,SNR=3.7						

*NEIC **10** 21:58:52.0, 35.02S×70.56W, h20^{km}, ML3.2(GUC), After GUC.*

GUC 10 21:58:52.0±0.7**, 35.02S×70.56W, h20**^{km}±3^{km}**, MD3.6, ML3.2, 7C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.55**	**317**	⇓*i*P	Pb	21 59 02.4	-0.5
SFDO				*i* S	Sb	21 59 10.2	0.0
NICH	**Los Niches**	**0.55**	**271**	⇑*i*P	Pb	21 59 02.5	-0.4
NICH				*i* S	Sb	21 59 10.5	+0.2
CICH	**Cipreses**	**0.70**	**9**	⇑*i*P	Pb	21 59 05.1	-0.4
CICH				*i* S	Sb	21 59 15.1	+0.4
CACH	**El Canelo**	**0.90**	**358**	⇑*i*P	Pb	21 59 08.3	-0.4
CACH				*i* S	Sb	21 59 21.2	+1.0
CHCH	**Chadas Angostu**	**1.08**	**356**	⇑*i*P	Pb	21 59 11.8	-0.1
CHCH				*i* S	Sb	21 59 27.7	+2.1
LMEL	**Las Melosas**	**1.20**	**14**	⇓*i*P	Pn	21 59 14.0	+0.1
LMEL				*i* S	Sb	21 59 30.8	+1.8
LMEL				AMP		21 59 31.4	
	comp=N,662nm,0.2s						
LNV	**Longovilo**	**1.27**	**326**	⇑*i*P	Pn	21 59 14.5	-0.4
LNV				*i* S	Sb	21 59 31.9	+0.9
PCH	**Pirque**	**1.39**	**2**	*e*P	Pn	21 59 17.2	+0.6
PCH				*i* S	Sb	21 59 36.5	+2.0
TACH	**Talagante**	**1.40**	**347**	⇓*i*P	Pn	21 59 16.9	+0.2
TACH				*i* S	Sb	21 59 35.7	+1.0
ANTU	**Antumapu**	**1.45**	**357**	*e*P	Pn	21 59 17.6	+0.3
ANTU				*i* S	Sn	21 59 37.7	+1.8
ANTU				AMP		21 59 39.3	
	comp=E,875nm,0.5s						
RCDM	**Rinconada Maip**	**1.54**	**352**	⇓*i*P	Pn	21 59 19.5	+0.8
RCDM				*i* S	Sn	21 59 39.9	+1.6
RCDM				AMP		21 59 42.5	
	comp=E,452nm,0.2s						
SAN	**Santiago**	**1.56**	**357**	*i* S	Sn	21 59 40.8	+2.0
SAN				AMP		21 59 42.9	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**1.62**	**1**	*e*P	Pn	21 59 21.0	+1.2
CLCH				*i* S	Sn	21 59 43.5	+3.3
CLCH				AMP		21 59 45.5	
	comp=E,532nm,0.7s						
FCH	**Farellones**	**1.70**	**8**	⇑*i*P	Pn	21 59 22.6	+1.6
FCH				*i* S	Sn	21 59 45.9	+3.5
FCH				AMP		21 59 47.9	
	comp=E,339nm,0.4s						
LCCH	**Las Cruces**	**1.75**	**331**	*e*P	Pn	21 59 22.6	+0.8
LCCH				*i* S	Sn	21 59 46.1	+2.4
ROCH	**El Roble**	**2.07**	**349**	⇑*i*P	Pn	21 59 28.4	+2.0
ROCH				*i* S	Sn	21 59 56.3	+4.4
JACH	**Jahuel**	**2.33**	**359**	*e*P	Pn	21 59 32.1	+2.1

MAN 10 22:14:41.6, 10.49N×126.42E, h5^{km}, mb4.0, ML2.8, MS2.5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.15**	**233**	*e*P	Pb	22 15 02.8	-0.8
SCPH				*e*S	Sb	22 15 20.2	+1.5
BESP	**Borongan**	**1.47**	**319**	*e*P	Pn	22 15 07.8	-1.0
PLP	**Palo**	**1.56**	**296**	*e*P	Pn	22 15 11.2	+1.0
PLP				*e*S	Sb	22 15 31.9	+1.2
MSLP	**Maasin**	**1.57**	**257**	*e*P	Pn	22 15 10.0	-0.3
MSLP				*e*S	Sb	22 15 30.7	-0.2
BUTP	**Butuan**	**1.70**	**208**	*e*P	Pn	22 15 12.1	-0.1
CNP	**Catarman**	**2.64**	**320**	*e*P	Pn	22 15 23.7	-2.0

*ATH **10** 22:39:07.0, 38.64N×25.50E, h77^{km}±7^{km}*
*NEIC **10** 22:39:07.3, 38.64N×25.49E, h40^{km}, MD3.3(ATH), After ATH.*
*CSEM **10** 22:39:08.1±0.1, 38.56N×25.43E, h60^{km}, MD3.3, Error ellipse: s-maj=4.2km s-min=3.1km az=1.0*
*ISK **10** 22:39:09.0, 38.57N×25.37E, h29^{km}, MD3.2*

ISC 10 22:39:06.6±2.1**, 38.58N**±0.04×**25.40E**±0.06**, h7**^{km}±18^{km}**, n19, σ0^{s}87**/29**, 2C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.95**	**45**	⇑*i*P	**Pb**	**22 39 24.7**	**-0.3**
PRK				*e*S	**Sb**	**22 39 38.4**	**+0.8**
PRK	**Paraskevi**	**0.95**	**45**	⇑*i*P	**Pb**	**22 39 24.7**	**-0.3**
PRK				*e*S	**Sb**	**22 39 35.8**	**-1.8**
URLA	**Izmir**	**0.97**	**103**	*i* P	**Pb**	**22 39 24.2**	**-1.0**
URLA				*i* S	**Sb**	**22 39 37.1**	**-0.9**
AYVA	**Ayvalik**	**1.24**	**54**	*i* P	**Pb**	**22 39 29.6**	**-0.4**
AYVA				*i* S	**Sb**	**22 39 45.3**	**-0.8**
BLCB	**Balcova**	**1.31**	**98**	*e*PN	**Pn**	**22 39 31.9**	**+0.6**
BLCB				*e*SN	**Sn**	**22 39 48.3**	**-0.8**
LIA	**Limnos Island**	**1.33**	**353**	*e*P	**Pb**	**22 39 30.4**	**-1.0**
SMG	**Samos**	**1.43**	**127**	*e*P	**Pn**	**22 39 32.4**	**-0.7**
SMG				*e*S	**Sb**	**22 39 49.9**	**-1.6**
IZM	**Izmir**	**1.48**	**96**	*e*PN	**Pn**	**22 39 34.2**	**+0.5**
IZM				*e*SN	**Sn**	**22 39 54.1**	**+0.7**
KDAG	**Bornova**	**1.48**	**96**	*i* P	**Pn**	**22 39 34.0**	**+0.2**
KDAG				*i* S	**Sb**	**22 39 55.1**	**+2.2**
APE	**Apeiranthos**	**1.51**	**176**	*e*P	**Pn**	**22 39 34.6**	**+0.4**
APE				*e*S	**Sb**	**22 39 54.2**	**+0.3**
APE	**Apeiranthos**	**1.51**	**176**	*e*Pn	**Pn**	**22 39 34.7**	**+0.5**
APE				*e*S	**Sb**	**22 39 54.2**	**+0.3**
NEO	**Neokhori**	**1.84**	**294**	*e*P	**Pn**	**22 39 38.5**	**-0.5**
AKS	**Akhisar**	**1.91**	**80**	*e*PN	**Pn**	**22 39 40.8**	**+0.8**
CANB	**Canakkale**	**1.93**	**41**	*e*PN	**Pn**	**22 39 41.4**	**+1.2**
LPK	**Lapseki**	**2.08**	**30**	*e*PN	**Pn**	**22 39 43.0**	**+0.7**
BALB	**Balikesir**	**2.20**	**60**	*e*PN	**Pn**	**22 39 45.0**	**+0.9**
MRMT	**Marmara Adasi**	**2.64**	**39**	*e*PN	**Pn**	**22 39 50.7**	**+0.3**
VLI	**Veliai**	**2.69**	**227**	*e*P	**Pn**	**22 39 51.3**	**+0.1**
VLI	**Veliai**	**2.69**	**227**	*e*P	**Pn**	**22 39 50.7**	**-0.5**

*IDC **10** 22:52:15.4±2.2, 21.18S×178.37W, h403^{km}±28^{km}, mb3.4/3, mb1 3.5/6, mb1mx3.3/17, mbtmp4.4/6, Error ellipse: s-maj=28.3km s-min=15.7km az=115.0*
*NEIC **10** 22:52:17.6±1.1, 21.22S×178.30W, h444^{km}±26^{km}, mb3.8/1, Error ellipse: s-maj=20.0km s-min=16.0km az=113.0*

ISC 10 22:52:16.3±2.4**, 21.1S**±0.1×**178.3W**±0.2**, h445**^{km}±54^{km}**, n12, σ0^{s}72**/12**, mb3.8**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.48**	**42**	P	**P**	**22 54 30.2**	**+0.9**
	2.1nm,0.3s,baz=180,slow=6.1,SNR=4.4						
AFI				S	**S**	**22 56 14.3**	**-0.5**
	3.8nm,0.3s,baz=191,slow=17,SNR=5.2						
AFI	**Afiamalu**	**9.48**	**42**	P	**P**	**22 54 30.2**	**+0.9**
AFI				S	**S**	**22 56 14.3**	**-0.5**
DZM	**Mont Dzumac**	**14.22**	**263**	P	**P**	**22 55 20.7**	**-0.2**
	0.5nm,0.3s,baz=81,slow=17,SNR=8.0						
URZ	**Urewera**	**17.56**	**192**	P	**P**	**22 55 54.2**	**-0.4**
	2.6nm,0.3s,baz=329,slow=1.8,SNR=14						
URZ				S	**S**	**22 58 55.3**	**+4.2**
	0.8nm,0.3s,baz=71,slow=22,SNR=6.7						
RPZ	**Rata Peaks**	**24.23**	**199**	P	**P**	**22 56 56.8**	**-0.6**
	4.0nm,0.6s,mb4.0,baz=13,slow=9.8,SNR=7.1						
CTAO	**Charters Tower**	**33.15**	**265**	*e*P	**P**	**22 58 16.1**	**+0.7**
	2.2nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**37.27**	**245**	P	**P**	**22 58 50.1**	**+0.3**
	4.0nm,1.0s,mb3.8,baz=78,slow=9.3,SNR=3.3						
WRAB	**Tennant Creek**	**44.23**	**263**	P	**P**	**22 59 45.7**	**-0.4**
WRA	**Warramunga Arr**	**44.24**	**263**	P	**P**	**22 59 45.9**	**-0.2**
	1.7nm,0.7s,mb3.6,baz=96,slow=7.5,SNR=10						
HFS	**Hagfors**	**140.08**	**351**	PKhKP		23 10 51.2	
	2.3nm,0.9s,baz=45,slow=4.1,SNR=7.6						
AKASG	**Malin Array Be**	**143.39**	**330**	PKP	PKPdf	23 11 00.9	+2.5
	1.6nm,0.5s,baz=41,slow=4.4,SNR=11						
GERES	**GERESS Array B**	**150.69**	**344**	PKPbc	PKPdf	23 11 22.1	+12
	0.4nm,0.5s,slow=2.7,SNR=5.3						

MAN 10 23:22:13.5, 8.45N×125.94E, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.49**	**122**	⇑*e*P	Pg	23 22 21.1	-2.3
BIPH				*i* S	Sg	23 22 28.3	-1.6
BUTP	**Butuan**	**0.61**	**329**	*e*P	Pg	23 22 33.2	+7.6
BUTP				*e*S	Sg	23 22 50.6	+17
BUKP	**Musuan**	**1.03**	**237**	*e*P	Pb	23 22 25.5	-8.5
SCPH	**Surigao**	**1.40**	**342**	*e*P	Pb	23 22 37.8	-2.4
SCPH				*e*S	Sb	23 22 57.0	-1.5
MSLP	**Maasin**	**1.99**	**328**	*e*P	Sn	23 23 13.4	-1.2
PAGZ	**Pagadian**	**2.60**	**257**	*e*P	Pn	23 22 59.0	+1.6
BESP	**Borongan**	**3.17**	**351**	*e*P	Pn	23 23 06.5	+0.8

MAN 11 00:17:32.8, 10.37N×126.07E, h20^{km}, mb4.0, ML2.7, MS2.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**224**	*e*P	Pb	00 17 47.8	-0.3
SCPH				*e*S	Sb	00 17 59.5	+0.9
MSLP	**Maasin**	**1.21**	**259**	*e*P	Pn	00 17 54.1	-0.7
MSLP				*e*S	Sb	00 18 10.8	+0.7
PLP	**Palo**	**1.33**	**307**	*e*P	Pn	00 17 58.2	+1.7
PLP				*e*S	Sb	00 18 15.2	+1.6
BESP	**Borongan**	**1.37**	**333**	*e*P	Pn	00 17 56.0	-1.1
BESP				*e*S	Sb	00 18 14.8	0.0
BUTP	**Butuan**	**1.46**	**198**	*e*P	Pn	00 17 57.4	-0.9
BUTP				*e*S	Sn	00 18 21.7	+4.8
BUKP	**Musuan**	**2.66**	**202**	*e*P	Pn	00 18 11.2	-4.4
BUKP				*e*S	Sn	00 18 48.4	+0.8
PAGZ	**Pagadian**	**3.65**	**227**	*e*P	Pn	00 18 29.6	+0.1

*NEIC **11** 00:29:39.1, 16.47N×93.29W, h191^{km}, MD3.9(MEX), After MEX.*

MEX 11 00:29:39.2±0.8**, 16.46N×93.30W, h190**^{km}±12^{km}**, MD3.9, 2C, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**0.69**	**66**	*i* P	P	00 30 04.0	-2.3
SCX				*i* S	S	00 30 25.0	-2.3
CCIG	**Comitan**	**1.13**	**99**	*i* P	P	00 30 08.0	-1.1
CCIG				*i* S	S	00 30 30.2	-2.0
CMIG	**Matias Romero**	**1.65**	**293**	⇑*i*P	P	00 30 12.4	-1.4
CMIG				*i* S	S	00 30 37.8	-2.7
TUIG	**Tuzandepetl**	**1.90**	**326**	*e*P	P	00 30 15.1	-1.2
HUIG	**Huatulco**	**2.79**	**256**	⇑*i*P	P	00 30 23.5	-2.9
HUIG				*i* S	S	00 30 59.9	-2.8
OXX	**Oaxaca**	**3.34**	**281**	*e*P	P	00 30 32.0	-1.1
OXX				*i* S	S	00 31 12.0	-2.7
VHO	**Vista Hermosa**	**3.35**	**281**	*i* P	P	00 30 32.7	-0.5
VHO				*i* S	S	00 31 12.6	-2.2

*IDC **11** 00:38:47.3±0.9, 7.45S×130.05E, mb4.0/6, mb1 4.3/8, mb1mx4.1/15, mbtmp4.2/8, ML4.1/2, MS3.4/3, Ms1 3.4/3, ms1mx3.0/16, Error ellipse: s-maj=39.7km s-min=19.8km az=64.0*
*NEIC **11** 00:38:48.3±0.5, 7.56S×130.08E, h10^{km}, mb4.3/1, Error ellipse: s-maj=14.1km s-min=9.5km az=77.0*

ISC 11 00:38:49.2±0.6**, 7.73S**±0.05×**130.13E**±0.09**, h33**^{km}**, n16, σ1^{s}24**/19**, mb4.1**/6**, MS3.5**/1**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.20**	**203**	*e*P	**P**	**00 41 31.2**	**+1.1**
	7.0nm,0.3s						
FITZ				*e*S	**S**	**00 43 34.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.20**	**203**	Pn	**P**	**00 41 32.5**	**+2.4**
	5.5nm,0.3s,baz=18,slow=9.7,SNR=69						
FITZ				Sn	**S**	**00 43 35.2**	**0.0**
	3.3nm,0.3s,baz=188,slow=23,SNR=6.0						
FITZ				LR	LR	00 45 43.2	
	comp=Z,102nm,20.1s,baz=102,slow=36						
WRAB	**Tennant Creek**	**12.81**	**162**	*e*P	**P**	**00 41 52.6**	**+0.8**
	8.4nm,0.6s						
WRA	**Warramunga Arr**	**12.81**	**162**	Pn	**P**	**00 41 50.8**	**-1.0**
	1.1nm,0.3s,baz=343,slow=13,SNR=22						
WRA				Sn	**S**	**00 44 11.7**	**-2.5**
	1.8nm,0.3s,baz=329,slow=24,SNR=7.6						
WB2	**Warramunga Arr**	**12.82**	**162**	*e*P	**P**	**00 41 51.0**	**-0.8**
WB2				*e*S	**S**	**00 44 08.5**	**-5.8**

MBWA	**Marble Bar**	**16.71**	**216**	*e*P	**P**	**00 42 44.2**	**+1.7**
PMG	**Port Moresby**	**16.92**	**97**	P	**P**	**00 42 46.1**	**+0.9**
	0.4nm,0.3s,baz=270,slow=11,SNR=3.0						
CTA	**Charters Tower**	**19.88**	**130**	P	**P**	**00 43 21.8**	**+1.3**
	1.7nm,0.8s,baz=307,slow=15,SNR=2.4						
CTA				LR	LR	00 51 03.4	
	comp=Z,79nm,18.9s,baz=238,slow=37						
STKA	**Stephens Creek**	**26.30**	**158**	P	**P**	**00 44 26.9**	**+3.1**
	2.8nm,0.7s,mb3.9,baz=325,slow=12,SNR=5.1						
STKA				LR	LR	00 55 60.0	
	comp=Z,142nm,18.7s,MS3.5,baz=29,slow=39						
STKA	**Stephens Creek**	**26.30**	**158**	*e*P	**P**	**00 44 26.9**	**+3.2**
STKA				LR	LR	00 55 60.0	
MJAR	**Matsushiro Arr**	**44.68**	**9**	P	**P**	**00 47 01.0**	**+0.1**
	0.6nm,0.5s,mb3.7,baz=194,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**68.90**	**327**	P	**P**	**00 49 52.3**	**-0.5**
	5.9nm,0.6s,mb4.7,baz=125,slow=7.7,SNR=83						
ZAL	**Zalesovo**	**72.29**	**334**	P	**P**	**00 50 11.8**	**-1.2**
	0.7nm,0.3s,mb4.1,baz=322,slow=4.2,SNR=3.1						
KURK	**Kurchatov**	**73.20**	**329**	*e*P	**P**	**00 50 17.5**	**-1.1**
	3.1nm,1.0s,mb4.2						
BVAR	**Borovoye Array**	**78.74**	**328**	P	**P**	**00 50 49.9**	**-0.1**
	0.6nm,0.4s,mb3.8,baz=117,slow=6.4,SNR=5.5						
LPAZ	**La Paz**	**150.07**	**143**	PKPbc	PKPdf	00 58 43.2	+11
	1.3nm,0.6s,baz=180,slow=2.0,SNR=10						

MAN 11 00:41:24.7, 11.18N×126.39E, h31^{km}, mb4.1, ML2.9, MS2.7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.02**	**294**	*e*P	Pn	00 41 42.5	-0.6
BESP				*e*S	Sn	00 41 55.7	-0.7
SCPH	**Surigao**	**1.64**	**213**	*i* P	Pn	00 41 51.5	-0.5
SCPH				*e*S	Sn	00 42 10.0	-2.2
MSLP	**Maasin**	**1.82**	**235**	*e*P	Pn	00 41 54.9	+0.3
MSLP				*e*S	Sn	00 42 17.0	+0.2
CNP	**Catarman**	**2.14**	**308**	*e*P	Pn	00 41 59.0	-0.1
CNP				*e*S	Sn	00 42 30.0	+5.1

NNC 11 01:09:18.7±12.0**, 36.99N×71.11E, h112**^{km}±279^{km}**, mpv3.5, 2C-3D, Error ellipse: s-maj=105.5km s-min=87.6km az=6.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.13**	**356**	⇑P	P	01 10 47.5	-0.5
	1.7nm,0.4s,baz=172,slow=12,SNR=50						
KK31				⇓S	S	01 11 56.7	-0.6
	3.6nm,0.7s,baz=180,slow=23,SNR=11						
AAK	**Ala-Archa**	**6.21**	**24**	⇓P	P	01 10 47.5	-1.7
	1.7nm,0.3s						
AAK				⇑S	S	01 11 56.9	-2.5
	1.8nm,0.5s						
AB31	**Akbulak array**	**14.70**	**330**	⇓P	P	01 12 40.9	-1.0
	0.2nm,0.4s,baz=315,slow=7.4,SNR=7.8						

NNC 11 01:12:22.4±10.0**, 37.86N×71.93E, mpv3.1, 1C-1D, Error ellipse: s-maj=83.9km s-min=64.3km az=168.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.16**	**22**	⇑P	Pn	01 13 41.1	-1.6
	2.5nm,0.5s						
AAK				⇓S	Sn	01 14 42.9	-1.0
	1.3nm,0.6s						
KK31	**Karatay Array**	**5.35**	**349**	P	Pn	01 13 44.0	-1.4
	0.3nm,0.2s,baz=155,slow=11,SNR=25						
KK31				S	Sn	01 14 46.7	-2.0
	1.9nm,0.3s,baz=169,slow=22,SNR=19						
AB31	**Akbulak array**	**14.31**	**327**	P	P	01 15 41.8	-6.4
	0.2nm,0.3s,baz=169,slow=9.8,SNR=5.7						

PGC 11 01:24:01.3, 58.28N×133.55W, h1^{km}, ML3.3/4, Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**1.86**	**84**	Pn	Pn	01 24 32.8	-1.7
DLBC				Pg	Pg	01 24 34.5	-3.9
DLBC				Sn	Sn	01 24 58.5	-0.6
DLBC				Sg	Sg	01 24 59.7	-3.5
DLBC				Trac		01 25 04.2	
	comp=Z,88nm,0.4s						
PLBC	**Pleasant Camp**	**1.88**	**310**	Pn	Pn	01 24 34.0	-0.9
PLBC				Pg	Pg	01 24 34.9	-3.9
PLBC				Sn	Sn	01 24 58.9	-0.6
PLBC				Sg	Sg	01 25 00.2	-3.6
WHY	**Whitehorse**	**2.48**	**345**	Pn	Pn	01 24 42.0	-1.4
WHY				Pg	Pg	01 24 46.2	-4.6
WHY				Sg	Sg	01 25 17.1	-6.8
WHY				Trac		01 25 26.9	
	comp=Z,96nm,0.9s						
HYT	**Haines Junctio**	**3.25**	**323**	Pn	Pn	01 24 53.7	-0.8
HYT				Pg	Pg	01 24 59.7	-6.5
HYT				Sg	Sg	01 25 41.5	-8.0
HYT				Trac		01 25 46.2	
	comp=Z,83nm,1.0s						
RUBB	**Prince Rupert**	**4.37**	**154**	Pn	Pn	01 25 08.9	-1.4
RUBB				Sg	Sg	01 26 17.9	-8.7
RUBB				Trac		01 26 22.4	
	comp=Z,57nm,0.8s						
DAWY	**Dawson**	**6.45**	**337**	Sg	Sg	01 27 22.9	-13
INK	**Inuvik**	**10.07**	**0**	P	P	01 26 26.2	-3.7

JMA 11 01:29:50.2±0.3**, 43.99N×147.85E, h85^{km}, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.65**	**248**	P	P	01 30 18.0	-0.2
NEM2				*e*S	S	01 30 38.8	0.0
JRA	**Rausu**	**1.97**	**269**	P	P	01 30 22.1	-0.3
JRA				*e*S	S	01 30 47.2	+1.1
JNK	**Nakash**	**2.30**	**261**	P	P	01 30 26.6	-0.4
JNK				*e*S	S	01 30 54.2	-0.2
JAK	**Akkeshi**	**2.50**	**248**	P	P	01 30 29.2	-0.6
JAK				*e*S	S	01 30 58.6	-0.7
JTKR	**Abashiri--Toko**	**2.84**	**271**	P	P	01 30 33.7	-0.9
JAR	**Ashorobuto**	**3.04**	**258**	P	P	01 30 37.2	-0.1
JAR				*e*S	S	01 31 13.1	+0.4
JCH	**Churui**	**3.55**	**249**	P	P	01 30 43.7	-0.7
JCH				*e*S	S	01 31 24.0	-1.4
JKK2	**Kamakawa 2**	**3.69**	**270**	P	P	01 30 45.1	-1.1
JNBK	**Urakawa-nobuka**	**4.10**	**247**	P	P	01 30 50.7	-1.3
JNBK				*e*S	S	01 31 36.6	-2.5
JKB	**Kayabe**	**5.43**	**250**	P	P	01 31 08.9	-1.2
JKB				*e*S	S	01 32 07.1	-4.8
JOT	**Ohata**	**5.65**	**245**	*e*S	S	01 32 11.4	-6.0
JANG	**Nango**	**5.93**	**235**	*e*S	S	01 32 18.5	-5.9

*NEIC **11** 01:37:38.0±1.8, 17.50S×174.05W, h75^{km}±20^{km}, mb4.2/2, Error ellipse: s-maj=23.6km s-min=14.4km az=125.0*
*IDC **11** 01:37:38.0±3.2, 17.47S×174.10W, h75^{km}±32^{km}, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp4.2/8, Error ellipse: s-maj=36.2km s-min=17.5km az=126.0*
ISC 11 01:37:36.1±2.3**, 17.5S**±0.1×**174.1W**±0.2**, h70**^{km}±24^{km}**, n13, σ0^{s}94**/15**, mb4.1**/9**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.20**	**33**	P	**P**	**01 38 39.6**	**+0.4**
	54nm,0.3s,baz=196,slow=3.6,SNR=26						
AFI				S	**S**	**01 39 23.1**	**-4.3**
	168nm,0.3s,baz=38,slow=22,SNR=25						
AFI	**Afiamalu**	**4.20**	**33**	P	**P**	**01 38 39.6**	**+0.4**
AFI				S	**S**	**01 39 23.1**	**-4.3**
URZ	**Urewera**	**22.09**	**199**	P	**P**	**01 42 26.2**	**-0.5**
	7.2nm,0.3s,mb4.5,baz=299,slow=3.4,SNR=19						
RPZ	**Rata Peaks**	**29.01**	**202**	P	**P**	**01 43 31.9**	**+0.5**
	2.7nm,0.4s,mb4.2,baz=74,slow=7.4,SNR=5.4						
RPZ	**Rata Peaks**	**29.01**	**202**	P	**P**	**01 43 31.9**	**+0.5**
CTA	**Charters Tower**	**37.53**	**260**	P	**P**	**01 44 47.2**	**+2.0**
	1.2nm,0.3s,mb4.2,baz=96,slow=9.2,SNR=5.6						
CTAO	**Charters Tower**	**37.53**	**260**	*e*P	**P**	**01 44 46.2**	**+1.0**
WRAB	**Tennant Creek**	**48.70**	**259**	*e*P	**P**	**01 46 16.2**	**+0.6**
	2.1nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**48.71**	**259**	P	**P**	**01 46 13.7**	**-2.0**
	0.3nm,0.3s,mb3.8,baz=97,slow=7.3,SNR=9.3						
FITZ	**Fitzroy Crossi**	**57.11**	**259**	P	**P**	**01 47 17.5**	**-0.6**
	3.3nm,0.9s,mb4.4,baz=70,slow=2.9,SNR=2.9						
QSPA	**South Pole Qui**	**72.59**	**180**	*e*P	**P**	**01 48 57.0**	**-0.1**
	0.9nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**84.27**	**42**	P	**P**	**01 50 01.7**	**+0.2**
	0.6nm,0.7s,mb3.5,baz=208,slow=2.5,SNR=5.7						
ILAR	**Eielson Array**	**84.59**	**11**	P	**P**	**01 50 02.9**	**+0.3**
	0.7nm,0.6s,mb3.8,baz=234,slow=6.3,SNR=19						

*JMA **11** 01:56:27.5±0.1, 29.47N×139.16E, h502^{km}, M3.3*
*IDC **11** 01:56:29.8±3.0, 29.58N×139.43E, h480^{km}±54^{km}, mb2.9/2, mb1 3.1/3, mb1mx2.6/19, mbtmp3.7/3, Error ellipse: s-maj=353.4km s-min=26.6km az=83.0*
ISC 11 01:56:29.7±1.2**, 29.7N**±0.1×**139.0E**±0.2**, h492**^{km}±13^{km}**, n15, σ1^{s}03**/18**, mb3.1**/2**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.52**	**11**	P	**P**	**01 57 44.9**	**+0.5**
JHJ2				*e*S	**S**	**01 58 42.7**	**-0.8**
JWZ	**Kozaga**	**4.79**	**325**	P	**P**	**01 57 55.1**	**0.0**
JIE	**Ise**	**5.12**	**338**	P	**P**	**01 57 59.8**	**+1.7**
JKN2	**Miekihoku**	**5.14**	**334**	P	**P**	**01 57 58.6**	**+0.3**
BSO1	**Boso 1**	**5.25**	**18**	*e*S	**S**	**01 59 12.2**	**+1.8**
BSO3	**Boso 3**	**5.29**	**13**	*e*S	**S**	**01 59 11.4**	**+0.5**
BSO4	**Boso 4**	**5.44**	**11**	*e*S	**S**	**01 59 13.7**	**+0.2**
JNY	**Yasuok**	**5.78**	**350**	P	**P**	**01 58 05.7**	**+1.3**
JTO	**Tosashimizu**	**6.22**	**303**	P	**P**	**01 58 08.3**	**-0.5**
JAG	**Ashikaga**	**6.77**	**3**	P	**P**	**01 58 13.2**	**-1.0**
JAG				*e*S	**S**	**01 59 35.2**	**-1.9**
MJAR	**Matsushiro Arr**	**6.91**	**354**	P	**P**	**01 58 15.3**	**-0.4**
	0.5nm,0.3s,baz=170,slow=12,SNR=9.9						
MAT	**Matsushiro**	**6.91**	**354**	P	**P**	**01 58 14.1**	**-1.6**
JHO	**Hitachi**	**7.06**	**10**	P	**P**	**01 58 17.1**	**-0.1**
JHO				*e*S	**S**	**01 59 42.0**	**-0.6**
WRA	**Warramunga Arr**	**49.51**	**186**	P	**P**	**02 04 35.3**	**-0.9**
	0.3nm,0.5s,mb2.9,baz=3.8,slow=7.7,SNR=5.2						
FINES	**FINESS Array B**	**74.43**	**333**	P	**P**	**02 07 19.0**	**+1.5**
	0.9nm,0.8s,mb3.4,baz=51,slow=8.9,SNR=3.8						

NNC 11 02:51:47.6±7.8**, 36.86N×70.58E, h113**^{km}±212^{km}**, mpv3.3, 2C-1D, Error ellipse: s-maj=65.8km s-min=51.0km az=176.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.23**	**360**	⇓P	P	02 53 18.4	-0.1
	0.3nm,0.2s,baz=180,slow=13,SNR=44						
KK31				⇑S	S	02 54 28.3	-0.6
	1.1nm,0.3s,baz=182,slow=26,SNR=6.6						
AAK	**Ala-Archa**	**6.50**	**26**	⇑P	P	02 53 19.9	-2.3
	3.7nm,0.8s						
AAK				S	S	02 54 33.3	-2.2
	3.0nm,0.7s						
AB31	**Akbulak array**	**14.61**	**331**	P	P	02 55 08.8	-0.8
	0.5nm,0.5s,baz=153,slow=10,SNR=6.6						

*IDC **11** 03:15:33.4±2.3, 4.57S×153.86E, mb4.4/5, mb1 4.6/5, mb1mx4.2/14, mbtmp4.4/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=89.6km s-min=26.7km az=127.0*
*NEIC **11** 03:15:49.7±4.1, 4.87S×153.82E, h140^{km}±29^{km}, mb4.6/1, Error ellipse: s-maj=66.2km s-min=21.6km az=119.0*
ISC 11 03:15:48.8±4.9**, 4.9S**±0.3×**153.9E**±0.5**, h145**^{km}±35^{km}**, n12, σ0^{s}93**/11**, mb4.3**/7**, 1C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.00**	**236**	*e*P	**P**	**03 17 43.2**	**-0.1**
	93nm,0.6s						
CTA	**Charters Tower**	**16.80**	**205**	LR	LR	03 24 04.0	
	comp=Z,59nm,20.5s,baz=229,slow=30						
WRAB	**Tennant Creek**	**24.15**	**230**	*e*P	**P**	**03 20 53.7**	**+0.8**
	17nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**24.16**	**230**	*e*P	**P**	**03 20 53.7**	**+0.8**
WRA	**Warramunga Arr**	**24.17**	**230**	P	**P**	**03 20 53.9**	**+0.8**
	11nm,0.8s,mb4.5,baz=54,slow=9.6,SNR=80						
FITZ	**Fitzroy Crossi**	**30.53**	**242**	⇑*i*P	**P**	**03 21 49.9**	**-1.0**
	14nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**30.53**	**242**	P	**P**	**03 21 50.1**	**-0.9**
	17nm,0.6s,mb5.0,baz=74,slow=3.7,SNR=30						
FORT	**Forrest**	**35.38**	**220**	*e*P	**P**	**03 22 32.2**	**-0.2**
	26nm,0.5s,mb5.1						
MBWA	**Marble Bar**	**36.83**	**241**	*e*P	**P**	**03 22 42.2**	**-2.5**
MKAR	**Makanchi Array**	**81.09**	**319**	P	**P**	**03 27 50.4**	**+1.1**
	0.8nm,0.6s,mb3.5,baz=99,slow=6.7,SNR=5.1						
ILAR	**Eielson Array**	**81.86**	**22**	P	**P**	**03 27 52.5**	**-0.5**
	0.8nm,0.8s,mb3.4,baz=248,slow=6.0,SNR=6.8						
BVAR	**Borovoye Array**	**89.95**	**323**	P	**P**	**03 28 32.6**	**-0.1**
	2.1nm,0.8s,mb4.1,baz=104,slow=5.9,SNR=9.1						

*NAO **11** 03:28:36.1±2.0, 67.58N×33.74E, ML2.7*
*IDC **11** 03:28:38.6±2.3, 67.76N×33.46E, mb1 3.3/4, mb1mx3.2/20, mbtmp3.3/4, ML3.0/4, Error ellipse: s-maj=22.5km s-min=9.9km az=75.0*
*CSEM **11** 03:28:38.2±0.5, 67.72N×33.30E, h5^{km}, ML2.7, Error ellipse: s-maj=14.4km s-min=4.0km az=79.0, Mining explosion.*
HEL 11 03:28:36.5±0.5**, 67.68N×33.78E, ML2.6, ML2.5**(BER)**, ML2.7**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.31**	**257**	*i* P	Pg	03 28 41.9	-0.8
APA0				*i* S	Sg	03 28 46.1	-0.7
APA0				*e*RG		03 28 47.5	
APA0	**Apatity Array**	**0.31**	**257**	Pg	Pg	03 28 41.9	-0.8
	baz=89,slow=18						
APA0				Lg		03 28 46.1	
	baz=78,slow=37						
APA0				Rg		03 28 47.5	
	baz=82,slow=37						
KU4	**Liikasenvaara**	**2.11**	**233**	*e*P	Pn	03 29 13.4	-0.1
KU4				*e*S	Sn	03 29 40.6	-0.2
SGF	**Sodankyl**	**2.79**	**269**	*e*PB	Pb	03 29 25.1	-2.0
SGF				*e*SB	Sb	03 30 00.1	-1.9
SGF				MSG		03 30 06.0	
	comp=Z,11nm,0.3s						
KEV	**Kevo**	**3.23**	**313**	*e*P	Pn	03 29 28.8	-0.7
KEV				*e*S	Sn	03 30 06.9	-2.4
KEV				MSG		03 30 22.3	
	comp=Z,32nm,0.3s						
KEV	**Kevo**	**3.23**	**313**	P	Pn	03 29 28.8	-0.7
KEV				S	Sn	03 30 06.9	-2.4
	comp=Z,32nm,0.3s						
ARA0	**ARCESS Array S**	**3.56**	**305**	*e*P	Pn	03 29 32.6	-1.5
ARA0				*e*PG	Pg	03 29 41.2	-6.3
ARA0				*e*S	Sn	03 30 13.7	-3.9
ARA0				*e*SG	Sg	03 30 28.4	-6.7
ARA0	**ARCESS Array S**	**3.56**	**305**	Pn	Pn	03 29 32.6	-1.5
	baz=122,slow=14						
ARA0				Pg	Pg	03 29 41.2	-6.3
	baz=121,slow=16						
ARA0				Sn	Sn	03 30 13.7	-3.9
	baz=119,slow=28						
ARA0				Lg		03 30 28.4	
	baz=122,slow=28						
ARA0	**ARCESS Array S**	**3.56**	**305**	P	Pn	03 29 32.6	-1.5
ARA0				S	Sn	03 30 13.6	-4.0
ARA0				Sg	Sg	03 30 28.3	-6.7
ARCES	**ARCESS Array B**	**3.56**	**305**	Pn	Pn	03 29 32.7	-1.5
	comp=Z,2.2nm,0.3s,baz=122,slow=14,SNR=206						
ARCES				Sn	Sn	03 30 13.8	-3.7
	comp=Z,3.4nm,0.3s,baz=118,slow=26,SNR=14						
ARCES				Lg		03 30 24.0	
	comp=Z,4.6nm,0.3s,baz=118,slow=32,SNR=13						
OUL	**Oulu**	**4.10**	**234**	*e*P	Pn	03 29 40.9	-0.9
OUL				*e*SG	Sg	03 30 43.7	-9.4
OUL				MSG		03 30 44.0	
	comp=Z,9.4nm,0.3s						
OUL	**Oulu**	**4.10**	**234**	P	Pn	03 29 40.9	-0.9
OUL				Sg	Sg	03 30 43.6	-9.5
	comp=Z,9.4nm,0.3s						
KTK1	**Kautokeino**	**4.13**	**294**	*e*P	Pn	03 29 40.7	-1.6
KTK1				AML	AML	03 30 43.9	
	comp=Z,20nm,0.4s						
KJN	**Kajaani**	**4.38**	**217**	*e*P	Pn	03 29 46.2	+0.4
KJN				*e*S	Sn	03 30 34.1	-4.2
KIF	**Kilpisjarvi**	**4.99**	**291**	*e*P	Pn	03 29 51.6	-2.8
KIF				*e*S	Sn	03 30 47.6	-6.1
KIF				MSG		03 31 10.3	
	comp=Z,13nm,0.4s						
KIF	**Kilpisjarvi**	**4.99**	**291**	P	Pn	03 29 51.5	-2.9
KIF				S	Sn	03 30 47.6	-6.1
	comp=Z,13nm,0.4s						
FIA0	**FINESS Array S**	**7.08**	**212**	Pn	Pn	03 30 19.8	-4.1
	baz=18,slow=14						
FIA0				Sn	Sn	03 31 37.2	-8.8
	baz=25,slow=22						
FIA0				Lg		03 32 11.1	
	baz=24,slow=37						
FIA0	**FINESS Array S**	**7.08**	**212**	*e*P	Pn	03 30 19.8	-4.1
FIA0				*e*S	Sn	03 31 37.2	-8.8
FIA0				*e*SG		03 32 11.1	
FINES	**FINESS Array B**	**7.08**	**212**	Pn	Pn	03 30 19.6	-4.3
	comp=Z,0.2nm,0.3s,baz=23,slow=14,SNR=7.0						
FINES				Sn	Sn	03 31 39.6	-6.4
	comp=Z,0.3nm,0.3s,baz=43,slow=19,SNR=5.2						
FINES				Lg		03 32 13.7	
	comp=Z,0.6nm,0.3s,baz=25,slow=27,SNR=7.1						
HFS	**Hagfors**	**11.58**	**239**	Pn	P	03 31 19.4	-6.5
	baz=86,slow=8.6						
HFS				Sn	S	03 33 21.7	-15
	baz=41,slow=28						
HFS				Lg		03 34 28.8	
	baz=31,slow=28						
HFS	**Hagfors**	**11.58**	**239**	*e*P	P	03 31 19.4	-6.5
HFS				*e*S	S	03 33 21.7	-15
HFS				*e*SG		03 34 28.8	
HFS	**Hagfors**	**11.58**	**239**	Pn	P	03 31 20.4	-5.5
	comp=Z,0.0nm,0.3s,baz=40,slow=11,SNR=4.2						
HFS				Sn	S	03 33 25.0	-12
	comp=Z,0.0nm,0.3s,baz=52,slow=24,SNR=3.7						
HFS				Lg		03 34 32.3	
	comp=Z,0.0nm,0.3s,baz=63,slow=29,SNR=2.3						
NB2	**NORSAR Subarra**	**11.76**	**246**	*e*P	P	03 31 20.0	-8.4
NB2				*e*S	S	03 33 27.1	-15
NB2				*e*		03 34 42.4	
NB2	**NORSAR Subarra**	**11.76**	**246**	Sn	S	03 33 27.0	-15
NOA	**NORSAR Array B**	**11.76**	**246**	Pn	P	03 31 23.9	-4.4
	comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=2.7						
NOA				Lg		03 34 43.1	
	comp=Z,0.2nm,0.3s,baz=148,slow=7.0,SNR=4.3						

*BJI **11** 03:35:43.4, 6.49S×155.15E, h26^{km}, mB5.3, mb4.8, Ms4.7, Msz4.2*
*NEIC **11** 03:35:44.6±0.2, 6.64S×155.10E, mb5.0/26, Error ellipse: s-maj=6.2km s-min=5.1km az=122.0*
*HRVD **11** 03:35:44.6±0.6, 6.90S×155.07E, h36^{km}±1^{km}, MW5.0/38, Centroid moment Tensor Solution. LP body waves: s16,c21;Mantle waves: s38,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.94±.39; $M_{\theta\theta}$-0.73±.25; $M_{\phi\phi}$-2.21±.23; $M_{r\theta}$0.38±.28; $M_{\theta\phi}$2.13±.15; $M_{\phi r}$-1.00±.20; Best double couple: $M_0$3.505×10^{16} NP1:ϕ_s317°, δ37°, λ79°. NP2:ϕ_s151°, δ54°, λ98°. Principal axes: T 3.127, Plg79°, Azm92°; N .754, Plg6°, Azm326°; P -3.882, Plg9°, Azm235°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **11** 03:35:44.4±0.4, 6.62S×155.07E, h27^{km}±2^{km}, mb4.6/17, mb1 4.7/19, mb1mx4.7/20, mbtmp4.7/19, ML4.5/2, MS4.1/15, Ms1 4.2/15, ms1mx4.0/23 Error ellipse: s-maj=17.4km s-min=12.5km az=87.0*
*MOS **11** 03:35:44.6±1.1, 6.61S×155.04E, h33^{km}, mb4.8/5, Error ellipse: s-maj=11.8km s-min=10.8km az=74.0*
ISC 11 03:35:43.2±0.3**, 6.68S**±0.04×**155.11E**±0.05**, h29**^{km}**, h29**^{km}±.6^{km}**:pP-P, n149, σ0^{s}93**/106**, mb4.9**/53**, MS4.3**/17**, 12C-4D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.51**	**120**	Pg	**Pn**	**03 37 22.3**	**+17**
	baz=254,slow=8.3,SNR=2.4						
HNR				Lg		03 38 26.7	
	9.9nm,0.3s,baz=249,slow=15,SNR=4.5						
HNR				LR	LR	03 39 07.6	
	comp=Z,2μm,21.4s,baz=291,slow=36						
HNR	**Honiara**	**5.51**	**120**	P	**Pn**	**03 37 08.1**	**+2.4**
HNR				Pg	**Pn**	**03 37 22.3**	**+17**
HNR				*e*S	**Sn**	**03 38 21.9**	**+13**
HNR				Lg		03 38 26.7	
HNR				LR	LR	03 39 07.6	
PMG	**Port Moresby**	**8.32**	**251**	Pn	**P**	**03 37 45.8**	**+0.7**
	14nm,0.3s,baz=80,slow=5.6,SNR=23						
PMG				Sn	**Sn**	**03 39 22.0**	**+3.0**
	13nm,0.3s,baz=71,slow=20,SNR=9.6						
PMG				LR	LR	03 40 48.8	
	comp=Z,1μm,20.9s,baz=47,slow=37						
PMG	**Port Moresby**	**8.32**	**251**	*e*P	**P**	**03 37 45.3**	**+0.3**
	217nm,0.8s						
PMG				*e*S	**Sn**	**03 39 17.6**	**-1.4**
PMG	**Port Moresby**	**8.32**	**251**	*d i*P	**P**	**03 37 45.8**	**+0.8**
CTA	**Charters Tower**	**15.86**	**212**	*e*P	**P**	**03 39 27.1**	**+0.8**
	8.1nm,0.6s						
CTA				*e*		03 39 31.2	
CTA	**Charters Tower**	**15.86**	**212**	Pn	**P**	**03 39 27.0**	**+0.7**
	1.1nm,0.3s,baz=40,slow=12,SNR=60						
CTA				LR	LR	03 44 46.2	
	comp=Z,686nm,19.7s,baz=25,slow=34						
CTAO	**Charters Tower**	**15.86**	**212**	*e*P	**P**	**03 39 26.1**	**-0.2**
	56nm,0.8s						
CTAO				*e*		03 39 31.1	
DZM	**Mont Dzumac**	**18.81**	**146**	*e*P	**P**	**03 40 02.5**	**-0.6**
DZM	**Mont Dzumac**	**18.81**	**146**	P	**P**	**03 40 03.4**	**+0.2**
	1.6nm,0.3s,baz=328,slow=11,SNR=32						
DZM				LR	LR	03 46 23.8	
	comp=Z,339nm,19.7s,baz=202,slow=34						
GUMO	**Guam**	**22.56**	**333**	LR	LR	03 48 55.3	
	comp=Z,122nm,19.6s,baz=163,slow=35						
WRAB	**Tennant Creek**	**24.07**	**235**	*e*P	**P**	**03 40 58.0**	**+0.6**
	39nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**24.07**	**235**	⇑*e*P	**P**	**03 40 58.4**	**+1.0**
WB2	**Warramunga Arr**	**24.08**	**235**	⇓*i*P	**P**	**03 40 58.0**	**+0.6**
WB2				*e*S	**S**	**03 45 14.3**	**+4.3**
WRA	**Warramunga Arr**	**24.09**	**235**	P	**P**	**03 40 58.1**	**+0.5**
	12nm,0.5s,mb4.6,baz=60,slow=9.3,SNR=148						
WRA				PcP	PcP	03 44 39.2	-0.7
	4.4nm,0.6s,baz=60,slow=2.4,SNR=12						
WRA				pPcP		03 44 48.4	
	7.4nm,0.7s,baz=60,slow=2.2,SNR=9.1						
WRA				S	**S**	**03 45 18.4**	**+8.3**
	8.3nm,1.1s,baz=60,slow=15,SNR=8.3						
WRA	**Warramunga Arr**	**24.09**	**235**	*i* P	**P**	**03 40 58.1**	**+0.6**
WRA				pmax	pmax		
	comp=Z,12nm,0.5s						
STKA	**Stephens Creek**	**28.06**	**205**	*e*P	**P**	**03 41 34.1**	**-0.3**
	comp=Z,9.7nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**28.06**	**205**	P	**P**	**03 41 34.5**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.4,baz=31,slow=13,SNR=5.5						
STKA				PcP	PcP	03 44 47.9	-0.9
	comp=Z,5.3nm,0.8s,slow=1.0,SNR=3.3						
STKA				LR	LR	03 52 50.9	
	comp=Z,555nm,18.5s,MS4.2,baz=166,slow=36						
FITZ	**Fitzroy Crossi**	**30.88**	**246**	⇑*i*P	**P**	**03 41 58.9**	**-0.8**
	comp=Z,22nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.88**	**246**	P	**P**	**03 41 59.0**	**-0.7**
	comp=Z,30nm,0.7s,mb5.2,baz=118,slow=3.9,SNR=49						
FITZ				PcP	PcP	03 44 56.4	+0.3
	comp=Z,17nm,0.9s,baz=131,slow=1.4,SNR=4.0						
FITZ				pPcP		03 45 05.2	
	comp=Z,21nm,0.8s,baz=178,slow=3.6,SNR=4.2						
FITZ				LR	LR	03 55 16.0	
	comp=Z,400nm,18.0s,MS4.1,baz=91,slow=38						
RAO	**Raoul Island**	**33.92**	**135**	LR	LR	03 52 16.5	
	comp=Z,87nm,21.1s,MS3.5,baz=65,slow=29						
FORT	**Forrest**	**34.89**	**223**	*e*P	**P**	**03 42 34.0**	**-0.5**
	comp=Z,20nm,0.8s,mb5.1						
MBWA	**Marble Bar**	**37.11**	**244**	*e*P	**P**	**03 42 52.7**	**-0.7**
	comp=Z,6.9nm,0.5s,mb4.7						
URZ	**Urewera**	**37.22**	**151**	P	**P**	**03 42 54.2**	**+0.1**
	comp=Z,12nm,1.0s,mb4.7,baz=327,slow=7.5,SNR=3.4						
RPZ	**Rata Peaks**	**39.45**	**162**	P	**P**	**03 43 12.4**	**-0.3**
	comp=Z,16nm,0.8s,mb4.8,baz=14,slow=6.5,SNR=3.9						
KKM	**Kota Kinabalu**	**40.82**	**287**	P	**P**	**03 43 24.3**	**0.0**
KLBR	**Kellerberrin**	**42.77**	**230**	*e*P	**P**	**03 43 39.1**	**-1.1**
	comp=Z,22nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**45.83**	**341**	P	**P**	**03 44 06.2**	**+1.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=160,slow=7.5,SNR=15						
MAJO	**Matsushiro**	**45.83**	**341**	P	**P**	**03 44 03.4**	**-1.3**

comp=Z,3.8nm,0.7s,mb4.4
SSE Sheshan 49.63 321 *e*P **P** **03 44 33.2 -1.3**
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,291nm,4.2s
NJ2 Nanjing 51.75 320 *e*P **P** **03 44 50.9 +0.4**
NJ2 AP pP 03 45 00.8 +1.4
NJ2 XP sP 03 45 03.3 +0.5
NJ2 PCP PcP 03 46 03.2 -0.5
NJ2 S **S** **03 52 07.0 -2.0**
NJ2 XS 03 52 25.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,1μm,4.7s
NJ2 LR LR
comp=N,6μm,24.8s,MS5.5
NJ2 LR LR
comp=E,2μm,25.5s,MS5.5
NJ2 LR LR
comp=Z,1μm,25.2s,MS4.9
ASAJ Asahikawa 51.81 349 P **P** **03 44 49.9 -1.0**
comp=Z,8.9nm,0.9s,mb4.7,baz=219,slow=6.5,SNR=3.3
KULM Kulim 55.64 281 *e*P **P** **03 45 16.7 -2.7**
KULM *e*pP pP 03 45 26.1 -2.2
MDJ Mudanjiang 55.99 338 P **P** **03 45 22.1 +0.5**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,156nm,5.4s
CN2 Changchun 56.96 335 *e*P **P** **03 45 31.0 +2.5**
GYA Guiyang 57.35 307⇓ *i*P **P** **03 45 32.7 +1.1**
GYA AP pP 03 45 40.7 +0.2
GYA XP sP 03 45 46.8 +3.0
GYA PP PP 03 47 41.6 +1.2
GYA S **S** **03 53 25.4 +1.1**
GYA PS PS 03 53 32.7 -8.2
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,90nm,3.4s
GYA LR LR
comp=N,340nm,18.7s,MS4.6
GYA LR LR
comp=E,280nm,17.9s,MS4.6
GYA LR LR
comp=Z,270nm,18.0s,MS4.4
NANT Nan 59.30 296⇑P **P** **03 45 45.0 -0.2**
comp=Z,150nm,0.7s
XAN Xi'an 59.56 316 P **P** **03 45 45.2 -1.6**
XAN AP pP 03 45 56.5 +0.7
XAN AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
KMI Kunming 59.94 304 P **P** **03 45 50.1 +0.6**
KMI AP pP 03 45 59.2 +0.7
KMI XP sP 03 46 02.4 +0.6
KMI S **S** **03 53 55.2 -2.8**
KMI AMB AMB
comp=Z,29nm,0.9s,mb5.3
KMI AMB AMB
comp=Z,177nm,4.5s
KMI LR LR
comp=Z,93nm,22.4s,MS3.9
CHRT Chiangrai 60.48 297⇑P **P** **03 45 54.0 +0.7**
comp=Z,258nm,0.8s
CHG Chiang Mai 60.87 296⇑P **P** **03 45 56.2 +0.3**
comp=Z,32nm,1.0s,mb5.4
CD2 Chengdu 61.70 310 P **P** **03 46 02.1 +0.7**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.4
HHC Hu-ho-hao-te 61.91 324 *e*P **P** **03 46 03.5 +0.8**
HHC AP pP 03 46 13.4 +1.7
HHC XP sP 03 46 17.9 +2.9
HHC PCP PcP 03 46 45.3 +2.3
HHC PP PP 03 48 20.5 -0.7
HHC S **S** **03 54 22.0 -0.9**
HHC XS 03 54 38.6
HHC SS SS 03 58 24.5 -2.5
HHC AMB AMB
comp=Z,9.0nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,166nm,4.9s
HHC LR LR
comp=Z,138nm,19.0s,MS4.1
LZH Lanzhou 64.17 315 *e*P **P** **03 46 17.6 -0.2**
LZH AP pP 03 46 26.5 -0.3
LZH XP sP 03 46 30.5 +0.5
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,180nm,4.2s
CASY Casey 66.92 198⇑ *i*P **P** **03 46 33.4 -1.5**
GTA Gaotai 68.59 317 *e*P **P** **03 46 46.4 +0.6**
GTA AP pP 03 46 54.9 +0.1
GTA XP sP 03 46 59.5 +1.4
GTA PP PP 03 49 22.3 +2.9
GTA PPP PPP 03 50 59.6 +2.6
GTA S S 03 55 48.6 +3.7
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,87nm,8.0s
GTA LR LR
comp=N,151nm,14.8s,MS4.5
GTA LR LR
comp=E,161nm,14.5s,MS4.5
GTA LR LR
comp=Z,186nm,14.5s,MS4.5
ULN Ulaanbaatar 68.80 328 *e*P **P** **03 46 46.6 -0.4**
comp=Z,8.9nm,1.1s,mb4.6
SONM Songino Array 69.14 327 P **P** **03 46 49.0 -0.1**
comp=Z,5.6nm,0.8s,mb4.6,baz=130,slow=6.8,SNR=10
SONM pP pP 03 46 57.4 -0.6
comp=Z,3.8nm,0.8s,baz=158,slow=3.2,SNR=4.6
SEY Seymchan 69.45 359⇓ *e*P **P** **03 46 50.2 -0.5**
VNDA Vanda 70.89 178 P **P** **03 46 59.0 -0.3**
comp=Z,3.0nm,0.8s,mb4.3,baz=331,slow=6.2,SNR=20
VNDA pP pP 03 47 07.0 -1.3
comp=Z,4.8nm,0.9s,baz=344,slow=6.7,SNR=11
VNDA Vanda 70.89 178 *e*P **P** **03 46 57.2 -2.1**
comp=Z,5.0nm,0.9s,mb4.4
VNDA *e*pP pP 03 47 06.7 -1.6
LSA Lhasa 71.19 304 *e*P **P** **03 47 02.8 +1.0**
comp=Z,6.9nm,0.6s,mb4.8
LSA *e*pP pP 03 47 10.9 0.0
YAK Yakutsk 71.28 348 *i*P **P** **03 47 01.3 -0.5**
SBA Scott Base 71.39 177 *e*P **P** **03 47 02.2 -0.1**
ZAK Zakamensk 72.29 328⇑ *i*P **P** **03 47 07.1 -0.9**
ZAK *e* 03 51 27.0
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ZAK pmax pmax
comp=Z,1.0nm,1.0s
GUN Gumba 75.05 301 *e*P **P** **03 47 25.1 +0.5**
comp=Z,91nm,0.6s,mb5.8
PKI Pulchoki 75.36 301 *e*P **P** **03 47 26.7 +0.3**
comp=Z,86nm,1.0s,mb5.6
KKN Kakani 75.53 301 *e*P **P** **03 47 27.8 +0.5**
comp=Z,63nm,0.7s,mb5.7
DMN Daman 75.63 301 *e*P **P** **03 47 28.4 +0.5**
comp=Z,127nm,0.7s,mb5.9
GKN Gorkha 76.14 301 *e*P **P** **03 47 31.1 +0.3**
comp=Z,107nm,0.9s,mb5.8
KOLN Koldanda 76.96 300 *e*P **P** **03 47 34.7 -0.7**
comp=Z,67nm,1.0s,mb5.5
WMQ Urumqi 78.67 317 *e*P **P** **03 47 45.0 +0.5**
WMQ AP pP 03 47 55.0 +1.4
WMQ XP sP 03 47 59.0 +2.3
WMQ *e*S S 03 57 38.0 -0.3
WMQ XS 03 57 55.0
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,152nm,4.5s
WMQ LR LR
comp=N,119nm,23.6s,MS4.4
WMQ LR LR
comp=E,178nm,28.2s,MS4.4
WMQ LR LR
comp=Z,123nm,20.4s
HYB Hyderabad 79.27 289 *i*P **P** **03 47 48.0 -0.2**
HYB *e* pP 03 47 57.0 -0.4
HYB Hyderabad 79.27 289 *e*P **P** **03 47 57.0 +8.8**
SLKM Skilak Lake 79.41 24 *e*P **P** **03 47 48.1 0.0**
SLKM *e*pP pP 03 47 57.0 -0.3
TIXI Tiksi 80.06 352 *i*P **P** **03 48 03.5 +12**
SML Sawmill 80.90 24 *e*P **P** **03 47 56.3 +0.3**
DIV Divide 81.59 25 *e*P **P** **03 47 59.8 +0.2**
comp=Z,30nm,0.7s,mb5.3
DIV *e* pP 03 48 08.7 -0.1
MCK McKinley 81.73 22 *e*P **P** **03 47 59.4 -0.9**
comp=Z,15nm,0.9s,mb4.9
MCK *e*pP pP 03 48 08.5 -1.0
ILAR Eielson Array 83.05 21 P **P** **03 48 06.0 -1.1**
comp=Z,6.5nm,0.8s,mb4.7,baz=248,slow=5.4,SNR=45
ILAR LR LR 04 20 29.6
comp=Z,184nm,20.9s,MS4.4,baz=185,slow=32
ILAR Eielson Array 83.05 21 P **P** **03 48 06.0 -1.1**
ILAR LR LR 04 20 29.6
MKAR Makanchi Array 83.25 319 P **P** **03 48 08.0 -0.5**
comp=Z,5.6nm,0.9s,mb4.6,baz=101,slow=6.2,SNR=30
MKAR *e*pP pP 03 48 16.9 -0.8
comp=Z,7.6nm,0.8s,baz=101,slow=6.2,SNR=16
MKAR Makanchi Array 83.25 319 P **P** **03 48 08.0 -0.5**
MKAR *e*pP pP 03 48 16.9 -0.8
MKAR Makanchi Array 83.25 319⇑ *e*P **P** **03 48 08.5 0.0**
QSPA South Pole Qui 83.29 180⇑ *i*P **P** **03 48 08.5 +0.4**
comp=Z,19nm,0.7s,mb5.2
ZAL Zalesovo 83.99 326 P **P** **03 48 10.7 -1.5**
comp=Z,1.5nm,0.7s,mb4.3,baz=180,slow=7.8,SNR=4.7
ZAL *e*pP pP 03 48 20.2 -1.2
comp=Z,2.4nm,0.4s,baz=27,slow=5.7,SNR=2.9
MAW Mawson 84.72 203 P **P** **03 48 15.9 +0.4**
comp=Z,5.2nm,0.7s,mb4.8,baz=162,slow=9.4,SNR=6.3
DAWY Dawson 85.57 24 *e*pP **P** **03 48 20.5 +0.7**
DAWY *e*pP pP 03 48 30.0 +0.9
KSH Kashi 85.90 310 *e*P **P** **03 48 23.6 +1.6**
KSH *e*AP pP 03 48 29.8 -1.5
KSH *e*XP sP 03 48 40.0 +5.7
KSH AMB AMB
comp=Z,90nm,3.3s
KURK Kurchatov 86.66 322 *i*P **P** **03 48 24.5 -1.0**
AAK Ala-Archa 87.62 313 *i*P **P** **03 48 33.0 +2.6**
AAK pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
DLBC Dease Lake 87.82 31 LR LR 04 18 32.5
comp=Z,126nm,21.9s,MS4.3,baz=289,slow=29
DLBC Dease Lake 87.82 31 *e*P **P** **03 48 31.4 +0.6**
DLBC *e*pP pP 03 48 40.5 +0.4
YBH Yreka Blue Hor 88.60 48 P **P** **03 48 35.4 +0.3**
comp=Z,1.6nm,0.6s,mb4.5,baz=236,slow=11,SNR=2.5
YBH LR LR 04 20 59.1
comp=Z,289nm,19.3s,MS4.7,baz=205,slow=31
INK Inuvik 89.39 21 LR LR 04 22 09.6
comp=Z,210nm,21.3s,MS4.5,baz=75,slow=31
INK Inuvik 89.39 21 *e*P **P** **03 48 38.1 -0.1**
comp=Z,20nm,1.3s,mb5.3
INK *e*pP pP 03 48 47.9 +0.5
MTUM Tungsten Hills 91.10 53 P **P** **03 48 47.2 +0.4**
NVAR Mina Array Bea 91.44 52 P **P** **03 48 49.4 +1.0**
comp=Z,6.6nm,0.9s,mb5.0,baz=258,slow=4.4,SNR=21
NVAR pP pP 03 48 59.1 +1.5
comp=Z,7.6nm,0.9s,baz=249,slow=4.4,SNR=13
NVAR Mina Array Bea 91.44 52 P **P** **03 48 49.4 +1.0**
NVAR pP pP 03 48 59.1 +1.5
WVOR Wild Horse Val 91.70 48 *e*P **P** **03 48 49.5 0.0**
WVOR pP pP 03 48 58.7 0.0
DAC Darwin (Calif) 91.73 54 *e*P **P** **03 48 50.1 +0.3**
comp=Z,8.1nm,1.1s,mb5.0
DAC *e*pP pP 03 48 59.5 +0.5
BVAR Borovoye Array 92.12 323 P **P** **03 48 49.3 -1.8**
comp=Z,1.3nm,0.9s,mb4.3,baz=135,slow=4.2,SNR=5.7
BMN Battle Mountai 92.52 50 *e*P **P** **03 48 53.3 0.0**
comp=Z,9.5nm,1.0s,mb5.2
NEW Newport 93.45 42 LR LR 04 22 37.1
comp=Z,333nm,22.0s,MS4.8,baz=214,slow=30
ELK Elko 94.05 50 *e*P **P** **03 49 00.8 +0.5**
comp=Z,3.2nm,1.0s,mb4.7
YKA Yellowknife Ar 96.01 28 P **P** **03 49 09.0 +0.2**
comp=Z,8.2nm,0.9s,mb5.2,baz=264,slow=4.3,SNR=18
YKA pP pP 03 49 18.2 +0.1
comp=Z,6.0nm,0.8s,baz=267,slow=4.6,SNR=10.0
YKA LR LR 04 35 50.4
comp=Z,74nm,18.2s,MS4.2,baz=270,slow=38
YKA Yellowknife Ar 96.01 28 P **P** **03 49 09.1 +0.2**
YKA pP pP 03 49 18.2 +0.1
YKA LR LR 04 35 50.4
EDM Edmonton 96.23 37 *e*P **P** **03 49 09.4 -0.6**
EDM *e*pP pP 03 49 18.9 -0.3
BW06 Boulder Array 98.41 48 *e*P **P** **03 49 19.6 -0.5**
comp=Z,3.0nm,1.2s,mb4.7
PDAR Pinedale Array 98.41 48 P **P** **03 49 19.1 -1.0**
comp=Z,1.3nm,0.9s,mb4.5,baz=279,slow=1.7,SNR=10.0
PDAR LR LR 04 27 28.2
comp=Z,104nm,19.4s,MS4.3,baz=250,slow=32
ARU Arti 99.15 326 *i*P **P** **03 49 25.7 +2.6**
ARU MLR MLR
comp=Z,100nm,24.0s,MS4.2
SNAA Sanae 100.46 187⇑ *i*Pdif P 03 49 33.8 +5.0
SNAA *e* 03 49 43.0
SNAA *e* 03 53 51.4
SNAA *e* 03 54 00.1
SNAA *e* 03 54 03.7
VNA3 Neumayer Olymp 101.58 185⇑ *i*Pdif P 03 49 34.1 +0.3
VNA3 *e* 03 49 44.1
VNA3 *e* 03 53 56.8
VNA3 *e* 03 54 05.6
VNA3 *e* 03 54 09.2
VNA2 Neumayer--Watz 101.67 186 *e* P 03 49 44.6 +10
VNA2 Neumayer--Watz 101.67 186 *e* 03 53 57.4
VNA2 Neumayer--Watz 101.67 186 *e* Px 03 54 06.0
VNA2 Neumayer--Watz 101.67 186 *e* Px 03 54 09.9
VNA2 Neumayer--Watz 101.67 186⇑ *i*Pdif P 03 49 35.0 +0.8
VNA2 *e* 03 49 44.6
VNA2 *e* 03 53 57.4
VNA2 *e* 03 54 06.0
VNA2 *e* 03 54 09.9
TXAR Lajitas Array 103.01 62 PKKP PKKP 04 05 48.5 +10
comp=Z,0.3nm,0.8s,baz=80,slow=5.5,SNR=3.8
FINES FINESS Array B 113.70 336 PKKPbc 04 05 01.4
comp=Z,1.3nm,1.1s,baz=248,slow=7.5,SNR=4.1
FINES PKKPab 04 05 10.6
comp=Z,1.7nm,0.9s,baz=180,slow=2.8,SNR=5.5
PLCA Paso Flores 116.90 142 PKP PKPdf 03 54 26.4 -4.1
comp=Z,1.2nm,0.6s,baz=175,slow=11,SNR=3.2
PLCA pPKP 03 54 35.4
comp=Z,2.4nm,0.8s,baz=247,slow=5.0,SNR=3.6
AKASG Malin Array Be 117.35 325 PKP PKPdf 03 54 26.8 -4.3
comp=Z,1.8nm,0.7s,baz=58,slow=2.0,SNR=8.7
AKASG pPKP 03 54 35.7
comp=Z,3.4nm,0.8s,baz=64,slow=2.2,SNR=5.5
AKASG PKKPbc 04 04 49.0
comp=Z,1.2nm,0.6s,baz=263,slow=3.9,SNR=8.9
AKASG Malin Array Be 117.35 325 PKP PKPdf 03 54 26.8 -4.3
AKASG pPKP 03 54 35.7
AKASG PKKPbc 04 04 49.0
KMBO Kilima Mbogo 117.50 265 PKP PKPdf 03 54 29.6 -2.7
comp=Z,0.5nm,0.2s,baz=71,slow=18,SNR=3.7
BRTR Keskin Array B 118.26 312 PKP PKPdf 03 54 28.6 -4.6
comp=Z,1.1nm,0.7s,baz=63,slow=2.8,SNR=5.0
BRTR pPKP 03 54 37.6
comp=Z,1.7nm,0.6s,baz=99,slow=1.6,SNR=5.6
BRTR PKKPbc 04 04 48.8
comp=Z,0.7nm,0.6s,baz=225,slow=3.5,SNR=3.7
HFS Hagfors 119.26 339 PKP PKPdf 03 54 29.5 -5.1
comp=Z,3.7nm,1.0s,slow=1.4,SNR=5.0
HFS pPKP 03 54 39.0
comp=Z,1.6nm,0.9s,baz=101,slow=7.3,SNR=1.4
NOA NORSAR Array B 119.44 341 PKP PKPdf 03 54 30.5 -4.4
comp=Z,0.8nm,0.7s,baz=347,slow=1.7,SNR=3.5
SCHQ Schefferville 121.45 27 PKP PKPdf 03 54 34.4 -4.7
comp=Z,1.7nm,0.7s,baz=6.8,slow=5.9,SNR=4.3
SCHQ pPKP 03 54 43.8
comp=Z,4.0nm,0.8s,baz=277,slow=6.5,SNR=3.2
MLR Muntele Rosu 121.56 320 pPKP 03 54 44.6
comp=Z,2.9nm,0.7s,baz=323,slow=8.9,SNR=5.5
KOLS Kolonicke sedl 122.16 325 *e*PKP PKPdf 03 54 37.1 -3.4
KOLS *e* 03 54 45.9
STHS Stebnicka Huta 122.48 326 *e* PKPdf 03 54 32.7 -8.4
LSZ Lusaka 123.06 247 *e*PKPdf PKPdf 03 54 39.4 -3.6
LSZ *e*pPKPdf 03 54 48.4
MIV Mineville/With 123.59 40 *e*PKPdf PKPdf 03 54 38.9 -4.5
MIV *e*pPKPdf 03 54 48.0
CFAA Coronel Fontan 123.78 135 PKP PKPdf 03 54 39.7 -4.4
comp=Z,0.8nm,0.7s,baz=255,slow=1.8,SNR=13
CFAA pPKP 03 54 48.6
comp=Z,1.4nm,0.7s,baz=260,slow=3.2,SNR=12
DPC Dobruska-Polom 124.57 329 *e*PKPdf PKPdf 03 54 41.4 -3.8
PVCC Panska Ves 125.34 330 *e*PKPdf PKPdf 03 54 42.5 -4.1
PVCC *e*pPKP 03 54 51.6
BRG Berggiesshubel 125.43 331 *e*PKIKP PKPdf 03 54 51.6 +4.8
BRG pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 125.59 332 *i* PKIKP PKPdf 03 54 42.8 -4.3
comp=Z,logA/T=0.7
CLL *i* *PPKP 03 54 52.0
CLL Collm 125.59 332 *i* PKIKP PKPdf 03 54 42.8 -4.3
CLL *i* 03 54 52.0
CLL pmax pmax
comp=Z,5.0nm,1.0s
TREC Trest 125.65 329 *e*PKPdf PKPdf 03 54 43.3 -3.9
TREC *e*pPKP 03 54 51.0
PRU Pruhonice 125.70 330 *e*PKPdf PKPdf 03 54 40.7 -6.6
IDI Anoyia 126.24 309 PKP PKPdf 03 54 44.6 -4.2
comp=Z,6.2nm,0.9s,slow=6.1,SNR=3.1
NKC Novy Kostel 126.57 331 *e*PKPdf PKPdf 03 54 45.6 -3.3
KHC Kasperske Hory 126.73 329 *e*PKPdf PKPdf 03 54 45.7 -3.6
KHC *e*pPKP 03 54 53.5
GERES GERESS Array B 126.85 329 PKP PKPdf 03 54 45.3 -4.2
comp=Z,2.3nm,0.8s,baz=45,slow=1.9,SNR=21
GERES pPKP 03 54 54.3
comp=Z,2.9nm,0.8s,baz=90,slow=2.7,SNR=14
GRF Grafenberg Arr 127.52 331 *e*PKP PKPdf 03 54 47.2 -3.7
GRF *e*pPKP 03 54 55.9
BOJS Bojanci 128.04 325 *i* PKPbc PKPdf 03 54 57.4 +5.4
VISS Visnje 128.10 325 *e*PKPbc PKPdf 03 54 57.6 +5.5
EKA Eskdalemuir Ar 128.47 344 PKP PKPdf 03 54 48.6 -3.9
comp=Z,0.7nm,0.8s,baz=342,slow=2.2,SNR=4.0
EKA pPKP 03 54 57.5
comp=Z,0.9nm,0.5s,baz=358,slow=3.3,SNR=3.2
ROSC El Rosal 130.79 89 PKP PKPdf 03 54 54.2 -3.9
comp=Z,4.9nm,0.8s,baz=92,slow=12,SNR=5.5
ROSC pPKP 03 55 04.2
comp=Z,2.6nm,0.5s,baz=104,slow=22,SNR=3.2
LPAZ La Paz 131.51 119 PKP PKPdf 03 54 55.3 -4.0
comp=Z,4.1nm,1.1s,baz=230,slow=2.5,SNR=6.2
LPAZ pPKP 03 55 05.2
comp=Z,2.9nm,0.7s,baz=339,slow=4.9,SNR=7.6
LPAZ La Paz 131.51 119 *e*PKPdf PKPdf 03 54 55.6 -3.7
LPAZ *e*pPKPdf 03 55 05.6
CPUP Villa Florida 134.53 138 PKP PKPdf 03 55 01.2 -3.6
comp=Z,4.7nm,0.8s,baz=290,slow=5.1,SNR=9.9
CPUP pPKP 03 55 09.9
comp=Z,6.8nm,0.8s,baz=263,slow=1.6,SNR=7.5
CPUP Villa Florida 134.53 138 *e*PKPdf PKPdf 03 55 00.8 -4.0
CPUP *e*pPKPdf 03 55 09.8
SDV Santo Domingo 134.65 84 PKP PKPdf 03 55 01.4 -3.9
comp=Z,10nm,0.7s,baz=264,slow=4.9,SNR=15
SDV pPKP 03 55 10.9
comp=Z,12nm,0.7s,baz=303,slow=5.5,SNR=11
SDV Santo Domingo 134.65 84 *e*PKPdf PKPdf 03 55 01.0 -4.3
SDV *e*pPKPdf 03 55 10.3
SIV San Ignacio 137.69 122 PKhKP 03 54 56.0
comp=Z,0.9nm,0.5s,baz=219,slow=5.6,SNR=8.2
SIV PKP PKPdf 03 55 06.3 -4.4
comp=Z,2.3nm,0.8s,baz=248,slow=5.7,SNR=8.4
SIV pPKP 03 55 16.0
comp=Z,4.6nm,0.9s,baz=224,slow=3.5,SNR=9.7
SAML Samuel 138.80 112 *e*PKPdf PKPdf 03 55 09.7 -3.2
SAML *e*pPKPdf 03 55 17.6
DBIC Dimbokro 160.10 271 PKPab PKPab 03 56 21.0 -1.9
comp=Z,3.4nm,0.7s,baz=61,slow=6.0,SNR=7.5

NIED ***11*** *04:09:00,33.50N×142.40E,h8km,Mw4.4 Best double couple: M₀4.59×10¹⁵ NP1:φ₀176°,δ61°,λ-96°. NP2:φ₀9°,δ30°,λ-79°.*
IDC ***11*** *04:09:41.3±0.5,33.48N×142.48E,mb4.3/18,mb1 4.4/22, mb1mx4.4/28,mbtmp4.3/22,ML4.2/4,MS3.6/7,Ms1 3.6/7, ms1mx3.2/39,Error ellipse: s-maj=18.6km s-min=12.7km az=74.0*
BJI ***11*** *04:09:44.7,33.42N×142.29E,h31km,mB5.0,mb4.6, Ms4.2,Msz3.8*
MOS ***11*** *04:09:44.9±0.9,33.34N×142.23E,h33km,mb4.8/17,Error ellipse: s-maj=17.1km s-min=6.0km az=121.2*
JMA ***11*** *04:09:45.0±0.3,33.52N×142.36E,h53km,M4.4*
NEIC ***11*** *04:09:47.0±0.2,33.45N×142.37E,mb4.8/22, MW4.4(NIED),Error ellipse: s-maj=6.0km s-min=4.4km az=65.0*

ISC 11 04:09:43.6±1.2,33.46N±0.04×142.33E±0.04,h23km,s8km, h38km,s3.1km;pP-P,n160,σ1s00/164,mb4.6/51,MS3.9/8, 6C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.64**	**317**	P		**Pn**	**04 10 11.7**	**+0.2**
BSO1				S		**Sn**	**04 10 30.7**	**-1.3**
BSO3	**Boso 3**	**2.02**	**312**	P		**Pn**	**04 10 17.7**	**+0.8**
BSO3				*e*S		**Sn**	**04 10 42.6**	**+0.9**
JHJ2	**Mitsune**	**2.14**	**261**	P		**Pn**	**04 10 19.9**	**+1.3**
JHJ2				*e*S		**Sn**	**04 10 44.7**	**0.0**
JHJ	**Hachijo jima 2**	**2.16**	**262**	Pn		**Pn**	**04 10 19.8**	**+0.8**
JHJ	64nm,0.3s,baz=163,slow=6.7,SNR=46			Sn		**Sn**	**04 10 46.6**	**+1.3**
BSO4	**Boso 4**	**2.25**	**313**	P		**Pn**	**04 10 21.4**	**+1.2**
KTR	**Katsuura**	**2.37**	**316**	S		**Sn**	**04 10 51.0**	**+0.4**
CHOJ	**Chosi**	**2.55**	**332**	P		**Pn**	**04 10 24.0**	**-0.5**
JIM2	**Oshima 3**	**2.71**	**298**	P		**Pn**	**04 10 26.6**	**-0.3**
JIZS	**Izushimoda**	**3.13**	**295**	P		**Pn**	**04 10 33.1**	**+0.3**
JIZS				*e*S		**Sn**	**04 11 08.6**	**-1.2**
JOD2	**Odawara 2**	**3.23**	**305**	P		**Pn**	**04 10 33.7**	**-0.5**
JOD2				*e*S		**Sn**	**04 11 11.1**	**-1.3**
JYN	**Shimob**	**3.73**	**304**	P		**Pn**	**04 10 41.4**	**+0.1**
JYN				*e*S		**Sn**	**04 11 25.4**	**+0.3**
SHZ3	**Shizuoka 3**	**3.77**	**296**	P		**Pn**	**04 10 42.6**	**+0.7**
SHZ3				*e*S		**Sn**	**04 11 26.1**	**0.0**
JAG	**Ashikaga**	**3.79**	**322**	P		**Pn**	**04 10 41.2**	**-0.9**
JRY	**Ryogami san**	**3.81**	**313**	P		**Pn**	**04 10 42.1**	**-0.3**
JRY				*e*S		**Sn**	**04 11 25.9**	**-1.1**
TK01	**Tokai 1**	**3.97**	**276**	P		**Pn**	**04 10 46.0**	**+1.3**
JMM	**Marumori**	**4.57**	**345**	P		**Pn**	**04 10 50.1**	**-3.2**
JMM				*e*S		**Sn**	**04 11 38.6**	**-7.7**
MJAR	**Matsushiro Arr**	**4.57**	**313**	Pn		**Pn**	**04 10 53.0**	**-0.2**
MJAR	13nm,0.3s,baz=130,slow=11,SNR=89			Sn		**Sn**	**04 11 43.5**	**-2.8**
MAJO	**Matsushiro**	**4.57**	**313**	*e*P		**Pn**	**04 10 53.3**	**0.0**
MAT	**Matsushiro**	**4.57**	**313**	P		**Pn**	**04 10 53.1**	**-0.2**
MAT				S		**Sn**	**04 11 44.9**	**-1.5**
MAT	**Matsushiro**	**4.57**	**313**	P		**Pn**	**04 10 53.7**	**+0.4**
MAT				*e*S		**Sn**	**04 11 41.8**	**-4.6**
MAT	**Matsushiro**	**4.57**	**313**	*e*P		**Pn**	**04 10 53.0**	**-0.3**
MAT				*e*S		**Sn**	**04 11 45.0**	**-1.4**
JIE	**Ise**	**4.77**	**283**	P		**Pn**	**04 10 56.9**	**+0.9**
JNS	**Sasagawa**	**4.99**	**331**	P		**Pn**	**04 10 57.7**	**-1.5**
CBIJ	**Chichi jima**	**6.34**	**181**	Pn		**Pn**	**04 11 14.8**	**-3.4**
CBIJ	33nm,0.3s,baz=296,slow=18,SNR=20			Sn		**Sn**	**04 12 22.6**	**-8.1**
JNU	**Nakatsue**	**9.60**	**271**	Pn		**P**	**04 12 04.4**	**+0.8**
JNU	27nm,0.3s,baz=290,slow=21,SNR=6.6 1.3nm,0.3s,baz=78,slow=14,SNR=11			LR		LR	04 15 53.9	
ASAJ	**Asahikawa**	**10.64**	**1**	Pn		**P**	**04 12 12.1**	**-5.8**
ASAJ	comp=Z,259nm,19.3s,baz=84,slow=38 2.4nm,0.3s,baz=241,slow=11,SNR=6.9			Sn		**S**	**04 14 05.5**	**-12**
ASAJ	1.0nm,0.3s,baz=31,slow=32,SNR=2.7			LR		LR	04 16 59.6	
KS15	**Wonju Array Si**	**12.43**	**293**	*e*P		**P**	**04 12 45.3**	**+3.1**
YSS	**Yuzh-Sakhalins**	**13.48**	**1**⇑	*e*P		**P**	**04 12 52.0**	**-4.0**
YSS	comp=Z,117nm,19.3s,baz=161,slow=41 comp=Z,400nm,15.0s			MLR		MLR		
JOW	**Kunigami**	**13.84**	**245**	LR		LR	04 18 16.8	
MDJ	**Mudanjiang**	**14.88**	**322**	P		**P**	**04 13 13.9**	**-0.5**
MDJ	comp=Z,206nm,19.7s,baz=176,slow=37			AMB		AMB		
MDJ	comp=Z,7.0nm,0.8s			AMB		AMB		
MDJ	comp=Z,78nm,4.9s			LR		LR		
MDJ	comp=N,64nm,17.6s			LR		LR		
MDJ	comp=E,127nm,18.0s			LR		LR		
CN2	**Changchun**	**16.72**	**313**	*e*P		**P**	**04 13 41.0**	**+3.0**
CN2				*e*AP			04 13 51.5	
CN2	comp=Z,82nm,13.6s			AMB		AMB		
	comp=Z,10.0nm,0.8s							

CN2 LR LR
comp=N,310nm,16.0s
CN2 LR LR
comp=E,320nm,16.0s
CN2 LR LR
comp=Z,400nm,14.0s
SNY Shenyang 17.02 305 ⇑P **P 04 13 42.7 +1.0**
SNY LR LR
comp=Z,300nm,13.8s
NJ2 Nanjing 19.79 272 *e*P **P 04 14 14.4 -0.9**
NJ2 PP PP 04 14 31.2 -2.8
NJ2 S **S 04 17 51.0 -0.5**
NJ2 AMB AMB
comp=Z,120nm,0.8s
NJ2 AMB AMB
comp=Z,770nm,4.2s
NJ2 LR LR
comp=N,2μm,16.7s
NJ2 LR LR
comp=E,2μm,14.1s
NJ2 LR LR
comp=Z,2μm,15.4s
HIA Hailar 23.04 320 *e*P **P 04 14 49.6 +1.5**
comp=Z,7.0nm,0.6s,mb4.3
HIA Hailar 23.04 320 *e*P **P 04 14 49.6 +1.6**
HIA pmax pmax
comp=Z,7.0nm,0.6s
HHC Hu-ho-hao-te 25.52 296 *e*P **P 04 15 14.1 +2.1**
HHC AP pP 04 15 21.3 +2.6
HHC XP sP 04 15 24.4 +2.6
HHC PCP PcP 04 18 45.3 +1.3
HHC S **S 04 19 38.8 +3.3**
HHC XS 04 19 49.5
HHC SS SS 04 20 41.2 +2.4
HHC SCP 04 22 21.2
HHC PCS 04 22 24.4
HHC SCS ScS 04 26 09.5 +1.3
HHC AMB AMB
comp=Z,23nm,0.9s,mb4.7
HHC AMB AMB
comp=Z,93nm,4.2s
HHC LR LR
comp=N,179nm,9.8s
HHC LR LR
comp=E,224nm,13.4s
HHC LR LR
comp=Z,192nm,15.2s,MS3.7
CLNS Chul'man 26.26 338 *e*P **P 04 15 18.6 -0.1**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb4.6
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.7s
ENH Enshi 28.01 272 *e*P **P 04 15 33.2 -1.8**
comp=E,37nm,1.1s,mb4.9
ULN Ulaanbaatar 30.09 309 *e*P **P 04 15 54.4 +0.9**
comp=E,7.1nm,0.6s,mb4.6
ULN Ulaanbaatar 30.09 309 *e*P **P 04 15 54.4 +0.9**
ULN pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
SONM Songino Array 30.51 309 P **P 04 15 57.7 +0.5**
comp=Z,6.7nm,0.8s,mb4.5,baz=108,slow=7.7,SNR=10
SONM LR LR 04 28 12.6
comp=Z,165nm,20.3s,MS3.7,baz=50,slow=36
BOD Bodaibo 30.98 330 *e*P **P 04 15 59.6 -1.6**
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
GYA Guiyang 31.57 267 P **P 04 16 04.5 -2.2**
GYA AP pP 04 16 15.9 +2.4
GYA XP sP 04 16 21.7 +5.2
GYA PP PP 04 17 08.6 -2.7
GYA S **S 04 21 06.3 -6.6**
GYA XS 04 21 27.9
GYA SCS ScS 04 26 30.8 -5.2
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.1
GYA AMB AMB
comp=Z,80nm,2.8s,mb5.1
GYA LR LR
comp=N,310nm,16.7s,MS4.2
GYA LR LR
comp=E,370nm,16.9s,MS4.2
GYA LR LR
comp=Z,280nm,15.8s,MS4.0
LZH Lanzhou 31.59 286 *e*P **P 04 16 07.4 +0.6**
LZH AP pP 04 16 20.5 +6.9
LZH XP sP 04 16 25.5 +8.9
LZH AMB AMB
comp=Z,29nm,1.2s,mb5.0
CD2 Chengdu 32.62 276 P **P 04 16 14.2 -1.7**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
ZAK Zakamensk 33.16 312 *e*P **P 04 16 20.5 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
GTA Gaotai 34.48 292 *e*P **P 04 16 31.0 -0.9**
GTA AP pP 04 16 43.6 +4.9
GTA XP sP 04 16 49.0 +7.4
GTA PP PP 04 17 48.7 +0.7
GTA PPP PPP 04 18 07.7 +1.7
GTA PCP PcP 04 19 05.2 -1.8
GTA S **S 04 21 56.6 -1.3**
GTA XS 04 22 16.8
GTA SS SS 04 24 10.5 +1.1
GTA AMB AMB
comp=Z,4.0nm,1.3s,mb4.2
GTA AMB AMB
comp=Z,153nm,6.1s
GTA LR LR
comp=N,240nm,11.4s,MS4.2
GTA LR LR
comp=E,190nm,14.8s,MS4.2
GTA LR LR
comp=Z,181nm,12.2s,MS4.0
KMI Kunming 35.35 267 P **P 04 16 40.1 +0.7**
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
WMQ Urumqi 43.21 300 ⇑*i*P **P 04 17 45.8 +1.3**
WMQ AP pP 04 17 51.0 -0.4
WMQ XP sP 04 17 54.0 -0.3
WMQ PP PP 04 19 30.0 +2.9
WMQ *e*S **S 04 24 13.0 +3.4**
WMQ XS 04 24 21.0
WMQ AMB AMB
comp=Z,15nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,137nm,5.7s
WMQ LR LR
comp=N,102nm,17.5s,MS4.0
WMQ LR LR
comp=E,170nm,20.5s,MS4.0
WMQ LR LR
comp=Z,98nm,18.6s,MS3.7
KSM Kuching 43.73 230 *e*P **P 04 17 49.6 +0.4**
ZAL Zalesovo 44.94 315 P **P 04 17 58.5 +0.1**
comp=Z,1.6nm,0.5s,mb4.1,baz=58,slow=2.8,SNR=4.1
ZAL PcP PcP 04 19 39.3 -0.7
comp=Z,1.4nm,0.4s,baz=348,slow=4.7,SNR=3.1
NVS Novosibirsk 45.89 316 *e*P **P 04 18 03.9 -2.0**
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=Z,19nm,1.4s,mb4.8
MKAR Makanchi Array 46.72 305 P **P 04 18 12.6 0.0**
comp=Z,2.0nm,0.6s,mb4.3,baz=86,slow=9.7,SNR=20
MKAR LR LR 04 36 59.5
comp=Z,79nm,21.1s,MS3.6,baz=180,slow=35
MKAR Makanchi Array 46.72 305 P **P 04 18 12.6 0.0**
MKAR LR LR 04 36 59.5
KURK Kurchatov 48.78 311 *e*P **P 04 18 27.9 -0.7**
comp=Z,17nm,0.7s,mb5.2
KURK Kurchatov 48.78 311 ⇓*i*P **P 04 18 28.1 -0.5**
PKI Pulchoki 48.88 279 *e*P **P 04 18 29.2 -0.5**
KKN Kakani 48.91 279 *e*P **P 04 18 29.7 -0.2**
comp=Z,27nm,0.8s,mb5.3
KKN Kakani 48.91 279 *e*P **P 04 18 29.7 -0.2**
KKN pmax pmax
comp=Z,13nm,0.8s,mb5.0
DMN Daman 49.12 279 *e*P **P 04 18 31.5 0.0**
GKN Gorkha 49.36 280 *e*P **P 04 18 32.7 -0.7**
comp=Z,23nm,0.8s,mb5.3
KOLN Koldanda 50.30 280 *e*P **P 04 18 40.6 +0.1**
comp=Z,15nm,0.7s,mb5.1
ILAR Eielson Array 52.14 31 P **P 04 18 51.5 -2.5**
comp=Z,1.0nm,0.7s,mb3.9,baz=262,slow=5.5,SNR=16
AAK Ala-Archa 52.91 301 *e*P **P 04 18 59.2 -0.9**
comp=Z,5.8nm,0.7s,mb4.6
AAK Ala-Archa 52.91 301 ⇑*e*P **P 04 18 59.6 -0.5**
AAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CTA Charters Tower 53.38 175 P **P 04 19 01.7 -2.1**
comp=Z,8.8nm,0.9s,mb4.3,baz=9.6,slow=7.1,SNR=5.8
CTAO Charters Tower 53.38 175 *e*P **P 04 19 02.4 -1.5**
BVAR Borovoye Array 53.57 314 P **P 04 19 03.9 -0.8**
comp=Z,1.1nm,0.3s,mb4.2,baz=104,slow=6.1,SNR=9.5
BRVK Borovoye 53.63 315 *e*P **P 04 19 04.7 -0.5**
comp=Z,2.7nm,0.5s,mb4.4
BRVK Borovoye 53.63 315 *e*P **P 04 19 04.7 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
WRAB Tennant Creek 53.64 189 *e*P **P 04 19 03.9 -1.8**
comp=Z,6.3nm,0.7s,mb4.7
WRAB Tennant Creek 53.64 189 *i*P **P 04 19 02.6 -3.1**
WB2 Warramunga Arr 53.65 189 ⇓*i*P **P 04 19 04.0 -1.8**
WRA Warramunga Arr 53.65 189 P **P 04 19 04.2 -1.6**
comp=Z,4.0nm,0.6s,mb4.5,baz=6.9,slow=7.6,SNR=35
FITZ Fitzroy Crossi 53.69 200 *e*P **P 04 19 05.6 -0.5**
comp=Z,8.3nm,1.1s,mb4.6
FITZ Fitzroy Crossi 53.69 200 P **P 04 19 05.5 -0.6**
comp=Z,6.7nm,0.6s,mb4.8,baz=1.8,slow=9.8,SNR=12
INK Inuvik 57.24 26 *e*P **P 04 19 29.6 -1.5**
MBWA Marble Bar 58.44 205 *e*P **P 04 19 39.6 -0.6**
HYB Hyderabad 58.94 271 *i*P **P 04 19 43.0 -0.7**
HYB Hyderabad 58.94 271 *e*P **P 04 19 43.0 -0.7**
ARU Arti 59.56 320 *e*P **P 04 19 46.4 -1.0**
comp=Z,7.3nm,0.6s,mb4.9
ARU *e* 04 19 57.2
ARU Arti 59.56 320 *e*P **P 04 19 46.4 -1.1**
ARU *e* 04 19 57.2
ARU pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
DZM Mont Dzumac 59.82 154 P **P 04 19 49.6 -0.1**
comp=Z,7.9nm,1.0s,mb4.7,baz=45,slow=3.7,SNR=5.1
STKA Stephens Creek 64.99 181 P **P 04 20 23.5 -0.6**
comp=Z,3.5nm,0.8s,mb4.4,baz=321,slow=6.5,SNR=3.4
JOF Joensuu 69.47 333 *ep* **P 04 20 50.9 -0.9**
comp=Z,1.7nm,0.4s,mb4.3
NWAO Narrogin (SRO) 70.13 202 P **P 04 20 55.9 -0.4**
comp=Z,5.5nm,0.8s,mb4.6,baz=11,slow=5.2,SNR=3.9
OBN Obninsk 71.42 324 ⇑*i*P **P 04 21 03.5 -0.2**
OBN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KAF Kangasniemi 71.83 334 *ep* **P 04 21 05.4 -0.7**
comp=Z,2.4nm,0.5s,mb4.4,baz=50,slow=5.7
KAF Kangasniemi 71.83 334 *e*P **P 04 21 05.4 -0.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
YBH Yreka Blue Hor 71.95 52 LR LR 04 48 05.3
comp=Z,88nm,20.0s,MS4.0,baz=236,slow=32
FINES FINESS Array B 72.33 333 P **P 04 21 08.6 -0.5**
comp=Z,4.0nm,0.9s,mb4.3,baz=74,slow=5.5,SNR=14
FINES FINESS Array B 72.33 333 *i*P **P 04 21 08.7 -0.3**
FINES pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 73.84 312 *i*P **P 04 21 20.0 +1.9**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GNI Garni 74.47 308 LR LR 04 56 36.7
comp=Z,33nm,19.6s,MS3.6,baz=236,slow=38
BOZ Bozeman (W) 76.76 44 *e*P **P 04 21 35.2 +0.4**
AKASG Malin Array Be 77.59 323 P **P 04 21 39.0 -0.3**
comp=Z,4.5nm,0.8s,mb4.5,baz=46,slow=6.0,SNR=18
AKASG Malin Array Be 77.59 323 P **P 04 21 39.0 -0.3**
NB2 NORSAR Subarra 77.77 338 P **P 04 21 39.9 -0.1**
comp=Z,1.6nm,0.7s,mb4.1,baz=40,slow=5.6
NB2 NORSAR Subarra 77.77 338 P **P 04 21 39.9 -0.1**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 77.77 338 P **P 04 21 39.7 -0.3**
comp=Z,4.1nm,0.9s,mb4.3,baz=39,slow=5.6,SNR=9.5
PDAR Pinedale Array 79.64 45 P **P 04 21 50.8 +0.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=225,slow=2.1,SNR=4.9
BR131 Keskin Array S 81.80 312 *e*P **P 04 22 02.6 +0.5**
comp=Z,1.5nm,0.8s,mb4.0
BRTR Keskin Array B 81.80 312 P **P 04 22 02.8 +0.7**
comp=Z,2.0nm,0.8s,mb4.1,baz=109,slow=3.6,SNR=8.9
KOLS Kolonicke sedl 82.16 325 *e*P **P 04 22 04.1 +0.4**
STHS Stebnicka Huta 82.32 326 *e*P **P 04 22 04.1 -0.5**
OJC Ojcow 82.43 327 *e*P **P 04 22 06.1 +1.0**
KECS Kecovo 83.33 325 *e*P **P 04 22 10.6 +0.8**
OKC Ostrava-Krasne 83.45 327 *e*P **P 04 22 12.0 +1.6**
DPC Dobruska-Polom 83.89 329 *e*P **P 04 22 12.8 +0.2**
DPC *ep*P pP 04 22 24.3 +4.4
UPC Upice 83.91 329 *e*P **P 04 22 13.1 +0.5**
PSZ Piszkesteto 84.01 325 *e*P **P 04 22 14.3 +1.1**
comp=Z,11nm,1.0s,mb5.0
PSZ Piszkesteto 84.01 325 *e*P **P 04 22 14.3 +1.1**
PSZ pmax pmax
comp=Z,11nm,1.0s,mb4.9
VYHS Vyhne 84.10 326 *i*P **P 04 22 14.7 +1.0**
PVCC Panska Ves 84.51 330 *e*P **P 04 22 16.4 +0.7**
BRG Berggiesshubel 84.51 330 *e*P **P 04 22 16.1 +0.5**
comp=Z,4.7nm,0.8s,mb4.7
BRG Berggiesshubel 84.51 330 *e*P **P 04 22 16.1 +0.4**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
VRAC Vranov 84.53 328 *e*P **P 04 22 16.7 +0.9**
CLL Collm 84.57 331 ⇓P **P 04 22 16.0 0.0**
comp=Z,logA/T=1.0,mb4.9
CLL *i* *PP pP 04 22 27.4 +4.0
CLL *e* 04 22 36.0
CLL Collm 84.57 331 ⇓*i*P **P 04 22 16.0 0.0**
comp=Z,12nm,1.1s,mb4.9
CLL *i* pP pP 04 22 27.4 +4.0
CLL *es*P sP 04 22 36.0 +10
CLL Collm 84.57 331 ⇓*i*P **P 04 22 16.0 0.0**
CLL *i* *PP pP 04 22 27.4 +4.0
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.9
SMOL Smolenice 84.73 327 *e*P **P 04 22 17.7 +0.9**
SRO Srobarova 84.83 326 *e*P **P 04 22 18.1 +0.8**
PRU Pruhonice 84.92 329 *e*P **P 04 22 18.1 +0.3**
TREC Trest 85.03 329 *e*P **P 04 22 19.1 +0.8**
SDCO Great Sand Dun 85.15 47 *e*P **P 04 22 19.4 +0.2**
comp=Z,16nm,1.8s,mb4.9
KHC Kasperske Hory 85.98 329 *e*P **P 04 22 18.5 -4.6**
KHC *ep*P pP 04 22 34.9 +4.4
GERES GERESS Array B 86.15 329 P **P 04 22 24.3 +0.4**
comp=Z,0.6nm,0.7s,mb4.0,baz=37,slow=6.7,SNR=6.7
ANMO Albuquerque 86.30 50 *i*P **P 04 22 26.2 +1.2**
BAIF Baives 88.95 335 *e*P **P 04 22 38.0 +0.6**
CDF Champ du Feu 89.14 332 *e*P **P 04 22 39.8 +1.5**
comp=Z,0.8nm,0.4s,mb4.1
HINF Hinteralfeld 89.79 332 *e*P **P 04 22 42.5 +1.1**
HAU Haudompre 89.83 332 *e*P **P 04 22 41.9 +0.3**
MEZF Maizieres J'vi 89.93 333 *e*P **P 04 22 42.0 0.0**
LOR Lormes 91.40 333 *e*P **P 04 22 48.6 -0.2**
TXAR Lajitas Array 91.69 53 P **P 04 22 51.2 +0.6**
comp=Z,0.9nm,0.7s,mb4.2,baz=303,slow=3.1,SNR=12
LDF La Druitiere 91.70 336 *e*P **P 04 22 49.8 -0.4**
LPL La Plagne 91.70 331 *e*P **P 04 22 50.5 +0.2**
LPG La Plagne 91.71 330 *e*P **P 04 22 50.7 +0.4**
SMF Signal de Mont 91.92 333 *e*P **P 04 22 51.1 -0.1**
AVF Avril sur Loir 91.99 333 *e*P **P 04 22 51.5 0.0**
comp=Z,11nm,1.0s,mb4.8
AVF Avril sur Loir 91.99 333 *e*P **P 04 22 51.5 0.0**
AVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
GRR Gorron 92.12 336 *e*P **P 04 22 53.1 +1.0**
MBDF Montbardon 92.33 330 *e*P **P 04 22 52.6 -0.6**
TCF Toulx Ste Croi 92.84 334 *e*P **P 04 22 55.5 0.0**
FRF La Foret Royal 93.33 329 *e*P **P 04 22 59.8 +2.0**
comp=Z,22nm,1.2s,mb5.2
FRF La Foret Royal 93.33 329 *e*P **P 04 22 59.8 +2.0**
FRF pmax pmax
comp=Z,11nm,1.2s,mb5.2
VNA2 Neumayer--Watz 139.08 195 *e* PKPdf 04 29 08.5 -3.7
VNA2 Neumayer--Watz 139.08 195 *e* PKPdf 04 29 17.5 +5.3
VNA2 Neumayer--Watz 139.08 195 *e* PKPdf 04 29 20.7 +8.5
VNA2 Neumayer--Watz 139.08 195 *e* PKPdf 04 29 22.8 +11
VNA2 Neumayer--Watz 139.08 195 PKPdf PKPdf 04 29 05.7 -6.5
VNA2 *e* 04 29 08.5
VNA2 *e* 04 29 17.5
VNA2 *e* 04 29 20.7
VNA2 *e* 04 29 22.8
VNA3 Neumayer Olymp 139.29 193 *e* PKPdf 04 29 11.2 -1.4
VNA3 Neumayer Olymp 139.29 193 *e* PKPdf 04 29 18.7 +6.1
VNA3 Neumayer Olymp 139.29 193 *e* PKPdf 04 29 22.3 +10
VNA3 Neumayer Olymp 139.29 193 *e* PKPdf 04 29 25.0 +12
VNA3 Neumayer Olymp 139.29 193 ⇑*i*PKPdf PKPdf 04 29 08.0 -4.6
VNA3 *e* 04 29 11.2
VNA3 *e* 04 29 18.7
VNA3 *e* 04 29 22.3
VNA3 *e* 04 29 25.0
SAML Samuel 146.12 50 *e*PKP PKPdf 04 29 23.1 -2.9
LPAZ La Paz 147.67 66 PKPbc PKPdf 04 29 29.2 +0.7
comp=Z,2.0nm,0.9s,baz=281,slow=1.1,SNR=8.1
LPAZ La Paz 147.67 66 *e*PKPdf PKPdf 04 29 26.3 -2.1
LPAZ La Paz 147.67 66 PKP2 PKPab 04 29 29.2 -2.0
LPAZ pmax pmax
comp=Z,2.0nm,0.9s

NNC ***11*** *04:10:59.4±15.0, 36.59N×72.37E, h14km±320km, mpv3.6, Error ellipse: s-maj=286.4km s-min=62.2km az=168.0*
ISC 11 04:10:53.7±1.1, 36.19N±0.08×72.4E±0.2, h33km, n8, σ0§67/10, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.63**	**13**	⇓P	**P**	**04 12 32.6**	**+1.2**
	3.1nm,0.6s						
AAK				⇑S	**S**	**04 13 46.2**	**-0.4**
	5.8nm,1.2s						
KK31	**Karatay Array**	**7.06**	**349**	⇓P	**P**	**04 12 37.0**	**-0.4**
	1.9nm,0.5s,baz=162,slow=11,SNR=30						
KK31				⇑S	**S**	**04 13 53.1**	**-4.2**
	2.2nm,0.6s,baz=163,slow=21,SNR=2.8						
KOLN	**Koldanda**	**12.66**	**128**	*e*P	**P**	**04 13 54.1**	**-0.1**
	9.0nm,0.6s						
GKN	**Gorkha**	**13.17**	**125**	*e*P	**P**	**04 14 00.9**	**-0.1**
	10nm,0.6s						
KKN	**Kakani**	**13.74**	**124**	*e*P	**P**	**04 14 08.5**	**0.0**
	8.3nm,0.5s						
DMN	**Daman**	**13.74**	**125**	*e*P	**P**	**04 14 08.5**	**0.0**
	16nm,0.8s						
AB31	**Akbulak array**	**15.93**	**329**	P	**P**	**04 14 35.9**	**-0.9**
	1.2nm,0.8s,baz=156,slow=10,SNR=12						
AKTO	**Aktyubinsk**	**17.64**	**328**	⇑P	**P**	**04 14 59.2**	**+0.9**
	0.9nm,1.1s						

NEIC ***11*** *04:20:06.3, 16.09N×97.86W, h19km, MD3.6(MEX), After MEX.*
MEX 11 04:20:04.6±0.6, 16.01N×97.88W, h35km±20km, MD3.7, 2C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**328**	⇑*i*P	P	04 20 12.6	-1.8
PNIG				*i* S	S	04 20 19.4	-1.9
VHO	**Vista Hermosa**	**1.52**	**46**	⇑*i*P	P	04 20 28.2	-1.6
VHO				*i* S	S	04 20 46.1	-2.5
OXX	**Oaxaca**	**1.54**	**46**	*i* P	P	04 20 27.5	-2.5
OXX				*i* S	S	04 20 46.0	-3.0
OXX	**Oaxaca**	**1.54**	**46**	*e*P	P	04 20 27.5	-2.5
OXX				*i* S	S	04 20 46.0	-3.0
HUIG	**Huatulco**	**1.72**	**98**	*i* P	P	04 20 30.4	-2.3
HUIG				*i* S	S	04 20 51.9	-1.7
HUIG	**Huatulco**	**1.72**	**98**	*i* P	P	04 20 32.7	0.0
HUIG				*i* S	S	04 20 53.5	-0.2
ACX	**Acapulco**	**2.13**	**294**	*e*P	P	04 20 42.0	+3.6
ACX				*i* S	S	04 21 11.0	+7.1

IDC ***11*** *04:27:07.5±1.7, 14.52S×171.45W, mb4.2/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.2/5, MS3.7/3, Ms1 3.7/3, ms1mx3.2/23, Error ellipse: s-maj=39.5km s-min=15.4km az=85.0*
NEIC ***11*** *04:27:12.1±1.2, 14.45S×171.44W, h35km, Error ellipse: s-maj=28.9km s-min=17.5km az=99.0*
ISC 11 04:27:08.2±3.2, 14.6S±0.1×171.4W±0.5, h14km±13km, n14, σ1§17/10, mb4.1/5, MS3.7/3, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**0.81**	**332**	Pn	**Pn**	**04 27 24.6**	**-0.3**
	318nm,0.3s,baz=110,slow=3.0,SNR=180						
AFI				Sn	**Sn**	**04 27 37.0**	**+0.4**
	418nm,0.3s,baz=127,slow=22,SNR=40						
AFI	**Afiamalu**	**0.81**	**332**	*e*Pg	**Pg**	**04 27 24.6**	**+0.1**
AFI				Sn	**Sn**	**04 27 37.0**	**+0.4**
DZM	**Mont Dzumac**	**22.29**	**247**	P	**P**	**04 32 07.2**	**+0.4**
	3.9nm,0.8s,mb3.9,baz=73,slow=20,SNR=3.7						
DZM				LR	LR	04 39 13.3	
	comp=Z,117nm,20.0s,MS3.3,baz=216,slow=33						
URZ	**Urewera**	**25.65**	**201**	P	**P**	**04 32 40.3**	**+1.1**
	8.5nm,0.4s,mb4.6,baz=309,slow=1.6,SNR=14						
CTA	**Charters Tower**	**40.72**	**256**	P	**P**	**04 34 51.8**	**+1.5**
	3.5nm,1.0s,mb3.9,baz=103,slow=13,SNR=4.4						
STKA	**Stephens Creek**	**46.11**	**240**	P	**P**	**04 35 32.8**	**-1.2**
	3.4nm,0.8s,mb4.3,baz=111,slow=8.6,SNR=3.4						
STKA	**Stephens Creek**	**46.11**	**240**	*e*P	**P**	**04 35 32.0**	**-1.9**
WRA	**Warramunga Arr**	**51.92**	**256**	P	**P**	**04 36 16.4**	**-2.6**
	1.5nm,0.8s,mb4.0,baz=90,slow=7.0,SNR=11						
FITZ	**Fitzroy Crossi**	**60.28**	**257**	LR	LR	05 01 57.5	
	comp=Z,88nm,19.0s,MS3.9,baz=89,slow=35						
PDAR	**Pinedale Array**	**80.40**	**41**	LR	LR	05 13 21.9	
	comp=Z,42nm,18.2s,MS3.8,baz=248,slow=34						
GRF	**Grafenberg Arr**	**144.97**	**357**	*e*PKP	PKPdf	04 46 44.9	-3.6
GRF				*ep*PKP		04 46 54.0	
KHC	**Kasperske Hory**	**145.35**	**354**	*e*PKP	PKPdf	04 46 45.5	-3.7
KHC				pPKP		04 46 55.0	
GERES	**GERESS Array B**	**145.62**	**354**	PKPbc	PKPbc	04 46 46.7	-0.2
	1.1nm,0.7s,baz=45,slow=2.8,SNR=9.2						
BRTR	**Keskin Array B**	**146.74**	**323**	PKPbc	PKPbc	04 46 51.2	+1.4
	1.9nm,0.8s,baz=83,slow=3.1,SNR=6.7						

NEIC ***11*** *04:40:48.0±2.8, 4.56S×153.68E, h91km±22km, Error ellipse: s-maj=29.9km s-min=16.7km az=105.0*
IDC ***11*** *04:40:51.9±6.2, 4.60S×153.71E, h126km±52km, mb3.5/6, mb1 3.8/7, mb1mx3.7/14, mbtmp4.0/7, Error ellipse: s-maj=48.7km s-min=27.3km az=95.0*
ISC 11 04:40:49.4±4.9, 4.6S±0.2×153.8E±0.2, h120km±41km, n12, σ0§80/14, mb3.8/8, 1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.09**	**234**	P	**P**	**04 42 46.5**	**+1.1**
	12nm,0.3s,baz=36,slow=9.8,SNR=13						
PMG				S	**S**	**04 44 16.3**	**+0.6**
	5.5nm,0.3s,baz=62,slow=9.9,SNR=5.8						
PMG	**Port Moresby**	**8.09**	**234**	*e*P	**P**	**04 42 42.5**	**-2.9**
PMG				S	**S**	**04 44 16.3**	**+0.6**
WRAB	**Tennant Creek**	**24.26**	**230**	*e*P	**P**	**04 45 56.4**	**-0.4**
	11nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**24.27**	**230**	⇓*i*P	**P**	**04 45 56.9**	**+0.1**
WRA	**Warramunga Arr**	**24.28**	**230**	P	**P**	**04 45 57.2**	**+0.3**
	6.3nm,0.6s,mb4.2,baz=54,slow=9.9,SNR=45						
WRA				pP		04 46 25.4	
	2.2nm,0.7s,baz=52,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**29.41**	**201**	P	**P**	**04 46 44.1**	**+0.4**
	3.3nm,0.8s,mb4.0,baz=20,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.58**	**242**	*e*P	**P**	**04 46 52.7**	**-1.6**
	7.6nm,0.6s,mb4.6						
VNDA	**Vanda**	**72.96**	**178**	P	**P**	**04 52 07.2**	**+0.1**
	0.2nm,0.7s,mb3.1,baz=326,slow=7.3,SNR=3.3						
VNDA	**Vanda**	**72.96**	**178**	P	**P**	**04 52 07.1**	**0.0**
MKAR	**Makanchi Array**	**80.83**	**319**	P	**P**	**04 52 52.1**	**+0.6**
	0.3nm,0.4s,mb3.4,baz=88,slow=8.3,SNR=4.8						
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**04 52 55.5**	**+0.2**
	0.2nm,0.7s,mb3.1,baz=240,slow=7.3,SNR=4.2						
BVAR	**Borovoye Array**	**89.69**	**323**	P	**P**	**04 53 35.0**	**0.0**
	0.5nm,0.6s,mb3.8,baz=90,slow=5.8,SNR=3.9						

BER ***11*** *04:48:18.7±4.3, 57.74N×22.45E, h0km±24km, ML2.1(NAO)*
NAO ***11*** *04:48:19.2±3.0, 57.89N×22.29E, ML2.1*
IDC ***11*** *04:48:20.3±2.3, 57.92N×22.29E, mb1 3.1/4, mb1mx3.0/18, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=23.4km s-min=8.3km az=165.0*
HEL 11 04:48:18.2±0.4, 57.67N×22.26E, ML2.0, ML2.3(UPP), ML2.1(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOTU	**Gotland**	**1.98**	**272**	*e*P	Pn	04 48 53.5	+0.2
VSU	**Vasula**	**2.50**	**70**	*e*P	Pn	04 49 00.2	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU				eS	Sn	04 49 31.5	-1.0
NYNU	Nynaeshamn	2.61	303	eP	Pn	04 49 01.4	-0.9
VIKU	Vikbolandet	3.07	288	eP	Pn	04 49 08.7	-0.2
GRAU	Graesoe	3.29	326	eP	Pn	04 49 10.1	-1.9
FLYU	Flymyra	3.35	319	eP	Pn	04 49 11.6	-1.2
PVF	Pernaja	3.43	31	eP	Pn	04 49 12.5	-1.4
PVF				eSG	Sg	04 50 04.5	-7.8
ESKU	Eskilstuna	3.46	299	eP	Pn	04 49 13.4	-1.0
VJF	Virojoki	3.96	41	ePB	Pb	04 49 27.2	-1.6
VJF				eSG	Sg	04 50 21.6	-8.6
FIA0	FINESS Array S	4.25	26	Pn	Pn	04 49 22.2	-3.5
	baz=208,slow=12						
FIA0				Pg	Pg	04 49 32.9	-10
	baz=208,slow=16						
FIA0				Lg		04 50 26.1	
	baz=189,slow=28						
FIA0	FINESS Array S	4.25	26	eP	Pn	04 49 23.6	-2.1
FIA0				eS	Sn	04 50 12.5	-4.3
FIA0				eSG	Sg	04 50 28.8	-11
FIA0				MSG		04 50 31.9	
	comp=Z,2.0nm,0.2s						
FINES	FINESS Array B	4.25	26	Pn	Pn	04 49 23.4	-2.3
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=13						
FINES				Pg	Pg	04 49 32.4	-11
	comp=Z,1.0nm,0.3s,baz=211,slow=15,SNR=29						
FINES				Sn	Sn	04 50 10.7	-6.1
	comp=Z,0.2nm,0.3s,baz=200,slow=16,SNR=3.2						
FINES				Lg		04 50 26.6	
	comp=Z,0.8nm,0.3s,baz=202,slow=31,SNR=8.0						
KEF	Keuruu	4.70	15	eP	Pn	04 49 29.4	-2.6
KEF				eSG	Sg	04 50 40.0	-15
KEF				MSG		04 50 44.5	
	comp=Z,1.8nm,0.4s						
KAF	Kangasniemi	4.90	23	eP	Pn	04 49 31.4	-3.5
KAF				eS	Sn	04 50 26.3	-6.8
KAF				eSB	Sb	04 50 45.5	+0.8
HFS	Hagfors	5.08	303	Pn	Pn	04 49 35.3	-2.2
	baz=131,slow=14						
HFS				Sn	Sn	04 50 32.7	-5.1
	baz=106,slow=28						
HFS				Lg		04 50 55.2	
	baz=117,slow=37						
HFS	Hagfors	5.08	303	eP	Pn	04 49 35.3	-2.2
HFS				eS	Sn	04 50 32.7	-5.1
HFS				eSG		04 50 55.2	
HFS	Hagfors	5.08	303	Pn	Pn	04 49 34.9	-2.6
	comp=Z,0.1nm,0.3s,baz=117,slow=13,SNR=16						
HFS				Sn	Sn	04 50 31.9	-5.8
	comp=Z,0.0nm,0.3s,baz=135,slow=15,SNR=2.7						
HFS				Lg		04 50 55.3	
	comp=Z,0.2nm,0.3s,baz=109,slow=31,SNR=8.9						
SUF	Sumiainen	5.42	19	eSB	Sb	04 50 58.3	-1.7
SUF				MSG		04 51 03.6	
	comp=Z,1.2nm,0.4s						
NB2	NORSAR Subarra	6.58	306	Pn	Pn	04 49 54.1	-4.5
	baz=120,slow=14						
NB2				Sn	Sn	04 51 09.3	-5.9
NB2				Lg		04 51 42.6	
	baz=118,slow=37						
NB2	NORSAR Subarra	6.58	306	eP	Pn	04 49 54.1	-4.5
NB2				eS	Sn	04 51 09.3	-5.9
NB2				eSG		04 51 42.6	
NOA	NORSAR Array B	6.58	306	Pn	Pn	04 49 54.5	-4.1
	comp=Z,0.2nm,0.3s,baz=171,slow=11,SNR=2.5						
NOA				Sn	Sn	04 51 07.4	-7.9
	comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=2.6						
NOA				Lg		04 51 42.2	
	comp=Z,0.5nm,0.3s,baz=44,slow=12,SNR=3.8						
ARCES	ARCESS Array B	11.99	5	Pn	P	04 51 04.2	-9.0
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=2.2						

*NEIC **11** 05:26:10.0±1.4, 32.36S×178.77W, h42km±13km, mb4.5/2, Error ellipse: s-maj=28.6km s-min=12.3km az=109.0*
*IDC **11** 05:26:10.5±3.8, 32.27S×178.82W, h37km±30km, mb4.4/1, mb1 4.6/3, mb1mx3.9/15, mbtmp4.4/3, ML3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.3/25, Error ellipse: s-maj=62.6km s-min=25.3km az=120.0*
ISC 11 05:26:06.9±1.0, **32.36S**±0.09×**178.7W**±0.2, **h33**km, **n24**, σ1.14/12, **mb4.5**/3, **MS3.7**/3, **4C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.18	13	Pn	Pn	05 26 57.4	+1.5
	35nm,0.3s,baz=257,slow=23,SNR=2.5						
RAO				Sn	Sn	05 27 31.6	-1.4
	130nm,0.3s,baz=85,slow=22,SNR=6.5						
URZ	Urewera	6.80	209	Pn	Pn	05 27 47.2	+0.1
	0.9nm,0.3s,baz=109,slow=15,SNR=5.5						
URZ				Sn	Sn	05 29 00.4	-3.7
	0.1nm,0.3s,baz=272,slow=23,SNR=3.2						
DZM	Mont Dzumac	16.68	304	LR	LR	05 35 16.0	
	comp=Z,246nm,18.5s,baz=25,slow=33						
CTA	Charters Tower	33.56	283	LR	LR	05 43 27.8	
	comp=Z,87nm,19.1s,MS3.5,baz=224,slow=31						
WRAB	Tennant Creek	43.58	275	eP	P	05 34 09.9	+0.1
	6.5nm,0.6s,mb4.5						
WRA	Warramunga Arr	43.59	275	P	P	05 34 10.6	+0.7
	4.8nm,0.5s,mb4.5,baz=114,slow=7.9,SNR=148						
FITZ	Fitzroy Crossi	51.76	272	LR	LR	05 57 55.0	
	comp=Z,116nm,21.6s,MS3.9,baz=90,slow=37						
CASY	Casey	53.12	209	P	P	05 35 21.7	-1.4
QSPA	South Pole Qui	57.76	180	eP	P	05 35 57.3	+0.8
	2.1nm,0.6s,mb4.3						
SNAA	Sanae	76.22	179⥣	i	P	05 37 59.5	+6.5
VNA3	Neumayer Olymp	76.40	176	e	Px	05 38 03.6	
VNA3	Neumayer Olymp	76.40	176	e	Px	05 38 08.6	
VNA3	Neumayer Olymp	76.40	176⥣	iP	P	05 38 01.4	+7.4
VNA3				e		05 38 03.6	
VNA3				e		05 38 08.6	
VNA2	Neumayer--Watz	76.82	177	e	Px	05 38 05.7	
VNA2	Neumayer--Watz	76.82	177	e	Px	05 38 11.4	
VNA2	Neumayer--Watz	76.82	177⥣	iP	P	05 38 04.0	+7.6
VNA2				e		05 38 05.7	
VNA2				e		05 38 11.4	
VNA1	Neumayer--Stat	77.06	177	e	Px	05 38 07.4	
VNA1	Neumayer--Stat	77.06	177	e	Px	05 38 11.3	
VNA1	Neumayer--Stat	77.06	177⥣	iP	P	05 38 05.6	+7.8
VNA1				e		05 38 07.4	
VNA1				e		05 38 11.3	
CPUP	Villa Florida	99.25	129	LR	LR	06 14 34.7	
	comp=Z,30nm,19.9s,MS3.8,baz=216,slow=29						
KAF	Kangasniemi	146.17	339	epkp	PKPdf	05 45 43.5	+1.6
FINES	FINESS Array B	146.75	338	PKPbc	PKPbc	05 45 45.6	+1.2
	2.6nm,0.8s,baz=52,slow=4.8,SNR=13						
NB2	NORSAR Subarra	150.58	350	PKPabc	PKPdf	05 45 56.4	+7.3
	0.8nm,0.7s,baz=15,slow=2.5						
NOA	NORSAR Array B	150.58	350	PKPbc	PKPdf	05 45 58.0	+8.9
	1.3nm,0.9s,baz=14,slow=4.0,SNR=4.0						

*BER **11** 05:35:33.8±4.9, 57.75N×22.34E, ML2.1(NAO)*
*NAO **11** 05:35:34.5±2.9, 57.92N×22.24E, ML2.1*
*IDC **11** 05:35:35.3±2.3, 58.01N×22.33E, mb1 3.2/4, mb1mx3.1/19, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=23.1km s-min=8.3km az=165.0*
HEL 11 05:35:33.2±0.2, **57.81N**×**22.29E**, **ML1.9**, **ML2.2**(UPP), **ML2.1**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOTU	Gotland	2.00	268	eP	Pn	05 36 08.7	+0.2
GOTU				eS	Sn	05 36 37.7	+3.1
VSU	Vasula	2.45	73	eP	Pn	05 36 14.2	-0.8
VSU				eS	Sn	05 36 45.3	-0.8
NYNU	Nynaeshamn	2.55	300	eP	Pn	05 36 15.9	-0.6
NRTU	Norrtaelje	2.67	316	eP	Pn	05 36 17.1	-1.1
GRAU	Graesoe	3.19	324	eP	Pn	05 36 23.6	-1.9
FLYU	Flymyra	3.26	317	eP	Pn	05 36 25.7	-0.8
PVF	Pernaja	3.30	32	eP	Pn	05 36 26.2	-1.0
BACU	Backbrunna	3.38	309	eP	Pn	05 36 27.2	-1.1
ESKU	Eskilstuna	3.40	297	eP	Pn	05 36 28.0	-0.6
OSTU	Oestervaala	3.60	315	eP	Pn	05 36 30.4	-1.1
VJF	Virojoki	3.85	43	ePG	Pg	05 36 41.3	-8.8
VJF				eSG	Sg	05 37 32.6	-8.8
FIA0	FINESS Array S	4.12	26	Pn	Pn	05 36 37.1	-1.7
	baz=198,slow=12						
FIA0				Pg	Pg	05 36 46.8	-8.7
	baz=207,slow=16						
FIA0				Sn	Sn	05 37 25.2	-3.3
	baz=209,slow=22						
FIA0				Lg		05 37 41.7	
	baz=198,slow=28						
FIA0	FINESS Array S	4.12	26	eP	Pn	05 36 37.0	-1.8
FIA0				eS	Sn	05 37 24.6	-3.9
FIA0				eSG	Sg	05 37 41.7	-8.7
FIA0				MSG		05 37 43.9	
	comp=Z,2.3nm,0.3s						
FINES	FINESS Array B	4.12	26	Pn	Pn	05 36 36.8	-2.0
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=14						
FINES				Pg	Pg	05 36 45.3	-10
	comp=Z,0.6nm,0.3s,baz=209,slow=14,SNR=17						
FINES				Sn	Sn	05 37 22.8	-5.7
	comp=Z,0.3nm,0.3s,baz=212,slow=18,SNR=4.3						
FINES				Lg		05 37 39.9	
	comp=Z,1.3nm,0.3s,baz=211,slow=24,SNR=13						
KEF	Keuruu	4.56	15	eP	Pn	05 36 43.7	-1.3
KEF				eS	Sn	05 37 36.6	-3.0
KEF				eSG	Sg	05 37 53.5	-12
KEF				MSG		05 37 56.1	
	comp=Z,1.0nm,0.2s						
KAF	Kangasniemi	4.76	23	eP	Pn	05 36 45.2	-2.8
KAF				eS	Sn	05 37 40.5	-4.3
KAF				eSG	Sg	05 37 59.5	-12
KAF				MSG		05 38 01.8	
	comp=Z,1.1nm,0.3s						
HFS	Hagfors	5.02	301	eP	Pn	05 36 49.9	-1.7
HFS				eS	Sn	05 37 48.4	-2.8
HFS				eSG		05 38 07.4	
HFS	Hagfors	5.02	301	Pn	Pn	05 36 49.8	-1.7
	comp=Z,0.1nm,0.3s,baz=114,slow=14,SNR=23						
HFS				Pg	Pg	05 37 03.9	-9.4
	comp=Z,0.1nm,0.3s,baz=110,slow=16,SNR=6.5						
HFS				Sn	Sn	05 37 47.2	-4.0
	comp=Z,0.0nm,0.3s,baz=106,slow=21,SNR=3.2						
HFS				Lg		05 38 07.3	
	comp=Z,0.3nm,0.3s,baz=109,slow=31,SNR=11						
HFS	Hagfors	5.02	301	Pn	Pn	05 36 49.9	-1.7
	baz=124,slow=14						
HFS				Sn	Sn	05 37 48.4	-2.8
	baz=95,slow=37						
HFS				Lg		05 38 07.4	
	baz=114,slow=28						
SUF	Sumiainen	5.29	20	eP	Pn	05 36 53.0	-2.4
SUF				eS	Sn	05 37 54.2	-3.7
SUF				eSG	Sg	05 38 15.5	-14
NB2	NORSAR Subarra	6.51	304	eP	Pn	05 37 09.1	-3.5
NB2				eSG		05 38 56.9	
NB2	NORSAR Subarra	6.51	304	Pn	Pn	05 37 09.1	-3.5
	baz=122,slow=14						
NB2				Lg		05 38 56.9	
	baz=129,slow=37						
NOA	NORSAR Array B	6.51	304	Pn	Pn	05 37 08.6	-4.0
	comp=Z,0.2nm,0.3s,baz=127,slow=11,SNR=3.3						
NOA				Sn	Sn	05 38 21.4	-7.1
	comp=Z,0.1nm,0.3s,baz=199,slow=18,SNR=2.8						
NOA				Lg		05 38 56.8	
	comp=Z,0.4nm,0.3s,baz=91,slow=8.0,SNR=4.6						
ARA0	ARCESS Array S	11.86	6	Pn	P	05 38 18.9	-7.5
	baz=188,slow=12						
ARA0	ARCESS Array S	11.86	6	eP	P	05 38 18.9	-7.5
ARCES	ARCESS Array B	11.86	6	Pn	P	05 38 18.2	-8.1
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=4.6						

*NNC **11** 05:52:49.8±5.0, 36.77N×70.61E, h138km±108km, mpv3.8, Error ellipse: s-maj=46.4km s-min=38.3km az=34.0*
ISC 11 05:52:48.4±2.2, **36.7N**±0.1×**70.7E**±0.2, **h150**km, **n9**, σ0.47/11, **2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.88	23	P	P	05 54 14.7	+0.4
	SNR=70						
KK31	Karatay Array	6.36	359	P	P	05 54 21.1	+0.3
	3.6nm,0.5s,baz=166,slow=11,SNR=98						
KK31				S	S	05 55 31.9	-0.6
	4.2nm,0.6s,baz=185,slow=17,SNR=7.3						
EKS2	Erkin-Say	6.39	21	P	P	05 54 21.4	+0.2
	SNR=17						
KZA	Kyzart	6.41	32	P	P	05 54 21.4	-0.1
	SNR=5.5						
AAK	Ala-Archa	6.59	26	P	P	05 54 23.9	0.0
	SNR=8.0						
AAK	Ala-Archa	6.59	26	⥥P	P	05 54 23.7	-0.2
	2.8nm,0.3s						
AAK				⥥S	S	05 55 38.9	+0.8
	3.5nm,0.8s						
USP	Ospenovka	7.16	23	P	P	05 54 31.1	-0.5
	SNR=7.2						
TKM2	Tokmak 2	7.25	30	P	P	05 54 32.0	-0.8
	SNR=13						
AB31	Akbulak array	14.74	331	P	P	05 56 10.7	+0.4
	0.1nm,0.3s,baz=146,slow=14,SNR=5.6						

*ISK **11** 05:53:07.0, 38.26N×42.22E, h32km, MD3.5*
*CSEM **11** 05:53:07.0, 38.26N×42.22E, h32km, MD3.5, After ISK*
ISC 11 05:53:08.1±0.5, **38.24N**±0.05×**42.32E**±0.04, **h32**km, **n17**, σ1.38/24, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTMT	Batman	0.66	266	PG	Pb	05 53 20.9	-0.3
BTMT				SG	Sb	05 53 31.7	+1.6
SIRT	Sirnak	0.74	173	ePG	Pn	05 53 22.5	+0.1
VANT	Van	0.86	76	ePG	Pn	05 53 22.4	-1.7
TVAN	Van	0.90	71	iP	Pn	05 53 22.3	-2.3
TVAN				iS	Sn	05 53 38.0	+1.4
VANB	Van	0.91	67	ePG	Pn	05 53 24.5	-0.3
VANB				eSG	Sn	05 53 37.0	+0.2
BNGL	BINGOL	1.16	308	iP	Pn	05 53 29.1	+0.7
BNGL				iS	Sn	05 53 44.9	+1.7
HAKT	HAKKARI	1.29	121	iP	Pn	05 53 31.5	+1.4
HAKT				iS	Sn	05 53 51.9	+5.4
HKR	Hakkari	1.30	120	ePN	Pn	05 53 31.2	+0.9
MARD	Mardin	1.53	233	iP	Pn	05 53 35.0	+1.4
MARD				iS	Sn	05 53 56.3	+3.6
CLDR	Caldiran	1.54	54	ePN	Pn	05 53 33.6	-0.2
DIY	Diyarbakir	1.69	259	ePN	Pn	05 53 33.8	-2.1
ERZM	Erzurum	1.82	336	iP	Pn	05 53 39.9	+2.1
ERZM				iS	Sn	05 54 06.7	+6.6
EZM	Erzurum	1.82	336	ePN	Pn	05 53 36.8	-1.0
PTK	Pertek	2.39	287	ePN	Pn	05 53 44.4	-1.5
GNI	Garni	2.68	44	ePN	Pn	05 53 50.3	+0.2
URFA	Urfa	2.88	255	ePN	Pn	05 53 51.0	-2.0
MALT	Malatya	3.07	273	ePN	Pn	05 53 53.6	-2.0

*NEIC **11** 06:07:27.6, 33.17N×116.04W, h0km, ML3.7(PAS), After PAS.*
NEIC Felt in the Ocotillo Wells area.
ECX 11 06:07:28.2±0.5, **33.20N**×**116.04W**, **h3**km, **MD3.6**, **ML3.7**, **5C-3D, Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRK	Frink	0.40	59⥣	eP	Pg	06 07 35.4	-0.8
PFO	Pinyon Flat Ob	0.54	320⥥	eP	Pg	06 07 38.1	-0.9
RMX	La Rumorosa	0.59	183⥣	eP	Pg	06 07 39.1	-1.0
SGL	Mount Signal	0.61	154⥥	eP	Pg	06 07 38.7	-1.6
BAR	Barrett	0.74	226	eP	Pg	06 07 40.5	-2.5
BAR				eS	Sg	06 07 50.0	-2.8
COA	Coachella	0.84	113⥣	eP	Pg	06 07 42.6	-2.4
CPBX	Cerro Prieto	0.99	141	eP	Pb	06 07 45.3	-2.4
CBX	Cerro Bola	1.02	211⥣	eP	Pb	06 07 46.0	-2.2
CBX				eS	Sb	06 08 00.5	-1.4
GLA	Glamis	1.03	98	eP	Pb	06 07 45.4	-2.9
ENX	Ensenada	1.41	202⥣	eP	Pb	06 07 52.9	-2.0
ENX				eS	Sb	06 08 12.1	-1.1
ENX				⥥e		06 08 17.9	
	comp=N,2µm,0.6s						
PBX	Punta Banda	1.56	202	eP	Pn	06 07 55.3	-1.7
PBX				eS	Sb	06 08 16.2	-1.3
ECNX	Esteban Cantu	1.60	197	eP	Pn	06 07 53.1	-4.5
ECNX				eS	Sb	06 08 12.5	-6.3
MWC	Mount Wilson	1.97	302	Pn	Pn	06 08 01.0	-1.8
LDFC	Landfair	2.03	22	ePn	Pn	06 08 01.3	-2.4
GSC	Goldstone	2.19	343	ePn	Pn	06 08 03.1	-3.0
SPX	San Pedro Mart	2.20	167	eP	Pn	06 08 05.5	-0.6
SPX				eS	Sn	06 08 35.9	+1.7
NEN	Nelson	2.64	22	ePn	Pn	06 08 09.2	-3.2
ISA	Isabella	3.18	321	ePn	Pn	06 08 18.3	-1.7
DAC	Darwin (Calif)	3.33	338	ePn	Pn	06 08 18.7	-3.5
PTRM	Twissleman Ran	4.23	307	Pn	Pn	06 08 32.6	-2.4
MTUM	Tungsten Hills	4.63	334	Pn	Pn	06 08 39.0	-1.7
TPH	Tonopah	4.96	349	ePn	Pn	06 08 43.0	-2.4
ARUT	Antelope Range	5.05	24	Pn	Pn	06 08 44.3	-2.3
CMB	Columbia Colle	5.98	325	ePn	Pn	06 08 57.2	-2.6
MSU	Marysvale	6.16	30	Pn	Pn	06 08 59.8	-2.6
DUG	Dugway	7.45	19	Pn	Pn	06 09 18.8	-1.7
BEKR	Beckwourth	7.51	334	Pn	Pn	06 09 16.2	-5.1
ELK	Elko	7.56	5	ePn	Pn	06 09 19.0	-3.0

*MEX **11** 06:14:35.3±0.4, 15.11N×90.64W, h113km±31km, MD4.2*
*CASC **11** 06:14:36.5±3.0, 16.13N×90.61W, h36km±58km, MD4.1*
ISC 11 06:14:35.0±1.6, **15.9N**±0.1×**90.4W**±0.1, **h137**km±20km, **n14**, σ1.04/12, **1C-3D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRL	Marmol	1.08	139⥥	eP	P	06 14 58.3	-1.3
FUG	Fuego 3	1.48	195⥥	iP	P	06 15 03.7	-0.1
FUG				eS	S	06 15 25.3	-0.5
PCG	Pacaya	1.49	186	eP	P	06 15 03.9	-0.1
CCIG	Comitan	1.68	284	eP	P	06 15 05.8	-0.3
CCIG				iS	S	06 15 29.2	-0.6
IXG	Ixpaco	1.70	181⥥	eP	P	06 15 08.1	+1.8
IXG				eS	S	06 15 30.5	+0.4
RBDL	Robledal	1.90	158	eP	Px	06 15 14.5	
RBDL				eS	Sx	06 15 42.3	
RTR	El Retiro	2.12	159	eP	Px	06 15 17.2	
RTR				eS	Sx	06 15 46.1	
SNJE	San Jose	2.16	158⥣	eP	Px	06 15 19.9	
SNJE				eS	Sx	06 15 49.8	
SCX	San Cristobal	2.27	292	iP	P	06 15 14.0	+0.7
SCX				iS	S	06 15 45.0	+2.6
BOQS	Boqueron	2.41	152	eP	Px	06 15 23.3	
BOQS				eS	Sx	06 15 55.8	
LFRS	El Faro	2.61	149	eP	Px	06 15 27.8	
LFRS				eS	Sx	06 16 03.2	
LCBS	La Ceiba	2.63	147	eP	Px	06 15 26.7	
LCBS				eS	Sx	06 16 02.5	
SNVI	San Vicente	2.74	145	eP	Px	06 15 32.8	
SNVI				eS	Sx	06 16 07.0	
CMIG	Matias Romero	4.43	286	eP	P	06 15 41.7	0.0
CMIG				iS	S	06 16 31.4	-1.5

TRN 11 06:15:51.0, 14.91N×61.28W, h179km, **M3.5**(FDF), **1C, Windward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBL	Barber's Block	0.64	343	eP	P	06 16 17.4	+0.7
TBG	Guadaloupe-3	1.00	339	eP	P	06 16 19.4	+0.6
SCG	Saint Claude	1.18	341	eP	P	06 16 21.4	+1.1
LZG	Guadaloupe-1	1.31	339⥣	eP	P	06 16 22.1	+0.6
DEG	La Desirade	1.41	9	eP	P	06 16 23.0	+0.6
DEG				eS	S	06 16 46.5	-0.1

*RSPR **11** 07:06:52.0, 16.33N×62.05W, h16km±75km, MD4.8/13, MD4.8/13*
*IDC **11** 07:06:53.8±0.5, 16.41N×62.32W, h156km±5km, mb3.4/14, mb1 3.7/16, mb1mx3.6/22, mbtmp3.9/16, Error ellipse: s-maj=11.0km s-min=8.5km az=44.0*
*TRN **11** 07:06:54.5, 16.50N×62.27W, h161km, MD3.7, M4.2(FDF), Md2.9(FDF)*
*NEIC **11** 07:06:54.6±0.3, 16.36N×62.43W, h166km±3km, mb3.6/2, MD3.7(TRN), Error ellipse: s-maj=7.3km s-min=4.7km az=219.0*
ISC 11 07:06:53.5±0.3, **16.43N**±0.04×**62.34W**±0.04, **h170**km±2km, **n62**, σ1.11/87, **mb3.6**/16, **16C-11D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LZG	Guadaloupe-1	0.61	118⥥	iP	P	07 07 17.8	-0.3
LZG				eS	S	07 07 34.3	-2.6
NVBH	Bath Hotel, Ne	0.74	339⥥	iP	P	07 07 19.3	+0.6
SCG	Saint Claude	0.74	122⥥	eP	P	07 07 18.7	0.0
BPA	Boggy Peak	0.77	37⥣	iP	P	07 07 18.9	+0.1
BPA				eS	S	07 07 36.1	-2.2
NVRH	Round Hill, Ne	0.80	341	eP	P	07 07 19.8	+0.7
SKTB	Turtle Beach	0.82	341⥥	iP	P	07 07 19.8	+0.6
SKTB				eS	S	07 07 38.1	-0.8
TBG	Guadaloupe-3	0.87	131	eP	P	07 07 19.5	0.0
SKI	Saint Kitts	0.98	337⥣	iP	P	07 07 21.2	+1.0
SKI				eS	S	07 07 41.8	+1.0
SKI	Saint Kitts	0.98	337⥣	iP	P	07 07 21.2	+1.0
SKI				eS	S	07 07 43.6	+2.8
BSK	Brimstone Hill	1.04	332	eP	P	07 07 21.3	+0.6
BSK				eS	S	07 07 45.6	+4.0
BSK	Brimstone Hill	1.04	332	eP	P	07 07 21.3	+0.6
BSK				eS	S	07 07 35.2	-6.4
SKDB	Saint Kitts 2	1.07	335⥥	iP	P	07 07 21.8	+0.9
BBL	Barber's Block	1.22	137⥣	eP	P	07 07 22.4	+0.1
DEG	La Desirade	1.23	95⥣	eP	P	07 07 21.4	-1.0
DEG				eS	S	07 07 41.5	-3.2
STAT	Sint Eustatius	1.23	330⥣	iP	P	07 07 22.9	+0.5
STAT				eS	S	07 07 44.9	+0.2
CPB	Codrington	1.30	22	eP	P	07 07 22.9	-0.2
CPB				eS	S	07 07 45.2	-0.7
DWS	Wesley	1.30	131	eP	P	07 07 23.9	+0.8
DWS				eS	S	07 07 45.6	-0.3
DWS	Wesley	1.30	131	eP	P	07 07 23.9	+0.8
DWS				eS	S	07 07 34.5	-11
MDN	Morne-Daniel	1.43	140	eP	P	07 07 25.5	+1.2
MDN				eS	S	07 07 48.6	+0.5
SABS	Saba	1.47	324	eP	P	07 07 25.6	+0.9
SABS				eS	S	07 07 48.0	-0.8
SABT	Saba	1.47	324	eP	P	07 07 25.6	+0.9
SABT				eS	S	07 07 48.0	-0.8
DBCT	Belle View Cho	1.49	140⥥	iP	P	07 07 26.4	+1.5
DBCT				eS	S	07 07 49.6	+0.5
DSHT	Scott's Head	1.52	142	eP	P	07 07 26.4	+1.2
FDF	Fort de France	2.03	146⥣	iP	P	07 07 30.6	0.0
FDF				eS	S	07 08 01.4	+2.2
CRM	Caravelle	2.15	140⥣	iP	P	07 07 31.7	-0.3
MVM	Montagne Vaucl	2.32	143	eP	P	07 07 34.0	-0.1
CDVI	St. Croix	2.67	300⥣	iP	P	07 07 37.6	-0.6
CDVI				eS	S	07 08 10.3	-2.4
TBVI	Tortola	2.94	313⥥	eP	P	07 07 40.3	-1.2
TBVI				eS	S	07 08 15.3	-3.1
MTP	Monte Pirata	3.50	299⥣	eP	P	07 07 47.5	-1.1
MTP				eS	S	07 08 31.6	+0.6
HUMP	Col San Antoni	3.77	297⥣	eP	P	07 07 51.2	-0.9
HUMP				eS	S	07 08 37.9	+0.7
CPD	Cerro la Pandu	3.78	296⥣	eP	P	07 07 51.5	-0.8
CPD				eS	S	07 08 39.0	+1.5
CBYP	Canovanas	3.83	299⥥	eP	P	07 07 52.3	-0.6
CBYP				eS	S	07 08 39.8	+1.2
SJG	San Juan	4.01	295	eS	S	07 08 45.3	+2.5
SJG	San Juan	4.01	295	P	P	07 07 54.3	-1.0
	34nm,0.3s,baz=84,slow=10,SNR=49						
SJG				S	S	07 08 42.6	-0.2
	14nm,0.3s,baz=356,slow=16,SNR=6.4						
SJG	San Juan	4.01	295⥥	eP	P	07 07 54.4	-0.9
SJG				eS	S	07 08 45.3	+2.5
ICM	Isla Caja Muer	4.26	291⥣	eP	P	07 07 58.6	+0.2
LRS	Lares	4.69	294⥥	eP	P	07 08 03.7	-0.4
MGP	Maguayo	4.81	290⥥	eP	P	07 08 04.5	-1.1
CRPR	Cabo Rojo, PR	4.83	290⥣	eP	P	07 08 04.7	-1.2
LSP	Las Mesas	4.86	292⥣	eP	P	07 08 06.5	+0.2
AGPR	Aguadilla, PR	4.99	295⥣	eP	P	07 08 07.4	-0.6
AGPR				eS	S	07 09 08.6	+3.1
ROSC	El Rosal	16.45	227	P	P	07 10 37.8	+1.5
	1.4nm,0.3s,baz=98,slow=19,SNR=8.2						
SAML	Samuel	25.23	182	eP	P	07 12 03.8	-1.7
	1.5nm,0.5s,mb3.8						
LPAZ	La Paz	33.01	190	P	P	07 13 13.3	-1.4
	0.3nm,0.3s,mb3.5,baz=18,slow=4.1,SNR=2.1						
LPAZ	La Paz	33.01	190	P	P	07 13 13.3	-1.4
SCHQ	Schefferville	38.49	356	P	P	07 14 01.2	+0.6
	1.8nm,0.7s,mb3.8,baz=170,slow=12,SNR=2.7						
LVC	Limon Verde	39.33	190	P	P	07 14 05.6	-2.3
TXAR	Lajitas Array	39.98	296	P	P	07 14 14.3	+1.1
	0.2nm,0.5s,mb3.0,baz=130,slow=7.0,SNR=3.6						
TXAR				PcP	PcP	07 16 16.0	+0.4
	0.3nm,0.6s,baz=116,slow=6.0,SNR=4.9						
MNTX	Cornudas Mount	41.86	299	eP	P	07 14 28.8	+0.2
	0.5nm,0.4s,mb3.5						
CPUP	Villa Florida	42.78	173	P	P	07 14 34.1	-2.0
	1.8nm,0.4s,mb4.1,baz=18,slow=8.9,SNR=12						
CPUP	Villa Florida	42.78	173	eP	P	07 14 34.2	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ULM	Lac du Bonnet	43.20	329	P	P	07 14 40.6	+1.5
	2.0nm,0.7s,mb3.9,baz=120,slow=10,SNR=4.6						
PDAR	Pinedale Array	47.93	313	P	P	07 15 16.5	-0.1
	0.5nm,0.6s,mb3.3,baz=114,slow=11,SNR=6.2						
ESDC	Sonseca Array	55.45	53	P	P	07 16 12.3	-0.4
	0.6nm,0.7s,mb3.5,baz=268,slow=7.5,SNR=5.2						
PLCA	Paso Flores	57.37	187	P	P	07 16 24.7	-1.6
	0.8nm,0.6s,mb3.7,baz=333,slow=6.8,SNR=3.7						
NOA	NORSAR Array B	67.80	30	P	P	07 17 35.6	+0.7
	1.4nm,0.9s,mb3.7,baz=259,slow=6.4,SNR=3.5						
GERES	GERESS Array B	68.66	43	P	P	07 17 40.4	+0.1
	0.4nm,0.5s,mb3.4,baz=288,slow=4.2,SNR=4.7						
ILAR	Eielson Array	72.97	333	P	P	07 18 05.3	-0.6
	0.4nm,0.4s,mb3.5,baz=87,slow=4.1,SNR=12						
ARCES	ARCESS Array B	73.99	21	P	P	07 18 12.5	+0.8
	5.5nm,1.0s,mb4.2,baz=249,slow=7.7,SNR=3.5						
FINES	FINESS Array B	74.97	30	P	P	07 18 18.1	+0.6
	0.7nm,0.4s,mb3.6,baz=277,slow=4.1,SNR=12						
BRTR	Keskin Array B	84.15	50	P	P	07 19 08.9	+2.0
	0.7nm,0.5s,mb3.6,baz=293,slow=4.7,SNR=2.7						
WRA	Warramunga Arr	163.78	255	PKP	PKPdf	07 26 37.8	+1.3
	0.5nm,0.7s,baz=94,slow=0.8,SNR=5.7						

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*PRU **11** 07:13:07.7, 45.57N×15.97E*
*NEIC **11** 07:13:07.5±2.3, 45.51N×15.89E, h10^{km}, ML2.9(VIE), ML2.4(LJU), Error ellipse: s-maj=23.9km s-min=10.9km az=151.0*
*LJU **11** 07:13:08.9, 45.57N×15.78E, ML2.3*
ISC 11 07:13:07.5±0.9**, 45.57N**±0.03×**15.83E**±0.06**, h12**^{km}±4^{km}**, n22,** σ**0**^{s}**86**/40**, 10C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRES	Cresnjev	0.37	315	*i* Pg	Pg	07 13 16.0	+0.8
BOJS	Bojanci	0.41	262	⇑*i*Pg	Pg	07 13 16.5	+0.5
BOJS				*i* Sg	Sg	07 13 21.6	0.0
VISS	Visnje	0.73	289	*i* Pg	Pg	07 13 22.6	+0.3
VISS				*e*Sg	Sg	07 13 32.8	+0.6
	comp=Z,45nm,0.1s						
PDKS	Podkum	0.76	311	*i* Pg	Pg	07 13 23.5	+0.6
CEY	Cerknica	1.00	281	*e*Pg	Pg	07 13 28.0	+0.4
CEY				*e*Sg	Sg	07 13 41.2	+0.2
	comp=Z,122nm,0.3s						
LJU	Ljubljana	1.03	298	*e*Pg	Pg	07 13 29.0	+0.8
LJU				*e*Sg	Sg	07 13 43.0	+1.1
NVLJ	Novalja	1.21	214	*i* Pg	Pg	07 13 30.1	-1.7
NVLJ				*i* Sg	Sg	07 13 48.5	+0.5
OBKA	Obir	1.30	317	⇑*i*PG	Pg	07 13 33.6	+0.1
OBKA				*i* SG	Sg	07 13 51.7	+0.8
	comp=Z,82nm,0.4s						
OBKA	Obir	1.30	317	⇑*e*Pg	Pg	07 13 33.6	0.0
	SNR=57						
VOY	Vojsko	1.43	290	*e*Pg	Pg	07 13 34.0	-2.2
VOY				*e*Sg	Sg	07 13 53.8	-1.5
ARSA	Arzberg	1.70	353	⇓*i*PN	Pn	07 13 38.1	+0.8
ARSA				*i* PG	Pg	07 13 41.1	-0.4
ARSA				*i* SG	Sg	07 14 04.3	+0.1
	comp=Z,18nm,0.4s						
ARSA	Arzberg	1.70	353	⇓*i*Pn	Pn	07 13 38.1	+0.8
ARSA				⇑*i*Pg	Pg	07 13 41.1	-0.4
KBA	Koelnbreinsper	2.29	312	⇑*i*PN	Pn	07 13 46.1	+0.3
KBA				*i* PG	Pg	07 13 52.4	-0.9
KBA				*i* SG	Sg	07 14 22.9	-1.0
	comp=Z,11nm,0.4s						
KBA	Koelnbreinsper	2.29	312	⇑*i*Pn	Pn	07 13 46.1	+0.3
MOA	Molln	2.52	335	⇓*i*PN	Pn	07 13 49.9	+0.8
MOA				*i* SN	Sn	07 14 20.3	+0.2
MOA	Molln	2.52	335	⇓*e*Pn	Pn	07 13 49.9	+0.8
	SNR=8.4						
WTTA	Wattenberg	3.36	302	⇑*i*PN	Pn	07 14 01.4	+0.4
WTTA				*i* SN	Sn	07 14 42.1	+0.8
WTTA	Wattenberg	3.36	302	⇑*i*Pn	Pn	07 14 01.4	+0.4
MOTA	Moosalm	3.72	300	⇑*i*PN	Pn	07 14 06.0	-0.1
MOTA				*i* SN	Sn	07 14 50.4	+0.1
MOTA				*i* SG	Sg	07 15 10.7	-0.7
	comp=Z,4.1nm,0.6s						
MOTA	Moosalm	3.72	300	⇑*i*Pn	Pn	07 14 06.0	-0.1
KHC	Kasperske Hory	3.88	338	*e*PN	Pn	07 14 08.2	-0.2
KHC				*e*SN	Sn	07 14 51.9	-2.5
KHC				*e*SG	Sg	07 15 09.3	-7.5
PRU	Pruhonice	4.51	349	*e*SG	Sg	07 15 28.2	-10

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*IDC **11** 07:27:17.1±1.3, 24.80N×128.04E, mb3.9/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=65.2km s-min=20.1km az=80.0*
*NEIC **11** 07:27:18.6±0.8, 24.80N×127.76E, h10^{km}, mb4.3/1, Error ellipse: s-maj=20.7km s-min=14.1km az=88.0*
*JMA **11** 07:27:20.4±0.3, 24.86N×127.79E, h53^{km}, M3.3*
ISC 11 07:27:19.6±0.6**, 24.84N**±0.04×**127.78E**±0.04**, h33**^{km}**, n21,** σ**1**^{s}**18**/35**, mb3.9**/5**, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	1.30	359	P	P	07 27 42.4	+1.0
JJT2				S	S	07 27 58.8	+0.9
NAH1	Naha	1.36	356	P	P	07 27 43.1	+0.6
NAH1				*e*S	S	07 27 59.4	-0.2
JKE	Kume jima 2	1.73	329	P	P	07 27 48.7	+0.9
JKE				*e*S	S	07 28 10.1	+1.1
JAGN	Aguni-jima	1.81	344	P	P	07 27 49.9	+1.0
JAGN				*e*S	S	07 28 09.9	-1.0
JOW	Kunigami	2.04	12	Pn	Pn	07 27 52.3	0.0
	10nm,0.3s,baz=169,slow=14,SNR=60						
JOW				Sn	Sn	07 28 14.8	-2.1
	20nm,0.3s,baz=126,slow=29,SNR=11						
JOW	Kunigami	2.04	12	P	P	07 27 52.1	0.0
JOW				*e*S	S	07 28 16.5	-0.1
JOGS	Gusukube	2.16	268	P	P	07 27 54.8	+0.9
JOGS				*e*S	S	07 28 20.3	+0.5
JIH	Iheya	2.19	4	P	P	07 27 55.5	+1.1
JIH				*e*S	S	07 28 20.2	-0.4
JMJ	Miyako jima 2	2.26	270	P	P	07 27 56.3	+0.9
JMJ				*e*S	S	07 28 22.3	-0.1
JTJ	Tarama	2.81	267	P	P	07 28 03.5	+0.3
JTJ				*e*S	S	07 28 34.5	-1.7
JTK	Tokunoshima	3.12	19	P	P	07 28 08.0	+0.4
JTK				*e*S	S	07 28 42.2	-1.9
JMZ	Minamidaito 2	3.26	72	P	P	07 28 07.0	-2.6
JMZ				*e*S	S	07 28 41.2	-6.5
JIJ	Ishigaki jima	3.35	263	P	P	07 28 09.2	-1.6
JIJ				*e*S	S	07 28 46.4	-3.5
JKRS	Kuro-shima	3.49	261	*e*S	S	07 28 52.5	-1.0
JAM	Amami Oshima	3.92	24	P	P	07 28 19.0	+0.1
JAM				*e*S	S	07 29 00.5	-3.9
NACB	Ninganchiao	5.68	265	*e*P	P	07 28 41.6	-2.2
MKAR	Makanchi Array	42.17	313	P	P	07 35 13.1	+2.4
	0.4nm,0.5s,mb3.3,baz=101,slow=7.3,SNR=6.0						
FITZ	Fitzroy Crossi	42.73	183	P	P	07 35 15.5	-0.1
	1.8nm,0.8s,mb3.9,baz=350,slow=6.1,SNR=3.2						
WRAB	Tennant Creek	44.96	171	*e*P	P	07 35 34.3	+0.7
	3.5nm,0.8s,mb4.2						
WRA	Warramunga Arr	44.96	171	P	P	07 35 33.6	-0.1
	2.0nm,0.7s,mb4.0,baz=352,slow=8.7,SNR=14						
FINES	FINESS Array B	73.87	331	P	P	07 38 54.6	+2.1
	1.0nm,0.9s,mb3.8,baz=34,slow=5.0,SNR=4.1						

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*TRN **11** 07:50:53.6, 10.99N×62.14W, h169^{km}, MD3.8*
*NEIC **11** 07:50:55.4, 10.95N×62.11W, h155^{km}, MD3.8(TRN), After TRN.*
*FUNV **11** 07:50:58.3, 11.00N×62.28W, h84^{km}, MW2.7*
ISC 11 07:50:57.3±0.8**, 10.92N**±0.04×**62.41W**±0.03**, h98**^{km}±9^{km}**, n19,** σ**0**^{s}**98**/31**, 1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.33	147	*e*P	P	07 51 11.3	-0.6
ITEV	Isla Los Testi	0.83	301	*e*P	P	07 51 16.0	-0.1
ITEV				*e*S	S	07 51 29.0	-1.0
CRUV	Carupano	0.85	253	⇓*i*P	P	07 51 16.2	-0.1
CRUV				*e*S	S	07 51 31.1	+0.7
BUAY	Buenos Aires	1.07	139	*e*P	P	07 51 19.8	+1.1
TPP	Pointe-a-Pierr	1.11	123	*e*S	S	07 51 39.7	+4.0
SIPA	Siparia	1.18	131	*e*P	P	07 51 20.0	-0.1
TBH	Brigand Hill	1.39	108	*e*S	S	07 51 41.7	+0.5
GRW	Mount Saint Ca	1.43	31	*e*P	P	07 51 23.1	+0.1
GRW				*e*S	S	07 51 42.5	+0.4
GRW	Mount Saint Ca	1.43	31	*e*P	P	07 51 25.3	+2.2
GRW				*e*S	S	07 51 42.5	+0.4
GRHS	Sauteurs	1.50	30	*e*P	P	07 51 23.0	-0.9
GRHS				*e*S	S	07 51 44.8	+1.2
TPR	Prospect	1.62	81	*e*S	S	07 51 45.0	-1.2
BOT	Bacolet	1.68	81	*e*S	S	07 51 45.6	-1.8
ORIV	Oritupano	2.09	208	*e*P	P	07 51 32.7	+1.2
ORIV				*e*S	S	07 51 57.7	+0.8
IBAV	Isla La Blanqu	2.31	293	*e*P	P	07 51 34.6	0.0
IBAV				*e*S	S	07 52 02.0	-0.3
PCRV	Puerto La Cruz	2.31	252	*e*P	P	07 51 35.8	+1.2
PCRV				*e*S	S	07 52 03.2	+0.8
GURV	El Guri	3.21	192	*e*P	P	07 51 47.7	+0.8
GURV				*e*S	S	07 52 22.6	-1.8
CUPV	Cœpira	3.44	256	*e*P	P	07 51 50.7	+0.7
CUPV				*e*S	S	07 52 29.1	-0.8
MERV	Las Mercedes	4.17	247	*e*P	P	07 52 00.0	-0.1
MERV				*e*S	S	07 52 46.3	-1.8
CAOV	Caicara del Or	5.26	228	*e*P	P	07 52 14.7	-0.3
CAOV				*e*S	S	07 53 11.0	-3.9

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*IDC **11** 08:04:07.2±1.2, 19.09N×123.15E, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=80.7km s-min=28.6km az=66.0*
ISC 11 08:04:20.0±0.6**, 18.46N**±0.05×**121.03E**±0.08**, h79**^{km}±9^{km}**, n11,** σ**1**^{s}**01**/17**, mb3.6**/5**, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	Dolores	0.86	200	*e*P	P	08 04 38.2	+0.6
ABRA				*e*S	S	08 04 50.4	-0.3
CVP	Callao Caves	1.07	135	*e*P	P	08 04 40.4	+0.4
CVP				*i* S	S	08 04 54.0	-1.1
CAUP	Cauayan	1.69	153	*e*P	P	08 04 49.5	+1.3
CAUP				*e*S	S	08 05 09.1	0.0
BBP	Basco	2.16	24	*e*P	P	08 04 56.8	+2.1
BBP				*e*S	S	08 05 19.1	-1.2
BOLP	Bolinao	2.32	207	*e*P	P	08 04 54.7	-2.3
BOLP				*e*S	S	08 05 24.8	+0.3
BALP	Baler	2.75	169	*e*P	P	08 05 04.0	+0.9
BALP				*e*S	S	08 05 35.0	-0.3
WRA	Warramunga Arr	40.34	160	P	P	08 11 46.2	-5.3
	0.4nm,1.0s,mb3.2,baz=348,slow=8.7,SNR=5.0						
MKAR	Makanchi Array	42.49	320	P	P	08 12 09.7	+0.7
	0.4nm,0.6s,mb3.4,baz=111,slow=10,SNR=5.6						
FINES	FINESS Array B	76.31	330	P	P	08 16 01.1	-0.6
	1.9nm,1.0s,mb3.8,baz=76,slow=7.9,SNR=4.7						
NOA	NORSAR Array B	83.20	333	P	P	08 16 37.9	-0.7
	0.5nm,0.6s,mb3.5,baz=63,slow=5.0,SNR=2.6						
YKA	Yellowknife Ar	88.28	23	P	P	08 16 53.6	-10
	1.1nm,0.6s,mb4.1,baz=319,slow=7.5,SNR=3.9						

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*IDC **11** 08:08:14.8±1.2, 13.07N×121.68E, mb3.9/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=142.3km s-min=20.2km az=65.0*
*NEIC **11** 08:08:16.4±0.6, 12.90N×121.27E, h10^{km}, mb4.3/2, Error ellipse: s-maj=84.8km s-min=10.3km az=67.0*
ISC 11 08:08:11.9±0.9**, 14.94N**±0.04×**124.69E**±0.06**, h41**^{km}±13^{km}**, n25,** σ**1**^{s}**16**/36**, mb4.1**/5**, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	Virac	1.43	201	*e*P	P	08 08 35.9	0.0
PVCP				*e*S	S	08 08 52.4	-1.3
GQP	Guinayangan	2.41	245	⇑*i*P	P	08 08 51.2	+1.5
GQP				*i* S	S	08 09 19.0	+0.8
CNP	Catarman	2.41	181	*e*P	P	08 08 50.5	+0.7
CNP				*e*S	S	08 09 20.3	+2.0
AUQP	San Andres	2.53	231	*e*P	P	08 08 54.5	+3.0
AUQP				*e*S	S	08 09 25.8	+4.4
POLP	Polilio Island	2.67	266	*e*P	P	08 08 53.5	-0.1
POLP				*e*S	S	08 09 24.2	-0.8
BALP	Baler	3.11	285	*e*P	P	08 08 57.9	-1.9
BALP				*e*S	S	08 09 31.5	-4.6
BOAC	Boac	3.13	242	*e*P	P	08 09 01.1	+1.1
BOAC				*e*S	S	08 09 31.9	-4.7
BESP	Borongan	3.39	168	*e*P	P	08 09 02.9	-0.9
BESP				*e*S	S	08 09 41.6	-1.7
CAUP	Cauayan	3.41	306	*e*P	P	08 09 04.1	+0.1
CAUP				*e*S	S	08 09 44.2	+0.6
OTRP	Odiongan	3.65	226	*e*P	P	08 09 08.0	+0.7
OTRP				*e*S	S	08 09 47.6	-2.0
TGY	Tagaytay City	3.73	258	⇓*e*P	P	08 09 09.2	+0.6
CVP	Callao Caves	3.89	315	*e*P	P	08 09 11.0	+0.1
CVP				*i* S	S	08 09 51.0	-5.0
SJMP	San Jose	4.26	235	*e*P	P	08 09 17.6	+1.5
SJMP				*e*S	S	08 10 05.2	+0.2
LUBP	Lubang	4.47	255	*e*P	P	08 09 18.1	-1.0
ABRA	Dolores	4.68	306	*e*P	P	08 09 21.7	-0.2
ABRA				*e*S	S	08 10 14.1	-1.6
BUSP	Coron	5.25	237	*e*P	P	08 09 30.3	+0.3
BUKP	Musuan	7.02	177	*e*P	P	08 09 54.3	-0.6
WRAB	Tennant Creek	35.93	164	*e*P	P	08 15 09.8	-0.8
	3.9nm,0.7s,mb4.5						
WRA	Warramunga Arr	35.93	164	P	P	08 15 09.8	-0.9
	2.3nm,0.7s,mb4.2,baz=342,slow=8.8,SNR=26						
ULN	Ulaanbaatar	35.94	340	*e*P	sP	08 15 24.4	-2.5
	5.4nm,1.3s						
SONM	Songino Array	36.14	339	P	sP	08 15 26.4	-2.2
	2.1nm,0.8s,baz=158,slow=9.0,SNR=7.3						
MKAR	Makanchi Array	47.43	321	P	P	08 16 47.7	+3.3
	0.9nm,0.8s,mb3.7,baz=117,slow=8.1,SNR=7.8						
STKA	Stephens Creek	49.29	161	P	P	08 17 00.3	+1.3
	3.4nm,1.1s,mb4.3,baz=349,slow=10,SNR=2.9						
STKA	Stephens Creek	49.29	161	P	P	08 17 00.3	+1.3
BVAR	Borovoye Array	56.99	324	P	P	08 18 00.6	+4.8
	0.3nm,0.4s,mb3.6,baz=90,slow=5.8,SNR=2.7						

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*MOS **11** 08:17:06.5±1.3, 37.16N×21.28E, h10^{km}, mb4.6/5, Error ellipse: s-maj=5.5km s-min=3.2km az=93.6*
*PRU **11** 08:17:12.7, 37.30N×19.83E, M4.5*
*BJI **11** 08:17:13.0, 37.60N×21.60E, h65^{km}, mB5.0, mb4.7, Ms4.3, Msz4.2*
*HLW **11** 08:17:15.6, 37.55N×22.13E, h33^{km}, Mb3.9*
*CSEM **11** 08:17:15.2±0.1, 37.49N×21.59E, h71^{km}, mb4.4/3, Error ellipse: s-maj=2.6km s-min=1.4km az=27.0*
*ATH **11** 08:17:16.1, 37.56N×21.63E, h62^{km}±1^{km}, ML3.8*
*PDG **11** 08:17:16.9±0.6, 37.63N×21.58E, h64^{km}±5^{km}*
*IDC **11** 08:17:16.2±2.4, 37.65N×21.68E, h52^{km}±26^{km}, mb3.9/10, mb1 3.9/14, mb1mx3.7/27, mbtmp4.0/14, ML3.7/4, Error ellipse: s-maj=19.0km s-min=16.8km az=161.0*
*NEIC **11** 08:17:16.4, 37.59N×21.62E, h59^{km}, mb4.5/16, MD4.3(PDG), MD3.9(ATH), After ATH.*
NEIC Felt at Kalamaria, Kavala, Palaiokhorion, Serrai and Thermi.
*THE **11** 08:17:17.4, 37.69N×21.72E, h109^{km}, ML4.0*
ISC 11 08:17:14.5±0.3**, 37.56N**±0.02×**21.41E**±0.03**, h76**^{km}±3^{km}**, h73**^{km}±3.1^{km}**:pP-P, n209,** σ**1**^{s}**21**/251**, mb4.5**/23**, 20C-29D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.50	5	⇓*i*P	P	08 17 28.4	+0.5
RLS				*e*S	S	08 17 38.6	+0.7
ITM	Ithomi	0.56	133	⇓*i*P	P	08 17 28.2	-0.4
ITM				*e*S	S	08 17 37.2	-1.7
VLS	Valsamata	0.90	314	⇑*i*P	P	08 17 35.7	+3.5
VLS				*e*S	S	08 17 50.1	+4.6
VLS	Valsamata	0.90	314	⇑*i*P	P	08 17 34.8	+2.6
VLS				*e*S	S	08 17 50.1	+4.6
LKD	Levkas	1.29	333	*e*Pg	P	08 17 40.9	+3.5
EVR	Evrytania	1.39	13	*e*P	P	08 17 40.5	+1.8
EVR	Evrytania	1.39	13	*e*P	P	08 17 41.8	+3.1
VLI	Veliai	1.48	124	⇓*i*P	P	08 17 41.3	+1.4
VLI				*e*S	S	08 17 59.3	+0.6
MGER	Gerania Oros	1.52	73	*e*P	P	08 17 40.0	-0.5
AGG	Agios Georgios	1.63	26	*e*Pg	P	08 17 43.9	+2.1
LKR	Lokris	1.66	49	⇑*i*P	P	08 17 42.7	+0.4
NAIG	Nisos Aigina	1.66	83	*e*P	P	08 17 41.7	-0.6
KYTH	Kithira	1.82	134	*e*P	P	08 17 45.0	+0.5
KYTH	Kithira	1.82	134	*e*P	P	08 17 46.3	+1.8
ATH	Athens Observa	1.87	77	⇑*i*P	P	08 17 44.8	-0.3
MPAR	Parnis Oros	1.93	72	*e*P	P	08 17 45.5	-0.4
MPAR	Parnis Oros	1.93	72	*e*P	P	08 17 45.0	-0.9
PTL	Penteli	2.00	75	*e*P	P	08 17 46.5	-0.4
JAN	Janina	2.14	348	*e*P	P	08 17 51.8	+3.0
JAN	Janina	2.14	348	*e*P	P	08 17 52.3	+3.5
MEV	Metsovon	2.23	356	*e*Pn	P	08 17 53.0	+3.0
NEO	Neokhori	2.25	39	⇑*i*P	P	08 17 51.0	+0.6
XOR	Xorichti	2.28	37	*e*Pn	P	08 17 51.7	+0.9
XOR				*e*Sn	S	08 18 17.9	+0.1
KEK	Kerkira	2.49	330	*e*P	P	08 17 56.6	+2.8
AOS	Alonnisos	2.52	50	*e*Pn	P	08 17 54.1	-0.1
AOS				*e*Sn	S	08 18 23.0	-0.7
LIT	Litokhoron	2.67	18	*e*Pn	P	08 17 57.0	+0.7
KZN	Kozani	2.76	6	⇓*i*P	P	08 17 59.7	+2.2
PAIG	Paliouri	2.95	36	*e*Pn	P	08 18 00.1	-0.2
PAIG				*e*Sn	S	08 18 32.9	-1.8
VAM	Vamos	3.11	133	*e*P	P	08 18 02.8	+0.4
VAM	Vamos	3.11	133	*e*P	P	08 18 02.6	+0.2
FNA	Florina	3.22	360	*e*Pn	P	08 18 05.6	+1.6
FNA				*e*Sn	S	08 18 43.6	+2.4
PLG	Polygyros	3.23	29	⇑*i*P	P	08 18 04.2	+0.1
PLG	Polygyros	3.23	29	⇑*i*P	P	08 18 04.0	-0.1
THE	Thessaloniki	3.30	21	*e*Pn	P	08 18 04.5	-0.5
THE				*e*Sn	S	08 18 42.0	-1.2
APE	Apeiranthos	3.32	97	*e*P	P	08 18 05.0	-0.4
APE	Apeiranthos	3.32	97	*e*P	P	08 18 04.5	-0.9
OUR	Ouranopolis	3.42	35	*e*Pn	P	08 18 07.2	+0.5
OUR				*e*Sn	S	08 18 44.4	-1.9
BIA	Bitola	3.45	359	*e*Pn	P	08 18 09.3	+2.1
GVD	Gavdhos	3.47	141	*e*P	P	08 18 06.3	-1.2
GVD	Gavdhos	3.47	141	*e*P	P	08 18 06.3	-1.2
GRG	Griva	3.48	12	*e*Pn	P	08 18 08.3	+0.8
OHR	Ohrid	3.58	353	*i* Pn	P	08 18 11.4	+2.5
SOH	Sokhos	3.59	24	*e*Pn	P	08 18 09.7	+0.6
SOH				*e*Sn	S	08 18 50.0	-0.5
IDI	Anoyia	3.61	128	P	P	08 18 07.6	-1.8
	3.8nm,0.3s,baz=295,slow=15,SNR=20						
IDI				S	S	08 18 43.9	-7.0
	28nm,0.3s,baz=344,slow=16,SNR=6.9						
LOS	Limnos	3.72	49	*e*Pn	P	08 18 10.4	-0.6
LIA	Limnos Island	3.76	50	⇑*i*P	P	08 18 10.9	-0.6
KNT	Kendrikon	3.78	17	*e*Pn	P	08 18 12.6	+0.8
KNT				*e*Sn	S	08 18 55.1	-0.1
VAY	Valandovo	3.86	13	*i* Pn	P	08 18 14.9	+2.0
SRS	Serrai	3.93	25	*e*Pn	P	08 18 14.0	+0.1
SRS				*e*Sn	S	08 18 58.0	-1.2
TIP	Timpagrande	4.00	295	*e*P	P	08 18 16.9	+2.1
TIP	Timpagrande	4.00	295	*e*P	P	08 18 16.9	+2.1
NPS	Neapolis	4.09	123	*e*P	P	08 18 16.2	+0.1
PRK	Paraskevi	4.17	65	*e*P	P	08 18 16.8	-0.4
NVR	Nevrokopi	4.23	26	*e*P	P	08 18 18.2	+0.1
SMG	Samos	4.31	86	*e*P	P	08 18 18.5	-0.6
SKO	Skopje	4.41	0	*e*Pn	P	08 18 21.5	+1.0
SKO				*i*		08 18 31.0	
SKO				*i*		08 18 38.5	
ULC	Ulcinj	4.70	340	⇑*i*Pn	P	08 18 24.7	+0.2
ULC				*e*Sn	S	08 19 17.2	-1.1
RDO	Rodhopi	4.80	40	⇑*i*P	P	08 18 25.2	-0.7
ALN	Alexandroupoli	4.90	46	*e*Pn	P	08 18 26.5	-0.9
ALN				*e*Sn	S	08 19 19.4	-3.9
KARP	Karpathos	5.05	112	*e*P	P	08 18 30.0	+0.7
BUM	Brajici-Budva	5.11	339	⇓*i*Pn	P	08 18 30.6	+0.4
BUM				*e*Sn	S	08 19 27.2	-1.4
TTG	Podgorica	5.13	342	⇓*i*Pn	P	08 18 30.8	+0.3
TTG				*e*Sn	S	08 19 27.5	-1.6
PVY	Plav	5.15	348	⇓*i*Pn	P	08 18 32.1	+1.4
PVY				*e*Sn	S	08 19 28.7	-0.6
HCY	Herceg Novi	5.37	336	⇓*i*Pn	P	08 18 33.5	-0.2
HCY				*e*Sn	S	08 19 33.9	-1.0
IVA	Berane	5.43	348	⇓*i*Pn	P	08 18 36.0	+1.5
IVA				*e*Sn	S	08 19 35.4	-1.0
NKY	Niksic	5.56	341	⇓*i*Pn	P	08 18 37.2	+0.8
NKY				*e*Sn	S	08 19 38.3	-1.3
VAE	Valguarnera	5.56	271	P	P	08 18 41.5	+5.1
	2.4nm,0.3s,baz=121,slow=5.7,SNR=3.8						
VAE				S	S	08 19 42.2	+2.5
	11nm,0.3s,baz=133,slow=11,SNR=5.8						
TREB	Trebinje	5.66	336	Pn	P	08 18 37.5	-0.2
TREB				Sn	S	08 19 38.5	-3.6
BRY	Bratogost	5.77	339	⇓*i*Pn	P	08 18 39.7	+0.5
BRY				*e*Sn	S	08 19 43.3	-1.4
UPM	Unac-Piva	5.95	342	⇓*i*Pn	P	08 18 43.3	+1.6
UPM				*e*Sn	S	08 19 48.1	-1.1
PLE	Pljevlja	5.96	346	⇑*i*Pn	P	08 18 43.4	+1.4
PLE				*e*Sn	S	08 19 47.6	-2.0
NVSS	Nova Varos 2	6.08	348	⇑*i*Pn	P	08 18 44.6	+1.0
NVSS				Sn	S	08 19 51.3	-1.3
GRUS	Gruza	6.34	355	*e*Pn	P	08 18 47.1	-0.2
BBLS	Bajina Basta -	6.48	347	*e*Pn	P	08 18 49.3	+0.1
DIVS	Divcibare	6.62	351	⇓*i*Pn	P	08 18 50.3	-0.8
DIVS				Sn	S	08 20 04.8	-0.9
SLUM		6.82	152	⇓P	P	08 18 50.5	-3.4
CII	Carovilli	6.88	309	*e*P	P	08 18 54.6	-0.2
	24nm,0.6s						
CII	Carovilli	6.88	309	*e*P	P	08 18 54.6	-0.2
	24nm,0.6s						
HMAT	Matruh	7.98	142	⇓P	P	08 19 05.4	-4.5
HMAT				S	S	08 20 25.4	-14
VOIR		8.33	18	⇓*i*P	P	08 19 16.5	+1.9
NVLJ	Novalja	8.56	327	*i* Pn	P	08 19 18.6	+0.8
NVLJ				*i* Sn	S	08 20 47.1	-6.6
NVLJ	Novalja	8.56	327	*i* Pn	P	08 19 18.5	+0.7
MLR	Muntele Rosu	8.62	22	P	P	08 19 18.9	+0.3
	0.8nm,0.3s,baz=223,slow=4.9,SNR=16						
MLR	Muntele Rosu	8.62	22	⇓*i*P	P	08 19 21.7	+3.1
HARR	Harsova	8.65	33	⇓*i*P	P	08 19 18.0	-1.0
TIRR	Tirgusor	8.69	35	⇑*i*P	P	08 19 18.0	-1.5
SWA2		8.96	157	⇓P	P	08 19 20.2	-2.9
SWA2				S	S	08 20 52.0	-11
SWA2		8.96	157	P	P	08 19 20.2	-2.9
SWA1		9.02	155	⇓P	P	08 19 21.3	-2.8
SWA1				S	S	08 20 53.2	-12
CFR	Carcaliu	9.13	31	⇑*i*P	P	08 19 27.0	+1.5
BOJS	Bojanci	9.18	332	*e*Pn	P	08 19 26.3	+0.2
BOJS				*i* Sn	S	08 21 03.1	-5.7
VRI	Vrincioaia	9.20	24	⇓*i*P	P	08 19 29.9	+3.4
CRES	Cresnjev	9.38	334	*i* Pn	P	08 19 28.3	-0.6
CRES				*e*Sn	S	08 21 06.3	-7.3
BR131	Keskin Array S	9.81	74	P	P	08 19 35.1	+0.4
BR131	Keskin Array S	9.81	74	P	P	08 19 35.1	+0.4
BRTR	Keskin Array B	9.81	74	P	P	08 19 34.3	-0.4
	0.5nm,0.3s,baz=259,slow=13,SNR=7.0						
JAVS	Javornik	9.97	329	*e*Pn	P	08 19 38.0	+1.1
JAVS				*e*Sn	S	08 21 22.7	-5.2
VOY	Vojsko	10.15	329	*e*Pn	P	08 19 40.9	+1.6
VOY				*e*Sn	S	08 21 27.7	-4.6
PERS	Pernice	10.20	335	*i* Pn	P	08 19 40.0	0.0
PERS				*e*Sn	S	08 21 28.9	-4.6
OBKA	Obir	10.29	332	⇑*i*PN	P	08 19 40.4	-0.8
OBKA				*i* SN	S	08 21 29.0	-6.7
OBKA	Obir	10.29	332	⇑*i*Pn	P	08 19 40.4	-0.8
PSZ	Piszkesteto	10.41	354	*e*P	P	08 19 41.3	-1.6
PSZ	Piszkesteto	10.41	354	*e*P	P	08 19 41.3	-1.6
BURAR	Bucovina Array	10.43	14	⇓*i*P	P	08 19 48.1	+5.0
BURAR	Bucovina Array	10.43	14	⇓*i*P	P	08 19 48.1	+5.0
ARSA	Arzberg	10.61	338	⇑*i*PN	P	08 19 44.0	-1.6
ARSA				*i* SN	S	08 21 37.5	-5.9
ARSA	Arzberg	10.61	338	⇑*i*Pn	P	08 19 44.0	-1.5
PGF	Pioggiola	10.73	301	*e*P	P	08 19 46.3	-1.0
	157nm,1.6s						
PGF	Pioggiola	10.73	301	*e*P	P	08 19 46.3	-1.0
PGF				pmax	pmax		
	comp=Z,78nm,1.6s						
KECS	Kecovo	10.94	357	*e*PN	P	08 19 49.5	-0.5
HNAT	Natroun	11.01	133	⇓P	P	08 19 46.4	-4.7
CRVS	Cervenica-Dubn	11.34	0	*e*	P	08 20 02.7	+7.4
MOA	Molln	11.54	335	⇑*i*Sn	S	08 21 60.0	-5.8
MOA	Molln	11.54	335	⇓*i*Pn	P	08 19 56.9	-1.1
MOA				*i* Sn	S	08 22 00.0	-5.8
HSAF	As Saff	11.58	130	⇓P	P	08 19 53.6	-5.0
HRSH	Kfar Ka'horesh	12.12	119	⇑P	P	08 20 01.2	-4.7
DAVOX	Davos	12.56	321	S	S	08 22 31.6	+1.5
	comp=Z,0.3nm,0.3s,baz=352,slow=23,SNR=4.4						
GERES	GERESS Array B	12.59	336	P	P	08 20 12.3	+0.3
	comp=Z,0.2nm,0.3s,baz=151,slow=14,SNR=10						
FRF	La Foret Royal	12.72	303	*e*P	P	08 20 12.6	-1.2
	comp=Z,29nm,1.3s						
FRF	La Foret Royal	12.72	303	*e*P	P	08 20 12.6	-1.2
FRF				pmax	pmax		
	comp=Z,15nm,1.3s						
LMR	La Mourre	12.72	302	*e*P	P	08 20 12.6	-1.2
	comp=Z,42nm,1.5s						
LMR	La Mourre	12.72	302	*e*P	P	08 20 12.6	-1.2
LMR				pmax	pmax		
	comp=Z,21nm,1.5s						
KHC	Kasperske Hory	12.88	336	*e*Pn	P	08 20 14.7	-1.2
KHC				*e*Sn	S	08 22 29.7	-8.2
MBDF	Montbardon	13.14	308	*e*P	P	08 20 18.0	-1.3

	comp=Z,8.3nm,0.9s						
MBDF	**Montbardon**	**13.14**	**308**	*e*P	**P**	**08 20 18.0**	**-1.3**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MALT	**Malatya**	**13.46**	**82**	P	**P**	**08 20 23.3**	**-0.1**
MALT	**Malatya**	**13.46**	**82**	P	**P**	**08 20 23.3**	**-0.1**
LPG	**La Plagne**	**13.53**	**310**	*e*P	**P**	**08 20 22.7**	**-1.6**
SMRF	**Simiane la Rot**	**13.60**	**303**	*e*P	**P**	**08 20 23.4**	**-1.7**
TR2		**13.79**	**128**	⇓P	**P**	**08 20 24.2**	**-3.6**
ASF	**Jabal al Asfar**	**13.80**	**108**	S	**S**	**08 22 55.8**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=95,slow=18,SNR=2.8						
AKASG	**Malin Array Be**	**14.27**	**21**	P	**P**	**08 20 32.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=205,slow=12,SNR=6.3						
AKASG	**Malin Array Be**	**14.27**	**21**	*i* P	**P**	**08 20 39.9**	**+6.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CABF	**La Chapelle**	**14.51**	**313**	*e*P	**P**	**08 20 35.7**	**-1.4**
	comp=Z,21nm,1.2s						
CABF	**La Chapelle**	**14.51**	**313**	*e*P	**P**	**08 20 35.7**	**-1.4**
CABF				pmax	pmax		
	comp=Z,11nm,1.2s						
HINF	**Hinteralfeld**	**14.79**	**318**	*e*P	**P**	**08 20 39.2**	**-1.5**
CDF	**Champ du Feu**	**14.96**	**321**	*e*P	**P**	**08 20 40.9**	**-1.9**
CLL	**Collm**	**14.98**	**339**	*e**SP		08 21 01.0	
CLL				*e*PP	PP	08 21 08.0	+12
CLL	**Collm**	**14.98**	**339**	P	**P**	**08 20 52.0**	**+8.9**
CLL				*e*		08 21 08.0	
SOC	**Sochi**	**15.14**	**61**	*e*P	**P**	**08 20 49.1**	**+3.9**
SOC				*e*		08 23 45.6	
SOC				pmax	pmax		
	comp=N,11nm,1.0s						
SOC				pmax	pmax		
	comp=Z,13nm,1.0s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
HAU	**Haudompre**	**15.18**	**318**	*e*P	**P**	**08 20 44.3**	**-1.3**
MTLF	**Montolieu**	**15.70**	**298**	*e*P	**P**	**08 20 51.8**	**-0.5**
LOR	**Lormes**	**16.16**	**312**	*e*P	**P**	**08 20 57.0**	**-1.0**
AVF	**Avril sur Loir**	**16.23**	**310**	*e*P	**P**	**08 20 58.0**	**-0.8**
	comp=E,16nm,1.1s						
AVF	**Avril sur Loir**	**16.23**	**310**	*e*P	**P**	**08 20 58.0**	**-0.8**
AVF				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SSF	**Saint Saulge**	**16.26**	**311**	*e*P	**P**	**08 20 58.4**	**-0.9**
	comp=Z,11nm,1.1s						
SSF	**Saint Saulge**	**16.26**	**311**	*e*P	**P**	**08 20 58.4**	**-0.9**
SSF				pmax	pmax		
	comp=Z,11nm,1.1s						
BGF	**Bois d'Agland**	**16.43**	**309**	*e*P	**P**	**08 21 00.6**	**-0.8**
TCF	**Toulx Ste Croi**	**16.71**	**308**	*e*P	**P**	**08 21 04.8**	**-0.1**
	comp=Z,103nm,1.9s						
TCF	**Toulx Ste Croi**	**16.71**	**308**	*e*P	**P**	**08 21 04.8**	**-0.1**
TCF				pmax	pmax		
	comp=Z,52nm,1.9s						
EPF	**Esparros**	**16.96**	**295**	*e*P	**P**	**08 21 08.3**	**+0.2**
KIV	**Kislovodsk**	**17.32**	**62**	*e*P	**P**	**08 21 13.4**	**+0.9**
	comp=Z,5.0nm,0.8s						
KIV	**Kislovodsk**	**17.32**	**62**	*e*P	**P**	**08 21 13.4**	**+0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BAIF	**Baives**	**17.56**	**321**	*e*P	**P**	**08 21 13.8**	**-1.7**
	comp=Z,42nm,1.7s						
BAIF	**Baives**	**17.56**	**321**	*e*P	**P**	**08 21 13.8**	**-1.7**
BAIF				pmax	pmax		
	comp=Z,21nm,1.7s						
ETSF	**Etsaut**	**17.59**	**295**	*e*P	**P**	**08 21 16.2**	**+0.3**
	comp=Z,60nm,1.6s						
ETSF	**Etsaut**	**17.59**	**295**	*e*P	**P**	**08 21 16.2**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,30nm,1.6s						
ZEI	**Tsey**	**17.94**	**66**	*e*P	**P**	**08 21 21.1**	**+0.9**
SJPF	**Ste Jean**	**18.11**	**295**	*e*P	**P**	**08 21 22.4**	**+0.2**
	comp=Z,70nm,1.4s						
SJPF	**Ste Jean**	**18.11**	**295**	*e*P	**P**	**08 21 22.4**	**+0.2**
SJPF				pmax	pmax		
	comp=Z,35nm,1.4s						
MFF	**Saint Martin d**	**18.33**	**306**	*e*P	**P**	**08 21 24.7**	**-0.1**
	comp=Z,146nm,1.7s						
MFF	**Saint Martin d**	**18.33**	**306**	*e*P	**P**	**08 21 24.7**	**-0.1**
MFF				pmax	pmax		
	comp=Z,73nm,1.7s						
LDF	**La Druitiere**	**19.14**	**312**	*e*P	**P**	**08 21 33.6**	**-0.4**
GRR	**Gorron**	**19.49**	**311**	*e*P	**P**	**08 21 38.2**	**+0.4**
ESDC	**Sonseca Array**	**19.92**	**284**	P	**P**	**08 21 45.9**	**+3.5**
	comp=Z,1.2nm,0.6s,baz=78,slow=12,SNR=6.8						
OBN	**Obninsk**	**20.36**	**26**	*e*P	**P**	**08 21 49.0**	**+2.1**
	comp=Z,11nm,1.0s						
OBN	**Obninsk**	**20.36**	**26**	⇓*e*P	**P**	**08 21 49.0**	**+2.1**
OBN				pmax	pmax		
	comp=Z,11nm,1.0s						
SGMF	**Saint Gilles**	**20.47**	**309**	*e*P	**P**	**08 21 48.6**	**+0.5**
	comp=Z,95nm,1.5s						
SGMF	**Saint Gilles**	**20.47**	**309**	*e*P	**P**	**08 21 48.6**	**+0.5**
SGMF				pmax	pmax		
	comp=Z,48nm,1.5s						
ROSF	**Rostrenen**	**20.94**	**309**	*e*P	**P**	**08 21 54.1**	**+1.2**
	comp=Z,86nm,1.6s						
ROSF	**Rostrenen**	**20.94**	**309**	*e*P	**P**	**08 21 54.1**	**+1.2**
ROSF				pmax	pmax		
	comp=Z,43nm,1.6s						
HFS	**Hagfors**	**23.12**	**350**	P	**P**	**08 22 16.9**	**+2.7**
	comp=Z,2.6nm,0.6s,mb3.8,baz=150,slow=12,SNR=8.3						
KONO	**Kongsberg**	**23.37**	**345**	*i* P	**P**	**08 22 21.2**	**+4.6**
FINES	**FINESS Array B**	**24.09**	**5**	P	**P**	**08 22 24.5**	**+1.0**
	comp=Z,1.6nm,0.5s,mb3.6,baz=172,slow=9.2,SNR=21						
FINES	**FINESS Array B**	**24.09**	**5**	*i* P	**P**	**08 22 25.5**	**+2.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.34**	**325**	P	**P**	**08 22 29.1**	**+3.1**
	comp=Z,1.8nm,0.6s,mb3.6,baz=129,slow=8.6,SNR=7.8						
EKA				pP		08 22 43.1	
	comp=Z,4.3nm,0.6s,baz=123,slow=8.9,SNR=9.0						
NB2	**NORSAR Subarra**	**24.36**	**348**	P	**P**	**08 22 28.1**	**+1.9**
	comp=Z,0.9nm,0.5s,mb3.4,baz=149,slow=10						
NB2	**NORSAR Subarra**	**24.36**	**348**	P	**P**	**08 22 28.1**	**+1.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
NOA	**NORSAR Array B**	**24.36**	**348**	P	**P**	**08 22 29.1**	**+2.9**
	comp=Z,1.6nm,0.9s,mb3.4,baz=167,slow=10,SNR=4.5						
KAF	**Kangasniemi**	**24.77**	**5**	*e*p	**P**	**08 22 32.1**	**+2.0**
JOF	**Joensuu**	**26.10**	**10**	*e*p	**P**	**08 22 43.7**	**+1.1**
	comp=Z,1.9nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**32.11**	**3**	P	**P**	**08 23 37.0**	**+0.8**
	comp=Z,2.8nm,0.6s,mb4.2,baz=190,slow=10,SNR=19						
KEV	**Kevo**	**32.40**	**4**	*e*p	**P**	**08 23 39.4**	**+0.7**
BRVK	**Borovoye**	**36.92**	**49**	*e*P	**P**	**08 24 18.1**	**+0.7**
	comp=Z,5.1nm,0.8s,mb4.5						
BRVK	**Borovoye**	**36.92**	**49**	*e*P	**P**	**08 24 18.1**	**+0.6**
	comp=Z,5.1nm,0.8s,mb4.5						
BRVK	**Borovoye**	**36.92**	**49**	*e*P	**P**	**08 24 18.1**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**36.98**	**49**	P	**P**	**08 24 19.2**	**+1.3**
	comp=Z,6.2nm,0.5s,mb4.8,baz=256,slow=6.3,SNR=50						
DBIC	**Dimbokro**	**38.93**	**224**	P	**P**	**08 24 38.5**	**+3.9**
	comp=Z,6.0nm,0.7s,mb4.5,baz=9.5,slow=11,SNR=10						
LIC	**Lamto**	**39.39**	**224**	⇓*i*P	**P**	**08 24 42.7**	**+4.3**
	comp=Z,12nm,0.5s,mb4.7						
KURK	**Kurchatov**	**42.08**	**53**	*e*P	**P**	**08 25 00.9**	**+0.7**
	comp=Z,5.9nm,0.6s,mb4.5						
KURK	**Kurchatov**	**42.08**	**53**	*e*P	**P**	**08 25 00.9**	**+0.8**
	comp=Z,5.9nm,0.6s,mb4.5						
KURK	**Kurchatov**	**42.08**	**53**	*e*P	**P**	**08 25 00.9**	**+0.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**45.03**	**58**	P	**P**	**08 25 24.6**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.3,baz=280,slow=7.1,SNR=43						
ZAL	**Zalesovo**	**45.57**	**48**	P	**P**	**08 25 29.1**	**+0.9**
	comp=Z,2.8nm,0.4s,mb4.4,baz=199,slow=9.1,SNR=6.1						
WMQ	**Urumqi**	**49.44**	**61**	*e*P	**P**	**08 25 59.5**	**+0.9**
WMQ				AP	pP	08 26 19.0	+1.4
WMQ				XP	sP	08 26 27.0	+0.9
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,166nm,5.8s						
KOLN	**Koldanda**	**52.42**	**81**	*e*P	**P**	**08 26 20.5**	**-0.9**
GKN	**Gorkha**	**53.13**	**81**	*e*P	**P**	**08 26 26.3**	**-0.4**
	comp=Z,15nm,0.6s,mb5.2						
DMN	**Daman**	**53.68**	**81**	*e*P	**P**	**08 26 30.1**	**-0.6**
	comp=Z,21nm,0.6s,mb5.3						
KKN	**Kakani**	**53.73**	**81**	*e*P	**P**	**08 26 30.9**	**-0.2**
	comp=Z,4.9nm,0.2s,mb5.2						
PKI	**Pulchoki**	**53.93**	**81**	*e*P	**P**	**08 26 31.9**	**-0.7**
LBTB	**Lobatse**	**62.37**	**176**	*e*P	**P**	**08 27 29.6**	**-1.9**
	comp=Z,9.2nm,0.6s,mb5.0						
LBTB	**Lobatse**	**62.37**	**176**	*e*P	**P**	**08 27 29.6**	**-1.9**
	comp=Z,9.0nm,0.6s,mb5.0						
LBTB	**Lobatse**	**62.37**	**176**	*e*P	**P**	**08 27 29.6**	**-1.9**
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
LZH	**Lanzhou**	**63.85**	**63**	*e*P	**P**	**08 27 41.5**	**+0.3**
LZH				AP	pP	08 27 59.2	-1.7
LZH				XP	sP	08 28 06.0	-3.4
LZH				PP	PP	08 30 04.2	+0.2
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.9						
KMI	**Kunming**	**68.60**	**74**	P	**P**	**08 28 12.1**	**+0.7**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
CN2	**Changchun**	**73.79**	**47**	*e*P	**P**	**08 28 41.7**	**-0.5**
MDJ	**Mudanjiang**	**75.65**	**44**	P	**P**	**08 28 51.2**	**-1.6**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,74nm,4.1s						
NJ2	**Nanjing**	**76.52**	**60**	*e*P	**P**	**08 28 59.5**	**+1.5**
NJ2				AP	pP	08 29 19.8	+1.4
NJ2				XP	sP	08 29 27.8	+1.1
NJ2				S	S	08 38 36.0	-0.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,760nm,4.4s						
NJ2				LR	LR		
	comp=Z,310nm,23.0s						
SSE	**Sheshan**	**78.69**	**60**	*e*P	**P**	**08 29 06.1**	**-3.9**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,750nm,4.4s						

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*NEIC **11** 08:20:08.5, 61.69N×146.53W, h10^{km}, ML3.9(PMR), ML3.8(AEIC), After AEIC.*

*IDC **11** 08:20:08.6±6.5, 61.70N×147.06W, h41^{km}±46^{km}, mb3.3/4, mb1 3.7/6, mb1mx3.4/21, mbtmp3.5/6, ML3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/27, Error ellipse: s-maj=87.9km s-min=22.9km az=56.0*

ISC 11 08:20:06.2±0.7**, 61.69N**±0.02×**146.52W**±0.04**, h11**^{km}±5^{km}**, n80, σ0^{s}97**/95**, mb3.3**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLU	**Klutina**	**0.35**	**125**	P	**Pg**	**08 20 16.1**	**+2.7**
SCM	**Sheep Creek Mo**	**0.41**	**290**	P	**Pg**	**08 20 16.7**	**+2.0**
VLZ	**Valdez**	**0.57**	**171**	P	**Pg**	**08 20 18.3**	**+0.6**
TZL	**Tazlina**	**0.63**	**55**	P	**Pb**	**08 20 20.7**	**+1.9**
DIV	**Divide**	**0.67**	**147**	P	**Pb**	**08 20 19.9**	**+0.5**
DIV				S	**Sb**	**08 20 28.6**	**+0.1**
CFI	**College Fiord**	**0.79**	**230**	P	**Pb**	**08 20 22.1**	**+0.5**
GLI	**Glacier Island**	**0.86**	**199**	P	**Pb**	**08 20 22.9**	**+0.2**
SML	**Sawmill**	**0.87**	**278**	P	**Pb**	**08 20 23.0**	**0.0**
SML				S	**Sb**	**08 20 34.2**	**-0.2**
FID	**Port Fidalgo**	**0.95**	**179**	P	**Pb**	**08 20 24.8**	**+0.6**
SDG	**Sourdough**	**0.95**	**28**	P	**Pb**	**08 20 25.1**	**+0.7**
KNK	**Knik Glacier**	**0.97**	**254**	P	**Pb**	**08 20 25.2**	**+0.6**
WACK	**Wrangell Chich**	**1.08**	**73**	P	**Pb**	**08 20 27.1**	**+0.7**
WACK				S	**Sb**	**08 20 41.3**	**+1.0**
GHO	**Glory Hole Cre**	**1.15**	**275**	P	**Pb**	**08 20 27.2**	**-0.5**
BMRM	**Bremner River**	**1.17**	**127**	P	**Pb**	**08 20 27.8**	**-0.3**
BMRM				S	**Sb**	**08 20 44.2**	**+1.1**
PWL	**Port Wells**	**1.21**	**227**	P	**Pb**	**08 20 29.0**	**+0.2**
PMR	**Palmer**	**1.25**	**267**	*e*P	**Pb**	**08 20 28.7**	**-0.7**
HIN	**Hinchinbrook I**	**1.30**	**180**	P	**Pb**	**08 20 30.9**	**+0.7**
GLB	**Gilahina Butte**	**1.32**	**100**	P	**Pb**	**08 20 30.0**	**-0.6**
SGAM	**Sherman Glacie**	**1.35**	**151**	P	**Pb**	**08 20 31.4**	**+0.2**
PAX	**Paxson**	**1.37**	**20**	P	**Pn**	**08 20 31.2**	**-0.2**
PAX				S	**Sb**	**08 20 48.6**	**-0.3**
RAGM	**Ragged Mountai**	**1.59**	**145**	P	**Pn**	**08 20 35.1**	**+0.6**
RC01	**Rabbit Creek A**	**1.67**	**250**	P	**Pn**	**08 20 36.3**	**+0.7**
RC01				S	**Sn**	**08 20 58.4**	**+1.2**
THY	**Trims Highway**	**1.77**	**11**	P	**Pn**	**08 20 38.2**	**+1.2**
THY				S	**Sn**	**08 21 01.6**	**+1.9**
LTI	**Latouche**	**1.78**	**202**	P	**Pn**	**08 20 37.2**	**-0.1**
LTI				S	**Sn**	**08 21 02.1**	**+2.0**
MENT	**Mentasta**	**1.81**	**45**	P	**Pn**	**08 20 38.4**	**+0.8**
MPA	**Moose Pass**	**1.84**	**230**	P	**Pn**	**08 20 38.1**	**0.0**
MPA				S	**Sn**	**08 21 02.2**	**+0.7**
FIB	**Fire Island**	**1.84**	**255**	P	**Pn**	**08 20 39.2**	**+1.2**
CRQM	**Cirque**	**1.88**	**118**	P	**Pn**	**08 20 38.9**	**+0.1**
CUT	**Chulitna**	**1.91**	**294**	P	**Pn**	**08 20 39.5**	**+0.4**
VOGL	**Vogel Lake**	**2.01**	**251**	P	**Pn**	**08 20 41.7**	**+1.1**
RND	**Reindeer**	**2.03**	**329**	P	**Pn**	**08 20 41.7**	**+0.8**
KAIM	**Kayak Island**	**2.05**	**149**	P	**Pn**	**08 20 41.1**	**0.0**
BALM	**Baldy**	**2.11**	**106**	P	**Pn**	**08 20 42.1**	**+0.1**
SEW	**Seward**	**2.14**	**223**	P	**Pn**	**08 20 41.9**	**-0.6**
SEW				S	**Sn**	**08 21 10.3**	**+1.0**
SLKM	**Skilak Lake**	**2.16**	**238**	*e*P	**Pn**	**08 20 42.9**	**+0.2**
WAX	**Waxell Ridge**	**2.17**	**123**	P	**Pn**	**08 20 42.9**	**0.0**
MID	**Middleton Isla**	**2.27**	**178**	P	**Pn**	**08 20 44.5**	**+0.1**
MCK	**McKinley**	**2.33**	**332**	P	**Pn**	**08 20 46.1**	**+1.0**
MCK				S	**Sn**	**08 21 15.0**	**+1.0**
STLK	**Strandline Lak**	**2.55**	**268**	P	**Pn**	**08 20 48.6**	**+0.3**
STLK				S	**Sn**	**08 21 20.3**	**+0.7**
CTGM	**Chitina Glacie**	**2.60**	**104**	P	**Pn**	**08 20 49.7**	**+0.7**
YAH	**Yahtse**	**2.68**	**118**	P	**Pn**	**08 20 49.8**	**-0.3**
SPU	**Mount Spurr**	**2.71**	**262**	*e*P	**Pn**	**08 20 50.1**	**-0.5**
HDA	**Harding Lake**	**2.73**	**356**	P	**Pn**	**08 20 52.0**	**+1.1**
KTH	**Kantishna Hill**	**2.76**	**314**	P	**Pn**	**08 20 51.7**	**+0.4**
KTH				S	**Sn**	**08 21 25.7**	**+0.7**
BWN	**Browne**	**2.83**	**333**	P	**Pn**	**08 20 52.0**	**-0.3**
CKL	**Chakachamna La**	**2.84**	**262**	P	**Pn**	**08 20 51.9**	**-0.5**
BGL	**Barrier Glacie**	**2.85**	**264**	P	**Pn**	**08 20 52.2**	**-0.4**
WRH	**Wood River Hil**	**2.88**	**346**	P	**Pn**	**08 20 52.8**	**-0.2**
CCB	**Clear Creek Bu**	**3.02**	**349**	P	**Pn**	**08 20 54.7**	**-0.4**
ILAR	**Eielson Array**	**3.10**	**357**	P	**Pn**	**08 20 55.5**	**-0.6**
	34nm,0.3s,baz=184,slow=12,SNR=702						
ILAR				S	**Sn**	**08 21 34.8**	**+1.3**
	29nm,0.3s,baz=180,slow=22,SNR=11						
IL1	**Eielson Array**	**3.10**	**357**	P	**Pn**	**08 20 55.3**	**-0.7**
CNPM	**China Poot**	**3.19**	**229**	P	**Pn**	**08 20 56.2**	**-1.1**
COLA	**College**	**3.25**	**350**	P	**Pn**	**08 20 57.7**	**-0.5**
RSO	**Redoubt South**	**3.27**	**251**	P	**Pn**	**08 20 57.9**	**-0.7**
MDM	**Murphy Dome**	**3.37**	**347**	P	**Pn**	**08 20 59.3**	**-0.6**
PCA	**Pinnacle**	**3.45**	**115**	P	**Pn**	**08 21 00.6**	**-0.5**
IVS	**Iliamna South**	**3.63**	**245**	P	**Pn**	**08 21 02.5**	**-1.1**
MLY	**Manley**	**3.85**	**332**	P	**Pn**	**08 21 06.1**	**-0.7**
OPT	**Oil Point**	**3.89**	**241**	P	**Pn**	**08 21 06.2**	**-1.1**
DAWY	**Dawson**	**4.04**	**51**	P	**Pn**	**08 21 09.7**	**+0.3**
PNL	**Peninsula**	**4.05**	**117**	P	**Pn**	**08 21 08.8**	**-0.7**
AUE	**Augustine Isla**	**4.12**	**238**	P	**Pn**	**08 21 09.5**	**-1.1**
SVW2	**Sparrevohn**	**4.40**	**266**	P	**Pn**	**08 21 12.3**	**-2.3**
TT01	**Tatalina**	**4.60**	**290**	P	**Pn**	**08 21 15.2**	**-2.3**
TTA	**Tatalina**	**4.60**	**290**	*e*P	**Pn**	**08 21 18.0**	**+0.5**
KDAK	**Kodiak Island**	**4.98**	**221**	P	**Pn**	**08 21 20.6**	**-2.3**
GCSA	**Galena City Sc**	**5.60**	**308**	P	**Pn**	**08 21 30.3**	**-1.2**
WHY	**Whitehorse**	**5.72**	**95**	P	**Pn**	**08 21 31.7**	**-1.6**
COLD	**Coldfoot**	**5.78**	**346**	P	**Pn**	**08 21 32.7**	**-1.4**
BM3	**Burnt Mountain**	**5.81**	**7**	P	**Pn**	**08 21 33.0**	**-1.5**
SIT	**Sitka**	**7.36**	**124**	P	**Pn**	**08 21 53.7**	**-2.7**
INK	**Inuvik**	**8.60**	**34**	P	**P**	**08 22 12.2**	**-1.5**
	0.2nm,0.3s,baz=254,slow=19,SNR=3.7						
INK				Lg		08 24 45.9	
	0.3nm,0.3s,baz=291,slow=11,SNR=2.7						
DLBC	**Dease Lake**	**8.86**	**104**	P	**P**	**08 22 16.2**	**-1.1**
	0.1nm,0.3s,baz=302,slow=9.5,SNR=5.6						
DLBC				S	**Sn**	**08 23 52.4**	**-5.7**
	0.2nm,0.3s,baz=186,slow=26,SNR=2.4						
DLBC				Lg		08 24 47.1	
	0.3nm,0.3s,baz=195,slow=26,SNR=3.1						
DLBC	**Dease Lake**	**8.86**	**104**	P	**P**	**08 22 16.2**	**-1.1**
DLBC				S	**Sn**	**08 23 52.4**	**-5.7**
DLBC				Lg		08 24 47.1	
BBB	**Bella Bella**	**13.79**	**125**	LR	LR	08 28 28.3	
	comp=Z,69nm,21.1s,baz=249,slow=36						
PDAR	**Pinedale Array**	**28.93**	**114**	P	**P**	**08 26 06.0**	**-1.1**
	0.3nm,0.7s,mb3.1,baz=301,slow=5.3,SNR=3.3						
PDAR				pP	pP	08 26 17.2	+7.0
	0.7nm,0.7s,baz=322,slow=6.7,SNR=6.6						
PDAR				sP	sP	08 26 22.1	+10
	0.6nm,0.8s,baz=321,slow=9.5,SNR=4.2						
NVAR	**Mina Array Bea**	**29.07**	**130**	P	**P**	**08 26 07.5**	**-0.9**
	0.2nm,0.5s,mb3.1,baz=295,slow=10,SNR=3.9						
TXAR	**Lajitas Array**	**42.81**	**119**	P	**P**	**08 28 03.7**	**-1.7**
	0.4nm,0.6s,mb3.4,baz=329,slow=6.0,SNR=8.1						
TXAR	**Lajitas Array**	**42.81**	**119**	P	**P**	**08 28 03.7**	**-1.7**
AKASG	**Malin Array Be**	**67.91**	**3**	P	**P**	**08 31 02.0**	**-4.2**
	0.2nm,0.4s,mb3.5,baz=357,slow=6.0,SNR=4.1						

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*NEIC **11** 09:10:46.0, 15.82N×97.59W, h24^{km}, MD3.9(MEX), After MEX.*

MEX 11 09:10:46.0±0.5**, 15.82N**×**97.59W, h20**^{km}±15^{km}**, MD3.9, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.77**	**318**	⇑*i*P	Pb	09 10 58.6	-2.0
PNIG				*i* S	Sb	09 11 07.7	-3.0
VHO	**Vista Hermosa**	**1.49**	**33**	*i* P	Pn	09 11 08.9	-3.1
VHO				*i* S	Sn	09 11 27.1	-3.9
OXX	**Oaxaca**	**1.50**	**33**	*i* P	Pn	09 11 09.0	-3.2
OXX				*i* S	Sn	09 11 27.0	-4.4
ACX	**Acapulco**	**2.47**	**295**	*e*P	Pn	09 11 28.5	+2.5
ACX				*i* S	Sn	09 11 52.0	-3.9
ACX	**Acapulco**	**2.47**	**295**	*e*P	Pn	09 11 28.5	+2.5
ACX				*i* S	Sn	09 11 58.0	+2.1
CMIG	**Matias Romero**	**2.89**	**64**	*i* P	Pn	09 11 28.0	-4.0
CMIG				*i* S	Sn	09 12 00.8	-5.6
YAIG	**Yautepec**	**3.34**	**335**	*i* P	Pn	09 11 34.6	-3.8
YAIG				*i* S	Sn	09 12 12.6	-5.3
YAIG	**Yautepec**	**3.34**	**335**	*e*P	Pn	09 11 32.2	-6.2
YAIG				*i* S	Sn	09 12 17.2	-0.8
PPM	**Popocatepetl**	**3.38**	**343**	*e*P	Pn	09 11 38.5	-0.5
PPM				*i* S	Sn	09 12 15.5	-3.4
PPM	**Popocatepetl**	**3.38**	**343**	*e*P	Pn	09 11 44.0	+5.0
PPM				*i* S	Sn	09 12 20.0	+1.1

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*IDC **11** 09:14:02.2±1.4, 55.43S×27.07W, mb4.2/2, mb1 4.4/2, mb1mx4.0/11, mbtmp4.2/2, Error ellipse: s-maj=69.5km s-min=32.1km az=65.0*

*NEIC **11** 09:14:07.6±3.0, 55.35S×27.08W, h37^{km}±28^{km}, mb4.1/3, Error ellipse: s-maj=23.7km s-min=11.4km az=223.0*

ISC 11 09:14:01.8±1.3**, 55.3S**±0.2×**27.1W**±0.4**, h10**^{km}**, n19, σ0^{s}87**/16**, mb4.3**/4**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.45**	**159**	*e*	**P**	**09 18 15.3**	**+8.8**
VNA1	**Neumayer--Stat**	**17.45**	**159**	*e*	**P**	**09 18 20.4**	**+14**
VNA1	**Neumayer--Stat**	**17.45**	**159**	⇑*i*P	**P**	**09 18 08.5**	**+2.0**
VNA1				*e*		09 18 15.3	
VNA1				*e*		09 18 20.4	
VNA3	**Neumayer Olymp**	**17.66**	**161**	*e*	**P**	**09 18 16.1**	**+7.0**
VNA3	**Neumayer Olymp**	**17.66**	**161**	*e*	**P**	**09 18 21.2**	**+12**
VNA3	**Neumayer Olymp**	**17.66**	**161**	⇑*i*P	**P**	**09 18 09.6**	**+0.5**
VNA3				*e*		09 18 16.1	
VNA3				*e*		09 18 21.2	
VNA2	**Neumayer--Watz**	**17.85**	**159**	*e*	**P**	**09 18 18.4**	**+7.0**
VNA2	**Neumayer--Watz**	**17.85**	**159**	*e*	**P**	**09 18 23.7**	**+12**
VNA2	**Neumayer--Watz**	**17.85**	**159**	⇑*i*P	**P**	**09 18 11.9**	**+0.5**
VNA2				*e*		09 18 18.4	
VNA2				*e*		09 18 23.7	
SNAA	**Sanae**	**19.39**	**157**	⇑*i*	**P**	**09 18 29.5**	**-0.6**
PMSA	**Palmer Station**	**20.44**	**228**	P	**P**	**09 18 41.4**	**-0.2**
	8.9nm,1.0s						
TRQA	**Tornquist**	**29.11**	**292**	*e*P	**P**	**09 20 04.6**	**+0.1**
QSPA	**South Pole Qui**	**34.93**	**180**	*e*P	**P**	**09 20 55.5**	**+0.4**
	6.7nm,1.0s,mb4.5						
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**09 22 35.8**	**-0.8**
	2.4nm,0.7s,mb4.2,baz=187,slow=6.4,SNR=18						
LPAZ	**La Paz**	**50.01**	**305**	P	**P**	**09 22 59.5**	**+1.3**
	3.5nm,1.0s,mb4.3,baz=162,slow=6.1,SNR=10						
SAML	**Samuel**	**54.34**	**314**	*e*P	**P**	**09 23 29.6**	**-1.1**
	1.3nm,0.7s,mb4.0						
INK	**Inuvik**	**145.28**	**321**	*e*PKP	PKPdf	09 33 39.8	-1.3
ILAR	**Eielson Array**	**149.68**	**313**	PKPbc	PKPdf	09 33 51.7	+3.3
	2.4nm,0.8s,baz=128,slow=1.6,SNR=28						
SONM	**Songino Array**	**150.61**	**85**	PKPbc	PKPdf	09 33 55.1	+4.7
	0.6nm,0.6s,baz=244,slow=3.2,SNR=3.9						

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*IDC **11** 09:42:12.8±4.0, 47.18N×151.49E, h186^{km}±39^{km}, mb3.2/6, mb1 3.5/7, mb1mx3.2/22, mbtmp3.7/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/10, Error ellipse: s-maj=27.2km s-min=26.4km az=174.0*

ISC 11 09:42:14.9±1.1**, 46.3N**±0.1×**151.4E**±0.2**, h255**^{km}±13^{km}**, n31, σ0^{s}94**/39**, mb3.3**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.96**	**237**	P	**P**	**09 43 29.4**	**-1.6**
NEM2				*e*S	**S**	**09 44 28.6**	**-1.7**
JRA	**Rausu**	**5.02**	**245**	P	**P**	**09 43 31.6**	**-0.1**
JNK	**Nakash**	**5.45**	**243**	P	**P**	**09 43 36.9**	**-0.1**
JTKR	**Abashiri--Toko**	**5.79**	**250**	P	**P**	**09 43 41.1**	**0.0**
JAK	**Akkeshi**	**5.80**	**238**	P	**P**	**09 43 40.1**	**-1.1**
JAK				*e*S	**S**	**09 44 48.1**	**-0.6**
JAR	**Ashorobuto**	**6.20**	**244**	P	**P**	**09 43 47.2**	**+1.0**
JOB	**Onbets**	**6.37**	**241**	P	**P**	**09 43 48.3**	**0.0**
JOB				*e*S	**S**	**09 45 02.8**	**+1.3**
JKK2	**Kamakawa 2**	**6.59**	**252**	P	**P**	**09 43 52.1**	**+1.0**
ASAJ	**Asahikawa**	**6.59**	**254**	P	**P**	**09 43 52.2**	**+1.1**
	2.7nm,0.3s,baz=71,slow=15,SNR=23						
ASAJ	**Asahikawa**	**6.59**	**254**	P	**P**	**09 43 52.4**	**+1.2**
JCH	**Churui**	**6.82**	**241**	P	**P**	**09 43 53.7**	**-0.3**
JCH				*e*S	**S**	**09 45 11.5**	**-0.1**
JEM	**Erimo**	**7.30**	**238**	P	**P**	**09 44 00.8**	**+0.7**
JBT2	**Biratori 2**	**7.34**	**245**	P	**P**	**09 44 01.1**	**+0.4**
JNBK	**Urakawa-nobuka**	**7.38**	**241**	P	**P**	**09 44 00.3**	**-0.8**
JNB	**Noboribetsu**	**8.34**	**247**	*e*S	**S**	**09 45 49.1**	**+2.9**
JKB	**Kayabe**	**8.66**	**243**	P	**P**	**09 44 17.3**	**0.0**
JKB				*e*S	**S**	**09 45 52.9**	**-0.3**
JYM2	**Yakumo 2**	**8.95**	**246**	P	**P**	**09 44 21.1**	**+0.1**
JSR	**Shiriuchi**	**9.24**	**243**	P	**P**	**09 44 24.7**	**+0.1**
JTM	**Tenmabayashi**	**9.29**	**238**	P	**P**	**09 44 25.0**	**-0.3**
JTM				*e*S	**S**	**09 46 06.8**	**-0.8**
JANG	**Nango**	**9.30**	**234**	P	**P**	**09 44 24.6**	**-0.8**
JANG				*e*S	**S**	**09 46 07.6**	**-0.3**
JTH	**Tanohata**	**9.41**	**231**	P	**P**	**09 44 26.0**	**-0.8**
JTH				*e*S	**S**	**09 46 10.0**	**-0.4**
JOSM	**Okushiri--Mats**	**9.54**	**248**	P	**P**	**09 44 29.7**	**+1.3**
JRG	**Rokugo**	**10.47**	**233**	P	**P**	**09 44 41.3**	**+1.3**
JIO	**Ouri**	**10.77**	**227**	P	**P**	**09 44 45.0**	**+1.1**
JIO				*e*S	**S**	**09 46 45.2**	**+3.9**
MJAR	**Matsushiro Arr**	**13.85**	**230**	LR	LR	09 51 37.5	
	comp=Z,70nm,20.1s,baz=90,slow=39						
MKAR	**Makanchi Array**	**46.13**	**297**	P	**P**	**09 50 14.8**	**-0.5**
	0.3nm,0.5s,mb2.9,baz=68,slow=7.1,SNR=5.2						
PDAR	**Pinedale Array**	**65.98**	**53**	P	**P**	**09 52 35.0**	**-0.4**
	0.4nm,0.6s,mb3.3,baz=346,slow=0.7,SNR=5.3						
WRA	**Warramunga Arr**	**67.67**	**197**	P	**P**	**09 52 55.4**	**+9.1**
	0.2nm,0.5s,mb3.1,baz=18,slow=6.8,SNR=4.7						
NOA	**NORSAR Array B**	**68.32**	**340**	P	**P**	**09 52 48.4**	**-1.3**
	0.4nm,0.5s,mb3.4,baz=28,slow=6.6,SNR=2.8						
EKA	**Eskdalemuir Ar**	**76.54**	**345**	P	**P**	**09 53 37.0**	**-0.8**
	1.0nm,0.8s,mb3.6,baz=30,slow=6.7,SNR=3.7						
TXAR	**Lajitas Array**	**78.75**	**59**	P	**P**	**09 53 52.3**	**+1.8**
	0.5nm,0.5s,mb3.5,baz=296,slow=3.8,SNR=10						

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*NIED **11** 09:47:00, 39.90N×141.50E, h86^{km}, Mw3.9 Best double couple: $M_0$8.79×10^{14} NP1:ϕ_s328°, δ75°, λ-26°. NP2:ϕ_s65°, δ65°, λ-164°.*

*MOS **11** 09:47:06.1±1.2, 40.37N×141.05E, h33^{km}, mb4.5/4, Error ellipse: s-maj=16.3km s-min=11.1km az=78.2*

*JMA **11** 09:47:09.8, 39.86N×141.47E, h76^{km}±1^{km}, M3.6 Broadband fault plane solution: P waves. NP1:ϕ_s318°, δ61°, λ-32°. NP2:ϕ_s65°, δ63°, λ-147°. Principal axes: T Plg1°, Azm191°; N Plg48°, Azm100°; P Plg42°, Azm282°;*

JMA Felt II J1.

*IDC **11** 09:47:10.8±2.5, 39.94N×141.36E, h88^{km}±22^{km}, mb3.6/10, mb1 3.7/12, mb1mx3.6/24, mbtmp3.9/12 Error ellipse: s-maj=27.1km s-min=20.2km az=110.0*

*NEIC **11** 09:47:12.4±1.1, 39.82N×141.36E, h109^{km}±8^{km}, mb4.6/6, MW3.9(NIED), Error ellipse: s-maj=13.4km s-min=9.2km az=82.0*

NEIC Recorded [2 JMA] in Aomori and Iwate Prefectures.

ISC 11 09:47:08.2±0.4**, 39.87N**±0.03×**141.54E**±0.06**, h86**^{km}±2^{km}**, n43, σ0^{s}86**/57**, mb4.1**/17**, 11C-2D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKZ	**Kuzumaki**	**0.20**	**306**	⇓P	**P**	**09 47 21.2**	**+0.5**
JKZ				S	**S**	**09 47 29.4**	**-0.7**
JTH	**Tanohata**	**0.26**	**74**	⇓P	**P**	**09 47 21.8**	**+0.8**

JTH				eS	S	09 47 30.6	-0.1
MIYJ	Miyakonagasawa	0.36	144	P	P	09 47 22.5	+0.9
MIYJ				S	S	09 47 31.7	0.0
JOM	Ohasama	0.44	206	P	P	09 47 22.4	+0.3
JOM				S	S	09 47 31.7	-1.0
JANG	Nango	0.51	358	⇑P	P	09 47 23.2	+0.5
JANG				eS	S	09 47 33.0	-0.6
JAH	Hinai	0.77	295	⇑P	P	09 47 25.4	+0.1
JAH				S	S	09 47 37.0	-1.0
JMK	Ichinoseki	0.95	195	⇑P	P	09 47 27.7	+0.5
JMK				S	S	09 47 40.9	-0.6
JTM	Tenmabayashi	0.99	339	⇑P	P	09 47 28.4	+0.7
JTM				eS	S	09 47 41.6	-0.8
JYK	Kaneyama	1.32	224	⇑P	P	09 47 32.1	+0.2
JYK				S	S	09 47 48.6	-0.9
JIW	Iwasaki	1.38	302	P	P	09 47 33.3	+0.6
JIW				S	S	09 47 51.4	+0.5
JIO	Ouri	1.42	186	⇑P	P	09 47 33.6	+0.4
JIO				S	S	09 47 51.5	-0.2
JOT	Ohata	1.56	346	⇑P	P	09 47 36.0	+1.0
MJAR	Matsushiro Arr	4.23	219	P	P	09 48 13.1	+1.3
	5.8nm,0.3s,baz=31,slow=11,SNR=73						
MAJO	Matsushiro	4.23	219	⇑iP	P	09 48 12.9	+1.2
MAT	Matsushiro	4.23	219	⇑P	P	09 48 12.9	+1.2
MAT	Matsushiro	4.23	219	⇑iP	P	09 48 13.0	+1.3
ASAJ	Asahikawa	4.32	10	P	P	09 48 12.7	-0.2
	4.2nm,0.3s,baz=222,slow=11,SNR=33						
ASAJ				S	S	09 49 14.0	+12
	5.8nm,0.3s,baz=334,slow=34,SNR=4.0						
YUK	Yuzh-Kuril'sk	5.26	36	⇑iP	P	09 48 24.0	-1.9
YUK				i S	S	09 49 20.0	-5.8
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,150nm,0.5s						
YUK				smax			
	comp=E,210nm,0.6s						
YUK				smax			
	comp=N,380nm,0.5s						
JHJ	Hachijo jima 2	6.88	192	P	P	09 48 45.6	-2.6
	comp=N,9.4nm,0.3s,baz=189,slow=7.8,SNR=16						
JHJ				S	S	09 49 58.9	-6.8
	baz=261,slow=23,SNR=3.8						
YSS	Yuzh-Sakhalins	7.14	7	eP	P	09 48 57.7	+5.9
MDJ	Mudanjiang	10.05	302	eP	P	09 49 33.5	+2.2
	comp=N,13nm,1.0s						
ULN	Ulaanbaatar	25.95	299	P	P	09 52 33.2	-0.7
	comp=N,1.6nm,0.4s,mb3.8						
ULN	Ulaanbaatar	25.95	299	P	P	09 52 33.2	-0.8
ULN				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
SONM	Songino Array	26.39	299	P	P	09 52 36.9	-1.2
	comp=Z,0.9nm,0.4s,mb3.5,baz=83,slow=8.8,SNR=7.2						
ZAK	Zakamensk	28.68	304	eP	P	09 53 00.6	+1.9
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
ZAL	Zalesovo	40.14	310	P	P	09 54 37.0	+0.2
	comp=Z,5.0nm,0.5s,mb4.6,baz=34,slow=8.2,SNR=9.0						
MKAR	Makanchi Array	42.76	300	P	P	09 54 57.9	-0.4
	comp=Z,1.0nm,0.5s,mb3.8,baz=83,slow=10.0,SNR=14						
KURK	Kurchatov	44.31	306	eP	P	09 55 10.5	-0.3
	comp=Z,4.8nm,0.6s,mb4.4						
KURK	Kurchatov	44.31	306	eP	P	09 55 10.5	-0.3
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
GUN	Gumba	47.04	273	eP	P	09 55 32.8	0.0
	comp=Z,25nm,0.8s,mb5.0						
ILAR	Eielson Array	47.07	34	P	P	09 55 33.8	+1.3
	comp=Z,0.2nm,0.6s,mb3.1,baz=260,slow=6.4,SNR=6.1						
KKN	Kakani	47.56	273	eP	P	09 55 36.5	-0.4
	comp=Z,18nm,0.7s,mb5.0						
KKN	Kakani	47.56	273	eP	P	09 55 36.5	-0.4
KKN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
PKI	Pulchoki	47.57	273	eP	P	09 55 35.9	-1.0
GKN	Gorkha	47.95	274	eP	P	09 55 39.8	-0.1
	comp=Z,9.1nm,0.5s,mb4.9						
BVAR	Borovoye Array	48.78	311	P	P	09 55 45.2	-0.7
	comp=Z,1.8nm,0.4s,mb4.3,baz=68,slow=7.0,SNR=13						
KOLN	Koldanda	48.86	274	eP	P	09 55 46.7	-0.2
	comp=Z,14nm,0.8s,mb4.9						
WRA	Warramunga Arr	59.88	188	P	P	09 57 07.1	-0.1
	comp=Z,0.4nm,0.8s,mb3.5,baz=6.9,slow=6.9,SNR=3.6						
FINES	FINESS Array B	66.36	332	P	P	09 57 48.4	-0.9
	comp=Z,1.4nm,0.8s,mb3.9,baz=34,slow=15,SNR=5.8						
HFS	Hagfors	71.56	335	P	P	09 58 21.1	-0.1
	comp=Z,0.9nm,0.3s,mb4.1,baz=42,slow=7.2,SNR=16						
NB2	NORSAR Subarra	71.62	337	P	P	09 58 21.3	-0.3
	comp=Z,0.5nm,0.6s,mb3.5,baz=51,slow=5.6						
NOA	NORSAR Array B	71.62	337	P	P	09 58 21.1	-0.4
	comp=Z,0.6nm,0.8s,mb3.5,baz=41,slow=5.9,SNR=3.9						
GERES	GERESS Array B	80.36	328	P	P	09 59 11.7	+0.6
	comp=Z,0.2nm,0.5s,mb3.2,baz=18,slow=4.2,SNR=3.8						

*NEIC **11** 09:47:45.9±2.1, 21.26S×178.06W, h235^{km}±23^{km}, mb4.4/4, Error ellipse: s-maj=29.7km s-min=14.8km az=146.0*
*IDC **11** 09:47:46.9±8.7, 21.27S×178.08W, h243^{km}±65^{km}, mb3.8/5, mb1 4.1/6, mb1mx3.7/16, mbtmp4.5/6, MS3.5/1, Ms1 3.5/1, ms1mx2.9/23, Error ellipse: s-maj=162.5km s-min=16.1km az=156.0*
ISC 11 09:47:47.0±2.3, **21.3S**±0.2×**178.2W**±0.2, **h257**^{km}±26^{km}, **n16**, σ1^{s}10/16, **mb3.9**/6, **3C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.55	41	P	P	09 49 58.8	-1.9
	12nm,0.3s,baz=199,slow=7.6,SNR=16						
AFI				S	S	09 51 46.3	+0.7
	3.2nm,0.3s,baz=228,slow=23,SNR=3.4						
AFI	Afiamalu	9.55	41	eP	P	09 49 57.8	-2.9
AFI				eS	S	09 51 47.3	+1.7
DZM	Mont Dzumac	14.28	264	P	P	09 51 06.3	+6.7
	0.5nm,0.3s,baz=78,slow=19,SNR=9.9						
SNZO	South Karori	20.87	195	P	P	09 52 10.6	+0.6
CTA	Charters Tower	33.21	266	⇑iP	P	09 54 04.3	+2.4
	6.4nm,0.3s,mb4.6						
CTA	Charters Tower	33.21	266	P	P	09 54 04.1	+2.1
	9.6nm,0.5s,mb4.6,baz=93,slow=11,SNR=57						
CTA				LR	LR	10 06 46.3	
	comp=Z,72nm,18.8s,baz=45,slow=34						
CTAO	Charters Tower	33.21	266	eP	P	09 54 04.0	+2.0
	8.0nm,0.5s,mb4.5						
WB2	Warramunga Arr	44.28	263	⇑iP	P	09 55 32.9	-0.4
WRAB	Tennant Creek	44.28	263	eP	P	09 55 32.7	-0.6
	4.9nm,0.3s,mb4.2						
WRA	Warramunga Arr	44.29	263	P	P	09 55 33.0	-0.4
	3.7nm,0.4s,mb4.0,baz=94,slow=8.4,SNR=267						
FITZ	Fitzroy Crossi	52.72	263	⇑iP	P	09 56 37.2	-0.4
	6.4nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	52.72	263	P	P	09 56 37.2	-0.4
	7.1nm,0.6s,mb4.2,baz=136,slow=6.4,SNR=9.1						
TXAR	Lajitas Array	87.64	57	P	P	10 00 06.8	-1.0
	0.3nm,0.7s,mb3.2,baz=207,slow=5.6,SNR=4.6						
PDAR	Pinedale Array	89.65	43	P	P	10 00 17.6	+0.7
	0.5nm,1.0s,mb3.3,baz=207,slow=3.3,SNR=4.3						
HFS	Hagfors	140.25	351	PKhKP		10 06 41.9	
	0.8nm,0.6s,baz=76,slow=5.9,SNR=5.2						
AKASG	Malin Array Be	143.56	330	PKP	PKPdf	10 06 53.4	+2.7
	4.5nm,0.5s,baz=43,slow=4.3,SNR=29						

*NEIC **11** 09:51:24.5, 39.70S×177.12E, h28^{km}, ML4.2(WEL), After WEL.*
NEIC Felt in the Napier area.
WEL 11 09:51:23.0±0.2, **39.84S×177.21E, h15**^{km}±1^{km}, **ML4.1**/31, **9C-5D, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	Pawanui	0.33	234	⇑P*	Pb	09 51 33.0	+2.9
PXZ				S*	Sb	09 51 40.2	+5.4
BKZ	Black Stump Fm	0.87	320	⇑P*	Pb	09 51 38.9	-0.3
BKZ				S*	Sb	09 51 50.5	+0.1
BKZ	Black Stump Fm	0.87	320	⇓P	Pb	09 51 38.9	-0.3
KNZ	Kokohu	0.89	24	⇓P*	Pb	09 51 39.5	0.0
KNZ				S*	Sb	09 51 51.2	+0.3
KNZ	Kokohu	0.89	24	⇓P	Pb	09 51 39.5	0.0
TSZ	Takapari Road	0.99	257	⇑P*	Pb	09 51 41.3	+0.1
TSZ	Takapari Road	0.99	257	⇑P	Pb	09 51 41.3	0.0
BFZ	Birch Farm	1.12	221	P*	Pb	09 51 43.5	-0.1
BFZ	Birch Farm	1.12	221	⇓P	Pb	09 51 43.5	-0.1
MOVZ	Moawhango	1.21	290	⇑PN	Pn	09 51 44.3	-1.0
MOVZ				SN	Sn	09 52 01.1	-0.3
MOVZ	Moawhango	1.21	290	⇑P	Pb	09 51 44.3	-0.7
MOVZ				S	Sb	09 52 01.0	+0.9
HATZ	Hinemaiaia	1.28	317	PN	Pn	09 51 45.3	-1.1
HATZ	Hinemaiaia	1.28	317	P	Pb	09 51 45.3	-1.0
TUVZ	Tukino	1.33	295	⇑PN	Pn	09 51 46.8	-0.3
WNVZ	Wahianoa	1.35	292	PN	Pn	09 51 47.0	-0.3
WNVZ	Wahianoa	1.35	292	⇑P	Pn	09 51 47.0	-0.3
RITZ	Rihia Road	1.35	309	PN	Pn	09 51 47.4	-0.1
RITZ	Rihia Road	1.35	309	P	Pn	09 51 47.4	0.0
OTVZ	Oturere	1.37	299	PN	Pn	09 51 47.0	-0.7
DRZ	Dome Shelter	1.39	293	PN	Pn	09 51 47.1	-0.9
DRZ	Dome Shelter	1.39	293	P	Pn	09 51 48.4	+0.4
TRVZ	Turoa	1.39	292	PN	Pn	09 51 47.9	-0.1
FWVZ	Far West T-bar	1.41	294	PN	Pn	09 51 47.7	-0.5
FWVZ	Far West T-bar	1.41	294	⇓P	Pn	09 51 47.8	-0.4
NGZ	Ngauruhoe	1.41	297	PN	Pn	09 51 47.4	-0.8
NGZ	Ngauruhoe	1.41	297	⇑P	Pn	09 51 47.4	-0.8
MTVZ	Mangateitei	1.42	288	PN	Pn	09 51 48.0	-0.4
KRVZ	Karewarewa	1.42	301	PN	Pn	09 51 47.5	-0.9
WPVZ	Whakapapa	1.44	295	PN	Pn	09 51 47.6	-1.0
WPVZ	Whakapapa	1.44	295	P	Pn	09 51 48.3	-0.3
CNZ	Chateau	1.44	296	PN	Pn	09 51 47.6	-1.1
CNZ	Chateau	1.44	296	P	Pn	09 51 48.2	-0.4
RATZ	Rangitukua	1.48	310	PN	Pn	09 51 48.2	-1.0
RATZ	Rangitukua	1.48	310	P	Pn	09 51 48.2	-1.0
MRZ	Mangatainoka R	1.50	236	PN	Pn	09 51 48.4	-1.2
MRZ	Mangatainoka R	1.50	236	P	Pn	09 51 48.4	-1.1
MWZ	Matawai	1.52	9	PN	Pn	09 51 47.5	-2.2
MWZ	Matawai	1.52	9	P	Pn	09 51 47.6	-2.2
PKVZ	Pokaka	1.54	290	PN	Pn	09 51 49.7	-0.4
TWVZ	Taurewa	1.57	298	PN	Pn	09 51 50.0	-0.5
URZ	Urewera	1.58	357	PN	Pn	09 51 48.6	-2.0
URZ	Urewera	1.58	357	P	Pn	09 51 48.5	-2.1
TAZ	Tarawera	1.69	341	PN	Pn	09 51 50.6	-1.7
TAZ	Tarawera	1.69	341	P	Pn	09 51 50.6	-1.7
WAZ	Wanganui	1.72	272	PN	Pn	09 51 51.8	-0.9
WAZ	Wanganui	1.72	272	P	Pn	09 51 52.8	+0.1
KIW	Kapiti Island	2.04	239	PN	Pn	09 51 55.7	-1.6
KIW	Kapiti Island	2.04	239	P	Pn	09 51 55.6	-1.6
CAW	Cannon Point	2.07	231	PN	Pn	09 51 56.1	-1.6
CAW	Cannon Point	2.07	231	P	Pn	09 51 55.8	-1.9
MSWZ	Moikau Station	2.17	223	PN	Pn	09 51 56.5	-2.6
MSWZ	Moikau Station	2.17	223	P	Pn	09 51 56.5	-2.7
HIZ	Hauiti	2.26	305	PN	Pn	09 51 58.5	-1.9
MRW	Makara Radio	2.37	233	PN	Pn	09 51 59.8	-2.1
MRW	Makara Radio	2.37	233	P	Pn	09 51 59.8	-2.2
SNZO	South Karori	2.41	232	eP	Pn	09 52 00.0	-2.6
NEZ	North Egmont	2.48	282	PN	Pn	09 52 04.3	+0.8
NEZ	North Egmont	2.48	282	P	Pn	09 52 04.3	+0.8
PKE	Pukeiti	2.58	283	PN	Pn	09 52 05.0	0.0
TCW	Tory Channel	2.63	237	PN	Pn	09 52 03.3	-2.4
NNZ	Nelson	3.23	243	PN	Pn	09 52 11.5	-2.8
NNZ	Nelson	3.23	243	P	Pn	09 52 11.5	-2.8
QRZ	Quartz Range	3.71	253	PN	Pn	09 52 17.7	-3.4
QRZ	Quartz Range	3.71	253	P	Pn	09 52 17.7	-3.4
THZ	Tophouse	3.80	238	PN	Pn	09 52 18.4	-3.9

GUC 11 10:08:12.2±0.5, **23.60S×67.08W, h200**^{km}, **ML4.0, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.95	300	⇑iP	P	10 08 51.8	+1.2
LVC				i S	S	10 09 21.9	+1.8
LVC				AMP		10 09 23.7	
	comp=N,142nm,0.2s						
ANCH	Antofagasta	3.05	268	i P	P	10 09 05.0	+2.0
ANCH				i S	S	10 09 44.3	+2.1
ANCH				AMP		10 09 46.3	
	comp=N,622nm,0.1s						
CPN1	Cerro Paranal	3.20	251	⇓iP	P	10 09 06.9	+2.1
CPN1				i S	S	10 09 48.5	+3.0
CPN1				AMP		10 09 51.2	
	comp=N,312nm,0.6s						
CRCH	Chaqaral	4.22	229	i S	S	10 10 09.7	+1.9

*CSEM **11** 10:25:36.9±0.6, 38.67N×28.57W, h2^{km}±12^{km}, ML1.3, Error ellipse: s-maj=9.2km s-min=3.3km az=19.0, After PDA*
*PDA **11** 10:25:36.9±0.6, 38.67N×28.57W, h2^{km}±12^{km}, MD2.7, ML1.3, Error ellipse: s-maj=9.2km s-min=3.3km az=19.0*
SVSA 11 10:25:36.9±0.6, **38.67N×28.57W, h2**^{km}±12^{km}, **MD2.7, ML1.3, Error ellipse: s-maj=9.2km s-min=3.3km az=19.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.11	250	eP	Pg	10 25 38.8	-0.3
PCED				eS	Sg	10 25 40.8	+0.2
	31nm,0.1s						
CALA	Caldeira	0.13	231	eP	Pg	10 25 39.6	0.0
CALA				eS	Sg	10 25 41.5	+0.1
PICO	Pico	0.20	145	eP	Pg	10 25 40.8	-0.1
PICO				eS	Sg	10 25 43.4	-0.2

*IDC **11** 10:43:45.7±1.5, 5.42N×94.39E, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=66.5km s-min=24.4km az=54.0*
*NEIC **11** 10:43:50.4±1.0, 5.39N×94.32E, h30^{km}, mb4.4/2, Error ellipse: s-maj=31.1km s-min=12.6km az=221.0*
ISC 11 10:43:48.7±1.0, **5.5N**±0.2×**94.49E**±0.09, **h30**^{km}, **n12**, σ0^{s}74/12, **mb4.0**/9, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.14	91	eP	Pn	10 45 22.2	+2.4
KULM				eS	Sn	10 46 28.9	-0.9
MKAR	Makanchi Array	42.49	348	P	P	10 51 43.0	0.0
	2.2nm,0.6s,mb4.0,baz=170,slow=7.4,SNR=28						
SONM	Songino Array	43.42	12	P	P	10 51 50.5	0.0
	0.3nm,0.5s,mb3.3,baz=195,slow=11,SNR=4.4						
WRA	Warramunga Arr	46.62	124	P	P	10 52 16.5	+0.1
	1.3nm,0.7s,mb3.9,baz=304,slow=9.2,SNR=15						
WRAB	Tennant Creek	46.62	124	eP	P	10 52 15.7	-0.7
	2.1nm,0.5s,mb4.3						
KURK	Kurchatov	47.01	346	eP	P	10 52 19.3	+0.2
	2.3nm,0.6s,mb4.3						
ZAL	Zalesovo	48.96	352	P	P	10 52 34.2	0.0
	1.3nm,0.4s,mb4.3,baz=305,slow=5.7,SNR=4.1						
BVAR	Borovoye Array	51.36	342	P	P	10 52 52.1	-0.5
	0.9nm,0.4s,mb4.0,baz=140,slow=11,SNR=7.3						
FINES	FINESS Array B	74.98	332	P	P	10 55 28.7	-0.1
	0.8nm,0.8s,mb3.7,baz=108,slow=4.4,SNR=3.4						
FINES	FINESS Array B	74.98	332	P	P	10 55 28.7	-0.1
GERES	GERESS Array B	79.84	319	P	P	10 55 56.2	+0.3
	0.5nm,0.6s,mb3.6,baz=104,slow=5.5,SNR=7.4						
TXAR	Lajitas Array	141.25	26	PKiKP		11 03 21.6	
	0.1nm,0.4s,baz=341,slow=1.6,SNR=5.3						

*GUC **11** 10:48:01.4±0.5, 37.91S×72.90W, h60^{km}, ML4.1*
*NEIC **11** 10:48:01.8±1.2, 37.84S×73.18W, h39^{km}±11^{km}, Error ellipse: s-maj=31.7km s-min=8.2km az=95.0*
ISC 11 10:48:00.9±1.3, **37.85S**±0.07×**73.1W**±0.3, **h46**^{km}±12^{km}, **n10**, σ0^{s}57/12, **4C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	Chillan	1.50	34	eP	P	10 48 26.1	+0.4
CCHI				i S	S	10 48 44.5	+0.2
CCHI				AMP		10 48 52.3	
	comp=N,2μm,0.6s						
COCH	Cobquecura	1.74	9	eP	P	10 48 30.1	+0.9
VLCH	Valdivia	1.96	183	⇑iP	P	10 48 32.2	0.0
VLCH				i S	S	10 48 55.1	-0.5
VLCH				AMP		10 49 14.2	
	comp=N,4μm,0.5s						
PLCA	Paso Flores	3.50	146	eP	P	10 48 54.8	+0.6
SFDO	San Fernando	3.65	28	eP	P	10 48 55.5	-0.7
CICH	Cipreses	4.14	33	eP	P	10 49 02.0	-1.3
VNA3	Neumayer Olymp	46.16	156	⇑iP	P	10 56 22.3	+0.1
VNA3				e		10 56 40.5	
VNA1	Neumayer--Stat	46.51	155	⇑iP	P	10 56 25.4	+0.4
VNA1				e		10 56 43.7	
VNA2	Neumayer--Watz	46.84	156	⇑iP	P	10 56 27.3	-0.2
VNA2				e		10 56 46.1	
SNAA	Sanae	48.38	157	eP	P	10 56 39.6	0.0
SNAA				e		10 56 57.8	

*JMA **11** 11:33:09.2±0.3, 32.52N×141.82E, M3.3*
*IDC **11** 11:33:09.8±2.7, 32.27N×141.62E, mb3.5/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.6/4, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/23, Error ellipse: s-maj=74.5km s-min=19.8km az=58.0*
ISC 11 11:33:09.8±2.2, **32.36N**±0.04×**141.9E**±0.1, **h29**^{km}±21^{km}, **n14**, σ0^{s}77/22, **mb3.6**/2, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.92	293	P	Pn	11 33 41.6	+0.4
JHJ	Hachijo jima 2	1.95	293	Pn	Pn	11 33 41.8	+0.1
	17nm,0.3s,baz=59,slow=22,SNR=32						
JHJ				Sn	Sn	11 34 05.0	-0.4
	23nm,0.3s,baz=238,slow=23,SNR=6.5						
BSO1	Boso 1	2.42	341	P	Pn	11 33 48.4	+0.1
BSO1				eS	Sn	11 34 17.7	+0.5
BSO3	Boso 3	2.70	335	P	Pn	11 33 52.4	0.0
BSO3				eS	Sn	11 34 24.7	+0.2
JHU	Hanno	4.11	329	P	Pn	11 34 12.8	+0.4
JHU				eS	Sn	11 34 59.9	-0.2
JYT	Yasato	4.11	340	P	Pn	11 34 12.3	-0.1
JYT				eS	Sn	11 35 00.6	+0.4
JHO	Hitachi	4.38	346	P	Pn	11 34 15.3	-1.0
JHO				eS	Sn	11 35 02.5	-4.5
JAG	Ashikaga	4.54	334	P	Pn	11 34 18.3	-0.1
JAG				eS	Sn	11 35 10.3	-0.6
MJAR	Matsushiro Arr	5.17	325	Pn	Pn	11 34 27.0	-0.5
	0.7nm,0.3s,baz=148,slow=12,SNR=9.8						
CBIJ	Chichi jima	5.25	177	Pn	Pn	11 34 30.3	+1.7
	4.3nm,0.3s,baz=285,slow=20,SNR=8.0						
CBIJ				Sn	Sn	11 35 26.2	-2.7
	3.1nm,0.3s,baz=212,slow=22,SNR=2.5						
JMM	Marumori	5.57	351	P	Pn	11 34 32.2	-0.8
JMM				eS	Sn	11 35 31.6	-5.2
JOW	Kunigami	13.08	249	LR	LR	11 41 05.2	
	comp=Z,95nm,18.8s,baz=163,slow=37						
MKAR	Makanchi Array	47.07	306	P	P	11 41 41.9	+1.1
	0.3nm,0.6s,mb3.4,baz=78,slow=8.2,SNR=3.3						
WRA	Warramunga Arr	52.51	189	P	P	11 42 23.1	+0.3
	0.4nm,0.3s,mb3.8,baz=5.5,slow=7.6,SNR=9.7						

*NEIC **11** 12:10:02.4, 28.53S×69.24W, h100^{km}, After GUC.*
GUC 11 12:10:02.4±0.8, **28.53S×69.24W, h100**^{km}, **ML3.7, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	1.33	268	eP	P	12 10 27.3	+0.2
VACH				i S	S	12 10 45.9	+0.4
VACH				AMP		12 10 47.6	
	comp=N,3μm,0.1s						
CPCH	Copiapo	1.52	320	⇑iP	P	12 10 29.2	-0.2
CPCH				i S	S	12 10 49.4	-0.1
CPCH				AMP		12 10 50.2	
	comp=E,6μm,0.1s						
TLL	Tololo Astrono	2.13	219	⇓iP	P	12 10 37.7	+0.5
TLL				i S	S	12 11 04.1	+1.1
TLL				AMP		12 11 05.3	
	comp=E,253nm,0.5s						
CRCH	Chaqaral	2.50	330	eP	P	12 10 42.4	+0.1
CRCH				i S	S	12 11 11.4	-0.6
CRCH				AMP		12 11 17.0	
	comp=E,103nm,0.4s						

KRSC 11 12:17:13.7±1.1, **56.31N×161.43E, h27**^{km}±3^{km}, **ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVLR	Shiveluch	0.29	337	eP	Pb	12 17 21.0	+0.2
SVLR				eS	Sb	12 17 26.0	+0.4
CIRR	Tsirk	0.43	243	i P	Pb	12 17 23.7	+0.9
CIRR				eS	Sb	12 17 30.5	+1.5
KLY	Klyuchi	0.43	271	i P	Pb	12 17 21.3	-1.6
KLY				eS	Sb	12 17 26.9	-2.3
ZLN	Zelenaya	0.46	230	i P	Pb	12 17 24.3	+1.0
ZLN				eS	Sb	12 17 32.4	+2.6
LGNR	Loginova	0.47	241	eP	Pb	12 17 24.7	+1.2
LGNR				eS	Sb	12 17 32.9	+2.7
KRSR	Krestovskiy	0.49	259	i P	Pb	12 17 24.0	+0.2
KRSR				eS	Sb	12 17 31.6	+0.9
KPT	Kopyto	0.76	243	i P	Pb	12 17 28.6	+0.4
KPT				eS	Sb	12 17 39.6	+1.4
KBTR	Krutoberegovo	0.78	97	i P	Pb	12 17 29.0	+0.4
KBTR				eS	Sb	12 17 41.1	+2.3
KMNR	Kamenistaya	0.87	231	eP	Pb	12 17 30.8	+0.7
KMNR				eS	Sb	12 17 43.0	+1.6
KOZ	Kozyrevsk	0.91	254	i P	Pb	12 17 31.5	+0.8
KOZ				eS	Sb	12 17 45.5	+3.1
SRDR	Sredinnyy	0.95	271	eP	Pn	12 17 31.7	+0.3
SRDR				eS	Sb	12 17 45.1	+1.3
TUMR	Tumrok	1.26	216	eP	Pn	12 17 37.6	+1.8
TUMR				eS	Sn	12 17 55.1	+3.1
ESO	Esso	1.58	257	i P	Pn	12 17 41.9	+1.6
ESO				eS	Sn	12 18 01.1	+1.1
ESO				Smax			
	440nm,0.4s						
MKZ	Mys Kozlova	1.77	174	eP	Pn	12 17 44.0	+1.0
MKZ				eS	Sn	12 18 06.4	+1.6
BKI	Bering	2.80	111	eP	Pn	12 17 56.2	-1.6
BKI				eS	Sn	12 18 27.6	-3.4
GNL	Ganaly	3.30	219	eP	Pn	12 18 06.9	+2.0
GNL				eS	Sn	12 18 44.9	+1.1
SPN	Mys Shipunski	3.32	195	eP	Pn	12 18 05.0	-0.2
SPN				eS	Sn	12 18 45.1	+0.8
NLC	Nalytchevo	3.37	202	eP	Pn	12 18 07.8	+1.9
NLC				eS	Sn	12 18 47.3	+1.8
SDLR	Sedlovina	3.38	207	eP	Pn	12 18 06.8	+0.8
SDLR				eS	Sn	12 18 44.5	-1.2
SMAR	Somma	3.41	208	eP	Pn	12 18 09.4	+2.9
SMAR				eS	Sn	12 18 48.7	+2.2
AVH	Avacha	3.43	208	eP	Pn	12 18 07.7	+1.0
AVH				eS	Sn	12 18 47.0	+0.1
KOK	Koryaka	3.43	209	eP	Pn	12 18 08.1	+1.3
KOK				eS	Sn	12 18 47.5	+0.5
UGLR	Uglovaya	3.46	207	eP	Pn	12 18 07.8	+0.7
UGLR				eS	Sn	12 18 47.3	-0.3
PET	Petropavlovsk	3.67	207	eP	Pn	12 18 10.4	+0.3
PET				eS	Sn	12 18 52.3	-0.7
RUS	Russkaya	4.24	205	eP	Pn	12 18 20.1	+1.8
RUS				eS	Sn	12 19 08.6	+1.0

PGC 11 12:24:07.5, 58.34N×133.50W, h1^{km}, **ML3.2**/4, **Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	Dease Lake	1.83	86	Pn	Pn	12 24 38.8	-1.7
DLBC				Pg	Pg	12 24 40.5	-3.6
DLBC				Sn	Sn	12 25 03.9	-0.7
DLBC				Sg	Sg	12 25 05.3	-3.3
DLBC				Trac		12 25 06.1	
	comp=Z,131nm,0.5s						
PLBC	Pleasant Camp	1.86	308	Pn	Pn	12 24 39.8	-1.0
PLBC				Pg	Pg	12 24 40.7	-4.0
PLBC				Sn	Sn	12 25 04.7	-0.5
PLBC				Sg	Sg	12 25 06.0	-3.4
WHY	Whitehorse	2.43	344	Pn	Pn	12 24 47.1	-1.8
WHY				Sn	Sn	12 25 17.7	-2.0
WHY				Sg	Sg	12 25 23.4	-5.0
WHY				Trac		12 25 30.8	
	comp=Z,48nm,0.4s						
HYT	Haines Junctio	3.21	322	Pn	Pn	12 24 59.5	-0.6
HYT				Pg	Pg	12 25 05.7	-6.0
HYT				Sg	Sg	12 25 46.7	-7.9
HYT				Trac		12 25 51.7	
	comp=Z,20nm,0.3s						
RUBB	Prince Rupert	4.42	154	Pn	Pn	12 25 14.4	-2.8
RUBB				Sn	Sn	12 26 04.5	-5.6
RUBB				Sg	Sg	12 26 24.4	-10
RUBB				Trac		12 26 38.6	
	comp=Z,54nm,0.9s						
VIB	Van Inlet	5.13	174	Pn	Pn	12 25 25.1	-2.3
FNBB	Fort Nelson	5.51	80	Pg	Pg	12 25 48.7	-8.9
FNBB				Sg	Sg	12 27 01.1	-10
FNBB				Trac		12 27 13.5	
	comp=Z,15nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BNB	Barry Inlet	5.87	169	Pn	Pn	12 25 35.1	-2.7
DAWY	Dawson	6.41	336	Pn	Pn	12 25 42.2	-3.1
DAWY				Pg	Pg	12 26 03.8	-12
DAWY				Sg	Sg	12 27 27.3	-13
DAWY				Trac		12 27 31.8	
	comp=Z,23nm,0.7s						
BMBC	Bull Mountain	6.60	106	Sg	Sg	12 27 32.4	-15
INK	Inuvik	10.00	360	Pn	P	12 26 31.2	-4.0

*NEIC **11** 12:37:41.5±1.0, 14.15N×92.61W, h36km±8km, mb4.3/14, MD4.6(MEX), Error ellipse: s-maj=14.5km s-min=8.8km az=210.0*

*MEX **11** 12:37:41.4±0.6, 14.06N×92.81W, h30km, MD4.6*

*CASC **11** 12:37:42.4±2.4, 14.22N×92.37W, h20km±38km, MD4.4, mb4.6(NEIC)*

*IDC **11** 12:37:48.8±7.8, 14.23N×92.46W, h110km±75km, mb3.9/8, mb1 4.1/9, mb1mx3.8/22, mbtmp4.2/9, ML4.3/1, Error ellipse: s-maj=77.2km s-min=15.0km az=46.0*

ISC 11 12:37:38.5±1.3, **14.08N**±0.05×**92.68W**±0.03, **h31**km±11km, **n80**, σ1§**15**/83, **mb4.3**/19, **2C-3D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	1.81	78⇑	eP	Pn	12 38 07.7	-0.5
PCG	Pacaya	2.03	81⇓	eP	Pn	12 38 11.3	0.0
PCG				eS	Sn	12 38 35.5	-0.3
IXG	Ixpaco	2.16	87⇓	eP	Pn	12 38 12.5	-0.6
IXG				eS	Sn	12 38 38.2	-0.8
CCIG	Comitan	2.25	13	i P	Pn	12 38 15.9	+1.5
CCIG				i S	Sn	12 38 43.0	+1.6
SCX	San Cristobal	2.64	1	i P	Pn	12 38 20.0	0.0
SCX				i S	Sn	12 38 51.0	-0.3
RBDL	Robledal	2.90	89	eP	Px	12 38 28.7	
RBDL				eS	Sx	12 39 00.9	
RTR	El Retiro	2.95	93	eP	Px	12 38 29.1	
RTR				eS	Sx	12 39 02.3	
SBLS	San Blas	2.97	94	eP	Px	12 38 30.1	
SBLS				eS	Sx	12 39 03.6	
SNJE	San Jose	2.99	94	eP	Px	12 38 29.5	
SNJE				eS	Sx	12 39 03.3	
MRL	Marmol	3.05	71⇑	eP	Pn	12 38 25.7	-0.2
BOQS	Boqueron	3.31	96	eP	Px	12 38 34.1	
BOQS				eS	Sx	12 39 11.2	
SNET	Serv Nac Est T	3.37	96	eP	Px	12 38 29.6	
SNET				eS	Sx	12 39 06.7	
LFU	La Fuente	3.47	95	eP	Px	12 38 36.1	
LFU				eS	Sx	12 39 15.2	
LFRS	El Faro	3.54	97	eP	Px	12 38 37.1	
LFRS				eS	Sx	12 39 14.6	
LCBS	La Ceiba	3.62	96	eP	Px	12 38 38.5	
LCBS				eS	Sx	12 39 18.3	
CMIG	Matias Romero	3.67	325	i P	Pn	12 38 33.5	-1.1
CMIG				i S	Sn	12 39 15.2	-2.3
HUIG	Huatulco	3.72	297	i P	Pn	12 38 35.2	-0.2
SNVI	San Vicente	3.76	97	eP	Px	12 38 40.8	
SNVI				eS	Sx	12 39 21.6	
TUIG	Tuzandepetl	4.27	337	i P	Pn	12 38 42.3	-1.0
TUIG				i S	Sn	12 39 30.4	-2.3
TUIG	Tuzandepetl	4.27	337	i P	Pn	12 38 42.3	-1.0
TUIG				i S	Sn	12 39 35.1	+2.4
BLLM	Bellamira	4.36	98	eP	Px	12 38 52.9	
BLLM				eS	Sx	12 39 40.6	
OXX	Oaxaca	4.91	308	eP	Pn	12 38 53.0	+0.8
OXX				i S	Sn	12 39 44.0	-4.7
OXX	Oaxaca	4.91	308	eP	Pn	12 38 53.0	+0.8
OXX				i S	Sn	12 39 49.0	+0.3
VHO	Vista Hermosa	4.91	308	eP	Pn	12 38 52.3	0.0
VHO				i S	Sn	12 39 46.2	-2.5
CRIN	San Cristobal	5.64	103	eP	Pn	12 39 03.0	+0.4
LEON	Leon	5.87	106	eP	Pn	12 39 03.8	-1.9
LEON				eS	Sn	12 40 08.7	-4.0
TEL3	Telica 3	5.87	104	eP	Pn	12 39 03.6	-2.1
TELN	Telica	5.87	104	eP	Pn	12 39 03.9	-1.9
CNGN	Cerro Negro	6.03	104	eP	Pn	12 39 07.6	-0.4
CNGN				eS	Sn	12 40 15.6	-1.1
MIRN	Miramar	6.03	105	eP	Pn	12 39 07.2	-0.8
MOMJ	Momotombo	6.20	105	eP	Pn	12 39 11.1	+0.7
COPN	Copaltepe	6.22	107	eP	Pn	12 39 09.0	-1.7
MGAN	Managua	6.55	106	eP	Pn	12 39 15.9	+0.5
CRUN	El Crucero	6.55	108	eP	Pn	12 39 16.6	+1.2
TICN	Ticuantepe	6.60	107	eP	Pn	12 39 17.0	+0.9
WILN	Americas 2	6.60	106⇓	eP	Pn	12 39 18.9	+2.8
ACX	Acapulco	7.51	293	eP	Pn	12 39 27.0	-1.8
PPM	Popocatepetl	7.56	312	eP	Pn	12 39 24.0	-5.5
PPM	Popocatepetl	7.56	312	eP	Pn	12 39 32.0	+2.5
CAIG	El Cayaco	7.89	293	i P	Pn	12 39 32.9	-1.2
CAIG				i S	Sn	12 40 58.0	-5.2
CAIG	El Cayaco	7.89	293	eP	Pn	12 39 33.4	-0.7
CAIG				i S	Sn	12 40 59.6	-3.6
JCR	Jicaral	8.51	119	eP	P	12 39 43.6	+0.9
LAJ	Bijagual	9.36	116	eP	P	12 39 51.1	-3.4
LCR2	La Lucha 2	9.52	116	eP	P	12 39 58.4	+1.6
BUS	Buena Vista	9.82	116	eP	P	12 40 02.5	+1.6
MOIG	Morelia	9.87	305	eP	P	12 40 00.5	-1.1
MOIG	Morelia	9.87	305	eP	P	12 40 04.2	+2.7
SFJM	Santa Fe	11.77	304	eP	P	12 40 28.0	+0.5
ZAIG	Zacatecas	12.75	314	eP	P	12 40 36.7	-4.0
ZAIG	Zacatecas	12.75	314	eP	P	12 40 43.2	+2.6
LTX	Lajitas	18.27	328	eP	P	12 41 52.5	+0.8
	20nm,1.1s						
TXAR	Lajitas Array	18.27	328	P	P	12 41 52.5	+0.9
	0.2nm,0.3s,baz=152,slow=12,SNR=37						
ROSC	El Rosal	20.27	115	P	P	12 42 15.2	+0.7
	4.3nm,0.4s,baz=95,slow=23,SNR=5.5						
MNTX	Cornudas Mount	21.05	329	eP	P	12 42 22.1	-0.2
	10nm,0.7s,mb4.3						
WMOK	Wichita Mounta	21.29	346	eP	P	12 42 24.1	-0.8
	6.3nm,1.0s,mb3.9						
SDV	Santo Domingo	22.20	101	P	P	12 42 35.4	+1.3
	2.4nm,0.3s,mb4.1,baz=338,slow=8.8,SNR=4.7						
ANMO	Albuquerque	24.22	331	P	P	12 42 55.3	+1.6
	5.4nm,0.6s,mb4.1,baz=136,slow=11,SNR=28						
ANMO	Albuquerque	24.22	331	eP	P	12 42 54.8	+1.1
	4.2nm,0.6s,mb4.0						
SDCO	Great Sand Dun	26.18	336	eP	P	12 43 12.7	+0.5
	2.6nm,0.8s,mb3.8						
SMCO	Snowmass	28.00	336	P	P	12 43 30.9	+2.1
ARUT	Antelope Range	29.96	326	eP	P	12 43 47.5	+1.0
DAU	Daniels Canyon	30.86	332	eP	P	12 43 55.5	+1.2
HWUT	Hardware Ranch	31.96	333	eP	P	12 44 02.7	-1.3
	2.1nm,0.6s,mb4.1						
BW06	Boulder Array	32.08	336	eP	P	12 44 05.0	0.0
PDAR	Pinedale Array	32.08	336	P	P	12 44 05.0	0.0
	1.8nm,1.0s,mb3.9,baz=135,slow=8.4,SNR=10.0						
REDW	Red Top Meadow	33.09	335	eP	P	12 44 13.9	+0.1
	18nm,0.9s,mb5.0						
SNOW	Snow King Moun	33.14	336	eP	P	12 44 14.6	+0.4
	28nm,0.9s,mb5.2						
NVAR	Mina Array Bea	33.20	322	P	P	12 44 16.6	+1.8
	3.0nm,0.7s,mb4.3,baz=139,slow=8.3,SNR=30						
TPAW	Teton Pass	33.24	335	eP	P	12 44 14.8	-0.2
	8.8nm,1.0s,mb4.6						
RRI2	Red Ridge	33.27	335	eP	P	12 44 15.0	-0.3
	5.3nm,0.9s,mb4.5						
IMW	Indian Meadow	33.57	336	eP	P	12 44 17.9	-0.1
	2.8nm,0.7s,mb4.3						
FLWY	Flagg Ranch	33.63	336	eP	P	12 44 18.7	+0.2
HLID	Hailey	34.79	332	eP	P	12 44 28.0	-0.5
	3.2nm,0.8s,mb4.3						
BOZ	Bozeman (W)	35.31	337	eP	P	12 44 32.5	-0.3
	1.1nm,0.8s,mb3.8						
DLMT	Dillon	35.45	336	eP	P	12 44 34.5	+0.5
DLMT				e	pP	12 44 44.6	+1.3
WVOR	Wild Horse Val	36.06	327	eP	P	12 44 39.8	+0.6
	7.4nm,1.1s,mb4.5						
SIV	San Ignacio	43.23	133	P	P	12 45 38.5	-0.5
	1.0nm,0.4s,mb3.9,baz=279,slow=10,SNR=7.2						
YKA	Yellowknife Ar	50.80	347	P	P	12 46 36.4	-1.4
	3.7nm,0.6s,mb4.5,baz=152,slow=7.1,SNR=6.6						
YKA	Yellowknife Ar	50.80	347	P	P	12 46 36.4	-1.4
ILAR	Eielson Array	62.51	337	P	P	12 48 00.1	-1.2
	1.6nm,0.9s,mb4.2,baz=151,slow=4.0,SNR=18						

*IDC **11** 12:48:44.0±0.5, 9.49S×116.09E, mb4.6/15, mb1 4.8/16, mb1mx4.7/19, mbtmp4.7/16, ML5.1/1, MS4.3/14, Ms1 4.3/14, ms1mx4.1/20, Error ellipse: s-maj=26.2km s-min=12.5km az=59.0*

*MOS **11** 12:48:47.1±0.9, 9.43S×116.24E, h33km, mb4.8/24, Error ellipse: s-maj=16.3km s-min=8.1km az=119.7*

*BJI **11** 12:48:50.4, 9.50S×116.20E, h46km, mB5.3, mb4.8, Ms4.3, Msz4.2*

*NEIC **11** 12:48:50.5±2.0, 9.48S×116.21E, h45km±18km, mb4.8/23, Error ellipse: s-maj=11.2km s-min=5.9km az=57.0*

NEIC Felt [III] at Mataram. Also felt [III] at Denpasar, Bali.

ISC 11 12:48:49.8±1.6, **9.53S**±0.05×**116.29E**±0.06, **h59**km±14km, **n144**, σ1§**12**/137, **mb4.8**/52, **MS4.2**/20, **6C-7D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	Marble Bar	12.02	164	eP	P	12 51 32.9	-7.7
	208nm,0.6s						
MBWA				eS	S	12 53 30.9	-23
FITZ	Fitzroy Crossi	12.44	134	eP	P	12 51 42.7	-3.6
	74nm,0.6s						
FITZ				eS	S	12 53 52.6	-11
FITZ	Fitzroy Crossi	12.44	134	Pn	P	12 51 42.8	-3.4
	9.0nm,0.3s,baz=331,slow=5.5,SNR=113						
FITZ				Sn	S	12 53 51.5	-13
	4.4nm,0.3s,baz=322,slow=1.3,SNR=3.5						
FITZ				LR	LR	12 56 24.7	
	comp=Z,2μm,21.7s,baz=289,slow=36						
KSM	Kuching	12.45	331	eP	P	12 51 49.9	+3.4
KKM	Kota Kinabalu	15.47	360	eP	P	12 52 33.3	+7.3
WRA	Warramunga Arr	20.27	123	P	P	12 53 23.3	+0.2
	20nm,0.8s,baz=299,slow=12,SNR=119						
WRA				S	S	12 57 00.9	-1.2
	4.2nm,0.8s,baz=288,slow=24,SNR=5.4						
WRA				PcP	PcP	12 57 35.9	+1.0
	3.7nm,0.5s,baz=321,slow=1.3,SNR=6.3						
WRAB	Tennant Creek	20.27	123	eP	P	12 53 22.8	-0.3
	41nm,1.0s						
WRAB				eS	S	12 56 59.6	-2.6
WRAB	Tennant Creek	20.27	123	eP	P	12 53 22.8	-0.4
WRAB				eS	S	12 56 59.6	-2.6
WRAB				pmax	pmax		
	comp=Z,41nm,1.0s						
WB2	Warramunga Arr	20.28	123⇓	iP	P	12 53 23.7	+0.5
WB2				eS	S	12 57 00.8	-1.5
KULM	Kulim	21.45	313	eP	P	12 53 34.5	-0.7
KLBR	Kellerberrin	21.99	177⇓	iP	P	12 53 45.8	+5.4
	comp=Z,32nm,0.7s,mb4.9						
KLBR				i S	S	12 57 27.9	-6.5
NWAO	Narrogin (SRO)	23.30	178	P	P	12 53 53.3	+0.1
	comp=Z,10nm,0.9s,mb4.3,baz=338,slow=11,SNR=4.2						
NWAO				S	S	12 57 58.3	+0.6
	comp=Z,26nm,0.5s,baz=278,slow=17,SNR=6.2						
NWAO	Narrogin (SRO)	23.30	178	eP	P	12 53 52.9	-0.3
	comp=Z,31nm,0.6s,mb4.9						
NWAO	Narrogin (SRO)	23.30	178	eP	P	12 53 52.9	-0.3
NWAO				pmax	pmax		
	comp=Z,31nm,0.6s						
FORT	Forrest	23.81	154	eP	P	12 53 58.9	+0.7
	comp=Z,34nm,0.6s,mb5.0						
FORT				eS	S	12 58 17.2	+11
QIZ	Qiongzhong	29.09	347	P	P	12 54 49.8	+2.6
QIZ				S	S	12 59 39.0	+5.7
QIZ				LR	LR		
	comp=Z,293nm,29.1s,MS3.7						
PMG	Port Moresby	30.44	92	LR	LR	13 10 48.5	
	comp=Z,299nm,18.5s,MS4.0,baz=34,slow=43						
CTA	Charters Tower	30.75	113⇓	iP	P	12 55 04.0	+2.0
	comp=Z,6.5nm,0.8s,mb4.5						
CTA	Charters Tower	30.75	113	P	P	12 55 04.0	+1.9
	comp=Z,7.4nm,0.8s,mb4.6,baz=280,slow=12,SNR=15						
CTA				LR	LR	13 08 42.0	
	comp=Z,255nm,19.7s,MS3.9,baz=279,slow=39						
CTA	Charters Tower	30.75	113⇓	iP	P	12 55 04.0	+2.0
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTAO	Charters Tower	30.75	113	eP	P	12 55 04.0	+2.0
	comp=Z,4.1nm,0.7s,mb4.4						
CTAO	Charters Tower	30.75	113	eP	P	12 55 04.1	+2.1
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
NANT	Nan	32.08	331	P	P	12 55 15.0	+1.3
STKA	Stephens Creek	32.31	137⇓	iP	P	12 55 16.3	+0.7
	comp=Z,11nm,0.7s,mb4.8						
STKA	Stephens Creek	32.31	137	P	P	12 55 16.4	+0.8
	comp=Z,14nm,0.7s,mb4.9,baz=313,slow=8.9,SNR=22						
STKA				LR	LR	13 09 05.1	
	comp=Z,935nm,20.5s,MS4.5,baz=302,slow=38						
CHG	Chiang Mai	32.96	329	P	P	12 55 22.0	+0.7
	comp=Z,20nm,0.7s,mb5.2						
KMI	Kunming	36.89	339	P	P	12 55 57.7	+2.9
KMI				AP	pP	12 56 07.2	-2.6
KMI				XP	sP	12 56 11.5	-5.5
KMI				PP	PP	12 57 21.1	-0.6
KMI				PPP	PPP	12 57 40.1	-2.1
KMI				S	S	13 01 41.5	+6.8
KMI				XS		13 01 57.4	
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,265nm,4.5s						
KMI				LR	LR		
	comp=N,363nm,18.9s,MS4.3						
KMI				LR	LR		
	comp=E,302nm,17.9s,MS4.3						
KMI				LR	LR		
	comp=Z,385nm,19.9s,MS4.2						
GYA	Guiyang	36.98	346	P	P	12 55 57.6	+2.1
GYA				PP	PP	12 57 26.0	+3.2
GYA				PCP	PcP	12 58 17.6	+1.6
GYA				S	S	13 01 36.7	+0.7
GYA				SCS	ScS	13 06 02.6	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,3.4s						
GYA				LR	LR		
	comp=N,240nm,17.4s,MS4.2						
GYA				LR	LR		
	comp=E,280nm,17.6s,MS4.2						
GYA				LR	LR		
	comp=Z,230nm,17.8s,MS4.0						
ENH	Enshi	40.11	351	eP	P	12 56 22.0	+0.5
	comp=Z,20nm,0.6s,mb5.0						
SSE	Sheshan	40.67	6	eP	P	12 56 24.5	-1.6
SSE				PCP	PcP	12 58 24.9	-2.7
SSE				S	S	13 02 33.6	+2.0
SSE				SCS	ScS	13 06 28.5	+4.7
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,323nm,4.0s						
SSE				LR	LR		
	comp=N,77nm,33.1s,MS3.4						
SSE				LR	LR		
	comp=E,45nm,33.1s,MS3.4						
SSE				LR	LR		
	comp=Z,112nm,33.7s,MS3.5						
XAN	Xi'an	43.89	351	P	P	12 56 52.5	0.0
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
LSA	Lhasa	45.91	329	eP	P	12 57 09.8	+1.2
	comp=Z,16nm,0.6s,mb5.1						
LSA	Lhasa	45.91	329	eP	P	12 57 09.8	+1.1
LSA				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
LZH	Lanzhou	46.87	346	eP	P	12 57 21.6	+5.5
LZH				PP	PP	12 59 12.5	+6.0
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
PKI	Pulchoki	47.49	322	eP	P	12 57 21.1	-0.1
	comp=Z,12nm,0.6s,mb5.0						
PKI	Pulchoki	47.49	322	eP	P	12 57 21.1	-0.1
PKI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
DMN	Daman	47.70	322	eP	P	12 57 23.0	+0.2
	comp=Z,56nm,0.9s,mb5.6						
KKN	Kakani	47.73	322	eP	P	12 57 23.1	+0.1
	comp=Z,31nm,0.9s,mb5.3						
KKN	Kakani	47.73	322	eP	P	12 57 23.1	+0.1
KKN				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
GKN	Gorkha	48.27	322	eP	P	12 57 26.3	-0.9
	comp=Z,14nm,0.3s,mb5.4						
KOLN	Koldanda	48.75	320	eP	P	12 57 30.3	-0.6
	comp=Z,21nm,0.6s,mb5.4						
DZM	Mont Dzumac	49.63	111	LR	LR	13 18 43.0	
	comp=Z,222nm,19.5s,MS4.2,baz=208,slow=36						
MAJO	Matsushiro	50.25	23	eP	P	12 57 41.7	-0.6
	comp=Z,4.7nm,0.8s,mb4.6						
MAJO	Matsushiro	50.25	23	eP	P	12 57 41.7	-0.6
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
MAT	Matsushiro	50.25	23	P	P	12 57 41.6	-0.7
MAT	Matsushiro	50.25	23	eP	P	12 57 42.0	-0.3
MJAR	Matsushiro Arr	50.25	23	P	P	12 57 42.0	-0.3
	comp=Z,4.3nm,0.8s,mb4.5,baz=192,slow=7.9,SNR=21						
MJAR				LR	LR	13 18 17.2	
	comp=Z,85nm,21.8s,MS3.7,baz=185,slow=35						
GTA	Gaotai	51.04	344	eP	P	12 57 48.6	+0.3
GTA				PCP	PcP	12 59 03.1	-0.6
GTA				PP	PP	12 59 46.7	+0.7
GTA				PPP	PPP	13 00 47.9	+0.9
GTA				SCP		13 02 52.5	
GTA				S	S	13 04 57.7	-2.1
GTA				SS	SS	13 08 32.2	-1.0
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,71nm,7.2s						
GTA				LR	LR		
	comp=N,147nm,22.8s,MS4.1						
GTA				LR	LR		
	comp=E,148nm,18.2s,MS4.1						
GTA				LR	LR		
	comp=Z,270nm,20.9s,MS4.2						
CN2	Changchun	53.73	8	eP	P	12 58 13.5	+5.2
MDJ	Mudanjiang	55.22	12	P	P	12 58 21.3	+2.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,56nm,5.1s						
MDJ				LR	LR		
	comp=N,56nm,22.2s,MS3.6						
MDJ				LR	LR		
	comp=E,22nm,19.3s,MS3.6						
MDJ				LR	LR		
	comp=Z,81nm,21.2s,MS3.8						
CASY	Casey	56.80	183	eP	P	12 58 26.3	-3.9
SONM	Songino Array	57.79	352	P	P	12 58 36.9	-0.5
	comp=Z,6.5nm,0.8s,mb4.7,baz=170,slow=8.7,SNR=50						
SONM				PcP	PcP	12 59 29.7	+0.4
	comp=Z,3.9nm,0.7s,baz=181,slow=4.5,SNR=6.3						
RPZ	Rata Peaks	58.27	136	P	P	12 58 41.7	+0.9
	comp=Z,16nm,0.9s,mb5.0,baz=254,slow=14,SNR=8.1						
RPZ				LR	LR	13 24 22.1	
	comp=Z,805nm,19.1s,MS4.9,baz=219,slow=37						
KZA	Kyzart	63.64	327	P	P	12 59 17.4	+0.2
	SNR=7.3						
MKAR	Makanchi Array	63.75	335	P	P	12 59 16.8	-1.1
	comp=Z,4.8nm,0.6s,mb4.7,baz=143,slow=6.1,SNR=58						
MKAR	Makanchi Array	63.75	335	P	P	12 59 16.4	-1.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	Tokmak 2	64.04	328	P	P	12 59 19.4	-0.4
	SNR=6.4						
AAK	Ala-Archa	64.43	327	P	P	12 59 22.5	+0.2
	SNR=5.1						
AAK	Ala-Archa	64.43	327	eP	P	12 59 20.3	-2.1
	comp=Z,6.5nm,0.8s,mb4.7						
AAK	Ala-Archa	64.43	327	eP	P	12 59 20.3	-2.0
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
AML	Almayashu	64.53	326	P	P	12 59 23.0	0.0
	SNR=6.9						
EKS2	Erkin-Say	64.84	327	P	P	12 59 25.1	+0.1
	SNR=12						
JMDO	Jabal Madar	65.23	300	⇑P	P	12 59 25.4	-2.4
SMDO	Samad	65.54	301	P	P	12 59 28.8	-1.0
	SNR=6.6						
BIDO	Bidbid	65.65	301	⇓P	P	12 59 29.4	-1.1
KKAR	Karatay Array	66.93	325	P	P	12 59 37.0	-1.3
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BOD	Bodaibo	67.14	359	eP	P	12 59 36.5	-2.9
WHFO	Wadi Hawf	67.48	294	P	P	12 59 40.7	-1.5
	SNR=5.4						
ABTO	Aybut	67.73	293	P	P	12 59 42.9	-0.8
	SNR=6.3						
MAW	Mawson	67.84	199	LR	LR	13 23 02.6	
	comp=Z,266nm,19.3s,MS4.5,baz=170,slow=30						
KURK	Kurchatov	68.33	335	eP	P	12 59 45.7	-1.2
	comp=Z,4.5nm,0.6s,mb4.7						
KURK	Kurchatov	68.33	335⇑	iP	P	12 59 46.0	-0.9
ZAL	Zalesovo	68.62	341	P	P	12 59 47.6	-1.0
	comp=Z,2.9nm,0.6s,mb4.4,baz=334,slow=6.5,SNR=14						
ZAL				LR	LR	13 33 09.2	
	comp=Z,125nm,20.7s,MS4.1,baz=184,slow=39						
ZAL	Zalesovo	68.62	341	P	P	12 59 47.6	-1.0
ZAL				LR	LR	13 33 09.2	
ZAL	Zalesovo	68.62	341	i P	P	12 59 47.9	-0.7
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VNDA	Vanda	71.89	171	P	P	13 00 08.3	+0.2
	comp=Z,3.0nm,0.9s,mb4.2,baz=286,slow=4.3,SNR=17						
VNDA				LR	LR	13 29 18.7	
	comp=Z,302nm,19.3s,MS4.6,baz=4.1,slow=34						
VNDA	Vanda	71.89	171	eP	P	13 00 08.1	-0.1
	comp=Z,3.0nm,0.9s,mb4.2						
VNDA	Vanda	71.89	171	eP	P	13 00 08.1	0.0
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YAK	Yakutsk	72.10	7	eP	P	13 00 10.0	+0.4
YAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
SBA	Scott Base	72.91	170	eP	P	13 00 15.0	+0.9
	comp=Z,5.2nm,0.5s,mb4.7						
SBA	Scott Base	72.91	170	eP	P	13 00 15.0	+0.9
SBA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
BVA0	Borovoye Array	73.53	333	P	P	13 00 17.3	-0.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	Borovoye Array	73.53	333	P	P	13 00 17.9	-0.2
	comp=Z,6.7nm,0.6s,mb4.7,baz=140,slow=8.1,SNR=42						
BRVK	Borovoye	73.60	333	eP	P	13 00 18.1	-0.5
	comp=Z,3.6nm,0.8s,mb4.3						
BRVK	Borovoye	73.60	333	eP	P	13 00 18.1	-0.4
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SYO	Syowa Base	76.39	201	⇑P	P	13 00 32.8	-1.5
SYO	Syowa Base	76.39	201	⇑sP	sP	13 01 05.8	+8.6
AB31	Akbulak array	76.48	326	i P	P	13 00 34.5	-0.6
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
AKTO	Aktyubinsk	78.16	326	P	P	13 00 44.2	-0.2
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
AFFS	'Afif	78.86	297	P	P	13 00 49.3	+0.4
KMBO	Kilima Mbogo	79.01	271	P	P	13 00 50.9	+1.0
	comp=Z,2.6nm,0.7s,mb4.3,baz=56,slow=12,SNR=11						
KMBO				LR	LR	13 29 49.1	
	comp=Z,232nm,20.8s,MS4.5,baz=99,slow=31						
KMBO	Kilima Mbogo	79.01	271	i P	P	13 00 51.3	+1.5
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BLJS	Baljurashi	79.08	292	P	P	13 00 51.7	+1.6
HILS	Ha'il	80.85	300	P	P	13 01 00.3	+0.8
ARU	Arti	81.04	332	eP	P	13 01 14.8	+15
TIXI	Tiksi	81.44	4	i P	P	13 01 01.6	0.0
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
GNI	Garni	82.32	313	eP	P	13 01 09.9	+3.1
	comp=Z,7.5nm,0.8s,mb4.7						
GNI	Garni	82.32	313	eP	P	13 01 10.0	+3.2
GNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KIV	Kislovodsk	85.00	316	eP	P	13 01 20.6	+0.4
KIV				e		13 11 42.1	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
LSZ	Lusaka	85.72	255	eP	P	13 01 25.4	+0.9
	comp=Z,8.5nm,0.7s,mb5.1						
LSZ	Lusaka	85.72	255	eP	P	13 01 25.4	+1.0
LSZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.1						
SOC	Sochi	86.94	315	eP	P	13 01 27.7	-2.1
SOC				i S	S	13 11 51.5	-10
SOC				eSS	SS	13 17 48.5	+0.2
SOC				pmax	pmax		
	comp=N,20nm,0.7s						
SOC				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.4						
SOC				pmax	pmax		
	comp=E,19nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRHR	**Novokhopersk**	**87.89**	**323**	*e*P	**P**	**13 01 34.5**	**+0.3**
VRHR				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.8						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,6.0nm,0.3s						
ANN	**Anapa**	**88.85**	**316**	*e*P	**P**	**13 01 38.4**	**-0.5**
ANN				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.9						
VRSR	**Storozhevoye**	**89.40**	**322***d*	*i*P	**P**	**13 01 41.4**	**+0.1**
VRSR				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.6						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.4s						
VRSR				pmax	pmax		
	comp=E,8.0nm,0.5s						
SNAA	**Sanae**	**89.76**	**196**	P	**P**	**13 01 44.3**	**+1.7**
SNAA	**Sanae**	**89.76**	**196**		**P**	**13 01 47.7**	**+5.1**
SNAA	**Sanae**	**89.76**	**196**		**P**	**13 01 55.0**	**+12**
SNAA	**Sanae**	**89.76**	**196**		**P**	**13 02 02.5**	**+20**
BRTR	**Keskin Array B**	**90.43**	**310**	P	**P**	**13 01 47.0**	**+0.6**
	comp=E,3.4nm,0.7s,mb4.8,baz=134,slow=5.5,SNR=15						
BR131	**Keskin Array S**	**90.43**	**310**	*e*P	**P**	**13 01 46.7**	**+0.3**
	comp=E,2.9nm,0.7s,mb4.7						
PPT	**Papeete**	**91.06**	**108**	LR	LR	13 38 56.9	
	comp=E,175nm,21.9s,MS4.5,baz=302,slow=33						
VNA2	**Neumayer--Watz**	**91.40**	**196**⇑	*i*P	**P**	**13 01 52.5**	**+2.2**
VNA2	**Neumayer--Watz**	**91.40**	**196**		**P**	**13 02 03.1**	**+13**
VNA2	**Neumayer--Watz**	**91.40**	**196**		**P**	**13 02 06.0**	**+16**
VNA1	**Neumayer--Stat**	**91.80**	**196**	P	**P**	**13 01 54.3**	**+2.2**
VNA1	**Neumayer--Stat**	**91.80**	**196**		**P**	**13 02 10.6**	**+19**
VNA3	**Neumayer Olymp**	**91.82**	**195**⇑	*i*P	**P**	**13 01 54.2**	**+2.0**
VNA3	**Neumayer Olymp**	**91.82**	**195**		**P**	**13 02 02.7**	**+11**
VNA3	**Neumayer Olymp**	**91.82**	**195**		**P**	**13 02 07.3**	**+15**
VNA3	**Neumayer Olymp**	**91.82**	**195**		**P**	**13 02 11.6**	**+19**
OBN	**Obninsk**	**91.92**	**326**	*e*P	**P**	**13 01 53.5**	**+0.5**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.4						
AKASG	**Malin Array Be**	**95.45**	**320**	P	**P**	**13 02 08.6**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.7,baz=79,slow=4.5,SNR=13						
AKASG	**Malin Array Be**	**95.45**	**320**	P	**P**	**13 02 08.6**	**-0.6**
JOF	**Joensuu**	**96.13**	**333**	*e*p	**P**	**13 02 12.1**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.9						
KAF	**Kangasniemi**	**98.34**	**332**	*e*p	**P**	**13 02 22.3**	**+0.3**
	comp=Z,1.7nm,0.4s,mb4.9,baz=83,slow=4.1						
KAF	**Kangasniemi**	**98.34**	**332**	*e*P	**P**	**13 02 22.3**	**+0.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb5.0						
FINES	**FINESS Array B**	**98.40**	**331**	P	**P**	**13 02 22.6**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.8,baz=117,slow=8.5,SNR=10						
FINES				LR	LR	13 49 31.7	
	comp=Z,75nm,18.9s,MS4.2,baz=356,slow=37						
ARCES	**ARCESS Array B**	**99.14**	**339**	LR	LR	13 51 05.7	
	comp=Z,110nm,19.6s,MS4.4,baz=256,slow=38						
PDAR	**Pinedale Array**	**128.12**	**42**	PKP	PKPdf	13 07 53.0	+3.1
	comp=Z,0.4nm,0.8s,baz=333,slow=3.3,SNR=3.9						
TXAR	**Lajitas Array**	**137.76**	**57**	PKhKP		13 08 01.9	
	comp=Z,0.5nm,0.7s,baz=248,slow=3.0,SNR=4.3						
BLO	**Bloomington**	**144.12**	**31**	*e*PKP	PKPdf	13 08 19.8	+0.6
PARMO	**Parma**	**144.13**	**37**	*e*PKP	PKPdf	13 08 19.6	+0.3
MIV	**Mineville/With**	**144.55**	**12**	*e*PKP	PKPdf	13 08 21.1	+1.3
WCI	**Wyandotte Cave**	**144.95**	**32**	*e*PKP	PKPdf	13 08 22.9	+2.2
ACSO	**Alum Creek Sta**	**144.95**	**26**	*e*PKP	PKPdf	13 08 22.9	+2.2
HNH	**Hanover**	**145.15**	**11**	*e*PKP	PKPdf	13 08 23.9	+3.1
WVT	**Waverly**	**145.63**	**36**	*e*PKPbc	PKPbc	13 08 24.9	+2.1
BINY	**Binghamton**	**145.72**	**16**	*e*PKPbc	PKPbc	13 08 24.6	+1.8
PLAL	**Pickwick Lake**	**146.27**	**38**	*e*PKPbc	PKPbc	13 08 25.7	+1.4
HRV	**Harvard--Oak R**	**146.44**	**11**	*e*PKPbc	PKPbc	13 08 26.9	+2.4
MCWV	**Mont Chateau**	**146.72**	**23**	*e*PKPbc	PKPbc	13 08 28.4	+3.1
PAL	**Palisades**	**147.38**	**14**	*e*PKPbc	PKPdf	13 08 29.8	+5.0
LPAZ	**La Paz**	**153.97**	**170**	PKPbc	PKPdf	13 08 48.2	+13
	comp=Z,1.1nm,0.8s,baz=231,slow=13,SNR=4.0						
LPAZ				PKPab	PKPab	13 09 00.6	+1.2
	comp=Z,1.7nm,0.6s,baz=195,slow=7.7,SNR=7.0						

NNC 11 13:12:49.5±2.6**,36.84N**×**71.07E,h133**km±56km**,mpv3.6, 2D,Error ellipse: s-maj=23.6km s-min=20.5km az=32.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.27**	**356**	⇓P	P	13 14 19.8	-1.0
	1.1nm,0.2s,baz=180,slow=12,SNR=60						
KK31				⇓S	S	13 15 30.6	-0.9
	0.7nm,0.3s,baz=183,slow=23,SNR=4.1						
AAK	**Ala-Archa**	**6.36**	**23**	P	P	13 14 20.8	-1.1
	2.8nm,0.4s						
AAK				S	S	13 15 32.9	-0.8
	3.2nm,0.7s						
AB31	**Akbulak array**	**14.81**	**330**	P	P	13 16 12.2	-1.0
	0.2nm,0.3s,baz=141,slow=14,SNR=15						

MAN 11 13:35:36.5,5.61N×**125.40E,h49**km**,mb4.2,ML3.0,MS2.7, 1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.43**	**347**⇓	*e*P	P	13 36 02.4	+1.8
KCP				*i* S	S	13 36 18.8	+0.4
MATI	**Mati**	**1.58**	**32**	*e*P	P	13 36 02.6	-0.1
MATI				*e*S	S	13 36 18.6	-3.5
BUKP	**Musuan**	**2.28**	**352**	*e*P	P	13 36 13.1	+0.5
BUKP				*e*S	S	13 36 40.0	+0.4
PAGZ	**Pagadian**	**3.00**	**318**	*e*P	P	13 36 23.6	+0.8
IPIL	**Ipil**	**3.55**	**308**	*e*P	P	13 36 28.8	-1.8
IPIL				*e*S	S	13 37 09.6	-2.1

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*FUNV **11** 13:52:48.5, 10.96N×62.21W, h77km, MW3.2*
*TRN **11** 13:52:50.3, 11.07N×62.19W, h59km, MD3.8, Md3.8(FDF)*
*NEIC **11** 13:52:50.5, 11.10N×62.17W, h29km, MD3.8(TRN), After TRN.*
ISC 11 13:52:47.1±0.5**,10.94N**±0.03×**62.33W**±0.03**,h94**km±7km**, n35,**σ**0§97**/60**,5C-1D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**160**⇑	*i*P	**P**	**13 53 00.7**	**-0.3**
GUIV				*e*S	**S**	**13 53 09.5**	**-2.2**
ITEV	**Isla Los Testi**	**0.89**	**298**	*e*P	**P**	**13 53 06.5**	**+0.4**
CRUV	**Carupano**	**0.93**	**254**⇓	*i*P	**P**	**13 53 07.1**	**+0.6**
CRUV				*e*S	**S**	**13 53 20.7**	**-0.2**
GUNV	**Guanoco**	**0.98**	**218**	*e*P	**P**	**13 53 07.8**	**+0.8**
GUNV				*i* S	**S**	**13 53 22.6**	**+0.6**
BUAY	**Buenos Aires**	**1.04**	**142**	*e*P	**P**	**13 53 09.2**	**+1.4**
BUAY				*e*S	**S**	**13 53 24.3**	**+0.9**
TPP	**Pointe-a-Pierr**	**1.06**	**125**	*e*P	**P**	**13 53 09.0**	**+1.0**
TPP				*e*S	**S**	**13 53 24.6**	**+0.8**
TPP	**Pointe-a-Pierr**	**1.06**	**125**	*e*P	**P**	**13 53 11.2**	**+3.2**
TPP				*e*S	**S**	**13 53 24.6**	**+0.7**
SIPA	**Siparia**	**1.13**	**134**	*e*P	**P**	**13 53 09.6**	**+0.7**
SIPA				*e*S	**S**	**13 53 25.3**	**0.0**
TBH	**Brigand Hill**	**1.32**	**110**⇑	*i*P	**P**	**13 53 11.2**	**0.0**
TBH				*e*S	**S**	**13 53 27.5**	**-1.7**
TBH	**Brigand Hill**	**1.32**	**110**⇑	*i*P	**P**	**13 53 11.2**	**0.0**
TBH				*e*S	**S**	**13 53 25.0**	**-4.2**
GRW	**Mount Saint Ca**	**1.38**	**28**⇑	*e*P	**P**	**13 53 12.3**	**+0.3**
GRW				*e*S	**S**	**13 53 25.8**	**-4.6**
GRW	**Mount Saint Ca**	**1.38**	**28**⇑	*i*P	**P**	**13 53 12.3**	**+0.4**
GRW				*e*S	**S**	**13 53 25.8**	**-4.6**
TPR	**Prospect**	**1.55**	**81**	*e*P	**P**	**13 53 14.1**	**0.0**
TPR				*e*S	**S**	**13 53 31.4**	**-2.5**
TPR	**Prospect**	**1.55**	**81**	*e*P	**P**	**13 53 14.1**	**0.0**
TPR				*e*S	**S**	**13 53 32.0**	**-2.0**
BOT	**Bacolet**	**1.60**	**82**	*e*P	**P**	**13 53 14.7**	**0.0**
BOT				*e*S	**S**	**13 53 31.9**	**-3.2**
BOT	**Bacolet**	**1.60**	**82**	*e*P	**P**	**13 53 14.7**	**0.0**
BOT				*e*S	**S**	**13 53 30.8**	**-4.3**
ORIV	**Oritupano**	**2.14**	**210**	*e*P	**P**	**13 53 22.8**	**+1.0**
ORIV				*e*S	**S**	**13 53 48.1**	**+0.6**
IBAV	**Isla La Blanqu**	**2.37**	**292**	*e*P	**P**	**13 53 25.6**	**+0.6**
IBAV				*e*S	**S**	**13 53 53.1**	**-0.2**
PCRV	**Puerto La Cruz**	**2.39**	**252**	*e*S	**S**	**13 53 54.0**	**+0.3**
SVB	**Belmont**	**2.55**	**24**	*e*P	**P**	**13 53 27.1**	**-0.5**
SVB				*e*S	**S**	**13 53 57.1**	**-0.6**
SVB	**Belmont**	**2.55**	**24**	*e*P	**P**	**13 53 27.1**	**-0.5**
SVB				*e*S	**S**	**13 53 58.1**	**+0.5**
SLB	**Belfond**	**3.14**	**24**	*e*P	**P**	**13 53 35.6**	**0.0**
SLB				*e*S	**S**	**13 54 12.4**	**+0.3**
GURV	**El Guri**	**3.24**	**193**	*e*P	**P**	**13 53 36.4**	**-0.7**
GURV				*e*S	**S**	**13 54 11.8**	**-3.0**
CUPV	**Cœpira**	**3.51**	**256**	*e*P	**P**	**13 53 42.1**	**+1.4**
CUPV				*e*S	**S**	**13 54 20.6**	**-0.7**
FDF	**Fort de France**	**3.94**	**17**	*e*P	**P**	**13 53 45.6**	**-1.1**
FDF				*e*S	**S**	**13 54 28.1**	**-4.0**
CRM	**Caravelle**	**4.04**	**20**	*e*P	**P**	**13 53 48.1**	**+0.2**
MERV	**Las Mercedes**	**4.25**	**247**	*e*P	**P**	**13 53 51.3**	**+0.4**
MERV				*e*S	**S**	**13 54 37.6**	**-2.0**
SCG	**Saint Claude**	**5.10**	**7**	*e*P	**P**	**13 54 03.4**	**+0.9**
LZG	**Guadaloupe-1**	**5.20**	**6**	*e*P	**P**	**13 54 05.0**	**+1.1**
CAOV	**Caicara del Or**	**5.33**	**228**	*e*P	**P**	**13 54 04.7**	**-0.9**
CAOV				*e*S	**S**	**13 55 02.0**	**-4.3**
TURV	**Turiamo**	**5.43**	**265**	*e*P	**P**	**13 54 07.6**	**+0.5**
DEG	**La Desirade**	**5.48**	**13**	*e*P	**P**	**13 54 07.8**	**+0.1**
TEPV	**Terepaima**	**6.82**	**262**	*e*P	**P**	**13 54 25.8**	**-0.4**
SANV	**Sanarito**	**7.23**	**259**	*e*P	**P**	**13 54 31.6**	**-0.3**
SOCV	**Socops**	**8.81**	**253**	*e*P	**P**	**13 54 51.8**	**-1.4**

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*SKHL **11** 14:22:43.7±0.4, 54.50N×142.41E, h10km, mb5.7/1, Ms4.4/4, msh4.8/1*
SKHL Felt (IV-V) at Nyvrovo, (II) at Okha.
*BJI **11** 14:22:50.9, 54.27N×142.72E, h6km, mB5.1, mb4.6, Ms4.6, Msz4.2*
*MOS **11** 14:22:50.8±1.4, 54.25N×142.81E, h10km, mb4.6/11, Error ellipse: s-maj=13.0km s-min=6.1km az=91.6*
MOS Felt (IV) at Nivrovo; (II) at Okha.
*IDC **11** 14:22:51.5±0.7, 54.27N×142.74E, mb4.1/14, mb1 4.4/16, mb1mx4.3/24, mbtmp4.1/16, ML3.4/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/34, Error ellipse: s-maj=19.1km s-min=16.1km az=161.0*
*NEIC **11** 14:22:53.1±0.2, 54.28N×142.78E, h10km, mb4.4/14, Error ellipse: s-maj=5.9km s-min=4.5km az=129.0*
NEIC Felt [IV] at Nyvrovo and [II] at Okha.
ISC 11 14:22:51.1±0.2**,54.23N**±0.02×**142.83E**±0.06**,h10**km**, (h23**km±2.8km**:pP-P),n103,**σ**1§30**/118**,mb4.3**/36**,MS4.0**/11**, 4C-3D,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.68**	**175**⇑	*i*Pg	**Pg**	**14 23 03.4**	**-1.4**
OKH				AMB	AMB	14 23 04.0	
	3µm,0.5s						
OKH				*i* Sg	**Sg**	**14 23 16.3**	**+2.3**
OKH				A		14 23 19.0	
	19µm,0.5s						
OKH				A		14 23 19.0	
	18µm,0.5s						
NKL	**Nikolayevsk**	**1.68**	**231**	*i* Pg	**Pn**	**14 23 17.0**	**-3.7**
NKL				AMB	AMB	14 23 17.5	
	320nm,0.7s						
NKL				*e*Sg	**Sn**	**14 23 41.0**	**-1.4**
NKL				A		14 23 42.5	
	6µm,2.0s						
NKL				A		14 23 42.5	
	10µm,2.0s						
NKL				A		14 23 43.0	
	4µm,0.7s						
NKL				A		14 23 43.0	
	3µm,0.7s						
NKL				AMS	AMS	14 24 42.0	
	4µm,5.0s						
NKL				AMS	AMS	14 24 42.0	
	5µm,5.0s						
NKL				AMS	AMS	14 24 42.0	
	6µm,5.0s						
TYV	**Tymovskoe**	**3.37**	**182**	*e*Pn	**Pn**	**14 23 41.7**	**-3.2**
TYV				*e*Pg	**Pg**	**14 23 56.0**	**-2.4**
TYV				AMB	AMB	14 24 09.5	
	428nm,1.0s						
TYV				AMB	AMB	14 24 10.0	
	1µm,3.0s						
TYV				*e*Sg	**Sg**	**14 24 46.4**	**+3.0**
TYV				A		14 24 54.0	
	2µm,4.0s						
TYV				A		14 24 56.0	
	132nm,1.0s						
TYV				A		14 24 56.0	
	322nm,1.0s						
TYV				AMS	AMS	14 25 53.0	
	3µm,11.0s						
TYV	**Tymovskoe**	**3.37**	**182**	*e*PN	**Pn**	**14 23 41.7**	**-3.2**
TYV				pmax	pmax		
	comp=Z,428nm,1.0s						
TYV				pmax	pmax		
	comp=Z,1µm,3.0s						
TYV				MLR	MLR		
	comp=Z,3µm,11.0s						
UGL	**Uglegorsk**	**5.18**	**186**	*e*Pb	**Pb**	**14 24 14.0**	**-7.5**
UGL				AMB	AMB	14 24 16.0	
	comp=Z,42nm,0.8s						
UGL				*e*Pg	**Pg**	**14 24 31.8**	**-2.7**
UGL				AMB	AMB	14 24 37.0	
	comp=Z,445nm,1.0s						
UGL				*e*Sg	**Sg**	**14 25 46.9**	**+3.4**
UGL				A		14 25 56.2	
	comp=Z,312nm,0.9s						
UGL				A		14 25 56.2	
	comp=Z,197nm,0.9s						
UGL				AMS	AMS	14 27 20.0	
	comp=Z,1µm,13.0s						
UGL				AMS	AMS	14 27 20.0	
	comp=Z,2µm,13.0s						
UGL				AMS	AMS	14 27 20.0	
	comp=Z,800nm,13.0s						
GRNR	**Gornyy**	**5.23**	**231**	*e*Pn	**Pn**	**14 24 06.1**	**-5.1**
GRNR				*e*Pg	**Pg**	**14 24 27.0**	**-8.4**
GRNR				AMB	AMB	14 24 31.0	
	comp=Z,90nm,0.7s						
GRNR				*e*Sg	**Sg**	**14 25 38.6**	**-6.5**
GRNR				A		14 25 41.0	
	comp=Z,780nm,1.0s						
GRNR				A		14 25 41.0	
	comp=Z,340nm,1.0s						
EKMR	**Ekimchan**	**5.99**	**263**	*e*P	**Pn**	**14 24 17.0**	**-5.0**
EKMR				*e*Pg	**Pg**	**14 24 38.3**	**-12**
EKMR				AMB	AMB	14 24 42.4	
	comp=Z,16nm,0.8s						
EKMR				*e*S	**Sn**	**14 25 17.5**	**-14**
EKMR				*e*Sg	**Sg**	**14 25 57.9**	**-13**
EKMR				A		14 26 10.9	
	comp=Z,440nm,0.7s						
EKMR				A		14 26 10.9	
	comp=Z,210nm,0.7s						
EKMR				A		14 26 10.9	
	comp=Z,160nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.28**	**180**⇓	*i*Pn	**Pn**	**14 24 39.2**	**-1.0**
YSS				AMB	AMB	14 24 40.8	
	comp=Z,20nm,0.6s						
YSS				AMB	AMB	14 24 40.8	
	comp=Z,50nm,0.6s						
YSS				*e*Sn	**Sn**	**14 26 03.0**	**-0.8**
YSS				A		14 26 04.2	
	comp=Z,20nm,1.0s						
YSS				AMS	AMS	14 28 10.0	
	comp=Z,500nm,16.0s						
YSS				AMS	AMS	14 28 10.0	
	comp=Z,700nm,16.0s						
YSS				AMS	AMS	14 28 10.0	
	comp=Z,600nm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.28**	**180**	*e*P	**Pn**	**14 24 39.4**	**-0.8**
	comp=Z,32nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.28**	**180**⇓	*i*PN	**Pn**	**14 24 39.2**	**-1.0**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				pmax	pmax		
	comp=N,20nm,0.5s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,700nm,16.0s						
BMKR	**Bomnak**	**8.17**	**279**	*e*P	**P**	**14 24 47.4**	**-5.1**
BMKR				*e*S	**Sn**	**14 26 16.3**	**-10**
KLR	**Kul'dur**	**8.50**	**238**	*e*rx	rx	14 24 54.7	
KLR				*e*rx	rx	14 25 28.0	
KLR				AMS	AMS	14 28 28.0	
	comp=E,2µm,10.0s						
KLR				AMS	AMS	14 28 28.0	
	comp=E,1µm,10.0s						
KLR				AMS	AMS	14 28 28.0	
	comp=E,4µm,10.0s						
KLR	**Kul'dur**	**8.50**	**238**	*e*PN	**P**	**14 24 54.7**	**-2.5**
KLR				MLR	MLR		
	comp=N,2µm,10.0s						
KLR				MLR	MLR		
	comp=E,1µm,10.0s						
KLR				MLR	MLR		
	comp=Z,4µm,10.0s						
YASR	**Yasnyy**	**8.85**	**270**	*e*P	**P**	**14 24 56.9**	**-5.2**
YASR				*e*S	**Sn**	**14 26 30.7**	**-12**
ZEA	**Zeya**	**9.20**	**273**	*e*rx	rx	14 25 05.9	
ZEA				*e*S	**Sn**	**14 26 40.8**	**-11**
ZEA				A		14 27 09.7	
	comp=Z,22nm,1.2s						
ZEA				AMS	AMS	14 28 57.0	
	comp=Z,700nm,8.0s						
ZEA				AMS	AMS	14 28 57.0	
	comp=Z,600nm,8.0s						
KROS	**Kirovskiy**	**9.27**	**278**	*e*rx	rx	14 25 05.6	
KROS				*e*S	**Sn**	**14 26 43.5**	**-10**
PET	**Petropavlovsk**	**9.48**	**91**	*e*P	**P**	**14 25 09.1**	**-1.6**
	comp=Z,48nm,0.5s						
PET	**Petropavlovsk**	**9.48**	**91**	*e*PN	**P**	**14 25 09.5**	**-1.2**
PET				pmax	pmax		
	comp=Z,71nm,0.5s						
PET				MLR	MLR		
	comp=Z,300nm,12.0s						
SEY	**Seymchan**	**10.04**	**26**	*e*P	**P**	**14 25 16.0**	**-2.3**
TEY	**Ternei**	**10.04**	**206**	*e*rx	rx	14 28 00.5	
ASAJ	**Asahikawa**	**10.12**	**181**	Pn	**P**	**14 25 19.1**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=312,slow=16,SNR=4.1						
ASAJ				LR	LR	14 30 08.4	
	comp=Z,334nm,18.2s,baz=9.5,slow=43						
YAK	**Yakutsk**	**10.45**	**324**	*e*P	**P**	**14 25 20.9**	**-2.9**
YAK	**Yakutsk**	**10.45**	**324**	*e*PN	**P**	**14 25 20.8**	**-3.0**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,1.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MDJ	**Mudanjiang**	**12.89**	**227**	P	**P**	**14 25 56.9**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,79nm,5.3s						
MDJ				LR	LR		
	comp=N,1µm,11.1s						
MDJ				LR	LR		
	comp=E,487nm,9.8s						
MDJ				LR	LR		
	comp=Z,1µm,11.1s						
MDJ	**Mudanjiang**	**12.89**	**227**	*e*P	**P**	**14 25 56.9**	**-0.1**
	comp=Z,28nm,1.5s						
CN2	**Changchun**	**15.41**	**234**	*e*P	**P**	**14 26 32.3**	**+2.3**
CN2				*e*AP		14 26 37.3	
CN2				*e*S	**S**	**14 29 22.3**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,900nm,19.0s						
CN2				LR	LR		
	comp=E,700nm,19.0s						
CN2				LR	LR		
	comp=Z,660nm,17.0s						
BOD	**Bodaibo**	**16.45**	**294**	*e*P	**P**	**14 26 40.7**	**-2.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SNY	**Shenyang**	**17.81**	**234**	⇑P	**P**	**14 27 03.6**	**+3.2**
SNY				AMB	AMB		
	comp=Z,100nm,7.8s						
SNY				LR	LR		
	comp=N,620nm,11.6s						
SNY				LR	LR		
	comp=Z,580nm,10.2s						
MAJO	**Matsushiro**	**17.97**	**192**	*e*P	**P**	**14 27 03.0**	**+0.5**
	comp=Z,7.5nm,0.9s						
MAJO	**Matsushiro**	**17.97**	**192**	*e*P	**P**	**14 27 03.0**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAT	**Matsushiro**	**17.97**	**192**	P	**P**	**14 27 02.6**	**+0.1**
MAT	**Matsushiro**	**17.97**	**192**	*e*P	**P**	**14 27 03.0**	**+0.5**
	comp=Z,8.4nm,0.9s						
MAT	**Matsushiro**	**17.97**	**192**	*e*P	**P**	**14 27 03.0**	**+0.5**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR	**Matsushiro Arr**	**17.98**	**192**	P	**P**	**14 27 03.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=4.9,slow=11,SNR=20						
TIXI	**Tiksi**	**18.51**	**346**	*e*P	**P**	**14 27 03.1**	**-5.8**
TIXI				pmax	pmax		
	comp=Z,19nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,141nm,12.0s						
KS15	**Wonju Array Si**	**19.68**	**218**	*e*P	**P**	**14 27 23.7**	**+0.6**
INCN	**Inchon**	**20.11**	**220**	*e*P	**P**	**14 27 27.9**	**+0.3**
JHJ	**Hachijo jima 2**	**21.21**	**187**	LR	LR	14 36 09.6	
	comp=Z,118nm,18.9s,MS3.3,baz=108,slow=38						
IRK	**Irkutsk**	**22.98**	**281**	*e*P	**P**	**14 27 57.9**	**+1.5**
IRK				*e*		14 28 23.8	
IRK				pmax	pmax		
	comp=Z,32nm,2.4s,mb4.3						
SONM	**Songino Array**	**23.59**	**269**	P	**P**	**14 28 04.1**	**+1.7**
	comp=Z,7.0nm,0.8s,mb4.1,baz=55,slow=9.3,SNR=52						
SONM				LR	LR	14 38 02.7	
	comp=Z,251nm,19.2s,MS3.7,baz=328,slow=39						
ZAK	**Zakamensk**	**24.26**	**277**⇑	*i*P	**P**	**14 28 10.4**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.6						
HHC	**Hu-ho-hao-te**	**24.75**	**250**	*e*P	**P**	**14 28 15.3**	**+1.6**
HHC				AP		14 28 19.3	
HHC				XP		14 28 21.8	
HHC				PP	PP	14 28 51.8	+1.4
HHC				PCP	PcP	14 31 51.7	0.0
HHC				S	**S**	**14 32 34.2**	**+1.3**
HHC				XS		14 32 41.4	
HHC				SS	SS	14 33 31.3	+1.5
HHC				SCP		14 35 28.7	
HHC				PCS		14 35 30.8	
HHC				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,100nm,4.0s						
HHC				LR	LR		
	comp=N,359nm,10.9s,MS4.2						
HHC				LR	LR		
	comp=E,277nm,12.0s,MS4.2						
HHC				LR	LR		
	comp=Z,312nm,8.7s						
SSE	**Sheshan**	**27.85**	**223**	*e*P	**P**	**14 28 40.8**	**-1.7**
SSE				AMB	AMB		
	comp=Z,38nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,368nm,3.5s						
SSE				LR	LR		
	comp=Z,77nm,13.5s,MS3.5						
NJ2	**Nanjing**	**27.99**	**227**	*e*P	**P**	**14 28 43.1**	**-0.7**
NJ2				AP	pP	14 28 54.1	+7.4
NJ2				XP	sP	14 28 57.4	+9.4
NJ2				PP	PP	14 29 34.2	+0.7
NJ2				S	**S**	**14 33 24.0**	**-2.2**
NJ2				XS		14 33 41.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,510nm,4.1s						
NJ2				LR	LR		
	comp=N,1µm,11.2s,MS4.8						
NJ2				LR	LR		
	comp=E,710nm,13.6s,MS4.8						
NJ2				LR	LR		
	comp=Z,390nm,14.6s,MS4.1						
GTA	**Gaotai**	**32.39**	**261**	*e*P	**P**	**14 29 23.3**	**+0.5**
GTA				AP	pP	14 29 30.3	+4.6
GTA				XP	sP	14 29 34.3	+7.3
GTA				PP	PP	14 30 32.9	+2.2
GTA				PPP	PPP	14 30 50.0	+3.9
GTA				S	**S**	**14 34 37.4**	**+1.5**
GTA				XS		14 34 50.0	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						

GTA				AMB	AMB		
	comp=Z,139nm,6.1s						
GTA				LR	LR		
	comp=N,439nm,14.1s,MS4.5						
GTA				LR	LR		
	comp=E,399nm,12.9s,MS4.5						
GTA				LR	LR		
	comp=Z,394nm,14.8s,MS4.2						
LZH	Lanzhou	32.40	252	eP	P	14 29 24.5	+1.6
LZH				AP	pP	14 29 31.2	+5.4
LZH				XP	sP	14 29 34.9	+7.8
LZH				PP	PP	14 30 32.2	+1.4
LZH				eS	S	14 34 35.0	-1.0
LZH				XS		14 34 47.0	
LZH				eSS	SS	14 36 30.0	-1.2
LZH				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=E,898nm,12.1s						
LZH				LR	LR		
	comp=Z,1µm,13.0s,MS4.8						
ENH	Enshi	33.87	239	eP	P	14 29 34.4	-1.4
ILAR	Eielson Array	35.29	44	P	P	14 29 47.2	-0.3
	comp=Z,2.7nm,0.8s,mb4.2,baz=285,slow=9.2,SNR=30						
SML	Sawmill	35.61	50	eP	P	14 29 49.9	-0.4
WMQ	Urumqi	36.73	277⇑	iP	P	14 30 01.3	+1.3
WMQ				AP	pP	14 30 08.5	+5.5
WMQ				XP	sP	14 30 12.0	+7.8
WMQ				PP	PP	14 31 30.0	+4.9
WMQ				eS	S	14 35 43.0	0.0
WMQ				XS		14 35 55.0	
WMQ				SS	SS	14 38 11.0	+1.0
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,95nm,3.7s						
WMQ				LR	LR		
	comp=N,600nm,18.6s,MS4.5						
WMQ				LR	LR		
	comp=E,349nm,19.6s,MS4.5						
WMQ				LR	LR		
	comp=Z,176nm,19.4s,MS3.9						
KURK	Kurchatov	38.07	292	eP	P	14 30 10.4	-0.8
	comp=Z,7.5nm,1.2s,mb4.3						
KURK	Kurchatov	38.07	292	eP	P	14 30 10.4	-0.8
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
MKAR	Makanchi Array	38.14	284	P	P	14 30 11.7	0.0
	comp=Z,7.3nm,0.8s,mb4.5,baz=56,slow=8.7,SNR=61						
GYA	Guiyang	38.41	238	P	P	14 30 14.7	+0.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
DAWY	Dawson	38.59	44	eP	P	14 30 15.0	-0.4
INK	Inuvik	39.14	36	P	P	14 30 20.4	+0.4
	comp=Z,4.4nm,0.8s,mb4.2,baz=290,slow=8.7,SNR=6.3						
INK	Inuvik	39.14	36	eP	P	14 30 20.1	+0.2
	comp=Z,8.6nm,1.1s,mb4.4						
INK	Inuvik	39.14	36	eP	P	14 30 20.2	+0.2
INK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
AAK	Ala-Archa	45.07	284	eP	P	14 31 08.3	-0.3
	comp=Z,8.4nm,0.9s,mb4.6						
AAK	Ala-Archa	45.07	284	eP	P	14 31 08.3	-0.3
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
ARU	Arti	45.12	309⇓	iP	P	14 31 09.3	+0.5
ARU				e		14 32 53.1	
ARU				eS	S	14 37 49.4	+2.0
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
JOF	Joensuu	51.60	327	ep	P	14 31 58.6	-0.4
	comp=Z,6.8nm,0.7s,mb4.7						
KAF	Kangasniemi	53.77	329	ep	P	14 32 15.6	+0.5
	comp=Z,2.1nm,0.6s,mb4.2						
KAF	Kangasniemi	53.77	329	eP	P	14 32 15.6	+0.5
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FINES	FINESS Array B	54.35	328	P	P	14 32 18.6	-0.8
	comp=Z,3.3nm,0.7s,mb4.4,baz=56,slow=6.9,SNR=14						
FINES				LR	LR	14 58 40.8	
	comp=Z,50nm,19.1s,MS3.6,baz=128,slow=40						
OBN	Obninsk	55.39	318	eP	P	14 32 27.4	+0.3
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
EDM	Edmonton	55.77	45	eP	P	14 32 28.3	-1.7
VSU	Vasula	56.44	325	eP	P	14 32 36.1	+1.5
NEW	Newport	57.74	51	eP	P	14 32 43.5	-0.5
NB2	NORSAR Subarra	58.85	335	P	P	14 32 49.5	-2.1
	comp=Z,3.2nm,0.8s,mb4.4,baz=31,slow=7.0						
NB2	NORSAR Subarra	58.85	335	P	P	14 32 49.5	-2.1
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
NOA	NORSAR Array B	58.85	335	P	P	14 32 50.9	-0.7
	comp=Z,2.4nm,0.7s,mb4.3,baz=32,slow=6.9,SNR=7.0						
NOA				LR	LR	15 02 13.9	
	comp=Z,48nm,19.7s,MS3.6,baz=325,slow=40						
WVOR	Wild Horse Val	61.34	57	eP	P	14 33 08.9	+0.1
	comp=Z,4.8nm,1.0s,mb4.6						
WVOR	Wild Horse Val	61.34	57	eP	P	14 33 08.9	0.0
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
AKASG	Malin Array Be	61.63	319	P	P	14 33 08.8	-2.0
	comp=Z,1.3nm,0.5s,mb4.3,baz=34,slow=6.9,SNR=10						
AKASG	Malin Array Be	61.63	319	P	P	14 33 08.8	-2.0
DLMT	Dillon	61.97	51	eP	P	14 33 13.4	+0.2
BOZ	Bozeman (W)	62.19	50	eP	P	14 33 14.8	+0.2
	comp=Z,3.6nm,0.9s,mb4.5						
BOZ	Bozeman (W)	62.19	50	eP	P	14 33 14.8	+0.2
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
HLID	Hailey	62.51	53	eP	P	14 33 17.3	+0.5
	comp=Z,15nm,1.6s,mb4.9						
FLWY	Flagg Ranch	63.82	50	eP	P	14 33 26.4	+1.2
RRI2	Red Ridge	64.11	51	eP	P	14 33 27.6	+0.4
	comp=Z,6.6nm,0.9s,mb4.7						
NVAR	Mina Array Bea	64.53	59	P	P	14 33 30.4	+0.3
	comp=Z,1.6nm,0.7s,mb4.1,baz=307,slow=4.5,SNR=11						
BW06	Boulder Array	65.36	51	P	P	14 33 35.2	-0.1
	comp=Z,8.5nm,1.5s,mb4.5						
PDAR	Pinedale Array	65.36	51	P	P	14 33 35.5	+0.2
	comp=Z,1.4nm,0.9s,mb4.0,baz=342,slow=4.7,SNR=7.8						
OJC	Ojcow	65.50	324	eP	P	14 33 35.9	-0.1
NIE	Niedzica	65.99	323	eP	P	14 33 39.9	+0.7
UPC	Upice	66.53	326	eP	P	14 33 59.4	+17
DPC	Dobruska-Polom	66.56	326	eP	P	14 33 43.4	+0.6
DPC				epP	pP	14 33 50.9	+4.9
CLL	Collm	66.79	328	P	P	14 33 45.0	+0.7
CLL				e*PP	pP	14 33 51.0	+3.6
CLL	Collm	66.79	328	eP	P	14 33 45.0	+0.7
CLL				e*PP	pP	14 33 51.0	+3.6
MSU	Marysvale	67.49	55	eP	P	14 33 51.6	+2.6
BRTR	Keskin Array B	68.51	308	P	P	14 33 55.1	-0.1
	comp=Z,1.4nm,0.8s,mb3.9,baz=45,slow=3.5,SNR=5.2						
KHC	Kasperske Hory	68.51	327	eP	P	14 33 55.8	+0.7
KHC				epP	pP	14 33 57.5	-0.8
KHC				ex	x	14 34 03.2	
KHC				ex	x	14 34 09.3	
GERES	GERESS Array B	68.72	327	P	P	14 33 57.1	+0.7
	comp=Z,0.9nm,0.7s,mb3.8,slow=4.0,SNR=5.6						
SDCO	Great Sand Dun	71.24	51	eP	P	14 34 11.8	-0.2
	comp=Z,0.6nm,0.5s,mb3.8						
WRA	Warramunga Arr	74.22	188	P	P	14 34 29.4	-0.4
	comp=Z,1.9nm,0.9s,mb4.0,baz=9.2,slow=6.7,SNR=11						
MNTX	Cornudas Mount	76.26	55	eP	P	14 34 42.0	+0.8
	comp=Z,1.2nm,0.8s,mb3.9						
TXAR	Lajitas Array	79.04	55	P	P	14 34 58.8	+2.1
	comp=Z,0.2nm,0.4s,mb3.4,baz=297,slow=2.8,SNR=4.0						
ESDC	Sonseca Array	82.21	335	P	P	14 35 13.5	+0.3
	comp=Z,0.4nm,0.7s,mb3.5,baz=45,slow=2.1,SNR=4.4						
CFAA	Coronel Fontan	148.35	57	PKPbc	PKPdf	14 42 38.9	+2.3
	comp=Z,0.6nm,0.8s,baz=243,slow=4.1,SNR=5.7						
CPUP	Villa Florida	148.40	36	PKPbc	PKPdf	14 42 39.4	+2.5
	comp=Z,1.2nm,0.5s,baz=330,slow=8.1,SNR=3.4						
PLCA	Paso Flores	153.99	72	PKPbc	PKPdf	14 42 52.2	+7.5
	comp=Z,0.7nm,0.7s,baz=291,slow=8.6,SNR=3.0						

IDC 11 15:08:10.1±2.5, 9.54S×116.08E, mb3.8/4, mb1 4.1/5, mb1mx3.8/15, mbtmp3.9/5, ML4.3/1, Error ellipse: s-maj=145.0km s-min=21.7km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.59	134	eP	P	15 11 09.1	-4.2
	7.0nm,0.6s						
FITZ				eS	S	15 13 19.1	-16
FITZ	Fitzroy Crossi	12.59	134	Pn	P	15 11 09.3	-4.1
	1.2nm,0.3s,baz=323,slow=5.2,SNR=19						
FITZ				Sn	S	15 13 19.2	-16
	1.3nm,0.3s,baz=185,slow=21,SNR=12						
WRA	Warramunga Arr	20.44	122	P	P	15 12 49.8	-2.1
	3.4nm,0.7s,baz=298,slow=12,SNR=24						
WRA				S	S	15 16 28.3	-8.1
	0.4nm,0.7s,baz=285,slow=23,SNR=4.6						
WB2	Warramunga Arr	20.45	122	eP	P	15 12 49.8	-2.2
STKA	Stephens Creek	32.45	137	P	P	15 14 42.1	-2.1
	2.7nm,1.0s,baz=323,slow=11,SNR=4.1						
SONM	Songino Array	57.77	352	P	P	15 18 02.7	-2.6
	0.3nm,0.5s,baz=174,slow=9.3,SNR=5.3						
MKAR	Makanchi Array	63.67	335	P	P	15 18 43.3	-2.2
	0.5nm,0.4s,baz=153,slow=8.0,SNR=8.5						

IDC 11 15:29:29.1±2.6, 35.56N×93.29E, mb3.8/6, mb1 4.1/9, mb1mx3.9/21, mbtmp3.9/9, ML3.5/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/18, Error ellipse: s-maj=52.8km s-min=34.2km az=177.0

BJI 11 15:29:33.7, 36.01N×93.27E, h19km, mb4.3, ML4.1, Ms3.7, Msz3.7

NEIC 11 15:29:35.5±1.9, 35.91N×93.13E, h26km±14km, mb4.4/12, Error ellipse: s-maj=10.2km s-min=8.1km az=116.0

MOS 11 15:29:35.3±1.3, 35.90N×92.87E, h33km, mb4.8/6, Error ellipse: s-maj=15.5km s-min=8.2km az=105.3

ISC 11 15:29:32.4±2.3, 35.98N±0.06×92.94E±0.06, h12km±15km, n46, σ1.04/49, mb4.3/14, MS4.3/1, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	6.44	56	P	Pn	15 31 08.1	-1.4
GTA				PG	Pg	15 31 28.4	-13
GTA				SG	Sg	15 32 50.0	-17
GTA				Smax			
	comp=N,25nm,1.1s						
GTA				Smax			
	comp=E,19nm,0.9s						
GTA				LR	LR		
	comp=N,272nm,8.8s						
GTA				LR	LR		
	comp=E,290nm,11.0s						
GTA				LR	LR		
	comp=Z,368nm,9.9s						
LSA	Lhasa	6.44	194	eP	Pn	15 31 08.7	-0.8
	comp=Z,6.5nm,0.6s						
LSA	Lhasa	6.44	194	eP	Pn	15 31 08.7	-0.8
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WMQ	Urumqi	8.80	334	eP	P	15 31 42.5	0.0
WMQ				S	Sn	15 33 22.7	0.0
WMQ				Smax			
	comp=N,122nm,1.4s						
WMQ				Smax			
	comp=E,63nm,1.0s						
WMQ				LR	LR		
	comp=N,272nm,3.6s						
WMQ				LR	LR		
	comp=E,354nm,4.1s						
LZH	Lanzhou	8.84	86	eP	P	15 31 42.3	-0.7
LZH				AP		15 31 48.7	
LZH				XP		15 31 51.3	
LZH				eS	Sn	15 33 25.3	+1.8
LZH				AMB	AMB		
	comp=Z,9.0nm,1.0s						
LZH				Smax			
	comp=N,57nm,0.6s						
LZH				Smax			
	comp=E,58nm,0.6s						
LZH				LR	LR		
	comp=N,289nm,7.0s						
LZH				LR	LR		
	comp=Z,326nm,8.0s						
MKAR	Makanchi Array	13.42	327	Pn	P	15 32 45.5	+0.3
	comp=Z,1.2nm,0.3s,baz=128,slow=14,SNR=54						
MKAR				Sn	S	15 35 13.1	-2.3
	baz=138,slow=19,SNR=2.3						
SONM	Songino Array	15.49	36	Pn	P	15 33 12.6	+0.4
	comp=Z,0.2nm,0.3s,baz=222,slow=13,SNR=17						
SONM				Lg		15 37 50.4	
	comp=Z,0.1nm,0.3s,baz=229,slow=29,SNR=7.1						
SONM				LR	LR	15 39 33.6	
	comp=Z,80nm,19.8s,baz=182,slow=39						
AAK	Ala-Archa	15.73	301	P	P	15 33 18.4	+3.0
	comp=Z,5.1nm,1.0s						
AAK	Ala-Archa	15.73	301	P	P	15 33 18.4	+3.0
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	Ulaanbaatar	15.82	37	eP	P	15 33 15.6	-1.0
	comp=Z,6.2nm,0.9s						
ULN	Ulaanbaatar	15.82	37	eP	P	15 33 15.6	-1.0
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAK	Zakamensk	16.23	24	eP	P	15 33 25.9	+4.2
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURK	Kurchatov	17.99	329	P	P	15 33 43.5	-0.4
	comp=Z,4.2nm,0.9s						
KURK	Kurchatov	17.99	329	P	P	15 33 43.5	-0.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZAL	Zalesovo	18.83	345	P	P	15 33 55.8	+1.5
	comp=Z,0.2nm,0.3s,baz=333,slow=12,SNR=2.6						
BVAR	Borovoye Array	23.27	324	P	P	15 34 42.8	+2.3
	comp=Z,1.5nm,0.6s,mb3.6,baz=122,slow=9.1,SNR=12						
BRVK	Borovoye	23.34	324	eP	P	15 34 44.0	+2.8
	comp=Z,2.2nm,0.7s,mb3.7						
BRVK	Borovoye	23.34	324	eP	P	15 34 44.0	+2.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
BRTR	Keskin Array B	46.23	293	P	P	15 37 60.0	+0.8
	comp=Z,0.9nm,0.8s,mb3.8,baz=90,slow=4.9,SNR=3.6						
FINES	FINESS Array B	48.23	324	P	P	15 38 15.0	+0.4
	comp=Z,0.7nm,0.5s,mb4.0,baz=79,slow=9.7,SNR=10						
NB2	NORSAR Subarra	55.40	324	P	P	15 39 07.8	-0.7
	comp=Z,1.3nm,0.7s,mb4.1,baz=77,slow=7.4						
NB2	NORSAR Subarra	55.40	324	P	P	15 39 07.8	-0.7
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
NOA	NORSAR Array B	55.40	324	P	P	15 39 07.9	-0.6
	comp=Z,1.3nm,0.6s,mb4.1,baz=78,slow=7.3,SNR=5.7						
CLL	Collm	57.02	313	P	P	15 39 19.0	-1.3
GERES	GERESS Array B	57.37	310	P	P	15 39 22.8	+0.1
	comp=Z,0.8nm,0.5s,mb4.0,baz=67,slow=7.5,SNR=12						
GERES	GERESS Array B	57.37	310	P	P	15 39 22.9	+0.1
HINF	Hinteralfeld	62.00	310	eP	P	15 39 54.3	-0.3
HAU	Haudompre	62.24	311	eP	P	15 39 55.7	-0.5
LPG	La Plagne	63.02	308	eP	P	15 40 01.9	+0.5
	comp=Z,16nm,0.9s,mb4.8						
LPG	La Plagne	63.02	308	eP	P	15 40 01.9	+0.5
LPG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
LPL	La Plagne	63.02	308	eP	P	15 40 01.9	+0.5
MBDF	Montbardon	63.33	307	eP	P	15 40 03.9	+0.5
	comp=Z,12nm,0.9s,mb4.7						
MBDF	Montbardon	63.33	307	eP	P	15 40 03.9	+0.5
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
ORIF	Oris-en-Rattie	63.82	308	eP	P	15 40 06.4	-0.2
	comp=Z,6.3nm,0.7s,mb4.5						
ORIF	Oris-en-Rattie	63.82	308	eP	P	15 40 06.4	-0.2
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
FRF	La Foret Royal	63.91	306	eP	P	15 40 06.7	-0.6
	comp=Z,17nm,1.0s,mb4.8						
FRF	La Foret Royal	63.91	306	eP	P	15 40 06.7	-0.6
FRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
LMR	La Mourre	64.10	306	eP	P	15 40 08.5	0.0
	comp=Z,21nm,1.0s,mb4.8						
LMR	La Mourre	64.10	306	eP	P	15 40 08.5	0.0
LMR				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
SMF	Signal de Mont	64.36	310	eP	P	15 40 09.6	-0.5
	comp=Z,7.5nm,0.8s,mb4.5						
SMF	Signal de Mont	64.36	310	eP	P	15 40 09.6	-0.5
SMF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LASF	Ste Croix	65.49	308	eP	P	15 40 17.6	+0.1
TCF	Toulx Ste Croi	65.53	310	eP	P	15 40 17.7	0.0
	comp=Z,75nm,1.6s,mb5.2						
TCF	Toulx Ste Croi	65.53	310	eP	P	15 40 17.7	0.0
TCF				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.2						
ILAR	Eielson Array	69.29	23	P	P	15 40 39.3	-1.7
	comp=Z,1.3nm,0.9s,mb3.9,baz=292,slow=5.0,SNR=8.4						
PDAR	Pinedale Array	98.98	17	LR	LR	16 32 43.6	
	comp=Z,93nm,18.4s,MS4.3,baz=255,slow=38						

NEIC 11 15:35:10.3±0.7, 5.59S×154.41E, h150km, mb3.9/2, Error ellipse: s-maj=15.3km s-min=11.8km az=114.0

IDC 11 15:35:11.9±4.1, 5.68S×154.43E, h167km±38km, mb3.5/8, mb1 3.7/10, mb1mx3.7/16, mbtmp4.1/10, Error ellipse: s-maj=24.1km s-min=20.5km az=67.0

ISC 11 15:35:10.9±3.3, 5.7S±0.1×154.4E±0.2, h172km±28km, n16, σ0.78/16, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.09	242	P	P	15 37 06.5	+0.2
	6.9nm,0.3s,baz=55,slow=7.6,SNR=33						
PMG	Port Moresby	8.09	242	eP	P	15 37 04.8	-1.5
CTA	Charters Tower	16.37	208	P	P	15 38 53.8	+1.3
	0.2nm,0.3s,baz=28,slow=16,SNR=5.8						
CTAO	Charters Tower	16.37	208	eP	P	15 38 54.0	+1.4
	1.4nm,0.6s						
DZM	Mont Dzumac	20.02	146	P	P	15 39 32.0	-0.3
	4.8nm,0.5s,baz=336,slow=18,SNR=16						
WRAB	Tennant Creek	24.11	232	eP	P	15 40 12.2	0.0
	8.0nm,0.7s,mb4.4						
WB2	Warramunga Arr	24.11	232	eP	P	15 40 12.9	+0.6
WRA	Warramunga Arr	24.12	232	P	P	15 40 13.0	+0.6
	4.3nm,0.7s,mb4.1,baz=55,slow=9.7,SNR=53						
STKA	Stephens Creek	28.69	203	P	P	15 40 53.1	-1.1
	5.0nm,1.0s,mb4.2,baz=25,slow=11,SNR=8.0						
STKA	Stephens Creek	28.69	203	eP	P	15 40 53.0	-1.1
FITZ	Fitzroy Crossi	30.68	244	P	P	15 41 10.5	-1.4
	5.7nm,0.7s,mb4.4,baz=38,slow=3.7,SNR=6.3						
SONM	Songino Array	67.92	327	P	P	15 45 53.6	+0.4
	0.4nm,0.6s,mb3.3,baz=144,slow=7.0,SNR=3.6						
VNDA	Vanda	71.90	178	P	P	15 46 16.6	-0.1
	0.3nm,0.6s,mb3.2,baz=324,slow=5.4,SNR=4.8						
VNDA	Vanda	71.90	178	eP	P	15 46 17.3	+0.6
	0.6nm,0.8s,mb3.4						
MKAR	Makanchi Array	82.04	319	P	P	15 47 13.7	+0.3
	0.5nm,0.8s,mb3.2,baz=108,slow=3.8,SNR=5.6						
ILAR	Eielson Array	82.37	22	P	P	15 47 14.4	-0.2
	0.5nm,0.7s,mb3.3,baz=238,slow=6.2,SNR=9.3						

PRU 11 16:01:31.8, 51.46N×16.06E

CSEM 11 16:01:31.4±0.2, 51.49N×16.04E, h2km, ML3.3/5, Error ellipse: s-maj=3.5km s-min=1.6km az=35.0

NEIC 11 16:01:33.6±1.5, 51.37N×15.86E, h5km, ML2.8(VIE), ML2.4(BRG), Error ellipse: s-maj=17.9km s-min=6.7km az=209.0

VIE 11 16:01:36.0±0.4, 51.22N×16.21E, h10km, mb1.8/3, ML2.8/3, Error ellipse: s-maj=3.0km s-min=2.6km az=81.0, Suspected Mining induced.

WAR 11 16:01:31.7, 51.51N×16.04E, h1km, ML2.8, 3C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	166	ePG	Pg	16 01 44.0	-1.4
KSP				eSG	Sg	16 01 53.0	-1.5
KSP	Ksiaz	0.69	166	ePg	Pg	16 01 44.2	-1.2
KSP				eSg	Sg	16 01 53.2	-1.3
KSP				e		16 01 57.6	
UPC	Upice	1.00	181	ePG	Pg	16 01 50.0	-1.7
DPC	Dobruska-Polom	1.17	171	ePG	Pg	16 01 53.0	-2.1
DPC				eSG	Sg	16 02 07.5	-3.3
	25nm,0.3s						
PVCC	Panska Ves	1.35	224	ePG	Pg	16 01 56.8	-1.9
BRG	Berggiesshubel	1.46	245	Pn	Pn	16 01 58.4	-0.9
BRG				Pg	Pg	16 01 58.9	-2.0
BRG				Sg	Sg	16 02 18.4	-2.0
BRG	Berggiesshubel	1.46	245	Pn	Pn	16 01 58.4	-0.9
BRG	Berggiesshubel	1.46	245	Pg	Pg	16 01 58.9	-2.0
PRU	Pruhonice	1.79	213	ePN	Pn	16 02 02.9	-1.1
PRU				ePG	Pg	16 02 04.6	-2.9
PRU				eSG	Sg	16 02 27.4	-4.0
	19nm,0.2s						
CLL	Collm	1.91	265	ePN	Pn	16 02 04.0	-1.7
CLL				i PG	Pg	16 02 07.4	-2.5
CLL				i SG	Sg	16 02 32.3	-3.0
OKC	Ostrava-Krasne	2.15	140	ePG	Pg	16 02 11.3	-3.2
OKC				eSG	Sg	16 02 37.6	-5.5
	14nm,0.4s						
VRAC	Vranov	2.23	171	ePn	Pn	16 02 09.1	-1.2
VRAC				eSg	Sg	16 02 40.8	-5.2
NKC	Novy Kostel	2.61	242	ePN	Pn	16 02 14.5	-1.2
NKC				ePG	Pg	16 02 20.9	-2.9
NKC				eSG	Sg	16 02 55.4	-3.1
	28nm,0.2s						
OJC	Ojcow	2.71	117	ePG	Pg	16 02 22.0	-3.8
OJC				eSG	Sg	16 02 57.0	-4.9
KHC	Kasperske Hory	2.85	214	ePN	Pn	16 02 17.9	-1.3
KHC				ePG	Pg	16 02 23.0	-5.7
KHC				eSN	Sn	16 02 51.0	-3.7
KHC				eSG	Sg	16 03 00.5	-6.2
	7.6nm,0.3s						
MOX	Moxa	2.92	255	i P	Pn	16 02 18.5	-1.6
MOX				Pg	Pg	16 02 26.0	-4.0
MOX				Sg	Sg	16 03 05.0	-3.9
MOX	Moxa	2.92	255	ePn	Pn	16 02 18.5	-1.6
MOX				ePg	Pg	16 02 26.4	-3.6
MOX				eSg	Sg	16 03 05.4	-3.5
MOA	Molln	3.84	198⇑	iPN	Pn	16 02 31.4	-1.8
MOA				i SG	Sg	16 03 34.9	-4.6
	7.8nm,0.6s						
MOA	Molln	3.84	198⇑	iPn	Pn	16 02 31.4	-1.8
MOA				⇑iSg	Sg	16 03 35.0	-4.5
	comp=Z,7.8nm,0.6s						
STHS	Stebnicka Huta	3.93	120	eSG	Sg	16 03 40.8	-1.7

IDC 11 16:08:56.8±1.8, 2.94S×128.22E, mb3.8/2, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, ML4.5/1, Error ellipse: s-maj=116.3km s-min=16.5km az=68.0

ISC 11 16:08:58.8±1.6, 2.6S±0.2×128.8E±0.4, h33km, n5, σ1.13/6, mb3.8/2, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.75	191	eP	P	16 12 39.7	-0.3
	9.0nm,0.6s						
WRA	Warramunga Arr	18.09	163	P	P	16 13 08.7	-0.7
	1.6nm,0.3s,baz=339,slow=11,SNR=121						
WRA				S	S	16 16 28.5	+1.4
	0.1nm,0.3s,baz=343,slow=22,SNR=4.5						
WB2	Warramunga Arr	18.10	163	eP	P	16 13 08.6	-0.9
STKA	Stephens Creek	31.54	159	P	P	16 15 20.2	-0.2
	0.9nm,0.4s,mb3.9,baz=329,slow=10,SNR=5.2						
MKAR	Makanchi Array	63.90	326	P	P	16 19 31.5	+0.8
	0.4nm,0.6s,mb3.6,baz=121,slow=7.1,SNR=3.6						

TRN 11 16:20:16.6, 16.82N×61.71W, h81km, MD3.5, Md2.6(FDF)

NEIC 11 16:20:17.3, 16.84N×61.72W, h77km, MD3.4(TRN), After TRN.

RSPR 11 16:20:20.6, 20.94N×62.88W, h41km±46km

ISC 11 16:20:16.6±0.8, 16.81N±0.05×61.73W±0.06, h96km±6km, n21, σ0.79/37, 9C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.26	332⇑	eP	P	16 20 30.9	+0.4
BPA				eS	S	16 20 39.6	-1.4
LZG	Guadaloupe-1	0.67	184⇑	eP	P	16 20 33.4	-0.2
LZG				eS	S	16 20 46.1	0.0
SCG	Saint Claude	0.78	177	eP	P	16 20 35.0	+0.3
DEG	La Desirade	0.81	128⇓	eP	P	16 20 34.6	-0.3
DEG				eS	S	16 20 48.3	-0.2
CPB	Codrington	0.83	354	eP	P	16 20 35.7	+0.6
CPB				eS	S	16 20 47.5	-1.3
NVBH	Bath Hotel, Ne	0.90	290	eP	P	16 20 36.7	+0.9

NVBH				eS	S	16 20 50.1	-0.1
NVRH	**Round Hill, Ne**	**0.91**	**294⇓**	eP	**P**	**16 20 36.5**	**+0.6**
NVRH				eS	S	16 20 49.7	-0.7
TBG	**Guadaloupe-3**	**0.96**	**175⇑**	eP	**P**	**16 20 36.6**	**+0.2**
SKI	**Saint Kitts**	**1.09**	**298**	eP	**P**	**16 20 39.0**	**+0.9**
SKI				eS	S	16 20 54.5	+0.3
SKDB	**Saint Kitts 2**	**1.18**	**299**	eP	**P**	**16 20 39.9**	**+0.6**
SKDB				eS	S	16 20 57.1	+1.1
DWS	**Wesley**	**1.30**	**162**	eP	**P**	**16 20 41.5**	**+1.0**
DWS				eS	S	16 20 58.8	+0.3
BBL	**Barber's Block**	**1.30**	**169⇑**	eP	**P**	**16 20 40.9**	**+0.2**
BBL				eS	S	16 20 58.2	-0.3
STAT	**Sint Eustatius**	**1.37**	**300**	eP	**P**	**16 20 43.0**	**+1.5**
STAT				eS	S	16 21 00.9	+1.0
STMA	**St. Maarten, A**	**1.80**	**313**	eP	**P**	**16 20 47.8**	**+1.0**
STMA				eS	S	16 21 08.9	-0.2
FDF	**Fort de France**	**2.14**	**165⇑**	eP	**P**	**16 20 51.7**	**+0.3**
FDF				eS	S	16 21 16.8	-0.4
CRM	**Caravelle**	**2.19**	**159⇓**	eP	**P**	**16 20 52.0**	**-0.2**
CRM				eS	S	16 21 17.4	-1.1
MVM	**Montagne Vaucl**	**2.39**	**160**	eP	**P**	**16 20 54.9**	**+0.1**
TBVI	**Tortola**	**3.17**	**300⇑**	eP	**P**	**16 21 04.9**	**-0.7**
TBVI				eS	S	16 21 40.2	-2.4
MTP	**Monte Pirata**	**3.87**	**290⇑**	eP	**P**	**16 21 15.3**	**+0.1**
MTP				eS	S	16 21 59.0	-0.7
SJG	**San Juan**	**4.41**	**288⇑**	eP	**P**	**16 21 22.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**5.27**	**284⇑**	eP	**P**	**16 21 32.9**	**-1.4**

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*CSEM **11** 16:24:25.2, 34.11N×26.42E, h5^{km}, MD3.5/3, After ATH*
ATH 11 16:24:25.2, 34.07N×26.33E, h22^{km}, MD3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.96**	**327**	ePN	Pn	16 24 43.5	+0.1
XRY				eSN	Sn	16 24 57.0	+0.5
NPS	**Neapolis**	**1.33**	**334**	ePN	Pn	16 24 50.0	+1.3
KARP	**Karpathos**	**1.62**	**25**	ePN	Pn	16 24 54.5	+1.6

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*NEIC **11** 16:56:51.1±0.2, 10.86S×166.31E, mb4.6/31, Error ellipse: s-maj=7.2km s-min=5.5km az=133.0*
*IDC **11** 16:56:51.7±0.8, 10.90S×166.27E, h165^{km}±7^{km}, mb4.3/18, mb1 4.4/20, mb1mx4.4/22, mbtmp4.8/20, MS3.8/1, Ms1 3.7/1, ms1mx3.0/20, Error ellipse: s-maj=12.4km s-min=9.8km az=112.0*
*BJI **11** 16:56:52.0, 10.37S×166.17E, h156^{km}, mB5.0, mb4.7*
ISC 11 16:56:51.7±1.3**, 10.93S**±0.06×**166.26E**±0.06**, h178**^{km}±12^{km}**, h163**^{km}±2.4^{km}**: pP-P, n96, σ0^{s}88**/82**, mb4.6**/51**, 1C-2D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.39**	**283**	P	**P**	**16 58 24.9**	**+0.3**
	14nm,0.3s,baz=156,slow=3.8,SNR=26						
HNR	**Honiara**	**6.39**	**283⇑**	eP	**P**	**16 58 25.1**	**+0.5**
	490nm,0.9s						
DZM	**Mont Dzumac**	**11.08**	**179**	eP	**P**	**16 59 27.1**	**+0.8**
DZM				eS	**S**	**17 01 19.1**	**-8.3**
DZM	**Mont Dzumac**	**11.08**	**179**	P	**P**	**16 59 27.2**	**+1.0**
	2.6nm,0.3s,baz=33,slow=19,SNR=55						
DZM	**Mont Dzumac**	**11.08**	**179**	eP	**P**	**16 59 27.1**	**+0.8**
DZM				eS	**S**	**17 01 19.1**	**-8.3**
CTA	**Charters Tower**	**21.30**	**242⇓**	iP	**P**	**17 01 28.1**	**+2.8**
	4.8nm,1.3s,mb3.7						
CTA	**Charters Tower**	**21.30**	**242**	P	**P**	**17 01 26.7**	**+1.5**
	3.6nm,0.7s,mb3.8,baz=67,slow=12,SNR=5.2						
CTAO	**Charters Tower**	**21.30**	**242**	eP	**P**	**17 01 26.9**	**+1.6**
	8.8nm,1.1s,mb4.0						
URZ	**Urewera**	**28.90**	**162**	P	**P**	**17 02 34.5**	**-1.7**
	5.1nm,0.3s,mb4.7,baz=254,slow=1.9,SNR=16						
STKA	**Stephens Creek**	**30.87**	**224**	eP	**P**	**17 02 54.0**	**+0.4**
	12nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**30.87**	**224**	P	**P**	**17 02 53.2**	**-0.4**
	13nm,0.7s,mb4.8,baz=34,slow=8.2,SNR=22						
STKA				PcP	PcP	17 05 45.1	-0.9
	3.5nm,1.0s,baz=272,slow=5.9,SNR=3.0						
STKA				LR	LR	17 14 25.9	
	comp=Z,161nm,18.3s,baz=216,slow=34						
WRAB	**Tennant Creek**	**31.98**	**250**	eP	**P**	**17 03 02.0**	**-1.4**
	46nm,1.1s,mb5.1						
WB2	**Warramunga Arr**	**31.98**	**250⇓**	iP	**P**	**17 03 03.0**	**-0.4**
WB2				eS	**S**	**17 08 01.5**	**+1.0**
WRA	**Warramunga Arr**	**32.00**	**250**	P	**P**	**17 03 03.2**	**-0.3**
	20nm,1.0s,mb4.8,baz=80,slow=8.9,SNR=83						
WRA				PcP	PcP	17 05 49.2	+0.2
	3.2nm,0.8s,baz=81,slow=3.3,SNR=11						
WRA				S	**S**	**17 08 01.4**	**+0.7**
	2.9nm,1.1s,baz=84,slow=14,SNR=7.0						
RPZ	**Rata Peaks**	**32.93**	**174**	P	**P**	**17 03 10.4**	**-0.9**
	16nm,0.6s,mb4.9,baz=57,slow=2.0,SNR=12						
FITZ	**Fitzroy Crossi**	**39.90**	**255**	eP	**P**	**17 04 08.5**	**-1.5**
	35nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**39.90**	**255**	P	**P**	**17 04 09.7**	**-0.3**
	52nm,0.8s,mb5.2,baz=93,slow=3.0,SNR=37						
FORT	**Forrest**	**40.52**	**235**	eP	**P**	**17 04 16.1**	**+1.1**
	24nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**49.95**	**236**	P	**P**	**17 05 29.3**	**-0.2**
	23nm,0.7s,mb4.9,baz=70,slow=8.6,SNR=14						
MJAR	**Matsushiro Arr**	**54.10**	**332**	P	**P**	**17 05 58.1**	**-2.3**
	5.5nm,1.0s,mb4.2,baz=148,slow=6.7,SNR=17						
MJAR				PcP	PcP	17 07 02.4	-0.4
	0.2nm,0.4s,baz=136,slow=4.1,SNR=4.4						
MAJO	**Matsushiro**	**54.10**	**332**	eP	**P**	**17 05 59.0**	**-1.4**
	3.6nm,0.9s,mb4.1						
MAT	**Matsushiro**	**54.10**	**332**	P	**P**	**17 05 58.2**	**-2.2**
MAT	**Matsushiro**	**54.10**	**332**	eP	**P**	**17 05 58.0**	**-2.4**
JNU	**Nakatsue**	**55.28**	**324**	P	**P**	**17 06 08.6**	**-0.4**
	9.4nm,0.7s,mb4.6,baz=80,slow=8.2,SNR=8.6						
MDJ	**Mudanjiang**	**64.48**	**332**	P	**P**	**17 07 11.5**	**0.0**
MDJ				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,90nm,4.3s						
CN2	**Changchun**	**65.90**	**329**	eP	**P**	**17 07 22.0**	**+1.4**
VNDA	**Vanda**	**66.62**	**181**	P	**P**	**17 07 24.1**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.1,baz=351,slow=7.8,SNR=17						
VNDA	**Vanda**	**66.62**	**181**	eP	**P**	**17 07 24.0**	**-0.6**
	comp=Z,11nm,1.4s,mb4.5						
SBA	**Scott Base**	**66.91**	**180**	eP	**P**	**17 07 26.4**	**-0.1**
	comp=Z,4.2nm,0.8s,mb4.3						
ENH	**Enshi**	**68.22**	**309**	eP	**P**	**17 07 34.3**	**-1.1**
	comp=Z,20nm,1.4s,mb4.7						
GYA	**Guiyang**	**68.77**	**304**	P	**P**	**17 07 38.3**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
XAN	**Xi'an**	**70.42**	**312**	P	**P**	**17 07 48.5**	**-0.1**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.7						
KMI	**Kunming**	**71.49**	**301**	P	**P**	**17 07 56.3**	**+1.1**
KMI				AMB	AMB		
	comp=Z,15nm,1.6s,mb4.5						
KMI				AMB	AMB		
	comp=Z,86nm,4.4s						
KMI				LR	LR		
	comp=Z,42nm,32.3s						
HHC	**Hu-ho-hao-te**	**72.07**	**319**	eP	**P**	**17 07 58.0**	**-0.4**
HHC				PCP	PcP	17 08 16.1	+0.1
HHC				AP	pP	17 08 36.7	-4.6
HHC				XP	sP	17 08 54.3	-6.1
HHC				PP	PP	17 10 41.1	-0.7
HHC				S	S	17 17 04.1	0.0
HHC				SKS	SKS	17 17 40.8	+0.1
HHC				SCS	ScS	17 17 43.7	0.0
HHC				PS	PS	17 17 57.3	-4.8
HHC				SS	SS	17 21 44.7	-2.3
HHC				AMB	AMB		
	comp=Z,24nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,121nm,3.9s						
HHC				LR	LR		
	comp=N,146nm,16.6s						
HHC				LR	LR		
	comp=E,399nm,15.5s						
HHC				LR	LR		
	comp=Z,86nm,11.9s						
CD2	**Chengdu**	**72.93**	**307**	P	**P**	**17 08 04.4**	**+0.7**
LZH	**Lanzhou**	**75.05**	**312**	eP	**P**	**17 08 17.4**	**+1.6**
LZH				PCP	PcP	17 08 31.5	+2.7
LZH				PP	PP	17 11 09.0	+1.2
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.7						
YAK	**Yakutsk**	**78.13**	**343**	eP	**P**	**17 08 30.7**	**-1.6**
	comp=Z,27nm,1.0s,mb4.8						
SONM	**Songino Array**	**78.87**	**324**	P	**P**	**17 08 36.8**	**+0.2**
	comp=Z,5.4nm,1.0s,mb4.1,baz=135,slow=5.2,SNR=27						
GTA	**Gaotai**	**79.34**	**314**	eP	**P**	**17 08 40.6**	**+1.3**
GTA				PCP	PcP	17 08 49.7	+2.5
GTA				AP	pP	17 09 23.2	+0.2
GTA				PP	PP	17 11 44.3	+1.3
GTA				S	S	17 18 22.4	-1.0
GTA				SS	SS	17 23 36.9	-0.4
GTA				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,82nm,8.4s						
GTA				LR	LR		
	comp=N,75nm,16.0s						
GTA				LR	LR		
	comp=E,102nm,17.1s						
GTA				LR	LR		
	comp=Z,64nm,15.2s						
SML	**Sawmill**	**80.70**	**20**	eP	**P**	**17 08 44.8**	**-1.3**
DIV	**Divide**	**81.11**	**21**	eP	**P**	**17 08 47.7**	**-0.6**
	comp=Z,57nm,1.0s,mb5.2						
MCK	**McKinley**	**81.87**	**18**	eP	**P**	**17 08 50.7**	**-1.4**
	comp=Z,12nm,1.1s,mb4.5						
LSA	**Lhasa**	**82.72**	**302**	eP	**P**	**17 08 57.5**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**83.24**	**18**	P	**P**	**17 08 58.7**	**-0.5**
	comp=Z,4.9nm,0.7s,mb4.3,baz=247,slow=5.1,SNR=61						
ILAR				pP	pP	17 09 39.2	-4.1
	comp=Z,2.0nm,0.9s,baz=227,slow=5.9,SNR=2.9						
YBH	**Yreka Blue Hor**	**83.45**	**45**	P	**P**	**17 09 01.5**	**+0.8**
	comp=Z,8.8nm,0.9s,mb4.5,baz=211,slow=2.2,SNR=16						
YBH	**Yreka Blue Hor**	**83.45**	**45**	eP	**P**	**17 09 01.8**	**+1.1**
	comp=Z,12nm,1.0s,mb4.6						
OHCM	**Honcut**	**83.50**	**48**	eP	**P**	**17 09 00.9**	**-0.1**
HUMO	**Hull Mountain**	**83.59**	**45**	eP	**P**	**17 09 02.0**	**+0.5**
	comp=Z,9.2nm,1.0s,mb4.5						
CMB	**Columbia Colle**	**83.88**	**50**	eP	**P**	**17 09 02.4**	**-0.5**
	comp=Z,7.1nm,0.9s,mb4.4						
BEKR	**Beckwourth**	**84.50**	**48**	eP	**P**	**17 09 06.3**	**+0.3**
	comp=Z,8.9nm,1.0s,mb4.5						
MAW	**Mawson**	**85.02**	**202**	P	**P**	**17 09 09.0**	**+1.1**
	comp=Z,8.4nm,0.9s,mb4.5,baz=104,slow=3.9,SNR=7.6						
MTUM	**Tungsten Hills**	**85.04**	**51**	eP	**P**	**17 09 09.6**	**+0.9**
DAWY	**Dawson**	**85.27**	**21**	eP	**P**	**17 09 09.5**	**+0.3**
DAC	**Darwin (Calif)**	**85.47**	**52**	eP	**P**	**17 09 11.5**	**+0.6**
	comp=Z,11nm,1.3s,mb4.4						
WVOR	**Wild Horse Val**	**86.54**	**46**	eP	**P**	**17 09 16.6**	**+0.6**
	comp=Z,12nm,1.2s,mb4.6						
GLA	**Glamis**	**86.77**	**56**	eP	**P**	**17 09 17.9**	**+0.6**
PKI	**Pulchoki**	**87.02**	**299**	eP	**P**	**17 09 19.0**	**+0.4**
	comp=Z,42nm,1.0s,mb5.2						
KKN	**Kakani**	**87.19**	**299**	eP	**P**	**17 09 19.0**	**-0.4**
	comp=Z,23nm,0.9s,mb5.0						
DMN	**Daman**	**87.29**	**299**	eP	**P**	**17 09 20.5**	**+0.6**
	comp=Z,42nm,0.9s,mb5.3						
GKN	**Gorkha**	**87.79**	**299**	eP	**P**	**17 09 22.3**	**0.0**
	comp=Z,47nm,1.0s,mb5.3						
ELK	**Elko**	**88.49**	**48**	eP	**P**	**17 09 24.1**	**-1.1**
	comp=Z,7.9nm,1.3s,mb4.4						
KOLN	**Koldanda**	**88.63**	**298**	eP	**P**	**17 09 26.0**	**-0.2**
	comp=Z,17nm,0.8s,mb5.0						
ARUT	**Antelope Range**	**89.07**	**51**	eP	**P**	**17 09 29.3**	**+1.3**
WMQ	**Urumqi**	**89.37**	**315**	eP	**P**	**17 09 29.5**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
HLID	**Hailey**	**89.83**	**46**	eP	**P**	**17 09 32.1**	**+0.6**
	comp=Z,4.5nm,1.0s,mb4.3						
DUG	**Dugway**	**90.14**	**49**	eP	**P**	**17 09 32.7**	**-0.3**
	comp=Z,16nm,1.5s,mb4.7						
HWUT	**Hardware Ranch**	**91.39**	**48**	eP	**P**	**17 09 39.2**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.2						
DLMT	**Dillon**	**91.55**	**44**	eP	**P**	**17 09 40.2**	**+0.8**
BOZ	**Bozeman (W)**	**92.27**	**44**	eP	**P**	**17 09 43.6**	**+0.8**
	comp=Z,2.0nm,1.0s,mb4.1						
BW06	**Boulder Array**	**93.10**	**47**	eP	**P**	**17 09 46.4**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**93.10**	**47**	P	**P**	**17 09 47.5**	**+0.8**
	comp=Z,2.2nm,1.0s,mb4.3,baz=221,slow=2.6,SNR=12						
PDAR				pP	pP	17 10 28.2	-3.2
	comp=Z,1.3nm,1.1s,baz=288,slow=4.7,SNR=3.1						
ZAL	**Zalesovo**	**93.77**	**324**	P	**P**	**17 09 49.7**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.4,slow=5.7,SNR=16						
ZAL	**Zalesovo**	**93.77**	**324**	P	**P**	**17 09 49.7**	**+0.3**
MKAR	**Makanchi Array**	**93.78**	**317**	P	**P**	**17 09 50.1**	**+0.5**
	comp=Z,7.7nm,0.8s,mb4.9,baz=90,slow=6.1,SNR=66						
MKAR				pP	pP	17 10 30.8	-3.5
	comp=Z,0.6nm,0.8s,baz=104,slow=5.6,SNR=1.3						
MKAR				PKKPbc		17 26 52.4	
	comp=Z,0.9nm,0.6s,baz=270,slow=2.4,SNR=9.8						
TXAR	**Lajitas Array**	**95.33**	**61**	P	**P**	**17 09 57.5**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.8,baz=220,slow=9.8,SNR=5.3						
VNA3	**Neumayer Olymp**	**97.97**	**181**		**P**	**17 10 07.6**	**-0.5**
VNA2	**Neumayer--Watz**	**98.22**	**182**		**P**	**17 10 08.9**	**-0.4**
VNA1	**Neumayer--Stat**	**98.53**	**182**		**P**	**17 10 09.2**	**-1.5**
ARCES	**ARCESS Array B**	**116.35**	**346**	PKP	PKPdf	17 15 13.9	+0.3
	comp=Z,5.2nm,0.7s,baz=76,slow=1.0,SNR=13						
JOF	**Joensuu**	**119.01**	**338**	epkp	PKPdf	17 15 19.2	+0.3
LPAZ	**La Paz**	**119.78**	**116**	PKP	PKPdf	17 15 23.5	+2.1
	comp=Z,0.5nm,0.8s,baz=270,slow=2.0,SNR=4.3						
LPAZ	**La Paz**	**119.78**	**116**	PKP	PKPdf	17 15 23.5	+2.1
KAF	**Kangasniemi**	**121.31**	**339**	epkp	PKPdf	17 15 23.7	+0.3
FINES	**FINESS Array B**	**121.85**	**339**	PKP	PKPdf	17 15 23.9	-0.5
	comp=Z,3.0nm,0.9s,baz=45,slow=2.7,SNR=7.6						
NB2	**NORSAR Subarra**	**126.72**	**345**	PKPdf	PKPdf	17 15 34.0	+0.3
	comp=Z,2.4nm,0.9s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**126.72**	**345**	PKP	PKPdf	17 15 34.9	+1.2
	comp=Z,2.1nm,0.8s,baz=34,slow=1.9,SNR=5.6						
NOA	**NORSAR Array B**	**126.72**	**345**	PKP	PKPdf	17 15 34.9	+1.2
GERES	**GERESS Array B**	**135.82**	**334**	PKP	PKPdf	17 15 52.3	+1.0
	comp=Z,1.2nm,0.8s,SNR=8.9						
SSF	**Saint Saulge**	**141.14**	**341**	ePKP1	PKPdf	17 16 01.0	0.0
ORIF	**Oris-en-Rattie**	**142.17**	**337**	ePKP1	PKPdf	17 16 00.5	-2.3
	comp=Z,11nm,0.8s						
FRF	**La Foret Royal**	**142.99**	**335**	ePKP1	PKPdf	17 16 02.0	-2.3
	comp=Z,28nm,1.1s						
SMRF	**Simiane la Rot**	**143.08**	**337**	ePKP1	PKPbc	17 16 05.0	+2.4
	comp=Z,18nm,1.0s						
LMR	**La Mourre**	**143.24**	**335**	ePKP1	PKPbc	17 16 02.9	-0.2
	comp=Z,21nm,1.0s						
LASF	**Ste Croix**	**143.64**	**338**	ePKP1	PKPbc	17 16 04.9	+0.6
	comp=Z,24nm,1.1s						
MTLF	**Montolieu**	**144.86**	**340**	ePKP1	PKPbc	17 16 09.0	+1.2
	comp=Z,48nm,1.1s						
ESDC	**Sonseca Array**	**150.08**	**345**	PKPbc	PKPdf	17 16 23.4	+7.2
	comp=Z,2.8nm,0.8s,baz=14,slow=2.6,SNR=11						
ESDC				PKPab	PKPab	17 16 29.9	-0.3
	comp=Z,2.9nm,0.7s,baz=12,slow=3.7,SNR=11						

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*NEIC **11** 17:04:39.2±1.3, 20.38S×178.09W, h496^{km}±15^{km}, mb3.8/1, Error ellipse: s-maj=26.9km s-min=11.8km az=146.0*
*IDC **11** 17:04:40.4±2.4, 20.42S×178.10W, h508^{km}±28^{km}, mb3.1/7, mb1 3.4/9, mb1mx3.2/17, mbtmp4.0/9, Error ellipse: s-maj=35.6km s-min=15.7km az=151.0*
ISC 11 17:04:38.6±1.3**, 20.3S**±0.2×**178.2W**±0.2**, h494**^{km}±17^{km}**, n16, σ0^{s}71**/14**, mb3.5**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.85**	**45**	P	**P**	**17 06 45.7**	**+0.6**
	2.0nm,0.3s,baz=258,slow=19,SNR=4.7						
AFI				S	**S**	**17 08 25.5**	**+0.1**
	1.4nm,0.3s,baz=29,slow=19,SNR=2.6						
AFI	**Afiamalu**	**8.85**	**45**	P	**P**	**17 06 44.0**	**-1.0**
AFI				S	**S**	**17 08 25.5**	**+0.1**
URZ	**Urewera**	**18.32**	**192**	P	**P**	**17 08 21.9**	**-0.3**
	1.0nm,0.3s,baz=287,slow=2.9,SNR=7.7						
CTA	**Charters Tower**	**33.33**	**264**	P	**P**	**17 10 37.5**	**+1.4**
	0.7nm,0.4s,mb3.4,baz=73,slow=17,SNR=2.9						
WRAB	**Tennant Creek**	**44.44**	**262**	eP	**P**	**17 12 06.1**	**-0.4**
WRA	**Warramunga Arr**	**44.45**	**262**	P	**P**	**17 12 06.2**	**-0.3**
	0.7nm,0.3s,mb3.6,baz=96,slow=7.5,SNR=45						
FITZ	**Fitzroy Crossi**	**52.88**	**262**	P	**P**	**17 13 09.4**	**-0.3**
	1.8nm,0.7s,mb3.5,baz=117,slow=4.5,SNR=4.1						
NVAR	**Mina Array Bea**	**81.03**	**43**	P	**P**	**17 16 03.0**	**+0.7**
	0.6nm,0.7s,mb3.2,baz=229,slow=12,SNR=5.3						
TXAR	**Lajitas Array**	**87.11**	**57**	P	**P**	**17 16 33.4**	**+0.8**
	0.5nm,0.7s,mb3.3,baz=217,slow=6.3,SNR=5.7						
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**17 16 35.4**	**-1.4**
	0.4nm,0.4s,mb3.5,baz=214,slow=6.0,SNR=8.2						
BW06	**Boulder Array**	**88.96**	**43**	eP	**P**	**17 16 40.9**	**0.0**
	0.8nm,0.5s,mb3.8						
PDAR	**Pinedale Array**	**88.96**	**43**	P	**P**	**17 16 40.9**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=243,slow=3.3,SNR=6.0						
AKASG	**Malin Array Be**	**142.78**	**331**	PKhKP		17 23 11.1	
	1.2nm,0.5s,baz=42,slow=4.1,SNR=9.2						
BRTR	**Keskin Array B**	**146.60**	**312**	PKPbc	PKPbc	17 23 24.2	+0.7
	0.7nm,0.7s,baz=101,slow=6.3,SNR=3.7						
CLL	**Collm**	**147.86**	**347**	ePKP1	PKPdf	17 23 28.0	+4.8
GERES	**GERESS Array B**	**150.00**	**344**	PKPbc	PKPdf	17 23 32.7	+6.1
	0.5nm,0.7s,baz=45,slow=1.9,SNR=5.9						

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*IDC **11** 17:27:09.9±1.7, 6.48S×148.28E, mb3.7/3, mb1 3.9/5, mb1mx3.7/12, mbtmp3.7/5, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/17, Error ellipse: s-maj=45.8km s-min=24.8km az=94.0*
*NEIC **11** 17:27:11.3±1.3, 6.58S×148.37E, h10^{km}, mb3.8/1, Error ellipse: s-maj=26.4km s-min=16.0km az=89.0*
ISC 11 17:27:09.6±1.5**, 6.6S**±0.1×**148.4E**±0.2**, h10**^{km}**, n14, σ0^{s}83**/15**, mb4.2**/5**, 1C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.04**	**203**	Pn	**Pn**	**17 27 58.9**	**+0.2**
	3.5nm,0.3s,baz=16,slow=4.5,SNR=17						
PMG				Sn	**Sn**	**17 28 40.8**	**+5.3**
	30nm,0.3s,baz=76,slow=4.5,SNR=7.0						
PMG	**Port Moresby**	**3.04**	**203**	eP	**Pn**	**17 27 59.4**	**+0.6**
PMG				Sn	**Sn**	**17 28 40.8**	**+5.3**
HNR	**Honiara**	**11.82**	**105**	LR	LR	17 33 39.9	
	comp=Z,72nm,18.4s,baz=6.8,slow=33						
CTAO	**Charters Tower**	**13.57**	**188**	P	**P**	**17 30 23.3**	**-1.6**
WRAB	**Tennant Creek**	**19.00**	**224**	eP	**P**	**17 31 33.8**	**-0.2**
	3.4nm,0.5s						
WB2	**Warramunga Arr**	**19.00**	**224⇓**	iP	**P**	**17 31 34.5**	**+0.4**
WRA	**Warramunga Arr**	**19.01**	**224**	P	**P**	**17 31 33.3**	**-0.9**
	0.5nm,0.3s,baz=50,slow=11,SNR=20						
FITZ	**Fitzroy Crossi**	**24.93**	**241⇑**	iP	**P**	**17 32 35.3**	**+0.6**
	13nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.93**	**241**	P	**P**	**17 32 35.4**	**+0.7**
	22nm,0.5s,mb4.9,baz=51,slow=5.3,SNR=44						
STKA	**Stephens Creek**	**25.94**	**193**	P	**P**	**17 32 45.4**	**+1.4**
	2.2nm,0.7s,mb3.8,baz=26,slow=9.9,SNR=5.1						
STKA	**Stephens Creek**	**25.94**	**193**	eP	**P**	**17 32 45.2**	**+1.2**
KLBR	**Kellerberrin**	**37.90**	**225**	eP	**P**	**17 34 28.6**	**-0.2**
	152nm,2.0s,mb5.4						
VNDA	**Vanda**	**71.25**	**177**	P	**P**	**17 38 31.0**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=318,slow=7.8,SNR=4.8						
MKAR	**Makanchi Array**	**78.81**	**320**	P	**P**	**17 39 13.9**	**-0.4**
	0.2nm,0.5s,mb3.3,baz=98,slow=8.4,SNR=3.7						

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*BJI **11** 18:31:29.3, 35.97S×73.34W, h35^{km}, mB5.2, Ms4.9, Msz4.8*
*MOS **11** 18:31:29.1±0.9, 36.74S×73.51W, h33^{km}, mb5.4/11, Error ellipse: s-maj=17.7km s-min=9.4km az=85.5*
*GUC **11** 18:31:30.4±0.9, 36.63S×73.58W, h50^{km}±6^{km}, ML4.7*
*NEIC **11** 18:31:30.5±0.2, 36.70S×73.55W, h35^{km}, mb5.0/27, ML4.7(GUC), Error ellipse: s-maj=4.7km s-min=3.1km az=111.0*
NEIC Felt [III] at Cauquenes, Chanco, Curanipe and Peyuhue.
*HRVD **11** 18:31:30.5±0.4, 36.66S×73.68W, h29^{km}±1^{km}, MW5.0/39, Centroid moment Tensor Solution. LP body waves: s21,c26; Mantle waves: s39,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.53±.20; $M_{\theta\theta}$-2.43±.16; $M_{\phi\phi}$-0.10±.18; $M_{r\theta}$-1.75±.18; $M_{\theta\phi}$-0.88±.14; $M_{\phi r}$-1.03±.22; Best double couple: $M_0$3.323×10^{16} NP1:ϕ_s80°, δ27°, λ104°. NP2:ϕ_s244°, δ64°, λ83°. Principal axes: T 3.249, Plg70°, Azm139°; N .147, Plg6°, Azm247°; P -3.397, Plg19°, Azm339°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **11** 18:31:31.2±3.0, 36.71S×73.48W, h39^{km}±24^{km}, mb4.5/11, mb1 4.6/16, mb1mx4.5/20, mbtmp4.6/16, ML4.3/4, MS4.2/12, Ms1 4.2/12, ms1mx4.1/22 Error ellipse: s-maj=23.9km s-min=13.0km az=92.0*
ISC 11 18:31:28.7±1.3**, 36.69S**±0.03×**73.52W**±0.06**, h32**^{km}±9^{km}**, n174, σ1^{s}04**/127**, mb4.9**/34**, MS4.2**/10**, 24C-10D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.17**	**86⇑**	iP	**Pn**	**18 31 51.0**	**+1.9**
CCHI				i S	**Sn**	**18 32 06.9**	**+3.0**
CCHI				AMP		18 32 15.4	
	comp=E,27μm,0.6s						
CCHI				AMP		18 32 24.8	
	comp=E,16μm,0.7s						
CNCO	**Chanco**	**1.24**	**40⇑**	iP	**Pn**	**18 31 51.6**	**+1.4**
CNCO				i S	**Sn**	**18 32 07.8**	**+1.9**
CNCO				AMP		18 32 20.9	
	comp=E,16μm,0.3s						
CTCH	**Constitucion**	**1.63**	**34**	AMP		18 32 38.7	
	comp=E,46μm,0.9s						
SFDO	**San Fernando**	**2.91**	**45⇓**	iP	**Pn**	**18 32 15.0**	**+1.1**
LNV	**Longovilo**	**3.23**	**33⇓**	iP	**Pn**	**18 32 18.5**	**0.0**
CICH	**Cipreses**	**3.46**	**48⇑**	iP	**Pn**	**18 32 23.1**	**+1.3**
CACH	**El Canelo**	**3.50**	**44⇑**	iP	**Pn**	**18 32 23.3**	**+0.9**
LCCH	**Las Cruces**	**3.58**	**27**	eP	**Pn**	**18 32 22.8**	**-0.7**
CHCH	**Chadas Angostu**	**3.61**	**41⇓**	iP	**Pn**	**18 32 24.8**	**+0.8**
TACH	**Talagante**	**3.69**	**36⇑**	iP	**Pn**	**18 32 25.4**	**+0.3**
RCDM	**Rinconada Maip**	**3.89**	**36**	eP	**Pn**	**18 32 27.6**	**-0.3**
ANTU	**Antumapu**	**3.91**	**38⇓**	iP	**Pn**	**18 32 28.6**	**+0.5**
ANTU				i S	**Sn**	**18 33 12.5**	**-1.0**
LMEL	**Las Melosas**	**3.92**	**45⇓**	iP	**Pn**	**18 32 29.7**	**+1.4**
LMEL				i S	**Sn**	**18 33 13.1**	**-0.8**
PCH	**Pirque**	**3.93**	**40⇑**	iP	**Pn**	**18 32 29.0**	**+0.6**
IHA	**Instituto Hidr**	**3.97**	**23**	i P	**Pn**	**18 32 27.9**	**-1.0**
SJCH	**San Jose de Ma**	**4.00**	**41**	eP	**Pn**	**18 32 29.6**	**+0.2**
SJCH				i S	**Sn**	**18 33 14.6**	**-1.1**
FSR	**Penalolen**	**4.04**	**38⇑**	iP	**Pn**	**18 32 30.3**	**+0.4**
DSCH	**Colegio Aleman**	**4.08**	**37⇑**	iP	**Pn**	**18 32 30.9**	**+0.3**
DSCH				i S	**Sn**	**18 33 18.0**	**+0.1**
CLCH	**Cerro Calan**	**4.10**	**38⇓**	iP	**Pn**	**18 32 31.1**	**+0.3**
CLCH				i S	**Sn**	**18 33 18.7**	**+0.5**
PEL	**Peldehue**	**4.24**	**34⇑**	iP	**Pn**	**18 32 32.8**	**0.0**
ROCH	**El Roble**	**4.24**	**30⇑**	iP	**Pn**	**18 32 32.9**	**0.0**
FCH	**Farellones**	**4.28**	**39⇓**	iP	**Pn**	**18 32 33.8**	**+0.4**
FCH				i S	**Sn**	**18 33 23.1**	**+0.3**
PLCA	**Paso Flores**	**4.66**	**151**	Pn	**Pn**	**18 32 38.5**	**-0.3**
	comp=E,4.1nm,0.3s,baz=325,slow=13,SNR=34						
PLCA	**Paso Flores**	**4.66**	**151**	eP	**Pn**	**18 32 38.3**	**-0.5**
JACH	**Jahuel**	**4.67**	**32⇑**	iP	**Pn**	**18 32 38.3**	**-0.6**
JACH				i S	**Sn**	**18 33 30.7**	**-2.0**
CHNG	**Los Chungos**	**5.08**	**20⇑**	iP	**Pn**	**18 32 42.6**	**-2.1**
CHNG				i S	**Sn**	**18 33 37.5**	**-5.4**
ILCH	**Illapel**	**5.40**	**22⇓**	iP	**Pn**	**18 32 48.2**	**-1.1**
ILCH				i S	**Sn**	**18 33 47.9**	**-3.2**
CMCH	**Combarbala**	**5.89**	**22⇑**	iP	**Pn**	**18 32 53.8**	**-2.2**
CMCH				i S	**Sn**	**18 33 58.0**	**-5.3**
ZON	**Zonda**	**6.51**	**39**	eP	**Pn**	**18 33 06.5**	**+1.5**
ZON				eS	**Sn**	**18 34 25.2**	**+6.3**
CFAA	**Coronel Fontan**	**6.70**	**42**	Pn	**Pn**	**18 33 06.5**	**-1.0**
	comp=E,1.3nm,0.3s,baz=212,slow=14,SNR=36						
CFAA				Sn	**Sn**	**18 34 21.3**	**-2.2**
	comp=E,4.0nm,0.3s,baz=87,slow=22,SNR=9.8						
CFAA				LR	LR	18 35 44.2	
	comp=E,167nm,19.6s,baz=225,slow=38						
TRQA	**Tornquist**	**9.29**	**102**	eP	**P**	**18 33 43.4**	**-0.2**
	comp=E,29nm,0.8s						
LVC	**Limon Verde**	**14.59**	**17**	Pn	**P**	**18 34 54.4**	**-0.4**
	comp=E,0.8nm,0.3s,baz=231,slow=8.3,SNR=6.0						
LVC				LR	LR	18 40 49.7	
	comp=E,1μm,19.5s,baz=206,slow=38						
LVC	**Limon Verde**	**14.59**	**17**	P	**P**	**18 34 54.0**	**-0.8**
CPUP	**Villa Florida**	**17.22**	**58**	P	**P**	**18 35 27.7**	**-0.8**
	comp=E,0.1nm,0.3s,baz=249,slow=14,SNR=5.9						
CPUP				LR	LR	18 42 05.9	
	comp=E,279nm,20.9s,baz=255,slow=37						
CPUP	**Villa Florida**	**17.22**	**58**	eP	**P**	**18 35 27.7**	**-0.8**
USHA	**Ushuaia**	**18.48**	**171**	P	**P**	**18 35 43.5**	**-0.4**
	comp=E,0.3nm,0.3s,baz=151,slow=19,SNR=2.8						
USHA				LR	LR	18 43 23.6	
	comp=E,1μm,18.3s,baz=220,slow=39						
EFI	**East Falkland**	**18.58**	**149**	eP	**P**	**18 35 43.6**	**-1.5**
LPAZ	**La Paz**	**20.88**	**15**	P	**P**	**18 36 10.8**	**+0.1**
	comp=E,12nm,0.7s,baz=166,slow=6.6,SNR=21						
LPAZ				PcP	PcP	18 40 18.4	+0.2
	comp=E,3.5nm,1.1s,baz=183,slow=5.2,SNR=4.6						
LPAZ	**La Paz**	**20.88**	**15**	eP	**P**	**18 36 12.1**	**+1.5**
	comp=E,26nm,1.1s						
SIV	**San Ignacio**	**23.39**	**31**	P	**P**	**18 36 36.8**	**+1.1**
	comp=E,9.1nm,1.0s,mb4.2,baz=222,slow=11,SNR=19						
PMSA	**Palmer Station**	**28.69**	**172**	eP	**P**	**18 37 23.3**	**-1.2**
SAML	**Samuel**	**29.17**	**21**	eP	**P**	**18 37 27.9**	**-1.5**
ROSC	**El Rosal**	**41.33**	**359**	LR	LR	18 56 23.2	
	comp=E,306nm,18.2s,MS4.2,baz=232,slow=36						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SDV	**Santo Domingo**	**45.41**	**4**	eP	**P**	**18 39 45.3**	**-1.1**
VNA3	**Neumayer Olymp**	**47.35**	**157**	⇑i	**P**	**18 40 00.6**	**-0.4**
VNA3	**Neumayer Olymp**	**47.35**	**157**	⇑i	**P**	**18 40 08.4**	**+7.4**
VNA3	**Neumayer Olymp**	**47.35**	**157**		**P**	**18 40 14.9**	**+14**
VNA3	**Neumayer Olymp**	**47.35**	**157**		**P**	**18 40 19.4**	**+18**
VNA1	**Neumayer--Stat**	**47.70**	**156**	⇑i	**P**	**18 40 03.9**	**+0.1**
VNA1	**Neumayer--Stat**	**47.70**	**156**	⇑i	**P**	**18 40 13.0**	**+9.2**
VNA1	**Neumayer--Stat**	**47.70**	**156**		**P**	**18 40 19.4**	**+16**
VNA2	**Neumayer--Watz**	**48.03**	**156**	⇑i	**P**	**18 40 06.0**	**-0.3**
VNA2	**Neumayer--Watz**	**48.03**	**156**	⇑i	**P**	**18 40 14.5**	**+8.2**
VNA2	**Neumayer--Watz**	**48.03**	**156**	⇑i	**P**	**18 40 17.9**	**+12**
SNAA	**Sanae**	**49.58**	**157**	P	**P**	**18 40 17.7**	**-0.5**
	comp=E,16nm,1.0s,mb5.0,baz=279,slow=6.2,SNR=81						
SNAA				PcP	PcP	18 41 38.4	-1.4
	comp=E,1.1nm,0.9s,baz=247,slow=5.6,SNR=5.2						
SNAA	**Sanae**	**49.58**	**157**	eP	**P**	**18 40 17.3**	**-0.9**
	comp=E,74nm,1.2s,mb5.6						
SNAA	**Sanae**	**49.58**	**157**	eP	**P**	**18 40 17.3**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,74nm,1.2s						
QSPA	**South Pole Qui**	**53.55**	**180**	⇑iP	**P**	**18 40 48.0**	**-0.1**
	comp=Z,62nm,1.0s,mb5.5						
MAIT	**Maitri**	**54.32**	**156**	eP	**P**	**18 40 53.1**	**-0.7**
NVL	**N'lazarevskaya**	**54.35**	**156**	eP	**P**	**18 40 50.3**	**-3.7**
NVL				e*PP	pP	18 41 06.2	+2.2
NVL				e		18 42 55.0	
NVL				ePPP	PPP	18 44 08.5	0.0
NVL				eS	**S**	**18 48 33.4**	**+5.2**
NVL				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
NVL				MLR	MLR		
	comp=Z,23nm,16.4s,MS3.3						
VNDA	**Vanda**	**61.23**	**192**	P	**P**	**18 41 41.9**	**-0.5**
	comp=Z,6.2nm,1.1s,mb4.6,baz=131,slow=4.8,SNR=17						
VNDA	**Vanda**	**61.23**	**192**	eP	**P**	**18 41 41.7**	**-0.7**
	comp=Z,11nm,1.3s,mb4.8						
VNDA	**Vanda**	**61.23**	**192**	eP	**P**	**18 41 41.7**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,11nm,1.3s						
SYO	**Syowa Base**	**63.82**	**158**	⇓P	**P**	**18 41 56.6**	**-2.9**
SYO	**Syowa Base**	**63.82**	**158**	⇓pP	pP	18 42 06.6	-3.1
MAW	**Mawson**	**70.95**	**164**	⇑iP	**P**	**18 42 43.6**	**-0.8**
	comp=Z,14nm,1.0s,mb4.9						
MAW	**Mawson**	**70.95**	**164**	P	**P**	**18 42 44.2**	**-0.1**
	comp=Z,18nm,1.0s,mb5.0,baz=217,slow=7.8,SNR=10						
MAW				LR	LR	19 11 36.6	
	comp=Z,282nm,21.8s,MS4.5,baz=346,slow=34						
MAW	**Mawson**	**70.95**	**164**	⇑iP	**P**	**18 42 43.6**	**-0.8**
MAW				pmax	pmax		
	comp=Z,14nm,1.0s						
LTX	**Lajitas**	**71.52**	**332**	eP	**P**	**18 42 48.2**	**-0.3**
	comp=Z,8.5nm,0.9s,mb4.7						
LTX	**Lajitas**	**71.52**	**332**	eP	**P**	**18 42 48.2**	**-0.3**
LTX				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**71.52**	**332**	P	**P**	**18 42 48.5**	**+0.1**
	comp=Z,6.9nm,0.9s,mb4.6,baz=150,slow=8.6,SNR=36						
TXAR				LR	LR	19 09 25.5	
	comp=Z,244nm,18.5s,MS4.5,baz=105,slow=32						
OXF	**Oxford**	**72.37**	**346**	eP	**P**	**18 42 51.9**	**-1.5**
	comp=Z,54nm,1.2s,mb5.3						
OXF	**Oxford**	**72.37**	**346**	eP	**P**	**18 42 51.9**	**-1.5**
OXF				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.3						
SWET	**Sewanee**	**72.46**	**349**	eP	**P**	**18 42 52.2**	**-1.8**
WVT	**Waverly**	**73.66**	**348**	eP	**P**	**18 42 59.1**	**-1.8**
	comp=Z,36nm,1.2s,mb5.2						
WVT	**Waverly**	**73.66**	**348**	eP	**P**	**18 42 59.1**	**-1.8**
WVT				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2						
MNTX	**Cornudas Mount**	**74.28**	**332**	eP	**P**	**18 43 03.3**	**-1.3**
	comp=Z,7.2nm,1.0s,mb4.6						
WMOK	**Wichita Mounta**	**74.85**	**339**	eP	**P**	**18 43 06.8**	**-1.1**
	comp=Z,4.1nm,0.9s,mb4.4						
WMOK	**Wichita Mounta**	**74.85**	**339**	eP	**P**	**18 43 06.8**	**-1.1**
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CCM	**Cathedral Cave**	**76.16**	**346**	eP	**P**	**18 43 14.4**	**-0.8**
	comp=Z,27nm,0.9s,mb5.2						
MIR	**Mirnyy**	**76.57**	**175**	eP	**P**	**18 43 16.0**	**-0.9**
MIR				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
DBIC	**Dimbokro**	**77.18**	**72**	P	**P**	**18 43 21.6**	**+0.1**
	comp=Z,23nm,0.8s,mb5.2,baz=204,slow=6.8,SNR=25						
DBIC				LR	LR	19 16 43.0	
	comp=Z,121nm,18.8s,MS4.2,baz=217,slow=35						
DBIC	**Dimbokro**	**77.18**	**72**	eP	**P**	**18 43 21.6**	**+0.1**
	comp=Z,64nm,1.4s,mb5.4						
DBIC	**Dimbokro**	**77.18**	**72**	eP	**P**	**18 43 21.6**	**+0.2**
DBIC				pmax	pmax		
	comp=Z,64nm,1.4s						
CASY	**Casey**	**77.31**	**182**	⇑iP	**P**	**18 43 21.1**	**0.0**
ANMO	**Albuquerque**	**77.59**	**333**	LR	LR	19 12 43.0	
	comp=Z,200nm,20.8s,MS4.4,baz=94,slow=32						
ANMO	**Albuquerque**	**77.59**	**333**	eP	**P**	**18 43 22.9**	**-0.3**
	comp=Z,14nm,1.0s,mb4.9						
ANMO	**Albuquerque**	**77.59**	**333**	i P	**P**	**18 43 23.9**	**+0.6**
TSUM	**Tsumeb**	**79.64**	**106**	eP	**P**	**18 43 34.9**	**+0.1**
	comp=Z,14nm,1.1s,mb4.8						
SDCO	**Great Sand Dun**	**79.75**	**335**	eP	**P**	**18 43 35.7**	**+0.7**
	comp=Z,7.0nm,1.0s,mb4.5						
RPZ	**Rata Peaks**	**80.83**	**222**	LR	LR	19 11 00.3	
	comp=Z,150nm,20.6s,MS4.3,baz=270,slow=29						
SADO	**Sadowa**	**81.24**	**356**	LR	LR	19 20 01.9	
	comp=Z,85nm,18.7s,MS4.1,baz=242,slow=36						
SMCO	**Snowmass**	**81.55**	**334**	eP	**P**	**18 43 45.8**	**+1.3**
LBTB	**Lobatse**	**82.27**	**115**	eP	**P**	**18 43 48.4**	**0.0**
	comp=Z,30nm,0.8s,mb5.3						
LBTB	**Lobatse**	**82.27**	**115**	eP	**P**	**18 43 48.4**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
SRU	**San Rafael**	**82.78**	**332**	eP	**P**	**18 43 51.5**	**+0.6**
ARUT	**Antelope Range**	**82.79**	**329**	eP	**P**	**18 43 52.5**	**+1.6**
MSU	**Marysvale**	**82.90**	**330**	eP	**P**	**18 43 52.8**	**+1.3**
MPU	**Maple Canyon**	**83.99**	**332**	eP	**P**	**18 43 58.1**	**+1.1**
DUG	**Dugway**	**84.60**	**331**	eP	**P**	**18 44 01.0**	**+1.0**
	comp=Z,19nm,1.3s,mb5.1						
DUG	**Dugway**	**84.60**	**331**	eP	**P**	**18 44 01.0**	**+1.0**
DUG				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.1						
TCUT	**Toone Canyon**	**84.86**	**332**	eP	**P**	**18 44 02.1**	**+0.8**
HWUT	**Hardware Ranch**	**85.34**	**332**	eP	**P**	**18 44 04.2**	**+0.6**
	comp=Z,26nm,1.1s,mb5.3						
NVAR	**Mina Array Bea**	**85.42**	**326**	P	**P**	**18 44 05.6**	**+1.5**
	comp=Z,3.1nm,0.8s,mb4.5,baz=143,slow=6.4,SNR=19						
BW06	**Boulder Array**	**85.63**	**334**	eP	**P**	**18 44 05.4**	**+0.3**
	comp=Z,11nm,1.2s,mb5.0						
PDAR	**Pinedale Array**	**85.63**	**334**	P	**P**	**18 44 05.2**	**+0.1**
	comp=Z,5.6nm,1.0s,mb4.7,baz=146,slow=5.3,SNR=32						
PDAR				LR	LR	19 17 43.6	
	comp=Z,202nm,20.0s,MS4.5,baz=226,slow=32						
ELK	**Elko**	**86.04**	**330**	eP	**P**	**18 44 07.9**	**+0.7**
	comp=Z,7.9nm,1.1s,mb4.9						
ELK	**Elko**	**86.04**	**330**	eP	**P**	**18 44 07.9**	**+0.7**
ELK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
REDW	**Red Top Meadow**	**86.61**	**334**	eP	**P**	**18 44 10.1**	**+0.1**
	comp=Z,7.4nm,1.0s,mb4.9						
SNOW	**Snow King Moun**	**86.66**	**334**	eP	**P**	**18 44 11.0**	**+0.8**
	comp=Z,8.6nm,0.8s,mb5.0						
TPAW	**Teton Pass**	**86.75**	**334**	eP	**P**	**18 44 10.7**	**0.0**
	comp=Z,16nm,1.0s,mb5.2						
RRI2	**Red Ridge**	**86.76**	**333**	eP	**P**	**18 44 11.4**	**+0.7**
	comp=Z,9.4nm,1.0s,mb5.0						
IMW	**Indian Meadow**	**87.10**	**334**	eP	**P**	**18 44 12.7**	**+0.4**
	comp=Z,16nm,1.1s,mb5.2						
IMW				e	pP	18 44 22.3	-0.5
FLWY	**Flagg Ranch**	**87.18**	**334**	eP	**P**	**18 44 13.4**	**+0.7**
HLID	**Hailey**	**88.10**	**332**	eP	**P**	**18 44 18.2**	**+1.1**
	comp=Z,6.2nm,1.1s,mb4.8						
ULM	**Lac du Bonnet**	**88.79**	**346**	P	**P**	**18 44 20.1**	**-0.1**
	comp=Z,6.4nm,0.8s,mb5.0,baz=166,slow=4.5,SNR=8.1						
LSZ	**Lusaka**	**90.10**	**109**	eP	**P**	**18 44 28.6**	**+1.5**
	comp=Z,45nm,1.6s,mb5.5						
NEW	**Newport**	**93.07**	**333**	LR	LR	19 24 42.6	
	comp=Z,102nm,19.3s,MS4.3,baz=93,slow=34						
MDT	**Midelt**	**94.43**	**52**	P	**P**	**18 44 47.9**	**+1.1**
	comp=Z,3.5nm,0.9s,mb4.8,baz=229,slow=5.9,SNR=5.2						
GERES	**GERESS Array B**	**114.89**	**47**	PKP	PKPdf	18 50 06.9	-4.3
	comp=Z,2.6nm,0.8s,baz=225,slow=1.9,SNR=28						
WRA	**Warramunga Arr**	**117.83**	**210**	PKP	PKPdf	18 50 12.1	-5.5
	comp=Z,1.7nm,0.9s,baz=176,slow=1.6,SNR=12						
WRA				PKKPbc		19 00 34.0	
	comp=Z,0.7nm,0.9s,baz=342,slow=4.6,SNR=4.4						
NOA	**NORSAR Array B**	**118.93**	**34**	PKP	PKPdf	18 50 13.8	-5.0
	comp=Z,0.7nm,0.8s,baz=107,slow=1.1,SNR=3.4						
MLR	**Muntele Rosu**	**121.05**	**54**	PKP	PKPdf	18 50 18.5	-4.8
	comp=Z,4.1nm,0.9s,baz=132,slow=3.1,SNR=8.7						
BR131	**Keskin Array S**	**124.17**	**63**	ePKPdf	PKPdf	18 50 25.0	-4.5
BRTR	**Keskin Array B**	**124.17**	**63**	PKP	PKPdf	18 50 25.3	-4.2
	comp=Z,2.8nm,0.8s,baz=186,slow=2.4,SNR=16						
AKASG	**Malin Array Be**	**124.88**	**49**	PKhKP		18 50 19.8	
	comp=Z,3.2nm,0.6s,baz=273,slow=2.6,SNR=4.1						
AKASG				PKP	PKPdf	18 50 25.2	-5.2
	comp=Z,4.2nm,0.7s,baz=264,slow=2.8,SNR=19						
AKASG	**Malin Array Be**	**124.88**	**49**	PKP		18 50 19.8	
AKASG				PKP	PKPdf	18 50 25.2	-5.2
FINES	**FINESS Array B**	**125.88**	**36**	PKP	PKPdf	18 50 27.1	-4.9
	comp=Z,2.8nm,1.1s,baz=180,slow=3.8,SNR=4.1						
ARCES	**ARCESS Array B**	**126.96**	**26**	PKP	PKPdf	18 50 29.3	-4.6
	comp=Z,5.8nm,1.0s,baz=36,slow=10,SNR=4.4						
MALT	**Malatya**	**127.13**	**66**	ePKPdf	PKPdf	18 50 31.1	-4.0
OBN	**Obninsk**	**130.21**	**45**	i PKIKP	PKPdf	18 50 33.3	-7.3
OBN				pmax	pmax		
	comp=Z,12nm,1.0s						
SEY	**Seymchan**	**141.71**	**328**	i PKIKP	PKPdf	18 50 57.1	-4.3
ARU	**Arti**	**142.55**	**43**	ePKPpre		18 50 54.5	
ARU	**Arti**	**142.55**	**43**	i PKIKP	PKPdf	18 50 55.3	-7.7
TIXI	**Tiksi**	**143.10**	**348**	i PKHKP		18 50 54.5	
AB31	**Akbulak array**	**144.26**	**55**	i PKIKP	PKPdf	18 51 00.1	-6.1
AB31				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSM	**Kuching**	**144.78**	**187**	ePKPdf	PKPdf	18 51 02.6	-5.6
KULM	**Kulim**	**148.30**	**169**	ePKPbc	PKPdf	18 51 12.6	-1.4
HYB	**Hyderabad**	**148.76**	**120**	i PKP	PKPdf	18 51 14.5	-0.1
	comp=Z,80nm,1.0s						
HYB	**Hyderabad**	**148.76**	**120**	ePKP2	PKPab	18 51 14.5	-4.6
BRVK	**Borovoye**	**149.98**	**45**	ePKPdf	PKPdf	18 51 12.0	-3.5
BRVK				ePKPbc	PKPdf	18 51 16.8	+1.3
BVAR	**Borovoye Array**	**150.05**	**45**	PKP	PKPdf	18 51 11.8	-3.8
	comp=Z,15nm,0.8s,SNR=43						
BVAR				PKPbc	PKPdf	18 51 17.0	+1.4
	comp=Z,15nm,0.8s,baz=304,slow=3.0,SNR=59						
VOSK	**Vostochnaya**	**150.49**	**46**	PKIKP	PKPdf	18 51 17.9	+1.6
VOSK				pmax	pmax		
	comp=Z,32nm,0.9s						
YAK	**Yakutsk**	**150.80**	**338**	ePKPdf	PKPdf	18 51 11.6	-4.9
YAK				ePKPbc	PKPdf	18 51 17.5	+1.0
KKAR	**Karatay Array**	**151.83**	**66**	i PKIKP	PKPdf	18 51 20.9	+2.3
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MJAR	**Matsushiro Arr**	**154.59**	**279**	PKP	PKPdf	18 51 17.9	-4.7
	comp=Z,0.2nm,0.3s,baz=180,slow=5.0,SNR=4.2						
MJAR				PKPbc	PKPdf	18 51 26.4	+3.8
	comp=Z,0.3nm,0.4s,baz=45,slow=1.8,SNR=4.6						
MJAR				PKPab	PKPab	18 51 43.0	+0.1
	comp=Z,3.9nm,1.1s,baz=161,slow=3.4,SNR=8.9						
AAK	**Ala-Archa**	**154.77**	**66**	P	PKPab	18 51 43.8	+0.4
	SNR=5.5						
AAK	**Ala-Archa**	**154.77**	**66**	ePKPdf	PKPdf	18 51 18.3	-4.4
AAK				ePKPbc	PKPdf	18 51 27.3	+4.6
FRU	**Bishkek**	**154.85**	**66**	ePKP2	PKPab	18 51 42.0	-1.8
FRU				pmax	pmax		
	comp=Z,40nm,1.8s						
CHMS	**Chumysh**	**154.94**	**66**	P	PKPab	18 51 43.9	-0.3
	SNR=5.3						
KZA	**Kyzart**	**155.35**	**68**	P	PKPab	18 51 46.8	+0.8
	SNR=5.2						
TKM2	**Tokmak 2**	**155.56**	**66**	P	PKPab	18 51 46.8	0.0
	SNR=5.4						
KURK	**Kurchatov**	**155.64**	**46**	ePKPdf	PKPdf	18 51 19.3	-4.3
KURK				e		18 51 29.1	
NVS	**Novosibirsk**	**155.85**	**34**	i PKIKP	PKPdf	18 51 18.7	-5.0
NVS				i		18 51 43.6	
NVS				pmax	pmax		
	comp=Z,12nm,1.1s						
NVS				pmax	pmax		
	comp=N,21nm,2.4s						
NVS				pmax	pmax		
	comp=E,30nm,2.8s						
ULHL	**Ulahol**	**156.08**	**67**	P	PKPab	18 51 49.9	+0.8
	SNR=7.7						
ZAL	**Zalesovo**	**157.13**	**34**	PKP	PKPdf	18 51 21.5	-4.0
	comp=E,4.8nm,1.0s,baz=210,slow=2.1,SNR=25						
ZAL				PKPab	PKPab	18 51 53.0	-0.2
	comp=E,5.0nm,0.9s,baz=168,slow=4.1,SNR=9.9						
ZAL	**Zalesovo**	**157.13**	**34**	PKP	PKPdf	18 51 21.5	-4.0
ZAL				PKPab	PKPab	18 51 53.0	-0.2
BOD	**Bodaibo**	**158.28**	**349**	ePKP2	PKPab	18 51 53.5	-4.5
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KOLN	**Koldanda**	**158.74**	**108**	eP	PKPab	18 51 59.8	-1.2
	comp=Z,102nm,1.1s						
MKAR	**Makanchi Array**	**159.40**	**53**	PKP	PKPdf	18 51 24.3	-4.2
	comp=Z,5.5nm,1.0s,baz=315,slow=1.7,SNR=30						
MKAR				PKPab	PKPab	18 52 02.6	-0.6
	comp=Z,6.3nm,0.8s,baz=304,slow=4.4,SNR=19						
MKAR				PP	PP	18 55 43.7	-1.7
	comp=Z,2.5nm,0.8s,baz=304,slow=4.4,SNR=10						
MKAR	**Makanchi Array**	**159.40**	**53**	PKIKP	PKPdf	18 51 24.3	-4.2
MKAR						18 55 43.7	
GKN	**Gorkha**	**159.65**	**109**	eP	PKPab	18 52 03.7	-1.2
	comp=Z,85nm,1.2s						
DMN	**Daman**	**159.80**	**111**	eP	PKPab	18 52 02.4	-3.2
	comp=Z,22nm,0.8s						
PKI	**Pulchoki**	**160.01**	**111**	eP	PKPab	18 52 05.1	-1.4
	comp=Z,21nm,0.8s						
KKN	**Kakani**	**160.03**	**110**	eP	PKPab	18 52 05.6	-0.9
	comp=Z,41nm,0.9s						
MDJ	**Mudanjiang**	**160.80**	**302**	PKP	PKPdf	18 51 25.8	-4.2
CN2	**Changchun**	**163.89**	**302**	ePKP	PKPdf	18 51 30.4	-2.7
WMQ	**Urumqi**	**164.01**	**58**	ePKP	PKPdf	18 51 30.5	-2.8
KMI	**Kunming**	**168.03**	**163**	PKP	PKPdf	18 51 33.6	-3.5
NJ2	**Nanjing**	**168.78**	**249**	ePKP	PKPdf	18 51 34.4	-2.9
NJ2				APKP		18 51 44.8	
NJ2				XPKP		18 51 48.8	
NJ2				PKP2	PKPab	18 52 46.0	+1.5
NJ2				PKS	PKS	18 55 05.0	+1.4
NJ2				PP	PP	18 56 37.0	+2.2
NJ2				PP	PP		
	comp=Z,250nm,10.0s						
NJ2				LR	LR		
	comp=Z,250nm,17.9s						
SONM	**Songino Array**	**168.86**	**0**	PKP	PKPdf	18 51 32.5	-4.3
	comp=Z,1.8nm,1.1s,baz=354,slow=0.8,SNR=8.7						
SONM				PKPab	PKPab	18 52 45.1	+0.7
	comp=Z,1.8nm,0.8s,baz=338,slow=4.5,SNR=13						
SONM				PP	PP	18 56 32.6	-2.0
	comp=Z,0.5nm,0.9s,baz=27,slow=3.3,SNR=4.7						
GYA	**Guiyang**	**169.80**	**181**	PKP	PKPdf	18 51 33.4	-4.7
GYA				APKP		18 51 43.6	
GYA				XPKP		18 51 47.8	
GYA				PP	PP		
	comp=Z,110nm,7.8s						
GYA				LR	LR		
	comp=N,240nm,20.8s						
GYA				LR	LR		
	comp=E,180nm,21.7s						
GYA				LR	LR		
	comp=Z,170nm,21.8s						
GTA	**Gaotai**	**174.08**	**61**	PKP	PKPdf	18 51 36.3	-3.5
GTA				APKP		18 51 47.5	
GTA				XPKP		18 51 52.7	
GTA				LR	LR		
	comp=N,75nm,16.0s						
GTA				LR	LR		
	comp=E,102nm,17.1s						
GTA				LR	LR		
	comp=Z,64nm,15.2s						
LZH	**Lanzhou**	**177.79**	**105**	ePKP	PKPdf	18 51 33.7	-7.1
LZH				XPKP		18 51 50.0	
LZH				PKP2	PKPab	18 53 22.0	-2.4
LZH				ePP	PP	18 57 15.5	-3.2
LZH				eSKKS		19 03 57.0	
LZH				eSS	SS	19 18 45.0	-3.7
LZH				PP	PP		
	comp=Z,196nm,9.0s						
LZH				LR	LR		
	comp=E,265nm,20.0s						
LZH				LR	LR		
	comp=Z,329nm,21.2s						

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*IDC **11** 18:59:21.9±1.4, 55.53N×162.56E, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=44.7km s-min=22.7km az=162.0*
*KRSC **11** 18:59:25.4±1.5, 55.29N×162.92E, h20km±4km, ML4.3*
*MOS **11** 18:59:25.2±1.9, 55.31N×162.99E, h32km, mb4.4/1, Error ellipse: s-maj=19.8km s-min=11.3km az=70.7*
*NEIC **11** 18:59:28.7±2.5, 55.51N×162.54E, h51km±29km, Error ellipse: s-maj=32.4km s-min=16.5km az=160.0*
ISC 11 18:59:26.5±0.4**, 55.30N**±0.02×**163.00E**±0.05**, h55**km±7km**, n44, σ0s94**/82**, mb3.6**/6**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.92**	**354**	P	**P**	**18 59 42.6**	**-0.8**
KBTR				S	**S**	**18 59 54.8**	**-1.2**
KBTR	**Krutoberegovo**	**0.92**	**354**	i P	**P**	**18 59 42.6**	**-0.8**
KBTR				eS	**S**	**18 59 54.9**	**-1.1**
MKZ	**Mys Kozlova**	**1.04**	**225**	P	**P**	**18 59 44.6**	**-0.6**
MKZ				S	**S**	**18 59 58.8**	**-0.2**
MKZ	**Mys Kozlova**	**1.04**	**225**	i P	**P**	**18 59 44.6**	**-0.6**
MKZ				eS	**S**	**18 59 58.7**	**-0.3**
ZLN	**Zelenaya**	**1.43**	**301**	eP	**P**	**18 59 50.4**	**-0.3**
ZLN				eS	**S**	**19 00 08.4**	**-0.2**
CIRR	**Tsirk**	**1.51**	**304**	eP	**P**	**18 59 51.3**	**-0.5**
CIRR				eS	**S**	**19 00 10.6**	**+0.1**
LGNR	**Loginova**	**1.52**	**302**	i P	**P**	**18 59 51.8**	**-0.1**
LGNR				eS	**S**	**19 00 12.0**	**+1.2**
SVLR	**Shiveluch**	**1.62**	**323**	i P	**P**	**18 59 51.9**	**-1.4**
SVLR				eS	**S**	**19 00 12.8**	**-0.4**
KMNR	**Kamenistaya**	**1.63**	**287**	eP	**P**	**18 59 53.8**	**+0.3**
KMNR				eS	**S**	**19 00 14.8**	**+1.4**
KRSR	**Krestovskiy**	**1.65**	**305**	i P	**P**	**18 59 53.2**	**-0.5**
KRSR				eS	**S**	**19 00 13.3**	**-0.6**
KLY	**Klyuchi**	**1.67**	**308**	eP	**P**	**18 59 52.1**	**-1.8**
KLY				eS	**S**	**19 00 11.7**	**-2.5**
BKI	**Bering**	**1.71**	**92**	i P	**P**	**18 59 55.5**	**+1.0**
BKI				eS	**S**	**19 00 15.5**	**+0.3**
KPT	**Kopyto**	**1.71**	**294**	eP	**P**	**18 59 54.8**	**+0.3**
KPT				eS	**S**	**19 00 16.3**	**+1.1**
KOZR	**Kozyr**	**1.92**	**295**	PN	**P**	**18 59 57.9**	**+0.5**
KOZR				S	**S**	**19 00 22.3**	**+2.0**
KOZ	**Kozyrevsk**	**1.92**	**295**	P	**P**	**18 59 57.9**	**+0.4**
KOZ				S	**S**	**19 00 22.3**	**+1.8**
KOZ	**Kozyrevsk**	**1.92**	**295**	eP	**P**	**18 59 57.9**	**+0.4**
KOZ				eS	**S**	**19 00 22.2**	**+1.7**
SRDR	**Sredinnyy**	**2.11**	**300**	i P	**P**	**19 00 00.7**	**+0.5**
SRDR				eS	**S**	**19 00 25.7**	**+0.5**
KII	**Karymskiy**	**2.42**	**240**	P	**P**	**19 00 04.8**	**+0.3**
KII				S	**S**	**19 00 34.5**	**+1.5**
KII	**Karymskiy**	**2.42**	**240**	i P	**P**	**19 00 04.7**	**+0.2**
KII				eS	**S**	**19 00 34.4**	**+1.4**
ESO	**Esso**	**2.52**	**286**	i P	**P**	**19 00 06.3**	**+0.4**
ESO				eS	**S**	**19 00 35.6**	**+0.2**
NLC	**Nalytchevo**	**3.02**	**227**	P	**P**	**19 00 12.8**	**-0.3**
NLC				S	**S**	**19 00 48.0**	**-0.3**
NLC	**Nalytchevo**	**3.02**	**227**	eP	**P**	**19 00 12.8**	**-0.3**
NLC				eS	**S**	**19 00 47.9**	**-0.4**
SDLR	**Sedlovina**	**3.15**	**232**	i P	**P**	**19 00 15.6**	**+0.7**
SDLR				eS	**S**	**19 00 51.6**	**+0.1**
SMAR	**Somma**	**3.20**	**232**	i P	**P**	**19 00 16.1**	**+0.6**
SMAR				eS	**S**	**19 00 51.7**	**-1.0**
UGLR	**Uglovaya**	**3.22**	**231**	eP	**P**	**19 00 16.6**	**+0.7**
UGLR				eS	**S**	**19 00 52.6**	**-0.7**
AVH	**Avacha**	**3.22**	**232**	eP	**P**	**19 00 16.8**	**+0.9**
AVH				eS	**S**	**19 00 54.0**	**+0.7**
KOK	**Koryaka**	**3.25**	**234**	eP	**P**	**19 00 16.8**	**+0.5**
KOK				eS	**S**	**19 00 54.1**	**0.0**
GNL	**Ganaly**	**3.36**	**243**	eP	**P**	**19 00 18.4**	**+0.6**
GNL				eS	**S**	**19 00 55.6**	**-1.1**
PET	**Petropavlovsk**	**3.42**	**230**	P	**P**	**19 00 18.9**	**+0.2**
PET				S	**S**	**19 00 57.8**	**-0.6**
PET	**Petropavlovsk**	**3.42**	**230**	eP	**P**	**19 00 18.9**	**+0.2**
PET				eS	**S**	**19 00 57.7**	**-0.7**
PET	**Petropavlovsk**	**3.42**	**230**	ePN	**P**	**19 00 18.8**	**+0.1**
PET				eS	**S**	**19 00 56.5**	**-1.9**
KRMR	**Karymshinskiy**	**3.79**	**231**	eP	**P**	**19 00 24.0**	**+0.1**
KRMR				eS	**S**	**19 01 06.6**	**-1.0**
RUS	**Russkaya**	**3.91**	**225**	P	**P**	**19 00 25.4**	**-0.2**
RUS				S	**S**	**19 01 09.0**	**-1.7**
RUS	**Russkaya**	**3.91**	**225**	eP	**P**	**19 00 25.8**	**+0.2**
RUS				eS	**S**	**19 01 09.9**	**-0.8**
GRL	**Gorelyy**	**4.01**	**229**	eP	**P**	**19 00 27.4**	**+0.5**
GRL				eS	**S**	**19 01 11.8**	**-1.3**
APC	**Apacha**	**4.18**	**238**	eP	**P**	**19 00 28.8**	**-0.6**
APC				eS	**S**	**19 01 18.3**	**+0.9**
PAU	**Pauzhetka**	**5.33**	**226**	eP	**P**	**19 00 46.5**	**+1.0**
PAU				eS	**S**	**19 01 45.6**	**-0.8**
KAMR	**Kamenskoye**	**7.37**	**12**	eP	**P**	**19 01 12.9**	**-1.0**
KAMR				eS	**S**	**19 02 33.3**	**-3.6**
MJAR	**Matsushiro Arr**	**25.25**	**232**	P	**P**	**19 04 49.1**	**+0.4**
	0.7nm,0.5s,mb3.5,baz=38,slow=8.1,SNR=4.1						
ILAR	**Eielson Array**	**26.06**	**48**	P	**P**	**19 04 57.2**	**+1.2**
	0.3nm,0.5s,mb3.1,baz=257,slow=7.6,SNR=4.8						
SONM	**Songino Array**	**35.09**	**282**	P	**P**	**19 06 15.1**	**-0.9**
	0.2nm,0.4s,mb3.4,baz=54,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**48.74**	**296**	P	**P**	**19 08 04.2**	**-2.8**
	0.6nm,0.7s,mb3.8,baz=69,slow=7.9,SNR=6.0						
FINES	**FINESS Array B**	**58.75**	**337**	P	**P**	**19 09 19.1**	**-1.4**
	2.1nm,1.1s,mb4.1,baz=45,slow=11,SNR=4.1						
TXAR	**Lajitas Array**	**68.24**	**70**	P	**P**	**19 10 25.1**	**+2.0**
	0.4nm,0.6s,mb3.6,baz=301,slow=4.1,SNR=5.9						

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*IDC **11** 19:02:40.4±1.1, 11.44N×144.45E, mb4.1/8, mb1 4.2/9, mb1mx4.1/22, mbtmp4.1/9, ML4.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=37.2km s-min=20.3km az=98.0*
*BJI **11** 19:02:41.5, 11.40N×144.40E, h11km, mB5.1, mb4.7*
*NEIC **11** 19:02:41.5±0.6, 11.42N×144.40E, h10km, mb4.4/4, Error ellipse: s-maj=26.1km s-min=9.9km az=92.0*
ISC 11 19:02:38.4±3.3**, 11.38N**±0.06×**144.5E**±0.2**, h2**km±21km**, n19, σ1s11**/20**, mb4.2**/14**, 1D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.22**	**9**	Pn	**Pn**	**19 03 18.8**	**+2.1**
	67nm,0.3s,baz=167,slow=7.5,SNR=35						
GUMO				Sn	**Sn**	**19 03 44.7**	**-0.4**
	55nm,0.3s,baz=196,slow=17,SNR=5.0						
GUMO	**Guam**	**2.22**	**9**	⇓eP	**Pn**	**19 03 18.9**	**+2.1**
GUMO				eS	**Sn**	**19 03 44.5**	**-0.6**
CBIJ	**Chichi jima**	**15.79**	**352**	LR	LR	19 11 20.5	
	comp=Z,141nm,22.0s,baz=150,slow=33						
JNU	**Nakatsue**	**25.01**	**332**	P	**P**	**19 08 05.0**	**-0.2**
	3.0nm,0.4s,mb4.2,baz=125,slow=1.8,SNR=6.2						
JNU				LR	LR	19 17 46.4	
	comp=Z,48nm,18.7s,baz=229,slow=36						
MJAR	**Matsushiro Arr**	**25.70**	**348**	P	**P**	**19 08 11.0**	**-0.6**
	3.7nm,0.7s,mb4.0,baz=166,slow=9.5,SNR=18						
MAJO	**Matsushiro**	**25.70**	**348**	eP	**P**	**19 08 09.9**	**-1.7**
	6.8nm,0.7s,mb4.3						
MAT	**Matsushiro**	**25.70**	**348**	P	**P**	**19 08 10.1**	**-1.5**
MAT	**Matsushiro**	**25.70**	**348**	eP	**P**	**19 08 10.0**	**-1.6**
	6.7nm,0.8s,mb4.2						
CTAO	**Charters Tower**	**31.31**	**177**	eP	**P**	**19 09 01.9**	**-0.6**
	6.1nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**32.69**	**198**	eP	**P**	**19 09 14.5**	**0.0**
	5.3nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**32.70**	**198**	P	**P**	**19 09 14.7**	**+0.1**
	1.2nm,0.6s,mb4.0,baz=21,slow=9.7,SNR=11						
HHC	**Hu-ho-hao-te**	**41.25**	**321**	eP	**P**	**19 10 28.9**	**+2.4**
HHC				AP	pP	19 10 33.3	+6.1
HHC				XP	sP	19 10 35.8	+8.4
HHC				PP	PP	19 12 07.4	+2.5
HHC				PCP	PcP	19 12 26.4	+0.3
HHC				S	**S**	**19 16 42.1**	**+1.0**
HHC				XS		19 16 49.2	
HHC				SS	SS	19 19 41.7	+2.8
HHC				SCS	ScS	19 20 29.3	-0.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,108nm,4.9s						
SONM	**Songino Array**	**48.35**	**326**	P	**P**	**19 11 23.8**	**+0.4**
	comp=Z,0.8nm,0.5s,mb4.0,baz=148,slow=7.9,SNR=8.7						
GTA	**Gaotai**	**48.41**	**313**	eP	**P**	**19 11 23.6**	**-0.4**
GTA				AP	pP	19 11 30.9	+6.2
GTA				XP	sP	19 11 34.9	+10
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**62.85**	**317**	P	**P**	**19 13 08.2**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.7,baz=124,slow=5.2,SNR=3.2						
ILAR	**Eielson Array**	**70.70**	**25**	P	**P**	**19 13 57.0**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=251,slow=5.9,SNR=7.5						
BVAR	**Borovoye Array**	**71.45**	**322**	P	**P**	**19 14 02.1**	**-0.2**
	comp=Z,1.5nm,0.4s,mb4.3,baz=107,slow=7.8,SNR=13						
ELK	**Elko**	**90.28**	**48**	P	**P**	**19 15 45.1**	**+2.8**
	comp=Z,0.3nm,0.3s,mb4.1,baz=245,slow=4.4,SNR=5.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBIC	Dimbokro	144.65	299	PKP	PKPdf	19 22 18.5	-1.4
	comp=Z,5.1nm,0.9s,baz=30,slow=3.6,SNR=3.7						

*IDC **11** 19:03:54.0±1.4, 0.25N×96.46E, h26^{km}±4^{km}, mb3.7/8, mb1 3.9/8, mb1mx3.7/17, mbtmp3.9/8, MS4.4/1, Ms1 4.4/1, ms1mx3.3/24, Error ellipse: s-maj=59.1km s-min=18.0km az=52.0*

*NEIC **11** 19:03:58.2±0.9, 0.97N×96.50E, mb4.2/1, Error ellipse: s-maj=23.2km s-min=15.5km az=45.0*

ISC 11 19:03:56.6±0.9, **1.0N**±0.1×**96.5E**±0.1, **h26**^{km}, **h26**^{km}±1.1^{km}**:pP-P, n16,** σ0^{s}90/13, **mb3.9**/9, **MS4.4**/1, **1D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.90	44	eP	Pn	19 05 23.9	-0.7
KULM				e		19 05 33.1	
WRA	Warramunga Arr	42.51	121	P	P	19 11 45.1	-6.8
	1.5nm,1.0s,mb3.7,baz=302,slow=8.8,SNR=6.8						
WRA				pP	pP	19 11 52.4	-7.4
	2.3nm,0.4s,baz=96,slow=8.1,SNR=30						
WRAB	Tennant Creek	42.52	121	eP	P	19 11 52.0	+0.1
WB2	Warramunga Arr	42.52	121	⇓iP	P	19 11 52.2	+0.2
MKAR	Makanchi Array	47.25	347	P	P	19 12 31.0	+1.5
	2.0nm,0.8s,mb4.1,baz=159,slow=9.1,SNR=18						
MKAR				pP	pP	19 12 39.2	+1.8
	1.7nm,0.5s,baz=167,slow=8.9,SNR=11						
SONM	Songino Array	47.40	9	P	P	19 12 31.1	+0.4
	0.7nm,1.0s,mb3.5,baz=192,slow=10.0,SNR=3.9						
SONM				pP	pP	19 12 40.3	+1.6
	1.3nm,1.0s,baz=187,slow=8.3,SNR=3.8						
JHJ	Hachijo jima 2	51.62	47	LR	LR	19 32 14.8	
	comp=Z,406nm,20.9s,MS4.4,baz=21,slow=33						
KURK	Kurchatov	51.79	346	eP	P	19 13 03.9	-0.3
	3.7nm,1.1s,mb4.2						
ZAL	Zalesovo	53.61	351	P	P	19 13 18.7	+0.9
	2.0nm,0.8s,mb4.1,baz=299,slow=7.4,SNR=5.1						
ZAL				pP	pP	19 13 27.1	+1.2
	3.1nm,0.4s,baz=314,slow=5.2,SNR=3.9						
ZAL	Zalesovo	53.61	351	P	P	19 13 18.7	+0.9
ZAL				pP	pP	19 13 27.1	+1.2
BVAR	Borovoye Array	56.19	341	P	P	19 13 36.0	-0.6
	1.0nm,0.7s,mb4.0,baz=153,slow=6.6,SNR=7.5						
BVAR				pP	pP	19 13 44.2	-0.6
	1.3nm,0.6s,baz=148,slow=8.2,SNR=7.2						
AKASG	Malin Array Be	74.98	323	P	P	19 15 35.4	-2.1
	0.6nm,0.6s,mb3.7,baz=85,slow=5.1,SNR=4.7						
ARCES	ARCESS Array B	82.47	340	P	P	19 16 18.6	+0.9
	2.0nm,0.8s,mb4.1,baz=90,slow=6.3,SNR=3.3						
ARCES				pP	pP	19 16 26.0	-0.3
	3.8nm,0.9s,baz=90,slow=4.9,SNR=1.5						
GERES	GERESS Array B	84.50	319	P	P	19 16 28.1	-0.4
	0.5nm,0.8s,mb3.7,baz=120,slow=7.9,SNR=4.8						
TXAR	Lajitas Array	144.16	31	PKP	PKPdf	19 23 28.7	-6.8
	0.4nm,0.6s,baz=222,slow=1.2,SNR=4.0						
TXAR	Lajitas Array	144.16	31	PKP	PKPdf	19 23 28.7	-6.8

IDC 11 19:10:38.7±8.9, **4.60S**×**153.57E, h129**^{km}±57^{km}, **mb3.5**/4, **mb1 3.8**/5, **mb1mx3.6**/14, **mbtmp4.1**/5, **Error ellipse: s-maj=109.9km s-min=32.6km az=109.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.95	233	P	P	19 12 31.2	-1.5
	7.2nm,0.3s,baz=45,slow=7.8,SNR=20						
PMG				S	S	19 14 01.7	+0.2
	3.4nm,0.3s,baz=134,slow=16,SNR=6.5						
WB2	Warramunga Arr	24.14	229	eP	P	19 15 43.3	-0.8
WRA	Warramunga Arr	24.15	229	P	P	19 15 43.3	-0.9
	3.8nm,0.6s,baz=53,slow=9.9,SNR=37						
FITZ	Fitzroy Crossi	30.43	242	P	P	19 16 38.5	-2.9
	4.0nm,0.6s,baz=65,slow=4.4,SNR=7.7						
SONM	Songino Array	66.57	327	P	P	19 21 15.2	-2.0
	0.2nm,0.4s,baz=137,slow=5.8,SNR=7.3						
MKAR	Makanchi Array	80.68	319	P	P	19 22 37.7	-1.2
	0.2nm,0.4s,baz=91,slow=9.1,SNR=3.7						

*NIED **11** 19:28:00, 38.20N×142.20E, h38^{km}, Mw4.6 Best double couple: $M_0$9.54×10^{15} NP1:ϕ_s18°, δ75°, λ88°. NP2:ϕ_s208°, δ15°, λ99°.*

*BJI **11** 19:28:31.6, 38.04N×142.11E, h38^{km}, mB5.1, mb4.9, Ms4.3, Msz4.0*

*MOS **11** 19:28:32.0±0.9, 38.17N×142.13E, h33^{km}, mb5.0/24, MS4.2/4, Error ellipse: s-maj=9.8km s-min=6.0km az=108.3*

*JMA **11** 19:28:33.1±0.1, 38.16N×142.19E, h42^{km}±1^{km}, M4.7*

JMA Felt II J1.

*NEIC **11** 19:28:34.2±0.2, 38.12N×142.28E, mb4.9/27, MS4.5/2, MW4.6(NIED), Error ellipse: s-maj=6.9km s-min=4.8km az=135.0*

NEIC Recorded [2 JMA] in Miyagi and [1 JMA] in Fukushima and Iwate Prefectures.

*HRVD **11** 19:28:34.2±1.0, 38.18N×142.47E, h58^{km}±6^{km}, MW4.7/31, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s31,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.77±.19; $M_{\theta\theta}$0.17±.14; $M_{\phi\phi}$-0.93±.11; $M_{r\theta}$0.45±.10; $M_{\theta\phi}$-0.33±.08; $M_{\phi r}$0.61±.07; Best double couple: $M_0$1.185×10^{16} NP1:ϕ_s175°, δ29°, λ57°. NP2:ϕ_s32°, δ66°, λ107°. Principal axes: T 1.091, Plg65°, Azm330°; N .187, Plg15°, Azm205°; P -1.278, Plg19°, Azm109°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **11** 19:28:34.4±1.9, 38.14N×142.21E, h43^{km}±17^{km}, mb4.2/19, mb1 4.4/24, mb1mx4.4/28, mbtmp4.5/24, ML4.2/5, MS3.9/14, Ms1 4.0/14, ms1mx3.8/35 Error ellipse: s-maj=17.1km s-min=11.4km az=103.0*

ISC 11 19:28:32.7±0.3, **38.13N**±0.03×**142.19E**±0.04, **h44**^{km}, **h44**^{km}±2.4^{km}**:pP-P, n184,** σ1^{s}**02**/189, **mb4.8**/62, **MS4.1**/23, **13C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.74	296	⇓P	P	19 28 47.1	+0.3
JIO				eS	S	19 28 57.0	-0.1
OFUJ	Ofunato	1.03	337	⇓P	P	19 28 50.7	-0.3
OFUJ				eS	S	19 29 03.6	-0.9
JMK	Ichinoseki	1.12	317	⇓P	P	19 28 52.6	+0.4
JMM	Marumori	1.14	257	⇓P	P	19 28 52.7	+0.3
JMM				eS	S	19 29 07.0	-0.1
JOU	Okura	1.23	282	⇓P	P	19 28 54.6	+0.9
JFK	Kawauchi	1.29	234	⇓P	P	19 28 54.6	-0.1
JFK				eS	S	19 29 09.9	-1.2
MJAR	Matsushiro Arr	3.55	245	P	P	19 29 27.4	+0.7
	19nm,0.3s,baz=75,slow=14,SNR=138						
MJAR				LR	LR	19 31 12.3	
	comp=Z,2μm,18.0s,baz=65,slow=44						
MJAR	Matsushiro Arr	3.55	245	P	P	19 29 27.4	+0.7
MJAR				LR	LR	19 31 12.2	
MAJO	Matsushiro	3.55	245	eP	P	19 29 27.9	+1.1
MAT	Matsushiro	3.55	245	P	P	19 29 27.2	+0.4
MAT				eS	S	19 30 11.6	+3.6
MAT	Matsushiro	3.55	245	eP	P	19 29 27.0	+0.2
MAT				S	S	19 30 12.0	+4.0
JHJ	Hachijo jima 2	5.37	202	P	P	19 29 50.6	-1.8
	59nm,0.3s,baz=270,slow=19,SNR=30						
JHJ				S	S	19 30 48.4	-5.4
	128nm,0.3s,baz=98,slow=22,SNR=9.7						
ASAJ	Asahikawa	5.99	3	P	P	19 30 00.1	-1.0
	5.2nm,0.3s,baz=213,slow=11,SNR=43						
ASAJ				S	S	19 31 07.5	-1.9
	8.0nm,0.3s,baz=230,slow=32,SNR=5.6						
ASAJ	Asahikawa	5.99	3	P	P	19 30 00.1	-1.0
ASAJ				S	S	19 31 07.5	-1.8
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
KUR	Kuril'sk	8.27	29	eP	P	19 30 37.0	+4.1
YSS	Yuzh-Sakhalins	8.83	3	eP	P	19 30 39.7	-0.9
	comp=N,37nm,0.9s						
YSS	Yuzh-Sakhalins	8.83	3⇑	eP	P	19 30 39.2	-1.4
YSS				iS	S	19 32 17.0	-2.9
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				smax			
	comp=E,30nm,1.1s						
JNU	Nakatsue	10.47	245	P	P	19 31 03.5	+0.4
	comp=E,1.3nm,0.3s,baz=59,slow=13,SNR=26						
JNU				LR	LR	19 35 22.6	
	comp=E,1μm,20.4s,baz=224,slow=39						
CBIJ	Chichi jima	11.00	180	P	P	19 31 05.8	-4.6
	comp=E,14nm,0.3s,baz=304,slow=18,SNR=15						
CBIJ				S	S	19 33 00.1	-13
	comp=E,15nm,0.3s,baz=252,slow=19,SNR=4.5						
KS15	Wonju Array Si	11.35	271	eP	P	19 31 16.9	+1.8
MDJ	Mudanjiang	11.46	308	P	P	19 31 16.5	-0.1
MDJ				AMB	AMB		
	comp=Z,27nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,163nm,3.7s						
MDJ				LR	LR		
	comp=N,230nm,19.2s						
MDJ				LR	LR		
	comp=E,295nm,20.4s						
MDJ				LR	LR		
	comp=Z,531nm,22.9s						
INCN	Inchon	12.33	272	eP	P	19 31 28.7	+0.4
	comp=Z,16nm,0.8s						
CN2	Changchun	13.86	299	eP	P	19 31 52.0	+3.7
CN2				eS	S	19 34 26.0	+4.4
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				LR	LR		
	comp=N,800nm,18.0s						
CN2				LR	LR		
	comp=E,820nm,18.0s						
CN2				LR	LR		
	comp=Z,510nm,18.0s						
DL2	Dalian	16.12	279	P	P	19 32 19.2	+1.6
DL2				eS	S	19 35 19.4	+4.8
DL2				AMB	AMB		
	comp=Z,30nm,1.1s						
DL2				LR	LR		
	comp=N,140nm,17.5s						
DL2				LR	LR		
	comp=E,220nm,17.5s						
DL2				LR	LR		
	comp=Z,350nm,19.7s						
JOW	Kunigami	16.25	230	P	P	19 32 21.4	+2.0
	comp=Z,1.1nm,0.3s,baz=27,slow=4.5,SNR=3.7						
SSE	Sheshan	18.64	254	eP	P	19 32 43.8	-5.3
SSE				AP		19 32 50.7	
SSE				PP	PP	19 32 59.3	-5.9
SSE				S	S	19 36 09.9	-2.1
SSE				XS		19 36 21.6	
SSE				AMB	AMB		
	comp=Z,37nm,0.8s						
SSE				AMB	AMB		
	comp=Z,227nm,4.4s						
SSE				LR	LR		
	comp=N,144nm,21.7s						
SSE				LR	LR		
	comp=E,123nm,21.7s						
SSE				LR	LR		
	comp=Z,218nm,27.9s						
PET	Petropavlovsk	18.76	32	eP	P	19 32 51.6	+1.1
PET				eS	S	19 36 10.4	-4.2
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
NJ2	Nanjing	20.01	259	eP	P	19 33 05.0	+0.6
NJ2				AP		19 33 16.4	
NJ2				PP	PP	19 33 23.4	-1.0
NJ2				S	S	19 36 37.0	-5.0
NJ2				XS		19 36 55.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,140nm,10.0s						
NJ2				LR	LR		
	comp=N,7μm,20.0s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,18.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,640nm,22.4s,MS3.9						
TIA	Tai'an	20.05	272	eP	P	19 33 02.0	-2.8
TIA				AMB	AMB		
	comp=Z,23nm,0.9s						
CLNS	Chul'man	21.95	334	eP	P	19 33 20.3	-3.7
CLNS				e		19 33 32.9	
CLNS				eSS	S	19 37 26.2	+7.6
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.6						
CLNS				pmax	pmax		
	comp=N,12nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.6						
CLNS				pmax	pmax		
	comp=E,14nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.0						
CLNS				MLR	MLR		
	comp=N,400nm,15.0s,MS4.0						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS4.0						
HHC	Hu-ho-hao-te	23.73	286	eP	P	19 33 39.3	-2.2
HHC				AP		19 33 49.8	
HHC				XP		19 33 56.4	
HHC				PP	PP	19 34 15.2	-0.2
HHC				PCP	PcP	19 37 26.2	-0.1
HHC				S	S	19 37 45.0	-5.5
HHC				XS		19 38 03.9	
HHC				SS	SS	19 38 34.2	-7.4
HHC				SCP		19 40 59.3	
HHC				PCS		19 41 04.6	
HHC				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,109nm,4.3s						
HHC				LR	LR		
	comp=N,254nm,10.9s,MS4.3						
HHC				LR	LR		
	comp=E,602nm,14.9s,MS4.3						
HHC				LR	LR		
	comp=Z,302nm,13.9s,MS3.9						
GUMO	Guam	24.56	174	LR	LR	19 43 06.6	
	comp=Z,85nm,19.4s,MS3.2,baz=264,slow=36						
YAK	Yakutsk	25.15	346	eP	P	19 33 52.2	-2.7
	comp=Z,45nm,0.8s,mb5.0						
YAK	Yakutsk	25.15	346	eP	P	19 33 56.1	+1.1
YAK				e*PP	pP	19 34 05.5	-0.9
YAK				ePPP	PPP	19 34 38.1	-7.0
YAK				e		19 37 35.8	
YAK				eS	S	19 38 16.0	+1.8
YAK				e*SS		19 38 31.7	
YAK				eSSS	SS	19 39 14.9	-1.4
YAK				e		19 44 59.3	
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				smax			
	comp=N,6.0nm,1.1s						
YAK				smax			
	comp=E,3.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,83nm,9.0s						
SEY	Seymchan	25.60	11	iP	P	19 34 00.6	+1.4
BOD	Bodaibo	26.95	326	eP	P	19 34 09.6	-2.1
BOD				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.5						
XAN	Xi'an	27.11	272	P	P	19 34 12.4	-1.1
XAN				AP	pP	19 34 20.0	-5.0
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.5						
ULN	Ulaanbaatar	27.27	302	eP	P	19 34 15.0	+0.2
SONM	Songino Array	27.71	302	P	P	19 34 18.4	-0.4
	comp=Z,7.2nm,0.8s,mb4.3,baz=112,slow=9.0,SNR=61						
SONM				PcP	PcP	19 37 34.3	-0.7
	comp=Z,0.9nm,0.5s,baz=106,slow=1.6,SNR=5.6						
SONM				LR	LR	19 45 42.2	
	comp=Z,252nm,19.1s,MS3.8,baz=87,slow=37						
ZAK	Zakamensk	30.09	307⇑	iP	P	19 34 39.8	-0.2
ZAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
LZH	Lanzhou	30.51	278	eP	P	19 34 43.5	-0.4
LZH				AP	pP	19 34 56.1	+0.5
LZH				XP	sP	19 35 02.5	+1.3
LZH				PP	PP	19 35 44.5	-0.3
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,149nm,4.3s						
LZH				LR	LR		
	comp=E,469nm,12.7s						
LZH				LR	LR		
	comp=Z,687nm,14.0s,MS4.5						
MOY	Mondy	31.72	309	eP	P	19 34 54.4	0.0
GYA	Guiyang	32.02	259⇑	iP	P	19 34 56.0	-1.3
GYA				AP	pP	19 35 07.9	-1.2
GYA				XP	sP	19 35 13.3	-1.4
GYA				PP	PP	19 36 01.4	-3.0
GYA				S	S	19 40 01.2	-3.6
GYA				XS		19 40 20.8	
GYA				SCP		19 41 25.8	
GYA				SCS	ScS	19 45 22.3	+0.1
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
GYA				AMB	AMB		
	comp=Z,150nm,3.6s						
GYA				LR	LR		
	comp=N,340nm,17.2s,MS4.3						
GYA				LR	LR		
	comp=E,370nm,16.8s,MS4.3						
GYA				LR	LR		
	comp=Z,340nm,16.7s,MS4.1						
CD2	Chengdu	32.30	269	P	P	19 34 58.6	-1.1
GTA	Gaotai	32.85	286	eP	P	19 35 04.2	-0.1
GTA				AP	pP	19 35 15.7	-0.5
GTA				XP	sP	19 35 21.1	-0.7
GTA				PP	PP	19 36 13.1	-1.9
GTA				PPP	PPP	19 36 28.0	-3.0
GTA				PCP	PcP	19 37 49.0	+0.5
GTA				S	S	19 40 15.7	-1.8
GTA				XS		19 40 32.1	
GTA				SCP		19 41 27.3	
GTA				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,94nm,6.8s						
GTA				LR	LR		
	comp=N,195nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=E,365nm,19.4s,MS4.2						
GTA				LR	LR		
	comp=Z,463nm,19.4s,MS4.2						
QIZ	Qiongzhong	33.95	245	P	P	19 35 16.8	+2.8
QIZ				eS	S	19 40 38.3	+3.5
QIZ				LR	LR		
	comp=N,164nm,16.4s,MS4.0						
QIZ				LR	LR		
	comp=E,170nm,15.1s,MS4.0						
QIZ				LR	LR		
	comp=Z,271nm,14.7s,MS4.1						
KMI	Kunming	35.74	260	⇑P	P	19 35 28.8	-0.5
KMI				AP	pP	19 35 42.2	+0.9
KMI				XP	sP	19 35 47.4	+0.6
KMI				PP	PP	19 36 52.4	+1.3
KMI				S	S	19 41 03.1	+0.6
KMI				SS	SS	19 43 24.1	-0.7
KMI				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.1						
KMI				AMB	AMB		
	comp=Z,46nm,3.1s						
KMI				LR	LR		
	comp=N,222nm,12.2s,MS4.2						
KMI				LR	LR		
	comp=E,160nm,15.0s,MS4.2						
KMI				LR	LR		
	comp=Z,209nm,16.6s,MS4.0						
NANT	Nan	40.84	254	P	P	19 36 11.0	-0.9
CHRT	Chiangrai	40.91	256	⇑P	P	19 36 13.0	+0.6
WMQ	Urumqi	40.91	296	P	P	19 36 13.4	+1.2
WMQ				AP	pP	19 36 27.0	+2.7
WMQ				XP	sP	19 36 32.0	+2.3
WMQ				PP	PP	19 37 52.0	+2.2
WMQ				PPP	PPP	19 38 20.0	+0.3
WMQ				eS	S	19 42 22.0	+1.5
WMQ				XS		19 42 43.0	
WMQ				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,145nm,5.1s						
WMQ				LR	LR		
	comp=N,140nm,20.6s,MS4.1						
WMQ				LR	LR		
	comp=E,228nm,22.8s,MS4.1						
WMQ				LR	LR		
	comp=Z,227nm,22.3s,MS4.0						
ZAL	Zalesovo	41.66	311	P	P	19 36 18.7	+0.6
	comp=Z,11nm,0.8s,mb4.5,baz=25,slow=8.8,SNR=67						
ZAL				PcP	PcP	19 38 14.3	-0.7
	comp=Z,1.3nm,0.7s,baz=34,slow=6.2,SNR=3.4						
ZAL				LR	LR	19 54 41.6	
	comp=Z,229nm,19.8s,MS4.0,baz=45,slow=38						
NVS	Novosibirsk	42.54	313	iP	P	19 36 24.8	-0.6
NVS				pmax	pmax		
	comp=E,13nm,1.0s						
NVS				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
LSA	Lhasa	42.73	274	P	P	19 36 29.0	+1.7
MKAR	Makanchi Array	44.07	301	P	P	19 36 38.0	0.0
	comp=Z,14nm,0.8s,mb4.8,baz=83,slow=9.1,SNR=99						
MKAR				LR	LR	19 56 04.2	
	comp=Z,101nm,18.1s,MS3.8,baz=354,slow=37						
MKAR	Makanchi Array	44.07	301	iP	P	19 36 37.7	-0.2
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KURK	Kurchatov	45.75	307	eP	P	19 36 50.9	-0.5
	comp=Z,51nm,0.7s,mb5.6						
KURK	Kurchatov	45.75	307c	iP	P	19 36 51.0	-0.3
KKN	Kakani	48.20	275	eP	P	19 37 11.1	+0.3
	comp=Z,110nm,0.8s,mb6.0						
KKN	Kakani	48.20	275	eP	P	19 37 11.1	+0.3
KKN				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.6						
PKI	Pulchoki	48.20	275	eP	P	19 37 10.8	0.0
	comp=Z,39nm,0.8s,mb5.5						
PKI	Pulchoki	48.20	275	eP	P	19 37 10.8	0.0
PKI				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
ILAR	Eielson Array	48.24	33	P	P	19 37 10.8	+0.1
	comp=Z,2.8nm,0.7s,mb4.4,baz=270,slow=6.3,SNR=36						
ILAR				LR	LR	20 00 56.5	
	comp=Z,53nm,18.2s,MS3.6,baz=358,slow=40						
DMN	Daman	48.41	275	eP	P	19 37 12.3	-0.2
	comp=Z,33nm,0.8s,mb5.4						
GKN	Gorkha	48.60	276	eP	P	19 37 13.9	-0.1
	comp=Z,142nm,0.9s,mb6.0						
KOLN	Koldanda	49.52	276	eP	P	19 37 21.0	-0.1
	comp=Z,65nm,1.0s,mb5.6						
TKM2	Tokmak 2	49.66	298	P	P	19 37 22.8	+0.9
	SNR=23						
VOSK	Vostochnaya	50.02	311	P	P	19 37 23.1	-1.4
VOSK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
KZA	Kyzart	50.17	297	P	P	19 37 27.4	+1.5
	SNR=10						
KBK	Karagaybulak	50.20	298	P	P	19 37 26.6	+0.6
	SNR=13						
BVAR	Borovoye Array	50.30	312	P	P	19 37 26.3	-0.3
	comp=Z,7.1nm,0.6s,mb4.9,baz=69,slow=7.5,SNR=62						
BVAR				PcP	PcP	19 38 44.9	-0.3
	comp=Z,6.1nm,0.7s,baz=63,slow=3.6,SNR=9.4						
USP	Ospenovka	50.31	299	P	P	19 37 27.0	0.0
	SNR=11						
BRVK	Borovoye	50.35	312	eP	P	19 37 26.5	-0.6
	comp=Z,8.0nm,0.8s,mb4.8						
BRVK				ePcP	PcP	19 38 44.9	-0.5
BRVK	Borovoye	50.35	312	eP	P	19 37 26.5	-0.6
BRVK				e		19 38 44.9	
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
AAK	Ala-Archa	50.52	298	eP	P	19 37 27.3	-1.2
	comp=Z,5.3nm,0.8s,mb4.5						

AAK	Ala-Archa	50.52	298	*i* P	P	19 37 27.5	-1.0
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KSH	Kashi	50.53	294	*e*P	P	19 37 30.1	+1.5
KSH				*e*AP	pP	19 37 42.5	+1.6
KSH				*e*XP	sP	19 37 48.3	+2.2
KSH				*e*PCP	PcP	19 38 48.8	+2.5
KSH				PP	PP	19 39 25.9	+0.5
KSH				*e*PPP	PPP	19 40 24.2	+0.3
KSH				*e*SCP		19 42 39.8	
KSH				*e*PCS		19 42 45.0	
KSH				*e*S	S	19 44 39.5	+1.3
KSH				*e*XS		19 45 00.5	
KSH				*e*SCS	ScS	19 47 13.6	+1.0
KSH				SS	SS	19 48 10.1	+0.3
KSH				AMB	AMB		
	comp=Z,170nm,4.8s						
KSH				LR	LR		
	comp=N,140nm,5.6s						
KSH				LR	LR		
	comp=E,190nm,5.1s						
EKS2	Erkin-Say	51.01	298	P	P	19 37 32.2	0.0
	SNR=9.3						
AML	Almayashu	51.25	297	P	P	19 37 34.9	+0.9
	SNR=18						
KKAR	Karatay Array	53.12	300	*i* P	P	19 37 46.7	-1.3
KKAR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
INK	Inuvik	53.13	28	*e*P	P	19 37 48.1	+0.3
ARU	Arti	55.95	318	*e*P	P	19 38 07.7	-0.8
	comp=Z,29nm,0.7s,mb5.4						
ARU	Arti	55.95	318⇑	*i*P	P	19 38 07.8	-0.7
ARU				*e*		19 39 04.3	
ARU				*e*		19 40 12.4	
ARU				*e*PPP	PPP	19 41 24.4	-6.6
ARU				*e*S	S	19 45 55.4	+3.9
ARU				*e*SS	SS	19 49 43.9	+6.1
ARU				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
DLBC	Dease Lake	57.38	39	P	P	19 38 18.2	-0.5
	comp=Z,2.2nm,0.8s,mb4.2,baz=319,slow=7.2,SNR=6.0						
DLBC	Dease Lake	57.38	39	P	P	19 38 18.2	-0.5
AB31	Akbulak array	57.71	310	P	P	19 38 20.0	-1.1
AB31				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	58.05	199	P	P	19 38 23.0	-0.9
	comp=Z,3.3nm,0.6s,mb4.5,baz=13,slow=12,SNR=5.2						
WRAB	Tennant Creek	58.22	189	*e*P	P	19 38 23.6	-1.4
	comp=Z,14nm,0.8s,mb5.0						
WRAB	Tennant Creek	58.22	189	*i* P	P	19 38 23.8	-1.2
WB2	Warramunga Arr	58.23	189	*e*P	P	19 38 23.7	-1.4
WRA	Warramunga Arr	58.23	189	P	P	19 38 23.8	-1.3
	comp=Z,3.5nm,0.6s,mb4.6,baz=6.5,slow=6.6,SNR=54						
AKTO	Aktyubinsk	58.41	312	P	P	19 38 24.8	-1.1
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MBWA	Marble Bar	62.64	204	*e*P	P	19 38 53.8	-1.4
MBWA				*e*pP	pP	19 39 07.5	-0.3
KEV	Kevo	62.64	339	*e*p	P	19 38 53.5	-1.0
ARCES	ARCESS Array B	63.19	339	P	P	19 38 57.2	-0.9
	comp=Z,4.9nm,0.8s,mb4.7,baz=49,slow=7.9,SNR=11						
ARCES				LR	LR	20 09 15.8	
	comp=Z,77nm,21.4s,MS3.8,baz=260,slow=39						
JOF	Joensuu	65.29	332	*e*p	P	19 39 10.4	-1.4
	comp=Z,2.0nm,0.5s,mb4.4						
JOF	Joensuu	65.29	332	*e*P	P	19 39 10.4	-1.4
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
OBN	Obninsk	67.59	323⇓	*i*P	P	19 39 25.6	-0.8
OBN				pmax	pmax		
	comp=Z,25nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
KAF	Kangasniemi	67.62	333	*e*p	P	19 39 25.0	-1.5
	comp=Z,6.1nm,0.5s,mb4.9,baz=48,slow=6.0						
KAF	Kangasniemi	67.62	333	*e*P	P	19 39 25.0	-1.5
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
FINES	FINESS Array B	68.14	332	P	P	19 39 29.4	-0.4
	comp=Z,5.1nm,0.6s,mb4.7,baz=31,slow=11,SNR=29						
FINES				LR	LR	20 11 03.0	
	comp=Z,90nm,18.9s,MS4.0,baz=125,slow=37						
VRSR	Storozhevoye	68.50	319	*e*P	P	19 39 31.2	-1.0
VRSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
VRSR				pmax	pmax		
	comp=E,8.0nm,0.9s						
NEW	Newport	68.92	45	*e*P	P	19 39 35.1	+0.3
STKA	Stephens Creek	69.65	181	P	P	19 39 39.4	-0.2
	comp=E,2.0nm,0.9s,mb4.0,baz=18,slow=7.9,SNR=3.6						
TI2	Plekhanov	70.65	308	*e*P	P	19 39 42.6	-2.9
KIV	Kislovodsk	70.66	311	*e*P	P	19 39 46.3	+0.8
	comp=E,21nm,0.9s,mb5.1						
KIV	Kislovodsk	70.66	311	*e*P	P	19 39 46.3	+0.8
KIV				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
HLID	Hailey	73.18	48	P	P	19 40 00.6	+0.2
HLID				*e*pP	pP	19 40 14.3	+1.0
ANN	Anapa	73.22	314	*e*P	P	19 40 06.1	+5.4
NB2	NORSAR Subarra	73.42	337	P	P	19 40 01.2	-0.3
	comp=Z,7.1nm,0.8s,mb4.7,baz=41,slow=6.2						
NB2	NORSAR Subarra	73.42	337	P	P	19 40 01.2	-0.3
NB2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
NOA	NORSAR Array B	73.42	337	P	P	19 40 01.6	+0.2
	comp=Z,6.2nm,0.8s,mb4.6,baz=39,slow=5.9,SNR=19						
NOA				LR	LR	20 15 00.4	
	comp=Z,112nm,20.9s,MS4.1,baz=30,slow=38						
AKASG	Malin Array Be	73.81	322	P	P	19 40 03.8	-0.2
	comp=Z,4.6nm,0.6s,mb4.6,baz=46,slow=6.0,SNR=20						
FRB	Frobisher Bay	75.57	14	P	P	19 40 13.9	0.0
	comp=Z,7.3nm,0.7s,mb4.7,baz=309,slow=6.5,SNR=4.3						
FRB	Frobisher Bay	75.57	14	P	P	19 40 13.9	0.0
FRB				pmax	pmax		
	comp=Z,7.0nm,0.7s						
DUG	Dugway	76.17	50	*e*P	P	19 40 17.8	0.0
	comp=Z,4.9nm,1.1s,mb4.3						
DUG	Dugway	76.17	50	*e*P	P	19 40 17.8	0.0
DUG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BW06	Boulder Array	76.46	46	*e*P	P	19 40 19.8	+0.4
	comp=Z,2.8nm,0.7s,mb4.3						
PDAR	Pinedale Array	76.46	46	P	P	19 40 19.6	+0.2
	comp=Z,1.4nm,0.7s,mb4.0,baz=282,slow=1.5,SNR=13						
KWP	Kalwaria	77.60	325	*e*P	P	19 40 26.7	+1.1
KOLS	Kolonicke sedl	78.30	324	*e*P	P	19 40 29.8	+0.4
STHS	Stebnicka Huta	78.42	325	*e*P	P	19 40 30.8	+0.7
OJC	Ojcow	78.47	326	*e*P	P	19 40 31.1	+0.7
BRTR	Keskin Array B	78.59	312	P	P	19 40 31.8	+0.5
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=3.7,SNR=6.8						
NIE	Niedzica	78.83	326	*e*P	P	19 40 33.9	+1.5
OKC	Ostrava-Krasne	79.47	327	*e*P	P	19 40 36.3	+0.4
DPC	Dobruska-Polom	79.86	328	*e*P	P	19 40 39.3	+1.4
UPC	Upice	79.87	328	*e*P	P	19 40 38.8	+0.8
VYHS	Vyhne	80.17	326	*e*P	P	19 40 40.5	+0.9
BRG	Berggiesshubel	80.42	330	*e*P	P	19 40 41.5	+0.6
	comp=Z,5.2nm,1.0s,mb4.4						
BRG	Berggiesshubel	80.42	330	*e*P	P	19 40 41.5	+0.6
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
PVCC	Panska Ves	80.44	329	*e*P	P	19 40 42.2	+1.2
CLL	Collm	80.45	330	⇑P	P	19 40 41.3	+0.2
	comp=Z,logA/T=1.0,mb4.7						
CLL				*e*PCP	PcP	19 40 46.0	-2.3
CLL				*e**PP	pP	19 40 53.0	-1.1
CLL				*e**SP	sP	19 41 00.0	+1.1
CLL				*e*PP	PP	19 43 50.0	+3.8
CLL				*e*S	S	19 50 50.0	+7.4
CLL	Collm	80.45	330⇑	*i*P	P	19 40 41.3	+0.2
	comp=Z,8.0nm,0.8s,mb4.7						
CLL				*e*pP	pP	19 40 53.0	-1.1
CLL				*e*S	S	19 50 50.0	+7.4
CLL	Collm	80.45	330⇑	*i*P	P	19 40 41.3	+0.2
CLL				*e**PP	pP	19 40 53.0	-1.1
CLL				*e*S	S	19 50 50.0	+7.4
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
VRAC	Vranov	80.54	327	LR	LR	20 17 41.0	
	comp=Z,97nm,19.9s,MS4.2,baz=25,slow=37						
SMOL	Smolenice	80.78	326	*e*P	P	19 40 44.5	+1.6
PRU	Pruhonice	80.87	329	*e*P	P	19 40 44.0	+0.7
TREC	Trest	81.02	328	*e*P	P	19 40 45.1	+1.0
NKC	Novy Kostel	81.52	330	*e*P	P	19 40 47.6	+0.9
KHC	Kasperske Hory	81.93	329	*e*P	P	19 40 49.7	+0.8
KHC	Kasperske Hory	81.93	329	*i* P	P	19 40 50.1	+1.2
GERES	GERESS Array B	82.11	329	P	P	19 40 50.2	+0.5
	comp=Z,1.8nm,0.7s,mb4.1,baz=34,slow=4.8,SNR=19						
GERES				LR	LR	20 19 45.9	
	comp=Z,146nm,19.4s,MS4.3,baz=237,slow=37						
GERES	GERESS Array B	82.11	329	P	P	19 40 50.2	+0.5
GERES				LR	LR	20 19 45.9	
GRA1	Grafenberg Arr	82.43	330	*e*P	P	19 40 52.5	+1.1
	comp=Z,7.0nm,0.8s,mb4.6						
GRF	Grafenberg Arr	82.43	330	*e*P	P	19 40 52.5	+1.1
	comp=Z,7.0nm,0.8s,mb4.6						
GRF	Grafenberg Arr	82.43	330	*e*P	P	19 40 52.5	+1.1
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
GRF	Grafenberg Arr	82.43	330	*e*P	P	19 40 52.5	+1.1
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
URZ	Urewera	82.54	153	LR	LR	20 14 04.8	
	comp=Z,108nm,20.7s,MS4.2,baz=310,slow=33						
SCHQ	Schefferville	84.12	16	P	P	19 41 00.0	+0.3
	comp=Z,3.7nm,0.8s,mb4.6,baz=4.9,slow=8.9,SNR=3.2						
CDF	Champ du Feu	84.98	332	*e*P	P	19 41 04.6	+0.4
	comp=Z,16nm,1.0s,mb4.8						
DLF	Lyons Farm	85.00	342	*e*P	P	19 41 02.8	-1.4
DCN	Croghan	85.14	342	*e*P	P	19 41 03.5	-1.4
DAVOX	Davos	85.31	329	LR	LR	20 22 35.7	
	comp=Z,111nm,20.7s,MS4.2,baz=11,slow=38						
HAU	Haudompre	85.66	332	*e*P	P	19 41 07.6	0.0
	comp=Z,4.1nm,0.6s,mb4.6						
HAU				*e*R			
	comp=Z,110nm,17.8s						
MEZF	Maizieres J'vi	85.72	333	*e*P	P	19 41 07.2	-0.7
LOR	Lormes	87.19	333	*e*P	P	19 41 15.4	+0.3
	comp=Z,15nm,1.1s,mb4.8						
LOR				*e*R			
	comp=Z,170nm,20.2s						
LOR	Lormes	87.19	333	*e*P	P	19 41 15.4	+0.3
LOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
LOR				MLR	MLR		
	comp=Z,170nm,20.3s,MS4.4						
FLN	La Foliniere	87.36	336	*e*P	P	19 41 16.1	+0.2
FLN				*e*R			
	comp=Z,166nm,18.2s						
SSF	Saint Saulge	87.49	333	*e*P	P	19 41 17.8	+1.2
	comp=Z,43nm,1.5s,mb5.2						
SSF	Saint Saulge	87.49	333	*e*P	P	19 41 17.8	+1.2
SSF				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.2						
LPL	La Plagne	87.59	330	*e*P	P	19 41 17.9	+0.8
LPG	La Plagne	87.60	330	*e*P	P	19 41 17.4	+0.3
	comp=Z,7.0nm,0.9s,mb4.6						
LPG	La Plagne	87.60	330	*e*P	P	19 41 17.4	+0.3
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
AVF	Avril sur Loir	87.78	333	*e*P	P	19 41 18.3	+0.4
	comp=Z,17nm,1.0s,mb4.9						
AVF	Avril sur Loir	87.78	333	*e*P	P	19 41 18.3	+0.4
AVF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
ORIF	Oris-en-Rattie	88.42	331	*e*P	P	19 41 20.8	-0.3
	comp=Z,6.9nm,0.8s,mb4.6						
ORIF				*e*R			
	comp=Z,115nm,21.0s						
TXAR	Lajitas Array	88.97	53	P	P	19 41 25.2	+1.2
	comp=Z,0.7nm,0.7s,mb4.1,baz=294,slow=3.3,SNR=14						
VNA2	Neumayer--Watz	143.54	196⇑	*i*P	PKPbc	19 48 00.6	+0.6
VNA2	Neumayer--Watz	143.54	196		PKPbc	19 48 03.4	+3.4
VNA2	Neumayer--Watz	143.54	196		PKPbc	19 48 15.2	+15
VNA2	Neumayer--Watz	143.54	196		PKPbc	19 48 17.2	+17
VNA3	Neumayer Olymp	143.78	195⇑	*i*P	PKPbc	19 48 01.2	+0.4
VNA3	Neumayer Olymp	143.78	195		PKPbc	19 48 07.7	+6.9
VNA3	Neumayer Olymp	143.78	195		PKPbc	19 48 11.8	+11
VNA3	Neumayer Olymp	143.78	195		PKPbc	19 48 14.7	+14
VNA3	Neumayer Olymp	143.78	195		PKPbc	19 48 17.4	+17
VNA3	Neumayer Olymp	143.78	195		PKPbc	19 48 26.8	+26
VNA1	Neumayer--Stat	143.94	196⇑	*i*P	PKPbc	19 48 02.5	+1.3
VNA1	Neumayer--Stat	143.94	196		PKPbc	19 48 05.4	+4.2
VNA1	Neumayer--Stat	143.94	196		PKPbc	19 48 10.5	+9.3
VNA1	Neumayer--Stat	143.94	196		PKPbc	19 48 14.5	+13
VNA1	Neumayer--Stat	143.94	196		PKPbc	19 48 17.1	+16
VNA1	Neumayer--Stat	143.94	196		PKPbc	19 48 23.2	+22
SIV	San Ignacio	149.90	49	PKPbc	PKPdf	19 48 20.4	+6.7
	comp=Z,1.9nm,0.5s,baz=184,slow=0.7,SNR=9.3						

*ATH **11** 19:31:15.7,39.16N×22.53E,h24km±3km,MD2.7/4*
*THE **11** 19:31:19.0,38.82N×23.37E,h11km,ML2.3*
*NEIC **11** 19:31:19.0,38.82N×23.37E,h11km,MD2.7(ATH), ML2.3(THE),After THE.*
*CSEM **11** 19:31:20.2±0.5,38.91N×23.35E,h12km,ML2.3,Error ellipse: s-maj=9.4km s-min=6.0km az=137.0*
ISC 11 19:31:17.3±0.6,**38.78N**±0.03×**23.39E**±0.05,**h11**km±5km, **n10**,σ**0^{s}90**/17,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	Lokris	0.33	248	*e*PN	Pn	19 31 28.1	+0.5
NEO	Neokhori	0.54	346	*e*PN	Pg	19 31 27.0	-1.3
NEO				*e*SN	Sg	19 31 35.2	-0.5
AOS	Alonnisos	0.55	44	*e*Pg	Pg	19 31 29.2	+0.8
AOS				*e*Sg	Sg	19 31 37.8	+2.0
XOR	Xorichti	0.61	345	*e*Pg	Pg	19 31 28.3	-1.3
XOR				*e*Sg	Sg	19 31 38.1	+0.3
MPAR	Parnis Oros	0.68	157	*e*PN	Sg	19 31 41.0	+0.8
PTL	Penteli	0.82	153	*e*PN	Sg	19 31 43.5	-1.2
AGG	Agios Georgios	0.86	287	*e*Pg	Pg	19 31 34.7	0.0
AGG				*e*Sg	Sg	19 31 47.6	+1.3
PAIG	Paliouri	1.17	11	*e*Pg	Pg	19 31 39.7	-1.0
PAIG				*e*Sg	Sg	19 31 56.3	-0.1
OUR	Ouranopolis	1.62	16	*e*Pg	Pn	19 31 45.3	-0.7
OUR				*e*Sg	Sn	19 32 07.0	0.0
KNT	Kendrikon	2.41	351	*e*Pn	Pn	19 31 57.8	+0.5
KNT				*e*Sn	Sn	19 32 27.3	+0.1

*JMA **11** 19:42:39.0±0.1,38.16N×142.19E,h42km±2km,M3.5*
ISC 11 19:42:38.8±2.1,**38.16N**±0.06×**142.2E**±0.2,**h42**km,**n7**, σ**0^{s}83**/11,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.75	294	P	P	19 42 53.1	+0.1
JIO				S	S	19 43 03.0	-0.4
OFUJ	Ofunato	1.02	335	P	P	19 42 56.7	-0.1
OFUJ				S	S	19 43 09.7	-0.4
JMK	Ichinoseki	1.12	316	P	P	19 42 58.5	+0.3
JMM	Marumori	1.17	256	P	P	19 42 58.6	-0.2
JOU	Okura	1.25	280	P	P	19 43 00.5	+0.5
JFK	Kawauchi	1.33	234	P	P	19 43 00.6	-0.7
JFK				*e*S	S	19 43 16.2	-1.8
MAT	Matsushiro	3.58	245	P	P	19 43 34.5	+1.2
MAT				S	S	19 44 16.3	+1.4

*MAN **11** 19:44:01.7,4.13N×126.82E,mb4.8,ML3.7,MS3.7*
*NEIC **11** 19:44:19.2±1.6,4.86N×126.64E,h66km±15km,mb4.6/3, Error ellipse: s-maj=19.4km s-min=8.5km az=75.0*
*IDC **11** 19:44:24.3±9.4,4.63N×126.11E,h113km±87km,mb3.8/9, mb1 3.9/9,mb1mx3.7/19,mbtmp4.1/9,MS3.7/1,Ms1 3.7/1, ms1mx3.0/29,Error ellipse: s-maj=90.6km s-min=16.7km az=68.0*
ISC 11 19:44:16.5±1.1,**4.83N**±0.06×**126.47E**±0.09,**h56**km±11km, **n29**,σ**0^{s}84**/33,**mb4.3**/12,**MS3.7**/1,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	2.11	354	*e*P	P	19 44 48.7	-1.4
MATI				*e*S	S	19 45 15.8	+0.6
DAV	Davao City (W)	2.40	338	P	P	19 44 55.7	+1.5
BUKP	Musuan	3.34	335	*e*P	P	19 45 06.9	-0.6
BUKP				*e*S	S	19 45 58.4	+12
BUTP	Butuan	4.20	348	*e*P	P	19 45 13.1	-6.5
BUTP				*e*S	S	19 46 19.8	+12
PAGZ	Pagadian	4.29	314	*e*P	P	19 45 20.2	-0.7
IPIL	Ipil	4.86	307	*e*P	P	19 45 28.1	-0.8
IPIL				*e*S	S	19 46 24.3	-0.2
MSLP	Maasin	5.51	343	*e*P	P	19 45 38.1	+0.3
KKM	Kota Kinabalu	10.28	277	*e*P	P	19 46 46.1	+2.2
KSM	Kuching	16.48	259	P	P	19 48 10.8	+5.3
NACB	Ninganchiao	19.80	347	*e*P	P	19 48 45.4	+0.4
FITZ	Fitzroy Crossi	22.80	182	*e*P	P	19 49 16.0	+0.6
	16nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	22.80	182	P	P	19 49 15.5	+0.1
	16nm,0.5s,mb4.7,baz=5.2,slow=7.9,SNR=30						
PMG	Port Moresby	25.00	124	*e*P	P	19 49 50.7	+14
WRAB	Tennant Creek	25.80	163	*e*P	P	19 49 45.1	+0.8
	26nm,1.1s,mb4.7						
WRA	Warramunga Arr	25.80	163	P	P	19 49 43.7	-0.6
	4.9nm,0.6s,mb4.2,baz=339,slow=10,SNR=42						
WB2	Warramunga Arr	25.81	163	*e*P	P	19 49 43.6	-0.7
MBWA	Marble Bar	26.66	194	*e*P	P	19 49 51.5	-0.7
CTAO	Charters Tower	31.48	142	*e*P	P	19 50 35.7	+0.4
STKA	Stephens Creek	39.24	159	P	P	19 51 41.4	+0.2
	5.5nm,0.8s,mb4.4,baz=339,slow=7.9,SNR=11						
STKA				LR	LR	20 09 49.6	
	comp=Z,116nm,19.9s,MS3.7,baz=26,slow=39						
SONM	Songino Array	46.18	341	P	P	19 52 39.0	+1.6
	0.4nm,0.4s,mb3.7,baz=160,slow=8.1,SNR=7.2						
SONM				PcP	PcP	19 54 11.2	-1.8
	0.6nm,1.0s,baz=135,slow=4.1,SNR=2.4						
MKAR	Makanchi Array	56.51	325	P	P	19 53 54.7	-0.6
	0.8nm,0.4s,mb4.1,baz=125,slow=8.1,SNR=9.3						
MKAR	Makanchi Array	56.51	325	P	P	19 53 54.7	-0.6
YAK	Yakutsk	57.12	2	*e*P	P	19 53 59.9	+0.4
	7.7nm,0.8s,mb4.8						
KURK	Kurchatov	60.68	327	*e*P	P	19 54 23.3	-1.0
	3.1nm,0.6s,mb4.6						
BVAR	Borovoye Array	66.26	327	P	P	19 54 59.7	-1.2
	1.9nm,0.7s,mb4.2,baz=127,slow=7.4,SNR=10						
VNDA	Vanda	84.54	173	P	P	19 56 44.5	+0.2
	0.9nm,1.0s,mb3.9,baz=312,slow=7.5,SNR=4.7						
VNDA	Vanda	84.54	173	P	P	19 56 44.5	+0.2
ARCES	ARCESS Array B	89.33	340	P	P	19 57 07.7	+0.1
	2.2nm,0.8s,mb4.5,baz=68,slow=4.9,SNR=2.9						
FINES	FINESS Array B	90.75	332	P	P	19 57 14.2	-0.1
	1.6nm,1.0s,mb4.3,baz=18,slow=6.0,SNR=5.3						

GUC 11 19:53:04.8±0.6,**21.69S**×**68.71W**,**h80**km,**ML3.6**,**2C**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.93	192	*e*P	P	19 53 23.8	+0.6
LVC				*i* S	S	19 53 38.2	+1.0
LVC				AMP		19 53 39.5	
	comp=E,889nm,0.5s						
SPCH	San Pedro de A	1.30	159⇑	*i*P	P	19 53 28.5	+0.6
SPCH				*i* S	S	19 53 46.7	+1.5
SPCH				AMP		19 53 47.7	
	comp=N,1μm,0.4s						
ANCH	Antofagasta	2.53	218⇑	*i*P	P	19 53 46.5	+1.9
ANCH				*i* S	S	19 54 17.0	+2.6
CPN1	Cerro Paranal	3.31	208	*e*P	P	19 53 56.8	+1.2
CPN1				AMP		19 54 41.4	
	comp=E,284nm,0.7s						

IDC 11 20:04:17.8±1.9,**17.16S**×**177.90W**,**mb3.9**/3,**mb1 4.2**/3, **mb1mx3.8**/13,**mbtmp3.9**/3,**Error ellipse: s-maj=164.6km s-min=33.1km az=155.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.42	240	P	P	20 11 50.1	-1.1
	2.3nm,0.9s,baz=106,slow=7.4,SNR=5.1						
WRA	Warramunga Arr	45.25	259	P	P	20 12 36.8	-2.2
	1.5nm,0.5s,baz=96,slow=7.4,SNR=77						
TXAR	Lajitas Array	85.18	57	P	P	20 16 56.5	-1.2
	0.3nm,0.7s,baz=225,slow=5.3,SNR=4.4						

*CSEM **11** 20:47:11.7±0.1,31.52N×52.80E,h14km,ML3.0,Error ellipse: s-maj=2.9km s-min=1.9km az=67.0*
*THR **11** 20:47:12.9±0.6,31.55N×52.99E,h14km±10km,ML2.8*
*TEH **11** 20:47:13.5,31.51N×52.83E,h10km,Mn3.0*
ISC 11 20:47:12.5±0.5,**31.56N**±0.04×**52.91E**±0.07,**h10**km,**n21**, σ**0^{s}98**/22,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISAD	Sadrabad	0.75	62	Pg	Pg	20 47 28.1	+0.5
IGAR	Garneh	0.91	319	Pn	Pn	20 47 31.0	-0.3
NASN	Na'in	1.24	356	*e*PG	Pg	20 47 36.2	-1.2
NASN				*e*SG	Sg	20 47 53.6	-0.3
IZEF	Zefreh	1.42	340	Pn	Pn	20 47 38.6	+0.1
ICHK	Chekchek	1.44	61	Pg	Pg	20 47 41.3	-0.1
IMEH	Mehriz	1.46	96	Pg	Pg	20 47 39.4	-2.4
IPAR	Pars	1.71	176	Pn	Pn	20 47 41.3	-1.4
IPIR	Pirpir	2.05	304	Pn	Pn	20 47 41.5	-6.0
IKLH	Kalahroud	2.09	328	Pn	Pn	20 47 48.1	+0.1
ISRV	Sarvestan	2.18	175	Pn	Pn	20 47 49.2	-0.1
IBAF	Bafgh	2.27	89	Pn	Pn	20 47 53.0	+2.4
IMOK	Mook	2.51	184	Pn	Pn	20 47 54.0	-0.1
GHIR	Ghir-Karzin	3.26	179	*e*PN	Pn	20 48 05.5	+0.7
GHIR	Ghir-Karzin	3.26	179	*e*Pn	Pn	20 48 05.4	+0.6
	SNR=52						
IVRN	Varamin	3.57	344	Pn	Pn	20 48 09.4	+0.2
KRBR	Kerman	3.67	114	*e*Pn	Pn	20 48 10.9	+0.4
KRBR				AML	AML	20 49 29.5	
	comp=N,20nm,0.6s						
KRBR	Kerman	3.67	114	*e*Pn	Pn	20 48 10.9	+0.4
	SNR=52						
ASAO	Ashtian	3.84	322	*e*PN	Pn	20 48 14.7	+1.6
ASAO				*e*SG	Sg	20 49 14.2	-6.2
ASAO				AML	AML	20 49 23.1	
	comp=N,12nm,0.7s						
IDMV	Damavand	4.08	350	Pn	Pn	20 48 15.8	-0.5
IFIR	Firoozkooh	4.08	358	Pn	Pn	20 48 20.9	+4.6
IRAZ	Razeghan	4.57	328	Lg		20 49 46.8	

*LDG **11** 20:47:30.0±0.3,21.46S×170.87E,h10km,Mb5.1/4,Error ellipse: s-maj=38.8km s-min=19.5km az=8.0*
*MOS **11** 20:47:36.2±2.9,22.01S×170.71E,h33km,mb4.9/10,Error ellipse: s-maj=15.3km s-min=10.8km az=37.3*
*IDC **11** 20:47:47.9±1.7,21.83S×170.91E,h150km±14km, mb4.0/10,mb1 4.2/14,mb1mx4.2/19,mbtmp4.6/14,MS3.9/5, Ms1 3.9/5,ms1mx3.4/26,Error ellipse: s-maj=15.7km s-min=14.0km az=41.0*
*BJI **11** 20:47:48.3,21.80S×170.61E,h155km,mB4.9,mb4.6*
*NEIC **11** 20:47:49.3±1.0,21.86S×170.88E,h166km±9km,mb4.8/19, Error ellipse: s-maj=8.4km s-min=6.1km az=59.0*
ISC 11 20:47:47.8±1.2,**21.92S**±0.06×**170.84E**±0.07, **h163**km±10km,**h158**km±5.1km**:pP-P**,**n153**,σ**1^{s}11**/75, **mb4.6**/32,**14C-2D**,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.08	267	*e*P	P	20 48 51.0	+0.8
DZM				*e*S	S	20 49 36.3	-2.1
DZM	Mont Dzumac	4.08	267	P	P	20 48 50.9	+0.7
	3.8nm,0.3s,baz=82,slow=17,SNR=77						
DZM				S	S	20 49 38.6	+0.2
	9.8nm,0.3s,baz=104,slow=19,SNR=8.6						
HNR	Honiara	16.24	318	P	P	20 51 28.5	+0.4
	8.8nm,0.3s,baz=254,slow=3.4,SNR=6.8						
HNR	Honiara	16.24	318	*e*P	P	20 51 27.4	-0.8
	178nm,1.0s						
HNR	Honiara	16.24	318	*e*P	P	20 51 27.4	-0.8
HNR				pmax	pmax		
	comp=Z,178nm,1.0s						
URZ	Urewera	17.16	163	P	P	20 51 39.5	+0.5
	comp=Z,1.4nm,0.3s,baz=347,slow=5.9,SNR=24						
AFI	Afiamalu	18.35	67	P	P	20 51 51.2	-1.3
	comp=Z,2.5nm,0.3s,baz=127,slow=5.1,SNR=3.9						
ARMA	Armidale	19.19	240	*e*P	P	20 52 07.8	+6.6
SNZO	South Karori	19.60	171	*e*P	P	20 52 04.9	-0.5
	comp=Z,44nm,0.6s						
RPZ	Rata Peaks	21.74	180	P	P	20 52 28.4	+1.7
	comp=Z,19nm,0.8s,mb4.6,baz=345,slow=5.7,SNR=16						
CTA	Charters Tower	23.02	270⇑	*i*P	P	20 52 41.5	+2.1
	comp=Z,4.8nm,0.5s,mb4.2						
CTA	Charters Tower	23.02	270	P	P	20 52 41.5	+2.1
	comp=Z,5.6nm,0.5s,mb4.3,baz=91,slow=11,SNR=16						
CTA				LR	LR	20 59 22.4	
	comp=Z,82nm,20.1s,baz=271,slow=30						
CTA	Charters Tower	23.02	270⇑	*i*P	P	20 52 41.5	+2.1
CTA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CTAO	Charters Tower	23.02	270	*e*P	P	20 52 41.2	+1.8
	comp=Z,24nm,1.1s,mb4.5						
CTAO	Charters Tower	23.02	270	*e*P	P	20 52 41.2	+1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CTAO				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.5						
PMG	Port Moresby	25.93	295	P	P	20 53 06.8	-0.1
	comp=Z,17nm,0.7s,mb4.8,baz=88,slow=6.8,SNR=9.0						
PMG	Port Moresby	25.93	295	eP	P	20 53 07.0	+0.1
	comp=Z,12nm,0.9s,mb4.5						
PMG	Port Moresby	25.93	295	eP	P	20 53 07.0	+0.1
PMG				pmax	pmax		
	comp=Z,12nm,0.9s						
STKA	Stephens Creek	27.83	243	P	P	20 53 24.5	+0.5
	comp=Z,2.1nm,0.6s,mb4.0,baz=77,slow=9.8,SNR=12						
STKA				PcP	PcP	20 56 36.2	+0.2
	comp=Z,1.8nm,0.5s,baz=107,slow=3.7,SNR=5.2						
STKA	Stephens Creek	27.83	243	eP	P	20 53 24.5	+0.5
WB2	Warramunga Arr	34.09	267	⇑iP	P	20 54 17.9	-0.9
WRAB	Tennant Creek	34.09	267	eP	P	20 54 17.6	-1.2
	comp=Z,44nm,1.5s,mb5.0						
WRAB	Tennant Creek	34.09	267	eP	P	20 54 17.7	-1.1
WRAB				pmax	pmax		
	comp=Z,44nm,1.5s,mb5.0						
WRA	Warramunga Arr	34.10	267	P	P	20 54 17.9	-1.0
	comp=Z,3.1nm,0.3s,mb4.5,baz=98,slow=8.4,SNR=109						
WRA				PcP	PcP	20 56 52.0	-0.7
	comp=Z,2.2nm,0.9s,baz=102,slow=2.6,SNR=7.8						
WRA				S	S	20 59 30.5	-1.3
	comp=Z,1.2nm,0.9s,baz=96,slow=14,SNR=5.6						
WRA				ScP		21 00 24.9	
	comp=Z,1.9nm,1.0s,baz=88,slow=4.1,SNR=7.8						
FITZ	Fitzroy Crossi	42.53	267	⇑iP	P	20 55 29.3	+0.2
	comp=Z,23nm,0.8s,mb4.9						
VNDA	Vanda	55.82	182	P	P	20 57 09.1	-0.8
	comp=Z,1.3nm,0.7s,mb3.9,baz=10,slow=6.9,SNR=12						
VNDA	Vanda	55.82	182	eP	P	20 57 08.6	-1.3
	comp=Z,1.0nm,0.7s,mb3.8						
VNDA	Vanda	55.82	182	eP	P	20 57 08.6	-1.3
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SBA	Scott Base	56.02	181	eP	P	20 57 11.6	+0.3
	comp=Z,22nm,1.2s,mb4.9						
SBA	Scott Base	56.02	181	eP	P	20 57 11.6	+0.3
SBA				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.9						
CASY	Casey	58.30	204	eP	P	20 57 26.0	-1.4
KSM	Kuching	63.44	283	eP	P	20 58 02.7	-0.1
MJAR	Matsushiro Arr	65.81	332	P	P	20 58 16.4	-1.4
	comp=Z,2.9nm,0.6s,mb4.3,baz=152,slow=6.8,SNR=11						
MAJO	Matsushiro	65.81	332	eP	P	20 58 16.8	-1.0
	comp=Z,2.7nm,0.6s,mb4.2						
MAJO	Matsushiro	65.81	332	eP	P	20 58 16.8	-1.0
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
MAT	Matsushiro	65.81	332	P	P	20 58 15.7	-2.1
MAT	Matsushiro	65.81	332	eP	P	20 58 16.0	-1.8
	comp=Z,4.9nm,0.5s,mb4.6						
MAT	Matsushiro	65.81	332	eP	P	20 58 16.0	-1.8
MAT				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
QSPA	South Pole Qui	68.15	180	eP	P	20 58 31.5	-0.2
	comp=Z,12nm,0.9s,mb4.6						
NJ2	Nanjing	73.17	316	eP	P	20 59 03.0	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
MDJ	Mudanjiang	76.18	331	P	P	20 59 21.6	+2.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,56nm,3.8s						
CN2	Changchun	77.52	328	eP	P	20 59 29.0	+2.0
GYA	Guiyang	78.57	305	P	P	20 59 33.6	+0.5
GYA				AP	pP	21 00 13.1	-0.2
GYA				XP	sP	21 00 30.5	-0.4
GYA				PP	PP	21 02 35.2	+0.7
GYA				S	S	21 09 15.4	+0.9
GYA				SCS	ScS	21 09 35.6	0.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,70nm,3.4s						
KMI	Kunming	80.95	302	P	P	20 59 44.6	-1.2
KMI				AP	pP	21 00 29.4	+3.1
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,92nm,3.6s						
KMI				LR	LR		
	comp=Z,29nm,24.3s						
XAN	Xi'an	81.02	312	P	P	20 59 46.0	0.0
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
HHC	Hu-ho-hao-te	83.22	319	eP	P	20 59 58.4	+1.2
HHC				AP	pP	21 00 37.8	0.0
HHC				XP	sP	21 00 55.8	+0.3
HHC				PP	PP	21 03 12.7	+0.3
HHC				S	S	21 10 01.5	-0.5
HHC				XS		21 11 11.7	
HHC				PS	PS	21 11 17.9	-0.5
HHC				SS	SS	21 15 32.1	-1.4
HHC				AMB	AMB		
	comp=Z,15nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,88nm,4.2s						
HHC				LR	LR		
	comp=N,157nm,15.5s						
HHC				LR	LR		
	comp=E,167nm,15.5s						
HHC				LR	LR		
	comp=Z,85nm,15.5s						
LZH	Lanzhou	85.63	312	eP	P	21 00 11.0	+1.7
LZH				AP	pP	21 00 51.5	+1.3
LZH				XP	sP	21 01 07.5	-0.4
LZH				PP	PP	21 03 34.9	+3.2
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
SNAA	Sanae	86.56	182	eP	P	21 00 12.3	-0.6
	comp=Z,3.2nm,0.8s,mb4.2						
SNAA	Sanae	86.56	182	eP	P	21 00 12.4	-0.5
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNA3	Neumayer Olymp	87.09	180		P	21 00 15.4	-0.1
VNA3	Neumayer Olymp	87.09	180		P	21 00 23.4	+7.9
VNA3	Neumayer Olymp	87.09	180		P	21 00 32.8	+17
VNA2	Neumayer--Watz	87.40	181		P	21 00 17.2	+0.2
VNA2	Neumayer--Watz	87.40	181		P	21 00 24.2	+7.2
VNA2	Neumayer--Watz	87.40	181		P	21 00 28.2	+11
VNA1	Neumayer--Stat	87.68	180		P	21 00 19.1	+0.8
VNA1	Neumayer--Stat	87.68	180		P	21 00 23.2	+4.9
VNA1	Neumayer--Stat	87.68	180		P	21 00 31.8	+13
YBH	Yreka Blue Hor	88.19	43	LR	LR	21 36 30.3	
	comp=Z,122nm,18.3s,baz=205,slow=33						
USHA	Ushuaia	88.38	150	LR	LR	21 34 04.2	
	comp=Z,75nm,18.0s,baz=213,slow=31						
NVAR	Mina Array Bea	89.46	48	P	P	21 00 27.8	+0.3
	comp=Z,1.6nm,0.8s,mb4.0,baz=213,slow=5.6,SNR=11						
ULN	Ulaanbaatar	89.90	323	eP	P	21 00 30.2	+0.9
	comp=Z,9.3nm,1.1s,mb4.6						
ULN	Ulaanbaatar	89.90	323	eP	P	21 00 30.2	+0.9
ULN				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
GTA	Gaotai	90.05	313	eP	P	21 00 31.6	+1.4
GTA				AP	pP	21 01 07.7	-3.8
GTA				XP	sP	21 01 22.3	-6.9
GTA				PP	PP	21 04 08.3	+0.3
GTA				PPP	PPP	21 06 06.9	-1.2
GTA				SKS	SKS	21 10 47.1	+3.4
GTA				S	S	21 11 08.4	+1.7
GTA				XS		21 12 11.9	
GTA				SS	SS	21 17 11.9	-1.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,84nm,6.9s						
GTA				LR	LR		
	comp=N,59nm,15.6s						
GTA				LR	LR		
	comp=E,73nm,17.9s						
GTA				LR	LR		
	comp=Z,91nm,12.9s						
SONM	Songino Array	90.25	323	P	P	21 00 31.8	+0.8
	comp=Z,5.3nm,1.0s,mb4.4,baz=123,slow=4.7,SNR=30						
ILAR	Eielson Array	92.34	17	P	P	21 00 38.9	-1.4
	comp=Z,1.6nm,1.1s,mb4.0,baz=240,slow=5.8,SNR=6.4						
ZAK	Zakamensk	93.34	324	eP	P	21 00 42.1	-3.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.1						
NEW	Newport	94.86	40	LR	LR	21 40 12.7	
	comp=Z,124nm,18.1s,baz=250,slow=33						
PLCA	Paso Flores	95.54	138	LR	LR	21 37 10.4	
	comp=Z,35nm,18.9s,baz=188,slow=31						
PKI	Pulchoki	96.04	297	eP	P	21 00 58.6	+0.6
	comp=Z,11nm,0.8s,mb5.2						
PKI	Pulchoki	96.04	297	eP	P	21 00 58.6	+0.6
PKI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
KKN	Kakani	96.23	297	eP	P	21 00 59.4	+0.6
	comp=Z,14nm,0.8s,mb5.3						
KKN	Kakani	96.23	297	eP	P	21 00 59.4	+0.6
KKN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
DMN	Daman	96.31	297	eP	P	21 00 59.8	+0.6
	comp=Z,27nm,0.9s,mb5.6						
GKN	Gorkha	96.83	297	eP	P	21 01 01.6	0.0
	comp=Z,10nm,0.7s,mb5.2						
KOLN	Koldanda	97.61	297	eP	P	21 01 01.7	-3.4
	comp=Z,20nm,0.7s,mb5.6						
WMQ	Urumqi	100.13	313	eP	P	21 01 16.0	-0.2
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s						
ARCES	ARCESS Array B	128.03	345	PKP	PKPdf	21 06 34.0	+0.2
	comp=Z,4.0nm,0.5s,baz=58,slow=1.3,SNR=28						
JOF	Joensuu	130.79	337	epkp	PKPdf	21 06 39.2	-0.1
KAF	Kangasniemi	133.09	338	epkp	PKPdf	21 06 44.2	+0.6
FINES	FINESS Array B	133.63	337	PKP	PKPdf	21 06 45.8	+1.1
	comp=Z,2.4nm,0.9s,baz=70,slow=3.1,SNR=7.4						
FINES				SKPbc		21 09 59.4	
	comp=Z,1.1nm,0.8s,baz=349,slow=9.7,SNR=3.6						
AKASG	Malin Array Be	138.53	323	SKPbc		21 10 15.1	
	comp=Z,0.4nm,0.4s,baz=45,slow=3.2,SNR=9.5						
KOLS	Kolonicke sedl	143.28	325	e	PKPbc	21 07 01.4	+0.7
STHS	Stebnicka Huta	143.53	326	ePKP	PKPdf	21 07 03.1	+0.4
KECS	Kecovo	144.49	325	ePKP	PKPdf	21 07 05.1	+0.7
BSEG	Bad Segeberg	144.78	340	ePKHKP		21 07 05.6	
OKC	Ostrava-Krasne	144.80	329	ePKP	PKPdf	21 07 06.1	+1.2
KSP	Ksiaz	144.95	332	ePKP	PKPdf	21 07 06.7	+1.5
PSZ	Piszkesteto	145.15	325	ePKPbc	PKPbc	21 07 07.2	+1.2
DPC	Dobruska-Polom	145.29	331	ePKP	PKPdf	21 07 07.8	+2.0
UPC	Upice	145.31	331	ePKP	PKPdf	21 07 07.9	+2.1
VYHS	Vyhne	145.34	327	ePKP	PKPdf	21 07 08.0	+2.1
KOLL	Kolacno	145.51	327	ePKP	PKPdf	21 07 09.0	+2.8
PVCC	Panska Ves	145.92	333	ePKP	PKPdf	21 07 09.8	+3.0
BRG	Berggiesshubel	145.93	334	i PKP	PKPdf	21 07 09.5	+2.6
CLL	Collm	145.97	335	⇑iPKP1	PKPbc	21 07 09.2	+1.2
CLL				i		21 07 12.7	
CLL				i *PPKP		21 07 49.4	
CLL	Collm	145.97	335	⇑iPKP	PKPdf	21 07 09.2	+2.3
CLL				i pPKP		21 07 49.4	
SMOL	Smolenice	146.03	328	ePKP	PKPdf	21 07 10.5	+3.4
PRU	Pruhonice	146.34	332	ePKP	PKPdf	21 07 10.9	+3.4
ZST	Bratislava	146.41	328	ePKP	PKPdf	21 07 11.8	+4.1
TREC	Trest	146.42	330	ePKP	PKPdf	21 07 10.9	+3.2
CLZ	Clausthal	146.52	338	ePKIKP	PKPdf	21 07 11.2	+3.5
NKC	Novy Kostel	147.03	334	ePKP	PKPdf	21 07 12.9	+4.3
MOX	Moxa	147.03	335	ePKP	PKPdf	21 07 12.4	+3.8
KHC	Kasperske Hory	147.40	332	ePKP	PKPdf	21 07 13.7	+4.4
KHC				ex	x	21 08 09.5	
SKO	Skopje	147.49	315	i PKP	PKPdf	21 07 14.0	+4.3
GEC2	GERESS Array S	147.55	331	ePKIKP	PKPdf	21 07 14.1	+4.5
GERES	GERESS Array B	147.55	331	PKP	PKPdf	21 07 10.7	+1.1
	comp=Z,19nm,0.9s,baz=135,slow=1.9,SNR=41						
GERES				PKPbc	PKPdf	21 07 13.9	+4.3
	comp=Z,19nm,0.9s,baz=45,slow=1.9,SNR=95						
WET	Wettzell	147.69	333	ePKIKP	PKPdf	21 07 14.4	+4.6
GRF	Grafenberg Arr	147.94	335	ePKP	PKPdf	21 07 14.9	+4.7
GRF				ePKP	PKPdf	21 07 18.8	+8.6
GRF	Grafenberg Arr	147.94	335	ePKP2	PKPab	21 07 18.8	+0.1
MOA	Molln	148.02	330	⇑iP	PKPdf	21 07 15.0	+4.7
	comp=Z,7.0nm,0.9s,SNR=7.2						
MOA				⇑iP		21 07 15.0	
	comp=Z,7.0nm,0.9s,SNR=7.2						
TNS	Taunus Mts	148.54	338	ePKIKP	PKPdf	21 07 16.5	+5.3
TOD	Tromm	148.93	337	PKP	PKPdf	21 07 17.4	+5.6
KBA	Koelnbreinsper	149.01	329	⇑iP	PKPdf	21 07 17.0	+5.0
	comp=Z,13nm,1.1s						
FUR	Furstenfeldbru	149.12	333	ePKIKP	PKPdf	21 07 18.0	+5.9
ABH	Alteburg	149.14	339	PKP	PKPdf	21 07 18.2	+6.1
WATA	Walderalm	149.63	332	⇑iP	PKPdf	21 07 19.0	+6.1
	comp=Z,16nm,1.1s,SNR=9.2						
WATA				⇑iP		21 07 19.0	
	comp=Z,16nm,1.1s,SNR=9.2						
WTTA	Wattenberg	149.66	331	⇑iP	PKPdf	21 07 19.4	+6.4
	comp=Z,51nm,1.3s						
WTTA	Wattenberg	149.66	331	i P	PKPdf	21 07 19.4	+6.4
	comp=Z,51nm,1.3s,SNR=13						
WTTA				i P		21 07 19.4	
	comp=Z,51nm,1.3s,SNR=13						
GIVF	Givet	149.79	342	ePKP1	PKPdf	21 07 19.4	+6.3
	comp=Z,66nm,0.8s						
LANF	Langenberg	149.81	338	PKP	PKPdf	21 07 19.8	+6.7
MOTA	Moosalm	149.83	332	⇑iP	PKPdf	21 07 19.5	+6.3
	comp=Z,23nm,0.9s						
SQTA	Sankt Quirin	149.88	332	⇓iP	PKPdf	21 07 19.9	+6.6
	comp=Z,20nm,0.9s,SNR=19						
SQTA				⇓iP		21 07 19.9	
	comp=Z,20nm,0.9s,SNR=19						
BAIF	Baives	150.00	343	ePKP1	PKPdf	21 07 20.0	+6.6
	comp=Z,28nm,0.9s						
MENF	Mencas	150.07	345	PKP	PKPdf	21 07 19.8	+6.3
BFO	Black Forest	150.16	336	ePKIKP	PKPdf	21 07 20.2	+6.5
DAVA	Damuels	150.40	333	⇑iP	PKPdf	21 07 21.2	+7.1
	comp=Z,8.8nm,1.0s						
WLS	Welschbruch	150.45	337	PKP	PKPdf	21 07 20.8	+6.7
CDF	Champ du Feu	150.48	338	ePKP1	PKPdf	21 07 21.0	+6.8
	comp=Z,43nm,0.9s						
FELD	Feldberg	150.66	336	PKP	PKPdf	21 07 21.9	+7.4
ECH	Echery	150.69	337	PKP	PKPdf	21 07 21.3	+6.8
MOF	Molkenrain	151.00	337	PKP	PKPdf	21 07 21.9	+6.9
THEF	They Montfort	151.08	339	PKP	PKPdf	21 07 22.6	+7.5
HINF	Hinteralfeld	151.13	337	ePKP1	PKPdf	21 07 22.4	+7.2
	comp=Z,19nm,0.6s						
MEZF	Maizieres J'vi	151.15	340	ePKP1	PKPdf	21 07 23.0	+7.8
	comp=Z,66nm,0.9s						
HAU	Haudompre	151.15	338	ePKP1	PKPdf	21 07 22.5	+7.3
	comp=Z,48nm,0.9s						
BBS	Basel-Blauen	151.19	336	PKP	PKPdf	21 07 22.4	+7.1
LOMF	Lomont	151.54	337	PKP	PKPdf	21 07 23.7	+7.9
FLN	La Foliniere	152.34	348	ePKP1	PKPdf	21 07 24.7	+7.8
	comp=Z,19nm,0.6s						
LDF	La Druitiere	152.42	347	ePKP1	PKPdf	21 07 24.8	+7.8
	comp=Z,5.4nm,0.5s						
CABF	La Chapelle	152.44	337	ePKP1	PKPdf	21 07 25.9	+8.8
	comp=Z,7.5nm,0.6s						
LOR	Lormes	152.61	341	ePKP1	PKPdf	21 07 25.7	+8.3
	comp=Z,11nm,0.9s						
GRR	Gorron	152.77	348	ePKP1	PKPdf	21 07 25.8	+8.3
	comp=Z,9.0nm,0.5s						
SSF	Saint Saulge	152.91	341	ePKP1	PKPdf	21 07 26.4	+8.6
	comp=Z,7.3nm,0.8s						
LPL	La Plagne	153.11	335	ePKP1	PKPdf	21 07 27.5	+9.4
	comp=Z,30nm,1.2s						
LPG	La Plagne	153.12	335	ePKP1	PKPdf	21 07 27.6	+9.5
	comp=Z,17nm,1.0s						
SGMF	Saint Gilles	153.20	350	ePKP1	PKPdf	21 07 26.5	+8.4
	comp=Z,11nm,0.7s						
ROSF	Rostrenen	153.22	351	ePKP1	PKPdf	21 07 26.3	+8.1
	comp=Z,5.6nm,0.6s						
BGF	Bois d'Agland	153.56	341	ePKP1	PKPdf	21 07 27.6	+8.9
ORIF	Oris-en-Rattie	153.94	335	ePKP1	PKPdf	21 07 28.8	+10
	comp=Z,14nm,0.9s						
SBF	Sospel	154.16	332	ePKP1	PKPdf	21 07 28.8	+9.2
	comp=Z,72nm,1.1s						
ESDC	Sonseca Array	161.76	347	PKPab	PKPab	21 08 16.4	-1.2
	comp=Z,1.1nm,0.6s,baz=3.5,slow=4.2,SNR=7.4						

IDC 11 21:06:26.0±3.6, 4.45S×154.02E, h98^{km}±27^{km}, mb3.6/3, mb1 3.9/4, mb1mx3.5/13, mbtmp4.1/4, Error ellipse: s-maj=63.9km s-min=28.1km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.41	234	P	P	21 08 25.9	-0.8
	4.6nm,0.3s,baz=55,slow=7.7,SNR=17						
PMG				S	S	21 09 53.7	-7.0
	2.4nm,0.3s,baz=134,slow=20,SNR=14						
WB2	Warramunga Arr	24.59	230	eP	P	21 11 37.1	-1.3
WRA	Warramunga Arr	24.60	230	P	P	21 11 36.6	-1.9
	2.2nm,0.3s,baz=53,slow=9.8,SNR=38						
WRA				S	S	21 15 52.6	+3.0
	0.3nm,0.8s,baz=49,slow=15,SNR=3.0						
STKA	Stephens Creek	29.68	202	P	P	21 12 22.4	-2.3
	1.6nm,0.7s,baz=27,slow=11,SNR=3.7						
MKAR	Makanchi Array	80.86	319	P	P	21 18 29.6	-1.1
	0.3nm,0.7s,baz=90,slow=4.3,SNR=3.7						

GUC 11 21:20:44.2±0.7, 34.98S×71.15W, h94^{km}±3^{km}, MD4.1, ML4.2

NEIC 11 21:20:44.4±0.2, 34.99S×71.08W, h94^{km}±3^{km}, MD4.1(GUC), Error ellipse: s-maj=6.8km s-min=3.4km az=104.0

IDC 11 21:20:45.5±2.7, 35.05S×70.73W, h107^{km}±31^{km}, mb3.3/2, mb1 3.5/6, mb1mx3.3/16, mbtmp3.7/6, Error ellipse: s-maj=64.8km s-min=17.5km az=105.0

ISC 11 21:20:43.4±0.4, 35.00S±0.03×71.11W±0.07, h102^{km}±3^{km}, n43, σ0.65/60, mb3.4/1, 7C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.10	266	⇑iP	P	21 20 57.4	-0.3
NICH				i S	S	21 21 07.2	-1.2
SFDO	San Fernando	0.39	12	⇓iP	P	21 20 58.4	-0.4
CICH	Cipreses	0.88	40	⇓iP	P	21 21 03.5	+0.4
CICH				i S	S	21 21 18.1	+0.4
CACH	El Canelo	0.97	26	⇑iP	P	21 21 04.2	+0.2
CACH				i S	S	21 21 19.9	+0.5
LNV	Longovilo	1.07	347	⇑iP	P	21 21 05.0	0.0
CHCH	Chadas Angostu	1.13	20	⇓iP	P	21 21 05.7	0.0
TACH	Talagante	1.35	6	⇑iP	P	21 21 08.3	-0.1
LMEL	Las Melosas	1.37	33	⇓iP	P	21 21 09.3	+0.6
LMEL				i S	S	21 21 28.5	+1.0
LMEL				AMP		21 21 32.0	
	comp=N,7μm,0.1s						
CNCO	Chanco	1.38	237	eP	P	21 21 09.1	+0.4
CNCO				i S	S	21 21 27.1	-0.5
CNCO				AMP		21 21 29.2	
	comp=E,4μm,0.4s						
PCH	Pirque	1.46	20	eP	P	21 21 09.9	+0.2
PCH				i S	S	21 21 29.5	+0.2
ANTU	Antumapu	1.48	16	eP	P	21 21 10.3	+0.3
ANTU				i S	S	21 21 29.9	+0.2
ANTU				AMP		21 21 30.7	
	comp=N,6μm,0.2s						
SJCH	San Jose de Ma	1.49	25	eP	P	21 21 09.7	-0.4
SJCH				i S	S	21 21 30.0	+0.1
SJCH				AMP		21 21 32.1	
	comp=N,5μm,0.3s						
RCDM	Rinconada Maip	1.52	10	⇑iP	P	21 21 10.4	-0.1
RCDM				i S	S	21 21 30.2	-0.5
RCDM				AMP		21 21 30.8	
	comp=E,8μm,0.1s						
LCCH	Las Cruces	1.56	346	⇑iP	P	21 21 10.8	-0.2
LCCH				i S	S	21 21 31.2	-0.3
FSR	Penalolen	1.59	18	eP	P	21 21 11.7	+0.4
FSR				i S	S	21 21 32.5	+0.5
FSR				AMP		21 21 34.2	
	comp=N,4μm,0.6s						
STL	Santa Lucia	1.60	14	eP	P	21 21 10.9	-0.6
STL				i S	S	21 21 31.8	-0.6
STL				AMP		21 21 33.3	
	comp=E,964nm,0.6s						
DSCH	Colegio Aleman	1.66	16	⇓iP	P	21 21 12.5	+0.4
DSCH				i S	S	21 21 33.7	+0.2
DSCH				AMP		21 21 35.3	
	comp=E,6μm,0.7s						
CLCH	Cerro Calan	1.67	17	⇓iP	P	21 21 12.4	+0.2
CLCH				i S	S	21 21 34.1	+0.4
CLCH				AMP		21 21 35.5	
	comp=E,6μm,0.4s						
COCH	Cobquecura	1.77	230	eP	P	21 21 14.1	+0.5
CCHI	Chillan	1.78	206	eP	P	21 21 14.0	+0.3
CCHI				i S	S	21 21 36.5	+0.2
CCHI				AMP		21 21 40.5	
	comp=N,2μm,0.5s						
FCH	Farellones	1.80	22	⇓iP	P	21 21 14.4	+0.5
FCH				i S	S	21 21 37.2	+0.6
FCH				AMP		21 21 38.8	
	comp=N,4μm,0.4s						
IHA	Instituto Hidr	2.01	347	⇓iP	P	21 21 16.9	+0.1
ROCH	El Roble	2.02	2	eP	P	21 21 17.1	+0.2
JACH	Jahuel	2.35	11	⇓iP	P	21 21 21.2	0.0
CHNG	Los Chungos	3.12	354	eP	P	21 21 31.1	-0.7
ILCH	Illapel	3.35	359	eP	P	21 21 34.4	-0.6
CMCH	Combarbala	3.81	1	eP	P	21 21 39.7	-1.6
ZON	Zonda	4.00	31	⇑iP	P	21 21 47.1	+3.3
ZON				eS	S	21 22 46.7	+17
CFAA	Coronel Fontan	4.15	36	P	P	21 21 44.9	-1.0
	comp=N,1.5nm,0.3s,baz=213,slow=12,SNR=171						
CFAA				S	S	21 22 31.6	-2.0
	comp=N,0.5nm,0.3s,baz=239,slow=12,SNR=3.5						
PLCA	Paso Flores	5.74	176	P	P	21 22 07.8	+0.2
	comp=N,0.8nm,0.3s,baz=350,slow=12,SNR=10						
PLCA	Paso Flores	5.74	176	eP	P	21 22 07.9	+0.3
TRQA	Tornquist	7.96	115	eP	P	21 22 36.7	-1.3
LVC	Limon Verde	12.49	9	P	P	21 23 38.6	0.0
	comp=N,0.5nm,0.3s,baz=195,slow=12,SNR=3.9						
LVC	Limon Verde	12.49	9	eP	P	21 23 39.1	+0.5
LPAZ	La Paz	18.82	9	P	P	21 24 58.8	+1.2
	comp=N,0.2nm,0.3s,baz=180,slow=9.0,SNR=7.5						
LPAZ	La Paz	18.82	9	eP	P	21 24 58.5	+0.9
	comp=N,2.0nm,0.7s						
SIV	San Ignacio	20.96	28	P	P	21 25 18.9	-1.0
	comp=N,3.1nm,0.8s,baz=209,slow=13,SNR=5.1						
VNA3	Neumayer Olymp	48.15	158		P	21 29 14.9	+0.4
VNA2	Neumayer--Watz	48.80	157		P	21 29 19.7	+0.2
SNAA	Sanae	50.38	158	eP	P	21 29 31.3	-0.3
TXAR	Lajitas Array	70.97	330	P	P	21 31 52.7	+0.9
	comp=N,0.3nm,0.5s,mb3.4,baz=161,slow=9.0,SNR=6.1						
TXAR				pP	pP	21 32 15.6	-2.3
	comp=N,0.2nm,0.5s,baz=160,slow=9.5,SNR=3.5						
TXAR	Lajitas Array	70.97	330	P	P	21 31 52.7	+0.9
TXAR				pP	pP	21 32 15.6	-2.3
WRA	Warramunga Arr	120.25	208	PKP	PKPdf	21 39 24.1	+1.2
	comp=N,0.2nm,0.8s,baz=159,slow=1.5,SNR=8.5						

GUC 11 21:24:01.9±0.9, 27.61S×69.67W, h114^{km}±13^{km}, ML3.5, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.66	293	eP	P	21 24 20.7	+0.3
CPCH				i S	S	21 24 34.8	+0.2
VACH	Vallenar	1.36	225	⇓iP	P	21 24 27.4	-0.4
VACH				i S	S	21 24 47.9	+0.6
VACH				AMP		21 24 51.0	
	comp=N,2μm,0.1s						
CRCH	Chaqaral	1.52	326	⇑iP	P	21 24 29.6	-0.1
CRCH				i S	S	21 24 50.7	+0.1
CRCH				AMP		21 24 53.6	
	comp=N,398nm,0.2s						
CPN1	Cerro Paranal	3.05	347	eP	P	21 24 51.1	+1.5
CPN1				AMP		21 25 31.8	
	comp=E,107nm,0.7s						

CASC 11 22:07:53.5±2.9, 12.64N×88.34W, h35^{km}±999^{km}, MD3.5, ML2.9, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.79	4	⇑eP	P	22 08 16.6	+8.5
VSM				eS	S	22 08 29.1	+10
CNCH	Conchagua	0.80	38	⇓eP	P	22 08 16.4	+8.1
CNCH				eS	S	22 08 29.0	+10
BLLM	Bellamira	0.80	7	eP	P	22 08 16.6	+8.3
BLLM				eS	S	22 08 28.0	+8.7
SNVI	San Vicente	1.08	333	eP	P	22 08 20.9	+8.5
SNVI				eS	S	22 08 34.7	+8.3
LCBS	La Ceiba	1.19	328	eP	P	22 08 21.8	+8.0
LCBS				eS	S	22 08 36.6	+7.5
LFRS	El Faro	1.21	324	eP	P	22 08 21.9	+7.8
LFRS				eS	S	22 08 37.0	+7.5
CRIN	San Cristobal	1.25	87	eP	P	22 08 15.8	+1.0
CRIN				eS	S	22 08 30.6	-0.2
LFU	La Fuente	1.34	326	eP	P	22 08 24.2	+8.2
LFU				eS	S	22 08 40.4	+7.5
BOQS	Boqueron	1.43	320	eP	P	22 08 25.3	+8.0
BOQS				eS	S	22 08 42.7	+7.7
LEON	Leon	1.43	99	eP	P	22 08 18.0	+0.7
LEON				eS	S	22 08 33.6	-1.5

TEL3	Telica 3	1.46	93	eP	P	22 08 18.1	+0.4
TEL3				eS	S	22 08 35.6	-0.3
TELN	Telica	1.47	91	eP	P	22 08 18.3	+0.4
TELN				eS	S	22 08 36.1	0.0
CNGN	Cerro Negro	1.60	95	eP	P	22 08 20.1	+0.2
CNGN				eS	S	22 08 40.5	+0.9
COPN	Copaltepe	1.76	105	eP	P	22 08 21.6	-0.6
COPN				eS	S	22 08 41.8	-1.7
COPN				i		22 08 45.6	
	comp=Z,123nm,0.3s						
MOMJ	Momotombo	1.77	97	eP	P	22 08 21.8	-0.4
MOMJ				eS	S	22 08 43.0	-0.6

*PRU **11** 22:53:17.8, 51.50N×16.15E*
*CSEM **11** 22:53:17.0±0.4, 51.54N×16.16E, h2^{km}, ML2.8/6, Error ellipse: s-maj=6.7km s-min=3.2km az=25.0*
*NEIC **11** 22:53:18.6±1.8, 51.40N×16.10E, h5^{km}, ML2.5(VIE), Error ellipse: s-maj=19.1km s-min=8.0km az=205.0*
*WAR **11** 22:53:18.3, 51.49N×16.13E, h1^{km}, ML2.2, Mining Induced*
*VIE **11** 22:53:21.9±0.4, 51.21N×16.49E, mb1.8/3, ML2.1/3, Error ellipse: s-maj=3.2km s-min=2.7km az=99.0, Suspected Mining induced.*

ISC 11 22:53:16.3±1.0**, 51.47N**±0.05×**16.07E**±0.05**, n16,** σ**1^{s}08**/29**, 1C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	167	ePG	Pg	22 53 30.0	+0.8
KSP				eSG	Sg	22 53 39.0	+1.2
UPC	Upice	0.96	182	ePG	Pg	22 53 37.3	+1.7
DPC	Dobruska-Polom	1.13	172	ePG	Pg	22 53 39.1	+0.2
DPC				eSG	Sg	22 53 54.1	+0.1
	6.1nm,0.3s						
PVCC	Panska Ves	1.34	226	ePG	Pg	22 53 43.6	+0.6
BRG	Berggiesshubel	1.47	247	Pn	Pn	22 53 45.3	+1.2
BRG				Pg	Pg	22 53 46.4	+0.8
BRG				Sg	Sg	22 54 06.4	+1.3
BRG	Berggiesshubel	1.47	247	Pn	Pn	22 53 45.3	+1.2
BRG	Berggiesshubel	1.47	247	Pg	Pg	22 53 46.4	+0.8
PRU	Pruhonice	1.77	214	ePG	Pg	22 53 51.1	-0.6
PRU				eSG	Sg	22 54 14.8	-0.5
	12nm,0.6s						
CLL	Collm	1.93	266	ePG	Pg	22 53 54.0	-0.8
CLL				eSG	Sg	22 54 20.0	-0.5
MORC	Moravsky Berou	1.94	150	eP	Pn	22 53 51.0	+0.1
MORC	Moravsky Berou	1.94	150	eP	Pn	22 53 51.0	+0.2
OKC	Ostrava-Krasne	2.10	140	ePG	Pg	22 53 56.9	-1.4
OKC				eSG	Sg	22 54 23.9	-2.4
	6.7nm,0.5s						
NKC	Novy Kostel	2.61	243	ePG	Pg	22 54 08.1	-0.3
NKC				eSG	Sg	22 54 42.8	-0.3
	7.1nm,0.2s						
KHC	Kasperske Hory	2.83	215	ePN	Pn	22 54 04.3	+0.6
KHC				ePG	Pg	22 54 10.4	-2.5
KHC				eSN	Sn	22 54 39.4	+0.4
KHC				eSG	Sg	22 54 49.4	-1.3
	7.8nm,0.7s						
MOX	Moxa	2.93	255	ePg	Pg	22 54 13.4	-1.4
MOX				eSg	Sg	22 54 53.6	-0.2
MOA	Molln	3.81	199	⇑iPn	Pn	22 54 19.7	+2.2
MOA				⇓iSg	Sg	22 55 23.0	-0.1
	comp=Z,2.5nm,0.5s						

IDC 11 23:15:32.0±7.7**, 7.33S×123.87E, h242^{km}**±83^{km}**, mb3.4**/2**, mb1 3.6**/4**, mb1mx3.2**/14**, mbtmp4.1**/4**, 2D, Error ellipse: s-maj=131.3km s-min=24.7km az=53.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.84	171	eP	P	23 18 02.9	+0.6
	4.9nm,1.0s						
FITZ				eS	S	23 19 53.2	-7.3
FITZ	Fitzroy Crossi	10.84	171	P	P	23 18 01.4	-0.9
	1.6nm,0.3s,baz=357,slow=12,SNR=16						
FITZ				S	S	23 19 53.8	-6.6
	1.1nm,0.3s,baz=3.2,slow=18,SNR=11						
WRA	Warramunga Arr	16.13	142	P	P	23 19 05.3	-2.0
	0.8nm,0.3s,baz=316,slow=12,SNR=21						
WRA				S	S	23 22 03.9	+5.0
	0.3nm,0.3s,baz=319,slow=20,SNR=5.6						
WB2	Warramunga Arr	16.14	142	⇓iP	P	23 19 05.3	-2.1
WB2				eS	S	23 22 04.6	+5.6
STKA	Stephens Creek	29.49	148	⇓iP	P	23 21 13.6	-2.4
	1.1nm,0.2s						
STKA	Stephens Creek	29.49	148	P	P	23 21 13.7	-2.3
	1.7nm,0.3s,baz=330,slow=8.8,SNR=18						
MKAR	Makanchi Array	65.31	330	P	P	23 25 48.4	-1.7
	0.2nm,0.6s,baz=137,slow=6.9,SNR=4.5						

MAN 11 23:25:22.2, 5.61N×124.14E, h31^{km}, mb4.4, ML3.3, MS3.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	1.68	34	⇑eP	Pn	23 25 49.8	-0.1
PAGZ	Pagadian	2.34	341	eP	Pn	23 25 58.4	-1.0
PAGZ				eS	Sn	23 26 29.9	+2.4
BUKP	Musuan	2.43	22	eP	Pn	23 26 00.7	0.0
BUKP				eS	Sn	23 26 29.5	-0.2
MATI	Mati	2.49	58	eP	Pn	23 26 01.0	-0.5
MATI				eS	Sn	23 26 31.1	0.0
IPIL	Ipil	2.66	324	eP	Pn	23 26 04.6	+0.6
IPIL				eS	Sn	23 26 33.5	-2.0
CGP	Cagayan de Oro	2.88	11	⇓eP	Pn	23 26 09.1	+2.0
CGP				eS	Sn	23 26 44.6	+3.6

*NNC **11** 23:27:21.7±7.1, 36.27N×70.93E, h103^{km}±144^{km}, mpv4.1, Error ellipse: s-maj=55.8km s-min=50.3km az=166.0*
*NEIC **11** 23:27:21.7, 36.27N×70.93E, h103^{km}, mb4.1/3, After NNC.*

ISC 11 23:27:18.4±2.7**, 36.3N**±0.1×**70.7E**±0.2**, h41^{km}**±55^{km}**, n14,** σ**0^{s}55**/17**, 3C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	6.29	21	P	P	23 28 51.5	+0.5
	SNR=55						
KZA	Kyzart	6.79	30	P	P	23 28 57.6	-0.4
	SNR=15						
EKS2	Erkin-Say	6.80	20	P	P	23 28 58.4	+0.2
	SNR=18						
KK31	Karatay Array	6.80	359	⇓P	P	23 28 58.6	+0.4
	2.4nm,0.3s,baz=175,slow=12,SNR=141						
KK31				⇑S	S	23 30 15.9	+0.6
	1.8nm,0.5s,baz=174,slow=21,SNR=4.1						
AAK	Ala-Archa	6.99	24	P	P	23 29 01.2	+0.4
	SNR=21						
AAK	Ala-Archa	6.99	24	⇑P	P	23 29 01.0	+0.1
	9.5nm,0.5s						
AAK				⇓S	S	23 30 19.2	-0.8
	2.9nm,0.7s						
AAK	Ala-Archa	6.99	24	⇑P	P	23 29 01.0	+0.1
	9.5nm,0.4s						
AAK				S	S	23 30 19.2	-0.8
KBK	Karagaybulak	7.17	26	P	P	23 29 03.2	-0.1
	SNR=5.8						
CHMS	Chumysh	7.40	24	P	P	23 29 06.3	-0.3
	SNR=10						
USP	Ospenovka	7.56	22	P	P	23 29 08.5	-0.3
	SNR=6.5						
TKM2	Tokmak 2	7.63	28	P	P	23 29 09.3	-0.5
	SNR=5.3						
MK31	Makanchi Array	13.62	36	P	P	23 30 32.1	+1.1
	0.1nm,0.3s,baz=204,slow=9.6,SNR=4.3						
MK31	Makanchi Array	13.62	36	P	P	23 30 32.1	+1.1
	0.1nm,0.3s						
AB31	Akbulak array	15.13	332	P	P	23 30 50.0	-0.8
	1.3nm,0.3s,baz=150,slow=13,SNR=78						

*ISK **11** 23:30:46.5, 39.20N×26.57E, h28^{km}, MD3.2*
*CSEM **11** 23:30:46.6±0.1, 39.25N×26.74E, h10^{km}, MD3.4, Error ellipse: s-maj=4.6km s-min=2.2km az=14.0*
*ATH **11** 23:30:47.4, 39.24N×26.61E, h24^{km}±1^{km}, MD3.4/6*
*NEIC **11** 23:30:47.3, 39.24N×26.62E, h24^{km}, MD3.4(ATH), MD3.2(ISK), After ATH.*
*SOF **11** 23:30:48.0, 39.49N×26.64E, h2^{km}, MD2.6*

ISC 11 23:30:46.9±0.3**, 39.24N**±0.02×**26.64E**±0.04**, h10^{km}, n36,** σ**1^{s}13**/48**, 1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.08	29	iP	Pg	23 30 49.5	+0.2
AYVA				iS	Sg	23 30 51.2	+0.3
PRK	Paraskevi	0.29	272	⇓iPB	Pb	23 30 53.9	+0.3
EZN	Ezine	0.64	338	PG	Pg	23 30 59.7	0.0
CANB	Canakkale	0.84	23	PG	Pg	23 31 03.0	-0.8
CANB				SG	Sg	23 31 16.2	+1.0
URLA	Izmir	0.88	182	iP	Pb	23 31 02.6	-1.1
URLA				iS	Sb	23 31 17.4	+2.2
BLCB	Balcova	0.91	160	PG	Pg	23 31 03.4	-1.6
KDAG	Bornova	0.97	149	iP	Pb	23 31 03.7	-1.6
KDAG				iS	Sb	23 31 18.5	+0.6
IZM	Izmir	0.97	150	PG	Pg	23 31 04.7	-1.6
AKS	Akhisar	0.98	111	PG	Pg	23 31 04.8	-1.7
BALB	Balikesir	1.04	67	PN	Pn	23 31 06.7	-0.7
BTOK	Tokmak	1.20	64	iP	Pb	23 31 09.2	0.0
BTOK				iS	Sb	23 31 25.6	+1.1
LIA	Limnos Island	1.30	301	ePN	Pn	23 31 12.0	+0.8
LIA				eSN	Sn	23 31 29.3	+0.5
EDC	Edincik	1.46	40	PN	Pn	23 31 11.8	-1.6
BNT	Bandirma	1.49	41	PN	Pn	23 31 13.3	-0.6
SART	Tekirdag	1.51	16	iP	Pn	23 31 13.7	-0.4
SART				iS	Sb	23 31 33.7	+0.1
SMG	Samos	1.53	174	ePN	Pn	23 31 15.0	+0.5
SMG				eSN	Sn	23 31 35.8	+1.2
MRMT	Marmara Adasi	1.55	28	PN	Pn	23 31 13.8	-0.9
DST	Dursunbey	1.58	76	PN	Pn	23 31 14.4	-0.8
MFT	Murefte	1.62	17	PN	Pn	23 31 15.2	-0.6
MANT	Manisa	1.67	116	iP	Pn	23 31 16.9	+0.5
MANT				iS	Sn	23 31 37.8	-0.3
AYDN	Tasoluk	1.85	148	iP	Pn	23 31 21.8	+2.8
AYDN				iS	Sn	23 31 43.2	+0.5
RDO	Rodhopi	2.09	336	ePN	Pn	23 31 22.9	+0.5
ULDT	Uludag	2.13	64	iP	Pn	23 31 25.2	+2.2
ULDT				iS	Sn	23 31 52.2	+2.5
GDZ	Gediz	2.21	93	iP	Pn	23 31 26.6	+2.3
GDZ				iS	Sn	23 31 55.4	+3.5
APE	Apeiranthos	2.33	202	ePN	Pn	23 31 24.2	-1.7
APE	Apeiranthos	2.33	202	ePn	Pn	23 31 26.8	+0.9
YER	Yerkesik	2.46	148	ePN	Pn	23 31 26.4	-1.4
YLV	Yalova	2.49	57	ePN	Pn	23 31 27.7	-0.4
KDZ	Kurdzhali	2.58	339	eP	Pn	23 31 30.0	+0.5
EDRB	Edirne	2.61	2	ePN	Pn	23 31 28.7	-1.2
RZN	Rozhen	2.85	330	eP	Pn	23 31 32.0	-1.4
NVR	Nevrokopi	3.00	316	ePN	Pn	23 31 35.9	+0.5
TKTP	Tekketepe	3.12	111	iP	Pn	23 31 37.0	-0.1
MMB	Musomiste	3.23	318	eP	Pn	23 31 39.5	+0.7
ESKT	Eskisehir	3.28	84	ePN	Pn	23 31 38.2	-1.1
ESKT	Eskisehir	3.28	84	eP	Pn	23 31 48.8	+9.4

IDC 11 23:40:34.6±11.0**, 3.47N×97.09E, mb4.0**/3**, mb1 4.0**/3**, mb1mx3.6**/16**, mbtmp4.0**/3**, Error ellipse: s-maj=252.3km s-min=67.0km az=148.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	44.92	9	P	P	23 48 51.1	-1.8
	2.7nm,0.9s,baz=190,slow=8.5,SNR=17						
MKAR	Makanchi Array	45.03	346	P	P	23 48 51.9	-1.9
	2.2nm,0.8s,baz=156,slow=8.9,SNR=19						
BRTR	Keskin Array B	67.52	312	P	P	23 51 33.0	-1.9
	0.6nm,0.7s,baz=108,slow=7.8,SNR=3.6						

MEX 12 00:09:04.3±1.5**, 16.98N×99.91W, h30^{km}**±23^{km}**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.11	182	iP	Pn	00 09 08.0	-1.7
ACX				iS	Sn	00 09 12.5	-0.5
CAIG	El Cayaco	0.35	281	iP	Pb	00 09 11.3	-1.1
CAIG				eS	Sb	00 09 15.9	-2.1
PLIG	Platanillo	1.46	15	iP	Pn	00 09 28.2	-0.7
PLIG				iS	Sn	00 09 45.6	-1.6
PPM	Popocatepetl	2.41	30	eP	Pn	00 09 40.0	-2.6

*BJI **12** 00:59:21.9, 5.79S×152.17E, h41^{km}, mB5.2, mb5.0, Ms4.6, Msz4.2*
*MOS **12** 00:59:25.3±1.0, 5.50S×151.51E, h33^{km}, mb5.2/18, Error ellipse: s-maj=11.0km s-min=8.1km az=80.9*
*NEIC **12** 00:59:26.5±0.1, 5.57S×151.50E, h35^{km}, mb5.1/26, Error ellipse: s-maj=6.3km s-min=5.0km az=102.0*
*HRVD **12** 00:59:26.5±0.6, 5.80S×151.65E, h40^{km}±1^{km}, MW4.9/36, Centroid moment Tensor Solution. LP body waves: s18,c24;Mantle waves: s36,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.72±.29; $M_{\theta\theta}$-0.91±.16; $M_{\phi\phi}$-1.81±.16; $M_{r\theta}$0.85±.12; $M_{\theta\phi}$1.37±.11; $M_{\phi r}$0.80±.11; Best double couple: $M_0$2.982×10^{16} NP1:ϕ_s125°, δ47°, λ61°. NP2:ϕ_s344°, δ50°, λ117°. Principal axes: T 3.156, Plg69°, Azm320°; N -.352, Plg21°, Azm145°; P -2.807, Plg2°, Azm55°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **12** 00:59:28.9±1.8, 5.60S×151.52E, h59^{km}±15^{km}, mb4.4/19, mb1 4.6/21, mb1mx4.6/22, mbtmp4.7/21, MS3.9/8, Ms1 3.9/8, ms1mx3.8/12 Error ellipse: s-maj=14.9km s-min=9.9km az=130.0*

ISC 12 00:59:27.7±0.2**, 5.62S**±0.04×**151.50E**±0.05**, h58^{km}**±3.4^{km}**:pP-P, n285,** σ**1^{s}10**/129**, mb4.9**/58**, MS4.1**/18**, 22C-15D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.72	229	P	P	01 00 52.9	+1.0
	102nm,0.3s,baz=38,slow=6.3,SNR=257						
PMG				S	S	01 01 58.2	+1.2
	116nm,0.3s,baz=142,slow=20,SNR=7.5						
PMG	Port Moresby	5.72	229	ePn	P	01 00 53.2	+1.2
	2μm,1.0s						
PMG				eSn	S	01 01 58.9	+1.8
PMG	Port Moresby	5.72	229	eP	P	01 00 53.2	+1.3
PMG				e		01 01 58.9	
PMG				pmax	pmax		
	comp=Z,2μm,1.0s						
HNR	Honiara	9.19	115	P	P	01 01 38.1	-1.9
	comp=Z,15nm,0.3s,baz=256,slow=2.4,SNR=4.9						
HNR				LR	LR	01 04 49.5	
	comp=Z,616nm,21.2s,baz=86,slow=35						
HNR	Honiara	9.19	115	eP	P	01 01 38.7	-1.3
CTA	Charters Tower	15.26	199	eP	P	01 03 06.6	+5.5
	comp=Z,17nm,0.6s						
CTA	Charters Tower	15.26	199	P	P	01 03 01.1	+0.1
	comp=Z,0.4nm,0.3s,baz=34,slow=10,SNR=4.6						
CTA				LR	LR	01 08 16.8	
	comp=Z,484nm,21.4s,baz=205,slow=34						
CTAO	Charters Tower	15.26	199	ePn	P	01 03 01.0	-0.1
	comp=Z,8.7nm,1.0s						
CTAO	Charters Tower	15.26	199	eP	P	01 03 01.0	-0.1
CTAO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KAKA	Kakadu	20.09	248	⇑iP	P	01 04 17.4	+18
	comp=Z,116nm,0.5s						
KAKA				eS	S	01 07 56.2	+20
GUMO	Guam	20.19	341	P	P	01 04 01.1	+0.8
	comp=Z,303nm,0.9s,baz=176,slow=16,SNR=16						
GUMO	Guam	20.19	341	ePn	P	01 04 01.2	+1.0
	comp=Z,369nm,1.0s						
GUMO	Guam	20.19	341	eP	P	01 04 01.3	+1.0
GUMO				pmax	pmax		
	comp=Z,369nm,1.0s						
DZM	Mont Dzumac	21.82	140	eP	P	01 04 15.2	-1.5
DZM	Mont Dzumac	21.82	140	P	P	01 04 15.7	-1.1
	comp=Z,7.9nm,0.5s,mb4.4,baz=330,slow=14,SNR=28						
WRAB	Tennant Creek	21.92	228	eP	P	01 04 18.1	+0.4
	comp=Z,81nm,0.8s,mb5.2						
WRAB				e		01 04 32.8	
WRAB				eS	S	01 08 16.0	+4.8
WRAB	Tennant Creek	21.92	228	eP	P	01 04 18.1	+0.3
WRAB				e		01 04 32.8	
WRAB				eS	S	01 08 16.0	+4.8
WRAB				pmax	pmax		
	comp=Z,81nm,0.8s,mb5.2						
WRA	Warramunga Arr	21.94	228	P	P	01 04 18.3	+0.4
	comp=Z,30nm,0.8s,mb4.8,baz=52,slow=10,SNR=94						
WRA				S	S	01 08 16.4	+5.0
	comp=Z,30nm,1.2s,baz=54,slow=18,SNR=14						
WRA				ScP		01 11 48.9	
	comp=Z,1.7nm,0.7s,baz=47,slow=2.5,SNR=3.7						
STKA	Stephens Creek	27.72	198	eP	P	01 05 11.0	-1.8
	comp=Z,7.2nm,0.9s,mb4.3						
STKA	Stephens Creek	27.72	198	P	P	01 05 11.3	-1.5
	comp=Z,5.2nm,0.6s,mb4.3,baz=9.4,slow=9.9,SNR=7.2						
STKA				LR	LR	01 16 39.0	
	comp=Z,233nm,18.4s,MS3.8,baz=278,slow=37						
FITZ	Fitzroy Crossi	28.14	242	⇑iP	P	01 05 16.3	-0.4
	comp=Z,218nm,0.6s,mb6.0						
FITZ	Fitzroy Crossi	28.14	242	P	P	01 05 16.4	-0.3
	comp=Z,226nm,0.5s,mb6.0,baz=65,slow=4.1,SNR=211						
FITZ				LR	LR	01 17 35.9	
	comp=Z,298nm,20.0s,MS3.9,baz=78,slow=39						
FORT	Forrest	33.34	219	eP	P	01 06 01.3	-1.1
	comp=Z,15nm,0.4s,mb5.3						
MBWA	Marble Bar	34.44	240	eP	P	01 06 11.6	-0.4
	comp=Z,58nm,0.7s,mb5.6						
KKM	Kota Kinabalu	37.09	288	eP	P	01 06 27.9	-6.5
URZ	Urewera	39.95	148	P	P	01 06 57.3	-0.7
	comp=Z,2.4nm,0.5s,mb4.2,baz=258,slow=9.3,SNR=4.4						
KLBR	Kellerberrin	40.81	227	eP	P	01 07 04.1	-1.1
	comp=Z,4.2nm,0.4s,mb4.4						
KLBR				i		01 07 10.6	
NACB	Ninganchiao	41.56	317	eP	P	01 07 12.6	+1.1
RPZ	Rata Peaks	41.66	159	P	P	01 07 12.2	+0.1
	comp=Z,2.7nm,0.7s,mb4.0,baz=13,slow=14,SNR=2.9						
KSM	Kuching	41.74	279	eP	P	01 07 14.0	+0.8
NWAO	Narrogin (SRO)	41.90	225	P	P	01 07 14.8	+0.6
	comp=Z,5.7nm,0.8s,mb4.3,baz=52,slow=19,SNR=3.4						
NWAO	Narrogin (SRO)	41.90	225	eP	P	01 07 16.0	+1.8
YHNB	Yeheng	42.03	317	eP	P	01 07 16.4	+1.0
MUN	Mundaring	42.13	227	eP	P	01 07 15.5	-0.6
MJAR	Matsushiro Arr	43.75	344	P	P	01 07 26.3	-3.0
	comp=Z,1.1nm,0.5s,mb3.8,baz=166,slow=8.7,SNR=5.5						
MJAR				PcP	PcP	01 09 13.2	-2.6
	comp=Z,1.3nm,0.3s,baz=173,slow=2.4,SNR=6.3						
MJAR				ScP		01 13 01.0	
	comp=Z,0.6nm,0.3s,baz=191,slow=6.4,SNR=4.0						
MJAR				LR	LR	01 23 27.1	
	comp=Z,107nm,20.9s,MS3.7,baz=190,slow=33						
QZH	Quanzhou	44.14	315	P	P	01 07 33.8	+1.2
QZH				AMB	AMB		
	comp=Z,110nm,0.7s,mb5.7						
SSE	Sheshan	46.61	323	P	P	01 07 49.3	-2.8
SSE				AP	pP	01 08 04.8	-2.4
SSE				XP	sP	01 08 12.0	-1.9
SSE				S	S	01 14 32.9	-3.1
SSE				XS		01 14 59.8	
SSE				SS	SS	01 18 00.7	+5.4
SSE				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,341nm,4.5s						
SSE				LR	LR		
	comp=N,96nm,26.2s,MS3.8						
SSE				LR	LR		
	comp=E,105nm,26.2s,MS3.8						
SSE				LR	LR		
	comp=Z,156nm,24.7s,MS3.9						
QIZ	Qiongzhong	47.79	302	P	P	01 08 03.2	+1.7
QIZ				eS	S	01 14 57.3	+4.5
QIZ				LR	LR		
	comp=E,188nm,21.8s						
QIZ				LR	LR		
	comp=Z,336nm,26.6s,MS4.2						
KS15	Wonju Array Si	48.17	335	P	P	01 08 03.1	-1.1
NJ2	Nanjing	48.69	322	eP	P	01 08 06.8	-1.5
NJ2				AP	pP	01 08 20.6	-2.9
NJ2				XP	sP	01 08 28.1	-2.0
NJ2				PCP	PcP	01 09 31.4	-1.8
NJ2				S	S	01 15 02.0	-3.2
NJ2				XS		01 15 28.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,300nm,4.0s						
NJ2				LR	LR		
	comp=N,580nm,15.6s,MS4.8						
NJ2				LR	LR		
	comp=E,590nm,18.3s,MS4.8						
NJ2				LR	LR		
	comp=Z,260nm,14.6s,MS4.3						
WHN	Wuhan	50.57	318	P	P	01 08 24.0	+1.2
KULM	Kulim	51.92	281	eP	P	01 08 31.1	-2.0
KULM				epP	pP	01 08 48.2	-0.3
KULM				ePcP	PcP	01 09 45.4	+0.2
MDJ	Mudanjiang	53.75	341	P	P	01 08 45.7	-0.7
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,92nm,6.2s						
MDJ				LR	LR		
	comp=N,68nm,26.3s,MS3.6						
MDJ				LR	LR		
	comp=E,23nm,29.8s,MS3.6						
MDJ				LR	LR		
	comp=Z,103nm,22.8s						
XAN	Xi'an	56.34	318	P	P	01 09 04.2	-1.1
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.9						
KMI	Kunming	56.39	305	P	P	01 09 06.4	+0.6
KMI				AP	pP	01 09 16.2	-5.1
KMI				PP	PP	01 11 14.5	+1.3
KMI				S	S	01 16 55.2	+5.0
KMI				SS	SS	01 20 44.0	+5.7
KMI				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.1						
KMI				AMB	AMB		
	comp=Z,115nm,4.2s						
KMI				LR	LR		
	comp=N,128nm,14.7s,MS4.4						
KMI				LR	LR		
	comp=E,142nm,11.3s,MS4.4						
KMI				LR	LR		
	comp=Z,194nm,24.8s						
KLR	Kul'dur	57.28	345	eP	P	01 09 07.2	-4.6
HHC	Hu-ho-hao-te	58.97	325	eP	P	01 09 23.0	-0.7
HHC				AP	pP	01 09 33.4	-5.9
HHC				PCP	PcP	01 10 12.8	+0.8
HHC				PP	PP	01 11 34.8	-1.4
HHC				S	S	01 17 23.3	-0.6
HHC				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
HHC				AMB	AMB		
	comp=Z,105nm,5.2s						
HHC				LR	LR		
	comp=N,60nm,11.9s,MS4.0						
HHC				LR	LR		
	comp=E,48nm,11.9s,MS4.0						
HHC				LR	LR		
	comp=Z,37nm,16.7s,MS3.6						
LZH	Lanzhou	60.93	317	eP	P	01 09 37.0	-0.2
LZH				AP	pP	01 09 45.0	-7.9
LZH				XP	sP	01 09 49.3	-10
LZH				PP	PP	01 11 53.0	-0.9
LZH				AMB	AMB		
	comp=Z,37nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,183nm,5.9s						
LZH				LR	LR		
	comp=E,342nm,16.8s						
LZH				LR	LR		
	comp=Z,459nm,18.0s,MS4.7						
GTA	Gaotai	65.39	318	eP	P	01 10 06.2	-0.4
GTA				AP	pP	01 10 15.7	-6.8
GTA				XP	sP	01 10 19.1	-10
GTA				PP	PP	01 12 32.1	-1.0
GTA				PPP	PPP	01 14 06.2	-1.5
GTA				S	S	01 18 46.4	+1.6
GTA				SS	SS	01 23 02.3	+1.8
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,111nm,7.7s						
GTA				LR	LR		
	comp=N,80nm,13.5s,MS4.4						
GTA				LR	LR		
	comp=E,160nm,14.3s,MS4.4						
GTA				LR	LR		
	comp=Z,106nm,13.6s,MS4.2						
ULN	Ulaanbaatar	66.02	329	eP	P	01 10 10.5	+0.1
	comp=Z,22nm,1.4s,mb5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ULN				LR	LR		
	comp=Z,139nm,20.0s,MS4.2						
ULN	Ulaanbaatar	66.02	329	eP	P	01 10 10.5	+0.1
ULN				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
ULN				MLR	MLR		
	comp=Z,139nm,20.0s,MS4.2						
SONM	Songino Array	66.34	329	P	P	01 10 12.3	-0.2
	comp=Z,7.4nm,0.7s,mb4.8,baz=151,slow=5.3,SNR=49						
SONM				LR	LR	01 39 09.5	
	comp=Z,120nm,18.1s,MS4.2,baz=20,slow=36						
CASY	Casey	66.86	197	eP	P	01 10 14.5	-0.9
	comp=Z,4.0nm,1.0s,mb4.4						
CASY				epP	pP	01 10 30.5	-0.9
ZAK	Zakamensk	69.53	329⇑	iP	P	01 10 31.8	-0.5
ZAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
BOD	Bodaibo	70.10	340	eP	P	01 10 33.8	-1.8
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
PKI	Pulchoki	71.75	301	eP	P	01 10 45.3	-0.7
	comp=Z,75nm,1.4s,mb5.4						
PKI	Pulchoki	71.75	301	eP	P	01 10 45.3	-0.7
PKI				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.1						
PALK	Pallekele	71.79	280	P	P	01 10 49.4	+2.9
KKN	Kakani	71.92	301	eP	P	01 10 46.7	-0.4
	comp=Z,29nm,0.7s,mb5.3						
KKN	Kakani	71.92	301	eP	P	01 10 46.7	-0.4
KKN				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
DMN	Daman	72.02	301	eP	P	01 10 47.4	-0.2
	comp=Z,46nm,0.7s,mb5.5						
VNDA	Vanda	72.06	178	P	P	01 10 46.9	-0.2
	comp=Z,5.9nm,0.8s,mb4.6,baz=329,slow=6.1,SNR=44						
VNDA				LR	LR	01 37 39.4	
	comp=Z,89nm,20.6s,MS4.0,baz=4.3,slow=32						
VNDA	Vanda	72.06	178	eP	P	01 10 47.0	-0.1
	comp=Z,7.1nm,0.9s,mb4.6						
VNDA				e	pP	01 11 02.9	-0.4
VNDA	Vanda	72.06	178	eP	P	01 10 47.0	-0.1
VNDA				e	pP	01 11 02.9	-0.4
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GKN	Gorkha	72.53	302	eP	P	01 10 50.1	-0.6
	comp=Z,40nm,0.7s,mb5.5						
SBA	Scott Base	72.63	177	eP	P	01 10 51.3	+0.9
	comp=Z,11nm,1.3s,mb4.6						
SBA	Scott Base	72.63	177	eP	P	01 10 51.3	+0.9
SBA				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
MIR	Mirnyy	72.70	201 d	iP	P	01 10 57.0	+6.0
MIR				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.1						
KOLN	Koldanda	73.34	301	eP	P	01 10 55.1	-0.4
	comp=Z,50nm,0.8s,mb5.5						
WMQ	Urumqi	75.47	318	eP	P	01 11 07.0	-0.5
WMQ				AP	pP	01 11 17.5	-6.2
WMQ				XP	sP	01 11 21.5	-8.5
WMQ				PP	PP	01 13 58.0	-1.1
WMQ				eS	S	01 20 43.0	+1.1
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,174nm,4.0s						
WMQ				LR	LR		
	comp=N,86nm,23.8s,MS4.2						
WMQ				LR	LR		
	comp=E,103nm,25.9s,MS4.2						
WMQ				LR	LR		
	comp=Z,130nm,27.0s,MS4.1						
MKAR	Makanchi Array	80.10	319	P	P	01 11 32.4	-0.6
	comp=Z,4.0nm,0.5s,mb4.6,baz=93,slow=6.2,SNR=28						
MKAR				PP	PP	01 14 25.9	-11
	comp=Z,0.6nm,0.8s,baz=101,slow=7.3,SNR=2.8						
MKAR				LR	LR	01 44 51.1	
	comp=Z,67nm,18.6s,MS4.0,baz=0.4,slow=34						
PMR	Palmer	80.96	25	eP	P	01 11 39.2	+1.9
	comp=Z,7.3nm,0.7s,mb4.7						
PMR	Palmer	80.96	25	eP	P	01 11 39.2	+1.9
PMR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
SML	Sawmill	81.40	25	eP	P	01 11 39.1	-0.4
MCK	McKinley	82.11	23	eP	P	01 11 42.0	-1.2
	comp=Z,18nm,0.9s,mb5.0						
MCK				e		01 12 06.2	
MCK	McKinley	82.11	23	eP	P	01 11 42.0	-1.2
MCK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
DIV	Divide	82.17	26	eP	P	01 11 44.3	+0.8
	comp=Z,25nm,0.7s,mb5.2						
NVS	Novosibirsk	82.31	327	eP	P	01 11 43.1	-1.3
NVS				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.7						
NVS				pmax	pmax		
	comp=E,11nm,1.5s						
THY	Trims Highway	83.22	24	eP	P	01 11 49.9	+1.0
ILAR	Eielson Array	83.40	22	P	P	01 11 47.8	-2.0
	comp=E,18nm,0.6s,mb5.3,baz=249,slow=5.0,SNR=240						
TKM2	Tokmak 2	83.57	314	P	P	01 11 51.9	+0.8
	SNR=5.3						
KURK	Kurchatov	83.62	322	eP	P	01 11 50.9	-0.3
	comp=E,29nm,1.1s,mb5.3						
KURK				LR	LR		
	comp=Z,30nm,21.0s,MS3.6						
KZA	Kyzart	83.62	313	P	P	01 11 53.0	+1.5
	SNR=20						
KBK	Karagaybulak	83.97	314	P	P	01 11 54.1	+0.9
	SNR=7.1						
CHMS	Chumysh	84.19	314	P	P	01 11 54.9	+0.6
	SNR=5.5						
AAK	Ala-Archa	84.29	314	P	P	01 11 55.3	+0.5
	SNR=7.5						
AAK	Ala-Archa	84.29	314	eP	P	01 11 54.4	-0.3
	comp=Z,6.9nm,0.8s,mb4.8						
AAK	Ala-Archa	84.29	314 c	iP	P	01 11 54.1	-0.7
AAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.9						
MAW	Mawson	84.32	203	P	P	01 11 53.2	-1.1
	comp=Z,4.1nm,0.8s,mb4.6,baz=153,slow=2.3,SNR=4.1						
QSPA	South Pole Qui	84.34	180⇑	iP	P	01 11 54.7	+0.5
	comp=Z,15nm,0.8s,mb5.2						
USP	Ospenovka	84.43	314	P	P	01 11 55.8	+0.4
	SNR=26						
AML	Almayashu	84.76	313	P	P	01 11 58.3	+1.1
	SNR=36						
EKS2	Erkin-Say	84.82	314	P	P	01 11 58.0	+0.7
	SNR=21						
DLBC	Dease Lake	88.75	31	P	P	01 12 15.7	-0.4
	comp=Z,9.7nm,1.0s,mb5.1,baz=266,slow=9.9						
DLBC	Dease Lake	88.75	31	eP	P	01 12 17.2	+1.1
BRVK	Borovoye	89.19	323	eP	P	01 12 16.7	-1.6
	comp=Z,8.7nm,1.1s,mb5.0						
BRVK	Borovoye	89.19	323	eP	P	01 12 16.7	-1.6
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
INK	Inuvik	89.68	21	P	P	01 12 19.4	-0.9
	comp=Z,4.7nm,0.5s,mb5.0,baz=279,slow=3.6						
OCWA	Octopus Mounta	90.31	42	eP	P	01 12 25.0	+1.4
HUMO	Hull Mountain	90.49	47	eP	P	01 12 25.8	+1.2
	comp=Z,18nm,1.0s,mb5.3						
HUMO				e	pP	01 12 45.1	+3.8
YBH	Yreka Blue Hor	90.56	48	P	P	01 12 25.8	+0.8
	comp=Z,5.1nm,0.8s,mb4.9,baz=138,slow=5.0						
RPW	Rockport	92.16	42	P	P	01 12 33.0	+0.8
CROR	Criterion Ridg	92.17	45	P	P	01 12 33.1	+0.7
TBM	Table Mountain	92.65	43	P	P	01 12 35.8	+1.2
ETW	Entiat	92.87	43	P	P	01 12 36.6	+1.1
MTUM	Tungsten Hills	93.32	53	eP	P	01 12 39.1	+1.3
MTUM				epP	pP	01 12 57.9	+3.3
NVAR	Mina Array Bea	93.61	52	P	P	01 12 40.5	+1.4
	comp=Z,2.7nm,0.6s,mb4.9,baz=257,slow=8.0,SNR=19						
WVOR	Wild Horse Val	93.65	48	eP	P	01 12 40.3	+1.1
	comp=Z,2.7nm,0.7s,mb4.8						
WVOR	Wild Horse Val	93.65	48	eP	P	01 12 40.3	+1.1
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.8						
BMO	Blue Mountains	94.77	46	eP	P	01 12 44.4	+0.2
	comp=Z,10nm,1.2s,mb5.1						
NEW	Newport	95.07	42	P	P	01 12 44.0	-1.5
	comp=Z,3.6nm,0.8s,mb4.8,baz=288,slow=3.5,SNR=5.4						
NEW	Newport	95.07	42	eP	P	01 12 43.6	-1.9
	comp=Z,10nm,1.3s,mb5.1						
NEW	Newport	95.07	42	eP	P	01 12 43.7	-1.8
NEW				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ELK	Elko	96.10	50	P	P	01 12 51.2	+0.9
	comp=Z,2.2nm,1.0s,mb4.5,baz=287,slow=2.5,SNR=8.7						
ARU	Arti	96.28	326	eP	P	01 12 48.6	-2.2
ARU	Arti	96.28	326⇓	iP	P	01 12 49.2	-1.5
ARU				e	pP	01 13 04.7	-2.8
ARU				e		01 16 41.8	
ARU				eS		01 23 19.8	
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
YKA	Yellowknife Ar	96.75	28	P	P	01 12 53.0	+0.2
	comp=Z,3.4nm,0.8s,mb4.8,baz=271,slow=5.0,SNR=6.5						
HLID	Hailey	96.80	47	eP	P	01 12 54.3	+0.9
	comp=Z,1.8nm,0.7s,mb4.6						
PDAR	Pinedale Array	100.35	48	P	P	01 13 09.6	-0.1
	comp=Z,1.5nm,0.7s,baz=251,slow=2.5,SNR=15						
VNA3	Neumayer Olymp	102.28	186⇑	iP	PP	01 17 30.8	-2.0
VNA2	Neumayer--Watz	102.32	187⇑	iP		01 17 39.6	
TXAR	Lajitas Array	105.66	61	PKKPbc		01 29 11.3	
	comp=Z,0.3nm,0.8s,baz=112,slow=4.9,SNR=4.1						
TXAR				PKKPab		01 29 27.4	
	comp=Z,0.6nm,0.8s,baz=111,slow=7.7,SNR=5.4						
ARCES	ARCESS Array B	107.27	343	PKiKP		01 17 48.1	
	comp=Z,2.5nm,0.6s,baz=90,slow=1.2,SNR=12						
OBN	Obninsk	108.71	327	P	Pdif	01 13 43.5	-2.7
OBN				e		01 18 18.0	
OBN				e		01 24 19.9	
OBN				eSS	SS	01 33 29.9	-1.2
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.3						
FINES	FINESS Array B	111.26	335	Pdiff	Pdif	01 13 55.4	-1.9
	comp=Z,0.8nm,0.5s,baz=80,slow=8.5,SNR=8.3						
FINES				PKiKP		01 17 55.7	
	comp=Z,2.9nm,0.7s,baz=90,slow=5.7,SNR=12						
MALT	Malatya	111.53	309	ePKiKP		01 17 57.4	
AKASG	Malin Array Be	114.40	324	PKP	PKPdf	01 18 01.8	+0.7
	comp=Z,2.3nm,0.4s,baz=58,slow=2.3,SNR=19						
BR131	Keskin Array S	114.88	311	ePKiKP		01 18 02.7	
BRTR	Keskin Array B	114.88	311	PKP	PKPdf	01 18 02.6	+0.3
	comp=Z,2.0nm,0.7s,baz=125,slow=2.2,SNR=13						
ANTO	Ankara	115.47	312	ePKPdf	PKPdf	01 18 04.8	+1.3
SUW	Suwalki	116.28	329	ePKP	PKPdf	01 18 05.0	+0.4
TLCR		116.68	318⇓	iP	PKPdf	01 18 07.3	+1.7
TLCR		116.68	318⇓	iP	PKPdf	01 18 07.3	+1.7
CFR	Carcaliu	117.13	318⇑	iP	PKPdf	01 18 06.9	+0.4
CFR	Carcaliu	117.13	318⇑	iP	PKPdf	01 18 07.0	+0.5
TIRR	Tirgusor	117.20	318⇓	iP	PKPdf	01 18 07.9	+1.3
TIRR	Tirgusor	117.20	318⇓	iP	PKPdf	01 18 07.9	+1.3
NB2	NORSAR Subarra	117.24	340	PKPdf	PKPdf	01 18 06.0	-0.3
	comp=Z,1.1nm,0.6s,baz=45,slow=1.9						
NOA	NORSAR Array B	117.24	340	PKP	PKPdf	01 18 07.0	+0.8
	comp=Z,3.4nm,0.7s,baz=47,slow=1.8,SNR=14						
HARR	Harsova	117.44	318⇓	iP	PKPdf	01 18 07.8	+0.7
HARR	Harsova	117.44	318⇓	iP	PKPdf	01 18 07.8	+0.8
ISP	Isparta	117.72	310	ePKPdf	PKPdf	01 18 08.1	+0.3
VRI	Vrincioaia	117.79	320⇑	iP	PKPdf	01 18 09.0	+1.3
BURAR	Bucovina Array	118.05	322⇓	iP	PKPdf	01 18 10.8	+2.6
BURAR	Bucovina Array	118.05	322⇓	iP	PKPdf	01 18 10.8	+2.6
ISR	Istrita	118.20	319⇓	iP	PKPdf	01 18 09.2	+0.7
ISR	Istrita	118.20	319⇓	iP	PKPdf	01 18 09.2	+0.7
MLR	Muntele Rosu	118.44	319	PKP	PKPdf	01 18 10.2	+1.1
	comp=Z,4.4nm,0.7s,baz=249,slow=1.8,SNR=9.9						
MLR	Muntele Rosu	118.44	319⇑	iP	PKPdf	01 18 09.9	+0.9
MLR	Muntele Rosu	118.44	319⇑	iP	PKPdf	01 18 09.9	+0.9
KWP	Kalwaria	118.65	325	ePKP	PKPdf	01 18 10.8	+1.5
KOLS	Kolonicke sedl	119.23	324	i PKP	PKPdf	01 18 12.2	+1.7
STHS	Stebnicka Huta	119.59	325	ePKP	PKPdf	01 18 12.6	+1.4
GKP	Gorka Klasztor	119.67	330	ePKP	PKPdf	01 18 12.9	+1.6
CRVS	Cervenica-Dubn	119.71	324	ePKP	PKPdf	01 18 14.1	+2.7
PLCA	Paso Flores	119.89	144	PKP	PKPdf	01 18 12.5	+0.5
	comp=Z,2.3nm,0.8s,baz=229,slow=9.3,SNR=3.6						
DRGR		119.94	322⇑	iP	PKPdf	01 18 11.9	0.0
DRGR		119.94	322⇑	iP	PKPdf	01 18 11.9	-0.1
OJC	Ojcow	120.00	326	ePKP	PKPdf	01 18 13.2	+1.3
NIE	Niedzica	120.11	325	ePKP	PKPdf	01 18 14.4	+2.2
LSZ	Lusaka	120.14	249	ePKPdf	PKPdf	01 18 14.9	+1.9
KDZ	Kurdzhali	120.25	315	eP	PKPdf	01 18 13.5	+0.8
KECS	Kecovo	120.48	324	ePKP	PKPdf	01 18 13.3	+0.4
RZN	Rozhen	120.72	316	eP	PKPdf	01 18 14.5	+0.9
PSZ	Piszkesteto	121.10	324	ePKPdf	PKPdf	01 18 15.4	+1.3
OKC	Ostrava-Krasne	121.10	327	ePKPdf	PKPdf	01 18 15.0	+0.9
VTS	Vitosha	121.41	317	i P	PKPdf	01 18 16.0	+1.1
VYHS	Vyhne	121.42	325	ePKP	PKPdf	01 18 15.8	+1.1
MMB	Musomiste	121.45	316	i P	PKPdf	01 18 15.5	+0.5
KSP	Ksiaz	121.54	328	ePKP	PKPdf	01 18 16.7	+1.8
KSP	Ksiaz	121.54	328	ePKIKP	PKPdf	01 18 15.9	+1.0
SRS	Serrai	121.72	316	eP	PKPdf	01 18 14.8	-0.7
OUR	Ouranopolis	121.74	315	eP	PKPdf	01 18 15.7	+0.1
KKB	Krupnik	121.78	316	i P	PKPdf	01 18 16.5	+0.9
DPC	Dobruska-Polom	121.80	328	ePKPdf	PKPdf	01 18 16.8	+1.4
UPC	Upice	121.88	328	ePKPdf	PKPdf	01 18 15.8	+0.2
PAIG	Paliouri	122.11	314	eP	PKPdf	01 18 15.7	-0.6
SRO1	Iza	122.15	325	ePKP	PKPdf	01 18 17.2	+1.1
KNT	Kendrikon	122.19	316	eP	PKPdf	01 18 16.5	+0.1
SMOL	Smolenice	122.21	326	ePKP	PKPdf	01 18 17.4	+1.2
VRAC	Vranov	122.24	327	ePKPdf	PKPdf	01 18 17.5	+1.2
BSEG	Bad Segeberg	122.48	334	ePKP	PKPdf	01 18 18.4	+1.8
ZST	Bratislava	122.56	325	ePKP	PKPdf	01 18 18.2	+1.3
GRG	Griva	122.61	316	eP	PKPdf	01 18 17.3	+0.1
PVCC	Panska Ves	122.62	329	ePKPdf	PKPdf	01 18 18.3	+1.3
XOR	Xorichti	122.67	314	eP	PKPdf	01 18 17.6	+0.2
BRG	Berggiesshubel	122.73	329	i PKP	PKPdf	01 18 18.7	+1.5
BRG	Berggiesshubel	122.73	329	i PKIKP	PKPdf	01 18 18.7	+1.5
BRG				pmax	pmax		
	comp=Z,13nm,0.8s						
TREC	Trest	122.85	327	ePKPdf	PKPdf	01 18 18.9	+1.4
SKO	Skopje	122.86	317	i P	PKPdf	01 18 18.5	+0.8
DIVS	Divcibare	122.87	320⇑	iPKP	PKPdf	01 18 18.4	+0.8
CLL	Collm	122.93	330⇓	iPKIKP	PKPdf	01 18 19.0	+1.4
	comp=Z,logA/T=1.3						
CLL				e*PPKP		01 18 28.0	
CLL	Collm	122.93	330⇓	iPKIKP	PKPdf	01 18 19.0	+1.4
CLL				e		01 18 28.0	
CLL				pmax	pmax		
	comp=Z,15nm,0.7s						
PRU	Pruhonice	122.95	328	ePKPdf	PKPdf	01 18 18.2	+0.6
FNA	Florina	123.39	316	eP	PKPdf	01 18 19.5	+0.7
AGG	Agios Georgios	123.42	314	eP	PKPdf	01 18 19.3	+0.5
CLZ	Clausthal	123.85	332	ePKP	PKPdf	01 18 21.0	+1.6
NKC	Novy Kostel	123.88	330	ePKPdf	PKPdf	01 18 20.8	+1.3
MEV	Metsovon	123.90	315	eP	PKPdf	01 18 21.9	+2.1
KHC	Kasperske Hory	123.96	328	ePKPdf	PKPdf	01 18 21.1	+1.5
ARSA	Arzberg	123.97	325⇑	iP	PKPdf	01 18 20.4	+0.7
GEC2	GERESS Array S	124.07	328	ePKP	PKPdf	01 18 20.9	+1.0
GERES	GERESS Array B	124.07	328	PKP	PKPdf	01 18 21.2	+1.4
	comp=Z,11nm,0.6s,baz=73,slow=1.5,SNR=140						
WET	Wettzell	124.32	328	ePKP	PKPdf	01 18 21.5	+1.2
MOA	Molln	124.34	326⇑	iP	PKPdf	01 18 21.1	+0.7
GRA1	Grafenberg Arr	124.83	330	ePKP	PKPdf	01 18 22.6	+1.3
GRF	Grafenberg Arr	124.83	330	ePKP	PKPdf	01 18 22.6	+1.3
KBA	Koelnbreinsper	125.30	326⇓	iP	PKPdf	01 18 22.8	+0.5
WTSB	Winterswijk	125.38	334	eP	PKPdf	01 18 23.5	+1.2
	comp=Z,14nm,0.8s						
FUR	Furstenfeldbru	125.76	328	ePKP	PKPdf	01 18 24.4	+1.3
TNS	Taunus Mts	125.84	332	ePKP	PKPdf	01 18 24.9	+1.7
WATA	Walderalm	126.11	327⇑	iP	PKPdf	01 18 24.6	+0.8
WTTA	Wattenberg	126.12	327⇑	iP	PKPdf	01 18 24.6	+0.8
MOTA	Moosalm	126.36	327⇑	iP	PKPdf	01 18 24.9	+0.6
SQTA	Sankt Quirin	126.38	327⇑	iP	PKPdf	01 18 25.5	+1.2
EKA	Eskdalemuir Ar	126.43	342	PKP	PKPdf	01 18 25.4	+1.1
	comp=Z,7.9nm,0.7s,baz=13,slow=2.6,SNR=51						
HGN	Heimansgroeve	126.62	333	eP	PKPdf	01 18 26.3	+1.6
	comp=Z,15nm,1.2s						
DAVA	Damuels	127.05	328⇑	iP	PKPdf	01 18 26.9	+1.3
BFO	Black Forest	127.17	330	ePKP	PKPdf	01 18 27.0	+1.2
TIP	Timpagrande	127.29	316	ePKPdf	PKPdf	01 18 28.2	+1.9
GIVF	Givet	127.59	333	ePKIKP	PKPdf	01 18 28.1	+1.5
	comp=Z,24nm,0.8s						
CDF	Champ du Feu	127.63	331	ePKIKP	PKPdf	01 18 27.6	+0.9
	comp=Z,8.2nm,0.7s						
BAIF	Baives	127.89	334	ePKIKP	PKPdf	01 18 28.7	+1.5
	comp=Z,25nm,1.1s						
HINF	Hinteralfeld	128.25	330	ePKIKP	PKPdf	01 18 29.0	+1.1
	comp=Z,17nm,0.7s						
TSUM	Tsumeb	128.36	240	ePKPdf	PKPdf	01 18 30.5	+1.6
HAU	Haudompre	128.36	331	ePKIKP	PKPdf	01 18 29.4	+1.2
	comp=Z,28nm,0.6s						
MEZF	Maizieres J'vi	128.63	332	ePKIKP	PKPdf	01 18 30.3	+1.6
	comp=Z,25nm,0.6s						
CABF	La Chapelle	129.45	330	ePKIKP	PKPdf	01 18 32.2	+1.9
	comp=Z,20nm,0.9s						
LPL	La Plagne	129.85	328	ePKIKP	PKPdf	01 18 33.0	+1.9
	comp=Z,13nm,0.6s						
LPG	La Plagne	129.85	328	ePKIKP	PKPdf	01 18 33.1	+2.0
	comp=Z,26nm,0.8s						
LOR	Lormes	130.08	332	ePKIKP	PKPdf	01 18 33.2	+1.8
	comp=Z,12nm,0.7s						
MBDF	Montbardon	130.35	327	ePKIKP	PKPdf	01 18 33.4	+1.4
	comp=Z,7.9nm,0.8s						
SSF	Saint Saulge	130.40	332	ePKIKP	PKPdf	01 18 33.7	+1.6
	comp=Z,27nm,0.9s						
PGF	Pioggiola	130.47	324	ePKIKP	PKPdf	01 18 33.9	+1.6
	comp=Z,34nm,0.8s						
SMF	Signal de Mont	130.53	331	ePKIKP	PKPdf	01 18 33.8	+1.5
	comp=Z,14nm,0.7s						
HYF	Humbligny	130.65	332	ePKIKP	PKPdf	01 18 34.7	+2.2
AVF	Avril sur Loir	130.66	331	ePKIKP	PKPdf	01 18 33.8	+1.2
	comp=Z,6.0nm,0.6s						
ORIF	Oris-en-Rattie	130.70	328	ePKIKP	PKPdf	01 18 33.7	+1.0
	comp=Z,20nm,0.7s						
LDF	La Druitiere	130.86	335	ePKIKP	PKPdf	01 18 34.2	+1.3
	comp=Z,13nm,0.8s						
FLN	La Foliniere	130.87	336	ePKIKP	PKPdf	01 18 33.8	+0.9
	comp=Z,19nm,0.7s						
BGF	Bois d'Agland	131.07	332	ePKIKP	PKPdf	01 18 35.2	+1.8
	comp=Z,23nm,0.7s						
FRF	La Foret Royal	131.18	326	ePKIKP	PKPdf	01 18 35.1	+1.4
	comp=Z,18nm,0.7s						
GRR	Gorron	131.32	336	ePKIKP	PKPdf	01 18 35.5	+1.7
	comp=Z,30nm,0.8s						
VIVF	Saint-Julien-l	131.37	329	ePKIKP	PKPdf	01 18 35.0	+1.0
	comp=Z,21nm,0.9s						
LMR	La Mourre	131.41	326	ePKIKP	PKPdf	01 18 35.6	+1.5
	comp=Z,18nm,0.7s						
SMRF	Simiane la Rot	131.49	327	ePKIKP	PKPdf	01 18 36.5	+2.3
TCF	Toulx Ste Croi	131.57	332	ePKIKP	PKPdf	01 18 36.2	+1.9
	comp=Z,19nm,0.7s						
SGMF	Saint Gilles	132.11	337	ePKIKP	PKPdf	01 18 36.1	+0.8
	comp=Z,24nm,0.7s						
ROSF	Rostrenen	132.32	337	ePKIKP	PKPdf	01 18 35.7	0.0
LASF	Ste Croix	132.33	329	ePKIKP	PKPdf	01 18 37.9	+2.1
	comp=Z,18nm,0.8s						
MFF	Saint Martin d	132.41	334	ePKIKP	PKPdf	01 18 37.6	+1.7
	comp=Z,20nm,0.7s						
QUIF	Quistinic	132.62	337	ePKIKP	PKPdf	01 18 37.2	+0.9
RJF	Les Rejaudoux	132.62	331	ePKIKP	PKPdf	01 18 38.4	+2.1
CAF	Calviac	132.63	331	ePKIKP	PKPdf	01 18 38.4	+2.0
	comp=Z,8.1nm,0.7s						
MTLF	Montolieu	133.70	329	ePKIKP	PKPdf	01 18 40.2	+1.8
	comp=Z,7.0nm,0.7s						
ROSC	El Rosal	134.36	89	PKP	PKPdf	01 18 41.9	+1.5
	comp=Z,4.4nm,0.6s,baz=270,slow=19,SNR=4.9						
EPF	Esparros	134.87	330	ePKIKP	PKPdf	01 18 42.7	+2.1
	comp=Z,5.0nm,0.6s						
LPAZ	La Paz	135.15	120	PKP	PKPdf	01 18 44.6	+2.8
	comp=Z,3.7nm,0.8s,baz=225,slow=1.4,SNR=12						
LPAZ	La Paz	135.15	120	ePKIKP	PKPdf	01 18 44.6	+2.8
ETSF	Etsaut	135.41	331	ePKIKP	PKPdf	01 18 43.5	+1.9
	comp=Z,12nm,0.6s						
SJPF	Ste Jean	135.57	331	ePKIKP	PKPdf	01 18 44.8	+3.0
	comp=Z,14nm,0.6s						
EPOB	Poblet	135.70	328	PKP	PKPdf	01 18 43.9	+1.8
ESAC	San Caprasio	136.24	329	PKP	PKPdf	01 18 45.2	+2.1
ECHE	Chera	138.05	328	PKP	PKPdf	01 18 49.3	+2.8
SDV	Santo Domingo	138.09	83	ePKPdf	PKPdf	01 18 49.0	+1.8
STS	Santiago	138.91	338	PKP	PKPdf	01 18 49.2	+1.3
ECAL	Calabor	138.97	335	PKP	PKPdf	01 18 51.8	+3.7
ETOB	Tobarra	139.05	327	PKP	PKPdf	01 18 51.9	+3.6
ESDC	Sonseca Array	139.52	330	PKP	PKPdf	01 18 51.5	+2.3
	comp=Z,1.1nm,0.5s,baz=15,slow=2.1,SNR=9.5						
ESDC	Sonseca Array	139.52	330	PKP	PKPdf	01 18 52.4	+3.3
EVIA	Vianos	139.56	328	PKP	PKPdf	01 18 53.2	+3.9
EHUE	Huescar	140.22	327	PKP	PKPdf	01 18 54.2	+3.7
EQES	Quesada	140.48	328	PKP	PKPdf	01 18 52.1	+1.2
EBAN	Banos Encina	140.59	329	PKP	PKPdf	01 18 53.5	+2.3
MTE	Manteigas	140.59	335	ePKPdf	PKPdf	01 18 53.2	+2.1
EADA	Adamuz	140.99	329	PKP	PKPdf	01 18 53.4	+1.5
PCBR	Castelo Branco	141.03	334	ePKPdf	PKPdf	01 18 53.9	+2.0
PTOM	Tomar	141.61	335	ePKPdf	PKPdf	01 18 54.7	+1.8
EMIN	Mina Concepcio	142.33	331	PKP	PKPdf	01 18 54.2	0.0
EVO	Evora	142.34	333	ePKIKP	PKPdf	01 18 55.4	+1.2
	comp=Z,15nm,0.8s						
PBEJ	Beja	142.68	333	ePKPdf	PKPdf	01 18 57.1	+2.3
PTEO	Sao Teotonio	143.47	333	ePKPdf	PKPdf	01 18 57.9	+1.8
DBIC	Dimbokro	156.47	274	PKP	PKPdf	01 19 18.2	+1.4
	comp=Z,8.5nm,1.1s,baz=141,slow=6.5,SNR=3.4						
DBIC				PKPab	PKPab	01 19 47.7	-0.4
	comp=Z,22nm,0.8s,baz=76,slow=4.9,SNR=23						
DBIC	Dimbokro	156.47	274	PKP	PKPdf	01 19 18.2	+1.4
DBIC				PKPab	PKPab	01 19 47.7	-0.4
LIC	Lamto	156.65	273	ePKP2	PKPab	01 19 47.9	-1.0
	comp=Z,38nm,0.8s						

*IDC **12** 01:30:45.9±1.9, 5.76N×127.48E, mb4.1/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.1/5, Error ellipse: s-maj=84.7km s-min=23.8km az=71.0*

*MAN **12** 01:31:07.0, 6.28N×127.81E, h8^{km}, mb4.5, ML3.3, MS3.2*

ISC 12 01:31:01.7±1.3**, 5.7N**±0.1×**127.5E**±0.2**, h158**^{km}±15^{km}**, n9, σ0^{s}83**/12**, mb4.0**/5**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.74	315	eP	P	01 31 35.9	+1.1
MATI				eS	S	01 31 59.0	-1.2
BIPH	Bislig	2.70	335⇓	iP	P	01 31 48.0	+1.7
BIPH				i S	S	01 32 19.3	-1.2
BUKP	Musuan	3.24	312	eP	P	01 31 58.4	+5.3
BUKP				eS	S	01 32 32.9	+0.4
BUTP	Butuan	3.73	330	eP	P	01 31 59.6	+0.1
FITZ	Fitzroy Crossi	23.73	184	P	P	01 36 00.9	+0.2
	3.5nm,0.3s,mb4.3,baz=0.8,slow=8.2,SNR=28						
WRA	Warramunga Arr	26.37	165	P	P	01 36 25.0	-0.3
	0.6nm,0.4s,mb3.5,baz=343,slow=9.8,SNR=7.1						
NWAO	Narrogin (SRO)	39.65	194	P	P	01 38 19.8	+0.1
	2.9nm,0.4s,mb4.3,baz=9.9,slow=6.2,SNR=7.5						
STKA	Stephens Creek	39.72	161	P	P	01 38 19.7	-0.7
	1.1nm,0.4s,mb3.9,baz=342,slow=9.4,SNR=7.0						
MKAR	Makanchi Array	56.39	324	P	P	01 40 28.8	-0.1
	0.8nm,0.4s,mb3.9,baz=115,slow=9.1,SNR=8.1						

*NEIC **12** 01:55:46.7, 17.20N×102.36W, h16^{km}, MD3.8(MEX), After MEX.*

MEX 12 01:55:46.7±1.0**, 17.20N**×**102.35W, h17**^{km}±31^{km}**, MD3.9, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.94	65	i P	Pb	01 56 00.9	-3.2
ZIIG				i S	Sb	01 56 13.1	-2.9
CAIG	El Cayaco	2.00	94	i P	Pn	01 56 17.1	-3.1
CAIG				eS	Sn	01 56 39.3	-5.7
ACX	Acapulco	2.35	98	i P	Pn	01 56 21.0	-4.3
ACX				i S	Sn	01 56 48.0	-6.0
MOIG	Morelia	2.70	24	i P	Pn	01 56 27.0	-3.2
MOIG				i S	Sn	01 56 56.7	-6.0
PLIG	Platanillo	2.96	66	i P	Pn	01 56 31.1	-2.9
PLIG				i S	Sn	01 57 04.0	-5.4
SFJM	Santa Fe	3.33	349	eP	Pn	01 56 34.0	-5.2
YAIG	Yautepec	3.53	62	i P	Pn	01 56 38.7	-3.4
YAIG				i S	Sn	01 57 19.9	-4.0
YAIG	Yautepec	3.53	62	i P	Pn	01 56 38.7	-3.4
YAIG				i S	Sn	01 57 22.8	-1.0
PPM	Popocatepetl	4.00	62	eP	Pn	01 56 44.0	-4.7
LRAL	Lakeview Retre	20.98	38	eP	P	02 00 26.4	-5.1

*THR **12** 02:00:38.7±0.3, 30.00N×51.26E, h17^{km}±6^{km}, ML2.9*

*KISR **12** 02:00:39.8±1.3, 30.00N×51.24E, h15^{km}±512^{km}, ML3.0*

*CSEM **12** 02:00:41.3±0.2, 30.08N×51.42E, h30^{km}, ML2.9, Error ellipse: s-maj=5.4km s-min=3.5km az=143.0*

ISC 12 02:00:41.6±0.7**, 30.10N**±0.07×**51.39E**±0.05**, h30**^{km}**, n13, σ0^{s}72**/20**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	2.29	142	ePN	Pn	02 01 17.6	-0.6
GHIR				eSG	Sn	02 01 50.3	+4.6
GHIR				AML	AML	02 02 07.3	
	comp=N,85nm,0.6s						
GHIR	Ghir-Karzin	2.29	142	ePn	Pn	02 01 17.6	-0.6
	SNR=52						
GHIR				eSg	Sn	02 01 50.3	+4.6
	SNR=91						
NASN	Na'in	2.95	24	ePN	Pn	02 01 29.0	+1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QRN	Al-Qurain	3.31	247	eP	Pn	02 01 32.0	-0.8
QRN				eS	Sn	02 02 11.9	+0.3
KBD	Kabd	3.34	255	eP	Pn	02 01 33.4	+0.2
KBD				eS	Sn	02 02 13.3	+0.9
KBD				AML	AML	02 02 18.2	
	comp=Z,152nm,0.3s						
MIB	Mutribah	3.52	266	eP	Pn	02 01 36.0	+0.2
MIB				AML	AML	02 02 19.5	
	comp=Z,29nm,0.4s						
RDF	Al-Radifah	3.54	252	eP	Pn	02 01 35.6	-0.5
RDF				eS	Sn	02 02 18.1	+0.6
RDF				AML	AML	02 02 18.5	
	comp=Z,35nm,0.3s						
NAY	Al-Naaiem	3.71	258	eP	Pn	02 01 38.2	-0.2
NAY				AML	AML	02 02 14.3	
	comp=Z,10nm,0.3s						
NAY				eS	Sn	02 02 21.1	-0.5
NAY	Al-Naaiem	3.71	258	eP	Pn	02 01 38.2	-0.1
NAY				eS	Sn	02 02 21.0	-0.5
ASAO	Ashtian	4.58	346	ePN	Pn	02 01 50.7	0.0
ASAO				AML	AML	02 02 50.7	
	comp=N,10.0nm,0.5s						
KRBR	Kerman	4.66	90	ePN	Pn	02 01 52.2	+0.3
KRBR	Kerman	4.66	90	ePn	Pn	02 01 52.2	+0.3
	SNR=52						
SNGE	Sanandaj	6.03	327	ePN	Pn	02 02 09.8	-1.4

MAN 12 02:07:09.5, 13.88N×119.47E, h7km, mb4.3, ML3.1, MS2.9, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.77	100	eP	Pb	02 07 24.3	-0.6
LUBP				eS	Sg	02 07 32.5	-2.8
PGP	Puerto Galera	1.49	104	⇑eP	Pn	02 07 37.2	+0.3
PGP				eS	Sb	02 07 55.2	-1.0
SCZP	Santa Cruz	1.94	13	eP	Pn	02 07 41.7	-1.6
BUSP	Coron	1.99	159	eP	Pn	02 07 44.4	+0.3
BUSP				eS	Sn	02 08 08.7	-0.8
SJMP	San Jose	2.14	131	eP	Pn	02 07 51.5	+5.4
SJMP				eS	Sn	02 08 09.1	-4.1
PCPH	Palayan	2.30	43	⇓eP	Pn	02 07 48.6	+0.1
PCPH				i S	Sn	02 08 15.0	-2.4
BOAC	Boac	2.35	100	eP	Pn	02 07 48.7	-0.5
POLP	Polilio Island	2.54	70	eP	Pn	02 07 52.2	+0.3
POLP				eS	Sn	02 08 19.6	-3.9
ENPP	El Nido	2.65	181	eP	Pn	02 07 54.9	+1.4
ENPP				eS	Sn	02 08 24.3	-2.0
BALP	Baler	2.76	47	eP	Pn	02 07 55.0	+0.1
BALP				eS	Sn	02 08 26.5	-2.4
OTRP	Odiongan	2.91	121	eP	Pn	02 07 57.5	+0.4
CUYO	Cuyo Island	3.37	153	eP	Pn	02 08 02.6	-1.0
ABRA	Dolores	3.94	18	eP	Pn	02 08 16.3	+4.5
ABRA				eS	Sn	02 09 09.6	+11

MAN 12 02:17:01.4, 12.96N×120.96E, h5km, mb4.0, ML2.7, MS2.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	San Jose	0.52	163	eP	Pg	02 17 12.2	+0.4
SJMP				eS	Sg	02 17 20.6	+1.8
PGP	Puerto Galera	0.54	359	⇓eP	Pg	02 17 12.4	+0.4
PGP				eS	Sg	02 17 20.2	+1.0
BOAC	Boac	0.99	60	eP	Pb	02 17 20.1	-0.4
BOAC				eS	Sb	02 17 35.9	+2.2
LUBP	Lubang	1.04	318	eP	Pb	02 17 21.3	-0.1
LUBP				eS	Sb	02 17 36.0	+0.9
OTRP	Odiongan	1.19	120	eP	Pb	02 17 24.2	+0.2
OTRP				eS	Sb	02 17 41.0	+1.4
BUSP	Coron	1.21	218	eP	Pb	02 17 23.1	-1.3
BUSP				eS	Sb	02 17 38.6	-1.7
POLP	Polilio Island	1.99	28	eP	Pn	02 17 39.0	+2.9
POLP				eS	Sn	02 18 05.0	+3.3

*NEIC **12** 02:17:30.7±1.8, 4.51S×154.74E, h30km, mb4.6/2, Error ellipse: s-maj=53.5km s-min=18.6km az=113.0*
*IDC **12** 02:17:45.0±8.9, 4.53S×153.63E, h112km±65km, mb3.7/3, mb1 4.0/4, mb1mx3.7/12, mbtmp4.3/4, Error ellipse: s-maj=76.3km s-min=39.1km az=90.0*
ISC 12 02:17:42.9±5.1, **4.6S**±0.2×**153.7E**±0.3, **h116**km±39km, **n12**, σ**1.13**/14, **mb4.2**/7, **1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.11	233	P	P	02 19 39.6	+0.5
	10nm,0.3s,baz=37,slow=5.9,SNR=34						
PMG				S	S	02 21 08.2	-1.5
	4.4nm,0.3s,baz=122,slow=17,SNR=9.8						
PMG	Port Moresby	8.11	233	ePn	P	02 19 39.6	+0.5
PMG				eSn	S	02 21 09.9	+0.2
KAKA	Kakadu	22.54	248	⇓iP	P	02 22 52.5	+18
	5.3nm,0.5s,mb4.1						
WRAB	Tennant Creek	24.28	229	eP	P	02 22 51.5	+0.8
	10nm,0.6s,mb4.3						
WRA	Warramunga Arr	24.30	229	P	P	02 22 52.3	+1.4
	6.9nm,0.5s,mb4.2,baz=53,slow=9.7,SNR=32						
STKA	Stephens Creek	29.45	201	P	P	02 23 37.7	-0.4
	2.0nm,0.8s,mb3.8,baz=13,slow=11,SNR=5.3						
STKA	Stephens Creek	29.45	201	eP	P	02 23 36.7	-1.3
FITZ	Fitzroy Crossi	30.59	242	eP	P	02 23 46.7	-1.5
	3.6nm,0.5s,mb4.4						
YSS	Yuzh-Sakhalins	52.22	350	P	P	02 26 40.0	-4.2
	43nm,1.5s,mb5.3						
PALK	Pallekele	73.83	279	eP	P	02 29 07.8	+0.5
MKAR	Makanchi Array	80.78	319	P	P	02 29 45.5	+0.3
	0.3nm,0.6s,mb3.3,baz=124,slow=5.2,SNR=3.6						
MKAR	Makanchi Array	80.78	319	P	P	02 29 45.5	+0.3

*IDC **12** 03:01:32.8±1.0, 11.96S×166.43E, h33km±5km, mb4.3/11, mb1 4.4/13, mb1mx4.2/21, mbtmp4.6/13, ML4.4/2, MS3.9/8, Ms1 3.9/8, ms1mx3.7/19, Error ellipse: s-maj=23.0km s-min=16.3km az=69.0*
*BJI **12** 03:01:33.1, 11.90S×166.40E, h35km, mB5.2, mb4.8*
*NEIC **12** 03:01:33.2±0.6, 11.93S×166.39E, h35km, mb4.5/5, Error ellipse: s-maj=14.2km s-min=8.5km az=62.0*
ISC 12 03:01:32.0±0.6, **12.15S**±0.06×**166.23E**±0.09, **h31**km, **h31**km±.9km**:pP-P, n43,** σ**0.94**/42, **mb4.8**/22, **MS3.9**/8, **2C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.73	293	Pn	Pn	03 03 12.2	+0.8
	26nm,0.3s,baz=155,slow=14,SNR=4.0						
HNR				Sn	Sn	03 04 26.7	-1.1
	11nm,0.3s,baz=162,slow=20,SNR=3.5						
HNR	Honiara	6.73	293	ePn	Pn	03 03 11.1	-0.3
HNR				Sn	Sn	03 04 26.7	-1.1
DZM	Mont Dzumac	9.87	179	eP	P	03 03 57.3	+2.3
DZM				eS	Sn	03 05 43.3	-2.4
DZM	Mont Dzumac	9.87	179	Pn	P	03 03 56.1	+1.1
	1.1nm,0.3s,baz=41,slow=19,SNR=19						
DZM				Sn	Sn	03 05 44.0	-1.7
	0.7nm,0.3s,baz=135,slow=19,SNR=2.9						
DZM	Mont Dzumac	9.87	179	eP	P	03 03 57.3	+2.3
DZM				eS	Sn	03 05 43.2	-2.4
CTA	Charters Tower	20.73	245	P	P	03 06 13.7	+1.1
	1.5nm,0.4s,baz=66,slow=10.0,SNR=2.7						
CTA				LR	LR	03 13 21.5	
	comp=Z,381nm,19.9s,MS3.8,baz=46,slow=34						
CTAO	Charters Tower	20.73	245	eP	P	03 06 17.1	+4.4
	16nm,1.1s						
RAO	Raoul Island	22.52	141	LR	LR	03 13 32.3	
	comp=Z,194nm,20.3s,MS3.5,baz=225,slow=32						
URZ	Urewera	27.75	161	P	P	03 07 19.2	-0.8
	3.5nm,0.6s,mb4.2,baz=52,slow=18,SNR=3.6						
URZ				LR	LR	03 16 45.0	
	comp=Z,396nm,19.1s,MS4.0,baz=318,slow=33						
STKA	Stephens Creek	29.98	225	⇑iP	P	03 07 40.9	+0.8
	4.9nm,0.9s,mb4.2						
STKA	Stephens Creek	29.98	225	P	P	03 07 41.5	+1.4
	4.1nm,0.7s,mb4.3,baz=36,slow=8.5,SNR=9.8						
WRAB	Tennant Creek	31.55	252	eP	P	03 07 53.9	-0.2
WRAB				e	pP	03 08 02.5	-0.8
WRA	Warramunga Arr	31.56	252	P	P	03 07 54.0	-0.2
	4.0nm,0.8s,mb4.3,baz=83,slow=8.9,SNR=13						
WRA				pP	pP	03 08 03.3	0.0
	2.8nm,0.8s,baz=83,slow=8.7,SNR=5.7						
WRA				PcP	PcP	03 10 45.6	-0.7
	2.8nm,0.8s,baz=63,slow=1.9,SNR=10						
RPZ	Rata Peaks	31.73	173	P	P	03 07 55.3	0.0
	9.9nm,0.7s,mb4.8,baz=228,slow=0.2,SNR=6.7						
RPZ				LR	LR	03 18 41.4	
	comp=Z,337nm,21.3s,MS4.0,baz=356,slow=32						
RPZ	Rata Peaks	31.73	173	P	P	03 07 55.3	0.0
RPZ				LR	LR	03 18 41.4	
GUMO	Guam	33.20	320	LR	LR	03 20 04.3	
	comp=Z,146nm,19.7s,MS3.7,baz=121,slow=34						
FITZ	Fitzroy Crossi	39.56	256	eP	P	03 09 02.7	+0.4
	11nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	39.56	256	P	P	03 09 03.3	+1.0
	14nm,0.8s,mb4.8,baz=94,slow=3.1,SNR=10						
FITZ				PcP	PcP	03 11 09.0	-0.8
	13nm,0.9s,baz=149,slow=2.3,SNR=7.5						
NWAO	Narrogin (SRO)	49.25	237	P	P	03 10 20.7	+0.8
	6.3nm,0.7s,mb4.7,baz=56,slow=11,SNR=5.1						
JHJ	Hachijo jima 2	51.61	332	LR	LR	03 29 54.4	
	comp=Z,67nm,19.5s,MS3.7,baz=64,slow=33						
JNU	Nakatsue	56.25	324	P	P	03 11 09.7	-2.3
	8.6nm,1.0s,mb4.8,baz=272,slow=5.0,SNR=5.1						
ASAJ	Asahikawa	59.99	341	LR	LR	03 32 31.4	
	comp=Z,126nm,20.6s,MS4.0,baz=61,slow=31						
VNDA	Vanda	65.40	181	P	P	03 12 12.8	-0.7
	3.8nm,1.0s,mb4.4,baz=352,slow=7.9,SNR=13						
VNDA	Vanda	65.40	181	eP	P	03 12 12.8	-0.6
CASY	Casey	65.53	202	eP	P	03 12 13.7	-0.7
	187nm,1.2s						
SBA	Scott Base	65.70	180	eP	P	03 12 16.2	+0.8
	11nm,0.9s,mb4.9						
XAN	Xi'an	71.21	312	P	P	03 12 50.0	-0.3
XAN				AP	pP	03 12 58.3	-1.8
XAN				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.1						
KMI	Kunming	72.10	302	P	P	03 12 57.4	+1.7
KMI				AP	pP	03 13 06.9	+1.4
KMI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CD2	Chengdu	73.64	307	P	P	03 13 04.7	-0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
LZH	Lanzhou	75.84	312	⇑P	P	03 13 18.2	+0.9
LZH				AP	pP	03 13 28.4	+1.2
LZH				XP	sP	03 13 33.5	+2.9
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,149nm,4.3s						
ULN	Ulaanbaatar	79.47	324	eP	P	03 13 37.0	-0.1
	comp=Z,2.9nm,0.7s,mb4.3						
SONM	Songino Array	79.83	324	P	P	03 13 37.8	-1.2
	comp=Z,1.2nm,0.7s,mb3.9,baz=137,slow=2.3,SNR=7.5						
SONM				pP	pP	03 13 48.9	-0.1
	comp=Z,2.4nm,0.9s,baz=142,slow=4.8,SNR=8.5						
GTA	Gaotai	80.16	314	eP	P	03 13 41.6	+0.6
GTA				AP	pP	03 13 51.9	+1.0
GTA				XP	sP	03 13 56.8	+2.6
GTA				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
PKI	Pulchoki	87.58	299	eP	P	03 14 18.9	0.0
	comp=Z,37nm,1.1s,mb5.5						
KKN	Kakani	87.75	299	eP	P	03 14 19.7	0.0
	comp=Z,24nm,0.9s,mb5.4						
DMN	Daman	87.85	299	eP	P	03 14 20.5	+0.3
	comp=Z,75nm,1.1s,mb5.8						
GKN	Gorkha	88.35	299	eP	P	03 14 22.2	-0.4
	comp=Z,34nm,0.8s,mb5.6						
KOLN	Koldanda	89.18	298	eP	P	03 14 25.8	-0.7
	comp=Z,21nm,1.0s,mb5.4						
WMQ	Urumqi	90.20	315	eP	P	03 14 32.0	+1.1
MKAR	Makanchi Array	94.64	317	P	P	03 14 50.6	-0.6
	comp=Z,2.4nm,0.6s,mb4.8,baz=94,slow=6.5,SNR=16						
MKAR				pP	pP	03 15 01.0	-0.3
	comp=Z,3.7nm,0.7s,baz=92,slow=6.3,SNR=12						
MKAR	Makanchi Array	94.64	317	P	P	03 14 50.6	-0.6
MKAR				pP	pP	03 15 01.0	-0.3
ZAL	Zalesovo	94.73	324	LR	LR	03 56 16.1	
	comp=Z,74nm,18.2s,MS4.2,baz=276,slow=35						
ARCES	ARCESS Array B	117.52	345	PKP	PKPdf	03 20 13.7	-5.8
	comp=Z,7.3nm,1.2s,baz=72,slow=2.9,SNR=3.7						

*IDC **12** 03:01:45.8±1.1, 41.28S×88.58W, mb3.9/5, mb1 4.1/7, mb1mx4.0/15, mbtmp3.8/7, ML3.7/1, MS3.5/7, Ms1 3.6/7, ms1mx3.5/14, Error ellipse: s-maj=34.2km s-min=25.5km az=127.0*
*NEIC **12** 03:01:46.9±0.6, 41.31S×88.73W, h10km, mb4.7/4, Error ellipse: s-maj=15.3km s-min=13.2km az=72.0*
ISC 12 03:01:45.4±0.6, **41.34S**±0.09×**88.6W**±0.1, **h10**km, **n29,** σ**0.96**/25, **mb4.2**/8, **MS3.6**/4, **4C, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	13.63	93	Pn	P	03 05 02.4	+1.3
	0.1nm,0.3s,baz=241,slow=14,SNR=3.7						
PLCA				LR	LR	03 09 05.3	
	comp=Z,450nm,20.4s,baz=264,slow=32						
PLCA	Paso Flores	13.63	93	eP	P	03 05 04.2	+3.1
PLCA				LR	LR	03 09 05.3	
USHA	Ushuaia	18.97	142	LR	LR	03 11 38.0	
	comp=Z,75nm,19.5s,baz=162,slow=31						
CFAA	Coronel Fontan	18.99	66	P	P	03 06 07.8	-1.6
	baz=234,slow=6.5,SNR=4.8						
CFAA				LR	LR	03 11 52.6	
	comp=Z,48nm,20.1s,baz=211,slow=32						
TRQA	Tornquist	20.70	90	eP	P	03 06 29.2	+1.0
	51nm,1.4s						
LVC	Limon Verde	24.94	48	LR	LR	03 14 29.2	
	comp=Z,237nm,21.0s,MS3.7,baz=227,slow=31						
CPUP	Villa Florida	29.78	70	LR	LR	03 19 51.4	
	comp=Z,54nm,21.2s,MS3.2,baz=85,slow=36						
LPAZ	La Paz	30.57	41	P	P	03 08 01.8	+0.3
	1.6nm,1.1s,mb3.8,baz=187,slow=8.1,SNR=3.3						
LPAZ				LR	LR	03 17 29.8	
	comp=Z,181nm,21.5s,MS3.7,baz=268,slow=31						
LPAZ	La Paz	30.57	41	eP	P	03 08 01.3	-0.2
LPAZ				LR	LR	03 17 29.8	
SIV	San Ignacio	34.67	51	P	P	03 08 36.2	-1.0
	1.2nm,0.9s,mb3.8,baz=243,slow=16,SNR=3.8						
SAML	Samuel	39.31	42	eP	P	03 09 16.7	+0.4
VNA3	Neumayer Olymp	47.98	155	e	P	03 10 33.5	+7.9
VNA3	Neumayer Olymp	47.98	155	⇑iP	P	03 10 24.9	-0.7
VNA3				e		03 10 33.5	
VNA3				e		03 12 56.4	
VNA3				e		03 14 58.6	
VNA3				e		03 15 11.7	
VNA1	Neumayer--Stat	48.51	154	⇑iP	P	03 10 28.3	-1.4
VNA1				e		03 10 38.0	
VNA1				e		03 13 04.2	
VNA2	Neumayer--Watz	48.75	154	e	P	03 10 38.6	+7.0
VNA2	Neumayer--Watz	48.75	154	⇑iP	P	03 10 31.2	-0.4
VNA2				e		03 10 38.6	
VNA2				e		03 13 02.5	
VNA2				e		03 15 00.3	
VNA2				e		03 15 13.2	
SNAA	Sanae	50.07	156	⇑i	P	03 10 35.7	-6.1
SNAA	Sanae	50.07	156	e	P	03 10 43.0	+1.2
SNAA	Sanae	50.07	156	eP	P	03 10 43.0	+1.2
SNAA				e		03 13 09.2	
SNAA				e		03 15 09.1	
VNDA	Vanda	54.03	195	P	P	03 11 11.5	+0.2
	0.9nm,1.1s,mb3.6,baz=132,slow=8.0,SNR=2.8						
VNDA	Vanda	54.03	195	eP	P	03 11 11.7	+0.3
TXAR	Lajitas Array	71.69	346	P	P	03 13 09.7	+0.3
	2.7nm,1.0s,mb4.1,baz=162,slow=7.9,SNR=17						
ANMO	Albuquerque	77.67	345	eP	P	03 13 44.2	+0.6
	3.9nm,1.0s,mb4.3						
MSU	Marysvale	82.34	342	eP	P	03 14 09.3	+0.8
NLU	North Lily Min	83.69	342	eP	P	03 14 13.7	-1.7
DUG	Dugway	84.09	342	eP	P	03 14 18.0	+0.7
	15nm,1.4s,mb4.9						
CMB	Columbia Colle	84.17	335	eP	P	03 14 17.5	-0.3
	5.4nm,1.2s,mb4.5						
PDAR	Pinedale Array	85.83	345	P	P	03 14 26.2	+0.2
	1.3nm,1.0s,mb4.1,baz=143,slow=4.5,SNR=8.5						
DBIC	Dimbokro	89.67	81	LR	LR	03 54 35.2	
	comp=Z,49nm,18.8s,MS4.0,baz=246,slow=35						

CASC 12 04:03:57.6±2.0, **13.37N**×**89.94W, h25**km±9km, **MD3.9, ML3.2, 5C-6D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.56	33	⇓eP	Pb	04 04 09.4	+0.6
SNJE	San Jose	0.60	33	⇓iP	Pb	04 04 09.8	+0.4
SNJE				eS	Sb	04 04 18.4	+0.9
RTR	El Retiro	0.60	29	⇓iP	Pb	04 04 09.9	+0.4
BOQS	Boqueron	0.74	60	⇓eP	Pb	04 04 12.0	+0.3
BOQS				eS	Sb	04 04 23.8	+2.3
SNET	Serv Nac Est T	0.76	65	eP	Pb	04 04 12.1	0.0
SNET				i		04 04 13.3	
	comp=Z,3µm,0.3s						
SNET				eS	Sb	04 04 21.1	-1.0
RBDL	Robledal	0.78	19	⇑eP	Pb	04 04 11.9	-0.5
RBDL				eS	Sb	04 04 22.8	+0.1
LFU	La Fuente	0.89	65	⇑eP	Pb	04 04 14.2	-0.1
LFU				eS	Sb	04 04 27.3	+1.5
LFRS	El Faro	0.90	73	⇓eP	Pb	04 04 13.9	-0.5
LFRS				eS	Sb	04 04 27.4	+1.5
LBRS	Las Brisas	0.95	67	⇑eP	Pb	04 04 15.0	-0.3
LBRS				eS	Sb	04 04 29.1	+1.6
LCBS	La Ceiba	0.98	73	⇓eP	Pb	04 04 15.3	-0.5
LCBS				eS	Sb	04 04 28.8	+0.5
SNVI	San Vicente	1.10	77	⇑eP	Pn	04 04 17.3	-0.4
SNVI				eS	Sb	04 04 32.4	+0.6
VSM	San Miguel	1.62	88	eP	Pn	04 04 25.9	+0.7
BLLM	Bellamira	1.66	87	⇑eP	Pn	04 04 25.2	-0.5
BLLM				eS	Sn	04 04 47.3	+1.0
CNCH	Conchagua	2.06	92	eP	Pn	04 04 30.5	-0.8
CNCH				eS	Sn	04 04 57.3	+1.0
CRIN	San Cristobal	2.90	103	eP	Pn	04 04 43.4	+0.1
LEON	Leon	3.12	107	eP	Pn	04 04 43.6	-2.9
LEON				i		04 05 22.8	
	comp=Z,34nm,0.6s						
MIRN	Miramar	3.28	106	eP	Pn	04 04 46.6	-2.2
COPN	Copaltepe	3.48	109	eP	Pn	04 04 49.4	-2.1

JMA 12 04:21:01.9±0.3, **32.34N**×**137.48E, h412**km**, M3.6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	Kozaga	1.90	309	P	P	04 21 58.4	-0.4
JKN2	Miekihoku	2.15	332	P	P	04 22 00.3	0.0
JAI	Aioi	2.93	300	P	P	04 22 05.4	-0.4
JYN	Shimob	3.27	15	P	P	04 22 10.7	+2.0
JMN	Monobe	3.33	296	P	P	04 22 08.8	-0.4
JWT	Wachi	3.41	330	P	P	04 22 07.5	-2.4
BSO3	Boso 3	3.52	45	P	P	04 22 10.6	-0.3
BSO3				S	S	04 23 05.2	0.0
BSO4	Boso 4	3.56	41	P	P	04 22 11.3	+0.1
BSO4				S	S	04 23 05.7	0.0
BSO1	Boso 1	3.72	51	P	P	04 22 11.9	-0.8
BSO1				S	S	04 23 05.6	-2.7
JHU	Hanno	3.81	23	P	P	04 22 13.3	-0.1
JHU				S	S	04 23 08.2	-1.5
JRY	Ryogami san	3.85	17	P	P	04 22 14.2	+0.4
JRY				S	S	04 23 08.1	-2.3
MAT	Matsushiro	4.24	8	P	P	04 22 17.0	-0.5
MAT				S	S	04 23 15.9	-1.0
JAG	Ashikaga	4.39	21	P	P	04 22 17.9	-1.1
JAG				S	S	04 23 16.0	-3.5
JYT	Yasato	4.48	29	P	P	04 22 18.9	-1.0
JYT				S	S	04 23 17.4	-3.7

IDC 12 05:10:57.7±20.0, **3.95N**×**123.05E, h545**km±300km, **mb2.8**/3, **mb1 2.9**/3, **mb1mx2.7**/16, **mbtmp3.7**/3, **Error ellipse: s-maj=381.0km s-min=50.1km az=61.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.21	155	P	P	05 15 49.4	-1.6
	0.6nm,0.3s,baz=334,slow=9.7,SNR=21						
STKA	Stephens Creek	39.76	155	P	P	05 17 43.6	-1.2
	1.7nm,0.9s,baz=315,slow=5.7,SNR=2.8						
MKAR	Makanchi Array	55.33	327	P	P	05 19 40.1	-1.9
	0.2nm,0.3s,baz=122,slow=8.6,SNR=4.5						

NNC 12 05:42:09.6±9.0, **36.83N**×**70.52E, h156**km±197km, **mpv3.8, 3C-2D, Error ellipse: s-maj=93.3km s-min=63.6km az=24.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.26	360	⇓P	P	05 43 39.9	-0.9
	2.8nm,0.2s,baz=169,slow=7.3,SNR=157						
KK31				⇑S	S	05 44 50.9	-0.7
	4.5nm,0.4s						
AAK	Ala-Archa	6.55	27	⇓P	P	05 43 43.7	-1.0
	2.4nm,0.4s						
AAK				⇑S	S	05 44 58.3	-0.1
	6.0nm,0.7s						
AB31	Akbulak array	14.61	332	⇑P	P	05 45 28.7	-1.0
	0.5nm,0.4s,baz=151,slow=12,SNR=11						

CASC 12 05:47:24.8±1.8, **11.74N**×**86.44W, h129**km±6km, **MD3.8, ML3.0, 4C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.28	29	⇑eP	P	05 47 44.0	+1.2
CRUN				eS	S	05 47 57.4	+0.9
TICN	Ticuantepe	0.36	35	eP	P	05 47 43.7	+0.6
TICN				eS	S	05 47 59.0	+2.0
APON	Apoyo	0.41	64	⇓eP	P	05 47 43.6	+0.3
APON				eS	S	05 47 57.6	+0.2
MGAN	Managua	0.45	25	⇓eP	P	05 47 43.6	+0.1
MGAN				eS	S	05 47 58.3	+0.5
MGAN				i		05 48 02.2	
	comp=E,262nm,0.2s						
COPN	Copaltepe	0.47	342	eP	P	05 47 43.8	+0.1
COPN				eS	S	05 47 58.4	+0.5
WILN	Americas 2	0.49	30	eP	P	05 47 43.8	0.0
WILN				eS	S	05 47 58.9	+0.7
MOMJ	Momotombo	0.68	352	eP	P	05 47 44.7	-0.3
MOMJ				eS	S	05 47 59.4	-1.0
SSNN	San Juan del S	0.73	127	eP	P	05 47 46.4	+1.1
SSNN				eS	S	05 48 01.5	+0.5
MIRN	Miramar	0.75	339	⇓eP	P	05 47 45.6	+0.1
MIRN				eS	S	05 48 01.4	+0.1
CNGN	Cerro Negro	0.80	342	eP	P	05 47 46.1	+0.2
CNGN				eS	S	05 48 03.3	+1.3
LEON	Leon	0.81	327	⇑eP	P	05 47 45.9	-0.1
LEON				eS	S	05 48 02.5	+0.3
CONN	Concepcion	0.82	102	⇓iP	P	05 47 46.5	+0.4
PYTN	Playitas	0.88	25	⇓eP	P	05 47 46.2	-0.4
PYTN				eS	S	05 48 02.2	-1.1
TEL3	Telica 3	0.92	335	⇑eP	P	05 47 47.1	+0.1
TEL3				eS	S	05 48 04.1	+0.2
TELN	Telica	0.94	336	eP	P	05 47 45.8	-1.4
TELN				eS	S	05 48 04.8	+0.4
MADN	Villa Maderas	0.95	110	eP	P	05 47 47.7	+0.4
CRIN	San Cristobal	1.13	328	⇑eP	P	05 47 48.7	-0.4
CRIN				eS	S	05 48 08.4	+0.9
LIM1	Limonal	1.55	131	eP	P	05 47 54.2	+0.3
LIM1				eS	S	05 48 16.1	+0.2
VCR	Vista de Mar	1.79	153	eS	S	05 48 20.1	-0.5
JCR	Jicaral	2.28	145	eP	P	05 48 03.1	+0.3
JCR				eS	S	05 48 30.5	-1.1
CGA2	Cerro Gallo 2	2.58	131	eP	P	05 48 07.4	+0.7
CGA2				eS	S	05 48 39.1	+0.5
LAJ	Bijagual	2.94	129	eP	P	05 48 09.2	-2.2
LCR2	La Lucha 2	3.11	129	eP	P	05 48 14.3	+0.6
LCR2				eS	S	05 48 51.6	+0.7

WEL 12 06:17:33.7±0.1, **38.44S**×**176.92E, h5**km**, ML3.5**/19, **3C-8D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.23	39	⇓PG	Pg	06 17 38.3	-0.1
URZ				SG	Sg	06 17 41.6	0.0
EDRZ	Edgecumbe	0.36	336	⇓PG	Pg	06 17 41.0	0.0
TAZ	Tarawera	0.39	302	PG	Pg	06 17 41.5	0.0
MKRZ	Makatiti	0.47	310	⇑PG	Pg	06 17 43.4	+0.3
MWZ	Matawai	0.49	78	⇓PG	Pg	06 17 42.9	-0.5
MWZ				SG	Sg	06 17 50.0	0.0
MARZ	Manawahe	0.49	336	⇑PG	Pg	06 17 43.5	-0.2
PATZ	Paeroa	0.53	276	⇓PG	Pg	06 17 43.9	-0.4
LIRZ	Lichensteins R	0.61	315	P*	Pb	06 17 45.7	-0.8

UTU	**Utuhina**	**0.63**	**294**	P*	Pb	06 17 46.3	-0.6
WHTZ	**Whakaora**	**0.79**	**253**	P*	Pb	06 17 48.7	-0.9
HATZ	**Hinemaiaia**	**0.79**	**235**	P*	Pb	06 17 47.4	-2.2
BKZ	**Black Stump Fm**	**0.80**	**205**	P*	Pb	06 17 47.7	-2.0
KNZ	**Kokohu**	**0.82**	**135**	⇑P*	Pb	06 17 50.2	0.0
KNZ				S*	Sb	06 18 02.6	+1.3
TGRZ	**Tauranga**	**0.88**	**323**	P*	Pb	06 17 50.2	-0.9
WIZ	**White Island**	**0.93**	**13**	*e*P*	Pb	06 17 51.1	-0.9
WATZ	**Wairara**	**0.97**	**254**	P*	Pb	06 17 51.4	-1.3
RITZ	**Rihia Road**	**0.99**	**237**	P*	Pb	06 17 51.4	-1.7
RATZ	**Rangitukua**	**1.00**	**244**	P*	Pb	06 17 51.8	-1.4
KATZ	**Kakaramea**	**1.10**	**240**	P*	Pb	06 17 53.1	-1.8
PUZ	**Puketiti**	**1.11**	**71**	⇓P*	Pb	06 17 55.8	+0.7
KRVZ	**Karewarewa**	**1.20**	**236**	P*	Pb	06 17 54.5	-2.0
OTVZ	**Oturere**	**1.22**	**233**	⇓P*	Pb	06 17 55.1	-1.8
WTVZ	**West Tongariro**	**1.24**	**237**	⇓P*	Pb	06 17 55.4	-1.9
NGZ	**Ngauruhoe**	**1.27**	**234**	⇓P*	Pb	06 17 55.9	-1.8
MYRZ	**Mayor Island**	**1.28**	**335**	P*	Pb	06 17 57.1	-0.8
TUVZ	**Tukino**	**1.29**	**230**	P*	Pb	06 17 56.1	-2.0
CNZ	**Chateau**	**1.31**	**234**	P*	Pb	06 17 56.7	-1.8
WPVZ	**Whakapapa**	**1.32**	**234**	P*	Pb	06 17 56.8	-1.9
TWVZ	**Taurewa**	**1.32**	**241**	P*	Pb	06 17 56.6	-2.1
MOVZ	**Moawhango**	**1.33**	**223**	P*	Pb	06 17 56.3	-2.5
FWVZ	**Far West T-bar**	**1.35**	**232**	P*	Pb	06 17 57.1	-1.9
DRZ	**Dome Shelter**	**1.35**	**231**	P*	Pb	06 17 57.2	-1.9
WNVZ	**Wahianoa**	**1.36**	**229**	P*	Pb	06 17 57.1	-2.2
TRVZ	**Turoa**	**1.38**	**231**	P*	Pb	06 17 57.4	-2.2
MTVZ	**Mangateitei**	**1.48**	**230**	P*	Pb	06 17 58.8	-2.5
PKVZ	**Pokaka**	**1.50**	**235**	P*	Pb	06 17 59.7	-1.9
HIZ	**Hauiti**	**1.62**	**267**	*e*PN	Pn	06 18 01.0	-2.2
TSZ	**Takapari Road**	**1.78**	**204**	*e*PN	Pn	06 18 04.5	-1.0
WAZ	**Wanganui**	**2.00**	**228**	*e*PN	Pn	06 18 09.2	+0.6
PKE	**Pukeiti**	**2.42**	**251**	*e*PN	Pn	06 18 14.0	-0.5
MRZ	**Mangatainoka R**	**2.45**	**205**	*e*PN	Pn	06 18 12.2	-2.9
KIW	**Kapiti Island**	**2.88**	**212**	*e*PN	Pn	06 18 17.9	-3.2

JMA 12 06:55:14.8±0.1**, 28.52N×128.49E, h129**km±3km**, M3.6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.84**	**151**	P	P	06 55 36.5	+0.2
JTK				S	S	06 55 52.5	-0.2
JAM	**Amami Oshima**	**0.99**	**96**	P	P	06 55 37.6	-0.1
JAM				S	S	06 55 54.8	-0.3
JIH	**Iheya**	**1.55**	**198**	P	P	06 55 43.7	-0.1
JIH				S	S	06 56 05.9	0.0
JOW	**Kunigami**	**1.69**	**187**	P	P	06 55 45.3	-0.1
JNN	**Nakanoshima**	**1.79**	**42**	P	P	06 55 46.4	-0.2
JAGN	**Aguni-jima**	**2.22**	**210**	P	P	06 55 51.6	-0.4
JAGN				S	S	06 56 19.4	-0.8
NAH1	**Naha**	**2.42**	**197**	P	P	06 55 54.3	-0.2
JKE	**Kume jima 2**	**2.66**	**215**	P	P	06 55 57.0	-0.7
JTN	**Tanegashima 3**	**3.04**	**45**	P	P	06 56 02.4	-0.3
JTN				*e*S	S	06 56 37.8	-1.4
JSJ	**Shimokoshiki**	**3.32**	**18**	P	P	06 56 06.4	-0.1
JTSR	**Tashiro 2**	**3.38**	**38**	P	P	06 56 07.2	-0.1
JTSR				*e*S	S	06 56 46.1	-1.2
JSU	**Suzuyama**	**3.43**	**29**	P	P	06 56 07.9	0.0

*MOS **12** 07:09:06.8±0.7, 6.15S×151.67E, h33km, mb4.7/6, Error ellipse: s-maj=16.0km s-min=15.0km az=164.0*
*NEIC **12** 07:09:08.6±0.4, 6.16S×151.63E, h35km, mb4.9/7, Error ellipse: s-maj=9.8km s-min=9.6km az=173.0*
*IDC **12** 07:09:11.3±3.0, 6.24S×151.71E, h62km±27km, mb4.1/8, mb1 4.4/10, mb1mx4.3/14, mbtmp4.5/10, ML4.2/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/20, Error ellipse: s-maj=20.9km s-min=17.4km az=165.0*
ISC 12 07:09:10.2±1.8**, 6.22S**±0.09×**151.63E**±0.05**, h67**km±16km**, n39, σ0s97**/38**, mb4.4**/17**, 2C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**234**	P	**P**	**07 10 30.2**	**-0.4**
	12nm,0.3s,baz=42,slow=7.9,SNR=33						
PMG				S	**S**	**07 11 34.4**	**+1.7**
	68nm,0.3s,baz=339,slow=23,SNR=14						
PMG				LR	LR	07 12 54.5	
	comp=Z,326nm,19.3s,baz=87,slow=40						
PMG	**Port Moresby**	**5.45**	**234**	*e*Pn	**P**	**07 10 30.2**	**-0.4**
PMG				*e*Sn	**S**	**07 11 34.7**	**+2.1**
PMG				LR	LR	07 12 54.5	
HNR	**Honiara**	**8.84**	**112**	P	**P**	**07 11 15.4**	**-2.1**
	17nm,0.3s,baz=84,slow=2.3,SNR=4.4						
HNR				LR	LR	07 14 06.9	
	comp=Z,465nm,21.7s,baz=97,slow=34						
HNR	**Honiara**	**8.84**	**112**	*e*Pn	**P**	**07 11 15.6**	**-1.9**
HNR				*e*Sn	**S**	**07 12 58.4**	**+1.8**
HNR				LR	LR	07 14 06.9	
CTA	**Charters Tower**	**14.74**	**200**	P	**P**	**07 12 41.2**	**+4.7**
	0.2nm,0.3s,baz=22,slow=12,SNR=3.5						
CTA				LR	LR	07 17 23.1	
	comp=Z,101nm,18.7s,baz=222,slow=33						
CTA	**Charters Tower**	**14.74**	**200**	P	**P**	**07 12 41.2**	**+4.7**
CTA				LR	LR	07 17 23.1	
KAKA	**Kakadu**	**19.99**	**250**	⇑*i*P	**P**	**07 13 57.5**	**+18**
	56nm,0.6s						
KAKA				*i*		07 14 03.3	
GUMO	**Guam**	**20.79**	**341**	LR	LR	07 20 16.0	
	comp=Z,41nm,19.9s,baz=92,slow=32						
DZM	**Mont Dzumac**	**21.29**	**139**	P	**P**	**07 13 52.8**	**-0.5**
	6.4nm,0.8s,mb4.0,baz=21,slow=15,SNR=6.7						
DZM				LR	LR	07 21 02.7	
	comp=Z,336nm,18.2s,baz=21,slow=34						
WRAB	**Tennant Creek**	**21.63**	**229**	*e*P	**P**	**07 13 56.1**	**-0.5**
	45nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**21.63**	**229**	*e*P	**P**	**07 13 56.5**	**-0.1**
WRA	**Warramunga Arr**	**21.64**	**229**	P	**P**	**07 13 56.3**	**-0.5**
	26nm,0.7s,mb4.7,baz=54,slow=10,SNR=42						
WRA				PcP	PcP	07 17 57.4	+0.5
	2.1nm,0.7s,baz=42,slow=1.9,SNR=6.3						
STKA	**Stephens Creek**	**27.20**	**199**	P	**P**	**07 14 49.3**	**-0.5**
	3.5nm,0.7s,mb4.0,baz=334,slow=21,SNR=8.1						
FITZ	**Fitzroy Crossi**	**27.97**	**243**	⇑*i*P	**P**	**07 14 56.4**	**-0.5**
	44nm,0.6s,mb5.2						
FITZ				*i*		07 15 03.5	
FITZ	**Fitzroy Crossi**	**27.97**	**243**	P	**P**	**07 14 56.5**	**-0.4**
	61nm,0.6s,mb5.3,baz=74,slow=4.3,SNR=70						
FITZ				LR	LR	07 25 22.0	
	comp=Z,116nm,19.0s,baz=83,slow=35						
FORT	**Forrest**	**32.96**	**219**	*e*P	**P**	**07 15 39.7**	**-1.1**
	29nm,0.6s,mb5.3						
KLBR	**Kellerberrin**	**40.49**	**227**	*e*P	**P**	**07 16 43.3**	**-0.9**
	37nm,1.5s,mb5.0						
MJAR	**Matsushiro Arr**	**44.35**	**344**	LR	LR	07 33 09.5	
	comp=Z,56nm,21.6s,baz=105,slow=32						
KULM	**Kulim**	**52.16**	**282**	*e*P	**P**	**07 18 16.5**	**-0.1**
ULN	**Ulaanbaatar**	**66.59**	**329**	*i* P	**P**	**07 19 54.0**	**-1.6**
SONM	**Songino Array**	**66.91**	**329**	P	**P**	**07 19 58.2**	**+0.6**
	1.8nm,0.6s,mb4.1,baz=146,slow=4.9,SNR=14						
ZAK	**Zakamensk**	**70.10**	**329**	*e*P	**P**	**07 20 17.0**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
VNDA	**Vanda**	**71.47**	**178**	P	**P**	**07 20 24.2**	**-0.9**
	comp=Z,0.8nm,0.8s,mb3.6,baz=320,slow=7.9,SNR=4.8						
VNDA	**Vanda**	**71.47**	**178**	*e*P	**P**	**07 20 24.6**	**-0.5**
SBA	**Scott Base**	**72.03**	**177**	*e*P	**P**	**07 20 29.6**	**+1.1**
MKAR	**Makanchi Array**	**80.63**	**319**	P	**P**	**07 21 17.9**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.8,baz=124,slow=4.4,SNR=6.7						
MKAR	**Makanchi Array**	**80.63**	**319**	*i* P	**P**	**07 21 18.2**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**81.69**	**327**	P	**P**	**07 21 22.4**	**-0.4**
	comp=Z,3.6nm,0.3s,mb4.7,baz=73,slow=11,SNR=5.0						
ZAL	**Zalesovo**	**81.69**	**327**	*i* P	**P**	**07 21 24.3**	**+1.5**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.3s						
QSPA	**South Pole Qui**	**83.75**	**180**	*e*P	**P**	**07 21 33.5**	**+0.8**
	comp=Z,11nm,1.1s,mb4.6						
QSPA				*e*pP	pP	07 21 49.5	-1.9
ILAR	**Eielson Array**	**83.90**	**22**	P	**P**	**07 21 33.6**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.3,baz=247,slow=5.0,SNR=51						
ILAR				pP	pP	07 21 51.5	-0.9
	comp=Z,2.5nm,0.7s,baz=249,slow=5.4,SNR=7.4						
KURK	**Kurchatov**	**84.17**	**322**	*e*P	**P**	**07 21 36.6**	**+1.1**
	comp=Z,5.6nm,1.1s,mb4.3						
KURK	**Kurchatov**	**84.17**	**322**	*e*P	**P**	**07 21 36.6**	**+1.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**84.79**	**314**	*e*P	**P**	**07 21 40.0**	**+1.2**
AAK	**Ala-Archa**	**84.79**	**314**	⇓*i*P	**P**	**07 21 39.5**	**+0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**89.74**	**323**	P	**P**	**07 22 02.6**	**+0.2**
	comp=Z,1.2nm,0.7s,mb4.1						
BRVK	**Borovoye**	**89.74**	**323**	P	**P**	**07 22 02.6**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
GERES	**GERESS Array B**	**124.63**	**327**	PKP	PKPdf	07 28 03.9	+1.5
	comp=Z,0.3nm,0.5s,baz=315,slow=1.9,SNR=3.5						
DBIC	**Dimbokro**	**156.63**	**272**	PKPab	PKPab	07 29 30.6	+0.2
	comp=Z,5.8nm,0.9s,baz=153,slow=6.1,SNR=5.5						

NNC 12 07:17:17.2±10.0**, 36.83N×68.99E, h253**km±180km**, mpv3.6, 3C-3D, Error ellipse: s-maj=172.1km s-min=56.6km az=58.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.37**	**10**	⇓P	P	07 18 49.5	-1.2
	0.7nm,0.3s,baz=184,slow=13,SNR=19						
KK31				⇑S	S	07 20 05.0	+1.2
	1.1nm,0.3s						
KK31				⇑Lg		07 20 47.7	
	2.2nm,0.4s						
AAK	**Ala-Archa**	**7.18**	**34**	⇑Pn	P	07 19 00.3	-0.5
	5.1nm,0.5s						
AAK				⇓Lg		07 20 25.7	
	3.6nm,0.7s						
AB31	**Akbulak array**	**14.06**	**335**	P	P	07 20 26.6	-0.3
	0.2nm,0.3s,baz=1.7,slow=26,SNR=15						
AB31				⇓S	S	07 23 00.4	+3.3
	0.2nm,0.3s,baz=255,slow=32,SNR=5.5						

*NEIC **12** 07:25:01.9, 17.62N×70.94W, h30km, MD4.3(RSPR), After RSPR.*
RSPR 12 07:25:01.9, 17.62N×70.94W, h30km±28km**, MD4.3**/3**, 4C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**3.67**	**83**	⇑*e*P	Pn	07 25 55.2	-2.8
CRPR				*e*S	Sn	07 26 38.0	-2.8
LRS	**Lares**	**3.95**	**80**	⇑*e*P	Pn	07 26 00.1	-1.9
LRS				*e*S	Sn	07 26 44.6	-3.5
HUMP	**Col San Antoni**	**4.87**	**83**	⇑*e*P	Pn	07 26 12.4	-2.7
MTP	**Monte Pirata**	**5.14**	**84**	⇑*e*P	Pn	07 26 16.9	-2.1
MTP				*e*S	Sn	07 27 14.9	-3.2

IDC 12 07:28:45.6±2.1**, 28.63N×139.48E, h416**km±21km**, mb2.8**/4**, mb1 3.1**/5**, mb1mx2.9**/20**, mbtmp3.6**/5**, Error ellipse: s-maj=49.3km s-min=20.8km az=107.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.84**	**122**	P	P	07 29 50.1	+0.9
	6.0nm,0.3s,baz=266,slow=19,SNR=9.6						
CBIJ				S	S	07 30 40.0	+0.6
	46nm,0.3s,baz=307,slow=20,SNR=22						
WRA	**Warramunga Arr**	**48.55**	**186**	P	P	07 36 48.9	-2.0
	0.3nm,0.6s,baz=2.5,slow=7.8,SNR=8.3						
ILAR	**Eielson Array**	**57.53**	**29**	P	P	07 37 52.9	-2.2
	0.2nm,0.4s,baz=248,slow=5.7,SNR=10						
FINES	**FINESS Array B**	**75.50**	**333**	P	P	07 39 45.5	-1.1
	0.7nm,0.5s,baz=72,slow=6.0,SNR=4.3						
NVAR	**Mina Array Bea**	**81.43**	**51**	P	P	07 40 18.4	-0.3
	0.5nm,0.7s,baz=290,slow=8.0,SNR=4.8						

*IDC **12** 07:37:20.1±4.0, 10.29S×118.62E, mb3.9/2, mb1 3.7/3, mb1mx3.6/12, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=189.7km s-min=36.4km az=47.0*
ISC 12 07:37:23.5±1.6**, 10.1S**±0.3×**118.8E**±0.4**, h33**km**, n4, σ0s29**/6**, mb4.0**/2**, 1D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.32**	**141**	⇓*i*P	**P**	**07 39 52.5**	**+0.1**
	3.0nm,0.4s						
FITZ				*e*S	**S**	**07 41 40.9**	**-7.1**
WRA	**Warramunga Arr**	**17.86**	**125**	P	**P**	**07 41 31.3**	**+0.1**
	0.1nm,0.3s,baz=301,slow=13,SNR=11						
WRA				S	**S**	**07 44 46.4**	**-0.1**
	0.1nm,0.3s,baz=294,slow=23,SNR=4.0						
SONM	**Songino Array**	**58.74**	**350**	P	**P**	**07 47 20.8**	**+0.3**
	0.8nm,0.5s,mb4.0,baz=168,slow=7.7,SNR=7.8						
MKAR	**Makanchi Array**	**65.37**	**333**	P	**P**	**07 48 04.6**	**-0.3**
	0.9nm,0.6s,mb4.0,baz=148,slow=6.5,SNR=10.0						

*NEIC **12** 07:54:20.3, 17.02N×95.94W, h50km, MD3.8(MEX), After MEX.*
MEX 12 07:54:20.3±0.4**, 17.03N×95.94W, h49**km±10km**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.75**	**274**	*e*P	P	07 54 32.5	-2.2
OXX				*i* S	S	07 54 43.0	-2.3
VHO	**Vista Hermosa**	**0.76**	**274**	*i* P	P	07 54 33.4	-1.4
VHO				*e*S	S	07 54 43.9	-1.6
CMIG	**Matias Romero**	**1.01**	**86**	*i* P	P	07 54 36.8	-1.6
CMIG				*e*S	S	07 54 49.2	-2.6
HUIG	**Huatulco**	**1.26**	**187**	*i* P	P	07 54 39.8	-2.1
HUIG				*e*S	S	07 54 55.4	-2.6
PPM	**Popocatepetl**	**3.26**	**309**	*e*P	P	07 55 13.0	+2.7
PLIG	**Platanillo**	**3.66**	**292**	*i* P	P	07 55 14.4	-1.5
PLIG				*i* S	S	07 55 54.3	-3.8
CCIG	**Comitan**	**3.72**	**101**	*i* P	P	07 55 14.8	-2.0
CCIG				*i* S	S	07 55 57.4	-2.5

*CNRM **12** 08:15:26.2, 35.06N×3.57W, h8km, MD3.0*
*CSEM **12** 08:15:28.6±0.4, 34.93N×3.77W, h10km, MD3.0, Error ellipse: s-maj=11.1km s-min=7.9km az=121.0*
*NEIC **12** 08:15:33.0, 35.16N×3.84W, MG3.2(MDD), After MDD.*
MDD 12 08:15:30.1±0.5**, 34.96N×3.81W, mbLg2.0**/7**, Error ellipse: s-maj=4.6km s-min=3.7km az=13.0, PRXIMO, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.04**	**87**	*i* P	Pg	08 15 30.0	-1.0
TOU				*i* S	Sg	08 15 32.0	+0.4
EMEL	**Melilla**	**0.78**	**64**	P	Pg	08 15 45.5	-0.1
	118nm,0.1s,SNR=4.0						
EMEL				S	Sg	08 15 57.3	+1.3
	209nm,0.2s,SNR=5.0						
EMLI	**Melilla**	**0.78**	**64**	P	Pg	08 15 45.5	-0.2
	118nm,0.1s,SNR=4.0						
EMLI				S	Sg	08 15 57.3	+1.1
	209nm,0.2s,SNR=5.0						
ZAI	**Zaio**	**0.87**	**89**	*i* P	Pg	08 15 38.0	-10
ZAI				*i* S	Sg	08 15 49.0	-10
TZK	**Tazeka**	**0.92**	**200**	*i* P	Pg	08 15 46.5	-2.0
TZK				*i* S	Sg	08 16 00.0	-0.8
EALB	**Alboran**	**1.17**	**33**	P	Pb	08 15 52.3	-0.6
	4.4nm,0.1s,SNR=7.9						
EALB				S	Sb	08 16 05.6	-2.7
	19nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.17**	**33**	P	Pb	08 15 52.3	-0.5
	4.4nm,0.1s,SNR=7.9						
EALB				S	Sb	08 16 05.6	-2.7
	19nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.78**	**334**	P	Pn	08 16 01.4	-1.0
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sn	08 16 25.0	-1.1
	2.2nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**1.78**	**334**	P	Pn	08 16 01.4	-1.0
EMIJ				S	Sn	08 16 19.7	-6.4
EMIJ	**Mijas**	**1.78**	**334**	P	Pn	08 16 01.4	-1.0
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sn	08 16 19.7	-6.4
	2.2nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**1.88**	**6**	P	Pn	08 16 02.8	-1.1
	0.2nm,0.2s,SNR=7.9						
EGUA				S	Sn	08 16 23.6	-5.0
	1.7nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.01**	**318**	P	Pn	08 16 05.0	-0.7
	0.3nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.07**	**21**	P	Pn	08 16 04.3	-2.3
	0.6nm,0.1s,SNR=7.9						
EBER				S	Sn	08 16 29.3	-4.2
	5.9nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.07**	**21**	P	Pn	08 16 04.3	-2.3
	0.6nm,0.1s,SNR=7.9						
EBER				S	Sn	08 16 29.3	-4.2
	5.9nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.26**	**7**	P	Pn	08 16 06.4	-2.8
	0.4nm,0.1s,SNR=7.9						
EQUE				S	Sn	08 16 33.7	-4.5
	2.0nm,0.5s,SNR=7.9						
ENIJ	**Nijar**	**2.39**	**32**	S	Sn	08 16 37.5	-4.0
	1.3nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.90**	**12**	P	Pn	08 16 18.3	-0.1
	0.4nm,0.1s,SNR=4.0						
EQES				S	Sn	08 16 48.7	-5.8
	2.2nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.90**	**12**	P	Pn	08 16 18.3	-0.1
	0.4nm,0.1s,SNR=4.0						
EQES				S	Sn	08 16 48.7	-5.8
	2.2nm,0.5s,SNR=7.9						
EHUE	**Huescar**	**3.01**	**19**	P	Pn	08 16 18.5	-1.5
	0.2nm,0.2s,SNR=7.9						
EHUE				S	Sn	08 16 52.5	-4.9
	2.0nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**3.20**	**0**	P	Pn	08 16 20.8	-1.9
	0.2nm,0.1s,SNR=7.9						
EBAN				S	Sn	08 16 55.7	-6.3
	1.8nm,0.4s,SNR=4.0						
EADA	**Adamuz**	**3.26**	**349**	P	Pn	08 16 22.4	-1.1
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	08 16 57.2	-6.4
	0.8nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.26**	**349**	P	Pn	08 16 22.4	-1.1
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	08 16 57.2	-6.4
	0.8nm,0.2s,SNR=4.0						
ECAB	**El Cabril**	**3.37**	**338**	P	Pn	08 16 23.5	-1.6
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	08 17 01.4	-4.9
	4.9nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**3.37**	**338**	P	Pn	08 16 23.5	-1.6
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	08 17 01.4	-5.0
	4.9nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.54**	**35**	P	Pn	08 16 25.8	-1.7
	1.1nm,0.2s,SNR=7.9						
EMUR				S	Sn	08 17 05.1	-5.8
	2.2nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.54**	**35**	P	Pn	08 16 25.8	-1.8
	1.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.63**	**321**	P	Pn	08 16 25.9	-2.9
	0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	08 17 06.7	-6.3
	1.0nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.63**	**321**	P	Pn	08 16 25.9	-2.9
	0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	08 17 06.7	-6.3
	1.0nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**3.82**	**16**	P	Pn	08 16 29.2	-2.2
	0.4nm,0.1s,SNR=7.9						
EVIA				S	Sn	08 17 11.7	-6.0
	1.6nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**3.93**	**312**	P	Pn	08 16 30.9	-2.1
	1.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	08 17 14.6	-5.9
	1.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.10**	**26**	P	Pn	08 16 33.4	-2.0
	0.7nm,0.1s,SNR=7.9						
ETOB				S	Sn	08 17 18.3	-6.6
	0.6nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.10**	**26**	P	Pn	08 16 33.4	-2.1
	0.7nm,0.1s,SNR=7.9						
ETOB				S	Sn	08 17 18.3	-6.6
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.58**	**327**	P	Pn	08 16 40.0	-2.3
	0.6nm,0.2s,SNR=7.9						
EBAD				S	Sn	08 17 29.5	-7.5
	2.4nm,0.3s,SNR=7.9						

MAN 12 08:20:53.0, 9.92N×126.30E, h8km**, mb3.9, ML2.7, MS2.3, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**261**	*e*P	Pb	08 21 08.7	-0.3
SCPH				*e*S	Sb	08 21 19.9	+0.1
BUTP	**Butuan**	**1.16**	**216**	*e*P	Pb	08 21 13.6	-1.2
BUTP				*e*S	Sb	08 21 28.5	-1.4
MSLP	**Maasin**	**1.44**	**279**	*e*P	Pn	08 21 18.9	-0.6
MSLP				*e*S	Sb	08 21 38.8	+0.8
BESP	**Borongan**	**1.88**	**333**	*e*P	Pn	08 21 25.4	-0.4
BESP				*e*S	Sn	08 21 54.5	+4.6
BUKP	**Musuan**	**2.37**	**211**	*e*P	Pn	08 21 33.4	+0.7
BUKP				*e*S	Sn	08 22 03.7	+1.4
PAGZ	**Pagadian**	**3.54**	**235**	*e*P	Pn	08 21 49.0	-0.5
PVCP	**Virac**	**4.22**	**330**	*e*P	Pn	08 22 05.8	+6.6

*IDC **12** 08:24:14.1±1.3, 2.30S×141.53E, mb3.9/4, mb1 4.1/5, mb1mx3.9/12, mbtmp3.9/5, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=49.8km s-min=23.4km az=99.0*
*NEIC **12** 08:24:18.6±0.7, 2.39S×141.58E, h30km, mb4.2/2, Error ellipse: s-maj=18.7km s-min=14.1km az=101.0*
ISC 12 08:24:17.1±0.8**, 2.4S**±0.1×**141.6E**±0.1**, h33**km**, n10, σ0s91**/9**, mb3.9**/5**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**18.11**	**166**	LR	LR	08 34 42.9	
	comp=Z,62nm,19.8s,baz=166,slow=34						
WRAB	**Tennant Creek**	**18.78**	**202**	*e*P	**P**	**08 28 35.3**	**-0.9**
	38nm,1.8s						
WRA	**Warramunga Arr**	**18.79**	**202**	P	**P**	**08 28 35.7**	**-0.7**
	0.4nm,0.3s,baz=19,slow=12,SNR=25						
HNR	**Honiara**	**19.49**	**112**	P	**P**	**08 28 44.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.09**	**224**	P	**P**	**08 29 11.1**	**-0.1**
	3.9nm,0.6s,mb4.0,baz=19,slow=9.6,SNR=8.4						
STKA	**Stephens Creek**	**29.28**	**180**	P	**P**	**08 30 19.2**	**+0.6**
	1.9nm,1.0s,mb3.8,baz=337,slow=7.7,SNR=2.5						
TAU	**Tasmania Unive**	**40.61**	**174**	*e*P	**P**	**08 31 57.6**	**+2.1**
MKAR	**Makanchi Array**	**71.38**	**321**	P	**P**	**08 35 36.6**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=108,slow=7.7,SNR=9.6						
KURK	**Kurchatov**	**75.19**	**324**	*e*P	**P**	**08 35 58.2**	**+0.1**
	1.3nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**84.39**	**24**	P	**P**	**08 36 46.1**	**-1.0**
	0.5nm,0.7s,mb3.8,baz=263,slow=5.1,SNR=6.6						

*JMA **12** 08:51:30.1±0.4, 33.49N×142.26E, M3.6*
ISC 12 08:51:30.9±1.7**, 33.5N**±0.1×**142.6E**±0.2**, h98**km±19km**, n10, σ1s05**/18**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.72**	**311**	P	**P**	**08 51 59.6**	**-0.6**
BSO1				S	**S**	**08 52 21.4**	**-0.5**
BSO3	**Boso 3**	**2.12**	**307**	P	**P**	**08 52 05.3**	**-0.1**
BSO3				S	**S**	**08 52 31.8**	**+0.8**
JHJ2	**Mitsune**	**2.33**	**260**	P	**P**	**08 52 07.5**	**-0.9**
BSO4	**Boso 4**	**2.34**	**309**	P	**P**	**08 52 09.2**	**+0.6**
BSO4				S	**S**	**08 52 38.0**	**+1.4**
JIM2	**Oshima 3**	**2.85**	**295**	P	**P**	**08 52 14.3**	**-1.2**
JOD2	**Odawara 2**	**3.34**	**302**	P	**P**	**08 52 21.6**	**-0.7**
JOD2				S	**S**	**08 52 57.9**	**-3.3**
JHO	**Hitachi**	**3.48**	**333**	P	**P**	**08 52 24.0**	**-0.1**
JHO				S	**S**	**08 53 02.9**	**-1.5**
JHU	**Hanno**	**3.55**	**312**	P	**P**	**08 52 26.8**	**+1.6**
JHU				S	**S**	**08 53 07.1**	**+0.8**
JYN	**Shimob**	**3.85**	**302**	P	**P**	**08 52 30.3**	**+1.1**
JYN				S	**S**	**08 53 13.6**	**0.0**
MAT	**Matsushiro**	**4.66**	**311**	P	**P**	**08 52 41.8**	**+1.4**
MAT				*e*S	**S**	**08 53 32.6**	**-1.1**

*KRSC **12** 09:28:30.4±0.8, 52.20N×157.69E, h144km±2km, ML4.1*
*NEIC **12** 09:28:31.4±1.1, 52.39N×157.24E, h134km±9km, mb4.5/1, Error ellipse: s-maj=19.5km s-min=11.6km az=159.0*
*MOS **12** 09:28:31.1±1.9, 52.22N×157.88E, h139km, mb4.4/1, Error ellipse: s-maj=29.1km s-min=10.2km az=64.0*
*IDC **12** 09:28:34.7±4.7, 52.42N×157.25E, h166km±45km, mb3.5/11, mb1 3.8/12, mb1mx3.6/24, mbtmp4.0/12, Error ellipse: s-maj=21.1km s-min=12.0km az=150.0*

ISC 12 09:28:30.7±0.4**, 52.24N**±0.05×**157.67E**±0.09**, h141**km±2km**, n51,** σ**1ˢ12**/80**, mb3.8**/12**, 1D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.40**	**39**	*i* P	**P**	**09 28 52.1**	**+1.0**
GRL				*e*S	**S**	**09 29 07.2**	**+0.5**
RUS	**Russkaya**	**0.55**	**70**	P	**P**	**09 28 51.8**	**-0.1**
RUS				S	**S**	**09 29 07.2**	**-0.9**
RUS	**Russkaya**	**0.55**	**70**	*e*P	**P**	**09 28 51.8**	**-0.1**
RUS				*e*S	**S**	**09 29 07.1**	**-1.0**
MIPR	**Malaya Ipel'ka**	**0.56**	**274**	*e*P	**P**	**09 28 52.2**	**+0.3**
MIPR				*e*S	**S**	**09 29 07.5**	**-0.6**
KRMR	**Karymshinskiy**	**0.65**	**26**	*i* P	**P**	**09 28 51.8**	**-0.6**
KRMR				*i* S	**S**	**09 29 08.2**	**-0.8**
APC	**Apacha**	**0.75**	**336**	*i* P	**P**	**09 28 53.3**	**+0.3**
APC				*e*S	**S**	**09 29 09.6**	**-0.5**
APC				Smax			
	1μm,0.8s						
PAU	**Pauzhetka**	**0.94**	**215**	*i* P	**P**	**09 28 55.1**	**+0.8**
PAU				*e*S	**S**	**09 29 13.2**	**+0.7**
PAU				Smax			
	1μm,0.8s						
PET	**Petropavlovsk**	**0.99**	**37**	P	**P**	**09 28 55.1**	**+0.4**
PET				S	**S**	**09 29 12.6**	**-0.5**
PET	**Petropavlovsk**	**0.99**	**37**	*i* P	**P**	**09 28 55.1**	**+0.4**
PET				*e*S	**S**	**09 29 12.7**	**-0.4**
PET	**Petropavlovsk**	**0.99**	**37**	*e*Pn	**P**	**09 28 55.1**	**+0.4**
PET				*e*Sn	**S**	**09 29 13.7**	**+0.5**
PET	**Petropavlovsk**	**0.99**	**37**	⇓ *i*PN	**P**	**09 28 55.2**	**+0.5**
PET				*e*S	**S**	**09 29 13.2**	**+0.1**
PET				pmax	pmax		
	comp=Z,224nm,0.7s						
PET				smax			
	comp=N,651nm,0.9s						
PET				smax			
	comp=E,507nm,0.8s						
UGLR	**Uglovaya**	**1.20**	**36**	*e*P	**P**	**09 28 58.1**	**+1.3**
UGLR				*e*S	**S**	**09 29 17.9**	**+1.1**
KOK	**Koryaka**	**1.21**	**29**	*i* P	**P**	**09 28 58.0**	**+1.1**
KOK				*i* S	**S**	**09 29 18.5**	**+1.6**
AVH	**Avacha**	**1.21**	**32**	*e*P	**P**	**09 28 58.4**	**+1.5**
AVH				*e*S	**S**	**09 29 18.5**	**+1.4**
SMAR	**Somma**	**1.23**	**34**	*e*P	**P**	**09 28 57.6**	**+0.5**
SMAR				*e*S	**S**	**09 29 17.8**	**+0.3**
SDLR	**Sedlovina**	**1.27**	**35**	*i* P	**P**	**09 28 58.3**	**+0.7**
SDLR				*e*S	**S**	**09 29 18.0**	**-0.2**
NLC	**Nalytchevo**	**1.38**	**47**	P	**P**	**09 28 58.2**	**-0.5**
NLC				S	**S**	**09 29 18.2**	**-2.0**
NLC	**Nalytchevo**	**1.38**	**47**	*i* P	**P**	**09 28 58.1**	**-0.6**
NLC				*e*S	**S**	**09 29 18.3**	**-1.9**
GNL	**Ganaly**	**1.46**	**6**	*e*P	**P**	**09 29 00.0**	**+0.4**
GNL				*e*S	**S**	**09 29 21.2**	**-0.5**
SPN	**Mys Shipunski**	**1.67**	**58**	P	**P**	**09 29 01.8**	**-0.1**
SPN				S	**S**	**09 29 23.9**	**-1.9**
SPN	**Mys Shipunski**	**1.67**	**58**	*e*P	**P**	**09 29 01.6**	**-0.3**
SPN				*e*S	**S**	**09 29 23.8**	**-2.0**
SKR	**Severo-Kuril's**	**1.84**	**212**	*e*PN	**P**	**09 29 01.6**	**-2.1**
SKR				*e*S	**S**	**09 29 26.5**	**-2.6**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=E,650nm,0.2s						
SKR				smax			
	comp=N,690nm,0.5s						
ALID	**Alaid**	**1.91**	**225**	*e*P	**P**	**09 29 05.6**	**+1.1**
KII	**Karymskiy**	**2.09**	**30**	P	**P**	**09 29 07.8**	**+1.0**
KII				S	**S**	**09 29 34.4**	**-0.1**
KII	**Karymskiy**	**2.09**	**30**	*e*P	**P**	**09 29 07.8**	**+1.0**
KII				*e*S	**S**	**09 29 34.3**	**-0.2**
MKZ	**Mys Kozlova**	**3.36**	**45**	P	**P**	**09 29 22.6**	**-0.6**
MKZ				S	**S**	**09 30 01.1**	**-2.2**
MKZ	**Mys Kozlova**	**3.36**	**45**	*e*P	**P**	**09 29 22.5**	**-0.7**
MKZ				*e*S	**S**	**09 30 01.1**	**-2.2**
ESO	**Esso**	**3.74**	**9**	*e*P	**P**	**09 29 28.1**	**-0.1**
ESO				*e*S	**S**	**09 30 11.3**	**-0.9**
KMNR	**Kamenistaya**	**3.83**	**22**	*e*P	**P**	**09 29 30.4**	**+1.0**
SRDR	**Sredinnyy**	**4.25**	**16**	*e*P	**P**	**09 29 36.1**	**+1.1**
KLY	**Klyuchi**	**4.44**	**22**	*e*P	**P**	**09 29 37.9**	**+0.5**
KBTR	**Krutoberegovo**	**4.99**	**35**	P	**P**	**09 29 45.1**	**+0.3**
KBTR				S	**S**	**09 30 39.8**	**-2.2**
KBTR	**Krutoberegovo**	**4.99**	**35**	*e*P	**P**	**09 29 44.7**	**-0.1**
KBTR				*e*S	**S**	**09 30 39.7**	**-2.3**
BKI	**Bering**	**5.75**	**56**	*e*P	**P**	**09 29 53.2**	**-1.7**
BKI				*e*S	**S**	**09 30 52.8**	**-7.5**
ASAJ	**Asahikawa**	**12.91**	**237**	P	**P**	**09 31 30.5**	**+0.8**
	comp=N,0.7nm,0.3s,baz=91,slow=13,SNR=5.9						
ASAJ	**Asahikawa**	**12.91**	**237**	PN	**P**	**09 31 30.5**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RSO	**Redoubt South**	**28.05**	**53**	*e*P	**P**	**09 34 15.1**	**+4.9**
ILAR	**Eielson Array**	**30.46**	**44**	P	**P**	**09 34 30.6**	**-1.1**
	comp=Z,2.5nm,0.7s,mb4.1,baz=269,slow=6.7,SNR=42						
SONM	**Songino Array**	**32.65**	**283**	P	**P**	**09 34 48.9**	**-2.0**
	comp=Z,0.1nm,0.3s,mb3.0,baz=90,slow=5.8,SNR=2.4						
INK	**Inuvik**	**35.44**	**37**	P	**P**	**09 35 14.2**	**-0.2**
	comp=Z,1.1nm,0.5s,mb3.7,baz=275,slow=8.4,SNR=10						
INK	**Inuvik**	**35.44**	**37**	*e*P	**P**	**09 35 14.7**	**+0.3**
DLBC	**Dease Lake**	**39.74**	**52**	P	**P**	**09 35 52.1**	**+1.8**
	comp=Z,1.1nm,0.5s,mb3.7,baz=283,slow=24,SNR=6.5						
MKAR	**Makanchi Array**	**47.18**	**295**	pP	pP	09 37 22.0	-0.5
	comp=Z,0.4nm,0.6s,baz=67,slow=9.2,SNR=2.9						
BVAR	**Borovoye Array**	**49.75**	**308**	P	**P**	**09 37 07.4**	**-2.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=72,slow=4.6,SNR=3.1						
BVAR				PcP	PcP	09 38 26.9	-2.1
	comp=Z,0.6nm,0.4s,baz=87,slow=4.1,SNR=4.0						
YBH	**Yreka Blue Hor**	**52.71**	**68**	P	**P**	**09 37 33.7**	**+1.2**
	comp=Z,1.5nm,0.6s,mb3.9,baz=336,slow=5.8,SNR=5.8						
MOD	**Modoc**	**53.96**	**66**	*e*P	**P**	**09 37 43.0**	**+1.4**
	comp=Z,3.9nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**59.23**	**59**	P	**P**	**09 38 19.6**	**+0.6**
	comp=Z,3.8nm,0.7s,mb4.4,baz=328,slow=2.9,SNR=34						
FINES	**FINESS Array B**	**60.30**	**336**	P	**P**	**09 38 22.5**	**-3.4**
	comp=Z,1.2nm,0.8s,mb3.8,baz=18,slow=4.4,SNR=2.3						
TXAR	**Lajitas Array**	**72.34**	**65**	P	**P**	**09 39 43.1**	**+0.7**
	comp=Z,1.8nm,0.5s,mb4.1,baz=300,slow=4.9,SNR=45						
WRA	**Warramunga Arr**	**74.70**	**203**	P	**P**	**09 39 55.3**	**-1.1**
	comp=Z,0.7nm,0.9s,mb3.3,baz=19,slow=6.1,SNR=10						
FITZ	**Fitzroy Crossi**	**75.39**	**211**	P	**P**	**09 40 00.5**	**+0.3**
	comp=Z,1.8nm,0.6s,mb3.9,baz=163,slow=3.4,SNR=3.2						

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*NIED **12** 09:35:00, 33.30N×135.70E, h20km, Mw3.7 Best double couple: $M_0$4.7×10^{14} NP1:ϕ_s157°, δ77°, λ27°. NP2:ϕ_s61°, δ64°, λ166°.*
*NEIC **12** 09:35:09.7±1.6, 33.24N×135.79E, h35km, MG4.2(JMA), Error ellipse: s-maj=31.8km s-min=11.9km az=142.0*
NEIC Recorded [2 JMA] in Mie and Nara; [1 JMA] in Wakayama Prefectures.
*JMA **12** 09:35:09.4, 33.34N×135.74E, h25km, M4.2*
JMA Felt II J1.

ISC 12 09:35:07.7±1.5**, 33.28N**±0.09×**135.7E**±0.1**, h29**km±8km**, n9,** σ**0ˢ39**/14**, 4C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.25**	**360**	⇑P	**Pb**	**09 35 14.8**	**+0.3**
JWZ				S	**Sb**	**09 35 18.5**	**-0.6**
JWM	**Minabe**	**0.65**	**332**	⇑P	**Pb**	**09 35 21.0**	**+0.6**
JWM				*e*S	**Sb**	**09 35 29.2**	**+0.1**
JWY	**Kouya**	**0.94**	**354**	⇑P	**Pn**	**09 35 25.5**	**+0.3**
JWY				S	**Sb**	**09 35 37.6**	**0.0**
JKN2	**Miekihoku**	**1.07**	**26**	⇑P	**Pn**	**09 35 27.1**	**+0.2**
MAJO	**Matsushiro**	**3.85**	**31**	*e*Pn	**Pn**	**09 36 06.9**	**+0.4**
MAT	**Matsushiro**	**3.85**	**31**	P	**Pn**	**09 36 06.0**	**-0.6**
MAT				*e*S	**Sn**	**09 36 51.1**	**-0.2**
MAT	**Matsushiro**	**3.85**	**31**	P	**Pn**	**09 36 06.0**	**-0.6**
MAT				S	**Sn**	**09 36 58.0**	**+6.7**
KS15	**Wonju Array Si**	**7.63**	**305**	P	**Pn**	**09 36 59.2**	**-0.6**
TATO	**Taipei**	**14.92**	**240**	*e*Pn	**P**	**09 38 38.5**	**-0.1**
	13nm,0.6s						

MAN 12 09:44:31.1, 10.01N×126.30E, h20km, mb4.2, ML3.0, MS2.7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.83**	**254**	*e*P	Pb	09 44 45.9	-0.8
SCPH				*e*S	Sb	09 44 57.0	-0.4
BUTP	**Butuan**	**1.23**	**213**	*e*P	Pn	09 44 51.6	-1.8
BUTP				*e*S	Sb	09 45 06.7	-2.2
MSLP	**Maasin**	**1.42**	**275**	*e*P	Pn	09 44 56.0	-0.2
MSLP				*e*S	Sn	09 45 14.7	+0.3
PLP	**Palo**	**1.73**	**312**	*e*P	Pn	09 45 01.3	+0.7
PLP				*e*S	Sn	09 45 22.3	0.0
BESP	**Borongan**	**1.79**	**332**	*e*P	Pn	09 45 01.9	+0.4
BESP				*e*S	Sn	09 45 30.9	+7.0
BUKP	**Musuan**	**2.44**	**210**	*e*P	Pn	09 45 11.0	+0.3
BUKP				*e*S	Sn	09 45 40.6	+0.3
CNP	**Catarman**	**2.96**	**327**	*e*P	Pn	09 45 17.7	-0.4
CNP				*e*S	Sn	09 45 53.0	-0.4
PVCP	**Virac**	**4.14**	**330**	*e*P	Pn	09 45 33.6	-1.2

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*IDC **12** 09:54:28.9±2.2, 16.98S×177.28W, h367km±26km, mb3.3/7, mb1 3.5/9, mb1mx3.4/17, mbtmp4.1/9, Error ellipse: s-maj=24.4km s-min=17.0km az=142.0*
*NEIC **12** 09:54:29.2±1.1, 16.98S×177.25W, h370km±12km, mb4.3/4, Error ellipse: s-maj=14.6km s-min=10.7km az=165.0*

ISC 12 09:54:28.0±1.4**, 17.0S**±0.1×**177.3W**±0.1**, h368**km±15km**, n20,** σ**0ˢ81**/20**, mb3.8**/10**, 2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.15**	**61**	P	**P**	**09 56 01.9**	**+0.1**
	7.5nm,0.3s,baz=113,slow=16,SNR=6.4						
DZM	**Mont Dzumac**	**16.12**	**249**	P	**P**	**09 57 57.0**	**+1.0**
	0.6nm,0.3s,baz=72,slow=20,SNR=8.8						
URZ	**Urewera**	**21.77**	**192**	P	**P**	**09 58 50.6**	**-1.2**
	8.5nm,0.3s,mb4.5,baz=274,slow=2.6,SNR=42						
PMG	**Port Moresby**	**35.35**	**278**	*e*P	**P**	**10 00 52.2**	**+0.7**
STKA	**Stephens Creek**	**39.99**	**240**	P	**P**	**10 01 30.1**	**+0.4**
	3.9nm,0.4s,mb4.0,baz=76,slow=7.0,SNR=9.0						
STKA	**Stephens Creek**	**39.99**	**240**	*e*P	**P**	**10 01 30.8**	**+1.0**
WRAB	**Tennant Creek**	**45.82**	**259**	*e*P	**P**	**10 02 15.7**	**-0.9**
WRA	**Warramunga Arr**	**45.83**	**258**	P	**P**	**10 02 15.4**	**-1.2**
	0.5nm,0.3s,mb3.1,baz=95,slow=8.1,SNR=38						
FITZ	**Fitzroy Crossi**	**54.21**	**260**	P	**P**	**10 03 18.8**	**-0.5**
	1.8nm,0.5s,mb3.7,baz=36,slow=12,SNR=8.7						
VNDA	**Vanda**	**61.46**	**185**	P	**P**	**10 04 08.1**	**0.0**
	1.0nm,0.8s,mb3.3,baz=6.8,slow=6.2,SNR=4.7						
VNDA	**Vanda**	**61.46**	**185**	*e*P	**P**	**10 04 07.0**	**-1.1**
	0.7nm,0.7s,mb3.2						
QSPA	**South Pole Qui**	**73.08**	**180**	*e*P	**P**	**10 05 20.7**	**+0.9**
	7.2nm,1.0s,mb4.4						
MDJ	**Mudanjiang**	**78.03**	**324**	*e*P	**P**	**10 05 48.3**	**+0.2**
	2.0nm,0.4s,mb4.2						
PMSA	**Palmer Station**	**84.26**	**157**	P	**P**	**10 06 19.1**	**-0.7**
TXAR	**Lajitas Array**	**84.62**	**57**	P	**P**	**10 06 23.1**	**+0.7**
	0.5nm,1.0s,mb3.3,baz=214,slow=4.5,SNR=4.9						
ILAR	**Eielson Array**	**84.75**	**13**	P	**P**	**10 06 21.1**	**-1.1**
	0.5nm,0.9s,mb3.3,baz=221,slow=5.2,SNR=6.0						
PLCA	**Paso Flores**	**91.22**	**133**	P	**P**	**10 06 52.6**	**-0.6**
	18nm,1.9s,mb4.7						
SNAA	**Sanae**	**91.50**	**178**	*e*P	**P**	**10 06 54.7**	**+0.8**
VNA3	**Neumayer Olymp**	**91.60**	**176**	⇑*i*	**P**	**10 06 54.9**	**+0.5**
VNA2	**Neumayer--Watz**	**92.05**	**177**	⇑*i*	**P**	**10 06 57.5**	**+1.0**

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*KRSC **12** 10:00:48.7±1.9, 50.29N×156.93E, h30km±8km, ML4.4*
*MOS **12** 10:00:48.9±2.4, 50.54N×156.94E, h10km, mb4.4/1, Error ellipse: s-maj=34.8km s-min=13.4km az=64.8*
*IDC **12** 10:00:52.6±7.3, 50.97N×156.05E, h111km±78km, mb3.3/4, mb1 3.6/6, mb1mx3.3/22, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=166.3km s-min=25.2km az=139.0*

ISC 12 10:00:48.4±0.8**, 50.33N**±0.07×**156.8E**±0.1**, h76**km±10km**, n37,** σ**1ˢ12**/60**, mb3.4**/4**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.57**	**310**	*e*PN	**P**	**10 01 01.2**	**-1.3**
SKR				*e*S	**S**	**10 01 10.5**	**-2.4**
SKR				pmax	pmax		
	comp=Z,420nm,0.5s						
SKR				pmax	pmax		
	comp=N,730nm,0.2s						
SKR				pmax	pmax		
	comp=E,640nm,0.2s						
SKR				smax			
	comp=N,6μm,0.5s						
SKR				smax			
	comp=E,8μm,0.5s						
ALID	**Alaid**	**0.97**	**305**	*e*P	**P**	**10 01 07.5**	**+0.5**
ALID				*e*S	**S**	**10 01 21.5**	**+0.6**
PAU	**Pauzhetka**	**1.14**	**0**	*e*P	**P**	**10 01 09.3**	**+0.1**
PAU				*e*S	**S**	**10 01 23.6**	**-1.2**
MIPR	**Malaya Ipel'ka**	**1.95**	**359**	*e*P	**P**	**10 01 19.6**	**-0.5**
MIPR				*e*S	**S**	**10 01 43.4**	**-0.1**
GRL	**Gorelyy**	**2.37**	**19**	*e*P	**P**	**10 01 26.7**	**+0.8**
GRL				*e*S	**S**	**10 01 55.0**	**+1.1**
RUS	**Russkaya**	**2.37**	**26**	P	**P**	**10 01 25.4**	**-0.5**
RUS				S	**S**	**10 01 52.4**	**-1.5**
RUS	**Russkaya**	**2.37**	**26**	*i* P	**P**	**10 01 25.6**	**-0.3**
RUS				*e*S	**S**	**10 01 52.5**	**-1.4**
APC	**Apacha**	**2.61**	**5**	*e*P	**P**	**10 01 29.0**	**-0.4**
APC				*e*S	**S**	**10 02 01.7**	**+1.7**
KRMR	**Karymshinskiy**	**2.64**	**18**	*e*P	**P**	**10 01 30.0**	**+0.2**
KRMR				*e*S	**S**	**10 02 00.2**	**-0.5**
PET	**Petropavlovsk**	**2.94**	**22**	P	**P**	**10 01 34.7**	**+0.8**
PET				S	**S**	**10 02 07.5**	**-0.7**
PET	**Petropavlovsk**	**2.94**	**22**	*e*P	**P**	**10 01 34.6**	**+0.7**
PET				*e*S	**S**	**10 02 07.3**	**-0.9**
PET	**Petropavlovsk**	**2.94**	**22**	*e*PN	**P**	**10 01 35.1**	**+1.2**
PET				*e*S	**S**	**10 02 08.0**	**-0.2**
PET				smax			
	comp=N,190nm,0.4s						
UGLR	**Uglovaya**	**3.15**	**23**	*e*P	**P**	**10 01 38.6**	**+1.7**
UGLR				*e*S	**S**	**10 02 13.4**	**0.0**
AVH	**Avacha**	**3.18**	**21**	*e*P	**P**	**10 01 39.1**	**+1.8**
AVH				*e*S	**S**	**10 02 14.0**	**-0.2**
KOK	**Koryaka**	**3.18**	**20**	*e*P	**P**	**10 01 38.8**	**+1.5**
KOK				*e*S	**S**	**10 02 12.7**	**-1.5**
SMAR	**Somma**	**3.19**	**22**	*i* P	**P**	**10 01 38.3**	**+0.8**
SMAR				*e*S	**S**	**10 02 15.7**	**+1.2**
SDLR	**Sedlovina**	**3.23**	**23**	*i* P	**P**	**10 01 38.7**	**+0.7**
SDLR				*e*S	**S**	**10 02 16.2**	**+0.8**
NLC	**Nalytchevo**	**3.26**	**28**	*e*P	**P**	**10 01 37.1**	**-1.3**
NLC				*e*S	**S**	**10 02 14.3**	**-1.9**
SPN	**Mys Shipunski**	**3.42**	**35**	P	**P**	**10 01 40.6**	**-0.1**
SPN				S	**S**	**10 02 19.0**	**-1.3**
SPN	**Mys Shipunski**	**3.42**	**35**	*e*P	**P**	**10 01 40.5**	**-0.2**
SPN				*e*S	**S**	**10 02 19.0**	**-1.3**
GNL	**Ganaly**	**3.45**	**11**	*e*P	**P**	**10 01 41.1**	**+0.1**
GNL				*e*S	**S**	**10 02 20.0**	**-0.9**
KII	**Karymskiy**	**4.06**	**23**	*e*P	**P**	**10 01 51.2**	**+1.7**
KII				*e*S	**S**	**10 02 35.7**	**-0.4**
MKZ	**Mys Kozlova**	**5.20**	**34**	P	**P**	**10 02 06.7**	**+1.4**
MKZ	**Mys Kozlova**	**5.20**	**34**	*e*P	**P**	**10 02 05.6**	**+0.3**
MKZ				*e*S	**S**	**10 03 00.6**	**-4.0**
TUMR	**Tumrok**	**5.36**	**21**	*e*P	**P**	**10 02 09.7**	**+2.1**
KMNR	**Kamenistaya**	**5.82**	**20**	*e*P	**P**	**10 02 13.5**	**-0.3**
SRDR	**Sredinnyy**	**6.25**	**15**	*i* P	**P**	**10 02 21.8**	**+1.9**
SVLR	**Shiveluch**	**6.79**	**21**	*i* P	**P**	**10 02 28.0**	**+0.5**
KBTR	**Krutoberegovo**	**6.91**	**29**	P	**P**	**10 02 28.9**	**-0.1**
KBTR	**Krutoberegovo**	**6.91**	**29**	*e*P	**P**	**10 02 27.9**	**-1.1**
ASAJ	**Asahikawa**	**11.47**	**243**	P	**P**	**10 03 32.2**	**+1.2**
	comp=N,2.1nm,0.3s,baz=78,slow=13,SNR=15						
ASAJ	**Asahikawa**	**11.47**	**243**	PN	**P**	**10 03 32.3**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**19.22**	**231**	P	**P**	**10 05 07.3**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=17,slow=11,SNR=4.3						
JNU	**Nakatsue**	**25.68**	**238**	P	**P**	**10 06 12.1**	**-0.7**
	comp=Z,3.9nm,1.0s,mb3.8,baz=298,slow=12,SNR=3.5						
ILAR	**Eielson Array**	**32.23**	**42**	P	**P**	**10 07 08.2**	**-2.9**
	comp=Z,0.4nm,0.7s,mb3.3,baz=253,slow=5.7,SNR=5.3						
PDAR	**Pinedale Array**	**60.70**	**57**	P	**P**	**10 10 52.9**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.6,baz=326,slow=5.3,SNR=4.8						
TXAR	**Lajitas Array**	**73.65**	**64**	P	**P**	**10 12 15.1**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.1,baz=303,slow=5.0,SNR=5.4						

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*IDC **12** 10:23:02.2±0.5, 2.25S×138.98E, mb4.8/15, mb1 4.7/18, mb1mx4.7/20, mbtmp4.8/18, ML4.0/3, MS4.4/15, Ms1 4.4/15, ms1mx4.3/22, Error ellipse: s-maj=23.4km s-min=11.5km az=74.0*
*BJI **12** 10:23:05.7, 2.08S×139.29E, h32km, mB5.2, mb5.0, Ms4.8, Msz4.4*
*MOS **12** 10:23:06.2±0.9, 2.16S×139.06E, h37km, mb5.2/26, MS4.4/8, Error ellipse: s-maj=15.6km s-min=7.1km az=108.5*
*NEIC **12** 10:23:07.3±0.2, 2.24S×139.02E, h30km, mb5.0/29, Error ellipse: s-maj=8.2km s-min=5.2km az=80.0*
*HRVD **12** 10:23:07.3±0.4, 2.11S×139.03E, h26km±2km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s16,c21;Mantle waves: s47,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.32±.31; $M_{\theta\theta}$1.33±.18; $M_{\phi\phi}$-3.65±.21; $M_{r\theta}$1.86±.43; $M_{\theta\phi}$1.65±.13; $M_{\phi r}$-0.68±.37; Best double couple: $M_0$4.077×10^{16} NP1:ϕ_s17°, δ47°, λ146°. NP2:ϕ_s132°, δ66°, λ48°. Principal axes: T 3.782, Plg51°, Azm354°; N .59, Plg37°, Azm152°; P -4.372, Plg11°, Azm250°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 10:23:05.3±0.2**, 2.25S**±0.04×**139.09E**±0.05**, h30**km**, h30**km±.7km**:pP-P, n154,** σ**1ˢ06**/163**, mb5.1**/67**, MS4.4**/38**, 14C-8D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.72**	**132**	Pn	**P**	**10 25 39.3**	**-0.7**
	0.9nm,0.3s,baz=317,slow=11,SNR=6.7						
PMG	**Port Moresby**	**10.72**	**132**	*e*Pn	**P**	**10 25 40.8**	**+0.7**
	67nm,0.9s						
PMG	**Port Moresby**	**10.72**	**132**	*d i*P	**P**	**10 25 40.9**	**+0.8**
KAKA	**Kakadu**	**12.30**	**212**	⇑*i*P	**P**	**10 26 16.4**	**+15**
	73nm,0.6s						
KAKA				*e*S	**S**	**10 28 30.7**	**+12**
DAV	**Davao City (W)**	**16.36**	**305**	*e*Pn	**P**	**10 26 56.2**	**+1.5**
GUMO	**Guam**	**16.75**	**20**	LR	LR	10 33 14.1	
	comp=Z,492nm,18.2s,baz=12,slow=36						
GUMO	**Guam**	**16.75**	**20**	Pn	**P**	**10 27 02.4**	**+2.8**
	210nm,1.2s						
GUMO	**Guam**	**16.75**	**20**	P	**P**	**10 27 02.4**	**+2.8**
GUMO				pmax	pmax		
	comp=Z,210nm,1.2s						
WRAB	**Tennant Creek**	**18.17**	**194**	*e*P	**P**	**10 27 16.7**	**-0.8**
	comp=Z,66nm,0.6s						
WRAB				*e*S	**S**	**10 30 42.4**	**+6.3**
WRAB	**Tennant Creek**	**18.17**	**194**	*e*P	**P**	**10 27 16.7**	**-0.7**
WRAB				*e*S	**S**	**10 30 42.4**	**+6.3**
WRAB				pmax	pmax		
	comp=Z,66nm,0.6s						
WRA	**Warramunga Arr**	**18.19**	**194**	P	**P**	**10 27 14.8**	**-2.8**
	comp=Z,1.0nm,0.3s,baz=22,slow=11,SNR=59						
WRA				S	**S**	**10 30 30.3**	**-6.0**
	comp=Z,0.7nm,0.3s,baz=14,slow=21,SNR=4.5						
CTA	**Charters Tower**	**19.06**	**159**	⇓*i*P	**P**	**10 27 29.7**	**+1.6**
	comp=Z,12nm,0.8s						
CTA	**Charters Tower**	**19.06**	**159**	P	**P**	**10 27 28.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=333,slow=11,SNR=14						
CTA				LR	LR	10 35 20.0	
	comp=Z,2μm,19.0s,baz=348,slow=39						
CTA	**Charters Tower**	**19.06**	**159**	⇓*i*P	**P**	**10 27 29.7**	**+1.6**
CTA				pmax	pmax		
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**19.06**	**159**	*e*P	**P**	**10 27 29.8**	**+1.7**
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**19.06**	**159**	*e*P	**P**	**10 27 29.8**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.55**	**219**	*e*P	**P**	**10 27 42.2**	**-2.1**
	comp=Z,32nm,0.6s						
FITZ				*e*S	**S**	**10 31 23.2**	**-4.4**
FITZ	**Fitzroy Crossi**	**20.55**	**219**	P	**P**	**10 27 40.9**	**-3.4**
	comp=Z,8.9nm,0.7s,baz=19,slow=13,SNR=16						
FITZ				S	**S**	**10 31 22.0**	**-5.5**
	comp=Z,18nm,0.6s,baz=186,slow=21,SNR=3.7						
FITZ				LR	LR	10 36 28.9	
	comp=Z,2μm,18.2s,MS4.5,baz=60,slow=39						
HNR	**Honiara**	**21.93**	**110**	P	**P**	**10 27 59.2**	**+1.0**
	comp=Z,20nm,0.4s,mb4.9,baz=204,slow=10,SNR=4.2						
HNR	**Honiara**	**21.93**	**110**	*e*P	**P**	**10 27 59.7**	**+1.5**
	comp=Z,70nm,0.8s,mb5.1						
HNR	**Honiara**	**21.93**	**110**	*e*P	**P**	**10 27 59.7**	**+1.4**
HNR				pmax	pmax		
	comp=Z,70nm,0.8s,mb5.1						
AUQP	**San Andres**	**22.47**	**314**	*e*P	**P**	**10 28 05.3**	**+1.7**
BOAC	**Boac**	**23.16**	**313**	*e*P	**P**	**10 28 10.3**	**-0.2**
POLP	**Polilio Island**	**23.94**	**315**	*e*P	**P**	**10 28 16.7**	**-1.4**
KKM	**Kota Kinabalu**	**24.29**	**290**	*e*P	**P**	**10 28 22.6**	**+1.1**
KKM				*e*		10 28 35.5	
MBWA	**Marble Bar**	**26.63**	**224**	*e*P	**P**	**10 28 43.4**	**-0.1**
	comp=Z,24nm,0.8s,mb4.8						
MBWA				*e*		10 28 55.7	
KSM	**Kuching**	**29.02**	**277**	*e*P	**P**	**10 29 03.7**	**-1.4**
KSM				*e*		10 29 15.6	
STKA	**Stephens Creek**	**29.56**	**176**	*e*P	**P**	**10 29 09.1**	**-0.8**
	comp=Z,9.8nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**29.56**	**176**	P	**P**	**10 29 09.1**	**-0.8**
	comp=Z,11nm,0.7s,mb4.7,baz=343,slow=7.4,SNR=18						
STKA				LR	LR	10 42 08.0	
	comp=Z,1μm,18.4s,MS4.6,baz=352,slow=39						
FORT	**Forrest**	**30.23**	**199**	*e*P	**P**	**10 29 15.8**	**-0.1**
	comp=Z,26nm,0.6s,mb5.1						
JOW	**Kunigami**	**30.74**	**341**	P	**P**	**10 29 18.8**	**-1.6**
	comp=Z,31nm,1.0s,mb5.1,baz=151,slow=7.3,SNR=5.3						
JOW				LR	LR	10 39 27.0	
	comp=Z,565nm,20.3s,MS4.2,baz=153,slow=32						
NACB	**Ninganchiao**	**31.29**	**328**	*e*P	**P**	**10 29 24.3**	**-1.0**
NACB				*e*		10 29 35.7	
YHNB	**Yeheng**	**31.81**	**328**	*e*P	**P**	**10 29 29.2**	**-0.6**
DZM	**Mont Dzumac**	**33.09**	**129**	P	**P**	**10 29 39.7**	**-1.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=319,slow=19,SNR=4.1						
CNB	**Canberra Magne**	**34.25**	**165**	*e*P	**P**	**10 29 51.3**	**+0.4**
	comp=Z,33nm,1.0s,mb5.2						
JHJ	**Hachijo jima 2**	**35.19**	**1**	P	**P**	**10 29 58.6**	**-0.3**
	comp=Z,30nm,0.6s,mb5.4,baz=66,slow=19,SNR=2.2						
JHJ				LR	LR	10 41 33.6	
	comp=Z,515nm,18.7s,MS4.3,baz=120,slow=32						
KLBR	**Kellerberrin**	**35.45**	**212**	*e*P	**P**	**10 30 02.2**	**+1.0**
	comp=Z,23nm,1.0s,mb5.1						
QIZ	**Qiongzhong**	**35.70**	**308**	P	**P**	**10 30 02.2**	**-1.2**
QIZ				AP	pP	10 30 11.7	-0.6
QIZ				*e*S	**S**	**10 35 35.4**	**-1.9**
QIZ				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.1						
QIZ				LR	LR		
	comp=N,285nm,18.0s,MS4.1						
QIZ				LR	LR		
	comp=E,188nm,21.4s,MS4.1						
QIZ				LR	LR		
	comp=Z,393nm,18.1s,MS4.2						
QIZ	**Qiongzhong**	**35.70**	**308**	*e*P	**P**	**10 30 03.1**	**-0.2**
	comp=Z,52nm,1.4s,mb5.3						
JNU	**Nakatsue**	**36.03**	**348**	P	**P**	**10 30 04.9**	**-1.1**
	comp=Z,39nm,0.9s,mb5.3,baz=97,slow=3.0,SNR=28						
JNU				LR	LR	10 43 50.5	
	comp=Z,565nm,18.6s,MS4.4,baz=180,slow=35						
NWAO	**Narrogin (SRO)**	**36.77**	**212**	LR	LR	10 46 17.1	
	comp=Z,2μm,21.8s,MS4.8,baz=34,slow=38						
NWAO	**Narrogin (SRO)**	**36.77**	**212**	*e*P	**P**	**10 30 12.6**	**+0.4**
	comp=Z,14nm,1.0s,mb4.7						
NWAO	**Narrogin (SRO)**	**36.77**	**212**	*e*P	**P**	**10 30 12.6**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,14nm,1.0s						
SSE	**Sheshan**	**37.29**	**334**	P	**P**	**10 30 15.3**	**-1.3**
SSE				AP	pP	10 30 24.2	-1.4
SSE				XP	sP	10 30 28.1	-1.3
SSE				S	**S**	**10 36 02.7**	**+1.1**
SSE				XS		10 36 18.3	
SSE				AMB	AMB		
	comp=Z,28nm,1.1s,mb5.0						
SSE				AMB	AMB		
	comp=Z,105nm,5.0s						
SSE				LR	LR		
	comp=N,143nm,20.0s,MS3.9						
SSE				LR	LR		
	comp=E,160nm,20.0s,MS3.9						
SSE				LR	LR		
	comp=Z,248nm,21.5s,MS4.0						
MJAR	**Matsushiro Arr**	**38.60**	**359**	P	**P**	**10 30 26.3**	**-1.3**
	comp=Z,9.3nm,0.6s,mb4.7,baz=179,slow=9.3,SNR=34						
MJAR				PcP	PcP	10 32 40.0	-0.2
	comp=Z,3.9nm,0.9s,baz=149,slow=2.4,SNR=7.3						
MJAR				LR	LR	10 44 09.0	
	comp=Z,333nm,19.4s,MS4.2,baz=190,slow=33						
MJAR	**Matsushiro Arr**	**38.60**	**359**	P	**P**	**10 30 26.3**	**-1.3**
MJAR				PcP	PcP	10 32 40.0	-0.2
MJAR				LR	LR	10 44 09.0	
MAJO	**Matsushiro**	**38.60**	**359**	*e*P	**P**	**10 30 26.7**	**-0.9**
	comp=Z,18nm,0.7s,mb4.9						
MAJO				LR	LR		
	comp=Z,442nm,19.0s,MS4.3						
MAJO	**Matsushiro**	**38.60**	**359**	*e*P	**P**	**10 30 26.7**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						

MAJO MLR MLR
comp=Z,442nm,19.0s,MS4.3
MAT Matsushiro 38.60 359 P **P** **10 30 25.8 -1.8**
MAT *eS* **S** **10 36 21.0 -0.5**
MAT Matsushiro 38.60 359 *eP* **P** **10 30 26.0 -1.6**
comp=Z,15nm,0.7s,mb4.8
MAT S **S** **10 36 21.0 -0.5**
MAT LR LR
comp=Z,350nm,20.0s,MS4.2
MAT Matsushiro 38.60 359 *eP* **P** **10 30 26.0 -1.6**
MAT S **S** **10 36 21.0 -0.5**
MAT pmax pmax
comp=Z,15nm,0.7s,mb4.8
MAT MLR MLR
comp=Z,350nm,20.0s,MS4.2
KULM Kulim 39.13 281 *eP* **P** **10 30 31.5 -0.7**
KULM *e* 10 30 44.8
NJ2 Nanjing 39.15 332 *eP* **P** **10 30 32.8 +0.6**
NJ2 AP pP 10 30 42.1 +0.8
NJ2 XP sP 10 30 46.0 +1.0
NJ2 PP PP 10 32 07.0 +1.0
NJ2 S **S** **10 36 30.0 +0.2**
NJ2 XS 10 36 44.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,230nm,3.8s
NJ2 LR LR
comp=N,710nm,21.9s,MS4.7
NJ2 LR LR
comp=E,990nm,21.9s,MS4.7
NJ2 LR LR
comp=Z,320nm,14.7s
SNG Songkhla 39.52 284 P **P** **10 30 35.0 -0.5**
comp=Z,142nm,1.0s,mb5.7
WHN Wuhan 40.25 326 P **P** **10 30 42.6 +1.2**
WHN LR LR
comp=Z,1μm,15.8s,MS4.9
KS15 Wonju Array Si 40.84 346 *eP* **P** **10 30 46.5 +0.4**
KS15 *e* 10 30 59.6
GYA Guiyang 42.37 314⇑*iP* **P** **10 30 59.3 +0.4**
GYA AP pP 10 31 08.6 +0.7
GYA XP sP 10 31 12.4 +0.7
GYA PP PP 10 32 40.8 +0.9
GYA S **S** **10 37 17.0 -0.9**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,110nm,3.0s
GYA LR LR
comp=N,380nm,17.8s,MS4.5
GYA LR LR
comp=E,340nm,18.0s,MS4.5
GYA LR LR
comp=Z,370nm,18.4s,MS4.3
NST Nakhon Sawan 42.44 296 P **P** **10 31 00.0 +0.4**
ENH Enshi 42.94 321 *eP* **P** **10 31 04.1 +0.5**
comp=Z,45nm,1.1s,mb5.1
NANT Nan 43.16 301⇑P **P** **10 31 05.0 -0.4**
comp=Z,250nm,0.4s,mb6.3
CHRT Chiangrai 44.40 302⇑P **P** **10 31 15.5 0.0**
comp=Z,303nm,1.0s,mb6.0
KMI Kunming 44.52 310 P **P** **10 31 17.5 +1.1**
KMI AP pP 10 31 27.2 +1.8
KMI XP sP 10 31 30.3 +1.2
KMI PCP PcP 10 33 02.0 +2.2
KMI PP PP 10 33 04.2 +2.9
KMI PPP PPP 10 33 43.7 +2.9
KMI SCP 10 36 50.6
KMI S **S** **10 37 51.9 +2.7**
KMI XS 10 38 06.8
KMI SS SS 10 41 03.6 +3.2
KMI AMB AMB
comp=Z,19nm,0.9s,mb4.9
KMI AMB AMB
comp=Z,103nm,4.6s
KMI LR LR
comp=N,306nm,19.1s,MS4.5
KMI LR LR
comp=E,418nm,15.8s,MS4.5
KMI LR LR
comp=Z,495nm,14.2s,MS4.6
CHG Chiang Mai 44.69 300⇑P **P** **10 31 17.6 -0.2**
comp=Z,30nm,1.2s,mb5.0
XAN Xi'an 45.92 324 P **P** **10 31 27.1 -0.3**
XAN AP pP 10 31 34.0 -2.5
XAN AMB AMB
comp=Z,12nm,1.4s,mb4.6
XAN LR LR
comp=N,264nm,18.0s,MS4.4
XAN LR LR
comp=E,196nm,14.6s,MS4.4
XAN LR LR
comp=Z,487nm,14.9s,MS4.6
SNY Shenyang 46.08 344⇑P **P** **10 31 28.6 +0.1**
SNY S **S** **10 38 07.1 -4.2**
SNY XS 10 38 28.8
SNY AMB AMB
comp=Z,10.0nm,1.8s,mb4.4
SNY AMB AMB
comp=Z,140nm,13.5s
SNY LR LR
comp=N,330nm,15.1s,MS4.4
SNY LR LR
comp=E,220nm,18.6s,MS4.4
SNY LR LR
comp=Z,330nm,17.3s,MS4.3
ASAJ Asahikawa 46.27 3 LR LR 10 50 41.9
comp=Z,226nm,18.9s,MS4.1,baz=162,slow=36
CD2 Chengdu 47.10 317⇑*iP* **P** **10 31 37.5 +0.7**
CD2 AP pP 10 31 47.3 +1.4
CD2 PP PP 10 33 24.6 -2.4
CD2 PPP PPP 10 34 13.4 -0.9
CD2 S **S** **10 38 28.0 +1.9**
CD2 XS 10 38 41.5
CD2 SS SS 10 41 45.1 -1.1
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,90nm,8.2s
CD2 LR LR
comp=N,300nm,16.2s
CD2 LR LR
comp=Z,380nm,17.4s,MS4.4
MDJ Mudanjiang 47.43 351 P **P** **10 31 39.1 0.0**
MDJ AP pP 10 31 48.0 -0.3
MDJ XP sP 10 31 51.9 0.0
MDJ PP PP 10 33 31.5 +1.8
MDJ SCP 10 36 58.5
MDJ PCS 10 37 02.2
MDJ S **S** **10 38 35.4 +5.0**
MDJ AMB AMB
comp=Z,15nm,1.3s,mb4.8
MDJ AMB AMB
comp=Z,89nm,5.6s
MDJ LR LR
comp=N,237nm,19.3s,MS4.2
MDJ LR LR
comp=E,87nm,21.1s,MS4.2
MDJ LR LR
comp=Z,326nm,20.2s,MS4.3
MDJ Mudanjiang 47.43 351 *eP* **P** **10 31 39.2 +0.1**
comp=Z,9.0nm,0.8s,mb4.8
CN2 Changchun 47.45 347 *eP* **P** **10 31 38.7 -0.7**
CN2 *e*AP pP 10 31 46.5 -2.0
CN2 *e*S **S** **10 38 31.7 +0.9**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 LR LR
comp=N,370nm,19.0s,MS4.4
CN2 LR LR
comp=E,180nm,19.0s,MS4.4
CN2 LR LR
comp=Z,390nm,19.0s,MS4.4
YSS Yuzh-Sakhalins 49.10 3 *eP* **P** **10 31 52.5 +0.4**
HHC Hu-ho-hao-te 49.70 333 *eP* **P** **10 31 56.5 -0.3**
HHC AP pP 10 32 06.4 +0.4
HHC XP sP 10 32 10.2 +0.6
HHC PCP PcP 10 33 19.1 +1.2
HHC PP PP 10 33 50.4 -1.6
HHC SCP 10 37 11.0
HHC PCS 10 37 14.6
HHC S **S** **10 38 59.2 -3.2**
HHC XS 10 39 14.7
HHC SCS ScS 10 41 43.4 +0.4
HHC AMB AMB
comp=Z,16nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,137nm,4.6s
HHC LR LR
comp=N,396nm,19.0s,MS4.7
HHC LR LR
comp=E,625nm,19.0s,MS4.7
HHC LR LR
comp=Z,368nm,21.4s,MS4.3
RPZ Rata Peaks 50.09 150 P **P** **10 32 03.3 +3.6**
comp=Z,11nm,0.9s,mb4.9,baz=315,slow=3.9,SNR=5.7
LZH Lanzhou 50.35 323⇑P **P** **10 32 02.7 +0.9**
LZH AP pP 10 32 11.4 +0.4
LZH XP sP 10 32 15.5 +0.9
LZH PP PP 10 33 59.0 +0.8
LZH *eS* **S** **10 39 12.8 +1.4**
LZH SS SS 10 42 43.0 +0.8
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,200nm,4.0s
LZH LR LR
comp=E,856nm,14.0s
LZH LR LR
comp=Z,1μm,15.4s,MS5.0
KLR Kul'dur 51.67 354 *eP* **P** **10 32 08.8 -2.8**
KLR pmax pmax
comp=Z,37nm,1.6s,mb5.1
GTA Gaotai 54.93 323 *eP* **P** **10 32 35.9 -0.1**
GTA AP pP 10 32 44.9 -0.3
GTA XP sP 10 32 49.5 +0.8
GTA PCP PcP 10 33 36.3 -1.1
GTA PP PP 10 34 40.3 -0.1
GTA PPP PPP 10 35 54.0 +0.9
GTA SCP 10 37 32.8
GTA S **S** **10 40 14.6 +0.8**
GTA XS 10 40 31.2
GTA SS SS 10 43 58.4 +1.3
GTA AMB AMB
comp=Z,16nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,136nm,7.2s
GTA LR LR
comp=N,245nm,19.0s,MS4.4
GTA LR LR
comp=E,135nm,17.9s,MS4.4
GTA LR LR
comp=Z,270nm,19.4s,MS4.3
LSA Lhasa 55.73 309 *eP* **P** **10 32 43.1 +1.3**
comp=Z,12nm,0.6s,mb5.1
LSA *e* 10 32 56.7
LSA LR LR
comp=Z,197nm,21.0s,MS4.2
LSA Lhasa 55.73 309 *eP* **P** **10 32 43.1 +1.3**
LSA *e* 10 32 56.7
LSA pmax pmax
comp=Z,12nm,0.6s,mb5.1
LSA MLR MLR
comp=Z,197nm,21.0s,MS4.2
ULN Ulaanbaatar 57.21 335 *eP* **P** **10 32 52.6 +0.4**
comp=Z,7.9nm,0.9s,mb4.7
ULN Ulaanbaatar 57.21 335⇑*iP* **P** **10 32 52.4 +0.2**
SONM Songino Array 57.47 334 P **P** **10 32 53.5 -0.5**
comp=Z,2.4nm,0.6s,mb4.4,baz=155,slow=6.9,SNR=28
SONM LR LR 10 59 08.8
comp=Z,432nm,18.9s,MS4.6,baz=147,slow=38
PET Petropavlovsk 57.47 14⇑*iP* **P** **10 32 53.1 -0.9**
PET Petropavlovsk 57.47 14⇑*iP* **P** **10 32 53.0 -1.0**
PET pmax pmax
comp=Z,53nm,1.7s,mb5.3
PET MLR MLR
comp=Z,200nm,21.0s,MS4.2
CLNS Chul'man 60.01 351 *eP* **P** **10 33 10.4 -1.1**
CLNS pmax pmax
comp=Z,20nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,15nm,0.9s
ZAK Zakamensk 60.74 335⇓*iP* **P** **10 33 16.0 -0.6**
ZAK pmax pmax
comp=Z,12nm,1.4s,mb4.8
IRK Irkutsk 61.73 337 *eP* **P** **10 33 18.6 -4.7**
IRK pmax pmax
comp=Z,50nm,2.4s,mb5.2
BOD Bodaibo 63.17 345 *eP* **P** **10 33 31.7 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
YAK Yakutsk 64.51 355 *eP* **P** **10 33 41.0 -0.5**
comp=Z,21nm,0.7s,mb5.3
YAK *e*pP pP 10 33 50.8 -0.1
YAK Yakutsk 64.51 355 *eP* **P** **10 33 41.0 -0.4**
YAK *e**PP pP 10 33 50.8 0.0
YAK pmax pmax
comp=Z,21nm,0.7s,mb5.3
WMQ Urumqi 64.89 321⇑*iP* **P** **10 33 44.6 +0.4**
WMQ AP pP 10 33 55.0 +1.4
WMQ XP sP 10 33 59.0 +2.0
WMQ PCP PcP 10 34 18.0 +0.9
WMQ SCP 10 38 18.0
WMQ *eS* **S** **10 42 22.0 +0.1**
WMQ XS 10 42 39.0
WMQ AMB AMB
comp=Z,36nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,233nm,3.7s
WMQ LR LR
comp=N,351nm,15.3s,MS4.8
WMQ LR LR
comp=E,319nm,14.0s,MS4.8
WMQ LR LR
comp=Z,280nm,18.4s,MS4.5
MKAR Makanchi Array 69.66 322 P **P** **10 34 14.3 +0.2**
comp=Z,22nm,0.8s,mb5.2,baz=116,slow=7.8,SNR=153
MKAR Makanchi Array 69.66 322 *iP* **P** **10 34 14.5 +0.3**
MKAR pmax pmax
comp=Z,45nm,1.0s
KSH Kashi 71.05 313 *eP* **P** **10 34 24.3 +1.5**
KSH *e*AP pP 10 34 34.2 +2.0
KSH *e*XP sP 10 34 38.3 +2.7
KSH *e*PCP PcP 10 34 44.4 +1.4
KSH *e*PP PP 10 37 03.7 +1.3
KSH *e*PPP PPP 10 38 46.1 +2.6
KSH *e*S S 10 43 36.8 +1.2
KSH XS 10 43 53.3
KSH *e*SKS SKS 10 44 18.5 -8.6
KSH *e*SCS ScS 10 44 22.9 +2.0
KSH SS SS 10 48 11.4 +0.4
KSH AMB AMB
comp=Z,150nm,3.2s
KSH LR LR
comp=N,190nm,4.7s
KSH LR LR
comp=E,250nm,4.4s
ZAL Zalesovo 71.74 330 P **P** **10 34 25.5 -1.2**
comp=E,4.7nm,0.7s,mb4.5,baz=354,slow=5.3,SNR=15
ZAL LR LR 11 06 25.6
comp=E,243nm,19.7s,MS4.5,baz=343,slow=36
ZAL Zalesovo 71.74 330 *iP* **P** **10 34 26.1 -0.5**
ZAL pmax pmax
comp=Z,5.0nm,0.7s
MIR Mirnyy 71.75 198 *eP* **P** **10 34 23.0 -3.5**
MIR pmax pmax
comp=Z,45nm,2.0s,mb5.0
ULHL Ulahol 71.80 316 P **P** **10 34 28.0 +0.8**
SNR=8.9
KZA Kyzart 72.43 315 P **P** **10 34 32.9 +1.9**
SNR=58
TKM2 Tokmak 2 72.48 316 P **P** **10 34 31.9 +0.7**
SNR=19
KBK Karagaybulak 72.83 316 P **P** **10 34 34.3 +0.9**
SNR=6.9
NVS Novosibirsk 72.99 330 *iP* **P** **10 34 32.5 -1.5**
NVS *i* 10 39 01.8
NVS pmax pmax
comp=N,32nm,1.6s
NVS pmax pmax
comp=Z,46nm,1.6s,mb5.2
NVS pmax pmax
comp=E,25nm,1.3s
CHMS Chumysh 73.09 316 P **P** **10 34 35.3 +0.5**
SNR=7.6
FRU Bishkek 73.12 316 *eP* **P** **10 34 34.0 -1.1**
FRU *e* pP 10 34 42.0 -2.5
AAK Ala-Archa 73.14 316 P **P** **10 34 36.1 +1.0**
SNR=7.9
AAK Ala-Archa 73.14 316 *eP* **P** **10 34 35.0 -0.1**
comp=E,16nm,1.1s,mb4.9
AAK *e* 10 34 47.5
AAK LR LR
comp=Z,76nm,20.0s,MS4.0
AAK Ala-Archa 73.14 316⇓*iP* **P** **10 34 34.1 -1.1**
AAK pmax pmax
comp=Z,16nm,1.2s,mb4.8
AAK MLR MLR
comp=Z,200nm,16.0s,MS4.5
USP Ospenovka 73.35 316 P **P** **10 34 37.0 +0.7**
SNR=19
AML Almayashu 73.54 315 P **P** **10 34 39.0 +1.5**
SNR=39
KURK Kurchatov 73.56 325 *eP* **P** **10 34 37.4 0.0**
comp=Z,41nm,1.0s,mb5.3
KURK LR LR
comp=Z,33nm,21.0s,MS3.6
EKS2 Erkin-Say 73.65 316 P **P** **10 34 39.2 +1.1**
SNR=20
TIXI Tiksi 74.07 357 *eP* **P** **10 34 37.5 -2.5**
TIXI *e* 10 37 22.3
TIXI *e*S S 10 44 10.3 +1.0
TIXI *e*SS SS 10 48 56.6 -0.1
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TIXI MLR MLR
comp=Z,182nm,18.0s,MS4.4
VNDA Vanda 76.20 175 P **P** **10 34 51.7 -0.4**
comp=Z,2.5nm,0.8s,mb4.2,baz=327,slow=5.8,SNR=21
VNDA LR LR 11 08 42.0
comp=Z,483nm,18.2s,MS4.8,baz=344,slow=36
VNDA Vanda 76.20 175 *eP* **P** **10 34 52.0 -0.1**
comp=Z,5.8nm,0.7s,mb4.6
VNDA LR LR
comp=Z,373nm,20.0s,MS4.7
VNDA Vanda 76.20 175 *eP* **P** **10 34 52.0 -0.1**
VNDA pmax pmax
comp=Z,6.0nm,0.7s
VNDA MLR MLR
comp=Z,373nm,20.0s
SBA Scott Base 76.96 174 *eP* **P** **10 34 58.0 +1.6**
comp=Z,5.8nm,0.9s,mb4.5
SBA Scott Base 76.96 174 *eP* **P** **10 34 58.0 +1.6**
SBA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VOSK Vostochnaya 78.72 325 *iP* **P** **10 35 06.6 +0.2**
BVA2 Borovoye Array 79.15 325 P **P** **10 35 09.1 +0.3**
BVA2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BVAR Borovoye Array 79.16 325 P **P** **10 35 08.9 +0.1**
comp=Z,33nm,0.7s,mb5.4,baz=115,slow=7.4,SNR=211
BRVK Borovoye 79.23 325 *eP* **P** **10 35 10.0 +0.8**
comp=Z,29nm,0.8s,mb5.3
BRVK Borovoye 79.23 325 *eP* **P** **10 35 10.0 +0.8**
BRVK pmax pmax
comp=Z,29nm,0.8s,mb5.3
SVW2 Sparrevohn 80.30 27 *eP* **P** **10 35 16.6 +1.8**
KDAK Kodiak Island 80.52 30 *eP* **P** **10 35 17.4 +1.4**
comp=Z,26nm,1.0s,mb5.1
KDAK LR LR
comp=Z,109nm,22.0s,MS4.2
RSO Redoubt South 81.35 28 *eP* **P** **10 35 18.8 -1.6**
RSO *e* 10 35 34.4
SLKM Skilak Lake 82.55 28 *eP* **P** **10 35 26.5 -0.1**
MAW Mawson 82.69 202 P **P** **10 35 27.5 +0.4**
comp=Z,4.8nm,0.7s,mb4.7,baz=93,slow=9.1,SNR=5.0
PMR Palmer 83.39 27 *eP* **P** **10 35 30.4 -0.5**
AB31 Akbulak array 84.62 320 *iP* **P** **10 35 37.4 +0.1**
ILAR Eielson Array 85.26 24 P **P** **10 35 39.6 -0.5**
comp=Z,40nm,0.4s,mb6.0,baz=263,slow=4.1,SNR=1.7
ILAR LR LR 11 12 16.1
comp=Z,106nm,19.2s,MS4.2,baz=176,slow=35
SVE Sverdlovsk 85.56 327 *eP* **P** **10 35 42.7 +0.8**
SVE *e* pP 10 35 54.0 +2.5
SVE *e* 10 47 24.0
SVE pmax pmax
comp=Z,60nm,2.3s,mb5.4
SVE MLR MLR
comp=N,200nm,14.0s,MS4.8
SVE MLR MLR
comp=E,200nm,14.0s,MS4.8
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.7
MENT Mentasta 86.18 27 *eP* **P** **10 35 46.4 +1.6**
ARU Arti 86.62 327 *eP* **P** **10 35 46.0 -1.1**
comp=Z,18nm,0.9s,mb5.3
ARU Arti 86.62 327⇓*iP* **P** **10 35 45.9 -1.2**
ARU *e* 10 39 07.7
ARU *e*S S 10 46 09.0 -11
ARU *e*SS SS 10 52 02.9 -1.8
ARU pmax pmax
comp=Z,16nm,0.9s,mb5.2
QSPA South Pole Qui 87.69 180 *eP* **P** **10 35 52.1 +0.3**
comp=Z,45nm,1.0s,mb5.7
DAWY Dawson 88.29 26 *eP* **P** **10 35 56.6 +1.7**
INK Inuvik 91.11 22 *eP* **P** **10 36 08.3 +0.3**
comp=Z,9.0nm,1.2s,mb5.0
INK Inuvik 91.11 22 *eP* **P** **10 36 08.3 +0.2**
INK pmax pmax
comp=Z,9.0nm,1.2s
SYO Syowa Base 91.32 201⇑P **P** **10 36 07.6 -1.4**
SYO Syowa Base 91.32 201⇑pP pP 10 36 19.8 +1.1
DLBC Dease Lake 92.36 32 P **P** **10 36 14.7 +0.7**
comp=Z,3.5nm,1.0s,mb4.7,baz=252,slow=8.3,SNR=6.4
GNI Garni 94.77 310 *eP* **P** **10 36 25.9 +0.4**
GNI *e* 10 36 40.4
VRSR Storozhevoye 97.96 321 *eP* **P** **10 36 38.6 -1.2**
VRSR pmax pmax
comp=Z,20nm,1.4s,mb5.5
VRSR pmax pmax
comp=N,10.0nm,1.5s
VRSR pmax pmax
comp=E,5.0nm,0.7s
SOC Sochi 98.34 314 *eP* **P** **10 36 39.7 -2.0**
SOC *e* 10 40 44.2
SOC *e*S 10 47 14.5
SOC *e*PS PS 10 49 30.4 -6.7
SOC pmax pmax
comp=Z,24nm,0.7s,mb5.8
SOC pmax pmax
comp=N,12nm,0.5s
SOC pmax pmax
comp=E,17nm,0.6s
OBN Obninsk 99.00 325⇓*iP* **P** **10 36 43.9 -0.5**
OBN LR LR
comp=Z,100nm,20.0s,MS4.3
OBN Obninsk 99.00 325⇓*iP* **P** **10 36 43.8 -0.6**
OBN *e* pP 10 36 52.8 -1.3
OBN *e*SS SS 10 54 58.7 -2.3
OBN pmax pmax
comp=Z,10.0nm,0.4s,mb5.7
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.3
YKA Yellowknife Ar 99.48 27 LR LR 11 19 14.2
comp=Z,150nm,18.7s,MS4.5,baz=265,slow=34
ARCES ARCESS Array B 100.20 341 P P 10 36 48.5 -1.0
comp=Z,6.5nm,0.7s,baz=79,slow=6.2,SNR=10
FINES FINESS Array B 102.82 333 P Pdif 10 36 59.8 -1.5
comp=Z,1.6nm,0.9s,baz=96,slow=1.3,SNR=2.6
DBIC Dimbokro 143.80 278 PKhKP 10 42 36.8
comp=Z,8.6nm,0.9s,baz=21,slow=4.8,SNR=9.3
ROSC El Rosal 146.54 85 PKPbc PKPbc 10 42 46.7 +1.9
comp=Z,8.2nm,0.5s,baz=115,slow=19,SNR=5.3
LPAZ La Paz 147.40 125 PKPbc PKPdf 10 42 51.0 +1.1
comp=Z,4.0nm,1.0s,baz=169,slow=3.2,SNR=7.6
LPAZ La Paz 147.40 125 *e*PKPdf PKPdf 10 42 48.8 -1.1
SDV Santo Domingo 149.71 76 *e*PKPbc PKPdf 10 42 55.1 +1.4
MTP Monte Pirata 151.15 55 *e*PKPbc PKPdf 10 42 57.7 +2.0

MAN 12 10:26:24.9, 9.90N×126.33E, h19km, mb5.0, ML3.9, MS4.0, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.84**	**262**	*eP*		Pb	10 26 40.1	-0.5
SCPH				*eS*		Sb	10 26 50.8	-0.6
BUTP	**Butuan**	**1.16**	**217**	*eP*		Pb	10 26 45.2	-0.9
BUTP				*eS*		Sb	10 27 00.9	+0.2
MSLP	**Maasin**	**1.47**	**279**	*eP*		Pn	10 26 50.4	-0.3
MSLP				*eS*		Sn	10 27 09.2	-0.4
BIPH	**Bislig**	**1.70**	**179**⇑	*eP*		Pn	10 26 52.1	-2.0
BIPH				*eS*		Sn	10 27 14.9	-0.5

PLP	Palo	1.83	314	eP	Pn	10 26 56.6	+0.7
PLP				iS	Sn	10 27 19.3	+0.5
BESP	Borongan	1.91	333	eP	Pn	10 26 56.2	-0.7
BESP				eS	Sn	10 27 21.1	+0.4
CGP	Cagayan de Oro	2.16	229⇑	eP	Pn	10 27 01.0	+0.4
CGP				eS	Sn	10 27 27.2	+0.1
BUKP	Musuan	2.36	212	eP	Pn	10 27 04.3	+0.8
BUKP				eS	Sn	10 27 34.5	+2.2
LLP	Lapu-Lapu	2.37	280	eP	Pn	10 27 04.0	+0.5
LLP				eS	Sn	10 27 32.5	+0.2
TBP	Tagbilaran	2.44	265	eP	Pn	10 27 04.6	0.0
TBP				iS	Sn	10 27 34.1	-0.1
MATI	Mati	2.93	181	eS	Sn	10 27 44.1	-2.6
CNP	Catarman	3.07	328	eP	Pn	10 27 11.6	-2.0
CNP				eS	Sn	10 27 48.4	-1.8
SNPH	Sibulan	3.10	260	eP	Pn	10 27 14.5	+0.5
DCPH	Dipolog City	3.22	246⇑	eP	Pn	10 27 15.3	-0.3
DCPH				iS	Sn	10 27 54.3	+0.4
PAGZ	Pagadian	3.55	235	eP	Pn	10 27 20.8	+0.3
PAGZ				eS	Sn	10 27 59.3	-3.1
GUIM	Jordan	3.75	281	eP	Pn	10 27 23.0	-0.3
GUIM				eS	Sn	10 28 04.9	-2.5
RCP	Roxas	3.89	295⇓	eP	Pn	10 27 25.5	+0.2
PVCP	Virac	4.25	330	eP	Pn	10 27 29.4	-0.9
PVCP				eS	Sn	10 28 19.9	-0.1
IPIL	Ipil	4.26	241	eP	Pn	10 27 30.8	+0.2
IPIL				eS	Sn	10 28 19.9	-0.5
OTRP	Odiongan	4.89	300	eP	Pn	10 27 38.8	-0.6
CUYO	Cuyo Island	5.31	281	eP	Pn	10 27 45.2	-0.2
SJMP	San Jose	5.71	297	eP	Pn	10 27 50.5	-0.5
ENPP	El Nido	6.91	281	eP	Pn	10 28 09.3	+1.4
BALP	Baler	7.43	322	eP	Pn	10 28 13.2	-2.0
BALP				eS	Sn	10 29 28.4	-11
CAUP	Cauayan	8.26	328	eP	P	10 28 23.3	-3.5

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*MOS **12** 10:27:34.9±0.8, 2.20S×139.08E, h33^{km}, mb4.7/6, Error ellipse: s-maj=33.6km s-min=11.4km az=103.9*
*NEIC **12** 10:27:36.5±0.3, 2.17S×139.06E, h30^{km}, mb4.5/5, Error ellipse: s-maj=15.3km s-min=6.8km az=81.0*
*IDC **12** 10:27:42.3±4.2, 2.23S×139.13E, h87^{km}±40^{km}, mb4.1/9, mb1 4.2/12, mb1mx4.1/16, mbtmp4.4/12, Error ellipse: s-maj=39.8km s-min=15.8km az=81.0*
ISC 12 10:27:38.4±3.4, **2.24S**±0.09×**139.0E**±0.1, **h62**^{km}±33^{km}, **n31**, σ**0^{s}87**/29, **mb4.4**/15, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	10.83	131	P	P	10 30 14.7	+1.6
	0.5nm,0.3s,baz=325,slow=12,SNR=3.4						
WRA	Warramunga Arr	18.17	194	P	P	10 31 47.2	-0.8
	0.8nm,0.3s,baz=19,slow=11,SNR=3.2						
CTA	Charters Tower	19.12	159	P	P	10 31 57.2	-1.9
	0.3nm,0.3s,baz=338,slow=5.4,SNR=4.7						
CTAO	Charters Tower	19.12	159	eP	P	10 31 58.9	-0.3
	4.2nm,0.6s						
CTAO	Charters Tower	19.12	159	eP	P	10 31 58.9	-0.3
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MBWA	Marble Bar	26.54	223	eP	P	10 33 12.9	+0.4
STKA	Stephens Creek	29.59	175	P	P	10 33 38.8	-1.0
	comp=Z,4.4nm,0.7s,mb4.3,baz=334,slow=9.4,SNR=4.1						
STKA	Stephens Creek	29.59	175	eP	P	10 33 39.0	-0.8
JNU	Nakatsue	35.98	348	P	P	10 34 34.5	-0.8
	comp=Z,11nm,1.0s,mb4.8,baz=115,slow=3.3,SNR=6.5						
MJAR	Matsushiro Arr	38.58	359	P	P	10 34 55.5	-1.5
	comp=Z,2.2nm,0.7s,mb4.0,baz=179,slow=8.6,SNR=6.8						
MAJO	Matsushiro	38.59	359	eP	P	10 34 56.0	-1.0
	comp=Z,4.5nm,0.5s,mb4.5						
MAJO	Matsushiro	38.59	359	eP	P	10 34 56.0	-1.0
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
KULM	Kulim	38.99	281	eP	P	10 35 01.7	+1.1
ULN	Ulaanbaatar	57.14	335	eP	P	10 37 20.9	-0.2
	comp=Z,1.6nm,0.6s,mb4.2						
ULN	Ulaanbaatar	57.14	335	eP	P	10 37 20.9	-0.2
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
SONM	Songino Array	57.40	335	P	P	10 37 22.9	0.0
	comp=Z,0.8nm,0.5s,mb4.0,baz=154,slow=7.2,SNR=5.1						
ZAK	Zakamensk	60.66	335	eP	P	10 37 45.6	+0.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.3						
MKAR	Makanchi Array	69.56	322	P	P	10 38 43.4	+0.5
	comp=Z,5.6nm,0.8s,mb4.6,baz=115,slow=8.0,SNR=17						
AAK	Ala-Archa	73.04	316	eP	P	10 39 03.0	-0.7
	comp=Z,2.6nm,0.8s,mb4.2						
AAK	Ala-Archa	73.04	316	eP	P	10 39 03.0	-0.7
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KURK	Kurchatov	73.47	325	eP	P	10 39 06.7	+0.6
	comp=Z,6.6nm,0.8s,mb4.6						
KURK	Kurchatov	73.47	325	eP	P	10 39 06.7	+0.7
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
VNDA	Vanda	76.23	175	P	P	10 39 21.2	-0.2
	comp=Z,1.0nm,0.6s,mb3.9,baz=318,slow=7.0,SNR=7.7						
BVAR	Borovoye Array	79.06	325	P	P	10 39 38.0	+0.4
	comp=Z,8.7nm,0.6s,mb4.8,baz=115,slow=7.8,SNR=28						
BRVK	Borovoye	79.14	325	eP	P	10 39 38.9	+1.0
	comp=Z,5.9nm,0.6s,mb4.7						
BRVK	Borovoye	79.14	325	eP	P	10 39 38.9	+1.0
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
ILAR	Eielson Array	85.30	24	P	P	10 40 08.6	-0.9
	comp=Z,4.1nm,0.9s,mb4.6,baz=256,slow=4.8,SNR=24						
DAWY	Dawson	88.34	26	eP	P	10 40 25.7	+1.5
INK	Inuvik	91.14	22	P	P	10 40 37.9	+0.5
	comp=Z,2.3nm,0.9s,mb4.5,baz=287,slow=3.9,SNR=3.3						
ARCES	ARCESS Array B	100.14	341	P	P	10 41 17.8	-0.5
	comp=Z,2.0nm,0.7s,baz=59,slow=7.1,SNR=4.7						
DBIC	Dimbokro	143.66	278	PKP	PKPdf	10 47 06.5	-0.9
	comp=Z,2.9nm,0.8s,baz=227,slow=19,SNR=3.9						

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*NEIC **12** 10:39:23.0, 58.36N×133.49W, h1^{km}, ML3.1(AEIC), After AEIC.*
PGC 12 10:39:21.8, 58.32N×**133.45W, h1**^{km}, **ML3.3**/4, **ML3.1**/4(AEIC), **56km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIT	Sitka	1.62	219	P	Pn	10 39 50.1	-1.5
SIT				S	Sb	10 40 12.6	-0.4
SIT	Sitka	1.62	219	eP	Pn	10 39 50.1	-1.5
SIT				eS	Sb	10 40 12.3	-0.7
DLBC	Dease Lake	1.81	85	Pn	Pn	10 39 53.8	-0.5
DLBC				Sn	Sn	10 40 19.1	+0.9
DLBC				Trac		10 40 25.6	
	comp=Z,256nm,0.8s						
DLBC	Dease Lake	1.81	85	P	Pn	10 39 53.8	-0.5
DLBC				S	Sn	10 40 17.4	-0.8
PLBC	Pleasant Camp	1.90	308	Pn	Pn	10 39 54.2	-1.4
PLBC				Pg	Pg	10 39 55.6	-4.1
PLBC				Sn	Sn	10 40 19.9	-0.5
PLBC				Sg	Sg	10 40 21.0	-3.9
WHY	Whitehorse	2.46	343	Pn	Pn	10 40 02.0	-1.7
WHY				Pg	Pg	10 40 06.7	-4.2
WHY				Sn	Sn	10 40 30.5	-4.3
WHY				S	Sn	10 40 33.4	-1.4
WHY				Sg	Sg	10 40 36.2	-7.5
WHY				Trac		10 40 47.6	
	comp=Z,90nm,1.0s						
WHY	Whitehorse	2.46	343	P	Pn	10 40 02.0	-1.7
WHY				S	Sn	10 40 33.4	-1.4
HYT	Haines Junctio	3.25	322	Pn	Pn	10 40 14.2	-0.7
HYT				Pg	Pg	10 40 20.4	-6.3
HYT				Sg	Sg	10 41 02.3	-7.7
HYT				Trac		10 41 08.1	
	comp=Z,44nm,0.7s						
PNL	Peninsula	3.36	296	P	Pn	10 40 14.8	-1.7
PNL				Trac			
PCA	Pinnacle	3.93	300	P	Pn	10 40 22.0	-2.5
PCA				Trac			
RUBB	Prince Rupert	4.38	155	Sg	Sg	10 41 40.9	-6.7
DAWY	Dawson	6.44	336	Pn	Pn	10 40 57.2	-2.8
DAWY				Sg	Sg	10 42 44.0	-12
DAWY				Trac		10 42 46.5	
	comp=Z,25nm,0.8s						
DAWY	Dawson	6.44	336	eP	Pn	10 40 57.4	-2.6
INK	Inuvik	10.03	360	Pn	P	10 41 46.3	-3.6
INK				Sg	S	10 44 35.5	+51
INK				Trac		10 44 50.5	
	comp=Z,3.0nm,0.9s						

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*IDC **12** 10:41:59.2±0.6, 19.68N×121.49E, mb4.2/12, mb1 4.3/14, mb1mx4.2/24, mbtmp4.2/14, ML3.6/2, MS3.9/3, Ms1 3.9/3, ms1mx3.4/29, Error ellipse: s-maj=29.2km s-min=11.6km az=73.0*
*MAN **12** 10:42:02.9, 20.04N×121.17E, h16^{km}, mb5.4, ML4.3, MS4.6*
*NEIC **12** 10:42:05.1±0.4, 19.80N×121.33E, h35^{km}, mb4.8/3, Error ellipse: s-maj=12.6km s-min=7.8km az=82.0*
*BJI **12** 10:42:11.0, 20.39N×120.49E, h15^{km}, mB4.8, mb4.2, ML3.9, Ms4.2, Msz4.1*
ISC 12 10:42:05.7±0.5, **19.96N**±0.03×**121.49E**±0.07, **h59**^{km}±6^{km}, **n44**, σ**1^{s}29**/57, **mb4.2**/14, **MS4.0**/2, **2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	0.66	42	eP	P	10 42 18.4	-0.9
BBP				eS	S	10 42 29.9	+0.4
CVP	Callao Caves	2.26	172⇑	eP	P	10 42 41.2	-0.3
CVP				eS	S	10 43 14.0	+5.8
ABRA	Dolores	2.41	198	eP	P	10 42 41.2	-2.4
ABRA				eS	S	10 43 15.2	+3.3
CAUP	Cauayan	3.01	174	eP	P	10 42 53.5	+1.3
BOLP	Bolinao	3.86	203	eP	P	10 43 03.0	-1.0
BOLP				eS	S	10 43 50.8	+2.3
BALP	Baler	4.19	179	eP	P	10 43 08.4	-0.3
BALP				eS	S	10 43 58.1	+1.2
PCPH	Palayan	4.38	185⇑	eP	P	10 43 12.0	+0.6
SCZP	Santa Cruz	4.42	200	eP	P	10 43 13.0	+1.1
SCZP				eS	S	10 44 01.8	-0.8
YHNB	Yeheng	4.69	359	ePn	P	10 43 15.9	+0.1
YHNB				eSn	S	10 44 09.1	-0.4
POLP	Polilio Island	5.21	175	eP	P	10 43 23.3	+0.3
POLP				eS	S	10 44 21.8	-0.7
LUBP	Lubang	6.30	191	eP	P	10 43 32.7	-5.4
LUBP				eS	S	10 45 00.7	+11
PVCP	Virac	6.82	158	eP	P	10 43 48.0	+2.6
PVCP				eS	S	10 45 02.7	+0.4
SJMP	San Jose	7.46	183	eP	P	10 43 54.8	+0.6
BUSP	Coron	8.00	189	eP	P	10 43 58.7	-3.0
JOW	Kunigami	9.25	41	Pn	P	10 44 16.4	-2.4
	2.2nm,0.3s,baz=198,slow=13,SNR=11						
JOW				LR	LR	10 47 53.4	
	comp=Z,481nm,21.2s,baz=202,slow=37						
QIZ	Qiongzhong	11.03	267	P	P	10 44 35.6	-7.5
QIZ				S	S	10 46 33.2	-13
QIZ				LR	LR		
	comp=N,406nm,14.5s						
QIZ				LR	LR		
	comp=E,549nm,15.3s						
QIZ				LR	LR		
	comp=Z,678nm,16.0s						
QIZ	Qiongzhong	11.03	267	ePn	P	10 44 35.8	-7.3
QIZ				eSn	S	10 46 29.5	-16
JNU	Nakatsue	15.56	31	Pn	P	10 45 45.0	+2.2
	comp=Z,0.1nm,0.3s,baz=193,slow=27,SNR=1.7						
XAN	Xi'an	17.93	324	P	P	10 46 10.5	-2.0
XAN				AP		10 46 21.2	
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s						
CD2	Chengdu	19.35	308	P	P	10 46 27.0	-2.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
KSM	Kuching	21.38	212	eP	P	10 46 49.6	-0.6
KSM				eS	S	10 50 40.6	+1.5
MJAR	Matsushiro Arr	22.08	38	P	P	10 46 57.9	+0.8
	comp=Z,1.2nm,0.7s,mb3.5,baz=232,slow=10.0,SNR=6.5						
GUMO	Guam	23.25	102	LR	LR	10 56 05.9	
	comp=Z,220nm,18.3s,MS3.6,baz=237,slow=36						
ULN	Ulaanbaatar	30.20	341	eP	P	10 48 14.1	+1.4
SONM	Songino Array	30.39	340	P	P	10 48 14.6	+0.3
	comp=Z,0.9nm,0.8s,mb3.5,baz=162,slow=9.4,SNR=4.9						
FITZ	Fitzroy Crossi	38.04	174	P	P	10 49 18.4	-1.7
	comp=Z,6.0nm,0.9s,mb4.3,baz=186,slow=22,SNR=4.1						
WRAB	Tennant Creek	41.59	162	eP	P	10 49 48.8	-0.9
	comp=Z,16nm,0.8s,mb4.7						
WRA	Warramunga Arr	41.60	162	P	P	10 49 48.5	-1.2
	comp=Z,9.6nm,0.7s,mb4.5,baz=342,slow=9.0,SNR=85						
WRA				S	S	10 55 58.1	-3.3
	comp=Z,1.1nm,1.0s,baz=349,slow=16,SNR=4.7						
WRA	Warramunga Arr	41.60	162	P	P	10 49 48.5	-1.2
WRA				S	S	10 55 58.1	-3.3
MKAR	Makanchi Array	41.64	319	P	P	10 49 49.7	0.0
	comp=Z,1.4nm,0.9s,mb3.6,baz=98,slow=10,SNR=7.2						
MKAR				PcP	PcP	10 51 47.0	+0.6
	comp=Z,1.1nm,0.8s,baz=90,slow=5.8,SNR=3.3						
ZAL	Zalesovo	43.98	329	P	P	10 50 10.0	+1.3
	comp=Z,1.3nm,0.3s,mb4.1,baz=93,slow=6.6,SNR=4.3						
KURK	Kurchatov	45.56	323	eP	P	10 50 32.4	+11
CTA	Charters Tower	46.60	147	P	P	10 50 29.4	-0.6
	comp=Z,2.5nm,0.6s,mb4.3,baz=337,slow=12,SNR=5.5						
CTAO	Charters Tower	46.60	147	eP	P	10 50 30.6	+0.6
	comp=Z,4.0nm,0.9s,mb4.3						
BVAR	Borovoye Array	51.16	323	P	P	10 51 05.9	+1.2
	comp=Z,0.7nm,0.5s,mb3.9,baz=260,slow=41,SNR=2.6						
BVAR				PcP	PcP	10 52 19.6	-0.1
	comp=Z,1.2nm,0.7s,baz=135,slow=2.1,SNR=4.7						
BRVK	Borovoye	51.23	323	eP	P	10 51 06.8	+1.6
NWAO	Narrogin (SRO)	52.74	185	P	P	10 51 15.4	-1.5
	comp=Z,6.5nm,0.6s,mb4.8,baz=21,slow=8.5,SNR=6.6						
NWAO	Narrogin (SRO)	52.74	185	eP	P	10 51 15.1	-1.8
STKA	Stephens Creek	55.02	159	P	P	10 51 32.2	-1.4
	comp=Z,3.4nm,0.9s,mb4.4,baz=344,slow=7.9,SNR=9.6						
STKA	Stephens Creek	55.02	159	eP	P	10 51 32.6	-1.0
ARU	Arti	58.67	325	eP	P	10 51 51.2	-8.0
	comp=Z,24nm,0.8s,mb5.3						
FINES	FINESS Array B	75.23	330	P	P	10 53 44.3	+0.8
	comp=Z,2.8nm,0.9s,mb4.2,baz=117,slow=4.3,SNR=3.8						
NOA	NORSAR Array B	82.09	333	P	P	10 54 21.6	+0.7
	comp=Z,1.8nm,1.0s,mb4.0,baz=59,slow=5.2,SNR=3.4						
JMIC	Jan Mayen	82.97	345	LR	LR	11 36 11.7	
	comp=Z,125nm,18.6s,MS4.3,baz=268,slow=39						

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*ATH **12** 11:06:35.6, 38.61N×24.03E, h28^{km}±1^{km}, MD3.3/14, ML3.2*
*NEIC **12** 11:06:35.5, 38.62N×24.03E, h27^{km}, ML3.2(ATH), ML2.8(THE), After ATH.*
*CSEM **12** 11:06:36.8±0.1, 38.61N×24.02E, h20^{km}, ML2.8, Error ellipse: s-maj=3.8km s-min=2.3km az=95.0*
*THE **12** 11:06:39.0, 38.71N×23.95E, h13^{km}, ML2.8*
ISC 12 11:06:35.7±0.6, **38.57N**±0.02×**24.03E**±0.05, **h17**^{km}±6^{km}, **n25**, σ**0^{s}95**/35, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.47	209	ePN	Pb	11 06 46.2	+1.0
PTL	Penteli	0.53	194	ePN	Pn	11 06 47.5	-0.7
AOS	Alonnisos	0.61	349	ePg	Pb	11 06 47.6	+0.1
AOS				eSg	Sb	11 06 55.5	-0.2
ATH	Athens Observa	0.64	203	ePN	Pn	11 06 49.6	-0.2
ATH				eSN	Sn	11 06 59.0	-0.5
NSAL	Nisos Salamina	0.80	214	ePN	Pn	11 06 52.0	0.0
LKR	Lokris	0.81	276	ePN	Pn	11 06 51.1	-1.1
LKR				eSN	Sn	11 07 03.0	-0.8
LKR	Lokris	0.81	276	ePb	Pb	11 06 50.9	0.0
LKR				eSn	Sn	11 07 03.0	-0.8
MGER	Gerania Oros	0.84	226	ePN	Pn	11 06 52.5	-0.1
NAIG	Nisos Aigina	0.91	208	ePN	Pn	11 06 54.0	+0.4
NEO	Neokhori	0.97	320	ePN	Pn	11 06 54.4	-0.1
NEO				eSN	Sn	11 07 07.1	-0.7
XOR	Xorichti	1.03	321	ePg	Pb	11 06 55.6	+0.9
XOR				eSg	Sb	11 07 08.9	+1.1
PAIG	Paliouri	1.39	349	ePg	Pn	11 07 00.5	+0.1
PAIG				eSg	Sb	11 07 17.4	-0.6
AGG	Agios Georgios	1.40	289	ePg	Pn	11 07 01.9	+1.2
	comp=Z,3.0nm,0.3s						
AGG				eSg	Sb	11 07 20.6	+2.1
LOS	Limnos	1.59	31	ePg	Pn	11 07 04.9	+1.5
LOS				eSg	Sn	11 07 26.0	+2.3
LIA	Limnos Island	1.60	34	ePN	Pn	11 07 03.3	-0.2
OUR	Ouranopolis	1.77	359	ePb	Pb	11 07 06.1	-1.1
PLG	Polygyros	1.86	346	ePB	Pb	11 07 06.8	-2.0
APE	Apeiranthos	1.91	141	ePB	Pb	11 07 09.1	-0.6
VLI	Veliai	2.04	205	ePN	Pn	11 07 10.9	+1.1
ITM	Ithomi	2.16	231	ePB	Pb	11 07 13.2	-0.8
ITM	Ithomi	2.16	231	ePb	Pb	11 07 14.0	0.0
KYTH	Kithira	2.41	199	ePN	Pn	11 07 16.0	+0.9
KYTH	Kithira	2.41	199	ePb	Pb	11 07 17.0	-1.3
SRS	Serrai	2.57	353	ePn	Pn	11 07 17.0	-0.4
KNT	Kendrikon	2.73	342	ePn	Pn	11 07 20.0	+0.3
	comp=Z,2.0nm,0.2s						
KNT				eSn	Sn	11 07 51.3	-1.4

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*NIED **12** 11:18:00, 33.80N×130.10E, h5^{km}, Mw3.9 Best double couple: $M_0$8.38×10^{14} NP1:ϕ_s323°, δ78°, λ-28°. NP2:ϕ_s60°, δ63°, λ-166°.*
*JMA **12** 11:18:48.5, 33.78N×130.11E, h12^{km}, M4.1 Broadband fault plane solution: P waves. NP1:ϕ_s54°, δ77°, λ-168°. NP2:ϕ_s322°, δ78°, λ-14°. Principal axes: T Plg1°, Azm8°; N Plg72°, Azm101°; P Plg18°, Azm278°;*
JMA Felt II J1.
*IDC **12** 11:18:48.4±1.1, 33.67N×130.09E, mb3.4/4, mb1 3.6/5, mb1mx3.5/22, mbtmp3.4/5, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/13 Error ellipse: s-maj=25.1km s-min=10.1km az=42.0*
*NEIC **12** 11:18:51.2±0.6, 33.57N×130.03E, h35^{km}, mb4.4/1, Error ellipse: s-maj=10.4km s-min=9.1km az=218.0*
NEIC Recorded [2 JMA] in Fukuoka, Nagasaki and Saga Prefectures.
ISC 12 11:18:48.5±0.5, **33.76N**±0.04×**130.10E**±0.04, **h17**^{km}±6^{km}, **n20**, σ**1^{s}00**/29, **mb3.8**/6, **2C-3D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JII	Iki	0.31	278	⇓P	Pb	11 18 55.0	-0.2
JII				S	Sb	11 18 59.3	-0.4
JFI	Itaya	0.41	143	⇑P	Pb	11 18 56.9	0.0
JFI				S	Sb	11 19 02.7	+0.1
JFA	Akaike	0.58	94	⇓P	Pb	11 18 59.5	-0.4
JFA				S	Sb	11 19 07.5	-0.1
JTA	Tamana	0.87	155	⇑P	Pb	11 19 05.1	+0.4
JNU	Nakatsue	0.91	134	Pg	Pb	11 19 05.4	0.0
	272nm,0.3s,baz=280,slow=9.5,SNR=396						
JNU				Lg		11 19 17.1	
	1µm,0.3s,baz=172,slow=33,SNR=90						
JTU	Tsushima	0.96	323	⇓P	Pb	11 19 06.2	-0.1
JTU				iS	Sb	11 19 18.8	+0.3
KS15	Wonju Array Si	4.10	335	ePn	Pn	11 19 52.8	+0.9
KS15				eSn	Sn	11 20 48.5	+8.5
INCN	Inchon	4.67	324	ePn	Pn	11 20 00.6	+0.6
INCN				eSn	Sn	11 20 51.4	-3.0
JOW	Kunigami	7.08	193	Pn	Pn	11 20 36.8	+2.8
	0.5nm,0.3s,baz=140,slow=8.8,SNR=3.0						
MAJO	Matsushiro	7.20	65	ePn	Pn	11 20 35.8	+0.2
MAJO				eSn	Sn	11 22 04.1	+6.3
MAT	Matsushiro	7.20	65	P	Pn	11 20 35.5	-0.2
MAT				eS	Sn	11 21 57.1	-0.8
MAT	Matsushiro	7.20	65	P	Pn	11 20 36.0	+0.3
	250nm,1.8s						
MAT				S	Sn	11 22 03.0	+5.1
MJAR	Matsushiro Arr	7.20	65	Pn	Pn	11 20 35.4	-0.3
	0.3nm,0.3s,baz=284,slow=16,SNR=4.2						
MJAR				Lg		11 22 36.8	
	0.4nm,0.3s,baz=242,slow=27,SNR=14						
MJAR				LR	LR	11 23 16.5	
	comp=Z,137nm,19.8s,baz=240,slow=37						
MDJ	Mudanjiang	10.85	358	ePn	P	11 21 25.7	-0.5
SONM	Songino Array	22.68	315	P	P	11 23 50.9	+0.7
	0.2nm,0.4s,mb2.9,baz=126,slow=11,SNR=2.9						
QIZ	Qiongzhong	23.27	236	eP	P	11 23 53.9	-2.3
	132nm,1.9s,mb5.0						
BVAR	Borovoye Array	46.00	314	P	P	11 27 15.3	+2.8
	0.3nm,0.4s,mb3.5,baz=74,slow=10,SNR=2.9						
WRAB	Tennant Creek	53.54	175	eP	P	11 28 06.1	-4.6
	4.4nm,1.0s,mb4.3						
WRA	Warramunga Arr	53.55	175	P	P	11 28 09.2	-1.6
	0.6nm,0.9s,mb3.5,baz=351,slow=8.2,SNR=4.5						
ILAR	Eielson Array	57.10	30	P	P	11 28 36.8	+0.8
	0.4nm,0.7s,mb3.6,baz=289,slow=7.4,SNR=4.7						

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*IDC **12** 11:30:53.8±3.3, 0.35N×97.54E, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=130.4km s-min=27.9km az=54.0*
*NEIC **12** 11:30:58.9±0.8, 0.45N×97.71E, h30^{km}, mb4.0/1, Error ellipse: s-maj=22.4km s-min=18.8km az=68.0*
ISC 12 11:30:57.0±1.0, **0.5N**±0.2×**97.7E**±0.2, **h30**^{km}, **n8**, σ**0^{s}71**/8, **mb4.0**/6, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGAR	Diego Garcia	26.36	252	eP	P	11 36 33.1	+0.3
	145nm,0.4s						
WRA	Warramunga Arr	41.25	122	P	P	11 38 41.3	-0.1
	0.3nm,0.4s,mb3.3,baz=302,slow=9.0,SNR=5.9						
SONM	Songino Array	47.76	8	P	P	11 39 34.2	+0.8
	1.4nm,0.6s,mb4.2,baz=192,slow=9.8,SNR=8.5						
MKAR	Makanchi Array	48.04	346	P	P	11 39 36.0	+0.3
	1.5nm,0.6s,mb4.2,baz=149,slow=8.4,SNR=7.6						
KURK	Kurchatov	52.60	345	eP	P	11 40 10.5	+0.2
	1.0nm,0.5s,mb4.0						
ZAL	Zalesovo	54.32	351	P	P	11 40 23.2	+0.2
	1.8nm,0.5s,mb4.3,baz=359,slow=6.9,SNR=3.8						
ZAL	Zalesovo	54.32	351	P	P	11 40 23.2	+0.2
BVAR	Borovoye Array	57.08	341	P	P	11 40 41.2	-1.7
	0.6nm,0.6s,mb3.8,baz=143,slow=7.4,SNR=3.9						

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*PRU **12** 11:42:47.0, 51.46N×16.13E*
WAR 12 11:42:47.1, 51.49N×**16.13E, h1**^{km}, **ML2.8, 3C-2D, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	171	⇓iPG	Pg	11 42 59.2	-1.1
KSP				⇓eSG	Sg	11 43 07.2	-1.9
KSP	Ksiaz	0.66	171	ePg	Pg	11 42 59.3	-1.0
KSP				eSg	Sg	11 43 06.8	-2.2
UPC	Upice	0.99	184	ePG	Pg	11 43 05.3	-1.6
DPC	Dobruska-Polom	1.15	174	ePG	Pg	11 43 07.9	-2.2
DPC				eSG	Sg	11 43 22.9	-2.5
	21nm,0.2s						
PVCC	Panska Ves	1.38	226	ePG	Pg	11 43 12.1	-2.6
PRU	Pruhonice	1.81	214	ePG	Pg	11 43 19.7	-3.6
CLL	Collm	1.97	266	ePG	Pg	11 43 22.0	-4.4
CLL				eSG	Sg	11 43 49.0	-3.6
OKC	Ostrava-Krasne	2.10	141	ePG	Pg	11 43 25.7	-3.3
OKC				eSG	Sg	11 43 51.1	-5.8
TREC	Trest	2.24	191	ePN	Pn	11 43 24.4	-1.4
NKC	Novy Kostel	2.65	243	ePN	Pn	11 43 30.2	-1.5
NKC				eSG	Sg	11 44 11.6	-3.8
	45nm,0.3s						
OJC	Ojcow	2.65	117	ePG	Pg	11 43 36.0	-4.1
OJC				eSG	Sg	11 44 11.0	-4.4
KHC	Kasperske Hory	2.88	216	ePN	Pn	11 43 33.0	-1.9
KHC				ePG	Pg	11 43 39.0	-5.5
KHC				eSN	Sn	11 44 05.5	-5.2
KHC				eSG	Sg	11 44 17.9	-4.9
MOX	Moxa	2.97	255	iP	Pn	11 43 34.2	-2.1
MOX				Pg	Pg	11 43 42.0	-4.4
MOX				Sg	Sg	11 44 22.0	-4.0
MOX	Moxa	2.97	255	PP2		12 00 07.0	
MOA	Molln	3.84	199⇑	iPN	Pn	11 43 46.7	-2.0
MOA				iSG	Sg	11 44 49.9	-5.2
	10nm,0.5s						
STHS	Stebnicka Huta	3.87	120	ePG	Pg	11 44 00.4	-4.0
STHS				eSG	Sg	11 44 52.0	-4.1
KBA	Koelnbreinsper	4.78	203⇑	iPN	Pn	11 44 00.1	-1.9
KBA				iSG	Sg	11 45 19.8	-6.4
	7.6nm,0.6s						
KBA	Koelnbreinsper	4.78	203⇑	iPn	Pn	11 44 00.1	-1.9

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*LDG **12** 12:33:24.1±0.3, 21.57S×170.94E, h10^{km}, Mb5.0/2, Ms4.4/5, Error ellipse: s-maj=30.3km s-min=5.2km az=163.0*
*BJI **12** 12:33:25.4, 23.10S×170.20E, h35^{km}, mB5.2, mb4.7, Ms4.9, Msz4.4*
*MOS **12** 12:33:29.5±2.0, 23.17S×170.05E, h33^{km}, mb5.0/8, MS4.6/4, Error ellipse: s-maj=18.7km s-min=13.3km az=42.5*
*NEIC **12** 12:33:30.4±0.4, 23.12S×170.25E, h35^{km}, mb5.0/9, MS4.7/3, Error ellipse: s-maj=16.9km s-min=13.2km az=217.0*

IDC ***12*** *12:33:30.3±4.1,22.53S×170.62E,h57km±34km,mb4.2/7, mb1 4.2/10,mb1mx4.1/18,mbtmp4.5/10,ML4.3/3,MS4.2/17, Ms1 4.2/17,ms1mx4.1/26,Error ellipse: s-maj=31.7km s-min=20.2km az=45.0*

HRVD ***12*** *12:33:30.4±0.3,22.62S×170.80E,h26km±1km,MW5.1/55, Centroid moment Tensor Solution. LP body waves: s43,c64;Mantle waves: s55,c79; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.76±.25; $M_{\theta\theta}$-4.11±.17; $M_{\phi\phi}$-0.64±.18; $M_{r\theta}$2.82±.34; $M_{\theta\phi}$1.31±.13; $M_{\phi r}$-0.05±.37; Best double couple: $M_0$5.439×10^{16} NP1:ϕ_s296°,δ30°, λ104°. NP2:ϕ_s100°,δ61°,λ82°. Principal axes: T 5.597, Plg73°, Azm350°; N -.314, Plg7°, Azm104°; P -5.281, Plg15°, Azm196°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 12:33:29.3±2.0**,22.62S**±0.08×**170.6E**±0.1**,h63**km±16km**, h42**km±7.8km**:pP-P,n159,**σ_1s**39**/73**,mb4.7**/28**,14C-4D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.85	277	eP	P	12 34 26.4	-1.1
DZM				eS	S	12 35 10.2	-1.8
DZM	Mont Dzumac	3.85	277	P	P	12 34 26.6	-1.0
	24nm,0.3s,baz=147,slow=9.0,SNR=712						
DZM				S	S	12 35 12.6	+0.6
	16nm,0.3s,baz=72,slow=19,SNR=6.2						
DZM				LR	LR	12 35 53.1	
	comp=Z,2μm,21.6s,baz=80,slow=37						
DZM	Mont Dzumac	3.85	277	eP	P	12 34 26.4	-1.2
DZM				eS	S	12 35 10.2	-1.8
RAO	Raoul Island	12.28	125	LR	LR	12 40 03.8	
	comp=Z,1μm,20.6s,baz=154,slow=32						
URZ	Urewera	16.57	162	P	P	12 37 20.5	+1.7
	0.4nm,0.3s,baz=55,slow=5.7,SNR=5.3						
URZ				LR	LR	12 42 36.6	
	comp=Z,2μm,18.3s,baz=309,slow=33						
HNR	Honiara	16.60	320	P	P	12 37 20.6	+1.3
	2.8nm,0.3s,baz=171,slow=13,SNR=6.4						
HNR				LR	LR	12 42 57.7	
	comp=Z,508nm,20.4s,baz=336,slow=34						
HNR	Honiara	16.60	320	eP	P	12 37 21.4	+2.0
	131nm,1.1s						
HNR	Honiara	16.60	320	eP	P	12 37 21.4	+2.0
HNR				pmax	pmax		
	comp=Z,131nm,1.1s						
ARMA	Armidale	18.63	241	eP	P	12 37 51.4	+7.2
AFI	Afiamalu	18.86	66	LR	LR	12 43 24.3	
	comp=Z,659nm,18.9s,baz=231,slow=32						
RIV	Riverview	20.39	233	eP	P	12 38 09.0	+5.7
RPZ	Rata Peaks	21.04	179	P	P	12 38 10.0	0.0
	comp=Z,19nm,0.9s,mb4.4,baz=19,slow=7.6,SNR=7.7						
RPZ				LR	LR	12 45 36.6	
	comp=Z,717nm,19.4s,baz=144,slow=34						
CTA	Charters Tower	22.78	272	eP	P	12 38 30.3	+3.0
	comp=Z,5.7nm,0.8s,mb4.0						
CTA	Charters Tower	22.78	272	P	P	12 38 29.1	+1.7
	comp=Z,7.5nm,0.9s,mb4.1,baz=100,slow=11,SNR=12						
CTA				LR	LR	12 46 51.2	
	comp=Z,629nm,19.3s,baz=91,slow=35						
CTAO	Charters Tower	22.78	272	eP	P	12 38 28.6	+1.3
	comp=Z,25nm,1.3s,mb4.5						
CTAO	Charters Tower	22.78	272	eP	P	12 38 28.6	+1.3
CTAO				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.5						
PMG	Port Moresby	26.00	297	P	P	12 38 59.1	+0.8
	comp=Z,9.5nm,0.8s,mb4.4,baz=112,slow=10,SNR=4.4						
PMG				LR	LR	12 47 46.5	
	comp=Z,624nm,19.0s,baz=137,slow=33						
PMG	Port Moresby	26.00	297	eP	P	12 38 57.5	-0.8
PMG	Port Moresby	26.00	297	i P	P	12 38 57.6	-0.7
TOO	Toolangi	26.21	230	eP	P	12 39 05.9	+5.9
	comp=Z,14nm,1.1s,mb4.4						
STKA	Stephens Creek	27.29	244	eP	P	12 39 11.6	+1.6
	comp=Z,9.4nm,1.0s,mb4.3						
STKA	Stephens Creek	27.29	244	P	P	12 39 11.7	+1.7
	comp=Z,3.5nm,0.7s,mb4.0,baz=96,slow=13,SNR=7.5						
STKA				LR	LR	12 49 10.1	
	comp=Z,522nm,19.1s,baz=72,slow=34						
WRAB	Tennant Creek	33.80	268	eP	P	12 40 06.4	-1.1
	comp=Z,55nm,1.7s,mb5.2						
WRAB	Tennant Creek	33.80	268	eP	P	12 40 06.4	-1.2
WRAB				pmax	pmax		
	comp=Z,55nm,1.7s,mb5.2						
WRA	Warramunga Arr	33.81	268	P	P	12 40 06.9	-0.7
	comp=Z,1.1nm,0.6s,mb3.9,baz=98,slow=8.4,SNR=15						
KAKA	Kakadu	37.55	279	eP	P	12 40 58.0	+19
	comp=Z,14nm,1.0s,mb4.7						
PPT	Papeete	37.69	90	eLR	LR	12 51 02.1	
	comp=Z,298nm,22.0s						
FITZ	Fitzroy Crossi	42.24	268	eP	P	12 41 19.3	+1.1
	comp=Z,28nm,0.9s,mb4.9						
GUMO	Guam	43.92	323	LR	LR	12 57 25.4	
	comp=Z,146nm,18.6s,baz=93,slow=33						
MBWA	Marble Bar	47.01	262	eP	P	12 41 55.3	-1.1
	comp=Z,14nm,0.9s,mb4.9						
NWAO	Narrogin (SRO)	47.86	245	eP	P	12 42 03.5	+0.6
	comp=Z,34nm,1.2s,mb5.2						
NWAO				e	pP	12 42 19.1	0.0
NWAO	Narrogin (SRO)	47.86	245	eP	P	12 42 03.5	+0.6
NWAO				e	pP	12 42 19.1	0.0
NWAO				pmax	pmax		
	comp=Z,34nm,1.2s						
RKT	Rikitea	49.93	102	eLR	LR	12 56 40.2	
	comp=Z,287nm,27.8s						
VNDA	Vanda	55.11	182	LR	LR	13 04 03.7	
	comp=Z,335nm,19.2s,baz=7.1,slow=33						
VNDA	Vanda	55.11	182	eP	P	12 42 53.9	-3.0
	comp=Z,8.9nm,1.5s,mb4.6						
VNDA	Vanda	55.11	182	eP	P	12 42 53.9	-3.0
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SBA	Scott Base	55.32	181	eP	P	12 42 57.8	-0.6
	comp=Z,12nm,1.1s,mb4.8						
SBA	Scott Base	55.32	181	eP	P	12 42 57.8	-0.6
SBA				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
CASY	Casey	57.56	205	eP	P	12 43 10.9	-3.6
KSM	Kuching	63.35	284	eP	P	12 43 55.0	+0.3
QSPA	South Pole Qui	67.45	180	eP	P	12 44 19.3	-0.6
	comp=Z,18nm,1.1s,mb5.0						
SSE	Sheshan	71.37	317	P	P	12 44 41.4	-3.2
SSE				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
SSE				AMB	AMB		
	comp=Z,129nm,5.6s						
SSE				LR	LR		
	comp=N,23nm,20.3s						
SSE				LR	LR		
	comp=E,39nm,20.3s						
SSE				LR	LR		
	comp=Z,80nm,20.7s						
NJ2	Nanjing	73.49	316	eP	P	12 44 59.4	+2.2
NJ2				PCP	PcP	12 45 14.1	+0.8
NJ2				S	S	12 54 24.0	+3.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,250nm,4.8s						
NJ2				LR	LR		
	comp=N,1μm,25.6s						
NJ2				LR	LR		
	comp=E,2μm,25.4s						
NJ2				LR	LR		
	comp=Z,380nm,24.7s						
KULM	Kulim	73.69	283	eP	P	12 44 59.3	+0.6
MAW	Mawson	75.78	202	LR	LR	13 15 28.1	
	comp=Z,158nm,18.0s,baz=136,slow=33						
PET	Petropavlovsk	76.03	353	eP	P	12 45 09.0	-2.4
PET				eS	S	12 54 55.1	+6.8
PET				ePPS	PPS	12 55 48.7	-3.1
PET				smax			
	comp=N,100nm,11.0s						
MDJ	Mudanjiang	76.67	331	P	P	12 45 17.0	+1.8
MDJ				PP	PP	12 48 10.4	+0.9
MDJ				S	S	12 55 01.1	+5.7
MDJ				SS	SS	12 59 59.2	+4.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,72nm,3.6s						
MDJ				LR	LR		
	comp=N,63nm,22.0s						
MDJ				LR	LR		
	comp=E,31nm,25.0s						
MDJ				LR	LR		
	comp=Z,94nm,20.6s						
CN2	Changchun	77.97	328	eP	P	12 45 21.3	-1.1
CN2				eAP	pP	12 45 38.0	-1.8
CN2				eS	S	12 55 11.0	+1.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				LR	LR		
	comp=Z,170nm,23.0s						
KMI	Kunming	81.10	302	P	P	12 45 41.6	+1.9
KMI				PP	PP	12 48 50.0	+2.8
KMI				S	S	12 55 46.7	+3.9
KMI				SS	SS	13 01 06.7	+5.1
KMI				AMB	AMB		
	comp=Z,12nm,1.7s,mb4.5						
KMI				AMB	AMB		
	comp=Z,161nm,5.8s						
KMI				LR	LR		
	comp=N,177nm,7.2s						
KMI				LR	LR		
	comp=E,89nm,12.9s						
KMI				LR	LR		
	comp=Z,129nm,10.2s						
XAN	Xi'an	81.30	312	P	P	12 45 39.8	-0.7
XAN				AP	pP	12 45 51.2	-6.8
XAN				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6						
SYO	Syowa Base	82.04	196	⇓P	P	12 45 41.5	-2.2
SYO	Syowa Base	82.04	196	⇑PcP	PcP	12 45 46.0	-3.4
SYO	Syowa Base	82.04	196	⇓pP	pP	12 45 57.7	-3.5
HHC	Hu-ho-hao-te	83.58	319	eP	P	12 45 52.3	+0.3
HHC				AP	pP	12 46 02.8	-6.9
HHC				XP	sP	12 46 06.7	-10
HHC				SKS	SKS	12 56 07.5	+2.4
HHC				XS		12 56 25.5	
HHC				PS	PS	12 57 05.3	-4.2
HHC				SS	SS	13 01 36.5	-1.4
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
HHC				AMB	AMB		
	comp=Z,151nm,5.3s						
HHC				LR	LR		
	comp=N,116nm,19.0s						
HHC				LR	LR		
	comp=E,416nm,15.5s						
HHC				LR	LR		
	comp=Z,92nm,11.9s						
NVL	N'lazarevskaya	85.67	187	eP	P	12 46 01.0	-0.8
NVL				e*PP	pP	12 46 10.4	-9.1
NVL				e*SP	sP	12 46 14.7	-11
NVL				i		12 56 14.9	
NVL				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb4.0						
SNAA	Sanae	85.85	182	⇑iP	P	12 46 02.0	-0.6
SNAA	Sanae	85.85	182		P	12 46 06.7	+4.1
SNAA	Sanae	85.85	182		P	12 46 10.8	+8.2
SNAA	Sanae	85.85	182		P	12 46 18.7	+16
LZH	Lanzhou	85.90	312	eP	P	12 46 04.9	+1.2
LZH				PP	PP	12 49 28.0	+2.6
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,140nm,4.4s						
LZH				LR	LR		
	comp=E,290nm,16.5s						
LZH				LR	LR		
	comp=Z,476nm,17.8s						
VNA3	Neumayer Olymp	86.39	180	⇑iP	P	12 46 05.4	+0.1
VNA3	Neumayer Olymp	86.39	180		P	12 46 09.8	+4.5
VNA3	Neumayer Olymp	86.39	180		P	12 46 17.0	+12
VNA3	Neumayer Olymp	86.39	180		P	12 46 24.4	+19
SEY	Seymchan	86.47	352	eP	P	12 46 03.7	-2.1
VNA2	Neumayer--Watz	86.70	181	⇑iP	P	12 46 06.8	0.0
VNA2	Neumayer--Watz	86.70	181		P	12 46 09.7	+2.9
VNA2	Neumayer--Watz	86.70	181		P	12 46 17.7	+11
VNA2	Neumayer--Watz	86.70	181		P	12 46 23.7	+17
VNA1	Neumayer--Stat	86.98	180	⇑iP	P	12 46 09.0	+0.8
VNA1	Neumayer--Stat	86.98	180		P	12 46 13.7	+5.5
VNA1	Neumayer--Stat	86.98	180		P	12 46 19.3	+11
CLNS	Chul'man	87.97	337	eP	P	12 46 11.6	-1.6
CLNS				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
YBH	Yreka Blue Hor	88.87	43	P	P	12 46 18.5	+0.7
	comp=E,1.3nm,0.8s,mb4.3,baz=226,slow=8.5,SNR=3.9						
YBH				LR	LR	13 17 15.1	
	comp=E,138nm,21.1s,baz=230,slow=30						
ULN	Ulaanbaatar	90.30	323	⇑iP	P	12 46 22.2	-2.2
GTA	Gaotai	90.33	313	eP	P	12 46 26.1	+1.3
GTA				PP	PP	12 50 05.5	+3.7
GTA				PPP	PPP	12 52 06.8	+5.2
GTA				SKS	SKS	12 56 49.7	+1.1
GTA				S	S	12 57 16.2	+4.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.7						
GTA				AMB	AMB		
	comp=Z,112nm,7.6s						
GTA				LR	LR		
	comp=N,89nm,16.0s						
GTA				LR	LR		
	comp=E,52nm,14.4s						
GTA				LR	LR		
	comp=Z,86nm,12.2s						
SONM	Songino Array	90.65	323	P	P	12 46 26.2	+0.1
	comp=Z,7.7nm,1.0s,mb5.0,baz=136,slow=4.3,SNR=32						
LSA	Lhasa	92.34	301	eP	P	12 46 35.8	+1.4
ILAR	Eielson Array	93.08	17	LR	LR	13 24 14.9	
	comp=Z,112nm,19.3s,baz=346,slow=33						
ZAK	Zakamensk	93.75	324	eP	P	12 46 38.9	-1.3
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.7						
TXAR	Lajitas Array	97.29	61	LR	LR	13 22 35.2	
	comp=Z,150nm,18.0s,baz=260,slow=30						
PDAR	Pinedale Array	98.00	47	LR	LR	13 23 32.8	
	comp=Z,158nm,19.9s,baz=256,slow=31						
INK	Inuvik	99.35	18	LR	LR	13 25 36.2	
	comp=Z,142nm,20.9s,baz=330,slow=32						
WMQ	Urumqi	100.42	313	eP	P	12 47 12.5	+1.8
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,108nm,4.8s						
WMQ				LR	LR		
	comp=N,58nm,18.2s						
WMQ				LR	LR		
	comp=E,32nm,22.4s						
WMQ				LR	LR		
	comp=Z,78nm,21.0s						
ARU	Arti	120.68	323	ePKIKP	PKPdf	12 52 08.5	-5.4
ARCES	ARCESS Array B	128.64	345	PKP	PKPdf	12 52 28.8	-0.1
	comp=Z,3.4nm,0.9s,baz=72,slow=2.9,SNR=6.2						
OBN	Obninsk	132.98	326	ePKIKP	PKPdf	12 52 36.8	-0.7
OBN				pmax	pmax		
	comp=Z,2.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
MBAR	Mbarara	134.59	245	i PKIKP	PKPdf	12 52 37.4	-4.2
BRTR	Keskin Array B	139.82	305	PKP	PKPdf	12 52 52.7	+2.2
	comp=Z,1.4nm,1.1s,baz=117,slow=3.2,SNR=3.7						
OKC	Ostrava-Krasne	145.26	328	ePKP	PKPdf	12 53 00.6	+1.0
BSEG	Bad Segeberg	145.35	339	ePKHKP		12 52 59.9	
KSP	Ksiaz	145.44	331	ePKP	PKPdf	12 53 01.5	+1.7
KSP	Ksiaz	145.44	331	ePKHKP		12 53 01.3	
PSZ	Piszkesteto	145.57	324	⇓ePKP/F	PKPdf	12 53 02.2	+2.0
DPC	Dobruska-Polom	145.77	330	ePKP	PKPdf	12 53 02.3	+1.8
UPC	Upice	145.80	331	ePKP	PKPdf	12 53 02.2	+1.7
VRAC	Vranov	146.36	329	ePKPdf	PKPdf	12 53 04.2	+2.7
PVCC	Panska Ves	146.42	332	ePKP	PKPdf	12 53 03.7	+2.1
BRG	Berggiesshubel	146.43	333	eP	PKPdf	12 53 04.1	+2.5
CLL	Collm	146.49	334	⇑iPKIKP	PKPdf	12 53 03.4	+1.7
	comp=Z,logA/T=1.4						
CLL				i PKP1	PKPbc	12 53 05.3	+2.3
CLL				i		12 53 09.9	
CLL	Collm	146.49	334	i PKP	PKPdf	12 53 05.3	+3.6
CLL	Collm	146.49	334	⇑iPKHKP		12 53 03.4	
CLL				i		12 53 05.3	
CLL				pmax	pmax		
	comp=Z,23nm,1.0s						
CLL				pmax	pmax		
	comp=Z,20nm,1.0s						
PRU	Pruhonice	146.83	331	ePKP	PKPdf	12 53 04.9	+2.6
TREC	Trest	146.90	330	ePKP	PKPdf	12 53 05.3	+2.9
CLZ	Clausthal	147.06	337	ePKHKP		12 53 05.5	
MOX	Moxa	147.56	335	ePKP	PKPdf	12 53 06.9	+3.5
DIVS	Divcibare	147.68	319	⇑iPKP	PKPdf	12 53 08.1	+4.3
SKO	Skopje	147.80	314	i PKP	PKPdf	12 53 08.3	+4.2
KHC	Kasperske Hory	147.88	331	ePKP	PKPdf	12 53 08.2	+4.2
KHC	Kasperske Hory	147.88	331	⇓iPKHKP		12 53 07.5	
GEC2	GERESS Array S	148.04	331	ePKIKP	PKPdf	12 53 08.5	+4.2
GERES	GERESS Array B	148.04	331	PKPbc	PKPdf	12 53 08.5	+4.3
	comp=Z,4.5nm,0.9s,baz=45,slow=2.8,SNR=18						
GRF	Grafenberg Arr	148.46	334	ePKP	PKPdf	12 53 09.8	+4.9
GRF				ePKP	PKPdf	12 53 14.0	+9.1
MOA	Molln	148.49	329	⇑iP	PKPdf	12 53 09.3	+4.3
TNS	Taunus Mts	149.09	337	ePKHKP		12 53 11.0	
DCN	Croghan	149.28	357	eP	PKPdf	12 53 05.0	-1.1
DLF	Lyons Farm	149.29	357	eP	PKPdf	12 53 05.0	-1.1
TOD	Tromm	149.47	336	PKP	PKPdf	12 53 11.5	+5.0
KBA	Koelnbreinsper	149.48	329	⇑iP	PKPdf	12 53 11.5	+4.9
BOJS	Bojanci	149.57	325	ePKPbc	PKPdf	12 53 12.9	+6.1
VISS	Visnje	149.60	325	ePKPbc	PKPdf	12 53 16.4	+10
ABH	Alteburg	149.69	338	PKP	PKPdf	12 53 12.6	+5.7
VOY	Vojsko	149.93	327	ePKPbc	PKPdf	12 53 12.7	+5.3
VOY				e		12 53 16.2	
JAVS	Javornik	149.94	326	ePKPbc	PKPdf	12 53 16.7	+9.3
WTTA	Wattenberg	150.14	331	⇑iP	PKPdf	12 53 13.7	+6.0
MOTA	Moosalm	150.32	331	⇑iP	PKPdf	12 53 14.0	+6.0
LANF	Langenberg	150.35	337	PKP	PKPdf	12 53 14.6	+6.7
SQTA	Sankt Quirin	150.37	331	⇑iP	PKPdf	12 53 14.5	+6.5
GIVF	Givet	150.37	341	ePKP1	PKPdf	12 53 13.9	+6.0
	comp=Z,89nm,1.1s						
BAIF	Baives	150.59	342	ePKP1	PKPdf	12 53 14.6	+6.3
BFO	Black Forest	150.69	335	ePKIKP	PKPdf	12 53 14.7	+6.2
WLS	Welschbruch	150.99	337	PKP	PKPdf	12 53 15.4	+6.5
CDF	Champ du Feu	151.02	337	ePKP1	PKPdf	12 53 15.5	+6.5
	comp=Z,64nm,1.2s						
FELD	Feldberg	151.19	335	PKP	PKPdf	12 53 15.7	+6.5
ECH	Echery	151.23	337	PKP	PKPdf	12 53 15.7	+6.4
MOF	Molkenrain	151.54	336	PKP	PKPdf	12 53 16.3	+6.5
THEF	They Montfort	151.64	338	PKP	PKPdf	12 53 16.7	+6.8
HINF	Hinteralfeld	151.68	337	ePKP1	PKPdf	12 53 16.8	+6.8
HAU	Haudompre	151.70	337	ePKP1	PKPdf	12 53 17.0	+7.0
	comp=Z,36nm,0.9s						
HAU				eR			
	comp=Z,136nm,18.8s						
MEZF	Maizieres J'vi	151.71	339	ePKP1	PKPdf	12 53 17.4	+7.4
LOMF	Lomont	152.07	336	PKP	PKPdf	12 53 17.8	+7.2
TIP	Timpagrande	152.26	313	ePKPdf	PKPdf	12 53 16.4	+5.3
FLN	La Foliniere	152.96	347	ePKP1	PKPdf	12 53 18.5	+6.7
FLN				eR			
	comp=Z,105nm,19.5s						
CABF	La Chapelle	152.97	336	ePKP1	PKPdf	12 53 19.4	+7.6
LDF	La Druitiere	153.04	346	ePKP1	PKPdf	12 53 19.5	+7.6
LOR	Lormes	153.18	340	ePKP1	PKPdf	12 53 19.1	+7.0
	comp=Z,6.4nm,0.6s						
LOR				eR			
	comp=Z,123nm,20.2s						
GRR	Gorron	153.39	347	ePKP1	PKPdf	12 53 20.5	+8.1
SSF	Saint Saulge	153.48	340	ePKP1	PKPdf	12 53 21.0	+8.5
LPG	La Plagne	153.63	334	ePKP1	PKPdf	12 53 22.1	+9.3
SMF	Signal de Mont	153.74	339	ePKP1	PKPdf	12 53 21.3	+8.4
AVF	Avril sur Loir	153.76	340	ePKP1	PKPdf	12 53 21.3	+8.4
SGMF	Saint Gilles	153.84	350	ePKP1	PKPdf	12 53 21.1	+8.2
	comp=Z,47nm,1.1s						
ROSF	Rostrenen	153.87	351	ePKP1	PKPdf	12 53 22.1	+9.1
	comp=Z,70nm,1.4s						
TCF	Toulx Ste Croi	154.57	341	ePKP1	PKPdf	12 53 23.2	+9.2
SBF	Sospel	154.64	331	ePKP1	PKPdf	12 53 24.0	+10
PGF	Pioggiola	154.88	327	ePKP1	PKPdf	12 53 25.2	+11
LMR	La Mourre	155.47	331	ePKP1	PKPdf	12 53 25.5	+10
RJF	Les Rejaudoux	155.66	341	ePKP1	PKPdf	12 53 25.8	+10
RJF				eR			
	comp=Z,122nm,21.5s						
CAF	Calviac	155.84	340	ePKP1	PKPdf	12 53 26.1	+10

IDC ***12*** *12:38:14.7±2.7,32.31N×141.62E,mb3.4/2,mb1 3.6/4, mb1mx3.4/20,mbtmp3.5/4,ML3.4/2,Error ellipse: s-maj=72.7km s-min=20.5km az=58.0*

JMA ***12*** *12:38:18.3±0.6,32.55N×141.56E,h99km,M2.6*

ISC 12 12:38:14.8±1.3**,32.58N**±0.06×**142.0E**±0.1**,h41**km±21km**, n14,**σ_1s**42**/19**,mb3.4**/2**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.92	287	P	P	12 38 45.5	-0.1
JHJ	Hachijo jima 2	1.95	287	Pn	P	12 38 45.7	-0.3
	11nm,0.3s,baz=105,slow=17,SNR=17						
JHJ				Sn	S	12 39 10.4	+1.1
	27nm,0.3s,baz=243,slow=23,SNR=7.0						
BSO1	Boso 1	2.24	338	eS	S	12 39 19.0	+2.1
BSO3	Boso 3	2.55	331	P	P	12 38 57.6	+3.0
BSO4	Boso 4	2.78	331	eS	S	12 39 33.0	+2.4
JOD2	Odawara 2	3.62	319	P	P	12 39 10.8	+1.0
JOD2				eS	S	12 39 50.4	-1.4
JHU	Hanno	3.97	326	P	P	12 39 16.5	+1.7
JHU				eS	S	12 39 58.7	-2.1
JHO	Hitachi	4.20	344	P	P	12 39 17.9	-0.1
JHO				eS	S	12 40 04.7	-1.8
JAG	Ashikaga	4.38	332	P	P	12 39 20.4	-0.2
MJAR	Matsushiro Arr	5.05	323	Pn	P	12 39 29.5	-0.5
	0.8nm,0.3s,baz=149,slow=13,SNR=5.6						
MAT	Matsushiro	5.05	323	P	P	12 39 29.1	-0.9
MAT				eS	S	12 40 25.7	-2.2
CBIJ	Chichi jima	5.46	178	Pn	P	12 39 34.7	-1.1
	3.8nm,0.3s,baz=241,slow=18,SNR=3.9						
MKAR	Makanchi Array	47.01	306	P	P	12 46 47.6	+3.9
	0.4nm,0.7s,mb3.4,baz=97,slow=12,SNR=3.0						
WRA	Warramunga Arr	52.73	189	P	P	12 47 28.3	+0.4
	0.2nm,0.5s,mb3.4,baz=5.3,slow=7.7,SNR=5.4						

NIED ***12*** *12:45:00,37.20N×138.60E,h5km,Mw3.5 Best double couple: $M_0$1.96×10^{14} NP1:ϕ_s22°,δ69°,λ88°. NP2:ϕ_s207°, δ21°,λ94°.*

JMA 12 12:45:36.2±0.1**,37.24N**×**138.58E,h14**km±2km**,M3.1, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	Izumozaki	0.31	19	P	Pg	12 45 43.0	+0.1
JIZZ				eS	Sg	12 45 48.7	+1.4
JHK	Hiroka	0.35	89	P	Pg	12 45 42.9	-0.7
JHK				eS	Sg	12 45 48.1	-0.4
JJN	Nakama	0.36	248	P	Pg	12 45 43.5	-0.3
JJN				eS	Sg	12 45 49.6	+0.7
JGK	Kuni	0.68	176	P	Pb	12 45 49.1	-0.2
JGK				eS	Sb	12 45 58.6	+0.4
JKT	Katashina	0.71	131	P	Pb	12 45 49.2	-0.7
JKT				eS	Sb	12 45 59.0	-0.3
MAT	Matsushiro	0.76	203	P	Pb	12 45 49.9	-0.7
MAT				S	Sb	12 46 00.4	-0.1
MAT	Matsushiro	0.76	203	P	Pb	12 45 50.0	-0.6
JNS	Sasagawa	0.82	45	P	Pb	12 45 51.2	-0.6
JSD	Sado	0.83	342	P	Pb	12 45 51.3	-0.7
JSZ	Suzu	0.99	282	P	Pb	12 45 54.2	-0.4
JAG	Ashikaga	1.07	139	P	Pb	12 45 55.8	-0.2

MEX 12 13:09:04.0±0.6**,14.69N**×**93.35W,h35**km±999km**,MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.97	36	i P	P	13 09 33.5	-2.0
CCIG				i S	S	13 09 56.1	-3.2
SCX	San Cristobal	2.15	19	eP	P	13 09 36.5	-1.6
SCX				i S	S	13 10 01.0	-2.8
CMIG	Matias Romero	2.81	329	i P	P	13 09 45.2	-2.4
CMIG				i S	S	13 10 17.6	-3.0
OXX	Oaxaca	4.02	307	eP	P	13 10 00.0	-4.8

IDC 12 13:12:28.5±1.7**,22.58N**×**142.03E,h255**km±17km**,mb3.3**/5**, mb1 3.5**/6**,mb1mx3.2**/21**,mbtmp4.0**/6**,Error ellipse: s-maj=44.8km s-min=14.7km az=98.0,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.50	2	P	P	13 13 40.0	+1.1
	27nm,0.3s,baz=139,slow=6.6,SNR=46						
CBIJ				S	S	13 14 33.6	-0.3
	3.6nm,0.3s,baz=284,slow=22,SNR=3.4						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.92**	**191**	P	P	13 20 02.2	-1.8
	1.5nm,0.7s,baz=9.0,slow=7.9,SNR=30						
FITZ	**Fitzroy Crossi**	**43.49**	**203**	P	P	13 20 06.8	-1.8
	4.4nm,0.8s,baz=358,slow=6.2,SNR=11						
BVAR	**Borovoye Array**	**61.31**	**319**	P	P	13 22 17.6	-1.3
	0.4nm,0.3s,baz=86,slow=8.3,SNR=3.9						
ILAR	**Eielson Array**	**61.75**	**27**	P	P	13 22 19.9	-1.8
	0.4nm,0.6s,baz=260,slow=6.3,SNR=7.2						
FINES	**FINESS Array B**	**81.92**	**334**	P	P	13 24 18.9	-1.5
	0.6nm,0.4s,baz=72,slow=4.4,SNR=6.1						

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*NEIC **12** 13:19:05.8±1.0,20.87S×178.30W,h563km±13km,mb4.2/3, Error ellipse: s-maj=23.5km s-min=11.4km az=146.0*

*IDC **12** 13:19:05.2±1.8,20.85S×178.31W,h552km±23km,mb3.2/6, mb1 3.5/9,mb1mx3.4/16,mbtmp4.3/9,Error ellipse: s-maj=31.2km s-min=14.7km az=140.0*

ISC 12 13:19:05.2±1.1**,20.8S**±0.2×**178.4W**±0.2**,h563**km±19km**, n19,**σ0^{s}70/18**,mb3.9**/9**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.32**	**43**	P	**P**	**13 21 16.8**	**-0.3**
	5.7nm,0.3s,baz=209,slow=21,SNR=5.7						
AFI				S	**S**	**13 23 02.5**	**-0.2**
	18nm,0.3s,baz=344,slow=22,SNR=8.9						
AFI	**Afiamalu**	**9.32**	**43**	P	**P**	**13 21 16.8**	**-0.3**
AFI				S	**S**	**13 23 02.5**	**-0.2**
DZM	**Mont Dzumac**	**14.20**	**262**	P	**P**	**13 22 07.5**	**+1.4**
	0.2nm,0.3s,baz=102,slow=19,SNR=4.0						
URZ	**Urewera**	**17.80**	**192**	P	**P**	**13 22 40.7**	**-0.2**
	2.0nm,0.3s,baz=330,slow=3.0,SNR=13						
CTA	**Charters Tower**	**33.12**	**265**	*e*P	**P**	**13 24 56.7**	**0.0**
	4.4nm,1.0s,mb3.9						
CTAO	**Charters Tower**	**33.12**	**265**	*e*P	**P**	**13 24 57.4**	**+0.6**
	2.5nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**37.34**	**244**	P	**P**	**13 25 31.9**	**+0.4**
	1.5nm,0.6s,mb3.7,baz=30,slow=8.0,SNR=6.9						
STKA	**Stephens Creek**	**37.34**	**244**	*e*P	**P**	**13 25 32.3**	**+0.8**
WRAB	**Tennant Creek**	**44.21**	**262**	*e*P	**P**	**13 26 26.1**	**-0.5**
	7.6nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**44.22**	**262**	P	**P**	**13 26 25.7**	**-0.9**
	2.3nm,0.3s,mb4.1,baz=98,slow=7.4,SNR=157						
KAKA	**Kakadu**	**47.64**	**272**	*e*P	**P**	**13 27 10.2**	**+17**
	4.6nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.64**	**263**	P	**P**	**13 27 29.2**	**-0.3**
	3.4nm,0.3s,mb4.1,baz=49,slow=3.2,SNR=25						
MBWA	**Marble Bar**	**57.45**	**258**	*e*P	**P**	**13 28 01.9**	**-0.9**
MJAR	**Matsushiro Arr**	**70.27**	**324**	P	**P**	**13 29 23.6**	**-0.3**
	0.6nm,0.5s,mb3.4,baz=164,slow=6.4,SNR=4.8						
ILAR	**Eielson Array**	**88.71**	**13**	P	**P**	**13 30 59.8**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=217,slow=5.2,SNR=9.4						
PDAR	**Pinedale Array**	**89.44**	**43**	P	**P**	**13 31 04.8**	**+1.3**
	0.5nm,0.8s,mb3.4,baz=270,slow=1.5,SNR=4.4						
AKASG	**Malin Array Be**	**143.14**	**331**	PKP	PKPdf	13 37 33.8	-1.1
	3.0nm,0.5s,baz=40,slow=4.1,SNR=11						
BRTR	**Keskin Array B**	**146.81**	**312**	PKPbc	PKPbc	13 37 45.8	+2.1
	0.9nm,0.6s,baz=124,slow=4.5,SNR=5.1						
CLL	**Collm**	**148.31**	**346**	*i* PKP1	PKPdf	13 37 49.6	+6.1

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*IDC **12** 13:34:47.3±0.9,9.56S×116.00E,mb4.2/8,mb1 4.4/9, mb1mx4.2/17,mbtmp4.3/9,ML4.8/1,MS3.3/1,Ms1 3.3/1, ms1mx2.9/27,Error ellipse: s-maj=53.1km s-min=16.2km az=56.0*

*NEIC **12** 13:34:52.0±0.6,9.56S×116.10E,h30km,mb4.6/4,Error ellipse: s-maj=21.6km s-min=9.9km az=54.0*

ISC 12 13:34:50.7±0.6**,9.37S**±0.10×**116.4E**±0.1**,h33**km**,n29,** σ**1^{s}09**/35**,mb4.3**/9**,MS3.2**/1**,1D,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**12.16**	**165**	*e*Pn	**P**	**13 37 36.5**	**-8.0**
	30nm,0.5s						
MBWA				*e*Sn	**S**	**13 39 40.7**	**-19**
FITZ	**Fitzroy Crossi**	**12.50**	**135**	*e*P	**P**	**13 37 46.1**	**-3.1**
	21nm,0.6s						
FITZ				*e*S	**S**	**13 39 56.3**	**-12**
FITZ	**Fitzroy Crossi**	**12.50**	**135**	Pn	**P**	**13 37 46.3**	**-2.8**
	4.0nm,0.3s,baz=335,slow=7.9,SNR=48						
FITZ				Sn	**S**	**13 39 55.0**	**-13**
	9.4nm,0.3s,baz=192,slow=22,SNR=17						
WRA	**Warramunga Arr**	**20.29**	**123**	P	**P**	**13 39 27.2**	**+0.7**
	12nm,0.8s,baz=295,slow=12,SNR=87						
WRA				S	**S**	**13 43 05.2**	**-2.1**
	1.7nm,0.7s,baz=299,slow=24,SNR=5.3						
WRAB	**Tennant Creek**	**20.30**	**123**	*e*P	**P**	**13 39 27.6**	**+1.0**
	19nm,0.9s						
WRAB				*e*S	**S**	**13 43 07.6**	**+0.3**
KLBR	**Kellerberrin**	**22.15**	**177**	*e*P	**P**	**13 39 49.2**	**+4.0**
	125nm,1.8s,mb5.0						
KLBR				*e*S	**S**	**13 43 30.6**	**-12**
NWAO	**Narrogin (SRO)**	**23.45**	**178**	LR	LR	13 48 28.9	
	comp=Z,78nm,19.6s,MS3.2,baz=123,slow=35						
NWAO	**Narrogin (SRO)**	**23.45**	**178**	*e*P	**P**	**13 39 57.4**	**-0.7**
NWAO				*e*S	**S**	**13 44 07.5**	**+1.8**
FORT	**Forrest**	**23.93**	**155**	*e*P	**P**	**13 40 02.3**	**-0.4**
	13nm,0.6s,mb4.5						
CTA	**Charters Tower**	**30.75**	**114**	P	**P**	**13 41 07.5**	**+2.1**
	2.2nm,0.5s,mb4.2,baz=262,slow=11,SNR=3.6						
CTAO	**Charters Tower**	**30.75**	**114**	*e*P	**P**	**13 41 07.1**	**+1.7**
	3.5nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**32.38**	**137**	⇓*i*P	**P**	**13 41 19.5**	**-0.2**
	5.3nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**32.38**	**137**	P	**P**	**13 41 19.8**	**+0.1**
	9.1nm,0.8s,mb4.7,baz=318,slow=8.0,SNR=23						
STKA	**Stephens Creek**	**32.38**	**137**	*e*P	**P**	**13 41 19.8**	**+0.1**
SONM	**Songino Array**	**57.64**	**352**	P	**P**	**13 44 40.0**	**0.0**
	0.8nm,0.5s,mb4.0,baz=172,slow=8.7,SNR=8.7						
MKAR	**Makanchi Array**	**63.64**	**335**	P	**P**	**13 45 20.3**	**-0.6**
	1.2nm,0.5s,mb4.2,baz=154,slow=6.4,SNR=9.6						
ZAL	**Zalesovo**	**68.49**	**341**	P	**P**	**13 45 51.3**	**-0.4**
	0.9nm,0.5s,mb4.1,baz=143,slow=4.6,SNR=3.3						
VNDA	**Vanda**	**72.04**	**171**	P	**P**	**13 46 12.1**	**-0.7**
	1.8nm,0.8s,mb4.0,baz=306,slow=5.3,SNR=12						
BVAR	**Borovoye Array**	**73.42**	**333**	P	**P**	**13 46 21.4**	**0.0**
	1.4nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=8.3						
SNAA	**Sanae**	**89.94**	**196**		**P**	**13 47 47.7**	**+0.3**
SNAA	**Sanae**	**89.94**	**196**		**P**	**13 47 51.1**	**+3.7**
SNAA	**Sanae**	**89.94**	**196**		**P**	**13 48 02.9**	**+15**
SNAA	**Sanae**	**89.94**	**196**		**P**	**13 48 05.4**	**+18**
VNA2	**Neumayer--Watz**	**91.58**	**196**		**P**	**13 47 47.0**	**-8.1**
VNA2	**Neumayer--Watz**	**91.58**	**196**		**P**	**13 47 56.2**	**+1.1**
VNA2	**Neumayer--Watz**	**91.58**	**196**		**P**	**13 48 05.1**	**+10**
VNA3	**Neumayer Olymp**	**91.99**	**195**		**P**	**13 47 50.7**	**-6.3**
VNA3	**Neumayer Olymp**	**91.99**	**195**		**P**	**13 47 58.5**	**+1.5**
VNA3	**Neumayer Olymp**	**91.99**	**195**		**P**	**13 48 07.4**	**+10**

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*NEIC **12** 13:35:42.9,36.21N×139.01E,h126km,MG3.7(JMA), After JMA.*

*JMA **12** 13:35:42.8±0.1,36.20N×139.01E,h126km±1km,M3.7 Broadband fault plane solution: P waves. NP1:ϕ_s236°, δ32°,λ-133°. NP2:ϕ_s103°,δ67°,λ-67°. Principal axes: T Plg19°, Azm176°; N Plg21°, Azm274°; P Plg61°, Azm47°;*

JMA Felt II J1.

*IDC **12** 13:35:42.7±0.6,36.28N×138.82E,h131km±5km,mb3.6/8, mb1 3.7/11,mb1mx3.6/24,mbtmp4.0/11,MS2.7/1, Ms1 2.7/1,ms1mx2.4/39 Error ellipse: s-maj=20.2km s-min=9.6km az=72.0*

ISC 12 13:35:41.9±0.4**,36.25N**±0.04×**139.00E**±0.07**,h126**km**,n27,** σ**1^{s}23**/37**,mb3.9**/8**,3C-5D,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.24**	**199**	⇓P	**P**	**13 36 00.6**	**+1.2**
JRY				S	**S**	**13 36 13.8**	**+1.0**
JAG	**Ashikaga**	**0.41**	**64**	⇓P	**P**	**13 36 01.3**	**+1.1**
JAG				S	**S**	**13 36 14.7**	**+0.7**
JKT	**Katashina**	**0.56**	**21**	⇑P	**P**	**13 36 02.4**	**+1.4**
JKT				S	**S**	**13 36 17.1**	**+1.5**
MJAR	**Matsushiro Arr**	**0.70**	**295**	P	**P**	**13 36 02.6**	**+0.6**
	124nm,0.3s,baz=137,slow=5.7,SNR=1090						
MJAR				S	**S**	**13 36 18.3**	**+0.9**
	92nm,0.3s,baz=297,slow=39,SNR=35						
MAJO	**Matsushiro**	**0.70**	**295**	*e*Pn	**P**	**13 36 02.6**	**+0.6**
MAJO				*e*Sn	**S**	**13 36 17.9**	**+0.6**
MAT	**Matsushiro**	**0.70**	**295**	P	**P**	**13 36 02.9**	**+0.9**
MAT				S	**S**	**13 36 17.8**	**+0.4**
MAT	**Matsushiro**	**0.70**	**295**	P	**P**	**13 36 02.9**	**+0.9**
MAT				S	**S**	**13 36 18.3**	**+0.9**
MAT	**Matsushiro**	**0.70**	**295**	*e*P	**P**	**13 36 03.0**	**+1.0**
MAT				*e*S	**S**	**13 36 18.0**	**+0.6**
JYN	**Shimob**	**0.83**	**206**	⇓P	**P**	**13 36 03.6**	**+0.5**
JOD2	**Odawara 2**	**0.98**	**176**	⇓P	**P**	**13 36 04.5**	**-0.1**
JOD2				S	**S**	**13 36 21.1**	**-0.5**
JIM2	**Oshima 3**	**1.56**	**167**	P	**P**	**13 36 10.9**	**0.0**
JNS	**Sasagawa**	**1.59**	**9**	⇑P	**P**	**13 36 12.4**	**+1.2**
JSZ	**Suzu**	**1.78**	**313**	P	**P**	**13 36 13.7**	**+0.3**
JSD	**Sado**	**1.88**	**342**	⇑P	**P**	**13 36 15.4**	**+0.7**
JGM	**Miyama**	**1.93**	**254**	⇓P	**P**	**13 36 15.7**	**+0.5**
JHJ	**Hachijo jima 2**	**3.19**	**168**	P	**P**	**13 36 31.4**	**-0.3**
	130nm,0.3s,baz=349,slow=5.4,SNR=29						
JHJ				S	**S**	**13 37 12.8**	**+3.1**
	48nm,0.3s,baz=52,slow=19,SNR=7.0						
JNU	**Nakatsue**	**7.38**	**247**	P	**P**	**13 37 26.1**	**-2.1**
	0.3nm,0.3s,baz=77,slow=19,SNR=4.6						
ASAJ	**Asahikawa**	**8.33**	**18**	P	**P**	**13 37 39.4**	**-1.6**
	2.0nm,0.3s,baz=244,slow=10,SNR=24						
ASAJ				LR	LR	13 40 26.3	
	comp=Z,52nm,21.2s,baz=117,slow=34						
MKAR	**Makanchi Array**	**42.90**	**302**	P	**P**	**13 43 27.6**	**-1.7**
	0.4nm,0.6s,mb3.4,baz=80,slow=8.8,SNR=2.9						
ILAR	**Eielson Array**	**51.20**	**32**	P	**P**	**13 44 32.5**	**-1.4**
	1.1nm,0.6s,mb4.0,baz=274,slow=4.9,SNR=19						
INK	**Inuvik**	**55.97**	**27**	P	**P**	**13 45 07.7**	**-1.2**
	1.8nm,0.7s,mb4.2,baz=254,slow=6.9,SNR=4.8						
INK	**Inuvik**	**55.97**	**27**	P	**P**	**13 45 07.7**	**-1.2**
WRA	**Warramunga Arr**	**56.05**	**185**	P	**P**	**13 45 07.0**	**-3.1**
	0.9nm,0.3s,mb4.2,baz=0.1,slow=7.5,SNR=5.5						
ARCES	**ARCESS Array B**	**64.04**	**339**	P	**P**	**13 46 01.1**	**-2.7**
	3.1nm,0.9s,mb4.2,baz=66,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**68.59**	**332**	P	**P**	**13 46 30.4**	**-2.2**
	1.9nm,0.7s,mb4.1,baz=45,slow=5.9,SNR=4.3						
AKASG	**Malin Array Be**	**73.72**	**321**	P	**P**	**13 47 01.4**	**-2.0**
	0.6nm,0.4s,mb3.6,baz=49,slow=5.8,SNR=4.8						
PDAR	**Pinedale Array**	**79.60**	**44**	P	**P**	**13 47 35.8**	**-0.5**
	0.3nm,0.5s,mb3.4,slow=1.5,SNR=3.8						

IDC 12 13:42:40.6±3.2**,53.34N**×**34.75W,mb3.7**/4**,mb1 3.8**/4**, mb1mx3.5**/24**,mbtmp3.7**/4**,MS3.8**/2**,Ms1 3.8**/2**, ms1mx3.1**/32**,Error ellipse: s-maj=124.0km s-min=30.1km az=176.0,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**39.17**	**76**	LR	LR	14 05 00.3	
	comp=Z,87nm,18.8s,baz=224,slow=34						
BRTR	**Keskin Array B**	**47.18**	**78**	P	P	13 51 14.7	-1.7
	0.6nm,0.7s,baz=304,slow=5.2,SNR=4.2						
PDAR	**Pinedale Array**	**48.92**	**289**	P	P	13 51 28.2	-1.7
	0.1nm,0.4s,baz=69,slow=7.7,SNR=2.6						
BVAR	**Borovoye Array**	**57.10**	**44**	P	P	13 52 27.9	-2.7
	0.8nm,0.5s,baz=315,slow=6.3,SNR=5.1						
MKAR	**Makanchi Array**	**66.78**	**42**	P	P	13 53 33.8	-1.7
	0.8nm,0.5s,baz=324,slow=4.7,SNR=5.6						
CPUP	**Villa Florida**	**81.73**	**200**	LR	LR	14 26 45.7	
	comp=Z,76nm,21.0s,baz=251,slow=32						
WRA	**Warramunga Arr**	**145.61**	**18**	PKPbc	PKPbc	14 02 26.3	+5.1
	0.5nm,0.7s,baz=342,slow=3.4,SNR=5.1						

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*NEIC **12** 13:47:14.6,28.00S×67.52W,h150km,mb3.9/2,After GUC.*

GUC 12 13:47:14.6±0.7**,28.00S**×**67.52W,h150**km**,ML5.1,1C,La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.59**	**284**	*e*P	P	13 47 57.8	+0.3
CPCH				*i* S	S	13 48 30.0	-0.2
CPCH				AMP		13 48 34.6	
	comp=E,9μm,0.1s						
CPCH				AMP		13 48 37.4	
VACH	**Vallenar**	**2.91**	**258**	*i* P	P	13 48 01.6	+0.1
VACH				*i* S	S	13 48 37.1	-0.3
VACH				AMP		13 48 40.0	
	comp=E,6μm,0.1s						
LSCH	**La Serena**	**3.77**	**239**	*i* S	S	13 48 56.4	-1.0
LSCH				AMP		13 48 57.6	
	comp=E,840nm,0.5s						
CPN1	**Cerro Paranal**	**4.24**	**322**	*e*P	P	13 48 19.7	+0.8
CPN1				*i* S	S	13 49 08.6	+0.2
CPN1				AMP		13 49 10.2	
	comp=E,399nm,0.3s						
CMCH	**Combarbala**	**4.38**	**223**	⇑*i*P	P	13 48 20.7	0.0
CMCH				*i* S	S	13 49 11.3	-0.2
CMCH				AMP		13 49 14.2	
	comp=N,1μm,1.0s						
CHNG	**Los Chungos**	**5.18**	**221**	*i* S	S	13 49 29.5	-1.1
CHNG				AMP		13 49 39.7	
	comp=E,147nm,0.5s						
LVC	**Limon Verde**	**5.51**	**347**	*e*Pn	P	13 48 37.2	+1.6
	comp=E,5.6nm,0.4s						
LVC				*e*Sn	S	13 49 35.9	-2.6
CPUP	**Villa Florida**	**9.23**	**82**	*e*Pn	P	13 49 22.4	-2.9
TRQA	**Tornquist**	**11.05**	**157**	*e*Pn	P	13 49 50.5	+1.3
SAML	**Samuel**	**19.39**	**13**	P	P	13 51 27.7	-3.5
	comp=E,2.1nm,0.7s						

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*BJI **12** 13:57:48.2,22.40S×176.10W,h30km,mB5.3,mb5.0, Ms4.9,Msz4.7*

*NEIC **12** 13:57:50.2±0.2,22.39S×176.12W,h35km,mb5.0/31, Error ellipse: s-maj=10.1km s-min=5.8km az=133.0*

*HRVD **12** 13:57:50.2±0.5,22.64S×175.48W,h75km±3km,MW5.0/52, Centroid moment Tensor Solution. LP body waves: s29,c41;Mantle waves: s52,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.27±.20; $M_{\theta\theta}$0.09±.19; $M_{\phi\phi}$-2.35±.16; $M_{r\theta}$1.15±.11; $M_{\theta\phi}$-1.91±.15; $M_{\phi r}$0.88±.12; Best double couple: $M_0$3.23×10^{16} NP1:ϕ_s187°,δ36°,λ57°. NP2:ϕ_s46°,δ60°,λ111°. Principal axes: T 2.765, Plg67°, Azm358°; N .938, Plg19°, Azm215°; P -3.695, Plg13°, Azm120°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **12** 13:57:51.3±3.2,22.26S×176.17W,h33km,mb5.2/20 Error ellipse: s-maj=12.9km s-min=8.6km az=66.4*

*IDC **12** 13:57:56.8±2.0,22.51S×176.13W,h93km±17km,mb4.5/21, mb1 4.7/22,mb1mx4.6/25,mbtmp4.9/22,MS3.9/12, Ms1 3.9/12,ms1mx3.9/18,Error ellipse: s-maj=13.5km s-min=9.5km az=127.0*

ISC 12 13:57:51.3±0.2**,22.43S**±0.04×**176.20W**±0.06**,h57**km**, h57**km±1.9km**:pP-P,n255,**σ**1^{s}00**/142**,mb4.9**/54**,MS4.2**/20**, 17C-8D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.97**	**192**	P	**P**	**13 59 35.0**	**+1.9**
	88nm,0.3s,baz=88,slow=21,SNR=3.0						
RAO				S	**S**	**14 00 51.7**	**0.0**
	196nm,0.3s,baz=59,slow=23,SNR=8.7						
RAO	**Raoul Island**	**6.97**	**192**	P	**P**	**13 59 35.1**	**+2.0**
RAO				S	**S**	**14 00 51.8**	**0.0**
AFI	**Afiamalu**	**9.45**	**27**	P	**P**	**14 00 01.9**	**-5.4**
	14nm,0.3s,baz=7.9,slow=4.3,SNR=10						
AFI				S	**S**	**14 01 42.3**	**-11**
	21nm,0.3s,baz=66,slow=23,SNR=3.8						
AFI	**Afiamalu**	**9.45**	**27**	*e*Pn	**P**	**14 00 01.4**	**-6.0**
	57nm,0.4s						
AFI				*e*Sn	**S**	**14 01 41.4**	**-12**
AFI	**Afiamalu**	**9.45**	**27**	*e*P	**P**	**14 00 01.4**	**-5.9**
AFI				*e*		14 01 41.4	
AFI				pmax	pmax		
	comp=Z,57nm,0.4s						
DZM	**Mont Dzumac**	**16.08**	**268**	*e*P	**P**	**14 01 41.9**	**+6.8**
DZM	**Mont Dzumac**	**16.08**	**268**	P	**P**	**14 01 44.1**	**+8.9**
	comp=Z,0.9nm,0.3s,baz=82,slow=18,SNR=38						
DZM	**Mont Dzumac**	**16.08**	**268**	*e*P	**P**	**14 01 41.9**	**+6.8**
PUZ	**Puketiti**	**16.31**	**196**	SN	**S**	**14 04 18.7**	**-18**
URZ	**Urewera**	**16.80**	**199**	P	**P**	**14 01 43.2**	**-0.8**
	comp=Z,3.2nm,0.3s,baz=26,slow=2.7,SNR=26						
URZ				S	**S**	**14 04 39.1**	**-8.6**
	comp=Z,2.8nm,0.3s,baz=317,slow=23,SNR=7.0						
BKZ	**Black Stump Fm**	**17.82**	**199**	*e*PN	**P**	**14 01 52.1**	**-4.7**
MRZ	**Mangatainoka R**	**19.47**	**199**	SN	**S**	**14 05 29.1**	**-18**
SNZO	**South Karori**	**20.33**	**200**	*e*P	**P**	**14 02 29.2**	**+4.0**
	comp=Z,42nm,0.8s						
QRZ	**Quartz Range**	**20.67**	**205**	*e*PN	**P**	**14 02 24.5**	**-4.2**
THZ	**Tophouse**	**21.34**	**203**	*e*PN	**P**	**14 02 32.2**	**-3.3**
THZ				SN	**S**	**14 06 16.3**	**-7.8**
RPZ	**Rata Peaks**	**23.71**	**203**	P	**P**	**14 02 58.9**	**+0.2**
	comp=Z,12nm,0.5s,mb4.5,baz=338,slow=4.3,SNR=18						
RPZ				S	**S**	**14 07 07.3**	**+0.7**
	comp=Z,6.9nm,0.6s,baz=24,slow=18,SNR=5.1						
FOZ	**Fox Glacier**	**24.11**	**206**	*e*PN	**P**	**14 02 59.5**	**-3.1**
PPT	**Papeete**	**25.46**	**84**	LR	LR	14 10 40.4	
	comp=Z,336nm,20.6s,MS3.9,baz=279,slow=30						
ARMA	**Armidale**	**29.82**	**248**	*e*P	**P**	**14 03 56.1**	**+0.9**
CTA	**Charters Tower**	**35.01**	**267**	⇑*i*P	**P**	**14 04 41.4**	**+0.9**
	comp=Z,24nm,0.7s,mb5.2						
CTA	**Charters Tower**	**35.01**	**267**	P	**P**	**14 04 41.3**	**+0.8**
	comp=Z,35nm,0.8s,mb5.3,baz=98,slow=10,SNR=53						
CTA				LR	LR	14 16 44.5	
	comp=Z,140nm,21.3s,MS3.7,baz=91,slow=32						
CTA	**Charters Tower**	**35.01**	**267**	⇑*i*P	**P**	**14 04 41.4**	**+0.9**
CTA				pmax	pmax		
	comp=Z,24nm,0.7s						
CTAO	**Charters Tower**	**35.01**	**267**	*e*P	**P**	**14 04 41.4**	**+0.9**
	comp=Z,32nm,0.8s,mb5.3						
CTAO	**Charters Tower**	**35.01**	**267**	*e*P	**P**	**14 04 41.4**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.3						
TAU	**Tasmania Unive**	**36.50**	**227**	*e*P	**P**	**14 04 53.7**	**+0.8**
PMG	**Port Moresby**	**37.43**	**284**	P	**P**	**14 05 02.3**	**+1.4**
	comp=Z,77nm,1.0s,mb5.5,baz=110,slow=4.8,SNR=20						
PMG				LR	LR	14 18 49.6	
	comp=Z,168nm,18.3s,MS3.9,baz=127,slow=33						
PMG	**Port Moresby**	**37.43**	**284**	*e*P	**P**	**14 05 02.1**	**+1.1**
	comp=Z,86nm,1.0s,mb5.5						
PMG	**Port Moresby**	**37.43**	**284**	⇓*i*P	**P**	**14 05 01.7**	**+0.8**
STKA	**Stephens Creek**	**38.52**	**247**	*e*P	**P**	**14 05 09.6**	**-0.3**
	comp=Z,5.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**38.52**	**247**	P	**P**	**14 05 10.1**	**+0.2**
	comp=Z,7.3nm,0.8s,mb4.5,baz=85,slow=9.1,SNR=13						
STKA				LR	LR	14 19 06.1	
	comp=Z,205nm,21.0s,MS3.9,baz=34,slow=33						
WRAB	**Tennant Creek**	**46.02**	**263**	⇑*i*P	**P**	**14 06 11.6**	**+0.4**
WRA	**Warramunga Arr**	**46.02**	**263**	P	**P**	**14 06 10.8**	**-0.5**
	comp=Z,15nm,0.8s,mb4.9,baz=100,slow=8.1,SNR=55						
WRA				PcP	PcP	14 07 47.3	-0.2
	comp=Z,4.2nm,0.9s,baz=96,slow=3.8,SNR=6.1						
WRA				S	**S**	**14 12 51.1**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=105,slow=14,SNR=2.9						
KAKA	**Kakadu**	**49.71**	**272**	*e*P	**P**	**14 06 57.5**	**+17**
	comp=Z,7.3nm,0.6s,mb4.9						
FORT	**Forrest**	**50.10**	**248**	*e*P	**P**	**14 06 40.7**	**-2.2**
	comp=Z,45nm,0.7s,mb5.6						
GUMO	**Guam**	**52.32**	**309**	LR	LR	14 26 10.8	
	comp=Z,124nm,18.8s,MS4.0,baz=90,slow=32						
FITZ	**Fitzroy Crossi**	**54.45**	**263**	*e*P	**P**	**14 07 14.4**	**-1.1**
	comp=Z,14nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**54.45**	**263**	P	**P**	**14 07 16.2**	**+0.7**
	comp=Z,24nm,0.8s,mb5.1,baz=125,slow=3.7,SNR=17						
SBA	**Scott Base**	**56.08**	**184**	*e*P	**P**	**14 07 27.5**	**+1.0**
	comp=Z,11nm,0.8s,mb5.0						
SBA	**Scott Base**	**56.08**	**184**	*e*P	**P**	**14 07 27.5**	**+1.0**
SBA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
VNDA	**Vanda**	**56.16**	**186**	P	**P**	**14 07 27.1**	**0.0**
	comp=Z,4.7nm,0.9s,mb4.5,baz=2.0,slow=7.2,SNR=30						
VNDA				LR	LR	14 26 09.0	
	comp=Z,47nm,18.4s,MS3.6,baz=336,slow=30						
VNDA	**Vanda**	**56.16**	**186**	*e*P	**P**	**14 07 27.3**	**+0.2**
	comp=Z,6.5nm,1.0s,mb4.6						
VNDA	**Vanda**	**56.16**	**186**	*e*P	**P**	**14 07 27.3**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KLBR	**Kellerberrin**	**58.78**	**246**	*e*P	**P**	**14 07 44.4**	**-1.7**
	comp=Z,83nm,1.9s,mb5.4						
NWAO	**Narrogin (SRO)**	**59.03**	**244**	*e*P	**P**	**14 07 48.7**	**+0.9**
	comp=Z,14nm,1.0s,mb5.0						
NWAO	**Narrogin (SRO)**	**59.03**	**244**	*e*P	**P**	**14 07 48.7**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,14nm,1.0s						
MBWA	**Marble Bar**	**59.09**	**258**	*e*P	**P**	**14 07 47.5**	**-0.9**
	comp=Z,22nm,0.8s,mb5.2						
CASY	**Casey**	**62.96**	**206**	⇑*i*P	**P**	**14 08 12.9**	**-1.1**
JHJ	**Hachijo jima 2**	**69.38**	**321**	P	**P**	**14 08 55.4**	**+0.1**
	comp=Z,78nm,0.8s,mb5.7,baz=206,slow=11,SNR=4.7						
MIR	**Mirnyy**	**69.97**	**205**	*d i*P	**P**	**14 08 59.0**	**+0.7**
MIR				pmax	pmax		
	comp=Z,49nm,1.8s,mb5.1						
MJAR	**Matsushiro Arr**	**72.75**	**323**	P	**P**	**14 09 14.7**	**-0.7**
	comp=Z,7.8nm,0.8s,mb4.7,baz=157,slow=5.8,SNR=21						
MAJO	**Matsushiro**	**72.75**	**323**	*e*P	**P**	**14 09 15.0**	**-0.5**
	comp=Z,6.7nm,0.8s,mb4.6						
MAJO				*e*	pP	14 09 31.7	+0.4
MAJO	**Matsushiro**	**72.75**	**323**	*e*P	**P**	**14 09 15.0**	**-0.5**
MAJO				*e*	pP	14 09 31.7	+0.4
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
MAT	**Matsushiro**	**72.75**	**323**	P	**P**	**14 09 14.4**	**-1.1**
MAT	**Matsushiro**	**72.75**	**323**	*e*P	**P**	**14 09 14.0**	**-1.5**
JNU	**Nakatsue**	**74.82**	**316**	P	**P**	**14 09 26.1**	**-1.4**
	comp=Z,6.6nm,0.9s,mb4.5,baz=108,slow=11,SNR=5.4						
ASAJ	**Asahikawa**	**76.22**	**331**	LR	LR	14 36 24.7	
	comp=Z,89nm,21.3s,MS4.0,baz=133,slow=30						
YSS	**Yuzh-Sakhalins**	**78.36**	**333**	⇑*e*P	**P**	**14 09 47.3**	**+0.1**
YSS				pmax	pmax		
	comp=Z,63nm,1.4s,mb5.3						
YSS				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.2						
ISA	**Isabella**	**79.50**	**44**	*e*P	**P**	**14 09 53.7**	**0.0**
	comp=Z,10nm,1.6s,mb4.5						
ISA	**Isabella**	**79.50**	**44**	*e*P	**P**	**14 09 53.7**	**0.0**
ISA				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.5						
CMB	**Columbia Colle**	**79.76**	**42**	*e*P	**P**	**14 09 55.0**	**0.0**
	comp=Z,9.5nm,1.0s,mb4.7						
CMB	**Columbia Colle**	**79.76**	**42**	*e*P	**P**	**14 09 55.0**	**0.0**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
WDC	**Whiskeytown Da**	**80.10**	**39**	*e*P	**P**	**14 09 54.9**	**-1.9**
	comp=Z,12nm,1.0s,mb4.8						
WDC	**Whiskeytown Da**	**80.10**	**39**	*e*P	**P**	**14 09 54.9**	**-1.9**
WDC				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
SSE	**Sheshan**	**80.20**	**309**	P	**P**	**14 09 55.6**	**-1.9**
SSE				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,133nm,4.1s						
SSE				LR	LR		
	comp=N,46nm,20.0s,MS4.0						
SSE				LR	LR		
	comp=E,63nm,20.0s,MS4.0						
SSE				LR	LR		
	comp=Z,114nm,20.0s,MS4.2						
MAW	**Mawson**	**80.32**	**199**	*e*P	**P**	**14 09 57.4**	**0.0**
	comp=Z,13nm,0.6s,mb5.0						
MAW	**Mawson**	**80.32**	**199**	P	**P**	**14 09 57.8**	**+0.4**
	comp=Z,18nm,0.7s,mb5.1,baz=117,slow=7.6,SNR=14						
MAW				LR	LR	14 42 35.6	
	comp=Z,102nm,22.0s,MS4.1,baz=145,slow=33						
MAW	**Mawson**	**80.32**	**199**	*e*P	**P**	**14 09 57.4**	**0.0**
MAW				pmax	pmax		
	comp=Z,13nm,0.6s						
MTUM	**Tungsten Hills**	**80.47**	**43**	*e*P	**P**	**14 09 59.5**	**+0.7**
YBH	**Yreka Blue Hor**	**80.76**	**38**	P	**P**	**14 10 00.7**	**+0.4**
	comp=Z,9.2nm,0.8s,mb4.8,baz=188,slow=1.6,SNR=33						
YBH	**Yreka Blue Hor**	**80.76**	**38**	*e*P	**P**	**14 10 00.8**	**+0.6**
	comp=Z,12nm,0.9s,mb4.8						
YBH	**Yreka Blue Hor**	**80.76**	**38**	*e*P	**P**	**14 10 00.8**	**+0.5**
YBH				pmax	pmax		
	comp=Z,12nm,0.9s						
HUMO	**Hull Mountain**	**81.20**	**37**	*e*P	**P**	**14 10 03.1**	**+0.6**
	comp=Z,13nm,1.0s,mb4.8						
NVAR	**Mina Array Bea**	**81.29**	**42**	P	**P**	**14 10 03.0**	**-0.1**
	comp=Z,5.1nm,0.9s,mb4.4,baz=208,slow=7.2,SNR=22						
USHA	**Ushuaia**	**81.60**	**146**	P	**P**	**14 10 03.7**	**-0.7**
	comp=Z,6.5nm,0.8s,mb4.6,baz=207,slow=6.8,SNR=2.8						
TPH	**Tonopah**	**81.75**	**43**	*e*P	**P**	**14 10 06.0**	**+0.5**
NEN	**Nelson**	**81.88**	**46**	*e*P	**P**	**14 10 06.3**	**+0.1**
MOD	**Modoc**	**82.25**	**39**	*e*P	**P**	**14 10 08.1**	**+0.2**
	comp=Z,7.2nm,0.8s,mb4.7						
NJ2	**Nanjing**	**82.39**	**309**	*e*P	**P**	**14 10 10.6**	**+1.7**
NJ2				AP	pP	14 10 20.1	-4.9
NJ2				XP	sP	14 10 24.2	-7.0
NJ2				PP	PP	14 13 20.0	-0.1
NJ2				PPP	PPP	14 15 13.0	+0.1
NJ2				S	S	14 20 23.0	+3.9
NJ2				XS		14 20 39.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,120nm,5.0s						
NJ2				LR	LR		
	comp=N,390nm,28.7s,MS5.0						
NJ2				LR	LR		
	comp=E,970nm,27.6s,MS5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NJ2				LR	LR		
	comp=Z,990nm,28.0s,MS5.0						
MDJ	Mudanjiang	83.05	324	P	P	14 10 13.9	+1.9
MDJ				AP	pP	14 10 23.4	-4.7
MDJ				XP	sP	14 10 27.2	-7.1
MDJ				PP	PP	14 13 24.9	-0.2
MDJ				S	S	14 20 33.4	+7.9
MDJ				XS		14 20 48.4	
MDJ				AMB	AMB		
	comp=Z,12nm,0.8s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,46nm,3.1s						
MDJ				LR	LR		
	comp=N,45nm,22.6s,MS3.8						
MDJ				LR	LR		
	comp=E,31nm,27.1s,MS3.8						
MDJ				LR	LR		
	comp=Z,71nm,26.3s,MS3.9						
WVOR	Wild Horse Val	83.54	39	eP	P	14 10 14.8	+0.3
	comp=Z,21nm,1.0s,mb5.2						
WVOR	Wild Horse Val	83.54	39	eP	P	14 10 14.9	+0.3
WVOR				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.2						
ARUT	Antelope Range	84.02	45	eP	P	14 10 18.1	+1.0
ELK	Elko	84.57	42	eP	P	14 10 19.8	0.0
	comp=Z,8.0nm,1.0s,mb4.8						
ELK				e	pP	14 10 36.8	+0.9
ELK	Elko	84.57	42	eP	P	14 10 19.8	+0.1
ELK				e	pP	14 10 36.8	+0.9
ELK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RSO	Redoubt South	84.77	11	eP	P	14 10 19.9	-0.4
CN2	Changchun	84.84	322	eP	P	14 10 21.4	+0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
PGC	Sidney	84.98	32	eP	P	14 10 20.1	-1.5
	comp=Z,49nm,1.1s,mb5.5						
PGC				e	pP	14 10 38.1	+0.4
SYO	Syowa Base	85.22	192	⇑P	P	14 10 20.0	-2.3
SYO	Syowa Base	85.22	192	⇓pP	pP	14 10 33.2	-5.3
SLKM	Skilak Lake	85.30	13	eP	P	14 10 23.0	+0.1
SLKM				e	pP	14 10 39.4	+0.4
BMO	Blue Mountains	85.79	38	eP	P	14 10 25.7	+0.1
	comp=Z,1.7nm,0.8s,mb4.3						
BMO				e	pP	14 10 39.1	-2.7
BMO	Blue Mountains	85.79	38	eP	P	14 10 25.7	0.0
BMO				e	pP	14 10 39.1	-2.8
BMO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
SNAA	Sanae	86.04	178	P	P	14 10 25.8	-0.5
SNAA	Sanae	86.04	178		P	14 10 32.5	+6.2
SNAA	Sanae	86.04	178		P	14 10 41.2	+15
SNAA	Sanae	86.04	178	⇑eP	P	14 10 26.8	+0.5
VNA3	Neumayer Olymp	86.11	176	⇑iP	P	14 10 26.2	-0.4
VNA3	Neumayer Olymp	86.11	176		P	14 10 29.2	+2.6
VNA3	Neumayer Olymp	86.11	176		P	14 10 35.0	+8.4
VNA3	Neumayer Olymp	86.11	176		P	14 10 44.2	+18
TMUT	Trail Mountain	86.31	45	eP	P	14 10 29.4	+1.0
TMUT				e	pP	14 10 46.7	+2.1
MNTX	Cornudas Mount	86.51	54	eP	P	14 10 29.7	+0.2
	comp=Z,13nm,1.0s,mb5.1						
MNTX				e	pP	14 10 46.0	+0.2
VNA2	Neumayer--Watz	86.57	176	⇓iP	P	14 10 29.5	+0.6
VNA2	Neumayer--Watz	86.57	176		P	14 10 32.1	+3.2
VNA2	Neumayer--Watz	86.57	176		P	14 10 38.3	+9.4
VNA2	Neumayer--Watz	86.57	176		P	14 10 44.8	+16
SRU	San Rafael	86.66	45	eP	P	14 10 30.5	+0.4
LTX	Lajitas	86.69	57	eP	P	14 10 30.9	+0.5
	comp=Z,15nm,1.1s,mb5.1						
LTX				e	pP	14 10 48.1	+1.3
LTX	Lajitas	86.69	57	eP	P	14 10 31.0	+0.5
LTX				e	pP	14 10 48.1	+1.4
LTX				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.1						
TXAR	Lajitas Array	86.69	57	P	P	14 10 30.3	-0.2
	comp=Z,7.3nm,0.8s,mb5.0,baz=211,slow=7.3,SNR=33						
PLCA	Paso Flores	86.74	133	P	P	14 10 29.9	-0.6
	comp=Z,3.1nm,1.1s,mb4.5,baz=254,slow=10,SNR=2.9						
PLCA				LR	LR	14 42 22.0	
	comp=Z,58nm,18.7s,MS4.0,baz=75,slow=31						
VNA1	Neumayer--Stat	86.79	176	P	P	14 10 30.9	+0.9
VNA1	Neumayer--Stat	86.79	176		P	14 10 33.1	+3.1
VNA1	Neumayer--Stat	86.79	176		P	14 10 39.1	+9.1
PV10	Paradox Valley	87.26	46	P	P	14 10 32.7	-0.3
ANMO	Albuquerque	87.31	50	P	P	14 10 33.5	+0.2
	comp=Z,6.2nm,1.0s,mb4.8,baz=223,slow=6.2,SNR=8.9						
ANMO	Albuquerque	87.31	50	eP	P	14 10 33.8	+0.4
	comp=Z,9.0nm,1.1s,mb4.9						
ANMO				e	pP	14 10 48.4	-1.2
ANMO	Albuquerque	87.31	50	⇓iP	P	14 10 33.3	-0.1
PV01	Paradox Valley	87.45	47	eP	P	14 10 33.8	-0.1
NEW	Newport	87.96	35	P	P	14 10 35.8	-0.4
	comp=Z,1.1nm,0.3s,mb4.5,baz=73,slow=2.6,SNR=4.7						
ENH	Enshi	88.50	304	eP	P	14 10 40.3	+1.1
	comp=Z,18nm,0.9s,mb5.4						
ENH				e	pP	14 10 55.2	-0.2
SEY	Seymchan	88.63	346	⇑iP	P	14 10 38.3	-0.7
PDAR	Pinedale Array	89.22	43	P	P	14 10 42.0	-0.3
	comp=Z,2.6nm,0.9s,mb4.6,baz=211,slow=2.7,SNR=16						
SDCO	Great Sand Dun	89.35	48	eP	P	14 10 43.1	+0.1
SDCO				e	pP	14 10 59.4	+0.1
BOZ	Bozeman (W)	89.52	39	eP	P	14 10 43.6	+0.1
	comp=Z,22nm,1.6s,mb5.2						
BOZ				e	pP	14 10 59.5	-0.4
BOZ	Bozeman (W)	89.52	39	eP	P	14 10 43.6	0.0
BOZ				e	pP	14 10 59.5	-0.4
BOZ				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.2						
ILAR	Eielson Array	89.82	12	P	P	14 10 44.0	-0.6
	comp=Z,4.7nm,0.9s,mb4.8,baz=221,slow=5.3,SNR=25						
WALA	Waterton Lakes	90.15	36	eP	P	14 10 46.5	+0.1
WALA				e	pP	14 11 03.8	+1.0
XAN	Xi'an	90.63	307	P	P	14 10 49.2	+0.1
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb5.3						
DAWY	Dawson	90.85	15	eP	P	14 10 50.0	+0.6
DAWY				e	pP	14 11 06.7	+0.9
KMI	Kunming	91.71	296	⇓P	P	14 10 56.3	+2.0
KMI				AP	pP	14 11 05.8	-4.9
KMI				XP	sP	14 11 12.1	-4.4
KMI				S	S	14 21 51.5	+3.9
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb5.1						
KMI				AMB	AMB		
	comp=Z,51nm,3.6s						
KMI				LR	LR		
	comp=Z,98nm,37.1s,MS4.0						
LAO	LASA Array	93.27	40	eP	P	14 11 00.0	-0.9
	comp=Z,3.7nm,0.4s,mb5.2						
LAO				e		14 11 08.9	
YAK	Yakutsk	94.52	337	eP	P	14 11 04.9	-1.3
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.2						
LZH	Lanzhou	95.26	307	eP	P	14 11 12.4	+2.1
LZH				AP	pP	14 11 20.6	-6.1
LZH				XP	sP	14 11 25.3	-7.1
LZH				PP	PP	14 15 05.5	+2.5
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.6						
LZH				AMB	AMB		
	comp=Z,96nm,4.0s						
LZH				LR	LR		
	comp=E,431nm,18.3s						
LZH				LR	LR		
	comp=Z,632nm,19.5s,MS5.1						
INK	Inuvik	95.69	15	eP	P	14 11 10.9	-0.5
	comp=Z,4.3nm,1.0s,mb4.8						
INK	Inuvik	95.69	15	eP	P	14 11 10.9	-0.5
INK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YKA	Yellowknife Ar	97.56	24	LR	LR	14 51 12.2	
	comp=Z,69nm,18.8s,MS4.2,baz=180,slow=33						
SONM	Songino Array	98.30	318	P	P	14 11 25.2	+1.5
	comp=Z,0.3nm,0.7s,mb3.9,baz=117,slow=4.7,SNR=3.7						
SONM				LR	LR	14 48 13.3	
	comp=Z,77nm,21.7s,MS4.2,baz=130,slow=31						
GTA	Gaotai	99.48	309	eP	P	14 11 26.1	-3.3
GTA				AP	pP	14 11 36.1	-10
GTA				XP	sP	14 11 40.8	-11
GTA				PP	PP	14 15 30.8	-4.9
GTA				PPP	PPP	14 17 40.4	-4.7
GTA				SKS	SKS	14 22 01.9	+0.3
GTA				S	S	14 22 52.2	-1.3
GTA				PS	PS	14 24 26.1	-6.4
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,78nm,8.7s						
GTA				LR	LR		
	comp=N,94nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=E,70nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=Z,85nm,14.4s,MS4.4						
LPAZ	La Paz	99.78	112	LR	LR	14 45 30.9	
	comp=Z,102nm,21.8s,MS4.3,baz=50,slow=29						
CPD	Cerro la Pandu	114.95	80	ePdif	Pdif	14 12 34.4	-3.8
KURK	Kurchatov	116.54	317	ePKPdf	PKPdf	14 16 28.5	-0.3
AAK	Ala-Archa	118.80	307	⇑iPKIKP	PKPdf	14 16 32.8	-0.6
AAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.5						
BVAR	Borovoye Array	121.63	319	PKP	PKPdf	14 16 39.0	+0.4
	comp=Z,5.6nm,0.7s,baz=104,slow=1.4,SNR=27						
BRVK	Borovoye	121.69	319	ePKPdf	PKPdf	14 16 39.0	+0.3
ARU	Arti	127.73	325	PKPdf	PKPdf	14 16 51.0	+0.7
ARU	Arti	127.73	325	i PKIKP	PKPdf	14 16 49.4	-0.9
ARU				e		14 18 53.4	
ARCES	ARCESS Array B	131.10	350	PKP	PKPdf	14 16 57.2	+0.9
	comp=Z,5.4nm,0.7s,baz=357,slow=2.0,SNR=12						
FINES	FINESS Array B	138.08	344	PKhKP		14 17 03.0	
	comp=Z,1.3nm,0.8s,baz=56,slow=5.0,SNR=2.8						
FINES				PKP	PKPdf	14 17 11.9	+2.5
	comp=Z,4.2nm,0.8s,baz=45,slow=2.7,SNR=6.9						
FINES	FINESS Array B	138.08	344	PKP	PKPdf	14 17 11.9	+2.5
FINES	FINESS Array B	138.08	344	PKIKP	PKPdf	14 17 12.0	+2.5
OBN	Obninsk	139.24	332	ePKIKP	PKPdf	14 17 11.9	+0.1
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NB2	NORSAR Subarra	141.07	354	PKPabc	PKPdf	14 17 09.7	-5.1
	comp=Z,1.0nm,0.7s,baz=29,slow=2.9						
NOA	NORSAR Array B	141.07	354	PKhKP		14 17 08.2	
	comp=Z,2.3nm,0.8s,baz=16,slow=4.7,SNR=5.5						
NOA				PKP	PKPdf	14 17 14.9	+0.1
	comp=Z,1.7nm,0.8s,baz=15,slow=3.9,SNR=3.6						
NOA	NORSAR Array B	141.07	354	PKIKP	PKPdf	14 17 14.9	+0.1
HFS	Hagfors	141.68	352	PKhKP		14 17 09.0	
	comp=Z,3.6nm,0.8s,baz=45,slow=2.0,SNR=5.0						
HFS				PKP	PKPdf	14 17 17.6	+1.8
	comp=Z,2.1nm,0.6s,baz=45,slow=4.2,SNR=8.0						
HFS	Hagfors	141.68	352	PKIKP	PKPdf	14 17 17.6	+1.7
AFFS	'Afif	144.01	280	P	PKPbc	14 17 20.8	+0.5
MBAR	Mbarara	145.18	232	ePKP	PKPdf	14 17 24.4	+1.0
MBAR	Mbarara	145.18	232	⇑iPKP2	PKPab	14 17 25.0	-0.2
SUW	Suwalki	145.22	340	ePKP	PKPdf	14 17 23.6	+1.4
SUW				e		14 17 41.2	
SUW	Suwalki	145.22	340	ePKP	PKPdf	14 17 23.6	+1.4
SUW				e		14 17 41.2	
HILS	Ha'il	145.28	286	P	PKPdf	14 17 25.3	+2.1
AKASG	Malin Array Be	145.50	331	PKPbc	PKPbc	14 17 23.4	0.0
	comp=Z,26nm,0.8s,baz=41,slow=4.3,SNR=76						
MUD	Monsted U'grnd	145.78	355	i P	PKPdf	14 17 24.3	+1.2
	comp=Z,119nm,1.4s						
MUD				i		14 17 42.7	
LTHS	Al Lith	145.89	273	P	PKPdf	14 17 22.4	-2.0
BSD	Bornholm Skovb	146.31	348	i P	PKPdf	14 17 26.3	+2.3
	comp=Z,31nm,1.0s						
MALT	Malatya	146.42	306	ePKPdf	PKPdf	14 17 25.0	+0.3
EKA	Eskdalemuir Ar	146.73	7	PKPbc	PKPbc	14 17 27.2	+1.0
	comp=Z,11nm,1.0s,baz=333,slow=3.4,SNR=13						
GKP	Gorka Klasztor	147.54	345	ePKP	PKPdf	14 17 30.5	+4.4
GKP				e		14 17 34.5	
BSEG	Bad Segeberg	148.15	353	ePKIKP	PKPdf	14 17 31.6	+4.5
KWP	Kalwaria	149.02	336	ePKP	PKPdf	14 17 34.7	+6.1
KWP				e		14 17 39.5	
ASF	Jabal al Asfar	149.13	295	PKPbc	PKPdf	14 17 34.3	+4.9
	comp=Z,5.8nm,0.7s,baz=316,slow=4.5,SNR=7.8						
BR131	Keskin Array S	149.37	311	ePKPdf	PKPdf	14 17 34.1	+4.6
BRTR	Keskin Array B	149.37	311	PKPbc	PKPdf	14 17 35.2	+5.7
	comp=Z,6.7nm,0.9s,baz=117,slow=2.8,SNR=21						
OJC	Ojcow	149.55	340	ePKP	PKPdf	14 17 35.2	+5.8
STHS	Stebnicka Huta	149.74	337	ePKP	PKPdf	14 17 36.8	+7.0
KOLS	Kolonicke sedl	149.75	335	ePKP	PKPdf	14 17 36.7	+6.9
CFR	Carcaliu	149.82	325	⇓iP	PKPdf	14 17 35.7	+5.7
ANTO	Ankara	149.89	312	ePKPbc	PKPdf	14 17 37.1	+6.8
KSP	Ksiaz	150.00	344	ePKP	PKPdf	14 17 37.4	+7.2
KSP	Ksiaz	150.00	344	ePKHKP		14 17 36.9	
NIE	Niedzica	150.06	338	ePKP	PKPdf	14 17 37.8	+7.5
CRVS	Cervenica-Dubn	150.09	336	ePKP	PKPdf	14 17 37.8	+7.5
CRVS				e		14 17 42.4	
VRI	Vrincioaia	150.09	327	⇑iP	PKPdf	14 17 37.7	+7.3
TIRR	Tirgusor	150.13	323	⇑iP	PKPdf	14 17 37.0	+6.4
CLZ	Clausthal	150.20	352	ePKIKP	PKPdf	14 17 37.1	+6.7
HARR	Harsova	150.25	324	⇑iP	PKPdf	14 17 35.8	+5.1
CLL	Collm	150.30	348	ePKIKP	PKPdf	14 17 31.0	+0.4
CLL				i PKP1	PKPdf	14 17 37.1	+6.5
CLL				i		14 17 41.3	
CLL				i PKP2	PKPab	14 17 43.1	-1.3
CLL				i		14 17 46.8	
CLL				e*PPKP2		14 17 56.0	
CLL				i		14 18 13.0	
CLL	Collm	150.30	348	ePKP	PKPdf	14 17 31.0	+0.4
CLL				⇑iPKP	PKPdf	14 17 37.1	+6.5
UPC	Upice	150.38	344	ePKPbc	PKPdf	14 17 37.9	+7.2
UPC				epPKP		14 17 54.2	
OKC	Ostrava-Krasne	150.40	341	ePKPbc	PKPdf	14 17 37.7	+6.9
WTSB	Winterswijk	150.42	356	eP	PKPdf	14 17 36.9	+6.1
	comp=Z,34nm,1.3s						
JMQS	Jabal Moqyreh	150.44	289	P	PKPdf	14 17 36.4	+4.8
DPC	Dobruska-Polom	150.45	344	ePKPbc	PKPdf	14 17 38.0	+7.2
MORC	Moravsky Berou	150.63	342	ePKPbc	PKPdf	14 17 38.4	+7.3
PVCC	Panska Ves	150.71	346	ePKPbc	PKPdf	14 17 38.2	+7.0
MLR	Muntele Rosu	150.75	327	PKPbc	PKPdf	14 17 38.4	+6.9
	comp=Z,14nm,0.7s,baz=9.7,slow=4.1,SNR=29						
MLR	Muntele Rosu	150.75	327	⇑iP	PKPdf	14 17 38.4	+7.0
KECS	Kecovo	150.79	337	ePKP	PKPdf	14 17 39.4	+8.0
KECS				e		14 17 46.9	
SNX	Sinaia	151.06	327	⇓iP	PKPdf	14 17 38.9	+7.0
JMOS	Jabal al Moall	151.08	290	P	PKPdf	14 17 40.3	+7.9
ALWS	Ilw as Safayha	151.11	290	P	PKPdf	14 17 42.5	+10
BDAS	Al Bad'	151.16	288	P	PKPdf	14 17 36.9	+4.3
MOX	Moxa	151.18	350	ePKIKP	PKPdf	14 17 38.9	+7.0
MOX				pmax	pmax		
	comp=Z,24nm,1.5s						
PRU	Pruhonice	151.22	346	ePKPbc	PKPdf	14 17 39.4	+7.4
PRU				epPKP		14 17 57.2	
VOIR		151.23	328	⇑iP	PKPdf	14 17 40.1	+7.9
HAQS	Haql	151.25	290	P	PKPdf	14 17 40.5	+7.8
VRAC	Vranov	151.32	342	PKPbc	PKPdf	14 17 39.7	+7.5
	comp=Z,5.5nm,0.6s,baz=276,slow=1.1,SNR=7.5						
VRAC				PKPab	PKPab	14 17 49.5	+0.7
	comp=Z,10nm,1.0s,baz=26,slow=9.6,SNR=8.6						
CSS	Prodhromos	151.36	302	ePKPdf	PKPdf	14 17 30.1	-2.5
VYHS	Vyhne	151.36	339	ePKP	PKPdf	14 17 40.1	+7.8
VYHS				e		14 17 49.5	
KOLL	Kolacno	151.43	340	ePKP	PKPdf	14 17 40.8	+8.4
NKC	Novy Kostel	151.43	348	ePKPbc	PKPdf	14 17 39.7	+7.4
NKC				epPKP		14 17 58.4	
PSZ	Piszkesteto	151.48	337	ePKPbc	PKPdf	14 17 40.0	+7.5
TREC	Trest	151.63	344	ePKPbc	PKPdf	14 17 40.4	+7.8
HGN	Heimansgroeve	151.67	357	eP	PKPdf	14 17 41.0	+8.3
	comp=Z,11nm,1.3s						
TNS	Taunus Mts	152.02	354	ePKIKP	PKPdf	14 17 41.4	+8.2
GRA1	Grafenberg Arr	152.16	350	ePKPdf	PKPdf	14 17 37.5	+4.1
GRA1				ePKPab	PKPab	14 17 51.6	-0.7
GRF	Grafenberg Arr	152.16	350	ePKP	PKPdf	14 17 37.5	+4.1
GRF				ePKP	PKPab	14 17 51.6	-0.7
ZST	Bratislava	152.17	341	e	PKPab	14 17 51.0	-1.4
KHC	Kasperske Hory	152.25	346	ePKPbc	PKPdf	14 17 41.4	+7.9
KHC				ePKPab	PKPab	14 17 53.9	+1.2
BAIF	Baives	152.42	359	ePKP2	PKPab	14 17 52.3	-1.1
	comp=Z,21nm,0.9s						
GEC2	GERESS Array S	152.49	346	ePKIKP	PKPdf	14 17 42.2	+8.3
GERES	GERESS Array B	152.49	346	PKP	PKPdf	14 17 33.6	-0.3
	comp=Z,0.3nm,0.2s,slow=1.3,SNR=3.5						
GERES				PKPbc	PKPdf	14 17 42.5	+8.6
	comp=Z,5.7nm,0.8s,baz=45,slow=1.9,SNR=27						
FLN	La Foliniere	153.50	6	ePKP2	PKPab	14 17 56.5	-1.5
FUR	Furstenfeldbru	153.63	349	ePKPdf	PKPdf	14 17 39.3	+3.8
LDF	La Druitiere	153.70	6	ePKP2	PKPab	14 17 57.1	-1.7
GRR	Gorron	153.83	7	ePKP2	PKPab	14 17 57.9	-1.5
BFO	Black Forest	153.90	353	ePKIKP	PKPdf	14 17 45.4	+10
CDF	Champ du Feu	153.92	355	ePKP2	PKPab	14 17 58.6	-1.1
	comp=Z,20nm,1.0s						
HAU	Haudompre	154.40	356	ePKP2	PKPab	14 18 00.6	-1.2
HINF	Hinteralfeld	154.55	355	ePKP2	PKPab	14 18 01.1	-1.3
VISS	Visnje	155.00	342	ePKPdf	PKPdf	14 17 47.3	+10
VISS				ePKPbc	PKPab	14 18 03.2	-1.2
JAVS	Javornik	155.14	343	ePKPbc	PKPab	14 18 04.0	-1.0
BOJS	Bojanci	155.15	341	ePKPdf	PKPdf	14 17 48.0	+10
BOJS				i		14 17 54.1	
BOJS				ePKPbc	PKPab	14 18 04.7	-0.3
LOR	Lormes	155.22	360	ePKP2	PKPab	14 18 03.9	-1.3
	comp=Z,22nm,1.2s						
SSF	Saint Saulge	155.42	0	ePKP2	PKPab	14 18 05.1	-1.0
	comp=Z,24nm,1.0s						
SKO	Skopje	155.54	327	ePKP	PKPdf	14 18 01.0	+23
MFF	Saint Martin d	155.67	7	ePKP2	PKPab	14 18 06.0	-1.2
	comp=Z,38nm,1.2s						
AVF	Avril sur Loir	155.69	1	ePKP2	PKPab	14 18 06.0	-1.3
	comp=Z,21nm,1.1s						
SMF	Signal de Mont	155.84	360	ePKP2	PKPab	14 18 06.7	-1.2
	comp=Z,40nm,1.1s						
BGF	Bois d'Agland	155.91	2	ePKP2	PKPab	14 18 07.1	-1.2
TCF	Toulx Ste Croi	156.16	3	ePKP2	PKPab	14 18 08.0	-1.3
	comp=Z,14nm,1.0s						
LPL	La Plagne	156.84	355	ePKP2	PKPab	14 18 11.4	-0.9
LPG	La Plagne	156.86	355	ePKP2	PKPab	14 18 11.6	-0.8
	comp=Z,8.2nm,0.7s						
RJF	Les Rejaudoux	157.10	4	ePKP2	PKPab	14 18 11.9	-1.5
LFF	La Frestale	157.40	6	ePKP2	PKPab	14 18 13.4	-1.3
ORIF	Oris-en-Rattie	157.50	356	ePKP2	PKPab	14 18 14.7	-0.4
	comp=Z,16nm,1.0s						
CAF	Calviac	157.51	3	ePKP2	PKPab	14 18 14.1	-1.1
VIVF	Saint-Julien-l	157.62	358	ePKP2	PKPab	14 18 15.0	-0.6
MBDF	Montbardon	157.62	354	ePKP2	PKPab	14 18 15.0	-0.7
LASF	Ste Croix	158.41	360	ePKP2	PKPab	14 18 18.1	-1.0
SBF	Sospel	158.41	353	ePKP2	PKPab	14 18 18.5	-0.6
SMRF	Simiane la Rot	158.46	357	ePKP2	PKPab	14 18 18.9	-0.4
	comp=Z,21nm,1.1s						
MTLF	Montolieu	159.10	3	ePKP2	PKPab	14 18 21.1	-1.0
	comp=Z,21nm,1.2s						

*IDC **12** 13:58:23.7±0.9, 17.24N×121.87E, mb4.0/6, mb1 4.2/7, mb1mx4.0/21, mbtmp4.1/7, ML3.8/1, Error ellipse: s-maj=47.9km s-min=18.5km az=77.0*

*MAN **12** 13:58:29.0, 17.42N×121.91E, h32km, mb5.2, ML4.1, MS4.3*

MAN ILAGAN ISABELA - INTENSITY III CALLAO PENABLANCA CAGAYAN - INTENSITY III.

*BJI **12** 13:58:29.1, 17.20N×121.80E, h30km, mb4.3, Msz4.1*

*NEIC **12** 13:58:29.1±0.4, 17.24N×121.83E, h35km, mb4.6/4, Error ellipse: s-maj=11.6km s-min=7.6km az=78.0*

NEIC Felt [III PIVS] at Ilagan and [II PIVS] at Callao and Penablanca.

ISC 12 13:58:28.5±0.3, **17.42N**±0.02×**121.98E**±0.04, **h33**km, **n37**, σ**1**s**17**/51, **mb4.3**/11, **3C**, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	Callao Caves	0.32	331	⇑iP	P	13 58 37.2	+0.7
CAUP	Cauayan	0.50	198	eP	P	13 58 40.7	+1.7
CAUP				eS	S	13 58 49.7	+3.2
SGCP	Mt. Cagua	0.82	4	eP	P	13 58 45.5	+1.9
SGCP				eS	S	13 58 55.7	+0.9
ABRA	Dolores	1.23	281	eP	P	13 58 48.3	-1.2
ABRA				eS	S	13 59 02.0	-3.3
BALP	Baler	1.71	193	eP	P	13 58 56.1	-0.3
BALP				eS	S	13 59 16.8	-0.6
PCPH	Palayan	2.03	205	⇑iP	P	13 59 01.2	+0.2
PCPH				i S	S	13 59 25.4	-0.1
BOLP	Bolinao	2.23	243	eP	P	13 59 03.9	0.0
BOLP				eS	S	13 59 31.6	+0.9
SCZP	Santa Cruz	2.57	231	eP	P	13 59 09.1	+0.4
SCZP				eS	S	13 59 39.1	-0.1
POLP	Polilio Island	2.68	181	eP	P	13 59 11.2	+0.9
POLP				eS	S	13 59 43.5	+1.7
BBP	Basco	3.01	360	eP	P	13 59 15.6	+0.6
BBP				eS	S	13 59 51.2	+1.0
GQP	Guinayangan	3.52	173	⇑eP	P	13 59 23.4	+1.1
GQP				eS	S	14 00 03.6	+0.3
BOAC	Boac	3.94	182	eP	P	13 59 29.0	+0.8
BOAC				eS	S	14 00 14.7	+0.8
LUBP	Lubang	4.03	205	eP	P	13 59 29.3	-0.2
PVCP	Virac	4.34	151	eP	P	13 59 34.5	+0.6
PVCP				eS	S	14 00 22.7	-1.3
SJMP	San Jose	5.00	190	eP	P	13 59 44.3	+1.1
OTRP	Odiongan	5.03	180	eP	P	13 59 43.0	-0.6
BUSP	Coron	5.66	198	eP	P	13 59 49.9	-2.5
BESP	Borongan	6.68	150	eP	P	14 00 07.6	+0.7
BESP				eS	S	14 01 18.5	-4.2
YHNB	Yeheng	7.24	356	ePn	Pn	14 00 19.0	+4.2
IPIL	Ipil	9.59	177	eP	P	14 00 47.3	-0.1
JOW	Kunigami	11.03	31	Pn	P	14 01 06.7	-0.4
	1.4nm,0.3s,baz=241,slow=11,SNR=5.6						
QIZ	Qiongzhong	11.65	280	ePn	P	14 01 10.7	-4.8
QIZ				eSn	S	14 03 18.0	-7.4
XAN	Xi'an	20.27	327	P	P	14 03 04.1	+0.1
XAN				AMB	AMB		
	comp=Z,5.0nm,1.2s						
KS15	Wonju Array Si	20.61	13	eP	P	14 03 08.0	+0.5
CD2	Chengdu	21.33	312	P	P	14 03 17.5	+2.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
ULN	Ulaanbaatar	32.74	341	eP	P	14 05 00.7	+0.2
	comp=Z,5.3nm,1.0s,mb4.4						
SONM	Songino Array	32.92	341	P	P	14 05 02.0	+0.1
	comp=Z,5.1nm,0.8s,mb4.5,baz=161,slow=10,SNR=38						
FITZ	Fitzroy Crossi	35.48	174	P	P	14 05 20.8	-3.4
	comp=Z,2.8nm,0.8s,mb4.3,baz=333,slow=4.5,SNR=3.6						
WRAB	Tennant Creek	39.05	161	P	P	14 05 52.1	-2.1
	comp=Z,28nm,0.8s,mb5.0						
WRA	Warramunga Arr	39.06	161	P	P	14 05 51.6	-2.6
	comp=Z,3.7nm,0.7s,mb4.2,baz=342,slow=9.2,SNR=33						
WB2	Warramunga Arr	39.06	161	eP	P	14 05 52.6	-1.7
WB2				e		14 06 11.2	
KURK	Kurchatov	47.86	324	eP	P	14 07 04.0	-1.1
	comp=Z,10nm,0.8s,mb4.9						
BVAR	Borovoye Array	53.46	324	P	P	14 07 45.9	-1.8
	comp=Z,1.0nm,0.6s,mb3.9,baz=100,slow=8.8,SNR=8.0						
BRVK	Borovoye	53.53	324	eP	P	14 07 47.2	-1.0
	comp=Z,2.4nm,0.8s,mb4.2						
TAU	Tasmania Unive	64.40	160	P	P	14 08 56.8	-6.8
ILAR	Eielson Array	74.89	26	P	P	14 10 06.8	-0.6
	comp=Z,0.3nm,0.7s,mb3.3,baz=267,slow=5.9,SNR=4.2						
FINES	FINESS Array B	77.66	331	P	P	14 10 21.8	-1.4
	comp=Z,0.9nm,0.8s,mb3.8,baz=270,slow=3.8,SNR=4.0						

IDC 12 14:04:57.6±2.5, **52.12N**×**32.04W**, **mb3.6**/5, **mb1 3.8**/6, **mb1mx3.6**/24, **mbtmp3.7**/6, **ML4.1**/1, **MS3.4**/2, **Ms1 3.4**/2, **ms1mx2.9**/25, **Error ellipse: s-maj=66.3km s-min=28.6km az=30.0**, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	17.33	68	P	P	14 09 01.7	-0.5
	0.4nm,0.3s,baz=266,slow=11,SNR=13						
SCHQ	Schefferville	20.76	291	LR	LR	14 16 04.6	
	comp=Z,64nm,21.9s,baz=88,slow=32						
ESDC	Sonseca Array	23.00	112	P	P	14 10 04.3	-0.5
	0.2nm,0.3s,baz=313,slow=9.1,SNR=5.9						
BRTR	Keskin Array B	45.81	79	P	P	14 13 20.7	-1.9
	0.3nm,0.3s,baz=346,slow=12,SNR=3.5						
ILAR	Eielson Array	53.11	331	P	P	14 14 16.6	-1.8
	0.5nm,0.8s,baz=45,slow=6.4,SNR=4.2						
BVAR	Borovoye Array	56.82	45	P	P	14 14 43.1	-2.4
	1.5nm,0.7s,baz=309,slow=6.8,SNR=11						
SONM	Songino Array	74.28	28	P	P	14 16 35.6	-2.2
	0.6nm,0.9s,baz=324,slow=3.1,SNR=3.5						
CPUP	Villa Florida	81.20	203	LR	LR	14 52 02.9	
	comp=Z,39nm,20.8s,baz=221,slow=35						
WRA	Warramunga Arr	146.17	23	PKPbc	PKPbc	14 24 39.1	-0.5
	1.3nm,0.8s,baz=344,slow=2.9,SNR=14						

*NEIC **12** 14:12:27.9±0.9, 4.10S×153.41E, h35km, mb4.5/2, Error ellipse: s-maj=22.5km s-min=15.5km az=186.0*

*IDC **12** 14:12:37.2±5.8, 4.68S×153.75E, h135km±47km, mb3.7/4, mb1 4.0/5, mb1mx3.7/14, mbtmp4.2/5, MS3.8/1, Ms1 3.8/1, ms1mx2.9/16, Error ellipse: s-maj=70.2km s-min=29.6km az=123.0*

ISC 12 14:12:36.1±3.1, **4.5S**±0.2×**153.60E**±0.07, **h132**km±31km, **n12**, σ**1**s**03**/13, **mb4.0**/6, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.99	128	Pn	P	14 14 27.3	-3.3
HNR				eSn	S	14 16 00.3	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PMG	Port Moresby	8.05	232	P	P	14 14 32.0	+0.7
	19nm,0.3s,baz=48,slow=8.7,SNR=64						
PMG				S	S	14 16 00.7	-0.4
	2.0nm,0.3s,baz=201,slow=23,SNR=4.2						
KAKA	Kakadu	22.44	247	eP	P	14 17 43.3	+19
	4.1nm,0.5s,mb4.1						
WRAB	Tennant Creek	24.23	229	eP	P	14 17 42.6	+0.5
	7.2nm,0.4s,mb4.6						
WB2	Warramunga Arr	24.24	229	eP	P	14 17 42.5	+0.4
WRA	Warramunga Arr	24.25	229	P	P	14 17 42.8	+0.6
	5.0nm,0.6s,mb4.2,baz=54,slow=10.0,SNR=72						
FITZ	Fitzroy Crossi	30.51	241	eP	P	14 18 37.3	-1.9
	3.5nm,0.4s,mb4.4						
FITZ	Fitzroy Crossi	30.51	241	P	P	14 18 37.3	-1.9
	4.6nm,0.5s,mb4.5,baz=41,slow=4.3,SNR=16						
KULM	Kulim	53.77	280	eP	P	14 21 47.1	-0.4
SONM	Songino Array	66.49	327	P	P	14 23 15.2	+1.4
	0.5nm,0.6s,mb3.6,baz=140,slow=6.6,SNR=4.5						
MKAR	Makanchi Array	80.61	319	LR	LR	15 00 34.3	
	comp=Z,57nm,20.7s,baz=127,slow=36						
ILAR	Eielson Array	81.57	22	P	P	14 24 39.5	-0.8
	0.4nm,0.8s,mb3.1,baz=241,slow=6.2,SNR=4.2						

*NEIC **12** 14:12:45.3, 38.60S×175.87E, h150km, MG3.7(WEL), After WEL.*

WEL 12 14:12:44.8±0.3**, 38.60S×175.87E, h154**km±2km**, ML3.7**/18**, Error ellipse: s-maj=1.9km s-min=1.6km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KATZ	Kakaramea	0.40	200	PN	P	14 13 06.3	-0.4
KATZ	Kakaramea	0.40	200	P	P	14 13 06.3	-0.3
KRVZ	Karewarewa	0.53	199	PN	P	14 13 07.0	-0.2
WTVZ	West Tongariro	0.56	203	PN	P	14 13 07.1	-0.2
WTVZ	West Tongariro	0.56	203	P	P	14 13 07.2	-0.2
TWVZ	Taurewa	0.58	215	PN	P	14 13 07.2	-0.3
TWVZ	Taurewa	0.58	215	P	P	14 13 07.2	-0.3
OTVZ	Oturere	0.59	195	PN	P	14 13 07.2	-0.3
OTVZ				SN	S	14 13 24.8	-0.1
NGZ	Ngauruhoe	0.61	200	PN	P	14 13 07.2	-0.4
NGZ	Ngauruhoe	0.61	200	P	P	14 13 07.5	-0.1
CNZ	Chateau	0.65	202	PN	P	14 13 07.3	-0.5
CNZ	Chateau	0.65	202	P	P	14 13 07.5	-0.3
WPVZ	Whakapapa	0.66	202	PN	P	14 13 07.5	-0.4
WPVZ	Whakapapa	0.66	202	P	P	14 13 07.5	-0.4
TUVZ	Tukino	0.69	194	PN	P	14 13 08.0	0.0
TUVZ	Tukino	0.69	194	P	P	14 13 08.1	+0.1
FWVZ	Far West T-bar	0.70	200	PN	P	14 13 07.8	-0.4
FWVZ	Far West T-bar	0.70	200	P	P	14 13 07.9	-0.2
TRVZ	Turoa	0.74	199	PN	P	14 13 08.3	-0.1
BKZ	Black Stump Fm	0.75	140	PN	P	14 13 08.4	0.0
BKZ				SN	S	14 13 25.4	-1.1
BKZ	Black Stump Fm	0.75	140	P	P	14 13 08.5	+0.1
BKZ				S	S	14 13 25.5	-1.0
WNVZ	Wahianoa	0.76	196	PN	P	14 13 08.4	0.0
WNVZ	Wahianoa	0.76	196	P	P	14 13 08.4	-0.1
HIZ	Hauiti	0.80	276	PN	P	14 13 08.4	-0.3
PKVZ	Pokaka	0.80	210	PN	P	14 13 08.4	-0.3
MOVZ	Moawhango	0.81	186	PN	P	14 13 08.4	-0.4
MOVZ	Moawhango	0.81	186	P	P	14 13 08.4	-0.4
MTVZ	Mangateitei	0.85	201	PN	P	14 13 08.7	-0.3
VRZ	Vera Road	1.01	238	PN	P	14 13 09.8	-0.4
VRZ	Vera Road	1.01	238	P	P	14 13 09.9	-0.3
URZ	Urewera	1.03	71	PN	P	14 13 10.2	-0.2
URZ				SN	S	14 13 28.9	-1.2
URZ	Urewera	1.03	71	P	P	14 13 10.2	-0.2
MWZ	Matawai	1.33	79	PN	P	14 13 13.2	-0.1
MWZ				SN	S	14 13 34.0	-1.3
MWZ	Matawai	1.33	79	P	P	14 13 13.3	0.0
MWZ				S	S	14 13 34.0	-1.2
RAEZ	Rainy Point	1.34	239	PN	P	14 13 12.9	-0.4
RAEZ	Rainy Point	1.34	239	P	P	14 13 13.0	-0.4
WAZ	Wanganui	1.34	210	PN	P	14 13 12.5	-1.0
WAZ	Wanganui	1.34	210	P	P	14 13 12.7	-0.7
TSZ	Takapari Road	1.46	177	PN	P	14 13 14.0	-0.6
TSZ	Takapari Road	1.46	177	P	P	14 13 14.0	-0.6
KNZ	Kokohu	1.47	107	ePN	P	14 13 14.8	+0.1
KNZ	Kokohu	1.47	107	eP	P	14 13 14.9	+0.2
NEZ	North Egmont	1.54	243	PN	P	14 13 14.9	-0.5
NEZ	North Egmont	1.54	243	P	P	14 13 15.1	-0.3
PKE	Pukeiti	1.58	247	PN	P	14 13 14.8	-1.0
PKE	Pukeiti	1.58	247	P	P	14 13 14.1	-1.8
PXZ	Pawanui	1.63	152	PN	P	14 13 16.0	-0.4
PXZ				SN	S	14 13 38.5	-2.2
NWEZ	Newall Road	1.70	246	PN	P	14 13 16.1	-1.0
NWEZ	Newall Road	1.70	246	P	P	14 13 15.8	-1.3
PUZ	Puketiti	1.95	75	PN	P	14 13 19.3	-0.6
PUZ				SN	S	14 13 45.2	-1.7
PUZ	Puketiti	1.95	75	P	P	14 13 19.5	-0.4
PUZ				S	S	14 13 45.3	-1.7
MRZ	Mangatainoka R	2.07	186	PN	P	14 13 19.5	-1.9
MRZ	Mangatainoka R	2.07	186	P	P	14 13 19.6	-1.8
BFZ	Birch Farm	2.10	172	PN	P	14 13 20.2	-1.5
BFZ	Birch Farm	2.10	172	P	P	14 13 20.3	-1.4
MXZ	Matakaoa Point	2.19	63	ePN	P	14 13 21.9	-0.9
MXZ	Matakaoa Point	2.19	63	P	P	14 13 22.0	-0.8
KIW	Kapiti Island	2.38	198	PN	P	14 13 22.6	-2.6
KIW				SN	S	14 13 51.0	-5.2
KIW	Kapiti Island	2.38	198	P	P	14 13 22.6	-2.6
MTW	Mount Morrison	2.57	186	PN	P	14 13 24.7	-3.0
MTW	Mount Morrison	2.57	186	P	P	14 13 24.8	-2.8
CAW	Cannon Point	2.58	194	PN	P	14 13 24.8	-2.9
CAW	Cannon Point	2.58	194	P	P	14 13 24.9	-2.8
DUWZ	D'Urville Isla	2.67	214	PN	P	14 13 25.6	-3.1
MRW	Makara Radio	2.78	198	PN	P	14 13 27.1	-3.1
MRW	Makara Radio	2.78	198	P	P	14 13 27.2	-3.0
TRWZ	Traveller	2.80	183	PN	P	14 13 27.6	-2.9
WEL	Wellington	2.81	197	PN	P	14 13 27.4	-3.3
WEL	Wellington	2.81	197	P	P	14 13 27.5	-3.2
SNZO	South Karori	2.85	198	PN	P	14 13 27.6	-3.6
SNZO	South Karori	2.85	198	P	P	14 13 27.8	-3.3
MSWZ	Moikau Station	2.85	189	PN	P	14 13 27.8	-3.4
MSWZ	Moikau Station	2.85	189	P	P	14 13 27.9	-3.3
TCW	Tory Channel	2.88	205	PN	P	14 13 28.1	-3.5
TCW	Tory Channel	2.88	205	P	P	14 13 28.3	-3.2
BHW	Baring Head	2.91	195	PN	P	14 13 28.3	-3.6
BHW	Baring Head	2.91	195	P	P	14 13 28.3	-3.6
TUWZ	Tuamarina	3.19	207	PN	P	14 13 31.6	-3.9
NNZ	Nelson	3.24	215	ePN	P	14 13 32.1	-4.1
NNZ	Nelson	3.24	215	eP	P	14 13 32.4	-3.7
QRZ	Quartz Range	3.40	228	ePN	P	14 13 33.6	-4.6
QRZ	Quartz Range	3.40	228	eP	P	14 13 33.8	-4.4
THZ	Tophouse	3.89	215	ePN	P	14 13 40.1	-4.5
KHZ	Kahutara	4.21	204	ePN	P	14 13 44.6	-4.1
KHZ	Kahutara	4.21	204	eP	P	14 13 44.7	-4.0
DSZ	Denniston Nort	4.42	223	ePN	P	14 13 46.2	-5.4
DSZ	Denniston Nort	4.42	223	eP	P	14 13 46.5	-5.1
LTZ	Lake Taylor	5.00	212	SN	S	14 14 47.2	-9.3
LTZ	Lake Taylor	5.00	212	eP	P	14 13 54.5	-4.6
MQZ	McQueen's Vall	5.65	204	SN	S	14 15 00.9	-11
RPZ	Rata Peaks	6.27	214	SN	S	14 15 16.0	-11
PTCN	Pitcairn Islan	47.23	90	P	P	14 21 01.6	-2.4
	876nm,0.6s						

*MAN **12** 14:36:27.1, 6.88N×125.88E, h54km, mb4.3, ML3.2, MS3.0*

ISC 12 14:36:13.7±1.1**, 6.1N**±0.1×**126.1E**±0.1**, h162**km±12km**, n9, σ0s39**/14**, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.88	9	eP	P	14 36 39.2	+0.3
MATI				eS	S	14 36 58.0	-0.3
KCP	Kidapawan	1.38	312⇑	eP	P	14 36 43.5	+0.1
KCP				i S	S	14 37 06.4	+0.1
BUKP	Musuan	2.08	330	eP	P	14 36 51.0	+0.2
BUKP				eS	S	14 37 19.9	+0.5
BIPH	Bislig	2.11	6⇑	iP	P	14 36 51.5	+0.3
BIPH				i S	S	14 37 19.7	-0.4
PAGZ	Pagadian	3.24	303	eP	P	14 37 04.3	-1.0
SCPH	Surigao	3.74	350	eP	P	14 37 03.5	-8.1
IPIL	Ipil	3.91	296	eP	P	14 37 19.7	+5.8
MSLP	Maasin	4.22	343	eP	P	14 37 18.1	+0.1
MSLP				eS	S	14 38 00.8	-6.6
WB2	Warramunga Arr	27.09	163	eP	P	14 41 43.6	+0.1

*IDC **12** 15:30:57.6±0.8, 5.48S×153.24E, mb4.4/14, mb1 4.5/15, mb1mx4.5/19, mbtmp4.5/15, ML3.4/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/25, Error ellipse: s-maj=25.6km s-min=14.8km az=96.0*

*MOS **12** 15:31:04.7±1.1, 5.15S×152.47E, h33km, mb5.1/10, Error ellipse: s-maj=12.6km s-min=9.9km az=97.9*

*BJI **12** 15:31:05.6, 5.00S×152.18E, h18km, mB5.0, mb4.6, Ms4.5, Msz4.0*

*NEIC **12** 15:31:06.6±0.8, 5.20S×152.43E, h35km, mb4.8/15, Error ellipse: s-maj=19.3km s-min=12.3km az=90.0*

ISC 12 15:31:02.2±0.6**, 5.36S**±0.06×**153.1E**±0.1**, h33**km**, n82, σ1s22**/82**, mb4.6**/37**, MS3.9**/11**, 1C-2D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.09	235	Pn	Pn	15 32 46.1	-0.3
	3.7nm,0.3s,baz=39,slow=14,SNR=15						
PMG				Sn	Sn	15 34 07.2	+0.6
	4.5nm,0.3s,baz=93,slow=22,SNR=8.4						
PMG	Port Moresby	7.09	235	eP	P	15 32 45.3	-0.9
	38nm,0.8s						
PMG	Port Moresby	7.09	235	i P	P	15 32 44.8	-1.4
HNR	Honiara	7.95	121	Pn	Pn	15 33 10.4	+12
CTA	Charters Tower	16.06	204	eP	P	15 34 49.0	+1.7
	4.7nm,0.9s						
CTA	Charters Tower	16.06	204	Pn	P	15 34 48.0	+0.6
	0.2nm,0.3s,baz=29,slow=14,SNR=7.3						
CTA				LR	LR	15 40 14.5	
	comp=Z,317nm,18.9s,baz=28,slow=35						
CTA	Charters Tower	16.06	204	eP	P	15 34 49.0	+1.7
CTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CTAO	Charters Tower	16.06	204	ePn	P	15 34 49.0	+1.7
	comp=Z,6.3nm,0.8s						
CTAO	Charters Tower	16.06	204	eP	P	15 34 49.0	+1.7
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GUMO	Guam	20.50	337	P	P	15 35 39.8	-0.4
	comp=Z,90nm,1.0s,baz=90,slow=6.1,SNR=2.8						
GUMO				LR	LR	15 43 01.2	
	comp=Z,117nm,18.2s,MS3.3,baz=86,slow=35						
GUMO	Guam	20.50	337	eP	P	15 35 40.3	+0.1
	comp=Z,112nm,1.1s						
GUMO	Guam	20.50	337	eP	P	15 35 40.3	+0.1
GUMO				pmax	pmax		
	comp=Z,112nm,1.1s						
DZM	Mont Dzumac	21.07	143	P	P	15 35 41.4	-4.7
	comp=Z,4.1nm,1.0s,mb3.7,baz=325,slow=17,SNR=3.2						
WRAB	Tennant Creek	23.25	230	eP	P	15 36 05.9	-1.8
	comp=Z,11nm,0.8s,mb4.3						
WRAB	Tennant Creek	23.25	230	i P	P	15 36 08.0	+0.2
WB2	Warramunga Arr	23.26	230	eP	P	15 36 09.3	+1.5
WRA	Warramunga Arr	23.27	230	P	P	15 36 06.6	-1.3
	comp=Z,6.2nm,0.9s,mb4.0,baz=54,slow=9.9,SNR=17						
WRA				ScP		15 43 37.0	
	comp=Z,1.4nm,0.9s,baz=56,slow=2.8,SNR=7.3						
STKA	Stephens Creek	28.48	201	P	P	15 36 53.0	-3.5
	comp=Z,3.6nm,0.8s,mb4.0,baz=39,slow=11,SNR=6.1						
STKA				LR	LR	15 47 55.4	
	comp=Z,173nm,18.1s,MS3.7,baz=28,slow=36						
STKA	Stephens Creek	28.48	201	eP	P	15 36 53.4	-3.2
FITZ	Fitzroy Crossi	29.61	242	eP	P	15 37 05.1	-1.7
	comp=Z,10.0nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	29.61	242	P	P	15 37 04.6	-2.2
	comp=Z,7.4nm,0.7s,mb4.5,baz=112,slow=2.2,SNR=6.3						
MBWA	Marble Bar	35.91	241	eP	P	15 38 01.2	-0.4
NACB	Ninganchiao	42.44	315	P	P	15 38 56.2	+0.3
YHNB	Yeheng	42.91	315	eP	P	15 38 56.4	-3.3
NWAO	Narrogin (SRO)	43.17	226	LR	LR	15 57 11.2	
	comp=Z,204nm,21.6s,MS4.0,baz=202,slow=36						
JNU	Nakatsue	43.67	333	P	P	15 39 06.1	+0.3
	comp=Z,25nm,0.9s,mb4.9,baz=110,slow=7.7,SNR=16						
MJAR	Matsushiro Arr	43.93	343	P	P	15 39 06.0	-2.0
	comp=Z,3.7nm,0.9s,mb4.1,baz=168,slow=9.5,SNR=10						
MJAR				PcP	PcP	15 40 53.1	-1.0
	comp=Z,2.3nm,1.0s,baz=166,slow=3.5,SNR=4.4						
MJAR				LR	LR	15 55 29.8	
	comp=Z,89nm,20.5s,MS3.7,baz=165,slow=33						
SSE	Sheshan	47.33	322	P	P	15 39 30.7	-4.2
SSE				AP	pP	15 39 46.0	+1.2
SSE				S	S	15 46 15.6	-10
SSE				SS	SS	15 49 44.4	-2.0
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,88nm,3.9s						
SSE				LR	LR		
	comp=N,26nm,19.5s,MS3.4						
SSE				LR	LR		
	comp=E,26nm,19.5s,MS3.4						
SSE				LR	LR		
	comp=Z,44nm,20.9s,MS3.4						
QIZ	Qiongzhong	48.96	301	eP	P	15 39 43.6	-4.2
NJ2	Nanjing	49.43	321	eP	P	15 39 50.4	-0.8
NJ2				PCP	PcP	15 41 13.2	-0.3
NJ2				S	S	15 46 47.0	-7.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,160nm,4.8s						
NJ2				LR	LR		
	comp=N,250nm,25.5s,MS4.5						
NJ2				LR	LR		
	comp=E,480nm,21.3s,MS4.5						
NJ2				LR	LR		
	comp=Z,390nm,21.4s,MS4.4						
ASAJ	Asahikawa	50.14	350	P	P	15 39 56.8	+0.3
	comp=Z,12nm,0.8s,mb5.0,baz=205,slow=17,SNR=5.2						
KULM	Kulim	53.38	281	eP	P	15 40 15.7	-5.5
MDJ	Mudanjiang	54.03	339	P	P	15 40 27.4	+1.8
MDJ				PP	PP	15 42 29.3	+0.7
MDJ				PCS		15 45 30.3	
MDJ				S	S	15 47 57.7	-0.1
MDJ				SCS	ScS	15 50 09.1	+0.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,74nm,4.8s						
MDJ				LR	LR		
	comp=N,27nm,23.1s						
MDJ				LR	LR		
	comp=E,37nm,33.0s						
MDJ				LR	LR		
	comp=Z,24nm,23.1s,MS3.2						
CN2	Changchun	54.91	336	eP	P	15 40 34.6	+2.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
XAN	Xi'an	57.19	317	P	P	15 40 47.6	-1.0
XAN				AP	pP	15 40 53.5	-5.3
XAN				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
KLR	Kul'dur	57.45	344	eP	P	15 40 46.3	-3.9
KMI	Kunming	57.50	304	P	P	15 40 49.5	-1.4
KMI				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.7						
HHC	Hu-ho-hao-te	59.64	324	eP	P	15 41 05.3	-0.3
HHC				AP	pP	15 41 15.4	-0.3
HHC				XP	sP	15 41 19.4	-0.2
HHC				PCP	PcP	15 41 53.3	+1.1
HHC				PP	PP	15 43 18.1	-1.0
HHC				SCP		15 45 49.4	
HHC				PCS		15 45 53.5	
HHC				S	S	15 49 08.5	-3.5
HHC				XS		15 49 25.4	
HHC				SCS	ScS	15 50 48.4	-1.1
HHC				SS	SS	15 53 05.2	-3.8
HHC				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
HHC				AMB	AMB		
	comp=Z,97nm,3.9s						
HHC				LR	LR		
	comp=N,127nm,15.5s,MS4.5						
HHC				LR	LR		
	comp=E,264nm,14.3s,MS4.5						
HHC				LR	LR		
	comp=Z,90nm,15.5s,MS4.0						
LZH	Lanzhou	61.80	316	eP	P	15 41 21.4	+1.1
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,103nm,4.0s						
GTA	Gaotai	66.23	317	eP	P	15 41 49.8	+0.6
GTA				PCP	PcP	15 42 19.8	+0.7
GTA				PP	PP	15 44 20.1	+2.8
GTA				PPP	PPP	15 45 57.5	+4.7
GTA				S	S	15 50 31.2	-3.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,39nm,8.4s						
GTA				LR	LR		
	comp=N,79nm,13.3s,MS4.3						
GTA				LR	LR		
	comp=E,99nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=Z,76nm,13.7s,MS4.1						
ULN	Ulaanbaatar	66.60	328	eP	P	15 41 50.9	-0.4
	comp=Z,2.7nm,0.6s,mb4.5						
ULN	Ulaanbaatar	66.60	328⇓	iP	P	15 41 51.4	0.0
SONM	Songino Array	66.92	328	P	P	15 41 54.3	+0.9
	comp=Z,2.2nm,0.5s,mb4.4,baz=144,slow=5.8,SNR=21						
SONM				LR	LR	16 06 46.3	
	comp=Z,62nm,20.2s,MS3.8,baz=92,slow=32						
CASY	Casey	67.56	197	eP	P	15 41 57.1	+0.1
LSA	Lhasa	68.75	305	eP	P	15 42 02.2	-3.0
	comp=Z,3.3nm,0.5s,mb4.5						
LSA	Lhasa	68.75	305	eP	P	15 42 02.3	-2.9
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
YAK	Yakutsk	69.57	348	eP	P	15 42 08.7	-0.9
	comp=Z,34nm,1.0s,mb5.2						
YAK	Yakutsk	69.57	348	eP	P	15 42 08.7	-0.9
YAK				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.2						
ZAK	Zakamensk	70.09	329⇓	iP	P	15 42 12.6	-0.4
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BOD	Bodaibo	70.40	339	eP	P	15 42 14.0	-0.8
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
VNDA	Vanda	72.27	178	P	P	15 42 25.4	-0.3
	comp=Z,0.6nm,0.7s,mb3.6,baz=322,slow=8.7,SNR=4.5						
VNDA	Vanda	72.27	178	eP	P	15 42 25.8	+0.1
	comp=Z,1.4nm,1.0s,mb3.9						
VNDA	Vanda	72.27	178	eP	P	15 42 25.8	+0.1
VNDA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PKI	Pulchoki	72.93	301	eP	P	15 42 30.9	+0.4
KKN	Kakani	73.09	301	eP	P	15 42 31.9	+0.4
	comp=Z,56nm,1.3s,mb5.3						
KKN	Kakani	73.09	301	eP	P	15 42 31.9	+0.4
KKN				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
DMN	Daman	73.20	301	eP	P	15 42 32.9	+0.8
	comp=Z,44nm,1.0s,mb5.4						
GKN	Gorkha	73.70	301	eP	P	15 42 35.0	0.0
	comp=Z,41nm,1.0s,mb5.3						
KOLN	Koldanda	74.53	301	eP	P	15 42 40.1	+0.3
	comp=Z,25nm,0.8s,mb5.2						
WMQ	Urumqi	76.31	317	eP	P	15 42 51.3	+1.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,137nm,4.8s						
TIXI	Tiksi	78.48	352	eP	P	15 42 59.3	-1.9
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
MKAR	Makanchi Array	80.90	319	P	P	15 43 15.4	+0.7
	comp=Z,3.0nm,0.8s,mb4.2,baz=117,slow=5.4,SNR=16						
ZAL	Zalesovo	81.76	326	P	P	15 43 19.2	+0.2
	comp=Z,4.6nm,0.7s,mb4.5,baz=354,slow=5.0,SNR=21						
ILAR	Eielson Array	82.58	22	P	P	15 43 20.6	-2.4
	comp=Z,1.5nm,0.8s,mb4.1,baz=257,slow=5.3,SNR=13						
NVS	Novosibirsk	82.93	327	i P	P	15 43 24.8	-0.2
KURK	Kurchatov	84.36	322	eP	P	15 43 32.4	0.0
	comp=Z,16nm,1.1s,mb5.1						
KURK	Kurchatov	84.36	322	eP	P	15 43 32.4	0.0
KURK				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
KZA	Kyzart	84.56	313	P	P	15 43 36.2	+2.5
	SNR=14						
CHMS	Chumysh	85.11	314	P	P	15 43 37.6	+1.3
	SNR=5.9						
AAK	Ala-Archa	85.22	313	P	P	15 43 38.8	+1.9
	SNR=5.2						
AAK	Ala-Archa	85.22	313	eP	P	15 43 37.2	+0.3
	comp=Z,5.3nm,0.8s,mb4.7						
AAK	Ala-Archa	85.22	313⇑	iP	P	15 43 36.2	-0.7
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
USP	Ospenovka	85.35	314	P	P	15 43 38.7	+1.2
	SNR=9.9						
AML	Almayashu	85.71	313	P	P	15 43 41.9	+2.7
	SNR=9.3						
EKS2	Erkin-Say	85.75	313	P	P	15 43 41.5	+2.0
	SNR=6.8						
BVAR	Borovoye Array	89.83	323	P	P	15 43 58.7	-0.2
	comp=Z,5.9nm,0.7s,mb5.0,baz=107,slow=5.4,SNR=40						
BRVK	Borovoye	89.90	323	eP	P	15 43 58.4	-0.8
	comp=Z,4.2nm,1.0s,mb4.7						
BRVK	Borovoye	89.90	323	eP	P	15 43 58.4	-0.8
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
PDAR	Pinedale Array	99.04	48	LR	LR	16 25 49.5	
	comp=Z,116nm,18.0s,MS4.4,baz=118,slow=33						
OBN	Obninsk	109.33	327	eP	Pdif	15 45 27.1	+0.6
OBN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GERES	GERESS Array B	124.66	328	PKP	PKPdf	15 49 60.0	+1.3
	comp=Z,0.9nm,0.6s,baz=63,slow=2.2,SNR=8.8						
GERES	GERESS Array B	124.66	328	PKIKP	PKPdf	15 49 59.9	+1.2

*NEIC **12** 15:45:14.8, 18.19N×101.01W, h60km, MD3.6(MEX), After MEX.*

MEX 12 15:45:14.9±0.7**, 18.22N×101.02W, h55**km±29km**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.74	215	i P	P	15 45 27.6	-1.8
ZIIG				i S	S	15 45 38.3	-1.9
CAIG	El Cayaco	1.37	148	i P	P	15 45 36.7	-1.5
CAIG				i S	S	15 45 51.6	-3.8
MOIG	Morelia	1.46	354	eP	P	15 45 38.3	-1.2
MOIG				i S	S	15 45 56.3	-1.4
ACX	Acapulco	1.71	142	eP	P	15 45 42.5	-0.4
ACX				i S	S	15 46 03.5	-0.1
ACX	Acapulco	1.71	142	eP	P	15 45 43.0	+0.1
ACX				i S	S	15 46 05.0	+1.4
PPM	Popocatepetl	2.42	69	eP	P	15 45 51.0	-2.0
PPM				i S	S	15 46 19.5	-1.9
PPM	Popocatepetl	2.42	69	eP	P	15 45 51.0	-2.0
PPM				i S	S	15 46 25.0	+3.6

*NSSP **12** 16:35:52.9, 39.18N×44.72E, h9km, ML3.2*

*IDC **12** 16:35:54.8±6.8, 39.04N×44.94E, mb3.5/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=96.4km s-min=19.3km az=108.0*

*TIF **12** 16:35:58.1, 39.28N×44.35E, h11km±5km*

*CSEM **12** 16:35:58.4±0.2, 39.52N×44.05E, h2km, MD3.4, Error ellipse: s-maj=4.8km s-min=3.3km az=120.0*

*ISK **12** 16:36:01.1, 39.36N×43.94E, h4km, MD3.4*

*THR **12** 16:36:04.2±0.3, 39.44N×44.46E, h14km±2km, ML2.7*

ISC 12 16:36:01.1±0.3**, 39.43N**±0.02×**44.12E**±0.03**, h4**km**, n36, σ1s36**/54**, mb3.3**/1**, 2D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLDR	Caldiran	0.33	209	PG	Pg	16 36 05.8	-1.8
CLDR				SG	Sg	16 36 10.0	-2.0
MAKU	Maku	0.44	99	ePG	Pg	16 36 08.8	-1.1
VRNZ	Vardanashen	0.62	5	P	Pg	16 36 08.1	-5.4
VRNZ				S	Sg	16 36 21.4	-0.4
ARUZ	Aruch	0.85	358	⇓P	Pb	16 36 14.6	-3.5
ARUZ				S	Sg	16 36 28.7	-0.8
GNI	Garni	0.86	33	Pg	Pg	16 36 17.7	-0.7
	66nm,0.3s,baz=274,slow=2.6,SNR=132						
GNI				Lg		16 36 31.3	
	316nm,0.3s,baz=7.6,slow=15,SNR=36						
GNI	Garni	0.86	33	⇓P	Pb	16 36 17.7	-0.6
GNI				S	Sg	16 36 31.0	+1.1
AMBZ	Amberd	0.96	6	P	Pb	16 36 16.7	-3.3
AMBZ				S	Sb	16 36 32.6	-0.3
VANB	Van	1.01	215	ePG	Pg	16 36 19.3	-1.9
VANT	Van	1.14	210	ePG	Pg	16 36 21.5	-2.3
DIGO	Kars	1.14	330	i P	Pb	16 36 24.2	+1.2
DIGO				i S	Sb	16 36 43.9	+5.9
KARS	Kars	1.42	327	ePN	Pn	16 36 28.2	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRS	Goris	1.72	86	P	Pn	16 36 26.0	-6.0
GRS				S	Sn	16 36 54.0	-0.7
HKR	Hakkari	1.87	189	ePN	Pn	16 36 34.0	-0.2
HAKT	HAKKARI	1.90	190	i P	Pn	16 36 34.6	0.0
HAKT				i S	Sn	16 37 01.3	+2.1
AKH	Akhalkalaki	2.04	347	P	Pn	16 36 38.2	+1.7
AKH				S	Sg	16 37 08.6	-0.3
ERZM	Erzurum	2.18	284	i P	Pn	16 36 40.6	+2.0
ERZM				i S	Sg	16 37 20.9	+7.3
EZM	Erzurum	2.18	283	ePN	Pn	16 36 38.2	-0.4
DGRG	David-gareji	2.23	25	P	Pn	16 36 40.8	+1.4
DGRG				S	Sg	16 37 14.5	-1.0
MTA	Mtatsminda	2.32	13	P	Pn	16 36 43.2	+2.6
MTA				S	Sg	16 37 16.1	-2.2
SIRT	Sirnak	2.33	215	ePN	Pn	16 36 40.3	-0.5
TBLG	Delisi	2.35	11	P	Pn	16 36 43.4	+2.4
TBLG				S	Sg	16 37 17.4	-1.8
BKR	Bakuriani	2.35	349	P	Pn	16 36 42.9	+1.8
BNGL	BINGOL	2.36	259	i P	Pn	16 36 43.2	+2.1
BNGL				i S	Sg	16 37 19.2	-0.4
BTMT	Batman	2.40	240	ePN	Pn	16 36 41.7	0.0
ARTV	Artvin	2.43	317	i P	Pg	16 36 48.5	-1.0
ARTV				i S	Sg	16 37 21.5	-0.3
BEST	Besiri	2.71	236	i P	Pn	16 36 49.5	+3.3
BEST				i S	Sn	16 37 27.6	+7.8
GRMI	Germi	3.00	101	ePN	Pn	16 36 49.9	-0.4
GRMI				eSG	Sn	16 37 30.0	+2.9
GRMI				AML	AML	16 37 42.5	
	comp=N,43nm,0.7s						
GRMI	Germi	3.00	101	ePn	Pn	16 36 49.9	-0.4
	SNR=52						
GRMI				eSg	Sn	16 37 30.0	+2.8
	comp=N,43nm,0.7s,SNR=90						
ONI	Oni	3.19	351	P	Pb	16 36 59.0	+1.0
MSL	Mosul	3.24	195	ex	x	16 37 10.5	
MSL				ex	x	16 38 02.0	
MSL				ex	x	16 38 14.0	
MARD	Mardin	3.37	232	i P	Pg	16 37 04.0	-4.3
MARD				i S	Sg	16 37 49.3	-3.9
BCHG	Becho	3.79	343	P	Pg	16 37 12.9	-3.8
SNGE	Sanandaj	5.04	148	ePN	Pn	16 37 19.9	+0.7
SNGE				AML	AML	16 38 14.6	
	comp=N,4.1nm,0.3s						
BRTR	Keskin Array B	8.10	275	Pn	P	16 38 03.0	+0.7
	comp=N,0.1nm,0.3s,baz=94,slow=17,SNR=5.0						
AKASG	Malin Array Be	15.39	322	Pn	P	16 39 41.4	+0.9
	baz=128,slow=11,SNR=4.1						
GERES	GERESS Array B	23.64	303	P	P	16 41 14.1	+0.2
	comp=N,0.9nm,0.7s,mb3.3,baz=106,slow=9.7,SNR=5.3						

*NEIC **12** 16:39:07.4, 22.96S×68.51W, h101km, mb3.8/1, MD3.3(GUC), After GUC.*

GUC 12 16:39:07.4±0.6**, 22.96S×68.51W, h101km**±5km**, MD3.3, ML3.4, 2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.29	80	⇓iP	P	16 39 22.7	+0.5
SPCH				i S	S	16 39 34.9	+1.5
SPCH				AMP		16 39 36.0	
	comp=E,1µm,0.5s						
LVC	Limon Verde	0.51	313	⇓iP	P	16 39 24.1	+0.5
LVC				i S	S	16 39 36.8	+1.2
LVC				AMP		16 39 37.9	
	comp=E,3µm,0.4s						
ANCH	Antofagasta	1.89	247	eP	P	16 39 39.5	+0.4
ANCH				i S	S	16 40 03.5	+0.9
ANCH				AMP		16 40 11.5	
	comp=N,560nm,0.1s						
CPN1	Cerro Paranal	2.40	226	eP	P	16 39 46.8	+0.8
CPN1				i S	S	16 40 16.7	+1.8
CPN1				AMP		16 40 27.3	
	comp=E,236nm,0.3s						
LPAZ	La Paz	6.65	3	ePn	P	16 40 44.1	0.0
TRQA	Tornquist	16.06	161	eP	P	16 42 43.8	-4.6
	comp=E,6.0nm,0.9s						

MAN 12 16:55:37.9, 15.52N×121.75E, h20km, mb4.2, ML3.1, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	Baler	0.27	323	eP	Pb	16 55 44.2	+0.1
BALP				eS	Sb	16 55 49.0	+0.6
POLP	Polilio Island	0.81	167	eP	Pb	16 55 55.3	+2.2
POLP				eS	Sb	16 56 08.8	+5.2
BCPH	Baguio City Da	1.41	307	⇑iP	Pn	16 56 01.9	-0.8
BCPH				i S	Sn	16 56 20.9	+0.1
CAUP	Cauayan	1.42	3	eP	Pn	16 56 01.5	-1.3
CAUP				eS	Sn	16 56 20.6	-0.3
SCZP	Santa Cruz	1.79	278	eP	Pn	16 56 07.7	-0.4
BOLP	Bolinao	1.96	296	eP	Pn	16 56 10.1	-0.5
BOLP				eS	Sn	16 56 36.0	+1.2
BOAC	Boac	2.05	177	eP	Pn	16 56 11.1	-0.9
BOAC				eS	Sn	16 56 41.4	+4.1
LUBP	Lubang	2.30	219	eP	Pn	16 56 20.1	+4.6
LUBP				eS	Sn	16 56 45.6	+2.2
ABRA	Dolores	2.33	335	eP	Pn	16 56 15.3	-0.7
ABRA				eS	Sn	16 56 44.5	+0.1
PVCP	Virac	3.02	129	eP	Pn	16 56 25.4	-0.3

*NIED **12** 16:56:00, 38.90N×142.50E, h35km, Mw3.6 Best double couple: $M_0$2.41×10[14] NP1:ϕ_s54°, δ47°, λ96°. NP2:ϕ_s225°, δ44°, λ84°.*

*JMA **12** 16:56:45.6±0.1, 38.90N×142.53E, h33km±2km, M3.6*

ISC 12 16:56:46.3±1.4**, 38.90N**±0.06×**142.5E**±0.1**, h33km, n11, σ0.72**/17**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.68	285	P	P	16 56 59.2	-0.2
OFUJ				S	S	16 57 08.5	-0.4
MIYJ	Miyakonagasawa	0.86	322	P	P	16 57 01.4	-0.5
JMK	Ichinoseki	1.01	273	P	P	16 57 04.1	0.0
JMK				S	S	16 57 17.1	-0.2
JIO	Ouri	1.01	244	P	P	16 57 03.6	-0.6
JIO				S	S	16 57 15.9	-1.5
JOM	Ohasama	1.10	301	P	P	16 57 05.7	+0.3
JOM				eS	S	16 57 19.9	+0.2
JTH	Tanohata	1.15	334	P	P	16 57 05.8	-0.3
JOU	Okura	1.54	250	P	P	16 57 11.8	0.0
JOU				S	S	16 57 31.1	+0.3
JANG	Nango	1.66	333	P	P	16 57 14.1	+0.7
JYK	Kaneyama	1.68	271	P	P	16 57 14.7	+1.0
JMM	Marumori	1.70	233	P	P	16 57 13.3	-0.7
MAT	Matsushiro	4.15	237	P	P	16 57 49.0	+0.1
MAT				eS	S	16 58 38.9	+2.0

*IDC **12** 16:59:46.7±1.2, 25.81N×90.24E, mb3.9/8, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, Error ellipse: s-maj=37.5km s-min=21.1km az=45.0*

*BJI **12** 16:59:49.0, 26.16N×90.42E, h12km, mb4.4, ML4.8*

*MOS **12** 16:59:49.5±1.3, 25.72N×90.20E, h33km, mb4.4/2, Error ellipse: s-maj=23.9km s-min=13.1km az=99.6*

*NEIC **12** 16:59:52.1±0.8, 25.88N×90.53E, h35km, mb4.2/2, Error ellipse: s-maj=18.9km s-min=12.5km az=48.0*

ISC 12 16:59:49.6±1.0**, 25.71N**±0.06×**90.37E**±0.05**, h34km**±11km**, n23, σ1.02**/27**, mb4.0**/10**, 1C, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	Shillong	1.37	96	eP	P	17 00 12.3	-0.4
SHL				eS	S	17 00 28.8	-0.9
SHL				AML	AML	17 00 31.1	
	comp=E,15µm,0.2s						
SHL				AML	AML	17 00 31.2	
	comp=N,29µm,0.5s						
LSA	Lhasa	4.03	10	PG	P	17 00 51.8	+1.2
LSA				SG	S	17 01 37.4	+0.1
LSA				Smax			
	comp=N,2µm,1.0s						
LSA				Smax			
	comp=E,2µm,1.0s						
LSA	Lhasa	4.03	10	ePn	P	17 00 51.3	+0.7
LSA				eSn	S	17 01 38.8	+1.5
BLSP	Bilaspur	8.34	246	eP	P	17 01 56.4	+5.3
BLSP				eS	S	17 03 24.6	-0.5
BLSP				AML	AML	17 04 26.4	
	comp=E,47nm,0.5s						
BLSP				AML	AML	17 04 28.5	
	comp=N,72nm,0.5s						
NGP	Nagpur	11.34	249	ex	x	17 04 38.4	
BHPL	Bhopal	12.05	261	eP	P	17 02 42.8	+0.9
BHPL				eS	S	17 04 48.3	-7.8
BHPL				AML	AML	17 04 53.4	
	comp=N,13nm,0.4s						
BHPL				AML	AML	17 04 53.6	
	comp=E,18nm,0.4s						
ENH	Enshi	17.48	71	ePn	P	17 03 48.5	-3.9
AAK	Ala-Archa	21.33	326	eP	P	17 04 36.4	+0.6
	comp=E,1.1nm,0.5s,mb3.4						
AAK	Ala-Archa	21.33	326	eP	P	17 04 36.4	+0.7
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
MKAR	Makanchi Array	22.00	345	P	P	17 04 41.5	-1.0
	comp=Z,3.4nm,0.6s,mb4.0,baz=158,slow=9.6,SNR=34						
SONM	Songino Array	25.44	26	P	P	17 05 15.6	-0.3
	comp=Z,1.3nm,0.6s,mb3.6,baz=210,slow=9.8,SNR=10						
ULN	Ulaanbaatar	25.72	26	eP	P	17 05 17.7	-0.9
MJAR	Matsushiro Arr	41.97	63	P	P	17 07 40.8	+1.7
	comp=Z,1.0nm,0.6s,mb3.6,baz=277,slow=10,SNR=5.1						
KIV	Kislovodsk	42.52	308	P	P	17 07 44.3	+0.7
KIV	Kislovodsk	42.52	308	P	P	17 07 44.3	+0.8
FINES	FINESS Array B	55.50	328	P	P	17 09 20.8	-2.5
	comp=Z,2.2nm,0.9s,mb4.2,baz=108,slow=12,SNR=3.5						
ARCES	ARCESS Array B	57.41	338	P	P	17 09 35.7	-1.2
	comp=Z,2.2nm,0.9s,mb4.2,baz=107,slow=7.0,SNR=5.4						
WRA	Warramunga Arr	62.32	132	P	P	17 10 12.0	+0.8
	comp=Z,2.3nm,0.6s,mb4.5,baz=323,slow=7.0,SNR=25						
WRAB	Tennant Creek	62.32	132	eP	P	17 10 12.2	+1.0
	comp=Z,4.9nm,0.6s,mb4.8						
WRAB	Tennant Creek	62.32	132	eP	P	17 10 12.2	+1.0
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
WB2	Warramunga Arr	62.33	132	⇑iP	P	17 10 11.9	+0.7
GERES	GERESS Array B	62.53	314	P	P	17 10 12.3	+0.1
	comp=Z,0.6nm,0.8s,mb3.8,baz=180,slow=1.3,SNR=4.0						
NOA	NORSAR Array B	62.64	327	P	P	17 10 11.8	-1.0
	comp=Z,0.8nm,0.6s,mb4.0,baz=85,slow=6.7,SNR=3.1						

*STR **12** 17:16:47.7±0.4, 48.38N×8.95E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **12** 17:16:47.8, 48.37N×8.99E, h13km, ML2.7(LDG), After LDG.*

*LEDBW **12** 17:16:47.6±0.1, 48.37N×8.99E, h10km±2km, ML2.1, Error ellipse: s-maj=1.8km s-min=0.8km az=83.0*

*LDG **12** 17:16:47.8±0.1, 48.37N×8.99E, h13km, Md2.8/2, Ml2.7/11, Error ellipse: s-maj=1.3km s-min=1.1km az=125.0*

*CSEM **12** 17:16:47.5±0.1, 48.36N×9.01E, h15km, ML2.7/12, Error ellipse: s-maj=1.0km s-min=0.8km az=176.0*

*VIE **12** 17:16:47.5±0.6, 48.37N×9.13E, h8km, mb1.6/1, ML2.7/3, Error ellipse: s-maj=4.2km s-min=2.1km az=120.0*

*PRU **12** 17:16:48.4, 48.37N×9.03E*

*ZUR **12** 17:16:48.2, 48.35N×8.92E, h14km, ML2.1/6*

BGR 12 17:16:47.5±0.2**, 48.38N×9.01E, h10km, ML2.0**/5**, 11C-8D, Error ellipse: s-maj=2.2km s-min=1.1km az=127.0, Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUBL	Tuebingen Lnz	0.15	18	⇑iP*	Pb	17 16 51.7	-0.2
TUBL				S*	Sb	17 16 54.2	-0.6
GUT	Gutenstein	0.31	167	⇓iP*	Pb	17 16 54.0	-0.8
GUT				S*	Sb	17 16 58.3	-1.2
SPAK	Spaichingen	0.31	209	P*	Pb	17 16 53.9	-0.8
LBG	Lerchenberg	0.32	334	⇓iP*	Pb	17 16 54.2	-0.7
LBG				i S*	Sb	17 16 58.8	-1.1
STU	Stuttgart	0.41	17	eSg	Sg	17 17 01.7	+0.1
	SNR=4.1						
BFO	Black Forest	0.46	264	ePg	Pg	17 16 56.3	-0.5
	SNR=22						
BFO				⇑iP*	Pb	17 16 56.3	-0.8
BFO				eSg	Sg	17 17 02.0	-1.0
	SNR=8.3						
BFO				S*	Sb	17 17 02.3	-1.4
BFO				SmS		17 17 05.4	
BFO	Black Forest	0.46	264	⇑iP	Pg	17 16 56.3	-0.5
BFO				S	Sg	17 17 02.3	-0.7
BFO				S	Sg	17 17 05.4	+2.4
BFO	Black Forest	0.46	264	Pg	Pg	17 16 56.3	-0.5
	SNR=22						
BFO				Sg	Sg	17 17 02.0	-1.0
	SNR=8.3						
SISB	Singen-Sch Ber	0.69	183	⇑P*	Pb	17 17 00.8	-0.4
SISB				S*	Sb	17 17 10.3	-0.3
SISB				SmS		17 17 11.9	
SLE	Schleitheim	0.70	210	ePg	Pg	17 17 00.8	-0.8
	SNR=12						
SLE				eSg	Sg	17 17 09.5	-1.6
	SNR=32						
SLE	Schleitheim	0.70	210	⇑iP	Pb	17 17 00.8	-0.6
SLE				eSg	Sg	17 17 09.8	-1.3
STEIN	Stein am Rhein	0.71	188	⇓iPg	Pg	17 17 01.4	-0.5
STEIN				eSg	Sg	17 17 10.6	-0.9
HDH	Heidenheim	0.82	75	⇓P*	Pb	17 17 03.7	+0.2
HDH				S*	Sb	17 17 14.6	+0.3
FELD	Feldberg	0.84	234	⇑P*	Pb	17 17 03.3	-0.4
KIZ	Kirchzarten	0.84	240	⇑P*	Pb	17 17 03.2	-0.6
KIZ				Pg	Pg	17 17 03.6	-0.8
KIZ				S*	Sb	17 17 13.9	-1.1
KIZ	Kirchzarten	0.84	240	⇑P	Pb	17 17 03.2	-0.6
KIZ				S	Sb	17 17 13.9	-1.1
WEIN	Weingarten	0.85	181	i Pg	Pg	17 17 03.9	-0.7
WEIN				i Sg	Sg	17 17 15.2	-0.7
WILA	Wila	0.96	184	ePg	Pg	17 17 06.2	-0.7
	SNR=13						
WILA				eSg	Sg	17 17 18.7	-1.1
	SNR=24						
WILA	Wila	0.96	184	i Pn	Pn	17 17 06.4	-0.6
WILA	Wila	0.96	184	⇓iPn	Pn	17 17 06.1	-0.9
LANF	Langenberg	1.00	308	Pg	Pg	17 17 07.0	-0.6
LANF				Sg	Sg	17 17 19.5	-1.5
LANF	Langenberg	1.00	308	P	Pb	17 17 07.1	+0.6
UBR	Uberruh	1.01	133	⇓P	Pb	17 17 07.5	+0.8
UBR				Sg	Sg	17 17 21.5	+0.1
SULZ	Sulz-Cheisache	1.04	216	ePg	Pg	17 17 07.3	-1.1
	SNR=8.6						
SULZ				eSg	Sg	17 17 20.6	-1.7
	SNR=19						
SULZ	Sulz-Cheisache	1.04	216	⇑iPn	Pn	17 17 06.0	-2.1
SULZ	Sulz-Cheisache	1.04	216	i Pn	Pn	17 17 07.3	-0.8
SIND	Sindeldorf	1.05	22	⇑Pg	Pg	17 17 08.0	-0.5
SIND				S	Sb	17 17 20.9	0.0
ZUR	Zurich	1.05	196	eSg	Sg	17 17 21.0	-1.6
	SNR=11						
WLS	Welschbruch	1.10	273	Pg	Pg	17 17 08.5	-1.2
WLS				Sg	Sg	17 17 22.6	-1.8
WLS	Welschbruch	1.10	273	P	Pb	17 17 08.6	+0.3
SWS	Schriesheim	1.13	350	Pg	Pg	17 17 09.4	-0.7
SWS				Sg	Sg	17 17 24.3	-0.9
LIENZ	Alp Oberkamor	1.13	163	ePg	Pg	17 17 09.7	-0.4
	SNR=4.1						
LIENZ				eSn	Sn	17 17 23.3	-1.7
	SNR=5.1						
CDF	Champ du Feu	1.16	272	ePn	Pn	17 17 07.0	-2.7
CDF				ePg	Pg	17 17 09.2	-1.5
CDF				eSg	Sg	17 17 23.7	-2.4
	27nm,0.2s						
TOD	Tromm	1.24	354	Pg	Pg	17 17 11.5	-0.8
TOD	Tromm	1.24	354	Pg	Pg	17 17 11.3	-1.0
TOD				Sg	Sg	17 17 27.4	-1.4
DAVA	Damuels	1.24	151	⇓iPG	Pg	17 17 10.4	-1.9
DAVA				i SG	Sg	17 17 27.8	-1.0
	7.3nm,0.2s						
DAVA	Damuels	1.24	151	⇓iPg	Pg	17 17 10.4	-1.9
ECH	Echery	1.25	263	Pg	Pg	17 17 11.1	-1.4
ECH				Sg	Sg	17 17 26.7	-2.5
ECH	Echery	1.25	263	P	Pb	17 17 11.3	+0.6
BBS	Basel-Blauen	1.36	228	Pg	Pg	17 17 12.1	-2.7
BBS				Sg	Sg	17 17 31.0	-1.9
MOF	Molkenrain	1.36	248	Pg	Pg	17 17 13.2	-1.6
MOF	Molkenrain	1.36	248	Pn	Pn	17 17 10.2	-2.5
MOF				Pg	Pg	17 17 13.2	-1.6
MOF	Molkenrain	1.36	248	Pg	Pg	17 17 13.2	-1.6
FUR	Furstenfeldbru	1.53	97	eSg	Sg	17 17 36.5	-1.9
	SNR=3.3						
BOURR	Bourrignon	1.55	231	ePg	Pg	17 17 16.7	-1.8
	SNR=2.1						
BOURR				eSg	Sg	17 17 36.3	-3.0
	SNR=3.4						
HINF	Hinteralfeld	1.55	250	ePn	Pn	17 17 12.6	-2.8
HINF				ePg	Pg	17 17 16.2	-2.3
HINF				eSn	Sn	17 17 31.4	-4.3
HINF				eSg	Sg	17 17 35.9	-3.3
	5.9nm,0.2s						
MOTA	Moosalm	1.75	125	⇑iPG	Pg	17 17 20.2	-2.2
MOTA				i SG	Sg	17 17 43.7	-2.1
	15nm,0.2s						
MOTA	Moosalm	1.75	125	⇑iPg	Pg	17 17 20.2	-2.2
LOMF	Lomont	1.79	236	Pg	Pg	17 17 20.9	-2.5
HAU	Haudompre	1.82	259	ePn	Pn	17 17 16.6	-2.6
HAU				ePg	Pg	17 17 21.5	-2.4
HAU				eSg	Sg	17 17 44.8	-3.4
	13nm,0.3s						
SQTA	Sankt Quirin	1.88	127	⇑iPG	Pg	17 17 22.9	-2.2
SQTA				i SG	Sg	17 17 47.2	-3.0
	7.6nm,0.2s						
TNS	Taunus Mts	1.88	349	ePg	Pg	17 17 23.3	-1.9
	SNR=1.4						
TNS				eSg	Sg	17 17 47.9	-2.4
	SNR=1.6						
GRF	Grafenberg Arr	1.96	47	ePg	Pg	17 17 25.0	-1.7
	SNR=5.7						
GRF				eSg	Sg	17 17 49.1	-3.8
	SNR=5.6						
THEF	They Montfort	2.02	267	Pg	Pg	17 17 25.2	-2.8
THEF	They Montfort	2.02	267	P	Pn	17 17 25.4	+3.3
THEF	They Montfort	2.02	267	Pn	Pn	17 17 20.2	-1.9
THEF				Pg	Pg	17 17 25.2	-2.8
THEF	They Montfort	2.02	267	Pg	Pg	17 17 25.2	-2.8
WLF	Walferdange	2.28	305	eSg	Sg	17 17 59.8	-3.7
	SNR=2.7						
RFYF	Reffroy	2.37	277	ePn	Pn	17 17 24.2	-2.8
	baz=104						
RFYF				ePg	Pg	17 17 31.4	-3.4
	baz=109						
RFYF				eSg	Sg	17 18 02.0	-4.3
	14nm,0.2s						
RFYF	Reffroy	2.37	277	ePg	Pg	17 17 31.4	-3.4
RFYF				eSg	Sg	17 18 02.0	-4.3
	6.9nm,0.2s						
MEZF	Maizieres J'vi	2.64	274	ePn	Pn	17 17 27.5	-3.4
	baz=87						
MEZF				ePg	Pg	17 17 36.2	-4.0
MEZF				eSg	Sg	17 18 10.1	-5.3
	1.4nm,0.1s						
CABF	La Chapelle	2.66	229	ePn	Pn	17 17 27.9	-3.3
CABF				ePg	Pg	17 17 37.1	-3.4
CABF				eSg	Sg	17 18 11.1	-4.9
	2.2nm,0.2s						
SFTF	Sexfontaines	2.66	268	ePn	Pn	17 17 28.3	-2.9
	baz=81						
SFTF				ePg	Pg	17 17 36.7	-3.9
	baz=94						
SFTF				eSg	Sg	17 18 11.6	-4.5
	6.9nm,0.2s						
SFTF	Sexfontaines	2.66	268	ePg	Pg	17 17 36.7	-3.9
SFTF				eSg	Sg	17 18 11.6	-4.5
	3.5nm,0.2s						
WET	Wettzell	2.67	72	ePg	Pg	17 17 37.3	-3.6
	SNR=2.0						
WET				eSg	Sg	17 18 12.3	-4.2
	SNR=3.9						
MOX	Moxa	2.83	36	eSg	Sg	17 18 17.5	-4.4
	SNR=2.4						
WERD	Werda	2.99	45	eSg	Sg	17 18 21.8	-5.2
	SNR=1.3						
TANN	Tannenbergstha	3.04	47	ePg	Pg	17 17 44.2	-4.0
	SNR=2.6						
KHC	Kasperske Hory	3.12	74	ePN	Pn	17 17 41.3	+3.6
KHC				ePG	Pg	17 17 45.7	-4.0
KHC				eSG	Sg	17 18 26.9	-4.4
KHC	Kasperske Hory	3.12	74	ePg	Pg	17 17 45.7	-4.0
KHC				eSg	Sg	17 18 26.9	-4.4
GEC2	GERESS Array S	3.15	80	ePg	Pg	17 17 46.0	-4.4
	SNR=3.8						
LOR	Lormes	3.64	254	ePn	Pn	17 17 42.1	-3.1
	baz=65						
LOR				ePg	Pg	17 17 55.2	-5.1
	baz=80						
LOR				eSg	Sg	17 18 41.5	-7.4
	2.0nm,0.2s						
LOR	Lormes	3.64	254	ePg	Pg	17 17 55.2	-5.1
LOR				eSg	Sg	17 18 41.5	-7.4
	1.0nm,0.2s						
SMF	Signal de Mont	3.91	246	ePg	Pg	17 18 00.0	-5.6
SSF	Saint Saulge	3.94	253	ePn	Pn	17 17 46.2	-3.3
SSF				ePg	Pg	17 18 00.8	-5.4
SSF				eSg	Sg	17 18 50.8	-8.0
	1.9nm,0.3s						
AVF	Avril sur Loir	4.14	250	ePg	Pg	17 18 04.7	-5.6
HYF	Humbligny	4.43	258	ePg	Pg	17 18 09.7	-6.3

*IDC **12** 17:32:40.3±1.1, 42.62N×84.40E, mb4.0/5, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, ML3.1/2, Error ellipse: s-maj=37.2km s-min=19.0km az=55.0*

*NNC **12** 17:32:42.2±6.8, 42.96N×85.01E, h3km±29km, mpv3.5, Error ellipse: s-maj=51.1km s-min=26.1km az=113.0*

*BJI **12** 17:32:44.9, 42.71N×84.57E, h33km, mB4.6, mb4.4, ML3.9, Ms3.4, Msz3.6*

*MOS **12** 17:32:44.2±1.8, 42.93N×84.52E, h33km, mb4.3/2, Error ellipse: s-maj=19.2km s-min=13.5km az=105.1*

*NEIC **12** 17:32:45.8±0.8, 42.75N×84.65E, h35km, mb4.2/2, Error ellipse: s-maj=23.1km s-min=13.1km az=49.0*

ISC 12 17:32:45.8±1.5**, 42.7N**±0.1×**84.57E**±0.08**, h53km**±14km**, n27, σ1.01**/30**, mb4.0**/8**, 4C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.53	64	P	P	17 33 27.0	+1.7
WMQ				S	S	17 34 00.5	+5.5
WMQ				Smax			
	comp=N,335nm,0.5s						
WMQ				Smax			
	comp=E,371nm,0.5s						
WMQ				LR	LR		
	comp=N,521nm,2.6s						
MK31	Makanchi Array	4.37	339	⇑Pn	P	17 33 50.7	-0.6
	comp=N,1.3nm,0.4s,baz=152,slow=13,SNR=299						
MK31				⇓Pg	P	17 34 01.4	+10
	comp=N,5.0nm,0.3s,baz=152,slow=18,SNR=7.9						
MK31				⇓Lg		17 34 56.8	
	comp=N,70nm,0.7s,baz=150,slow=27,SNR=5.8						
MKAR	Makanchi Array	4.37	339	Pn	P	17 33 50.7	-0.5
	comp=N,1.0nm,0.3s,baz=157,slow=14,SNR=55						
MKAR				Pg	P	17 34 01.4	+10
	comp=N,6.6nm,0.3s,baz=154,slow=17,SNR=53						
MKAR				Lg		17 34 52.5	
	comp=N,6.2nm,0.3s,baz=144,slow=23,SNR=3.6						
MKAR	Makanchi Array	4.37	339	Pn	P	17 33 50.7	-0.5
MKAR				Pg	P	17 34 01.4	+10
MKAR				Lg		17 34 52.5	
AAK	Ala-Archa	7.42	273	⇑Pg	Px	17 35 02.9	
	comp=N,7.2nm,1.3s						
AAK				⇓Lg		17 36 40.5	
	comp=N,39nm,1.2s						
AAK	Ala-Archa	7.42	273	ePn	P	17 34 33.8	-0.2
AAK				eSn	S	17 35 50.1	-7.5
KURK	Kurchatov	8.96	335	⇑Lg		17 37 22.3	
	comp=N,18nm,1.0s						
KURK	Kurchatov	8.96	335	ePn	P	17 34 47.7	-7.4
KK31	Karatay Array	10.32	277	⇓Lg		17 38 11.5	
	comp=N,1.4nm,0.5s,baz=80,slow=26,SNR=3.9						
GTA	Gaotai	11.98	101	eP	P	17 35 33.7	-2.4
GTA				AP		17 35 41.7	
GTA				XP		17 35 45.7	
GTA				S	S	17 37 40.6	-8.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s						
GTA				LR	LR		
	comp=N,67nm,7.6s						
GTA				LR	LR		
	comp=E,88nm,6.5s						
GTA				LR	LR		
	comp=Z,75nm,6.8s						
VOSK	Vostochnaya	13.52	322	⇑P	P	17 35 57.6	+1.3
	comp=Z,1.7nm,0.7s						
BVAR	Borovoye Array	13.99	322	Pn	P	17 36 02.6	+0.1
	comp=Z,0.1nm,0.3s,baz=129,slow=11,SNR=5.5						
BRVK	Borovoye	14.06	322	ePn	P	17 36 03.6	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.6nm,0.9s						
BRVK	**Borovoye**	**14.06**	**322**	eP	**P**	**17 36 03.6**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAK	**Zakamensk**	**14.94**	**53**	eP	**P**	**17 36 13.2**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**16.16**	**64**	Pn	**P**	**17 36 30.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=257,slow=13,SNR=15						
BOD	**Bodaibo**	**23.85**	**41**	eP	**P**	**17 37 55.1**	**+0.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.7						
NJ2	**Nanjing**	**29.07**	**100**	eP	**P**	**17 38 46.9**	**+3.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
FINES	**FINESS Array B**	**38.92**	**319**	P	**P**	**17 40 07.4**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.8,baz=108,slow=8.8,SNR=2.9						
ARCES	**ARCESS Array B**	**39.98**	**332**	P	**P**	**17 40 16.3**	**0.0**
	comp=Z,4.7nm,1.0s,mb4.2,baz=97,slow=7.3,SNR=6.4						
NB2	**NORSAR Subarra**	**46.10**	**320**	P	**P**	**17 41 05.1**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=78,slow=7.9						
NB2	**NORSAR Subarra**	**46.10**	**320**	P	**P**	**17 41 05.1**	**-0.8**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**46.10**	**320**	P	**P**	**17 41 05.1**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=78,slow=7.9,SNR=3.2						
IDI	**Anoyia**	**46.12**	**282**	P	**P**	**17 41 05.6**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.0,baz=148,slow=21,SNR=2.9						
WRAB	**Tennant Creek**	**77.39**	**133**	eP	**P**	**17 44 37.8**	**+0.9**
	comp=Z,1.8nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**77.39**	**133**	eP	**P**	**17 44 37.8**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**77.39**	**133**	P	**P**	**17 44 37.5**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=333,slow=5.6,SNR=15						

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*CSEM **12** 17:49:40.8±0.1, 31.99N×55.00E, h2km, ML3.0, Error ellipse: s-maj=3.6km s-min=2.0km az=41.0*
*THR **12** 17:49:42.2±0.6, 31.91N×54.91E, h15km±8km, ML2.8*
*TEH **12** 17:49:49.7, 32.21N×54.56E, h10km, Mn3.0*
ISC 12 17:49:48.6±1.4**, 32.27N**±0.04×**54.5E**±0.2**, h10**km**, n20, σ1s03**/18**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ICHK	**Chekchek**	**0.09**	**253**	Pg	**Pg**	**17 49 52.5**	**+1.3**
ISAD	**Sadrabad**	**0.79**	**243**	Pg	**Pg**	**17 50 02.9**	**-1.5**
IMEH	**Mehriz**	**0.88**	**174**	Pg	Px	17 49 54.9	
IBAF	**Bafgh**	**1.13**	**127**	Pg	Px	17 49 53.2	
NASN	**Na'in**	**1.53**	**291**	ePg	**Pg**	**17 50 18.5**	**-0.7**
IZEF	**Zefreh**	**1.94**	**289**	Pn	**Pn**	**17 50 24.4**	**+2.3**
IGAR	**Garneh**	**1.96**	**270**	Pn	**Pn**	**17 50 25.8**	**+3.5**
IPAR	**Pars**	**2.73**	**208**	Pn	**Pn**	**17 50 32.7**	**-0.6**
KRBR	**Kerman**	**2.99**	**139**	ePn	Px	17 50 24.9	
IPIR	**Pirpir**	**3.08**	**279**	Pn	**Pn**	**17 50 39.1**	**+0.7**
ISRV	**Sarvestan**	**3.12**	**203**	Pn	**Pn**	**17 50 38.1**	**-0.8**
IMOK	**Mook**	**3.57**	**206**	Pn	**Pn**	**17 50 45.3**	**+0.1**
IVRN	**Varamin**	**3.57**	**320**	Pn	**Pn**	**17 50 45.7**	**+0.3**
IVRN				Sn	**Sn**	**17 51 27.2**	**-0.9**
IFIR	**Firoozkooh**	**3.67**	**337**	Pn	**Pn**	**17 50 46.6**	**-0.1**
IFIR				Sn	**Sn**	**17 51 29.4**	**-1.0**
IDMV	**Damavand**	**3.89**	**329**	Pn	**Pn**	**17 50 50.0**	**+0.2**
DAMV	**Damavand**	**3.96**	**328**	ePn	**Pn**	**17 50 51.5**	**+0.7**
DAMV				AML	AML	17 52 19.9	
	comp=N,12nm,0.5s						
GHIR	**Ghir-Karzin**	**4.18**	**199**	ePn	**Pn**	**17 50 44.7**	**-9.3**
IAFJ	**Afjeh**	**4.26**	**328**	Pn	**Pn**	**17 50 51.3**	**-3.9**
ASAO	**Ashtian**	**4.38**	**302**	ePn	**Pn**	**17 50 57.1**	**+0.3**
ASAO				AML	AML	17 52 43.5	
	comp=N,6.2nm,0.5s						
ZHSF	**Zahedan**	**6.00**	**115**	ePn	Px	17 51 06.1	

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*NIED **12** 18:13:00, 38.30N×143.60E, h29km, Mw3.4 Best double couple: $M_0$1.65×10^14 NP1:ϕ_s352°, δ75°, λ152°. NP2:ϕ_s90°, δ63°, λ16°.*
JMA 12 18:13:18.9±0.2**, 38.29N**×**143.64E, h41**km**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.73**	**298**	P	P	18 13 47.5	+0.4
JIO	**Ouri**	**1.81**	**276**	P	P	18 13 48.6	+0.4
JIO				eS	S	18 14 09.9	-0.1
JMK	**Ichinoseki**	**2.01**	**290**	P	P	18 13 51.6	+0.6
JOM	**Ohasama**	**2.18**	**304**	P	P	18 13 54.1	+0.6
JOM				eS	S	18 14 19.9	+0.5
JMM	**Marumori**	**2.29**	**260**	P	P	18 13 54.9	-0.1
JMM				eS	S	18 14 21.4	-0.7
JYK	**Kaneyama**	**2.65**	**285**	P	P	18 14 00.9	+0.8
JANG	**Nango**	**2.65**	**322**	P	P	18 14 00.3	0.0
JANG				eS	S	18 14 31.3	-0.2
MAT	**Matsushiro**	**4.66**	**250**	P	P	18 14 29.4	+0.7
MAT				eS	S	18 15 22.7	+0.4

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*TEH **12** 18:53:32.1, 38.19N×57.31E, h10km, Mn3.2*
*CSEM **12** 18:53:32.1, 38.19N×57.31E, h10km, ML3.2, After TEH*
*NNC **12** 18:53:36.0±4.6, 38.95N×57.61E, Error ellipse: s-maj=212.8km s-min=35.3km az=91.0*
ISC 12 18:53:26.9±0.6**, 38.59N**±0.04×**57.30E**±0.08**, h10**km**, n13, σ1s25**/16**, 1C-3D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISFR	**Esferayen**	**1.64**	**160**	Pg	**Pn**	**18 53 53.4**	**-2.6**
IKRD	**Kardeh**	**2.06**	**152**	Pn	**Pg**	**18 54 09.2**	**+1.2**
IPAY	**Payeh**	**2.52**	**147**	Pn	**Pn**	**18 54 08.5**	**-0.2**
MHI	**Mashhad**	**2.86**	**142**	Pn	**Pn**	**18 54 14.0**	**+0.5**
IMOG	**Moghan**	**2.96**	**146**	Pn	**Pn**	**18 54 14.8**	**-0.1**
IMYA	**Miamay**	**3.16**	**134**	Pn	**Pn**	**18 54 17.3**	**-0.5**
IKIA	**Kiasar**	**3.73**	**232**	Pn	**Pn**	**18 54 26.1**	**+0.2**
IGLO	**Galoogah**	**3.79**	**234**	Pn	**Pn**	**18 54 22.8**	**-3.9**
IPRN	**Paran-Amol**	**4.66**	**241**	Pn	**Pn**	**18 54 39.1**	**0.0**
IFIR	**Firoozkooh**	**4.68**	**232**	Pn	**Pn**	**18 54 39.0**	**-0.3**
IFIR				Sn	**Sn**	**18 55 28.4**	**-5.9**
IDMV	**Damavand**	**5.17**	**236**	Pn	**Pn**	**18 54 46.5**	**+0.1**
AB31	**Akbulak array**	**10.83**	**9**	⇓P	**P**	**18 56 07.2**	**+2.1**
	0.2nm,0.3s,baz=188,slow=13,SNR=11						
AB31				⇓S	**S**	**18 58 04.7**	**-2.7**
	1.3nm,0.5s,baz=203,slow=22,SNR=5.2						
AKTO	**Aktyubinsk**	**11.86**	**2**	⇑P	**P**	**18 56 21.2**	**+2.2**
	0.2nm,0.4s						
AKTO				⇓S	**S**	**18 58 31.7**	**-0.7**
	0.6nm,1.0s						

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*ATH **12** 18:54:46.5, 40.74N×23.30E, h13km, MD3.0/3*
*THE **12** 18:54:46.8, 40.72N×23.31E, h10km, ML2.3*
*NEIC **12** 18:54:46.5, 40.74N×23.30E, h13km, MD3.0(ATH), ML2.3(THE), After ATH.*
*CSEM **12** 18:54:47.1±0.1, 40.72N×23.31E, h1km±2km, MD3.0, Error ellipse: s-maj=2.3km s-min=1.7km az=83.0*
ISC 12 18:54:46.2±0.5**, 40.70N**±0.03×**23.30E**±0.05**, h9**km±5km**, n13, σ0s73**/20**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.12**	**18**	ePg	**Pg**	**18 54 49.2**	**0.0**
SOH				eSg	**Sg**	**18 54 51.3**	**+0.1**
THE	**Thessaloniki**	**0.27**	**255**	ePg	**Pg**	**18 54 52.3**	**+0.5**
	comp=Z,13nm,0.3s						
THE				eSg	**Sg**	**18 54 56.2**	**+0.7**
THE	**Thessaloniki**	**0.27**	**255**	ePg	**Pg**	**18 54 52.3**	**+0.5**
	13nm,0.3s						
THE				eSg	**Sg**	**18 54 56.2**	**+0.7**
PLG	**Polygyros**	**0.35**	**162**	⇑iPB	**Pb**	**18 54 53.7**	**-0.3**
PLG				eSB	**Sb**	**18 54 58.9**	**-0.4**
SRS	**Serrai**	**0.47**	**28**	ePg	**Pg**	**18 54 55.0**	**-0.7**
KNT	**Kendrikon**	**0.55**	**326**	ePg	**Pg**	**18 54 57.3**	**0.0**
	comp=Z,27nm,0.2s						
KNT				eSg	**Sg**	**18 55 04.7**	**-0.1**
OUR	**Ouranopolis**	**0.64**	**125**	ePg	**Pg**	**18 54 58.9**	**-0.1**
OUR				eSg	**Sg**	**18 55 08.3**	**+0.8**
NVR	**Nevrokopi**	**0.77**	**33**	ePB	**Pb**	**18 55 00.6**	**-0.7**
NVR				eSB	**Sb**	**18 55 11.1**	**-0.5**
PAIG	**Paliouri**	**0.83**	**159**	ePg	**Pg**	**18 55 01.8**	**-1.0**
XOR	**Xorichti**	**1.34**	**184**	ePg	**Pg**	**18 55 12.0**	**-1.0**
RDO	**Rodhopi**	**1.75**	**75**	ePN	**Pn**	**18 55 18.5**	**+1.5**
ALN	**Alexandroupoli**	**2.09**	**84**	ePn	**Pn**	**18 55 23.2**	**+1.4**
ALN	**Alexandroupoli**	**2.09**	**84**	ePn	**Pn**	**18 55 23.2**	**+1.4**

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*BJI **12** 19:00:28.6, 1.10N×126.45E, h35km, mB5.0, mb4.7, Ms3.8, Msz3.7*
*MOS **12** 19:00:29.0±1.0, 1.10N×126.26E, h31km, mb4.8/18, Error ellipse: s-maj=17.7km s-min=7.9km az=111.6*
*NEIC **12** 19:00:31.6±0.2, 1.04N×126.24E, h35km, mb4.7/25, Error ellipse: s-maj=10.5km s-min=4.9km az=77.0*
*IDC **12** 19:00:35.4±3.9, 1.01N×126.38E, h71km±35km, mb4.3/14, mb1 4.4/15, mb1mx4.3/19, mbtmp4.6/15, ML4.6/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/18, Error ellipse: s-maj=26.0km s-min=9.7km az=76.0*
ISC 12 19:00:26.4±2.2**, 1.09N**±0.04×**126.24E**±0.08**, h12**km±13km**, h29**km±2.4km**:pP-P, n95, σ0s95**/99**, mb4.7**/53**, MS3.5**/3**, 3C-4D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.15**	**296**	eP	**P**	**19 03 14.6**	**+5.7**
KSM	**Kuching**	**15.93**	**272**	ePn	**P**	**19 04 17.8**	**+5.5**
FITZ	**Fitzroy Crossi**	**19.08**	**182**	⇑iP	**P**	**19 04 50.4**	**-1.1**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.08**	**182**	P	**P**	**19 04 50.5**	**-0.9**
	1.6nm,0.3s,baz=11,slow=8.3,SNR=40						
WRAB	**Tennant Creek**	**22.35**	**160**	eP	**P**	**19 05 25.4**	**-0.4**
	91nm,0.9s,mb5.2						
WRAB				eS	**S**	**19 09 27.2**	**+0.9**
WRAB	**Tennant Creek**	**22.35**	**160**	eP	**P**	**19 05 25.4**	**-0.5**
WRAB				eS	**S**	**19 09 27.3**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,91nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**22.36**	**160**	P	**P**	**19 05 25.4**	**-0.5**
	comp=Z,12nm,0.3s,mb4.8,baz=339,slow=11,SNR=196						
WRA				S	**S**	**19 09 26.7**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=327,slow=17,SNR=7.6						
WB2	**Warramunga Arr**	**22.36**	**160**	eP	**P**	**19 05 25.2**	**-0.8**
MBWA	**Marble Bar**	**23.01**	**196**	eP	**P**	**19 05 32.7**	**+0.3**
	comp=Z,7.1nm,0.6s,mb4.3						
YHNB	**Yeheng**	**23.91**	**349**	eP	**P**	**19 05 44.4**	**+3.3**
JOW	**Kunigami**	**25.67**	**4**	P	**P**	**19 06 00.5**	**+2.4**
	comp=Z,16nm,0.7s,mb4.7,baz=235,slow=6.6,SNR=7.2						
KULM	**Kulim**	**25.89**	**280**	eP	**P**	**19 06 00.8**	**+0.6**
SSE	**Sheshan**	**30.23**	**351**	P	**P**	**19 06 38.2**	**-1.1**
SSE				AP	pP	19 06 47.0	+4.2
SSE				XP	sP	19 06 50.8	+6.5
SSE				S	**S**	**19 11 37.5**	**+0.2**
SSE				XS		19 11 52.5	
SSE				PCS		19 13 20.9	
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,82nm,3.9s						
SSE				LR	LR		
	comp=N,39nm,20.6s,MS3.1						
SSE				LR	LR		
	comp=E,19nm,20.6s,MS3.1						
NJ2	**Nanjing**	**31.58**	**348**	eP	**P**	**19 06 50.8**	**-0.4**
NJ2				AP	pP	19 07 00.5	+5.8
NJ2				XP	sP	19 07 04.5	+8.3
NJ2				PP	PP	19 07 53.3	-2.4
NJ2				PPP	PPP	19 08 09.6	-1.1
NJ2				S	**S**	**19 11 56.0**	**-2.4**
NJ2				XS		19 12 13.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,140nm,3.8s						
NJ2				LR	LR		
	comp=N,230nm,12.2s,MS4.2						
NJ2				LR	LR		
	comp=E,270nm,13.5s,MS4.2						
NJ2				LR	LR		
	comp=Z,120nm,17.0s,MS3.6						
FORT	**Forrest**	**31.74**	**177**	eP	**P**	**19 06 52.3**	**-0.3**
	comp=Z,13nm,0.4s,mb5.1						
ENH	**Enshi**	**33.10**	**333**	eP	**P**	**19 07 04.2**	**-0.3**
	comp=Z,5.1nm,0.5s,mb4.7						
KLBR	**Kellerberrin**	**33.48**	**193**	⇓iP	**P**	**19 07 08.2**	**+0.4**
	comp=Z,11nm,0.3s,mb5.3						
NWAO	**Narrogin (SRO)**	**34.88**	**193**	P	**P**	**19 07 19.9**	**0.0**
	comp=Z,9.1nm,0.4s,mb5.1,baz=16,slow=9.1,SNR=24						
NWAO	**Narrogin (SRO)**	**34.88**	**193**	eP	**P**	**19 07 19.8**	**-0.1**
	comp=Z,6.4nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**34.88**	**193**	eP	**P**	**19 07 19.8**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HNR	**Honiara**	**35.16**	**108**	P	**P**	**19 07 22.6**	**+0.2**
	comp=Z,21nm,0.6s,mb5.3,baz=195,slow=2.3,SNR=4.1						
STKA	**Stephens Creek**	**35.87**	**157**	⇑iP	**P**	**19 07 28.0**	**-0.3**
	comp=Z,6.8nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**35.87**	**157**	P	**P**	**19 07 28.0**	**-0.3**
	comp=Z,10.0nm,0.8s,mb4.8,baz=327,slow=7.8,SNR=71						
STKA	**Stephens Creek**	**35.87**	**157**	eP	**P**	**19 07 27.9**	**-0.4**
KS15	**Wonju Array Si**	**36.21**	**2**	eP	**P**	**19 07 32.2**	**+1.1**
XAN	**Xi'an**	**36.57**	**335**	P	**P**	**19 07 33.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**36.98**	**16**	eP	**P**	**19 07 37.2**	**-0.3**
	comp=Z,7.3nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**36.98**	**16**	eP	**P**	**19 07 37.2**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
MAT	**Matsushiro**	**36.98**	**16**	P	**P**	**19 07 37.3**	**-0.2**
MAT	**Matsushiro**	**36.98**	**16**	eP	**P**	**19 07 37.0**	**-0.5**
	comp=Z,3.4nm,0.7s,mb4.3						
MAT	**Matsushiro**	**36.98**	**16**	eP	**P**	**19 07 37.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**36.98**	**16**	P	**P**	**19 07 37.5**	**0.0**
	comp=Z,2.6nm,0.5s,mb4.3,baz=186,slow=9.5,SNR=16						
MDJ	**Mudanjiang**	**43.44**	**3**	P	**P**	**19 08 32.3**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,105nm,4.8s						
MDJ	**Mudanjiang**	**43.44**	**3**	eP	**P**	**19 08 32.8**	**+1.8**
	comp=Z,8.1nm,0.8s,mb4.5						
LSA	**Lhasa**	**43.85**	**314**	eP	**P**	**19 08 35.9**	**+1.4**
	comp=Z,5.1nm,0.6s,mb4.4						
LSA	**Lhasa**	**43.85**	**314**	eP	**P**	**19 08 35.9**	**+1.4**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
GTA	**Gaotai**	**45.12**	**331**	eP	**P**	**19 08 45.2**	**+0.6**
GTA				AP	pP	19 08 52.3	+4.1
GTA				XP	sP	19 08 56.4	+6.7
GTA				PCP	PcP	19 10 26.1	+0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
ASAJ	**Asahikawa**	**45.24**	**17**	LR	LR	19 24 42.8	
	comp=Z,53nm,20.7s,MS3.5,baz=180,slow=32						
PKI	**Pulchoki**	**47.14**	**308**	eP	**P**	**19 09 01.3**	**+0.6**
	comp=Z,10nm,0.6s,mb4.9						
PKI	**Pulchoki**	**47.14**	**308**	eP	**P**	**19 09 01.3**	**+0.6**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KKN	**Kakani**	**47.34**	**308**	eP	**P**	**19 09 01.8**	**-0.5**
	comp=Z,13nm,0.8s,mb4.9						
KKN	**Kakani**	**47.34**	**308**	eP	**P**	**19 09 01.8**	**-0.5**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
DMN	**Daman**	**47.40**	**308**	eP	**P**	**19 09 02.3**	**-0.4**
	comp=Z,28nm,1.1s,mb5.1						
GKN	**Gorkha**	**47.94**	**308**	eP	**P**	**19 09 06.4**	**-0.6**
	comp=Z,8.8nm,0.6s,mb5.0						
KOLN	**Koldanda**	**48.66**	**307**	eP	**P**	**19 09 12.4**	**-0.2**
	comp=Z,31nm,0.7s,mb5.5						
SONM	**Songino Array**	**49.64**	**343**	P	**P**	**19 09 20.7**	**+0.8**
	comp=Z,1.9nm,0.6s,mb4.3,baz=157,slow=8.2,SNR=13						
SONM				PcP	PcP	19 10 42.2	+0.6
	comp=Z,0.4nm,0.4s,baz=158,slow=4.6,SNR=3.0						
ZAK	**Zakamensk**	**52.85**	**342**	eP	**P**	**19 09 45.8**	**+1.7**
ZAK				e		19 10 52.6	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
WMQ	**Urumqi**	**54.62**	**326**	eP	**P**	**19 09 57.5**	**+0.3**
BOD	**Bodaibo**	**57.39**	**352**	eP	**P**	**19 10 17.6**	**+0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**59.45**	**326**	P	**P**	**19 10 31.1**	**-0.4**
	comp=Z,9.9nm,0.6s,mb5.0,baz=120,slow=7.5,SNR=92						
MKAR				PcP	PcP	19 11 18.8	-0.2
	comp=Z,2.4nm,0.5s,baz=124,slow=4.6,SNR=4.2						
YAK	**Yakutsk**	**60.84**	**2**	eP	**P**	**19 10 40.5**	**-0.3**
	comp=Z,8.9nm,0.7s,mb5.0						
YAK	**Yakutsk**	**60.84**	**2**	eP	**P**	**19 10 40.5**	**-0.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
AAK	**Ala-Archa**	**61.99**	**319**	eP	**P**	**19 10 47.4**	**-1.5**
	comp=Z,2.7nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**61.99**	**319**	⇓iP	**P**	**19 10 46.9**	**-2.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**63.70**	**328**	eP	**P**	**19 10 59.7**	**-0.4**
	comp=Z,27nm,0.6s,mb5.5						
KURK	**Kurchatov**	**63.70**	**328**	⇑iP	**P**	**19 10 59.6**	**-0.5**
NVS	**Novosibirsk**	**64.00**	**334**	i P	**P**	**19 11 00.2**	**-1.8**
SEY	**Seymchan**	**64.70**	**13**	⇓iP	**P**	**19 11 06.8**	**+0.4**
KKAR	**Karatay Array**	**64.84**	**318**	i P	**P**	**19 11 06.8**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CASY	**Casey**	**68.15**	**187**	eP	**P**	**19 11 28.2**	**-0.1**
CASY	**Casey**	**68.15**	**187**	eP	**P**	**19 11 27.9**	**-0.4**
	comp=Z,3.2nm,0.6s,mb4.5						
VOSK	**Vostochnaya**	**68.81**	**328**	P	**P**	**19 11 31.6**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BVA0	**Borovoye Array**	**69.27**	**328**	i P	**P**	**19 11 35.2**	**-0.2**
BVAR	**Borovoye Array**	**69.27**	**328**	P	**P**	**19 11 35.2**	**-0.2**
	comp=Z,2.5nm,0.4s,mb4.5,baz=61,slow=6.6,SNR=22						
BRVK	**Borovoye**	**69.34**	**328**	eP	**P**	**19 11 36.0**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.4						
BRVK	**Borovoye**	**69.34**	**328**	eP	**P**	**19 11 36.0**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
TIXI	**Tiksi**	**70.47**	**1**	eP	**P**	**19 11 40.6**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
AB31	**Akbulak array**	**73.88**	**321**	i P	**P**	**19 12 02.7**	**-0.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
SVE	**Sverdlovsk**	**75.95**	**329**	eP	**P**	**19 12 14.8**	**0.0**
SVE				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2						
ARU	**Arti**	**76.90**	**328**	eP	**P**	**19 12 20.2**	**0.0**
	comp=Z,12nm,0.7s,mb4.9						
ARU	**Arti**	**76.90**	**328**	⇓iP	**P**	**19 12 19.6**	**-0.5**
ARU				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
RDF	**Al-Radifah**	**79.58**	**299**	eP	**P**	**19 12 35.7**	**+0.3**
MIB	**Mutribah**	**79.83**	**300**	eP	**P**	**19 12 36.7**	**0.0**
MIB				AMb	AMB	19 12 37.5	
	comp=Z,19nm,0.6s,mb5.2						
NAY	**Al-Naaiem**	**79.87**	**299**	eP	**P**	**19 12 37.2**	**+0.2**
NAY				AMb	AMB	19 12 38.0	
	comp=Z,9.7nm,0.5s,mb5.0						
VNDA	**Vanda**	**80.89**	**173**	P	**P**	**19 12 41.6**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=310,slow=7.4,SNR=10.0						
VNDA	**Vanda**	**80.89**	**173**	eP	**P**	**19 12 41.6**	**+0.2**
MAW	**Mawson**	**81.12**	**200**	P	**P**	**19 12 43.6**	**+0.8**
	comp=Z,3.0nm,0.5s,mb4.5,baz=107,slow=6.1,SNR=6.7						
SBA	**Scott Base**	**81.80**	**172**	P	**P**	**19 12 46.7**	**+0.5**
GNI	**Garni**	**82.80**	**310**	eP	**P**	**19 12 49.9**	**-2.2**
	comp=Z,7.8nm,0.8s,mb4.8						
GNI	**Garni**	**82.80**	**310**	eP	**P**	**19 12 49.9**	**-2.2**
GNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AFFS	**'Afif**	**83.38**	**294**	P	**P**	**19 12 55.8**	**+0.4**
KIV	**Kislovodsk**	**84.60**	**314**	eP	**P**	**19 13 01.4**	**+0.2**
	comp=Z,4.5nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**84.60**	**314**	eP	**P**	**19 13 01.4**	**+0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
MALT	**Malatya**	**87.61**	**308**	eP	**P**	**19 13 18.5**	**+2.3**
ILAR	**Eielson Array**	**87.68**	**25**	P	**P**	**19 13 15.1**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.9,baz=237,slow=5.6,SNR=6.3						
ASF	**Jabal al Asfar**	**88.87**	**302**	P	**P**	**19 13 23.9**	**+1.6**
	comp=Z,4.1nm,0.7s,mb4.9,baz=15,slow=3.6,SNR=5.7						
OBN	**Obninsk**	**88.93**	**325**	eP	**P**	**19 13 22.2**	**+0.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
KMBO	**Kilima Mbogo**	**89.01**	**269**	i P	**P**	**19 13 31.4**	**+8.0**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
QSPA	**South Pole Qui**	**91.01**	**180**	eP	**P**	**19 13 32.4**	**+1.1**
JOF	**Joensuu**	**91.29**	**333**	ep	**P**	**19 13 30.7**	**-2.1**
	comp=Z,0.5nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**92.74**	**340**	P	**P**	**19 13 39.2**	**-0.1**
	comp=Z,4.1nm,0.9s,mb4.8,baz=63,slow=5.4,SNR=7.2						
KAF	**Kangasniemi**	**93.69**	**332**	ep	**P**	**19 13 46.4**	**+2.5**
	comp=Z,0.5nm,0.4s,mb4.3						
KAF	**Kangasniemi**	**93.69**	**332**	eP	**P**	**19 13 46.4**	**+2.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.6						
FINES	**FINESS Array B**	**93.91**	**332**	P	**P**	**19 13 50.1**	**+5.2**
	comp=Z,2.1nm,0.6s,mb4.8,baz=27,slow=4.3,SNR=7.7						
FINES	**FINESS Array B**	**93.91**	**332**	i P	**P**	**19 13 50.4**	**+5.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						

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*ORF **12** 19:08:22.1, 40.46N×24.63E, h30km, mb4.0, ML4.5*
*PRU **12** 19:08:25.8, 40.31N×23.27E, M4.0*
*SOF **12** 19:08:26.0, 40.58N×23.36E, h2km, MD4.2*
*ATH **12** 19:08:29.6, 40.72N×23.38E, h25km±1km, MD4.1/19, ML4.3*
*IDC **12** 19:08:29.3±0.8, 40.74N×23.32E, mb4.1/13, mb1 4.2/20, mb1mx4.1/27, mbtmp4.1/20, ML4.0/8, MS3.4/7, Ms1 3.4/7, ms1mx3.1/27, Error ellipse: s-maj=13.4km s-min=12.9km az=135.0*
*MOS **12** 19:08:29.1±1.2, 40.75N×23.28E, h10km, mb4.4/10, Error ellipse: s-maj=3.8km s-min=2.7km az=98.2*
*CSEM **12** 19:08:29.8±0.0, 40.77N×23.30E, h20km, mb4.2/8, Ms3.1, Error ellipse: s-maj=1.3km s-min=0.9km az=24.0*
*NEIC **12** 19:08:29.6, 40.72N×23.37E, h24km, mb4.0/19, MD3.9(PDG), ML4.3(ATH), After ATH.*
NEIC Felt at Kalamaria, Kavala, Palaiokhorion, Serrai, Thermi and Thessaloniki.
*THE **12** 19:08:30.2, 40.70N×23.36E, h1km, ML4.3*
*PDG **12** 19:08:30.3±0.5, 40.69N×23.37E, h13km±1km*
*BJI **12** 19:08:32.0, 40.70N×23.40E, h24km, mB4.9, mb4.6, Ms4.4, Msz4.1*
ISC 12 19:08:29.1±0.3**, 40.75N**±0.01×**23.33E**±0.01**, h10**km±2km**, n316, σ1s24**/379**, mb4.2**/22**, MS3.5**/7**, 32C-20D, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.08**	**12**	ePg	**Pg**	**19 08 32.8**	**+1.3**
SOH				eSg	**Sg**	**19 08 34.6**	**+1.6**
THE	**Thessaloniki**	**0.30**	**248**	ePg	**Pg**	**19 08 35.8**	**+0.4**
THE				eSg	**Sg**	**19 08 40.0**	**+0.5**
PLG	**Polygyros**	**0.38**	**167**	⇑iPB	**Pb**	**19 08 37.2**	**-0.3**
PLG				eSB	**Sb**	**19 08 42.4**	**-0.7**
SRS	**Serrai**	**0.42**	**28**	ePg	**Pg**	**19 08 38.5**	**+0.8**
KNT	**Kendrikon**	**0.53**	**322**	ePg	**Pg**	**19 08 40.7**	**+0.9**
OUR	**Ouranopolis**	**0.64**	**129**	ePg	**Pg**	**19 08 42.2**	**+0.1**
NVR	**Nevrokopi**	**0.73**	**33**	⇑iPN	**Pn**	**19 08 44.1**	**-1.1**
NVR				eSN	**Sn**	**19 08 54.3**	**-2.1**
GRG	**Griva**	**0.74**	**287**	ePg	**Pg**	**19 08 44.4**	**+0.5**
GRG				eSg	**Sg**	**19 08 55.6**	**+1.8**
PAIG	**Paliouri**	**0.86**	**162**	ePg	**Pg**	**19 08 44.8**	**-1.5**
PAIG				eSg	**Sg**	**19 08 56.3**	**-1.5**
MMB	**Musomiste**	**0.90**	**19**	i P	**Pb**	**19 08 46.0**	**-0.3**
KKB	**Krupnik**	**1.14**	**351**	i Pg	**Pg**	**19 08 51.0**	**-0.9**
KZN	**Kozani**	**1.27**	**250**	ePN	**Pn**	**19 08 53.7**	**+0.7**
KZN				eSN	**Sn**	**19 09 11.7**	**+1.5**
KZN	**Kozani**	**1.27**	**250**	ePb	**Pb**	**19 08 53.0**	**+0.3**
KZN				eS	**Sn**	**19 09 11.7**	**+1.5**
XOR	**Xorichti**	**1.38**	**184**	ePg	**Pg**	**19 08 55.1**	**-1.6**
RZN	**Rozhen**	**1.41**	**47**	P	**Pn**	**19 08 56.3**	**+1.4**
NEO	**Neokhori**	**1.44**	**183**	⇑iPN	**Pn**	**19 08 55.6**	**+0.2**
NEO				eSN	**Sn**	**19 09 14.4**	**-0.1**
NEO	**Neokhori**	**1.44**	**183**	⇑iPn	**Pn**	**19 08 55.5**	**+0.1**
NEO				eSn	**Sn**	**19 09 14.3**	**-0.2**
FNA	**Florina**	**1.49**	**272**	ePg	**Pg**	**19 08 57.4**	**-1.4**
	comp=Z,36nm,0.3s						
LOS	**Limnos**	**1.56**	**121**	ePg	**Pn**	**19 08 56.8**	**-0.4**
AOS	**Alonnisos**	**1.63**	**165**	ePg	**Pn**	**19 08 57.7**	**-0.4**
LIA	**Limnos Island**	**1.65**	**120**	⇓iPN	**Pn**	**19 08 58.3**	**-0.1**
PLD	**Plovdiv**	**1.71**	**37**	P	**Pn**	**19 09 01.0**	**+1.8**
PLD				Pg	**Pg**	**19 09 03.0**	**-0.2**
PLD	**Plovdiv**	**1.71**	**37**	Pg	**Pg**	**19 09 03.0**	**-0.2**
RDO	**Rodhopi**	**1.72**	**76**	ePN	**Pn**	**19 08 59.5**	**+0.1**
KDZ	**Kurdzhali**	**1.81**	**59**	P	**Pn**	**19 09 00.0**	**-0.8**
VTS	**Vitosha**	**1.85**	**357**	i P	**Pn**	**19 09 03.0**	**+1.7**
MEV	**Metsovon**	**1.87**	**240**	ePb	**Pb**	**19 09 03.0**	**-0.1**

SKO Skopje 1.88 311 *i* Pn **Pn** 19 09 03.6 +1.9
SKO *i* Pg **Pg** 19 09 06.6 -0.1
SKO *i* Sn **Sn** 19 09 27.4 +1.7
SKO *i* Sg **Sg** 19 09 30.0 -1.7
SKO Lg 19 09 48.0
comp=Z,0.4nm,0.7s
SKO Skopje 1.88 311 *i* Pn **Pn** 19 09 03.6 +1.9
SKO *i* Sn **Sn** 19 09 27.4 +1.7
SKO *i* Sg **Sg** 19 09 30.0 -1.7
SKO Lg 19 09 48.0
AGG Agios Georgios 1.89 204 *e*Pb **Pb** 19 09 02.6 -0.7
PGB Panagyurishte 1.91 19 P **Pn** 19 09 03.0 +0.9
KBN Korca 1.94 267 *i*Pn **Pn** 19 09 03.5 +1.0
KBN *i* Sn **Sg** 19 09 34.8 +1.1
ALN Alexandroupoli 2.06 85 *e*Pn **Pn** 19 09 04.7 +0.3
comp=Z,40nm,0.3s
LKR Lokris 2.11 187 *e*PN **Pn** 19 09 04.7 -0.3
DIM Dimitrovgrad 2.11 51 P **Pn** 19 09 05.5 +0.5
DIM Pg **Pg** 19 09 09.0 -2.2
DIM Dimitrovgrad 2.11 51 Pg **Pg** 19 09 09.0 -2.2
LSK Leskovik 2.17 255 *e*Pn **Pn** 19 09 07.8 +2.0
LSK *i* Sn **Sn** 19 09 38.2 +5.2
EVR Evrytania 2.17 213 *e*PN **Pn** 19 09 06.3 +0.4
JAN Janina 2.19 241 *e*PB **Pb** 19 09 08.0 -0.4
BARS Barje 2.36 332⇓*i*Pn **Pn** 19 09 09.3 +0.7
BARS Sn **Sn** 19 09 40.2 +2.3
EZN Ezine 2.47 111 PN **Pn** 19 09 10.1 0.0
MPAR Parnis Oros 2.61 173 *e*PN **Pn** 19 09 12.0 -0.1
LPK Lapseki 2.64 97 PN **Pn** 19 09 12.1 -0.5
QSH Qafa e Shtames 2.70 288 *i* Pn **Pn** 19 09 19.5 +6.0
QSH *i* Sn **Sn** 19 09 52.5 +5.9
PRK Paraskevi 2.71 123 *e*PN **Pn** 19 09 13.9 +0.3
PTL Penteli 2.72 171 *e*PN **Pn** 19 09 14.0 +0.2
MGER Gerania Oros 2.75 181 *e*PN **Pn** 19 09 14.0 -0.2
ATH Athens Observa 2.79 174 *e*PN **Pn** 19 09 14.6 -0.1
EDRB Edirne 2.80 66 PN **Pn** 19 09 16.2 +1.4
NSAL Nisos Salamina 2.84 178 *e*PN **Pn** 19 09 15.5 +0.1
PVL Pavlikeni 2.89 30 P **Pn** 19 09 15.0 -1.1
KEK Kerkira 2.89 250 *e*PB **Pb** 19 09 18.2 -2.3
PUK Puka 2.89 298 *i* Pn **Pn** 19 09 20.8 +4.6
LKD Levkas 2.90 226 *e*Pn **Pn** 19 09 17.9 +1.6
SART Tekirdag 2.93 90 *i* P **Pn** 19 09 15.9 -0.8
SART *i* S **Sn** 19 09 59.6 +7.4
CANB Canakkale 2.94 103 PN **Pn** 19 09 16.2 -0.7
AYVA Ayvalik 2.95 118 *i* P **Pn** 19 09 17.9 +0.9
AYVA *i* S **Sg** 19 10 07.0 -0.4
JMB Yambol 2.98 54 P **Pn** 19 09 17.2 -0.3
JMB Pg **Pg** 19 09 26.8 -1.9
NAIG Nisos Aigina 2.98 178 *e*PN **Pn** 19 09 17.5 0.0
MFT Murefte 3.00 88 PN **Pn** 19 09 19.0 +1.3
RLS Riolos of Patr 3.05 209 *e*PB **Pb** 19 09 20.7 -2.4
PVY Plav 3.12 307⇑*i*Pn **Pn** 19 09 21.7 +2.3
PVY *e*Sn **Sn** 19 10 00.5 +3.2
SZH Strazhica 3.18 37 P **Pn** 19 09 21.2 +0.9
MRMT Marmara Adasi 3.25 91 PN **Pn** 19 09 21.4 +0.2
BOLS Boljevac 3.25 342 *i* Pn **Pn** 19 09 21.6 +0.4
BOLS Sn **Sn** 19 10 01.3 +0.9
ZIMR 3.28 27⇓*i*P **Pg** 19 09 32.3 -2.3
ULC Ulcinj 3.31 293⇓*i*Pn **Pn** 19 09 24.5 +2.5
ULC *e*Sn **Sn** 19 10 05.1 +3.2
ULC Ulcinj 3.31 293 *e*S **Sn** 19 10 05.1 +3.2
VLS Valsamata 3.33 220 *e*PN **Pn** 19 09 23.9 +1.5
IVA Berane 3.33 311⇑*i*Pn **Pn** 19 09 24.6 +2.1
IVA *e*Sn **Sn** 19 10 04.9 +2.3
EDC Edincik 3.48 95 PN **Pn** 19 09 24.4 -0.1
TTG Podgorica 3.49 300⇓*i*Pn **Pn** 19 09 26.9 +2.2
TTG *e*Sn **Sn** 19 10 08.7 +2.3
TTG Podgorica 3.49 300 *e*S **Sn** 19 10 08.7 +2.2
BNT Bandirma 3.52 95 PN **Pn** 19 09 25.1 0.0
BALB Balikesir 3.65 106 PN **Pn** 19 09 27.8 +0.8
BUM Brajici-Budva 3.67 296⇑*i*Pn **Pn** 19 09 29.1 +1.8
BUM *e*Sn **Sn** 19 10 12.2 +1.0
GRUS Gruza 3.69 329 *i* Pn **Pn** 19 09 27.4 -0.2
GRUS Sn **Sn** 19 10 19.7 +8.0
BLCB Balcova 3.71 128 PN **Pn** 19 09 27.1 -0.7
ITM Ithomi 3.72 198 *e*Pb **Pb** 19 09 31.4 -3.3
BTOK Tokmak 3.73 104 *i* P **Pn** 19 09 28.4 +0.4
KDAG Bornova 3.84 126 *i* P **Pn** 19 09 29.4 -0.1
KDAG *i* S **Pb** 19 09 34.6 -2.0
IZM Izmir 3.84 126 PN **Pn** 19 09 29.2 -0.4
NKY Niksic 3.84 304⇓*i*Pn **Pn** 19 09 31.7 +2.0
NKY *e*Sn **Sn** 19 10 17.3 +1.8
NVSS Nova Varos 2 3.86 317⇑*i*Pn **Pn** 19 09 30.4 +0.5
NVSS *e*Sn **Sn** 19 10 19.5 +3.6
SVIS Svilajnac 3.88 337⇑*i*Pn **Pg** 19 09 41.5 -5.1
SVIS Sn **Sb** 19 10 25.3 +0.7
CTT Catalca 3.88 82 PN **Pn** 19 09 30.8 +0.6
PRD Provadia 3.90 50 P **Pn** 19 09 30.0 -0.5
PLE Pljevlja 3.91 313⇓*i*Pn **Pn** 19 09 32.2 +1.6
PLE *e*Sn **Sn** 19 10 18.5 +1.4
HCY Herceg Novi 4.00 297⇑*i*Pn **Pn** 19 09 33.6 +1.6
HCY *e*Sn **Sn** 19 10 20.9 +1.4
VLI Veliai 4.03 185 *e*PN **Pn** 19 09 31.8 -0.6
APE Apeiranthos 4.05 154 PN **Pn** 19 09 31.2 -1.5
APE Apeiranthos 4.05 154 *e*Pn **Pn** 19 09 32.1 -0.6
APE Apeiranthos 4.05 154⇑*i*P **Pn** 19 09 31.9 -0.8
SMG Samos 4.07 137⇑*i*PN **Pn** 19 09 32.9 -0.1
UPM Unac-Piva 4.11 308⇓*i*Pn **Pn** 19 09 35.3 +1.8
UPM *e*Sn **Sn** 19 10 24.2 +1.9
DIVS Divcibare 4.16 325⇓*i*Pn **Pn** 19 09 34.0 -0.3
DIVS Sn **Sn** 19 10 21.6 -2.0
BRY Bratogost 4.18 303⇑*i*Pn **Pn** 19 09 36.2 +1.8
BRY *e*Sn **Sn** 19 10 25.6 +1.7
DST Dursunbey 4.21 104 PN **Pn** 19 09 35.3 +0.3
ORLT Orhaneli 4.31 98 PN **Pn** 19 09 36.6 +0.3
ISK Istanbul-Kandi 4.35 84 PN **Pn** 19 09 37.8 +0.9
KYTH Kithira 4.46 183 *e*PN **Pn** 19 09 39.5 +1.0
ULDT Uludag 4.47 96 *i* P **Pn** 19 09 39.0 +0.4
PE1 Pezze di Greco 4.49 273 *e*Pn **Pn** 19 09 38.9 +0.1
YLV Yalova 4.60 90 *e*PN **Pn** 19 09 40.7 +0.3
MANT Manisa 4.62 117 *i* P **Pn** 19 09 41.5 +0.7
MANT *i* S **Pg** 19 09 57.1 -4.2
PSN Preselentsi 4.65 49 P **Pn** 19 09 40.0 -1.1
MTUR Matau 4.66 15⇓*i*P **Pn** 19 09 41.3 +0.1
AYDN Tasoluk 4.69 130 *i* P **Pn** 19 09 41.5 -0.1
BODT Bodrum 4.81 139 PN **Pn** 19 09 42.6 -0.8
HRT Hereke 4.81 87 *e*PN **Pn** 19 09 44.1 +0.7
VOIR 4.86 14⇑*i*P **Pn** 19 09 44.8 +0.7
BDRM Kayabasi 4.88 138 *i* P **Pn** 19 09 44.1 -0.2
SNX Sinaia 4.88 18⇑*i*P **Pn** 19 09 44.5 +0.1
MLSB Milas 4.88 133 *e*PN **Pn** 19 09 44.1 -0.4
BAI Bari 4.90 276 *e*Pn **Pn** 19 09 44.9 +0.2
ISR Istrita 4.97 27⇓*i*P **Pn** 19 09 46.1 +0.5
GDZ Gediz 5.01 107 *i* P **Pn** 19 09 49.3 +3.1
GDZ *i* S **Pg** 19 10 04.6 -4.6
SG1 Sgolgore (BA) 5.05 273 *e*Pn **Pn** 19 09 46.5 -0.3
MLR Muntele Rosu 5.12 21 Pn **Pn** 19 09 48.9 +1.2
comp=Z,8.8nm,0.3s,baz=204,slow=4.8,SNR=70
MLR Lg 19 11 19.7
comp=Z,6.0nm,0.3s,baz=116,slow=22,SNR=4.6
MLR Muntele Rosu 5.12 21⇓*i*P **Pn** 19 09 49.1 +1.4
HARR Harsova 5.20 39⇑*i*P **Pn** 19 09 47.9 -1.0
TIRR Tirgusor 5.28 44⇑*i*P **Pn** 19 09 50.4 +0.4
YER Yerkesik 5.28 131 *e*PN **Pn** 19 09 49.6 -0.5
TIP Timpagrande 5.29 255 *e*Pn **Pn** 19 09 51.1 +1.0
TIP *e*Sn **Sn** 19 10 52.3 +0.4
DENT Denizli 5.34 122 *e*PN **Pn** 19 09 50.5 -0.4
CDT Castel del Mon 5.36 276 *e*Pn **Pn** 19 09 50.7 -0.5
VAM Vamos 5.37 172 *e*PN **Pn** 19 09 52.3 +0.9
DNZL Cakiroluk 5.38 123 *i* P **Pn** 19 09 52.1 +0.5
BORA Eskisehir 5.51 97 *i* P **Pn** 19 09 53.8 +0.4
IDI Anoyia 5.58 167 Pn **Pn** 19 09 53.9 -0.4
comp=Z,6.6nm,0.3s,baz=350,slow=12,SNR=99
IDI Sn **Sn** 19 10 59.6 +0.2
comp=Z,1.8nm,0.3s,baz=194,slow=23,SNR=1.6
CFR Carcaliu 5.66 37⇓*i*P **Pn** 19 09 53.9 -1.5
VRI Vrincioaia 5.69 25⇑*i*P **Pn** 19 09 57.5 +1.7
HENT Hendek 5.75 87 *i* P **Pn** 19 09 55.3 -1.3
NPS Neapolis 5.76 161 *e*P **Pn** 19 09 58.0 +1.2
ESKT Eskisehir 5.89 100 *e*PN **Pn** 19 09 58.7 0.0
ESKT Eskisehir 5.89 100 *i* P **Pn** 19 09 57.8 -0.9
GVD Gavdhos 5.93 174 *e*Pn **Pn** 19 10 00.2 +1.0
comp=Z,78nm,0.8s
GOLH Golhisar 5.98 124 *i* P **Pn** 19 10 03.1 +3.1
TLCR 5.99 40⇑*i*P **Pn** 19 10 02.4 +2.3
BLY Banja Luka 6.04 314 P **Pn** 19 10 01.8 +1.0
TKTP Tekketepe 6.05 114 *i* P **Pn** 19 10 03.1 +2.2
DRGR 6.06 356⇓*i*P **Pn** 19 09 58.8 -2.3
XRY Khrisi 6.15 162 *e*Pn **Pn** 19 10 04.5 +2.2
ISP Isparta 6.28 115 *e*PN **Pn** 19 10 04.6 +0.5

ISP Isparta 6.28 115 *e*Pn **Pn** 19 10 09.1 +5.0
RHK3 Tenkes 6.34 326⇑*e*P **Pn** 19 10 04.5 -0.5
PKSM Moragy 6.44 330 P **Pn** 19 10 05.4 -1.0
PKSM Moragy 6.44 330 P **Pn** 19 10 05.4 -1.0
PKSM *e*S **Sn** 19 11 19.3 -1.5
PKS6 Bocsa 6.46 336⇑*e*P **Pn** 19 10 06.2 -0.5
RHK1 Bakonya 6.58 326⇓*i*P **Pn** 19 10 07.9 -0.4
SGKT Sivrigoynuk 6.64 89 *i* P **Pn** 19 10 09.0 -0.2
KIZT Kizilcal 6.84 103 *e*PN **Pn** 19 10 11.4 -0.7
CII Carovilli 6.88 281 *e*Pn **Pn** 19 10 12.6 0.0
comp=Z,34nm,0.7s
CII *e*Sn **Sn** 19 11 30.5 -1.1
PKS9 Tamasi 6.89 330⇓*e*P **Pn** 19 10 11.8 -1.0
PKS8 Sarbogard 6.99 333 *e*P **Pn** 19 10 13.2 -1.0
BURAR Bucovina Array 7.00 11⇓*i*P **Pn** 19 10 14.3 0.0
BURAR Bucovina Array 7.00 11⇓*i*P **Pn** 19 10 14.3 -0.1
SAFT Safranbolu 7.10 83 *e*PN **Pn** 19 10 15.8 +0.1
ANTO Ankara 7.29 94 *e*P **Pn** 19 10 25.6 +7.3
NVLJ Novalja 7.31 304 *i* Pn **Pn** 19 10 18.1 -0.5
KIS Kishinev 7.40 31 *e*P **Pn** 19 10 22.0 +2.1
KIS MLR MLR
comp=Z,900nm,8.0s
KIS MLR MLR
comp=Z,600nm,10.0s
PSZ Piszkesteto 7.58 342 *e*P **Pn** 19 10 24.8 +2.3
PSZ *e*S **Sn** 19 11 39.7 -10
PSZ Piszkesteto 7.58 342 *e*Pn **Pn** 19 10 25.2 +2.7
comp=Z,14nm,0.8s
PSZ *e*Sn **Sn** 19 11 44.7 -4.7
PSZ Piszkesteto 7.58 342 *e*P **Pn** 19 10 25.2 +2.7
PSZ *e* 19 11 44.7
comp=Z,14nm,0.8s
PSZ pmax pmax
BOJS Bojanci 7.58 312 *e*Pn **Pn** 19 10 23.1 +0.6
AQU L'Aquila 7.62 285 *e*Pn **Pn** 19 10 22.0 -1.0
comp=Z,47nm,1.1s
AQU *e*Sn **Sn** 19 11 49.8 -0.5
AQU L'Aquila 7.62 285 *e*P **Pn** 19 10 22.0 -1.0
comp=Z,47nm,1.1s
AQU *e*S **Sn** 19 11 49.8 -0.5
AQU L'Aquila 7.62 285 *e*P **Pn** 19 10 22.0 -1.0
AQU *e* 19 11 49.8
AQU pmax pmax
comp=Z,47nm,1.1s
BALT Daday 7.63 81 *i* P **Pn** 19 10 22.7 -0.5
VAE Valguarnera 7.66 248 Pn **Pn** 19 10 23.1 -0.4
comp=Z,0.6nm,0.3s,baz=294,slow=8.0,SNR=2.1
VAE Sn **Sn** 19 11 39.7 -12
comp=Z,0.5nm,0.3s,baz=84,slow=22,SNR=2.5
ELDT Eldivan 7.69 89 *i* P **Pn** 19 10 26.5 +2.6
BR131 Keskin Array S 7.95 94 *e*Pn **Pn** 19 10 28.1 +0.5
comp=Z,1.6nm,0.4s
BR131 Keskin Array S 7.95 94 *e*Pn **Pn** 19 10 28.1 +0.5
comp=Z,1.6nm,0.4s
BRTR Keskin Array B 7.95 94 Pn **Pn** 19 10 26.6 -1.0
comp=Z,0.8nm,0.3s,baz=266,slow=12,SNR=12
BRTR Sn **Sn** 19 11 52.3 -6.3
baz=296,slow=34,SNR=2.1
BRTR Lg 19 12 47.8
comp=Z,0.1nm,0.3s,baz=355,slow=8.1,SNR=2.6
KECS Kecovo 8.00 346 *e* **Pn** 19 10 27.1 -1.2
GROS Grobnik 8.05 318 *e*Pn **P** 19 10 28.5 -0.5
KAMT Kaman 8.08 96 *e*PN **P** 19 10 29.1 -0.3
KNDS Knezji Dol 8.10 309 *e*Pn **P** 19 10 29.8 +0.1
CEY Cerknica 8.19 310 *e*Pn **P** 19 10 32.0 +1.0
KOLS Kolonicke sedl 8.22 355 *e* **P** 19 10 31.0 -0.4
CRVS Cervenica-Dubn 8.26 351 *e* **P** 19 10 33.0 +1.0
VYHS Vyhne 8.38 339 *e* **P** 19 10 36.5 +2.9
OBKA Obir 8.59 315⇑*i*PN **P** 19 10 36.2 -0.2
OBKA *i* SN **Sn** 19 12 10.9 -3.5
ARSA Arzberg 8.60 322⇑*i*PN **P** 19 10 36.1 -0.5
ARSA *i* SN **Sn** 19 12 12.9 -1.8
VOY Vojsko 8.67 311 *e*Pn **P** 19 10 37.2 -0.4
VOY *e* 19 10 40.7
VOY *e* 19 11 17.2
VOY *e* 19 12 17.3
VOJS Vojsko 8.67 311 *i* Pn **P** 19 10 37.6 0.0
STHS Stebnicka Huta 8.80 351 *e*Pn **P** 19 10 43.6 +4.2
KBA Koelnbreinsper 9.59 315⇑*i*PN **P** 19 10 49.7 -0.5
KBA *i* SN **Sn** 19 12 36.7 -2.5
MOA Molln 9.62 321⇑*i*PN **P** 19 10 50.7 0.0
MOA *i* SN **Sn** 19 12 37.5 -2.5
CSS Prodhromos 9.79 123 P **P** 19 11 01.1 +8.1
VRAC Vranov 9.80 333 Pn **P** 19 10 50.9 -2.2
comp=Z,0.4nm,0.3s,baz=216,slow=10,SNR=2.7
GERES GERESS Array B 10.60 323 Pn **P** 19 11 04.3 +0.3
comp=Z,0.2nm,0.3s,baz=146,slow=14,SNR=9.7
GERES LR LR 19 14 51.8
comp=Z,110nm,18.3s,baz=139,slow=36
GERES GERESS Array B 10.60 323 Pn **P** 19 11 04.3 +0.3
GERES LR LR 19 14 51.8
WTTA Wattenberg 10.64 312⇑*i*PN **P** 19 11 04.6 -0.1
WTTA *i* SN **S** 19 13 02.8 -2.3
WATA Walderalm 10.72 312⇑*i*PN **P** 19 11 05.2 -0.6
WATA *i* SN **S** 19 13 04.8 -2.1
VSL Villasalto 10.76 268 *e*Pn **P** 19 11 05.9 -0.4
AKASG Malin Array Be 10.77 20 Pn **P** 19 11 04.3 -2.2
comp=Z,1.4nm,0.3s,baz=207,slow=12,SNR=11
DPC Dobruska-Polom 10.78 335 *e*P **P** 19 11 09.0 +2.4
KHC Kasperske Hory 10.86 324 *e*P **P** 19 11 08.2 +0.5
KHC x x 19 11 38.0
KHC AMS AMS 19 15 30.0
comp=Z,700nm,10.2s
KHC Kasperske Hory 10.86 324 *e*P **P** 19 11 08.2 +0.5
KHC *e* 19 11 38.0
SQTA Sankt Quirin 10.87 311⇓*i*PN **P** 19 11 07.1 -0.7
SQTA *i* SN **S** 19 13 06.8 -3.7
MOTA Moosalm 10.99 311⇑*i*Sn **S** 19 13 11.1 -2.5
MOTA Moosalm 10.99 311⇑*i*Pn **P** 19 11 08.6 -0.9
MOTA *i* S **S** 19 13 11.1 -2.5
ANN Anapa 11.13 64 *e*P **P** 19 11 10.2 -1.2
comp=Z,48nm,0.9s
ANN *e*S **S** 19 13 15.7 -1.2
ANN Anapa 11.13 64 *e*P **P** 19 11 10.2 -1.2
ANN *e*S **S** 19 13 15.7 -1.2
ANN pmax pmax
comp=Z,48nm,0.9s
DAVOX Davos 11.44 306 Pn **P** 19 11 14.0 -1.6
comp=Z,1.4nm,0.3s,baz=120,slow=15,SNR=15
DAVOX LR LR 19 15 43.7
comp=Z,182nm,21.5s,baz=108,slow=38
DAVA Damuels 11.68 309⇓*i*Pn **P** 19 11 18.0 -0.8
DAVA *i* Sn **S** 19 13 27.6 -2.7
SBF Sospel 12.18 290 *e*P **P** 19 11 25.4 -0.2
comp=Z,69nm,1.3s
SBF Sospel 12.18 290 *e*P **P** 19 11 25.4 -0.2
SBF pmax pmax
comp=Z,35nm,1.3s
FRF La Foret Royal 12.70 288 *e*P **P** 19 11 31.5 -1.1
comp=Z,9.0nm,0.8s
FRF La Foret Royal 12.70 288 *e*P **P** 19 11 31.5 -1.1
FRF pmax pmax
comp=Z,5.0nm,0.8s
MBDF Montbardon 12.81 294 *e*P **P** 19 11 32.5 -1.5
comp=Z,25nm,1.1s
MBDF Montbardon 12.81 294 *e*P **P** 19 11 32.5 -1.5
MBDF pmax pmax
comp=Z,13nm,1.0s
LPG La Plagne 13.01 297 *e*P **P** 19 11 35.4 -1.3
comp=Z,31nm,1.0s
LPG La Plagne 13.01 297 *e*P **P** 19 11 35.4 -1.3
LPG pmax pmax
comp=Z,16nm,1.0s
LPL La Plagne 13.02 297 *e*P **P** 19 11 35.7 -1.2
comp=Z,6.3nm,0.5s
LPL La Plagne 13.02 297 *e*P **P** 19 11 35.7 -1.2
LPL pmax pmax
comp=Z,3.0nm,0.5s
SUW Suwalki 13.28 360 *e*Pn **P** 19 11 40.1 -0.1
comp=Z,7.0nm,0.5s
SUW Suwalki 13.28 360 *e*P **P** 19 11 40.1 -0.1
comp=Z,7.0nm,0.5s
SUW Suwalki 13.28 360 *e*P **P** 19 11 40.1 -0.1
SUW pmax pmax
comp=Z,7.0nm,0.5s
ORIF Oris-en-Rattie 13.47 294 *e*P **P** 19 11 41.8 -1.0
comp=Z,22nm,0.9s
ORIF *e*R
comp=Z,103nm,21.2s
HINF Hinteralfeld 13.74 306 *e*P **P** 19 11 42.8 -3.5
comp=Z,8.8nm,0.8s
HINF Hinteralfeld 13.74 306 *e*P **P** 19 11 42.8 -3.5
HINF pmax pmax
comp=Z,4.0nm,0.8s

CDF Champ du Feu 13.76 309 *e*P **P** 19 11 38.8 -7.7
CABF La Chapelle 13.78 301 *e*P **P** 19 11 43.8 -3.0
comp=Z,26nm,0.9s
CABF La Chapelle 13.78 301 *e*P **P** 19 11 43.8 -3.0
CABF pmax pmax
comp=Z,13nm,0.9s
HAU Haudompre 14.13 307 *e*P **P** 19 11 50.6 -0.8
comp=Z,7.9nm,0.6s
HAU *e*R
comp=Z,256nm,17.4s
VIVF Saint-Julien-l 14.30 293 *e*P **P** 19 11 53.3 -0.3
comp=Z,18nm,1.1s
VIVF Saint-Julien-l 14.30 293 *e*P **P** 19 11 53.3 -0.3
VIVF pmax pmax
comp=Z,9.0nm,1.1s
QURS Qurayyt al Mil 14.66 125 P **P** 19 12 08.1 +10
KIV Kislovodsk 14.67 71 *e*P **P** 19 11 56.4 -2.0
comp=Z,54nm,17.0s
KIV Kislovodsk 14.67 71 *e*P **P** 19 11 56.4 -2.0
KIV pmax pmax
comp=E,5.0nm,1.1s
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,54nm,17.0s
LASF Ste Croix 14.76 289 *e*P **P** 19 11 58.7 -1.0
ALWS Ilw as Safayha 14.90 136 P **P** 19 12 03.8 +2.2
WLF Walferdange 15.01 312 P **P** 19 12 02.1 -0.9
WLF Walferdange 15.01 312 P **P** 19 12 02.1 -0.8
HAQS Haql 15.03 137 P **P** 19 12 04.0 +0.7
JMOS Jabal al Moall 15.04 137 P **P** 19 12 02.7 -0.7
VRSR Storozhevoye 15.17 41 *e*P **P** 19 12 04.4 -0.6
comp=Z,20nm,1.0s
VRSR Storozhevoye 15.17 41 *e*P **P** 19 12 04.4 -0.6
VRSR pmax pmax
comp=Z,5.0nm,0.6s
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,0.9s
SMF Signal de Mont 15.27 299 *e*P **P** 19 12 03.2 -3.1
comp=E,11nm,0.8s
SMF Signal de Mont 15.27 299 *e*P **P** 19 12 03.2 -3.1
SMF pmax pmax
comp=Z,6.0nm,0.8s
LOR Lormes 15.44 301 *e*P **P** 19 12 07.5 -1.0
comp=Z,9.6nm,0.9s
LOR *e*R
comp=Z,237nm,17.0s
ZEI Tsey 15.48 76 *e*P **P** 19 12 10.8 +1.7
SSF Saint Saulge 15.60 300 *e*P **P** 19 12 09.4 -1.3
comp=Z,6.3nm,0.8s
SSF Saint Saulge 15.60 300 *e*P **P** 19 12 09.4 -1.3
SSF pmax pmax
comp=Z,6.0nm,0.8s
BDAS Al Bad' 15.63 138 P **P** 19 12 02.0 -9.1
AVF Avril sur Loir 15.63 299 *e*P **P** 19 12 10.5 -0.5
comp=Z,18nm,0.8s
AVF Avril sur Loir 15.63 299 *e*P **P** 19 12 10.5 -0.5
AVF pmax pmax
comp=Z,9.0nm,0.8s
MTLF Montolieu 15.90 286 *e*P **P** 19 12 13.9 -0.6
comp=Z,20nm,1.1s
MTLF Montolieu 15.90 286 *e*P **P** 19 12 13.9 -0.6
MTLF pmax pmax
comp=Z,10.0nm,1.1s
BGF Bois d'Agland 15.91 298 *e*P **P** 19 12 13.9 -0.7
comp=Z,9.3nm,0.7s
BGF Bois d'Agland 15.91 298 *e*P **P** 19 12 13.9 -0.7
BGF pmax pmax
comp=Z,5.0nm,0.7s
CAF Calviac 16.14 292 *e*P **P** 19 12 16.8 -0.8
comp=Z,15nm,0.9s
CAF Calviac 16.14 292 *e*P **P** 19 12 16.8 -0.8
CAF pmax pmax
comp=Z,8.0nm,0.9s
TCF Toulx Ste Croi 16.27 297 *e*P **P** 19 12 18.8 -0.5
comp=Z,38nm,1.3s
TCF Toulx Ste Croi 16.27 297 *e*P **P** 19 12 18.8 -0.5
TCF pmax pmax
comp=Z,19nm,1.3s
BAIF Baives 16.30 311 *e*P **P** 19 12 13.9 -5.7
GNI Garni 16.31 85 *e*P **P** 19 12 26.7 +6.9
comp=Z,18nm,1.2s
GNI Garni 16.31 85⇑*e*P **P** 19 12 24.6 +4.8
GNI pmax pmax
comp=Z,30nm,1.5s
RJF Les Rejaudoux 16.58 293 *e*P **P** 19 12 22.5 -0.6
RJF *e*R
comp=Z,84nm,19.9s
OBN Obninsk 16.85 27 *e*P **P** 19 12 24.4 -2.1
comp=Z,8.2nm,0.4s
OBN Obninsk 16.85 27 *e*P **P** 19 12 24.4 -2.1
comp=Z,8.1nm,0.4s
OBN Obninsk 16.85 27⇑*e*P **P** 19 12 30.2 +3.7
OBN *e*S **S** 19 15 40.4 +7.5
OBN pmax pmax
comp=Z,42nm,1.6s
OBN MLR MLR
comp=Z,200nm,20.0s
MOS Moscow 17.71 27 *e*P **P** 19 12 35.5 -1.8
comp=Z,85nm,1.5s
MOS Moscow 17.71 27 *e*P **P** 19 12 35.5 -1.8
MOS pmax pmax
comp=Z,85nm,1.5s
ETSF Etsaut 17.93 285 *e*P **P** 19 12 38.4 -1.7
comp=Z,6.0nm,0.8s
ETSF Etsaut 17.93 285 *e*P **P** 19 12 38.4 -1.7
ETSF pmax pmax
comp=Z,3.0nm,0.8s
MFF Saint Martin d 17.93 297 *e*P **P** 19 12 37.1 -3.0
comp=Z,44nm,1.5s
MFF Saint Martin d 17.93 297 *e*P **P** 19 12 37.1 -3.0
MFF pmax pmax
comp=Z,22nm,1.5s
FLN La Foliniere 18.66 303 *e*P **P** 19 12 48.4 -0.7
FLN *e*R
comp=Z,226nm,18.0s
SGMF Saint Gilles 19.87 301 *e*P **P** 19 13 01.9 -1.3
comp=Z,55nm,1.4s
SGMF Saint Gilles 19.87 301 *e*P **P** 19 13 01.9 -1.3
SGMF pmax pmax
comp=Z,28nm,1.4s
HFS Hagfors 20.32 346 P **P** 19 13 06.1 -1.7
comp=Z,1.9nm,0.6s,baz=174,slow=13,SNR=8.9
HFS LR LR 19 21 10.2
comp=Z,61nm,20.4s,MS3.0,baz=42,slow=37
ROSF Rostrenen 20.36 301 *e*P **P** 19 13 05.4 -2.9
FINES FINESS Array B 20.80 4 P **P** 19 13 10.9 -1.9
comp=Z,1.5nm,0.7s,baz=180,slow=11,SNR=4.9
FINES LR LR 19 22 03.4
comp=Z,155nm,18.9s,MS3.4,baz=33,slow=39
FINES FINESS Array B 20.80 4 *i* P **P** 19 13 10.5 -2.3
FINES pmax pmax
comp=Z,2.0nm,0.7s
ESDC Sonseca Array 20.85 276 P **P** 19 13 12.2 -1.3
comp=Z,1.2nm,0.7s,baz=66,slow=11,SNR=4.8
KAF Kangasniemi 21.48 4 *e*p **P** 19 13 21.3 +1.6
comp=Z,2.2nm,0.7s,mb3.6
KAF Kangasniemi 21.48 4 *e*P **P** 19 13 21.3 +1.6
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb3.6
NB2 NORSAR Subarra 21.64 344 P **P** 19 13 20.1 -1.3
comp=Z,10nm,0.8s,mb4.3,baz=158,slow=10
NB2 NORSAR Subarra 21.64 344 P **P** 19 13 20.1 -1.3
NB2 pmax pmax
comp=Z,11nm,0.8s,mb4.3
NOA NORSAR Array B 21.64 344 P **P** 19 13 21.0 -0.4
comp=Z,6.6nm,0.7s,mb4.2,baz=157,slow=10,SNR=15
NOA LR LR 19 21 28.1
comp=Z,50nm,18.9s,MS2.9,baz=190,slow=36
EKA Eskdalemuir Ar 22.76 319 P **P** 19 13 32.3 -0.2
comp=Z,19nm,1.0s,mb4.3,baz=116,slow=9.7,SNR=12
ESK Eskdalemuir 22.77 319 *e*P **P** 19 13 32.3 -0.3
comp=Z,13nm,1.0s,mb4.3
ESK Eskdalemuir 22.77 319 *e*P **P** 19 13 32.3 -0.3
comp=Z,13nm,1.0s,mb4.3
ESK Eskdalemuir 22.77 319 *e*P **P** 19 13 32.3 -0.3
ESK pmax pmax
comp=Z,13nm,1.0s,mb4.3
ARU Arti 27.70 44 *e*P **P** 19 14 19.8 +0.6
ARCES ARCESS Array B 28.88 2 LR LR 19 26 45.8
comp=Z,104nm,18.9s,MS3.5,baz=227,slow=38
BRVK Borovoye 33.76 53 *e*P **P** 19 15 15.8 +3.0
comp=Z,17nm,0.7s,mb4.1
BRVK Borovoye 33.76 53 *e*P **P** 19 15 15.8 +3.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BVAR	Borovoye Array	33.82	53	P	P	19 15 13.2	-0.1
	comp=Z,1.5nm,0.7s,mb4.0,baz=249,slow=4.3,SNR=8.0						
AAK	Ala-Archa	37.78	70	iP	P	19 15 49.7	+2.6
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.0						
KURK	Kurchatov	39.02	56	eP	P	19 16 00.1	+2.7
	comp=Z,2.2nm,1.1s,mb3.8						
KURK	Kurchatov	39.02	56	iP	P	19 15 59.2	+1.8
NVS	Novosibirsk	41.34	49	iP	P	19 16 19.3	+2.8
MKAR	Makanchi Array	42.13	61	P	P	19 16 23.1	+0.1
	comp=Z,3.7nm,0.6s,mb4.2,baz=284,slow=8.1,SNR=26						
MKAR				LR	LR	19 38 06.5	
	comp=Z,67nm,20.1s,MS3.5,baz=1.0,slow=42						
MKAR	Makanchi Array	42.13	61	⇑eP	P	19 16 26.3	+3.3
DBIC	Dimbokro	42.25	224	P	P	19 16 23.4	-0.9
	comp=Z,5.6nm,0.7s,mb4.3,baz=22,slow=8.9,SNR=7.5						
LIC	Lamto	42.71	224	eP	P	19 16 27.9	-0.3
	comp=Z,9.5nm,0.8s,mb4.6						
WMQ	Urumqi	46.64	64	eP	P	19 17 04.0	+4.7
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
ZAK	Zakamensk	54.24	51	eP	P	19 17 59.8	+2.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BOD	Bodaibo	57.01	40	eP	P	19 18 15.8	-1.3
	comp=Z,3.0nm,1.4s,mb4.1						
BOD	Bodaibo	57.01	40	eP	P	19 18 15.8	-1.3
BOD				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.1						
SONM	Songino Array	57.16	53	P	P	19 18 17.4	-0.9
	comp=Z,2.1nm,0.9s,mb4.2,baz=300,slow=12,SNR=12						
SONM	Songino Array	57.16	53	P	P	19 18 17.4	-0.9
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LZH	Lanzhou	61.14	66	eP	P	19 18 48.6	+2.7
LZH				AP	pP	19 18 55.5	+6.6
LZH				XP	sP	19 18 57.9	+7.9
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,76nm,4.5s						
INK	Inuvik	69.89	351	P	P	19 19 40.5	-1.1
	comp=Z,2.0nm,0.7s,mb4.1,slow=7.1,SNR=3.0						
INK	Inuvik	69.89	351	P	P	19 19 40.5	-1.1
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	71.70	341	P	P	19 19 52.4	-0.3
	comp=Z,3.5nm,0.8s,mb4.4,baz=39,slow=4.8,SNR=3.6						
YKA	Yellowknife Ar	71.70	341	iP	P	19 19 55.1	+2.4
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDJ	Mudanjiang	72.35	46	P	P	19 19 58.3	+1.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,85nm,5.5s						
MDJ				LR	LR		
	comp=N,31nm,13.9s						
MDJ				LR	LR		
	comp=E,15nm,19.2s						
MDJ				LR	LR		
	comp=Z,42nm,14.9s,MS3.8						
NJ2	Nanjing	73.66	62	eP	P	19 20 05.4	+0.6
NJ2				AP	pP	19 20 13.9	+6.1
NJ2				XP	sP	19 20 15.9	+7.1
NJ2				PCP	PcP	19 20 19.4	-1.5
NJ2				S	S	19 29 34.0	0.0
NJ2				XS		19 29 50.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,160nm,4.3s						
NJ2				LR	LR		
	comp=N,110nm,22.4s,MS4.2						
NJ2				LR	LR		
	comp=E,130nm,25.4s,MS4.2						
NJ2				LR	LR		
	comp=Z,110nm,19.3s						
ILAR	Eielson Array	74.54	356	P	P	19 20 10.6	+1.4
	comp=Z,1.9nm,0.8s,mb4.1,baz=359,slow=5.2,SNR=12						
ILAR	Eielson Array	74.54	356	P	P	19 20 10.6	+1.4
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULM	Lac du Bonnet	74.90	325	P	P	19 20 13.8	+2.2
	comp=Z,3.7nm,0.9s,mb4.3,baz=60,slow=8.1,SNR=3.4						

*IDC **12** 19:13:15.5±1.6, 52.00N×176.51W, mb3.7/3, mb1 4.0/4, mb1mx3.6/22, mbtmp3.7/4, Error ellipse: s-maj=82.5km s-min=29.3km az=137.0*

*NEIC **12** 19:13:23.6, 51.63N×175.94W, h43^{km}, ML3.7(AEIC), After AEIC.*

ISC 12 19:13:23.2±0.8**, 51.9N**±0.2×**176.0W**±0.1**, h71**^{km}±6^{km}**, n16,** σ0^{s}68/19**, mb3.5**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GSCK	Great Sitkin C	0.17	324	P	P	19 13 33.8	0.0
GSMY	Great Sitkin M	0.17	348	P	P	19 13 33.7	-0.1
GSTD	Great Sitkin T	0.21	334	P	P	19 13 34.1	+0.2
GSTR	Great Sitkin T	0.23	350	P	P	19 13 34.5	+0.5
GSSP	Great Sitkin S	0.25	333	P	P	19 13 34.7	+0.5
ETKA	Kagalaska Isla	0.25	268	P	P	19 13 33.0	-1.3
ADAG	Mount Adagdak	0.39	286	P	P	19 13 35.3	+0.1
KIRH	Kanaga Island	0.68	273	P	P	19 13 38.5	+0.4
KINC	Kanaga Island	0.70	275	P	P	19 13 38.8	+0.4
KINC				S	S	19 13 49.9	+0.3
KIKV	Kanaga Island	0.73	271	P	P	19 13 39.0	+0.4
KIMD	Kanaga Island	0.78	262	P	P	19 13 38.9	-0.3
KIMD				S	S	19 13 50.2	-0.9
ATKA	Atka Island	1.16	73	P	P	19 13 44.0	-0.1
ATKA				S	S	19 13 59.5	-0.2
ILAR	Eielson Array	19.77	38	P	P	19 17 48.0	-1.7
	0.2nm,0.3s,baz=238,slow=9.3,SNR=10						
INK	Inuvik	26.05	35	P	P	19 18 50.9	-0.2
	0.8nm,0.6s,mb3.4,baz=225,slow=7.1,SNR=2.7						
PDAR	Pinedale Array	44.49	74	P	P	19 21 30.4	+1.6
	1.0nm,0.7s,mb3.7,baz=308,slow=4.8,SNR=8.7						
PDAR				pP	pP	19 21 43.6	-2.9
	2.8nm,0.7s,baz=315,slow=4.4,SNR=14						
WRA	Warramunga Arr	83.60	226	P	P	19 25 44.8	0.0
	0.5nm,0.8s,mb3.4,baz=32,slow=6.0,SNR=5.9						

*CNRM **12** 19:15:11.9, 35.06N×3.62W, h13^{km}, MD2.7*

*CSEM **12** 19:15:13.4±0.6, 34.94N×3.90W, h2^{km}, MD2.7, Error ellipse: s-maj=13.2km s-min=11.9km az=93.0*

*NEIC **12** 19:15:19.7, 35.12N×3.85W, h3^{km}, MG3.1(MDD), After MDD.*

MDD 12 19:15:14.1±0.5**, 34.99N**×**3.86W, mbLg1.7**/3**, Error ellipse: s-maj=5.7km s-min=3.2km az=53.0, PRXIMO, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TOU	Touzarine	0.10	108	P	Pg	19 15 15.0	-1.0
TOU				S	Sg	19 15 18.0	+0.7
TOU	Touzarine	0.10	108	iP	Pg	19 15 15.0	-1.0
MPAL	Palemas	0.24	345	P	Pg	19 15 18.0	-0.9
MPAL				S	Sg	19 15 22.0	-0.1
MPAL	Palemas	0.24	345	iP	Pg	19 15 18.0	-0.9
EMEL	Melilla	0.81	67	P	Pg	19 15 33.2	+3.1
	77nm,0.2s,SNR=6.6						
EMEL				S	Sg	19 15 43.8	+3.0
	133nm,0.9s,SNR=4.2						
EMLI	Melilla	0.81	67	P	Pg	19 15 33.2	+2.9
	77nm,0.2s,SNR=6.6						
EMLI				S	Sg	19 15 43.8	+2.7
	133nm,0.9s,SNR=4.2						
TZK	Tazeka	0.94	196	iP	Pg	19 15 31.0	-1.8
TZK				iS	Sg	19 15 45.0	-0.3
EALB	Alboran	1.16	35	P	Pb	19 15 39.0	+2.3
	1.1nm,0.1s,SNR=4.0						
EALB				S	Sb	19 15 50.3	-2.0
	SNR=7.9						
EALB	Alboran	1.16	35	P	Pb	19 15 39.0	+2.3
EALB				S	Sb	19 15 52.9	+0.6
EALB	Alboran	1.16	35	P	Pb	19 15 39.0	+2.2
	1.1nm,0.1s,SNR=4.0						
EALB				S	Sb	19 15 52.9	+0.6
	SNR=7.9						
EMIJ	Mijas	1.73	335	P	Pn	19 15 48.9	+3.2
	0.4nm,0.2s,SNR=7.9						
EMIJ				S	Sb	19 16 07.0	-1.9
	2.8nm,0.4s,SNR=4.7						
EBER	Berja	2.06	22	P	Pn	19 15 50.2	-0.2
	SNR=7.9						
EBER				S	Sn	19 16 15.5	-1.7
	SNR=7.9						
EBER	Berja	2.06	22	P	Pn	19 15 52.2	+1.9
EBER				S	Sn	19 16 15.5	-1.7
EBER	Berja	2.06	22	P	Pn	19 15 52.2	+1.8
	SNR=7.9						
EBER				S	Sn	19 16 15.5	-1.6
	SNR=7.9						
EQUE	Quentar	2.23	9	S	Sn	19 16 19.4	-2.2
	SNR=7.9						
EQES	Quesada	2.88	13	P	Pn	19 16 04.0	+2.0
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	19 16 37.3	-0.6
	SNR=7.9						
EADA	Adamuz	3.22	350	S	Sn	19 16 43.3	-3.3
	SNR=7.9						
EADA	Adamuz	3.22	350	S	Sn	19 16 45.2	-1.4
	SNR=7.9						
EMIN	Mina Concepcio	3.58	322	P	Pn	19 16 13.3	+1.2
	0.8nm,0.2s,SNR=7.9						
EMIN				S	Sn	19 16 51.4	-4.3
	SNR=7.9						
EMIN	Mina Concepcio	3.58	322	P	Pn	19 16 13.3	+1.2
EMIN				S	Sn	19 16 53.1	-2.6
EMIN	Mina Concepcio	3.58	322	P	Pn	19 16 13.3	+1.3
	0.8nm,0.2s,SNR=7.9						
EMIN				S	Sn	19 16 53.1	-2.5
	SNR=7.9						
EGRO	El Granado	3.87	312	P	Pn	19 16 15.3	-0.8
	0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	19 16 58.5	-4.5
	0.3nm,0.2s,SNR=7.9						
EGRO	El Granado	3.87	312	P	Pn	19 16 17.4	+1.2
EGRO				S	Sn	19 16 59.9	-3.1
EGRO	El Granado	3.87	312	P	Pn	19 16 17.4	+1.2
	0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	19 16 59.9	-3.2
	0.3nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.09	26	P	Pn	19 16 20.7	+1.4
	SNR=7.9						
EBAD	Badajoz	4.53	327	P	Pn	19 16 26.1	+0.6
	SNR=7.9						

*ATH **12** 19:16:36.1, 40.72N×23.14E, h5^{km}, MD2.8/3*

*NEIC **12** 19:16:36.0, 40.72N×23.13E, h5^{km}, MD2.8(ATH), ML2.2(THE), After ATH.*

*THE **12** 19:16:37.3, 40.71N×23.33E, h7^{km}, ML2.2*

*CSEM **12** 19:16:37.7±0.1, 40.72N×23.35E, h5^{km}, ML2.2, Error ellipse: s-maj=2.2km s-min=1.4km az=66.0*

ISC 12 19:16:36.8±0.6**, 40.71N**±0.03×**23.33E**±0.04**, h12**^{km}±8^{km}**, n12,** σ0^{s}50/18**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SOH	Sokhos	0.11	8	ePg	Pg	19 16 39.9	0.0
SOH				eSg	Sg	19 16 41.9	-0.1
THE	Thessaloniki	0.29	255	ePg	Sg	19 16 47.3	+0.2
	comp=Z,6.0nm,0.2s						
PLG	Polygyros	0.34	166	ePG	Pg	19 16 44.1	+0.1
PLG				eSB	Sb	19 16 49.5	0.0
SRS	Serrai	0.45	26	ePg	Pg	19 16 45.8	-0.3
KNT	Kendrikon	0.56	324	ePg	Pg	19 16 48.1	-0.1
	comp=Z,18nm,0.4s						
KNT				eSg	Sg	19 16 55.7	-0.1
OUR	Ouranopolis	0.62	127	ePg	Pg	19 16 49.4	0.0
OUR				eSg	Sg	19 16 58.6	+0.8
GRG	Griva	0.75	290	ePg	Pg	19 16 51.8	-0.2
GRG				eSg	Sg	19 17 02.8	+0.7
NVR	Nevrokopi	0.76	32	ePG	Pg	19 16 51.8	-0.3
NVR	Nevrokopi	0.76	32	ePg	Pg	19 16 51.6	-0.5
PAIG	Paliouri	0.82	161	ePg	Pg	19 16 52.2	-1.2
PAIG				eSg	Sg	19 17 04.2	-0.3
RDO	Rodhopi	1.73	75	ePN	Pg	19 17 12.0	+0.7
RDO	Rodhopi	1.73	75	ePn	Pg	19 17 12.5	+1.2

*NEIC **12** 19:17:01.8, 37.11S×176.78E, h255^{km}, MG4.0(WEL), After WEL.*

WEL 12 19:17:01.6±0.3**, 37.11S**×**176.78E, h256**^{km}±2^{km}**, ML4.2**/5**, Error ellipse: s-maj=2.5km s-min=1.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KUZ	Kuaotunu	0.92	293	ePN	P	19 17 36.7	-0.3
KUZ	Kuaotunu	0.92	293	eP	P	19 17 36.8	-0.2
URZ	Urewera	1.18	167	PN	P	19 17 38.2	-0.4
URZ				SN	S	19 18 06.9	-0.4
URZ	Urewera	1.18	167	P	P	19 17 37.9	-0.6
MXZ	Matakaoa Point	1.30	111	PN	P	19 17 38.9	-0.4
MXZ	Matakaoa Point	1.30	111	P	P	19 17 39.1	-0.2
MWZ	Matawai	1.36	154	PN	P	19 17 39.4	-0.4
MWZ				SN	S	19 18 09.2	-0.3
MWZ	Matawai	1.36	154	P	P	19 17 39.7	0.0
MWZ				S	S	19 18 09.2	-0.3
PUZ	Puketiti	1.52	130	PN	P	19 17 40.9	0.0
PUZ				SN	S	19 18 10.4	-1.0
PUZ	Puketiti	1.52	130	P	P	19 17 40.9	0.0
KNZ	Kokohu	2.04	160	PN	P	19 17 45.1	-0.1
KNZ				SN	S	19 18 18.2	-0.8
KNZ	Kokohu	2.04	160	P	P	19 17 45.2	+0.1
KNZ				S	S	19 18 18.3	-0.6
BKZ	Black Stump Fm	2.07	186	PN	P	19 17 45.1	-0.3
BKZ				SN	S	19 18 18.6	-0.9
BKZ	Black Stump Fm	2.07	186	P	P	19 17 45.2	-0.2
BKZ				S	S	19 18 18.8	-0.7
CNZ	Chateau	2.31	205	PN	P	19 17 48.0	+0.3
CNZ	Chateau	2.31	205	P	P	19 17 48.3	+0.6
TUVZ	Tukino	2.33	202	PN	P	19 17 48.0	0.0
TUVZ	Tukino	2.33	202	P	P	19 17 48.1	+0.1
WNVZ	Wahianoa	2.41	202	PN	P	19 17 48.6	0.0
WNVZ	Wahianoa	2.41	202	P	P	19 17 49.0	+0.3
MOVZ	Moawhango	2.44	199	PN	P	19 17 48.4	-0.6
MOVZ	Moawhango	2.44	199	P	P	19 17 48.6	-0.4
PKVZ	Pokaka	2.46	207	PN	P	19 17 49.4	+0.2
MTVZ	Mangateitei	2.50	204	PN	P	19 17 49.7	0.0
PXZ	Pawanui	2.92	179	ePN	P	19 17 53.5	-0.5
TSZ	Takapari Road	3.02	192	PN	P	19 17 53.9	-1.1
TSZ	Takapari Road	3.02	192	P	P	19 17 54.2	-0.8
BFZ	Birch Farm	3.59	187	ePN	P	19 17 60.0	-1.5
BFZ	Birch Farm	3.59	187	eP	P	19 18 00.4	-1.1
MRZ	Mangatainoka R	3.67	194	ePN	P	19 18 00.3	-2.0
MRZ	Mangatainoka R	3.67	194	eP	P	19 18 00.6	-1.8
KIW	Kapiti Island	4.02	201	PN	P	19 18 04.1	-2.3
KIW	Kapiti Island	4.02	201	P	P	19 18 04.3	-2.1
CAW	Cannon Point	4.21	198	ePN	P	19 18 06.3	-2.3
MRW	Makara Radio	4.42	201	PN	P	19 18 08.8	-2.3
MRW	Makara Radio	4.42	201	P	P	19 18 09.0	-2.1
MSWZ	Moikau Station	4.46	195	PN	P	19 18 09.3	-2.3
MSWZ	Moikau Station	4.46	195	P	P	19 18 09.5	-2.1
SNZO	South Karori	4.50	200	PN	P	19 18 09.5	-2.6
SNZO	South Karori	4.50	200	P	P	19 18 09.6	-2.4
TCW	Tory Channel	4.54	205	PN	P	19 18 10.1	-2.5
TCW	Tory Channel	4.54	205	P	P	19 18 10.3	-2.2
TUWZ	Tuamarina	4.85	206	PN	P	19 18 13.8	-2.5
NNZ	Nelson	4.88	212	SN	S	19 19 11.7	-3.6
QRZ	Quartz Range	4.98	220	ePN	P	19 18 14.2	-3.6
QRZ	Quartz Range	4.98	220	eP	P	19 18 14.5	-3.3
THZ	Tophouse	5.54	212	ePN	P	19 18 21.3	-3.4
KHZ	Kahutara	5.86	204	ePN	P	19 18 26.0	-2.7
KHZ	Kahutara	5.86	204	eP	P	19 18 26.2	-2.5
DSZ	Denniston Nort	6.03	218	ePN	P	19 18 25.8	-4.9
LTZ	Lake Taylor	6.64	210	ePN	P	19 18 34.7	-3.8
LTZ	Lake Taylor	6.64	210	eP	P	19 18 35.2	-3.3
MQZ	McQueen's Vall	7.31	204	eSN	S	19 20 02.8	-6.5

*MOS **12** 19:20:23.0±1.5, 34.17N×23.71E, h10^{km}, mb4.3/15, Error ellipse: s-maj=6.1km s-min=3.7km az=106.5*

*HLW **12** 19:20:24.8, 34.65N×23.93E, h20^{km}, Mb3.8*

*CSEM **12** 19:20:25.1±0.1, 34.13N×23.71E, h30^{km}, mb4.2/18, Ms3.2, Error ellipse: s-maj=2.6km s-min=1.5km az=29.0*

*BJI **12** 19:20:27.2, 34.47N×23.51E, h39^{km}, mb4.5*

*IDC **12** 19:20:30.8±2.0, 34.43N×23.73E, h46^{km}±16^{km}, mb3.9/11, mb1 4.0/16, mb1mx3.9/25, mbtmp4.1/16, ML3.9/5, MS3.6/4, Ms1 3.5/4, ms1mx3.1/31, Error ellipse: s-maj=22.9km s-min=10.8km az=169.0*

*ATH **12** 19:20:32.2, 34.69N×24.00E, h32^{km}±1^{km}, MD4.1/14*

*NEIC **12** 19:20:32.7, 34.72N×24.02E, h32^{km}, mb3.9/24, MD4.0(ATH), After ATH.*

ISC 12 19:20:24.3±0.7**, 34.15N**±0.03×**23.73E**±0.02**, h24**^{km}±5^{km}**, n237,** σ1^{s}27/244**, mb4.2**/36**, MS3.7**/4**, 15C-8D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GVD	Gavdhos	0.75	23	ePB	Pb	19 20 38.5	-0.1
VAM	Vamos	1.32	17	ePN	Pn	19 20 47.5	+0.1
IDI	Anoyia	1.49	40	P	Pn	19 20 51.2	+1.3
	21nm,0.3s,baz=222,slow=10,SNR=172						
IDI				S	Sn	19 21 08.8	+0.1
	59nm,0.3s,baz=297,slow=22,SNR=6.4						
XRY	Khrisi	1.78	65	ePB	Pb	19 20 57.2	+1.1
XRY	Khrisi	1.78	65	ePb	Pb	19 20 57.0	+0.9
NPS	Neapolis	1.91	54	⇑iPN	Pn	19 20 58.0	+2.0
NPS	Neapolis	1.91	54	⇑iPn	Pn	19 20 58.5	+2.5
KYTH	Kithira	2.20	345	ePB	Pb	19 21 02.8	-0.5
VLI	Veliai	2.65	346	ePB	Pb	19 21 09.5	-1.3
VLI	Veliai	2.65	346	ePb	Pb	19 21 10.4	-0.4
SLUM		2.93	154	⇑P	Pn	19 21 15.1	+4.6
KARP	Karpathos	3.15	63	⇑iPN	Pn	19 21 16.8	+3.1
KARP	Karpathos	3.15	63	⇑iPn	Pn	19 21 16.9	+3.2
APE	Apeiranthos	3.27	26	ePN	Pn	19 21 15.1	-0.2
APE	Apeiranthos	3.27	26	ePn	Pn	19 21 15.2	-0.1
APE	Apeiranthos	3.27	26	⇑iP	Pn	19 21 15.1	-0.2
ITM	Ithomi	3.36	335	ePN	Pn	19 21 20.0	+3.4
ITM	Ithomi	3.36	335	ePb	Pb	19 21 23.0	0.0
NAIG	Nisos Aigina	3.61	357	ePN	Pn	19 21 20.5	+0.4
NAIG	Nisos Aigina	3.61	357	ePn	Pn	19 21 20.0	-0.1
MGER	Gerania Oros	3.85	355	ePN	Pn	19 21 24.0	+0.4
PTL	Penteli	3.90	2	ePN	Pn	19 21 24.5	+0.3
MPAR	Parnis Oros	4.00	0	ePN	Pn	19 21 26.1	+0.5
BODT	Bodrum	4.12	44	ePN	Pn	19 21 26.2	-1.2
ARG	Arkhangelos	4.15	59	ePN	Pn	19 21 29.4	+1.5
HMAT	Matruh	4.17	136	⇓P	Pn	19 21 30.5	+2.4
HMAT				S	Sn	19 22 17.9	+1.3
BDRM	Kayabasi	4.20	45	iP	Pn	19 21 30.2	+1.6
RLS	Riolos of Patr	4.31	336	ePn	Pn	19 21 35.2	+5.1
SMG	Samos	4.36	34	ePN	Pn	19 21 31.5	+0.7
LKR	Lokris	4.53	353	ePn	Pn	19 21 32.7	-0.6
MLSB	Milas	4.55	45	ePN	Pn	19 21 32.3	-1.3
VLS	Valsamata	4.75	329	ePN	Pn	19 21 38.8	+2.4
VLS	Valsamata	4.75	329	eP	Pn	19 21 38.6	+2.2
YER	Yerkesik	4.76	50	ePN	Pn	19 21 36.8	+0.3
DALT	Dalyan (Mudla)	4.79	55	ePN	Pn	19 21 37.4	+0.5
URLA	Izmir	4.80	28	iP	Pn	19 21 35.4	-1.7
EVR	Evrytania	5.00	343	ePN	Pn	19 21 41.8	+1.9
IZM	Izmir	5.12	33	ePN	Pn	19 21 41.6	+0.1
KDAG	Bornova	5.12	33	iP	Pn	19 21 41.6	+0.1
NEO	Neokhori	5.17	356	ePn	Pn	19 21 41.4	-0.8
AKAS	Kas	5.25	65	iP	Pn	19 21 44.1	+0.8
AKAS				iS	Sn	19 22 40.0	-3.8
DNZL	Cakiroluk	5.58	49	iP	Pn	19 21 49.7	+1.7
DENT	Denizli	5.61	49	ePN	Pn	19 21 48.4	-0.1
GOLH	Golhisar	5.66	55	iP	Pn	19 21 48.9	-0.3
ELL	Elmali	5.68	61	ePN	Pn	19 21 49.9	+0.5
HBRG	Burj al 'Arab	6.28	123	⇑P	Pn	19 21 58.3	+0.4
HBRG				S	Sn	19 23 06.1	-3.6
ISP	Isparta	6.62	54	eP	Pn	19 22 02.4	-0.3
AWBH		7.30	141	⇑P	Pn	19 22 14.3	+2.0
HMYD	Mayadein	7.41	124	⇑P	Pn	19 22 14.2	+0.4
HMYD	Mayadein	7.41	124	P	Pn	19 22 14.2	+0.4
TIP	Timpagrande	7.52	314	ePn	Pn	19 22 14.6	-0.7
TIP				eSn	Sn	19 23 33.9	-6.8
TIP	Timpagrande	7.52	314	ePn	Pn	19 22 14.6	-0.7
TIP				eSn	Sn	19 23 33.9	-6.8
HDMB	Hadim	7.67	66	ePN	Pn	19 22 19.9	+2.4
ESKT	Eskisehir	7.83	45	iP	Pn	19 22 19.1	-0.6
ERMK	Ermenek	7.91	69	iP	Pn	19 22 19.9	-0.8
CSS	Prodhromos	7.97	81	ePn	Pn	19 22 19.1	-2.5
	13nm,0.6s						
CSS				eSn	Sn	19 23 45.1	-6.8
CSS	Prodhromos	7.97	81	ePn	Pn	19 22 19.1	-2.5
	13nm,0.6s						
KOT	Kottamia	8.06	119	⇓P	P	19 22 22.4	-0.5
GLL	Jalalah	8.18	122	⇑P	P	19 22 24.5	+0.1
GLL				S	Sn	19 23 51.7	-5.4
HBNS	Bani Suwayf	8.22	127	⇓P	P	19 22 25.5	+0.4
VAE	Valguarnera	8.26	296	P	P	19 22 27.2	+1.5
	2.7nm,0.3s,baz=262,slow=20,SNR=6.3						
VAE				S	Sn	19 23 58.4	-0.8
	1.4nm,0.3s,baz=307,slow=6.5,SNR=4.5						
VAE	Valguarnera	8.26	296	P	P	19 22 27.2	+1.5
VAE				S	Sn	19 23 58.5	-0.7
AMAG	Maghara	8.75	111	⇑P	P	19 22 30.5	-1.8
SGKT	Sivrigoynuk	9.22	44	iP	P	19 22 38.4	-0.6
ANTO	Ankara	9.23	49	ePn	P	19 22 39.4	+0.4
	6.8nm,0.6s						
ANTO	Ankara	9.23	49	ePn	P	19 22 39.4	+0.3
	6.8nm,0.6s						
ANTO	Ankara	9.23	49	eP	P	19 22 39.4	+0.3
ANTO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KZIT	Kziot	9.57	107	Pn	P	19 22 42.3	-1.5
HNTI	Hanita	9.61	93	Pn	P	19 22 43.4	-0.9
HNKL	Nakhl	9.66	113	P	P	19 22 43.6	-1.5
SLTI	Sal'it	9.67	98	Pn	P	19 22 42.2	-3.0
BR131	Keskin Array S	9.69	52	ePn	P	19 22 46.2	+0.8
	comp=Z,3.4nm,0.7s						
BR131	Keskin Array S	9.69	52	ePn	P	19 22 46.2	+0.8
	comp=Z,3.4nm,0.7s						
BRTR	Keskin Array B	9.69	52	P	P	19 22 44.4	-1.0
	comp=Z,0.3nm,0.3s,baz=225,slow=14,SNR=22						
BRTR				S	Sn	19 24 29.9	-4.7
	comp=Z,0.1nm,0.3s,baz=95,slow=28,SNR=2.2						
MASH	Mash'abbe Sade	9.85	106	Pn	P	19 22 46.1	-1.5
NVSS	Nova Varos 2	9.86	343	⇑iPn	P	19 22 43.9	-3.8
HDK1	Dakhla	9.89	149	⇓P	P	19 22 50.6	+2.4
AVNT	Avonos	10.08	60	iP	P	19 22 53.9	+3.0
MZDA	Masada	10.20	103	Pn	P	19 22 50.9	-1.6
PRNI	Paran	10.27	109	Pn	P	19 22 52.3	-1.1
ZFRI	Zfri	10.33	107	Pn	P	19 22 52.4	-1.8
MKRJ	Makawir	10.35	101	Pn	P	19 22 53.4	-1.1
HKAT	Jabal Katrina	10.41	120	⇓P	P	19 22 54.5	-0.9
COBT	Iskenderun	10.51	73	iP	P	19 22 53.7	-2.9
EIL	Elat	10.53	112	Pn	P	19 22 56.2	-0.8
BALT	Daday	10.61	43	iP	P	19 22 57.2	-0.8
ASF	Jabal al Asfar	11.21	96	S	S	19 25 07.8	-4.1
	comp=Z,0.5nm,0.3s,baz=60,slow=23,SNR=4.0						
PGF	Pioggiola	14.26	310	eP	P	19 23 46.5	-0.3
ANN	Anapa	14.99	41	eP	P	19 24 14.0	+18
ANN				pmax	pmax		
	comp=Z,145nm,1.5s						
STHS	Stebnicka Huta	15.37	354	eP	P	19 24 07.0	+5.8
MOA	Molln	15.42	335	⇑iP	P	19 24 07.7	+5.8
	comp=Z,8.1nm,1.1s						
SBF	Sospel	15.93	312	eP	P	19 24 07.4	-1.1
	comp=Z,26nm,1.1s						
SBF	Sospel	15.93	312	eP	P	19 24 07.4	-1.1
SBF				pmax	pmax		
	comp=Z,13nm,1.0s						
WTTA	Wattenberg	15.96	329	⇓iP	P	19 24 16.3	+7.4
	comp=Z,13nm,1.2s						
WTTA	Wattenberg	15.96	329	⇓iP	P	19 24 16.3	+7.4
WTTA				pmax	pmax		
	comp=Z,13nm,1.2s						
VRAC	Vranov	16.05	343	P	P	19 24 11.5	+1.6
	comp=Z,0.5nm,0.3s,baz=152,slow=9.3,SNR=10.0						
OKC	Ostrava-Krasne	16.21	347	eP	P	19 24 15.1	+3.1
LMR	La Mourre	16.24	309	eP	P	19 24 11.8	-0.7
	comp=Z,25nm,1.2s						
LMR	La Mourre	16.24	309	eP	P	19 24 11.8	-0.7
LMR				pmax	pmax		
	comp=Z,12nm,1.2s						
MOTA	Moosalm	16.26	328	⇑iP	P	19 24 13.2	+0.5
	comp=Z,5.5nm,1.1s						
MOTA	Moosalm	16.26	328	⇑iP	P	19 24 13.2	+0.5
MOTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FRF	La Foret Royal	16.26	310	eP	P	19 24 12.0	-0.7
	comp=Z,14nm,1.1s						
FRF	La Foret Royal	16.26	310	eP	P	19 24 12.0	-0.7
FRF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TREC	Trest	16.32	340	eP	P	19 24 16.9	+3.5
DAVOX	Davos	16.41	324	P	P	19 24 19.2	+4.7
	comp=Z,0.4nm,0.3s,baz=68,slow=8.1,SNR=3.7						
GERES	GERESS Array B	16.47	336	P	P	19 24 14.5	-0.8
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=7.7						

KHC	Kasperske Hory	16.76	336	eP	P	19 24 22.1	+3.1
KHC				pP		19 24 31.0	
KHC	Kasperske Hory	16.76	336	eP	P	19 24 22.1	+3.1
KHC				e		19 24 31.0	
MBDF	Montbardon	16.79	314	eP	P	19 24 18.7	-0.8
	comp=Z,15nm,0.9s						
MBDF	Montbardon	16.79	314	eP	P	19 24 18.7	-0.8
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AKASG	Malin Array Be	17.03	12	P	P	19 24 21.3	-1.1
	comp=Z,1.0nm,0.3s,baz=202,slow=11,SNR=12						
DPC	Dobruska-Polom	17.08	344	eP	P	19 24 25.1	+2.1
SMRF	Simiane la Rot	17.14	310	eP	P	19 24 23.6	-0.3
PRU	Pruhonice	17.21	340	eP	P	19 24 26.7	+2.0
LPG	La Plagne	17.24	316	eP	P	19 24 23.8	-1.2
LPL	La Plagne	17.26	316	eP	P	19 24 23.9	-1.4
UPC	Upice	17.30	343	eP	P	19 24 28.1	+2.4
ORIF	Oris-en-Rattie	17.43	313	eP	P	19 24 26.8	-0.6
ORIF				eR			
	comp=Z,263nm,20.0s						
KIV	Kislovodsk	17.65	51	eP	P	19 24 31.2	+1.0
	comp=Z,59nm,16.0s						
KIV	Kislovodsk	17.65	51	eP	P	19 24 31.2	+1.0
KIV				pmax	pmax		
	comp=E,5.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,59nm,16.0s						
PVCC	Panska Ves	17.69	340	eP	P	19 24 32.4	+1.8
GNI	Garni	17.78	64	LR	LR	19 31 26.2	
	comp=Z,65nm,20.5s,baz=73,slow=37						
GNI	Garni	17.78	64	eP	P	19 24 33.4	+1.6
	comp=Z,17nm,2.2s						
GNI	Garni	17.78	64	eP	P	19 24 33.4	+1.6
GNI				pmax	pmax		
	comp=Z,17nm,2.2s						
ZEI	Tsey	17.96	55	eP	P	19 24 33.6	-0.4
GRA1	Grafenberg Arr	18.07	333	eP	P	19 24 37.7	+2.3
	comp=Z,8.0nm,1.0s						
GRF	Grafenberg Arr	18.07	333	eP	P	19 24 37.7	+2.3
	comp=Z,8.0nm,1.0s						
GRF	Grafenberg Arr	18.07	333	eP	P	19 24 37.7	+2.3
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GRF	Grafenberg Arr	18.07	333	eP	P	19 24 37.7	+2.3
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NKC	Novy Kostel	18.08	336	eP	P	19 24 38.6	+3.0
VIVF	Saint-Julien-l	18.14	312	eP	P	19 24 36.0	-0.3
BRG	Berggiesshubel	18.18	340	eP	P	19 24 37.4	+0.7
	comp=Z,3.5nm,0.8s						
BRG	Berggiesshubel	18.18	340	eP	P	19 24 37.4	+0.7
	comp=Z,3.5nm,0.8s						
BRG	Berggiesshubel	18.18	340	eP	P	19 24 37.4	+0.7
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CABF	La Chapelle	18.27	318	eP	P	19 24 36.2	-1.7
	comp=Z,6.4nm,0.8s						
CABF	La Chapelle	18.27	318	eP	P	19 24 36.2	-1.7
CABF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LASF	Ste Croix	18.29	309	eP	P	19 24 38.0	-0.2
HINF	Hinteralfeld	18.62	322	eP	P	19 24 40.0	-2.1
	comp=Z,9.7nm,1.0s						
HINF	Hinteralfeld	18.62	322	eP	P	19 24 40.0	-2.1
HINF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MOX	Moxa	18.71	335	eP	P	19 24 46.0	+2.7
CDF	Champ du Feu	18.81	324	eP	P	19 24 41.7	-2.7
CLL	Collm	18.84	339	P	P	19 24 45.0	+0.3
CLL				ePP	PP	19 24 59.0	-2.0
CLL				e*PPP		19 25 03.0	
CLL	Collm	18.84	339	eP	P	19 24 45.0	+0.3
HAU	Haudompre	19.00	322	eP	P	19 24 44.5	-2.2
HAU				eR			
	comp=Z,174nm,19.2s						
MTLF	Montolieu	19.08	305	eP	P	19 24 48.0	+0.3
EPOB	Poblet	19.27	299	P	P	19 24 56.1	+6.2
	comp=Z,1.8nm,1.2s						
SMF	Signal de Mont	19.56	316	eP	P	19 24 52.1	-1.1
ERTA	Horta de San J	19.72	297	P	P	19 24 55.3	+0.3
	comp=Z,18nm,1.4s						
ERTA	Horta de San J	19.72	297	P	P	19 24 55.3	+0.3
	comp=Z,18nm,1.4s,SNR=4.0						
CAF	Calviac	19.81	309	eP	P	19 24 56.1	+0.1
LOR	Lormes	19.89	317	eP	P	19 24 55.4	-1.5
LOR				eR			
	comp=Z,183nm,22.0s						
AVF	Avril sur Loir	19.92	315	eP	P	19 24 55.7	-1.5
SSF	Saint Saulge	19.98	316	eP	P	19 24 56.2	-1.6
	comp=Z,2.9nm,0.9s						
SSF	Saint Saulge	19.98	316	eP	P	19 24 56.2	-1.6
SSF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MEZF	Maizieres J'vi	19.98	321	eP	P	19 24 55.5	-2.3
	comp=Z,12nm,0.7s						
EMOS	Mosqueruela	20.20	295	P	P	19 24 59.6	-0.5
	comp=Z,14nm,1.1s						
EMOS	Mosqueruela	20.20	295	P	P	19 24 59.6	-0.6
	comp=Z,14nm,1.1s,SNR=7.9						
EPF	Esparros	20.27	303	eP	P	19 25 01.5	+0.7
EBIE	Bielsa	20.30	302	P	P	19 25 01.9	+0.8
	comp=Z,14nm,0.9s						
EBIE	Bielsa	20.30	302	P	P	19 25 01.9	+0.8
	comp=Z,14nm,0.9s,SNR=10						
RJF	Les Rejaudoux	20.33	310	eP	P	19 25 01.3	-0.1
RJF				eR			
	comp=Z,184nm,17.2s						
TCF	Toulx Ste Croi	20.35	313	eP	P	19 25 01.2	-0.4
VRSR	Storozhevoye	20.43	29	eP	P	19 25 00.3	-2.1
VRSR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
VRSR				pmax	pmax		
	comp=N,5.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,7.0nm,1.1s						
LFF	La Frestale	20.68	308	eP	P	19 25 05.1	+0.1
	comp=E,10nm,0.8s						
LFF	La Frestale	20.68	308	eP	P	19 25 05.1	+0.1
LFF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ETOB	Tobarra	20.81	290	P	P	19 25 06.6	+0.2
	comp=Z,20nm,1.1s						
ETOB	Tobarra	20.81	290	P	P	19 25 06.6	+0.2
	comp=Z,20nm,1.1s,SNR=4.0						
ETSF	Etsaut	20.86	302	eP	P	19 25 08.1	+1.2
	comp=Z,14nm,0.9s						
ETSF	Etsaut	20.86	302	eP	P	19 25 08.1	+1.2
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SJPF	Ste Jean	21.39	302	eP	P	19 25 13.4	+1.1
	comp=Z,38nm,1.2s,mb4.3						
SJPF	Ste Jean	21.39	302	eP	P	19 25 13.4	+1.1
SJPF				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.3						
BAIF	Baives	21.41	324	eP	P	19 25 10.8	-1.6
	comp=Z,18nm,1.0s,mb4.0						
EBER	Berja	21.81	285	P	P	19 25 18.8	+2.3
EBER	Berja	21.81	285	P	P	19 25 18.8	+2.2
	SNR=4.0						
MFF	Saint Martin d	21.94	312	eP	P	19 25 17.6	-0.1
	comp=Z,5.8nm,0.7s,mb3.9						
EQES	Quesada	21.96	287	P	P	19 25 19.9	+1.8
	comp=Z,13nm,1.7s,mb4.1						
EQES	Quesada	21.96	287	P	P	19 25 19.9	+1.8
	comp=Z,13nm,1.7s,mb4.1,SNR=4.9						
ESDC	Sonseca Array	22.77	292	P	P	19 25 28.6	+2.6
	comp=Z,2.5nm,1.0s,mb3.6,baz=83,slow=10,SNR=3.3						
OBN	Obninsk	22.80	19	eP	P	19 25 26.2	+0.1
	comp=Z,40nm,2.7s,mb4.4						
OBN	Obninsk	22.80	19	ePcP	PcP	19 29 16.8	-1.7
	comp=Z,100nm,14.0s						
OBN	Obninsk	22.80	19	eP	P	19 25 26.2	+0.1
OBN				e		19 29 16.8	
OBN				pmax	pmax		
	comp=Z,40nm,2.7s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.4						
LDF	La Druitiere	22.86	316	eP	P	19 25 26.0	-0.9
	comp=Z,18nm,1.0s,mb4.2						
FLN	La Foliniere	23.16	316	eP	P	19 25 28.7	-1.0
	comp=Z,15nm,0.8s,mb4.2						
FLN				eR			
	comp=Z,175nm,23.0s						
EADA	Adamuz	23.16	288	P	P	19 25 36.0	+6.2
GRR	Gorron	23.19	315	eP	P	19 25 29.4	-0.6
SGMF	Saint Gilles	24.13	314	eP	P	19 25 39.2	0.0
	comp=Z,16nm,0.9s,mb4.2						
QUIF	Quistinic	24.36	312	eP	P	19 25 40.7	-0.7
	comp=Z,20nm,1.0s,mb4.2						
EMIN	Mina Concepcio	24.82	287	P	P	19 25 46.2	+0.3
EMIN	Mina Concepcio	24.82	287	P	P	19 25 46.2	+0.3
HFS	Hagfors	26.82	349	P	P	19 26 03.2	-1.1
	comp=Z,2.4nm,0.4s,mb4.1,baz=144,slow=13,SNR=16						
FINES	FINESS Array B	27.36	2	P	P	19 26 07.7	-1.5
	comp=Z,0.8nm,0.5s,mb3.5,baz=143,slow=9.5,SNR=5.6						
KAF	Kangasniemi	28.03	3	ep	P	19 26 07.0	-8.4
	comp=Z,1.8nm,0.8s,mb3.8						
KAF	Kangasniemi	28.03	3	eP	P	19 26 07.0	-8.4
KAF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
NB2	NORSAR Subarra	28.10	347	P	P	19 26 15.6	-0.3
	comp=Z,1.3nm,0.6s,mb3.7,baz=152,slow=11						
NB2	NORSAR Subarra	28.10	347	P	P	19 26 15.6	-0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
NOA	NORSAR Array B	28.10	347	P	P	19 26 15.0	-0.9
	comp=Z,1.0nm,0.6s,mb3.6,baz=153,slow=11,SNR=4.1						
EKA	Eskdalemuir Ar	28.21	327	P	P	19 26 18.8	+1.7
	comp=Z,2.0nm,0.6s,mb4.0,baz=129,slow=7.6,SNR=11						
JOF	Joensuu	29.19	7	ep	P	19 26 23.7	-2.0
	comp=Z,0.4nm,0.3s,mb3.6						
AKTK	Aktyubinsk	29.80	46	P	P	19 26 30.6	-0.8
	comp=Z,2.0nm,1.1s,mb3.8						
AKTO	Aktyubinsk	29.80	46	P	P	19 26 30.6	-0.8
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
ARU	Arti	32.57	36	i P	P	19 26 55.4	-0.2
	comp=Z,5.0nm,0.7s,mb4.5						
ARU				eS	S	19 32 08.9	+0.3
ARU	Arti	32.57	36	⇓iP	P	19 26 55.4	-0.2
ARU				e		19 27 58.8	
ARU				ePPP	PPP	19 28 14.6	-5.5
ARU				eS	S	19 32 08.9	+0.3
ARU				eSS	SS	19 34 05.8	0.0
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
SVE	Sverdlovsk	33.77	36	eP	P	19 27 05.6	-0.5
ARCES	ARCESS Array B	35.45	1	P	P	19 27 18.5	-1.9
	comp=Z,2.5nm,0.9s,mb4.2,baz=180,slow=9.7,SNR=6.6						
KKAR	Karatay Array	37.22	62	i P	P	19 27 37.1	+1.6
	comp=Z,7.0nm,1.0s,mb4.5						
KKAR	Karatay Array	37.22	62	i P	P	19 27 37.1	+1.6
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KMBO	Kilima Mbogo	37.32	157	LR	LR	19 46 27.7	
	comp=Z,76nm,18.6s,MS3.5,baz=87,slow=41						
BVAR	Borovoye Array	37.90	46	P	P	19 27 41.8	+0.7
	comp=Z,1.4nm,0.7s,mb3.8,baz=270,slow=4.4,SNR=10						
BVAR	Borovoye Array	37.90	46	P	P	19 27 41.8	+0.7
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DBIC	Dimbokro	38.01	231	P	P	19 27 46.0	+3.5
	comp=Z,5.4nm,1.1s,mb4.2,baz=34,slow=7.3,SNR=3.7						
DBIC	Dimbokro	38.01	231	P	P	19 27 46.0	+3.5
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VOSK	Vostochnaya	38.20	46	P	P	19 27 44.1	+0.5
	comp=Z,3.0nm,0.8s,mb4.1						
VOSK	Vostochnaya	38.20	46	P	P	19 27 44.1	+0.5
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
AAK	Ala-Archa	40.17	62	i P	P	19 28 01.1	+0.9
	comp=Z,6.0nm,1.0s,mb4.3						
AAK	Ala-Archa	40.17	62	i P	P	19 28 01.1	+0.9
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
KURK	Kurchatov	42.74	50	P	P	19 28 21.3	+0.2
	comp=Z,2.0nm,0.9s,mb3.9						
KURK	Kurchatov	42.74	50	P	P	19 28 21.3	+0.2
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
MKAR	Makanchi Array	45.32	56	P	P	19 28 42.7	+0.7
	comp=Z,7.1nm,0.8s,mb4.5,baz=277,slow=8.1,SNR=32						
MKAR	Makanchi Array	45.32	56	eP	P	19 28 42.9	+0.9
NVS	Novosibirsk	45.64	44	i P	P	19 28 44.8	+0.4
KOLN	Koldanda	51.11	80	eP	P	19 29 31.8	+4.6
GKN	Gorkha	51.87	79	eP	P	19 29 33.8	+0.8
	comp=Z,6.2nm,0.4s,mb4.9						
DMN	Daman	52.41	79	eP	P	19 29 38.2	+1.2
	comp=Z,22nm,0.8s,mb5.1						
KKN	Kakani	52.48	79	eP	P	19 29 37.7	+0.1
	comp=Z,15nm,0.7s,mb5.0						
PKI	Pulchoki	52.67	79	eP	P	19 29 39.5	+0.5
	comp=Z,34nm,1.1s,mb5.2						
LSA	Lhasa	56.47	75	P	P	19 30 08.0	+1.3
ZAK	Zakamensk	58.30	48	eP	P	19 30 16.4	-2.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
GTA	Gaotai	59.49	61	eP	P	19 30 28.0	+0.3
GTA				AP	pP	19 30 35.9	+0.7
GTA				XP	sP	19 30 40.0	+2.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.2						
SONM	Songino Array	61.04	50	P	P	19 30 38.5	+0.3
	comp=Z,2.5nm,1.1s,mb4.3,baz=298,slow=6.7,SNR=12						
SONM	Songino Array	61.04	50	P	P	19 30 38.5	+0.3
SONM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BOD	Bodaibo	61.98	37	eP	P	19 30 43.1	-1.3
	comp=Z,3.0nm,0.9s,mb4.4						
BOD	Bodaibo	61.98	37	eP	P	19 30 43.1	-1.3
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
SCHQ	Schefferville	63.19	320	LR	LR	19 57 58.2	
	comp=Z,42nm,19.0s,MS3.6,baz=0.2,slow=36						
MJAR	Matsushiro Arr	86.88	47	P	P	19 33 11.4	+3.1
	comp=Z,0.5nm,0.4s,mb4.1,baz=305,slow=4.2,SNR=4.5						
MJAR	Matsushiro Arr	86.88	47	P	P	19 33 11.4	+3.1
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ELK	Elko	96.43	330	LR	LR	20 18 25.6	
	comp=Z,70nm,20.5s,MS4.1,baz=54,slow=36						
WRA	Warramunga Arr	117.65	96	PKP	PKPdf	19 39 11.5	-1.8
	comp=Z,0.4nm,1.0s,baz=298,slow=3.4,SNR=4.0						

*IDC **12** 19:26:17.7±2.4, 10.34S×118.30E, mb4.1/3, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=86.9km s-min=23.1km az=44.0*
*NEIC **12** 19:26:23.3±0.6, 10.11S×118.73E, h30^{km}, mb4.4/2, Error ellipse: s-maj=17.3km s-min=8.8km az=57.0*
ISC 12 19:26:20.6±0.8**, 10.53S**±0.07×**118.5E**±0.1**, h33**^{km}**, n12,** σ**1**^{s}**85**/16**, mb4.3**/4**, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.22	138	eP	P	19 28 50.3	+2.2
	3.4nm,0.4s						
FITZ				eS	S	19 30 37.9	-4.8
FITZ	Fitzroy Crossi	10.22	138	Pn	P	19 28 50.3	+2.2
	1.1nm,0.3s,baz=341,slow=9.7,SNR=29						
FITZ				Sn	S	19 30 37.8	-4.8
	0.3nm,0.3s,baz=346,slow=22,SNR=3.3						
MBWA	Marble Bar	10.64	174	ePn	P	19 28 59.4	+5.6
MBWA				eSn	S	19 30 52.1	-0.6
WRA	Warramunga Arr	17.91	123	P	P	19 30 30.1	+1.3
	0.1nm,0.3s,baz=298,slow=13,SNR=6.6						
WRA				S	S	19 33 36.7	-7.9
	0.1nm,0.3s,baz=339,slow=30,SNR=4.7						
WRAB	Tennant Creek	17.91	123	eP	P	19 30 31.3	+2.5
	11nm,1.3s						
KULM	Kulim	23.73	311	eP	P	19 31 32.6	+1.8
PMG	Port Moresby	28.24	90	P	P	19 32 15.0	+2.0
	8.9nm,0.7s,mb4.5,baz=279,slow=23,SNR=4.8						
PMG	Port Moresby	28.24	90	eP	P	19 32 14.7	+1.7
GUMO	Guam	35.48	48	eP	P	19 33 14.7	-1.6
HNR	Honiara	40.81	92	eP	P	19 34 00.4	-0.5
	30nm,0.9s,mb4.9						
SONM	Songino Array	59.09	351	P	P	19 36 17.9	-2.2
	0.4nm,0.4s,mb3.8,baz=164,slow=8.4,SNR=9.5						
MKAR	Makanchi Array	65.59	334	P	P	19 37 02.0	-1.3
	0.5nm,0.4s,mb3.9,baz=157,slow=6.8,SNR=7.9						

*SOF **12** 19:26:30.8, 40.57N×23.35E, h1^{km}, MD3.6*
*ATH **12** 19:26:34.8, 40.72N×23.38E, h24^{km}±1^{km}, MD3.8/16, ML4.0*
*NEIC **12** 19:26:34.7, 40.71N×23.38E, h19^{km}, ML4.0(ATH), ML3.9(THE), After ATH.*
*CSEM **12** 19:26:34.9±0.1, 40.73N×23.33E, h15^{km}, ML4.0, Error ellipse: s-maj=1.5km s-min=1.3km az=86.0*
*THE **12** 19:26:35.2, 40.70N×23.35E, h3^{km}, ML3.9*
ISC 12 19:26:34.2±0.2**, 40.74N**±0.01×**23.36E**±0.02**, h10**^{km}**, n89,** σ**1**^{s}**16**/121**, mb3.8**/1**, 20C-9D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOH	Sokhos	0.09	360	ePg	Pg	19 26 37.9	+1.3
SOH				eSg	Sg	19 26 39.8	+1.5
THE	Thessaloniki	0.31	251	ePg	Pg	19 26 41.3	+0.6
THE				eSg	Sg	19 26 45.3	+0.2
THE	Thessaloniki	0.31	251	P	Pg	19 26 40.9	+0.3
THE				S	Sg	19 26 44.7	-0.3
PLG	Polygyros	0.37	169	⇑iPB	Pb	19 26 42.2	-0.1
PLG				eSB	Sb	19 26 47.2	-0.6
SRS	Serrai	0.42	25	ePg	Pg	19 26 43.6	+0.8
KNT	Kendrikon	0.55	321	ePg	Pg	19 26 45.8	+0.5
OUR	Ouranopolis	0.62	130	ePg	Pg	19 26 47.0	+0.2
NVR	Nevrokopi	0.72	32	⇑iPN	Pn	19 26 49.2	-1.0
NVR				eSN	Sn	19 26 59.4	-1.9
GRG	Griva	0.76	287	ePg	Pg	19 26 49.6	+0.2
GRG				eSg	Sg	19 27 00.5	+1.0
PAIG	Paliouri	0.84	163	ePg	Pg	19 26 50.1	-1.0
PAIG				eSg	Sg	19 27 02.2	-0.3
MMB	Musomiste	0.90	18	i Pg	Pg	19 26 51.8	-0.4
KKB	Krupnik	1.15	350	i Pg	Pg	19 26 56.3	-0.9
KZN	Kozani	1.28	251	ePN	Pn	19 26 59.2	+1.0
KZN				eSN	Sn	19 27 16.9	+1.4
KZN	Kozani	1.28	251	ePn	Pn	19 26 58.7	+0.5
KZN				eSn	Sn	19 27 16.4	+0.9
XOR	Xorichti	1.37	185	ePg	Pg	19 27 00.1	-1.5
RZN	Rozhen	1.40	47	i P	Pn	19 27 01.2	+1.3
NEO	Neokhori	1.43	184	ePN	Pn	19 27 00.8	+0.5
NEO				eSN	Sn	19 27 19.7	+0.4
NEO	Neokhori	1.43	184	ePn	Pn	19 27 00.7	+0.4
NEO				eSn	Sn	19 27 19.7	+0.4
FNA	Florina	1.50	273	ePg	Pg	19 27 02.5	-1.7
	comp=Z,15nm,0.3s						
FNA				eSg	Sg	19 27 22.7	-1.6
LOS	Limnos	1.54	121	ePg	Pg	19 27 01.9	-3.2
AOS	Alonnisos	1.61	165	ePg	Pg	19 27 02.9	-3.6
AOS	Alonnisos	1.61	165	ePg	Pg	19 27 02.8	-3.6
LIA	Limnos Island	1.63	120	ePN	Pn	19 27 03.5	+0.4
PLD	Plovdiv	1.70	36	P	Pn	19 27 06.5	+2.3
PLD				Pg	Pg	19 27 08.4	+0.2
PLD	Plovdiv	1.70	36	Pg	Pg	19 27 08.4	+0.2
RDO	Rodhopi	1.70	75	ePN	Pn	19 27 04.6	+0.4
KDZ	Kurdzhali	1.81	59	P	Pn	19 27 05.2	-0.5
VTS	Vitosha	1.86	357	i P	Pn	19 27 08.0	+1.6
AGG	Agios Georgios	1.88	205	ePb	Pb	19 27 07.4	-0.8
	comp=Z,20nm,0.3s						
SKO	Skopje	1.90	311	i Pn	Pn	19 27 08.6	+1.6
SKO				i Pg	Pg	19 27 10.6	-1.5
SKO				i Sn	Sn	19 27 33.5	+2.3
SKO				i Sg	Sg	19 27 35.6	-1.9
SKO				Lg		19 27 37.0	
	comp=Z,0.1nm,0.7s						
PGB	Panagyurishte	1.91	18	P	Pn	19 27 08.0	+0.8
PGB				Pg	Pg	19 27 11.0	-1.4
ALN	Alexandroupoli	2.05	85	ePn	Pn	19 27 09.6	+0.4
	comp=Z,16nm,0.3s						
LKR	Lokris	2.10	188	ePN	Pn	19 27 10.3	+0.4
DIM	Dimitrovgrad	2.10	51	P	Pn	19 27 11.0	+1.1
DIM				Pg	Pg	19 27 15.0	-1.2
EVR	Evrytania	2.17	214	ePN	Pn	19 27 11.4	+0.5
EVR				eSN	Sn	19 27 39.0	+0.9
JAN	Janina	2.20	241	ePB	Pb	19 27 13.2	-0.5
JAN	Janina	2.20	241	ePn	Pn	19 27 13.7	+2.4
BARS	Barje	2.38	332	⇑iPn	Pn	19 27 14.4	+0.6
BARS				Sn	Sn	19 27 47.3	+3.9
MPAR	Parnis Oros	2.60	173	ePN	Pn	19 27 17.8	+0.8
PRK	Paraskevi	2.69	123	ePN	Pn	19 27 19.4	+1.1
TIR	Tirane	2.71	284	ePn	Pn	19 27 23.0	+4.4
PTL	Penteli	2.71	171	ePB	Pb	19 27 20.0	-2.4
QSH	Qafa e Shtames	2.72	288	ePn	Pg	19 27 29.5	+1.0
ATH	Athens Observa	2.77	174	ePB	Pb	19 27 20.8	-2.7
ATH	Athens Observa	2.77	174	ePb	Pb	19 27 21.8	-1.7
NSAL	Nisos Salamina	2.83	178	ePN	Pn	19 27 21.5	+1.2
PVL	Pavlikeni	2.89	30	eP	Pn	19 27 20.0	-1.1
KEK	Kerkira	2.91	251	ePN	Pn	19 27 23.0	+1.6
KEK				eSN	Sn	19 27 56.8	0.0
KEK	Kerkira	2.91	251	ePb	Pb	19 27 23.9	-1.9
KEK				eSn	Sn	19 27 56.8	0.0
NAIG	Nisos Aigina	2.97	178	ePN	Pn	19 27 23.2	+0.8
JMB	Yambol	2.98	53	P	Pn	19 27 23.0	+0.6
RLS	Riolos of Patr	3.05	209	ePb	Pb	19 27 27.0	-1.2
SZH	Strazhica	3.18	36	P	Pn	19 27 26.4	+1.1
BOLS	Boljevac	3.26	342	i Pn	Pn	19 27 23.8	-2.7
BOLS				Sn	Sn	19 28 06.6	+0.9
ZIMR		3.28	26	⇑iP	Pg	19 27 37.7	-2.0
VLS	Valsamata	3.33	221	ePN	Pn	19 27 29.0	+1.5
VLS				eSN	Sn	19 28 08.4	+0.9
GRUS	Gruza	3.71	329	i Pn	Pn	19 27 32.5	-0.3
GRUS				Sn	Sn	19 28 23.6	+6.6
ITM	Ithomi	3.72	198	ePb	Pb	19 27 36.1	-3.6
NVSS	Nova Varos 2	3.88	317	⇑iPn	Pn	19 27 36.6	+1.4
NVSS				eSn	Sb	19 28 35.2	+5.4
SVIS	Svilajnac	3.89	337	⇑iPn	Pg	19 27 46.0	-5.9
SVIS				Sn	Sb	19 28 31.0	+0.8
PRD	Provadia	3.89	49	P	Pn	19 27 35.5	+0.1
VLI	Veliai	4.02	185	ePN	Pn	19 27 37.2	-0.1
DIVS	Divcibare	4.18	325	⇑iPn	Pn	19 27 39.6	0.0
DIVS				Sn	Sn	19 28 27.5	-1.5
PSN	Preselentsi	4.64	49	eP	Pn	19 27 45.5	-0.5
MTUR	Matau	4.66	15	⇓iP	Pn	19 27 46.2	-0.1
MTUR	Matau	4.66	15	⇓iP	Pn	19 27 46.2	-0.2
VOIR		4.86	14	⇑iP	Pn	19 27 50.0	+0.8
VOIR		4.86	14	⇑iP	Pn	19 27 50.0	+0.8
ISR	Istrita	4.97	27	⇑iP	Pn	19 27 51.4	+0.7
ISR	Istrita	4.97	27	⇑iP	Pn	19 27 51.4	+0.8
MLR	Muntele Rosu	5.12	21	⇓iP	Pn	19 27 54.6	+1.8
MLR	Muntele Rosu	5.12	21	⇓iP	Pn	19 27 54.6	+1.8
TIRR	Tirgusor	5.27	43	⇓iP	Pn	19 27 54.6	-0.3
TIRR	Tirgusor	5.27	43	⇓iP	Pn	19 27 54.6	-0.4
TIP	Timpagrande	5.30	255	ePn	Pn	19 27 54.2	-1.1
TIP	Timpagrande	5.30	255	ePn	Pn	19 27 54.2	-1.2
CFR	Carcaliu	5.66	37	⇑iP	Pn	19 27 59.6	-0.8
CFR	Carcaliu	5.66	37	⇑iP	Pn	19 27 59.6	-0.8
VRI	Vrincioaia	5.69	25	⇑iP	Pn	19 28 02.5	+1.7
VRI	Vrincioaia	5.69	25	⇑iP	Pn	19 28 02.5	+1.6
DRGR		6.07	356	⇓iP	Pn	19 28 04.5	-1.8
DRGR		6.07	356	⇓iP	Pn	19 28 04.5	-1.8
PKSM	Moragy	6.46	330	⇓iP	Pn	19 28 10.5	-1.2
PKSM				eS	Sn	19 29 24.8	-1.5
RHK1	Bakonya	6.59	326	⇑iP	Pn	19 28 12.8	-0.8
RHK1				eS	Sn	19 29 29.0	-0.6
	comp=Z,1.4nm,0.4s						
BURAR	Bucovina Array	7.01	10	⇑iP	Pn	19 28 19.4	0.0
BURAR	Bucovina Array	7.01	10	⇑iP	Pn	19 28 19.4	0.0
OBKA	Obir	8.61	315	⇑iPN	P	19 28 42.1	+0.4
OBKA				i SN	Sn	19 30 14.9	-5.0
ARSA	Arzberg	8.62	322	⇑iPN	P	19 28 41.6	-0.3
ARSA				i SN	Sn	19 30 13.6	-6.5
NB2	NORSAR Subarra	21.66	344	P	P	19 31 25.3	-1.2
	comp=Z,2.6nm,0.7s,mb3.8,baz=154,slow=10						

*IDC **12** 19:41:22.3±5.2, 19.41S×169.20E, h120^{km}±42^{km}, mb3.6/3, mb1 3.8/4, mb1mx3.6/12, mbtmp4.0/4, Error ellipse: s-maj=72.0km s-min=41.4km az=141.0*
*NEIC **12** 19:41:23.4±2.8, 19.36S×169.12E, h134^{km}±23^{km}, mb4.1/2, Error ellipse: s-maj=35.8km s-min=27.3km az=163.0*
ISC 12 19:41:25.2±4.1**, 19.4S**±0.3×**168.9E**±0.4**, h148**^{km}±29^{km}**, n11,** σ**0**^{s}**58**/11**, mb3.8**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.47	221	eP	P	19 42 19.2	-0.1
DZM				eS	S	19 43 01.2	+0.4
DZM	Mont Dzumac	3.47	221	P	P	19 42 19.3	-0.1
	26nm,0.3s,baz=317,slow=22,SNR=458						
DZM				S	S	19 43 00.4	-0.4
	9.4nm,0.3s,baz=266,slow=22,SNR=5.8						
PMG	Port Moresby	23.25	292	eP	P	19 46 20.8	+0.4
STKA	Stephens Creek	27.45	238	P	P	19 47 00.9	+1.5
	1.8nm,0.5s,mb3.9,baz=50,slow=8.6,SNR=12						
STKA	Stephens Creek	27.45	238	eP	P	19 46 59.8	+0.4
WRAB	Tennant Creek	32.48	263	eP	P	19 47 43.9	0.0
	1.1nm,0.4s,mb3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	Warramunga Arr	32.49	263	P	P	19 47 43.7	-0.3
	0.4nm,0.4s,mb3.5,baz=100,slow=8.3,SNR=27						
WRA				PcP	PcP	19 50 26.8	-0.6
	0.3nm,0.8s,baz=91,slow=3.4,SNR=5.8						
MBWA	Marble Bar	45.98	259	eP	P	19 49 34.4	-1.0
	2.3nm,0.4s,mb4.2						
SONM	Songino Array	87.17	323	P	P	19 53 55.6	0.0
	0.3nm,0.5s,mb3.4,baz=142,slow=5.0,SNR=4.8						
ARCES	ARCESS Array B	125.17	345	PKP	PKPdf	20 00 07.2	-0.5
	2.8nm,1.0s,baz=40,slow=3.6,SNR=6.1						
GERES	GERESS Array B	144.50	331	PKP	PKPdf	20 00 44.0	+0.3
	0.9nm,0.6s,baz=34,slow=3.5,SNR=11						

*ATH **12** 19:52:51.5, 40.72N×23.38E, h24km±1km, MD3.2/6*
*SOF **12** 19:52:51.6, 40.75N×23.34E, h2km, MD2.7*
*NEIC **12** 19:52:51.5, 40.72N×23.37E, h24km, MD3.2(ATH), ML2.8(THE), After ATH.*
*THE **12** 19:52:52.2, 40.70N×23.35E, h1km, ML2.9*
*CSEM **12** 19:52:52.1±0.1, 40.71N×23.35E, h10km, MD3.2, Error ellipse: s-maj=1.4km s-min=1.2km az=67.0*
ISC 12 19:52:51.4±0.4**, 40.70N**±0.02×**23.35E**±0.03**, h6**km±4km**, n41, σ0ˢ93**/53**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOH	Sokhos	0.12	0	ePg	Pg	19 52 54.8	+0.7
SOH				eSg	Sg	19 52 56.7	+0.9
SOH	Sokhos	0.12	0	P	Pg	19 52 54.8	+0.7
SOH				S	Sg	19 52 56.7	+0.9
THE	Thessaloniki	0.30	257	ePg	Pg	19 52 58.2	+0.6
THE				eSg	Sg	19 53 02.3	+0.6
THE	Thessaloniki	0.30	257	P	Pg	19 52 57.9	+0.2
THE				S	Sg	19 53 01.9	+0.2
PLG	Polygyros	0.34	168	ePB	Pb	19 52 59.1	-0.3
PLG				eSB	Sb	19 53 04.2	-0.5
SRS	Serrai	0.45	23	ePg	Pg	19 53 00.4	-0.1
SRS	Serrai	0.45	23	P	Pg	19 53 00.4	-0.1
KNT	Kendrikon	0.57	323	ePg	Pg	19 53 02.8	-0.2
KNT				eSg	Sg	19 53 10.5	-0.2
KNT	Kendrikon	0.57	323	P	Pg	19 53 02.8	-0.2
KNT				S	Sg	19 53 10.3	-0.4
OUR	Ouranopolis	0.60	127	ePg	Pg	19 53 04.0	+0.5
OUR				eSg	Sg	19 53 12.2	+0.6
OUR	Ouranopolis	0.60	127	P	Pg	19 53 04.1	+0.5
NVR	Nevrokopi	0.75	31	ePN	Pn	19 53 06.1	-2.2
NVR				eSN	Sn	19 53 16.2	-3.9
GRG	Griva	0.77	290	ePg	Pg	19 53 06.6	-0.1
GRG				eSg	Sg	19 53 17.4	+0.4
GRG	Griva	0.77	290	P	Pb	19 53 06.6	-0.2
PAIG	Paliouri	0.81	162	ePg	Pg	19 53 07.0	-0.7
PAIG				eSg	Sg	19 53 19.1	+0.5
PAIG	Paliouri	0.81	162	P	Pb	19 53 06.9	-0.7
MMB	Musomiste	0.93	18	Pg	Pg	19 53 08.8	-1.3
KKB	Krupnik	1.18	350	Pg	Pg	19 53 13.3	-1.8
KZN	Kozani	1.27	252	ePN	Pn	19 53 16.1	+0.4
KZN				eSN	Sn	19 53 34.0	+0.8
XOR	Xorichti	1.34	185	P	Pb	19 53 17.0	+0.4
XOR	Xorichti	1.34	185	P	Pb	19 53 17.0	+0.4
NEO	Neokhori	1.40	184	ePN	Pn	19 53 17.7	+0.2
RZN	Rozhen	1.42	46	P	Pn	19 53 18.8	+0.9
FNA	Florina	1.50	274	ePg	Pg	19 53 19.8	-1.7
	comp=Z,1.1nm,0.3s						
FNA	Florina	1.50	274	P	Pn	19 53 18.3	-0.8
FNA	Florina	1.50	274	P	Pn	19 53 18.3	-0.8
FNA	Florina	1.50	274	ePg	Pg	19 53 19.8	-1.7
	1.1nm,0.3s						
AOS	Alonnisos	1.58	165	P	Pn	19 53 19.7	-0.5
AOS	Alonnisos	1.58	165	P	Pn	19 53 19.7	-0.5
LIA	Limnos Island	1.61	119	ePN	Pn	19 53 20.0	-0.6
RDO	Rodhopi	1.71	74	ePN	Pn	19 53 22.4	+0.3
RDO	Rodhopi	1.71	74	ePn	Pn	19 53 22.5	+0.4
PLD	Plovdiv	1.73	35	eP	Pn	19 53 25.0	+2.7
AGG	Agios Georgios	1.85	205	P	Pn	19 53 24.4	+0.4
AGG	Agios Georgios	1.85	205	P	Pn	19 53 24.4	+0.4
VTS	Vitosha	1.89	357	P	Pn	19 53 25.9	+1.3
PGB	Panagyurishte	1.94	18	P	Pn	19 53 27.5	+2.1
ALN	Alexandroupoli	2.05	84	P	Pn	19 53 26.1	-0.8
ALN	Alexandroupoli	2.05	84	P	Pn	19 53 26.1	-0.8
DIM	Dimitrovgrad	2.12	50	P	Pn	19 53 32.0	+4.1
EVR	Evrytania	2.14	214	ePN	Pn	19 53 28.3	+0.1

*NEIC **12** 20:45:49.3, 33.85S×68.23W, h5km, ML2.9(GUC), After GUC.*
GUC 12 20:45:49.3±0.7**, 33.85S×68.23W, h5km, MD3.5, ML2.9, 2C-2D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	1.64	270	⇓iP	Pn	20 46 19.1	+0.1
LMEL				i S	Sb	20 46 42.4	+1.8
LMEL				AMP		20 46 44.9	
	comp=N,117nm,0.2s						
FCH	Farellones	1.80	286	⇑iP	Pn	20 46 22.5	+1.2
FCH				i S	Sn	20 46 47.3	+2.7
FCH				AMP		20 46 58.2	
	comp=E,93nm,0.6s						
CICH	Cipreses	1.88	255	eP	Pn	20 46 23.2	+0.9
CLCH	Cerro Calan	1.98	283	eP	Pn	20 46 25.0	+1.2
CLCH				i S	Sn	20 46 52.8	+3.5
CLCH				AMP		20 47 01.1	
	comp=E,476nm,0.7s						
CACH	El Canelo	1.98	262	eP	Pn	20 46 24.8	+0.9
CACH				i S	Sn	20 46 52.2	+2.7
CHCH	Chadas Angostu	2.02	267	⇓iP	Pn	20 46 25.8	+1.5
CHCH				i S	Sn	20 46 54.8	+4.6
ZON	Zonda	2.33	351	eP	Pn	20 46 29.8	+0.9
ZON				eS	Sn	20 47 06.8	+8.5
LNV	Longovilo	2.65	267	⇑iP	Pn	20 46 36.3	+2.9
LNV				i S	Sn	20 47 12.8	+6.6

BJI 12 21:05:27.4, 24.33N×98.25E, h18km, ML3.7, Ms3.5, 1C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	4.16	78	PG	Pn	21 06 41.1	+10
KMI				SG	Sn	21 07 30.0	+10
KMI				Smax			
	comp=N,166nm,1.2s						
KMI				Smax			
	comp=E,116nm,1.1s						
KMI				LR	LR		
	comp=N,285nm,5.1s						
KMI				LR	LR		
	comp=E,183nm,4.6s						
CHRT	Chiangrai	4.66	162	⇑PN	Pn	21 06 51.5	+13
CHRT				PG	Pn	21 06 53.5	+15
CHRT				SG	Sn	21 07 51.0	+18
NANT	Nan	5.96	157	P	Pn	21 07 15.0	+18
LZH	Lanzhou	12.67	21	eP	P	21 08 30.0	+0.4
LZH				AP		21 08 34.8	
LZH				XP		21 08 39.0	
LZH				PP	PP	21 08 40.5	+0.8
NJ2	Nanjing	19.70	62	eP	P	21 09 57.0	-1.8

*ORF **12** 21:14:23.7, 17.16S×176.49W, h30km, mb6.6*
*BGS **12** 21:14:57.8±4.8, 17.42S×177.32W, h324km*
*CSEM **12** 21:14:58.1, 17.45S×177.37W, h338km, mb5.5*
*MOS **12** 21:15:01.7±1.0, 17.34S×177.35W, h372km, mb5.4/26, Error ellipse: s-maj=9.9km s-min=7.9km az=75.0*
*NEIC **12** 21:15:03.6±0.7, 17.42S×177.32W, h384km±7km, mb5.3/70, MW5.7, Error ellipse: s-maj=5.7km s-min=3.9km az=134.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.88; $M_{\theta\theta}$1.06; $M_{\phi\phi}$-0.18; $M_{r\theta}$-2.27; $M_{\theta\phi}$0.80; $M_{\phi r}$-3.91; Best double couple: $M_0 4.7\times10^{17}$ NP1:ϕ_s276°, δ13°, λ-26°. NP2:ϕ_s31°, δ85°, λ-101°. Principal axes: T 4.68, Plg39°, Azm132°; N .01, Plg11°, Azm32°; P -4.7, Plg49°, Azm289°;*
*HRVD **12** 21:15:03.6±0.2, 17.51S×177.09W, h416km±1km, MW5.7/60, Centroid moment Tensor Solution. LP body waves: s60,c118; Half duration: 1ˢ8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.16±.08; $M_{\theta\theta}$0.65±.13; $M_{\phi\phi}$-0.49±.12; $M_{r\theta}$-2.50±.10; $M_{\theta\phi}$0.41±.11; $M_{\phi r}$-4.28±.10; Best double couple: $M_0 5.008\times10^{17}$ NP1:ϕ_s294°, δ8°, λ-7°. NP2:ϕ_s30°, δ89°, λ-98°. Principal axes: T 5.005, Plg44°, Azm128°; N .005, Plg8°, Azm31°; P -5.011, Plg45°, Azm292°; nsta1 refers to body waves, cutoff=40s.*
*BJI **12** 21:15:04.4, 16.70S×177.25W, h383km, mB5.5, mb5.8*
*IDC **12** 21:15:05.7±0.4, 17.44S×177.40W, h399km±3km, mb5.0/19, mb1 5.2/21, mb1mx5.2/21, mbtmp5.8/21, Error ellipse: s-maj=8.3km s-min=6.8km az=150.0*
ISC 12 21:15:04.2±0.1**, 17.48S**±0.03×**177.37W**±0.03**, h403**km±.8km**:pP-P, n759, σ1ˢ06**/325**, mb5.3**/110**, 32C-110D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	6.45	57	P	P	21 16 37.5	-5.0
	372nm,0.3s,baz=56,slow=2.0,SNR=253						
AFI				S	S	21 17 48.5	-11
	18nm,0.3s,baz=71,slow=22,SNR=6.9						
AFI	Afiamalu	6.45	57	⇓iPn	P	21 16 37.4	-5.1
	1μm,0.6s						
AFI				e		21 17 50.3	
AFI	Afiamalu	6.45	57	⇓iP	P	21 16 37.4	-5.1
AFI				e		21 17 50.3	
AFI				pmax	pmax		
	comp=Z,1μm,0.6s						
RAO	Raoul Island	11.73	182	P	P	21 17 41.1	-2.2
	comp=Z,214nm,0.3s,baz=252,slow=14,SNR=9.4						
RAO				S	S	21 19 49.2	-0.8
	comp=Z,942nm,0.3s,baz=256,slow=22,SNR=14						
RAO	Raoul Island	11.73	182	eP	P	21 17 41.3	-2.0
	comp=Z,909nm,0.6s						
RAO				eS	S	21 19 51.0	+1.0
RAO	Raoul Island	11.73	182	eP	P	21 17 41.3	-2.0
RAO				eS	S	21 19 51.0	+1.1
RAO				pmax	pmax		
	comp=Z,909nm,0.6s						
DZM	Mont Dzumac	15.90	251	eP	P	21 18 27.7	-0.4
DZM				eS	S	21 21 18.8	+6.2
DZM	Mont Dzumac	15.90	251	P	P	21 18 29.4	+1.3
	comp=Z,14nm,0.3s,baz=76,slow=15,SNR=172						
DZM				S	S	21 21 21.8	+9.2
	baz=51,slow=14,SNR=2.1						
DZM	Mont Dzumac	15.90	251	eP	P	21 18 27.7	-0.4
DZM				eS	S	21 21 18.8	+6.2
OUZ	Omahuta	19.42	203	ePN	P	21 19 05.7	+2.5
OUZ				SN	S	21 22 26.9	+11
WCZ	Waipu Caves	19.81	200	ePN	P	21 19 09.3	+2.3
WCZ	Waipu Caves	19.81	200	eP	P	21 19 09.4	+2.5
PUZ	Puketiti	20.88	190	ePN	P	21 19 16.3	-0.9
PUZ				SN	S	21 22 50.7	+9.4
PUZ	Puketiti	20.88	190	eP	P	21 19 16.3	-0.9
LIRZ	Lichensteins R	21.18	194	PN	P	21 19 20.5	+0.4
URZ	Urewera	21.27	192	P	P	21 19 19.0	-2.0
	comp=Z,266nm,0.6s,mb5.8,baz=0.8,slow=4.2,SNR=186						
URZ				S	S	21 22 45.9	-1.9
	comp=Z,28nm,0.7s,baz=177,slow=14,SNR=8.8						
URZ	Urewera	21.27	192	ePN	P	21 19 17.8	-3.2
URZ				SN	S	21 22 47.8	0.0
URZ	Urewera	21.27	192	eP	P	21 19 17.9	-3.1
TAZ	Tarawera	21.37	193	PN	P	21 19 21.5	-0.4
PATZ	Paeroa	21.56	194	P	P	21 19 22.5	-1.3
HIZ	Hauiti	22.04	196	ePN	P	21 19 29.8	+1.5
HIZ	Hauiti	22.04	196	eP	P	21 19 29.4	+1.1
PXZ	Pawanui	23.03	191	PN	P	21 19 36.0	-1.3
HNR	Honiara	23.45	287	P	P	21 19 40.6	-0.8
	comp=Z,7μm,0.8s,baz=177,slow=1.9,SNR=162						
HNR	Honiara	23.45	287	eP	P	21 19 43.4	+2.0
	comp=Z,2μm,0.9s						
HNR	Honiara	23.45	287	eP	P	21 19 43.4	+2.0
HNR				pmax	pmax		
	comp=Z,2μm,0.9s						
BFZ	Birch Farm	23.77	192	PN	P	21 19 42.0	-2.2
BFZ	Birch Farm	23.77	192	P	P	21 19 42.1	-2.0
MRZ	Mangatainoka R	23.90	193	SN	S	21 23 25.8	-5.4
SNZO	South Karori	24.71	194	eP	P	21 19 50.6	-2.0
	comp=Z,260nm,0.8s,mb5.7						
QRZ	Quartz Range	24.85	198	ePN	P	21 19 53.4	-0.4
QRZ	Quartz Range	24.85	198	eP	P	21 19 53.4	-0.4
THZ	Tophouse	25.60	197	ePN	P	21 19 58.8	-1.8
THZ				SN	S	21 23 54.0	-4.7
THZ	Tophouse	25.60	197	eP	P	21 19 59.4	-1.2
KHZ	Kahutara	26.05	195	ePN	P	21 20 02.6	-2.0
KHZ	Kahutara	26.05	195	eP	P	21 20 02.4	-2.2
PAE	Paea	26.48	95	⇑iP	P	21 20 07.1	-1.6
	comp=Z,676nm,1.2s,mb6.0						
PPT	Papeete	26.50	94	⇑iP	P	21 20 07.4	-1.4
	comp=Z,353nm,1.3s,mb5.6						
PPT	Papeete	26.50	94	P	P	21 20 07.5	-1.3
	comp=Z,166nm,0.8s,mb5.5,baz=319,slow=1.0,SNR=8.4						
LTZ	Lake Taylor	26.73	197	ePN	P	21 20 08.2	-2.4
LTZ	Lake Taylor	26.73	197	eP	P	21 20 08.2	-2.4
TBI	Tubuai	26.77	107	eP	P	21 20 10.7	-0.6
	comp=Z,491nm,0.9s,mb5.9						
TVO	Taravao	26.79	95	⇑iP	P	21 20 10.1	-1.3
	comp=Z,1μm,1.5s,mb6.1						
RPZ	Rata Peaks	27.93	198	P	P	21 20 20.5	-0.8
	comp=Z,30nm,0.6s,mb4.8,baz=311,slow=2.4,SNR=27						
RPZ	Rata Peaks	27.93	198	ePN	P	21 20 20.0	-1.3
RPZ	Rata Peaks	27.93	198	eP	P	21 20 20.3	-1.0
FOZ	Fox Glacier	28.22	200	ePN	P	21 20 21.6	-2.2
FOZ	Fox Glacier	28.22	200	eP	P	21 20 21.9	-1.9
PMOR	Pomariorio Ree	28.39	89	⇑iP	P	21 20 24.2	-1.4
	comp=Z,1μm,1.2s,mb6.1						
PMOR				epP		21 21 35.0	
	comp=Z,168nm,1.3s						
VAH	Vaihoa	28.61	90	eP	P	21 20 25.0	-2.5
	comp=Z,914nm,1.1s,mb6.0						
LBZ	Lake Benmore	28.80	199	PN	P	21 20 26.4	-2.5
LBZ	Lake Benmore	28.80	199	eP	P	21 20 24.0	-4.9
KWAJ	Kwajalein Atol	30.03	329	eP	P	21 20 38.8	-1.1
	comp=Z,2μm,1.5s,mb6.2						
MLZ	Mavora Lakes	30.31	200	ePN	P	21 20 41.6	-0.3
MLZ	Mavora Lakes	30.31	200	eP	P	21 20 41.9	0.0
ARMA	Armidale	31.02	240	⇓iP	P	21 20 49.9	+1.7
ARMA				eS	S	21 25 25.7	+2.1
RIV	Riverview	32.54	234	⇑iP	P	21 21 03.2	+2.0
CNB	Canberra Magne	34.48	232	⇓iP	P	21 21 19.2	+1.6
	comp=Z,238nm,0.8s,mb5.6						
CTA	Charters Tower	34.50	260	⇓iP	P	21 21 18.7	+0.8
	comp=Z,417nm,0.8s,mb5.8						
CTA				eSCP		21 26 51.1	
CTA	Charters Tower	34.50	260	P	P	21 21 18.7	+0.8
	comp=Z,475nm,0.9s,mb5.8,baz=87,slow=10,SNR=444						
CTA				S	S	21 26 15.6	-1.7
	comp=Z,15nm,1.0s,baz=209,slow=19,SNR=3.2						
CTA				ScP		21 26 51.8	
	comp=Z,81nm,1.3s,baz=118,slow=5.5,SNR=7.5						
CTA	Charters Tower	34.50	260	⇓iP	P	21 21 18.7	+0.8
CTA				pmax	pmax		
	comp=Z,417nm,0.8s						
CTAO	Charters Tower	34.50	260	ScP		21 26 51.5	
CTAO	Charters Tower	34.50	260	⇓iP	P	21 21 18.6	+0.7
	comp=Z,651nm,0.9s,mb6.0						
CTAO				e	pP	21 22 38.1	+4.1
CTAO	Charters Tower	34.50	260	⇓iP	P	21 21 18.7	+0.8
CTAO				pmax	pmax		
	comp=Z,651nm,0.9s,mb6.0						
PMG	Port Moresby	35.37	278	P	P	21 21 27.1	+1.8
	comp=Z,514nm,0.9s,mb5.8,baz=90,slow=5.9,SNR=171						
PMG				S	S	21 26 33.5	+2.9
	comp=Z,8.0nm,0.8s,baz=122,slow=19,SNR=3.4						
PMG	Port Moresby	35.37	278	⇓iP	P	21 21 27.0	+1.7
	comp=Z,897nm,1.1s,mb6.0						
PMG	Port Moresby	35.37	278	d iP	P	21 21 27.1	+1.8
TAOE	Nuku Hiva Isla	37.18	82	eP	P	21 21 39.6	-0.8
	comp=Z,3μm,1.1s						
TOO	Toolangi	38.21	231	⇓iP	P	21 21 50.1	+1.5
	comp=Z,146nm,1.2s,mb5.2						
TOO				i S	S	21 27 13.6	+0.7
TOO	Toolangi	38.21	231	⇓iP	P	21 21 50.1	+1.5
TOO				i S	S	21 27 13.6	+0.7
TOO				pmax	pmax		
	comp=Z,146nm,1.2s,mb5.2						
STKA	Stephens Creek	39.71	241	⇓iP	P	21 22 02.5	+1.5
	comp=Z,378nm,0.8s,mb5.8						
STKA				i S	S	21 27 33.7	-1.3
STKA	Stephens Creek	39.71	241	P	P	21 22 02.6	+1.6
	comp=Z,434nm,0.9s,mb5.8,baz=80,slow=8.4,SNR=469						
STKA				S	S	21 27 34.8	-0.2
	comp=Z,28nm,1.2s,baz=320,slow=20,SNR=3.7						
WAKE	Wake Island	39.76	336	eP	P	21 21 59.8	-1.7
	comp=Z,1μm,1.5s,mb6.1						
WAKE				e	pP	21 23 16.6	-2.7
RKT	Rikitea	40.05	105	⇑iP	P	21 22 03.9	0.0
	comp=Z,531nm,1.1s,mb5.8						
WB2	Warramunga Arr	45.67	259	⇓iP	P	21 22 48.2	-0.6
WB2				eS	S	21 28 57.6	-3.2
WRAB	Tennant Creek	45.68	259	eP	P	21 22 48.3	-0.5
	comp=Z,816nm,0.9s,mb6.1						
WRAB				e	pP	21 24 10.2	+1.7
WRAB	Tennant Creek	45.68	259	eP	P	21 22 48.3	-0.5
WRAB				pmax	pmax		
	comp=Z,816nm,0.9s,mb6.1						
WRA	Warramunga Arr	45.69	259	P	P	21 22 48.3	-0.6
	comp=Z,398nm,0.9s,mb5.8,baz=93,slow=7.7,SNR=1000						
WRA				pP	pP	21 24 08.1	-0.4
	comp=Z,46nm,1.0s,baz=93,slow=8.2,SNR=1.5						
WRA				ScP		21 27 34.8	
	comp=Z,23nm,1.1s,baz=96,slow=3.5,SNR=8.3						
WRA				S	S	21 28 56.2	-4.7
	comp=Z,1.9nm,0.8s,baz=86,slow=11,SNR=4.3						
WRA	Warramunga Arr	45.69	259	P	P	21 22 48.3	-0.6
WRA				S	S	21 28 56.2	-4.7
GUMO	Guam	48.40	307	P	P	21 23 09.0	-0.7
	comp=Z,682nm,0.9s,mb6.0,baz=172,slow=6.9,SNR=20						
GUMO	Guam	48.40	307	eP	P	21 23 09.5	-0.1
	comp=Z,728nm,1.0s,mb6.0						
GUMO				e	pP	21 24 26.8	-3.7
GUMO	Guam	48.40	307	eP	P	21 23 09.5	-0.2
GUMO				e	pP	21 24 26.8	-3.6
GUMO				pmax	pmax		
	comp=Z,728nm,1.0s,mb6.0						
FORT	Forrest	51.09	244	⇓iP	P	21 23 29.2	-0.4
	comp=Z,532nm,0.6s,mb6.0						
FORT				eS	S	21 30 13.5	-1.7
FITZ	Fitzroy Crossi	54.08	260	⇓iP	P	21 23 51.0	-0.6
	comp=Z,261nm,1.3s,mb5.3						
FITZ				eS	S	21 30 56.9	+1.5
DRV	Dumont d'Urvil	56.39	199	S	S	21 31 27.0	+1.8
MBWA	Marble Bar	59.14	255	eP	P	21 24 25.9	-0.6
	comp=Z,0.7nm,0.4s						
MBWA				e		21 25 56.2	
KLBR	Kellerberrin	59.91	243	⇓iP	P	21 24 30.9	-0.6
	comp=Z,312nm,0.8s,mb5.8						
KLBR				eS	S	21 32 09.0	-1.7
NWAO	Narrogin (SRO)	60.29	242	eP	P	21 24 33.3	-0.7
	comp=Z,125nm,1.1s,mb5.3						
NWAO	Narrogin (SRO)	60.29	242	eP	P	21 24 33.3	-0.7
NWAO				pmax	pmax		
	comp=Z,125nm,1.1s						
MATI	Mati	60.73	289	eP	P	21 24 35.3	-1.9
SBA	Scott Base	60.91	184	eP	P	21 24 39.2	+1.6
	comp=Z,151nm,1.0s,mb5.4						
SBA				e	pP	21 26 06.0	+2.4
SBA	Scott Base	60.91	184	eP	P	21 24 39.2	+1.6
SBA				pmax	pmax		
	comp=Z,151nm,1.0s,mb5.4						
VNDA	Vanda	60.96	185	P	P	21 24 38.8	+0.9
	comp=Z,38nm,0.9s,mb4.8,baz=355,slow=7.5,SNR=82						
VNDA				pP	pP	21 26 02.9	-1.0
	comp=Z,11nm,1.0s,baz=26,slow=4.5,SNR=2.3						
VNDA				S	S	21 32 27.1	+3.8
	comp=Z,0.8nm,0.9s,baz=274,slow=19,SNR=4.9						
VNDA	Vanda	60.96	185	eP	P	21 24 38.8	+0.9
	comp=Z,85nm,1.2s,mb5.0						
VNDA				e	pP	21 26 05.0	+1.1
VNDA	Vanda	60.96	185	eP	P	21 24 38.8	+0.9
VNDA				pmax	pmax		
	comp=Z,85nm,1.2s						
BUKP	Musuan	62.20	289	eP	P	21 24 46.8	-0.1
SCPH	Surigao	62.61	291	eP	P	21 24 49.3	-0.3
MSLP	Maasin	63.32	291	eP	P	21 24 53.7	-0.4
PAGZ	Pagadian	63.70	288	eP	P	21 24 56.7	0.0
IPIL	Ipil	64.42	288	eP	P	21 25 00.8	-0.4
CNP	Catarman	64.53	294	eP	P	21 25 01.3	-0.6
PVCP	Virac	65.45	294	eP	P	21 25 07.5	-0.3
GUIM	Jordan	65.55	291	eP	P	21 25 06.4	-2.1
AUQP	San Andres	66.62	293	eP	P	21 25 16.6	+1.4
CASY	Casey	66.94	205	⇑iP	P	21 25 16.0	-0.3
CASY				i S	S	21 33 35.2	-1.0
CUYO	Cuyo Island	67.05	290	eP	P	21 25 16.9	-0.9
GQP	Guinayangan	67.07	294	⇓iP	P	21 25 17.4	-0.5
BOAC	Boac	67.41	293	eP	P	21 25 19.7	-0.3
SJMP	San Jose	67.63	292	eP	P	21 25 21.0	-0.3
MJAR	Matsushiro Arr	68.16	323	P	P	21 25 23.1	-1.1
	comp=Z,142nm,0.8s,mb5.6,baz=157,slow=6.0,SNR=293						
MJAR				PKPPKP		21 53 36.7	
	comp=Z,2.9nm,1.2s,baz=270,slow=1.3,SNR=6.5						
MAJO	Matsushiro	68.16	323	eP	P	21 25 23.3	-0.9
	comp=Z,193nm,0.9s,mb5.7						
MAJO				e	pP	21 26 51.8	-0.7
MAJO	Matsushiro	68.16	323	eP	P	21 25 23.3	-0.9
MAJO				pmax	pmax		
	comp=Z,193nm,0.9s,mb5.7						
MAT	Matsushiro	68.16	323	P	P	21 25 22.9	-1.3
MAT				S	S	21 33 43.0	-8.0
MAT	Matsushiro	68.16	323	eP	P	21 25 23.0	-1.2
	comp=Z,240nm,1.0s,mb5.8						
MAT				eS	S	21 33 43.0	-8.0
MAT	Matsushiro	68.16	323	eP	P	21 25 23.0	-1.2
MAT				eS	S	21 33 43.0	-8.0
MAT				pmax	pmax		
	comp=Z,240nm,1.0s,mb5.8						
BUSP	Coron	68.25	291	eP	P	21 25 24.8	-0.3
ENPP	El Nido	68.62	290	eP	P	21 25 27.4	0.0
BALP	Baler	68.63	295	eP	P	21 25 26.7	-0.7
LUBP	Lubang	68.93	293	eP	P	21 25 27.9	-1.3
CAUP	Cauayan	68.95	296	eP	P	21 25 29.6	+0.3
BATP	Bataraza	69.15	287	eP	P	21 25 30.6	0.0
CVP	Callao Caves	69.30	297	⇓iP	P	21 25 32.0	+0.6
	comp=Z,18μm,1.0s						
KKM	Kota Kinabalu	69.60	283	eP	P	21 25 33.2	-0.2
ABRA	Dolores	70.22	297	eP	P	21 25 36.4	-0.6
SMY	Shemya	70.30	354	eP	P	21 25 35.1	-1.8
BOLP	Bolinao	70.35	295	eP	P	21 25 36.4	-1.3
BBP	Basco	70.44	300	eP	P	21 25 33.6	-4.6
SKR	Severo-Kuril's	71.76	343	eP	P	21 25 41.5	-4.0
SKR				e		21 30 18.0	
SKR				eS	S	21 34 30.0	-2.0
SKR				e		21 35 17.0	
SKR				pmax	pmax		
	comp=Z,210nm,0.9s,mb5.7						
SKR				pmax	pmax		
	comp=N,400nm,1.5s						
SKR				pmax	pmax		
	comp=E,400nm,1.5s						
SKR				pmax	pmax		
	comp=Z,3μm,8.0s						
SKR				smax			
	comp=N,3μm,10.0s						
SKR				smax			
	comp=E,3μm,10.0s						
NACB	Ninganchiao	72.51	303	eP	P	21 25 49.9	-0.5
NACB				epP	pP	21 27 22.2	+2.2
QSPA	South Pole Qui	72.58	180	⇑iP	P	21 25 51.0	+1.2
	comp=E,117nm,0.8s,mb5.5						
YHNB	Yeheng	72.92	303	eP	P	21 25 52.1	-0.7
YHNB				e	pP	21 27 24.4	+1.9
TATO	Taipei	72.98	304	eP	P	21 25 52.4	-0.7
	comp=E,1μm,1.8s,mb6.1						
PET	Petropavlovsk	73.20	345	eP	P	21 25 52.4	-1.5
	comp=E,27nm,0.4s,mb5.1						
PET	Petropavlovsk	73.20	345	eP	P	21 25 52.5	-1.4
PET				e*PP	pP	21 27 16.6	-7.0
PET				eS	S	21 34 45.8	-2.2
PET				eSPP	SPP	21 35 45.4	+5.0
PET				eSS	SS	21 39 40.2	-2.0
PET				pmax	pmax		
	comp=Z,103nm,1.3s,mb5.2						
PET				pmax	pmax		
	comp=Z,100nm,12.4s						
PET				pmax	pmax		
	comp=Z,300nm,14.3s						
PET				smax			
	comp=N,400nm,9.1s						
PET				smax			
	comp=E,600nm,13.6s						
YSS	Yuzh-Sakhalins	73.48	333	eP	P	21 25 55.6	0.0
	comp=E,374nm,1.1s,mb5.8						
YSS	Yuzh-Sakhalins	73.48	333	κ iP	P	21 25 55.1	-0.5
YSS				e		21 26 05.3	
YSS				eS	S	21 34 53.0	+1.8
YSS				e		21 35 26.0	
YSS				pmax	pmax		
	comp=N,70nm,1.0s						
YSS				pmax	pmax		
	comp=E,170nm,1.0s						
YSS				pmax	pmax		
	comp=Z,330nm,1.0s,mb5.8						
KSM	Kuching	73.61	277	eP	P	21 25 57.6	+0.6

KSM e pP 21 27 28.1 +1.2
SDPT Sand Point 73.94 10 *e*P **P 21 25 55.9 -2.1**
MIR Mirnyy 73.97 205*d i*P **P 21 25 59.0 +1.0**
MIR pmax pmax
comp=Z,25nm,1.0s,mb4.8
MIR MLR MLR
comp=Z,820nm,18.0s
KS15 Wonju Array Si 75.06 318 *e*P **P 21 26 04.8 +0.1**
CHGN Chignik 75.20 11 *e*P **P 21 26 03.5 -1.6**
QZH Quanzhou 75.28 302 *i* PR **P 21 26 06.7 +0.6**
QZH AP pP 21 27 35.7 -0.7
QZH XP sP 21 28 17.0 -1.1
QZH S S 21 35 08.0 -3.3
QZH SCS ScS 21 35 39.8 +1.5
QZH AMB AMB
comp=Z,620nm,1.0s,mb6.2
QZH AMB AMB
comp=Z,1µm,9.6s
SAO San Andreas Ge 75.43 43 *e*P **P 21 26 06.5 -0.3**
comp=Z,38nm,1.3s,mb4.9
SAO epP pP 21 27 35.6 -1.5
INCN Inchon 75.89 317⇓ *i*P **P 21 26 09.9 +0.5**
comp=Z,543nm,1.6s,mb5.9
SSE Sheshan 76.23 309 P **P 21 26 09.6 -1.8**
SSE AP pP 21 27 38.4 -3.4
SSE XP sP 21 28 20.9 -2.6
SSE S S 21 35 20.2 -1.2
SSE SS SS 21 40 24.5 -4.0
SSE AMB AMB
comp=Z,89nm,1.0s,mb5.3
SSE AMB AMB
comp=Z,356nm,8.0s
SSE LR LR
comp=N,92nm,20.0s
SSE LR LR
comp=E,206nm,20.0s
SSE LR LR
comp=Z,318nm,20.0s
MWC Mount Wilson 76.32 47 *e*P **P 21 26 11.8 0.0**
MWC *e* pP 21 27 41.1 -1.2
BAR Barrett 76.49 49 *e*P **P 21 26 13.1 +0.3**
BAR *e* pP 21 27 43.3 0.0
KRMB Red Mountain 76.73 38 *e*P pP 21 27 44.2 -0.3
CMB Columbia Colle 76.85 43 *e*P **P 21 26 14.1 -0.5**
comp=Z,35nm,1.3s,mb4.8
CMB *e* pP 21 27 44.8 -0.4
CMB Columbia Colle 76.85 43 *e*P **P 21 26 14.1 -0.5**
CMB pmax pmax
comp=Z,35nm,1.3s,mb4.8
OHCM Honcut 76.89 41 *e*P **P 21 26 14.5 -0.3**
OHCM *e* pP 21 27 44.4 -1.1
WDC Whiskeytown Da 76.97 40 *e*P **P 21 26 15.5 +0.3**
comp=Z,45nm,1.4s,mb4.9
WDC *e* pP 21 27 45.8 0.0
WDC Whiskeytown Da 76.97 40 *e*P **P 21 26 15.5 +0.3**
WDC pmax pmax
comp=Z,45nm,1.4s,mb4.9
PFO Pinyon Flat Ob 77.13 48 *e*P **P 21 26 16.2 -0.1**
comp=Z,59nm,1.5s,mb5.0
PFO *e* pP 21 27 45.8 -1.1
PFO Pinyon Flat Ob 77.13 48 *e*P **P 21 26 16.2 0.0**
PFO *e* pP 21 27 45.8 -1.1
PFO pmax pmax
comp=Z,59nm,1.5s,mb5.0
YBH Yreka Blue Hor 77.56 39 P **P 21 26 18.8 +0.4**
comp=Z,5.2nm,0.9s,baz=177,slow=6.5,SNR=13
YBH pP pP 21 27 49.6 +0.4
comp=Z,16nm,1.1s,baz=187,slow=11,SNR=5.0
YBH S S 21 35 38.4 +3.1
comp=Z,1.0nm,0.5s,baz=151,slow=10,SNR=7.1
YBH Yreka Blue Hor 77.56 39 *e*P **P 21 26 18.9 +0.5**
comp=Z,7.2nm,0.7s,mb4.4
YBH *e* pP 21 27 49.4 +0.2
MTUM Tungsten Hills 77.66 44 *e*P **P 21 26 19.2 +0.2**
MTUM *e* pP 21 27 49.4 -0.4
DAC Darwin (Calif) 77.73 46 *e*P **P 21 26 19.3 -0.1**
comp=Z,9.1nm,1.1s,mb4.3
DAC *e* pP 21 27 49.5 -0.8
DAC Darwin (Calif) 77.73 46 *e*P **P 21 26 19.3 -0.2**
DAC pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
KDAK Kodiak Island 77.75 13 *e*P **P 21 26 18.2 -0.9**
comp=Z,225nm,1.3s,mb5.6
GSC Goldstone 77.76 47 *e*P **P 21 26 19.5 -0.1**
GSC *e*pP pP 21 27 50.1 -0.3
BEKR Beckwourth 77.91 41 *e*P **P 21 26 20.5 +0.2**
comp=Z,42nm,1.5s,mb4.8
BEKR *e* pP 21 27 51.3 +0.2
HUMO Hull Mountain 77.95 38 *e*P **P 21 26 20.3 -0.2**
comp=Z,9.6nm,1.0s,mb4.4
HUMO *e* pP 21 27 52.1 +0.8
MDJ Mudanjiang 78.41 324 P **P 21 26 23.6 +0.7**
MDJ AP pP 21 27 54.2 +0.4
MDJ XP sP 21 28 32.7 -2.8
MDJ PP PP 21 29 26.8 -0.8
MDJ S S 21 35 47.3 +3.1
MDJ SCS ScS 21 36 06.4 +3.1
MDJ AMB AMB
comp=Z,171nm,1.2s,mb5.5
MDJ AMB AMB
comp=Z,583nm,3.8s
MDJ Mudanjiang 78.41 324 *e*P **P 21 26 23.5 +0.6**
comp=Z,195nm,1.1s,mb5.7
MDJ *e* pP 21 27 55.1 +1.3
NJ2 Nanjing 78.43 309 *e*P **P 21 26 24.3 +1.0**
NJ2 PCP PcP 21 26 32.8 +1.5
NJ2 AP pP 21 27 55.3 +1.1
NJ2 S S 21 35 43.0 -1.7
NJ2 AMB AMB
comp=Z,160nm,0.9s,mb5.7
NJ2 AMB AMB
comp=Z,400nm,9.4s
NJ2 LR LR
comp=N,460nm,14.4s
NJ2 LR LR
comp=E,480nm,17.0s
NJ2 LR LR
comp=Z,200nm,10.3s
LDFC Landfair 78.83 48 *e*P **P 21 26 25.9 +0.6**
LDFC *e*pP pP 21 27 56.8 +0.4
TPH Tonopah 78.95 44 *e*P **P 21 26 26.3 +0.4**
comp=Z,78nm,1.5s,mb5.1
TPH *e* pP 21 27 57.2 +0.3
MOD Modoc 79.12 40 *e*P **P 21 26 26.5 -0.2**
comp=Z,10nm,0.6s,mb4.6
MOD *e* pP 21 27 57.7 0.0
NEN Nelson 79.31 47 *e*P **P 21 26 27.9 +0.1**
NEN *e* pP 21 27 58.2 -0.7
CJM Chamela 79.96 66 *i* P **P 21 26 32.0 +0.4**
DL2 Dalian 79.96 316 PR **P 21 26 31.0 -0.2**
DL2 S S 21 36 04.4 +4.1
DL2 SKS SKS 21 36 07.7 +2.3
DL2 AMB AMB
comp=Z,90nm,1.3s,mb5.2
DL2 AMB AMB
comp=Z,350nm,5.4s
RSO Redoubt South 80.17 12 *e*P **P 21 26 31.1 -0.7**
QIZ Qiongzhong 80.19 293 P **P 21 26 34.0 +1.2**
QIZ AP pP 21 28 05.4 +1.4
QIZ XP sP 21 28 45.3 -0.4
QIZ PP PP 21 29 44.3 +2.0
QIZ S S 21 36 03.3 +0.3
QIZ SKS SKS 21 36 07.8 +0.5
QIZ AMB AMB
comp=Z,63nm,1.7s,mb5.0
QIZ AMB AMB
comp=Z,417nm,11.6s
BMN Battle Mountai 80.22 42 *e*P **P 21 26 32.6 0.0**
comp=Z,64nm,1.4s,mb5.1
BMN epP pP 21 28 03.9 +0.1
SVW2 Sparrevohn 80.23 11 *e*P **P 21 26 30.6 -1.5**
KLR Kul'dur 80.25 329*ce*P **P 21 26 29.8 -2.7**
KLR *e*S S 21 36 00.0 -3.0
KLR *e*SS SS 21 41 31.0 +3.4
KLR pmax pmax
comp=Z,280nm,2.6s,mb5.4
KLR smax
comp=N,1µm,7.0s
KLR smax
comp=E,500nm,7.0s
CN2 Changchun 80.29 322⇓ *i*P **P 21 26 33.3 +0.5**
CN2 *e*S S 21 36 03.9 +0.3
CN2 AMB AMB
comp=Z,270nm,1.2s,mb5.8
CN2 AMB AMB
comp=Z,2µm,3.0s
SNY Shenyang 80.30 319⇓ P **P 21 26 33.4 +0.5**
SNY XP sP 21 28 42.1 -3.8
SNY S S 21 36 05.3 +1.6
SNY AMB AMB
comp=Z,100nm,1.9s,mb5.1
SNY AMB AMB
comp=Z,630nm,14.3s
KGM Kluang 80.42 275 P **P 21 26 34.9 +0.8**
WVOR Wild Horse Val 80.44 40⇑ *e*P **P 21 26 33.6 0.0**
comp=Z,31nm,1.2s,mb4.8
WVOR *e*pP pP 21 28 05.0 +0.1
WVOR Wild Horse Val 80.44 40⇑ *e*P **P 21 26 33.6 0.0**
WVOR pmax pmax
comp=Z,31nm,1.2s,mb4.8
VFP Flag Point 80.44 36 P **P 21 26 34.9 +1.3**
OOW Octopus West 80.45 33 P **P 21 26 34.8 +1.2**
SLKM Skilak Lake 80.74 13 P **P 21 26 33.6 -1.2**
SLKM *e* pP 21 28 06.2 0.0
SPU Mount Spurr 80.97 12 *e*P **P 21 26 34.2 -1.8**
WHN Wuhan 81.15 306⇓ P **P 21 26 38.5 +0.9**
WHN AP pP 21 28 10.3 +1.2
WHN S S 21 36 17.8 +5.1
WHN AMB AMB
comp=Z,269nm,1.3s,mb5.8
WHN LR LR
comp=Z,890nm,20.6s
ARUT Antelope Range 81.36 46 *e*P **P 21 26 39.1 +0.7**
ARUT *e*pP pP 21 28 10.2 +0.1
RMW Rattlesnake Mo 81.55 34 P **P 21 26 39.8 +0.6**
ELK Elko 81.67 43 *e*P **P 21 26 40.1 +0.1**
comp=Z,27nm,1.3s,mb4.8
ELK *e*pP pP 21 28 11.9 +0.3
ELK Elko 81.67 43 *e*P **P 21 26 40.1 +0.1**
ELK pmax pmax
comp=Z,27nm,1.3s
CRAG Craig 81.72 24 *e*P **P 21 26 40.0 +0.1**
PMR Palmer 81.95 13 *e*P **P 21 26 39.7 -1.3**
MSU Marysvale 82.58 46 *e*P **P 21 26 46.0 +1.2**
MSU *e*pP pP 21 28 17.8 +1.2
BMO Blue Mountains 82.59 38 *e*P **P 21 26 44.6 0.0**
comp=Z,12nm,1.0s,mb4.6
BMO *e*pP pP 21 28 16.1 -0.3
BMO Blue Mountains 82.59 38 *e*P **P 21 26 44.6 0.0**
BMO pmax pmax
comp=Z,12nm,1.0s,mb4.6
WTV Waterville 82.69 35 P **P 21 26 45.3 +0.2**
DUG Dugway 82.98 44 *e*P **P 21 26 47.0 +0.3**
comp=Z,75nm,1.8s,mb5.1
DUG *e*pP pP 21 28 18.7 +0.1
DUG Dugway 82.98 44 *e*P **P 21 26 47.0 +0.3**
DUG pmax pmax
comp=Z,75nm,1.8s,mb5.1
CAIG El Cayaco 83.29 70 *i* P **P 21 26 48.8 +0.1**
ZAIG Zacatecas 83.33 64 *i* P **P 21 26 50.3 +1.5**
NLU North Lily Min 83.35 45 *e*P **P 21 26 49.5 +0.9**
NLU *e*pP pP 21 28 21.2 +0.6
IPM Ipoh 83.38 277 P **P 21 26 50.3 +1.0**
SEY Seymchan 83.58 347 *i* Pr **P 21 26 48.4 -0.8**
SEY Seymchan 83.58 347 *e*P **P 21 26 48.6 -0.6**
TMUT Trail Mountain 83.62 46 *e*P **P 21 26 51.0 +1.0**
TMUT *e*pP pP 21 28 23.8 +1.8
HLID Hailey 83.65 41 *e*P **P 21 26 49.9 -0.1**
comp=Z,19nm,0.9s,mb4.8
HLID *e*pP pP 21 28 23.5 +1.4
MPU Maple Canyon 83.68 45 *e*P **P 21 26 50.6 +0.3**
comp=Z,14nm,0.9s,mb4.7
MPU *e*pP pP 21 28 22.9 +0.6
SPUT South Promonto 83.77 43 *e*P **P 21 26 50.3 -0.3**
SPUT *e*pP pP 21 28 23.0 +0.3
HVU Hansel Valley 83.79 43 *e*P **P 21 26 50.5 -0.2**
comp=Z,71nm,1.4s,mb5.2
HVU *e*pP pP 21 28 22.8 0.0
PMSA Palmer Station 83.81 157⇑ *i*P **P 21 26 51.5 +1.1**
comp=Z,239nm,1.0s,mb5.9
CTU Camp Tracy 83.93 44 *e*P **P 21 26 51.3 -0.2**
KULM Kulim 83.96 277⇓ *i*P **P 21 26 52.9 +0.6**
KULM *e*pP pP 21 28 26.1 +1.7
KULM *e*PP PP 21 30 11.9 -1.3
SRU San Rafael 84.00 46 *e*P **P 21 26 52.2 +0.4**
comp=Z,61nm,1.2s,mb5.2
SRU *e*pP pP 21 28 23.7 -0.3
DAU Daniels Canyon 84.12 45 *e*P **P 21 26 52.4 0.0**
DAU *e*pP pP 21 28 25.3 +0.7
TCUT Toone Canyon 84.36 44 *e*P **P 21 26 54.2 +0.6**
TCUT *e*pP pP 21 28 25.3 -0.5
MENT Mentasta 84.38 15 *e*P **P 21 26 52.9 -0.2**
HWUT Hardware Ranch 84.49 43 *e*P **P 21 26 54.1 -0.2**
comp=Z,16nm,1.1s,mb4.7
HWUT *e*pP pP 21 28 27.1 +0.6
MNTX Cornudas Mount 84.52 55 *e*P **P 21 26 55.2 +0.6**
comp=Z,83nm,1.3s,mb5.3
MNTX *e*pP pP 21 28 26.4 -0.5
SNG Songkhla 84.58 279 P **P 21 26 57.0 +1.7**
comp=Z,460nm,1.0s,mb6.2
NEW Newport 84.58 36 P **P 21 26 54.3 -0.2**
comp=Z,8.2nm,0.8s,mb4.5,baz=220,slow=3.2,SNR=8.1
NEW Newport 84.58 36 *e*P **P 21 26 53.9 -0.6**
comp=Z,8.4nm,0.8s,mb4.5
MAW Mawson 84.60 200⇑ *i*P **P 21 26 54.7 +0.6**
comp=Z,13nm,0.6s,mb4.8
MAW Mawson 84.60 200 P **P 21 26 55.2 +1.1**
comp=Z,14nm,0.6s,mb4.9,baz=131,slow=6.2,SNR=41
MAW S S 21 36 38.5 -7.4
comp=Z,1.3nm,0.7s,baz=270,slow=20,SNR=2.1
MAW Mawson 84.60 200⇑ *i*P **P 21 26 54.7 +0.6**
MAW pmax pmax
comp=Z,13nm,0.6s
ENH Enshi 84.85 304 *e*P **P 21 26 57.5 +1.2**
comp=Z,1µm,1.2s
ENH *e*pP pP 21 28 32.8 +4.1
LTX Lajitas 84.93 57 *e*P **P 21 26 57.8 +1.1**
comp=Z,242nm,1.4s,mb5.7
LTX *e*pP pP 21 28 29.2 +0.1
TXAR Lajitas Array 84.93 57 P **P 21 26 58.0 +1.3**
comp=Z,84nm,1.1s,mb5.4,baz=225,slow=5.3,SNR=137
TXAR pP pP 21 28 28.5 -0.5
comp=Z,3.3nm,0.8s,baz=207,slow=4.0,SNR=1.8
TXAR Lajitas Array 84.93 57 P **P 21 26 58.0 +1.3**
TXAR pP pP 21 28 28.5 -0.5
ANMO Albuquerque 85.05 51 *e*P **P 21 26 57.5 +0.3**
comp=Z,43nm,1.4s,mb5.0
ANMO *e*pP pP 21 28 29.1 -0.5
ANMO Albuquerque 85.05 51 *i* P **P 21 26 57.1 0.0**
ANMO *i* 21 30 23.1
ILAR Eielson Array 85.25 13 P **P 21 26 56.0 -1.3**
comp=Z,87nm,1.0s,mb5.5,baz=232,slow=4.9,SNR=251
ILAR pP pP 21 28 29.4 -0.3
comp=Z,16nm,1.0s,baz=227,slow=6.3,SNR=5.1
ILAR S S 21 36 47.6 -4.4
comp=Z,0.5nm,0.8s,baz=219,slow=5.8,SNR=3.2
ILAR Eielson Array 85.25 13 P **P 21 26 56.1 -1.2**
ILAR S S 21 36 47.7 -4.4
KKTK Khon Kaen 85.49 289 P **P 21 27 00.0 +0.4**
comp=Z,679nm,0.8s
RRI2 Red Ridge 85.50 42 *e*P **P 21 26 59.3 +0.2**
comp=Z,69nm,1.4s,mb5.2
RRI2 *e*pP pP 21 28 32.5 +0.9
MSO Missoula 85.63 38 *e*P **P 21 27 00.7 +1.1**
comp=Z,1.6nm,0.5s
MSO *e*pP pP 21 28 32.4 +0.2
GYA Guiyang 85.69 299⇓ *i*P **P 21 27 01.6 +1.2**
GYA PP PP 21 30 22.4 -4.3
GYA XS 21 39 32.8
GYA AMB AMB
comp=Z,160nm,1.2s,mb5.6
GYA AMB AMB
comp=Z,340nm,3.0s
DLMT Dillon 85.69 40 *e*P **P 21 27 00.3 +0.3**
DLMT *e*pP pP 21 28 32.7 +0.3
TPAW Teton Pass 85.80 42 *e*P **P 21 27 01.1 +0.6**
comp=Z,62nm,1.6s,mb5.1
TPAW *e*pP pP 21 28 31.8 -1.3
REDW Red Top Meadow 85.80 42 *e*P **P 21 27 00.8 +0.2**
comp=Z,54nm,1.4s,mb5.1
REDW *e*pP pP 21 28 33.9 +0.8
SNOW Snow King Moun 85.91 42 *e*P **P 21 27 02.1 +1.1**
comp=Z,26nm,1.1s,mb4.9
SNOW *e*pP pP 21 28 34.7 +1.1
IMW Indian Meadow 86.00 42 *e*P **P 21 27 02.3 +0.8**
comp=Z,40nm,1.4s,mb5.0
IMW *e*pP pP 21 28 35.1 +1.0
FLWY Flagg Ranch 86.24 42 *e*P **P 21 27 03.5 +0.9**
FLWY *e*pP pP 21 28 36.6 +1.3
USHA Ushuaia 86.32 147 P **P 21 27 04.1 +1.4**
comp=Z,70nm,1.0s,mb5.3,baz=236,slow=7.1,SNR=15
YFT Old Faithful 86.33 41 *e*P **P 21 27 05.4 +2.3**
YFT *e*pP pP 21 28 34.3 -1.4
BW06 Boulder Array 86.36 43 *e*P **P 21 27 03.1 -0.1**
comp=Z,30nm,1.6s,mb4.8
BW06 *e*pP pP 21 28 35.4 -0.5
PDAR Pinedale Array 86.36 43 P **P 21 27 03.0 -0.2**
comp=Z,3.7nm,0.7s,baz=214,slow=3.0,SNR=29
PDAR pP pP 21 28 34.6 -1.3
comp=Z,5.9nm,0.9s,baz=207,slow=3.3,SNR=5.5
PDAR PKKPbc 21 44 58.8
comp=Z,0.9nm,0.8s,baz=86,slow=4.1,SNR=5.8
PDAR PKPPKP 21 53 05.8
comp=Z,0.5nm,0.6s,baz=90,slow=3.0,SNR=3.9
YMR Madison River 86.36 41 *e*P **P 21 27 04.7 +1.6**
comp=Z,9.5nm,0.6s,mb4.7
BOZ Bozeman (W) 86.42 40 *e*P **P 21 27 03.8 +0.4**
comp=Z,124nm,1.2s,mb5.5
BOZ *e*pP pP 21 28 35.3 -0.8
VHO Vista Hermosa 86.48 71 *i* P **P 21 27 05.6 +1.2**
HIA Hailar 86.59 324 *e*P pP 21 28 40.8 +3.9
HIA *e*PP PP 21 30 30.7 -3.2
LKWY Lake 86.66 41 *e*P **P 21 27 05.4 +0.8**
comp=Z,28nm,1.3s,mb4.8
LKWY *e*pP pP 21 28 39.8 +2.4
XAN Xi'an 86.79 307 P **P 21 27 06.4 +0.9**
XAN AP pP 21 28 34.3 -4.0
XAN XP sP 21 29 15.0 -4.0
NNT Nongplab 87.10 284 P **P 21 27 08.5 +1.1**
RWWY Rawlins 87.43 45 *e*P **P 21 27 07.9 -0.4**
comp=Z,98nm,2.0s,mb5.2
RWWY *e*pP pP 21 28 43.2 +1.9
HHC Hu-ho-hao-te 87.68 314⇓ *i*P **P 21 27 11.1 +1.6**
HHC PP PP 21 30 46.9 +3.8
HHC SKS SKS 21 36 58.3 +1.1
HHC S S 21 37 18.5 +3.1
HHC AMB AMB
comp=Z,255nm,1.2s,mb5.8
HHC AMB AMB
comp=Z,413nm,3.2s
NST Nakhon Sawan 87.71 287 P **P 21 27 09.0 -1.2**
CMIG Matias Romero 88.15 72 *e*P **P 21 27 12.0 -0.3**
NANT Nan 88.21 290⇓ P **P 21 27 14.0 +1.5**
comp=Z,188nm,0.5s,mb6.1
CLNS Chul'man 88.24 332 *i* P **P 21 27 12.4 +0.6**
CLNS pmax pmax
comp=N,99nm,1.1s
CLNS pmax pmax
comp=E,97nm,1.1s
CLNS pmax pmax
comp=Z,316nm,1.1s,mb6.0
CLNS pmax pmax
comp=Z,14nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,1.0s
KMI Kunming 88.52 297⇓ P **P 21 27 15.9 +2.1**
KMI AP pP 21 28 49.3 +2.3
KMI PP PP 21 30 52.6 +2.5
KMI SKS SKS 21 37 05.4 +2.8
KMI S S 21 37 24.6 +1.1
KMI SS SS 21 43 29.5 +0.7
KMI SSS SSS 21 47 09.0 +3.1
KMI AMB AMB
comp=Z,127nm,1.6s,mb5.4
KMI AMB AMB
comp=Z,657nm,3.7s
KMI LR LR
comp=N,247nm,19.7s
KMI LR LR
comp=E,351nm,17.0s
KMI LR LR
comp=Z,406nm,28.0s
CHRT Chiangrai 89.37 291⇓ P **P 21 27 19.0 +1.1**
comp=Z,447nm,1.0s,mb6.2
YAK Yakutsk 89.55 338 *e*P **P 21 27 16.3 -1.5**
comp=Z,75nm,0.8s,mb5.6
YAK Yakutsk 89.55 338*d i*P **P 21 27 16.4 -1.3**
YAK *e* 21 30 51.8
YAK *e*S 21 37 04.8
YAK *e* 21 37 26.5
YAK pmax pmax
comp=Z,46nm,0.9s,mb5.3
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK smax
comp=N,6.0nm,1.2s
YAK smax
comp=E,4.0nm,1.1s
CD2 Chengdu 89.67 303 P **P 21 27 20.5 +1.4**
CD2 SKS SKS 21 37 10.4 +0.9
CD2 S S 21 37 38.0 +4.3
CD2 AMB AMB
comp=Z,60nm,1.2s,mb5.3
CD2 AMB AMB
comp=Z,260nm,6.7s
CD2 LR LR
comp=Z,270nm,27.6s
CHG Chiang Mai 89.79 290⇓ P **P 21 27 19.8 0.0**
comp=Z,78nm,1.1s,mb5.5
SYO Syowa Base 89.79 193⇓ P **P 21 27 17.0 -1.7**
LAO LASA Array 90.24 41 *e*P **P 21 27 22.3 +1.1**
comp=Z,52nm,1.3s,mb5.2
LAO *e*pP pP 21 28 57.7 +2.9
CCIG Comitan 90.40 73 *i* P **P 21 27 24.0 +1.3**
WMOK Wichita Mounta 90.79 54 *e*P **P 21 27 23.9 -0.2**
comp=Z,20nm,1.5s,mb4.7
WMOK Wichita Mounta 90.79 54 *e*P **P 21 27 23.9 -0.2**
WMOK pmax pmax
comp=Z,20nm,1.5s,mb4.7
PLCA Paso Flores 90.91 133 P **P 21 27 26.0 +1.5**
comp=Z,48nm,0.9s,mb5.3,baz=232,slow=4.8,SNR=75
PLCA pP pP 21 28 59.0 +0.9
comp=Z,27nm,1.2s,baz=232,slow=3.4,SNR=2.8
PLCA PKKPbc 21 44 47.9
comp=Z,7.6nm,0.9s,baz=81,slow=2.0,SNR=12
PLCA Paso Flores 90.91 133 *e*P **P 21 27 25.9 +1.4**
comp=Z,69nm,1.0s,mb5.4
PLCA *e*pP pP 21 28 59.7 +1.6
PLCA Paso Flores 90.91 133 *e*P **P 21 27 25.9 +1.4**
PLCA pmax pmax
comp=Z,69nm,1.0s
SNAA Sanae 91.00 178 P **P 21 27 24.4 +0.2**
comp=Z,8.5nm,0.9s,mb4.6,baz=205,slow=4.5,SNR=105
SNAA pP pP 21 28 58.6 +0.8
comp=Z,3.5nm,0.9s,baz=162,slow=4.9,SNR=2.6
SNAA S 21 37 16.9
comp=Z,3.2nm,1.1s,baz=182,slow=24,SNR=26
SNAA PKKPbc 21 44 45.6
comp=Z,0.9nm,0.8s,baz=357,slow=2.0,SNR=9.3
SNAA PKPPKP 21 52 54.5
comp=Z,0.9nm,1.1s,baz=70,slow=7.9,SNR=3.6
SNAA Sanae 91.00 178 *e*P **P 21 27 24.4 +0.1**
comp=Z,33nm,1.0s,mb5.1
SNAA *e*pP pP 21 28 58.3 +0.5
SNAA Sanae 91.00 178 *e*P **P 21 27 24.4 +0.2**
SNAA pmax pmax
comp=Z,33nm,1.0s
VNA3 Neumayer Olymp 91.11 176⇑ *i*P **P 21 27 25.7 +1.0**
VNA3 Neumayer Olymp 91.11 176 **P 21 27 33.4 +8.7**
VNA3 Neumayer Olymp 91.11 176 PKKP 21 44 45.7 +48
LZH Lanzhou 91.42 307⇓ P **P 21 27 28.8 +1.8**
LZH AMB AMB
comp=Z,267nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,1µm,4.0s
LZH LR LR
comp=N,891nm,17.0s
LZH LR LR
comp=Z,1µm,18.0s
VNA2 Neumayer--Watz 91.56 177⇑ *i*P **P 21 27 27.9 +1.1**
VNA2 Neumayer--Watz 91.56 177 **P 21 27 29.9 +3.1**
VNA2 Neumayer--Watz 91.56 177 **P 21 27 35.8 +9.0**
VNA2 Neumayer--Watz 91.56 177 PKKP 21 44 45.0 +48

MAIT **Maitri** 91.75 183 *e*P P 21 27 27.8 0.0
NVL **N'lazarevskaya** 91.76 183 ⇓ *i*P P 21 27 27.9 +0.1
NVL *e*S 21 37 29.4
NVL pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
NVL MLR MLR
comp=Z,20nm,17.0s
VNA1 **Neumayer--Stat** 91.78 176 ⇑ *i*P P 21 27 29.0 +1.1
VNA1 **Neumayer--Stat** 91.78 176 P 21 27 31.9 +4.0
VNA1 **Neumayer--Stat** 91.78 176 P 21 27 37.5 +10
VNA1 **Neumayer--Stat** 91.78 176 PKKP 21 44 45.2 +48
NATX **Nacogdoches** 93.05 58 *e*P P 21 27 35.1 +0.4
NATX *e*pP pP 21 29 08.8 +0.4
YKA **Yellowknife Ar** 93.53 24 P P 21 27 35.7 -0.4
comp=Z,8.6nm,0.7s,mb4.9,baz=245,slow=4.5,SNR=15
BOD **Bodaibo** 93.78 330 *e*P P 21 27 35.7 -1.6
BOD pmax pmax
comp=Z,31nm,1.4s,mb5.2
SONM **Songino Array** 93.87 319 P P 21 27 37.9 -0.1
comp=Z,13nm,1.0s,mb4.9,baz=107,slow=2.8,SNR=76
SONM pP pP 21 29 12.2 +0.5
comp=Z,6.6nm,1.0s,baz=130,slow=6.3,SNR=4.5
SONM S SKS 21 37 33.8 +1.3
comp=Z,7.7nm,1.2s,baz=117,slow=3.3,SNR=3.8
SONM PKKPbc 21 44 39.4
comp=Z,1.2nm,0.9s,baz=256,slow=3.4,SNR=5.0
SONM **Songino Array** 93.87 319 P P 21 27 37.9 -0.1
SONM S SKS 21 37 33.8 +1.3
SONM 21 44 39.4
GTA **Gaotai** 95.52 309 ⇓ *i*P P 21 27 46.5 +0.7
GTA AP pP 21 29 20.9 +1.4
GTA PP PP 21 31 43.1 -1.0
GTA PPP PPP 21 33 50.1 -1.9
GTA SKS SKS 21 37 41.9 +0.3
GTA S S 21 38 20.1 -3.9
GTA SS SS 21 45 00.1 -7.2
GTA AMB AMB
comp=Z,49nm,1.0s,mb5.6
GTA AMB AMB
comp=Z,334nm,8.0s
GTA LR LR
comp=N,145nm,16.0s
GTA LR LR
comp=E,169nm,19.0s
GTA LR LR
comp=Z,298nm,18.3s
TIXI **Tiksi** 95.99 345 *i* Pr P 21 27 45.8 -1.4
TIXI **Tiksi** 95.99 345 ⇓ *i*P P 21 27 43.1 -4.1
TIXI *e* 21 38 22.7
TIXI pmax pmax
comp=Z,30nm,0.9s,mb5.4
CFAA **Coronel Fontan** 96.39 126 PKKPbc 21 44 32.7
comp=Z,0.1nm,0.4s,baz=324,slow=5.7,SNR=5.2
ZAK **Zakamensk** 96.68 321 *e*P P 21 27 49.3 -1.5
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.3
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
ULM **Lac du Bonnet** 97.94 40 P P 21 27 55.3 -1.3
comp=Z,2.1nm,0.7s,mb4.5,baz=174,slow=21,SNR=3.8
ULM **Lac du Bonnet** 97.94 40 *e*PcP PcP 21 27 55.7 -0.7
LSA **Lhasa** 99.71 298 P P 21 28 06.0 +1.1
LSA **Lhasa** 99.71 298 *e*Pdif P 21 28 05.7 +0.8
comp=Z,13nm,1.1s,mb5.3
LSA **Lhasa** 99.71 298 *e*P P 21 28 05.7 +0.8
LSA pmax pmax
comp=Z,13nm,1.1s,mb5.3
SWET **Sewanee** 101.01 56 *e*PKiKP 21 32 44.0
LPAZ **La Paz** 102.64 112 P Pdif 21 28 20.4 +2.2
comp=Z,6.3nm,1.1s,baz=296,slow=3.5,SNR=6.8
LPAZ PKiKP 21 32 38.2
comp=Z,5.6nm,1.1s,baz=238,slow=7.7,SNR=7.6
LPAZ PKKPbc 21 44 16.1
comp=Z,2.1nm,0.8s,baz=66,slow=4.7,SNR=6.1
HYB **Hyderabad** 108.09 283 *e*P PP 21 33 11.0 -7.8
SDV **Santo Domingo** 108.50 86 PP PP 21 33 19.4 -2.8
SIV **San Ignacio** 108.96 114 PKKPbc 21 43 56.1
comp=Z,3.8nm,0.8s,baz=96,slow=4.9,SNR=14
MKAR **Makanchi Array** 109.55 314 Pdiff Pdif 21 28 48.0 +0.1
comp=Z,2.8nm,0.8s,baz=90,slow=6.1,SNR=9.1
MKAR pPdiff 21 30 25.8
comp=Z,1.0nm,0.7s,baz=97,slow=7.1,SNR=3.2
MKAR PKiKP 21 32 48.0
comp=Z,9.7nm,0.8s,baz=84,slow=1.3,SNR=19
MKAR PKKPbc 21 43 54.5
comp=Z,6.0nm,0.9s,baz=270,slow=3.6,SNR=12
MKAR **Makanchi Array** 109.55 314 Pdif Pdif 21 28 48.0 +0.1
MKAR PKPdf 21 32 48.0
MKAR PKKPbc 21 43 54.5
SAML **Samuel** 109.89 107 *e*PP PP 21 33 29.5 -2.8
KURK **Kurchatov** 112.17 318 *e*PKiKP 21 32 52.9
KURK **Kurchatov** 112.17 318 *d* *i*PKIKP PKPdf 21 32 52.3 0.0
ULHL **Ulahol** 113.57 309 P PKPdf 21 32 56.8 +1.4
SNR=19
KSH **Kashi** 113.63 306 *e*PKP PKPdf 21 32 58.8 +3.3
KSH *e*PKS PKS 21 36 33.0 +2.4
KSH *e*SKS 21 39 28.5
KSH PP PP
comp=Z,280nm,4.4s
KSH LR LR
comp=N,510nm,5.8s
KSH LR LR
comp=E,810nm,6.8s
TKM2 **Tokmak 2** 114.07 310 P PKPdf 21 32 57.0 +0.7
SNR=20
KBK **Karagaybulak** 114.54 309 P PKPdf 21 32 58.2 +1.0
SNR=20
CHMS **Chumysh** 114.69 310 P PKPdf 21 32 58.2 +0.8
SNR=17
FRU **Bishkek** 114.79 310 *e*PKiKP PKPdf 21 32 57.0 -0.7
FRU *e* 21 39 08.0
AAK **Ala-Archa** 114.88 309 P PKPdf 21 32 59.0 +1.1
SNR=13
AAK **Ala-Archa** 114.88 309 *e*PKPdf PKPdf 21 32 57.9 0.0
AAK **Ala-Archa** 114.88 309 *d* *i*PKIKP PKPdf 21 32 57.8 0.0
USP **Ospenovka** 114.88 310 P PKPdf 21 32 58.6 +0.8
SNR=20
EKS2 **Erkin-Say** 115.41 309 P PKPdf 21 32 59.9 +1.0
SNR=17
AML **Almayashu** 115.46 309 P PKPdf 21 33 00.9 +1.9
SNR=31
BVA0 **Borovoye Array** 117.14 321 *i* PKIKP PKPdf 21 33 02.5 +0.5
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR **Borovoye Array** 117.14 321 PKP PKPdf 21 33 02.5 +0.5
comp=Z,21nm,0.4s,baz=122,slow=2.1,SNR=192
BVAR PKKPbc 21 43 28.7
comp=Z,0.9nm,0.6s,baz=288,slow=4.7,SNR=3.7
BRVK **Borovoye** 117.19 321 *e*PKPdf PKPdf 21 33 02.6 +0.6
BRVK *e*PP PP 21 34 18.2 -4.6
KKAR **Karatay Array** 117.80 310 *i* PKIKP PKPdf 21 33 03.9 +0.4
KKAR pmax pmax
comp=Z,10.0nm,0.7s
SUMG **Summit** 120.09 13 *e*PKPdf PKPdf 21 33 09.0 +1.7
SVE **Sverdlovsk** 121.82 327 *e*PKiKP PKPdf 21 33 11.8 +0.8
SVE *e* 21 34 48.8
SVE pmax pmax
comp=Z,80nm,1.2s
SVE pmax pmax
comp=Z,150nm,2.2s
SVE MLR MLR
comp=N,100nm,18.0s
SVE MLR MLR
comp=E,100nm,18.0s
SVE MLR MLR
comp=Z,200nm,18.0s
SOKR **Solikamsk** 122.78 331 *c* *i*PKIKP PKPdf 21 33 13.5 +0.8
SOKR pmax pmax
comp=Z,90nm,1.0s
ARU **Arti** 123.04 327 *e*PKPdf PKPdf 21 33 13.8 +0.5
ARU *e*PP PP 21 34 56.4 -5.6
ARU **Arti** 123.04 327 *i* PKIKP PKPdf 21 33 13.9 +0.6
ARU *e* 21 34 55.8
AB31 **Akbulak array** 124.28 318 PKIKP PKPdf 21 33 16.2 +0.3
AB31 pmax pmax
comp=Z,60nm,1.1s
AKTO **Aktyubinsk** 125.18 320 PKIKP PKPdf 21 33 17.8 +0.2
AKTO pmax pmax
comp=Z,7.0nm,1.0s
KEV **Kevo** 125.62 350 *e*p PKPdf 21 33 16.7 -1.3
ARCES **ARCESS Array B** 126.06 350 PKhKP 21 33 12.9
comp=Z,2.8nm,0.8s,baz=56,slow=4.4,SNR=4.2
ARCES PKP PKPdf 21 33 19.5 +0.7
comp=Z,52nm,0.8s,baz=23,slow=1.5,SNR=73
ARCES PKKPbc 21 42 54.5
comp=Z,3.0nm,0.9s,baz=297,slow=2.7,SNR=6.2
ARCES **ARCESS Array B** 126.06 350 PKP PKPdf 21 33 19.5 +0.7
ARCES PKKPbc 21 42 54.5
ARE0 **ARCESS Array S** 126.06 350 PKPdf PKPdf 21 33 19.4 +0.6
SUR **Sutherland** 127.46 199 PKP PKPdf 21 33 23.9 +1.4
comp=Z,10nm,0.7s,baz=148,slow=2.3,SNR=10.0
JMDO **Jabal Madar** 127.86 285 P PKPdf 21 33 25.2 +1.6
SNR=9.3
BIDO **Bidbid** 127.93 286 P PKPdf 21 33 25.9 +2.2
SNR=12
SMDO **Samad** 127.97 286 P PKPdf 21 33 25.5 +1.8
SNR=11
BSY **Bisya** 128.72 285 P PKPdf 21 33 26.0 +0.8
SNR=26
ASHO **Ashiyiah** 129.89 288 P PKPdf 21 33 28.5 +1.1
SNR=13
JOF **Joensuu** 130.44 343 *e*p PKPdf 21 33 26.6 -0.8
JOF **Joensuu** 130.44 343 *e*pkp PKS 21 36 50.8 -11
RBK **Rabkut** 130.94 278 P PKPdf 21 33 31.0 +1.5
SNR=6.7
WHFO **Wadi Hawf** 131.41 279 P PKPdf 21 33 31.5 +1.1
SNR=7.1
LBTB **Lobatse** 132.21 209 PKP PKPdf 21 33 33.1 +1.4
comp=Z,5.5nm,0.6s,baz=185,slow=1.6,SNR=13
LBTB SKPbc 21 36 22.8
comp=Z,7.7nm,1.0s,baz=172,slow=1.7,SNR=3.7
LBTB **Lobatse** 132.21 209 *e*PKPdf PKPdf 21 33 33.5 +1.7
KAF **Kangasniemi** 132.41 345 *ep* 21 33 21.2
FINES **FINESS Array B** 133.04 345 PKhKP 21 33 18.8
comp=Z,1.3nm,0.5s,baz=63,slow=4.3,SNR=9.7
FINES PKP PKPdf 21 33 33.3 +1.0
comp=Z,15nm,0.8s,baz=108,slow=4.4,SNR=23
FINES SKPbc 21 36 24.2
comp=Z,4.0nm,0.7s,baz=108,slow=6.0,SNR=6.9
FINES **FINESS Array B** 133.04 345 PKP PKPdf 21 33 33.3 +1.0
FINES SKPbc 21 36 24.2
MOS **Moscow** 133.50 333 *e*PKIKP PKPdf 21 33 32.5 -0.8
MOS pmax pmax
comp=Z,92nm,1.2s
OBN **Obninsk** 134.36 333 *e*PKPdf PKPdf 21 33 35.5 +0.6
OBN **Obninsk** 134.36 333 *de*PKIKP PKPdf 21 33 35.2 +0.3
OBN *e* 21 36 08.8
OBN pmax pmax
comp=Z,30nm,1.6s
OBN pmax pmax
comp=Z,123nm,1.3s
OBN MLR MLR
comp=Z,100nm,18.0s
VRHR **Novokhopersk** 134.38 326 *i* PKIKP PKPdf 21 33 35.2 +0.2
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=N,20nm,1.6s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,70nm,1.4s
VRHR pmax pmax
comp=N,100nm,2.8s
VRHR pmax pmax
comp=E,50nm,1.6s
MATP **Matopo** 134.58 215 PKhKP 21 33 25.2
comp=E,1.6nm,0.5s,baz=150,slow=9.9,SNR=8.4
MATP PKP PKPdf 21 33 38.0 +1.8
comp=E,7.3nm,0.6s,baz=145,slow=2.2,SNR=16
MATP SKPbc 21 36 30.6
comp=E,14nm,1.0s,baz=144,slow=4.8,SNR=6.6
MATP **Matopo** 134.58 215 PKP PKPdf 21 33 38.0 +1.8
MATP SKPbc 21 36 30.6
VOR **Voronezh** 135.27 328 PKIKP PKPdf 21 33 37.0 +0.4
VOR pmax pmax
comp=Z,100nm,2.0s
VRSR **Storozhevoye** 135.58 328 *i* PKIKP PKPdf 21 33 37.9 +0.7
VRSR pmax pmax
comp=Z,60nm,1.0s
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,1.2s
VRSR pmax pmax
comp=Z,100nm,1.5s
VRSR pmax pmax
comp=N,40nm,1.1s
VRSR pmax pmax
comp=E,40nm,1.9s
VORD **Divnogorie** 135.67 327 *i* PKIKP PKPdf 21 33 38.2 +0.8
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.5s
NB2 **NORSAR Subarra** 136.06 354 PKPabc PKPdf 21 33 27.5 -10
comp=E,10nm,0.8s,baz=16,slow=4.0
NOA **NORSAR Array B** 136.06 354 PKhKP 21 33 28.0
comp=E,1.2nm,0.9s,baz=24,slow=2.0,SNR=6.2
NOA PKP PKPdf 21 33 39.8 +2.0
comp=E,7.4nm,0.7s,baz=14,slow=3.8,SNR=16
NOA SKPbc 21 36 34.0
comp=E,20nm,1.2s,baz=16,slow=4.3,SNR=4.0
NOA **NORSAR Array B** 136.06 354 PKP PKPdf 21 33 39.8 +2.0
NOA SKPbc 21 36 34.0
HFS **Hagfors** 136.65 352 PKhKP 21 33 26.7
comp=E,7.3nm,0.7s,baz=76,slow=6.1,SNR=12
HFS PKP PKPdf 21 33 38.9 0.0
comp=E,12nm,0.8s,baz=45,slow=2.1,SNR=7.1
HFS **Hagfors** 136.65 352 PKP PKPdf 21 33 38.9 0.0
MTA **Mtatsminda** 136.69 313 P PKPdf 21 33 40.9 +1.4
TI2 **Plekhanov** 136.70 313 *e*PKHKP 21 33 29.0
TBLG **Delisi** 136.71 313 P PKPdf 21 33 33.5 -6.1
TBLG S 21 33 45.7
ZEI **Tsey** 136.90 315 *e*PKIKP PKPdf 21 33 39.7 -0.2
ZEI *i* 21 36 27.8
KIV **Kislovodsk** 137.23 317 *e*PKPdf PKPdf 21 33 41.9 +1.4
KIV **Kislovodsk** 137.23 317 *i* PKIKP PKPdf 21 33 40.5 0.0
KIV *e* 21 36 28.7
KIV *e*PPP PPP 21 39 36.0 -2.0
KIV pmax pmax
comp=N,7.0nm,1.2s
KIV pmax pmax
comp=E,6.0nm,1.2s
KIV pmax pmax
comp=Z,31nm,1.2s
GNI **Garni** 137.25 311 *e*P PKPdf 21 33 39.8 -0.8
GNI **Garni** 137.25 311 PKP PKPdf 21 33 39.9 -0.8
comp=Z,24nm,1.0s,baz=28,slow=6.2,SNR=7.7
GNI **Garni** 137.25 311 *e*PKPdf PKPdf 21 33 35.2 -5.4
GNI PKP PKPdf 21 33 39.9 -0.8
GNI *i* PKPr PKPdf 21 33 42.5 +1.9
GNI **Garni** 137.25 311 *e*PKHKP 21 33 35.2
GNI *i* 21 33 42.5
AKH **Akhalkalaki** 137.70 313 P PKPdf 21 33 43.3 +1.9
RYDS **Riyadh** 138.46 287 P PKPdf 21 33 44.7 +1.4
HKR **Hakkari** 138.81 308 *e*P PKPdf 21 33 34.6 -8.9
BHD **Baghdad** 139.42 301 *ex* x 21 33 35.0
MSL **Mosul** 139.69 306 *ex* x 21 33 57.0
EZM **Erzurum** 139.77 312 *e*P PKPdf 21 33 41.0 -4.2
ANN **Anapa** 140.13 321 *i* PKIKP PKPdf 21 33 52.2 +6.5
ANN pmax pmax
comp=Z,90nm,1.2s
SUW **Suwalki** 140.21 341 *e*PKP PKPdf 21 33 40.3 -5.2
AKASG **Malin Array Be** 140.63 333 PKhKP 21 33 40.0
comp=Z,2.5nm,0.3s,baz=41,slow=4.0,SNR=22
AKASG PKP PKPdf 21 33 45.4 -1.0
comp=Z,10nm,0.5s,baz=41,slow=4.2,SNR=45
AKASG SKPbc 21 36 47.3
comp=Z,20nm,1.1s,baz=36,slow=3.2,SNR=16
AKASG **Malin Array Be** 140.63 333 PKP PKPdf 21 33 45.4 -1.0
AKASG SKPbc 21 36 47.3
AKASG **Malin Array Be** 140.63 333 PKIKP PKPdf 21 33 45.4 -1.0
AKASG 21 36 47.3
ATD **Arta Tunnel** 140.68 267 SKPbc 21 36 48.8
comp=Z,9.2nm,1.1s,baz=59,slow=22,SNR=7.0
TSUM **Tsumeb** 140.70 203 PKhKP 21 33 42.4
comp=Z,3.6nm,0.6s,baz=126,slow=2.7,SNR=17
TSUM PKP PKPdf 21 33 49.4 +1.9
comp=Z,4.6nm,0.6s,baz=177,slow=2.3,SNR=13
TSUM SKPbc 21 36 48.3
comp=Z,5.9nm,1.0s,baz=165,slow=6.9,SNR=3.6
TSUM **Tsumeb** 140.70 203 *e*PKPdf PKPdf 21 33 42.7 -4.8
TSUM PKP PKPdf 21 33 49.4 +1.9
TSUM SKPbc 21 36 48.3
MARD **Mardin** 141.13 308 *i* P PKPdf 21 33 42.4 -5.3
KMBO **Kilima Mbogo** 141.21 245 PKhKP 21 33 45.3
comp=Z,4.4nm,0.8s,baz=61,slow=6.3,SNR=11
EKA **Eskdalemuir Ar** 141.95 5 PKhKP 21 33 44.4
comp=Z,6.8nm,0.8s,baz=344,slow=3.0,SNR=20
ESK **Eskdalemuir** 141.97 5 *e*PKPdf PKPdf 21 33 44.6 -4.0
SIM **Simferopol'** 142.01 323 *c* *i*PKHKP 21 33 46.3
SIM pmax pmax
comp=Z,29nm,1.0s
WAR **Warsaw** 142.40 341 *e*PKP PKPdf 21 33 48.0 -1.4
MALT **Malatya** 142.49 311 *e*P PKPdf 21 33 48.5 -1.6
MALT **Malatya** 142.49 311 PKIKP PKPdf 21 33 48.9 -1.1
GKP **Gorka Klasztor** 142.50 346 *e*PKP PKPdf 21 33 46.8 -2.8
URFA **Urfa** 142.54 309 *e*P PKPdf 21 33 48.0 -2.2
SVSK **Karacayir** 142.81 314 *e*P PKPdf 21 33 50.1 -0.4
SVST **Sivas** 142.91 314 *i* P PKPdf 21 33 51.0 +0.3
WIM **Isle of Man** 142.97 7 ⇓ *e*P PKPdf 21 33 48.3 -2.0
BLJS **Baljurashi** 143.06 280 P PKPbc 21 33 51.9 +2.0
BSEG **Bad Segeberg** 143.13 352 *e*PKHKP 21 33 48.9
DCN **Croghan** 143.38 10 ⇑ *i*P PKPbc 21 33 48.8 -1.0
KIS **Kishinev** 143.50 329 *e*PKHKP 21 33 49.0
KIS *e* 21 33 54.0
KIS *e* 21 35 20.0
KIS *e* 21 37 10.0
KIS MLR MLR
comp=Z,900nm,12.0s
KIS MLR MLR
comp=Z,1μm,12.0s
GZT **Gaziantep** 143.50 310 *i* P PKPbc 21 33 51.2 +0.5
BYBT **Boyabat** 143.54 318 *e*P PKPbc 21 33 52.5 +1.8
DLF **Lyons Farm** 143.54 9 ⇑ *i*P PKPbc 21 33 49.1 -1.2
DSB **Dublin** 143.62 9 *e*PKPdf PKPdf 21 33 50.4 -1.0
WCB1 **Church Bay** 143.74 7 ⇓ *e*P PKPbc 21 33 50.1 -0.8
WCB1 AMb AMB 21 33 51.6
comp=Z,73nm,1.0s
GAZ **Gaziantep** 143.83 310 *e*P PKPbc 21 33 53.4 +1.7
WLF1 **Llynfaes** 143.84 7 *e*P PKPbc 21 33 50.8 -0.4
YRC **Rhoscolyn** 143.86 7 *e*P PKPbc 21 33 50.5 -0.8
KAHT **Ahir Dag** 143.89 311 *i* P PKPbc 21 33 53.5 +1.7
WPM1 **Penmaenmawr** 143.93 7 ⇓ *e*P PKPbc 21 33 51.0 -0.5
WPM1 AMb AMB 21 33 52.5
comp=Z,137nm,1.7s
IAS **Iasi** 143.95 331 P PKPbc 21 33 52.4 +0.6
CTKT **Corum** 143.96 316 *i* P PKPbc 21 33 53.0 +1.0
RUE **Ruedersdorf** 143.98 348 *e*PKPdf PKPdf 21 33 52.3 +0.2
YLL **Llanberis** 144.01 7 ⇓ *e*P PKPbc 21 33 51.3 -0.4
KWP **Kalwaria** 144.06 338 *e*PKP PKPdf 21 33 52.8 +0.4
KWP **Kalwaria** 144.06 338 *e*PKPab PKPab 21 33 52.9 -1.2
KWP **Kalwaria** 144.06 338 *e*PKIKP PKPdf 21 33 52.7 +0.4
BNN **Bunyan** 144.09 313 *e*P PKPbc 21 33 54.1 +1.7
YRE **Yr Eifl** 144.14 7 ⇓ *e*P PKPbc 21 33 51.2 -0.8
LTHS **Al Lith** 144.19 281 P PKPbc 21 33 55.0 +1.8
TOS **Tosya** 144.24 318 *e*P PKPbc 21 33 54.8 +2.1
CORM **Corum** 144.29 316 *e*P PKPbc 21 33 54.5 +1.6
SBD1 **Bryn Du** 144.34 6 ⇓ *e*P PKPbc 21 33 52.8 +0.1
SBD1 AMb AMB 21 33 55.0
comp=Z,270nm,1.4s
BALT **Daday** 144.38 319 *i* P PKPdf 21 33 54.3 +1.2
OJC **Ojcow** 144.54 341 ⇓ *i*PKP PKPdf 21 33 54.1 +1.0
WIT **Witteveen** 144.59 356 ⇓ *i*PKP PKPdf 21 33 54.7 +1.5
comp=Z,1μm,1.2s
KOZT **Kozan** 144.71 311 *e*P PKPdf 21 33 55.5 +1.7
CANT **Cankiri** 144.73 317 *e*P PKPdf 21 33 56.4 +2.7
CDAG **Cicekdag** 144.73 315 *i* P PKPdf 21 33 55.1 +1.3
TLCR 144.76 327 ⇑ *i*P PKPdf 21 33 55.2 +1.6
TLCR 144.76 327 ⇑ *i*P PKPdf 21 33 55.2 +1.6
TLCR 144.76 327 PKIKP PKPdf 21 33 55.4 +1.8
STHS **Stebnicka Huta** 144.76 339 *e*PKP PKPdf 21 33 55.6 +2.1
HLM1 **Long Mynd** 144.76 6 *e*P PKPdf 21 33 54.2 +0.8
HLM1 AMb AMB 21 33 55.7
comp=Z,402nm,1.0s
KOLS **Kolonicke sedl** 144.80 337 *e*PKP PKPdf 21 33 55.5 +1.9
AVNT **Avonos** 144.81 314 *i* P PKPdf 21 33 56.3 +2.4
SSP1 **Stoney Pound** 144.84 6 ⇓ *e*P PKPdf 21 33 54.5 +1.0
ELDT **Eldivan** 144.92 317 *i* P PKPdf 21 33 55.3 +1.2
CEYT **Ceyhan** 144.96 310 *e*P PKPdf 21 33 57.0 +2.7
KSP **Ksiaz** 144.96 345 *e*PKP PKPdf 21 33 56.0 +2.2
KSP **Ksiaz** 144.96 345 ⇓ *i*PKP PKPdf 21 33 55.5 +1.7
KSP *ep*PKP 21 35 33.5
SAFT **Safranbolu** 144.98 319 *e*P PKPdf 21 33 56.0 +1.8
KBRS **Khaybar** 145.05 290 P PKPdf 21 33 57.2 +2.4
NIE **Niedzica** 145.07 340 ⇓ *i*PKP PKPdf 21 33 56.4 +2.4
CFR **Carcaliu** 145.11 328 ⇑ *i*P PKPdf 21 33 54.8 +0.6
CFR **Carcaliu** 145.11 328 ⇑ *i*P PKPdf 21 33 54.8 +0.5
CRVS **Cervenica-Dubn** 145.12 338 *e*PKP PKPdf 21 33 57.4 +3.3
RAC **Raciborz** 145.14 342 *e*PKPdf PKPdf 21 33 56.4 +2.3
HTR **Trewern Hill** 145.16 6 ⇓ *e*P PKPdf 21 33 55.2 +1.1
HTR AMb AMB 21 33 56.9
comp=Z,319nm,1.2s
CLZ **Clausthal** 145.17 352 *e*PKP2 PKPab 21 33 56.1 -1.9
BR131 **Keskin Array S** 145.17 316 *e*PKPdf PKPdf 21 33 56.3 +1.8
BRTR **Keskin Array B** 145.17 316 PKPbc PKPbc 21 33 55.9 +0.5
comp=Z,248nm,0.9s,baz=136,slow=3.3,SNR=459
BRTR pPKPbc 21 35 33.7
comp=Z,15nm,0.9s,baz=135,slow=2.0,SNR=3.8
CLL **Collm** 145.25 349 ⇓ *i*PKIKP PKPdf 21 33 56.2 +1.9
comp=Z,logA/T=2.8
CLL *e* 21 34 00.0
CLL *e* 21 34 06.0
CLL *e* *PPKP 21 35 42.0
CLL *e* 21 36 20.0
CLL *e* 21 36 59.0
CLL *eP* PP 21 37 12.0 -9.2
CLL **Collm** 145.25 349 ⇓ *i*PKP PKPdf 21 33 56.2 +1.9
CLL *ep*PKP 21 35 42.0
CLL *es*PKP 21 36 20.0
CLL *e*SKPbc 21 36 59.0
CLL **Collm** 145.25 349 ⇓ *i*PKP2 PKPab 21 33 56.2 -2.1
CLL pmax pmax
comp=Z,534nm,0.9s
MCH1 **Michaelchurch** 145.27 6 ⇓ *e*P PKPdf 21 33 55.6 +1.4
NIG **Nigde** 145.29 313 *e*P PKPdf 21 33 56.4 +1.6
KAMT **Kaman** 145.30 315 *e*P PKPdf 21 33 56.5 +1.7
VRI **Vrincioaia** 145.31 330 ⇓ *i*P PKPdf 21 33 56.7 +2.1
VRI **Vrincioaia** 145.31 330 PKP2 PKPab 21 33 57.0 -1.8
UPC **Upice** 145.34 345 *e*PKP PKPdf 21 33 56.5 +2.0
UPC *e* 21 37 24.2
KARA **Karaisali** 145.36 311 *e*P PKPdf 21 33 57.0 +2.1
OKC **Ostrava-Krasne** 145.38 342 *e*PKP PKPdf 21 33 56.4 +1.9
DPC **Dobruska-Polom** 145.41 345 *e*PKP PKPdf 21 33 56.8 +2.2
KRTS **Karatas** 145.42 310 *e*P PKPdf 21 33 58.4 +3.4
WTSB **Winterswijk** 145.43 355 ⇓ *i*PKP PKPdf 21 33 56.6 +2.0
comp=Z,468nm,1.2s
TIRR **Tirgusor** 145.46 327 ⇓ *i*P PKPdf 21 33 57.3 +2.4
TIRR **Tirgusor** 145.46 327 ⇓ *i*P PKPdf 21 33 57.3 +2.4
TIRR **Tirgusor** 145.46 327 PKIKP PKPdf 21 33 56.8 +1.9
BRG **Berggiesshubel** 145.47 347 *i* PKP PKPdf 21 33 56.6 +1.9
BRG *e* 21 35 41.0
BRG *i* 21 36 13.0
BRG SS SS 21 55 37.0 -3.2
BRG **Berggiesshubel** 145.47 347 *i* PKIKP PKPdf 21 33 56.6 +1.9
BRG pmax pmax
comp=Z,300nm,1.1s
BRG pmax pmax
comp=Z,12nm,0.6s
FKH **Fakeheh** 145.53 306 *e*P PKPdf 21 33 57.8 +2.5
HARR **Harsova** 145.55 327 ⇑ *i*P PKPdf 21 33 57.3 +2.3
HARR **Harsova** 145.55 327 ⇑ *i*P PKPdf 21 33 57.2 +2.2
MORC **Moravsky Berou** 145.60 343 P PKPdf 21 33 57.4 +2.5
HGH **Gray Hill** 145.64 6 ⇓ *e*P PKPdf 21 33 56.3 +1.4
HGH AMb AMB 21 33 59.2
comp=Z,362nm,1.1s
ANTO **Ankara** 145.66 317 *e*P PKPdf 21 33 56.8 +1.5
ANTO **Ankara** 145.66 317 *e*PKPdf PKPdf 21 33 56.5 +1.2
ANTO *ep*PKPdf 21 35 35.8
ANTO *e*SKPbc 21 36 58.7
ANTO **Ankara** 145.66 317 PKIKP PKPdf 21 33 57.0 +1.7
LOD **Lodumlu** 145.66 317 *e*P PKPdf 21 33 57.9 +2.6
PVCC **Panska Ves** 145.66 346 *e*PKP PKPdf 21 33 56.4 +1.4
QURS **Qurayyt al Mil** 145.67 300 P PKPdf 21 33 57.8 +2.1
SKP1 **Kophill** 145.72 4 ⇓ *e*P PKPdf 21 33 56.9 +1.8
LIKS **Likavka** 145.78 341 *e*PKP PKPdf 21 33 58.9 +3.6
ASF **Jabal al Asfar** 145.80 302 PKPbc PKPbc 21 33 59.1 +1.9
comp=Z,108nm,0.8s,baz=323,slow=1.6,SNR=146
ASF pPKPbc 21 35 35.3
comp=Z,33nm,1.0s,baz=336,slow=1.1,SNR=3.4
KECS **Kecovo** 145.82 339 *e*PKP PKPdf 21 33 58.7 +3.4
KECS *e* 21 35 35.6
SWN1 **Swindon** 145.86 5 ⇓ *e*P PKPdf 21 33 57.6 +2.3
MERS **Mersin** 145.91 311 *e*P PKPdf 21 33 59.2 +3.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ISR	Istrita	145.95	329	⇑iP	PKPdf	21 33 58.0	+2.3
MLR	Muntele Rosu	145.96	330	PKPbc	PKPbc	21 33 58.6	+1.5
	comp=Z,147nm,1.0s,baz=49,slow=1.4,SNR=31						
MLR	Muntele Rosu	145.96	330	⇓iP	PKPdf	21 33 57.9	+2.2
MLR	Muntele Rosu	145.96	330	⇓iP	PKPdf	21 33 57.9	+2.2
MLR	Muntele Rosu	145.96	330	PKP2	PKPab	21 33 59.1	-2.1
MOX	Moxa	146.13	350	ePKP	PKPdf	21 33 57.4	+1.6
MOX				e		21 39 49.0	
MOX	Moxa	146.13	350	ePKIKP	PKPdf	21 33 57.4	+1.6
MOX				pmax	pmax		
	comp=Z,232nm,1.7s						
PRU	Pruhonice	146.18	346	ePKP	PKPdf	21 33 57.6	+1.7
SWK	Warminster	146.18	6	⇓eP	PKPdf	21 33 58.4	+2.6
BHL	Bhannes	146.23	305	eP	PKPdf	21 33 57.8	+1.3
VRAC	Vranov	146.29	343	PKPbc	PKPbc	21 33 59.6	+1.8
	comp=Z,96nm,0.9s,baz=20,slow=1.8,SNR=51						
VRAC				pPKPbc		21 35 36.5	
	comp=Z,36nm,1.1s,baz=57,slow=3.0,SNR=2.9						
VRAC	Vranov	146.29	343	ePKP	PKPdf	21 33 57.8	+1.7
VRAC	Vranov	146.29	343	PKP2	PKPab	21 33 59.8	-2.6
HENT	Hendek	146.34	320	iP	PKPdf	21 33 57.5	+1.1
YNBS	Yanbu' al Bahr	146.34	288	P	PKPdf	21 33 59.0	+2.0
MDU	Mudurnu	146.34	319	eP	PKPdf	21 34 00.7	+4.2
VYHS	Vyhne	146.36	340	ePKP	PKPdf	21 34 00.0	+3.7
VYHS				e		21 35 37.4	
NKC	Novy Kostel	146.38	349	ePKP	PKPdf	21 33 58.2	+2.0
DRGR		146.38	335	⇓iP	PKPdf	21 33 58.5	+2.1
DRGR		146.38	335	⇓iP	PKPdf	21 33 58.5	+2.2
DRGR		146.38	335	PKP2	PKPab	21 33 59.4	-3.4
KOLL	Kolacno	146.42	341	ePKP	PKPdf	21 34 00.6	+4.2
VOIR		146.42	331	⇓iP	PKPdf	21 33 59.1	+2.6
KSDI	Kefar Szold	146.47	304	P	PKPdf	21 33 57.0	0.0
PSZ	Piszkesteto	146.50	339	ePKP	PKPdf	21 34 00.1	+3.6
PSZ				epPKPdf		21 35 38.2	
PSZ	Piszkesteto	146.50	339	PKP2	PKPab	21 34 00.7	-2.6
PSZ	Piszkesteto	146.50	339	iPKP/p	PKPdf	21 34 00.0	+3.5
TREC	Trest	146.59	345	ePKP	PKPdf	21 33 58.2	+1.6
CSA1	St Austell	146.65	9	eP	PKPdf	21 33 59.6	+2.9
HGN	Heimansgroeve	146.69	356	⇓ePKP	PKPdf	21 33 59.7	+3.0
	comp=Z,58nm,2.2s						
HGN				ix	x	21 34 02.4	
	comp=Z,137nm,1.0s						
HGN				epPKP		21 35 34.6	
SIW	Isle of Wight	146.73	5	eP	PKPdf	21 33 59.5	+2.7
CPZ	Penzance	146.74	10	⇓eP	PKPdf	21 33 59.9	+3.0
CPZ				AMb	AMB	21 34 03.0	
	comp=Z,104nm,1.7s						
BUC1	Bucharest	146.76	329	P	PKPdf	21 34 01.2	+4.2
CCA1	Carnmenellis	146.76	9	⇓eP	PKPdf	21 33 60.0	+3.1
SMOL	Smolenice	146.77	342	ePKP	PKPdf	21 34 01.9	+4.9
KIZT	Kizilcal	146.78	316	eP	PKPdf	21 34 00.5	+3.2
CRQ2	Rosemanowes 2	146.79	9	⇓eP	PKPdf	21 34 00.1	+3.2
CRQ2				AMb	AMB	21 34 02.3	
	comp=Z,84nm,2.3s						
IKL	Isikli	146.79	310	eP	PKPdf	21 34 02.2	+4.8
KDHN	Kadinhani	146.81	315	iP	PKPdf	21 34 01.7	+4.3
CGW	Gweek	146.84	9	eP	PKPdf	21 34 00.3	+3.2
UMJS	Umm Lajj	146.86	289	P	PKPdf	21 33 59.5	+1.6
CMA1	Manaccan	146.88	9	⇓eP	PKPdf	21 34 00.5	+3.4
HNTI	Hanita	146.89	304	P	PKPdf	21 33 57.6	-0.1
CGH1	Goonhilly	146.90	9	⇓eP	PKPdf	21 34 00.6	+3.4
MMLI	Mount Malkishu	146.91	303	P	PKPdf	21 33 58.4	+0.7
KONT	Konya--Tatoy	146.93	314	eP	PKPdf	21 34 01.5	+3.9
EYL	Eskiyayla	146.94	320	eP	PKPdf	21 34 01.0	+3.5
TNS	Taunus Mts	147.00	353	ePKP2	PKPab	21 34 03.4	-1.7
MKRJ	Makawir	147.00	301	P	PKPdf	21 33 58.5	+0.6
MBAR	Mbarara	147.00	240	ePKPbc	PKPdf	21 34 02.6	+4.2
MBAR				epPKPdf		21 35 43.2	
MBAR	Mbarara	147.00	240	d iPKIKP	PKPdf	21 34 02.5	+4.1
GPA	Golpazari	147.01	319	eP	PKPdf	21 34 02.9	+5.3
PHNC	Paralimni	147.06	308	⇓P	PKPdf	21 34 02.0	+4.1
PHNC	Paralimni	147.06	308	⇓eP	PKPdf	21 34 02.0	+4.1
TBKS	Tabuk	147.07	295	P	PKPdf	21 34 00.0	+1.9
HRT	Hereke	147.09	321	eP	PKPdf	21 34 01.6	+3.9
HRT	Hereke	147.09	321	eP	PKPdf	21 34 02.5	+4.8
ESKT	Eskisehir	147.10	318	eP	PKPdf	21 34 02.7	+4.9
GRA1	Grafenberg Arr	147.12	350	ePKPdf	PKPdf	21 33 59.3	+1.8
GRA1				ePKPbc	PKPdf	21 34 01.8	+4.3
GRA1				epPKPbc		21 35 37.4	
GRA1				e		21 44 46.8	
GRF	Grafenberg Arr	147.12	350	ePKP	PKPdf	21 33 59.3	+1.8
GRF				ePKP	PKPdf	21 34 01.8	+4.3
GRF				pPKPbc		21 35 37.4	
GRF				e		21 44 46.8	
GRF	Grafenberg Arr	147.12	350	ePKP2	PKPab	21 34 01.8	-3.8
GRF				pmax	pmax		
	comp=Z,21nm,1.6s						
SRO	Srobarova	147.12	340	ePKP	PKPdf	21 34 02.4	+4.8
SRO				e		21 35 40.8	
SRO2	Moca	147.14	340	ePKP	PKPdf	21 34 02.3	+4.7
ZST	Bratislava	147.15	342	ePKP	PKPdf	21 34 02.3	+4.7
ZST				e		21 35 40.9	
BORA	Eskisehir	147.16	319	iP	PKPdf	21 33 59.5	+1.6
BORA	Eskisehir	147.16	319	iP	PKPdf	21 34 03.0	+5.1
ERMK	Ermenek	147.17	312	iP	PKPdf	21 34 02.3	+4.3
SRO1	Iza	147.19	340	ePKP	PKPdf	21 34 02.6	+4.9
OFRI	'Ofer	147.19	304	P	PKPdf	21 33 58.3	+0.1
KHC	Kasperske Hory	147.20	347	ePKP	PKPdf	21 33 59.7	+2.1
KHC				x	x	21 34 01.5	
KHC	Kasperske Hory	147.20	347	ePKIKP	PKPdf	21 33 59.7	+2.1
KHC				e		21 34 01.5	
SLTI	Sal'it	147.28	303	P	PKPdf	21 33 59.1	+0.8
MZDA	Masada	147.30	301	P	PKPdf	21 33 59.1	+0.7
ISK	Istanbul-Kandi	147.31	321	eP	PKPdf	21 34 01.5	+3.4
VKA	Vienna	147.32	343	⇑iPKP	PKPdf	21 34 02.2	+4.3
HDMB	Hadim	147.32	312	eP	PKPdf	21 34 02.2	+3.9
WET	Wettzell	147.34	348	ePKPdf	PKPdf	21 33 59.5	+1.6
WET				ePKPbc	PKPdf	21 34 02.3	+4.4
WET	Wettzell	147.34	348	ePKP2	PKPab	21 34 02.3	-4.2
GIVF	Givet	147.41	357	ePKIKP	PKPdf	21 33 59.1	+1.2
YLV	Yalova	147.42	320	eP	PKPdf	21 34 02.3	+4.0
ABH	Alteburg	147.43	354	⇓eP	PKPdf	21 34 02.8	+4.8
ABH	Alteburg	147.43	354	PKP	PKPdf	21 33 59.9	+1.9
GEC2	GERESS Array S	147.44	346	ePKPdf	PKPdf	21 33 59.6	+1.6
GEC2				ePKPbc	PKPdf	21 34 02.7	+4.7
GEC2	GERESS Array S	147.44	346	ePKP2	PKPab	21 34 02.7	-4.2
GERES	GERESS Array B	147.44	346	PKPbc	PKPdf	21 34 02.3	+4.3
	comp=Z,14nm,0.9s,baz=162,slow=17,SNR=16						
BAIF	Baives	147.47	358	ePKIKP	PKPdf	21 33 59.6	+1.6
IZI	Iznik	147.50	320	eP	PKPdf	21 34 03.7	+5.3
TOD	Tromm	147.56	353	⇓eP	PKPdf	21 34 03.0	+4.8
TOD	Tromm	147.56	353	PKP	PKPdf	21 34 00.5	+2.3
MAMC	Mammari	147.59	309	⇓P	PKPdf	21 34 03.6	+4.9
MAMC	Mammari	147.59	309	⇓eP	PKPdf	21 34 03.6	+4.9
CSS	Prodhromos	147.60	309	⇓P	PKPdf	21 34 03.4	+4.7
	comp=Z,4.6nm,1.1s						
CSS	Prodhromos	147.60	309	⇓eP	PKPdf	21 34 03.4	+4.7
CTT	Catalca	147.63	322	eP	PKPdf	21 34 03.5	+4.9
ZFRI	Zfri	147.67	300	P	PKPdf	21 34 00.1	+1.1
SIND	Sindeldorf	147.71	351	⇓eP	PKPdf	21 34 03.2	+4.8
WLF	Walferdange	147.76	356	ePKPdf	PKPdf	21 34 00.7	+2.2
WLF				ePKPbc	PKPdf	21 34 03.7	+5.2
SOP	Sopron	147.78	342	⇓ePKP/p	PKPdf	21 34 03.8	+5.2
ALT	Altintas	147.84	318	eP	PKPdf	21 34 04.5	+5.5
LEF	Lefka	147.86	309	eP	PKPdf	21 34 04.3	+5.1
MASH	Mash'abbe Sade	147.87	301	P	PKPdf	21 34 00.4	+1.1
PRNI	Paran	147.87	300	P	PKPdf	21 34 00.7	+1.4
KTD	Kalmit	147.93	353	eP	PKPdf	21 34 04.0	+5.2
KTD	Kalmit	147.93	353	PKP	PKPdf	21 34 00.5	+1.7
SZAC	Souni-Zanaja	148.02	308	⇓P	PKPdf	21 34 04.4	+5.0
SZAC	Souni-Zanaja	148.02	308	⇓eP	PKPdf	21 34 04.4	+5.0
ORLT	Orhaneli	148.03	320	eP	PKPdf	21 34 05.8	+6.5
ALFC	Alevga	148.06	309	⇓P	PKPdf	21 34 04.2	+4.7
	comp=Z,13nm,0.8s						
ALFC	Alevga	148.06	309	⇓eP	PKPdf	21 34 04.2	+4.7
JLP	Les Platons	148.08	6	⇓eP	PKPdf	21 34 03.5	+4.4
JMOS	Jabal al Moall	148.09	297	P	PKPdf	21 34 01.7	+2.0
JVM	Valle D.L. Mar	148.10	6	⇓eP	PKPdf	21 34 03.7	+4.7
EIL	Elat	148.10	298	P	PKPdf	21 34 00.9	+1.2
JSA	Saint Aubin	148.13	6	eP	PKPdf	21 34 04.1	+5.0
EDRB	Edirne	148.13	325	eP	PKPdf	21 34 04.8	+5.5
JRS	Jersey	148.13	6	⇓eP	PKPdf	21 34 03.7	+4.6
JRS				AMb	AMB	21 34 05.3	
	comp=Z,83nm,0.9s						
KZIT	Kziot	148.21	301	P	PKPdf	21 34 01.3	+1.4
GDZ	Gediz	148.22	318	iP	PKPdf	21 34 04.2	+4.6
ISP	Isparta	148.24	315	eP	PKPdf	21 34 04.7	+5.0
ISP	Isparta	148.24	315	ePKPbc	PKPdf	21 34 04.8	+5.1
ISP	Isparta	148.24	315	d iPKIKP	PKPdf	21 34 04.0	+4.3
MOA	Molln	148.24	345	⇓iP	PKPdf	21 34 04.8	+5.5
TKTP	Tekketepe	148.26	316	iP	PKPdf	21 34 04.0	+4.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BDAS	Al Bad'	148.27	296	P	PKPdf	21 34 01.7	+1.7
HAQS	Haql	148.27	297	P	PKPdf	21 34 01.7	+1.7
LANF	Langenberg	148.29	354	PKP	PKPdf	21 34 00.9	+1.5
STU	Stuttgart	148.33	352	ePKPdf	PKPdf	21 34 01.1	+1.7
STU				epPKPdf		21 35 43.7	
HDH	Heidenheim	148.36	350	⇓eP	PKPdf	21 34 04.9	+5.4
PPCY	Paphos	148.36	309	⇓P	PKPdf	21 34 04.6	+4.6
PPCY	Paphos	148.36	309	⇓eP	PKPdf	21 34 04.6	+4.6
BCK	Bucak	148.39	315	eP	PKPdf	21 34 05.2	+5.3
PKSM	Moragy	148.41	339	P	PKPdf	21 34 05.3	+5.6
BNT	Bandirma	148.43	321	eP	PKPdf	21 34 05.5	+5.6
DST	Dursunbey	148.46	320	eP	PKPdf	21 34 06.0	+6.0
MRMT	Marmara Adasi	148.46	322	eP	PKPdf	21 34 05.0	+5.0
LBG	Lerchenberg	148.49	352	⇓eP	PKPdf	21 34 05.5	+5.8
FUR	Furstenfeldbru	148.58	349	ePKPdf	PKPdf	21 34 01.0	+1.1
FUR				ePKPbc	PKPdf	21 34 05.7	+5.8
FUR				ePKPab	PKPab	21 34 10.3	-1.2
FUR	Furstenfeldbru	148.58	349	ePKP2	PKPab	21 34 05.7	-5.8
ANTB	Antalya	148.63	314	eP	PKPdf	21 34 06.2	+5.8
KHL	Karahalli	148.63	317	eP	PKPdf	21 34 07.3	+7.0
STR	Strasbourg	148.69	353	PKP	PKPdf	21 34 03.1	+3.1
FLN	La Foliniere	148.69	4	ePKIKP	PKPdf	21 34 01.2	+1.2
	comp=Z,44nm,1.0s						
BTOK	Tokmak	148.73	320	iP	PKPdf	21 34 06.5	+6.1
ROSF	Rostrenen	148.84	8	ePKIKP	PKPdf	21 34 01.1	+0.8
	comp=Z,42nm,1.1s						
BFO	Black Forest	148.88	353	ePKP2	PKPab	21 34 06.3	-6.4
LDF	La Druitiere	148.88	4	ePKIKP	PKPdf	21 34 01.5	+1.2
	comp=Z,38nm,1.0s						
BALB	Balikesir	148.89	320	eP	PKPdf	21 34 06.7	+6.1
WLS	Welschbruch	148.90	354	PKP	PKPdf	21 34 01.4	+1.0
CDF	Champ du Feu	148.91	354	ePKIKP	PKPdf	21 34 01.5	+1.1
MEZF	Maizieres J'vi	148.99	357	ePKIKP	PKPdf	21 34 02.0	+1.5
SGMF	Saint Gilles	149.01	7	ePKIKP	PKPdf	21 34 01.4	+0.8
	comp=Z,19nm,0.9s						
GUT	Gutenstein	149.03	352	⇓eP	PKPdf	21 34 06.5	+5.9
GRR	Gorron	149.04	5	ePKIKP	PKPdf	21 34 01.7	+1.1
	comp=Z,40nm,1.1s						
SPAK	Spaichingen	149.04	352	eP	PKPdf	21 34 06.8	+6.2
ECH	Echery	149.12	354	PKP	PKPdf	21 34 00.9	+0.2
LIBD	Limburg	149.14	354	eP	PKPdf	21 34 07.0	+6.2
PERS	Pernice	149.14	343	ePKPbc	PKPdf	21 34 06.4	+5.6
PERS				i		21 34 12.6	
MANT	Manisa	149.16	318	iP	PKPdf	21 34 07.8	+6.7
KBA	Koelnbreinsper	149.18	346	⇓iP	PKPdf	21 34 06.4	+5.5
GOLH	Golhisar	149.20	315	iP	PKPdf	21 34 06.5	+5.3
THEF	They Montfort	149.21	356	PKP	PKPdf	21 34 02.0	+1.1
ELL	Elmali	149.22	314	eP	PKPdf	21 34 08.1	+6.9
UBR	Uberruh	149.26	350	eP	PKPdf	21 34 07.2	+6.2
DENT	Denizli	149.27	316	eP	PKPdf	21 34 08.7	+7.4
QUIF	Quistinic	149.27	8	ePKIKP	PKPdf	21 34 01.8	+0.8
	comp=Z,20nm,0.9s						
KIZ	Kirchzarten	149.29	353	⇓eP	PKPdf	21 34 07.2	+6.2
DNZL	Cakiroluk	149.30	316	iP	PKPdf	21 34 08.9	+7.5
WATA	Walderalm	149.32	348	⇑iP	PKPdf	21 34 07.1	+6.0
FELD	Feldberg	149.36	353	⇓eP	PKPdf	21 34 07.5	+6.4
FELD	Feldberg	149.36	353	PKP	PKPdf	21 34 02.0	+0.9
WTTA	Wattenberg	149.38	348	⇓iP	PKPdf	21 34 07.7	+6.5
AKS	Akhisar	149.40	319	eP	PKPdf	21 34 07.9	+6.4
HAU	Haudompre	149.40	355	ePKIKP	PKPdf	21 34 02.3	+1.1
MOTA	Moosalm	149.41	349	⇑iP	PKPdf	21 34 07.9	+6.7
MOF	Molkenrain	149.48	354	PKP	PKPdf	21 34 02.9	+1.6
SQTA	Sankt Quirin	149.50	348	⇓iP	PKPdf	21 34 08.1	+6.7
HINF	Hinteralfeld	149.54	354	ePKIKP	PKPdf	21 34 02.6	+1.2
DAVA	Damuels	149.68	350	⇓iP	PKPdf	21 34 08.4	+6.7
AKAS	Kas	149.69	313	iP	PKPdf	21 34 07.1	+5.0
EZN	Ezine	149.71	322	eP	PKPdf	21 34 07.9	+5.9
AYVA	Ayvalik	149.82	321	iP	PKPdf	21 34 09.8	+7.6
BBS	Basel-Blauen	149.82	353	⇓eP	PKPdf	21 34 08.7	+6.8
BBS	Basel-Blauen	149.82	353	PKP	PKPdf	21 34 03.3	+1.4
LJU	Ljubljana	149.84	343	ePKPbc	PKPdf	21 34 08.5	+6.5
LOMF	Lomont	150.01	354	PKP	PKPdf	21 34 03.3	+1.1
IZM	Izmir	150.03	319	eP	PKPdf	21 34 09.7	+7.2
DALT	Dalyan (Mudla)	150.07	315	eP	PKPdf	21 34 09.2	+6.5
AYDN	Tasoluk	150.07	317	iP	PKPdf	21 34 10.1	+7.5
JAVS	Javornik	150.11	344	iPKPbc	PKPdf	21 34 08.9	+6.5
JAVS				e		21 34 15.4	
YER	Yerkesik	150.11	316	eP	PKPdf	21 34 10.1	+7.4
BOJS	Bojanci	150.13	342	ePKPbc	PKPdf	21 34 09.6	+7.2
BOJS				i		21 34 16.2	
DAVOX	Davos	150.17	350	PKP	PKPdf	21 34 04.5	+2.1
	comp=Z,128nm,0.9s,baz=122,slow=18,SNR=7.5						
DAVOX				PKPbc	PKPdf	21 34 09.9	+7.5
	comp=Z,236nm,0.7s,baz=89,slow=1.6,SNR=62						
BLCB	Balcova	150.18	319	eP	PKPdf	21 33 59.3	-3.4
LOR	Lormes	150.27	358	ePKIKP	PKPdf	21 34 03.9	+1.3
	comp=Z,6.1nm,0.6s						
HYF	Humbligny	150.29	360	ePKIKP	PKPdf	21 34 04.2	+1.6
MLSB	Milas	150.35	317	eP	PKPdf	21 34 10.5	+7.5
SSF	Saint Saulge	150.49	359	ePKIKP	PKPdf	21 34 04.3	+1.4
	comp=Z,10.0nm,0.7s						
BDRM	Kayabasi	150.70	317	iP	PKPdf	21 34 11.2	+7.6
LCHF	La Chataignera	150.75	5	PKP	PKPdf	21 34 03.4	+0.1
AVF	Avril sur Loir	150.76	359	ePKIKP	PKPdf	21 34 04.4	+1.1
	comp=Z,32nm,1.5s						
LRYF	La Roche-sur-Y	150.77	6	PKP	PKPdf	21 34 03.4	0.0
BODT	Bodrum	150.79	317	eP	PKPdf	21 34 10.1	+6.4
CABF	La Chapelle	150.81	355	ePKIKP	PKPdf	21 34 05.2	+1.8
MFF	Saint Martin d	150.86	4	ePKIKP	PKPdf	21 34 04.7	+1.2
	comp=Z,60nm,1.2s						
SMF	Signal de Mont	150.90	358	ePKIKP	PKPdf	21 34 04.5	+1.0
	comp=Z,52nm,1.5s						
BGF	Bois d'Agland	151.00	360	ePKIKP	PKPdf	21 34 05.1	+1.4
	comp=Z,25nm,1.0s						
OG01	Vacheresse	151.03	354	PKP	PKPdf	21 34 06.7	+2.9
OG01	Vacheresse	151.03	354	PKP	PKPdf	21 34 01.8	-2.0
OG01				PKP	PKPdf	21 34 06.7	+2.9
NVLJ	Novalja	151.10	342	iP	PKPdf	21 34 10.9	+7.0
TCF	Toulx Ste Croi	151.27	1	ePKIKP	PKPdf	21 34 05.3	+1.2
	comp=Z,30nm,1.0s						
OG05	Jujurieux	151.42	356	PKP	PKPdf	21 34 06.2	+1.9
AGO	Saint Agoulin	151.50	359	PKP	PKPdf	21 34 07.2	+2.8
PLDF	La Plantade	151.58	359	PKP	PKPdf	21 34 06.7	+2.2
PYM	Petit Puy Mans	151.81	359	PKP	PKPdf	21 34 08.0	+3.1
VERF	Verneugheol	151.81	0	PKP	PKPdf	21 34 06.5	+1.6
LPL	La Plagne	151.83	354	ePKIKP	PKPdf	21 34 06.8	+1.9
LPG	La Plagne	151.85	354	ePKIKP	PKPdf	21 34 06.8	+1.9
COLF	Collangettes	152.03	358	PKP	PKPdf	21 34 06.5	+1.3
GRN	Grenoble	152.19	355	PKP	PKPdf	21 34 07.3	+1.9
RJF	Les Rejaudoux	152.24	2	ePKIKP	PKPdf	21 34 06.9	+1.4
	comp=Z,51nm,1.0s						
BNI	Bardonecchia	152.30	354	ePKPdf	PKPdf	21 34 08.4	+2.9
BNI				ePKPbc	PKPdf	21 34 15.7	+10
BNI				epPKPdf		21 35 47.8	
LBL	Lubilhac	152.32	359	PKP	PKPdf	21 34 07.6	+2.0
ORIF	Oris-en-Rattie	152.50	355	ePKIKP	PKPdf	21 34 07.5	+1.6
LFF	La Frestale	152.57	3	ePKIKP	PKPdf	21 34 07.2	+1.2
	comp=Z,25nm,0.9s						
MBDF	Montbardon	152.61	354	ePKIKP	PKPdf	21 34 07.9	+1.9
CAF	Calviac	152.63	1	ePKIKP	PKPdf	21 34 07.7	+1.7
	comp=Z,28nm,1.1s						
VIVF	Saint-Julien-l	152.65	357	ePKIKP	PKPdf	21 34 08.0	+1.9
	comp=Z,32nm,1.2s						
SURF	Saint Ours	152.85	353	PKP	PKPdf	21 34 08.1	+1.7
OG25	Le Caire	153.03	355	PKP	PKPdf	21 34 06.2	-0.4
SAOF	Saorge	153.25	352	PKP	PKPdf	21 34 10.0	+3.1
AUTN	L'Aution	153.25	352	PKP	PKPdf	21 34 08.9	+1.9
SBF	Sospel	153.38	352	ePKIKP	PKPdf	21 34 08.5	+1.4
MVIF	Mont Vial	153.38	353	PKP	PKPdf	21 34 10.0	+2.9
IDI	Anoyia	153.41	316	PKPbc	PKPdf	21 34 16.9	+9.5
	comp=Z,24nm,0.5s,baz=281,slow=2.9,SNR=6.2						
IDI				PKPab	PKPab	21 34 31.0	-1.0
	comp=Z,55nm,0.8s,baz=156,slow=8.2,SNR=5.7						
LASF	Ste Croix	153.46	358	ePKIKP	PKPdf	21 34 09.2	+2.0
	comp=Z,27nm,1.0s						
SMRF	Simiane la Rot	153.47	355	ePKIKP	PKPdf	21 34 08.9	+1.7
FRF	La Foret Royal	153.78	353	ePKIKP	PKPdf	21 34 08.6	+0.9
LMR	La Mourre	154.01	354	ePKIKP	PKPdf	21 34 09.2	+1.2
	comp=Z,45nm,1.2s						
MTLF	Montolieu	154.21	1	ePKIKP	PKPdf	21 34 09.7	+1.4
	comp=Z,34nm,1.2s						
SJPF	Ste Jean	154.23	7	ePKIKP	PKPdf	21 34 08.8	+0.5
	comp=Z,31nm,1.3s						
PGF	Pioggiola	154.43	349	ePKIKP	PKPdf	21 34 09.7	+1.1
	comp=Z,66nm,1.3s						
EPF	Esparros	154.45	4	ePKIKP	PKPdf	21 34 10.2	+1.6
	comp=Z,25nm,1.2s						
PBRG	Braganca	154.46	16	ePKPdf	PKPdf	21 34 09.9	+1.2
PBRG	Braganca	154.46	16	ePKPab	PKPab	21 34 35.1	-1.1
ETSF	Etsaut	154.51	5	ePKIKP	PKPdf	21 34 10.6	+1.9
	comp=Z,13nm,0.9s						
PVRL	Vila Real	154.66	18	ePKPab	PKPab	21 34 36.1	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MTE	Manteigas	155.52	19	ePKPab	PKPab	21 34 38.8	-2.0
PTOM	Tomar	155.94	21	ePKPab	PKPab	21 34 41.2	-1.4
PCBR	Castelo Branco	156.05	19	ePKPdf	PKPdf	21 34 11.4	+0.6
PCBR	Castelo Branco	156.05	19	ePKPab	PKPab	21 34 41.4	-1.7
EVO	Evora	157.05	22	ePKP2	PKPab	21 34 45.8	-1.6
	comp=Z,61nm,1.2s						
ESDC	Sonseca Array	157.15	13	PKP	PKPdf	21 34 14.2	+2.0
	comp=Z,2.3nm,0.8s,baz=356,slow=2.0,SNR=11						
ESDC				PKPbc	PKPdf	21 34 24.7	+12
	comp=Z,1.2nm,0.6s,baz=353,slow=1.9,SNR=5.0						
ESDC				PKPab	PKPab	21 34 46.7	-1.1
	comp=Z,13nm,1.1s,baz=349,slow=4.0,SNR=14						
PBEJ	Beja	157.55	22	ePKPdf	PKPdf	21 34 14.7	+1.9
PBEJ	Beja	157.55	22	ePKPab	PKPab	21 34 48.9	-0.7
MDT	Midelt	163.38	22	PKP	PKPdf	21 34 22.1	+2.9
	comp=Z,13nm,0.8s,baz=14,slow=1.8,SNR=24						
MDT				PKPbc	PKPdf	21 34 36.0	+17
	comp=Z,5.8nm,0.8s,baz=299,slow=0.7,SNR=7.1						
MDT				PKPab	PKPab	21 35 15.0	+0.1
	comp=Z,10nm,0.9s,baz=334,slow=3.6,SNR=7.6						
LIC	Lamto	166.54	145	⇑iPKIKP	PKPdf	21 34 23.3	+0.7
	comp=Z,46nm,0.9s						
DBIC	Dimbokro	167.01	145	PKP	PKPdf	21 34 24.1	+1.2
	comp=Z,10nm,0.6s,baz=112,slow=2.8,SNR=18						
DBIC				PKPab	PKPab	21 35 30.9	-0.3
	comp=Z,25nm,0.9s,baz=192,slow=6.4,SNR=10						

MAN 12 21:29:25.5, 9.89N×125.58E, h119km, mb4.4, ML3.2, MS3.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.14	219	eP	P	21 29 43.5	+1.5
SCPH				eS	S	21 29 56.7	+2.4
MSLP	Maasin	0.75	289	eP	P	21 29 47.1	+1.9
MSLP				eS	S	21 30 03.6	+3.3
BUTP	Butuan	0.92	177	eP	P	21 29 47.4	+0.5
BUTP				eS	S	21 30 06.2	+3.3
BESP	Borongan	1.71	355	eP	P	21 29 56.5	+0.8
BESP				eS	S	21 30 20.7	+2.1
BUKP	Musuan	2.06	194	eP	P	21 30 00.5	+0.3
BUKP				eS	S	21 30 24.9	-1.5
CNP	Catarman	2.75	341	eP	P	21 30 07.9	-1.5
CNP				eS	S	21 30 43.3	+0.7
PAGZ	Pagadian	2.97	227	eP	P	21 30 12.4	+0.1
GUIM	Jordan	3.03	284	eP	P	21 30 13.0	-0.1

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*ROM **12** 21:30:50.7±0.7, 38.91N×20.18E, h12km, Md4.0/5, Ml4.6/16, Error ellipse: s-maj=10.8km s-min=2.8km az=79.0*
*NEIC **12** 21:30:51.9, 38.92N×20.10E, h21km, mb4.1/1, ML4.1(THE), ML4.1(ATH), After ATH.*
*MOS **12** 21:30:51.1±0.9, 39.02N×20.03E, h10km, mb4.2/1, Error ellipse: s-maj=5.1km s-min=4.0km az=82.2*
*HLW **12** 21:30:51.7, 38.71N×19.97E, h17km, Mb3.8*
*ATH **12** 21:30:52.1, 38.92N×20.23E, h11km±2km, MD4.3/10, ML4.1*
*THE **12** 21:30:53.1, 38.94N×20.25E, h10km, ML4.3*
*IDC **12** 21:30:53.7±3.3, 38.95N×20.17E, h33km±28km, mb3.7/6, mb1 4.0/11, mb1mx3.9/24, mbtmp3.9/11, ML4.1/5, MS3.7/1, Ms1 3.7/1, ms1mx2.9/29, Error ellipse: s-maj=21.2km s-min=16.8km az=12.0*
*PDG **12** 21:30:53.5±1.0, 39.02N×20.20E, h30km±7km*
*CSEM **12** 21:30:55.1±0.1, 39.05N×20.17E, h60km, mb3.9/1, ML5.1/5, Ms4.0, Error ellipse: s-maj=1.7km s-min=1.0km az=21.0*
*VIE **12** 21:31:03.5±4.6, 39.90N×19.89E, h10km, mb3.8/4, Ms4.0/4, Error ellipse: s-maj=50.1km s-min=11.4km az=157.0*

ISC 12 21:30:53.1±0.4**, 38.99N**±0.02×**20.12E**±0.02**, h29**km±5km**, n186, σ1.29**/229**, mb4.0**/6**, MS3.6**/1**, 16C-15D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.50	124	ePg	Pb	21 31 00.4	-3.2
KEK	Kerkira	0.76	341	⇑iPB	Pb	21 31 08.4	+0.6
KEK	Kerkira	0.76	341	Pg	Pb	21 31 07.9	+0.1
KEK				Sg	Sb	21 31 20.9	+3.0
	22μm,0.9s						
KEK	Kerkira	0.76	341	⇑iPn	Pn	21 31 07.8	-0.2
KEK				eSn	Sn	21 31 20.7	+2.1
JAN	Janina	0.88	40	⇓iPB	Pb	21 31 08.5	-1.2
JAN	Janina	0.88	40	⇓iPn	Pn	21 31 08.6	-1.0
JAN				eSn	Sn	21 31 23.1	+1.7
VLS	Valsamata	0.89	155	ePB	Pb	21 31 07.5	-2.4
VLS	Valsamata	0.89	155	ePb	Pb	21 31 07.3	-2.6
SRN	Sarande	0.89	354	ePg	Pn	21 31 10.5	+0.6
SRN				iSg	Sb	21 31 25.9	+4.3
MEV	Metsovon	1.17	47	ePg	Pn	21 31 14.7	+0.8
LSK	Leskovik	1.22	18	ePn	Pn	21 31 16.2	+1.7
LSK				iSn	Sn	21 31 35.6	+5.5
TPE	Tepelena	1.31	356	ePn	Pn	21 31 18.2	+2.4
TPE				iSn	Sn	21 31 39.5	+7.1
EVR	Evrytania	1.32	93	ePB	Pb	21 31 16.0	-1.2
EVR	Evrytania	1.32	93	ePn	Pn	21 31 16.9	+0.9
EVR				eSn	Sn	21 31 37.7	+5.0
RLS	Riolos of Patr	1.41	131	ePB	Pb	21 31 18.2	-0.5
VLO	Vlora	1.55	342	ePn	Pn	21 31 24.1	+4.8
KBN	Korca	1.71	17	ePn	Pn	21 31 25.4	+3.8
KBN				iSn	Sn	21 31 51.9	+9.2
AGG	Agios Georgios	1.73	88	ePb	Pb	21 31 24.1	+0.1
	comp=Z,39nm,0.3s						
KZN	Kozani	1.83	44	ePN	Pn	21 31 24.9	+1.6
KZN				eSN	Sn	21 31 50.5	+4.7
FNA	Florina	2.04	28	ePn	Pn	21 31 28.1	+1.9
	comp=Z,36nm,0.3s						
FNA				eSn	Sn	21 31 56.5	+5.5
LCI	Lecce	2.05	312	Pg	Pn	21 31 26.8	+0.4
LIT	Litokhoron	2.15	58	ePn	Pn	21 31 28.5	+0.7
	comp=Z,25nm,0.4s						
LKR	Lokris	2.28	98	ePN	Pn	21 31 30.8	+1.1
ITM	Ithomi	2.30	141	ePN	Pn	21 31 30.8	+0.8
ITM	Ithomi	2.30	141	ePb	Pb	21 31 31.5	-2.4
TIR	Tirane	2.36	355	ePn	Pn	21 31 33.0	+2.1
TIR				iSn	Sn	21 32 02.0	+2.8
TIR	Tirane	2.36	355	Pg	Pn	21 31 32.9	+2.0
	7μm,1.2s						
TIR				iSn	Sn	21 32 02.0	+2.8
XOR	Xorichti	2.42	80	ePn	Pn	21 31 33.1	+1.4
NEO	Neokhori	2.44	82	ePN	Pn	21 31 32.6	+0.7
QSH	Qafa e Shtames	2.54	356	iPn	Pn	21 31 35.0	+1.7
QSH				iSn	Sn	21 32 02.5	-1.1
TIP	Timpagrande	2.62	275	Pg	Pn	21 31 35.1	+0.5
	3μm,1.4s						
GRG	Griva	2.63	41	ePn	Pn	21 31 35.2	+0.5
MGER	Gerania Oros	2.66	111	ePN	Pn	21 31 36.8	+1.6
MGER	Gerania Oros	2.66	111	ePb	Pb	21 31 37.0	-3.0
THE	Thessaloniki	2.74	52	ePn	Pn	21 31 37.0	+0.8
THE				eSn	Sn	21 32 14.6	+5.9
PE1	Pezze di Greco	2.75	312	ePn	Pn	21 31 36.3	-0.2
NSAL	Nisos Salamina	2.84	111	ePN	Pn	21 31 39.2	+1.5
NSAL	Nisos Salamina	2.84	111	ePb	Pb	21 31 39.5	-3.5
GRI	Girifalco	2.89	268	Pg	Pn	21 31 37.8	-0.6
	1μm,0.9s						
PLG	Polygyros	2.92	61	ePN	Pn	21 31 39.1	+0.3
PLG	Polygyros	2.92	61	ePn	Pn	21 31 38.7	-0.1
NAIG	Nisos Aigina	2.92	114	ePB	Pb	21 31 40.5	-3.9
BRT	Bari-Castellan	2.93	311	Pg	Pn	21 31 39.2	+0.3
AOS	Alonnisos	2.94	85	ePn	Pn	21 31 39.1	+0.1
MPAR	Parnis Oros	2.96	105	ePB	Pb	21 31 40.5	-4.5
NOCI	Noci	2.96	308	Pg	Pn	21 31 40.1	+0.7
	4μm,0.6s						
ATH	Athens Observa	3.00	109	ePN	Pn	21 31 40.3	+0.3
TDS	Terranova Siba	3.01	284	Pg	Pn	21 31 41.4	+1.4
LTRZ	Laterza	3.01	303	Pg	Pn	21 31 39.7	-0.4
ORI	Oriolo Calabro	3.03	292	Pg	Pn	21 31 40.8	+0.4
KNT	Kendrikon	3.04	44	ePn	Pn	21 31 41.0	+0.4
	comp=Z,7.7nm,0.3s						
ULC	Ulcinj	3.04	348	⇓iPn	Pn	21 31 40.1	-0.5
ULC				eSn	Sn	21 32 16.1	-0.3
SOH	Sokhos	3.09	53	ePn	Pn	21 31 41.6	+0.4
KKS	Kukesi	3.09	4	ePn	Pn	21 31 42.4	+1.2
SKO	Skopje	3.15	18	iPn	Pn	21 31 43.3	+1.3
SKO				iPg	Pn	21 31 52.6	+11
SKO				i		21 32 00.3	
SKO				iSn	Sn	21 32 20.0	+1.0
SKO				iSb	Sb	21 32 29.0	+2.5
SKO				iSg	Sn	21 32 31.8	+13
SKO				Lg		21 32 42.5	
	comp=Z,0.3nm,0.9s						

SKO	Skopje	3.15	18	i Pn	Pn	21 31 43.3	+1.3
SKO				i S	Sn	21 32 20.0	+1.0
VLI	Veliai	3.18	135	ePB	Pb	21 31 43.8	-5.0
SG1	Sgolgore (BA)	3.23	306	ePn	Pn	21 31 43.0	-0.2
BAI	Bari	3.26	311	ePn	Pn	21 31 43.9	+0.2
OUR	Ouranopolis	3.27	65	ePn	Pn	21 31 44.2	+0.4
OUR	Ouranopolis	3.27	65	ePn	Pn	21 31 44.2	+0.4
AMUR	Altamura	3.31	306	Pg	Pn	21 31 44.3	-0.1
	comp=Z,828nm,0.6s						
SOI	Samo	3.31	255	Pg	Pn	21 31 44.6	+0.2
BCI	Bajram Curri	3.37	359	ePn	Pn	21 31 46.2	+0.9
BCI				i Sn	Sn	21 32 21.2	-3.6
CEL	Celeste	3.39	259	Pg	Pn	21 31 45.3	-0.1
	comp=Z,1μm,0.8s						
SRS	Serrai	3.41	50	ePn	Pn	21 31 45.7	-0.1
BUM	Brajici-Budva	3.44	345⇓	iPn	Pn	21 31 45.3	-0.9
BUM				eSn	Sn	21 32 25.6	-0.7
CUC	Castrocucco	3.48	288	Pg	Pn	21 31 48.9	+2.2
	comp=Z,2μm,0.7s						
TTG	Podgorica	3.50	350⇑	iPn	Pn	21 31 46.7	-0.3
TTG				eSn	Sn	21 32 27.0	-0.9
SCLL	Scilla	3.52	259	Pg	Pn	21 31 47.8	+0.4
	comp=Z,546nm,0.6s						
KYTH	Kithira	3.56	138	ePN	Pn	21 31 49.0	+1.1
PVY	Plav	3.60	358⇓	iPn	Pn	21 31 49.4	+0.8
PVY				eSn	Sn	21 32 29.9	-0.8
MTTG	Motta San Giov	3.61	256	Pg	Pn	21 31 48.5	-0.1
	comp=Z,935nm,0.6s						
CDT	Castel del Mon	3.62	307	ePn	Pn	21 31 48.9	+0.2
KKB	Krupnik	3.66	37	P	Pn	21 31 50.0	+0.7
HCY	Herceg Novi	3.67	341⇓	iPn	Pn	21 31 48.0	-1.5
HCY				eSn	Sn	21 32 30.9	-1.3
MSRU	Castanea	3.68	260	Pg	Pn	21 31 49.6	0.0
	comp=Z,1μm,0.5s						
MGR	Morigerati	3.71	289	Pg	Pn	21 31 51.0	+1.0
	comp=Z,601nm,0.8s						
NVR	Nevrokopi	3.71	49	ePN	Pn	21 31 50.3	+0.2
NVR	Nevrokopi	3.71	49	ePn	Pn	21 31 50.2	+0.1
SLCN	Sala Consilina	3.73	293	Pg	Pn	21 31 51.5	+1.2
	comp=Z,432nm,0.5s						
MMB	Musomiste	3.79	46	P	Pn	21 31 51.0	-0.2
IVA	Berane	3.88	358⇓	iPn	Pn	21 31 52.9	+0.4
IVA				eSn	Sn	21 32 36.3	-1.4
NKY	Niksic	3.91	348	ePn	Pn	21 31 52.2	-0.7
NKY				eSn	Sn	21 32 37.2	-1.2
LOS	Limnos	3.96	75	ePn	Pn	21 31 54.1	+0.5
MRLC	Muro Lucano	3.97	298	Pg	Pn	21 31 55.0	+1.2
VULT	Monte Vulture	3.98	301	Pg	Pn	21 31 55.1	+1.3
	comp=Z,2μm,0.6s						
SGO	Sicignano	4.02	294	Pg	Pn	21 31 55.3	+0.8
LIA	Limnos Island	4.03	75	ePN	Pn	21 31 55.3	+0.8
BARS	Barje	4.04	18⇑	iPn	Pn	21 31 54.2	-0.5
BARS				Sn	Sn	21 32 40.9	-0.8
VPL	Vulcano Piano	4.06	263	Pg	Pn	21 31 54.3	-0.8
	comp=Z,1μm,0.5s						
BRY	Bratogost	4.08	344⇓	iPn	Pn	21 31 54.3	-1.1
BRY				eSn	Sn	21 32 42.2	-0.7
FG4	Candela	4.13	303	Pg	Pn	21 31 55.4	-0.6
	comp=Z,1μm,0.8s						
FGMS	Monte Sant'Ang	4.18	312	Pg	Pn	21 31 56.8	0.0
	comp=Z,147nm,0.3s						
MCRV	Calabrutti - M	4.21	297	Pg	Pn	21 31 58.8	+1.7
	comp=Z,498nm,0.4s						
SNAL	S. Angelo Dei	4.24	299	Pg	Pn	21 31 59.1	+1.6
	comp=Z,571nm,0.8s						
CAFE	Carife	4.26	300	Pg	Pn	21 31 58.9	+1.0
	comp=Z,622nm,0.5s						
VTS	Vitosha	4.30	32	P	Pn	21 31 59.0	+0.6
UPM	Unac-Piva	4.31	348⇑	iPn	Pn	21 31 58.4	-0.2
UPM				eSn	Sn	21 32 46.7	-1.8
CSSN	Cassano Irpino	4.34	297	Pg	Pn	21 32 00.2	+1.2
	comp=Z,163nm,0.4s						
PLE	Pljevlja	4.37	353⇓	iPn	Pn	21 31 59.4	-0.1
PLE				eSn	Sn	21 32 47.8	-2.3
RGNG	Rignano Grg	4.38	309	Pg	Pn	21 31 59.0	-0.5
RZN	Rozhen	4.43	51	P	Pn	21 32 01.0	+0.7
NVSS	Nova Varos 2	4.53	356⇓	iPn	Pn	21 32 00.6	-1.0
NVSS				Sn	Sn	21 32 52.0	-2.0
IPES	Pescosannita	4.63	301	Pg	Pn	21 32 04.4	+1.3
PLD	Plovdiv	4.68	47	eP	Pn	21 32 07.0	+3.2
RDO	Rodhopi	4.68	61	ePN	Pn	21 32 03.4	-0.5
PGB	Panagyurishte	4.70	40	P	Pn	21 32 04.0	-0.1
FG2	Serracapriola	4.71	308	Pg	Pn	21 32 04.2	-0.1
	comp=Z,681nm,0.6s						
ISOR	Termini	4.73	291	Pg	Pn	21 32 03.8	-0.7
VAE	Valguarnera	4.74	253	Pn	Pn	21 32 04.1	-0.5
	comp=Z,1.8nm,0.3s,baz=173,slow=3.5,SNR=4.2						
VAE				Sn	Sn	21 32 58.5	-0.8
	comp=Z,20nm,0.3s,baz=58,slow=7.3,SNR=9.5						
OVO	Vesuviano	4.76	294	Pg	Pn	21 32 06.4	+1.4
CIGN	Sant'Elia a Pi	4.79	305	Pg	Pn	21 32 06.6	+1.2
SACR	S. Croce Del S	4.79	302	Pg	Pn	21 32 07.0	+1.6
	comp=Z,202nm,0.8s						
PRK	Paraskevi	4.79	85	ePN	Pn	21 32 06.5	+1.1
VAM	Vamos	4.84	136	ePN	Pn	21 32 05.2	-0.8
KDZ	Kurdzhali	4.84	55	eP	Pn	21 32 09.0	+2.9
GRUS	Gruza	4.92	5	i Pn	Pn	21 32 07.0	-0.1
BSSO	Busso	4.94	303	Pg	Pn	21 32 08.3	+0.9
	comp=Z,163nm,0.6s						
ALN	Alexandroupoli	4.94	65	ePn	Pn	21 32 07.0	-0.5
TRIV	Trivento	5.08	305	Pg	Pn	21 32 09.9	+0.5
DIVS	Divcibare	5.11	359⇓	iPn	Pn	21 32 08.0	-1.8
DIVS				Sn	Sn	21 33 04.5	-4.1
DIVS	Divcibare	5.11	359	Pn	Pn	21 32 08.0	-1.8
DIVS				Sn	Sn	21 33 04.4	-4.1
VAGA	Valle Agricola	5.11	300	Pg	Pn	21 32 10.8	+0.9
DIM	Dimitrovgrad	5.14	52	eP	Pn	21 32 12.0	+1.8
MIDA	Miranda	5.21	302	Pg	Pn	21 32 11.8	+0.6
	comp=Z,178nm,0.4s						
CII	Carovilli	5.21	303	Pg	Pn	21 32 12.3	+1.0
	comp=Z,142nm,0.4s						
GVD	Gavdhos	5.22	141	ePn	Pn	21 32 09.6	-1.9
	comp=Z,20nm,0.6s						
GVD				eSn	Sn	21 33 07.0	-4.5
GVD	Gavdhos	5.22	141	ePn	Pn	21 32 09.6	-1.8
	comp=Z,20nm,0.6s						
GVD				eSn	Sn	21 33 07.0	-4.5
IDI	Anoyia	5.31	133	Pn	Pn	21 32 09.6	-3.1
	comp=Z,1.7nm,0.3s,baz=322,slow=16,SNR=23						
IDI				Sn	Sn	21 33 09.2	-4.5
	comp=Z,2.7nm,0.3s,baz=74,slow=20,SNR=3.3						
WDD	Wield Dalam	5.43	237	Pg	Pn	21 32 13.1	-1.3
	comp=Z,439nm,0.5s						
INTR	Introdacqua	5.62	304	Pg	Pn	21 32 17.3	+0.3
	comp=Z,209nm,0.8s						
VVLD	Villa Vallelon	5.73	302	Pg	Pn	21 32 20.1	+1.5
	comp=Z,230nm,1.0s						
NPS	Neapolis	5.75	129	ePn	Pn	21 32 20.5	+1.6
PVL	Pavlikeni	5.78	41	eP	Pn	21 32 19.0	-0.2
BEO	Belgrade	5.83	2⇑	iPn	Pn	21 32 18.0	-2.1
BEO				Sn	Sn	21 33 20.7	-6.1
FAGN	Fagnano	5.95	305	Pg	Pn	21 32 22.6	+0.9
	comp=Z,189nm,0.5s						
AQU	L'Aquila	6.11	305	ePn	Pn	21 32 24.3	+0.3
	comp=Z,105nm,0.8s						
AQU				eSn	Sn	21 33 36.8	+3.0
AQU	L'Aquila	6.11	305	ePn	Pn	21 32 24.3	+0.3
	comp=Z,105nm,0.8s						
AQU	L'Aquila	6.11	305	eP	Pn	21 32 24.3	+0.3
AQU				e		21 33 36.8	
AQU				pmax	pmax		
	comp=Z,105nm,0.8s						
TERO	Teramo	6.13	308	Pg	Pn	21 32 23.9	-0.4
	comp=Z,83nm,0.6s						
BLY	Banja Luka	6.16	340	P	Pn	21 32 23.9	-0.7
BLY				S	Sn	21 33 35.5	+0.6
KARP	Karpathos	6.58	119	ePN	Pn	21 32 30.0	-0.7
MNS	Montasola	6.59	303	Pg	Pn	21 32 30.9	+0.2
	comp=Z,39nm,0.7s						
NVLJ	Novalja	6.81	327	i Pn	Pn	21 32 31.5	-2.3
CING	Cingoli	6.81	312	Pg	Pn	21 32 32.5	-1.4
	comp=Z,77nm,0.9s						
SNTG	Esanatoglia	6.89	310	Pg	Pn	21 32 33.8	-1.2
	comp=Z,88nm,0.8s						
ARG	Arkhangelos	6.93	111	eP	Pn	21 32 38.0	+2.4
PKSM	Moragy	7.30	352⇓	iP	Pn	21 32 37.7	-3.0
BOJS	Bojanci	7.44	333	ePn	Pn	21 32 40.6	-2.1
BOJS				eSn	Sn	21 34 02.4	-4.6
PSN	Preselentsi	7.67	50	eP	Pn	21 32 59.4	+14
KNDS	Knezji Dol	7.79	329	ePn	Pn	21 32 45.4	-2.2
MLR	Muntele Rosu	7.80	32	Pn	Pn	21 32 47.8	+0.1
	comp=Z,0.4nm,0.3s,baz=206,slow=5.4,SNR=20						
LJU	Ljubljana	8.17	331	i Pn	P	21 32 51.0	-1.8
VSL	Villasalto	8.35	277	ePn	P	21 32 56.7	+1.4
VOY	Vojsko	8.40	329	ePn	P	21 32 53.3	-2.8
VOY				eSn	Sn	21 34 23.2	-7.8
PERS	Pernice	8.48	336	ePn	P	21 32 53.8	-3.3
OBKA	Obir	8.56	333⇑	iPN	P	21 32 56.1	-2.1
SLUM		8.56	149	⇓P	P	21 32 52.5	-5.8
ROBS	Robic	8.73	328	ePn	P	21 32 58.1	-2.5
ARSA	Arzberg	8.91	339⇑	iPN	P	21 32 59.9	-3.2
PSZ	Piszkesteto	8.93	359⇑	i	P	21 33 00.8	-2.5
HMAT	Matruh	9.73	142	⇑P	P	21 33 08.9	-5.5
MOA	Molln	9.82	336⇑	iPN	P	21 33 12.7	-2.9
WTTA	Wattenberg	10.33	326⇑	iPN	P	21 33 20.4	-2.1
WATA	Walderalm	10.41	326⇑	iPN	P	21 33 21.0	-2.7
BRTR	Keskin Array B	10.50	82	Pn	P	21 33 25.4	+0.4
	baz=270,slow=12,SNR=2.3						
MOTA	Moosalm	10.63	325⇑	iPN	P	21 33 24.8	-1.8
SWA2		10.68	154	⇑P	P	21 33 21.3	-6.1
SWA1		10.75	153	⇑P	P	21 33 22.4	-6.0
SWA1				S	S	21 35 12.7	-16
GERES	GERESS Array B	10.88	337	Pn	P	21 33 27.2	-2.9
	comp=Z,0.9nm,0.3s,baz=159,slow=14,SNR=30						
TOKT	Tokat	12.73	79	eP	P	21 33 50.7	-4.4
ARNB	Al Arnab	12.98	99⇓	iP	P	21 33 57.3	-1.1
COBT	Iskenderun	13.01	96	i P	P	21 33 54.8	-4.0
HTY	Hatay	13.03	98	eP	P	21 33 55.9	-3.1
SWS	Schriesheim	13.29	326⇓	eP	P	21 34 03.1	+0.7
ESDC	Sonseca Array	18.63	280	P	P	21 35 10.7	0.0
	comp=Z,0.5nm,0.3s,baz=73,slow=11,SNR=13						
HFS	Hagfors	21.55	351	P	P	21 35 42.2	+0.2
	comp=Z,6.5nm,0.8s,mb4.1,baz=149,slow=8.6,SNR=5.7						
EKA	Eskdalemuir Ar	22.59	324	P	P	21 35 51.8	-0.5
	comp=Z,9.2nm,0.7s,mb4.3,baz=122,slow=11,SNR=14						
NB2	NORSAR Subarra	22.76	349	P	P	21 35 53.7	-0.2
	comp=Z,4.8nm,0.8s,mb4.0,baz=154,slow=10						
NB2	NORSAR Subarra	22.76	349	P	P	21 35 53.7	-0.2
NB2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
NOA	NORSAR Array B	22.76	349	P	P	21 35 53.4	-0.6
	comp=Z,2.1nm,0.7s,mb3.7,baz=158,slow=9.1,SNR=7.5						
ARCES	ARCESS Array B	30.74	4	LR	LR	21 50 41.0	
	comp=Z,128nm,19.9s,MS3.6,baz=214,slow=39						
MKAR	Makanchi Array	45.15	59	P	P	21 39 06.7	-2.1
	comp=Z,1.5nm,0.7s,mb3.9,baz=282,slow=7.4,SNR=6.3						
SONM	Songino Array	60.19	51	P	P	21 40 57.1	-3.5
	comp=Z,0.4nm,0.8s,mb3.5,baz=256,slow=5.9,SNR=3.6						
MJAR	Matsushiro Arr	85.65	45	P	P	21 43 29.6	-0.6
	comp=Z,0.4nm,0.4s,mb4.0,baz=297,slow=4.2,SNR=3.0						

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*IDC **12** 21:34:23.6±2.3, 44.55N×10.52E, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML3.9/5, Error ellipse: s-maj=23.4km s-min=19.6km az=133.0*

*STR **12** 21:34:26.2±0.5, 44.59N×10.15E, h10^{km}±1^{km}, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **12** 21:34:26.0, 44.57N×10.10E, h25^{km}, ML3.7(STR), ML3.7(LDG), ML3.4(GEN), ML3.2(ROM), After ROM.*

*ROM **12** 21:34:26.0±0.2, 44.57N×10.10E, h25^{km}±3^{km}, Md3.3/5, Ml3.2/2, Error ellipse: s-maj=3.6km s-min=3.3km az=136.0*

*GEN **12** 21:34:26.3, 44.67N×10.24E, h11^{km}, ML3.0*

*VIE **12** 21:34:26.8±0.1, 44.62N×10.34E, h10^{km}, mb3.2/2, ML3.6/8, Error ellipse: s-maj=1.6km s-min=1.2km az=100.0*

*LDG **12** 21:34:27.2±0.1, 44.58N×10.23E, h10^{km}, Ml3.7/19, Error ellipse: s-maj=3.3km s-min=2.8km az=99.0*

*CSEM **12** 21:34:27.0±0.1, 44.50N×10.32E, h40^{km}, ML3.7/12, Error ellipse: s-maj=1.6km s-min=1.2km az=164.0*

*BJI **12** 21:34:31.0, 44.60N×10.10E, h25^{km}, mB4.8, mb4.3, Ms4.6, Msz4.2*

ISC 12 21:34:26.2±0.2, **44.63N**±0.02×**10.15E**±0.02, **h29**^{km}±2^{km}, **n163**, σ1§**22**/235, **mb4.6**/2, **MS4.2**/2, **16C-4D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM		0.15	204	P	Pb	21 34 31.4	-0.5
GRAM				S	Sb	21 34 34.2	-1.5
ERBM	Eremo	0.28	139⇓	iPg	Pb	21 34 33.2	-0.1
VALM		0.29	167	P	Pb	21 34 32.8	-0.6
VALM				S	Sb	21 34 37.2	-1.1
CODM		0.32	222	P	Pb	21 34 33.8	-0.2
CODM				S	Sb	21 34 39.4	+0.3
BACM		0.36	189	P	Pb	21 34 33.5	-0.9
BACM				S	Sb	21 34 39.4	-0.5
GSCL	Gusciola	0.42	132	Pg	Pb	21 34 35.2	-0.1
SARO	Sassorosso	0.48	158	P	Pb	21 34 35.7	-0.5
SARO				S	Sb	21 34 42.4	-0.8
SARO	Sassorosso	0.48	158	P	Pb	21 34 35.7	-0.6
SARO	Sassorosso	0.48	158	P	Pb	21 34 35.7	-0.6
SARO				S	Sb	21 34 42.4	-0.7
VINC	Vinca	0.49	180	P	Pb	21 34 35.9	-0.5
VINC				S	Sb	21 34 42.5	-0.9
VINC	Vinca	0.49	180	P	Pb	21 34 35.9	-0.5
VINC	Vinca	0.49	180	P	Pb	21 34 35.9	-0.5
VINC				S	Sb	21 34 42.5	-0.9
VLC	Villacollemand	0.50	160	Pg	Pb	21 34 36.3	-0.3
VLC				Sg	Sb	21 34 43.8	+0.1
	3μm,1.1s						
BOB	Bobbio (Coli)	0.52	285	Pg	Pb	21 34 37.8	+0.9
BDI	Bagni Di Lucca	0.65	151	Pg	Pb	21 34 38.9	-0.1
BDI				Sg	Sb	21 34 48.3	+0.5
	1μm,0.6s						
ZCCA	Zocca	0.65	115	Pg	Pb	21 34 40.6	+1.6
PZZT	Monte Pizzetto	0.71	134	Pg	Pb	21 34 40.3	+0.3
PZZT				Sg	Sb	21 34 50.9	+1.4
MAIM		0.76	161	P	Pb	21 34 40.8	0.0
MAIM				S	Sb	21 34 50.4	-0.4
MAIM		0.76	161	P	Pb	21 34 40.8	0.0
MAIM				S	Sb	21 34 50.4	-0.4
FNVD	Fontana Vidola	0.83	123	Pg	Pb	21 34 42.8	+0.7
FNVD				Sg	Sb	21 34 56.5	+3.5
GENL	Genova Univers	0.88	256	P	Pn	21 34 43.3	+0.6
GENL				S	Sb	21 34 54.8	+0.7
GENL	Genova Univers	0.88	256	P	Pn	21 34 43.3	+0.6
PII	Pisa	0.95	164	Pg	Pn	21 34 44.0	+0.3
SAL	Salo	1.01	15	Pg	Pn	21 34 46.1	+1.5
PCP	Pian Castagno	1.15	266	P	Pn	21 34 48.4	+1.8
PCP				S	Sn	21 35 03.0	+1.4
PCP	Pian Castagno	1.15	266	P	Pn	21 34 48.4	+1.8
PCP				S	Sn	21 35 03.0	+1.5
GROG	Isola di Gorgo	1.22	189⇓	iPg	Pn	21 34 47.5	-0.1
PGD	Poggio Sodo	1.36	123	Pg	Pn	21 34 51.6	+2.0
SFI	Santa Sofia	1.42	120	Pg	Pn	21 34 53.2	+2.8
CSNT	Castellina Chi	1.42	144	Pg	Pn	21 34 51.6	+1.1
FIN	Finale Ligure	1.46	254	P	Pn	21 34 51.6	+0.6
FIN				S	Sn	21 35 08.6	-0.6
FIN	Finale Ligure	1.46	254	P	Pn	21 34 51.6	+0.6
FIN				S	Sn	21 35 08.6	-0.7
GRFL	Gerfalco	1.60	158	Pg	Pn	21 34 54.5	+1.5
IMI	Imperia	1.78	247	Pg	Pn	21 34 56.0	+0.4
IMI				Sg	Sn	21 35 19.8	+2.3
MONE	Monesi	1.81	253	P	Pn	21 34 56.8	+0.8
MONE				S	Sn	21 35 18.3	+0.1
MONE	Monesi	1.81	253	P	Pn	21 34 56.8	+0.8
MONE				S	Sn	21 35 18.3	+0.1
ORX	Oropa	1.83	304	P	Pn	21 34 57.0	+0.6
ORX				S	Sn	21 35 18.0	-0.9
ORX	Oropa	1.83	304	P	Pn	21 34 57.0	+0.6
TRAV		1.92	298	P	Pn	21 34 58.0	+0.4
TRAV				S	Sn	21 35 19.6	-1.4
TRAV		1.92	298	P	Pn	21 34 58.0	+0.4
NEGI	Negi	1.93	247	P	Pn	21 34 57.8	+0.1
NEGI				S	Sn	21 35 19.6	-1.6
NEGI	Negi	1.93	247	P	Pn	21 34 57.8	+0.1
SAOF	Saorge	1.97	252	Pn	Pn	21 34 59.2	+0.8
SAOF				Sg	Sn	21 35 25.3	+2.9
ARCI	Arcidosso	2.02	151	Pg	Pn	21 35 00.2	+1.1
AUTN	L'Aution	2.06	253	Pn	Pn	21 35 00.6	+1.0
STV2	Anna di Valdie	2.06	260	P	Pn	21 35 00.5	+0.8
STV2	Anna di Valdie	2.06	260	P	Pn	21 35 00.5	+0.8
BHB	Bricherasio	2.07	277	P	Pn	21 35 00.9	+1.1
BHB	Bricherasio	2.07	277	P	Pn	21 35 00.9	+1.1
SBF	Sospel	2.10	249	ePn	Pn	21 35 00.5	+0.3
SBF				eSn	Sn	21 35 25.8	+0.2
	386nm,0.5s						
RSP	Reno Superiore	2.12	285	P	Pn	21 35 00.4	-0.1
DAVOX	Davos	2.16	355	Pn	Pn	21 35 03.4	+2.4
	10nm,0.3s,baz=170,slow=14,SNR=20						
DAVOX				Sn	Sn	21 35 31.6	+4.5
	34nm,0.3s,baz=162,slow=23,SNR=6.8						
DAVOX				Lg		21 35 36.0	
	33nm,0.3s,baz=319,slow=22,SNR=5.5						
TOUF	Mont Tournerai	2.17	255	Pn	Pn	21 35 02.7	+1.4
REVF	Revere	2.19	247	Pn	Pn	21 35 02.3	+0.8
FENE	Fenestrelle	2.24	281	P	Pn	21 35 02.7	+0.5
FENE	Fenestrelle	2.24	281	P	Pn	21 35 02.7	+0.6
PGF	Pioggiola	2.25	202	ePn	Pn	21 35 02.0	-0.3
PGF				eSn	Sn	21 35 27.8	-1.5
	97nm,0.4s						
MVIF	Mont Vial	2.28	252	Pn	Pn	21 35 04.0	+1.2
LSD	Ceresole Reale	2.28	292	P	Pn	21 35 03.1	+0.4
MAON	Monte Argentar	2.31	162	Pg	Pn	21 35 03.5	+0.2
MBDF	Montbardon	2.42	273	ePn	Pn	21 35 06.7	+2.0
MBDF				eSn	Sn	21 35 32.6	-1.0
	226nm,0.7s						
RRL	Cesana Torines	2.42	278	P	Pn	21 35 07.2	+2.5
RRL	Cesana Torines	2.42	278	P	Pn	21 35 07.2	+2.5
CORF	Corte	2.44	198	Pn	Pn	21 35 05.2	+0.1
CALN	Calern	2.51	251	Pn	Pn	21 35 06.7	+0.7
CALN				Sg	Sn	21 35 38.0	+2.0
BNI	Bardonecchia	2.51	281	ePn	Pn	21 35 09.7	+3.6
BNI	Bardonecchia	2.51	281	ePn	Pn	21 35 09.7	+3.7
LPG	La Plagne	2.56	291	ePn	Pn	21 35 07.7	+0.9
LPG				eSn	Sn	21 35 38.4	+1.1
	104nm,0.5s						
SEST	Monte Rota	2.56	34	Pg	Pn	21 35 08.5	+1.7
LPL	La Plagne	2.58	291	ePn	Pn	21 35 08.7	+1.6
DAVA	Damuels	2.66	356⇑	iPN	Pn	21 35 10.8	+2.6
DAVA				i SN	Sn	21 35 43.6	+3.7
DAVA	Damuels	2.66	356⇑	iPn	Pn	21 35 10.8	+2.5
SQTA	Sankt Quirin	2.69	15⇑	iPN	Pn	21 35 10.1	+1.4
SQTA				i SN	Sn	21 35 43.3	+2.7
SQTA	Sankt Quirin	2.69	15⇑	ePn	Pn	21 35 10.1	+1.4
	SNR=11						
RSL	Roselend	2.71	294	Pn	Pn	21 35 10.8	+1.9
FRF	La Foret Royal	2.74	248	ePn	Pn	21 35 09.6	+0.2
FRF				eSn	Sn	21 35 40.9	-1.1
	87nm,0.3s						
MOTA	Moosalm	2.79	13⇑	iPN	Pn	21 35 12.4	+2.3
MOTA				i SN	Sn	21 35 46.7	+3.5
MOTA	Moosalm	2.79	13⇑	iPn	Pn	21 35 12.4	+2.3
WTTA	Wattenberg	2.83	21⇑	iPN	Pn	21 35 12.0	+1.4
WTTA				i SN	Sn	21 35 46.0	+1.9
WTTA	Wattenberg	2.83	21⇑	iPn	Pn	21 35 12.0	+1.4
WATA	Walderalm	2.88	20⇑	iPN	Pn	21 35 12.7	+1.4
WATA				i SN	Sn	21 35 47.9	+2.5
WATA	Walderalm	2.88	20⇑	iPn	Pn	21 35 12.7	+1.4
LMR	La Mourre	2.93	245	ePn	Pn	21 35 11.8	-0.3
LMR				eSn	Sn	21 35 45.8	-0.9
	92nm,0.3s						
VOJS	Vojsko	2.98	61	i Pn	Pn	21 35 11.8	-0.9
VOY	Vojsko	2.99	61	eSn	Sn	21 35 47.0	-1.1
ORIF	Oris-en-Rattie	3.06	277	ePn	Pn	21 35 15.5	+1.7
ORIF				eSn	Sn	21 35 49.3	-0.6
	139nm,0.6s						
KNDS	Knezji Dol	3.12	72	i Pn	Pn	21 35 13.4	-1.4
KNDS	Knezji Dol	3.12	72	i Pn	Pn	21 35 13.4	-1.4
CEY	Cerknica	3.22	68	i Pn	Pn	21 35 15.1	-1.0
KBA	Koelnbreinsper	3.31	41⇑	iPN	Pn	21 35 17.4	0.0
KBA				i SN	Sn	21 35 57.2	+0.9
KBA	Koelnbreinsper	3.31	41⇑	iPn	Pn	21 35 17.4	0.0
SMRF	Simiane la Rot	3.35	260	ePn	Pn	21 35 19.7	+1.7
SMRF				eSn	Sn	21 35 56.8	-0.5
	37nm,0.5s						
NVLJ	Novalja	3.37	89	i Pn	Pn	21 35 17.2	-1.1
NVLJ				i Sn	Sn	21 35 54.3	-3.5
NVLJ	Novalja	3.37	89	i Pn	Pn	21 35 17.1	-1.2
NVLJ				i Sn	Sn	21 35 54.2	-3.6
LJU	Ljubljana	3.39	64	i Pn	Pn	21 35 17.8	-0.8
LJU				i Sn	Sn	21 35 58.1	-0.3
OCF	Saint Nazaire	3.47	271	Pn	Pn	21 35 21.7	+2.1
OG26	St.-Nazaire-De	3.47	271	Pn	Pn	21 35 21.7	+2.1
CABF	La Chapelle	3.47	306	ePn	Pn	21 35 21.0	+1.3
VISS	Visnje	3.51	69	i Pn	Pn	21 35 19.3	-1.0
FELD	Feldberg	3.57	336	Pn	Pn	21 35 22.8	+1.7
OG05	Jujurieux	3.60	295	Pn	Pn	21 35 21.5	0.0
BOJS	Bojanci	3.72	75	i Pn	Pn	21 35 22.1	-1.1
BOJS				eSn	Sn	21 36 03.6	-2.9
MOF	Molkenrain	3.84	328	Pn	Pn	21 35 24.9	-0.1
VIVF	Saint-Julien-l	3.91	275	ePn	Pn	21 35 26.8	+0.8
VIVF				eSn	Sn	21 36 07.9	-3.6
	12nm,0.3s						
HINF	Hinteralfeld	3.92	325	ePn	Pn	21 35 25.8	-0.3
HINF				eSn	Sn	21 36 09.4	-2.4
	44nm,0.4s						
DOBS	Dobrina	4.04	66	ePn	Pn	21 35 27.2	-0.6
DOBS				i		21 35 28.0	
ECH	Echery	4.14	331	Pn	Pn	21 35 29.1	-0.1
CDF	Champ du Feu	4.27	333	ePn	Pn	21 35 30.8	-0.3
CDF				eSn	Sn	21 36 16.9	-3.7
	30nm,0.4s						
HAU	Haudompre	4.28	323	ePn	Pn	21 35 31.3	0.0
HAU				eSn	Sn	21 36 18.9	-2.0
	81nm,0.4s						
MOA	Molln	4.30	40⇑	iPN	Pn	21 35 31.2	-0.3
MOA				i SN	Sn	21 36 21.5	+0.1
LASF	Ste Croix	4.55	265	ePn	Pn	21 35 35.3	+0.3
LASF				eSn	Sn	21 36 24.9	-2.8
	13nm,0.4s						
ARSA	Arzberg	4.57	53⇓	iPN	Pn	21 35 34.2	-1.1
ARSA				i SN	Sn	21 36 28.0	-0.2
ARSA	Arzberg	4.57	53⇑	iSn	Sn	21 36 28.0	-0.2
COLF	Collangettes	4.66	283	Pn	Pn	21 35 35.9	-0.7
PLDF	La Plantade	4.80	288	Pn	Pn	21 35 38.7	+0.1
SMF	Signal de Mont	4.86	297	ePn	Pn	21 35 39.3	-0.2
SMF				eSn	Sn	21 36 33.0	-2.6
	24nm,0.4s						
GERES	GERESS Array B	4.87	29	Pn	Pn	21 35 38.2	-1.4
	3.9nm,0.3s,baz=205,slow=13,SNR=40						
GERES				Sn	Sn	21 36 33.1	-2.6
	43nm,0.3s,baz=209,slow=23,SNR=48						
SFTF	Sexfontaines	5.03	317	ePn	Pn	21 35 41.4	-0.4
	baz=129						
KHC	Kasperske Hory	5.08	26	ePN	Pn	21 35 40.6	-1.9
KHC				eSN	Sn	21 36 36.6	-4.3
LOR	Lormes	5.12	303	ePn	Pn	21 35 42.7	-0.4
	baz=122						
LOR				eSn	Sn	21 36 38.9	-3.1
	30nm,0.4s						
RFYF	Reffroy	5.14	323	ePn	Pn	21 35 42.6	-0.7
	baz=138						
RFYF				eSn	Sn	21 36 39.4	-3.0
	23nm,0.4s						
VSL	Villasalto	5.16	187	ePn	Pn	21 35 43.2	-0.5
VSL				eSn	Sn	21 36 42.1	-0.9
VSL	Villasalto	5.16	187	ePn	Pn	21 35 43.2	-0.5
AVF	Avril sur Loir	5.23	297	ePn	Pn	21 35 44.3	-0.3
MEZF	Maizieres J'vi	5.23	320	ePn	Pn	21 35 44.3	-0.3
SSF	Saint Saulge	5.24	300	ePn	Pn	21 35 44.5	-0.3
SSF				eSn	Sn	21 36 41.8	-3.2
	11nm,0.4s						
BGF	Bois d'Agland	5.48	293	ePn	Pn	21 35 47.8	-0.3
BGF				eSn	Sn	21 36 48.2	-2.8
	46nm,0.5s						
EJON	La Jonquera	5.71	250	⇑P	Pn	21 35 50.5	-0.9
EJON				S	Sn	21 36 54.6	-2.3
EJON	La Jonquera	5.71	250	P	Pn	21 35 50.5	-1.0
	1.6nm,0.1s,SNR=18						
CAF	Calviac	5.77	276	ePn	Pn	21 35 52.3	+0.1
TCF	Toulx Ste Croi	5.83	289	ePn	Pn	21 35 52.4	-0.7
TCF				eSn	Sn	21 36 56.3	-3.4
	7.4nm,0.3s						
HYF	Humbligny	5.87	299	ePn	Pn	21 35 52.9	-0.7
MTLF	Montolieu	5.87	260	ePn	Pn	21 35 53.8	+0.1
TREC	Trest	5.92	36	ePN	Pn	21 35 52.3	-2.1
TREC				eSN	Sn	21 36 56.9	-5.2
PRU	Pruhonice	6.13	28	ePN	Pn	21 35 56.1	-1.3
PRU				eSN	Sn	21 37 01.7	-5.6
PRU				AMS	AMS	21 39 00.0	
	700nm,10.2s						
VRAC	Vranov	6.42	41	Pn	Pn	21 35 57.8	-3.7
	0.9nm,0.3s,baz=229,slow=16,SNR=4.2						
VRAC				Sn	Sn	21 37 09.1	-5.6
	1.1nm,0.3s,baz=229,slow=20,SNR=3.6						
PVCC	Panska Ves	6.61	25	ePN	Pn	21 36 01.7	-2.4
BRG	Berggiesshubel	6.75	21	Sg	Sn	21 37 16.3	-6.4
EMIR	Miracle	6.86	250	⇑P	Pn	21 36 07.5	0.0
EMIR				S	Sn	21 37 21.2	-4.2
EMIR	Miracle	6.86	250	P	Pn	21 36 07.6	0.0
	8.9nm,0.3s,SNR=18						
DPC	Dobruska-Polom	7.08	34	AMS	AMS	21 39 10.0	
	900nm,16.5s						
EPF	Esparros	7.28	261	ePn	Pn	21 36 12.2	-1.2
ETOS	Mallorca	7.30	231	P	Pn	21 36 13.0	-0.8
ETOS				S	Sn	21 37 30.4	-6.1

ETOS	Mallorca	7.30	231	P	Pn	21 36 13.0	-0.8
	8.2nm,0.3s,SNR=25						
EPOB	Poblet	7.42	247	P	Pn	21 36 14.9	-0.5
EPOB				S	Sn	21 37 32.9	-6.5
EPOB	Poblet	7.42	247	P	Pn	21 36 14.9	-0.5
	0.9nm,0.2s,SNR=7.9						
EBIE	Bielsa	7.52	259	P	Pn	21 36 18.8	+2.0
EBIE				S	Sn	21 37 37.5	-4.4
EBIE	Bielsa	7.52	259	P	Pn	21 36 18.8	+2.0
	5.5nm,0.6s,SNR=10						
EGRA	Graus	7.57	255	P	Pn	21 36 17.0	-0.5
EGRA	Graus	7.57	255	P	Pn	21 36 17.0	-0.5
	5.4nm,0.4s,SNR=7.9						
ERTA	Horta de San J	8.10	246	P	P	21 36 24.0	-0.9
ERTA				S	Sn	21 37 49.7	-6.8
ERTA	Horta de San J	8.10	246	P	P	21 36 24.0	-0.9
	SNR=7.9						
ESAC	San Caprasio	8.29	253	P	P	21 36 27.5	-0.1
ESAC				S	Sn	21 37 56.2	-5.1
ESAC	San Caprasio	8.29	253	P	P	21 36 27.5	-0.1
	4.8nm,0.3s,SNR=7.9						
SJPF	Ste Jean	8.36	264	*e*Pn	P	21 36 26.3	-2.3
EIBI	Ibiza	8.63	233	⇓P	P	21 36 32.1	-0.3
EIBI	Ibiza	8.63	233	P	P	21 36 32.1	-0.3
	7.1nm,0.3s,SNR=18						
ESDC	Sonseca Array	11.59	250	Pn	P	21 37 11.2	-1.6
	0.5nm,0.3s,baz=62,slow=14,SNR=5.1						
ESDC	Sonseca Array	11.59	250	P	P	21 37 12.2	-0.5
	0.7nm,0.4s						
ESDC	Sonseca Array	11.59	250	P	P	21 37 12.2	-0.6
	0.7nm,0.4s,SNR=5.5						
FINES	FINESS Array B	19.28	24	P	P	21 38 49.9	-1.3
	0.2nm,0.3s,baz=207,slow=12,SNR=3.3						
WMQ	Urumqi	53.52	62	*e*P	P	21 43 55.0	+8.8
WMQ				AP	pP	21 44 00.0	+5.0
WMQ				PCP	PcP	21 45 00.0	+7.3
WMQ				PP	PP	21 45 57.5	+9.3
WMQ				SCP		21 48 58.5	
WMQ				*e*S	S	21 51 30.0	+15
WMQ				XS		21 51 40.0	
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,96nm,5.4s						
WMQ				LR	LR		
	comp=N,392nm,31.0s						
WMQ				LR	LR		
	comp=E,402nm,24.2s						
WMQ				LR	LR		
	comp=Z,236nm,28.4s,MS4.1						
MDJ	Mudanjiang	76.15	40	P	P	21 46 19.4	+6.5
MDJ				PCP	PcP	21 46 31.4	+6.2
MDJ				PP	PP	21 49 09.6	+4.0
MDJ				S	S	21 56 04.7	+11
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,134nm,4.6s						
MDJ				LR	LR		
	comp=N,110nm,21.6s						
MDJ				LR	LR		
	comp=E,220nm,36.0s						
MDJ				LR	LR		
	comp=Z,171nm,25.2s,MS4.3						

IDC 12 21:38:53.4±4.1**, 1.37S**×**94.34E, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/17**, mbtmp3.6**/4**, Error ellipse: s-maj=152.0km s-min=30.6km az=53.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.24	118	P	P	21 46 56.4	-2.1
	0.6nm,0.6s,baz=302,slow=8.9,SNR=4.9						
MKAR	Makanchi Array	49.12	349	P	P	21 47 42.2	-2.5
	0.5nm,0.5s,baz=168,slow=9.6,SNR=11						
SONM	Songino Array	50.12	11	P	P	21 47 52.1	-0.4
	0.5nm,0.7s,baz=188,slow=7.2,SNR=4.0						
BVAR	Borovoye Array	57.79	343	P	P	21 48 45.7	-3.1
	0.4nm,0.5s,baz=146,slow=5.2,SNR=2.8						
BVAR				pP	pP	21 48 56.8	+8.0
	0.8nm,0.6s,baz=149,slow=8.6,SNR=4.4						

*IDC **12** 21:51:01.9±0.5, 7.65S×125.52E, mb5.1/21, mb1 5.1/22, mb1mx5.1/23, mbtmp5.1/22, ML5.0/1, MS4.6/5, Ms1 4.6/5, ms1mx4.1/15, Error ellipse: s-maj=18.0km s-min=12.1km az=83.0*

*BJI **12** 21:51:02.4, 8.22S×126.07E, h47km, mB5.3, mb5.3, Ms4.8, Msz4.3*

*MOS **12** 21:51:05.8±0.9, 7.58S×125.53E, h33km, mb5.6/23, Error ellipse: s-maj=12.9km s-min=7.2km az=113.1*

*NEIC **12** 21:51:06.7±0.2, 7.66S×125.50E, h30km, mb5.5/31, Error ellipse: s-maj=7.6km s-min=4.7km az=75.0*

*HRVD **12** 21:51:06.7±0.2, 7.59S×125.76E, h12km, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s29,c51;Mantle waves: s59,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.43±.23; $M_{\theta\theta}$-2.51±.18; $M_{\phi\phi}$-1.92±.24; $M_{r\theta}$0.40±.59; $M_{\theta\phi}$-4.76±.17; $M_{\phi r}$-2.21±.67; Best double couple: $M_0$6.401×10^{16} NP1: ϕ_s75°,δ47°,λ134°. NP2:ϕ_s200°,δ58°,λ53°. Principal axes: T 5.685, Plg59°, Azm56°; N 1.432, Plg31°, Azm222°; P -7.117, Plg6°, Azm316°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 21:51:04.6±0.2**, 7.66S**±0.03×**125.59E**±0.06**, h26**km**, h26**km±1.8km**:pP-P, n191,** σ1§**05**/190**, mb5.3**/80**, MS4.5**/16**, 22C-10D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.38	180	*e*P	P	21 53 31.2	-4.0
	212nm,0.8s						
FITZ				*e*S	S	21 55 20.4	-11
FITZ	Fitzroy Crossi	10.38	180	Pn	P	21 53 31.2	-3.9
	9.6nm,0.3s,baz=8.9,slow=9.7,SNR=26						
FITZ				Sn	S	21 55 21.8	-10
	55nm,0.3s,baz=183,slow=15,SNR=9.2						
TSM	Tawau	14.15	327	P	P	21 54 27.5	+1.7
MATI	Mati	14.52	3	*e*P	P	21 54 30.7	-0.1
MBWA	Marble Bar	14.56	202	*e*Pn	P	21 54 27.9	-3.3
	61nm,1.1s						
DAV	Davao City (W)	14.63	360	P	P	21 54 29.1	-3.0
WRAB	Tennant Creek	14.87	146	⇓*i*Pn	P	21 54 29.1	-6.0
	333nm,1.1s						
WRAB				*i* Sn	S	21 57 06.0	-14
WRAB	Tennant Creek	14.87	146	⇓*i*P	P	21 54 29.1	-6.0
WRAB				pmax	pmax		
	comp=Z,333nm,1.1s						
WRA	Warramunga Arr	14.87	146	Pn	P	21 54 29.0	-6.2
	comp=Z,5.7nm,0.3s,baz=323,slow=12,SNR=54						
WRA				Sn	S	21 57 06.2	-14
	comp=Z,9.4nm,0.3s,baz=320,slow=23,SNR=9.3						
WB2	Warramunga Arr	14.87	146	*e*P	P	21 54 28.9	-6.3
WB2				*e*S	S	21 57 05.2	-15
BUKP	Musuan	15.45	358	*e*P	P	21 54 40.5	-2.3
PAGZ	Pagadian	15.56	352	*e*P	P	21 54 43.5	-0.8
KKM	Kota Kinabalu	16.51	325	P	P	21 55 01.3	+4.9
KKM	Kota Kinabalu	16.51	325	*e*P	P	21 55 01.0	+4.6
BUTP	Butuan	16.52	0	*e*P	P	21 54 54.8	-1.7
KSM	Kuching	17.74	300	*e*Pn	P	21 55 10.0	-1.7
BATP	Bataraza	18.10	334	*e*P	P	21 55 17.9	+1.7
GUIM	Jordan	18.41	351	*e*P	P	21 55 20.8	+0.7
CUYO	Cuyo Island	18.94	346	*e*P	P	21 55 27.0	+0.5
ENPP	El Nido	19.72	342	*e*P	P	21 55 36.8	+1.4
OTRP	Odiongan	20.20	350	*e*P	P	21 55 41.2	+0.7
BUSP	Coron	20.25	345	*e*P	P	21 55 41.9	+0.8
SJMP	San Jose	20.48	347	*e*P	P	21 55 44.9	+1.5
AUQP	San Andres	21.05	352	*e*P	P	21 55 45.9	-3.3
PVCP	Virac	21.16	356	*e*P	P	21 55 51.9	+1.5
BOAC	Boac	21.31	350	*e*P	P	21 55 53.1	+1.2
PMG	Port Moresby	21.40	96	P	P	21 55 52.6	-0.2
	comp=Z,97nm,0.9s,mb5.1,baz=281,slow=6.5,SNR=21						
PMG	Port Moresby	21.40	96	*i* P	P	21 55 53.4	+0.6
FORT	Forrest	23.12	175	⇓*i*P	P	21 56 09.3	-0.5
	comp=Z,150nm,0.9s,mb5.4						
CTA	Charters Tower	23.52	124	⇓*i*P	P	21 56 14.8	+1.0
	comp=Z,36nm,1.1s,mb4.7						
CTA				*i* S	S	22 00 28.5	+6.0
CTA	Charters Tower	23.52	124	P	P	21 56 14.8	+1.0
	comp=Z,56nm,1.1s,mb4.9,baz=301,slow=11,SNR=25						
CTA				LR	LR	22 06 23.6	
	comp=Z,1μm,19.6s,MS4.3,baz=309,slow=39						
CTA	Charters Tower	23.52	124	⇓*i*P	P	21 56 14.8	+1.0
CTA				*i* S	S	22 00 28.5	+6.0
CTA				pmax	pmax		
	comp=Z,36nm,1.1s						
CTAO	Charters Tower	23.52	124	*e*P	P	21 56 13.6	-0.3
	comp=Z,104nm,1.3s,mb5.1						
CTAO	Charters Tower	23.52	124	*e*P	P	21 56 13.6	-0.2
CTAO				pmax	pmax		
	comp=Z,104nm,1.3s,mb5.1						
BALP	Baler	23.59	350	*e*P	P	21 56 15.1	+0.6
KGM	Kluang	24.20	293	P	P	21 56 23.7	+3.2
CAUP	Cauayan	24.73	351	*e*P	P	21 56 25.0	-0.5
KLBR	Kellerberrin	24.91	196	*e*P	P	21 56 26.1	-1.0
	comp=Z,75nm,0.9s,mb5.2						
CVP	Callao Caves	25.47	352	*e*P	P	21 56 33.5	+0.9
	comp=Z,33μm,1.0s						
ABRA	Dolores	25.60	349	*e*P	P	21 56 34.8	+0.9
SGCP	Mt. Cagua	25.97	352	*e*P	P	21 56 35.7	-1.5
NWAO	Narrogin (SRO)	26.31	196	P	P	21 56 39.2	-1.0
	comp=Z,39nm,0.8s,mb5.0,baz=18,slow=11,SNR=17						
IPM	Ipoh	27.36	296	P	P	21 56 50.7	+0.7
KULM	Kulim	28.01	297	*e*P	P	21 56 55.4	-0.5
STKA	Stephens Creek	28.34	150	⇓*i*P	P	21 56 58.3	-0.4
	comp=Z,27nm,1.3s,mb4.7						
STKA	Stephens Creek	28.34	150	P	P	21 56 58.4	-0.3
	comp=Z,24nm,0.9s,mb4.8,baz=324,slow=9.2,SNR=19						
STKA				LR	LR	22 09 02.6	
	comp=Z,2μm,21.5s,MS4.7,baz=318,slow=38						
GUMO	Guam	28.50	42	P	P	21 57 00.1	-0.1
	comp=Z,103nm,0.9s,mb5.5,baz=164,slow=20,SNR=3.3						
YHNB	Yeheng	32.39	353	*e*P	P	21 57 32.9	-1.8
QZH	Quanzhou	33.11	348	⇑*i*P	P	21 57 40.4	-0.6
QZH				S	S	22 02 56.0	-1.5
QZH				AMB	AMB		
	comp=Z,440nm,1.8s,mb6.1						
QZH				LR	LR		
	comp=Z,820nm,20.7s,MS4.4						
ARMA	Armidale	33.28	136	*e*P	P	21 57 43.5	+1.1
JOW	Kunigami	34.38	4	P	P	21 57 51.2	-0.8
	comp=Z,38nm,0.9s,mb5.3,baz=180,slow=7.4,SNR=9.7						
TOO	Toolangi	34.82	152	*e*P	P	21 57 57.5	+1.9
	comp=Z,14nm,0.8s,mb5.0						
TOO	Toolangi	34.82	152	*e*P	P	21 57 57.5	+1.9
TOO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CNB	Canberra Magne	35.11	145	*e*P	P	21 57 58.8	+0.7
	comp=Z,23nm,1.0s,mb5.1						
GYA	Guiyang	38.57	332	⇑*i*P	P	21 58 27.6	+0.3
GYA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.2						
KMI	Kunming	39.46	326	⇑P	P	21 58 37.0	+2.3
KMI				AP	pP	21 58 54.6	+12
KMI				AMB	AMB		
	comp=Z,63nm,1.6s,mb5.1						
KMI				AMB	AMB		
	comp=Z,356nm,3.3s						
KMI				LR	LR		
	comp=N,365nm,20.6s,MS4.4						
KMI				LR	LR		
	comp=E,451nm,17.1s,MS4.4						
KMI				LR	LR		
	comp=Z,587nm,31.3s						
WHN	Wuhan	39.48	345	⇓P	P	21 58 36.8	+1.9
WHN				AMB	AMB		
	comp=Z,102nm,1.0s,mb5.5						
NJ2	Nanjing	40.01	351	*e*P	P	21 58 40.4	+1.2
NJ2				AP	pP	21 58 50.1	+3.0
NJ2				XP	sP	21 58 53.8	+3.5
NJ2				PP	PP	22 00 17.6	+2.6
NJ2				S	S	22 04 47.0	+4.0
NJ2				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,290nm,5.4s						
NJ2				LR	LR		
	comp=N,430nm,11.6s						
NJ2				LR	LR		
	comp=E,630nm,17.4s						
NJ2				LR	LR		
	comp=Z,230nm,12.4s,MS4.2						
ENH	Enshi	40.76	338	*e*P	P	21 58 45.7	+0.3
	comp=Z,28nm,0.9s,mb4.9						
JNU	Nakatsue	40.87	7	P	P	21 58 45.8	-0.4
	comp=Z,16nm,0.8s,mb4.7,baz=150,slow=4.1,SNR=11						
CD2	Chengdu	43.68	332	P	P	21 59 10.0	+0.6
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
XAN	Xi'an	44.38	340	P	P	21 59 14.5	-0.5
XAN				AMB	AMB		
	comp=Z,35nm,1.2s,mb5.0						
KS15	Wonju Array Si	44.92	3	*e*P	P	21 59 20.0	+0.7
MAJO	Matsushiro	45.54	14	*e*P	P	21 59 23.7	-0.5
	comp=Z,87nm,1.1s,mb5.6						
MAJO	Matsushiro	45.54	14	*e*P	P	21 59 23.7	-0.5
MAJO				pmax	pmax		
	comp=Z,87nm,1.1s,mb5.6						
MAT	Matsushiro	45.54	14	P	P	21 59 23.2	-1.0
MAT				*e*S	S	22 06 23.0	+19
MAT	Matsushiro	45.54	14	*e*P	P	21 59 23.0	-1.2
	comp=Z,63nm,1.0s,mb5.5						
MAT				S	S	22 06 23.0	+19
MAT	Matsushiro	45.54	14	*e*P	P	21 59 23.0	-1.2
MAT				S	S	22 06 23.0	+19
MAT				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.5						
MJAR	Matsushiro Arr	45.54	14	P	P	21 59 22.9	-1.3
	comp=Z,51nm,1.0s,mb5.4,baz=189,slow=8.8,SNR=91						
DL2	Dalian	46.47	356	P	P	21 59 31.3	-0.2
DL2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
LZH	Lanzhou	48.08	336	*e*P	P	21 59 47.0	+2.8
LZH				AMB	AMB		
	comp=Z,135nm,1.4s,mb5.8						
LZH				AMB	AMB		
	comp=Z,335nm,5.9s						
LZH				LR	LR		
	comp=N,885nm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,14.8s,MS5.0						
SNY	Shenyang	49.28	358	⇑P	P	21 59 52.6	-0.8
SNY				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
SNY				AMB	AMB		
	comp=Z,190nm,6.9s						
SNY				LR	LR		
	comp=E,240nm,17.1s						
SNY				LR	LR		
	comp=Z,310nm,22.5s						
LSA	Lhasa	49.76	320	P	P	21 59 58.6	+1.3
LSA	Lhasa	49.76	320	*e*P	P	21 59 58.4	+1.1
	comp=Z,51nm,0.9s,mb5.5						
LSA	Lhasa	49.76	320	*e*P	P	21 59 58.4	+1.1
LSA				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
HHC	Hu-ho-hao-te	49.97	346	*e*P	P	21 59 58.2	-0.5
HHC				AP	pP	22 00 08.1	+1.4
HHC				XP	sP	22 00 12.0	+2.2
HHC				PCP	PcP	22 01 18.8	0.0
HHC				PP	PP	22 01 52.9	-1.6
HHC				SCP		22 05 10.7	
HHC				PCS		22 05 14.6	
HHC				S	S	22 07 04.5	-1.8
HHC				SCS	ScS	22 09 43.3	-1.9
HHC				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.4						
HHC				AMB	AMB		
	comp=Z,214nm,5.8s						
HHC				LR	LR		
	comp=N,221nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=E,178nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=Z,232nm,19.0s,MS4.2						
CN2	Changchun	51.22	360	*e*P	P	22 00 06.7	-1.4
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.3						
MDJ	Mudanjiang	52.16	4	P	P	22 00 15.4	+0.1
MDJ				AMB	AMB		
	comp=Z,135nm,1.1s,mb5.8						
MDJ				AMB	AMB		
	comp=Z,292nm,4.4s						
MDJ				LR	LR		
	comp=N,110nm,20.8s						
MDJ				LR	LR		
	comp=E,220nm,37.8s						
MDJ				LR	LR		
	comp=Z,171nm,22.7s,MS4.0						
MDJ	Mudanjiang	52.16	4	*e*P	P	22 00 15.7	+0.5
	comp=Z,168nm,1.1s,mb5.9						
PKI	Pulchoki	52.32	314	*e*P	P	22 00 15.5	-1.2
	comp=Z,94nm,1.0s,mb5.7						
PKI	Pulchoki	52.32	314	*e*P	P	22 00 15.5	-1.2
PKI				pmax	pmax		
	comp=Z,47nm,1.0s,mb5.4						
KKN	Kakani	52.54	314	*e*P	P	22 00 17.5	-0.8
	comp=Z,138nm,1.0s,mb5.8						
KKN	Kakani	52.54	314	*e*P	P	22 00 17.5	-0.8
KKN				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.5						
DMN	Daman	52.55	313	*e*P	P	22 00 17.7	-0.8
	comp=Z,144nm,1.0s,mb5.9						
GTA	Gaotai	52.57	335	*e*P	P	22 00 18.6	+0.2
GTA				AP	pP	22 00 27.1	+0.7
GTA				AMB	AMB		
	comp=Z,29nm,1.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,317nm,7.6s						
GTA				LR	LR		
	comp=N,134nm,18.2s,MS4.3						
GTA				LR	LR		
	comp=E,229nm,20.5s,MS4.3						
GTA				LR	LR		
	comp=Z,204nm,19.4s,MS4.2						
HYB	Hyderabad	52.73	299	*i* P	P	22 00 18.0	-1.9
HYB	Hyderabad	52.73	299	*e*P	P	22 00 18.0	-1.9
GKN	Gorkha	53.12	314	*e*P	P	22 00 21.8	-0.9
	comp=Z,169nm,1.0s,mb5.9						
KOLN	Koldanda	53.74	313	*e*P	P	22 00 26.2	-1.0
	comp=Z,185nm,0.9s,mb6.0						
SNZO	South Karori	54.84	136	*e*P	P	22 00 34.8	-0.3
	comp=Z,30nm,0.7s,mb5.4						
YSS	Yuzh-Sakhalins	56.48	14	⇑*e*P	P	22 00 47.1	+0.3
YSS	Yuzh-Sakhalins	56.48	14	*e*P	P	22 00 47.0	+0.2
YSS				*e*	pP	22 00 54.0	-0.9
HIA	Hailar	56.92	355	*e*P	P	22 00 50.0	0.0
	comp=Z,90nm,1.4s,mb5.6						
HIA	Hailar	56.92	355	*e*P	P	22 00 50.0	0.0
HIA				pmax	pmax		
	comp=Z,90nm,1.4s						
SONM	Songino Array	57.80	345	P	P	22 00 55.3	-0.9
	comp=Z,19nm,0.9s,mb5.1,baz=166,slow=7.7,SNR=82						
CASY	Casey	59.45	187	*e*P	P	22 01 06.4	-1.0
	comp=Z,8.3nm,1.0s,mb4.7						
ZAK	Zakamensk	60.96	344	*e*P	P	22 01 16.4	-1.6
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
WMQ	Urumqi	61.65	330	⇑*i*P	P	22 01 22.3	-0.4
WMQ				PCP	PcP	22 01 58.5	-5.3
WMQ				SCP		22 05 59.0	
WMQ				S	S	22 09 53.0	+11
WMQ				XS		22 10 07.0	
WMQ				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,459nm,4.1s						
WMQ				LR	LR		
	comp=N,591nm,27.3s,MS4.6						
WMQ				LR	LR		
	comp=E,315nm,32.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,388nm,30.8s,MS4.4						
IRK	Irkutsk	62.40	345	*e*P	P	22 01 26.7	-0.9
IRK				pmax	pmax		
	comp=Z,64nm,1.6s,mb5.5						
MOY	Mondy	62.76	343	*e*P	P	22 01 30.2	+0.2
MOY				pmax	pmax		
	comp=Z,78nm,2.2s,mb5.5						
CLNS	Chul'man	64.27	360	⇑*i*P	P	22 01 40.4	+0.5
CLNS				*e**PP	pP	22 01 48.0	0.0
CLNS				*e*		22 02 10.6	
CLNS				*e*S	S	22 10 03.1	-11
CLNS				*e*PS	PS	22 10 52.1	+15
CLNS				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
CLNS				pmax	pmax		
	comp=N,39nm,1.6s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
CLNS				smax			
	comp=N,101nm,12.6s						
CLNS				smax			
	comp=E,84nm,17.7s						
CLNS				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,500nm,12.0s						
CLNS				MLR	MLR		
	comp=E,200nm,26.0s						
KSH	Kashi	65.61	320	*e*P	P	22 01 49.8	+1.0
KSH				*e*PCP	PcP	22 02 19.5	-0.6
KSH				PP	PP	22 04 18.0	+2.5
KSH				PPP	PPP	22 05 53.8	+3.7
KSH				*e*SCP		22 06 13.5	
KSH				*e*PCS		22 06 22.8	
KSH				S	S	22 10 28.3	-2.8
KSH				*e*XS		22 11 01.0	
KSH				*e*SCS	ScS	22 11 36.4	-2.5
KSH				*e*SS	SS	22 14 45.9	-0.9
KSH				AMB	AMB		
	comp=Z,450nm,3.2s						
KSH				LR	LR		
	comp=N,170nm,4.5s						
KSH				LR	LR		
	comp=E,260nm,4.3s						
BOD	Bodaibo	65.93	353	*e*P	P	22 01 50.7	+0.2
BOD				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.6						
MKAR	Makanchi Array	66.46	329	P	P	22 01 53.4	-0.7
	comp=Z,69nm,1.1s,mb5.6,baz=127,slow=6.4,SNR=63						
PET	Petropavlovsk	66.66	21	*e*P	P	22 01 56.5	+1.3
	comp=Z,338nm,1.3s,mb6.2						
PET	Petropavlovsk	66.66	21*c*	*i*P	P	22 01 55.9	+0.7
PET				pmax	pmax		
	comp=Z,318nm,1.4s,mb6.2						
ULHL	Ulahol	67.00	322	P	P	22 01 58.0	+0.4
	SNR=6.4						
KZA	Kyzart	67.51	322	P	P	22 02 01.9	+1.0
	SNR=5.8						
TKM2	Tokmak 2	67.77	323	P	P	22 02 02.9	+0.4
	SNR=25						
KBK	Karagaybulak	68.02	322	P	P	22 02 04.7	+0.6
	SNR=17						
AAK	Ala-Archa	68.28	322	P	P	22 02 06.2	+0.5
	SNR=24						
AAK	Ala-Archa	68.28	322	*e*P	P	22 02 05.2	-0.5
	comp=Z,32nm,0.8s,mb5.4						
AAK	Ala-Archa	68.28	322*c*	*i*P	P	22 02 04.8	-0.9
AAK				pmax	pmax		
	comp=Z,79nm,1.8s,mb5.4						
FRU	Bishkek	68.32	322	*e*P	P	22 02 05.0	-0.9
FRU				*e*	pP	22 02 13.0	-1.1
FRU				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
CHMS	Chumysh	68.33	322	P	P	22 02 05.5	-0.5
	SNR=9.7						
AML	Almayashu	68.50	321	P	P	22 02 07.9	+0.9
	SNR=39						
USP	Ospenovka	68.63	322	P	P	22 02 08.0	+0.1
	SNR=29						
EKS2	Erkin-Say	68.74	322	P	P	22 02 08.1	-0.4
	SNR=30						
YAK	Yakutsk	69.55	2	*e*P	P	22 02 13.3	+0.1
	comp=Z,231nm,1.4s,mb5.9						
YAK	Yakutsk	69.55	2*c*	*i*P	P	22 02 13.1	0.0
YAK				*e**PP	pP	22 02 31.3	+10
YAK				*e*S	S	22 11 20.0	+2.0
YAK				pmax	pmax		
	comp=Z,57nm,1.3s,mb5.3						
YAK				pmax	pmax		
	comp=N,28nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				smax			
	comp=N,4.0nm,1.0s						
YAK				smax			
	comp=E,4.0nm,1.0s						
KURK	Kurchatov	70.86	331	*e*P	P	22 02 20.7	-0.6

	comp=E,59nm,0.9s,mb5.5						
KURK	**Kurchatov**	**70.86**	**331**	c iP	**P**	**22 02 20.8**	**-0.5**
KKAR	**Karatay Array**	**71.01**	**321**	i P	**P**	**22 02 21.5**	**-0.8**
NVS	**Novosibirsk**	**71.60**	**336**	i P	**P**	**22 02 22.6**	**-3.1**
NVS				i S	S	22 11 43.1	+1.2
NVS				i		22 12 18.1	
NVS				pmax	pmax		
	comp=N,48nm,1.6s						
NVS				pmax	pmax		
	comp=Z,66nm,1.6s,mb5.3						
NVS				pmax	pmax		
	comp=E,30nm,1.3s						
NVS				smax			
	comp=N,21nm,1.9s						
NVS				smax			
	comp=E,20nm,1.9s						
VNDA	**Vanda**	**72.36**	**172**	P	**P**	**22 02 29.5**	**-0.3**
	comp=E,2.5nm,0.4s,mb4.5,baz=323,slow=6.7,SNR=23						
VNDA				LR	LR	22 34 43.8	
	comp=E,445nm,18.2s,MS4.8,baz=325,slow=36						
VNDA	**Vanda**	**72.36**	**172**	P	**P**	**22 02 29.5**	**-0.3**
VNDA				LR	LR	22 34 43.8	
MAW	**Mawson**	**72.76**	**201**	⇓iP	**P**	**22 02 32.4**	**+0.1**
	comp=E,5.7nm,0.7s,mb4.6						
MAW	**Mawson**	**72.76**	**201**	P	**P**	**22 02 31.9**	**-0.4**
	comp=E,8.6nm,0.8s,mb4.8,baz=62,slow=7.3,SNR=11						
MAW	**Mawson**	**72.76**	**201**	⇓iP	**P**	**22 02 32.4**	**+0.1**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SBA	**Scott Base**	**73.29**	**172**	eP	**P**	**22 02 36.5**	**+1.2**
	comp=Z,11nm,0.2s,mb5.4						
SBA	**Scott Base**	**73.29**	**172**	eP	**P**	**22 02 36.5**	**+1.2**
SBA				pmax	pmax		
	comp=Z,11nm,0.2s,mb5.4						
SEY	**Seymchan**	**73.32**	**12**	i P	**P**	**22 02 36.2**	**+0.5**
VOSK	**Vostochnaya**	**75.87**	**329**	i P	**P**	**22 02 49.9**	**-0.7**
BVA0	**Borovoye Array**	**76.34**	**329**	i P	**P**	**22 02 52.9**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.0						
BVAR	**Borovoye Array**	**76.34**	**329**	P	**P**	**22 02 52.9**	**-0.2**
	comp=Z,30nm,1.1s,mb5.1,baz=124,slow=5.3,SNR=48						
BRVK	**Borovoye**	**76.41**	**329**	eP	**P**	**22 02 53.4**	**-0.2**
	comp=Z,80nm,1.4s,mb5.5						
BRVK	**Borovoye**	**76.41**	**329**	eP	**P**	**22 02 53.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.5						
OPO	**Ambohidratompo**	**76.64**	**253**	P	**P**	**22 02 55.2**	**-0.4**
	comp=Z,10nm,1.0s,mb4.7,baz=70,slow=7.3,SNR=6.2						
TIXI	**Tiksi**	**79.17**	**1**	⇑iP	**P**	**22 03 08.0**	**-0.5**
TIXI	**Tiksi**	**79.17**	**1**	eP	**P**	**22 03 04.2**	**-4.3**
TIXI				eS	S	22 12 59.4	-5.7
TIXI				pmax	pmax		
	comp=Z,67nm,1.0s,mb5.5						
AKTO	**Aktyubinsk**	**81.95**	**323**	P	**P**	**22 03 22.9**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.3						
QSPA	**South Pole Qui**	**82.32**	**180**	eP	**P**	**22 03 25.6**	**+0.7**
	comp=Z,42nm,1.0s,mb5.3						
TBI	**Tubuai**	**82.39**	**113**	eLR	LR	22 29 15.3	
	comp=Z,493nm,26.2s						
PPT	**Papeete**	**82.83**	**107**	ePP	PP	22 06 37.7	-3.3
PPT	**Papeete**	**82.83**	**107**	eLR	LR	22 29 29.9	
	comp=Z,764nm,35.0s						
PPT	**Papeete**	**82.83**	**107**	LR	LR	22 32 31.3	
	comp=Z,188nm,20.6s,MS4.5,baz=346,slow=30						
QRN	**Al-Qurain**	**82.96**	**300**	eP	**P**	**22 03 29.6**	**+0.4**
SVE	**Sverdlovsk**	**83.10**	**330**	⇑eP	**P**	**22 03 29.7**	**+0.3**
SVE				e		22 03 43.4	
SVE				e		22 08 28.0	
SVE				eS	S	22 13 44.0	-2.0
SVE				pmax	pmax		
	comp=Z,160nm,1.5s,mb5.8						
KBD	**Kabd**	**83.25**	**301**	eP	**P**	**22 03 31.2**	**+0.4**
KBD				AMb	AMB	22 03 34.5	
	comp=Z,212nm,1.4s,mb6.0						
NAY	**Al-Naaiem**	**83.65**	**301**	eP	**P**	**22 03 33.4**	**+0.5**
NAY				AMb	AMB	22 03 34.6	
	comp=Z,32nm,0.8s,mb5.5						
MIB	**Mutribah**	**83.69**	**301**	eP	**P**	**22 03 33.3**	**+0.3**
MIB				AMb	AMB	22 03 35.9	
	comp=Z,82nm,1.1s,mb5.8						
ARU	**Arti**	**83.98**	**329**	eP	**P**	**22 03 34.0**	**+0.1**
	comp=Z,81nm,1.3s,mb5.7						
ARU	**Arti**	**83.98**	**329**	⇑iP	**P**	**22 03 33.7**	**-0.2**
ARU				e		22 06 49.0	
ARU				ePPP	PPP	22 08 38.2	-6.2
ARU				eS	S	22 13 54.6	-0.2
ARU				eSS	SS	22 19 29.0	+3.0
ARU				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.6						
SOKR	**Solikamsk**	**86.07**	**332**	d iP	**P**	**22 03 44.9**	**+0.7**
SOKR				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.8						
BHD	**Baghdad**	**86.87**	**304**	ex	x	22 03 46.0	
DGRG	**David-gareji**	**87.75**	**312**	P	**P**	**22 03 54.4**	**+1.6**
GNI	**Garni**	**87.95**	**311**	P	**P**	**22 03 54.5**	**+0.7**
	comp=Z,15nm,1.0s,mb5.2,baz=187,slow=13,SNR=7.3						
GNI	**Garni**	**87.95**	**311**	⇑eP	**P**	**22 03 54.0**	**+0.2**
GNI				pmax	pmax		
	comp=Z,34nm,1.4s						
KMBO	**Kilima Mbogo**	**88.20**	**269**	P	**P**	**22 03 55.8**	**+0.2**
	comp=Z,7.4nm,1.0s,mb4.9,baz=72,slow=2.5,SNR=15						
KMBO				LR	LR	22 40 49.8	
	comp=Z,246nm,19.3s,MS4.6,baz=89,slow=34						
KMBO	**Kilima Mbogo**	**88.20**	**269**	i P	**P**	**22 03 56.3**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MTA	**Mtatsminda**	**88.22**	**312**	P	**P**	**22 03 56.7**	**+1.7**
TI2	**Plekhanov**	**88.26**	**312**	eP	**P**	**22 03 56.4**	**+1.1**
TBLG	**Delisi**	**88.27**	**312**	S	**P**	**22 03 57.7**	**+2.4**
MSL	**Mosul**	**88.48**	**307**	ex	x	22 04 16.0	
ZEI	**Tsey**	**89.09**	**313**	eP	**P**	**22 03 57.2**	**-2.0**
ZEI				i *PP	pP	22 04 03.3	-4.3
ZEI				i		22 07 23.8	
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.2						
KIV	**Kislovodsk**	**90.18**	**314**	eP	**P**	**22 04 04.1**	**-0.2**
	comp=Z,20nm,1.1s,mb5.3						
KIV	**Kislovodsk**	**90.18**	**314**	eP	**P**	**22 04 04.3**	**0.0**
KIV				e		22 14 34.1	
KIV				eSS	SS	22 20 57.5	+0.4
KIV				pmax	pmax		
	comp=E,7.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.2						
ASF	**Jabal al Asfar**	**92.92**	**302**	P	**P**	**22 04 16.8**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.7,baz=118,slow=5.4,SNR=4.8						
MATP	**Matopo**	**93.94**	**249**	P	**P**	**22 04 22.1**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.7,baz=106,slow=4.0,SNR=8.4						
SNAA	**Sanae**	**93.97**	**194**	eP	**P**	**22 04 22.0**	**+0.9**
	comp=Z,5.2nm,0.4s,mb5.3						
SNAA	**Sanae**	**93.97**	**194**	eP	**P**	**22 04 22.0**	**+0.9**
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ANN	**Anapa**	**94.03**	**314**	eP	**P**	**22 04 16.8**	**-5.2**
ANN				e		22 14 48.3	
ANN				pmax	pmax		
	comp=Z,75nm,1.2s,mb6.0						
MBAR	**Mbarara**	**94.73**	**269**	⇑eP	**P**	**22 04 26.2**	**+0.3**
VNA2	**Neumayer--Watz**	**95.57**	**194**	⇑P	**P**	**22 04 35.1**	**+6.6**
RKT	**Rikitea**	**95.62**	**114**	eLR	LR	22 35 21.9	
	comp=Z,294nm,32.0s						
OBN	**Obninsk**	**95.66**	**325**	⇑iP	**P**	**22 04 29.2**	**0.0**
OBN				LR	LR		
	comp=Z,200nm,22.0s,MS4.5						
OBN	**Obninsk**	**95.66**	**325**	⇑iP	**P**	**22 04 29.2**	**0.0**
OBN				e		22 14 54.8	
OBN				pmax	pmax		
	comp=Z,37nm,2.4s,mb5.4						
OBN				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.5						
ILAR	**Eielson Array**	**95.81**	**25**	P	**P**	**22 04 27.9**	**-1.8**
	comp=Z,1.9nm,1.0s,mb4.5,baz=265,slow=4.1,SNR=9.4						
VNA3	**Neumayer Olymp**	**95.88**	**193**	⇑P	**P**	**22 04 31.9**	**+2.0**
VNA1	**Neumayer--Stat**	**95.97**	**194**	⇑P	**P**	**22 04 30.3**	**0.0**
BRTR	**Keskin Array B**	**96.33**	**309**	P	**P**	**22 04 32.2**	**-0.5**
	comp=Z,1.6nm,1.0s,mb4.4,baz=108,slow=3.9,SNR=8.7						
BRTR				PP	PP	22 08 20.6	-8.1
	comp=Z,0.4nm,0.4s,baz=101,slow=6.3,SNR=3.6						
AKASG	**Malin Array Be**	**99.91**	**320**	P	**P**	**22 04 47.5**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.6,baz=80,slow=4.2,SNR=14						
CLL	**Collm**	**110.00**	**322**	ePP	PP	22 10 08.0	-3.7
PDAR	**Pinedale Array**	**120.45**	**45**	PKP	PKPdf	22 09 54.9	-4.1
	comp=Z,1.0nm,0.8s,baz=270,slow=1.5,SNR=8.2						
ESDC	**Sonseca Array**	**124.84**	**314**	PKP	PKPdf	22 10 03.4	-4.2
	comp=Z,0.1nm,0.3s,baz=50,slow=2.7,SNR=4.1						
ANMO	**Albuquerque**	**125.19**	**52**	⇑iPKIKP	PKPdf	22 10 04.4	-4.0
MNTX	**Cornudas Mount**	**126.96**	**56**	ePKPdf	PKPdf	22 10 08.3	-3.5
TXAR	**Lajitas Array**	**129.01**	**58**	PKP	PKPdf	22 10 11.9	-4.0
	comp=Z,0.5nm,0.2s,baz=76,slow=5.2,SNR=4.0						
SCHQ	**Schefferville**	**131.92**	**10**	PKP	PKPdf	22 10 16.3	-4.4
	comp=Z,4.0nm,0.8s,baz=37,slow=10,SNR=2.9						
CPUP	**Villa Florida**	**146.09**	**175**	PKPbc	PKPbc	22 10 43.9	+0.6
	comp=Z,24nm,1.1s,baz=197,slow=2.9,SNR=16						
LPAZ	**La Paz**	**152.60**	**150**	PKPbc	PKPdf	22 11 02.3	+4.9
	comp=Z,2.1nm,0.5s,baz=199,slow=2.2,SNR=8.1						

ROM ***12*** *22:21:34.4±1.0, 38.87N×20.24E, h12km, Md3.5/9, Ml3.1/2, Error ellipse: s-maj=18.2km s-min=3.2km az=85.0*
HLW ***12*** *22:21:36.3, 38.93N×20.20E, h33km, Mb3.6*
ATH ***12*** *22:21:37.2, 38.95N×20.14E, h21km±1km, MD3.8/11, ML4.0*
NEIC ***12*** *22:21:37.5, 38.97N×20.14E, h25km, ML4.0(ATH), ML3.5(THE), After ATH.*
THE ***12*** *22:21:39.4, 39.09N×20.30E, h1km, ML3.5*
CSEM ***12*** *22:21:40.1±0.1, 39.00N×20.08E, h40km, ML3.5, Error ellipse: s-maj=2.5km s-min=1.5km az=13.0*
ISC 12 22:21:36.5±0.7**, 38.99N**±0.02×**20.13E**±0.03**, h11**km±5km**, n88, σ1§20**/129**, 2C-5D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.50**	**125**	ePg	**Pg**	**22 21 45.8**	**-0.9**
LKD	**Levkas**	**0.50**	**125**	P	**Pg**	**22 21 45.9**	**-0.7**
KEK	**Kerkira**	**0.76**	**341**	ePB	**Pb**	**22 21 52.3**	**+0.9**
KEK				eSN	**Sn**	**22 22 04.7**	**+0.2**
KEK	**Kerkira**	**0.76**	**341**	Pg	**Pg**	**22 21 52.7**	**+0.8**
KEK				Sg	**Sg**	**22 22 06.3**	**+4.2**
KEK	**Kerkira**	**0.76**	**341**	Pg	**Pg**	**22 21 52.7**	**+0.8**
KEK				eSn	**Sn**	**22 22 04.7**	**+0.2**
KEK				Sg	**Sg**	**22 22 06.3**	**+4.2**
JAN	**Janina**	**0.87**	**40**	ePN	**Pn**	**22 21 54.0**	**-0.5**
JAN				eSN	**Sn**	**22 22 07.1**	**-0.1**
VLS	**Valsamata**	**0.89**	**156**	ePN	**Pn**	**22 21 53.3**	**-1.6**
VLS				eSN	**Sn**	**22 22 06.2**	**-1.6**
VLS	**Valsamata**	**0.89**	**156**	ePn	**Pn**	**22 21 52.7**	**-2.2**
VLS				eSn	**Sn**	**22 22 07.9**	**+0.1**
EVR	**Evrytania**	**1.31**	**93**	ePN	**Pn**	**22 22 01.6**	**+0.7**
RLS	**Riolos of Patr**	**1.41**	**131**	ePN	**Pn**	**22 22 03.4**	**+1.2**
AGG	**Agios Georgios**	**1.72**	**88**	ePg	**Pg**	**22 22 09.2**	**-1.7**
	comp=Z,22nm,0.3s						
AGG				eSg	**Sg**	**22 22 30.6**	**-3.2**
AGG	**Agios Georgios**	**1.72**	**88**	P	**Pn**	**22 22 09.2**	**+2.6**
AGG				S	**Sn**	**22 22 31.7**	**+2.9**
AGG	**Agios Georgios**	**1.72**	**88**	ePg	**Pg**	**22 22 09.2**	**-1.6**
	22nm,0.3s						
AGG				eSg	**Sg**	**22 22 30.6**	**-3.1**
AGG				S	**Sn**	**22 22 31.7**	**+3.0**
KZN	**Kozani**	**1.82**	**44**	ePN	**Pn**	**22 22 09.7**	**+1.5**
FNA	**Florina**	**2.03**	**28**	ePb	**Pb**	**22 22 13.2**	**+0.2**
FNA				eSb	**Sb**	**22 22 36.1**	**-2.2**
FNA	**Florina**	**2.03**	**28**	P	**Pn**	**22 22 15.8**	**+4.7**
FNA				S	**Sn**	**22 22 40.7**	**+4.0**
FNA	**Florina**	**2.03**	**28**	P	**Pn**	**22 22 15.8**	**+4.6**
FNA				eSb	**Sb**	**22 22 36.1**	**-2.2**
FNA				S	**Sn**	**22 22 40.7**	**+4.0**
LCI	**Lecce**	**2.05**	**311**	Pg	**Pg**	**22 22 12.2**	**-5.4**
LKR	**Lokris**	**2.27**	**98**	ePB	**Pb**	**22 22 15.8**	**-1.3**
ITM	**Ithomi**	**2.30**	**141**	ePB	**Pb**	**22 22 16.4**	**-1.3**
XOR	**Xorichti**	**2.41**	**80**	ePn	**Pn**	**22 22 18.4**	**+1.8**
XOR	**Xorichti**	**2.41**	**80**	P	**Pn**	**22 22 18.4**	**+1.8**
NEO	**Neokhori**	**2.43**	**82**	ePB	**Pb**	**22 22 18.7**	**-1.1**
NEO	**Neokhori**	**2.43**	**82**	ePb	**Pb**	**22 22 19.8**	**0.0**
GRG	**Griva**	**2.63**	**41**	ePn	**Pn**	**22 22 20.4**	**+0.7**
GRG	**Griva**	**2.63**	**41**	P	**Pn**	**22 22 20.4**	**+0.7**
TIP	**Timpagrande**	**2.63**	**275**	ePn	**Pn**	**22 22 18.9**	**-0.8**
TIP	**Timpagrande**	**2.63**	**275**	ePn	**Pn**	**22 22 19.0**	**-0.7**
MGER	**Gerania Oros**	**2.66**	**111**	ePN	**Pn**	**22 22 21.0**	**+0.9**
MGER	**Gerania Oros**	**2.66**	**111**	ePb	**Pb**	**22 22 22.0**	**-1.7**
THE	**Thessaloniki**	**2.73**	**52**	ePn	**Pn**	**22 22 21.6**	**+0.4**
PE1	**Pezze di Greco**	**2.76**	**312**	ePn	**Pn**	**22 22 23.0**	**+1.4**
NSAL	**Nisos Salamina**	**2.83**	**111**	ePN	**Pn**	**22 22 23.5**	**+0.8**
PAIG	**Paliouri**	**2.90**	**70**	ePn	**Pn**	**22 22 24.0**	**+0.3**
PAIG				eSn	**Sn**	**22 22 58.2**	**-0.7**
PAIG	**Paliouri**	**2.90**	**70**	P	**Pn**	**22 22 23.6**	**-0.1**
PAIG				S	**Sn**	**22 22 58.2**	**-0.7**
PLG	**Polygyros**	**2.91**	**61**	ePN	**Pn**	**22 22 24.0**	**+0.3**
NAIG	**Nisos Aigina**	**2.92**	**114**	ePN	**Pn**	**22 22 24.8**	**+1.0**
AOS	**Alonnisos**	**2.92**	**85**	ePn	**Pn**	**22 22 24.5**	**+0.6**
AOS				eSn	**Sn**	**22 23 00.3**	**+0.8**
AOS	**Alonnisos**	**2.92**	**85**	P	**Pn**	**22 22 24.6**	**+0.7**
AOS				S	**Sn**	**22 23 00.2**	**+0.8**
AOS	**Alonnisos**	**2.92**	**85**	ePn	**Pn**	**22 22 24.5**	**+0.5**
AOS				S	**Sn**	**22 23 00.2**	**+0.7**
BRT	**Bari-Castellan**	**2.93**	**311**	Pg	**Pg**	**22 22 24.5**	**-11**
	21nm,0.4s						
MPAR	**Parnis Oros**	**2.95**	**105**	ePN	**Pn**	**22 22 25.5**	**+1.2**
MPAR	**Parnis Oros**	**2.95**	**105**	ePb	**Pb**	**22 22 26.0**	**-2.8**
NOCI	**Noci**	**2.96**	**308**	Pg	**Pn**	**22 22 24.3**	**-0.2**
	36nm,0.5s						
ATH	**Athens Observa**	**3.00**	**109**	ePN	**Pn**	**22 22 25.5**	**+0.5**
KNT	**Kendrikon**	**3.03**	**44**	ePn	**Pn**	**22 22 24.8**	**-0.8**
	comp=Z,2.5nm,0.3s						
KNT				eSn	**Sn**	**22 23 01.8**	**-0.4**
KNT	**Kendrikon**	**3.03**	**44**	P	**Pn**	**22 22 24.8**	**-0.7**
KNT				S	**Sn**	**22 23 01.9**	**-0.3**
KNT	**Kendrikon**	**3.03**	**44**	ePn	**Pn**	**22 22 24.8**	**-0.7**
	2.5nm,0.3s						
KNT				S	**Sn**	**22 23 01.9**	**-0.3**
SOH	**Sokhos**	**3.08**	**53**	ePn	**Pn**	**22 22 26.6**	**+0.5**
SOH				eSn	**Sn**	**22 23 02.7**	**-0.6**
SOH	**Sokhos**	**3.08**	**53**	P	**Pn**	**22 22 26.7**	**+0.6**
SOH				S	**Sn**	**22 23 01.1**	**-2.3**
SOH	**Sokhos**	**3.08**	**53**	ePn	**Pn**	**22 22 26.6**	**+0.4**
SOH				S	**Sn**	**22 23 01.1**	**-2.3**
SOH				eSn	**Sn**	**22 23 02.7**	**-0.7**
SKO	**Skopje**	**3.14**	**18**	ePn	**Pn**	**22 22 29.0**	**+2.0**
SKO				i		22 22 37.0	
VLI	**Veliai**	**3.18**	**135**	ePN	**Pn**	**22 22 28.3**	**+0.8**
VLI	**Veliai**	**3.18**	**135**	ePn	**Pn**	**22 22 29.6**	**+2.1**
SG1	**Sgolgore (BA)**	**3.23**	**306**	ePn	**Pn**	**22 22 27.5**	**-0.8**
OUR	**Ouranopolis**	**3.26**	**65**	ePn	**Pn**	**22 22 29.4**	**+0.7**
OUR				eSn	**Sn**	**22 23 08.7**	**+0.7**
OUR	**Ouranopolis**	**3.26**	**65**	P	**Pn**	**22 22 29.4**	**+0.7**
OUR				S	**Sn**	**22 23 08.8**	**+0.8**
OUR	**Ouranopolis**	**3.26**	**65**	ePn	**Pn**	**22 22 29.4**	**+0.7**
OUR				S	**Sn**	**22 23 08.8**	**+0.8**
AMUR	**Altamura**	**3.31**	**306**	Pg	**Pn**	**22 22 28.9**	**-0.6**
CEL	**Celeste**	**3.40**	**259**	Pg	**Pn**	**22 22 30.4**	**-0.2**
SRS	**Serrai**	**3.40**	**50**	ePn	**Pn**	**22 22 30.9**	**+0.2**
SRS				eSn	**Sn**	**22 23 09.9**	**-1.6**
SRS	**Serrai**	**3.40**	**50**	P	**Pn**	**22 22 31.0**	**+0.3**
SRS				S	**Sn**	**22 23 09.9**	**-1.6**
CUC	**Castrocucco**	**3.48**	**288**	Pg	**Pn**	**22 22 32.7**	**+0.8**
	46nm,0.6s						
KYTH	**Kithira**	**3.56**	**139**	ePN	**Pn**	**22 22 34.5**	**+1.6**
CDT	**Castel del Mon**	**3.62**	**306**	ePn	**Pn**	**22 22 32.4**	**-1.4**
NVR	**Nevrokopi**	**3.70**	**49**	ePn	**Pn**	**22 22 34.1**	**-0.9**
LIA	**Limnos Island**	**4.02**	**75**	ePN	**Pn**	**22 22 40.1**	**+0.6**
SGO	**Sicignano**	**4.03**	**294**	Pg	**Pn**	**22 22 40.2**	**+0.5**
	7.0nm,0.2s						
RDO	**Rodhopi**	**4.67**	**61**	ePN	**Pn**	**22 22 48.9**	**+0.1**
APE	**Apeiranthos**	**4.68**	**113**	ePN	**Pn**	**22 22 49.5**	**+0.6**
ISOR	**Termini**	**4.74**	**291**	Pg	**Pn**	**22 22 48.9**	**-0.8**
VAM	**Vamos**	**4.83**	**137**	ePn	**Pn**	**22 22 49.6**	**-1.5**
ALN	**Alexandroupoli**	**4.93**	**65**	ePn	**Pn**	**22 22 52.9**	**+0.4**
ALN				eSn	**Sn**	**22 23 48.5**	**-1.6**
ALN	**Alexandroupoli**	**4.93**	**65**	P	**Pn**	**22 22 54.1**	**+1.7**
ALN				S	**Sn**	**22 23 47.4**	**-2.8**
ALN	**Alexandroupoli**	**4.93**	**65**	ePn	**Pn**	**22 22 52.8**	**+0.4**
ALN	**Alexandroupoli**	**4.93**	**65**	P	**Pn**	**22 22 54.1**	**+1.7**
ALN				S	**Sn**	**22 23 47.3**	**-2.9**
CII	**Carovilli**	**5.22**	**303**	ePn	**Pn**	**22 22 56.4**	**0.0**
	7.4nm,0.5s						
CII	**Carovilli**	**5.22**	**303**	ePn	**Pn**	**22 22 56.4**	**-0.1**
	7.4nm,0.5s						
GVD	**Gavdhos**	**5.22**	**141**	ePn	**Pn**	**22 22 57.8**	**+1.3**
GVD				eSn	**Sn**	**22 23 56.4**	**-1.0**
GVD	**Gavdhos**	**5.22**	**141**	ePn	**Pn**	**22 22 57.8**	**+1.3**
NVLJ	**Novalja**	**6.81**	**326**	i (Pn)	**Pn**	**22 23 16.5**	**-2.4**
NVLJ				i Sn	**Sn**	**22 24 29.2**	**-8.1**
OBKA	**Obir**	**8.56**	**333**	⇓iPN	**P**	**22 23 40.1**	**-3.2**
OBKA				i SN	**Sn**	**22 25 09.4**	**-11**
OBKA	**Obir**	**8.56**	**333**	⇓iPn	**P**	**22 23 40.1**	**-3.2**
OBKA				⇑iSn	**Sn**	**22 25 09.4**	**-11**
SLUM		**8.56**	**149**	⇓P	**P**	**22 23 37.5**	**-5.9**
HMAT	**Matruh**	**9.73**	**142**	⇓P	**P**	**22 23 54.0**	**-5.6**
HMAT				S	**Sn**	**22 25 34.2**	**-16**
SWA2		**10.68**	**154**	⇓P	**P**	**22 24 06.8**	**-5.7**
SWA2		**10.68**	**154**	P	**P**	**22 24 06.8**	**-5.8**
SWA1		**10.75**	**153**	⇑P	**P**	**22 24 07.9**	**-5.6**
SWA1				S	**S**	**22 25 58.7**	**-16**

FUNV ***12*** *22:29:41.1, 10.86N×62.25W, h100km, MW2.6*
TRN ***12*** *22:29:42.7, 10.91N×62.27W, h85km, MD2.9*
NEIC ***12*** *22:29:42.7, 10.91N×62.27W, h85km, MD3.1(CAR), MD2.9(TRN), After TRN.*
ISC 12 22:29:40.8±1.1**, 10.85N**±0.06×**62.30W**±0.04**, h98**km±10km**, n10, σ0§72**/20**, 1C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.22**	**161**	eP	**P**	**22 29 55.2**	**+0.3**
GUIV				eS	**S**	**22 30 05.3**	**-0.2**
TRN	**Trinidad (W)**	**0.90**	**103**	⇑iP	**P**	**22 30 01.2**	**+1.0**
TRN				eS	**S**	**22 30 13.5**	**-1.2**
GUNV	**Guanoco**	**0.94**	**223**	eP	**P**	**22 30 01.1**	**+0.5**
GUNV				eS	**S**	**22 30 15.7**	**+0.2**
CRUV	**Carupano**	**0.94**	**259**	eP	**P**	**22 30 00.9**	**+0.2**
CRUV				eS	**S**	**22 30 15.4**	**-0.1**
ITEV	**Isla Los Testi**	**0.96**	**301**	eP	**P**	**22 30 00.9**	**0.0**
ITEV				eS	**S**	**22 30 15.7**	**-0.2**
TBH	**Brigand Hill**	**1.26**	**107**	eP	**P**	**22 30 05.4**	**+0.9**
TBH				eS	**S**	**22 30 23.2**	**+1.0**
GRW	**Mount Saint Ca**	**1.44**	**26**	eP	**P**	**22 30 07.3**	**+0.6**
GRW				eS	**S**	**22 30 24.9**	**-0.9**
TPR	**Prospect**	**1.53**	**77**	i P	**P**	**22 30 08.0**	**+0.2**
TPR				eS	**S**	**22 30 27.5**	**-0.2**
BOT	**Bacolet**	**1.58**	**79**	eP	**P**	**22 30 08.5**	**+0.1**
BOT				eS	**S**	**22 30 28.0**	**-0.8**
GURV	**El Guri**	**3.17**	**194**	eP	**P**	**22 30 28.7**	**-1.2**
GURV				eS	**S**	**22 31 03.4**	**-3.5**

NEIC ***12*** *22:32:20.6, 19.57N×69.20W, h25km, MD3.9(RSPR), After RSPR.*
RSPR 12 22:32:20.6, 19.58N×69.20W, h25km±18km**, MD3.9**/10**, MD3.9**/10**, 17C-3D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**1.31**	**211**	⇑eP	Pn	22 32 40.6	-3.0
STDO				eS	Sn	22 32 56.6	-3.8
LSP	**Las Mesas**	**2.44**	**124**	⇓eP	Pn	22 32 58.7	-1.0
LSP				eS	Sn	22 33 27.0	-2.1
LSP	**Las Mesas**	**2.44**	**124**	⇑eP	Pn	22 32 57.2	-2.6
LSP				eS	Sn	22 33 25.3	-3.8
CRPR	**Cabo Rojo, PR**	**2.53**	**128**	eS	Sn	22 33 28.0	-3.3
CRPR	**Cabo Rojo, PR**	**2.53**	**128**	eS	Sn	22 33 28.1	-3.2
CRPR	**Cabo Rojo, PR**	**2.53**	**128**	⇑eP	Pn	22 32 59.7	-1.3
CRPR				eS	Sn	22 33 28.0	-3.3
MGP	**Maguayo**	**2.54**	**128**	⇓eP	Pn	22 33 00.1	-1.0
MGP				eS	Sn	22 33 28.5	-3.1
MGP	**Maguayo**	**2.54**	**128**	⇑eP	Pn	22 32 58.1	-3.1
MGP				eS	Sn	22 33 28.3	-3.3
LRS	**Lares**	**2.57**	**119**	⇓eP	Pn	22 32 59.8	-1.9
LRS				eS	Sn	22 33 29.1	-3.3
LRS	**Lares**	**2.57**	**119**	⇑eP	Pn	22 32 59.0	-2.6
LRS				eS	Sn	22 33 29.2	-3.2
ICM	**Isla Caja Muer**	**3.04**	**123**	eS	Sn	22 33 38.8	-5.6
ICM	**Isla Caja Muer**	**3.04**	**123**	⇑eP	Pn	22 33 08.3	-0.1
ICM	**Isla Caja Muer**	**3.04**	**123**	eS	Sn	22 33 41.0	-3.4
ICM	**Isla Caja Muer**	**3.04**	**123**	⇑eP	Pn	22 33 05.3	-3.0
ICM				eS	Sn	22 33 41.0	-3.4
SJG	**San Juan**	**3.24**	**116**	eS	Sn	22 33 43.0	-6.3
SJG	**San Juan**	**3.24**	**116**	⇑eP	Pn	22 33 09.1	-2.0
SJG	**San Juan**	**3.24**	**116**	eS	Sn	22 33 45.5	-3.7
SJG	**San Juan**	**3.24**	**116**	⇑eP	Pn	22 33 08.4	-2.7
SJG	**San Juan**	**3.24**	**116**	⇑eP	Pn	22 33 08.4	-2.7
SJG				eS	Sn	22 33 45.5	-3.7
CBYP	**Canovanas**	**3.42**	**112**	eS	Sn	22 33 49.1	-4.9
CBYP	**Canovanas**	**3.42**	**112**	eS	Sn	22 33 50.2	-3.8
CBYP	**Canovanas**	**3.42**	**112**	⇑eP	Pn	22 33 11.0	-2.7
CBYP				eS	Sn	22 33 49.1	-4.9
CPD	**Cerro la Pandu**	**3.47**	**116**	⇑eP	Pn	22 33 12.0	-2.4
CPD	**Cerro la Pandu**	**3.47**	**116**	eS	Sn	22 33 48.8	-6.4
CPD	**Cerro la Pandu**	**3.47**	**116**	eS	Sn	22 33 51.2	-4.0
CPD	**Cerro la Pandu**	**3.47**	**116**	⇑eP	Pn	22 33 12.0	-2.4
CPD				eS	Sn	22 33 51.2	-4.0
HUMP	**Col San Antoni**	**3.48**	**114**	⇑eP	Pn	22 33 11.9	-2.7
HUMP	**Col San Antoni**	**3.48**	**114**	eS	Sn	22 33 49.1	-6.3
HUMP	**Col San Antoni**	**3.48**	**114**	eS	Sn	22 33 51.8	-3.7
HUMP	**Col San Antoni**	**3.48**	**114**	⇑eP	Pn	22 33 12.1	-2.4
HUMP				eS	Sn	22 33 51.8	-3.7
MTP	**Monte Pirata**	**3.76**	**113**	⇑eP	Pn	22 33 15.4	-3.0
MTP	**Monte Pirata**	**3.76**	**113**	eS	Sn	22 33 57.8	-4.6
MTP	**Monte Pirata**	**3.76**	**113**	eS	Sn	22 33 58.1	-4.2
MTP	**Monte Pirata**	**3.76**	**113**	⇑eP	Pn	22 33 15.6	-2.8
MTP				eS	Sn	22 33 58.1	-4.2

ISC 12 22:47:19.6±0.7**, 41.19N**±0.05×**33.87E**±0.05**, h10**km±9km**, n7, σ0§72**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.19**	**143**	i PG	**Pg**	**22 47 24.2**	**+0.4**
BALT	**Daday**	**0.50**	**313**	i P	**Pg**	**22 47 29.6**	**-0.1**
BALT				i S	**Sg**	**22 47 37.0**	**+0.4**
BYBT	**Boyabat**	**0.73**	**67**	PG	**Pg**	**22 47 34.0**	**-0.2**
BYBT				SG	**Sg**	**22 47 44.8**	**+0.8**
ELDT	**Eldivan**	**0.78**	**206**	i P	**Pb**	**22 47 34.9**	**+0.2**
ELDT				i S	**Sb**	**22 47 46.2**	**+1.3**
BOYT	**Boyabat**	**0.81**	**73**	i P	**Pb**	**22 47 35.0**	**-0.2**
BOYT				i S	**Sb**	**22 47 46.5**	**+0.5**
CTKT	**Corum**	**0.90**	**129**	i P	**Pb**	**22 47 35.5**	**-1.3**
CTKT				i S	**Sb**	**22 47 47.9**	**-0.5**
SAFT	**Safranbolu**	**0.90**	**274**	PG	**Pg**	**22 47 36.3**	**-1.2**

NIED ***12*** *22:53:00, 24.90N×120.90E, h23km, Mw4.2 Best double couple: $M_0$2.19×10[15] NP1:ϕ_s279°, δ89°, λ-106°. NP2: ϕ_s185°, δ16°, λ-4°.*
IDC ***12*** *22:53:16.7±1.4, 23.52N×120.84E, mb3.3/3, mb1 3.4/4, mb1mx3.4/18, mbtmp3.4/4, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/8, Error ellipse: s-maj=44.6km s-min=26.1km az=60.0*
BJI ***12*** *22:53:19.8, 24.40N×120.91E, h12km, mB4.4, mb4.3, ML4.1, Ms4.0, Msz3.6*
NEIC ***12*** *22:53:21.4, 24.41N×120.97E, h4km, ML4.5(TAP), After TAP.*
NEIC Recorded [3 TAP] in Miao-li; [2 TAP] in I-lan and T'ai-chung; [1 TAP] in Chang-Hua, Hsin-chu, Nan-t'ou and T'ai-pei Counties.
ISC 12 22:53:20.2±1.2**, 24.40N**±0.06×**120.89E**±0.05**, h5**km±9km**, n17, σ1§15**/24**, mb3.7**/5**, MS3.3**/2**, 3C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**0.52**	**58**	⇑iPg	**Pg**	**22 53 30.8**	**+0.3**
YHNB				eSg	**Sg**	**22 53 36.8**	**-0.6**
NACB	**Ninganchiao**	**0.68**	**109**	⇓iPg	**Pg**	**22 53 34.5**	**+0.7**
NACB				eSg	**Sg**	**22 53 42.9**	**+0.1**
TATO	**Taipei**	**0.79**	**43**	ePb	**Pb**	**22 53 36.7**	**+0.7**
TATO				eSb	**Sb**	**22 53 47.5**	**+0.7**
QZH	**Quanzhou**	**2.16**	**285**	⇑iP	**Pn**	**22 53 57.1**	**-0.3**
QZH				S	**Sn**	**22 54 21.8**	**-3.1**
QZH				Smax			
	comp=N,2µm,0.7s						
QZH				Smax			
	comp=E,750nm,0.6s						
JOW	**Kunigami**	**7.09**	**68**	Pn	**Pn**	**22 55 06.8**	**-0.4**
	comp=E,1.3nm,0.3s,baz=142,slow=14,SNR=7.3						
JOW				LR	LR	22 58 18.1	
	comp=E,171nm,19.4s,baz=144,slow=40						
NJ2	**Nanjing**	**7.83**	**347**	eP	**Pn**	**22 55 18.2**	**+0.6**
NJ2				AP		22 55 22.2	
NJ2				XP		22 55 24.1	
NJ2				S	**Sn**	**22 56 47.9**	**+0.2**
NJ2				XS		22 56 52.8	
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s						
NJ2				AMB	AMB		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,200nm,3.6s						
NJ2				Smax			
	comp=N,290nm,1.3s						
NJ2				Smax			
	comp=E,170nm,1.0s						
NJ2				LR	LR		
	comp=N,470nm,9.6s						
NJ2				LR	LR		
	comp=E,850nm,6.0s						
NJ2				LR	LR		
	comp=Z,290nm,14.6s						
GYA	**Guiyang**	**13.02**	**282**⇑	*i*P	**P**	**22 56 31.0**	**+2.3**
GYA				PP	PP	22 56 42.4	+3.4
GYA				S	**S**	**22 58 57.6**	**+2.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,370nm,12.4s						
GYA				LR	LR		
	comp=E,380nm,11.6s						
GYA				LR	LR		
	comp=Z,340nm,12.0s						
INCN	**Inchon**	**13.94**	**19**	Pn	**P**	**22 56 38.2**	**-2.5**
KMI	**Kunming**	**16.51**	**276**	P	**P**	**22 57 11.6**	**-2.6**
KMI				XP		22 57 17.5	
KMI				PP	PP	22 57 27.2	-0.6
KMI				S	**S**	**23 00 17.8**	**+0.4**
KMI				SS	SS	23 00 37.8	+0.6
KMI				AMB	AMB		
	comp=Z,8.0nm,0.5s						
KMI				AMB	AMB		
	comp=Z,40nm,4.4s						
KMI				LR	LR		
	comp=N,326nm,13.9s						
KMI				LR	LR		
	comp=E,146nm,10.9s						
KMI				LR	LR		
	comp=Z,114nm,10.9s						
JHJ	**Hachijo jima 2**	**18.68**	**58**	LR	LR	23 04 28.6	
	comp=Z,70nm,20.2s,baz=290,slow=35						
LZH	**Lanzhou**	**18.75**	**312**	*e*P	**P**	**22 57 37.2**	**-4.9**
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
MDJ	**Mudanjiang**	**21.38**	**17**	P	**P**	**22 58 10.5**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,75nm,4.1s						
MDJ				LR	LR		
	comp=N,30nm,18.4s,MS3.1						
MDJ				LR	LR		
	comp=E,77nm,19.5s,MS3.1						
MDJ				LR	LR		
	comp=Z,41nm,17.2s,MS2.9						
GUMO	**Guam**	**25.05**	**111**	*e*P	**P**	**22 58 46.6**	**-0.3**
SONM	**Songino Array**	**26.07**	**337**	P	**P**	**22 59 00.2**	**+3.9**
	comp=Z,0.3nm,0.7s,mb2.9,baz=158,slow=11,SNR=3.3						
WMQ	**Urumqi**	**33.32**	**314**	*e*P	**P**	**23 00 01.0**	**0.0**
WMQ				*e*S	**S**	**23 05 21.0**	**0.0**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,87nm,3.5s						
WMQ				LR	LR		
	comp=N,94nm,18.4s,MS3.7						
WMQ				LR	LR		
	comp=E,105nm,16.5s,MS3.7						
WMQ				LR	LR		
	comp=Z,86nm,17.7s,MS3.5						
MKAR	**Makanchi Array**	**38.00**	**316**	P	**P**	**23 00 40.6**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.4,baz=108,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**45.98**	**162**	P	**P**	**23 01 35.3**	**-11**
	comp=Z,0.8nm,0.8s,mb3.7,baz=343,slow=8.7,SNR=6.0						

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*LDG **13** 00:29:22.9±0.2, 43.04N×2.09W, h2^{km}, Md2.5/2, Ml2.3/3, Error ellipse: s-maj=9.1km s-min=3.7km az=173.0*
*STR **13** 00:29:24.9±1.0, 43.73N×0.80W, h2^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **13** 00:29:25.8, 42.96N×1.91W, ML2.5(STR), ML2.3(LDG), MN1.6(MDD), After MDD.*
MDD 13 00:29:25.6±0.5**, 42.96N×1.91W, h5^{km}±8^{km}, mbLg1.5**/12**, 1C, Error ellipse: s-maj=3.6km s-min=2.0km az=90.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.27**	**92**	Pg	Pg	00 29 30.5	-0.5
	15nm,0.1s,SNR=7.9						
IUSE				Lg		00 29 34.5	
	49nm,0.3s,SNR=7.9						
EARA	**Aranguren**	**0.31**	**127**	⇑Pg	Pg	00 29 31.0	-0.8
	36nm,0.4s,SNR=18						
EARA				Lg		00 29 35.7	
	27nm,0.1s,SNR=20						
EALK	**Alkurruntz**	**0.40**	**48**	Pg	Pg	00 29 33.7	+0.1
	8.2nm,0.4s,SNR=13						
EALK				Lg		00 29 37.5	
	14nm,0.3s,SNR=11						
IPRE	**Itoiz**	**0.44**	**110**	Pg	Pg	00 29 34.2	-0.1
	SNR=4.0						
IPRE				Lg		00 29 40.5	
	14nm,0.3s,SNR=4.0						
SJPF	**Ste Jean**	**0.53**	**72**	*e*Pg	Pg	00 29 34.9	-1.3
SJPF				*e*Sg	Sg	00 29 43.0	-0.3
	28nm,0.4s						
OSSF	**Osses**	**0.56**	**58**	Pg	Pg	00 29 36.2	-0.7
OSSF				Sg	Sg	00 29 43.8	-0.6
LARF	**Larrau**	**0.68**	**83**	Pg	Pg	00 29 37.9	-1.4
LARF				Sg	Sg	00 29 48.2	-0.2
ETSF	**Etsaut**	**1.00**	**93**	*e*Pg	Pg	00 29 44.0	-1.5
ETSF				*e*Sg	Sg	00 29 59.3	+0.5
	5.5nm,0.2s						
ELAN	**Lanestosa**	**1.15**	**284**	Pg	Pg	00 29 48.0	-0.5
	2.6nm,0.4s,SNR=4.0						
ELAN				Lg		00 30 03.6	
	5.7nm,0.5s,SNR=4.0						
EBIE	**Bielsa**	**1.54**	**99**	Pg	Pg	00 29 54.3	-2.0
	2.3nm,0.3s,SNR=24						
EBIE				Lg		00 30 15.0	
	0.8nm,0.1s,SNR=7.4						
ESAC	**San Caprasio**	**1.63**	**139**	Pg	Pg	00 29 56.4	-1.9
	10nm,0.3s,SNR=7.6						
ESAC				Lg		00 30 17.0	
	13nm,0.3s,SNR=7.2						
EPF	**Esparros**	**1.66**	**87**	*e*Pn	Pn	00 29 53.3	-2.2
EPF				*e*Pg	Pg	00 29 56.2	-2.5
EPF				*e*Sg	Sg	00 30 19.4	-1.3
	8.7nm,0.4s						
EGRA	**Graus**	**1.81**	**114**	Pg	Pg	00 30 00.1	-1.7
	3.2nm,0.4s,SNR=7.9						
EGRA				Lg		00 30 25.0	
	1.4nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.61**	**139**	Pn	Pn	00 30 08.2	-1.0
	SNR=4.0						
ERTA				Lg		00 30 48.9	
	1.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.74**	**125**	Lg		00 30 51.5	
	SNR=7.9						
EMIR	**Miracle**	**2.75**	**111**	Pg	Pg	00 30 16.4	-4.2
	SNR=7.9						
EMIR				Lg		00 30 53.5	
	SNR=7.9						
EMOS	**Mosqueruela**	**2.81**	**157**	Pg	Pg	00 30 18.0	-3.7
	0.1nm,0.1s,SNR=4.0						
EMOS				Lg		00 30 54.0	
	SNR=7.9						
MTLF	**Montolieu**	**3.05**	**81**	*e*Pn	Pn	00 30 11.8	-3.6
MTLF				*e*Pg	Pg	00 30 21.6	-4.9
MTLF				*e*Sg	Sg	00 31 02.4	-4.7
	2.3nm,0.5s						

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*NIED **13** 01:22:00, 24.90N×127.00E, h23^{km}, Mw3.9 Best double couple: $M_0 7.8\times10^{14}$ NP1:ϕ_s253°, δ61°, λ107°. NP2:ϕ_s41°, δ33°, λ62°.*
JMA 13 01:22:46.6±0.6**, 24.85N×126.97E, h16^{km}, M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.42**	**267**	P	Pn	01 23 12.3	+0.3
JOGS				*e*S	Sb	01 23 30.7	+0.7
JKE	**Kume jima 2**	**1.48**	**354**	P	Pn	01 23 12.8	0.0
NAH1	**Naha**	**1.50**	**26**	*e*S	Sb	01 23 32.4	+0.2
JMJ	**Miyako jima 2**	**1.52**	**269**	P	Pn	01 23 13.6	+0.2
JAGN	**Aguni-jima**	**1.75**	**8**	P	Pn	01 23 16.7	+0.1
JTJ	**Tarama**	**2.07**	**265**	P	Pn	01 23 20.2	-1.1
JTJ				*e*S	Sn	01 23 44.6	-2.3
JOW	**Kunigami**	**2.30**	**30**	P	Pn	01 23 25.7	+1.2
JOW				*e*S	Sn	01 23 52.3	-0.3
IRIF	**Iriomote-Funau**	**2.99**	**261**	P	Pn	01 23 34.1	-0.3
JTK	**Tokunoshima**	**3.42**	**31**	P	Pn	01 23 39.9	-0.6
JTK				*e*S	Sn	01 24 18.9	-2.2
JMZ	**Minamidaito 2**	**3.97**	**75**	P	Pn	01 23 46.3	-1.9
JMZ				*e*S	Sn	01 24 30.4	-4.5
JAM	**Amami Oshima**	**4.26**	**33**	P	Pn	01 23 51.3	-1.1
JAM				*e*S	Sn	01 24 37.3	-5.0

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*MOS **13** 01:31:59.7±0.6, 5.25S×153.82E, h35^{km}, mb5.1/11, Error ellipse: s-maj=15.6km s-min=11.3km az=66.4*
*NEIC **13** 01:32:02.2±1.7, 5.34S×153.86E, h45^{km}±14^{km}, mb5.0/17, Error ellipse: s-maj=11.9km s-min=7.2km az=65.0*
*BJI **13** 01:32:03.0, 4.65S×153.79E, h34^{km}, mB5.2, mb5.1*
*IDC **13** 01:32:03.1±3.7, 5.35S×153.79E, h53^{km}±32^{km}, mb4.4/14, mb1 4.5/16, mb1mx4.4/20, mbtmp4.7/16, ML4.1/2, MS3.6/4, Ms1 3.6/4, ms1mx3.4/15, Error ellipse: s-maj=22.1km s-min=13.3km az=67.0*
ISC 13 01:31:59.7±0.4**, 5.37S**±0.05×**153.81E**±0.07**, h33^{km}, (h35^{km}±6.5^{km}:pP-P), n83, σ1^{s}04**/73**, mb4.9**/40**, MS3.6**/3**, 2C-2D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.30**	**124**	LR	LR	01 36 07.8	
	comp=Z,241nm,19.3s,baz=140,slow=33						
PMG	**Port Moresby**	**7.72**	**238**	P	**P**	**01 33 52.8**	**+0.3**
	25nm,0.3s,baz=59,slow=7.0,SNR=46						
PMG				S	**S**	**01 35 18.3**	**-1.4**
	16nm,0.3s,baz=149,slow=19,SNR=4.8						
CTA	**Charters Tower**	**16.37**	**206**	*e*P	**P**	**01 35 50.5**	**+1.7**
	9.2nm,0.9s						
CTA	**Charters Tower**	**16.37**	**206**	P	**P**	**01 35 50.1**	**+1.4**
	0.3nm,0.3s,baz=34,slow=14,SNR=19						
CTA	**Charters Tower**	**16.37**	**206**	*e*P	**P**	**01 35 50.5**	**+1.7**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**16.37**	**206**	*e*P	**P**	**01 35 50.2**	**+1.5**
	comp=Z,16nm,1.0s						
CTAO	**Charters Tower**	**16.37**	**206**	*e*P	**P**	**01 35 50.2**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,16nm,1.0s						
DZM	**Mont Dzumac**	**20.62**	**145**	*e*P	**P**	**01 36 36.3**	**-2.6**
DZM	**Mont Dzumac**	**20.62**	**145**	P	**P**	**01 36 38.6**	**-0.3**
	comp=Z,38nm,0.6s,baz=313,slow=7.8,SNR=43						
DZM				LR	LR	01 42 16.9	
	comp=Z,84nm,21.4s,MS3.1,baz=20,slow=30						
DZM	**Mont Dzumac**	**20.62**	**145**	*e*P	**P**	**01 36 36.3**	**-2.6**
KAKA	**Kakadu**	**22.32**	**249**	*e*P	**P**	**01 37 14.4**	**+18**
	comp=Z,52nm,0.5s,mb5.2						
WRAB	**Tennant Creek**	**23.83**	**231**	*e*P	**P**	**01 37 11.1**	**+0.2**
	comp=Z,28nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**23.83**	**231**	*e*P	**P**	**01 37 11.1**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**23.84**	**231**	*e*P	**P**	**01 37 11.7**	**+0.7**
WB2				*i* SCS		01 44 34.8	
WRA	**Warramunga Arr**	**23.85**	**231**	P	**P**	**01 37 11.6**	**+0.5**
	comp=Z,2.8nm,0.7s,mb3.8,baz=54,slow=10.0,SNR=12						
WRA				PcP	PcP	01 40 52.9	-2.4
	comp=Z,4.9nm,0.7s,baz=57,slow=2.0,SNR=9.8						
STKA	**Stephens Creek**	**28.75**	**202**	*e*P	**P**	**01 37 57.2**	**+0.7**
	comp=Z,4.9nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**28.75**	**202**	P	**P**	**01 37 54.9**	**-1.6**
	comp=Z,3.9nm,0.8s,mb4.2,baz=24,slow=11,SNR=6.2						
STKA				PcP	PcP	01 41 03.9	-2.5
	comp=Z,4.2nm,0.9s,baz=312,slow=6.4,SNR=3.6						
STKA				LR	LR	01 49 08.6	
	comp=Z,181nm,19.2s,MS3.7,baz=20,slow=36						
STKA	**Stephens Creek**	**28.75**	**202**	*e*P	**P**	**01 37 54.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**30.29**	**243**	*e*P	**P**	**01 38 09.1**	**-1.2**
	comp=Z,27nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.29**	**243**	P	**P**	**01 38 09.4**	**-0.9**
	comp=Z,8.1nm,0.5s,mb4.8,baz=38,slow=7.1,SNR=34						
URZ	**Urewera**	**38.99**	**150**	P	**P**	**01 39 24.6**	**-0.1**
	comp=Z,16nm,0.6s,mb4.9,baz=320,slow=5.1,SNR=12						
JOW	**Kunigami**	**40.44**	**324**	P	**P**	**01 39 36.9**	**0.0**
	comp=Z,5.4nm,0.4s,mb4.6,baz=158,slow=13,SNR=4.7						
RPZ	**Rata Peaks**	**41.10**	**161**	P	**P**	**01 39 42.7**	**+0.5**
	comp=Z,22nm,1.1s,mb4.7,baz=358,slow=16,SNR=5.6						
KLBR	**Kellerberrin**	**42.66**	**228**	*e*P	**P**	**01 39 53.9**	**-1.3**
	comp=Z,75nm,1.7s,mb5.1						
JNU	**Nakatsue**	**44.03**	**332**	P	**P**	**01 40 05.5**	**-0.8**
	comp=Z,14nm,0.8s,mb4.7,baz=102,slow=12,SNR=12						
WHN	**Wuhan**	**51.96**	**316**	⇓P	**P**	**01 41 08.5**	**+0.6**
WHN				AP	pP	01 41 22.0	+4.1
ENH	**Enshi**	**55.28**	**313**	*e*P	**P**	**01 41 31.7**	**-0.7**
	comp=Z,31nm,1.0s,mb5.3						
XAN	**Xi'an**	**57.72**	**316**	P	**P**	**01 41 49.1**	**-0.8**
XAN				AP	pP	01 42 02.4	+2.4
XAN				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
CD2	**Chengdu**	**59.87**	**310**	P	**P**	**01 42 04.7**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
LZH	**Lanzhou**	**62.34**	**316**	*e*P	**P**	**01 42 22.3**	**+0.9**
LZH				AP	pP	01 42 31.0	-0.6
LZH				XP	sP	01 42 35.7	+0.3
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,170nm,4.5s						
GTA	**Gaotai**	**66.75**	**317**	*e*P	**P**	**01 42 51.0**	**+1.0**
GTA				AP	pP	01 42 59.8	-0.6
GTA				XP	sP	01 43 04.2	+0.2
GTA				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1						
SONM	**Songino Array**	**67.34**	**327**	P	**P**	**01 42 53.3**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.3,baz=152,slow=6.7,SNR=17						
CASY	**Casey**	**67.77**	**197**	*e*P	**P**	**01 42 54.8**	**-1.2**
	comp=Z,6.0nm,0.8s,mb4.7						
ZAK	**Zakamensk**	**70.50**	**328**⇑	*i*P	**P**	**01 43 13.0**	**0.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BOD	**Bodaibo**	**70.68**	**339**	*e*P	**P**	**01 43 12.5**	**-1.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
VNDA	**Vanda**	**72.23**	**178**	P	**P**	**01 43 22.7**	**-0.3**
	comp=Z,4.2nm,0.8s,mb4.4,baz=328,slow=6.5,SNR=31						
VNDA				LR	LR	02 08 01.1	
	comp=Z,125nm,21.8s,MS4.1,baz=179,slow=30						
VNDA	**Vanda**	**72.23**	**178**	P	**P**	**01 43 22.7**	**-0.3**
VNDA				LR	LR	02 08 01.1	
SBA	**Scott Base**	**72.76**	**177**	P	**P**	**01 43 27.6**	**+1.6**
	comp=Z,13nm,1.3s,mb4.7						
SBA	**Scott Base**	**72.76**	**177**	P	**P**	**01 43 27.6**	**+1.5**
SBA				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
PKI	**Pulchoki**	**73.59**	**301**	*e*P	**P**	**01 43 32.2**	**+0.3**
	comp=Z,19nm,0.7s,mb5.1						
PKI	**Pulchoki**	**73.59**	**301**	*e*P	**P**	**01 43 32.2**	**+0.3**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
KKN	**Kakani**	**73.75**	**301**	*e*P	**P**	**01 43 33.3**	**+0.4**
	comp=Z,28nm,0.7s,mb5.3						
KKN	**Kakani**	**73.75**	**301**	*e*P	**P**	**01 43 33.3**	**+0.4**
KKN				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
DMN	**Daman**	**73.86**	**301**	*e*P	**P**	**01 43 34.1**	**+0.7**
	comp=Z,48nm,0.8s,mb5.5						
GKN	**Gorkha**	**74.36**	**301**	*e*P	**P**	**01 43 36.5**	**+0.2**
	comp=Z,26nm,0.8s,mb5.2						
KOLN	**Koldanda**	**75.19**	**300**	*e*P	**P**	**01 43 40.5**	**-0.7**
	comp=Z,29nm,0.8s,mb5.3						
WMQ	**Urumqi**	**76.84**	**317**⇓	*i*P	**P**	**01 43 50.7**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,182nm,6.0s						
MKAR	**Makanchi Array**	**81.41**	**319**	P	**P**	**01 44 15.0**	**+0.1**
	comp=Z,12nm,0.9s,mb4.8,baz=94,slow=6.6,SNR=55						
MKAR	**Makanchi Array**	**81.41**	**319**	P	**P**	**01 44 15.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ILAR	**Eielson Array**	**82.31**	**22**	P	**P**	**01 44 17.6**	**-1.6**
	comp=Z,1.9nm,0.9s,mb4.0,baz=260,slow=5.1,SNR=17						
KSH	**Kashi**	**84.07**	**311**	*e*P	**P**	**01 44 31.1**	**+2.4**
KSH				*e*AP	pP	01 44 35.7	-3.5
KSH				*e*XP	sP	01 44 42.8	+0.1
KSH				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.8						
QSPA	**South Pole Qui**	**84.60**	**180**⇑	*i*P	**P**	**01 44 31.8**	**+1.3**
	comp=Z,33nm,0.8s,mb5.5						
KURK	**Kurchatov**	**84.83**	**322**	*e*P	**P**	**01 44 32.0**	**-0.2**
	comp=Z,16nm,1.0s,mb5.1						
KURK	**Kurchatov**	**84.83**	**322**	*e*P	**P**	**01 44 32.0**	**-0.3**
KURK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
TKM2	**Tokmak 2**	**85.05**	**314**	P	**P**	**01 44 34.7**	**+1.2**
	SNR=20						
KZA	**Kyzart**	**85.13**	**313**	P	**P**	**01 44 36.3**	**+2.4**
	SNR=6.6						
MAW	**Mawson**	**85.44**	**203**	P	**P**	**01 44 34.9**	**0.0**
	comp=Z,11nm,0.8s,mb5.0,baz=83,slow=7.6,SNR=16						
KBK	**Karagaybulak**	**85.46**	**313**	P	**P**	**01 44 37.1**	**+1.6**
	SNR=8.1						
CHMS	**Chumysh**	**85.67**	**314**	P	**P**	**01 44 37.5**	**+0.9**
	SNR=8.4						
AAK	**Ala-Archa**	**85.78**	**313**	P	**P**	**01 44 38.4**	**+1.3**
	SNR=7.9						
AAK	**Ala-Archa**	**85.78**	**313**	*e*P	**P**	**01 44 37.5**	**+0.3**
	comp=Z,10nm,0.8s,mb5.1						
AAK	**Ala-Archa**	**85.78**	**313**	*e*P	**P**	**01 44 37.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
USP	**Ospenovka**	**85.90**	**314**	P	**P**	**01 44 35.6**	**-2.1**
	SNR=7.8						
AML	**Almayashu**	**86.27**	**313**	P	**P**	**01 44 41.2**	**+1.6**
	SNR=14						
EKS2	**Erkin-Say**	**86.31**	**313**	P	**P**	**01 44 40.8**	**+1.1**
	SNR=5.9						
KKAR	**Karatay Array**	**88.75**	**313**	*i* P	**P**	**01 44 51.3**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.4						
VOSK	**Vostochnaya**	**89.90**	**323**	P	**P**	**01 44 55.4**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.8						
BVA0	**Borovoye Array**	**90.30**	**323**	*i* P	**P**	**01 44 57.5**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**90.30**	**323**	P	**P**	**01 44 57.6**	**-1.0**
	comp=Z,8.7nm,0.8s,mb5.1,baz=104,slow=6.1,SNR=43						
BRVK	**Borovoye**	**90.36**	**323**	*e*P	**P**	**01 44 58.0**	**-0.9**
	comp=Z,4.0nm,0.9s,mb4.8						
BRVK	**Borovoye**	**90.36**	**323**	*e*P	**P**	**01 44 58.0**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
AB31	**Akbulak array**	**96.56**	**319**	*i* P	**P**	**01 45 25.8**	**-1.5**
REDW	**Red Top Meadow**	**97.53**	**47**	*e*P	**P**	**01 45 31.6**	**-0.3**
	comp=Z,2.5nm,0.4s,mb5.1						
SNAA	**Sanae**	**101.60**	**187**	*e*	PP	01 49 58.6	-3.9
SNAA	**Sanae**	**101.60**	**187**	*e*		01 50 12.2	
VNA3	**Neumayer Olymp**	**102.76**	**185**	*e*	PP	01 50 05.5	-5.9
VNA1	**Neumayer--Stat**	**103.19**	**186**	*e*	PP	01 50 04.2	-10
MATP	**Matopo**	**120.50**	**243**	PKP	PKPdf	01 50 49.6	+0.7
	comp=Z,4.0nm,0.7s,baz=140,slow=2.3,SNR=19						
LBTB	**Lobatse**	**121.31**	**237**	*e*PKPdf	PKPdf	01 50 50.6	+0.3
LSZ	**Lusaka**	**122.37**	**248**	*e*PKPdf	PKPdf	01 50 54.1	+1.5
CLL	**Collm**	**123.83**	**331**	*e*PKIKP	PKPdf	01 50 58.0	+3.4
GERES	**GERESS Array B**	**125.06**	**329**	PKP	PKPdf	01 50 57.0	0.0
	comp=Z,1.0nm,0.7s,baz=75,slow=1.3,SNR=10						
TSUM	**Tsumeb**	**130.47**	**239**	PKP	PKPdf	01 51 09.6	+1.4
	comp=Z,2.1nm,0.7s,baz=92,slow=2.7,SNR=9.4						

MAN 13 01:38:31.8, 9.49N×125.38E, h1^{km}, mb3.9, ML2.7, MS2.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.31**	**21**	*e*P	Pg	01 38 38.0	+0.1
SCPH				*e*S	Sg	01 38 49.9	+7.8

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*IDC **13** 01:43:53.8±0.8, 60.49S×27.59W, mb4.0/8, mb1 4.1/8, mb1mx4.0/14, mbtmp4.0/8, MS4.2/6, Ms1 4.2/6, ms1mx4.0/18, Error ellipse: s-maj=26.8km s-min=18.6km az=24.0*
*NEIC **13** 01:44:00.2±0.6, 60.75S×27.52W, h55^{km}, mb4.5/1, Error ellipse: s-maj=18.3km s-min=10.2km az=56.0*
ISC 13 01:43:53.2±0.6**, 60.50S**±0.08×**27.5W**±0.2**, h10^{km}, n27, σ0^{s}98**/22**, mb4.0**/9**, MS4.2**/6**, 4C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.85**	**150**⇑	*i*	**P**	**01 46 56.3**	**-2.1**
VNA1	**Neumayer--Stat**	**12.85**	**150**	*e*	**P**	**01 46 57.7**	**-0.7**
VNA3	**Neumayer Olymp**	**12.94**	**154**⇑	*i*	**P**	**01 46 57.5**	**-2.2**
VNA3	**Neumayer Olymp**	**12.94**	**154**	*e*	**P**	**01 46 59.2**	**-0.5**
VNA3	**Neumayer Olymp**	**12.94**	**154**	*e*	**S**	**01 49 25.9**	**+1.1**
VNA2	**Neumayer--Watz**	**13.25**	**150**⇑	*i*	**P**	**01 47 01.4**	**-2.3**
VNA2	**Neumayer--Watz**	**13.25**	**150**	*e*	**P**	**01 47 03.2**	**-0.5**
VNA2	**Neumayer--Watz**	**13.25**	**150**	*e*	**S**	**01 49 33.3**	**+1.2**
SNAA	**Sanae**	**14.86**	**149**⇑	*i*	**P**	**01 47 23.2**	**-1.5**
SNAA	**Sanae**	**14.86**	**149**	*e*	**P**	**01 47 24.9**	**+0.2**
SNAA	**Sanae**	**14.86**	**149**	*e*P	**P**	**01 47 22.8**	**-1.9**
	9.7nm,0.6s						
QSPA	**South Pole Qui**	**29.74**	**180**⇓	*i*P	**P**	**01 50 06.2**	**+5.1**
	13nm,1.1s,mb4.6						
PLCA	**Paso Flores**	**32.88**	**287**	P	**P**	**01 50 29.8**	**+0.7**
	1.4nm,1.0s,mb3.9,baz=159,slow=14,SNR=2.2						
PLCA				LR	LR	02 04 15.4	
	comp=Z,335nm,18.4s,MS4.1,baz=134,slow=37						
PLCA	**Paso Flores**	**32.88**	**287**	P	**P**	**01 50 29.8**	**+0.7**
PLCA				LR	LR	02 04 15.4	
MAW	**Mawson**	**36.75**	**140**	P	**P**	**01 51 03.3**	**+1.4**
	2.0nm,0.9s,mb4.0,baz=248,slow=8.8,SNR=3.1						
MAW				LR	LR	02 05 15.1	
	comp=Z,289nm,19.0s,MS4.1,baz=88,slow=35						
CPUP	**Villa Florida**	**39.75**	**316**	P	**P**	**01 51 27.5**	**0.0**
	1.6nm,0.9s,mb3.7,baz=102,slow=10,SNR=2.1						
CPUP				LR	LR	02 07 55.0	
	comp=Z,301nm,18.3s,MS4.2,baz=182,slow=36						
VNDA	**Vanda**	**42.11**	**183**	P	**P**	**01 51 45.8**	**-0.3**
	1.1nm,0.7s,mb3.6,baz=197,slow=7.2,SNR=4.1						
LBTB	**Lobatse**	**50.60**	**70**	P	**P**	**01 52 54.0**	**+0.1**
	2.2nm,0.8s,mb4.1,baz=236,slow=13,SNR=3.0						
LBTB	**Lobatse**	**50.60**	**70**	P	**P**	**01 52 54.0**	**+0.1**
SIV	**San Ignacio**	**50.60**	**317**	P	**P**	**01 52 54.2**	**+0.1**
	0.6nm,0.5s,mb3.8,baz=181,slow=12,SNR=4.1						
TSUM	**Tsumeb**	**52.11**	**58**	P	**P**	**01 53 05.6**	**+0.2**
	3.1nm,0.8s,mb4.3,baz=193,slow=7.2,SNR=10.0						
MATP	**Matopo**	**55.89**	**70**	P	**P**	**01 53 33.3**	**+0.1**
	4.1nm,0.9s,mb4.4,baz=196,slow=3.8,SNR=6.9						
DBIC	**Dimbokro**	**69.31**	**24**	LR	LR	02 20 04.8	
	comp=Z,144nm,18.0s,MS4.3,baz=163,slow=31						
KMBO	**Kilima Mbogo**	**76.84**	**68**	LR	LR	02 27 12.9	
	comp=Z,258nm,19.1s,MS4.6,baz=267,slow=34						
NWAO	**Narrogin (SRO)**	**82.53**	**151**	LR	LR	02 26 52.4	
	comp=Z,153nm,21.5s,MS4.3,baz=237,slow=31						
SONM	**Songino Array**	**150.86**	**95**	PKPbc	PKPdf	02 03 47.3	+5.4
	1.2nm,0.8s,baz=216,slow=1.6,SNR=8.6						
ILAR	**Eielson Array**	**152.75**	**305**	PKPbc	PKPdf	02 03 49.4	+5.2
	0.8nm,0.8s,baz=170,slow=2.5,SNR=7.1						

MAN 13 02:06:59.1, 9.39N×125.41E, h1^{km}, mb4.9, ML3.8, MS3.8, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.40**	**11**	*e*P	Pg	02 07 06.4	-0.7
SCPH				*e*S	Sg	02 07 12.5	+0.2
CGP	**Cagayan de Oro**	**1.17**	**217**⇓	*e*P	Pb	02 07 22.0	+0.3
BIPH	**Bislig**	**1.52**	**142**⇑	*i*P	Pn	02 07 25.4	-2.1
LLP	**Lapu-Lapu**	**1.70**	**303**⇑	*e*P	Pn	02 07 29.1	-0.9
LLP				*e*S	Sb	02 07 52.2	-0.4
PLP	**Palo**	**1.82**	**346**	*e*P	Pn	02 07 31.2	-0.5
PLP				*e*S	Sn	02 07 56.7	+1.0
SNPH	**Sibulan**	**2.15**	**269**⇑	*e*P	Pn	02 07 37.0	+0.5
DCPH	**Dipolog City**	**2.19**	**249**⇑	*e*P	Pn	02 07 37.3	+0.3

MAN 13 02:13:41.1, 4.92N×125.76E, h116^{km}, mb4.5, ML3.3, MS3.2, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.41**	**325**⇓	*e*P	P	02 14 07.1	-0.6
DMPH	**Davao City--Mi**	**2.16**	**353**	*e*P	P	02 14 19.8	+2.8
DMPH				*e*S	S	02 14 46.8	+2.8
KCP	**Kidapawan**	**2.18**	**342**	*e*P	P	02 14 15.2	-2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KCP				*i* S	S	02 14 43.6	-0.8

IDC 13 02:21:05.7±8.6**,2.85N**×**95.76E,mb3.9**/3**,mb1 4.0**/3**, mb1mx3.6**/16**,mbtmp3.9**/3**,Error ellipse: s-maj=209.8km s-min=77.6km az=138.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.31**	**347**	P	P	02 29 25.2	-1.9
	2.7nm,0.9s,baz=158,slow=6.5,SNR=10						
SONM	**Songino Array**	**45.75**	**10**	P	P	02 29 28.8	-1.7
	0.3nm,0.3s,baz=190,slow=9.0,SNR=6.7						
GERES	**GERESS Array B**	**82.64**	**319**	P	P	02 33 31.2	-1.1
	0.5nm,0.7s,baz=90,slow=4.9,SNR=5.2						

*IDC **13** 02:24:27.9±0.7,6.78S×154.74E,mb4.5/9,mb1 4.7/12, mb1mx4.6/15,mbtmp4.5/12,ML4.0/3,MS4.0/10,Ms1 4.0/10, ms1mx3.8/20,Error ellipse: s-maj=23.7km s-min=18.5km az=103.0*

*BJI **13** 02:24:32.9,6.90S×154.90E,h45km,mB5.2,mb4.7,Ms4.7, Msz4.2*

*NEIC **13** 02:24:34.9±1.4,6.87S×154.87E,h45km±13km,mb4.9/12, Error ellipse: s-maj=12.0km s-min=9.7km az=179.0*

*HRVD **13** 02:24:34.9±0.4,7.21S×154.93E,h26km±1km,MW5.0/42, Centroid moment Tensor Solution. LP body waves: s24,c33;Mantle waves: s42,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.17±.25; $M_{\theta\theta}$-1.52±.17; $M_{\phi\phi}$-1.66±.18; $M_{r\theta}$2.11±.31; $M_{\theta\phi}$1.98±.14; $M_{\phi r}$-0.84±.31; Best double couple: $M_0$4.076×10^{16} NP1:ϕ_s331°,δ31°, λ115°. NP2:ϕ_s122°,δ62°,λ76°. Principal axes: T 3.981, Plg69°, Azm3°; N .181, Plg13°, Azm129°; P -4.172, Plg16°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 02:24:32.4±1.9**,6.91S**±0.09×**154.86E**±0.06**,h36**km±17km**, h21**km±2.7km**:pP-P,n46,**σ**0**^{s}**97**/36**,mb4.9**/26**,MS4.1**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.63**	**117**	Pn	**P**	**02 25 56.0**	**+0.2**
	3.4nm,0.3s,baz=269,slow=1.2,SNR=3.7						
HNR				LR	LR	02 27 58.0	
	comp=Z,1μm,19.3s,baz=295,slow=36						
PMG	**Port Moresby**	**8.01**	**251**	Pn	**P**	**02 26 28.8**	**-0.4**
	3.3nm,0.3s,baz=32,slow=10,SNR=8.2						
PMG				Sn	**S**	**02 27 59.6**	**0.0**
	1.5nm,0.3s,baz=48,slow=15,SNR=8.4						
CTA	**Charters Tower**	**15.53**	**212**	Pn	**P**	**02 28 10.7**	**+0.2**
	0.4nm,0.3s,baz=41,slow=18,SNR=2.6						
CTA				LR	LR	02 32 02.9	
	comp=Z,309nm,21.9s,baz=42,slow=29						
CTAO	**Charters Tower**	**15.53**	**212**	*e*P	**P**	**02 28 13.6**	**+3.1**
	10nm,0.8s						
DZM	**Mont Dzumac**	**18.77**	**145**	P	**P**	**02 28 51.9**	**+0.7**
	0.7nm,0.3s,baz=5.8,slow=6.1,SNR=8.5						
DZM				LR	LR	02 34 19.7	
	comp=Z,202nm,21.6s,baz=11,slow=31						
GUMO	**Guam**	**22.65**	**334**	LR	LR	02 36 41.0	
	comp=Z,119nm,20.4s,MS3.3,baz=162,slow=33						
KAKA	**Kakadu**	**22.82**	**254**	*e*P	**P**	**02 29 51.4**	**+18**
	17nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**23.74**	**235**	*e*P	**P**	**02 29 42.2**	**-0.2**
	21nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**23.75**	**235**	P	**P**	**02 29 41.4**	**-1.2**
	9.5nm,0.8s,mb4.3,baz=60,slow=9.5,SNR=6.2						
WRA				PcP	PcP	02 33 26.6	-0.8
	1.4nm,0.7s,baz=61,slow=2.3,SNR=5.3						
WRA				ScP		02 37 05.7	
	0.9nm,0.8s,baz=64,slow=2.0,SNR=4.8						
STKA	**Stephens Creek**	**27.75**	**205**	*e*P	**P**	**02 30 20.0**	**0.0**
	6.1nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**27.75**	**205**	P	**P**	**02 30 18.5**	**-1.5**
	7.6nm,0.9s,mb4.3,baz=40,slow=12,SNR=8.0						
STKA				LR	LR	02 41 55.5	
	comp=Z,623nm,18.4s,MS4.2,baz=26,slow=38						
FITZ	**Fitzroy Crossi**	**30.56**	**246**	*e*P	**P**	**02 30 43.9**	**-1.3**
	9.2nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.56**	**246**	P	**P**	**02 30 42.8**	**-2.4**
	11nm,0.8s,mb4.8,baz=80,slow=3.6,SNR=21						
FITZ				LR	LR	02 43 44.7	
	comp=Z,494nm,18.2s,MS4.2,baz=82,slow=38						
YHNB	**Yeheng**	**45.27**	**315**	*e*P	**P**	**02 32 49.0**	**+0.3**
JNU	**Nakatsue**	**45.87**	**332**	LR	LR	02 50 50.3	
	comp=Z,82nm,19.7s,MS3.7,baz=207,slow=35						
ASAJ	**Asahikawa**	**51.98**	**349**	LR	LR	02 54 38.7	
	comp=Z,146nm,18.5s,MS4.0,baz=311,slow=35						
PPT	**Papeete**	**55.15**	**107**	LR	LR	02 53 11.8	
	comp=Z,230nm,19.6s,MS4.3,baz=308,slow=31						
ENH	**Enshi**	**57.08**	**313**	*e*P	**P**	**02 34 16.9**	**-0.9**
	14nm,0.9s,mb5.0						
XAN	**Xi'an**	**59.55**	**316**	P	**P**	**02 34 33.5**	**-1.5**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.6						
KMI	**Kunming**	**59.86**	**304**	P	**P**	**02 34 38.0**	**+0.8**
KMI				AP	pP	02 34 45.1	-2.8
KMI				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1						
KMI				LR	LR		
	comp=N,179nm,13.9s,MS4.5						
KMI				LR	LR		
	comp=E,168nm,11.7s,MS4.5						
KMI				LR	LR		
	comp=Z,179nm,20.8s						
CD2	**Chengdu**	**61.66**	**311**	P	**P**	**02 34 49.0**	**-0.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
LZH	**Lanzhou**	**64.16**	**316**	*e*P	**P**	**02 35 07.5**	**+1.7**
LZH				AP	pP	02 35 15.4	-1.3
LZH				XP	sP	02 35 19.3	-1.5
LZH				AMB	AMB		
	comp=Z,46nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,190nm,4.6s						
GTA	**Gaotai**	**68.59**	**317**	*e*P	**P**	**02 35 35.0**	**+1.1**
GTA				AP	pP	02 35 42.5	-2.4
GTA				XP	sP	02 35 47.7	-1.1
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
SONM	**Songino Array**	**69.19**	**327**	P	**P**	**02 35 36.8**	**-0.7**
	comp=Z,12nm,1.4s,mb4.6,baz=144,slow=5.0,SNR=11						
VNDA	**Vanda**	**70.67**	**178**	P	**P**	**02 35 46.0**	**0.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=334,slow=6.3,SNR=10.0						
LSA	**Lhasa**	**71.11**	**304**	*e*P	**P**	**02 35 50.8**	**+1.3**
	comp=Z,32nm,0.1s,mb6.2						
PKI	**Pulchoki**	**75.26**	**301**	*e*P	**P**	**02 36 14.7**	**+0.8**
	comp=Z,75nm,1.5s,mb5.4						
KKN	**Kakani**	**75.43**	**301**	*e*P	**P**	**02 36 15.6**	**+0.7**
	comp=Z,18nm,0.7s,mb5.1						
DMN	**Daman**	**75.53**	**301**	*e*P	**P**	**02 36 15.4**	**-0.1**
	comp=Z,97nm,1.3s,mb5.6						
GKN	**Gorkha**	**76.04**	**301**	*e*P	**P**	**02 36 19.0**	**+0.7**
	comp=Z,82nm,1.3s,mb5.5						
KOLN	**Koldanda**	**76.86**	**300**	*e*P	**P**	**02 36 23.4**	**+0.4**
	comp=Z,83nm,1.4s,mb5.5						
MCK	**McKinley**	**82.03**	**22**	*e*P	**P**	**02 36 49.5**	**-0.7**
	comp=Z,5.7nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**83.06**	**180**	*e*P	**P**	**02 36 56.0**	**+0.9**
	comp=Z,9.2nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**83.25**	**319**	P	**P**	**02 36 56.1**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=110,slow=6.2,SNR=7.1						
ILAR	**Eielson Array**	**83.35**	**22**	P	**P**	**02 36 55.7**	**-1.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=249,slow=5.3,SNR=12						
ILAR				LR	LR	03 10 30.1	
	comp=Z,190nm,18.9s,MS4.5,baz=77,slow=33						
KSH	**Kashi**	**85.85**	**310**	*e*P	**P**	**02 37 12.4**	**+2.5**
KSH				*e*XP	sP	02 37 26.2	+1.3
KSH				AMB	AMB		
	comp=Z,50nm,1.5s,mb5.5						
YKA	**Yellowknife Ar**	**96.33**	**28**	P	**P**	**02 37 57.2**	**-1.0**
	comp=Z,3.8nm,0.9s,mb4.8,baz=269,slow=4.1,SNR=7.6						
YKA	**Yellowknife Ar**	**96.33**	**28**	P	**P**	**02 37 57.2**	**-1.0**
PDAR	**Pinedale Array**	**98.74**	**48**	P	**P**	**02 38 08.7**	**-1.0**
	comp=Z,0.7nm,0.9s,mb4.2,baz=297,slow=3.3,SNR=5.3						
AKASG	**Malin Array Be**	**117.39**	**324**	PKP	PKPdf	02 43 15.1	+0.7
	comp=Z,0.6nm,0.4s,baz=64,slow=1.9,SNR=5.1						
BRTR	**Keskin Array B**	**118.23**	**312**	PKP	PKPdf	02 43 17.2	+1.0
	comp=Z,0.7nm,0.8s,baz=45,slow=3.5,SNR=4.3						
KHC	**Kasperske Hory**	**126.79**	**329**	*e*PKPdf	PKPdf	02 43 35.0	+2.3
GERES	**GERESS Array B**	**126.91**	**329**	PKP	PKPdf	02 43 32.7	-0.2
	comp=Z,0.7nm,0.6s,baz=45,slow=1.9,SNR=9.4						
GRA1	**Grafenberg Arr**	**127.60**	**331**	*e*PKP	PKPdf	02 43 36.3	+2.1
GRF	**Grafenberg Arr**	**127.60**	**331**	*e*PKP	PKPdf	02 43 36.3	+2.1
BAO	**Brasilia Array**	**148.16**	**135**	P	PKPdf	02 44 17.0	+4.8

MAN 13 02:27:05.5,7.55N×**124.76E,h1**km**,mb4.8,ML3.7,MS3.6, 4C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.61**	**237**	⇑*i*P	Pg	02 27 18.5	+0.8
CTBH				*i* S	Sg	02 27 27.1	+1.3
KCP	**Kidapawan**	**0.63**	**149**	⇑*e*P	Pg	02 27 17.8	-0.4
KCP				*i* S	Sg	02 27 27.8	+1.2
DMPH	**Davao City--Mi**	**0.88**	**122**	⇓*i*P	Pg	02 27 22.5	-0.5
DMPH				*i* S	Sg	02 27 43.8	+9.1
CGP	**Cagayan de Oro**	**0.90**	**356**	⇑*i*P	Pg	02 27 22.3	-1.1
CGP				*i* S	Sg	02 27 34.2	-1.2
MATI	**Mati**	**1.60**	**112**	*e*P	Pn	02 27 34.6	-0.5
BIPH	**Bislig**	**1.70**	**68**	⇓*i*P	Pn	02 27 34.9	-1.7
BIPH				*i* S	Sb	02 27 57.3	-2.0
DCPH	**Dipolog City**	**1.73**	**306**	⇑*e*P	Pn	02 27 37.3	+0.4
DCPH				*e*S	Sn	02 27 57.9	-2.1
SCPH	**Surigao**	**2.33**	**18**	*e*P	Pn	02 27 42.7	-2.8
SCPH				*e*S	Sn	02 28 15.1	-0.1
SNPH	**Sibulan**	**2.33**	**320**	*e*P	Pn	02 27 47.4	+1.9
	4μm,0.8s						
LLP	**Lapu-Lapu**	**2.85**	**344**	*e*P	Pn	02 27 53.7	+0.7
LLP				*e*S	Sn	02 28 27.1	-1.4

*IDC **13** 02:36:08.9±1.2,60.34S×26.49W,mb4.0/2,mb1 4.2/2, mb1mx3.9/10,mbtmp4.0/2,MS4.4/12,Ms1 4.4/12, ms1mx4.4/13,Error ellipse: s-maj=70.2km s-min=30.2km az=66.0*

*NEIC **13** 02:36:12.5±6.5,60.62S×27.22W,h20km±46km,mb4.6/4, Error ellipse: s-maj=25.3km s-min=23.2km az=65.0*

ISC 13 02:36:10.5±0.9**,60.5S**±0.1×**26.9W**±0.3**,h10**km**,n32,** σ**1**^{s}**26**/18**,mb4.3**/5**,MS4.5**/12**,4C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.65**	**151**	⇑*i*	**P**	**02 39 11.1**	**-1.9**
VNA1	**Neumayer--Stat**	**12.65**	**151**	*e*	**P**	**02 39 12.2**	**-0.8**
VNA1	**Neumayer--Stat**	**12.65**	**151**	*e*	**P**	**02 39 17.4**	**+4.4**
VNA3	**Neumayer Olymp**	**12.76**	**154**	⇑*i*	**P**	**02 39 12.2**	**-2.3**
VNA3	**Neumayer Olymp**	**12.76**	**154**	*e*	**P**	**02 39 13.4**	**-1.1**
VNA3	**Neumayer Olymp**	**12.76**	**154**	*e*	**P**	**02 39 19.0**	**+4.5**
VNA2	**Neumayer--Watz**	**13.05**	**151**	⇑*i*	**P**	**02 39 17.1**	**-1.3**
VNA2	**Neumayer--Watz**	**13.05**	**151**	*e*	**P**	**02 39 18.5**	**+0.1**
VNA2	**Neumayer--Watz**	**13.05**	**151**	*e*	**P**	**02 39 23.0**	**+4.6**
SNAA	**Sanae**	**14.65**	**149**	⇑*i*	**P**	**02 39 37.9**	**-1.4**
SNAA	**Sanae**	**14.65**	**149**	*e*	**P**	**02 39 39.9**	**+0.6**
SNAA	**Sanae**	**14.65**	**149**	*e*	**P**	**02 39 45.4**	**+6.1**
QSPA	**South Pole Qui**	**29.70**	**180**	*e*P	**P**	**02 42 20.4**	**+2.4**
	14nm,1.1s,mb4.6						
PLCA	**Paso Flores**	**33.21**	**287**	LR	LR	02 56 20.9	
	comp=Z,371nm,18.6s,MS4.1,baz=136,slow=36						
MAW	**Mawson**	**36.50**	**140**	LR	LR	02 56 51.5	
	comp=Z,457nm,19.8s,MS4.3,baz=210,slow=34						
CPUP	**Villa Florida**	**40.02**	**315**	P	**P**	**02 43 45.9**	**-1.2**
	1.0nm,0.3s,mb4.0,baz=173,slow=11,SNR=3.0						
CPUP				LR	LR	02 58 44.9	
	comp=Z,598nm,19.7s,MS4.4,baz=165,slow=34						
CPUP	**Villa Florida**	**40.02**	**315**	P	**P**	**02 43 45.7**	**-1.3**
	13nm,1.2s,mb4.5						
CPUP				LR	LR	02 58 44.9	
VNDA	**Vanda**	**42.08**	**183**	P	**P**	**02 44 03.6**	**+0.4**
	2.0nm,0.7s,mb3.9,baz=185,slow=7.1,SNR=9.3						
TSUM	**Tsumeb**	**51.85**	**57**	*e*P	**P**	**02 45 21.4**	**+0.6**
	2.9nm,0.7s,mb4.3						
LSZ	**Lusaka**	**59.94**	**66**	*e*P	**P**	**02 46 19.4**	**+0.4**
	6.1nm,0.9s,mb4.6						
DBIC	**Dimbokro**	**69.21**	**23**	LR	LR	03 10 25.7	
	comp=Z,181nm,19.7s,MS4.3,baz=174,slow=30						
ROSC	**El Rosal**	**74.94**	**310**	LR	LR	03 20 48.2	
	comp=Z,201nm,20.8s,MS4.4,baz=239,slow=36						
KMBO	**Kilima Mbogo**	**76.54**	**68**	LR	LR	03 19 09.8	
	comp=Z,438nm,18.2s,MS4.8,baz=18,slow=34						
URZ	**Urewera**	**79.60**	**199**	LR	LR	03 17 46.4	
	comp=Z,137nm,20.2s,MS4.3,baz=223,slow=31						
STKA	**Stephens Creek**	**87.43**	**170**	LR	LR	03 25 33.9	
	comp=Z,302nm,19.7s,MS4.7,baz=205,slow=34						
PPT	**Papeete**	**89.66**	**233**	LR	LR	03 20 00.4	
	comp=Z,404nm,18.9s,MS4.9,baz=154,slow=29						
DZM	**Mont Dzumac**	**96.98**	**192**	LR	LR	03 31 52.5	
	comp=Z,150nm,18.3s,MS4.5,baz=201,slow=34						
FITZ	**Fitzroy Crossi**	**98.54**	**154**	LR	LR	03 29 33.8	
	comp=Z,148nm,18.6s,MS4.5,baz=262,slow=32						
CTA	**Charters Tower**	**99.47**	**173**	LR	LR	03 33 13.8	
	comp=Z,142nm,18.0s,MS4.5,baz=47,slow=34						
INK	**Inuvik**	**149.28**	**316**	PKPbc	PKPdf	02 55 56.2	0.0
	1.8nm,0.8s,baz=180,slow=4.0,SNR=3.1						
SONM	**Songino Array**	**150.53**	**94**	PKPbc	PKPdf	02 56 01.4	+2.6
	1.6nm,0.9s,baz=216,slow=1.9,SNR=8.8						
ILAR	**Eielson Array**	**153.05**	**305**	PKPbc	PKPdf	02 56 05.9	+4.0
	0.9nm,0.7s,baz=161,slow=2.8,SNR=7.2						

*NIED **13** 02:42:00,35.80N×140.20E,h65km,Mw3.9 Best double couple: $M_0$7.51×10^{14} NP1:ϕ_s4°,δ66°,λ97°. NP2:ϕ_s168°, δ25°,λ75°.*

JMA 13 02:42:17.6±0.2**,35.81N**×**140.22E,h63**km±2km**,M3.8,9D Broadband fault plane solution: P waves. NP1:**ϕ_s192°**,** δ4°**,**λ83°. **NP2:**ϕ_s19°**,**δ86°**,**λ90°. **Principal axes:** T Plg49°**,** Azm290°**;** N Plg0°**,** Azm19°**;** P Plg41°**,** Azm109°**;** **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.39**	**182**	⇓P	P	02 42 29.4	+0.6
JCN				S	S	02 42 38.9	+1.8
TOK	**Tokyo**	**0.40**	**252**	P	P	02 42 29.1	+0.2
TOK				S	S	02 42 38.8	+1.6
JYT	**Yasato**	**0.42**	**357**	⇓P	P	02 42 29.1	0.0
JYT				S	S	02 42 37.4	-0.1
JYO	**Yokosk**	**0.74**	**218**	⇓P	P	02 42 32.9	+0.3
JYO				S	S	02 42 44.1	+0.3
JAG	**Ashikaga**	**0.87**	**315**	⇓P	P	02 42 34.5	+0.2
JAG				*e*S	S	02 42 47.2	+0.5
BSO3	**Boso 3**	**1.03**	**167**	P	P	02 42 35.5	-1.0
JOD2	**Odawara 2**	**1.07**	**240**	⇓P	P	02 42 36.2	-0.8
JOD2				S	S	02 42 49.7	-1.6
JRY	**Ryogami san**	**1.09**	**281**	⇓P	P	02 42 37.6	+0.4
JKT	**Katashina**	**1.24**	**321**	⇓P	P	02 42 39.4	+0.2
JIM2	**Oshima 3**	**1.27**	**211**	P	P	02 42 38.0	-1.7
BSO1	**Boso 1**	**1.31**	**152**	P	P	02 42 38.8	-1.6
JYN	**Shimob**	**1.40**	**258**	⇓P	P	02 42 41.0	-0.6
JIZS	**Izushimoda**	**1.55**	**226**	⇓P	P	02 42 42.1	-1.4
MAT	**Matsushiro**	**1.79**	**295**	P	P	02 42 46.8	0.0
MAT				*e*S	S	02 43 08.9	+0.5

*IDC **13** 02:50:58.3±0.5,71.14N×7.43W,mb4.0/15,mb1 4.2/21, mb1mx4.1/26,mbtmp4.0/21,ML3.7/6,MS3.7/2,Ms1 3.6/2, ms1mx3.1/18 Error ellipse: s-maj=12.6km s-min=6.0km az=164.0*

*BER **13** 02:50:59.8±0.7,71.09N×7.41W,h10km,MD4.2,ML3.5*

*NAO **13** 02:50:59.8±1.4,71.05N×7.46W*

*NEIC **13** 02:50:59.7±0.3,71.10N×7.43W,h10km,mb4.3/39, ML3.7(BER),Error ellipse: s-maj=5.3km s-min=4.4km az=194.0*

*CSEM **13** 02:51:01.0,71.36N×8.37W,h60km,mb4.5*

*MOS **13** 02:51:01.4±1.1,71.12N×7.60W,h33km,mb4.5/36,Error ellipse: s-maj=20.7km s-min=4.2km az=99.2*

ISC 13 02:50:58.1±0.3**,71.16N**±0.03×**7.32W**±0.07**,h10**km**,n188,** σ**1**^{s}**31**/203**,mb4.2**/57**,MS3.6**/4**,26C-11D,Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.36**	**243**	⇓*i*P	**Pg**	**02 51 05.5**	**+0.1**
JNW	**Jan Mayen West**	**0.38**	**251**	⇓*i*P	**Pg**	**02 51 06.0**	**+0.1**
JNW	**Jan Mayen West**	**0.38**	**251**	⇓*i*P	**Pg**	**02 51 05.9**	**0.0**
	SNR=105						
JMIC	**Jan Mayen**	**0.42**	**247**	Pg	**Pg**	**02 51 06.4**	**-0.3**
JMIC				Lg		02 51 11.4	
JMIC	**Jan Mayen**	**0.42**	**247**	Pg	**Pg**	**02 51 06.0**	**-0.7**
	3μm,0.3s,baz=48,slow=2.9,SNR=1130						
JMIC				Lg		02 51 11.0	
JMIC	**Jan Mayen**	**0.42**	**247**	⇓*i*P	**Pg**	**02 51 06.3**	**-0.5**
JMIC				*e*S	**Sg**	**02 51 11.4**	**-1.1**
JMIC				AML	AML	02 51 14.2	
	comp=Z,20μm,0.4s						
JMI	**Jan Mayen**	**0.51**	**244**	⇓*i*P	**Pg**	**02 51 08.0**	**-0.5**
JMI				*e*S	**Sg**	**02 51 14.0**	**-1.4**
JMI				AML	AML	02 51 15.4	
	comp=Z,28μm,0.2s						
SCO	**Scoresbysund**	**4.87**	**269**	*i* P	**Pn**	**02 52 15.2**	**+2.0**
SCO	**Scoresbysund**	**4.87**	**269**	*e*P	**Pn**	**02 52 15.2**	**+2.0**
DAG	**Danmarks Havn**	**6.44**	**336**	⇑*i*P	**Pn**	**02 52 32.8**	**-2.5**
	comp=Z,20nm,0.4s						
DAG				*e*		02 53 41.6	
DAG	**Danmarks Havn**	**6.44**	**336**	⇑*i*P	**Pn**	**02 52 32.8**	**-2.5**
DAG				*e*		02 53 41.6	
DAG				pmax	pmax		
	comp=Z,20nm,0.4s						
LOF	**Lofoten**	**7.86**	**103**	*e*P	**Pn**	**02 52 54.0**	**-1.2**
LOF				*e*S	**Sn**	**02 54 15.8**	**-9.3**
LOF				AML	AML	02 54 22.7	
	comp=Z,14nm,0.7s						
LOF	**Lofoten**	**7.86**	**103**	*e*P	**Pn**	**02 52 54.0**	**-1.2**
LOF				*e*S	**Sn**	**02 54 20.2**	**-4.9**
BORG	**Borgarnes**	**8.29**	**226**	Pn	**P**	**02 52 59.4**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=301,slow=5.9,SNR=2.1						
BORG				Sn	**Sn**	**02 54 31.9**	**-4.1**
	comp=Z,0.6nm,0.3s,baz=74,slow=22,SNR=2.9						
BORG	**Borgarnes**	**8.29**	**226**	Pn	**P**	**02 52 59.4**	**-1.8**
BORG				Sn	**Sn**	**02 54 31.9**	**-4.1**
MELSS	**Ber_school_2**	**8.66**	**110**	*e*P	**P**	**02 53 03.9**	**-2.4**
MELSS				*e*S	**Sn**	**02 54 33.9**	**-11**
TRO	**Tromso**	**8.92**	**87**	*e*P	**P**	**02 53 06.0**	**-3.9**
TRO				AML	AML	02 54 45.3	
	comp=Z,5.8nm,0.5s						
KBS	**Kingsbay**	**9.18**	**24**	Pn	**P**	**02 53 12.7**	**-0.9**
KBS				Sn	**Sn**	**02 54 53.3**	**-4.6**
MOR8	**Moi Rana**	**9.33**	**112**	*e*P	**P**	**02 53 13.7**	**-1.9**
MOR8				*e*S	**Sn**	**02 54 52.2**	**-10**
MOR8				AML	AML	02 55 02.2	
	comp=Z,24nm,0.3s						
SPA0	**Spitsbergen Ar**	**9.33**	**31**	Pn	**P**	**02 53 15.6**	**-0.1**
	baz=221,slow=16						
SUMG	**Summit**	**9.74**	**293**	*e*P	**P**	**02 53 22.1**	**+1.1**
SUMG	**Summit**	**9.74**	**293**	*e*P	**P**	**02 53 22.1**	**+1.1**
NSS	**Namsos**	**9.81**	**123**	*e*P	**P**	**02 53 18.4**	**-3.6**
NSS				*e*S	**Sn**	**02 55 02.2**	**-11**
NSS				AML	AML	02 55 07.6	
	comp=Z,23nm,0.5s						
SALU	**Saltoluokta**	**9.85**	**100**	P	**P**	**02 53 20.3**	**-2.3**
	baz=294						
MOL	**Molde**	**10.38**	**139**	*e*P	**P**	**02 53 25.6**	**-4.2**
MOL				AML	AML	02 55 20.3	
	comp=Z,15nm,0.7s						
KTK1	**Kautokeino**	**10.57**	**87**	*e*P	**P**	**02 53 31.0**	**-1.5**
LANU	**Lannavaara**	**10.62**	**93**	P	**P**	**02 53 30.5**	**-2.6**
	baz=274						
DUNU	**Dundret**	**10.66**	**99**	P	**P**	**02 53 30.8**	**-2.9**
	baz=290						
FOO	**Floro**	**10.77**	**147**	*e*P	**P**	**02 53 30.9**	**-4.4**
FOO				*e*S	**S**	**02 55 21.1**	**-16**
FOO				AML	AML	02 55 29.0	
	comp=Z,27nm,0.4s						
MASU	**Masugnsbyn**	**10.94**	**95**	P	**P**	**02 53 35.4**	**-2.0**
ARA0	**ARCESS Array S**	**11.09**	**83**	Pn	**P**	**02 53 37.7**	**-1.8**
	baz=298,slow=12						
ARCES	**ARCESS Array B**	**11.09**	**83**	Pn	**P**	**02 53 37.5**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=289,slow=11,SNR=17						
ARCES	**ARCESS Array B**	**11.09**	**83**	Pn	**P**	**02 53 37.5**	**-2.0**
SUE	**Sulen**	**11.23**	**148**	*e*P	**P**	**02 53 37.8**	**-3.6**
HYA	**Hoyanger**	**11.38**	**145**	*e*P	**P**	**02 53 39.4**	**-4.2**
ERTU	**Ertsjaerv**	**11.52**	**99**	P	**P**	**02 53 41.3**	**-4.1**
	baz=292						
PAJU	**Pajala**	**11.54**	**96**	P	**P**	**02 53 43.0**	**-2.7**
	baz=296						
LILU	**Lilltraesk**	**11.59**	**107**	P	**P**	**02 53 44.2**	**-2.1**
	baz=312						
ASK	**Askoy**	**11.84**	**148**	*e*P	**P**	**02 53 45.7**	**-4.1**
SJUU	**Sjulsmark**	**11.99**	**104**	P	**P**	**02 53 49.0**	**-2.8**
	baz=306						
EGD	**Espegrend**	**12.05**	**149**	*e*P	**P**	**02 53 48.7**	**-3.9**
NB2	**NORSAR Subarra**	**12.55**	**135**	Pn	**P**	**02 53 55.2**	**-4.1**
	baz=333,slow=16						
NOA	**NORSAR Array B**	**12.55**	**135**	Pn	**P**	**02 53 57.0**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=327,slow=12,SNR=5.6						
NOA				Sn	**S**	**02 56 19.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=329,slow=22,SNR=3.2						
NOA	**NORSAR Array B**	**12.55**	**135**	Pn	**P**	**02 53 57.0**	**-2.4**
NOA				Sn	**S**	**02 56 19.4**	**-0.8**
KONO	**Kongsberg**	**13.45**	**141**	⇑*e*P	**P**	**02 54 14.9**	**+3.6**
HFS	**Hagfors**	**13.94**	**132**	Pn	**P**	**02 54 14.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=333,slow=9.9,SNR=10						
HFS				Sn	**S**	**02 56 45.8**	**-7.5**
	comp=Z,0.1nm,0.3s,baz=333,slow=29,SNR=3.1						
HFS	**Hagfors**	**13.94**	**132**	P	**P**	**02 54 15.2**	**-2.2**
	baz=322,slow=14						
KAF	**Kangasniemi**	**15.87**	**108**	*e*p	**P**	**02 54 42.3**	**-0.4**
	comp=Z,13nm,0.9s,baz=317,slow=13						
KAF	**Kangasniemi**	**15.87**	**108**	*e*P	**P**	**02 54 42.3**	**-0.4**
KAF				pmax	pmax		
	comp=Z,13nm,0.9s						
EKA	**Eskdalemuir Ar**	**15.99**	**171**	Pn	**P**	**02 54 43.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=3.6,slow=11,SNR=3.9						
EKA				Sn	**S**	**02 57 27.7**	**-14**
	comp=Z,0.3nm,0.3s,baz=2.1,slow=22,SNR=5.3						
FIA0	**FINESS Array S**	**16.31**	**110**	P	**P**	**02 54 48.1**	**-0.2**
	baz=318,slow=12						
FINES	**FINESS Array B**	**16.31**	**110**	Pn	**P**	**02 54 47.5**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=319,slow=11,SNR=14						
GKP	**Gorka Klasztor**	**20.99**	**136**	*e*P	**P**	**02 55 44.3**	**+0.8**
GKP				*e*pP		02 55 54.5	
SUW	**Suwalki**	**21.77**	**126**	*e*P	**P**	**02 55 51.1**	**-0.3**
BAIF	**Baives**	**21.83**	**160**	*e*P	**P**	**02 55 51.5**	**-0.6**
	comp=Z,19nm,1.1s,mb4.1						
BAIF	**Baives**	**21.83**	**160**	*e*P	**P**	**02 55 51.5**	**-0.6**
BAIF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.2						
GIVF	**Givet**	**21.86**	**159**	*e*P	**P**	**02 55 51.7**	**-0.6**
CLL	**Collm**	**21.96**	**144**	P	**P**	**02 55 53.6**	**+0.3**
	comp=Z,logA/T=1.1,mb4.3						
CLL				*i*		02 56 01.4	
CLL				*i*		02 56 04.1	
CLL	**Collm**	**21.96**	**144**	*i* P	**P**	**02 55 53.6**	**+0.3**
	comp=Z,12nm,0.9s,mb4.3						
CLL				*i*		02 56 01.4	
CLL				*i*		02 56 04.1	
CLL	**Collm**	**21.96**	**144**	*i* P	**P**	**02 55 53.6**	**+0.3**
CLL				*i*		02 56 04.1	
CLL				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
MOX	**Moxa**	**22.34**	**147**	*i* P	**P**	**02 55 58.8**	**+1.7**
	comp=Z,logA/T=1.3,mb4.5						
MOX				pP		02 56 05.0	
MOX	**Moxa**	**22.34**	**147**	*e*P	**P**	**02 55 58.8**	**+1.7**
	comp=Z,24nm,1.1s,mb4.5						
MOX				*e*pP		02 56 05.0	
MOX	**Moxa**	**22.34**	**147**	*e*P	**P**	**02 55 58.8**	**+1.7**
MOX				*e**PP		02 56 05.0	
MOX				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.5						
BRG	**Berggiesshubel**	**22.55**	**143**	*e*P	**P**	**02 56 00.8**	**+1.7**
	comp=Z,13nm,1.2s,mb4.2						
BRG				*e*		02 56 07.5	
BRG	**Berggiesshubel**	**22.55**	**143**	*e*P	**P**	**02 56 00.8**	**+1.8**
BRG				*e*		02 56 07.5	
BRG				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.2						
FLN	**La Foliniere**	**22.70**	**168**	*e*P	**P**	**02 55 59.9**	**-0.6**
WAR	**Warsaw**	**22.83**	**131**	*e*P	**P**	**02 56 05.1**	**+3.3**
NKC	**Novy Kostel**	**22.88**	**146**	⇑*i*P	**P**	**02 56 03.7**	**+1.4**
LDF	**La Druitiere**	**22.89**	**168**	*e*P	**P**	**02 56 01.3**	**-1.1**
	comp=Z,22nm,1.1s,mb4.2						
LDF	**La Druitiere**	**22.89**	**168**	*e*P	**P**	**02 56 01.3**	**-1.1**
LDF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
ROSF	**Rostrenen**	**22.97**	**173**	*e*P	**P**	**02 56 02.5**	**-0.7**
	comp=Z,57nm,1.5s,mb4.5						
ROSF	**Rostrenen**	**22.97**	**173**	*e*P	**P**	**02 56 02.5**	**-0.7**
ROSF				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.5						
PVCC	**Panska Ves**	**23.00**	**142**	⇑*e*P	**P**	**02 56 04.4**	**+0.9**
GRR	**Gorron**	**23.05**	**169**	*e*P	**P**	**02 56 03.3**	**-0.6**
KSP	**Ksiaz**	**23.06**	**140**	*e*P	**P**	**02 56 06.2**	**+2.2**
KSP				*e*pP		02 56 17.8	
KSP	**Ksiaz**	**23.06**	**140**	*e*P	**P**	**02 56 05.9**	**+1.9**
SGMF	**Saint Gilles**	**23.09**	**172**	*e*P	**P**	**02 56 03.2**	**-1.1**
	comp=Z,64nm,1.7s,mb4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SGMF	**Saint Gilles**	**23.09**	**172**	eP	**P**	**02 56 03.2**	**-1.1**
SGMF				pmax	pmax		
	comp=Z,32nm,1.7s,mb4.5						
GRA1	**Grafenberg Arr**	**23.19**	**148**	eP	**P**	**02 56 07.4**	**+2.1**
	comp=Z,24nm,1.2s,mb4.5						
GRA1				epP		02 56 13.3	
GRF	**Grafenberg Arr**	**23.19**	**148**	eP	**P**	**02 56 07.4**	**+2.1**
	comp=Z,24nm,1.2s,mb4.5						
GRF				epP		02 56 13.3	
GRF	**Grafenberg Arr**	**23.19**	**148**	eP	**P**	**02 56 07.4**	**+2.1**
GRF				e*PP		02 56 13.3	
GRF				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**23.19**	**148**	eP	**P**	**02 56 07.4**	**+2.1**
GRF				e*PP		02 56 13.3	
GRF				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.5						
UPC	**Upice**	**23.32**	**140**	⇑iP	**P**	**02 56 08.0**	**+1.5**
MEZF	**Maizieres J'vi**	**23.46**	**159**	eP	**P**	**02 56 07.6**	**-0.4**
PRU	**Pruhonice**	**23.51**	**143**	⇑iP	**P**	**02 56 10.0**	**+1.6**
DPC	**Dobruska-Polom**	**23.53**	**140**	⇑iP	**P**	**02 56 10.3**	**+1.7**
CDF	**Champ du Feu**	**23.83**	**155**	eP	**P**	**02 56 11.8**	**+0.3**
	comp=Z,6.8nm,0.7s,mb3.9						
CDF	**Champ du Feu**	**23.83**	**155**	eP	**P**	**02 56 11.8**	**+0.3**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
HAU	**Haudompre**	**24.11**	**157**	eP	**P**	**02 56 14.1**	**-0.1**
KHC	**Kasperske Hory**	**24.15**	**145**	⇑iP	**P**	**02 56 16.2**	**+1.6**
KHC				pP		02 56 21.5	
KHC	**Kasperske Hory**	**24.15**	**145**	⇑iP	**P**	**02 56 16.2**	**+1.6**
KHC				e		02 56 21.5	
MORC	**Moravsky Berou**	**24.33**	**139**	eP	**P**	**02 56 17.0**	**+0.6**
	comp=Z,4.3nm,0.9s,mb3.9						
MORC	**Moravsky Berou**	**24.33**	**139**	eP	**P**	**02 56 17.0**	**+0.6**
	comp=Z,4.2nm,0.9s,mb3.9						
MORC	**Moravsky Berou**	**24.33**	**139**	eP	**P**	**02 56 17.0**	**+0.6**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
TREC	**Trest**	**24.36**	**142**	⇑eP	**P**	**02 56 18.1**	**+1.4**
OKC	**Ostrava-Krasne**	**24.40**	**138**	⇑eP	**P**	**02 56 20.3**	**+3.2**
OJC	**Ojcow**	**24.42**	**135**	eP	**P**	**02 56 18.2**	**+1.0**
GERES	**GERESS Array B**	**24.45**	**145**	P	**P**	**02 56 18.8**	**+1.2**
	comp=Z,6.9nm,0.9s,mb4.1,baz=350,slow=8.1,SNR=47						
LOR	**Lormes**	**24.55**	**161**	eP	**P**	**02 56 18.4**	**-0.1**
	comp=Z,8.2nm,0.9s,mb3.9						
LOR	**Lormes**	**24.55**	**161**	eP	**P**	**02 56 18.4**	**-0.1**
LOR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
VRAC	**Vranov**	**24.57**	**140**	P	**P**	**02 56 19.6**	**+0.8**
	comp=Z,5.6nm,0.8s,mb4.2,baz=334,slow=7.2,SNR=7.6						
VRAC	**Vranov**	**24.57**	**140**	eP	**P**	**02 56 20.0**	**+1.2**
OBN	**Obninsk**	**24.69**	**108**	⇓eP	**P**	**02 56 20.7**	**+0.9**
OBN				eS	**S**	**03 00 33.3**	**-5.2**
OBN				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.4						
SSF	**Saint Saulge**	**24.72**	**162**	eP	**P**	**02 56 19.6**	**-0.6**
	comp=Z,6.5nm,1.0s,mb4.1						
SSF	**Saint Saulge**	**24.72**	**162**	eP	**P**	**02 56 19.6**	**-0.6**
SSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
MFF	**Saint Martin d**	**24.87**	**168**	eP	**P**	**02 56 21.0**	**-0.6**
AVF	**Avril sur Loir**	**24.97**	**162**	eP	**P**	**02 56 22.2**	**-0.4**
	comp=Z,4.4nm,0.8s,mb3.7						
AVF	**Avril sur Loir**	**24.97**	**162**	eP	**P**	**02 56 22.2**	**-0.4**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
BGF	**Bois d'Agland**	**25.15**	**163**	eP	**P**	**02 56 23.8**	**-0.5**
	comp=Z,22nm,1.1s,mb4.3						
BGF	**Bois d'Agland**	**25.15**	**163**	eP	**P**	**02 56 23.8**	**-0.5**
BGF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.3						
SMF	**Signal de Mont**	**25.16**	**162**	eP	**P**	**02 56 23.8**	**-0.6**
	comp=Z,24nm,1.1s,mb4.3						
SMF	**Signal de Mont**	**25.16**	**162**	eP	**P**	**02 56 23.8**	**-0.6**
SMF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
NIE	**Niedzica**	**25.28**	**135**	eP	**P**	**02 56 26.2**	**+0.7**
DAVA	**Damuels**	**25.31**	**152**	⇑iP	**P**	**02 56 27.6**	**+1.8**
	comp=Z,17nm,1.1s,mb4.5						
TCF	**Toulx Ste Croi**	**25.36**	**164**	eP	**P**	**02 56 25.2**	**-1.1**
	comp=Z,16nm,1.0s,mb4.2						
TCF	**Toulx Ste Croi**	**25.36**	**164**	eP	**P**	**02 56 25.2**	**-1.1**
TCF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
MOTA	**Moosalm**	**25.44**	**150**	⇑iP	**P**	**02 56 28.7**	**+1.6**
	comp=Z,12nm,1.2s,mb4.3						
MOTA	**Moosalm**	**25.44**	**150**	⇑iP	**P**	**02 56 28.7**	**+1.6**
MOTA				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.3						
CABF	**La Chapelle**	**25.45**	**158**	eP	**P**	**02 56 26.9**	**-0.2**
SMOL	**Smolenice**	**25.50**	**140**	eP	**P**	**02 56 29.3**	**+1.7**
STHS	**Stebnicka Huta**	**25.50**	**134**	eP	**P**	**02 56 29.4**	**+1.8**
MOA	**Molln**	**25.51**	**145**	⇓iP	**P**	**02 56 28.4**	**+0.7**
	comp=Z,8.0nm,1.1s,mb4.2						
WATA	**Walderalm**	**25.53**	**149**	⇑iP	**P**	**02 56 29.6**	**+1.7**
	comp=Z,14nm,1.2s,mb4.4						
WATA	**Walderalm**	**25.53**	**149**	⇑iP	**P**	**02 56 29.6**	**+1.7**
WATA				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.4						
SQTA	**Sankt Quirin**	**25.58**	**150**	⇓iP	**P**	**02 56 29.3**	**+1.0**
	comp=Z,7.6nm,1.0s,mb4.2						
SQTA	**Sankt Quirin**	**25.58**	**150**	⇓iP	**P**	**02 56 29.3**	**+1.0**
SQTA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
WTTA	**Wattenberg**	**25.61**	**149**	⇑iP	**P**	**02 56 29.2**	**+0.6**
	comp=Z,21nm,1.3s,mb4.5						
WTTA	**Wattenberg**	**25.61**	**149**	⇑iP	**P**	**02 56 29.2**	**+0.6**
WTTA				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.5						
KWP	**Kalwaria**	**25.65**	**131**	eP	**P**	**02 56 29.8**	**+0.7**
DAVOX	**Davos**	**25.80**	**152**	P	**P**	**02 56 31.2**	**+0.8**
	comp=Z,1.2nm,0.6s,mb3.6,baz=176,slow=16,SNR=3.0						
VYHS	**Vyhne**	**25.82**	**138**	eP	**P**	**02 56 31.1**	**+0.5**
KBA	**Koelnbreinsper**	**26.08**	**147**	⇑iP	**P**	**02 56 34.4**	**+1.4**
	comp=Z,11nm,1.1s,mb4.3						
KBA	**Koelnbreinsper**	**26.08**	**147**	⇑iP	**P**	**02 56 34.4**	**+1.4**
KBA				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.3						
KOLS	**Kolonicke sedl**	**26.20**	**132**	eP	**P**	**02 56 34.7**	**+0.6**
KECS	**Kecovo**	**26.20**	**135**	eP	**P**	**02 56 34.1**	**0.0**
RJF	**Les Rejaudoux**	**26.28**	**166**	eP	**P**	**02 56 34.3**	**-0.6**
ARSA	**Arzberg**	**26.32**	**143**	⇓iP	**P**	**02 56 36.7**	**+1.5**
	comp=Z,7.8nm,1.1s,mb4.2						
AKASG	**Malin Array Be**	**26.38**	**122**	P	**P**	**02 56 34.8**	**-0.9**
	comp=Z,6.9nm,0.6s,mb4.4,baz=332,slow=9.2,SNR=25						
LPL	**La Plagne**	**26.61**	**158**	eP	**P**	**02 56 37.7**	**-0.2**
	comp=Z,16nm,1.0s,mb4.2						
LPL	**La Plagne**	**26.61**	**158**	eP	**P**	**02 56 37.7**	**-0.2**
LPL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
LPG	**La Plagne**	**26.62**	**158**	eP	**P**	**02 56 38.5**	**+0.5**
	comp=Z,16nm,1.2s,mb4.1						
LPG	**La Plagne**	**26.62**	**158**	eP	**P**	**02 56 38.5**	**+0.5**
LPG				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.1						
CAF	**Calviac**	**26.70**	**165**	eP	**P**	**02 56 38.1**	**-0.7**
	comp=Z,10.0nm,0.9s,mb4.0						
CAF	**Calviac**	**26.70**	**165**	eP	**P**	**02 56 38.1**	**-0.7**
CAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
OBKA	**Obir**	**26.85**	**145**	⇑iP	**P**	**02 56 40.9**	**+0.8**
	comp=Z,8.4nm,1.1s,mb4.2						
VIVF	**Saint-Julien-l**	**27.02**	**161**	eP	**P**	**02 56 41.6**	**-0.1**
	comp=Z,6.3nm,0.8s,mb3.9						
VIVF	**Saint-Julien-l**	**27.02**	**161**	eP	**P**	**02 56 41.6**	**-0.1**
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
ORIF	**Oris-en-Rattie**	**27.09**	**159**	eP	**P**	**02 56 42.0**	**-0.3**
	comp=Z,28nm,1.4s,mb4.3						
ORIF	**Oris-en-Rattie**	**27.09**	**159**	eP	**P**	**02 56 42.0**	**-0.3**
ORIF				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.3						
MBDF	**Montbardon**	**27.39**	**158**	eP	**P**	**02 56 45.2**	**+0.2**
	comp=Z,9.8nm,0.8s,mb4.1						
MBDF	**Montbardon**	**27.39**	**158**	eP	**P**	**02 56 45.2**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
MTLF	**Montolieu**	**28.29**	**165**	eP	**P**	**02 56 52.6**	**-0.6**
SBF	**Sospel**	**28.32**	**157**	eP	**P**	**02 56 53.6**	**+0.1**
EPF	**Esparros**	**28.46**	**168**	eP	**P**	**02 56 53.9**	**-0.8**
	comp=Z,7.3nm,0.8s,mb4.1						
EPF	**Esparros**	**28.46**	**168**	eP	**P**	**02 56 53.9**	**-0.8**
EPF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
SCHQ	**Schefferville**	**29.92**	**269**	LR	LR	03 08 24.6	
	comp=Z,108nm,18.1s,MS3.5,baz=70,slow=35						
ARU	**Arti**	**30.67**	**84**	⇑iP	**P**	**02 57 14.4**	**+0.1**
ARU				e		02 58 13.8	
ARU				e		03 00 08.9	
ARU				eS	**S**	**03 02 11.0**	**-4.6**
ARU				e		03 07 45.6	
ARU				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.3						
ESDC	**Sonseca Array**	**31.60**	**175**	P	**P**	**02 57 21.6**	**-1.2**
	comp=Z,1.5nm,0.8s,mb3.9,baz=360,slow=8.8,SNR=4.6						
ESLA	**Sonseca Array**	**31.60**	**175**	eP	**P**	**02 57 19.2**	**-3.5**
	comp=Z,6.3nm,1.7s,mb4.2						
TIXI	**Tiksi**	**34.64**	**23**	⇓iP	**P**	**02 57 51.3**	**+2.5**
TIXI				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.7						
INK	**Inuvik**	**36.23**	**329**	P	**P**	**02 58 00.6**	**-1.8**
	comp=Z,6.7nm,1.2s,mb4.5,baz=7.7,slow=6.5,SNR=3.7						
KIV	**Kislovodsk**	**36.40**	**111**	eP	**P**	**02 58 04.7**	**+0.7**
KIV				pmax	pmax		
	comp=N,7.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,2.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**37.24**	**77**	eP	**P**	**02 58 11.7**	**+0.8**
	comp=Z,5.3nm,1.2s,mb4.2						
BRVK	**Borovoye**	**37.24**	**77**	eP	**P**	**02 58 11.7**	**+0.7**
	comp=Z,5.3nm,1.2s,mb4.2						
BRVK	**Borovoye**	**37.24**	**77**	eP	**P**	**02 58 11.7**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
BVAR	**Borovoye Array**	**37.30**	**77**	P	**P**	**02 58 13.0**	**+1.5**
	comp=Z,4.7nm,0.8s,mb4.3,baz=307,slow=7.4,SNR=18						
YKA	**Yellowknife Ar**	**37.55**	**313**	P	**P**	**02 58 13.1**	**-0.4**
	comp=Z,1.6nm,0.8s,mb3.8,baz=32,slow=9.0,SNR=2.7						
BRTR	**Keskin Array B**	**37.70**	**124**	P	**P**	**02 58 16.3**	**+1.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=346,slow=5.9,SNR=3.7						
NVS	**Novosibirsk**	**39.68**	**65**	iP	**P**	**02 58 32.8**	**+1.4**
MALT	**Malatya**	**40.34**	**119**	eP	**P**	**02 58 38.9**	**+1.9**
	comp=Z,2.4nm,0.6s,mb4.1						
MALT	**Malatya**	**40.34**	**119**	eP	**P**	**02 58 38.9**	**+1.9**
	comp=Z,2.4nm,0.6s,mb4.1						
MALT	**Malatya**	**40.34**	**119**	eP	**P**	**02 58 38.9**	**+1.9**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**41.54**	**335**	P	**P**	**02 58 47.2**	**+0.9**
	comp=Z,2.9nm,1.0s,mb3.9,baz=10.0,slow=7.6,SNR=16						
ILAR	**Eielson Array**	**41.54**	**335**	P	**P**	**02 58 47.2**	**+0.9**
KURK	**Kurchatov**	**41.87**	**72**	eP	**P**	**02 58 49.6**	**+0.4**
	comp=Z,2.6nm,0.8s,mb3.9						
KURK	**Kurchatov**	**41.87**	**72**	eP	**P**	**02 58 49.6**	**+0.4**
	comp=Z,2.6nm,0.8s,mb3.9						
KURK	**Kurchatov**	**41.87**	**72**	eP	**P**	**02 58 49.4**	**+0.2**
BOD	**Bodaibo**	**44.89**	**40**	eP	**P**	**02 59 13.6**	**-0.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.2						
SEY	**Seymchan**	**45.45**	**13**	⇑iP	**P**	**02 59 21.4**	**+3.3**
MKAR	**Makanchi Array**	**46.48**	**71**	P	**P**	**02 59 26.8**	**+0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=338,slow=6.2,SNR=9.1						
MKAR				LR	LR	03 22 21.3	
	comp=Z,89nm,18.9s,MS3.7,baz=0.4,slow=40						
MKAR	**Makanchi Array**	**46.48**	**71**	⇑eP	**P**	**02 59 27.9**	**+1.5**
AAK	**Ala-Archa**	**47.75**	**81**	eP	**P**	**02 59 37.7**	**+1.2**
	comp=Z,2.7nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**47.75**	**81**	⇑iP	**P**	**02 59 37.5**	**+0.9**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.9						
SONM	**Songino Array**	**52.35**	**51**	P	**P**	**03 00 12.8**	**+1.1**
	comp=Z,0.6nm,0.9s,mb3.5,baz=333,slow=3.2,SNR=3.7						
PDAR	**Pinedale Array**	**53.91**	**297**	P	**P**	**03 00 21.4**	**-1.7**
	comp=Z,0.4nm,0.8s,mb3.4,baz=39,slow=9.5,SNR=4.8						
TXAR	**Lajitas Array**	**64.56**	**286**	P	**P**	**03 01 35.7**	**-1.4**
	comp=Z,0.4nm,0.7s,mb3.6,baz=63,slow=5.6,SNR=4.8						
MJAR	**Matsushiro Arr**	**69.82**	**29**	P	**P**	**03 02 10.9**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=8.3,slow=4.4,SNR=4.5						
MAW	**Mawson**	**146.24**	**140**	PKPbc	PKPbc	03 10 38.7	+2.0
	comp=Z,3.8nm,0.7s,baz=348,slow=5.3,SNR=5.6						

*NNC **13** 03:10:53.0±6.6, 41.74N×82.12E, h9km±12km, mpv2.8, Error ellipse: s-maj=51.6km s-min=30.7km az=167.0*
BJI 13 03:10:51.6, 41.57N×82.30E, h17km, ML3.2, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.57**	**59**	eP	Pn	03 12 02.0	+0.3
WMQ				S	Sn	03 12 56.0	+1.0
WMQ				Smax			
	comp=N,18nm,0.5s						
WMQ				Smax			
	comp=E,18nm,0.6s						
MK31	**Makanchi Array**	**5.22**	**360**	⇓Pn	Pn	03 12 09.3	-1.7
	comp=E,0.2nm,0.3s,baz=187,slow=13,SNR=14						
MK31				Pg	Pn	03 12 25.6	+15
	comp=E,1.7nm,0.6s,baz=181,slow=16,SNR=6.8						
MK31				⇑Lg		03 13 32.4	
	comp=E,9.8nm,0.8s,baz=181,slow=25,SNR=3.8						
AAK	**Ala-Archa**	**5.90**	**283**	⇑Lg		03 13 55.7	
	comp=E,5.7nm,0.8s						
KURK	**Kurchatov**	**9.50**	**346**	⇓Sn	Sn	03 14 52.4	-5.7
	comp=E,1.8nm,0.6s						
KURK				⇓Lg		03 15 48.7	
	comp=E,5.7nm,1.3s						

*NIED **13** 03:14:00, 37.50N×142.00E, h53km, Mw3.5 Best double couple: Mo2.1×10^14 NP1:φs309°, δ87°, λ-137°. NP2: φs216°, δ47°, λ-4°.*
JMA 13 03:14:55.7±0.1, 37.54N×141.99E, h38km±2km, M3.8, 5C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.90**	**259**	⇑P	P	03 15 12.0	0.0
JFK				S	S	03 15 23.8	-0.3
JMM	**Marumori**	**1.00**	**289**	⇑P	P	03 15 13.6	+0.1
JMM				S	S	03 15 26.4	-0.2
JIO	**Ouri**	**1.04**	**331**	⇓P	P	03 15 14.1	+0.1
JIO				S	S	03 15 27.3	-0.3
ONAJ	**Iwakimizuishiy**	**1.05**	**246**	⇑P	P	03 15 14.0	0.0
ONAJ				S	S	03 15 27.0	-0.7
JFT	**Otama**	**1.31**	**270**	⇑P	P	03 15 18.7	+0.7
JFT				S	S	03 15 35.4	+0.9
JOU	**Okura**	**1.33**	**309**	⇑P	P	03 15 18.8	+0.6
JOU				S	S	03 15 36.0	+1.0
JMK	**Ichinoseki**	**1.53**	**337**	⇓P	P	03 15 21.3	+0.2
JMK				S	S	03 15 40.7	+0.7
JYS	**Shirataka**	**1.67**	**295**	P	P	03 15 23.9	+0.9
JYS				S	S	03 15 45.3	+2.0
JFY	**Yanaizu**	**1.82**	**267**	P	P	03 15 26.1	+0.9
JFY				S	S	03 15 48.5	+1.3
JYK	**Kaneyama**	**1.88**	**317**	P	P	03 15 26.5	+0.5
JYK				S	S	03 15 49.2	+0.5
MAT	**Matsushiro**	**3.19**	**253**	P	P	03 15 44.4	-0.2
MAT				eS	S	03 16 20.0	-1.8

*TIF **13** 03:36:39.3, 43.22N×45.80E, h23km±5km*
*MOS **13** 03:36:40.4±0.5, 43.08N×45.85E, h48km, mb4.1/1, Error ellipse: s-maj=29.9km s-min=16.0km az=13.4*
*NNC **13** 03:36:48.9±1.2, 43.93N×46.98E, Error ellipse: s-maj=47.1km s-min=12.2km az=140.0*
ISC 13 03:36:38.3±0.7, 43.49N±0.05×45.96E±0.06, h33km, n11, σ1s22/17, 3C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.85**	**167**	⇑iP	**P**	**03 36 53.4**	**-0.3**
BTLR				iS	**S**	**03 37 06.5**	**+1.3**
BTLR				pmax	pmax		
	comp=Z,86nm,0.2s						
KRNR	**Karanay**	**0.96**	**133**	⇓iP	**P**	**03 36 56.3**	**+0.9**
KRNR				iS	**S**	**03 37 10.0**	**+1.9**
KRNR				pmax	pmax		
	comp=Z,40nm,0.2s						
ARNR	**Ardon**	**1.26**	**257**	eP	**P**	**03 37 01.4**	**+1.8**
LACR	**Lac**	**1.39**	**242**	eP	**P**	**03 37 00.6**	**-0.9**
LSNR	**Lesken**	**1.58**	**263**	eP	**P**	**03 37 06.1**	**+1.9**
KMKR	**Kumukh**	**1.60**	**148**	eP	**P**	**03 37 03.5**	**-1.0**
KMKR				iS	**S**	**03 37 22.9**	**-1.3**
KMKR				pmax	pmax		
	comp=Z,32nm,0.2s						
ZEI	**Tsey**	**1.67**	**245**	eP	**P**	**03 37 05.2**	**-0.4**
ZEI				e		03 37 23.6	
ZEI				pmax	pmax		
	comp=Z,25nm,0.1s						
ZEI				smax			
	comp=N,81nm,0.2s						
DIGR	**Digorskoe uzhe**	**1.84**	**252**	eP	**P**	**03 37 07.8**	**-0.1**
MTA	**Mtatsminda**	**1.99**	**206**	P	**P**	**03 37 08.9**	**-1.2**
MTA				S	**S**	**03 37 31.1**	**-3.1**
AKTO	**Aktyubinsk**	**10.77**	**46**	⇑P	**P**	**03 39 12.6**	**-0.6**
	comp=N,1.8nm,2.5s						
AKTO				⇓S	**S**	**03 41 06.8**	**-6.8**
	comp=N,2.0nm,2.4s						
AB31	**Akbulak array**	**11.24**	**54**	P	**P**	**03 39 19.1**	**-0.5**
	comp=N,0.1nm,0.3s,baz=244,slow=13,SNR=16						
AB31				⇑S	**S**	**03 41 17.2**	**-7.9**
	comp=N,0.4nm,0.3s,baz=240,slow=20,SNR=5.1						

WEL 13 04:08:38.3±0.4, 38.26S×176.14E, h157km±3km, ML3.6/13, 2C, Error ellipse: s-maj=3.8km s-min=3.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.76**	**90**	PN	P	04 09 01.7	-0.5
URZ				SN	S	04 09 20.0	-0.6
TWVZ	**Taurewa**	**0.98**	**214**	PN	P	04 09 03.5	-0.2
TUVZ	**Tukino**	**1.08**	**201**	PN	P	04 09 04.5	0.0
MWZ	**Matawai**	**1.09**	**94**	PN	P	04 09 04.5	-0.1
MWZ				SN	S	04 09 24.8	-0.2
FWVZ	**Far West T-bar**	**1.09**	**205**	PN	P	04 09 05.0	+0.3
WNVZ	**Wahianoa**	**1.15**	**202**	PN	P	04 09 05.2	0.0
MOVZ	**Moawhango**	**1.18**	**195**	⇑PN	P	04 09 05.0	-0.5
MOVZ				SN	S	04 09 25.8	-0.7
MTVZ	**Mangateitei**	**1.24**	**205**	PN	P	04 09 05.6	-0.5
KNZ	**Kokohu**	**1.42**	**123**	ePN	P	04 09 08.1	+0.3
PUZ	**Puketiti**	**1.68**	**84**	PN	P	04 09 09.9	-0.6
PUZ				SN	S	04 09 34.2	-1.2
TSZ	**Takapari Road**	**1.80**	**184**	PN	P	04 09 11.0	-0.9
MXZ	**Matakaoa Point**	**1.85**	**69**	PN	P	04 09 11.9	-0.5
PXZ	**Pawanui**	**1.85**	**163**	PN	P	04 09 12.0	-0.4
PXZ				SN	S	04 09 36.1	-2.7
BFZ	**Birch Farm**	**2.42**	**178**	PN	P	04 09 17.4	-1.8
MRZ	**Mangatainoka R**	**2.44**	**190**	⇑PN	P	04 09 17.2	-2.3
MRZ				SN	S	04 09 48.2	-2.9
KIW	**Kapiti Island**	**2.77**	**200**	PN	P	04 09 20.4	-3.2
CAW	**Cannon Point**	**2.96**	**196**	PN	P	04 09 22.8	-3.3
PAWZ	**Paruwai Farm**	**3.17**	**190**	PN	P	04 09 25.2	-3.5
MRW	**Makara Radio**	**3.17**	**200**	PN	P	04 09 25.0	-3.7
MSWZ	**Moikau Station**	**3.22**	**192**	PN	P	04 09 25.8	-3.6
SNZO	**South Karori**	**3.24**	**200**	PN	P	04 09 25.7	-3.9
TCW	**Tory Channel**	**3.28**	**205**	PN	P	04 09 26.2	-3.9
TCW				SN	S	04 10 04.5	-5.4
BHW	**Baring Head**	**3.29**	**197**	PN	P	04 09 26.3	-4.0
QRZ	**Quartz Range**	**3.79**	**226**	PN	P	04 09 31.5	-5.2
QRZ				SN	S	04 10 15.2	-6.5
KHZ	**Kahutara**	**4.60**	**205**	PN	P	04 09 42.5	-4.9
LTZ	**Lake Taylor**	**5.39**	**212**	ePN	P	04 09 51.6	-6.2

*NNC **13** 04:28:24.7±2.6, 37.77N×71.55E, h244km±38km, mpv3.5, Error ellipse: s-maj=29.8km s-min=18.6km az=29.0*
ISC 13 04:28:20.9±2.9, 37.5N±0.2×71.5E±0.3, h193km±44km, n8, σ0s55/10, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.95**	**19**	P	**P**	**04 29 35.1**	**-0.1**
	SNR=59						
KZA	**Kyzart**	**5.42**	**31**	P	**P**	**04 29 40.2**	**-1.1**
	SNR=6.2						
EKS2	**Erkin-Say**	**5.46**	**18**	P	**P**	**04 29 42.3**	**+0.5**
	SNR=12						
AAK	**Ala-Archa**	**5.64**	**23**	P	**P**	**04 29 44.5**	**+0.4**
	SNR=9.3						
AAK	**Ala-Archa**	**5.64**	**23**	⇓P	**P**	**04 29 44.2**	**+0.1**
	3.8nm,0.4s						
AAK				⇓S	**S**	**04 30 49.3**	**+0.5**
	4.7nm,0.7s						
KK31	**Karatay Array**	**5.68**	**352**	P	**P**	**04 29 45.4**	**+0.7**
	1.4nm,0.3s,baz=171,slow=11,SNR=57						
KK31				⇑S	**S**	**04 30 49.2**	**-0.6**
	1.8nm,0.3s,baz=172,slow=17,SNR=14						
TKM2	**Tokmak 2**	**6.27**	**28**	P	**P**	**04 29 52.1**	**-0.2**
	SNR=6.8						
AB31	**Akbulak array**	**14.46**	**328**	⇑S	**S**	**04 34 13.2**	**0.0**
	0.4nm,0.5s						

*NNC **13** 04:32:03.4±11.0, 38.07N×72.60E, h167km±155km, mpv3.6, Error ellipse: s-maj=141.9km s-min=65.3km az=30.0*
ISC 13 04:32:00.2±2.6, 37.9N±0.2×72.6E±0.3, h180km±39km, n8, σ0s92/11, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.28**	**11**	P	**P**	**04 33 05.0**	**-0.5**
	SNR=16						
KZA	**Kyzart**	**4.61**	**25**	P	**P**	**04 33 08.5**	**-1.4**
	SNR=14						
EKS2	**Erkin-Say**	**4.81**	**10**	P	**P**	**04 33 12.6**	**+0.2**
	SNR=13						
AAK	**Ala-Archa**	**4.91**	**16**	P	**P**	**04 33 14.1**	**+0.3**
	SNR=7.9						
AAK	**Ala-Archa**	**4.91**	**16**	⇑P	**P**	**04 33 13.7**	**-0.1**
	2.5nm,0.3s						
AAK				⇓S	**S**	**04 34 11.8**	**+1.1**
	33nm,0.8s						
KK31	**Karatay Array**	**5.41**	**343**	P	**P**	**04 33 20.4**	**+0.2**
	2.2nm,0.1s,baz=153,slow=11,SNR=24						
KK31				⇑S	**S**	**04 34 22.2**	**-0.1**
	11nm,0.2s,baz=135,slow=23						
USP	**Ospenovka**	**5.52**	**15**	P	**P**	**04 33 21.5**	**-0.2**
	SNR=6.3						
AB31	**Akbulak array**	**14.55**	**325**	⇓P	**P**	**04 35 20.6**	**+2.1**
	0.5nm,0.5s,baz=127,slow=16,SNR=3.6						
AB31				⇑S	**S**	**04 37 54.1**	**-1.1**
	1.2nm,0.6s						

*CSEM **13** 04:32:49.2±0.4, 39.16N×28.60W, h5km±11km, ML2.3, Error ellipse: s-maj=10.2km s-min=2.3km az=144.0, After PDA*
*PDA **13** 04:32:49.2±0.4, 39.16N×28.60W, h5km±11km, MD3.5, ML2.3, Error ellipse: s-maj=10.2km s-min=2.3km az=144.0*
SVSA 13 04:32:49.2±0.4, 39.16N×28.60W, h5km±11km, MD3.5, ML2.3, Error ellipse: s-maj=10.2km s-min=2.3km az=144.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.49**	**105**	eS	Sg	04 33 04.2	-1.5
	46nm,0.2s						
PCED	**Cedros**	**0.53**	**189**	eP	Pg	04 32 58.3	-1.6
PCED				eS	Sg	04 33 05.2	-1.8
	117nm,0.3s						
CALA	**Caldeira**	**0.58**	**188**	eP	Pg	04 32 59.3	-1.5
HOR	**Horta**	**0.63**	**182**	eP	Pg	04 32 59.6	-2.2
HOR				eS	Sg	04 33 07.8	-2.4
PMAN	**Manadas**	**0.66**	**143**	eS	Sg	04 33 08.4	-2.7
	53nm,0.2s						
PICO	**Pico**	**0.67**	**168**	eP	Pg	04 33 00.5	-2.1

*ORF **13** 04:40:28.4, 35.35N×23.66E, h30km, mb4.4, ML5.4*
*BJI **13** 04:41:11.5, 37.50N×19.66E, h34km, mB5.1, mb4.5*
*ROM **13** 04:41:12.2±1.2, 37.99N×20.68E, h12km, Md3.6/1, Ml4.5/13, Error ellipse: s-maj=19.0km s-min=5.2km az=58.0*
*LDG **13** 04:41:14.6±0.1, 38.32N×20.34E, h10km, Mb4.5/29, Ms3.0/4, Error ellipse: s-maj=7.3km s-min=2.1km az=15.0*
*MOS **13** 04:41:15.6±1.1, 38.27N×20.23E, h10km, mb4.8/10, Error ellipse: s-maj=3.9km s-min=2.6km az=97.3*
*ATH **13** 04:41:16.3, 38.18N×20.25E, h13km±1km, MD4.3/16, ML4.4*
*PRU **13** 04:41:16.6, 38.43N×20.49E, M4.2*
*NEIC **13** 04:41:16.3, 38.18N×20.25E, h14km, mb4.2/27, ML4.5(THE), ML4.4(ATH), ML4.5(PDG), ML4.5(ROM), After*

ATH.
NEIC Felt at Kefallinia.
*PDG **13** 04:41:18.6±0.6,38.35N×20.24E,h16km±5km*
*CSEM **13** 04:41:19.6,38.35N×20.15E,h60km,mb4.5*
*THE **13** 04:41:19.3,38.26N×20.45E,h1km,ML4.2*
*IDC **13** 04:41:21.3±1.6,38.34N×20.33E,h41km±18km,mb4.0/12, mb1 4.2/19,mb1mx4.1/26,mbtmp4.2/19,ML4.1/6,MS3.6/7, Ms1 3.6/7,ms1mx3.3/25,Error ellipse: s-maj=14.6km s-min=9.8km az=13.0*
*HLW **13** 04:41:31.5,37.21N×21.08E,h16km,Mb4.4*
ISC 13 04:41:16.5±0.2,**38.26N**±0.02×**20.24E**±0.01,**h13**km,**n384**, σ**1**s**38**/459,**mb4.3**/33,**MS3.7**/7,**24C-31D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.29	107	⇓iPG	Pg	04 41 22.6	-0.1
VLS				eSG	Sg	04 41 26.2	-0.7
LKD	Levkas	0.55	36	P	Pb	04 41 28.0	+0.6
RLS	Riolos of Patr	0.99	102	ePB	Pb	04 41 34.5	-0.5
RLS				eSB	Sb	04 41 48.9	+1.2
EVR	Evrytania	1.39	62	ePB	Pb	04 41 43.1	+1.2
EVR				eSB	Sb	04 42 02.2	+2.8
JAN	Janina	1.47	19	ePB	Pb	04 41 45.2	+2.0
JAN				eSB	Sb	04 42 06.6	+4.9
KEK	Kerkira	1.49	347	ePG	Pg	04 41 45.5	-0.8
KEK	Kerkira	1.49	347	Pn	Pn	04 41 45.6	+2.5
	3µm,0.4s						
SRN	Sarande	1.62	354	ePn	Pg	04 41 47.6	-1.4
SRN				iSn	Sg	04 42 13.2	+2.5
ITM	Ithomi	1.72	128	⇓iPB	Pb	04 41 47.1	-0.4
ITM				eSB	Sb	04 42 10.7	+1.8
AGG	Agios Georgios	1.81	65	ePb	Pb	04 41 50.4	+1.4
LSK	Leskovik	1.91	8	ePn	Pn	04 41 53.0	+4.0
LSK				iSn	Sn	04 42 22.6	+10
TPE	Tepelena	2.04	355	ePn	Pn	04 41 53.7	+2.8
TPE				iSn	Sn	04 42 24.1	+7.7
LKR	Lokris	2.20	79	⇑iPN	Pn	04 41 54.6	+1.3
LKR				eSN	Sn	04 42 22.3	+1.7
KZN	Kozani	2.36	30	ePN	Pn	04 41 58.0	+2.4
KZN				eSN	Sn	04 42 29.0	+4.3
KBN	Korca	2.40	10	iPn	Pn	04 41 53.7	-2.4
KBN				iSn	Sn	04 42 32.7	+7.2
KBN	Korca	2.40	10	ePn	Pn	04 41 59.4	+3.3
MGER	Gerania Oros	2.40	96	ePN	Pn	04 41 57.0	+0.9
NEO	Neokhori	2.56	65	ePB	Pb	04 41 59.6	-2.2
XOR	Xorichti	2.56	64	ePn	Pn	04 41 59.9	+1.5
XOR				eSn	Sg	04 42 44.6	+2.9
XOR	Xorichti	2.56	64	P	Pn	04 41 59.6	+1.2
XOR				S	Sn	04 42 37.7	+8.1
NSAL	Nisos Salamina	2.57	97	ePN	Pn	04 41 59.8	+1.2
NAIG	Nisos Aigina	2.62	100	ePB	Pb	04 41 59.7	-3.1
VLI	Veliai	2.64	125	ePN	Pn	04 42 00.9	+1.3
LCI	Lecce	2.65	322	Pn	Pn	04 42 01.7	+2.1
	828nm,0.5s						
FNA	Florina	2.67	19	ePn	Pn	04 42 02.2	+2.3
	comp=Z,5.5nm,0.3s						
FNA				eSn	Sn	04 42 36.4	+4.0
FNA	Florina	2.67	19	P	Pn	04 42 02.3	+2.4
FNA				S	Sn	04 42 37.5	+5.1
MPAR	Parnis Oros	2.76	91	ePN	Pn	04 42 02.0	+0.8
ATH	Athens Observa	2.76	95	ePN	Pn	04 42 01.8	+0.5
ATH				eSN	Sn	04 42 35.8	+1.1
PTL	Penteli	2.87	93	ePN	Pn	04 42 03.5	+0.7
TIP	Timpagrande	2.87	290	⇑iPn	Pn	04 42 05.0	+2.1
	342nm,0.8s						
KYTH	Kithira	2.98	131	ePB	Pb	04 42 06.0	-3.1
AOS	Alonnisos	2.99	71	ePn	Pn	04 42 05.0	+0.5
AOS	Alonnisos	2.99	71	P	Pn	04 42 05.0	+0.5
TIR	Tirane	3.09	355	⇓iPn	Pn	04 42 08.2	+2.2
TIR				iSn	Sn	04 42 45.6	+2.4
TIR	Tirane	3.09	355	Pn	Pn	04 42 07.9	+1.9
	3µm,1.1s						
TIR				iSn	Sn	04 42 45.6	+2.4
PAIG	Paliouri	3.15	57	ePn	Pn	04 42 07.2	+0.4
PAIG				eSn	Sn	04 42 42.1	-2.6
GRG	Griva	3.17	31	P	Pn	04 42 07.9	+0.9
GRG				S	Sn	04 42 52.7	+7.7
GRG	Griva	3.17	31	P	Pn	04 42 07.9	+0.8
THE	Thessaloniki	3.17	41	ePn	Pn	04 42 06.6	-0.6
	comp=Z,6.2nm,0.2s						
THE				eSn	Sg	04 43 08.5	+6.4
QSH	Qafa e Shtames	3.27	356	iPn	Pn	04 42 09.5	+1.1
QSH				iSn	Sn	04 42 48.4	+0.9
QSH	Qafa e Shtames	3.27	356	ePn	Pn	04 42 09.5	+1.1
QSH				iSn	Sn	04 42 48.4	+0.9
SOI	Samo	3.30	268	⇓iPn	Pn	04 42 10.3	+1.3
	291nm,0.7s						
TDS	Terranova Siba	3.34	296	Pn	Pn	04 42 10.9	+1.3
	598nm,1.0s						
CEL	Celeste	3.42	271	Pn	Pn	04 42 12.2	+1.6
	666nm,0.7s						
ORI	Oriolo Calabro	3.45	303	Pn	Pn	04 42 13.1	+2.0
	718nm,0.7s						
BRT	Bari-Castellan	3.51	319	Pn	Pn	04 42 13.8	+1.9
	236nm,0.2s						
SOH	Sokhos	3.51	42	ePn	Pn	04 42 13.0	+1.0
SOH				eSn	Sn	04 42 54.7	+0.9
SOH	Sokhos	3.51	42	P	Pn	04 42 12.9	+0.9
SOH				S	Sn	04 43 00.6	+6.8
NOCI	Noci	3.52	317	Pn	Pn	04 42 13.6	+1.5
	1µm,0.6s						
LTRZ	Laterza	3.53	313	Pn	Pn	04 42 14.0	+1.8
	927nm,1.0s						
KNT	Kendrikon	3.55	34	ePn	Pn	04 42 13.8	+1.3
	comp=Z,6.5nm,0.3s						
KNT	Kendrikon	3.55	34	P	Pn	04 42 13.4	+0.9
SCLL	Scilla	3.56	271	Pn	Pn	04 42 13.8	+1.2
	314nm,0.8s						
OUR	Ouranopolis	3.57	53	ePn	Pn	04 42 13.5	+0.7
	comp=Z,1.0nm,0.3s						
OUR	Ouranopolis	3.57	53	P	Pn	04 42 13.5	+0.8
OUR				S	Sn	04 43 02.2	+7.0
MTTG	Motta San Giov	3.59	267	Pn	Pn	04 42 14.1	+1.0
	342nm,0.6s						
MSRU	Castanea	3.72	271	Pn	Pn	04 42 15.9	+1.0
	687nm,0.9s						
SG1	Sgolgore (BA)	3.77	314	ePn	Pn	04 42 17.3	+1.7
ULC	Ulcinj	3.77	349	⇓iPn	Pn	04 42 16.0	+0.3
ULC				eSn	Sn	04 43 00.2	-0.2
PUK	Puka	3.79	356	iPn	Pn	04 42 17.0	+1.2
PUK				iSn	Sn	04 43 01.7	+1.0
PUK	Puka	3.79	356	ePn	Pn	04 42 17.0	+1.2
PUK				iSn	Sn	04 43 01.7	+1.0
SKO	Skopje	3.82	14	iPn	Pn	04 42 18.0	+1.7
SKO				iPb	Pb	04 42 27.0	+3.7
SKO				iPg	Pg	04 42 37.5	+4.8
SKO				iSn	Sn	04 43 01.9	+0.4
SKO				iSg	Sg	04 43 21.0	-2.6
SKO				Lg		04 43 36.0	
	comp=Z,0.3nm,1.0s						
SKO	Skopje	3.82	14	iPn	Pn	04 42 18.0	+1.7
SKO				iSn	Sn	04 43 01.9	+0.4
SDA	Shkodra	3.83	352	iPn	Pn	04 42 17.7	+1.3
SDA	Shkodra	3.83	352	ePn	Pn	04 42 17.7	+1.3
BAI	Bari	3.84	319	ePn	Pn	04 42 18.1	+1.4
CUC	Castrocucco	3.85	298	Pn	Pn	04 42 19.2	+2.5
	comp=Z,1µm,1.1s						
SRS	Serrai	3.85	41	ePn	Pn	04 42 17.2	+0.4
SRS				eSn	Sn	04 43 04.4	+2.1
SRS	Serrai	3.85	41	P	Pn	04 42 17.2	+0.4
SRS				S	Sn	04 43 10.1	+7.8
AMUR	Altamura	3.85	314	Pn	Pn	04 42 18.3	+1.5
	comp=Z,593nm,1.0s						
MGR	Morigerati	4.09	299	Pn	Pn	04 42 22.3	+2.1
	comp=Z,212nm,0.9s						
AGST	Augusta-Monte	4.09	257	Pn	Pn	04 42 18.8	-1.5
	comp=Z,71nm,0.2s						
BCI	Bajram Curri	4.10	358	iPn	Pn	04 42 22.1	+1.8
BCI				iSn	Sn	04 43 12.2	+3.5
BCI	Bajram Curri	4.10	358	ePn	Pn	04 42 22.1	+1.8
SLCN	Sala Consilina	4.15	302	Pn	Pn	04 42 24.2	+3.1
	comp=Z,124nm,0.4s						
CDT	Castel del Mon	4.16	314	ePn	Pn	04 42 22.5	+1.4
NVR	Nevrokopi	4.16	41	ePN	Pn	04 42 22.4	+1.2
BUM	Brajici-Budva	4.16	346	⇓iPn	Pn	04 42 21.4	+0.2
BUM				eSn	Sn	04 43 09.8	-0.4
LIA	Limnos Island	4.18	65	ePn	Pn	04 42 21.5	0.0
KKB	Krupnik	4.21	30	iP	Pn	04 42 22.4	+0.5
TTG	Podgorica	4.23	350	⇓iPn	Pn	04 42 22.3	+0.1
TTG				eSn	Sn	04 43 11.2	-0.7
VAM	Vamos	4.27	131	ePN	Pn	04 42 22.8	+0.1
VAM				eSN	Sn	04 43 11.2	-1.8
MMB	Musomiste	4.27	38	iP	Pn	04 42 23.0	+0.3
PVY	Plav	4.33	357	⇓iPn	Pn	04 42 25.0	+1.4
PVY				eSn	Sn	04 43 13.8	-0.8
APE	Apeiranthos	4.37	104	ePN	Pn	04 42 27.4	+3.3
APE	Apeiranthos	4.37	104	eP	Pn	04 42 28.7	+4.6
HCY	Herceg Novi	4.39	343	⇓iPn	Pn	04 42 23.9	-0.5
HCY				eSn	Sn	04 43 15.1	-0.9
MRLC	Muro Lucano	4.44	306	Pn	Pn	04 42 27.7	+2.6
SGO	Sicignano	4.45	303	Pn	Pn	04 42 28.3	+2.9
	comp=Z,71nm,0.4s						
VULT	Monte Vulture	4.47	308	Pn	Pn	04 42 28.2	+2.7
	comp=Z,2µm,1.5s						
HVZN	Vizzini	4.51	258	⇓iPn	Pn	04 42 24.9	-1.2
	comp=Z,1µm,0.4s						
IVA	Berane	4.61	357	ePn	Pn	04 42 28.8	+1.2
IVA				eSn	Sn	04 43 20.7	-0.9
GVD	Gavdhos	4.61	137	ePn	Pn	04 42 25.7	-1.9
GVD	Gavdhos	4.61	137	ePn	Pn	04 42 25.7	-1.9
NKY	Niksic	4.64	349	⇓iPn	Pn	04 42 28.1	0.0
NKY				eSn	Sn	04 43 21.6	-0.8
NKY	Niksic	4.64	349	⇓iPn	Pn	04 42 28.0	0.0
NKY				eSn	Sn	04 43 21.6	-0.8
MCRV	Calabrutti - M	4.66	304	Pn	Pn	04 42 30.9	+2.7
	comp=Z,423nm,0.8s						
VAE	Valguarnera	4.67	262	P	Pn	04 42 31.1	+2.7
	comp=Z,4.0nm,0.3s,baz=276,slow=9.2,SNR=4.6						
VAE				S	Sn	04 43 26.2	+3.0
	comp=Z,14nm,0.3s,baz=120,slow=23,SNR=3.9						
SNAL	S. Angelo Dei	4.71	306	Pn	Pn	04 42 31.4	+2.5
	comp=Z,285nm,0.7s						
BARS	Barje	4.71	14	⇓iPn	Pn	04 42 28.7	-0.2
BARS				eSn	Sn	04 43 29.8	+5.7
CAFE	Carife	4.75	307	Pn	Pn	04 42 31.7	+2.2
	comp=Z,188nm,0.4s						
FGMS	Monte Sant'Ang	4.76	318	Pn	Pn	04 42 31.0	+1.3
	comp=Z,140nm,0.2s						
IDI	Anoyia	4.77	127	P	Pn	04 42 29.9	0.0
	comp=Z,2.3nm,0.3s,baz=317,slow=12,SNR=19						
IDI				S	Sn	04 43 25.5	-0.1
	comp=Z,18nm,0.3s,baz=18,slow=23,SNR=15						
IDI				LR	LR	04 44 47.3	
	comp=Z,348nm,18.8s,baz=322,slow=43						
BRY	Bratogost	4.81	345	⇓iPn	Pn	04 42 30.0	-0.4
BRY				eSn	Sn	04 43 25.4	-1.1
PRK	Paraskevi	4.82	76	ePN	Pn	04 42 32.4	+1.9
RZN	Rozhen	4.85	44	iP	Pn	04 42 31.7	+0.7
VTS	Vitosha	4.88	27	iP	Pn	04 42 33.5	+2.1
RGNG	Rignano Grg	4.94	315	Pn	Pn	04 42 33.3	+1.1
RDO	Rodhopi	5.00	53	⇑iPn	Pn	04 42 33.2	+0.1
RDO	Rodhopi	5.00	53	iPn	Pn	04 42 33.2	+0.1
URLA	Izmir	5.00	87	iP	Pn	04 42 32.1	-1.0
UPM	Unac-Piva	5.04	349	⇓iPn	Pn	04 42 34.0	+0.4
UPM				eSn	Sn	04 43 31.4	-0.9
PLE	Pljevlja	5.10	353	⇓iPn	Pn	04 42 35.2	+0.7
PLE				eSn	Sn	04 43 32.8	-1.2
PLE	Pljevlja	5.10	353	⇓iPn	Pn	04 42 35.2	+0.7
PLE				eS	Sn	04 43 32.8	-1.2
ISOR	Termini	5.12	299	Pn	Pn	04 42 35.3	+0.5
AYVA	Ayvalik	5.15	76	iP	Pn	04 42 35.4	+0.2
WDD	Wield Dalam	5.16	244	Pn	Pn	04 42 35.4	+0.1
ALN	Alexandroupoli	5.20	58	ePn	Pn	04 42 35.7	-0.3
	comp=Z,1.6nm,0.4s						
ALN	Alexandroupoli	5.20	58	P	Pn	04 42 35.6	-0.3
ALN				S	Sn	04 43 41.8	+5.3
KDZ	Kurdzhali	5.22	48	iP	Pn	04 42 36.2	0.0
PGB	Panagyurishte	5.23	34	iP	Pn	04 42 36.7	+0.4
NPS	Neapolis	5.25	123	ePN	Pn	04 42 37.5	+0.9
NVSS	Nova Varos 2	5.25	356	⇑iPn	Pn	04 42 36.1	-0.6
NVSS				Sn	Sn	04 43 33.8	-4.0
SACR	S. Croce Del S	5.28	308	Pn	Pn	04 42 39.8	+2.7
	comp=Z,229nm,0.9s						
IZM	Izmir	5.53	86	ePN	Pn	04 42 42.2	+1.7
KDAG	Bornova	5.53	86	iP	Pn	04 42 44.2	+3.7
VAGA	Valle Agricola	5.59	306	Pn	Pn	04 42 43.1	+1.7
TRIV	Trivento	5.59	310	Pn	Pn	04 42 43.6	+2.1
FRES	Fresagrandinar	5.65	313	Pn	Pn	04 42 44.2	+1.9
	comp=Z,379nm,0.5s						
RFI	Roccamonfina	5.69	304	Pn	Pn	04 42 44.7	+1.9
	comp=Z,6.0nm,0.5s						
MIDA	Miranda	5.70	308	Pn	Pn	04 42 45.6	+2.6
	comp=Z,359nm,1.0s						
BOLS	Boljevac	5.71	13	iPn	Pn	04 42 42.9	-0.2
CII	Carovilli	5.72	309	Pn	Pn	04 42 45.8	+2.6
	comp=Z,114nm,0.7s						
DIVS	Divcibare	5.83	358	⇑iPn	Pn	04 42 43.8	-1.0
SVIS	Svilajnac	6.07	7	⇑iPn	Pn	04 42 56.8	+8.6
EDRB	Edirne	6.14	52	ePN	Pn	04 42 48.4	-0.8
BTOK	Tokmak	6.25	74	iP	Pn	04 42 51.6	+0.8
BNT	Bandirma	6.31	68	ePN	Pn	04 42 50.8	-0.8
MANT	Manisa	6.54	85	iP	Pn	04 42 57.9	+3.1
BEO	Belgrade	6.55	1	⇑iPn	Pn	04 42 51.0	-4.0
BEO				Sn	Sn	04 43 58.7	-12
AQU	L'Aquila	6.63	310	ePn	Pn	04 42 58.1	+2.0
	comp=Z,77nm,0.8s						
AQU	L'Aquila	6.63	310	eP	Pn	04 42 58.1	+2.0
	comp=Z,77nm,0.8s						
AQU	L'Aquila	6.63	310	eP	Pn	04 42 58.1	+2.0
AQU				pmax	pmax		
	comp=Z,77nm,0.8s						
DNZL	Cakiroluk	6.98	92	iP	Pn	04 43 04.4	+3.4
ULDT	Uludag	7.16	72	iP	Pn	04 43 03.0	-0.5
GDZ	Gediz	7.28	81	iP	Pn	04 43 05.7	+0.5
YLV	Yalova	7.44	69	ePN	Pn	04 43 06.5	-0.9
GOLH	Golhisar	7.46	95	iP	Pn	04 43 12.1	+4.4
NVLJ	Novalja	7.47	329	iPn	Pn	04 43 07.3	-0.6
NVLJ				iSn	Sn	04 44 26.8	-6.5
AKAS	Kas	7.74	102	iP	Pn	04 43 11.0	-0.6
ELL	Elmali	7.83	98	ePN	Pn	04 43 15.6	+2.7
SLUM		7.89	147	⇑P	Pn	04 43 08.9	-4.9
TKTP	Tekketepe	7.95	88	iP	Pn	04 43 13.7	-0.9
VOIR		8.02	25	⇓iP	P	04 43 15.3	-0.2
ISP	Isparta	8.12	90	⇓iP	P	04 43 22.8	+5.9
BOJS	Bojanci	8.13	334	ePn	P	04 43 16.4	-0.7
BOJS				eSn	Sn	04 44 44.6	-5.2
ISR	Istrita	8.31	33	⇑iP	P	04 43 19.5	-0.1
ESKT	Eskisehir	8.37	78	ePN	P	04 43 19.9	-0.5
ESKT	Eskisehir	8.37	78	iP	P	04 43 20.0	-0.4
MLR	Muntele Rosu	8.38	29	P	P	04 43 21.8	+1.2
	comp=Z,1.4nm,0.3s,baz=240,slow=4.7,SNR=33						
MLR	Muntele Rosu	8.38	29	⇓iP	P	04 43 20.9	+0.3
PKS9	Tamasi	8.44	351	⇓eP	P	04 43 20.1	-1.3
KNDS	Knezji Dol	8.47	331	ePn	P	04 43 21.0	-0.8
KNDS				iSn	Sn	04 44 54.0	-4.2
HENT	Hendek	8.62	69	iP	P	04 43 22.0	-2.0
HARR	Harsova	8.63	40	⇓iP	P	04 43 22.2	-1.9
PKS8	Sarbogard	8.69	353	⇑iP	P	04 43 22.4	-2.4
DRGR		8.72	11	⇓iP	P	04 43 29.8	+4.6
TIRR	Tirgusor	8.72	42	⇑iP	P	04 43 24.2	-1.1
LJU	Ljubljana	8.85	333	ePn	P	04 43 26.3	-0.8
LJU				eSn	Sn	04 45 03.3	-4.4
VRI	Vrincioaia	9.00	30	⇓iP	P	04 43 29.4	+0.3
VOJS	Vojsko	9.08	331	ePn	P	04 43 29.0	-1.3
VOJS				eSn	Sn	04 45 07.1	-6.3
CFR	Carcaliu	9.09	38	⇑iP	P	04 43 28.4	-1.9
HMAT	Matruh	9.11	140	⇑P	P	04 43 26.0	-4.7
HMAT				S	Sn	04 44 49.1	-25
PERS	Pernice	9.18	337	ePn	P	04 43 29.8	-1.9
PERS				iSn	Sn	04 45 07.4	-8.4
OBKA	Obir	9.25	335	⇑iPN	P	04 43 31.1	-1.5
OBKA				iSN	Sn	04 45 10.4	-7.1
OBKA	Obir	9.25	335	⇑iPn	P	04 43 31.1	-1.5
	SNR=15						
SGKT	Sivrigoynuk	9.43	72	iP	P	04 43 34.1	-1.0
PGF	Pioggiola	9.58	300	eP	P	04 43 36.3	-0.8
	comp=Z,63nm,1.2s						
ARSA	Arzberg	9.63	340	⇑iPN	P	04 43 35.7	-2.0
ARSA				iSN	Sn	04 45 18.9	-7.9
ARSA	Arzberg	9.63	340	iPn	P	04 43 35.7	-2.0
	SNR=8.8						
PSZ	Piszkesteto	9.65	359	e	P	04 43 36.0	-2.1
PSZ				eSn	Sn	04 45 18.3	-9.2
PSZ	Piszkesteto	9.65	359	ePn	P	04 43 35.2	-2.9
	comp=Z,17nm,0.8s						
PSZ	Piszkesteto	9.65	359	ePn	P	04 43 35.2	-2.9
	comp=Z,17nm,0.8s						
PSZ	Piszkesteto	9.65	359	eP	P	04 43 36.0	-2.1
PSZ	Piszkesteto	9.65	359	eP	P	04 43 35.2	-2.9
PSZ				pmax	pmax		
	comp=Z,17nm,0.8s						
SWA2		9.99	153	⇓P	P	04 43 37.3	-5.4
SWA2				S	Sn	04 45 10.5	-25
SWA1		10.06	152	⇑P	P	04 43 38.6	-5.2
SWA1				S	S	04 45 11.9	-26
KBA	Koelnbreinsper	10.16	332	⇑iPN	P	04 43 44.2	-0.9
KBA				iSN	S	04 45 34.8	-5.2
KECS	Kecovo	10.22	1	ePN	P	04 43 44.9	-1.0
VYHS	Vyhne	10.28	355	ePN	P	04 43 45.1	-1.6
MOA	Molln	10.53	337	⇓iPN	P	04 43 48.4	-1.7
MOA				iSN	S	04 45 41.5	-7.4
MOA	Molln	10.53	337	⇓iPn	P	04 43 48.4	-1.7
	SNR=16						
BR131	Keskin Array S	10.54	78	ePn	P	04 43 48.2	-2.0
	comp=Z,1.3nm,0.5s						
BRTR	Keskin Array B	10.54	78	P	P	04 43 51.1	+0.9
	comp=Z,0.4nm,0.3s,baz=264,slow=13,SNR=6.0						
CRVS	Cervenica-Dubn	10.67	4	ePN	P	04 43 52.6	+0.5
KOLS	Kolonicke sedl	10.77	7	ePN	P	04 43 52.9	-0.5
KIS	Kishinev	10.77	33	eP	P	04 43 52.0	-1.4
	comp=Z,900nm,12.0s						
KIS	Kishinev	10.77	33	eP	P	04 43 52.0	-1.4
KIS				MLR	MLR		
	comp=Z,900nm,12.0s						
KIS				MLR	MLR		
	comp=Z,900nm,12.0s						
SCE	Schlegeis	10.78	327	⇑iPn	P	04 43 53.5	-0.1
WTTA	Wattenberg	10.99	328	⇑iPN	P	04 43 56.3	-0.1
WTTA				iSN	S	04 45 54.7	-5.5
WATA	Walderalm	11.07	328	⇑iPN	P	04 43 57.5	0.0
WATA				iSN	S	04 45 56.8	-5.4
SQTA	Sankt Quirin	11.14	326	⇑iPN	P	04 43 58.3	-0.1
SQTA				iSN	S	04 45 58.6	-5.2
SBF	Sospel	11.16	304	eP	P	04 43 58.2	-0.6
	comp=Z,54nm,1.1s						
SBF	Sospel	11.16	304	eP	P	04 43 58.2	-0.6
SBF				pmax	pmax		
	comp=Z,27nm,1.1s						
STHS	Stebnicka Huta	11.17	3	ePN	P	04 43 58.7	-0.2
MOTA	Moosalm	11.28	326	⇑iSn	S	04 46 02.5	-4.8
MOTA	Moosalm	11.28	326	⇑iPn	P	04 44 00.3	-0.1
MOTA				iSn	S	04 46 02.5	-4.8
MOTA	Moosalm	11.28	326	iP	P	04 44 00.3	-0.1
VRAC	Vranov	11.35	348	ePn	P	04 43 57.2	-4.1
DAVOX	Davos	11.43	321	P	P	04 44 03.2	+0.8
	comp=Z,0.8nm,0.3s,baz=137,slow=18,SNR=7.3						
DAVOX				S	S	04 46 03.7	-7.3
	comp=Z,1.9nm,0.3s,baz=328,slow=22,SNR=8.6						
DAVOX				LR	LR	04 49 10.8	
	comp=Z,152nm,18.9s,baz=101,slow=41						
TREC	Trest	11.55	344	eP	P	04 44 02.8	-1.2
FRF	La Foret Royal	11.56	302	eP	P	04 44 03.0	-1.2
	comp=Z,18nm,1.0s						
FRF	La Foret Royal	11.56	302	eP	P	04 44 03.0	-1.2
FRF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LMR	La Mourre	11.57	300	eP	P	04 44 03.4	-0.9
GERES	GERESS Array B	11.59	338	P	P	04 44 02.7	-1.9
	comp=Z,1.1nm,0.3s,baz=158,slow=14,SNR=35						
GERES				S	S	04 46 07.1	-7.7
	comp=Z,1.5nm,0.3s,baz=149,slow=23,SNR=8.2						
OKC	Ostrava-Krasne	11.67	353	eP	P	04 44 04.1	-1.6
MORC	Moravsky Berou	11.67	351	ePn	P	04 44 03.8	-1.9
	comp=Z,4.0nm,1.0s						
MORC	Moravsky Berou	11.67	351	eP	P	04 44 03.8	-1.9
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DAVA	Damuels	11.79	323	⇑iPn	P	04 44 07.9	+0.6
DAVA				iSn	S	04 46 12.9	-6.8
KHC	Kasperske Hory	11.88	338	eP	P	04 44 06.0	-2.5
KHC				ex	x	04 44 16.9	
KHC				ex	x	04 46 10.0	
KHC	Kasperske Hory	11.88	338	eP	P	04 44 06.0	-2.5
KHC				e		04 46 10.0	
MBDF	Montbardon	11.98	307	eP	P	04 44 09.1	-0.8
	comp=Z,50nm,1.2s						
MBDF	Montbardon	11.98	307	eP	P	04 44 09.1	-0.8
MBDF				pmax	pmax		
	comp=Z,25nm,1.2s						
LPG	La Plagne	12.37	310	eP	P	04 44 14.4	-0.7
	comp=Z,3.2nm,0.3s						
LPG	La Plagne	12.37	310	eP	P	04 44 14.4	-0.7
LPG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPL	La Plagne	12.39	310	eP	P	04 44 14.4	-1.0
	comp=Z,3.1nm,0.3s						
LPL	La Plagne	12.39	310	eP	P	04 44 14.4	-1.0
LPL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
DPC	Dobruska-Polom	12.40	348	eP	P	04 44 16.0	+0.5
DPC				ex	x	04 44 24.3	
PRU	Pruhonice	12.41	343	eP	P	04 44 13.9	-1.7
SMRF	Simiane la Rot	12.44	302	eP	P	04 44 15.1	-0.9
	comp=Z,20nm,1.1s						
UPC	Upice	12.61	348	eP	P	04 44 30.7	+12
ORIF	Oris-en-Rattie	12.63	306	eP	P	04 44 17.6	-1.0
	comp=Z,14nm,0.9s						
ORIF				eR			
	comp=Z,204nm,17.2s						
STU	Stuttgart	13.20	326	P	P	04 44 24.7	-1.4
	comp=Z,28nm,0.8s						
STU	Stuttgart	13.20	326	P	P	04 44 24.7	-1.4
	comp=Z,28nm,0.8s						
STU	Stuttgart	13.20	326	P	P	04 44 24.7	-1.4
STU				pmax	pmax		
	comp=Z,28nm,0.8s						
CABF	La Chapelle	13.36	313	eP	P	04 44 27.0	-1.2
	comp=Z,3.4nm,0.5s						
CABF	La Chapelle	13.36	313	eP	P	04 44 27.0	-1.2
CABF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRG	Berggiesshubel	13.38	343	eP	P	04 44 26.5	-2.0
	comp=Z,4.3nm,0.8s						
BRG	Berggiesshubel	13.38	343	eP	P	04 44 26.5	-2.0
	comp=Z,4.3nm,0.8s						
BRG	Berggiesshubel	13.38	343	eP	P	04 44 26.5	-2.0
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VIVF	Saint-Julien-l	13.38	304	eP	P	04 44 27.5	-1.0
LASF	Ste Croix	13.63	300	eP	P	04 44 31.0	-0.8
HINF	Hinteralfeld	13.65	319	eP	P	04 44 30.6	-1.5
	comp=Z,2.8nm,0.2s						
HINF	Hinteralfeld	13.65	319	eP	P	04 44 30.6	-1.5
HINF				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MOX	Moxa	13.81	336	iP	P	04 44 33.9	-0.3
	comp=Z,logA/T=1.2						
MOX	Moxa	13.81	336	eP	P	04 44 33.9	-0.3
	comp=Z,16nm,0.9s						
MOX	Moxa	13.81	336	eP	P	04 44 33.9	-0.3
MOX				pmax	pmax		
	comp=Z,16nm,0.9s						
CDF	Champ du Feu	13.83	321	eP	P	04 44 33.8	-0.6
	comp=Z,2.6nm,0.3s						
CDF	Champ du Feu	13.83	321	eP	P	04 44 33.8	-0.6
CDF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	13.98	24	P	P	04 44 34.4	-2.0
	comp=Z,0.9nm,0.3s,baz=212,slow=12,SNR=11						
CLL	Collm	14.01	341	P	P	04 44 36.0	-0.7
CLL				iPP	PP	04 44 44.1	-3.8
CLL				e		04 44 52.0	
CLL				e		04 46 23.0	
CLL				eL		04 47 38.0	
CLL	Collm	14.01	341	eP	P	04 44 36.0	-0.7
CLL				i		04 44 44.1	
HAU	Haudompre	14.04	318	eP	P	04 44 36.2	-0.9
	comp=Z,4.8nm,0.2s						
HAU				eR			
	comp=Z,144nm,20.0s						
MALT	Malatya	14.29	84	ePn	P	04 44 46.5	+5.9
	comp=Z,17nm,0.8s						
MALT	Malatya	14.29	84	ePn	P	04 44 46.5	+6.0
	comp=Z,17nm,0.8s						
MALT	Malatya	14.29	84	eP	P	04 44 46.5	+6.0
MALT				pmax	pmax		
	comp=Z,17nm,0.8s						
ANN	Anapa	14.43	58	eP	P	04 44 47.5	+5.2
ANN				pmax	pmax		
	comp=Z,70nm,1.0s						
MTLF	Montolieu	14.55	296	eP	P	04 44 43.3	-0.6
	comp=Z,10nm,1.0s						
MTLF	Montolieu	14.55	296	eP	P	04 44 43.3	-0.6
MTLF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SMF	Signal de Mont	14.70	310	eP	P	04 44 44.7	-1.1
	comp=Z,5.4nm,0.7s						
SMF	Signal de Mont	14.70	310	eP	P	04 44 44.7	-1.1

SMF pmax pmax
comp=Z,3.0nm,0.6s
ASF Jabal al Asfar 14.90 109 P **P 04 44 55.7 +7.1**
comp=Z,0.1nm,0.3s,baz=183,slow=6.6,SNR=4.9
RUE Ruedersdorf 14.91 344 P **P 04 44 50.7 +2.1**
comp=Z,24nm,0.4s
LOR Lormes 15.00 312 *e*P **P 04 44 49.0 -0.7**
LOR *e*R
comp=Z,129nm,21.5s
EPOB Poblet 15.04 288 P **P 04 44 52.7 +2.4**
comp=Z,2.3nm,0.3s
AVF Avril sur Loir 15.06 310 *e*P **P 04 44 49.6 -1.0**
SSF Saint Saulge 15.10 311 *e*P **P 04 44 50.0 -1.1**
comp=Z,6.2nm,0.8s
SSF Saint Saulge 15.10 311 *e*P **P 04 44 50.0 -1.1**
SSF pmax pmax
comp=Z,6.0nm,0.8s
WLF Walferdange 15.23 323 *e*P **P 04 45 00.2 +7.5**
comp=Z,44nm,1.2s
WLF Walferdange 15.23 323 *e*P **P 04 45 00.2 +7.5**
WLF pmax pmax
comp=Z,44nm,1.2s
TCF Toulx Ste Croi 15.54 307 *e*P **P 04 44 55.8 -1.1**
comp=Z,25nm,1.3s
TCF Toulx Ste Croi 15.54 307 *e*P **P 04 44 55.8 -1.1**
TCF pmax pmax
comp=Z,12nm,1.3s
ERTA Horta de San J 15.57 286 P **P 04 45 01.4 +4.1**
SOC Sochi 15.64 64 *e*P **P 04 45 01.4 +3.2**
SOC *e* 04 47 54.3
SOC pmax pmax
comp=Z,70nm,1.3s
SOC pmax pmax
comp=N,38nm,1.1s
SOC pmax pmax
comp=E,73nm,1.3s
SOC MLR MLR
comp=N,59nm,11.0s
SOC MLR MLR
comp=Z,62nm,11.0s
SOC MLR MLR
comp=E,52nm,12.0s
EPF Esparros 15.83 294 *e*P **P 04 44 59.9 -0.6**
SUW Suwalki 15.88 6 *e*P **P 04 45 01.4 +0.2**
SUW *e* 04 45 04.5
SUW Suwalki 15.88 6 *e*P **P 04 45 01.1 0.0**
comp=E,44nm,0.5s
SUW *e* 04 45 04.4
SUW Suwalki 15.88 6 *e*P **P 04 45 01.1 -0.1**
EBIE Bielsa 15.91 292 P **P 04 45 04.2 +2.6**
HGN Heimansgroeve 16.10 326 *e*P **P 04 45 12.1 +8.2**
comp=E,3.4nm,0.3s
GIVF Givet 16.16 322 *e*P **P 04 45 03.5 -1.2**
BAIF Baives 16.43 321 *e*P **P 04 45 07.4 -0.8**
ETSF Etsaut 16.45 293 *e*P **P 04 45 08.2 -0.3**
comp=E,15nm,1.4s
ETSF Etsaut 16.45 293 *e*P **P 04 45 08.2 -0.3**
ETSF pmax pmax
comp=Z,7.0nm,1.4s
WTSB Winterswijk 16.62 330 *e*P **P 04 45 16.9 +6.2**
CART Cartagena 16.77 274 *e*P **P 04 45 15.1 +2.5**
comp=Z,56nm,1.2s
SJPF Ste Jean 16.97 293 *e*P **P 04 45 14.3 -0.8**
comp=Z,34nm,1.4s
SJPF Ste Jean 16.97 293 *e*P **P 04 45 14.3 -0.8**
SJPF pmax pmax
comp=Z,17nm,1.4s
MFF Saint Martin d 17.17 306 *e*P **P 04 45 17.0 -0.5**
comp=Z,24nm,1.1s
MFF Saint Martin d 17.17 306 *e*P **P 04 45 17.0 -0.5**
MFF pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 17.82 64 *e*P **P 04 45 26.0 +0.3**
comp=Z,37nm,1.1s
KIV Kislovodsk 17.82 64 *e*P **P 04 45 26.0 +0.3**
comp=Z,37nm,1.1s
KIV Kislovodsk 17.82 64 *e*P **P 04 45 26.3 +0.6**
KIV *e*S **S 04 48 46.5 +4.6**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV pmax pmax
comp=N,10.0nm,1.0s
KIV MLR MLR
comp=N,70nm,17.0s
KIV MLR MLR
comp=Z,65nm,17.0s
KIV MLR MLR
comp=E,49nm,15.0s
LDF La Druitiere 17.98 312 *e*P **P 04 45 26.9 -0.7**
comp=E,17nm,1.2s
LDF La Druitiere 17.98 312 *e*P **P 04 45 26.9 -0.7**
LDF pmax pmax
comp=Z,8.0nm,1.2s
GRR Gorron 18.33 310 *e*P **P 04 45 32.7 +0.7**
EQES Quesada 18.36 276 P **P 04 45 34.7 +2.2**
ZEI Tsey 18.52 68 *e*P **P 04 45 32.6 -1.9**
ECOG Cogollos-Vega 18.84 274 P **P 04 45 38.8 +0.5**
comp=Z,0.3nm,0.2s
ECOG Cogollos-Vega 18.84 274 P **P 04 45 38.8 +0.5**
comp=Z,0.3nm,0.2s,SNR=6.4
ESDC Sonseca Array 18.86 282 P **P 04 45 38.1 -0.5**
comp=Z,0.2nm,0.3s,baz=83,slow=11,SNR=7.2
ESDC Sonseca Array 18.86 282 P **P 04 45 38.4 -0.1**
comp=Z,2.6nm,0.8s
ESDC Sonseca Array 18.86 282 P **P 04 45 38.4 -0.1**
comp=Z,2.6nm,0.8s,SNR=9.0
ESLA Sonseca Array 18.86 282 *e*P **P 04 45 37.4 -1.1**
comp=Z,1.0nm,0.8s
ESLA Sonseca Array 18.86 282 *e*P **P 04 45 37.4 -1.1**
comp=Z,1.0nm,0.8s
EBAN Banos Encina 18.87 277 P **P 04 45 39.0 +0.4**
comp=Z,1.1nm,0.3s
EBAN Banos Encina 18.87 277 P **P 04 45 39.0 +0.3**
comp=Z,1.1nm,0.3s,SNR=7.9
EBAN Banos Encina 18.87 277 P **P 04 45 39.0 +0.3**
EBAN pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 19.07 77 P **P 04 45 40.9 -0.1**
comp=Z,1.0nm,0.3s,baz=100,slow=4.5,SNR=10.0
GNI Garni 19.07 77 *e*P **P 04 45 40.6 -0.5**
comp=Z,39nm,0.9s
GNI Garni 19.07 77 *i* P **P 04 45 39.4 -1.7**
comp=Z,300nm,16.0s
GNI Garni 19.07 77⇓*i*P **P 04 45 39.4 -1.7**
GNI pmax pmax
comp=Z,60nm,1.4s
GNI MLR MLR
comp=Z,300nm,16.0s
EADA Adamuz 19.49 277 P **P 04 45 45.3 -0.6**
comp=Z,8.5nm,0.8s
EADA Adamuz 19.49 277 P **P 04 45 45.3 -0.6**
comp=Z,8.5nm,0.8s,SNR=8.7
ROSF Rostrenen 19.78 308 *e*P **P 04 45 48.5 -0.6**
comp=Z,15nm,0.9s
ROSF Rostrenen 19.78 308 *e*P **P 04 45 48.5 -0.6**
ROSF pmax pmax
comp=Z,7.0nm,0.9s
VRHR Novokhopersk 19.81 43 *e*P **P 04 45 48.5 -0.9**
VRHR pmax pmax
comp=Z,50nm,1.4s
VRHR pmax pmax
comp=N,50nm,1.1s
VRHR pmax pmax
comp=E,60nm,1.3s
EMIJ Mijas 19.93 273 P **P 04 45 51.0 +0.2**
EMIJ Mijas 19.93 273 P **P 04 45 51.0 +0.2**
SNR=7.9
OBN Obninsk 20.15 28 *e*P **P 04 45 50.7 -2.4**
comp=E,48nm,0.3s
OBN Obninsk 20.15 28 *e*P **P 04 45 50.5 -2.5**
comp=E,19nm,0.5s
OBN Obninsk 20.15 28⇓*e*P **P 04 45 50.5 -2.5**
OBN *e*S **S 04 49 37.9 +4.4**
OBN pmax pmax
comp=Z,19nm,0.5s
OBN MLR MLR
comp=Z,400nm,17.0s,MS3.8
VSU Vasula 20.65 10 *i* P **P 04 45 56.1 -2.1**
VSU Vasula 20.65 10⇓*i*P **P 04 45 56.1 -2.1**
MDT Midelt 20.91 262 P **P 04 46 01.1 0.0**
comp=Z,7.2nm,0.9s,baz=69,slow=12,SNR=7.7
MDT LR LR 04 54 59.4
comp=Z,104nm,19.8s,MS3.2,baz=45,slow=39
ECAL Calabor 20.92 289 P **P 04 46 00.0 -1.1**
ECAL Calabor 20.92 289 P **P 04 46 00.0 -1.1**
SNR=7.9
MOS Moscow 21.02 28 *e*P **P 04 45 59.4 -2.6**
comp=Z,127nm,1.1s,mb5.2
MOS Moscow 21.02 28 *e*P **P 04 45 59.4 -2.6**
MOS pmax pmax
comp=Z,127nm,1.1s,mb5.2
EMIN Mina Concepcio 21.19 277 P **P 04 46 04.3 +0.4**
EBAD Badajoz 21.31 280 P **P 04 46 03.9 -1.1**
EBAD Badajoz 21.31 280 P **P 04 46 03.9 -1.2**
SNR=7.9
PCBR Castelo Branco 21.55 283 *e*P **P 04 46 06.4 -1.1**
MTE Manteigas 21.56 284 *e*P **P 04 46 04.4 -3.2**
comp=Z,19nm,1.5s,mb4.3
PBEJ Beja 22.07 278 *e*P **P 04 46 10.5 -2.3**
EVO Evora 22.11 280 *e*P **P 04 46 13.1 0.0**
comp=Z,7.7nm,0.8s,mb3.9
HFS Hagfors 22.28 351 P **P 04 46 14.2 -0.5**
comp=Z,13nm,0.6s,mb4.5,baz=150,slow=12,SNR=22
EKA Eskdalemuir Ar 23.23 325 P **P 04 46 24.4 +0.5**
comp=Z,5.5nm,0.8s,mb4.0,baz=129,slow=9.7,SNR=15
NAO01 NORSAR Array S 23.36 348 *e*P **P 04 46 26.1 +1.0**
comp=Z,11nm,0.8s,mb4.3
FINES FINESS Array B 23.49 7 P **P 04 46 25.4 -0.9**
comp=Z,4.9nm,0.6s,mb4.1,baz=169,slow=9.7,SNR=18
FINES LR LR 04 56 16.8
comp=Z,107nm,18.5s,MS3.3,baz=344,slow=38
NB2 NORSAR Subarra 23.49 349 P **P 04 46 26.3 -0.1**
comp=Z,3.1nm,0.6s,mb3.9,baz=154,slow=11
NB2 NORSAR Subarra 23.49 349 P **P 04 46 26.3 -0.1**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
NOA NORSAR Array B 23.49 349 P **P 04 46 26.7 +0.3**
comp=Z,5.9nm,0.8s,mb4.1,baz=164,slow=11,SNR=16
KAF Kangasniemi 24.17 7 *e*p **P 04 46 32.3 -0.7**
comp=Z,13nm,0.8s,mb4.4,baz=189,slow=9.8
KAF Kangasniemi 24.17 7 *e*P **P 04 46 32.3 -0.7**
KAF pmax pmax
comp=Z,13nm,0.8s,mb4.4
JOF Joensuu 25.59 12 *e*p **P 04 46 44.7 -1.9**
comp=Z,8.8nm,0.8s,mb4.3
ARU Arti 31.15 42 *i* P **P 04 47 34.5 -2.3**
comp=Z,5.0nm,1.0s,mb4.3
ARU Arti 31.15 42⇓*i*P **P 04 47 34.5 -2.3**
ARU *e* 04 48 33.9
ARU *e*S **S 04 52 36.9 -4.1**
ARU *e*SS SS 04 54 29.0 +2.7
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
ARCES ARCESS Array B 31.46 4 P **P 04 47 37.7 -1.8**
comp=Z,2.4nm,0.7s,mb4.1,baz=189,slow=9.4,SNR=13
ARCES PcP PcP 04 50 31.4 -1.3
comp=Z,8.1nm,1.1s,baz=180,slow=1.2,SNR=5.2
ARCES LR LR 05 01 29.7
comp=Z,127nm,21.8s,MS3.5,baz=228,slow=38
ARCES ARCESS Array B 31.46 4 P **P 04 47 37.7 -1.8**
ARCES PcP PcP 04 50 31.4 -1.3
ARCES LR LR 05 01 29.7
SVE Sverdlovsk 32.36 42 *e*P **P 04 47 45.9 -1.5**
comp=Z,20nm,1.3s,mb4.8
SVE Sverdlovsk 32.36 42 *e*P **P 04 47 45.9 -1.5**
SVE *e* pP 04 47 50.0 -1.3
SVE *e*PPP PPP 04 49 08.0 -2.6
SVE *e* 04 50 34.0
SVE *e*SSS SSS 04 55 20.0 +1.6
SVE *e* 04 58 08.0
SVE pmax pmax
comp=Z,20nm,1.3s,mb4.8
SVE MLR MLR
comp=N,200nm,12.0s,MS4.2
SVE MLR MLR
comp=E,200nm,12.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,12.0s,MS4.0
BRVK Borovoye 37.17 50 *e*P **P 04 48 26.0 -2.7**
comp=Z,3.1nm,0.8s,mb4.2
BRVK Borovoye 37.17 50 *e*P **P 04 48 26.0 -2.7**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
BVAR Borovoye Array 37.23 50 P **P 04 48 27.6 -1.6**
comp=Z,0.8nm,0.6s,mb3.8,baz=234,slow=40,SNR=5.8
KKAR Karatay Array 37.97 66 *i* P **P 04 48 35.0 -0.5**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
DBIC Dimbokro 38.80 222 P **P 04 48 42.1 -0.7**
comp=Z,5.1nm,0.9s,mb4.3,baz=333,slow=9.2,SNR=4.9
DBIC Dimbokro 38.80 222 *e*P **P 04 48 41.8 -1.0**
comp=Z,4.4nm,0.7s,mb4.3
DBIC Dimbokro 38.80 222 *e*P **P 04 48 41.8 -1.0**
DBIC pmax pmax
comp=Z,4.0nm,0.7s
LIC Lamto 39.27 222 *e*P **P 04 48 45.9 -0.8**
comp=Z,22nm,0.8s,mb4.7
AAK Ala-Archa 40.93 66 *e*P **P 04 49 02.1 +2.1**
comp=Z,6.5nm,1.0s,mb4.2
AAK Ala-Archa 40.93 66 *i* P **P 04 49 01.6 +1.5**
FRU Bishkek 40.97 66 *e*P **P 04 49 03.0 +2.6**
KURK Kurchatov 42.41 53 P **P 04 49 09.4 -2.6**
comp=Z,20nm,1.6s,mb4.5
KURK Kurchatov 42.41 53 *e*P **P 04 49 08.2 -3.8**
NVS Novosibirsk 44.78 47 *e*P **P 04 49 29.7 -1.6**
NVS pmax pmax
comp=N,60nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS pmax pmax
comp=Z,23nm,1.3s,mb4.8
MKAR Makanchi Array 45.45 58 P **P 04 49 34.6 -2.0**
comp=Z,2.5nm,0.4s,mb4.4,baz=276,slow=7.1,SNR=38
MKAR LR LR 05 12 18.4
comp=Z,64nm,19.3s,MS3.6,baz=180,slow=41
MKAR Makanchi Array 45.45 58 *e*P **P 04 49 34.4 -2.3**
ZAL Zalesovo 45.79 48 P **P 04 49 37.7 -1.6**
comp=Z,6.0nm,0.5s,mb4.8,baz=188,slow=8.2,SNR=7.6
ZAK Zakamensk 57.67 49 *e*P **P 04 51 06.3 -2.4**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
GTA Gaotai 59.98 62 *e*P **P 04 51 27.4 +2.5**
GTA AP pP 04 51 34.3 +5.4
GTA XP sP 04 51 37.8 +7.4
GTA AMB AMB
comp=Z,5.0nm,1.5s,mb4.3
BOD Bodaibo 60.44 38 *e*P **P 04 51 25.2 -2.6**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SONM Songino Array 60.58 51 P **P 04 51 26.5 -2.3**
comp=Z,2.3nm,0.9s,mb4.3,baz=290,slow=7.5,SNR=11
LBTB Lobatse 63.14 175 P **P 04 51 45.5 -0.8**
comp=Z,7.3nm,1.1s,mb4.7
LBTB Lobatse 63.14 175 P **P 04 51 45.5 -0.8**
LBTB pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
HIA Hailar 67.62 44 *e*P **P 04 52 13.5 -1.3**
comp=Z,3.9nm,0.4s,mb4.8
HIA Hailar 67.62 44 *e*P **P 04 52 13.5 -1.3**
HIA pmax pmax
comp=Z,4.0nm,0.4s
ILAR Eielson Array 76.80 354 P **P 04 53 14.8 +6.0**
comp=Z,1.0nm,0.9s,mb3.7,baz=3.2,slow=3.9,SNR=7.7
NJ2 Nanjing 76.97 60 *e*P **P 04 53 08.8 -1.7**
NJ2 PP PP 04 56 04.6 -0.6
NJ2 S S 05 02 52.0 -4.9
NJ2 XS 05 03 20.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
SSE Sheshan 79.12 59 P **P 04 53 16.1 -6.2**
SSE AMB AMB
comp=Z,115nm,4.1s
YSS Yuzh-Sakhalins 80.83 36 *e*P **P 04 53 31.5 +0.4**
MJAR Matsushiro Arr 86.09 45 P **P 04 54 02.0 +3.8**
comp=Z,4.1nm,0.8s,mb4.7,baz=312,slow=5.0,SNR=9.3
TXAR Lajitas Array 94.75 313 P **P 04 54 39.4 +0.5**
comp=Z,0.2nm,0.6s,mb3.7,baz=56,slow=4.5,SNR=3.9
CPUP Villa Florida 96.89 242 LR LR 05 39 44.4
comp=Z,98nm,18.5s,MS4.3,baz=46,slow=36

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*NIED **13** 04:52:00, 43.50N×146.70E, h47km, Mw3.7 Best double couple: $M_0 4.62\times10^{14}$ NP1: ϕ_s26°, δ80°, λ-105°. NP2: ϕ_s265°, δ18°, λ-32°.*
*MOS **13** 04:52:31.7±1.6, 43.57N×147.12E, h33km, mb4.2/6, Error ellipse: s-maj=25.0km s-min=16.8km az=94.0*
*JMA **13** 04:52:36.6±0.2, 43.54N×146.73E, h45km±2km, M3.9*
*IDC **13** 04:52:40.0±3.6, 43.64N×146.81E, h87km±31km, mb3.5/9, mb1 3.6/10, mb1mx3.5/21, mbtmp3.8/10, Error ellipse: s-maj=27.0km s-min=21.7km az=127.0*
ISC 13 04:52:34.8±1.1**, 43.59N**±0.08×**146.8E**±0.1**, h57**km±8km**,**
n29, σ**0.78**/37**, mb3.7**/9**, Kuril Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
NEM2 Nemuro 2 0.83 254 P **P 04 52 50.8 +0.2**
NEM2 *e*S **S 04 53 01.0 -1.4**
JRA Rausu 1.29 286 P **P 04 52 57.7 +0.7**
JRA *e*S **S 04 53 13.1 -0.4**
JNK Nakash 1.54 271 P **P 04 53 00.7 +0.2**
JAK Akkeshi 1.67 250 P **P 04 53 02.5 +0.2**
JAK *e*S **S 04 53 21.8 -0.9**
KUR Kuril'sk 1.80 24 *e*PN **P 04 53 00.5 -3.6**
KUR S **S 04 53 25.0 -0.8**
KUR pmax pmax
comp=Z,60nm,0.5s
KUR smax
comp=N,320nm,0.3s
KUR smax
comp=E,180nm,0.3s
JTKR Abashiri--Toko 2.15 281 P **P 04 53 10.4 +1.3**
JAR Ashorobuto 2.25 264 P **P 04 53 11.4 +0.9**
JAR *e*S **S 04 53 37.3 +0.2**
JOB Onbets 2.30 254 P **P 04 53 11.9 +0.7**
JOB *e*S **S 04 53 37.7 -0.6**
JMP Maruseppu 2.55 281 P **P 04 53 16.0 +1.2**
JCH Churui 2.72 250 P **P 04 53 17.6 +0.4**
JCH *e*S **S 04 53 48.1 -1.0**
ASAJ Asahikawa 3.11 281 P **P 04 53 26.4 +3.7**
comp=E,5.0nm,0.3s,baz=110,slow=13,SNR=11
ASAJ S **S 04 54 08.1 +9.2**
comp=E,6.6nm,0.3s,baz=4.8,slow=25,SNR=4.2
ASAJ Asahikawa 3.11 281 PN **P 04 53 26.4 +3.7**
ASAJ S **S 04 54 08.1 +9.3**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
ASAJ smax
comp=N,7.0nm,0.3s
SONM Songino Array 28.32 293 P **P 04 58 25.1 +0.1**
comp=N,0.5nm,0.5s,mb3.4,baz=86,slow=9.4,SNR=3.9
SONM Songino Array 28.32 293 P **P 04 58 25.1 +0.1**
SONM pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 41.75 36 P **P 05 00 20.4 +0.9**
comp=Z,0.4nm,0.5s,mb3.3,baz=275,slow=8.3,SNR=5.8
MKAR Makanchi Array 44.46 298 P **P 05 00 42.1 +0.4**
comp=Z,0.3nm,0.5s,mb3.3,baz=74,slow=8.8,SNR=3.2
INK Inuvik 46.66 30 P **P 05 00 58.4 -0.4**
comp=Z,0.6nm,0.3s,mb4.0,baz=290,slow=5.2,SNR=24
INK Inuvik 46.66 30 P **P 05 00 58.4 -0.4**
INK pmax pmax
comp=Z,1.0nm,0.3s
WRA Warramunga Arr 64.25 193 P **P 05 03 06.1 -0.2**
comp=Z,0.4nm,1.0s,mb3.4,baz=8.7,slow=6.5,SNR=2.3
FINES FINESS Array B 64.91 333 P **P 05 03 09.5 -0.4**
comp=Z,1.0nm,0.7s,mb4.0,baz=45,slow=5.4,SNR=4.5
FINES FINESS Array B 64.91 333 P **P 05 03 09.5 -0.4**
FINES pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 69.67 339 P **P 05 03 39.4 -0.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=32,slow=6.2
NOA NORSAR Array B 69.67 339 P **P 05 03 39.5 -0.2**
comp=Z,1.4nm,0.7s,mb4.0,baz=32,slow=6.3,SNR=4.8
NOA NORSAR Array B 69.67 339 P **P 05 03 39.5 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.7s
HFS Hagfors 69.75 337 P **P 05 03 39.6 -0.6**
comp=Z,1.7nm,0.6s,mb4.2,baz=22,slow=8.0,SNR=6.1
HFS Hagfors 69.75 337 P **P 05 03 39.6 -0.6**
HFS pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 71.57 324 P **P 05 03 50.9 -0.4**
comp=Z,0.6nm,0.4s,mb3.9,baz=40,slow=5.5,SNR=7.7
AKASG Malin Array Be 71.57 324 P **P 05 03 50.9 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 82.93 56 P pP 05 05 09.1 -1.9
comp=Z,0.3nm,0.6s,baz=288,slow=4.0,SNR=3.7

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*NEIC **13** 04:54:17.7±1.0, 19.69S×177.40W, h532km±12km, mb4.4/3, Error ellipse: s-maj=25.9km s-min=11.0km az=146.0*
*IDC **13** 04:54:19.0±1.4, 19.68S×177.46W, h544km±17km, mb3.3/6, mb1 3.5/9, mb1mx3.3/17, mbtmp4.3/9, Error ellipse: s-maj=26.5km s-min=12.0km az=146.0*
ISC 13 04:54:17.7±1.1**, 19.7S**±0.2×**177.4W**±0.2**, h538**km±16km**,**
n22, σ**1.02**/18**, mb3.8**/7**, 1D, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AFI Afiamalu 7.91 44 P **P 04 56 15.3 +0.2**
6.0nm,0.3s,baz=350,slow=14,SNR=4.8
AFI S **S 04 57 48.5 0.0**
6.9nm,0.3s,baz=45,slow=20,SNR=4.7
AFI Afiamalu 7.91 44 *e*Pn **P 04 56 13.3 -1.7**
25nm,0.7s
AFI S **S 04 57 48.5 0.0**
DZM Mont Dzumac 15.25 258 P **P 04 57 31.4 +1.8**
1.3nm,0.3s,baz=79,slow=19,SNR=18
URZ Urewera 19.09 193 P **P 04 58 06.1 -0.5**
1.4nm,0.3s,baz=308,slow=3.4,SNR=8.8
CTA Charters Tower 34.10 263⇓*i*P **P 05 00 19.4 +0.5**
3.5nm,0.3s,mb4.4
CTA Charters Tower 34.10 263 P **P 05 00 19.5 +0.6**
6.6nm,0.5s,mb4.4,baz=97,slow=11,SNR=14
STKA Stephens Creek 38.61 243 *e*P **P 05 00 56.5 +0.7**
2.8nm,0.6s,mb4.0
STKA Stephens Creek 38.61 243 P **P 05 00 56.6 +0.8**
3.2nm,0.6s,mb4.0,baz=103,slow=12,SNR=8.3
STKA Stephens Creek 38.61 243 *e*P **P 05 00 55.9 +0.1**
WRAB Tennant Creek 45.23 261 *e*P **P 05 01 46.9 -1.7**
2.9nm,0.5s,mb4.1
WRA Warramunga Arr 45.24 261 P **P 05 01 48.0 -0.7**
1.6nm,0.5s,mb3.8,baz=97,slow=8.0,SNR=64
WRA S **S 05 07 46.1 -3.6**
0.7nm,0.8s,baz=96,slow=14,SNR=6.0
TXAR Lajitas Array 86.18 57 P **P 05 06 04.3 +1.1**
0.4nm,0.6s,mb3.2,baz=215,slow=6.7,SNR=5.2
TXAR Lajitas Array 86.18 57 P **P 05 06 04.3 +1.1**
ILAR Eielson Array 87.43 13 P **P 05 06 07.5 -0.6**
1.0nm,0.7s,mb3.5,baz=227,slow=5.5,SNR=12
PDAR Pinedale Array 88.02 43 P **P 05 06 12.1 +0.5**
0.5nm,0.6s,mb3.4,baz=189,slow=4.4,SNR=5.3
ARCES ARCESS Array B 128.24 350 PKP PKPdf 05 12 22.4 +0.2
8.0nm,1.1s,baz=333,slow=2.7,SNR=5.3
AKASG Malin Array Be 142.57 332 PKhKP 05 12 45.7
0.6nm,0.4s,baz=42,slow=4.8,SNR=6.5
AKASG Malin Array Be 142.57 332 PKP PKPdf 05 12 45.7 -3.2
BRTR Keskin Array B 146.69 314 PKPbc PKPbc 05 12 59.4 +1.1
1.0nm,0.6s,baz=153,slow=2.8,SNR=4.3
CLL Collm 147.41 348 *i* PKP1 PKPdf 05 13 01.9 +4.9
CLL *i* PKP2 PKPab 05 13 05.2 -1.5
KHC Kasperske Hory 149.34 346 *e*PKPbc PKPdf 05 13 06.5 +6.3
GERES GERESS Array B 149.57 345 PKPbc PKPdf 05 13 07.2 +6.6
1.6nm,0.7s,slow=2.7,SNR=12

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*NNC **13** 04:54:52.8±3.8, 41.93N×72.63E, mpv3.0, Error ellipse: s-maj=46.7km s-min=8.5km az=4.0*
KNET 13 04:54:52.4±0.5**, 41.98N**×**72.64E, h0**km±2km**, ml2.8,**
10C-8D, Error ellipse: s-maj=3.4km s-min=3.2km az=166.0, Kyrgyzstan

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AML Almayashu 0.80 79 ⇓P Pg 04 55 08.0 -0.3
35nm,0.1s,SNR=176
AML ⇓S Sg 04 55 19.9 +1.0
249nm,0.2s
EKS2 Erkin-Say 1.08 51 ⇑P Pb 04 55 13.7 +0.1
5.9nm,0.1s,SNR=8.9
EKS2 ⇓S Sb 04 55 30.1 +2.0
22nm,0.1s
AAK Ala-Archa 1.52 64 ⇓P Pn 04 55 21.1 +0.3
18nm,0.2s,SNR=10
AAK Ala-Archa 1.52 64 ⇑P Pn 04 55 21.9 +1.1
5.7nm,0.3s
AAK ⇓S Sb 04 55 42.2 +1.4
27nm,0.5s
KBK Karagaybulak 1.84 68 ⇑P Pn 04 55 27.5 +2.1
18nm,0.1s,SNR=32
KBK ⇑S Sn 04 55 53.4 +3.7
86nm,0.2s
CHMS Chumysh 1.86 56 ⇑P Pn 04 55 28.1 +2.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	6.3nm,0.1s,SNR=7.7						
CHMS				⇓S	Sn	04 55 54.4	+4.1
	59nm,0.2s						
USP	**Ospenovka**	**1.88**	**46**	⇑P	Pn	04 55 27.6	+1.7
	10.0nm,0.2s,SNR=25						
USP				⇑S	Sn	04 55 54.9	+4.2
	34nm,0.2s						
KK31	**Karatay Array**	**1.94**	**306**	P	Pn	04 55 26.9	+0.2
	2.7nm,0.2s,baz=131,slow=17,SNR=76						
KK31				⇓S	Sn	04 55 53.7	+1.6
	14nm,0.3s,baz=135,slow=26,SNR=16						
KZA	**Kyzart**	**1.94**	**86**	⇑P	Pn	04 55 28.3	+1.4
	18nm,0.2s,SNR=23						
TKM2	**Tokmak 2**	**2.38**	**66**	⇓P	Pn	04 55 35.6	+2.5
	4.8nm,0.1s,SNR=14						
ULHL	**Ulahol**	**2.69**	**83**	⇑P	Pn	04 55 40.0	+2.4
	3.8nm,0.2s,SNR=9.4						
ULHL				⇑S	Sn	04 56 17.2	+5.9
	30nm,0.3s						

*IDC **13** 05:12:39.6±1.2, 11.25N×91.86E, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=52.5km s-min=20.1km az=53.0*

*NEIC **13** 05:12:44.1±0.7, 11.27N×91.93E, h30km, mb4.0/1, Error ellipse: s-maj=30.9km s-min=8.7km az=50.0*

ISC 13 05:12:40.8±4.6**, 11.2N**±0.1×**91.8E**±0.2**, h23**km±31km**, n10,** σ0^{s}45/11**, mb3.9**/8**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.01**	**61**	*e*P	**Pb**	**05 12 59.7**	**+0.3**
PBA				*e*S	**Sb**	**05 13 12.2**	**0.0**
KULM	**Kulim**	**10.49**	**123**	Pn	**P**	**05 15 12.1**	**-1.0**
MKAR	**Makanchi Array**	**36.42**	**349**	P	**P**	**05 19 45.3**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=176,slow=8.5,SNR=2.5						
SONM	**Songino Array**	**38.54**	**16**	P	**P**	**05 20 03.2**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=199,slow=6.8,SNR=3.3						
FITZ	**Fitzroy Crossi**	**44.26**	**131**	P	**P**	**05 20 51.7**	**+1.0**
	2.7nm,0.7s,mb4.1,baz=306,slow=8.7,SNR=6.2						
WRA	**Warramunga Arr**	**52.02**	**126**	P	**P**	**05 21 51.2**	**+0.2**
	0.6nm,0.5s,mb3.8,baz=305,slow=8.4,SNR=11						
WRAB	**Tennant Creek**	**52.02**	**126**	*e*P	**P**	**05 21 51.1**	**0.0**
	1.1nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**58.58**	**310**	P	**P**	**05 22 38.3**	**0.0**
	0.5nm,0.6s,mb3.8,baz=90,slow=7.2,SNR=3.3						
FINES	**FINESS Array B**	**68.76**	**332**	P	**P**	**05 23 44.6**	**-0.2**
	1.6nm,1.0s,mb3.9,baz=90,slow=9.7,SNR=3.3						
ARCES	**ARCESS Array B**	**71.42**	**340**	P	**P**	**05 24 01.1**	**+0.2**
	2.9nm,0.8s,mb4.3,baz=107,slow=9.4,SNR=4.0						

*PNSN **13** 05:14:24.2, 47.81N×122.93W, h49km, MD2.9, Fault plane solution: NP1:φs30°, δ35°, NP2:φs234°, δ57°, Principal axes: T Plg11°, Azm314°; P Plg74°, Azm180°;*

*NEIC **13** 05:14:24.2, 47.81N×122.93W, h49km, MD2.9(SEA), After SEA.*

PGC 13 05:14:24.2, 47.81N×122.93W, h49km**, ML2.6**/28**, Mc2.9**(SEA)**, 17C-8D, 50km northwest of Seattle, Wa South of Port Townsend, Washington., Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HDW	**Hoodsport**	**0.18**	**208**	⇓P	P	05 14 31.8	-0.5
BLN	**Blyn Mountain**	**0.20**	**352**	⇓P	P	05 14 31.9	-0.5
KINR	**Kitsap County**	**0.20**	**106**	P	P	05 14 32.1	-0.3
KITP	**Kitsap County**	**0.24**	**123**	⇑P	P	05 14 32.8	-0.1
GNW	**Green Mountain**	**0.25**	**164**	⇑P	P	05 14 32.2	-0.7
GMW	**Gold Mountain**	**0.28**	**159**	⇑P	P	05 14 32.5	-0.6
GMW				S	S	05 14 38.7	-0.7
SQM	**Sequim**	**0.28**	**344**	⇓P	P	05 14 32.9	-0.2
KIMR	**Kitsap County**	**0.32**	**160**	P	P	05 14 33.2	-0.4
BABE	**Bainbridge Sch**	**0.34**	**127**	⇑P	P	05 14 34.0	+0.4
LAWT	**Lawton Element**	**0.40**	**112**	P	P	05 14 34.6	+0.3
BRKS	**Brookside Elem**	**0.44**	**97**	⇑P	P	05 14 34.7	0.0
HOLY	**Holy Rosary Sc**	**0.44**	**123**	P	P	05 14 35.5	+0.7
SEA	**Seattle**	**0.45**	**110**	P	P	05 14 35.2	+0.4
NOWS	**NOAA--Sand Poi**	**0.47**	**105**	P	P	05 14 35.5	+0.4
FINN	**Finn Hill Juni**	**0.48**	**100**	⇑P	P	05 14 35.5	+0.3
KIMB	**Kimball Elemen**	**0.48**	**118**	P	P	05 14 35.9	+0.6
OSD	**Olympics--Snow**	**0.52**	**272**	⇑P	P	05 14 35.6	-0.1
OSD				S	S	05 14 44.9	+0.9
LEOT	**Leota Junior H**	**0.55**	**94**	P	P	05 14 36.2	+0.1
SMW	**South Mountain**	**0.56**	**210**	⇑P	P	05 14 36.2	0.0
RHAZ	**Hazelwood Elem**	**0.57**	**118**	⇑P	P	05 14 36.3	0.0
STW	**Striped Peak**	**0.60**	**305**	⇑P	P	05 14 36.4	-0.4
EARN	**East Ridge Ele**	**0.60**	**96**	⇑P	P	05 14 36.8	+0.1
BLH	**Bald Hill**	**0.61**	**87**	⇑P	P	05 14 36.3	-0.5
UPS	**University of**	**0.62**	**151**	P	P	05 14 37.1	+0.1
MEW	**McNeil Island**	**0.64**	**162**	⇑P	P	05 14 37.5	+0.3
PNLK	**Pine Lake Midd**	**0.65**	**110**	P	P	05 14 37.4	+0.1
VGZ	**Gonzales**	**0.66**	**337**	⇑P	P	05 14 36.5	-1.0
VGZ				S	S	05 14 45.9	-1.3
VGZ				Trac		05 14 47.4	
	comp=Z,234nm,0.1s						
EGRN	**Evergreen Coll**	**0.73**	**183**	P	P	05 14 38.3	-0.1
JCW	**Jim Creek**	**0.78**	**60**	⇑P	P	05 14 38.5	-0.5
ELW	**Echo Lake**	**0.78**	**113**	P	P	05 14 38.7	-0.4
HTW	**Haystack Looko**	**0.78**	**90**	⇓P	P	05 14 38.8	-0.4
OBC	**Olympics--Boni**	**0.81**	**287**	⇑P	P	05 14 38.9	-0.5
PCEP	**Pierce County**	**0.82**	**148**	P	P	05 14 39.5	-0.2
CMW	**Cultus Mountai**	**0.82**	**41**	⇑P	P	05 14 39.5	-0.2
RMW	**Rattlesnake Mo**	**0.84**	**114**	⇑P	P	05 14 39.6	-0.3
OCWA	**Octopus Mounta**	**0.84**	**267**	⇑P	P	05 14 39.5	-0.5
CPW	**Capitol Peak**	**0.84**	**190**	⇑P	P	05 14 39.9	-0.1
TTW	**Tolt Reservoir**	**0.85**	**97**	⇑P	P	05 14 39.4	-0.5
OOW	**Octopus West**	**0.85**	**266**	⇑P	P	05 14 39.6	-0.4
MCW	**Mount Constitu**	**0.88**	**4**	⇑P	P	05 14 40.0	-0.4
PCFR	**Pierce County**	**0.88**	**158**	⇓P	P	05 14 40.2	-0.3
GHW	**Garrison Hill**	**0.89**	**149**	⇑P	P	05 14 40.2	-0.3
WISH	**Wishkah**	**0.90**	**220**	⇑P	P	05 14 40.6	-0.1
PGC	**Sidney**	**0.91**	**338**	⇑P	P	05 14 40.0	-0.9
PGC				S	S	05 14 51.7	-1.6
PGC				Trac		05 14 52.7	
	comp=Z,185nm,0.1s						
GSM	**Grass Mountain**	**0.98**	**128**	⇓P	P	05 14 41.6	-0.2
SNB	**Saturna Island**	**0.98**	**351**	⇑P	P	05 14 41.5	-0.4
SNB				S	S	05 14 54.4	-0.6
SNB				Trac		05 14 56.8	
	comp=Z,326nm,0.3s						
OTR	**Olympics--Tyee**	**0.99**	**287**	⇑P	P	05 14 41.4	-0.6
LZB	**Mount Lazard**	**1.00**	**324**	P	P	05 14 41.0	-1.2
LZB				S	S	05 14 53.6	-1.9
LZB				Trac		05 14 55.6	
	comp=Z,71nm,0.1s						
PCMD	**Pierce County**	**1.01**	**155**	P	P	05 14 41.9	-0.4
RVC	**Mount Rainier-**	**1.08**	**143**	⇑P	P	05 14 43.1	-0.2
ON2	**Olympics--Nort**	**1.09**	**212**	P	P	05 14 42.9	-0.5
RPW	**Rockport**	**1.15**	**55**	⇓P	P	05 14 44.1	-0.1
LCW	**Lucas Creek**	**1.15**	**172**	P	P	05 14 44.0	-0.2
MBW	**Mount Baker**	**1.20**	**35**	P	P	05 14 44.8	0.0
GOBB	**Galiano Island**	**1.21**	**342**	P	P	05 14 44.4	-0.7
GOBB				S	S	05 14 59.7	-0.8
GOBB				Trac		05 15 02.0	
	comp=Z,120nm,0.2s						
LMW	**Ladd Mountain**	**1.22**	**159**	P	P	05 14 45.2	-0.1
FMW	**Mount Fremont**	**1.22**	**135**	⇑P	P	05 14 45.1	-0.2
REMR	**Mount Rainier-**	**1.24**	**143**	P	P	05 14 45.2	-0.2
RCS	**Mount Rainier-**	**1.24**	**138**	⇑P	P	05 14 45.5	-0.1
PFB	**Port Renfrew**	**1.27**	**308**	⇑P	P	05 14 44.4	-1.5
PFB				S	S	05 14 59.5	-2.6
PFB				Trac		05 15 00.2	
	comp=Z,57nm,0.1s						
RCM	**Mount Rainier-**	**1.27**	**140**	⇑P	P	05 14 45.9	0.0
LON	**Longmire**	**1.30**	**144**	⇑P	P	05 14 46.1	-0.5
VDB	**Vedder Mountai**	**1.34**	**24**	⇑P	P	05 14 46.6	-0.4
VDB				S	S	05 15 03.6	-0.3
VDB				Trac		05 15 04.6	
	comp=Z,29nm,0.1s						
BMW	**Boistfort Moun**	**1.35**	**189**	⇑P	P	05 14 46.7	-0.5
KOSW	**Kosmos**	**1.44**	**159**	⇓P	P	05 14 48.3	-0.1
WPW	**White Pass**	**1.46**	**139**	P	P	05 14 48.9	+0.3
HNB	**Haney**	**1.49**	**9**	⇑P	P	05 14 48.4	-0.7
HNB				S	S	05 15 06.3	-1.2
HNB				Trac		05 15 09.7	
	comp=Z,98nm,0.2s						
GLK	**Glacier Lake**	**1.54**	**144**	P	P	05 14 50.0	+0.3
TDL	**Tradedollar La**	**1.54**	**161**	⇑P	P	05 14 49.7	0.0
TWW	**Teanaway**	**1.55**	**115**	⇑P	P	05 14 50.6	+0.6
ERK	**Elk Rock**	**1.56**	**165**	⇑P	P	05 14 49.8	-0.3
NLLB	**Nanaimo Lost L**	**1.59**	**334**	⇑P	P	05 14 49.2	-1.3
NLLB				S	S	05 15 07.4	-2.5
NLLB				Trac		05 15 12.6	
	comp=Z,39nm,0.1s						
BIB	**Bowen Island**	**1.62**	**351**	⇑P	P	05 14 50.1	-0.8
BIB				S	S	05 15 10.1	-0.6
BIB				Trac		05 15 11.2	
	comp=Z,28nm,0.1s						
SOSW	**Source of Smit**	**1.66**	**161**	P	P	05 14 51.6	+0.1
FL2	**Flat Top 2**	**1.66**	**166**	P	P	05 14 51.5	0.0
RVW	**Rose Valley**	**1.66**	**176**	P	P	05 14 51.4	-0.2
MGB	**Mount Grey**	**1.67**	**316**	⇑P	P	05 14 50.4	-1.4
MGB				S	S	05 15 09.6	-2.5
MGB				Trac		05 15 11.4	
	comp=Z,41nm,0.1s						
JLK	**June Lake**	**1.74**	**162**	P	P	05 14 53.0	+0.3
NLO	**Nicolai Mounta**	**1.76**	**192**	P	P	05 14 52.4	-0.5
ETW	**Entiat**	**1.77**	**96**	P	P	05 14 53.5	+0.5
LVP	**Lakeview Peak**	**1.78**	**168**	P	P	05 14 53.2	0.0
CDFW	**Cedar Flats**	**1.80**	**160**	P	P	05 14 53.8	+0.3
WPB	**Watts Point**	**1.86**	**354**	⇑P	P	05 14 53.2	-1.1
WPB				S	S	05 15 15.2	-1.5
WPB				Trac		05 15 18.0	
	comp=Z,26nm,0.1s						
HOPB	**Hope**	**1.87**	**32**	P	P	05 14 54.0	-0.5
ASR	**Mount Adams--S**	**1.89**	**151**	P	P	05 14 55.1	+0.3
SHB	**Sechelt**	**1.90**	**341**	⇑P	P	05 14 53.8	-1.0
SHB				S	S	05 15 15.8	-1.8
SHB				Trac		05 15 18.9	
	comp=Z,97nm,0.2s						
ALB	**Alberni**	**1.93**	**320**	P	P	05 14 53.9	-1.5
ALB				S	S	05 15 15.9	-2.5
ALB				Trac		05 15 17.4	
	comp=Z,15nm,0.1s						
OZB	**Mount Ozzard**	**2.06**	**305**	P	P	05 14 55.1	-2.1
OZB				S	S	05 15 18.3	-3.4
OZB				Trac		05 15 19.1	
	comp=Z,100nm,0.2s						
TXB	**Texada**	**2.14**	**333**	⇑P	P	05 14 57.1	-1.1
TXB				Trac		05 15 27.3	
	comp=Z,15nm,0.1s						
WSLR	**Whistler**	**2.32**	**0**	⇑P	P	05 15 00.3	-0.6
WSLR				Trac		05 15 43.1	
	comp=Z,29nm,0.4s						
BTB	**Buttle Lake**	**2.39**	**315**	P	P	05 15 00.1	-1.8
BTB				S	S	05 15 35.0	+5.0
BTB				Trac		05 15 35.7	
	comp=Z,24nm,0.1s						
PNT	**Penticton**	**2.67**	**54**	P	P	05 15 05.1	-0.7
PNT				Trac		05 15 57.4	
	comp=Z,28nm,0.5s						
CBB	**Campbell River**	**2.75**	**325**	P	P	05 15 05.3	-1.6
CBB				S	S	05 15 36.2	-2.8
CBB				Trac		05 15 46.4	
	comp=Z,7.0nm,0.2s						
GDR	**Gold River**	**2.85**	**315**	P	P	05 15 07.0	-1.3
ETB	**Estevan Point**	**2.86**	**305**	P	P	05 15 06.9	-1.7
ETB				Trac		05 15 40.8	
	comp=Z,6.2nm,0.2s						
LLLB	**Lillooet**	**2.89**	**13**	P	P	05 15 07.8	-1.1
LLLB				S	S	05 15 40.2	-2.5
LLLB				Trac		05 15 41.9	
	comp=Z,11nm,0.2s						
NCRB	**Newcastle Ridg**	**3.31**	**323**	P	P	05 15 13.8	-1.2
WOSB	**Woss**	**3.36**	**316**	P	P	05 15 14.5	-1.1
WOSB				Trac		05 16 02.5	
	comp=Z,4.0nm,0.2s						
EDB	**Eliza Dome**	**3.45**	**308**	P	P	05 15 15.1	-1.9
EDB				S	S	05 15 51.8	-5.2
EDB				Trac		05 16 05.7	
	comp=Z,2.0nm,0.1s						
MAYB	**Maynard**	**3.81**	**315**	P	P	05 15 20.5	-1.5
MAYB				Trac		05 16 06.6	
	comp=Z,2.0nm,0.1s						
BPBC	**Brooks Peninsu**	**3.96**	**308**	P	P	05 15 22.3	-1.8
BPBC				Trac		05 16 23.0	
	comp=Z,3.0nm,0.1s						
PHC	**Port Hardy**	**4.14**	**316**	P	P	05 15 24.9	-1.7
PHC				S	S	05 16 08.4	-5.8
PHC				Trac		05 16 14.1	
	comp=Z,1.0nm,0.2s						
HOLB	**Holberg**	**4.43**	**312**	P	P	05 15 29.1	-1.6
SLEB	**Sale Mountain**	**4.59**	**41**	Trac		05 17 00.3	
	comp=Z,7.0nm,0.7s						
BBB	**Bella Bella**	**5.51**	**325**	P	P	05 15 44.4	-1.4
WALA	**Waterton Lakes**	**6.13**	**75**	Trac		05 17 38.1	
	comp=Z,3.0nm,0.8s						
BNB	**Barry Inlet**	**7.40**	**313**	P	P	05 16 09.8	-2.4
MOBC	**Moresby Island**	**7.86**	**317**	P	P	05 16 16.2	-2.4
VIB	**Van Inlet**	**8.19**	**315**	P	P	05 16 20.4	-2.8

MOS 13 05:25:45.5±2.7**, 54.47N×87.23E, mb4.2**/1**, 3C, Error ellipse: s-maj=17.6km s-min=16.7km az=142.9, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVS	**Novosibirsk**	**2.35**	**281**	⇑*i*PN	Pn	05 26 28.4	+2.5
NVS				*i*		05 26 56.9	
KRAR	**Krasnoyarsk**	**3.58**	**62**	*i* PN	Pn	05 26 44.3	+0.9
KURK	**Kurchatov**	**6.45**	**238**	*c i*PN	Pn	05 27 23.1	-1.0
MKAR	**Makanchi Array**	**8.30**	**204**	*i* P	P	05 27 49.7	-0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**10.13**	**269**	*e*P	P	05 28 15.1	-0.1
AAK	**Ala-Archa**	**14.51**	**220**	*c i*P	P	05 29 14.8	+0.9
ARU	**Arti**	**16.33**	**289**	*e*P	P	05 29 37.0	-0.4
ARU				*e*S	S	05 32 39.2	0.0

*HLW **13** 05:26:54.0, 36.74N×26.80E, h20km, Mb3.5*

*CSEM **13** 05:26:56.3±0.2, 36.59N×26.73E, h150km, ML3.5, Error ellipse: s-maj=6.0km s-min=4.7km az=61.0*

*ATH **13** 05:26:58.1, 36.63N×26.70E, h127km±25km*

ISC 13 05:26:56.3±0.8**, 36.57N**±0.05×**26.81E**±0.08**, h149**km±8km**, n18,** σ**1^{s}14**/25**, 6C-3D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.71**	**45**	*i* P	**P**	**05 27 19.2**	**+0.1**
BDRM				*i* S	**S**	**05 27 35.2**	**-1.5**
KARP	**Karpathos**	**1.06**	**164**	⇑*i*P	**P**	**05 27 22.5**	**+0.9**
KARP	**Karpathos**	**1.06**	**164**	*i* P	**P**	**05 27 23.1**	**+1.5**
KARP				*e*S	**S**	**05 27 41.8**	**+0.6**
ARG	**Arkhangelos**	**1.12**	**108**	*e*P	**P**	**05 27 23.8**	**+1.6**
ARG	**Arkhangelos**	**1.12**	**108**	*e*P	**P**	**05 27 23.6**	**+1.4**
ARG				*e*S	**S**	**05 27 42.7**	**+0.5**
SMG	**Samos**	**1.14**	**1**	*e*P	**P**	**05 27 22.3**	**-0.1**
NPS	**Neapolis**	**1.63**	**217**	⇓*i*P	**P**	**05 27 28.7**	**+1.2**
NPS	**Neapolis**	**1.63**	**217**	⇓*i*P	**P**	**05 27 28.6**	**+1.1**
DNZL	**Cakiroluk**	**2.11**	**57**	*i* P	**P**	**05 27 34.0**	**+1.0**
DNZL				*i* S	**S**	**05 28 00.5**	**-0.8**
GOLH	**Golhisar**	**2.30**	**72**	*i* P	**P**	**05 27 35.9**	**+0.5**
GOLH				*i* S	**S**	**05 28 03.1**	**-2.4**
VLI	**Veliai**	**3.12**	**274**	*e*P	**P**	**05 27 46.0**	**+0.1**
VLI	**Veliai**	**3.12**	**274**	*e*P	**P**	**05 27 45.5**	**-0.4**
SLUM		**5.23**	**195**	⇑P	**P**	**05 28 12.6**	**-1.1**
HMAT	**Matruh**	**5.46**	**177**	⇑P	**P**	**05 28 16.2**	**-0.5**
HMAT				S	**S**	**05 29 16.0**	**-3.1**
SWA1		**7.34**	**188**	⇑P	**P**	**05 28 42.1**	**+0.1**
SWA1				S	**S**	**05 30 01.1**	**-3.0**
SWA2		**7.39**	**189**	⇑P	**P**	**05 28 42.5**	**-0.1**
GLL	**Jalalah**	**8.09**	**148**	⇓P	**P**	**05 28 52.5**	**+0.5**
HKAT	**Jabal Katrina**	**10.05**	**141**	⇑P	**P**	**05 29 19.3**	**+1.5**

WEL 13 05:40:25.2±0.2**, 40.51S×173.37E, h146**km±2km**, ML3.5**/11**, 2C-5D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.71**	**179**	PN	P	05 40 47.5	-0.3
NNZ				SN	S	05 41 03.8	-1.2
QRZ	**Quartz Range**	**0.71**	**243**	PN	P	05 40 47.2	-0.6
QRZ				SN	S	05 41 03.9	-1.2
TCW	**Tory Channel**	**0.99**	**136**	PN	P	05 40 49.9	+0.2
TCW				SN	S	05 41 07.3	-1.1
TUWZ	**Tuamarina**	**1.02**	**155**	PN	P	05 40 50.0	0.0
TUWZ				SN	S	05 41 08.0	-0.9
KIW	**Kapiti Island**	**1.22**	**107**	⇓PN	P	05 40 51.7	-0.3
MRW	**Makara Radio**	**1.24**	**126**	⇓PN	P	05 40 52.0	-0.1
MRW				SN	S	05 41 11.0	-1.8
NRZ	**Ngariki Road**	**1.25**	**21**	PN	P	05 40 51.8	-0.4
BSWZ	**Blackbirch Sta**	**1.27**	**163**	PN	P	05 40 52.3	-0.1
BSWZ				SN	S	05 41 12.3	-1.0
NWEZ	**Newall Road**	**1.29**	**17**	PN	P	05 40 52.2	-0.4
SNZO	**South Karori**	**1.29**	**129**	PN	P	05 40 52.4	-0.3
SNZO				SN	S	05 41 11.7	-2.1
THZ	**Tophouse**	**1.30**	**195**	PN	P	05 40 52.1	-0.7
THZ				SN	S	05 41 12.0	-2.0
DFE	**Dawson Falls**	**1.31**	**26**	PN	P	05 40 52.4	-0.4
NEZ	**North Egmont**	**1.35**	**25**	PN	P	05 40 52.5	-0.8
PKE	**Pukeiti**	**1.39**	**20**	⇓PN	P	05 40 53.1	-0.6
BHW	**Baring Head**	**1.45**	**129**	PN	P	05 40 53.8	-0.5
MSWZ	**Moikau Station**	**1.69**	**123**	⇓PN	P	05 40 56.3	-0.6
MSWZ				SN	S	05 41 18.4	-2.8
MRZ	**Mangatainoka R**	**1.69**	**96**	PN	P	05 40 56.0	-0.9
DSZ	**Denniston Nort**	**1.71**	**223**	⇑PN	P	05 40 56.3	-0.9
DSZ				SN	S	05 41 19.1	-2.6
MTW	**Mount Morrison**	**1.74**	**113**	PN	P	05 40 56.8	-0.7
PAWZ	**Paruwai Farm**	**1.79**	**120**	⇓PN	P	05 40 57.3	-0.7
PAWZ				SN	S	05 41 20.3	-2.8
KHZ	**Kahutara**	**1.91**	**176**	⇑PN	P	05 40 58.7	-0.7
KHZ				SN	S	05 41 22.5	-3.2
WNVZ	**Wahianoa**	**2.08**	**56**	PN	P	05 41 00.1	-1.3
FWVZ	**Far West T-bar**	**2.09**	**54**	SN	S	05 41 28.1	-1.4
BFZ	**Birch Farm**	**2.20**	**96**	PN	P	05 41 01.8	-1.1
BFZ				SN	S	05 41 28.3	-3.5
LTZ	**Lake Taylor**	**2.42**	**200**	PN	P	05 41 04.1	-1.6
WVZ	**Waitaha Valley**	**3.24**	**217**	PN	P	05 41 13.5	-2.7
MQZ	**McQueen's Vall**	**3.24**	**189**	PN	P	05 41 12.9	-3.4
MQZ				SN	S	05 41 48.3	-7.1
RPZ	**Rata Peaks**	**3.64**	**207**	PN	P	05 41 18.3	-3.2
RPZ				SN	S	05 41 58.0	-6.7

*IDC **13** 06:55:15.2±0.9, 41.41S×88.26W, mb4.3/7, mb1 4.4/8, mb1mx4.3/13, mbtmp4.2/8, MS4.2/12, Ms1 4.2/12, ms1mx4.1/14, Error ellipse: s-maj=31.6km s-min=21.0km az=110.0*

*BJI **13** 06:55:17.4, 41.40S×88.20W, h10km, mB4.8, Ms4.9, Msz4.8*

*NEIC **13** 06:55:17.4±0.3, 41.39S×88.19W, h10km, mb4.7/18, Error ellipse: s-maj=11.4km s-min=8.0km az=66.0*

ISC 13 06:55:16.2±0.4**, 41.36S**±0.08×**88.2W**±0.1**, h10**km**, n54,** σ**1^{s}06**/44**, mb4.4**/22**, MS4.3**/9**, 4C, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**13.32**	**93**	Pn	**P**	**06 58 30.8**	**+2.9**
	0.1nm,0.3s,baz=252,slow=14,SNR=9.3						
PLCA				LR	LR	07 02 19.1	
	comp=Z,554nm,21.7s,baz=262,slow=32						
PLCA	**Paso Flores**	**13.32**	**93**	*e*Pn	**P**	**06 58 30.0**	**+2.2**
	53nm,1.4s						
CFAA	**Coronel Fontan**	**18.72**	**65**	P	**P**	**06 59 36.9**	**-0.1**
	0.1nm,0.3s,baz=228,slow=10,SNR=38						
CFAA				LR	LR	07 05 20.1	
	comp=Z,119nm,20.6s,baz=229,slow=32						
USHA	**Ushuaia**	**18.77**	**143**	P	**P**	**06 59 39.4**	**+2.1**
	0.2nm,0.3s,baz=264,slow=11,SNR=6.0						
USHA				LR	LR	07 05 19.4	
	comp=Z,1μm,20.5s,baz=286,slow=32						
TRQA	**Tornquist**	**20.40**	**89**	*e*P	**P**	**06 59 55.5**	**-0.4**
	76nm,1.3s						
LVC	**Limon Verde**	**24.73**	**47**	P	**P**	**07 00 38.8**	**-0.1**
	23nm,1.0s,mb4.7,baz=214,slow=10,SNR=13						
LVC				LR	LR	07 07 47.9	
	comp=Z,1μm,21.7s,MS4.3,baz=222,slow=30						
LVC	**Limon Verde**	**24.73**	**47**	*e*P	**P**	**07 00 38.6**	**-0.3**
	37nm,1.1s,mb4.8						
CPUP	**Villa Florida**	**29.50**	**69**	P	**P**	**07 01 21.1**	**-1.6**
	1.9nm,0.7s,mb3.9,baz=225,slow=10.0,SNR=4.6						
CPUP				LR	LR	07 12 04.2	
	comp=Z,584nm,19.9s,MS4.2,baz=263,slow=34						
SAML	**Samuel**	**39.12**	**41**	*e*P	**P**	**07 02 44.2**	**-1.4**
	16nm,1.4s,mb4.5						
ROSC	**El Rosal**	**47.70**	**19**	P	**P**	**07 03 55.2**	**+0.1**
	4.3nm,0.9s,mb4.5,baz=248,slow=11,SNR=3.7						
ROSC				LR	LR	07 21 16.9	
	comp=Z,358nm,20.6s,MS4.3,baz=311,slow=33						
VNA3	**Neumayer Olymp**	**47.83**	**155**	*e*	**P**	**07 04 02.6**	**+7.3**
VNA3	**Neumayer Olymp**	**47.83**	**155**	⇑*i*P	**P**	**07 03 54.7**	**-0.6**
VNA3				*e*		07 04 02.6	
VNA1	**Neumayer--Stat**	**48.35**	**154**	*e*	**P**	**07 04 05.7**	**+6.4**
VNA1	**Neumayer--Stat**	**48.35**	**154**	⇑*i*P	**P**	**07 03 58.5**	**-0.8**
VNA1				*e*		07 04 05.7	
VNA2	**Neumayer--Watz**	**48.60**	**154**	*e*	**P**	**07 04 08.4**	**+7.1**
VNA2	**Neumayer--Watz**	**48.60**	**154**	⇑*i*P	**P**	**07 04 02.4**	**+1.1**
VNA2				*e*		07 04 08.4	
SNAA	**Sanae**	**49.92**	**156**	*e*	**P**	**07 04 15.6**	**+4.2**
SNAA	**Sanae**	**49.92**	**156**	⇑*i*P	**P**	**07 04 10.0**	**-1.4**
SNAA				*e*		07 04 15.6	
VNDA	**Vanda**	**54.09**	**195**	P	**P**	**07 04 39.9**	**-2.7**
	2.1nm,1.0s,mb4.0,baz=133,slow=9.2,SNR=5.6						
VNDA				LR	LR	07 22 19.4	
	comp=Z,278nm,20.8s,MS4.3,baz=117,slow=30						
VNDA	**Vanda**	**54.09**	**195**	*e*P	**P**	**07 04 39.9**	**-2.7**
	3.4nm,1.0s,mb4.2						
PPT	**Papeete**	**57.23**	**275**	LR	LR	07 23 16.4	
	comp=Z,199nm,18.9s,MS4.2,baz=137,slow=29						
MAW	**Mawson**	**69.17**	**169**	P	**P**	**07 06 23.2**	**-1.0**
	1.3nm,0.6s,mb4.0,baz=164,slow=12,SNR=4.2						
MAW				LR	LR	07 36 53.2	
	comp=Z,182nm,21.5s,MS4.3,baz=178,slow=36						
LTX	**Lajitas**	**71.78**	**346**	*e*P	**P**	**07 06 40.4**	**-0.4**
	6.4nm,1.0s,mb4.5						
TXAR	**Lajitas Array**	**71.78**	**346**	P	**P**	**07 06 39.4**	**-1.3**
	2.7nm,0.9s,mb4.2,baz=166,slow=7.1,SNR=18						
TXAR	**Lajitas Array**	**71.78**	**346**	P	**P**	**07 06 39.4**	**-1.3**
TUC	**Tucson**	**76.21**	**340**	*e*P	**P**	**07 07 06.8**	**+0.4**
	1.5nm,0.9s,mb3.9						
ANMO	**Albuquerque**	**77.77**	**345**	*e*P	**P**	**07 07 14.3**	**-0.7**
	6.5nm,1.0s,mb4.5						
BAR	**Barrett**	**78.22**	**336**	*e*P	**P**	**07 07 17.7**	**+0.3**
BLO	**Bloomington**	**80.17**	**1**	*e*P	**P**	**07 07 25.6**	**-2.3**
	20nm,1.1s,mb5.0						
SDCO	**Great Sand Dun**	**80.31**	**346**	*e*P	**P**	**07 07 30.1**	**+1.4**
	8.9nm,1.3s,mb4.5						
NEN	**Nelson**	**80.45**	**338**	*e*P	**P**	**07 07 29.6**	**+0.1**
SMCO	**Snowmass**	**81.97**	**345**	*e*P	**P**	**07 07 39.1**	**+1.8**
ARUT	**Antelope Range**	**82.08**	**340**	*e*P	**P**	**07 07 37.8**	**-0.2**
MSU	**Marysvale**	**82.45**	**341**	*e*P	**P**	**07 07 40.2**	**+0.3**
DAU	**Daniels Canyon**	**84.05**	**342**	*e*P	**P**	**07 07 48.9**	**+1.0**
DUG	**Dugway**	**84.20**	**341**	*e*P	**P**	**07 07 48.2**	**-0.6**
	12nm,1.3s,mb4.9						
CMB	**Columbia Colle**	**84.31**	**335**	*e*P	**P**	**07 07 49.3**	**0.0**
	11nm,1.2s,mb4.9						
RWWY	**Rawlins**	**84.44**	**346**	*e*P	**P**	**07 07 50.6**	**+0.6**
	7.7nm,0.9s,mb4.8						
HWUT	**Hardware Ranch**	**85.26**	**343**	P	**P**	**07 07 55.3**	**+1.3**
	1.6nm,0.6s,mb4.3						
ELK	**Elko**	**85.33**	**340**	*e*P	**P**	**07 07 55.7**	**+1.3**
	4.6nm,1.4s,mb4.4						
BW06	**Boulder Array**	**85.94**	**344**	*e*P	**P**	**07 07 58.1**	**+0.8**
	1.3nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**85.94**	**344**	P	**P**	**07 07 57.3**	**-0.1**
	1.0nm,0.6s,mb4.2,baz=153,slow=4.7,SNR=9.1						
TPAW	**Teton Pass**	**86.92**	**344**	*e*P	**P**	**07 08 01.7**	**-0.4**
	4.6nm,0.9s,mb4.7						
HLID	**Hailey**	**87.78**	**341**	*e*P	**P**	**07 08 06.5**	**+0.2**
	4.1nm,1.1s,mb4.6						
MOD	**Modoc**	**87.83**	**337**	*e*P	**P**	**07 08 05.8**	**-0.7**
	1.2nm,0.7s,mb4.2						
DBIC	**Dimbokro**	**89.37**	**81**	LR	LR	07 47 44.6	
	comp=Z,80nm,18.1s,MS4.2,baz=207,slow=35						
STKA	**Stephens Creek**	**93.88**	**221**	LR	LR	07 43 34.4	
	comp=Z,179nm,18.3s,MS4.6,baz=205,slow=31						
SCHQ	**Schefferville**	**97.54**	**12**	LR	LR	07 51 33.6	
	comp=Z,96nm,18.0s,MS4.3,baz=304,slow=35						
MDJ	**Mudanjiang**	**152.34**	**290**	PKP	PKPdf	07 15 05.4	-2.5
CN2	**Changchun**	**155.22**	**287**	*e*PKP	PKPdf	07 15 05.4	-6.4
NJ2	**Nanjing**	**156.50**	**255**	*e*PKP	PKPdf	07 15 08.0	-5.9
NJ2				APKP		07 15 18.8	
NJ2				PKP2	PKPab	07 15 39.5	-2.6
NJ2				PP	PP	07 19 18.0	-3.1
KMI	**Kunming**	**161.44**	**213**	PKP	PKPdf	07 15 17.8	-2.0
LZH	**Lanzhou**	**169.24**	**245**	*e*PKP	PKPdf	07 15 20.5	-5.5
LZH				XPKP		07 15 24.5	
WMQ	**Urumqi**	**176.08**	**50**	*e*PKP	PKPdf	07 15 29.0	+0.2
WMQ				LR	LR		
	comp=Z,230nm,23.8s						

IDC 13 07:08:43.5±2.5**, 9.43S×113.69E, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.6**/14**, mbtmp3.6**/4**, Error ellipse:**

s-maj=118.4km s-min=24.8km az=52.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.51	120	P	P	07 13 45.1	-1.4
	0.3nm,0.4s,baz=294,slow=12,SNR=7.2						
STKA	Stephens Creek	34.17	135	P	P	07 15 30.6	-2.2
	1.8nm,0.9s,baz=315,slow=8.6,SNR=3.0						
SONM	Songino Array	57.38	354	P	P	07 18 33.8	-2.3
	0.5nm,0.5s,baz=178,slow=7.2,SNR=4.1						
MKAR	Makanchi Array	62.59	336	P	P	07 19 09.6	-2.3
	0.3nm,0.4s,baz=149,slow=6.7,SNR=4.5						

CASC 13 07:28:53.2±1.5, 11.33N×86.11W, h80km±5km, MD4.2, ML3.7, 11C-18D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.26	100⇓	eP	P	07 29 06.0	+0.6
SSNN				eS	S	07 29 15.6	+1.2
CONN	Concepcion	0.53	64⇑	iP	P	07 29 07.3	+0.1
CONN				eS	S	07 29 17.6	-0.2
MADN	Villa Maderas	0.57	83⇓	eP	P	07 29 07.7	0.0
MADN				eS	S	07 29 18.3	-0.2
APON	Apoyo	0.58	4⇓	eP	P	07 29 08.1	+0.3
APON				eS	S	07 29 18.9	+0.3
MASN	Masaya	0.65	357⇓	eP	P	07 29 08.6	0.0
MASN				eP		07 29 08.6	
MASN				eS	S	07 29 20.1	+0.2
CRUN	El Crucero	0.67	344⇑	iP	P	07 29 09.4	+0.6
TICN	Ticuantepe	0.70	350⇓	eP	P	07 29 09.6	+0.5
TICN				eS	S	07 29 21.2	+0.3
MGAN	Managua	0.82	351	eP	P	07 29 10.4	+0.1
MGAN				eS	S	07 29 23.3	+0.1
WILN	Americas 2	0.82	355⇓	eP	P	07 29 10.4	0.0
WILN				eS	S	07 29 23.2	0.0
XAVN	Gruta Xavier	0.84	345⇓	eP	P	07 29 10.8	+0.2
XAVN				eS	S	07 29 23.8	+0.3
COPN	Copaltepe	0.96	331⇑	iP	P	07 29 12.2	+0.1
COPN				eS	S	07 29 26.0	-0.2
LIM1	Limonal	1.05	127⇓	iP	P	07 29 13.1	0.0
LIM1				eS	S	07 29 28.8	+0.8
MOMJ	Momotombo	1.15	339⇓	eP	P	07 29 14.1	-0.1
MOMJ				eS	S	07 29 29.9	-0.3
PYTN	Playitas	1.20	2⇓	iP	P	07 29 15.0	0.0
PYTN				eS	S	07 29 32.8	+1.5
MIRN	Miramar	1.25	332⇑	eP	P	07 29 15.8	+0.2
VCR	Vista de Mar	1.29	159⇓	eP	P	07 29 16.3	+0.1
VCR				eS	S	07 29 32.6	-0.8
CNGN	Cerro Negro	1.29	334	eP	P	07 29 16.2	0.0
CNGN				eS	S	07 29 33.4	-0.1
LEON	Leon	1.32	325⇓	eP	P	07 29 16.6	-0.1
LEON				eS	S	07 29 33.6	-0.5
TEL3	Telica 3	1.43	330⇓	eP	P	07 29 18.2	+0.1
TEL3				eS	S	07 29 36.4	0.0
TELN	Telica	1.45	331⇓	eP	P	07 29 18.3	0.0
TELN				eS	S	07 29 35.4	-1.4
CRIN	San Cristobal	1.64	326⇓	iP	P	07 29 20.8	-0.1
CRIN				eS	S	07 29 41.2	0.0
JCR	Jicaral	1.77	146⇑	eP	P	07 29 22.5	-0.1
CGA2	Cerro Gallo 2	2.08	129⇓	eP	P	07 29 26.4	-0.4
CGA2				eS	S	07 29 52.5	+0.8
VPS2	Volcan Poas 2	2.17	121⇑	eP	P	07 29 27.5	-0.4
LAJ	Bijagual	2.44	127⇑	eP	P	07 29 28.4	-3.5
LAJ				eS	S	07 29 56.0	-4.7
SJS	Escuela Geolog	2.45	124⇑	iP	P	07 29 31.4	-0.6
SJS				eS	S	07 30 01.9	+1.0
CNCH	Conchagua	2.56	319⇓	eP	P	07 29 45.8	+12
CNCH				eS	S	07 30 16.8	+13
LCR2	La Lucha 2	2.61	127⇓	eP	P	07 29 33.4	-0.8
BUS	Buena Vista	2.91	127	eP	P	07 29 38.5	0.0
BUS				eS	S	07 30 12.0	-0.4
BLLM	Bellamira	2.95	315⇑	eP	P	07 29 51.5	+13
BLLM				eS	S	07 30 26.2	+13
LIO	Limon	3.30	113	eP	P	07 29 42.4	-1.4
SNET	Serv Nac Est T	3.84	308	eP	P	07 29 50.2	-1.1
RBDL	Robledal	4.45	309	eP	P	07 30 12.8	+13
RBDL				eS	S	07 31 03.1	+12
IXG	Ixpaco	5.09	304⇑	eP	P	07 30 08.2	-0.4
FUG	Fuego 3	5.55	304⇑	eP	P	07 30 15.0	0.0

GUC 13 07:31:14.1±0.5, 24.37S×67.43W, h144km±34km, MD2.9, ML3.5, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.22	322	iP	P	07 31 52.8	+0.8
LVC				iS	S	07 32 22.6	+1.7
LVC				AMP		07 32 25.4	
	comp=E,82nm,0.2s						
CPN1	Cerro Paranal	2.73	264⇑	iP	P	07 31 59.8	+1.4
CPN1				iS	S	07 32 34.0	+1.8
CPN1				AMP		07 32 36.8	
	comp=E,172nm,0.4s						
ANCH	Antofagasta	2.81	283⇑	iP	P	07 32 00.6	+1.0
ANCH				iS	S	07 32 35.5	+1.2
CRCH	Chaqaral	3.50	235	iS	S	07 32 50.9	+0.8
CRCH				AMP		07 32 52.9	
	comp=N,111nm,0.3s						

NEIC 13 07:52:25.3, 15.71N×94.37W, h11km, MD3.9(MEX), After MEX.
MEX 13 07:52:25.3±0.3, 15.71N×94.37W, h10km±8km, MD3.9, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.46	340⇑	iP	Pn	07 52 48.0	-3.7
CMIG				iS	Sb	07 53 05.8	-4.6
SCX	San Cristobal	1.95	58	eP	Pn	07 52 55.0	-3.8
SCX				iS	Sn	07 53 18.0	-5.6
CCIG	Comitan	2.22	75	eP	Pn	07 52 60.0	-2.7
CCIG				iS	Sn	07 53 25.6	-4.7
OXX	Oaxaca	2.64	301	eP	Pn	07 53 05.0	-3.7
OXX				iS	Sn	07 53 36.0	-5.0
OXX	Oaxaca	2.64	301	eP	Pn	07 53 05.0	-3.7
OXX				iS	Sn	07 53 33.0	-8.0
VHO	Vista Hermosa	2.64	301	eP	Pn	07 53 04.8	-4.0
VHO				iS	Sn	07 53 35.9	-5.2

NIED 13 08:01:00, 33.70N×130.30E, h11km, Mw3.3 Best double couple: $M_0$1.06×10^14 NP1:ϕ_s232°, δ89°, λ174°. NP2: ϕ_s322°, δ84°, λ1°.
JMA 13 08:01:50.3, 33.70N×130.27E, h15km, M3.5, 2C-2D Broadband fault plane solution: P waves. NP1:ϕ_s305°, δ37°, λ-21°. NP2:ϕ_s53°, δ77°, λ-125°. Principal axes: T Plg24°, Azm169°; N Plg34°, Azm61°; P Plg46°, Azm287°; Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.29	160	⇑P	Pb	08 01 56.4	-0.2
JFI				S	Sb	08 02 00.5	-0.4
JFA	Akaike	0.44	88	⇓P	Pb	08 01 58.8	-0.4
JII	Iki	0.46	282	⇓P	Pb	08 01 59.5	0.0
JII				S	Sb	08 02 05.9	+0.1
JTA	Tamana	0.77	163	⇑P	Pb	08 02 04.5	-0.3
JTA				S	Sb	08 02 14.6	-0.2

CSEM 13 08:31:24.4±1.2, 38.97N×28.51W, ML2.2 Error ellipse: s-maj=8.1km s-min=7.5km az=128.0, After PDA
PDA 13 08:31:24.4±1.2, 38.97N×28.51W, MD3.4, ML2.2, Error ellipse: s-maj=8.1km s-min=7.5km az=128.0
SVSA 13 08:31:24.4±1.2, 38.97N×28.51W, MD3.4, ML2.2, Error ellipse: s-maj=8.1km s-min=7.5km az=128.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.37	204	eP	Pg	08 31 30.9	-0.9
PCED				eS	Sg	08 31 36.9	+0.2
	112nm,0.2s						
CALA	Caldeira	0.41	202	eP	Pg	08 31 32.0	-0.6
PGRA	Graciosa	0.41	81	eS	Sg	08 31 38.0	-0.2
	48nm,0.2s						
HOR	Horta	0.45	192	eP	Pg	08 31 32.5	-0.9
PMAN	Manadas	0.47	135	eS	Sg	08 31 39.2	-0.7
	50nm,0.1s						
PICO	Pico	0.47	172	eP	Pg	08 31 33.1	-0.7

NEIC 13 08:40:04.2±2.8, 16.01N×92.30W, h10km, MD4.0(MEX), Error ellipse: s-maj=32.7km s-min=12.6km az=150.0
MEX 13 08:39:53.2±0.6, 15.52N×91.32W, h16km±999km, MD4.2, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.09	314	iP	Pb	08 40 10.6	-2.7
CCIG				iS	Sb	08 40 23.3	-3.8
CCIG	Comitan	1.09	314	iP	Pb	08 40 10.6	-2.7
CCIG				iS	Sb	08 40 23.1	-4.0
SCX	San Cristobal	1.75	314	iP	Pn	08 40 19.5	-3.7
SCX				iS	Sn	08 40 41.0	-4.3
SCX	San Cristobal	1.75	314	eP	Pn	08 40 19.5	-3.7
SCX				iS	Sn	08 40 41.0	-4.3
CMIG	Matias Romero	3.76	295	iP	Pn	08 40 48.2	-3.7
CMIG				iS	Sn	08 41 30.5	-5.9
CMIG	Matias Romero	3.76	295	iP	Pn	08 40 47.8	-4.2
CMIG				iS	Sn	08 41 32.0	-4.4
OXX	Oaxaca	5.42	287	eP	Pn	08 41 11.0	-4.4
OXX				iS	Sn	08 42 19.0	+0.9

GUC 13 08:43:43.4±0.5, 33.02S×72.86W, h10km, MD3.6, ML2.4, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	1.17	113	iP	Pb	08 44 04.5	-0.8
LNV	Longovilo	1.53	128⇓	iP	Pn	08 44 09.9	-1.0
TACH	Talagante	1.73	112⇓	iP	Pn	08 44 12.9	-0.9
TACH				iS	Sn	08 44 30.2	-5.8
RCDM	Rinconada Maip	1.78	106	eP	Pn	08 44 14.1	-0.5
PCH	Pirque	2.05	108⇓	iP	Pn	08 44 18.5	+0.1
PCH				iS	Sn	08 44 45.0	+0.7
CHCH	Chadas Angostu	2.05	117	iP	Pn	08 44 18.2	-0.3
FCH	Farellones	2.17	99	eP	Pn	08 44 21.3	+1.1
FCH				iS	Sn	08 44 49.7	+2.3
FCH				AMP		08 44 56.5	
	comp=N,34nm,0.3s						
SFDO	San Fernando	2.21	137	iP	Pn	08 44 21.2	+0.5
SFDO				iS	Sn	08 44 49.6	+1.3

BJI 13 08:48:31.3, 1.35N×98.72E, h148km, mB4.9, mb4.7
NEIC 13 08:48:32.0±0.4, 1.77N×99.03E, mb4.7/18, Error ellipse: s-maj=14.1km s-min=6.5km az=49.0
IDC 13 08:48:31.8±0.6, 1.83N×99.12E, h128km±4km, mb4.1/18, mb1 4.2/18, mb1mx4.1/23, mbtmp4.5/18, Error ellipse: s-maj=21.4km s-min=10.0km az=50.0
MOS 13 08:48:35.9±0.9, 1.90N×99.23E, h177km, mb4.5/14, Error ellipse: s-maj=17.5km s-min=8.4km az=114.6
ISC 13 08:48:30.8±1.2, 1.80N±0.07×99.10E±0.07, h131km±9km, h127km±1.1km:pP-P, n89, σ1s10/85, mb4.5/47, 4C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	3.79	24⇓	iPn	P	08 49 29.6	+0.8
SNG	Songkhla	5.55	16	P	P	08 49 52.0	-0.2
	322nm,0.9s						
KSM	Kuching	11.20	92	ePn	P	08 51 05.7	-2.4
KSM				epPn		08 51 11.9	
CHG	Chiang Mai	16.91	359	P	P	08 52 21.1	+0.2
NANT	Nan	16.97	5	P	P	08 52 22.0	+0.4
KKM	Kota Kinabalu	17.58	76	eP	P	08 52 31.0	+1.9
KMI	Kunming	23.45	8	P	P	08 53 35.3	+6.0
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
KMI				LR	LR		
	comp=Z,45nm,15.6s						
LSA	Lhasa	28.76	346	eP	P	08 54 19.2	+0.9
	comp=Z,13nm,0.4s,mb5.0						
LSA	Lhasa	28.76	346	eP	P	08 54 19.2	+0.9
LSA				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.0						
PKI	Pulchoki	28.79	334	eP	P	08 54 19.3	+0.7
	comp=Z,11nm,0.5s,mb4.9						
PKI	Pulchoki	28.79	334	eP	P	08 54 19.3	+0.7
PKI				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
GUN	Gumba	28.88	335	eP	P	08 54 18.7	-0.7
	comp=Z,27nm,0.5s,mb5.2						
DMN	Daman	28.95	334	eP	P	08 54 21.1	+1.1
	comp=Z,11nm,0.5s,mb4.9						
KKN	Kakani	29.03	334	eP	P	08 54 21.4	+0.6
	comp=Z,16nm,0.6s,mb4.9						
KKN	Kakani	29.03	334	eP	P	08 54 21.4	+0.6
KKN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
GKN	Gorkha	29.50	333	eP	P	08 54 22.0	-2.9
KOLN	Koldanda	29.78	332	eP	P	08 54 28.0	+0.5
	comp=Z,50nm,0.6s,mb5.4						
FITZ	Fitzroy Crossi	32.77	128⇓	iP	P	08 54 54.9	+1.3
	comp=Z,17nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	32.77	128	P	P	08 54 52.9	-0.7
	comp=Z,24nm,0.6s,mb5.1,baz=303,slow=2.6,SNR=27						
NJ2	Nanjing	35.38	30	eP	P	08 55 15.3	-0.4
NJ2				PP	PP	08 56 38.9	-0.6
NJ2				S	S	09 00 41.0	+1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,508nm,4.4s						
NJ2				LR	LR		
	comp=N,650nm,21.0s						
NJ2				LR	LR		
	comp=E,1μm,22.2s						
NJ2				LR	LR		
	comp=Z,3μm,22.6s						
KAKA	Kakadu	36.10	114	eP	P	08 55 41.0	+19
	comp=Z,5.7nm,0.4s,mb4.5						
HHC	Hu-ho-hao-te	40.47	15	eP	P	08 55 57.4	-0.6
HHC				PCP	PcP	08 58 02.4	+3.5
HHC				S	S	09 01 56.8	+0.2
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,95nm,5.2s						
HHC				LR	LR		
	comp=N,132nm,11.9s						
HHC				LR	LR		
	comp=E,146nm,13.1s						
HHC				LR	LR		
	comp=Z,131nm,10.7s						
WRA	Warramunga Arr	40.76	124	P	P	08 56 01.0	+0.4
	comp=Z,34nm,0.4s,mb5.3,baz=302,slow=9.1,SNR=119						
WRA				PcP	PcP	08 58 00.3	+0.3
	comp=Z,1.0nm,0.4s,baz=316,slow=2.7,SNR=4.4						
WRA				ScP		09 01 35.5	
	comp=Z,1.7nm,1.0s,baz=310,slow=3.5,SNR=8.3						
WRAB	Tennant Creek	40.76	124	eP	P	08 56 01.2	+0.6
	comp=Z,62nm,0.6s,mb5.4						
WRAB	Tennant Creek	40.76	124	iP	P	08 56 01.4	+0.8
WB2	Warramunga Arr	40.77	124⇓	iP	P	08 56 01.5	+0.8
WB2				i		08 56 03.7	
FORT	Forrest	42.54	142	eP	P	08 56 16.4	+1.2
	comp=Z,20nm,0.5s,mb5.0						
WMQ	Urumqi	43.05	348	P	P	08 56 21.5	+2.3
WMQ				PP	PP	08 58 05.0	+1.9
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,117nm,5.6s						
WMQ				LR	LR		
	comp=N,98nm,19.8s						
WMQ				LR	LR		
	comp=E,54nm,23.0s						
WMQ				LR	LR		
	comp=Z,42nm,20.2s						
JNU	Nakatsue	43.11	40	P	P	08 56 18.4	-1.4
	comp=Z,4.9nm,0.7s,mb4.3,baz=185,slow=11,SNR=2.5						
AAK	Ala-Archa	46.24	335	eP	P	08 56 46.5	+1.9
	comp=Z,3.3nm,0.6s,mb4.1						
AAK	Ala-Archa	46.24	335	eP	P	08 56 46.5	+1.9
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
SONM	Songino Array	46.29	7	P	P	08 56 44.7	-0.2
	comp=Z,1.7nm,0.3s,mb4.1,baz=196,slow=8.3,SNR=9.7						
SONM				ScP		09 01 57.7	
	comp=Z,1.4nm,0.8s,baz=188,slow=3.8,SNR=6.5						
MKAR	Makanchi Array	47.15	344	P	P	08 56 51.8	+0.1
	comp=Z,5.0nm,0.5s,mb4.4,baz=153,slow=6.9,SNR=44						
MKAR	Makanchi Array	47.15	344	eP	P	08 56 51.6	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PMG	Port Moresby	49.14	104	P	P	08 57 05.3	-2.2
	comp=Z,14nm,0.7s,mb4.7,baz=274,slow=3.8,SNR=4.4						
PMG	Port Moresby	49.14	104	eP	P	08 57 08.0	+0.5
	comp=Z,16nm,0.8s,mb4.7						
PMG	Port Moresby	49.14	104⇑	eP	P	08 57 07.6	+0.1
MJAR	Matsushiro Arr	49.97	42	P	P	08 57 12.2	-1.4
	comp=Z,1.6nm,0.5s,mb3.9,baz=215,slow=7.7,SNR=9.1						
MDJ	Mudanjiang	50.43	28	P	P	08 57 22.3	+5.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,94nm,4.8s						
CTA	Charters Tower	51.08	118	P	P	08 57 20.8	-1.4
	comp=Z,3.7nm,0.7s,mb4.2,baz=294,slow=8.2,SNR=6.6						
CTA				ScP		09 02 19.2	
	comp=Z,3.8nm,1.0s,baz=270,slow=4.2,SNR=4.2						
CTAO	Charters Tower	51.08	118	eP	P	08 57 21.8	-0.4
	comp=Z,4.3nm,0.7s,mb4.2						
CTAO	Charters Tower	51.08	118	eP	P	08 57 21.8	-0.4
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
KURK	Kurchatov	51.73	344	eP	P	08 57 27.9	+1.2
KURK	Kurchatov	51.73	344	eP	P	08 57 27.6	+0.9
STKA	Stephens Creek	52.36	133⇓	iP	P	08 57 31.8	+0.1
	comp=Z,5.1nm,0.7s,mb4.3						
STKA	Stephens Creek	52.36	133	P	P	08 57 31.2	-0.4
	comp=Z,5.5nm,0.7s,mb4.3,baz=313,slow=6.8,SNR=16						
ZAL	Zalesovo	53.28	349	P	P	08 57 38.4	+0.2
	comp=Z,15nm,0.4s,mb5.1,baz=307,slow=4.5,SNR=15						
ZAL	Zalesovo	53.28	349	iP	P	08 57 39.2	+1.0
ZAL				pmax	pmax		
	comp=Z,15nm,0.4s						
NVS	Novosibirsk	54.44	349	eP	P	08 57 43.2	-3.4
BVA0	Borovoye Array	56.33	340	iP	P	08 57 59.8	-0.5
BVAR	Borovoye Array	56.33	340	P	P	08 57 58.5	-1.7
	comp=Z,4.3nm,0.6s,mb4.5,baz=140,slow=9.3,SNR=22						
BVAR				pP	pP	08 58 28.3	-3.1
	comp=Z,1.7nm,0.5s,baz=146,slow=10.0,SNR=3.0						
BRVK	Borovoye	56.40	340	eP	P	08 57 59.9	-0.8
	comp=Z,2.3nm,0.5s,mb4.3						
BRVK	Borovoye	56.40	340	eP	P	08 57 59.9	-0.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
ASAJ	Asahikawa	57.05	36	P	P	08 58 04.5	-0.8
	comp=Z,5.2nm,0.7s,mb4.5,baz=248,slow=5.4,SNR=3.9						
BOD	Bodaibo	57.09	9	eP	P	08 58 05.6	+0.1
BOD				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
AB31	Akbulak array	57.90	331	eP	P	08 58 10.4	-0.9
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
YSS	Yuzh-Sakhalins	58.79	34	eP	P	08 58 17.3	-0.2
	comp=Z,25nm,0.8s,mb5.1						
YSS	Yuzh-Sakhalins	58.79	34d	iP	P	08 58 17.1	-0.4
YSS				pmax	pmax		
	comp=Z,91nm,2.5s,mb5.2						
ARU	Arti	63.39	336⇑	iP	P	08 58 47.5	-0.9
ARU				e		08 59 25.7	
ARU				e		09 01 10.2	
ARU				eS	S	09 07 10.2	+1.6
ARU				eSS	SS	09 11 18.9	-0.6
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
KIV	Kislovodsk	65.11	318	eP	P	08 58 56.9	-2.9
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
KIV				pmax	pmax		
	comp=N,1.0nm,0.5s						
KIV				pmax	pmax		
	comp=E,3.0nm,1.0s						
SOC	Sochi	66.96	317	eP	P	08 59 12.4	+0.8
SOC				e	pP	08 59 42.3	-1.4
SOC				e		09 01 45.7	
SOC				eS	S	09 07 55.7	+3.2
SOC				eSS	SS	09 12 06.0	-9.3
SOC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
SOC				pmax	pmax		
	comp=N,7.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.4s						
DZM	Mont Dzumac	69.79	114	P	P	08 59 30.0	+0.7
	comp=E,4.0nm,0.7s,mb4.2,baz=246,slow=10.0						
BRTR	Keskin Array B	70.12	312	P	P	08 59 30.4	-0.6
	comp=E,1.4nm,0.6s,mb3.9,baz=125,slow=6.6,SNR=6.1						
BRTR				pP	pP	09 00 01.6	-1.9
	comp=E,1.9nm,0.8s,baz=127,slow=7.2,SNR=4.0						
PET	Petropavlovsk	70.68	33d	iP	P	08 59 34.3	+0.2
PET				pmax	pmax		
	comp=Z,83nm,1.3s,mb5.3						
TIXI	Tiksi	72.28	10	eP	P	08 59 40.9	-2.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
SEY	Seymchan	72.47	23⇑	eP	P	08 59 44.9	+0.3
OBN	Obninsk	73.12	328	eP	P	08 59 47.5	-1.0
OBN				e		09 02 38.3	
OBN				eS	S	09 08 50.1	-14
OBN				pmax	pmax		
	comp=Z,43nm,2.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
AKASG	Malin Array Be	75.95	322	P	P	09 00 03.5	-1.3
	comp=Z,0.8nm,0.4s,mb3.8,baz=86,slow=5.2,SNR=6.5						
AKASG				pP	pP	09 00 36.0	-1.8
	comp=Z,2.4nm,0.6s,baz=85,slow=5.0,SNR=5.1						
JOF	Joensuu	78.42	334	ep	P	09 00 18.4	+0.2
	comp=Z,6.3nm,1.0s,mb4.2						
FINES	FINESS Array B	80.35	332	P	P	09 00 28.6	-0.1
	comp=Z,2.5nm,0.4s,mb4.2,baz=96,slow=5.9,SNR=19						
FINES				pP	pP	09 01 01.0	-0.9
	comp=Z,2.3nm,0.5s,baz=90,slow=7.6,SNR=3.2						
KAF	Kangasniemi	80.41	333	ep	P	09 00 29.4	+0.4
	comp=Z,5.1nm,0.5s,mb4.4,baz=100,slow=5.0						
KAF	Kangasniemi	80.41	333	eP	P	09 00 29.4	+0.4
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
SYO	Syowa Base	81.16	198	⇑P	P	09 00 29.0	-3.8
KEV	Kevo	82.17	340	ep	P	09 00 40.9	+2.9
	comp=Z,14nm,1.1s,mb4.5						
KEV	Kevo	82.17	340	eP	P	09 00 40.9	+2.9
KEV				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
ARCES	ARCESS Array B	82.62	340	P	P	09 00 40.2	-0.1
	comp=Z,2.4nm,0.4s,mb4.3,baz=108,slow=4.2,SNR=35						
ARCES				pP	pP	09 01 13.0	-0.7
	comp=Z,2.0nm,0.5s,baz=104,slow=5.0,SNR=2.2						
ARCES	ARCESS Array B	82.62	340	P	P	09 00 40.2	-0.1
ARCES				pP	pP	09 01 13.0	-0.7
GERES	GERESS Array B	85.62	319	P	P	09 00 56.1	+0.4
	comp=Z,0.5nm,0.2s,mb3.9,baz=124,slow=4.8,SNR=4.8						
GERES				pP	pP	09 01 29.6	+0.2
	comp=Z,0.9nm,0.8s,baz=124,slow=4.8,SNR=2.4						
NB2	NORSAR Subarra	87.41	331	P	P	09 01 04.5	+0.4
	comp=Z,1.1nm,0.6s,mb3.9,baz=95,slow=4.6						
NB2	NORSAR Subarra	87.41	331	P	pP	09 01 37.7	-0.2
	comp=Z,2.5nm,0.7s,baz=95,slow=4.8						
NB2	NORSAR Subarra	87.41	331	P	P	09 01 04.5	+0.4
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	NORSAR Array B	87.41	331	P	P	09 01 05.1	+1.0
	comp=Z,0.9nm,0.7s,mb3.7,baz=96,slow=5.3,SNR=4.3						
NOA				pP	pP	09 01 37.4	-0.5
	comp=Z,2.0nm,0.7s,baz=94,slow=5.0,SNR=5.0						
NOA	NORSAR Array B	87.41	331	P	P	09 01 05.1	+1.1
NOA				pP	pP	09 01 37.4	-0.5
SCHQ	Schefferville	122.38	350	PKP	PKPdf	09 07 12.3	+2.0
	comp=Z,1.1nm,0.3s,baz=45,slow=18,SNR=5.2						
ULM	Lac du Bonnet	126.58	12	PKP	PKPdf	09 07 19.6	+1.0
	comp=Z,2.2nm,0.5s,baz=309,slow=4.3,SNR=6.4						
PDAR	Pinedale Array	128.66	27	PKP	PKPdf	09 07 24.8	+1.9
	comp=Z,0.7nm,0.6s,baz=84,slow=2.1,SNR=7.2						
TXAR	Lajitas Array	142.14	33	PKhKP		09 07 44.2	
	comp=Z,0.6nm,0.5s,baz=218,slow=0.8,SNR=13						
TXAR				PKP	PKPdf	09 07 47.6	-0.5
	comp=Z,0.5nm,0.5s,baz=135,slow=1.3,SNR=14						
TXAR				pPKP		09 08 22.8	
	comp=Z,0.6nm,0.7s,baz=325,slow=0.9,SNR=2.6						
TXAR	Lajitas Array	142.14	33	PKP	PKPdf	09 07 44.2	-3.9
TXAR				PKP	PKPdf	09 07 47.6	-0.5
TXAR				pPKP		09 08 22.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	146.72	221	PKPbc	PKPbc	09 07 58.0	+0.4
	comp=Z,1.7nm,0.8s,baz=135,slow=4.3,SNR=3.8						

*NEIC **13** 08:55:55.1±2.5, 26.06N×142.82E, h39^{km}±21^{km}, mb4.1/1, Error ellipse: s-maj=26.0km s-min=11.9km az=90.0*
*IDC **13** 08:55:55.6±2.9, 26.07N×142.76E, h41^{km}±24^{km}, mb4.0/8, mb1 4.1/9, mb1mx3.9/21, mbtmp4.1/9, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/23, Error ellipse: s-maj=33.8km s-min=18.0km az=87.0*
ISC 13 08:55:51.4±0.7, **26.03N**±0.08×**143.2E**±0.2, **h33**^{km}, **n17**, σ1^{s}**13**/16, **mb4.2**/9, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.40	320	P	P	08 56 15.2	+0.4
	110nm,0.3s,baz=107,slow=18,SNR=88						
CBIJ				S	S	08 56 34.2	+1.9
	221nm,0.3s,baz=121,slow=23,SNR=16						
MJAR	Matsushiro Arr	11.31	339	P	P	08 58 32.4	-1.4
	0.3nm,0.3s,baz=155,slow=11,SNR=4.2						
JNU	Nakatsue	12.84	306	LR	LR	09 03 30.0	
	comp=Z,35nm,19.2s,baz=239,slow=36						
SONM	Songino Array	36.11	317	P	P	09 02 51.3	-0.8
	0.4nm,0.6s,mb3.5,baz=124,slow=5.2,SNR=2.4						
KULM	Kulim	45.58	251	P	P	09 04 10.2	-0.3
WRAB	Tennant Creek	46.49	192	*e*P	P	09 04 18.1	+0.5
	1.3nm,0.6s,mb4.0						
WB2	Warramunga Arr	46.50	192	*e*P	P	09 04 17.9	+0.3
WRA	Warramunga Arr	46.50	192	P	P	09 04 18.0	+0.4
	4.4nm,0.6s,mb4.5,baz=10.0,slow=8.4,SNR=30						
FITZ	Fitzroy Crossi	47.07	203	P	P	09 04 22.3	+0.1
	5.3nm,0.7s,mb4.6,baz=9.7,slow=7.2,SNR=5.4						
MKAR	Makanchi Array	51.85	310	P	P	09 04 56.2	-2.3
	0.4nm,0.5s,mb3.6,baz=91,slow=10,SNR=5.1						
MKAR				PcP	PcP	09 06 11.3	0.0
	0.7nm,0.7s,baz=67,slow=9.2,SNR=4.2						
MKAR	Makanchi Array	51.85	310	P	P	09 04 56.2	-2.3
MKAR				PcP	PcP	09 06 11.3	0.0
ILAR	Eielson Array	58.21	28	P	P	09 05 45.5	+1.0
	1.0nm,0.7s,mb4.0,baz=263,slow=5.8,SNR=14						
BVAR	Borovoye Array	59.44	318	P	P	09 05 52.4	-0.8
	3.0nm,0.5s,mb4.6,baz=85,slow=6.7,SNR=18						
ARCES	ARCESS Array B	74.84	341	P	P	09 07 28.6	-1.2
	9.6nm,1.0s,mb4.7,baz=333,slow=11,SNR=3.8						
FINES	FINESS Array B	79.30	334	P	P	09 07 55.3	+0.4
	1.5nm,0.5s,mb4.2,baz=70,slow=5.3,SNR=9.7						
JMIC	Jan Mayen	81.22	351	P	P	09 08 07.7	+2.8
	90nm,0.4s,baz=156,slow=10,SNR=5.3						
PLCA	Paso Flores	148.45	126	PKPbc	PKPdf	09 15 39.8	+8.7
	1.0nm,0.7s,baz=282,slow=5.0,SNR=5.9						

*TRN **13** 08:58:53.3, 9.92N×64.31W, h139^{km}, MD3.7*
*NEIC **13** 08:59:08.2, 10.34N×63.08W, h25^{km}, MD3.7(TRN), MD3.1(CAR), After CAR.*
*FUNV **13** 08:59:08.2, 10.34N×63.08W, h25^{km}, MW2.6*
ISC 13 08:59:07.2±0.9, **10.33N**±0.06×**63.32W**±0.07, **h25**^{km}±12^{km}, **n11**, σ1^{s}**19**/20, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.36	13	*e*P	Pb	08 59 14.5	-0.5
CRUV				*e*S	Sb	08 59 20.4	-0.1
ITEV	Isla Los Testi	1.04	10	*e*P	Pn	08 59 27.0	+0.8
ITEV				*e*S	Sb	08 59 40.2	+0.5
GUIV	Guiria	1.12	73	*e*P	Pn	08 59 25.1	-2.3
GUIV				*e*S	Sb	08 59 37.6	-4.4
ORIV	Oritupano	1.25	184	*e*P	Pn	08 59 30.5	+1.3
ORIV				*e*S	Sn	08 59 47.6	+2.2
TRN	Trinidad (W)	1.91	80	*e*P	Pn	08 59 39.5	+0.8
TRN				*e*S	Sn	09 00 08.5	+6.4
TBH	Brigand Hill	2.22	86	*e*P	Pn	08 59 44.2	+1.1
TBH				*e*S	Sn	09 00 19.6	+10
GRW	Mount Saint Ca	2.44	42	*e*P	Pn	08 59 45.2	-1.1
GRW				*e*S	Sn	09 00 24.5	+8.9
GURV	El Guri	2.56	175	*e*P	Pn	08 59 47.6	-0.3
GURV				*e*S	Sn	09 00 15.8	-2.8
TPR	Prospect	2.64	71	*e*P	Pn	08 59 49.4	+0.3
BOT	Bacolet	2.69	72	*e*P	Pn	08 59 49.7	-0.1
CAOV	Caicara del Or	4.21	225	*e*P	Pn	09 00 12.2	+0.7
CAOV				*e*S	Sn	09 00 59.0	-1.3

NNC 13 09:04:08.4±13.0, **36.97N**×**69.59E**, **h239**^{km}±189^{km}, **mpv3.6**, **2C-3D**, **Error ellipse: s-maj=128.3km s-min=90.8km az=26.0**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.17	6	P	P	09 05 38.1	-0.9
	1.3nm,0.3s,baz=189,slow=13,SNR=81						
KK31				⇓S	S	09 06 50.7	+0.9
	1.6nm,0.5s,baz=181,slow=20,SNR=4.3						
AAK	Ala-Archa	6.80	32	⇑P	P	09 05 46.5	-0.5
	2.4nm,0.3s						
AAK				⇓S	S	09 07 05.3	+1.0
	3.8nm,0.8s						
AB31	Akbulak array	14.14	333	⇓P	P	09 07 21.1	+1.6
	0.5nm,0.4s,baz=162,slow=12,SNR=21						
AB31				⇑S	S	09 09 52.0	+1.2
	0.4nm,0.5s,baz=150,slow=24,SNR=2.6						

*THR **13** 09:19:21.5±0.3, 34.17N×52.07E, h18^{km}±15^{km}, ML2.7*
*CSEM **13** 09:19:21.8±0.1, 34.17N×52.08E, h16^{km}, ML3.1, Error ellipse: s-maj=3.3km s-min=1.5km az=77.0*
*TEH **13** 09:19:22.0, 34.15N×52.22E, h10^{km}, Mn3.1*
ISC 13 09:19:21.2±0.5, **34.13N**±0.03×**52.05E**±0.07, **h10**^{km}, **n18**, σ1^{s}**33**/21, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKLH	Kalahroud	0.90	206	Pg	Pg	09 19 39.3	0.0
IVRN	Varamin	0.90	343	Pg	Pg	09 19 39.0	-0.3
IVRN				Sg	Sg	09 19 50.9	-0.5
IZEF	Zefreh	1.25	169	Pg	Pg	09 19 45.9	-0.4
IDMV	Damavand	1.44	359	Pg	Pg	09 19 47.5	-2.5
ILAS	Lasjerd	1.45	31	Pn	Pn	09 19 48.6	+1.0
NASN	Na'in	1.47	154	*e*Pg	Pg	09 19 49.7	-0.9
NASN				*e*Sg	Sg	09 20 10.1	-0.1
DAMV	Damavand	1.50	357	*e*Pg	Pg	09 19 49.0	-2.1
DAMV				*e*Sg	Sg	09 20 09.2	-1.9
DAMV				AML	AML	09 20 11.5	
	comp=N,149nm,0.2s						
IFIR	Firoozkooh	1.61	21	Pn	Pn	09 19 49.1	-0.8
IFIR	Firoozkooh	1.61	21	Lg		09 20 10.6	
ASAO	Ashtian	1.73	284	*e*Pg	Pg	09 19 53.7	-2.0
ASAO				AML	AML	09 20 19.2	
	comp=N,45nm,0.3s						
IPIR	Pirpir	1.74	214	Pn	Pn	09 19 53.1	+1.3
IAFJ	Afjeh	1.74	351	Pn	Pn	09 19 52.6	+0.8
IAFJ	Afjeh	1.74	351	Lg		09 20 17.1	
IGAR	Garneh	1.89	176	Pn	Pn	09 19 52.8	-1.1
IMHD	Mahdasht	1.92	324	Pn	Pn	09 19 55.9	+1.5
IMHD				Sn	Sn	09 20 20.5	+1.7
ISHM	Shahmirzad	1.96	31	Pn	Pn	09 19 57.1	+2.3
IANJ	Anjiloo	2.03	48	Pn	Pn	09 19 57.9	+2.0
IGZV	Gazvin	2.70	327	Pn	Pn	09 20 06.5	+1.0
IGZV				Sn	Sn	09 20 39.2	+0.6

*NEIC **13** 09:57:22.8, 40.25S×174.28E, h83^{km}, ML3.8(WEL), After WEL.*
WEL 13 09:57:22.8±0.2, **40.25S**×**174.30E**, **h83**^{km}±2^{km}, **ML3.9**/17, **9C-5D**, **Error ellipse: s-maj=1.0km s-min=0.5km az=90.0**, **Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.62	207	⇑PN	P	09 57 37.7	-0.4
DUWZ				SN	S	09 57 49.2	-0.2
WAZ	Wanganui	0.73	47	⇓PN	P	09 57 39.0	-0.2
WAZ				SN	S	09 57 51.5	+0.1
WAZ	Wanganui	0.73	47	P	P	09 57 39.0	-0.2
KIW	Kapiti Island	0.77	143	⇑PN	P	09 57 38.8	-0.8
KIW				SN	S	09 57 51.2	-1.0
KIW	Kapiti Island	0.77	143	P	P	09 57 38.8	-0.9
KIW				S	S	09 57 51.2	-1.0
DFE	Dawson Falls	0.94	351	PN	P	09 57 41.3	-0.2
DFE	Dawson Falls	0.94	351	P	P	09 57 41.3	-0.2
NRZ	Ngariki Road	0.96	343	PN	P	09 57 41.1	-0.6
NRZ	Ngariki Road	0.96	343	P	P	09 57 41.2	-0.5
TCW	Tory Channel	0.96	181	⇑PN	P	09 57 41.4	-0.3
TCW				SN	S	09 57 55.2	-0.8
TCW	Tory Channel	0.96	181	P	P	09 57 41.4	-0.3
RAEZ	Rainy Point	0.97	4	PN	P	09 57 41.8	0.0
RAEZ	Rainy Point	0.97	4	P	P	09 57 41.5	-0.3
NEZ	North Egmont	0.99	351	⇑PN	P	09 57 41.6	-0.6
NEZ	North Egmont	0.99	351	P	P	09 57 41.6	-0.6
MRW	Makara Radio	1.02	163	PN	P	09 57 42.0	-0.4
MRW	Makara Radio	1.02	163	P	P	09 57 42.2	-0.3
NWEZ	Newall Road	1.03	341	⇓PN	P	09 57 42.2	-0.4
NWEZ	Newall Road	1.03	341	P	P	09 57 42.2	-0.4
CAW	Cannon Point	1.04	146	PN	P	09 57 42.1	-0.6
CAW	Cannon Point	1.04	146	P	P	09 57 42.1	-0.6
MRZ	Mangatainoka R	1.06	113	*e*PN	P	09 57 42.0	-0.9
MRZ				SN	S	09 57 58.4	+0.3
MRZ	Mangatainoka R	1.06	113	*e*P	P	09 57 42.8	-0.2
PKE	Pukeiti	1.08	347	⇓PN	P	09 57 42.6	-0.6
PKE	Pukeiti	1.08	347	P	P	09 57 42.6	-0.6
WEL	Wellington	1.09	161	PN	P	09 57 43.9	+0.5
WEL	Wellington	1.09	161	P	P	09 57 43.9	+0.6
SNZO	South Karori	1.10	164	PN	P	09 57 43.1	-0.3
SNZO	South Karori	1.10	164	P	P	09 57 43.2	-0.2
VRZ	Vera Road	1.18	18	⇓PN	P	09 57 44.1	-0.4
VRZ				SN	S	09 57 60.0	-0.9
VRZ	Vera Road	1.18	18	P	P	09 57 44.1	-0.4
NNZ	Nelson	1.19	216	⇑PN	P	09 57 44.3	-0.3
NNZ				SN	S	09 58 00.9	-0.1
NNZ	Nelson	1.19	216	P	P	09 57 44.3	-0.3
TUWZ	Tuamarina	1.21	193	⇑PN	P	09 57 44.2	-0.7
BHW	Baring Head	1.23	160	PN	P	09 57 44.6	-0.5
BHW	Baring Head	1.23	160	P	P	09 57 44.6	-0.6
BHW				S	S	09 58 04.7	+2.7
MTVZ	Mangateitei	1.25	47	PN	P	09 57 45.3	-0.1
MTVZ				SN	S	09 58 02.4	0.0
PKVZ	Pokaka	1.26	40	⇓PN	P	09 57 45.1	-0.4
PKVZ				SN	S	09 58 02.1	-0.4
MTW	Mount Morrison	1.29	135	PN	P	09 57 45.4	-0.5
MTW	Mount Morrison	1.29	135	P	P	09 57 45.7	-0.2
TSZ	Takapari Road	1.29	82	PN	P	09 57 45.0	-0.9
TSZ	Takapari Road	1.29	82	P	P	09 57 45.0	-0.9
TSZ				S	S	09 58 00.6	-2.7
TRVZ	Turoa	1.35	46	PN	P	09 57 46.4	-0.4
TRVZ				SN	S	09 58 04.1	-0.5
WNVZ	Wahianoa	1.36	48	PN	P	09 57 46.4	-0.6
WNVZ	Wahianoa	1.36	48	P	P	09 57 46.5	-0.5
MSWZ	Moikau Station	1.37	148	PN	P	09 57 46.2	-0.8
MSWZ	Moikau Station	1.37	148	P	P	09 57 46.4	-0.6
DRZ	Dome Shelter	1.38	45	PN	P	09 57 47.2	+0.1
DRZ	Dome Shelter	1.38	45	P	P	09 57 47.4	+0.2
FWVZ	Far West T-bar	1.39	45	PN	P	09 57 46.7	-0.6
MOVZ	Moawhango	1.40	53	⇑PN	P	09 57 46.7	-0.7
MOVZ				SN	S	09 58 03.8	-1.9
MOVZ	Moawhango	1.40	53	P	P	09 57 46.7	-0.8
PAWZ	Paruwai Farm	1.42	143	PN	P	09 57 46.9	-0.8
WPVZ	Whakapapa	1.42	43	PN	P	09 57 47.2	-0.5
CNZ	Chateau	1.43	43	PN	P	09 57 47.2	-0.6
CNZ	Chateau	1.43	43	P	P	09 57 47.2	-0.6
TUVZ	Tukino	1.44	47	PN	P	09 57 47.5	-0.4
TUVZ	Tukino	1.44	47	P	P	09 57 47.5	-0.4
QRZ	Quartz Range	1.46	246	PN	P	09 57 46.9	-1.3
QRZ				SN	S	09 58 05.0	-2.1
QRZ	Quartz Range	1.46	246	P	P	09 57 46.9	-1.3
QRZ				S	S	09 58 05.1	-2.0
TWVZ	Taurewa	1.47	37	PN	P	09 57 47.7	-0.6
TWVZ				SN	S	09 58 06.4	-0.9
TWVZ	Taurewa	1.47	37	P	P	09 57 47.7	-0.7
NGZ	Ngauruhoe	1.47	43	PN	P	09 57 47.6	-0.7
NGZ	Ngauruhoe	1.47	43	P	P	09 57 47.6	-0.8
BSWZ	Blackbirch Sta	1.49	192	PN	P	09 57 48.8	+0.2
BSWZ				*e*SN	S	09 58 07.2	-0.5
BSWZ	Blackbirch Sta	1.49	192	P	P	09 57 48.8	+0.2
CMWZ	Cape Campbell	1.50	182	*e*PN	P	09 57 49.1	+0.5
CMWZ	Cape Campbell	1.50	182	P	P	09 57 49.1	+0.5
WTVZ	West Tongariro	1.51	42	PN	P	09 57 48.2	-0.6
WTVZ	West Tongariro	1.51	42	P	P	09 57 48.2	-0.7
OTVZ	Oturere	1.52	45	PN	P	09 57 48.5	-0.4
BFZ	Birch Farm	1.55	107	*e*PN	P	09 57 48.4	-0.9
BFZ				SN	S	09 58 05.7	-3.2
BFZ	Birch Farm	1.55	107	*e*P	P	09 57 48.4	-0.9
KRVZ	Karewarewa	1.55	42	PN	P	09 57 48.7	-0.7
TRWZ	Traveller	1.56	138	PN	P	09 57 49.6	+0.1
KATZ	Kakaramea	1.67	41	PN	P	09 57 50.4	-0.5
KATZ	Kakaramea	1.67	41	P	P	09 57 50.4	-0.5
HIZ	Hauiti	1.79	14	PN	P	09 57 51.5	-1.0
HIZ				SN	S	09 58 12.9	-1.5
HIZ	Hauiti	1.79	14	P	P	09 57 51.5	-1.0
RATZ	Rangitukua	1.79	40	PN	P	09 57 51.6	-0.9
RATZ	Rangitukua	1.79	40	P	P	09 57 52.5	0.0
THZ	Tophouse	1.84	214	PN	P	09 57 53.0	-0.1
THZ	Tophouse	1.84	214	P	P	09 57 53.2	0.0
WATZ	Wairara	1.90	36	PN	P	09 57 53.7	-0.3
WATZ	Wairara	1.90	36	P	P	09 57 53.7	-0.3
BKZ	Black Stump Fm	2.01	58	PN	P	09 57 53.9	-1.6
BKZ	Black Stump Fm	2.01	58	P	P	09 57 54.3	-1.2
KHZ	Kahutara	2.24	195	⇑PN	P	09 57 57.8	-0.8
KHZ	Kahutara	2.24	195	P	P	09 57 57.8	-0.8
DSZ	Denniston Nort	2.41	231	⇑PN	P	09 57 59.8	-1.1
DSZ	Denniston Nort	2.41	231	P	P	09 57 59.8	-1.2
LTZ	Lake Taylor	2.95	210	*e*P	P	09 58 06.5	-2.1
URZ	Urewera	2.96	49	P	P	09 58 05.2	-3.4
MWZ	Matawai	3.15	54	*e*P	P	09 58 07.4	-4.0
MKAZ	Moumakai	3.21	13	P	P	09 58 10.6	-1.6
WTAZ	Waiatarua	3.32	4	P	P	09 58 12.6	-1.1
OTAZ	Otara	3.33	9	P	P	09 58 12.7	-1.2
KAAZ	Kauri Point	3.44	5	P	P	09 58 14.4	-0.9
MTAZ	Motutapu	3.49	8	P	P	09 58 14.7	-1.4
MQZ	McQueen's Vall	3.66	199	*e*P	P	09 58 14.7	-3.7
KUZ	Kuaotunu	3.67	18	P	P	09 58 16.5	-2.1
PUZ	Puketiti	3.77	56	*e*P	P	09 58 15.3	-4.6
WVZ	Waitaha Valley	3.88	222	*e*P	P	09 58 19.9	-1.6
RPZ	Rata Peaks	4.22	214	*e*P	P	09 58 24.1	-2.0
WCZ	Waipu Caves	4.31	1	*e*P	P	09 58 25.3	-2.0
FOZ	Fox Glacier	4.77	225	*e*P	P	09 58 29.2	-4.6
ODZ	Otahua Downs	5.49	208	*e*P	P	09 58 40.4	-3.2
JCZ	Jackson Bay	5.61	225	*e*P	P	09 58 41.5	-3.8

ISC 13 10:12:07.9±0.8, **37.35N**±0.07×**38.87E**±0.05, **h10**^{km}, **n8**, σ1^{s}**22**/14, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.10	336	PG	Pg	10 12 09.7	-0.9
ATAB	Bozova	0.48	285	*i* P	Pg	10 12 15.1	-2.5
ATAB				*i* S	Sg	10 12 24.4	+0.3
MYA	Malataya	1.04	340	*e*PN	Pn	10 12 27.6	-0.9
MYA				*e*SN	Sn	10 12 43.1	0.0
ELZG	Elazig	1.15	4	*i* P	Pb	10 12 30.7	+1.2
ELZG				*i* S	Sb	10 12 49.4	+5.1
MARD	Mardin	1.52	91	*i* P	Pn	10 12 33.6	-1.7
MARD				*i* S	Sb	10 12 56.3	+1.4
PTK	Pertek	1.60	15	*e*PN	Pn	10 12 36.5	+0.1
KAHT	Ahir Dag	1.62	281	*i* P	Pn	10 12 36.7	0.0
KAHT				*i* S	Sn	10 13 00.4	+2.7
COBT	Iskenderun	2.25	249	*i* P	Pn	10 12 46.1	+0.3
COBT				*i* S	Sn	10 13 19.1	+5.1

*ATH **13** 10:23:14.4, 38.91N×21.10E, h21^{km}±1^{km}, MD3.6/5*
*NEIC **13** 10:23:14.7, 38.93N×21.15E, h15^{km}, MD3.6(ATH), After ATH.*
*THE **13** 10:23:15.8, 38.73N×21.08E, h20^{km}, ML3.2*
*CSEM **13** 10:23:15.4±0.1, 38.93N×21.14E, h2^{km}, ML3.2, Error ellipse: s-maj=1.9km s-min=1.6km az=89.0*
ISC 13 10:23:14.8±0.7, **38.86N**±0.03×**21.16E**±0.04, **h10**^{km}±5^{km}, **n24**, σ1^{s}**08**/43, **1C-3D**, **Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.43	250	*e*Pg	Pg	10 23 23.7	+0.1
	comp=Z,36nm,0.2s						
LKD				*e*Sg	Sg	10 23 32.0	+2.6
EVR	Evrytania	0.51	83	⇓*i*PN	Pn	10 23 25.4	-2.4
EVR				*e*SN	Sn	10 23 33.3	-3.2
EVR	Evrytania	0.51	83	⇓*i*Pn	Pn	10 23 25.4	-2.4
EVR				*e*Sn	Sn	10 23 32.3	-4.2
VLS	Valsamata	0.82	214	⇓*i*Pn	Pn	10 23 30.6	-1.6
VLS				*e*Sn	Sn	10 23 44.5	+0.1
JAN	Janina	0.83	343	⇑*i*PN	Pn	10 23 29.3	-3.2
JAN				*e*SN	Sn	10 23 40.1	-4.7
RLS	Riolos of Patr	0.83	163	*e*Pn	Pn	10 23 32.2	-0.3
RLS				*e*Sn	Sn	10 23 45.2	+0.3
AGG	Agios Georgios	0.92	79	*e*Pg	Pg	10 23 32.7	-0.6
	comp=Z,24nm,0.3s						
AGG				*e*Sg	Sg	10 23 46.6	+0.8
KEK	Kerkira	1.36	309	*e*PN	Pn	10 23 39.6	-0.4
LKR	Lokris	1.45	98	*e*PN	Pn	10 23 42.6	+1.3
KZN	Kozani	1.52	18	*e*PN	Pn	10 23 41.4	-0.9
KZN				*e*SN	Sn	10 24 02.0	-0.3
LIT	Litokhoron	1.61	39	*e*Pb	Pb	10 23 43.3	-0.9
	comp=Z,6.0nm,0.4s						
LIT				*e*Sb	Sb	10 24 04.3	-0.2
LIT	Litokhoron	1.61	39	*e*Pb	Pb	10 23 43.3	-1.0
	6.0nm,0.4s						
LIT				*e*Sb	Sb	10 24 04.3	-0.3
XOR	Xorichti	1.66	72	*e*Pb	Pb	10 23 44.7	-0.3
XOR				*e*Sb	Sb	10 24 06.3	+0.4
XOR	Xorichti	1.66	72	*e*Pb	Pb	10 23 44.7	-0.4
XOR				*e*Sb	Sb	10 24 06.3	+0.4
NEO	Neokhori	1.66	74	*e*PN	Pn	10 23 45.3	+1.0
NEO				*e*SN	Sn	10 24 07.3	+1.4
ITM	Ithomi	1.78	160	*e*Pn	Pn	10 23 48.5	+2.5
ITM				*e*Sn	Sn	10 24 13.4	+4.5
FNA	Florina	1.93	5	*e*Pn	Pn	10 23 48.0	-0.2
	comp=Z,2.9nm,0.3s						
FNA				*e*Sn	Sn	10 24 13.2	+0.5
AOS	Alonnisos	2.14	81	*e*Pn	Pn	10 23 50.7	-0.4
AOS				*e*Sn	Sn	10 24 17.4	-0.6
PAIG	Paliouri	2.22	61	*e*Pn	Pn	10 23 51.6	-0.8
GRG	Griva	2.30	24	*e*Pn	Pn	10 23 53.6	+0.1
GRG				*e*Sn	Sn	10 24 23.2	+1.0
VLI	Veliai	2.56	146	*e*PB	Pb	10 23 59.0	-1.5
OUR	Ouranopolis	2.63	55	*e*Pn	Pn	10 23 58.3	+0.2
	comp=Z,1.9nm,0.3s						
OUR				*e*Sn	Sn	10 24 31.1	+0.6
KNT	Kendrikon	2.66	30	*e*Pn	Pn	10 23 58.2	-0.3
	comp=Z,1.7nm,0.3s						
KNT				*e*Sn	Sn	10 24 31.6	+0.4
SKO	Skopje	3.12	4	*e*Pn	Pn	10 24 08.0	+2.9

*IDC **13** 10:36:08.9±3.2, 4.56S×102.22E, mb4.1/6, mb1 4.2/6, mb1mx3.9/16, mbtmp4.1/6, Error ellipse: s-maj=143.4km s-min=19.0km az=55.0*
*NEIC **13** 10:36:13.4±2.2, 4.53S×102.27E, h30^{km}, Error ellipse: s-maj=99.5km s-min=13.0km az=55.0*
ISC 13 10:36:11.5±3.0, **4.6S**±0.5×**102.2E**±0.8, **h33**^{km}, **n7**, σ0^{s}**67**/6, **mb4.1**/6, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	26.59	122	P	P	10 41 49.0	+0.1
	2.8nm,0.5s,mb4.1,baz=332,slow=5.9,SNR=10						
WRA	Warramunga Arr	34.83	119	P	P	10 43 00.9	-0.8
	0.3nm,0.3s,mb3.8,baz=322,slow=11,SNR=14						
STKA	Stephens Creek	45.83	131	P	P	10 44 33.0	+0.6
	1.0nm,0.4s,mb4.1,baz=352,slow=11,SNR=4.4						
SONM	Songino Array	52.29	4	P	P	10 45 22.5	+0.5
	1.8nm,0.8s,mb4.1,baz=182,slow=9.1,SNR=10						
MKAR	Makanchi Array	54.07	343	P	P	10 45 35.0	-0.2
	1.7nm,0.4s,mb4.3,baz=150,slow=8.1,SNR=18						
ZAL	Zalesovo	60.07	348	P	P	10 46 17.4	-0.3
	1.9nm,0.4s,mb4.4,baz=168,slow=19,SNR=4.2						
TXAR	Lajitas Array	145.25	42	PKPbc	PKPbc	10 55 48.9	+1.9
	0.9nm,0.5s,baz=301,slow=0.7,SNR=25						

MAN 13 12:04:29.7, **11.09N**×**122.23E**, **h1**^{km}, **mb3.9**, **ML2.6**, **MS2.2**, **1D**, **Panay**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCP	Roxas	0.69	47	⇓*e*P	Pg	12 04 46.3	+2.8
RCP				*e*S	Sg	12 04 58.1	+5.4
OTRP	Odiongan	1.29	351	*e*P	Pb	12 04 55.1	+0.8
OTRP				*e*S	Sb	12 05 13.2	+1.9

*IDC **13** 12:25:02.9±2.0, 17.60S×178.82W, h536^{km}±25^{km}, mb3.1/7, mb1 3.4/9, mb1mx3.3/16, mbtmp4.1/9, Error ellipse: s-maj=48.4km s-min=14.7km az=151.0*
*NEIC **13** 12:25:03.1±1.0, 17.61S×178.80W, h541^{km}±13^{km}, Error ellipse: s-maj=44.9km s-min=11.4km az=153.0*
ISC 13 12:25:02.4±1.4, **17.5S**±0.4×**178.9W**±0.2, **h539**^{km}±20^{km}, **n13**, σ0^{s}**75**/11, **mb3.5**/7, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.69	63	P	P	12 26 57.2	-0.4
	4.8nm,0.3s,baz=182,slow=19,SNR=5.7						
AFI	Afiamalu	7.69	63	P	P	12 26 57.2	-0.4
AFI				*e*P		12 26 57.5	
DZM	Mont Dzumac	14.57	249	P	P	12 28 08.8	+1.2
	0.9nm,0.3s,baz=85,slow=18,SNR=14						
STKA	Stephens Creek	38.47	241	P	P	12 31 39.0	-0.4
	3.0nm,0.5s,mb4.1,baz=86,slow=9.1,SNR=11						
STKA	Stephens Creek	38.47	241	*e*P	P	12 31 38.8	-0.5
STKA				P		12 31 39.0	
WRA	Warramunga Arr	44.30	259	P	P	12 32 24.8	-1.2
	0.5nm,0.5s,mb3.3,baz=93,slow=7.1,SNR=13						
MJAR	Matsushiro Arr	67.33	324	P	P	12 35 05.9	+0.4
	1.8nm,0.7s,mb3.7,baz=160,slow=6.6,SNR=4.9						
YBH	Yreka Blue Hor	78.47	39	P	P	12 36 09.5	+0.7
	0.6nm,0.5s,mb3.2,baz=186,slow=9.2,SNR=3.1						
ILAR	Eielson Array	85.58	13	P	P	12 36 43.1	-1.0
	0.5nm,0.4s,mb3.5,baz=222,slow=5.1,SNR=22						
TXAR	Lajitas Array	86.13	58	P	P	12 36 48.1	+0.5
	0.4nm,0.6s,mb3.2,baz=215,slow=6.1,SNR=5.9						
PDAR	Pinedale Array	87.34	44	P	P	12 36 53.0	+0.1
	0.6nm,0.6s,mb3.4,baz=235,slow=3.8,SNR=5.8						
BRTR	Keskin Array B	144.20	315	PKP	PKPdf	12 43 37.7	+1.0
	0.8nm,0.5s,baz=135,slow=1.7,SNR=4.8						
GERES	GERESS Array B	147.11	345	PKPbc	PKPdf	12 43 45.7	+4.4
	1.1nm,0.5s,baz=45,slow=1.9,SNR=9.8						

IDC 13 12:54:30.3±4.9, **13.17N**×**143.51E**, **h102**^{km}±43^{km}, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.1**/18, **mbtmp3.6**/3, **Error ellipse: s-maj=81.8km s-min=24.0km az=113.0**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.38	72	P	P	12 54 55.1	-0.7
	27nm,0.3s,baz=236,slow=3.6,SNR=22						
GUMO				S	S	12 55 14.2	-0.5
	72nm,0.3s,baz=126,slow=23,SNR=23						
WRA	Warramunga Arr	34.12	196	P	P	13 01 06.7	-0.8
	0.4nm,0.7s,baz=12,slow=8.7,SNR=12						
STKA	Stephens Creek	44.83	182	P	P	13 02 32.5	-3.5
	1.4nm,0.6s,baz=5.7,slow=10,SNR=5.4						
ILAR	Eielson Array	69.51	25	P	P	13 05 27.8	-1.8
	0.2nm,0.5s,baz=245,slow=5.4,SNR=4.1						

*IDC **13** 13:11:43.1±0.6, 9.21S×158.94E, mb4.4/10, mb1 4.5/12, mb1mx4.4/16, mbtmp4.3/12, ML4.0/2, MS4.0/7, Ms1 3.9/7, ms1mx3.7/19, Error ellipse: s-maj=18.5km s-min=15.6km az=16.0*
*BJI **13** 13:11:48.9, 9.30S×158.90E, h42^{km}, mB5.0, mb4.6, Ms4.7*
*NEIC **13** 13:11:48.9±0.4, 9.29S×158.91E, h40^{km}, mb4.6/7, Error ellipse: s-maj=12.6km s-min=10.1km az=145.0*
ISC 13 13:11:46.6±0.4, **9.28S**±0.08×**158.85E**±0.05, **h33**^{km}, **n35**, σ1^{s}**03**/26, **mb4.4**/18, **MS4.0**/6, **2D**, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.09	98	Pn	Pn	13 12 04.1	-1.6
	2μm,0.3s,baz=240,slow=4.4,SNR=264						
HNR				Sn	Sn	13 12 19.4	-0.5
	3μm,0.3s,baz=270,slow=20,SNR=26						
PMG	Port Moresby	11.54	268	LR	LR	13 18 42.6	
	comp=Z,1μm,20.4s,baz=96,slow=36						
DZM	Mont Dzumac	14.66	151	Pn	P	13 15 13.4	-0.2
	0.2nm,0.3s,baz=341,slow=18,SNR=4.2						
DZM				LR	LR	13 20 08.5	
	comp=Z,563nm,18.1s,baz=24,slow=34						
DZM	Mont Dzumac	14.66	151	Pn	P	13 15 13.4	-0.2
DZM				LR	LR	13 20 08.4	
CTA	Charters Tower	16.23	227	Pn	P	13 15 33.1	-0.8
	0.7nm,0.3s,baz=40,slow=14,SNR=3.4						
WRAB	Tennant Creek	25.93	243	*e*P	P	13 17 18.1	+0.2
	16nm,0.8s,mb4.6						

WB2	**Warramunga Arr**	**25.93**	**243**	⇓*i*P	**P**	**13 17 17.8**	**-0.1**
WRA	**Warramunga Arr**	**25.94**	**243**	P	**P**	**13 17 17.8**	**-0.2**
	11nm,0.8s,mb4.4,baz=69,slow=9.9,SNR=39						
KAKA	**Kakadu**	**26.14**	**260**	⇓*i*P	Px	13 17 41.5	
	8.3nm,0.6s						
STKA	**Stephens Creek**	**27.60**	**213**	*e*P	**P**	**13 17 33.8**	**+0.7**
	3.1nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**27.60**	**213**	P	**P**	**13 17 32.7**	**-0.4**
	6.5nm,0.8s,mb4.3,baz=48,slow=16,SNR=11						
STKA				LR	LR	13 28 40.3	
	comp=Z,435nm,18.4s,MS4.1,baz=29,slow=37						
ASPA	**Alice Springs**	**27.81**	**236**	*e*P	**P**	**13 17 35.1**	**0.0**
AFI	**Afiamalu**	**29.12**	**102**	LR	LR	13 26 55.9	
	comp=Z,303nm,19.5s,MS3.9,baz=184,slow=31						
URZ	**Urewera**	**33.20**	**153**	LR	LR	13 27 51.7	
	comp=Z,48nm,21.1s,MS3.2,baz=180,slow=29						
FITZ	**Fitzroy Crossi**	**33.39**	**251**	*e*P	**P**	**13 18 23.7**	**-0.7**
	5.9nm,0.9s,mb4.5						
MJAR	**Matsushiro Arr**	**49.54**	**338**	P	**P**	**13 20 34.5**	**-2.0**
	0.7nm,0.7s,mb3.8,baz=172,slow=8.2,SNR=2.7						
PPT	**Papeete**	**50.70**	**105**	LR	LR	13 38 24.4	
	comp=Z,213nm,21.9s,MS4.1,baz=291,slow=32						
HHC	**Hu-ho-hao-te**	**66.20**	**322**	*e*P	**P**	**13 22 37.6**	**+4.2**
HHC				AP	pP	13 22 50.5	+6.8
HHC				XP	sP	13 22 55.8	+8.4
HHC				PCP	PcP	13 23 07.1	+3.7
HHC				SCP		13 27 04.4	
HHC				S	S	13 31 23.8	+5.3
HHC				SCS	ScS	13 32 26.8	+3.3
HHC				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,93nm,4.3s						
HHC				LR	LR		
	comp=N,133nm,10.7s,MS4.5						
HHC				LR	LR		
	comp=E,113nm,11.9s,MS4.5						
VNDA	**Vanda**	**68.23**	**179**	P	**P**	**13 22 46.3**	**+0.7**
	comp=E,4.6nm,0.7s,mb4.6,baz=337,slow=6.4,SNR=36						
GTA	**Gaotai**	**73.02**	**316**	*e*P	**P**	**13 23 12.5**	**-2.7**
GTA				AP	pP	13 23 16.5	-9.0
GTA				XP	sP	13 23 20.0	-9.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**73.33**	**326**	P	**P**	**13 23 17.9**	**+1.1**
	comp=Z,6.5nm,0.8s,mb4.6,baz=141,slow=6.0,SNR=28						
QSPA	**South Pole Qui**	**80.71**	**180**	*e*P	**P**	**13 23 59.0**	**+1.5**
	comp=Z,16nm,1.1s,mb4.9						
MCK	**McKinley**	**82.78**	**21**	*e*P	**P**	**13 24 08.4**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**84.13**	**20**	P	**P**	**13 24 14.5**	**-0.8**
	comp=Z,1.7nm,0.9s,mb4.2,baz=266,slow=5.5,SNR=10						
MKAR	**Makanchi Array**	**87.64**	**318**	P	**P**	**13 24 33.3**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.5,baz=104,slow=5.9,SNR=2.3						
BMO	**Blue Mountains**	**92.14**	**45**	*e*P	**P**	**13 24 54.9**	**+0.8**
	comp=Z,4.4nm,1.4s,mb4.6						
ELK	**Elko**	**92.91**	**49**	P	**P**	**13 24 59.1**	**+1.3**
	comp=Z,1.1nm,0.8s,mb4.3,baz=231,slow=5.2,SNR=5.6						
HLID	**Hailey**	**93.97**	**47**	*e*P	**P**	**13 25 04.6**	**+2.0**
	comp=Z,5.4nm,1.3s,mb4.8						
BVAR	**Borovoye Array**	**96.42**	**323**	P	**P**	**13 25 12.9**	**-0.5**
	comp=Z,1.2nm,0.7s,mb4.4,baz=104,slow=6.1,SNR=5.7						
YKA	**Yellowknife Ar**	**96.56**	**28**	LR	LR	14 06 15.2	
	comp=Z,56nm,20.1s,MS4.0,baz=325,slow=34						
PDAR	**Pinedale Array**	**97.39**	**48**	P	**P**	**13 25 19.1**	**+0.9**
	comp=Z,0.5nm,0.9s,mb4.0,baz=280,slow=5.5,SNR=4.3						
NB2	**NORSAR Subarra**	**123.08**	**342**	PKPdf	PKPdf	13 30 40.9	+1.1
	comp=Z,1.0nm,0.7s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**123.08**	**342**	PKP	PKPdf	13 30 40.6	+0.9
	comp=Z,1.2nm,0.7s,baz=44,slow=2.0,SNR=4.4						
LPAZ	**La Paz**	**127.02**	**118**	PKP	PKPdf	13 30 51.6	+3.1
	comp=Z,1.1nm,0.7s,baz=252,slow=4.0,SNR=4.2						
GERES	**GERESS Array B**	**130.95**	**330**	PKP	PKPdf	13 30 57.0	+1.8
	comp=Z,0.9nm,0.7s,baz=45,slow=1.9,SNR=7.3						

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*NNC **13** 13:19:58.8±6.7, 43.05N×84.98E, mpv3.5, Error ellipse: s-maj=58.0km s-min=26.2km az=133.0*
*BJI **13** 13:20:12.6, 43.77N×84.55E, h7km, mb4.0, ML3.7*
*IDC **13** 13:20:17.0±1.6, 44.34N×84.96E, mb3.5/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=38.2km s-min=16.1km az=51.0*
ISC 13 13:20:18.3±0.8**, 44.6N**±0.1×**85.0E**±0.1**, h10km, n9, σ1s53**/12**, mb3.3**/1**, 2C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.07**	**112**	P	**Pn**	**13 20 51.5**	**-2.1**
WMQ				S	**Sn**	**13 21 21.8**	**+2.2**
WMQ				Smax			
	comp=N,220nm,0.3s						
WMQ				Smax			
	comp=E,260nm,0.3s						
MK31	**Makanchi Array**	**2.90**	**319**	⇓Pn	**Pn**	**13 21 07.1**	**+1.7**
	comp=E,1.1nm,0.2s,baz=149,slow=14,SNR=190						
MK31				⇓Pg	**Pg**	**13 21 15.5**	**-0.7**
	comp=E,7.7nm,0.3s,baz=146,slow=16,SNR=41						
MK31				⇓Sn	**Sg**	**13 21 59.9**	**+4.9**
	comp=E,28nm,0.4s,baz=140,slow=30,SNR=5.5						
MKAR	**Makanchi Array**	**2.90**	**319**	Pn	**Pn**	**13 21 07.3**	**+1.8**
	comp=E,2.7nm,0.3s,baz=146,slow=16,SNR=123						
MKAR				Pg	**Pg**	**13 21 15.9**	**-0.4**
	comp=E,11nm,0.3s,baz=146,slow=17,SNR=73						
MKAR				Lg		13 21 58.0	
	comp=E,19nm,0.3s,baz=143,slow=28,SNR=10						
KURK	**Kurchatov**	**7.48**	**327**	⇑Pn	**Pn**	**13 22 08.8**	**-1.4**
	comp=E,1.0nm,0.8s						
KURK				⇓Lg		13 24 34.3	
	comp=E,7.5nm,0.7s						
AAK	**Ala-Archa**	**7.90**	**259**	⇓Pg	**Pn**	**13 22 17.3**	**+1.2**
	comp=E,2.6nm,0.8s						
AAK				⇓Lg		13 24 02.7	
	comp=E,7.6nm,0.7s						
ZAL	**Zalesovo**	**9.33**	**359**	Pn	**P**	**13 22 36.9**	**+1.0**
	comp=E,0.9nm,0.3s,baz=280,slow=9.2,SNR=4.3						
KK31	**Karatay Array**	**10.60**	**267**	⇑Lg		13 25 34.0	
	comp=E,2.7nm,0.7s,baz=70,slow=26,SNR=4.2						
BVAR	**Borovoye Array**	**12.78**	**316**	Pn	**P**	**13 23 20.5**	**-2.2**
	comp=E,0.2nm,0.3s,baz=122,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**78.42**	**133**	P	**P**	**13 32 19.7**	**-1.1**
	comp=E,0.3nm,0.7s,mb3.3,baz=332,slow=5.2,SNR=5.1						

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*NEIC **13** 13:36:24.0±0.7, 36.48N×71.26E, h192km±7km, mb4.6/20, Error ellipse: s-maj=7.8km s-min=4.0km az=49.0*
*MOS **13** 13:36:23.0±0.8, 36.49N×71.21E, h197km, mb4.3/14, Error ellipse: s-maj=10.8km s-min=5.4km az=91.2*
*BJI **13** 13:36:24.8, 36.64N×71.18E, h205km, mB4.9, mb4.5*
*IDC **13** 13:36:27.8±3.5, 36.53N×71.26E, h228km±33km, mb3.8/16, mb1 4.0/19, mb1mx4.0/22, mbtmp4.5/19, MS3.8/1, Ms1 3.8/1, ms1mx2.8/27, Error ellipse: s-maj=15.4km s-min=11.4km az=15.0*
*NNC **13** 13:36:29.5±4.9, 36.97N×70.74E, h200km±34km, mpv4.4, Error ellipse: s-maj=39.7km s-min=32.7km az=25.0*
ISC 13 13:36:23.1±0.3**, 36.47N**±0.02×**71.18E**±0.04**, h199km**±4km**, h209km**±4.8km**:pP-P, n125, σ0s94**/153**, mb4.1**/35**, 16C-15D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.70**	**167**	⇓P	**P**	**13 37 11.1**	**+1.4**
CHCP	**Chirah Chowk**	**3.28**	**148**	⇓P	**P**	**13 37 18.0**	**+1.4**
THW	**Thamme Wali**	**3.69**	**173**	⇑P	**P**	**13 37 22.5**	**+0.8**
SBDP	**Sheikh Budin**	**4.17**	**184**	⇓P	**P**	**13 37 27.6**	**0.0**
SARP	**Sargodha**	**4.70**	**164**	⇓P	**P**	**13 37 34.4**	**+0.1**
SARP				S	**S**	**13 38 27.0**	**-2.5**
KSH	**Kashi**	**4.86**	**50**	P	**P**	**13 37 38.1**	**+1.7**
KSH				S	**S**	**13 38 33.6**	**+0.4**
KSH				Smax			
	comp=N,700nm,0.3s						
KSH				Smax			
	comp=E,980nm,0.4s						
AML	**Almayashu**	**5.98**	**18**	P	**P**	**13 37 51.3**	**+0.4**
	SNR=174						
UCH	**Uchtor**	**6.31**	**23**	P	**P**	**13 37 55.7**	**+0.6**
	SNR=20						
KZA	**Kyzart**	**6.43**	**28**	P	**P**	**13 37 56.6**	**-0.1**
	SNR=68						
EKS2	**Erkin-Say**	**6.50**	**17**	P	**P**	**13 37 58.0**	**+0.3**
	SNR=42						
KK31	**Karatay Array**	**6.65**	**356**	⇓P	**P**	**13 37 59.1**	**-0.4**
	comp=E,11nm,0.3s,baz=190,slow=14,SNR=201						
KK31				⇓S	**S**	**13 39 09.1**	**-5.6**
	comp=E,372nm,0.6s						
KK31	**Karatay Array**	**6.65**	**356**	⇓P	**P**	**13 37 59.1**	**-0.4**
	comp=E,11nm,0.3s						
KK31				S	**S**	**13 39 09.1**	**-5.6**
KKAR	**Karatay Array**	**6.65**	**356**	PN	**P**	**13 37 59.0**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.2s						
AAK	**Ala-Archa**	**6.67**	**22**	P	**P**	**13 38 00.5**	**+0.7**
	SNR=46						
AAK	**Ala-Archa**	**6.67**	**22**	⇑*e*P	**P**	**13 37 59.3**	**-0.5**
	comp=Z,38nm,0.6s						
AAK				*e*Sn	**S**	**13 39 14.0**	**-1.2**
AAK	**Ala-Archa**	**6.67**	**22**	⇑*e*PN	**P**	**13 37 59.3**	**-0.5**
AAK				*e*		13 39 14.0	
AAK				pmax	pmax		
	comp=Z,38nm,0.6s						
KBK	**Karagaybulak**	**6.83**	**24**	P	**P**	**13 38 02.9**	**+0.9**
	SNR=9.4						
FRU	**Bishkek**	**6.89**	**22**	*e*PN	**P**	**13 38 03.0**	**+0.3**
FRU				*i* S	**S**	**13 39 20.0**	**-0.3**
FRU				pmax	pmax		
	comp=Z,50nm,0.7s						
FRU				smax			
	comp=E,280nm,1.8s						
ULHL	**Ulahol**	**6.98**	**33**	P	**P**	**13 38 04.1**	**+0.3**
	SNR=23						
CHMS	**Chumysh**	**7.08**	**22**	P	**P**	**13 38 05.4**	**+0.2**
	SNR=18						
USP	**Ospenovka**	**7.26**	**20**	P	**P**	**13 38 07.3**	**-0.2**
	SNR=15						
SMLA	**Simla**	**7.29**	**135**	*e*P	**P**	**13 38 04.6**	**-3.3**
SMLA				*e*S	**S**	**13 39 24.4**	**-5.3**
TKM2	**Tokmak 2**	**7.29**	**26**	P	**P**	**13 38 08.4**	**+0.5**
	SNR=73						
KKR	**Kurukshetra**	**8.02**	**142**	*e*P	**P**	**13 38 17.6**	**+0.1**
BHGR	**Bahadurgarh**	**9.15**	**146**	*e*P	**P**	**13 38 32.4**	**+0.2**
NDI	**New Delhi**	**9.28**	**145**	*e*P	**P**	**13 38 33.0**	**-0.8**
NDI				*e*S	**S**	**13 40 11.0**	**-5.0**
AYAN	**Aya Nagar**	**9.41**	**146**	*e*P	**P**	**13 38 35.0**	**-0.5**
KALG	**Kalgarh**	**9.41**	**135**	*e*P	**P**	**13 38 35.5**	**0.0**
KALG				*e*x	x	13 40 15.9	
KALG				AML	AML	13 40 18.9	
	comp=E,168nm,0.4s						
SONA	**Sohna**	**9.59**	**147**	*e*S	**S**	**13 40 17.4**	**-5.9**
SONA				*e*S	**S**	**13 40 17.5**	**-5.8**
SONA				AML	AML	13 40 19.6	
	comp=Z,60nm,0.4s						
SONA				AML	AML	13 40 20.3	
	comp=E,92nm,0.4s						
AJM	**Ajmer**	**10.38**	**163**	*e*P	**P**	**13 38 47.4**	**-0.8**
AJM				*e*S	**S**	**13 40 38.0**	**-3.8**
AJM				AML	AML	13 40 38.8	
	comp=E,62nm,0.4s						
AGRA	**Agra**	**10.85**	**146**	*e*P	**P**	**13 38 52.7**	**-1.5**
AGRA				*e*x	x	13 40 42.5	
AGRA				AML	AML	13 40 43.9	
	comp=E,54nm,0.3s						
MK02	**Makanchi Array**	**13.22**	**35**	P	**P**	**13 39 24.2**	**0.0**
MK02				pmax	pmax		
	comp=Z,17nm,0.6s						
MK31	**Makanchi Array**	**13.23**	**35**	P	**P**	**13 39 24.2**	**-0.1**
	comp=Z,17nm,0.6s,baz=220,slow=10,SNR=266						
MK31				⇓S	**S**	**13 41 57.5**	**+10**
	comp=Z,12nm,1.1s						
MKAR	**Makanchi Array**	**13.23**	**35**	P	**P**	**13 39 24.4**	**+0.1**
	comp=Z,4.5nm,0.3s,baz=228,slow=18,SNR=63						
MKAR				S	**S**	**13 41 57.1**	**+10**
	baz=222,slow=17,SNR=4.8						
KOLN	**Koldanda**	**13.62**	**126**	*e*P	**P**	**13 39 29.7**	**+0.4**
GKN	**Gorkha**	**14.16**	**123**	*e*P	**P**	**13 39 35.6**	**-0.4**
	comp=Z,236nm,0.3s						
GKN				*e*S	**S**	**13 42 06.6**	**-1.8**
BHPL	**Bhopal**	**14.24**	**156**	*e*P	**P**	**13 39 38.7**	**+1.7**
BHPL				*e*x	x	13 42 06.1	
WMQ	**Urumqi**	**14.60**	**55**	*e*P	**P**	**13 39 42.4**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,150nm,5.6s						
DMN	**Daman**	**14.73**	**123**	*e*P	**P**	**13 39 43.0**	**-0.1**
	comp=Z,210nm,0.6s						
DMN				*e*S	**S**	**13 42 21.9**	**+0.6**
KKN	**Kakani**	**14.74**	**122**	*e*P	**P**	**13 39 42.8**	**-0.3**
	comp=Z,236nm,0.6s						
KKN				*e*S	**S**	**13 42 20.4**	**-0.9**
KKN	**Kakani**	**14.74**	**122**	*e*P	**P**	**13 39 42.8**	**-0.3**
KKN				*e*S	**S**	**13 42 20.4**	**-0.9**
KKN				pmax	pmax		
	comp=Z,118nm,0.6s						
PKI	**Pulchoki**	**14.96**	**122**	*e*P	**P**	**13 39 45.4**	**-0.5**
	comp=Z,235nm,0.6s						
PKI	**Pulchoki**	**14.96**	**122**	*e*P	**P**	**13 39 45.4**	**-0.5**
PKI				pmax	pmax		
	comp=Z,118nm,0.6s						
AB31	**Akbulak array**	**15.18**	**331**	P	**P**	**13 39 47.0**	**-1.5**
	comp=Z,18nm,0.7s,baz=143,slow=12,SNR=36						
AB31				⇑S	**S**	**13 42 26.4**	**-4.9**
	comp=Z,5.1nm,0.5s						
AB31	**Akbulak array**	**15.18**	**331**	P	**P**	**13 39 47.0**	**-1.5**
AB31				S	**S**	**13 42 26.4**	**-4.8**
AB31				pmax	pmax		
	comp=Z,18nm,0.7s						
KURK	**Kurchatov**	**15.22**	**18**	⇓P	**P**	**13 39 47.1**	**-1.9**
	comp=Z,6.2nm,1.0s						
KURK	**Kurchatov**	**15.22**	**18**	⇓P	**P**	**13 39 47.0**	**-1.9**
KURK	**Kurchatov**	**15.22**	**18**	*e*P	**P**	**13 39 47.3**	**-1.6**
VOSK	**Vostochnaya**	**16.26**	**360**	⇑P	**P**	**13 40 00.2**	**-1.4**
	comp=Z,5.4nm,0.4s						
VOSK				⇑S	**S**	**13 42 54.2**	**-1.0**
	comp=Z,7.9nm,0.9s						
VOSK	**Vostochnaya**	**16.26**	**360**	⇑P	**P**	**13 40 00.2**	**-1.4**
	comp=Z,5.4nm,0.4s						
VOSK				S	**S**	**13 42 54.2**	**-1.0**
VOSK	**Vostochnaya**	**16.26**	**360**	⇑P	**P**	**13 40 00.2**	**-1.4**
VOSK				S	**S**	**13 42 54.2**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKL	**Akola**	**16.51**	**160**	*i* x	x	13 43 43.0	
AKL				*i* x	x	13 45 34.7	
BVA2	**Borovoye Array**	**16.56**	**358**	P	**P**	**13 40 04.8**	**-0.5**
BVA2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVA0	**Borovoye Array**	**16.57**	**358**	⇓P	**P**	**13 40 05.0**	**-0.3**
	comp=Z,1.3nm,0.6s						
BVA0				⇓S	**S**	**13 43 02.0**	**-0.1**
	comp=Z,1.3nm,0.8s						
BVA0	**Borovoye Array**	**16.57**	**358**	⇓P	**P**	**13 40 05.0**	**-0.4**
BVA0				S	**S**	**13 43 02.0**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**16.57**	**358**	P	**P**	**13 40 04.7**	**-0.6**
	comp=Z,5.9nm,0.3s,baz=156,slow=12,SNR=76						
BVAR				S	**S**	**13 43 04.0**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=169,slow=23,SNR=7.6						
BRVK	**Borovoye**	**16.60**	**358**	*e*P	**P**	**13 40 05.2**	**-0.6**
	comp=Z,14nm,0.8s						
BRVK	**Borovoye**	**16.60**	**358**	*e*P	**P**	**13 40 05.2**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s						
AKTK	**Aktyubinsk**	**16.88**	**330**	⇑P	**P**	**13 40 08.8**	**-0.3**
AKTK				S	**S**	**13 43 08.2**	**-0.9**
AKTO	**Aktyubinsk**	**16.88**	**330**	⇑P	**P**	**13 40 08.8**	**-0.2**
	comp=Z,3.3nm,0.9s						
AKTO				⇑S	**S**	**13 43 08.2**	**-0.9**
	comp=Z,4.6nm,1.2s						
AKTO	**Aktyubinsk**	**16.88**	**330**	P	**P**	**13 40 08.7**	**-0.3**
LSA	**Lhasa**	**18.03**	**106**	P	**P**	**13 40 25.0**	**+3.4**
LSA	**Lhasa**	**18.03**	**106**	⇑*e*P	**P**	**13 40 25.0**	**+3.4**
	comp=Z,16nm,0.6s						
LSA	**Lhasa**	**18.03**	**106**	⇑*e*P	**P**	**13 40 25.0**	**+3.4**
LSA				pmax	pmax		
	comp=Z,16nm,0.6s						
ZAL	**Zalesovo**	**19.87**	**24**	P	**P**	**13 40 40.0**	**-0.4**
	comp=Z,17nm,0.3s,baz=253,slow=7.8,SNR=48						
NVS	**Novosibirsk**	**20.16**	**21**	*i* P	**P**	**13 40 42.8**	**-0.5**
NVS				*e*S	**S**	**13 44 15.9**	**+2.5**
NVS				pmax	pmax		
	comp=N,13nm,0.7s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,18nm,0.7s						
NVS				smax			
	comp=N,7.0nm,1.1s						
NVS				smax			
	comp=E,14nm,1.1s						
SHL	**Shillong**	**20.76**	**116**	*e*P	**P**	**13 40 54.0**	**+4.5**
GNI	**Garni**	**21.04**	**288**	P	**P**	**13 40 54.6**	**+2.4**
	comp=E,8.9nm,0.6s,mb4.5						
GNI	**Garni**	**21.04**	**288**	P	**P**	**13 40 54.6**	**+2.4**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ARU	**Arti**	**21.71**	**341**	*e*P	**P**	**13 41 00.1**	**+1.5**
	comp=Z,17nm,1.1s,mb4.5						
ARU	**Arti**	**21.71**	**341**	⇓*i*P	**P**	**13 40 59.9**	**+1.3**
ARU				*e*S	**S**	**13 44 46.7**	**+5.5**
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
ZEI	**Tsey**	**21.89**	**295**	*e*P	**P**	**13 41 03.7**	**+3.4**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
GTA	**Gaotai**	**22.73**	**74**	P	**P**	**13 41 11.9**	**+3.3**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.3						
KIV	**Kislovodsk**	**22.93**	**298**	P	**P**	**13 41 15.1**	**+4.7**
	comp=Z,12nm,1.1s,mb4.3						
KIV	**Kislovodsk**	**22.93**	**298**	*e*P	**P**	**13 41 14.8**	**+4.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
ZAK	**Zakamensk**	**26.90**	**49**	*e*P	**P**	**13 41 48.4**	**+1.1**
ZAK				*e*	pP	13 42 32.0	+4.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.2						
SONM	**Songino Array**	**28.24**	**55**	P	**P**	**13 42 00.0**	**+0.6**
	comp=Z,2.1nm,0.8s,mb3.8,baz=261,slow=9.2,SNR=18						
SONM				pP	pP	13 42 44.4	+4.8
	comp=Z,0.5nm,0.6s,baz=248,slow=12,SNR=2.4						
KMI	**Kunming**	**29.25**	**104**	P	**P**	**13 42 11.8**	**+3.2**
KMI				AP	pP	13 42 52.6	+3.4
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**29.58**	**288**	P	**P**	**13 42 12.8**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.3,baz=99,slow=9.2,SNR=3.9						
OBN	**Obninsk**	**30.06**	**319**	P	**P**	**13 42 15.5**	**+0.1**
	comp=Z,14nm,0.4s,mb4.9						
OBN	**Obninsk**	**30.06**	**319***c*	*i*P	**P**	**13 42 15.2**	**-0.2**
OBN				*e*		13 43 28.5	
OBN				*e*S	**S**	**13 46 56.3**	**-1.4**
OBN				*e*SS	SS	13 48 58.6	+5.3
OBN				pmax	pmax		
	comp=Z,25nm,1.7s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
AKASG	**Malin Array Be**	**33.08**	**309**	P	**P**	**13 42 41.5**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.5,baz=80,slow=7.0,SNR=4.6						
BOD	**Bodaibo**	**35.28**	**39**	*e*P	**P**	**13 43 00.3**	**0.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
JOF	**Joensuu**	**35.97**	**330**	*e*p	**P**	**13 43 05.9**	**-0.2**
	comp=Z,9.5nm,0.3s,mb4.8						
FINES	**FINESS Array B**	**37.59**	**326**	P	**P**	**13 43 20.1**	**+0.4**
	comp=Z,3.2nm,0.4s,mb4.2,baz=119,slow=8.7,SNR=38						
FINES	**FINESS Array B**	**37.59**	**326**	*e*P	**P**	**13 43 20.0**	**+0.3**
KAF	**Kangasniemi**	**37.73**	**327**	*e*p	**P**	**13 43 21.0**	**+0.2**
	comp=Z,2.1nm,0.4s,mb4.0,baz=111,slow=8.5						
KAF	**Kangasniemi**	**37.73**	**327**	*e*P	**P**	**13 43 21.0**	**+0.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
NJ2	**Nanjing**	**39.34**	**82**	*e*P	**P**	**13 43 35.0**	**+0.6**
NJ2				AP	pP	13 44 19.0	+2.0
NJ2				XP	sP	13 44 41.4	+1.1
NJ2				PP	PP	13 45 14.8	+3.8
NJ2				S	**S**	**13 49 21.0**	**+0.8**
NJ2				XS		13 50 37.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,332nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,18.0s						
NJ2				LR	LR		
	comp=E,2μm,21.2s						
NJ2				LR	LR		
	comp=Z,4μm,21.6s						
KEV	**Kevo**	**40.89**	**338**	*e*p	**P**	**13 43 46.8**	**0.0**
	comp=Z,4.1nm,0.4s,mb4.2						
KEV	**Kevo**	**40.89**	**338**	*e*P	**P**	**13 43 47.5**	**+0.7**
	comp=Z,20nm,1.0s,mb4.5						
KEV	**Kevo**	**40.89**	**338**	*e*P	**P**	**13 43 47.5**	**+0.7**
KEV				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
ARCES	**ARCESS Array B**	**41.23**	**338**	P	**P**	**13 43 50.4**	**+0.8**
	comp=Z,9.7nm,0.6s,mb4.4,baz=115,slow=8.3,SNR=53						
ARE0	**ARCESS Array S**	**41.23**	**338**	*e*P	**P**	**13 43 48.8**	**-0.8**
GERES	**GERESS Array B**	**43.07**	**305**	LR	LR	14 05 22.5	
	comp=Z,105nm,18.7s,baz=141,slow=40						
MDJ	**Mudanjiang**	**44.29**	**61**	P	**P**	**13 44 13.9**	**-0.6**
MDJ				AP	pP	13 44 56.9	-0.8
MDJ				XP	sP	13 45 20.3	-0.4
MDJ				PP	PP	13 46 00.8	-0.4
MDJ				SCP		13 49 28.1	
MDJ				PCS		13 49 49.0	
MDJ				S	**S**	**13 50 32.1**	**-0.4**
MDJ				XS		13 51 47.3	
MDJ				SCS	ScS	13 53 50.5	+1.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb3.7						
MDJ				AMB	AMB		
	comp=Z,93nm,3.4s						
MDJ				LR	LR		
	comp=N,14nm,18.1s						
MDJ				LR	LR		
	comp=E,24nm,19.9s						
MDJ				LR	LR		
	comp=Z,32nm,16.3s						
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**13 44 15.5**	**-0.3**
	comp=Z,3.8nm,0.5s,mb4.0,baz=97,slow=7.9						
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**13 44 15.5**	**-0.3**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**13 44 15.8**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.0,baz=97,slow=7.7,SNR=22						
KS15	**Wonju Array Si**	**44.73**	**71**	*e*P	**P**	**13 44 19.0**	**+1.0**
TIXI	**Tiksi**	**45.75**	**22**	⇑*i*P	**P**	**13 44 24.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
KMBO	**Kilima Mbogo**	**48.91**	**228**	P	**P**	**13 44 52.5**	**+1.6**
	comp=Z,1.7nm,0.5s,mb3.6,baz=31,slow=14,SNR=6.0						
KMBO	**Kilima Mbogo**	**48.91**	**228**	*i* P	**P**	**13 44 56.5**	**+5.6**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MBAR	**Mbarara**	**52.60**	**235**	*e*P	**P**	**13 45 21.9**	**+3.3**
MJAR	**Matsushiro Arr**	**52.83**	**69**	P	**P**	**13 45 19.9**	**-0.1**
	comp=Z,1.8nm,0.7s,mb3.6,baz=287,slow=11,SNR=5.8						
SEY	**Seymchan**	**54.37**	**34**	*e*P	**P**	**13 45 30.5**	**-0.3**
ESDC	**Sonseca Array**	**57.60**	**298**	P	**P**	**13 45 53.5**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.4,baz=55,slow=7.0,SNR=4.1						
SUMG	**Summit**	**61.14**	**341**	*e*P	**P**	**13 46 17.8**	**-0.1**
	comp=Z,13nm,1.3s,mb4.4						
FITZ	**Fitzroy Crossi**	**74.75**	**127**	*e*P	**P**	**13 47 43.0**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**74.75**	**127**	P	**P**	**13 47 42.8**	**-0.3**
	comp=Z,9.8nm,1.1s,mb4.3,baz=288,slow=2.9,SNR=7.4						
ILAR	**Eielson Array**	**74.77**	**16**	P	**P**	**13 47 42.0**	**-0.2**
	comp=Z,2.3nm,0.8s,mb3.9,baz=319,slow=4.8,SNR=22						
KAKA	**Kakadu**	**75.59**	**118**	⇓*i*P	**P**	**13 48 05.9**	**+18**
	comp=Z,4.5nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**13 48 18.0**	**+0.4**
	comp=Z,3.0nm,0.4s,mb4.3,baz=351,slow=5.5,SNR=16						
YKA	**Yellowknife Ar**	**81.27**	**3**	*i* P	**P**	**13 48 18.4**	**+0.7**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**13 48 21.0**	**-0.5**
	comp=Z,5.1nm,0.7s,mb4.3,baz=324,slow=4.9,SNR=107						
WRAB	**Tennant Creek**	**81.85**	**122**	*e*P	**P**	**13 48 21.0**	**-0.5**
	comp=Z,10.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**81.85**	**122**	*e*P	**P**	**13 48 21.0**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**81.86**	**122**	⇑*i*P	**P**	**13 48 20.9**	**-0.6**
SCHQ	**Schefferville**	**82.19**	**337**	P	**P**	**13 48 22.8**	**+0.3**
	comp=Z,2.3nm,0.8s,mb3.9,baz=135,slow=5.7,SNR=2.2						
PMG	**Port Moresby**	**84.45**	**106**	P	**P**	**13 48 35.2**	**+0.3**
	comp=Z,12nm,0.4s,mb5.0,baz=10,slow=11,SNR=3.9						
PMG	**Port Moresby**	**84.45**	**106**	*e*P	**P**	**13 48 35.5**	**+0.6**
CTA	**Charters Tower**	**90.39**	**115**	P	**P**	**13 49 02.8**	**-0.4**
	comp=Z,4.5nm,0.8s,mb4.4,baz=299,slow=5.5,SNR=8.1						
ULM	**Lac du Bonnet**	**92.91**	**352**	P	**P**	**13 49 13.8**	**-0.3**
	comp=Z,0.7nm,0.4s,mb4.1,baz=101,slow=9.2,SNR=3.1						
ULM	**Lac du Bonnet**	**92.91**	**352**	P	**P**	**13 49 13.8**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	149.95	250	PKPbc	PKPdf	13 55 50.8	+6.6
	comp=Z,1.4nm,0.9s,baz=188,slow=18,SNR=5.0						

IDC 13 13:45:16.7±2.8**, 6.93N**×**96.32E, mb3.9**/5**, mb1 4.0**/5**, mb1mx3.7**/17**, mbtmp3.9**/5**, Error ellipse: s-maj=125.0km s-min=22.1km az=63.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	41.51	345	P	P	13 53 06.8	-0.5
	1.1nm,0.7s,baz=157,slow=7.6,SNR=12						
SONM	Songino Array	41.66	10	P	P	13 53 06.3	-2.2
	1.0nm,0.5s,baz=188,slow=8.7,SNR=8.2						
WRA	Warramunga Arr	45.96	126	P	P	13 53 42.4	-1.2
	0.5nm,0.7s,baz=302,slow=8.9,SNR=4.8						
WRA				pP	pP	13 53 49.6	+6.0
	0.6nm,0.5s,baz=301,slow=9.0,SNR=5.7						
ZAL	Zalesovo	47.79	351	P	P	13 53 54.5	-3.1
	1.3nm,0.5s,baz=326,slow=7.4,SNR=5.0						
STKA	Stephens Creek	57.90	134	P	P	13 55 10.2	-2.9
	0.7nm,0.4s,baz=311,slow=9.3,SNR=3.8						

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*IDC **13** 14:13:27.8±1.6, 1.45S×137.51E, mb3.8/4, mb1 4.2/6, mb1mx3.9/15, mbtmp4.1/6, ML3.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/20, Error ellipse: s-maj=47.8km s-min=23.5km az=69.0*

*NEIC **13** 14:13:32.9±0.5, 1.39S×137.63E, h35^{km}, mb4.1/4, Error ellipse: s-maj=12.5km s-min=7.9km az=87.0*

ISC 13 14:13:30.5±0.7**, 1.43S**±0.07×**137.6E**±0.1**, h33^{km}, n18,** σ**0^{s}78**/22**, mb4.2**/3**, MS3.1**/2**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	12.34	204	eP	P	14 16 43.5	+17
	3.0nm,0.4s						
KAKA				eS	S	14 18 59.7	+16
PMG	Port Moresby	12.35	130	Pn	P	14 16 27.4	+0.5
	1.0nm,0.3s,baz=288,slow=9.6,SNR=4.6						
PMG	Port Moresby	12.35	130	ePn	P	14 16 27.0	0.0
	9.9nm,0.8s						
PMG				Pn	P	14 16 27.4	+0.5
PMG				epPn		14 16 35.5	
GUMO	Guam	16.55	25	LR	LR	14 23 03.4	
	comp=Z,31nm,20.1s,baz=299,slow=35						
GUMO	Guam	16.55	25	ePn	P	14 17 21.5	-0.3
GUMO				eP		14 17 24.1	
WRAB	Tennant Creek	18.67	190	eP	P	14 17 48.3	-0.1
	8.2nm,0.6s						
WRAB				eS	S	14 21 07.2	-4.7
WB2	Warramunga Arr	18.68	190	eP	P	14 17 48.1	-0.3
WB2				eS	S	14 21 05.7	-6.4
WRA	Warramunga Arr	18.68	190	P	P	14 17 48.1	-0.3
	0.7nm,0.3s,baz=13,slow=12,SNR=67						
WRA				S	S	14 21 03.5	-8.7
	0.1nm,0.3s,baz=14,slow=22,SNR=4.7						
FITZ	Fitzroy Crossi	20.33	215	eP	P	14 18 07.4	+0.7
	4.9nm,1.0s						
FITZ	Fitzroy Crossi	20.33	215	P	P	14 18 06.0	-0.7
	7.8nm,0.9s,baz=35,slow=6.7,SNR=5.9						
FITZ				LR	LR	14 24 38.4	
	comp=Z,95nm,20.6s,MS3.1,baz=82,slow=33						
CTA	Charters Tower	20.37	156	P	P	14 18 07.6	+0.5
	2.0nm,0.7s,baz=357,slow=9.7,SNR=3.6						
CTA				LR	LR	14 26 11.9	
	comp=Z,89nm,19.9s,MS3.1,baz=53,slow=38						
CTAO	Charters Tower	20.37	156	eP	P	14 18 08.0	+0.9
	15nm,1.6s						
ASPA	Alice Springs	22.41	189	eP	P	14 18 28.9	+1.3
MBWA	Marble Bar	26.26	220	P	P	14 19 05.2	+0.3
	94nm,2.5s,mb4.9						
MBWA				e	pP	14 19 15.6	+1.3
NACB	Ninganchiao	29.84	330	P	P	14 19 37.4	+0.3
STKA	Stephens Creek	30.52	173	P	P	14 19 40.9	-2.1
	2.0nm,0.7s,mb4.0,baz=334,slow=9.7,SNR=4.5						
STKA	Stephens Creek	30.52	173	P	P	14 19 40.9	-2.1
STKA				P		14 19 42.5	
STKA				e		14 19 56.2	
MKAR	Makanchi Array	68.12	322	P	P	14 24 29.2	-0.1
	0.4nm,0.4s,mb3.8,baz=124,slow=5.2,SNR=8.5						

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*CRAAG **13** 14:32:52.8, 8.02N×91.95E, Mb5.5*

*IDC **13** 14:32:53.2±0.4, 8.11N×91.96E, mb4.9/31, mb1 4.9/31, mb1mx4.9/31, mbtmp4.9/31, MS5.0/28, Ms1 5.0/28, ms1mx4.9/33, Error ellipse: s-maj=14.2km s-min=11.4km az=53.0*

*BJI **13** 14:32:56.1, 8.09N×92.02E, h28^{km}, mB5.4, mb5.1, Ms5.4, Msz5.0*

*MOS **13** 14:32:56.4±0.9, 8.04N×91.95E, h33^{km}, mb5.5/45, MS4.9/23, Error ellipse: s-maj=10.1km s-min=5.3km az=118.1*

*NEIC **13** 14:32:57.8±0.1, 8.07N×91.91E, h30^{km}, mb5.4/94, MS4.9/43, MW5.5, Error ellipse: s-maj=4.6km s-min=3.1km az=36.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.86; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$2.08; $M_{r\theta}$0.63; $M_{\theta\phi}$-0.65; $M_{\phi r}$-0.53; Best double couple: $M_0$2.2×10^{17} NP1:ϕ_s181°, δ38°, λ-65°. NP2:ϕ_s331°, δ56°, λ-108°. Principal axes: T 2.36, Plg9°, Azm74°; N -.27, Plg15°, Azm341°; P -2.09, Plg72°, Azm194°;*

*HRVD **13** 14:32:57.8±0.1, 8.11N×91.92E, h12^{km}, MW5.5/68, Centroid moment Tensor Solution. LP body waves: s58,c105; Mantle waves: s68,c144; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.27±.02; $M_{\theta\theta}$-0.34±.02; $M_{\phi\phi}$1.61±.02; $M_{r\theta}$0.67±.06; $M_{\theta\phi}$-0.02±.02; $M_{\phi r}$-1.05±.06; Best double couple: $M_0$1.925×10^{17} NP1: ϕ_s203°, δ31°, λ-50°. NP2:ϕ_s338°, δ67°, λ-111°. Principal axes: T 1.976, Plg19°, Azm84°; N -.104, Plg19°, Azm347°; P -1.874, Plg62°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 14:32:55.9±0.1**, 8.03N**±0.03×**91.94E**±0.02**, h29^{km}, h29^{km}**±1.1^{km}**:pP-P, n524,** σ**1^{s}07**/520**, mb5.2**/161**, MS5.0**/90**, 42C-36D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.69	12	ex	x	14 33 58.0	
PBA				ex	x	14 35 05.9	
SNG	Songkhla	8.64	95	P	P	14 35 03.0	+0.8
	190nm,0.8s						
NNT	Nongplab	8.91	59	P	P	14 35 06.0	+0.2
KULM	Kulim	9.07	107	⇑iP	P	14 35 05.5	-2.5
IPM	Ipoh	9.66	110	P	P	14 35 14.5	-1.8
NST	Nakhon Sawan	11.04	46	P	P	14 35 36.0	+0.8
	83nm,0.6s						
CHG	Chiang Mai	12.70	32	P	P	14 35 57.1	-0.4
VIS	Vishakhapatnam	12.77	320	eP	P	14 35 55.0	-3.6
VIS				eS	S	14 38 03.5	-17
KGM	Kluang	12.81	117	P	P	14 35 57.7	-1.4
KKTK	Khon Kaen	13.46	51	PG	P	14 36 09.0	+1.4
	957nm,0.9s						
NANT	Nan	13.68	38	⇑P	P	14 36 10.0	-0.6
	334nm,1.2s						
VJD	Vijayawada	13.88	308	eP	P	14 36 09.0	-4.2
VJD				ex	x	14 38 28.0	
SALM	Salem	14.01	286	eP	P	14 36 12.0	-2.9
SALM				ex	x	14 38 33.0	
CHRT	Chiangrai	14.01	32	⇓P	P	14 36 14.0	-1.0
	2µm,1.0s						
UBT	Ubonrachathani	14.68	60	⇑P	P	14 36 28.5	+4.8
CAL	Calcutta	14.84	347	ex	x	14 38 14.2	
CAL				ex	x	14 40 59.7	
HYB	Hyderabad	16.04	307	i P	P	14 36 41.0	-0.3
	394nm,1.2s						
HYB				eS	S	14 39 36.5	-1.5
HYB	Hyderabad	16.04	307	eP	P	14 36 41.0	-0.3
	394nm,1.2s						
HYB				eS	S	14 39 32.5	-5.5
IMP	Imphal	16.77	6	ex	x	14 36 54.0	
IMP				ex	x	14 40 04.0	
BLSP	Bilaspur	16.90	327	ex	P	14 36 54.7	+2.5
BLSP				ex	x	14 39 45.6	
SHL	Shillong	17.44	360	eP	P	14 36 56.0	-2.9
SHL				ex	x	14 40 04.0	
MNGI	Mangalore	17.52	288	eP	P	14 37 00.3	+0.3
MNGI				ex	x	14 39 59.0	
LATR	Latur	18.17	306	eP	P	14 37 07.5	-0.6
LATR				ex	x	14 40 11.1	
LATR				ex	x	14 50 30.1	
AKL	Akola	19.15	313	ex	P	14 37 14.6	-5.3
AKL				ex	x	14 40 37.3	
KSM	Kuching	19.42	109	⇑iP	P	14 37 21.5	-1.5
GTK	Gangtok	19.45	351	eP	P	14 37 20.0	-3.4
KMI	Kunming	19.88	30	P	P	14 37 28.3	+0.2
KMI				AP		14 37 36.1	
KMI				XP		14 37 39.0	
KMI				PP	PP	14 37 48.1	+1.2
KMI				PPP	PPP	14 37 57.1	+1.2
KMI				S	S	14 41 06.5	+1.8
KMI				XS		14 41 18.5	
KMI				SS	SS	14 41 35.3	+2.5
KMI				SSS	SSS	14 41 47.8	+1.1
KMI				AMB	AMB		
	comp=Z,96nm,1.4s						
KMI				AMB	AMB		
	comp=Z,2µm,5.6s						
KMI				LR	LR		
	comp=N,4µm,19.4s						
KMI				LR	LR		
	comp=E,4µm,14.2s						
KMI				LR	LR		
	comp=Z,4µm,20.7s						
PKI	Pulchoki	20.39	343	eP	P	14 37 33.7	+0.3
	comp=Z,229nm,0.8s						
POO	Poona	20.44	302	eP	P	14 37 33.1	-0.9
POO				AMb	AMB	14 37 41.7	
	comp=Z,533nm,1.6s						
POO				eS	S	14 41 22.1	+5.9
DMN	Daman	20.52	342	eP	P	14 37 34.0	-0.7
	comp=Z,595nm,1.2s						
QIZ	Qiongzhong	20.53	56	P	P	14 37 35.3	+0.4
QIZ				AP		14 37 43.6	
QIZ				S	S	14 41 19.0	+1.0
QIZ				XS		14 41 31.9	
QIZ				AMB	AMB		
	comp=Z,109nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,2µm,11.9s						
QIZ				LR	LR		
	comp=N,7µm,14.2s						
QIZ				LR	LR		
	comp=Z,7µm,14.3s,MS5.2						
QIZ	Qiongzhong	20.53	56	⇑iP	P	14 37 34.5	-0.3
	comp=Z,210nm,1.1s						
QIZ				e		14 37 42.4	
QIZ				LR	LR		
	comp=Z,3µm,21.0s,MS4.7						
BHPL	Bhopal	20.56	319	eP	P	14 37 34.0	-1.2
BHPL				AMb	AMB	14 37 44.1	
	comp=Z,459nm,1.8s						
BHPL				eS	S	14 41 21.3	+2.6
KKN	Kakani	20.64	343	eP	P	14 37 36.2	+0.3
	comp=Z,248nm,1.0s						
KKN				eS	S	14 41 21.3	+1.2
GKN	Gorkha	21.03	342	eP	P	14 37 40.1	+0.2
	comp=Z,451nm,0.9s,mb5.8						
GKN				eS	S	14 41 28.5	+0.9
KOLN	Koldanda	21.16	339	eP	P	14 37 41.1	-0.1
	comp=Z,181nm,0.7s,mb5.5						
LSA	Lhasa	21.57	358	P	P	14 37 46.0	+0.7
LSA				AP		14 37 54.1	
LSA				XP		14 37 56.9	
LSA				S	S	14 41 39.4	+1.7
LSA				PCP	PcP	14 41 41.9	-5.4
LSA				SCP		14 45 16.8	
LSA				PCS		14 45 21.1	
LSA				AMB	AMB		
	comp=Z,160nm,1.2s,mb5.3						
LSA				LR	LR		
	comp=N,2µm,13.8s,MS5.2						
LSA				LR	LR		
	comp=E,7µm,15.1s,MS5.2						
LSA				LR	LR		
	comp=Z,5µm,15.1s,MS5.0						
LSA	Lhasa	21.57	358	⇑eP	P	14 37 45.5	+0.1
	comp=Z,187nm,1.0s,mb5.5						
LSA				LR	LR		
	comp=Z,2µm,19.0s,MS4.6						
LSA	Lhasa	21.57	358	eP	P	14 37 45.6	+0.2
LSA				pmax	pmax		
	comp=Z,190nm,1.0s,mb5.5						
GYA	Guiyang	23.06	36	⇑iP	P	14 38 00.3	+0.1
GYA				AP		14 38 09.3	
GYA				XP		14 38 13.5	
GYA				PP	PP	14 38 31.8	+1.3
GYA				S	S	14 42 05.5	+0.6
GYA				XS		14 42 20.9	
GYA				SCP		14 45 23.1	
GYA				SCS	ScS	14 49 07.8	-1.6
GYA				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,1µm,9.0s						
GYA				LR	LR		
	comp=N,3µm,17.0s,MS5.0						
GYA				LR	LR		
	comp=E,4µm,15.3s,MS5.0						
GYA				LR	LR		
	comp=Z,4µm,16.2s,MS4.9						
AGRA	Agra	23.25	327	eP	P	14 38 03.4	+1.3
KKM	Kota Kinabalu	24.17	93	P	P	14 38 13.8	+2.6
KKM	Kota Kinabalu	24.17	93	⇑iP	P	14 38 12.2	+1.1
SONA	Sohna	24.52	327	eP	P	14 38 15.5	+1.1
SONA				AMb	AMB	14 38 23.5	
	comp=Z,154nm,0.9s,mb5.5						
AJM	Ajmer	24.63	320	eP	P	14 38 18.0	+2.5
AYAN	Aya Nagar	24.68	327	eP	P	14 38 16.6	+0.7
AYAN				AMb	AMB	14 38 24.7	
	comp=Z,176nm,0.8s,mb5.6						
DGAR	Diego Garcia	24.75	232	eP	P	14 38 17.2	+0.4
	comp=Z,340nm,1.4s,mb5.7						
DGAR				LR	LR		
	comp=Z,891nm,21.0s,MS4.2						
NDI	New Delhi	24.79	328	eP	P	14 38 17.5	+0.5
NDI				ex	x	14 44 51.0	
KHET	Khetri	25.09	325	eP	P	14 38 20.8	+0.9
KHET				AML	AML	14 38 29.2	
	comp=Z,98nm,0.9s						
JOSI	Joshimath	25.23	334	ex	S	14 42 40.5	-1.6
CD2	Chengdu	25.30	24	⇑iP	P	14 38 21.3	-0.5
CD2				PP	PP	14 39 00.3	-0.3
CD2				PPP	PPP	14 39 09.5	-2.4
CD2				S	S	14 42 43.5	+0.3
CD2				XS		14 42 56.3	
CD2				SS	SS	14 43 44.4	-0.7
CD2				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.3						
CD2				AMB	AMB		
	comp=Z,710nm,10.2s						
CD2				LR	LR		
	comp=N,2µm,12.6s						
CD2				LR	LR		
	comp=Z,2µm,11.3s,MS4.9						
BATP	Bataraza	25.59	86	eP	P	14 38 25.7	+1.0
HKC	Hong Kong	25.67	54	i P	P	14 38 34.0	+8.7
KKR	Kurukshetra	26.02	329	eP	P	14 38 28.9	+0.4
TSM	Tawau	26.04	97	P	P	14 38 28.8	-0.1
PPR	Puerto Princes	26.52	84	⇑eP	P	14 38 34.2	+1.0
KLP	Kalpa	26.64	333	eP	P	14 38 34.9	+0.7
KLP				ex	x	14 43 34.4	
ENPP	El Nido	27.28	81	eP	P	14 38 40.4	+0.2
BHK	Bhakra	27.40	330	ex	x	14 39 09.0	
JASL	Jaisalmer	27.41	316	eP	P	14 38 42.0	+0.8
ENH	Enshi	27.57	34	⇑iP	P	14 38 41.0	-1.7
	comp=Z,68nm,0.9s,mb5.3						
ENH				LR	LR		
	comp=Z,2µm,21.0s,MS4.7						
BUSP	Coron	28.10	80	eP	P	14 38 47.9	+0.3
CUYO	Cuyo Island	28.82	82	eP	P	14 38 54.5	+0.5
SJMP	San Jose	29.04	79	eP	P	14 38 56.7	+0.7
LZH	Lanzhou	29.97	20	⇑P	P	14 39 03.3	-0.9
LZH				AP	pP	14 39 11.5	-1.3
LZH				XP	sP	14 39 15.3	-1.3
LZH				S	S	14 43 58.0	-0.8
LZH				XS		14 44 11.0	
LZH				SS	SS	14 45 36.0	-0.1
LZH				AMB	AMB		
	comp=Z,67nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,320nm,4.4s						
LZH				LR	LR		
	comp=N,5µm,12.9s						
LZH				LR	LR		
	comp=Z,8µm,16.0s,MS5.4						
KALP	Kalibo	30.16	81	eP	P	14 39 07.8	+1.7
XAN	Xi'an	30.25	29	P	P	14 39 04.4	-2.3
XAN				AP	pP	14 39 12.4	-2.9
XAN				PP	PP	14 40 01.3	-4.6
XAN				S	S	14 43 59.8	-3.5
XAN				SS	SS	14 45 44.9	+2.3
XAN				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
XAN				LR	LR		
	comp=N,2µm,16.1s,MS5.0						
XAN				LR	LR		
	comp=E,2µm,12.9s,MS5.0						
XAN				LR	LR		
	comp=Z,3µm,19.4s						
IPIL	Ipil	30.34	88	eP	P	14 39 08.6	+0.9
QZH	Quanzhou	30.49	53	⇑iP	P	14 39 09.5	+0.6
QZH				S	S	14 44 09.5	+2.3
QZH				AMB	AMB		
	comp=Z,210nm,0.8s,mb5.9						
QZH				LR	LR		
	comp=N,6µm,13.0s,MS5.6						
QZH				LR	LR		
	comp=E,6µm,13.5s,MS5.6						
QZH				LR	LR		
	comp=Z,7µm,14.5s,MS5.4						
RCP	Roxas	30.55	81	⇓eP	P	14 39 10.8	+1.2
WHN	Wuhan	30.68	40	eP	P	14 39 10.0	-0.5
WHN				S	S	14 44 12.8	+2.7
WHN				LR	LR		
	comp=N,2µm,12.0s,MS5.3						
WHN				LR	LR		
	comp=E,4µm,12.8s,MS5.3						
WHN				LR	LR		
	comp=Z,5µm,16.0s,MS5.3						
LLP	Lapu-Lapu	31.69	83	eP	P	14 39 20.2	+0.6
	comp=Z,88µm,0.9s						
GTA	Gaotai	32.03	12	⇑iP	P	14 39 22.3	0.0
GTA				AP	pP	14 39 31.6	+0.7
GTA				XP	sP	14 39 34.3	-0.4
GTA				PP	PP	14 40 30.8	+1.8
GTA				PPP	PPP	14 40 45.8	+1.7
GTA				PCP	PcP	14 42 11.3	-0.4
GTA				S	S	14 44 32.9	+1.8
GTA				XS		14 44 47.3	
GTA				SCP		14 45 51.3	
GTA				PCS		14 45 53.6	
GTA				SS	SS	14 46 26.8	+2.2
GTA				SCS	ScS	14 49 48.1	-0.9
GTA				AMB	AMB		
	comp=Z,119nm,1.0s,mb5.7						
GTA				AMB	AMB		
	comp=Z,312nm,5.4s						
GTA				LR	LR		
	comp=N,2µm,13.5s,MS5.1						
GTA				LR	LR		
	comp=E,2µm,14.3s,MS5.1						
GTA				LR	LR		
	comp=Z,2µm,13.5s,MS4.9						
NACB	Ninganchiao	32.59	57	eP	P	14 39 27.6	+0.3
YHNB	Yeheng	32.62	56	eP	P	14 39 28.2	+0.7
TATO	Taipei	32.84	56	eP	P	14 39 30.4	+0.9
	comp=Z,208nm,1.3s,mb5.9						
KSH	Kashi	34.47	338	P	P	14 39 44.8	+1.4
KSH				eAP	pP	14 39 54.0	+1.9
KSH				XP	sP	14 39 57.8	+2.0
KSH				PP	PP	14 40 59.3	-0.3
KSH				PPP	PPP	14 41 19.0	+1.4
KSH				ePCP	PcP	14 42 20.8	+2.3
KSH				S	S	14 45 08.0	-0.9
KSH				eSCP		14 45 59.5	
KSH				ePCS		14 46 04.4	
KSH				SS	SS	14 47 20.5	0.0
KSH				SCS	ScS	14 50 00.8	-0.8
KSH				AMB	AMB		
	comp=Z,160nm,2.4s,mb5.5						
KSH				LR	LR		
	comp=N,3µm,14.1s,MS5.4						
KSH				LR	LR		
	comp=E,3µm,12.9s,MS5.4						
NJ2	Nanjing	34.60	43	eP	P	14 39 44.3	-0.4
NJ2				AP	pP	14 39 54.6	+1.3
NJ2				XP	sP	14 39 57.8	+0.8
NJ2				PP	PP	14 41 01.6	+0.2
NJ2				S	S	14 45 11.0	0.0
NJ2				XS		14 45 27.0	
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,432nm,4.5s						
NJ2				LR	LR		
	comp=N,4µm,12.8s,MS5.4						
NJ2				LR	LR		
	comp=E,3µm,15.8s,MS5.4						
NJ2				LR	LR		
	comp=Z,3µm,17.6s,MS5.1						
WBK	Wadi Bani Khal	34.84	298	⇑P	P	14 39 48.7	+1.9
JMDO	Jabal Madar	35.52	297	⇓P	P	14 39 52.6	0.0
SSE	Sheshan	35.65	46	P	P	14 39 51.9	-1.8
SSE				AP	pP	14 40 00.6	-1.7
SSE				XP	sP	14 40 04.6	-1.4
SSE				PP	PP	14 41 13.3	-1.2
SSE				S	S	14 45 26.8	-0.6
SSE				XS		14 45 41.8	
SSE				AMB	AMB		
	comp=Z,59nm,1.0s,mb5.5						
SSE				AMB	AMB		
	comp=Z,348nm,10.0s						
SSE				LR	LR		
	comp=N,961nm,25.4s,MS4.6						
SSE				LR	LR		
	comp=E,850nm,25.3s,MS4.6						
SSE				LR	LR		
	comp=Z,961nm,16.9s						
SMDO	Samad	35.78	299	⇑P	P	14 39 56.1	+1.3
WMQ	Urumqi	35.84	355	⇑iP	P	14 39 55.9	+0.8
WMQ				AP	pP	14 40 05.0	+1.2
WMQ				XP	sP	14 40 09.5	+2.0
WMQ				PP	PP	14 41 17.5	+0.9
WMQ				PPP	PPP	14 41 39.0	+2.7
WMQ				S	S	14 45 31.0	+0.8
WMQ				XS		14 45 46.5	
WMQ				PCS		14 46 07.0	
WMQ				SS	SS	14 47 52.0	-0.2
WMQ				SCS	ScS	14 50 06.0	-3.0
WMQ				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,209nm,3.6s						
WMQ				LR	LR		
	comp=N,2µm,15.0s,MS5.3						
WMQ				LR	LR		
	comp=E,3µm,13.9s,MS5.3						
WMQ				LR	LR		
	comp=Z,2µm,16.2s,MS5.0						
BIDO	Bidbid	35.87	299	P	P	14 39 57.5	+1.9
	SNR=7.1						
TIA	Tai'an	36.25	36	eP	P	14 40 00.0	+1.3
TIA				LR	LR		
	comp=N,1µm,13.0s,MS5.3						
TIA				LR	LR		
	comp=E,3µm,13.0s,MS5.3						
BSY	Bisya	36.43	298	P	P	14 40 01.9	+1.7
	SNR=12						
ULHL	Ulahol	36.79	340	P	P	14 40 04.3	+1.2
	SNR=12						
KZA	Kyzart	36.98	339	P	P	14 40 06.2	+1.5
	SNR=24						
HHC	Hu-ho-hao-te	37.06	25	eP	P	14 40 04.8	-0.5
HHC				AP	pP	14 40 14.4	+0.4
HHC				XP	sP	14 40 18.4	+0.7
HHC				PP	PP	14 41 30.8	-1.4
HHC				PCP	PcP	14 42 25.5	-0.6
HHC				S	S	14 45 45.3	-3.5
HHC				XS		14 46 02.6	
HHC				SCP		14 46 09.1	
HHC				PCS		14 46 13.1	
HHC				SS	SS	14 48 17.0	-2.1
HHC				SCS	ScS	14 50 14.8	-1.0
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.9						
HHC				AMB	AMB		

comp=Z,342nm,4.6s
HHC LR LR
comp=N,2μm,14.3s,MS5.2
HHC LR LR
comp=E,2μm,13.1s,MS5.2
HHC LR LR
comp=Z,1μm,14.3s,MS4.9
AAA Alma-Ata 37.48 342 *i* P **P 14 40 10.8 +1.9**
AAA *i* S **S 14 45 58.5 +3.1**
AAA pmax pmax
comp=Z,600nm,4.3s
AAA smax
comp=E,3μm,10.7s
AAA MLR MLR
comp=Z,2μm,18.5s,MS4.9
AML Almayashu 37.59 338 P **P 14 40 11.0 +1.2**
SNR=102
KBK Karagaybulak 37.59 339 P **P 14 40 11.3 +1.5**
SNR=10
TKM2 Tokmak 2 37.60 340 P **P 14 40 11.0 +1.1**
SNR=16
AAK Ala-Archa 37.73 339 P **P 14 40 12.7 +1.7**
SNR=23
AAK Ala-Archa 37.73 339 ⇓ *i* P **P 14 40 12.1 +1.0**
comp=E,63nm,1.1s,mb5.3
AAK LR LR
comp=Z,398nm,20.0s,MS4.2
AAK Ala-Archa 37.73 339 *c i* P **P 14 40 12.2 +1.2**
AAK pmax pmax
comp=Z,33nm,1.0s,mb5.0
FRU Bishkek 37.86 339 *e* P **P 14 40 13.5 +1.4**
FRU *e* S **S 14 46 05.0 +3.9**
FRU pmax pmax
comp=Z,150nm,2.0s,mb5.4
FRU smax
comp=E,1μm,13.0s
FRU MLR MLR
comp=N,3μm,16.0s
FRU MLR MLR
comp=Z,5μm,16.0s,MS5.4
CHMS Chumysh 37.96 339 P **P 14 40 13.9 +1.0**
SNR=11
EKS2 Erkin-Say 38.02 338 P **P 14 40 14.7 +1.3**
SNR=24
ASHO Ashiyiah 38.04 300 ⇓ P **P 14 40 15.8 +2.0**
BANOM Banah 38.27 302 ⇓ P **P 14 40 17.6 +1.9**
USP Ospenovka 38.29 339 P **P 14 40 16.7 +1.0**
SNR=30
WHFO Wadi Hawf 38.40 289 P **P 14 40 18.2 +1.4**
SNR=7.9
JOW Kunigami 39.18 57 P **P 14 40 23.8 +0.5**
comp=Z,35nm,0.8s,mb5.1,baz=266,slow=8.7,SNR=23
JOW LR LR 14 58 59.2
comp=Z,2μm,18.8s,MS4.9,baz=254,slow=40
MKAR Makanchi Array 39.50 350 P **P 14 40 25.6 -0.1**
comp=Z,29nm,1.1s,mb4.9,baz=167,slow=8.4,SNR=83
MKAR Makanchi Array 39.50 350 *i* P **P 14 40 25.3 -0.4**
MKAR pmax pmax
comp=Z,23nm,1.1s
KKAR Karatay Array 39.67 335 *i* P **P 14 40 27.6 +0.4**
KKAR Karatay Array 39.67 335 *i* P **P 14 40 27.5 +0.3**
KKAR pmax pmax
comp=Z,18nm,0.8s,mb4.8
MBWA Marble Bar 39.83 137 *e* P **P 14 40 28.9 +0.2**
comp=Z,47nm,1.5s,mb5.0
MBWA LR LR
comp=Z,1μm,19.0s,MS4.8
SONM Songino Array 41.52 15 P **P 14 40 42.6 +0.2**
comp=Z,42nm,0.9s,mb5.1,baz=195,slow=8.4,SNR=260
SONM LR LR 15 00 20.8
comp=Z,2μm,20.8s,MS5.0,baz=302,slow=40
FITZ Fitzroy Crossi 42.20 128 *e* P **P 14 40 47.3 -1.1**
comp=Z,30nm,0.9s,mb4.9
FITZ *e* S **S 14 47 05.6 -0.8**
FITZ Fitzroy Crossi 42.20 128 P **P 14 40 47.6 -0.8**
comp=Z,42nm,0.9s,mb5.1,baz=338,slow=5.7,SNR=31
FITZ LR LR 14 58 38.2
comp=Z,3μm,21.7s,MS5.1,baz=289,slow=37
ZAK Zakamensk 43.26 11 *e* P **P 14 40 56.7 +0.2**
ZAK *e* 14 42 40.8
ZAK pmax pmax
comp=Z,12nm,1.3s,mb4.5
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
SNY Shenyang 43.75 35 ⇑ P **P 14 41 03.8 +3.1**
SNY PP PP 14 42 43.6 -0.6
SNY S S **14 47 30.8 +2.2**
SNY AMB AMB
comp=Z,20nm,1.1s,mb4.8
SNY AMB AMB
comp=Z,510nm,7.5s
SNY LR LR
comp=N,1μm,20.0s
SNY LR LR
comp=Z,1μm,21.6s,MS4.7
KS15 Wonju Array Si 43.77 42 *e* P **P 14 41 00.1 -0.8**
JNU Nakatsue 43.79 50 LR LR 15 01 26.2
comp=Z,2μm,19.3s,MS5.0,baz=60,slow=39
KURK Kurchatov 43.97 348 *e* P **P 14 41 02.2 -0.1**
comp=Z,74nm,1.2s,mb5.3
KURK LR LR
comp=Z,389nm,19.0s,MS4.3
KURK Kurchatov 43.97 348 *e* P **P 14 41 02.2 -0.1**
KURK *e* S **S 14 47 40.6 +9.0**
KURK pmax pmax
comp=Z,74nm,1.2s,mb5.3
MOY Mondy 44.14 8 *e* P **P 14 41 08.3 +4.6**
MOY pmax pmax
comp=Z,52nm,2.1s,mb4.9
KAKA Kakadu 45.21 117 *e* P **P 14 41 21.8 +9.0**
comp=Z,4.4nm,0.5s,mb4.5
IRK Irkutsk 45.22 11 *e* P **P 14 41 12.5 +0.1**
IRK pmax pmax
comp=Z,85nm,2.0s,mb5.2
CN2 Changchun 46.08 34 *e* P **P 14 41 19.3 0.0**
CN2 *e* AP pP 14 41 28.3 +0.2
CN2 *e* S **S 14 48 02.8 +0.6**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,470nm,8.0s
CN2 LR LR
comp=N,2μm,16.0s,MS5.3
CN2 LR LR
comp=E,2μm,16.0s,MS5.3
CN2 LR LR
comp=Z,1μm,17.0s,MS4.9
ZAL Zalesovo 46.14 354 P **P 14 41 19.1 -0.5**
comp=Z,11nm,0.9s,mb4.8,baz=292,slow=9.5,SNR=44
ZAL LR LR 15 03 58.5
comp=Z,2μm,20.7s,MS5.0,baz=288,slow=40
KLBR Kellerberrin 46.49 149 *e* P **P 14 41 25.5 +2.8**
comp=Z,59nm,1.4s,mb5.3
KBD Kabd 46.55 303 *e* P **P 14 41 24.1 +1.0**
KBD AMb AMB 14 41 30.0
comp=Z,369nm,1.0s,mb6.3
RDF Al-Radifah 46.59 302 *e* P **P 14 41 24.2 +0.7**
RDF AMb AMB 14 41 29.9
comp=Z,168nm,1.1s,mb5.9
UMR Umm Al-Rimmam 46.65 303 *e* P **P 14 41 24.5 +0.6**
UMR AMb AMB 14 41 25.8
comp=Z,95nm,0.6s,mb5.9
NAY Al-Naaiem 46.95 303 *e* P **P 14 41 26.7 +0.4**
NAY AMb AMB 14 41 32.4
comp=Z,72nm,0.8s,mb5.7
MIB Mutribah 47.04 303 *e* P **P 14 41 27.3 +0.2**
MIB AMb AMB 14 41 28.8
comp=Z,159nm,0.8s,mb6.0
NVS Novosibirsk 47.20 353 *i* P **P 14 41 25.5 -2.4**
NVS *e* S **S 14 48 15.0 -2.9**
NVS pmax pmax
comp=Z,53nm,1.4s,mb5.3
NVS pmax pmax
comp=N,51nm,1.3s
NVS pmax pmax
comp=E,20nm,1.4s
NVS smax
comp=N,24nm,1.7s
NVS smax
comp=E,33nm,1.7s
HIA Hailar 47.26 25 *e* P **P 14 41 29.0 +0.5**
comp=E,142nm,1.6s,mb5.7
HIA LR LR
comp=Z,887nm,20.0s,MS4.7
HIA Hailar 47.26 25 P **P 14 41 28.3 -0.2**
HIA pmax pmax
comp=Z,140nm,1.6s

NWAO Narrogin (SRO) 47.32 151 LR LR 15 02 27.1
comp=Z,1μm,19.5s,MS4.9,baz=320,slow=37
NWAO Narrogin (SRO) 47.32 151 *e* P **P 14 41 29.4 +0.2**
comp=Z,123nm,1.8s,mb5.5
NWAO LR LR
comp=Z,1μm,21.0s,MS4.9
NWAO Narrogin (SRO) 47.32 151 P **P 14 41 29.0 -0.2**
KAMS Al Khamasin 47.35 290 P **P 14 41 29.5 -0.1**
MZLS Mizel 47.40 295 P **P 14 41 30.6 +0.6**
VOSK Vostochnaya 47.73 343 *i* P **P 14 41 31.7 -0.4**
VOSK Vostochnaya 47.73 343 P **P 14 41 31.7 -0.4**
VOSK pmax pmax
comp=Z,23nm,0.9s,mb5.2
BVA0 Borovoye Array 48.16 343 *i* P **P 14 41 35.1 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BVAR Borovoye Array 48.16 343 P **P 14 41 35.2 -0.3**
comp=Z,14nm,0.9s,mb5.0,baz=143,slow=7.4,SNR=73
BRVK Borovoye 48.23 343 *e* P **P 14 41 35.1 -0.9**
comp=Z,14nm,0.9s,mb5.0
BRVK LR LR
comp=Z,302nm,19.0s,MS4.3
ATD Arta Tunnel 48.46 278 LR LR 14 58 14.8
comp=Z,2μm,21.7s,MS5.0,baz=79,slow=31
MDJ Mudanjiang 48.92 35 P **P 14 41 41.5 0.0**
MDJ AP pP 14 41 50.5 +0.2
MDJ XP sP 14 41 54.4 +0.6
MDJ PP PP 14 43 34.9 0.0
MDJ SCP 14 46 57.9
MDJ PCS 14 47 01.6
MDJ S **S 14 48 44.8 +2.5**
MDJ XS 14 48 58.6
MDJ SCS ScS 14 51 30.4 +1.8
MDJ AMB AMB
comp=Z,9.0nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,185nm,4.4s
MDJ LR LR
comp=N,2μm,14.7s,MS5.2
MDJ LR LR
comp=E,415nm,14.7s,MS5.2
MDJ LR LR
comp=Z,1μm,14.7s,MS5.1
MDJ Mudanjiang 48.92 35 *e* P **P 14 41 41.8 +0.4**
comp=Z,52nm,1.6s,mb5.3
MDJ LR LR
comp=Z,1μm,19.0s,MS4.9
AB31 Akbulak array 49.07 333 *i* P **P 14 41 42.4 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AFFS 'Afif 49.37 295 P **P 14 41 46.5 +1.4**
VLA Vladivostok 49.43 38 *i* P **P 14 41 44.7 -0.7**
BLJS Baljurashi 50.08 289 P **P 14 41 52.2 +1.6**
WRA Warramunga Arr 50.14 124 P **P 14 41 49.9 -1.2**
comp=Z,26nm,0.9s,mb5.3,baz=304,slow=8.5,SNR=157
WRA Warramunga Arr 50.14 124 *i* P **P 14 41 49.9 -1.2**
WRA pmax pmax
comp=Z,26nm,0.9s
WRAB Tennant Creek 50.14 124 ⇑ *i* P **P 14 41 49.8 -1.4**
comp=Z,47nm,0.9s,mb5.5
WRAB *e* pP pP 14 41 58.6 -1.5
WRAB LR LR
comp=Z,503nm,20.0s,MS4.5
WRAB Tennant Creek 50.14 124 *e* P **P 14 41 49.7 -1.5**
WRAB pmax pmax
comp=Z,47nm,0.9s,mb5.5
WB2 Warramunga Arr 50.15 124 ⇑ *i* P **P 14 41 49.9 -1.3**
WB2 *e* S **S 14 48 57.4 -2.3**
BHD Baghdad 50.53 307 *ex* x 14 41 49.0
BHD *ex* x 14 43 50.0
BHD *ex* x 14 49 06.0
BHD *ex* x 14 52 51.0
MAJO Matsushiro 50.68 49 *e* P **P 14 41 54.8 -0.3**
comp=Z,110nm,1.7s,mb5.5
MAJO LR LR
comp=Z,2μm,22.0s,MS5.0
MAT Matsushiro 50.68 49 P **P 14 41 54.4 -0.7**
MAT S **S 14 49 07.0 +0.1**
MAT Matsushiro 50.68 49 *e* P **P 14 41 54.0 -1.1**
comp=Z,50nm,1.5s,mb5.2
MAT *e* S **S 14 49 17.0 +10**
MAT LR LR
comp=Z,1μm,20.0s,MS5.0
MJAR Matsushiro Arr 50.69 49 P **P 14 41 54.5 -0.6**
comp=Z,4.1nm,0.7s,mb4.5,baz=235,slow=6.7,SNR=16
MJAR PcP PcP 14 43 12.4 0.0
comp=Z,9.6nm,0.9s,baz=228,slow=2.7,SNR=8.5
MJAR LR LR 15 03 56.1
comp=Z,1μm,21.4s,MS4.9,baz=225,slow=37
MJAR Matsushiro Arr 50.69 49 P **P 14 41 54.5 -0.6**
MJAR PcP PcP 14 43 12.4 0.0
MJAR LR LR 15 03 56.1
JHJ Hachijo jima 2 50.71 53 LR LR 15 03 47.6
comp=Z,884nm,19.2s,MS4.8,baz=290,slow=37
HILS Ha'il 51.11 299 P **P 14 41 59.8 +1.3**
CBIJ Chichi jima 51.14 62 LR LR 15 00 56.4
comp=Z,528nm,21.2s,MS4.5,baz=266,slow=33
OPO Ambohidratompo 51.45 239 P **P 14 42 01.7 +0.6**
comp=Z,5.0nm,0.8s,mb4.5,baz=19,slow=4.6,SNR=7.6
ASPA Alice Springs 51.70 129 *e* P **P 14 42 02.2 -0.8**
FORT Forrest 51.84 140 ⇓ *i* P **P 14 42 04.6 +0.6**
comp=Z,70nm,1.0s,mb5.5
GUMO Guam 52.20 79 LR LR 15 04 09.1
comp=Z,1μm,20.5s,MS4.9,baz=264,slow=36
GUMO Guam 52.20 79 PFAKE 14 42 20.0 +13
GUMO LR LR
comp=Z,1μm,19.0s,MS5.0
GUMO Guam 52.20 79 P **P 14 42 07.0 +0.1**
BOD Bodaibo 52.52 15 *e* P **P 14 42 07.7 -1.0**
BOD *e* 14 49 32.1
BOD pmax pmax
comp=Z,84nm,1.0s,mb5.6
MSL Mosul 52.53 310 *ex* x 14 42 30.0
GNI Garni 52.78 315 LR LR 15 08 44.4
comp=Z,1μm,19.4s,MS4.9,baz=307,slow=41
GNI Garni 52.78 315 *e* P **P 14 42 10.6 -0.3**
comp=Z,202nm,1.5s,mb5.8
GNI LR LR
comp=Z,1μm,20.0s,MS4.9
GNI Garni 52.78 315 *d i* P **P 14 42 10.4 -0.4**
GNI pmax pmax
comp=Z,110nm,1.4s
GNI MLR MLR
comp=Z,1μm,22.0s
KLR Kul'dur 52.88 32 *e* P **P 14 42 08.0 -3.5**
KLR *e* 14 42 14.0
KLR *e* S **S 14 49 30.0 -6.8**
KLR *e* SS SS 14 53 14.0 -0.9
KLR smax
comp=N,800nm,14.0s
KLR smax
comp=E,700nm,14.0s
KLR MLR MLR
comp=N,1μm,17.0s
KLR MLR MLR
comp=Z,2μm,17.0s,MS5.2
DGRG David-gareji 52.89 317 P **P 14 42 10.9 -0.7**
KBRS Khaybar 53.03 296 P **P 14 42 14.1 +1.2**
MTA Mtatsminda 53.39 317 P **P 14 42 14.8 -0.6**
TI2 Plekhanov 53.43 317 ⇓ *i* P **P 14 42 16.0 +0.3**
TI2 *e* S **S 14 49 47.0 +2.6**
TI2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
TI2 MLR MLR
comp=E,500nm,18.0s
TI2 MLR MLR
comp=Z,500nm,18.0s,MS4.6
TBLG Delisi 53.44 317 P **P 14 42 15.1 -0.7**
ZEI Tsey 54.45 318 *e* P **P 14 42 20.9 -2.2**
ZEI *i* *PP pP 14 42 29.8 -2.2
ZEI *i* 14 44 22.7
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SVE Sverdlovsk 54.47 339 *e* P **P 14 42 22.9 -0.1**
SVE *e* pP 14 42 32.1 +0.1
SVE *e* 14 52 03.0
SVE pmax pmax
comp=Z,120nm,0.8s,mb5.9
SVE MLR MLR
comp=N,1μm,16.0s,MS5.3
SVE MLR MLR
comp=E,2μm,16.0s,MS5.3
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.2
UMJS Umm Lajj 54.69 295 P **P 14 42 26.8 +1.7**

ARU Arti 54.91 338 *e* P **P 14 42 25.2 -1.1**
comp=Z,83nm,1.4s,mb5.6
ARU LR LR
comp=Z,402nm,21.0s,MS4.5
ARU Arti 54.91 338 ⇓ *i* P **P 14 42 26.2 -0.1**
ARU *e* 14 43 25.6
ARU *e* 14 44 28.8
ARU *e* PPP PPP 14 45 40.4 -2.9
ARU *e* S **S 14 50 06.3 +2.2**
ARU *e* 14 52 11.1
ARU *e* SS SS 14 53 41.3 -6.1
ARU pmax pmax
comp=Z,40nm,1.1s,mb5.4
ARU MLR MLR
comp=Z,1μm,17.0s,MS5.0
ARU MLR MLR
comp=N,900nm,18.0s,MS5.0
ARU MLR MLR
comp=E,600nm,15.0s,MS5.0
CLNS Chul'man 55.06 21 *c i* P **P 14 42 26.8 -0.6**
CLNS *e* S **S 14 50 03.6 -2.5**
CLNS *e* 14 52 10.8
CLNS pmax pmax
comp=N,38nm,0.9s
CLNS pmax pmax
comp=Z,62nm,0.9s,mb5.6
CLNS pmax pmax
comp=E,38nm,1.0s
CLNS pmax pmax
comp=Z,12nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS smax
comp=Z,13nm,0.9s
CLNS smax
comp=N,12nm,2.2s
CLNS smax
comp=E,11nm,0.8s
KMBO Kilima Mbogo 55.27 263 P **P 14 42 30.5 +1.0**
comp=E,24nm,0.8s,mb5.2,baz=58,slow=9.9,SNR=62
KMBO LR LR 15 01 57.2
comp=E,2μm,20.7s,MS5.2,baz=93,slow=32
KMBO Kilima Mbogo 55.27 263 *i* P **P 14 42 30.5 +1.0**
KMBO pmax pmax
comp=Z,24nm,0.9s
KIV Kislovodsk 55.75 319 *e* P **P 14 42 31.7 -0.8**
comp=Z,180nm,1.5s,mb5.9
KIV LR LR
comp=Z,222nm,21.0s,MS4.2
KIV Kislovodsk 55.75 319 *c i* P **P 14 42 31.6 -0.9**
KIV *e* S **S 14 50 16.2 +0.7**
KIV pmax pmax
comp=N,13nm,1.1s
KIV pmax pmax
comp=E,33nm,1.1s
KIV pmax pmax
comp=Z,55nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,735nm,20.0s,MS4.8
KIV MLR MLR
comp=N,464nm,22.0s,MS4.7
KIV MLR MLR
comp=E,454nm,20.0s,MS4.7
QURS Qurayyt al Mil 55.78 303 P **P 14 42 33.5 +0.6**
TBKS Tabuk 55.83 299 P **P 14 42 34.9 +1.6**
ASF Jabal al Asfar 56.31 303 LR LR 15 08 09.6
comp=E,927nm,20.2s,MS4.9,baz=335,slow=38
JMQS Jabal Moqyreh 56.53 299 P **P 14 42 38.9 +0.6**
KELT Kelkit 56.68 313 *i* P **P 14 42 43.0 +3.7**
MALT Malatya 56.70 311 *e* P **P 14 42 38.8 -0.7**
comp=E,48nm,1.3s,mb5.4
MALT Malatya 56.70 311 *e* P **P 14 42 38.8 -0.7**
MALT pmax pmax
comp=Z,48nm,1.2s,mb5.4
ASAJ Asahikawa 56.74 42 LR LR 15 08 54.1
comp=Z,1μm,18.4s,MS5.0,baz=353,slow=38
GZT Gaziantep 57.08 309 *i* P **P 14 42 41.0 -1.2**
MKRJ Makawir 57.22 302 P **P 14 42 44.2 +0.9**
MZDA Masada 57.41 302 P **P 14 42 44.9 +0.3**
ZFRI Zfri 57.42 301 P **P 14 42 45.2 +0.5**
HRFI Mount Harif 57.45 300 P **P 14 42 45.0 +0.1**
EIL Elat 57.46 300 P **P 14 42 45.3 +0.4**
PRNI Paran 57.53 301 P **P 14 42 46.1 +0.7**
KSDI Kefar Szold 57.55 304 P **P 14 42 45.6 +0.1**
SOC Sochi 57.58 317 *e* P **P 14 42 42.7 -2.9**
SOC *e* 14 43 38.0
SOC *e* 14 44 50.5
SOC *i* S **S 14 50 38.4 -1.2**
SOC *e* 14 52 25.0
SOC *e* SS SS 14 54 32.8 +1.6
SOC pmax pmax
comp=Z,29nm,0.9s,mb5.3
SOC pmax pmax
comp=N,12nm,0.6s
SOC pmax pmax
comp=E,19nm,0.9s
SOC MLR MLR
comp=Z,540nm,18.0s,MS4.7
SOC MLR MLR
comp=N,220nm,20.0s,MS4.7
SOC MLR MLR
comp=E,542nm,18.0s,MS4.7
MMLI Mount Malkishu 57.58 303 P **P 14 42 46.6 +0.8**
GRSN GIRESUNGRSN 57.65 314 *i* P **P 14 42 42.9 -3.2**
PMG Port Moresby 57.66 106 *e* P **P 14 42 45.8 -0.8**
comp=E,28nm,0.8s,mb5.3
PMG LR LR
comp=Z,1μm,19.0s,MS5.0
MMA2 Mount Meron ar 57.72 304 P **P 14 42 47.5 +0.8**
MMA1 Mount Meron ar 57.72 304 P **P 14 42 47.1 +0.4**
MMA0 Mount Meron ar 57.72 304 P **P 14 42 47.5 +0.8**
KMTI Karmit 57.73 300 P **P 14 42 47.3 +0.5**
AMZI Amatzia 57.81 302 P **P 14 42 47.7 +0.3**
SLTI Sal'it 57.86 303 P **P 14 42 48.3 +0.6**
COBT Iskenderun 57.86 308 *i* P **P 14 42 44.9 -2.8**
SOKR Solikamsk 57.88 340 ⇑ *i* P **P 14 42 47.9 +0.4**
SOKR S **S 14 50 52.2 +8.7**
SOKR pmax pmax
comp=Z,80nm,1.5s,mb5.5
SOKR MLR MLR
comp=Z,2μm,20.0s,MS5.2
HNTI Hanita 57.92 304 P **P 14 42 48.7 +0.6**
OFRI 'Ofer 57.98 303 P **P 14 42 49.1 +0.6**
YSS Yuzh-Sakhalins 58.01 39 *e* P **P 14 42 48.3 -0.2**
comp=Z,24nm,1.1s,mb5.1
YSS LR LR
comp=Z,714nm,19.0s,MS4.8
YSS Yuzh-Sakhalins 58.01 39 *e* P **P 14 42 47.3 -1.2**
YSS *e* pP 14 42 57.8 +0.2
YSS *e* S **S 14 50 43.0 -2.4**
YSS *e* PS PS 14 50 56.0 -6.6
YSS *e* SS SS 14 54 34.0 -4.2
ANN Anapa 59.55 318 *e* P **P 14 42 55.1 -4.2**
ANN *e* *PP pP 14 43 06.0 -2.4
ANN *e* S **S 14 51 02.6 -2.8**
ANN *e* 14 52 43.3
ANN *e* SS SS 14 55 03.6 +1.4
ANN pmax pmax
comp=Z,286nm,11.4s
ANN MLR MLR
comp=E,809nm,23.0s
ANN MLR MLR
comp=Z,868nm,23.0s,MS4.8
CSS Prodhromos 59.81 306 ⇓ *i* P **P 14 43 00.2 -1.0**
comp=Z,91nm,1.5s,mb5.6
BOYT Boyabat 60.22 313 *i* P **P 14 43 01.1 -2.8**
CTA Charters Tower 60.29 118 ⇓ *i* P **P 14 43 04.4 -0.3**
comp=Z,10.0nm,1.0s,mb4.8
CTA *e* S **S 14 51 15.7 +0.4**
CTA Charters Tower 60.29 118 P **P 14 43 04.0 -0.7**
comp=Z,12nm,0.9s,mb4.9,baz=295,slow=7.6,SNR=12
CTAO Charters Tower 60.29 118 *e* P **P 14 43 03.7 -0.9**
comp=Z,23nm,1.1s,mb5.1
CTAO LR LR
comp=Z,1μm,19.0s,MS5.1
ERMK Ermenek 60.50 308 *i* P **P 14 43 04.7 -1.2**
YAK Yakutsk 60.55 19 *c i* P **P 14 43 04.5 -1.4**
YAK *i* *PP pP 14 43 12.2 -2.8
YAK *e* 14 43 45.9
YAK *e* 14 45 16.9
YAK *i* S **S 14 51 18.5 +0.5**
YAK *i* *SS 14 51 37.8
YAK *e* 14 52 55.1

YAK *i* SS SS 14 55 21.9 +4.3
YAK pmax pmax
comp=Z,42nm,1.0s,mb5.5
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=Z,45nm,7.8s
YAK smax
comp=N,589nm,12.7s
YAK smax
comp=E,153nm,11.2s
YAK MLR MLR
comp=N,787nm,17.0s,MS5.1
YAK MLR MLR
comp=Z,732nm,17.0s,MS4.9
YAK MLR MLR
comp=E,769nm,16.0s,MS5.1
BRTR Keskin Array B 60.68 311 P **P** **14 43 04.9 -2.2**
comp=E,12nm,0.7s,mb5.1,baz=124,slow=7.5,SNR=72
BR131 Keskin Array S 60.68 311 ⇓*i*P **P** **14 43 04.9 -2.2**
comp=E,11nm,0.8s,mb5.0
VRSR Storozhevoye 60.99 325 *e*P **P** **14 43 07.7 -1.3**
VRSR pmax pmax
comp=Z,40nm,1.6s,mb5.3
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,0.8s
ELDT Eldivan 61.04 312 *i* P **P** **14 43 07.9 -1.6**
VOR Voronezh 61.21 326 *e*P **P** **14 43 12.0 +1.5**
VOR *e**PP pP 14 43 17.5 -2.1
VOR pmax pmax
comp=E,80nm,1.4s
VOR pmax pmax
comp=Z,90nm,1.4s,mb5.7
ANTO Ankara 61.35 311 *e*P **P** **14 43 10.2 -1.4**
comp=Z,55nm,1.5s,mb5.5
MBAR Mbarara 61.60 265 *e*P **P** **14 43 13.1 -0.6**
comp=Z,84nm,1.5s,mb5.7
MBAR Mbarara 61.60 265*d* *i*P **P** **14 43 12.9 -0.8**
STKA Stephens Creek 61.80 133 ⇓*i*P **P** **14 43 14.6 -0.2**
comp=Z,13nm,0.9s,mb5.0
STKA *e*S **S** **14 51 37.5 +3.1**
STKA Stephens Creek 61.80 133 P **P** **14 43 14.1 -0.7**
comp=Z,24nm,1.2s,mb5.2,baz=324,slow=6.2,SNR=12
STKA LR LR 15 10 50.5
comp=Z,1μm,21.1s,MS5.1,baz=49,slow=37
SIM Simferopol' **61.82 317** *e*P **P** **14 43 18.0 +3.2**
SIM *i*S **S** **14 51 43.0 +8.6**
SIM pmax pmax
comp=Z,30nm,0.8s,mb5.5
SGKT Sivrigoynuk 62.07 312 *i* P **P** **14 43 14.0 -2.4**
ISP Isparta 62.63 308 *e*P **P** **14 43 18.9 -1.3**
comp=Z,30nm,0.8s,mb5.5
ISP Isparta 62.63 308 *i* P **P** **14 43 18.7 -1.5**
ESKT Eskisehir 62.72 310 *i* P **P** **14 43 18.1 -2.7**
TKTP Tekketepe 62.82 309 *i* P **P** **14 43 19.4 -2.1**
HENT Hendek 62.98 312 *i* P **P** **14 43 20.3 -2.2**
AKAS Kas 63.03 307 *i* P **P** **14 43 20.3 -2.6**
GOLH Golhisar 63.25 308 *i* P **P** **14 43 22.2 -2.1**
MOS Moscow 63.82 329 *e*P **P** **14 43 26.0 -1.8**
MOS *e* 14 44 02.0
MOS *e* 14 45 45.5
MOS pmax pmax
comp=Z,112nm,1.4s,mb5.7
MOS MLR MLR
comp=Z,1μm,16.2s,MS5.2
MOS MLR MLR
comp=N,2μm,16.3s
OBN Obninsk 64.09 328 *e*P **P** **14 43 29.0 -0.6**
comp=N,18nm,0.4s,mb5.5
OBN LR LR
comp=Z,413nm,21.0s,MS4.6
OBN Obninsk 64.09 328*ce*P **P** **14 43 28.8 -0.8**
OBN *i*S **S** **14 52 03.3 +0.6**
OBN pmax pmax
comp=Z,94nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,2μm,21.0s,MS5.2
ARG Arkhangelos 64.21 306 *e*P **P** **14 43 30.0 -0.7**
KARP Karpathos 64.88 305 *e*P **P** **14 43 35.0 -0.1**
TIRR Tirgusor 65.61 315⇑*i*P **P** **14 43 35.6 -4.0**
TIRR Tirgusor 65.61 315⇑*i*P **P** **14 43 35.6 -4.0**
KIS Kishinev 65.94 318 *e*P **P** **14 43 42.0 +0.3**
KIS *e* 14 44 08.0
KIS *e*S S 14 52 22.0 -3.6
KIS *e*PS PS 14 52 40.0 -11
CFR Carcaliu 65.96 316 ⇓*i*P **P** **14 43 40.2 -1.6**
CFR Carcaliu 65.96 316 ⇓*i*P **P** **14 43 40.2 -1.6**
NPS Neapolis 66.10 305 *e*P **P** **14 43 38.0 -4.9**
AKASG Malin Array Be 66.68 322 P **P** **14 43 44.0 -2.3**
comp=Z,1.0nm,0.4s,mb4.2,baz=92,slow=5.1,SNR=14
VRI Vrincioaia 67.08 316⇑*i*P **P** **14 43 49.1 +0.1**
VRI Vrincioaia 67.08 316⇑*i*P **P** **14 43 49.1 +0.1**
VRI Vrincioaia 67.08 316 P **P** **14 43 48.5 -0.5**
VAM Vamos 67.26 305 *i* P **P** **14 43 50.0 -0.3**
LSZ Lusaka 67.27 250 *e*P **P** **14 43 50.6 0.0**
LSZ LR LR
comp=Z,2μm,22.0s,MS5.3
LSZ Lusaka 67.27 250 P **P** **14 43 50.4 -0.2**
TOO Toolangi 67.47 136 ⇓*i*P **P** **14 43 52.9 +1.4**
comp=Z,27nm,1.2s,mb5.2
TIXI Tiksi 67.52 12⇑*i*P **P** **14 43 50.3 -1.0**
TIXI Tiksi 67.52 12 *e*P **P** **14 43 45.8 -5.5**
TIXI *e*S S 14 52 33.9 -10
TIXI pmax pmax
comp=Z,113nm,1.1s,mb5.8
MLR Muntele Rosu 67.54 316⇑*i*P **P** **14 43 51.9 +0.1**
MLR Muntele Rosu 67.54 316⇑*i*P **P** **14 43 51.9 0.0**
MLR Muntele Rosu 67.54 316 P **P** **14 43 51.5 -0.3**
RZN Rozhen 67.72 312 *e*P **P** **14 43 52.0 -1.1**
MPAR Parnis Oros 67.96 308 *e*P **P** **14 43 53.2 -1.4**
MTUR Matau 68.10 316 ⇓*i*P **P** **14 43 54.4 -0.9**
MTUR Matau 68.10 316 ⇓*i*P **P** **14 43 54.4 -0.9**
VOIR 68.15 316 ⇓*i*P **P** **14 43 50.2 -5.4**
VOIR 68.15 316 ⇓*i*P **P** **14 43 50.2 -5.5**
VLI Veliai 68.42 306 *e*P **P** **14 44 00.0 +2.5**
BURAR Bucovina Array 68.47 318⇑*i*P **P** **14 43 57.3 -0.3**
BURAR Bucovina Array 68.47 318⇑*i*P **P** **14 43 57.3 -0.3**
KKB Krupnik 68.95 312 *i* P **P** **14 43 59.3 -1.4**
VTS Vitosha 68.97 312 *e*P **P** **14 43 59.9 -0.9**
VTS Vitosha 68.97 312 P **P** **14 44 00.2 -0.6**
ITM Ithomi 69.28 307 *e*P **P** **14 44 01.2 -1.6**
EVR Evrytania 69.55 308⇑*i*P **P** **14 44 02.7 -1.7**
PET Petropavlovsk 69.69 36 *e*P **P** **14 44 05.0 0.0**
PET Petropavlovsk 69.69 36 *e*P **P** **14 44 06.6 +1.6**
PET *e* 14 46 41.8
PET *e*PPP PPP 14 48 15.4 -5.1
PET *i*S S 14 53 12.4 +2.1
PET *e*SS SS 14 57 40.4 +0.1
PET *e*SSS SSS 15 00 44.8 +0.5
PET pmax pmax
comp=Z,12nm,0.8s,mb4.9
PET pmax pmax
comp=Z,200nm,13.4s
PET smax
comp=N,500nm,14.6s
PET MLR MLR
comp=Z,600nm,18.0s,MS4.9
LVV L'vov 69.70 320 *e*P **P** **14 44 05.0 -0.1**
LVV *e*S S 14 53 10.0 -0.4
SEY Seymchan 69.70 25 *i* Pr 14 44 04.2
SEY Seymchan 69.70 25*d* *i*P **P** **14 44 04.1 -0.8**
JOF Joensuu 69.77 335 *e*p **P** **14 44 04.5 -0.8**
comp=Z,16nm,0.8s,mb5.0
JOF Joensuu 69.77 335 *e*P **P** **14 44 04.5 -0.8**
JOF pmax pmax
comp=Z,16nm,0.8s,mb5.0
HNR Honiara 69.92 103 P **P** **14 44 05.4 -1.6**
comp=Z,157nm,1.1s,mb5.9
HNR LR LR
comp=Z,431nm,19.0s,MS4.7
HNR Honiara 69.92 103 P **P** **14 44 07.3 +0.2**
DRGR 69.99 317 ⇓*i*P **P** **14 44 05.6 -1.3**
DRGR 69.99 317 ⇓*i*P **P** **14 44 05.6 -1.4**
DRGR P 14 44 10.7
DRGR 69.99 317 P **P** **14 44 10.7 +3.8**
SKO Skopje 70.19 312 *e*P **P** **14 44 05.0 -3.2**
VSU Vasula 70.34 330⇑*e*P **P** **14 44 08.1 -0.8**
VLS Valsamata 70.43 308 *e*P **P** **14 44 08.7 -1.1**
UZH Uzhgorod 70.59 319 *e*P **P** **14 44 13.0 +2.5**
UZH *i*S S 14 53 25.0 +4.1

KOLS Kolonicke sedl 70.65 319 *e*P **P** **14 44 10.3 -0.6**
KOLS *e* 14 44 15.8
APA Apatity 70.94 340 *e*P **P** **14 44 11.0 -1.4**
APA *i*S S 14 53 26.0 +1.3
APA pmax pmax
comp=Z,23nm,1.0s,mb5.1
SUW Suwalki 71.11 324 *e*P **P** **14 44 12.3 -1.3**
CRVS Cervenica-Dubn 71.18 319 *e* **P** **14 44 20.1 +6.0**
TAU Tasmania Unive 71.38 140 P **P** **14 44 15.4 -0.1**
STHS Stebnicka Huta 71.40 319 *e*P **P** **14 44 14.0 -1.5**
STHS *e*pP pP 14 44 23.9 -0.7
DIVS Divcibare 71.50 314⇑*i*P **P** **14 44 14.8 -1.4**
FINES FINESS Array B 71.56 332 P **P** **14 44 15.3 -0.9**
comp=Z,6.8nm,0.9s,mb4.6,baz=90,slow=3.8,SNR=9.2
FINES LR LR 15 20 17.5
comp=Z,981nm,18.7s,MS5.1,baz=287,slow=40
FINES FINESS Array B 71.56 332 P **P** **14 44 15.3 -0.9**
FINES LR LR 15 20 17.5
FINES FINESS Array B 71.56 332 *i* P **P** **14 44 15.8 -0.4**
FINES pmax pmax
comp=Z,7.0nm,0.9s
KAF Kangasniemi 71.66 333 *e*p **P** **14 44 16.1 -0.7**
comp=Z,18nm,1.1s,mb4.9,baz=105,slow=5.4
KAF Kangasniemi 71.66 333 *e*P **P** **14 44 16.1 -0.7**
KAF pmax pmax
comp=Z,18nm,1.1s,mb4.9
KECS Kecovo 71.75 318 *e*P **P** **14 44 16.9 -0.7**
KECS *e* 14 44 21.9
PSZ Piszkesteto 72.06 318 *e*P **P** **14 44 22.3 +2.9**
PSZ Piszkesteto 72.06 318 *e*P **P** **14 44 18.3 -1.1**
comp=Z,59nm,1.5s,mb5.3
PSZ P 14 44 23.1
PSZ Piszkesteto 72.06 318 P **P** **14 44 23.2 +3.8**
LBTB Lobatse 72.41 241 P **P** **14 44 22.5 +0.6**
comp=Z,8.7nm,0.8s,mb4.7,baz=107,slow=10,SNR=6.0
LBTB Lobatse 72.41 241 *e*P **P** **14 44 22.0 +0.1**
comp=Z,86nm,1.7s,mb5.4
LBTB LR LR
comp=Z,1μm,20.0s,MS5.2
LBTB Lobatse 72.41 241 P **P** **14 44 21.9 0.0**
OJC Ojcow 72.45 320 *e*P **P** **14 44 21.1 -0.6**
OJC *e*S S 14 53 44.1 +1.7
OJC MLR MLR 15 19 13.3
comp=Z,500nm,20.2s,MS4.8
PKSM Moragy 72.69 316 P **P** **14 44 27.2 +4.0**
VYHS Vyhne 72.84 318 *e*P **P** **14 44 24.9 +0.9**
VYHS *e* 14 44 28.0
OKC Ostrava-Krasne 73.46 320 *e*P **P** **14 44 27.6 0.0**
TIP Timpagrande 73.49 308 *e*P **P** **14 44 27.8 -0.2**
MORC Moravsky Berou 73.84 319 *e*P **P** **14 44 29.6 -0.2**
comp=Z,71nm,1.6s,mb5.3
MORC Moravsky Berou 73.84 319 P **P** **14 44 34.7 +4.9**
ZST Bratislava 73.95 318 *e*P **P** **14 44 30.3 -0.2**
ZST *e* 14 44 34.9
ARCES ARCESS Array B 74.39 340 P **P** **14 44 31.6 -0.9**
comp=Z,10.0nm,1.0s,mb4.7,baz=90,slow=4.9,SNR=6.8
ARCES LR LR 15 19 55.4
comp=Z,2μm,20.2s,MS5.3,baz=117,slow=38
VRAC Vranov 74.40 319 P **P** **14 44 32.4 -0.6**
comp=Z,4.2nm,0.6s,mb4.6,baz=149,slow=9.3,SNR=3.9
DPC Dobruska-Polom 74.68 320 *e*P **P** **14 44 34.6 -0.1**
DPC AMS AMS 15 21 40.0
comp=Z,600nm,15.6s
KSP Ksiaz 74.75 320 *e*P **P** **14 44 35.2 +0.1**
KSP *e* 14 44 40.0
KSP Ksiaz 74.75 320 *e*P **P** **14 44 35.0 -0.1**
KSP *e*pP pP 14 44 39.5 -4.8
KSP *e*S S 14 54 09.0 +0.8
KSP *e*SS SS 14 59 12.0 +14
KSP LR LR
comp=Z,1μm,24.0s,MS5.1
KSP Ksiaz 74.75 320 *e*P **P** **14 44 35.0 -0.1**
KSP *e*S S 14 54 09.0 +0.8
KSP MLR MLR
comp=Z,1μm,24.0s,MS5.1
UPC Upice 74.90 320 *e*P **P** **14 44 35.6 -0.3**
ARSA Arzberg 74.93 317⇑*i*P **P** **14 44 36.0 -0.2**
comp=Z,133nm,1.9s,mb5.5
BOJS Bojanci 74.99 315 *e*P **P** **14 44 35.5 -1.1**
BOJS *e* 14 44 40.3
TREC Trest 75.12 319 *e*P **P** **14 44 41.5 +4.3**
VAE Valguarnera 75.27 307 P **P** **14 44 39.9 +1.5**
comp=Z,9.0nm,0.4s,mb5.0,baz=135,slow=9.8,SNR=2.7
VISS Visnje 75.30 315 *e*P **P** **14 44 37.3 -1.0**
VISS *e* 14 44 42.0
CASY Casey 75.36 172 *e*P **P** **14 44 40.9 +2.7**
LJU Ljubljana 75.53 315 *e*P **P** **14 44 39.0 -0.6**
OBKA Obir 75.54 316⇑*i*P **P** **14 44 39.6 -0.1**
comp=Z,197nm,2.1s,mb5.7
PRU Pruhonice 75.79 319 *e*P **P** **14 44 40.8 -0.2**
PRU AMS AMS 15 23 00.0
comp=Z,700nm,18.0s
PVCC Panska Ves 75.82 320 *e*P **P** **14 44 41.0 -0.2**
MOA Molln 75.82 317 ⇓*i*P **P** **14 44 40.5 -0.7**
comp=Z,60nm,1.9s,mb5.2,SNR=6.4
GORS Gorjuse 75.91 316 *e*P **P** **14 44 40.9 -0.9**
GORS *i* 14 44 45.5
VOY Vojsko 75.97 315 *e*P **P** **14 44 41.3 -0.8**
VOY *e* 14 44 44.8
VOY *e* 14 45 00.5
BSD Bornholm Skovb 76.03 325 *i* P **P** **14 44 42.9 +0.6**
comp=Z,28nm,0.9s,mb5.2
BSD Bornholm Skovb 76.03 325 *e*P **P** **14 44 42.9 +0.6**
comp=Z,28nm,0.9s,mb5.2
BSD Bornholm Skovb 76.03 325 *e*P **P** **14 44 42.9 +0.6**
BSD pmax pmax
comp=Z,28nm,0.9s,mb5.2
BRG Berggiesshubel 76.24 320 *e*P **P** **14 44 43.6 +0.1**
comp=Z,6.7nm,0.6s,mb4.8
BRG *i* 14 44 48.7
BRG *i* 14 45 02.2
BRG S S 14 54 27.0 +2.5
BRG SS SS 14 59 19.0 -2.5
BRG LR LR
comp=Z,490nm,18.4s,MS4.8
BRG Berggiesshubel 76.24 320 *e*P **P** **14 44 43.6 +0.1**
BRG *i* 14 44 48.7
BRG *i* 14 45 02.2
BRG *i* 14 45 02.2
BRG pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRG pmax pmax
comp=Z,42nm,1.3s,mb5.2
BRG pmax pmax
comp=Z,42nm,1.3s,mb5.2
BRG MLR MLR
comp=E,609nm,15.3s
BRG MLR MLR
comp=Z,488nm,18.4s,MS4.8
ROBS Robic 76.25 316 *e*P **P** **14 44 42.6 -1.1**
ROBS *i* 14 44 47.1
GERES GERESS Array B 76.26 318 P **P** **14 44 43.3 -0.4**
comp=Z,8.5nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=42
GERES LR LR 15 21 52.6
comp=Z,789nm,21.5s,MS5.0,baz=91,slow=39
KHC Kasperske Hory 76.36 319 *e*P **P** **14 44 43.2 -1.0**
KHC pP pP 14 44 52.0 -1.4
KHC x x 14 45 02.5
KHC AMS AMS 15 21 00.0
comp=Z,700nm,21.0s
KHC Kasperske Hory 76.36 319 *e*P **P** **14 44 43.2 -1.0**
KHC *e* pP 14 44 52.0 -1.4
KHC *e* 14 45 02.5
KHC LR LR
comp=Z,700nm,21.0s,MS5.0
KHC Kasperske Hory 76.36 319 *e*P **P** **14 44 43.2 -1.0**
KHC *e* pP 14 44 52.0 -1.4
KHC MLR MLR
comp=Z,700nm,21.0s,MS5.0
CLL Collm 76.86 321 ⇓*i*P **P** **14 44 46.2 -0.8**
comp=Z,logA/T=1.1,mb4.8
CLL *i* 14 44 51.1
CLL *i**PP pP 14 44 55.6 -0.6
CLL *e**SP sP 14 44 59.0 -0.4
CLL *i* 14 45 05.8
CLL *e*PPP PPP 14 49 31.0 +1.7
CLL *e*S S 14 54 32.0 +0.7
CLL *e*PS PS 14 55 06.0 -7.8
CLL *e*PPS PPS 14 55 29.0 -1.7
CLL *e*SS SS 14 59 34.0 +3.2
CLL *e*SSS SSS 15 02 48.0 +1.3
CLL Collm 76.86 321 ⇓*i*P **P** **14 44 46.2 -0.8**
comp=Z,19nm,1.5s,mb4.8
CLL *i* pP pP 14 44 51.1 -5.1
CLL *i* sP sP 14 44 55.6 -3.8
CLL *e*S S 14 54 32.0 +0.7
CLL Collm 76.86 321 ⇓*i*P **P** **14 44 46.2 -0.8**
CLL *i**SP sP 14 44 55.6 -3.8
CLL *e*S S 14 54 32.0 +0.7
CLL pmax pmax
comp=Z,19nm,1.5s,mb4.8
NKC Novy Kostel 77.15 320 *e*P **P** **14 44 48.4 -0.2**
NKC AMS AMS 15 23 10.0
comp=Z,900nm,20.8s
HFS Hagfors 77.22 330 P **P** **14 44 47.7 -1.2**
comp=Z,4.1nm,0.4s,mb4.7,baz=117,slow=6.6,SNR=21
HFS LR LR 15 22 44.2
comp=Z,1μm,18.1s,MS5.3,baz=96,slow=39
WTTA Wattenberg 77.57 317⇑*i*P **P** **14 44 50.3 -0.7**
comp=Z,92nm,1.5s,mb5.5
MOX Moxa 77.70 320 *i* P **P** **14 44 52.7 +1.1**
comp=Z,logA/T=1.6,mb5.3
MOX SS SS 14 59 57.0 +14
MOX L 15 26 17.0
MOX Moxa 77.70 320 *e*P **P** **14 44 52.7 +1.1**
comp=Z,80nm,1.8s,mb5.3
MOX LR LR
comp=Z,600nm,18.0s,MS5.0
MOX Moxa 77.70 320 *e*P **P** **14 44 52.7 +1.1**
MOX pmax pmax
comp=Z,80nm,1.8s,mb5.3
MOX MLR MLR
comp=Z,600nm,18.0s,MS5.0
SQTA Sankt Quirin 77.86 317 ⇓*i*P **P** **14 44 51.8 -0.8**
comp=Z,36nm,1.2s,mb5.2
GRA1 Grafenberg Arr 77.92 319 *e*P **P** **14 44 53.1 +0.2**
comp=Z,58nm,1.2s,mb5.4
GRA1 LR LR
comp=Z,600nm,18.8s,MS4.9
GRF Grafenberg Arr 77.92 319 *e*P **P** **14 44 53.1 +0.2**
comp=Z,58nm,1.2s,mb5.4
GRF LR LR
comp=Z,600nm,18.8s,MS4.9
MOTA Moosalm 77.94 317 ⇓*i*P **P** **14 44 52.1 -0.9**
comp=Z,25nm,1.1s,mb5.1
TSUM Tsumeb 78.05 248 *e*P **P** **14 44 55.3 +1.1**
comp=Z,45nm,1.4s,mb5.2
TSUM LR LR
comp=Z,2μm,19.0s,MS5.3
MAW Mawson 78.26 191 P **P** **14 44 55.3 +0.9**
comp=Z,6.3nm,0.9s,mb4.5,baz=32,slow=5.8,SNR=6.3
MAW LR LR 15 15 07.1
comp=Z,451nm,19.4s,MS4.8,baz=164,slow=32
VLC Villacollemand 78.40 313 P **P** **14 44 53.8 -1.9**
comp=Z,13nm,0.8s,mb4.9
NB2 NORSAR Subarra 78.53 331 P **P** **14 44 54.5 -1.5**
comp=Z,18nm,1.1s,mb4.9,baz=94,slow=5.8
NB2 NORSAR Subarra 78.53 331 P **P** **14 44 54.5 -1.5**
baz=94,slow=5.9
NOA NORSAR Array B 78.53 331 P **P** **14 44 55.2 -0.7**
comp=Z,4.0nm,0.8s,mb4.4,baz=94,slow=5.7,SNR=6.5
NOA LR LR 15 23 27.1
comp=Z,1μm,19.8s,MS5.2,baz=90,slow=39
SUR Sutherland 78.63 235 P **P** **14 44 58.8 +1.6**
comp=Z,27nm,0.9s,mb5.2,baz=69,slow=3.0,SNR=5.6
SUR Sutherland 78.63 235 *e*P **P** **14 44 57.8 +0.7**
SUR LR LR
comp=Z,293nm,19.0s,MS4.6
NOUC Port Laguerre 78.72 114 *e*P **P** **14 44 59.3 +1.5**
DAVOX Davos 78.77 316 P **P** **14 44 57.9 +0.3**
comp=Z,11nm,0.5s,mb5.1,baz=131,slow=6.1,SNR=15
DAVA Damuels 78.77 317 ⇓*i*P **P** **14 44 57.3 -0.3**
comp=Z,86nm,1.4s,mb5.5
STU Stuttgart 79.23 318 *e*P **P** **14 45 04.9 +4.8**
comp=Z,92nm,1.7s,mb5.4
STU Stuttgart 79.23 318 *e*P **P** **14 45 04.9 +4.8**
STU pmax pmax
comp=Z,92nm,1.6s,mb5.5
KONO Kongsberg 79.25 329 *e*P **P** **14 45 00.1 +0.2**
KONO Kongsberg 79.25 329 *e*P **P** **14 45 00.0 +0.1**
MUD Monsted U'grnd 79.36 326 *i* P **P** **14 45 05.8 +5.2**
comp=Z,68nm,1.4s,mb5.4
comp=Z,650nm,18.0s
MUD Monsted U'grnd 79.36 326 *e*P **P** **14 45 05.8 +5.2**
comp=Z,68nm,1.4s,mb5.4
MUD Monsted U'grnd 79.36 326 *e*P **P** **14 45 05.8 +5.2**
MUD pmax pmax
comp=Z,68nm,1.4s,mb5.4
MUD MLR MLR
comp=Z,650nm,18.0s,MS5.0
PGF Pioggiola 79.43 312 *e*P **P** **14 45 00.8 -0.5**
comp=Z,72nm,1.4s,mb5.1
TOD Tromm 79.49 319 *e*P **P** **14 45 02.0 +0.5**
FELD Feldberg 80.03 317 *e*P **P** **14 45 05.0 +0.6**
LANF Langenberg 80.15 318 *e*P **P** **14 45 05.0 0.0**
LIBD Limburg 80.30 317 *e*P **P** **14 45 10.2 +4.4**
ABH Alteburg 80.30 319 *e*P **P** **14 45 06.9 +1.1**
BBS Basel-Blauen 80.38 317 *e*P **P** **14 45 10.2 +4.0**
SAOF Saorge 80.44 313 *e*P **P** **14 45 06.7 0.0**
WLS Welschbruch 80.46 318 *e*P **P** **14 45 05.9 -0.8**
CDF Champ du Feu 80.51 318 *e*P **P** **14 45 06.6 -0.3**
comp=Z,40nm,1.1s,mb5.0
SBF Sospel 80.53 313 *e*P **P** **14 45 06.8 -0.4**
comp=Z,95nm,0.9s,mb5.4
ECH Echery 80.59 318 *e*P **P** **14 45 08.1 +0.7**
MVIF Mont Vial 80.74 313 *e*P **P** **14 45 12.3 +4.1**
WTSB Winterswijk 80.74 321 *e*P **P** **14 45 08.1 0.0**
comp=Z,31nm,2.2s,mb4.8
HINF Hinteralfeld 80.81 317 *e*P **P** **14 45 07.8 -0.7**
LOMF Lomont 80.84 317 *e*P **P** **14 45 07.1 -1.6**
CMAH Djebel Manchou 80.88 306 P **P** **14 45 14.5 +5.4**
CALN Calern 80.94 313 *e*P **P** **14 45 09.7 +0.4**
LPG La Plagne 80.96 315 *e*P **P** **14 45 09.6 +0.2**
comp=Z,84nm,0.9s,mb5.4
LPL La Plagne 80.97 315 *e*P **P** **14 45 09.6 +0.2**
comp=Z,57nm,0.7s,mb5.3
MBDF Montbardon 80.98 314 *e*P **P** **14 45 08.7 -0.8**
comp=Z,41nm,1.0s,mb5.0
BNI Bardonecchia 81.03 314 *e*P **P** **14 45 09.6 -0.1**
comp=Z,56nm,1.0s,mb5.5
FRF La Foret Royal 81.12 313 *e*P **P** **14 45 10.1 -0.1**
comp=Z,117nm,1.2s,mb5.4
HAU Haudompre 81.14 317 *e*P **P** **14 45 09.6 -0.7**
comp=Z,98nm,1.2s,mb5.3
HAU *e*R
comp=Z,465nm,19.8s
WLF Walferdange 81.21 319 *e*P **P** **14 45 11.3 +0.7**
comp=Z,108nm,1.6s,mb5.5
LMR La Mourre 81.23 313 *e*P **P** **14 45 10.6 -0.2**
comp=Z,48nm,1.1s,mb5.0
HGN Heimansgroeve 81.32 320 *e*P **P** **14 45 14.8 +3.7**
comp=Z,21nm,2.6s,mb4.6
THEF They Montfort 81.38 318 *e*P **P** **14 45 11.4 -0.1**
CABF La Chapelle 81.38 316 *e*P **P** **14 45 11.7 +0.2**
comp=Z,138nm,1.4s,mb5.4
CKFL Kef-Lekhel 81.45 306 P **P** **14 45 17.0 +4.8**
ORIF Oris-en-Rattie 81.60 314 *e*P **P** **14 45 13.0 +0.3**
comp=Z,50nm,1.0s,mb5.1
ORIF *e*R
comp=Z,692nm,21.0s
CASM Ain Smara 81.65 305 P **P** **14 45 18.0 +4.8**
CTEI Djebel Teioual 81.73 305 P **P** **14 45 19.0 +5.4**
SMRF Simiane la Rot 81.87 313 *e*P **P** **14 45 14.7 +0.6**
comp=Z,183nm,1.6s,mb5.5
MEZF Maizieres J'vi 81.99 318 *e*P **P** **14 45 14.4 -0.2**
OCF Saint Nazaire 82.03 314 *e*P **P** **14 45 15.7 +0.7**
OG26 St.-Nazaire-De 82.03 314 *e*P **P** **14 45 15.7 +0.7**
GIVF Givet 82.05 320 *e*P **P** **14 45 14.6 -0.3**
DFRA Djebel Bou Aff 82.12 306 P **P** **14 45 24.0 +8.4**
DRV Dumont d'Urvil 82.17 163 S S **14 55 29.0 +2.2**
BAIF Baives 82.45 319 *e*P **P** **14 45 16.8 -0.2**
comp=Z,83nm,1.3s,mb5.2
CKHR Kef el Ahmar 82.46 305 P **P** **14 45 28.5 +11**
VIVF Saint-Julien-l 82.46 314 *e*P **P** **14 45 17.1 -0.1**
comp=Z,137nm,1.3s,mb5.4
SET Setif 82.53 305 P **P** **14 45 24.0 +6.3**
LOR Lormes 82.86 317 *e*P **P** **14 45 18.8 -0.4**
comp=Z,124nm,1.4s,mb5.5
LOR *e*R
comp=Z,752nm,22.0s
SMF Signal de Mont 82.92 316 *e*P **P** **14 45 19.1 -0.4**
comp=Z,55nm,1.2s,mb5.2
LASF Ste Croix 83.10 313 *e*P **P** **14 45 20.8 +0.3**
comp=Z,238nm,1.7s,mb5.7
SSF Saint Saulge 83.12 316 *e*P **P** **14 45 20.3 -0.2**
comp=Z,118nm,1.6s,mb5.4
PLDF La Plantade 83.12 315 *e*P **P** **14 45 22.4 +1.8**
AVF Avril sur Loir 83.25 316 *e*P **P** **14 45 20.7 -0.5**
comp=Z,92nm,1.5s,mb5.3
LBL Lubilhac 83.44 315 *e*P **P** **14 45 22.8 +0.6**

BGF	Bois d'Agland	83.61	316	eP	P	14 45 23.1	0.0
TCF	Toulx Ste Croi	84.07	316	eP	P	14 45 25.4	0.0
	comp=Z,94nm,1.7s,mb5.3						
LRDF	Laroque-de-Fa	84.16	312	eP	P	14 45 26.7	+0.8
FILF	Fillols	84.18	312	eP	P	14 45 27.1	+1.0
CAF	Calviac	84.31	314	eP	P	14 45 26.9	+0.3
MTLF	Montolieu	84.35	313	eP	P	14 45 27.0	+0.1
	comp=Z,37nm,0.9s,mb5.2						
ABA	Alger-Bouzarea	84.38	306	P	P	14 45 29.0	+1.8
EMHD	Djebel Mahouad	84.50	306	P	P	14 45 29.0	+1.1
VALF	Valcebollere	84.59	312	eP	P	14 45 29.5	+1.4
RJF	Les Rejaudoux	84.65	315	eP	P	14 45 28.8	+0.4
	comp=Z,50nm,1.1s,mb5.3						
RJF				eR			
	comp=Z,818nm,21.0s						
SYO	Syowa Base	84.92	197	⇑P	P	14 45 29.0	-0.1
SYO	Syowa Base	84.92	197	⇓PcP	PcP	14 45 33.8	+0.9
SYO	Syowa Base	84.92	197	⇑pP	pP	14 45 40.0	+1.5
MLS	Moulis	85.21	313	eP	P	14 45 31.2	0.0
LFF	La Frestale	85.24	315	eP	P	14 45 31.7	+0.4
LDF	La Druitiere	85.40	318	eP	P	14 45 31.7	-0.3
	comp=Z,43nm,1.1s,mb5.2						
FLN	La Foliniere	85.62	318	eP	P	14 45 32.7	-0.4
	comp=Z,22nm,0.9s,mb5.1						
FLN				eR			
	comp=Z,838nm,21.5s						
EBNR	Beni Rached	85.64	306	P	P	14 45 38.0	+4.5
MFF	Saint Martin d	85.66	316	eP	P	14 45 33.1	-0.3
	comp=Z,53nm,1.1s,mb5.4						
EPF	Esparros	85.75	313	eP	P	14 45 33.6	-0.3
ECHA	Ech Chlef	85.78	306	P	P	14 45 39.8	+5.5
GRR	Gorron	85.92	318	eP	P	14 45 34.2	-0.4
ETRT	Tiaret	85.93	305	P	P	14 45 41.0	+6.0
EANR	'Ain N'Sour	86.02	306	P	P	14 45 41.7	+6.3
ETSF	Etsaut	86.42	313	eP	P	14 45 37.6	+0.4
	comp=Z,29nm,1.0s,mb5.2						
DAG	Danmarks Havn	86.86	348	⇓iP	P	14 45 38.8	+0.2
	comp=Z,3.3nm,0.6s,mb4.7						
DAG	Danmarks Havn	86.86	348	⇓eP	P	14 45 38.8	+0.2
	comp=Z,3.3nm,0.6s,mb4.7						
DAG	Danmarks Havn	86.86	348	⇓eP	P	14 45 38.8	+0.2
DAG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.7						
SJPF	Ste Jean	86.88	313	eP	P	14 45 39.8	+0.4
	comp=Z,24nm,0.9s,mb5.1						
SGMF	Saint Gilles	87.06	318	eP	P	14 45 39.8	-0.4
QUIF	Quistinic	87.51	318	eP	P	14 45 41.8	-0.6
ROSF	Rostrenen	87.52	318	eP	P	14 45 42.1	-0.3
	comp=Z,25nm,1.2s,mb5.0						
RPZ	Rata Peaks	87.71	135	P	P	14 45 44.9	+1.5
	comp=Z,12nm,0.8s,mb5.2,baz=277,slow=5.4,SNR=3.9						
ESDC	Sonseca Array	89.45	310	P	P	14 45 52.3	+0.5
	comp=Z,2.5nm,0.6s,mb4.7,baz=57,slow=4.8,SNR=8.4						
ESLA	Sonseca Array	89.45	310	eP	P	14 45 52.6	+0.8
ESLA				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
PBRG	Braganca	91.12	312	eP	P	14 46 00.1	+0.6
URZ	Urewera	91.14	128	LR	LR	15 27 42.4	
	comp=Z,1µm,19.4s,MS5.3,baz=291,slow=36						
MTE	Manteigas	92.01	311	eP	P	14 46 04.6	+1.0
PCBR	Castelo Branco	92.07	311	eP	P	14 46 04.9	+1.0
VNDA	Vanda	93.52	168	P	P	14 46 11.3	+1.5
	comp=Z,0.7nm,0.7s,mb4.2,baz=281,slow=6.7,SNR=4.3						
VNDA				LR	LR	15 22 59.1	
	comp=Z,465nm,20.1s,MS4.9,baz=308,slow=32						
VNDA	Vanda	93.52	168	P	P	14 46 11.3	+1.5
VNDA				LR	LR	15 22 59.1	
RAO	Raoul Island	93.99	119	LR	LR	15 30 29.1	
	comp=Z,406nm,19.5s,MS4.9,baz=89,slow=37						
RAO	Raoul Island	93.99	119	P	P	14 46 13.9	+0.9
SBA	Scott Base	94.63	168	P	P	14 46 16.2	+1.4
SBA				LR	LR		
	comp=Z,490nm,19.0s,MS5.0						
SBA	Scott Base	94.63	168	P	P	14 46 15.6	+0.7
COLA	College	95.01	22	PFAKE		14 46 30.0	+13
COLA				LR	LR		
	comp=Z,28nm,22.0s						
COLA	College	95.01	22	P	P	14 46 18.0	+1.2
MCK	McKinley	95.17	23	P	P	14 46 18.5	+0.9
	comp=Z,4.2nm,1.1s,mb4.8						
MCK				LR	LR		
	comp=Z,251nm,20.0s,MS4.7						
MCK	McKinley	95.17	23	P	P	14 46 18.9	+1.3
MCK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.8						
ILAR	Eielson Array	95.41	22	P	P	14 46 18.6	-0.1
	comp=Z,2.2nm,0.7s,mb4.7,baz=302,slow=5.2,SNR=23						
ILAR				PP	PP	14 49 59.5	-12
	comp=Z,2.0nm,1.0s,baz=297,slow=7.3,SNR=6.1						
ILAR				LR	LR	15 34 49.2	
	comp=Z,492nm,19.0s,MS5.0,baz=138,slow=39						
DBIC	Dimbokro	95.76	278	P	P	14 46 21.8	+0.3
	comp=Z,6.9nm,0.9s,mb5.1,baz=96,slow=7.1,SNR=3.1						
DBIC				LR	LR	15 27 44.0	
	comp=Z,857nm,19.7s,MS5.2,baz=59,slow=34						
DBIC	Dimbokro	95.76	278	P	P	14 46 21.8	+0.3
DBIC				LR	LR	15 27 44.0	
DBIC	Dimbokro	95.76	278	P	P	14 46 28.2	+6.7
DBIC				pmax	pmax		
	comp=Z,120nm,2.1s						
PMR	Palmer	96.16	25	PFAKE		14 46 30.0	+7.8
PMR				LR	LR		
	comp=Z,504nm,20.0s,MS5.0						
INK	Inuvik	97.44	16	P	P	14 46 27.7	-0.1
	comp=Z,5.1nm,1.0s,mb4.9,baz=293,slow=7.6,SNR=5.2						
QSPA	South Pole Qui	97.93	180	PFAKE		14 46 40.0	+10
QSPA				LR	LR		
	comp=Z,454nm,21.0s,MS4.9						
AFI	Afiamalu	97.96	103	LR	LR	15 25 25.0	
	comp=Z,401nm,22.0s,MS4.9,baz=275,slow=32						
YKA	Yellowknife Ar	106.76	13	PP	PP	14 51 31.4	-7.0
	comp=Z,1.8nm,0.9s,baz=333,slow=8.3,SNR=3.8						
SCHQ	Schefferville	114.89	347	PKP	PKPdf	14 51 36.2	-2.7
	comp=Z,3.6nm,0.8s,baz=120,slow=8.1,SNR=2.2						
HUMO	Hull Mountain	120.40	29	ePKPdf	PKPdf	14 51 45.9	-4.1
ULM	Lac du Bonnet	121.56	6	PKP	PKPdf	14 51 49.0	-3.1
	comp=Z,4.2nm,1.0s,baz=346,slow=2.3,SNR=3.4						
WVOR	Wild Horse Val	122.54	27	ePKPdf	PKPdf	14 51 51.2	-2.9
WVOR	Wild Horse Val	122.54	27	ePKIKP	PKPdf	14 51 57.9	+3.8
RRI2	Red Ridge	124.67	21	ePKPdf	PKPdf	14 51 54.9	-3.4
RRI2				ePP	PP	14 53 41.3	-3.5
REDW	Red Top Meadow	124.82	20	ePKPdf	PKPdf	14 51 56.8	-1.8
PDAR	Pinedale Array	125.78	19	PKP	PKPdf	14 51 57.1	-3.3
	comp=Z,1.3nm,0.8s,baz=45,slow=2.1,SNR=10						
MNV	Mina	125.95	29	ePKPdf	PKPdf	14 51 59.0	-1.8
DAU	Daniels Canyon	127.26	22	ePKIKP	PKPdf	14 51 58.4	-4.9
DAC	Darwin (Calif)	127.92	30	ePKIKP	PKPdf	14 52 00.1	-4.6
NEN	Nelson	129.76	29	ePKPdf	PKPdf	14 52 08.0	-0.3
LDFC	Landfair	130.09	29	ePKPdf	PKPdf	14 52 06.4	-2.5
ANMO	Albuquerque	133.85	21	i PKIKP	PKPdf	14 52 05.1	-11
TUC	Tucson	134.40	27	PKIKP	PKPdf	14 52 17.4	+0.3
TXAR	Lajitas Array	139.93	21	PKP	PKPdf	14 52 24.9	-2.4
	comp=Z,0.7nm,0.5s,baz=225,slow=1.8,SNR=4.5						
PLCA	Paso Flores	143.89	203	PKP	PKPdf	14 52 30.7	-3.1
	comp=Z,4.1nm,0.9s,baz=180,slow=3.5,SNR=7.5						
CPUP	Villa Florida	145.60	234	PKPbc	PKPbc	14 52 33.8	+0.8
	comp=Z,19nm,1.0s,baz=188,slow=5.7,SNR=7.0						
CPUP	Villa Florida	145.60	234	ePKPdf	PKPdf	14 52 32.4	-4.9
CPUP	Villa Florida	145.60	234	PKP2	PKPab	14 52 32.6	-2.2
MTP	Monte Pirata	145.83	320	ePKPdf	PKPdf	14 52 30.3	-7.5
CPD	Cerro la Pandu	146.10	320	ePKPdf	PKPdf	14 52 33.4	-4.9
SJG	San Juan	146.20	320	PKHKP		14 52 29.0	
LPAZ	La Paz	158.88	245	PKP	PKPdf	14 52 54.3	-2.5
	comp=Z,2.4nm,0.8s,baz=341,slow=2.6,SNR=5.8						
LPAZ				PKPab	PKPab	14 53 30.6	+0.3
	comp=Z,10nm,1.2s,baz=103,slow=4.6,SNR=8.7						

*IDC **13** 14:42:30.8±0.9, 8.04N×91.90E, mb4.1/9, mb1 4.2/9, mb1mx4.0/21, mbtmp4.1/9, Error ellipse: s-maj=27.7km s-min=18.8km az=42.0*
*NEIC **13** 14:42:35.2±0.7, 7.94N×91.87E, h30^{km}, mb4.3/4, Error ellipse: s-maj=19.0km s-min=9.8km az=222.0*
ISC 13 14:42:33.1±0.6, **8.0N**±0.1×**91.90E**±0.09, **h30^{km}, n19,** σ**0^{s}89**/20, **mb4.2**/13, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	9.09	106	ePn	P	14 44 44.1	-1.3
HYB	Hyderabad	16.05	307	i P	P	14 46 18.0	-0.5
HYB				eS	S	14 49 15.0	-0.3
KSM	Kuching	19.43	108	eP	P	14 46 59.7	-0.6
LSA	Lhasa	21.64	358	eP	P	14 47 26.4	+3.3
	13nm,0.8s,mb4.4						
KKM	Kota Kinabalu	24.21	93	eP	P	14 47 51.8	+3.3
AAK	Ala-Archa	37.78	339	P	P	14 49 48.6	+0.1
	3.2nm,1.0s,mb4.0						
JOW	Kunigami	39.25	57	P	P	14 50 01.6	+0.6
	3.7nm,0.6s,mb4.3,baz=253,slow=4.1,SNR=4.1						
MKAR	Makanchi Array	39.56	350	P	P	14 50 03.0	-0.3
	0.6nm,0.5s,mb3.6,baz=168,slow=8.7,SNR=14						
MKAR	Makanchi Array	39.56	350	P	P	14 50 03.0	-0.3
SONM	Songino Array	41.60	15	P	P	14 50 20.4	+0.3
	4.1nm,0.7s,mb4.2,baz=195,slow=8.4,SNR=33						
ULN	Ulaanbaatar	41.80	15	eP	P	14 50 21.7	0.0
	2.5nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	42.19	128	P	P	14 50 26.0	+0.7
	3.2nm,0.7s,mb4.0,baz=4.0,slow=3.3,SNR=6.1						
BVAR	Borovoye Array	48.22	343	P	P	14 51 12.4	-0.6
	0.4nm,0.5s,mb3.7,baz=146,slow=5.2,SNR=3.4						
WRA	Warramunga Arr	50.13	124	P	P	14 51 28.0	-0.1
	2.7nm,0.7s,mb4.4,baz=305,slow=8.6,SNR=24						
WRAB	Tennant Creek	50.13	124	eP	P	14 51 28.1	-0.1
	5.3nm,0.7s,mb4.7						
WRAB				ePcP	PcP	14 52 49.6	+2.0
WB2	Warramunga Arr	50.14	124	eP	P	14 51 27.9	-0.3
KMBO	Kilima Mbogo	55.23	263	P	P	14 52 07.7	+1.5
	3.9nm,1.0s,mb4.4,baz=57,slow=11,SNR=7.3						
BRTR	Keskin Array B	60.70	311	P	P	14 52 42.9	-1.4
	1.7nm,0.7s,mb4.3,baz=117,slow=6.9,SNR=7.6						
GERES	GERESS Array B	76.28	318	P	P	14 54 21.2	+0.3
	1.6nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=8.6						

JMA 13 14:59:53.6±0.2, **30.50N**×**142.17E, h46^{km}, M3.7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.29	323	P	P	15 00 44.0	+0.1
JHJ2				eS	S	15 01 20.4	-1.7
BSO1	Boso 1	4.26	347	P	P	15 00 58.3	+0.6
BSO1				eS	S	15 01 46.2	-0.6
BSO3	Boso 3	4.51	342	P	P	15 01 02.0	+0.8
BSO3				eS	S	15 01 53.2	+0.1
JRY	Ryogami san	6.14	334	P	P	15 01 25.7	+1.6
JHO	Hitachi	6.24	348	P	P	15 01 25.5	+0.1
JHO				eS	S	15 02 30.5	-5.8
JAG	Ashikaga	6.33	340	P	P	15 01 27.1	+0.4
JAG				eS	S	15 02 36.3	-2.3

*IDC **13** 15:21:21.4±2.2, 0.79N×96.83E, mb4.1/8, mb1 4.3/8, mb1mx4.0/18, mbtmp4.1/8, Error ellipse: s-maj=103.5km s-min=17.4km az=56.0*
*BJI **13** 15:21:26.3, 1.00N×97.30E, h30^{km}, mb4.8*
*NEIC **13** 15:21:28.4±0.9, 0.96N×97.31E, h30^{km}, mb4.6/9, Error ellipse: s-maj=25.8km s-min=13.6km az=56.0*
ISC 13 15:21:26.1±0.7, **0.92N**±0.08×**97.18E**±0.09, **h30^{km}, n27,** σ**1^{s}56**/27, **mb4.4**/19, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.29	46	P	Pn	15 22 46.2	+0.9
KULM	Kulim	5.56	38	eP	Pn	15 22 48.4	-0.6
KGM	Kluang	6.24	80	P	Pn	15 23 00.4	+1.8
KKM	Kota Kinabalu	19.67	75	P	P	15 25 57.7	+1.9
KKM	Kota Kinabalu	19.67	75	eP	P	15 25 54.3	-1.6
KMI	Kunming	24.66	12	P	P	15 26 47.4	+1.6
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
PKI	Pulchoki	28.81	338	eP	P	15 27 26.4	+2.5
	comp=Z,19nm,0.9s,mb4.8						
DMN	Daman	28.96	337	eP	P	15 27 27.8	+2.6
	comp=Z,39nm,1.3s,mb5.0						
KKN	Kakani	29.05	338	eP	P	15 27 28.6	+2.5
	comp=Z,26nm,1.0s,mb4.9						
LSA	Lhasa	29.20	349	eP	P	15 27 27.4	0.0
	comp=Z,6.9nm,1.0s,mb4.3						
GKN	Gorkha	29.49	337	eP	P	15 27 33.0	+2.9
	comp=Z,30nm,1.2s,mb4.9						
KOLN	Koldanda	29.70	335	eP	P	15 27 35.7	+3.7
ENH	Enshi	31.45	21	eP	P	15 27 45.9	-1.4
	comp=Z,14nm,1.0s,mb4.7						
FITZ	Fitzroy Crossi	33.78	125	P	P	15 28 06.6	-1.2
	comp=Z,3.5nm,0.6s,mb4.4,baz=328,slow=6.2,SNR=7.9						
XAN	Xi'an	34.74	17	P	P	15 28 13.0	-2.9
GTA	Gaotai	38.39	3	eP	P	15 28 45.8	-0.8
GTA				AP	pP	15 28 55.0	-0.6
GTA				XP	sP	15 28 59.6	+0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	Warramunga Arr	41.90	122	P	P	15 29 15.7	-0.2
	comp=Z,2.0nm,0.6s,mb3.9,baz=301,slow=9.0,SNR=26						
WRAB	Tennant Creek	41.91	122	eP	P	15 29 16.5	+0.6
	comp=Z,28nm,1.8s,mb4.6						
SONM	Songino Array	47.41	8	P	P	15 29 58.8	-0.9
	comp=Z,0.6nm,0.5s,mb3.8,baz=185,slow=9.7,SNR=6.9						
SONM				PcP	PcP	15 31 29.1	-1.3
	comp=Z,0.6nm,0.7s,baz=219,slow=3.2,SNR=3.3						
MKAR	Makanchi Array	47.51	346	P	P	15 29 59.1	-1.4
	comp=Z,2.0nm,0.5s,mb4.4,baz=161,slow=8.5,SNR=31						
KURK	Kurchatov	52.06	345	eP	P	15 30 33.6	-1.7
	comp=Z,3.2nm,1.0s,mb4.2						
STKA	Stephens Creek	53.18	132	P	P	15 30 43.6	-0.3
	comp=Z,1.3nm,0.7s,mb3.9,baz=282,slow=11,SNR=4.2						
ZAL	Zalesovo	53.83	351	P	P	15 30 46.8	-1.6
	comp=Z,4.5nm,0.4s,mb4.7,baz=316,slow=5.8,SNR=16						
BVAR	Borovoye Array	56.51	341	P	P	15 31 04.4	-3.5
	comp=Z,1.5nm,0.8s,mb4.1,baz=143,slow=7.4,SNR=7.6						
CASY	Casey	67.72	174	eP	P	15 32 24.0	+1.3
	comp=Z,7.6nm,0.6s,mb4.9						
CASY				e		15 32 38.6	
ARCES	ARCESS Array B	82.80	340	P	P	15 33 47.0	-1.5
	comp=Z,2.6nm,1.0s,mb4.2,baz=90,slow=4.9,SNR=4.7						
ARCES	ARCESS Array B	82.80	340	P	P	15 33 47.0	-1.5

*IDC **13** 15:27:11.1±1.4, 7.92N×91.81E, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=51.9km s-min=26.3km az=48.0*
*NEIC **13** 15:27:17.1±3.2, 8.01N×91.94E, h40^{km}±28^{km}, mb4.2/1, Error ellipse: s-maj=38.2km s-min=14.5km az=48.0*
ISC 13 15:27:14.3±1.1, **8.0N**±0.2×**91.9E**±0.2, **h33^{km}, n11,** σ**0^{s}77**/11, **mb3.7**/7, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	9.09	106	ePn	P	15 29 25.5	-0.5
KKM	Kota Kinabalu	24.21	93	P	P	15 32 29.1	-0.2
MKAR	Makanchi Array	39.57	350	P	P	15 34 44.9	+0.9
	0.2nm,0.5s,mb3.1,baz=182,slow=9.9,SNR=4.0						
SONM	Songino Array	41.61	15	P	P	15 35 01.4	+0.6
	0.8nm,0.8s,mb3.4,baz=198,slow=7.3,SNR=6.3						
BVAR	Borovoye Array	48.23	343	P	P	15 35 52.1	-1.6
	0.2nm,0.4s,mb3.5,baz=141,slow=9.2,SNR=2.9						
BVAR	Borovoye Array	48.23	343	P	P	15 35 52.1	-1.6
WRA	Warramunga Arr	50.13	124	P	P	15 36 08.8	0.0
	1.0nm,0.9s,mb3.9,baz=303,slow=8.7,SNR=9.2						
WRAB	Tennant Creek	50.13	124	eP	P	15 36 09.5	+0.6
	2.7nm,1.1s,mb4.2						
WRAB				epP	pP	15 36 20.0	+1.2
GUMO	Guam	52.26	79	eP	P	15 36 29.4	+4.4
BRTR	Keskin Array B	60.70	311	P	P	15 37 24.4	-0.6
	1.2nm,0.6s,mb4.2,baz=127,slow=8.3,SNR=6.9						
GERES	GERESS Array B	76.29	318	P	P	15 39 02.2	+0.6
	0.7nm,0.6s,mb3.7,baz=68,slow=7.2,SNR=7.7						

*NEIC **13** 15:45:38.4±4.8, 1.29N×127.10E, h77^{km}±47^{km}, mb4.4/6, Error ellipse: s-maj=31.8km s-min=12.7km az=76.0*
*IDC **13** 15:45:38.9±3.2, 1.09N×126.70E, h78^{km}±26^{km}, mb3.7/6, mb1 3.9/7, mb1mx3.7/17, mbtmp4.1/7, Error ellipse: s-maj=83.3km s-min=12.3km az=69.0*
ISC 13 15:45:30.1±4.0, **1.4N**±0.1×**127.0E**±0.3, **h19^{km}**±28^{km}**, n16,** σ**0^{s}50**/18, **mb4.2**/10, **2D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.38	184	eP	P	15 49 58.2	+0.4
	2.8nm,0.5s						
FITZ	Fitzroy Crossi	19.38	184	P	P	15 49 56.8	-1.0
	0.6nm,0.3s,baz=14,slow=7.3,SNR=12						
WRAB	Tennant Creek	22.36	161	eP	P	15 50 28.9	+0.2
	9.9nm,0.6s,mb4.4						
WRA	Warramunga Arr	22.36	162	P	P	15 50 28.9	+0.1
	5.9nm,0.5s,mb4.3,baz=338,slow=11,SNR=92						
WRA				S	S	15 54 28.2	-0.4
	1.0nm,0.8s,baz=337,slow=21,SNR=4.3						
WRA				ScP		15 57 55.7	
	0.5nm,0.7s,baz=336,slow=3.0,SNR=5.9						
WB2	Warramunga Arr	22.37	161	⇓iP	P	15 50 29.0	+0.2
WB2				eS	S	15 54 29.7	+0.9
MBWA	Marble Bar	23.47	197	eP	P	15 50 39.9	+0.3
	46nm,1.9s,mb4.6						
ASPA	Alice Springs	25.77	165	eP	P	15 51 01.8	+0.1
FORT	Forrest	31.97	178	eP	P	15 51 57.3	-0.1
	8.5nm,0.5s,mb4.8						
MUN	Mundaring	34.68	196	eP	P	15 52 21.2	+0.3
STKA	Stephens Creek	35.84	158	⇓iP	P	15 52 30.8	0.0
	3.9nm,0.7s,mb4.5						
STKA	Stephens Creek	35.84	158	P	P	15 52 30.8	0.0
	3.2nm,0.5s,mb4.5,baz=328,slow=9.5,SNR=17						
SONM	Songino Array	49.61	342	P	P	15 54 22.7	+0.4
	0.4nm,0.7s,mb3.6,baz=162,slow=6.6,SNR=3.8						
MKAR	Makanchi Array	59.64	326	P	P	15 55 35.5	+0.1
	1.5nm,0.6s,mb4.2,baz=120,slow=8.7,SNR=15						
KURK	Kurchatov	63.86	328	eP	P	15 56 04.0	+0.2
	2.6nm,0.8s,mb4.3						
KURK				epP	pP	15 56 22.9	+13
BVAR	Borovoye Array	69.43	327	P	P	15 56 38.8	-0.3
	0.4nm,0.5s,mb3.6,baz=140,slow=11,SNR=3.0						
VNDA	Vanda	81.05	173	P	P	15 57 43.5	-1.5
	1.8nm,0.6s,mb4.2,baz=321,slow=6.7,SNR=22						

*THR **13** 15:49:15.2±0.5, 37.93N×47.20E, h15^{km}±7^{km}, ML3.4*
*CSEM **13** 15:49:15.5±0.1, 37.84N×46.93E, h2^{km}, ML3.8, Error ellipse: s-maj=3.5km s-min=1.8km az=34.0*
*TEH **13** 15:49:18.4, 37.98N×46.92E, h10^{km}, Mn3.8*
ISC 13 15:49:14.8±0.5, **38.04N**±0.04×**47.05E**±0.04, **h10^{km}, n25,** σ**1^{s}33**/32, **Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBST	Bostanabad	0.36	200	Pg	Pg	15 49 18.4	-3.8
ITBZ	Tabriz	0.74	286	Pg	Pg	15 49 30.1	+0.5
IAZR	Azarshahr	0.92	247	Pg	Pg	15 49 30.8	-2.4
GRMI	Germi	1.02	40	ePG	Pg	15 49 34.5	-0.8
GRMI				eSG	Sg	15 49 49.0	+0.2
GRMI				AML	AML	15 49 57.3	
	comp=N,1µm,0.5s						
GRMI	Germi	1.02	40	ePg	Pg	15 49 34.5	-0.7
	SNR=91						
GRMI				eSg	Sg	15 49 49.0	+0.1
	comp=N,1µm,0.5s,SNR=91						
ISHB	Shabestar	1.16	283	Pg	Pg	15 49 37.6	-0.3
IMRD	Marand	1.25	303	Pg	Pg	15 49 40.2	+0.3
MAKU	Maku	2.27	306	ePN	Pn	15 49 56.7	+3.7
SNGE	Sanandaj	2.95	175	ePN	Pn	15 50 02.0	-0.6
SNGE				AML	AML	15 50 47.9	
	comp=N,65nm,0.6s						
ILIN	Laeen	3.11	181	Pn	Pn	15 50 05.3	+0.3
IDHR	Dehrash	3.37	189	Pn	Pn	15 50 09.8	+1.1
IRAZ	Razeghan	3.50	138	Pn	Pn	15 50 10.3	-0.2
IVIS	Veys	3.51	183	Pn	Pn	15 50 11.2	+0.6
MSL	Mosul	3.61	242	ex	x	15 50 35.5	
MSL				ex	x	15 51 22.0	
MSL				ex	x	15 51 33.0	
DGRG	David-gareji	3.65	340	P	Pn	15 50 22.0	+9.4
THKV	Tehran--Karaj	3.73	123	ePn	Pn	15 50 12.1	-1.6
IMHD	Mahdasht	3.73	128	Pn	Pn	15 50 10.9	-2.9
IMHD				Sn	Sn	15 50 59.1	+0.8
IKOM	Komasi	3.87	174	Pn	Pn	15 50 17.0	+1.3
ASAO	Ashtian	4.23	144	ePN	Pn	15 50 19.3	-1.5
IAFJ	Afjeh	4.32	119	Pn	Pn	15 50 24.4	+2.2
IAFJ				Sn	Sn	15 51 12.9	-0.4
DAMV	Damavand	4.62	120	ePN	Pn	15 50 24.7	-1.7
DAMV				eSG	Sg	15 51 33.9	-15
DAMV				AML	AML	15 51 41.0	
	comp=N,48nm,0.6s						
DAMV	Damavand	4.62	120	ePn	Pn	15 50 24.7	-1.7
	SNR=52						
DAMV				eSg	Sg	15 51 33.9	-15
	comp=N,48nm,0.6s,SNR=90						
IDMV	Damavand	4.69	120	Pn	Pn	15 50 29.5	+2.1
IVRN	Varamin	4.84	127	Pn	Pn	15 50 31.5	+2.0
IVRN				Sn	Sn	15 51 25.6	-0.7
IFIR	Firoozkooh	5.16	116	Pn	Pn	15 50 36.0	+2.0
IFIR				Sn	Sn	15 51 33.4	-1.0

*NEIC **13** 15:54:20.0, 35.86N×32.20E, h19^{km}, MD3.3(ISK), ML3.3(NIC), After ISK.*
*ISK **13** 15:54:21.1, 35.86N×32.15E, h28^{km}, MD3.2*
*CSEM **13** 15:54:21.2±0.2, 35.91N×32.26E, h20^{km}, Mw3.0, Error ellipse: s-maj=5.7km s-min=2.3km az=93.0*
*NIC **13** 15:54:22.5±0.4, 36.00N×32.29E, h25^{km}, ML3.3, MW3.0*
ISC 13 15:54:21.5±0.4, **35.90N**±0.03×**32.08E**±0.04, **h33^{km}, n17,** σ**1^{s}02**/29, **2C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALFC	Alevga	0.85	150	⇑iP	P	15 54 37.6	+0.6
	29nm,0.2s						
ALFC				S	S	15 54 49.2	+0.7
ERMK	Ermenek	1.00	42	i P	P	15 54 39.8	+0.7
ERMK				i S	S	15 54 53.1	+0.8
LEF	Lefka	1.02	140	PG	P	15 54 39.0	-0.5
LEF				SG	S	15 54 51.9	-0.9
PPCY	Paphos	1.03	168	⇑iP	P	15 54 40.8	+1.1
PPCY				S	S	15 54 55.6	+2.4
HDMB	Hadim	1.11	17	PN	Pn	15 54 41.7	+0.7
HDMB				SN	Sn	15 54 56.4	+1.2
MAMC	Mammari	1.18	128	P	P	15 54 41.7	0.0
SZAC	Souni-Zanaja	1.31	150	P	P	15 54 43.6	-0.1
SZAC				S	S	15 55 00.5	+0.2
IKL	Isikli	1.34	75	PN	Pn	15 54 43.7	-0.6
IKL				SN	Sn	15 55 00.6	-0.5
CSS	Prodhromos	1.38	132	P	P	15 54 43.7	-1.0
	1.3nm,0.3s						
CSS				S	S	15 55 01.0	-1.0
AKAS	Kas	2.04	280	i P	P	15 54 53.3	-0.7
AKAS				i S	S	15 55 15.4	-3.1
MERS	Mersin	2.19	63	ePN	Pn	15 54 56.0	-0.4
ISP	Isparta	2.31	327	P	P	15 54 57.6	-0.4
ISP				eS	S	15 55 31.6	+6.0
GOLH	Golhisar	2.43	304	i P	P	15 54 59.5	-0.2
GOLH				i S	S	15 55 28.5	-0.1
TKTP	Tekketepe	2.56	327	i P	P	15 54 59.1	-2.4
TKTP				i S	S	15 55 32.9	+1.0
KARA	Karaisali	2.75	60	ePN	Pn	15 55 03.4	-1.0
SANT	Santorini	5.38	277	ePn	Pn	15 55 45.0	+3.3
	35nm,1.0s						
SANT	Santorini	5.38	277	ePn	Pn	15 55 45.0	+3.3
	35nm,1.0s						

IDC 13 17:17:58.6±1.4, **24.78S**×**69.30E, mb3.8**/5, **mb1 4.0**/5, **mb1mx3.8**/17, **mbtmp3.8**/5, **Error ellipse: s-maj=52.4km s-min=27.4km az=72.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	59.85	100	P	P	17 28 04.6	-4.0
	0.7nm,0.7s,baz=253,slow=7.2,SNR=4.1						
VNDA	Vanda	66.55	166	P	P	17 28 50.0	-2.0
	0.6nm,0.9s,baz=289,slow=6.0,SNR=5.9						
MKAR	Makanchi Array	72.20	9	P	P	17 29 24.4	-2.8
	0.9nm,0.7s,baz=202,slow=6.5,SNR=11						
PMG	Port Moresby	75.15	94	P	P	17 29 45.0	0.0
	14nm,0.7s,baz=274,slow=20,SNR=3.8						
ZAL	Zalesovo	79.53	9	P	P	17 30 07.3	-1.2
	0.7nm,0.3s,baz=280,slow=7.1,SNR=4.0						
SONM	Songino Array	79.60	24	P	P	17 30 08.3	-0.7
	0.1nm,0.3s,baz=287,slow=37,SNR=2.5						
ULM	Lac du Bonnet	152.09	339	PKPbc	PKPdf	17 37 55.0	+4.3
	2.4nm,0.7s,baz=318,slow=20,SNR=3.0						

*IDC **13** 17:24:51.3±1.4, 16.74S×172.63W, mb3.8/6, mb1 4.0/7, mb1mx3.9/18, mbtmp3.8/7, Error ellipse: s-maj=40.9km s-min=23.6km az=115.0*
*NEIC **13** 17:24:56.0±0.9, 16.52S×172.64W, h45^{km}, mb4.1/5, Error ellipse: s-maj=29.5km s-min=15.4km az=110.0*
ISC 13 17:24:54.3±0.7, **16.70S**±0.08×**172.7W**±0.2, **h33^{km}, n15,** σ**1^{s}15**/17, **mb4.0**/9, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.91	18	Pn	Pn	17 25 37.3	-2.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	3.9nm,0.3s,baz=202,slow=22,SNR=5.4						
AFI				Sn	**Sn**	**17 26 13.0**	**-0.7**
	22nm,0.3s,baz=141,slow=18,SNR=7.2						
AFI	**Afiamalu**	**2.91**	**18**	*e*Pn	**Pn**	**17 25 37.0**	**-2.4**
AFI				*e*S	**S**	**17 26 14.7**	**+1.1**
URZ	**Urewera**	**23.27**	**201**	P	**P**	**17 29 59.3**	**-0.5**
	3.4nm,0.5s,mb4.0,baz=358,slow=7.1,SNR=6.3						
CTA	**Charters Tower**	**39.04**	**259**	P	**P**	**17 32 22.4**	**+2.6**
	2.2nm,0.8s,mb4.0,baz=90,slow=11,SNR=3.5						
CTA	**Charters Tower**	**39.04**	**259**	P	**P**	**17 32 22.4**	**+2.6**
CTAO	**Charters Tower**	**39.04**	**259**	P	**P**	**17 32 23.1**	**+3.2**
	1.5nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**44.00**	**241**	P	**P**	**17 33 00.2**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=55,slow=16,SNR=3.6						
STKA	**Stephens Creek**	**44.00**	**241**	P	**P**	**17 33 00.2**	**-0.4**
WRAB	**Tennant Creek**	**50.22**	**258**	P	**P**	**17 33 49.2**	**-0.2**
	1.6nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**50.23**	**258**	P	**P**	**17 33 48.5**	**-1.0**
	1.0nm,0.6s,mb4.0,baz=96,slow=7.0,SNR=9.5						
SBA	**Scott Base**	**62.02**	**185**	*e*P	**P**	**17 35 13.8**	**+0.5**
	1.4nm,0.7s,mb4.2						
VNDA	**Vanda**	**62.16**	**186**	P	**P**	**17 35 14.4**	**+0.1**
	0.6nm,0.8s,mb3.8,baz=347,slow=8.8,SNR=3.9						
VNDA	**Vanda**	**62.16**	**186**	*e*P	**P**	**17 35 14.3**	**0.0**
	0.5nm,0.7s,mb3.8						
QSPA	**South Pole Qui**	**73.35**	**180**	*e*P	**P**	**17 36 23.8**	**-0.2**
	2.3nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**83.58**	**11**	P	**P**	**17 37 22.1**	**+2.0**
	0.4nm,0.6s,mb3.7,baz=231,slow=6.0,SNR=4.1						

*KNET **13** 17:57:33.9±0.6, 41.57N×74.94E, h12km±4km, ml2.2, Error ellipse: s-maj=4.3km s-min=2.7km az=148.0*

*NNC **13** 17:57:41.0±11.0, 41.76N×74.79E, mpv2.8, Error ellipse: s-maj=72.9km s-min=38.1km az=123.0*

ISC 13 17:57:32.9±1.5**, 41.45N**±0.08×**75.03E**±0.08**, h10km, n11, σ0.74**/18**, 8C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.65**	**15**	⇓P	**Pb**	**17 57 44.8**	**-1.0**
	34nm,0.2s,SNR=123						
KZA				⇑S	**Sb**	**17 57 53.5**	**-1.1**
	84nm,0.2s						
KBK	**Karagaybulak**	**1.20**	**357**	⇓P	**Pb**	**17 57 55.1**	**-0.3**
	23nm,0.1s,SNR=42						
KBK				⇓S	**Sb**	**17 58 11.2**	**+0.4**
	106nm,0.2s						
AML	**Almayashu**	**1.21**	**305**	⇓P	**Pb**	**17 57 54.8**	**-0.6**
	18nm,0.2s,SNR=41						
AML				⇓S	**Sb**	**17 58 10.3**	**-0.5**
	30nm,0.2s						
ULHL	**Ulahol**	**1.21**	**48**	⇑P	**Pb**	**17 57 55.3**	**-0.1**
	11nm,0.2s,SNR=35						
AAK	**Ala-Archa**	**1.25**	**342**	⇓P	**Pb**	**17 57 55.6**	**-0.4**
	23nm,0.2s,SNR=12						
AAK				⇑S	**Sb**	**17 58 11.8**	**-0.2**
	68nm,0.3s						
AAK	**Ala-Archa**	**1.25**	**342**	⇑P	**Pb**	**17 57 55.6**	**-0.5**
	7.0nm,0.2s						
AAK				⇓S	**Sb**	**17 58 11.4**	**-0.6**
	33nm,0.3s						
EKS2	**Erkin-Say**	**1.52**	**323**	⇓P	**Pn**	**17 58 00.6**	**+0.2**
	5.1nm,0.2s,SNR=17						
TKM2	**Tokmak 2**	**1.53**	**16**	⇑P	**Pn**	**17 58 01.0**	**+0.6**
	11nm,0.2s,SNR=16						
CHMS	**Chumysh**	**1.56**	**353**	⇓P	**Pn**	**17 58 01.2**	**+0.3**
	12nm,0.3s,SNR=6.9						
CHMS				⇑S	**Sb**	**17 58 21.3**	**+0.2**
	12nm,0.1s						
USP	**Ospenovka**	**1.85**	**348**	P	**Pn**	**17 58 06.6**	**+1.5**
	11nm,0.2s,SNR=24						
USP				⇑S	**Sn**	**17 58 30.2**	**+1.5**
	38nm,0.2s						
KK31	**Karatay Array**	**3.73**	**298**	⇑Pn	**Pn**	**17 58 40.3**	**+8.4**
	0.6nm,0.3s,baz=111,slow=16,SNR=10						
KK31				Lg		17 59 28.0	
	4.2nm,0.6s,baz=101,slow=28,SNR=7.5						

ECX 13 18:00:27.4±0.5**, 30.54N×117.11W, h12km, ML3.8, 3C-3D, Off west coast of Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECNX	**Esteban Cantu**	**1.20**	**21**	*e*PN	Pn	18 00 52.1	+2.1
ECNX				*e*S	Sb	18 01 09.5	+4.7
PBX	**Punta Banda**	**1.25**	**15**	*e*P	Pb	18 00 49.4	-1.0
PBX				*e*S	Sb	18 01 05.8	-0.4
ENX	**Ensenada**	**1.39**	**16**	*e*P	Pn	18 00 51.3	-1.5
ENX				*e*S	Sb	18 01 09.7	-0.9
ENX				⇓*e*		18 01 11.3	
	comp=N,2μm,0.5s						
ENX				⇑*e*		18 01 12.1	
	comp=E,1μm,0.6s						
SPX	**San Pedro Mart**	**1.50**	**70**	*e*PN	Pn	18 00 54.3	0.0
SPX				*e*S	Sb	18 01 13.4	-0.2
SPX				⇑*e*		18 01 19.2	
	comp=E,738nm,0.8s						
CBX	**Cerro Bola**	**1.81**	**12**	*e*PN	Pn	18 00 58.0	-0.8
CBX				SN	Sn	18 01 22.3	+0.5
CBX				⇓*e*		18 01 25.5	
	comp=E,2μm,0.5s						
CBX				⇓*e*		18 01 26.3	
	comp=N,1μm,0.7s						
RMX	**La Rumorosa**	**2.24**	**23**	*e*PN	Pn	18 01 04.3	-0.5
RMX				SN	Sn	18 01 33.1	+0.5
RMX				⇑*e*		18 01 37.8	
	comp=N,524nm,0.3s						

*STR **13** 18:54:43.8±0.2, 48.37N×8.97E, h10km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*ZUR **13** 18:54:43.6, 48.38N×8.87E, h8km, ML2.7/13*

*PRU **13** 18:54:44.3, 48.43N×9.05E*

*LDG **13** 18:54:44.3±0.1, 48.36N×8.98E, h13km, Md3.0/3, Ml3.1/26, Error ellipse: s-maj=1.0km s-min=0.9km az=114.0*

*CSEM **13** 18:54:44.1±0.0, 48.36N×8.99E, h12km, ML3.1/31, Error ellipse: s-maj=0.8km s-min=0.6km az=169.0*

*LEDBW **13** 18:54:44.2±0.1, 48.37N×8.98E, h9km±2km, ML2.8, Error ellipse: s-maj=2.4km s-min=1.2km az=85.0*

*NEIC **13** 18:54:44.2, 48.37N×8.98E, h9km, ML3.1(LDG), ML2.9(LEDBW), ML3.1(VIE), ML2.8(SZGRF), ML2.7(STR), ML2.7(ZUR), After LEDBW.*

BGR 13 18:54:43.9±0.1**, 48.38N×9.01E, h12km**±2km**, ML2.6**/5**, 25C-15D, Error ellipse: s-maj=1.1km s-min=1.1km az=134.0, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUBL	**Tuebingen Lnz**	**0.15**	**19**	⇑*i*P*	Pb	18 54 48.2	+0.1
TUBL				*i* S*	Sb	18 54 50.8	-0.1
TUBL	**Tuebingen Lnz**	**0.15**	**19**	⇑*i*P	Pg	18 54 48.2	+0.6
SPAK	**Spaichingen**	**0.32**	**208**	*e*Pg	Pg	18 54 50.3	-0.2
	SNR=5.2						
SPAK				⇑*i*P*	Pb	18 54 50.4	-0.5
SPAK				*e*Sg	Sg	18 54 54.0	-1.0
	SNR=2.8						
SPAK	**Spaichingen**	**0.32**	**208**	⇑*i*P	Pg	18 54 50.4	-0.1
SPAK	**Spaichingen**	**0.32**	**208**	Pg	Pg	18 54 50.3	-0.2
SPAK				Sg	Sg	18 54 54.0	-0.9
	SNR=2.8						
GUT	**Gutenstein**	**0.32**	**167**	⇓*i*P*	Pb	18 54 50.5	-0.5
GUT				*i* S*	Sb	18 54 54.8	-0.9
LBG	**Lerchenberg**	**0.32**	**334**	⇓*i*P*	Pb	18 54 50.7	-0.3
LBG				S*	Sb	18 54 55.3	-0.5
STU	**Stuttgart**	**0.41**	**17**	*e*Pg	Pg	18 54 52.4	+0.1
STU				*e*Sg	Sg	18 54 57.0	-1.1
	SNR=8.8						
STU	**Stuttgart**	**0.41**	**17**	*e*Pg	Pg	18 54 52.4	0.0
STU				*e*Sg	Sg	18 54 57.0	-1.1
BFO	**Black Forest**	**0.46**	**264**	*e*Pg	Pg	18 54 52.7	-0.5
BFO				⇑*i*P*	Pb	18 54 52.8	-0.5
BFO				*e*Sg	Sg	18 54 58.6	-0.8
	SNR=7.2						
BFO				S*	Sb	18 54 58.8	-0.9
BFO				SmS		18 55 02.0	
BFO	**Black Forest**	**0.46**	**264**	⇑*i*P	Pg	18 54 52.8	-0.4
BFO				S	Sg	18 54 58.8	-0.7
BFO				S	Sg	18 55 02.0	+2.5
BFO	**Black Forest**	**0.46**	**264**	*e*Pg	Pg	18 54 52.7	-0.5
BFO				*e*Sg	Sg	18 54 58.6	-0.8
BFO	**Black Forest**	**0.46**	**264**	Pg	Pg	18 54 52.7	-0.5
BFO				Sg	Sg	18 54 58.6	-0.8
	SNR=7.2						
SISB	**Singen-Sch Ber**	**0.69**	**182**	⇓*i*P*	Pb	18 54 57.4	0.0
SISB				S*	Sb	18 55 06.7	0.0
SISB				SmS		18 55 08.8	
SLE	**Schleitheim**	**0.70**	**210**	*e*Pg	Pg	18 54 57.3	-0.8
SLE				*e*Sg	Sg	18 55 06.1	-1.5
	SNR=7.9						
SLE	**Schleitheim**	**0.70**	**210**	⇑*i*Pg	Pg	18 54 57.3	-0.8
SLE				*i* Sg	Sg	18 55 06.1	-1.5
STEIN	**Stein am Rhein**	**0.72**	**188**	⇓*i*Pg	Pg	18 54 57.8	-0.5
STEIN				*e*Sg	Sg	18 55 07.1	-0.9
TRULL	**Truellikon**	**0.76**	**197**	*i* Pg	Pg	18 54 57.9	-1.3
TRULL	**Truellikon**	**0.76**	**197**	*e*Pg	Pg	18 54 57.4	-1.8
TRULL	**Truellikon**	**0.76**	**197**	*e*Pg	Pg	18 54 57.4	-1.8
HDH	**Heidenheim**	**0.82**	**75**	⇑*i*P*	Pb	18 55 00.0	+0.4
HDH				Pg	Pg	18 55 00.3	-0.2
HDH				Sg	Sg	18 55 11.7	+0.1
HDH	**Heidenheim**	**0.82**	**75**	PG	Pg	18 55 00.3	-0.1
HDH				SG	Sg	18 55 11.7	+0.2
HDH	**Heidenheim**	**0.82**	**75**	⇑*i*P	Pb	18 55 00.0	+0.4
HDH				Pg	Pg	18 55 00.3	-0.1
HDH				Sg	Sg	18 55 11.7	+0.2
FELD	**Feldberg**	**0.84**	**234**	⇑*i*P*	Pb	18 54 59.8	-0.1
FELD				Pg	Pg	18 55 00.2	-0.6
FELD				*e*Sg	Sg	18 55 10.4	-1.6
	SNR=1.1						
FELD	**Feldberg**	**0.84**	**234**	⇑*i*P	Pb	18 54 59.8	-0.1
FELD				⇓*e*P		18 54 59.8	
FELD				*e*S	Sb	18 55 10.7	-0.2
KIZ	**Kirchzarten**	**0.84**	**240**	⇑*i*P*	Pb	18 54 59.7	-0.2
KIZ				Pg	Pg	18 55 00.1	-0.7
KIZ				S*	Sb	18 55 10.2	-0.7
KIZ				SmS		18 55 11.9	
KIZ	**Kirchzarten**	**0.84**	**240**	S	Sb	18 55 10.2	-0.8
KIZ	**Kirchzarten**	**0.84**	**240**	⇑*i*P	Pb	18 54 59.7	-0.3
KIZ				Pg	Pg	18 55 00.1	-0.7
KIZ				S	Sb	18 55 10.2	-0.8
WEIN	**Weingarten**	**0.85**	**181**	⇓*i*Pg	Pg	18 55 00.3	-0.7
WEIN				*e*Sg	Sg	18 55 11.7	-0.7
FBB	**Freiburg**	**0.86**	**244**	Pg	Pg	18 55 00.7	-0.4
FLACH	**Flaach**	**0.86**	**200**	⇑*i*P	Pb	18 55 00.3	+0.1
LIBD	**Limburg**	**0.97**	**257**	Pg	Pg	18 55 02.8	-0.5
LIBD				*e*Sg	Sg	18 55 14.0	-2.2
	SNR=2.0						
LIBD	**Limburg**	**0.97**	**257**	Pg	Pg	18 55 02.5	-0.8
WILA	**Wila**	**0.97**	**184**	*e*Pg	Pg	18 55 02.6	-0.7
WILA				*e*Sg	Sg	18 55 15.2	-1.1
	SNR=22						
WILA	**Wila**	**0.97**	**184**	⇑*i*Pn	Pn	18 55 02.1	-1.0
LANF	**Langenberg**	**1.00**	**308**	Pg	Pg	18 55 03.3	-0.6
LANF				*e*Sg	Sg	18 55 16.5	-0.8
	SNR=4.1						
UBR	**Uberruh**	**1.02**	**133**	⇓*i*P*	Pb	18 55 04.0	+1.0
UBR				S*	Sb	18 55 17.6	+1.6
SULZ	**Sulz-Cheisache**	**1.04**	**215**	*e*Pg	Pg	18 55 03.7	-1.1
SULZ				*e*Sg	Sg	18 55 17.2	-1.6
	SNR=3.2						
SULZ	**Sulz-Cheisache**	**1.04**	**215**	⇑*i*Pn	Pn	18 55 02.4	-1.8
SULZ	**Sulz-Cheisache**	**1.04**	**215**	*i* Pn	Pn	18 55 03.7	-0.5
SIND	**Sindeldorf**	**1.05**	**22**	⇓Pn	Pn	18 55 02.7	-1.6
SIND				Pg	Pg	18 55 04.2	-0.7
SIND				Sg	Sg	18 55 17.8	-1.2
SIND	**Sindeldorf**	**1.05**	**22**	⇓P	Pb	18 55 02.7	-0.7
SIND				S	Sb	18 55 17.8	+0.8
ZUR	**Zurich**	**1.05**	**196**	*e*Pg	Pg	18 55 04.0	-0.9
ZUR				*e*Sg	Sg	18 55 17.7	-1.4
	SNR=15						
ZUR	**Zurich**	**1.05**	**196**	*e*Pn	Pn	18 55 03.0	-1.3
ZUR	**Zurich**	**1.05**	**196**	*i* Pn	Pn	18 55 04.0	-0.3
WLS	**Welschbruch**	**1.10**	**272**	Pg	Pg	18 55 04.7	-1.3
WLS				Sg	Sg	18 55 19.1	-1.7
WLS	**Welschbruch**	**1.10**	**272**	P	Pb	18 55 05.1	+0.7
WLS				S	Sb	18 55 19.3	+0.7
KTD	**Kalmit**	**1.12**	**327**	*e*Pg	Pg	18 55 05.7	-0.7
	SNR=2.9						
KTD				*e*Sg	Sg	18 55 20.5	-0.9
	SNR=2.7						
SWS	**Schriesheim**	**1.12**	**350**	P	Pb	18 55 04.5	-0.3
SWS				Pg	Pg	18 55 05.9	-0.5
SWS				Sg	Sg	18 55 20.8	-0.7
SWS	**Schriesheim**	**1.12**	**350**	PG	Pg	18 55 05.9	-0.5
SWS				SG	Sg	18 55 20.8	-0.7
SWS	**Schriesheim**	**1.12**	**350**	P	Pb	18 55 04.5	-0.3
SWS				Pg	Pg	18 55 05.9	-0.5
SWS				Sg	Sg	18 55 20.8	-0.7
SWS	**Schriesheim**	**1.12**	**350**	Pg	Pg	18 55 05.9	-0.5
NORI	**Noerdlinger Ri**	**1.13**	**72**	⇑*i*Pn	Pn	18 55 05.6	+0.2
LIENZ	**Alp Oberkamor**	**1.13**	**163**	*e*Pg	Pg	18 55 05.8	-0.8
LIENZ				*e*Sg	Sg	18 55 19.9	-1.8
	SNR=1.7						
LIENZ	**Alp Oberkamor**	**1.13**	**163**	*e*Pg	Pg	18 55 05.6	-1.0
CDF	**Champ du Feu**	**1.16**	**272**	*e*Pn	Pn	18 55 04.3	-1.5
CDF				*e*Pg	Pg	18 55 05.7	-1.3
CDF				*e*Sg	Sg	18 55 20.1	-2.4
	89nm,0.2s						
TOD	**Tromm**	**1.23**	**354**	Pg	Pg	18 55 08.0	-0.6
TOD				*e*Sg	Sg	18 55 23.4	-1.7
	SNR=6.1						
TOD	**Tromm**	**1.23**	**354**	Pn	Pn	18 55 05.8	-1.2
TOD	**Tromm**	**1.23**	**354**	Pg	Pg	18 55 08.0	-0.6
TOD				Sg	Sg	18 55 24.0	-1.1
DAVA	**Damuels**	**1.24**	**151**	⇑*i*PG	Pg	18 55 07.9	-0.8
DAVA				*i* SG	Sg	18 55 24.5	-0.8
	19nm,0.3s						
DAVA	**Damuels**	**1.24**	**151**	⇑*i*Pg	Pg	18 55 07.9	-0.9
ECH	**Echery**	**1.25**	**263**	Pg	Pg	18 55 07.0	-1.8
ECH				Sg	Sg	18 55 23.3	-2.2
ECH	**Echery**	**1.25**	**263**	*e*Pn	Pn	18 55 05.3	-1.8
	SNR=20						
ECH				Pg	Pg	18 55 07.5	-1.3
ECH				*e*Sg	Sg	18 55 23.2	-2.3
	SNR=5.1						
ECH	**Echery**	**1.25**	**263**	P	Pb	18 55 07.5	+0.7
ECH	**Echery**	**1.25**	**263**	Pn	Pn	18 55 05.3	-1.8
ECH				Pg	Pg	18 55 07.0	-1.8
ECH				Sg	Sg	18 55 23.3	-2.2
ECH	**Echery**	**1.25**	**263**	Pg	Pg	18 55 07.0	-1.8
ECH				Sg	Sg	18 55 23.3	-2.2
OBER	**Oberstdorf**	**1.30**	**138**	⇑*i*Pn	Pn	18 55 09.7	+1.8
PLONS	**Plons**	**1.35**	**169**	⇓*i*Pn	Pn	18 55 09.7	+1.0
BBS	**Basel-Blauen**	**1.36**	**228**	Pg	Pg	18 55 09.8	-1.3
BBS				*e*Sg	Sg	18 55 27.2	-2.2
	SNR=4.8						
BBS	**Basel-Blauen**	**1.36**	**228**	Pn	Pn	18 55 06.7	-2.1
BBS				Pg	Pg	18 55 08.9	-2.2
BBS				Pg	Pg	18 55 09.8	-1.3
BBS	**Basel-Blauen**	**1.36**	**228**	Pg	Pg	18 55 08.9	-2.2
MOF	**Molkenrain**	**1.36**	**248**	Pg	Pg	18 55 09.6	-1.5
MOF				Sg	Sg	18 55 27.8	-1.6
MOF	**Molkenrain**	**1.36**	**248**	*e*Pn	Pn	18 55 06.6	-2.2
	SNR=6.4						
MOF				⇑P		18 55 06.8	
MOF				Pg	Pg	18 55 09.7	-1.4
MOF				*e*Sg	Sg	18 55 27.3	-2.1
	SNR=1.9						
MOF	**Molkenrain**	**1.36**	**248**	⇑P	Pn	18 55 06.8	-2.0
MOF				P		18 55 09.7	
MOF	**Molkenrain**	**1.36**	**248**	Pn	Pn	18 55 06.6	-2.2
MOF				Pg	Pg	18 55 09.6	-1.5
MOF				Sg	Sg	18 55 27.8	-1.6
MOF	**Molkenrain**	**1.36**	**248**	Pg	Pg	18 55 09.6	-1.5
MOF				Sg	Sg	18 55 27.8	-1.6
BALST	**Balsthal**	**1.37**	**221**	⇑*i*Pn	Pn	18 55 06.5	-2.4
BALST	**Balsthal**	**1.37**	**221**	*e*Pn	Pn	18 55 09.7	+0.8
MUO	**Muotathal**	**1.43**	**190**	*e*Pn	Pn	18 55 10.7	+0.9
FUR	**Furstenfeldbru**	**1.53**	**97**	*e*Pg	Pg	18 55 12.7	-1.8
FUR				*e*Sg	Sg	18 55 32.7	-2.2
	SNR=11						
BOURR	**Bourrignon**	**1.55**	**231**	*e*Pn	Pn	18 55 09.2	-2.3
	SNR=14						
BOURR				*e*Pg	Pg	18 55 13.2	-1.7
BOURR				*e*Sg	Sg	18 55 32.9	-2.7
	SNR=4.1						
HINF	**Hinteralfeld**	**1.55**	**250**	*e*Pn	Pn	18 55 09.2	-2.3
HINF				*e*Pg	Pg	18 55 12.8	-2.1
HINF				*e*Sn	Sn	18 55 27.6	-4.0
HINF				*e*Sg	Sg	18 55 31.8	-3.8
	36nm,0.3s						
MOTA	**Moosalm**	**1.75**	**125**	⇓*i*PG	Pg	18 55 17.0	-1.9
MOTA				*i* SG	Sg	18 55 40.6	-1.6
	47nm,0.3s						
ABH	**Alteburg**	**1.78**	**328**	Pg	Pg	18 55 17.8	-1.8
LOMF	**Lomont**	**1.79**	**236**	Pg	Pg	18 55 17.6	-2.1
LOMF				Sg	Sg	18 55 41.1	-2.6
LOMF	**Lomont**	**1.79**	**236**	P	Pn	18 55 17.6	+2.7
HAU	**Haudompre**	**1.82**	**259**	*e*Pn	Pn	18 55 13.4	-1.9
HAU				*e*Pg	Pg	18 55 17.6	-2.6
HAU				*e*Sg	Sg	18 55 40.6	-3.9
	50nm,0.3s						
TNS	**Taunus Mts**	**1.88**	**349**	*e*Pn	Pn	18 55 15.1	-1.1
	SNR=3.2						
TNS				*e*Pg	Pg	18 55 19.3	-2.2
TNS				*e*Sg	Sg	18 55 43.6	-3.0
	SNR=4.7						
TNS	**Taunus Mts**	**1.88**	**349**	*e*Pn	Pn	18 55 15.1	-1.1
TNS				*e*Pg	Pg	18 55 19.3	-2.2
TNS				*e*Sg	Sg	18 55 43.6	-3.0
SQTA	**Sankt Quirin**	**1.88**	**127**	⇓*i*PG	Pg	18 55 19.8	-1.7
SQTA				*i* SG	Sg	18 55 45.0	-1.6
	41nm,0.2s						
SQTA	**Sankt Quirin**	**1.88**	**127**	⇓*i*Pg	Pg	18 55 19.8	-1.7
SQTA	**Sankt Quirin**	**1.88**	**127**	⇑*i*Sg	Sg	18 55 45.0	-1.7
	comp=Z,41nm,0.2s						
GRA1	**Grafenberg Arr**	**1.96**	**47**	*e*Pg	Pg	18 55 21.3	-1.8
GRA1				*e*Sg	Sg	18 55 45.7	-3.6
GRF	**Grafenberg Arr**	**1.96**	**47**	*e*Pg	Pg	18 55 21.3	-1.8
GRF				*e*Sg	Sg	18 55 45.7	-3.6
	SNR=4.0						
WATA	**Walderalm**	**2.02**	**120**	⇓*i*PG	Pg	18 55 21.9	-2.3
WATA				*i* SG	Sg	18 55 49.0	-2.2
	12nm,0.2s						
WATA	**Walderalm**	**2.02**	**120**	⇓*i*Pg	Pg	18 55 21.9	-2.3
THEF	**They Montfort**	**2.02**	**267**	Pg	Pg	18 55 21.6	-2.7
THEF				Sg	Sg	18 55 48.1	-3.2
THEF	**They Montfort**	**2.02**	**267**	Pg	Pg	18 55 21.7	-2.6
THEF				*e*Sg	Sg	18 55 47.8	-3.5
	SNR=4.7						
THEF	**They Montfort**	**2.02**	**267**	Pn	Pn	18 55 16.0	-2.2
THEF				Pg	Pg	18 55 21.6	-2.7
THEF				Sg	Sg	18 55 48.1	-3.2
THEF	**They Montfort**	**2.02**	**267**	Pg	Pg	18 55 21.6	-2.7
THEF				Sg	Sg	18 55 48.1	-3.2
WTTA	**Wattenberg**	**2.09**	**121**	⇑*i*PG	Pg	18 55 23.4	-2.3
WTTA				*i* SG	Sg	18 55 51.7	-1.9
	6.2nm,0.2s						
WTTA	**Wattenberg**	**2.09**	**121**	⇑*i*Pg	Pg	18 55 23.4	-2.3
WLF	**Walferdange**	**2.28**	**305**	*e*Pg	Pg	18 55 27.2	-2.2
WLF				*e*Sg	Sg	18 55 55.8	-4.0
	SNR=5.6						
RFYF	**Reffroy**	**2.36**	**277**	*e*Pn	Pn	18 55 20.8	-2.3
RFYF				*e*Pg	Pg	18 55 28.1	-3.0
	baz=105						
RFYF				*e*Sn	Sn	18 55 47.8	-4.5
RFYF				*e*Sg	Sg	18 55 57.6	-5.0
	43nm,0.2s						
RFYF	**Reffroy**	**2.36**	**277**	*e*Pg	Pg	18 55 28.1	-3.0
RFYF				*e*Sn	Sn	18 55 47.8	-4.5
RFYF				*e*Sg	Sg	18 55 57.6	-5.0
	22nm,0.2s						
MEZF	**Maizieres J'vi**	**2.64**	**274**	*e*Pn	Pn	18 55 24.5	-2.5
	baz=91						
MEZF				*e*Pg	Pg	18 55 32.5	-4.0
	baz=97						
MEZF				*e*Sn	Sn	18 55 54.1	-5.1
MEZF				*e*Sg	Sg	18 56 06.1	-5.6
	14nm,0.3s						
MEZF	**Maizieres J'vi**	**2.64**	**274**	*e*Pg	Pg	18 55 32.5	-4.0
MEZF				*e*Sn	Sn	18 55 54.1	-5.1
MEZF				*e*Sg	Sg	18 56 06.1	-5.6
	6.8nm,0.3s						
CABF	**La Chapelle**	**2.66**	**229**	*e*Pn	Pn	18 55 24.6	-2.7
CABF				*e*Pg	Pg	18 55 33.2	-3.7
CABF				*e*Sn	Sn	18 55 54.6	-5.1
CABF				*e*Sg	Sg	18 56 07.3	-5.0
	21nm,0.6s						
SFTF	**Sexfontaines**	**2.66**	**268**	*e*Pn	Pn	18 55 24.8	-2.5
	baz=95						
SFTF				*e*Pg	Pg	18 55 33.3	-3.6
	baz=91						
SFTF				*e*Sn	Sn	18 55 54.5	-5.2
SFTF				*e*Sg	Sg	18 56 06.9	-5.5
	26nm,0.2s						
SFTF	**Sexfontaines**	**2.66**	**268**	*e*Pg	Pg	18 55 33.3	-3.6
SFTF				*e*Sn	Sn	18 55 54.5	-5.2
SFTF				*e*Sg	Sg	18 56 06.9	-5.5
	13nm,0.2s						
WET	**Wettzell**	**2.67**	**72**	*e*Pn	Pn	18 55 26.6	-1.0
	SNR=5.8						
WET				*e*Pg	Pg	18 55 33.8	-3.5
WET				*e*Sg	Sg	18 56 08.8	-4.1
	SNR=6.0						
WET	**Wettzell**	**2.67**	**72**	*e*Pn	Pn	18 55 26.6	-0.9
WET				*e*Pg	Pg	18 55 33.8	-3.5
WET				*e*Sg	Sg	18 56 08.8	-4.1
MOX	**Moxa**	**2.83**	**36**	*e*Pn	Pn	18 55 30.0	+0.2
MOX				*e*Pg	Pg	18 55 36.7	-3.7
MOX				*e*Sn	Sn	18 55 60.0	-4.3
	SNR=3.0						
MOX				*e*Sg	Sg	18 56 13.6	-4.7
	SNR=2.6						
MOX	**Moxa**	**2.83**	**36**	*i* P	Pn	18 55 30.0	+0.2
MOX				Pg	Pg	18 55 37.0	-3.5
MOX				S	Sn	18 56 00.0	-4.2
MOX				Sg	Sg	18 56 13.0	-5.3
MOX	**Moxa**	**2.83**	**36**	*e*Pn	Pn	18 55 30.0	+0.2
MOX				*e*Pg	Pg	18 55 36.8	-3.7
MOX				*e*Sn	Sn	18 56 00.7	-3.5
MOX				*e*Sg	Sg	18 56 12.9	-5.4
NKC	**Novy Kostel**	**2.92**	**49**	*e*PN	Pn	18 55 31.2	+0.2
NKC				*e*PG	Pg	18 55 38.8	-3.3
NKC				*e*SG	Sg	18 56 14.2	-6.9
	18nm,0.3s						
WERD	**Werda**	**2.99**	**45**	*e*Pg	Pg	18 55 40.2	-3.3
WERD				*e*Sg	Sg	18 56 18.3	-5.1
	SNR=5.7						
TANN	**Tannenbergstha**	**3.04**	**47**	*e*Pn	Pn	18 55 30.8	-2.0
	SNR=11						
TANN				*e*Pg	Pg	18 55 41.0	-3.6
KHC	**Kasperske Hory**	**3.12**	**74**	*e*PN	Pn	18 55 33.8	0.0
KHC				*e*PG	Pg	18 55 42.2	-3.9
KHC				*e*SN	Sn	18 56 06.5	-4.9
KHC				*e*SG	Sg	18 56 22.8	-4.9
	5.0nm,0.2s						
GEC2	**GERESS Array S**	**3.15**	**80**	*e*Pn	Pn	18 55 33.3	-1.0
	SNR=5.5						
GEC2				*e*Pg	Pg	18 55 42.7	-4.1
GEC2	**GERESS Array S**	**3.15**	**80**	*e*Pn	Pn	18 55 33.3	-1.0
GEC2				*e*Pg	Pg	18 55 42.7	-4.1
GIVF	**Givet**	**3.24**	**304**	*e*Pg	Pg	18 55 44.2	-4.4
GIVF				*e*Sg	Sg	18 56 25.4	-6.4
	7.4nm,0.3s						
LPL	**La Plagne**	**3.26**	**209**	*e*Pn	Pn	18 55 33.6	-2.3
LPL				*e*Pg	Pg	18 55 44.6	-4.4
LPL				*e*Sg	Sg	18 56 26.0	-6.5
	3.9nm,0.3s						
LPG	**La Plagne**	**3.27**	**209**	*e*Pn	Pn	18 55 34.2	-1.8
LPG				*e*Pg	Pg	18 55 44.7	-4.5
LPG				*e*Sg	Sg	18 56 26.5	-6.3
	7.1nm,0.4s						
NEUB	**Neuenburg**	**3.35**	**31**	*e*Sg	Sg	18 56 30.1	-5.4
	SNR=4.1						
MOA	**Molln**	**3.56**	**97**	⇑*i*PN	Pn	18 55 39.0	-1.2
MOA				*i* PG	Pg	18 55 51.5	-3.5
MOA				*i* SG	Sg	18 56 38.7	-3.8
	3.2nm,0.2s						
BAIF	**Baives**	**3.57**	**300**	*e*Pn	Pn	18 55 37.9	-2.4
BAIF				*e*Sn	Sn	18 56 16.8	-6.0
BAIF				*e*Sg	Sg	18 56 34.1	-8.6
	5.1nm,0.3s						
CLZ	**Clausthal**	**3.58**	**14**	*e*Sg	Sg	18 56 36.3	-6.7
	SNR=3.7						
LOR	**Lormes**	**3.64**	**254**	*e*Pn	Pn	18 55 38.6	-2.7
	baz=73						
LOR				*e*Pg	Pg	18 55 51.5	-5.1
	baz=77						
LOR				*e*Sg	Sg	18 56 37.4	-7.8
	7.5nm,0.2s						
LOR	**Lormes**	**3.64**	**254**	*e*Pg	Pg	18 55 51.5	-5.1
LOR				*e*Sg	Sg	18 56 37.4	-7.8
	3.8nm,0.2s						
CLL	**Collm**	**3.91**	**40**	*e*Pn	Pn	18 55 44.0	-1.1
CLL				*e*Pg	Pg	18 55 57.0	-4.9
CLL				*e*Sg	Sg	18 56 47.6	-6.4
	SNR=3.9						
SMF	**Signal de Mont**	**3.91**	**246**	*e*Pn	Pn	18 55 41.9	-3.2
SMF				*e*Pg	Pg	18 55 56.3	-5.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMF				eSg	Sg	18 56 45.7	-8.3
	8.3nm,0.3s						
SSF	**Saint Saulge**	**3.94**	**253**	ePn	Pn	18 55 42.4	-3.2
SSF				ePg	Pg	18 55 57.2	-5.4
SSF				eSg	Sg	18 56 46.4	-8.7
	6.2nm,0.3s						
MBDF	**Montbardon**	**3.97**	**204**	ePn	Pn	18 55 42.9	-3.0
MBDF				ePg	Pg	18 55 57.3	-5.8
MBDF				eSg	Sg	18 56 47.2	-8.7
	4.9nm,0.4s						
PRU	**Pruhonice**	**3.97**	**64**	eSG	Sg	18 56 47.8	-8.3
BRG	**Berggiesshubel**	**4.07**	**50**	Pg	Pg	18 55 59.5	-5.6
BRG				Sg	Sg	18 56 51.5	-7.7
BRG	**Berggiesshubel**	**4.07**	**50**	Pg	Pg	18 55 59.5	-5.5
BRG				Sg	Sg	18 56 51.5	-7.7
ORIF	**Oris-en-Rattie**	**4.08**	**213**	ePn	Pn	18 55 43.0	-4.5
ORIF				ePg	Pg	18 55 59.1	-6.2
ORIF				eSg	Sg	18 56 51.4	-8.2
	5.3nm,0.4s						
AVF	**Avril sur Loir**	**4.14**	**250**	ePn	Pn	18 55 44.9	-3.6
AVF				ePg	Pg	18 56 01.0	-5.6
AVF				eSg	Sg	18 56 52.8	-9.1
	2.7nm,0.3s						
HYF	**Humbligny**	**4.43**	**258**	ePn	Pn	18 55 49.0	-3.5
HYF				ePg	Pg	18 56 06.5	-5.9
HYF				eSg	Sg	18 57 02.1	-9.3
	99nm,0.4s						
BGF	**Bois d'Agland**	**4.56**	**249**	ePn	Pn	18 55 50.6	-3.7
BGF				ePg	Pg	18 56 08.2	-6.7
BGF				eSg	Sg	18 57 05.8	-10
	13nm,0.4s						
VIVF	**Saint-Julien-l**	**4.62**	**222**	ePn	Pn	18 55 51.3	-3.9
VIVF				ePg	Pg	18 56 09.3	-6.8
VIVF				eSg	Sg	18 57 07.7	-10
	3.4nm,0.2s						
TCF	**Toulx Ste Croi**	**5.07**	**248**	ePn	Pn	18 55 58.1	-3.5
TCF				ePg	Pg	18 56 17.4	-7.8
TCF				eSg	Sg	18 57 21.9	-11
	2.5nm,0.3s						
VRAC	**Vranov**	**5.09**	**77**	eSg	Sg	18 57 21.1	-12
LASF	**Ste Croix**	**5.59**	**222**	eSg	Sg	18 57 38.6	-11
	1.4nm,0.3s						
GRR	**Gorron**	**6.57**	**274**	ePn	Pn	18 56 18.1	-4.7
MTLF	**Montolieu**	**6.92**	**226**	ePn	Pn	18 56 22.6	-5.0
SGMF	**Saint Gilles**	**7.71**	**273**	eSg	Sg	18 58 44.3	-16
	2.7nm,0.5s						

*JMA **13** 19:15:33.8±0.1, 28.51N×139.70E, h540km, M4.2*
*MOS **13** 19:15:33.6±0.8, 28.45N×139.17E, h506km, mb3.7/5, Error ellipse: s-maj=29.3km s-min=9.1km az=111.7*
*NEIC **13** 19:15:34.9±0.5, 28.50N×139.39E, h511km±5km, mb4.1/8, Error ellipse: s-maj=13.2km s-min=5.5km az=79.0*
*IDC **13** 19:15:34.6±0.6, 28.50N×139.43E, h507km±9km, mb3.3/11, mb1 3.3/17, mb1mx3.2/28, mbtmp4.2/17, Error ellipse: s-maj=25.4km s-min=9.6km az=75.0*
ISC 13 19:15:34.1±0.4**, 28.44N**±0.05×**139.3E**±0.1**, h516**km±6km**, n52, σ0ˢ82**/59**, mb3.7**/19**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.86**	**117**	P	**P**	**19 16 46.0**	**-0.1**
	46nm,0.3s,baz=352,slow=5.8,SNR=101						
CBIJ				S	**S**	**19 17 41.8**	**-1.2**
	24nm,0.3s,baz=304,slow=23,SNR=6.5						
CBIJ	**Chichi jima**	**2.86**	**117**	P	**P**	**19 16 46.1**	**0.0**
JHHJ	**Haha-jima-NKT**	**3.10**	**125**	P	**P**	**19 16 47.8**	**+0.1**
JHHJ				S	**S**	**19 17 46.0**	**+0.1**
JHJ2	**Mitsune**	**4.67**	**5**	P	**P**	**19 17 00.6**	**+0.8**
JHJ	**Hachijo jima 2**	**4.68**	**5**	P	**P**	**19 17 00.1**	**+0.2**
	24nm,0.3s,baz=58,slow=23,SNR=16						
JHJ				S	**S**	**19 18 06.2**	**-1.6**
	11nm,0.3s,baz=70,slow=22,SNR=6.4						
JWZ	**Kozaga**	**5.95**	**329**	P	**P**	**19 17 13.0**	**+1.5**
JIE	**Ise**	**6.34**	**340**	P	**P**	**19 17 16.8**	**+1.5**
BSO1	**Boso 1**	**6.35**	**12**	P	**P**	**19 17 15.2**	**-0.2**
BSO1				eS	**S**	**19 18 37.2**	**+1.5**
BSO3	**Boso 3**	**6.42**	**9**	P	**P**	**19 17 16.4**	**+0.4**
BSO3				eS	**S**	**19 18 37.4**	**+0.5**
JOD2	**Odawara 2**	**6.80**	**358**	P	**P**	**19 17 20.0**	**+0.2**
JNY	**Yasuok**	**7.01**	**350**	P	**P**	**19 17 22.5**	**+0.6**
JRY	**Ryogami san**	**7.56**	**357**	P	**P**	**19 17 27.1**	**-0.3**
JAG	**Ashikaga**	**7.96**	**1**	P	**P**	**19 17 30.2**	**-1.3**
JAG				eS	**S**	**19 19 03.4**	**-1.5**
MJAR	**Matsushiro Arr**	**8.13**	**354**	P	**P**	**19 17 32.2**	**-1.1**
	2.4nm,0.3s,baz=173,slow=11,SNR=22						
MAJO	**Matsushiro**	**8.13**	**354**	eP	**P**	**19 17 32.1**	**-1.2**
	19nm,0.6s						
MAJO	**Matsushiro**	**8.13**	**354**	eP	**P**	**19 17 32.1**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s						
MAT	**Matsushiro**	**8.13**	**354**	P	**P**	**19 17 32.4**	**-0.9**
MAT				eS	**S**	**19 19 09.0**	**+0.9**
MAT	**Matsushiro**	**8.13**	**354**	eP	**P**	**19 17 32.0**	**-1.3**
	comp=Z,13nm,0.9s						
MAT	**Matsushiro**	**8.13**	**354**	eP	**P**	**19 17 32.0**	**-1.3**
MAT				pmax	pmax		
	comp=Z,13nm,0.9s						
JFK	**Kawauchi**	**8.99**	**8**	P	**P**	**19 17 42.4**	**+0.2**
JOW	**Kunigami**	**9.94**	**263**	P	**P**	**19 17 52.5**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=90,slow=14,SNR=3.7						
GUMO	**Guam**	**15.65**	**160**	P	**P**	**19 18 53.3**	**+2.6**
	comp=Z,2.6nm,0.3s,baz=188,slow=19,SNR=3.4						
GUMO	**Guam**	**15.65**	**160**	eP	**P**	**19 18 52.7**	**+2.1**
	comp=Z,22nm,0.6s						
GUMO	**Guam**	**15.65**	**160**	eP	**P**	**19 18 52.7**	**+2.1**
GUMO				pmax	pmax		
	comp=Z,22nm,0.6s						
ASAJ	**Asahikawa**	**15.86**	**9**	P	**P**	**19 18 54.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=67,slow=31,SNR=4.9						
SONM	**Songino Array**	**32.00**	**316**	P	**P**	**19 21 18.8**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.5,baz=129,slow=8.3,SNR=6.4						
ZAK	**Zakamensk**	**34.94**	**319**	eP	**P**	**19 21 44.0**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
MKAR	**Makanchi Array**	**47.67**	**309**	P	**P**	**19 23 24.1**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.6,baz=87,slow=11,SNR=16						
MKAR				PcP	PcP	19 24 44.6	+0.2
	comp=Z,0.4nm,0.6s,baz=72,slow=4.6,SNR=3.9						
FITZ	**Fitzroy Crossi**	**48.13**	**198**	P	**P**	**19 23 28.9**	**+0.2**
	comp=Z,0.8nm,0.4s,mb3.6,baz=12,slow=9.3,SNR=4.4						
WRAB	**Tennant Creek**	**48.33**	**186**	eP	**P**	**19 23 30.1**	**0.0**
	comp=Z,1.8nm,0.3s,mb4.1						
WRAB	**Tennant Creek**	**48.33**	**186**	eP	**P**	**19 23 30.1**	**0.0**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**48.34**	**186**	P	**P**	**19 23 29.8**	**-0.4**
	comp=Z,1.4nm,0.3s,mb3.9,baz=3.0,slow=7.8,SNR=73						
WRA				ScP		19 27 52.4	
	comp=Z,0.2nm,0.6s,baz=0.7,slow=5.2,SNR=5.3						
CTA	**Charters Tower**	**48.71**	**171**	P	**P**	**19 23 32.1**	**-0.8**
	comp=Z,1.6nm,0.6s,mb3.7,baz=187,slow=23,SNR=3.1						
KURK	**Kurchatov**	**50.24**	**314**	eP	**P**	**19 23 42.9**	**-1.0**
	comp=Z,2.2nm,0.6s,mb3.8						
KURK	**Kurchatov**	**50.24**	**314**	eP	**P**	**19 23 42.9**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
VOSK	**Vostochnaya**	**55.00**	**316**	P	**P**	**19 24 17.4**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.4						
BVA0	**Borovoye Array**	**55.34**	**317**	i P	**P**	**19 24 20.1**	**-0.3**
BVAR	**Borovoye Array**	**55.34**	**317**	P	**P**	**19 24 19.8**	**-0.6**
	comp=Z,2.6nm,0.4s,mb3.8,baz=93,slow=7.4,SNR=20						
BRVK	**Borovoye**	**55.41**	**317**	eP	**P**	**19 24 20.5**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.3						
BRVK	**Borovoye**	**55.41**	**317**	eP	**P**	**19 24 20.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.2						
KKAR	**Karatay Array**	**56.25**	**305**	i P	**P**	**19 24 26.9**	**+0.1**
AB31	**Akbulak array**	**62.35**	**313**	i P	**P**	**19 25 07.0**	**-0.4**
KEV	**Kevo**	**70.87**	**340**	ep	**P**	**19 26 00.0**	**+0.5**
	comp=Z,14nm,1.1s,mb4.4						
KEV	**Kevo**	**70.87**	**340**	eP	**P**	**19 26 00.0**	**+0.5**
KEV				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**71.43**	**340**	P	**P**	**19 26 02.6**	**-0.2**
	comp=Z,3.6nm,0.8s,mb3.9,baz=60,slow=7.3,SNR=7.8						
JOF	**Joensuu**	**72.75**	**333**	ep	**P**	**19 26 10.1**	**-0.3**
	comp=Z,1.9nm,0.4s,mb3.9						
KAF	**Kangasniemi**	**75.16**	**333**	ep	**P**	**19 26 24.0**	**+0.1**
	comp=Z,1.4nm,0.4s,mb3.7,baz=55,slow=5.5						
KAF	**Kangasniemi**	**75.16**	**333**	eP	**P**	**19 26 24.0**	**+0.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
FINES	**FINESS Array B**	**75.62**	**333**	P	**P**	**19 26 26.9**	**+0.4**
	comp=Z,2.0nm,0.3s,mb4.0,baz=69,slow=5.2,SNR=39						
AKASG	**Malin Array Be**	**80.03**	**323**	P	**P**	**19 26 50.5**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.0,baz=68,slow=3.3,SNR=5.7						
HFS	**Hagfors**	**81.18**	**336**	P	**P**	**19 26 56.4**	**+0.3**
	comp=Z,0.9nm,0.4s,mb3.6,baz=96,slow=1.8,SNR=14						
NOA	**NORSAR Array B**	**81.41**	**337**	P	**P**	**19 26 57.6**	**+0.4**
	comp=Z,1.0nm,0.6s,mb3.4,baz=47,slow=4.7,SNR=3.0						

JMA 13 20:25:04.4±0.3**, 44.09N**×**148.16E, M4.2, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.90**	**248**	P	Pn	20 25 38.4	+0.1
NEM2				eS	Sn	20 26 02.9	-0.4
JRA	**Rausu**	**2.20**	**267**	P	Pn	20 25 42.8	+0.2
JRA				eS	Sn	20 26 11.1	+0.2
JNK	**Nakash**	**2.54**	**260**	P	Pn	20 25 47.7	+0.2
JNK				eS	Sn	20 26 19.7	+0.1
JAK	**Akkeshi**	**2.75**	**248**	P	Pn	20 25 50.6	+0.1
JAK				eS	Sn	20 26 24.4	-0.4
JTKR	**Abashiri--Toko**	**3.07**	**269**	P	Pn	20 25 54.2	-0.9
JAR	**Ashorobuto**	**3.28**	**258**	P	Pn	20 25 58.7	+0.6
JAR				eS	Sn	20 26 38.2	-0.2
JCH	**Churui**	**3.80**	**249**	P	Pn	20 26 05.4	0.0
JCH				eS	Sn	20 26 50.1	-1.4
JKK2	**Kamakawa 2**	**3.91**	**269**	P	Pn	20 26 07.4	+0.3
JFR	**Furan**	**4.15**	**259**	P	Pn	20 26 11.7	+1.3
JFR				eS	Sn	20 27 00.0	-0.3
JNBK	**Urakawa-nobuka**	**4.35**	**247**	P	Pn	20 26 12.8	-0.5
JKB	**Kayabe**	**5.67**	**250**	P	Pn	20 26 30.6	-1.4
JKB				eS	Sn	20 27 33.2	-5.6
JOT	**Ohata**	**5.89**	**245**	P	Pn	20 26 33.3	-1.8
JOT				eS	Sn	20 27 39.2	-5.2
JANG	**Nango**	**6.17**	**235**	eS	Sn	20 27 44.7	-6.6

*IDC **13** 20:27:38.2±1.0, 26.04N×142.91E, mb4.1/6, mb1 4.2/7, mb1mx3.9/21, mbtmp4.0/7, ML3.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/33, Error ellipse: s-maj=38.0km s-min=16.2km az=75.0*
*NEIC **13** 20:27:43.8±2.4, 26.08N×142.79E, h40km±21km, mb4.2/3, Error ellipse: s-maj=30.5km s-min=12.2km az=86.0*
ISC 13 20:27:43.1±2.5**, 26.08N**±0.10×**142.9E**±0.3**, h57**km±19km**, n15, σ1ˢ19**/14**, mb4.2**/9**, 1D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.22**	**326**	Pn	**P**	**20 28 03.4**	**-0.9**
	109nm,0.3s,baz=106,slow=19,SNR=183						
CBIJ				Sn	**S**	**20 28 22.2**	**+2.2**
	371nm,0.3s,baz=283,slow=23,SNR=36						
MJAR	**Matsushiro Arr**	**11.19**	**340**	Pn	**P**	**20 30 20.3**	**-2.4**
	0.4nm,0.3s,baz=151,slow=16,SNR=4.0						
JNU	**Nakatsue**	**12.62**	**307**	LR	LR	20 34 41.9	
	comp=Z,21nm,18.1s,baz=135,slow=34						
WRAB	**Tennant Creek**	**46.49**	**191**	eP	**P**	**20 36 06.5**	**-0.3**
	6.5nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**46.50**	**191**	⇓iP	**P**	**20 36 06.5**	**-0.3**
WRA	**Warramunga Arr**	**46.50**	**191**	P	**P**	**20 36 06.4**	**-0.4**
	3.9nm,0.6s,mb4.5,baz=11,slow=8.6,SNR=49						
FITZ	**Fitzroy Crossi**	**47.02**	**203**	P	**P**	**20 36 12.8**	**+1.8**
	6.0nm,0.9s,mb4.5,baz=11,slow=6.3,SNR=6.3						
MKAR	**Makanchi Array**	**51.65**	**310**	P	**P**	**20 36 45.7**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=90,slow=9.7,SNR=6.6						
MKAR				PcP	PcP	20 37 59.7	+0.5
	0.2nm,0.5s,baz=90,slow=4.3,SNR=3.4						
KURK	**Kurchatov**	**54.18**	**315**	eP	**P**	**20 37 03.8**	**-1.1**
	1.7nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**58.28**	**28**	P	**P**	**20 37 35.3**	**+1.3**
	0.7nm,0.8s,mb3.7,baz=267,slow=6.8,SNR=4.2						
BVAR	**Borovoye Array**	**59.25**	**318**	P	**P**	**20 37 40.8**	**0.0**
	1.8nm,0.5s,mb4.4,baz=88,slow=7.4,SNR=15						
KAF	**Kangasniemi**	**78.68**	**335**	ep	**P**	**20 39 39.7**	**-0.7**
	0.6nm,0.3s,mb4.0						
FINES	**FINESS Array B**	**79.16**	**334**	P	**P**	**20 39 44.5**	**+1.5**
	1.2nm,0.4s,mb4.2,baz=69,slow=5.6,SNR=20						
FINES	**FINESS Array B**	**79.16**	**334**	P	**P**	**20 39 44.5**	**+1.5**
PLCA	**Paso Flores**	**148.67**	**126**	PKPbc	PKPdf	20 47 26.5	+6.4
	0.9nm,0.6s,baz=197,slow=15,SNR=3.9						

*NIED **13** 20:43:00, 25.80N×143.10E, h5km, Mw3.8 Best double couple: Mo5.85×10^{14} NP1:φs155°, δ54°, λ73°. NP2:φs3°, δ39°, λ113°.*
*IDC **13** 20:43:58.4±1.9, 25.92N×142.57E, mb4.1/7, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, ML3.3/1, Error ellipse: s-maj=82.0km s-min=15.8km az=82.0*
*NEIC **13** 20:44:00.9±6.7, 25.96N×142.60E, h18km±40km, mb4.5/3, MW3.8(NIED), Error ellipse: s-maj=50.4km s-min=9.9km az=82.0*
ISC 13 20:44:02.6±0.9**, 25.84N**±0.06×**142.0E**±0.3**, h33**km**, n14, σ1ˢ09**/15**, mb4.2**/11**, 1D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.26**	**6**	Pn	**Pn**	**20 44 23.0**	**-1.2**
	64nm,0.3s,baz=107,slow=19,SNR=140						
CBIJ				Sn	**Sn**	**20 44 42.3**	**+2.2**
	290nm,0.3s,baz=285,slow=23,SNR=27						
MJAR	**Matsushiro Arr**	**11.16**	**344**	Pn	**P**	**20 46 39.9**	**-3.0**
	0.2nm,0.3s,baz=167,slow=12,SNR=3.6						
SONM	**Songino Array**	**35.53**	**318**	P	**P**	**20 50 59.8**	**+1.3**
	0.2nm,0.6s,mb3.2,baz=129,slow=9.2,SNR=2.6						
WRAB	**Tennant Creek**	**46.10**	**190**	eP	**P**	**20 52 25.6**	**-0.1**
	6.0nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**46.11**	**190**	⇓iP	**P**	**20 52 26.2**	**+0.4**
WRA	**Warramunga Arr**	**46.12**	**190**	P	**P**	**20 52 26.1**	**+0.2**
	2.2nm,0.4s,mb4.4,baz=11,slow=8.7,SNR=22						
FITZ	**Fitzroy Crossi**	**46.49**	**202**	P	**P**	**20 52 29.5**	**+0.7**
	4.2nm,0.7s,mb4.5,baz=9.6,slow=9.1,SNR=2.1						
MKAR	**Makanchi Array**	**51.18**	**310**	P	**P**	**20 53 05.4**	**+0.7**
	0.2nm,0.5s,mb3.3,baz=89,slow=8.7,SNR=7.4						
MKAR				PcP	PcP	20 54 19.6	-0.3
	0.4nm,0.8s,baz=72,slow=5.0,SNR=5.1						
KURK	**Kurchatov**	**53.77**	**315**	P	**P**	**20 53 23.5**	**-0.5**
	1.3nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**58.88**	**318**	P	**P**	**20 54 00.8**	**+0.3**
	1.8nm,0.4s,mb4.4,baz=88,slow=7.2,SNR=13						
ARCES	**ARCESS Array B**	**74.68**	**341**	P	**P**	**20 55 40.8**	**+0.7**
	3.8nm,0.9s,mb4.3,baz=51,slow=5.8,SNR=3.6						
JOF	**Joensuu**	**76.15**	**334**	ep	**P**	**20 55 46.7**	**-1.9**
	2.5nm,0.8s,mb4.2						
KAF	**Kangasniemi**	**78.54**	**334**	ep	**P**	**20 56 01.2**	**-0.8**
	2.2nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**79.01**	**334**	P	**P**	**20 56 04.2**	**-0.4**
	1.1nm,0.4s,mb4.2,baz=71,slow=6.3,SNR=20						

*NIED **13** 20:46:00, 25.60N×143.10E, h5km, Mw4.2 Best double couple: Mo1.94×10^{15} NP1:φs154°, δ76°, λ82°. NP2:φs4°, δ16°, λ119°.*
*IDC **13** 20:46:37.5±0.8, 25.98N×142.75E, mb4.1/8, mb1 4.2/8, mb1mx3.9/21, mbtmp4.1/8, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=32.2km s-min=15.4km az=81.0*
*NEIC **13** 20:46:42.6±0.4, 26.02N×142.64E, h35km, mb4.3/4, Error ellipse: s-maj=19.5km s-min=7.6km az=85.0*
ISC 13 20:46:42.1±2.1**, 25.95N**±0.08×**142.8E**±0.2**, h50**km±17km**, n19, σ0ˢ81**/18**, mb4.1**/12**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.26**	**335**	Pn	**P**	**20 47 02.4**	**-1.3**
	63nm,0.3s,baz=104,slow=23,SNR=7.3						
CBIJ				Sn	**S**	**20 47 21.5**	**+1.6**
	107nm,0.3s,baz=78,slow=23,SNR=5.0						
MAJO	**Matsushiro**	**11.26**	**341**	P	**P**	**20 49 18.3**	**-4.7**
JNU	**Nakatsue**	**12.59**	**307**	LR	LR	20 53 44.2	
	comp=Z,56nm,19.0s,baz=245,slow=34						
WRAB	**Tennant Creek**	**46.34**	**191**	eP	**P**	**20 55 05.3**	**+0.1**
	7.8nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**46.35**	**191**	eP	**P**	**20 55 05.4**	**+0.1**
WRA	**Warramunga Arr**	**46.35**	**191**	P	**P**	**20 55 05.9**	**+0.5**
	4.4nm,0.5s,mb4.6,baz=11,slow=8.6,SNR=25						
FITZ	**Fitzroy Crossi**	**46.86**	**203**	eP	**P**	**20 55 09.9**	**+0.6**
	3.5nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**46.86**	**203**	P	**P**	**20 55 10.2**	**+0.9**
	3.4nm,0.8s,mb4.4,baz=60,slow=2.3,SNR=3.8						
MKAR	**Makanchi Array**	**51.62**	**310**	P	**P**	**20 55 45.1**	**-0.5**
	0.4nm,0.6s,mb3.5,baz=86,slow=10.0,SNR=5.7						
MKAR				PcP	PcP	20 56 58.9	-0.1
	0.5nm,0.7s,baz=78,slow=3.3,SNR=4.7						
KURK	**Kurchatov**	**54.17**	**315**	eP	**P**	**20 56 03.3**	**-1.2**
	1.4nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**57.52**	**181**	P	**P**	**20 56 28.3**	**-0.5**
	1.2nm,0.7s,mb4.0,baz=4.0,slow=7.8,SNR=2.9						
ILAR	**Eielson Array**	**58.45**	**28**	P	**P**	**20 56 34.2**	**-0.6**
	0.6nm,0.7s,mb3.8,baz=271,slow=7.3,SNR=5.4						
BVAR	**Borovoye Array**	**59.25**	**318**	P	**P**	**20 56 39.9**	**-0.6**
	1.8nm,0.5s,mb4.3,baz=86,slow=6.9,SNR=12						
INK	**Inuvik**	**63.84**	**24**	P	**P**	**20 57 11.8**	**+0.7**
	1.2nm,0.7s,mb4.0,baz=296,slow=9.6,SNR=2.6						
KEV	**Kevo**	**74.23**	**341**	ep	**P**	**20 58 15.9**	**+0.9**
JOF	**Joensuu**	**76.34**	**334**	ep	**P**	**20 58 26.8**	**-0.3**
	0.6nm,0.5s,mb3.8						
KAF	**Kangasniemi**	**78.74**	**335**	ep	**P**	**20 58 40.6**	**+0.2**
	0.9nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**79.21**	**334**	P	**P**	**20 58 43.6**	**+0.6**
	1.1nm,0.4s,mb4.2,baz=74,slow=3.8,SNR=13						
PLCA	**Paso Flores**	**148.70**	**126**	PKPbc	PKPdf	21 06 26.8	+6.9
	1.0nm,0.7s,baz=107,slow=3.3,SNR=4.6						

*KNET **13** 20:47:52.2±0.4, 41.40N×74.40E, ml2.0, Error ellipse: s-maj=2.1km s-min=1.2km az=6.0*
*NNC **13** 20:47:58.2±10.0, 41.57N×74.30E, mpv2.5, Error ellipse: s-maj=92.1km s-min=41.5km az=139.0*
ISC 13 20:47:50.9±1.8**, 41.23N**±0.09×**74.37E**±0.09**, h10**km**, n8, σ0ˢ69**/14**, 7C-8D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.03**	**331**	⇓P	**Pb**	**20 48 09.8**	**-0.6**
	12nm,0.2s,SNR=45						
AML				⇓S	**Sb**	**20 48 23.2**	**-0.6**
	82nm,0.3s						
KZA	**Kyzart**	**1.08**	**38**	⇑P	**Pb**	**20 48 10.4**	**-0.7**
	8.0nm,0.2s						
KZA				⇑S	**Sb**	**20 48 24.3**	**-0.7**
	20nm,0.2s						
AAK	**Ala-Archa**	**1.41**	**4**	⇓P	**Pn**	**20 48 16.4**	**-0.2**
	6.9nm,0.2s,SNR=5.7						
AAK				⇑S	**Sb**	**20 48 34.4**	**-0.2**
	28nm,0.4s						
AAK	**Ala-Archa**	**1.41**	**4**	⇓P	**Pn**	**20 48 16.4**	**-0.2**
	3.8nm,0.4s						
AAK				⇓S	**Sb**	**20 48 34.3**	**-0.3**
	11nm,0.5s						
KBK	**Karagaybulak**	**1.49**	**17**	⇓P	**Pn**	**20 48 17.8**	**-0.1**
	5.6nm,0.1s,SNR=7.7						
KBK				⇓S	**Sb**	**20 48 37.6**	**+0.5**
	47nm,0.3s						
EKS2	**Erkin-Say**	**1.50**	**343**	⇓P	**Pn**	**20 48 18.0**	**+0.1**
	2.4nm,0.2s,SNR=7.8						
EKS2				⇑S	**Sb**	**20 48 38.4**	**+1.2**
	9.0nm,0.4s						
ULHL	**Ulahol**	**1.73**	**54**	⇑P	**Pn**	**20 48 22.6**	**+1.3**
	7.3nm,0.2s,SNR=11						
KK31	**Karatay Array**	**3.42**	**304**	⇑Pn	**Pn**	**20 48 53.3**	**+7.9**
	0.3nm,0.2s,baz=127,slow=16,SNR=15						
KK31				⇑Lg		20 49 37.7	
	8.4nm,0.7s						

*NEIC **13** 20:55:02.0, 44.59N×6.87E, h1km, ML2.5(GEN), ML2.1(LDG), ML1.9(STR), After GEN.*
*LDG **13** 20:55:02.5±0.1, 44.61N×6.88E, h2km, Md2.1/3, Ml2.1/6, Error ellipse: s-maj=2.2km s-min=1.1km az=73.0*
*STR **13** 20:55:03.5±1.0, 44.61N×7.00E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 13 20:55:01.7±0.3**, 44.58N**±0.01×**6.86E**±0.03**, h11**km±3km**, n28, σ0ˢ56**/53**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.16**	**337**	ePg	**Pg**	**20 55 05.6**	**+0.2**
MBDF				eSg	**Sg**	**20 55 07.8**	**0.0**
	46nm,0.3s						
BHB	**Bricherasio**	**0.39**	**48**	P	**Pg**	**20 55 09.7**	**0.0**
BHB				S	**Sg**	**20 55 14.8**	**-0.2**
FENE	**Fenestrelle**	**0.47**	**18**	P	**Pg**	**20 55 11.1**	**-0.2**
FENE				S	**Sg**	**20 55 17.5**	**-0.2**
STV	**Sta Anna Valdi**	**0.48**	**135**	P	**Pg**	**20 55 11.3**	**-0.1**
STV				S	**Sg**	**20 55 17.8**	**-0.1**
STV2	**Anna di Valdie**	**0.48**	**135**	P	**Pg**	**20 55 11.3**	**-0.1**
STV2				S	**Sg**	**20 55 17.8**	**-0.1**
BNI	**Bardonecchia**	**0.49**	**345**	eP	**Pg**	**20 55 13.0**	**+1.4**
BNI				eS	**Sg**	**20 55 19.4**	**+1.2**
ENR	**Entracque**	**0.54**	**131**	P	**Pg**	**20 55 12.5**	**-0.1**
ENR				S	**Sg**	**20 55 19.7**	**-0.2**
TOUF	**Mont Tournerai**	**0.63**	**154**	Pg	**Pg**	**20 55 14.8**	**+0.3**
RSP	**Reno Superiore**	**0.64**	**26**	P	**Pb**	**20 55 14.4**	**0.0**
RSP				S	**Sb**	**20 55 22.8**	**-0.2**
AUTN	**L'Aution**	**0.71**	**145**	Pg	**Pg**	**20 55 17.0**	**+0.9**
AUTN				Sg	**Sg**	**20 55 26.1**	**+0.4**
ORIF	**Oris-en-Rattie**	**0.77**	**296**	ePg	**Pg**	**20 55 17.1**	**-0.1**
ORIF				eSg	**Sg**	**20 55 26.9**	**-0.7**
	4.7nm,0.2s						
SAOF	**Saorge**	**0.78**	**140**	Pg	**Pg**	**20 55 17.2**	**-0.1**
SAOF				Sg	**Sg**	**20 55 27.3**	**-0.5**
ROB	**Roburent**	**0.78**	**111**	P	**Pb**	**20 55 17.1**	**+0.3**
ROB				S	**Sb**	**20 55 27.0**	**-0.1**
MONE	**Monesi**	**0.82**	**128**	P	**Pb**	**20 55 17.6**	**+0.2**
MONE				S	**Sb**	**20 55 28.2**	**0.0**
SBF	**Sospel**	**0.83**	**150**	ePg	**Pg**	**20 55 18.2**	**-0.2**
SBF				eSg	**Sg**	**20 55 29.6**	**+0.1**
	7.6nm,0.4s						
LSD	**Ceresole Reale**	**0.90**	**13**	P	**Pb**	**20 55 19.3**	**+0.5**
LSD				S	**Sb**	**20 55 31.0**	**+0.3**
LPG	**La Plagne**	**0.92**	**355**	ePg	**Pg**	**20 55 19.6**	**-0.5**
LPG				eSg	**Sg**	**20 55 31.8**	**-0.6**
	3.8nm,0.4s						
LPL	**La Plagne**	**0.94**	**355**	ePg	**Pg**	**20 55 20.0**	**-0.5**
LPL				eSg	**Sg**	**20 55 32.6**	**-0.5**
	3.2nm,0.2s						
NEGI	**Negi**	**0.95**	**140**	P	**Pb**	**20 55 20.3**	**+0.6**
IMI	**Imperia**	**1.00**	**132**	P	**Pb**	**20 55 21.1**	**+0.5**
IMI				S	**Sb**	**20 55 33.8**	**+0.3**
FRF	**La Foret Royal**	**1.03**	**189**	ePg	**Pg**	**20 55 22.0**	**-0.4**
FRF				eSg	**Sg**	**20 55 37.0**	**+0.8**
	6.8nm,0.2s						
FIN	**Finale Ligure**	**1.04**	**111**	P	**Pb**	**20 55 21.4**	**+0.1**
FIN				S	**Sb**	**20 55 34.6**	**0.0**
SMRF	**Simiane la Rot**	**1.10**	**237**	ePg	**Pg**	**20 55 24.6**	**+0.8**
SMRF				eSg	**Sg**	**20 55 38.6**	**+0.1**
	7.1nm,0.4s						
PCP	**Pian Castagno**	**1.21**	**91**	P	**Pb**	**20 55 24.2**	**+0.1**
PCP				S	**Sb**	**20 55 39.3**	**-0.2**
LMR	**La Mourre**	**1.27**	**192**	ePg	**Pg**	**20 55 27.0**	**-0.2**
LMR				eSg	**Sg**	**20 55 43.3**	**-0.9**
	3.8nm,0.2s						
VIVF	**Saint-Julien-l**	**1.58**	**281**	ePn	**Pn**	**20 55 31.0**	**+1.1**
VIVF				eSg	**Sg**	**20 55 53.3**	**-1.1**
PGF	**Pioggiola**	**2.56**	**142**	ePn	**Pn**	**20 55 43.6**	**-0.3**
PGF				eSn	**Sn**	**20 56 13.3**	**-2.0**
	0.7nm,0.3s						
CLL	**Collm**	**7.89**	**29**	eSG	**Sg**	**20 59 20.0**	**-4.4**

*IDC **13** 20:56:41.1±5.8, 57.63S×25.67W, h59km±52km, mb3.9/6, mb1 4.0/7, mb1mx3.9/13, mbtmp4.2/7, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx3.2/11, Error ellipse: s-maj=35.9km s-min=17.0km az=57.0*
*NEIC **13** 20:56:42.0±3.0, 57.62S×25.52W, h70km±28km, mb4.3/4, Error ellipse: s-maj=26.6km s-min=11.4km az=51.0*
ISC 13 20:56:41.3±6.1**, 57.6S**±0.2×**25.4W**±0.4**, h78**km±61km**, n20, σ0ˢ79**/11**, mb4.2**/7**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.94**	**155**	P	**P**	**21 00 34.2**	**+0.1**
	0.3nm,0.3s,baz=328,slow=20,SNR=8.1						
USHA	**Ushuaia**	**23.78**	**258**	LR	LR	21 08 44.8	
	comp=Z,181nm,21.9s,baz=172,slow=31						
PLCA	**Paso Flores**	**33.23**	**281**	LR	LR	21 15 41.6	
	comp=Z,75nm,18.0s,baz=179,slow=34						
MAW	**Mawson**	**38.34**	**142**	P	**P**	**21 03 55.1**	**-0.3**
	0.8nm,0.3s,mb4.0,baz=269,slow=9.5,SNR=3.9						
CPUP	**Villa Florida**	**38.55**	**310**	P	**P**	**21 03 57.3**	**-0.4**
	1.7nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=3.9						
VNDA	**Vanda**	**45.07**	**182**	P	**P**	**21 04 50.5**	**+0.2**
	2.5nm,0.6s,mb4.1,baz=184,slow=6.2,SNR=32						
VNDA	**Vanda**	**45.07**	**182**	eP	**P**	**21 04 50.0**	**-0.3**
	2.2nm,0.6s,mb4.1						
BDFB	**Brasilia**	**45.18**	**329**	P	**P**	**21 04 51.0**	**-0.9**
	2.7nm,0.6s,mb4.2,baz=172,slow=7.1,SNR=4.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB				LR	LR	21 20 04.7	
	comp=Z,40nm,18.4s,baz=293,slow=31						
LVC	Limon Verde	46.91	299	eP	P	21 05 07.2	+1.7
	2.6nm,0.6s,mb4.1						
LPAZ	La Paz	52.05	304	P	P	21 05 44.7	-0.3
	2.3nm,0.6s,mb4.4,baz=207,slow=9.0,SNR=8.8						
LPAZ	La Paz	52.05	304	eP	P	21 05 44.0	-1.0
	2.4nm,0.7s,mb4.3						
DBIC	Dimbokro	66.19	22	P	P	21 07 23.8	+1.0
	4.1nm,0.9s,mb4.3,baz=207,slow=8.9,SNR=6.8						
DBIC	Dimbokro	66.19	22	eP	P	21 07 23.1	+0.3
	2.7nm,0.6s,mb4.2						
FINES	FINESS Array B	125.30	27	PKP	PKPdf	21 15 33.0	+1.2
	1.9nm,0.7s,baz=135,slow=2.7,SNR=7.8						
FINES	FINESS Array B	125.30	27	PKP	PKPdf	21 15 33.0	+1.2
ARCES	ARCESS Array B	132.02	22	PKP	PKPdf	21 15 45.9	+1.4
	7.8nm,1.0s,baz=2.0,slow=2.7,SNR=6.9						
YKA	Yellowknife Ar	137.96	316	PKP	PKPdf	21 15 57.1	+1.6
	1.1nm,0.6s,baz=129,slow=2.3,SNR=4.3						
INK	Inuvik	147.60	319	PKPbc	PKPdf	21 16 16.4	+4.3
	2.9nm,0.5s,baz=78,slow=2.2,SNR=18						
SONM	Songino Array	149.84	88	PKPbc	PKPdf	21 16 23.4	+7.2
	2.1nm,0.5s,baz=223,slow=3.7,SNR=14						
SONM				pPKPbc		21 16 41.0	
	1.5nm,0.6s,baz=224,slow=3.4,SNR=7.4						
ILAR	Eielson Array	151.85	309	PKPbc	PKPdf	21 16 27.1	+8.4
	6.1nm,0.9s,baz=141,slow=2.8,SNR=37						

*NEIC **13** 21:11:41.4, 29.24N×130.42E, h71km, MG3.2(JMA), After JMA.*
*JMA **13** 21:11:41.4±0.1, 29.24N×130.42E, h71km±5km, M3.2*
*IDC **13** 21:11:42.4±1.5, 29.76N×129.56E, mb3.8/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.8/6, ML3.1/1, Error ellipse: s-maj=52.0km s-min=26.4km az=76.0*
ISC 13 21:11:41.5±0.8**, 29.20N**±0.05×**130.5E**±0.1**, h59**km±7km**, n17, σ0^{s}70**/24**, mb3.8**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.83	321	P	P	21 11 57.0	-0.3
JNN				S	S	21 12 09.5	+0.3
JZK	Kikaishima	0.98	207	P	P	21 12 00.1	+0.7
JAM	Amami Oshima	1.09	224	P	P	21 12 01.1	+0.1
JAM				S	S	21 12 16.8	+1.4
JKC	Kuchinoerabu	1.28	349	P	P	21 12 03.5	-0.2
JKC				eS	S	21 12 19.9	-0.2
JTN	Tanegashima 3	1.52	17	P	P	21 12 06.2	-0.7
JTN				S	S	21 12 26.2	+0.4
JTK	Tokunoshima	1.94	224	P	P	21 12 13.5	+0.7
JTSR	Tashiro 2	2.00	11	P	P	21 12 13.4	-0.2
JTSR				S	S	21 12 38.0	+0.6
JOW	Kunigami	3.05	220	Pn	P	21 12 28.1	-0.4
	2.5nm,0.3s,baz=114,slow=21,SNR=13						
JOW				Sn	S	21 13 05.0	+1.0
JOW	Kunigami	3.05	220	P	P	21 12 27.4	-1.1
JOW				S	S	21 13 03.1	-0.9
JIH	Iheya	3.09	226	S	S	21 13 03.8	-1.1
JNU	Nakatsue	3.93	5	Pn	P	21 12 40.0	-0.8
	2.2nm,0.3s,baz=121,slow=26,SNR=18						
JKE	Kume jima 2	4.34	230	P	P	21 12 45.3	-1.3
MKAR	Makanchi Array	41.13	309	P	P	21 19 21.4	+0.1
	0.4nm,0.6s,mb3.2,baz=89,slow=10,SNR=6.1						
WRA	Warramunga Arr	48.99	175	P	P	21 20 36.1	+12
	0.7nm,0.9s,mb3.7,baz=354,slow=8.4,SNR=6.1						
BVAR	Borovoye Array	49.45	316	P	P	21 20 27.3	-0.1
	1.4nm,0.5s,mb4.2,baz=97,slow=8.9,SNR=16						
FINES	FINESS Array B	71.27	331	P	P	21 22 56.2	+0.1
	2.1nm,1.0s,mb4.0,baz=45,slow=5.9,SNR=4.7						
AKASG	Malin Array Be	74.57	320	P	P	21 23 16.6	+1.0
	1.0nm,0.5s,mb4.0,baz=56,slow=6.6,SNR=5.3						

*IDC **13** 21:38:27.9±1.3, 55.23S×28.98W, mb4.2/3, mb1 4.2/4, mb1mx3.9/14, mbtmp4.1/4, ML3.5/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/13, Error ellipse: s-maj=65.7km s-min=23.5km az=56.0*
*NEIC **13** 21:38:29.3±0.8, 55.25S×29.26W, h10km, mb4.3/3, Error ellipse: s-maj=40.3km s-min=12.9km az=52.0*
ISC 13 21:38:27.9±2.8**, 55.4S**±0.5×**2 9W**± **, h10**km**, n12, σ0^{s}89**/7**, mb4.1**/4**, MS3.5**/3**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	19.86	155	P	P	21 43 01.0	-0.6
	0.1nm,0.3s,baz=302,slow=9.9,SNR=7.5						
TRQA	Tornquist	27.93	295	P	P	21 44 18.6	-1.4
	1.7nm,0.6s,mb3.9						
PLCA	Paso Flores	30.67	281	LR	LR	21 56 26.1	
	comp=Z,64nm,19.9s,MS3.3,baz=168,slow=35						
CPUP	Villa Florida	35.45	313	LR	LR	21 59 29.9	
	comp=Z,55nm,18.6s,MS3.3,baz=221,slow=36						
LVC	Limon Verde	43.90	302	P	P	21 46 37.6	+1.4
	2.8nm,0.5s,mb4.2,baz=150,slow=2.7,SNR=8.1						
LVC	Limon Verde	43.90	302	eP	P	21 46 36.5	+0.3
	3.0nm,0.5s,mb4.3						
VNDA	Vanda	47.19	183	P	P	21 47 02.5	+0.8
	0.8nm,0.7s,mb3.8,baz=177,slow=6.1,SNR=6.9						
LPAZ	La Paz	48.99	307	P	P	21 47 16.9	+0.4
	3.6nm,0.5s,mb4.7,baz=125,slow=6.7,SNR=18						
LPAZ	La Paz	48.99	307	eP	P	21 47 16.7	+0.2
	3.4nm,0.4s,mb4.7						
KMBO	Kilima Mbogo	75.96	71	LR	LR	22 20 00.8	
	comp=Z,41nm,18.2s,MS3.8,baz=280,slow=33						
ILAR	Eielson Array	148.75	313	PKPbc	PKPdf	21 58 15.4	+2.4
	3.5nm,0.8s,baz=117,slow=1.7,SNR=31						
SONM	Songino Array	151.91	87	PKPbc	PKPdf	21 58 23.1	+4.7
	0.4nm,0.5s,baz=243,slow=3.2,SNR=4.3						

MAN 13 21:43:08.4, 11.38N×124.26E, h24km, mb3.8, ML2.6, MS2.1, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	1.10	195	eP	Pn	21 43 27.5	-1.0
LLP				eS	Sb	21 43 41.3	-1.3
MSLP	Maasin	1.38	154	eP	Pn	21 43 32.6	+0.1
MSLP				eS	Sn	21 43 50.9	+0.8

*NEIC **13** 22:03:34.5, 38.59S×175.74E, h168km, MG3.8(WEL), After WEL.*
WEL 13 22:03:34.4±0.3**, 38.60S**×**175.74E, h168**km±2km**, ML3.9**/14**, 5C-1D, Error ellipse: s-maj=2.3km s-min=2.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.53	206	PN	P	22 03 57.9	-0.3
TWVZ	Taurewa	0.53	206	P	P	22 03 57.9	-0.4
WTVZ	West Tongariro	0.53	193	⇑PN	P	22 03 58.2	-0.1
OTVZ	Oturere	0.57	186	PN	P	22 03 58.6	+0.1
OTVZ				eSN	S	22 04 16.3	-0.6
NGZ	Ngauruhoe	0.59	191	PN	P	22 03 58.5	-0.1
NGZ				SN	S	22 04 17.3	+0.2
NGZ	Ngauruhoe	0.59	191	P	P	22 03 58.5	-0.1
CNZ	Chateau	0.62	194	⇓PN	P	22 03 58.6	-0.1
CNZ	Chateau	0.62	194	P	P	22 03 58.6	-0.1
WPVZ	Whakapapa	0.62	194	⇑PN	P	22 03 58.7	-0.1
WPVZ	Whakapapa	0.62	194	P	P	22 03 58.7	0.0
TUVZ	Tukino	0.67	186	PN	P	22 03 59.0	+0.1
TUVZ				SN	S	22 04 17.6	-0.3
TUVZ	Tukino	0.67	186	P	P	22 03 59.1	+0.1
HIZ	Hauiti	0.70	277	⇑PN	P	22 03 58.4	-0.7
WNVZ	Wahianoa	0.74	189	⇑PN	P	22 03 59.3	0.0
WNVZ	Wahianoa	0.74	189	P	P	22 03 59.3	0.0
MOVZ	Moawhango	0.81	179	⇑PN	P	22 03 59.4	-0.4
MOVZ				SN	S	22 04 18.1	-1.2
MOVZ	Moawhango	0.81	179	P	P	22 03 59.4	-0.3
MTVZ	Mangateitei	0.81	195	PN	P	22 03 59.6	-0.2
BKZ	Black Stump Fm	0.82	134	PN	P	22 03 59.9	+0.1
BKZ				SN	S	22 04 19.1	-0.2
BKZ	Black Stump Fm	0.82	134	P	P	22 03 59.9	+0.1
BKZ				S	S	22 04 19.1	-0.3
URZ	Urewera	1.13	73	PN	P	22 04 01.2	-0.9
URZ				SN	S	22 04 22.2	-1.3
URZ	Urewera	1.13	73	eP	P	22 04 01.6	-0.5
MWZ	Matawai	1.43	80	PN	P	22 04 04.9	0.0
MWZ				SN	S	22 04 27.4	-1.2
MWZ	Matawai	1.43	80	eP	P	22 04 05.4	+0.4
MWZ				S	S	22 04 27.4	-1.2
TSZ	Takapari Road	1.47	173	PN	P	22 04 04.6	-0.8
TSZ				SN	S	22 04 27.5	-1.8
TSZ	Takapari Road	1.47	173	P	P	22 04 04.7	-0.7
KNZ	Kokohu	1.57	106	PN	P	22 04 06.4	0.0
KNZ	Kokohu	1.57	106	eP	P	22 04 06.4	0.0
PXZ	Pawanui	1.68	149	PN	P	22 04 06.9	-0.5
MRZ	Mangatainoka R	2.06	183	PN	P	22 04 09.9	-1.9
MRZ				SN	S	22 04 36.9	-3.5
MRZ	Mangatainoka R	2.06	183	P	P	22 04 09.9	-1.8
MRZ				S	S	22 04 36.9	-3.6
BFZ	Birch Farm	2.12	170	PN	P	22 04 10.7	-1.6
BFZ	Birch Farm	2.12	170	eP	P	22 04 10.8	-1.5
MXZ	Matakaoa Point	2.27	64	PN	P	22 04 13.5	-0.7
KIW	Kapiti Island	2.35	196	PN	P	22 04 12.4	-2.7
KIW				SN	S	22 04 42.1	-4.4
KIW	Kapiti Island	2.35	196	P	P	22 04 12.5	-2.6
CAW	Cannon Point	2.56	191	PN	P	22 04 14.9	-2.8
CAW	Cannon Point	2.56	191	P	P	22 04 14.9	-2.8
MTW	Mount Morrison	2.56	184	PN	P	22 04 14.8	-2.9
MTW	Mount Morrison	2.56	184	P	P	22 04 14.8	-2.9
DUWZ	D'Urville Isla	2.61	212	PN	P	22 04 14.8	-3.5
DUWZ				SN	S	22 04 47.9	-4.1
MRW	Makara Radio	2.75	197	PN	P	22 04 16.7	-3.2
MRW				SN	S	22 04 49.8	-5.2
MRW	Makara Radio	2.75	197	P	P	22 04 16.8	-3.2
PAWZ	Paruwai Farm	2.79	185	PN	P	22 04 17.3	-3.2
PAWZ				SN	S	22 04 50.6	-5.3
TRWZ	Traveller	2.80	181	PN	P	22 04 17.6	-3.0
TRWZ				SN	S	22 04 50.3	-5.8
SNZO	South Karori	2.82	196	eP	P	22 04 17.5	-3.4
SNZO				eS	S	22 04 52.4	-4.2
MSWZ	Moikau Station	2.84	187	PN	P	22 04 17.7	-3.4
MSWZ				SN	S	22 04 51.6	-5.4
MSWZ	Moikau Station	2.84	187	P	P	22 04 17.7	-3.4
TCW	Tory Channel	2.84	203	PN	P	22 04 17.8	-3.3
TCW				SN	S	22 04 51.7	-5.4
TCW	Tory Channel	2.84	203	P	P	22 04 17.8	-3.4
BHW	Baring Head	2.88	193	PN	P	22 04 18.2	-3.4
BHW	Baring Head	2.88	193	P	P	22 04 18.1	-3.6
TUWZ	Tuamarina	3.15	205	PN	P	22 04 20.9	-4.1
TUWZ				SN	S	22 04 57.8	-6.0
NNZ	Nelson	3.18	214	PN	P	22 04 21.0	-4.4
NNZ				SN	S	22 04 59.3	-5.4
NNZ	Nelson	3.18	214	P	P	22 04 21.1	-4.4
QRZ	Quartz Range	3.33	227	PN	P	22 04 22.1	-5.2
QRZ				SN	S	22 05 01.6	-6.4
QRZ	Quartz Range	3.33	227	P	P	22 04 22.1	-5.2
BSWZ	Blackbirch Sta	3.42	204	PN	P	22 04 24.5	-4.0
BSWZ	Blackbirch Sta	3.42	204	P	P	22 04 24.7	-3.8
THZ	Tophouse	3.83	214	PN	P	22 04 28.3	-5.4
THZ				SN	S	22 05 13.9	-5.6
THZ	Tophouse	3.83	214	eP	P	22 04 28.7	-5.1
KHZ	Kahutara	4.17	203	PN	P	22 04 33.7	-4.3
KHZ	Kahutara	4.17	203	P	P	22 04 33.7	-4.4
DSZ	Denniston Nort	4.36	223	PN	P	22 04 34.5	-6.0
DSZ	Denniston Nort	4.36	223	eP	P	22 04 34.7	-5.8
LTZ	Lake Taylor	4.94	211	PN	P	22 04 41.8	-6.3
LTZ	Lake Taylor	4.94	211	P	P	22 04 41.9	-6.3
MQZ	McQueen's Vall	5.61	204	PN	P	22 04 50.5	-6.4
MQZ				SN	S	22 05 50.4	-11
MQZ	McQueen's Vall	5.61	204	P	P	22 04 50.6	-6.3
ODZ	Otahua Downs	7.48	209	eP	P	22 05 15.7	-6.1

*NIED **13** 22:47:00, 35.50N×138.30E, h14km, Mw3.4 Best double couple: Mo1.51×10^{14} NP1:φs235°, δ88°, λ-147°. NP2: φs144°, δ57°, λ-2°.*
*JMA **13** 22:47:21.0, 35.50N×138.27E, h16km±1km, M3.2 Broadband fault plane solution: P waves. NP1:φs235°, δ74°, λ-169°. NP2:φs142°, δ80°, λ-16°. Principal axes: T Plg4°, Azm189°; N Plg71°, Azm290°; P Plg19°, Azm98°;*
JMA Felt I J1.
ISC 13 22:47:20.6±0.8**, 35.49N**±0.04×**138.28E**±0.04**, h19**km±16km**, n9, σ0^{s}28**/15**, 3C-3D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYN	Shimob	0.22	89	⇓P	Pb	22 47 25.9	-0.1
JYN				S	Sb	22 47 29.7	+0.1
JNY	Yasuok	0.36	248	⇓P	Pb	22 47 28.3	0.0
JNY				S	Sb	22 47 33.6	+0.1
JNT	Takato	0.40	344	⇑P	Pb	22 47 28.8	-0.1
JNT				S	Sb	22 47 34.2	-0.2
SHZ3	Shizuoka 3	0.43	187	⇑P	Pb	22 47 29.3	-0.1
JOD2	Odawara 2	0.70	109	⇓P	Pb	22 47 34.0	0.0
JOD2				S	Sb	22 47 43.7	+0.5
JRY	Ryogami san	0.73	44	⇑P	Pb	22 47 34.3	-0.2
JRY				S	Sb	22 47 43.7	-0.3
JIZS	Izushimoda	0.92	147	P	Pb	22 47 37.6	-0.1
MAT	Matsushiro	1.05	357	P	Pb	22 47 39.7	-0.2
MAT				S	Sb	22 47 54.0	+0.8
MAT	Matsushiro	1.05	357	P	Pb	22 47 39.8	-0.1

*THR **13** 23:15:42.7±0.8, 37.93N×47.20E, h14km±13km, ML2.9*
*CSEM **13** 23:15:44.0±0.2, 37.99N×47.24E, h20km, ML2.9, Error ellipse: s-maj=7.4km s-min=4.9km az=50.0*
*TEH **13** 23:15:48.6, 37.82N×47.34E, h10km, Mn3.5*
ISC 13 23:15:45.2±0.6**, 37.93N**±0.04×**47.46E**±0.05**, h10**km**, n23, σ1^{s}29**/29**, Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	Germi	0.94	21	ePG	Pg	23 16 01.8	-2.3
GRMI				eSG	Sg	23 16 16.4	-0.2
MAKU	Maku	2.59	304	ePN	Pn	23 16 24.0	-4.0
MAKU				eSG	Sg	23 16 59.1	-13
MAKU				AML	AML	23 17 06.9	
	comp=N,66nm,0.4s						
IGZV	Gazvin	2.69	124	Pn	Pn	23 16 25.0	-4.4
HAKT	HAKKARI	3.00	264	i P	Pn	23 16 30.5	-3.2
HAKT				i S	Sn	23 17 11.3	+1.2
ILIN	Laeen	3.04	188	Pn	Pn	23 16 32.4	-1.9
IRAZ	Razeghan	3.21	141	Pn	Pn	23 16 48.5	+12
TVAN	Van	3.25	282	i P	Pn	23 16 32.8	-4.4
TVAN				i S	Sn	23 17 29.2	+13
IDHR	Dehrash	3.34	195	Pn	Pn	23 16 38.5	-0.1
THKV	Tehran--Karaj	3.40	125	ePn	Pn	23 16 39.9	+0.4
THKV	Tehran--Karaj	3.40	125	ePn	Pn	23 16 39.8	+0.3
	SNR=52						
IVIS	Veys	3.44	188	Pn	Pn	23 16 38.0	-2.0
IGHG	Ghaleghazi	3.67	192	Pn	Pn	23 16 44.4	+1.1
IKOM	Komasi	3.75	179	Pn	Pn	23 16 44.4	0.0
DGRG	David-gareji	3.86	336	P	Pn	23 16 50.2	+4.2
ASAO	Ashtian	3.96	148	ePn	Pn	23 16 46.6	-0.9
ASAO				AML	AML	23 18 01.0	
	comp=N,16nm,0.9s						
IAFJ	Afjeh	3.99	120	Pn	Pn	23 16 49.4	+1.5
IAFJ				Sn	Sn	23 17 34.9	-0.4
MTA	Mtatsminda	4.28	332	P	Pn	23 16 58.5	+6.5
MTA				S	Sn	23 17 56.4	+14
DAMV	Damavand	4.29	121	ePn	Pn	23 16 53.1	+0.9
IDMV	Damavand	4.36	121	Pn	Pn	23 16 54.5	+1.4
IVRN	Varamin	4.52	129	Lg		23 18 09.3	
IVRN	Varamin	4.52	129	Pn	Pn	23 16 57.1	+1.7
IFIR	Firoozkooh	4.83	117	Pn	Pn	23 17 00.6	+0.9
IFIR				Sn	Sn	23 17 55.3	-1.1
NASN	Na'in	6.73	138	ePn	Pn	23 17 25.6	-1.0

*ISK **13** 23:23:00.8, 37.50N×36.09E, h16km, MD3.7*
*CSEM **13** 23:23:00.6±0.1, 37.50N×36.08E, h15km, MD3.7, Error ellipse: s-maj=1.5km s-min=1.3km az=56.0*
ISC 13 23:23:01.0±0.5**, 37.50N**±0.02×**36.10E**±0.02**, h10**km±4km**, n56, σ0^{s}83**/75**, 3D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.21	265	PG	Pg	23 23 05.8	+0.1
KOZT				SG	Sg	23 23 10.3	+1.5
CEYT	Ceyhan	0.56	210	PG	Pg	23 23 12.2	-0.2
KAHT	Ahir Dag	0.63	78	i P	Pg	23 23 13.2	-0.6
KAHT				i S	Sg	23 23 22.7	+0.4
KARA	Karaisali	0.86	254	PG	Pg	23 23 17.4	-0.9
KARA				SG	Sg	23 23 30.6	+0.7
GAZ	Gaziantep	0.95	110	PG	Pg	23 23 19.9	-0.1
COBT	Iskenderun	0.99	172	i P	Pb	23 23 18.2	-1.5
COBT				i S	Sb	23 23 34.3	+1.8
DRWC	Darouich	0.99	152	⇑i P	Pb	23 23 20.6	+0.9
DRWC				⇑i S	Sb	23 23 34.2	+1.6
KRTS	Karatas	1.09	212	PN	Pn	23 23 22.1	-0.1
GZT	Gaziantep	1.18	97	i P	Pb	23 23 22.5	-0.5
GZT				i S	Sb	23 23 39.4	+1.3
NIG	Nigde	1.32	298	PN	Pn	23 23 25.4	-0.2
BNN	Bunyan	1.36	352	PN	Pn	23 23 24.9	-1.3
HTY	Hatay	1.38	179	ePN	Pn	23 23 26.3	0.0
MERS	Mersin	1.41	244	ePN	Pn	23 23 26.2	-0.6
BTCH	Batrach	1.49	169	⇑i P	Pn	23 23 27.0	-0.9
BTCH				⇑i S	Sb	23 23 47.5	+0.4
AVNT	Avonos	1.61	323	i P	Pn	23 23 29.6	-0.1
AVNT				i S	Sb	23 23 51.3	+0.6
ATAB	Bozova	1.75	90	i P	Pn	23 23 30.2	-1.5
ATAB				i S	Sn	23 23 57.8	+3.6
SLNF	Slenfeh	1.90	177	⇓i P	Pn	23 23 33.6	-0.3
SLNF				⇓i S	Sn	23 23 56.6	-1.4
SLMH	Al Salmeh	1.96	130	⇑i P	Pn	23 23 34.7	+0.1
SLMH				⇑i S	Sn	23 23 59.5	+0.1
WRDH	Warideh	2.00	173	⇓i P	Pn	23 23 34.6	-0.7
MYA	Malataya	2.02	65	ePN	Pn	23 23 35.7	+0.2
URFA	Urfa	2.17	91	ePN	Pn	23 23 36.4	-1.3
YOZ	Yozgat	2.22	344	ePN	Pn	23 23 38.4	-0.1
IKL	Isikli	2.31	238	ePN	Pn	23 23 38.9	-0.7
SVST	Sivas	2.37	16	i P	Pn	23 23 41.4	+0.9
SVST				i S	Sn	23 24 16.6	+6.8
ELZG	Elazig	2.49	66	i P	Pn	23 23 41.8	-0.5
ELZG				i S	Sn	23 24 22.8	+10
CDAG	Cicekdag	2.52	328	i P	Pn	23 23 42.0	-0.6
CDAG				i S	Sn	23 24 14.1	+0.5
SVSK	Karacayir	2.52	16	ePN	Pn	23 23 42.8	+0.1
JHLN	Al Jahlan	2.62	133	⇑i P	Pn	23 23 43.5	-0.7
KAMT	Kaman	2.64	316	ePN	Pn	23 23 44.2	-0.3
ERMK	Ermenek	2.69	252	i P	Pn	23 23 45.6	+0.6
ERMK				i S	Sn	23 24 26.9	+9.0
TOKT	Tokat	2.84	7	ePN	Pn	23 23 46.6	-0.7
CORM	Corum	2.91	337	ePN	Pn	23 23 47.5	-0.8
HDMB	Hadim	2.93	261	ePN	Pn	23 23 48.5	-0.1
PTK	Pertek	2.95	61	ePN	Pn	23 23 48.5	-0.3
KONT	Konya--Tatoy	3.00	280	ePN	Pn	23 23 49.6	+0.1
CTKT	Corum	3.28	342	i P	Pn	23 23 54.0	+0.4
CTKT				i S	Sn	23 24 26.1	-6.9
DIY	Diyarbakir	3.30	82	ePN	Pn	23 23 53.2	-0.6
KDHN	Kadinhani	3.30	289	i P	Pn	23 23 55.0	+1.2
KDHN				i S	Sn	23 24 47.4	+14
ANTO	Ankara	3.50	314	ePN	Pn	23 23 56.1	-0.6
LOD	Lodumlu	3.53	314	ePN	Pn	23 23 57.6	+0.5
KVT	Kavak	3.58	359	ePN	Pn	23 23 56.6	-1.1
KIZT	Kizilcal	3.60	294	ePN	Pn	23 23 57.5	-0.5
KELT	Kelkit	3.62	42	i P	Pn	23 23 58.3	0.0
ELDT	Eldivan	3.64	326	i P	Pn	23 24 00.3	+1.7
ELDT				i S	Sn	23 24 56.5	+14
CANT	Cankiri	3.65	329	ePN	Pn	23 23 58.9	+0.1
GRSN	GIRESUNGRSN	3.81	26	i P	Pn	23 24 02.4	+1.3
GRSN				i S	Sn	23 24 52.1	+5.6
TOS	Tosya	3.88	336	ePN	Pn	23 24 02.2	+0.1
GUMT	Gumushane	3.96	41	ePN	Pn	23 24 03.7	+0.5
BOYT	Boyabat	4.02	347	i P	Pn	23 24 03.8	-0.3
BOYT				i S	Sn	23 25 02.6	+11
BYBT	Boyabat	4.10	346	ePN	Pn	23 24 04.4	-0.7
BEST	Besiri	4.12	83	i P	Pn	23 24 07.1	+1.6
BEST				i S	Sn	23 25 11.1	+17
BNGL	BINGOL	4.24	68	i P	Pn	23 24 20.0	+13
BNGL				i S	Sn	23 25 21.6	+24
BALT	Daday	4.54	333	i P	Pn	23 24 12.1	+0.7
ERZM	Erzurum	4.77	58	i P	Pn	23 24 15.3	+0.5
MSL	Mosul	5.73	100	ex	x	23 25 09.0	
MSL				ex	x	23 26 15.0	
MSL				i x	x	23 26 29.0	
MSL				i x	x	23 26 41.5	
BHD	Baghdad	7.97	119	ex	x	23 25 39.0	
BHD				ex	x	23 27 22.5	

*IDC **13** 23:32:35.3±2.1, 5.51S×147.44E, h187km±19km, mb3.6/6, mb1 3.9/9, mb1mx3.8/14, mbtmp4.2/9, Error ellipse: s-maj=21.5km s-min=17.2km az=74.0*
*NEIC **13** 23:32:37.0±1.6, 5.48S×147.41E, h204km±14km, mb4.8/7, Error ellipse: s-maj=14.5km s-min=13.1km az=128.0*
ISC 13 23:32:35.5±2.0**, 5.5S**±0.1×**147.4E**±0.1**, h200**km±17km**, n22, σ0^{s}84**/21**, mb4.0**/8**, 4D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.85	184	P	P	23 33 36.8	+0.8
	6.9nm,0.3s,baz=0.2,slow=3.1,SNR=16						
PMG				S	S	23 34 21.3	-1.5
	62nm,0.3s,baz=218,slow=22,SNR=19						
CTA	Charters Tower	14.51	184	eP	P	23 35 55.1	+2.3
	4.6nm,0.9s						
CTA				i		23 35 57.3	
CTA	Charters Tower	14.51	184	P	P	23 35 54.5	+1.7
	1.4nm,0.3s,baz=7.5,slow=12,SNR=29						
CTAO	Charters Tower	14.51	184	eP	P	23 35 54.7	+1.9
	14nm,0.6s						
KAKA	Kakadu	16.40	243	⇓i P	P	23 36 34.1	+18
	72nm,1.1s						
WRAB	Tennant Creek	19.13	220	⇓i P	P	23 36 45.5	0.0
	61nm,0.7s						
WRAB				i		23 36 49.3	
WB2	Warramunga Arr	19.14	220	⇓i P	P	23 36 45.6	+0.1
WB2				i		23 36 49.3	
WRA	Warramunga Arr	19.14	220	P	P	23 36 45.8	+0.1
	5.1nm,0.3s,baz=46,slow=11,SNR=318						
ASPA	Alice Springs	22.23	214	eP	P	23 37 18.1	+1.8
FITZ	Fitzroy Crossi	24.65	238	eP	P	23 37 39.2	-0.3
	29nm,0.3s						
FITZ	Fitzroy Crossi	24.65	238	P	P	23 37 39.3	-0.2
	50nm,0.4s,baz=40,slow=6.1,SNR=120						
DZM	Mont Dzumac	24.68	134	P	P	23 37 40.0	+0.2
	2.1nm,0.6s,mb4.0,baz=206,slow=23,SNR=5.0						
STKA	Stephens Creek	26.76	191	⇓i P	P	23 37 57.8	-1.0
	2.0nm,0.4s,mb4.1						
STKA	Stephens Creek	26.76	191	P	P	23 37 58.1	-0.6
	2.9nm,0.6s,mb4.1,baz=358,slow=8.1,SNR=11						
FORT	Forrest	31.00	214	eP	P	23 38 36.1	-0.4
	17nm,0.6s,mb4.8						
KLBR	Kellerberrin	37.98	223	eP	P	23 39 34.9	-0.8
	10nm,0.4s,mb4.7						
SONM	Songino Array	64.20	331	P	P	23 42 51.0	0.0
	0.2nm,0.3s,mb3.2,baz=142,slow=4.1,SNR=4.6						
VNDA	Vanda	72.35	177	P	P	23 43 40.5	-0.4
	1.0nm,0.5s,mb3.7,baz=331,slow=7.1,SNR=16						
MKAR	Makanchi Array	77.40	320	P	P	23 44 09.8	-0.1
	0.3nm,0.4s,mb3.3,baz=97,slow=8.4,SNR=11						
ILAR	Eielson Array	84.90	23	P	P	23 44 48.2	-0.4
	1.7nm,0.7s,mb3.9,baz=252,slow=5.1,SNR=19						
GERES	GERESS Array B	121.75	326	PKP	PKPdf	23 51 05.7	0.0
	0.3nm,0.3s,baz=45,slow=1.9,SNR=4.6						
SIV	San Ignacio	144.62	128	PKP	PKPdf	23 51 49.2	+0.2
	1.4nm,0.6s,baz=258,slow=2.1,SNR=12						

*IPEC **13** 23:52:08.8±0.1, 50.20N×19.05E, h0km±1km, ML2.2/4, Error ellipse: s-maj=2.6km s-min=0.8km az=167.0*
*PRU **13** 23:52:09.8, 50.16N×19.03E*
*CSEM **13** 23:52:09.4±0.1, 50.17N×19.03E, h2km, ML3.1/4, Error ellipse: s-maj=3.0km s-min=1.6km az=11.0*
*NEIC **13** 23:52:09.1±0.7, 50.12N×19.04E, h5km, ML2.6(VIE), Error ellipse: s-maj=11.5km s-min=5.3km az=191.0*
*VIE **13** 23:52:11.2±0.5, 49.88N×18.98E, mb2.2/2, ML2.5/3, Error ellipse: s-maj=3.5km s-min=3.1km az=159.0, Suspected Mining induced.*
*IDC **13** 23:52:12.3±1.6, 50.21N×18.61E, mb1 3.3/2, mb1mx3.1/16, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=35.8km s-min=10.1km az=140.0*
WAR 13 23:52:09.1, 50.08N×19.13E, h0km, ML2.5, 2C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.46	72	ePG	Pg	23 52 18.0	-0.2
OJC				eSG	Sg	23 52 25.0	+0.8
RAC	Raciborz	0.60	271	ePG	Pg	23 52 21.0	-0.1
RAC				eSG	Sg	23 52 30.0	+0.9
RAC	Raciborz	0.60	271	ePg	Pg	23 52 20.6	-0.5
RAC				eSg	Sg	23 52 29.5	+0.4
OKC	Ostrava-Krasne	0.68	249	ePG	Pg	23 52 22.1	-0.5
OKC				eSG	Sg	23 52 31.6	0.0
	63nm,0.6s						
OKC	Ostrava-Krasne	0.68	249	Pg	Pg	23 52 22.1	-0.5
OKC				eSg	Sg	23 52 30.8	-0.8
NIE	Niedzica	1.01	130	⇓ePg	Pg	23 52 28.8	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIE				eSg	Sg	23 52 44.8	+1.9
LIKS	Likavka	1.03	181	ePN	Pn	23 52 29.3	-1.3
LIKS				eSN	Sn	23 52 45.6	-0.3
MORC	Moravsky Berou	1.07	254	eP	Pb	23 52 28.5	-1.5
MORC				eS	Sb	23 52 44.1	-0.3
MORC	Moravsky Berou	1.07	254	eP	Pb	23 52 28.5	-1.6
MORC	Moravsky Berou	1.07	254	ePg	Pg	23 52 28.8	-1.6
MORC				eSg	Sg	23 52 42.1	-2.5
	54nm,0.5s						
MORC				eS	Sb	23 52 44.1	-0.3
STHS	Stebnicka Huta	1.52	115	ePN	Pn	23 52 38.6	+0.9
STHS				eSN	Sn	23 53 02.3	+3.9
KOLL	Kolacno	1.57	198	ePN	Pn	23 52 37.9	-0.5
KOLL				eSN	Sn	23 52 59.3	-0.4
VYHS	Vyhne	1.60	187	ePN	Pn	23 52 37.7	-1.0
VYHS				eSN	Sn	23 52 58.9	-1.4
VRAC	Vranov	1.82	246	Pg	Pg	23 52 41.8	-3.6
	3.0nm,0.3s,baz=62,slow=13,SNR=24						
VRAC				Lg		23 53 04.0	
	3.3nm,0.3s,baz=336,slow=21,SNR=12						
VRAC	Vranov	1.82	246	ePn	Pn	23 52 41.2	-0.6
VRAC				eSg	Sg	23 53 05.8	-3.8
	19nm,0.5s						
DPC	Dobruska-Polom	1.82	280	ePG	Pg	23 52 40.6	-4.9
DPC				eSG	Sg	23 53 04.7	-5.0
	47nm,0.8s						
DPC	Dobruska-Polom	1.82	280	ePn	Pn	23 52 40.4	-1.5
DPC	Dobruska-Polom	1.82	280	Pg	Pg	23 52 40.6	-4.9
DPC				Sg	Sg	23 53 04.7	-5.0
	47nm,0.8s						
KECS	Kecovo	1.83	150	ePN	Pn	23 52 40.9	-1.1
KECS				eSN	Sn	23 53 06.2	0.0
CRVS	Cervenica-Dubn	1.93	127	ePN	Pn	23 52 45.2	+1.8
CRVS				eSN	Sn	23 53 12.9	+4.3
KSP	Ksiaz	1.96	294	ePN	Pn	23 52 43.0	-0.9
KSP				ePG	Pg	23 52 44.0	-4.3
KSP				eSN	Sn	23 53 10.0	+0.4
KSP				eSG	Sg	23 53 12.0	-2.5
UPC	Upice	2.04	283	ePG	Pg	23 52 45.8	-4.1
UPC				eSG	Sg	23 53 12.5	-4.6
KRUC	Moravsky	2.05	241	ePn	Pn	23 52 44.9	-0.2
SRO	Srobarova	2.33	194	e	Pn	23 52 55.5	+6.3
KOLS	Kolonicke sedl	2.35	118	ePN	Pn	23 52 53.1	+3.6
PRU	Pruhonice	2.96	270	ePG	Pg	23 53 03.1	-5.0
PRU				eSG	Sg	23 53 41.0	-6.6
BRG	Berggiesshubel	3.41	285	Pg	Pg	23 53 13.9	-3.2
BRG				Sg	Sg	23 53 55.4	-7.0
KHC	Kasperske Hory	3.73	257	ePN	Pn	23 53 07.5	-1.6
KHC				ePG	Pg	23 53 16.6	-7.0
KHC				eSN	Sn	23 53 50.5	-3.9
KHC				eSG	Sg	23 54 06.0	-7.3
GERES	GERESS Array B	3.75	253	Pn	Pn	23 53 07.8	-1.6
	0.1nm,0.3s,baz=56,slow=14,SNR=4.9						
GERES				Pg	Pg	23 53 16.1	-7.9
	0.5nm,0.3s,baz=67,slow=18,SNR=14						
GERES				Lg		23 54 00.0	
	0.4nm,0.3s,baz=74,slow=24,SNR=3.5						
GERES	GERESS Array B	3.75	253	Pg	Pg	23 53 16.1	-7.8
MOA	Molln	3.90	237	⇑iPn	Pn	23 53 09.4	-2.2
MOA				⇑iSg	Sg	23 54 13.9	-5.1
	comp=Z,5.5nm,0.6s						
CLL	Collm	4.08	290	eSG	Sg	23 54 20.0	-5.0
AKASG	Malin Array Be	6.49	81	Pg	Pg	23 54 10.8	-7.8
	0.4nm,0.3s,baz=266,slow=14,SNR=4.3						
FINES	FINESS Array B	12.04	16	Pn	P	23 54 58.2	-6.4
	0.1nm,0.3s,baz=210,slow=11,SNR=4.8						

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*ATH **14** 00:34:07.5, 39.25N×21.76E, h15^{km}±2^{km}, MD3.4/8*
*NEIC **14** 00:34:07.7, 39.25N×21.75E, h14^{km}, MD3.4(ATH), ML3.1(THE), After ATH.*
*CSEM **14** 00:34:07.7±0.1, 39.23N×21.65E, h8^{km}, MD3.4, Error ellipse: s-maj=2.0km s-min=1.5km az=94.0*
*THE **14** 00:34:08.6, 39.22N×21.69E, h15^{km}, ML3.1*
ISC 14 00:34:06.8±0.5**, 39.28N**±0.02×**21.69E**±0.03**, h5**^{km}±4^{km}**, n34,** σ**1**^{s}**15**/56**, 1C-2D, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.37	166	⇓iPB	Pb	00 34 14.0	-1.4
EVR				eSB	Sb	00 34 19.5	-1.7
EVR	Evrytania	0.37	166	⇓iPg	Pg	00 34 13.9	-0.3
EVR				eSb	Sb	00 34 19.3	-1.9
AGG	Agios Georgios	0.56	117	ePg	Pg	00 34 18.6	+0.7
	comp=Z,38nm,0.3s						
AGG				eSg	Sg	00 34 27.8	+2.5
JAN	Janina	0.76	301	ePN	Pn	00 34 23.3	-0.5
JAN				eSN	Sn	00 34 34.3	-1.4
LKD	Levkas	0.99	235	ePg	Pg	00 34 25.3	-1.3
	comp=Z,13nm,0.3s						
LKD				eSg	Sg	00 34 40.4	+0.6
LIT	Litokhoron	1.03	36	ePg	Pg	00 34 27.7	+0.4
	comp=Z,20nm,0.4s						
LIT				eSg	Sg	00 34 44.7	+3.7
KZN	Kozani	1.03	3	ePN	Pn	00 34 27.6	-0.2
KZN				eSN	Sn	00 34 42.2	-0.5
XOR	Xorichti	1.17	85	ePg	Pg	00 34 30.8	+0.8
XOR				eSg	Sg	00 34 47.7	+2.0
NEO	Neokhori	1.19	88	ePN	Pn	00 34 29.8	-0.2
NEO	Neokhori	1.19	88	ePb	Pb	00 34 29.9	+0.5
NEO				eSb	Sb	00 34 45.4	+0.5
LKR	Lokris	1.19	121	ePN	Pn	00 34 29.7	-0.4
LKR	Lokris	1.19	121	ePb	Pb	00 34 29.8	+0.3
LKR				eSb	Sb	00 34 45.8	+0.7
RLS	Riolos of Patr	1.23	188	⇑iPn	Pn	00 34 29.6	-1.0
RLS				eSb	Sb	00 34 47.6	+1.5
RLS	Riolos of Patr	1.23	188	i Pn	Pn	00 34 29.6	-1.0
VLS	Valsamata	1.40	219	ePN	Pn	00 34 34.1	+1.1
VLS				eSN	Sn	00 34 53.9	+1.9
SRN	Sarande	1.44	295	i Pn	Pn	00 34 35.5	+1.9
SRN				i Sn	Sn	00 34 56.2	+3.1
FNA	Florina	1.53	351	ePg	Pg	00 34 36.3	-0.9
	comp=Z,2.4nm,0.3s						
FNA				eSg	Sg	00 34 56.8	-0.9
KEK	Kerkira	1.53	287	ePN	Pn	00 34 37.9	+3.0
PAIG	Paliouri	1.67	66	ePb	Pb	00 34 36.4	-1.2
PAIG				eSb	Sb	00 34 57.9	-0.9
THE	Thessaloniki	1.67	35	ePb	Pb	00 34 36.5	-1.2
	comp=Z,1.0nm,0.3s						
AOS	Alonnisos	1.70	93	ePb	Pb	00 34 36.9	-1.3
AOS				eSb	Sb	00 34 59.0	-0.8
PLG	Polygyros	1.74	50	ePB	Pb	00 34 37.8	-1.0
PLG	Polygyros	1.74	50	ePb	Pb	00 34 37.6	-1.2
GRG	Griva	1.77	18	ePb	Pb	00 34 38.9	-0.4
GRG				eSb	Sb	00 35 02.9	+1.2
GRG	Griva	1.77	18	ePb	Pb	00 34 38.9	-0.4
GRG				eSb	Sb	00 35 02.8	+1.1
SOH	Sokhos	2.00	39	ePn	Pn	00 34 42.0	+0.3
SOH				eSn	Sn	00 35 07.1	-0.3
ATH	Athens Observa	2.05	129	ePN	Pn	00 34 42.3	0.0
OUR	Ouranopolis	2.06	58	ePn	Pn	00 34 42.8	+0.4
	comp=Z,2.2nm,0.2s						
OUR				eSn	Sn	00 35 09.0	+0.3
KNT	Kendrikon	2.10	26	ePn	Pn	00 34 43.6	+0.6
	comp=Z,2.3nm,0.3s						
KNT				eSn	Sn	00 35 10.9	+1.1
ITM	Ithomi	2.10	175	ePg	Pg	00 34 45.7	-3.0
SRS	Serrai	2.34	38	ePn	Pn	00 34 46.5	0.0
SRS				eSn	Sn	00 35 15.4	-0.6
SKO	Skopje	2.70	356	ePn	Pn	00 34 52.5	+0.8
VLI	Veliai	2.73	159	ePB	Pb	00 34 53.2	-2.7
VLI	Veliai	2.73	159	ePb	Pb	00 34 54.1	-1.8

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*JMA **14** 00:44:53.7±0.5, 33.45N×142.56E, h79^{km}, M3.1*
*IDC **14** 00:44:53.1±2.4, 33.19N×142.39E, mb3.4/2, mb1 3.5/5, mb1mx3.4/21, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=45.4km s-min=22.5km az=58.0*
ISC 14 00:44:52.9±1.1**, 33.34N**±0.05×**142.6E**±0.1**, h33**^{km}**, n14,** σ**1**^{s}**10**/21**, mb3.5**/2**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.86	316	P	P	00 45 23.0	+0.1
BSO1				eS	S	00 45 45.1	-0.3
BSO2	Boso 2	2.06	314	eS	S	00 45 51.1	+0.6
BSO3	Boso 3	2.24	311	P	P	00 45 28.7	+0.3
BSO3				eS	S	00 45 56.2	+1.1
JHJ2	Mitsune	2.31	265	P	P	00 45 30.9	+1.6
JHJ	Hachijo jima 2	2.33	265	Pn	Pn	00 45 30.9	+1.1
	14nm,0.3s,baz=55,slow=22,SNR=15						
JHJ				Sn	Sn	00 45 57.5	-0.2
	40nm,0.3s,baz=77,slow=20,SNR=8.4						
BSO4	Boso 4	2.47	313	P	P	00 45 32.2	+0.5
BSO4				eS	S	00 46 01.6	+0.6
JOD2	Odawara 2	3.45	305	eS	S	00 46 25.2	-0.8
JYN	Shimob	3.96	304	eS	S	00 46 39.4	+0.7
JAG	Ashikaga	4.00	321	P	P	00 45 52.9	-0.5
JAG				eS	S	00 46 36.5	-3.3
JRY	Ryogami san	4.03	313	eS	S	00 46 39.0	-1.5
MJAR	Matsushiro Arr	4.79	313	Pn	Pn	00 46 04.5	-0.3
	1.1nm,0.3s,baz=145,slow=14,SNR=5.5						
MJAR				Sn	Sn	00 46 57.4	-2.6
	1.3nm,0.3s,baz=156,slow=21,SNR=5.3						
CBIJ	Chichi jima	6.23	183	Pn	Pn	00 46 24.6	-0.4
	6.3nm,0.3s,baz=280,slow=19,SNR=12						
CBIJ				Sn	Sn	00 47 34.0	-1.8
	1.7nm,0.3s,baz=271,slow=19,SNR=1.8						
MKAR	Makanchi Array	46.95	305	P	P	00 53 25.8	+3.7
	0.3nm,0.6s,mb3.4,baz=90,slow=7.9,SNR=3.7						
WRA	Warramunga Arr	53.55	190	P	P	00 54 14.2	+1.2
	0.4nm,0.7s,mb3.5,baz=8.8,slow=7.6,SNR=8.6						

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*PRU **14** 01:03:35.6, 51.47N×16.20E*
*NEIC **14** 01:03:35.9±2.0, 51.47N×16.06E, h5^{km}, ML2.6(SZGRF), ML2.6(VIE), Error ellipse: s-maj=20.9km s-min=7.8km az=218.0*
*CSEM **14** 01:03:36.6±0.4, 51.44N×16.13E, h2^{km}, ML2.8/5, Error ellipse: s-maj=6.7km s-min=3.8km az=32.0*
*VIE **14** 01:03:37.7±0.4, 51.28N×16.21E, mb1.8/1, ML2.2/3, Error ellipse: s-maj=2.9km s-min=2.6km az=84.0, Suspected Mining induced.*
WAR 14 01:03:35.7, 51.53N×16.14E, h1^{km}**, ML2.2, 2C, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	172	ePG	Pg	01 03 48.0	-1.6
KSP				eSG	Sg	01 03 57.0	-1.9
UPC	Upice	1.03	185	ePG	Pg	01 03 54.5	-1.7
DPC	Dobruska-Polom	1.19	174	ePG	Pg	01 03 57.2	-2.2
DPC				eSG	Sg	01 04 12.6	-2.7
	5.2nm,0.2s						
PVCC	Panska Ves	1.41	225	ePG	Pg	01 04 01.9	-2.0
BRG	Berggiesshubel	1.53	245	Pn	Pn	01 04 03.5	-0.7
BRG				Pg	Pg	01 04 04.0	-2.2
BRG				Sg	Sg	01 04 24.5	-2.2
BRG	Berggiesshubel	1.53	245	Pn	Pn	01 04 03.5	-0.8
BRG	Berggiesshubel	1.53	245	Pg	Pg	01 04 04.1	-2.2
PRU	Pruhonice	1.85	214	ePG	Pg	01 04 09.2	-3.4
PRU				eSG	Sg	01 04 33.3	-3.9
	4.7nm,0.2s						
PRU	Pruhonice	1.85	214	ePg	Pg	01 04 09.2	-3.4
PRU				eSg	Sg	01 04 33.3	-3.9
MORC	Moravsky Berou	1.97	153	ePn	Pn	01 04 08.7	-1.9
MORC				eSg	Sg	01 04 35.2	-6.1
CLL	Collm	1.98	265	i PN	Pn	01 04 08.2	-2.5
CLL				ePG	Pg	01 04 12.0	-3.2
CLL				i SG	Sg	01 04 38.4	-3.1
VRAC	Vranov	2.24	172	ePn	Pn	01 04 13.7	-0.8
VRAC				eSg	Sg	01 04 43.5	-6.9
NKC	Novy Kostel	2.67	242	ePN	Pn	01 04 19.2	-1.5
NKC				ePG	Pg	01 04 26.1	-3.0
NKC				eSG	Sg	01 05 01.8	-3.0
	9.0nm,0.3s						
KHC	Kasperske Hory	2.91	215	ePN	Pn	01 04 21.4	-2.6
KHC				ePG	Pg	01 04 28.2	-5.6
KHC				eSN	Sn	01 04 56.8	-3.3
KHC				eSG	Sg	01 05 06.3	-6.3
	4.1nm,0.4s						
MOX	Moxa	2.99	254	ePg	Pg	01 04 32.1	-3.2
MOX				eSg	Sg	01 05 11.8	-3.4
GEC2	GERESS Array S	3.11	211	ePn	Pn	01 04 23.8	-3.1
GEC2				eSg	Sg	01 05 11.8	-7.5
MOA	Molln	3.88	199	⇑iPn	Pn	01 04 35.5	-2.3
MOA				⇑iSg	Sg	01 05 38.7	-6.2
	comp=Z,2.4nm,0.4s						

MAN 14 01:12:06.3, 8.05N×126.49E, mb4.3, ML3.1, MS2.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.18	318	⇓eP	Pg	01 12 12.2	+2.2
BIPH				eS	Sg	01 12 24.4	+12
BUTP	Butuan	1.25	317	eP	Pb	01 12 30.1	-0.4
BUTP				eS	Sb	01 12 59.4	+12
BUKP	Musuan	1.42	263	eP	Pb	01 12 32.6	-0.7
SCPH	Surigao	1.98	330	eP	Pn	01 12 44.4	+2.9
SCPH				eS	Sn	01 13 15.3	+7.9

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*IDC **14** 02:02:15.1±6.5, 36.21N×70.76E, h193^{km}±56^{km}, mb3.4/10, mb1 3.6/12, mb1mx3.4/21, mbtmp4.0/12, Error ellipse: s-maj=37.9km s-min=16.9km az=24.0*
*BJI **14** 02:02:16.2, 36.41N×70.72E, h197^{km}, mb4.0*
*MOS **14** 02:02:16.2±0.7, 36.39N×70.69E, h210^{km}, mb4.0/2, Error ellipse: s-maj=15.2km s-min=7.7km az=88.3*
*NEIC **14** 02:02:17.4±1.1, 36.41N×70.74E, h205^{km}±10^{km}, mb4.1/11, Error ellipse: s-maj=13.0km s-min=5.5km az=50.0*
*NNC **14** 02:02:23.2±8.1, 36.93N×70.74E, h208^{km}±82^{km}, mpv4.1, Error ellipse: s-maj=74.5km s-min=47.4km az=22.0*
ISC 14 02:02:17.2±0.5**, 36.47N**±0.03×**70.75E**±0.08**, h215**^{km}±6^{km}**, n51,** σ**0**^{s}**84**/61**, mb3.5**/10**, 6C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.81	160	⇓P	P	02 03 05.9	0.0
CEP				S	S	02 03 39.0	-4.6
CHCP	Chirah Chowk	3.48	143	⇓P	P	02 03 14.5	+0.7
CHCP				S	S	02 03 58.0	+0.4
THW	Thamme Wali	3.76	167	⇓P	P	02 03 16.6	-0.5
SBDP	Sheikh Budin	4.16	179	⇓P	P	02 03 21.9	-0.2
SARP	Sargodha	4.81	160	⇑P	P	02 03 29.1	-1.1
KSH	Kashi	5.12	52	P	P	02 03 35.6	+1.5
KSH				S	S	02 04 34.0	0.0
KSH				Smax			
	comp=N,280nm,0.3s						
KSH				Smax			
	comp=E,340nm,0.5s						
AML	Almayashu	6.09	21	P	P	02 03 47.2	+0.7
	SNR=110						
UCH	Uchtor	6.44	26	P	S	02 05 02.0	-2.3
	SNR=34						
EKS2	Erkin-Say	6.61	20	P	P	02 03 54.3	+1.2
	SNR=19						
KK31	Karatay Array	6.62	358	P	P	02 03 53.4	0.0
	comp=E,5.1nm,0.3s,baz=269,slow=6.0,SNR=95						
KK31				S	S	02 05 02.2	-6.2
	comp=E,27nm,0.5s,baz=172,slow=16,SNR=24						
KK31	Karatay Array	6.62	358	P	P	02 03 53.4	0.0
	comp=E,5.1nm,0.3s						
KK31				S	S	02 05 02.2	-6.2
AAK	Ala-Archa	6.80	24	P	P	02 03 56.5	+0.8
	SNR=21						
AAK	Ala-Archa	6.80	24	⇑P	P	02 03 56.1	+0.5
	comp=E,8.9nm,0.5s						
AAK				⇑S	S	02 05 10.8	-1.7
	comp=E,29nm,0.5s						
AAK	Ala-Archa	6.80	24	⇑P	P	02 03 56.1	+0.5
	comp=E,8.9nm,0.4s						
AAK				S	S	02 05 10.8	-1.7
KBK	Karagaybulak	6.97	26	P	P	02 03 59.2	+1.4
	SNR=8.1						
ULHL	Ulahol	7.16	35	P	P	02 04 00.8	+0.4
	SNR=7.3						
TKM2	Tokmak 2	7.44	29	P	P	02 04 04.6	+0.6
	SNR=7.6						
MK02	Makanchi Array	13.42	36	P	P	02 05 19.7	-0.5
MK02				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	Makanchi Array	13.43	36	P	P	02 05 19.6	-0.7
	comp=Z,5.1nm,0.7s,baz=222,slow=18,SNR=37						
MKAR	Makanchi Array	13.43	36	P	P	02 05 20.2	-0.2
	comp=Z,0.7nm,0.3s,baz=204,slow=9.9,SNR=20						
GKN	Gorkha	14.46	122	eP	P	02 05 33.4	+0.2
	comp=Z,46nm,0.4s						
AB31	Akbulak array	15.01	332	P	P	02 05 39.5	-0.4
	comp=Z,0.5nm,0.3s,baz=145,slow=12,SNR=32						
AB31				⇑S	S	02 08 26.8	+6.4
	comp=Z,1.7nm,0.8s						
AB31	Akbulak array	15.01	332	P	P	02 05 39.5	-0.4
	comp=Z,0.5nm,0.3s						
AB31				S	S	02 08 26.8	+6.4
AB31	Akbulak array	15.01	332	P	P	02 05 39.5	-0.3
AB31				S	S	02 08 26.8	+6.4
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DMN	Daman	15.03	122	eP	P	02 05 39.6	-0.6
	comp=Z,24nm,0.4s						
KKN	Kakani	15.04	121	eP	P	02 05 39.8	-0.5
	comp=Z,27nm,0.4s						
KKN	Kakani	15.04	121	eP	P	02 05 39.8	-0.5
KKN				pmax	pmax		
	comp=Z,14nm,0.4s						
PKI	Pulchoki	15.26	121	eP	P	02 05 42.8	-0.3
	comp=Z,49nm,0.4s						
KURK	Kurchatov	15.32	19	⇑P	P	02 05 41.0	-2.6
	comp=Z,8.8nm,2.1s						
KURK	Kurchatov	15.32	19	eP	P	02 05 40.7	-2.9
	comp=Z,3.4nm,0.5s						
KURK	Kurchatov	15.32	19	eP	P	02 05 40.7	-2.9
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
VOSK	Vostochnaya	16.25	1	⇓P	P	02 05 54.8	0.0
	comp=Z,6.1nm,0.9s						
VOSK	Vostochnaya	16.25	1	⇓P	P	02 05 54.8	0.0
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BVAR	Borovoye Array	16.55	359	P	P	02 05 58.7	+0.3
	comp=Z,2.6nm,0.3s,baz=166,slow=12,SNR=31						
BRVK	Borovoye	16.59	359	eP	P	02 05 58.1	-0.7
	comp=Z,6.3nm,0.8s						
BRVK	Borovoye	16.59	359	eP	P	02 05 58.1	-0.7
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LSA	Lhasa	18.37	106	P	P	02 06 18.2	+0.2
ZAL	Zalesovo	20.01	25	P	P	02 06 35.0	+0.3
	comp=Z,10nm,0.3s,baz=250,slow=6.6,SNR=22						
NVS	Novosibirsk	20.28	21	eP	P	02 06 37.9	+0.5
NVS				pmax	pmax		
	comp=Z,13nm,1.0s						
NVS				pmax	pmax		
	comp=N,22nm,1.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
GTA	Gaotai	23.07	74	eP	P	02 07 06.6	+2.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.9						
SONM	Songino Array	28.52	55	P	P	02 07 54.8	+0.2
	comp=Z,0.3nm,0.4s,mb3.3,baz=261,slow=9.1,SNR=4.1						
AKASG	Malin Array Be	32.80	309	P	P	02 08 31.4	-0.6
	comp=Z,0.5nm,0.4s,mb3.4,baz=78,slow=7.0,SNR=5.2						
FINES	FINESS Array B	37.39	326	P	P	02 09 10.7	+0.1
	comp=Z,0.4nm,0.3s,mb3.4,baz=117,slow=8.5,SNR=6.9						
ARCES	ARCESS Array B	41.09	338	P	P	02 09 42.0	+1.0
	comp=Z,1.8nm,0.6s,mb3.7,baz=113,slow=8.1,SNR=17						
HFS	Hagfors	42.96	322	P	P	02 09 56.3	+0.1
	comp=Z,1.8nm,0.6s,mb3.7,baz=90,slow=8.6,SNR=6.9						
NB2	NORSAR Subarra	44.28	323	P	P	02 10 06.8	+0.1
	comp=Z,0.9nm,0.5s,mb3.4,baz=96,slow=7.4						
NB2	NORSAR Subarra	44.28	323	P	P	02 10 06.8	+0.1
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
NOA	NORSAR Array B	44.28	323	P	P	02 10 06.8	+0.1
	comp=Z,0.7nm,0.5s,mb3.3,baz=96,slow=7.7,SNR=3.7						
ILAR	Eielson Array	74.86	16	P	P	02 13 35.0	-0.1
	comp=Z,0.7nm,0.9s,mb3.3,baz=307,slow=4.5,SNR=5.2						
YKA	Yellowknife Ar	81.28	3	P	P	02 14 10.7	+0.6
	comp=Z,0.4nm,0.4s,mb3.5,baz=350,slow=5.1,SNR=3.1						
WRA	Warramunga Arr	82.15	122	P	P	02 14 13.8	-1.5
	comp=Z,1.3nm,0.6s,mb3.7,baz=323,slow=5.0,SNR=31						

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*IDC **14** 02:22:24.1±4.8, 6.08S×147.34E, h43^{km}±46^{km}, mb3.6/4, mb1 3.9/6, mb1mx3.7/13, mbtmp3.8/6, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/14, Error ellipse: s-maj=42.1km s-min=29.9km az=106.0*
*NEIC **14** 02:22:27.5±2.9, 6.37S×147.60E, h89^{km}±29^{km}, mb4.2/1, Error ellipse: s-maj=41.0km s-min=21.4km az=125.0*
ISC 14 02:22:24.2±2.8**, 6.2S**±0.1×**147.4E**±0.2**, h68**^{km}±30^{km}**, n10,** σ**1**^{s}**02**/12**, mb3.7**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.23	184	P	P	02 23 13.8	0.0
	8.2nm,0.3s,baz=13,slow=4.8,SNR=18						
PMG				S	S	02 23 51.8	+0.6
	5.0nm,0.3s,baz=0.1,slow=3.4,SNR=3.3						
PMG				LR	LR	02 24 54.6	
	comp=Z,144nm,19.3s,baz=231,slow=45						
WRAB	Tennant Creek	18.66	222	eP	P	02 26 36.2	-3.1
WB2	Warramunga Arr	18.66	222	eP	P	02 26 39.3	-0.1
WRA	Warramunga Arr	18.67	222	P	P	02 26 38.2	-1.3
	0.3nm,0.3s,baz=44,slow=12,SNR=17						
WRA				S	S	02 30 02.3	+0.4
	0.1nm,0.3s,baz=44,slow=24,SNR=3.1						
WRA				PcP	PcP	02 31 06.8	+1.4
	0.0nm,0.3s,baz=24,slow=2.1,SNR=5.2						
FITZ	Fitzroy Crossi	24.32	239	eP	P	02 27 38.4	+1.5
	6.7nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	24.32	239	P	P	02 27 37.8	+0.9
	8.7nm,0.6s,mb4.2,baz=46,slow=6.8,SNR=14						
STKA	Stephens Creek	26.15	191	P	P	02 27 55.2	+1.1
	1.5nm,0.6s,mb3.6,baz=14,slow=10,SNR=4.3						
STKA	Stephens Creek	26.15	191	eP	P	02 27 52.4	-1.7
STKA				P		02 27 55.2	
SONM	Songino Array	64.74	331	P	P	02 32 58.6	+0.9
	0.2nm,0.3s,mb3.4,baz=135,slow=4.1,SNR=2.7						
ILAR	Eielson Array	85.47	23	P	P	02 34 55.2	-0.3
	0.3nm,0.5s,mb3.5,baz=258,slow=4.9,SNR=5.8						

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*CSEM **14** 02:33:19.1±0.7, 38.66N×28.59W, h12^{km}±13^{km}, ML1.1, Error ellipse: s-maj=8.7km s-min=4.9km az=55.0, After PDA*
*PDA **14** 02:33:19.1±0.7, 38.66N×28.59W, h12^{km}±13^{km}, MD2.7, ML1.1, Error ellipse: s-maj=8.7km s-min=4.9km az=55.0*
SVSA 14 02:33:19.1±0.7**, 38.66N×28.59W, h12**^{km}±13^{km}**, MD2.7, ML1.1, Error ellipse: s-maj=8.7km s-min=4.9km az=55.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.09	252	i P	Pg	02 33 21.4	-0.5
PCED				eS	Sg	02 33 23.3	-0.5
	16nm,0.2s						
PCED	Cedros	0.09	252	eS	Sg	02 33 23.3	-0.5
CALA	Caldeira	0.11	229	eS	Sg	02 33 24.4	0.0
HOR	Horta	0.13	192	eP	Pg	02 33 21.9	-0.6
HOR				eS	Sg	02 33 24.0	-0.8
PICO	Pico	0.20	140	eP	Pg	02 33 23.2	-0.5
PICO				eS	Sg	02 33 26.2	-0.6

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*MOS **14** 03:12:24.8±1.2, 36.50N×70.42E, h33^{km}, mb4.7/16, Error ellipse: s-maj=8.8km s-min=5.2km az=95.1*
*BJI **14** 03:12:29.5, 36.88N×70.48E, h73^{km}, mB4.9, mb4.8, Ms4.0, Msz3.5*
*IDC **14** 03:12:29.8±1.2, 36.39N×70.44E, h72^{km}±7^{km}, mb3.9/12, mb1 4.1/13, mb1mx3.9/19, mbtmp4.2/13, MS3.6/2, Ms1 3.6/2, ms1mx3.1/24, Error ellipse: s-maj=28.0km s-min=16.4km az=12.0*
*NEIC **14** 03:12:30.2±0.3, 36.47N×70.64E, mb4.6/17, Error ellipse: s-maj=8.2km s-min=4.8km az=211.0*
*NNC **14** 03:12:38.0±6.2, 37.15N×70.23E, h182^{km}±61^{km}, mpv5.1, Error ellipse: s-maj=55.1km s-min=32.3km az=27.0*
ISC 14 03:12:28.9±0.5**, 36.48N**±0.02×**70.68E**±0.04**, h77**^{km}±5^{km}**, h73**^{km}±2.4^{km}**:pP-P, n128,** σ**1**^{s}**26**/155**, mb4.3**/35**, 9C-14D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.83	159	⇓P	P	03 13 17.3	+4.3
CHCP	Chirah Chowk	3.52	142	P	P	03 13 28.6	+6.0
THW	Thamme Wali	3.78	166	⇓P	P	03 13 28.6	+2.5
SBDP	Sheikh Budin	4.17	178	⇑P	P	03 13 34.4	+2.9
SARP	Sargodha	4.83	159	P	P	03 13 42.4	+1.6
AML	Almayashu	6.11	22	P	P	03 13 59.2	+0.8
	SNR=327						
KK31	Karatay Array	6.62	359	⇓P	P	03 14 03.8	-1.7
	87nm,0.5s,baz=173,slow=8.6,SNR=1533						
KK31				⇑S	S	03 15 14.1	-6.0
	50nm,0.3s						

KK31 Karatay Array 6.62 359 ⇓P P 03 14 03.8 -1.7
87nm,0.4s
KK31 S S 03 15 14.1 -6.0
KKAR Karatay Array 6.62 359 PN P 03 14 03.8 -1.7
KKAR pmax pmax
comp=Z,9.0nm,0.2s
KZA Kyzart 6.62 31 P P 03 14 06.8 +1.2
SNR=27
EKS2 Erkin-Say 6.62 20 P P 03 14 06.1 +0.5
SNR=37
AAK Ala-Archa 6.82 24 P P 03 14 09.3 +1.0
SNR=125
AAK Ala-Archa 6.82 24 ⇓P P 03 14 09.2 +1.0
comp=Z,93nm,0.6s
AAK ⇑S S 03 15 22.9 -2.1
comp=Z,77nm,0.4s
AAK Ala-Archa 6.82 24 ⇓P P 03 14 09.2 +1.0
comp=Z,93nm,0.6s
AAK S S 03 15 22.9 -2.1
KBK Karagaybulak 7.00 27 P P 03 14 12.0 +1.3
SNR=25
FRU Bishkek 7.04 24 ePN P 03 14 12.0 +0.7
FRU i 03 14 35.0
FRU pmax pmax
comp=Z,120nm,1.4s
ULHL Ulahol 7.19 35 P P 03 14 14.6 +1.1
SNR=12
CHMS Chumysh 7.23 24 P P 03 14 14.5 +0.6
SNR=100
USP Ospenovka 7.39 22 P P 03 14 15.9 -0.2
SNR=77
TKM2 Tokmak 2 7.47 29 P P 03 14 18.0 +0.8
SNR=62
SMLA Simla 7.59 133 eP P 03 14 17.4 -1.5
SMLA eS S 03 15 41.2 -2.9
KHET Khetri 9.43 151 eP P 03 14 44.5 +0.5
KHET eS S 03 16 23.5 -5.8
KHET AML AML 03 16 27.4
comp=N,183nm,0.2s
KHET AML AML 03 16 27.8
comp=E,110nm,0.2s
JASL Jaisalmer 9.53 179 eP P 03 14 45.5 +0.2
JASL AML AML 03 16 33.2
comp=Z,448nm,0.2s
NDI New Delhi 9.53 143 eP P 03 14 45.0 -0.3
NDI eS S 03 16 28.0 -3.6
AYAN Aya Nagar 9.65 144 ex P 03 14 49.5 +2.5
AYAN eS S 03 16 31.0 -3.5
AYAN AML AML 03 16 34.7
comp=Z,76nm,0.5s
KALG Kalgarh 9.71 133 eP P 03 14 49.7 +1.9
KALG eS S 03 16 34.3 -1.7
SONA Sohna 9.83 145 ex P 03 14 52.5 +3.1
SONA eS S 03 16 36.0 -2.8
SONA AML AML 03 16 39.7
comp=E,183nm,0.2s
SONA AML AML 03 16 40.1
comp=N,78nm,0.3s
AJM Ajmer 10.52 160 eP P 03 14 58.8 0.0
AJM eS S 03 16 50.8 -4.9
AJM AML AML 03 16 52.9
comp=E,121nm,0.2s
AJM AML AML 03 16 53.7
comp=N,128nm,0.4s
LGTI Lohaghat 10.66 128 eP P 03 14 57.7 -2.9
LGTI eS S 03 16 52.0 -6.9
AGRA Agra 11.09 144 ex x 03 15 13.2
AGRA eS S 03 17 05.2 -4.1
MK02 Makanchi Array 13.46 37 P P 03 15 37.3 -0.4
MK02 pmax pmax
comp=Z,14nm,0.8s
MK31 Makanchi Array 13.46 36 P P 03 15 37.3 -0.5
comp=Z,14nm,0.8s,baz=227,slow=14,SNR=18
MK31 Makanchi Array 13.46 36 P P 03 15 37.3 -0.5
comp=Z,14nm,0.8s
MKAR Makanchi Array 13.46 36 P P 03 15 38.0 +0.2
comp=Z,0.5nm,0.3s,baz=226,slow=15,SNR=17
MKAR Makanchi Array 13.46 36 eP P 03 15 37.2 -0.6
MKAR pmax pmax
comp=Z,1.0nm,0.3s
BHPL Bhopal 14.42 154 eP P 03 15 50.0 -0.4
BHPL eS S 03 18 21.9 -6.9
GKN Gorkha 14.51 122 eP P 03 15 50.9 -0.6
comp=Z,74nm,0.4s
GKN eS S 03 18 24.9 -5.9
WMQ Urumqi 14.92 55 eP P 03 15 56.0 -0.7
WMQ S S 03 18 40.0 -0.4
WMQ XS 03 18 57.5
WMQ AMB AMB
comp=Z,28nm,0.8s
WMQ AMB AMB
comp=Z,145nm,4.7s
WMQ LR LR
comp=N,199nm,16.6s
WMQ LR LR
comp=E,128nm,18.0s
WMQ LR LR
comp=Z,94nm,14.2s
AB31 Akbulak array 14.98 332 ⇓P P 03 15 51.9 -5.5
comp=Z,15nm,0.3s,baz=154,slow=12,SNR=981
AB31 ⇑S S 03 18 23.8 -18
comp=Z,7.8nm,0.6s,baz=151,slow=24,SNR=5.5
AB31 Akbulak array 14.98 332 ⇓P P 03 15 51.9 -5.5
comp=Z,15nm,0.3s
AB31 S S 03 18 23.8 -18
DMN Daman 15.08 122 eP P 03 15 58.5 -0.3
comp=Z,50nm,0.4s
KKN Kakani 15.09 121 eP P 03 15 58.6 -0.3
comp=Z,72nm,0.5s
KKN Kakani 15.09 121 eP P 03 15 58.6 -0.3
KKN pmax pmax
comp=Z,36nm,0.5s
PKI Pulchoki 15.31 121 eP P 03 16 01.9 +0.1
comp=Z,52nm,0.4s
PKI eS S 03 18 44.8 -4.7
PKI Pulchoki 15.31 121 eP P 03 16 01.9 +0.1
PKI eS S 03 18 44.8 -4.7
PKI pmax pmax
comp=Z,26nm,0.4s
KURK Kurchatov 15.34 19 ⇑P P 03 15 57.3 -4.6
comp=Z,5.0nm,1.0s
VOSK Vostochnaya 16.25 1 ⇓P P 03 16 09.9 -3.5
comp=Z,18nm,0.6s
VOSK Vostochnaya 16.25 1 ⇓P P 03 16 09.9 -3.5
comp=Z,18nm,0.6s
VOSK Vostochnaya 16.25 1 ⇓P P 03 16 09.9 -3.5
VOSK pmax pmax
comp=Z,18nm,0.6s
BVA0 Borovoye Array 16.55 359 ⇓P P 03 16 13.7 -3.5
comp=Z,5.1nm,0.7s,baz=170,slow=15,SNR=214
BVA0 Borovoye Array 16.55 359 ⇓P P 03 16 13.7 -3.4
BVA0 pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 16.55 359 P P 03 16 14.2 -2.9
comp=Z,4.0nm,0.3s,baz=173,slow=12,SNR=197
BRVK Borovoye 16.58 359 eP P 03 16 14.3 -3.3
comp=Z,34nm,0.8s
BRVK Borovoye 16.58 359 eP P 03 16 14.3 -3.3
BRVK pmax pmax
comp=Z,34nm,0.8s
AKTK Aktyubinsk 16.67 331 ⇑P P 03 16 14.2 -4.6
AKTK S S 03 19 07.2 -13
AKTO Aktyubinsk 16.67 331 ⇑P P 03 16 14.2 -4.5
comp=Z,7.3nm,0.7s
AKTO ⇑S S 03 19 07.2 -13
comp=Z,4.8nm,1.2s
AKTO Aktyubinsk 16.67 331 P P 03 16 14.1 -4.6
AKTO pmax pmax
comp=Z,14nm,1.0s
LSA Lhasa 18.42 106 P P 03 16 43.3 +3.0
LSA Lhasa 18.42 106 eP P 03 16 42.7 +2.3
comp=Z,56nm,0.6s
LSA Lhasa 18.42 106 eP P 03 16 42.7 +2.4
LSA pmax pmax
comp=Z,56nm,0.6s
ZAL Zalesovo 20.03 25 P P 03 16 56.7 -1.1
comp=Z,16nm,0.4s,baz=248,slow=6.7,SNR=22
ZAL Zalesovo 20.03 25 i P P 03 16 57.0 -0.8
ZAL pmax pmax
comp=Z,16nm,0.4s
HYB Hyderabad 20.22 158 i P P 03 17 03.5 +3.5
HYB eS S 03 20 11.0 -27
HYB Hyderabad 20.22 158 eP P 03 17 03.5 +3.5
HYB eS S 03 20 11.0 -27
NVS Novosibirsk 20.30 21 i P P 03 17 01.1 +0.6
NVS i S S 03 20 38.5 -0.3
NVS eSS SS 03 21 32.3 +20
NVS pmax pmax
comp=Z,9.0nm,0.6s
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS smax
comp=N,26nm,2.2s
NVS smax
comp=E,28nm,1.8s
GNI Garni 20.65 288 eP P 03 17 12.6 +8.3
GNI pmax pmax
comp=Z,22nm,1.2s
SVE Sverdlovsk 21.45 345 eP P 03 17 11.0 -1.2
SVE e 03 17 30.0
SVE MLR MLR
comp=N,100nm,13.0s
SVE MLR MLR
comp=E,100nm,13.0s
SVE MLR MLR
comp=Z,200nm,13.0s
ZEI Tsey 21.51 295 eP P 03 17 17.7 +4.8
ZEI i *PP 03 17 39.0
ZEI pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
ARU Arti 21.57 342 eP P 03 17 12.5 -0.9
comp=Z,20nm,0.6s,mb4.6
ARU Arti 21.57 342 ⇓iP P 03 17 13.2 -0.2
ARU e 03 17 37.9
ARU eS S 03 20 55.2 -7.5
ARU eSS SS 03 21 15.5 -28
ARU pmax pmax
comp=Z,24nm,0.8s,mb4.6
KIV Kislovodsk 22.57 298 P P 03 17 25.6 +2.3
comp=Z,20nm,0.9s,mb4.4
KIV Kislovodsk 22.57 298 eP P 03 17 29.6 +6.3
KIV e*PP 03 17 55.8
KIV eS S 03 21 29.5 +8.9
KIV pmax pmax
comp=Z,23nm,1.0s,mb4.5
KIV MLR MLR
comp=N,69nm,18.0s
KIV MLR MLR
comp=Z,80nm,18.0s
KIV MLR MLR
comp=E,52nm,21.0s
GTA Gaotai 23.12 74 eP P 03 17 32.4 +3.8
GTA AMB AMB
comp=Z,4.0nm,0.6s,mb3.9
GTA AMB AMB
comp=Z,58nm,5.7s
GTA LR LR
comp=N,126nm,10.6s
GTA LR LR
comp=E,156nm,14.8s
GTA LR LR
comp=Z,142nm,10.3s
SOC Sochi 24.65 296 eP P 03 17 48.1 +4.7
SOC e 03 21 19.9
SOC eS S 03 21 55.3 -1.2
SOC pmax pmax
comp=Z,28nm,1.0s,mb4.7
SOC pmax pmax
comp=N,17nm,0.7s
SOC pmax pmax
comp=E,19nm,1.0s
ANN Anapa 26.42 299 eP P 03 18 10.6 +11
ANN pmax pmax
comp=Z,22nm,1.0s,mb4.5
LZH Lanzhou 26.67 81 eP P 03 18 06.8 +4.4
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,120nm,4.0s
ZAK Zakamensk 27.20 49 eP P 03 18 09.0 +1.9
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.5
SONM Songino Array 28.56 55 P P 03 18 20.8 +1.4
comp=Z,2.0nm,0.5s,mb4.0,baz=270,slow=9.1,SNR=21
SONM LR LR 03 31 06.5
comp=Z,84nm,20.9s,baz=1.5,slow=39
ULN Ulaanbaatar 29.00 55 eP P 03 18 25.3 +2.0
BRTR Keskin Array B 29.19 288 P P 03 18 21.7 -3.4
comp=Z,0.3nm,0.3s,mb3.4,baz=221,slow=33,SNR=2.9
BRTR pP pP 03 18 40.1 -3.0
comp=Z,0.9nm,0.7s,baz=117,slow=8.6,SNR=3.6
KMI Kunming 29.64 103 P P 03 18 32.9 +3.6
KMI S S 03 23 18.4 +0.6
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.4
OBN Obninsk 29.79 320 eP P 03 18 32.2 +2.0
OBN pmax pmax
comp=Z,27nm,2.5s,mb4.4
AKASG Malin Array Be 32.76 309 P P 03 18 55.1 -1.2
comp=Z,1.3nm,0.6s,mb4.0,baz=80,slow=8.3,SNR=5.7
AKASG pP pP 03 19 12.0 -2.6
comp=Z,1.5nm,0.4s,baz=82,slow=8.0,SNR=5.1
AKASG Malin Array Be 32.76 309 P P 03 18 55.1 -1.2
AKASG *PP pP 03 19 12.1 -2.6
BOD Bodaibo 35.53 39 eP P 03 19 19.5 -0.5
JOF Joensuu 35.76 330 ep P 03 19 21.3 -0.6
comp=Z,1.2nm,0.4s,mb4.2
FINES FINESS Array B 37.36 326 P P 03 19 34.6 -0.7
comp=Z,1.4nm,0.8s,mb3.9,baz=117,slow=8.5,SNR=5.9
FINES FINESS Array B 37.36 326 i P P 03 19 34.0 -1.3
FINES pmax pmax
comp=Z,1.0nm,0.8s
KAF Kangasniemi 37.51 327 ep P 03 19 40.7 +4.2
NJ2 Nanjing 39.74 82 eP P 03 20 02.3 +6.9
NJ2 S S 03 25 53.0 -0.3
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
KEV Kevo 40.73 338 ep P 03 20 03.5 +0.3
comp=Z,3.1nm,0.6s,mb4.3
KEV Kevo 40.73 338 eP P 03 20 03.5 +0.3
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ARCES ARCESS Array B 41.07 338 P P 03 20 06.3 +0.3
comp=Z,2.6nm,0.8s,mb4.1,baz=99,slow=7.1,SNR=14
ARCES LR LR 03 37 03.6
comp=Z,118nm,21.9s,baz=230,slow=36
CN2 Changchun 41.85 62 eP P 03 20 12.0 -0.6
SSE Sheshan 41.94 82 P P 03 20 20.3 +6.8
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,94nm,4.2s
NB2 NORSAR Subarra 44.24 323 P P 03 20 30.5 -1.3
comp=Z,1.2nm,0.4s,mb4.0,baz=98,slow=7.9
NOA NORSAR Array B 44.24 323 P P 03 20 31.0 -0.8
comp=Z,1.7nm,0.7s,mb3.9,baz=98,slow=8.0,SNR=4.7
NOA pP pP 03 20 48.8 -1.9
comp=Z,2.4nm,0.6s,baz=98,slow=8.0,SNR=3.8
MDJ Mudanjiang 44.64 61 P P 03 20 33.3 -2.0
MDJ AP pP 03 20 58.6 +4.4
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
MDJ AMB AMB
comp=Z,48nm,4.9s
MDJ LR LR
comp=N,6.0nm,17.4s
MDJ LR LR
comp=E,29nm,19.9s
MDJ LR LR
comp=Z,36nm,21.1s
TIXI Tiksi 45.89 22 eP P 03 20 45.5 +0.6
TIXI pmax pmax
comp=Z,12nm,0.8s,mb4.7
SBF Sospel 47.84 299 eP P 03 21 00.9 +0.4
comp=Z,16nm,0.9s,mb4.6
SBF Sospel 47.84 299 eP P 03 21 00.9 +0.4
SBF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
LPG La Plagne 47.94 302 eP P 03 21 01.1 -0.2
comp=Z,7.6nm,0.8s,mb4.3
LPG La Plagne 47.94 302 eP P 03 21 01.1 -0.2
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
LPL La Plagne 47.95 302 eP P 03 21 01.0 -0.3
MBDF Montbardon 48.10 301 eP P 03 21 02.2 -0.3
comp=Z,6.8nm,0.8s,mb4.2
MBDF Montbardon 48.10 301 eP P 03 21 02.2 -0.3
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
FRF La Foret Royal 48.47 299 eP P 03 21 05.1 -0.3
comp=Z,16nm,1.2s,mb4.4
FRF La Foret Royal 48.47 299 eP P 03 21 05.1 -0.3
FRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
LMR La Mourre 48.62 299 eP P 03 21 06.5 -0.1
ORIF Oris-en-Rattie 48.67 301 eP P 03 21 07.0 +0.1
SMF Signal de Mont 49.65 304 eP P 03 21 14.2 -0.3
SSF Saint Saulge 49.78 304 eP P 03 21 15.1 -0.3
AVF Avril sur Loir 49.94 304 eP P 03 21 16.1 -0.6
comp=Z,8.6nm,0.9s,mb4.4
AVF Avril sur Loir 49.94 304 eP P 03 21 16.1 -0.6
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BGF Bois d'Agland 50.34 304 eP P 03 21 19.6 -0.1
TCF Toulx Ste Croi 50.83 304 eP P 03 21 22.7 -0.8
MJAR Matsushiro Arr 53.20 68 P P 03 21 42.9 +1.5
comp=Z,5.2nm,0.8s,mb4.6,baz=291,slow=9.9,SNR=13
SEY Seymchan 54.58 34 eP P 03 21 52.2 +1.1
ILAR Eielson Array 74.87 16 P P 03 24 03.1 +0.9
comp=Z,1.8nm,0.9s,mb3.8,baz=333,slow=4.8,SNR=15
FITZ Fitzroy Crossi 75.09 126 eP P 03 24 06.2 +1.8
comp=Z,5.1nm,0.8s,mb4.3
KAKA Kakadu 75.95 118 eP P 03 24 28.9 +20
comp=Z,3.5nm,0.6s,mb4.3
SML Sawmill 77.09 18 eP P 03 24 15.5 +0.7
YKA Yellowknife Ar 81.28 2 P P 03 24 38.6 +1.1
comp=Z,2.5nm,0.5s,mb4.3,baz=351,slow=5.4,SNR=18
YKA pP pP 03 24 58.1 -0.3
comp=Z,2.9nm,0.7s,baz=351,slow=5.3,SNR=5.2
SCHQ Schefferville 82.02 337 P P 03 24 41.6 +0.2
comp=Z,2.9nm,0.8s,mb4.2,baz=31,slow=19,SNR=3.2
WRA Warramunga Arr 82.20 122 P P 03 24 43.5 +0.4
comp=Z,1.7nm,0.4s,mb4.2,baz=325,slow=4.9,SNR=106
WRAB Tennant Creek 82.20 122 eP P 03 24 43.3 +0.2
comp=Z,3.0nm,0.3s,mb4.6
WRAB Tennant Creek 82.20 122 eP P 03 24 43.3 +0.2
WRAB pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
WB2 Warramunga Arr 82.21 122 ⇑iP P 03 24 43.6 +0.4

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*NIED **14** 03:28:00, 43.70N×147.30E, h62km, Mw3.9 Best double couple: M0 6.98×10[14] NP1: φs 107°, δ53°, λ120°. NP2: φs 243°, δ46°, λ56°.*
*MOS **14** 03:28:02.7±1.1, 44.56N×147.19E, h33km, mb4.5/2, Error ellipse: s-maj=29.4km s-min=24.9km az=78.9*
*JMA **14** 03:28:03.6±0.2, 43.71N×147.30E, h26km±5km, M4.0*
*SKHL **14** 03:28:03.4±2.2, 43.74N×147.43E, h43km±10km, mb4.4/2*
*IDC **14** 03:28:11.9±12.0, 44.08N×147.26E, h122km±111km, mb3.3/8, mb1 3.5/8, mb1mx3.4/20, mbtmp3.7/8, Error ellipse: s-maj=83.2km s-min=26.3km az=173.0*
ISC 14 03:28:03.4±1.0, **43.85N**±0.09×**147.3E**±0.1, **h67**km±8km, **n26, σ0s80**/36, **mb3.5**/8, **Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YUK Yuzh-Kuril'sk 1.07 281 eP P 03 28 22.1 -0.9
YUK AMB AMB 03 28 23.0
360nm,0.3s
YUK i S S 03 28 36.1 -1.4
YUK A 03 28 40.0
8μm,0.6s
YUK A 03 28 40.0
7μm,0.6s
YUK A 03 28 40.0
3μm,0.4s
YUK A 03 28 40.0
4μm,0.4s
YUK Yuzh-Kuril'sk 1.07 281 ePN P 03 28 22.1 -0.9
YUK i S S 03 28 36.1 -1.4
YUK pmax pmax
comp=Z,360nm,0.3s
YUK smax
comp=N,3μm,0.4s
YUK smax
comp=E,4μm,0.4s
YUK smax
comp=N,8μm,0.6s
YUK smax
comp=E,7μm,0.6s
NEM2 Nemuro 2 1.25 248 P P 03 28 24.7 -0.6
NEM2 eS S 03 28 39.9 -1.7
KUR Kuril'sk 1.44 15 eP P 03 28 28.0 -0.1
KUR AMB AMB 03 28 32.5
comp=E,70nm,0.5s
KUR eS S 03 28 41.5 -4.7
KUR A 03 28 42.7
comp=E,460nm,0.5s
KUR A 03 28 42.7
comp=E,270nm,0.5s
JRA Rausu 1.59 274 P P 03 28 30.6 +0.5
JRA S S 03 28 50.4 +0.6
JNK Nakash 1.91 263 P P 03 28 34.6 +0.2
JNK eS S 03 28 57.9 +0.7
JAK Akkeshi 2.10 247 P P 03 28 36.8 -0.2
JAK S S 03 29 00.9 -0.9
JTKR Abashiri--Toko 2.47 274 P P 03 28 43.2 +0.9
JAR Ashorobuto 2.64 259 P P 03 28 45.4 +0.7
JAR eS S 03 29 16.1 +0.5
JOB Onbets 2.71 251 P P 03 28 46.0 +0.3
JOB eS S 03 29 17.4 0.0
JMP Maruseppu 2.87 275 P P 03 28 48.9 +1.0
JCH Churui 3.15 248 P P 03 28 52.0 +0.2
JCH eS S 03 29 27.6 -0.7
ASAJ Asahikawa 3.42 276 P P 03 28 57.4 +1.7
JFR Furan 3.51 260 eS S 03 29 37.8 +0.4
JEM Erimo 3.56 241 P P 03 28 59.2 +1.5
JNBK Urakawa-nobuka 3.70 247 P P 03 28 59.0 -0.5
SONM Songino Array 28.55 293 P P 03 33 55.0 +0.4
comp=E,0.2nm,0.6s,mb2.9,baz=90,slow=7.2,SNR=2.4
ILAR Eielson Array 41.34 36 P P 03 35 43.6 0.0
comp=E,0.3nm,0.6s,mb3.3,baz=278,slow=9.5,SNR=5.6
MKAR Makanchi Array 44.65 298 P P 03 36 10.7 -0.1
comp=E,0.3nm,0.4s,mb3.4,baz=76,slow=5.9,SNR=3.7
ARCES ARCESS Array B 59.20 340 P P 03 37 58.1 -1.1
comp=E,3.2nm,0.9s,mb4.3,baz=39,slow=5.8,SNR=3.3
ARCES ARCESS Array B 59.20 340 P P 03 37 58.1 -1.1
ARCES pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 69.56 339 P P 03 39 05.5 -1.0
comp=Z,0.4nm,0.4s,mb3.6,baz=32,slow=6.8,SNR=2.2
AKASG Malin Array Be 71.58 324 P P 03 39 18.1 -0.7
comp=Z,0.7nm,0.4s,mb3.8,baz=41,slow=5.8,SNR=6.2
AKASG Malin Array Be 71.58 324 P P 03 39 18.1 -0.7
AKASG pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 79.14 331 P P 03 40 01.9 0.0
comp=Z,0.3nm,0.5s,mb3.4,baz=16,slow=7.1,SNR=3.7
TXAR Lajitas Array 82.49 56 P P 03 40 20.6 +0.7
comp=Z,0.1nm,0.6s,mb2.8,baz=270,slow=5.4,SNR=4.0

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*BGR **14** 03:49:15.5±0.6, 50.37N×6.48E, h10km, ML1.5/1, Error ellipse: s-maj=8.9km s-min=4.4km az=116.0*
*BNS **14** 03:49:16.2±0.5, 50.41N×6.38E, h26km±1km, ML1.5*
*LDG **14** 03:49:16.3±0.1, 50.41N×6.36E, h15km±1km, Md2.6/3, Ml2.3/13, Error ellipse: s-maj=2.1km s-min=1.9km az=157.0*
*CSEM **14** 03:49:16.4±0.1, 50.38N×6.35E, h12km, ML2.3/11, Error ellipse: s-maj=1.7km s-min=1.4km az=128.0*
*UCC **14** 03:49:16.2±0.3, 50.37N×6.30E, h23km±1km, ML1.6*
ISC 14 03:49:15.1±0.4, **50.37N**±0.03×**6.34E**±0.04, **h28**km±4km, **n29, σ0s81**/56, **2C-1D, Germany**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KLL Kalltalsperre 0.28 356 ⇑iPg Pb 03 49 22.2 +0.1
KLL eSg Sb 03 49 26.6 -0.4
38nm,0.2s
KLL Kalltalsperre 0.28 356 Pg Pb 03 49 22.2 0.0
KLL Sg Sb 03 49 26.5 -0.5
38nm,0.2s
MEM Membach 0.32 319 P Pb 03 49 22.8 0.0
MEM S Sb 03 49 27.3 -0.6
STB Steinbach 0.39 54 ePg Pb 03 49 24.0 +0.3
STB i Sg Sb 03 49 29.4 -0.3
30nm,0.1s
HGN Heimansgroeve 0.47 327 ⇑iPg Pb 03 49 25.3 +0.2
10nm,0.1s,baz=130
HGN ex x 03 49 31.2
HGN i Sg Sb 03 49 31.7 -0.1
BGG Burgeitz 0.66 104 ⇓ePg Pb 03 49 28.6 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BGG				*i* Sg	Sb	03 49 37.2	+0.3
	18nm,0.2s						
WLF	Walferdange	0.71	190	*e*Pg	Pb	03 49 29.7	+0.8
	SNR=2.8						
WLF				*e*Sg	Sb	03 49 39.1	+0.7
WLF	Walferdange	0.71	190	P	Pb	03 49 29.5	+0.6
WLF	Walferdange	0.71	190	Pg	Pb	03 49 29.7	+0.8
	SNR=2.8						
WLF				S	Sb	03 49 38.8	+0.4
WLF				Sg	Sb	03 49 39.1	+0.7
GIVF	Givet	1.01	255	*e*Pn	Pn	03 49 34.3	+0.7
GIVF				*e*Pg	Pn	03 49 35.2	+1.6
GIVF				*e*Sn	Sn	03 49 47.5	+0.6
	34nm,0.3s						
DOU	Dourbes	1.15	257	P	Pn	03 49 36.2	+0.6
DOU				S	Sn	03 49 51.1	+0.6
BUG	Bochum--Univer	1.23	28	*e*Sg	Sn	03 49 52.4	-0.1
TNS	Taunus Mts	1.36	95	*e*Pn	Pn	03 49 38.9	+0.3
	SNR=1.2						
TNS				*e*Sg	Sn	03 49 55.9	+0.1
BAIF	Baives	1.40	258	*e*Pn	Pn	03 49 40.4	+1.2
BAIF				*e*Pg	Pn	03 49 43.0	+3.8
BAIF				*e*Sn	Sn	03 49 57.5	+0.6
	19nm,0.4s						
RFYF	Reffroy	1.83	198	*e*Pn	Pn	03 49 46.3	+1.0
	baz=24						
RFYF				*e*Pg	Pn	03 49 51.0	+5.7
RFYF				*e*Sg	Sn	03 50 15.4	+7.7
	6.1nm,0.4s						
MEZF	Maizieres J'vi	2.05	205	*e*Pn	Pn	03 49 49.2	+0.8
MEZF				*e*Sn	Sn	03 50 14.0	+0.7
	2.7nm,0.2s						
CDF	Champ du Feu	2.05	162	*e*Pn	Pn	03 49 49.3	+0.8
CDF				*e*Pg	Pn	03 49 55.0	+6.5
CDF				*e*Sn	Sn	03 50 13.4	+0.1
	4.6nm,0.6s						
SFTF	Sexfontaines	2.33	202	*e*Pn	Pn	03 49 52.8	+0.4
	baz=21						
SFTF				*e*Pg	Pn	03 50 00.0	+7.6
SFTF				*e*Sn	Sn	03 50 20.4	+0.1
	3.1nm,0.2s						
HAU	Haudompre	2.36	180	*e*Pn	Pn	03 49 53.2	+0.3
HAU				*e*Sn	Sn	03 50 21.3	0.0
	1.1nm,0.2s						
BFO	Black Forest	2.42	147	*e*Sg	Sn	03 50 30.0	+7.3
HINF	Hinteralfeld	2.57	172	*e*Pn	Pn	03 49 56.4	+0.4
HINF				*e*Sn	Sn	03 50 26.4	-0.3
	1.6nm,0.3s						
CLZ	Clausthal	2.94	58	*e*Sg	Sn	03 50 47.3	+11
LOR	Lormes	3.51	209	*e*Sg	Sn	03 51 08.1	+18
	1.7nm,0.2s						
CABF	La Chapelle	3.76	183	*e*Pn	Pn	03 50 12.1	-0.7
SSF	Saint Saulge	3.80	211	*e*Pn	Pn	03 50 11.9	-1.5
SSF				*e*Sn	Sn	03 50 55.9	-1.8
SSF				*e*Sg	Sn	03 51 16.8	+19
	0.6nm,0.3s						
SMF	Signal de Mont	4.08	205	*e*Pn	Pn	03 50 15.3	-2.0
AVF	Avril sur Loir	4.09	210	*e*Pn	Pn	03 50 15.8	-1.7
BGF	Bois d'Agland	4.46	213	*e*Pn	Pn	03 50 21.4	-1.4
TCF	Toulx Ste Croi	4.92	216	*e*Pn	Pn	03 50 28.3	-1.0
TCF				*e*Sn	Sn	03 51 22.6	-3.4
	0.5nm,0.3s						

*MOS **14** 04:06:23.9±0.9, 51.68N×16.11E, h10km, mb4.0/1, Error ellipse: s-maj=9.5km s-min=4.9km az=81.1*
*BGR **14** 04:06:25.4±0.6, 51.47N×16.24E, h1km, ML3.3/9, Error ellipse: s-maj=5.6km s-min=4.4km az=104.0*
*NEIC **14** 04:06:25.5±0.4, 51.57N×16.16E, h5km, ML3.4(VIE), ML3.3(SZGRF), Error ellipse: s-maj=4.7km s-min=3.5km az=195.0*
*PRU **14** 04:06:26.7, 51.48N×16.14E*
*IPEC **14** 04:06:26.8±0.3, 51.47N×16.39E, ML2.7/4, Error ellipse: s-maj=3.7km s-min=2.0km az=85.0*
*IDC **14** 04:06:26.3±0.7, 51.50N×15.98E, mb1 3.5/8, mb1mx3.3/23, mbtmp3.4/8, ML3.4/8, Error ellipse: s-maj=10.3km s-min=6.6km az=114.0*
*CSEM **14** 04:06:27.5±0.1, 51.44N×16.13E, h2km, ML3.6/10, Error ellipse: s-maj=2.1km s-min=1.2km az=18.0*
WAR 14 04:06:27.2, 51.48N×16.11E, h1km, ML3.2, 14C-4D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.65	170	⇓*i*PG	Pg	04 06 39.0	-1.1
KSP				⇓*e*SG	Sg	04 06 47.0	-1.7
KSP	Ksiaz	0.65	170	*e*Pg	Pg	04 06 39.0	-1.1
KSP				*e*Sg	Sg	04 06 47.5	-1.2
KSP	Ksiaz	0.65	170	⇓*i*Pg	Pg	04 06 39.0	-1.1
KSP				*e*Sg	Sg	04 06 47.3	-1.4
KSP				*e*S	Sg	04 06 52.2	+3.5
KSP	Ksiaz	0.65	170	⇓*i*P	Pg	04 06 39.0	-1.1
KSP				*e*		04 06 52.2	
DPC	Dobruska-Polom	1.14	173	*e*PG	Pg	04 06 47.8	-2.1
DPC				*e*SG	Sg	04 07 02.5	-2.5
	143nm,0.6s						
DPC	Dobruska-Polom	1.14	173	Pg	Pg	04 06 47.8	-2.1
DPC				*e*Sg	Sg	04 07 02.2	-2.8
PVCC	Panska Ves	1.36	226	*e*PG	Pg	04 06 52.2	-2.2
BRG	Berggiesshubel	1.49	247	*e*Pg	Pg	04 06 54.4	-2.6
BRG				*e*Sg	Sg	04 07 15.2	-1.8
BRG	Berggiesshubel	1.49	247	Pn	Pn	04 06 53.0	-2.3
BRG				Pg	Pg	04 06 54.5	-2.5
BRG				Sg	Sg	04 07 15.2	-1.7
BRG	Berggiesshubel	1.49	247	Pn	Pn	04 06 53.0	-2.2
BRG	Berggiesshubel	1.49	247	Pg	Pg	04 06 54.5	-2.5
BRG				Sg	Sg	04 07 15.2	-1.7
BRG	Berggiesshubel	1.49	247	P	Pn	04 06 52.9	-2.4
BRG						04 07 15.2	
BRG				smax			
	comp=N,119nm,0.5s						
RUE	Ruedersdorf	1.76	306	*e*Pn	Pn	04 06 56.8	-2.2
RUE				*e*Sg	Sg	04 07 23.7	-2.0
RUE	Ruedersdorf	1.76	306	*e*Pn	Pn	04 06 56.8	-2.2
RUE				*e*Sg	Sg	04 07 23.7	-2.0
PRU	Pruhonice	1.79	214	*e*PN	Pn	04 06 57.6	-1.9
PRU				*e*PG	Pg	04 06 59.6	-3.4
PRU				*e*SG	Sg	04 07 22.6	-4.3
	comp=N,115nm,0.6s						
PRU	Pruhonice	1.79	214	*e*P	Pn	04 06 57.6	-1.9
PRU				*e*		04 07 22.6	
RAC	Raciborz	1.92	136	*e*PN	Pn	04 06 59.0	-2.4
RAC				*e*PN	Pn	04 07 03.0	+1.6
RAC				*e*S	Sn	04 07 28.0	+1.5
RAC	Raciborz	1.92	136	*e*Pg	Pg	04 07 02.7	-2.9
RAC				*e*Sg	Sg	04 07 28.1	-3.1
GKP	Gorka Klasztor	1.92	21	*e*Pn	Pn	04 07 08.2	+6.8
GKP				*e*Pg	Pg	04 07 10.4	+4.8
GKP				*e*Sn	Sn	04 07 33.4	+6.8
MORC	Moravsky Berou	1.93	151	*e*P	Pn	04 06 59.1	-2.4
MORC	Moravsky Berou	1.93	151	*e*Pn	Pn	04 06 59.5	-2.0
MORC				*e*Sg	Sg	04 07 24.7	-6.8
CLL	Collm	1.96	266	*e*Pn	Pn	04 06 59.7	-2.1
CLL				*e*Sg	Sg	04 07 29.8	-2.5
CLL	Collm	1.96	266	*i* PN	Pn	04 06 59.5	-2.4
CLL				*i* PG	Pg	04 07 03.4	-2.8
CLL				*i* SG	Sg	04 07 28.4	-3.9
CLL	Collm	1.96	266	*i* Pg	Pg	04 07 03.4	-2.8
CLL				Sg	Sg	04 07 29.8	-2.5
CLL	Collm	1.96	266	*i* P	Pn	04 06 59.5	-2.4
CLL				*i*		04 07 28.4	
OKC	Ostrava-Krasne	2.09	141	*e*PG	Pg	04 07 05.4	-3.5
OKC				*e*SG	Sg	04 07 32.5	-4.3
	comp=N,121nm,0.7s						
VRAC	Vranov	2.19	172	Pn	Pn	04 07 03.8	-1.4
	comp=N,9.7nm,0.3s,baz=345,slow=15,SNR=16						
VRAC				Lg		04 07 36.7	
	comp=N,5.3nm,0.3s,baz=256,slow=19,SNR=3.6						
VRAC	Vranov	2.19	172	*e*Pn	Pn	04 07 04.5	-0.8
VRAC				*e*Sg	Sg	04 07 34.3	-5.9
VRAC	Vranov	2.19	172	*e*Pn	Pn	04 07 04.4	-0.9
VRAC				*e*Sg	Sg	04 07 34.3	-5.9
	comp=N,31nm,0.2s						
KRUC	Moravsky	2.42	176	*e*Pn	Pn	04 07 07.8	-0.8
KRUC				*e*Sg	Sg	04 07 42.4	-5.5
	comp=N,46nm,0.5s						
TANN	Tannenbergstha	2.54	247	*e*Pn	Pn	04 07 08.7	-1.5
TANN				*e*Sg	Sg	04 07 48.6	-3.2
WERD	Werda	2.62	248	*e*Pn	Pn	04 07 09.6	-1.7
NKC	Novy Kostel	2.64	243	*e*PN	Pn	04 07 09.9	-1.7
NKC				*e*PG	Pg	04 07 16.2	-3.6
NKC				*e*SG	Sg	04 07 51.3	-3.6
	comp=N,70nm,0.2s						
NKC	Novy Kostel	2.64	243	*e*P	Pn	04 07 09.9	-1.7
NKC				*e*		04 07 51.3	
OJC	Ojcow	2.65	117	*e*PG	Pg	04 07 16.0	-4.2
OJC				*e*SG	Sg	04 07 51.0	-4.5
KHC	Kasperske Hory	2.86	216	*e*PN	Pn	04 07 13.1	-1.6
KHC				*e*PG	Pg	04 07 19.0	-5.2
KHC				*e*SN	Sn	04 07 47.3	-3.0
KHC				*e*SG	Sg	04 07 57.9	-4.4
	comp=N,64nm,0.7s						
KHC	Kasperske Hory	2.86	216	*e*Pn	Pn	04 07 13.1	-1.6
KHC				*e*Pg	Pg	04 07 19.0	-5.2
KHC				*e*Sn	Sn	04 07 47.3	-3.0
KHC				*e*Sg	Sg	04 07 57.9	-4.4
KHC	Kasperske Hory	2.86	216	*e*Pg	Pg	04 07 19.0	-5.2
KHC				*e*Sn	Sn	04 07 47.3	-3.0
KHC				*e*S	Sn	04 07 47.3	-3.0
KHC				Sg	Sg	04 07 57.9	-4.4
	comp=N,64nm,0.7s						
KHC	Kasperske Hory	2.86	216	*e*P	Pn	04 07 13.1	-1.6
KHC				*e*		04 07 47.3	
MOX	Moxa	2.96	255	*e*Pn	Pn	04 07 14.2	-2.0
MOX				*e*Sg	Sg	04 08 02.2	-3.4
MOX	Moxa	2.96	255	*i* P	Pn	04 07 14.1	-2.1
MOX				Pg	Pg	04 07 22.0	-4.2
MOX				Sg	Sg	04 08 02.0	-3.7
MOX	Moxa	2.96	255	*e*Pn	Pn	04 07 14.1	-2.1
MOX				*e*Pg	Pg	04 07 22.3	-3.9
MOX				*e*Sg	Sg	04 08 01.8	-3.9
MOX	Moxa	2.96	255	*e*Pg	Pg	04 07 22.3	-3.9
MOX				Sg	Sg	04 08 02.2	-3.5
ROTZ	Rotzenmuhle	3.02	237	*e*Pn	Pn	04 07 15.5	-1.6
ROTZ				*e*Sg	Sg	04 08 02.7	-5.0
GEC2	GERESS Array S	3.06	211	*e*Pn	Pn	04 07 15.8	-1.8
GEC2				*e*Sg	Sg	04 08 04.1	-4.9
GEC2	GERESS Array S	3.06	211	*e*Pn	Pn	04 07 15.8	-1.8
GEC2				*e*Sg	Sg	04 08 04.1	-4.9
GERES	GERESS Array B	3.06	211	Pn	Pn	04 07 15.4	-2.2
	comp=N,2.2nm,0.3s,baz=26,slow=12,SNR=54						
GERES				Pg	Pg	04 07 22.7	-5.5
	comp=N,7.7nm,0.3s,baz=33,slow=16,SNR=42						
GERES				Sn	Sn	04 07 50.7	-4.7
	comp=N,4.2nm,0.3s,baz=36,slow=22,SNR=6.3						
GERES				Lg		04 08 05.0	
	comp=N,9.7nm,0.3s,baz=35,slow=29,SNR=9.8						
GERES	GERESS Array B	3.06	211	Pn	Pn	04 07 15.4	-2.2
GERES				Pg	Pg	04 07 22.7	-5.5
GERES				Sn	Sn	04 07 50.7	-4.7
GERES				Lg		04 08 05.0	
GERES	GERESS Array B	3.06	211	Pg	Pg	04 07 22.7	-5.5
GERES				S	Sn	04 07 50.7	-4.7
GERES	GERESS Array B	3.06	211	P	Pn	04 07 15.4	-2.2
GERES						04 07 50.7	
WET	Wettzell	3.12	223	*e*Pn	Pn	04 07 16.4	-2.1
WET				*e*Sg	Sg	04 08 05.6	-5.6
WET	Wettzell	3.12	223	*e*Pn	Pn	04 07 16.4	-2.1
WET				*e*Sg	Sg	04 08 05.6	-5.6
VKA	Vienna	3.22	178	⇑*i*PG	Pg	04 07 25.6	-5.8
VKA				*i* SG	Sg	04 08 10.3	-4.0
ZST	Bratislava	3.35	169	*e*SG	Sg	04 08 15.6	-3.0
NIE	Niedzica	3.38	126	*e*P	Pg	04 07 30.0	-4.8
NIE				*e*S	Sg	04 08 15.0	-4.9
GRA1	Grafenberg Arr	3.59	242	*e*Pn	Pn	04 07 23.4	-1.8
GRA1				*e*Sg	Sg	04 08 21.5	-5.3
GRA1	Grafenberg Arr	3.59	242	Pn	Pn	04 07 23.4	-1.8
GRA1				Sg	Sg	04 08 21.5	-5.3
GRF	Grafenberg Arr	3.59	242	*e*Pn	Pn	04 07 23.4	-1.8
GRF				*e*Sg	Sg	04 08 21.5	-5.3
MOA	Molln	3.82	199	⇑*i*PN	Pn	04 07 26.5	-2.0
MOA				*i* SG	Sg	04 08 30.1	-4.4
	comp=N,21nm,0.5s						
MOA	Molln	3.82	199	⇑*i*Pn	Pn	04 07 26.5	-2.0
	SNR=9.1						
STHS	Stebnicka Huta	3.87	120	*e*PN	Pn	04 07 27.1	-2.1
STHS				*e*PG	Pg	04 07 40.7	-3.8
STHS				*e*SG	Sg	04 08 34.2	-2.0
KECS	Kecovo	4.12	135	*e*PN	Pn	04 07 30.2	-2.4
KECS				*e*PG	Pg	04 07 44.7	-4.7
ARSA	Arzberg	4.25	185	⇑*i*PN	Pn	04 07 33.3	-1.2
ARSA				*i* SG	Sg	04 08 42.2	-6.4
	comp=N,24nm,0.6s						
ARSA	Arzberg	4.25	185	⇑*i*Pn	Pn	04 07 33.3	-1.3
CRVS	Cervenica-Dubn	4.29	125	*e*PN	Pn	04 07 33.0	-2.2
CRVS				*e*PG	Pg	04 07 48.1	-4.8
KOLS	Kolonicke sedl	4.70	120	*e*PN	Pn	04 07 38.2	-2.8
KOLS				*e*PG	Pg	04 07 56.1	-5.0
KBA	Koelnbreinsper	4.76	203	⇑*i*PN	Pn	04 07 39.8	-2.0
KBA				*i* SG	Sg	04 08 59.4	-6.3
	comp=N,14nm,0.5s						
KBA	Koelnbreinsper	4.76	203	⇑*i*Pn	Pn	04 07 39.8	-2.0
	SNR=6.1						
PERS	Pernice	4.89	188	*e*Pn	Pn	04 07 42.2	-1.4
PERS				*e*Sn	Sn	04 08 50.3	+8.5
GROS	Grobnik	5.04	185	*e*Pn	Pn	04 07 43.9	-1.8
WTTA	Wattenberg	5.13	216	⇑*i*Pn	Pn	04 07 44.3	-2.7
	comp=N,9.0nm,0.6s						
WTTA				*i* Sg	Sg	04 09 10.1	-7.9
	comp=N,9.0nm,0.6s						
MOTA	Moosalm	5.27	220	⇑*i*Pn	Pn	04 07 46.4	-2.6
	comp=N,10nm,0.5s						
MOTA				*i* Sg	Sg	04 09 15.8	-6.9
	comp=N,10nm,0.5s						
SQTA	Sankt Quirin	5.33	219	⇑*i*PN	Pn	04 07 47.2	-2.6
SQTA				*i* SG	Sg	04 09 19.9	-4.8
	comp=N,5.9nm,0.4s						
SQTA	Sankt Quirin	5.33	219	⇑*i*Pn	Pn	04 07 47.2	-2.6
	comp=N,5.9nm,0.4s						
SQTA				*i* Sg	Sg	04 09 19.9	-4.8
DAVA	Damuels	5.84	227	⇑*i*PN	Pn	04 07 52.7	-4.4
DAVA				*i* SG	Sg	04 09 36.1	-5.6
	comp=N,9.7nm,0.8s						
DAVA	Damuels	5.84	227	⇑*i*Pn	Pn	04 07 52.7	-4.4
DAVA	Damuels	5.84	227	⇑*i*Pn	Pn	04 07 52.7	-4.4
	comp=N,9.7nm,0.8s						
DAVA				*i* Sg	Sg	04 09 36.1	-5.6
DAVOS	Davos	6.22	224	P	Pn	04 07 59.7	-2.7
DAVOX	Davos	6.23	223	Pn	Pn	04 07 59.7	-2.9
	comp=N,0.5nm,0.3s,baz=45,slow=8.6,SNR=4.9						
DAVOX				Sn	Sn	04 09 09.5	-5.8
	comp=N,0.4nm,0.3s,baz=54,slow=14,SNR=2.0						
DAVOX				Lg		04 09 43.1	
	comp=N,0.5nm,0.3s,baz=204,slow=19,SNR=2.8						
AKASG	Malin Array Be	8.29	90	Pn	P	04 08 25.4	-6.1
	comp=N,1.6nm,0.3s,baz=279,slow=12,SNR=11						
AKASG				Sn	Sn	04 09 55.5	-11
	comp=N,1.1nm,0.3s,baz=279,slow=24,SNR=4.0						
AKASG				Lg		04 10 51.3	
	comp=N,0.2nm,0.3s,baz=314,slow=32,SNR=3.3						
HFS	Hagfors	8.78	352	Pn	P	04 08 31.7	-6.6
	comp=N,0.1nm,0.3s,baz=165,slow=16,SNR=4.6						
VSU	Vasula	9.28	37	*e*P	P	04 08 47.9	+2.7
NOA	NORSAR Array B	9.96	346	Pn	P	04 08 46.6	-7.8
	comp=N,0.2nm,0.3s,baz=168,slow=13,SNR=2.6						
FINES	FINESS Array B	11.39	25	Pn	P	04 09 06.9	-7.1
	comp=N,0.2nm,0.3s,baz=212,slow=11,SNR=5.5						
EKA	Eskdalemuir Ar	12.12	296	Pn	P	04 09 15.8	-8.0
	comp=N,0.2nm,0.3s,baz=102,slow=14,SNR=2.9						
ISP	Isparta	17.00	138	*e*P	P	04 10 30.0	+2.3
ARCES	ARCESS Array B	18.66	10	Pn	P	04 10 40.4	-7.7
	comp=N,0.4nm,0.3s,baz=198,slow=11,SNR=14						

*BUG **14** 04:40:52.0, 51.60N×7.75E, h1km, ML2.2*
*BNS **14** 04:40:53.5±1.2, 51.62N×7.70E, h1km, ML2.2*
*NEIC **14** 04:40:53.6, 51.61N×7.67E, h1km, ML2.8(LDG), After LDG.*
*CSEM **14** 04:40:53.4±0.1, 51.62N×7.70E, h2km, ML2.9/7, Error ellipse: s-maj=2.5km s-min=1.5km az=137.0*
*LDG **14** 04:40:53.6±0.2, 51.61N×7.67E, h1km, Ml2.8/9, Error ellipse: s-maj=3.5km s-min=3.0km az=49.0, Suspected Mining induced.*
BGR 14 04:40:53.2±0.3, 51.59N×7.73E, h1km, ML2.3/3, 1D, Error ellipse: s-maj=4.4km s-min=3.3km az=175.0, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAHL	Ahlen	0.16	20	Pg	Pg	04 40 55.8	-0.5
BAHL				Sg	Sg	04 40 58.6	+0.2
BUG	Bochum--Univer	0.33	243	⇓*i*Pg	Pg	04 40 59.4	-0.3
BUG				Sg	Sg	04 41 04.7	+0.7
WTSB	Winterswijk	0.69	303	*e*Pg	Pg	04 41 06.3	-0.7
	SNR=4.4						
WTSB				*e*Sg	Sg	04 41 15.6	-0.6
	SNR=2.4						
BNS	Bensberg	0.72	209	*e*Pg	Pg	04 41 08.0	+0.5
BNS				*e*Sg	Sg	04 41 17.8	+0.8
	108nm,0.3s						
STB	Steinbach	1.15	210	*e*Pg	Pg	04 41 14.6	-1.4
STB				*e*Sg	Sg	04 41 30.3	-1.0
	56nm,0.4s						
KLL	Kalltalsperre	1.30	224	*e*Pg	Pg	04 41 17.1	-2.0
KLL				*e*Sg	Sg	04 41 34.3	-2.1
	57nm,0.6s						
HGN	Heimansgroeve	1.40	235	*e*Pn	Pn	04 41 18.5	-1.4
	2.1nm,0.3s						
HGN				*i* Pg	Pg	04 41 19.3	-1.9
	13nm,0.2s						
HGN				*e*Sn	Sn	04 41 36.7	-2.6
HGN				*e*Sg	Sg	04 41 38.0	-1.9
HGN	Heimansgroeve	1.40	235	*e*Pn	Pn	04 41 18.5	-1.4
	SNR=5.4						
HGN				*e*Pg	Pg	04 41 19.3	-1.9
	SNR=14						
HGN				*e*Sg	Sg	04 41 37.4	-2.4
	SNR=5.0						
HGN	Heimansgroeve	1.40	235	*i* Pg	Pg	04 41 19.3	-1.9
	13nm,0.2s						
HGN				*e*Sn	Sn	04 41 36.7	-2.6
HGN				*e*Sg	Sg	04 41 38.0	-1.9
BGG	Burgeitz	1.41	190	*e*Pg	Pg	04 41 19.7	-1.6
TNS	Taunus Mts	1.44	161	*e*Pn	Pn	04 41 19.5	-0.9
	SNR=2.3						
TNS				*e*Sg	Sg	04 41 39.3	-1.8
	SNR=2.4						
CLZ	Clausthal	1.66	80	*e*Pn	Pn	04 41 22.1	-1.5
	SNR=1.2						
CLZ				*e*Pg	Pg	04 41 24.0	-2.3
	SNR=8.4						
CLZ				*e*Sg	Sg	04 41 46.2	-2.3
	SNR=2.1						
GIVF	Givet	2.37	232	*e*Pn	Pn	04 41 31.7	-2.1
GIVF				*e*Pg	Pg	04 41 37.5	-3.0
GIVF				*e*Sn	Sn	04 41 59.4	-4.5
GIVF				*e*Sg	Sg	04 42 07.2	-4.9
	13nm,0.2s						
MOX	Moxa	2.62	110	*e*Pn	Pn	04 41 36.9	-0.5
MOX				*e*Pg	Pg	04 41 43.2	-2.3
MOX				*e*Sg	Sg	04 42 18.3	-2.2
MOX	Moxa	2.62	110	*i* P	Pn	04 41 36.9	-0.5
MOX				Pg	Pg	04 41 43.0	-2.5
MOX				Sg	Sg	04 42 18.0	-2.5
BAIF	Baives	2.71	237	*e*Pn	Pn	04 41 34.9	-3.7
BAIF				*e*Sn	Sn	04 42 07.6	-4.9
BAIF				*e*Sg	Sg	04 42 17.0	-6.4
	4.2nm,0.2s						
CDF	Champ du Feu	3.19	185	*e*Pn	Pn	04 41 43.2	-2.3
CDF				*e*Sg	Sg	04 42 34.6	-4.9
	11nm,0.5s						
BFO	Black Forest	3.29	173	*e*Pn	Pn	04 41 45.0	-1.8
	SNR=3.6						
RFYF	Reffroy	3.30	207	*e*Pn	Pn	04 41 44.3	-2.7
CLL	Collm	3.31	93	*i* Pg	Pg	04 41 58.9	-0.3
CLL				*i* Sg	Sg	04 42 40.2	-3.1
HAU	Haudompre	3.70	195	*e*Pn	Pn	04 41 50.2	-2.5
HAU				*e*Sg	Sg	04 42 50.1	-6.2
	5.4nm,0.4s						
SFTF	Sexfontaines	3.81	208	*e*Pn	Pn	04 41 51.8	-2.4
HINF	Hinteralfeld	3.82	189	*e*Sg	Sg	04 42 54.8	-5.5
	9.0nm,0.7s						
KHC	Kasperske Hory	4.48	121	*e*P	Sg	04 43 15.0	-7.3
LOR	Lormes	5.01	212	*e*Pn	Pn	04 42 07.9	-3.4
CABF	La Chapelle	5.10	193	*e*Pn	Pn	04 42 08.8	-3.7
SSF	Saint Saulge	5.31	213	*e*Pn	Pn	04 42 11.6	-3.9
LDF	La Druitiere	5.88	242	*e*Pn	Pn	04 42 19.3	-4.2
LDF				*e*Sn	Sn	04 43 23.0	-9.5
	0.9nm,0.2s						
FLN	La Foliniere	5.99	245	*e*Pn	Pn	04 42 20.6	-4.5
GRR	Gorron	6.40	243	*e*Pn	Pn	04 42 26.6	-4.3
GRR				*e*Sn	Sn	04 43 35.7	-10
	3.0nm,0.2s						

*MOS **14** 04:56:07.2±1.7, 4.13S×153.69E, h33km, mb5.1/5, Error ellipse: s-maj=15.0km s-min=11.4km az=67.3*
*BJI **14** 04:56:14.5, 4.50S×153.70E, h96km, mB5.2, mb4.9*
*NEIC **14** 04:56:15.0±0.4, 4.48S×153.72E, mb4.8/12, Error ellipse: s-maj=10.1km s-min=8.0km az=86.0*
*IDC **14** 04:56:15.3±0.8, 4.54S×153.70E, h100km±6km, mb4.3/13, mb1 4.4/15, mb1mx4.3/20, mbtmp4.7/15, MS3.4/3, Ms1 3.5/3, ms1mx3.0/21, Error ellipse: s-maj=15.0km s-min=11.9km az=77.0*
ISC 14 04:56:16.6±1.6, 4.60S±0.07×153.69E±0.05, h124km±15km, h96km±2.5km:pP-P, n49, σ0.77/46, mb4.6/27, 3C-2D, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.85	128	P	P	04 58 08.9	-0.5
	23nm,0.3s,baz=243,slow=11,SNR=5.8						
HNR				S	S	04 59 37.2	+0.1
	6.4nm,0.3s,baz=328,slow=19,SNR=2.8						
HNR				LR	LR	05 00 10.5	
	comp=Z,54nm,19.0s,baz=341,slow=30						
PMG	Port Moresby	8.05	233	P	P	04 58 12.0	0.0
	48nm,0.3s,baz=63,slow=4.5,SNR=107						
PMG				S	S	04 59 41.7	-0.1
	25nm,0.3s,baz=135,slow=18,SNR=8.0						
CTA	Charters Tower	17.01	205	P	P	05 00 10.7	+2.2
	0.2nm,0.3s,baz=35,slow=12,SNR=4.9						
CTAO	Charters Tower	17.01	205	*e*P	P	05 00 10.5	+2.1
	13nm,1.0s						
CTAO	Charters Tower	17.01	205	*e*P	P	05 00 10.5	+2.1
CTAO				pmax	pmax		
	comp=Z,13nm,1.0s						
QIS	Mount Isa	20.96	220	*e*P	P	05 00 51.6	+0.3
	comp=Z,20nm,0.8s						
DZM	Mont Dzumac	21.32	146	P	P	05 00 55.0	+0.1
	comp=Z,2.7nm,0.7s,mb3.7,baz=336,slow=18,SNR=3.7						
KAKA	Kakadu	22.48	248	⇑*i*P	P	05 01 24.8	+18
	comp=Z,20nm,0.4s,mb4.8						
KAKA				*e*S	S	05 05 24.9	+25
WRAB	Tennant Creek	24.23	229	*e*P	P	05 01 23.6	+0.4
	comp=Z,60nm,0.6s,mb5.1						
WRAB	Tennant Creek	24.23	229	*e*P	P	05 01 23.6	+0.4
WRAB				pmax	pmax		
	comp=Z,60nm,0.6s,mb5.1						
WB2	Warramunga Arr	24.23	229	⇑*i*P	P	05 01 23.5	+0.2
WB2				*e*S	S	05 05 40.9	+11
WB2				*i* SCS		05 08 41.5	
WRA	Warramunga Arr	24.24	229	P	P	05 01 23.6	+0.2
	comp=Z,49nm,0.7s,mb4.9,baz=54,slow=9.9,SNR=225						
WRA				S	S	05 05 43.6	+14
	comp=Z,2.2nm,0.9s,baz=47,slow=15,SNR=4.7						
ASPA	Alice Springs	26.90	223	*e*P	P	05 01 47.8	-0.3
STKA	Stephens Creek	29.41	201	P	P	05 02 09.4	-1.3
	comp=Z,5.7nm,0.7s,mb4.3,baz=15,slow=11,SNR=10						
FITZ	Fitzroy Crossi	30.53	242	⇑*i*P	P	05 02 19.1	-1.6
	comp=Z,30nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	30.53	242	P	P	05 02 19.2	-1.5
	comp=Z,42nm,0.6s,mb5.3,baz=54,slow=4.1,SNR=91						
FORT	Forrest	35.50	220	⇓*i*P	P	05 03 03.0	-0.3
	comp=Z,68nm,0.6s						
MBWA	Marble Bar	36.84	240	*e*P	P	05 03 13.4	-1.2
	comp=Z,21nm,0.9s,mb5.1						
JOW	Kunigami	39.76	323	P	P	05 03 39.1	+0.3
	comp=Z,7.9nm,0.4s,mb4.9,baz=155,slow=13,SNR=6.0						
RPZ	Rata Peaks	41.87	161	P	P	05 03 56.4	+0.3
	comp=Z,13nm,0.9s,mb4.6,baz=8.2,slow=7.0,SNR=4.4						
KLBR	Kellerberrin	43.09	227	*e*P	P	05 04 04.7	-1.5
	comp=Z,11nm,0.6s,mb4.8						
CD2	Chengdu	59.28	310	P	P	05 06 07.8	0.0
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
LZH	Lanzhou	61.70	315	*e*P	P	05 06 24.9	+0.7
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,120nm,4.1s						
GTA	Gaotai	66.11	317	*e*P	P	05 06 53.8	+0.9
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						
SONM	Songino Array	66.63	327	P	P	05 06 55.8	-0.2
	comp=Z,1.6nm,0.5s,mb4.2,baz=145,slow=6.3,SNR=8.9						
ZAK	Zakamensk	69.78	328	*e*P	P	05 07 13.4	-2.0
ZAK				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.0nm,0.9s,mb4.0						
VNDA	Vanda	73.00	178	P	P	05 07 34.3	+0.2
	comp=Z,0.6nm,0.6s,mb3.6,baz=334,slow=8.1,SNR=4.6						
VNDA				pP	pP	05 07 58.5	-6.7
	comp=Z,0.7nm,0.7s,baz=333,slow=8.5,SNR=2.2						
PKI	Pulchoki	73.09	300	eP	P	05 07 35.9	+0.4
	comp=Z,6.7nm,0.6s,mb4.7						
PKI	Pulchoki	73.09	300	eP	P	05 07 35.9	+0.4
PKI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
KKN	Kakani	73.26	301	eP	P	05 07 37.0	+0.5
	comp=Z,22nm,0.9s,mb5.0						
KKN	Kakani	73.26	301	eP	P	05 07 37.0	+0.5
KKN				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
DMN	Daman	73.36	300	eP	P	05 07 37.7	+0.6
	comp=Z,46nm,1.1s,mb5.2						
GKN	Gorkha	73.86	301	eP	P	05 07 40.4	+0.4
	comp=Z,21nm,0.8s,mb5.0						
MIR	Mirnyy	74.43	201	d iP	P	05 07 43.6	+1.1
MIR				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
KOLN	Koldanda	74.69	300	eP	P	05 07 45.1	+0.3
MKAR	Makanchi Array	80.76	319	P	P	05 08 18.5	+0.7
	comp=Z,6.4nm,1.1s,mb4.4,baz=96,slow=7.4,SNR=18						
MKAR				pP	pP	05 08 43.3	-6.2
	comp=Z,0.8nm,0.8s,baz=108,slow=9.1,SNR=2.3						
ZAL	Zalesovo	81.48	326	P	P	05 08 20.5	-0.9
	comp=Z,2.2nm,0.4s,mb4.4,baz=185,slow=5.4,SNR=5.4						
ILAR	Eielson Array	81.64	22	P	P	05 08 21.3	-0.8
	comp=Z,1.2nm,0.8s,mb3.8,baz=244,slow=5.7,SNR=14						
ILAR				pP	pP	05 08 48.0	-5.9
	comp=Z,0.8nm,0.7s,baz=242,slow=5.9,SNR=4.6						
AAK	Ala-Archa	85.17	313	eP	P	05 08 40.8	+0.4
	comp=Z,2.5nm,0.6s,mb4.3						
AAK	Ala-Archa	85.17	313	eP	P	05 08 40.8	+0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
MAW	Mawson	86.09	203	P	P	05 08 44.6	+0.4
	comp=Z,10.0nm,0.6s,mb4.9,baz=85,slow=6.8,SNR=21						
YBH	Yreka Blue Hor	88.26	48	LR	LR	05 42 33.6	
	comp=Z,48nm,21.8s,baz=184,slow=32						
BVAR	Borovoye Array	89.61	323	P	P	05 09 01.2	-0.1
	comp=Z,4.2nm,0.8s,mb4.6,baz=108,slow=4.7,SNR=17						
PDAR	Pinedale Array	98.06	48	LR	LR	05 49 20.9	
	comp=Z,48nm,21.7s,baz=84,slow=32						
GERES	GERESS Array B	124.34	329	PKP	PKPdf	05 15 02.2	+1.2
	comp=Z,0.3nm,0.3s,baz=27,slow=3.0,SNR=3.8						
CFAA	Coronel Fontan	126.25	135	PKP	PKPdf	05 15 06.3	+1.2
	comp=Z,0.1nm,0.4s,baz=194,slow=4.9,SNR=3.5						
LPAZ	La Paz	133.73	118	PKP	PKPdf	05 15 22.2	+2.4
	comp=Z,0.6nm,0.7s,baz=246,slow=17,SNR=4.4						
BDFB	Brasilia	150.57	134	PKPbc	PKPdf	05 15 55.9	+6.8
	comp=Z,3.6nm,0.5s,baz=205,slow=3.1,SNR=6.0						
DBIC	Dimbokro	158.55	276	PKPab	PKPab	05 16 37.6	-0.5
	comp=Z,2.4nm,0.6s,baz=334,slow=24,SNR=7.8						

ISC 14 05:02:11.2±0.8, 37.61N±0.05×29.17E±0.05, h4km±7km, n7, σ0^{s}92/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.12	309	i P	Pg	05 02 13.8	0.0
DNZL				i S	Sg	05 02 16.4	+0.9
DENT	Denizli	0.18	323	i PG	Pg	05 02 14.1	-0.7
DENT				i SG	Sg	05 02 17.1	-0.1
GOLH	Golhisar	0.49	140	i P	Pg	05 02 21.0	0.0
GOLH				i S	Sg	05 02 31.7	+4.1
YER	Yerkesik	0.85	236	ePG	Pg	05 02 28.5	+0.3
MANT	Manisa	1.00	332	i P	Pb	05 02 30.0	-0.7
MANT				i S	Sb	05 02 44.5	+0.4
TKTP	Tekketepe	1.01	65	i P	Pb	05 02 29.3	-1.6
TKTP				i S	Sb	05 02 45.8	+1.5
AYDN	Tasoluk	1.02	273	i P	Pb	05 02 29.9	-1.2
AYDN				i S	Sb	05 02 45.5	+0.8

MOS 14 05:12:18.7±1.5, 20.14S×133.98E, h10km, mb4.8/2, Error ellipse: s-maj=15.9km s-min=9.8km az=153.7
IDC 14 05:12:19.6±0.8, 20.01S×133.98E, mb4.4/5, mb1 4.6/9, mb1mx4.5/13, mbtmp4.6/9, ML4.9/3, Error ellipse: s-maj=23.8km s-min=6.7km az=175.0
BJI 14 05:12:21.0, 19.80S×134.00E, h8km, mB4.9, mb4.8, Ms4.6, Msz4.3
NEIC 14 05:12:21.0, 19.84S×134.05E, h5km, mb4.9/4, ML4.4(AUST), After AUST.
NEIC Felt at Tennant Creek.
AUST 14 05:12:22.4, 19.87S×134.10E, h10km, ML4.4
ISC 14 05:12:18.9±0.3, 20.15S±0.04×133.91E±0.04, h10km, n50, σ1^{s}36/60, mb4.6/12, MS4.0/3, 1C-4D, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	0.46	63	Pg	Pg	05 12 27.0	-1.2
	290nm,0.3s,baz=262,slow=20						
WRA				Lg		05 12 30.3	
	1μm,0.3s,baz=255,slow=35,SNR=161						
WB2	Warramunga Arr	0.47	64	⇓iP	Pg	05 12 27.0	-1.4
WB2				i S	Sg	05 12 30.6	-4.1
WRAB	Tennant Creek	0.47	63	eP	Pg	05 12 27.0	-1.4
ASPA	Alice Springs	3.50	180	⇑iP	Pb	05 13 21.4	+0.9
ASPA				eS	Sb	05 14 04.5	+1.2
QIS	Mount Isa	5.36	95	⇓iP	Pn	05 13 40.7	-0.2
KNA	Kununurra	6.56	311	eP	Pn	05 13 56.0	-1.9
KAKA	Kakadu	7.53	349	⇓iP	Px	05 14 26.0	
KAKA				eS	Sx	05 15 46.3	
	258nm,0.4s						
FITZ	Fitzroy Crossi	8.08	283	eP	P	05 14 18.1	-1.0
FITZ				eS	Sn	05 15 47.0	-4.4
	184nm,0.5s						
FITZ	Fitzroy Crossi	8.08	283	Pn	P	05 14 18.5	-0.6
	26nm,0.3s,baz=100,slow=5.5,SNR=406						
FITZ				Sn	Sn	05 15 46.6	-4.8
	47nm,0.3s,baz=347,slow=17,SNR=8.4						
FITZ				Lg		05 16 36.1	
	57nm,0.3s,baz=185,slow=18,SNR=11						
FITZ	Fitzroy Crossi	8.08	283	eP	P	05 14 18.1	-1.0
	184nm,0.5s						
FITZ				eS	Sn	05 15 47.0	-4.4
CTA	Charters Tower	11.60	92	eP	P	05 15 05.4	-2.2
	5.5nm,0.6s						
CTA	Charters Tower	11.60	92	Pn	P	05 15 05.5	-2.1
	1.1nm,0.3s,baz=262,slow=14,SNR=8.3						
CTA				Sn	S	05 17 07.3	-11
	1.9nm,0.3s,baz=160,slow=18,SNR=3.7						
CTA				Lg		05 18 25.9	
	4.6nm,0.3s,baz=344,slow=20,SNR=8.3						
CTA	Charters Tower	11.60	92	eP	P	05 15 05.4	-2.2
CTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CTAO	Charters Tower	11.60	92	eP	P	05 15 05.2	-2.5
	comp=Z,5.3nm,0.6s						
CTAO	Charters Tower	11.60	92	eP	P	05 15 05.2	-2.4
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FORT	Forrest	11.82	205	eP	P	05 15 11.7	+1.1
FORT				eS	S	05 17 19.5	-4.2
	comp=Z,89nm,0.4s						
FORT	Forrest	11.82	205	eP	P	05 15 11.7	+1.1
	comp=Z,89nm,0.4s						
FORT				eS	S	05 17 19.5	-4.2
BBOO	Buckleboo	12.75	172	eP	P	05 15 22.4	-0.7
	comp=Z,32nm,0.4s						
MBWA	Marble Bar	13.31	263	eP	P	05 15 27.7	-2.8
	comp=Z,18nm,0.7s						
STKA	Stephens Creek	13.56	151	eP	P	05 15 32.9	-1.0
	comp=Z,18nm,0.5s						
STKA				eS	S	05 17 59.0	-6.6
	comp=Z,17nm,0.4s						
STKA	Stephens Creek	13.56	151	Pn	P	05 15 32.9	-1.0
	comp=Z,5.8nm,0.3s,baz=323,slow=11,SNR=52						
STKA				Sn	S	05 17 59.1	-6.5
	comp=Z,6.4nm,0.3s,baz=274,slow=16,SNR=3.5						
PMG	Port Moresby	16.67	52	Pn	P	05 16 15.0	+0.7
	comp=Z,0.7nm,0.3s,baz=222,slow=12,SNR=3.2						
KLBR	Kellerberrin	18.44	229	eP	P	05 16 33.8	-2.6
KLBR				eS	S	05 19 50.1	-9.0
	comp=Z,34nm,0.5s						
KLBR	Kellerberrin	18.44	229	eP	P	05 16 33.8	-2.6
	comp=Z,34nm,0.5s						
KLBR				eS	S	05 19 50.1	-9.0
NWAO	Narrogin (SRO)	19.57	226	P	P	05 16 47.9	-1.9
	comp=Z,3.2nm,0.3s,baz=43,slow=11,SNR=16						
MUN	Mundaring	19.75	230	eP	P	05 16 50.7	-1.2
MUN				eS	S	05 20 18.4	-10
TOO	Toolangi	20.07	152	eP	P	05 16 57.3	+2.0
CNB	Canberra Magne	20.34	141	eP	P	05 17 00.1	+2.0
VNDA	Vanda	59.02	173	P	P	05 22 21.6	+0.8
	comp=Z,1.0nm,0.6s,mb4.1,baz=323,slow=6.9,SNR=8.6						
CN2	Changchun	64.11	353	eP	P	05 22 57.0	+1.5
HHC	Hu-ho-hao-te	64.14	341	eP	P	05 22 59.5	+3.7
HHC				AP	pP	05 23 04.1	+5.1
HHC				XP	sP	05 23 06.4	+6.3
HHC				PP	PP	05 25 21.5	+2.7
HHC				S	S	05 31 35.4	+4.2
HHC				XS		05 31 43.8	
HHC				SCS	ScS	05 32 49.1	+2.9
HHC				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,80nm,5.8s						
HHC				LR	LR		
	comp=N,133nm,14.3s,MS4.6						
HHC				LR	LR		
	comp=E,298nm,16.6s,MS4.6						
HHC				LR	LR		
	comp=Z,100nm,10.7s						
MDJ	Mudanjiang	64.57	357	P	P	05 23 00.0	+1.5
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,108nm,5.9s						
MDJ				LR	LR		
	comp=N,13nm,17.6s,MS3.6						
MDJ				LR	LR		
	comp=E,30nm,16.4s,MS3.6						
MDJ				LR	LR		
	comp=Z,39nm,16.4s,MS3.7						
PKI	Pulchoki	66.73	314	eP	P	05 23 12.6	-0.1
KKN	Kakani	66.96	314	eP	P	05 23 14.9	+0.7
DMN	Daman	66.97	313	eP	P	05 23 14.7	+0.5
	comp=Z,23nm,1.1s,mb5.1						
GTA	Gaotai	67.28	332	eP	P	05 23 17.0	+1.0
GTA				AP	pP	05 23 23.8	+4.7
GTA				XP	sP	05 23 27.3	+7.1
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
GKN	Gorkha	67.53	314	eP	P	05 23 18.6	+0.8
	comp=Z,17nm,0.9s,mb5.1						
KOLN	Koldanda	68.10	313	eP	P	05 23 22.4	+1.1
SONM	Songino Array	72.04	341	P	P	05 23 44.2	-0.7
	comp=Z,1.8nm,0.7s,mb4.1,baz=154,slow=4.0,SNR=5.8						
SYO	Syowa Base	72.90	202	⇓P	P	05 23 50.8	+1.2
WMQ	Urumqi	76.45	327	eP	P	05 24 11.5	+1.0
WMQ				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,201nm,3.7s						
WMQ				LR	LR		
	comp=N,76nm,22.5s,MS4.1						
WMQ				LR	LR		
	comp=E,92nm,24.1s,MS4.1						
WMQ				LR	LR		
	comp=Z,46nm,26.0s,MS3.7						
MKAR	Makanchi Array	81.26	327	P	P	05 24 37.6	+1.0
	comp=Z,4.7nm,0.5s,mb4.6,baz=134,slow=6.4,SNR=57						
MKAR	Makanchi Array	81.26	327	i P	P	05 24 37.4	+0.8
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	Ala-Archa	83.01	320	eP	P	05 24 46.3	+0.5
	comp=Z,1.5nm,0.4s,mb4.4						
AAK	Ala-Archa	83.01	320	eP	P	05 24 46.3	+0.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
ZAL	Zalesovo	84.98	333	P	P	05 24 55.6	+0.1
	comp=Z,1.9nm,0.5s,mb4.5,baz=349,slow=2.9,SNR=9.3						
BVAR	Borovoye Array	91.14	327	P	P	05 25 25.6	+0.6
	comp=Z,1.2nm,0.7s,mb4.4,baz=153,slow=3.3,SNR=6.1						
PDAR	Pinedale Array	122.74	52	PKP	PKPdf	05 31 17.9	-0.3
	comp=Z,0.4nm,0.6s,baz=127,slow=1.9,SNR=4.5						
GERES	GERESS Array B	124.70	316	PKP	PKPdf	05 31 20.1	-1.9
	comp=Z,0.5nm,0.4s,baz=90,slow=2.0,SNR=4.7						
TXAR	Lajitas Array	127.36	68	PKP	PKPdf	05 31 27.7	+0.1
	comp=Z,0.4nm,0.9s,baz=270,slow=2.7,SNR=3.5						

NIC 14 05:16:28.1±0.2, 35.93N×31.60E, h11km, ML3.0, MW2.9
CSEM 14 05:16:29.8±0.3, 35.79N×31.62E, h20km, Mw2.9, Error ellipse: s-maj=9.4km s-min=4.0km az=66.0
ISK 14 05:16:30.1, 35.70N×31.61E, h28km, MD3.3
ISC 14 05:16:30.4±0.8, 35.77N±0.04×31.59E±0.07, h20km, n16, σ1^{s}25/27, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	Alevga	1.02	126	P	Pb	05 16 48.8	-0.5
	9.0nm,0.2s						
ALFC				S	Sb	05 17 04.6	+2.3
PPCY	Paphos	1.07	145	P	Pb	05 16 50.6	+0.5
PPCY				S	Sb	05 17 07.4	+3.7
LEF	Lefka	1.24	121	PN	Pn	05 16 51.4	-1.4
LEF				SN	Sn	05 17 07.0	-2.1
ERMK	Ermenek	1.38	50	i P	Pn	05 16 56.2	+1.4
ERMK				i S	Sb	05 17 15.1	+2.5
HDMB	Hadim	1.40	31	PN	Pn	05 16 55.1	+0.1
HDMB				SN	Sn	05 17 13.6	+0.6
CSS	Prodhromos	1.63	119	P	Pn	05 16 57.6	-0.8
	1.1nm,0.4s						
CSS				S	Sn	05 17 20.3	+1.3
AKAS	Kas	1.68	287	i P	Pn	05 16 56.6	-2.4
AKAS				i S	Sn	05 17 26.7	+6.6
IKL	Isikli	1.76	74	PN	Pn	05 17 00.3	0.0
IKL				SN	Sn	05 17 20.3	-2.0
PHNC	Paralimni	2.13	110	P	Pn	05 17 04.5	-1.1
PHNC				S	Sn	05 17 32.5	+0.7
GOLH	Golhisar	2.20	312	i P	Pn	05 17 10.7	+4.2
GOLH				i S	Sn	05 17 39.6	+6.3
KONT	Konya--Tatoy	2.26	16	ePN	Pn	05 17 07.0	-0.4
TKTP	Tekketepe	2.49	336	i P	Pn	05 17 11.6	+1.0
TKTP				i S	Sn	05 17 41.0	+0.3
MERS	Mersin	2.61	64	PN	Pn	05 17 11.9	-0.5
KIZT	Kizilcal	3.12	4	PN	Pn	05 17 19.4	-0.2
KARA	Karaisali	3.16	61	ePN	Pn	05 17 19.4	-0.9
ESKT	Eskisehir	3.79	351	ePN	Pn	05 17 29.0	-0.2

NNC 14 06:27:10.0±16.0, 37.53N×71.45E, h159km±347km, mpv3.2, 3C-2D, Error ellipse: s-maj=204.1km s-min=116.7km az=18.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.60	24	⇑P	P	06 28 31.2	-1.1
	1.0nm,0.3s						
AAK				⇑S	S	06 29 36.2	0.0
	4.1nm,0.4s						
KK31	Karatay Array	5.61	353	⇓P	P	06 28 31.9	-0.5
	0.8nm,0.3s,baz=176,slow=11,SNR=46						
KK31				⇓S	S	06 29 35.8	-0.6
	1.4nm,0.4s,baz=165,slow=19,SNR=9.8						
AB31	Akbulak array	14.38	328	⇑P	P	06 30 26.1	-0.9
	0.1nm,0.2s,baz=147,slow=13,SNR=6.6						

NEIC 14 06:29:51.5±0.8, 22.29S×67.44W, h164km±12km, mb4.0/1, Error ellipse: s-maj=16.2km s-min=14.3km az=65.0
GUC 14 06:29:52.5±0.5, 22.64S×67.45W, h158km±10km, ML4.0
IDC 14 06:30:01.1±3.5, 21.54S×67.00W, h223km±24km, mb3.4/2, mb1 3.5/5, mb1mx3.3/14, mbtmp4.0/5, Error ellipse: s-maj=50.6km s-min=18.5km az=42.0
ISC 14 06:29:51.4±0.8, 22.22S±0.05×67.9W±0.1, h208km±12km, n13, σ1^{s}26/20, mb3.5/2, 1C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.05	248	⇑iP	P	06 30 22.5	0.0
LVC				i S	S	06 30 45.1	-1.5
LVC				AMP		06 30 46.5	
	comp=E,526nm,0.5s						
ANCH	Antofagasta	2.77	238	⇓iP	P	06 30 40.4	+1.2
ANCH				i S	S	06 31 16.6	+0.5
ANCH				AMP		06 31 18.4	
	comp=E,878nm,0.1s						
CPN1	Cerro Paranal	3.34	224	⇓iP	P	06 30 47.1	+1.1
CPN1				i S	S	06 31 28.7	+0.4
CRCH	Chaqaral	4.82	211	⇓iP	P	06 31 03.9	-0.3
CRCH				i S	S	06 31 58.5	-2.3
LPAZ	La Paz	5.91	357	P	P	06 31 20.2	+2.0
	comp=E,0.9nm,0.3s,baz=163,slow=8.4,SNR=34						
LPAZ				S	S	06 32 25.1	-0.8
	baz=246,slow=20,SNR=3.5						
ARE	Arequipa	6.68	328	P	P	06 31 29.0	+0.8
ARE				eS	S	06 32 43.0	-0.8
CPUP	Villa Florida	10.44	115	P	P	06 32 20.7	+3.7
	comp=E,0.2nm,0.3s,baz=310,slow=12,SNR=6.3						
CPUP				S	S	06 34 23.4	+12
	comp=E,0.1nm,0.3s,baz=109,slow=16,SNR=2.3						
CPUP	Villa Florida	10.44	115	eP	P	06 32 12.3	-4.7
CPUP				S	S	06 34 23.4	+12
BDFB	Brasilia	19.87	74	P	P	06 34 06.4	-1.9
	comp=E,0.6nm,0.3s,baz=260,slow=11,SNR=13						
DBIC	Dimbokro	68.01	73	P	P	06 40 30.0	-0.5
	comp=E,1.9nm,0.6s,mb3.9,baz=251,slow=5.0,SNR=5.1						
DBIC	Dimbokro	68.01	73	P	P	06 40 29.8	-0.7
	comp=E,1.5nm,0.5s,mb3.9						
PDAR	Pinedale Array	75.22	330	P	P	06 41 18.8	+6.0
	comp=E,0.3nm,0.6s,mb3.1,baz=146,slow=3.3,SNR=4.0						
MKAR	Makanchi Array	145.63	37	PKP	PKPdf	06 49 11.1	+6.6
	comp=E,0.4nm,0.6s,baz=312,slow=3.4,SNR=5.7						

BJI 14 07:13:11.5, 0.70N×97.50E, h24km, mb4.9
IDC 14 07:13:12.4±1.7, 0.57N×97.19E, h22km±5km, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, mbtmp4.1/7, Error ellipse: s-maj=79.9km s-min=15.9km az=52.0
NEIC 14 07:13:13.6±0.7, 0.69N×97.45E, mb4.5/6, Error ellipse: s-maj=22.8km s-min=9.6km az=52.0
ISC 14 07:13:11.5±0.8, 0.7N±0.1×97.4E±0.1, h24km, h24km±.5km:pP-P, n24, σ0^{s}94/22, mb4.4/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.59	35	eP	Pn	07 14 34.6	-0.8
KMI	Kunming	24.82	12	P	P	07 18 35.3	+1.7
PKI	Pulchoki	29.10	338	eP	P	07 19 15.6	+2.8
	9.7nm,0.5s,mb4.8						
DMN	Daman	29.25	337	eP	P	07 19 17.8	+3.6
	21nm,0.9s,mb4.9						
KKN	Kakani	29.34	338	eP	P	07 19 16.1	+1.1
	24nm,1.0s,mb4.9						
GKN	Gorkha	29.79	337	eP	P	07 19 18.5	-0.5
	24nm,1.0s,mb4.9						
KOLN	Koldanda	30.00	335	eP	P	07 19 21.3	+0.4
FITZ	Fitzroy Crossi	33.46	125	eP	P	07 19 51.2	0.0
	4.4nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	33.46	125	P	P	07 19 51.1	-0.1
	6.0nm,1.0s,mb4.5,baz=329,slow=3.9,SNR=3.9						
FITZ				pP	pP	07 19 57.7	-0.6
	5.3nm,0.7s,baz=353,slow=8.1,SNR=5.1						
GTA	Gaotai	38.59	3	eP	P	07 20 34.5	-0.1
GTA				AP	pP	07 20 41.5	-0.3
GTA				XP	sP	07 20 45.6	+0.8
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
WRA	Warramunga Arr	41.59	122	P	P	07 20 59.7	+0.1
	comp=Z,1.7nm,0.9s,mb3.7,baz=301,slow=9.0,SNR=10						
WRA				pP	pP	07 21 07.3	+0.5
	comp=Z,4.0nm,0.8s,baz=301,slow=9.2,SNR=21						
WRAB	Tennant Creek	41.59	122	eP	P	07 20 59.9	+0.3
WRAB				e	pP	07 21 07.4	+0.6
WB2	Warramunga Arr	41.60	122	eP	P	07 20 59.9	+0.2
SONM	Songino Array	47.60	8	P	P	07 21 47.6	+0.1
	comp=Z,2.6nm,0.7s,mb4.3,baz=207,slow=6.6,SNR=5.1						
MKAR	Makanchi Array	47.78	346	P	P	07 21 48.8	-0.2
	comp=Z,4.8nm,0.7s,mb4.6,baz=158,slow=7.9,SNR=42						
KURK	Kurchatov	52.33	345	eP	P	07 22 22.9	-0.8
	comp=Z,3.9nm,0.9s,mb4.3						
ZAL	Zalesovo	54.08	351	P	P	07 22 36.2	-0.3
	comp=Z,3.2nm,0.7s,mb4.3,baz=289,slow=6.1,SNR=7.4						
ZAL	Zalesovo	54.08	351	P	P	07 22 36.2	-0.3
BVAR	Borovoye Array	56.79	341	P	P	07 22 54.5	-1.7
	comp=Z,1.3nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=8.0						
BVAR				pP	pP	07 23 01.9	-1.8
	comp=Z,1.7nm,0.7s,baz=143,slow=7.4,SNR=6.6						
BRVK	Borovoye	56.86	341	P	P	07 22 55.8	-0.9
AKASG	Malin Array Be	75.79	322	P	P	07 24 56.7	-0.6
	comp=Z,0.3nm,0.3s,mb3.7,baz=89,slow=4.1,SNR=5.2						
AKASG	Malin Array Be	75.79	322	P	P	07 24 56.7	-0.6
TXAR	Lajitas Array	143.98	32	PKP	PKPdf	07 32 46.2	-4.1
	comp=Z,0.3nm,0.8s,baz=333,slow=2.8,SNR=4.4						
TXAR	Lajitas Array	143.98	32	PKP	PKPdf	07 32 46.2	-4.1

IDC 14 07:16:34.2±4.1, 1.39N×97.52E, mb4.0/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.0/6, Error ellipse: s-maj=218.2km s-min=20.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	33.78	126	P	P	07 23 17.7	-2.5
	3.2nm,0.8s,baz=344,slow=7.4,SNR=4.2						
WRA	Warramunga Arr	41.86	122	P	P	07 24 26.4	-1.7
	1.5nm,0.7s,baz=300,slow=9.2,SNR=7.4						
MKAR	Makanchi Array	47.13	346	P	P	07 25 08.6	-1.5
	1.2nm,0.6s,baz=158,slow=8.1,SNR=7.9						
STKA	Stephens Creek	53.25	132	P	P	07 25 55.1	-1.9
	2.6nm,0.7s,baz=311,slow=9.3,SNR=3.3						
ZAL	Zalesovo	53.41	351	P	P	07 25 55.8	-2.2
	1.2nm,0.3s,baz=243,slow=4.2,SNR=3.6						
BVAR	Borovoye Array	56.17	341	P	P	07 26 14.9	-3.2
	0.6nm,0.8s,baz=169,slow=7.3,SNR=2.9						

MEX 14 07:57:05.7±0.8, 17.27N×94.12W, h178km±9km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.76	257	i P	P	07 57 30.5	-1.3
CMIG				i S	S	07 57 48.7	-3.2
HUIG	Huatulco	2.42	232	i P	P	07 57 44.9	-3.0
HUIG				i S	S	07 58 17.8	-2.5
OXX	Oaxaca	2.50	266	i P	P	07 57 47.0	-1.8
OXX				i S	S	07 58 18.5	-3.5
VHO	Vista Hermosa	2.51	266	i P	P	07 57 47.2	-1.7
VHO				i S	S	07 58 20.0	-2.1

IDC 14 07:59:46.8±2.9, 52.49N×34.29E, mb1 3.8/2, mb1mx3.4/18, mbtmp3.7/2, ML3.4/3, Error ellipse: s-maj=33.8km s-min=10.9km az=112.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	3.63	242	Pn	Pn	08 00 43.3	-2.2
	2.0nm,0.3s,baz=60,slow=15,SNR=6.0						
AKASG				Pg	Pg	08 00 51.2	-8.2
	1.4nm,0.3s,baz=56,slow=16,SNR=4.5						
AKASG				Sn	Sn	08 01 25.1	-4.7
	1.6nm,0.3s,baz=61,slow=26,SNR=4.4						
AKASG				Lg		08 01 43.1	
	2.1nm,0.3s,baz=67,slow=29,SNR=3.8						
FINES	FINESS Array B	10.02	337	Pn	P	08 02 06.4	-8.6
	0.2nm,0.3s,baz=151,slow=14,SNR=4.1						
FINES				Sn	S	08 03 55.5	-14
	0.2nm,0.3s,baz=146,slow=27,SNR=3.3						
FINES				Lg		08 05 01.8	
	0.3nm,0.3s,baz=143,slow=30,SNR=3.3						
ARCES	ARCESS Array B	17.59	350	Pn	P	08 03 48.0	-6.6
	0.3nm,0.3s,baz=159,slow=13,SNR=8.9						

BJI 14 08:17:00.5, 7.92N×92.01E, h36km, mB5.0, mb5.0, Ms4.5, Msz4.2
MOS 14 08:17:00.8±0.7, 8.05N×91.98E, h33km, mb5.1/55, MS4.2/8, Error ellipse: s-maj=11.2km s-min=4.7km az=121.6
NEIC 14 08:17:02.9±2.3, 8.04N×91.91E, h34km±15km, mb4.9/64, Error ellipse: s-maj=7.5km s-min=3.8km az=221.0
HRVD 14 08:17:02.9±0.5, 8.14N×91.93E, h17km±1km, MW4.9/51, Centroid moment Tensor Solution. LP body waves: s17,c21;Mantle waves: s51,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.99±.17; $M_{\theta\theta}$0.00±.09; $M_{\phi\phi}$1.98±.12; $M_{r\theta}$1.17±.33; $M_{\theta\phi}$-0.01±.08; $M_{\phi r}$-1.51±.33; Best double couple: $M_0$2.737×10^{16} NP1:ϕ_s196°,δ29°, λ-54°. NP2:ϕ_s336°,δ67°,λ-108°. Principal axes: T 2.554,

Plg20°, Azm80°; N .358, Plg16°, Azm344°; P -2.92, Plg63°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC ***14*** *08:17:03.1±0.6, 8.08N×91.93E, h35km±3km, mb4.5/23, mb1 4.6/23, mb1mx4.5/25, mbtmp4.7/23, MS4.1/13, Ms1 4.1/13, ms1mx3.9/35 Error ellipse: s-maj=13.9km s-min=10.9km az=45.0*

ISC 14 08:17:00.2±0.2**, 7.98N**±0.03×**91.90E**±0.03**, h31**km**, h31**km±.9km**:pP-P, n271, σ0.96**/277**, mb4.9**/103**, MS4.2**/34**, 11C-51D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.75**	**13**	*e*P	**Pn**	**08 17 58.9**	**+1.4**
PBA				*e*S	**Sn**	**08 18 36.8**	**-4.2**
SNG	**Songkhla**	**8.68**	**95**	P	**P**	**08 19 07.0**	**+0.2**
	110nm,0.8s						
NNT	**Nongplab**	**8.97**	**59**	P	**P**	**08 19 10.5**	**-0.3**
KULM	**Kulim**	**9.09**	**107**	*e*P	**P**	**08 19 10.5**	**-2.0**
IPM	**Ipoh**	**9.68**	**110**	P	**P**	**08 19 20.4**	**-0.4**
NST	**Nakhon Sawan**	**11.11**	**46**	PG	**P**	**08 19 41.5**	**+1.2**
CHG	**Chiang Mai**	**12.76**	**32**	P	**P**	**08 20 02.5**	**0.0**
	33nm,0.8s						
VIS	**Vishakhapatnam**	**12.78**	**320**	*e*P	**P**	**08 19 59.7**	**-3.1**
VIS				*e*x	x	08 21 59.7	
KGM	**Kluang**	**12.82**	**117**	P	**P**	**08 20 02.3**	**-1.1**
KKTK	**Khon Kaen**	**13.52**	**51**	P	**P**	**08 20 21.0**	**+8.3**
	741nm,0.8s						
NANT	**Nan**	**13.74**	**38**	⇑P	**P**	**08 20 14.0**	**-1.5**
	412nm,0.9s						
CAL	**Calcutta**	**14.88**	**347**	*e*x	**P**	**08 20 32.9**	**+2.5**
CAL				*e*x	x	08 25 29.2	
HYB	**Hyderabad**	**16.03**	**307**	*i* P	**P**	**08 20 50.0**	**+4.6**
	150nm,1.0s						
HYB				*e*S	**S**	**08 23 42.0**	**0.0**
HYB	**Hyderabad**	**16.03**	**307**	*e*P	**P**	**08 20 50.0**	**+4.6**
	150nm,1.0s						
HYB				*e*S	**S**	**08 23 42.0**	**0.0**
HYB	**Hyderabad**	**16.03**	**307**	*e*P	**P**	**08 20 50.0**	**+4.6**
HYB				*e*S	**S**	**08 23 42.0**	**0.0**
HYB				pmax	pmax		
	comp=Z,150nm,1.0s						
IMP	**Imphal**	**16.82**	**6**	*e*P	**P**	**08 20 56.0**	**+0.7**
IMP				*e*x	**S**	**08 24 10.0**	**+10**
BLSP	**Bilaspur**	**16.92**	**327**	*e*P	**P**	**08 20 55.8**	**-0.8**
BLSP				*e*x	x	08 23 53.2	
SHL	**Shillong**	**17.49**	**360**	*e*P	**P**	**08 21 02.0**	**-1.7**
SHL				*e*x	x	08 24 09.0	
KSM	**Kuching**	**19.44**	**108**	*e*P	**P**	**08 21 26.7**	**-0.7**
KAD	**Karad**	**19.60**	**300**	*e*P	**P**	**08 21 28.6**	**-0.5**
KAD				AMb	AMB	08 21 39.3	
	comp=Z,103nm,1.3s						
KAD				*e*x	x	08 24 59.9	
KMI	**Kunming**	**19.94**	**30**	P	**P**	**08 21 34.0**	**+1.2**
KMI				AP		08 21 43.4	
KMI				XP		08 21 47.9	
KMI				PP	PP	08 21 53.9	+2.0
KMI				PPP	PPP	08 22 03.0	+2.1
KMI				S	**S**	**08 25 11.3**	**+1.2**
KMI				XS		08 25 25.3	
KMI				SS	SS	08 25 39.8	+1.4
KMI				PCP	PcP	08 25 48.6	+0.3
KMI				SSS	SSS	08 25 53.5	+1.2
KMI				SCP		08 29 21.4	
KMI				PCS		08 29 25.5	
KMI				AMB	AMB		
	comp=Z,72nm,1.2s						
KMI				AMB	AMB		
	comp=Z,317nm,6.4s						
KMI				LR	LR		
	comp=N,457nm,15.0s						
KMI				LR	LR		
	comp=E,533nm,14.2s						
KMI				LR	LR		
	comp=Z,522nm,18.7s						
PKI	**Pulchoki**	**20.43**	**343**	*e*P	**P**	**08 21 38.0**	**+0.1**
	comp=Z,95nm,0.7s						
PKI				*e*S	**S**	**08 25 16.6**	**-3.4**
PKI	**Pulchoki**	**20.43**	**343**	*e*P	**P**	**08 21 38.0**	**+0.1**
PKI				*e*S	**S**	**08 25 16.6**	**-3.4**
PKI				pmax	pmax		
	comp=Z,47nm,0.7s						
POO	**Poona**	**20.44**	**303**	*e*P	**P**	**08 21 38.5**	**+0.5**
POO				AMb	AMB	08 21 41.1	
	comp=Z,174nm,1.6s						
POO				*e*x	x	08 25 16.4	
DMN	**Daman**	**20.55**	**343**	*e*P	**P**	**08 21 38.3**	**-0.8**
	comp=Z,183nm,0.8s						
BHPL	**Bhopal**	**20.57**	**319**	*e*P	**P**	**08 21 39.0**	**-0.3**
BHPL				AMb	AMB	08 21 48.2	
	comp=Z,96nm,0.7s						
BHPL				*e*x	x	08 25 19.1	
QIZ	**Qiongzhong**	**20.59**	**56**	P	**P**	**08 21 38.8**	**-0.8**
QIZ				S	**S**	**08 25 25.5**	**+2.3**
QIZ				AMB	AMB		
	comp=Z,75nm,1.3s						
QIZ				LR	LR		
	comp=N,729nm,14.8s						
QIZ				LR	LR		
	comp=Z,784nm,13.4s,MS4.2						
QIZ	**Qiongzhong**	**20.59**	**56**	*e*P	**P**	**08 21 38.9**	**-0.7**
	comp=Z,56nm,0.8s						
GUN	**Gumba**	**20.62**	**345**	*e*P	**P**	**08 21 40.5**	**+0.6**
	comp=Z,179nm,0.9s						
KKN	**Kakani**	**20.67**	**343**	*e*P	**P**	**08 21 40.8**	**+0.4**
	comp=Z,94nm,0.7s						
KKN	**Kakani**	**20.67**	**343**	*e*P	**P**	**08 21 40.8**	**+0.4**
KKN				pmax	pmax		
	comp=Z,47nm,0.7s						
GKN	**Gorkha**	**21.07**	**342**	*e*P	**P**	**08 21 44.6**	**+0.2**
	comp=Z,124nm,0.7s,mb5.3						
GKN				*e*S	**S**	**08 25 27.2**	**-5.1**
KOLN	**Koldanda**	**21.19**	**339**	*e*P	**P**	**08 21 43.9**	**-1.7**
	comp=Z,112nm,0.7s,mb5.3						
LSA	**Lhasa**	**21.62**	**358**	P	**P**	**08 21 50.6**	**+0.7**
LSA				AP		08 21 59.0	
LSA				XP		08 22 04.8	
LSA				S	**S**	**08 25 44.8**	**+2.2**
LSA				PCP	PcP	08 25 46.8	-4.7
LSA				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.0						
LSA				LR	LR		
	comp=N,240nm,14.7s,MS4.2						
LSA				LR	LR		
	comp=E,600nm,15.2s,MS4.2						
LSA				LR	LR		
	comp=Z,490nm,14.7s,MS4.0						
LSA	**Lhasa**	**21.62**	**358**	*e*P	**P**	**08 21 50.1**	**+0.2**
	comp=Z,90nm,1.1s,mb5.1						
LSA				LR	LR		
	comp=Z,410nm,22.0s,MS3.8						
LSA	**Lhasa**	**21.62**	**358**	*e*P	**P**	**08 21 50.1**	**+0.2**
LSA				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.1						
LSA				MLR	MLR		
	comp=Z,410nm,22.0s,MS3.8						
GYA	**Guiyang**	**23.12**	**36**	⇑*i*P	**P**	**08 22 05.3**	**+0.4**
GYA				AP		08 22 14.5	
GYA				XP		08 22 18.9	
GYA				S	**S**	**08 26 14.4**	**+4.4**
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,440nm,3.6s						
GYA				LR	LR		
	comp=N,650nm,11.9s,MS4.4						
GYA				LR	LR		
	comp=E,540nm,15.2s,MS4.4						
GYA				LR	LR		
	comp=Z,530nm,16.7s,MS4.1						
KKM	**Kota Kinabalu**	**24.21**	**93**	P	**P**	**08 22 19.2**	**+3.6**
KKM	**Kota Kinabalu**	**24.21**	**93**	*e*P	**P**	**08 22 18.6**	**+3.0**
AJM	**Ajmer**	**24.64**	**320**	*i* P	**P**	**08 22 21.0**	**+1.3**
NDI	**New Delhi**	**24.81**	**328**	*e*P	**P**	**08 22 20.0**	**-1.3**
NDI				*e*x	x	08 27 03.0	
CD2	**Chengdu**	**25.36**	**24**	⇓*i*P	**P**	**08 22 26.3**	**-0.2**
CD2				XP	sP	08 22 39.3	-0.2
CD2				PP	PP	08 23 07.8	+2.3
CD2				PPP	PPP	08 23 15.5	-1.3
CD2				S	**S**	**08 26 48.9**	**+0.7**
CD2				SS	SS	08 27 51.8	+1.2
CD2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,120nm,8.8s						
CD2				LR	LR		
	comp=N,270nm,17.2s						
CD2				LR	LR		
	comp=Z,250nm,15.0s,MS3.9						
TSM	**Tawau**	**26.08**	**97**	P	**P**	**08 22 35.0**	**+1.7**
ENH	**Enshi**	**27.63**	**34**	*e*P	**P**	**08 22 45.2**	**-2.1**
	comp=Z,46nm,1.0s,mb5.1						
LZH	**Lanzhou**	**30.03**	**20**	*e*P	**P**	**08 23 07.9**	**-0.9**
LZH				AP	pP	08 23 17.0	-0.8
LZH				XP	sP	08 23 20.8	-1.0
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,120nm,4.2s						
LZH				LR	LR		
	comp=E,1µm,13.9s						
LZH				LR	LR		
	comp=Z,2µm,15.0s,MS4.8						
XAN	**Xi'an**	**30.31**	**29**	P	**P**	**08 23 08.4**	**-2.9**
XAN				AP	pP	08 23 17.0	-3.4
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
QZH	**Quanzhou**	**30.55**	**53**	P	**P**	**08 23 13.8**	**+0.2**
QZH				S	**S**	**08 28 16.0**	**+3.9**
QZH				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.8						
QZH				LR	LR		
	comp=N,1µm,12.4s						
QZH				LR	LR		
	comp=E,2µm,21.2s						
QZH				LR	LR		
	comp=Z,960nm,10.5s,MS4.7						
WHN	**Wuhan**	**30.74**	**40**	P	**P**	**08 23 14.8**	**-0.4**
WHN				S	**S**	**08 28 21.0**	**+6.0**
WHN				LR	LR		
	comp=Z,930nm,14.1s,MS4.6						
GTA	**Gaotai**	**32.09**	**12**	*e*P	**P**	**08 23 26.9**	**0.0**
GTA				AP	pP	08 23 36.9	+0.9
GTA				XP	sP	08 23 41.0	+1.1
GTA				PP	PP	08 24 31.5	-2.3
GTA				S	**S**	**08 28 31.3**	**-4.7**
GTA				SCP		08 29 54.8	
GTA				SCS	ScS	08 33 54.5	+1.3
GTA				AMB	AMB		
	comp=Z,66nm,1.0s,mb5.4						
GTA				AMB	AMB		
	comp=Z,136nm,5.7s						
GTA				LR	LR		
	comp=N,127nm,17.5s,MS3.9						
GTA				LR	LR		
	comp=E,151nm,14.8s,MS3.9						
GTA				LR	LR		
	comp=Z,204nm,17.5s,MS3.9						
YHNB	**Yeheng**	**32.68**	**56**	*e*P	**P**	**08 23 32.6**	**+0.5**
NJ2	**Nanjing**	**34.66**	**43**	*e*P	**P**	**08 23 50.8**	**+1.5**
NJ2				AP	pP	08 24 00.4	+2.0
NJ2				XP	sP	08 24 04.3	+2.0
NJ2				PP	PP	08 25 08.0	+1.6
NJ2				S	**S**	**08 29 17.0**	**+1.0**
NJ2				XS		08 29 34.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				LR	LR		
	comp=N,570nm,22.2s,MS4.6						
NJ2				LR	LR		
	comp=E,1µm,20.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,310nm,19.4s,MS4.1						
SSE	**Sheshan**	**35.72**	**46**	P	**P**	**08 23 58.8**	**+0.5**
SSE				AP	pP	08 24 07.6	+0.2
SSE				XP	sP	08 24 11.4	+0.1
SSE				PP	PP	08 25 20.3	+0.9
SSE				S	**S**	**08 29 33.1**	**+0.8**
SSE				XS		08 29 48.0	
SSE				SCS	ScS	08 34 14.8	+2.5
SSE				AMB	AMB		
	comp=Z,42nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,39nm,5.9s						
SSE				LR	LR		
	comp=N,56nm,19.8s,MS3.6						
SSE				LR	LR		
	comp=E,96nm,19.8s,MS3.6						
SSE				LR	LR		
	comp=Z,96nm,14.6s						
WMQ	**Urumqi**	**35.89**	**355**	*e*P	**P**	**08 24 01.0**	**+1.4**
WMQ				AP	pP	08 24 06.0	-2.7
WMQ				PP	PP	08 25 27.0	+5.7
WMQ				*e*S	**S**	**08 29 38.0**	**+3.1**
WMQ				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,218nm,6.9s						
WMQ				LR	LR		
	comp=N,245nm,18.7s,MS4.3						
WMQ				LR	LR		
	comp=E,484nm,22.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,236nm,24.2s,MS3.9						
HHC	**Hu-ho-hao-te**	**37.12**	**25**	*e*P	**P**	**08 24 09.9**	**0.0**
HHC				PP	PP	08 25 36.3	-0.8
HHC				PCP	PcP	08 26 30.9	+0.6
HHC				S	**S**	**08 29 51.9**	**-1.8**
HHC				PCS		08 30 16.9	
HHC				SCS	ScS	08 34 20.8	+0.8
HHC				AMB	AMB		
	comp=Z,21nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,94nm,3.9s						
HHC				LR	LR		
	comp=N,195nm,11.9s,MS4.4						
HHC				LR	LR		
	comp=E,294nm,13.1s,MS4.4						
HHC				LR	LR		
	comp=Z,153nm,13.1s,MS4.0						
AAK	**Ala-Archa**	**37.76**	**339**	*e*P	**P**	**08 24 16.1**	**+0.7**
	comp=Z,19nm,0.9s,mb4.8						
AAK				LR	LR		
	comp=Z,47nm,19.0s,MS3.3						
AAK	**Ala-Archa**	**37.76**	**339**	⇓*i*P	**P**	**08 24 15.7**	**+0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
JOW	**Kunigami**	**39.24**	**57**	P	**P**	**08 24 28.9**	**+1.0**
	comp=Z,20nm,0.8s,mb4.9,baz=260,slow=12,SNR=7.4						
JOW				LR	LR	08 44 11.2	
	comp=Z,170nm,18.6s,MS3.9,baz=138,slow=42						
MKAR	**Makanchi Array**	**39.54**	**350**	P	**P**	**08 24 30.4**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.2,baz=168,slow=8.4,SNR=28						
MKAR				pP	pP	08 24 39.8	+0.4
	comp=Z,9.4nm,0.8s,baz=164,slow=8.8,SNR=14						
KKAR	**Karatay Array**	**39.70**	**335**	*i* P	**P**	**08 24 31.8**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
SONM	**Songino Array**	**41.58**	**15**	P	**P**	**08 24 47.3**	**+0.3**
	comp=Z,21nm,0.7s,mb4.9,baz=196,slow=8.5,SNR=44						
SONM				pP	pP	08 24 56.4	+0.3
	comp=Z,14nm,0.7s,baz=201,slow=7.4,SNR=9.2						
ULN	**Ulaanbaatar**	**41.78**	**15**	*e*P	**P**	**08 24 48.3**	**-0.2**
	comp=Z,15nm,1.0s,mb4.6						
ULN				LR	LR		
	comp=Z,280nm,21.0s,MS4.1						
ULN	**Ulaanbaatar**	**41.78**	**15**	*c i*P	**P**	**08 24 48.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**42.20**	**128**	⇓*i*P	**P**	**08 24 52.2**	**-0.2**
	comp=Z,16nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**42.20**	**128**	P	**P**	**08 24 52.4**	**0.0**
	comp=Z,22nm,0.8s,mb4.8,baz=328,slow=4.2,SNR=18						
FITZ				pP	pP	08 25 03.6	+1.9
	comp=Z,27nm,1.0s,baz=324,slow=6.0,SNR=6.0						
ZAK	**Zakamensk**	**43.32**	**11**	⇑*i*P	**P**	**08 25 01.2**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
JNU	**Nakatsue**	**43.85**	**50**	P	**P**	**08 25 05.2**	**-0.5**
	comp=Z,15nm,0.9s,mb4.7,baz=207,slow=4.5,SNR=4.5						
JNU				LR	LR	08 43 37.3	
	comp=Z,191nm,20.0s,MS4.0,baz=220,slow=36						
KURK	**Kurchatov**	**44.00**	**348**	*e*P	**P**	**08 25 06.8**	**+0.2**
	comp=Z,14nm,0.9s,mb4.7						
KURK				LR	LR		
	comp=Z,48nm,21.0s,MS3.4						
CN2	**Changchun**	**46.15**	**34**	*e*P	**P**	**08 25 23.4**	**-0.4**
CN2				*e*S	**S**	**08 32 08.0**	**+0.9**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS4.3						
ZAL	**Zalesovo**	**46.18**	**354**	P	**P**	**08 25 23.9**	**-0.1**
	comp=Z,2.6nm,0.3s,mb4.6,baz=292,slow=9.3						
RDF	**Al-Radifah**	**46.59**	**302**	*e*P	**P**	**08 25 28.6**	**+1.1**
UMR	**Umm Al-Rimmam**	**46.64**	**303**	*e*P	**P**	**08 25 28.8**	**+0.8**
UMR				AMb	AMB	08 25 30.1	
	comp=Z,107nm,0.6s,mb5.9						
NAY	**Al-Naaiem**	**46.94**	**303**	*e*P	**P**	**08 25 30.8**	**+0.4**
NAY				AMb	AMB	08 25 32.5	
	comp=Z,42nm,0.8s,mb5.4						
MIB	**Mutribah**	**47.03**	**304**	*e*P	**P**	**08 25 31.5**	**+0.4**
MIB				AMb	AMB	08 25 33.1	
	comp=Z,165nm,0.8s						
NVS	**Novosibirsk**	**47.24**	**353**	*i* P	pP	08 25 41.7	+0.1
NVS				pmax	pmax		
	comp=Z,31nm,1.9s,mb4.9						
NVS				pmax	pmax		
	comp=E,28nm,1.8s						
HIA	**Hailar**	**47.32**	**25**	*e*P	**P**	**08 25 32.4**	**-0.6**
	comp=E,3.9nm,0.4s,mb4.7						
HIA	**Hailar**	**47.32**	**25**	*e*P	**P**	**08 25 32.4**	**-0.7**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
VOSK	**Vostochnaya**	**47.76**	**343**	P	**P**	**08 25 36.0**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
BVA0	**Borovoye Array**	**48.20**	**343**	P	**P**	**08 25 40.0**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
BVAR	**Borovoye Array**	**48.20**	**343**	P	**P**	**08 25 39.9**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.4,baz=143,slow=7.4,SNR=11						
BVAR				pP	pP	08 25 49.8	+0.6
	comp=Z,5.5nm,0.8s,baz=158,slow=8.0,SNR=4.5						
BRVK	**Borovoye**	**48.26**	**343**	*e*P	**P**	**08 25 39.6**	**-0.7**
	comp=Z,4.3nm,0.8s,mb4.5						
BRVK	**Borovoye**	**48.26**	**343**	*e*P	**P**	**08 25 39.6**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MDJ	**Mudanjiang**	**48.98**	**35**	P	**P**	**08 25 46.3**	**+0.3**
MDJ				PP	PP	08 27 39.8	+0.2
MDJ				PCS		08 31 06.4	
MDJ				S	**S**	**08 32 51.6**	**+4.5**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,68nm,5.3s						
MDJ				LR	LR		
	comp=N,74nm,17.4s,MS3.9						
MDJ				LR	LR		
	comp=E,83nm,17.4s,MS3.9						
MDJ				LR	LR		
	comp=Z,99nm,16.2s,MS3.9						
AB31	**Akbulak array**	**49.09**	**333**	P	**P**	**08 25 46.3**	**-0.5**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**50.14**	**124**	P	**P**	**08 25 54.4**	**-0.9**
	comp=Z,14nm,0.8s,mb5.0,baz=304,slow=8.6,SNR=88						
WRAB	**Tennant Creek**	**50.15**	**124**	*e*P	**P**	**08 25 53.8**	**-1.5**
	comp=Z,25nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**50.15**	**124**	*e*P	**P**	**08 25 53.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**50.15**	**124**	⇑*i*P	**P**	**08 25 54.4**	**-0.9**
MJAR	**Matsushiro Arr**	**50.75**	**49**	P	**P**	**08 25 59.8**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=243,slow=7.0,SNR=5.4						
MJAR				PcP	PcP	08 27 16.6	0.0
	comp=Z,4.0nm,0.8s,baz=206,slow=3.7,SNR=5.4						
MJAR				LR	LR	08 48 32.2	
	comp=Z,159nm,19.7s,MS4.0,baz=285,slow=37						
AKTO	**Aktyubinsk**	**50.81**	**333**	P	**P**	**08 25 59.6**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,22nm,3.0s						
OPO	**Ambohidratompo**	**51.39**	**239**	P	**P**	**08 26 06.4**	**+1.7**
	comp=Z,3.1nm,0.9s,mb4.2,baz=62,slow=5.2,SNR=6.2						
BOD	**Bodaibo**	**52.58**	**15**	*e*P	**P**	**08 26 12.6**	**-0.6**
BOD				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.2						
GNI	**Garni**	**52.78**	**315**	*e*P	**P**	**08 26 14.7**	**-0.2**
	comp=Z,9.1nm,0.6s,mb4.9						
GNI	**Garni**	**52.78**	**315**	*d i*P	**P**	**08 26 14.1**	**-0.9**
GNI				pmax	pmax		
	comp=Z,29nm,1.0s						
KLR	**Kul'dur**	**52.94**	**32**	*e*P	**P**	**08 26 12.2**	**-3.8**
TI2	**Plekhanov**	**53.44**	**317**	*i* P	**P**	**08 26 22.4**	**+2.6**
SVE	**Sverdlovsk**	**54.50**	**339**	*e*P	**P**	**08 26 28.7**	**+1.4**
SVE				*e*		08 27 31.0	
SVE				MLR	MLR		
	comp=N,300nm,14.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,200nm,14.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,500nm,14.0s,MS4.7						
ARU	**Arti**	**54.94**	**338**	*e*P	**P**	**08 26 29.9**	**-0.8**
	comp=Z,18nm,1.4s,mb4.9						
ARU				*e*		08 26 42.1	
ARU	**Arti**	**54.94**	**338**	*e*P	**P**	**08 26 29.9**	**-0.7**
ARU				*e*		08 26 42.1	
ARU				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
CLNS	**Chul'man**	**55.12**	**21**	*e*P	**P**	**08 26 31.5**	**-0.4**
CLNS				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
CLNS				pmax	pmax		
	comp=N,22nm,1.0s						
CLNS				pmax	pmax		
	comp=E,20nm,1.0s						
KMBO	**Kilima Mbogo**	**55.23**	**263**	P	**P**	**08 26 34.8**	**+1.5**
	comp=E,19nm,0.8s,mb5.2,baz=61,slow=10,SNR=43						
KMBO				pP	pP	08 26 43.9	+1.2
	comp=E,10nm,0.9s,baz=62,slow=11,SNR=7.1						
KMBO				LR	LR	08 47 10.1	
	comp=E,231nm,19.8s,MS4.3,baz=100,slow=33						
KIV	**Kislovodsk**	**55.76**	**319**	*e*P	**P**	**08 26 36.4**	**-0.2**
	comp=E,32nm,0.9s,mb5.4						
KIV	**Kislovodsk**	**55.76**	**319**	*e*P	**P**	**08 26 35.7**	**-1.0**
KIV				*e*		08 27 36.3	
KIV				*e*S	**S**	**08 34 17.5**	**-2.1**
KIV				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
KIV				pmax	pmax		
	comp=N,19nm,0.8s						
KIV				pmax	pmax		
	comp=E,12nm,0.8s						
KIV				MLR	MLR		
	comp=Z,90nm,17.0s,MS3.9						
KIV				MLR	MLR		
	comp=N,17nm,14.0s,MS4.0						
KIV				MLR	MLR		
	comp=E,104nm,17.0s,MS4.0						
ASF	**Jabal al Asfar**	**56.30**	**303**	P	**P**	**08 26 41.7**	**+1.0**
	comp=E,11nm,0.9s,mb4.9,baz=356,slow=3.7,SNR=10						
MALT	**Malatya**	**56.71**	**311**	*e*P	**P**	**08 26 43.4**	**-0.2**
	comp=E,19nm,1.1s,mb5.0						
MALT	**Malatya**	**56.71**	**311**	*e*P	**P**	**08 26 43.4**	**-0.2**
MALT				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
ASAJ	**Asahikawa**	**56.80**	**42**	LR	LR	08 52 57.5	
	comp=Z,143nm,18.2s,MS4.1,baz=341,slow=38						
GZT	**Gaziantep**	**57.08**	**310**	*i* P	**P**	**08 26 45.1**	**-1.2**
GRSN	**GIRESUNGRSN**	**57.65**	**314**	*i* P	**P**	**08 26 47.9**	**-2.3**
KAHT	**Ahir Dag**	**57.68**	**310**	*i* P	**P**	**08 26 50.1**	**-0.3**
PMG	**Port Moresby**	**57.69**	**106**	*e*P	**P**	**08 26 56.4**	**+5.6**
SOKR	**Solikamsk**	**57.91**	**340**	*e*P	**P**	**08 26 53.1**	**+1.4**
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3						
YSS	**Yuzh-Sakhalins**	**58.08**	**39**	*e*P	**P**	**08 26 52.3**	**-0.8**
YSS				*e*		08 27 08.7	
VRHR	**Novokhopersk**	**59.59**	**326**	*e*P	**P**	**08 27 02.1**	**-1.4**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.5s						
CTKT	**Corum**	**60.08**	**312**	*i* P	**P**	**08 27 05.4**	**-1.6**
BOYT	**Boyabat**	**60.22**	**313**	*i* P	**P**	**08 27 06.1**	**-1.9**
CTA	**Charters Tower**	**60.30**	**118**	*e*P	**P**	**08 27 08.3**	**-0.5**
	comp=E,5.8nm,1.0s,mb4.6						
CTA	**Charters Tower**	**60.30**	**118**	P	**P**	**08 27 08.5**	**-0.3**

	comp=E,7.5nm,1.0s,mb4.7,baz=279,slow=7.0,SNR=6.9						
CTA	Charters Tower	60.30	118	eP	P	08 27 08.3	-0.5
CTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CTAO	Charters Tower	60.30	118	eP	P	08 27 08.2	-0.6
	comp=Z,9.7nm,1.1s,mb4.8						
CTAO	Charters Tower	60.30	118	eP	P	08 27 08.2	-0.6
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
YAK	Yakutsk	60.61	19	eP	P	08 27 08.9	-1.5
YAK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
BR131	Keskin Array S	60.68	311	eP	P	08 27 09.6	-1.5
	comp=E,12nm,0.8s,mb5.1						
BRTR	Keskin Array B	60.68	311	P	P	08 27 09.5	-1.7
	comp=E,13nm,0.8s,mb5.1,baz=122,slow=7.5,SNR=56						
BALT	Daday	61.35	313	i P	P	08 27 13.9	-1.8
MBAR	Mbarara	61.56	265	eP	P	08 27 18.1	+0.6
	comp=E,20nm,1.3s,mb5.1						
MBAR	Mbarara	61.56	265	d iP	P	08 27 17.5	+0.1
STKA	Stephens Creek	61.80	133	eP	P	08 27 19.1	+0.2
	comp=E,7.7nm,1.2s,mb4.7						
STKA	Stephens Creek	61.80	133	P	P	08 27 18.9	0.0
	comp=E,6.5nm,0.9s,mb4.7,baz=299,slow=6.2,SNR=5.7						
STKA				LR	LR	08 59 15.8	
	comp=E,121nm,18.7s,MS4.1,baz=24,slow=41						
SGKT	Sivrigoynuk	62.07	312	i P	P	08 27 18.8	-1.8
ISP	Isparta	62.63	308	eP	P	08 27 23.1	-1.2
	comp=E,11nm,0.7s,mb5.1						
ISP	Isparta	62.63	308	d iP	P	08 27 22.9	-1.4
ESKT	Eskisehir	62.72	310	i P	P	08 27 22.9	-2.0
TKTP	Tekketepe	62.82	309	i P	P	08 27 23.8	-1.7
GOLH	Golhisar	63.25	308	i P	P	08 27 26.6	-1.7
OBN	Obninsk	64.11	328	⇓iP	P	08 27 32.1	-1.7
OBN				e		08 28 07.2	
OBN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
AKASG	Malin Array Be	66.70	322	P	P	08 27 48.8	-1.7
	comp=Z,4.4nm,0.9s,mb4.5,baz=92,slow=5.0,SNR=12						
TOO	Toolangi	67.46	136	eP	P	08 27 57.3	+1.7
	comp=Z,9.5nm,0.7s,mb4.9						
TOO	Toolangi	67.46	136	eP	P	08 27 57.3	+1.7
TOO				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
MLR	Muntele Rosu	67.55	316	P	P	08 27 55.7	-0.2
	comp=Z,21nm,0.9s,mb5.1,baz=82,slow=2.2,SNR=28						
TIXI	Tiksi	67.57	12	eP	P	08 27 54.0	-1.7
TIXI				eS	S	08 36 40.7	-8.1
TIXI				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.6						
CNB	Canberra Magne	69.13	132	eP	P	08 28 06.9	+0.9
	comp=Z,12nm,0.9s,mb4.8						
SEY	Seymchan	69.77	25	⇓iP	P	08 28 08.0	-1.3
KOLS	Kolonicke sedl	70.67	319	eP	P	08 28 15.4	+0.3
SUW	Suwalki	71.12	324	eP	P	08 28 16.7	-1.1
SUW				e	pP	08 28 25.6	-1.7
CRVS	Cervenica-Dubn	71.19	319	eP	P	08 28 20.1	+1.9
STHS	Stebnicka Huta	71.41	319	i P	P	08 28 19.7	+0.1
FINES	FINESS Array B	71.58	332	P	P	08 28 19.7	-0.7
	comp=Z,4.4nm,0.9s,mb4.4,baz=90,slow=1.9,SNR=4.9						
FINES				LR	LR	09 01 10.3	
	comp=Z,179nm,20.9s,MS4.3,baz=169,slow=37						
FINES	FINESS Array B	71.58	332	P	P	08 28 19.7	-0.7
FINES				LR	LR	09 01 10.3	
KECS	Kecovo	71.76	318	i P	P	08 28 21.4	-0.3
OJC	Ojcow	72.47	320	eP	P	08 28 25.4	-0.4
VYHS	Vyhne	72.85	318	eP	P	08 28 28.0	-0.1
OKC	Ostrava-Krasne	73.47	320	eP	P	08 28 32.0	+0.3
TIP	Timpagrande	73.49	308	eP	P	08 28 31.5	-0.6
ZST	Bratislava	73.96	318	eP	P	08 28 33.6	-1.0
ARCES	ARCESS Array B	74.42	340	P	P	08 28 35.8	-1.0
	comp=Z,4.5nm,0.9s,mb4.4,baz=135,slow=1.7,SNR=3.6						
ARCES				pP	pP	08 28 49.0	+2.5
	comp=Z,6.3nm,0.8s,baz=90,slow=6.1,SNR=4.9						
ARCES				LR	LR	09 02 07.0	
	comp=Z,175nm,20.2s,MS4.3,baz=285,slow=36						
DPC	Dobruska-Polom	74.69	320	eP	P	08 28 39.6	+0.8
DPC				epP	pP	08 28 48.9	+0.4
KSP	Ksiaz	74.77	320	eP	P	08 28 40.1	+0.9
KSP	Ksiaz	74.77	320	eP	P	08 28 39.5	+0.3
UPC	Upice	74.91	320	eP	P	08 28 40.3	+0.3
UPC				epP	pP	08 28 49.9	+0.2
ARSA	Arzberg	74.94	317	⇑iP	P	08 28 40.7	+0.4
	comp=Z,8.9nm,1.1s,mb4.6						
PERS	Pernice	75.17	316	eP	P	08 28 41.7	+0.1
VISS	Visnje	75.30	315	eP	P	08 28 42.1	-0.3
LJU	Ljubljana	75.53	315	eP	P	08 28 44.0	+0.3
CEY	Cerknica	75.59	315	eP	P	08 28 43.4	-0.6
PRU	Pruhonice	75.80	319	eP	P	08 28 45.3	+0.2
PRU				epP	pP	08 28 55.1	+0.3
PVCC	Panska Ves	75.83	320	eP	P	08 28 45.6	+0.3
BRG	Berggiesshubel	76.25	320	eP	P	08 28 48.1	+0.5
	comp=Z,15nm,1.1s,mb4.8						
BRG				e	pP	08 28 57.3	-0.1
BRG	Berggiesshubel	76.25	320	eP	P	08 28 48.1	+0.4
BRG				e	pP	08 28 57.3	-0.1
BRG				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
GEC2	GERESS Array S	76.27	318	eP	P	08 28 48.1	+0.3
	comp=Z,15nm,0.9s,mb4.9						
GEC2	GERESS Array S	76.27	318	eP	P	08 28 48.1	+0.3
GEC2				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
GERES	GERESS Array B	76.27	318	P	P	08 28 47.9	+0.1
	comp=Z,8.9nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=54						
KHC	Kasperske Hory	76.37	319	eP	P	08 28 48.5	+0.1
KHC				epP	pP	08 28 57.7	-0.3
WET	Wettzell	76.83	319	eP	P	08 28 51.0	+0.1
	comp=Z,9.0nm,0.9s,mb4.7						
WET	Wettzell	76.83	319	eP	P	08 28 51.0	+0.1
WET				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
CLL	Collm	76.87	321	⇓P	P	08 28 51.0	-0.1
	comp=Z,logA/T=1.1,mb4.8						
CLL				i *PP	pP	08 28 59.2	-1.6
CLL	Collm	76.87	321	⇓eP	P	08 28 51.0	-0.1
	comp=Z,13nm,1.1s,mb4.8						
CLL				i	pP	08 28 59.2	-1.6
CLL				i		08 29 44.6	
CLL	Collm	76.87	321	⇓eP	P	08 28 51.0	-0.1
CLL				i	pP	08 28 59.2	-1.6
CLL				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
NKC	Novy Kostel	77.16	320	eP	P	08 28 53.4	+0.6
NKC				epP	pP	08 29 02.7	+0.2
HFS	Hagfors	77.25	330	LR	LR	09 02 47.2	
	comp=Z,261nm,21.1s,MS4.5,baz=179,slow=36						
WTTA	Wattenberg	77.58	317	⇑iP	P	08 28 54.7	-0.4
	comp=Z,14nm,0.9s,mb4.9						
WTTA	Wattenberg	77.58	317	⇑iP	P	08 28 54.7	-0.4
WTTA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
MOX	Moxa	77.71	320	i P	P	08 28 56.1	+0.3
MOX	Moxa	77.71	320	eP	P	08 28 56.1	+0.3
SQTA	Sankt Quirin	77.87	317	⇑iP	P	08 28 56.5	-0.2
	comp=Z,8.0nm,0.9s,mb4.7						
SQTA	Sankt Quirin	77.87	317	⇑iP	P	08 28 56.5	-0.2
SQTA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
GRA1	Grafenberg Arr	77.93	319	eP	P	08 28 58.0	+1.0
	comp=Z,22nm,1.1s,mb5.0						
GRA1				epP	pP	08 29 07.3	+0.6
GRF	Grafenberg Arr	77.93	319	eP	P	08 28 58.0	+1.0
	comp=Z,22nm,1.1s,mb5.0						
GRF				epP	pP	08 29 07.3	+0.6
GRF	Grafenberg Arr	77.93	319	eP	P	08 28 58.0	+1.0
GRF				e*PP	pP	08 29 07.3	+0.6
GRF				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
GRF	Grafenberg Arr	77.93	319	eP	P	08 28 58.0	+1.0
GRF				e*PP	pP	08 29 07.3	+0.6
GRF				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
MOTA	Moosalm	77.94	317	⇓iP	P	08 28 56.6	-0.5
	comp=Z,11nm,1.0s,mb4.7						
MOTA	Moosalm	77.94	317	⇓iP	P	08 28 56.6	-0.5
MOTA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
MAW	Mawson	78.20	191	P	P	08 29 00.2	+2.1
	comp=Z,2.6nm,0.8s,mb4.2,baz=297,slow=11,SNR=4.3						
CLZ	Clausthal	78.54	321	eP	P	08 29 00.7	+0.4
	comp=Z,17nm,0.9s,mb5.0						
CLZ	Clausthal	78.54	321	eP	P	08 29 00.7	+0.4
CLZ				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
NOA	NORSAR Array B	78.55	331	P	P	08 29 00.1	-0.1
	comp=Z,2.7nm,0.9s,mb4.2,baz=93,slow=5.8,SNR=3.0						
NOA				LR	LR	09 07 30.1	
	comp=Z,104nm,21.6s,MS4.1,baz=345,slow=39						
BSEG	Bad Segeberg	78.64	323	eP	P	08 29 01.2	+0.4
DAVOX	Davos	78.77	316	LR	LR	09 08 39.1	
	comp=Z,104nm,18.9s,MS4.2,baz=84,slow=39						
DAVA	Damuels	78.78	317	⇓iP	P	08 29 01.9	+0.2
	comp=Z,28nm,1.0s,mb5.1						
KONO	Kongsberg	79.27	329	i P	P	08 29 05.2	+1.1
PGF	Pioggiola	79.43	312	⇓iP	P	08 29 05.4	0.0
	comp=Z,13nm,0.9s,mb4.6						
PGF	Pioggiola	79.43	312	⇓iP	P	08 29 05.4	0.0
PGF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TNS	Taunus Mts	79.73	320	eP	P	08 29 06.2	-0.6
	comp=Z,11nm,0.9s,mb4.8						
TNS	Taunus Mts	79.73	320	eP	P	08 29 06.2	-0.6
TNS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
BFO	Black Forest	79.82	318	eP	P	08 29 07.1	-0.2
	comp=Z,8.0nm,1.0s,mb4.6						
BFO	Black Forest	79.82	318	eP	P	08 29 07.1	-0.2
BFO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CDF	Champ du Feu	80.52	318	eP	P	08 29 11.0	0.0
	comp=Z,13nm,0.8s,mb4.6						
CDF	Champ du Feu	80.52	318	eP	P	08 29 11.0	0.0
CDF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SBF	Sospel	80.54	313	⇓iP	P	08 29 11.5	+0.3
	comp=Z,50nm,0.8s,mb5.2						
SBF	Sospel	80.54	313	⇓iP	P	08 29 11.5	+0.3
SBF				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
LPG	La Plagne	80.97	315	⇓iP	P	08 29 14.2	+0.7
	comp=Z,41nm,0.8s,mb5.1						
LPG	La Plagne	80.97	315	⇓iP	P	08 29 14.2	+0.7
LPG				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
LPL	La Plagne	80.98	315	⇓iP	P	08 29 14.3	+0.8
	comp=Z,66nm,0.9s,mb5.2						
LPL	La Plagne	80.98	315	⇓iP	P	08 29 14.3	+0.8
LPL				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.3						
MBDF	Montbardon	80.98	314	⇓iP	P	08 29 13.4	-0.2
	comp=Z,16nm,0.8s,mb4.7						
MBDF	Montbardon	80.98	314	⇓iP	P	08 29 13.4	-0.2
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BNI	Bardonecchia	81.04	314	eP	P	08 29 14.1	+0.3
	comp=Z,16nm,0.9s,mb5.0						
BNI	Bardonecchia	81.04	314	eP	P	08 29 14.1	+0.3
BNI				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
FRF	La Foret Royal	81.12	313	⇓iP	P	08 29 14.7	+0.4
	comp=Z,30nm,0.8s,mb5.0						
FRF	La Foret Royal	81.12	313	⇓iP	P	08 29 14.7	+0.4
FRF				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
HAU	Haudompre	81.15	317	eP	P	08 29 14.4	0.0
HAU				eR			
	comp=Z,138nm,18.5s						
LMR	La Mourre	81.23	313	⇓iP	P	08 29 15.2	+0.3
	comp=Z,13nm,0.7s,mb4.7						
LMR	La Mourre	81.23	313	⇓iP	P	08 29 15.2	+0.3
LMR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
CABF	La Chapelle	81.39	316	⇓iP	P	08 29 16.2	+0.6
	comp=Z,18nm,0.9s,mb4.7						
CABF	La Chapelle	81.39	316	⇓iP	P	08 29 16.2	+0.6
CABF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
ORIF	Oris-en-Rattie	81.61	314	⇓iP	P	08 29 17.0	+0.2
	comp=Z,16nm,0.8s,mb4.7						
ORIF				eR			
	comp=Z,120nm,19.0s						
SMRF	Simiane la Rot	81.88	313	⇓iP	P	08 29 19.3	+1.1
	comp=Z,17nm,0.9s,mb4.7						
GIVF	Givet	82.06	320	eP	P	08 29 19.4	+0.3
BAIF	Baives	82.46	319	⇓iP	P	08 29 21.6	+0.5
	comp=Z,20nm,0.8s,mb4.8						
BAIF	Baives	82.46	319	⇓iP	P	08 29 21.6	+0.5
BAIF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
VIVF	Saint-Julien-l	82.47	314	⇓iP	P	08 29 21.9	+0.6
	comp=Z,27nm,0.8s,mb4.9						
VIVF	Saint-Julien-l	82.47	314	⇓iP	P	08 29 21.9	+0.6
VIVF				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
LOR	Lormes	82.87	317	⇓iP	P	08 29 23.5	+0.2
	comp=Z,26nm,1.0s,mb4.9						
LOR				eR			
	comp=Z,132nm,17.8s						
LOR	Lormes	82.87	317	⇓iP	P	08 29 23.5	+0.2
LOR				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
LOR				MLR	MLR		
	comp=Z,130nm,17.8s,MS4.3						
SMF	Signal de Mont	82.93	316	⇓iP	P	08 29 23.7	+0.1
	comp=Z,20nm,0.9s,mb4.8						
SMF	Signal de Mont	82.93	316	⇓iP	P	08 29 23.7	+0.1
SMF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
LASF	Ste Croix	83.11	313	⇓iP	P	08 29 25.5	+0.9
	comp=Z,38nm,1.2s,mb5.0						
SSF	Saint Saulge	83.13	316	⇓iP	P	08 29 24.9	+0.3
AVF	Avril sur Loir	83.25	316	⇓iP	P	08 29 25.4	+0.1
	comp=Z,12nm,0.9s,mb4.6						
AVF	Avril sur Loir	83.25	316	⇓iP	P	08 29 25.4	+0.1
AVF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
TCF	Toulx Ste Croi	84.08	316	eP	P	08 29 30.0	+0.5
CAF	Calviac	84.31	314	eP	P	08 29 31.7	+1.0
MTLF	Montolieu	84.36	313	⇓iP	P	08 29 31.8	+0.8
	comp=Z,20nm,0.8s,mb5.0						
MTLF	Montolieu	84.36	313	⇓iP	P	08 29 31.8	+0.8
MTLF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
RJF	Les Rejaudoux	84.66	315	⇓iP	P	08 29 33.5	+1.0
RJF				eR			
	comp=Z,198nm,17.0s						
LFF	La Frestale	85.25	315	eP	P	08 29 36.4	+1.0
LDF	La Druitiere	85.41	318	eP	P	08 29 36.5	+0.4
FLN	La Foliniere	85.63	318	eP	P	08 29 37.4	+0.2
FLN				eR			
	comp=Z,100nm,19.5s						
MFF	Saint Martin d	85.67	316	⇓iP	P	08 29 37.8	+0.3
	comp=Z,10nm,0.7s,mb4.8						
MFF	Saint Martin d	85.67	316	⇓iP	P	08 29 37.8	+0.3
MFF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
EPF	Esparros	85.75	313	eP	P	08 29 39.4	+1.4
GRR	Gorron	85.92	318	eP	P	08 29 39.1	+0.4
ETSF	Etsaut	86.43	313	eP	P	08 29 42.2	+0.9
	comp=Z,16nm,0.9s,mb4.9						
ETSF	Etsaut	86.43	313	eP	P	08 29 42.2	+0.9
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
SJPF	Ste Jean	86.88	313	⇓iP	P	08 29 44.5	+1.0
	comp=Z,12nm,0.8s,mb4.9						
SJPF	Ste Jean	86.88	313	⇓iP	P	08 29 44.5	+1.0
SJPF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
QUIF	Quistinic	87.52	318	eP	P	08 29 46.4	-0.1
ESDC	Sonseca Array	89.45	310	P	P	08 29 56.3	+0.4
	comp=Z,3.5nm,0.8s,mb4.8,baz=69,slow=4.6,SNR=9.0						
RAO	Raoul Island	94.00	119	LR	LR	09 12 41.1	
	comp=Z,86nm,19.7s,MS4.2,baz=342,slow=36						
ILAR	Eielson Array	95.47	22	P	P	08 30 22.6	-0.4
	comp=Z,1.0nm,0.7s,mb4.3,baz=299,slow=3.5,SNR=11						
ILAR				pP	pP	08 30 33.9	+1.0
	comp=Z,1.1nm,0.7s,baz=300,slow=4.3,SNR=6.2						
DBIC	Dimbokro	95.73	278	LR	LR	09 12 43.0	
	comp=Z,94nm,18.1s,MS4.3,baz=49,slow=35						
MSO	Missoula	120.78	20	ePKPdf	PKPdf	08 35 51.1	-3.8
PDAR	Pinedale Array	125.84	19	PKP	PKPdf	08 36 02.2	-2.4
	comp=Z,0.5nm,0.8s,baz=333,slow=3.3,SNR=4.2						
NVAR	Mina Array Bea	125.94	29	PKP	PKPdf	08 36 02.8	-2.2
	comp=Z,0.9nm,0.8s,baz=297,slow=2.0,SNR=7.5						
NVAR				pPKP		08 36 13.2	
	comp=Z,2.5nm,0.9s,baz=270,slow=1.8,SNR=11						
HWUT	Hardware Ranch	126.17	22	PKPdf	PKPdf	08 36 03.0	-2.3
MSU	Marysvale	128.60	24	ePKPdf	PKPdf	08 36 08.6	-1.5
ANMO	Albuquerque	133.91	21	PKP	PKPdf	08 36 18.7	-1.5
	comp=Z,1.0nm,0.9s,baz=323,slow=5.1,SNR=3.4						
ANMO	Albuquerque	133.91	21	⇑iPKIKP	PKPdf	08 36 19.7	-0.6
TXAR	Lajitas Array	139.99	21	PKP	PKPdf	08 36 30.1	-1.4
	comp=Z,0.5nm,0.8s,baz=180,slow=1.3,SNR=5.0						
TXAR				PP	PP	08 39 26.6	-0.6
	comp=Z,0.7nm,1.0s,baz=34,slow=4.5,SNR=4.5						
CPUP	Villa Florida	145.54	234	PKPbc	PKPbc	08 36 38.0	+1.2
	comp=Z,8.0nm,0.9s,baz=129,slow=4.6,SNR=11						
CPUP	Villa Florida	145.54	234	ePKP2	PKPab	08 36 37.9	-0.7
LPAZ	La Paz	158.82	245	PKPab	PKPab	08 37 34.3	+0.2
	comp=Z,3.0nm,0.9s,baz=91,slow=6.7,SNR=8.1						

IDC 14 09:03:33.0±1.9**, 23.05S**×**112.61W, mb3.8**/6**, mb1 4.2**/6**, mb1mx4.0**/17**, mbtmp3.8**/6**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx3.0**/20**, Error ellipse: s-maj=64.4km s-min=28.5km az=37.0, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	42.30	89	P	P	09 11 30.0	-0.3
	4.1nm,1.1s,baz=233,slow=7.1,SNR=6.5						
SIV	San Ignacio	48.88	91	P	P	09 12 20.8	-2.0
	1.6nm,0.8s,baz=247,slow=10,SNR=9.5						
TXAR	Lajitas Array	52.79	10	P	P	09 12 49.9	-2.5
	0.4nm,1.0s,baz=196,slow=9.1,SNR=3.6						
ANMO	Albuquerque	57.98	6	LR	LR	09 33 59.8	
	comp=Z,74nm,21.8s,baz=29,slow=32						
NVAR	Mina Array Bea	61.39	355	P	P	09 13 52.0	-1.2
	1.1nm,0.8s,baz=192,slow=8.3,SNR=5.3						
PDAR	Pinedale Array	65.55	2	P	P	09 14 17.6	-3.0
	0.3nm,0.8s,baz=162,slow=4.7,SNR=4.0						
YKA	Yellowknife Ar	85.26	359	P	P	09 16 11.0	-1.4
	0.7nm,0.9s,baz=187,slow=5.0,SNR=4.2						
BRTR	Keskin Array B	146.98	52	PKPbc	PKPbc	09 23 15.3	-1.9
	1.5nm,0.8s,baz=288,slow=2.0,SNR=4.3						
BVAR	Borovoye Array	149.99	356	PKPbc	PKPdf	09 23 25.5	+3.6
	0.7nm,0.6s,baz=333,slow=3.3,SNR=5.7						
MKAR	Makanchi Array	153.44	337	PKP	PKPdf	09 23 25.7	-1.4
	0.2nm,0.7s,baz=34,slow=5.2,SNR=2.3						
MKAR				PKPbc	PKPdf	09 23 32.9	+5.8
	0.4nm,0.6s,baz=45,slow=3.4,SNR=4.5						

*NEIC **14** 09:03:46.8±0.6, 7.98N×91.93E, mb4.6/5, Error ellipse: s-maj=17.4km s-min=15.3km az=48.0*

*IDC **14** 09:03:46.8±0.9, 7.95N×91.95E, h31km±5km, mb3.8/9, mb1 4.0/9, mb1mx3.8/20, mbtmp4.0/9, Error ellipse: s-maj=29.0km s-min=19.5km az=56.0*

ISC 14 09:03:45.2±0.8**, 8.0N**±0.1×**92.0E**±0.2**, h31**km**, h31**km±1.3km**: pP-P, n25,** σ0^{s}77/25**, mb4.2**/15**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PKI	Pulchoki	20.40	343	eP	P	09 08 22.1	-0.4
DMN	Daman	20.52	342	eP	P	09 08 24.1	+0.3
	5.6nm,0.3s						
GUN	Gumba	20.59	345	eP	P	09 08 21.3	-3.2
	13nm,0.5s						
KKN	Kakani	20.64	343	eP	P	09 08 24.2	-0.8
GKN	Gorkha	21.03	342	eP	P	09 08 29.7	+0.7
	27nm,0.8s,mb4.6						
MKAR	Makanchi Array	39.50	350	P	P	09 11 15.7	+0.9
	0.7nm,0.7s,mb3.5,baz=154,slow=8.4,SNR=4.2						
MKAR				pP	pP	09 11 25.7	+1.7
	1.5nm,0.8s,baz=167,slow=8.4,SNR=5.9						
SONM	Songino Array	41.51	15	P	P	09 11 33.0	+1.7
	1.0nm,0.6s,mb3.6,baz=211,slow=8.4,SNR=3.2						
SONM				pP	pP	09 11 41.3	+0.8
	1.5nm,0.7s,baz=186,slow=13,SNR=3.6						
ZAL	Zalesovo	46.13	354	P	P	09 12 07.6	-1.0
	1.1nm,0.3s,mb4.2,baz=260,slow=11,SNR=2.1						
ZAL				pP	pP	09 12 17.7	-0.1
	1.1nm,0.3s,baz=122,slow=4.0,SNR=1.7						
ZAL	Zalesovo	46.13	354	P	P	09 12 07.6	-1.0
ZAL				pP	pP	09 12 17.7	-0.1
BVAR	Borovoye Array	48.17	343	P	P	09 12 24.7	+0.1
	0.9nm,0.6s,mb4.0,baz=132,slow=12,SNR=3.8						
WRA	Warramunga Arr	50.12	124	P	P	09 12 39.4	-0.7
	0.6nm,0.6s,mb3.8,baz=304,slow=9.0,SNR=5.0						
WRA				pP	pP	09 12 48.1	-1.4
	1.4nm,0.8s,baz=304,slow=9.0,SNR=7.8						
KMBO	Kilima Mbogo	55.30	263	P	P	09 13 19.3	+0.5
	3.0nm,0.9s,mb4.3,baz=54,slow=11,SNR=5.7						
BRTR	Keskin Array B	60.70	311	P	P	09 13 54.9	-1.3
	1.7nm,0.7s,mb4.3,baz=123,slow=7.9,SNR=8.9						
MLR	Muntele Rosu	67.55	316	P	P	09 14 40.7	-0.3
	3.2nm,0.9s,mb4.4,baz=166,slow=8.3,SNR=5.5						
GERES	GERESS Array B	76.27	318	P	P	09 15 32.7	-0.1
	1.4nm,0.8s,mb3.9,baz=79,slow=5.0,SNR=9.1						
GERES				pP	pP	09 15 42.2	-0.3
	0.4nm,0.4s,baz=90,slow=6.7,SNR=2.3						
GERES	GERESS Array B	76.27	318	P	P	09 15 32.7	-0.1
GERES				pP	pP	09 15 42.2	-0.3
PGF	Pioggiola	79.44	312	eP	P	09 15 50.0	-0.4
SBF	Sospel	80.55	313	eP	P	09 15 56.1	-0.2
	11nm,0.8s,mb4.6						
LPG	La Plagne	80.98	315	eP	P	09 15 58.8	+0.3
	6.1nm,0.6s,mb4.4						
LPL	La Plagne	80.99	315	eP	P	09 15 58.9	+0.4
	8.8nm,0.7s,mb4.5						
FRF	La Foret Royal	81.13	313	eP	P	09 15 59.3	-0.1
	7.1nm,0.5s,mb4.5						
SMRF	Simiane la Rot	81.89	313	eP	P	09 16 03.9	+0.6
SMF	Signal de Mont	82.94	316	eP	P	09 16 08.3	-0.3
RJF	Les Rejaudoux	84.67	315	eP	P	09 16 18.0	+0.5
EPF	Esparros	85.77	313	eP	P	09 16 23.7	+0.7
	5.2nm,0.6s,mb4.6						

*NEIC **14** 09:12:19.7±0.5, 20.20S×69.07W, mb4.4/3, Error ellipse: s-maj=13.1km s-min=8.5km az=96.0*

*IDC **14** 09:12:20.5±0.6, 20.21S×68.97W, h102km±5km, mb3.7/8, mb1 3.9/13, mb1mx3.8/20, mbtmp4.1/13, Error ellipse: s-maj=18.2km s-min=8.0km az=88.0*

*GUC **14** 09:12:21.2±1.0, 20.55S×70.06W, h70km, ML4.4*

ISC 14 09:12:16.5±0.7**, 20.21S**±0.04×**69.07W**±0.07**, h84**km±9km**, h103**km±1.6km**: pP-P, n29,** σ1^{s}06/36**, mb3.8**/7**, 3C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.39	176	P	P	09 12 58.2	+3.7
	141nm,0.3s,baz=351,slow=8.9,SNR=164						
LVC				S	S	09 13 28.2	+5.4
	226nm,0.3s,baz=204,slow=22,SNR=15						
LVC	Limon Verde	2.39	176	⇓iP	P	09 12 58.2	+3.7
LVC				i S	S	09 13 27.3	+4.5
LVC				AMP		09 13 33.0	
	comp=E,2µm,0.3s						
LVC	Limon Verde	2.39	176	eP	P	09 12 58.0	+3.5
LVC				S	S	09 13 28.2	+5.4
ANCH	Antofagasta	3.67	200	i P	P	09 13 12.1	-0.2
ANCH				i S	S	09 13 49.2	-5.4
ANCH				AMP		09 14 09.7	
	comp=E,1µm,0.4s						
ANCH	Antofagasta	3.67	200	⇑iP	P	09 13 12.3	+0.1
ANCH				i S	S	09 13 50.2	-4.3
LPAZ	La Paz	4.00	13	P	P	09 13 21.1	+4.2
	comp=E,4.5nm,0.3s,baz=187,slow=9.3,SNR=146						
LPAZ				S	S	09 14 02.6	-0.3
	comp=E,3.7nm,0.3s,baz=207,slow=20,SNR=4.1						
ARE	Arequipa	4.38	328	⇑iP	P	09 13 22.0	-0.1
ARE				i		09 13 28.2	
ARE				eS	S	09 14 13.0	+0.7
CPN1	Cerro Paranal	4.56	195	i P	P	09 13 23.7	-0.8
CPN1				i S	S	09 14 10.4	-6.3
CRCH	Chaqaral	6.27	193	eP	P	09 13 45.2	-2.9
CRCH				i S	S	09 14 49.9	-9.1
SIV	San Ignacio	8.69	62	P	P	09 14 22.1	+0.8
	comp=E,12nm,0.3s,baz=255,slow=12,SNR=240						
CFAA	Coronel Fontan	11.37	176	P	P	09 14 58.4	+0.9
	comp=E,0.1nm,0.3s,baz=349,slow=13,SNR=12						
CPUP	Villa Florida	12.39	122	P	P	09 15 12.2	+1.1
	comp=E,0.2nm,0.3s,baz=320,slow=16,SNR=9.6						
SAML	Samuel	12.56	28	eP	P	09 15 12.5	-1.0
	comp=E,5.7nm,0.9s						
TRQA	Tornquist	18.82	162	eP	P	09 16 31.2	-0.7
	comp=E,25nm,1.0s						
PLCA	Paso Flores	20.49	183	P	P	09 16 49.9	+0.2
	comp=E,26nm,0.9s,baz=5.1,slow=12,SNR=43						

PLCA	Paso Flores	20.49	183	P	P	09 16 49.9	+0.2
BDFB	Brasilia	20.54	81	P	P	09 16 50.8	+0.4
	comp=E,19nm,0.5s,baz=266,slow=12,SNR=16						
BAO	Brasilia Array	20.56	81	P	P	09 16 50.0	-0.6
TXAR	Lajitas Array	59.49	325	P	P	09 22 12.4	-0.9
	comp=E,0.4nm,1.0s,mb3.4,baz=149,slow=5.3,SNR=2.8						
TXAR				pP	pP	09 22 38.6	+4.0
	comp=E,0.7nm,1.0s,baz=135,slow=8.8,SNR=5.0						
SNAA	Sanae	63.54	161	P	P	09 22 39.7	-0.2
	comp=E,1.5nm,0.7s,mb3.9,baz=279,slow=7.4,SNR=12						
DBIC	Dimbokro	68.52	74	P	P	09 23 11.4	-1.1
	comp=E,1.7nm,0.3s,mb4.3,baz=236,slow=7.5,SNR=7.2						
DBIC				pP	pP	09 23 37.9	+3.5
	comp=E,3.5nm,0.8s,baz=218,slow=4.7,SNR=4.1						
QSPA	South Pole Qui	69.97	180	eP	P	09 23 21.3	+1.0
	comp=E,7.2nm,1.1s,mb4.4						
NVAR	Mina Array Bea	74.39	322	P	P	09 23 49.2	+2.1
	comp=E,0.3nm,0.7s,mb3.1,baz=136,slow=7.7,SNR=3.5						
NVAR				pP	pP	09 24 15.0	+5.7
	comp=E,0.3nm,0.5s,baz=106,slow=6.6,SNR=3.0						
NVAR	Mina Array Bea	74.39	322	P	P	09 23 49.2	+2.1
NVAR				pP	pP	09 24 15.0	+5.7
SYO	Syowa Base	77.75	160	⇑P	P	09 24 04.6	-0.9
VNDA	Vanda	78.08	190	P	P	09 24 08.9	+1.8
	comp=E,0.8nm,0.7s,mb3.6,baz=125,slow=2.7,SNR=5.3						
YKA	Yellowknife Ar	89.93	341	P	P	09 25 06.1	-1.0
	comp=E,0.2nm,0.3s,mb3.7,baz=137,slow=4.2,SNR=2.8						
YKA				pP	pP	09 25 33.6	+3.6
	comp=E,1.3nm,0.6s,baz=131,slow=5.2,SNR=5.8						
WRA	Warramunga Arr	133.98	211	PKP	PKPdf	09 31 26.1	+1.2
	comp=E,0.6nm,0.7s,baz=161,slow=1.8,SNR=11						
MKAR	Makanchi Array	144.68	35	PKP	PKPdf	09 31 44.0	+0.8
	comp=E,0.6nm,0.5s,baz=338,slow=3.3,SNR=7.5						
MKAR				pPKP		09 32 12.5	
	comp=E,0.4nm,0.6s,baz=297,slow=2.7,SNR=2.9						

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*NEIC **14** 09:52:08.0±1.1,24.93S×179.85E,h457km±13km,mb4.6/5, Error ellipse: s-maj=10.7km s-min=9.8km az=143.0*
*IDC **14** 09:52:08.7±1.9,24.91S×179.84E,h462km±22km, mb3.5/10,mb1 3.7/13,mb1mx3.7/17,mbtmp4.4/13,Error ellipse: s-maj=17.4km s-min=14.9km az=136.0*
ISC 14 09:52:05.2±1.4,**24.85S**±0.06×**179.82E**±0.09, **h435**km±17km,**n42**,σ1^{s}00/45,**mb4.0**/13,**4C-4D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.59	280	eP	P	09 54 58.3	+5.5
DZM	Mont Dzumac	12.59	280	P	P	09 54 54.0	+1.2
	0.0nm,0.3s,baz=90,slow=19,SNR=2.7						
PUZ	Puketiti	13.26	185	ePN	P	09 55 00.0	+0.2
AFI	Afiamalu	13.45	38	P	P	09 55 02.4	+0.4
	0.9nm,0.3s,baz=111,slow=9.7,SNR=2.5						
AFI				S	S	09 57 23.3	-0.6
	2.4nm,0.3s,baz=52,slow=18,SNR=4.0						
AFI	Afiamalu	13.45	38	P	P	09 55 02.4	+0.4
AFI				S	S	09 57 23.3	-0.6
URZ	Urewera	13.57	189	P	P	09 55 03.0	-0.3
	4.3nm,0.3s,baz=307,slow=3.8,SNR=30						
URZ				S	S	09 57 29.0	+2.9
	2.1nm,0.3s,baz=204,slow=22,SNR=19						
URZ	Urewera	13.57	189	ePN	P	09 55 02.6	-0.7
MWZ	Matawai	13.59	188	ePN	P	09 55 03.1	-0.4
BKZ	Black Stump Fm	14.55	190	PN	P	09 55 12.5	-1.0
MRZ	Mangatainoka R	16.17	192	PN	P	09 55 27.7	-2.2
QRZ	Quartz Range	17.06	199	PN	P	09 55 40.6	+1.7
NNZ	Nelson	17.19	197	PN	P	09 55 39.6	-0.6
THZ	Tophouse	17.82	197	PN	P	09 55 47.2	+0.6
DSZ	Denniston Nort	18.12	200	PN	P	09 55 50.7	+1.2
LTZ	Lake Taylor	18.95	197	PN	P	09 55 57.5	-0.1
RPZ	Rata Peaks	20.15	199	P	P	09 56 09.5	+0.4
	7.2nm,0.5s,baz=46,slow=1.8,SNR=9.3						
CTA	Charters Tower	31.33	272	⇓iP	P	09 57 50.8	+1.2
	9.8nm,0.3s,mb4.6						
CTA	Charters Tower	31.33	272	P	P	09 57 50.9	+1.3
	14nm,0.3s,mb4.7,baz=102,slow=11,SNR=38						
CTAO	Charters Tower	31.33	272	eP	P	09 57 50.8	+1.2
	16nm,0.4s,mb4.7						
STKA	Stephens Creek	34.23	249	eP	P	09 58 14.7	+0.7
	1.9nm,0.4s,mb3.8						
STKA	Stephens Creek	34.23	249	P	P	09 58 14.6	+0.6
	3.0nm,0.6s,mb3.8,baz=87,slow=10.0,SNR=15						
ASPA	Alice Springs	41.73	262	eP	P	09 59 15.7	-0.2
WB2	Warramunga Arr	42.18	267	⇓iP	P	09 59 18.9	-0.6
WRAB	Tennant Creek	42.18	267	eP	P	09 59 18.6	-0.9
	21nm,0.9s,mb4.5						
WRA	Warramunga Arr	42.19	267	P	P	09 59 19.0	-0.5
	7.8nm,0.3s,mb4.6,baz=99,slow=6.8,SNR=458						
WRA				ScP		10 04 07.6	
	1.7nm,0.7s,baz=101,slow=3.9,SNR=11						
KAKA	Kakadu	46.24	276	⇓iP	P	10 00 08.7	+17
	4.1nm,0.3s,mb4.2						
FITZ	Fitzroy Crossi	50.60	266	⇓iP	P	10 00 23.1	-1.3
	18nm,0.7s,mb4.4						
VNDA	Vanda	53.43	185	P	P	10 00 43.9	-0.4
	0.9nm,0.5s,mb3.3,baz=345,slow=7.9,SNR=7.2						
VNDA	Vanda	53.43	185	eP	P	10 00 43.2	-1.1
SBA	Scott Base	53.43	183	eP	P	10 00 43.7	-0.6
QSPA	South Pole Qui	65.24	180	⇑iP	P	10 02 02.9	-0.5
	6.6nm,0.7s,mb4.4						
MAW	Mawson	76.81	201	P	P	10 03 10.6	-0.9
	2.4nm,0.6s,mb4.0,baz=100,slow=8.7,SNR=7.6						
SNAA	Sanae	83.73	179	⇑i	P	10 03 46.0	-1.3
SNAA	Sanae	83.73	179	e	P	10 03 48.3	+1.0
VNA3	Neumayer Olymp	83.94	177	⇑i	P	10 03 47.5	-0.9
VNA3	Neumayer Olymp	83.94	177	e	P	10 03 50.3	+1.9
VNA2	Neumayer--Watz	84.36	178	⇑i	P	10 03 49.6	-0.9
VNA2	Neumayer--Watz	84.36	178	e	P	10 03 52.3	+1.8
NVAR	Mina Array Bea	85.54	44	P	P	10 03 56.9	0.0
	0.5nm,0.6s,mb3.4,baz=221,slow=8.3,SNR=6.0						
PLCA	Paso Flores	87.72	134	P	P	10 04 07.4	+0.1
	0.6nm,0.6s,mb3.5,baz=206,slow=2.4,SNR=3.3						
TXAR	Lajitas Array	91.06	58	P	P	10 04 23.7	+0.6
	1.0nm,0.7s,mb3.7,baz=213,slow=6.5,SNR=16						
ILAR	Eielson Array	92.98	14	P	P	10 04 33.0	+1.9
	0.2nm,0.9s,mb3.0,baz=194,slow=3.7,SNR=3.3						

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*NAO **14** 10:06:46.8±1.6,59.30N×26.99E,ML2.4*
*IDC **14** 10:06:47.9±2.3,59.34N×26.95E,mb1 3.3/3, mb1mx3.1/20,mbtmp3.1/3,ML2.9/3,Error ellipse: s-maj=20.2km s-min=12.6km az=128.0*
*BER **14** 10:06:48.0±3.5,59.30N×27.12E,ML2.4(NAO), Suspected explosion*
HEL 14 10:06:47.4±0.2,**59.30N×27.14E,ML1.8,ML2.4**(NAO), **Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSU	Vasula	0.87	194	eP	Pg	10 07 03.0	-1.7
VSU				eS	Sg	10 07 14.2	-2.0
VSU	Vasula	0.87	194	Pg	Pg	10 07 03.0	-1.7
VSU				Lg		10 07 14.5	
VJF	Virojoki	1.26	9	eP	Pb	10 07 09.8	-1.9
VJF				eS	Sb	10 07 26.8	-1.6
PVF	Pernaja	1.40	333	eP	Pb	10 07 12.3	-1.9
PVF				eS	Sb	10 07 29.8	-2.7
FIA0	FINESS Array S	2.21	347	eP	Pn	10 07 24.6	-1.2
FIA0				eSG	Sg	10 07 55.8	-5.3
FIA0				MSG		10 07 58.5	
	comp=Z,2.7nm,0.1s						
FIA0	FINESS Array S	2.21	347	Pn	Pn	10 07 24.9	-1.0
	baz=164,slow=16						
FIA0				Lg		10 07 55.6	
	baz=170,slow=37						
FIA0				Rg		10 08 10.1	
	baz=163,slow=37						
FINES	FINESS Array B	2.21	347	Pn	Pn	10 07 24.8	-1.0
	comp=Z,2.3nm,0.3s,baz=166,slow=15,SNR=41						
FINES				Pg	Pg	10 07 26.2	-5.4
	comp=Z,2.3nm,0.3s,baz=165,slow=16,SNR=39						
FINES				Lg		10 07 55.6	
	comp=Z,4.2nm,0.3s,baz=163,slow=29,SNR=25						
KAF	Kangasniemi	2.85	352	eP	Pn	10 07 33.8	-1.2
KAF				eS	Sn	10 08 08.8	-1.7
KAF				MSG		10 08 18.7	
	comp=Z,2.7nm,0.3s						
KEF	Keuruu	3.08	340	eP	Pn	10 07 37.9	-0.4
KEF				eS	Sn	10 08 15.3	-1.1
KEF				MSG		10 08 30.8	
	comp=Z,2.9nm,0.3s						
SUF	Sumiainen	3.46	352	eP	Pn	10 07 42.7	-1.0
SUF				eS	Sn	10 08 24.5	-1.5
SUF				MSG		10 08 38.2	
	comp=Z,1.8nm,0.3s						
JOF	Joensuu	4.16	27	eP	Pn	10 07 51.8	-1.8
JOF				eS	Sn	10 08 40.1	-3.5
HFS	Hagfors	6.85	283	eS	Sn	10 09 44.1	-7.2
HFS				eSG		10 10 18.3	
HFS	Hagfors	6.85	283	Lg		10 10 18.7	
	comp=Z,0.2nm,0.3s,baz=90,slow=30,SNR=5.6						
HFS	Hagfors	6.85	283	Sn	Sn	10 09 44.1	-7.2
	baz=105,slow=28						
HFS				Lg		10 10 18.3	
	baz=90,slow=37						
NOA	NORSAR Array B	8.13	289	Pn	P	10 08 42.4	-7.0
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=2.4						
NOA				Sn	Sn	10 10 09.9	-13
	comp=Z,0.2nm,0.3s,baz=133,slow=7.9,SNR=2.7						
NOA				Lg		10 10 58.2	
	comp=Z,0.4nm,0.3s,baz=238,slow=23,SNR=3.3						
APA0	Apatity Array	8.73	15	eS	Sn	10 10 30.8	-7.6
APA0	Apatity Array	8.73	15	Sn	Sn	10 10 30.8	-7.6
	baz=208,slow=37						
ARA0	ARCESS Array S	10.30	357	Pn	P	10 09 13.6	-5.8
	baz=172,slow=16						
ARA0				Sn	S	10 11 04.2	-13
	baz=169,slow=28						
ARA0				Lg		10 12 03.0	
	baz=170,slow=37						
ARA0	ARCESS Array S	10.30	357	eP	P	10 09 13.6	-5.8
ARA0				eS	S	10 11 04.2	-13
ARA0				eSG		10 12 03.0	
ARCES	ARCESS Array B	10.30	357	Pn	P	10 09 13.7	-5.6
	comp=Z,0.1nm,0.3s,baz=175,slow=13,SNR=8.3						
ARCES				Sn	S	10 11 04.6	-12
	comp=Z,0.2nm,0.3s,baz=173,slow=24,SNR=3.9						

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*NEIC **14** 10:23:52.6,17.34N×94.55W,h160km,MD3.9(MEX),After MEX.*
MEX 14 10:23:52.4±1.1,**17.36N×94.56W,h160**km±10km,**MD4.0, 2C,Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.41	229	iP	P	10 24 13.4	-1.5
CMIG				iS	S	10 24 28.8	-3.5
TUIG	Tuzandepetl	0.69	11	iP	P	10 24 14.4	-1.9
TUIG				iS	S	10 24 32.1	-2.5
OXX	Oaxaca	2.08	263	iP	P	10 24 27.0	-2.5
OXX				iS	S	10 24 56.0	-2.0
VHO	Vista Hermosa	2.09	263	⇑iP	P	10 24 28.7	-0.9
VHO				iS	S	10 24 56.8	-1.5
HUIG	Huatulco	2.17	223	⇑iP	P	10 24 27.8	-2.7
HUIG				iS	S	10 24 57.4	-2.4
CCIG	Comitan	2.56	114	iP	P	10 24 35.0	-0.3
CCIG				iS	S	10 25 05.9	-2.3
PPM	Popocatepetl	4.22	294	eP	P	10 24 55.0	-1.6

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*TRN **14** 10:25:43.6,11.24N×62.24W,h130km,MD3.1*
*NEIC **14** 10:25:43.6,11.24N×62.24W,h130km,MD3.1(TRN),After TRN.*
*FUNV **14** 10:25:43.4,11.30N×62.10W,h130km,MW2.5*
ISC 14 10:25:42.6±0.8,**11.24N**±0.05×**62.25W**±0.03,**h134**km±7km, **n17**,σ0^{s}94/33,**2C,Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.58	177	eP	P	10 26 03.7	+0.9
GUIV				eS	S	10 26 17.7	-0.5
ITEV	Isla Los Testi	0.87	278	eP	P	10 26 05.5	+0.6
ITEV				eS	S	10 26 22.2	+0.3
TRN	Trinidad (W)	1.02	125	⇑iP	P	10 26 07.2	+0.9
TRN				eS	S	10 26 22.6	-1.7
GRW	Mount Saint Ca	1.09	32	eP	P	10 26 07.0	+0.1
GRW				eS	S	10 26 25.2	-0.3
CRUV	Carupano	1.12	240	eP	P	10 26 08.2	+0.9
CRUV				eS	S	10 26 26.7	+0.8
GRHS	Sauteurs	1.15	31	eP	P	10 26 08.4	+0.8
GRHS				eS	S	10 26 25.6	-1.0
TPP	Pointe-a-Pierr	1.20	139	eP	P	10 26 11.5	+3.3
TPP				eS	S	10 26 30.2	+2.6
TBH	Brigand Hill	1.38	123	eP	P	10 26 10.9	+0.8
TBH				eS	S	10 26 30.7	-0.4
TPR	Prospect	1.45	92	eP	P	10 26 10.6	-0.2
TPR				eS	S	10 26 31.5	-0.9
BOT	Bacolet	1.51	92	⇑eP	P	10 26 11.0	-0.5
IBAV	Isla La Blanqu	2.35	285	eP	P	10 26 22.1	+0.4
IBAV				eS	S	10 26 50.8	-0.8
ORIV	Oritupano	2.43	208	eP	P	10 26 23.1	+0.3
ORIV				eS	S	10 26 52.9	-0.5
PCRV	Puerto La Cruz	2.57	246	eP	P	10 26 25.6	+1.1
PCRV				eS	S	10 26 56.4	-0.1
BIRV	Birongo	4.02	260	eP	P	10 26 44.2	+0.5
BIRV				eS	S	10 27 29.8	-0.7
MERV	Las Mercedes	4.44	244	eP	P	10 26 49.5	+0.1
MERV				eS	S	10 27 38.3	-2.3
LUEV	Luepa	5.41	172	eP	P	10 27 00.8	-1.4
LUEV				eS	S	10 27 57.8	-6.2
CAOV	Caicara del Or	5.59	226	eP	P	10 27 04.5	-0.1
CAOV				eS	S	10 28 03.9	-4.3

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*NIED **14** 10:26:00,26.60N×128.80E,h20km,Mw4.8 Best double couple: M₀1.57×10^16 NP1:φs46°,δ79°,λ98°. NP2:φs191°, δ13°,λ56°.*
*BJI **14** 10:26:30.8,26.41N×129.18E,h39km,mB4.8,mb4.6, Ms4.7,Msz4.6*
*JMA **14** 10:26:34.8±0.2,26.55N×128.77E,h25km±3km,M4.8*
JMA Felt I J1.
*MOS **14** 10:26:34.8±1.3,26.50N×128.55E,h33km,mb4.9/17,Error ellipse: s-maj=16.6km s-min=7.6km az=120.9*
*NEIC **14** 10:26:36.2±0.4,26.53N×128.66E,mb4.9/18, MW4.7(NIED),Error ellipse: s-maj=9.7km s-min=6.9km az=143.0*
NEIC Recorded [1 JMA] on Okinawa-jima.
*HRVD **14** 10:26:36.2±0.7,26.44N×128.90E,h37km±2km,MW4.7/34, Centroid moment Tensor Solution. LP body waves: s9,c11;Mantle waves: s34,c54; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.27±.18; Mθθ-0.60±.12; Mφφ-0.67±.13; Mrθ0.56±.09; Mθφ-0.69±.06; Mφr0.60±.08; Best double couple: M₀1.535×10^16 NP1:φs224°,δ29°,λ90°. NP2:φs43°,δ61°,λ90°. Principal axes: T 1.509, Plg74°, Azm313°; N .054, Plg0°, Azm43°; P -1.561, Plg16°, Azm133°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **14** 10:26:36.4±0.8,26.54N×128.58E,h32km±4km,mb4.3/12, mb1 4.4/14,mb1mx4.3/21,mbtmp4.6/14,ML4.3/2,MS4.1/11, Ms1 4.1/11,ms1mx3.9/25 Error ellipse: s-maj=22.0km s-min=12.9km az=48.0*
ISC 14 10:26:34.0±0.8,**26.51N**±0.03×**128.76E**±0.03,**h32**km±5km, **h32**km±.7km**:pP-P,n111**,σ1^{s}15/126,**mb4.7**/41,**MS4.3**/14, **1C-3D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	0.54	307	Pn	Pn	10 26 45.2	-0.2
	5μm,0.3s,baz=131,slow=16						
JOW				Sn	Sn	10 26 52.7	-0.7
	5μm,0.3s,baz=98,slow=25,SNR=78						
JOW	Kunigami	0.54	307	P	Pb	10 26 45.3	+0.2
JOW				S	Sb	10 26 52.3	-0.5
JIH	Iheya	0.88	307	P	Pn	10 26 51.1	+0.8
JIH				S	Sn	10 27 02.9	+0.9
JJT2	Tamagusuku 2	0.98	248	P	Pn	10 26 53.0	+1.4
JJT2				S	Sn	10 27 06.7	+2.2
NAH1	Naha	1.00	253	P	Pn	10 26 53.3	+1.3
NAH1				S	Sn	10 27 06.7	+1.5
JTK	Tokunoshima	1.29	8	P	Pn	10 26 56.4	+0.3
JTK				S	Sn	10 27 12.9	+0.6
JAGN	Aguni-jima	1.36	274	P	Pn	10 26 58.6	+1.5
JAGN				S	Sn	10 27 17.3	+3.1
JKE	Kume jima 2	1.78	265	P	Pn	10 27 03.5	+0.4
JKE				eS	Sn	10 27 25.3	+0.5
JAM	Amami Oshima	2.04	21	P	Pn	10 27 07.0	+0.1
JAM				eS	Sn	10 27 30.9	-0.6
JZK	Kikaishima	2.10	31	P	Pn	10 27 08.7	+1.0
JZK				S	Sn	10 27 33.3	+0.3
JMZ	Minamidaito 2	2.32	107	P	Pn	10 27 10.0	-0.8
JMZ				S	Sn	10 27 34.9	-3.6
JNN	Nakanoshima	3.47	16	P	Pn	10 27 28.2	+1.0
JNN				S	Sn	10 28 05.6	-2.0
JOGS	Gusukube	3.49	241	P	Pn	10 27 27.6	+0.1
JOGS				eS	Sn	10 28 05.9	-2.3
JMJ	Miyako jima 2	3.55	242	P	Pn	10 27 28.9	+0.5
JMJ				eS	Sn	10 28 09.3	-0.5
JTJ	Tarama	4.11	244	P	Pn	10 27 35.2	-1.1
JTJ				S	Sn	10 28 21.4	-2.4
JKC	Kuchinoerabu	4.14	17	P	Pn	10 27 36.7	0.0
JKC				eS	Sn	10 28 21.6	-3.1
JTN	Tanegashima 3	4.57	25	P	Pn	10 27 43.6	+0.7
JTN				eS	Sn	10 28 32.0	-3.6
JIJ	Ishigaki jima	4.69	244	P	Pn	10 27 42.3	-2.2
JKRS	Kuro-shima	4.85	243	P	Pn	10 27 45.2	-1.6
IRIF	Iriomote-Funau	5.03	246	P	Pn	10 27 47.3	-2.1
TATO	Taipei	6.73	258	eP	Pn	10 28 13.2	-0.1
	42nm,0.8s						
JNU	Nakatsue	6.84	15	Pn	Pn	10 28 14.5	-0.4
	4.3nm,0.3s,baz=180,slow=30,SNR=19						
NACB	Ninganchiao	6.88	252	eP	Pn	10 28 11.7	-3.7
YHNB	Yeheng	6.91	256	eP	Pn	10 28 14.9	-0.9
JHJ	Hachijo jima 2	11.62	53	Pn	P	10 29 21.7	+0.9
	13nm,0.3s,baz=73,slow=20,SNR=6.3						
JHJ				LR	LR	10 33 13.6	
	comp=Z,463nm,20.8s,baz=39,slow=34						
CBIJ	Chichi jima	12.01	84	LR	LR	10 33 11.1	
	comp=Z,330nm,19.9s,baz=96,slow=32						
MAJO	Matsushiro	12.84	37	P	P	10 29 48.4	+11
MAT	Matsushiro	12.84	37	eX		10 29 47.9	
MAT	Matsushiro	12.84	37	P	P	10 29 48.0	+11
MAT				S	S	10 32 09.0	+9.1
ENH	Enshi	17.36	287	eP	P	10 30 37.5	+1.8
GUMO	Guam	19.83	127	LR	LR	10 36 58.5	
	comp=Z,304nm,21.6s,baz=80,slow=31						
ASAJ	Asahikawa	20.84	29	P	P	10 31 15.3	-0.1
	7.1nm,0.7s,baz=222,slow=8.6,SNR=7.6						
ASAJ				LR	LR	10 39 27.3	
	comp=Z,538nm,21.4s,MS3.9,baz=172,slow=37						
YSS	Yuzh-Sakhalins	23.22	25	eP	P	10 31 40.6	+1.4
	95nm,1.3s,mb5.1						
YSS	Yuzh-Sakhalins	23.22	25	d iP	P	10 31 40.0	+0.9
YSS				e		10 31 49.2	
YSS				e		10 35 56.0	
LZH	Lanzhou	23.28	300	eP	P	10 31 39.8	0.0
LZH				AP		10 31 45.5	
LZH				PP	PP	10 32 15.0	+3.9
LZH				eS	S	10 35 54.4	+8.3
LZH				XS		10 36 02.6	
LZH				AMB	AMB		
	comp=Z,49nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,203nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,13.9s,MS4.6						
KMI	Kunming	23.45	272	P	P	10 31 43.4	+1.8
KMI				AP		10 31 48.3	
KMI				PP	PP	10 32 13.9	+0.2
KMI				S	S	10 35 49.6	+0.4
KMI				SSS	SSS	10 36 50.3	-3.0
KMI				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.6						
KMI				LR	LR		
	comp=N,471nm,13.4s,MS4.6						
KMI				LR	LR		
	comp=E,1μm,13.1s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,13.8s,MS4.6						
HIA	Hailar	23.78	345	eP	P	10 31 46.1	+1.6
ULN	Ulaanbaatar	27.28	327	eP	P	10 32 17.4	0.0
	comp=Z,13nm,0.9s,mb4.5						
ULN	Ulaanbaatar	27.28	327	eP	P	10 32 17.4	-0.1
ULN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
GTA	Gaotai	27.36	305	eP	P	10 32 16.4	-1.8
GTA				AP	pP	10 32 23.8	-3.7
GTA				PP	PP	10 33 09.1	+3.3
GTA				S	S	10 37 03.3	+9.0
GTA				XS		10 37 13.6	
GTA				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.6						
GTA				AMB	AMB		
	comp=Z,105nm,4.6s						
GTA				LR	LR		
	comp=N,470nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=E,811nm,15.6s,MS4.5						
GTA				LR	LR		
	comp=Z,1μm,14.1s,MS4.6						
SONM	Songino Array	27.58	326	P	P	10 32 21.4	+1.2
	comp=Z,11nm,0.8s,mb4.5,baz=148,slow=11,SNR=38						
SONM				LR	LR	10 45 04.2	
	comp=Z,541nm,18.9s,MS4.2,baz=99,slow=40						
LSA	Lhasa	33.23	284	eP	P	10 33 09.8	-0.6
PET	Petropavlovsk	34.61	32	eP	P	10 33 26.4	+4.3
PET				eS	S	10 38 47.3	-1.1
PET				MLR	MLR		
	comp=Z,200nm,19.0s,MS3.9						
WMQ	Urumqi	37.31	308	eP	P	10 33 44.3	-0.8
WMQ				AP	pP	10 33 53.5	-1.0
WMQ				XP	sP	10 33 58.5	0.0
WMQ				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,217nm,4.8s						
WMQ				LR	LR		
	comp=N,352nm,12.5s,MS4.6						
WMQ				LR	LR		
	comp=E,518nm,14.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,426nm,19.8s,MS4.2						
PKI	Pulchoki	38.48	282	eP	P	10 33 54.7	-0.3
	comp=Z,10nm,0.3s,mb5.0						
PKI				eS	S	10 40 15.4	+27
PKI	Pulchoki	38.48	282	eP	P	10 33 54.7	-0.3
PKI				pmax	pmax		
	comp=Z,10.0nm,0.3s,mb5.0						
KKN	Kakani	38.56	282	eP	P	10 33 55.6	-0.1
	comp=Z,18nm,0.3s,mb5.2						
DMN	Daman	38.74	282	eP	P	10 33 57.0	-0.2
	comp=Z,20nm,0.6s,mb5.0						
GKN	Gorkha	39.09	283	eP	P	10 33 59.7	-0.5
	comp=Z,38nm,0.6s,mb5.3						
SEY	Seymchan	39.62	17	eP	P	10 34 04.2	0.0
KOLN	Koldanda	40.03	282	eP	P	10 34 03.7	-4.3
MKAR	Makanchi Array	41.70	312	P	P	10 34 20.5	-1.0
	comp=Z,1.4nm,0.3s,mb4.0,baz=92,slow=9.7,SNR=41						
MKAR				pP	pP	10 34 30.8	-0.1
	comp=Z,6.6nm,0.8s,baz=101,slow=9.2,SNR=18						
MKAR				PcP	PcP	10 36 18.5	+0.2
	comp=Z,1.1nm,0.6s,baz=90,slow=1.4,SNR=3.8						
MKAR				LR	LR	10 53 59.2	
	comp=Z,195nm,18.2s,MS4.0,baz=359,slow=40						
ZAL	Zalesovo	42.32	322	LR	LR	10 54 19.1	
	comp=Z,566nm,20.2s,MS4.5,baz=352,slow=39						
FITZ	Fitzroy Crossi	44.44	184	eP	P	10 34 54.9	+11
	comp=Z,3.8nm,0.6s,mb4.3						
KURK	Kurchatov	44.95	316	eP	P	10 34 46.1	-1.6
	comp=Z,7.8nm,0.8s,mb4.6						
KURK				epP	pP	10 34 56.0	-1.3
KURK	Kurchatov	44.95	316	eP	P	10 34 46.1	-1.6
KURK				e*PP	pP	10 34 56.0	-1.2
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
WRA	Warramunga Arr	46.49	173	P	P	10 35 00.7	+0.4
	comp=Z,2.6nm,0.6s,mb4.3,baz=352,slow=8.3,SNR=33						
WB2	Warramunga Arr	46.49	173	⇓iP	P	10 35 00.6	+0.3
AAK	Ala-Archa	46.70	305	eP	P	10 35 01.2	-0.5
	comp=Z,3.3nm,0.6s,mb4.4						
AAK	Ala-Archa	46.70	305	eP	P	10 35 01.2	-0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KKAR	Karatay Array	49.64	305	iP	P	10 35 24.2	-0.4
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
VOSK	Vostochnaya	49.99	318	P	P	10 35 24.3	-2.8
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ASPA	Alice Springs	50.12	174	eP	P	10 35 29.6	+1.1
BVA0	Borovoye Array	50.38	318	iP	P	10 35 29.0	-1.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	Borovoye Array	50.38	318	P	P	10 35 29.3	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.3nm,0.5s,mb4.7,baz=89,slow=9.4,SNR=4.2						
BVAR				pP	pP	10 35 39.5	-0.3
	comp=Z,12nm,0.7s,baz=79,slow=8.7,SNR=25						
BVAR				PcP	PcP	10 36 48.4	-0.1
	comp=Z,2.6nm,0.4s,baz=112,slow=2.6,SNR=4.9						
BRVK	**Borovoye**	**50.45**	**318**	eP	**P**	**10 35 29.4**	**-1.3**
	comp=Z,14nm,0.8s,mb5.0						
BRVK				epP	pP	10 35 38.2	-2.1
BRVK	**Borovoye**	**50.45**	**318**	eP	**P**	**10 35 29.4**	**-1.2**
BRVK				e*PP	pP	10 35 38.2	-2.1
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
AB31	**Akbulak array**	**56.80**	**313**	i P	**P**	**10 36 16.4**	**-1.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARU	**Arti**	**57.47**	**322**	eP	**P**	**10 36 20.4**	**-1.7**
	comp=Z,12nm,0.6s,mb5.1						
ARU				epP	pP	10 36 30.1	-1.8
ARU	**Arti**	**57.47**	**322**	⇑iP	**P**	**10 36 20.2**	**-2.0**
ARU				e		10 37 22.2	
ARU				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
STKA	**Stephens Creek**	**59.33**	**167**	LR	LR	11 03 27.2	
	comp=Z,79nm,19.0s,MS3.9,baz=26,slow=37						
MCK	**McKinley**	**63.20**	**30**	eP	**P**	**10 37 00.2**	**-0.9**
	comp=Z,9.1nm,1.1s,mb4.8						
MCK	**McKinley**	**63.20**	**30**	eP	**P**	**10 37 00.2**	**-0.9**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**63.97**	**28**	P	**P**	**10 37 06.7**	**+0.6**
	comp=Z,1.0nm,0.7s,mb4.0,baz=280,slow=5.5,SNR=11						
GNI	**Garni**	**69.10**	**305**	i P	**P**	**10 37 38.6**	**-0.5**
KEV	**Kevo**	**69.35**	**339**	ep	**P**	**10 37 39.4**	**-0.8**
	comp=Z,2.8nm,0.6s,mb4.4						
KEV	**Kevo**	**69.35**	**339**	eP	**P**	**10 37 39.4**	**-0.8**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KIV	**Kislovodsk**	**69.43**	**310**	d iP	**P**	**10 37 43.0**	**+1.9**
KIV				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
OBN	**Obninsk**	**69.90**	**322**	eP	**P**	**10 37 43.9**	**+0.2**
OBN				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.9						
ARCES	**ARCESS Array B**	**69.92**	**339**	P	**P**	**10 37 43.1**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=74,slow=7.4,SNR=14						
ARCES				LR	LR	11 15 35.9	
	comp=Z,164nm,20.0s,MS4.3,baz=62,slow=42						
JOF	**Joensuu**	**70.03**	**331**	ep	**P**	**10 37 43.2**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**72.49**	**331**	ep	**P**	**10 37 58.2**	**-1.0**
ANN	**Anapa**	**72.72**	**312**	eP	**P**	**10 37 53.3**	**-7.6**
ANN				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.3						
FINES	**FINESS Array B**	**72.86**	**331**	P	**P**	**10 38 00.8**	**-0.4**
	comp=Z,2.6nm,0.4s,mb4.5,baz=62,slow=6.6,SNR=42						
FINES				pP	pP	10 38 11.1	-0.1
	comp=Z,3.5nm,0.5s,baz=62,slow=7.2,SNR=4.2						
FINES				LR	LR	11 14 08.2	
	comp=Z,263nm,20.9s,MS4.5,baz=2.0,slow=39						
MALT	**Malatya**	**74.34**	**305**	eP	**P**	**10 38 11.1**	**+0.8**
	comp=Z,6.7nm,0.8s,mb4.6						
MALT	**Malatya**	**74.34**	**305**	eP	**P**	**10 38 11.1**	**+0.7**
MALT				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**75.63**	**320**	P	**P**	**10 38 17.1**	**-0.4**
	comp=Z,4.7nm,0.3s,mb4.8,baz=57,slow=6.7,SNR=19						
AKASG				pP	pP	10 38 27.4	-0.1
	comp=Z,7.5nm,0.5s,baz=57,slow=6.9,SNR=10						
AKASG	**Malin Array Be**	**75.63**	**320**	P	**P**	**10 38 17.1**	**-0.4**
AKASG				pP	pP	10 38 27.4	-0.1
BR131	**Keskin Array S**	**77.24**	**308**	eP	**P**	**10 38 27.4**	**+0.6**
	comp=Z,8.2nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**77.24**	**308**	P	**P**	**10 38 27.2**	**+0.4**
	comp=Z,9.1nm,0.8s,mb4.8,baz=109,slow=4.3,SNR=30						
ASF	**Jabal al Asfar**	**77.84**	**300**	P	**P**	**10 38 29.8**	**-0.4**
	comp=Z,4.4nm,0.6s,mb4.6,baz=305,slow=8.0,SNR=5.8						
YKA	**Yellowknife Ar**	**78.08**	**25**	pP	pP	10 38 42.6	+1.7
	comp=Z,1.3nm,0.7s,baz=306,slow=5.1,SNR=3.8						
NB2	**NORSAR Subarra**	**79.28**	**334**	P	**P**	**10 38 37.1**	**-0.4**
	comp=Z,9.9nm,1.0s,mb4.7,baz=53,slow=5.6						
NB2	**NORSAR Subarra**	**79.28**	**334**	P	**P**	**10 38 37.1**	**-0.4**
NB2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
NOA	**NORSAR Array B**	**79.28**	**334**	P	**P**	**10 38 37.5**	**0.0**
	comp=Z,7.0nm,1.0s,mb4.6,baz=52,slow=5.5,SNR=7.8						
NOA				pP	pP	10 38 47.7	+0.1
	comp=Z,3.2nm,0.6s,baz=52,slow=5.7,SNR=4.8						
NOA				LR	LR	11 15 35.0	
	comp=Z,145nm,18.3s,MS4.3,baz=190,slow=37						
NOA	**NORSAR Array B**	**79.28**	**334**	P	**P**	**10 38 37.5**	**0.0**
NOA				pP	pP	10 38 47.7	+0.1
NOA				LR	LR	11 15 35.0	
KONO	**Kongsberg**	**80.75**	**333**	eP	**P**	**10 38 52.2**	**+6.8**
STHS	**Stebnicka Huta**	**80.79**	**321**	eP	**P**	**10 38 47.3**	**+1.5**
STHS				e	pP	10 38 57.3	+1.4
SUMG	**Summit**	**80.79**	**356**	eP	**P**	**10 38 46.9**	**+1.4**
	comp=Z,25nm,1.0s,mb5.1						
SUMG				epP	pP	10 38 57.9	+2.5
OJC	**Ojcow**	**81.19**	**322**	eP	**P**	**10 38 48.9**	**+1.0**
KECS	**Kecovo**	**81.69**	**320**	eP	**P**	**10 38 49.1**	**-1.5**
KECS				e		10 39 01.3	
OKC	**Ostrava-Krasne**	**82.30**	**322**	eP	**P**	**10 38 55.1**	**+1.4**
VYHS	**Vyhne**	**82.63**	**321**	eP	**P**	**10 38 57.6**	**+2.2**
DPC	**Dobruska-Polom**	**83.01**	**323**	epP	pP	10 39 09.7	+2.3
BRG	**Berggiesshubel**	**83.96**	**325**	eP	**P**	**10 39 03.5**	**+1.3**
	comp=Z,5.1nm,0.8s,mb4.7						
BRG	**Berggiesshubel**	**83.96**	**325**	eP	**P**	**10 39 03.5**	**+1.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
PRU	**Pruhonice**	**84.16**	**324**	eP	**P**	**10 39 04.8**	**+1.6**
CLL	**Collm**	**84.19**	**325**	P	**P**	**10 39 04.3**	**+1.0**
	comp=Z,logA/T=1.2,mb5.1						
CLL				e*PP	pP	10 39 14.0	+0.5
CLL	**Collm**	**84.19**	**325**	i P	**P**	**10 39 04.3**	**+1.0**
	comp=Z,16nm,1.1s,mb5.1						
CLL				e	pP	10 39 14.0	+0.5
CLL	**Collm**	**84.19**	**325**	i P	**P**	**10 39 04.3**	**+1.0**
CLL				e	pP	10 39 14.0	+0.5
CLL				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
MOD	**Modoc**	**86.77**	**44**	eP	**P**	**10 39 18.4**	**+2.0**
	comp=Z,11nm,1.4s,mb4.9						

*ROM **14** 10:43:24.2±0.9, 42.98N×18.02E, h12^{km}, Md3.0/6, Ml3.1/7, Error ellipse: s-maj=14.9km s-min=4.8km az=119.0*
*NEIC **14** 10:43:25.6, 43.01N×17.90E, h7^{km}, ML3.1(PDG), ML3.1(ROM), After PDG.*
*PDG **14** 10:43:25.6±0.3, 43.01N×17.90E, h7^{km}±1^{km}*
*CSEM **14** 10:43:25.1±0.1, 43.05N×17.92E, h2^{km}, MD3.0/6, Error ellipse: s-maj=1.6km s-min=1.1km az=27.0*
ISC 14 10:43:25.3±0.2**, 43.02N**±0.02×**17.88E**±0.02**, h7^{km}, n51, σ1^{s}11**/73**, 12C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TREB	**Trebinje**	**0.46**	**131**	Pg	**Pg**	**10 43 34.3**	**-0.3**
BRY	**Bratogost**	**0.50**	**104**	⇑iPg	**Pg**	**10 43 34.4**	**-1.1**
BRY				eSg	**Sg**	**10 43 42.4**	**+0.2**
HCY	**Herceg Novi**	**0.73**	**141**	⇑iPg	**Pg**	**10 43 38.7**	**-1.3**
HCY				eSg	**Sg**	**10 43 50.8**	**+1.0**
UPM	**Unac-Piva**	**0.78**	**76**	⇑iPg	**Pg**	**10 43 39.5**	**-1.4**
UPM				eSg	**Sg**	**10 43 51.6**	**+0.4**
NKY	**Niksic**	**0.85**	**104**	⇑iPg	**Pg**	**10 43 40.7**	**-1.6**
NKY				eSg	**Sg**	**10 43 54.0**	**+0.4**
BUM	**Brajici-Budva**	**1.04**	**133**	⇓iPg	**Pg**	**10 43 44.4**	**-1.7**
BUM				eSg	**Sg**	**10 44 01.2**	**+1.2**
PLE	**Pljevlja**	**1.15**	**74**	⇓iPg	**Pg**	**10 43 46.7**	**-1.6**
PLE				eSg	**Sg**	**10 44 04.4**	**+0.7**
TTG	**Podgorica**	**1.18**	**120**	⇓iPg	**Pg**	**10 43 47.2**	**-1.6**
TTG				eSg	**Sg**	**10 44 05.7**	**+1.1**
NVSS	**Nova Varos 2**	**1.42**	**69**	⇑iPn	**Pn**	**10 43 53.0**	**+1.4**
NVSS				Sn	**Sn**	**10 44 13.2**	**+2.5**
ULC	**Ulcinj**	**1.47**	**136**	⇓iPg	**Pg**	**10 43 51.7**	**-2.9**
ULC				eSg	**Sg**	**10 44 14.6**	**+0.5**
IVA	**Berane**	**1.49**	**95**	ePg	**Pg**	**10 43 52.9**	**-2.2**
IVA				eSg	**Sg**	**10 44 15.6**	**+0.6**
PVY	**Plav**	**1.60**	**105**	ePn	**Pn**	**10 43 54.9**	**+0.7**
PVY				eSn	**Sn**	**10 44 18.4**	**+3.0**
BLY	**Banja Luka**	**1.80**	**344**	Pn	**Pn**	**10 43 58.9**	**+1.9**
DIVS	**Divcibare**	**1.88**	**54**	⇑iPn	**Pn**	**10 43 57.8**	**-0.4**
DIVS				Sn	**Sn**	**10 44 23.9**	**+1.6**
FGMS	**Monte Sant'Ang**	**1.94**	**228**	Pn	**Pn**	**10 43 58.3**	**-0.7**
	28nm,0.3s						
RGNG	**Rignano Grg**	**2.17**	**232**	Pn	**Pn**	**10 44 04.1**	**+1.8**
BRT	**Bari-Castellan**	**2.20**	**193**	Pn	**Pn**	**10 44 02.3**	**-0.5**
	34nm,0.2s						
NOCI	**Noci**	**2.31**	**195**	Pn	**Pn**	**10 44 03.8**	**-0.6**
	146nm,0.3s						
AMUR	**Altamura**	**2.32**	**205**	Pn	**Pn**	**10 44 04.7**	**+0.2**
NVLJ	**Novalja**	**2.67**	**306**	i Pn	**Pn**	**10 44 10.5**	**+1.1**
NVLJ				i Sn	**Sn**	**10 44 47.8**	**+5.3**
SKO	**Skopje**	**2.83**	**111**	ePn	**Pg**	**10 44 17.5**	**-4.4**
RHK3	**Tenkes**	**2.88**	**5**	eP	**Pn**	**10 44 11.1**	**-1.4**
MRLC	**Muro Lucano**	**2.88**	**219**	Pn	**Pn**	**10 44 11.9**	**-0.6**
MCRV	**Calabrutti - M**	**3.02**	**223**	Pn	**Pn**	**10 44 13.8**	**-0.6**
	40nm,0.5s						
MIDA	**Miranda**	**3.02**	**244**	Pn	**Pn**	**10 44 14.7**	**+0.2**
	36nm,0.6s						
RHK1	**Bakonya**	**3.08**	**3**	⇑iP	**Pn**	**10 44 15.1**	**-0.2**
RHK1				eS	**Sn**	**10 44 52.3**	**-0.5**
	1.7nm,0.5s						
INTR	**Introdacqua**	**3.11**	**252**	Pn	**Pn**	**10 44 15.7**	**0.0**
	140nm,1.2s						
BOJS	**Bojanci**	**3.12**	**324**	ePn	**Pn**	**10 44 17.3**	**+1.4**
BOJS				eSn	**Sn**	**10 44 56.5**	**+2.7**
VAGA	**Valle Agricola**	**3.15**	**241**	Pn	**Pn**	**10 44 17.3**	**+1.0**
PKSM	**Moragy**	**3.24**	**9**	⇑eP	**Pn**	**10 44 16.1**	**-1.5**
CRES	**Cresnjev**	**3.30**	**329**	ePn	**Pn**	**10 44 19.3**	**+0.9**
CRES				i Sn	**Sn**	**10 44 59.5**	**+1.1**
CAMP	**Campotosto**	**3.33**	**263**	Pn	**Pn**	**10 44 19.1**	**+0.3**
	2μm,8.4s						
VVLD	**Villa Vallelon**	**3.35**	**251**	Pn	**Pn**	**10 44 19.4**	**+0.2**
	43nm,0.7s						
CUC	**Castrocucco**	**3.40**	**208**	Pn	**Pn**	**10 44 19.6**	**-0.3**
	34nm,0.5s						
NRCA	**Norcia**	**3.50**	**269**	Pn	**Pn**	**10 44 21.7**	**+0.3**
	5.0nm,0.3s						
KNDS	**Knezji Dol**	**3.55**	**316**	ePn	**Pn**	**10 44 23.6**	**+1.6**
KNDS				eSn	**Sn**	**10 45 08.6**	**+4.0**
KNDS	**Knezji Dol**	**3.55**	**316**	ePn	**Pn**	**10 44 23.8**	**+1.8**
DOBS	**Dobrina**	**3.57**	**332**	i Pn	**Pn**	**10 44 23.2**	**+0.9**
SNTG	**Esanatoglia**	**3.62**	**275**	Pn	**Pn**	**10 44 22.9**	**-0.1**
	7.0nm,0.2s						
ARV	**Arcevia**	**3.64**	**279**	Pn	**Pn**	**10 44 23.4**	**+0.1**
	3.0nm,0.2s						
MNS	**Montasola**	**3.88**	**262**	Pn	**Pn**	**10 44 26.8**	**+0.1**
	7.0nm,0.3s						
PKS8	**Sarbogard**	**3.90**	**8**	⇑iP	**Pn**	**10 44 25.2**	**-1.8**
JAVS	**Javornik**	**3.96**	**318**	i Pn	**Pn**	**10 44 28.3**	**+0.5**
PERS	**Pernice**	**4.11**	**332**	ePn	**Pn**	**10 44 30.5**	**+0.5**
PERS				eSn	**Sn**	**10 45 17.9**	**-1.1**
VOY	**Vojsko**	**4.14**	**318**	ePn	**Pn**	**10 44 30.5**	**0.0**
VOY				eSn	**Sn**	**10 45 19.9**	**+0.1**
OBKA	**Obir**	**4.22**	**327**	⇑iPN	**Pn**	**10 44 31.9**	**+0.4**
OBKA				i SN	**Sn**	**10 45 20.7**	**-0.9**
CADS	**Cadrg**	**4.36**	**319**	i Pn	**Pn**	**10 44 33.3**	**-0.2**
ARSA	**Arzberg**	**4.54**	**339**	⇑iPN	**Pn**	**10 44 35.8**	**-0.3**
ARSA				i SN	**Sn**	**10 45 28.5**	**-1.4**
PTCC	**Patocco-Chiusa**	**4.67**	**318**	Pn	**Pn**	**10 44 38.0**	**0.0**
	10.0nm,0.4s						
MOA	**Molln**	**5.46**	**333**	⇑iPN	**Pn**	**10 44 48.2**	**-0.8**
MOA				i SN	**Sn**	**10 45 50.5**	**-2.4**
KECS	**Kecovo**	**5.76**	**18**	ePN	**Pn**	**10 44 53.4**	**+0.1**

*NEIC **14** 10:52:27.5, 34.68S×72.39W, h27^{km}, ML2.7(GUC), After GUC.*
GUC 14 10:52:27.5±0.7**, 34.68S×72.39W, h27^{km}**±4^{km}**, MD3.5, ML2.7, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.09**	**49**	⇑iP	Pn	10 52 46.8	-0.3
LNV				i S	Sb	10 53 00.8	-0.6
SFDO	**San Fernando**	**1.14**	**87**	⇓iP	Pn	10 52 47.3	-0.6
LCCH	**Las Cruces**	**1.38**	**30**	⇓iP	Pn	10 52 50.8	-0.6
TACH	**Talagante**	**1.58**	**50**	eP	Pn	10 52 54.6	+0.4
CACH	**El Canelo**	**1.58**	**70**	⇑iP	Pn	10 52 55.1	+0.8
CACH				i S	Sn	10 53 16.4	+2.4
CHCH	**Chadas Angostu**	**1.62**	**63**	⇑iP	Pn	10 52 55.3	+0.5
CHCH				i S	Sn	10 53 16.6	+1.7
CICH	**Cipreses**	**1.67**	**78**	eP	Pn	10 52 56.3	+0.8
CICH				i S	Sn	10 53 17.2	+1.1
LMEL	**Las Melosas**	**1.99**	**66**	⇑iP	Pn	10 53 01.2	+1.1
LMEL				i S	Sn	10 53 26.5	+2.1
LMEL				AMP		10 53 30.9	
	comp=N,97nm,0.4s						

*BJI **14** 11:00:57.7, 0.15N×17.15W, h9^{km}, mB5.4, Ms5.0, Msz4.7*
*IDC **14** 11:00:58.9±0.5, 0.12N×17.01W, mb4.4/23, mb1 4.5/23, mb1mx4.4/29, mbtmp4.4/23, MS4.2/19, Ms1 4.2/19, ms1mx4.0/34, Error ellipse: s-maj=14.7km s-min=13.8km az=127.0*
*NEIC **14** 11:01:00.8±0.2, 0.09N×17.06W, h10^{km}, mb4.7/30, MS4.6/4, Error ellipse: s-maj=7.1km s-min=4.6km az=117.0*
*MOS **14** 11:01:02.3±0.9, 0.12N×17.10W, h33^{km}, mb4.8/27, MS4.5/5, Error ellipse: s-maj=14.7km s-min=5.9km az=65.1*
ISC 14 11:00:58.9±0.3**, 0.10N**±0.05×**17.04W**±0.06**, h10^{km}, n145, σ0^{s}91**/124**, mb4.6**/51**, MS4.3**/23**, 8C-5D, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**13.45**	**63**	ePn	**P**	**11 04 08.9**	**-3.5**
LIC				eSn	**S**	**11 06 25.8**	**-17**
	59nm,0.6s						
DBIC	**Dimbokro**	**13.80**	**62**	Pn	**P**	**11 04 13.1**	**-4.1**
	5.6nm,0.3s,baz=237,slow=14,SNR=38						
DBIC				LR	LR	11 08 38.4	
	comp=Z,1μm,18.5s,baz=236,slow=33						
DBIC	**Dimbokro**	**13.80**	**62**	eP	**P**	**11 04 13.5**	**-3.7**
	14nm,0.4s						
DBIC				eS	**S**	**11 06 32.7**	**-19**
DBIC	**Dimbokro**	**13.80**	**62**	eP	**P**	**11 04 13.5**	**-3.7**
DBIC				pmax	pmax		
	comp=Z,14nm,0.4s						
BAO	**Brasilia Array**	**34.33**	**241**	P	**P**	**11 07 48.0**	**-0.1**
BDFB	**Brasilia**	**34.35**	**241**	P	**P**	**11 07 48.0**	**-0.3**
	comp=Z,9.5nm,0.9s,mb4.7,baz=34,slow=10,SNR=6.3						
BDFB				LR	LR	11 20 08.2	
	comp=Z,239nm,18.1s,MS4.0,baz=102,slow=33						
MDT	**Midelt**	**34.59**	**19**	P	**P**	**11 07 50.9**	**+0.8**
	comp=Z,2.9nm,0.8s,mb4.2,baz=258,slow=6.0,SNR=4.7						
TSUM	**Tsumeb**	**39.00**	**121**	P	**P**	**11 08 26.9**	**-0.6**
	comp=Z,13nm,1.0s,mb4.6,baz=292,slow=8.5,SNR=17						
TSUM	**Tsumeb**	**39.00**	**121**	eP	**P**	**11 08 28.0**	**+0.4**
	comp=Z,17nm,1.1s,mb4.7						
EVO	**Evora**	**39.14**	**11**	eP	**P**	**11 08 28.0**	**-0.5**
ESDC	**Sonseca Array**	**41.16**	**15**	P	**P**	**11 08 44.6**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.6,baz=207,slow=6.6,SNR=4.8						
ESDC				PcP	PcP	11 10 44.7	-0.3
	comp=Z,0.3nm,0.3s,baz=191,slow=2.2,SNR=5.9						
ETSF	**Etsaut**	**45.10**	**17**	eP	**P**	**11 09 18.1**	**+0.9**
	comp=Z,16nm,0.9s,mb4.5						
ETSF	**Etsaut**	**45.10**	**17**	eP	**P**	**11 09 18.1**	**+0.9**
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
SJPF	**Ste Jean**	**45.11**	**16**	eP	**P**	**11 09 18.2**	**+0.9**
	comp=Z,12nm,0.7s,mb4.5						
SJPF	**Ste Jean**	**45.11**	**16**	eP	**P**	**11 09 18.2**	**+0.9**
SJPF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
EPF	**Esparros**	**45.50**	**18**	eP	**P**	**11 09 21.2**	**+0.9**
SIV	**San Ignacio**	**46.29**	**248**	P	**P**	**11 09 27.1**	**+0.2**
	comp=Z,5.4nm,1.0s,mb4.4,baz=81,slow=11,SNR=16						
MTLF	**Montolieu**	**46.38**	**19**	eP	**P**	**11 09 27.2**	**-0.1**
SAML	**Samuel**	**46.82**	**258**	eP	**P**	**11 09 31.3**	**+0.2**
	comp=Z,24nm,1.1s,mb5.0						
CPUP	**Villa Florida**	**46.86**	**233**	LR	LR	11 27 60.0	
	comp=Z,337nm,19.1s,MS4.3,baz=127,slow=35						
CPUP	**Villa Florida**	**46.86**	**233**	eP	**P**	**11 09 30.8**	**-0.5**
	comp=Z,5.9nm,1.2s,mb4.4						
CPUP	**Villa Florida**	**46.86**	**233**	eP	**P**	**11 09 30.8**	**-0.5**
CPUP				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VAE	**Valguarnera**	**47.18**	**34**	LR	LR	11 31 37.6	
	comp=Z,584nm,21.1s,MS4.5,baz=282,slow=39						
LSZ	**Lusaka**	**47.22**	**111**	eP	**P**	**11 09 35.0**	**+0.8**
	comp=Z,4.8nm,1.0s,mb4.4						
LSZ	**Lusaka**	**47.22**	**111**	eP	**P**	**11 09 35.0**	**+0.8**
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
LFF	**La Frestale**	**47.35**	**17**	eP	**P**	**11 09 35.6**	**+0.6**
	comp=Z,8.6nm,0.6s,mb4.5						
LFF	**La Frestale**	**47.35**	**17**	eP	**P**	**11 09 35.6**	**+0.6**
LFF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LASF	**Ste Croix**	**47.58**	**20**	eP	**P**	**11 09 37.1**	**+0.3**
CAF	**Calviac**	**47.74**	**18**	eP	**P**	**11 09 38.2**	**+0.2**
MBAR	**Mbarara**	**47.78**	**91**	eP	**P**	**11 09 39.8**	**+1.0**
	comp=Z,17nm,1.3s,mb4.9						
MBAR	**Mbarara**	**47.78**	**91**	d iP	**P**	**11 09 39.5**	**+0.7**
RJF	**Les Rejaudoux**	**47.91**	**18**	eP	**P**	**11 09 39.4**	**0.0**
LMR	**La Mourre**	**47.93**	**23**	eP	**P**	**11 09 39.8**	**+0.3**
	comp=Z,8.8nm,0.7s,mb4.6						
LMR	**La Mourre**	**47.93**	**23**	eP	**P**	**11 09 39.8**	**+0.3**
LMR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
SUR	**Sutherland**	**48.15**	**136**	P	**P**	**11 09 41.2**	**-0.2**
	comp=Z,17nm,0.8s,mb5.1,baz=300,slow=8.7,SNR=6.5						
SUR	**Sutherland**	**48.15**	**136**	eP	**P**	**11 09 41.9**	**+0.5**
	comp=Z,24nm,1.0s,mb5.2						
LBTB	**Lobatse**	**48.19**	**124**	P	**P**	**11 09 41.6**	**-0.1**
	comp=Z,12nm,0.8s,mb5.0,baz=294,slow=9.1,SNR=12						
LBTB	**Lobatse**	**48.19**	**124**	eP	**P**	**11 09 41.4**	**-0.3**
	comp=Z,11nm,0.9s,mb4.9						
LBTB	**Lobatse**	**48.19**	**124**	eP	**P**	**11 09 41.4**	**-0.4**
LBTB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
MFF	**Saint Martin d**	**48.62**	**15**	eP	**P**	**11 09 44.9**	**+0.1**
	comp=Z,6.9nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**48.62**	**15**	eP	**P**	**11 09 44.9**	**+0.1**
MFF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
SBF	**Sospel**	**48.74**	**23**	eP	**P**	**11 09 46.1**	**+0.3**
MATP	**Matopo**	**48.98**	**117**	P	**P**	**11 09 46.4**	**-1.5**
	comp=Z,11nm,0.7s,mb5.0,baz=296,slow=6.9,SNR=26						
MATP	**Matopo**	**48.98**	**117**	P	**P**	**11 09 46.4**	**-1.5**
TCF	**Toulx Ste Croi**	**49.01**	**18**	eP	**P**	**11 09 48.5**	**+0.7**
ORIF	**Oris-en-Rattie**	**49.03**	**21**	eP	**P**	**11 09 49.1**	**+1.1**
MBDF	**Montbardon**	**49.20**	**22**	eP	**P**	**11 09 50.5**	**+1.2**
	comp=Z,24nm,1.1s,mb4.8						
MBDF	**Montbardon**	**49.20**	**22**	eP	**P**	**11 09 50.5**	**+1.2**
MBDF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
BNI	**Bardonecchia**	**49.45**	**22**	eP	**P**	**11 09 52.6**	**+1.4**
	comp=Z,9.9nm,0.9s,mb4.8						
BNI	**Bardonecchia**	**49.45**	**22**	eP	**P**	**11 09 52.6**	**+1.4**
BNI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**49.81**	**18**	eP	**P**	**11 09 54.1**	**+0.1**
LPG	**La Plagne**	**49.85**	**22**	eP	**P**	**11 09 55.5**	**+1.2**
	comp=Z,13nm,0.8s,mb4.7						
LPG	**La Plagne**	**49.85**	**22**	eP	**P**	**11 09 55.5**	**+1.2**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LPL	**La Plagne**	**49.86**	**22**	eP	**P**	**11 09 55.5**	**+1.1**
	comp=Z,28nm,1.1s,mb4.9						
LPL	**La Plagne**	**49.86**	**22**	eP	**P**	**11 09 55.5**	**+1.1**
LPL				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
SSF	**Saint Saulge**	**50.10**	**18**	eP	**P**	**11 09 55.8**	**-0.4**
	comp=Z,5.6nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**50.10**	**18**	eP	**P**	**11 09 55.8**	**-0.4**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LOR	**Lormes**	**50.40**	**18**	eP	**P**	**11 09 58.5**	**+0.1**
	comp=Z,12nm,0.9s,mb4.6						
LOR	**Lormes**	**50.40**	**18**	eP	**P**	**11 09 58.5**	**+0.1**
LOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CABF	**La Chapelle**	**50.56**	**21**	eP	**P**	**11 10 00.7**	**+1.0**
	comp=Z,6.0nm,0.6s,mb4.4						
CABF	**La Chapelle**	**50.56**	**21**	eP	**P**	**11 10 00.7**	**+1.0**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
HAU	**Haudompre**	**51.86**	**20**	eP	**P**	**11 10 09.2**	**-0.3**
	comp=Z,10nm,0.7s,mb4.6						
HAU	**Haudompre**	**51.86**	**20**	eP	**P**	**11 10 09.2**	**-0.3**
HAU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
IDI	**Anoyia**	**52.44**	**44**	LR	LR	11 35 32.9	
	comp=Z,184nm,18.7s,MS4.2,baz=266,slow=40						
CDF	**Champ du Feu**	**52.52**	**20**	eP	**P**	**11 10 14.0**	**-0.5**
LPAZ	**La Paz**	**52.93**	**249**	P	**P**	**11 10 17.5**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=66,slow=6.4,SNR=10						
LPAZ				LR	LR	11 31 29.7	
	comp=Z,208nm,19.6s,MS4.2,baz=108,slow=35						
LPAZ	**La Paz**	**52.93**	**249**	eP	**P**	**11 10 17.8**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.2						
LPAZ				LR	LR		
	comp=Z,269nm,21.0s,MS4.3						
LPAZ	**La Paz**	**52.93**	**249**	eP	**P**	**11 10 17.8**	**-0.2**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ				MLR	MLR		
	comp=Z,269nm,21.0s						
GIVF	**Givet**	**53.20**	**17**	eP	**P**	**11 10 18.8**	**-0.8**
KMBO	**Kilima Mbogo**	**54.30**	**91**	P	**P**	**11 10 29.2**	**+1.1**
	comp=Z,9.1nm,1.1s,mb4.6,baz=256,slow=9.4,SNR=9.3						
KMBO				LR	LR	11 31 12.2	
	comp=Z,239nm,19.8s,MS4.3,baz=272,slow=33						
KMBO	**Kilima Mbogo**	**54.30**	**91**	⇑eP	**P**	**11 10 30.0**	**+1.9**
GRA1	**Grafenberg Arr**	**55.02**	**22**	eP	**P**	**11 10 32.4**	**-0.5**
	comp=Z,6.0nm,0.7s,mb4.7						
GRA1				LR	LR		
	comp=Z,500nm,18.6s,MS4.6						
GRF	**Grafenberg Arr**	**55.02**	**22**	eP	**P**	**11 10 32.4**	**-0.5**
	comp=Z,6.0nm,0.7s,mb4.7						
GRF				LR	LR		
	comp=Z,500nm,18.6s,MS4.6						
GRF	**Grafenberg Arr**	**55.02**	**22**	eP	**P**	**11 10 32.4**	**-0.5**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
GRF				MLR	MLR		
	comp=Z,500nm,18.6s,MS4.6						
GRF	**Grafenberg Arr**	**55.02**	**22**	eP	**P**	**11 10 32.4**	**-0.5**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
GRF				MLR	MLR		
	comp=Z,500nm,18.6s,MS4.6						
LVC	**Limon Verde**	**55.26**	**242**	LR	LR	11 32 59.4	
	comp=Z,164nm,19.7s,MS4.1,baz=257,slow=35						
LVC	**Limon Verde**	**55.26**	**242**	eP	**P**	**11 10 34.3**	**-0.7**
	comp=Z,8.3nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**55.31**	**24**	P	**P**	**11 10 33.9**	**-1.2**
	comp=Z,2.0nm,0.6s,mb4.3,baz=217,slow=6.7,SNR=14						
GERES				PP	PP	11 12 33.2	-7.1
	comp=Z,1.2nm,0.6s,baz=207,slow=9.0,SNR=4.7						
KHC	**Kasperske Hory**	**55.49**	**24**	eP	**P**	**11 10 36.0**	**-0.3**
KHC				x	x	11 10 46.5	
KHC	**Kasperske Hory**	**55.49**	**24**	⇓iP	**P**	**11 10 36.6**	**+0.3**
TRQA	**Tornquist**	**56.10**	**222**	eP	**P**	**11 10 39.9**	**-1.0**
	comp=Z,6.7nm,1.1s,mb4.6						
CLL	**Collm**	**57.00**	**22**	eP	**P**	**11 10 47.0**	**-0.1**
BRG	**Berggiesshubel**	**57.01**	**23**	eP	**P**	**11 10 46.8**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.3						
BRG				LR	LR		
	comp=Z,830nm,22.0s,MS4.8						
BRG	**Berggiesshubel**	**57.01**	**23**	eP	**P**	**11 10 46.8**	**-0.4**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRG				MLR	MLR		
	comp=Z,830nm,22.0s,MS4.8						
ROSC	**El Rosal**	**57.41**	**276**	P	**P**	**11 10 52.2**	**+1.7**
	comp=Z,7.5nm,0.5s,mb5.0,baz=82,slow=20,SNR=3.6						
ROSC				LR	LR	11 32 30.1	
	comp=Z,173nm,20.9s,MS4.1,baz=233,slow=33						
CFAA	**Coronel Fontan**	**57.74**	**232**	LR	LR	11 33 55.8	
	comp=Z,61nm,19.6s,MS3.7,baz=117,slow=34						
ASF	**Jabal al Asfar**	**59.99**	**52**	LR	LR	11 38 30.5	
	comp=Z,162nm,18.1s,MS4.2,baz=297,slow=38						
ATD	**Arta Tunnel**	**60.53**	**77**	LR	LR	11 37 12.8	
	comp=Z,56nm,19.5s,MS3.7,baz=282,slow=36						
BR131	**Keskin Array S**	**60.67**	**43**	eP	**P**	**11 11 12.9**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.2						
BRTR	**Keskin Array B**	**60.67**	**43**	P	**P**	**11 11 12.7**	**-0.1**
	comp=Z,4.6nm,0.8s,mb4.7,baz=233,slow=6.2,SNR=22						
PLCA	**Paso Flores**	**63.20**	**223**	LR	LR	11 34 13.0	
	comp=Z,190nm,20.7s,MS4.2,baz=71,slow=32						
MALT	**Malatya**	**63.45**	**46**	eP	**P**	**11 11 31.9**	**+0.5**
	comp=Z,9.7nm,1.1s,mb4.8						
MALT	**Malatya**	**63.45**	**46**	eP	**P**	**11 11 31.9**	**+0.5**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
AKASG	**Malin Array Be**	**63.84**	**31**	P	**P**	**11 11 31.5**	**-2.3**
	comp=Z,3.5nm,0.7s,mb4.5,baz=235,slow=6.7,SNR=16						
HFS	**Hagfors**	**64.42**	**16**	LR	LR	11 40 31.4	

	comp=Z,308nm,18.4s,MS4.5,baz=96,slow=37						
NB2	NORSAR Subarra	64.52	15	P	P	11 11 37.7	-0.3
	comp=Z,1.6nm,0.7s,mb4.2,baz=209,slow=7.0						
NB2	NORSAR Subarra	64.52	15	P	P	11 11 37.7	-0.3
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
NOA	NORSAR Array B	64.52	15	P	P	11 11 37.5	-0.5
	comp=Z,2.1nm,0.7s,mb4.3,baz=210,slow=6.7,SNR=4.4						
SOC	Sochi	66.45	42	eP	P	11 11 48.6	-2.2
SOC				e		11 14 13.0	
SOC				eS	S	11 20 38.6	-1.0
SOC				e		11 21 36.8	
SOC				eSS	SS	11 24 50.7	-7.2
SOC				pmax	pmax		
	comp=N,18nm,0.9s						
SOC				pmax	pmax		
	comp=E,19nm,0.9s						
SOC				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
VSU	Vasula	67.61	23	⇑iP	P	11 11 56.3	-1.5
KIV	Kislovodsk	68.58	42	eP	P	11 12 02.8	-1.3
KIV				pmax	pmax		
	comp=N,7.0nm,0.7s						
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
GNI	Garni	68.69	46	eP	P	11 12 05.6	+0.7
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
USHA	Ushuaia	68.92	209	LR	LR	11 36 18.7	
	comp=Z,259nm,18.3s,MS4.5,baz=22,slow=31						
FINES	FINESS Array B	69.38	21	P	P	11 12 08.8	+0.1
	comp=Z,5.2nm,0.8s,mb4.5,baz=225,slow=5.4,SNR=8.9						
FINES				LR	LR	11 41 31.3	
	comp=Z,135nm,20.5s,MS4.2,baz=191,slow=35						
KAF	Kangasniemi	69.91	20	ep	P	11 12 11.0	-1.0
OBN	Obninsk	69.98	29	⇑iP	P	11 12 11.2	-1.4
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5						
VNA2	Neumayer--Watz	71.19	177	⇑iP	P	11 12 20.1	+0.5
VNA2	Neumayer--Watz	71.19	177	e	P	11 12 30.8	+11
VNA2	Neumayer--Watz	71.19	177	e	P	11 12 33.3	+14
VNA2	Neumayer--Watz	71.19	177	e	P	11 12 39.6	+20
VNA3	Neumayer Olymp	71.39	177	⇑iP	P	11 12 22.9	+2.1
VNA3	Neumayer Olymp	71.39	177	e	P	11 12 31.8	+11
VNA3	Neumayer Olymp	71.39	177	e	P	11 12 34.1	+13
JOF	Joensuu	72.20	21	ep	P	11 12 24.3	-1.5
SNAA	Sanae	72.24	175	⇑iP	P	11 12 26.0	+0.1
SNAA	Sanae	72.24	175	e	P	11 12 36.7	+11
SNAA	Sanae	72.24	175	e	P	11 12 39.3	+13
SNAA	Sanae	72.24	175	e	P	11 12 44.8	+19
SNAA	Sanae	72.24	175	P	P	11 12 25.9	0.0
	comp=Z,0.6nm,0.7s,mb3.6,baz=37,slow=8.9,SNR=4.2						
SNAA				LR	LR	11 36 13.6	
	comp=Z,41nm,19.4s,MS3.7,baz=204,slow=29						
ARCES	ARCESS Array B	74.89	14	P	P	11 12 39.8	-1.5
	comp=Z,1.5nm,0.5s,mb4.2,baz=225,slow=3.4,SNR=14						
ARCES				LR	LR	11 47 11.1	
	comp=Z,150nm,20.2s,MS4.3,baz=88,slow=37						
KEV	Kevo	75.42	14	ep	P	11 12 44.3	0.0
SYO	Syowa Base	78.66	162	⇑PcP	PcP	11 13 11.7	-0.2
ARU	Arti	81.98	33	⇓iP	P	11 13 20.8	+0.5
ARU				e		11 16 28.1	
ARU				ePPP	PPP	11 18 19.1	-3.0
ARU				eS	S	11 23 32.2	-0.8
ARU				eSS	SS	11 28 46.9	-8.2
ARU				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
SVE	Sverdlovsk	83.18	33	eP	P	11 13 27.7	+1.2
MAW	Mawson	86.24	158	P	P	11 13 41.8	+0.2
	comp=Z,1.8nm,0.7s,mb4.4,baz=296,slow=14,SNR=5.2						
TXAR	Lajitas Array	87.01	299	P	P	11 13 46.8	+0.5
	comp=Z,1.2nm,0.7s,mb4.2,baz=119,slow=6.5,SNR=12						
ANMO	Albuquerque	89.47	305	eP	P	11 13 56.4	-1.5
QSPA	South Pole Qui	90.17	180	eP	P	11 14 02.5	+2.3
	comp=Z,10.0nm,0.9s,mb5.2						
AAK	Ala-Archa	91.07	48	⇑iP	P	11 14 05.5	+0.4
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.8						
PDAR	Pinedale Array	91.79	313	P	P	11 14 08.8	+0.4
	comp=Z,0.3nm,0.7s,mb3.7,baz=180,slow=4.5,SNR=2.8						
YKA	Yellowknife Ar	93.42	333	P	P	11 14 15.6	+0.1
	comp=Z,1.6nm,0.9s,mb4.5,baz=83,slow=4.8,SNR=6.1						
NVS	Novosibirsk	95.84	35	eP	P	11 14 26.3	-0.5
MKAR	Makanchi Array	96.33	43	P	P	11 14 29.0	-0.2
	comp=Z,0.2nm,0.3s,mb4.0,baz=270,slow=1.4,SNR=6.2						
ZAL	Zalesovo	96.89	36	LR	LR	12 00 44.6	
	comp=Z,208nm,19.4s,MS4.6,baz=173,slow=37						
WMQ	Urumqi	100.54	45	eP	P	11 14 48.5	+0.2
WMQ				AMB	AMB		
	comp=Z,62nm,4.3s						
WMQ				LR	LR		
	comp=N,158nm,20.7s,MS4.8						
WMQ				LR	LR		
	comp=E,231nm,20.3s,MS4.8						
WMQ				LR	LR		
	comp=Z,116nm,22.6s,MS4.3						
LZH	Lanzhou	114.51	50	ePKP	PKPdf	11 19 37.1	-5.6
LZH				XPKP		11 19 42.0	
KMI	Kunming	116.71	62	PKP	PKPdf	11 19 45.0	-2.3
MDJ	Mudanjiang	126.53	29	PKP	PKPdf	11 20 03.8	-1.9
NJ2	Nanjing	127.51	48	ePKP	PKPdf	11 20 04.1	-3.9
NJ2				PP	PP	11 22 08.0	-1.6
NJ2				SKS	SKS	11 27 11.0	-3.8
NJ2				SKKS		11 28 58.0	
NJ2				SS	SS	11 39 16.0	-1.2
NJ2				PP	PP		
	comp=Z,130nm,8.9s						
NJ2				LR	LR		
	comp=N,630nm,28.3s,MS5.2						
NJ2				LR	LR		
	comp=E,260nm,28.3s,MS5.2						
NJ2				LR	LR		
	comp=Z,250nm,29.9s,MS4.7						
SSE	Sheshan	129.71	48	PKP	PKPdf	11 20 06.0	-6.3
STKA	Stephens Creek	142.49	149	PKhKP		11 20 29.1	
	comp=Z,1.4nm,0.7s,baz=256,slow=4.2,SNR=3.7						
STKA				PKP	PKPdf	11 20 35.3	-0.5
	comp=Z,1.0nm,0.6s,baz=157,slow=7.7,SNR=2.8						
WRA	Warramunga Arr	145.73	127	PKPbc	PKPbc	11 20 40.1	+0.7
	comp=Z,9.1nm,0.9s,baz=245,slow=2.6,SNR=58						
WB2	Warramunga Arr	145.74	127	⇓iP	PKPbc	11 20 40.0	+0.5
WRAB	Tennant Creek	145.75	127	ePKPdf	PKPdf	11 20 39.8	-1.9
KAKA	Kakadu	147.25	114	⇓iP	PKPdf	11 21 03.7	+19
	comp=Z,16nm,0.8s						

*MOS **14** 11:23:50.3±1.0, 47.10N×27.11W, h10^{km}, mb4.5/8, Error ellipse: s-maj=23.9km s-min=11.7km az=162.4*
*IDC **14** 11:23:51.3±0.7, 47.22N×27.37W, mb3.7/11, mb1 3.9/12, mb1mx3.8/26, mbtmp3.7/12, ML4.8/1, MS4.0/16, Ms1 4.0/16, ms1mx3.8/32, Error ellipse: s-maj=22.4km s-min=17.9km az=164.0*
*NEIC **14** 11:23:52.8±0.4, 47.25N×27.14W, h10^{km}, mb4.4/12, Error ellipse: s-maj=15.8km s-min=6.4km az=184.0*
ISC 14 11:23:50.4±0.5**, 47.1N**±0.1×**27.13W**±0.07**, h10**^{km}**, n56, σ1^{s}07**/42**, mb4.0**/18**, MS4.0**/17**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSF	Rostrenen	16.09	77	eP	P	11 27 36.1	-2.0
EVO	Evora	16.41	115	eP	P	11 27 40.6	-1.7
	16nm,0.8s						
FLN	La Foliniere	17.90	75	eP	P	11 27 59.1	-1.8
	61nm,1.4s						
FLN				eR			
	767nm,21.2s						
ESDC	Sonseca Array	18.36	105	P	P	11 28 09.1	+2.3
	0.7nm,0.3s,baz=291,slow=13,SNR=5.6						
ETSF	Etsaut	19.21	93	eP	P	11 28 15.4	-1.6
TCF	Toulx Ste Croi	20.09	82	eP	P	11 28 26.6	-0.2
	30nm,1.1s						
TCF	Toulx Ste Croi	20.09	82	eP	P	11 28 26.6	-0.2
TCF				pmax	pmax		
	comp=Z,15nm,1.1s						
AVF	Avril sur Loir	20.75	80	eP	P	11 28 34.2	+0.5
SSF	Saint Saulge	20.80	79	eP	P	11 28 34.4	+0.3
	comp=Z,24nm,1.4s						
SSF	Saint Saulge	20.80	79	eP	P	11 28 34.4	+0.3
SSF				pmax	pmax		
	comp=Z,24nm,1.4s						
BAIF	Baives	20.86	70	eP	P	11 28 33.7	-1.0
	comp=Z,58nm,1.2s						
BAIF	Baives	20.86	70	eP	P	11 28 33.7	-1.0
BAIF				pmax	pmax		
	comp=Z,29nm,1.3s						
LOR	Lormes	20.99	78	eP	P	11 28 35.9	-0.3
	comp=Z,28nm,1.0s						
LOR				eR			
	comp=Z,253nm,21.2s						
LOR	Lormes	20.99	78	eP	P	11 28 35.9	-0.3
LOR				pmax	pmax		
	comp=Z,14nm,1.0s						
LOR				MLR	MLR		
	comp=Z,250nm,21.3s,MS3.6						
SMF	Signal de Mont	21.11	80	eP	P	11 28 37.1	-0.2
	comp=Z,45nm,1.2s,mb4.4						
SMF	Signal de Mont	21.11	80	eP	P	11 28 37.1	-0.2
SMF				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.4						
MDT	Midelt	22.29	122	P	P	11 28 53.4	+4.1
	comp=Z,2.4nm,1.0s,mb3.6,baz=329,slow=5.9,SNR=3.2						
MDT				LR	LR	11 35 27.4	
	comp=Z,235nm,19.0s,MS3.6,baz=336,slow=31						
HAU	Haudompre	22.51	75	eP	P	11 28 52.0	+0.7
HAU				eR			
	comp=Z,374nm,22.5s						
HINF	Hinteralfeld	22.88	76	eP	P	11 28 56.5	+1.6
	comp=Z,32nm,1.2s,mb4.3						
HINF	Hinteralfeld	22.88	76	eP	P	11 28 56.5	+1.6
HINF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.3						
NOA	NORSAR Array B	26.00	44	P	P	11 29 27.2	+2.4
	comp=Z,1.9nm,0.8s,mb3.7,baz=118,slow=16,SNR=2.5						
GERES	GERESS Array B	27.16	71	LR	LR	11 39 43.3	
	comp=Z,320nm,20.8s,MS3.9,baz=352,slow=35						
SADO	Sadowa	35.70	286	LR	LR	11 44 51.2	
	comp=Z,370nm,19.1s,MS4.2,baz=246,slow=36						
MLR	Muntele Rosu	36.12	73	LR	LR	11 45 32.6	
	comp=Z,239nm,18.2s,MS4.0,baz=93,slow=36						
SJG	San Juan	43.09	241	LR	LR	11 45 25.8	
	comp=Z,168nm,20.9s,MS3.9,baz=205,slow=30						
BRTR	Keskin Array B	43.76	77	P	P	11 31 59.5	+1.9
	comp=Z,1.0nm,0.9s,mb3.6,baz=315,slow=7.0,SNR=3.7						
ULM	Lac du Bonnet	44.03	301	LR	LR	11 47 17.2	
	comp=Z,131nm,18.1s,MS3.9,baz=155,slow=32						
DBIC	Dimbokro	44.60	148	LR	LR	11 48 55.2	
	comp=Z,157nm,18.1s,MS4.0,baz=322,slow=34						
GNI	Garni	50.80	70	LR	LR	11 55 04.9	
	comp=Z,71nm,19.6s,MS3.7,baz=93,slow=37						
LAO	LASA Array	51.77	301	eP	P	11 33 00.8	+0.8
	comp=Z,17nm,1.2s,mb4.8						
SDV	Santo Domingo	53.02	238	LR	LR	11 51 38.5	
	comp=Z,113nm,21.2s,MS3.9,baz=29,slow=32						
BOZ	Bozeman (W)	55.49	302	eP	P	11 33 27.5	0.0
	comp=Z,4.4nm,1.0s,mb4.4						
BOZ	Bozeman (W)	55.49	302	eP	P	11 33 27.5	0.0
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CHMT	Chamberlain Mo	55.71	304	eP	P	11 33 28.7	-0.3
PDAR	Pinedale Array	55.91	298	P	P	11 33 29.6	-0.9
	comp=Z,1.6nm,0.9s,mb4.0,baz=44,slow=6.5,SNR=11						
PDAR				LR	LR	11 55 41.1	
	comp=Z,126nm,19.0s,MS4.0,baz=79,slow=34						
PDAR	Pinedale Array	55.91	298	P	P	11 33 29.6	-0.9
PDAR				LR	LR	11 55 41.1	
IMW	Indian Meadow	56.09	300	eP	P	11 33 30.8	-1.0
	comp=Z,3.5nm,1.0s,mb4.3						
REDW	Red Top Meadow	56.34	299	eP	P	11 33 33.8	+0.1
	comp=Z,8.9nm,1.2s,mb4.7						
BVAR	Borovoye Array	58.12	45	P	P	11 33 46.4	+0.4
	comp=Z,0.7nm,0.6s,mb3.9,baz=307,slow=7.2,SNR=2.9						
PV10	Paradox Valley	58.19	294	eP	P	11 33 47.5	+0.7
ILAR	Eielson Array	59.02	334	P	P	11 33 51.7	-0.5
	comp=Z,0.5nm,0.8s,mb3.6,baz=58,slow=4.5,SNR=6.1						
ILAR				LR	LR	11 57 26.1	
	comp=Z,82nm,20.1s,MS3.9,baz=0.7,slow=34						
ILAR	Eielson Array	59.02	334	P	P	11 33 51.7	-0.5
ILAR				LR	LR	11 57 26.1	
MSU	Marysvale	60.05	296	eP	P	11 33 59.2	-0.5
TXAR	Lajitas Array	60.34	282	P	P	11 34 01.3	-0.5
	comp=Z,0.4nm,0.9s,mb3.5,baz=59,slow=7.3,SNR=3.5						
TXAR				LR	LR	11 58 57.7	
	comp=Z,180nm,18.1s,MS4.2,baz=100,slow=35						
ELK	Elko	60.53	299	LR	LR	11 59 06.3	
	comp=Z,144nm,18.4s,MS4.2,baz=31,slow=35						
WVOR	Wild Horse Val	61.46	303	eP	P	11 34 08.8	-0.4
	comp=Z,4.1nm,0.9s,mb4.6						
WVOR	Wild Horse Val	61.46	303	eP	P	11 34 08.8	-0.4
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
YBH	Yreka Blue Hor	64.24	304	LR	LR	12 02 16.8	
	comp=Z,93nm,18.2s,MS4.0,baz=347,slow=36						
BDFB	Brasilia	65.23	202	LR	LR	11 58 26.9	
	comp=Z,106nm,19.6s,MS4.0,baz=198,slow=32						
MKAR	Makanchi Array	67.99	44	P	P	11 34 51.3	-0.2
	comp=Z,0.6nm,0.7s,mb3.8,baz=312,slow=5.8,SNR=3.9						
SIV	San Ignacio	69.82	215	P	P	11 35 03.9	+0.7
	comp=Z,0.3nm,0.3s,mb3.7,baz=214,slow=20,SNR=3.5						
KMBO	Kilima Mbogo	73.68	110	LR	LR	12 06 57.7	
	comp=Z,118nm,19.6s,MS4.2,baz=277,slow=35						
SONM	Songino Array	77.12	30	P	P	11 35 46.4	+1.2
	comp=Z,0.5nm,0.7s,mb3.6,baz=45,slow=4.2,SNR=3.8						
CPUP	Villa Florida	78.03	207	P	P	11 35 50.9	+0.2
	comp=Z,0.8nm,0.3s,mb4.1,baz=239,slow=6.4,SNR=2.8						
WRA	Warramunga Arr	148.96	35	PKPbc	PKPdf	11 43 39.2	+1.7
	comp=Z,0.6nm,0.8s,baz=329,slow=2.6,SNR=9.3						
VNDA	Vanda	149.28	184	PKPbc	PKPdf	11 43 40.6	+4.2
	comp=Z,0.8nm,0.9s,baz=246,slow=1.3,SNR=4.2						

*IDC **14** 11:32:03.2±0.8, 47.77N×27.16W, mb3.8/9, mb1 3.9/10, mb1mx3.7/26, mbtmp3.7/10, ML4.7/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/31, Error ellipse: s-maj=30.8km s-min=18.8km az=0.0*
*NEIC **14** 11:32:05.0±0.5, 47.66N×27.25W, h10^{km}, mb4.2/5, Error ellipse: s-maj=21.8km s-min=7.2km az=182.0*
*CSEM **14** 11:32:06.0±0.3, 47.68N×27.28W, h33^{km}, mb4.4/2, Ms3.2, Error ellipse: s-maj=22.2km s-min=4.4km az=2.0*
ISC 14 11:32:03.1±0.7**, 47.7N**±0.2×**27.26W**±0.08**, h10**^{km}**, n33, σ1^{s}02**/29**, mb3.8**/11**, MS3.5**/2**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	Sonseca Array	18.60	107	P	P	11 36 19.6	-2.7
	0.5nm,0.3s,baz=291,slow=13,SNR=4.6						
TCF	Toulx Ste Croi	20.10	83	eP	P	11 36 38.8	-0.8
	22nm,1.1s						
AVF	Avril sur Loir	20.74	81	eP	P	11 36 45.6	-0.6
BAIF	Baives	20.76	72	eP	P	11 36 46.2	-0.1
SSF	Saint Saulge	20.78	80	eP	P	11 36 47.3	+0.7
	7.8nm,1.0s						
LOR	Lormes	20.97	80	eP	P	11 36 48.0	-0.6
	24nm,1.0s						
LOR				eR			
	177nm,17.2s						
SMF	Signal de Mont	21.10	81	eP	P	11 36 49.1	-0.8
GIVF	Givet	21.15	71	eP	P	11 36 50.9	+0.6
MEZF	Maizieres J'vi	21.52	76	eP	P	11 36 54.5	+0.4
HAU	Haudompre	22.46	77	eP	P	11 37 04.2	+0.7
HAU				eR			
	178nm,20.8s						
CABF	La Chapelle	22.61	80	eP	P	11 37 05.8	+0.9
	30nm,1.2s,mb4.3						
MDT	Midelt	22.67	123	LR	LR	11 45 06.6	
	comp=Z,92nm,19.1s,MS3.2,baz=22,slow=35						
HINF	Hinteralfeld	22.83	77	eP	P	11 37 08.5	+1.4
CDF	Champ du Feu	22.99	75	eP	P	11 37 10.0	+1.4
GERES	GERESS Array B	27.06	72	LR	LR	11 48 12.9	
	comp=Z,187nm,18.1s,MS3.7,baz=173,slow=36						
ULM	Lac du Bonnet	43.67	300	P	P	11 40 08.8	-0.4
	1.9nm,0.6s,mb4.0,baz=95,slow=4.9,SNR=3.3						
BRTR	Keskin Array B	43.72	77	P	P	11 40 09.9	+0.1
	0.3nm,0.3s,mb3.5,baz=301,slow=7.2,SNR=3.6						
ASF	Jabal al Asfar	50.18	84	P	P	11 40 58.4	-2.3
	1.9nm,0.3s,mb4.6,baz=304,slow=4.0,SNR=3.1						
BOZ	Bozeman (W)	55.12	302	eP	P	11 41 36.0	-1.4
	2.6nm,0.9s,mb4.3						
BOZ	Bozeman (W)	55.12	302	eP	P	11 41 36.0	-1.4
	2.6nm,0.9s,mb4.3						
PDAR	Pinedale Array	55.57	298	P	P	11 41 39.6	-1.1
	0.8nm,0.7s,mb3.9,baz=50,slow=7.3,SNR=8.7						
MCMT	McKenzie Canyo	56.30	301	eP	P	11 41 46.5	+0.6
BVAR	Borovoye Array	57.78	45	P	P	11 41 56.2	-0.1
	0.7nm,0.6s,mb3.9,baz=249,slow=37,SNR=3.8						
ILAR	Eielson Array	58.48	334	P	P	11 42 01.2	+0.2
	0.3nm,0.6s,mb3.5,baz=38,slow=6.3,SNR=4.6						
MSU	Marysvale	59.73	295	eP	P	11 42 11.4	+1.3
TXAR	Lajitas Array	60.14	282	P	P	11 42 12.6	-0.4
	0.2nm,0.6s,mb3.3,baz=60,slow=5.4,SNR=3.7						
TXAR	Lajitas Array	60.14	282	P	P	11 42 12.6	-0.5
ARUT	Antelope Range	60.96	295	eP	P	11 42 23.2	+4.7
ARUT	Antelope Range	60.96	295	eP	P	11 42 23.2	+4.7
MKAR	Makanchi Array	67.65	44	P	P	11 43 02.0	+0.1
	0.3nm,0.5s,mb3.5,baz=315,slow=6.9,SNR=4.3						
SIV	San Ignacio	70.24	215	P	P	11 43 20.2	+1.9
	0.6nm,0.8s,mb3.6,baz=15,slow=22,SNR=4.7						
WRA	Warramunga Arr	148.55	35	PKPbc	PKPdf	11 51 49.0	-0.5
	0.8nm,0.8s,baz=327,slow=3.2,SNR=7.9						
VNDA	Vanda	149.84	184	PKPbc	PKPdf	11 51 54.1	+4.1
	0.8nm,0.9s,baz=275,slow=2.0,SNR=4.2						

*NEIC **14** 11:51:18.0, 15.63N×95.90W, h8^{km}, MD3.8(MEX), After MEX.*
MEX 14 11:51:18.6±1.1**, 15.70N×95.88W, h2**^{km}±36^{km}**, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.23	288	i P	Pg	11 51 22.2	-1.1
HUIG				i S	Sg	11 51 26.0	-0.3
VHO	Vista Hermosa	1.59	329	i P	Pn	11 51 45.3	-2.6
VHO				i S	Sb	11 52 03.8	-5.1
OXX	Oaxaca	1.60	330	i P	Pn	11 51 45.0	-3.0
OXX				i S	Sb	11 52 04.0	-5.0
CMIG	Matias Romero	1.68	34	i P	Pn	11 51 44.6	-4.6
CMIG				i S	Sb	11 52 06.2	-5.3
PPM	Popocatepetl	4.25	322	eP	Pn	11 52 26.0	+0.1

MAN 14 11:57:42.7, 18.30N×119.78E, mb4.2, ML3.1, MS2.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	Dolores	1.10	126	eP	Pb	11 58 02.8	-1.4
ABRA				eS	Sb	11 58 17.0	-2.0
CVP	Callao Caves	2.04	107	eP	Pn	11 58 18.0	-0.6
CVP				i S	Sn	11 58 44.0	-1.1
SGCP	Mt. Cagua	2.16	91	eP	Pn	11 58 20.4	0.0
CAUP	Cauayan	2.37	124	eP	Pn	11 58 24.1	+0.7

*KNET **14** 12:14:32.9±1.1, 41.39N×74.43E, h2^{km}±5^{km}, ml1.9, Error ellipse: s-maj=6.2km s-min=3.2km az=18.0*
*NNC **14** 12:14:34.6±7.7, 41.41N×74.54E, mpv2.5, Error ellipse: s-maj=88.1km s-min=32.4km az=111.0*
ISC 14 12:14:32.5±2.0**, 41.3N**±0.1×**74.37E**±0.07**, h2**^{km}**, n9, σ0^{s}99**/15**, 9C-7D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	0.96	329	⇓P	Pb	12 14 50.8	-0.7
	23nm,0.2s,SNR=21						
AML				⇑S	Sg	12 15 04.2	-0.1
	28nm,0.2s						
KZA	Kyzart	1.01	41	⇓P	Pb	12 14 51.2	-1.2
	3.1nm,0.1s,SNR=10.0						
KZA				⇑S	Sb	12 15 05.0	-0.9
	7.8nm,0.2s						
AAK	Ala-Archa	1.32	4	⇓P	Pb	12 14 57.4	-0.3
	4.6nm,0.2s,SNR=6.3						
AAK				⇑S	Sb	12 15 15.5	+0.5
	6.7nm,0.2s						
AAK	Ala-Archa	1.32	4	⇓P	Pb	12 14 57.3	-0.4
	3.4nm,0.6s						
AAK				⇓S	Sb	12 15 14.8	-0.2
	3.3nm,0.5s						
KBK	Karagaybulak	1.41	18	⇑P	Pb	12 14 59.6	+0.4
	7.0nm,0.1s,SNR=6.7						
EKS2	Erkin-Say	1.42	342	⇑P	Pb	12 14 58.8	-0.6
	3.0nm,0.2s,SNR=7.5						
ULHL	Ulahol	1.68	56	⇓P	Pn	12 15 03.4	+0.3
	3.6nm,0.2s						
ULHL				⇑S	Sb	12 15 26.0	+0.5
	22nm,0.5s						
USP	Ospenovka	1.95	3	⇑P	Pn	12 15 09.6	+2.6
	7.2nm,0.2s,SNR=12						
USP				⇑S	Sn	12 15 35.9	+3.4
	7.4nm,0.2s						
KK31	Karatay Array	3.37	303	⇓Pn	Pn	12 15 33.3	+6.0
	0.6nm,0.4s,baz=128,slow=17,SNR=7.6						
KK31				⇑Lg		12 16 18.9	
	3.4nm,0.5s,baz=117,slow=28,SNR=4.6						

*IDC **14** 12:19:49.6±1.6, 11.03N×124.47E, mb3.7/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=160.9km s-min=25.4km az=68.0*
*MAN **14** 12:20:14.9, 11.29N×124.47E, h106^{km}, mb3.2, ML1.9, MS1.2*
ISC 14 12:20:07.9±0.8**, 11.3N**±0.1×**125.1E**±0.2**, h188**^{km}±5^{km}**, n9, σ0^{s}87**/12**, mb3.5**/4**, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	Palo	0.15	233	i P	P	12 20 33.4	+0.4
PLP				eS	S	12 20 51.1	-1.2
BESP	Borongan	0.47	44	eP	P	12 20 34.7	+0.8
BESP				eS	S	12 20 53.6	-0.3
MSLP	Maasin	1.14	192	eP	P	12 20 39.0	+1.3
CNP	Catarman	1.32	341	eP	P	12 20 39.8	+0.5
CNP				eS	S	12 21 02.4	-1.1
PVCP	Virac	2.50	338	eP	P	12 20 52.5	+0.9
WRA	Warramunga Arr	32.31	164	P	P	12 26 20.2	-1.2
	0.2nm,0.5s,mb3.1,baz=342,slow=9.0,SNR=6.3						
SONM	Songino Array	39.70	340	P	P	12 27 24.2	+0.9
	0.4nm,0.5s,mb3.3,baz=170,slow=7.5,SNR=3.2						
MKAR	Makanchi Array	50.55	323	P	P	12 28 48.8	-0.2
	1.8nm,0.7s,mb3.8,baz=121,slow=8.2,SNR=19						
ZAL	Zalesovo	53.22	331	P	P	12 29 08.0	-0.8
	0.8nm,0.5s,mb3.8,baz=92,slow=3.7,SNR=4.2						

*NEIC **14** 12:20:17.2, 32.69S×71.76W, h16^{km}, ML2.5(GUC), After GUC.*
GUC 14 12:20:17.2±0.7**, 32.69S×71.76W, h16**^{km}±4^{km}**, MD3.6, ML2.5, 5C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROCH	El Roble	0.69	114	⇑iP	Pb	12 20 30.5	+0.1
ROCH				i S	Sb	12 20 40.4	+1.0
LCCH	Las Cruces	0.80	168	⇓iP	Pb	12 20 31.4	-0.8
LCCH				i S	Sb	12 20 42.1	-0.4
CHNG	Los Chungos	0.84	15	⇑iP	Pb	12 20 32.2	-0.7
CHNG				i S	Sb	12 20 43.4	-0.2
CHNG				AMP		12 20 46.9	
	comp=E,135nm,0.5s						
JACH	Jahuel	0.98	90	⇑iP	Pb	12 20 34.9	-0.5
JACH				eS	Sb	12 20 48.2	+0.3
RCDM	Rinconada Maip	1.13	135	⇑iP	Pb	12 20 37.0	-0.8
RCDM				i S	Sb	12 20 51.6	-0.5
RCDM				AMP		12 20 57.2	
	comp=E,292nm,0.1s						
TACH	Talagante	1.18	144	eP	Pb	12 20 37.9	-0.9
TACH				i S	Sb	12 20 52.8	-0.8
CLCH	Cerro Calan	1.24	125	i S	Sb	12 20 55.8	+0.3
CLCH				AMP		12 21 01.6	
	comp=N,171nm,0.5s						
FCH	Farellones	1.39	118	⇓iP	Pn	12 20 41.6	-0.5
FCH				⇓iP		12 20 41.7	
FCH				i S	Sb	12 20 60.0	+0.3
FCH				i S	Sb	12 21 00.1	+0.4
FCH				AMP		12 21 01.1	
	comp=E,168nm,0.2s						
FCH	Farellones	1.39	118	⇓iP	Pn	12 20 41.7	-0.4
FCH				i S	Sb	12 21 00.1	+0.4
PCH	Pirque	1.40	132	i S	Sb	12 20 59.8	-0.1
CHCH	Chadas Angostu	1.55	143	eP	Pn	12 20 44.1	-0.3
CHCH				i S	Sn	12 21 04.0	-0.2
LMEL	Las Melosas	1.74	132	⇑iP	Pn	12 20 47.0	-0.1
LMEL				i S	Sn	12 21 10.0	+0.9
LMEL				AMP		12 21 13.0	
	comp=N,170nm,0.1s						
CICH	Cipreses	1.97	146	eP	Pn	12 20 50.1	-0.3
CICH				i S	Sn	12 21 16.1	+1.1

*NIED **14** 12:33:00, 24.00N×122.30E, h23^{km}, Mw3.7 Best double couple: $M_0$3.83×10^{14} NP1:ϕ_s48°, δ84°, λ72°. NP2:ϕ_s300°, δ19°, λ162°.*
*JMA **14** 12:33:28.9±0.4, 24.02N×122.34E, h23^{km}, M3.5*
*IDC **14** 12:33:29.7±1.5, 24.77N×122.30E, mb3.6/3, mb1 3.6/4, mb1mx3.5/19, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=44.1km s-min=27.0km az=56.0*
ISC 14 12:33:27.9±1.5**, 24.2N**±0.1×**122.22E**±0.05**, h26**^{km}±9^{km}**, n14, σ0^{s}80**/22**, mb3.4**/3**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.78**	**67**	P	**Pb**	**12 33 43.2**	**+0.4**
YOJ				S	**Sb**	**12 33 52.8**	**-0.3**
IRIF	**Iriomote-Funau**	**1.39**	**83**	P	**Pn**	**12 33 51.9**	**-0.1**
IRIF				S	**Sn**	**12 34 10.2**	**+0.6**
HATJ	**Hateruma jima**	**1.45**	**94**	P	**Pn**	**12 33 52.2**	**-0.7**
HATJ				S	**Sn**	**12 34 10.9**	**-0.4**
JKRS	**Kuro-shima**	**1.64**	**87**	P	**Pn**	**12 33 55.5**	**0.0**
JKRS				S	**Sn**	**12 34 16.3**	**+0.4**
JIJ	**Ishigaki jima**	**1.77**	**83**	P	**Pn**	**12 33 56.6**	**-0.8**
JIJ				S	**Sn**	**12 34 18.7**	**-0.5**
JTJ	**Tarama**	**2.31**	**78**	P	**Pn**	**12 34 05.8**	**+0.6**
JTJ				S	**Sn**	**12 34 33.4**	**+0.3**
JMJ	**Miyako jima 2**	**2.88**	**76**	S	**Sn**	**12 34 48.5**	**+1.1**
JOGS	**Gusukube**	**2.97**	**78**	P	**Pn**	**12 34 15.4**	**+0.9**
JOGS				S	**Sn**	**12 34 48.8**	**-0.8**
JKE	**Kume jima 2**	**4.66**	**62**	P	**Pn**	**12 34 40.3**	**+1.7**
JKE				eS	**Sn**	**12 35 32.9**	**+0.3**
JAGN	**Aguni-jima**	**5.15**	**61**	eS	**Sn**	**12 35 44.0**	**-0.7**
JOW	**Kunigami**	**6.08**	**63**	Pn	**Pn**	**12 34 56.9**	**-1.8**
	0.7nm,0.3s,baz=211,slow=12,SNR=4.5						
SONM	**Songino Array**	**26.76**	**336**	P	**P**	**12 39 06.5**	**-1.0**
	1.1nm,0.7s,mb3.5,baz=148,slow=9.2,SNR=8.3						
MKAR	**Makanchi Array**	**39.01**	**316**	P	**P**	**12 40 54.9**	**+0.9**
	0.5nm,0.4s,mb3.6,baz=101,slow=9.7,SNR=4.8						
WRA	**Warramunga Arr**	**45.40**	**164**	P	**P**	**12 41 54.6**	**+8.1**
	0.2nm,0.6s,mb3.1,baz=347,slow=8.8,SNR=4.6						

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*IDC **14** 12:49:00.2±1.1, 55.70S×27.49W, mb3.9/6, mb1 3.9/7, mb1mx3.9/16, mbtmp3.8/7, ML3.3/1, MS4.0/2, Ms1 4.0/2, ms1mx3.3/15, Error ellipse: s-maj=56.8km s-min=19.3km az=52.0*
*NEIC **14** 12:49:01.5±0.8, 55.63S×27.39W, h10^{km}, mb4.2/2, Error ellipse: s-maj=35.1km s-min=11.6km az=57.0*
ISC 14 12:48:59.7±1.4**, 55.7S**±0.2×**27.3W**±0.6**, h10**^{km}**, n14, σ1^{s}10**/9**, mb3.9**/8**, MS4.0**/2**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.14**	**156**	P	**P**	**12 53 24.5**	**-0.7**
	0.1nm,0.3s,baz=328,slow=18,SNR=3.5						
QSPA	**South Pole Qui**	**34.61**	**180**	eP	**P**	**12 55 52.3**	**+2.0**
	1.9nm,0.4s,mb4.4						
CFAA	**Coronel Fontan**	**37.33**	**293**	P	**P**	**12 56 13.6**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=147,slow=13,SNR=4.0						
MAW	**Mawson**	**40.52**	**144**	P	**P**	**12 56 40.8**	**+0.8**
	1.8nm,0.7s,mb3.8,baz=281,slow=10,SNR=3.0						
SUR	**Sutherland**	**40.61**	**75**	LR	LR	13 09 46.8	
	comp=Z,159nm,18.1s,MS3.9,baz=208,slow=31						
LVC	**Limon Verde**	**45.03**	**300**	P	**P**	**12 57 18.9**	**+1.7**
	2.8nm,0.6s,mb4.2,baz=48,slow=2.3,SNR=4.8						
SBA	**Scott Base**	**46.48**	**184**	P	**P**	**12 57 26.8**	**-1.1**
	2.3nm,1.1s,mb4.0						
VNDA	**Vanda**	**46.98**	**183**	P	**P**	**12 57 31.1**	**-0.7**
	1.4nm,0.6s,mb4.0,baz=152,slow=14,SNR=8.6						
SIV	**San Ignacio**	**47.24**	**313**	P	**P**	**12 57 33.5**	**-1.2**
	0.3nm,0.3s,mb3.7,baz=217,slow=19,SNR=2.9						
LPAZ	**La Paz**	**50.08**	**305**	P	**P**	**12 57 56.4**	**-0.3**
	1.3nm,0.5s,mb4.2,baz=180,slow=7.0,SNR=5.2						
DBIC	**Dimbokro**	**64.83**	**25**	LR	LR	13 22 11.8	
	comp=Z,97nm,18.0s,MS4.0,baz=118,slow=31						
INK	**Inuvik**	**145.44**	**321**	PKPbc	PKPbc	13 08 37.5	+0.7
	3.2nm,0.9s,baz=97,slow=1.7,SNR=6.0						
ILAR	**Eielson Array**	**149.79**	**312**	PKPbc	PKPdf	13 08 49.4	+2.9
	1.8nm,0.8s,baz=120,slow=1.7,SNR=18						
SONM	**Songino Array**	**150.78**	**86**	PKPbc	PKPdf	13 08 53.9	+5.4
	0.4nm,0.5s,baz=234,slow=6.3,SNR=3.3						

CASC 14 13:04:33.0±1.8**, 11.26N**×**85.57W, h171**^{km}±6^{km}**, MD3.6, ML2.8, 6C-1D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.28**	**277**	eP	P	13 04 56.7	+0.3
SSNN				eS	S	13 05 14.3	0.0
CONN	**Concepcion**	**0.31**	**350**⇑	eP	P	13 04 57.2	+0.7
LIM1	**Limonal**	**0.63**	**151**⇑	eP	P	13 04 57.7	0.0
LIM1				iS	S	13 05 16.8	-0.1
TICN	**Ticuantepe**	**1.01**	**320**	eP	P	13 05 01.3	+1.3
VCR	**Vista de Mar**	**1.12**	**183**⇑	eP	P	13 05 00.9	-0.1
VCR				eS	S	13 05 22.7	0.0
COPN	**Copaltepe**	**1.36**	**313**⇑	eP	P	13 05 03.4	+0.2
COPN				eS	S	13 05 25.8	-0.7
JCR	**Jicaral**	**1.47**	**162**⇓	eP	P	13 05 04.2	-0.1
JCR				eS	S	13 05 29.0	+0.6
MOMJ	**Momotombo**	**1.49**	**320**	eP	P	13 05 04.9	+0.4
MIRN	**Miramar**	**1.62**	**317**⇑	eP	P	13 05 06.3	+0.5
MIRN				eS	S	13 05 32.1	+0.9
CGA2	**Cerro Gallo 2**	**1.64**	**139**⇑	iP	P	13 05 06.8	+0.8
CGA2				eS	S	13 05 31.9	+0.5
CNGN	**Cerro Negro**	**1.66**	**318**	eP	P	13 05 06.2	+0.1
LEON	**Leon**	**1.73**	**312**	eP	P	13 05 06.8	-0.2
LEON				eS	S	13 05 32.5	-0.7
	comp=Z,70nm,0.2s						
TEL3	**Telica 3**	**1.81**	**316**	eP	P	13 05 08.0	+0.3
LAJ	**Bijagual**	**1.98**	**134**	eP	P	13 05 08.4	-1.2
LCR2	**La Lucha 2**	**2.15**	**134**	eP	P	13 05 12.2	+0.7
LCR2				eS	S	13 05 42.0	+0.7
BUS	**Buena Vista**	**2.46**	**133**	eP	P	13 05 16.2	+1.0
BUS				eS	S	13 05 48.3	+0.7

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*STR **14** 13:18:39.7±0.5, 43.52N×0.60W, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **14** 13:18:39.7, 43.52N×0.60W, h5^{km}, ML2.5(STR), ML2.5(LDG), MN1.9(MDD), After STR.*
*LDG **14** 13:18:40.2±0.1, 43.43N×0.62W, h25^{km}, Md2.7/2, Ml2.5/5, Error ellipse: s-maj=1.3km s-min=0.9km az=128.0*
*MDD **14** 13:18:40.2±0.4, 43.50N×0.60W, h10^{km}, mbLg1.9/19, Error ellipse: s-maj=3.3km s-min=2.3km az=173.0, PRXIMO*
*CSEM **14** 13:18:40.7±0.1, 43.45N×0.60W, h10^{km}, ML2.6/8, Error ellipse: s-maj=1.3km s-min=1.0km az=150.0*
ISC 14 13:18:38.1±0.3**, 43.55N**±0.02×**0.58W**±0.02**, h13**^{km}±3^{km}**, n49, σ1^{s}01**/80**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.42**	**218**	Pg	**Pg**	**13 18 47.3**	**+0.4**
ORDF				Sg	**Sg**	**13 18 53.7**	**+0.9**
ORDF	**Ordiarp**	**0.42**	**218**	P	**Pg**	**13 18 47.3**	**+0.4**
ORDF				S	**Sg**	**13 18 53.4**	**+0.6**
ATE	**Arette**	**0.47**	**191**	Pg	**Pg**	**13 18 47.9**	**+0.1**
ATE				Sg	**Sg**	**13 18 53.7**	**-0.6**
ATE	**Arette**	**0.47**	**191**	P	**Pb**	**13 18 47.8**	**+0.1**
ATE				S	**Sb**	**13 18 54.4**	**+0.1**
REYF	**Montagne du Re**	**0.50**	**164**	Pg	**Pg**	**13 18 48.6**	**+0.3**
REYF				Sg	**Sg**	**13 18 56.5**	**+1.4**
REYF	**Montagne du Re**	**0.50**	**164**	P	**Pb**	**13 18 48.7**	**+0.5**
REYF				S	**Sb**	**13 18 54.7**	**-0.3**
OSSF	**Osses**	**0.58**	**240**	Pg	**Pg**	**13 18 50.6**	**+0.7**
OSSF				Sg	**Sg**	**13 18 58.4**	**+0.7**
OSSF	**Osses**	**0.58**	**240**	P	**Pb**	**13 18 50.0**	**+0.4**
OSSF				S	**Sb**	**13 18 58.5**	**+1.1**
LARF	**Larrau**	**0.59**	**211**	Pg	**Pg**	**13 18 50.1**	**-0.1**
LARF				Sg	**Sg**	**13 18 58.1**	**-0.1**
LARF	**Larrau**	**0.59**	**211**	P	**Pb**	**13 18 50.3**	**+0.5**
LARF				S	**Sb**	**13 18 58.3**	**+0.5**
SJPF	**Ste Jean**	**0.64**	**228**	ePg	**Pg**	**13 18 51.2**	**+0.1**
SJPF				eSg	**Sg**	**13 18 58.9**	**-0.9**
	15nm,0.2s						
ETSF	**Etsaut**	**0.65**	**179**	ePg	**Pg**	**13 18 51.2**	**-0.1**
ETSF				eSg	**Sg**	**13 18 59.1**	**-1.0**
	16nm,0.3s						
LABF	**Labassere**	**0.69**	**136**	Pg	**Pg**	**13 18 53.2**	**+1.1**
LABF				Sg	**Sg**	**13 19 03.3**	**+1.9**
LABF	**Labassere**	**0.69**	**136**	P	**Pb**	**13 18 53.2**	**+1.7**
LABF				S	**Sb**	**13 19 02.3**	**+1.7**
FDAF	**Les Forges d'A**	**0.73**	**179**	Pg	**Pg**	**13 18 52.3**	**-0.6**
FDAF	**Les Forges d'A**	**0.73**	**179**	P	**Pb**	**13 18 52.5**	**+0.4**
FDAF				S	**Sb**	**13 19 01.5**	**-0.2**
EALK	**Alkurruntz**	**0.75**	**245**	Pg	**Pg**	**13 18 53.6**	**+0.3**
	2.0nm,0.1s,SNR=7.9						
EALK				Lg		13 19 03.4	
	12nm,0.2s,SNR=7.9						
VIEF	**Viey**	**0.80**	**146**	Pg	**Pg**	**13 18 54.3**	**+0.1**
VIEF				Sg	**Sg**	**13 19 04.9**	**0.0**
VIEF	**Viey**	**0.80**	**146**	P	**Pb**	**13 18 54.2**	**+0.9**
VIEF				S	**Sb**	**13 19 04.4**	**+0.7**
EPF	**Esparros**	**0.85**	**127**	ePg	**Pg**	**13 18 56.1**	**+0.9**
EPF				eSg	**Sg**	**13 19 06.7**	**+0.1**
	71nm,0.4s						
IUSE	**Utxeti**	**0.93**	**230**	Pg	**Pg**	**13 18 56.9**	**0.0**
	3.4nm,0.1s,SNR=7.9						
IUSE				Lg		13 19 08.5	
	13nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.93**	**230**	Pg	**Pg**	**13 18 56.8**	**0.0**
	3.4nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.94**	**218**	Pg	**Pg**	**13 18 57.0**	**+0.1**
	SNR=7.9						
IPRE				Lg		13 19 08.9	
	11nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**1.01**	**148**	Pg	**Pg**	**13 18 58.0**	**-0.4**
	2.1nm,0.2s,SNR=7.9						
EBIE				Lg		13 19 11.0	
	3.4nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.01**	**148**	Pg	**Pg**	**13 18 58.0**	**-0.4**
	2.1nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**1.07**	**224**	Pg	**Pg**	**13 18 58.2**	**-1.3**
	2.8nm,0.1s,SNR=7.9						
EARA				Lg		13 19 12.9	
	11nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**1.07**	**224**	Pg	**Pg**	**13 18 58.2**	**-1.3**
	2.8nm,0.1s,SNR=7.9						
MELF	**Melles**	**1.19**	**124**	Pg	**Pg**	**13 19 01.6**	**-0.4**
MLS	**Moulis**	**1.36**	**115**	S	**Sb**	**13 19 21.2**	**+1.2**
EGRA	**Graus**	**1.50**	**154**	Pg	**Pg**	**13 19 08.8**	**+0.6**
	2.1nm,0.1s,SNR=7.9						
EGRA				Lg		13 19 27.0	
	4.6nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.68**	**34**	ePn	**Pn**	**13 19 07.7**	**+0.2**
LFF				eSg	**Sg**	**13 19 37.0**	**+2.7**
	18nm,0.3s						
ESAC	**San Caprasio**	**1.83**	**177**	Pg	**Pg**	**13 19 13.4**	**-1.3**
	25nm,0.2s,SNR=7.9						
ESAC				Lg		13 19 36.5	
	43nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.83**	**177**	Pg	**Pg**	**13 19 13.4**	**-1.3**
ESAC				Lg		13 19 36.5	
ESAC	**San Caprasio**	**1.83**	**177**	Pg	**Pg**	**13 19 13.4**	**-1.3**
	25nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.05**	**95**	ePn	**Pn**	**13 19 11.8**	**-0.9**
MTLF				ePg	**Pg**	**13 19 18.9**	**-0.2**
MTLF				eSg	**Sg**	**13 19 45.8**	**-0.6**
	5.6nm,0.4s						
ELAN	**Lanestosa**	**2.11**	**262**	Pg	**Pg**	**13 19 19.2**	**-1.1**
	0.6nm,0.2s,SNR=4.0						
ELAN				Lg		13 19 47.6	
	4.0nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.11**	**262**	Pg	**Pg**	**13 19 19.2**	**-1.1**
ELAN				Lg		13 19 44.6	
ELAN	**Lanestosa**	**2.11**	**262**	Pg	**Pg**	**13 19 19.2**	**-1.0**
	0.6nm,0.2s,SNR=4.0						
RJF	**Les Rejaudoux**	**2.31**	**40**	ePn	**Pn**	**13 19 16.3**	**-0.2**
RJF				ePg	**Pg**	**13 19 25.4**	**+1.1**
RJF				eSg	**Sg**	**13 19 55.9**	**+0.8**
	8.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.31**	**40**	Pn	**Pn**	**13 19 16.3**	**-0.2**
RJF				Lg		13 19 55.9	
	4.0nm,0.3s						
EPOB	**Poblet**	**2.51**	**150**	Pg	**Pg**	**13 19 26.4**	**-1.9**
	1.1nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**13 19 47.1**	**-3.0**
	1.6nm,0.2s,SNR=7.9						
EPOB				Lg		13 19 59.1	
	2.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.51**	**150**	Pg	**Pg**	**13 19 26.4**	**-1.9**
	1.1nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**13 19 47.1**	**-3.0**
	1.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.68**	**165**	Pg	**Pg**	**13 19 28.7**	**-2.9**
	1.7nm,0.1s,SNR=4.0						
ERTA				Sn	**Sn**	**13 19 51.8**	**-2.5**
	1.2nm,0.2s,SNR=6.0						
ERTA				Lg		13 20 02.7	
	2.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.68**	**165**	Pg	**Pg**	**13 19 28.7**	**-2.9**
	1.7nm,0.1s,SNR=4.0						
ERTA				Sn	**Sn**	**13 19 51.8**	**-2.5**
	1.2nm,0.2s,SNR=6.0						
MFF	**Saint Martin d**	**3.07**	**6**	ePn	**Pn**	**13 19 26.7**	**-0.6**
MFF				ePg	**Pg**	**13 19 39.5**	**0.0**
MFF				eSg	**Sg**	**13 20 20.2**	**-0.2**
	4.1nm,0.3s						
MFF	**Saint Martin d**	**3.07**	**6**	Pn	**Pn**	**13 19 26.7**	**-0.6**
MFF				Lg		13 20 20.2	
	2.0nm,0.3s						
EMOS	**Mosqueruela**	**3.18**	**179**	Pg	**Pg**	**13 19 38.1**	**-3.6**
	4.8nm,0.4s,SNR=7.9						
EMOS				Lg		13 20 19.7	
	1.9nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.18**	**179**	Pg	**Pg**	**13 19 38.1**	**-3.6**
	4.8nm,0.4s,SNR=7.9						
LASF	**Ste Croix**	**3.25**	**79**	ePn	**Pn**	**13 19 28.4**	**-1.5**
LASF				ePg	**Pg**	**13 19 41.2**	**-1.9**
LASF				eSg	**Sg**	**13 20 24.0**	**-2.5**
	3.6nm,0.5s						

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*IDC **14** 13:48:36.0±1.0, 57.27N×120.82E, mb3.7/9, mb1 3.9/10, mb1mx3.8/19, mbtmp3.7/10, ML3.0/1, Error ellipse: s-maj=25.6km s-min=18.9km az=145.0*
*NEIC **14** 13:48:37.9±0.6, 57.35N×120.85E, h10^{km}, mb3.9/1, Error ellipse: s-maj=13.5km s-min=10.6km az=107.0*
*BJI **14** 13:48:39.4, 56.99N×120.50E, h7^{km}, ML4.6*
*MOS **14** 13:48:39.3±2.1, 57.32N×120.69E, h16^{km}, mb4.0/2, Error ellipse: s-maj=12.0km s-min=8.5km az=70.0*
ISC 14 13:48:40.6±0.8**, 57.29N**±0.05×**120.71E**±0.07**, h45**^{km}±9^{km}**, n33, σ1^{s}00**/38**, mb3.8**/10**, 1C, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**1.39**	**255**	eP	**P**	**13 49 04.5**	**+0.4**
CRS				e		13 49 22.4	
CRS				pmax	pmax		
	comp=Z,621nm,0.8s						
CRS				smax			
	comp=N,838nm,0.8s						
CLNS	**Chul'man**	**2.33**	**100**	eP	**P**	**13 49 18.2**	**+0.9**
CLNS				e		13 49 50.7	
CLNS				pmax	pmax		
	comp=N,34nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,85nm,0.3s						
CLNS				pmax	pmax		
	comp=E,25nm,0.2s						
CLNS				smax			
	comp=N,3μm,0.5s						
CLNS				smax			
	comp=Z,910nm,0.4s						
CLNS				smax			
	comp=E,920nm,0.3s						
CLNS				MLR	MLR		
	comp=Z,100nm,13.0s						
NLYR	**Nelyaty**	**2.86**	**256**	eP	**P**	**13 49 25.3**	**+0.3**
NLYR				eS	**S**	**13 49 59.4**	**+1.0**
NLYR				pmax	pmax		
	comp=Z,312nm,0.8s						
NLYR				smax			
	comp=N,1μm,1.3s						
TUP	**Tupik**	**2.91**	**189**	eP	**P**	**13 49 26.1**	**+0.6**
TUP				eS	**S**	**13 50 01.5**	**+2.0**
TUP				pmax	pmax		
	comp=Z,582nm,0.7s						
TUP				smax			
	comp=E,2μm,0.8s						
BOD	**Bodaibo**	**3.65**	**281**	eP	**P**	**13 49 34.8**	**-1.3**
BOD				e		13 50 29.5	
BOD				smax			
	comp=N,604nm,0.7s						
UKT	**Uakit**	**4.33**	**248**	eP	**P**	**13 49 56.9**	**+11**
UKT				pmax	pmax		
	comp=Z,37nm,0.7s						
YOA	**Uoyan**	**5.09**	**261**	eP	**P**	**13 50 12.5**	**+16**
YOA				pmax	pmax		
	comp=Z,149nm,1.1s						
KMO	**Kumora**	**5.44**	**259**	eP	**P**	**13 50 00.7**	**-0.6**
KMO				eS	**S**	**13 51 02.0**	**-1.5**
KMO				pmax	pmax		
	comp=Z,28nm,1.0s						
KMO				smax			
	comp=E,419nm,1.2s						
NIZ	**Nizh Angarsk**	**6.37**	**261**	eP	**P**	**13 50 34.1**	**+20**
NIZ				pmax	pmax		
	comp=Z,3.0nm,0.2s						
YAK	**Yakutsk**	**6.57**	**40**	eP	**P**	**13 50 32.0**	**+15**
YAK				eS	**S**	**13 51 37.9**	**+6.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,36nm,0.9s						
YAK				pmax	pmax		
	comp=N,29nm,1.0s						
YAK				pmax	pmax		
	comp=E,22nm,0.9s						
YAK				smax			
	comp=N,45nm,0.9s						
YAK				smax			
	comp=Z,45nm,0.9s						
YAK				smax			
	comp=E,43nm,1.0s						
YAK				smax			
	comp=N,180nm,0.8s						
YAK				smax			
	comp=Z,84nm,0.7s						
YAK				smax			
	comp=E,107nm,1.0s						
YAK				MLR	MLR		
	comp=Z,25nm,4.0s						
YAK				MLR	MLR		
	comp=N,39nm,5.0s						
YAK				MLR	MLR		
	comp=E,16nm,4.0s						
HIA	**Hailar**	**8.06**	**185**	eP	**P**	**13 50 36.4**	**-1.4**
	comp=E,7.9nm,0.4s						
HIA	**Hailar**	**8.06**	**185**	eP	**P**	**13 50 36.4**	**-1.4**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KPC	**Khapcheranga**	**9.07**	**217**	eP	**P**	**13 50 50.9**	**-0.9**
KLR	**Kul'dur**	**10.42**	**136**	eP	**P**	**13 51 08.2**	**-2.0**
SONM	**Songino Array**	**12.84**	**229**	Pn	**P**	**13 51 41.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=34,slow=11,SNR=8.1						
SONM				Sn	**S**	**13 54 06.5**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=3.5						
SONM				Lg		13 55 21.8	
	comp=Z,0.6nm,0.3s,baz=39,slow=28,SNR=12						
TIXI	**Tiksi**	**14.81**	**10**⇑	iP	**P**	**13 52 08.9**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s						
SEY	**Seymchan**	**16.64**	**57**	eP	**P**	**13 52 32.0**	**+0.4**
ZAL	**Zalesovo**	**20.41**	**276**	P	**P**	**13 53 16.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=32,slow=11,SNR=5.4						
NVS	**Novosibirsk**	**20.89**	**279**	eP	**P**	**13 53 22.9**	**+1.9**
KURK	**Kurchatov**	**25.26**	**273**	P	**P**	**13 54 04.6**	**+0.9**
	comp=Z,1.6nm,0.6s,mb3.7						
KURK	**Kurchatov**	**25.26**	**273**	P	**P**	**13 54 04.6**	**+0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
NJ2	**Nanjing**	**25.27**	**184**	eP	**P**	**13 54 03.0**	**-1.0**
MKAR	**Makanchi Array**	**25.52**	**262**	P	**P**	**13 54 06.2**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.5,baz=60,slow=8.6,SNR=9.3						
AAK	**Ala-Archa**	**32.44**	**263**	eP	**P**	**13 55 06.8**	**-1.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.0						
ARU	**Arti**	**32.95**	**295**	iP	**P**	**13 55 12.1**	**-0.4**
ARCES	**ARCESS Array B**	**39.76**	**327**	P	**P**	**13 56 11.5**	**+1.6**
	comp=Z,2.6nm,0.9s,mb3.9,baz=56,slow=8.7,SNR=3.7						
ILAR	**Eielson Array**	**41.50**	**40**	P	**P**	**13 56 24.2**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.5,baz=291,slow=4.4,SNR=21						
FINES	**FINESS Array B**	**44.33**	**317**	P	**P**	**13 56 46.5**	**-0.7**
	comp=Z,3.6nm,1.0s,mb4.1,baz=39,slow=8.9,SNR=2.4						
AKASG	**Malin Array Be**	**50.27**	**304**	P	**P**	**13 57 33.9**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=39,slow=8.5,SNR=4.5						
KHC	**Kasperske Hory**	**58.12**	**312**	eP	**P**	**13 58 31.5**	**+0.1**
GERES	**GERESS Array B**	**58.30**	**312**	P	**P**	**13 58 31.8**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.8,baz=37,slow=6.7,SNR=4.4						
PDAR	**Pinedale Array**	**71.78**	**37**	P	**P**	**13 59 60.0**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=90,slow=3.6,SNR=2.9						
WRA	**Warramunga Arr**	**77.78**	**167**	P	**P**	**14 00 34.6**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=352,slow=6.6,SNR=6.9						

WEL 14 13:53:22.7±0.3**, 37.28S**×**177.81E, h48**^{km}±3^{km}**, ML3.6**/4**, Error ellipse: s-maj=2.3km s-min=1.5km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.48**	**126**	P*	P	13 53 33.1	-0.6
MXZ				S*	S	13 53 41.3	-0.2
WIZ	**White Island**	**0.55**	**244**	P*	P	13 53 34.4	-0.1
WIZ				S*	S	13 53 43.3	+0.2
PUZ	**Puketiti**	**0.86**	**156**	PN	P	13 53 39.0	+0.3
PUZ				SN	S	13 53 52.6	+2.0
MWZ	**Matawai**	**1.07**	**192**	P*	P	13 53 40.8	-0.8
MWZ				S*	S	13 53 54.3	-1.4
URZ	**Urewera**	**1.12**	**209**	P*	P	13 53 41.5	-0.8
URZ				S*	S	13 53 55.6	-1.3
MARZ	**Manawahe**	**1.14**	**232**	P*	P	13 53 41.9	-0.7
EDRZ	**Edgecumbe**	**1.18**	**226**	P*	P	13 53 42.7	-0.4
MYRZ	**Mayor Island**	**1.25**	**270**	P*	P	13 53 43.4	-0.8
TGRZ	**Tauranga**	**1.31**	**250**	P*	P	13 53 44.2	-0.9
TAZ	**Tarawera**	**1.40**	**227**	P*	P	13 53 46.3	-0.1
KNZ	**Kokohu**	**1.74**	**184**	PN	P	13 53 49.7	-1.4
KNZ				SN	S	13 54 11.9	-0.2
KUZ	**Kuaotunu**	**1.76**	**287**	PN	P	13 53 50.1	-1.3
MKAZ	**Moumakai**	**2.12**	**274**	PN	P	13 53 55.6	-0.8
BKZ	**Black Stump Fm**	**2.15**	**208**	P*	P	13 53 56.0	-0.9
BKZ				S*	S	13 54 23.0	+0.6
OTAZ	**Otara**	**2.33**	**277**	PN	P	13 53 58.9	-0.5
MTAZ	**Motutapu**	**2.37**	**281**	PN	P	13 53 59.3	-0.7
KRVZ	**Karewarewa**	**2.49**	**223**	P*	P	13 54 02.0	+0.2
KAAZ	**Kauri Point**	**2.53**	**280**	PN	P	13 54 02.4	+0.1
NGZ	**Ngauruhoe**	**2.57**	**222**	P*	P	13 54 02.9	0.0
WTAZ	**Waiatarua**	**2.61**	**277**	PN	P	13 54 03.3	-0.2
CNZ	**Chateau**	**2.62**	**222**	P*	P	13 54 03.6	0.0
WPVZ	**Whakapapa**	**2.62**	**222**	P*	P	13 54 03.6	0.0
FWVZ	**Far West T-bar**	**2.65**	**221**	P*	P	13 54 03.7	-0.4
MOVZ	**Moawhango**	**2.67**	**217**	P*	P	13 54 03.0	-1.3
WNVZ	**Wahianoa**	**2.68**	**220**	P*	P	13 54 03.8	-0.7
MTVZ	**Mangateitei**	**2.79**	**221**	P*	P	13 54 05.3	-0.8
PXZ	**Pawanui**	**2.84**	**195**	PN	P	13 54 03.4	-3.4
PXZ				SN	S	13 54 36.7	-3.4
WCZ	**Waipu Caves**	**3.09**	**295**	PN	P	13 54 09.0	-1.4
TSZ	**Takapari Road**	**3.13**	**207**	PN	P	13 54 07.8	-3.1
WAZ	**Wanganui**	**3.32**	**221**	PN	P	13 54 12.3	-1.2
BFZ	**Birch Farm**	**3.61**	**199**	PN	P	13 54 13.4	-4.2
MRZ	**Mangatainoka R**	**3.80**	**207**	PN	P	13 54 15.3	-5.0
KIW	**Kapiti Island**	**4.23**	**211**	PN	P	13 54 21.6	-4.8
MTW	**Mount Morrison**	**4.27**	**204**	PN	P	13 54 21.6	-5.2
CAW	**Cannon Point**	**4.37**	**208**	PN	P	13 54 23.2	-5.2
SNZO	**South Karori**	**4.69**	**210**	PN	P	13 54 26.8	-6.1
TCW	**Tory Channel**	**4.79**	**214**	PN	P	13 54 28.5	-5.8
TUWZ	**Tuamarina**	**5.11**	**215**	PN	P	13 54 32.6	-6.2
NNZ	**Nelson**	**5.22**	**220**	PN	P	13 54 34.7	-5.6
QRZ	**Quartz Range**	**5.42**	**228**	PN	P	13 54 38.3	-4.8
THZ	**Tophouse**	**5.87**	**219**	PN	P	13 54 43.1	-6.1
KHZ	**Kahutara**	**6.09**	**211**	PN	P	13 54 45.4	-7.0
LTZ	**Lake Taylor**	**6.95**	**216**	PN	P	13 54 56.2	-8.3
ODZ	**Otahua Downs**	**9.45**	**213**	PN	P	13 55 29.7	-9.3

IDC 14 14:02:19.8±2.0**, 19.81S**×**68.89W, h116**^{km}±16^{km}**, mb3.3**/2**, mb1 3.2**/5**, mb1mx3.2**/18**, mbtmp3.6**/5**, Error ellipse: s-maj=46.0km s-min=13.7km az=104.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.79**	**181**	P	P	14 03 03.9	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	20nm,0.3s,baz=356,slow=9.6,SNR=56						
LVC				S	S	14 03 37.4	0.0
	41nm,0.3s,baz=345,slow=12,SNR=26						
LPAZ	La Paz	3.58	12	P	P	14 03 14.3	-0.3
	1.1nm,0.3s,baz=190,slow=9.4,SNR=23						
LPAZ				S	S	14 03 51.8	-4.7
	1.1nm,0.3s,baz=214,slow=24,SNR=3.5						
SIV	San Ignacio	8.35	64	P	P	14 04 17.7	-1.6
	0.4nm,0.3s,baz=252,slow=13,SNR=8.5						
PLCA	Paso Flores	20.90	184	P	P	14 06 53.2	-1.2
	0.8nm,0.7s,baz=12,slow=14,SNR=2.2						
DBIC	Dimbokro	68.24	74	P	P	14 13 08.6	-1.9
	0.7nm,0.4s,baz=243,slow=11,SNR=2.7						
WRA	Warramunga Arr	134.41	211	PKP	PKPdf	14 21 24.0	-1.0
	0.4nm,0.9s,baz=146,slow=1.8,SNR=6.3						

NNC 14 14:06:28.4±8.8**, 37.27N×71.01E, h201**^{km}±147^{km}**, mpv3.2, 6C, Error ellipse: s-maj=102.7km s-min=60.2km az=33.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.84	356	⇑P	P	14 07 52.9	-1.5
	1.4nm,0.3s,baz=182,slow=13,SNR=20						
KK31				⇑S	S	14 09 01.9	+0.7
	1.2nm,0.3s						
AAK	Ala-Archa	5.99	25	⇑P	P	14 07 55.8	-0.5
	0.7nm,0.5s						
AAK				⇑S	S	14 09 05.1	+0.4
	2.3nm,0.6s						
AB31	Akbulak array	14.42	330	⇑P	P	14 09 45.0	+0.7
	0.3nm,0.3s,baz=158,slow=10,SNR=13						
AB31				⇑S	S	14 12 22.3	+2.9
	0.1nm,0.3s						

*CSEM **14** 14:13:20.2±0.3, 36.18N×27.80E, h80^{km}, MD3.2, Error ellipse: s-maj=8.8km s-min=7.8km az=168.0*
*ATH **14** 14:13:23.0, 36.25N×27.59E, h50^{km}±3^{km}, MD3.2/5*
*NEIC **14** 14:13:23.2, 36.25N×27.58E, h46^{km}, MD3.2(ATH), After ATH.*
*HLW **14** 14:13:27.9, 35.71N×27.60E, h19^{km}, Mb3.4*
ISC 14 14:13:21.7±0.6**, 36.15N**±0.04×**27.69E**±0.05**, h75**^{km}±8^{km}**, n13,** σ**1**^{s}**14**/23**, 4C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.36	78	⇓iP	P	14 13 34.2	+0.3
ARG				eS	S	14 13 42.3	-0.8
KARP	Karpathos	0.73	216	eP	P	14 13 38.8	+1.2
KARP				eS	S	14 13 50.3	+0.9
BDRM	Kayabasi	0.94	348	i P	P	14 13 39.2	-0.8
BDRM				i S	S	14 13 51.2	-2.5
AKAS	Kas	1.55	86	i P	P	14 13 47.7	-0.3
AKAS				i S	S	14 14 05.7	-1.7
GOLH	Golhisar	1.86	53	i P	P	14 13 52.2	0.0
GOLH				i S	S	14 14 16.6	+2.0
DNZL	Cakiroluk	1.89	35	i P	P	14 13 54.6	+2.1
DNZL				i S	S	14 14 15.8	+0.5
NPS	Neapolis	1.91	243	eP	P	14 13 53.5	+0.7
APE	Apeiranthos	1.97	299	eP	P	14 13 53.8	+0.2
APE				eS	S	14 14 16.1	-1.1
XRY	Khrisi	2.06	233	eP	P	14 13 56.8	+1.8
HMAT	Matruh	5.06	186	⇑P	P	14 14 36.1	-0.7
HMAT				S	S	14 15 25.4	-9.1
SLUM		5.08	205	⇑P	P	14 14 36.3	-0.7
SLUM				S	S	14 15 26.6	-8.3
SWA1		7.06	194	⇑P	P	14 15 03.6	-0.9
SWA1				S	S	14 16 13.9	-10
SWA2		7.13	196	⇑P	P	14 15 04.6	-0.9

*IDC **14** 14:17:29.8±0.9, 4.38S×153.64E, mb4.2/9, mb1 4.3/10, mb1mx4.3/13, mbtmp4.2/10, ML3.8/1, MS2.5/1, Ms1 2.5/1, ms1mx2.4/22, Error ellipse: s-maj=27.1km s-min=17.7km az=114.0*
*NEIC **14** 14:17:37.2±2.3, 4.45S×153.72E, h56^{km}±23^{km}, mb4.4/3, Error ellipse: s-maj=19.3km s-min=11.8km az=125.0*
ISC 14 14:17:34.8±3.8**, 4.4S**±0.1×**153.8E**±0.2**, h49**^{km}±37^{km}**, n16,** σ**0**^{s}**60**/18**, mb4.2**/12**, 1C-1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.90	129	Pn	P	14 19 29.7	0.0
	1.4nm,0.3s,baz=162,slow=13,SNR=2.9						
HNR				LR	LR	14 21 56.3	
	comp=Z,39nm,21.4s,baz=284,slow=33						
KAKA	Kakadu	22.60	247	⇓iP	P	14 22 51.6	+19
	6.6nm,0.7s,mb4.2						
WRAB	Tennant Creek	24.38	229	eP	P	14 22 49.9	+0.2
	17nm,0.6s,mb4.7						
WB2	Warramunga Arr	24.38	229	eP	P	14 22 50.3	+0.5
WB2				eS	S	14 27 10.9	+7.8
WRA	Warramunga Arr	24.39	229	P	P	14 22 50.8	+0.9
	7.3nm,0.4s,mb4.5,baz=55,slow=10,SNR=95						
WRA				S	S	14 27 11.0	+7.7
	0.9nm,1.0s,baz=52,slow=14,SNR=4.6						
STKA	Stephens Creek	29.58	201	P	P	14 23 36.9	-0.5
	2.3nm,0.8s,mb4.0,baz=19,slow=6.0,SNR=4.3						
FITZ	Fitzroy Crossi	30.66	241	⇑iP	P	14 23 45.7	-1.4
	5.5nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	30.66	241	P	P	14 23 45.6	-1.5
	7.7nm,0.6s,mb4.7,baz=54,slow=4.9,SNR=10						
SONM	Songino Array	66.53	327	P	P	14 28 22.2	+0.4
	0.7nm,0.6s,mb3.8,baz=148,slow=5.1,SNR=4.6						
VNDA	Vanda	73.16	178	P	P	14 29 02.2	+0.6
	0.8nm,0.8s,mb3.7,baz=306,slow=7.7,SNR=5.1						
VNDA	Vanda	73.16	178	P	P	14 29 02.2	+0.6
MKAR	Makanchi Array	80.68	319	P	P	14 29 44.6	+0.4
	1.5nm,0.9s,mb3.9,baz=101,slow=6.2,SNR=8.6						
ZAL	Zalesovo	81.39	326	P	P	14 29 47.1	-0.6
	1.1nm,0.3s,mb4.3,baz=132,slow=4.2,SNR=3.5						
ILAR	Eielson Array	81.47	22	P	P	14 29 47.9	-0.1
	0.6nm,0.9s,mb3.5,baz=252,slow=5.7,SNR=5.0						
KURK	Kurchatov	84.07	322	eP	P	14 30 01.6	+0.1
	2.7nm,1.0s,mb4.3						
MAW	Mawson	86.27	203	P	P	14 30 11.6	-0.4
	1.5nm,0.7s,mb4.4,baz=70,slow=9.9,SNR=4.1						

*MOS **14** 14:28:58.7±1.0, 5.62N×126.43E, h38^{km}, mb4.9/16, Error ellipse: s-maj=24.0km s-min=8.2km az=113.2*
*MAN **14** 14:29:02.4, 5.47N×126.45E, mb5.5, ML4.5, MS4.7*
*BJI **14** 14:29:08.7, 5.59N×126.53E, h125^{km}, mB5.0, mb4.7*
*IDC **14** 14:29:09.8±4.9, 5.48N×126.42E, h118^{km}±46^{km}, mb4.2/16, mb1 4.3/16, mb1mx4.2/23, mbtmp4.6/16, MS3.6/6, Ms1 3.6/6, ms1mx3.4/28, Error ellipse: s-maj=26.2km s-min=10.5km az=74.0*
*NEIC **14** 14:29:11.3±2.2, 5.55N×126.42E, h138^{km}±20^{km}, mb4.6/19, Error ellipse: s-maj=15.6km s-min=6.6km az=68.0*
ISC 14 14:29:06.8±0.6**, 5.55N**±0.04×**126.48E**±0.06**, h110**^{km}±4^{km}**, h118**^{km}±4.2^{km}**:pP-P, n108,** σ**1**^{s}**30**/116**, mb4.6**/47**, 4C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.40	351	eP	P	14 29 29.8	-3.1
GSPH	General Santos	1.61	289	⇑iP	P	14 29 33.7	-1.7
GSPH				i S	S	14 29 53.9	-2.9
DMPH	Davao City--Mi	1.80	328	⇓iP	P	14 29 36.0	-1.7
DMPH				i S	S	14 30 13.7	+13
KCP	Kidapawan	2.00	316	⇑eP	P	14 29 41.6	+1.4
KCP				i S	S	14 30 09.2	+4.0
BIPH	Bislig	2.62	357	⇓eP	P	14 29 44.3	-4.3
BIPH				eS	S	14 30 22.1	+2.2
BUKP	Musuan	2.71	329	eP	P	14 29 48.5	-1.3
CTBH	Cotabato--PC H	2.77	307	⇓eP	P	14 29 48.8	-1.8
CTBH				i S	S	14 30 28.6	+5.0
CGP	Cagayan de Oro	3.38	329	⇑eP	P	14 30 00.5	+1.6
CGP				eS	S	14 30 43.3	+4.8
BUTP	Butuan	3.50	346	eP	P	14 30 00.7	+0.1
BUTP				eS	S	14 30 50.3	+9.0
PAGZ	Pagadian	3.83	307	eP	P	14 30 03.9	-1.1
SCPH	Surigao	4.31	347	eP	P	14 30 10.9	-0.7
SCPH				eS	S	14 31 06.2	+5.1
IPIL	Ipil	4.47	300	eP	P	14 30 13.7	0.0
IPIL				eS	S	14 31 04.0	-1.0
MSLP	Maasin	4.83	341	eP	P	14 30 18.2	-0.3
LLP	Lapu-Lapu	5.35	332	eP	P	14 30 25.9	+0.4
LLP				eS	S	14 31 25.3	-1.1
GUIM	Jordan	6.34	323	eP	P	14 30 39.5	+0.4
CNP	Catarman	7.14	346	eP	P	14 30 53.4	+3.2
CUYO	Cuyo Island	7.54	315	eP	P	14 30 55.8	+0.3
OTRP	Odiongan	8.07	327	eP	P	14 31 05.4	+2.7
TSM	Tawau	8.66	262	P	P	14 31 13.3	+2.6
ENPP	El Nido	8.96	309	eP	P	14 31 14.1	-0.5
KKM	Kota Kinabalu	10.22	273	P	P	14 31 35.3	+3.6
KKM	Kota Kinabalu	10.22	273	eP	P	14 31 34.2	+2.4
KSM	Kuching	16.64	256	eP	P	14 32 56.9	+2.0
KAKA	Kakadu	19.09	162	eP	P	14 33 40.1	+17
	25nm,0.6s						
GUMO	Guam	19.80	65	LR	LR	14 39 54.3	
	comp=Z,64nm,19.1s,baz=226,slow=32						
JOW	Kunigami	21.23	4	P	P	14 33 48.6	+3.2
	6.8nm,0.7s,mb4.1,baz=203,slow=8.6,SNR=2.5						
JOW				LR	LR	14 41 52.0	
	comp=Z,104nm,18.4s,baz=302,slow=36						
KGM	Kluang	23.37	262	P	P	14 34 11.2	+4.7
FITZ	Fitzroy Crossi	23.52	182	eP	P	14 34 09.1	+1.2
	28nm,0.6s,mb4.8						
FITZ				eS	S	14 38 22.2	+12
FITZ	Fitzroy Crossi	23.52	182	P	P	14 34 08.9	+1.0
	15nm,0.5s,mb4.5,baz=0.3,slow=9.4,SNR=60						
IPM	Ipoh	25.37	269	P	P	14 34 33.4	+7.8
WRAB	Tennant Creek	26.48	163	eP	P	14 34 34.5	-1.4
	29nm,0.8s,mb4.8						
WRAB	Tennant Creek	26.48	163	eP	P	14 34 34.5	-1.4
WRAB				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.8						
WRA	Warramunga Arr	26.49	163	P	P	14 34 34.5	-1.4
	comp=Z,10nm,0.6s,mb4.5,baz=344,slow=10,SNR=48						
WB2	Warramunga Arr	26.49	163	eP	P	14 34 34.6	-1.4
MBWA	Marble Bar	27.36	194	eP	P	14 34 46.3	+2.4
	comp=Z,13nm,0.7s,mb4.6						
JNU	Nakatsue	27.73	8	LR	LR	14 44 47.4	
	comp=Z,96nm,19.1s,baz=56,slow=34						
ENH	Enshi	29.34	329	eP	P	14 34 58.4	-3.2
ASPA	Alice Springs	29.93	166	eP	P	14 35 05.8	-1.1
KMI	Kunming	29.94	313	P	P	14 35 08.3	+1.3
KMI				AP	pP	14 35 36.3	+5.1
KMI				XP	sP	14 35 48.4	+4.5
KMI				S	S	14 39 53.9	-1.1
KMI				XS		14 40 42.6	
KMI				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb3.9						
KMI				AMB	AMB		
	comp=Z,135nm,4.4s						
KMI				LR	LR		
	comp=N,118nm,16.5s						
KMI				LR	LR		
	comp=E,126nm,18.0s						
KMI				LR	LR		
	comp=Z,163nm,26.3s						
CTA	Charters Tower	32.05	143	eP	P	14 35 25.2	-0.3
	comp=Z,5.5nm,0.8s,mb4.3						
CTA	Charters Tower	32.05	143	P	P	14 35 25.4	-0.1
	comp=Z,9.1nm,1.0s,mb4.5,baz=316,slow=11,SNR=8.0						
CTA	Charters Tower	32.05	143	eP	P	14 35 25.2	-0.3
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTAO	Charters Tower	32.05	143	eP	P	14 35 24.3	-1.2
	comp=Z,11nm,1.0s,mb4.5						
CTAO	Charters Tower	32.05	143	eP	P	14 35 24.3	-1.2
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
XAN	Xi'an	32.69	332	P	P	14 35 29.5	-1.4
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
FORT	Forrest	36.16	178	eP	P	14 36 01.1	+0.6
	comp=Z,25nm,0.5s,mb5.4						
LZH	Lanzhou	36.82	329	eP	P	14 36 07.0	+1.0
LZH				AP	pP	14 36 34.5	+3.4
LZH				XP	sP	14 36 48.0	+3.9
LZH				PP	PP	14 37 35.5	+1.6
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,116nm,4.0s						
LZH				LR	LR		
	comp=E,290nm,13.0s						
LZH				LR	LR		
	comp=Z,329nm,13.9s						
HHC	Hu-ho-hao-te	37.60	341	eP	P	14 36 13.8	+1.4
HHC				AP	pP	14 36 38.9	+1.3
HHC				XP	sP	14 36 52.3	+1.7
HHC				PP	PP	14 37 44.8	+2.2
HHC				PCP	PcP	14 38 29.9	+1.4
HHC				eS	S	14 41 53.0	-0.3
HHC				PCS		14 42 15.9	
HHC				XS		14 42 37.3	
HHC				SS	SS	14 44 34.8	+1.2
HHC				SCS	ScS	14 46 13.3	+1.6
HHC				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.9						
HHC				AMB	AMB		
	comp=Z,81nm,3.3s						
HHC				LR	LR		
	comp=N,95nm,14.3s						
HHC				LR	LR		
	comp=E,113nm,15.5s						
HHC				LR	LR		
	comp=Z,71nm,14.3s						
KLBR	Kellerberrin	37.86	192	eP	P	14 36 14.5	-0.2
	comp=Z,7.6nm,0.4s,mb4.9						
CN2	Changchun	38.10	359	eP	P	14 36 17.0	+0.4
MUN	Mundaring	38.58	194	eP	P	14 36 20.8	+0.1
MDJ	Mudanjiang	39.00	4	P	P	14 36 25.4	+1.3
MDJ				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,86nm,5.7s						
MDJ				LR	LR		
	comp=N,69nm,32.3s						
MDJ				LR	LR		
	comp=E,36nm,19.6s						
MDJ				LR	LR		
	comp=Z,96nm,28.8s						
MDJ	Mudanjiang	39.00	4	eP	P	14 36 25.1	+1.0
	comp=Z,4.4nm,0.6s,mb4.5						
NWAO	Narrogin (SRO)	39.26	192	P	P	14 36 26.6	+0.3
	comp=Z,3.4nm,0.3s,mb4.6,baz=18,slow=3.9,SNR=9.5						
STKA	Stephens Creek	39.91	160	⇑iP	P	14 36 31.9	+0.2
	comp=Z,13nm,0.9s,mb4.8						
STKA	Stephens Creek	39.91	160	P	P	14 36 32.0	+0.3
	comp=Z,11nm,0.5s,mb5.0,baz=333,slow=8.0,SNR=40						
ASAJ	Asahikawa	40.94	18	P	P	14 36 41.2	+1.2
	comp=Z,4.4nm,0.8s,mb4.3,baz=241,slow=10,SNR=3.4						
LSA	Lhasa	41.07	310	P	P	14 36 43.0	+1.8
GTA	Gaotai	41.42	328	eP	P	14 36 44.6	+0.6
GTA				PCP	PcP	14 38 42.6	+1.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
PKI	Pulchoki	44.73	304	eP	P	14 37 09.6	-1.5
	comp=Z,7.1nm,0.6s,mb4.6						
PKI	Pulchoki	44.73	304	eP	P	14 37 09.6	-1.5
PKI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
KKN	Kakani	44.92	304	eP	P	14 37 10.5	-2.1
DMN	Daman	44.99	304	eP	P	14 37 12.7	-0.5
	comp=Z,22nm,1.1s,mb4.8						
ULN	Ulaanbaatar	45.32	342	eP	P	14 37 15.8	+0.3
	comp=Z,58nm,0.6s,mb5.5						
ULN	Ulaanbaatar	45.32	342	eP	P	14 37 15.8	+0.3
ULN				pmax	pmax		
	comp=Z,58nm,0.6s,mb5.5						
SONM	Songino Array	45.50	341	P	P	14 37 17.6	+0.6
	comp=Z,2.3nm,0.7s,mb4.0,baz=160,slow=8.7,SNR=13						
SONM				PcP	PcP	14 38 55.4	+1.0
	comp=Z,4.5nm,0.7s,baz=160,slow=3.6,SNR=11						
SONM				LR	LR	14 58 01.0	
	comp=Z,45nm,20.3s,baz=118,slow=38						
GKN	Gorkha	45.52	304	eP	P	14 37 16.2	-1.2
	comp=Z,7.9nm,0.5s,mb4.7						
CIT	Chita	47.54	349	eP	P	14 37 34.5	+1.6
DZM	Mont Dzumac	47.80	126	eP	P	14 37 34.4	-1.0
DZM	Mont Dzumac	47.80	126	P	P	14 37 35.3	0.0
	comp=Z,7.7nm,0.6s,mb4.7,baz=283,slow=8.9,SNR=16						
ZAK	Zakamensk	48.73	340	eP	P	14 37 43.2	+1.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
WMQ	Urumqi	51.10	324	eP	P	14 38 02.3	+2.0
WMQ				AP	pP	14 38 29.0	+2.5
WMQ				XP	sP	14 38 41.5	+3.0
WMQ				PP	PP	14 40 01.0	+2.4
WMQ				eS	S	14 45 09.0	+1.0
WMQ				XS		14 45 55.0	
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,147nm,4.7s						
WMQ				LR	LR		
	comp=N,359nm,26.4s						
WMQ				LR	LR		
	comp=E,182nm,26.0s						
WMQ				LR	LR		
	comp=Z,210nm,21.4s						
BOD	Bodaibo	53.04	352	eP	P	14 38 13.1	-1.5
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
MKAR	Makanchi Array	55.93	325	P	P	14 38 35.3	-0.5
	comp=Z,3.2nm,0.5s,mb4.6,baz=123,slow=8.3,SNR=36						
MKAR				PcP	PcP	14 39 33.4	+0.6
	comp=Z,3.1nm,0.7s,baz=120,slow=4.7,SNR=5.2						
MKAR				LR	LR	15 02 34.8	
	comp=Z,97nm,20.0s,baz=180,slow=36						
MKAR	Makanchi Array	55.93	325	P	P	14 38 35.3	-0.5
MKAR				PcP	PcP	14 39 33.4	+0.6
MKAR				LR	LR	15 02 34.8	
YAK	Yakutsk	56.41	2	eP	P	14 38 37.2	-1.8
YAK				e		14 38 46.5	
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
ZAL	Zalesovo	58.86	333	P	P	14 38 55.3	-1.0
	comp=E,1.6nm,0.3s,mb4.5,baz=164,slow=4.1,SNR=5.3						
KURK	Kurchatov	60.08	327	eP	P	14 39 03.6	-1.1
	comp=E,9.0nm,0.6s,mb5.0						
KURK	Kurchatov	60.08	327	eP	P	14 39 03.6	-1.1
KURK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
NVS	Novosibirsk	60.14	333	eP	P	14 39 02.9	-2.2
NVS				pmax	pmax		
	comp=Z,44nm,2.6s,mb5.0						
KKAR	Karatay Array	61.74	316	i P	P	14 39 15.2	-0.8
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
RPZ	Rata Peaks	63.39	145	P	P	14 39 27.0	0.0
	comp=Z,5.8nm,0.7s,mb4.6,baz=18,slow=9.4,SNR=5.1						
VOSK	Vostochnaya	65.21	326	P	P	14 39 37.6	-1.1
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
BVA0	Borovoye Array	65.67	327	i P	P	14 39 41.0	-0.6
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
BRVK	Borovoye	65.74	327	eP	P	14 39 39.0	-3.1
	comp=Z,4.3nm,0.7s,mb4.4						
BRVK	Borovoye	65.74	327	eP	P	14 39 39.0	-3.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
TIXI	Tiksi	66.03	1	eP	P	14 39 42.1	-1.5
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
AB31	Akbulak array	70.59	320	i P	P	14 40 11.2	-0.9
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
CASY	Casey	72.58	187	eP	P	14 40 24.4	+0.7
	comp=Z,9.8nm,1.1s,mb4.5						
ARU	Arti	73.27	327	eP	P	14 40 27.1	-0.7
	comp=Z,9.4nm,0.5s,mb4.9						
ARU	Arti	73.27	327	eP	P	14 40 27.1	-0.7
ARU				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
MIR	Mirnyy	75.86	193	eP	P	14 40 44.0	+1.5
MIR				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.8						
ILAR	Eielson Array	83.58	26	P	P	14 41 24.2	+0.5
	comp=Z,1.8nm,1.0s,mb3.9,baz=241,slow=6.9,SNR=10.0						
VNDA	Vanda	85.25	173	LR	LR	15 15 40.9	
	comp=Z,75nm,19.1s,baz=345,slow=33						
VNDA	Vanda	85.25	173	P	P	14 41 32.4	+0.5
	comp=Z,7.7nm,1.2s,mb4.5						
VNDA	Vanda	85.25	173	P	P	14 41 32.4	+0.5
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
OBN	Obninsk	85.44	325	eP	P	14 41 33.7	+0.5
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
JOF	Joensuu	87.45	333	ep	P	14 41 42.9	+0.1
KEV	Kevo	88.10	340	ep	P	14 41 44.5	-1.3
ARCES	ARCESS Array B	88.66	340	P	P	14 41 49.4	+1.0
	comp=Z,15nm,0.8s,mb5.1,baz=84,slow=6.4,SNR=66						
KMBO	Kilima Mbogo	89.34	269	LR	LR	15 19 37.0	
	comp=Z,417nm,18.7s,baz=97,slow=34						
KAF	Kangasniemi	89.88	332	ep	P	14 41 55.0	+0.7
FINES	FINESS Array B	90.12	332	P	P	14 41 56.7	+1.3
	comp=Z,0.8nm,0.4s,mb4.2,baz=63,slow=4.3,SNR=8.8						
NB2	NORSAR Subarra	97.05	334	P	P	14 42 27.4	+0.2
	comp=Z,1.3nm,0.7s,mb4.5,baz=65,slow=4.5						
NB2	NORSAR Subarra	97.05	334	P	P	14 42 27.4	+0.2
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.3						
NOA	NORSAR Array B	97.05	334	P	P	14 42 27.6	+0.3
	comp=Z,2.4nm,0.8s,mb4.7,baz=66,slow=4.7,SNR=4.5						
TXAR	Lajitas Array	120.67	51	PKP	PKPdf	14 47 49.0	+2.5
	comp=Z,0.8nm,0.5s,baz=135,slow=1.8,SNR=4.5						
TRQA	Tornquist	146.74	168	ePKPbc	PKPbc	14 48 38.5	+2.5

*IDC **14** 14:30:18.7±5.2, 20.27S×176.57W, h299^{km}±47^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.5/15, mbtmp4.2/5, Error ellipse: s-maj=31.3km s-min=15.4km az=85.0*
ISC 14 14:30:11.8±4.7**, 20.1S**±0.2×**176.2W**±0.3**, h262**^{km}±42^{km}**, n9,** σ**1**^{s}**39**/8**, mb3.7**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.32	260	eP	P	14 33 48.5	+0.5
NOUC	Port Laguerre	16.45	260	eP	P	14 33 50.5	+1.0
URZ	Urewera	19.03	196	P	P	14 34 14.8	-1.3
	1.6nm,0.3s,baz=21,slow=17,SNR=9.8						
URZ				S	S	14 37 33.5	+0.1
	0.5nm,0.3s,baz=5.8,slow=9.6,SNR=9.6						
CTA	Charters Tower	35.22	263	P	P	14 36 42.1	-1.1
	4.0nm,0.5s,mb4.2,baz=99,slow=12,SNR=10						
WRA	Warramunga Arr	46.33	261	P	P	14 38 12.5	-1.2
	1.9nm,0.5s,mb3.7,baz=95,slow=7.4,SNR=7.3						
FITZ	Fitzroy Crossi	54.76	262	P	P	14 39 17.2	+0.6
	6.9nm,0.8s,mb4.2,baz=190,slow=19,SNR=5.3						
VNDA	Vanda	58.49	185	P	P	14 39 43.5	+1.4
	0.3nm,0.6s,mb2.9,baz=28,slow=4.5,SNR=3.1						
BRTR	Keskin Array B	147.78	314	PKPbc	PKPdf	14 49 27.2	+4.8
	1.2nm,0.5s,baz=117,slow=2.8,SNR=6.7						
GERES	GERESS Array B	150.21	347	PKPbc	PKPdf	14 49 33.5	+7.6
	0.9nm,0.7s,slow=1.3,SNR=6.5						

IDC 14 14:36:28.3±1.8**, 15.82S**×**173.26W, mb3.8**/4**, mb1 4.1**/5**, mb1mx3.9**/16**, mbtmp3.8**/5**, Error ellipse: s-maj=119.9km s-min=19.2km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.38	37	Pn	Pn	14 37 08.4	-0.8
	11nm,0.3s,baz=105,slow=16,SNR=43						
AFI				Sn	Sn	14 37 38.6	-0.9
	42nm,0.3s,baz=207,slow=22,SNR=8.7						
STKA	Stephens Creek	43.95	240	P	P	14 44 36.8	-2.1
	1.7nm,0.7s,baz=90,slow=9.1,SNR=3.0						
WRA	Warramunga Arr	49.88	257	P	P	14 45 24.0	-1.8
	0.6nm,0.9s,baz=95,slow=6.9,SNR=9.5						
NVAR	Mina Array Bea	74.55	42	P	P	14 48 10.0	-1.0
	1.0nm,0.7s,baz=221,slow=9.6,SNR=5.6						
PDAR	Pinedale Array	82.49	42	P	P	14 48 53.0	-1.3
	0.8nm,0.8s,baz=214,slow=3.3,SNR=5.3						

*MOS **14** 15:07:42.1±1.2, 12.08N×40.30E, h10^{km}, mb4.8/20, MS4.3/9, Error ellipse: s-maj=13.6km s-min=5.4km az=107.1*
*DHMR **14** 15:07:43.8±0.8, 12.66N×40.53E, h5^{km}±41^{km}, ML4.6*
*BJI **14** 15:07:45.6, 13.18N×39.86E, h16^{km}, mB4.9, mb4.6, Ms4.4, Msz4.0*
*IDC **14** 15:07:45.1±1.0, 12.53N×40.48E, mb4.2/13, mb1 4.3/15, mb1mx4.3/19, mbtmp4.1/15, ML3.0/2, MS4.3/14, Ms1 4.3/14, ms1mx4.2/23, Error ellipse: s-maj=21.8km s-min=13.7km az=32.0*

*NEIC **14** 15:07:46.4±0.5, 12.49N×40.42E, h10km, mb4.7/18, Error ellipse: s-maj=11.4km s-min=9.2km az=220.0*
*CSEM **14** 15:07:48.9±0.1, 12.64N×40.45E, h40km, mb4.6/18, Ms4.1, Error ellipse: s-maj=5.6km s-min=2.6km az=7.0*
ISC 14 15:07:44.9±0.4**, 12.52N**±0.06×**40.45E**±0.03**, h10km, (h30km±4.7km:pP-P), n119, σ1§22**/119**, mb4.5**/41**, MS4.4**/22**, 8C-8D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.54**	**112**	Pn	**Pn**	**15 08 27.5**	**+0.5**
	220nm,0.3s,baz=306,slow=7.2,SNR=208						
ATD				Lg		15 09 04.3	
	393nm,0.3s,baz=251,slow=23,SNR=10						
ATD	**Arta Tunnel**	**2.54**	**112**	Pn	**Pn**	**15 08 27.5**	**+0.5**
ATD				Lg		15 09 04.3	
UDYN	**Al ‘Udayn**	**3.72**	**67⇑**	*i*P	**Pn**	**15 08 43.3**	**-0.4**
UDYN				*i* S	**Sn**	**15 09 29.9**	**+1.9**
UDYN				AML	AML	15 09 50.4	
	comp=E,3μm,0.6s						
DHBB	**Dhamar BB**	**4.34**	**62**	*e*P	**Pn**	**15 08 51.5**	**-1.0**
DHBB				*i* S	**Sn**	**15 09 43.5**	**-0.4**
HAJJ	**Hajjah**	**4.40**	**44⇓**	*e*P	**Pn**	**15 08 51.7**	**-1.6**
HAJJ				*i* S	**Sn**	**15 09 44.4**	**-0.9**
HAJJ	**Hajjah**	**4.40**	**44⇓**	*e*P	**Pn**	**15 08 51.7**	**-1.6**
HAJJ				*i* S	**Sn**	**15 09 44.3**	**-0.9**
ADEN	**Aden**	**4.43**	**86⇓**	*e*P	**Pn**	**15 08 52.9**	**-1.0**
ADEN				*i* S	**Sn**	**15 09 46.5**	**+0.3**
LBOS		**4.87**	**73⇓**	*i*P	**Pn**	**15 08 58.2**	**-1.8**
LBOS				*i* S	**Sn**	**15 09 56.9**	**-0.1**
BDHA	**Al Bayda’**	**5.19**	**73⇓**	*e*P	**Pn**	**15 09 02.5**	**-2.0**
BDHA				*i* S	**Sn**	**15 10 04.3**	**-0.9**
MUKL	**Al Mukalla**	**8.58**	**76**	*i* S	**Sn**	**15 11 25.0**	**-4.9**
KMBO	**Kilima Mbogo**	**13.92**	**193**	Pn	**P**	**15 11 04.8**	**-0.1**
	comp=E,0.0nm,0.3s,baz=17,slow=19,SNR=2.1						
KMBO				Lg		15 15 07.6	
	comp=E,0.1nm,0.3s,baz=91,slow=19,SNR=4.1						
KMBO	**Kilima Mbogo**	**13.92**	**193**	Pn	**P**	**15 11 04.8**	**-0.1**
KMBO				Lg		15 15 07.6	
MBAR	**Mbarara**	**16.21**	**217**	*e*P	**P**	**15 11 41.6**	**+7.0**
	comp=E,19nm,1.5s						
MBAR				*e*		15 11 54.9	
MBAR	**Mbarara**	**16.21**	**217⇑**	*i*P	**P**	**15 11 41.7**	**+7.1**
ASF	**Jabal al Asfar**	**19.83**	**351**	P	**P**	**15 12 18.5**	**-0.3**
	comp=E,0.1nm,0.3s,slow=6.1,SNR=2.8						
ASF				LR	LR	15 18 51.8	
	comp=E,814nm,21.1s,baz=211,slow=34						
BHD	**Baghdad**	**20.96**	**9**	*e*x	x	15 12 28.0	
BHD				*e*x	x	15 16 34.0	
BHD				*e*x	x	15 20 02.5	
MSL	**Mosul**	**23.79**	**5**	*e*x	x	15 13 20.5	
MSL				*e*x	x	15 17 36.0	
MSL				*e*x	x	15 24 06.5	
MALT	**Malatya**	**25.75**	**356**	*e*P	**P**	**15 13 19.6**	**+2.2**
	comp=E,23nm,1.2s,mb4.6						
MALT	**Malatya**	**25.75**	**356**	*e*P	**P**	**15 13 19.6**	**+2.2**
	comp=E,23nm,1.2s,mb4.6						
MALT	**Malatya**	**25.75**	**356**	*e*P	**P**	**15 13 19.6**	**+2.2**
MALT				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.6						
IDI	**Anoyia**	**26.68**	**331**	P	**P**	**15 13 27.0**	**+0.9**
	comp=Z,6.6nm,0.8s,mb4.2,baz=134,slow=12,SNR=4.2						
IDI				LR	LR	15 24 19.1	
	comp=Z,758nm,18.3s,MS4.3,baz=254,slow=37						
BRTR	**Keskin Array B**	**27.76**	**349**	P	**P**	**15 13 36.6**	**+0.8**
	comp=Z,6.1nm,1.1s,mb4.2,baz=173,slow=10.0,SNR=13						
GNI	**Garni**	**27.78**	**7**	LR	LR	15 25 07.1	
	comp=Z,700nm,21.2s,MS4.2,baz=32,slow=38						
GNI	**Garni**	**27.78**	**7**	*i* P	**P**	**15 13 37.9**	**+1.9**
ANTO	**Ankara**	**28.07**	**347**	*e*P	**P**	**15 13 39.9**	**+1.3**
	comp=Z,84nm,1.5s,mb5.2						
ANTO	**Ankara**	**28.07**	**347**	*e*P	**P**	**15 13 39.9**	**+1.3**
	comp=Z,84nm,1.5s,mb5.2						
ANTO	**Ankara**	**28.07**	**347**	*e*P	**P**	**15 13 39.9**	**+1.3**
ANTO				pmax	pmax		
	comp=Z,84nm,1.5s,mb5.2						
TI2	**Plekhanov**	**29.34**	**7**	*i* P	**P**	**15 13 54.4**	**+4.3**
TI2				MLR	MLR		
	comp=E,2μm,11.0s						
TI2				MLR	MLR		
	comp=Z,2μm,11.0s,MS5.0						
ZEI	**Tsey**	**30.29**	**5**	*e*P	**P**	**15 13 58.1**	**-0.4**
	comp=Z,1.0nm,0.3s,mb4.0						
ZEI	**Tsey**	**30.29**	**5**	*e*P	**P**	**15 13 58.1**	**-0.4**
ZEI				*i* *PP	pP	15 14 06.4	+4.9
ZEI				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
SOC	**Sochi**	**30.96**	**359**	*e*P	**P**	**15 14 03.0**	**-1.4**
	comp=Z,12nm,0.8s,mb4.8						
SOC	**Sochi**	**30.96**	**359**	*e*P	**P**	**15 14 03.0**	**-1.4**
SOC				*e*PPP	PPP	15 15 17.3	-3.9
SOC				*e*S	**S**	**15 19 11.0**	**+3.3**
SOC				*e*SS	SS	15 20 55.2	+4.0
SOC				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
SOC				pmax	pmax		
	comp=N,6.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,15nm,0.9s						
SOC				MLR	MLR		
	comp=N,839nm,13.0s,MS4.7						
SOC				MLR	MLR		
	comp=Z,480nm,13.0s,MS4.3						
SOC				MLR	MLR		
	comp=E,488nm,12.0s,MS4.7						
KIV	**Kislovodsk**	**31.38**	**3**	*e*P	**P**	**15 14 09.9**	**+1.7**
KIV				*e*		15 15 11.1	
KIV				*e*S	**S**	**15 19 13.0**	**-1.3**
KIV				pmax	pmax		
	comp=N,6.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
KIV				pmax	pmax		
	comp=E,3.0nm,0.7s						
KIV				MLR	MLR		
	comp=N,844nm,18.0s,MS4.5						
KIV				MLR	MLR		
	comp=Z,959nm,18.0s,MS4.5						
KIV				MLR	MLR		
	comp=E,416nm,15.0s,MS4.5						
VAE	**Valguarnera**	**34.05**	**321**	LR	LR	15 29 12.1	
	comp=E,989nm,18.8s,MS4.6,baz=329,slow=38						
CFR	**Carcaliu**	**34.20**	**344⇑**	*i*P	**P**	**15 14 32.7**	**0.0**
MLR	**Muntele Rosu**	**35.10**	**342**	P	**P**	**15 14 41.0**	**+0.6**
	comp=E,4.0nm,0.7s,mb4.4,baz=201,slow=5.4,SNR=8.4						
MLR	**Muntele Rosu**	**35.10**	**342⇓**	*i*P	**P**	**15 14 43.3**	**+2.9**
MLR	**Muntele Rosu**	**35.10**	**342⇓**	*i*P	**P**	**15 14 43.2**	**+2.8**
VRI	**Vrincioaia**	**35.22**	**343⇑**	*i*P	**P**	**15 14 43.8**	**+2.4**
VOIR		**35.33**	**341⇑**	*i*P	**P**	**15 14 44.1**	**+1.7**
DRGR		**37.29**	**340⇑**	*i*P	**P**	**15 14 59.8**	**+0.9**
AKASG	**Malin Array Be**	**39.16**	**349**	P	**P**	**15 15 12.4**	**-2.1**
	comp=E,4.3nm,0.7s,mb4.3,baz=167,slow=7.0,SNR=17						
KOLS	**Kolonicke sedl**	**39.31**	**341**	*e*sP	sP	15 15 20.9	+0.9
VYHS	**Vyhne**	**40.12**	**338**	*e*P	**P**	**15 15 23.1**	**+0.6**
VOY	**Vojsko**	**40.26**	**331**	*e*P	**P**	**15 15 23.3**	**-0.4**
VOY				*e*	pP	15 15 25.2	-1.5
PGF	**Pioggiola**	**40.47**	**324**	*e*P	**P**	**15 15 25.1**	**-0.3**
	comp=E,21nm,1.2s,mb4.5						
PGF	**Pioggiola**	**40.47**	**324**	*e*P	**P**	**15 15 25.1**	**-0.3**
PGF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
OKC	**Ostrava-Krasne**	**41.48**	**338**	*e*P	**P**	**15 15 39.4**	**+5.7**
OKC				AMS	AMS	15 37 10.0	
AAK	**Ala-Archa**	**42.06**	**38⇓**	*i*P	**P**	**15 15 40.3**	**+1.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
AAK				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.7						
LMR	**La Mourre**	**42.40**	**323**	*e*P	**P**	**15 15 40.6**	**-0.7**
FRF	**La Foret Royal**	**42.45**	**323**	*e*P	**P**	**15 15 40.9**	**-0.8**
	comp=Z,23nm,1.1s,mb4.4						
FRF	**La Foret Royal**	**42.45**	**323**	*e*P	**P**	**15 15 40.9**	**-0.8**
FRF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
GERES	**GERESS Array B**	**42.46**	**334**	P	**P**	**15 15 40.8**	**-0.8**
	comp=Z,4.4nm,0.9s,mb4.1,baz=143,slow=6.7,SNR=11						
GERES				LR	LR	15 35 20.4	
	comp=Z,248nm,19.6s,MS4.1,baz=287,slow=39						
DPC	**Dobruska-Polom**	**42.58**	**337**	*e*P	**P**	**15 15 44.8**	**+2.1**
DPC				AMS	AMS	15 35 00.0	
OBN	**Obninsk**	**42.60**	**357⇑**	*i*P	**P**	**15 15 44.9**	**+2.1**
OBN				pmax	pmax		
	comp=Z,45nm,1.7s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.3						
KHC	**Kasperske Hory**	**42.73**	**334**	*e*P	**P**	**15 15 43.1**	**-0.8**
KHC				pP	pP	15 15 44.0	-2.9
KHC				AMS	AMS	15 32 00.0	
KHC	**Kasperske Hory**	**42.73**	**334**	*e*P	**P**	**15 15 44.1**	**+0.2**
DAVOX	**Davos**	**42.75**	**329**	LR	LR	15 35 18.5	
	comp=Z,359nm,20.4s,MS4.2,baz=270,slow=39						
UPC	**Upice**	**42.82**	**337**	*e*P	**P**	**15 15 46.4**	**+1.8**
PRU	**Pruhonice**	**42.99**	**336**	*e*P	**P**	**15 15 47.5**	**+1.5**
PRU				AMS	AMS	15 34 10.0	
	comp=Z,600nm,26.0s						
MBDF	**Montbardon**	**43.08**	**325**	*e*P	**P**	**15 15 47.3**	**+0.4**
	comp=Z,32nm,0.9s,mb4.7						
MBDF	**Montbardon**	**43.08**	**325**	*e*P	**P**	**15 15 47.3**	**+0.4**
MBDF				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
MOS	**Moscow**	**43.18**	**358**	*e*P	**P**	**15 15 48.2**	**+0.8**
PVCC	**Panska Ves**	**43.40**	**336**	*e*P	**P**	**15 15 40.9**	**-8.4**
PVCC				AMS	AMS	15 37 30.0	
LPL	**La Plagne**	**43.59**	**326**	*e*P	**P**	**15 15 49.8**	**-1.1**
ORIF	**Oris-en-Rattie**	**43.71**	**324**	*e*P	**P**	**15 15 51.2**	**-0.7**
	comp=Z,26nm,1.3s,mb4.5						
ORIF				*e*R			
	comp=Z,496nm,21.0s						
GKN	**Gorkha**	**43.97**	**63**	*e*P	**P**	**15 15 58.6**	**+4.4**
NKC	**Novy Kostel**	**44.04**	**334**	AMS	AMS	15 35 30.0	
GRA1	**Grafenberg Arr**	**44.17**	**333**	*e*P	**P**	**15 15 56.4**	**+0.8**
	comp=Z,5.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P	**P**	**15 15 56.4**	**+0.8**
	comp=Z,5.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P	**P**	**15 15 56.4**	**+0.8**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P	**P**	**15 15 56.4**	**+0.8**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
DMN	**Daman**	**44.30**	**63**	*e*P	**P**	**15 15 58.6**	**+1.6**
	comp=Z,7.4nm,0.3s,mb4.9						
LASF	**Ste Croix**	**44.40**	**322**	*e*P	**P**	**15 15 57.1**	**-0.5**
	comp=Z,14nm,1.0s,mb4.4						
KKN	**Kakani**	**44.48**	**63**	*e*P	**P**	**15 15 58.1**	**-0.4**
	comp=Z,21nm,1.0s,mb4.8						
KKN	**Kakani**	**44.48**	**63**	*e*P	**P**	**15 15 58.1**	**-0.4**
KKN				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
PKI	**Pulchoki**	**44.56**	**63**	*e*P	**P**	**15 15 58.9**	**-0.1**
CABF	**La Chapelle**	**44.62**	**326**	*e*P	**P**	**15 15 58.0**	**-1.3**
	comp=Z,34nm,1.3s,mb4.7						
CABF	**La Chapelle**	**44.62**	**326**	*e*P	**P**	**15 15 58.0**	**-1.3**
CABF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.7						
CLL	**Collm**	**44.63**	**336**	*i* P	**P**	**15 15 49.8**	**-10**
	comp=Z,13nm,1.4s,mb4.6						
CLL	**Collm**	**44.63**	**336**	*i* P	**P**	**15 15 49.8**	**-10**
CLL				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.6						
HINF	**Hinteralfeld**	**44.98**	**328**	*e*P	**P**	**15 16 01.2**	**-1.0**
DBIC	**Dimbokro**	**45.00**	**267**	P	**P**	**15 16 03.5**	**+0.7**
	comp=Z,3.9nm,0.9s,mb4.3,baz=68,slow=10,SNR=5.8						
DBIC				LR	LR	15 37 02.5	
	comp=Z,493nm,18.5s,MS4.5,baz=65,slow=39						
CDF	**Champ du Feu**	**45.15**	**329**	*e*P	**P**	**15 16 02.5**	**-1.0**
LIC	**Lamto**	**45.25**	**266**	*e*P	**P**	**15 16 04.8**	**0.0**
	comp=Z,26nm,1.5s,mb4.8						
HAU	**Haudompre**	**45.36**	**328**	*e*P	**P**	**15 16 03.8**	**-1.4**
HAU				*e*R			
	comp=Z,265nm,20.8s						
SMF	**Signal de Mont**	**45.88**	**325**	*e*P	**P**	**15 16 07.8**	**-1.5**
ARU	**Arti**	**46.00**	**14⇑**	*i*P	**P**	**15 16 12.5**	**+2.4**
ARU				*e*		15 17 59.5	
ARU				*e*S	**S**	**15 22 55.9**	**+1.6**
ARU				*e*SS	SS	15 26 21.4	+10
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,100nm,19.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,200nm,16.0s,MS4.2						
LOR	**Lormes**	**46.23**	**326**	*e*P	**P**	**15 16 11.0**	**-1.1**
	comp=E,8.8nm,0.7s,mb4.5						
LOR				*e*R			
	comp=E,205nm,17.2s						
LOR	**Lormes**	**46.23**	**326**	*e*P	**P**	**15 16 11.0**	**-1.1**
LOR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LOR				MLR	MLR		
	comp=Z,210nm,17.3s,MS4.2						
SSF	**Saint Saulge**	**46.31**	**325**	*e*P	**P**	**15 16 11.3**	**-1.4**
	comp=Z,2.7nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**46.31**	**325**	*e*P	**P**	**15 16 11.3**	**-1.4**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
MEZF	**Maizieres J’vi**	**46.35**	**328**	*e*P	**P**	**15 16 12.3**	**-0.6**
ETSF	**Etsaut**	**46.56**	**318**	*e*P	**P**	**15 16 15.0**	**+0.3**
	comp=Z,22nm,1.1s,mb4.7						
ETSF	**Etsaut**	**46.56**	**318**	*e*P	**P**	**15 16 15.0**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
TCF	**Toulx Ste Croi**	**46.60**	**324**	*e*P	**P**	**15 16 13.9**	**-1.1**
SJPF	**Ste Jean**	**47.09**	**318**	*e*P	**P**	**15 16 19.4**	**+0.5**
	comp=Z,23nm,1.0s,mb4.8						
SJPF	**Ste Jean**	**47.09**	**318**	*e*P	**P**	**15 16 19.4**	**+0.5**
SJPF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
GIVF	**Givet**	**47.47**	**329**	*e*P	**P**	**15 16 20.2**	**-1.6**
ESDC	**Sonseca Array**	**47.52**	**313**	P	**P**	**15 16 21.9**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=114,slow=7.8,SNR=5.9						
MFF	**Saint Martin d**	**48.14**	**323**	*e*P	**P**	**15 16 25.9**	**-1.2**
MKAR	**Makanchi Array**	**48.98**	**37**	P	**P**	**15 16 33.6**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.4,baz=238,slow=6.5,SNR=17						
MKAR				LR	LR	15 39 49.9	
	comp=Z,427nm,19.1s,MS4.5,baz=189,slow=39						
FLN	**La Foliniere**	**49.48**	**325**	*e*P	**P**	**15 16 36.1**	**-1.3**
	comp=Z,30nm,1.1s,mb5.0						
FLN				*e*R			
	comp=Z,263nm,19.2s						
FLN	**La Foliniere**	**49.48**	**325**	*e*P	**P**	**15 16 36.1**	**-1.3**
FLN				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
FLN				MLR	MLR		
	comp=Z,260nm,19.3s,MS4.2						
FINES	**FINESS Array B**	**49.95**	**351**	P	**P**	**15 16 41.2**	**+0.4**
	comp=Z,3.3nm,0.8s,mb4.4,baz=211,slow=8.1,SNR=3.5						
HFS	**Hagfors**	**51.47**	**343**	LR	LR	15 40 48.1	
	comp=Z,228nm,18.7s,MS4.2,baz=341,slow=38						
NOA	**NORSAR Array B**	**52.92**	**343**	P	**P**	**15 17 01.9**	**-1.4**
	comp=Z,2.7nm,0.9s,mb4.2,baz=140,slow=7.6,SNR=3.8						
NOA				LR	LR	15 40 54.7	
	comp=Z,117nm,18.2s,MS4.0,baz=110,slow=38						
ZAL	**Zalesovo**	**54.09**	**31**	P	**P**	**15 17 11.9**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=270,slow=6.7,SNR=8.8						
ZAL				LR	LR	15 43 55.4	
	comp=Z,410nm,20.3s,MS4.5,baz=246,slow=40						
ARCES	**ARCESS Array B**	**57.76**	**354**	P	**P**	**15 17 36.3**	**-1.9**
	comp=Z,2.6nm,0.9s,mb4.3,baz=194,slow=5.0,SNR=5.2						
GTA	**Gaotai**	**58.55**	**51**	*e*P	**P**	**15 17 44.8**	**+0.6**
GTA				AP	pP	15 17 54.8	+7.5
GTA				XP	sP	15 17 58.9	+10
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
LZH	**Lanzhou**	**61.28**	**56**	*e*P	**P**	**15 18 04.5**	**+1.5**
LZH				AP	pP	15 18 16.0	+10
LZH				AMB	AMB		
	comp=Z,23nm,1.7s,mb5.0						
SONM	**Songino Array**	**64.70**	**43**	P	**P**	**15 18 25.2**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.4,baz=252,slow=6.5,SNR=12						
SONM				LR	LR	15 50 11.5	
	comp=Z,460nm,18.1s,MS4.7,baz=135,slow=39						
WHN	**Wuhan**	**69.97**	**62**	*e*P	**P**	**15 18 59.0**	**+0.1**
BOD	**Bodaibo**	**70.74**	**33**	*e*P	**P**	**15 19 00.8**	**-2.3**
NJ2	**Nanjing**	**73.72**	**60**	*e*P	**P**	**15 19 22.6**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
SSE	**Sheshan**	**75.79**	**61**	P	**P**	**15 19 35.1**	**+1.9**
SSE				XP	sP	15 19 48.3	+11
SSE				PP	PP	15 22 23.6	-1.6
SSE				S	S	15 29 12.6	-1.2
SSE				XS		15 29 28.3	
SSE				SCS	ScS	15 29 45.4	+1.4
SSE				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,43nm,5.9s						
SSE				LR	LR		
	comp=N,91nm,19.2s,MS4.2						
SSE				LR	LR		
	comp=E,76nm,19.2s,MS4.2						
SSE				LR	LR		
	comp=Z,82nm,20.0s,MS4.0						
MAW	**Mawson**	**81.55**	**172**	LR	LR	15 52 48.1	
	comp=Z,178nm,21.1s,MS4.4,baz=244,slow=33						
SEY	**Seymchan**	**88.59**	**25**	*e*P	**P**	**15 20 40.8**	**+1.8**
SCHQ	**Schefferville**	**89.55**	**326**	LR	LR	16 00 01.7	
	comp=Z,120nm,18.6s,MS4.3,baz=252,slow=35						

CASC 14 15:21:30.8±1.9**, 11.30N×85.96W, h118km±7km, MD3.5, ML2.7, 2C-4D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.11**	**97⇓**	*e*P	P	15 21 47.6	+0.5
SSNN				*e*S	S	15 22 00.3	+1.1
CONN	**Concepcion**	**0.42**	**52⇓**	*e*P	P	15 21 48.6	+0.4
MADN	**Villa Maderas**	**0.44**	**76**	*e*P	P	15 21 48.8	+0.5
TICN	**Ticuantepe**	**0.77**	**340⇓**	*e*P	P	15 21 51.4	+0.7
MGAN	**Managua**	**0.89**	**342**	*e*P	P	15 21 52.6	+0.8
LIM1	**Limonal**	**0.92**	**131**	*e*P	P	15 21 51.4	-0.7
LIM1				*e*S	S	15 22 08.3	+0.3
COPN	**Copaltepe**	**1.07**	**325⇑**	*i*P	P	15 21 53.8	+0.2
COPN				*e*S	S	15 22 10.4	-0.3
VCR	**Vista de Mar**	**1.21**	**164⇓**	*e*P	P	15 21 55.3	+0.1
VCR				*e*S	S	15 22 14.0	+0.5
MOMJ	**Momotombo**	**1.24**	**333**	*e*P	P	15 21 55.2	-0.3
MOMJ				*e*S	S	15 22 14.2	+0.2
MIRN	**Miramar**	**1.35**	**327⇑**	*e*P	P	15 21 57.1	+0.3
MIRN				*e*S	S	15 22 15.4	-1.0
CNGN	**Cerro Negro**	**1.39**	**329**	*e*S	S	15 22 15.8	-1.5
TEL3	**Telica 3**	**1.53**	**326**	*e*P	P	15 21 59.3	+0.4
TEL3				*e*S	S	15 22 20.6	+0.5
	comp=Z,74nm,0.2s						
CGA2	**Cerro Gallo 2**	**1.95**	**131**	*e*P	P	15 22 04.5	+0.6
CGA2				*e*S	S	15 22 29.6	+0.7
LCR2	**La Lucha 2**	**2.47**	**129**	*e*P	P	15 22 11.2	+0.3
LCR2				*e*S	S	15 22 40.9	-0.3
BUS	**Buena Vista**	**2.78**	**128**	*e*P	P	15 22 15.7	+0.7
BUS				*e*S	S	15 22 49.5	+1.1

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*UPP **14** 15:31:29.0, 67.04N×20.95E, h0km, ML2.5, Mining explosion.*
*CSEM **14** 15:31:29.0±0.1, 67.10N×20.95E, h2km, ML1.9, Error ellipse: s-maj=3.4km s-min=3.1km az=108.0, Mining explosion.*
HEL 14 15:31:30.0±0.1**, 67.08N×20.92E, ML1.9, ML2.5**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.14**	**286**	*i* P	Pg	15 31 32.5	-0.3
DUNU	**Dundret**	**0.14**	**286**	P	Pg	15 31 32.4	-0.4
MASU	**Masugnsbyn**	**0.56**	**48**	*i* P	Pg	15 31 40.2	-1.0
ERTU	**Ertsjaerv**	**0.73**	**136**	*i* P	Pg	15 31 41.9	-2.7
PAJU	**Pajala**	**0.86**	**93**	*i* P	Pg	15 31 45.2	-2.0
KUA	**Kurravaara**	**0.90**	**346**	*e*P	Pg	15 31 46.0	-2.0
SALU	**Saltoluokta**	**0.98**	**289**	*e*P	Pb	15 31 47.8	-1.8
NIKU	**Nikkaluokta**	**1.07**	**318**	*e*P	Pb	15 31 49.1	-1.9
SJUU	**Sjulsmark**	**1.61**	**170**	*e*P	Pn	15 31 58.5	-1.3
LILU	**Lilltraesk**	**1.86**	**194**	*e*P	Pn	15 32 02.8	-0.6
LILU	**Lilltraesk**	**1.86**	**194**	P	Pn	15 32 02.7	-0.7
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	Pn	15 32 04.6	+0.2
KIF				*e*S	Sn	15 32 30.9	+1.2
KIF				MSG		15 32 34.8	
	comp=Z,9.9nm,0.1s						
KIF	**Kilpisjarvi**	**1.93**	**359**	P	Pn	15 32 04.5	+0.1
KTK1	**Kautokeino**	**2.12**	**23**	*e*P	Pn	15 32 06.2	-1.0
KTK1	**Kautokeino**	**2.12**	**23**	P	Pn	15 32 06.1	-1.1
SGF	**Sodankyl**	**2.21**	**78**	*e*P	Pn	15 32 08.1	-0.3
SGF				*e*S	Sn	15 32 37.6	+0.8
SGF				MSG		15 32 41.9	
	comp=Z,6.9nm,0.1s						
SGF	**Sodankyl**	**2.21**	**78**	P	Pn	15 32 08.1	-0.3
SGF				S	Sn	15 32 37.5	+0.7
	comp=Z,6.9nm,0.1s						
TRO	**Tromso**	**2.67**	**345**	*e*SG	Sg	15 32 51.7	-7.0
MOR8	**Moi Rana**	**2.74**	**253**	*e*P	Pn	15 32 14.7	-1.3
MOR8	**Moi Rana**	**2.74**	**253**	P	Pn	15 32 14.6	-1.4
OUL	**Oulu**	**2.85**	**132**	*e*P	Pn	15 32 17.3	-0.4
OUL				*e*S	Sn	15 32 52.8	-0.4
OUL	**Oulu**	**2.85**	**132**	P	Pn	15 32 17.2	-0.4
OUL				S	Sn	15 32 52.7	-0.5
LOF	**Lofoten**	**3.01**	**294**	*e*PB	Pb	15 32 21.1	-3.2
LOF	**Lofoten**	**3.01**	**294**	*e*	Pn	15 32 21.1	+1.2
STOK	**Stokkvaagen**	**3.23**	**260**	*e*P	Pn	15 32 22.2	-0.7
STOK	**Stokkvaagen**	**3.23**	**260**	*e*	Pn	15 32 22.2	-0.7
KEV	**Kevo**	**3.50**	**37**	*e*P	Pn	15 32 24.7	-2.1
KEV				*e*S	Sn	15 33 07.1	-2.5
KEV				MSG		15 33 26.8	
	comp=Z,2.1nm,0.2s						
KEV	**Kevo**	**3.50**	**37**	P	Pn	15 32 24.6	-2.2
KEV				S	Sn	15 33 07.1	-2.5
	comp=Z,2.1nm,0.2s						
KU4	**Liikasenvaara**	**3.52**	**98**	*e*P	Pn	15 32 27.1	+0.1
KU4				*e*SB	Sb	15 33 15.1	-1.4
KU4				MSG		15 33 23.1	
	comp=Z,1.3nm,0.2s						
KJN	**Kajaani**	**4.12**	**134**	*e*P	Pn	15 32 34.5	-1.2
KJN				*e*S	Sn	15 33 21.6	-3.8
KJN	**Kajaani**	**4.12**	**134**	P	Pn	15 32 34.4	-1.3
VAF	**Ylistaro**	**4.13**	**169**	*e*P	Pn	15 32 34.4	-1.3
VAF				*e*S	Sn	15 33 21.8	-3.6
JOF	**Joensuu**	**6.07**	**129**	*e*P	Pn	15 32 59.7	-3.5
JOF				*e*S	Sn	15 34 07.7	-6.6

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*IDC **14** 15:41:36.2±1.7, 7.03S×129.32E, mb3.9/2, mb1 4.0/3, mb1mx3.8/11, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=151.2km s-min=28.1km az=64.0*
ISC 14 15:41:39.5±1.3**, 7.19S**±0.09×**129.2E**±0.2**, h33km, n7, σ1§04**/11**, mb3.7**/2**, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.35**	**150⇑**	*i*P	P	15 43 36.7	+24
	21nm,0.6s						
KAKA				*e*S	**S**	**15 44 43.4**	**+18**
FITZ	**Fitzroy Crossi**	**11.39**	**197**	*e*P	**P**	**15 44 30.8**	**+7.8**
	1.8nm,0.2s						
FITZ				*e*S	**S**	**15 46 30.4**	**+0.2**
WRA	**Warramunga Arr**	**13.62**	**159**	Pn	**P**	**15 44 54.2**	**+1.3**
	0.7nm,0.3s,baz=342,slow=13,SNR=15						
WRA				Sn	**S**	**15 47 17.1**	**-7.0**
	1.1nm,0.3s,baz=337,slow=23,SNR=9.4						
WB2	**Warramunga Arr**	**13.63**	**159**	*e*P	**P**	**15 44 53.2**	**+0.3**
WB2				*e*S	**S**	**15 47 16.0**	**-8.1**
ASPA	**Alice Springs**	**17.00**	**165**	*e*P	**P**	**15 45 40.6**	**+4.3**
ASPA				*e*S	**S**	**15 48 40.3**	**-2.6**
STKA	**Stephens Creek**	**27.15**	**156**	P	**P**	**15 47 21.6**	**-0.3**
	3.1nm,0.9s,mb3.8,baz=337,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**15 52 36.8**	**-0.4**
	0.3nm,0.5s,mb3.6,baz=120,slow=7.1,SNR=6.9						

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*IDC **14** 16:01:32.6±0.8, 6.29N×93.23E, mb4.2/14, mb1 4.3/14, mb1mx4.2/20, mbtmp4.2/14, MS3.9/4, Ms1 3.9/4, ms1mx3.6/16, Error ellipse: s-maj=27.1km s-min=15.7km az=46.0*
*BJI **14** 16:01:36.1, 5.80N×93.36E, h49km, mB4.9, mb4.6, Ms4.3, Msz4.1*
*MOS **14** 16:01:37.1±1.3, 6.40N×92.97E, h33km, mb4.7/14, Error ellipse: s-maj=20.0km s-min=9.2km az=103.6*
*NEIC **14** 16:01:39.0±2.2, 6.21N×93.30E, h49km±19km, mb4.6/15, Error ellipse: s-maj=19.2km s-min=7.9km az=49.0*
ISC 14 16:01:35.0±1.7**, 6.08N**±0.07×**93.06E**±0.07**, h34km**±15km**, h36km**±4.9km**:pP-P, n71, σ1§23**/77**, mb4.5**/39**, MS4.0**/13**, 3C-1D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.58**	**81**	P	**P**	**16 03 31.0**	**+5.1**
	108nm,1.0s						
KULM	**Kulim**	**7.59**	**96**	*e*P	**P**	**16 03 22.3**	**-3.8**
KKTK	**Khon Kaen**	**13.98**	**42**	P	**P**	**16 04 58.0**	**+5.0**
	556nm,0.8s						
KSM	**Kuching**	**17.80**	**104**	*e*P	**P**	**16 05 42.7**	**+0.7**
HYB	**Hyderabad**	**18.11**	**310**	*i* P	**P**	**16 05 55.5**	**+10**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HYB				eS	S	16 09 03.0	-0.7
QIZ	Qiongzhong	20.80	50	P	P	16 06 14.6	-1.5
QIZ				eS	S	16 09 59.9	-1.5
QIZ				LR	LR		
	comp=N,467nm,14.5s						
QIZ				LR	LR		
	comp=Z,533nm,11.1s,MS4.2						
QIZ	Qiongzhong	20.80	50	eP	P	16 06 13.8	-2.2
	comp=Z,28nm,0.8s						
KMI	Kunming	21.08	25	P	P	16 06 18.3	-0.6
KMI				PP	PP	16 06 43.5	+1.2
KMI				PPP	PPP	16 06 54.0	+2.6
KMI				S	S	16 10 10.3	+3.6
KMI				SS	SS	16 10 40.4	+0.1
KMI				SSS	SSS	16 10 58.3	+3.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb3.9						
KMI				AMB	AMB		
	comp=Z,52nm,3.1s						
KMI				LR	LR		
	comp=N,312nm,14.3s,MS4.0						
KMI				LR	LR		
	comp=E,332nm,13.1s,MS4.0						
KMI				LR	LR		
	comp=Z,184nm,11.9s,MS3.7						
PKI	Pulchoki	22.58	342	eP	P	16 06 37.1	+3.2
DMN	Daman	22.70	341	eP	P	16 06 38.8	+3.7
	comp=Z,84nm,0.8s,mb5.2						
KKN	Kakani	22.82	342	eP	P	16 06 37.7	+1.4
GKN	Gorkha	23.22	341	eP	P	16 06 40.4	+0.2
	comp=Z,73nm,0.5s,mb5.4						
LSA	Lhasa	23.56	356	P	P	16 06 45.0	+1.5
LSA	Lhasa	23.56	356	eP	P	16 06 44.7	+1.2
	comp=Z,14nm,0.8s,mb4.4						
LSA	Lhasa	23.56	356	eP	P	16 06 44.7	+1.2
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
GYA	Guiyang	24.06	31⇑	iP	P	16 06 47.8	-0.6
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
GYA				LR	LR		
	comp=N,390nm,12.9s,MS4.3						
GYA				LR	LR		
	comp=E,490nm,13.2s,MS4.3						
GYA				LR	LR		
	comp=Z,370nm,12.4s,MS4.1						
CD2	Chengdu	26.66	21	P	P	16 07 17.8	+4.9
XAN	Xi'an	31.46	26	P	P	16 07 53.0	-2.8
XAN				AP	pP	16 08 04.0	-1.6
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
GTA	Gaotai	33.74	9	eP	P	16 08 14.8	-0.7
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
NJ2	Nanjing	35.32	40	eP	P	16 08 29.3	+0.1
NJ2				AP	pP	16 08 38.9	-0.2
NJ2				XP	sP	16 08 43.1	-0.4
NJ2				PP	PP	16 09 49.9	+0.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				LR	LR		
	comp=N,600nm,24.0s,MS4.5						
NJ2				LR	LR		
	comp=E,690nm,22.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,940nm,27.4s,MS4.4						
SSE	Sheshan	36.25	43	P	P	16 08 39.8	+2.7
SSE				XP	sP	16 08 51.8	+0.5
SSE				PP	PP	16 10 03.0	+2.5
SSE				S	S	16 14 17.8	+3.2
SSE				XS		16 14 33.1	
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,82nm,4.8s						
SSE				LR	LR		
	comp=N,84nm,21.8s,MS3.6						
SSE				LR	LR		
	comp=E,72nm,21.8s,MS3.6						
SSE				LR	LR		
	comp=Z,65nm,16.1s						
WMQ	Urumqi	37.88	354	eP	P	16 08 52.0	+1.3
WMQ				AP	pP	16 09 02.0	+1.4
WMQ				XP	sP	16 09 06.0	+1.1
WMQ				PP	PP	16 10 21.5	+0.8
WMQ				eS	S	16 14 40.0	+0.6
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,218nm,5.6s						
WMQ				LR	LR		
	comp=N,147nm,19.4s						
WMQ				LR	LR		
	comp=E,229nm,25.2s						
WMQ				LR	LR		
	comp=Z,194nm,18.6s,MS3.9						
JOW	Kunigami	39.36	54	P	P	16 09 02.9	-0.2
	comp=Z,3.8nm,0.6s,mb4.3,baz=292,slow=11,SNR=2.6						
AAK	Ala-Archa	39.94	339	eP	P	16 09 08.6	+0.8
	comp=Z,7.3nm,1.0s,mb4.4						
AAK	Ala-Archa	39.94	339d	iP	P	16 09 08.4	+0.6
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
FITZ	Fitzroy Crossi	40.14	127	eP	P	16 09 09.7	+0.1
	comp=Z,17nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	40.14	127	P	P	16 09 10.2	+0.6
	comp=Z,18nm,0.9s,mb4.8,baz=243,slow=3.5,SNR=9.9						
MKAR	Makanchi Array	41.61	349	P	P	16 09 21.1	-0.5
	comp=Z,2.3nm,0.8s,mb3.9,baz=168,slow=8.8,SNR=19						
MKAR				LR	LR	16 27 41.2	
	comp=Z,76nm,18.3s,MS3.6,baz=168,slow=38						
SONM	Songino Array	43.14	13	P	P	16 09 33.0	-1.0
	comp=Z,0.5nm,0.4s,mb3.6,baz=197,slow=11,SNR=5.1						
SONM				LR	LR	16 28 55.3	
	comp=Z,76nm,18.1s,MS3.6,baz=199,slow=38						
KURK	Kurchatov	46.10	347	eP	P	16 09 57.4	-0.3
	comp=Z,12nm,1.0s,mb4.8						
KURK	Kurchatov	46.10	347	eP	P	16 09 57.4	-0.3
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
CN2	Changchun	47.11	32	eP	P	16 10 07.6	+1.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WRA	Warramunga Arr	48.13	124	P	P	16 10 14.2	+0.1
	comp=Z,6.9nm,0.7s,mb4.8,baz=304,slow=9.1,SNR=22						
WRA	Warramunga Arr	48.13	124	i P	P	16 10 17.6	+3.5
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRAB	Tennant Creek	48.14	124	eP	P	16 10 12.5	-1.6
	comp=Z,23nm,0.8s,mb5.3						
WRAB	Tennant Creek	48.14	124	eP	P	16 10 12.5	-1.7
WRAB				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
WB2	Warramunga Arr	48.14	124⇑	iP	P	16 10 14.1	-0.1
ZAL	Zalesovo	48.18	353	P	P	16 10 14.2	+0.1
	comp=Z,4.9nm,0.9s,mb4.5,baz=308,slow=7.7,SNR=22						
ZAL				LR	LR	16 35 01.5	
	comp=Z,110nm,19.5s,MS3.9,baz=295,slow=42						
HIA	Hailar	48.58	23	eP	P	16 10 16.6	-0.6
	comp=Z,24nm,1.3s,mb5.1						
HIA	Hailar	48.58	23	eP	P	16 10 16.6	-0.6
HIA				pmax	pmax		
	comp=Z,24nm,1.3s						
NVS	Novosibirsk	49.26	353	eP	P	16 10 20.6	-1.7
NVS				eS	S	16 17 24.3	-0.6
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
NVS				pmax	pmax		
	comp=N,15nm,1.8s						
NVS				smax			
	comp=E,22nm,1.7s						
NVS				smax			
	comp=N,8.0nm,1.3s						
ASPA	Alice Springs	49.62	128	eP	P	16 10 25.6	0.0
MDJ	Mudanjiang	49.88	34	P	P	16 10 27.3	0.0
MDJ				AP	pP	16 10 37.8	+0.5
MDJ				XP	sP	16 10 42.6	+1.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,97nm,6.8s						
MDJ				LR	LR		
	comp=N,46nm,16.7s,MS3.7						
MDJ				LR	LR		
	comp=E,52nm,18.7s,MS3.7						
MDJ				LR	LR		
	comp=Z,53nm,18.7s,MS3.6						
BVAR	Borovoye Array	50.35	342	P	P	16 10 29.3	-1.4
	comp=Z,2.0nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=10						
BRVK	Borovoye	50.41	342	P	P	16 10 29.9	-1.3
	comp=Z,1.9nm,0.7s,mb4.2						
BRVK	Borovoye	50.41	342	P	P	16 10 29.9	-1.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BOD	Bodaibo	54.13	14	eP	P	16 10 57.9	-1.0
BOD				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
KMBO	Kilima Mbogo	56.17	265	P	P	16 11 18.2	+3.8
	comp=Z,2.3nm,0.8s,mb4.2,baz=60,slow=11,SNR=6.4						
SVE	Sverdlovsk	56.67	339	eP	P	16 11 25.8	+8.4
SVE				e	pP	16 11 39.0	+11
ARU	Arti	57.12	338	eP	P	16 11 16.2	-4.4
	comp=Z,4.0nm,0.8s,mb4.5						
ARU	Arti	57.12	338⇑	iP	P	16 11 19.7	-0.9
ARU				e		16 12 15.0	
ARU				e		16 13 21.8	
ARU				eS	S	16 19 12.0	+0.4
ARU				eSS	SS	16 23 01.3	-0.6
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CTA	Charters Tower	58.40	118	eP	P	16 11 34.3	+4.3
	comp=Z,4.1nm,0.9s,mb4.5						
CTA	Charters Tower	58.40	118	eP	P	16 11 34.3	+4.3
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTAO	Charters Tower	58.40	118	P	P	16 11 28.7	-1.3
	comp=Z,2.9nm,1.0s,mb4.3						
CTAO				epP	pP	16 11 34.7	-5.5
CTAO	Charters Tower	58.40	118	P	P	16 11 28.7	-1.3
CTAO				e*PP	pP	16 11 34.7	-5.5
CTAO				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
YSS	Yuzh-Sakhalins	58.85	38	i P	P	16 11 34.9	+2.1
STKA	Stephens Creek	59.67	132	eP	P	16 11 43.9	+5.2
	comp=Z,2.6nm,0.7s,mb4.4						
STKA	Stephens Creek	59.67	132	P	P	16 11 39.0	+0.3
	comp=Z,2.5nm,0.6s,mb4.4,baz=312,slow=10,SNR=4.1						
BRTR	Keskin Array B	62.80	312	P	P	16 11 59.9	+0.2
	comp=Z,1.8nm,0.8s,mb4.2,baz=129,slow=7.9,SNR=7.2						
OBN	Obninsk	66.33	328	eP	P	16 12 20.8	-1.5
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
AKASG	Malin Array Be	68.90	322	P	P	16 12 37.3	-1.2
	comp=Z,0.2nm,0.3s,mb3.5,baz=91,slow=4.8,SNR=4.2						
TIXI	Tiksi	69.19	11	eP	P	16 12 41.3	+1.4
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,84nm,16.0s,MS4.1						
SEY	Seymchan	70.99	25	eP	P	16 12 53.7	+2.7
JOF	Joensuu	72.00	335	ep	P	16 12 56.4	-0.6
	comp=Z,5.3nm,0.7s,mb4.6						
FINES	FINESS Array B	73.79	333	P	P	16 13 07.5	0.0
	comp=Z,3.2nm,0.9s,mb4.3,baz=90,slow=11,SNR=3.8						
ARCES	ARCESS Array B	76.58	340	P	P	16 13 23.8	+0.3
	comp=Z,2.7nm,0.8s,mb4.2,baz=108,slow=2.9,SNR=4.3						
ARCES				LR	LR	16 53 19.1	
	comp=Z,180nm,18.7s,MS4.4,baz=138,slow=41						
ARCES	ARCESS Array B	76.58	340	P	P	16 13 23.8	+0.3
ARCES				LR	LR	16 53 19.1	
GERES	GERESS Array B	78.44	318	P	P	16 13 35.5	+1.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=90,slow=6.7,SNR=7.4						
LPG	La Plagne	83.12	315	eP	P	16 14 05.5	+6.6
	comp=Z,7.2nm,0.7s,mb4.5						
LPG	La Plagne	83.12	315	eP	P	16 14 05.5	+6.6
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
PDAR	Pinedale Array	127.21	21	PKP	PKPdf	16 20 38.5	+1.9
	comp=Z,0.8nm,0.9s,baz=56,slow=5.3,SNR=3.7						

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*MDD **14** 16:04:24.3±3.1, 36.66N×12.71W, h102km±115km, mb3.0/6, Error ellipse: s-maj=40.2km s-min=20.6km az=65.0, PRXIMO*

*INMG **14** 16:04:25.2±0.6, 36.54N×12.88W, h10km, ML2.2, Error ellipse: s-maj=5.4km s-min=5.1km az=178.0*

CSEM 14 16:04:28.1±0.7, 37.15N×12.10W, h10km, mb4.0/6, Error ellipse: s-maj=14.4km s-min=9.7km az=40.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.72	81	ePn	Pn	16 05 13.5	+0.9
PTEO				eSn	Sn	16 05 49.7	+3.8
	2.7nm,0.1s						
PTEO	Sao Teotonio	2.72	81	eP	Pn	16 05 13.5	+0.9
PTEO				eS	Sn	16 05 49.7	+3.8
	2.7nm,0.1s						
PLOU	Loures	2.90	52	ePn	Pn	16 05 17.6	+2.3
PLOU				eSn	Sn	16 05 56.8	+6.3
	18nm,0.2s						
PLOU	Loures	2.90	52	eP	Pn	16 05 17.6	+2.3
PLOU				eS	Sn	16 05 56.8	+6.3
	18nm,0.2s						
PBEJ	Beja	3.47	74	ePn	Pn	16 05 24.3	+0.9
PBEJ				eSn	Sn	16 06 08.0	+3.0
	1.4nm,0.2s						
PBEJ	Beja	3.47	74	Pn	Pn	16 05 24.3	+0.9
PBEJ				Sn	Sn	16 06 08.0	+3.0
	0.7nm,0.2s						
EGRO	El Granado	3.70	83	P	Pn	16 05 26.4	-0.1
	1.0nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 06 12.0	+1.3
	0.9nm,0.3s,SNR=7.9						
EGRO	El Granado	3.70	83	P	Pn	16 05 26.4	-0.2
	1.0nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 06 12.0	+1.3
	0.9nm,0.3s,SNR=7.9						
PTOM	Tomar	3.80	48	eSn	Sn	16 06 18.1	+4.7
EBAD	Badajoz	4.33	67	P	Pn	16 05 35.9	+0.4
	1.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 06 28.3	+1.7
	2.2nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.33	67	P	Pn	16 05 35.9	+0.4
	1.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 06 28.3	+1.7
	2.2nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.36	80	P	Pn	16 05 35.6	-0.4
	0.6nm,0.1s,SNR=6.9						
EMIN				S	Sn	16 06 28.3	+0.8
	0.5nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	4.36	80	P	Pn	16 05 35.6	-0.4
	0.6nm,0.1s,SNR=6.9						
EMIN				S	Sn	16 06 28.3	+0.8
	0.5nm,0.1s,SNR=7.9						
ESPR	Espera	5.00	91	P	Pn	16 05 42.7	-2.4
	2.9nm,0.2s,SNR=7.9						
ESPR				S	Sn	16 06 42.1	-1.6
	4.6nm,0.2s,SNR=7.9						
ESPR	Espera	5.00	91	P	Pn	16 05 42.7	-2.4
	2.9nm,0.2s,SNR=7.9						
ESPR				S	Sn	16 06 42.1	-1.6
	4.6nm,0.2s,SNR=7.9						
ECAB	El Cabril	5.38	78	P	Pn	16 05 49.9	-0.5
	0.7nm,0.1s,SNR=7.0						
ECAB				S	Sn	16 06 53.4	+0.1
	0.5nm,0.2s,SNR=7.9						
ECAB	El Cabril	5.38	78	P	Pn	16 05 49.9	-0.6
	0.7nm,0.1s,SNR=7.0						
ECAB				S	Sn	16 06 53.4	+0.1
	0.5nm,0.2s,SNR=7.9						
ELOB	Lobios	5.65	32	S	Sn	16 07 00.7	+0.7
	1.4nm,0.1s,SNR=7.9						
ELOB	Lobios	5.65	32	S	Sn	16 07 00.7	+0.7
	1.4nm,0.1s,SNR=7.9						
EADA	Adamuz	6.05	78	P	Pn	16 05 58.1	-1.8
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	16 07 09.3	-0.8
	0.4nm,0.1s,SNR=7.9						
EADA	Adamuz	6.05	78	P	Pn	16 05 58.1	-1.8
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	16 07 09.3	-0.7
	0.4nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.27	21	P	Pn	16 06 02.4	-0.5
	0.8nm,0.1s,SNR=4.0						
EMAZ				S	Sn	16 07 13.1	-2.3
	2.6nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.27	21	P	Pn	16 06 02.4	-0.5
	0.8nm,0.1s,SNR=4.0						
ECAL	Calabor	6.33	39	P	Pn	16 06 04.5	+0.7
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	16 07 16.4	-0.5
	1.4nm,0.3s,SNR=7.9						
ECAL	Calabor	6.33	39	P	Pn	16 06 04.5	+0.7
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	16 07 16.4	-0.5
	1.4nm,0.3s,SNR=7.9						

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*NEIC **14** 16:05:57.1, 16.24N×99.54W, h16km, MD4.0(MEX), After MEX.*

MEX 14 16:05:57.9±1.1, 16.38N×99.49W, h15km±15km, MD4.2, 4C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.64	320	i P	Pb	16 06 07.0	-3.1
ACX				i S	Sb	16 06 16.0	-2.5
ACX	Acapulco	0.64	320	i P	Pb	16 06 07.5	-2.6
ACX				i S	Sb	16 06 17.5	-1.0
CAIG	El Cayaco	1.00	312⇑	iP	Pb	16 06 14.5	-1.9
CAIG				i S	Sb	16 06 26.5	-2.6
CAIG	El Cayaco	1.00	312⇑	iP	Pb	16 06 14.5	-1.9
CAIG				i S	Sb	16 06 26.9	-2.2
PNIG	Pinotepa	1.30	89⇑	iP	Pb	16 06 17.9	-3.7
PNIG				i S	Sb	16 06 33.6	-4.4
PNIG	Pinotepa	1.30	89⇑	iP	Pb	16 06 18.3	-3.3
PNIG				i S	Sb	16 06 33.6	-4.4
PLIG	Platanillo	2.00	360	i P	Pn	16 06 30.8	-0.8
PLIG				i S	Sn	16 06 51.6	-4.9
ZIIG	Zihuatanejo	2.25	303	i S	Sn	16 06 57.9	-5.0
YAIG	Yautepec	2.50	9	eP	Pn	16 06 37.6	-1.2
YAIG				i S	Sn	16 07 04.2	-5.0
YAIG	Yautepec	2.50	9	eP	Pn	16 06 37.6	-1.2
YAIG				i S	Sn	16 07 07.9	-1.3
VHO	Vista Hermosa	2.73	75	eP	Pn	16 06 38.2	-3.8
VHO				i S	Sn	16 07 10.6	-4.3
OXX	Oaxaca	2.74	75	i P	Pn	16 06 38.5	-3.7
OXX				i S	Sn	16 07 11.5	-3.7
PPM	Popocatepetl	2.79	17	eP	Pn	16 06 40.0	-3.0
HUIG	Huatulco	3.31	100	eP	Pn	16 06 46.1	-4.1
HUIG				i S	Sn	16 07 23.3	-6.3
HUIG	Huatulco	3.31	100	eP	Pn	16 06 48.6	-1.6
HUIG				i S	Sn	16 07 21.2	-8.4
MOIG	Morelia	3.66	334	i S	Sn	16 07 35.0	-3.5
CMIG	Matias Romero	4.47	80	eP	Pn	16 07 03.0	-3.7
CMIG				i S	Sn	16 07 53.0	-6.0
CMIG	Matias Romero	4.47	80	eP	Pn	16 07 03.0	-3.7
CMIG				i S	Sn	16 07 57.6	-1.4
SFJM	Santa Fe	5.29	321	eP	Pn	16 07 17.0	-1.4

MAN 14 16:18:05.2, 11.24N×124.67E, mb4.4, ML3.2, MS3.0, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	Palo	0.32	104	eP	Pg	16 18 12.3	+0.8
PLP				i S	Sg	16 18 18.3	+2.5
BESP	Borongan	0.84	65	eP	Pg	16 18 20.8	-1.0
MSLP	Maasin	1.12	170	eP	Pb	16 18 26.6	-0.4
LLP	Lapu-Lapu	1.15	217⇑	iP	Pb	16 18 26.4	-1.2
LLP				eS	Sb	16 18 40.8	-2.1
CNP	Catarman	1.26	360	eP	Pb	16 18 29.7	+0.2
CNP				eS	Sb	16 18 47.3	+1.2
SCPH	Surigao	1.66	151	eP	Pn	16 18 36.1	+0.4
SCPH				eS	Sb	16 18 58.4	+0.6
RCP	Roxas	1.91	280⇓	eP	Pn	16 18 39.9	+0.6
GUIM	Jordan	2.13	253	eP	Pn	16 18 42.0	-0.4
GUIM				eS	Sn	16 19 10.3	+0.4
KALP	Kalibo	2.32	281	eP	Pn	16 18 48.9	+3.8
PVCP	Virac	2.39	348	eP	Pn	16 18 48.3	+2.2
BUTP	Butuan	2.45	157	eP	Pn	16 18 38.9	-8.1
BUKP	Musuan	3.37	173	eP	Pn	16 19 00.0	-0.1
CUYO	Cuyo Island	3.60	264	eP	Pn	16 19 03.0	-0.4

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*NEIC **14** 16:51:57.5±0.5, 37.82N×47.08E, h5km, mb4.0/4, ML4.2(TEH), Error ellipse: s-maj=9.6km s-min=6.6km az=24.0*

*THR **14** 16:51:57.4±0.3, 37.96N×47.19E, h18km±2km, ML3.7*

*CSEM **14** 16:51:57.9±0.1, 37.95N×47.25E, h16km, mb3.8/2, ML4.4/2, Error ellipse: s-maj=2.4km s-min=1.7km az=53.0*

*TEH **14** 16:51:59.8, 37.90N×47.25E, h5km, Mn4.2*

*IDC **14** 16:51:59.3±1.8, 38.21N×47.15E, mb3.8/3, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.3/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/24, Error ellipse: s-maj=26.2km s-min=15.8km az=8.0*

*MOS **14** 16:52:03.6±2.2, 38.21N×47.03E, h33km, mb4.1/3, Error ellipse: s-maj=14.9km s-min=10.4km az=105.3*

ISC 14 16:51:57.2±0.3, 38.00N±0.03×47.29E±0.04, h5km, n90, σ1§34/103, mb3.8/5, MS3.5/5, 4C-3D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.43	226	Pg	Pg	16 52 00.7	-5.2
GRMI	Germi	0.94	30	ePG	Pg	16 52 16.5	+0.6
GRMI				eSG	Sg	16 52 30.4	+2.0
GRMI				AML	AML	16 52 39.4	
	comp=N,3μm,0.4s						
GRMI	Germi	0.94	30	ePg	Pg	16 52 16.5	+0.6
	SNR=93						
GRMI				eSg	Sg	16 52 30.4	+2.0
	comp=N,3μm,0.4s,SNR=93						
IAZR	Azarshahr	1.08	253	Pg	Pg	16 52 13.4	-5.5
IMRD	Marand	1.43	300	Pn	Pn	16 52 22.5	-1.5
MAKU	Maku	2.44	304	ePN	Pn	16 52 38.0	-0.5
MAKU				eSG	Sg	16 53 13.0	-5.6
HKR	Hakkari	2.84	262	ePN	Pn	16 52 46.7	+2.6
HAKT	HAKKARI	2.87	262	i P	Pn	16 52 43.9	-0.6
CLDR	Caldiran	2.88	294	PN	Pn	16 52 43.2	-1.4
SNGE	Sanandaj	2.91	179	ePN	Pn	16 52 44.4	-0.7
SNGE				AML	AML	16 53 35.9	
	comp=N,257nm,0.5s						
GNI	Garni	2.92	318	ePN	Pn	16 52 47.0	+1.8
GNI	Garni	2.92	318	Pn	Pn	16 52 46.5	+1.3
	comp=N,9.1nm,0.3s,baz=175,slow=3.1,SNR=38						
GNI				Pg	Pg	16 52 50.7	-4.8
	comp=N,35nm,0.3s,baz=155,slow=4.4,SNR=50						
GNI				Lg		16 53 32.6	
	comp=N,14nm,0.3s,baz=127,slow=19,SNR=2.3						
GNI	Garni	2.92	318⇓	iP	Pn	16 52 46.7	+1.5
GNI				i S	Sn	16 53 27.1	+6.0
GNI	Garni	2.92	318⇓	iP	Pn	16 52 46.7	+1.5
GNI				Sg	Sg	16 53 32.6	-1.7
GNI	Garni	2.92	318	PN	Pn	16 52 46.5	+1.3
GNI						16 53 32.6	
ILIN	Laeen	3.09	185	Pn	Pn	16 52 46.9	-0.8
TVAN	Van	3.10	281	i P	Pn	16 52 46.8	-1.0
VANB	Van	3.12	282	ePN	Pn	16 52 47.7	-0.4
IRAZ	Razeghan	3.35	140	Pn	Pn	16 52 54.8	+3.4
IDHR	Dehrash	3.38	193	Pn	Pn	16 52 51.7	0.0
THKV	Tehran--Karaj	3.55	125	ePN	Pn	16 52 54.5	+0.3
IMHD	Mahdasht	3.56	129	Pn	Pn	16 52 54.3	-0.1
IMHD				Lg		16 53 49.4	
DGRG	David-gareji	3.75	337	P	Pn	16 53 03.9	+7.0
DGRG				S	Sn	16 53 53.1	+11
MSL	Mosul	3.76	244	ex	x	16 53 12.5	
MSL				ex	x	16 53 19.5	
MSL				ex	x	16 54 03.0	
MSL				i x	x	16 54 11.5	
MSL				i x	x	16 54 21.5	
IKOM	Komasi	3.82	177	Pn	Pn	16 53 01.0	+2.9
SIRT	Sirnak	3.87	264	ePN	Pn	16 53 01.2	+2.4
DIGO	Kars	3.88	310	i P	Pn	16 53 06.9	+8.1
ASAO	Ashtian	4.10	146	ePN	Pn	16 53 01.6	-0.4
ASAO				eSG	Sg	16 54 05.1	-8.5
ASAO				AML	AML	16 54 22.4	
	comp=N,71nm,0.7s						
ASAO	Ashtian	4.10	146	ePn	Pn	16 53 01.6	-0.4
	SNR=52						
ASAO				eSg	Sg	16 54 05.1	-8.5
	comp=N,71nm,0.7s,SNR=91						
IAFJ	Afjeh	4.14	120	Pn	Pn	16 53 02.7	+0.1
SAMG	Sameba	4.15	334	P	Pn	16 53 12.2	+10
SAMG				S	Sn	16 53 52.3	0.0
MTA	Mtatsminda	4.16	333	P	Pn	16 53 11.7	+8.9
MTA				S	Sn	16 54 08.5	+16
TI2	Plekhanov	4.21	333	i Sg	Sg	16 54 13.0	-4.2
TI2	Plekhanov	4.21	333⇑	iPN	Pn	16 53 14.0	+10
TI2				i		16 54 13.0	

TI2				pmax	pmax		
	comp=E,50nm,0.6s						
TI2				smax			
	comp=E,80nm,0.8s						
TI2				smax			
	comp=E,500nm,1.0s						
TBLG	Delisi	4.21	333	P	Pn	16 53 13.9	+10
TBLG				S	Sn	16 54 16.8	+23
TBLG	Delisi	4.21	333	⇑iPn	Pn	16 53 14.0	+10
TBLG				i		16 54 13.0	
IQOM	Qom	4.39	135	Pn	Pn	16 53 01.4	-4.7
DAMV	Damavand	4.44	121	ePN	Pn	16 53 07.1	+0.2
AKH	Akhalkalaki	4.49	320	P	Pn	16 53 19.9	+12
IDMV	Damavand	4.51	121	Pn	Pn	16 53 08.4	+0.5
BTMT	Batman	4.58	274	ePN	Pn	16 53 14.2	+5.5
IVRN	Varamin	4.67	129	Pn	Pn	16 53 09.1	-1.0
IVRN				Lg		16 54 24.0	
BKR	Bakuriani	4.73	323	P	Pn	16 53 25.7	+15
BEST	Besiri	4.76	270	i P	Pn	16 53 23.2	+12
MAK	Makhachkala	4.96	2	ePN	Pg	16 53 34.0	-2.1
MAK				MLR	MLR		
	comp=Z,2µm,8.0s						
IFIR	Firoozkooh	4.98	117	Pn	Pn	16 53 17.4	+2.9
IFIR				Sn	Sn	16 54 09.4	-3.9
EZM	Erzurum	4.99	294	ePN	Pn	16 53 16.4	+1.7
MARD	Mardin	5.21	264	i P	Pn	16 53 26.1	+8.3
ARTV	Artvin	5.22	309	i P	Pn	16 53 31.8	+14
BHD	Baghdad	5.28	207	ex	x	16 53 28.0	
BHD				ex	x	16 54 34.0	
BHD				ex	x	16 55 08.0	
ZEI	Tsey	5.42	333	ePN	Pn	16 53 18.9	-1.8
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.1s						
ONI	Oni	5.43	329	P	Pn	16 53 28.8	+8.0
ONI				S	Sn	16 54 48.8	+24
IKLH	Kalahroud	5.83	142	Pn	Pn	16 53 18.6	-8.0
SHGR	Shooshtar-Gavs	6.01	168	ePN	Pn	16 53 27.5	-1.5
IPIR	Pirpir	6.07	150	Pn	Pn	16 53 18.1	-12
PTK	Pertek	6.26	281	ePN	Pn	16 53 34.0	+1.4
IZEF	Zefreh	6.55	140	Pn	Pn	16 53 29.0	-7.7
KELT	Kelkit	6.61	291	i P	Pn	16 53 29.9	-7.5
URFA	Urfa	6.73	268	ePN	Pn	16 53 41.7	+2.5
NASN	Na'in	6.88	137	ePN	Pn	16 53 40.4	-0.8
KIV	Kislovodsk	6.89	331	eP	Pn	16 53 41.7	+0.3
	comp=Z,7.0nm,1.0s						
KIV				eS	Sn	16 54 51.7	-9.4
KIV	Kislovodsk	6.89	331	eP	Pn	16 53 41.7	+0.3
KIV				eS	Sn	16 54 51.7	-9.4
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV				MLR	MLR		
	comp=N,254nm,18.0s						
KIV				MLR	MLR		
	comp=Z,247nm,18.0s						
KIV				MLR	MLR		
	comp=E,164nm,22.0s						
SOC	Sochi	8.00	317	eP	P	16 53 56.7	-0.3
	comp=E,6.0nm,0.6s						
SOC				e		16 55 20.2	
SOC	Sochi	8.00	317	eP	P	16 53 56.7	-0.3
	comp=E,11nm,1.0s						
SOC	Sochi	8.00	317	eP	P	16 53 56.7	-0.3
SOC				e		16 55 20.2	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SOC				pmax	pmax		
	comp=N,11nm,1.0s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
SOC				MLR	MLR		
	comp=N,674nm,13.0s						
SOC				MLR	MLR		
	comp=E,571nm,13.0s						
SOC				MLR	MLR		
	comp=Z,631nm,13.0s						
ANN	Anapa	10.04	316	eP	P	16 54 15.7	-9.5
	comp=Z,31nm,1.6s						
ANN	Anapa	10.04	316	eP	P	16 54 15.7	-9.5
ANN				pmax	pmax		
	comp=Z,31nm,1.6s						
ASF	Jabal al Asfar	10.31	239	Pn	P	16 54 30.4	+1.5
	comp=Z,0.2nm,0.3s,baz=76,slow=8.3,SNR=2.2						
ASF				Lg		16 57 26.5	
	comp=Z,0.2nm,0.3s,baz=16,slow=24,SNR=3.1						
ASF				LR	LR	16 58 49.1	
	comp=Z,303nm,18.6s,baz=275,slow=40						
ASF	Jabal al Asfar	10.31	239	Pn	P	16 54 30.4	+1.5
ASF				Lg		16 57 26.5	
ASF				LR	LR	16 58 49.1	
BRTR	Keskin Array B	10.78	283	Pn	P	16 54 35.0	-0.4
	baz=98,slow=8.7,SNR=4.7						
BRTR				Lg		16 57 35.7	
	comp=Z,0.3nm,0.3s,baz=119,slow=18,SNR=4.3						
OBN	Obninsk	18.59	340	eP	P	16 56 17.6	+0.5
	comp=Z,7.0nm,0.8s						
OBN				eS	S	16 59 34.3	-7.5
OBN	Obninsk	18.59	340	eP	P	16 56 17.6	+0.5
	comp=Z,200nm,15.0s						
OBN	Obninsk	18.59	340	eP	P	16 56 17.6	+0.5
OBN				eS	S	16 59 34.3	-7.5
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s						
ARU	Arti	19.91	19	⇑iP	P	16 56 30.7	-1.8
	comp=Z,15nm,0.9s						
ARU				eS	S	17 00 03.6	-7.6
ARU	Arti	19.91	19	i P	P	16 56 30.7	-1.8
	comp=Z,15nm,0.9s						
ARU	Arti	19.91	19	⇑iP	P	16 56 30.7	-1.8
ARU				eS	S	17 00 03.6	-7.6
ARU				pmax	pmax		
	comp=Z,15nm,0.9s						
AAK	Ala-Archa	21.21	69	i Pr	P	16 56 52.6	+6.5
	comp=Z,14nm,1.7s,mb4.0						
AAK				LR	LR		
	comp=Z,100nm,16.0s,MS3.3						
AAK	Ala-Archa	21.21	69	d iP	P	16 56 52.6	+6.5
AAK				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.0						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
BRVK	Borovoye	21.91	39	eP	P	16 56 53.1	+0.1
	comp=Z,3.0nm,0.6s,mb3.9						
BRVK	Borovoye	21.91	39	eP	P	16 56 53.1	+0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
BVAR	Borovoye Array	21.94	39	P	P	16 56 53.0	-0.3
	comp=Z,3.3nm,0.8s,mb3.8,baz=231,slow=9.5,SNR=20						
GERES	GERESS Array B	26.48	305	P	P	16 57 34.5	-2.5
	comp=Z,1.2nm,0.8s,mb3.5,baz=100,slow=8.1,SNR=7.3						
GERES				LR	LR	17 09 56.7	
	comp=Z,44nm,19.8s,MS3.0,baz=25,slow=41						
KHC	Kasperske Hory	26.62	306	eP	P	16 57 45.7	+7.4
FINES	FINESS Array B	26.93	337	LR	LR	17 09 55.5	
	comp=Z,106nm,20.1s,MS3.4,baz=40,slow=40						
MKAR	Makanchi Array	27.12	60	P	P	16 57 44.3	+1.5
	comp=Z,2.4nm,1.0s,mb3.7,baz=252,slow=7.7,SNR=8.9						
MKAR	Makanchi Array	27.12	60	i P	P	16 57 44.8	+2.0
	comp=Z,2.0nm,1.0s,mb3.6						
MKAR	Makanchi Array	27.12	60	i P	P	16 57 44.8	+2.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	NORSAR Array B	32.18	327	LR	LR	17 12 12.3	
	comp=Z,166nm,20.0s,MS3.7,baz=30,slow=38						
ARCES	ARCESS Array B	33.70	346	LR	LR	17 13 14.9	
	comp=Z,178nm,18.6s,MS3.8,baz=152,slow=38						
SEY	Seymchan	63.19	30	eP	P	17 02 33.1	+4.9

NNC 14 17:06:50.9±8.2, 37.25N×71.02E, h239^{km}±93^{km}, mpv3.4, 4C-3D, Error ellipse: s-maj=86.4km s-min=51.5km az=26.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.86	356	⇑P	P	17 08 16.6	-1.1
	0.6nm,0.3s,baz=176,slow=12,SNR=9.7						
KK31				⇓S	S	17 09 26.3	+1.0
	2.9nm,0.5s,baz=189,slow=26,SNR=6.9						
AAK	Ala-Archa	6.00	25	⇑P	P	17 08 18.0	-1.4
	2.8nm,0.4s						
AAK				⇓S	S	17 09 30.0	+1.4
	5.6nm,0.8s						
MK31	Makanchi Array	12.68	38	⇑P	P	17 09 43.1	-1.0
	4.6nm,1.4s,baz=207,slow=8.6,SNR=6.9						
AB31	Akbulak array	14.44	330	⇑P	P	17 10 07.6	+1.9
	0.4nm,0.4s,baz=140,slow=14,SNR=14						
AB31				⇓S	S	17 12 42.0	+1.9
	0.2nm,0.4s						

*IDC **14** 17:11:49.5±1.1, 49.36S×120.71E, mb4.1/6, mb1 4.3/7, mb1mx4.2/12, mbtmp4.3/7, ML3.0/1, MS3.9/4, Ms1 3.9/4, ms1mx3.4/18, Error ellipse: s-maj=49.0km s-min=18.2km az=105.0*

*NEIC **14** 17:11:51.1±0.5, 49.39S×120.88E, h10^{km}, mb4.3/2, Error ellipse: s-maj=24.8km s-min=9.4km az=103.0*

ISC 14 17:11:48.9±0.8, 49.40S±0.09×120.7E±0.3, h10^{km}, n27, σ1^{s}04/21, mb4.1/6, MS3.8/3, 1C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.66	350	Pn	P	17 15 44.1	+0.2
	2.9nm,0.3s,baz=175,slow=10,SNR=25						
NWAO				LR	LR	17 20 25.6	
	comp=Z,514nm,20.7s,baz=269,slow=31						
STKA	Stephens Creek	23.49	50	⇑iP	P	17 17 01.1	+1.7
	7.1nm,0.8s,mb4.2						
STKA	Stephens Creek	23.49	50	P	P	17 17 01.1	+1.7
	7.8nm,0.8s,mb4.2,baz=230,slow=7.9,SNR=9.6						
STKA				LR	LR	17 24 05.6	
	comp=Z,153nm,21.9s,MS3.4,baz=28,slow=31						
WRA	Warramunga Arr	31.35	25	P	P	17 18 10.2	-1.6
	0.5nm,0.5s,mb3.6,baz=198,slow=8.0,SNR=6.4						
FITZ	Fitzroy Crossi	31.47	9	eP	P	17 18 13.5	+0.6
	4.4nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	31.47	9	P	P	17 18 11.9	-1.0
	3.6nm,0.5s,mb4.4,baz=171,slow=7.7,SNR=6.2						
VNDA	Vanda	32.22	164	P	P	17 18 18.0	-0.8
	1.6nm,0.7s,mb4.0,baz=306,slow=8.1,SNR=12						
VNDA				LR	LR	17 30 21.1	
	comp=Z,254nm,19.9s,MS3.9,baz=315,slow=34						
VNDA	Vanda	32.22	164	P	P	17 18 18.0	-0.8
VNDA				LR	LR	17 30 21.1	
CTA	Charters Tower	35.66	44	P	P	17 18 48.9	-0.2
	2.4nm,0.8s,mb4.2,baz=183,slow=9.6,SNR=4.0						
QSPA	South Pole Qui	40.73	180	eP	P	17 19 30.4	-0.4
SNAA	Sanae	52.84	199		P	17 21 06.4	+0.2
SNAA	Sanae	52.84	199		P	17 21 12.8	+6.6
SNAA	Sanae	52.84	199		P	17 21 21.6	+15
SNAA	Sanae	52.84	199	P	P	17 21 06.7	+0.5
	3.7nm,0.8s,mb4.4,baz=146,slow=10.0,SNR=28						
SNAA	Sanae	52.84	199	P	P	17 21 06.4	+0.2
VNA2	Neumayer--Watz	54.38	199		P	17 21 19.3	+1.9
VNA2	Neumayer--Watz	54.38	199		P	17 21 25.8	+8.4
VNA2	Neumayer--Watz	54.38	199		P	17 21 35.4	+18
VNA3	Neumayer Olymp	54.59	198		P	17 21 20.3	+1.3
VNA3	Neumayer Olymp	54.59	198		P	17 21 26.8	+7.8
VNA3	Neumayer Olymp	54.59	198		P	17 21 35.9	+17
USHA	Ushuaia	75.86	175	LR	LR	17 53 47.2	
	comp=Z,127nm,21.0s,MS4.2,baz=175,slow=33						
CHMT	Chamberlain Mo	144.56	73	eP	PKPbc	17 31 25.8	+1.3
IMW	Indian Meadow	144.70	79	eP	PKPbc	17 31 27.5	+2.5
BOZ	Bozeman (W)	145.04	76	eP	PKPbc	17 31 27.8	+1.9
PDAR	Pinedale Array	145.06	81	PKPbc	PKPbc	17 31 27.9	+1.9
	1.4nm,1.1s,baz=225,slow=2.6,SNR=6.4						
YKA	Yellowknife Ar	147.48	45	PKPbc	PKPdf	17 31 34.1	+1.9
	0.4nm,0.4s,baz=279,slow=2.6,SNR=4.5						

NEIC 14 17:24:52.3, 64.50N×149.42W, h21^{km}, ML3.5(PMR), ML3.1(AEIC), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEA	Nenana	0.17	63	P	Pb	17 24 56.7	-0.3
BWN	Browne	0.33	183	P	Pb	17 24 59.7	+0.2
WRH	Wood River Hil	0.58	93	P	Pb	17 25 03.7	+0.1
MDM	Murphy Dome	0.69	48	P	Pb	17 25 05.3	-0.1
CCB	Clear Creek Bu	0.71	78	P	Pb	17 25 05.9	0.0
COLA	College	0.77	60	P	Pb	17 25 07.2	+0.3
COLA				S	Sb	17 25 17.7	+0.8
MLY	Manley	0.78	314	P	Pb	17 25 07.4	+0.4
MCK	McKinley	0.80	164	P	Pb	17 25 07.7	+0.3
MCK				S	Sb	17 25 18.1	+0.3
HDA	Harding Lake	1.07	94	P	Pb	17 25 11.4	-0.6
IL1	Eielson Array	1.12	75	P	Pb	17 25 12.1	-0.8
RND	Reindeer	1.13	167	P	Pb	17 25 13.0	0.0
KTH	Kantishna Hill	1.16	215	P	Pn	17 25 12.6	-0.9
KTH				S	Sb	17 25 28.0	-0.2
PRP	Porcupine Dome	1.94	57	P	Pn	17 25 24.3	-0.4
IM01	Indian Mountai	2.35	312	P	Pn	17 25 30.1	-0.4
DOT	Dot Lake	2.51	108	P	Pn	17 25 31.3	-1.5
SML	Sawmill	2.75	169	P	Pn	17 25 35.6	-0.6
COLD	Coldfoot	2.75	354	P	Pn	17 25 36.0	-0.3
SCM	Sheep Creek Mo	2.84	160	P	Pn	17 25 37.4	-0.2
PMR	Palmer	2.92	177	eP	Pn	17 25 39.5	+0.8
MENT	Mentasta	2.98	119	eP	Pn	17 25 38.8	-0.7
STLK	Strandline Lak	3.21	201	P	Pn	17 25 42.3	-0.5
TT01	Tatalina	3.35	244	P	Pn	17 25 43.7	-1.0
BM3	Burnt Mountain	3.53	32	P	Pn	17 25 45.6	-1.7
SVW2	Sparrevohn	4.43	222	eP	Pn	17 25 58.2	-1.9

*NEIC **14** 17:38:39.9, 38.44N×24.02E, h4^{km}, ML2.5(ATH), After ATH.*

*ATH **14** 17:38:43.6, 38.23N×23.89E, h5^{km}, MD2.4/4, ML2.1*

CSEM 14 17:38:39.5±0.6, 38.43N×24.08E, h4^{km}±5^{km}, ML2.5, Error ellipse: s-maj=14.9km s-min=9.7km az=120.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.39	224	ePG	Pg	17 38 47.0	-0.2
MPAR	Parnis Oros	0.39	224	ePg	Pg	17 38 46.8	-0.4
MPAR				eSg	Sg	17 38 52.0	-0.4
PTL	Penteli	0.41	204	ePg	Pg	17 38 47.0	-0.8
PTL				eSg	Sg	17 38 53.0	-0.4
ATH	Athens Observa	0.54	212	ePg	Pg	17 38 50.0	-0.2
ATH				eSg	Sg	17 38 57.0	-0.4
NSAL	Nisos Salamina	0.71	223	ePG	Pg	17 38 52.8	-0.9
MGER	Gerania Oros	0.78	236	ePb	Pb	17 38 54.5	-0.8

*IDC **14** 17:58:37.3±7.0, 5.70S×154.21E, h55^{km}±59^{km}, mb3.7/5, mb1 4.1/6, mb1mx3.9/13, mbtmp4.1/6, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/16, Error ellipse: s-maj=53.1km s-min=29.9km az=111.0*

*NEIC **14** 17:58:38.2±2.4, 5.42S×153.95E, h70^{km}±20^{km}, mb4.3/1, Error ellipse: s-maj=22.0km s-min=16.0km az=179.0*

ISC 14 17:58:35.9±4.0, 5.6S±0.2×154.1E±0.1, h56^{km}±35^{km}, n12, σ1^{s}06/13, mb4.0/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.85	240	P	P	18 00 29.4	-0.6
	8.0nm,0.3s,baz=61,slow=5.3,SNR=26						
PMG				S	S	18 01 59.0	+0.6
	1.8nm,0.3s,baz=186,slow=21,SNR=4.2						
PMG				LR	LR	18 02 57.5	
	comp=Z,109nm,21.1s,baz=55,slow=33						
DZM	Mont Dzumac	20.31	145	eP	P	18 03 10.6	+0.7
DZM	Mont Dzumac	20.31	145	eP	P	18 03 10.6	+0.7
KAKA	Kakadu	22.50	250	eP	P	18 03 49.6	+18
	11nm,0.5s,mb4.6						
WRAB	Tennant Creek	23.92	232	eP	P	18 03 45.6	-0.2
WB2	Warramunga Arr	23.93	232	eP	P	18 03 46.0	+0.2
WRA	Warramunga Arr	23.94	232	P	P	18 03 46.3	+0.3
	4.2nm,0.9s,mb3.9,baz=54,slow=9.7,SNR=30						
STKA	Stephens Creek	28.67	203	P	P	18 04 29.6	-0.2
	1.4nm,0.6s,mb3.9,baz=67,slow=7.7,SNR=3.8						
FITZ	Fitzroy Crossi	30.44	243	eP	P	18 04 43.4	-2.2
	3.8nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	30.44	243	P	P	18 04 43.9	-1.7
	5.6nm,0.7s,mb4.4,baz=74,slow=5.8,SNR=9.8						
SONM	Songino Array	67.65	327	P	P	18 09 31.7	+2.6
	0.4nm,0.5s,mb3.7,baz=147,slow=5.7,SNR=5.5						
ILAR	Eielson Array	82.38	22	P	P	18 10 52.0	-1.1
	0.4nm,0.6s,mb3.5,baz=246,slow=5.5,SNR=4.4						

NNC 14 18:37:53.5±12.0, 36.98N×70.72E, h203^{km}±175^{km}, mpv3.0, 4C-1D, Error ellipse: s-maj=119.1km s-min=89.1km az=25.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.12	359	⇑P	P	18 39 21.4	-1.8
	0.4nm,0.3s,baz=194,slow=14,SNR=26						
KK31				⇑S	S	18 40 34.0	+1.1
	0.5nm,0.4s,baz=192,slow=22,SNR=5.6						
AAK	Ala-Archa	6.35	26	⇓S	S	18 40 38.6	+0.4
	3.7nm,0.9s						
AB31	Akbulak array	14.56	331	⇑P	P	18 41 12.8	+1.8
	0.4nm,0.5s,baz=156,slow=13,SNR=10						
AB31				⇑S	S	18 43 49.2	+1.8
	0.2nm,0.4s						

MAN 14 19:02:01.3, 11.81N×124.21E, h20^{km}, mb3.9, ML2.6, MS2.2, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNP	Catarman	0.82	33	eP	Pb	19 02 16.7	-0.1
CNP				eS	Sb	19 02 30.0	+2.7
LLP	Lapu-Lapu	1.51	189	eP	Pn	19 02 26.9	-0.6
LLP				eS	Sn	19 02 47.1	+0.3
GUIM	Jordan	1.98	234	eP	Pn	19 02 34.2	-0.2

*IDC **14** 19:07:51.2±1.7, 8.13N×91.46E, mb4.0/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, Error ellipse: s-maj=71.4km s-min=20.3km az=57.0*

*BJI **14** 19:07:54.9, 8.20N×91.50E, h30^{km}, mb4.4*

*NEIC **14** 19:07:55.9±1.0, 8.17N×91.54E, h30^{km}, mb4.2/1, Error ellipse: s-maj=40.0km s-min=11.3km az=60.0*

ISC 14 19:07:53.7±1.2, 8.1N±0.2×91.4E±0.2, h30^{km}, n14, σ0^{s}43/14, mb4.0/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	21.50	359	P	P	19 12 44.0	+1.7
LSA	Lhasa	21.50	359	eP	P	19 12 42.0	-0.3
	7.1nm,0.8s,mb4.2						
CD2	Chengdu	25.46	25	P	P	19 13 20.8	-0.1
LZH	Lanzhou	30.09	20	eP	P	19 14 03.1	+0.2
LZH				AP	pP	19 14 15.0	+3.3
LZH				XP	sP	19 14 20.1	+4.5
LZH				AMB	AMB		
	comp=Z,23nm,1.7s,mb4.6						
GTA	Gaotai	32.08	12	eP	P	19 14 20.1	-0.3
GTA				AP	pP	19 14 28.0	-1.2
GTA				XP	sP	19 14 31.9	-1.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.0						
MKAR	Makanchi Array	39.35	350	P	P	19 15 22.4	+0.3
	comp=Z,1.4nm,0.5s,mb3.9,baz=169,slow=8.7,SNR=12						
SONM	Songino Array	41.60	15	P	P	19 15 40.1	-0.6
	comp=Z,1.8nm,0.8s,mb3.8,baz=200,slow=7.9,SNR=14						
FITZ	Fitzroy Crossi	42.63	128	P	P	19 15 49.7	+0.2
	comp=Z,4.0nm,0.8s,mb4.2,baz=185,slow=7.1,SNR=4.7						
ZAL	Zalesovo	46.03	355	P	P	19 16 16.5	+0.2
	comp=Z,1.3nm,0.6s,mb4.0,baz=275,slow=4.1,SNR=7.4						
BVAR	Borovoye Array	47.96	343	P	P	19 16 31.3	-0.3
	comp=Z,0.7nm,0.6s,mb3.9,baz=169,slow=7.6,SNR=5.3						
WRA	Warramunga Arr	50.58	124	P	P	19 16 52.1	0.0
	comp=Z,0.6nm,0.6s,mb3.7,baz=304,slow=8.8,SNR=6.8						
FINES	FINESS Array B	71.28	333	P	P	19 19 11.8	-0.4
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=3.8,SNR=6.0						
FINES	FINESS Array B	71.28	333	P	P	19 19 11.8	-0.4
ARCES	ARCESS Array B	74.16	341	P	P	19 19 29.1	+0.2
	comp=Z,1.6nm,0.8s,mb4.0,baz=79,slow=4.6,SNR=3.7						

*NNC **14** 19:34:22.8±2.7, 42.56N×74.65E, mpv3.1, Error ellipse: s-maj=151.9km s-min=14.3km az=33.0*

*KNET **14** 19:34:22.1±0.3, 42.59N×74.58E, h17^{km}±2^{km}, ml2.3, Error ellipse: s-maj=2.4km s-min=1.8km az=129.0*

ISC 14 19:34:23.2±0.5, 42.61N±0.03×74.58E±0.04, h12^{km}±3^{km}, n12, σ0^{s}26/22, 11C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	0.07	292	⇑P	Pg	19 34 25.5	-0.1
	984nm,0.1s,SNR=2910						
AAK				⇑S	Sg	19 34 27.4	0.0
	3µm,0.3s						
AAK	Ala-Archa	0.07	292	⇑P	Pg	19 34 25.4	-0.3
	298nm,0.2s						
AAK				⇑S	Sg	19 34 27.2	-0.1
	481nm,0.2s						
KBK	Karagaybulak	0.28	80	P	Pg	19 34 29.3	+0.2
	104nm,0.2s,SNR=66						
KBK				⇑S	Sg	19 34 33.8	+0.7
	703nm,0.2s						
UCH	Uchtor	0.38	187	P	Pg	19 34 31.0	-0.2
	185nm,0.1s,SNR=94						
UCH				⇓S	Sg	19 34 36.4	-0.1
	116nm,0.1s						
CHMS	Chumysh	0.41	18	P	Pg	19 34 31.5	-0.2
	52nm,0.1s,SNR=133						
CHMS				⇓S	Sg	19 34 37.3	0.0
	182nm,0.1s						
EKS2	Erkin-Say	0.59	275	⇑P	Pb	19 34 35.1	0.0
	30nm,0.1s,SNR=255						
EKS2				⇑S	Sb	19 34 43.7	+0.6
	99nm,0.2s						
USP	Ospenovka	0.66	355	⇓P	Pb	19 34 36.0	-0.2
	58nm,0.1s,SNR=35						
USP				⇓S	Sb	19 34 45.1	0.0
	69nm,0.1s						
KZA	Kyzart	0.73	137	⇓P	Pb	19 34 37.3	0.0
	19nm,0.1s,SNR=6.8						
KZA				⇓S	Sb	19 34 47.1	+0.1
	132nm,0.1s						
AML	Almayashu	0.81	234	P	Pb	19 34 38.6	-0.2
	9.4nm,0.1s,SNR=22						
AML				⇑S	Sb	19 34 49.5	+0.1
	105nm,0.4s						
TKM2	Tokmak 2	0.81	67	⇑P	Pb	19 34 38.4	-0.4
	14nm,0.1s,SNR=100						
TKM2				⇑S	Sb	19 34 49.5	-0.1
	79nm,0.1s						
ULHL	Ulahol	1.28	106	P	Pb	19 34 46.8	-0.1
	16nm,0.2s,SNR=66						
KK31	Karatay Array	3.03	281	⇑Pn	Pn	19 35 17.0	+5.0
	0.4nm,0.3s,baz=96,slow=16,SNR=41						
KK31				Lg		19 35 56.5	
	5.6nm,0.4s,baz=102,slow=29,SNR=31						

*IDC **14** 19:39:36.9±0.8, 56.26S×26.29W, mb4.1/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.1/3, Error ellipse: s-maj=51.3km s-min=23.7km az=57.0*

*NEIC **14** 19:39:58.2±4.9, 56.56S×26.67W, h173^{km}±43^{km}, mb4.3/2, Error ellipse: s-maj=33.7km s-min=18.2km az=52.0*

ISC 14 19:39:53.9±1.8, 56.4S±0.3×26.7W±0.6, h150^{km}, n21, σ1^{s}00/13, mb4.0/5, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.34	158		P	19 43 36.9	+1.4
VNA3	Neumayer Olymp	16.54	161		P	19 43 37.6	-0.4
VNA3	Neumayer Olymp	16.54	161		P	19 43 45.0	+7.0
VNA3	Neumayer Olymp	16.54	161		P	19 43 51.5	+14
SNAA	Sanae	18.28	156		P	19 43 54.3	-4.0
SNAA	Sanae	18.28	156		P	19 44 00.4	+2.1
SNAA	Sanae	18.28	156		P	19 44 05.9	+7.6
QSPA	South Pole Qui	33.82	180	⇑iP	P	19 46 22.1	-0.8
	11nm,0.5s,mb4.8						
MAW	Mawson	39.68	143	P	P	19 47 11.1	-1.0
	1.1nm,0.4s,mb3.9,baz=249,slow=6.3,SNR=5.2						
SBA	Scott Base	45.72	184	eP	P	19 48 01.2	+0.5
	2.6nm,0.9s,mb3.9						
VNDA	Vanda	46.21	183	P	P	19 48 03.6	-0.9
	1.9nm,0.6s,mb3.9,baz=188,slow=5.7,SNR=19						
LPAZ	La Paz	50.82	305	P	P	19 48 41.2	+0.4
	1.1nm,0.4s,mb3.8,baz=211,slow=5.0,SNR=8.3						
LPAZ	La Paz	50.82	305	eP	P	19 48 41.5	+0.6
FWV	Forest Hill	104.25	318	eP	Pdif	19 53 43.9	+2.6
FINES	FINESS Array B	124.59	28	PKP	PKPdf	19 58 35.5	+1.4
	2.6nm,0.8s,baz=284,slow=5.7,SNR=4.7						
ARCES	ARCESS Array B	131.19	22	PKP	PKPdf	19 58 48.0	+1.4
	1.1nm,0.6s,baz=208,slow=3.4,SNR=8.0						
YKA	Yellowknife Ar	136.63	317	PKP	PKPdf	19 58 57.4	+0.6
	0.5nm,0.5s,baz=127,slow=2.2,SNR=5.5						
YKA	Yellowknife Ar	136.63	317	PKP	PKPdf	19 58 57.4	+0.6
INK	Inuvik	146.27	320	PKPbc	PKPbc	19 59 17.0	+2.2
	2.3nm,0.5s,baz=29,slow=1.0,SNR=15						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	150.48	87	PKPbc	PKPdf	19 59 28.5	+7.7
	2.6nm,0.6s,baz=227,slow=3.1,SNR=26						
ILAR	Eielson Array	150.57	311	PKPbc	PKPdf	19 59 28.3	+7.9
	0.9nm,0.4s,baz=136,slow=5.0,SNR=19						
ILAR				PKPab	PKPab	19 59 36.1	+0.5
	0.8nm,0.7s,baz=107,slow=2.0,SNR=5.9						

*IDC **14** 19:43:08.7±1.5, 14.66S×174.79W, h178km±15km, mb3.7/9, mb1 3.9/11, mb1mx3.8/17, mbtmp4.2/11, Error ellipse: s-maj=31.0km s-min=12.3km az=143.0*
*BJI **14** 19:43:09.6, 14.70S×174.80W, h180km, mB4.6, mb4.6*
*NEIC **14** 19:43:09.6±1.1, 14.72S×174.81W, h184km±10km, mb4.2/5, Error ellipse: s-maj=23.3km s-min=8.0km az=149.0*
ISC 14 19:43:07.6±1.2**, 14.7S**±0.2×**174.8W**±0.1**, h179**km±13km**, n58, σ0.70/26, mb4.1/16, 1C-2D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.08	75	P	P	19 43 58.6	+0.9
	46nm,0.3s,baz=201,slow=2.2,SNR=34						
AFI				S	S	19 44 35.4	-0.9
	24nm,0.3s,baz=29,slow=20,SNR=9.3						
AFI	Afiamalu	3.08	75	eP	P	19 43 58.9	+1.2
DZM	Mont Dzumac	19.19	245	P	P	19 47 21.1	+1.2
	0.1nm,0.3s,baz=35,slow=19,SNR=2.5						
CTA	Charters Tower	37.45	256	eP	P	19 50 06.5	+1.0
	2.1nm,0.4s,mb4.1						
CTAO	Charters Tower	37.45	256	eP	P	19 50 06.2	+0.8
STKA	Stephens Creek	43.18	239	eP	P	19 50 52.2	-0.3
	2.2nm,0.7s,mb3.9						
STKA	Stephens Creek	43.18	239	P	P	19 50 52.0	-0.4
	2.7nm,0.7s,mb4.0,baz=54,slow=12,SNR=11						
WB2	Warramunga Arr	48.64	256	eP	P	19 51 34.8	-0.7
WRAB	Tennant Creek	48.64	256	eP	P	19 51 35.0	-0.5
	3.0nm,0.4s,mb4.3						
WRA	Warramunga Arr	48.65	256	P	P	19 51 35.0	-0.6
	1.6nm,0.3s,mb4.2,baz=91,slow=7.4,SNR=121						
WRA				PcP	PcP	19 52 57.7	-0.8
	1.0nm,0.7s,baz=87,slow=3.7,SNR=7.1						
ASPA	Alice Springs	49.01	251	⇓iP	P	19 51 38.0	-0.3
KAKA	Kakadu	51.17	265	eP	P	19 52 13.6	+19
	7.1nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	56.99	258	eP	P	19 52 36.9	-0.2
	1.2nm,0.3s,mb4.2						
MBWA	Marble Bar	62.22	254	eP	P	19 53 11.7	-1.0
	8.2nm,0.9s,mb4.6						
VNDA	Vanda	63.90	186	P	P	19 53 23.2	+0.2
	0.4nm,0.4s,mb3.6,baz=142,slow=18,SNR=6.0						
MDJ	Mudanjiang	77.66	323	P	P	19 54 50.1	+4.2
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,74nm,4.4s						
MDJ				LR	LR		
	comp=N,84nm,20.5s						
MDJ				LR	LR		
	comp=E,203nm,20.5s						
MDJ				LR	LR		
	comp=Z,248nm,20.5s						
ELK	Elko	78.01	42	P	P	19 54 47.6	-0.2
	comp=Z,0.3nm,0.4s,mb3.3,baz=216,slow=7.2,SNR=4.5						
TMUT	Trail Mountain	79.97	45	P	P	19 54 59.8	+1.3
ANMO	Albuquerque	81.44	51	P	P	19 55 06.0	-0.3
	comp=Z,1.1nm,0.6s,mb3.7,baz=270,slow=6.8,SNR=3.2						
ILAR	Eielson Array	82.07	12	P	P	19 55 08.7	-0.2
	comp=Z,1.3nm,0.5s,mb3.8,baz=221,slow=5.4,SNR=23						
PDAR	Pinedale Array	82.70	42	P	P	19 55 12.9	+0.3
	comp=Z,2.1nm,0.7s,mb4.0,baz=225,slow=2.1,SNR=8.5						
INK	Inuvik	87.96	14	P	P	19 55 37.4	-0.4
	comp=Z,1.7nm,0.8s,mb4.0,baz=225,slow=5.3,SNR=5.0						
INK	Inuvik	87.96	14	P	P	19 55 37.4	-0.4
MAW	Mawson	87.97	199	P	P	19 55 38.1	+0.2
	comp=Z,1.7nm,0.8s,mb3.9,baz=150,slow=10,SNR=4.0						
LZH	Lanzhou	91.72	307	eP	P	19 55 57.0	+0.8
LZH				AP	pP	19 56 43.5	+2.4
LZH				XP	sP	19 57 03.5	+3.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
ARCES	ARCESS Array B	123.75	352	PKP	PKPdf	20 01 42.3	-1.4
	comp=Z,2.5nm,0.8s,baz=63,slow=2.7,SNR=5.0						
PRU	Pruhonice	144.02	350	ePKP	PKPdf	20 02 22.0	+0.4
KMBO	Kilima Mbogo	144.55	246	PKP	PKPdf	20 02 22.8	-0.9
	comp=Z,2.7nm,0.8s,baz=71,slow=5.3,SNR=7.5						
KMBO	Kilima Mbogo	144.55	246	PKP	PKPdf	20 02 22.8	-0.9
GIVF	Givet	144.72	0	ePKP1	PKPbc	20 02 23.6	+0.7
BAIF	Baives	144.76	1	ePKP1	PKPbc	20 02 24.1	+1.1
BR131	Keskin Array S	144.77	320	ePKPdf	PKPdf	20 02 24.5	+1.3
BRTR	Keskin Array B	144.77	320	PKP	PKPdf	20 02 24.8	+1.5
	comp=Z,2.4nm,0.7s,baz=113,slow=1.8,SNR=16						
GRA1	Grafenberg Arr	144.79	353	ePKP	PKPdf	20 02 24.9	+1.9
GRF	Grafenberg Arr	144.79	353	ePKP	PKPdf	20 02 24.9	+1.9
KHC	Kasperske Hory	145.01	350	ePKP	PKPdf	20 02 25.0	+1.6
GERES	GERESS Array B	145.27	350	PKPbc	PKPbc	20 02 24.9	+0.5
	comp=Z,0.9nm,0.5s,baz=32,slow=4.5,SNR=12						
FLN	La Foliniere	145.75	7	ePKP1	PKPbc	20 02 27.0	+1.4
LDF	La Druitiere	145.96	6	ePKP1	PKPbc	20 02 27.6	+1.5
	comp=Z,8.9nm,0.7s						
GRR	Gorron	146.07	7	ePKP1	PKPbc	20 02 27.4	+1.0
MEZF	Maizieres J'vi	146.33	0	ePKP1	PKPbc	20 02 27.7	+0.7
CDF	Champ du Feu	146.37	357	ePKP1	PKPbc	20 02 28.9	+1.8
ARSA	Arzberg	146.45	347	⇑iP	PKPdf	20 02 29.7	+3.9
HAU	Haudompre	146.81	359	ePKP1	PKPbc	20 02 29.4	+1.3
HINF	Hinteralfeld	146.98	358	ePKP1	PKPbc	20 02 29.6	+1.1
WTTA	Wattenberg	147.12	352	⇓iP	PKPdf	20 02 31.2	+4.3
LOR	Lormes	147.54	2	ePKP1	PKPdf	20 02 32.1	+4.5
	comp=Z,4.6nm,0.7s						
SSF	Saint Saulge	147.74	2	ePKP1	PKPdf	20 02 32.6	+4.6
	comp=Z,6.0nm,0.8s						
MFF	Saint Martin d	147.92	7	ePKP1	PKPdf	20 02 32.6	+4.3
	comp=Z,2.2nm,0.6s						
AVF	Avril sur Loir	148.00	2	ePKP1	PKPdf	20 02 32.4	+4.0
CABF	La Chapelle	148.21	359	ePKP1	PKPdf	20 02 34.4	+5.6
BGF	Bois d'Agland	148.21	3	ePKP1	PKPdf	20 02 33.8	+5.0
LPL	La Plagne	149.29	358	ePKP1	PKPdf	20 02 37.5	+7.0
	comp=Z,5.3nm,0.7s						
LPG	La Plagne	149.31	358	ePKP1	PKPdf	20 02 37.7	+7.2
	comp=Z,5.3nm,0.7s						
LFF	La Frestale	149.66	6	ePKP1	PKPdf	20 02 37.3	+6.2
	comp=Z,8.0nm,0.7s						
CAF	Calviac	149.79	4	ePKP1	PKPdf	20 02 37.6	+6.3
	comp=Z,7.0nm,0.9s						
LASF	Ste Croix	150.73	2	ePKP1	PKPdf	20 02 40.3	+7.5
ETSF	Etsaut	151.50	9	ePKP1	PKPdf	20 02 42.1	+8.1
	comp=Z,3.0nm,0.6s						

MAN 14 19:57:19.3, 14.70N×119.84E, h6km, mb3.9, ML2.7, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBP	Mount Natib	0.56	86	eP	Pg	19 57 30.5	0.0
LUBP	Lubang	1.04	158	eP	Pb	19 57 38.7	-0.6
SCZP	Santa Cruz	1.07	3	eP	Pb	19 57 39.7	-0.2
NZB	Bigte	1.23	82	eP	Pb	19 57 41.4	-1.1
ARP	Angono	1.28	97	eP	Pb	19 57 42.3	-1.1
LBPH	Los Banos	1.40	113	i P	Pn	19 57 45.5	-0.1
PCPH	Palayan	1.48	55	⇑eP	Pn	19 57 45.4	-1.2
PCPH				i S	Sb	19 58 03.2	-2.7
BALP	Baler	1.96	58	eP	Pn	19 57 53.7	+0.2
POLP	Polilio Island	2.03	89	eP	Pn	19 57 55.2	+0.7
POLP				eS	Sn	19 58 16.4	-4.0
BUSP	Coron	2.71	173	eP	Pn	19 58 04.2	+0.1

*NEIC **14** 20:00:08.9±0.6, 60.93N×144.12W, h10km, mb3.9/1, ML3.9(PMR), Error ellipse: s-maj=11.5km s-min=8.1km az=179.0*
*IDC **14** 20:00:13.5±1.2, 61.66N×142.56W, mb3.8/6, mb1 3.8/10, mb1mx3.7/23, mbtmp3.6/10, ML3.1/4, MS4.3/24, Ms1 4.3/24, ms1mx4.3/27, Error ellipse: s-maj=26.1km s-min=10.8km az=42.0*
ISC 14 20:00:07.7±0.6**, 60.94N**±0.08×**144.1W**±0.1**, h10**km**, n40, σ1.18/24, mb3.8/7, MS4.4/19, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	Middleton Isla	1.88	217	eP	Pn	20 00 40.9	+0.6
PMR	Palmer	2.50	287	eP	Pn	20 00 50.4	+1.2
PMR				eP		20 00 51.3	
SLKM	Skilak Lake	3.02	264	P	Pn	20 00 57.1	+0.4
SPU	Mount Spurr	3.86	277	eP	Pn	20 01 08.3	-0.2
ILAR	Eielson Array	4.04	343	Pn	Pn	20 01 09.5	-1.6
	0.3nm,0.3s,baz=159,slow=12,SNR=16						
ILAR				Sn	Sn	20 01 52.8	-6.4
	2.7nm,0.3s,baz=155,slow=17,SNR=8.4						
ILAR				Lg		20 02 12.4	
	2.5nm,0.3s,baz=152,slow=29,SNR=5.3						
ILAR	Eielson Array	4.04	343	Pn	Pn	20 01 09.5	-1.6
ILAR				Sn	Sn	20 01 52.8	-6.4
ILAR				Lg		20 02 12.4	
RSO	Redoubt South	4.27	267	P	Pn	20 01 13.6	-0.8
KDAK	Kodiak Island	5.36	237	P	Pn	20 01 28.2	-1.6
SVW2	Sparrevohn	5.57	277	eP	Pn	20 01 41.4	+8.6
DLBC	Dease Lake	7.56	103	Pn	Pn	20 01 58.3	-2.5
	0.6nm,0.3s,baz=277,slow=13,SNR=2.6						
DLBC				Lg		20 03 49.5	
	0.5nm,0.3s,baz=192,slow=27,SNR=3.4						
DLBC				LR	LR	20 05 00.7	
	comp=Z,3μm,19.2s,baz=295,slow=41						
INK	Inuvik	8.67	27	Pn	P	20 02 07.4	-8.7
	0.0nm,0.3s,baz=222,slow=12,SNR=2.9						
INK				Lg		20 04 17.3	
	0.2nm,0.3s,baz=152,slow=15,SNR=2.6						
INK				LR	LR	20 05 41.5	
	comp=Z,2μm,21.9s,baz=214,slow=43						
INK	Inuvik	8.67	27	Pn	P	20 02 07.4	-8.7
INK				Lg		20 04 17.3	
INK				LR	LR	20 05 41.5	
BBB	Bella Bella	12.42	128	LR	LR	20 07 23.8	
	comp=Z,2μm,20.0s,baz=311,slow=35						
YKA	Yellowknife Ar	14.02	71	Pn	P	20 03 17.8	-10
	0.1nm,0.3s,baz=273,slow=13,SNR=2.3						
YKA				LR	LR	20 08 36.0	
	comp=Z,1μm,20.7s,baz=275,slow=38						
NEW	Newport	19.96	117	LR	LR	20 12 20.4	
	comp=Z,1μm,19.7s,baz=307,slow=37						
BMO	Blue Mountains	22.58	123	eP	P	20 05 09.3	+0.1
	4.6nm,0.9s,mb3.9						
YBH	Yreka Blue Hor	23.23	136	LR	LR	20 12 29.3	
	comp=Z,651nm,20.6s,MS4.1,baz=350,slow=32						
ELK	Elko	26.85	126	LR	LR	20 15 40.4	
	comp=Z,1μm,21.6s,MS4.4,baz=337,slow=35						
PDAR	Pinedale Array	27.57	115	P	P	20 05 58.1	+1.6
	0.5nm,0.9s,mb3.2,baz=352,slow=6.4,SNR=3.1						
PDAR				LR	LR	20 17 14.8	
	comp=Z,1μm,18.0s,MS4.5,baz=327,slow=38						
ULM	Lac du Bonnet	28.62	90	LR	LR	20 18 03.1	
	comp=Z,888nm,18.4s,MS4.4,baz=119,slow=38						
SCHQ	Schefferville	39.29	63	LR	LR	20 24 31.9	
	comp=Z,723nm,18.3s,MS4.5,baz=298,slow=38						
TXAR	Lajitas Array	41.44	121	LR	LR	20 25 51.2	
	comp=Z,618nm,21.2s,MS4.5,baz=305,slow=37						
ARCES	ARCESS Array B	49.60	5	LR	LR	20 29 23.1	
	comp=Z,223nm,18.1s,MS4.2,baz=232,slow=36						
MJAR	Matsushiro Arr	53.03	280	LR	LR	20 32 21.3	
	comp=Z,254nm,21.7s,MS4.2,baz=65,slow=36						
NOA	NORSAR Array B	56.88	14	LR	LR	20 36 25.4	
	comp=Z,123nm,19.1s,MS4.0,baz=335,slow=39						
SONM	Songino Array	57.64	311	P	P	20 10 07.1	+7.2
	1.0nm,1.0s,mb3.8,baz=45,slow=8.4,SNR=5.0						
SONM				LR	LR	20 37 21.0	
	comp=Z,413nm,19.3s,MS4.5,baz=33,slow=39						
SONM	Songino Array	57.64	311	P	P	20 10 07.1	+7.2
SONM				LR	LR	20 37 21.0	
FINES	FINESS Array B	57.71	6	P	P	20 10 01.0	+0.8
	4.2nm,1.0s,mb4.4,baz=350,slow=8.5,SNR=2.3						
FINES	FINESS Array B	57.71	6	P	P	20 10 01.0	+0.8
HFS	Hagfors	58.04	13	LR	LR	20 36 58.8	
	comp=Z,181nm,21.0s,MS4.2,baz=16,slow=39						
ZAL	Zalesovo	59.06	329	LR	LR	20 40 16.1	
	comp=Z,280nm,20.7s,MS4.4,baz=89,slow=41						
MKAR	Makanchi Array	66.24	327	P	P	20 11 01.8	+4.3
	0.2nm,0.6s,mb3.4,baz=45,slow=6.1,SNR=3.4						
MKAR				LR	LR	20 43 49.0	
	comp=Z,228nm,21.8s,MS4.3,baz=180,slow=40						
SJG	San Juan	68.51	91	LR	LR	20 42 00.2	
	comp=Z,217nm,21.1s,MS4.4,baz=282,slow=37						
AKASG	Malin Array Be	68.58	5	P	P	20 11 13.5	+1.4
	0.7nm,0.6s,mb3.8,baz=352,slow=6.1,SNR=5.5						
GERES	GERESS Array B	69.11	15	LR	LR	20 40 45.0	
	comp=Z,118nm,19.1s,MS4.1,baz=168,slow=36						
SDV	Santo Domingo	74.28	100	LR	LR	20 45 47.1	
	comp=Z,300nm,21.0s,MS4.6,baz=162,slow=37						
ESDC	Sonseca Array	74.59	31	P	P	20 11 48.0	-0.1
	1.9nm,1.0s,mb4.0,baz=329,slow=5.6,SNR=2.9						
ROSC	El Rosal	76.03	105	LR	LR	20 46 18.5	
	comp=Z,186nm,19.5s,MS4.4,baz=330,slow=37						
PPT	Papeete	78.36	185	LR	LR	20 37 57.9	
	comp=Z,358nm,20.4s,MS4.7,baz=93,slow=29						
LPAZ	La Paz	97.46	110	LR	LR	21 00 59.0	
	comp=Z,118nm,18.5s,MS4.4,baz=328,slow=38						

IDC 14 20:05:15.3±1.1**, 15.34S×173.52W, mb4.1/4, mb1 4.3/5, mb1mx4.0/16, mbtmp4.2/5, MS3.3/3, Ms1 3.3/3, ms1mx3.0/25, Error ellipse: s-maj=40.4km s-min=23.8km az=130.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.21	50	Pn	Pn	20 05 52.0	-1.7
	251nm,0.3s,baz=195,slow=2.4,SNR=267						
AFI				Sn	Sn	20 06 12.6	-9.4
	475nm,0.3s,baz=46,slow=18,SNR=7.6						
AFI				LR	LR	20 06 25.1	
	comp=Z,453nm,22.0s,baz=54,slow=32						
DZM	Mont Dzumac	20.11	248	LR	LR	20 15 31.5	
	comp=Z,61nm,18.4s,baz=150,slow=31						
URZ	Urewera	24.29	198	P	P	20 10 34.1	-1.3
	5.5nm,0.3s,baz=288,slow=1.6,SNR=7.4						
STKA	Stephens Creek	43.97	240	P	P	20 13 24.6	-1.6
	1.2nm,0.4s,baz=69,slow=14,SNR=4.6						
WRA	Warramunga Arr	49.74	257	P	P	20 14 08.9	-2.9
	1.2nm,0.7s,baz=91,slow=7.0,SNR=25						
VNDA	Vanda	63.43	186	P	P	20 15 46.6	-2.1
	0.8nm,0.8s,baz=32,slow=9.5,SNR=6.0						
YBH	Yreka Blue Hor	73.62	37	LR	LR	20 43 56.8	
	comp=Z,44nm,19.4s,baz=44,slow=32						
MLR	Muntele Rosu	145.76	335	PKPbc	PKPbc	20 24 57.0	+0.3
	0.9nm,0.6s,baz=225,slow=8.3,SNR=3.7						
BRTR	Keskin Array B	146.03	321	PKPbc	PKPbc	20 24 57.5	0.0
	1.3nm,0.7s,baz=133,slow=1.9,SNR=7.0						

*MOS **14** 20:12:16.3±0.9, 33.95N×25.54E, h10km, mb4.1/14, Error ellipse: s-maj=9.2km s-min=4.5km az=120.1*
*HLW **14** 20:12:20.1, 34.55N×25.68E, h22km, Mb3.9*
*ATH **14** 20:12:21.0, 34.21N×25.67E, h27km±2km, MD4.1/14, ML4.4*
*NEIC **14** 20:12:21.0, 34.21N×25.67E, h28km, mb3.9/19, ML4.4(ATH), ML3.7(ISK), After ATH.*
*CSEM **14** 20:12:22.3±0.0, 34.29N×25.82E, h60km, mb4.0/9, Mw3.8, Error ellipse: s-maj=1.8km s-min=0.8km az=38.0*
*IDC **14** 20:12:26.8±3.2, 34.50N×25.60E, h68km±19km, mb3.7/5, mb1 3.7/9, mb1mx3.6/22, mbtmp3.8/9, Error ellipse: s-maj=40.7km s-min=17.9km az=173.0*
ISC 14 20:12:22.4±0.3**, 34.25N**±0.02×**25.75E**±0.03**, h58**km±4km**, n163, σ0.95/183, mb3.9/14, MS3.3/1, 11C-9D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.62	356	⇓iPN	P	20 12 34.4	-1.2
NPS	Neapolis	1.01	354	⇓iPN	P	20 12 40.9	+0.2
NPS				eSN	S	20 12 55.5	+1.2
IDI	Anoyia	1.25	326	P	P	20 12 44.7	+0.6
	43nm,0.3s,baz=147,slow=16,SNR=218						
IDI				S	S	20 12 59.3	-0.8
	83nm,0.3s,slow=20,SNR=15						
GVD	Gavdhos	1.49	294	ePN	P	20 12 47.8	+0.4
GVD	Gavdhos	1.49	294	ePn	P	20 12 48.0	+0.6
VAM	Vamos	1.72	313	ePN	P	20 12 51.3	+0.8
KARP	Karpathos	1.73	42	ePN	P	20 12 53.0	+2.2
KARP	Karpathos	1.73	42	ePn	P	20 12 53.4	+2.6
SANT	Santorini	2.13	354	eP	P	20 12 55.9	-0.4
SANT	Santorini	2.13	354	eP	P	20 12 55.8	-0.4
NISR	Nisiros	2.61	25	ePN	P	20 13 03.8	+0.7
NISR	Nisiros	2.61	25	ePn	P	20 13 03.5	+0.4
ARG	Arkhangelos	2.76	44	ePN	P	20 13 07.2	+1.9
SLUM		2.79	189	⇑P	P	20 13 06.3	+0.6
SLUM				S	S	20 13 40.0	+1.7
APE	Apeiranthos	2.81	356	ePN	P	20 13 04.3	-1.7
APE	Apeiranthos	2.81	356	ePn	P	20 13 05.9	-0.1
KYTH	Kithira	3.00	313	ePN	P	20 13 08.5	-0.2
BODT	Bodrum	3.08	24	ePN	P	20 13 07.9	-1.8
BDRM	Kayabasi	3.13	26	i P	P	20 13 10.8	+0.4
BDRM				i S	S	20 13 46.1	-0.6
HMAT	Matruh	3.35	160	⇑P	P	20 13 14.8	+1.2
HMAT				S	S	20 13 54.0	+1.7
VLI	Veliai	3.36	318	ePN	P	20 13 13.1	-0.7
DALT	Dalyan (Mudla)	3.44	42	ePN	P	20 13 15.2	+0.3
MLSB	Milas	3.45	28	ePN	P	20 13 14.6	-0.4
YER	Yerkesik	3.54	35	ePN	P	20 13 16.0	-0.2
SMG	Samos	3.56	14	ePn	P	20 13 16.1	-0.4
AKAS	Kas	3.72	57	i P	P	20 13 19.0	+0.2
AKAS				i S	S	20 14 01.1	-0.7
DABA	Dabaa	3.88	146	⇑P	P	20 13 21.4	+0.4
DABA				S	S	20 14 05.9	+0.2
NAIG	Nisos Aigina	3.95	333	ePN	P	20 13 23.0	+1.0
ATH	Athens Observa	4.06	337	ePN	P	20 13 24.5	+1.0
ELL	Elmali	4.21	53	ePN	P	20 13 27.2	+1.6
MPAR	Parnis Oros	4.22	338	ePN	P	20 13 27.0	+1.2
BLCB	Balcova	4.25	14	ePN	P	20 13 24.8	-1.5
ITM	Ithomi	4.27	314	ePn	P	20 13 25.6	-0.8
GOLH	Golhisar	4.30	45	i P	P	20 13 27.1	+0.2
GOLH				i S	S	20 14 16.9	+0.7
KDAG	Bornova	4.32	16	i P	P	20 13 25.5	-1.6
KDAG				i S	S	20 14 45.7	+29
DNZL	Cakiroluk	4.35	37	i P	P	20 13 26.3	-1.3
DNZL				i S	S	20 14 22.3	+4.8
MANT	Manisa	4.80	27	i P	P	20 13 34.1	+0.3
MANT				i S	S	20 14 13.3	-15
LKR	Lokris	4.92	334	ePN	P	20 13 35.6	+0.1
SWA1		4.97	180	⇑P	P	20 13 36.8	+0.4
SWA1				S	S	20 14 33.0	-0.3
PRK	Paraskevi	5.00	5	ePN	P	20 13 38.6	+1.9
SWA2		5.00	183	⇓P	P	20 13 37.1	+0.4
BCK	Bucak	5.07	49	ePN	P	20 13 38.6	+1.0
TKTP	Tekketepe	5.29	43	i P	P	20 13 44.2	+3.5
EVR	Evrytania	5.63	327	ePN	P	20 13 47.0	+1.6
VLS	Valsamata	5.72	315	ePn	P	20 13 46.5	-0.2
BTOK	Tokmak	5.79	18	i P	P	20 13 47.2	-0.4
HDMB	Hadim	6.12	62	ePN	P	20 13 54.9	+2.7
HMYD	Mayadein	6.18	135	⇑P	P	20 13 53.0	0.0
HNAT	Natroun	6.19	137	⇓P	P	20 13 53.3	0.0
CSS	Prodhromos	6.29	81	eP	P	20 13 53.4	-1.3
	9.8nm,0.4s						
CSS	Prodhromos	6.29	81	eP	P	20 13 53.4	-1.3
	9.8nm,0.4s						
ERMK	Ermenek	6.31	66	i P	P	20 13 56.0	+1.0
AYT	Al 'Ayyat	6.45	133	⇓P	P	20 13 57.1	+0.2
AWBH		6.50	155	⇑P	P	20 13 58.0	+0.4
KOT	Kottamia	6.72	128	⇓P	P	20 14 00.3	-0.4
KIZT	Kizilcal	6.75	45	ePN	P	20 14 01.2	0.0
HSAF	As Saff	6.76	132	⇑P	P	20 14 00.9	-0.3
GLL	Jalalah	6.88	131	⇓P	P	20 14 02.3	-0.7
HHAG	Hagoal	6.88	127	⇑P	P	20 14 02.7	-0.3
HBNS	Bani Suwayf	7.04	137	⇑P	P	20 14 05.1	-0.2
KDZ	Kurdzhali	7.39	358	eP	P	20 14 24.0	+14
RZN	Rozhen	7.47	354	i P	P	20 14 19.0	+7.9
HRSH	Kfar Ka'horesh	7.48	114	⇓P	P	20 14 10.0	-1.3
RSH		7.48	114	P	P	20 14 10.0	-1.3
MMB	Musomiste	7.50	348	i P	P	20 14 19.0	+7.6
KKB	Krupnik	7.89	345	i P	P	20 14 27.0	+10
OFRI	'Ofer	7.89	99	Pn	P	20 14 15.7	-1.2
OFRI				Sn	S	20 15 39.4	-6.2
HNTI	Hanita	7.94	96	Pn	P	20 14 17.3	-0.3
HNTI				Sn	S	20 15 41.3	-5.6
KZIT	Kziot	8.02	112	Pn	P	20 14 18.7	0.0
KZIT				Sn	S	20 15 42.5	-6.4
SLTI	Sal'it	8.04	102	Pn	P	20 14 17.9	-1.0
SLTI				Sn	S	20 15 42.4	-6.8
MMA0	Mount Meron ar	8.14	96	Pn	P	20 14 19.4	-1.0
HNKL	Nakhl	8.21	119	⇓P	P	20 14 19.9	-1.3
MMLI	Mount Malkishu	8.29	100	Pn	P	20 14 21.7	-0.7
MMLI				Sn	S	20 15 49.1	-6.5
KSDI	Kefar Szold	8.32	95	Sn	S	20 15 50.9	-5.4
BRTR	Keskin Array B	8.34	47	P	P	20 14 24.1	+0.9
	0.1nm,0.3s,baz=221,slow=13,SNR=3.7						
BRTR				S	S	20 15 52.4	-4.5
	0.1nm,0.3s,baz=225,slow=16,SNR=2.7						
BRTR	Keskin Array B	8.34	47	P	P	20 14 24.0	+0.9
VTS	Vitosha	8.56	347	eP	P	20 14 42.0	+16
KMTI	Karmit	8.66	116	Pn	P	20 14 26.9	-0.5
TIP	Timpagrande	8.73	307	eP	P	20 14 25.1	-3.3
MKRJ	Makawir	8.74	105	Pn	P	20 14 27.9	-0.7
PRNI	Paran	8.74	114	Pn	P	20 14 28.3	-0.3
PRNI				Sn	S	20 16 00.5	-6.3
ZFRI	Zfri	8.78	112	Pn	P	20 14 28.7	-0.4
ZFRI				Sn	S	20 16 01.3	-6.4
COBT	Iskenderun	8.87	72	i P	P	20 14 21.0	-9.3
HRFI	Mount Harif	8.93	116	Pn	P	20 14 31.1	0.0
HRFI				Sn	S	20 16 05.2	-6.0
EIL	Elat	9.05	118	Pn	P	20 14 32.6	-0.3
NUB		9.20	122	⇑P	P	20 14 34.1	-0.8
VAE	Valguarnera	9.75	293	P	P	20 14 40.3	-2.1
	1.9nm,0.3s,baz=243,slow=3.7,SNR=6.1						
PGF	Pioggiola	15.51	307	eP	P	20 15 56.4	-2.3
	21nm,1.0s						
PGF	Pioggiola	15.51	307	eP	P	20 15 56.4	-2.3
PGF				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV	Kislovodsk	16.30	49	eP	P	20 16 13.7	+4.9
	comp=Z,9.8nm,0.8s						
KIV	Kislovodsk	16.30	49	⇑iP	P	20 16 13.5	+4.8
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZEI	Tsey	16.53	54	eP	P	20 16 12.8	+1.2
AKASG	Malin Array Be	16.63	8	P	P	20 16 12.7	-0.2
	comp=Z,1.0nm,0.3s,baz=198,slow=11,SNR=12						
AKASG	Malin Array Be	16.63	8	P	P	20 16 12.6	-0.2
AKASG	Malin Array Be	16.63	8	i P	P	20 16 14.1	+1.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	GERESS Array B	17.11	332	P	P	20 16 18.9	+0.1
	comp=Z,0.1nm,0.3s,baz=144,slow=13,SNR=4.0						
SBF	Sospel	17.13	309	eP	P	20 16 17.9	-1.2
KHC	Kasperske Hory	17.39	332	eP	P	20 16 31.5	+9.1
KHC				x	x	20 16 52.5	
KHC	Kasperske Hory	17.39	332	eP	P	20 16 32.8	+10
LMR	La Mourre	17.50	307	eP	P	20 16 20.3	-3.4
	comp=Z,9.9nm,1.0s						
LMR	La Mourre	17.50	307	eP	P	20 16 20.3	-3.4
LMR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FRF	La Foret Royal	17.50	308	eP	P	20 16 22.0	-1.8
	comp=Z,8.0nm,0.8s						
FRF	La Foret Royal	17.50	308	eP	P	20 16 22.0	-1.8
FRF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MBDF	Montbardon	17.96	311	eP	P	20 16 29.4	0.0
	comp=Z,13nm,0.8s						
MBDF	Montbardon	17.96	311	eP	P	20 16 29.4	0.0
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPG	La Plagne	18.36	313	eP	P	20 16 34.2	-0.1
	comp=Z,5.9nm,0.9s						
LPG	La Plagne	18.36	313	eP	P	20 16 34.2	-0.1
LPG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPL	La Plagne	18.38	313	eP	P	20 16 34.7	+0.2
SMRF	Simiane la Rot	18.38	308	eP	P	20 16 34.5	-0.1
	comp=Z,7.8nm,0.9s						
ORIF	Oris-en-Rattie	18.61	311	eP	P	20 16 37.4	+0.1
CABF	La Chapelle	19.34	316	eP	P	20 16 45.4	-0.1
	comp=Z,14nm,0.8s						
CABF	La Chapelle	19.34	316	eP	P	20 16 45.4	-0.1
CABF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VIVF	Saint-Julien-l	19.34	309	eP	P	20 16 45.1	-0.5
LASF	Ste Croix	19.55	307	eP	P	20 16 46.1	-1.8
HINF	Hinteralfeld	19.60	319	eP	P	20 16 48.5	+0.2
CDF	Champ du Feu	19.74	321	eP	P	20 16 49.4	-0.5
	comp=Z,14nm,1.0s						
CDF	Champ du Feu	19.74	321	eP	P	20 16 49.4	-0.5
CDF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HAU	Haudompre	19.98	319	eP	P	20 16 53.4	+0.9
	comp=Z,6.6nm,0.6s						
HAU	Haudompre	19.98	319	eP	P	20 16 53.4	+0.9
HAU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VRHR	Novokhopersk	20.41	30	eP	P	20 16 57.9	+1.0
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,7.0nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTLF	Montolieu	20.41	303	eP	P	20 16 55.8	-1.1
	comp=E,6.0nm,0.9s						
MTLF	Montolieu	20.41	303	eP	P	20 16 55.8	-1.1
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SMF	Signal de Mont	20.68	313	eP	P	20 17 00.6	+0.8
MEZF	Maizieres J'vi	20.98	319	eP	P	20 17 03.5	+0.8
LOR	Lormes	20.98	315	eP	P	20 17 03.4	+0.6
AVF	Avril sur Loir	21.05	313	eP	P	20 17 03.5	0.0
	comp=Z,4.5nm,0.8s,mb3.6						
AVF	Avril sur Loir	21.05	313	eP	P	20 17 03.5	0.0
AVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
CAF	Calviac	21.06	307	eP	P	20 17 03.9	+0.3
SSF	Saint Saulge	21.09	314	eP	P	20 17 04.0	+0.1
	comp=Z,6.4nm,1.1s,mb3.9						
SSF	Saint Saulge	21.09	314	eP	P	20 17 04.0	+0.1
SSF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb3.8						
BGF	Bois d'Agland	21.25	312	eP	P	20 17 06.0	+0.5
	comp=Z,11nm,0.7s,mb4.0						
BGF	Bois d'Agland	21.25	312	eP	P	20 17 06.0	+0.5
BGF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0						
TCF	Toulx Ste Croi	21.52	311	eP	P	20 17 07.9	-0.3
RJF	Les Rejaudoux	21.57	308	eP	P	20 17 08.9	+0.3
	comp=Z,4.9nm,0.7s,mb3.7						
RJF	Les Rejaudoux	21.57	308	eP	P	20 17 08.9	+0.3
RJF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
EPF	Esparros	21.63	301	eP	P	20 17 08.3	-1.0
LFF	La Frestale	21.95	307	eP	P	20 17 11.7	-0.7
GIVF	Givet	22.05	322	eP	P	20 17 13.7	+0.3
OBN	Obninsk	22.18	17	ePcP	PcP	20 21 05.2	-5.7
OBN	Obninsk	22.18	17	eP	P	20 17 20.6	+6.0
OBN				eS	S	20 21 05.2	-5.0
OBN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3						
ETSF	Etsaut	22.24	301	eP	P	20 17 15.6	+0.3
	comp=Z,8.5nm,1.0s,mb3.9						
ETSF	Etsaut	22.24	301	eP	P	20 17 15.6	+0.3
ETSF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
BAIF	Baives	22.34	321	eP	P	20 17 16.9	+0.7
	comp=Z,11nm,0.7s,mb4.1						
BAIF	Baives	22.34	321	eP	P	20 17 16.9	+0.7
BAIF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
SJPF	Ste Jean	22.76	301	eP	P	20 17 24.0	+3.6
	comp=Z,13nm,1.0s,mb4.0						
SJPF	Ste Jean	22.76	301	eP	P	20 17 24.0	+3.6
SJPF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
MFF	Saint Martin d	23.14	310	eP	P	20 17 24.5	+0.5
LDF	La Druitiere	23.97	315	eP	P	20 17 32.4	+0.4
FLN	La Foliniere	24.26	315	eP	P	20 17 35.8	+1.0
ESDC	Sonseca Array	24.29	292	P	P	20 17 34.4	-0.8
	comp=Z,1.7nm,0.8s,mb3.5,baz=75,slow=8.5,SNR=6.4						
GRR	Gorron	24.31	314	eP	P	20 17 36.1	+0.7
SGMF	Saint Gilles	25.29	312	eP	P	20 17 44.7	-0.1
	comp=Z,55nm,1.4s,mb4.6						
SGMF	Saint Gilles	25.29	312	eP	P	20 17 44.7	-0.1
SGMF				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.6						
QUIF	Quistinic	25.54	311	eP	P	20 17 47.1	0.0
FINES	FINESS Array B	27.21	0	P	P	20 18 02.5	+0.2
	comp=Z,3.3nm,0.8s,mb3.9,baz=190,slow=12,SNR=3.8						
FINES	FINESS Array B	27.21	0	P	P	20 18 02.5	+0.1
ARCES	ARCESS Array B	35.33	360	P	P	20 19 12.2	-1.4
	comp=Z,3.2nm,0.9s,mb4.2,baz=173,slow=7.3,SNR=4.9						
ARCES	ARCESS Array B	35.33	360	P	P	20 19 12.3	-1.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	Makanchi Array	43.88	56	P	P	20 20 27.0	+2.4
	comp=Z,1.6nm,0.7s,mb3.9,baz=271,slow=6.8,SNR=16						
MKAR	Makanchi Array	43.88	56	P	P	20 20 27.0	+2.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVS	Novosibirsk	44.39	44	eP	P	20 20 24.0	-4.6
SONM	Songino Array	59.69	50	P	P	20 22 24.7	+1.7
	comp=Z,0.6nm,0.9s,mb3.6,baz=349,slow=7.6,SNR=4.0						
SONM	Songino Array	59.69	50	P	P	20 22 24.7	+1.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*PRU **14** 20:35:03.7, 44.40N×10.42E*
*LDG **14** 20:35:04.4±0.3, 44.49N×10.51E, h10km, Ml2.7/11, Error ellipse: s-maj=7.0km s-min=3.2km az=91.0*
*CSEM **14** 20:35:04.4±0.1, 44.49N×10.42E, h15km, ML2.7/11, Error ellipse: s-maj=4.5km s-min=2.8km az=110.0*
*NEIC **14** 20:35:05.2, 44.56N×10.30E, h13km, ML2.7(LDG), ML2.5(GEN), ML2.5(FUR), After GEN.*
*GEN **14** 20:35:05.2, 44.56N×10.30E, h13km, ML2.0*
ISC 14 20:35:05.4±0.3, **44.50N**±0.02×**10.21E**±0.03, **h24**km±3km, **n65**, σ**1^{s}00**/94, **9C-4D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRAM		0.10	267	P	Pb	20 35 09.5	-0.4
GRAM				S	Sb	20 35 12.4	-0.5
GRAM		0.10	267	P	Pb	20 35 09.5	-0.4
VALM		0.15	169	P	Pb	20 35 10.0	-0.4
VALM				S	Sb	20 35 13.5	-0.3
BACM		0.24	204	P	Pb	20 35 11.5	+0.1
BACM				S	Sb	20 35 16.1	+0.5
BACM		0.24	204	P	Pb	20 35 11.5	+0.1
CODM		0.28	247	P	Pb	20 35 12.3	+0.3
CODM				S	Sb	20 35 17.2	+0.7
CODM		0.28	247	P	Pb	20 35 12.3	+0.3
SARO	Sassorosso	0.34	156	P	Pb	20 35 12.6	-0.4
SARO				S	Sb	20 35 18.0	-0.1
SARO	Sassorosso	0.34	156	P	Pb	20 35 12.6	-0.4
SARO	Sassorosso	0.34	156	P	Pb	20 35 12.6	-0.4
SARO				S	Sb	20 35 18.0	-0.1
VINC	Vinca	0.36	186	P	Pb	20 35 13.2	0.0
VINC				S	Sb	20 35 19.2	+0.7
VINC	Vinca	0.36	186	P	Pb	20 35 13.2	0.0
VINC				S	Sb	20 35 19.2	+0.7
VLC	Villacollemand	0.36	159	eP	Pb	20 35 12.6	-0.7
VLC	Villacollemand	0.36	159	eP	Pb	20 35 12.6	-0.7
SC2M	Scurtabr	0.49	259	P	Pb	20 35 15.7	+0.4
MAIM		0.62	161	P	Pb	20 35 17.7	+0.2
MAIM				S	Sb	20 35 25.9	+0.2
MAIM		0.62	161	P	Pb	20 35 17.7	+0.2
MAIM				S	Sb	20 35 25.9	+0.1
GENL	Genova Univers	0.89	265	P	Pb	20 35 22.6	+0.6
GENL	Genova Univers	0.89	265	P	Pb	20 35 22.6	+0.6
PCP	Pian Castagno	1.19	273	P	Pn	20 35 27.3	+0.6
PCP				S	Sb	20 35 42.2	+0.1
PCP	Pian Castagno	1.19	273	P	Pn	20 35 27.3	+0.6
TEOL	Teolo	1.35	50⇓	iPg	Pn	20 35 28.4	-0.6
FIN	Finale Ligure	1.46	259	P	Pn	20 35 30.4	-0.2
FIN	Finale Ligure	1.46	259	P	Pn	20 35 30.4	-0.2
ROB	Roburent	1.69	264	P	Pn	20 35 34.0	+0.2
ROB	Roburent	1.69	264	P	Pn	20 35 34.0	+0.2
IMI	Imperia	1.77	251	P	Pn	20 35 34.9	0.0
IMI	Imperia	1.77	251	P	Pn	20 35 34.9	-0.1
MONE	Monesi	1.81	257	P	Pn	20 35 36.0	+0.4
ORX	Oropa	1.94	307	P	Pn	20 35 37.6	+0.1
ORX	Oropa	1.94	307	P	Pn	20 35 37.6	+0.1
ENR	Entracque	2.02	263	P	Pn	20 35 38.5	0.0
SBF	Sospel	2.09	253	ePn	Pn	20 35 39.8	+0.2
SBF				eSn	Sn	20 36 07.0	+1.9
	18nm,0.4s						
PGF	Pioggiola	2.14	205	ePn	Pn	20 35 39.9	-0.4
PGF				eSn	Sn	20 36 05.5	-0.8
	3.5nm,0.4s						
MBDF	Montbardon	2.46	277	ePn	Pn	20 35 46.4	+1.5
MBDF				eSn	Sn	20 36 17.6	+3.0
	7.0nm,0.4s						
LPG	La Plagne	2.65	293	ePn	Pn	20 35 48.4	+0.8
LPL	La Plagne	2.67	294	ePn	Pn	20 35 49.3	+1.5
LPL				eSn	Sn	20 36 20.7	+1.0
	4.9nm,0.4s						
FRF	La Foret Royal	2.73	251	ePn	Pn	20 35 48.8	0.0
FRF				eSn	Sn	20 36 20.8	-0.6
	6.8nm,0.4s						
SCE	Schlegeis	2.75	22⇓	iPn	Pn	20 35 48.7	-0.3
DAVA	Damuels	2.80	355⇑	iPN	Pn	20 35 50.7	+1.0
DAVA				iSN	Sn	20 36 25.0	+1.9
DAVA	Damuels	2.80	355⇑	iPn	Pn	20 35 50.7	+1.0
SQTA	Sankt Quirin	2.81	14⇑	iPN	Pn	20 35 50.6	+0.7
SQTA				iSN	Sn	20 36 25.2	+1.8
SQTA	Sankt Quirin	2.81	14⇑	iPn	Pn	20 35 50.6	+0.7
LMR	La Mourre	2.91	248	ePn	Pn	20 35 51.1	-0.2
LMR				eSn	Sn	20 36 25.6	-0.4
	14nm,0.5s						
MOTA	Moosalm	2.92	12⇓	iPN	Pn	20 35 52.0	+0.6
MOTA				iSN	Sn	20 36 27.5	+1.5
MOTA	Moosalm	2.92	12⇓	iPn	Pn	20 35 52.0	+0.6
WTTA	Wattenberg	2.94	19⇑	iPN	Pn	20 35 52.3	+0.6
WTTA				iSN	Sn	20 36 26.9	+0.2
WATA	Walderalm	3.00	18⇑	iPN	Pn	20 35 52.9	+0.4
WATA				iSN	Sn	20 36 29.3	+1.2
WATA	Walderalm	3.00	18⇑	iPn	Pn	20 35 52.9	+0.4
ORIF	Oris-en-Rattie	3.11	279	ePn	Pn	20 35 55.7	+1.5
SMRF	Simiane la Rot	3.37	263	ePn	Pn	20 35 58.4	+0.6
CABF	La Chapelle	3.58	308	ePn	Pn	20 36 01.0	+0.2
CABF				eSn	Sn	20 36 41.8	-1.1
	3.5nm,0.5s						
VIVF	Saint-Julien-l	3.96	277	ePn	Pn	20 36 05.8	-0.4
HINF	Hinteralfeld	4.05	326	ePn	Pn	20 36 05.5	-2.1
HINF				eSn	Sn	20 36 51.7	-3.2
	5.2nm,0.4s						
MOA	Molln	4.38	39⇑	iPN	Pn	20 36 11.2	-1.0
MOA				iSN	Sn	20 37 02.8	-0.3
MOA	Molln	4.38	39⇑	iPn	Pn	20 36 11.2	-1.0
CDF	Champ du Feu	4.41	334	ePn	Pn	20 36 10.5	-2.1
CDF				eSn	Sn	20 36 59.3	-4.5
	2.3nm,0.3s						
HAU	Haudompre	4.41	324	ePn	Pn	20 36 10.0	-2.6
HAU				eSn	Sn	20 37 01.4	-2.5
	12nm,0.4s						
LASF	Ste Croix	4.58	267	ePn	Pn	20 36 14.4	-0.6
SMF	Signal de Mont	4.96	298	ePn	Pn	20 36 19.5	-0.9
KHC	Kasperske Hory	5.18	25	ePN	Pn	20 36 20.6	-2.9
KHC				eSN	Sn	20 37 17.3	-5.9
KHC				SG	Sn	20 37 48.5	+25
LOR	Lormes	5.23	304	ePn	Pn	20 36 23.1	-1.0
LOR				eSn	Sn	20 37 21.9	-2.5
	2.5nm,0.4s						
AVF	Avril sur Loir	5.32	298	ePn	Pn	20 36 25.4	-0.1
BGF	Bois d'Agland	5.57	294	ePn	Pn	20 36 27.9	-1.0
MTLF	Montolieu	5.88	261	ePn	Pn	20 36 32.9	-0.5

*NEIC **14** 21:05:29.8±1.8, 5.25S×154.06E, h147km±15km, mb4.7/5, Error ellipse: s-maj=12.4km s-min=8.4km az=64.0*
*IDC **14** 21:05:29.3±4.0, 5.24S×154.08E, h142km±36km, mb3.9/10, mb1 4.0/12, mb1mx4.0/16, mbtmp4.4/12, MS3.0/2, Ms1 3.0/2, ms1mx2.7/16, Error ellipse: s-maj=27.3km s-min=15.9km az=71.0*
ISC 14 21:05:29.2±3.1, **5.3S**±0.1×**154.0E**±0.1, **h156**km±27km, **n23**, σ**0^{s}54**/22, **mb4.2**/14, **1C-2D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.96	239	P	P	21 07 23.1	0.0
	17nm,0.3s,baz=40,slow=5.1,SNR=30						
PMG				LR	LR	21 10 29.7	
	comp=Z,78nm,20.3s,baz=90,slow=38						
CTA	Charters Tower	16.56	207	P	P	21 09 14.2	+0.3
	0.4nm,0.3s,baz=27,slow=12,SNR=5.3						
CTA				LR	LR	21 14 38.5	
	comp=Z,69nm,18.2s,baz=142,slow=33						
CTAO	Charters Tower	16.56	207	eP	P	21 09 14.9	+1.1
DZM	Mont Dzumac	20.57	145	P	P	21 09 56.9	-0.4
	3.3nm,0.5s,baz=167,slow=23,SNR=6.6						
KAKA	Kakadu	22.56	249⇓	iP	P	21 10 35.8	+19
	16nm,0.8s,mb4.5						
WRAB	Tennant Creek	24.07	231	eP	P	21 10 31.5	0.0
	28nm,0.8s,mb4.8						
WRAB				epP		21 11 00.1	
WB2	Warramunga Arr	24.07	231⇑	iP	P	21 10 32.0	+0.4
WRA	Warramunga Arr	24.08	231	P	P	21 10 32.2	+0.5
	16nm,0.7s,mb4.7,baz=54,slow=9.6,SNR=110						
ASPA	Alice Springs	26.66	225	eP	P	21 10 55.3	-0.3
STKA	Stephens Creek	28.92	202⇓	iP	P	21 11 15.0	-0.9
	3.6nm,0.8s,mb4.2						
STKA	Stephens Creek	28.92	202	P	P	21 11 15.1	-0.8
	3.7nm,0.5s,mb4.3,baz=50,slow=12,SNR=9.4						
FITZ	Fitzroy Crossi	30.53	243	eP	P	21 11 28.9	-1.4
	24nm,0.6s,mb5.1						
RAO	Raoul Island	35.67	135	LR	LR	21 23 05.0	
	comp=Z,836nm,19.0s,baz=8.1,slow=30						
RPZ	Rata Peaks	41.12	161	P	P	21 12 59.8	+0.3
	10nm,0.8s,mb4.5,baz=359,slow=4.9,SNR=6.0						
ENH	Enshi	55.38	312	eP	P	21 14 49.0	-0.6
	8.7nm,0.8s,mb4.5						
SONM	Songino Array	67.38	327	P	P	21 16 09.9	0.0
	0.8nm,0.5s,mb3.8,baz=142,slow=6.1,SNR=12						
LSA	Lhasa	69.52	304	eP	P	21 16 23.9	+0.7
	5.7nm,0.9s,mb4.3						
VNDA	Vanda	72.32	178	P	P	21 16 39.4	+0.2
	1.7nm,0.6s,mb3.9,baz=333,slow=6.8,SNR=13						
MKAR	Makanchi Array	81.49	319	P	P	21 17 30.8	+0.2
	1.2nm,0.7s,mb3.6,baz=91,slow=5.8,SNR=10						
ILAR	Eielson Array	82.13	22	P	P	21 17 33.2	-0.3
	0.7nm,0.7s,mb3.4,baz=241,slow=5.4,SNR=6.7						
ZAL	Zalesovo	82.23	326	P	P	21 17 34.4	+0.1
	0.9nm,0.5s,mb3.6,baz=328,slow=3.1,SNR=3.4						
KURK	Kurchatov	84.90	322	eP	P	21 17 48.0	+0.2
MAW	Mawson	85.61	203	P	P	21 17 51.5	+0.6
	1.6nm,0.6s,mb4.0,baz=82,slow=6.9,SNR=20						

*FUNV **14** 21:19:18.3, 11.01N×62.43W, h118km, MW2.4*
*TRN **14** 21:19:20.3, 10.89N×62.61W, h91km, MD3.1*
*NEIC **14** 21:19:20.2, 10.90N×62.62W, h90km, MD3.1(TRN), After TRN.*
ISC 14 21:19:18.3±0.8, **10.90N**±0.05×**62.59W**±0.03, **h116**km±8km, **n14**, σ**0^{s}96**/27, **2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.44	125	eP	P	21 19 35.5	0.0
GUIV				eS	S	21 19 47.4	-1.1
ITEV	Isla Los Testi	0.70	311	eP	P	21 19 37.2	-0.1
ITEV				eS	S	21 19 51.6	-0.1
GUNV	Guanoco	0.81	205	eP	P	21 19 39.8	+1.5
GUNV				eS	S	21 19 55.3	+2.0
TRN	Trinidad (W)	1.19	102	eP	P	21 19 43.0	+0.6
TRN				eS	S	21 19 58.6	-1.7
GRW	Mount Saint Ca	1.55	36⇓	iP	P	21 19 47.4	+0.9
GRW				eS	S	21 20 06.6	-1.1
TBH	Brigand Hill	1.55	105	eP	P	21 19 47.5	+1.1
TBH				eS	S	21 20 07.2	-0.6
GRIC	Isle de Caille	1.69	35	eP	P	21 19 49.2	+1.0
GRIC				eS	S	21 20 10.2	-0.5
TPR	Prospect	1.80	81⇓	iP	P	21 19 49.9	+0.5
TPR				eS	S	21 20 12.9	-0.1
BOT	Bacolet	1.86	82	eP	P	21 19 50.4	+0.2
PCRV	Puerto La Cruz	2.14	251	eP	P	21 19 54.3	+0.6
PCRV				eS	S	21 20 21.4	+0.9
IBAV	Isla La Blanqu	2.16	295	eP	P	21 19 54.9	+0.9
IBAV				eS	S	21 20 21.1	+0.2
CUPV	Cœpira	3.25	255	eP	P	21 20 08.3	-0.5
CUPV				eS	S	21 20 46.7	-0.4
BIRV	Birongo	3.64	264	eP	P	21 20 13.5	-0.4
BIRV				eS	S	21 20 54.9	-1.6
CAOV	Caicara del Or	5.12	226	eP	P	21 20 33.5	-0.4
CAOV				eS	S	21 21 29.6	-2.6

*CSEM **14** 21:55:01.3±0.3, 37.50N×24.84W, h10km, ML2.9, Error ellipse: s-maj=8.9km s-min=4.5km az=41.0, After PDA*
*PDA **14** 21:55:01.3±1.5, 37.50N×24.84W, h10km, MD2.8, ML2.9, Error ellipse: s-maj=14.7km s-min=6.0km az=42.0*
SVSA 14 21:55:01.3±1.5, **37.50N×24.84W, h10km, MD2.8, ML2.9, Error ellipse: s-maj=14.7km s-min=6.0km az=42.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIRA	Miradouro	0.45	309	iP	Pg	21 55 08.1	-2.4
MIRA				iS	Sg	21 55 14.0	-2.6
MIRA	Miradouro	0.45	309	iS	Sg	21 55 14.0	-2.6
FRA1	Furnas	0.48	300	iP	Pg	21 55 08.4	-2.6
FRA1				iS	Sg	21 55 14.8	-2.7
FRA1	Furnas	0.48	300	iS	Sg	21 55 14.8	-2.7
PFAD	Fenais da Ajud	0.51	311	iP	Pg	21 55 10.0	-1.7
PFAD				iS	Sg	21 55 16.3	-2.3
PFAD	Fenais da Ajud	0.51	311	iS	Sg	21 55 16.3	-2.3
PCNG	Congro	0.52	301	eP	Pg	21 55 10.0	-1.8
PCNG				eS	Sg	21 55 16.8	-2.0
	323nm,0.3s						
PSMN	Pico do Norte,	0.53	200	eP	Pg	21 55 09.3	-2.7
PSMN				eS	Sg	21 55 15.4	-3.8
VIF	Vila Franca	0.54	297	iP	Pg	21 55 10.4	-1.8
VIF				iS	Sg	21 55 17.0	-2.5
	186nm,0.3s						
VIF	Vila Franca	0.54	297	iS	Sg	21 55 17.0	-2.5
PRCH	Ribeira Ch	0.56	294	eP	Pg	21 55 10.6	-2.0
PRCH				iS	Sg	21 55 17.5	-2.7
	383nm,0.3s						
MESC	Monte Escuro	0.56	301	iP	Pg	21 55 10.7	-2.0
MESC				iS	Sg	21 55 17.9	-2.5
MESC	Monte Escuro	0.56	301	iS	Sg	21 55 17.9	-2.5
LFA	Lagoa do Fogo	0.58	298	iP	Pg	21 55 11.0	-2.0
CML	Cha da Macela	0.62	296	iP	Pb	21 55 10.8	-3.0
CML				iS	Sg	21 55 18.6	-3.7
CML	Cha da Macela	0.62	296	iS	Sg	21 55 18.6	-3.7
FAC	Faja de Cima	0.70	293	eP	Pb	21 55 11.8	-3.4
FAC				iS	Sb	21 55 20.4	-4.2
PSAN	Santo Antonio	0.79	297	eP	Pb	21 55 13.4	-3.2
PFET	Feteiras	0.82	293	eP	Pb	21 55 13.9	-3.3
SET2	Ginetes	0.84	294	eP	Pb	21 55 14.2	-3.4
SET4	Mosteiros	0.85	296	eP	Pb	21 55 15.1	-2.6
PFAV	Pico das Favas	2.15	305	eP	Pn	21 55 34.0	-3.7
PFAV				eS	Sn	21 55 56.0	-8.6
RIB2	Ribeirinha	2.18	303	eP	Pn	21 55 33.1	-5.1
RIB2				eS	Sn	21 55 56.9	-8.6
	55nm,0.3s						
PVNV	Vila Nova	2.22	305	eP	Pn	21 55 33.6	-5.1
PVNV				eS	Sn	21 55 57.6	-8.9
PPAD	Pico dos Padre	2.27	302	eS	Sn	21 55 59.3	-8.5
ASBA	Santa Barbara	2.31	303	eS	Sn	21 56 00.9	-7.9

*NEIC **14** 22:07:59.9±2.2, 5.33S×154.17E, h142km±18km, mb4.5/2, Error ellipse: s-maj=20.4km s-min=15.1km az=183.0*
*IDC **14** 22:07:59.5±4.3, 5.29S×154.19E, h138km±37km, mb3.7/6, mb1 3.9/7, mb1mx3.6/14, mbtmp4.2/7, MS2.9/2, Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=30.5km s-min=28.3km az=143.0*
ISC 14 22:07:59.1±3.5, **5.3S**±0.2×**154.2E**±0.1, **h150**km±29km, **n11**, σ**0^{s}58**/12, **mb4.0**/7, **2C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.07	240	P	P	22 09 54.3	-0.2
	3.9nm,0.3s,baz=49,slow=11,SNR=10.0						
PMG				S	S	22 11 25.0	+0.6
	1.3nm,0.3s,baz=77,slow=18,SNR=3.1						
PMG				LR	LR	22 13 08.2	
	comp=Z,37nm,19.0s,baz=82,slow=38						
DZM	Mont Dzumac	20.41	146	P	P	22 12 26.1	-0.2
	3.0nm,0.7s,baz=336,slow=9.3,SNR=5.3						
WRAB	Tennant Creek	24.16	231	eP	P	22 13 02.9	0.0
	12nm,0.8s,mb4.5						
WB2	Warramunga Arr	24.16	231⇑	iP	P	22 13 02.8	-0.1
WRA	Warramunga Arr	24.17	231	P	P	22 13 03.3	+0.3
	6.6nm,0.7s,mb4.3,baz=54,slow=9.5,SNR=86						
STKA	Stephens Creek	28.92	203	P	P	22 13 46.2	-0.2
	3.0nm,0.8s,mb4.1,baz=31,slow=12,SNR=3.4						
STKA				LR	LR	22 25 32.3	
	comp=Z,62nm,21.8s,baz=91,slow=36						
STKA	Stephens Creek	28.92	203	P	P	22 13 46.2	-0.2
STKA				LR	LR	22 25 32.3	
FITZ	Fitzroy Crossi	30.65	243⇑	iP	P	22 14 00.2	-1.7
	6.4nm,0.6s,mb4.5						
VNDA	Vanda	72.24	178	P	P	22 19 09.6	+0.2
	0.4nm,0.6s,mb3.3,baz=333,slow=8.1,SNR=9.8						
ILAR	Eielson Array	82.14	22	P	P	22 20 04.6	+0.4
	0.4nm,0.7s,mb3.2,baz=237,slow=6.4,SNR=5.0						
MAW	Mawson	85.61	203	P	P	22 20 22.2	+0.7
	1.6nm,0.5s,mb4.0,baz=89,slow=9.1,SNR=7.0						

*NEIC **14** 22:12:23.8±0.3, 13.08S×167.21E, mb4.4/1, Error ellipse: s-maj=15.6km s-min=9.3km az=115.0*
*IDC **14** 22:12:24.3±1.1, 13.11S×167.16E, h200km±8km, mb3.6/7, mb1 3.7/8, mb1mx3.6/16, mbtmp4.1/8, Error ellipse: s-maj=24.1km s-min=14.6km az=113.0*
ISC 14 22:12:25.2±3.4, **13.1S**±0.2×**167.1E**±0.2, **h225**km±31km, **n44**, σ**0^{s}93**/16, **mb3.8**/8, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.95	184	eP	P	22 14 30.4	-1.1
DZM				eS	S	22 16 11.1	+0.9
DZM	Mont Dzumac	8.95	184	P	P	22 14 30.2	-1.2
	3.1nm,0.3s,baz=22,slow=18,SNR=26						
DZM				S	S	22 16 12.0	+1.7
	baz=305,slow=24,SNR=2.1						
DZM	Mont Dzumac	8.95	184	eP	P	22 14 30.4	-1.1
DZM				eS	S	22 16 11.1	+0.9
CTA	Charters Tower	21.18	248	P	P	22 16 55.2	+1.4
	0.8nm,0.3s,mb3.7,baz=58,slow=12,SNR=5.5						
CTA				pP		22 17 28.8	
	3.0nm,0.8s,baz=69,slow=11,SNR=2.2						
CTA	Charters Tower	21.18	248	P	P	22 16 55.2	+1.4
CTA				pP		22 17 28.8	
CTAO	Charters Tower	21.18	248	P	P	22 16 54.3	+0.5
STKA	Stephens Creek	29.98	227	P	P	22 18 14.2	-0.7
	0.9nm,0.4s,mb3.8,baz=46,slow=10,SNR=4.4						
WRA	Warramunga Arr	32.13	253	P	P	22 18 32.9	-0.9
	0.7nm,0.7s,mb3.3,baz=84,slow=8.9,SNR=8.1						
WRA				pP	pP	22 19 13.2	-6.5
	0.9nm,0.7s,baz=86,slow=8.9,SNR=4.4						
WRA				ScP		22 24 42.7	
	0.9nm,0.8s,baz=91,slow=3.6,SNR=7.0						
VNDA	Vanda	64.48	181	P	P	22 22 38.4	-0.9
	0.6nm,0.8s,mb3.3,baz=351,slow=5.8,SNR=5.4						
QSPA	South Pole Qui	76.92	180	eP	P	22 23 54.1	+0.4
	6.8nm,0.9s,mb4.3						
SONM	Songino Array	81.12	323	P	P	22 24 18.1	+1.3
	0.8nm,0.7s,mb3.4,baz=135,slow=6.1,SNR=5.5						
ILAR	Eielson Array	85.02	18	P	P	22 24 36.5	+0.3
	3.6nm,0.5s,mb4.3,baz=240,slow=5.2,SNR=47						
ILAR				pP	pP	22 25 26.3	-4.6
	1.7nm,0.9s,baz=231,slow=6.7,SNR=4.5						
MKAR	Makanchi Array	95.94	317	P	P	22 25 27.0	-0.6
	1.1nm,0.6s,mb4.2,baz=87,slow=5.4,SNR=11						
ARCES	ARCESS Array B	118.65	346	PKP	PKPdf	22 30 47.4	+1.5
	3.3nm,0.7s,baz=77,slow=2.3,SNR=30						
ARCES	ARCESS Array B	118.65	346	PKP	PKPdf	22 30 47.4	+1.5
FINES	FINESS Array B	124.17	339	PKP	PKPdf	22 30 58.2	+1.4
	1.1nm,0.5s,baz=16,slow=1.5,SNR=9.6						
NOA	NORSAR Array B	129.02	345	PKP	PKPdf	22 31 08.0	+1.9
	1.3nm,0.8s,baz=36,slow=2.8,SNR=3.5						
NOA	NORSAR Array B	129.02	345	PKP	PKPdf	22 31 08.0	+1.9
GERES	GERESS Array B	138.14	334	PKP	PKPdf	22 31 24.9	+1.6
	0.9nm,0.8s,baz=45,slow=3.8,SNR=6.4						
CABF	La Chapelle	142.98	338	ePKP1	PKPdf	22 31 32.9	+1.0
	8.1nm,0.9s						
LOR	Lormes	143.16	341	ePKP1	PKPbc	22 31 31.5	+0.9
SSF	Saint Saulge	143.46	341	ePKP1	PKPbc	22 31 33.1	+1.6
	3.8nm,0.7s						
LPL	La Plagne	143.66	337	ePKP1	PKPbc	22 31 35.1	+2.9
LPG	La Plagne	143.67	337	ePKP1	PKPbc	22 31 35.3	+3.1
	4.0nm,0.7s						
SGMF	Saint Gilles	143.91	348	ePKP1	PKPbc	22 31 34.1	+1.3
	11nm,0.7s						
ROSF	Rostrenen	143.97	349	ePKP1	PKPbc	22 31 34.2	+1.2
QUIF	Quistinic	144.36	349	ePKP1	PKPbc	22 31 35.3	+1.2
	11nm,0.8s						
ORIF	Oris-en-Rattie	144.49	337	ePKP1	PKPbc	22 31 36.8	+2.2
	18nm,0.8s						
TCF	Toulx Ste Croi	144.55	342	ePKP1	PKPbc	22 31 36.5	+1.8
	8.7nm,0.8s						
SBF	Sospel	144.73	334	ePKP1	PKPbc	22 31 36.9	+1.6
	37nm,0.9s						
MFF	Saint Martin d	144.93	345	ePKP1	PKPbc	22 31 37.7	+2.0
	26nm,0.8s						
VIVF	Saint-Julien-l	144.99	338	ePKP1	PKPbc	22 31 38.4	+2.4
	10nm,0.8s						
PGF	Pioggiola	145.08	331	ePKP1	PKPbc	22 31 38.1	+1.8
	9.8nm,0.7s						
FRF	La Foret Royal	145.31	335	ePKP1	PKPbc	22 31 38.7	+1.9
	14nm,0.8s						
SMRF	Simiane la Rot	145.40	336	ePKP1	PKPbc	22 31 39.0	+2.0
	12nm,1.0s						

LMR	La Mourre	145.55	335	*e*PKP1	PKPbc	22 31 39.5	+2.1
	11nm,0.9s						
CAF	Calviac	145.82	341	*e*PKP1	PKPbc	22 31 40.8	+2.7
LASF	Ste Croix	145.96	338	*e*PKP1	PKPbc	22 31 41.2	+2.8
	10nm,0.9s						
LFF	La Frestale	146.21	343	*e*PKP1	PKPbc	22 31 41.7	+2.7
	7.2nm,0.7s						
MTLF	Montolieu	147.18	340	*e*PKP1	PKPdf	22 31 44.6	+5.4
	16nm,0.9s						
EPF	Esparros	148.07	342	*e*PKP1	PKPdf	22 31 47.2	+6.5
SJPF	Ste Jean	148.45	344	*e*PKP1	PKPdf	22 31 49.9	+8.6
	4.9nm,0.7s						
ETSF	Etsaut	148.46	343	*e*PKP1	PKPdf	22 31 49.4	+8.1
	5.6nm,0.7s						
ESDC	Sonseca Array	152.39	345	PKPbc	PKPdf	22 31 57.5	+10
	2.4nm,0.8s,baz=19,slow=3.5,SNR=7.3						
ESDC				PKPab	PKPab	22 32 08.6	+0.7
	0.8nm,0.7s,baz=5.7,slow=5.7,SNR=2.9						

*IDC **14** 22:22:45.1±1.0, 55.44S×26.73W, mb4.0/4, mb1 4.2/4, mb1mx3.9/12, mbtmp4.0/4, Error ellipse: s-maj=59.4km s-min=21.4km az=53.0*

*NEIC **14** 22:22:46.6±0.6, 55.40S×26.60W, h10km, mb4.3/6, Error ellipse: s-maj=28.6km s-min=9.4km az=54.0*

ISC 14 22:22:43.6±1.6**, 55.2S**±0.3×**26.2W**±0.6**, h10km, n14, σ0.42**/10**, mb4.2**/7**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	19.27	158	*e*P	P	22 27 10.2	-0.4
	2.2nm,0.6s						
TRQA	Tornquist	29.55	291	P	P	22 28 49.7	-0.7
	10nm,1.5s,mb4.3						
QSPA	South Pole Qui	35.02	180	*e*P	P	22 29 38.0	+0.3
	3.3nm,0.7s,mb4.4						
CPUP	Villa Florida	36.72	309	P	P	22 29 52.5	-0.1
	1.3nm,0.7s,mb3.9,baz=149,slow=6.3,SNR=4.2						
MAW	Mawson	40.47	144	P	P	22 30 23.4	-0.1
	1.1nm,0.6s,mb3.7,baz=306,slow=8.7,SNR=2.6						
MAW	Mawson	40.47	144	*e*P	P	22 30 23.7	+0.2
	3.7nm,0.9s,mb4.1						
LVC	Limon Verde	45.40	298	*e*P	P	22 31 04.8	+0.8
	5.4nm,0.7s,mb4.5						
VNDA	Vanda	47.42	182	P	P	22 31 19.4	+0.1
	2.0nm,0.7s,mb4.2,baz=194,slow=7.6,SNR=12						
LPAZ	La Paz	50.38	304	P	P	22 31 42.6	-0.3
	2.1nm,0.7s,mb4.3,baz=138,slow=5.3,SNR=9.4						
LPAZ	La Paz	50.38	304	*e*P	P	22 31 43.1	+0.1
	3.0nm,0.8s,mb4.4						
BOZ	Bozeman (W)	123.52	303	PKPdf	PKPdf	22 41 44.1	+0.4
INK	Inuvik	145.53	321	PKPbc	PKPbc	22 42 23.6	+2.6
	2.4nm,0.6s,baz=117,slow=1.5,SNR=9.4						
ILAR	Eielson Array	149.99	313	PKPbc	PKPdf	22 42 35.5	+4.7
	1.8nm,0.7s,baz=126,slow=3.1,SNR=15						
SONM	Songino Array	150.09	84	PKPbc	PKPdf	22 42 37.9	+6.5
	0.7nm,0.5s,baz=226,slow=4.6,SNR=6.6						

*MOS **14** 22:23:29.5±2.2, 57.34N×120.65E, h15km, mb3.9/8, Error ellipse: s-maj=15.6km s-min=10.5km az=53.7*

*IDC **14** 22:23:37.8±6.2, 57.12N×120.44E, h89km±60km, mb3.3/7, mb1 3.5/8, mb1mx3.3/21, mbtmp3.6/8, ML2.9/1, Error ellipse: s-maj=27.4km s-min=26.8km az=99.0*

ISC 14 22:23:31.6±1.0**, 57.31N**±0.07×**120.55E**±0.09**, h45km**±11km**, n28, σ1.14**/33**, mb3.7**/7**, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRS	Chara	1.31	253	*e*P	P	22 23 55.0	+1.0
CRS				*e*		22 24 12.7	
CRS				pmax	pmax		
	comp=Z,390nm,0.3s						
CRS				smax			
	comp=E,679nm,0.5s						
CLNS	Chul'man	2.42	99	*e*P	P	22 24 09.0	-0.6
CLNS				*e*		22 24 40.5	
CLNS				pmax	pmax		
	comp=N,30nm,0.3s						
CLNS				pmax	pmax		
	comp=E,33nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,79nm,0.3s						
CLNS				smax			
	comp=E,1μm,0.5s						
CLNS				smax			
	comp=Z,543nm,0.5s						
CLNS				smax			
	comp=N,928nm,0.4s						
CLNS				MLR	MLR		
	comp=Z,100nm,12.0s						
NLYR	Nelyaty	2.78	255	*e*P	P	22 24 15.5	+0.7
NLYR				*e*S	S	22 24 49.5	+2.0
NLYR				pmax	pmax		
	comp=Z,183nm,0.7s						
NLYR				smax			
	comp=N,727nm,1.8s						
TUP	Tupik	2.91	187	*e*P	P	22 24 16.3	-0.3
TUP				*e*S	S	22 24 51.3	+0.7
TUP				pmax	pmax		
	comp=Z,372nm,0.4s						
TUP				smax			
	comp=E,2μm,0.5s						
BOD	Bodaibo	3.57	281	*e*P	P	22 24 24.9	-1.0
BOD				*e*S	S	22 25 07.4	+0.1
BOD				pmax	pmax		
	comp=Z,21nm,0.3s						
BOD				smax			
	comp=N,396nm,0.8s						
UKT	Uakit	4.26	248	*e*P	P	22 24 46.9	+11
UKT				pmax	pmax		
	comp=Z,33nm,0.6s						
YOA	Uoyan	5.00	260	*e*P	P	22 25 01.5	+15
YOA				pmax	pmax		
	comp=Z,102nm,1.2s						
KMO	Kumora	5.36	259	*e*P	P	22 24 50.2	-1.0
KMO				*e*S	S	22 25 51.0	-1.5
KMO				pmax	pmax		
	comp=Z,13nm,0.7s						
KMO				smax			
	comp=N,243nm,1.2s						
YLYR	Ulyunkhan	5.79	249	*e*P	P	22 25 13.3	+16
YLYR				pmax	pmax		
	comp=Z,22nm,0.7s						
YAK	Yakutsk	6.62	40	*e*P	P	22 25 18.9	+10
YAK				*e*S	S	22 26 13.8	-10
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK				pmax	pmax		
	comp=N,17nm,1.0s						
YAK				pmax	pmax		
	comp=E,18nm,1.0s						
YAK				smax			
	comp=Z,11nm,0.8s						
YAK				smax			
	comp=N,21nm,0.9s						
YAK				smax			
	comp=E,13nm,0.8s						
YAK				smax			
	comp=E,73nm,0.8s						
YAK				smax			
	comp=Z,72nm,0.9s						
YAK				smax			
	comp=N,62nm,0.7s						
YAK				MLR	MLR		
	comp=Z,38nm,1.0s						
KPC	Khapcheranga	9.03	216	*e*P	P	22 25 41.8	-0.5
KPC				pmax	pmax		
	comp=Z,31nm,0.6s						
SONM	Songino Array	12.78	228	P	P	22 26 32.6	-0.5
	comp=Z,0.1nm,0.3s,baz=44,slow=13,SNR=3.0						
ZAL	Zalesovo	20.32	276	P	P	22 28 07.5	+1.3
	comp=Z,0.8nm,0.3s,baz=35,slow=14,SNR=3.5						
ZAL	Zalesovo	20.32	276	P	P	22 28 07.5	+1.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	25.44	262	P	P	22 28 56.6	+0.2
	comp=Z,0.9nm,0.9s,mb3.3,baz=68,slow=7.8,SNR=3.6						
MKAR	Makanchi Array	25.44	262	*i* P	P	22 28 56.7	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AAK	Ala-Archa	32.36	263	*e*P	P	22 29 56.0	-2.7
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
ARU	Arti	32.86	295	*i* P	P	22 30 08.2	+5.3
ILAR	Eielson Array	41.54	40	P	P	22 31 17.5	+1.9
	comp=Z,0.5nm,0.6s,mb3.4,baz=294,slow=5.1,SNR=7.5						
ILAR	Eielson Array	41.54	40	P	P	22 31 17.5	+1.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	44.26	317	P	P	22 31 36.9	-0.9
	comp=Z,2.0nm,0.8s,mb3.9,baz=39,slow=8.9,SNR=3.9						
FINES	FINESS Array B	44.26	317	P	P	22 31 36.9	-0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	49.74	323	P	P	22 32 22.2	+1.4
	comp=Z,2.0nm,0.9s,mb4.2,baz=38,slow=7.8,SNR=3.0						
NOA	NORSAR Array B	49.74	323	P	P	22 32 22.2	+1.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	GERESS Array B	58.22	312	P	P	22 33 22.3	-0.9
	comp=Z,0.9nm,1.0s,mb3.8,baz=36,slow=8.4,SNR=4.1						
GERES	GERESS Array B	58.22	312	P	P	22 33 22.3	-0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	Warramunga Arr	77.81	167	P	P	22 35 24.2	-1.6
	comp=Z,0.3nm,0.6s,mb3.4,baz=352,slow=6.7,SNR=4.6						
WRA	Warramunga Arr	77.81	167	*i* P	P	22 35 27.0	+1.2

IDC 14 22:24:46.5±3.0**, 4.50S**×**102.21E, mb4.0**/6**, mb1 4.2**/6**, mb1mx3.9**/16**, mbtmp4.0**/6**, Error ellipse: s-maj=134.0km s-min=20.4km az=51.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	26.60	122	P	P	22 30 26.8	-1.7
	2.1nm,0.5s,baz=315,slow=8.6,SNR=3.3						
WRA	Warramunga Arr	34.84	119	P	P	22 31 39.3	-2.3
	0.3nm,0.5s,baz=300,slow=9.2,SNR=6.6						
STKA	Stephens Creek	45.85	131	P	P	22 33 16.4	+4.0
	2.4nm,0.7s,baz=308,slow=9.0,SNR=3.2						
SONM	Songino Array	52.24	4	P	P	22 34 00.5	-1.1
	2.2nm,0.6s,baz=188,slow=9.1,SNR=7.2						
MKAR	Makanchi Array	54.03	343	P	P	22 34 12.1	-2.7
	3.3nm,1.1s,baz=158,slow=7.8,SNR=14						
ZAL	Zalesovo	60.03	348	P	P	22 34 55.1	-2.2
	1.0nm,0.5s,baz=15,slow=4.0,SNR=5.1						
BVAR	Borovoye Array	63.29	339	P	P	22 35 16.4	-2.8
	0.8nm,0.5s,baz=257,slow=40,SNR=2.9						

*NEIC **14** 22:42:23.4±2.5, 6.61S×152.65E, h66km±21km, mb4.3/2, Error ellipse: s-maj=17.8km s-min=15.2km az=55.0*

*IDC **14** 22:42:23.4±4.4, 6.63S×152.61E, h68km±38km, mb3.8/10, mb1 4.0/11, mb1mx4.0/15, mbtmp4.2/11, ML3.6/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/26, Error ellipse: s-maj=25.6km s-min=20.1km az=69.0*

ISC 14 22:42:20.7±3.5**, 6.6S**±0.1×**152.7E**±0.1**, h56km**±29km**, n21, σ0.99**/18**, mb4.0**/10**, MS3.5**/4**, 1C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.13	243	P	P	22 43 50.9	+0.1
	9.1nm,0.3s,baz=57,slow=5.5,SNR=17						
PMG				S	S	22 45 00.0	-0.4
	8.1nm,0.3s,baz=352,slow=19,SNR=19						
PMG				LR	LR	22 46 15.1	
	comp=Z,342nm,18.6s,baz=74,slow=38						
PMG	Port Moresby	6.13	243	P	P	22 43 50.9	+0.1
PMG				S	S	22 45 00.0	-0.4
PMG				LR	LR	22 46 15.1	
HNR	Honiara	7.72	112	LR	LR	22 46 58.1	
	comp=Z,268nm,19.9s,baz=296,slow=35						
CTA	Charters Tower	14.77	204	LR	LR	22 50 06.2	
	comp=Z,98nm,20.9s,baz=227,slow=31						
DZM	Mont Dzumac	20.31	141	P	P	22 46 55.0	+0.4
	12nm,1.0s,slow=7.0,SNR=7.4						
DZM				LR	LR	22 53 47.7	
	comp=Z,209nm,18.2s,MS3.5,baz=237,slow=34						
KAKA	Kakadu	20.84	252	⇑*i*P	P	22 47 17.6	+17
	35nm,0.5s						
GUMO	Guam	21.52	339	LR	LR	22 54 07.8	
	comp=Z,25nm,19.0s,MS2.6,baz=26,slow=33						
WRAB	Tennant Creek	22.18	232	*e*P	P	22 47 15.2	+1.7
	7.4nm,0.8s,mb4.2						
WB2	Warramunga Arr	22.18	232	*e*P	P	22 47 15.5	+2.0
WRA	Warramunga Arr	22.19	232	P	P	22 47 12.9	-0.7
	1.3nm,0.8s,mb3.4,baz=56,slow=11,SNR=9.7						
STKA	Stephens Creek	27.18	201	P	P	22 47 59.1	-2.0
	7.6nm,1.0s,mb4.2,baz=12,slow=9.3,SNR=6.5						
FITZ	Fitzroy Crossi	28.73	244	⇓*i*P	P	22 48 14.1	-1.0
	6.3nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	28.73	244	P	P	22 48 13.6	-1.5
	6.0nm,0.5s,mb4.6,baz=62,slow=3.1,SNR=13						
SONM	Songino Array	67.79	328	P	P	22 53 14.4	-0.4
	0.8nm,0.6s,mb4.0,baz=150,slow=4.6,SNR=6.4						
VNDA	Vanda	71.03	178	P	P	22 53 34.1	-0.1
	1.2nm,0.7s,mb4.0,baz=341,slow=8.2,SNR=9.2						
MKAR	Makanchi Array	81.61	319	P	P	22 54 34.7	+0.5
	0.3nm,0.6s,mb3.4,baz=90,slow=4.3,SNR=3.7						
MKAR				LR	LR	23 29 16.5	
	comp=Z,33nm,18.4s,MS3.7,baz=279,slow=34						
ZAL	Zalesovo	82.60	326	P	P	22 54 39.4	+0.3
	1.0nm,0.5s,mb4.1,baz=261,slow=8.5,SNR=3.2						
MAW	Mawson	83.86	203	P	P	22 54 45.6	+0.4
	1.4nm,0.6s,mb4.3,baz=65,slow=5.6,SNR=5.4						
ILAR	Eielson Array	83.88	22	P	P	22 54 44.6	-0.7
	2.4nm,0.7s,mb4.4,baz=248,slow=5.4,SNR=21						
YBH	Yreka Blue Hor	90.35	48	LR	LR	23 29 35.8	
	comp=Z,61nm,19.5s,MS4.0,baz=72,slow=31						
LPAZ	La Paz	133.65	120	PKP	PKPdf	23 01 34.7	+2.5
	0.8nm,0.8s,baz=270,slow=2.0,SNR=3.4						

JMA 14 22:43:04.3±0.2**, 30.53N**×**138.43E, M3.6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	3.45	351	S	Sn	22 44 42.7	0.0
JWZ	Kozaga	3.78	323	P	Pn	22 44 05.5	+0.5
JWZ				S	Sn	22 44 51.2	+0.3

NNC 14 22:56:39.0±9.3**, 37.05N**×**71.00E, h170km**±138km**, mpv3.1, 5C-1D, Error ellipse: s-maj=94.7km s-min=58.6km az=34.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.06	357	P	P	22 58 08.0	+0.4
	0.5nm,0.3s,baz=170,slow=12,SNR=37						
KK31				⇑S	S	22 59 15.8	-0.6
	2.6nm,0.5s,baz=188,slow=18,SNR=15						
AAK	Ala-Archa	6.20	25	⇑P	P	22 58 06.9	-2.4
	0.9nm,0.6s						
AAK				⇑S	S	22 59 20.1	+0.6
	2.2nm,0.8s						
AB31	Akbulak array	14.61	330	⇑P	P	22 59 57.4	-1.0
	0.3nm,0.5s,baz=129,slow=9.7,SNR=5.3						
AB31				⇓S	S	23 02 38.3	+2.2
	0.2nm,0.3s						
AKTO	Aktyubinsk	16.31	329	⇑P	P	23 00 19.3	-0.2
	0.1nm,0.4s						

*NIED **14** 23:05:00, 26.10N×127.70E, h23km, Mw3.9 Best double couple: M0 8.99×10^14 NP1:φs1°, δ52°, λ121°. NP2:φs137°, δ47°, λ57°.*

*MOS **14** 23:05:09.4±1.1, 25.98N×127.38E, h33km, mb4.8/2, Error ellipse: s-maj=28.0km s-min=13.8km az=114.5*

*NEIC **14** 23:05:12.7±0.8, 26.10N×127.63E, mb4.5/2, MW3.9(NIED), Error ellipse: s-maj=18.8km s-min=10.7km az=143.0*

NEIC Felt on Okinawa-jima. Recorded [2 JMA] on Okinawa-jima.

*JMA **14** 23:05:12.4±0.1, 26.10N×127.73E, h45km±1km, M4.2*

JMA Felt II J1.

*IDC **14** 23:05:12.4±0.8, 26.13N×127.71E, h46km±7km, mb3.8/11, mb1 3.9/12, mb1mx3.8/23, mbtmp4.1/12, ML4.3/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=19.1km s-min=10.2km az=123.0*

ISC 14 23:05:10.6±0.5**, 26.03N**±0.05×**127.78E**±0.05**, h53km**±3km**, h46km±.8km:pP-P, n41, σ0.89**/48**, mb4.1**/13**, MS3.2**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.11	343	P	P	23 05 19.4	+0.7
JJT2				*e*S	S	23 05 24.5	-0.2
NAH1	Naha	0.19	333	P	P	23 05 19.4	+0.3
NAH1				S	S	23 05 24.6	-0.7
JAGN	Aguni-jima	0.74	319	P	P	23 05 25.5	+0.5
JAGN				S	S	23 05 35.9	+0.3
JOW	Kunigami	0.91	29	P	P	23 05 28.4	+1.1
	554nm,0.3s,baz=218,slow=13,SNR=1378						
JOW				S	S	23 05 40.7	+0.9
	634nm,0.3s,baz=114,slow=19,SNR=27						
JOW	Kunigami	0.91	29	P	P	23 05 28.4	+1.1
JOW				*e*S	S	23 05 40.1	+0.3
JKE	Kume jima 2	0.94	288	P	P	23 05 28.4	+0.6
JKE				S	S	23 05 40.0	-0.6
JIH	Iheya	1.01	9	P	P	23 05 29.6	+0.8
JIH				S	S	23 05 42.2	0.0
JTK	Tokunoshima	2.03	31	P	P	23 05 43.3	+0.2
JOGS	Gusukube	2.50	240	P	P	23 05 51.5	+1.7
JMJ	Miyako jima 2	2.56	242	P	P	23 05 51.9	+1.3
JAM	Amami Oshima	2.87	34	P	P	23 05 54.6	-0.5
JAM				S	S	23 06 25.4	-3.1
JZK	Kikaishima	2.99	40	P	P	23 05 58.0	+1.2
JMZ	Minamidaito 2	3.10	93	P	P	23 05 56.8	-1.5
JMZ				S	S	23 06 29.8	-4.6
JTJ	Tarama	3.12	244	P	P	23 05 58.6	+0.1
JIJ	Ishigaki jima	3.69	244	P	P	23 06 05.8	-0.9
JKRS	Kuro-shima	3.86	243	P	P	23 06 08.5	-0.5
IRIF	Iriomote-Funau	4.04	246	P	P	23 06 10.6	-1.0
HATJ	Hateruma jima	4.11	242	P	P	23 06 11.9	-0.6
JNN	Nakanoshima	4.22	26	P	P	23 06 13.9	-0.2
YOJ	Yonaguni jima	4.60	251	P	P	23 06 18.7	-0.7
JTN	Tanegashima 3	5.40	31	P	P	23 06 29.4	-1.1
YHNB	Yeheng	5.95	258	*e*P	P	23 06 38.1	-0.2
JNU	Nakatsue	7.56	20	P	P	23 06 59.8	-0.9
	4.8nm,0.3s,baz=216,slow=8.8,SNR=18						
JNU				LR	LR	23 10 20.2	
	comp=Z,56nm,18.9s,baz=231,slow=41						
MJAR	Matsushiro Arr	13.74	38	P	P	23 08 27.8	+3.4
	0.3nm,0.3s,baz=233,slow=13,SNR=2.9						
ASAJ	Asahikawa	21.67	30	LR	LR	23 18 26.1	
	comp=Z,34nm,21.9s,MS2.7,baz=344,slow=37						
SONM	Songino Array	27.50	328	P	P	23 10 55.2	+1.2
	0.9nm,0.4s,mb3.7,baz=140,slow=11,SNR=8.6						
SONM				pP	pP	23 11 06.7	-0.6
	0.8nm,0.7s,baz=149,slow=8.6,SNR=3.6						
SONM				LR	LR	23 21 42.2	
	comp=Z,54nm,18.0s,MS3.2,baz=270,slow=36						
MKAR	Makanchi Array	41.37	312	P	P	23 12 52.4	-0.6
	1.2nm,0.6s,mb3.7,baz=93,slow=9.5,SNR=23						
MKAR				PcP	PcP	23 14 52.0	+0.9
	0.4nm,0.6s,baz=45,slow=4.1,SNR=3.5						
ZAL	Zalesovo	42.17	323	P	P	23 12 58.4	-1.0
	0.7nm,0.4s,mb3.7,baz=328,slow=9.8,SNR=3.2						
KURK	Kurchatov	44.69	317	*e*P	P	23 13 19.9	0.0
	2.0nm,0.3s,mb4.4						
KURK	Kurchatov	44.69	317	*e*P	P	23 13 19.9	0.0
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
WRA	Warramunga Arr	46.14	171	P	P	23 13 33.2	+1.3
	comp=Z,1.1nm,0.6s,mb4.0,baz=352,slow=8.3,SNR=14						
WRA				pP	pP	23 13 46.0	+0.1
	comp=Z,2.3nm,0.8s,baz=353,slow=8.2,SNR=12						
BVAR	Borovoye Array	50.15	318	P	P	23 14 02.3	-0.4
	comp=Z,2.1nm,0.5s,mb4.5,baz=81,slow=11,SNR=9.5						
BRVK	Borovoye	50.22	319	*e*P	P	23 14 03.1	-0.1
	comp=Z,3.2nm,0.4s,mb4.7						
BRVK	Borovoye	50.22	319	*e*P	P	23 14 03.1	-0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
DZM	Mont Dzumac	60.75	138	LR	LR	23 35 21.3	
	comp=Z,68nm,21.7s,MS3.8,baz=176,slow=30						
ARCES	ARCESS Array B	70.04	339	P	P	23 16 17.9	-0.5
	comp=Z,2.4nm,0.8s,mb4.2,baz=54,slow=6.9,SNR=7.2						
FINES	FINESS Array B	72.84	330	P	P	23 16 34.7	-0.5
	comp=Z,0.8nm,0.4s,mb4.0,baz=72,slow=6.0,SNR=10						
BRTR	Keskin Array B	76.84	308	P	P	23 16 58.4	-0.3
	comp=Z,0.9nm,0.9s,mb3.7,baz=121,slow=7.2,SNR=5.3						
BRTR				pP	pP	23 17 11.8	-1.8
	comp=Z,0.7nm,0.8s,baz=90,slow=4.9,SNR=3.1						
HFS	Hagfors	78.81	332	P	P	23 17 08.8	-0.2
	comp=Z,3.4nm,0.9s,mb4.3,baz=90,slow=5.9,SNR=7.0						
NOA	NORSAR Array B	79.31	334	P	P	23 17 11.9	+0.1
	comp=Z,1.0nm,0.8s,mb3.8,baz=53,slow=5.8,SNR=3.3						
EKA	Eskdalemuir Ar	88.78	334	P	P	23 18 01.9	+2.3
	comp=Z,2.0nm,1.1s,mb4.4,baz=70,slow=11,SNR=2.7						

*IDC **14** 23:43:20.6±0.5, 2.85S×136.18E, mb4.8/12, mb1 4.8/14, mb1mx4.8/17, mbtmp4.8/14, ML4.3/2, MS4.1/13, Ms1 4.1/13, ms1mx4.0/18, Error ellipse: s-maj=24.1km s-min=13.9km az=69.0*

*BJI **14** 23:43:24.1, 3.18S×136.75E, h51km, mB5.2, mb5.1, Ms4.6, Msz4.2*

*MOS **14** 23:43:24.2±1.1, 2.89S×136.24E, h34km, mb5.1/15, Error ellipse: s-maj=16.8km s-min=8.1km az=120.4*

*NEIC **14** 23:43:27.2±1.7, 2.94S×136.28E, h46km±15km, mb5.0/20, Error ellipse: s-maj=10.2km s-min=7.5km az=65.0*

*HRVD **14** 23:43:27.2±0.4, 2.90S×135.99E, h32km±1km, MW4.8/41, Centroid moment Tensor Solution. LP body waves: s33,c44;Mantle waves: s41,c61; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.23±.18; Mθθ-2.14±.12; Mφφ0.91±.15; Mrθ-0.81±.16; Mθφ-1.25±.10; Mφr0.13±.23; Best double couple: M0 2.236×10^16 NP1:φs32°, δ52°, λ28°. NP2:φs284°, δ69°, λ138°. Principal axes: T 1.753, Plg44°, Azm241°; N .969, Plg44°, Azm82°; P -2.72, Plg10°, Azm341°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 23:43:22.9±2.6**, 2.93S**±0.04×**136.31E**±0.07**, h24km**±18km**, n106, σ1.10**/99**, mb4.9**/46**, MS4.2**/16**, 4C-4D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.44	201	*e*P	P	23 46 11.5	+17
	233nm,0.5s						
KAKA				*e*S	S	23 48 04.8	+13
PMG	Port Moresby	12.56	121	Pn	P	23 46 23.8	+0.7
	1.8nm,0.3s,baz=314,slow=10,SNR=8.4						
PMG				Sn	S	23 48 39.2	-4.0
	0.9nm,0.3s,baz=226,slow=5.9,SNR=2.4						
WRAB	Tennant Creek	17.00	186	*e*P	P	23 47 16.9	-4.1
	211nm,1.0s						
WRAB	Tennant Creek	17.00	186	*e*P	P	23 47 16.9	-4.1
WRAB				pmax	pmax		
	comp=Z,211nm,1.0s						
WB2	Warramunga Arr	17.01	186	*e*P	P	23 47 17.0	-4.1
WB2				*e*S	S	23 50 18.2	-10
WRA	Warramunga Arr	17.01	186	Pn	P	23 47 16.7	-4.4
	comp=Z,1.1nm,0.3s,baz=3.6,slow=13,SNR=92						
WRA				Sn	S	23 50 19.6	-8.5
	comp=Z,2.7nm,0.3s,baz=7.6,slow=22,SNR=14						
FITZ	Fitzroy Crossi	18.35	214	*e*P	P	23 47 35.5	-2.2
	comp=Z,57nm,0.9s						
FITZ				*e*S	S	23 50 51.3	-7.2
FITZ	Fitzroy Crossi	18.35	214	P	P	23 47 33.6	-4.2
	comp=Z,4.4nm,0.3s,baz=28,slow=9.6,SNR=51						
FITZ				S	S	23 50 51.2	-7.3
	comp=Z,5.4nm,0.3s,baz=188,slow=12,SNR=6.8						
FITZ				LR	LR	23 55 23.8	
	comp=Z,578nm,18.4s,baz=58,slow=39						
GUMO	Guam	18.48	27	LR	LR	23 53 52.0	
	comp=Z,83nm,20.7s,baz=233,slow=34						
CTA	Charters Tower	19.62	151	*e*P	P	23 47 53.1	+0.3
	comp=Z,32nm,1.0s						
CTA	Charters Tower	19.62	151	P	P	23 47 52.7	0.0
	comp=Z,1.9nm,0.3s,baz=329,slow=11,SNR=22						
CTA				S	S	23 51 26.9	-0.1
	comp=Z,0.1nm,0.3s,baz=260,slow=22,SNR=2.8						
CTA				LR	LR	23 56 19.6	
	comp=Z,662nm,18.3s,baz=28,slow=39						
CTA	Charters Tower	19.62	151	*e*P	P	23 47 53.1	+0.3
CTA				pmax	pmax		
	comp=Z,32nm,1.0s						
CTAO	Charters Tower	19.62	151	*e*P	P	23 47 52.4	-0.4
	comp=Z,44nm,0.8s						
CTAO	Charters Tower	19.62	151	*e*P	P	23 47 52.4	-0.4
CTAO				pmax	pmax		
	comp=Z,44nm,0.8s						
ASPA	Alice Springs	20.74	186	*e*P	P	23 48 04.6	+0.1
ASPA				*e*S	S	23 51 51.6	+1.6
MBWA	Marble Bar	24.26	220	*e*P	P	23 48 39.6	+0.1
	comp=Z,27nm,0.6s,mb4.8						
HNR	Honiara	24.36	106	P	P	23 48 41.5	+1.0
	comp=Z,44nm,0.4s,mb5.2,baz=70,slow=0.5,SNR=5.5						
KSM	Kuching	26.36	279	*e*P	P	23 48 59.7	+0.3

FORT Forrest 28.77 195 ⇓ *i* P **P** **23 49 20.5 -0.6**
comp=Z,29nm,0.5s,mb5.3
STKA Stephens Creek 29.22 171 P **P** **23 49 19.6 -5.5**
comp=Z,2.2nm,0.6s,mb4.1,baz=341,slow=11,SNR=5.8
STKA LR LR 00 00 33.5
comp=Z,322nm,19.3s,MS4.0,baz=113,slow=35
STKA Stephens Creek 29.22 171 *e*P **P** **23 49 23.0 -2.1**
comp=Z,5.0nm,0.7s,mb4.3
STKA LR LR 00 00 33.5
CBIJ Chichi jima 30.39 10 LR LR 23 59 37.5
comp=Z,214nm,19.3s,MS3.8,baz=194,slow=32
KLBR Kellerberrin 33.44 210 ⇓ *i* P **P** **23 50 01.3 -0.9**
comp=Z,7.6nm,0.4s,mb5.0
NWAO Narrogin (SRO) 34.78 209 P **P** **23 50 13.2 -0.6**
comp=Z,8.8nm,0.7s,mb4.8,baz=39,slow=8.9,SNR=10.0
NWAO PcP PcP 23 52 46.2 -1.0
comp=Z,12nm,0.6s,baz=94,slow=4.3,SNR=5.2
DZM Mont Dzumac 34.90 126 P **P** **23 50 16.2 +1.3**
comp=Z,3.7nm,1.0s,mb4.3,baz=285,slow=20,SNR=3.0
JHJ Hachijo jima 2 36.01 5 LR LR 00 01 27.0
comp=Z,457nm,21.7s,MS4.2,baz=37,slow=30
JNU Nakatsue 36.23 352 P **P** **23 50 24.1 -2.0**
comp=Z,4.6nm,0.5s,mb4.7,baz=166,slow=4.2,SNR=3.1
SSE Sheshan 36.78 338 P **P** **23 50 31.5 +0.8**
SSE PP PP 23 51 56.8 +0.5
SSE S **S** **23 56 17.1 +4.4**
SSE AMB AMB
comp=Z,22nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,44nm,3.4s
SSE LR LR
comp=N,113nm,21.3s,MS3.8
SSE LR LR
comp=E,125nm,21.3s,MS3.8
SSE LR LR
comp=Z,189nm,20.6s,MS3.9
NJ2 Nanjing 38.54 336 *e*P **P** **23 50 44.8 -0.7**
NJ2 PP PP 23 52 17.6 +0.1
NJ2 S **S** **23 56 39.0 -0.5**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,104nm,5.2s
NJ2 LR LR
comp=N,1μm,15.0s,MS5.0
NJ2 LR LR
comp=E,1μm,18.2s,MS5.0
NJ2 LR LR
comp=Z,2μm,21.1s,MS5.0
WHN Wuhan 39.34 329 *e*P **P** **23 50 55.5 +3.3**
XAN Xi'an 44.92 327 P **P** **23 51 38.8 +0.9**
XAN AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
ASAJ Asahikawa 47.18 6 LR LR 00 11 05.0
comp=Z,130nm,19.8s,MS3.9,baz=198,slow=35
MDJ Mudanjiang 47.72 354 P **P** **23 51 59.9 +0.1**
MDJ AMB AMB
comp=Z,12nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,80nm,6.0s
MDJ LR LR
comp=N,72nm,17.2s,MS3.7
MDJ LR LR
comp=E,37nm,18.8s,MS3.7
MDJ LR LR
comp=Z,108nm,18.8s,MS3.9
MDJ Mudanjiang 47.72 354 P **P** **23 51 58.9 -0.9**
comp=Z,7.6nm,0.8s,mb4.8
LZH Lanzhou 49.25 325 *e*P **P** **23 52 14.9 +3.1**
LZH AP pP 23 52 27.8 +8.6
LZH XP sP 23 52 32.0 +10
LZH AMB AMB
comp=Z,39nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,172nm,4.5s
LZH LR LR
comp=E,656nm,14.5s
LZH LR LR
comp=Z,993nm,15.9s,MS4.9
YSS Yuzh-Sakhalins 50.00 6 *e*P **P** **23 52 18.8 +1.4**
YSS pmax pmax
comp=Z,29nm,1.7s,mb5.0
RAO Raoul Island 50.70 126 LR LR 00 10 21.0
comp=Z,118nm,21.2s,MS3.9,baz=344,slow=32
LSA Lhasa 54.01 310 P **P** **23 52 49.6 +2.0**
LSA Lhasa 54.01 310 *e*P **P** **23 52 49.0 +1.4**
comp=Z,6.8nm,0.8s,mb4.6
LSA Lhasa 54.01 310 *e*P **P** **23 52 49.0 +1.4**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SONM Songino Array 56.93 336 P **P** **23 53 08.0 -0.6**
comp=Z,1.8nm,0.7s,mb4.2,baz=154,slow=7.4,SNR=11
SONM LR LR 00 16 50.2
comp=Z,247nm,21.0s,MS4.3,baz=124,slow=35
PKI Pulchoki 57.60 305 *e*P **P** **23 53 13.6 0.0**
comp=Z,35nm,0.9s,mb5.4
PKI Pulchoki 57.60 305 *e*P **P** **23 53 13.6 0.0**
PKI pmax pmax
comp=Z,17nm,0.9s,mb5.1
KKN Kakani 57.80 306 *e*P **P** **23 53 15.1 +0.1**
comp=Z,84nm,0.9s,mb5.8
KKN Kakani 57.80 306 *e*P **P** **23 53 15.1 +0.1**
KKN pmax pmax
comp=Z,42nm,0.9s,mb5.5
DMN Daman 57.87 305 *e*P **P** **23 53 15.8 +0.4**
comp=Z,92nm,0.9s,mb5.8
GKN Gorkha 58.40 305 *e*P **P** **23 53 19.4 +0.2**
comp=Z,150nm,1.0s,mb6.0
KOLN Koldanda 59.16 305 *e*P **P** **23 53 25.2 +0.7**
comp=Z,132nm,0.9s,mb6.0
ZAK Zakamensk 60.20 336 *e*P **P** **23 53 30.6 -0.7**
BOD Bodaibo 63.16 347 *e*P **P** **23 53 49.6 -1.4**
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
WMQ Urumqi 63.71 323 ⇑ *i* P **P** **23 53 55.3 +0.3**
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,243nm,3.8s
WMQ LR LR
comp=N,381nm,19.7s,MS4.6
WMQ LR LR
comp=E,86nm,19.4s,MS4.6
WMQ LR LR
comp=Z,145nm,18.3s,MS4.2
SEY Seymchan 66.81 8 ⇑ *i* P **P** **23 54 14.9 +0.3**
MKAR Makanchi Array 68.52 323 P **P** **23 54 25.3 -0.3**
comp=Z,28nm,0.9s,mb5.2,baz=116,slow=8.0,SNR=90
MKAR LR LR 00 24 08.7
comp=Z,104nm,19.6s,MS4.1,baz=111,slow=36
MKAR Makanchi Array 68.52 323 P **P** **23 54 25.3 -0.3**
MKAR LR LR 00 24 08.7
MIR Mirnyy 70.28 197 *d* *i* P **P** **23 54 36.8 +0.8**
MIR pmax pmax
comp=Z,34nm,1.2s,mb5.2
ZAL Zalesovo 70.94 331 P **P** **23 54 38.7 -1.5**
comp=Z,3.4nm,1.0s,mb4.2,baz=2.4,slow=4.6,SNR=21
KZA Kyzart 70.98 316 P **P** **23 54 42.5 +1.8**
SNR=12
TKM2 Tokmak 2 71.07 317 P **P** **23 54 42.0 +0.8**
SNR=17
KBK Karagaybulak 71.41 317 P **P** **23 54 44.2 +0.9**
SNR=8.3
UCH Uchtor 71.55 316 P **P** **23 54 46.2 +2.1**
SNR=10
CHMS Chumysh 71.67 317 P **P** **23 54 45.2 +0.3**
SNR=8.8
AAK Ala-Archa 71.71 317 P **P** **23 54 46.1 +1.0**
SNR=9.3
AAK Ala-Archa 71.71 317 *e*P **P** **23 54 44.8 -0.3**
comp=Z,22nm,1.2s,mb5.0
AAK Ala-Archa 71.71 317 *i* P **P** **23 54 44.9 -0.2**
AAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
USP Ospenovka 71.94 317 P **P** **23 54 47.0 +0.5**
SNR=27
AML Almayashu 72.08 316 P **P** **23 54 48.8 +1.6**
SNR=27
NVS Novosibirsk 72.20 331 *e*P **P** **23 54 45.8 -2.0**
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS pmax pmax
comp=Z,19nm,1.2s,mb4.9
EKS2 Erkin-Say 72.21 317 P **P** **23 54 49.3 +1.2**
SNR=14

KURK Kurchatov 72.53 326 *e*P **P** **23 54 49.3 -0.6**
comp=Z,16nm,1.0s,mb4.9
KURK Kurchatov 72.53 326 *e*P **P** **23 54 49.3 -0.5**
KURK pmax pmax
comp=Z,16nm,1.0s,mb4.9
TIXI Tiksi 74.61 358 *e*P **P** **23 55 00.5 -1.0**
TIXI pmax pmax
comp=Z,11nm,1.3s,mb4.6
KKAR Karatay Array 74.62 316 *i* P **P** **23 55 01.8 -0.3**
KKAR pmax pmax
comp=Z,12nm,0.9s,mb4.8
VNDA Vanda 75.78 174 P **P** **23 55 08.2 0.0**
comp=Z,12nm,0.6s,mb5.0,baz=323,slow=6.3,SNR=101
VNDA LR LR 00 27 31.9
comp=Z,283nm,18.0s,MS4.6,baz=347,slow=35
VNDA Vanda 75.78 174 P **P** **23 55 08.2 0.0**
VNDA LR LR 00 27 31.9
SBA Scott Base 76.58 174 *e*P **P** **23 55 13.5 +0.8**
comp=Z,23nm,1.2s,mb5.0
SBA Scott Base 76.58 174 *e*P **P** **23 55 13.5 +0.8**
SBA pmax pmax
comp=Z,23nm,1.2s,mb5.0
VOSK Vostochnaya 77.69 326 P **P** **23 55 18.1 -1.1**
VOSK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BVA0 Borovoye Array 78.13 326 *i* P **P** **23 55 21.8 +0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRVK Borovoye 78.20 326 *e*P **P** **23 55 22.2 +0.2**
comp=Z,5.8nm,0.6s,mb4.7
BRVK Borovoye 78.20 326 *e*P **P** **23 55 22.2 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MAW Mawson 81.02 202 P **P** **23 55 36.7 -0.3**
comp=Z,12nm,1.0s,mb4.8,baz=63,slow=6.6,SNR=19
MAW LR LR 00 25 23.4
comp=Z,90nm,21.6s,MS4.1,baz=229,slow=31
MAW Mawson 81.02 202 *e*P **P** **23 55 37.6 +0.7**
MAW LR LR 00 25 23.4
AB31 Akbulak array 83.35 320 P **P** **23 55 49.3 0.0**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
AKTO Aktyubinsk 84.81 321 P **P** **23 55 56.1 -0.6**
AKTO pmax pmax
comp=Z,5.0nm,1.6s,mb4.4
ARU Arti 85.67 327 ⇑ *i* P **P** **23 55 59.3 -1.5**
ARU *e* 23 59 17.5
ARU *e*S S 00 06 20.2 -10
ARU *e*SS SS 00 12 04.4 -5.6
ARU pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
QSPA South Pole Qui 87.01 180 *e*P **P** **23 56 07.6 +0.6**
comp=Z,31nm,1.0s,mb5.5
ILAR Eielson Array 87.03 25 P **P** **23 56 07.0 -0.3**
comp=Z,4.1nm,0.9s,mb4.6,baz=264,slow=4.3,SNR=22
SYO Syowa Base 89.69 201 ⇓ P **P** **23 56 19.0 -1.0**
SYO Syowa Base 89.69 201 ⇑ P **P** **23 56 21.4 +1.4**
INK Inuvik 92.77 22 P **P** **23 56 32.5 -1.6**
comp=Z,5.3nm,1.1s,mb4.9,baz=262,slow=11,SNR=5.8
ZEI Tsey 93.74 312 *e*P **P** **23 56 36.2 -3.0**
ZEI *i* *PP pP 23 56 53.0 +6.0
ZEI *i* 00 00 19.1
ZEI pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
KIV Kislovodsk 94.63 314 *i* P **P** **23 56 40.7 -2.6**
OBN Obninsk 97.97 325 *e*P **P** **23 56 49.0 -9.2**
OBN pmax pmax
comp=Z,12nm,1.3s,mb5.3
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.3
ARCES ARCESS Array B 99.92 341 P **P** **23 57 06.5 -0.3**
comp=Z,3.2nm,0.6s,mb4.9,baz=72,slow=7.7,SNR=16
ARCES LR LR 00 44 38.2
comp=Z,166nm,18.6s,MS4.6,baz=258,slow=37
SNAA Sanae 101.00 192 P **P** **23 57 10.3 -1.3**
comp=Z,0.8nm,0.9s,baz=197,slow=5.9,SNR=5.9
YKA Yellowknife Ar 101.34 27 P **P** **23 57 13.2 -0.1**
comp=Z,1.2nm,0.9s,baz=288,slow=4.4,SNR=3.7
AKASG Malin Array Be 103.05 321 P Pdif **23 57 19.0 -2.1**
comp=Z,0.7nm,0.5s,baz=63,slow=5.1,SNR=4.3
AKASG Malin Array Be 103.05 321 P Pdif **23 57 19.0 -2.1**
GERES GERESS Array B 113.18 323 PKiKP **00 01 57.8**
comp=Z,0.4nm,0.6s,baz=90,slow=2.7,SNR=4.8
PLCA Paso Flores 130.09 153 PKP PKPdf **00 02 34.1 -1.9**
comp=Z,1.9nm,0.7s,baz=199,slow=3.0,SNR=5.9
DBIC Dimbokro 141.13 277 PKhKP **00 02 46.9**
comp=Z,2.7nm,0.6s,baz=81,slow=2.4,SNR=10.0
CPUP Villa Florida 148.06 156 PKP PKPdf **00 03 05.8 -2.8**
comp=Z,8.1nm,0.7s,baz=128,slow=6.3,SNR=4.5
CPUP PKPbc PKPdf **00 03 09.8 +1.2**
comp=Z,8.1nm,0.7s,baz=240,slow=4.2,SNR=19
LPAZ La Paz 149.21 129 PKP PKPdf **00 03 08.7 -2.0**
comp=Z,2.1nm,0.9s,baz=261,slow=4.1,SNR=7.2
LPAZ PKPbc PKPdf **00 03 14.2 +3.6**
comp=Z,5.7nm,0.7s,baz=223,slow=3.7,SNR=15
ROSC El Rosal 149.38 85 PKPbc PKPdf **00 03 12.9 +1.8**
comp=Z,3.7nm,0.4s,baz=100,slow=22,SNR=3.9
SDV Santo Domingo 152.57 76 PKP PKPdf **00 03 12.6 -3.3**
comp=Z,3.1nm,0.3s,baz=30,slow=7.3,SNR=3.8
SDV PKPbc PKPdf **00 03 20.3 +4.4**
comp=Z,5.4nm,0.5s,baz=10,slow=2.8,SNR=3.9
BDFB Brasilia 161.06 167 PKPab PKPab **00 04 06.5 -0.9**
comp=Z,8.1nm,1.0s,baz=93,slow=2.7,SNR=6.3

IDC 14 23:54:15.5±5.7, 5.21S×154.10E, h138km±47km, mb3.6/6, mb1 3.9/7, mb1mx3.7/14, mbtmp4.1/7, MS4.2/1, Ms1 4.2/1, ms1mx3.1/17, Error ellipse: s-maj=42.4km s-min=26.7km az=100.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.05**	**238**	P	P	23 56 09.9	-0.8
	3.2nm,0.3s,baz=53,slow=12,SNR=9.8						
PMG				S	S	23 57 39.5	-0.9
	0.8nm,0.3s,baz=86,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**24.17**	**231**	P	P	23 59 19.5	-0.9
	4.3nm,0.6s,baz=54,slow=9.6,SNR=20						
FITZ	**Fitzroy Crossi**	**30.61**	**243**	P	P	00 00 16.4	-2.6
	12nm,0.8s,baz=302,slow=3.5,SNR=6.1						
PPT	**Papeete**	**56.37**	**108**	LR	LR	00 22 53.0	
	comp=Z,227nm,20.0s,baz=265,slow=30						
VNDA	**Vanda**	**72.38**	**178**	P	P	00 05 25.9	-2.0
	0.7nm,0.8s,baz=321,slow=5.3,SNR=6.3						
MKAR	**Makanchi Array**	**81.48**	**319**	P	P	00 06 17.9	-1.0
	0.3nm,0.7s,baz=121,slow=8.4,SNR=2.7						
ILAR	**Eielson Array**	**82.05**	**22**	P	P	00 06 19.9	-1.6
	0.3nm,0.6s,baz=252,slow=5.5,SNR=4.3						
MAW	**Mawson**	**85.69**	**203**	P	P	00 06 38.4	-1.2
	0.5nm,0.3s,baz=122,slow=7.7,SNR=4.8						

*KRSC **15** 00:06:25.6±1.7, 50.82N×158.02E, h40km±6km, ML4.7*
*MOS **15** 00:06:25.7±0.9, 51.04N×157.50E, h55km, mb4.3/8, Error ellipse: s-maj=21.4km s-min=8.1km az=73.8*
*IDC **15** 00:06:26.8±0.7, 51.14N×157.49E, h48km±6km, mb3.7/12, mb1 4.0/12, mb1mx3.9/22, mbtmp4.0/12, Error ellipse: s-maj=23.3km s-min=14.5km az=155.0*
*NEIC **15** 00:06:30.5±1.7, 51.30N×157.46E, h77km±15km, mb4.4/4, Error ellipse: s-maj=20.6km s-min=9.7km az=157.0*
ISC 15 00:06:25.3±0.4, 50.90N±0.03×157.97E±0.06, h48km, h48km±2.0km: pP-P, n77, σ1§21/106, mb4.2/26, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.92**	**308**	*e*P	**P**	**00 06 42.7**	**+0.7**
PAU				*e*S	**S**	**00 06 56.0**	**+1.5**
SKR	**Severo-Kuril's**	**1.20**	**260**	⇓ *i* PN	**P**	**00 06 43.0**	**-2.8**
SKR				*i* S	**S**	**00 06 57.0**	**-4.2**
SKR				pmax	pmax		
	comp=N,70nm,0.8s						
SKR				pmax	pmax		
	comp=E,180nm,0.8s						
SKR				pmax	pmax		
	comp=Z,350nm,0.8s						
SKR				smax			
	comp=N,6μm,0.5s						
SKR				smax			
	comp=E,3μm,0.5s						
SKR				smax			
	comp=N,4μm,1.0s						
SKR				smax			
	comp=E,2μm,2.0s						

ALID Alaid 1.53 270 *e*P **P** **00 06 51.6 +0.9**
ALID *e*S **S** **00 07 10.0 +0.4**
MIPR Malaya Ipel'ka 1.57 332 *e*P **P** **00 06 52.0 +0.7**
MIPR *e*S **S** **00 07 11.1 +0.5**
RUS Russkaya 1.57 12 P **P** **00 06 51.4 +0.1**
RUS *S* **S** **00 07 09.4 -1.2**
RUS Russkaya 1.57 12 *e*P **P** **00 06 51.3 0.0**
RUS *e*S **S** **00 07 10.0 -0.6**
GRL Gorelyy 1.66 2 *e*P **P** **00 06 53.2 +0.8**
GRL *e*S **S** **00 07 12.8 +0.2**
APC Apacha 2.09 346 *e*P **P** **00 06 59.2 +0.7**
APC *e*S **S** **00 07 25.4 +2.0**
PET Petropavlovsk 2.17 11 P **P** **00 07 00.3 +0.6**
PET S **S** **00 07 25.4 0.0**
PET Petropavlovsk 2.17 11 *e*P **P** **00 07 00.3 +0.6**
PET *e*S **S** **00 07 25.1 -0.3**
PET Petropavlovsk 2.17 11 *e*Pn **P** **00 07 00.1 +0.4**
UGLR Uglovaya 2.37 13 *e*P **P** **00 07 03.5 +0.9**
UGLR *e*S **S** **00 07 31.1 +0.5**
AVH Avacha 2.42 11 *e*P **P** **00 07 04.8 +1.6**
AVH *e*S **S** **00 07 31.2 -0.5**
SMAR Somma 2.42 12 *e*P **P** **00 07 05.1 +1.8**
SMAR *e*S **S** **00 07 32.4 +0.6**
NLC Nalytchevo 2.43 20 P **P** **00 07 02.7 -0.7**
NLC *S* **S** **00 07 28.9 -3.1**
NLC Nalytchevo 2.43 20 *e*P **P** **00 07 02.7 -0.7**
NLC *e*S **S** **00 07 31.7 -0.3**
KOK Koryaka 2.43 9 *e*P **P** **00 07 04.7 +1.3**
KOK *e*S **S** **00 07 32.3 +0.2**
SDLR Sedlovina 2.45 13 *e*P **P** **00 07 04.5 +0.8**
SDLR *e*S **S** **00 07 32.3 -0.2**
SPN Mys Shipunski 2.54 29 P **P** **00 07 06.1 +1.1**
SPN *S* **S** **00 07 34.7 -0.2**
SPN Mys Shipunski 2.54 29 *e*P **P** **00 07 05.9 +0.9**
SPN *e*S **S** **00 07 34.5 -0.4**
GNL Ganaly 2.80 360 *e*P **P** **00 07 09.7 +1.0**
GNL *e*S **S** **00 07 41.1 -0.3**
KII Karymskiy 3.27 15 P **P** **00 07 17.0 +1.7**
KII *S* **S** **00 07 54.6 +1.3**
KII Karymskiy 3.27 15 *e*P **P** **00 07 16.8 +1.5**
KII *e*S **S** **00 07 54.5 +1.2**
MKZ Mys Kozlova 4.32 30 P **P** **00 07 31.0 +0.9**
MKZ *S* **S** **00 08 18.5 -1.3**
MKZ Mys Kozlova 4.32 30 *e*P **P** **00 07 30.8 +0.7**
MKZ *e*S **S** **00 08 18.6 -1.2**
TUMR Tumrok 4.58 16 *e*P **P** **00 07 34.9 +1.0**
TUMR *e*S **S** **00 08 25.3 -1.2**
KMNR Kamenistaya 5.05 15 *e*P **P** **00 07 42.5 +2.1**
KMNR *e*S **S** **00 08 37.1 -1.1**
ESO Esso 5.05 5 *e*P **P** **00 07 41.3 +0.8**
ESO *e*S **S** **00 08 36.2 -2.1**
KPT Kopyto 5.25 14 *e*P **P** **00 07 42.1 -1.1**
KPT *e*S **S** **00 08 41.2 -2.0**
KOZ Kozyrevsk 5.29 12 *e*P **P** **00 07 44.2 +0.4**
KOZ *e*S **S** **00 08 43.1 -1.2**
KLY Klyuchi 5.65 15 *e*P **P** **00 07 49.9 +1.1**
KLY *e*S **S** **00 08 50.4 -2.9**
SVLR Shiveluch 6.00 17 *e*P **P** **00 07 54.0 +0.3**
SVLR *e*S **S** **00 09 00.3 -1.8**
KBTR Krutoberegovo 6.05 27 P **P** **00 07 55.5 +1.1**
KBTR Krutoberegovo 6.05 27 *e*P **P** **00 07 55.3 +0.9**
KBG Krutoberegovo 6.06 26 P **P** **00 07 57.5 +3.0**
BKI Bering 6.47 45 *e*S **S** **00 09 06.0 -7.6**
MJAR Matsushiro Arr 20.16 232 P **P** **00 11 00.3 +2.3**
comp=E,1.2nm,0.6s,baz=23,slow=9.5,SNR=4.3
HIA Hailar 24.41 281 P **P** **00 11 36.5 -3.5**
comp=E,7.0nm,0.8s,mb4.1
HIA Hailar 24.41 281 P **P** **00 11 36.5 -3.5**
HIA pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 24.58 338 *e*P **P** **00 11 37.7 -3.8**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
ILAR Eielson Array 31.31 43 P **P** **00 12 41.8 -0.8**
comp=Z,1.7nm,0.8s,mb3.9,baz=262,slow=7.8,SNR=14
ILAR pP pP 00 12 53.4 -1.8
comp=Z,1.0nm,0.7s,baz=256,slow=8.3,SNR=4.5
SONM Songino Array 33.17 285 P **P** **00 12 56.3 -2.8**
comp=Z,0.3nm,0.4s,mb3.5,baz=57,slow=8.4,SNR=3.0
SONM PcP PcP 00 15 39.3 -1.9
comp=Z,1.0nm,0.7s,baz=90,slow=1.7,SNR=8.0
INK Inuvik 36.42 36 P **P** **00 13 26.3 -0.3**
comp=Z,1.4nm,0.5s,mb4.1,baz=278,slow=7.1,SNR=4.5
YKA Yellowknife Ar 45.68 40 P **P** **00 14 42.5 0.0**
comp=Z,1.8nm,0.8s,mb4.0,baz=300,slow=7.5,SNR=5.7
YKA Yellowknife Ar 45.68 40 *i* P **P** **00 14 42.9 +0.4**
YKA Yellowknife Ar 45.68 40 *i* P **P** **00 14 42.9 +0.4**
YKA pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 47.79 302 *e*P **P** **00 14 55.8 -3.5**
comp=Z,2.2nm,0.5s,mb4.4
KURK Kurchatov 47.79 302 *e*P **P** **00 14 55.8 -3.5**
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
MKAR Makanchi Array 47.94 296 P **P** **00 14 57.7 -2.8**
comp=Z,0.5nm,0.5s,mb3.8,baz=62,slow=6.2,SNR=8.0
MKAR Makanchi Array 47.94 296 *e*P **P** **00 15 01.4 +0.9**
BVAR Borovoye Array 50.73 309 P **P** **00 15 18.6 -3.3**
comp=Z,1.1nm,0.5s,mb4.1,baz=64,slow=7.0,SNR=7.2
NVAR Mina Array Bea 57.76 67 P **P** **00 16 14.7 +1.1**
comp=Z,1.4nm,0.7s,mb4.1,baz=297,slow=8.1,SNR=14
TPAW Teton Pass 58.53 59 P **P** **00 16 20.1 +1.3**
comp=Z,3.2nm,0.6s,mb4.5
PDAR Pinedale Array 59.77 58 P **P** **00 16 28.0 +0.6**
comp=Z,1.7nm,0.9s,mb4.1,baz=320,slow=3.1,SNR=14
TMUT Trail Mountain 61.24 62 P **P** **00 16 38.2 +0.8**
TXAR Lajitas Array 72.73 65 P **P** **00 17 50.9 +1.0**
comp=Z,2.7nm,0.7s,mb4.3,baz=298,slow=4.7,SNR=30
TXAR pP pP 00 18 05.0 +1.3
comp=Z,0.5nm,0.5s,baz=304,slow=4.6,SNR=3.8
TXAR Lajitas Array 72.73 65 P **P** **00 17 50.9 +0.9**
TXAR *PP pP 00 18 05.0 +1.3
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
WRAB Tennant Creek 73.53 203 P **P** **00 17 54.2 -0.6**
comp=Z,4.7nm,0.9s,mb4.4
WRAB Tennant Creek 73.53 203 P **P** **00 17 54.2 -0.6**
WRAB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WRA Warramunga Arr 73.54 203 P **P** **00 17 54.6 -0.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=19,slow=6.2,SNR=20
WRA pP pP 00 18 08.8 +0.2
comp=Z,0.8nm,0.5s,baz=17,slow=6.1,SNR=6.2
WRA Warramunga Arr 73.54 203 P **P** **00 17 54.6 -0.3**
WRA *PP pP 00 18 08.8 +0.2
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 76.03 337 P **P** **00 18 06.7 -1.9**
comp=Z,0.5nm,0.6s,mb3.6,baz=27,slow=6.0,SNR=3.8
GERES GERESS Array B 76.03 337 P **P** **00 18 06.7 -1.9**
GERES pmax pmax
comp=Z,1.0nm,0.6s
SSF Saint Saulge 79.97 343 *e*P **P** **00 18 29.2 -1.2**
comp=Z,5.8nm,0.9s,mb4.2
AVF Avril sur Loir 80.26 343 *e*P **P** **00 18 30.9 -1.0**
comp=Z,4.7nm,0.7s,mb4.2
LPL La Plagne 80.79 340 *e*P **P** **00 18 34.6 -0.2**
comp=Z,6.4nm,0.9s,mb4.2
LPG La Plagne 80.80 340 *e*P **P** **00 18 34.8 -0.1**
comp=Z,6.0nm,0.8s,mb4.2
TCF Toulx Ste Croi 80.95 343 *e*P **P** **00 18 34.9 -0.7**
comp=Z,8.4nm,1.0s,mb4.3
MFF Saint Martin d 81.06 345 *e*P **P** **00 18 35.6 -0.6**
comp=Z,4.6nm,0.7s,mb4.2
MBDF Montbardon 81.53 340 *e*P **P** **00 18 37.0 -1.7**
comp=Z,12nm,1.2s,mb4.4
ORIF Oris-en-Rattie 81.54 340 *e*P **P** **00 18 38.5 -0.2**
comp=Z,13nm,1.1s,mb4.5
CAF Calviac 82.30 343 *e*P **P** **00 18 41.7 -0.9**
comp=Z,10nm,1.1s,mb4.4
LFF La Frestale 82.52 344 *e*P **P** **00 18 42.7 -1.1**
FRF La Foret Royal 82.67 339 *e*P **P** **00 18 44.2 -0.4**
IDI Anoyia 84.76 323 P **P** **00 18 52.7 -2.5**
comp=Z,1.6nm,0.6s,mb4.4,baz=27,slow=5.6,SNR=7.6
PLCA Paso Flores 145.27 92 PKPbc PKPbc **00 25 59.0 +1.6**
comp=Z,2.2nm,0.8s,baz=291,slow=4.1,SNR=6.3
PLCA pPKPbc **00 26 13.6**
comp=Z,1.1nm,0.6s,baz=251,slow=4.3,SNR=2.5
PLCA Paso Flores 145.27 92 PKP2 PKPab **00 25 59.0 +0.1**
PLCA pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.0nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

NNC ***15*** *00:13:56.3±3.9, 37.72N×71.82E, mpv4.3, Error ellipse: s-maj=32.6km s-min=25.6km az=27.0*
MOS ***15*** *00:14:04.4±1.1, 38.30N×72.26E, h33km, mb4.3/9, Error ellipse: s-maj=14.2km s-min=8.1km az=89.5*
BJI ***15*** *00:14:05.8, 37.88N×72.58E, h33km, mB4.4, ML4.2*
IDC ***15*** *00:14:06.3±5.5, 38.25N×72.39E, h46km±49km, mb3.6/8, mb1 3.8/10, mb1mx3.6/20, mbtmp3.8/10, ML3.3/2, Error ellipse: s-maj=43.0km s-min=20.7km az=20.0*
NEIC ***15*** *00:14:09.6±2.5, 38.53N×72.31E, h62km±20km, mb4.3/3, Error ellipse: s-maj=26.4km s-min=10.9km az=187.0*
ISC 15 00:14:05.1±0.7**, 38.22N**±0.04×**72.16E**±0.06**, h45**km±8km**, n59, σ1ˢ44**/70**, mb3.9**/13**, 11C-8D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.25**	**65**	*e*P	**P**	**00 14 56.8**	**+2.0**
KSH				*e*S	**S**	**00 15 35.6**	**+3.0**
KSH				Smax			
	comp=N,470nm,0.7s						
KSH				Smax			
	comp=E,400nm,0.7s						
AML	**Almayashu**	**4.08**	**16**	P	**P**	**00 15 07.0**	**+0.4**
	SNR=43						
UCH	**Uchtor**	**4.39**	**23**	P	**P**	**00 15 21.2**	**+10**
	SNR=8.3						
CEP	**Cherat**	**4.39**	**183**	⇑P	**P**	**00 15 11.1**	**+0.1**
CEP				S	**S**	**00 16 17.0**	**+15**
KZA	**Kyzart**	**4.52**	**31**	P	**P**	**00 15 21.9**	**+9.1**
	SNR=5.2						
EKS2	**Erkin-Say**	**4.60**	**15**	P	**P**	**00 15 15.3**	**+1.3**
	SNR=7.3						
CHCP	**Chirah Chowk**	**4.64**	**169**	⇑P	**P**	**00 15 13.8**	**-0.7**
AAK	**Ala-Archa**	**4.75**	**21**	P	**P**	**00 15 16.5**	**+0.4**
	SNR=15						
AAK	**Ala-Archa**	**4.75**	**21**	⇓Pn	**P**	**00 15 16.3**	**+0.1**
	comp=E,58nm,0.9s						
AAK				⇑Sn	**S**	**00 16 22.3**	**+12**
	comp=E,72nm,0.9s						
AAK	**Ala-Archa**	**4.75**	**21**	*e*Pn	**P**	**00 15 14.0**	**-2.1**
AAK	**Ala-Archa**	**4.75**	**21**	PN	**P**	**00 15 15.9**	**-0.2**
AAK						00 16 22.2	
AAK				pmax	pmax		
	comp=Z,53nm,0.9s						
AAK				smax			
	comp=Z,68nm,1.0s						
KBK	**Karagaybulak**	**4.91**	**25**	P	**P**	**00 15 23.8**	**+5.4**
	SNR=7.6						
KK31	**Karatay Array**	**5.04**	**346**	⇓Pn	**P**	**00 15 20.7**	**+0.7**
	comp=Z,7.3nm,0.3s,baz=156,slow=12,SNR=410						
KK31				⇑Pg	**P**	**00 15 36.1**	**+16**
	comp=Z,20nm,0.6s,baz=162,slow=16,SNR=8.9						
KK31				⇓Sn	**S**	**00 16 23.2**	**+5.5**
	comp=Z,24nm,0.5s						
KK31				⇑Lg		00 16 49.1	
	comp=Z,61nm,0.7s						
KK31	**Karatay Array**	**5.04**	**346**	⇓Pn	**P**	**00 15 20.7**	**+0.6**
KK31				Sn	**S**	**00 16 23.2**	**+5.5**
KKAR	**Karatay Array**	**5.04**	**346**	*e*PN	**P**	**00 15 20.7**	**+0.6**
KKAR						00 16 23.6	
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KKAR				smax			
	comp=Z,43nm,0.7s						
KKAR				pmax	pmax		
	comp=Z,278nm,1.1s						
CHMS	**Chumysh**	**5.16**	**22**	P	**P**	**00 15 21.4**	**-0.4**
	SNR=8.0						
USP	**Ospenovka**	**5.34**	**19**	P	**P**	**00 15 27.3**	**+2.9**
	SNR=7.7						
THW	**Thamme Wali**	**5.42**	**184**	⇑P	**P**	**00 15 22.5**	**-3.0**
SBDP	**Sheikh Budin**	**6.01**	**191**	P	**P**	**00 15 32.2**	**-1.4**
DRP	**Derazinda**	**6.66**	**195**	⇑P	**P**	**00 15 40.6**	**-2.2**
MK02	**Makanchi Array**	**11.35**	**38**	⇑P	**P**	**00 16 45.4**	**-2.0**
MK02				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MK31	**Makanchi Array**	**11.36**	**38**	⇑P	**P**	**00 16 45.4**	**-2.1**
	comp=Z,5.0nm,0.9s,baz=228,slow=16,SNR=4.5						
MKAR	**Makanchi Array**	**11.36**	**38**	P	**P**	**00 16 44.0**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=231,slow=17,SNR=7.7						
MKAR	**Makanchi Array**	**11.36**	**38**	P	**P**	**00 16 45.4**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AB31	**Akbulak array**	**14.11**	**325**	P	**P**	**00 17 20.4**	**-3.5**
	comp=Z,2.8nm,0.6s,baz=132,slow=11,SNR=37						
AB31				⇓S	**S**	**00 20 00.0**	**+0.2**
	comp=Z,5.2nm,0.7s						
AB31	**Akbulak array**	**14.11**	**325**	P	**P**	**00 17 20.4**	**-3.5**
	comp=Z,2.8nm,0.6s						
AB31				S	**S**	**00 20 00.0**	**+0.2**
AB31	**Akbulak array**	**14.11**	**325**	P	**P**	**00 17 20.4**	**-3.5**
AB31				S	**S**	**00 20 00.0**	**+0.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VOSK	**Vostochnaya**	**14.53**	**357**	⇑P	**P**	**00 17 31.9**	**+2.6**
	comp=Z,3.2nm,0.9s						
VOSK	**Vostochnaya**	**14.53**	**357**	⇑P	**P**	**00 17 31.9**	**+2.6**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**14.86**	**356**	P	**P**	**00 17 31.0**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=170,slow=14,SNR=3.3						
AKTK	**Aktyubinsk**	**15.82**	**325**	⇓P	**P**	**00 17 44.6**	**-1.5**
AKTO	**Aktyubinsk**	**15.82**	**325**	⇓P	**P**	**00 17 44.6**	**-1.5**
	comp=Z,1.1nm,0.7s						
NVS	**Novosibirsk**	**18.25**	**21**	*e*P	**P**	**00 18 13.7**	**-2.8**
ARU	**Arti**	**20.35**	**338**	⇓*i*P	**P**	**00 18 39.1**	**-0.9**
ARU				*e*		00 19 03.8	
ARU				*e*S	**S**	**00 22 21.0**	**+0.4**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GNI	**Garni**	**21.31**	**284**	*e*P	**P**	**00 18 51.5**	**+1.5**
	comp=Z,20nm,1.1s,mb4.4						
GNI	**Garni**	**21.31**	**284**	*e*P	**P**	**00 18 51.5**	**+1.5**
GNI				pmax	pmax		
	comp=Z,20nm,1.1s						
ZEI	**Tsey**	**21.92**	**291**	*e*P	**P**	**00 18 57.4**	**+1.4**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
KIV	**Kislovodsk**	**22.87**	**294**	*e*P	**P**	**00 19 11.0**	**+5.7**
	comp=Z,8.3nm,0.7s,mb4.3						
KIV	**Kislovodsk**	**22.87**	**294**	*e*P	**P**	**00 19 11.0**	**+5.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
SOC	**Sochi**	**25.00**	**293**	*e*P	**P**	**00 19 27.2**	**+1.2**
SOC				*e*S	**S**	**00 23 44.4**	**+0.3**
SOC				*e*SS	SS	00 24 45.9	+0.7
SOC				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
SOC				pmax	pmax		
	comp=N,4.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.6s						
SONM	**Songino Array**	**26.62**	**58**	P	**P**	**00 19 39.9**	**-1.2**
	comp=E,0.6nm,0.7s,mb3.2,baz=264,slow=8.3,SNR=4.4						
BRTR	**Keskin Array B**	**29.84**	**285**	P	**P**	**00 20 10.9**	**+0.8**
	comp=E,0.4nm,0.4s,mb3.5,baz=90,slow=4.3,SNR=3.0						
AKASG	**Malin Array Be**	**32.63**	**307**	P	**P**	**00 20 35.2**	**+0.7**
	comp=E,1.5nm,0.5s,mb4.2,baz=80,slow=6.8,SNR=7.4						
AKASG	**Malin Array Be**	**32.63**	**307**	P	**P**	**00 20 35.2**	**+0.7**
AKASG	**Malin Array Be**	**32.63**	**307**	*i* P	**P**	**00 20 35.5**	**+1.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**36.60**	**325**	P	**P**	**00 21 08.3**	**0.0**
	comp=Z,3.5nm,1.0s,mb4.1,baz=114,slow=9.9,SNR=8.0						
FINES	**FINESS Array B**	**36.60**	**325**	P	**P**	**00 21 08.3**	**0.0**
FINES	**FINESS Array B**	**36.60**	**325**	*i* P	**P**	**00 21 08.4**	**+0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NJ2	**Nanjing**	**38.36**	**85**	*e*P	**P**	**00 21 24.3**	**+0.9**
ARCES	**ARCESS Array B**	**39.92**	**337**	P	**P**	**00 21 35.5**	**-0.5**
	comp=Z,3.9nm,1.0s,mb4.1,baz=112,slow=9.5,SNR=14						
SSE	**Sheshan**	**40.56**	**85**	P	**P**	**00 21 41.8**	**+0.1**
SSE				AMB	AMB		
	comp=Z,35nm,5.6s						
NOA	**NORSAR Array B**	**43.58**	**322**	P	**P**	**00 22 05.8**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.7,baz=108,slow=7.7,SNR=2.8						
AQU	**L'Aquila**	**44.24**	**295**	P	**P**	**00 22 08.4**	**-3.2**
YKA	**Yellowknife Ar**	**79.48**	**3**	P	**P**	**00 26 07.0**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=348,slow=5.4,SNR=5.3						
YKA	**Yellowknife Ar**	**79.48**	**3**	P	**P**	**00 26 07.0**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**82.13**	**123**	P	**P**	**00 26 21.2**	**-1.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=322,slow=4.8,SNR=11						
WRA	**Warramunga Arr**	**82.13**	**123**	*e*P	**P**	**00 26 24.4**	**+1.8**
WRAB	**Tennant Creek**	**82.13**	**123**	P	**P**	**00 26 24.0**	**+1.3**
	comp=Z,1.7nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**82.13**	**123**	P	**P**	**00 26 24.0**	**+1.4**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						

IDC 15 01:15:48.8±4.0**, 5.53N**×**94.73E, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.5**/18**, mbtmp3.7**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.9**/18**, Error ellipse: s-maj=148.1km s-min=29.8km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.49**	**347**	P	P	01 23 45.5	-1.9
	1.3nm,0.5s,baz=162,slow=8.8,SNR=12						
SONM	**Songino Array**	**43.32**	**11**	P	P	01 23 52.8	-1.4
	0.4nm,0.7s,baz=198,slow=4.6,SNR=3.3						
WRA	**Warramunga Arr**	**46.45**	**124**	P	P	01 24 17.8	-1.8
	0.7nm,0.7s,baz=303,slow=9.4,SNR=6.0						
GUMO	**Guam**	**50.01**	**77**	LR	LR	01 44 41.7	
	comp=Z,27nm,18.5s,baz=52,slow=35						

ISC 15 01:17:22.5±0.7**, 38.67N**±0.05×**31.02E**±0.05**, h10**km**, n6, σ0ˢ83**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.70**	**72**	*i* PG	**Pg**	**01 17 35.8**	**-0.8**
KIZT				*i* SG	**Sg**	**01 17 45.6**	**-0.5**
ALT	**Altintas**	**0.81**	**299**	PG	**Pg**	**01 17 37.8**	**-1.0**
TKTP	**Tekketepe**	**0.83**	**222**	*i* P	**Pb**	**01 17 38.1**	**-0.5**
TKTP				*i* S	**Sb**	**01 17 50.4**	**+0.8**
ESKT	**Eskisehir**	**0.86**	**351**	PG	**Pg**	**01 17 39.6**	**-0.3**
ESKT	**Eskisehir**	**0.86**	**351**	*i* P	**Pb**	**01 17 38.7**	**-0.4**
ESKT				*i* S	**Sb**	**01 17 52.4**	**+1.8**
KDHN	**Kadinhani**	**0.87**	**99**	*i* P	**Pb**	**01 17 39.5**	**+0.3**
KDHN				*i* S	**Sb**	**01 17 51.5**	**+0.9**

IDC ***15*** *01:31:10.6±8.8, 4.55S×153.51E, h139km±65km, mb3.8/4, mb1 4.0/5, mb1mx3.6/14, mbtmp4.3/5, MS2.9/2, Ms1 2.9/2, ms1mx2.7/21, Error ellipse: s-maj=76.6km s-min=36.1km az=87.0*
NEIC ***15*** *01:31:11.8±4.4, 4.59S×153.45E, h151km±28km, mb4.2/4, Error ellipse: s-maj=46.3km s-min=26.0km az=88.0*
ISC 15 01:31:11.0±5.1**, 4.6S**±0.2×**153.5E**±0.3**, h157**km±37km**, n15, σ0ˢ59**/16**, mb4.1**/8**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.87**	**232**	P	**P**	**01 33 03.4**	**-0.2**
	15nm,0.3s,baz=46,slow=11,SNR=30						
PMG				S	**S**	**01 34 31.7**	**+0.3**
	4.5nm,0.3s,baz=143,slow=17,SNR=5.0						
PMG	**Port Moresby**	**7.87**	**232**	P	**P**	**01 33 03.4**	**-0.2**
PMG				*e*Sn	**S**	**01 34 27.2**	**-4.2**
PMG				S	**S**	**01 34 31.7**	**+0.3**
HNR	**Honiara**	**8.02**	**127**	LR	LR	01 35 50.6	
	comp=Z,60nm,21.6s,baz=81,slow=35						
KAKA	**Kakadu**	**22.27**	**247**	*e*P	**P**	**01 36 14.8**	**+19**
	4.3nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**24.06**	**229**	*e*P	**P**	**01 36 13.1**	**0.0**
	10nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**24.06**	**229**	*e*P	**P**	**01 36 13.3**	**+0.2**
WRA	**Warramunga Arr**	**24.07**	**229**	P	**P**	**01 36 14.3**	**+1.1**
	6.3nm,0.6s,mb4.3,baz=53,slow=9.7,SNR=54						
STKA	**Stephens Creek**	**29.33**	**201**	P	**P**	**01 37 00.9**	**-0.2**
	3.0nm,0.8s,mb4.1,baz=31,slow=12,SNR=3.8						
FITZ	**Fitzroy Crossi**	**30.33**	**242**	*e*P	**P**	**01 37 09.0**	**-1.2**
	4.6nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**36.64**	**240**	P	**P**	**01 38 03.9**	**-0.3**
	3.6nm,0.9s,mb4.0						
JOW	**Kunigami**	**39.63**	**323**	LR	LR	01 53 32.1	
	comp=Z,29nm,21.6s,baz=208,slow=34						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**01 43 08.0**	**+0.3**
	0.2nm,0.3s,mb3.2,baz=90,slow=7.2,SNR=4.1						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**01 43 08.0**	**+0.3**
MAW	**Mawson**	**86.00**	**203**	P	**P**	**01 43 34.9**	**+0.5**
	1.8nm,0.6s,mb4.0,baz=90,slow=8.1,SNR=6.4						
MAW	**Mawson**	**86.00**	**203**	*e*P	**P**	**01 43 34.1**	**-0.3**
	1.8nm,0.6s,mb4.0						

FUNV ***15*** *02:20:30.8, 10.73N×62.34W, h88km, MW3.0*
NEIC ***15*** *02:20:31.9, 10.82N×62.29W, h74km, MD3.2(TRN), After TRN.*
IDC ***15*** *02:20:31.7±2.9, 10.90N×62.42W, h113km±29km, mb3.3/4, mb1 3.6/4, mb1mx3.2/22, mbtmp3.7/4, Error ellipse: s-maj=32.7km s-min=22.2km az=87.0*
TRN ***15*** *02:20:32.8, 10.85N×62.14W, h87km, MD3.2*
ISC 15 02:20:28.8±0.4**, 10.72N**±0.03×**62.37W**±0.02**, h97**km±4km**, n29, σ1ˢ18**/51**, mb3.5**/4**, 3C-2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.16**	**116**	⇑*e*P	**P**	**02 20 43.0**	**+0.5**
GUIV				*e*S	**S**	**02 20 51.8**	**-1.0**
GUNV	**Guanoco**	**0.79**	**226**	*e*P	**P**	**02 20 48.6**	**+1.7**
GUNV				*e*S	**S**	**02 21 01.1**	**+0.7**
CRUV	**Carupano**	**0.85**	**267**	*e*P	**P**	**02 20 48.7**	**+1.1**
CRUV				*e*S	**S**	**02 21 01.8**	**+0.2**
ALNG	**Atlantic LNG**	**0.85**	**128**	*e*P	**P**	**02 20 50.3**	**+2.7**
ALNG				*e*S	**S**	**02 20 58.6**	**-3.0**
BUAY	**Buenos Aires**	**0.91**	**132**	*e*P	**P**	**02 20 51.2**	**+3.1**
BUAY				*e*S	**S**	**02 21 00.7**	**-1.9**
TRN	**Trinidad (W)**	**0.95**	**94**	⇑*i*P	**P**	**02 20 49.3**	**+0.7**
TRN				*e*S	**S**	**02 21 01.9**	**-1.7**
ITEV	**Isla Los Testi**	**0.98**	**310**	⇓*e*P	**P**	**02 20 49.9**	**+0.9**
ITEV				*e*S	**S**	**02 21 03.8**	**-0.3**
TPP	**Pointe-a-Pierr**	**0.99**	**114**	*e*P	**P**	**02 20 51.1**	**+2.1**
TPP				*e*S	**S**	**02 21 03.6**	**-0.6**
SIPA	**Siparia**	**1.02**	**124**	*e*P	**P**	**02 20 51.3**	**+1.8**
SIPA				*e*S	**S**	**02 21 01.0**	**-4.0**
TBH	**Brigand Hill**	**1.30**	**100**	*e*P	**P**	**02 20 53.7**	**+0.9**
TBH				*e*S	**S**	**02 21 09.7**	**-1.0**
GRW	**Mount Saint Ca**	**1.59**	**26**	*e*P	**P**	**02 20 56.9**	**+0.5**
GRW				*e*S	**S**	**02 21 15.0**	**-1.9**
TPR	**Prospect**	**1.63**	**73**	*e*P	**P**	**02 20 57.3**	**+0.4**
TPR				*e*S	**S**	**02 21 17.1**	**-0.6**
GRHS	**Sauteurs**	**1.66**	**25**	⇑*e*P	**P**	**02 20 58.4**	**+1.1**
GRHS				*e*S	**S**	**02 21 18.7**	**+0.3**
BOT	**Bacolet**	**1.68**	**74**	*e*P	**P**	**02 20 57.6**	**0.0**
GRSS	**Sisters**	**1.74**	**25**	*e*P	**P**	**02 20 59.8**	**+1.5**
GRSS				*e*S	**S**	**02 21 21.3**	**+1.2**
ORIV	**Oritupano**	**1.93**	**212**	*e*P	**P**	**02 21 02.0**	**+1.3**
ORIV				*e*S	**S**	**02 21 25.0**	**+0.6**
PCRV	**Puerto La Cruz**	**2.29**	**257**	*e*P	**P**	**02 21 06.0**	**+0.3**
PCRV				*e*S	**S**	**02 21 31.4**	**-1.8**
IBAV	**Isla La Blanqu**	**2.43**	**297**	*e*P	**P**	**02 21 08.0**	**+0.4**
IBAV				*e*S	**S**	**02 21 36.1**	**-0.4**
GURV	**El Guri**	**3.02**	**194**	*e*P	**P**	**02 21 15.7**	**0.0**
GURV				*e*S	**S**	**02 21 49.6**	**-1.5**
CUPV	**Cœpira**	**3.43**	**259**	*e*P	**P**	**02 21 21.7**	**+0.4**
CUPV				*e*S	**S**	**02 21 59.0**	**-2.1**
BIRV	**Birongo**	**3.84**	**267**	*e*P	**P**	**02 21 26.8**	**-0.3**
MVM	**Montagne Vaucl**	**4.08**	**21**	*e*P	**P**	**02 21 30.8**	**+0.5**
FDF	**Fort de France**	**4.17**	**16**	⇓*e*P	**P**	**02 21 30.3**	**-1.1**
FDF				*e*S	**S**	**02 22 15.0**	**-4.3**
CRM	**Caravelle**	**4.26**	**19**	*e*P	**P**	**02 21 32.3**	**-0.4**
CRM				*e*S	**S**	**02 22 20.8**	**-0.7**
CAOV	**Caicara del Or**	**5.16**	**230**	*e*P	**P**	**02 21 44.9**	**-0.1**
CAOV				*e*S	**S**	**02 22 38.3**	**-5.5**
SIV	**San Ignacio**	**26.57**	**177**	P	**P**	**02 26 00.5**	**+0.6**
	0.7nm,0.5s,mb3.4,baz=24,slow=8.7,SNR=5.8						
TXAR	**Lajitas Array**	**42.71**	**302**	P	**P**	**02 28 17.1**	**-1.0**
	0.1nm,0.4s,mb2.9,baz=116,slow=9.4,SNR=8.1						
PDAR	**Pinedale Array**	**51.92**	**317**	P	**P**	**02 29 27.1**	**-2.6**
	0.4nm,0.4s,mb3.8,baz=112,slow=10,SNR=6.2						
FINES	**FINESS Array B**	**79.93**	**29**	P	**P**	**02 32 27.9**	**-0.5**
	0.7nm,0.4s,mb3.8,baz=288,slow=4.4,SNR=6.7						

MAN 15 02:32:22.4, 10.00N×**125.91E, h133**km**, mb3.9, ML2.6, MS2.2, Leyte**

PRU ***15*** *03:30:17.8, 39.42N×20.85E, M4.1*
BJI ***15*** *03:30:19.7, 40.41N×20.56E, h16km, mB4.7, mb4.7, Ms4.1, Msz4.0*
LDG ***15*** *03:30:19.8±0.1, 39.79N×20.94E, h10km, Mb4.5/17, Error ellipse: s-maj=4.8km s-min=3.2km az=24.0*
IDC ***15*** *03:30:19.9±0.9, 39.72N×20.87E, mb3.9/10, mb1 4.0/15, mb1mx3.9/28, mbtmp3.8/15, ML3.9/5, MS2.7/1, Ms1 2.7/1, ms1mx1.9/32, Error ellipse: s-maj=16.2km s-min=13.1km az=131.0*
MOS ***15*** *03:30:20.5±1.0, 39.71N×20.88E, h10km, mb4.3/4, Error ellipse: s-maj=5.2km s-min=3.5km az=111.2*
ATH ***15*** *03:30:21.3, 39.70N×20.96E, h13km±1km, MD4.0/18, ML4.1*
NEIC ***15*** *03:30:21.3, 39.70N×20.96E, h14km, mb4.1/9, MD3.8(PDG), ML4.1(ATH), ML3.6(ROM), After ATH.*
CSEM ***15*** *03:30:21.8±0.0, 39.77N×21.04E, h2km, ML4.1, Error ellipse: s-maj=1.1km s-min=0.8km az=32.0*
PDG ***15*** *03:30:21.7±0.6, 39.71N×21.01E, h6km±2km*
THE ***15*** *03:30:23.1, 39.73N×20.82E, h20km, ML4.0*
ROM ***15*** *03:30:24.6±1.1, 39.73N×20.65E, h12km, Md3.3/9, Ml3.6/3, Error ellipse: s-maj=18.7km s-min=6.6km az=63.0*
TIR ***15*** *03:30:25.6, 39.88N×20.67E, h16km, Ml3.7*
SOF ***15*** *03:30:26.5, 40.01N×21.59E, h2km, MD3.5*
HLW ***15*** *03:30:55.3, 37.28N×21.83E, h26km, Mb3.7*
ISC 15 03:30:21.0±0.1**, 39.75N**±0.01×**20.97E**±0.02**, h13**km**, n230, σ1ˢ36**/286**, mb4.1**/15**, 27C-11D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	**Janina**	**0.13**	**227**	*e*PG	**Pg**	**03 30 24.1**	**-0.4**
LSK	**Leskovik**	**0.50**	**325**	*i* Pg	**Pg**	**03 30 31.9**	**+0.7**
LSK				*i* Sg	**Sg**	**03 30 40.1**	**+2.1**
SRN	**Sarande**	**0.76**	**281**	*i* Pg	**Pg**	**03 30 36.3**	**-0.1**
SRN				*i* Sg	**Sg**	**03 30 47.9**	**+1.2**
KZN	**Kozani**	**0.83**	**47**	*e*PG	**Pg**	**03 30 37.6**	**-0.2**
KZN				*e*SB	**Sb**	**03 30 50.7**	**+3.1**
KEK	**Kerkira**	**0.91**	**268**	*e*PB	**Pb**	**03 30 38.4**	**+0.3**
TPE	**Tepelena**	**0.92**	**307**	*i* Pg	**Pg**	**03 30 39.0**	**-0.6**
TPE				*i* Sg	**Sg**	**03 30 53.8**	**+1.9**
EVR	**Evrytania**	**1.05**	**142**	*e*PG	**Pg**	**03 30 40.5**	**-1.6**
FNA	**Florina**	**1.08**	**16**	*e*Pg	**Pg**	**03 30 41.5**	**-1.3**
	comp=Z,46nm,0.3s						
FNA				*e*Sg	**Sg**	**03 30 55.5**	**-1.8**
LIT	**Litokhoron**	**1.22**	**73**	*e*Pg	**Pg**	**03 30 44.0**	**-1.5**
LIT				*e*Sg	**Sg**	**03 31 00.8**	**-1.0**
AGG	**Agios Georgios**	**1.28**	**124**	*e*Pg	**Pg**	**03 30 44.6**	**-2.0**
AGG				*e*Sg	**Sg**	**03 31 01.3**	**-2.3**
VLS	**Valsamata**	**1.59**	**191**	*e*PB	**Pb**	**03 30 50.8**	**+0.9**
VLS				*e*SB	**Sb**	**03 31 12.2**	**+2.4**
GRG	**Griva**	**1.63**	**42**	*e*Pb	**Pb**	**03 30 50.6**	**+0.1**
GRG				*e*Sb	**Sb**	**03 31 09.9**	**-0.9**
RLS	**Riolos of Patr**	**1.73**	**167**	*e*PG	**Pg**	**03 30 53.4**	**-2.2**
RLS				*e*SB	**Sb**	**03 31 15.5**	**+1.8**
RLS	**Riolos of Patr**	**1.73**	**167**	*e*Pg	**Pg**	**03 30 53.8**	**-1.8**
XOR	**Xorichti**	**1.76**	**102**	*e*Pb	**Pb**	**03 30 52.1**	**-0.6**
XOR				*e*Sb	**Sb**	**03 31 13.1**	**-1.4**
THE	**Thessaloniki**	**1.77**	**59**	*e*Pb	**Pb**	**03 30 51.9**	**-0.9**
	comp=Z,12nm,0.2s						
THE				*e*Sb	**Sb**	**03 31 19.9**	**+5.2**
NEO	**Neokhori**	**1.79**	**103**	*e*PN	**Pn**	**03 30 53.2**	**+1.2**
NEO				*e*SN	**Sn**	**03 31 17.5**	**+2.7**
NEO	**Neokhori**	**1.79**	**103**	*e*Pb	**Pb**	**03 30 52.9**	**-0.4**
TIR	**Tirane**	**1.81**	**333**	*i* pn?	**Pn**	**03 30 53.2**	**+1.0**
TIR				*i* Sn	**Sg**	**03 31 22.2**	**+0.8**
TIR	**Tirane**	**1.81**	**333**	Pn	**Pg**	**03 30 56.5**	**-0.7**
LKR	**Lokris**	**1.92**	**124**	*e*PN	**Pn**	**03 30 54.9**	**+1.1**
LKR	**Lokris**	**1.92**	**124**	*e*Pn	**Pn**	**03 30 54.6**	**+0.8**
QSH	**Qafa e Shtames**	**1.95**	**336**	*i* Pn	**Pn**	**03 30 57.6**	**+3.3**
QSH				*i* Sn	**Sn**	**03 31 27.6**	**+8.8**
PAIG	**Paliouri**	**2.09**	**84**	*e*Pn	**Pn**	**03 30 56.1**	**-0.2**
PAIG				*e*Sn	**Sn**	**03 31 21.2**	**-1.2**
SOH	**Sokhos**	**2.12**	**59**	*e*Pn	**Pn**	**03 30 56.9**	**+0.3**
SOH				*e*Sn	**Sn**	**03 31 22.2**	**-0.7**
SKO	**Skopje**	**2.25**	**9**	*i* Pn	**Pn**	**03 31 01.0**	**+2.4**
SKO				*i*		03 31 07.5	
SKO				*i* Sn	**Sn**	**03 31 28.2**	**+1.8**
SKO				*i* Sg	**Sg**	**03 31 33.7**	**-2.4**
SKO				Lg		03 31 44.0	
	comp=Z,0.3nm,0.7s						
SKO	**Skopje**	**2.25**	**9**	*i* Pn	**Pn**	**03 31 01.0**	**+2.4**
SKO				*i* Sn	**Sn**	**03 31 28.2**	**+1.8**
LCI	**Lecce**	**2.27**	**286**	Pn	**Pn**	**03 30 59.9**	**+1.0**
AOS	**Alonnisos**	**2.32**	**103**	*e*Pn	**Pn**	**03 30 59.8**	**+0.2**
KKS	**Kukesi**	**2.37**	**350**	*e*Pn	**Pn**	**03 31 03.7**	**+3.5**
OUR	**Ouranopolis**	**2.38**	**75**	*e*Pn	**Pn**	**03 31 01.0**	**+0.6**
OUR				*e*Sn	**Sn**	**03 31 28.3**	**-1.5**
SRS	**Serrai**	**2.42**	**55**	*e*Pn	**Pn**	**03 31 01.5**	**+0.5**
SRS				*e*Sn	**Sn**	**03 31 29.7**	**-1.1**
MGER	**Gerania Oros**	**2.50**	**134**	*e*PN	**Pn**	**03 31 03.5**	**+1.3**
ULC	**Ulcinj**	**2.57**	**330**	⇑*i*Pn	**Pn**	**03 31 05.5**	**+2.3**
ULC				*e*Sn	**Sn**	**03 31 39.6**	**+5.1**
KKB	**Krupnik**	**2.66**	**36**	*i* P	**Pn**	**03 31 05.5**	**+1.1**
ITM	**Ithomi**	**2.67**	**163**	*e*PN	**Pn**	**03 31 06.0**	**+1.5**
NSAL	**Nisos Salamina**	**2.67**	**133**	*e*PN	**Pn**	**03 31 06.5**	**+1.9**
ATH	**Athens Observa**	**2.78**	**129**	*e*PN	**Pn**	**03 31 07.2**	**+1.1**
ATH				*e*SN	**Sn**	**03 31 41.5**	**+1.7**
MMB	**Musomiste**	**2.79**	**48**	*i* P	**Pn**	**03 31 06.5**	**+0.2**
NAIG	**Nisos Aigina**	**2.79**	**134**	*e*PN	**Pn**	**03 31 07.5**	**+1.2**
PTL	**Penteli**	**2.82**	**126**	*e*PN	**Pn**	**03 31 07.5**	**+0.8**
PVY	**Plav**	**2.95**	**345**	⇑*i*Pn	**Pn**	**03 31 11.4**	**+2.9**
PVY				*e*Sn	**Sn**	**03 31 49.4**	**+5.4**
TTG	**Podgorica**	**2.98**	**335**	⇑*i*Pn	**Pn**	**03 31 10.8**	**+1.9**
TTG				*e*Sn	**Sn**	**03 31 49.0**	**+4.2**
BUM	**Brajici-Budva**	**3.00**	**329**	⇑*i*Pn	**Pn**	**03 31 11.2**	**+2.0**
BUM				*e*Sn	**Sn**	**03 31 49.5**	**+4.2**
BRT	**Bari-Castellan**	**3.10**	**293**	Pn	**Pn**	**03 31 11.5**	**+0.9**
	comp=Z,35nm,0.3s						
BARS	**Barje**	**3.14**	**12**	⇓*i*Pn	**Pn**	**03 31 12.4**	**+1.2**
BARS				Sn	**Sn**	**03 31 50.0**	**+1.1**
NOCI	**Noci**	**3.17**	**290**	Pn	**Pn**	**03 31 11.9**	**+0.3**
	comp=Z,135nm,0.8s						
LOS	**Limnos**	**3.17**	**85**	*e*Pn	**Pn**	**03 31 11.5**	**-0.1**
IVA	**Berane**	**3.23**	**346**	⇑*i*Pn	**Pn**	**03 31 15.4**	**+2.9**
IVA				*e*Sn	**Sn**	**03 31 55.5**	**+4.3**
HCY	**Herceg Novi**	**3.28**	**326**	⇑*i*Pn	**Pn**	**03 31 14.6**	**+1.3**
HCY				*e*Sn	**Sn**	**03 31 56.5**	**+3.9**
LTRZ	**Laterza**	**3.30**	**286**	Pn	**Pn**	**03 31 13.7**	**+0.3**
VTS	**Vitosha**	**3.31**	**30**	*i* P	**Pn**	**03 31 15.0**	**+1.4**
TIP	**Timpagrande**	**3.31**	**262**	*e*Pn	**Pn**	**03 31 13.6**	**-0.1**
TIP	**Timpagrande**	**3.31**	**262**	*e*Pn	**Pn**	**03 31 13.6**	**-0.1**
VLI	**Veliai**	**3.39**	**152**	*e*PN	**Pn**	**03 31 16.6**	**+1.8**
NKY	**Niksic**	**3.41**	**335**	⇑*i*Pn	**Pn**	**03 31 17.6**	**+2.6**
NKY				*e*Sn	**Sn**	**03 31 59.8**	**+4.1**
RZN	**Rozhen**	**3.44**	**54**	*i* P	**Pn**	**03 31 16.0**	**+0.5**
AMUR	**Altamura**	**3.54**	**291**	Pn	**Pn**	**03 31 17.4**	**+0.5**
TREB	**Trebinje**	**3.57**	**327**	Pn	**Pn**	**03 31 17.9**	**+0.6**
TREB				Sn	**Sn**	**03 32 00.2**	**+0.4**
BRY	**Bratogost**	**3.65**	**331**	⇑*i*Pn	**Pn**	**03 31 20.6**	**+2.1**
BRY				*e*Sn	**Sn**	**03 32 05.1**	**+3.4**
BRY	**Bratogost**	**3.65**	**331**	⇑*i*Pn	**Pn**	**03 31 20.5**	**+2.1**
BRY				*e*S	**Sn**	**03 32 05.1**	**+3.4**
PGB	**Panagyurishte**	**3.70**	**40**	*i* P	**Pn**	**03 31 20.0**	**+0.9**
PLE	**Pljevlja**	**3.77**	**342**	⇑*i*Pn	**Pn**	**03 31 22.9**	**+2.7**
PLE				*e*Sn	**Sn**	**03 32 08.8**	**+3.9**
UPM	**Unac-Piva**	**3.79**	**337**	⇑*i*Pn	**Pn**	**03 31 23.4**	**+3.0**
UPM				*e*Sn	**Sn**	**03 32 08.3**	**+3.0**
KDZ	**Kurdzhali**	**3.88**	**59**	*i* P	**Pn**	**03 31 20.5**	**-1.2**
NVSS	**Nova Varos 2**	**3.88**	**346**	⇓*i*Pn	**Pn**	**03 31 23.1**	**+1.4**
NVSS				Sn	**Sn**	**03 32 11.7**	**+4.0**
CUC	**Castrocucco**	**3.98**	**275**	Pn	**Pn**	**03 31 25.6**	**+2.5**
PRK	**Paraskevi**	**4.13**	**95**	*e*Pn	**Pn**	**03 31 25.5**	**+0.2**
GRUS	**Gruza**	**4.14**	**357**	*e*Pn	**Pn**	**03 31 25.4**	**-0.1**
BOLS	**Boljevac**	**4.15**	**10**	*e*Pn	**Pn**	**03 31 26.6**	**+1.0**
SLCN	**Sala Consilina**	**4.15**	**281**	Pn	**Pn**	**03 31 26.7**	**+1.1**
SOI	**Samo**	**4.18**	**248**	Pn	**Pn**	**03 31 26.5**	**+0.4**
MGR	**Morigerati**	**4.18**	**277**	Pn	**Pn**	**03 31 28.2**	**+2.1**
BBLS	**Bajina Basta -**	**4.28**	**345**	*e*Pn	**Pn**	**03 31 28.4**	**+0.9**
FGMS	**Monte Sant'Ang**	**4.29**	**299**	Pn	**Pn**	**03 31 27.7**	**+0.1**
	comp=Z,18nm,0.3s						
MRLC	**Muro Lucano**	**4.32**	**285**	Pn	**Pn**	**03 31 28.8**	**+0.8**
DIVS	**Divcibare**	**4.41**	**351**	⇓*i*Pn	**Pn**	**03 31 30.4**	**+1.1**
DIVS				Sn	**Sn**	**03 32 17.6**	**-3.5**
SGO	**Sicignano**	**4.42**	**282**	Pn	**Pn**	**03 31 30.3**	**+0.9**
AYVA	**Ayvalik**	**4.44**	**94**	*i* P	**Pn**	**03 31 30.0**	**+0.2**
APE	**Apeiranthos**	**4.47**	**125**	*e*PN	**Pn**	**03 31 30.4**	**+0.3**
MTTG	**Motta San Giov**	**4.47**	**249**	Pn	**Pn**	**03 31 30.3**	**+0.1**
URLA	**Izmir**	**4.59**	**106**	*i* P	**Pn**	**03 31 31.1**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CSSN	**Cassano Irpino**	**4.68**	**286**	Pn	**Pn**	**03 31 35.0**	**+1.8**
	comp=Z,22nm,0.4s						
FG2	**Serracapriola**	**4.87**	**297**	Pn	**Pn**	**03 31 36.0**	**+0.2**
	comp=Z,75nm,0.2s						
SANT	**Santorini**	**4.89**	**132**	*e*Pn	**Pn**	**03 31 36.4**	**+0.4**
SANT	**Santorini**	**4.89**	**132**	*e*Pn	**Pn**	**03 31 36.4**	**+0.4**
SMG	**Samos**	**5.02**	**112**	*e*Pn	**Pn**	**03 31 38.0**	**+0.1**
VAM	**Vamos**	**5.03**	**148**	*e*PN	**Pn**	**03 31 38.4**	**+0.3**
SACR	**S. Croce Del S**	**5.05**	**291**	Pn	**Pn**	**03 31 40.8**	**+2.5**
	comp=Z,83nm,0.9s						
KDAG	**Bornova**	**5.08**	**103**	*i* P	**Pn**	**03 31 38.5**	**-0.2**
BSSO	**Busso**	**5.17**	**292**	Pn	**Pn**	**03 31 41.0**	**+0.9**
	comp=Z,76nm,0.7s						
TRIV	**Trivento**	**5.28**	**295**	Pn	**Pn**	**03 31 42.2**	**+0.6**
SGG	**Gregorio Mates**	**5.28**	**290**	Pn	**Pn**	**03 31 43.5**	**+1.9**
IDI	**Anoyia**	**5.43**	**144**	Pn	**Pn**	**03 31 42.6**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=322,slow=15,SNR=14						
IDI				Sn	**Sn**	**03 32 46.0**	**-0.7**
	comp=Z,3.9nm,0.3s,baz=275,slow=23,SNR=5.7						
CII	**Carovilli**	**5.44**	**293**	Pn	**Pn**	**03 31 44.7**	**+0.9**
	comp=Z,33nm,0.4s						
BTOK	**Tokmak**	**5.44**	**88**	*i* P	**Pn**	**03 31 44.1**	**+0.3**
GVD	**Gavdhos**	**5.49**	**152**	Pn	**Pn**	**03 31 41.3**	**-3.3**
GVD				*e*Sn	**Sn**	**03 32 44.1**	**-4.2**
GVD	**Gavdhos**	**5.49**	**152**	Pn	**Pn**	**03 31 41.3**	**-3.2**
VAE	**Valguarnera**	**5.62**	**248**	Sn	**Sn**	**03 32 46.9**	**-4.5**
	comp=Z,1.0nm,0.3s,baz=46,slow=8.6,SNR=4.4						
AYDN	**Tasoluk**	**5.79**	**109**	*i* P	**Pn**	**03 31 50.1**	**+1.4**
NPS	**Neapolis**	**5.80**	**139**	*e*PN	**Pn**	**03 31 49.3**	**+0.4**
INTR	**Introdacqua**	**5.82**	**295**	Pn	**Pn**	**03 31 49.6**	**+0.5**
	comp=Z,114nm,0.7s						
VVLD	**Villa Vallelon**	**5.97**	**293**	Pn	**Pn**	**03 31 52.1**	**+0.8**
	comp=Z,100nm,0.8s						
MANT	**Manisa**	**6.03**	**100**	*i* P	**Pn**	**03 31 53.2**	**+1.1**
FAGN	**Fagnano**	**6.13**	**297**	Pn	**Pn**	**03 31 54.0**	**+0.4**
	comp=Z,102nm,0.6s						
TERO	**Teramo**	**6.26**	**300**	Pn	**Pn**	**03 31 55.6**	**+0.2**
	comp=Z,54nm,0.7s						
AQU	**L'Aquila**	**6.29**	**297**	Pn	**Pn**	**03 31 56.6**	**+0.8**
	comp=Z,38nm,0.8s						
CAMP	**Campotosto**	**6.35**	**298**	Pn	**Pn**	**03 31 57.2**	**+0.5**
	comp=Z,78nm,0.9s						
VOIR		**6.43**	**27**	⇑*i*P	**Pn**	**03 31 59.5**	**+1.6**
VOIR		**6.43**	**27**	⇑*i*P	**Pn**	**03 31 59.6**	**+1.7**
KARP	**Karpathos**	**6.45**	**129**	*e*PN	**Pn**	**03 31 59.3**	**+1.2**
NVLJ	**Novalja**	**6.61**	**319**	*i* Pn	**Pn**	**03 31 59.2**	**-1.2**
NVLJ				*i* Sn	**Sn**	**03 33 12.8**	**-3.5**
DNZL	**Cakiroluk**	**6.64**	**105**	*i* P	**Pn**	**03 32 01.9**	**+1.1**
NRCA	**Norcia**	**6.67**	**300**	Pn	**Pn**	**03 32 01.2**	**0.0**
	comp=Z,28nm,0.5s						
MNS	**Montasola**	**6.80**	**295**	Pn	**Pn**	**03 32 04.2**	**+1.2**
	comp=Z,11nm,0.4s						
MLR	**Muntele Rosu**	**6.81**	**31**	Pn	**Pn**	**03 32 04.2**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=157,slow=5.5,SNR=18						
MLR				Sn	**Sn**	**03 33 21.9**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=319,slow=23,SNR=4.6						
MLR	**Muntele Rosu**	**6.81**	**31**	⇓*i*P	**Pn**	**03 32 04.5**	**+1.3**
MLR	**Muntele Rosu**	**6.81**	**31**	P	**Pn**	**03 32 04.2**	**+1.0**
MLR						03 33 21.9	
MLR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MLR				smax			
	comp=N,2.0nm,0.3s						
SNTG	**Esanatoglia**	**6.97**	**303**	Pn	**Pn**	**03 32 03.9**	**-1.6**
ARV	**Arcevia**	**7.09**	**305**	Pn	**Pn**	**03 32 05.8**	**-1.3**
TIRR	**Tirgusor**	**7.26**	**47**	⇑*i*P	**Pn**	**03 32 08.4**	**-1.1**
FSSB	**Fossombrone**	**7.29**	**305**	Pn	**Pn**	**03 32 09.0**	**-0.9**
VRI	**Vrincioaia**	**7.44**	**33**	⇓*i*P	**Pn**	**03 32 13.4**	**+1.5**
TKTP	**Tekketepe**	**7.49**	**100**	*i* P	**Pn**	**03 32 13.2**	**+0.6**
VISS	**Visnje**	**7.55**	**325**	*e*Pn	**Pn**	**03 32 12.2**	**-1.3**
VISS				*e*Sn	**Sn**	**03 33 35.9**	**-3.9**
CFR	**Carcaliu**	**7.58**	**42**	⇑*i*P	**Pn**	**03 32 16.2**	**+2.2**
ESKT	**Eskisehir**	**7.63**	**89**	*i* P	**Pn**	**03 32 13.9**	**-0.7**
CEY	**Cerknica**	**7.69**	**323**	*e*Pn	**Pn**	**03 32 14.4**	**-1.0**
CEY				*e*Sn	**Sn**	**03 33 41.1**	**-2.1**
ISP	**Isparta**	**7.69**	**101**	*e*Pn	**Pn**	**03 32 16.0**	**+0.5**
JAVS	**Javornik**	**7.97**	**323**	*e*Pn	**Pn**	**03 32 17.8**	**-1.6**
JAVS				*e*Sn	**Sn**	**03 33 46.1**	**-4.1**
PERS	**Pernice**	**8.11**	**330**	*e*Pn	**P**	**03 32 19.1**	**-2.1**
VOY	**Vojsko**	**8.15**	**323**	*e*Pn	**P**	**03 32 20.7**	**-1.2**
VOY				*e*Sn	**Sn**	**03 33 50.9**	**-3.9**
PSZ	**Piszkesteto**	**8.21**	**355**	*e*Pn	**P**	**03 32 23.2**	**+0.5**
PSZ	**Piszkesteto**	**8.21**	**355**	*e*Pn	**P**	**03 32 23.2**	**+0.5**
OBKA	**Obir**	**8.23**	**327**	⇓*i*PN	**P**	**03 32 22.3**	**-0.7**
OBKA				*i* SN	**Sn**	**03 33 53.7**	**-3.1**
OBKA	**Obir**	**8.23**	**327**	⇓*i*Pn	**P**	**03 32 22.3**	**-0.7**
BURAR	**Bucovina Array**	**8.45**	**20**	⇓*i*P	**P**	**03 32 30.2**	**+4.2**
BURAR	**Bucovina Array**	**8.45**	**20**	⇓*i*P	**P**	**03 32 30.2**	**+4.2**
ARSA	**Arzberg**	**8.48**	**334**	⇑*i*PN	**P**	**03 32 24.9**	**-1.6**
ARSA				*i* SN	**Sn**	**03 33 59.9**	**-3.1**
ARSA	**Arzberg**	**8.48**	**334**	⇑*i*Pn	**P**	**03 32 24.9**	**-1.6**
ROBS	**Robic**	**8.49**	**322**	*e*Pn	**P**	**03 32 24.8**	**-1.8**
ROBS				*e*Sn	**Sn**	**03 33 58.7**	**-4.5**
KECS	**Kecovo**	**8.74**	**358**	*e*	**P**	**03 32 31.5**	**+1.4**
VYHS	**Vyhne**	**8.88**	**351**	*e*	**P**	**03 32 36.2**	**+4.2**
SLUM		**8.93**	**156**	⇑P	**P**	**03 32 27.3**	**-5.4**
KOLS	**Kolonicke sedl**	**9.23**	**5**	*e*	**P**	**03 32 39.1**	**+2.2**
MOA	**Molln**	**9.44**	**331**	⇑*i*PN	**P**	**03 32 37.6**	**-2.1**
MOA				*i* SN	**Sn**	**03 34 23.0**	**-3.8**
MOA	**Molln**	**9.44**	**331**	⇑*i*Pn	**P**	**03 32 37.6**	**-2.1**
MOA	**Molln**	**9.44**	**331**	⇑*i*Sn	**Sn**	**03 34 23.0**	**-3.8**
PGF	**Pioggiola**	**9.46**	**291**	*e*P	**P**	**03 32 38.9**	**-1.1**
	comp=N,28nm,1.0s						
STHS	**Stebnicka Huta**	**9.67**	**1**	*e*	**P**	**03 32 48.7**	**+5.8**
BR131	**Keskin Array S**	**9.76**	**86**	*e*Pn	**P**	**03 32 43.4**	**-0.7**
BRTR	**Keskin Array B**	**9.76**	**86**	Pn	**P**	**03 32 43.5**	**-0.6**
	comp=N,0.3nm,0.3s,baz=267,slow=12,SNR=4.9						
HMAT	**Matruh**	**9.97**	**148**	⇑P	**P**	**03 32 43.1**	**-4.0**
HMAT				S	Sn	03 34 03.0	-37
WTTA	**Wattenberg**	**10.12**	**321**	⇑*i*PN	**P**	**03 32 47.9**	**-1.1**
WTTA				*i* SN	**S**	**03 34 40.3**	**-3.1**
WATA	**Walderalm**	**10.20**	**321**	⇑*i*PN	**P**	**03 32 49.0**	**-1.1**
WATA				*i* SN	**S**	**03 34 42.8**	**-2.6**
SQTA	**Sankt Quirin**	**10.30**	**320**	⇓*i*PN	**P**	**03 32 50.4**	**-1.1**
SQTA				*i* SN	**S**	**03 34 44.4**	**-3.4**
MOTA	**Moosalm**	**10.44**	**320**	⇓*i*PN	**P**	**03 32 52.4**	**-1.0**
MOTA				*i* SN	**S**	**03 34 46.1**	**-5.1**
GERES	**GERESS Array B**	**10.48**	**333**	Pn	**P**	**03 32 52.3**	**-1.7**
	comp=N,0.2nm,0.3s,baz=150,slow=16,SNR=6.0						
DAVOX	**Davos**	**10.71**	**315**	Pn	**P**	**03 32 56.8**	**-0.4**
	comp=N,0.6nm,0.3s,baz=164,slow=17,SNR=7.9						
DAVOX				Sn	**S**	**03 34 53.8**	**-4.2**
	comp=N,0.3nm,0.3s,baz=192,slow=14,SNR=3.7						
DAVOX				LR	LR	03 36 18.6	
	comp=N,44nm,19.6s,baz=290,slow=34						
KHC	**Kasperske Hory**	**10.76**	**333**	*e*P	**P**	**03 33 04.0**	**+6.1**
DAVA	**Damuels**	**11.02**	**317**	⇑*i*Pn	**P**	**03 33 00.0**	**-1.4**
DAVA				*i* Sn	**S**	**03 35 03.5**	**-2.1**
SWA2		**11.11**	**159**	⇑P	**P**	**03 32 57.6**	**-5.0**
SWA2				S	S	03 34 27.0	-41
SWA1		**11.16**	**158**	⇑P	**P**	**03 32 58.6**	**-4.8**
SWA1				S	S	03 34 28.5	-40
LMR	**La Mourre**	**11.42**	**293**	*e*P	**P**	**03 33 05.2**	**-1.6**
	comp=N,63nm,1.7s						
LMR	**La Mourre**	**11.42**	**293**	*e*P	**P**	**03 33 05.2**	**-1.6**
LMR				pmax	pmax		
	comp=Z,31nm,1.7s						
MBDF	**Montbardon**	**11.64**	**300**	*e*P	**P**	**03 33 08.8**	**-1.1**
	comp=Z,4.9nm,0.6s						
MBDF	**Montbardon**	**11.64**	**300**	*e*P	**P**	**03 33 08.8**	**-1.1**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LPG	**La Plagne**	**11.94**	**303**	*e*P	**P**	**03 33 12.8**	**-1.2**
	comp=Z,7.1nm,0.7s						
LPG	**La Plagne**	**11.94**	**303**	*e*P	**P**	**03 33 12.8**	**-1.2**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LPL	**La Plagne**	**11.96**	**303**	*e*P	**P**	**03 33 13.0**	**-1.2**
	comp=Z,4.4nm,0.5s						
LPL	**La Plagne**	**11.96**	**303**	*e*P	**P**	**03 33 13.0**	**-1.2**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SMRF	**Simiane la Rot**	**12.23**	**295**	*e*P	**P**	**03 33 16.9**	**-0.9**
	comp=Z,18nm,1.0s						
ORIF	**Oris-en-Rattie**	**12.30**	**300**	*e*P	**P**	**03 33 17.3**	**-1.5**
	comp=Z,15nm,1.1s						
ORIF	**Oris-en-Rattie**	**12.30**	**300**	*e*P	**P**	**03 33 17.3**	**-1.5**
ORIF				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HINF	**Hinteralfeld**	**12.99**	**313**	*e*P	**P**	**03 33 26.4**	**-1.6**
	comp=Z,5.5nm,0.7s						
HINF	**Hinteralfeld**	**12.99**	**313**	*e*P	**P**	**03 33 26.4**	**-1.6**
HINF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HAU	**Haudompre**	**13.38**	**313**	*e*P	**P**	**03 33 32.0**	**-1.1**
	comp=Z,4.7nm,0.5s						
HAU	**Haudompre**	**13.38**	**313**	*e*P	**P**	**03 33 32.0**	**-1.1**
HAU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MALT	**Malatya**	**13.65**	**90**	*e*P	**P**	**03 33 41.9**	**+5.3**
	comp=Z,7.0nm,1.1s						
MALT	**Malatya**	**13.65**	**90**	*e*P	**P**	**03 33 41.9**	**+5.3**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SMF	**Signal de Mont**	**14.26**	**305**	*e*P	**P**	**03 33 43.7**	**-0.9**
	comp=Z,6.9nm,0.7s						
SMF	**Signal de Mont**	**14.26**	**305**	*e*P	**P**	**03 33 43.7**	**-0.9**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LOR	**Lormes**	**14.50**	**307**	*e*P	**P**	**03 33 46.6**	**-1.2**
SSF	**Saint Saulge**	**14.63**	**306**	*e*P	**P**	**03 33 48.2**	**-1.3**
	comp=Z,4.7nm,1.0s						
SSF	**Saint Saulge**	**14.63**	**306**	*e*P	**P**	**03 33 48.2**	**-1.3**
SSF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BGF	**Bois d'Agland**	**14.86**	**303**	*e*P	**P**	**03 33 51.4**	**-1.1**
	comp=Z,6.2nm,0.7s						
BGF	**Bois d'Agland**	**14.86**	**303**	*e*P	**P**	**03 33 51.4**	**-1.1**
BGF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TCF	**Toulx Ste Croi**	**15.19**	**302**	*e*P	**P**	**03 33 55.6**	**-1.1**
EPF	**Esparros**	**15.83**	**289**	*e*P	**P**	**03 34 03.9**	**-1.2**
ETSF	**Etsaut**	**16.47**	**288**	*e*P	**P**	**03 34 12.2**	**-1.1**
	comp=Z,2.7nm,0.6s						
ETSF	**Etsaut**	**16.47**	**288**	*e*P	**P**	**03 34 12.2**	**-1.1**
ETSF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZEI	**Tsey**	**17.49**	**73**	*e*P	**P**	**03 34 29.5**	**+3.4**
FLN	**La Foliniere**	**17.77**	**308**	*e*P	**P**	**03 34 28.4**	**-1.1**
GNI	**Garni**	**18.22**	**81**	P	**P**	**03 34 39.2**	**+3.9**
	comp=Z,9.2nm,0.8s						
GNI	**Garni**	**18.22**	**81**	P	**P**	**03 34 39.2**	**+3.9**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ESDC	**Sonseca Array**	**19.17**	**278**	P	**P**	**03 34 46.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=78,slow=11,SNR=6.9						
ESLA	**Sonseca Array**	**19.17**	**278**	*e*P	**P**	**03 34 46.3**	**-0.5**
	comp=Z,0.5nm,0.7s						
ESLA	**Sonseca Array**	**19.17**	**278**	*e*P	**P**	**03 34 46.3**	**-0.5**
	comp=Z,0.5nm,0.7s						
QUIF	**Quistinic**	**19.18**	**303**	*e*P	**P**	**03 34 46.3**	**-0.5**
	comp=Z,36nm,1.3s						
QUIF	**Quistinic**	**19.18**	**303**	*e*P	**P**	**03 34 46.3**	**-0.5**
QUIF				pmax	pmax		
	comp=Z,18nm,1.3s						
ROSF	**Rostrenen**	**19.37**	**304**	*e*P	**P**	**03 34 48.0**	**-1.0**
	comp=Z,6.2nm,0.7s						
ROSF	**Rostrenen**	**19.37**	**304**	*e*P	**P**	**03 34 48.0**	**-1.0**
ROSF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**20.92**	**350**	P	**P**	**03 35 03.5**	**-2.0**
	comp=Z,1.9nm,0.4s,baz=164,slow=11,SNR=9.3						
MDT	**Midelt**	**21.71**	**259**	P	**P**	**03 35 12.4**	**-1.3**
	comp=Z,2.1nm,0.9s,mb3.6,baz=340,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**21.95**	**7**	P	**P**	**03 35 14.4**	**-1.5**
	comp=Z,0.8nm,0.3s,mb3.6,baz=171,slow=11,SNR=8.3						
NAO01	**NORSAR Array S**	**22.03**	**347**	*e*P	**P**	**03 35 15.3**	**-1.4**
	comp=Z,4.4nm,0.6s,mb4.1						
NAO01	**NORSAR Array S**	**22.03**	**347**	*e*P	**P**	**03 35 15.3**	**-1.5**
	comp=Z,4.4nm,0.6s,mb4.1						
NB2	**NORSAR Subarra**	**22.16**	**347**	P	**P**	**03 35 16.9**	**-1.1**
	comp=Z,13nm,1.4s,mb4.2,baz=153,slow=11						
NB2	**NORSAR Subarra**	**22.16**	**347**	P	**P**	**03 35 16.9**	**-1.1**
NB2				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.2						
NOA	**NORSAR Array B**	**22.16**	**347**	P	**P**	**03 35 16.4**	**-1.6**
	comp=Z,2.9nm,0.6s,mb3.9,baz=164,slow=10,SNR=5.7						
EKA	**Eskdalemuir Ar**	**22.38**	**322**	P	**P**	**03 35 18.4**	**-1.9**
	comp=Z,2.1nm,0.8s,mb3.6,baz=114,slow=9.7,SNR=6.1						
ESK	**Eskdalemuir**	**22.39**	**322**	*e*P	**P**	**03 35 19.2**	**-1.2**
	comp=Z,15nm,1.1s,mb4.3						
ESK	**Eskdalemuir**	**22.39**	**322**	*e*P	**P**	**03 35 19.2**	**-1.2**
	comp=Z,15nm,1.1s,mb4.3						
ESK	**Eskdalemuir**	**22.39**	**322**	*e*P	**P**	**03 35 19.2**	**-1.2**
ESK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
KAF	**Kangasniemi**	**22.63**	**7**	*e*p	**P**	**03 35 20.2**	**-2.4**
JOF	**Joensuu**	**24.03**	**12**	*e*p	**P**	**03 35 35.7**	**-0.4**
ARCES	**ARCESS Array B**	**29.95**	**3**	P	**P**	**03 36 29.4**	**-1.4**
	comp=Z,1.8nm,0.7s,mb3.9,baz=190,slow=11,SNR=11						
KEV	**Kevo**	**30.24**	**4**	*e*p	**P**	**03 36 31.1**	**-2.2**
DBIC	**Dimbokro**	**40.29**	**222**	P	**P**	**03 37 58.3**	**-1.3**
	comp=Z,1.7nm,0.5s,mb4.0,baz=4.9,slow=11,SNR=5.9						
DBIC	**Dimbokro**	**40.29**	**222**	*e*P	**P**	**03 37 58.1**	**-1.5**
	comp=Z,2.4nm,0.7s,mb4.0						
DBIC	**Dimbokro**	**40.29**	**222**	*e*P	**P**	**03 37 58.1**	**-1.5**
	comp=Z,2.0nm,0.7s,mb4.0						
DBIC	**Dimbokro**	**40.29**	**222**	*e*P	**P**	**03 37 58.1**	**-1.5**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LIC	**Lamto**	**40.75**	**222**	*e*P	**P**	**03 38 02.7**	**-0.7**
	comp=Z,3.3nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**44.20**	**60**	P	**P**	**03 38 30.6**	**-0.6**
	comp=Z,4.4nm,0.6s,mb4.4,baz=283,slow=6.8,SNR=26						
WMQ	**Urumqi**	**48.70**	**62**	*e*P	**P**	**03 39 07.5**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.8						
SONM	**Songino Array**	**59.20**	**51**	P	**P**	**03 40 23.2**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=292,slow=8.6,SNR=6.0						
SONM	**Songino Array**	**59.20**	**51**	P	**P**	**03 40 23.2**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LZH	**Lanzhou**	**63.20**	**64**	*e*P	**P**	**03 40 50.0**	**-1.1**
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,110nm,4.3s						
MDJ	**Mudanjiang**	**74.34**	**45**	P	**P**	**03 41 58.1**	**-1.7**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,41nm,4.7s						
TXAR	**Lajitas Array**	**94.15**	**314**	P	**P**	**03 43 40.5**	**-0.1**
	comp=Z,0.2nm,0.7s,mb3.7,baz=72,slow=4.0,SNR=3.6						

NEIC 15 03:31:50.4, 55.70N×161.37W, h150^{km}, MG3.5(AEIC), **After AEIC., Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PS1A	**Pavlof South-1**	**0.35**	**217**	P	P	03 32 10.2	-1.3
BLHA	**Black Hill**	**0.40**	**271**	P	P	03 32 09.9	-1.8
BLHA				S	S	03 32 26.7	-1.2
PVV	**Pavlof Volcano**	**0.40**	**216**	P	P	03 32 10.3	-1.4
HAG	**Hague Volcano**	**0.49**	**219**	P	P	03 32 11.0	-1.1
SDPT	**Sand Point**	**0.62**	**124**	P	P	03 32 11.5	-1.3
SDPT				S	S	03 32 28.4	-1.5
DOL	**Dolgoi Island**	**0.62**	**207**	P	P	03 32 11.5	-1.2
DTNA	**Dutton South F**	**0.75**	**223**	P	P	03 32 12.7	-0.8
CHGN	**Chignik**	**1.77**	**69**	P	P	03 32 21.6	-1.5
ANPB	**Aniakchak Plen**	**2.05**	**56**	P	P	03 32 24.9	-1.4
ANPK	**Aniakchak Peak**	**2.14**	**56**	P	P	03 32 26.2	-1.3
WESN	**West Dahl Nort**	**2.17**	**240**	P	P	03 32 26.6	-1.2
WESS	**West Dahl Sout**	**2.28**	**239**	P	P	03 32 28.4	-0.9
AKUT	**Akutan**	**2.99**	**240**	P	P	03 32 36.5	-1.7
UNV	**Unalaska Valle**	**3.50**	**240**	P	P	03 32 42.5	-2.4
MTBL	**Makushin Table**	**3.53**	**243**	P	P	03 32 43.8	-1.4
MSW	**Makushin Switc**	**3.61**	**243**	P	P	03 32 44.1	-2.1
CAHL	**Cahill**	**4.08**	**52**	P	P	03 32 50.2	-2.3
MGLS	**Mageik LS**	**4.16**	**50**	P	P	03 32 51.6	-1.9
KABR	**Katmai Barrier**	**4.27**	**53**	P	P	03 32 52.7	-2.4
KAPH	**Katmai Pasha**	**4.80**	**50**	P	P	03 33 00.1	-1.9
NIKO	**Nikolski**	**5.16**	**241**	P	P	03 33 04.4	-2.3
KDAK	**Kodiak Island**	**5.27**	**63**	P	P	03 33 04.5	-3.7
KDAK				S	S	03 34 00.1	-8.3
AUL	**Augustine Lava**	**5.65**	**46**	P	P	03 33 11.6	-1.6
RSO	**Redoubt South**	**6.61**	**40**	*e*P	P	03 33 24.0	-2.1
CNPM	**China Poot**	**6.66**	**51**	P	P	03 33 23.3	-3.5
SPU	**Mount Spurr**	**7.35**	**38**	P	P	03 33 34.4	-1.8
SLKM	**Skilak Lake**	**7.62**	**46**	*e*P	P	03 33 36.2	-3.4
STLK	**Strandline Lak**	**7.65**	**37**	P	P	03 33 38.5	-1.6
SEW	**Seward**	**7.73**	**50**	P	P	03 33 37.0	-4.1
RC01	**Rabbit Creek A**	**8.15**	**44**	P	P	03 33 42.3	-4.4
ATKA	**Atka Island**	**8.34**	**250**	P	P	03 33 46.2	-3.0
SML	**Sawmill**	**9.12**	**43**	P	P	03 33 53.3	-6.3
GLI	**Glacier Island**	**9.13**	**49**	P	P	03 33 54.1	-5.6
HIN	**Hinchinbrook I**	**9.17**	**53**	P	P	03 33 56.0	-4.3
FID	**Port Fidalgo**	**9.34**	**51**	P	P	03 33 56.8	-5.6
SCM	**Sheep Creek Mo**	**9.53**	**44**	P	P	03 33 59.5	-5.2
VLZ	**Valdez**	**9.57**	**49**	P	P	03 34 00.9	-4.5
DIV	**Divide**	**9.81**	**50**	P	P	03 34 04.2	-4.3
KLU	**Klutina**	**9.92**	**48**	P	P	03 34 05.2	-4.8

*MOS **15** 04:10:00.6±1.6, 35.84N×70.65E, h33^{km}, mb4.6/12, Error ellipse: s-maj=13.7km s-min=6.0km az=88.3*

*BJI **15** 04:10:01.3, 36.35N×69.88E, h59^{km}, mB4.8, mb4.3, ML4.4*

*IDC **15** 04:10:04.0±5.0, 35.93N×70.73E, h49^{km}±45^{km}, mb3.9/13, mb1 4.1/15, mb1mx4.0/21, mbtmp4.2/15, ML4.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=29.8km s-min=18.1km az=5.0*

*NEIC **15** 04:10:06.6±2.8, 36.07N×70.71E, h70^{km}±23^{km}, mb4.2/13, Error ellipse: s-maj=23.1km s-min=14.4km az=179.0*

*NNC **15** 04:10:13.0±3.0, 36.49N×70.61E, h100^{km}±40^{km}, mpv4.8, Error ellipse: s-maj=23.3km s-min=22.4km az=139.0*

ISC 15 04:10:07.2±0.6, **36.07N**±0.03×**70.87E**±0.06, **h95**^{km}±7^{km}, **n94**, σ**1**^{s}**42**/106, **mb4.0**/18, **17C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.40**	**159**	⇑P	**P**	**04 10 49.3**	**+3.8**
CHCP	**Chirah Chowk**	**3.11**	**140**	⇑P	**P**	**04 10 58.5**	**+3.2**
CHCP				S	S	04 11 59.0	+27
THW	**Thamme Wali**	**3.34**	**167**	P	**P**	**04 11 01.1**	**+2.6**
SBDP	**Sheikh Budin**	**3.76**	**181**	P	**P**	**04 11 06.2**	**+2.0**
DRP	**Derazinda**	**4.35**	**187**	⇑P	**P**	**04 11 14.2**	**+1.9**
SARP	**Sargodha**	**4.40**	**160**	P	**P**	**04 11 14.2**	**+1.2**
SARP				S	**S**	**04 12 04.0**	**+0.6**
KSH	**Kashi**	**5.31**	**48**	*e*P	**P**	**04 11 30.3**	**+4.8**
KSH				S	**S**	**04 12 27.9**	**+1.9**
KSH				Smax			
	comp=N,180nm,0.7s						
KSH				Smax			
	comp=E,170nm,0.6s						
AML	**Almayashu**	**6.44**	**19**	P	**P**	**04 11 41.4**	**+0.4**
	SNR=62						
UCH	**Uchtor**	**6.77**	**24**	P	**P**	**04 11 46.2**	**+0.6**
	SNR=11						
KZA	**Kyzart**	**6.90**	**28**	P	**P**	**04 11 48.1**	**+0.7**
	SNR=30						
EKS2	**Erkin-Say**	**6.96**	**18**	P	**P**	**04 11 48.3**	**0.0**
	SNR=25						
KK31	**Karatay Array**	**7.03**	**358**	P	**P**	**04 11 47.7**	**-1.6**
	comp=E,26nm,0.3s,baz=195,slow=14,SNR=421						
KK31				⇑S	**S**	**04 13 02.3**	**-5.9**
	comp=E,25nm,0.5s,baz=184,slow=20,SNR=7.4						
KK31	**Karatay Array**	**7.03**	**358**	P	**P**	**04 11 47.7**	**-1.6**
	comp=E,26nm,0.3s						
KK31				S	**S**	**04 13 02.3**	**-5.9**
KKAR	**Karatay Array**	**7.03**	**358**	P	**P**	**04 11 47.6**	**-1.6**
KKAR				*e*S	**S**	**04 13 01.7**	**-6.5**
KKAR				pmax	pmax		
	comp=Z,32nm,0.4s						
KKAR				smax			
	comp=Z,15nm,0.4s						
AAK	**Ala-Archa**	**7.13**	**22**	P	**P**	**04 11 51.0**	**+0.3**
	SNR=49						
AAK	**Ala-Archa**	**7.13**	**22**	⇑P	**P**	**04 11 50.8**	**+0.2**
	comp=Z,31nm,0.4s						
AAK				⇓S	**S**	**04 13 07.4**	**-3.3**
	comp=Z,48nm,0.9s						
AAK	**Ala-Archa**	**7.13**	**22**	⇑P	**P**	**04 11 50.8**	**+0.2**
AAK				S	**S**	**04 13 07.4**	**-3.3**
AAK				pmax	pmax		
	comp=Z,31nm,0.4s						
KBK	**Karagaybulak**	**7.30**	**24**	P	**P**	**04 11 53.9**	**+1.0**
	SNR=14						
ULHL	**Ulahol**	**7.45**	**32**	P	**P**	**04 11 55.2**	**+0.3**
	SNR=15						
CHMS	**Chumysh**	**7.55**	**22**	P	**P**	**04 11 56.1**	**-0.2**
	SNR=28						
USP	**Ospenovka**	**7.72**	**20**	P	**P**	**04 11 58.1**	**-0.5**
	SNR=14						
TKM2	**Tokmak 2**	**7.76**	**27**	P	**P**	**04 11 59.7**	**+0.6**
	SNR=35						
KHET	**Khetri**	**9.00**	**151**	*e*P	**P**	**04 12 13.4**	**-2.6**
KHET				*e*S	**S**	**04 13 48.9**	**-7.4**
KHET				AML	AML	04 13 55.7	
	comp=N,60nm,0.4s						
KHET				AML	AML	04 13 57.3	
	comp=E,66nm,0.3s						
NDI	**New Delhi**	**9.11**	**142**	*e*P	**P**	**04 12 17.0**	**-0.4**
NDI				*e*S	**S**	**04 13 53.0**	**-6.0**
JASL	**Jaisalmer**	**9.11**	**180**	*e*P	**P**	**04 12 12.4**	**-5.0**
AYAN	**Aya Nagar**	**9.23**	**143**	*e*P	**P**	**04 12 17.5**	**-1.6**
AYAN				AML	AML	04 14 00.2	
	comp=Z,30nm,0.3s						
KALG	**Kalgarh**	**9.32**	**132**	*e*P	**P**	**04 12 20.9**	**+0.7**
KALG				*e*S	**S**	**04 13 58.9**	**-5.1**
SONA	**Sohna**	**9.40**	**144**	*e*P	**P**	**04 12 19.5**	**-1.8**
SONA				*e*S	**S**	**04 13 59.5**	**-6.6**
SONA				AML	AML	04 14 04.2	
	comp=E,75nm,0.4s						
SONA				AML	AML	04 14 04.7	
	comp=N,31nm,0.1s						
KOLN	**Koldanda**	**13.61**	**124**	*e*P	**P**	**04 13 16.0**	**-1.2**
	comp=N,32nm,0.5s						
MK02	**Makanchi Array**	**13.70**	**35**	⇓P	**P**	**04 13 20.5**	**+2.3**
MK02				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MK31	**Makanchi Array**	**13.71**	**35**	⇓P	**P**	**04 13 20.5**	**+2.1**
	comp=Z,2.6nm,0.5s,baz=213,slow=12,SNR=24						
MKAR	**Makanchi Array**	**13.71**	**35**	P	**P**	**04 13 17.9**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=220,slow=13,SNR=29						
MKAR	**Makanchi Array**	**13.71**	**35**	P	**P**	**04 13 17.9**	**-0.4**
MKAR	**Makanchi Array**	**13.71**	**35**	*e*P	**P**	**04 13 18.9**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GKN	**Gorkha**	**14.17**	**121**	*e*P	**P**	**04 13 23.0**	**-1.5**
	comp=Z,56nm,0.5s						
DMN	**Daman**	**14.74**	**121**	*e*P	**P**	**04 13 30.1**	**-1.7**
	comp=Z,44nm,0.5s						
KKN	**Kakani**	**14.75**	**120**	*e*P	**P**	**04 13 30.8**	**-1.2**
	comp=Z,39nm,0.5s						
PKI	**Pulchoki**	**14.97**	**120**	*e*P	**P**	**04 13 34.1**	**-0.8**
	comp=Z,42nm,0.5s						
GUN	**Gumba**	**15.10**	**118**	*e*P	**P**	**04 13 35.3**	**-1.2**
	comp=Z,24nm,0.4s						
AB31	**Akbulak array**	**15.41**	**332**	⇑P	**P**	**04 13 37.4**	**-2.9**
	comp=Z,49nm,0.6s,baz=141,slow=11,SNR=795						
AB31	**Akbulak array**	**15.41**	**332**	⇑P	**P**	**04 13 37.4**	**-2.9**
	comp=Z,49nm,0.6s						
AB31	**Akbulak array**	**15.41**	**332**	*e*P	**P**	**04 13 37.5**	**-2.8**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.3s						
KURK	**Kurchatov**	**15.68**	**19**	*e*P	**P**	**04 13 40.9**	**-2.7**
	comp=Z,10nm,0.9s						
KURK	**Kurchatov**	**15.68**	**19**	*e*P	**P**	**04 13 40.9**	**-2.7**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VOSK	**Vostochnaya**	**16.66**	**0**	⇑P	**P**	**04 13 53.6**	**-2.1**
	comp=Z,6.1nm,0.8s						
VOSK	**Vostochnaya**	**16.66**	**0**	⇑P	**P**	**04 13 53.6**	**-2.1**
	comp=Z,6.1nm,0.8s						
VOSK	**Vostochnaya**	**16.66**	**0**	⇑P	**P**	**04 13 53.6**	**-2.2**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BVA0	**Borovoye Array**	**16.96**	**359**	⇑P	**P**	**04 14 00.2**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=157,slow=12,SNR=34						
BVA0	**Borovoye Array**	**16.96**	**359**	⇑P	**P**	**04 14 00.2**	**+0.7**
	comp=Z,1.1nm,0.8s						
BVA0	**Borovoye Array**	**16.96**	**359**	⇑P	**P**	**04 14 00.2**	**+0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**16.96**	**359**	P	**P**	**04 13 57.4**	**-2.1**
	comp=Z,2.5nm,0.3s,baz=160,slow=11,SNR=16						
BRVK	**Borovoye**	**17.00**	**359**	*e*P	**P**	**04 13 58.1**	**-1.8**
	comp=Z,3.7nm,0.4s						
BRVK	**Borovoye**	**17.00**	**359**	*e*P	**P**	**04 13 58.1**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKTK	**Aktyubinsk**	**17.10**	**331**	⇑P	**P**	**04 14 00.7**	**-0.6**
AKTO	**Aktyubinsk**	**17.10**	**331**	⇑P	**P**	**04 14 00.7**	**-0.6**
	comp=Z,7.6nm,0.8s						
LSA	**Lhasa**	**18.17**	**105**	P	**P**	**04 14 19.2**	**+4.8**
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**18.17**	**105**	P	**P**	**04 14 19.2**	**+4.7**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZAL	**Zalesovo**	**20.34**	**24**	P	**P**	**04 14 37.3**	**-0.5**
	comp=Z,28nm,0.5s,baz=251,slow=8.9,SNR=47						

NVS	Novosibirsk	20.63	21	eP	P	04 14 41.9	+1.2
NVS				pmax	pmax		
	comp=Z,18nm,0.8s						
NVS				pmax	pmax		
	comp=N,14nm,0.7s						
GNI	Garni	20.93	289	eP	P	04 14 47.0	+3.2
	comp=N,19nm,0.9s						
GNI	Garni	20.93	289	eP	P	04 14 47.0	+3.2
GNI				pmax	pmax		
	comp=Z,19nm,0.9s						
ZEI	Tsey	21.83	296	eP	P	04 14 54.3	+1.5
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.7						
ARU	Arti	22.01	342	eP	P	04 14 57.2	+2.7
	comp=Z,24nm,1.0s,mb4.5						
ARU	Arti	22.01	342	⇑iP	P	04 14 57.4	+3.0
ARU				e		04 15 16.1	
ARU				eS	S	04 18 54.8	+8.7
ARU				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.4						
KIV	Kislovodsk	22.90	299	eP	P	04 15 13.6	+10
KIV				pmax	pmax		
	comp=N,11nm,1.2s						
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.1						
GTA	Gaotai	23.09	73	eP	P	04 15 09.5	+4.4
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.0						
SONM	Songino Array	28.67	55	P	P	04 15 58.7	+1.7
	comp=Z,1.1nm,0.8s,mb3.5,baz=252,slow=9.0,SNR=8.9						
SONM				LR	LR	04 28 26.4	
	comp=Z,34nm,18.2s,baz=127,slow=38						
BR131	Keskin Array S	29.46	288	P	P	04 16 04.2	+0.1
	comp=Z,1.3nm,0.6s,mb3.7						
BRTR	Keskin Array B	29.46	288	P	P	04 16 04.0	-0.1
	comp=Z,0.9nm,0.6s,mb3.6,baz=97,slow=10.0,SNR=4.1						
AKASG	Malin Array Be	33.13	309	P	P	04 16 33.6	-2.5
	comp=Z,1.1nm,0.5s,mb4.0,baz=82,slow=6.6,SNR=6.9						
JOF	Joensuu	36.19	330	ep	P	04 17 03.0	+1.0
FINES	FINESS Array B	37.78	326	P	P	04 17 16.4	+1.0
	comp=Z,2.6nm,0.6s,mb4.2,baz=112,slow=10,SNR=8.7						
KAF	Kangasniemi	37.93	328	ep	P	04 17 13.3	-3.3
ARCES	ARCESS Array B	41.51	338	P	P	04 17 47.8	+1.9
	comp=Z,7.6nm,0.7s,mb4.5,baz=117,slow=6.7,SNR=15						
NB2	NORSAR Subarra	44.66	323	P	P	04 18 11.8	+0.1
	comp=Z,3.1nm,0.6s,mb4.2,baz=97,slow=7.9						
NB2	NORSAR Subarra	44.66	323	P	P	04 18 11.8	+0.1
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
NOA	NORSAR Array B	44.66	323	P	P	04 18 11.3	-0.4
	comp=Z,2.3nm,0.5s,mb4.2,baz=98,slow=7.8,SNR=12						
MBAR	Mbarara	52.17	235	eP	P	04 19 08.7	-1.6
	comp=Z,3.1nm,1.1s,mb4.2						
MBAR	Mbarara	52.17	235	eP	P	04 19 08.7	-1.7
MBAR				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ESDC	Sonseca Array	57.56	298	P	P	04 19 48.8	-0.4
	comp=Z,0.2nm,0.3s,mb3.6,baz=49,slow=8.7,SNR=4.1						
INK	Inuvik	74.35	9	P	P	04 21 37.1	+1.6
	comp=Z,3.8nm,0.5s,mb4.4,baz=355,slow=9.2,SNR=29						
INK	Inuvik	74.35	9	eP	P	04 21 36.6	+1.1
	comp=Z,3.8nm,0.6s,mb4.3						
INK	Inuvik	74.35	9	eP	P	04 21 36.6	+1.1
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DBIC	Dimbokro	74.57	267	P	P	04 21 37.0	-0.9
	comp=Z,0.8nm,0.4s,mb3.8,baz=312,slow=12,SNR=6.2						
DBIC	Dimbokro	74.57	267	eP	P	04 21 36.7	-1.1
	comp=Z,1.7nm,0.6s,mb4.0						
DBIC	Dimbokro	74.57	267	eP	P	04 21 36.7	-1.1
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	75.23	16	P	P	04 21 41.0	+0.5
	comp=Z,1.3nm,1.0s,mb3.6,baz=299,slow=4.5,SNR=6.7						
ILAR	Eielson Array	75.23	16	P	P	04 21 41.0	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	Yellowknife Ar	81.68	3	P	P	04 22 17.0	+1.2
	comp=Z,1.8nm,0.5s,mb4.1,baz=353,slow=5.5,SNR=8.6						
YKA	Yellowknife Ar	81.68	3	P	P	04 22 17.0	+1.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	Warramunga Arr	81.85	122	P	P	04 22 18.3	+0.8
	comp=Z,1.9nm,0.5s,mb4.2,baz=324,slow=4.9,SNR=23						
WRA	Warramunga Arr	81.85	122	P	P	04 22 18.3	+0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CTAO	Charters Tower	90.46	115	P	P	04 23 00.4	+0.8
	comp=Z,2.1nm,0.5s,mb4.5						
CTAO	Charters Tower	90.46	115	P	P	04 23 00.4	+0.8
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						

*GUC **15** 04:10:32.5±0.7, 38.17S×70.56W, h117km±20km, ML4.6*
*NEIC **15** 04:10:32.4±0.5, 37.98S×70.62W, h162km±6km, mb4.1/6, Error ellipse: s-maj=11.2km s-min=6.6km az=97.0*
*IDC **15** 04:10:32.4±1.4, 37.97S×70.41W, h155km±12km, mb3.5/5, mb1 3.6/9, mb1mx3.4/18, mbtmp4.0/9, Error ellipse: s-maj=58.4km s-min=9.5km az=97.0*
ISC 15 04:10:31.7±0.5**, 38.01S**±0.04×**70.65W**±0.10**, h167**km±6km**, n27, σ1^{s}00**/34**, mb4.0**/7**, 5C-1D, Southern Argentina**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCHI	Chillan	1.81	321	eP	P	04 11 06.2	0.0
CCHI				i S	S	04 11 31.3	-1.5
COCH	Cobquecura	2.54	317	eP	P	04 11 15.5	+0.8
COCH				i S	S	04 11 47.5	-0.3
VLCH	Valdivia	2.71	228	⇑iP	P	04 11 14.8	-2.0
VLCH				i S	S	04 11 46.3	-5.1
VLCH				AMP		04 11 51.3	
	comp=N,4μm,0.1s						
PLCA	Paso Flores	2.72	178	P	P	04 11 17.6	+0.7
	comp=N,8.5nm,0.3s,baz=357,slow=12,SNR=345						
PLCA				S	S	04 11 51.9	+0.3
	comp=N,1.3nm,0.3s,baz=326,slow=12,SNR=4.3						
CNCO	Chanco	2.73	326	⇑iP	P	04 11 17.6	+0.6
CNCO				i S	S	04 11 52.2	+0.4
CNCO				AMP		04 11 53.6	
	comp=E,694nm,0.4s						
CICH	Cipreses	3.69	3	⇓iP	P	04 11 30.7	+1.5
CICH				i S	S	04 12 15.0	+1.6
CFAA	Coronel Fontan	6.69	18	P	P	04 12 07.5	-1.1
	comp=E,2.2nm,0.3s,baz=195,slow=11,SNR=153						
CFAA				S	S	04 13 20.3	-3.6
	comp=E,1.9nm,0.3s,baz=83,slow=21,SNR=21						
TRQA	Tornquist	6.84	93	ePn	P	04 12 10.6	+0.1
	comp=E,9.0nm,0.6s						
LVC	Limon Verde	15.42	6	P	P	04 14 01.8	+0.3
	comp=E,1.3nm,0.3s,baz=214,slow=7.7,SNR=14						
LVC	Limon Verde	15.42	6	eP	P	04 14 01.1	-0.5
CPUP	Villa Florida	16.19	48	P	P	04 14 10.4	-0.6
	comp=E,0.1nm,0.3s,baz=229,slow=9.8,SNR=3.8						
CPUP	Villa Florida	16.19	48	eP	P	04 14 09.5	-1.5
	comp=E,4.0nm,0.8s						
LPAZ	La Paz	21.75	7	P	P	04 15 11.9	+1.5
	comp=E,0.9nm,0.7s,mb3.3,baz=180,slow=3.4,SNR=11						
LPAZ	La Paz	21.75	7	eP	P	04 15 11.2	+0.8
	comp=E,1.6nm,0.7s,mb3.6						
SIV	San Ignacio	23.50	24	P	P	04 15 27.3	-0.1
	comp=E,4.0nm,0.9s,mb4.0,baz=227,slow=7.9,SNR=14						
BDFB	Brasilia	29.92	48	P	P	04 16 24.4	-1.7
	comp=E,2.1nm,0.7s,mb4.0,baz=215,slow=9.9,SNR=5.1						
VNA3	Neumayer Olymp	45.23	157	e	P	04 18 37.5	+4.3
VNA3	Neumayer Olymp	45.23	157	⇑iP	P	04 18 33.8	+0.6
VNA3				e		04 18 37.5	
VNA2	Neumayer--Watz	45.89	156	e	P	04 18 42.4	+4.0
VNA2	Neumayer--Watz	45.89	156	⇑iP	P	04 18 39.0	+0.6
VNA2				e		04 18 42.4	
SNAA	Sanae	47.46	157	⇑i	P	04 18 50.9	+0.2
SNAA	Sanae	47.46	157	e	P	04 18 54.3	+3.6
SNAA	Sanae	47.46	157	P	P	04 18 50.8	+0.1
	comp=E,0.7nm,0.5s,mb3.6,baz=291,slow=6.7,SNR=95						
SNAA	Sanae	47.46	157	eP	P	04 18 50.5	-0.1
	comp=E,4.3nm,0.8s,mb4.1						
SNAA				e		04 18 54.3	
QSPA	South Pole Qui	52.23	180	eP	P	04 19 27.5	+0.6
	comp=E,5.6nm,0.7s,mb4.3						
MAW	Mawson	69.02	163	P	P	04 21 20.0	-0.3
	comp=E,1.2nm,0.4s,mb4.0,baz=213,slow=4.8,SNR=5.3						
CASY	Casey	76.03	180	P	P	04 22 01.2	-0.2
	comp=E,3.7nm,0.9s,mb4.0						

CASC 15 05:53:49.8±1.9**, 13.01N**×**89.17W, h34**km±14km**, MD3.7, 4C-8D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	El Faro	0.62	9	⇓eP	P	05 54 02.4	+0.3
LFRS				eS	S	05 54 12.5	+1.5
LCBS	La Ceiba	0.67	16	⇓eP	P	05 54 02.9	+0.1
LCBS				eS	S	05 54 13.0	+0.8
SNET	Serv Nac Est T	0.68	355	⇑eP	P	05 54 01.9	-1.1
SNET				eS	S	05 54 12.5	+0.1
SNVI	San Vicente	0.68	28	⇑eP	P	05 54 02.7	-0.2
BOQS	Boqueron	0.73	351	⇓eP	P	05 54 04.3	+0.7
BOQS				eS	S	05 54 14.7	+0.9
LBRS	Las Brisas	0.74	9	⇓eP	P	05 54 04.2	+0.5
LBRS				eS	S	05 54 14.1	+0.1
LFU	La Fuente	0.74	4	⇓eP	P	05 54 04.3	+0.5
LFU				eS	S	05 54 14.4	+0.5
SBLS	San Blas	0.94	332	eP	P	05 54 05.4	-1.2
SBLS				eS	S	05 54 20.6	+1.5
SNJE	San Jose	0.96	334	eP	P	05 54 07.6	+0.7
SNJE				eS	S	05 54 21.8	+2.2
RTR	El Retiro	1.00	332	⇑eP	P	05 54 08.4	+0.9
RTR				eS	S	05 54 22.1	+1.4
BLLM	Bellamira	1.00	64	⇑eP	P	05 54 08.0	+0.4
BLLM				eS	S	05 54 22.1	+1.4
RBDL	Robledal	1.21	335	⇓eP	P	05 54 11.1	+0.6
RBDL				eS	S	05 54 26.8	+0.8
CNCH	Conchagua	1.33	78	⇓eP	P	05 54 12.2	0.0
CNCH				eS	S	05 54 30.8	+1.9
CRIN	San Cristobal	2.09	98	eP	P	05 54 23.1	+0.1
CRIN				eS	S	05 54 48.9	+0.8
TEL3	Telica 3	2.31	100	eP	P	05 54 25.4	-0.8
TEL3				eS	S	05 54 51.5	-2.1
MIRN	Miramar	2.46	103	eP	P	05 54 27.4	-1.0
MIRN				eS	S	05 54 56.5	-1.0
COPN	Copaltepe	2.64	108	⇓eP	P	05 54 31.3	+0.3

*NIED **15** 06:06:00, 35.20N×139.80E, h110km, Mw3.6 Best double couple: M₀2.48×10^{14} NP1:φs192°, δ62°, λ57°. NP2:φs66°, δ42°, λ136°.*
*JMA **15** 06:06:08.6±0.2, 35.16N×139.77E, h98km±2km, M3.3 Broadband fault plane solution: P waves. NP1:φs80°, δ37°, λ166°. NP2:φs181°, δ82°, λ54°. Principal axes: T Plg42°, Azm57°; N Plg35°, Azm187°; P Plg28°, Azm299°;*
JMA Felt I J1.
ISC 15 06:06:08.7±1.2**, 35.09N**±0.08×**139.72E**±0.08**, h99**km±9km**, n12, σ0^{s}55**/18**, 5C-3D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYO	Yokosk	0.14	342	⇑P	P	06 06 22.7	0.0
JYO				S	S	06 06 33.6	+0.4
TATJ	Tateyama 2	0.15	112	P	P	06 06 23.1	+0.4
TATJ				S	S	06 06 33.7	+0.4
JIM2	Oshima 3	0.44	213	⇑P	P	06 06 24.0	-0.1
JIM2				eS	S	06 06 34.9	-0.8
JOD2	Odawara 2	0.55	289	⇑P	P	06 06 24.5	-0.4
JOD2				S	S	06 06 36.1	-0.9
BSO3	Boso 3	0.71	114	⇓P	P	06 06 26.2	-0.1
BSO3				S	S	06 06 40.3	+0.8
JIZS	Izushimoda	0.78	242	⇑P	P	06 06 27.4	+0.3
JYN	Shimob	1.04	293	⇑P	P	06 06 30.3	+0.5
BSO1	Boso 1	1.12	112	P	P	06 06 29.9	-0.9
JRY	Ryogami san	1.14	325	⇓P	P	06 06 31.0	0.0
SHZ3	Shizuoka 3	1.24	269	P	P	06 06 32.9	+0.7
JAG	Ashikaga	1.35	351	⇓P	P	06 06 32.5	-1.0
MAT	Matsushiro	1.90	320	P	P	06 06 40.7	+0.3
MAT				S	S	06 07 04.1	+0.2

*BJI **15** 06:06:46.2, 7.41S×150.31E, h68km, mB5.2, mb5.0*
*NEIC **15** 06:06:47.8±1.9, 7.96S×149.45E, h63km±15km, mb4.5/12, Error ellipse: s-maj=15.6km s-min=8.7km az=91.0*
*IDC **15** 06:06:47.5±4.6, 7.95S×149.47E, h58km±39km, mb4.0/11, mb1 4.2/13, mb1mx4.2/15, mbtmp4.3/13, ML3.7/2, MS3.4/7, Ms1 3.3/7, ms1mx3.2/20, Error ellipse: s-maj=35.5km s-min=18.1km az=89.0*
ISC 15 06:06:47.5±2.6**, 8.00S**±0.08×**149.5E**±0.1**, h75**km±21km**, n40, σ0^{s}93**/37**, mb4.3**/24**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.66	238	P	P	06 07 29.0	-0.3
	69nm,0.3s,baz=59,slow=5.4,SNR=118						
PMG				S	S	06 08 03.2	+2.7
	232nm,0.3s,baz=12,slow=22,SNR=31						
PMG				LR	LR	06 08 34.3	
	comp=Z,481nm,21.6s,baz=46,slow=39						
PMG	Port Moresby	2.66	238	P	P	06 07 29.0	-0.3
PMG				eSn	S	06 08 01.5	+1.1
PMG				LR	LR	06 08 34.3	
HNR	Honiara	10.47	99	LR	LR	06 12 08.0	
	comp=Z,54nm,20.4s,baz=47,slow=31						
CTA	Charters Tower	12.41	194	LR	LR	06 13 59.1	
	comp=Z,157nm,19.2s,baz=31,slow=35						
WRAB	Tennant Creek	18.83	229	eP	P	06 11 01.6	-2.4
WB2	Warramunga Arr	18.84	229	eP	P	06 11 03.2	-0.9
WRA	Warramunga Arr	18.85	229	P	P	06 11 03.2	-1.0
	0.4nm,0.3s,baz=53,slow=10,SNR=12						
DZM	Mont Dzumac	21.52	132	LR	LR	06 17 53.3	
	comp=Z,152nm,18.5s,baz=198,slow=31						
GUMO	Guam	21.93	348	LR	LR	06 18 20.6	
	comp=Z,66nm,19.4s,baz=101,slow=32						
STKA	Stephens Creek	24.86	196	P	P	06 12 05.7	+1.1
	3.6nm,0.8s,mb3.8,baz=1.7,slow=13,SNR=4.7						
STKA				LR	LR	06 22 52.6	
	comp=Z,124nm,19.6s,baz=232,slow=39						
STKA	Stephens Creek	24.86	196	eP	P	06 12 05.3	+0.7
STKA				LR	LR	06 22 52.6	
FITZ	Fitzroy Crossi	25.25	244	⇑iP	P	06 12 08.2	-0.2
	7.1nm,0.4s,mb4.5						
FITZ	Fitzroy Crossi	25.25	244	P	P	06 12 08.3	0.0
	9.2nm,0.4s,mb4.6,baz=56,slow=4.8,SNR=32						
FITZ				LR	LR	06 22 50.4	
	comp=Z,150nm,19.2s,baz=82,slow=38						
MJAR	Matsushiro Arr	45.55	347	P	P	06 14 59.6	-2.1
	0.4nm,0.3s,mb3.6,baz=168,slow=8.8,SNR=4.5						
MAJO	Matsushiro	45.55	347	eP	P	06 15 00.6	-1.2
	57nm,1.6s,mb5.0						
KULM	Kulim	50.44	284	eP	P	06 15 38.6	-1.5
WHN	Wuhan	51.02	320	eP	P	06 15 45.0	+0.8
LZH	Lanzhou	61.31	319	eP	P	06 16 58.5	+0.8
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,126nm,4.2s						
HIA	Hailar	62.68	339	eP	P	06 17 06.8	+0.1
	comp=Z,13nm,0.9s,mb4.9						
CASY	Casey	64.01	196	eP	P	06 17 14.2	-0.9
	comp=Z,4.1nm,0.8s,mb4.3						
GTA	Gaotai	65.83	320	eP	P	06 17 27.9	+0.5
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
SONM	Songino Array	67.34	330	P	P	06 17 37.3	+0.6
	comp=Z,6.3nm,0.8s,mb4.5,baz=143,slow=5.9,SNR=26						
VNDA	Vanda	69.79	177	P	P	06 17 51.5	+0.1
	comp=Z,1.9nm,0.9s,mb3.9,baz=335,slow=6.0,SNR=9.1						
GUN	Gumba	71.00	303	eP	P	06 17 59.9	+0.4
PKI	Pulchoki	71.27	303	eP	P	06 18 01.4	+0.3
	comp=Z,9.1nm,0.7s,mb4.7						
KKN	Kakani	71.45	303	eP	P	06 18 02.8	+0.6
DMN	Daman	71.54	303	eP	P	06 18 03.3	+0.6
	comp=Z,21nm,0.9s,mb5.0						
GKN	Gorkha	72.06	303	eP	P	06 18 06.0	+0.2
	comp=Z,22nm,1.0s,mb5.0						
MKAR	Makanchi Array	80.59	320	P	P	06 18 54.2	+0.8
	comp=Z,1.3nm,0.7s,mb3.9,baz=97,slow=7.0,SNR=14						
MAW	Mawson	81.35	203	P	P	06 18 57.2	+0.1
	comp=Z,0.8nm,0.5s,mb3.8,baz=75,slow=8.4,SNR=3.7						
QSPA	South Pole Qui	81.98	180	eP	P	06 19 01.0	+0.9
	comp=Z,3.5nm,0.5s,mb4.5						
ZAL	Zalesovo	82.00	327	P	P	06 19 01.3	+0.6
	comp=Z,2.2nm,0.8s,mb4.1,baz=352,slow=7.2,SNR=9.6						
KURK	Kurchatov	84.27	323	eP	P	06 19 12.5	+0.3
	comp=Z,3.2nm,1.0s,mb4.1						
AAK	Ala-Archa	84.47	314	eP	P	06 19 13.2	-0.2
	comp=Z,3.2nm,0.8s,mb4.2						
MCK	McKinley	85.09	23	P	P	06 19 15.2	-0.9
	comp=Z,1.7nm,0.8s,mb4.0						
ILAR	Eielson Array	86.37	23	P	P	06 19 21.9	-0.4
	comp=Z,1.7nm,0.8s,mb4.0,baz=252,slow=4.8,SNR=22						
BVAR	Borovoye Array	89.82	324	P	P	06 19 38.7	-0.3
	comp=Z,1.4nm,0.7s,mb4.2,baz=90,slow=5.9,SNR=6.7						
BRVK	Borovoye	89.89	324	P	P	06 19 38.7	-0.6
	comp=Z,1.6nm,0.9s,mb4.2						
NVAR	Mina Array Bea	96.66	52	P	P	06 20 13.0	+2.2
	comp=Z,0.9nm,0.9s,mb4.2,baz=256,slow=4.5,SNR=5.1						
GERES	GERESS Array B	124.93	326	PKP	PKPdf	06 25 40.9	+1.7
	comp=Z,0.2nm,0.2s,baz=72,slow=4.2,SNR=4.2						

BJI 15 06:16:10.3, 33.26N×121.08E, h15km, ML4.1, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SSE	Sheshan	2.16	178	P	Pn	06 16 43.4	-2.9
SSE				S	Sn	06 17 10.8	-2.2
SSE				Smax			
	comp=N,385nm,0.7s						
SSE				Smax			
	comp=E,1μm,0.4s						
NJ2	Nanjing	2.23	238	eP	Pn	06 16 47.1	-0.2
NJ2				PG	Pg	06 16 53.0	-1.9
NJ2				S	Sn	06 17 17.8	+3.0
NJ2				SG	Sg	06 17 25.8	+1.1
NJ2				Smax			
	comp=N,1μm,0.2s						
NJ2				Smax			
	comp=E,2μm,0.2s						
DL2	Dalian	5.65	4	PG	Pg	06 17 53.8	-9.4
DL2				SG	Sg	06 19 07.4	-11
DL2				Smax			
	comp=N,40nm,0.6s						
DL2				Smax			
	comp=E,50nm,0.6s						
LZH	Lanzhou	14.46	286	eP	P	06 19 32.5	-3.9

*NEIC **15** 06:46:26.5±0.8, 10.13N×72.38W, h179km±16km, mb4.3/1, Error ellipse: s-maj=25.0km s-min=7.1km az=119.0*
*IDC **15** 06:46:26.5±1.4, 10.09N×72.32W, h180km±23km, mb2.8/2, mb1 3.4/5, mb1mx3.1/23, mbtmp3.8/5, Error ellipse: s-maj=31.0km s-min=23.7km az=101.0*
*FUNV **15** 06:46:32.6, 9.72N×72.07W, MW2.9*
*RSPR **15** 06:48:04.0, 15.87N×67.81W, h25km±23km, MD2.9/8, MD2.9/8*
ISC 15 06:46:25.4±0.6**, 10.14N**±0.06×**72.40W**±0.09**, h174**km±10km**, n26, σ0^{s}88**/32**, mb3.4**/3**, 9C, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIRV	Villa del Rosa	0.37	359	eP	P	06 46 48.9	-0.5
VIRV				eS	S	06 47 00.9	-6.9
QARV	Quebrada Arrib	1.85	88	eP	P	06 47 02.2	+1.4
QARV				eS	S	06 47 23.2	-4.8
DABV	Dabajuro	1.90	66	eS	S	06 47 29.4	+0.4
SDV	Santo Domingo	2.14	125	P	P	06 47 05.3	+1.3
	15nm,0.3s,baz=357,slow=10,SNR=25						
SDV				S	S	06 47 33.9	+0.1
	27nm,0.3s,baz=71,slow=1.4,SNR=31						
SDV	Santo Domingo	2.14	125	P	P	06 47 05.3	+1.3
SDV				eSn	S	06 47 25.0	-8.7
CAPV	Capacho	2.26	178	eP	P	06 47 04.9	-0.5
CAPV				eS	S	06 47 30.0	-6.1
SOCV	Socops	2.39	140	eP	P	06 47 05.8	-1.2
SOCV				eS	S	06 47 29.3	-10
SIQV	Siquisique	2.60	78	eS	S	06 47 41.4	-2.1
SANV	Sanarito	2.89	102	eP	P	06 47 13.9	+0.8
SANV				eS	S	06 47 44.8	-4.9
ELOV	Elorza	4.25	137	eP	P	06 47 29.7	-0.5
ROSC	El Rosal	5.58	200	P	P	06 47 48.3	+0.7
	2.2nm,0.3s,baz=90,slow=17,SNR=11						
MGP	Maguayo	9.37	33	⇑eP	P	06 48 37.5	0.0
LSP	Las Mesas	9.51	32	⇑eP	P	06 48 39.8	+0.3
AGPR	Aguadilla, PR	9.74	31	⇑eP	P	06 48 43.6	+1.2
SJG	San Juan	9.98	37	P	P	06 48 45.5	-0.1
	7.5nm,0.3s,baz=212,slow=15,SNR=14						
SJG	San Juan	9.98	37	ePn	P	06 48 45.2	-0.4
	15nm,0.3s						
CPD	Cerro la Pandu	10.06	38	⇑eP	P	06 48 46.0	-0.7
HUMP	Col San Antoni	10.18	38	⇑eP	P	06 48 47.8	-0.4
CBYP	Canovanas	10.28	37	⇑eP	P	06 48 49.2	-0.3
MTP	Monte Pirata	10.32	39	⇑eP	P	06 48 49.3	-0.8
CDVI	St. Croix	10.59	44	⇑eP	P	06 48 54.6	+0.9
TBVI	Tortola	11.16	42	⇑eP	P	06 49 02.2	+1.1
BBSR	BB Station	23.25	17	P	P	06 51 12.8	-5.4
	9.5nm,0.9s,mb4.2						
TXAR	Lajitas Array	34.91	308	P	P	06 53 01.7	-0.6
	0.1nm,0.6s,mb2.6,baz=124,slow=9.8,SNR=3.1						
PDAR	Pinedale Array	45.88	322	P	P	06 54 31.8	-0.3
	0.4nm,0.4s,mb3.4,baz=117,slow=9.9,SNR=3.7						
WRA	Warramunga Arr	152.44	246	PKPbc	PKPdf	07 06 02.3	+7.8
	0.6nm,0.3s,baz=104,slow=2.8,SNR=13						

*BJI **15** 07:04:57.8, 3.42S×137.00E, h33km, mB5.0, mb4.9, Ms4.4, Msz4.2*
*IDC **15** 07:04:59.9±0.7, 3.00S×136.17E, mb4.5/7, mb1 4.7/10, mb1mx4.5/15, mbtmp4.5/10, ML4.6/3, MS3.9/9, Ms1 3.9/9, ms1mx3.7/19, Error ellipse: s-maj=36.9km s-min=12.8km az=67.0*
*NEIC **15** 07:05:01.3±6.0, 3.14S×136.06E, h6km±37km, mb4.9/9, Error ellipse: s-maj=16.2km s-min=11.3km az=51.0*
*HRVD **15** 07:05:01.3±0.6, 2.84S×135.89E, h35km±2km, MW4.7/28, Centroid moment Tensor Solution. LP body waves: s13,c17;Mantle waves: s28,c37; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.87±.23; $M_{\theta\theta}$-0.92±.15; $M_{\phi\phi}$0.05±.16; $M_{r\theta}$-0.46±.12; $M_{\theta\phi}$-0.99±.09; $M_{\phi r}$-0.31±.18; Best double couple: M₀1.326×10^{16} NP1:φs63°, δ33°, λ97°. NP2:φs235°, δ58°, λ85°. Principal axes: T .993, Plg77°, Azm130°; N .666, Plg4°, Azm237°; P -1.658, Plg12°, Azm328°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **15** 07:05:03.3±1.5, 3.12S×136.11E, h33km, mb5.3/3 Error ellipse: s-maj=23.2km s-min=11.7km az=111.9*
ISC 15 07:05:02.0±3.9**, 3.18S**±0.06×**136.0E**±0.1**, h22**km±29km**, n41, σ1^{s}09**/42**, mb4.8**/16**, MS4.0**/8**, 1C-3D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.12	200	eP	Px	07 07 49.8	
	119nm,0.6s						
KAKA				eS	Sx	07 09 43.5	
PMG	Port Moresby	12.66	120	Pn	P	07 08 04.1	+0.3
	0.8nm,0.3s,baz=294,slow=10.0,SNR=1.9						
PMG	Port Moresby	12.66	120	eP	P	07 08 03.4	-0.4
WRAB	Tennant Creek	16.73	186	ePn	P	07 08 55.8	-1.0
WRAB				eSn	S	07 11 52.1	-9.0
WB2	Warramunga Arr	16.74	186	eP	P	07 08 55.9	-1.0
WB2				eS	S	07 11 56.7	-4.6
WRA	Warramunga Arr	16.74	186	Pn	P	07 08 56.6	-0.4
	1.7nm,0.3s,baz=4.9,slow=13,SNR=56						
WRA				Sn	S	07 11 54.2	-7.1
	0.6nm,0.3s,baz=7.4,slow=22,SNR=3.7						
WRA				Lg		07 13 53.7	
	baz=358,slow=28,SNR=2.5						
FITZ	Fitzroy Crossi	17.99	214	⇓iP	P	07 09 14.0	+1.4
	34nm,0.9s						
FITZ				eS	S	07 12 28.2	-1.6
FITZ	Fitzroy Crossi	17.99	214	P	P	07 09 13.9	+1.3
	2.5nm,0.3s,baz=30,slow=9.2,SNR=38						
FITZ				S	S	07 12 28.3	-1.5
	3.9nm,0.3s,baz=186,slow=13,SNR=5.7						
FITZ				LR	LR	07 17 03.1	
	comp=Z,235nm,20.5s,baz=57,slow=40						
CTA	Charters Tower	19.54	150	eP	P	07 09 32.1	+1.0
	8.9nm,0.6s						
CTA	Charters Tower	19.54	150	P	P	07 09 31.1	0.0
	0.8nm,0.3s,baz=326,slow=8.7,SNR=8.5						
CTA				S	S	07 13 13.0	+8.4
	0.3nm,0.3s,baz=246,slow=16,SNR=2.3						
CTA				Lg		07 15 17.6	
	0.2nm,0.3s,baz=52,slow=21,SNR=2.3						
CTA				LR	LR	07 17 59.8	
	comp=Z,313nm,19.4s,baz=336,slow=40						
CTA	Charters Tower	19.54	150	eP	P	07 09 32.1	+1.0
CTA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CTAO	Charters Tower	19.54	150	eP	P	07 09 29.4	-1.7
	comp=Z,25nm,0.9s						
CTAO	Charters Tower	19.54	150	eP	P	07 09 29.4	-1.7
CTAO				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,25nm,0.9s						
ASPA	Alice Springs	20.47	186	⇓iP	P	07 09 43.5	+2.4
ASPA				eS	S	07 13 28.3	+4.2
STKA	Stephens Creek	29.02	170	P	P	07 11 01.8	-0.9
	comp=Z,0.8nm,0.3s,mb3.9,baz=338,slow=11,SNR=3.5						
STKA				LR	LR	07 23 53.9	
	comp=Z,300nm,18.6s,MS3.9,baz=15,slow=39						
JOW	Kunigami	30.77	346	LR	LR	07 21 29.6	
	comp=Z,96nm,21.3s,MS3.4,baz=130,slow=32						
MJAR	Matsushiro Arr	39.57	3	LR	LR	07 26 25.0	
	comp=Z,151nm,19.4s,MS3.8,baz=180,slow=33						
GTA	Gaotai	53.90	325	eP	P	07 14 26.0	-0.1
GTA				AP	pP	07 14 36.3	+3.3
GTA				XP	sP	07 14 40.9	+5.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,141nm,6.9s						
GTA				LR	LR		
	comp=N,53nm,11.8s,MS4.2						
GTA				LR	LR		
	comp=E,134nm,12.9s,MS4.2						
GTA				LR	LR		
	comp=Z,138nm,13.7s,MS4.2						
SONM	Songino Array	57.05	337	LR	LR	07 39 45.2	
	comp=Z,130nm,18.0s,MS4.1,baz=57,slow=37						
GUN	Gumba	57.29	306	eP	P	07 14 51.1	+0.3
PKI	Pulchoki	57.53	306	eP	P	07 14 52.8	+0.3
	comp=Z,19nm,1.0s,mb5.1						
PKI	Pulchoki	57.53	306	eP	P	07 14 52.8	+0.3
PKI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KKN	Kakani	57.72	306	eP	P	07 14 54.0	+0.2
	comp=Z,32nm,0.9s,mb5.3						
KKN	Kakani	57.72	306	eP	P	07 14 54.0	+0.2
KKN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
DMN	Daman	57.79	305	eP	P	07 14 54.7	+0.4
	comp=Z,25nm,0.9s,mb5.3						
GKN	Gorkha	58.33	306	eP	P	07 14 58.0	0.0
	comp=Z,45nm,0.9s,mb5.5						
KOLN	Koldanda	59.08	305	eP	P	07 15 03.5	+0.2
	comp=Z,52nm,1.0s,mb5.5						
BOD	Bodaibo	63.34	347	eP	P	07 15 26.2	-5.4
WMQ	Urumqi	63.75	323	⇓iP	P	07 15 34.5	-0.1
WMQ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,120nm,5.3s						
MKAR	Makanchi Array	68.56	323	P	P	07 16 04.7	-0.5
	comp=Z,8.8nm,0.9s,mb4.7,baz=121,slow=7.1,SNR=29						
MIR	Mirnyy	69.96	197c	iP	P	07 16 15.6	+2.1
MIR				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
ZAL	Zalesovo	71.03	331	P	P	07 16 18.9	-1.3
	comp=Z,0.9nm,0.4s,mb4.1,baz=34,slow=8.2,SNR=5.1						
ZAL				LR	LR	07 47 03.9	
	comp=Z,69nm,18.6s,MS3.9,baz=166,slow=36						
VNDA	Vanda	75.56	174	P	P	07 16 46.9	+0.6
	comp=Z,4.9nm,0.7s,mb4.5,baz=322,slow=6.9,SNR=37						
VNDA				LR	LR	07 51 20.3	
	comp=Z,154nm,18.4s,MS4.3,baz=329,slow=37						
VNDA	Vanda	75.56	174	P	P	07 16 46.9	+0.6
VNDA				LR	LR	07 51 20.3	
BVAR	Borovoye Array	78.19	326	P	P	07 17 00.6	-0.7
	comp=Z,3.6nm,0.7s,mb4.4,baz=117,slow=6.6,SNR=16						
MAW	Mawson	80.69	202	P	P	07 17 16.1	+1.5
	comp=Z,5.1nm,0.9s,mb4.5,baz=61,slow=6.9,SNR=7.6						
MAW				LR	LR	07 49 24.4	
	comp=Z,100nm,21.7s,MS4.1,baz=242,slow=33						
MAW	Mawson	80.69	202	P	P	07 17 16.1	+1.5
MAW				LR	LR	07 49 24.4	
QSPA	South Pole Qui	86.77	180	eP	P	07 17 46.6	+1.4
	comp=Z,14nm,1.0s,mb5.2						
ILAR	Eielson Array	87.37	25	P	P	07 17 46.1	-2.2
	comp=Z,1.8nm,1.0s,mb4.2,baz=265,slow=4.6,SNR=9.2						
PLCA	Paso Flores	129.99	154	PKP	PKPdf	07 24 13.6	-1.4
	comp=Z,1.0nm,0.8s,baz=198,slow=3.2,SNR=3.6						
LPAZ	La Paz	149.26	130	PKPbc	PKPdf	07 24 53.2	+3.3
	comp=Z,2.2nm,0.8s,baz=207,slow=2.8,SNR=11						

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*MOS **15** 07:24:34.4±2.9, 51.68N×16.10E, h10km, mb4.0/1, Error ellipse: s-maj=10.4km s-min=5.3km az=86.5*
*BGR **15** 07:24:35.4±0.7, 51.43N×16.27E, h1km, ML3.5/9, Error ellipse: s-maj=6.7km s-min=5.6km az=160.0*
*PRU **15** 07:24:35.9, 51.42N×16.19E*
*NEIC **15** 07:24:35.1±0.4, 51.48N×16.20E, h5km, ML3.6(VIE), ML3.5(SZGRF), Error ellipse: s-maj=4.6km s-min=3.3km az=188.0*
*IDC **15** 07:24:36.5±0.8, 51.44N×16.06E, mb3.1/1, mb1 3.5/8, mb1mx3.5/23, mbtmp3.4/8, ML3.3/7, Error ellipse: s-maj=12.5km s-min=7.1km az=131.0*
*WAR **15** 07:24:36.3, 51.45N×16.19E, h1km, ML3.4, Mining Induced*
*CSEM **15** 07:24:36.1±0.1, 51.42N×16.20E, h2km, ML3.8/13, Ms3.6, Error ellipse: s-maj=1.7km s-min=1.0km az=22.0*
*IPEC **15** 07:24:36.7±0.1, 51.40N×16.20E, h8km±1km, ML2.8/3, Error ellipse: s-maj=1.1km s-min=0.5km az=27.0*
*VIE **15** 07:24:37.8±0.6, 51.23N×16.05E, h1km, mb2.9/8, ML3.0/10, Ms3.6/1, Error ellipse: s-maj=3.7km s-min=2.6km az=13.0, Suspected Mining induced.*
ISC 15 07:24:34.6±0.4**, 51.32N**±0.02×**16.17E**±0.02**, n105, σ1s22**/182**, mb2.9**/1**, 20C-6D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.48	171	ePG	Pg	07 24 47.0	+2.8
KSP				eSG	Sg	07 24 56.0	+5.4
KSP	Ksiaz	0.48	171	⇓ePg	Pg	07 24 47.4	+3.2
KSP				i		07 24 47.6	
KSP				e		07 24 54.5	
KSP				eSg	Sg	07 24 55.6	+5.0
KSP				e		07 25 00.8	
KSP	Ksiaz	0.48	171	ePg	Pg	07 24 47.3	+3.1
KSP				eSg	Sg	07 24 55.3	+4.7
KSP	Ksiaz	0.48	171	⇓eP	Pg	07 24 47.4	+3.2
KSP				e		07 25 00.8	
UPC	Upice	0.81	187	ePG	Pg	07 24 53.4	+2.5
DPC	Dobruska-Polom	0.97	174	ePG	Pn	07 24 56.1	+0.8
DPC				eSG	Sn	07 25 10.3	+0.3
	297nm,0.6s						
DPC	Dobruska-Polom	0.97	174	ePg	Pn	07 24 56.2	+0.9
DPC				eSg	Sn	07 25 10.0	0.0
DPC	Dobruska-Polom	0.97	174	eP	Pn	07 24 56.1	+0.8
DPC				e		07 25 10.3	
DPC				smax			
	comp=N,297nm,0.6s						
PVCC	Panska Ves	1.28	233	ePG	Pg	07 25 01.7	+1.5
PVCC	Panska Ves	1.28	233	ePn	Pn	07 25 02.0	+2.2
BRG	Berggiesshubel	1.47	253	ePg	Pg	07 25 04.3	+0.3
BRG				eSg	Sg	07 25 25.3	+1.7
BRG	Berggiesshubel	1.47	253	Pn	Pn	07 25 02.9	+0.4
BRG				Pg	Pg	07 25 04.5	+0.6
BRG				Sg	Sg	07 25 25.1	+1.5
BRG	Berggiesshubel	1.47	253	Pn	Pn	07 25 02.8	+0.3
BRG	Berggiesshubel	1.47	253	Pg	Pg	07 25 04.6	+0.6
BRG				eSg	Sg	07 25 23.9	+0.3
BRG	Berggiesshubel	1.47	253	P	Pn	07 25 02.9	+0.4
BRG						07 25 25.1	
BRG				smax			
	comp=Z,163nm,0.5s						
PRU	Pruhonice	1.69	219	ePN	Pn	07 25 07.2	+1.7
PRU				ePG	Pg	07 25 08.9	+0.7
PRU				eSG	Sg	07 25 31.9	+1.2
PRU	Pruhonice	1.69	219	ePg	Pg	07 25 08.9	+0.7
PRU				eSg	Sg	07 25 31.8	+1.1
PRU	Pruhonice	1.69	219	eP	Pn	07 25 07.2	+1.7
PRU				e		07 25 31.9	
MORC	Moravsky Berou	1.77	150	ePn	Pn	07 25 08.1	+1.4
MORC				eSn	Sn	07 25 33.5	+3.2
MORC	Moravsky Berou	1.77	150	ePn	Pn	07 25 08.0	+1.2
MORC				eSn	Sn	07 25 33.5	+3.2
MORC				eSg	Sg	07 25 33.8	+0.2
	comp=Z,47nm,0.4s						
RAC	Raciborz	1.78	133	eP	Pn	07 25 11.0	+4.1
RAC				eS	Sn	07 25 35.0	+4.4
RAC	Raciborz	1.78	133	ePg	Pg	07 25 10.7	+0.5
RAC				eSg	Sg	07 25 35.2	+1.2
RUE	Ruedersdorf	1.89	309	ePn	Pn	07 25 06.6	-1.8
RUE				eSn	Sn	07 25 33.9	+0.7
RUE	Ruedersdorf	1.89	309	ePn	Pn	07 25 06.6	-1.8
RUE				eSn	Sn	07 25 33.9	+0.7
RUE				eSg	Sg	07 25 34.9	-2.5
OKC	Ostrava-Krasne	1.94	139	ePg	Pg	07 25 13.0	-0.4
OKC				Sg	Sg	07 25 38.8	-0.5
CLL	Collm	1.99	271	ePn	Pn	07 25 09.8	0.0
CLL				eSg	Sg	07 25 40.1	-0.7
CLL	Collm	1.99	271	iPN	Pn	07 25 09.3	-0.5
CLL				iPG	Pg	07 25 13.5	-0.8
CLL				iSG	Sg	07 25 39.8	-1.0
CLL	Collm	1.99	271	iPg	Pg	07 25 13.5	-0.8
CLL				Sg	Sg	07 25 40.1	-0.7
CLL	Collm	1.99	271	iP	Pn	07 25 09.3	-0.5
CLL				i		07 25 39.8	
VRAC	Vranov	2.03	172	ePn	Pn	07 25 12.4	+2.0
VRAC				eSg	Sg	07 25 42.9	+0.8
	comp=Z,77nm,0.6s						
TREC	Trest	2.07	192	ePG	Pg	07 25 16.4	+0.5
KRUC	Moravsky	2.26	176	ePn	Pn	07 25 15.8	+2.0
KRUC	Moravsky	2.26	176	ePg	Pg	07 25 19.3	-0.4
KRUC				eSg	Sg	07 25 51.3	+1.4
	comp=Z,54nm,0.5s						
TANN	Tannenbergstha	2.52	250	ePn	Pn	07 25 18.0	+0.6
TANN				eSg	Sg	07 25 58.2	-0.2
OJC	Ojcow	2.55	114	ePG	Pg	07 25 25.0	-0.6
OJC				eSG	Sg	07 25 59.0	-0.6
OJC	Ojcow	2.55	114	ePg	Pg	07 25 25.1	-0.5
OJC				eSg	Sg	07 25 58.6	-1.0
WERD	Werda	2.60	252	ePn	Pn	07 25 20.0	+1.4
WERD				eSg	Sg	07 26 00.8	-0.3
NKC	Novy Kostel	2.60	247	ePN	Pn	07 25 19.7	+1.1
NKC				eSG	Sg	07 26 00.9	-0.2
	comp=Z,48nm,0.3s						
NKC	Novy Kostel	2.60	247	ePn	Pn	07 25 19.6	+1.0
NKC				Sg	Sg	07 26 00.9	-0.2
	comp=Z,48nm,0.3s						
NKC	Novy Kostel	2.60	247	eP	Pn	07 25 19.7	+1.1
NKC				e		07 26 00.9	
NKC				smax			
	comp=N,48nm,0.3s						
KHC	Kasperske Hory	2.75	218	ePN	Pn	07 25 22.3	+1.6
KHC				ePG	Pg	07 25 28.2	-1.3
KHC				eSG	Sg	07 26 04.9	-1.2
KHC	Kasperske Hory	2.75	218	ePn	Pn	07 25 21.8	+1.1
KHC	Kasperske Hory	2.75	218	Pg	Pg	07 25 28.2	-1.3
KHC				Sg	Sg	07 26 04.9	-1.2
KHC	Kasperske Hory	2.75	218	eP	Pn	07 25 22.3	+1.6
KHC				e		07 26 04.9	
SMOL	Smolenice	2.92	163	ePG	Pg	07 25 33.2	+0.3
GEC2	GERESS Array S	2.94	214	ePn	Pn	07 25 25.5	+2.1
GEC2				eSg	Sg	07 26 12.9	+0.4
GEC2	GERESS Array S	2.94	214	ePn	Pn	07 25 25.5	+2.1
GEC2				eSg	Sg	07 26 12.9	+0.4
GERES	GERESS Array B	2.94	214	Pn	Pn	07 25 25.7	+2.3
	comp=N,1.6nm,0.3s,baz=32,slow=13,SNR=34						
GERES				Pg	Pg	07 25 31.6	-1.7
	comp=N,8.3nm,0.3s,baz=32,slow=16,SNR=62						
GERES				Sn	Sn	07 26 01.2	+1.2
	comp=N,2.9nm,0.3s,baz=26,slow=27,SNR=5.5						
GERES				Lg		07 26 10.4	
	comp=N,12nm,0.3s,baz=28,slow=28,SNR=10						
GERES	GERESS Array B	2.94	214	Pg	Pg	07 25 31.6	-1.7
GERES				S	Sn	07 26 01.2	+1.2
	comp=N,12nm,0.3s						
GERES	GERESS Array B	2.94	214	P	Pg	07 25 31.6	-1.7
GERES						07 26 01.2	
GERES				pmax	pmax		
	comp=Z,8.0nm,0.3s						
GERES				smax			
	comp=N,3.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,12nm,0.3s						
MOX	Moxa	2.96	259	ePn	Pn	07 25 24.8	+1.1
MOX				eSg	Sg	07 26 12.5	-0.5
MOX	Moxa	2.96	259	iP	Pn	07 25 23.8	+0.1
MOX				Pg	Pg	07 25 33.0	-0.6
MOX				Sg	Sg	07 26 12.0	-1.0
MOX	Moxa	2.96	259	ePn	Pn	07 25 23.8	+0.1
MOX				ePg	Pg	07 25 32.6	-1.0
MOX				eSg	Sg	07 26 12.1	-0.9
MOX	Moxa	2.96	259	ePn	Pn	07 25 23.7	0.0
MOX	Moxa	2.96	259	ePg	Pg	07 25 32.6	-1.0
MOX				eSg	Sg	07 26 11.3	-1.7
ROTZ	Rotzenmuhle	2.96	240	ePn	Pn	07 25 25.0	+1.2
ROTZ				eSg	Sg	07 26 12.7	-0.6
WET	Wettzell	3.03	225	ePn	Pn	07 25 26.0	+1.2
WET				eSg	Sg	07 26 14.9	-0.7
WET	Wettzell	3.03	225	ePn	Pn	07 25 26.0	+1.2
WET				eSg	Sg	07 26 14.9	-0.6
VKA	Vienna	3.06	178	⇓iPG	Pg	07 25 33.1	-2.5
VKA				iSG	Sg	07 26 17.5	+1.2
KOLL	Kolacno	3.10	151	eSG	Sg	07 26 15.5	-2.2
ZST	Bratislava	3.18	169	ePG	Pg	07 25 36.8	-1.3
ZST				eSG	Sg	07 26 20.4	-0.1
NIE	Niedzica	3.26	124	eP	Pg	07 25 38.0	-1.7
NIE				eS	Sg	07 26 21.0	-2.2
VYHS	Vyhne	3.31	148	ePg	Pg	07 25 36.1	-4.6
VYHS				e		07 25 41.2	
VYHS				eSg	Sg	07 26 24.2	-0.6
VYHS	Vyhne	3.31	148	ePg	Pg	07 25 36.1	-4.6
VYHS				eSg	Sg	07 26 24.2	-0.6
GRA1	Grafenberg Arr	3.55	245	Sg	Sg	07 26 32.0	-0.9
GRF	Grafenberg Arr	3.55	245	eSg	Sg	07 26 31.9	-0.9
MOA	Molln	3.68	200	⇑iPN	Pn	07 25 35.0	+1.0
MOA				iSG	Sg	07 26 38.1	+0.9
	comp=Z,56nm,0.6s						
MOA	Molln	3.68	200	⇑iPn	Pn	07 25 35.0	+0.9
	SNR=9.2						
STHS	Stebnicka Huta	3.76	118	ePn	Pn	07 25 35.7	+0.5
STHS				e		07 25 50.1	
STHS				eSg	Sg	07 26 38.6	-1.3
STHS	Stebnicka Huta	3.76	118	ePn	Pn	07 25 35.7	+0.5
STHS				eSg	Sg	07 26 38.6	-1.3
KECS	Kecovo	3.98	134	ePN	Pn	07 25 38.2	0.0
KECS				e		07 25 53.9	
KECS				e		07 26 39.3	
KECS	Kecovo	3.98	134	eP	Pn	07 25 38.2	0.0
KECS				e		07 26 39.3	
ARSA	Arzberg	4.09	186	⇑iPN	Pn	07 25 40.7	+0.9
ARSA				iSG	Sg	07 26 49.8	-1.0
	comp=Z,67nm,0.9s						
ARSA	Arzberg	4.09	186	⇑iPn	Pn	07 25 40.7	+0.9
CRVS	Cervenica-Dubn	4.18	123	ePn	Pn	07 25 41.2	+0.2
CRVS				e		07 25 56.3	
CRVS				eSg	Sg	07 26 51.8	-1.8
CRVS	Cervenica-Dubn	4.18	123	ePn	Pn	07 25 41.2	+0.2
CRVS				eSg	Sg	07 26 51.8	-1.8
KOLS	Kolonicke sedl	4.59	119	ePN	Pn	07 25 46.5	-0.5
KOLS				e		07 26 07.1	
KOLS				e		07 27 08.6	
KBA	Koelnbreinsper	4.63	205	⇑iPN	Pn	07 25 48.1	+0.7
KBA				iSG	Sg	07 27 08.1	-0.6
	comp=Z,39nm,0.6s						
OBKA	Obir	4.93	193	⇑iPN	Pn	07 25 51.7	0.0
OBKA				iSG	Sg	07 27 17.0	-1.7
	comp=Z,28nm,0.7s						
OBKA	Obir	4.93	193	⇑iPn	Pn	07 25 51.7	0.0
OBKA	Obir	4.93	193	⇑iPn	Pn	07 25 51.7	0.0
	comp=Z,28nm,0.7s						
OBKA				iSg	Sg	07 27 17.0	-1.7
WATA	Walderalm	4.99	219	⇑iPN	Pn	07 25 51.4	-1.1
WATA				iSG	Sg	07 27 17.2	-3.5
	comp=Z,37nm,0.8s						
WATA	Walderalm	4.99	219	⇑iPn	Pn	07 25 51.4	-1.2
WATA	Walderalm	4.99	219	⇑iPn	Pn	07 25 51.4	-1.1
	comp=Z,37nm,0.8s						
WATA				iSg	Sg	07 27 17.2	-3.5
WTTA	Wattenberg	5.02	218	⇑iPN	Pn	07 25 52.2	-0.8
WTTA				iSG	Sg	07 27 18.1	-3.7
	comp=Z,21nm,0.7s						
WTTA	Wattenberg	5.02	218	⇑iPn	Pn	07 25 52.2	-0.9
WTTA	Wattenberg	5.02	218	⇑iPn	Pn	07 25 52.2	-0.8
	comp=Z,21nm,0.7s						
WTTA				iSg	Sg	07 27 18.1	-3.7
MOTA	Moosalm	5.17	222	⇓iPN	Pn	07 25 54.7	-0.4
MOTA				iSG	Sg	07 27 24.4	-2.4
	comp=Z,14nm,0.5s						
MOTA	Moosalm	5.17	222	⇓iPn	Pn	07 25 54.7	-0.4
MOTA	Moosalm	5.17	222	⇓iPn	Pn	07 25 54.7	-0.4
	comp=Z,14nm,0.5s						
MOTA				iSg	Sg	07 27 24.4	-2.4
SQTA	Sankt Quirin	5.23	220	⇑iPN	Pn	07 25 56.6	+0.7
SQTA				iSG	Sg	07 27 27.9	-0.8
	comp=Z,8.5nm,0.4s						
SQTA	Sankt Quirin	5.23	220	⇑iPn	Pn	07 25 56.6	+0.7
SQTA	Sankt Quirin	5.23	220	⇑iPn	Pn	07 25 56.6	+0.7
	comp=Z,8.5nm,0.4s						
SQTA				iSg	Sg	07 27 27.9	-0.8
DAVA	Damuels	5.76	228	⇑iPN	Pn	07 26 02.4	-1.0
DAVA				iSG	Sg	07 27 43.3	-3.0
	comp=Z,22nm,0.7s						
DAVA	Damuels	5.76	228	⇑iPn	Pn	07 26 02.4	-1.0
DAVA	Damuels	5.76	228	⇑iPn	Pn	07 26 02.4	-1.0
	comp=Z,22nm,0.7s						
DAVA				iSg	Sg	07 27 43.3	-3.0
DAVOX	Davos	6.14	225	Pn	Pn	07 26 09.1	+0.4
	comp=Z,0.3nm,0.3s,baz=314,slow=20,SNR=2.5						
DAVOX				Sn	Sn	07 27 18.0	-2.7
	comp=Z,0.4nm,0.3s,baz=34,slow=7.2,SNR=2.1						
DAVOX				Lg		07 27 52.7	
	comp=Z,0.7nm,0.3s,baz=53,slow=20,SNR=7.4						
DAVOX	Davos	6.14	225	Pn	Pn	07 26 09.1	+0.4
DAVOX				Sn	Sn	07 27 18.0	-2.7
DAVOX				Lg		07 27 52.7	
AKASG	Malin Array Be	8.26	89	Pn	P	07 26 34.3	-4.3
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=8.2						
AKASG				Sn	Sn	07 28 05.1	-8.6
	comp=Z,1.6nm,0.3s,baz=277,slow=22,SNR=11						
AKASG				Lg		07 29 05.0	
	comp=Z,0.4nm,0.3s,baz=270,slow=27,SNR=4.0						
AKASG	Malin Array Be	8.26	89	P	P	07 26 34.3	-4.2
AKASG						07 28 05.1	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				smax			
	comp=N,2.0nm,0.3s						
HFS	Hagfors	8.95	352	Pn	P	07 26 42.6	-5.5
	comp=N,0.1nm,0.3s,baz=174,slow=14,SNR=4.0						
FINES	FINESS Array B	11.53	24	Pn	P	07 27 16.9	-6.4
	comp=N,0.3nm,0.3s,baz=219,slow=12,SNR=5.5						
EKA	Eskdalemuir Ar	12.23	297	Pn	P	07 27 28.3	-4.6
	comp=N,0.2nm,0.3s,baz=96,slow=14,SNR=2.9						
ARCES	ARCESS Array B	18.81	10	Pn	P	07 28 50.1	-7.3
	comp=N,0.4nm,0.3s,baz=196,slow=13,SNR=11						
MKAR	Makanchi Array	42.25	69	P	P	07 32 31.3	+0.6
	comp=N,0.1nm,0.4s,mb2.9,baz=288,slow=9.1,SNR=2.8						

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*CSEM **15** 07:30:06.3±0.2, 37.74N×25.46W, h4km, ML2.7, After PDA*
*PDA **15** 07:30:06.3±1.3, 37.74N×25.46W, h4km±2km, MD2.6, ML2.7, Error ellipse: s-maj=4.2km s-min=3.2km az=9.0*
SVSA 15 07:30:06.3±1.3**, 37.74N×25.46W, h4**km±2km**, MD2.6, ML2.7, Error ellipse: s-maj=4.2km s-min=3.2km az=9.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRCH	Ribeira Ch	0.02	242	eP	Pg	07 30 08.2	+1.2
VIF	Vila Franca	0.02	63	iP	Pg	07 30 08.0	+0.9
LFA	Lagoa do Fogo	0.04	334	iP	Pg	07 30 08.3	+1.0
CMLA	Cha da Macela	0.06	299	eP	Pg	07 30 07.3	-0.3
CMLA				eS	Sg	07 30 09.5	+1.0
MESC	Monte Escuro	0.06	12	iP	Pg	07 30 08.2	+0.6
PCNG	Congro	0.06	59	iP	Pg	07 30 08.1	+0.4
PCNG				eS	Sg	07 30 09.5	+0.9
PCNG	Congro	0.06	59	eS	Sg	07 30 09.5	+0.9
CML	Cha da Macela	0.08	297	iP	Pg	07 30 08.4	+0.4
PMAT	Coroa da Mata	0.08	354	iP	Pg	07 30 08.5	+0.5
PMAT				eS	Sg	07 30 10.0	+0.8
FRA1	Furnas	0.08	85	iP	Pg	07 30 08.0	-0.1
PFAD	Fenais da Ajud	0.15	47	iP	Pg	07 30 09.8	+0.4
MIRA	Miradouro	0.15	71	eP	Pg	07 30 09.1	-0.3
FAC	Faja de Cima	0.15	284	eP	Pg	07 30 10.5	+1.0
PDA	Ponta Delgada	0.16	274	eP	Pg	07 30 09.9	+0.3
PDA				eS	Sg	07 30 12.6	+0.8
PSET	Sete Cidades	0.22	293	eP	Pg	07 30 10.6	-0.2
PSET				eS	Sg	07 30 14.4	+0.6
	2µm,0.4s						
PSAN	Santo Antonio	0.24	299	eP	Pg	07 30 11.6	+0.5
PFET	Feteiras	0.27	287	eP	Pg	07 30 12.2	+0.4
SET2	Ginetes	0.29	292	eP	Pg	07 30 12.7	+0.5
SET4	Mosteiros	0.30	297	eP	Pg	07 30 12.5	+0.1
PSMN	Pico do Norte,	0.80	157	eP	Pg	07 30 19.6	-2.6
PSMN				eS	Sg	07 30 30.1	-2.7
PFAV	Pico das Favas	1.61	308	eS	Sb	07 30 51.0	-5.8
PSCM	Serra do Cume	1.62	307	eP	Pn	07 30 31.6	-4.3
PSCM				eS	Sb	07 30 50.3	-6.9
	39nm,0.3s						
RIB2	Ribeirinha	1.64	305	eS	Sb	07 30 51.9	-5.9
	22nm,0.3s						
PVNV	Vila Nova	1.68	308	eS	Sb	07 30 52.2	-6.8
PSBA	Serra de Santa	1.79	306	erx		07 30 30.4	
PSBA	Serra de Santa	1.79	306	e-		07 30 30.4	
PICO	Pico	2.46	289	eP	Pn	07 30 43.8	-4.1
PICO				eS	Sn	07 31 11.4	-7.4
CALA	Caldeira	2.69	289	eP	Pn	07 30 46.9	-4.3

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*KNET **15** 07:38:31.7±0.3, 43.04N×74.91E, h16km±2km, ml1.8, Error ellipse: s-maj=2.2km s-min=1.6km az=20.0*
*NNC **15** 07:38:31.7±5.9, 43.13N×74.75E, mpv2.5, Error ellipse: s-maj=84.1km s-min=29.7km az=101.0*
ISC 15 07:38:32.2±0.7**, 43.06N**±0.04×**74.91E**±0.04**, h6**km±6km**, n12, σ0s40**/21**, 18C-3D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMS	Chumysh	0.14	242	⇑P	Pg	07 38 34.8	-0.2
	106nm,0.1s,SNR=346						
CHMS				⇓S	Sg	07 38 36.8	-0.1
	239nm,0.2s						
USP	Ospenovka	0.36	304	⇑P	Pg	07 38 39.7	+0.2
	70nm,0.1s,SNR=221						
USP				⇑S	Sg	07 38 45.1	+0.7
	140nm,0.2s						
KBK	Karagaybulak	0.41	177	P	Pg	07 38 40.4	+0.1
	135nm,0.1s,SNR=226						
KBK				⇓S	Sg	07 38 46.7	+0.8
	288nm,0.2s						
TKM2	Tokmak 2	0.52	106	⇑P	Pg	07 38 42.3	-0.2
	23nm,0.1s,SNR=16						
TKM2				⇑S	Sg	07 38 49.8	+0.2
	71nm,0.1s						
AAK	Ala-Archa	0.53	216	⇑P	Pg	07 38 42.3	-0.5
	30nm,0.2s,SNR=38						
AAK				⇑S	Sg	07 38 49.7	-0.2
	53nm,0.3s						
AAK	Ala-Archa	0.53	216	⇑P	Pg	07 38 42.3	-0.5
	8.5nm,0.3s						
AAK				⇑S	Sg	07 38 49.4	-0.5
	9.1nm,0.3s						
UCH	Uchtor	0.89	200	⇑P	Pb	07 38 48.9	-0.7
	4.8nm,0.1s,SNR=5.1						
EKS2	Erkin-Say	0.93	245	⇑P	Pb	07 38 49.9	-0.4
	13nm,0.1s,SNR=18						
EKS2				⇑S	Sb	07 39 03.0	+0.3
	14nm,0.2s						
KZA	Kyzart	1.01	166	⇑P	Pb	07 38 51.6	-0.1
	11nm,0.2s,SNR=7.2						
KZA				⇓S	Sb	07 39 05.8	+0.6
	20nm,0.3s						
ULHL	Ulahol	1.27	129	⇑P	Pb	07 38 55.9	-0.3
	4.5nm,0.1s,SNR=6.0						
AML	Almayashu	1.30	224	⇑P	Pb	07 38 56.4	-0.1
	12nm,0.3s,SNR=16						
AML				⇑S	Sb	07 39 13.6	+0.2
	14nm,0.3s						
KK31	Karatay Array	3.23	272	⇑Pg	Pg	07 39 29.8	-6.8
	0.3nm,0.2s,baz=82,slow=17,SNR=27						
KK31				⇑Lg		07 40 12.1	
	1.6nm,0.3s,baz=82,slow=30,SNR=6.3						

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*IDC **15** 08:06:25.0±1.2, 36.65N×98.80E, mb3.8/6, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=42.9km s-min=22.9km az=52.0*
*BJI **15** 08:06:25.5, 36.66N×98.89E, h9km, mB4.7, mb4.1, ML3.9, Ms3.6, Msz3.9*
*NEIC **15** 08:06:26.7±0.6, 36.68N×98.77E, h10km, mb4.1/3, Error ellipse: s-maj=15.0km s-min=10.0km az=224.0*
*MOS **15** 08:06:28.4±0.8, 36.76N×98.82E, h39km, mb4.4/2, Error ellipse: s-maj=29.2km s-min=12.4km az=113.6*
ISC 15 08:06:24.9±2.2**, 36.87N**±0.08×**98.93E**±0.07**, h9**km±12km**, n22, σ1s10**/27**, mb3.9**/7**, Qinghai**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA	Gaotai	2.63	15	P	Pn	08 07 13.5	+5.1
GTA				PG	Pg	08 07 17.9	+0.4
GTA				SG	Sg	08 07 51.1	-1.5
GTA				Smax			
	comp=N,117nm,0.9s						
GTA				Smax			
	comp=E,102nm,0.6s						
GTA				LR	LR		
	comp=N,917nm,9.1s						
GTA				LR	LR		
	comp=E,478nm,6.5s						
GTA				LR	LR		
	comp=Z,862nm,9.5s						
LZH	Lanzhou	4.03	100	P	Pn	08 07 32.0	+3.7
LZH				S	Sn	08 08 22.0	+5.7
LZH				Smax			
	comp=N,277nm,0.8s						
LZH				Smax			
	comp=E,362nm,0.9s						
LZH				LR	LR		
	comp=N,932nm,3.4s						
LZH				LR	LR		
	comp=Z,581nm,3.9s						
HHC	Hu-ho-hao-te	10.62	64	eP	P	08 09 01.4	+1.0
HHC				AP		08 09 05.4	
HHC				XP		08 09 08.4	
HHC				PP	PP	08 09 10.0	+1.5
HHC				S	S	08 10 59.9	-0.7
HHC				AMB	AMB		
	comp=Z,95nm,4.6s						
HHC				LR	LR		
	comp=N,105nm,8.3s						
HHC				LR	LR		
	comp=E,109nm,6.0s						
HHC				LR	LR		
	comp=Z,78nm,7.7s						
SONM	Songino Array	12.26	24	Pn	P	08 09 25.1	+2.4
	comp=Z,0.5nm,0.3s,baz=213,slow=15,SNR=6.1						
MKAR	Makanchi Array	15.85	314	Pn	P	08 10 09.5	-0.3
	comp=Z,0.2nm,0.3s,baz=121,slow=14,SNR=5.5						
MKAR				Sn	S	08 12 59.9	-6.0
	comp=Z,0.2nm,0.3s,baz=118,slow=23,SNR=5.4						
NJ2	Nanjing	17.11	100	eP	P	08 10 23.9	-2.0
AAK	Ala-Archa	19.62	295	eP	P	08 10 56.3	-0.1
	comp=Z,8.3nm,1.3s						
AAK	Ala-Archa	19.62	295	eP	P	08 10 56.3	-0.1
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ZAL	Zalesovo	19.68	335	P	P	08 10 57.6	+0.6
	comp=Z,0.5nm,0.3s,baz=335,slow=11,SNR=8.1						
KURK	Kurchatov	20.07	320	eP	P	08 11 00.9	-0.5
	comp=Z,15nm,1.0s						
KURK	Kurchatov	20.07	320	eP	P	08 11 00.9	-0.4
KURK				pmax	pmax		
	comp=Z,15nm,1.0s						
NVS	Novosibirsk	20.95	334	eP	P	08 11 10.0	-0.4
BVAR	Borovoye Array	25.63	318	P	P	08 11 57.1	+1.0
	comp=Z,1.5nm,0.5s,mb3.8,baz=116,slow=9.9,SNR=9.1						
BRVK	Borovoye	25.70	318	eP	P	08 11 56.4	-0.4
	comp=Z,2.3nm,0.6s,mb3.9						
BRVK	Borovoye	25.70	318	eP	P	08 11 56.4	-0.4
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ARCES	ARCESS Array B	50.23	334	P	P	08 15 23.3	+0.5
	comp=Z,1.5nm,0.8s,mb4.1,baz=79,slow=6.2,SNR=5.3						
AKASG	Malin Array Be	50.37	309	P	P	08 15 23.9	-0.2
	comp=Z,0.8nm,0.3s,mb4.2,baz=63,slow=8.0,SNR=6.8						
AKASG	Malin Array Be	50.37	309	P	P	08 15 23.9	-0.2
NOA	NORSAR Array B	57.49	325	P	P	08 16 16.0	-0.4
	comp=Z,1.1nm,0.8s,mb3.9,baz=70,slow=6.9,SNR=2.7						
WRAB	Tennant Creek	65.64	143	eP	P	08 17 11.0	-0.8
WRA	Warramunga Arr	65.64	143	P	P	08 17 10.5	-1.4
	comp=Z,1.2nm,0.8s,mb4.0,baz=342,slow=6.9,SNR=7.2						
ILAR	Eielson Array	66.49	25	P	P	08 17 17.2	+0.7
	comp=Z,0.2nm,0.6s,mb3.3,baz=293,slow=5.6,SNR=5.2						

*CSEM **15** 08:47:49.9±0.1, 43.06N×12.89E, h25km, ML3.6/3, Error ellipse: s-maj=1.5km s-min=0.9km az=67.0*
*NEIC **15** 08:47:50.2, 43.06N×12.91E, h21km, ML2.9(ROM), After ROM.*
*ROM **15** 08:47:50.2±0.1, 43.06N×12.91E, h21km±1km, Md2.9/19, Ml2.9/11, Error ellipse: s-maj=1.1km s-min=0.7km az=108.0*
*VIE **15** 08:47:51.2±0.4, 43.08N×13.01E, h10km, ML2.6/2, Error ellipse: s-maj=6.6km s-min=1.6km az=86.0*
ISC 15 08:47:51.6±0.3**, 43.08N**±0.02×**12.92E**±0.04**, h21**km±4km**, n28, σ0.77**/43**, 7C, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNTG	Esanatoglia	0.18	5	⇑iPg	Pb	08 47 55.6	-0.9
SNTG				Sg	Sb	08 47 59.2	-0.7
NRCA	Norcia	0.28	149	Pg	Pb	08 47 57.3	-0.7
MURB	Monte Urbino	0.34	303	Pg	Pb	08 47 58.2	-0.8
MURB				Sg	Sb	08 48 04.1	+0.1
	3µm,0.2s						
CING	Cingoli	0.36	34	⇑iPg	Pb	08 47 58.8	-0.5
CING				Sg	Sb	08 48 05.1	+0.6
	1µm,0.2s						
ARV	Arcevia	0.42	2	⇑iPg	Pb	08 47 59.6	-0.7
ARV				Sg	Sb	08 48 06.6	+0.4
FSSB	Fossombrone	0.62	351	Pg	Pb	08 48 03.2	-0.5
FSSB				Sg	Sb	08 48 13.6	+1.6
	183nm,0.2s						
CAMP	Campotosto	0.65	146	Pg	Pb	08 48 03.5	-0.6
CAMP				Sg	Sb	08 48 13.6	+0.9
	451nm,0.6s						
BADI	Badiali	0.66	312	Pg	Pb	08 48 03.8	-0.4
	228nm,0.3s						
TERO	Teramo	0.68	132	Pg	Pb	08 48 04.0	-0.6
TERO				Sg	Sb	08 48 14.9	+1.4
	428nm,0.4s						
AOI	Ancona	0.69	46	Pg	Pb	08 48 04.9	+0.1
AOI				Sg	Sb	08 48 16.4	+2.6
	576nm,0.3s						
MNS	Montasola	0.71	194	Pg	Pb	08 48 04.2	-0.9
MNS				Sg	Sb	08 48 15.2	+0.7
	167nm,0.3s						
SACS	San Casciano d	0.77	253	Pg	Pb	08 48 06.4	+0.2
SACS				Sg	Sb	08 48 17.7	+1.5
	246nm,0.6s						
AQU	L'Aquila	0.81	153	ePg	Pb	08 48 06.0	-0.7
AQU	L'Aquila	0.81	153	ePg	Pb	08 48 06.0	-0.7
FIAM	Fiamignano	0.82	170	Pg	Pb	08 48 06.4	-0.6
FIAM				Sg	Sb	08 48 18.4	+0.8
	235nm,0.4s						
FAGN	Fagnano	0.95	148	Pg	Pb	08 48 09.1	0.0
	618nm,0.5s						
CERT	Cerreto	1.13	178	Pg	Pb	08 48 11.6	-0.6
	167nm,0.7s						
SFI	Santa Sofia	1.14	317	Pg	Pb	08 48 12.7	+0.3
PGD	Poggio Sodo	1.18	313	Pg	Pn	08 48 12.9	-0.2
	33nm,0.6s						
CSNT	Castellina Chi	1.25	289	Pg	Pn	08 48 14.5	+0.4
	25nm,0.4s						
INTR	Introdacqua	1.29	145	Pg	Pn	08 48 14.4	-0.2
	296nm,0.9s						
VMG	Vicchio	1.33	312	Pg	Pn	08 48 15.7	+0.4
	86nm,0.6s						
NVLJ	Novalja	2.05	43	iPn	Pn	08 48 25.5	-0.1
NVLJ				iSn	Sn	08 48 50.9	+0.1
NVLJ	Novalja	2.05	43	iPn	Pn	08 48 25.4	-0.1
NVLJ				iSn	Sn	08 48 50.8	+0.1
OBKA	Obir	3.62	18	⇑iPN	Pn	08 48 46.9	-1.0
OBKA				iSN	Sn	08 49 29.8	-0.8
OBKA	Obir	3.62	18	⇑iPn	Pn	08 48 46.9	-1.1
KBA	Koelnbreinsper	4.01	4	⇑iPN	Pn	08 48 53.3	-0.2
KBA				iSN	Sn	08 49 41.1	+0.6
KBA	Koelnbreinsper	4.01	4	⇑iPn	Pn	08 48 53.3	-0.2

*IDC **15** 08:49:41.0±9.1, 5.23S×154.23E, h100km±67km, mb3.7/4, mb1 3.9/5, mb1mx3.6/13, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=71.0km s-min=38.5km az=88.0*
ISC 15 08:49:41.4±5.7**, 5.3S**±0.2×**154.1E**±0.3**, h115**km±43km**, n7, σ0.98**/8**, mb3.9**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.06	239	P	P	08 51 37.1	0.0
	4.6nm,0.3s,baz=60,slow=7.9,SNR=12						
PMG				S	S	08 53 07.2	+0.1
	1.8nm,0.3s,baz=3.1,slow=23,SNR=3.0						
WB2	Warramunga Arr	24.16	231	eP	P	08 54 48.6	+0.4
WRA	Warramunga Arr	24.17	231	P	P	08 54 49.2	+0.9
	2.6nm,0.6s,mb3.7,baz=57,slow=9.9,SNR=45						
STKA	Stephens Creek	28.98	202	P	P	08 55 31.7	-0.6
	1.6nm,0.7s,mb3.8,baz=50,slow=16,SNR=3.5						
FITZ	Fitzroy Crossi	30.63	243	eP	P	08 55 45.6	-1.5
	5.1nm,0.5s,mb4.5						
MKAR	Makanchi Array	81.55	319	P	P	09 01 47.9	+0.2
	0.4nm,0.5s,mb3.5,baz=96,slow=7.3,SNR=3.9						
MAW	Mawson	85.67	203	P	P	09 02 08.4	+0.4
	0.9nm,0.5s,mb4.0,baz=90,slow=6.1,SNR=4.9						

NNC 15 09:01:58.2±2.9**, 37.03N×70.78E, mpv3.3, 3C-1D, Error ellipse: s-maj=24.9km s-min=23.1km az=123.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.07	358	⇑P	Pn	09 03 29.4	-2.0
	0.6nm,0.2s,baz=176,slow=13,SNR=55						
KK31				⇑S	Sn	09 04 40.4	-2.1
	4.6nm,0.5s,baz=189,slow=22,SNR=19						
AAK	Ala-Archa	6.28	26	⇓P	Pn	09 03 32.4	-2.1
	1.4nm,0.4s						
AAK				⇑S	Sn	09 04 46.3	-1.6
	5.8nm,1.0s						
BVA0	Borovoye Array	16.00	359	P	P	09 05 43.4	-2.7
	0.1nm,0.1s,baz=163,slow=10,SNR=12						

JMA 15 09:13:14.4±0.2**, 43.99N×147.78E, h84**km**, M4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.60	248	P	P	09 13 41.5	-0.2
NEM2				eS	S	09 14 01.9	0.0
JRA	Rausu	1.92	269	P	P	09 13 45.8	-0.1
JRA				eS	S	09 14 09.8	+0.7
JNK	Nakash	2.25	261	P	P	09 13 50.0	-0.5
JNK				eS	S	09 14 17.2	-0.1
JAK	Akkeshi	2.45	247	P	P	09 13 52.7	-0.6
JAK				eS	S	09 14 21.8	-0.5
JTKR	Abashiri--Toko	2.79	271	P	P	09 13 57.2	-0.9
JTKR				eS	S	09 14 29.7	-1.1
JAR	Ashorobuto	2.99	258	P	P	09 14 00.9	+0.1
JAR				eS	S	09 14 35.2	-0.5
JCH	Churui	3.50	248	P	P	09 14 06.9	-1.0
JCH				eS	S	09 14 47.2	-1.2
JKK2	Kamakawa 2	3.64	270	P	P	09 14 08.9	-0.8
JNBK	Urakawa-nobuka	4.06	247	P	P	09 14 14.1	-1.4
JKB	Kayabe	5.38	249	P	P	09 14 32.2	-1.5
JKB				eS	S	09 15 29.3	-5.7
JOT	Ohata	5.60	245	P	P	09 14 35.5	-1.3
JOT				eS	S	09 15 33.8	-6.7

*NEIC **15** 09:21:05.2, 24.46S×67.87W, h70km, MD3.3(GUC), After GUC.*
GUC 15 09:21:05.2±0.9**, 24.46S×67.87W, h70**km±80km**, MD3.3, ML3.6, 2C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.07	332	⇓iP	P	09 21 39.5	+1.0
LVC				i S	S	09 22 04.8	+1.8
LVC				AMP		09 22 07.0	
	comp=E,335nm,0.4s						
CPN1	Cerro Paranal	2.32	265	⇑iP	P	09 21 42.6	+0.7
CPN1				i S	S	09 22 11.7	+2.4
CPN1				AMP		09 22 12.1	
	comp=E,315nm,0.3s						
CEN1	Los Morros	2.38	296	⇓iP	P	09 21 43.3	+0.4
CEN1				i S	S	09 22 12.3	+1.3
ANCH	Antofagasta	2.45	288	⇓iP	P	09 21 44.1	+0.3
ANCH				i S	S	09 22 13.5	+0.8
ANCH				AMP		09 22 16.9	
	comp=N,523nm,0.6s						
CRCH	Chaqaral	3.12	232	⇑iP	P	09 21 53.2	-0.1
CRCH				i S	S	09 22 29.7	+0.1
CRCH				AMP		09 22 37.5	
	comp=N,157nm,0.3s						
CHNG	Los Chungos	8.06	203	AMP		09 21 55.5	
	comp=E,82nm,0.6s						
LPAZ	La Paz	8.13	358	ePn	P	09 22 59.3	-3.4
	comp=E,0.8nm,0.4s						

*BJI **15** 09:41:04.5, 17.70S×178.60W, h527km, mB4.4, mb4.4*
*IDC **15** 09:41:04.9±1.3, 17.76S×178.53W, h525km±15km, mb3.7/13, mb1 3.9/15, mb1mx3.7/20, mbtmp4.6/15, Error ellipse: s-maj=14.2km s-min=10.4km az=134.0*
*NEIC **15** 09:41:05.0±0.7, 17.72S×178.57W, h528km±8km, mb4.6/18, Error ellipse: s-maj=9.7km s-min=6.6km az=152.0*
ISC 15 09:41:04.1±0.8**, 17.74S**±0.07×**178.61W**±0.07**, h525**km±10km**, n78, σ0.98**/55**, mb4.3**/29**, 1C-8D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.60	61	P	P	09 42 56.6	-1.4
	16nm,0.3s,baz=67,slow=4.3,SNR=25						
AFI				S	S	09 44 29.4	+0.7
	1.6nm,0.3s,baz=354,slow=19,SNR=2.3						
AFI	Afiamalu	7.60	61	ePn	P	09 42 57.0	-1.0
	82nm,0.6s						
RAO	Raoul Island	11.48	177	P	P	09 43 38.1	+0.2
	97nm,0.3s,baz=250,slow=23,SNR=5.2						
DZM	Mont Dzumac	14.70	251	eP	P	09 44 13.1	+2.2
DZM	Mont Dzumac	14.70	251	P	P	09 44 12.8	+2.0
	2.1nm,0.3s,baz=80,slow=19,SNR=26						
DZM	Mont Dzumac	14.70	251	eP	P	09 44 13.1	+2.2
URZ	Urewera	20.79	190	P	P	09 45 07.8	-1.6
	2.5nm,0.3s,baz=44,slow=21,SNR=5.6						
URZ				S	S	09 48 27.5	+0.7
	6.9nm,0.8s,baz=194,slow=16,SNR=2.5						
RPZ	Rata Peaks	27.33	196	P	P	09 46 06.2	-2.0
	4.0nm,0.7s,mb4.2,baz=301,slow=23,SNR=3.2						
PPT	Papeete	27.66	94	P	P	09 46 11.2	-0.1
	36nm,0.8s,mb5.0,baz=27,slow=12,SNR=3.1						
ARMA	Armidale	29.86	239	⇓iP	P	09 46 31.4	+1.2
CTA	Charters Tower	33.28	260	⇓iP	P	09 46 59.7	+0.4
	9.5nm,0.8s,mb4.4						
CTAO	Charters Tower	33.28	260	eP	P	09 46 59.4	+0.1
	7.7nm,0.6s,mb4.4						
CNB	Canberra Magne	33.38	232	⇓iP	P	09 47 01.4	+1.5
	41nm,0.7s,mb5.1						
PMG	Port Moresby	34.24	279	P	P	09 47 08.5	+1.2
	26nm,0.8s,mb4.8,baz=237,slow=9.9,SNR=5.6						
PMG	Port Moresby	34.24	279	eP	P	09 47 07.3	0.0
	32nm,0.9s,mb4.9						
TOO	Toolangi	37.13	231	⇓iP	P	09 47 32.4	+1.4
	20nm,0.6s,mb4.8						
STKA	Stephens Creek	38.54	241	⇓iP	P	09 47 44.0	+1.5
	15nm,0.6s,mb4.7						
STKA	Stephens Creek	38.54	241	P	P	09 47 44.1	+1.5
	15nm,0.5s,mb4.8,baz=90,slow=9.5,SNR=115						
WB2	Warramunga Arr	44.46	259	eP	P	09 48 29.0	-0.9
WRAB	Tennant Creek	44.46	259	eP	P	09 48 29.0	-1.0
	18nm,0.6s,mb4.8						
WRA	Warramunga Arr	44.47	259	P	P	09 48 29.2	-0.8
	8.8nm,0.5s,mb4.5,baz=94,slow=7.0,SNR=169						
WRA				PcP	PcP	09 50 01.8	-0.8
	2.3nm,0.7s,baz=92,slow=3.3,SNR=6.7						
ASPA	Alice Springs	44.65	254	⇓iP	P	09 48 31.4	0.0
KAKA	Kakadu	47.39	269	eP	P	09 49 10.5	+18
	17nm,0.4s,mb4.9						
GUMO	Guam	47.62	308	P	P	09 48 54.2	0.0
	40nm,0.6s,mb5.2,baz=25,slow=20,SNR=5.9						
GUMO	Guam	47.62	308	eP	P	09 48 53.5	-0.7
	31nm,0.5s,mb5.1						
FORT	Forrest	49.90	244	eP	P	09 49 10.5	-0.7
	39nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	52.86	260	⇓iP	P	09 49 32.4	-0.4
	7.4nm,0.4s,mb4.4						
MBWA	Marble Bar	57.93	256	eP	P	09 50 06.9	-1.0
	13nm,0.6s,mb4.3						
KLBR	Kellerberrin	58.73	243	⇓iP	P	09 50 11.6	-1.6
	20nm,0.9s,mb4.3						
NWAO	Narrogin (SRO)	59.12	242	eP	P	09 50 14.2	-1.6
	5.8nm,0.7s,mb3.9						
CASY	Casey	66.21	205	eP	P	09 51 00.8	-0.1
MJAR	Matsushiro Arr	67.65	323	P	P	09 51 09.4	-0.9
	3.7nm,0.5s,mb4.2,baz=156,slow=6.1,SNR=12						
MAJO	Matsushiro	67.66	323	eP	P	09 51 09.1	-1.2
	6.0nm,0.4s,mb4.5						
KKM	Kota Kinabalu	68.51	284	eP	P	09 51 15.2	-0.6
KSM	Kuching	72.47	277	eP	P	09 51 39.7	+0.6
MDJ	Mudanjiang	77.93	325	P	P	09 52 09.5	+0.7
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,49nm,4.3s						
MDJ	Mudanjiang	77.93	325	eP	P	09 52 08.2	-0.5
	comp=Z,7.9nm,0.7s,mb4.2						
NVAR	Mina Array Bea	79.44	44	P	P	09 52 17.2	+0.4
	comp=Z,1.3nm,0.7s,mb3.4,baz=232,slow=11,SNR=11						
CN2	Changchun	79.77	322	eP	P	09 52 17.5	-1.0
TUC	Tucson	81.75	52	eP	P	09 52 29.7	+0.8
	comp=Z,1.4nm,0.8s,mb3.4						
KULM	Kulim	82.82	278	eP	P	09 52 35.6	+0.9
MAW	Mawson	83.95	200	P	P	09 52 39.6	+0.5
	comp=Z,1.1nm,0.4s,mb3.8,baz=128,slow=6.0,SNR=5.3						
ENH	Enshi	84.01	304	eP	P	09 52 41.1	+0.7
	comp=Z,9.4nm,0.6s,mb4.5						
ILAR	Eielson Array	85.77	13	P	P	09 52 46.7	-1.3
	comp=Z,0.5nm,0.9s,mb3.1,baz=226,slow=5.0,SNR=6.5						
PV01	Paradox Valley	85.97	48	P	P	09 52 49.6	0.0
TXAR	Lajitas Array	86.07	58	P	P	09 52 51.5	+1.3
	comp=Z,1.8nm,0.8s,mb3.8,baz=216,slow=6.2,SNR=28						
ANMO	Albuquerque	86.14	52	eP	P	09 52 50.2	-0.3
	comp=Z,2.3nm,1.1s,mb3.7						
HHC	Hu-ho-hao-te	87.01	315	eP	P	09 52 56.0	+1.5
HHC				AP	pP	09 54 53.8	+3.2
HHC				XP	sP	09 55 48.5	+5.8
HHC				PP	PP	09 56 30.1	+1.4
HHC				SKS	SKS	10 02 30.5	0.0
HHC				S	S	10 02 47.3	-0.8
HHC				XS		10 06 17.6	
HHC				SS	SS	10 08 49.8	-0.3
HHC				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.6						
HHC				AMB	AMB		
	comp=Z,67nm,5.1s						
PDAR	Pinedale Array	87.36	44	P	P	09 52 56.2	+0.2
	comp=Z,0.7nm,0.5s,mb3.5,baz=217,slow=3.3,SNR=8.8						
LZH	Lanzhou	90.63	308	eP	P	09 53 12.5	+1.1
LZH				AP	pP	09 55 10.5	+2.1
LZH				XP	sP	09 55 57.5	-2.8
LZH				PP	PP	09 56 59.5	+2.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
SNAA	Sanae	90.77	179		P	09 53 11.1	-0.1
VNA3	Neumayer Olymp	90.92	176		P	09 53 12.2	+0.3
VNA2	Neumayer--Watz	91.36	177		P	09 53 14.3	+0.3
MKAR	Makanchi Array	108.88	314	PKiKP		09 58 33.1	
	comp=Z,0.7nm,0.5s,baz=114,slow=0.6,SNR=12						
ARCES	ARCESS Array B	126.11	350	PKP	PKPdf	09 59 04.6	-1.3
	comp=Z,3.3nm,0.9s,baz=45,slow=3.4,SNR=3.8						
FINES	FINESS Array B	132.97	344	PKP	PKPdf	09 59 18.8	-0.4
	comp=Z,1.0nm,0.7s,baz=45,slow=2.7,SNR=4.0						
FINES	FINESS Array B	132.97	344	PKP	PKPdf	09 59 18.8	-0.4
BR131	Keskin Array S	144.52	315	ePKPdf	PKPdf	09 59 41.5	+1.1
BRTR	Keskin Array B	144.52	315	PKP	PKPdf	09 59 41.5	+1.1
	comp=Z,4.7nm,0.7s,baz=117,slow=2.8,SNR=18						
CLL	Collm	145.25	347	⇑iPKP1	PKPbc	09 59 43.3	+1.0
BRG	Berggiesshubel	145.45	346	eP	PKPdf	09 59 43.8	+2.1
KHC	Kasperske Hory	147.16	345	ePKP	PKPdf	09 59 48.5	+4.0
GERES	GERESS Array B	147.40	345	PKPbc	PKPdf	09 59 49.4	+4.5
	comp=Z,3.3nm,0.5s,baz=23,slow=2.8,SNR=18						
GIVF	Givet	147.59	356	ePKP1	PKPdf	09 59 49.8	+4.6
BAIF	Baives	147.68	357	ePKP1	PKPdf	09 59 50.1	+4.8
	comp=Z,5.8nm,0.6s						
CDF	Champ du Feu	149.03	352	ePKP1	PKPdf	09 59 53.4	+5.9
	comp=Z,7.3nm,0.5s						
GRR	Gorron	149.37	3	ePKP1	PKPdf	09 59 54.0	+5.9
LOR	Lormes	150.48	357	ePKP1	PKPdf	09 59 56.8	+7.0
	comp=Z,7.5nm,0.5s						
SSF	Saint Saulge	150.71	357	ePKP1	PKPdf	09 59 57.4	+7.2
	comp=Z,8.3nm,0.5s						
CABF	La Chapelle	150.95	353	ePKP1	PKPdf	09 59 58.5	+7.9
	comp=Z,9.1nm,0.8s						
SMF	Signal de Mont	151.10	356	ePKP1	PKPdf	09 59 57.8	+7.0
	comp=Z,3.3nm,0.5s						
MFF	Saint Martin d	151.19	2	ePKP1	PKPdf	09 59 58.2	+7.3
	comp=Z,5.4nm,0.6s						
TCF	Toulx Ste Croi	151.52	359	ePKP1	PKPdf	09 59 59.0	+7.6
	comp=Z,2.3nm,0.5s						
LPL	La Plagne	151.94	352	ePKP1	PKPdf	09 59 57.4	+5.4
LPG	La Plagne	151.96	352	ePKP1	PKPdf	09 59 58.0	+6.0
MBDF	Montbardon	152.72	352	ePKP1	PKPdf	10 00 00.4	+7.3
	comp=Z,7.9nm,0.7s						
SBF	Sospel	153.46	350	ePKP1	PKPdf	10 00 03.7	+10
	comp=Z,31nm,1.0s						
PGF	Pioggiola	154.43	347	ePKP1	PKPdf	10 00 04.7	+9.2
	comp=Z,26nm,1.1s						

GUC 15 10:07:55.9±0.6**, 32.67S×71.77W, h2**km±2km**, MD3.5, ML2.2, 1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.71	115	i P	Pg	10 08 10.6	+0.6
ROCH				i S	Sg	10 08 21.5	+2.1
LCCH	Las Cruces	0.82	168	i P	Pg	10 08 11.9	-0.3
CHNG	Los Chungos	0.82	16	eP	Pg	10 08 12.1	-0.2
CHNG				i S	Sg	10 08 23.9	+0.7
CHNG				AMP		10 08 26.6	
	comp=E,78nm,0.3s						
JACH	Jahuel	0.99	91	⇓iP	Pb	10 08 15.6	+0.1
JACH				i S	Sb	10 08 29.9	+1.1
CLCH	Cerro Calan	1.26	125	⇓iP	Pb	10 08 19.4	-0.6
CLCH				i S	Sb	10 08 36.8	+0.2
CLCH				AMP		10 08 43.4	
	comp=E,68nm,0.3s						
FCH	Farellones	1.41	118	⇑iP	Pb	10 08 22.1	-0.4
FCH				AMP		10 08 44.5	
	comp=N,58nm,0.2s						
PCH	Pirque	1.42	132	i P	Pn	10 08 21.9	-0.7
CHCH	Chadas Angostu	1.57	144	i P	Pn	10 08 24.1	-0.7
CHCH				i S	Sb	10 08 45.6	+0.2
CMCH	Combarbala	1.63	24	i P	Pn	10 08 25.2	-0.5
CMCH				i S	Sb	10 08 47.7	+0.4
CMCH				AMP		10 08 54.8	
	comp=N,188nm,0.6s						
CACH	El Canelo	1.74	146	i P	Pn	10 08 27.9	+0.6
CACH				i S	Sn	10 08 52.1	+1.8
CICH	Cipreses	1.99	146	⇓iP	Pn	10 08 30.9	-0.1
SFDO	San Fernando	2.04	162	i P	Pn	10 08 31.6	+0.1
SFDO				i S	Sn	10 08 59.1	+1.2

ISC 15 10:29:42.1±0.8**, 40.84N**±0.08×**40.10E**±0.06**, h17**km±14km**, n6, σ0.78**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MACK	Trabzon	0.27	292	i P	Pb	10 29 48.3	+0.1
MACK				i S	Sb	10 29 52.6	+0.4
GUMT	Gumushane	0.60	231	PG	Pb	10 29 53.1	-0.7
GUMT				SG	Sb	10 30 01.2	-0.7
EZM	Erzurum	1.34	134	PG	Pn	10 30 08.0	+1.8
GRSN	GIRESUNGRSN	1.39	274	i P	Pn	10 30 06.0	-0.9
GRSN				i S	Sb	10 30 25.4	+0.8
ARTV	Artvin	1.43	75	i P	Pn	10 30 06.7	-0.8
ARTV				i S	Sb	10 30 25.5	-0.2
PTK	Pertek	2.02	196	ePN	Pn	10 30 16.3	+0.3

*NEIC **15** 11:03:17.0±0.9, 5.28S×154.14E, mb4.7/5, Error ellipse: s-maj=18.8km s-min=13.5km az=181.0*
*IDC **15** 11:03:20.2±4.2, 5.41S×154.21E, h106km±36km, mb3.8/7, mb1 4.0/9, mb1mx3.9/16, mbtmp4.3/9, MS3.6/4, Ms1 3.6/4, ms1mx3.2/20, Error ellipse: s-maj=26.7km s-min=22.4km az=79.0*
ISC 15 11:03:18.4±2.1**, 5.4S**±0.1×**154.23E**±0.07**, h105**km±17km**, n22, σ0.89**/22**, mb4.2**/12**, 1C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.95	126	P	P	11 04 59.2	0.0
PMG	Port Moresby	8.06	240	P	P	11 05 13.7	-0.6
	8.6nm,0.3s,baz=44,slow=10,SNR=17						
PMG				S	S	11 06 45.3	+0.9
	1.8nm,0.3s,baz=219,slow=15,SNR=2.2						
PMG				LR	LR	11 07 49.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,116nm,20.3s,baz=228,slow=34						
PMG	Port Moresby	8.06	240	eP	P	11 05 13.6	-0.6
	99nm,0.8s						
CTA	Charters Tower	16.53	207	P	P	11 07 05.7	+0.4
	0.1nm,0.3s,baz=47,slow=11,SNR=4.0						
CTA				LR	LR	11 12 16.6	
	comp=Z,52nm,20.8s,baz=28,slow=32						
DZM	Mont Dzumac	20.36	146	eP	P	11 07 48.7	-0.1
DZM	Mont Dzumac	20.36	146	P	P	11 07 48.9	+0.2
	12nm,0.6s,baz=311,slow=11,SNR=40						
KAKA	Kakadu	22.70	250	eP	P	11 08 30.2	+18
	4.2nm,0.6s,mb4.0						
WB2	Warramunga Arr	24.14	231	eP	P	11 08 26.5	+0.6
WRA	Warramunga Arr	24.15	231	P	P	11 08 26.9	+1.0
	2.8nm,0.6s,mb3.8,baz=57,slow=9.7,SNR=20						
STKA	Stephens Creek	28.88	203	P	P	11 09 08.0	-1.5
	2.6nm,0.7s,mb4.0,baz=11,slow=8.2,SNR=7.9						
STKA	Stephens Creek	28.88	203	eP	P	11 09 07.4	-2.0
FITZ	Fitzroy Crossi	30.64	243	eP	P	11 09 23.6	-1.6
	3.3nm,0.6s,mb4.2						
FORT	Forrest	35.25	221	eP	P	11 10 03.9	-1.0
	17nm,0.6s,mb5.0						
MBWA	Marble Bar	36.92	242	P	P	11 10 15.5	-3.5
	25nm,1.4s,mb5.0						
URZ	Urewera	38.77	151	LR	LR	11 22 53.9	
	comp=Z,537nm,19.1s,baz=179,slow=30						
VNDA	Vanda	72.19	178	P	P	11 14 33.1	-0.2
	1.7nm,0.7s,mb4.0,baz=329,slow=6.5,SNR=12						
SBA	Scott Base	72.71	177	eP	P	11 14 36.6	+0.3
	3.1nm,0.9s,mb4.1						
MKAR	Makanchi Array	81.71	319	P	P	11 15 27.0	+0.2
	0.6nm,0.7s,mb3.5,baz=100,slow=7.4,SNR=6.3						
MKAR				pP	pP	11 15 48.2	-5.8
	0.6nm,0.7s,baz=112,slow=5.9,SNR=4.3						
MKAR	Makanchi Array	81.71	319	P	P	11 15 27.0	+0.2
MKAR				pP	pP	11 15 48.2	-5.9
ILAR	Eielson Array	82.18	22	P	P	11 15 29.1	+0.3
	0.7nm,0.5s,mb3.7,baz=250,slow=5.1,SNR=14						
ILAR				pP	pP	11 15 50.0	-6.1
	0.3nm,0.7s,baz=242,slow=5.1,SNR=2.3						
QSPA	South Pole Qui	84.57	180	⇑iP	P	11 15 41.8	+1.3
	7.7nm,0.7s,mb4.7						
MAW	Mawson	85.57	203	P	P	11 15 46.1	+0.4
	3.0nm,0.8s,mb4.3,baz=106,slow=6.9,SNR=7.7						
MAW				LR	LR	11 50 51.1	
	comp=Z,88nm,18.6s,baz=213,slow=33						

*NEIC **15** 11:21:27.9±5.0, 4.58S×153.71E, h123^{km}±33^{km}, mb4.4/1, Error ellipse: s-maj=50.2km s-min=22.8km az=81.0*
*IDC **15** 11:21:31.5±7.6, 4.59S×153.44E, h147^{km}±55^{km}, mb3.8/6, mb1 4.0/7, mb1mx3.7/16, mbtmp4.3/7, Error ellipse: s-maj=64.0km s-min=31.5km az=89.0*
ISC 15 11:21:30.0±5.0**, 4.7S**±0.2×**153.5E**±0.3**, h147**^{km}±38^{km}**, n14,** σ**1^{s}06**/16**, mb4.0**/7**, 1C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.90	233	P	P	11 23 23.3	+0.3
	15nm,0.3s,baz=31,slow=6.5,SNR=48						
PMG				S	S	11 24 51.1	-0.1
	9.5nm,0.3s,baz=137,slow=18,SNR=7.9						
PMG	Port Moresby	7.90	233	ePn	P	11 23 22.4	-0.6
PMG				eSn	S	11 24 51.0	-0.2
KAKA	Kakadu	22.32	248	eP	P	11 26 35.1	+19
	4.3nm,0.4s,mb4.2						
WB2	Warramunga Arr	24.09	229	eP	P	11 26 34.4	+1.2
WRA	Warramunga Arr	24.09	229	P	P	11 26 33.9	+0.6
	6.6nm,0.5s,mb4.4,baz=54,slow=10.0,SNR=42						
STKA	Stephens Creek	29.31	201	P	P	11 27 20.4	-0.5
	2.5nm,0.9s,mb4.0,baz=7.6,slow=15,SNR=3.3						
FITZ	Fitzroy Crossi	30.38	242	⇑iP	P	11 27 29.4	-1.1
	5.2nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	30.38	242	P	P	11 27 29.1	-1.4
	7.2nm,0.6s,mb4.6,baz=70,slow=3.6,SNR=6.7						
KKM	Kota Kinabalu	38.75	286	eP	P	11 28 44.0	+2.3
KULM	Kulim	53.73	280	P	P	11 30 37.5	-2.0
MKAR	Makanchi Array	80.69	319	P	P	11 33 28.2	+0.1
	0.5nm,0.7s,mb3.2,baz=124,slow=4.4,SNR=4.0						
MKAR	Makanchi Array	80.69	319	P	P	11 33 28.2	+0.1
MAW	Mawson	85.99	203	P	P	11 33 54.9	+0.5
	1.6nm,0.5s,mb4.0,baz=80,slow=5.8,SNR=6.3						
BVAR	Borovoye Array	89.56	323	P	P	11 34 11.3	-0.5
	0.5nm,0.5s,mb3.7,baz=79,slow=7.6,SNR=3.7						

ISC 15 12:00:59.4±1.3**, 46.06N**±0.09×**13.63E**±0.10**, n6,** σ**0^{s}30**/7**, 1C, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRE	Drenchia	0.11	3	⇑iPg	Pg	12 01 01.6	0.0
CADS	Cadrg	0.18	24	iPg	Pg	12 01 03.1	+0.1
VOY	Vojsko	0.18	100	ePg	Pg	12 01 02.8	-0.2
VOY				eSg	Sg	12 01 06.0	+0.5
COLI	Coloredo	0.19	291	ePg	Pg	12 01 03.4	+0.2
JAVS	Javornik	0.34	119	iPg	Pg	12 01 06.0	-0.3
GORS	Gorjuse	0.36	45	iPg	Pg	12 01 06.1	-0.4

*ECX **15** 13:24:15.8±0.6, 31.85N×116.21W, h6^{km}, MD4.0, ML4.2*
*NEIC **15** 13:24:15.8, 31.85N×116.21W, h6^{km}, MD4.2(ECX), ML3.9(PAS), After ECX.*
*IDC **15** 13:24:15.6±2.3, 31.88N×116.10W, mb3.7/1, mb1 3.8/6, mb1mx3.7/24, mbtmp3.4/6, ML3.6/5, Error ellipse: s-maj=35.4km s-min=14.2km az=51.0*
ISC 15 13:24:14.4±0.4**, 31.85N**±0.03×**116.19W**±0.03**, h6**^{km}**, n40,** σ**1^{s}09**/55**, mb3.7**/1**, 9C-4D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECNX	Esteban Cantu	0.40	241	⇑eP	Pg	13 24 22.9	+0.4
ECNX				eS	Sg	13 24 28.4	+0.5
CCX	Cicese	0.41	272	⇑eP	Pg	13 24 22.9	+0.3
CCX				eS	Sg	13 24 28.4	+0.3
ENX	Ensenada	0.41	274	⇑eP	Pg	13 24 23.0	+0.3
ENX				eS	Sg	13 24 28.5	+0.3
PBX	Punta Banda	0.47	257	⇑eP	Pg	13 24 24.0	+0.1
CBX	Cerro Bola	0.61	319	⇑eP	Pg	13 24 26.4	-0.3
CBX				eS	Sg	13 24 34.5	-0.3
CBX				⇑e		13 24 35.5	
	comp=N,28μm,0.3s						
CBX				e		13 24 35.6	
	comp=E,13μm,0.3s						
RMX	La Rumorosa	0.75	7	eP	Pg	13 24 29.6	+0.1
DVTC	Desert V Tower	0.81	5	⇓iP	Pb	13 24 30.6	+0.1
DVTC				eS	Sg	13 24 41.3	0.0
YUH	Yuha Desert	0.82	16	⇑iP	Pb	13 24 30.8	+0.1
BAR	Barrett	0.92	334	⇓iP	Pb	13 24 31.4	-1.0
BAR	Barrett	0.92	334	ePg	Pg	13 24 31.3	-1.5
CPBX	Cerro Prieto	0.94	53	⇑eP	Pb	13 24 33.6	+0.9
CPBX				eS	Sb	13 24 48.1	+3.0
SPX	San Pedro Mart	1.01	142	⇑eP	Pb	13 24 33.9	-0.1
SPX				eS	Sb	13 24 47.4	+0.1
SPX				⇓e		13 24 49.0	
	comp=N,4μm,0.3s						
SPX				⇓e		13 24 51.9	
	comp=E,5μm,0.5s						
GLA	Glamis	1.66	44	ePn	Pn	13 24 43.5	-0.8
GLA				eSn	Sn	13 25 03.8	-2.3
PFO	Pinyon Flat Ob	1.77	353	eP	Pn	13 24 45.1	-0.7
PFO				eSn	Sn	13 25 04.4	-4.4
MWC	Mount Wilson	2.84	327	ePn	Pn	13 24 59.5	-1.6
MWC				eSn	Sn	13 25 33.0	-3.1
SNCC	San Nicolas Is	3.14	297	ePn	Pn	13 25 02.9	-2.6
SNCC				eSn	Sn	13 25 38.2	-5.6
LDFC	Landfair	3.34	15	ePn	Pn	13 25 08.8	+0.6
NEN	Nelson	3.95	16	ePn	Pn	13 25 16.6	-0.3
DAC	Darwin (Calif)	4.56	346	eP	Pn	13 25 25.0	-0.7
DAC				eSn	Sb	13 26 31.3	+0.9
TUC	Tucson	4.61	83	ePn	Pn	13 25 23.5	-2.8
MTUM	Tungsten Hills	5.83	341	ePn	Pn	13 25 43.5	0.0
MTUM				eSn	Sb	13 27 07.6	+0.6
ARUT	Antelope Range	6.34	20	ePn	Pn	13 25 51.5	+0.8
NVAR	Mina Array Bea	6.79	346	Pn	Pn	13 25 56.8	-0.2
	comp=E,0.1nm,0.3s,baz=176,slow=14,SNR=4.4						
NVAR				Pg	Pg	13 26 19.4	-10
	comp=E,0.6nm,0.3s,baz=186,slow=17,SNR=9.8						
NVAR				Lg		13 27 51.4	
	comp=E,0.1nm,0.3s,baz=152,slow=37,SNR=2.3						
CMB	Columbia Colle	7.06	332	ePn	Pn	13 26 03.1	+2.2
MSU	Marysvale	7.41	25	ePn	Pn	13 26 09.4	+3.7
TMUT	Trail Mountain	8.46	27	Pn	P	13 26 20.4	0.0
SRU	San Rafael	8.59	31	ePn	P	13 26 23.2	+1.1
	comp=E,27nm,0.9s						
PV10	Paradox Valley	8.75	40	ePn	P	13 26 24.2	-0.2
PV01	Paradox Valley	8.85	43	ePn	P	13 26 19.7	-6.0
ELK	Elko	8.91	5	Pn	P	13 26 26.3	-0.3
	comp=E,0.3nm,0.3s,baz=184,slow=7.5,SNR=8.6						
ELK				Lg		13 28 55.8	
	comp=E,0.1nm,0.3s,baz=219,slow=17,SNR=3.6						
ELK	Elko	8.91	5	ePn	P	13 26 25.9	-0.7
MNTX	Cornudas Mount	9.20	88	ePn	P	13 26 28.8	-1.9
MNTX				eSn	Sn	13 28 09.6	-6.1
HWUT	Hardware Ranch	10.41	20	eP	P	13 26 48.9	+1.5
SMCO	Snowmass	10.47	43	eP	P	13 26 49.5	+1.4
	comp=E,3.0nm,0.6s						
TXAR	Lajitas Array	11.08	100	Pn	P	13 26 56.3	-0.2
	comp=E,0.6nm,0.3s,baz=276,slow=12,SNR=7.9						
PDAR	Pinedale Array	12.10	24	Pn	P	13 27 12.1	+1.8
	comp=E,0.0nm,0.3s,baz=219,slow=13,SNR=3.5						
MCMT	McKenzie Canyo	13.21	10	P	P	13 27 30.2	+5.0
NEW	Newport	16.41	358	Pn	P	13 28 10.0	+3.3
	comp=E,0.2nm,0.3s,baz=170,slow=11,SNR=3.8						
NEW	Newport	16.41	358	Pn	P	13 28 10.0	+3.3
ILAR	Eielson Array	37.99	339	P	P	13 31 34.6	+0.1
	comp=E,1.1nm,0.7s,mb3.7,baz=151,slow=7.8,SNR=11						

ISC 15 14:40:52.8±0.9**, 38.49N**±0.05×**31.57E**±0.06**, h10**^{km}**, n6,** σ**1^{s}05**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDHN	Kadinhani	0.43	86	iP	Pg	14 41 02.4	+0.8
KDHN				iS	Sg	14 41 08.8	+1.3
KIZT	Kizilcal	0.46	32	PG	Pg	14 41 00.6	-1.5
KIZT				SG	Sg	14 41 07.0	-1.3
KONT	Konya--Tatoy	0.83	131	ePG	Pg	14 41 08.9	-0.5
TKTP	Tekketepe	1.08	246	iP	Pb	14 41 12.6	-0.6
TKTP				iS	Sb	14 41 32.8	+5.7
ESKT	Eskisehir	1.17	332	ePG	Pg	14 41 15.9	-0.2
ESKT	Eskisehir	1.17	332	iP	Pb	14 41 14.9	+0.3
ESKT				iS	Sb	14 41 31.4	+1.8

*IDC **15** 14:48:22.7±1.4, 10.88S×165.38E, mb3.9/5, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML3.9/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/28, Error ellipse: s-maj=35.4km s-min=25.4km az=152.0*
*NEIC **15** 14:48:28.1±2.3, 10.94S×165.30E, h38^{km}±20^{km}, mb4.5/6, Error ellipse: s-maj=20.3km s-min=17.0km az=76.0*
ISC 15 14:48:25.7±0.8**, 11.04S**±0.09×**165.30E**±0.08**, h33**^{km}**, n17,** σ**1^{s}35**/17**, mb4.2**/7**, MS3.1**/2**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.51	286	Pn	Pn	14 49 46.6	-1.0
	14nm,0.3s,baz=134,slow=2.3,SNR=16						
HNR				Sn	Sn	14 50 52.5	+1.9
	3.8nm,0.3s,baz=0.5,slow=18,SNR=2.4						
HNR				LR	LR	14 51 01.7	
	comp=Z,86nm,18.5s,baz=125,slow=29						
DZM	Mont Dzumac	11.03	174	Pn	P	14 51 04.8	+0.5
	0.2nm,0.3s,baz=22,slow=18,SNR=4.6						
PMG	Port Moresby	17.93	274	P	P	14 52 31.5	-2.8
	11nm,0.9s						
CTA	Charters Tower	20.42	242	eP	P	14 53 04.0	+1.2
	16nm,0.9s						
CTA	Charters Tower	20.42	242	P	P	14 53 04.4	+1.6
	18nm,0.8s,baz=68,slow=12,SNR=15						
CTA				LR	LR	14 59 29.1	
	comp=Z,80nm,20.6s,MS3.1,baz=259,slow=32						
CTAO	Charters Tower	20.42	242	eP	P	14 53 04.6	+1.7
	29nm,0.9s						
AFI	Afiamalu	22.56	100	LR	LR	15 00 10.5	
	comp=Z,86nm,18.4s,MS3.2,baz=147,slow=31						
STKA	Stephens Creek	30.15	223	P	P	14 54 36.9	+1.9
WRAB	Tennant Creek	31.07	250	eP	P	14 54 43.0	-0.2
	10nm,1.3s,mb4.5						
WRA	Warramunga Arr	31.08	250	P	P	14 54 42.5	-0.8
	1.0nm,0.7s,mb3.8,baz=81,slow=9.0,SNR=7.9						
TAU	Tasmania Unive	35.41	203	P	P	14 55 20.1	-0.5
	87nm,1.5s,mb5.5						
NWAO	Narrogin (SRO)	49.11	236	P	P	14 57 10.6	-1.6
MAJO	Matsushiro	53.77	333	eP	P	14 57 47.5	+0.2
	7.9nm,1.2s,mb4.5						
KSM	Kuching	56.07	279	eP	P	14 58 01.8	-2.6
ILAR	Eielson Array	83.64	19	P	P	15 00 51.8	-0.1
	0.4nm,0.8s,mb3.6,baz=216,slow=5.1,SNR=5.3						
MKAR	Makanchi Array	93.22	317	P	P	15 01 40.0	+1.8
	0.2nm,0.6s,mb3.7,baz=117,slow=3.2,SNR=2.9						
PDAR	Pinedale Array	93.86	47	P	P	15 01 41.6	+0.4
	0.3nm,0.7s,mb3.8,baz=196,slow=6.6,SNR=2.2						

IGQ 15 14:53:08.2, 2.89S×80.01W, h12^{km}±29^{km}, mb4.2, 1C-4D, Error ellipse: s-maj=30.3km s-min=8.3km az=114.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARRY	Arrayan	2.08	49	P	Pn	14 53 44.8	+1.4
ARRY				S	Sn	14 54 11.1	+1.7
ULBA	Ulba	2.15	48	P	Pn	14 53 46.3	+1.9
RUN5	Runtun	2.16	47	P	Pn	14 53 45.5	+0.9
RUN5				S	Sn	14 54 12.6	+1.1
QIL1	Quilotoa	2.30	28	P	Pn	14 53 46.4	-0.2
QIL1				S	Sn	14 54 14.4	-0.7
PISA	Pisayambo	2.44	42	P	Pn	14 53 51.3	+2.7
PISA				S	Sn	14 54 22.9	+4.2
JAMA	Jama	2.62	356	P	Pn	14 53 52.4	+1.2
CAMI	Rancho Maria	2.67	34	⇓P	Pn	14 53 54.5	+2.7
NAS1	Nasa	2.72	34	P	Pn	14 53 55.5	+2.9
TAMB	Tambo	2.73	37	⇓P	Pn	14 53 55.9	+3.1
VC1	Cotopaxi 1	2.75	36	⇑P	Pn	14 53 56.0	+2.9
JUA2	San Juan 2	3.01	28	P	Pn	14 53 58.2	+1.5
TERV	Terraza Guagua	3.04	28	P	Pn	14 53 58.8	+1.6
GGP	Refugio Guagua	3.05	28	P	Pn	14 53 58.6	+1.3
ANTI	Antisana	3.05	37	⇓P	Pn	14 54 00.6	+3.3
PINO	Pino	3.06	27	P	Pn	14 53 58.5	+1.1
YANA	Yana	3.11	28	⇓P	Pn	14 53 59.4	+1.2
JOR1	San Jorge 1	3.18	26	P	Pn	14 53 56.9	-2.3
CAYR	Refugio Cayamb	3.52	35	P	Pn	14 54 07.1	+3.2
CAYA	Cayambe	3.57	35	P	Pn	14 54 07.3	+2.6
COTA	Cotacachi	3.62	28	P	Pn	14 54 06.9	+1.6
ECEN	Cerro Negro	4.22	29	P	Pn	14 54 16.0	+2.1

*IDC **15** 15:07:08.4±6.8, 35.15S×178.95E, h181^{km}±67^{km}, mb4.1/2, mb1 4.2/3, mb1mx3.6/13, mbtmp4.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/13, Error ellipse: s-maj=81.8km s-min=46.1km az=15.0*
*NEIC **15** 15:07:10.2, 35.34S×178.62E, h216^{km}, MG4.5(WEL), After WEL.*
*WEL **15** 15:07:11.2±0.8, 35.57S×179.00E, h227^{km}±11^{km}, ML4.6/6, Error ellipse: s-maj=18.4km s-min=12.9km az=90.0*
ISC 15 15:07:10.8±1.5**, 35.9S**±0.1×**179.2E**±0.3**, h266**^{km}±10^{km}**, n41,** σ**0^{s}83**/50**, mb4.1**/2**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.77	204	PN	P	15 07 52.5	-0.6
MXZ				SN	S	15 08 23.6	-2.3
MXZ				SN	S	15 08 25.2	-0.7
MXZ	Matakaoa Point	1.77	204	P	P	15 07 52.5	-0.5
MXZ				S	S	15 08 23.9	-1.9
PUZ	Puketiti	2.26	200	PN	P	15 07 58.0	+0.7
PUZ				eSN	S	15 08 32.4	-1.0
PUZ	Puketiti	2.26	200	P	P	15 07 58.0	+0.7
PUZ				S	S	15 08 34.6	+1.2
MWZ	Matawai	2.74	209	PN	P	15 08 02.5	+0.4
MWZ				eSN	S	15 08 41.6	-0.3
MWZ	Matawai	2.74	209	P	P	15 08 02.5	+0.5
MWZ				S	S	15 08 43.7	+1.8
URZ	Urewera	2.86	215	P	P	15 08 02.8	-0.4
	8.4nm,0.3s,baz=67,slow=3.6,SNR=79						
URZ				S	S	15 08 44.7	+0.6
	40nm,0.3s,baz=278,slow=23,SNR=14						
URZ	Urewera	2.86	215	PN	P	15 08 02.6	-0.6
URZ				SN	S	15 08 44.7	+0.7
URZ	Urewera	2.86	215	P	P	15 08 02.6	-0.7
KNZ	Kokohu	3.31	201	PN	P	15 08 09.2	+1.1
KNZ				SN	S	15 08 55.7	+3.1
KNZ	Kokohu	3.31	201	P	P	15 08 09.2	+1.1
BKZ	Black Stump Fm	3.88	213	PN	P	15 08 15.1	+0.7
CNZ	Chateau	4.37	221	PN	P	15 08 20.7	+0.6
MOVZ	Moawhango	4.42	217	PN	P	15 08 20.1	-0.6
PXZ	Pawanui	4.49	204	PN	P	15 08 22.4	+0.9
PXZ				SN	S	15 09 18.4	+1.7
TSZ	Takapari Road	4.85	211	PN	P	15 08 25.9	+0.1
MRZ	Mangatainoka R	5.51	210	PN	P	15 08 33.8	-0.1
MRZ				SN	S	15 09 38.2	-0.7
KIW	Kapiti Island	5.96	213	PN	P	15 08 39.3	-0.1
MTW	Mount Morrison	5.96	208	PN	P	15 08 39.2	-0.2
CAW	Cannon Point	6.10	211	PN	P	15 08 40.4	-0.7
TRWZ	Traveller	6.11	206	PN	P	15 08 41.7	+0.5
MSWZ	Moikau Station	6.28	208	PN	P	15 08 43.1	-0.3
MRW	Makara Radio	6.35	212	PN	P	15 08 44.9	+0.6
DUWZ	D'Urville Isla	6.39	219	PN	P	15 08 44.0	-0.8
SNZO	South Karori	6.42	212	PN	P	15 08 44.1	-1.0
BHW	Baring Head	6.43	211	PN	P	15 08 44.8	-0.4
TCW	Tory Channel	6.53	215	PN	P	15 08 45.3	-1.1
TUWZ	Tuamarina	6.86	215	PN	P	15 08 49.4	-1.1
NNZ	Nelson	6.97	219	PN	P	15 08 51.3	-0.7
RAO	Raoul Island	7.10	21	LR	LR	15 10 48.8	
	comp=Z,297nm,21.1s,baz=276,slow=34						
BSWZ	Blackbirch Sta	7.11	214	PN	P	15 08 53.2	-0.6
THZ	Tophouse	7.62	218	PN	P	15 09 00.3	+0.2
KHZ	Kahutara	7.82	213	PN	P	15 09 01.9	-0.8
LTZ	Lake Taylor	8.69	216	PN	P	15 09 13.5	-0.2
CTA	Charters Tower	32.92	290	eP	P	15 13 22.0	-0.4
	4.4nm,0.9s,mb4.0						
CTA	Charters Tower	32.92	290	P	P	15 13 22.4	0.0
	6.8nm,0.9s,mb4.2,baz=110,slow=11,SNR=5.7						
ASPA	Alice Springs	40.85	275	eP	P	15 14 29.5	+1.0
WB2	Warramunga Arr	42.34	280	eP	P	15 14 41.1	+0.5
WRA	Warramunga Arr	42.35	280	P	P	15 14 41.4	+0.7
	5.7nm,0.5s,mb4.1,baz=118,slow=7.8,SNR=168						
ARCES	ARCESS Array B	143.41	345	PKP	PKPdf	15 26 17.5	+5.2
	2.5nm,0.8s,baz=45,slow=1.3,SNR=2.5						
FINES	FINESS Array B	149.36	335	PKPbc	PKPdf	15 26 32.3	+10
	2.4nm,1.0s,baz=72,slow=6.0,SNR=4.7						

*IDC **15** 15:21:49.2±2.0, 51.43N×178.74W, mb3.9/10, mb1 4.2/10, mb1mx4.0/24, mbtmp4.0/10, MS3.1/1, Ms1 3.1/1, ms1mx2.6/30, Error ellipse: s-maj=54.7km s-min=22.2km az=2.0*
*MOS **15** 15:21:56.7±2.3, 52.07N×178.58W, h33^{km}, mb4.2/8, Error ellipse: s-maj=28.0km s-min=18.8km az=83.6*
*BJI **15** 15:21:57.1, 51.50N×178.40W, h45^{km}, mB4.7, mb4.4, Ms4.2, Msz4.1*
*NEIC **15** 15:21:57.1±1.2, 51.51N×178.40W, h55^{km}±6^{km}, mb4.3/2, ML3.8(AEIC), Error ellipse: s-maj=30.1km s-min=8.2km az=181.0*
ISC 15 15:21:56.9±0.9**, 51.7N**±0.2×**178.5W**±0.1**, h60**^{km}±7^{km}**, n46,** σ**0^{s}94**/45**, mb4.5**/18**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.77	81	P	P	15 22 11.0	-1.1
KIMD				S	S	15 22 23.8	+0.4
KIKV	Kanaga Island	0.83	74	P	P	15 22 12.7	-0.2
KIWB	Kanaga Island	0.83	76	ePn	P	15 22 12.4	-0.6
KIRH	Kanaga Island	0.88	73	P	P	15 22 13.5	-0.1
ADAG	Mount Adagdak	1.20	73	P	P	15 22 17.8	-0.1
ETKA	Kagalaska Isla	1.29	80	P	P	15 22 17.8	-1.5
GSTD	Great Sitkin T	1.49	73	P	P	15 22 22.4	+0.4
GSTD				S	S	15 22 42.9	+2.3
GSMY	Great Sitkin M	1.54	74	P	P	15 22 22.7	0.0
GSTR	Great Sitkin T	1.55	73	P	P	15 22 23.4	+0.5
ATKA	Atka Island	2.69	77	P	P	15 22 38.5	-0.5
SMY	Shemya	4.71	286	ePn	P	15 23 08.1	+1.0
ILAR	Eielson Array	20.89	39	P	P	15 26 36.9	+0.9
	0.8nm,0.5s,baz=239,slow=8.4,SNR=12						
ILAR	Eielson Array	20.89	39	P	P	15 26 36.9	+0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAJ	Asahikawa	26.92	269	LR	LR	15 38 00.7	
	comp=Z,35nm,18.1s,baz=342,slow=36						
INK	Inuvik	27.11	35	P	P	15 27 36.0	+0.5
	comp=Z,0.8nm,0.4s,mb3.6,baz=251,slow=7.7,SNR=10						
INK	Inuvik	27.11	35	eP	P	15 27 35.5	0.0
	comp=Z,11nm,1.4s,mb4.2						
INK	Inuvik	27.11	35	P	P	15 27 36.1	+0.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MDJ	Mudanjiang	34.74	279	P	P	15 28 46.5	+3.6
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,39nm,5.1s						
YKA	Yellowknife Ar	34.89	47	P	P	15 28 48.1	+4.2
	comp=Z,0.5nm,0.4s,mb3.8,baz=277,slow=9.6,SNR=2.9						
YKA	Yellowknife Ar	34.89	47	P	P	15 28 48.1	+4.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	Newport	38.59	70	P	P	15 29 15.1	-0.1
	comp=Z,3.0nm,0.6s,mb4.2,baz=316,slow=6.8,SNR=4.4						
NEW	Newport	38.59	70	P	P	15 29 15.1	-0.1
NEW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BW06	Boulder Array	46.02	73	eP	P	15 30 15.6	-0.2
	comp=Z,2.3nm,0.6s,mb4.3						
PDAR	Pinedale Array	46.02	73	P	P	15 30 16.0	+0.2
	comp=Z,2.5nm,0.5s,mb4.4,baz=315,slow=3.8,SNR=22						
NJ2	Nanjing	49.02	272	eP	P	15 30 42.1	+2.8
GTA	Gaotai	55.66	292	eP	P	15 31 28.4	-0.5
GTA				PP	PP	15 33 35.3	+0.3
GTA				S	S	15 39 14.0	+5.3
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,109nm,6.8s						
GTA				LR	LR		
	comp=N,74nm,17.5s						
GTA				LR	LR		
	comp=E,70nm,15.6s						
GTA				LR	LR		
	comp=Z,101nm,11.8s						
ARCES	ARCESS Array B	57.86	350	P	P	15 31 43.2	-0.8
	comp=Z,1.5nm,0.5s,mb4.2,baz=27,slow=8.1,SNR=5.9						
ARCES	ARCESS Array B	57.86	350	P	P	15 31 43.2	-0.9
ARCES	ARCESS Array B	57.86	350	P	P	15 31 43.2	-0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	60.03	308	P	P	15 31 57.2	-2.1
	comp=Z,0.2nm,0.3s,mb3.6,baz=41,slow=6.2,SNR=6.0						
BVAR	Borovoye Array	60.82	320	P	P	15 32 03.2	-1.4
	comp=Z,0.6nm,0.3s,mb4.2,baz=45,slow=7.3,SNR=7.4						
BVAR	Borovoye Array	60.82	320	P	P	15 32 03.2	-1.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	65.56	347	P	P	15 32 34.3	-1.3
	comp=Z,1.0nm,0.6s,mb4.0,baz=34,slow=6.9,SNR=5.2						
FINES	FINESS Array B	65.56	347	P	P	15 32 34.3	-1.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKN	Kakani	72.39	292	eP	P	15 33 18.6	+0.4
	comp=Z,28nm,0.6s,mb5.4						
PKI	Pulchoki	72.48	292	eP	P	15 33 18.8	+0.1
	comp=Z,22nm,0.6s,mb5.3						
GKN	Gorkha	72.60	293	eP	P	15 33 19.5	+0.2
	comp=Z,22nm,0.5s,mb5.3						
DMN	Daman	72.63	292	eP	P	15 33 19.8	+0.3
	comp=Z,15nm,0.6s,mb5.1						
KOLN	Koldanda	73.37	294	eP	P	15 33 23.9	0.0
	comp=Z,44nm,0.8s,mb5.5						
GERES	GERESS Array B	79.34	352	P	P	15 33 57.4	+0.3
	comp=Z,0.5nm,0.6s,mb3.6,baz=27,slow=6.0,SNR=4.0						
GERES	GERESS Array B	79.34	352	P	P	15 33 57.4	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	84.78	336	P	P	15 34 26.2	+0.9
	comp=Z,1.2nm,0.7s,mb4.2,baz=63,slow=2.8,SNR=4.6						
BRTR	Keskin Array B	84.78	336	P	P	15 34 26.3	+1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LBTB	Lobatse	147.68	316	PKPbc	PKPdf	15 41 35.9	+4.4
	comp=Z,2.2nm,0.4s,baz=9.0,slow=2.8,SNR=7.0						
LBTB	Lobatse	147.68	316	PKPbc	PKPdf	15 41 35.9	+4.4
LBTB	Lobatse	147.68	316	PKIKP	PKPdf	15 41 35.9	+4.4
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.4s						

WEL 15 15:26:18.4±0.2**, 45.04S**×**167.42E, h110**^{km}±2^{km}**, ML3.6**/8**, 7C-1D, Error ellipse: s-maj=2.1km s-min=1.3km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**203**	PN	P	15 26 34.6	-0.7
DCZ				SN	S	15 26 47.0	-0.9
MSZ	**Milford Sound**	**0.52**	**45**	⇑PN	P	15 26 35.3	-0.2
MSZ				SN	S	15 26 47.5	-0.8
MLZ	**Mavora Lakes**	**0.62**	**120**	⇑PN	P	15 26 35.9	-0.3
MLZ				SN	S	15 26 49.0	-0.7
WHZ	**Wether Hill Ro**	**0.93**	**157**	⇑PN	P	15 26 38.9	-0.3
WHZ				SN	S	15 26 54.1	-0.7
WKZ	**Wanaka**	**1.16**	**80**	⇑PN	P	15 26 41.2	-0.5
WKZ				SN	S	15 26 58.2	-0.9
EAZ	**Earnscleugh**	**1.35**	**99**	PN	P	15 26 43.2	-0.7
EAZ				SN	S	15 27 01.0	-2.1
JCZ	**Jackson Bay**	**1.36**	**45**	⇓PN	P	15 26 42.8	-1.1
JCZ				SN	S	15 27 01.2	-2.0
TUZ	**Tuapeka**	**1.81**	**121**	⇑PN	P	15 26 48.7	-0.7
TUZ				SN	S	15 27 09.9	-2.7
LBZ	**Lake Benmore**	**2.08**	**73**	⇑PN	P	15 26 50.8	-2.1
LBZ				SN	S	15 27 14.9	-3.8
FOZ	**Fox Glacier**	**2.20**	**49**	PN	P	15 26 52.7	-1.8
FOZ				SN	S	15 27 19.8	-1.8
ODZ	**Otahua Downs**	**2.29**	**91**	⇑PN	P	15 26 53.9	-1.9
ODZ				SN	S	15 27 19.5	-4.2
RPZ	**Rata Peaks**	**2.92**	**64**	PN	P	15 27 01.3	-3.1
RPZ				SN	S	15 27 34.3	-4.7
WVZ	**Waitaha Valley**	**3.09**	**52**	PN	P	15 27 03.0	-3.7
LTZ	**Lake Taylor**	**4.17**	**59**	PN	P	15 27 16.7	-4.5
LTZ				SN	S	15 28 03.0	-6.3
DSZ	**Denniston Nort**	**4.59**	**46**	PN	P	15 27 22.7	-4.2
DSZ				SN	S	15 28 12.3	-7.2
THZ	**Tophouse**	**5.17**	**53**	PN	P	15 27 30.2	-4.5

*MAN **15** 15:48:52.6, 4.12N×125.43E, h88km, mb4.9, ML3.8, MS3.8*
*IDC **15** 15:48:56.3±1.8, 4.78N×125.51E, mb4.0/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=113.5km s-min=24.8km az=67.0*
ISC 15 15:49:01.1±1.8**, 4.7N**±0.1×**125.19E**±0.08**, h51**km±24km**, n11, σ0.99**/15**, mb3.9**/4**, MS3.1**/1**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**2.35**	**8**	*e*P	**P**	**15 49 42.0**	**+3.9**
DMPH				*e*S	**S**	**15 50 19.8**	**+14**
MATI	**Mati**	**2.43**	**26**	*e*P	**P**	**15 49 38.1**	**-1.2**
MATI				*e*S	**S**	**15 50 07.9**	**0.0**
BUKP	**Musuan**	**3.12**	**358**	*e*P	**P**	**15 49 50.8**	**+1.8**
BUKP				*e*S	**S**	**15 50 32.9**	**+7.6**
PAGZ	**Pagadian**	**3.57**	**330**	*e*P	**P**	**15 49 56.2**	**+0.8**
PAGZ				*e*S	**S**	**15 50 36.9**	**+0.1**
IPIL	**Ipil**	**3.99**	**319**	*e*P	**P**	**15 50 01.6**	**+0.3**
IPIL				*e*S	**S**	**15 50 45.8**	**-1.7**
BUTP	**Butuan**	**4.22**	**6**	*e*P	**P**	**15 50 04.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.70**	**179**	P	**P**	**15 54 00.2**	**+0.5**
	6.5nm,0.8s,mb4.1,baz=5.6,slow=9.3,SNR=5.1						
WRA	**Warramunga Arr**	**26.13**	**160**	P	**P**	**15 54 31.0**	**-1.5**
	2.8nm,0.7s,mb3.9,baz=340,slow=9.8,SNR=20						
STKA	**Stephens Creek**	**39.62**	**158**	P	**P**	**15 56 29.9**	**+0.3**
	3.6nm,1.0s,mb4.1,baz=336,slow=10.0,SNR=3.5						
SONM	**Songino Array**	**45.87**	**342**	LR	LR	16 19 15.3	
	comp=Z,23nm,20.0s,MS3.1,baz=21,slow=40						
MKAR	**Makanchi Array**	**55.86**	**326**	P	**P**	**15 58 36.6**	**+0.8**
	0.6nm,0.8s,mb3.7,baz=135,slow=8.6,SNR=6.1						

*ATH **15** 15:55:00.5, 41.77N×19.64E, h29km, MD3.3/3*
*CSEM **15** 15:55:06.2±0.2, 41.27N×19.98E, h1km±1km, MD3.4, Error ellipse: s-maj=3.8km s-min=1.6km az=63.0*
*NEIC **15** 15:55:07.9, 41.34N×19.93E, h5km, MD3.4(ATH), MD3.0(PDG), After PDG.*
*TIR **15** 15:55:07.2, 41.35N×19.85E, h9km, Ml2.6*
*PDG **15** 15:55:07.9±0.0, 41.34N×19.93E, h5km*
ISC 15 15:55:06.2±0.6**, 41.24N**±0.03×**19.96E**±0.05**, h5**km**, n23, σ1.38**/39**, 12D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.13**	**327**	⇓*i*Pg	**Pg**	**15 55 08.7**	**-0.2**
TIR				*i* Sg	**Sg**	**15 55 11.5**	**+0.7**
PUK	**Puka**	**0.80**	**356**	*i* Pg	**Pg**	**15 55 21.6**	**-0.7**
PUK				*i* Sg	**Sg**	**15 55 34.8**	**+1.8**
PUK	**Puka**	**0.80**	**356**	*e*Pg	**Pg**	**15 55 21.6**	**-0.7**
PUK				*i* Sg	**Sg**	**15 55 34.8**	**+1.8**
ULC	**Ulcinj**	**0.90**	**324**	⇓*i*Pg	**Pg**	**15 55 22.7**	**-1.4**
ULC				*e*Sg	**Sg**	**15 55 35.3**	**-0.8**
TTG	**Podgorica**	**1.30**	**337**	⇓*i*Pg	**Pg**	**15 55 29.9**	**-2.2**
TTG				*e*Sg	**Sg**	**15 55 48.6**	**-0.8**
BUM	**Brajici-Budva**	**1.32**	**324**	⇓*i*Pg	**Pg**	**15 55 30.6**	**-2.0**
BUM				*e*Sg	**Sg**	**15 55 49.8**	**-0.5**
SKO	**Skopje**	**1.33**	**56**	*i* Pg	**Pg**	**15 55 34.0**	**+1.3**
SKO				*i* Sg	**Sg**	**15 55 49.3**	**-1.2**
SKO				Lg		15 55 57.0	
	comp=Z,0.1nm,0.6s						
PVY	**Plav**	**1.35**	**0**	⇓*i*Pg	**Pg**	**15 55 31.0**	**-2.3**
PVY				*e*Sg	**Sg**	**15 55 50.5**	**-0.8**
KEK	**Kerkira**	**1.53**	**185**	*e*PB	**Pb**	**15 55 35.5**	**+0.9**
KEK				*e*SN	**Sn**	**15 56 00.5**	**+5.8**
HCY	**Herceg Novi**	**1.63**	**318**	⇓*i*Pg	**Pg**	**15 55 36.2**	**-2.5**
HCY				*e*Sg	**Sg**	**15 56 00.1**	**-0.3**
IVA	**Berane**	**1.63**	**358**	⇓*i*Pg	**Pg**	**15 55 36.0**	**-2.7**
IVA				*e*Sg	**Sg**	**15 55 59.8**	**-0.7**
IVA	**Berane**	**1.63**	**358**	⇓*i*Pg	**Pg**	**15 55 36.0**	**-2.8**
KZN	**Kozani**	**1.66**	**124**	*e*PN	**Pn**	**15 55 37.1**	**+1.0**
JAN	**Janina**	**1.72**	**156**	*e*PN	**Pn**	**15 55 37.5**	**+0.5**
NKY	**Niksic**	**1.73**	**336**	⇓*i*Pn	**Pn**	**15 55 37.9**	**+0.8**
NKY				*e*Sn	**Sn**	**15 56 02.1**	**+2.4**
TREB	**Trebinje**	**1.90**	**321**	Pn	**Pn**	**15 55 39.9**	**+0.3**
BRY	**Bratogost**	**1.97**	**328**	⇓*i*Pn	**Pn**	**15 55 41.5**	**+1.0**
BRY				*e*Sn	**Sn**	**15 56 08.0**	**+2.2**
UPM	**Unac-Piva**	**2.11**	**339**	⇓*i*Pn	**Pn**	**15 55 43.4**	**+0.9**
UPM				*e*Sn	**Sn**	**15 56 11.3**	**+1.9**
PLE	**Pljevlja**	**2.13**	**349**	⇓*i*Pn	**Pn**	**15 55 43.6**	**+0.8**
PLE				*e*Sn	**Sn**	**15 56 11.8**	**+1.8**
EVR	**Evrytania**	**2.72**	**148**	*e*P	**Pn**	**15 55 49.0**	**-2.3**
DIVS	**Divcibare**	**2.86**	**0**	*e*Pn	**Pn**	**15 55 58.9**	**+5.7**
DIVS				Sn	**Sn**	**15 56 29.7**	**+1.3**
TIP	**Timpagrande**	**3.20**	**231**	Pn	**Pn**	**15 55 53.7**	**-4.4**
TIP	**Timpagrande**	**3.20**	**231**	Pn	**Pn**	**15 55 53.7**	**-4.4**

*IDC **15** 16:07:35.9±1.7, 5.14N×94.62E, mb4.0/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.0/6, Error ellipse: s-maj=67.8km s-min=24.6km az=55.0*
*NEIC **15** 16:07:39.5±1.0, 4.96N×94.34E, h30km, mb4.2/1, Error ellipse: s-maj=29.0km s-min=12.0km az=221.0*
ISC 15 16:07:37.8±1.2**, 5.0N**±0.2×**94.4E**±0.2**, h30**km**, n9, σ0.77**/9**, mb4.0**/7**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.25**	**87**	*e*Pn	**Pn**	**16 09 11.0**	**+0.6**
MKAR	**Makanchi Array**	**42.93**	**348**	P	**P**	**16 15 35.8**	**+0.1**
	2.4nm,0.8s,mb4.0,baz=164,slow=8.8,SNR=20						
SONM	**Songino Array**	**43.91**	**12**	P	**P**	**16 15 43.5**	**0.0**
	1.5nm,0.7s,mb3.8,baz=180,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**46.44**	**124**	P	**P**	**16 16 03.8**	**-0.3**
	1.9nm,0.6s,mb4.2,baz=307,slow=9.5,SNR=24						
WB2	**Warramunga Arr**	**46.45**	**124**	*e*P	**P**	**16 16 03.7**	**-0.5**
KURK	**Kurchatov**	**47.45**	**346**	*e*P	**P**	**16 16 11.6**	**-0.1**
	2.3nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**49.42**	**353**	P	**P**	**16 16 26.7**	**-0.2**
	1.6nm,0.2s,mb4.6,baz=310,slow=8.3,SNR=5.9						
BVAR	**Borovoye Array**	**51.78**	**342**	P	**P**	**16 16 43.6**	**-1.2**
	0.4nm,0.5s,mb3.6,baz=127,slow=7.2,SNR=2.7						
GERES	**GERESS Array B**	**80.13**	**319**	P	**P**	**16 19 48.5**	**+1.9**
	1.1nm,0.8s,mb3.8,baz=82,slow=6.9,SNR=6.8						

*JMA **15** 16:21:24.9±0.1, 42.04N×142.60E, h59km±2km, M3.3*
*IDC **15** 16:21:25.9±2.2, 42.09N×142.76E, h78km±20km, mb3.5/4, mb1 3.5/6, mb1mx3.4/22, mbtmp3.7/6, Error ellipse: s-maj=50.4km s-min=16.6km az=91.0*
ISC 15 16:21:23.9±0.6**, 42.03N**±0.04×**142.57E**±0.05**, h67**km±5km**, n18, σ0.62**/29**, mb3.7**/4**, 4C-5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.28**	**28**	⇑P	**P**	**16 21 34.5**	**-0.2**
JNBK				*e*S	**S**	**16 21 42.1**	**-0.6**
JEM	**Erimo**	**0.44**	**92**	⇑P	**P**	**16 21 36.2**	**+0.3**
JEM				*e*S	**S**	**16 21 44.1**	**-0.7**
JBT2	**Biratori 2**	**0.77**	**348**	⇓P	**P**	**16 21 39.6**	**+0.1**
JBT2				*e*S	**S**	**16 21 50.9**	**-0.2**
JCH	**Churui**	**0.83**	**45**	⇑P	**P**	**16 21 40.3**	**0.0**
JCH				*e*S	**S**	**16 21 52.2**	**-0.2**
JFR	**Furan**	**1.13**	**1**	P	**P**	**16 21 44.3**	**0.0**
JKB	**Kayabe**	**1.16**	**264**	⇓P	**P**	**16 21 44.8**	**+0.3**
JKB				*e*S	**S**	**16 21 59.7**	**-0.2**
JEW	**Eniwo**	**1.16**	**315**	⇓P	**P**	**16 21 44.6**	**0.0**
JNB	**Noboribetsu**	**1.22**	**292**	⇓P	**P**	**16 21 45.0**	**-0.4**
JNB				*e*S	**S**	**16 22 00.7**	**-0.7**
JOB	**Onbets**	**1.28**	**47**	⇑P	**P**	**16 21 47.2**	**+0.9**
JOB				*e*S	**S**	**16 22 03.2**	**+0.4**
JOT	**Ohata**	**1.31**	**241**	⇓P	**P**	**16 21 46.9**	**+0.1**
JOT				*e*S	**S**	**16 22 04.1**	**+0.4**
JAB	**Ashibetsu**	**1.50**	**350**	P	**P**	**16 21 49.6**	**+0.3**
JAB				*e*S	**S**	**16 22 07.9**	**-0.1**
JAR	**Ashorobuto**	**1.54**	**34**	P	**P**	**16 21 49.8**	**-0.1**
JAR				*e*S	**S**	**16 22 08.5**	**-0.6**
ASAJ	**Asahikawa**	**2.09**	**1**	P	**P**	**16 21 58.1**	**+0.8**
	24nm,0.3s,baz=217,slow=10.0,SNR=228						
ASAJ				S	**S**	**16 22 23.2**	**+1.1**
	8.4nm,0.3s,baz=107,slow=26,SNR=8.5						
MJAR	**Matsushiro Arr**	**6.44**	**213**	P	**P**	**16 23 00.1**	**+1.9**
	0.3nm,0.3s,baz=333,slow=14,SNR=3.5						
ZAL	**Zalesovo**	**39.39**	**308**	P	**P**	**16 28 48.2**	**-0.1**
	1.2nm,0.3s,mb4.2,baz=43,slow=9.0,SNR=6.0						
MKAR	**Makanchi Array**	**42.40**	**298**	P	**P**	**16 29 12.9**	**-0.2**
	0.8nm,0.9s,mb3.5,baz=83,slow=9.8,SNR=6.7						
WRA	**Warramunga Arr**	**62.12**	**189**	P	**P**	**16 31 39.0**	**-1.3**
	0.1nm,0.4s,mb3.2,baz=6.1,slow=6.8,SNR=6.2						
FINES	**FINESS Array B**	**64.83**	**332**	P	**P**	**16 31 56.5**	**-0.9**
	1.2nm,0.6s,mb3.9,baz=37,slow=9.5,SNR=4.8						

MAN 15 16:24:38.9, 10.43N×125.87E, h10km, mb4.0, ML2.8, MS2.5, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.74**	**210**	*e*P	Pb	16 24 52.8	-0.7
SCPH				*e*S	Sb	16 25 03.6	+0.2
MSLP	**Maasin**	**1.03**	**254**	*e*P	Pb	16 24 58.3	-0.2
MSLP				*e*S	Sb	16 25 12.7	+0.9
PLP	**Palo**	**1.14**	**310**	*e*P	Pb	16 24 59.8	-0.4
PLP				*e*S	Sb	16 25 15.9	+1.0
BESP	**Borongan**	**1.24**	**340**	*e*P	Pb	16 25 01.5	-0.5
BESP				*e*S	Sb	16 25 19.1	+1.2
BUTP	**Butuan**	**1.47**	**189**	*e*P	Pn	16 25 05.0	-0.7
BUTP				*e*S	Sb	16 25 25.0	+0.5
CNP	**Catarman**	**2.38**	**330**	*e*P	Pn	16 25 18.1	-0.5
CNP				*e*S	Sn	16 25 48.0	-0.2

*BER **15** 16:43:29.0±3.3, 78.32N×8.27E, h10km, MD2.4, ML3.2, ML2.4(NAO)*
*NAO **15** 16:43:30.2±4.6, 78.43N×8.66E, h30km±62km, ML2.4*
*IDC **15** 16:43:30.2±5.3, 78.28N×9.29E, mb4.0/2, mb1 4.0/3, mb1mx3.6/20, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=96.4km s-min=23.2km az=80.0*
ISC 15 16:43:29.9±2.7**, 78.11N**±0.05×**1 1E**± **, h10**km**, n8, σ1.44**/12**, mb3.9**/2**, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.86**	**18**	Pg	**Pg**	**16 43 45.6**	**-1.6**
KBS				Lg		16 43 58.2	
KBS	**Kingsbay**	**0.86**	**18**	⇑*i*P	**Pb**	**16 43 45.6**	**-0.9**
KBS				*e*S	**Sb**	**16 43 57.9**	**0.0**
KBS				AML	AML	16 44 00.2	
	comp=Z,948nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.20**	**84**	Pn	**Pn**	**16 43 56.7**	**+4.0**
	baz=267,slow=14						
SPA0				Lg		16 44 20.2	
HSP	**Hornsund**	**1.54**	**133**	*e*P	**Pn**	**16 44 01.5**	**+3.8**
HSP				*e*S	**Sb**	**16 44 27.6**	**+10**
ARA0	**ARCESS Array S**	**9.52**	**147**	Pn	**P**	**16 45 49.6**	**-0.2**
	baz=352,slow=12						
ARA0				Sn	**Sn**	**16 47 37.0**	**-1.0**
	baz=347,slow=22						
ARCES	**ARCESS Array B**	**9.52**	**147**	Pn	**P**	**16 45 49.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=346,slow=14,SNR=17						
ARCES				Sn	**Sn**	**16 47 36.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=341,slow=24,SNR=3.0						
ZAL	**Zalesovo**	**34.68**	**89**	P	**P**	**16 50 22.6**	**+1.5**
	comp=Z,0.7nm,0.3s,mb4.0,baz=169,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**40.93**	**95**	P	**P**	**16 51 16.4**	**+2.8**
	comp=Z,1.5nm,0.8s,mb3.7,baz=338,slow=6.5,SNR=13						

*IDC **15** 16:53:42.1±1.8, 43.57N×83.91E, mb3.5/1, mb1 3.8/2, mb1mx3.5/18, mbtmp3.6/2, ML3.0/2, Error ellipse: s-maj=47.6km s-min=16.1km az=70.0*
*NNC **15** 16:53:46.6±1.6, 43.76N×83.89E, mpv2.9, Error ellipse: s-maj=34.4km s-min=13.9km az=70.0*
ISC 15 16:53:46.6±1.5**, 43.8N**±0.1×**84.5E**±0.3**, h33**km**, n4, σ0.38**/7**, mb3.4**/1**, 1C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.39**	**334**	⇓Pn	**Pn**	**16 54 38.5**	**0.0**
	1.3nm,0.6s,baz=158,slow=13,SNR=122						
MK31				Pg	**P**	**16 54 45.9**	**+7.4**
	4.0nm,0.5s,baz=159,slow=16,SNR=36						
MK31				⇑Lg		16 55 29.2	
	12nm,0.5s,baz=161,slow=34,SNR=7.0						
MKAR	**Makanchi Array**	**3.39**	**334**	Pn	**Pn**	**16 54 38.5**	**-0.1**
	0.5nm,0.3s,baz=163,slow=14,SNR=18						
MKAR				Pg	**P**	**16 54 46.3**	**+7.8**
	2.7nm,0.3s,baz=156,slow=16,SNR=55						
MKAR				Lg		16 55 29.3	
	5.3nm,0.3s,baz=162,slow=27,SNR=11						
ZAL	**Zalesovo**	**10.18**	**1**	Pn	**P**	**16 56 14.1**	**+0.7**
	0.4nm,0.3s,baz=315,slow=4.9,SNR=2.8						
ZAL				Sn	**S**	**16 58 07.2**	**-0.4**
	0.3nm,0.3s,baz=133,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**78.15**	**133**	P	**P**	**17 05 44.0**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=330,slow=4.9,SNR=5.6						

MAN 15 17:02:32.2, 9.16N×125.70E, h6km, mb4.3, ML3.1, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.20**	**202**	*e*P	Pg	17 02 36.9	+0.6
BUTP				*e*S	Sg	17 02 40.9	+1.7
SCPH	**Surigao**	**0.66**	**342**	*e*S	Sg	17 02 56.8	+2.7
MSLP	**Maasin**	**1.27**	**320**	*e*P	Pb	17 02 55.3	-0.9
BUKP	**Musuan**	**1.42**	**206**	*e*P	Pn	17 02 57.2	-1.3
BUKP				*e*S	Sb	17 03 18.2	+1.4
MATI	**Mati**	**2.27**	**166**	*e*P	Pn	17 03 10.8	+0.1
PAGZ	**Pagadian**	**2.63**	**241**	*e*P	Pn	17 03 12.4	-3.6

MAN 15 17:10:12.3, 18.55N×120.57E, h23km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.91**	**171**	*e*P	Pb	17 10 28.5	-0.7
ABRA				*e*S	Sb	17 10 37.9	-3.0
SGCP	**Mt. Cagua**	**1.44**	**102**	*e*P	Pn	17 10 36.8	-0.5
SGCP				*e*S	Sn	17 10 51.3	-4.3
CVP	**Callao Caves**	**1.46**	**125**	⇑*e*P	Pn	17 10 37.0	-0.7
CVP				*i* S	Sn	17 10 50.0	-6.2
CAUP	**Cauayan**	**2.00**	**143**	*e*P	Pn	17 10 45.7	+0.4
CAUP				*e*S	Sn	17 11 08.3	-1.5

*BJI **15** 17:17:10.5, 51.76N×156.72E, h178km, mB4.5, mb4.4*
*KRSC **15** 17:17:10.8±1.3, 51.53N×157.23E, h172km±3km, ML4.4*
*NEIC **15** 17:17:12.0±0.6, 51.90N×156.58E, h170km±5km, mb4.3/26, Error ellipse: s-maj=7.1km s-min=4.6km az=129.0*
*MOS **15** 17:17:11.0±0.9, 51.91N×156.51E, h172km, mb4.3/25, Error ellipse: s-maj=12.0km s-min=6.3km az=83.7*
*IDC **15** 17:17:13.7±3.5, 51.94N×156.46E, h187km±34km, mb3.6/16, mb1 3.8/17, mb1mx3.7/24, mbtmp4.2/17, Error ellipse: s-maj=14.8km s-min=11.8km az=129.0*
ISC 15 17:17:11.0±0.3**, 51.82N**±0.04×**156.69E**±0.08**, h177**km±2km**, h178**km±5.1km**:pP-P, n140, σ1.05**/177**, mb4.2**/45**, 1D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.36**	**168**	*i* P	**P**	**17 17 35.1**	**-0.3**
PAU				*e*S	**S**	**17 17 52.3**	**-1.7**
MIPR	**Malaya Ipel'ka**	**0.46**	**5**	*e*P	**P**	**17 17 36.3**	**+0.6**
MIPR				*e*S	**S**	**17 17 54.3**	**-0.4**
GRL	**Gorelyy**	**1.13**	**48**	*e*P	**P**	**17 17 39.9**	**+0.2**
GRL				*e*S	**S**	**17 18 01.6**	**-0.2**
APC	**Apacha**	**1.15**	**14**	*e*P	**P**	**17 17 40.5**	**+0.6**
APC				*e*S	**S**	**17 18 02.5**	**+0.3**
ALID	**Alaid**	**1.19**	**218**	*e*P	**P**	**17 17 40.7**	**+0.5**
ALID				*e*S	**S**	**17 18 02.1**	**-0.7**
RUS	**Russkaya**	**1.28**	**60**	*e*P	**P**	**17 17 40.3**	**-0.8**
RUS				*e*S	**S**	**17 18 01.6**	**-2.7**
KRMR	**Karymshinskiy**	**1.35**	**40**	*i* P	**P**	**17 17 41.9**	**+0.2**
KRMR				*e*S	**S**	**17 18 05.2**	**-0.1**
PET	**Petropavlovsk**	**1.71**	**44**	P	**P**	**17 17 45.1**	**-0.1**
PET				S	**S**	**17 18 09.5**	**-2.0**
PET	**Petropavlovsk**	**1.71**	**44**	*e*P	**P**	**17 17 45.0**	**-0.2**
PET				*e*S	**S**	**17 18 09.5**	**-2.0**
PET	**Petropavlovsk**	**1.71**	**44**	*e*Pn	**P**	**17 17 44.7**	**-0.5**
KOK	**Koryaka**	**1.90**	**38**	*e*P	**P**	**17 17 48.3**	**+1.2**
KOK				*e*S	**S**	**17 18 16.5**	**+1.5**
UGLR	**Uglovaya**	**1.91**	**42**	*e*P	**P**	**17 17 48.2**	**+0.9**
UGLR				*e*S	**S**	**17 18 15.5**	**+0.3**
AVH	**Avacha**	**1.92**	**40**	*e*P	**P**	**17 17 48.4**	**+1.1**
AVH				*e*S	**S**	**17 18 15.5**	**+0.2**
SMAR	**Somma**	**1.94**	**41**	*e*P	**P**	**17 17 48.5**	**+0.9**
SMAR				*e*S	**S**	**17 18 15.8**	**0.0**
SDLR	**Sedlovina**	**1.98**	**42**	*e*P	**P**	**17 17 48.5**	**+0.4**
SDLR				*e*S	**S**	**17 18 16.2**	**-0.4**
GNL	**Ganaly**	**2.03**	**21**	*e*P	**P**	**17 17 49.5**	**+0.9**
GNL				*e*S	**S**	**17 18 19.2**	**+1.7**
NLC	**Nalytchevo**	**2.12**	**49**	P	**P**	**17 17 48.6**	**-1.0**
NLC				S	**S**	**17 18 15.8**	**-3.5**
NLC	**Nalytchevo**	**2.12**	**49**	*e*P	**P**	**17 17 48.5**	**-1.1**
NLC				*e*S	**S**	**17 18 16.7**	**-2.6**
SPN	**Mys Shipunski**	**2.41**	**56**	P	**P**	**17 17 51.5**	**-1.5**
SPN				S	**S**	**17 18 20.7**	**-4.6**
SPN	**Mys Shipunski**	**2.41**	**56**	*e*P	**P**	**17 17 51.5**	**-1.5**
SPN				*e*S	**S**	**17 18 20.6**	**-4.7**
KII	**Karymskiy**	**2.78**	**36**	P	**P**	**17 17 58.1**	**+0.6**
KII				S	**S**	**17 18 32.8**	**-0.4**
KII	**Karymskiy**	**2.78**	**36**	*e*P	**P**	**17 17 57.7**	**+0.2**
KII				*e*S	**S**	**17 18 32.6**	**-0.6**
TUMR	**Tumrok**	**4.04**	**29**	*e*S	**S**	**17 19 01.4**	**+0.1**
MKZ	**Mys Kozlova**	**4.09**	**46**	P	**P**	**17 18 13.0**	**-0.9**
MKZ				S	**S**	**17 18 57.9**	**-4.5**
MKZ	**Mys Kozlova**	**4.09**	**46**	*e*P	**P**	**17 18 12.6**	**-1.3**
MKZ				*e*S	**S**	**17 18 59.0**	**-3.4**
ESO	**Esso**	**4.29**	**15**	*e*P	**P**	**17 18 17.8**	**+1.3**
ESO				*e*S	**S**	**17 19 09.0**	**+2.0**
KMNR	**Kamenistaya**	**4.47**	**27**	*e*P	**P**	**17 18 19.9**	**+1.0**
KMNR				*e*S	**S**	**17 19 11.4**	**+0.1**
KOZ	**Kozyrevsk**	**4.65**	**23**	P	**P**	**17 18 22.3**	**+1.2**
KOZ				S	**S**	**17 19 14.2**	**-1.1**
KOZR	**Kozyr**	**4.66**	**23**	PN	**P**	**17 18 22.3**	**+1.0**
KOZR				S	**S**	**17 19 14.2**	**-1.4**
SRDR	**Sredinnyy**	**4.85**	**20**	*e*P	**P**	**17 18 24.8**	**+1.0**
SRDR				*e*S	**S**	**17 19 18.9**	**-1.1**
ZLN	**Zelenaya**	**4.86**	**28**	*e*P	**P**	**17 18 26.0**	**+2.1**
ZLN				*e*S	**S**	**17 19 19.9**	**-0.4**
LGNR	**Loginova**	**4.88**	**27**	*e*P	**P**	**17 18 25.8**	**+1.6**
LGNR				*e*S	**S**	**17 19 20.5**	**-0.3**
CIRR	**Tsirk**	**4.93**	**27**	*e*P	**P**	**17 18 26.1**	**+1.3**
CIRR				*e*S	**S**	**17 19 18.7**	**-3.1**
KRSR	**Krestovskiy**	**4.97**	**26**	*e*P	**P**	**17 18 26.2**	**+0.9**
KRSR				*e*S	**S**	**17 19 21.4**	**-1.3**
KLY	**Klyuchi**	**5.07**	**26**	P	**P**	**17 18 28.9**	**+2.2**
KLY				S	**S**	**17 19 25.6**	**+0.4**
KLY	**Klyuchi**	**5.07**	**26**	*e*P	**P**	**17 18 28.4**	**+1.7**
KLY				*e*S	**S**	**17 19 25.6**	**+0.4**
SVLR	**Shiveluch**	**5.46**	**27**	*e*P	**P**	**17 18 31.8**	**+0.1**
SVLR				*e*S	**S**	**17 19 32.2**	**-2.1**
KBG	**Krutoberegovo**	**5.69**	**36**	*e*P	**P**	**17 18 34.5**	**-0.2**
KBG				*e*S	**S**	**17 19 34.5**	**-5.1**
KBG				Smax			
	180nm,0.4s						
KBTR	**Krutoberegovo**	**5.69**	**37**	P	**P**	**17 18 34.7**	**0.0**
KBTR				S	**S**	**17 19 34.2**	**-5.6**
KBTR	**Krutoberegovo**	**5.69**	**37**	*e*P	**P**	**17 18 34.5**	**-0.2**
KBTR				*e*S	**S**	**17 19 34.1**	**-5.7**
BKI	**Bering**	**6.49**	**55**	*e*P	**P**	**17 18 41.1**	**-4.2**
BKI				*e*S	**S**	**17 19 44.7**	**-14**
SEY	**Seymchan**	**11.38**	**350**	*e*PN	**P**	**17 19 51.4**	**+2.2**
ASAJ	**Asahikawa**	**12.17**	**236**	P	**P**	**17 20 00.2**	**+0.8**
	0.9nm,0.3s,baz=59,slow=8.6,SNR=8.2						
ASAJ	**Asahikawa**	**12.17**	**236**	PN	**P**	**17 20 00.2**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**17.80**	**316**	*e*P	**P**	**17 21 07.2**	**-1.2**
	comp=Z,49nm,0.6s						
YAK	**Yakutsk**	**17.80**	**316**	*e*P	**P**	**17 21 07.2**	**-1.2**
YAK				pmax	pmax		
	comp=Z,49nm,0.6s						
MDJ	**Mudanjiang**	**19.36**	**259**	P	**P**	**17 21 23.8**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,45nm,4.9s						
MAJO	**Matsushiro**	**20.13**	**228**	*e*P	**P**	**17 21 33.1**	**+0.4**
	comp=Z,6.1nm,0.4s						
MAJO	**Matsushiro**	**20.13**	**228**	*e*P	**P**	**17 21 33.1**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MAT	**Matsushiro**	**20.13**	**228**	P	**P**	**17 21 33.4**	**+0.7**
MAT	**Matsushiro**	**20.13**	**228**	*e*P	**P**	**17 21 33.0**	**+0.3**
	comp=Z,13nm,0.8s						
MAT	**Matsushiro**	**20.13**	**228**	*e*P	**P**	**17 21 33.0**	**+0.3**
MAT				pmax	pmax		
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**20.13**	**228**	P	**P**	**17 21 33.2**	**+0.5**
	comp=Z,6.1nm,0.6s,baz=26,slow=10,SNR=22						
TIXI	**Tiksi**	**23.43**	**338**	*e*P	**P**	**17 22 05.3**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.3						
HIA	**Hailar**	**23.46**	**278**	*e*P	**P**	**17 22 05.3**	**+0.3**
	comp=Z,15nm,0.7s,mb4.5						
HIA	**Hailar**	**23.46**	**278**	*e*P	**P**	**17 22 05.3**	**+0.2**
HIA				pmax	pmax		
	comp=Z,15nm,0.7s						
ILAR	**Eielson Array**	**31.19**	**44**	P	**P**	**17 23 14.5**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.4,baz=271,slow=7.9,SNR=4.5						
JOW	**Kunigami**	**32.88**	**232**	P	**P**	**17 23 29.4**	**-0.6**
	comp=Z,4.6nm,0.4s,mb4.6,baz=101,slow=5.2,SNR=7.6						
INK	**Inuvik**	**36.15**	**36**	P	**P**	**17 23 57.3**	**0.0**
	comp=Z,0.8nm,0.4s,mb3.7,baz=264,slow=9.3,SNR=13						
INK	**Inuvik**	**36.15**	**36**	*e*P	**P**	**17 23 57.5**	**+0.1**
	comp=Z,1.1nm,0.4s,mb3.8						
INK	**Inuvik**	**36.15**	**36**	*e*P	**P**	**17 23 57.5**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LZH	**Lanzhou**	**40.23**	**268**	*e*P	**P**	**17 24 33.8**	**+2.2**
LZH				AP	pP	17 25 12.5	+2.4
LZH				XP	sP	17 25 35.0	+4.1
LZH				PP	PP	17 26 13.8	+4.0
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,112nm,4.1s						
NVS	**Novosibirsk**	**42.12**	**304**	*e*P	**P**	**17 24 44.2**	**-2.5**
WMQ	**Urumqi**	**45.41**	**288**	*e*P	**P**	**17 25 15.0**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**46.63**	**301**	*e*P	**P**	**17 25 22.1**	**-0.5**
	comp=Z,7.8nm,0.3s,mb4.8						
KURK	**Kurchatov**	**46.63**	**301**	*e*P	**P**	**17 25 22.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb4.8						
MKAR	**Makanchi Array**	**46.82**	**295**	P	**P**	**17 25 23.7**	**-0.5**
	comp=Z,1.2nm,0.3s,mb4.0,baz=60,slow=6.6,SNR=39						
MKAR				pP	pP	17 26 03.0	-0.5
	comp=Z,1.4nm,0.9s,baz=59,slow=7.1,SNR=3.3						
BVAR	**Borovoye Array**	**49.54**	**308**	P	**P**	**17 25 43.9**	**-1.2**
	comp=Z,4.5nm,0.4s,mb4.4,baz=55,slow=7.1,SNR=33						
BVAR				PcP	PcP	17 27 03.6	-0.9
	comp=Z,0.9nm,0.4s,baz=65,slow=2.9,SNR=6.7						
BRVK	**Borovoye**	**49.57**	**308**	*e*P	**P**	**17 25 44.1**	**-1.2**
	comp=Z,3.1nm,0.8s,mb4.0						
BRVK	**Borovoye**	**49.57**	**308**	*e*P	**P**	**17 25 44.1**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
LSA	Lhasa	52.41	272	P	P	17 26 07.7	+0.7
AAK	Ala-Archa	53.76	295	eP	P	17 26 15.2	-1.5
	comp=Z,1.6nm,0.4s,mb4.1						
AAK	Ala-Archa	53.76	295	eP	P	17 26 15.2	-1.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
ARCES	ARCESS Array B	53.84	341	P	P	17 26 14.7	-2.2
	comp=Z,1.4nm,0.7s,mb3.8,baz=43,slow=8.0,SNR=18						
SUMG	Summit	55.46	5	eP	P	17 26 28.5	-0.1
	comp=Z,11nm,1.0s,mb4.5						
KKN	Kakani	57.39	275	eP	P	17 26 42.4	-0.5
	comp=Z,9.2nm,0.5s,mb4.9						
KKN	Kakani	57.39	275	eP	P	17 26 42.4	-0.5
KKN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
PKI	Pulchoki	57.47	274	eP	P	17 26 43.0	-0.4
	comp=Z,7.1nm,0.4s,mb4.8						
DMN	Daman	57.63	275	eP	P	17 26 44.2	-0.4
	comp=Z,9.0nm,0.4s,mb4.9						
GKN	Gorkha	57.64	275	eP	P	17 26 44.0	-0.6
	comp=Z,7.8nm,0.4s,mb4.9						
JOF	Joensuu	57.82	334	ep	P	17 26 43.0	-2.4
NVAR	Mina Array Bea	58.15	67	P	P	17 26 48.7	+0.7
	comp=Z,0.7nm,0.5s,mb3.8,baz=297,slow=6.7,SNR=6.9						
KOLN	Koldanda	58.45	276	eP	P	17 26 49.7	-0.6
	comp=Z,11nm,0.7s,mb4.8						
KAF	Kangasniemi	59.82	336	ep	P	17 26 57.0	-2.2
PDAR	Pinedale Array	59.97	58	pP	pP	17 27 39.7	-2.0
	comp=Z,0.6nm,0.8s,baz=323,slow=4.5,SNR=3.1						
FINES	FINESS Array B	60.44	335	P	P	17 27 01.0	-2.4
	comp=Z,1.2nm,0.6s,mb3.9,baz=45,slow=11,SNR=12						
FINES				pP	pP	17 27 45.0	+0.2
	comp=Z,3.2nm,0.9s,baz=79,slow=9.7,SNR=2.0						
OBN	Obninsk	62.44	326	eP	P	17 27 14.6	-2.3
OBN				e*PP	pP	17 28 09.2	+11
OBN				i		17 29 34.6	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
NB2	NORSAR Subarra	64.16	342	P	P	17 27 26.1	-1.8
	comp=Z,1.2nm,0.5s,mb4.0,baz=23,slow=6.5						
NB2	NORSAR Subarra	64.16	342	P	P	17 27 26.1	-1.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
NOA	NORSAR Array B	64.16	342	P	P	17 27 26.7	-1.2
	comp=Z,1.2nm,0.5s,mb4.0,baz=24,slow=6.5,SNR=5.5						
KAKA	Kakadu	67.61	206	eP	P	17 28 08.9	+18
	comp=Z,3.2nm,0.4s,mb4.4						
AKASG	Malin Array Be	68.60	327	P	P	17 27 54.0	-2.0
	comp=Z,1.7nm,0.4s,mb4.1,baz=32,slow=6.7,SNR=11						
KIV	Kislovodsk	68.91	315	eP	P	17 27 56.7	-1.4
KIV				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
TXAR	Lajitas Array	73.06	64	P	P	17 28 24.1	+0.9
	comp=Z,0.6nm,0.4s,mb3.6,baz=292,slow=4.8,SNR=12						
TXAR				pP	pP	17 29 03.8	-2.2
	comp=Z,0.4nm,0.2s,baz=301,slow=5.3,SNR=3.2						
WB2	Warramunga Arr	74.08	202	eP	P	17 28 28.8	-0.4
WRA	Warramunga Arr	74.08	202	P	P	17 28 28.9	-0.3
	comp=Z,1.6nm,0.6s,mb3.9,baz=18,slow=6.0,SNR=20						
GERES	GERESS Array B	74.87	336	P	P	17 28 32.7	-0.4
	comp=Z,0.4nm,0.4s,mb3.4,baz=45,slow=5.7,SNR=6.0						
ASPA	Alice Springs	77.77	201	⇓iP	P	17 28 50.6	+0.8
FLN	La Foliniere	77.92	345	eP	P	17 28 50.3	+0.2
LDF	La Druitiere	78.03	345	eP	P	17 28 50.6	-0.1
GRR	Gorron	78.35	345	eP	P	17 28 52.7	+0.2
LOR	Lormes	78.58	342	eP	P	17 28 53.7	-0.1
	comp=Z,6.7nm,0.5s,mb4.2						
LOR	Lormes	78.58	342	eP	P	17 28 53.7	-0.1
LOR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
SGMF	Saint Gilles	78.74	346	eP	P	17 28 55.3	+0.7
ROSF	Rostrenen	78.77	347	eP	P	17 28 55.0	+0.3
	comp=Z,32nm,1.1s,mb4.5						
ROSF	Rostrenen	78.77	347	eP	P	17 28 55.0	+0.3
ROSF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.6						
SSF	Saint Saulge	78.85	342	eP	P	17 28 55.1	-0.1
AVF	Avril sur Loir	79.14	342	eP	P	17 28 56.7	-0.1
	comp=Z,5.9nm,0.6s,mb4.1						
AVF	Avril sur Loir	79.14	342	eP	P	17 28 56.7	-0.1
AVF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
QUIF	Quistinic	79.16	346	eP	P	17 28 57.4	+0.5
SMF	Signal de Mont	79.18	341	eP	P	17 28 57.0	0.0
LPL	La Plagne	79.65	339	eP	P	17 29 00.4	+0.9
	comp=Z,9.5nm,0.8s,mb4.2						
LPL	La Plagne	79.65	339	eP	P	17 29 00.4	+0.9
LPL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
LPG	La Plagne	79.67	339	eP	P	17 29 00.7	+1.1
	comp=Z,10nm,0.7s,mb4.3						
LPG	La Plagne	79.67	339	eP	P	17 29 00.7	+1.1
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
TCF	Toulx Ste Croi	79.84	342	eP	P	17 29 00.9	+0.4
	comp=Z,3.7nm,0.6s,mb3.9						
TCF	Toulx Ste Croi	79.84	342	eP	P	17 29 00.9	+0.4
TCF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
MFF	Saint Martin d	79.96	344	eP	P	17 29 01.7	+0.5
	comp=Z,7.0nm,0.5s,mb4.2						
MFF	Saint Martin d	79.96	344	eP	P	17 29 01.7	+0.5
MFF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
MBDF	Montbardon	80.39	339	eP	P	17 29 04.2	+0.7
	comp=Z,5.6nm,0.7s,mb4.0						
MBDF	Montbardon	80.39	339	eP	P	17 29 04.2	+0.7
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
ORIF	Oris-en-Rattie	80.41	339	eP	P	17 29 04.3	+0.7
	comp=Z,6.1nm,0.7s,mb4.0						
ORIF	Oris-en-Rattie	80.41	339	eP	P	17 29 04.3	+0.7
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
VIVF	Saint-Julien-l	80.72	340	eP	P	17 29 06.0	+0.7
RJF	Les Rejaudoux	80.92	343	eP	P	17 29 07.0	+0.7
SBF	Sospel	81.06	338	eP	P	17 29 07.4	+0.3
CAF	Calviac	81.18	342	eP	P	17 29 08.1	+0.4
	comp=Z,7.5nm,0.7s,mb4.1						
CAF	Calviac	81.18	342	eP	P	17 29 08.1	+0.4
CAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
LMR	La Mourre	81.77	338	eP	P	17 29 11.1	+0.3
	comp=Z,7.3nm,0.7s,mb4.1						
LMR	La Mourre	81.77	338	eP	P	17 29 11.1	+0.3
LMR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
PGF	Pioggiola	81.92	336	eP	P	17 29 11.7	+0.2
	comp=Z,16nm,0.8s,mb4.4						
PGF	Pioggiola	81.92	336	eP	P	17 29 11.7	+0.2
PGF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
MTLF	Montolieu	82.68	342	eP	P	17 29 16.3	+0.9
EPF	Esparros	83.33	343	eP	P	17 29 19.2	+0.4
	comp=Z,5.7nm,0.8s,mb4.1						
EPF	Esparros	83.33	343	eP	P	17 29 19.2	+0.4
EPF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ETSF	Etsaut	83.62	343	eP	P	17 29 20.7	+0.6
	comp=Z,5.9nm,0.7s,mb4.2						
ETSF	Etsaut	83.62	343	eP	P	17 29 20.7	+0.6
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
STKA	Stephens Creek	84.38	193	P	P	17 29 25.0	+0.8
	comp=Z,2.0nm,0.8s,mb3.9,baz=335,slow=8.9,SNR=4.4						
ESDC	Sonseca Array	87.34	345	P	P	17 29 38.7	+0.3
	comp=Z,1.1nm,0.5s,mb3.9,baz=8.2,slow=5.0,SNR=5.9						
PLCA	Paso Flores	146.08	90	PKPbc	PKPbc	17 36 31.0	+1.7
	comp=Z,0.7nm,0.7s,baz=334,slow=4.7,SNR=3.3						

*JMA **15** 17:21:40.9±0.1, 28.17N×140.24E, h425km, M4.0*
*IDC **15** 17:21:42.3±0.8, 28.23N×140.31E, h407km±14km, mb3.2/3, mb1 3.3/7, mb1mx3.0/22, mbtmp4.1/7, Error ellipse: s-maj=48.3km s-min=15.9km az=74.0*
ISC 15 17:21:41.8±0.6**, 28.27N**±0.05×**140.2E**±0.1**, h409**km±7km**, n21, σ0^{s}98**/27**, mb3.5**/3**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.12	123	P	P	17 22 39.7	-0.1
	27nm,0.3s,baz=256,slow=12,SNR=39						
CBIJ				S	S	17 23 24.8	-0.5
	54nm,0.3s,baz=270,slow=22,SNR=5.0						
CBIJ	Chichi jima	2.12	123	P	P	17 22 39.7	-0.1
CBIJ				eS	S	17 23 24.8	-0.5
JHHJ	Haha-jima-NKT	2.41	132	eS	S	17 23 28.9	+0.2
JHJ2	Mitsune	4.84	356	P	P	17 23 04.4	+1.2
JHJ	Hachijo jima 2	4.85	356	P	P	17 23 04.8	+1.5
	36nm,0.3s,baz=85,slow=12,SNR=7.1						
JHJ				S	S	17 24 05.5	-1.7
	27nm,0.3s,baz=47,slow=22,SNR=3.8						
BSO1	Boso 1	6.40	6	P	P	17 23 20.2	+0.4
BSO1				eS	S	17 24 37.7	+0.7
JIM2	Oshima 3	6.46	354	P	P	17 23 21.8	+1.3
JWZ	Kozaga	6.50	325	P	P	17 23 21.2	+0.3
JIE	Ise	6.79	335	P	P	17 23 24.9	+0.8
JOD2	Odawara 2	7.04	353	P	P	17 23 26.7	-0.2
JOD2				eS	S	17 24 47.6	-2.2
JRY	Ryogami san	7.80	352	P	P	17 23 34.7	-0.9
JRY				eS	S	17 25 02.2	-3.1
JTO	Tosashimizu	7.84	308	P	P	17 23 35.9	-0.1
MJAR	Matsushiro Arr	8.42	349	P	P	17 23 41.5	-1.1
	1.0nm,0.3s,baz=174,slow=11,SNR=8.3						
MAT	Matsushiro	8.42	349	eS	P	17 23 44.0	+1.4
JHS	Saijyo	9.02	320	P	P	17 23 49.7	+0.3
JNU	Nakatsue	9.36	303	P	P	17 23 54.0	+0.6
	0.8nm,0.3s,baz=143,slow=13,SNR=6.4						
JSJ	Shimokoshiki	9.69	293	P	P	17 23 56.8	-0.5
JMK	Ichinoseki	10.69	4	eS	S	17 26 05.8	+0.4
WRA	Warramunga Arr	48.26	187	P	P	17 29 44.3	-1.2
	0.8nm,0.6s,mb3.2,baz=5.1,slow=7.7,SNR=12						
FINES	FINESS Array B	76.11	333	P	P	17 32 46.8	0.0
	0.6nm,0.4s,mb3.6,baz=72,slow=6.0,SNR=6.3						
NOA	NORSAR Array B	81.86	338	P	P	17 33 17.4	+0.1
	2.2nm,1.0s,mb3.9,baz=61,slow=9.4,SNR=2.5						

*IDC **15** 17:30:30.4±21.0, 36.34N×71.06E, h184km±185km, mb3.1/2, mb1 3.1/4, mb1mx2.9/20, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=161.4km s-min=66.8km az=54.0*
*NNC **15** 17:30:36.5±6.9, 36.91N×70.67E, h134km±150km, mpv3.4, Error ellipse: s-maj=68.8km s-min=56.8km az=39.0*
ISC 15 17:30:31.4±3.7**, 36.5N**±0.2×**71.1E**±0.2**, h200**km±34km**, n7, σ0^{s}81**/9**, mb3.0**/1**, 2C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.58	356	P	P	17 32 06.0	-1.1
	1.1nm,0.4s,baz=190,slow=14,SNR=11						
KK31				⇑S	S	17 33 15.6	-5.9
	5.3nm,0.5s,baz=178,slow=17,SNR=15						
AAK	Ala-Archa	6.64	22	⇑P	P	17 32 08.7	+0.9
	1.1nm,0.3s						
AAK				⇓S	S	17 33 22.0	-0.8
	9.8nm,0.9s						
MKAR	Makanchi Array	13.22	36	P	P	17 33 33.4	+0.9
	0.1nm,0.3s,baz=216,slow=11,SNR=6.9						
AB31	Akbulak array	15.10	331	⇓P	P	17 33 56.5	+0.7
	0.2nm,0.2s,baz=143,slow=12,SNR=6.7						
BVAR	Borovoye Array	16.51	358	P	P	17 34 12.5	-0.4
	0.2nm,0.3s,baz=162,slow=9.4,SNR=7.3						
ZAL	Zalesovo	19.84	24	P	P	17 34 49.0	+0.6
	1.4nm,0.4s,baz=257,slow=10,SNR=6.1						
WRA	Warramunga Arr	81.93	122	P	P	17 42 29.3	-0.9
	0.2nm,0.5s,mb3.0,baz=324,slow=4.9,SNR=7.2						

MAN 15 17:37:55.8, 9.34N×125.72E, h72km, mb3.9, ML2.6, MS2.2, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.39	194	eP	P	17 38 09.9	+2.0
BUTP				eS	S	17 38 22.5	+5.6
SCPH	Surigao	0.49	333	eP	P	17 38 10.1	+1.3
SCPH				eS	S	17 38 21.9	+3.5
MSLP	Maasin	1.16	313	eP	P	17 38 16.9	+0.3
CNP	Catarman	3.31	342	eP	P	17 38 46.7	+0.1
CNP				eS	S	17 39 25.4	+0.6

MAN 15 18:21:14.4, 8.44N×126.19E, h54km, mb4.0, ML2.8, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.30	145	⇓iP	P	18 21 24.4	+0.4
BIPH				i S	S	18 21 31.4	+0.5
BUTP	Butuan	0.77	314	eP	P	18 21 30.8	+1.5
BUTP				eS	S	18 21 45.0	+4.7
BUKP	Musuan	1.24	244	eP	P	18 21 36.4	+0.6
BUKP				eS	S	18 21 52.5	+0.7
MATI	Mati	1.48	177	eP	P	18 21 39.5	+0.2
MATI				eS	S	18 21 58.8	+1.1

*MOS **15** 18:36:09.8±1.4, 36.17N×71.44E, h33km, mb4.7/24, Error ellipse: s-maj=8.2km s-min=4.9km az=116.3*
*BJI **15** 18:36:19.7, 36.38N×71.52E, h120km, mB4.9, mb4.6*
*NEIC **15** 18:36:19.1±0.4, 36.38N×71.70E, mb4.5/32, Error ellipse: s-maj=9.3km s-min=6.0km az=211.0*
*IDC **15** 18:36:19.7±1.0, 36.32N×71.55E, h110km±7km, mb4.0/17, mb1 4.1/19, mb1mx4.1/24, mbtmp4.3/19, MS3.1/2, Ms1 3.1/2, ms1mx2.7/15, Error ellipse: s-maj=21.6km s-min=11.7km az=11.0*
*NNC **15** 18:36:22.9±4.5, 36.73N×71.07E, h142km±50km, mpv4.9, Error ellipse: s-maj=37.3km s-min=26.3km az=22.0*
ISC 15 18:36:17.1±0.4**, 36.27N**±0.02×**71.62E**±0.04**, h106**km±5km**, h107**km±2.8km**:pP-P, n160, σ1^{s}25**/186**, mb4.3**/45**, 16C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.45	174	⇑P	P	18 36 58.6	+2.1
CHCP	Chirah Chowk	2.93	152	P	P	18 37 06.8	+3.7
THW	Thamme Wali	3.46	178	⇑P	P	18 37 11.4	+1.1
SBDP	Sheikh Budin	4.01	190	⇑P	P	18 37 18.3	+0.5
SARP	Sargodha	4.42	168	⇑P	P	18 37 23.3	0.0
SARP				S	S	18 38 02.0	-12
DRP	Derazinda	4.66	195	⇑P	P	18 37 27.2	+0.6
KSH	Kashi	4.73	45	P	P	18 37 31.3	+3.7
KSH				S	S	18 38 22.1	+0.4
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,1μm,0.2s						
AML	Almayashu	6.08	15	P	P	18 37 46.1	+0.3
	SNR=318						
UCH	Uchtor	6.36	20	P	P	18 37 50.8	+0.9
	SNR=10						
KZA	Kyzart	6.45	25	P	P	18 37 52.3	+1.2
	SNR=9.3						
EKS2	Erkin-Say	6.60	14	P	P	18 37 53.4	+0.2
	SNR=45						
AAK	Ala-Archa	6.74	18	P	P	18 37 55.4	+0.4
	SNR=38						
AAK	Ala-Archa	6.74	18	⇓P	P	18 37 55.6	+0.5
	comp=E,20nm,0.5s						
AAK				⇓S	S	18 39 09.3	-1.5
	comp=E,41nm,0.7s						
AAK	Ala-Archa	6.74	18	⇓PN	P	18 37 55.6	+0.6
AAK				S	S	18 39 09.3	-1.5
AAK				pmax	pmax		
	comp=Z,21nm,0.4s						
KBK	Karagaybulak	6.88	21	P	P	18 37 57.6	+0.6
	SNR=18						
KK31	Karatay Array	6.88	353	⇑P	P	18 37 54.9	-2.1
	comp=Z,57nm,0.3s,baz=180,slow=13,SNR=170						
KK31				⇑S	S	18 39 07.2	-7.2
	comp=Z,112nm,0.7s,baz=190,slow=24,SNR=7.3						
KK31	Karatay Array	6.88	353	⇑P	P	18 37 54.9	-2.1
	comp=Z,57nm,0.3s						
KK31				S	S	18 39 07.2	-7.2
KKAR	Karatay Array	6.88	353	ePN	P	18 37 54.9	-2.1
KKAR				pmax	pmax		
	comp=Z,36nm,0.3s						
ULHL	Ulahol	6.97	30	P	P	18 37 59.7	+1.5
	SNR=13						
CHMS	Chumysh	7.15	19	P	P	18 38 00.9	+0.3
	SNR=16						
KLP	Kalpa	7.26	129	eP	P	18 38 05.4	+3.3
KLP				eS	S	18 39 21.3	-2.2
KLP				AML	AML	18 39 26.3	
	comp=N,2μm,0.3s						
TKM2	Tokmak 2	7.32	24	P	P	18 38 03.8	+0.8
	SNR=8.3						
USP	Ospenovka	7.34	17	P	P	18 38 03.3	+0.1
	SNR=11						
KKR	Kurukshetra	7.65	144	ex	S	18 39 32.3	-0.8
KKR				AML	AML	18 39 36.0	
	comp=Z,273nm,0.1s						
KHET	Khetri	8.90	155	eP	P	18 38 23.4	-1.0
KHET				eS	S	18 39 56.4	-7.1
KHET				AML	AML	18 39 59.7	
	comp=E,184nm,0.3s						
KHET				AML	AML	18 40 00.1	
	comp=N,123nm,0.4s						
KALG	Kalgarh	9.02	136	eP	P	18 38 28.2	+2.3
KALG				eS	S	18 40 03.4	-3.0
AYAN	Aya Nagar	9.05	147	eP	P	18 38 26.8	+0.5
AYAN				eS	S	18 40 01.4	-5.7
AYAN				AML	AML	18 40 08.1	
	comp=Z,116nm,0.4s						
KUDL	Kundal	9.09	152	eP	P	18 38 25.5	-1.3
KUDL				eS	S	18 40 01.6	-6.4
KUDL				AML	AML	18 40 06.7	
	comp=Z,90nm,0.2s						
JASL	Jaisalmer	9.33	184	eS	S	18 40 06.0	-7.9
JASL				AML	AML	18 40 09.2	
	comp=Z,249nm,0.1s						
PTH	Pithoragarh	9.85	130	eP	P	18 38 38.0	+0.9
PTH				eS	S	18 40 20.0	-6.3
AJM	Ajmer	10.09	164	i P	P	18 38 40.0	-0.3
AJM				i x	x	18 40 20.0	
AGRA	Agra	10.49	147	eS	S	18 40 34.0	-7.7
AGRA				AML	AML	18 40 38.4	
	comp=N,108nm,0.4s						
AGRA				AML	AML	18 40 38.5	
	comp=E,128nm,0.3s						
VAN	Vannovskaya	10.92	283	P	P	18 38 44.8	-6.5
VAN				S	S	18 40 37.9	-14
MK02	Makanchi Array	13.19	34	⇑P	P	18 39 21.7	+0.5
MK02				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MK31	Makanchi Array	13.20	34	⇑P	P	18 39 21.7	+0.3
	comp=Z,7.6nm,0.8s,baz=220,slow=12,SNR=24						
MK31	Makanchi Array	13.20	34	⇑P	P	18 39 21.7	+0.3
	comp=Z,7.6nm,0.8s						
MKAR	Makanchi Array	13.20	34	P	P	18 39 21.6	+0.2
	comp=Z,0.3nm,0.3s,baz=221,slow=13,SNR=13						
KOLN	Koldanda	13.22	126	eP	P	18 39 21.7	0.0
	comp=Z,58nm,0.5s						
GKN	Gorkha	13.76	123	eP	P	18 39 27.5	-1.1
GKN				eS	S	18 41 52.6	-6.5
BHPL	Bhopal	13.92	157	ex	x	18 39 38.5	
BHPL				eS	S	18 41 53.3	-10
BHPL				AML	AML	18 41 58.6	
	comp=E,43nm,0.4s						
BHPL				AML	AML	18 41 59.0	
	comp=N,39nm,0.4s						
DMN	Daman	14.33	123	eP	P	18 39 34.8	-1.2
	comp=N,68nm,0.4s						
KKN	Kakani	14.33	122	eP	P	18 39 34.6	-1.4
	comp=N,68nm,0.5s						
KKN	Kakani	14.33	122	eP	P	18 39 34.6	-1.4
KKN				pmax	pmax		
	comp=Z,34nm,0.5s						
WMQ	Urumqi	14.43	54	eP	P	18 39 40.0	+2.8
WMQ				XP		18 40 08.0	
WMQ				eS	S	18 42 19.0	+4.2
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,127nm,5.2s						
PKI	Pulchoki	14.56	123	eP	P	18 39 37.7	-1.3
	comp=Z,54nm,0.4s						
PKI				eS	S	18 42 10.7	-7.2
PKI	Pulchoki	14.56	123	eP	P	18 39 37.7	-1.3
PKI				eS	S	18 42 10.7	-7.2
PKI				pmax	pmax		
	comp=Z,27nm,0.4s						
KURK	Kurchatov	15.30	17	eP	P	18 39 48.0	-0.2
	comp=Z,11nm,0.8s						
KURK	Kurchatov	15.30	17	eP	P	18 39 48.0	-0.2
KURK				pmax	pmax		
	comp=Z,11nm,0.8s						
AB31	Akbulak array	15.53	330	⇓P	P	18 39 46.2	-4.9
	comp=Z,8.1nm,0.3s,baz=141,slow=11,SNR=659						
AB31				⇓S	S	18 42 29.4	-11
	comp=Z,17nm,0.5s,baz=149,slow=24,SNR=10						
AB31	Akbulak array	15.53	330	⇓P	P	18 39 46.2	-4.9
	comp=Z,8.1nm,0.3s						
AB31				S	S	18 42 29.4	-11
AB31	Akbulak array	15.53	330	⇓P	P	18 39 46.2	-5.0
AB31				S	S	18 42 29.4	-11
AB31				pmax	pmax		
	comp=Z,8.0nm,0.3s						
VOSK	Vostochnaya	16.46	359	⇑P	P	18 39 59.4	-3.4
	comp=Z,8.1nm,1.0s						
VOSK	Vostochnaya	16.46	359	⇑P	P	18 39 59.4	-3.4
	comp=Z,8.1nm,1.0s						
VOSK	Vostochnaya	16.46	359	⇑P	P	18 39 59.4	-3.3
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BVA0	Borovoye Array	16.78	357	P	P	18 40 04.0	-2.7
	comp=Z,0.1nm,0.5s,baz=169,slow=14,SNR=18						
BVA0	Borovoye Array	16.78	357	P	P	18 40 04.0	-2.7
	comp=Z,0.1nm,0.5s						
BVAR	Borovoye Array	16.78	357	P	P	18 40 04.7	-2.0
	comp=Z,0.9nm,0.3s,baz=156,slow=12,SNR=24						
BLSP	Bilaspur	16.80	144	ex	x	18 42 59.3	
BRVK	Borovoye	16.82	357	ePn	P	18 40 04.1	-3.0
	comp=Z,6.2nm,0.6s						
BRVK				eS	S	18 43 03.4	-5.9
BRVK	Borovoye	16.82	357	eP	P	18 40 04.1	-3.0
BRVK				eS	S	18 43 03.4	-5.9
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKTK	Aktyubinsk	17.23	329	⇓P	P	18 40 09.2	-3.1
AKTO	Aktyubinsk	17.23	329	⇓P	P	18 40 09.2	-3.1
	comp=Z,2.9nm,0.6s						
LSA	Lhasa	17.64	106	P	P	18 40 18.0	+0.6
LSA	Lhasa	17.64	106	eP	P	18 40 18.8	+1.3
	comp=Z,10.0nm,0.7s						
LSA				eS	S	18 43 24.8	-2.9
LSA	Lhasa	17.64	106	eP	P	18 40 18.8	+1.4
LSA				eS	S	18 43 24.8	-2.9
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HYB	Hyderabad	19.75	160	i P	P	18 40 43.5	+2.5
HYB				eS	S	18 44 11.0	-1.6
HYB	Hyderabad	19.75	160	eP	P	18 40 43.5	+2.5
HYB				eS	S	18 44 11.0	-1.6
ZAL	Zalesovo	19.91	23	P	P	18 40 41.8	-0.6
	comp=Z,24nm,0.3s,baz=264,slow=5.8,SNR=59						
ZAL				LR	LR	18 49 46.3	
	comp=Z,40nm,18.9s,baz=341,slow=41						
NVS	Novosibirsk	20.23	20	eP	P	18 40 44.1	-1.5
NVS				e		18 44 50.8	
NVS				pmax	pmax		
	comp=N,13nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,15nm,0.8s						
DGRG	David-gareji	21.05	292	P	P	18 40 53.9	-0.1
GNI	Garni	21.44	289	P	P	18 41 00.3	+2.4
	comp=Z,24nm,0.5s,mb4.8,baz=166,slow=8.5,SNR=27						
MTA	Mtatsminda	21.50	293	P	P	18 40 59.1	+0.6
TI2	Plekhanov	21.54	293	⇑iP	P	18 40 56.0	-2.9
TI2				pmax	pmax		
	comp=Z,40nm,0.8s,mb4.8						
TBLG	Delisi	21.55	293	P	P	18 40 58.9	-0.1
SVE	Sverdlovsk	21.86	344	eP	P	18 41 00.0	-1.9
SVE				e		18 41 44.9	
ZEI	Tsey	22.29	295	eP	P	18 41 04.0	-2.2
ZEI				i *PP		18 41 21.3	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
GTA	Gaotai	22.45	73	eP	P	18 41 12.8	+5.0
GTA				AP		18 41 34.9	
GTA				XP		18 41 45.8	
GTA				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.5						
KIV	Kislovodsk	23.34	298	eP	P	18 41 16.3	0.0
	comp=Z,18nm,0.6s,mb4.6						
KIV				eS	S	18 45 28.4	+11
KIV	Kislovodsk	23.34	298	eP	P	18 41 16.8	+0.5
KIV				e*PP		18 41 33.5	
KIV				eS	S	18 45 19.7	+2.1

KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
KIV MLR MLR
comp=Z,51nm,16.0s
KIV MLR MLR
comp=N,18nm,18.0s
KIV MLR MLR
comp=E,37nm,16.0s
SOC Sochi 25.42 297 *eP* **P 18 41 34.6 -1.7**
SOC *e* 18 45 06.3
SOC *eS* **S 18 45 50.7 -2.0**
SOC pmax pmax
comp=Z,14nm,0.9s,mb4.4
SOC pmax pmax
comp=N,8.0nm,0.8s
SOC pmax pmax
comp=E,5.0nm,0.9s
LZH Lanzhou 25.95 81 *eP* **P 18 41 45.8 +4.5**
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.5
LZH AMB AMB
comp=Z,130nm,4.3s
MALT Malatya 26.41 284 *eP* **P 18 41 47.2 +1.7**
comp=Z,2.4nm,0.9s,mb3.6
MALT Malatya 26.41 284 *eP* **P 18 41 47.2 +1.8**
MALT pmax pmax
comp=Z,2.0nm,0.9s,mb3.5
ZAK Zakamensk 26.77 48 *eP* **P 18 41 50.6 +1.9**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
KMI Kunming 28.86 104 P **P 18 42 10.1 +2.4**
KMI AMB AMB
comp=Z,7.0nm,1.1s,mb4.2
KMI LR LR
comp=Z,27nm,26.2s
BRTR Keskin Array B 29.98 288 P **P 18 42 17.8 +0.2**
comp=Z,0.7nm,0.7s,mb3.4,baz=101,slow=8.3,SNR=3.8
BRTR pP pP 18 42 42.4 +1.1
comp=Z,1.2nm,0.7s,baz=103,slow=8.6,SNR=3.8
OBN Obninsk 30.44 319⇑*iP* **P 18 42 21.0 -0.5**
OBN *e* 18 43 17.0
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.4
ENH Enshi 32.08 90 *eP* **P 18 42 37.6 +1.5**
comp=Z,8.6nm,0.9s,mb4.5
AKASG Malin Array Be 33.48 309 P **P 18 42 46.5 -1.5**
comp=Z,1.9nm,0.5s,mb4.2,baz=80,slow=7.2,SNR=8.2
AKASG pP pP 18 43 10.8 -1.3
comp=Z,0.6nm,0.3s,baz=84,slow=7.3,SNR=2.7
AKASG Malin Array Be 33.48 309 P **P 18 42 46.5 -1.5**
AKASG pP pP 18 43 10.8 -1.3
MLR Muntele Rosu 35.33 300 P **P 18 43 05.4 +1.6**
comp=Z,6.5nm,0.9s,mb4.5,baz=85,slow=5.0,SNR=12
MLR pP pP 18 43 28.4 +0.3
comp=Z,5.7nm,0.8s,baz=158,slow=7.2,SNR=4.6
JOF Joensuu 36.32 330 *ep* **P 18 43 11.1 -0.9**
FINES FINESS Array B 37.96 326 P **P 18 43 25.8 +0.2**
comp=Z,2.0nm,0.4s,mb4.3,baz=119,slow=9.7,SNR=28
FINES LR LR 18 58 47.6
comp=Z,38nm,21.2s,baz=311,slow=36
KAF Kangasniemi 38.09 327 *ep* **P 18 43 26.4 -0.4**
MORC Moravsky Berou 40.90 307 P **P 18 43 50.8 +0.7**
comp=Z,5.9nm,1.2s,mb4.3
MORC Moravsky Berou 40.90 307 P **P 18 43 50.8 +0.7**
MORC pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
KEV Kevo 41.20 338 *ep* **P 18 43 51.2 -1.2**
ARCES ARCESS Array B 41.55 338 P **P 18 43 55.2 +0.1**
comp=Z,5.3nm,0.7s,mb4.4,baz=113,slow=7.1,SNR=31
BRG Berggiesshubel 43.16 308 *eP* **P 18 44 09.8 +1.3**
comp=Z,13nm,1.4s,mb4.5
BRG Berggiesshubel 43.16 308 *eP* **P 18 44 09.8 +1.3**
BRG pmax pmax
comp=Z,13nm,1.4s,mb4.5
GERES GERESS Array B 43.47 306 P **P 18 44 11.2 +0.2**
comp=Z,0.2nm,0.4s,mb3.2,baz=56,slow=7.1,SNR=3.0
GERES pP pP 18 44 35.3 -0.5
comp=Z,0.6nm,0.8s,baz=45,slow=9.4,SNR=2.6
CLL Collm 43.73 309 *eP* **P 18 44 21.0 +7.9**
MDJ Mudanjiang 44.09 60 P **P 18 44 15.8 -0.3**
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
MDJ AMB AMB
comp=Z,38nm,3.9s
MDJ LR LR
comp=N,8.0nm,15.8s
MDJ LR LR
comp=E,19nm,15.8s
MDJ LR LR
comp=Z,20nm,17.5s
NB2 NORSAR Subarra 44.87 323 P **P 18 44 20.7 -1.4**
comp=Z,4.2nm,0.5s,mb4.4,baz=96,slow=7.9
NB2 NORSAR Subarra 44.87 323 P **P 18 44 20.7 -1.4**
NB2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
NOA NORSAR Array B 44.87 323 P **P 18 44 21.0 -1.1**
comp=Z,4.0nm,0.5s,mb4.4,baz=96,slow=7.7,SNR=22
NOA pP pP 18 44 47.8 +0.8
comp=Z,4.2nm,0.9s,baz=96,slow=7.9,SNR=3.6
PGF Pioggiola 47.82 298 *eP* **P 18 44 46.6 +1.0**
comp=Z,31nm,1.2s,mb4.7
PGF Pioggiola 47.82 298 *eP* **P 18 44 46.6 +1.0**
PGF pmax pmax
comp=Z,16nm,1.2s,mb4.7
JNU Nakatsue 48.17 75 P **P 18 44 50.8 +2.3**
comp=Z,8.8nm,0.6s,mb4.7,baz=3.9,slow=11,SNR=6.2
JOW Kunigami 48.60 84 P **P 18 44 53.5 +1.6**
comp=Z,4.6nm,0.4s,mb4.7,baz=304,slow=11,SNR=7.7
SBF Sospel 48.60 300 *eP* **P 18 44 52.2 +0.6**
LPG La Plagne 48.69 302 *eP* **P 18 44 53.4 +1.1**
LPL La Plagne 48.70 302 *eP* **P 18 44 53.3 +0.9**
comp=Z,2.9nm,0.6s,mb4.1
LPL La Plagne 48.70 302 *eP* **P 18 44 53.3 +0.9**
LPL pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
MBDF Montbardon 48.86 301 *eP* **P 18 44 54.5 +0.9**
comp=Z,8.9nm,0.9s,mb4.4
MBDF Montbardon 48.86 301 *eP* **P 18 44 54.5 +0.9**
MBDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CABF La Chapelle 48.90 304 *eP* **P 18 44 54.5 +0.6**
ORIF Oris-en-Rattie 49.43 301 *eP* **P 18 44 58.5 +0.5**
LOR Lormes 50.24 305 *eP* **P 18 45 04.1 0.0**
VIVF Saint-Julien-l 50.27 302 *eP* **P 18 45 04.5 0.0**
SMF Signal de Mont 50.40 304 *eP* **P 18 45 06.1 +0.7**
SSF Saint Saulge 50.52 305 *eP* **P 18 45 06.5 +0.2**
comp=Z,10nm,0.9s,mb4.5
SSF Saint Saulge 50.52 305 *eP* **P 18 45 06.5 +0.2**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
AVF Avril sur Loir 50.69 304 *eP* **P 18 45 07.6 0.0**
comp=Z,2.5nm,0.5s,mb4.2
AVF Avril sur Loir 50.69 304 *eP* **P 18 45 07.6 0.0**
AVF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
TCF Toulx Ste Croi 51.58 304 *eP* **P 18 45 14.5 +0.2**
comp=Z,5.0nm,0.8s,mb4.3
TCF Toulx Ste Croi 51.58 304 *eP* **P 18 45 14.5 +0.2**
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MAJO Matsushiro 52.58 69 P **P 18 45 22.2 +0.3**
comp=Z,4.6nm,0.7s,mb4.6
MAJO Matsushiro 52.58 69 P **P 18 45 22.2 +0.3**
MAJO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MAT Matsushiro 52.58 69 P **P 18 45 22.5 +0.6**
MAT Matsushiro 52.58 69 *eP* **P 18 45 23.0 +1.1**
comp=Z,6.7nm,0.8s,mb4.7
MAT Matsushiro 52.58 69 *eP* **P 18 45 23.0 +1.1**
MAT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MJAR Matsushiro Arr 52.58 69 P **P 18 45 23.1 +1.2**
comp=Z,4.6nm,0.8s,mb4.6,baz=287,slow=9.5,SNR=10.0
MBAR Mbarara 52.78 235 *eP* **P 18 45 21.5 -2.2**
comp=Z,5.4nm,1.0s,mb4.5
MBAR Mbarara 52.78 235 *eP* **P 18 45 21.5 -2.2**
MBAR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
EKA Eskdalemuir Ar 52.80 316 P **P 18 45 22.8 -0.6**
comp=Z,3.8nm,0.9s,mb4.5,baz=83,slow=6.7,SNR=6.0
EPF Esparros 53.80 301 *eP* **P 18 45 31.8 +1.0**
comp=Z,2.4nm,0.5s,mb4.2
EPF Esparros 53.80 301 *eP* **P 18 45 31.8 +1.0**
EPF pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SGMF Saint Gilles 54.17 308 *eP* **P 18 45 33.2 -0.2**
ETSF Etsaut 54.46 301 *eP* **P 18 45 36.4 +0.7**
ROSF Rostrenen 54.60 308 *eP* **P 18 45 36.6 0.0**
comp=Z,111nm,1.5s,mb5.4
ROSF Rostrenen 54.60 308 *eP* **P 18 45 36.6 0.0**
ROSF pmax pmax
comp=Z,55nm,1.5s,mb5.4
ESDC Sonseca Array 58.01 298 P **P 18 46 01.4 +0.5**
comp=Z,0.5nm,0.5s,mb3.8,baz=60,slow=7.0,SNR=4.4
INK Inuvik 74.06 9 *eP* **P 18 47 42.4 -0.1**
comp=Z,3.0nm,0.6s,mb4.2
INK Inuvik 74.06 9 *eP* **P 18 47 42.4 -0.1**
INK pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 74.87 16 P **P 18 47 46.1 -1.0**
comp=Z,1.9nm,1.1s,mb3.7,baz=281,slow=7.3,SNR=5.1
DBIC Dimbokro 75.18 267 P **P 18 47 48.5 -1.4**
comp=Z,3.6nm,0.9s,mb4.1,baz=170,slow=7.8,SNR=4.2
DBIC Dimbokro 75.18 267 *eP* **P 18 47 49.0 -1.0**
comp=Z,9.3nm,1.1s,mb4.4
DBIC Dimbokro 75.18 267 *eP* **P 18 47 49.0 -1.0**
DBIC pmax pmax
comp=Z,9.0nm,1.1s
NWAO Narrogin (SRO) 80.98 143 *eP* **P 18 48 20.6 -0.8**
comp=Z,27nm,1.3s,mb4.9
NWAO Narrogin (SRO) 80.98 143 *eP* **P 18 48 20.7 -0.7**
NWAO pmax pmax
comp=Z,27nm,1.3s
WRA Warramunga Arr 81.44 122 P **P 18 48 24.4 +0.3**
comp=Z,2.3nm,0.6s,mb4.2,baz=324,slow=5.0,SNR=49
WRA Warramunga Arr 81.44 122 P **P 18 48 24.4 +0.3**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 81.44 122 *eP* **P 18 48 24.3 +0.2**
comp=Z,7.9nm,0.8s,mb4.6
WRAB Tennant Creek 81.44 122 *eP* **P 18 48 24.3 +0.2**
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
WB2 Warramunga Ar 81.45 122 *eP* **P 18 48 24.2 +0.1**
YKA Yellowknife Ar 81.46 3 P **P 18 48 23.2 0.0**
comp=Z,2.9nm,0.7s,mb4.2,baz=348,slow=5.3,SNR=7.6
YKA Yellowknife Ar 81.46 3 P **P 18 48 23.2 -0.1**
YKA pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 150.21 250 PKPbc PKPdf 18 55 56.1 +6.1
comp=Z,1.9nm,0.8s,baz=95,slow=4.8,SNR=5.8
PLCA Paso Flores 150.21 250 PKIKP PKPdf 18 55 56.2 +6.2
PLCA pmax pmax
comp=Z,2.0nm,0.8s

IDC ***15*** *18:48:54.4±3.1, 13.07N×88.10W, mb3.6/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.7/3, Error ellipse: s-maj=139.2km s-min=61.7km az=58.0*
CASC ***15*** *18:49:03.4±2.6, 13.00N×88.84W, h34km±8km, MD4.2, ML3.6*
ISC 15 18:49:02.8±0.6,**12.9N**±0.1×**88.87W**±0.06,**h69**km±11km, **n38,σ1§00/33, mb3.7/3, 7C-7D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.70**	**2**	*eP*		**P**	Px	18 49 23.0	
SNVI				*eS*			Sx	18 49 33.9	
LFRS	**El Faro**	**0.73**	**345**	⇓*iP*			Px	18 49 23.0	
LFRS				*eS*			Sx	18 49 32.7	
LCBS	**La Ceiba**	**0.75**	**352**	⇓*iP*			Px	18 49 23.3	
LCBS				*eS*			Sx	18 49 34.0	
VSM	**San Miguel**	**0.77**	**48**	⇓*eP*			Px	18 49 24.6	
VSM				*eS*			Sx	18 49 33.5	
BLLM	**Bellamira**	**0.81**	**49**	*eP*			Px	18 49 24.9	
BLLM				*eS*			Sx	18 49 36.8	
SNET	**Serv Nac Est T**	**0.85**	**335**	⇑*eP*			Px	18 49 17.5	
SNET				*eS*			Sx	18 49 29.1	
BOQS	**Boqueron**	**0.91**	**334**	⇓*iP*			Px	18 49 25.9	
BOQS				*eS*			Sx	18 49 38.6	
CAHU	**Cacacuatique**	**1.07**	**37**	*eP*			Px	18 49 29.4	
CAHU				*eS*			Sx	18 49 43.2	
CNCH	**Conchagua**	**1.07**	**70**	*eP*			Px	18 49 28.4	
CNCH				*eS*			Sx	18 49 43.8	
SBLS	**San Blas**	**1.18**	**322**	*eP*			Px	18 49 29.4	
SBLS				*eS*			Sx	18 49 45.8	
SNJE	**San Jose**	**1.20**	**323**	⇓*eP*			Px	18 49 29.5	
SNJE				*eS*			Sx	18 49 44.7	
RTR	**El Retiro**	**1.24**	**322**	⇓*eP*			Px	18 49 30.3	
RTR				*eS*			Sx	18 49 45.1	
CRIN	**San Cristobal**	**1.78**	**97**	⇑*eP*			**P**	**18 49 32.9 +0.8**	
CRIN				*eS*			**S**	**18 49 54.1 +0.4**	
LEON	**Leon**	**1.99**	**104**	⇑*eP*			**P**	**18 49 34.3 -0.6**	
IXG	**Ixpaco**	**1.99**	**309**	⇑*eP*			**P**	**18 49 33.7 -1.3**	
TEL3	**Telica 3**	**2.00**	**99**	⇑*eP*			**P**	**18 49 35.3 +0.3**	
TEL3				*eS*			**S**	**18 49 59.9 +1.0**	
TELN	**Telica**	**2.01**	**98**	*eP*			**P**	**18 49 35.1 -0.1**	
MIRN	**Miramar**	**2.15**	**102**	*eP*			**P**	**18 49 37.0 -0.2**	
MIRN				*eS*			**S**	**18 50 03.5 +0.7**	
CNGN	**Cerro Negro**	**2.15**	**101**	*eP*			**P**	**18 49 37.4 +0.1**	
MRL	**Marmol**	**2.29**	**340**	⇓*eP*			**P**	**18 49 39.5 +0.3**	
MOMJ	**Momotombo**	**2.32**	**102**	*eP*			**P**	**18 49 39.4 -0.3**	
COPN	**Copaltepe**	**2.34**	**108**	*eP*			**P**	**18 49 39.9 0.0**	
COPN				*eS*			**S**	**18 50 05.8 -1.5**	
FUG	**Fuego 3**	**2.46**	**309**	*eP*			**P**	**18 49 40.9 -0.6**	
FUG				*eS*			**S**	**18 50 09.5 -0.9**	
MGAN	**Managua**	**2.67**	**106**	*eP*			**P**	**18 49 45.2 +0.7**	
MGAN				*eS*			**S**	**18 50 14.6 -1.1**	
MGAN				*i*				18 50 28.8	
	comp=E,402nm,0.4s								
TICN	**Ticuantepe**	**2.72**	**108**	*eP*			**P**	**18 49 44.8 -0.4**	
WILN	**Americas 2**	**2.72**	**106**	*eS*			**S**	**18 50 16.7 -0.3**	
TP2	**Tecpan 2**	**2.80**	**312**	*eP*			**P**	**18 49 47.1 +0.7**	
TP2				*eS*			**S**	**18 50 21.2 +2.1**	
SSNN	**San Juan del S**	**3.36**	**118**	*eP*			**P**	**18 49 52.5 -1.7**	
CONN	**Concepcion**	**3.44**	**113**	*eP*			**P**	**18 49 54.1 -1.2**	
VCR	**Vista de Mar**	**4.21**	**131**	*eP*			**P**	**18 50 06.1 +0.1**	
JCR	**Jicaral**	**4.77**	**129**	⇑*eP*			**P**	**18 50 14.2 +0.2**	
LAJ	**Bijagual**	**5.55**	**123**	*eP*			**P**	**18 50 21.0 -3.6**	
LCR2	**La Lucha 2**	**5.71**	**123**	*eP*			**P**	**18 50 28.1 +1.3**	
BUS	**Buena Vista**	**6.02**	**123**	⇑*eP*			**P**	**18 50 32.5 +1.5**	
BUS				*eS*			**S**	**18 51 42.5 +3.1**	
TXAR	**Lajitas Array**	**21.36**	**322**	P			**P**	**18 53 47.1 +0.8**	
	comp=E,1.0nm,0.4s,mb3.5,baz=144,slow=12,SNR=7.1								
PDAR	**Pinedale Array**	**34.73**	**333**	P			**P**	**18 55 48.5 +0.3**	
	comp=E,0.3nm,0.6s,mb3.3,baz=141,slow=9.5,SNR=3.5								
PDAR				PcP		PcP		18 58 20.6 -0.3	
	comp=E,0.4nm,0.6s,baz=139,slow=3.8,SNR=4.9								
YKA	**Yellowknife Ar**	**52.81**	**345**	P			**P**	**18 58 11.3 -1.9**	
	comp=E,0.9nm,0.3s,mb4.2,baz=130,slow=8.4,SNR=6.5								
WRA	**Warramunga Arr**	**138.06**	**255**	PKP		PKPdf		19 08 22.9 +2.2	
	comp=E,0.2nm,0.5s,baz=89,slow=2.6,SNR=7.2								

IDC 15 20:00:04.4±11.0,**2.52N×97.37E, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=577.2km s-min=28.8km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.60**	**123**	P		P		20 08 02.6	-1.7
	0.2nm,0.5s,baz=300,slow=9.3,SNR=6.7								
MKAR	**Makanchi Array**	**46.01**	**346**	P		P		20 08 29.4	-2.0
	0.8nm,0.5s,baz=159,slow=8.4,SNR=14								
ZAL	**Zalesovo**	**52.28**	**351**	P		P		20 09 17.6	-2.1
	0.8nm,0.4s,baz=324,slow=6.4,SNR=3.8								

BJI ***15*** *20:06:59.0, 20.10S×174.10W, h10km, mB5.2, mb4.9, Ms5.0, Msz4.6*
IDC ***15*** *20:06:59.2±0.6, 19.99S×174.15W, mb4.5/11, mb1 4.7/12, mb1mx4.6/19, mbtmp4.5/12, ML4.6/1, MS3.9/19, Ms1 3.9/19, ms1mx3.8/34, Error ellipse: s-maj=25.6km s-min=16.3km az=126.0*
NEIC ***15*** *20:07:00.8±0.3, 20.15S×174.14W, h10km, mb4.8/17, Error ellipse: s-maj=11.5km s-min=8.7km az=125.0*
MOS ***15*** *20:07:09.6±1.6, 19.66S×175.35W, h33km, mb4.9/10, Error ellipse: s-maj=21.4km s-min=16.7km az=5.6*
ISC 15 20:06:59.5±0.5,**20.16S**±0.07×**174.12W**±0.10,**h10**km, **(h17**km±3.4**km:pP-P),n142,σ1§22/72, mb4.8/30, MS4.1/23, 7C-4D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.61**	**20**	Pn		**Pn**		**20 08 32.6**	**-6.5**
	19nm,0.3s,baz=67,slow=2.8,SNR=17								

AFI Sn **Sn** **20 09 41.1 -14**
20nm,0.3s,baz=220,slow=23,SNR=4.0
AFI LR LR 20 10 32.9
comp=Z,253nm,19.7s,baz=232,slow=33
AFI Afiamalu 6.61 20 *ePn* **Pn 20 08 31.8 -7.2**
128nm,0.6s
DZM Mont Dzumac 18.23 261 *eP* **P 20 11 17.5 +3.0**
DZM Mont Dzumac 18.23 261 P **P 20 11 18.1 +3.6**
0.7nm,0.3s,baz=83,slow=16,SNR=16
URZ Urewera 19.57 201 P **P 20 11 28.6 -1.8**
1.8nm,0.3s,baz=13,slow=6.9,SNR=9.4
PPT Papeete 23.37 88 LR LR 20 18 39.0
comp=Z,254nm,19.9s,MS3.7,baz=5.7,slow=30
RPZ Rata Peaks 26.56 205 P **P 20 12 42.0 +2.6**
14nm,0.6s,mb4.6,baz=1.7,slow=3.4,SNR=8.5
HNR Honiara 27.20 289 LR LR 20 22 09.9
comp=Z,227nm,18.1s,MS3.8,baz=342,slow=34
CTA Charters Tower 37.14 263 *eP* **P 20 14 12.2 -0.2**
6.1nm,0.4s,mb4.8
CTA Charters Tower 37.14 263 P **P 20 14 12.3 -0.1**
6.6nm,0.4s,mb4.8,baz=90,slow=10,SNR=20
CTA LR LR 20 28 16.0
comp=Z,322nm,18.0s,MS4.2,baz=82,slow=34
CTA Charters Tower 37.14 263 *eP* **P 20 14 12.2 -0.2**
CTA pmax pmax
comp=Z,6.0nm,0.4s
CTAO Charters Tower 37.14 263 *eP* **P 20 14 10.7 -1.7**
comp=Z,7.8nm,0.6s,mb4.7
CTAO Charters Tower 37.14 263 *eP* **P 20 14 10.7 -1.7**
CTAO pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
PMG Port Moresby 38.84 280 LR LR 20 28 24.0
comp=Z,264nm,18.7s,MS4.1,baz=353,slow=33
TOO Toolangi 39.05 235 *eP* **P 20 14 27.7 -0.6**
comp=Z,6.7nm,0.9s,mb4.4
TOO Toolangi 39.05 235 *eP* **P 20 14 27.7 -0.6**
TOO pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
STKA Stephens Creek 41.21 244 *eP* **P 20 14 45.1 -1.0**
comp=Z,2.4nm,0.5s,mb4.1
STKA Stephens Creek 41.21 244 P **P 20 14 45.4 -0.7**
comp=Z,4.4nm,0.7s,mb4.2,baz=90,slow=10,SNR=14
ASPA Alice Springs 48.14 256 *eP* **P 20 15 41.5 -0.4**
MIDW Midway 48.19 356 *eP* **P 20 15 38.2 -4.1**
comp=Z,87nm,0.7s,mb5.9
WB2 Warramunga Arr 48.24 261 *eP* **P 20 15 42.3 -0.4**
WRAB Tennant Creek 48.24 261 *eP* **P 20 15 40.3 -2.4**
comp=Z,12nm,0.8s,mb5.0
WRAB Tennant Creek 48.24 261 *eP* **P 20 15 40.3 -2.4**
WRAB pmax pmax
comp=Z,12nm,0.8s,mb5.0
WRA Warramunga Arr 48.25 261 P **P 20 15 41.0 -1.8**
comp=Z,5.3nm,0.6s,mb4.7,baz=98,slow=6.1,SNR=62
WRA PcP PcP 20 17 09.8 -0.4
comp=Z,2.6nm,0.7s,baz=94,slow=3.4,SNR=4.0
KAKA Kakadu 51.61 270 *eP* **P 20 16 25.8 +17**
comp=Z,11nm,0.8s,mb4.8
FITZ Fitzroy Crossi 56.68 261 *eP* **P 20 16 45.5 -0.2**
comp=Z,6.9nm,0.9s,mb4.7
FITZ Fitzroy Crossi 56.68 261 P **P 20 16 44.2 -1.6**
comp=Z,3.9nm,0.4s,mb4.8,baz=180,slow=12,SNR=11
FITZ LR LR 20 39 18.2
comp=Z,77nm,21.3s,MS3.8,baz=95,slow=34
SBA Scott Base 58.48 185 *eP* **P 20 16 59.0 +1.3**
comp=Z,8.0nm,1.0s,mb4.7
SBA Scott Base 58.48 185 *eP* **P 20 16 59.0 +1.3**
SBA pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
VNDA Vanda 58.60 186 P **P 20 16 59.0 +0.4**
comp=Z,2.3nm,0.9s,mb4.2,baz=16,slow=6.3,SNR=10
VNDA Vanda 58.60 186 *eP* **P 20 16 58.9 +0.4**
comp=Z,5.5nm,1.1s,mb4.5
VNDA Vanda 58.60 186 *eP* **P 20 16 58.9 +0.4**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
MBWA Marble Bar 61.47 256 *eP* **P 20 17 17.2 -1.8**
comp=Z,16nm,1.0s,mb5.1
CASY Casey 65.83 205 *eP* **P 20 17 46.7 -0.2**
QSPA South Pole Qui 69.91 180 *eP* **P 20 18 11.6 -0.7**
comp=Z,9.7nm,0.9s,mb4.7
MJAR Matsushiro Arr 72.16 321 P **P 20 18 25.9 -0.6**
comp=Z,15nm,0.7s,mb5.0,baz=159,slow=6.2,SNR=37
MJAR LR LR 20 45 11.2
comp=Z,66nm,20.6s,MS3.9,baz=170,slow=32
MAJO Matsushiro 72.16 321 *eP* **P 20 18 26.0 -0.5**
comp=Z,19nm,0.8s,mb5.1
MAJO Matsushiro 72.16 321 *eP* **P 20 18 26.0 -0.5**
MAJO pmax pmax
comp=Z,19nm,0.8s,mb5.1
MAT Matsushiro 72.16 321 P **P 20 18 26.1 -0.4**
MAT Matsushiro 72.16 321 *eP* **P 20 18 26.0 -0.5**
comp=Z,15nm,0.8s,mb5.0
MAT Matsushiro 72.16 321 *eP* **P 20 18 26.0 -0.5**
MAT pmax pmax
comp=Z,15nm,0.8s,mb5.0
KKM Kota Kinabalu 73.21 283 *eP* **P 20 18 33.1 0.0**
ASAJ Asahikawa 75.23 329 LR LR 20 46 40.0
comp=Z,74nm,19.7s,MS4.0,baz=140,slow=32
KSM Kuching 76.98 276 *eP* **P 20 18 54.8 +0.1**
YSS Yuzh-Sakhalins 77.28 331 *eP* **P 20 18 56.3 +0.6**
comp=Z,21nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 77.28 331⇑*eP* **P 20 18 56.0 +0.3**
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.2
NVAR Mina Array Bea 78.32 42 P **P 20 19 00.7 -0.9**
comp=Z,1.7nm,0.8s,mb4.0,baz=217,slow=6.8,SNR=10
NVAR LR LR 20 47 13.9
comp=Z,128nm,19.7s,MS4.3,baz=90,slow=31
KS15 Wonju Array Si 79.11 317 *eP* **P 20 19 06.9 +0.9**
QZH Quanzhou 79.30 302 P **P 20 19 06.1 -1.1**
MDJ Mudanjiang 82.38 323 P **P 20 19 23.0 -0.1**
MDJ AMB AMB
comp=Z,14nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,63nm,5.3s
MDJ LR LR
comp=N,25nm,25.7s,MS3.7
MDJ LR LR
comp=E,36nm,23.1s,MS3.7
MDJ LR LR
comp=Z,62nm,23.1s,MS3.9
MDJ Mudanjiang 82.38 323 *eP* **P 20 19 23.9 +0.8**
comp=Z,9.9nm,0.7s,mb4.8
MAW Mawson 83.09 199 *eP* **P 20 19 27.0 +0.7**
comp=Z,2.6nm,0.7s,mb4.4
MAW Mawson 83.09 199 P **P 20 19 26.9 +0.6**
comp=Z,4.3nm,0.8s,mb4.5,baz=130,slow=4.0,SNR=8.2
MAW LR LR 20 55 12.8
comp=Z,101nm,20.9s,MS4.2,baz=32,slow=35
MAW Mawson 83.09 199 *eP* **P 20 19 27.0 +0.7**
MAW pmax pmax
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 83.83 56 P **P 20 19 30.1 -0.9**
comp=Z,0.3nm,0.2s,mb4.0,baz=214,slow=9.0,SNR=4.0
CN2 Changchun 84.29 321 *eP* **P 20 19 33.6 +0.7**
CN2 *eXP* *sP* 20 19 40.0 +2.9
CN2 *eS* S 20 29 58.3 +1.3
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,18.0s,MS4.8
CN2 LR LR
comp=E,300nm,18.0s,MS4.8
CN2 LR LR
comp=Z,300nm,19.0s,MS4.7
ANMO Albuquerque 84.38 50 *eP* **P 20 19 33.0 -0.5**
comp=Z,3.5nm,1.0s,mb4.4
ANMO Albuquerque 84.38 50 *eP* **P 20 19 33.0 -0.6**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
PDAR Pinedale Array 86.25 42 LR LR 20 54 48.3
comp=Z,87nm,18.6s,MS4.2,baz=337,slow=33
PLCA Paso Flores 86.84 132 LR LR 20 53 38.8
comp=Z,96nm,18.6s,MS4.2,baz=94,slow=32
ILAR Eielson Array 87.22 11 P **P 20 19 45.2 -1.7**
comp=Z,2.3nm,0.9s,mb4.4,baz=216,slow=5.0,SNR=8.6
ILAR LR LR 20 55 20.4
comp=Z,49nm,20.0s,MS3.9,baz=180,slow=33
KULM Kulim 87.34 277 *eP* **P 20 19 49.1 +0.5**
VNA3 Neumayer Olymp 88.20 175 **P** **20 19 52.3 +0.8**
VNA3 Neumayer Olymp 88.20 175 **P** **20 19 57.0 +5.5**
VNA3 Neumayer Olymp 88.20 175 **P** **20 20 04.8 +13**
SNAA Sanae 88.22 177 **P** **20 19 56.0 +4.5**
SNAA Sanae 88.22 177 **P** **20 20 02.8 +11**
SNAA Sanae 88.22 177 LR LR 20 57 01.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,35nm,19.2s,MS3.8,baz=24,slow=34						
SNAA	Sanae	88.22	177	P	P	20 19 51.2	-0.3
SNAA				P	pP	20 19 56.0	+1.3
VNA2	Neumayer--Watz	88.69	176		P	20 19 55.3	+1.5
VNA2	Neumayer--Watz	88.69	176		P	20 20 01.7	+7.9
VNA2	Neumayer--Watz	88.69	176		P	20 20 07.3	+14
ENH	Enshi	88.89	303	eP	P	20 19 57.0	+1.3
	comp=Z,23nm,1.0s,mb5.5						
XAN	Xi'an	90.85	306	P	P	20 20 06.0	+1.2
XAN				AP	pP	20 20 16.8	+8.8
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
HHC	Hu-ho-hao-te	91.75	313	eP	P	20 20 10.8	+2.1
HHC				AP	pP	20 20 15.3	+3.4
HHC				XP	sP	20 20 17.4	+4.4
HHC				PP	PP	20 23 53.1	+3.0
HHC				SKS	SKS	20 30 41.1	-3.6
HHC				eS	S	20 31 09.6	+2.8
HHC				XS		20 31 17.1	
HHC				PS	PS	20 32 25.4	+3.0
HHC				SS	SS	20 37 20.8	+3.1
HHC				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.7						
HHC				AMB	AMB		
	comp=Z,77nm,3.2s						
HHC				LR	LR		
	comp=N,119nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=E,73nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=Z,113nm,15.5s,MS4.4						
CFAA	Coronel Fontan	92.34	125	LR	LR	20 51 02.1	
	comp=Z,13nm,21.6s,MS3.3,baz=196,slow=29						
KMI	Kunming	92.46	296	P	P	20 20 14.8	+2.4
KMI				AP	pP	20 20 19.1	+3.5
KMI				S	S	20 31 12.3	-1.1
KMI				SS	SS	20 37 27.0	-1.4
KMI				SSS	SSS	20 41 13.1	+6.2
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,72nm,3.1s						
KMI				LR	LR		
	comp=N,110nm,18.1s,MS4.5						
KMI				LR	LR		
	comp=E,109nm,16.2s,MS4.5						
KMI				LR	LR		
	comp=Z,134nm,18.1s,MS4.4						
LZH	Lanzhou	95.47	306	eP	P	20 20 28.0	+2.0
LZH				AP	pP	20 20 31.3	+2.1
LZH				XP	sP	20 20 33.0	+2.8
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.4						
LVC	Limon Verde	95.56	116	LR	LR	20 53 15.9	
	comp=Z,84nm,21.2s,MS4.2,baz=238,slow=29						
SONM	Songino Array	97.91	318	LR	LR	21 03 18.0	
	comp=Z,55nm,21.0s,MS4.0,baz=47,slow=35						
ULM	Lac du Bonnet	98.04	39	LR	LR	21 03 17.8	
	comp=Z,57nm,18.6s,MS4.1,baz=166,slow=34						
LPAZ	La Paz	98.81	111	LR	LR	20 55 53.3	
	comp=Z,46nm,20.3s,MS4.0,baz=259,slow=30						
GTA	Gaotai	99.59	308	eP	P	20 20 44.9	+0.4
GTA				AP	pP	20 20 54.1	+6.3
GTA				XP	sP	20 20 58.3	+10
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb4.4						
MKAR	Makanchi Array	113.61	313	PKiKP		20 25 38.0	
	comp=Z,0.5nm,0.6s,baz=45,slow=1.7,SNR=5.5						
KURK	Kurchatov	116.21	317	i PKIKP	PKPdf	20 25 43.1	-3.0
AAK	Ala-Archa	118.94	308	i PKIKP	PKPdf	20 25 47.8	-3.8
ARCES	ARCESS Array B	129.19	351	PKP	PKPdf	20 26 08.2	-2.5
	comp=Z,6.3nm,0.9s,baz=18,slow=3.8,SNR=7.6						
OBN	Obninsk	138.12	334	i PKIKP	PKPdf	20 26 24.5	-3.2
OBN				pmax	pmax		
	comp=Z,25nm,1.9s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.5						
AKASG	Malin Array Be	144.38	334	PKP	PKPdf	20 26 34.7	-4.1
	comp=Z,7.2nm,0.7s,baz=41,slow=4.5,SNR=38						
BSEG	Bad Segeberg	146.11	355	ePKPbc	PKPbc	20 26 40.9	+1.2
MALT	Malatya	146.56	310	ePKPbc	PKPbc	20 26 43.5	+2.2
MBAR	Mbarara	148.08	233	ePKP	PKPdf	20 26 41.9	-4.3
CLZ	Clausthal	148.18	355	ePKPbc	PKPdf	20 26 46.8	+1.7
STHS	Stebnicka Huta	148.33	341	ePKP	PKPdf	20 26 51.6	+6.1
CLL	Collm	148.41	351	⇑iP	PKPdf	20 26 47.0	+1.5
CLL				i		20 26 50.2	
CLL				i		20 26 55.7	
CLL				i		20 27 07.4	
KOLS	Kolonicke sedl	148.42	339	ePKP	PKPdf	20 26 48.7	+3.1
BURAR	Bucovina Array	148.43	335	⇓iP	PKPdf	20 26 48.8	+3.1
BURAR	Bucovina Array	148.43	335	⇓iP	PKPdf	20 26 48.8	+3.2
UPC	Upice	148.67	348	ePKPbc	PKPdf	20 26 50.4	+4.4
BRG	Berggiesshubel	148.69	350	eP	PKPdf	20 26 49.2	+3.2
BRG				e		20 27 01.0	
CRVS	Cervenica-Dubn	148.71	340	ePKP	PKPdf	20 26 53.4	+7.3
DPC	Dobruska-Polom	148.75	347	ePKPbc	PKPdf	20 26 48.5	+2.4
PVCC	Panska Ves	148.92	349	ePKPbc	PKPdf	20 26 48.4	+2.0
MORC	Moravsky Berou	149.02	345	ePKPbc	PKPdf	20 26 47.6	+1.1
VRI	Vrincioaia	149.15	331	⇑iP	PKPdf	20 26 50.7	+3.8
BR131	Keskin Array S	149.23	315	ePKPbc	PKPdf	20 26 49.6	+2.3
BRTR	Keskin Array B	149.23	315	PKPbc	PKPdf	20 26 49.8	+2.6
	comp=Z,2.9nm,0.8s,baz=135,slow=1.7,SNR=11						
MOX	Moxa	149.24	353	ePKP	PKPdf	20 26 49.6	+2.7
KECS	Kecovo	149.39	341	ePKP	PKPdf	20 26 50.8	+3.6
PRU	Pruhonice	149.45	349	ePKPbc	PKPdf	20 26 49.7	+2.5
NKC	Novy Kostel	149.54	352	ePKPbc	PKPdf	20 26 50.7	+3.3
VRAC	Vranov	149.68	346	ePKP	PKPdf	20 26 51.0	+3.4
VRAC				e		20 26 56.3	
ANTO	Ankara	149.71	316	ePKPbc	PKPdf	20 26 50.1	+2.1
MLR	Muntele Rosu	149.79	331	PKPbc	PKPdf	20 26 51.1	+3.2
	comp=Z,9.5nm,0.9s,baz=324,slow=3.9,SNR=13						
MLR	Muntele Rosu	149.79	331	⇓iP	PKPdf	20 26 51.6	+3.7
ASF	Jabal al Asfar	149.81	300	PKPbc	PKPdf	20 26 52.2	+3.8
	comp=Z,4.4nm,0.7s,baz=279,slow=4.2,SNR=5.8						
VYHS	Vyhne	149.86	343	ePKP	PKPdf	20 26 51.6	+3.6
TNS	Taunus Mts	149.93	357	ePKPbc	PKPdf	20 26 51.5	+3.5
PSZ	Piszkesteto	150.07	341	ePKPbc	PKPdf	20 26 51.0	+2.7
DRGR		150.08	336	⇑iP	PKPdf	20 26 51.3	+2.9
SNX	Sinaia	150.09	332	⇓iP	PKPdf	20 26 52.2	+3.8
GIVF	Givet	150.11	1	ePKIKP	PKPdf	20 26 48.7	+0.4
BAIF	Baives	150.13	2	ePKIKP	PKPdf	20 26 48.7	+0.4
	comp=Z,100nm,1.8s						
GRA1	Grafenberg Arr	150.22	353	ePKPbc	PKPdf	20 26 51.3	+2.8
GRF	Grafenberg Arr	150.22	353	ePKP	PKPdf	20 26 51.3	+2.8
VOIR		150.23	332	⇑iP	PKPdf	20 26 54.0	+5.4
KHC	Kasperske Hory	150.44	350	ePKPbc	PKPdf	20 26 52.6	+3.8
KHC				PKPab	PKPab	20 26 59.0	-0.9
KHC	Kasperske Hory	150.44	350	ePKP	PKPdf	20 26 52.6	+3.8
KHC				e		20 26 59.0	
KHC	Kasperske Hory	150.44	350	cePKIKP	PKPdf	20 26 51.5	+2.7
KHC				i		20 26 52.3	
WET	Wettzell	150.54	351	ePKPbc	PKPdf	20 26 53.4	+4.4
GEC2	GERESS Array S	150.70	349	ePKPbc	PKPdf	20 26 53.0	+3.8
GERES	GERESS Array B	150.70	349	PKPbc	PKPdf	20 26 53.0	+3.8
	comp=Z,2.6nm,0.8s,baz=45,slow=1.9,SNR=16						
FLN	La Foliniere	151.01	9	ePKIKP	PKPdf	20 26 49.4	-0.3
	comp=Z,44nm,1.2s						
FUR	Furstenfeldbru	151.72	352	ePKPbc	PKPdf	20 26 55.4	+4.6
CDF	Champ du Feu	151.79	358	ePKIKP	PKPdf	20 26 51.7	+0.8
	comp=Z,13nm,1.0s						
BFO	Black Forest	151.83	357	ePKPbc	PKPdf	20 26 57.1	+6.2
WTTA	Wattenberg	152.56	351	⇑iP	PKPdf	20 26 57.2	+5.2
SSF	Saint Saulge	153.09	4	ePKIKP	PKPdf	20 26 52.4	-0.3
	comp=Z,12nm,1.1s						
DAVOS	Davos	153.19	354	PKIKP	PKPdf	20 26 59.6	+6.7
DAVOX	Davos	153.25	354	PKPbc	PKPdf	20 26 59.6	+6.7
	comp=Z,1.9nm,0.6s,baz=335,slow=1.6,SNR=4.3						
MBDF	Montbardon	155.49	358	ePKIKP	PKPdf	20 26 56.1	+0.1
	comp=Z,9.7nm,1.2s						
EVO	Evora	158.10	30	ePKIKP	PKPdf	20 26 57.8	-1.9
	comp=Z,15nm,1.0s						

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*CSEM **15** 20:20:29.9±0.1, 33.85N×25.88E, h57^{km}±2^{km}, MD3.5, Error ellipse: s-maj=3.6km s-min=2.2km az=63.0*
*HLW **15** 20:20:30.3, 33.93N×25.82E, h22^{km}, Mb3.3*
*NEIC **15** 20:20:32.1, 34.10N×25.72E, h10^{km}, MD3.5(ATH), After ATH.*
*ATH **15** 20:20:33.8, 34.21N×25.64E, h10^{km}, MD3.5/3*
*IDC **15** 20:20:37.7±4.8, 34.46N×25.90E, h65^{km}±23^{km}, mb3.7/5, mb1 3.6/8, mb1mx3.5/21, mbtmp3.8/8, Error ellipse: s-maj=81.5km s-min=30.0km az=15.0*
ISC 15 20:20:29.4±0.4, **33.86N**±0.03×**25.89E**±0.05, **h51**^{km}±9^{km}, **n34**, σ**1^{s}17**/44, **mb3.9**/5, **4C-6D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	1.03	351	ePB	P	20 20 46.0	-1.7
NPS	Neapolis	1.42	351	ePN	P	20 20 53.8	+0.4
NPS	Neapolis	1.42	351	ePn	P	20 20 54.5	+1.1
IDI	Anoyia	1.65	330	P	P	20 20 58.0	+1.5
	3.0nm,0.3s,baz=182,slow=15,SNR=27						
IDI				S	S	20 21 16.3	-0.3
	5.8nm,0.3s,baz=99,slow=24,SNR=8.1						
GVD	Gavdhos	1.78	304	ePn	P	20 20 58.9	+0.5
GVD	Gavdhos	1.78	304	ePn	P	20 20 58.9	+0.5
VAM	Vamos	2.08	318	ePB	P	20 21 05.5	+2.9
SLUM		2.43	194	⇓P	P	20 21 08.0	+0.5
SLUM				S	S	20 21 36.2	+0.1
SANT	Santorini	2.53	352	eP	P	20 21 08.0	-1.1
SANT	Santorini	2.53	352	eP	P	20 21 07.9	-1.2
HMAT	Matruh	2.94	159	⇓P	P	20 21 15.7	+1.0
HMAT				S	S	20 21 49.0	0.0
HMAT	Matruh	2.94	159	P	P	20 21 15.7	+0.9
HMAT				S	S	20 21 49.0	0.0
SWA1		4.58	182	⇓P	P	20 21 38.5	+0.5
SWA1				S	S	20 22 28.4	-2.1
SWA2		4.61	185	⇓P	P	20 21 38.8	+0.4
SWA2				S	S	20 22 29.5	-1.9
HBRG	Burj al 'Arab	4.68	133	⇓P	P	20 21 40.6	+1.2
HBRG				S	S	20 22 31.1	-1.9
HNAT	Natroun	5.83	135	⇑P	P	20 21 56.5	+1.2
CSS	Prodhromos	6.25	78	ePn	P	20 22 01.3	0.0
CSS				eSn	S	20 23 10.7	-1.5
CSS	Prodhromos	6.25	78	ePn	P	20 22 01.3	0.0
CSS				eSn	S	20 23 10.7	-1.5
HSAF	As Saff	6.41	130	⇑P	P	20 22 04.8	+1.2
GLL	Jalalah	6.54	129	⇑P	P	20 22 05.6	+0.2
AMAG	Maghara	6.98	115	⇑P	P	20 22 11.8	+0.3
BRTR	Keskin Array B	8.54	44	P	P	20 22 32.8	-0.3
	0.1nm,0.3s,baz=220,slow=15,SNR=2.2						
TIP	Timpagrande	9.06	308	Pn	P	20 22 38.1	-2.2
TIP				eSn	S	20 24 12.3	-10
TIP	Timpagrande	9.06	308	Pn	P	20 22 38.1	-2.2
GTR	Jabal at Tayr	9.26	153	⇓P	P	20 22 43.5	+0.6
AKASG	Malin Array Be	17.01	7	P	P	20 24 23.6	-1.5
	0.7nm,0.3s,baz=198,slow=11,SNR=4.3						
GERES	GERESS Array B	17.51	332	P	P	20 24 31.9	+0.5
	0.1nm,0.3s,baz=144,slow=12,SNR=4.3						
FINES	FINESS Array B	27.60	0	P	P	20 26 13.9	+0.1
	1.2nm,0.7s,mb3.6,baz=168,slow=13,SNR=3.1						
NAO01	NORSAR Array S	28.70	345	P	P	20 26 31.1	+7.5
NOA	NORSAR Array B	28.81	345	P	P	20 26 23.7	-0.8
	1.1nm,0.8s,mb3.6,baz=138,slow=14,SNR=2.6						
ARCES	ARCESS Array B	35.73	360	P	P	20 27 24.1	-0.7
	4.3nm,1.0s,mb4.3,baz=180,slow=9.9,SNR=3.4						
ARCES	ARCESS Array B	35.73	360	P	P	20 27 24.0	-0.8
MKAR	Makanchi Array	44.00	55	P	P	20 28 36.0	+2.5
	1.0nm,0.6s,mb3.7,baz=279,slow=6.3,SNR=12						
ZAL	Zalesovo	45.47	45	P	P	20 28 46.3	+1.3
	1.0nm,0.5s,mb3.9,baz=198,slow=9.6,SNR=3.5						

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*IDC **15** 22:06:20.3±1.6, 22.65N×142.11E, h236^{km}±14^{km}, mb3.5/8, mb1 3.7/10, mb1mx3.5/22, mbtmp4.3/10, Error ellipse: s-maj=30.4km s-min=12.7km az=90.0*
ISC 15 22:06:19.7±1.5, **22.65N**±0.10×**142.1E**±0.3, **h247**^{km}±13^{km}, **n14**, σ**0^{s}54**/14, **mb3.7**/8, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.43	1	P	P	22 07 30.5	+1.5
	18nm,0.3s,baz=282,slow=22,SNR=69						
CBIJ				S	S	22 08 22.2	-0.8
	30nm,0.3s,baz=296,slow=23,SNR=13						
JHJ	Hachijo jima 2	10.64	349	P	P	22 08 46.5	-0.6
	11nm,0.3s,baz=15,slow=22,SNR=2.4						
WB2	Warramunga Arr	43.01	191	eP	P	22 13 56.5	-0.2
WRA	Warramunga Arr	43.01	191	P	P	22 13 56.4	-0.3
	1.4nm,0.4s,mb3.7,baz=6.4,slow=7.8,SNR=66						
FITZ	Fitzroy Crossi	43.59	203	P	P	22 14 01.2	-0.1
	3.1nm,0.6s,mb3.8,baz=2.1,slow=10,SNR=14						
MKAR	Makanchi Array	53.34	312	P	P	22 15 15.6	+0.2
	0.4nm,0.5s,mb3.1,baz=87,slow=8.6,SNR=9.3						
MKAR				PcP	PcP	22 16 19.5	-0.1
	0.5nm,0.6s,baz=91,slow=3.8,SNR=3.9						
BVAR	Borovoye Array	61.32	319	P	P	22 16 11.1	+0.1
	1.4nm,0.4s,mb3.9,baz=91,slow=7.4,SNR=15						
ILAR	Eielson Array	61.65	27	P	P	22 16 12.8	-0.1
	0.6nm,0.7s,mb3.3,baz=242,slow=4.7,SNR=4.2						
ARCES	ARCESS Array B	77.72	341	P	P	22 17 50.8	+0.7
	1.2nm,0.6s,mb3.7,baz=63,slow=8.1,SNR=6.3						
JOF	Joensuu	79.04	334	ep	P	22 17 57.1	-0.3
KAF	Kangasniemi	81.45	335	ep	P	22 18 09.8	-0.3
FINES	FINESS Array B	81.91	334	P	P	22 18 12.5	+0.1
	2.4nm,0.3s,mb4.2,baz=61,slow=5.2,SNR=43						
NOA	NORSAR Array B	87.71	338	P	P	22 18 41.2	+0.2
	1.0nm,0.9s,mb3.7,baz=51,slow=6.3,SNR=2.6						
LPAZ	La Paz	150.81	83	PKPbc	PKPdf	22 25 46.9	+10
	0.7nm,0.5s,baz=292,slow=5.4,SNR=4.9						

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*BJI **15** 22:12:07.1, 0.40N×96.70E, h30^{km}, mB4.9, mb4.6, Ms4.1, Msz3.8*
*IDC **15** 22:12:07.9±0.7, 0.39N×96.59E, h28^{km}±4^{km}, mb4.0/12, mb1 4.1/12, mb1mx3.9/19, mbtmp4.2/12, Error ellipse: s-maj=30.5km s-min=14.7km az=50.0*
*NEIC **15** 22:12:08.2±0.4, 0.45N×96.68E, h30^{km}, mb4.7/6, Error ellipse: s-maj=11.9km s-min=8.0km az=49.0*
ISC 15 22:12:06.2±0.6, **0.35N**±0.08×**96.67E**±0.09, **h28**^{km}±1.0^{km}**:pP-P, n30**, σ**0^{s}93**/29, **mb4.3**/23, **MS3.5**/2, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.32	39	ePn	Pn	22 13 37.4	-2.6
KKM	Kota Kinabalu	20.32	73	P	P	22 16 41.8	-1.2
QIZ	Qiongzhong	22.62	34	eP	P	22 17 07.0	+0.6
	30nm,1.2s,mb4.6						
KMI	Kunming	25.32	13	P	P	22 17 33.6	+1.2
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
LSA	Lhasa	29.66	350	eP	P	22 18 12.2	+0.3
	comp=Z,3.3nm,0.7s,mb4.2						
ENH	Enshi	32.16	21	P	P	22 18 30.2	-3.7
	comp=Z,18nm,1.6s,mb4.7						
FITZ	Fitzroy Crossi	33.88	124	P	P	22 18 48.7	-0.2
	comp=Z,6.8nm,1.0s,mb4.5,baz=14,slow=5.3,SNR=7.4						
LZH	Lanzhou	36.18	10	eP	P	22 19 09.5	+1.1
LZH				AP	pP	22 19 18.4	+1.6
LZH				XP	sP	22 19 22.5	+2.1
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,102nm,4.0s						
GTA	Gaotai	38.98	4	eP	P	22 19 32.3	+0.4
GTA				AP	pP	22 19 38.5	-1.9
GTA				XP	sP	22 19 42.3	-1.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
WRA	Warramunga Arr	42.05	121	P	P	22 19 57.9	+0.5
	comp=Z,1.6nm,0.6s,mb3.9,baz=303,slow=8.9,SNR=30						
WRAB	Tennant Creek	42.05	121	eP	P	22 19 57.6	+0.1
	comp=Z,46nm,1.7s,mb4.8						
WB2	Warramunga Arr	42.06	121	eP	P	22 19 57.6	+0.1
WMQ	Urumqi	44.02	351	eP	P	22 20 14.5	+1.3
WMQ				AP	pP	22 20 24.0	+2.4
WMQ				XP	sP	22 20 28.0	+2.8
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,123nm,3.6s						
WMQ				LR	LR		
	comp=N,80nm,18.0s,MS3.9						
WMQ				LR	LR		
	comp=E,126nm,20.2s,MS3.9						
WMQ				LR	LR		
	comp=Z,92nm,22.0s,MS3.6						
MKAR	Makanchi Array	47.94	347	P	P	22 20 44.1	-0.1
	comp=Z,4.2nm,0.5s,mb4.7,baz=159,slow=8.5,SNR=55						
MKAR				pP	pP	22 20 53.0	+0.2
	comp=Z,1.7nm,0.5s,baz=154,slow=7.6,SNR=7.9						
CN2	Changchun	50.30	27	eP	P	22 21 04.0	+1.6
PMG	Port Moresby	51.19	102	eP	P	22 21 09.9	+0.3
	comp=Z,14nm,0.6s,mb5.1						
KURK	Kurchatov	52.48	346	eP	P	22 21 17.7	-1.2
	comp=Z,2.7nm,0.7s,mb4.3						
CTA	Charters Tower	52.61	116	P	P	22 21 20.4	+0.2
	comp=Z,1.7nm,0.4s,mb4.3,baz=297,slow=6.8,SNR=3.4						
CTA	Charters Tower	52.61	116	P	P	22 21 20.4	+0.2
MDJ	Mudanjiang	52.87	29	P	P	22 21 21.8	0.0
MDJ				AP	pP	22 21 30.8	+0.3
MDJ				XP	sP	22 21 34.8	+1.0
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,59nm,3.9s						
MDJ				LR	LR		
	comp=N,15nm,23.6s,MS3.1						
MDJ				LR	LR		
	comp=E,16nm,23.6s,MS3.1						
MDJ				LR	LR		
	comp=Z,25nm,21.4s,MS3.2						
STKA	Stephens Creek	53.19	131	P	P	22 21 24.4	0.0
	comp=Z,2.7nm,0.6s,mb4.3,baz=293,slow=5.5,SNR=7.9						
STKA	Stephens Creek	53.19	131	eP	P	22 21 24.4	0.0
BVAR	Borovoye Array	56.88	341	P	P	22 21 49.3	-1.6
	comp=Z,1.8nm,0.7s,mb4.2,baz=139,slow=9.8,SNR=14						
BVAR				pP	pP	22 21 57.9	-1.7
	comp=Z,1.3nm,0.6s,baz=144,slow=9.2,SNR=7.0						
MATP	Matopo	69.71	248	P	P	22 23 15.9	-0.1
	comp=Z,2.6nm,0.9s,mb4.2,baz=71,slow=9.1,SNR=4.4						
MATP				pP	pP	22 23 25.1	+0.2
	comp=Z,1.7nm,0.5s,baz=153,slow=1.0,SNR=2.7						
AKASG	Malin Array Be	75.60	323	P	P	22 23 48.9	-1.5
	comp=Z,1.7nm,0.6s,mb4.2,baz=89,slow=5.1,SNR=8.7						
AKASG				pP	pP	22 23 57.6	-1.7
	comp=Z,0.8nm,0.5s,baz=90,slow=5.5,SNR=4.1						
FINES	FINESS Array B	80.50	333	P	P	22 24 16.1	-0.9
	comp=Z,2.0nm,0.9s,mb4.0,baz=117,slow=4.3,SNR=5.1						
ARCES	ARCESS Array B	83.15	340	P	P	22 24 31.0	+0.3
	comp=Z,0.7nm,0.4s,mb4.1,baz=107,slow=6.1,SNR=15						
ARCES				pP	pP	22 24 39.9	+0.2
	comp=Z,1.8nm,0.9s,baz=127,slow=4.5,SNR=1.0						
GERES	GERESS Array B	85.10	319	P	P	22 24 41.2	+0.3
	comp=Z,0.1nm,0.4s,mb3.3,baz=72,slow=4.2,SNR=3.7						
NOA	NORSAR Array B	87.48	331	P	P	22 24 52.8	+0.5
	comp=Z,0.9nm,0.8s,mb4.0,baz=87,slow=8.0,SNR=2.9						
TXAR	Lajitas Array	144.67	32	PKP	PKPdf	22 31 41.9	-4.1
	comp=Z,0.7nm,0.5s,baz=270,slow=1.3,SNR=6.4						

MAN 15 22:19:41.8, 8.14N×126.41E, h118^{km}, mb3.9, ML2.7, MS2.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	1.14	317	eP	P	22 20 05.2	-0.2
BUTP				eS	S	22 20 23.7	+0.7
MATI	Mati	1.20	187	eP	P	22 20 06.3	+0.3
MATI				eS	S	22 20 23.4	-0.7
BUKP	Musuan	1.36	259	eP	P	22 20 08.2	+0.3
BUKP				eS	S	22 20 28.4	+0.7
SCPH	Surigao	1.87	331	eP	P	22 20 14.6	+0.7
SCPH				eS	S	22 20 38.5	+0.4
PAGZ	Pagadian	3.01	265	eP	P	22 20 29.1	+0.1
PAGZ				eS	S	22 21 05.0	+0.1

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*IDC **15** 22:38:46.0±35.0, 28.83N×51.21E, mb3.4/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.5/3, Error ellipse: s-maj=745.6km s-min=40.2km az=7.0*
*THR **15** 22:38:49.7±1.1, 29.29N×51.24E, h16^{km}±9^{km}, ML3.3*
*CSEM **15** 22:38:49.0±0.3, 29.29N×51.18E, h16^{km}, ML3.4, Error ellipse: s-maj=8.4km s-min=1.8km az=43.0*
*TEH **15** 22:38:50.6, 29.23N×51.24E, h10^{km}, Mn3.4*
ISC 15 22:38:48.8±0.9, **29.26N**±0.07×**51.26E**±0.07, **h10**^{km}, **n22**, σ**1^{s}09**/26, **mb3.2**/2, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHI	Shiraz	1.16	71	Pg	Pg	22 39 11.7	-0.3
IMOK	Mook	1.29	99	Pn	Pn	22 39 14.4	+1.5
ISRV	Sarvestan	1.62	85	Pn	Pn	22 39 20.0	+2.3
IPAR	Pars	1.66	69	Pn	Pn	22 39 20.0	+1.7
GHIR	Ghir-Karzin	1.80	122	ePg	Pg	22 39 22.5	-2.3
GHIR				eSg	Sg	22 39 48.2	-0.6
GHIR				AML	AML	22 40 04.6	
	comp=N,352nm,0.7s						
GHIR	Ghir-Karzin	1.80	122	ePg	Pg	22 39 22.5	-2.3
	SNR=91						
GHIR				eSg	Sg	22 39 48.2	-0.6
	SNR=91						
IPIR	Pirpir	3.43	355	Pn	Pn	22 39 42.4	-1.0
IMEH	Mehriz	3.59	53	Pn	Pn	22 39 47.3	+1.5
IZEF	Zefreh	3.74	14	Pn	Pn	22 39 47.9	0.0
NASN	Na'in	3.77	20	ePn	Pn	22 39 48.9	+0.6
IKLH	Kalahroud	4.05	4	Pn	Pn	22 39 51.6	-0.8
BNDS	Bandar-Abbas	4.71	112	ePn	Pn	22 40 02.7	+1.1
BNDS				Sn	Sn	22 40 56.0	-1.0
KRBR	Kerman	4.84	80	ePn	Pn	22 40 04.4	+0.8
KRBR				Sn	Sn	22 40 59.3	-1.1
KRBR				AML	AML	22 41 05.3	
	comp=N,19nm,0.6s						
ISFB	Sefidab	5.14	9	Pn	Pn	22 40 07.0	-0.8
ASAO	Ashtian	5.38	349	ePn	Pn	22 40 11.9	+0.8
IQOM	Qom	5.57	358	Pn	Pn	22 40 12.9	-0.9
IDMV	Damavand	6.33	6	Pn	Pn	22 40 23.6	-1.0
IFIR	Firoozkooh	6.49	11	Pn	Pn	22 40 22.9	-3.8
SNGE	Sanandaj	6.69	331	ePn	Pn	22 40 29.8	+0.1
BRTR	Keskin Array B	17.86	310	P	P	22 42 59.6	+0.6
	comp=N,0.1nm,0.3s,baz=126,slow=12,SNR=5.7						
AKASG	Malin Array Be	27.08	328	P	P	22 44 32.9	-0.5
	comp=N,0.2nm,0.2s,mb3.3,baz=136,slow=8.4,SNR=5.5						
MKAR	Makanchi Array	29.80	45	P	P	22 44 57.5	-0.4
	comp=N,0.2nm,0.5s,mb3.1,baz=251,slow=7.4,SNR=4.8						

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*NNC **15** 22:53:05.1±1.9, 42.53N×72.43E, mpv2.5, Error ellipse: s-maj=33.4km s-min=9.7km az=7.0*
*KNET **15** 22:53:06.8±0.6, 42.80N×72.52E, h28^{km}±3^{km}, ml2.2, Error ellipse: s-maj=4.4km s-min=3.3km az=158.0*
ISC 15 22:53:08.9±1.3, **42.6N**±0.2×**72.44E**±0.06, **h33**^{km}, **n7**, σ**1^{s}04**/14, **9C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKS2	Erkin-Say	0.99	84	⇑P	P	22 53 24.4	-2.1
	4.2nm,0.1s,SNR=22						
EKS2				⇑S	S	22 53 39.1	-0.4
	16nm,0.1s						
KK31	Karatay Array	1.51	291	⇓P	P	22 53 34.0	+0.1
	1.2nm,0.3s,baz=106,slow=17,SNR=39						
KK31				⇑S	S	22 53 53.3	+0.7
	14nm,0.4s,baz=114,slow=34,SNR=29						
AAK	Ala-Archa	1.52	87	⇓P	P	22 53 33.9	-0.2
	3.9nm,0.1s,SNR=6.7						
AAK				⇑S	S	22 53 54.0	+1.1
	23nm,0.3s						
AAK	Ala-Archa	1.52	87	P	P	22 53 33.6	-0.5
	2.5nm,0.4s						
AAK				⇑S	S	22 53 54.0	+1.1
	3.4nm,0.3s						
USP	Ospenovka	1.67	65	⇑P	P	22 53 35.0	-1.1
	6.0nm,0.2s,SNR=6.8						
USP				⇑S	S	22 53 56.2	-0.3
	42nm,0.3s						
CHMS	Chumysh	1.76	75	⇓P	P	22 53 36.8	-0.6
	4.4nm,0.2s,SNR=7.0						
CHMS				⇓S	S	22 53 59.6	+0.8
	12nm,0.1s						
KBK	Karagaybulak	1.86	87	⇑P	P	22 53 39.1	+0.2
	4.6nm,0.1s,SNR=14						
KBK				⇑S	S	22 54 04.0	+2.7
	34nm,0.2s						

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*IDC **15** 22:57:48.1±3.2, 4.41S×153.55E, mb4.0/4, mb1 4.2/4, mb1mx4.0/13, mbtmp4.0/4, Error ellipse: s-maj=108.1km s-min=32.3km az=100.0*
*NEIC **15** 22:58:05.4±4.1, 4.68S×153.46E, h143^{km}±27^{km}, mb4.6/3, Error ellipse: s-maj=45.5km s-min=20.2km az=91.0*
ISC 15 22:58:06.5±5.0, **4.7S**±0.2×**153.3E**±0.3, **h158**^{km}±38^{km}, **n10**, σ**0^{s}66**/11, **mb4.0**/6, **1C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.66	232	ePn	P	22 59 56.4	+0.2
	55nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PMG				eSn	S	23 01 21.2	-0.5
WRAB	**Tennant Creek**	**23.84**	**229**	eP	**P**	**23 03 07.0**	**+0.6**
	5.7nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**23.85**	**229**	⇑iP	**P**	**23 03 07.2**	**+0.7**
WB2				e		23 03 16.2	
WRA	**Warramunga Arr**	**23.86**	**229**	P	**P**	**23 03 07.4**	**+0.9**
	5.6nm,0.7s,mb4.2,baz=53,slow=9.6,SNR=53						
STKA	**Stephens Creek**	**29.14**	**201**	P	**P**	**23 03 54.2**	**-0.6**
	3.1nm,0.9s,mb4.0,baz=18,slow=9.6,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.12**	**242**	eP	**P**	**23 04 02.7**	**-1.0**
	5.8nm,0.6s,mb4.5						
KSM	**Kuching**	**43.39**	**277**	P	**P**	**23 05 55.8**	**+0.5**
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**23 10 02.9**	**0.0**
	0.3nm,0.5s,mb3.1,baz=93,slow=6.8,SNR=5.3						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**23 10 02.9**	**0.0**
BVAR	**Borovoye Array**	**89.49**	**323**	P	**P**	**23 10 45.9**	**-0.8**
	0.7nm,0.7s,mb3.7,baz=90,slow=2.9,SNR=4.4						

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*IDC **15** 23:00:03.7±7.3, 36.53N×140.86E, h49km±58km, mb2.9/2, mb1 3.1/3, mb1mx3.0/20, mbtmp3.1/3, Error ellipse: s-maj=64.3km s-min=32.9km az=58.0*
*JMA **15** 23:00:05.8±0.1, 36.47N×140.53E, h58km±1km, M3.5 Broadband fault plane solution: P waves. NP1:φs190°, δ32°, λ83°. NP2:φs18°, δ58°, λ95°. Principal axes: T Plg76°, Azm302°; N Plg4°, Azm196°; P Plg13°, Azm105°;*
JMA Felt I J1.
ISC 15 23:00:04.5±0.8**, 36.45N**±0.05×**140.61E**±0.07**, h62**km±6km**, n14, σ0.65**/25**, mb3.1**/2**, 3C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.17**	**349**	⇑P	**P**	**23 00 14.7**	**+0.7**
JHO				S	**S**	**23 00 20.8**	**-0.2**
JYT	**Yasato**	**0.40**	**237**	⇑P	**P**	**23 00 16.3**	**+0.6**
JYT				S	**S**	**23 00 23.5**	**-0.5**
JAG	**Ashikaga**	**0.93**	**269**	⇓P	**P**	**23 00 22.2**	**+0.3**
JAG				S	**S**	**23 00 33.7**	**-1.2**
JFK	**Kawauchi**	**0.94**	**13**	⇑P	**P**	**23 00 22.2**	**+0.2**
JFK				S	**S**	**23 00 34.4**	**-0.7**
JFT	**Otama**	**1.09**	**349**	⇓P	**P**	**23 00 24.5**	**+0.4**
JFT				S	**S**	**23 00 38.1**	**-0.5**
JKT	**Katashina**	**1.14**	**287**	P	**P**	**23 00 25.0**	**+0.3**
JKT				S	**S**	**23 00 39.3**	**-0.4**
JFY	**Yanaizu**	**1.20**	**323**	⇓P	**P**	**23 00 25.9**	**+0.4**
JFY				eS	**S**	**23 00 41.1**	**-0.1**
JMM	**Marumori**	**1.42**	**6**	P	**P**	**23 00 29.4**	**+0.7**
JMM				S	**S**	**23 00 46.2**	**-0.4**
JRY	**Ryogami san**	**1.45**	**253**	⇓P	**P**	**23 00 29.2**	**+0.2**
JRY				S	**S**	**23 00 46.2**	**-1.0**
JHK	**Hiroka**	**1.51**	**303**	⇓P	**P**	**23 00 30.0**	**+0.2**
MJAR	**Matsushiro Arr**	**1.94**	**273**	P	**P**	**23 00 36.0**	**+0.3**
	5.2nm,0.3s,baz=96,slow=9.0,SNR=33						
MJAR				S	**S**	**23 01 02.2**	**+3.4**
	6.0nm,0.3s,baz=86,slow=16,SNR=5.9						
MAT	**Matsushiro**	**1.94**	**274**	P	**P**	**23 00 36.4**	**+0.7**
MAT				S	**S**	**23 00 59.5**	**+0.6**
MKAR	**Makanchi Array**	**43.88**	**302**	P	**P**	**23 08 06.0**	**-0.2**
	0.2nm,0.6s,mb3.0,baz=90,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**56.40**	**187**	P	**P**	**23 09 40.8**	**-1.1**
	0.1nm,0.3s,mb3.3,baz=1.4,slow=7.5,SNR=3.3						

JMA 15 23:01:20.0±0.2**, 27.62N**×**141.15E, h399**km**, M3.7, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.06**	**119**	P	P	23 02 11.4	0.0
CBIJ				S	S	23 02 51.6	-0.2
JHHJ	**Haha-jima-NKT**	**1.35**	**137**	P	P	23 02 12.6	-0.1
JHHJ				S	S	23 02 54.4	+0.3
JKO	**Kozu shima**	**6.77**	**346**	S	S	23 04 20.4	-1.6
BSO3	**Boso 3**	**7.18**	**356**	S	S	23 04 31.8	+1.4
BSO4	**Boso 4**	**7.38**	**355**	S	S	23 04 33.3	-1.2
JAG	**Ashikaga**	**8.90**	**351**	P	P	23 03 25.4	-0.8
JAG				S	S	23 05 02.1	-3.7
JHO	**Hitachi**	**8.98**	**357**	P	P	23 03 27.9	+0.8
JHO				S	S	23 05 08.4	+0.9

IDC 15 23:29:29.3±7.8**, 4.55S**×**153.33E, h155**km±55km**, mb3.7**/5**, mb1 4.0**/6**, mb1mx3.7**/15**, mbtmp4.3**/6**, Error ellipse: s-maj=75.2km s-min=35.2km az=100.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.79**	**231**	P	P	23 31 20.0	-0.9
	11nm,0.3s,baz=37,slow=9.6,SNR=20						
PMG				S	S	23 32 47.5	-0.4
	4.0nm,0.3s,baz=139,slow=17,SNR=5.6						
WB2	**Warramunga Arr**	**24.00**	**229**	eP	P	23 34 30.2	-0.8
WRA	**Warramunga Arr**	**24.00**	**229**	P	P	23 34 30.5	-0.6
	6.3nm,0.7s,baz=53,slow=9.6,SNR=35						
FITZ	**Fitzroy Crossi**	**30.24**	**241**	P	P	23 35 25.3	-2.6
	6.3nm,0.6s,baz=39,slow=6.2,SNR=7.9						
MKAR	**Makanchi Array**	**80.48**	**319**	P	P	23 41 24.7	-0.7
	0.2nm,0.5s,baz=103,slow=7.2,SNR=3.2						
MAW	**Mawson**	**86.00**	**203**	P	P	23 41 51.5	-1.5
	1.0nm,0.5s,baz=122,slow=9.5,SNR=4.4						
BVAR	**Borovoye Array**	**89.35**	**323**	P	P	23 42 07.7	-1.5
	0.7nm,0.7s,baz=104,slow=6.1,SNR=6.2						

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*CSEM **15** 23:33:32.8, 8.40S×111.26E, h2km, mb5.5*
*IDC **15** 23:33:32.6±0.4, 8.82S×111.31E, mb4.9/21, mb1 4.8/22, mb1mx4.8/23, mbtmp4.8/22, ML4.5/1, MS4.1/12, Ms1 4.1/12, ms1mx4.0/17, Error ellipse: s-maj=16.3km s-min=11.3km az=44.0*
*MOS **15** 23:33:36.1±0.8, 8.68S×111.41E, h33km, mb5.3/27, Error ellipse: s-maj=11.6km s-min=6.9km az=116.7*
*BJI **15** 23:33:42.7, 8.80S×111.40E, h89km, mB4.9, mb5.1, Ms4.3, Msz4.1*
*NEIC **15** 23:33:42.8±1.3, 8.79S×111.40E, h79km±11km, mb4.9/38, Error ellipse: s-maj=7.6km s-min=5.1km az=53.0*
NEIC Felt [II] at Karangkates.
*HRVD **15** 23:33:42.8±0.5, 9.27S×111.38E, h50km±2km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s21,c29; Mantle waves: s37,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.64±.18; $M_{\theta\theta}$-2.36±.10; $M_{\phi\phi}$0.71±.15; $M_{r\theta}$0.83±.08; $M_{\theta\phi}$0.47±.09; $M_{\phi r}$0.21±.12; Best double couple: $M_0$2.233×10^{16} NP1:φs297°, δ37°, λ117°. NP2:φs84°, δ58°, λ71°. Principal axes: T 1.886, Plg71°, Azm310°; N .689, Plg16°, Azm94°; P -2.579, Plg11°, Azm187°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 15 23:33:38.1±1.8**, 8.76S**±0.04×**111.42E**±0.05**, h52**km±16km**, h82**km±6.2km**: pP-P, n230, σ0.98**/195**, mb5.0**/78**, MS4.1**/21**, 17C-6D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**10.23**	**354**	eP	**P**	**23 36 09.3**	**+4.3**
MBWA	**Marble Bar**	**14.70**	**148**	eP	**P**	**23 36 57.5**	**-7.1**
	24nm,0.6s						
MBWA				eS	S	23 39 18.6	-28
KKM	**Kota Kinabalu**	**15.46**	**18**	P	**P**	**23 37 19.5**	**+5.0**
FITZ	**Fitzroy Crossi**	**16.64**	**125**	eP	**P**	**23 37 26.5**	**-2.8**
	22nm,0.6s						
FITZ				eS	**S**	**23 40 14.6**	**-17**
FITZ	**Fitzroy Crossi**	**16.64**	**125**	Pn	**P**	**23 37 26.9**	**-2.4**
	1.2nm,0.3s,baz=279,slow=4.0,SNR=13						
FITZ				Sn	**S**	**23 40 14.2**	**-17**
	2.5nm,0.3s,baz=358,slow=14,SNR=4.2						
FITZ				LR	LR	23 43 40.5	
	comp=Z,508nm,21.0s,baz=283,slow=36						
KULM	**Kulim**	**17.61**	**322**	eP	**P**	**23 37 42.3**	**+0.7**
KAKA	**Kakadu**	**21.01**	**103**	eP	**P**	**23 38 37.7**	**+18**
	60nm,0.8s,mb5.0						
KLBR	**Kellerberrin**	**23.47**	**166**	eP	**P**	**23 38 52.3**	**+8.5**
	54nm,1.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**24.64**	**168**	S	**S**	**23 43 20.0**	**+10**
	3.7nm,0.6s,baz=120,slow=16,SNR=2.3						
NWAO				LR	LR	23 48 09.1	
	comp=Z,503nm,20.5s,MS4.0,baz=310,slow=36						
NWAO	**Narrogin (SRO)**	**24.64**	**168**	P	**P**	**23 39 04.9**	**+10**
	25nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**24.79**	**119**	P	**P**	**23 38 56.9**	**+0.2**
	26nm,0.7s,mb4.9,baz=292,slow=11,SNR=142						
WRA				PcP	PcP	23 42 33.0	-0.2
	1.5nm,0.4s,baz=297,slow=4.2,SNR=5.8						
WRA				S	**S**	**23 43 21.9**	**+9.1**
	1.2nm,0.8s,baz=343,slow=10.0,SNR=2.9						
WRAB	**Tennant Creek**	**24.80**	**119**	eP	**P**	**23 38 57.3**	**+0.5**
	38nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**24.80**	**119**	eP	**P**	**23 38 57.3**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**24.80**	**119**	eP	**P**	**23 38 56.6**	**-0.3**
ASPA	**Alice Springs**	**26.12**	**127**	eP	**P**	**23 39 09.0**	**-0.2**
FORT	**Forrest**	**26.85**	**147**	eP	**P**	**23 39 13.9**	**-2.0**
	comp=Z,39nm,0.6s,mb5.1						
QIZ	**Qiongzhong**	**27.66**	**357**	P	**P**	**23 39 25.3**	**+1.9**
QIZ				S	**S**	**23 44 05.8**	**+5.9**
QIZ				LR	LR		
	comp=Z,358nm,34.1s,MS3.7						
NACB	**Ninganchiao**	**34.21**	**17**	eP	**P**	**23 40 23.1**	**+2.2**
KMI	**Kunming**	**34.73**	**346**	P	**P**	**23 40 28.4**	**+3.0**
KMI				AP	pP	23 40 48.9	+10
KMI				XP	sP	23 40 59.4	+14
KMI				PP	PP	23 41 51.6	+8.0
KMI				S	**S**	**23 45 58.0**	**+7.1**
KMI				XS		23 46 31.1	
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
KMI				AMB	AMB		
	comp=Z,99nm,4.9s						
KMI				LR	LR		
	comp=N,285nm,14.7s,MS4.2						
KMI				LR	LR		
	comp=E,189nm,17.6s,MS4.2						
KMI				LR	LR		
	comp=Z,330nm,17.6s,MS4.1						
PMG	**Port Moresby**	**35.28**	**94**	P	**P**	**23 40 31.0**	**+0.8**
	comp=Z,5.7nm,0.6s,mb4.7,baz=208,slow=14,SNR=2.4						
PMG				LR	LR	23 57 26.1	
	comp=Z,183nm,18.4s,MS3.9,baz=101,slow=40						
PMG	**Port Moresby**	**35.28**	**94**	eP	**P**	**23 40 30.3**	**+0.1**
	comp=Z,18nm,0.9s,mb5.0						
PMG	**Port Moresby**	**35.28**	**94**	eP	**P**	**23 40 30.3**	**+0.1**
PMG				pmax	pmax		
	comp=Z,18nm,0.9s						
CTA	**Charters Tower**	**35.48**	**112**	eP	**P**	**23 40 32.8**	**+0.9**
	comp=Z,6.0nm,0.7s,mb4.6						
CTA	**Charters Tower**	**35.48**	**112**	P	**P**	**23 40 32.8**	**+0.9**
	comp=Z,6.3nm,0.7s,mb4.7,baz=278,slow=9.1,SNR=9.1						
CTA				PcP	PcP	23 43 01.4	+0.7
	comp=Z,4.8nm,0.8s,baz=259,slow=8.7,SNR=2.7						
CTA				LR	LR	23 56 19.0	
	comp=Z,168nm,19.5s,MS3.8,baz=234,slow=38						
CTA	**Charters Tower**	**35.48**	**112**	eP	**P**	**23 40 32.8**	**+0.9**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CTAO	**Charters Tower**	**35.48**	**112**	eP	**P**	**23 40 32.5**	**+0.7**
	comp=Z,14nm,0.9s,mb4.9						
CTAO	**Charters Tower**	**35.48**	**112**	eP	**P**	**23 40 32.5**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**36.24**	**134**	eP	**P**	**23 40 37.6**	**-0.6**
	comp=Z,8.6nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**36.24**	**134**	P	**P**	**23 40 38.0**	**-0.1**
	comp=Z,11nm,0.6s,mb5.0,baz=306,slow=8.4,SNR=36						
STKA				PcP	PcP	23 43 02.5	-0.3
	comp=Z,4.0nm,0.5s,baz=322,slow=2.8,SNR=4.3						
STKA				LR	LR	23 55 54.1	
	comp=Z,380nm,21.0s,MS4.2,baz=119,slow=37						
ENH	**Enshi**	**38.85**	**357**	eP	**P**	**23 41 00.9**	**+0.9**
	comp=Z,20nm,0.6s,mb5.0						
JOW	**Kunigami**	**38.98**	**24**	P	**P**	**23 41 02.7**	**+1.6**
	comp=Z,30nm,0.8s,mb5.1,baz=215,slow=6.8,SNR=12						
WHN	**Wuhan**	**39.18**	**4**	eP	**P**	**23 41 04.0**	**+1.3**
GUMO	**Guam**	**39.94**	**57**	P	**P**	**23 41 09.5**	**+0.3**
	comp=Z,15nm,0.3s,mb5.2,baz=198,slow=6.4,SNR=4.2						
GUMO	**Guam**	**39.94**	**57**	eP	**P**	**23 41 09.3**	**+0.1**
CD2	**Chengdu**	**40.12**	**350**	P	**P**	**23 41 11.3**	**+0.8**
CD2				AP	pP	23 41 34.5	+10
CD2				PP	PP	23 42 48.8	+1.8
CD2				PPP	PPP	23 43 10.4	-3.4
CD2				S	**S**	**23 47 08.3**	**-4.7**
CD2				XS		23 47 46.3	
CD2				SS	SS	23 50 04.3	-2.2
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
CD2				LR	LR		
	comp=E,110nm,16.8s						
CD2				LR	LR		
	comp=Z,130nm,20.4s,MS3.8						
SSE	**Sheshan**	**40.72**	**13**	P	**P**	**23 41 16.4**	**+0.9**
SSE				PP	PP	23 42 51.0	-2.0
SSE				S	**S**	**23 47 19.0**	**-2.8**
SSE				SS	SS	23 50 20.0	+0.7
SSE				AMB	AMB		
	comp=Z,59nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,91nm,10.0s						
SSE				LR	LR		
	comp=N,65nm,26.6s,MS3.4						
SSE				LR	LR		
	comp=E,36nm,26.6s,MS3.4						
SSE				LR	LR		
	comp=Z,92nm,25.9s,MS3.5						
NJ2	**Nanjing**	**41.20**	**10**	eP	**P**	**23 41 18.3**	**-1.1**
NJ2				PP	PP	23 42 55.3	-2.7
NJ2				S	**S**	**23 47 25.0**	**-4.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,82nm,5.2s						
NJ2				LR	LR		
	comp=Z,3μm,21.1s,MS5.1						
XAN	**Xi'an**	**42.63**	**357**	P	**P**	**23 41 32.0**	**+0.8**
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.9						
LSA	**Lhasa**	**42.93**	**334**	P	**P**	**23 41 35.3**	**+1.6**
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
LSA	**Lhasa**	**42.93**	**334**	eP	**P**	**23 41 34.7**	**+1.0**
	comp=Z,25nm,0.8s,mb5.0						
LSA	**Lhasa**	**42.93**	**334**	eP	**P**	**23 41 34.7**	**+1.0**
LSA				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
PKI	**Pulchoki**	**44.03**	**326**	eP	**P**	**23 41 42.7**	**0.0**
DMN	**Daman**	**44.23**	**326**	eP	**P**	**23 41 43.0**	**-1.3**
	comp=Z,25nm,0.6s,mb5.1						
KKN	**Kakani**	**44.28**	**326**	eP	**P**	**23 41 43.9**	**-0.7**
	comp=Z,14nm,0.5s,mb4.9						
KKN	**Kakani**	**44.28**	**326**	eP	**P**	**23 41 43.9**	**-0.7**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
GKN	**Gorkha**	**44.80**	**326**	eP	**P**	**23 41 48.4**	**-0.4**
	comp=Z,32nm,0.6s,mb5.4						
LZH	**Lanzhou**	**45.17**	**351**	eP	**P**	**23 41 53.1**	**+1.4**
LZH				PP	PP	23 43 42.0	+3.4
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.5s						
KOLN	**Koldanda**	**45.21**	**324**	eP	**P**	**23 41 51.3**	**-0.8**
	comp=Z,21nm,0.3s,mb5.4						
JNU	**Nakatsue**	**45.58**	**23**	P	**P**	**23 41 54.9**	**-0.1**
	comp=Z,6.3nm,0.6s,mb4.7,baz=59,slow=8.4,SNR=4.3						
TAU	**Tasmania Unive**	**46.29**	**143**	P	**P**	**23 42 01.8**	**+1.3**
	comp=Z,126nm,1.5s,mb5.6						
TAU	**Tasmania Unive**	**46.29**	**143**	P	**P**	**23 42 01.8**	**+1.3**
TAU				pmax	pmax		
	comp=Z,126nm,1.5s,mb5.6						
KS15	**Wonju Array Si**	**48.48**	**18**	P	**P**	**23 42 16.3**	**-1.3**
GTA	**Gaotai**	**49.12**	**348**	eP	**P**	**23 42 23.9**	**+1.3**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,52nm,5.7s						
GTA				LR	LR		
	comp=N,124nm,14.1s						
GTA				LR	LR		
	comp=E,179nm,23.6s						
GTA				LR	LR		
	comp=Z,222nm,24.3s						
HHC	**Hu-ho-hao-te**	**49.36**	**0**	eP	**P**	**23 42 25.3**	**+0.9**
HHC				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
HHC				AMB	AMB		
	comp=Z,72nm,4.6s						
HHC				LR	LR		
	comp=N,91nm,10.7s						
HHC				LR	LR		
	comp=E,95nm,17.8s						
HHC				LR	LR		
	comp=Z,102nm,19.0s						
MAJO	**Matsushiro**	**51.62**	**28**	eP	**P**	**23 42 40.6**	**-1.1**
	comp=Z,18nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**51.62**	**28**	eP	**P**	**23 42 40.6**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
MAT	**Matsushiro**	**51.62**	**28**	P	**P**	**23 42 40.8**	**-0.8**
MAT	**Matsushiro**	**51.62**	**28**	eP	**P**	**23 42 41.0**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0						
MAT	**Matsushiro**	**51.62**	**28**	eP	**P**	**23 42 41.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
MJAR	**Matsushiro Arr**	**51.62**	**28**	P	**P**	**23 42 41.0**	**-0.6**
	comp=Z,11nm,0.6s,mb5.0,baz=205,slow=7.8,SNR=26						
MJAR				LR	LR	00 04 51.0	
	comp=Z,143nm,18.2s,MS4.0,baz=220,slow=36						
MJAR	**Matsushiro Arr**	**51.62**	**28**	P	**P**	**23 42 41.0**	**-0.6**
MJAR				LR	LR	00 04 51.0	
CN2	**Changchun**	**53.84**	**13**	eP	**P**	**23 42 57.5**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
DZM	**Mont Dzumac**	**54.40**	**111**	LR	LR	00 06 59.8	
	comp=Z,118nm,18.4s,MS4.0,baz=95,slow=37						
MDJ	**Mudanjiang**	**55.61**	**16**	P	**P**	**23 43 11.1**	**+0.2**
MDJ				AP	pP	23 43 31.1	+5.9
MDJ				XP	sP	23 43 40.4	+9.2
MDJ				PCP	PcP	23 44 05.5	-4.4
MDJ				PP	PP	23 45 18.0	+1.1
MDJ				SCP		23 47 58.5	
MDJ				PCS		23 48 06.8	
MDJ				S	**S**	**23 50 58.8**	**+7.7**
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,47nm,4.0s						
MDJ				LR	LR		
	comp=N,27nm,18.8s,MS3.6						
MDJ				LR	LR		
	comp=E,47nm,23.0s,MS3.6						
MDJ				LR	LR		
	comp=Z,62nm,25.1s,MS3.6						
MDJ	**Mudanjiang**	**55.61**	**16**	eP	**P**	**23 43 10.6**	**-0.3**
	comp=Z,5.9nm,0.8s,mb4.7						
SONM	**Songino Array**	**56.52**	**356**	P	**P**	**23 43 17.6**	**+0.1**
	comp=Z,12nm,0.5s,mb5.1,baz=180,slow=8.0,SNR=12						
SONM				PcP	PcP	23 44 14.1	+0.6
	comp=Z,3.7nm,0.3s,baz=153,slow=3.3,SNR=5.0						
SONM				LR	LR	00 10 03.2	
	comp=Z,101nm,20.2s,MS3.9,baz=53,slow=39						
WMQ	**Urumqi**	**56.59**	**340**	eP	**P**	**23 43 19.4**	**+1.4**
WMQ				AP	pP	23 43 42.0	+10
WMQ				XP	sP	23 43 53.0	+15
WMQ				PCP	PcP	23 44 15.0	+1.2
WMQ				PCS		23 48 10.0	
WMQ				eS	**S**	**23 51 04.0**	**-0.2**
WMQ				XS		23 51 40.0	
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,158nm,4.7s						
WMQ				LR	LR		
	comp=N,196nm,28.0s,MS4.2						
WMQ				LR	LR		
	comp=E,203nm,25.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,192nm,23.4s,MS4.1						
HIA	**Hailar**	**58.24**	**6**	eP	**P**	**23 43 28.1**	**-1.4**
ZAK	**Zakamensk**	**59.32**	**354**	eP	**P**	**23 43 36.5**	**-0.5**
ZAK				e		23 44 23.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
WBK	**Wadi Bani Khal**	**60.08**	**302**	⇓P	**P**	**23 43 40.0**	**-2.6**
KLR	**Kul'dur**	**60.44**	**15**	eP	**P**	**23 43 40.4**	**-4.3**
CIT	**Chita**	**60.56**	**2**	eP	**P**	**23 43 46.1**	**+0.6**
CIT				e		23 44 29.5	
CIT				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.3						
JMDO	**Jabal Madar**	**60.70**	**302**	⇓P	**P**	**23 43 45.5**	**-1.4**
MOY	**Mondy**	**60.85**	**353**	eP	**P**	**23 43 48.2**	**+0.7**
TKM2	**Tokmak 2**	**60.92**	**331**	P	**P**	**23 43 47.5**	**-0.6**
	SNR=14						
SMDO	**Samad**	**61.04**	**302**	P	**P**	**23 43 48.6**	**-0.5**
	SNR=7.4						
KBK	**Karagaybulak**	**61.04**	**330**	P	**P**	**23 43 48.7**	**-0.1**
	SNR=13						
MKAR	**Makanchi Array**	**61.10**	**338**	P	**P**	**23 43 48.5**	**-0.8**
	comp=Z,11nm,0.5s,mb5.3,baz=150,slow=7.7,SNR=152						
MKAR				LR	LR	00 13 42.8	
	comp=Z,86nm,19.0s,MS3.9,baz=183,slow=39						
MKAR	**Makanchi Array**	**61.10**	**338**	P	**P**	**23 43 48.0**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BIDO	**Bidbid**	**61.17**	**303**	P	**P**	**23 43 49.6**	**-0.3**
	SNR=13						
AAK	**Ala-Archa**	**61.25**	**330**	P	**P**	**23 43 49.8**	**-0.4**
	SNR=6.8						
AAK	**Ala-Archa**	**61.25**	**330**	eP	**P**	**23 43 48.4**	**-1.8**
	comp=Z,6.6nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**61.25**	**330**	c iP	**P**	**23 43 48.6**	**-1.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.9						
AML	**Almayashu**	**61.29**	**329**	P	**P**	**23 43 50.1**	**-0.4**
	SNR=10						
FRU	**Bishkek**	**61.34**	**330**	P	**P**	**23 43 48.0**	**-2.9**
FRU				e	pP	23 44 02.0	-3.3
BSY	**Bisya**	**61.62**	**302**	P	**P**	**23 43 52.6**	**-0.5**
	SNR=6.3						
EKS2	**Erkin-Say**	**61.63**	**329**	P	**P**	**23 43 52.5**	**-0.4**
	SNR=20						
USP	**Ospenovka**	**61.71**	**330**	P	**P**	**23 43 52.9**	**-0.5**
	SNR=9.1						
HOQ	**Hoqain**	**61.87**	**303**	P	**P**	**23 43 54.4**	**-0.3**
	SNR=7.8						
YSS	**Yuzh-Sakhalins**	**62.08**	**24**	eP	**P**	**23 43 55.2**	**-0.6**
	comp=Z,62nm,1.0s,mb5.7						
YSS	**Yuzh-Sakhalins**	**62.08**	**24**	c iP	**P**	**23 43 55.9**	**+0.1**
YSS				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.6						
OPO	**Ambohidratompo**	**62.91**	**254**	P	**P**	**23 44 01.8**	**+0.1**
	comp=Z,4.4nm,1.0s,mb4.5,baz=69,slow=11,SNR=3.1						
ABTO	**Aybut**	**63.02**	**294**	P	**P**	**23 44 02.0**	**-0.5**
	SNR=9.1						
ASHO	**Ashiyiah**	**63.37**	**303**	⇑P	**P**	**23 44 04.0**	**-0.7**
	SNR=15						
KKAR	**Karatay Array**	**63.63**	**328**	i P	**P**	**23 44 04.5**	**-1.7**
BANOM	**Banah**	**63.69**	**304**	⇑P	**P**	**23 44 06.1**	**-0.7**
KURK	**Kurchatov**	**65.71**	**338**	eP	**P**	**23 44 18.5**	**-0.9**
	comp=Z,24nm,0.8s,mb5.3						
KURK	**Kurchatov**	**65.71**	**338**	eP	**P**	**23 44 18.5**	**-0.9**
KURK				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
CLNS	**Chul'man**	**66.30**	**8**	eP	**P**	**23 44 21.9**	**-1.2**
CLNS				pmax	pmax		
	comp=N,24nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.4						
CLNS				pmax	pmax		
	comp=E,18nm,0.9s						
MAW	**Mawson**	**67.01**	**198**	P	**P**	**23 44 26.0**	**-1.4**
	comp=E,1.6nm,0.6s,mb4.2,baz=61,slow=9.6,SNR=9.3						
MAW				LR	LR	00 06 51.9	
	comp=E,227nm,19.8s,MS4.4,baz=200,slow=30						
MAW	**Mawson**	**67.01**	**198**	eP	**P**	**23 44 26.3**	**-1.1**
	comp=E,8.8nm,1.1s,mb4.7						
MAW	**Mawson**	**67.01**	**198**	eP	**P**	**23 44 26.3**	**-1.1**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NVS	**Novosibirsk**	**67.63**	**343**	eP	**P**	**23 44 29.1**	**-2.4**
NVS				e		23 44 53.7	
NVS				pmax	pmax		
	comp=N,14nm,1.4s						
NVS				pmax	pmax		
	comp=E,11nm,1.4s						
NVS				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
HASS	**Wahat al Ahsa'**	**68.89**	**301**	P	**P**	**23 44 38.9**	**-1.0**
BVA0	**Borovoye Array**	**70.74**	**335**	i P	**P**	**23 44 50.0**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**70.74**	**335**	P	**P**	**23 44 50.1**	**-0.6**
	comp=Z,18nm,0.7s,mb5.1,baz=141,slow=8.6,SNR=134						
BRVK	**Borovoye**	**70.81**	**335**	*e*P	**P**	**23 44 50.2**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.2						
BRVK	**Borovoye**	**70.81**	**335**	*e*P	**P**	**23 44 50.2**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KAMS	**Al Khamasin**	**71.78**	**295**	P	**P**	**23 44 56.1**	**-1.3**
YAK	**Yakutsk**	**71.99**	**9**	*e*P	**P**	**23 44 57.8**	**-0.2**
	comp=Z,44nm,0.6s,mb5.6						
YAK	**Yakutsk**	**71.99**	**9**	*e*P	**P**	**23 44 57.8**	**-0.1**
YAK				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.6						
MZLS	**Mizel**	**72.35**	**299**	P	**P**	**23 45 00.4**	**-0.3**
AB31	**Akbulak array**	**73.20**	**328**	*i* P	**P**	**23 45 04.9**	**-0.4**
AB31	**Akbulak array**	**73.20**	**328**	*i* P	**P**	**23 45 04.8**	**-0.5**
AB31				pmax	pmax		
	comp=Z,65nm,0.8s,mb5.6						
PET	**Petropavlovsk**	**73.45**	**28**	*e*P	**P**	**23 45 07.3**	**+0.6**
VNDA	**Vanda**	**73.46**	**170**	P	**P**	**23 45 05.9**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=2.0,slow=5.6,SNR=8.2						
VNDA				LR	LR	00 12 42.2	
	comp=Z,195nm,18.9s,MS4.4,baz=259,slow=32						
VNDA	**Vanda**	**73.46**	**170**	P	**P**	**23 45 05.9**	**-0.4**
VNDA				LR	LR	00 12 42.2	
KMBO	**Kilima Mbogo**	**74.19**	**271**	P	**P**	**23 45 12.9**	**+1.2**
	comp=Z,6.8nm,0.9s,mb4.6,baz=52,slow=8.2,SNR=18						
KMBO				LR	LR	00 12 23.2	
	comp=Z,172nm,20.5s,MS4.3,baz=104,slow=32						
KMBO	**Kilima Mbogo**	**74.19**	**271**	⇑*i*P	**P**	**23 45 13.4**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AFFS	**‘Afif**	**74.24**	**298**	P	**P**	**23 45 12.0**	**+0.1**
BLJS	**Baljurashi**	**74.35**	**293**	P	**P**	**23 45 14.5**	**+1.8**
SBA	**Scott Base**	**74.52**	**170**	*e*P	**P**	**23 45 12.4**	**-0.1**
	comp=Z,5.8nm,1.0s,mb4.5						
SBA	**Scott Base**	**74.52**	**170**	*e*P	**P**	**23 45 12.4**	**-0.1**
SBA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
AKTO	**Aktyubinsk**	**74.90**	**328**	P	**P**	**23 45 14.9**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SYO	**Syowa Base**	**75.39**	**201**	⇓PcP	PcP	23 45 28.3	-2.6
SYO	**Syowa Base**	**75.39**	**201**	⇑pP	pP	23 45 41.5	+9.0
LTHS	**Al Lith**	**75.53**	**294**	P	**P**	**23 45 19.8**	**+0.4**
HILS	**Ha’il**	**76.31**	**301**	P	**P**	**23 45 24.3**	**+0.7**
SVE	**Sverdlovsk**	**77.46**	**334**	⇑*e*P	**P**	**23 45 30.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
SEY	**Seymchan**	**78.06**	**18**	⇑*e*P	**P**	**23 45 33.8**	**+1.2**
GNI	**Garni**	**78.30**	**314**	P	**P**	**23 45 35.3**	**+0.8**
	comp=Z,5.0nm,0.6s,mb4.6,baz=49,slow=3.8,SNR=8.2						
TI2	**Plekhanov**	**78.89**	**316**	⇑*i*P	**P**	**23 45 34.0**	**-3.7**
TI2				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
ERZM	**Erzurum**	**80.64**	**313**	*i* P	**P**	**23 45 47.6**	**+0.5**
MBAR	**Mbarara**	**80.70**	**271**	*e*P	**P**	**23 45 48.3**	**+0.3**
	comp=Z,19nm,0.9s,mb5.0						
MBAR	**Mbarara**	**80.70**	**271**	*e*P	**P**	**23 45 48.3**	**+0.3**
MBAR				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
SOKR	**Solikamsk**	**80.73**	**335**	*c i*P	**P**	**23 45 47.2**	**0.0**
SOKR				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
SOKR				MLR	MLR		
	comp=Z,150nm,19.0s,MS4.4						
TIXI	**Tiksi**	**81.07**	**6**	⇑*i*P	**P**	**23 45 48.3**	**-0.5**
TIXI	**Tiksi**	**81.07**	**6**	⇓*i*P	**P**	**23 45 47.8**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.4						
KIV	**Kislovodsk**	**81.13**	**317**	*e*P	**P**	**23 45 49.9**	**+0.3**
	comp=Z,20nm,0.7s,mb5.2						
KIV	**Kislovodsk**	**81.13**	**317**	*e*P	**P**	**23 45 49.9**	**+0.3**
KIV				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
QSPA	**South Pole Qui**	**81.24**	**180**	*e*P	**P**	**23 45 49.5**	**0.0**
	comp=Z,14nm,1.1s,mb4.8						
LSZ	**Lusaka**	**81.26**	**256**	*e*P	**P**	**23 45 51.2**	**+0.4**
	comp=Z,5.9nm,0.8s,mb4.6						
LSZ	**Lusaka**	**81.26**	**256**	*e*P	**P**	**23 45 51.2**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MALT	**Malatya**	**82.30**	**311**	*e*P	**P**	**23 45 56.4**	**+0.6**
	comp=Z,9.2nm,0.8s,mb4.8						
MALT	**Malatya**	**82.30**	**311**	*e*P	**P**	**23 45 56.4**	**+0.6**
MALT				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
HAQS	**Haql**	**82.59**	**301**	P	**P**	**23 45 58.7**	**+1.2**
LBTB	**Lobatse**	**82.59**	**246**	*e*P	**P**	**23 45 58.6**	**+1.0**
	comp=Z,9.8nm,1.0s,mb4.8						
LBTB	**Lobatse**	**82.59**	**246**	*e*P	**P**	**23 45 58.6**	**+1.0**
LBTB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
GZT	**Gaziantep**	**82.67**	**309**	*i* P	**P**	**23 45 57.9**	**+0.1**
SOC	**Sochi**	**83.02**	**316**	*c i*P	**P**	**23 45 59.3**	**-0.1**
SOC				*e*		23 49 12.9	
SOC				*e*PPP	PPP	23 51 00.6	-5.1
SOC				*e*S	S	23 56 10.5	-2.6
SOC				*e*SSS	SSS	00 05 02.4	-3.9
SOC				pmax	pmax		
	comp=N,13nm,0.8s						
SOC				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.6						
SOC				pmax	pmax		
	comp=E,14nm,0.7s						
KAHT	**Ahir Dag**	**83.28**	**310**	*i* P	**P**	**23 46 02.1**	**+1.3**
COBT	**Iskenderun**	**83.44**	**308**	*i* P	**P**	**23 46 02.0**	**+0.4**
VRHR	**Novokhopersk**	**84.39**	**324**	*c i*P	**P**	**23 46 06.2**	**+0.1**
VRHR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.5						
VRHR				pmax	pmax		
	comp=N,9.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,1.7s						
AVNT	**Avonos**	**85.12**	**310**	*i* P	**P**	**23 46 11.0**	**+0.9**
CSS	**Prodhromos**	**85.34**	**306**	*e*P	**P**	**23 46 12.0**	**+0.8**
	comp=E,38nm,0.9s,mb5.5						
CTKT	**Corum**	**85.65**	**312**	*i* P	**P**	**23 46 13.0**	**+0.3**
VORD	**Divnogorie**	**85.72**	**323**	*e*P	**P**	**23 46 12.4**	**-0.3**
VORD				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
VORD				pmax	pmax		
	comp=N,40nm,0.6s						
VORD				pmax	pmax		
	comp=E,30nm,0.7s						
VRSR	**Storozhevoye**	**85.87**	**323**	*e*P	**P**	**23 46 13.3**	**-0.1**
VRSR				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.7						
VRSR				pmax	pmax		
	comp=N,3.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.7s						
BR131	**Keskin Array S**	**86.27**	**311**	*e*P	**P**	**23 46 16.1**	**+0.4**
	comp=E,14nm,0.8s,mb5.2						
BRTR	**Keskin Array B**	**86.27**	**311**	P	**P**	**23 46 16.4**	**+0.7**
	comp=E,16nm,0.9s,mb5.2,baz=127,slow=6.2,SNR=63						
ELDT	**Eldivan**	**86.62**	**312**	*i* P	**P**	**23 46 17.1**	**-0.3**
ANTO	**Ankara**	**86.94**	**311**	*e*P	**P**	**23 46 20.1**	**+1.1**
	comp=E,7.6nm,0.8s,mb5.0						
ANTO	**Ankara**	**86.94**	**311**	*e*P	**P**	**23 46 20.1**	**+1.1**
ANTO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
SGKT	**Sivrigoynuk**	**87.66**	**311**	*i* P	**P**	**23 46 19.0**	**-3.4**
ESKT	**Eskisehir**	**88.32**	**310**	*i* P	**P**	**23 46 25.2**	**-0.3**
TKTP	**Tekketepe**	**88.40**	**309**	*i* P	**P**	**23 46 24.9**	**-1.1**
OBN	**Obninsk**	**88.59**	**326**	*e*P	**P**	**23 46 26.4**	**-0.1**
	comp=Z,37nm,0.7s,mb5.8						
OBN	**Obninsk**	**88.59**	**326**	*c i*P	**P**	**23 46 27.2**	**+0.7**
OBN				*e**PP	pP	23 46 44.6	+2.8
OBN				pmax	pmax		
	comp=Z,41nm,0.7s,mb5.9						
OBN				MLR	MLR		
	comp=Z,100nm,29.0s,MS4.1						
SNAA	**Sanae**	**89.14**	**197**	*e*P	**P**	**23 46 29.3**	**+0.6**
	comp=Z,5.5nm,0.9s,mb4.9						
ULDT	**Uludag**	**89.74**	**311**	*i* P	**P**	**23 46 32.0**	**-0.3**
TSUM	**Tsumeb**	**90.75**	**251**	P	**P**	**23 46 39.5**	**+2.0**
	comp=Z,4.4nm,0.9s,mb4.8						
VNA2	**Neumayer--Watz**	**90.79**	**197**	P	**P**	**23 46 39.4**	**+2.9**
VNA2	**Neumayer--Watz**	**90.79**	**197**		**P**	**23 46 41.9**	**+5.4**
VNA1	**Neumayer--Stat**	**91.17**	**197**	P	**P**	**23 46 41.8**	**+3.5**
VNA1	**Neumayer--Stat**	**91.17**	**197**		**P**	**23 46 43.8**	**+5.5**
VNA3	**Neumayer Olymp**	**91.26**	**196**	P	**P**	**23 46 41.4**	**+2.7**
VNA3	**Neumayer Olymp**	**91.26**	**196**		**P**	**23 46 43.5**	**+4.8**
CFR	**Carcaliu**	**91.45**	**315**	⇑*i*P	**P**	**23 46 39.0**	**-1.1**
AKASG	**Malin Array Be**	**91.80**	**321**	P	**P**	**23 46 41.0**	**-0.7**
	comp=Z,3.8nm,0.6s,mb4.9,baz=84,slow=5.2,SNR=20						
VRI	**Vrincioaia**	**92.55**	**316**	⇑*i*P	**P**	**23 46 46.2**	**+1.0**
MLR	**Muntele Rosu**	**93.02**	**315**	P	**P**	**23 46 48.1**	**+0.7**
	comp=Z,3.8nm,0.7s,mb5.0,baz=204,slow=2.0,SNR=9.1						
JOF	**Joensuu**	**93.26**	**333**	*e*p	**P**	**23 46 48.2**	**+0.2**
BURAR	**Bucovina Array**	**93.85**	**317**	⇓*i*P	**P**	**23 46 51.8**	**+0.8**
BURAR	**Bucovina Array**	**93.85**	**317**	⇓*i*P	**P**	**23 46 51.8**	**+0.8**
KAF	**Kangasniemi**	**95.39**	**332**	*e*p	**P**	**23 46 57.7**	**0.0**
FINES	**FINESS Array B**	**95.40**	**331**	P	**P**	**23 46 57.6**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.8,baz=135,slow=2.7,SNR=8.5						
FINES				PKiKP		23 51 38.4	
	comp=Z,1.4nm,0.8s,baz=135,slow=2.7,SNR=3.3						
FINES	**FINESS Array B**	**95.40**	**331**	*i* P	**P**	**23 46 58.5**	**+0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**96.71**	**339**	P	**P**	**23 47 03.5**	**0.0**
	comp=Z,6.4nm,1.0s,mb5.0,baz=90,slow=3.6,SNR=7.4						
HFS	**Hagfors**	**101.39**	**330**	P	P	23 47 24.4	-0.6
	comp=Z,3.1nm,0.8s,baz=135,slow=2.1,SNR=4.1						
GERES	**GERESS Array B**	**101.62**	**318**	P	P	23 47 26.5	+0.3
	comp=Z,0.1nm,0.3s,baz=238,slow=13,SNR=4.1						
PMR	**Palmer**	**102.15**	**29**	*e*Pdif	Pdif	23 47 28.5	+0.2
	comp=Z,9.0nm,0.5s						
PMR	**Palmer**	**102.15**	**29**	*e*P	Pdif	23 47 28.5	+0.2
PMR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NOA	**NORSAR Array B**	**102.56**	**331**	P	Pdif	23 47 30.4	+0.2
	comp=Z,2.2nm,0.8s,baz=87,slow=4.3,SNR=3.3						
DBIC	**Dimbokro**	**116.89**	**273**	PKP	PKPdf	23 52 19.1	+1.3
	comp=Z,2.3nm,0.7s,baz=352,slow=7.7,SNR=5.5						
DBIC	**Dimbokro**	**116.89**	**273**	*e*PKPdf	PKPdf	23 52 18.9	+1.1
YKA	**Yellowknife Ar**	**116.92**	**22**	PKP	PKPdf	23 52 18.5	+1.7
	comp=Z,1.3nm,0.7s,baz=303,slow=1.1,SNR=7.6						
EDM	**Edmonton**	**122.88**	**30**	*e*PKPdf	PKPdf	23 52 30.4	+1.8
NVAR	**Mina Array Bea**	**126.55**	**48**	PKP	PKPdf	23 52 40.0	+3.9
	comp=Z,1.8nm,0.7s,baz=228,slow=1.8,SNR=11						
HLID	**Hailey**	**127.20**	**41**	*e*PKPdf	PKPdf	23 52 40.6	+3.4
PDAR	**Pinedale Array**	**130.69**	**40**	PKP	PKPdf	23 52 46.6	+2.7
	comp=Z,0.6nm,0.6s,baz=328,slow=1.8,SNR=6.8						
MSU	**Marysvale**	**130.95**	**46**	*e*PKPdf	PKPdf	23 52 47.9	+3.4
ULM	**Lac du Bonnet**	**132.84**	**24**	PKP	PKPdf	23 52 50.1	+2.4
	comp=Z,2.3nm,0.7s,baz=9.2,slow=3.2,SNR=3.2						
PV10	**Paradox Valley**	**133.21**	**44**	*e*PKPdf	PKPdf	23 52 52.5	+3.7
ANMO	**Albuquerque**	**136.65**	**47**	*e*PKPdf	PKPdf	23 52 58.9	+3.7
ANMO	**Albuquerque**	**136.65**	**47**	⇑*i*PKIKP	PKPdf	23 52 59.7	+4.5
SADO	**Sadowa**	**142.98**	**13**	PKhKP		23 53 05.2	
	comp=Z,2.8nm,0.5s,baz=23,slow=2.9,SNR=3.3						
CPUP	**Villa Florida**	**143.45**	**197**	PKP	PKPdf	23 53 07.3	-0.2
	comp=Z,3.6nm,0.8s,baz=258,slow=3.5,SNR=6.4						
CPUP	**Villa Florida**	**143.45**	**197**	PKP	PKPdf	23 53 07.3	-0.2
LBNH	**Lisbon**	**144.54**	**4**	*e*PKPdf	PKPdf	23 53 09.8	+0.9
MIV	**Mineville/With**	**144.56**	**6**	*e*PKPdf	PKPdf	23 53 09.9	+1.0
NCB	**Newcomb**	**144.58**	**7**	*e*PKPdf	PKPdf	23 53 10.2	+1.2
FVM	**French Village**	**144.86**	**31**	*e*PKPdf	PKPdf	23 53 10.9	+1.2
HNH	**Hanover**	**145.04**	**5**	*e*PKPdf	PKPdf	23 53 11.6	+1.8
ACCN	**Adirondack Com**	**145.22**	**7**	*e*PKPdf	PKPdf	23 53 11.9	+1.7
ERPA	**Erie**	**145.29**	**15**	*e*PKPdf	PKPdf	23 53 12.3	+2.0
BLO	**Bloomington**	**145.71**	**25**	*e*PKPdf	PKPdf	23 53 13.7	+2.6
BINY	**Binghamton**	**146.06**	**10**	*e*PKPdf	PKPdf	23 53 14.4	+2.8
PARMO	**Parma**	**146.21**	**31**	*e*PKPbc	PKPbc	23 53 15.4	+2.1
HRV	**Harvard--Oak R**	**146.29**	**4**	*e*PKPbc	PKPbc	23 53 15.4	+2.2
WCI	**Wyandotte Cave**	**146.60**	**26**	*e*PKPbc	PKPbc	23 53 16.2	+2.2
PAL	**Palisades**	**147.54**	**8**	*e*PKPbc	PKPdf	23 53 18.9	+4.8
WVT	**Waverly**	**147.60**	**30**	*e*PKPbc	PKPdf	23 53 19.1	+4.8
OXF	**Oxford**	**148.02**	**34**	*e*PKPbc	PKPdf	23 53 20.6	+5.5
MVL	**Millersville**	**148.13**	**11**	*e*PKPbc	PKPdf	23 53 20.2	+5.1
BDFB	**Brasilia**	**148.34**	**220**	PKPbc	PKPdf	23 53 20.4	+4.4
	comp=Z,7.7nm,1.0s,baz=140,slow=4.3,SNR=8.1						
PLAL	**Pickwick Lake**	**148.38**	**32**	*e*PKPbc	PKPdf	23 53 20.8	+5.2
FWV	**Forest Hill**	**149.25**	**19**	*e*PKPbc	PKPdf	23 53 23.0	+6.0
SWET	**Sewanee**	**149.25**	**29**	*e*PKPbc	PKPdf	23 53 21.3	+4.3
ELN	**Prospectdale**	**149.59**	**19**	*e*PKPbc	PKPdf	23 53 24.0	+6.5
ELN				*e*PKPab	PKPab	23 53 28.9	-0.6
MYNC	**Murphy**	**150.19**	**26**	*e*PKPbc	PKPdf	23 53 25.6	+7.1

WEL 15 23:38:43.9±0.4**,39.68S×174.21E,h184**^{km}±4^{km}**,ML3.5**/7**, 2C,Error ellipse: s-maj=3.8km s-min=2.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.60**	**98**	SN	S	23 39 29.3	-0.8
WNVZ	**Wahianoa**	**1.13**	**72**	PN	P	23 39 12.6	-0.7
CNZ	**Chateau**	**1.14**	**66**	PN	P	23 39 13.0	-0.4
DUWZ	**D’Urville Isla**	**1.15**	**191**	PN	P	23 39 13.3	0.0
DUWZ				SN	S	23 39 35.2	-0.9
MOVZ	**Moawhango**	**1.23**	**78**	SN	S	23 39 35.2	-2.1
KIW	**Kapiti Island**	**1.30**	**156**	PN	P	23 39 14.4	-0.3
KIW				SN	S	23 39 36.9	-1.5
MRZ	**Mangatainoka R**	**1.44**	**133**	PN	P	23 39 15.5	-0.4
MRZ				SN	S	23 39 39.4	-1.3
TCW	**Tory Channel**	**1.53**	**178**	⇑PN	P	23 39 16.7	-0.2
TCW				SN	S	23 39 40.5	-1.8
MRW	**Makara Radio**	**1.59**	**167**	⇑PN	P	23 39 17.0	-0.5
MRW				SN	S	23 39 41.8	-1.5
NNZ	**Nelson**	**1.66**	**202**	PN	P	23 39 17.4	-0.7
NNZ				SN	S	23 39 42.7	-1.8
QRZ	**Quartz Range**	**1.72**	**228**	*e*PN	P	23 39 17.3	-1.4
QRZ				SN	S	23 39 43.7	-1.8
TUWZ	**Tuamarina**	**1.76**	**186**	PN	P	23 39 18.4	-0.7
TUWZ				SN	S	23 39 44.3	-2.0
BKZ	**Black Stump Fm**	**1.84**	**75**	PN	P	23 39 18.8	-1.2
BKZ				SN	S	23 39 44.6	-3.0
BSWZ	**Blackbirch Sta**	**2.05**	**187**	PN	P	23 39 21.7	-0.4
BSWZ				SN	S	23 39 50.0	-1.6
KHZ	**Kahutara**	**2.78**	**190**	PN	P	23 39 29.3	-1.4
KHZ				SN	S	23 40 03.4	-3.3
LTZ	**Lake Taylor**	**3.43**	**205**	SN	S	23 40 16.3	-4.4
MQZ	**McQueen’s Vall**	**4.19**	**196**	SN	S	23 40 30.8	-7.1

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*NEIC **16** 00:13:07.3,31.35S×70.10W,h129^{km},MD3.4(GUC),After GUC.*

GUC 16 00:13:07.3±0.7**,31.35S×70.10W,h129**^{km}±6^{km}**,MD3.4, ML3.6,7C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.79**	**282**	⇓*i*P	P	00 13 28.4	+0.1
CMCH				*i* S	S	00 13 44.5	+0.1
CMCH				AMP		00 13 46.2	
	comp=E,2µm,0.2s						
ILCH	**Illapel**	**0.95**	**252**	⇑*i*P	P	00 13 30.1	+0.2
ILCH				*i* S	S	00 13 47.1	0.0
ILCH				AMP		00 13 47.9	
	comp=N,2µm,0.2s						
CHNG	**Los Chungos**	**1.31**	**245**	⇑*i*P	P	00 13 33.6	0.0
CHNG				*i* S	S	00 13 53.0	-0.6
CHNG				AMP		00 13 54.2	
	comp=E,277nm,0.3s						
JACH	**Jahuel**	**1.40**	**197**	⇓*i*P	P	00 13 34.8	+0.2
JACH				*i* S	S	00 13 55.5	+0.1
LSCH	**La Serena**	**1.74**	**325**	*e*P	P	00 13 38.5	0.0
LSCH				*i* S	S	00 14 01.6	-0.6
LSCH				AMP		00 14 02.9	
	comp=E,738nm,0.4s						
ROCH	**El Roble**	**1.79**	**205**	⇓*i*P	P	00 13 39.2	+0.1
PEL	**Peldehue**	**1.86**	**195**	*e*P	P	00 13 40.2	+0.3
FCH	**Farellones**	**1.98**	**185**	⇑*i*P	P	00 13 42.2	+0.8
FCH				*i* S	S	00 14 08.6	+1.2
FCH				AMP		00 14 11.5	
	comp=E,425nm,0.2s						
CLCH	**Cerro Calan**	**2.08**	**190**	⇑*i*P	P	00 13 42.7	+0.1
CLCH				*i* S	S	00 14 09.6	+0.2
CLCH				AMP		00 14 11.5	
	comp=E,408nm,0.6s						
CLCH				AMP		00 14 12.1	
	comp=E,553nm,0.8s						
DSCH	**Colegio Aleman**	**2.08**	**191**	*i* P	P	00 13 42.9	+0.2
DSCH				*i* S	S	00 14 09.9	+0.3
DSCH				AMP		00 14 12.2	
	comp=N,565nm,0.4s						
SAN	**Santiago**	**2.15**	**193**	*i* S	S	00 14 11.1	-0.1
SAN				AMP		00 14 12.7	
	comp=E,247nm,0.2s						
RCDM	**Rinconada Maip**	**2.22**	**195**	*e*P	P	00 13 44.3	-0.2
RCDM				*i* S	S	00 14 12.3	-0.4
RCDM				AMP		00 14 13.3	
	comp=E,1µm,0.1s						
ANTU	**Antumapu**	**2.26**	**191**	*i* P	P	00 13 45.1	+0.1
ANTU				*i* S	S	00 14 13.6	-0.1
ANTU				AMP		00 14 15.4	
	comp=N,434nm,0.8s						
PCH	**Pirque**	**2.30**	**189**	⇑*i*P	P	00 13 45.5	0.0
PCH				*i* S	S	00 14 14.7	+0.2
TACH	**Talagante**	**2.41**	**197**	*i* P	P	00 13 46.0	-0.9
TACH				*i* S	S	00 14 16.3	-0.7
LCCH	**Las Cruces**	**2.46**	**210**	⇑*i*P	P	00 13 46.9	-0.7
LCCH				*i* S	S	00 14 18.0	-0.2
CHCH	**Chadas Angostu**	**2.62**	**190**	⇑*i*P	P	00 13 49.1	-0.6
CHCH				*i* S	S	00 14 21.5	-0.5
CACH	**El Canelo**	**2.80**	**188**	*e*P	P	00 13 51.7	-0.3
CACH				*i* S	S	00 14 26.4	+0.4
LNV	**Longovilo**	**2.83**	**203**	⇓*i*P	P	00 13 51.0	-1.5
LNV				*i* S	S	00 14 24.3	-2.4
CICH	**Cipreses**	**2.98**	**185**	*e*P	P	00 13 54.3	-0.2
CICH				*i* S	S	00 14 30.1	-0.2

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*MOS **16** 00:17:02.2±2.4,51.68N×101.45E,h6^{km},mb4.3/1,Error ellipse: s-maj=16.1km s-min=11.3km az=7.4*

MOS Felt (II) at Mondy.

BYKL 16 00:17:01.4±0.4**,51.66N×101.45E,h14**^{km}±10^{km}**,5C-1D, FELT I=II MSK at Mondy,Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.28**	**272**	⇑*i*Pg	Pg	00 17 07.3	-0.3
	306nm,0.2s						
MOY				⇓*i*Pg	Pg	00 17 07.3	-0.3
	660nm,0.2s						
MOY				⇑*i*Pg	Pg	00 17 07.3	-0.3
	885nm,0.2s						
MOY				*e*Sg	Sg	00 17 11.5	-0.3
MOY				Pmax			
	1µm,0.3s						
MOY				Smax			
	9µm,0.4s						
MOY	**Mondy**	**0.28**	**272**	⇑*i*PG	Pg	00 17 07.3	-0.3
MOY				*e*		00 17 11.6	
MOY				pmax	pmax		
	comp=Z,1µm,0.1s						
MOY				smax			
	comp=N,9µm,0.3s						
ARS	**Arshan**	**0.66**	**66**	*e*Pg	Pg	00 17 14.4	-0.4
ARS				*e*Sg	Sg	00 17 23.5	-0.2
ARS				Pmax			
	comp=N,178nm,0.2s						
ARS				Smax			
	comp=N,3µm,0.7s						
ARS	**Arshan**	**0.66**	**66**	*e*PG	Pg	00 17 14.3	-0.5
ARS				*e*		00 17 23.5	
ARS				pmax	pmax		
	comp=Z,56nm,0.1s						
ARS				smax			
	comp=E,3µm,0.2s						
ORL	**Orlik**	**1.34**	**312**	⇑*i*Pg	Pg	00 17 25.6	-2.7
ORL				*e*Sg	Sg	00 17 42.9	-3.3
ORL				Pmax			
	comp=E,64nm,0.8s						
ORL				Smax			
	comp=E,383nm,0.6s						
ORL	**Orlik**	**1.34**	**312**	*e*PG	Pg	00 17 26.6	-1.7
ORL				*e*		00 17 43.2	
ORL				pmax	pmax		
	comp=Z,44nm,0.2s						
ORL				smax			
	comp=N,384nm,0.3s						
TLY	**Talaya**	**1.37**	**88**	⇑*i*Pg	Pg	00 17 26.0	-2.8
TLY				*e*Sg	Sg	00 17 44.5	-2.6
TLY				Pmax			
	comp=N,140nm,0.2s						
TLY				Smax			
	comp=N,681nm,0.6s						
TLY	**Talaya**	**1.37**	**88**	*e*PG	Pg	00 17 26.3	-2.5
TLY				*e*		00 17 45.0	
TLY				pmax	pmax		
	comp=Z,140nm,0.2s						
TLY				smax			
	comp=E,685nm,0.6s						
ZAK	**Zakamensk**	**1.73**	**137**	*e*PN	Pn	00 17 32.4	+1.1
ZAK				*e*S	Sn	00 17 55.5	+2.3
ZAK				pmax	pmax		
	comp=Z,113nm,0.3s						
ZAK				smax			
	comp=E,314nm,0.3s						
IRK	**Irkutsk**	**1.84**	**70**	*e*Pg	Pg	00 17 34.7	-3.5
IRK				*e*Sg	Sg	00 17 58.5	-4.3
IRK				Pmax			
	comp=E,168nm,0.3s						
IRK				Smax			
	comp=E,1µm,0.5s						
IRK	**Irkutsk**	**1.84**	**70**	*e*PN	Pn	00 17 35.3	+2.4
IRK				*e*		00 17 58.5	
IRK				pmax	pmax		
	comp=Z,177nm,0.2s						
IRK				smax			
	comp=N,1µm,0.4s						
LSTR	**Listvyanka**	**2.11**	**83**	*e*Pg	Pg	00 17 39.5	-4.1
LSTR				*e*Sg	Sg	00 18 06.9	-4.9
LSTR				Pmax			
	comp=N,33nm,0.5s						
LSTR				Smax			
	comp=N,205nm,0.9s						
LSTR	**Listvyanka**	**2.11**	**83**	*e*PN	Pn	00 17 39.3	+2.5
LSTR				*e*		00 17 39.6	
LSTR				*e*		00 18 06.9	
LSTR				pmax	pmax		
	comp=Z,63nm,1.0s						
LSTR				smax			
	comp=N,210nm,1.0s						
BLGM	**Bulgan**	**3.17**	**154**	*i* Pg	Pg	00 17 56.9	-7.8
BLGM				*i* Sg	Sg	00 18 40.2	-6.8
TRG	**Tyrgan**	**3.21**	**68**	*e*	Pn	00 17 54.8	+2.3
TRG				*e*Pg	Pg	00 17 58.2	-7.3
TRG				*e*		00 18 33.1	
TRG				*e*Sg	Sg	00 18 39.4	-8.9
TRG				Pmax			
	comp=N,23nm,0.8s						
TRG				Smax			
	comp=N,219nm,1.4s						
TRG	**Tyrgan**	**3.21**	**68**	*e*PN	Pn	00 17 52.0	-0.5
TRG				*e*		00 17 58.7	
TRG				*e*S	Sn	00 18 30.4	-0.4
TRG				*e*		00 18 39.9	
TRG				pmax	pmax		
	comp=Z,24nm,0.2s						
TRG				smax			
	comp=N,223nm,0.3s						
KAB	**Kabansk**	**3.25**	**81**	*e*Sg	Sg	00 18 40.7	-9.0
KAB				Smax			
	comp=N,340nm,0.6s						
TSC	**Tosontsengel**	**3.55**	**217**	*i* Pg	Pg	00 18 04.1	-8.2
TSC				*i* Sg	Sg	00 18 52.2	-7.4
TRTB	**Turuntaevo**	**3.87**	**79**	*e*	Pn	00 18 06.7	+4.9
TRTB				*e*Pg	Pg	00 18 10.6	-8.0
TRTB				*e*		00 18 50.8	
TRTB				*e*Sg	Sg	00 19 01.3	-8.9
TRTB				Pmax			
	comp=N,12nm,0.6s						
TRTB				Smax			
	comp=N,171nm,1.1s						
TTS	**Tsetserleg**	**4.18**	**180**	*i* Pg	Pg	00 18 15.2	-10
TTS				*i* Sg	Sg	00 19 12.2	-8.6
OGRR	**Ongureny**	**4.24**	**60**	*e*	Pn	00 18 07.8	+0.7
OGRR				*e*Pg	Pg	00 18 16.9	-9.1
OGRR				*e*Sn	Sn	00 18 55.2	-1.7
OGRR				*e*Sg	Sg	00 19 11.6	-11
OGRR				Pmax			
	comp=N,18nm,0.3s						
OGRR				Smax			
	comp=N,118nm,0.5s						
OGRR	**Ongureny**	**4.24**	**60**	*e*PN	Pn	00 18 08.3	+1.2
OGRR				*e*		00 18 19.8	
OGRR				*e*		00 19 12.0	
OGRR				pmax	pmax		
	comp=Z,17nm,0.4s						
OGRR				smax			
	comp=E,119nm,0.5s						
SYVR	**Suvo**	**5.58**	**66**	*e*Pg	Pg	00 18 40.9	-12
SYVR				*e*Sn	Sn	00 19 27.5	-3.1
SYVR				*e*Sg	Sg	00 19 52.3	-15

SYVR				Pmax			
	comp=E,3.0nm,0.6s						
SYVR				Smax			
	comp=E,13nm,0.8s						
EBM	**Esen Bulak**	**6.28**	**215**	*e*Pg	Pg	00 18 53.8	-13
EBM				*e*Sg	Sg	00 20 17.2	-13
NIZ	**Nizh Angarsk**	**6.33**	**46**	*e*	Sn	00 19 45.5	-3.9
NIZ				*e*Sg	Sg	00 20 16.5	-16
NIZ				Smax			
	comp=E,98nm,0.5s						
YLYR	**Ulyunkhan**	**6.66**	**57**	*e*Pn	Pn	00 18 41.6	+0.3
YLYR				*e*Pg	Pg	00 19 01.3	-13
YLYR				*e*		00 19 56.2	
YLYR				*e*Sg	Sg	00 20 26.9	-16
YLYR				Pmax			
	comp=E,3.0nm,0.5s						
YLYR				Smax			
	comp=E,47nm,1.6s						
KMO	**Kumora**	**7.16**	**50**	*e*	Sn	00 20 07.9	-2.4
KMO				*e*Sg	Sg	00 20 43.9	-16
KMO				Smax			
	comp=E,67nm,1.6s						
KPC	**Khapcheranga**	**7.22**	**101**	*e*Pg	Pg	00 19 12.8	-13
KPC				*e*Sg	Sg	00 20 45.7	-16
KPC				Pmax			
	comp=E,2.0nm,0.6s						
KPC				Smax			
	comp=E,32nm,1.9s						
UKT	**Uakit**	**8.20**	**57**	*e*	P	00 19 30.9	+28
UKT				*e*Sg	Sg	00 21 14.3	-20
UKT				Smax			
	comp=E,14nm,2.2s						

*CRAAG **16** 00:31:41.4, 5.64S×153.32E, Mb6.1*

*BJI **16** 00:31:42.0, 5.26S×153.93E, h17^{km}, mB5.8, mb6.0, Ms5.5, Msz5.3*

*NEIC **16** 00:31:42.4±1.8, 5.62S×153.59E, h11^{km}±10^{km}, mb6.1/46, MS5.4/22, MW5.6, Error ellipse: s-maj=4.9km s-min=3.8km az=77.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.86; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$1.49; $M_{r\theta}$-0.05; $M_{\theta\phi}$-0.20; $M_{\phi r}$-2.86; Best double couple: $M_0$3.1×10^{17} NP1:ϕ_s159°,δ12°,λ-112°. NP2:ϕ_s2°,δ79°,λ-85°. Principal axes: T 3.41, Plg34°, Azm88°; N -.62, Plg5°, Azm181°; P -2.79, Plg56°, Azm277°;*

*HRVD **16** 00:31:42.4±0.1, 5.81S×153.60E, h28^{km}, MW5.7/73, Centroid moment Tensor Solution. LP body waves: s65,c144;Mantle waves: s73,c210; Half duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.56±.05; $M_{\theta\theta}$-1.82±.05; $M_{\phi\phi}$4.38±.05; $M_{r\theta}$-0.09±.12; $M_{\theta\phi}$-0.34±.05; $M_{\phi r}$-3.18±.10; Best double couple: $M_0$4.723×10^{17} NP1: ϕ_s166°,δ24°,λ-106°. NP2:ϕ_s3°,δ66°,λ-83°. Principal axes: T 5.628, Plg21°, Azm88°; N -1.809, Plg6°, Azm180°; P -3.819, Plg68°, Azm286°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **16** 00:31:44.7±1.3, 5.62S×153.64E, h25^{km}±7^{km}, mb5.4/18, mb1 5.5/20, mb1mx5.4/22, mbtmp5.6/20, ML4.7/3, MS5.2/17, Ms1 5.3/17, ms1mx5.2/20 Error ellipse: s-maj=11.9km s-min=8.6km az=63.0*

*MOS **16** 00:31:45.3±1.1, 5.66S×153.43E, h33^{km}, mb6.3/35, MS5.3/27, Error ellipse: s-maj=9.9km s-min=6.9km az=89.4*

ISC 16 00:31:43.3±0.2**, 5.67S**±0.03×**153.59E**±0.04**, h28**^{km}**, h28**^{km}±1.3^{km}**:pP-P, n558,** σ1^{s}03/259**, mb6.0**/94**, MS5.3**/65**, 23C-84D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.33**	**121**	Pn	**Pn**	**00 33 30.5**	**-0.7**
	8.4nm,0.3s,baz=315,slow=7.1,SNR=2.2						
HNR	**Honiara**	**7.33**	**121**	*e*Pn	**Pn**	**00 33 28.7**	**-2.6**
	2µm,1.0s						
HNR	**Honiara**	**7.33**	**121**	*e*P	**Pn**	**00 33 28.7**	**-2.6**
HNR				pmax	pmax		
	comp=Z,2µm,1.0s						
PMG	**Port Moresby**	**7.38**	**239**	Pn	**Pn**	**00 33 32.2**	**+0.2**
	comp=Z,54nm,0.3s,baz=55,slow=7.2,SNR=125						
PMG				Sn	**Sn**	**00 34 54.9**	**-0.8**
	comp=Z,196nm,0.3s,baz=76,slow=20,SNR=13						
PMG				LR	LR	00 36 15.2	
	comp=Z,40µm,21.1s,baz=27,slow=36						
PMG	**Port Moresby**	**7.38**	**239⇑**	*i*Pn	**Pn**	**00 33 31.8**	**-0.2**
	comp=Z,2µm,0.8s						
PMG				*e*Sn	**Sn**	**00 34 54.6**	**-1.0**
PMG	**Port Moresby**	**7.38**	**239⇑**	*i*P	**Pn**	**00 33 31.8**	**-0.2**
PMG				*e*		00 34 54.6	
PMG				pmax	pmax		
	comp=Z,2µm,0.8s						
CTA	**Charters Tower**	**16.01**	**206⇓**	*i*P	**P**	**00 35 29.5**	**+1.1**
	comp=Z,160nm,0.9s						
CTA				*e*S	**S**	**00 38 31.3**	**+6.4**
CTA				*e*SCP		00 43 58.6	
CTA				*e*SCS	ScS	00 47 39.0	+5.0
CTA	**Charters Tower**	**16.01**	**206**	Pn	**P**	**00 35 29.4**	**+1.0**
	comp=Z,3.6nm,0.3s,baz=29,slow=14,SNR=50						
CTA				Sn	**S**	**00 38 32.6**	**+7.7**
	comp=Z,0.2nm,0.3s,baz=43,slow=19,SNR=2.1						
CTA				ScP		00 43 59.2	
	comp=Z,0.2nm,0.3s,baz=301,slow=6.4,SNR=6.6						
CTA				ScS	ScS	00 47 38.8	+4.8
	comp=Z,0.4nm,0.3s,baz=146,slow=24,SNR=9.4						
CTA	**Charters Tower**	**16.01**	**206⇓**	*i*P	**P**	**00 35 29.5**	**+1.1**
CTA				*e*S	**S**	**00 38 31.3**	**+6.4**
CTA				pmax	pmax		
	comp=Z,160nm,0.9s						
CTAO	**Charters Tower**	**16.01**	**206**	*e*P	**P**	**00 35 29.9**	**+1.5**
	comp=Z,409nm,1.1s						
CTAO				*e*ScP		00 43 58.6	
CTAO	**Charters Tower**	**16.01**	**206**	*e*P	**P**	**00 35 29.9**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,409nm,1.1s						
KWAJ	**Kwajalein Atol**	**20.05**	**44**	*e*P	**P**	**00 36 17.1**	**-0.4**
	comp=Z,1µm,1.0s						
KWAJ				*e*		00 36 29.7	
DZM	**Mont Dzumac**	**20.50**	**144⇑**	*e*P	**P**	**00 36 22.2**	**+0.2**
DZM	**Mont Dzumac**	**20.50**	**144**	P	**P**	**00 36 22.2**	**+0.2**
	comp=Z,525nm,0.9s,baz=345,slow=10,SNR=102						
DZM				S	**S**	**00 40 09.8**	**+4.7**
	comp=Z,33nm,1.3s,baz=111,slow=18,SNR=3.2						
DZM				LR	LR	00 42 28.4	
	comp=Z,5µm,21.6s,MS4.8,baz=317,slow=31						
DZM				ScP		00 44 08.8	
	comp=Z,26nm,1.1s,baz=72,slow=7.0,SNR=7.7						
DZM				ScS	ScS	00 47 54.9	+7.1
	comp=Z,12nm,1.3s,baz=36,slow=19,SNR=5.8						
DZM	**Mont Dzumac**	**20.50**	**144⇑**	*e*P	**P**	**00 36 22.2**	**+0.1**
GUMO	**Guam**	**21.00**	**336**	P	**P**	**00 36 27.1**	**-0.1**
	comp=Z,877nm,1.0s,mb6.1,baz=181,slow=5.3,SNR=33						
GUMO				LR	LR	00 43 17.8	
	comp=Z,2µm,21.3s,MS4.4,baz=335,slow=33						
GUMO	**Guam**	**21.00**	**336⇓**	*i*P	**P**	**00 36 27.3**	**+0.1**
	comp=Z,1µm,1.0s,mb6.2						
GUMO	**Guam**	**21.00**	**336⇓**	*i*P	**P**	**00 36 27.3**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.2						
KAKA	**Kakadu**	**22.01**	**250⇓**	*i*P	**P**	**00 36 55.9**	**+19**
	comp=Z,1µm,0.9s,mb6.4						
KAKA				*e*S	S	00 40 55.0	+21
SAPN	**Saipan**	**22.16**	**340**	*e*P	**P**	**00 36 38.5**	**-0.3**
WRAB	**Tennant Creek**	**23.47**	**231⇓**	*i*P	**P**	**00 36 51.6**	**-0.2**
	comp=Z,332nm,1.0s,mb5.7						
WRAB				LR	LR		
	comp=Z,4µm,19.0s,MS4.9						
WRAB	**Tennant Creek**	**23.47**	**231⇓**	*i*P	**P**	**00 36 51.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,332nm,1.0s,mb5.7						
WRAB				MLR	MLR		
	comp=Z,4µm,19.0s,MS4.9						
WB2	**Warramunga Arr**	**23.48**	**231⇓**	*i*P	**P**	**00 36 51.9**	**+0.1**
WB2				*e*S	S	00 41 26.7	+27
WB2				*e*SCS	ScS	00 48 01.9	+3.1
WRA	**Warramunga Arr**	**23.49**	**231**	P	**P**	**00 36 51.8**	**-0.1**
	comp=Z,173nm,0.9s,mb5.5,baz=55,slow=9.4,SNR=191						
WRA				PcP	PcP	00 40 38.9	0.0
	comp=Z,38nm,1.0s,baz=52,slow=2.6,SNR=5.4						
WRA				S	**S**	**00 41 08.5**	**+8.4**
	comp=Z,14nm,1.1s,baz=56,slow=16,SNR=2.9						
WRA				ScP		00 44 16.0	
	comp=Z,27nm,1.1s,baz=49,slow=3.2,SNR=9.6						
SARN	**Sarigan**	**23.53**	**341⇓**	*e*P	**P**	**00 36 51.5**	**-1.0**
ARMA	**Armidale**	**24.69**	**184⇓**	*i*P	**P**	**00 37 04.6**	**+1.1**
ASPA	**Alice Springs**	**26.07**	**225⇓**	*i*P	**P**	**00 37 16.2**	**-0.3**
RIV	**Riverview**	**28.11**	**184**	*e*P	**P**	**00 37 35.5**	**+0.4**
RIV				*e*SCP		00 44 30.1	
STKA	**Stephens Creek**	**28.39**	**202⇓**	*i*P	**P**	**00 37 36.0**	**-1.6**
	comp=Z,50nm,0.7s,mb5.3						
STKA				*e*PCP	PcP	00 40 49.2	-0.7
STKA				*e*SCP		00 44 30.4	
STKA	**Stephens Creek**	**28.39**	**202**	P	**P**	**00 37 36.0**	**-1.6**
	comp=Z,55nm,0.7s,mb5.3,baz=12,slow=9.5,SNR=68						
STKA				PcP	PcP	00 40 49.7	-0.2
	comp=Z,46nm,1.1s,baz=65,slow=5.9,SNR=3.6						
STKA				ScP		00 44 30.9	
	comp=Z,64nm,1.1s,baz=52,slow=4.2,SNR=14						
STKA				LR	LR	00 48 47.5	
	comp=Z,5µm,19.8s,MS5.1,baz=143,slow=36						
CNB	**Canberra Magne**	**29.76**	**187⇓**	*i*P	**P**	**00 37 49.9**	**0.0**
	comp=Z,137nm,1.0s,mb5.6						
CNB				*i* SCP		00 44 34.2	
FITZ	**Fitzroy Crossi**	**29.95**	**243⇓**	*i*P	**P**	**00 37 50.5**	**-1.3**
	comp=Z,469nm,0.6s,mb6.4						
FITZ				*e*S	**S**	**00 42 46.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**29.95**	**243**	P	**P**	**00 37 50.2**	**-1.6**
	comp=Z,511nm,0.6s,mb6.5,baz=62,slow=5.4,SNR=897						
FITZ				LR	LR	00 50 01.5	
	comp=Z,8µm,20.4s,MS5.3,baz=80,slow=36						
MATI	**Mati**	**30.02**	**294**	*e*P	**P**	**00 37 50.6**	**-1.8**
DAV	**Davao City (W)**	**30.68**	**294**	P	**P**	**00 37 57.5**	**-0.8**
DAV				LR	LR		
	comp=Z,2µm,20.0s,MS4.7						
BUTP	**Butuan**	**31.45**	**297**	*e*P	**P**	**00 38 04.4**	**-0.6**
BUKP	**Musuan**	**31.48**	**295**	*e*P	**P**	**00 38 05.0**	**-0.2**
TOO	**Toolangi**	**32.60**	**192⇓**	*i*P	**P**	**00 38 14.6**	**-0.2**
	comp=Z,41nm,0.9s,mb5.4						
TOO				*i* SCP		00 44 44.0	
TOO	**Toolangi**	**32.60**	**192⇓**	*i*P	**P**	**00 38 14.6**	**-0.2**
TOO				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.4						
MSLP	**Maasin**	**32.64**	**299**	*e*P	**P**	**00 38 15.1**	**-0.3**
PAGZ	**Pagadian**	**32.99**	**294**	*e*P	**P**	**00 38 19.0**	**+0.6**
IPIL	**Ipil**	**33.71**	**293**	*e*P	**P**	**00 38 24.9**	**+0.2**
SNPH	**Sibulan**	**33.73**	**296⇑**	*e*P	**P**	**00 38 25.0**	**+0.1**
CNP	**Catarman**	**33.96**	**302**	*e*P	**P**	**00 38 26.0**	**-0.8**
FORT	**Forrest**	**34.63**	**221⇓**	*i*P	**P**	**00 38 31.6**	**-0.9**
	comp=Z,382nm,0.8s,mb6.4						
GUIM	**Jordan**	**34.85**	**298**	*e*P	**P**	**00 38 48.7**	**+14**
PVCP	**Virac**	**34.94**	**303**	*e*P	**P**	**00 38 35.0**	**-0.2**
AFI	**Afiamalu**	**35.06**	**106**	P	**P**	**00 38 34.6**	**-1.7**
	comp=Z,110nm,0.9s,mb5.8,baz=274,slow=5.9,SNR=11						
AFI	**Afiamalu**	**35.06**	**106**	*e*P	**P**	**00 38 34.2**	**-2.0**
	comp=Z,219nm,1.2s,mb6.0						
AFI	**Afiamalu**	**35.06**	**106**	*e*P	**P**	**00 38 34.2**	**-2.1**
AFI				pmax	pmax		
	comp=Z,219nm,1.2s,mb6.0						
RAO	**Raoul Island**	**35.70**	**134**	P	**P**	**00 38 40.6**	**-1.1**
	comp=Z,433nm,0.9s,mb6.4,baz=174,slow=23,SNR=5.2						
RAO	**Raoul Island**	**35.70**	**134**	*e*P	**P**	**00 38 40.6**	**-1.1**
	comp=Z,571nm,0.9s,mb6.5						
RAO				LR	LR		
	comp=Z,7µm,22.0s,MS5.4						
RAO	**Raoul Island**	**35.70**	**134**	P	**P**	**00 38 41.3**	**-0.3**
RAO				pmax	pmax		
	comp=Z,570nm,1.0s,mb6.5						
OTRP	**Odiongan**	**36.14**	**300**	*e*P	**P**	**00 38 45.2**	**-0.2**
MBWA	**Marble Bar**	**36.24**	**242⇓**	*i*P	**P**	**00 38 44.8**	**-1.4**
	comp=Z,389nm,1.4s,mb6.1						
CUYO	**Cuyo Island**	**36.34**	**297**	*e*P	**P**	**00 38 47.3**	**+0.2**
BOAC	**Boac**	**36.81**	**301**	*e*P	**P**	**00 38 50.9**	**-0.1**
SJMP	**San Jose**	**36.96**	**299**	*e*P	**P**	**00 38 53.4**	**+1.0**
TSM	**Tawau**	**37.02**	**285**	P	**P**	**00 38 52.9**	**+0.1**
POLP	**Polilio Island**	**37.36**	**303**	*e*P	**P**	**00 38 55.5**	**-0.2**
TAU	**Tasmania Unive**	**37.50**	**188⇓**	*i*P	**P**	**00 38 57.0**	**+0.5**
	comp=Z,538nm,1.3s,mb6.2						
TAU	**Tasmania Unive**	**37.50**	**188⇓**	*i*P	**P**	**00 38 57.1**	**+0.5**
TAU				pmax	pmax		
	comp=Z,538nm,1.3s,mb6.2						
BUSP	**Coron**	**37.56**	**298**	*e*P	**P**	**00 38 57.4**	**0.0**
ENPP	**El Nido**	**37.91**	**296**	*e*P	**P**	**00 38 59.3**	**-1.0**
BALP	**Baler**	**38.18**	**304**	*e*P	**P**	**00 39 02.6**	**+0.1**
LUBP	**Lubang**	**38.30**	**300**	*e*P	**P**	**00 39 03.5**	**-0.1**
BATP	**Bataraza**	**38.47**	**292**	*e*P	**P**	**00 39 05.6**	**+0.6**
CAUP	**Cauayan**	**38.61**	**306**	*e*P	**P**	**00 39 07.2**	**+1.0**
URZ	**Urewera**	**38.84**	**150**	P	**P**	**00 39 08.5**	**+0.6**
	comp=Z,70nm,1.0s,mb5.3,baz=18,slow=3.6,SNR=13						
URZ				S	**S**	**00 45 03.3**	**-0.4**
	comp=Z,16nm,1.0s,baz=25,slow=13,SNR=4.5						
CVP	**Callao Caves**	**39.03**	**307⇓**	*e*P	**P**	**00 39 09.2**	**-0.4**
	comp=Z,13µm,1.0s						
KKM	**Kota Kinabalu**	**39.08**	**287**	P	**P**	**00 39 10.1**	**0.0**
KKM	**Kota Kinabalu**	**39.08**	**287⇓**	*i*P	**P**	**00 39 09.7**	**-0.5**
ABRA	**Dolores**	**39.88**	**306**	*e*P	**P**	**00 39 16.3**	**-0.4**
SNZO	**South Karori**	**40.19**	**155**	*e*P	**P**	**00 39 19.3**	**+0.3**
RPZ	**Rata Peaks**	**40.89**	**161**	P	**P**	**00 39 25.2**	**+0.4**
	comp=Z,89nm,0.9s,mb5.4,baz=23,slow=1.1,SNR=28						
KLBR	**Kellerberrin**	**42.30**	**228⇓**	*i*P	**P**	**00 39 35.2**	**-1.3**
	comp=Z,187nm,0.7s,mb5.8						
NACB	**Ninganchiao**	**43.04**	**315⇓**	*i*P	**P**	**00 39 42.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**43.35**	**227⇓**	*i*P	**P**	**00 39 44.0**	**-1.1**
	comp=Z,353nm,1.6s,mb5.8						
NWAO	**Narrogin (SRO)**	**43.35**	**227⇓**	*i*P	**P**	**00 39 44.0**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,353nm,1.6s						
TATO	**Taipei**	**43.62**	**316⇓**	*i*P	**P**	**00 39 47.5**	**+0.1**
	comp=Z,198nm,1.1s,mb5.8						
TATO				LR	LR		
	comp=Z,6µm,20.0s,MS5.5						
MUN	**Mundaring**	**43.63**	**228⇓**	*i*P	**P**	**00 39 46.6**	**-0.8**
KSM	**Kuching**	**43.80**	**278⇓**	*i*P	**P**	**00 39 49.2**	**+0.3**
MJAR	**Matsushiro Arr**	**44.39**	**342**	P	**P**	**00 39 50.8**	**-2.7**
	comp=Z,44nm,1.1s,mb5.1,baz=166,slow=9.1,SNR=55						
MJAR				ScP		00 45 26.6	
	comp=Z,15nm,1.0s,baz=168,slow=4.7,SNR=12						
MJAR				LR	LR	00 58 24.8	
	comp=Z,1µm,18.1s,MS4.9,baz=160,slow=36						
MAJO	**Matsushiro**	**44.39**	**342⇓**	*i*P	**P**	**00 39 50.8**	**-2.7**
	comp=Z,226nm,1.5s,mb5.7						
MAJO				*e*ScP		00 45 26.9	
MAJO	**Matsushiro**	**44.39**	**342⇓**	*i*P	**P**	**00 39 50.8**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,226nm,1.5s,mb5.7						
MAT	**Matsushiro**	**44.39**	**342**	P	**P**	**00 39 50.7**	**-2.8**
MAT				S	**S**	**00 46 22.0**	**-3.7**
MAT	**Matsushiro**	**44.39**	**342**	*e*P	**P**	**00 39 51.0**	**-2.5**
	comp=Z,228nm,1.5s,mb5.7						
MAT				*e*S	**S**	**00 46 22.0**	**-3.7**
MAT				LR	LR		
	comp=Z,1µm,18.0s,MS4.9						
MAT	**Matsushiro**	**44.39**	**342**	*e*P	**P**	**00 39 51.0**	**-2.5**
MAT				*e*S	**S**	**00 46 22.0**	**-3.7**
MAT				pmax	pmax		
	comp=Z,228nm,1.5s,mb5.7						
MAT				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.9						
QZH	**Quanzhou**	**45.66**	**313⇓**	*i*P	**P**	**00 40 04.3**	**+0.6**
QZH				SCP		00 45 32.8	
QZH				S	**S**	**00 46 46.0**	**+1.9**
QZH				SCS	ScS	00 50 00.8	+5.4
QZH				AMB	AMB		
	comp=Z,890nm,1.3s,mb6.5						
QZH				AMB	AMB		
	comp=Z,2µm,4.0s						
QZH				LR	LR		
	comp=N,3µm,18.0s,MS5.7						
QZH				LR	LR		
	comp=E,8µm,22.9s,MS5.7						
QZH				LR	LR		
	comp=Z,4µm,17.4s						
HKC	**Hong Kong**	**47.55**	**307⇓**	*i*P	**P**	**00 40 22.0**	**+3.3**
SSE	**Sheshan**	**47.91**	**322**	P	**P**	**00 40 21.3**	**-0.1**
SSE				XP	sP	00 40 30.4	-2.8
SSE				PCP	PcP	00 41 50.8	+0.9
SSE				PP	PP	00 42 12.8	+0.2
SSE				SCP		00 45 43.6	
SSE				S	**S**	**00 47 16.9**	**+1.0**
SSE				XS		00 47 25.8	
SSE				SCS	ScS	00 50 13.8	+3.9
SSE				AMB	AMB		
	comp=Z,179nm,1.4s,mb5.9						
SSE				AMB	AMB		
	comp=Z,599nm,4.1s						
SSE				LR	LR		
	comp=N,1µm,18.3s,MS5.0						
SSE				LR	LR		
	comp=E,882nm,18.6s,MS5.0						
SSE				LR	LR		
	comp=Z,2µm,17.7s,MS5.2						
GZH	**Guangzhou**	**48.61**	**308**	P	**P**	**00 40 27.3**	**+0.4**
GZH				S	**S**	**00 47 29.5**	**+3.6**
GZH				AMB	AMB		
	comp=Z,186nm,1.2s,mb6.0						
GZH				LR	LR		
	comp=N,2µm,21.8s,MS5.4						
GZH				LR	LR		
	comp=E,4µm,19.1s,MS5.4						
GZH				LR	LR		
	comp=Z,7µm,19.3s,MS5.6						
MCQ	**Macquarie Isla**	**48.88**	**176**	*e*P	**P**	**00 40 28.8**	**+0.3**
QIZ	**Qiongzhong**	**49.59**	**301**	P	**P**	**00 40 35.3**	**+0.8**
QIZ				XP	sP	00 40 46.8	+0.5
QIZ				S	**S**	**00 47 39.8**	**+0.2**
QIZ				XS		00 47 56.3	
QIZ				AMB	AMB		
	comp=Z,188nm,1.1s,mb6.0						
QIZ				AMB	AMB		
	comp=Z,680nm,5.0s						
QIZ				LR	LR		
	comp=N,1µm,20.1s,MS5.2						
QIZ				LR	LR		
	comp=E,2µm,21.4s,MS5.2						
QIZ				LR	LR		
	comp=Z,4µm,19.9s,MS5.4						
QIZ	**Qiongzhong**	**49.59**	**301⇓**	*i*P	**P**	**00 40 35.2**	**+0.7**
	comp=Z,230nm,1.1s,mb6.1						
QIZ				LR	LR		
	comp=Z,4µm,20.0s,MS5.4						
INCN	**Inchon**	**49.75**	**332⇓**	*i*P	**P**	**00 40 35.2**	**-0.3**
	comp=Z,626nm,1.0s,mb6.6						
NJ2	**Nanjing**	**50.01**	**321**	*e*P	**P**	**00 40 38.0**	**+0.4**
NJ2				XP	sP	00 40 51.4	+2.0
NJ2				PP	PP	00 42 33.8	+0.3
NJ2				S	**S**	**00 47 44.0**	**-1.3**
NJ2				XS		00 48 01.0	
NJ2				AMB	AMB		
	comp=Z,150nm,1.0s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,900nm,5.8s						
NJ2				LR	LR		
	comp=N,5µm,20.7s,MS5.6						
NJ2				LR	LR		
	comp=E,5µm,21.4s,MS5.6						
NJ2				LR	LR		
	comp=Z,2µm,21.7s,MS5.1						
KGM	**Kluang**	**50.78**	**277**	P	**P**	**00 40 44.2**	**+0.5**
WHN	**Wuhan**	**52.02**	**316**	P	**P**	**00 40 53.3**	**+0.4**
WHN				S	**S**	**00 48 15.5**	**+2.4**
WHN				AMB	AMB		
	comp=Z,2µm,4.8s						
WHN				LR	LR		
	comp=Z,4µm,16.0s,MS5.6						
UBT	**Ubonrachathani**	**52.41**	**294**	⇓P	**P**	**00 40 56.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**53.27**	**351**	*e*P	**P**	**00 41 01.2**	**-0.7**
	comp=Z,68nm,1.1s,mb5.5						
YSS	**Yuzh-Sakhalins**	**53.27**	**351⇓**	*i*P	**P**	**00 40 59.8**	**-2.1**
YSS				*i* *SP	sP	00 41 16.0	+2.3
YSS				*e*S	**S**	**00 48 24.0**	**-5.8**
YSS				*e*PS	PS	00 48 43.0	-0.6
YSS				*e*		00 50 50.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.4						
YSS				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,600nm,19.0s,MS4.8						
YSS				MLR	MLR		
	comp=N,500nm,18.0s,MS4.8						
DL2	**Dalian**	**53.32**	**329**	P	**P**	**00 41 01.9**	**-0.5**
DL2				XP	sP	00 41 14.8	+0.6
DL2				PCP	PcP	00 42 11.4	+1.7
DL2				S	**S**	**00 48 33.8**	**+3.2**
DL2				SCS	ScS	00 50 48.4	+1.9
DL2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.8						
DL2				AMB	AMB		
	comp=Z,440nm,7.6s						
DL2				LR	LR		
	comp=N,780nm,15.9s,MS4.9						
DL2				LR	LR		
	comp=E,520nm,17.2s,MS4.9						
DL2				LR	LR		
	comp=Z,960nm,17.7s,MS4.9						
IPM	**Ipoh**	**53.47**	**280**	P	**P**	**00 41 03.5**	**-0.3**
TIA	**Tai'an**	**53.88**	**323**	⇓P	**P**	**00 41 05.8**	**-0.7**
TIA				AMB	AMB		
	comp=Z,270nm,1.2s,mb6.0						
KULM	**Kulim**	**53.97**	**281⇓**	*i*P	**P**	**00 41 06.5**	**-1.0**
SNG	**Songkhla**	**54.38**	**283**	P	**P**	**00 41 10.0**	**-0.5**
	comp=Z,164nm,0.8s,mb6.0						
MDJ	**Mudanjiang**	**54.51**	**339**	P	**P**	**00 41 10.3**	**-0.7**
MDJ				SCP		00 46 08.6	
MDJ				PCS		00 46 14.1	
MDJ				S	**S**	**00 48 44.8**	**-1.7**
MDJ				SCS	ScS	00 50 56.1	+1.3
MDJ				AMB	AMB		
	comp=Z,149nm,1.2s,mb5.9						
MDJ				AMB	AMB		
	comp=Z,247nm,3.8s						
MDJ				LR	LR		
	comp=N,1µm,27.6s,MS5.1						
MDJ				LR	LR		
	comp=E,2µm,27.6s,MS5.1						
MDJ				LR	LR		
	comp=Z,1µm,24.3s,MS4.8						
MDJ	**Mudanjiang**	**54.51**	**339⇓**	*i*P	**P**	**00 41 09.8**	**-1.2**
	comp=Z,221nm,1.3s,mb6.0						
MDJ				LR	LR		
	comp=Z,914nm,19.0s,MS4.9						
SNY	**Shenyang**	**54.63**	**333**	⇓P	**P**	**00 41 10.8**	**-1.2**
SNY				AP	pP	00 41 22.1	+1.6
SNY				S	**S**	**00 48 49.8**	**+1.6**
SNY				SCS	ScS	00 51 01.1	+5.4
SNY				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.4						
SNY				LR	LR		
	comp=N,1µm,19.2s,MS5.0						
SNY				LR	LR		
	comp=E,530nm,18.0s,MS5.0						
SNY				LR	LR		
	comp=Z,1µm,21.6s,MS5.0						
ENH	**Enshi**	**55.32**	**313⇓**	*i*P	**P**	**00 41 16.8**	**-0.4**
	comp=Z,918nm,1.3s,mb6.7						
ENH				*e*ScP		00 46 13.7	
ENH				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
CN2	**Changchun**	**55.41**	**335**	*e*P	**P**	**00 41 16.0**	**-1.7**
CN2				*e*AP	pP	00 41 25.8	-0.4
CN2				*e*XP	sP	00 41 28.4	-1.0
CN2				SCP		00 46 11.9	
CN2				*e*S	**S**	**00 48 57.1**	**-1.5**
CN2				SCS	ScS	00 50 59.6	-1.6
CN2				*e*SS	SS	00 52 43.3	0.0
CN2				AMB	AMB		
	comp=Z,220nm,1.1s,mb6.1						
CN2				AMB	AMB		
	comp=Z,850nm,5.0s						
CN2				LR	LR		
	comp=N,1µm,19.0s,MS5.2						
CN2				LR	LR		
	comp=E,1µm,19.0s,MS5.2						
CN2				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
GYA	**Guiyang**	**55.54**	**307⇓**	*i*P	**P**	**00 41 18.4**	**-0.5**
GYA				AP	pP	00 41 26.0	-1.4
GYA				XP	sP	00 41 29.3	-1.3
GYA				PP	PP	00 43 24.8	+0.4
GYA				SCP		00 46 15.3	
GYA				S	**S**	**00 49 07.9**	**+7.2**
GYA				XS		00 49 15.3	
GYA				AMB	AMB		
	comp=Z,120nm,1.6s,mb5.7						
GYA				AMB	AMB		
	comp=Z,750nm,6.0s						
GYA				LR	LR		
	comp=N,2µm,19.4s,MS5.5						
GYA				LR	LR		
	comp=E,3µm,18.5s,MS5.5						
GYA				LR	LR		
	comp=Z,3µm,20.1s,MS5.4						
SKR	**Severo-Kuril's**	**56.17**	**2**	*e*P	**P**	**00 41 25.0**	**+2.0**
SKR				*e*		00 43 31.0	
SKR				*e*S	**S**	**00 49 10.0**	**+1.3**

SKR pmax pmax
comp=N,90nm,1.0s
SKR pmax pmax
comp=E,110nm,1.0s
SKR pmax pmax
comp=Z,110nm,1.0s,mb5.8
SKR smax
comp=N,1μm,10.0s
SKR smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=N,2μm,20.0s,MS5.5
SKR MLR MLR
comp=E,2μm,20.0s,MS5.5
SKR MLR MLR
comp=Z,3μm,20.0s,MS5.4
NNT Nongplab 56.51 289 P P 00 41 25.2 -0.7
PPT Papeete 56.72 107 LR LR 00 59 43.9
comp=Z,874nm,20.6s,MS4.8,baz=274,slow=30
NST Nakhon Sawan 57.01 293 ⇑P **P 00 41 30.0 +0.5**
comp=Z,92nm,1.0s,mb5.8
NANT Nan 57.50 296 ⇓P **P 00 41 32.0 -0.9**
comp=Z,762nm,0.5s
TIY Taiyuan 57.69 322 ⇑P **P 00 41 30.0 -4.0**
TIY S **S 00 49 30.0 +1.0**
TIY LR LR
comp=E,1μm,20.0s
XAN Xi'an 57.79 316 P **P 00 41 34.5 -0.2**
XAN AMB AMB
comp=Z,301nm,1.3s,mb6.2
XAN AMB AMB
comp=Z,771nm,6.9s
XAN LR LR
comp=N,823nm,21.4s,MS5.1
XAN LR LR
comp=E,1μm,18.8s,MS5.1
XAN LR LR
comp=Z,3μm,20.1s,MS5.4
KLR Kul'dur 57.90 343⇑*i*P **P 00 41 31.2 -4.0**
KLR *e*S **S 00 49 27.5 -4.0**
KLR *e* 00 51 17.5
KLR pmax pmax
comp=E,80nm,1.4s
KLR pmax pmax
comp=Z,200nm,1.4s,mb6.0
KLR smax
comp=E,470nm,3.4s
KLR MLR MLR
comp=E,1μm,16.0s
KLR MLR MLR
comp=Z,1μm,16.0s,MS5.1
KMI Kunming 58.12 304 P **P 00 41 38.5 +1.3**
KMI AP pP 00 41 48.1 +2.3
KMI XP sP 00 41 52.5 +3.5
KMI PCP PcP 00 42 25.8 -2.6
KMI PP PP 00 43 51.0 +3.4
KMI SCP 00 46 27.5
KMI S **S 00 49 42.0 +7.2**
KMI AMB AMB
comp=Z,361nm,1.4s,mb6.2
KMI LR LR
comp=N,1μm,16.4s,MS5.4
KMI LR LR
comp=E,2μm,20.0s,MS5.4
KMI LR LR
comp=Z,3μm,22.7s,MS5.3
PET Petropavlovsk 58.63 4 *e*P **P 00 41 38.6 -1.7**
comp=Z,35nm,0.9s,mb5.4
PET Petropavlovsk 58.63 4 *e*P **P 00 41 38.4 -1.9**
PET *e* 00 43 50.1
PET *e*S **S 00 49 37.6 -3.4**
PET *e*PPS PPS 00 49 56.1 -11
PET *e*SS SS 00 53 34.7 -0.9
PET pmax pmax
comp=Z,21nm,1.3s,mb5.0
PET pmax pmax
comp=Z,300nm,14.0s
PET pmax pmax
comp=Z,300nm,8.7s
PET pmax pmax
comp=Z,100nm,23.5s
PET pmax pmax
comp=Z,400nm,4.4s
PET smax
comp=E,500nm,13.8s
PET smax
comp=N,300nm,11.3s
CHRT Chiangrai 58.67 297 ⇓P **P 00 41 42.0 +0.9**
comp=N,1μm,1.0s
CHG Chiang Mai 59.07 296 ⇓P **P 00 41 44.3 +0.4**
CD2 Chengdu 59.90 311 P **P 00 41 49.6 +0.2**
CD2 AP pP 00 41 59.0 +0.9
CD2 PP PP 00 44 02.1 -1.4
CD2 PPP PPP 00 45 29.0 -0.3
CD2 S **S 00 50 00.9 +3.2**
CD2 SS SS 00 54 00.8 +5.5
CD2 AMB AMB
comp=Z,150nm,1.8s,mb5.7
CD2 AMB AMB
comp=Z,710nm,3.5s
CD2 LR LR
comp=E,1μm,19.2s
CD2 LR LR
comp=Z,2μm,20.4s,MS5.2
HHC Hu-ho-hao-te 60.21 324⇓*i*P **P 00 41 51.6 +0.2**
HHC AP pP 00 41 59.3 -0.8
HHC XP sP 00 42 02.4 -0.8
HHC PCP PcP 00 42 36.3 -0.2
HHC PP PP 00 44 03.3 -2.8
HHC SCP 00 46 34.3
HHC PCS 00 46 37.6
HHC S **S 00 50 01.1 -0.5**
HHC XS 00 50 14.3
HHC PS PS 00 50 19.0 -1.6
HHC SCS ScS 00 51 36.6 +0.4
HHC SS SS 00 53 58.6 -1.5
HHC AMB AMB
comp=Z,116nm,1.0s,mb5.9
HHC AMB AMB
comp=Z,882nm,3.8s
HHC LR LR
comp=N,2μm,17.8s,MS5.2
HHC LR LR
comp=E,720nm,19.0s,MS5.2
HHC LR LR
comp=Z,2μm,22.6s,MS5.2
DRV Dumont d'Urvil 61.62 186 P **P 00 42 10.0 +9.4**
DRV S **S 00 50 22.0 +2.8**
DRV L 00 57 00.0
HIA Hailar 62.14 336⇓*i*P **P 00 42 03.5 -0.9**
comp=Z,223nm,1.1s,mb6.2
HIA LR LR
comp=Z,2μm,20.0s,MS5.3
HIA Hailar 62.14 336⇓*i*P **P 00 42 03.5 -0.9**
HIA pmax pmax
comp=Z,223nm,1.1s
HIA MLR MLR
comp=Z,2μm,20.0s
LZH Lanzhou 62.40 316 ⇓P **P 00 42 07.3 +1.0**
LZH AP pP 00 42 14.3 -0.7
LZH XP sP 00 42 17.8 -0.3
LZH PCP PcP 00 42 45.0 -0.3
LZH PP PP 00 44 26.5 +1.0
LZH SCP 00 46 46.0
LZH S **S 00 50 33.3 +3.8**
LZH XS 00 50 47.3
LZH SCS ScS 00 51 57.0 +4.3
LZH *e*SS SS 00 54 35.0 -0.2
LZH AMB AMB
comp=Z,528nm,1.5s,mb6.5
LZH AMB AMB
comp=Z,2μm,4.8s
LZH LR LR
comp=N,4μm,18.2s
LZH LR LR
comp=Z,5μm,19.0s,MS5.7
IMP Imphal 65.41 300 *e*P **P 00 42 25.0 -1.2**
CLNS Chul'man 66.56 343 *e*P **P 00 42 32.7 -0.3**
CLNS *e**PP pP 00 42 39.7 -2.0
CLNS *e*S S 00 51 19.3 -1.3
CLNS *e* 00 52 21.0
CLNS pmax pmax
comp=Z,186nm,1.3s,mb6.0
CLNS pmax pmax
comp=N,124nm,1.4s
CLNS pmax pmax
comp=E,15nm,0.7s
CLNS pmax pmax
comp=Z,13nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,26nm,1.1s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS smax
comp=N,624nm,12.5s
CLNS smax
comp=Z,91nm,13.8s
CLNS smax
comp=E,388nm,11.8s
CLNS MLR MLR
comp=Z,800nm,17.0s,MS5.0
CLNS MLR MLR
comp=N,1μm,21.0s
CLNS MLR MLR
comp=E,500nm,14.0s
CIT Chita 66.82 334 *e*P **P 00 42 34.9 +0.2**
CIT *e* 00 42 49.3
CIT *e* 00 45 04.1
CIT *e* 00 51 26.8
CIT *e* 00 52 25.1
CIT pmax pmax
comp=Z,468nm,1.4s,mb6.3
GTA Gaotai 66.83 317⇓*i*P **P 00 42 36.1 +1.1**
GTA AP pP 00 42 44.0 +0.3
GTA XP sP 00 42 47.3 +0.5
GTA PP PP 00 45 06.3 +2.3
GTA SCP 00 47 05.1
GTA PCS 00 47 06.4
GTA S S 00 51 27.3 +3.2
GTA XS 00 51 40.9
GTA SCS ScS 00 52 30.8 +4.4
GTA SS SS 00 55 47.8 +3.8
GTA AMB AMB
comp=Z,289nm,1.5s,mb6.1
GTA AMB AMB
comp=Z,2μm,3.8s
GTA LR LR
comp=N,1μm,19.8s,MS5.3
GTA LR LR
comp=E,2μm,20.1s,MS5.3
GTA LR LR
comp=Z,2μm,20.1s,MS5.4
CASY Casey 67.42 197⇓*i*P **P 00 42 37.6 -0.7**
SHL Shillong 67.42 301 *e*P **P 00 42 40.0 +1.0**
comp=Z,820nm,1.0s,mb6.7
SHL *e*S S 00 51 35.0 +3.5
SONM Songino Array 67.47 328 P **P 00 42 39.3 +0.3**
comp=Z,60nm,1.0s,mb5.6,baz=133,slow=5.7,SNR=44
SONM LR LR 01 11 28.7
comp=Z,2μm,19.1s,MS5.3,baz=246,slow=35
SEY Seymchan 68.41 359⇑*e*P **P 00 42 43.5 -1.1**
LSA Lhasa 69.38 304 P **P 00 42 49.0 -2.1**
LSA S S 00 51 52.0 -2.7
LSA AMB AMB
comp=Z,190nm,1.3s,mb5.9
LSA LR LR
comp=N,710nm,19.1s,MS5.2
LSA LR LR
comp=E,1μm,23.4s,MS5.2
LSA LR LR
comp=Z,2μm,21.2s,MS5.3
LSA Lhasa 69.38 304⇓*i*P **P 00 42 52.3 +1.2**
comp=Z,307nm,1.2s,mb6.1
LSA LR LR
comp=Z,2μm,22.0s,MS5.4
LSA Lhasa 69.38 304⇓*i*P **P 00 42 52.3 +1.2**
LSA pmax pmax
comp=Z,307nm,1.2s,mb6.1
LSA MLR MLR
comp=Z,2μm,22.0s,MS5.4
YAK Yakutsk 69.98 348 *e*P **P 00 42 53.4 -0.7**
comp=Z,38nm,0.8s,mb5.4
YAK *e* pP 00 43 03.5 +0.7
YAK Yakutsk 69.98 348*c i*P **P 00 42 54.5 +0.4**
YAK *e**PP pP 00 43 03.4 +0.6
YAK *e* 00 43 18.0
YAK *e* 00 45 28.4
YAK *e*PPP PPP 00 47 09.4 -1.3
YAK *e*S S 00 52 01.5 +0.3
YAK *e* 00 52 53.7
YAK *e*SS SS 00 56 33.8 +1.7
YAK *e*SSS SSS 00 59 33.8 -3.2
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,48nm,1.2s,mb5.3
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK smax
comp=E,20nm,1.2s
YAK smax
comp=Z,8.0nm,0.8s
YAK smax
comp=N,11nm,1.2s
YAK MLR MLR
comp=Z,566nm,16.0s,MS4.9
YAK MLR MLR
comp=N,447nm,20.0s
YAK MLR MLR
comp=E,166nm,14.0s
ZAK Zakamensk 70.64 329⇑*i*P **P 00 42 58.2 -0.2**
ZAK pmax pmax
comp=Z,109nm,1.1s,mb5.7
IRK Irkutsk 71.25 330 *e*P **P 00 42 58.1 -3.9**
IRK pmax pmax
comp=Z,193nm,1.4s,mb5.8
VNDA Vanda 71.94 178 P **P 00 43 06.2 +0.4**
comp=Z,76nm,0.9s,mb5.6,baz=334,slow=6.7,SNR=446
VNDA LR LR 01 13 00.4
comp=Z,2μm,18.8s,MS5.3,baz=348,slow=34
SBA Scott Base 72.47 177⇓*i*P **P 00 43 10.5 +1.5**
comp=Z,192nm,1.4s,mb5.8
SBA Scott Base 72.47 177⇓*i*P **P 00 43 10.5 +1.5**
SBA pmax pmax
comp=Z,193nm,1.4s,mb5.8
MOY Mondy 72.56 329 *e*P **P 00 43 10.2 +0.3**
MOY pmax pmax
comp=Z,316nm,3.1s
VIS Vishakhapatnam 73.10 290 *e*P **P**
VIS AMb AMB 00 43 16.3
comp=Z,212nm,1.4s,mb5.9
VIS *e*S S 00 52 42.6 +4.5
MIR Mirnyy 73.41 201*d i*P **P 00 43 15.2 +0.7**
MIR pmax pmax
comp=Z,634nm,1.4s,mb6.4
PKI Pulchoki 73.55 301 *e*P **P 00 43 16.6 +0.4**
comp=Z,1μm,1.5s,mb6.5
PKI Pulchoki 73.55 301 *e*P **P 00 43 16.6 +0.4**
PKI pmax pmax
comp=Z,526nm,1.5s,mb6.2
KKN Kakani 73.72 301 *e*P **P 00 43 17.3 +0.2**
comp=Z,718nm,1.2s,mb6.5
KKN Kakani 73.72 301 *e*P **P 00 43 17.3 +0.2**
KKN pmax pmax
comp=Z,359nm,1.3s,mb6.1
DMN Daman 73.82 301 *e*P **P 00 43 18.5 +0.8**
comp=Z,1μm,1.1s,mb6.7
GKN Gorkha 74.33 301 *e*P **P 00 43 20.8 +0.2**
comp=Z,1μm,1.3s,mb6.7
BLSP Bilaspur 75.13 295 *e*P **P 00 43 24.9 -0.5**
BLSP AMb AMB 00 43 28.1
comp=Z,321nm,1.4s,mb6.1
BLSP *e*S S 00 53 11.6 +11
KOLN Koldanda 75.15 301 *e*P **P 00 43 25.7 +0.3**
comp=Z,841nm,1.3s,mb6.5
WMQ Urumqi 76.91 317⇓*i*P **P 00 43 36.3 +1.3**
WMQ AP pP 00 43 46.0 +2.2
WMQ PP PP 00 46 30.5 +0.9
WMQ PPP PPP 00 48 18.5 +1.0
WMQ S S 00 53 22.0 +2.3
WMQ SKS SKS 00 53 43.5 -4.7
WMQ PS PS 00 54 03.0 +0.9
WMQ SS SS 00 58 20.0 +0.6
WMQ AMB AMB
comp=Z,373nm,1.3s,mb6.2
WMQ AMB AMB
comp=Z,1μm,3.7s
WMQ LR LR
comp=N,2μm,19.8s,MS5.5
WMQ LR LR
comp=E,1μm,17.8s,MS5.5
WMQ LR LR
comp=Z,2μm,27.0s
HYB Hyderabad 77.52 289 *i*P **P 00 43 38.5 -0.4**
comp=Z,140nm,1.0s,mb5.8
HYB *e*PcP PcP 00 43 53.5 +4.0
HYB *e*S S 00 53 32.0 +5.2
HYB Hyderabad 77.52 289 *e*P **P 00 43 38.5 -0.4**
comp=Z,140nm,1.0s,mb5.8
HYB *e* 00 43 56.0
HYB *e*S S 00 53 40.0 +13
HYB Hyderabad 77.52 289 *e*P **P 00 43 38.5 -0.4**
HYB *e* 00 43 56.0
HYB *e*S S 00 53 40.0 +13
HYB pmax pmax
comp=Z,140nm,1.0s,mb5.8
PTH Pithoragarh 78.47 302 *e*P **P 00 43 44.0 +0.1**
TIXI Tiksi 78.86 352⇓*i*P **P 00 43 45.9 +0.7**
TIXI *e*S S 00 53 39.4 -0.7
TIXI *e*SS SS 00 58 52.2 +4.1
TIXI pmax pmax
comp=Z,52nm,1.1s,mb5.4
TIXI MLR MLR
comp=Z,717nm,18.0s,MS5.0
AKL Akola 79.52 292⇓*i*P **P 00 43 45.2 -4.6**
BHPL Bhopal 79.61 295 *e*P **P 00 43 49.9 -0.3**
BHPL AMb AMB 00 43 53.9
comp=Z,191nm,1.4s,mb5.8
PMR Palmer 80.15 24 *e*P **P 00 43 56.2 +3.9**
comp=Z,16nm,0.8s,mb5.0
PMR Palmer 80.15 24 *e*P **P 00 43 56.2 +3.9**
PMR pmax pmax
comp=Z,16nm,0.8s,mb5.0
DGAR Diego Garcia 80.53 263 *e*P **P 00 43 54.8 -0.4**
comp=Z,434nm,1.3s,mb6.2
DGAR Diego Garcia 80.53 263 *e*P **P 00 43 54.8 -0.5**
DGAR pmax pmax
comp=Z,434nm,1.3s,mb6.2
MKAR Makanchi Array 81.49 319 P **P 00 44 00.6 +0.9**
comp=Z,199nm,1.1s,mb6.0,baz=101,slow=6.2,SNR=445
MKAR S S 00 54 10.6 +2.6
comp=Z,1.9nm,1.0s,baz=104,slow=5.9,SNR=3.5
MKAR ScS ScS 00 54 26.7 +3.1
comp=Z,3.3nm,1.0s,baz=101,slow=6.2,SNR=7.0
MKAR PKKPbc 01 02 33.8
comp=Z,0.5nm,0.7s,baz=297,slow=2.7,SNR=5.0
MKAR PKPPKP 01 10 39.8
comp=Z,0.7nm,0.8s,baz=270,slow=1.4,SNR=3.2
MKAR LR LR 01 19 51.2
comp=Z,2μm,19.5s,MS5.4,baz=176,slow=35
KAD Karad 81.62 288 *e*P **P 00 44 00.9 0.0**
KAD AMb AMB 00 44 02.6
comp=Z,187nm,1.8s,mb5.7
KAD *e*S S 00 54 16.1 +6.2
ILAR Eielson Array 82.67 22 P **P 00 44 03.1 -2.2**
comp=Z,4.6nm,0.7s,baz=250,slow=5.0,SNR=41
ILAR PKKPbc 01 02 30.2
comp=Z,1.0nm,0.6s,baz=340,slow=0.9,SNR=12
ILAR PKPPKP 01 10 32.1
comp=Z,1.9nm,1.2s,baz=270,slow=0.9,SNR=4.4
ILAR LR LR 01 18 26.1
comp=Z,3μm,19.8s,MS5.7,baz=251,slow=34
AJM Ajmer 82.68 298 *i*P **P 00 44 06.0 -0.2**
NVS Novosibirsk 83.48 327⇓*i*P **P 00 44 09.4 -0.4**
NVS *i*S S 00 54 24.5 -3.6
NVS pmax pmax
comp=N,344nm,1.5s
NVS pmax pmax
comp=E,663nm,1.5s
NVS pmax pmax
comp=Z,855nm,1.5s,mb6.6
NVS smax
comp=N,182nm,1.9s
NVS smax
comp=E,219nm,2.6s
KSH Kashi 84.09 311 *i*PR **P 00 44 16.3 +3.0**
KSH *e*AP pP 00 44 24.1 +1.9
KSH XP sP 00 44 27.5 +2.4
KSH PP PP 00 47 26.8 -2.4
KSH S S 00 54 28.0 -6.6
KSH SKS SKS 00 54 30.1 -8.8
KSH AMB AMB
comp=Z,2μm,1.9s
KSH LR LR
comp=N,3μm,16.6s,MS5.9
KSH LR LR
comp=E,4μm,21.2s,MS5.9
AAA Alma-Ata 84.21 314*d i*P **P 00 44 15.6 +1.8**
AAA *e*S S 00 54 30.9 -4.7
AAA pmax pmax
comp=Z,2μm,1.5s,mb6.9
AAA smax
comp=N,2μm,9.0s
QSPA South Pole Qui 84.30 180⇓*i*P **P 00 44 14.7 +1.3**
comp=N,365nm,0.9s,mb6.5
QSPA *e* 00 44 30.2
QSPA LR LR
comp=Z,924nm,20.0s,MS5.2
ULHL Ulahol 84.48 313 P **P 00 44 17.1 +1.9**
SNR=67
KURK Kurchatov 84.93 322⇓*i*P **P 00 44 17.2 0.0**
comp=Z,837nm,1.2s,mb6.7
KURK Kurchatov 84.93 322⇓*i*P **P 00 44 17.2 0.0**
KURK pmax pmax
comp=Z,837nm,1.2s,mb6.7
MAW Mawson 85.08 203⇓*i*P **P 00 44 18.2 +0.7**
comp=Z,84nm,0.7s,mb6.0
MAW Mawson 85.08 203 P **P 00 44 18.3 +0.8**
comp=Z,127nm,0.8s,mb6.1,baz=92,slow=6.3,SNR=257
MAW LR LR 01 18 11.5
comp=Z,709nm,22.0s,MS5.0,baz=77,slow=33
MAW Mawson 85.08 203⇓*i*P **P 00 44 18.2 +0.7**
MAW pmax pmax
comp=Z,84nm,0.7s
TKM2 Tokmak 2 85.10 314 P **P 00 44 19.8 +1.6**
SNR=155
KZA Kyzart 85.17 313 P **P 00 44 21.3 +2.7**
SNR=129
KBK Karagaybulak 85.51 313 P **P 00 44 21.9 +1.6**
SNR=128
CHMS Chumysh 85.72 314 P **P 00 44 22.5 +1.2**
SNR=213
UCH Uchtor 85.74 313 P **P 00 44 23.8 +2.3**
SNR=158
FRU Bishkek 85.78 314⇓*i*P **P 00 44 22.8 +1.2**
FRU *e*S S 00 54 43.0 -8.0
FRU pmax pmax
comp=Z,2μm,4.0s
FRU pmax pmax
comp=Z,960nm,1.8s,mb6.7
FRU smax
comp=E,210nm,2.2s
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.4
AAK Ala-Archa 85.83 313 P **P 00 44 23.3 +1.5**
SNR=123
AAK Ala-Archa 85.83 313⇓*i*P **P 00 44 22.4 +0.5**
comp=Z,305nm,1.3s,mb6.4
AAK Ala-Archa 85.83 313*de*P **P 00 44 22.1 +0.2**
AAK pmax pmax
comp=Z,440nm,1.7s,mb6.4
AAK MLR MLR
comp=Z,2μm,21.0s,MS5.4
USP Ospenovka 85.95 314 P **P 00 44 23.6 +1.1**
SNR=416
AML Almayashu 86.31 313 P **P 00 44 26.5 +2.2**
SNR=261
EKS2 Erkin-Say 86.36 313 P **P 00 44 25.9 +1.4**
SNR=166
BHUJ Bhuj 86.67 294 *e*P **P 00 44 26.6 +0.1**
DLBC Dease Lake 87.72 31 P **P 00 44 31.8 +1.1**
comp=Z,7.3nm,1.0s,mb4.8,baz=232,slow=7.4,SNR=8.8
DLBC PKKPbc 01 02 19.7
comp=Z,1.1nm,0.7s,baz=192,slow=4.5,SNR=3.2
DLBC Dease Lake 87.72 31 *e*P **P 00 44 31.4 +0.8**
KKAR Karatay Array 88.80 313 *i*P **P 00 44 36.4 +0.2**
KKAR pmax pmax
comp=Z,332nm,1.6s,mb6.4
INK Inuvik 88.98 21 P **P 00 44 36.4 -0.1**
comp=Z,5.4nm,1.0s,mb4.8,baz=204,slow=5.7,SNR=5.9
INK S 00 54 59.9

comp=Z,6.1nm,1.3s,baz=231,slow=32,SNR=8.4
INK PKKP PKKP 01 02 13.0 +11
comp=Z,4.8nm,1.0s,baz=116,slow=3.1,SNR=5.8
INK LR LR 01 22 06.6
comp=Z,2µm,20.3s,MS5.6,baz=244,slow=34
INK Inuvik 88.98 21 *e*P **P 00 44 35.3 -1.2**
comp=Z,67nm,1.4s,mb5.8
INK Inuvik 88.98 21 *e*P **P 00 44 35.3 -1.2**
INK pmax pmax
comp=Z,67nm,1.4s
YBH Yreka Blue Hor 89.05 48 P **P 00 44 40.9 +3.5**
comp=Z,2.9nm,0.5s,mb4.8,baz=180,slow=4.0,SNR=3.2
VOSK Vostochnaya 90.00 323 P **P 00 44 40.4 -1.2**
VOSK pmax pmax
comp=Z,270nm,1.4s,mb6.4
CMB Columbia Colle 90.33 52 P **P 00 44 44.4 +0.8**
comp=Z,40nm,1.7s,mb5.5
CMB LR LR
comp=Z,3µm,21.0s,MS5.7
CMB Columbia Colle 90.33 52 P **P 00 44 44.4 +0.9**
CMB pmax pmax
comp=Z,41nm,1.7s,mb5.5
CMB MLR MLR
comp=Z,3µm,21.0s,MS5.7
BVAR Borovoye Array 90.40 323 P **P 00 44 43.1 -0.4**
comp=Z,170nm,0.9s,mb6.4,baz=108,slow=4.7,SNR=415
BVAR S 00 55 08.6
comp=Z,2.1nm,0.9s,baz=170,slow=8.8,SNR=5.5
BVAR ScS ScS 00 55 32.2 -4.7
comp=Z,7.9nm,1.1s,baz=90,slow=13,SNR=8.2
BRVK Borovoye 90.47 323 ⇓*i*P **P 00 44 43.4 -0.4**
comp=Z,213nm,1.1s,mb6.4
BRVK Borovoye 90.47 323 ⇓*i*P **P 00 44 43.4 -0.4**
BRVK pmax pmax
comp=Z,213nm,1.1s,mb6.4
BEKR Beckwourth 90.57 50 *e*P **P 00 44 45.8 +1.2**
comp=Z,20nm,1.3s,mb5.3
MOD Modoc 90.85 48 P **P 00 44 45.9 0.0**
comp=Z,25nm,1.3s,mb5.4
NVAR Mina Array Bea 92.00 52 LR LR 01 18 46.2
comp=Z,3µm,21.8s,MS5.6,baz=280,slow=31
SYO Syowa Base 93.11 199 ⇓P **P 00 44 53.9 -1.7**
SYO Syowa Base 93.11 199 ⇑PcP PcP 00 44 55.5 -0.9
NEW Newport 93.71 42 P **P 00 45 00.2 +1.4**
comp=Z,1.1nm,0.6s,baz=136,slow=2.8,SNR=4.2
RPN Rapa Nui 93.71 118 LR LR 01 17 58.7
comp=Z,2µm,21.9s,MS5.5,baz=83,slow=30
ELK Elko 94.55 50 P **P 00 45 04.0 +1.1**
comp=Z,0.3nm,0.4s,baz=256,slow=4.2,SNR=2.4
ELK Elko 94.55 50 *e*P **P 00 45 02.4 -0.5**
comp=Z,3.3nm,1.3s
ELK Elko 94.55 50 *e*P **P 00 45 02.4 -0.5**
ELK pmax pmax
comp=Z,3.0nm,1.3s
YKA Yellowknife Ar 95.82 28 P **P 00 45 08.2 +0.1**
comp=Z,1.5nm,0.9s,baz=265,slow=5.0,SNR=5.7
YKA PKKPbc 01 01 57.0
comp=Z,2.3nm,0.7s,baz=88,slow=2.7,SNR=14
YKA LR LR 01 24 20.9
comp=Z,1µm,20.0s,MS5.3,baz=270,slow=33
YKA Yellowknife Ar 95.82 28 P **P 00 45 08.2 +0.1**
YKA PKKPbc 01 01 57.0
YKA LR LR 01 24 20.9
SVE Sverdlovsk 96.33 326 ⇓*i*P **P 00 45 10.0 -0.6**
SVE *e* 00 45 27.8
SVE *e* 00 49 13.0
SVE *e* 00 55 44.0
SVE *e*S S 00 56 20.0 -5.1
SVE *e* 00 57 48.0
SVE *e* 01 03 16.0
SVE pmax pmax
comp=Z,240nm,2.0s,mb6.3
SVE MLR MLR
comp=N,400nm,18.0s,MS5.4
SVE MLR MLR
comp=E,1µm,18.0s,MS5.4
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.6
AB31 Akbulak array 96.64 319 *i*P **P 00 45 10.2 -2.0**
AB31 pmax pmax
comp=Z,132nm,1.4s,mb6.2
AKTO Aktyubinsk 97.89 320 P **P 00 45 15.6 -2.2**
AKTO pmax pmax
comp=Z,36nm,1.6s,mb5.7
SOKR Solikamsk 98.31 329 ⇑*i*P **P 00 45 17.9 -1.5**
SOKR *e* 01 03 28.0
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.7
SOKR MLR MLR
comp=Z,1µm,20.0s,MS5.5
PDAR Pinedale Array 98.85 48 P **P 00 45 26.7 +4.4**
comp=Z,1.2nm,0.9s,baz=288,slow=4.7,SNR=6.2
PDAR PP PP 00 49 23.4 -2.9
comp=Z,1.4nm,1.0s,baz=256,slow=3.7,SNR=3.1
PDAR PKPPKP 01 10 09.4
comp=Z,0.2nm,0.4s,baz=27,slow=4.0,SNR=3.1
PDAR LR LR 01 25 04.9
comp=Z,5µm,19.6s,MS6.0,baz=255,slow=32
SNAA Sanae 101.27 187 *e* tx 01 08 53.2
SNAA Sanae 101.27 187 *e*Pdif P 00 45 32.4 -0.2
SNAA *e* 00 45 42.9
SNAA *e* 00 45 48.2
SNAA *e* 00 49 41.5
SNAA *e* 00 49 57.3
SNAA *e* 00 50 03.9
SNAA *e* 00 50 09.6
SNAA *e* 00 53 21.9
SNAA *e* 01 01 37.6
SNAA *e* 01 05 16.8
SNAA *e* 01 08 53.2
ANMO Albuquerque 101.37 56 P P 00 45 44.7 +11
comp=Z,0.7nm,0.6s,baz=318,slow=12,SNR=2.5
VNA3 Neumayer Olymp 102.44 185 *e* Pdif 00 45 46.7 +8.9
VNA3 Neumayer Olymp 102.44 185 *e* Pdif 00 45 53.2 +15
VNA3 Neumayer Olymp 102.44 185 *e* 00 49 59.8
VNA3 Neumayer Olymp 102.44 185 *e* tx 00 50 05.6
VNA3 Neumayer Olymp 102.44 185 *e* tx 00 50 11.4
VNA3 Neumayer Olymp 102.44 185 *e* tx 01 08 42.1
VNA3 Neumayer Olymp 102.44 185 *e*Pdif Pdif 00 45 37.7 -0.1
VNA3 *e* 00 45 46.7
VNA3 *e* 00 45 53.2
VNA3 *e* 00 49 59.8
VNA3 *e* 00 50 05.6
VNA3 *e* 00 50 11.4
VNA3 *e* 00 53 29.9
VNA3 *e* 01 01 37.4
VNA3 *e* 01 01 47.8
VNA3 *e* 01 05 05.2
VNA3 *e* 01 08 42.1
VNA2 Neumayer--Watz 102.51 186 *e* Pdif 00 45 47.7 +10
VNA2 Neumayer--Watz 102.51 186 *e* Pdif 00 45 53.9 +16
VNA2 Neumayer--Watz 102.51 186 *e* PP 00 49 49.8 -4.0
VNA2 Neumayer--Watz 102.51 186 *e* 00 50 00.1
VNA2 Neumayer--Watz 102.51 186 *e* tx 00 50 08.4
VNA2 Neumayer--Watz 102.51 186 *e* tx 00 50 13.7
VNA2 Neumayer--Watz 102.51 186 *e* tx 01 08 42.4
VNA2 Neumayer--Watz 102.51 186 *e*Pdif Pdif 00 45 38.3 +0.2
VNA2 *e* 00 45 47.7
VNA2 *e* 00 45 53.9
VNA2 *e* 00 49 49.8
VNA2 *e* 00 50 00.1
VNA2 *e* 00 50 08.4
VNA2 *e* 00 50 13.7
VNA2 *e* 00 53 32.2
VNA2 *e* 01 01 39.4
VNA2 *e* 01 01 49.0
VNA2 *e* 01 05 09.4
VNA2 *e* 01 08 42.4
VNA1 Neumayer--Stat 102.87 186 *e*Pdif Pdif 00 45 40.1 +0.4
VNA1 *e* 00 45 50.4
VNA1 *e* 00 45 56.6
VNA1 *e* 00 49 45.8
VNA1 *e* 00 49 55.2
VNA1 *e* 00 50 01.7
VNA1 *e* 00 50 06.6
TXAR Lajitas Array 103.86 61 Pdiff Pdif 00 45 58.4 +13
comp=Z,0.2nm,0.7s,baz=256,slow=3.7,SNR=3.1
TXAR PP PP 00 50 07.5 +2.7
comp=Z,1.3nm,1.1s,baz=260,slow=7.6,SNR=4.5
TXAR PKKPbc 01 01 37.0
comp=Z,1.4nm,0.9s,baz=111,slow=4.1,SNR=10
TI2 Plekhanov 107.80 312 ⇓*i*P Pdif 00 45 58.0 -4.1
TI2 *e* 00 50 28.0
TI2 *i*S SKS 00 56 37.0 -10
TI2 pmax pmax
comp=Z,30nm,1.0s
TI2 smax
comp=E,500nm,4.0s
TBLG Delisi 107.81 312 P Pdif 00 46 02.4 +0.3
ARCES ARCESS Array B 107.92 343 PKiKP 00 50 09.5
comp=E,3.2nm,0.8s,baz=63,slow=2.0,SNR=4.6
ARCES PKKPbc 01 01 21.9
comp=E,3.1nm,0.8s,baz=270,slow=1.2,SNR=9.8
GNI Garni 108.03 310 Pdiff Pdif 00 46 04.0 +0.9
comp=E,0.8nm,0.4s,baz=144,slow=19,SNR=3.4
ZEI Tsey 108.26 313 *e*P Pdif 00 46 02.4 -1.7
KIV Kislovodsk 108.92 315 *e*Pdif Pdif 00 46 07.3 +0.3
comp=E,13nm,1.1s
KIV Kislovodsk 108.92 315 ⇑*e*P Pdif 00 46 07.1 +0.1
KIV *e* 00 50 39.2
KIV *e* 00 56 45.7
KIV *e*SS SS 01 05 48.9 -6.9
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV pmax pmax
comp=Z,8.0nm,1.1s
MOS Moscow 109.11 327 *e*P Pdif 00 46 00.7 -6.8
MOS pmax pmax
comp=Z,41nm,1.0s
BHD Baghdad 109.14 303 *ex* x 00 50 25.0
OBN Obninsk 109.88 327 *e*Pdif Pdif 00 46 10.5 -0.4
OBN Obninsk 109.88 327 ⇑*i*P Pdif 00 46 10.5 -0.4
OBN *e* 00 50 44.2
OBN *e* 00 56 46.4
OBN pmax pmax
comp=Z,43nm,1.3s
OBN pmax pmax
comp=Z,9.0nm,1.4s
OBN MLR MLR
comp=Z,1µm,20.0s,MS5.4
ERZM Erzurum 110.63 310 *i*P PKPdf 00 50 14.4 -4.1
BTMT Batman 110.82 309 *e*P PKPdf 00 50 15.1 -3.8
SOC Sochi 111.11 315 *i*PKIKP PKPdf 00 50 17.5 -1.8
SOC *e* 00 50 51.1
SOC *e*PS PS 01 00 16.0 -8.3
SOC *e* 01 01 21.6
SOC *e*SSS SSS 01 10 27.3 -8.1
SOC MLR MLR
comp=Z,600nm,17.0s,MS5.2
SOC MLR MLR
comp=N,619nm,22.0s,MS5.3
SOC MLR MLR
comp=E,696nm,19.0s,MS5.3
MACK Trabzon 111.63 312 *i*P PP 00 51 01.1 -0.8
GUMT Gumushane 111.94 311 *e*P PKPdf 00 50 15.1 -5.9
FINES FINESS Array B 112.16 336 Pdiff Pdif 00 46 19.8 -1.0
comp=E,2.2nm,0.8s,baz=63,slow=8.5,SNR=5.3
FINES PKiKP 00 50 16.3
comp=E,2.1nm,0.8s,baz=105,slow=1.0,SNR=5.8
FINES PKKPbc 01 01 08.6
comp=E,0.6nm,0.3s,baz=198,slow=1.9,SNR=8.4
FINES FINESS Array B 112.16 336 ⇑*i*PKIKP PKPdf 00 50 18.4 -2.5
KELT Kelkit 112.17 311 *i*P PKPdf 00 50 31.4 +10
PTK Pertek 112.32 310 *e*P PKPdf 00 50 17.5 -4.2
ANN Anapa 112.41 316 *i*PKIKP PKPdf 00 50 05.0 -17
ANN *e* 00 50 16.3
ANN *i* 00 51 04.6
ANN *e* 00 56 57.9
ANN pmax pmax
comp=Z,9.0nm,0.8s
MALT Malatya 113.17 309 *e*Pdif Pdif 00 46 26.6 +0.8
MALT *e*PKP PKPdf 00 50 20.3 -3.2
MALT *e*PP PP 00 51 11.2 -2.5
GAZ Gaziantep 114.35 308 *e*P PKPdf 00 50 21.7 -4.1
SIM Simferopol' **114.63 317** P Pdif 00 46 37.0 +4.9
SIM MLR MLR
comp=Z,600nm,20.0s,MS5.2
COBT Iskenderun 115.23 308 *i*P PKPdf 00 50 21.1 -6.5
KOZT Kozan 115.36 309 *e*P PKPdf 00 50 20.7 -7.0
ASF Jabal al Asfar 115.54 303 PKP PKPdf 00 50 25.7 -2.5
comp=Z,5.4nm,0.8s,baz=25,slow=2.6,SNR=10
CORM Corum 115.61 312 *e*P PKPdf 00 50 22.9 -5.3
AKASG Malin Array Be 115.66 324 PKP PKPdf 00 50 24.2 -3.8
comp=Z,4.0nm,0.7s,baz=65,slow=2.4,SNR=23
AKASG PP PP 00 51 27.5 -3.2
comp=Z,12nm,1.1s,baz=59,slow=6.3,SNR=12
AKASG PKKPbc 01 00 55.6
comp=Z,1.0nm,0.4s,baz=264,slow=4.1,SNR=11
AKASG Malin Array Be 115.66 324 PKP PKPdf 00 50 24.2 -3.8
AKASG PP PP 00 51 27.5 -3.2
AKASG PKKPbc 01 00 55.6
AVNT Avonos 115.80 310 *i*P PKPdf 00 50 25.3 -3.3
CDAG Cicekdag 115.95 311 *i*P PP 00 51 24.4 -8.7
KARA Karaisali 116.01 309 *e*P PKPdf 00 50 24.4 -4.7
KMBO Kilima Mbogo 116.07 266 PKP PKPdf 00 50 27.4 -2.3
comp=Z,3.3nm,1.0s,baz=75,slow=2.8,SNR=4.7
BR131 Keskin Array S 116.47 312 *e*PKPdf PKPdf 00 50 25.8 -4.1
BR131 *e*PP PP 00 51 33.1 -3.6
BRTR Keskin Array B 116.47 312 PKP PKPdf 00 50 26.1 -3.7
comp=Z,7.9nm,1.0s,baz=117,slow=2.8,SNR=25
BRTR PP PP 00 51 32.9 -3.9
comp=Z,9.8nm,1.0s,baz=104,slow=5.1,SNR=8.7
KAMT Kaman 116.51 311 *e*P PKPdf 00 50 25.7 -4.3
MMA0 Mount Meron ar 116.63 304 P PKPdf 00 50 27.2 -3.2
MMLI Mount Malkishu 116.72 303 P PKPdf 00 50 27.7 -2.8
SAFT Safranbolu 116.74 314 *e*P PKPdf 00 50 25.4 -4.9
ANTO Ankara 117.05 312 *e*P PKPdf 00 50 26.2 -4.8
ANTO Ankara 117.05 312 *e*PKPdf PKPdf 00 50 27.6 -3.4
ANTO *e*PP PP 00 51 37.1 -3.7
ANTO Ankara 117.05 312 PKIKP PKPdf 00 50 27.9 -3.1
LOD Lodumlu 117.07 312 *e*P PKPdf 00 50 26.9 -4.1
SUW Suwalki 117.39 330 *e*PKP PKPdf 00 50 27.8 -3.4
PRNI Paran 117.45 301 P PKPdf 00 50 28.8 -3.2
HRFI Mount Harif 117.47 301 P PKPdf 00 50 28.6 -3.4
EIL Elat 117.61 300 P PKPdf 00 50 29.0 -3.3
HFS Hagfors 117.77 339 PKKPbc 01 00 49.8
comp=Z,1.5nm,0.5s,baz=180,slow=3.0,SNR=9.0
ERMK Ermenek 117.82 309 *i*P PKPdf 00 50 26.8 -5.7
KZIT Kziot 117.86 302 P PKPdf 00 50 29.6 -3.1
CSS Prodhromos 117.90 307 *e*P PKPdf 00 50 27.8 -5.0
CSS Prodhromos 117.90 307 *e*PKPdf PKPdf 00 50 28.7 -4.0
NB2 NORSAR Subarra 117.99 340 PKPdf PKPdf 00 50 28.5 -3.7
comp=Z,5.3nm,1.2s,baz=45,slow=1.9
NOA NORSAR Array B 117.99 340 PKP PKPdf 00 50 28.2 -4.0
comp=Z,2.8nm,0.8s,baz=46,slow=1.9,SNR=8.1
NOA PKKPab 01 00 53.6
comp=Z,1.7nm,0.8s,baz=218,slow=3.0,SNR=3.8
KIZT Kizilcal 118.01 311 *e*P PKPdf 00 50 28.8 -4.1
MDU Mudurnu 118.03 313 *e*P PKPdf 00 50 28.7 -4.2
ESKT Eskisehir 118.59 312 *e*P PKPdf 00 50 29.9 -4.1
ESKT Eskisehir 118.59 312 *i*P PKPdf 00 50 29.4 -4.6
PLCA Paso Flores 118.61 143 PKP PKPdf 00 50 31.0 -3.0
comp=Z,3.1nm,0.7s,baz=226,slow=2.4,SNR=16
PLCA SKP 00 54 05.5
comp=Z,1.5nm,0.8s,baz=219,slow=6.5,SNR=4.1
PLCA PKKPbc 01 00 47.6
comp=Z,7.7nm,1.1s,baz=54,slow=2.3,SNR=12
PLCA Paso Flores 118.61 143 *e*PKPdf PKPdf 00 50 31.4 -2.6
CRA Chernovtsy 118.63 323 P PKPdf 00 50 37.8 +4.0
MLR Muntele Rosu 119.82 320 PKP PKPdf 00 50 32.8 -3.4
comp=Z,12nm,1.0s,baz=27,slow=2.5,SNR=13
MLR PKKPbc 01 00 43.4
comp=Z,3.9nm,0.9s,baz=236,slow=3.6,SNR=6.7
MLR Muntele Rosu 119.82 320 ⇑*i*P PKPdf 00 50 32.2 -4.0
KWP Kalwaria 119.87 325 *e*Pdif Pdif 00 46 56.3 +1.3
KWP *e*PKPdf PKPdf 00 50 32.5 -3.7
KWP *e*PKP PKPdf 00 50 33.4 -2.8
KOLS Kolonicke sedl 120.47 325 *e*PKP PKPdf 00 50 34.9 -2.5
BTOK Tokmak 120.57 313 *i*P PKPdf 00 50 33.9 -3.9
UZH Uzhgorod 120.61 325 *e*P Pdif 00 47 00.0 +1.8
UZH *e* 00 50 35.0
UZH *e* 00 51 59.0
UZH *e* 00 57 27.0
GKP Gorka Klasztor 120.73 331 *e*PKP PKPdf 00 50 35.0 -2.8
STHS Stebnicka Huta 120.81 326 *e*PKP PKPdf 00 50 35.4 -2.7
CRVS Cervenica-Dubn 120.95 325 *e*PKP PKPdf 00 50 36.1 -2.3
LBTB Lobatse 120.97 236 *e*PKPdf PKPdf 00 50 35.8 -3.2
OJC Ojcow 121.17 327 *e*Pdiff Pdif 00 47 00.3 -0.4
OJC *e*PKPdf PKPdf 00 50 35.6 -3.2
OJC *e*SKKSdf 01 08 21.9
OJC *e*SS SS 01 08 34.5 -2.4
OJC MLR MLR 01 42 56.0
comp=Z,700nm,21.6s,MS5.3
OJC Ojcow 121.17 327 *e*PKIKP PKPdf 00 50 35.6 -3.2
OJC *e*SS SS 01 08 34.5 -2.4
OJC MLR MLR
comp=Z,700nm,21.6s,MS5.3
DRGR 121.25 323 P PKPdf 00 50 34.8 -4.2
SUR Sutherland 121.31 227 *e*PKPdf PKPdf 00 50 37.4 -2.1
NIE Niedzica 121.32 326 *e*PKP PKPdf 00 50 36.9 -2.2
CRAR CRAIOVA 121.70 320 PKIKP PKPdf 00 50 37.8 -2.1
KECS Kecovo 121.72 325 *e*PKP PKPdf 00 50 36.6 -3.2
KDZ Kurdzhali 121.73 316 *e*P PKPdf 00 50 36.0 -4.0
LSZ Lusaka 122.05 248 *e*PKPdf PKPdf 00 50 38.4 -2.8
LSZ Lusaka 122.05 248 PKIKP PKPdf 00 50 38.3 -2.9
RZN Rozhen 122.20 316 *e*P PKPdf 00 50 37.0 -3.9
PGB Panagyurishte 122.22 318 *e*P PKPdf 00 50 37.0 -3.9
OKC Ostrava-Krasne 122.27 328 *e*PKPdf PKPdf 00 50 37.5 -3.3
PSZ Piszkesteto 122.35 325 ⇓*e*PKP/D PKPdf 00 50 37.6 -3.4
PSZ Piszkesteto 122.35 325 *e*PKPdf PKPdf 00 50 37.4 -3.6
MBAR Mbarara 122.60 266 *e*PKPdf PKPdf 00 50 38.5 -3.8
MBAR Mbarara 122.60 266 ⇑*i*PKIKP PKPdf 00 50 39.4 -2.9
MORC Moravsky Berou 122.63 328 *e*PKPdf PKPdf 00 50 38.6 -2.9
MORC *e*PP PP 00 52 15.7 -2.9
MORC Moravsky Berou 122.63 328 PKIKP PKPdf 00 50 38.8 -2.7
VYHS Vyhne 122.64 326 *e*PKP PKPdf 00 50 38.5 -3.1
KSP Ksiaz 122.66 329 *e*PKP PKPdf 00 50 39.7 -1.8
KSP Ksiaz 122.66 329 *e*PKP PKPdf 00 50 39.2 -2.3
KSP *e*PP PP 00 52 09.0 -10
KSP *e*SP SP 01 02 08.0 +1.3
KSP *e*SS SS 01 08 54.0 -2.1
KSP LR LR
comp=Z,2µm,23.3s,MS5.7
KSP Ksiaz 122.66 329 *e*PKIKP PKPdf 00 50 39.2 -2.3
KSP *e*SP SP 01 02 08.0 +1.3
KSP *e*SS SS 01 08 54.0 -2.1
KSP MLR MLR
comp=Z,2µm,23.3s,MS5.7
VTS Vitosha 122.84 318 *e*P PKPdf 00 50 38.5 -3.6
VTS Vitosha 122.84 318 P PKPdf 00 50 39.5 -2.6
MMB Musomiste 122.91 317 *e*P PKPdf 00 50 38.0 -4.3
DPC Dobruska-Polom 122.93 329 *e*PKPdf PKPdf 00 50 39.4 -2.7
DPC *ex* x 00 52 16.4
DPC AMS AMS 01 42 50.0
comp=Z,1µm,20.1s
UPC Upice 123.00 329 *e*PKPdf PKPdf 00 50 37.4 -4.8
KKB Krupnik 123.23 317 *e*P PKPdf 00 50 38.0 -4.9
SVIS Svilajnac 123.36 321 ⇑*i*PKP PKPdf 00 50 39.4 -3.7
BSEG Bad Segeberg 123.42 335 *e*PKPdf PKPdf 00 50 40.2 -2.8
SANT Santorini 123.64 310 *e*PKPdf PKPdf 00 50 39.6 -4.2
BARS Barje 123.66 319 ⇓*i*PKP PKPdf 00 50 40.5 -3.2
PVCC Panska Ves 123.72 330 *e*PKPdf PKPdf 00 50 40.9 -2.8
PVCC AMS AMS 01 42 50.0
comp=Z,600nm,21.6s
ZST Bratislava 123.77 326 *e*PKP PKPdf 00 50 40.9 -2.9
BRG Berggiesshubel 123.81 330 ⇑*i*PKP PKPdf 00 50 41.0 -2.9
BRG *e* 00 50 50.4
BRG LR LR
comp=Z,1µm,17.7s,MS5.6
BRG Berggiesshubel 123.81 330 ⇑*i*PKIKP PKPdf 00 50 41.0 -2.8
BRG *e* 00 50 50.4
BRG pmax pmax
comp=Z,63nm,1.5s
BRG pmax pmax
comp=Z,75nm,1.9s
BRG pmax pmax
comp=Z,43nm,1.5s
BRG MLR MLR
comp=N,670nm,17.7s,MS5.5
BRG MLR MLR
comp=Z,1µm,17.7s,MS5.6
BRG MLR MLR
comp=E,500nm,17.4s,MS5.5
PKSM Moragy 123.98 324 P PKPdf 00 50 41.2 -3.1
CLL Collm 123.99 331 ⇓*i*PKIKP PKPdf 00 50 40.7 -3.5
comp=E,logA/T=1.5
CLL *i* 00 50 48.9
CLL *e* 00 52 00.0
CLL *i* PP PP 00 52 25.5 -2.6
CLL *e* 00 52 41.0
CLL *e* 01 00 18.0
CLL *e*PS PS 01 02 36.0 +15
CLL *e*PPS PPS 01 03 42.0 -10
CLL *e*SS SS 01 09 30.0 +18
CLL *e*SSS SSS 01 13 48.0 -1.5
CLL Collm 123.99 331 ⇓*i*PKIKP PKPdf 00 50 40.7 -3.5
CLL *i* 00 50 48.9
CLL pmax pmax
comp=Z,47nm,1.6s
CLL MLR MLR
comp=Z,1µm,18.2s,MS5.6
PRU Pruhonice 124.06 329 *e*PKPdf PKPdf 00 50 41.1 -3.2
PRU AMS AMS 01 43 20.0
comp=Z,1µm,22.1s
DIVS Divcibare 124.23 321 ⇓*i*PKP PKPdf 00 50 40.8 -4.1
NVSS Nova Varos 2 124.70 320 ⇓*i*(PKP) PKPdf 00 50 43.3 -2.5
CLZ Clausthal 124.85 333 *e*PKPdf PKPdf 00 50 43.1 -2.7
NKC Novy Kostel 124.95 331 *e*PKPdf PKPdf 00 50 43.2 -2.8
MOX Moxa 125.09 331 *i*P PKPdf 00 50 42.8 -3.5
comp=Z,logA/T=1.5
MOX PP PP 00 52 33.0 -1.8
MOX SKKS 01 09 48.0
MOX L 01 51 31.0
MOX Moxa 125.09 331 *e*PKP PKPdf 00 50 42.8 -3.5
MOX *e*PP PP 00 52 33.3 -1.5
MOX *e*SKKS 01 09 48.0
MOX LR LR
comp=Z,800nm,20.0s,MS5.4
MOX Moxa 125.09 331 *e*PKIKP PKPdf 00 50 42.8 -3.5
MOX *e* 00 52 33.3
MOX pmax pmax
comp=Z,52nm,1.8s
MOX MLR MLR
comp=Z,800nm,20.0s,MS5.4
KHC Kasperske Hory 125.09 329 *e*PKPdf PKPdf 00 50 43.4 -2.9
KHC x x 00 52 52.0
KHC AMS AMS 01 44 50.0
comp=Z,1µm,20.4s
KHC Kasperske Hory 125.09 329 *e*PKIKP PKPdf 00 50 43.4 -2.9
KHC *e* 00 52 52.0
KHC MLR MLR
comp=Z,1µm,20.4s,MS5.5
ARSA Arzberg 125.18 326 ⇑*i*P PKPdf 00 50 42.3 -4.3
GEC2 GERESS Array S 125.20 329 *e*PKPdf PKPdf 00 50 43.3 -3.3
GEC2 *e*PP PP 00 52 34.5 -1.2
GERES GERESS Array B 125.20 329 PKhKP 00 50 35.3
comp=Z,0.2nm,0.5s,SNR=4.3
GERES PKP PKPdf 00 50 43.4 -3.2
comp=Z,10nm,0.9s,baz=90,slow=1.3,SNR=47
GERES PP PP 00 52 34.2 -1.4
comp=Z,6.3nm,1.1s,baz=63,slow=4.4,SNR=4.8
GVD Gavdhos 125.21 309 *e*PKPdf PKPdf 00 50 43.3 -3.7
TRQA Tornquist 125.36 146 *e*PKPdf PKPdf 00 50 43.7 -3.5
WET Wettzell 125.44 329 *e*PKPdf PKPdf 00 50 43.9 -3.1
MOA Molln 125.52 327 ⇓*i*P PKPdf 00 50 43.7 -3.5
GRA1 Grafenberg Arr 125.91 331 *e*PKPdf PKPdf 00 50 44.8 -3.1
GRA1 *e*PP PP 00 52 39.2 -1.4
GRA1 LR LR
comp=Z,1µm,20.7s,MS5.5
GRF Grafenberg Arr 125.91 331 *e*PKP PKPdf 00 50 44.8 -3.1
GRF *e*PP PP 00 52 39.2 -1.4
GRF LR LR
comp=Z,1µm,20.7s,MS5.5
OBKA Obir 126.16 326 ⇑*i*P PKPdf 00 50 45.3 -3.1
PDKS Podkum 126.17 325 *e*PKPdf PKPdf 00 50 44.8 -3.7
PDKS *e*PP PP 00 52 40.5 -1.8
PDKS *i* 00 53 25.2
VISS Visnje 126.41 325 *e*PKPdf PKPdf 00 50 45.5 -3.4
LJU Ljubljana 126.45 325 *e*PKPdf PKPdf 00 50 45.7 -3.3
LJU *e* 00 53 54.8
LJU *e* 00 52 54.7
KBA Koelnbreinsper 126.48 327 ⇓*i*P PKPdf 00 50 45.0 -4.0
CADS Cadrg 126.78 326 *e*PKPdf PKPdf 00 50 45.5 -4.1
VOY Vojsko 126.81 326 *e*PKPdf PKPdf 00 50 46.2 -3.5
VOY *e* 00 51 11.2
FUR Furstenfeldbru 126.88 329 *e*PKPdf PKPdf 00 50 46.5 -3.2
FUR *e*PP PP 00 52 46.2 -0.3
TOD Tromm 127.12 332 PKP PKPdf 00 50 47.0 -3.2
WATA Walderalm 127.26 328 ⇑*i*P PKPdf 00 50 46.8 -3.7
WTTA Wattenberg SNR=21 127.28 328 *i*P PKPdf 00 50 47.2 -3.3
MOTA Moosalm SNR=12 127.50 329 *i*P PKPdf 00 50 47.8 -3.2
ABH Alteburg 127.50 333 PKP PKPdf 00 50 48.2 -2.8
STU Stuttgart 127.51 331 *e*PKPdf PKPdf 00 50 47.9 -3.1
STU Stuttgart 127.51 331 PKIKP PKPdf 00 50 48.2 -2.8
SQTA Sankt Quirin SNR=13 127.53 328 *i*P PKPdf 00 50 48.0 -3.0
LANF Langenberg 128.03 332 PKP PKPdf 00 50 49.2 -2.8

DAVA	Damuels	128.17	329	⇑iP	PKPdf	00 50 48.9	-3.4
BFO	Black Forest	128.23	331	ePKPdf	PKPdf	00 50 48.8	-3.6
BFO				ePP	PP	00 52 54.3	-1.6
WLF	Walferdange	128.29	334	ePKPdf	PKPdf	00 50 49.8	-2.7
WLF	Walferdange	128.29	334	PKIKP	PKPdf	00 50 50.4	-2.1
WLF				e		00 50 59.5	
GIVF	Givet	128.54	335	ePKIKP	PKPdf	00 50 50.1	-2.9
WLS	Welschbruch	128.64	332	PKP	PKPdf	00 50 49.7	-3.5
CDF	Champ du Feu	128.68	332	ePKIKP	PKPdf	00 50 49.9	-3.4
	comp=Z,75nm,1.5s						
FELD	Feldberg	128.70	331	PKP	PKPdf	00 50 49.9	-3.4
TIP	Timpagrande	128.75	317	ePKPdf	PKPdf	00 50 50.7	-3.0
TIP				epPKPdf		00 51 00.1	
BAIF	Baives	128.83	335	ePKIKP	PKPdf	00 50 50.8	-2.7
ECH	Echery	128.87	332	PKP	PKPdf	00 50 50.6	-3.0
CII	Carovilli	129.03	321	ePKPdf	PKPdf	00 50 50.8	-3.4
MOF	Molkenrain	129.14	331	PKP	PKPdf	00 50 50.9	-3.3
BBS	Basel-Blauen	129.23	331	PKP	PKPdf	00 50 50.5	-3.9
AQU	L'Aquila	129.24	322	ePKPdf	PKPdf	00 50 50.5	-4.0
AQU	L'Aquila	129.24	322	PKIKP	PKPdf	00 50 50.8	-3.7
HINF	Hinteralfeld	129.30	331	ePKIKP	PKPdf	00 50 51.4	-3.1
	comp=Z,145nm,1.4s						
HAU	Haudompre	129.40	332	ePKIKP	PKPdf	00 50 51.6	-3.1
	comp=Z,62nm,1.1s						
HAU				eR			
	comp=Z,1μm,21.2s						
THEF	They Montfort	129.41	332	PKP	PKPdf	00 50 51.1	-3.6
MEZF	Maizieres J'vi	129.63	333	ePKIKP	PKPdf	00 50 52.3	-2.8
LOMF	Lomont	129.64	331	PKP	PKPdf	00 50 52.0	-3.1
VALM		129.88	326	P		00 54 11.8	
GRAM		129.89	326	P		00 54 11.8	
MAIM		130.01	325	P		00 54 11.2	
BACM		130.02	326	P		00 54 10.6	
VINC	Vinca	130.06	326	P		00 54 10.9	
CODM		130.07	326	P		00 54 11.7	
TSUM	Tsumeb	130.13	239	SKPbc		00 54 15.2	
	comp=Z,11nm,1.0s,baz=85,slow=4.4,SNR=6.8						
TSUM	Tsumeb	130.13	239	ePKPdf	PKPdf	00 50 53.9	-2.9
ORX	Oropa	130.25	329	P		00 54 12.0	
TRAV		130.45	329	P		00 54 12.7	
CABF	La Chapelle	130.52	331	ePKIKP	PKPdf	00 50 54.3	-2.5
GENL	Genova Univers	130.54	327	P		00 54 12.5	
PCP	Pian Castagno	130.68	327	P		00 54 14.0	
LSD	Ceresole Reale	130.80	329	P		00 54 15.4	
RSP	Reno Superiore	130.95	329	P		00 54 14.4	
LPL	La Plagne	130.97	329	ePKIKP	PKPdf	00 50 55.2	-2.5
	comp=Z,34nm,1.1s						
LPG	La Plagne	130.97	329	ePKIKP	PKPdf	00 50 55.3	-2.4
	comp=Z,57nm,1.3s						
FIN	Finale Ligure	131.08	327	P		00 54 15.1	
LOR	Lormes	131.09	333	ePKIKP	PKPdf	00 50 54.9	-3.0
	comp=Z,109nm,1.4s						
LOR				eR			
	comp=Z,1μm,20.5s						
FENE	Fenestrelle	131.14	329	P		00 54 15.9	
BHB	Bricherasio	131.16	328	P		00 54 14.2	
VAE	Valguarnera	131.19	316	SKPbc		00 54 18.2	
	comp=Z,50nm,1.1s,baz=96,slow=5.2,SNR=4.8						
ROB	Roburent	131.21	327	P		00 54 15.5	
BNI	Bardonecchia	131.32	329	ePKPdf	PKPdf	00 50 56.1	-2.2
BNI	Bardonecchia	131.32	329	PKIKP	PKPdf	00 50 56.4	-2.0
RRL	Cesana Torines	131.36	329	P		00 54 17.2	
SSF	Saint Saulge	131.40	333	ePKIKP	PKPdf	00 50 55.4	-3.1
	comp=Z,240nm,1.9s						
MONE	Monesi	131.41	327	P		00 54 16.8	
IMI	Imperia	131.45	327	P		00 54 16.8	
ENR	Entracque	131.50	328	P		00 54 15.8	
MBDF	Montbardon	131.50	329	ePKIKP	PKPdf	00 50 55.7	-3.0
STV2	Anna di Valdie	131.53	328	P		00 54 15.8	
STV	Sta Anna Valdi	131.53	328	P		00 54 15.9	
SMF	Signal de Mont	131.56	332	ePKIKP	PKPdf	00 50 55.7	-3.1
	comp=Z,97nm,1.5s						
SAOF	Saorge	131.58	327	PKP	PKPdf	00 50 56.0	-2.9
NEGI	Negi	131.60	327	P		00 54 16.9	
HYF	Humbligny	131.63	334	ePKIKP	PKPdf	00 50 55.2	-3.7
SURF	Saint Ours	131.64	328	PKP	PKPdf	00 50 57.0	-2.0
AUTN	L'Aution	131.65	327	PKP	PKPdf	00 50 57.7	-1.4
GRN	Grenoble	131.66	330	PKP	PKPdf	00 50 56.3	-2.7
AVF	Avril sur Loir	131.68	333	ePKIKP	PKPdf	00 50 55.7	-3.3
	comp=Z,115nm,1.8s						
PGF	Pioggiola	131.72	325	ePKIKP	PKPdf	00 50 56.3	-2.9
	comp=Z,205nm,1.3s						
TOUF	Mont Tournerai	131.73	328	PKP	PKPdf	00 50 56.8	-2.4
SBF	Sospel	131.73	327	ePKIKP	PKPdf	00 50 56.0	-3.2
	comp=Z,132nm,1.4s						
LDF	La Druitiere	131.74	337	ePKIKP	PKPdf	00 50 56.3	-2.8
	comp=Z,102nm,1.5s						
ORIF	Oris-en-Rattie	131.82	329	ePKIKP	PKPdf	00 50 56.6	-2.8
	comp=Z,18nm,0.8s						
ORIF				eR			
	comp=Z,1μm,21.0s						
REVF	Revere	131.85	327	PKP	PKPdf	00 50 56.4	-3.0
MVIF	Mont Vial	131.86	328	PKP	PKPdf	00 50 56.4	-3.1
BGF	Bois d'Agland	132.08	333	ePKIKP	PKPdf	00 50 56.0	-3.8
	comp=Z,77nm,1.4s						
CALN	Calern	132.10	328	PKP	PKPdf	00 50 57.0	-2.9
GRR	Gorron	132.19	337	ePKIKP	PKPdf	00 50 57.2	-2.8
ROSC	El Rosal	132.28	89	PKP	PKPdf	00 50 58.1	-3.0
	comp=Z,2.7nm,0.5s,baz=270,slow=20,SNR=4.0						
ROSC				SKPbc		00 54 21.9	
	comp=Z,11nm,1.0s,baz=104,slow=16,SNR=12						
FRF	La Foret Royal	132.36	328	ePKIKP	PKPdf	00 50 57.4	-3.0
	comp=Z,102nm,1.4s						
VIVF	Saint-Julien-l	132.47	330	ePKIKP	PKPdf	00 50 58.1	-2.5
	comp=Z,175nm,1.6s						
TCF	Toulx Ste Croi	132.57	333	ePKIKP	PKPdf	00 50 56.7	-4.1
	comp=Z,93nm,1.3s						
LMR	La Mourre	132.58	327	ePKIKP	PKPdf	00 50 57.9	-3.0
	comp=Z,96nm,1.3s						
PYM	Petit Puy Mans	132.61	332	PKP	PKPdf	00 50 58.2	-2.6
SMRF	Simiane la Rot	132.63	329	ePKIKP	PKPdf	00 50 58.2	-2.7
	comp=Z,106nm,1.3s						
LBL	Lubilhac	132.89	331	PKP	PKPdf	00 50 59.4	-2.0
LPAZ	La Paz	133.31	119	PKP	PKPdf	00 51 01.7	-1.2
	comp=Z,6.3nm,0.8s,baz=254,slow=5.4,SNR=8.0						
LPAZ				SKPbc		00 54 27.2	
	comp=Z,15nm,1.0s,baz=278,slow=2.9,SNR=12						
LPAZ	La Paz	133.31	119	ePKPdf	PKPdf	00 51 00.5	-2.4
MFF	Saint Martin d	133.35	335	ePKIKP	PKPdf	00 50 59.4	-2.7
	comp=Z,74nm,1.5s						
VSL	Villasalto	133.38	321	ePKPdf	PKPdf	00 50 59.4	-3.1
LASF	Ste Croix	133.44	330	ePKIKP	PKPdf	00 50 59.9	-2.5
	comp=Z,103nm,1.3s						
QUIF	Quistinic	133.45	339	ePKIKP	PKPdf	00 50 58.9	-3.4
	comp=Z,145nm,1.6s						
CAF	Calviac	133.67	332	ePKIKP	PKPdf	00 50 59.1	-3.7
LFF	La Frestale	134.27	333	ePKIKP	PKPdf	00 51 00.1	-3.8
MTLF	Montolieu	134.78	330	ePKIKP	PKPdf	00 51 02.5	-2.4
	comp=Z,38nm,1.2s						
EPF	Esparros	135.92	332	ePKIKP	PKPdf	00 51 02.7	-4.3
	comp=Z,51nm,1.4s						
SDV	Santo Domingo	136.04	83	ePKPdf	PKPdf	00 51 04.3	-3.6
EMIR	Miracle	136.18	330	PKP	PKPdf	00 50 52.4	-15
EBIE	Bielsa	136.28	332	PKP	PKPdf	00 50 54.5	-13
CPUP	Villa Florida	136.29	138	PKP	PKPdf	00 51 06.2	-1.9
	comp=Z,7.0nm,0.9s,baz=320,slow=1.0,SNR=9.8						
CPUP				SKPbc		00 54 35.2	
	comp=Z,19nm,1.2s,baz=300,slow=3.0,SNR=8.0						
CPUP	Villa Florida	136.29	138	PKP	PKPdf	00 51 06.2	-1.9
CPUP				SKPbc		00 54 35.2	
CMAH	Djebel Manchou	136.33	320	P	PKPdf	00 51 06.0	-1.9
ABSA	Djebel Ababsia	136.50	319	P	PKPdf	00 51 06.5	-1.7
EGRA	Graus	136.57	331	PKP	PKPdf	00 50 54.2	-14
CAEH	'Ain El Ouahch	136.60	320	P	PKPdf	00 51 06.5	-1.9
EALK	Alkurruntz	136.62	333	PKP	PKPdf	00 50 58.3	-10
EPOB	Poblet	136.82	329	PKP	PKPdf	00 50 54.3	-14
CKFL	Kef-Lekhel	136.92	320	P	PKPdf	00 51 06.5	-2.5
CASM	Ain Smara	137.15	320	P	PKPdf	00 51 06.5	-2.9
ESAC	San Caprasio	137.31	331	PKP	PKPdf	00 50 57.3	-12
CTEI	Djebel Teioual	137.32	320	P	PKPdf	00 51 08.0	-1.8
DFRA	Djebel Bou Aff	137.37	321	P	PKPdf	00 51 07.0	-2.8
ELAN	Lanestosa	137.45	335	PKP	PKPdf	00 50 57.6	-12
ERTA	Horta de San J	137.49	330	PKP	PKPdf	00 50 55.2	-15
SET	Setif	137.88	321	P	PKPdf	00 51 09.0	-1.8
CMER	Merouana	137.92	319	P	PKPdf	00 51 09.0	-1.9
EARI	Arriondas	138.11	337	PKP	PKPdf	00 51 07.9	-3.1
EMOS	Mosqueruela	138.34	330	PKP	PKPdf	00 50 58.5	-13
EIBI	Ibiza	138.38	327	PKP	PKPdf	00 50 54.6	-17
EPON	Pontenova	138.82	339	PKP	PKPdf	00 51 00.6	-12
ECHE	Chera	139.18	329	PKP	PKPdf	00 50 59.8	-13
SJG	San Juan	139.30	69	ePKPdf	PKPdf	00 51 10.4	-3.4
ERUA	La Rua	139.63	338	PKP	PKPdf	00 51 18.5	+4.7
STS	Santiago	139.71	340	PKP	PKPdf	00 51 10.6	-3.3
EMAZ	Mazaricos	139.80	340	PKP	PKPdf	00 51 06.9	-7.2
ECAL	Calabor	139.86	337	PKP	PKPdf	00 50 59.9	-14
PBRG	Braganca	139.98	337	ePKPdf	PKPdf	00 51 05.4	-9.1
ETOB	Tobarra	140.19	329	PKP	PKPdf	00 50 59.0	-16
EZAM	Zamans	140.41	339	PKP	PKPdf	00 51 07.3	-7.9
ELOB	Lobios	140.42	338	PKP	PKPdf	00 51 10.8	-4.5
ESDC	Sonseca Array	140.56	332	PKhKP		00 51 05.2	
	comp=Z,2.0nm,0.8s,baz=22,slow=4.4,SNR=7.7						
ESDC				PKP	PKPdf	00 51 13.0	-2.7
	comp=Z,1.8nm,0.7s,baz=15,slow=3.7,SNR=16						
ESDC				PP	PP	00 54 10.1	-3.9
	comp=Z,0.5nm,0.6s,baz=36,slow=6.3,SNR=4.1						
SAML	Samuel	140.57	111	ePKPdf	PKPdf	00 51 13.1	-3.3
EMUR	La Murta	140.63	328	PKP	PKPdf	00 51 03.6	-12
EVIA	Vianos	140.67	330	PKP	PKPdf	00 51 05.9	-10
MTE	Manteigas	141.49	337	eLQ		01 36 21.1	
MTE	Manteigas	141.49	337	ePKPdf	PKPdf	00 51 13.8	-3.4
EQES	Quesada	141.60	330	PKP	PKPdf	00 51 08.7	-8.8
EBAN	Banos Encina	141.67	331	PKP	PKPdf	00 51 08.1	-9.5
PCBR	Castelo Branco	141.94	336	ePKPdf	PKPdf	00 51 09.8	-8.2
EADA	Adamuz	142.05	332	PKP	PKPdf	00 51 10.3	-7.9
ELUQ	Luque	142.38	331	PKP	PKPdf	00 51 11.3	-7.5
PTOM	Tomar	142.50	337	ePKPdf	PKPdf	00 51 11.9	-7.1
ERON	Agron	142.58	330	PKP	PKPdf	00 51 11.4	-7.8
EGUA	Guajares	142.60	329	PKP	PKPdf	00 51 11.6	-7.6
ELOJ	Sierra Loja	142.65	330	PKP	PKPdf	00 51 11.4	-7.9
EBAD	Badajoz	142.67	335	PKP	PKPdf	00 51 13.1	-6.1
EALB	Alboran	143.00	328	PKP	PKPdf	00 51 07.3	-13
EVO	Evora	143.28	336	ePKIKP	PKPdf	00 51 15.3	-5.0
	comp=Z,201nm,1.8s						
EVO				eR			
	comp=Z,1μm,20.2s						
EMIN	Mina Concepcio	143.34	333	PKP	PKPdf	00 51 12.7	-7.7
EMIJ	Mijas	143.41	330	PKP	PKPdf	00 51 13.3	-7.3
PBEJ	Beja	143.64	335	ePKPdf	PKPdf	00 51 15.6	-5.3
ESPR	Espera	143.70	332	PKP	PKPdf	00 51 16.2	-4.9
EJIF	Jimena Fronter	143.85	331	PKP	PKPdf	00 51 16.0	-5.4
EGRO	El Granado	143.89	334	PKP	PKPdf	00 51 16.7	-4.7
PTEO	Sao Teotonio	144.41	335	ePKPdf	PKPdf	00 51 18.0	-4.3
MDT	Midelt	146.21	326	PP	PP	00 54 45.0	-3.1
	comp=Z,11nm,1.1s,baz=17,slow=11,SNR=4.2						
MDT				SKPbc		00 55 01.3	
	comp=Z,17nm,1.1s,baz=42,slow=6.2,SNR=3.6						
ADH	Angra Heroismo	147.16	1	ePKP	PKPdf	00 51 28.2	+1.2
CAM4	Nova Friburgo	147.97	151	eP	PKPdf	00 51 26.4	-2.4
CAM4				i		00 51 29.6	
CAM4				i		00 51 34.5	
CAM4				i		00 51 38.0	
CAM4				i		00 51 44.1	
CAM4				i		00 51 46.7	
BDFB	Brasilia	149.90	135	PKP	PKPdf	00 51 29.8	-2.2
	comp=Z,56nm,0.9s,baz=100,slow=0.6,SNR=14						
BDFB				PKPbc	PKPdf	00 51 34.4	+2.4
	comp=Z,49nm,0.8s,baz=254,slow=1.9,SNR=43						
BAO	Brasilia Array	149.92	135	PKPdf	PKPdf	00 51 30.0	-2.0
BAO				PKPdf	PKPdf	00 51 34.2	+2.2
KIC	Kosan Boka	158.44	273	ePKIKP	PKPdf	00 51 39.8	-4.1
	comp=Z,313nm,1.4s						
DBIC	Dimbokro	158.55	274	PKP	PKPdf	00 51 40.5	-3.6
	comp=Z,26nm,1.2s,baz=16,slow=1.6,SNR=12						
DBIC				PKPab	PKPab	00 52 15.2	-1.3
	comp=Z,20nm,0.9s,baz=75,slow=5.9,SNR=7.9						
DBIC				PP	PP	00 55 56.9	-1.1
	comp=Z,26nm,1.2s,baz=79,slow=9.0,SNR=2.8						
DBIC	Dimbokro	158.55	274	ePKPdf	PKPdf	00 51 40.2	-3.9
DBIC				ePKPab	PKPab	00 52 15.7	-0.9
TIC	Toumodi	158.71	274	ePKIKP	PKPdf	00 51 40.2	-4.0
	comp=Z,40nm,0.2s						
LIC	Lamto	158.73	273	⇓iPKIKP	PKPdf	00 51 40.3	-3.9
	comp=Z,137nm,1.3s						
LIC	Lamto	158.73	273	ePKIKP	PKPdf	00 51 40.1	-4.1
	comp=Z,132nm,1.3s						

*NEIC **16** 00:54:31.8±0.9, 5.00S×153.88E, h150km, mb4.5/1, Error ellipse: s-maj=22.6km s-min=15.0km az=117.0*

*IDC **16** 00:54:33.7±6.8, 5.04S×153.81E, h165km±52km, mb3.9/7, mb1 4.0/8, mb1mx3.9/15, mbtmp4.4/8, MS4.5/2, Ms1 4.5/2, ms1mx3.8/26, Error ellipse: s-maj=50.5km s-min=26.0km az=78.0*

ISC 16 00:54:32.4±4.7, **5.1S**±0.2×**153.9E**±0.2, **h167**km±36km, **n14**, σ**0.71**s/15, **mb4.1**/9, **1C-1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.92	237	P	P	00 56 25.8	+0.2
	8.9nm,0.3s,baz=50,slow=8.2,SNR=24						
PMG				S	S	00 57 54.9	+1.1
	3.1nm,0.3s,baz=105,slow=18,SNR=4.8						
PMG				LR	LR	00 59 25.2	
	comp=Z,1μm,20.0s,baz=198,slow=37						
PMG	Port Moresby	7.92	237	ePn	P	00 56 25.2	-0.3
	58nm,0.6s						
PMG				eSn	S	00 57 53.0	-0.8
KAKA	Kakadu	22.46	249	eP	P	00 59 36.6	+18
	8.4nm,0.6s,mb4.3						
WRAB	Tennant Creek	24.06	230	eP	P	00 59 34.0	+0.3
	11nm,0.7s,mb4.5						
WB2	Warramunga Arr	24.06	230	⇓iP	P	00 59 34.1	+0.5
WRA	Warramunga Arr	24.07	230	P	P	00 59 34.4	+0.7
	10.0nm,0.8s,mb4.4,baz=57,slow=9.5,SNR=52						
STKA	Stephens Creek	29.04	202	P	P	01 00 18.0	-1.1
	2.5nm,0.5s,mb4.2,baz=16,slow=10,SNR=5.6						
FITZ	Fitzroy Crossi	30.46	242	⇑iP	P	01 00 30.4	-1.4
	10nm,0.5s,mb4.8						
FITZ	Fitzroy Crossi	30.46	242	P	P	01 00 30.4	-1.4
	14nm,0.5s,mb4.9,baz=51,slow=4.4,SNR=34						
RAO	Raoul Island	35.94	135	LR	LR	01 12 14.4	
	comp=Z,2μm,20.2s,baz=178,slow=30						
VNDA	Vanda	72.53	178	P	P	01 05 42.5	+0.2
	0.9nm,0.9s,mb3.5,baz=315,slow=4.3,SNR=4.6						
MKAR	Makanchi Array	81.21	319	P	P	01 06 31.3	+0.3
	0.7nm,0.7s,mb3.4,baz=99,slow=5.1,SNR=6.0						
MAW	Mawson	85.73	203	P	P	01 06 54.0	+0.7
	1.5nm,0.5s,mb4.0,baz=94,slow=7.5,SNR=7.4						
BVAR	Borovoye Array	90.08	323	P	P	01 07 14.0	-0.3
	1.0nm,0.8s,mb3.8,baz=164,slow=11,SNR=5.3						

*NEIC **16** 01:10:42.5±0.7, 17.54S×69.66W, h136km±7km, mb4.2/9, Error ellipse: s-maj=10.6km s-min=8.6km az=59.0*

*IDC **16** 01:10:43.7±1.6, 17.54S×69.62W, h147km±15km, mb3.8/8, mb1 4.0/11, mb1mx3.8/18, mbtmp4.2/11, Error ellipse: s-maj=20.3km s-min=15.3km az=82.0*

ISC 16 01:10:40.2±0.6, **17.52S**±0.05×**69.63W**±0.05, **h130**km±6km, **n32**, σ**1.03**s/38, **mb4.1**/13, **1C-1D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.89	50	P	P	01 11 19.8	+6.6
	117nm,0.3s,baz=242,slow=8.1,SNR=3628						
LPAZ				S	S	01 11 47.5	+9.1
	17nm,0.3s,baz=358,slow=15,SNR=6.9						
LPAZ	La Paz	1.89	50	⇓iPn	P	01 11 19.7	+6.5
ARE	Arequipa	2.07	300	⇑iP	P	01 11 17.0	+1.5
ARE				iS	S	01 11 42.5	+0.2
LVC	Limon Verde	5.11	173	P	P	01 11 56.7	+0.9
	7.5nm,0.3s,baz=336,slow=7.2,SNR=45						
LVC				S	S	01 12 51.3	-2.9
	17nm,0.3s,baz=143,slow=20,SNR=16						
LVC	Limon Verde	5.11	173	ePn	P	01 11 56.5	+0.7
	103nm,0.4s						
LVC				eSn	S	01 12 53.0	-1.2
SIV	San Ignacio	8.34	81	P	P	01 12 40.1	+0.8
	9.0nm,0.3s,baz=272,slow=9.5,SNR=93						
SIV				S	S	01 14 11.2	-1.1
	baz=13,slow=17,SNR=3.6						
NNA	Nana	8.88	307	ePn	P	01 12 44.6	-2.0
	30nm,0.4s						
SAML	Samuel	10.58	37	ePn	P	01 13 09.4	+0.2
	4.8nm,0.5s						
CFAA	Coronel Fontan	14.08	175	P	P	01 13 52.3	-2.6
	0.1nm,0.3s,baz=15,slow=16,SNR=5.8						
CFAA				S	S	01 16 19.2	-8.9
	0.1nm,0.3s,baz=209,slow=16,SNR=5.6						
CFAA	Coronel Fontan	14.08	175	P	P	01 13 52.3	-2.6
CFAA				S	S	01 16 19.2	-8.9
CPUP	Villa Florida	14.38	130	P	P	01 13 59.2	+0.5
	0.4nm,0.3s,baz=331,slow=15,SNR=12						
BDFB	Brasilia	20.80	88	P	P	01 15 13.2	+0.4
	8.9nm,0.3s,baz=257,slow=6.2,SNR=21						
BAO	Brasilia Array	20.82	88	P	P	01 15 14.0	+1.0
TRQA	Tornquist	21.53	163	eP	P	01 15 20.5	+0.6
	5.5nm,0.6s,mb4.2						
PLCA	Paso Flores	23.15	182	P	P	01 15 37.0	+1.3
	3.7nm,0.8s,mb3.9,baz=358,slow=11,SNR=15						
PLCA	Paso Flores	23.15	182	eP	P	01 15 36.7	+1.1
	3.7nm,0.7s,mb3.9						
TXAR	Lajitas Array	57.00	324	P	P	01 20 14.0	-0.7
	0.6nm,0.8s,mb3.5,baz=149,slow=9.5,SNR=7.1						
MNTX	Cornudas Mount	59.76	325	eP	P	01 20 32.2	-1.7
	1.0nm,0.3s,mb4.1						
SDCO	Great Sand Dun	64.50	329	eP	P	01 21 05.6	+0.2
	1.6nm,0.6s,mb4.0						
SNAA	Sanae	66.25	161	P	P	01 21 16.4	+0.4
	1.3nm,1.0s,mb3.7						
SMCO	Snowmass	66.33	329	eP	P	01 21 17.4	+0.3
LIC	Lamto	68.00	76	eP	P	01 21 27.9	0.0
	18nm,0.8s,mb4.9						
TIC	Toumodi	68.16	75	eP	P	01 21 28.4	-0.5
	11nm,0.2s,mb5.3						
KIC	Kosan Boka	68.31	76	eP	P	01 21 29.6	-0.2
	56nm,0.5s						
DBIC	Dimbokro	68.32	75	P	P	01 21 29.9	0.0
	9.2nm,0.5s,mb4.8,baz=230,slow=6.9,SNR=55						
DBIC	Dimbokro	68.32	75	eP	P	01 21 29.7	-0.2
	9.1nm,0.5s,mb4.8						
PDAR	Pinedale Array	70.34	330	P	P	01 21 42.0	+0.3
	0.3nm,0.4s,mb3.3,baz=128,slow=7.8,SNR=5.8						
ULM	Lac du Bonnet	71.33	343	P	P	01 21 46.4	-1.1
	2.5nm,0.5s,mb4.2,baz=141,slow=8.4,SNR=7.3						
ULM	Lac du Bonnet	71.33	343	eP	P	01 21 46.2	-1.3
	3.0nm,0.5s,mb4.3						
VNDA	Vanda	80.63	190	P	P	01 22 41.0	+1.7
	0.7nm,0.8s,mb3.3,baz=123,slow=4.7,SNR=5.6						
YKA	Yellowknife Ar	87.22	341	P	P	01 23 13.1	+0.6
	1.0nm,0.5s,mb4.0,baz=133,slow=4.6,SNR=13						
WRA	Warramunga Arr	135.96	213	PKP	PKPdf	01 29 48.4	+1.9
	0.5nm,0.4s,baz=142,slow=1.7,SNR=7.5						

*NEIC **16** 01:18:35.2±6.8, 21.55N×143.21E, h296km±66km, mb4.1/1, Error ellipse: s-maj=30.7km s-min=13.8km az=83.0*

*IDC **16** 01:18:37.4±1.9, 21.54N×143.13E, h312km±18km, mb3.4/7, mb1 3.5/8, mb1mx3.4/21, mbtmp4.1/8, Error ellipse: s-maj=31.1km s-min=13.4km az=98.0*

ISC 16 01:18:36.7±1.6, **21.51N**±0.09×**143.2E**±0.3, **h327**km±15km, **n17**, σ**0.59**s/13, **mb3.6**/8, **1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.64	350	P	P	01 20 03.8	+0.6
	7.7nm,0.3s,baz=312,slow=19,SNR=8.8						
CBIJ				S	S	01 21 10.8	-0.4
	15nm,0.3s,baz=120,slow=23,SNR=11						
WRAB	Tennant Creek	42.10	193	eP	P	01 25 59.2	0.0
	2.6nm,0.2s,mb4.0						
WB2	Warramunga Arr	42.10	193	⇑iP	P	01 25 59.3	0.0
WRA	Warramunga Arr	42.11	193	P	P	01 25 59.5	+0.2
	0.9nm,0.3s,mb3.4,baz=14,slow=8.4,SNR=51						
FITZ	Fitzroy Crossi	42.98	205	P	P	01 26 05.9	-0.4
	3.3nm,0.5s,mb3.7,baz=19,slow=14,SNR=4.1						
MKAR	Makanchi Array	54.87	313	P	P	01 27 36.0	+0.1
	0.3nm,0.5s,mb2.9,baz=90,slow=8.2,SNR=4.4						
MKAR	Makanchi Array	54.87	313	P	P	01 27 36.0	+0.1
ILAR	Eielson Array	62.18	27	P	P	01 28 24.8	-0.8
	0.5nm,0.6s,mb3.2,baz=264,slow=6.1,SNR=5.5						
YKA	Yellowknife Ar	76.59	28	P	P	01 29 53.4	+0.6
	1.1nm,0.6s,mb3.8,baz=290,slow=6.0,SNR=5.7						
ARCES	ARCESS Array B	79.12	342	P	P	01 30 07.7	+1.4
	0.7nm,0.3s,mb3.8,baz=78,slow=8.7,SNR=16						
JOF	Joensuu	80.51	335	ep	P	01 30 13.0	-0.7
FINES	FINESS Array B	83.37	335	P	P	01 30 28.1	-0.4
	0.9nm,0.6s,mb3.8,baz=72,slow=6.0,SNR=7.5						
PLCA	Paso Flores	145.59	132	PKPbc	PKPbc	01 37 40.4	+3.2
	1.8nm,0.6s,baz=198,slow=4.8,SNR=7.6						
PLCA	Paso Flores	145.59	132	ePKPbc	PKPbc	01 37 39.8	+2.6
LPAZ	La Paz	149.90	86	PKPbc	PKPdf	01 37 53.1	+9.2
	1.0nm,0.5s,baz=318,slow=13,SNR=8.5						
LPAZ	La Paz	149.90	86	ePKPbc	PKPdf	01 37 52.8	+9.0
LPAZ				ePKPab	PKPab	01 38 00.2	+2.0
SAML	Samuel	151.67	68	ePKPbc	PKPdf	01 37 55.1	+8.5
SAML				ePKPab	PKPab	01 38 04.8	-0.9

*ATH **16** 01:52:44.8, 39.59N×23.97E, h29km±1km, MD3.5/12, ML3.3*

*THE **16** 01:52:45.9, 39.56N×23.98E, h10km, ML3.5*

*NEIC **16** 01:52:45.9, 39.56N×23.98E, h10km, ML3.5(THE), ML3.3(ATH), After THE.*

*CSEM **16** 01:52:45.8±0.1, 39.57N×23.99E, h25km, ML3.5, Error ellipse: s-maj=2.2km s-min=1.7km az=112.0*

ISC 16 01:52:45.6±0.5, **39.53N**±0.02×**23.98E**±0.03, **h20**km±5km, **n38**, σ**1.20**s/49, **8C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	Alonnisos	0.37	192	ePg	Pb	01 52 53.8	+0.3
PAIG	Paliouri	0.46	330	ePg	Pb	01 52 54.0	-0.9
PAIG				eSg	Sb	01 53 00.5	-0.7
NEO	Neokhori	0.63	249	ePN	Pn	01 52 58.0	-1.3
NEO				eSN	Sn	01 53 07.7	-1.0
XOR	Xorichti	0.63	255	ePg	Pb	01 52 58.2	+0.4
XOR				eSg	Sb	01 53 08.1	+1.9
XOR	Xorichti	0.63	255	ePg	Pb	01 52 58.2	+0.4
XOR				eSg	Sb	01 53 08.1	+1.9
OUR	Ouranopolis	0.80	0	ePg	Pb	01 53 00.1	-0.6
	comp=Z,41nm,0.3s						
OUR				eSg	Sb	01 53 12.7	+1.6
PLG	Polygyros	0.94	334	ePN	Pn	01 53 01.6	-2.1
PLG				eSN	Sn	01 53 14.0	-2.5
LOS	Limnos	0.94	64	ePg	Pb	01 53 03.1	0.0
LOS				eSg	Sb	01 53 16.3	+1.2
LIA	Limnos Island	1.00	68	ePN	Pn	01 53 04.0	-0.6
LIA				eSN	Sn	01 53 17.8	-0.3
LKR	Lokris	1.16	221	⇑iPN	Pn	01 53 06.8	-0.1
LKR				eSN	Sn	01 53 23.8	+1.5
LIT	Litokhoron	1.28	297	ePg	Pn	01 53 08.2	-0.4
	comp=Z,13nm,0.3s						
THE	Thessaloniki	1.35	325	ePg	Pn	01 53 09.3	-0.2
	comp=Z,5.5nm,0.2s						
THE				eSg	Sb	01 53 28.8	+2.0
AGG	Agios Georgios	1.38	249	ePg	Pn	01 53 10.0	0.0
	comp=Z,18nm,0.3s						
MPAR	Parnis Oros	1.39	188	ePB	Pb	01 53 10.5	-0.3
ATH	Athens Observa	1.57	188	ePN	Pn	01 53 13.3	+0.5
SRS	Serrai	1.61	350	ePg	Pn	01 53 12.8	-0.6
SRS				eSg	Sn	01 53 35.0	+1.3
NSAL	Nisos Salamina	1.67	194	ePB	Pb	01 53 14.5	-1.1
EVR	Evrytania	1.79	251	ePN	Pn	01 53 16.7	+0.8
EVR	Evrytania	1.79	251	ePn	Pn	01 53 16.9	+1.0
PRK	Paraskevi	1.80	98	ePB	Pb	01 53 16.6	-1.1
NAIG	Nisos Aigina	1.81	192	ePN	Pn	01 53 16.3	+0.1
NVR	Nevrokopi	1.82	357	ePN	Pn	01 53 15.5	-0.8
KNT	Kendrikon	1.82	333	ePb	Pb	01 53 16.4	-1.8
	comp=Z,19nm,0.4s						
KZN	Kozani	1.86	295	ePN	Pn	01 53 16.7	-0.3
RDO	Rodhopi	2.00	36	ePN	Pn	01 53 17.3	-1.7
JAN	Janina	2.42	274	ePN	Pn	01 53 24.9	0.0
ITM	Ithomi	2.85	215	ePN	Pn	01 53 32.1	+1.1
SMG	Samos	2.89	128	ePN	Pn	01 53 32.0	+0.4
VLS	Valsamata	2.97	244	ePb	Pb	01 53 34.3	-3.4
SKO	Skopje	3.11	322	ePg	Pn	01 53 34.7	0.0
KEK	Kerkira	3.23	275	ePb	Pb	01 53 38.2	-4.0
VOIR		5.95	7	⇑iP	Pn	01 54 17.6	+2.6
VOIR		5.95	7	⇑iP	Pn	01 54 17.6	+2.6
MLR	Muntele Rosu	6.13	13	⇑iP	Pn	01 54 20.3	+2.8
MLR	Muntele Rosu	6.13	13	⇑iP	Pn	01 54 20.2	+2.7
VRI	Vrincioaia	6.65	17	⇑iP	Pn	01 54 28.6	+3.8
VRI	Vrincioaia	6.65	17	⇑iP	Pn	01 54 28.6	+3.9
BURAR	Bucovina Array	8.13	6	⇑iP	P	01 54 47.6	+2.1

ISC 16 01:57:20.0±0.8, **38.49N**±0.07×**39.23E**±0.04, **h10**km, **n7**, σ**1.14**s/12, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.19	273	iP	Pg	01 57 24.0	-0.2
ELZG				iS	Sg	01 57 27.4	+0.4
PTK	Pertek	0.42	18	ePG	Pg	01 57 27.8	-0.8
MYA	Malataya	0.65	256	PG	Pg	01 57 32.7	-0.4
MYA				SG	Sg	01 57 42.8	+1.0
URFA	Urfa	1.09	197	ePN	Pn	01 57 38.1	-3.2
MARD	Mardin	1.70	133	iP	Pn	01 57 45.3	-4.7
MARD				iS	Sn	01 58 10.9	-1.0

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BEST	**Besiri**	**1.72**	**110**	*i* P	**Pn**	**01 57 52.5**	**+2.3**
BEST				*i* S	**Sn**	**01 58 13.4**	**+1.0**
GZT	**Gaziantep**	**1.73**	**230**	*i* P	**Pn**	**01 57 49.9**	**-0.5**
GZT				*i* S	**Sn**	**01 58 17.7**	**+4.9**

GUC 16 02:33:50.2±0.8**, 28.72S**×**71.25W, h50^{km}, ML3.8, 2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.18**	**180**⇑	*i*P	P	02 34 11.1	+0.5
LSCH				*i* S	S	02 34 26.8	+0.8
LSCH				AMP		02 34 30.5	
	comp=E,2μm,0.4s						
CPCH	**Copiapo**	**1.57**	**30**⇓	*i*P	P	02 34 16.0	-0.2
CPCH				*i* S	S	02 34 36.1	+0.6
CDCH	**Caldera**	**1.68**	**13**	*i* P	P	02 34 17.4	-0.4
CDCH				*i* S	S	02 34 39.2	+0.9
CDCH				AMP		02 34 44.7	
	comp=E,701nm,0.3s						
CRCH	**Chaqaral**	**2.43**	**13**	*e*P	P	02 34 27.7	-0.6
CRCH				AMP		02 35 08.0	
	comp=N,781nm,0.6s						
CMCH	**Combarbala**	**2.46**	**175**⇑	*i*P	P	02 34 28.2	-0.6
CMCH				*i* S	S	02 34 57.5	-0.1
CMCH				AMP		02 35 15.0	
	comp=E,2μm,0.9s						
CHNG	**Los Chungos**	**3.16**	**184**	AMP		02 35 30.1	
	comp=E,242nm,0.5s						

*SOF **16** 02:42:44.1, 41.95N×22.18E, h10^{km}, MD2.7*
*NEIC **16** 02:42:44.4, 41.87N×22.19E, h20^{km}, ML2.0(SKO), After SKO.*
NEIC Felt [III] in the Stip area.
*SKO **16** 02:42:44.4, 41.87N×22.19E, h20^{km}, ML2.0*
*CSEM **16** 02:42:44.4±0.1, 41.94N×22.16E, h5^{km}, ML2.0, Error ellipse: s-maj=2.0km s-min=1.6km az=57.0*
*THE **16** 02:42:45.3, 41.95N×22.27E, h6^{km}, ML2.8*
*ATH **16** 02:42:46.2, 42.00N×22.13E, h45^{km}, MD3.3/3*
ISC 16 02:42:44.4±0.5**, 41.92N**±0.03×**22.19E**±0.03**, h10^{km}, n23, σ1^{s}25**/36**, 3C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.56**	**276**	*i* Pg	**Pg**	**02 42 55.9**	**+0.2**
SKO				*i*		02 42 59.1	
SKO				*i* Sg	**Sg**	**02 43 03.7**	**+0.5**
SKO				Smax		02 43 05.0	
	comp=Z,0.1nm,0.4s						
SKO	**Skopje**	**0.56**	**276**	*i* Pg	**Pg**	**02 42 55.9**	**+0.2**
SKO				*i* Sg	**Sg**	**02 43 03.7**	**+0.5**
VAY	**Valandovo**	**0.67**	**154**⇑	*i*Pg	**Pg**	**02 42 56.8**	**-1.0**
VAY				*i* Sg	**Sg**	**02 43 06.2**	**-0.5**
KKB	**Krupnik**	**0.67**	**94**	*i* Pg	**Pg**	**02 42 58.5**	**+0.6**
KNT	**Kendrikon**	**0.93**	**145**	*e*Pg	**Pg**	**02 43 02.4**	**-0.6**
	comp=Z,18nm,0.3s						
KNT				*e*Sg	**Sg**	**02 43 14.8**	**-0.6**
KNT	**Kendrikon**	**0.93**	**145**	*e*Pg	**Pg**	**02 43 02.3**	**-0.7**
	comp=Z,18nm,0.3s						
KNT				*e*Sg	**Sg**	**02 43 14.8**	**-0.6**
BARS	**Barje**	**0.94**	**344**⇓	*i*Pg	**Pg**	**02 43 02.0**	**-1.2**
BARS				Sg	**Sg**	**02 43 14.2**	**-1.6**
GRG	**Griva**	**0.98**	**170**	*e*Pg	**Pg**	**02 43 02.9**	**-1.0**
GRG				*e*Sg	**Sg**	**02 43 20.4**	**+3.4**
VTS	**Vitosha**	**1.01**	**48**	*i* Pg	**Pg**	**02 43 04.5**	**-0.2**
BIA	**Bitola**	**1.11**	**216**	*e*Pg	**Pg**	**02 43 05.3**	**-1.3**
BIA				*e*Sn	**Sn**	**02 43 20.2**	**-1.1**
MMB	**Musomiste**	**1.20**	**106**	*i* P	**Pb**	**02 43 08.0**	**+1.3**
FNA	**Florina**	**1.29**	**208**	*e*Pg	**Pg**	**02 43 09.0**	**-1.2**
FNA				*e*Sg	**Sg**	**02 43 28.5**	**+1.1**
OHR	**Ohrid**	**1.32**	**233**⇑	*i*Pn	**Pn**	**02 43 09.7**	**+0.8**
OHR				*e*Sn	**Sn**	**02 43 27.9**	**+1.3**
SRS	**Serrai**	**1.33**	**127**	*e*Pg	**Pg**	**02 43 09.6**	**-1.3**
SRS				*e*Sg	**Sg**	**02 43 28.0**	**-0.6**
NVR	**Nevrokopi**	**1.38**	**114**	*e*P	**Pn**	**02 43 11.1**	**+1.3**
NVR				*e*S	**Sb**	**02 43 29.3**	**+2.0**
SOH	**Sokhos**	**1.41**	**141**	*e*Pg	**Pg**	**02 43 10.7**	**-1.8**
SOH				*e*Sg	**Sg**	**02 43 28.9**	**-2.4**
PGB	**Panagyurishte**	**1.60**	**66**	*i* P	**Pn**	**02 43 14.0**	**+1.1**
KZN	**Kozani**	**1.64**	**191**⇑	*i*P	**Pn**	**02 43 14.9**	**+1.4**
PLG	**Polygyros**	**1.81**	**148**	*e*P	**Pn**	**02 43 17.5**	**+1.5**
PLG	**Polygyros**	**1.81**	**148**	*e*Pn	**Pn**	**02 43 18.0**	**+2.0**
RZN	**Rozhen**	**1.91**	**96**	*i* P	**Pn**	**02 43 21.0**	**+3.7**
OUR	**Ouranopolis**	**2.09**	**139**	*e*Pn	**Pn**	**02 43 21.1**	**+1.2**
	comp=Z,1.9nm,0.2s						
RDO	**Rodhopi**	**2.63**	**106**	*e*Pn	**Pn**	**02 43 31.6**	**+3.9**

*IDC **16** 02:55:19.6±1.4, 5.67N×93.22E, mb4.0/9, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, Error ellipse: s-maj=79.8km s-min=27.7km az=49.0*
*NEIC **16** 02:55:24.1±0.6, 5.64N×93.21E, h30^{km}, mb4.2/6, Error ellipse: s-maj=35.8km s-min=9.8km az=54.0*
ISC 16 02:55:22.1±0.9**, 5.5N**±0.2×**93.1E**±0.3**, h30^{km}, n18, σ0^{s}88**/18**, mb4.1**/15**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**23.13**	**342**	*e*P	**P**	**03 00 27.6**	**+0.7**
	8.8nm,0.6s,mb4.4						
DMN	**Daman**	**23.26**	**342**	*e*P	**P**	**03 00 29.8**	**+1.6**
	4.4nm,0.3s,mb4.4						
KKN	**Kakani**	**23.38**	**342**	*e*P	**P**	**03 00 29.7**	**+0.4**
	4.9nm,0.4s,mb4.3						
GKN	**Gorkha**	**23.78**	**341**	*e*P	**P**	**03 00 33.2**	**0.0**
	18nm,0.5s,mb4.8						
KOLN	**Koldanda**	**23.92**	**339**	*e*P	**P**	**03 00 34.5**	**0.0**
	14nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**42.17**	**349**	P	**P**	**03 03 13.0**	**-0.8**
	1.8nm,0.4s,mb4.0,baz=166,slow=8.9,SNR=30						
WRA	**Warramunga Arr**	**47.76**	**123**	P	**P**	**03 03 58.9**	**0.0**
	0.4nm,0.5s,mb3.7,baz=302,slow=9.2,SNR=5.5						
WRAB	**Tennant Creek**	**47.77**	**123**	*e*P	**P**	**03 03 59.2**	**+0.3**
	1.1nm,0.5s,mb4.1						
WRAB				*e*	pP	03 04 08.1	0.0
BVAR	**Borovoye Array**	**50.91**	**342**	P	**P**	**03 04 21.5**	**-1.0**
	0.8nm,0.7s,mb3.8,baz=148,slow=14,SNR=3.8						
AKASG	**Malin Array Be**	**69.39**	**322**	P	**P**	**03 06 27.8**	**-1.4**
	0.1nm,0.3s,mb3.3,baz=86,slow=5.3,SNR=4.4						
AKASG	**Malin Array Be**	**69.39**	**322**	P	**P**	**03 06 27.8**	**-1.4**
JOF	**Joensuu**	**72.54**	**335**	*e*p	**P**	**03 06 46.7**	**-1.3**
FINES	**FINESS Array B**	**74.33**	**333**	P	**P**	**03 06 58.0**	**-0.3**
	0.8nm,0.4s,mb4.0,baz=96,slow=7.8,SNR=9.5						
KAF	**Kangasniemi**	**74.43**	**333**	*e*p	**P**	**03 06 58.0**	**-1.0**
ARCES	**ARCESS Array B**	**77.14**	**341**	P	**P**	**03 07 14.4**	**+0.2**
	2.9nm,0.8s,mb4.2,baz=102,slow=5.9,SNR=12						
GERES	**GERESS Array B**	**78.92**	**319**	P	**P**	**03 07 25.1**	**+0.7**
	0.8nm,0.5s,mb3.9,baz=90,slow=4.0,SNR=5.6						
HFS	**Hagfors**	**79.98**	**330**	P	**P**	**03 07 30.3**	**+0.4**
	1.1nm,0.6s,mb4.0,baz=101,slow=7.6,SNR=6.2						
DAVOX	**Davos**	**81.39**	**316**	P	**P**	**03 07 39.3**	**+1.7**
	1.4nm,0.4s,mb4.2,baz=139,slow=6.8,SNR=5.9						

*IDC **16** 03:07:19.8±1.1, 9.03N×40.45W, mb3.9/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, MS3.6/1, Ms1 3.6/1, ms1mx2.8/21, Error ellipse: s-maj=37.9km s-min=26.5km az=162.0*
*NEIC **16** 03:07:21.3±0.7, 9.00N×40.42W, h10^{km}, mb4.1/5, Error ellipse: s-maj=22.8km s-min=14.7km az=179.0*
ISC 16 03:07:19.4±0.8**, 8.9N**±0.2×**40.4W**±0.1**, h10^{km}, n17, σ0^{s}82**/16**, mb3.9**/12**, MS3.6**/1**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**35.30**	**91**	P	**P**	**03 14 16.3**	**-0.6**
	3.0nm,0.9s,mb4.2,baz=262,slow=14,SNR=3.7						
DBIC	**Dimbokro**	**35.30**	**91**	*e*P	**P**	**03 14 15.9**	**-1.0**
	2.5nm,0.8s,mb4.2						
MDT	**Midelt**	**40.72**	**49**	P	**P**	**03 15 03.2**	**+1.1**
	0.8nm,0.8s,mb3.4,baz=276,slow=8.5,SNR=4.2						
PLCA	**Paso Flores**	**56.69**	**207**	P	**P**	**03 17 06.2**	**+0.6**
	0.6nm,0.7s,mb3.8,baz=10,slow=11,SNR=2.4						
DAVOX	**Davos**	**56.92**	**39**	LR	LR	03 37 34.6	
	comp=Z,54nm,21.4s,MS3.6,baz=266,slow=32						
TXAR	**Lajitas Array**	**62.38**	**298**	P	**P**	**03 17 43.9**	**-1.1**
	0.5nm,1.0s,mb3.6,baz=113,slow=6.9,SNR=2.9						
TXAR	**Lajitas Array**	**62.38**	**298**	P	**P**	**03 17 43.9**	**-1.1**
HWUT	**Hardware Ranch**	**70.03**	**311**	P	**P**	**03 18 34.7**	**+1.1**
	3.4nm,0.9s,mb4.3						
AKASG	**Malin Array Be**	**70.27**	**39**	P	**P**	**03 18 34.5**	**-0.4**
	0.3nm,0.3s,mb3.7,baz=249,slow=7.9,SNR=6.1						
AKASG	**Malin Array Be**	**70.27**	**39**	P	**P**	**03 18 34.5**	**-0.4**
BOZ	**Bozeman (W)**	**70.54**	**315**	P	**P**	**03 18 37.4**	**+0.8**
	1.6nm,0.9s,mb4.0						
BRTR	**Keskin Array B**	**72.09**	**51**	P	**P**	**03 18 46.0**	**-0.1**
	1.0nm,0.8s,mb3.8,baz=252,slow=3.9,SNR=4.6						
HLID	**Hailey**	**72.30**	**313**	*e*P	**P**	**03 18 47.0**	**-0.3**
	1.6nm,1.0s,mb3.9						
ELK	**Elko**	**72.73**	**310**	P	**P**	**03 18 48.3**	**-1.6**
	0.9nm,0.8s,mb3.8						
INK	**Inuvik**	**82.92**	**338**	P	**P**	**03 19 45.5**	**0.0**
	4.9nm,1.3s,mb4.4,baz=22,slow=11,SNR=2.4						
INK	**Inuvik**	**82.92**	**338**	P	**P**	**03 19 45.5**	**0.0**
ILAR	**Eielson Array**	**88.89**	**336**	P	**P**	**03 20 15.6**	**+0.6**
	0.6nm,0.8s,mb4.0,baz=46,slow=4.2,SNR=4.9						

*IDC **16** 03:40:39.7±0.9, 34.96S×111.51W, mb4.0/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.0/8, MS4.4/14, Ms1 4.4/14, ms1mx4.3/20, Error ellipse: s-maj=30.1km s-min=23.2km az=81.0*
*NEIC **16** 03:40:41.4±0.3, 34.97S×111.33W, h10^{km}, mb4.9/23, Error ellipse: s-maj=13.3km s-min=6.4km az=77.0*
*HRVD **16** 03:40:41.4±0.2, 35.23S×111.43W, h12^{km}, MW5.1/63, Centroid moment Tensor Solution. LP body waves: s43,c73;Mantle waves: s63,c119; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.83±.19; $M_{\theta\theta}$-1.31±.19; $M_{\phi\phi}$6.13±.14; $M_{r\theta}$-2.12±.55; $M_{\theta\phi}$-1.88±.14; $M_{\phi r}$0.97±.42; Best double couple: $M_0$6.294×10^{16} NP1: ϕ_s10°,δ43°,λ-54°. NP2:ϕ_s145°,δ57°,λ-119°. Principal axes: T 6.762, Plg7°, Azm255°; N -.946, Plg24°, Azm162°; P -5.826, Plg65°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **16** 03:40:42.3, 35.00S×111.30W, h10^{km}, mB5.2, Ms5.1, Msz4.8*
ISC 16 03:40:39.6±0.4**, 35.02S**±0.07×**111.4W**±0.2**, h10^{km}, n78, σ0^{s}73**/53**, mb4.6**/28**, MS4.6**/20**, 6C-3D, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**32.53**	**112**	P	**P**	**03 47 12.2**	**-0.4**
	3.1nm,1.0s,mb4.2,baz=258,slow=15,SNR=5.2						
PLCA				LR	LR	03 57 07.5	
	comp=Z,454nm,18.7s,MS4.2,baz=268,slow=30						
PLCA	**Paso Flores**	**32.53**	**112**	*e*P	**P**	**03 47 13.6**	**+0.9**
	28nm,1.7s,mb4.9						
PPT	**Papeete**	**38.11**	**287**	LR	LR	03 59 13.9	
	comp=Z,919nm,20.9s,MS4.6,baz=87,slow=29						
LVC	**Limon Verde**	**38.95**	**83**	P	**P**	**03 48 10.0**	**+2.5**
	3.6nm,0.9s,mb4.1,baz=255,slow=12,SNR=2.4						
LVC				LR	LR	03 58 35.0	
	comp=Z,89nm,18.5s,MS3.6,baz=204,slow=28						
LVC	**Limon Verde**	**38.95**	**83**	P	**P**	**03 48 06.5**	**-1.0**
	14nm,1.3s,mb4.5						
LPAZ	**La Paz**	**42.84**	**75**	P	**P**	**03 48 41.1**	**+1.4**
	1.0nm,0.7s,mb3.6,baz=222,slow=12,SNR=4.5						
LPAZ				LR	LR	04 02 18.6	
	comp=Z,500nm,18.9s,MS4.4,baz=193,slow=30						
LPAZ	**La Paz**	**42.84**	**75**	*e*P	**P**	**03 48 40.5**	**+0.8**
	9.5nm,1.4s,mb4.3						
CPUP	**Villa Florida**	**46.82**	**95**	LR	LR	04 05 15.7	
	comp=Z,896nm,18.6s,MS4.8,baz=287,slow=32						
SAML	**Samuel**	**51.05**	**71**	*e*P	**P**	**03 49 43.5**	**-0.8**
	20nm,2.0s,mb4.7						
ROSC	**El Rosal**	**52.80**	**49**	LR	LR	04 09 08.6	
	comp=Z,304nm,18.5s,MS4.4,baz=257,slow=32						
QSPA	**South Pole Qui**	**55.18**	**180**	*e*P	**P**	**03 50 14.5**	**+0.3**
	95nm,2.0s,mb5.5						
VNDA	**Vanda**	**55.41**	**195**	P	**P**	**03 50 16.9**	**+1.0**
	0.4nm,0.8s,mb3.5,baz=106,slow=6.7,SNR=4.3						
VNDA				LR	LR	04 08 26.0	
	comp=Z,263nm,18.9s,MS4.3,baz=93,slow=30						
VNDA	**Vanda**	**55.41**	**195**	P	**P**	**03 50 16.9**	**+1.0**
VNDA				LR	LR	04 08 26.0	
BDFB	**Brasilia**	**59.51**	**88**	LR	LR	04 14 10.6	
	comp=Z,1μm,18.2s,MS5.0,baz=258,slow=34						
VNA3	**Neumayer Olymp**	**60.89**	**159**	*e*	**P**	**03 51 00.6**	**+6.3**
VNA3	**Neumayer Olymp**	**60.89**	**159**	*e*	**P**	**03 51 03.4**	**+9.1**
VNA3	**Neumayer Olymp**	**60.89**	**159**⇑	*i*P	**P**	**03 50 53.7**	**-0.6**
VNA3				*e*		03 51 00.6	
VNA3				*e*		03 51 03.4	
VNA1	**Neumayer--Stat**	**61.55**	**158**	*e*	**P**	**03 51 05.6**	**+6.8**
VNA1	**Neumayer--Stat**	**61.55**	**158**	*e*	**P**	**03 51 08.4**	**+10**
VNA1	**Neumayer--Stat**	**61.55**	**158**	P	**P**	**03 50 58.4**	**-0.4**
VNA1				*e*		03 51 05.6	
VNA1				*e*		03 51 08.4	
VNA2	**Neumayer--Watz**	**61.70**	**159**	*e*	**P**	**03 51 06.1**	**+6.3**
VNA2	**Neumayer--Watz**	**61.70**	**159**	*e*	**P**	**03 51 09.5**	**+10**
VNA2	**Neumayer--Watz**	**61.70**	**159**⇑	*i*P	**P**	**03 51 00.3**	**+0.6**
VNA2				*e*		03 51 06.1	
VNA2				*e*		03 51 09.5	
SNAA	**Sanae**	**62.66**	**160**⇑	*i*P	**P**	**03 51 03.8**	**-2.4**
SNAA	**Sanae**	**62.66**	**160**	*e*	**P**	**03 51 09.6**	**+3.4**
SNAA	**Sanae**	**62.66**	**160**	*e*	**P**	**03 51 12.3**	**+6.1**
SNAA	**Sanae**	**62.66**	**160**	*e*P	**P**	**03 51 05.1**	**-1.1**
	9.3nm,1.3s,mb4.8						
TXAR	**Lajitas Array**	**64.42**	**7**	P	**P**	**03 51 18.0**	**-0.3**
	2.5nm,1.2s,mb4.1,baz=180,slow=7.5,SNR=4.0						
TXAR				LR	LR	04 14 59.5	
	comp=Z,152nm,18.8s,MS4.2,baz=175,slow=32						
MNTX	**Cornudas Mount**	**66.60**	**6**	*e*P	**P**	**03 51 30.6**	**-1.6**
	19nm,1.8s,mb4.8						
TUC	**Tucson**	**66.97**	**1**	*e*P	**P**	**03 51 34.5**	**-0.2**
	5.8nm,1.4s,mb4.4						
LDFC	**Landfair**	**69.82**	**357**	*e*P	**P**	**03 51 53.3**	**+1.0**
DZM	**Mont Dzumac**	**71.50**	**256**	LR	LR	04 15 47.4	
	comp=Z,386nm,20.6s,MS4.7,baz=205,slow=30						
SDCO	**Great Sand Dun**	**72.60**	**5**	*e*P	**P**	**03 52 08.7**	**-0.2**
	4.6nm,1.1s,mb4.3						
MSU	**Marysvale**	**73.16**	**359**	*e*P	**P**	**03 52 12.3**	**+0.1**
MNV	**Mina**	**73.35**	**354**	*e*P	**P**	**03 52 14.0**	**+0.7**
	6.2nm,1.0s,mb4.5						
NVAR	**Mina Array Bea**	**73.36**	**354**	P	**P**	**03 52 13.7**	**+0.3**
	2.4nm,0.9s,mb4.1,baz=196,slow=6.6,SNR=10						
SRU	**San Rafael**	**73.76**	**1**	*e*P	**P**	**03 52 15.0**	**-0.7**
SMCO	**Snowmass**	**73.94**	**4**	*e*P	**P**	**03 52 15.9**	**-0.8**
SYO	**Syowa Base**	**74.09**	**170**	⇓P	**P**	**03 52 15.6**	**-1.4**
DAU	**Daniels Canyon**	**75.06**	**0**	*e*P	**P**	**03 52 23.6**	**+0.4**
BMN	**Battle Mountai**	**75.27**	**355**	*e*P	**P**	**03 52 24.9**	**+0.5**
	23nm,1.4s,mb4.9						
ELK	**Elko**	**75.47**	**357**	*e*P	**P**	**03 52 25.6**	**+0.1**
	44nm,2.3s,mb5.0						
MOD	**Modoc**	**76.98**	**353**	*e*P	**P**	**03 52 33.2**	**-0.8**
	6.2nm,0.9s,mb4.5						
WVOR	**Wild Horse Val**	**77.36**	**355**	*e*P	**P**	**03 52 36.7**	**+0.6**
	30nm,1.7s,mb5.0						
BW06	**Boulder Array**	**77.43**	**1**	*e*P	**P**	**03 52 35.6**	**-0.8**
	9.0nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**77.43**	**1**	P	**P**	**03 52 36.0**	**-0.5**
	5.3nm,1.1s,mb4.4,baz=180,slow=4.4,SNR=14						
MAW	**Mawson**	**77.61**	**178**	P	**P**	**03 52 36.8**	**-0.1**
	2.1nm,0.7s,mb4.2,baz=199,slow=11,SNR=4.4						
MAW				LR	LR	04 26 06.5	
	comp=Z,186nm,19.8s,MS4.4,baz=47,slow=35						
RRI2	**Red Ridge**	**77.99**	**0**	*e*P	**P**	**03 52 39.3**	**-0.2**
	49nm,1.9s,mb5.1						
SNOW	**Snow King Moun**	**78.11**	**0**	*e*P	**P**	**03 52 40.3**	**+0.1**
	12nm,1.3s,mb4.7						
TPAW	**Teton Pass**	**78.13**	**0**	*e*P	**P**	**03 52 40.2**	**-0.1**
	14nm,1.2s,mb4.8						
HLID	**Hailey**	**78.25**	**358**	*e*P	**P**	**03 52 41.6**	**+0.7**
	20nm,1.3s,mb4.9						
LOHW	**Long Hollow**	**78.26**	**1**	*e*P	**P**	**03 52 40.9**	**-0.1**
	20nm,1.7s,mb4.8						
IMW	**Indian Meadow**	**78.54**	**0**	*e*P	**P**	**03 52 42.5**	**0.0**
	9.1nm,1.1s,mb4.6						
FLWY	**Flagg Ranch**	**78.73**	**1**	*e*P	**P**	**03 52 43.5**	**-0.1**
QLMT	**Earthquake Lak**	**79.47**	**360**	*e*P	**P**	**03 52 48.5**	**+0.9**
MCMT	**McKenzie Canyo**	**79.48**	**359**	*e*P	**P**	**03 52 48.2**	**+0.5**
BOZ	**Bozeman (W)**	**80.29**	**360**	*e*P	**P**	**03 52 52.0**	**0.0**
	12nm,1.7s,mb4.5						
NEW	**Newport**	**83.06**	**356**	*e*P	**P**	**03 53 06.5**	**+0.1**
	25nm,1.8s,mb4.9						
STKA	**Stephens Creek**	**84.50**	**235**	LR	LR	04 25 06.7	
	comp=Z,445nm,18.7s,MS4.9,baz=108,slow=32						
CTA	**Charters Tower**	**88.28**	**247**	LR	LR	04 28 22.1	
	comp=Z,310nm,18.7s,MS4.8,baz=48,slow=32						
SCHQ	**Schefferville**	**97.33**	**24**	LR	LR	04 32 56.5	
	comp=Z,139nm,20.8s,MS4.4,baz=228,slow=32						
MDJ	**Mudanjiang**	**133.17**	**301**	PKP	PKPdf	03 59 56.5	-2.1
MDJ				PP	PP		
	comp=Z,39nm,3.8s						
CN2	**Changchun**	**135.97**	**299**	*e*PKP	PKPdf	04 00 03.1	-0.7
SSE	**Sheshan**	**136.17**	**280**	PKP	PKPdf	04 00 04.8	+0.3
SSE				PP	PP	04 02 49.8	+4.6
SSE				SS	SS	04 20 49.9	+6.8
SSE				LR	LR		
	comp=N,57nm,30.4s,MS4.4						
SSE				LR	LR		
	comp=E,89nm,30.6s,MS4.4						
SSE				LR	LR		
	comp=Z,120nm,24.6s						
NJ2	**Nanjing**	**138.36**	**281**	*e*PKP	PKPdf	04 00 03.1	-5.5
NJ2				XPKP		04 00 17.0	
NJ2				PKS	PKS	04 03 39.0	-1.4
NJ2				PP	PP		
	comp=Z,130nm,6.2s						
NJ2				LR	LR		
	comp=N,950nm,27.9s						
NJ2				LR	LR		
	comp=E,710nm,34.4s						
NJ2				LR	LR		
	comp=Z,260nm,27.2s,MS4.8						
ENH	**Enshi**	**145.42**	**274**	*e*PKPdf	PKPdf	04 00 18.2	-2.7
BURAR	**Bucovina Array**	**145.51**	**55**⇓	*i*P	PKPbc	04 00 19.9	+1.7
VOIR		**145.53**	**59**⇑	*i*P	PKPbc	04 00 26.0	+7.7
HHC	**Hu-ho-hao-te**	**145.88**	**293**	*e*PKP	PKPdf	04 00 21.1	-0.3
HHC				PKS	PKS	04 03 54.3	+1.7
HHC				SKS	SKS	04 07 23.3	-6.3
HHC				PP	PP		
	comp=Z,99nm,6.0s						
HHC				LR	LR		
	comp=N,131nm,17.8s,MS5.4						
HHC				LR	LR		
	comp=E,518nm,19.0s,MS5.4						
HHC				LR	LR		
	comp=Z,133nm,17.8s,MS4.8						
MLR	**Muntele Rosu**	**146.16**	**59**⇑	*i*P	PKPbc	04 00 21.4	+1.6
MLR	**Muntele Rosu**	**146.16**	**59**⇑	*i*P	PKPbc	04 00 21.4	+1.6
GYA	**Guiyang**	**146.35**	**266**⇓	*i*PKP	PKPdf	04 00 23.0	+0.3
GYA				PP	PP	04 03 50.8	+3.3
GYA				PKS	PKS	04 03 56.9	+3.1
GYA				SKS	SKS	04 07 30.3	-0.4
GYA				SKKS		04 10 39.8	
GYA				PP	PP		
	comp=Z,90nm,7.8s						
GYA				LR	LR		
	comp=N,110nm,20.9s,MS4.8						
GYA				LR	LR		
	comp=E,120nm,21.6s,MS4.8						
GYA				LR	LR		
	comp=Z,100nm,21.8s,MS4.6						
XAN	**Xi'an**	**146.92**	**280**	PKP	PKPdf	04 00 22.3	-1.1
AKASG	**Malin Array Be**	**147.60**	**49**	PKPbc	PKPdf	04 00 23.6	-0.4
	comp=Z,0.7nm,0.6s,baz=273,slow=4.5,SNR=6.6						
KMI	**Kunming**	**148.99**	**261**	PKP	PKPdf	04 00 28.6	+1.6
KMI				PP	PP	04 04 03.8	+1.5
KMI				LR	LR		
	comp=N,156nm,20.0s,MS4.9						
KMI				LR	LR		
	comp=E,119nm,23.3s,MS4.9						
KMI				LR	LR		
	comp=Z,105nm,18.9s,MS4.7						
LZH	**Lanzhou**	**151.40**	**282**	*e*PKP	PKPdf	04 00 35.3	+4.9
LZH				XPKP		04 00 40.0	
LZH				SKKS		04 11 09.5	
LZH				*e*SS	SS	04 23 43.0	+5.8
LZH				PP	PP		
	comp=Z,132nm,9.3s						
LZH				LR	LR		
	comp=E,263nm,18.9s						
LZH				LR	LR		
	comp=Z,312nm,19.8s,MS5.1						
BRTR	**Keskin Array B**	**151.93**	**70**	PKPbc	PKPdf	04 00 35.7	+4.6
	comp=Z,0.4nm,0.4s,baz=225,slow=3.5,SNR=4.3						
WMQ	**Urumqi**	**162.85**	**307**	*e*PKP	PKPdf	04 00 42.0	-2.3
WMQ				APKP		04 00 52.0	
WMQ				PP	PP		
	comp=Z,89nm,4.7s						
WMQ				LR	LR		
	comp=N,197nm,22.9s						
WMQ				LR	LR		
	comp=E,146nm,25.6s						
WMQ				LR	LR		
	comp=Z,183nm,26.5s						

ISC 16 03:54:28.5±0.9**, 39.33N**±0.04×**40.9E**±0.1**, h10^{km}, n6, σ0^{s}92**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.42**	**153**	*i* P	**Pg**	**03 54 36.6**	**-0.3**
BNGL				*i* S	**Sg**	**03 54 43.2**	**+0.6**
EZM	**Erzurum**	**0.68**	**31**	*e*PG	**Pg**	**03 54 42.2**	**+0.1**
EZM				*e*SG	**Sg**	**03 54 52.2**	**+1.1**
ERZM	**Erzurum**	**0.68**	**31**	*i* P	**Pb**	**03 54 39.5**	**-2.4**
ERZM				*i* S	**Sb**	**03 54 51.1**	**+0.1**
PTK	**Pertek**	**1.26**	**250**	*e*PN	**Pn**	**03 54 52.8**	**+0.7**
BEST	**Besiri**	**1.46**	**169**	*i* P	**Pn**	**03 54 54.5**	**-0.5**
BEST				*i* S	**Sb**	**03 55 19.2**	**+5.4**
GUMT	**Gumushane**	**1.58**	**316**	*e*PN	**Pn**	**03 55 01.5**	**+4.7**

*LDG **16** 04:22:45.8±0.1, 47.28N×7.68E, h17^{km}, Md2.9/1, Ml2.4/18, Error ellipse: s-maj=1.5km s-min=1.0km az=108.0*
*ZUR **16** 04:22:45.9, 47.26N×7.65E, h24^{km}±1^{km}, ML2.2/12*
*CSEM **16** 04:22:45.8±0.1, 47.27N×7.68E, h18^{km}, ML2.4/19, Error ellipse: s-maj=1.0km s-min=0.9km az=74.0*
*STR **16** 04:22:46.3±0.4, 47.31N×7.64E, h16^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LEDBW **16** 04:22:46.2±0.3, 47.27N×7.68E, h23^{km}±2^{km}, ML2.2, Error ellipse: s-maj=8.0km s-min=4.0km az=148.0*
*BGR **16** 04:22:46.4±0.3, 47.28N×7.65E, h22^{km}±1^{km}, ML1.7/1, Error ellipse: s-maj=3.3km s-min=2.2km az=15.0*
*VIE **16** 04:22:47.0±0.9, 47.27N×7.80E, h8^{km}, ML2.3/2, Error ellipse: s-maj=8.4km s-min=4.9km az=3.0*
ISC 16 04:22:45.5±0.3**, 47.26N**±0.02×**7.60E**±0.03**, h31^{km}**±2^{km}**, n74, σ1^{s}03**/151**, 8C-6D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.10**	**39**⇑	*i*Pg	**Pn**	**04 22 50.5**	**-0.1**
BALST				*i* Sg	**Sn**	**04 22 53.5**	**-0.3**
BBS	**Basel-Blauen**	**0.21**	**343**	*e*Pg	**Pb**	**04 22 52.0**	**0.0**
	SNR=4.5						
BBS				*e*Sg	**Sb**	**04 22 55.5**	**-0.9**
BBS	**Basel-Blauen**	**0.21**	**343**	P	**Pb**	**04 22 52.1**	**+0.1**
BBS	**Basel-Blauen**	**0.21**	**343**	Pg	**Pb**	**04 22 52.0**	**0.0**
BBS				Sg	**Sb**	**04 22 55.3**	**-1.1**
BOURR	**Bourrignon**	**0.29**	**298**	*e*Pg	**Pb**	**04 22 53.3**	**+0.4**
	SNR=9.4						
BOURR				*e*Sg	**Sb**	**04 22 57.9**	**0.0**
BOURR	**Bourrignon**	**0.29**	**298**⇓	*i*Pg	**Pb**	**04 22 53.3**	**+0.4**
SULZ	**Sulz-Cheisache**	**0.44**	**52**	*e*Pg	**Pb**	**04 22 54.7**	**-0.3**
	SNR=24						
SULZ				*e*Sg	**Sb**	**04 23 00.8**	**-0.8**
SULZ	**Sulz-Cheisache**	**0.44**	**52**⇑	*i*Pg	**Pb**	**04 22 54.8**	**-0.2**
SULZ				*e*Sg	**Sb**	**04 23 01.1**	**-0.5**
LOMF	**Lomont**	**0.54**	**280**	*e*Pg	**Pb**	**04 22 57.4**	**+0.9**
	SNR=7.9						
LOMF				*e*Sg	**Sb**	**04 23 04.8**	**+0.6**
LOMF	**Lomont**	**0.54**	**280**	P	**Pb**	**04 22 57.5**	**+1.0**
LOMF	**Lomont**	**0.54**	**280**	Pg	**Pb**	**04 22 57.4**	**+0.8**
LOMF				Sg	**Sb**	**04 23 05.1**	**+1.0**
WIMIS	**Wimmis**	**0.59**	**179**	*e*Pg	**Pb**	**04 22 58.0**	**+0.5**
HASLI	**Hasliberg**	**0.63**	**143**⇓	*i*Pg	**Pb**	**04 22 58.3**	**+0.3**
TORNY	**Torny**	**0.66**	**223**⇑	*i*P	**Pb**	**04 22 59.6**	**+1.1**
TORNY	**Torny**	**0.66**	**223**⇑	*i*Pn	**Pn**	**04 22 59.1**	**+0.5**
TORNY	**Torny**	**0.66**	**223**⇑	*i*Pn	**Pn**	**04 22 59.1**	**+0.5**
TORNY	**Torny**	**0.66**	**223**⇑	*i*P	**Pb**	**04 22 59.6**	**+1.1**
MOF	**Molkenrain**	**0.67**	**332**	Pg	**Pb**	**04 22 59.0**	**+0.2**
MOF				Sg	**Sb**	**04 23 08.5**	**+0.6**
MOF	**Molkenrain**	**0.67**	**332**	*e*Pg	**Pb**	**04 22 59.1**	**+0.3**
	SNR=15						
MOF				Pn	**Pn**	**04 22 59.2**	**+0.3**
MOF				*e*Sg	**Sb**	**04 23 08.4**	**+0.6**
MOF	**Molkenrain**	**0.67**	**332**	P	**Pn**	**04 22 59.2**	**+0.3**
ZUR	**Zurich**	**0.67**	**80**	*e*Pg	**Pb**	**04 22 58.8**	**+0.1**
	SNR=5.0						
ZUR				*e*Sg	**Sb**	**04 23 07.4**	**-0.4**
ZUR	**Zurich**	**0.67**	**80**	*e*P	**Pb**	**04 22 58.5**	**-0.3**
FELD	**Feldberg**	**0.67**	**24**	Pn	**Pb**	**04 22 58.1**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FELD				ePg	Pb	04 22 58.7	-0.1
	SNR=20						
FELD				eSg	Sb	04 23 07.4	-0.4
FELD	Feldberg	0.67	24	P	Pb	04 22 58.1	-0.6
FELD				P		04 22 58.8	
FELD	Feldberg	0.67	24	PG	Pb	04 22 58.8	0.0
FELD	Feldberg	0.67	24	Pg	Pb	04 22 58.0	-0.8
FELD				Sg	Sb	04 23 07.5	-0.4
KIZ	Kirchzarten	0.73	17	Pn	Pn	04 22 58.9	-0.8
KIZ				Pg	Pb	04 22 59.6	-0.1
KIZ				Sn	Sn	04 23 08.2	-1.6
KIZ				Sg	Sb	04 23 09.1	-0.3
KIZ	Kirchzarten	0.73	17	S	Sb	04 23 08.2	-1.2
HINF	Hinteralfeld	0.76	318	ePn	Pn	04 23 00.3	+0.3
HINF				ePg	Pb	04 23 00.8	+0.7
HINF				eSg	Sb	04 23 10.5	+0.3
	15nm,0.2s						
HINF	Hinteralfeld	0.76	318	ePg	Pb	04 23 00.8	+0.7
HINF				eSg	Sb	04 23 10.5	+0.3
	7.5nm,0.2s						
MUO	Muotathal	0.76	112	eP	Pn	04 23 00.4	+0.2
SLE	Schleitheim	0.79	50	ePg	Pn	04 22 59.5	-1.0
	SNR=76						
SLE				eSg	Sb	04 23 10.3	-0.7
SLE	Schleitheim	0.79	50	⇑iPn	Pn	04 22 59.5	-1.0
LIBD	Limburg	0.89	360	eSg	Sb	04 23 14.5	+0.5
WILA	Wila	0.90	80	ePg	Pn	04 23 02.8	+0.7
	SNR=14						
WILA				eSg	Sb	04 23 14.2	0.0
SENIN	Lac Senin	0.92	193	⇑iPn	Pn	04 23 02.8	+0.4
ECH	Echery	1.00	343	ePn	Pn	04 23 04.4	+0.8
	SNR=3.5						
ECH				eSg	Sn	04 23 17.6	+0.9
ECH	Echery	1.00	343	S	Sn	04 23 17.9	+1.2
ECH	Echery	1.00	343	Pg	Pn	04 23 04.2	+0.6
ECH				Sg	Sn	04 23 17.8	+1.1
SISB	Singen-Sch Ber	1.02	65	Pn	Pn	04 23 03.0	-0.8
SISB				Sn	Sn	04 23 15.7	-1.4
SISB				Sg	Sn	04 23 17.6	+0.5
HAU	Haudompre	1.13	312	ePn	Pn	04 23 05.8	+0.4
HAU				ePg	Pn	04 23 07.9	+2.5
HAU				eSn	Sn	04 23 20.2	+0.2
HAU				eSg	Sn	04 23 23.1	+3.1
	9.6nm,0.2s						
WLS	Welschbruch	1.17	352	Pn	Pn	04 23 06.0	0.0
WLS				eSg	Sn	04 23 22.8	+2.0
CDF	Champ du Feu	1.18	349	ePn	Pn	04 23 06.1	+0.1
CDF				ePg	Pn	04 23 08.1	+2.1
CDF				eSn	Sn	04 23 20.4	-0.7
CDF				eSg	Sn	04 23 23.0	+1.9
	7.6nm,0.2s						
BFO	Black Forest	1.18	24	ePn	Pn	04 23 07.0	+0.9
	SNR=5.3						
BFO				Sn	Sn	04 23 21.2	+0.1
BFO				eSg	Sn	04 23 21.8	+0.7
BFO	Black Forest	1.18	24	P	Pn	04 23 04.6	-1.5
BFO				S	Sn	04 23 21.2	+0.1
BFO				S	Sn	04 23 22.0	+0.9
CABF	La Chapelle	1.23	239	ePn	Pn	04 23 06.8	0.0
CABF				eP		04 23 09.4	
CABF				ePg	Pn	04 23 10.1	+3.3
CABF				eSn	Sn	04 23 23.2	+0.8
	9.3nm,0.2s						
LIENZ	Alp Oberkamor	1.29	88	ePg	Pn	04 23 09.9	+2.2
	SNR=2.9						
LIENZ				eSg	Sn	04 23 26.0	+2.1
GUT	Gutenstein	1.30	51	Pn	Pn	04 23 06.4	-1.5
GUT				Sn	Sn	04 23 21.5	-2.9
GUT				Sg	Sn	04 23 26.1	+1.7
THEF	They Montfort	1.46	312	Pn	Pn	04 23 05.0	-5.1
DAVA	Damuels	1.55	88	⇓iPG	Pn	04 23 14.5	+3.1
DAVA				i SG	Sn	04 23 34.3	+3.7
	4.0nm,0.3s						
DAVA	Damuels	1.55	88	⇓iPg	Pn	04 23 14.5	+3.1
LBG	Lerchenberg	1.62	29	Pg	Pn	04 23 17.7	+5.3
LPL	La Plagne	1.84	199	ePn	Pn	04 23 15.9	+0.3
LPL				ePg	Pn	04 23 20.9	+5.3
LPL				eSg	Sn	04 23 45.5	+7.4
	3.9nm,0.5s						
LPG	La Plagne	1.86	199	ePn	Pn	04 23 16.3	+0.5
LPG				ePg	Pn	04 23 21.2	+5.4
LPG				eSn	Sn	04 23 38.4	0.0
LPG				eSg	Sn	04 23 45.8	+7.4
	2.2nm,0.4s						
SFTF	Sexfontaines	1.97	300	ePn	Pn	04 23 17.6	+0.1
	baz=125						
SFTF				ePg	Pn	04 23 23.5	+6.0
SFTF				eSn	Sn	04 23 40.3	-1.1
SFTF				eSg	Sn	04 23 48.6	+7.2
	4.7nm,0.3s						
RFYF	Reffroy	1.98	315	ePn	Pn	04 23 17.3	-0.3
	baz=129						
RFYF				ePg	Pn	04 23 23.5	+5.9
	baz=127						
RFYF				eSn	Sn	04 23 40.3	-1.3
RFYF				eSg	Sn	04 23 49.2	+7.6
	7.5nm,0.3s						
RFYF	Reffroy	1.98	315	ePg	Pn	04 23 23.5	+5.9
RFYF				eSn	Sn	04 23 40.3	-1.3
RFYF				eSg	Sn	04 23 49.2	+7.6
	3.8nm,0.3s						
MEZF	Maizieres J'vi	2.12	307	ePn	Pn	04 23 19.2	-0.4
MEZF				ePg	Pn	04 23 26.1	+6.5
MEZF				eSg	Sn	04 23 53.6	+8.5
	6.6nm,0.4s						
MOTA	Moosalm	2.38	87	⇓iPG	Pn	04 23 29.6	+6.3
MOTA				i SG	Sn	04 24 00.4	+8.6
	2.0nm,0.2s						
MOTA	Moosalm	2.38	87	⇓iPg	Pn	04 23 29.6	+6.3
SIND	Sindeldorf	2.48	32	Sg	Sn	04 24 04.3	+10
LOR	Lormes	2.55	272	ePn	Pn	04 23 26.1	+0.4
LOR				ePg	Pn	04 23 34.2	+8.5
LOR				eSg	Sn	04 24 07.1	+11
	4.2nm,0.2s						
MBDF	Montbardon	2.60	193	ePn	Pn	04 23 25.3	-1.1
MBDF				ePg	Pn	04 23 35.5	+9.1
MBDF				eSg	Sn	04 24 09.1	+12
	1.5nm,0.3s						
ORIF	Oris-en-Rattie	2.63	208	ePn	Pn	04 23 26.3	-0.6
ORIF				ePg	Pn	04 23 36.0	+9.1
ORIF				eSg	Sn	04 24 09.8	+12
	1.8nm,0.3s						
SMF	Signal de Mont	2.65	258	ePn	Pn	04 23 26.3	-0.8
SMF				ePg	Pn	04 23 36.3	+9.2
SMF				eSn	Sn	04 23 56.1	-2.4
SMF				eSg	Sn	04 24 10.8	+12
	4.0nm,0.2s						
SSF	Saint Saulge	2.80	267	ePn	Pn	04 23 29.4	+0.1
SSF				ePg	Pn	04 23 39.2	+10
SSF				eSn	Sn	04 24 00.2	-2.2
SSF				eSg	Sn	04 24 14.6	+12
	2.9nm,0.3s						
AVF	Avril sur Loir	2.95	262	ePn	Pn	04 23 30.8	-0.5
AVF				ePg	Pn	04 23 41.1	+10
AVF				eSn	Sn	04 24 03.6	-2.4
AVF				eSg	Sn	04 24 18.7	+13
	1.8nm,0.3s						
VIVF	Saint-Julien-l	3.15	221	ePn	Pn	04 23 32.7	-1.6
VIVF				eSg	Sn	04 24 26.0	+15
	1.9nm,0.2s						
BGF	Bois d'Agland	3.34	260	ePg	Pn	04 23 48.9	+12
BGF				eSg	Sn	04 24 31.9	+16
	5.4nm,0.4s						
HYF	Humbligny	3.38	272	ePn	Pn	04 23 37.1	-0.4
BAIF	Baives	3.59	322	ePn	Pn	04 23 39.3	-1.2
FRF	La Foret Royal	3.76	191	ePn	Pn	04 23 41.7	-1.2
CAF	Calviac	4.50	241	ePn	Pn	04 23 52.4	-1.1
FLN	La Foliniere	5.63	288	ePn	Pn	04 24 07.4	-2.0

*JMA **16** 04:49:37.7±0.3, 36.43N×142.68E, h12km, M3.4*
*IDC **16** 04:50:09.5±1.5, 35.86N×136.94E, mb3.4/2, mb1 3.6/2, mb1mx3.4/21, mbtmp3.4/2, Error ellipse: s-maj=38.0km s-min=26.8km az=146.0, Low Confidence*
ISC 16 04:49:38.2±1.8**, 36.43N**±0.04×**142.6E**±0.1**, h7**km±14km**, n14, σ0§81**/21**, mb3.5**/1**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.59	243	P	Pn	04 50 07.3	+0.3
CHOJ				S	Sb	04 50 28.1	+0.4
ONAJ	Iwakimizuishiy	1.59	295	P	Pn	04 50 06.9	-0.1
JHO	Hitachi	1.64	277	P	Pn	04 50 07.7	-0.1
JHO				S	Sb	04 50 29.4	+0.1
JMM	Marumori	2.03	315	P	Pn	04 50 14.0	+0.7
JFT	Otama	2.11	302	P	Pn	04 50 15.0	+0.6
JFT				S	Sn	04 50 42.7	+1.5
BSO1	Boso 1	2.21	217	P	Pn	04 50 14.8	-1.1
BSO1				S	Sn	04 50 44.0	+0.2
JIO	Ouri	2.25	334	P	Pn	04 50 16.1	-0.3
BSO3	Boso 3	2.35	227	P	Pn	04 50 18.0	+0.1
BSO3				S	Sn	04 50 47.4	0.0
JAG	Ashikaga	2.54	271	P	Pn	04 50 20.7	+0.2
JAG				S	Sn	04 50 50.9	-1.1
JMK	Ichinoseki	2.74	337	P	Pn	04 50 23.8	+0.3
JMK				eS	Sn	04 50 55.5	-1.7
MJAR	Matsushiro Arr	3.54	273	Pn	Pn	04 50 34.3	-0.5
	1.3nm,0.3s,baz=112,slow=9.7,SNR=12						
MAT	Matsushiro	3.54	273	P	Pn	04 50 33.7	-1.1
MAT				eS	Sn	04 51 17.5	0.0
MKAR	Makanchi Array	45.24	303	P	P	04 57 59.8	+2.0
	0.4nm,0.6s,mb3.5,baz=104,slow=10.0,SNR=4.3						
WRA	Warramunga Arr	56.61	189	P	Px	04 59 46.7	
	0.3nm,0.5s,baz=1.4,slow=7.8,SNR=5.5						

*IDC **16** 05:04:00.9±0.8, 6.16S×150.34E, mb4.3/7, mb1 4.6/9, mb1mx4.4/15, mbtmp4.5/9, ML3.9/2, MS3.3/7, Ms1 3.3/7, ms1mx3.2/24, Error ellipse: s-maj=22.1km s-min=18.7km az=113.0*
*NEIC **16** 05:04:06.5±1.9, 6.15S×150.41E, h44km±18km, mb4.5/3, Error ellipse: s-maj=18.7km s-min=11.9km az=159.0*
ISC 16 05:04:03.9±2.3**, 6.2S**±0.1×**150.40E**±0.08**, h39**km±21km**, n20, σ1§11**/18**, mb4.0**/8**, MS3.3**/4**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.55	225	Pn	P	05 05 12.7	+0.6
	9.5nm,0.3s,baz=45,slow=6.4,SNR=21						
PMG				Sn	S	05 06 02.8	-1.6
	8.8nm,0.3s,baz=42,slow=6.2,SNR=4.4						
PMG				LR	LR	05 07 01.5	
	comp=Z,347nm,18.6s,baz=40,slow=40						
PMG	Port Moresby	4.55	225	ePn	P	05 05 13.6	+1.5
PMG				eSn	S	05 06 04.8	+0.4
HNR	Honiara	10.00	110	Pn	P	05 06 27.3	-0.8
	11nm,0.3s,baz=259,slow=10,SNR=2.2						
HNR				LR	LR	05 09 28.9	
	comp=Z,122nm,20.3s,baz=72,slow=33						
CTA	Charters Tower	14.41	196	LR	LR	05 12 31.6	
	comp=Z,107nm,19.3s,baz=48,slow=35						
GUMO	Guam	20.38	344	LR	LR	05 15 49.6	
	comp=Z,62nm,19.4s,MS3.0,baz=56,slow=35						
WRAB	Tennant Creek	20.75	227	eP	P	05 08 43.8	-0.1
	34nm,0.8s						
WB2	Warramunga Arr	20.75	227	⇑iP	P	05 08 44.1	+0.1
WRA	Warramunga Arr	20.76	227	P	P	05 08 43.8	-0.3
	16nm,0.8s,baz=52,slow=11,SNR=80						
WRA				ScP		05 16 32.4	
	0.4nm,0.6s,baz=50,slow=2.7,SNR=5.1						
DZM	Mont Dzumac	22.14	137	P	P	05 08 59.7	+1.9
	3.9nm,0.9s,mb3.9,baz=293,slow=15,SNR=3.0						
DZM				LR	LR	05 16 30.7	
	comp=Z,157nm,18.1s,MS3.5,baz=209,slow=34						
STKA	Stephens Creek	26.87	197	eP	P	05 09 41.7	-1.5
	7.9nm,1.4s,mb4.0						
STKA	Stephens Creek	26.87	197	P	P	05 09 41.9	-1.3
	9.5nm,1.1s,mb4.2,baz=62,slow=10,SNR=7.2						
STKA				LR	LR	05 21 23.7	
	comp=Z,119nm,20.0s,MS3.5,baz=24,slow=39						
FITZ	Fitzroy Crossi	26.91	242	eP	P	05 09 44.3	+0.6
	10nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	26.91	242	P	P	05 09 44.2	+0.5
	10.0nm,0.6s,mb4.5,baz=34,slow=5.0,SNR=16						
FITZ				LR	LR	05 19 56.9	
	comp=Z,59nm,18.4s,MS3.2,baz=82,slow=36						
JNU	Nakatsue	43.25	336	P	P	05 12 02.9	-0.6
	5.3nm,0.8s,mb4.3,baz=90,slow=2.0,SNR=3.0						
VNDA	Vanda	71.57	177	P	P	05 15 22.4	-0.2
	0.3nm,0.6s,mb3.4,baz=326,slow=6.9,SNR=3.5						
MKAR	Makanchi Array	79.80	320	P	P	05 16 11.0	+1.2
	0.2nm,0.4s,mb3.4,baz=235,slow=49,SNR=2.5						
ILAR	Eielson Array	84.32	23	P	P	05 16 31.2	-1.7
	1.6nm,1.0s,mb4.1,baz=260,slow=4.9,SNR=8.5						
NVAR	Mina Array Bea	94.80	52	P	P	05 17 26.2	+3.1
	2.4nm,0.8s,mb4.7,baz=254,slow=9.0,SNR=20						
PDAR	Pinedale Array	101.53	48	P	P	05 17 54.5	+1.0
	0.5nm,0.8s,baz=45,slow=2.1,SNR=4.5						
GERES	GERESS Array B	123.93	327	PKP	PKPdf	05 23 01.0	+2.7
	0.9nm,0.6s,baz=117,slow=3.0,SNR=6.8						

*NEIC **16** 05:18:49.1±4.2, 5.87S×154.93E, h110km±33km, mb4.3/2, Error ellipse: s-maj=47.4km s-min=26.4km az=117.0*
*IDC **16** 05:18:53.6±5.9, 5.92S×154.73E, h151km±51km, mb3.6/5, mb1 3.8/6, mb1mx3.7/15, mbtmp4.1/6, Error ellipse: s-maj=42.2km s-min=27.8km az=104.0*
ISC 16 05:18:50.4±4.8**, 5.9S**±0.2×**154.8E**±0.3**, h131**km±40km**, n10, σ1§34**/12**, mb3.9**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.33	244	P	P	05 20 49.8	+0.4
	2.3nm,0.3s,baz=56,slow=10,SNR=9.2						
PMG				S	S	05 22 16.7	-5.5
	1.0nm,0.3s,baz=299,slow=18,SNR=2.3						
PMG	Port Moresby	8.33	244	ePn	P	05 20 48.7	-0.7
PMG				eSn	S	05 22 21.2	-1.1
WRAB	Tennant Creek	24.29	233	eP	P	05 23 58.3	+1.3
	6.6nm,0.7s,mb4.3						
WB2	Warramunga Arr	24.29	233	eP	P	05 23 58.6	+1.6
WRA	Warramunga Arr	24.30	233	P	P	05 23 58.4	+1.3
	3.9nm,0.7s,mb4.0,baz=54,slow=9.6,SNR=29						
FITZ	Fitzroy Crossi	30.93	244	eP	P	05 24 55.9	-1.4
	7.2nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	30.93	244	P	P	05 24 55.1	-2.2
	12nm,0.8s,mb4.7,baz=106,slow=3.5,SNR=9.1						
VNDA	Vanda	71.73	178	P	P	05 29 57.5	-2.2
	0.5nm,0.5s,mb3.5,baz=304,slow=3.0,SNR=8.7						
ILAR	Eielson Array	82.40	22	P	P	05 30 59.8	+0.8
	0.3nm,0.7s,mb3.1,baz=253,slow=6.0,SNR=5.6						
MKAR	Makanchi Array	82.40	319	P	P	05 30 58.5	-0.9
	0.1nm,0.5s,baz=121,slow=7.1,SNR=3.8						

*IDC **16** 05:25:02.0±0.6, 21.35N×45.79W, mb4.1/15, mb1 4.2/15, mb1mx4.1/27, mbtmp4.1/15, MS4.0/22, Ms1 4.0/22, ms1mx4.0/26, Error ellipse: s-maj=18.4km s-min=15.5km az=148.0*
*NEIC **16** 05:25:04.0±0.4, 21.31N×45.71W, h10km, mb4.6/10, Error ellipse: s-maj=12.4km s-min=10.9km az=180.0*
ISC 16 05:25:02.3±0.5**, 21.33N**±0.09×**45.74W**±0.09**, h10**km**, n46, σ1§15**/31**, mb4.2**/24**, MS4.0**/22**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	26.98	246	P	P	05 30 46.8	+0.4
	4.8nm,0.4s,mb4.4,baz=36,slow=7.1,SNR=2.2						
SDV				LR	LR	05 40 32.1	
	comp=Z,242nm,18.7s,MS3.8,baz=53,slow=34						
BDFB	Brasilia	36.81	184	LR	LR	05 46 36.0	
	comp=Z,129nm,21.4s,MS3.7,baz=193,slow=35						
SCHQ	Schefferville	37.03	340	P	P	05 32 14.4	+0.4
	5.2nm,1.0s,mb4.3,baz=165,slow=20,SNR=2.6						
SCHQ				LR	LR	05 45 52.1	
	comp=Z,134nm,18.6s,MS3.8,baz=166,slow=34						
MDT	Midelt	38.15	64	P	P	05 32 25.3	+1.7
	3.7nm,1.1s,mb4.0,baz=302,slow=7.6,SNR=4.8						
ESDC	Sonseca Array	39.95	53	P	P	05 32 39.6	+1.1
	0.2nm,0.3s,mb3.3,baz=252,slow=7.5,SNR=6.1						
SIV	San Ignacio	40.03	203	P	P	05 32 38.8	-0.6
	2.8nm,1.2s,mb3.9,baz=49,slow=11,SNR=4.3						
DBIC	Dimbokro	42.11	104	P	P	05 32 56.2	-0.4
	5.2nm,1.0s,mb4.1,baz=276,slow=8.9,SNR=7.8						
DBIC				LR	LR	05 48 03.8	
	comp=Z,256nm,18.3s,MS4.1,baz=352,slow=33						
LPAZ	La Paz	43.36	212	P	P	05 33 07.1	+0.3
	3.2nm,1.1s,mb4.0,baz=7.3,slow=11,SNR=7.1						
LPAZ				LR	LR	05 50 10.2	
	comp=Z,136nm,19.5s,MS3.9,baz=273,slow=35						
LPAZ	La Paz	43.36	212	eP	P	05 33 06.9	+0.1
	17nm,1.5s,mb4.6						
ULM	Lac du Bonnet	48.63	319	P	P	05 33 46.9	-1.3
	2.6nm,0.9s,mb4.3,baz=110,slow=12,SNR=2.4						
ULM				LR	LR	05 52 18.8	
	comp=Z,233nm,19.0s,MS4.2,baz=106,slow=34						
ULM	Lac du Bonnet	48.63	319	P	P	05 33 46.9	-1.3
ULM				LR	LR	05 52 18.8	
CPUP	Villa Florida	48.70	194	LR	LR	05 53 31.4	
	comp=Z,86nm,20.8s,MS3.7,baz=149,slow=35						
LVC	Limon Verde	49.18	209	P	P	05 33 51.1	-1.6
	7.8nm,1.1s,mb4.7,baz=6.8,slow=10.0,SNR=3.5						
LVC	Limon Verde	49.18	209	eP	P	05 33 53.7	+0.9
TXAR	Lajitas Array	52.51	291	LR	LR	05 58 42.7	
	comp=Z,65nm,19.6s,MS3.7,baz=185,slow=38						
NOA	NORSAR Array B	55.71	30	LR	LR	05 53 13.2	
	comp=Z,126nm,20.1s,MS4.0,baz=250,slow=30						
BW06	Boulder Array	56.80	308	eP	P	05 34 49.1	-0.1
	10nm,1.3s,mb4.7						
PDAR	Pinedale Array	56.80	308	P	P	05 34 48.3	-0.8
	1.7nm,1.0s,mb4.0,baz=90,slow=7.4,SNR=9.9						
PDAR				LR	LR	05 59 03.4	
	comp=Z,90nm,19.4s,MS3.9,baz=98,slow=36						
LOHW	Long Hollow	57.57	309	P	P	05 34 56.3	+1.7
	12nm,1.4s,mb4.7						
TPAW	Teton Pass	57.82	309	eP	P	05 34 55.9	-0.5
	9.2nm,1.1s,mb4.7						
RRI2	Red Ridge	58.09	309	eP	P	05 34 58.0	-0.2
	1.5nm,0.6s,mb4.2						
HWUT	Hardware Ranch	58.29	306	eP	P	05 34 59.1	-0.5
	0.6nm,0.4s,mb4.0						
EDM	Edmonton	59.83	320	eP	P	05 35 09.5	-0.7
HLID	Hailey	60.34	309	P	P	05 35 16.9	+3.1
	6.4nm,1.6s,mb4.4						
ELK	Elko	61.10	306	LR	LR	05 58 45.0	
	comp=Z,354nm,18.2s,MS4.5,baz=93,slow=33						
ELK	Elko	61.10	306	eP	P	05 35 21.2	+2.1
	3.5nm,1.0s,mb4.4						
YKA	Yellowknife Ar	61.55	330	P	P	05 35 18.6	-3.2
	2.0nm,0.9s,mb4.2,baz=98,slow=7.1,SNR=6.0						
YKA				LR	LR	05 59 44.1	
	comp=Z,85nm,18.4s,MS3.9,baz=85,slow=34						
YKA	Yellowknife Ar	61.55	330	P	P	05 35 18.6	-3.2
YKA				LR	LR	05 59 44.1	
NEW	Newport	62.10	314	LR	LR	05 59 55.9	
	comp=Z,255nm,19.0s,MS4.4,baz=81,slow=34						
NEW	Newport	62.10	314	eP	P	05 35 25.4	-0.2
	6.3nm,1.2s,mb4.6						
FINES	FINESS Array B	62.81	31	LR	LR	05 57 49.2	
	comp=Z,91nm,21.7s,MS3.9,baz=164,slow=31						
WVOR	Wild Horse Val	63.50	308	eP	P	05 35 37.0	+1.9
	7.2nm,1.4s,mb4.5						
ARCES	ARCESS Array B	63.64	22	LR	LR	05 58 45.1	
	comp=Z,59nm,21.3s,MS3.7,baz=86,slow=32						
NVAR	Mina Array Bea	63.69	303	LR	LR	06 03 28.4	
	comp=Z,128nm,18.6s,MS4.1,baz=90,slow=36						
AKASG	Malin Array Be	64.35	43	P	P	05 35 39.4	-1.0
	0.5nm,0.5s,mb3.8,baz=271,slow=6.3,SNR=5.1						
AKASG	Malin Array Be	64.35	43	P	P	05 35 39.4	-1.0
PLCA	Paso Flores	65.92	200	LR	LR	06 02 24.4	
	comp=Z,135nm,20.9s,MS4.1,baz=268,slow=34						
YBH	Yreka Blue Hor	66.60	307	LR	LR	06 02 26.3	
	comp=Z,328nm,20.2s,MS4.5,baz=89,slow=34						
BRTR	Keskin Array B	68.73	54	P	P	05 36 06.5	-2.0
	0.5nm,0.5s,mb3.8,baz=287,slow=20,SNR=3.5						
BBB	Bella Bella	68.83	319	LR	LR	06 04 10.5	
	comp=Z,232nm,18.1s,MS4.5,baz=238,slow=34						
DAWY	Dawson	72.62	333	eP	P	05 36 30.8	-0.8
ILAR	Eielson Array	75.55	334	P	P	05 36 48.2	-0.2
	3.7nm,1.0s,mb4.3,baz=65,slow=4.5,SNR=23						
KMBO	Kilima Mbogo	83.88	94	P	P	05 37 35.1	+0.7
	2.0nm,0.9s,mb4.2,baz=225,slow=19,SNR=1.9						
KMBO				LR	LR	06 12 27.2	
	comp=Z,164nm,19.2s,MS4.4,baz=274,slow=34						
ZAL	Zalesovo	93.82	27	LR	LR	06 17 36.5	
	comp=Z,68nm,19.4s,MS4.1,baz=86,slow=34						
MKAR	Makanchi Array	97.58	33	LR	LR	06 18 37.7	
	comp=Z,54nm,21.5s,MS4.0,baz=360,slow=33						
DZM	Mont Dzumac	150.12	263	PKPbc	PKPdf	05 44 55.3	+3.3
	8.8nm,0.9s,baz=127,slow=7.7,SNR=5.3						

*IDC **16** 06:02:17.4±0.6, 22.49N×145.12E, mb4.3/16, mb1 4.5/19, mb1mx4.4/27, mbtmp4.3/19, ML4.0/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/31, Error ellipse: s-maj=22.2km s-min=14.7km az=82.0*
*MOS **16** 06:02:21.4±1.1, 22.49N×145.22E, h33km, mb4.7/16, Error ellipse: s-maj=17.2km s-min=9.0km az=114.2*
*BJI **16** 06:02:22.6, 22.50N×145.30E, h29km, mB4.8, mb4.6, Ms3.9, Msz3.7*
*NEIC **16** 06:02:22.6±3.4, 22.47N×145.26E, h30km±23km, mb4.6/29, Error ellipse: s-maj=9.0km s-min=7.9km az=104.0*
ISC 16 06:02:18.3±0.3**, 22.45N**±0.06×**145.20E**±0.07**, h10**km**, n90, σ1§05**/84**, mb4.5**/49**, 1C-1D, North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.38	330	Pn	Pn	06 03 38.5	-2.0
	17nm,0.3s,baz=269,slow=18,SNR=18						
CBIJ				Sn	Sn	06 04 39.2	-4.0
	16nm,0.3s,baz=97,slow=23,SNR=12						
GUMO	Guam	8.82	182	LR	LR	06 07 23.3	
	comp=Z,107nm,21.6s,baz=9.2,slow=34						
MJAR	Matsushiro Arr	15.29	338	Pn	P	06 05 54.9	-1.1
	0.5nm,0.3s,baz=160,slow=11,SNR=12						
MAJO	Matsushiro	15.30	338	eP	P	06 05 58.1	+2.1
	21nm,0.8s						
MAJO	Matsushiro	15.30	338	eP	P	06 05 58.1	+2.1
MAJO				pmax	pmax		
	comp=Z,21nm,0.8s						
MAT	Matsushiro	15.30	338	P	P	06 06 01.1	+5.1
MAT	Matsushiro	15.30	338	eP	P	06 06 01.0	+5.0
	comp=Z,15nm,1.0s						
MAT	Matsushiro	15.30	338	eP	P	06 06 01.0	+5.0
MAT				pmax	pmax		
	comp=Z,15nm,1.0s						
JNU	Nakatsue	16.52	313	Pn	P	06 06 11.2	-0.6
	comp=Z,0.3nm,0.3s,baz=142,slow=12,SNR=2.0						
KS15	Wonju Array Si	21.12	319	eP	P	06 07 06.7	+1.1
ASAJ	Asahikawa	21.71	355	P	P	06 07 10.7	-0.8
	comp=Z,8.5nm,0.9s,mb4.2,baz=291,slow=17,SNR=2.1						
MDJ	Mudanjiang	25.56	334	P	P	06 07 50.8	+1.9
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
HIA	Hailar	33.48	329	P	P	06 08 59.9	+0.1
	comp=Z,2.9nm,0.4s,mb4.6						
HIA	Hailar	33.48	329	P	P	06 08 59.9	+0.2
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KAKA	Kakadu	37.12	201	eP	P	06 09 48.4	+17
	comp=Z,5.1nm,0.8s,mb4.4						
CIT	Chita	38.26	328	eP	P	06 09 41.5	+1.2
GTA	Gaotai	41.98	304	eP	P	06 10 11.5	+0.4
GTA				AP	pP	06 10 19.0	+4.9
GTA				XP	sP	06 10 21.9	+6.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.9						
WRAB	Tennant Creek	43.44	195	eP	P	06 10 23.0	-0.3
	comp=Z,12nm,0.8s,mb4.7						
WRAB	Tennant Creek	43.44	195	eP	P	06 10 23.0	-0.3
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
WB2	Warramunga Arr	43.45	195	eP	P	06 10 22.9	-0.5
WRA	Warramunga Arr	43.45	195	P	P	06 10 22.8	-0.6
	comp=Z,5.6nm,0.9s,mb4.3,baz=12,slow=8.2,SNR=30						
FITZ	Fitzroy Crossi	44.62	207	eP	P	06 10 32.6	-0.3
	comp=Z,8.6nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	44.62	207	P	P	06 10 30.6	-2.3
	comp=Z,10nm,0.6s,mb4.9,baz=18,slow=8.1,SNR=17						
LSA	Lhasa	48.72	290	P	P	06 11 06.6	+1.5
	comp=Z,5.2nm,0.6s,mb4.7						
LSA	Lhasa	48.72	290	P	P	06 11 06.6	+1.5
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
DZM	Mont Dzumac	48.85	153	P	P	06 11 06.0	-0.3
	comp=Z,6.1nm,0.9s,mb4.6,baz=353,slow=17,SNR=3.4						
WMQ	Urumqi	51.56	309	eP	P	06 11 28.8	+2.2
GUN	Gumba	53.52	289	eP	P	06 11 42.9	+1.4
	comp=Z,46nm,1.0s,mb5.3						
PKI	Pulchoki	53.98	288	eP	P	06 11 45.1	+0.2
	comp=Z,7.8nm,0.6s,mb4.8						
PKI	Pulchoki	53.98	288	eP	P	06 11 45.1	+0.2
PKI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KKN	Kakani	54.07	289	eP	P	06 11 46.5	+1.1
	comp=Z,25nm,0.9s,mb5.2						
KKN	Kakani	54.07	289	eP	P	06 11 46.5	+1.1
KKN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
DMN	Daman	54.24	289	eP	P	06 11 47.7	+0.9
	comp=Z,20nm,0.9s,mb5.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	Gorkha	54.60	289	eP	P	06 11 50.1	+0.7
	comp=Z,59nm,1.0s,mb5.6						
ZAL	Zalesovo	54.80	321	P	P	06 11 48.7	-1.8
	comp=Z,1.3nm,0.4s,mb4.3,baz=295,slow=2.7,SNR=6.4						
KOLN	Koldanda	55.54	289	eP	P	06 11 56.6	+0.3
	comp=Z,28nm,0.9s,mb5.3						
MKAR	Makanchi Array	55.58	312	P	P	06 11 54.1	-2.2
	comp=Z,3.6nm,0.8s,mb4.4,baz=93,slow=9.2,SNR=18						
MKAR	Makanchi Array	55.58	312	i P	P	06 11 55.9	-0.4
MKAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KURK	Kurchatov	58.21	317	eP	P	06 12 14.0	-0.9
	comp=Z,6.9nm,0.8s,mb4.7						
KURK	Kurchatov	58.21	317	⇑iP	P	06 12 13.8	-1.1
ILAR	Eielson Array	60.52	27	P	P	06 12 28.0	-2.7
	comp=Z,2.6nm,0.8s,mb4.4,baz=260,slow=5.7,SNR=25						
BVA0	Borovoye Array	63.32	319	i P	P	06 12 49.2	-0.4
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.2						
BRVK	Borovoye	63.38	319	eP	P	06 12 49.6	-0.4
	comp=Z,5.4nm,0.9s,mb4.7						
BRVK	Borovoye	63.38	319	eP	P	06 12 49.6	-0.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
KKAR	Karatay Array	64.06	308	i P	P	06 12 54.3	-0.3
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
INK	Inuvik	66.13	24	P	P	06 13 05.6	-2.0
	comp=Z,4.4nm,1.1s,mb4.4,baz=288,slow=7.4,SNR=3.9						
ARU	Arti	69.77	324	eP	P	06 13 30.3	-0.2
	comp=Z,4.7nm,0.6s,mb4.6						
ARU	Arti	69.77	324	⇓iP	P	06 13 29.4	-1.1
AB31	Akbulak array	70.31	316	i P	P	06 13 33.1	-0.8
AB31				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
YKA	Yellowknife Ar	74.91	28	P	P	06 14 00.0	-0.8
	comp=Z,2.0nm,0.9s,mb4.0,baz=289,slow=5.9,SNR=3.7						
YKA	Yellowknife Ar	74.91	28	P	P	06 14 00.1	-0.7
NEW	Newport	78.47	43	eP	P	06 14 20.9	0.0
	comp=Z,3.8nm,1.0s,mb4.3						
NEW	Newport	78.47	43	eP	P	06 14 20.9	-0.1
NEW				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	ARCESS Array B	78.80	342	P	P	06 14 22.6	+0.2
	comp=Z,4.4nm,0.9s,mb4.4,baz=39,slow=7.8,SNR=4.5						
BMO	Blue Mountains	79.56	46	eP	P	06 14 27.1	+0.1
	comp=Z,4.9nm,1.0s,mb4.4						
JOF	Joensuu	80.44	335	ep	P	06 14 30.7	-0.6
	comp=Z,6.7nm,0.7s,mb4.7						
MNV	Mina	81.31	52	eP	P	06 14 36.9	+0.4
	comp=Z,1.2nm,0.7s,mb3.9						
HLID	Hailey	81.98	46	eP	P	06 14 40.3	+0.5
	comp=Z,2.0nm,1.0s,mb4.0						
VRSR	Storozhevoye	82.26	322	eP	P	06 14 41.8	+0.7
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
ELK	Elko	82.52	49	P	P	06 14 43.1	+0.4
	comp=E,2.6nm,0.9s,mb4.3,baz=286,slow=4.9,SNR=13						
ELK	Elko	82.52	49	eP	P	06 14 43.3	+0.6
	comp=E,3.5nm,0.9s,mb4.4						
ELK	Elko	82.52	49	eP	P	06 14 43.3	+0.6
ELK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KAF	Kangasniemi	82.82	335	ep	P	06 14 42.0	-1.8
	comp=Z,5.9nm,1.0s,mb4.6,baz=54,slow=4.8						
KAF	Kangasniemi	82.82	335	eP	P	06 14 42.0	-1.8
KAF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
BOZ	Bozeman (W)	82.95	43	eP	P	06 14 45.3	+0.5
	comp=Z,1.5nm,0.8s,mb4.1						
KIV	Kislovodsk	83.23	315	eP	P	06 14 40.5	-5.8
KIV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	FINESS Array B	83.30	335	P	P	06 14 45.3	-1.0
	comp=Z,2.2nm,0.7s,mb4.3,baz=56,slow=6.9,SNR=7.2						
TPAW	Teton Pass	84.30	45	eP	P	06 14 53.4	+1.7
	comp=Z,2.7nm,0.9s,mb4.4						
HWUT	Hardware Ranch	84.70	47	eP	P	06 14 54.3	+0.6
	comp=Z,6.2nm,1.2s,mb4.6						
SUMG	Summit	85.19	1	P	P	06 14 57.2	+1.7
	comp=Z,5.0nm,0.8s,mb4.7						
PDAR	Pinedale Array	85.54	45	P	P	06 14 58.0	+0.1
	comp=Z,0.8nm,0.7s,mb4.0,baz=248,slow=2.0,SNR=8.1						
PDAR				LR	LR	06 48 24.1	
	comp=Z,22nm,21.0s,baz=88,slow=32						
SRU	San Rafael	86.50	49	eP	P	06 15 02.7	-0.1
PV10	Paradox Valley	87.86	49	eP	P	06 15 10.0	+0.6
AKASG	Malin Array Be	87.97	325	P	P	06 15 07.7	-1.9
	comp=Z,1.6nm,0.5s,mb4.5,baz=46,slow=5.1,SNR=6.7						
AKASG	Malin Array Be	87.97	325	P	P	06 15 07.7	-1.9
NB2	NORSAR Subarra	88.91	339	P	P	06 15 13.3	-0.5
	comp=Z,1.5nm,0.7s,mb4.4,baz=42,slow=4.6						
NB2	NORSAR Subarra	88.91	339	P	P	06 15 13.3	-0.5
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
NOA	NORSAR Array B	88.91	339	P	P	06 15 13.4	-0.4
	comp=Z,2.7nm,0.8s,mb4.6,baz=45,slow=4.7,SNR=6.3						
SMCO	Snowmass	88.92	48	eP	P	06 15 15.4	+0.9
TUC	Tucson	89.30	55	eP	P	06 15 16.8	+0.4
	comp=Z,0.4nm,0.8s,mb3.8						
ANMO	Albuquerque	91.29	51	eP	P	06 15 25.9	+0.4
	comp=Z,0.6nm,0.9s,mb3.9						
ANMO	Albuquerque	91.29	51	eP	P	06 15 26.0	+0.4
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MNTX	Cornudas Mount	93.64	54	eP	P	06 15 36.8	+0.3
	comp=Z,8.1nm,1.6s,mb4.9						
TXAR	Lajitas Array	96.09	55	P	P	06 15 47.3	-0.5
	comp=Z,0.4nm,0.9s,mb3.9,baz=270,slow=1.3,SNR=3.9						
SNAA	Sanae	127.48	192	PKPdf	PKPdf	06 21 24.0	-2.1
PLCA	Paso Flores	144.82	130	PKP	PKPdf	06 21 56.2	-2.4
	comp=Z,6.0nm,0.9s,baz=249,slow=3.6,SNR=16						
PLCA	Paso Flores	144.82	130	ePKIKP	PKPdf	06 21 56.7	-2.0
LPAZ	La Paz	148.01	85	PKPbc	PKPdf	06 22 07.2	+2.5
	comp=Z,3.3nm,0.7s,baz=1.2,slow=2.9,SNR=14						
LPAZ	La Paz	148.01	85	ePKP2	PKPab	06 22 06.8	-2.8
SAML	Samuel	149.63	68	ePKPbc	PKPdf	06 22 09.5	+2.1
SAML				ePKPab	PKPab	06 22 14.0	-2.3

*IDC **16** 06:10:52.3±5.7, 13.69S×167.14E, h220km±57km, mb3.7/6, mb1 3.8/7, mb1mx3.6/17, mbtmp4.2/7, Error ellipse: s-maj=46.6km s-min=25.8km az=166.0*

*NEIC **16** 06:10:53.7±4.3, 13.79S×167.21E, h237km±46km, mb4.1/2, Error ellipse: s-maj=49.0km s-min=19.4km az=167.0*

ISC 16 06:10:51.4±5.3**, 13.6S**±0.3×**167.1E**±0.2**, h223**km±58km**, n10,** σ0.87/10**, mb3.9**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.41	184	P	P	06 12 50.3	-0.4
	1.0nm,0.3s,baz=53,slow=22,SNR=11						
DZM				S	S	06 14 24.4	+0.4
	0.5nm,0.3s,baz=153,slow=23,SNR=3.2						
CTA	Charters Tower	20.90	249	P	P	06 15 19.4	+2.0
	3.6nm,0.5s,baz=68,slow=13,SNR=5.9						
CTAO	Charters Tower	20.90	249	eP	P	06 15 20.6	+3.2
	3.8nm,0.5s						
STKA	Stephens Creek	29.55	228	P	P	06 16 37.1	-0.4
	3.6nm,0.4s,mb4.4,baz=41,slow=8.1,SNR=14						
WRAB	Tennant Creek	31.89	254	eP	P	06 16 57.3	-0.8
	2.4nm,0.5s,mb4.0						
WRA	Warramunga Arr	31.90	254	P	P	06 16 57.0	-1.1
	2.0nm,0.5s,mb3.9,baz=86,slow=9.5,SNR=38						
FITZ	Fitzroy Crossi	40.02	258	P	P	06 18 06.8	+0.4
	1.8nm,0.4s,mb3.9,baz=74,slow=2.2,SNR=8.3						
ILAR	Eielson Array	85.56	18	P	P	06 23 05.1	-0.2
	0.4nm,0.7s,mb3.2,baz=239,slow=5.2,SNR=5.4						
MKAR	Makanchi Array	96.27	317	P	P	06 23 56.3	+0.8
	1.1nm,0.7s,mb4.2,baz=104,slow=5.0,SNR=7.7						
ARCES	ARCESS Array B	119.15	345	PKP	PKPdf	06 29 14.6	+1.3
	1.1nm,0.5s,baz=50,slow=1.5,SNR=7.0						

*CSEM **16** 06:52:10.3, 37.72N×25.42W, h3km, ML3.9, After PDA*

*PDA **16** 06:52:10.3±1.3, 37.72N×25.42W, h3km±3km, MD3.3, ML3.9, Error ellipse: s-maj=5.4km s-min=4.5km az=72.0*

SVSA 16 06:52:10.3±1.3**, 37.72N×25.42W, h3**km±3km**, MD3.3, ML3.9, Error ellipse: s-maj=5.4km s-min=4.5km az=72.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.03	333	i P	Pg	06 52 12.1	+1.0
PRCH	Ribeira Ch	0.05	283	i P	Pg	06 52 12.3	+0.9
PCNG	Congro	0.05	22	i P	Pg	06 52 12.2	+0.7
FRA1	Furnas	0.06	63	i P	Pg	06 52 11.9	+0.3
LFA	Lagoa do Fogo	0.07	319	i P	Pg	06 52 12.3	+0.4
MESC	Monte Escuro	0.08	346	eP	Pg	06 52 12.3	+0.3
CMLA	Cha da Macela	0.09	300	eP	Pg	06 52 11.9	-0.3
CMLA				eS	Sg	06 52 13.4	-0.1
PMAT	Coroa da Mata	0.11	339	eP	Pg	06 52 12.8	+0.3
CML	Cha da Macela	0.11	299	i P	Pg	06 52 12.9	+0.3
MIRA	Miradouro	0.13	59	i P	Pg	06 52 13.0	0.0
PFAD	Fenais da Ajud	0.14	33	i P	Pg	06 52 13.9	+0.7
FAC	Faja de Cima	0.19	287	i P	Pg	06 52 14.9	+0.8
PDA	Ponta Delgada	0.19	279	eP	Pg	06 52 14.6	+0.4
PSET	Sete Cidades	0.26	294	eP	Pg	06 52 15.1	-0.4
PSET				eS	Sg	06 52 18.9	-0.1
	14μm,0.4s						
PSAN	Santo Antonio	0.28	299	eP	Pg	06 52 16.2	+0.4
PFET	Feteiras	0.31	289	eP	Pg	06 52 16.8	+0.3
SET2	Ginetes	0.33	293	eP	Pg	06 52 17.1	+0.2
SET4	Mosteiros	0.34	298	eP	Pg	06 52 17.0	-0.1
PSMN	Pico do Norte,	0.77	158	eP	Pg	06 52 23.6	-2.0
PSMN				eS	Sg	06 52 33.7	-2.2
PFAV	Pico das Favas	1.64	308	eP	Pn	06 52 36.1	-4.2
PFAV				eS	Sb	06 52 56.2	-5.8
PSCM	Serra do Cume	1.66	307	eP	Pn	06 52 36.3	-4.2
PSCM				eS	Sb	06 52 56.0	-6.4
	533nm,0.5s						
RIB2	Ribeirinha	1.68	305	eP	Pn	06 52 37.4	-3.3
RIB2				eS	Sb	06 52 57.3	-5.6
ADH	Angra Heroismo	1.71	304	eP	Pn	06 52 36.8	-4.4
ADH				eS	Sn	06 52 56.9	-6.9
PVNV	Vila Nova	1.72	308	eP	Pn	06 52 38.0	-3.3
PVNV				eS	Sn	06 52 58.5	-5.6
PPAD	Pico dos Padre	1.77	304	eP	Pn	06 52 38.6	-3.4
PPAD				eS	Sn	06 52 59.1	-6.2
PBIS	Biscoitos	1.78	306	eP	Pn	06 52 39.0	-3.2
PBIS				eS	Sn	06 52 59.5	-6.1
ASBA	Santa Barbara	1.80	304	eP	Pn	06 52 39.3	-3.2
ASBA				eS	Sn	06 53 00.6	-5.6
PSBA	Serra de Santa	1.83	306	eP	Pn	06 52 38.4	-4.5
PSBA				eS	Sn	06 53 00.0	-6.9
	255nm,0.4s						
PMAN	Manadas	2.29	294	eP	Pn	06 52 45.2	-4.3
PGRA	Graciosa	2.40	304	eP	Pn	06 52 46.8	-4.3
HOR	Horta	2.66	289	eP	Pn	06 52 50.1	-4.7
CALA	Caldeira	2.73	289	eP	Pn	06 52 51.8	-4.0

*IDC **16** 06:54:15.3±0.9, 34.96S×111.39W, mb3.9/8, mb1 4.1/8, mb1mx4.0/18, mbtmp3.9/8, MS3.9/6, Ms1 3.9/6, ms1mx3.6/20, Error ellipse: s-maj=37.6km s-min=23.3km az=84.0*

*NEIC **16** 06:54:17.3±0.4, 34.98S×111.36W, h10km, mb4.7/3, Error ellipse: s-maj=19.5km s-min=9.6km az=81.0*

*BJI **16** 06:54:20.3, 35.00S×111.40W, h10km, mB5.4*

ISC 16 06:54:15.5±0.6**, 35.0S**±0.1×**111.4W**±0.2**, h10**km**, n34,** σ0.49/24**, mb4.0**/11**, MS3.9**/6**, 4C, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	32.55	112	P	P	07 00 48.5	-0.3
	1.1nm,0.8s,mb3.9,baz=283,slow=11,SNR=3.6						
PLCA				LR	LR	07 11 10.4	
	comp=Z,169nm,20.8s,MS3.7,baz=87,slow=31						
PPT	Papeete	38.09	287	LR	LR	07 12 35.8	
	comp=Z,193nm,20.6s,MS3.9,baz=100,slow=29						
LPAZ	La Paz	42.86	75	P	P	07 02 16.4	+0.7
	0.9nm,1.0s,mb3.5,baz=239,slow=7.4,SNR=3.6						
LPAZ				LR	LR	07 15 32.0	
	comp=Z,140nm,20.6s,MS3.8,baz=5.0,slow=30						
CPUP	Villa Florida	46.84	95	LR	LR	07 18 18.5	
	comp=Z,120nm,19.9s,MS3.9,baz=166,slow=31						
VNDA	Vanda	55.41	195	P	P	07 03 52.2	+0.4
	0.4nm,1.0s,mb3.4,baz=121,slow=0.5,SNR=3.5						
AFI	Afiamalu	57.95	275	LR	LR	07 22 01.2	
	comp=Z,111nm,20.1s,MS4.0,baz=33,slow=29						
BDFB	Brasilia	59.53	88	LR	LR	07 26 48.3	
	comp=Z,93nm,20.6s,MS3.9,baz=122,slow=33						
VNA3	Neumayer Olymp	60.90	159	e	P	07 04 35.6	+5.4
VNA3	Neumayer Olymp	60.90	159	e	P	07 04 41.2	+11
VNA3	Neumayer Olymp	60.90	159	⇑iP	P	07 04 29.9	-0.3
VNA3				e		07 04 35.6	
VNA3				e		07 04 41.2	
VNA1	Neumayer--Stat	61.56	158	⇑i	P	07 04 29.6	-5.1
VNA1	Neumayer--Stat	61.56	158	e	P	07 04 35.4	+0.7
VNA1	Neumayer--Stat	61.56	158	e	P	07 04 41.4	+6.7
VNA2	Neumayer--Watz	61.70	159	e	P	07 04 41.4	+5.7
VNA2	Neumayer--Watz	61.70	159	e	P	07 04 46.7	+11
VNA2	Neumayer--Watz	61.70	159	⇑iP	P	07 04 35.6	-0.1
VNA2				e		07 04 41.4	
VNA2				e		07 04 46.7	
SNAA	Sanae	62.67	160	⇑i	P	07 04 41.5	-0.7
SNAA	Sanae	62.67	160	e	P	07 04 47.3	+5.1
SNAA	Sanae	62.67	160	eP	P	07 04 41.2	-1.0
	5.0nm,1.0s,mb4.6						
TXAR	Lajitas Array	64.42	8	P	P	07 04 53.5	-0.7
	0.4nm,0.8s,mb3.5,baz=188,slow=7.6,SNR=5.0						
ELK	Elko	75.47	357	P	P	07 06 01.6	+0.2
	0.6nm,0.5s,mb3.8,baz=218,slow=6.1,SNR=4.4						
PDAR	Pinedale Array	77.43	1	P	P	07 06 11.8	-0.6
	2.5nm,1.0s,mb4.1,baz=153,slow=6.6,SNR=17						
MAW	Mawson	77.61	178	P	P	07 06 12.8	0.0
	1.4nm,0.7s,mb4.0,baz=184,slow=5.7,SNR=4.2						
RRI2	Red Ridge	77.99	0	eP	P	07 06 15.4	0.0
	12nm,1.5s,mb4.6						
TPAW	Teton Pass	78.13	0	eP	P	07 06 16.1	-0.1
	8.2nm,1.2s,mb4.5						
MCMT	McKenzie Canyo	79.48	359	eP	P	07 06 24.3	+0.8
NEW	Newport	83.06	356	P	P	07 06 42.5	+0.2
	3.0nm,1.1s,mb4.3,baz=227,slow=3.8,SNR=3.2						
NEW	Newport	83.06	356	P	P	07 06 42.5	+0.2
FINES	FINESS Array B	142.35	32	PKP	PKPdf	07 13 50.8	+0.2
	2.7nm,0.9s,baz=234,slow=12,SNR=3.4						
GYA	Guiyang	146.33	266	PKP	PKPdf	07 13 59.3	+0.7
XAN	Xi'an	146.90	280	PKP	PKPdf	07 14 00.1	+0.8
AKASG	Malin Array Be	147.61	49	PKP	PKPdf	07 13 56.1	-3.7
	0.3nm,0.3s,baz=274,slow=3.5,SNR=4.1						
AKASG				PKPbc	PKPdf	07 13 59.1	-0.8
	0.2nm,0.2s,baz=277,slow=4.0,SNR=7.3						
LZH	Lanzhou	151.38	282	ePKP	PKPdf	07 14 11.5	+5.2
LZH				PP	PP		
	comp=Z,110nm,4.1s						
BRTR	Keskin Array B	151.95	70	PKPbc	PKPdf	07 14 11.8	+4.7
	comp=Z,0.9nm,0.7s,baz=270,slow=1.2,SNR=4.4						

*IDC **16** 07:05:11.1±1.8, 21.45N×143.23E, h323km±17km, mb3.5/11, mb1 3.7/13, mb1mx3.5/24, mbtmp4.2/13, Error ellipse: s-maj=21.6km s-min=11.5km az=94.0*

*NEIC **16** 07:05:13.0±3.1, 21.46N×143.28E, h344km±32km, mb4.0/1, Error ellipse: s-maj=21.3km s-min=10.0km az=92.0*

ISC 16 07:05:11.1±1.3**, 21.47N**±0.08×**143.3E**±0.2**, h339**km±13km**, n23,** σ0.88/20**, mb3.7**/12**, 3C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.68	350	P	P	07 06 39.4	+0.8
	7.0nm,0.3s,baz=311,slow=22,SNR=5.8						
CBIJ				S	S	07 07 46.8	-0.3
	12nm,0.3s,baz=116,slow=23,SNR=8.3						
MJAR	Matsushiro Arr	15.65	345	P	P	07 08 34.9	-0.7
	baz=158,slow=9.7,SNR=3.6						
WRAB	Tennant Creek	42.06	193	eP	P	07 12 32.9	+0.5
	3.9nm,0.4s,mb3.9						
WB2	Warramunga Arr	42.07	193	⇑iP	P	07 12 33.0	+0.6
WRA	Warramunga Arr	42.08	193	P	P	07 12 31.5	-0.9
	1.0nm,0.3s,mb3.4,baz=14,slow=8.5,SNR=101						
FITZ	Fitzroy Crossi	42.95	205	P	P	07 12 38.6	-0.9
	3.7nm,0.6s,mb3.7,baz=182,slow=21,SNR=8.4						
KULM	Kulim	44.28	255	P	P	07 12 51.5	+1.4
STKA	Stephens Creek	53.07	182	P	P	07 13 55.8	-0.7
	5.8nm,1.2s,mb3.8,baz=2.8,slow=11,SNR=3.0						
ZAL	Zalesovo	54.44	322	P	P	07 14 05.2	-0.8
	1.5nm,0.5s,mb3.6,baz=311,slow=1.3,SNR=2.1						
MKAR	Makanchi Array	54.90	313	P	P	07 14 08.9	-0.5
	0.6nm,0.6s,mb3.1,baz=90,slow=8.5,SNR=4.3						
ILAR	Eielson Array	62.20	27	P	P	07 14 58.1	-0.8
	1.0nm,0.6s,mb3.5,baz=254,slow=5.7,SNR=17						
BVAR	Borovoye Array	62.89	320	P	P	07 15 04.0	+0.4
	1.6nm,0.4s,mb3.9,baz=98,slow=7.8,SNR=13						
YKA	Yellowknife Ar	76.62	28	P	P	07 16 25.8	-0.2
	2.0nm,0.5s,mb4.1,baz=290,slow=6.0,SNR=9.0						
YKA	Yellowknife Ar	76.62	28	P	P	07 16 25.8	-0.2
ARCES	ARCESS Array B	79.16	342	P	P	07 16 40.9	+1.3
	7.0nm,1.1s,mb4.3,baz=76,slow=8.8,SNR=15						
JOF	Joensuu	80.55	335	ep	P	07 16 46.7	-0.3
NVAR	Mina Array Bea	83.22	51	P	P	07 17 04.1	+2.8
	0.6nm,0.6s,mb3.6,baz=271,slow=8.4,SNR=7.4						
NVAR	Mina Array Bea	83.22	51	P	P	07 17 04.1	+2.8
FINES	FINESS Array B	83.42	335	P	P	07 17 01.6	-0.1
	0.8nm,0.4s,mb3.9,baz=45,slow=5.4,SNR=6.9						
VNA2	Neumayer--Watz	127.64	192	⇑i	PKPdf	07 23 39.2	+3.5
VNA3	Neumayer Olymp	127.78	191	⇑i	PKPdf	07 23 40.6	+4.6
PLCA	Paso Flores	145.55	132	PKPbc	PKPbc	07 24 13.5	+3.4
	2.7nm,0.6s,baz=224,slow=6.5,SNR=15						
LPAZ	La Paz	149.88	86	PKPbc	PKPdf	07 24 23.6	+6.7
	2.8nm,0.4s,baz=320,slow=6.8,SNR=25						

*IDC **16** 07:28:39.1±0.9, 4.04N×126.87E, mb4.4/9, mb1 4.5/9, mb1mx4.4/19, mbtmp4.4/9, MS3.5/4, Ms1 3.5/4, ms1mx3.2/24, Error ellipse: s-maj=50.2km s-min=13.8km az=70.0*

*NEIC **16** 07:28:45.2±4.3, 4.15N×126.99E, h42km±39km, mb4.8/7, Error ellipse: s-maj=27.4km s-min=9.9km az=62.0*

ISC 16 07:28:37.9±4.3**, 4.18N**±0.10×**126.9E**±0.2**, h3**km±26km**, n25,** σ0.95/22**, mb4.5**/14**, MS3.4**/4**, 1C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	16.77	261	eP	P	07 32 39.6	+4.1
KAKA	Kakadu	17.66	162	⇑iP	P	07 33 04.1	+17
	27nm,0.6s						
GUMO	Guam	20.06	61	LR	LR	07 39 29.8	
	comp=Z,56nm,19.6s,MS2.9,baz=174,slow=32						
FITZ	Fitzroy Crossi	22.17	183	eP	P	07 33 36.5	-0.4
	12nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	22.17	183	P	P	07 33 35.6	-1.3
	13nm,0.6s,mb4.6,baz=10,slow=9.7,SNR=7.5						
WRAB	Tennant Creek	25.06	163	eP	P	07 34 04.8	-0.3
	51nm,0.9s,mb5.1						
WRA	Warramunga Arr	25.06	163	P	P	07 34 05.1	-0.1
	27nm,0.8s,mb4.8,baz=342,slow=10,SNR=78						
WRA				S	S	07 38 27.1	-0.4
	0.8nm,1.1s,baz=344,slow=16,SNR=2.6						
WB2	Warramunga Arr	25.07	163	eP	P	07 34 05.5	+0.2
JHJ	Hachijo jima 2	31.22	21	LR	LR	07 47 02.9	
	comp=Z,95nm,18.6s,MS3.5,baz=280,slow=35						
MJAR	Matsushiro Arr	33.85	16	LR	LR	07 48 24.1	
	comp=Z,66nm,18.7s,MS3.4,baz=160,slow=35						
FORT	Forrest	34.78	178	eP	P	07 35 31.7	-0.2
	14nm,0.6s,mb5.1						
KLBR	Kellerberrin	36.62	193	eP	P	07 35 46.5	-1.0
	15nm,0.7s,mb4.9						
MUN	Mundaring	37.36	195	eP	P	07 35 53.8	+0.1
STKA	Stephens Creek	38.49	160	⇓iP	P	07 36 04.0	+0.8
	11nm,0.9s,mb4.6						
STKA	Stephens Creek	38.49	160	P	P	07 36 03.1	-0.1
	12nm,0.8s,mb4.7,baz=337,slow=9.3,SNR=17						
SONM	Songino Array	46.93	341	LR	LR	07 58 24.0	
	comp=Z,79nm,19.8s,MS3.7,baz=40,slow=38						
MKAR	Makanchi Array	57.28	325	P	P	07 38 28.5	-0.8
	1.3nm,0.6s,mb4.2,baz=126,slow=8.8,SNR=13						
MKAR	Makanchi Array	57.28	325	P	P	07 38 28.5	-0.8
KURK	Kurchatov	61.45	327	eP	P	07 38 57.4	-0.6
	5.5nm,0.8s,mb4.7						
BVAR	Borovoye Array	67.03	327	P	P	07 39 33.3	-1.1
	2.4nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=14						
BRVK	Borovoye	67.10	327	eP	P	07 39 34.3	-0.6
	3.3nm,0.9s,mb4.4						
VNDA	Vanda	83.85	173	P	P	07 41 09.9	+0.2
	2.6nm,0.9s,mb4.4,baz=313,slow=6.2,SNR=15						
MAW	Mawson	84.22	200	P	P	07 41 13.4	+1.6
	1.2nm,0.6s,mb4.2,baz=56,slow=6.6,SNR=4.0						
ILAR	Eielson Array	84.64	25	P	P	07 41 15.8	+1.9
	0.7nm,0.9s,mb3.8,baz=280,slow=7.1,SNR=5.5						
KMBO	Kilima Mbogo	89.71	269	P	P	07 41 40.9	+1.1
	1.0nm,0.7s,mb4.3,baz=35,slow=23,SNR=3.5						

*NEIC **16** 07:29:20.7, 38.13S×176.29E, h143km, MG3.9(WEL), After WEL.*

WEL 16 07:29:20.8±0.3**, 38.14S×176.31E, h142**km±2km**, ML3.8**/15**, Error ellipse: s-maj=3.2km s-min=2.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.64	101	PN	P	07 29 42.2	-0.3
URZ				SN	S	07 29 58.4	-0.8
URZ	Urewera	0.64	101	P	P	07 29 42.2	-0.3
MWZ	Matawai	0.98	102	PN	P	07 29 44.8	0.0
MWZ				SN	S	07 30 02.7	-0.5
MWZ				SN	S	07 30 03.1	-0.2
MWZ	Matawai	0.98	102	P	P	07 29 45.0	+0.2
MWZ				S	S	07 30 03.1	-0.2
BKZ	Black Stump Fm	1.03	172	PN	P	07 29 45.4	0.0
BKZ				SN	S	07 30 03.5	-0.6
BKZ	Black Stump Fm	1.03	172	P	P	07 29 45.4	+0.1
BKZ				S	S	07 30 03.7	-0.4
WNVZ	Wahianoa	1.31	205	PN	P	07 29 48.2	+0.1
MOVZ	Moawhango	1.34	199	PN	P	07 29 47.9	-0.5
MOVZ	Moawhango	1.34	199	P	P	07 29 47.9	-0.5
KNZ	Kokohu	1.39	130	PN	P	07 29 48.7	-0.2
KNZ	Kokohu	1.39	130	P	P	07 29 48.7	-0.2
PUZ	Puketiti	1.54	88	ePN	P	07 29 49.9	-0.6
PUZ				SN	S	07 30 11.4	-2.0
PUZ	Puketiti	1.54	88	eP	P	07 29 49.9	-0.7
PUZ				S	S	07 30 11.7	-1.7
WAZ	Wanganui	1.91	212	PN	P	07 29 54.2	-0.6
TSZ	Takapari Road	1.93	188	PN	P	07 29 53.9	-1.2
TSZ	Takapari Road	1.93	188	P	P	07 29 54.0	-1.0
PXZ	Pawanui	1.94	167	ePN	P	07 29 54.4	-0.7
BFZ	Birch Farm	2.54	181	PN	P	07 30 00.5	-2.2
MRZ	Mangatainoka R	2.58	192	PN	P	07 30 00.7	-2.5
MRZ				SN	S	07 30 31.3	-4.2
MRZ	Mangatainoka R	2.58	192	P	P	07 30 00.8	-2.4
KIW	Kapiti Island	2.92	201	PN	P	07 30 04.4	-3.3
CAW	Cannon Point	3.11	198	PN	P	07 30 06.7	-3.4
DUWZ	D'Urville Isla	3.24	214	ePN	P	07 30 08.1	-3.6
MRW	Makara Radio	3.32	201	PN	P	07 30 09.0	-3.9
MSWZ	Moikau Station	3.37	194	PN	P	07 30 09.4	-4.1
SNZO	South Karori	3.40	201	PN	P	07 30 09.6	-4.2
TCW	Tory Channel	3.44	206	PN	P	07 30 10.4	-4.0
BHW	Baring Head	3.44	198	PN	P	07 30 10.5	-4.0
TUWZ	Tuamarina	3.76	208	PN	P	07 30 14.1	-4.5
NNZ	Nelson	3.81	215	PN	P	07 30 15.3	-4.0
QRZ	Quartz Range	3.97	226	PN	P	07 30 16.7	-4.6
BSWZ	Blackbirch Sta	4.03	207	PN	P	07 30 17.7	-4.5
THZ	Tophouse	4.46	215	PN	P	07 30 23.1	-4.8
KHZ	Kahutara	4.77	205	PN	P	07 30 26.7	-5.3
MQZ	McQueen's Vall	6.21	205	PN	P	07 30 44.3	-6.9

LJU 16 08:00:23.5, 46.29N×13.60E, h10km**, ML0.9, 3C-3D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	Robic	0.07	235	⇓iPg	Pg	08 00 25.9	+0.1
ROBS				i Sg	Sg	08 00 27.4	0.0
	comp=Z,29nm,0.1s						
CADS	Cadrg	0.11	120	⇓iPg	Pg	08 00 26.4	0.0
CADS				i Sg	Sg	08 00 28.5	+0.1
	comp=Z,11nm,0.1s						
DRE	Drenchia	0.12	163	⇓iPg	Pg	08 00 26.5	0.0
GORS	Gorjuse	0.28	83	i Pg	Pg	08 00 29.1	-0.2
GORS				i Sg	Sg	08 00 33.7	+0.4
	comp=Z,3.0nm,0.1s						
VISS	Visnje	0.99	119	⇑iPg	Pg	08 00 41.0	-2.3
PDKS	Podkum	1.00	102	⇑iPg	Pn	08 00 36.5	-7.0
LEGS	Legarje	1.25	105	⇑iPg	Pn	08 00 37.1	-10
LEGS				i Sg	Pg	08 00 40.2	-8.2
	comp=Z,2.0nm,0.1s						
DOBS	Dobrina	1.31	95	i Pg	Pn	08 00 38.4	-9.5
DOBS				i Sg	Pg	08 00 41.1	-8.6

*ORF **16** 08:07:58.4, 35.15N×23.33E, h30km, mb4.5, ML5.6*

*PRU **16** 08:08:43.6, 38.05N×20.20E, M4.4*

*ATH **16** 08:08:44.0, 37.92N×20.06E, h7km±1km, MD4.3/18, ML4.4*

*BJI **16** 08:08:44.3, 38.05N×20.65E, h10km, mB4.8, mb4.7, Ms4.4,*

Msz4.2
LDG ***16*** *08:08:45.7±0.5, 37.88N×20.27E, h10km, Mb4.8/14, Ms3.1/6, Error ellipse: s-maj=22.6km s-min=11.7km az=40.0*
HLW ***16*** *08:08:46.8, 38.07N×20.72E, h22km, Mb4.0*
NEIC ***16*** *08:08:47.6±0.3, 38.10N×20.25E, h10km, mb4.4/10, ML4.8(PDG), Error ellipse: s-maj=5.0km s-min=3.3km az=180.0*
PDG ***16*** *08:08:47.4±0.5, 38.18N×20.14E, h11km±2km*
MOS ***16*** *08:08:47.9±1.4, 38.26N×20.24E, h14km, mb4.8/8, Error ellipse: s-maj=5.1km s-min=3.0km az=96.6*
IDC ***16*** *08:08:48.7±4.7, 38.09N×20.20E, h25km±33km, mb4.2/13, mb1 4.3/22, mb1mx4.1/32, mbtmp4.2/22, ML4.0/9, MS3.4/8, Ms1 3.5/8, ms1mx3.3/29, Error ellipse: s-maj=14.9km s-min=12.5km az=174.0*
CSEM ***16*** *08:08:51.3, 38.29N×20.15E, h70km, mb4.7*
CRAAG ***16*** *08:08:51.3, 38.29N×20.14E, Mb4.7*
ISC 16 08:08:45.7±0.2, **38.11N**±0.02×**20.19E**±0.02, **h10km, n293,** σ1s**49**/351, **mb4.5**/25, **MS3.9**/9, **30C-27D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.32**	**77**	⇓*i*PB	**Pb**	**08 08 53.5**	**+0.4**
VLS				*e*SB	**Sb**	**08 09 00.7**	**+2.7**
LKD	**Levkas**	**0.70**	**31**	*e*P	**Pb**	**08 09 01.0**	**+1.5**
LKD	**Levkas**	**0.70**	**31**	P	**Pb**	**08 09 01.0**	**+1.5**
EVR	**Evrytania**	**1.51**	**57**	*e*PN	**Pn**	**08 09 16.1**	**+3.2**
EVR				*e*SN	**Sn**	**08 09 39.3**	**+6.6**
EVR	**Evrytania**	**1.51**	**57**	Pn	**Pn**	**08 09 17.4**	**+4.5**
JAN	**Janina**	**1.63**	**18**	*e*PN	**Pn**	**08 09 17.6**	**+2.9**
JAN				*e*SN	**Sn**	**08 09 42.8**	**+6.9**
KEK	**Kerkira**	**1.63**	**349**	⇑*i*PG	**Pg**	**08 09 17.5**	**-0.8**
KEK				*e*SN	**Sn**	**08 09 42.4**	**+6.5**
ITM	**Ithomi**	**1.66**	**123**	*e*PB	**Pb**	**08 09 15.4**	**-0.5**
ITM				*e*SB	**Sb**	**08 09 38.3**	**+1.5**
AGG	**Agios Georgios**	**1.91**	**61**	*e*P	**Pn**	**08 09 21.9**	**+3.2**
AGG	**Agios Georgios**	**1.91**	**61**	P	**Pn**	**08 09 21.9**	**+3.2**
AGG				S	**Sg**	**08 09 59.0**	**+10**
LSK	**Leskovik**	**2.07**	**9**	*i* Pn	**Pn**	**08 09 24.0**	**+3.1**
LSK				*i* Sn	**Sg**	**08 09 58.5**	**+4.0**
LKR	**Lokris**	**2.27**	**75**	*e*PN	**Pn**	**08 09 25.7**	**+1.8**
LKR				*e*SN	**Sn**	**08 09 57.2**	**+5.0**
KZN	**Kozani**	**2.52**	**29**	*e*PN	**Pn**	**08 09 30.9**	**+3.5**
KZN				*e*SN	**Sn**	**08 10 05.2**	**+6.8**
KBN	**Korca**	**2.56**	**10**	*i* Pn	**Pn**	**08 09 30.8**	**+2.9**
KBN				*i* Sn	**Sn**	**08 10 07.8**	**+8.4**
NSAL	**Nisos Salamina**	**2.59**	**93**	*e*PB	**Pb**	**08 09 29.3**	**-2.6**
NEO	**Neokhori**	**2.66**	**62**	⇓*i*PB	**Pb**	**08 09 31.4**	**-1.6**
NEO	**Neokhori**	**2.66**	**62**	Pn	**Pn**	**08 09 32.2**	**+2.8**
XOR	**Xorichti**	**2.66**	**61**	*e*P	**Pn**	**08 09 31.2**	**+1.8**
LIT	**Litokhoron**	**2.68**	**41**	*e*P	**Pn**	**08 09 33.2**	**+3.5**
LIT	**Litokhoron**	**2.68**	**41**	P	**Pn**	**08 09 33.2**	**+3.5**
LIT				S	**Sg**	**08 10 22.4**	**+7.5**
LCI	**Lecce**	**2.75**	**325**	P	**Pn**	**08 09 32.2**	**+1.5**
ATH	**Athens Observa**	**2.79**	**92**	*e*PB	**Pb**	**08 09 32.6**	**-2.6**
MPAR	**Parnis Oros**	**2.80**	**88**	*e*PN	**Pn**	**08 09 33.0**	**+1.7**
FNA	**Florina**	**2.83**	**19**	*e*P	**Pn**	**08 09 34.4**	**+2.6**
TIP	**Timpagrande**	**2.89**	**293**	⇓*i*Pn	**Pn**	**08 09 33.5**	**+0.8**
TIP	**Timpagrande**	**2.89**	**293**	⇓*i*Pn	**Pn**	**08 09 33.5**	**+0.8**
KYTH	**Kithira**	**2.91**	**128**	*e*PN	**Pn**	**08 09 33.2**	**+0.2**
GRI	**Girifalco**	**3.04**	**285**	P	**Pn**	**08 09 37.2**	**+2.3**
AOS	**Alonnisos**	**3.08**	**69**	*e*P	**Pn**	**08 09 36.2**	**+0.9**
TIR	**Tirane**	**3.25**	**356**	*e*Pn	**Pn**	**08 09 40.0**	**+2.2**
TIR				*i* Sn	**Sn**	**08 10 19.0**	**+2.1**
PAIG	**Paliouri**	**3.27**	**55**	*e*P	**Pn**	**08 09 39.1**	**+1.0**
THE	**Thessaloniki**	**3.32**	**40**	*e*P	**Pn**	**08 09 40.2**	**+1.5**
THE	**Thessaloniki**	**3.32**	**40**	*e*P	**Pn**	**08 09 40.2**	**+1.5**
GRG	**Griva**	**3.32**	**30**	*e*P	**Pn**	**08 09 40.2**	**+1.4**
GRG	**Griva**	**3.32**	**30**	P	**Pn**	**08 09 40.2**	**+1.4**
GRG				S	**Sg**	**08 10 36.7**	**+0.4**
TDS	**Terranova Siba**	**3.38**	**298**	P	**Pn**	**08 09 41.0**	**+1.3**
PLG	**Polygyros**	**3.40**	**47**	*e*PN	**Pn**	**08 09 41.5**	**+1.7**
QSH	**Qafa e Shtames**	**3.42**	**356**	*i* Pn	**Pn**	**08 09 41.2**	**+1.0**
QSH				*i* Sn	**Sn**	**08 10 24.0**	**+2.8**
ORI	**Oriolo Calabro**	**3.51**	**305**	P	**Pn**	**08 09 43.2**	**+1.8**
PHP	**Peshkopia**	**3.58**	**3**	Pn	**Pn**	**08 09 43.8**	**+1.3**
BRT	**Bari-Castellan**	**3.61**	**321**	P	**Pn**	**08 09 44.3**	**+1.5**
LTRZ	**Laterza**	**3.61**	**315**	P	**Pn**	**08 09 43.7**	**+0.8**
SOH	**Sokhos**	**3.66**	**41**	*e*P	**Pn**	**08 09 44.9**	**+1.4**
OUR	**Ouranopolis**	**3.69**	**52**	*e*P	**Pn**	**08 09 45.3**	**+1.3**
KNT	**Kendrikon**	**3.70**	**34**	*e*P	**Pn**	**08 09 45.8**	**+1.7**
ULC	**Ulcinj**	**3.92**	**350**	⇑*i*Pn	**Pn**	**08 09 47.6**	**+0.3**
ULC				*e*Sn	**Sn**	**08 10 33.6**	**-0.3**
PUK	**Puka**	**3.94**	**357**	*i* Pn	**Pn**	**08 09 49.1**	**+1.5**
SKO	**Skopje**	**3.98**	**14**	*i* Pn	**Pn**	**08 09 49.6**	**+1.5**
SKO				*i* Pb	**Pb**	**08 09 56.6**	**+1.0**
SKO				*i* Pg	**Pg**	**08 10 03.0**	**-2.1**
SKO				*i* Sn	**Sn**	**08 10 34.8**	**-0.6**
SKO				*i* Sb	**Sb**	**08 10 45.0**	**+0.9**
SKO				*i* Sg	**Sg**	**08 10 53.0**	**-5.2**
SKO				Lg		08 11 22.0	
	comp=Z,0.4nm,1.0s						
SKO	**Skopje**	**3.98**	**14**	*i* P	**Pn**	**08 09 49.6**	**+1.5**
SKO				*i*		08 10 34.8	
SRS	**Serrai**	**3.99**	**40**	*e*P	**Pn**	**08 09 49.1**	**+0.8**
MGR	**Morigerati**	**4.14**	**301**	P	**Pn**	**08 09 51.4**	**+1.0**
SLCN	**Sala Consilina**	**4.21**	**304**	P	**Pn**	**08 09 53.3**	**+1.9**
SLNA	**Salina**	**4.24**	**278**	P	**Pn**	**08 09 55.2**	**+3.4**
NVR	**Nevrokopi**	**4.30**	**40**	*e*PN	**Pn**	**08 09 56.1**	**+3.4**
BUM	**Brajici-Budva**	**4.31**	**347**	⇑*i*Pn	**Pn**	**08 09 52.4**	**-0.4**
BUM				*e*Sn	**Sn**	**08 10 42.7**	**-1.0**
APE	**Apeiranthos**	**4.37**	**102**	*e*PN	**Pn**	**08 09 54.1**	**+0.4**
APE	**Apeiranthos**	**4.37**	**102**	*e*P	**Pn**	**08 09 57.7**	**+4.0**
TTG	**Podgorica**	**4.38**	**351**	⇓*i*Pn	**Pn**	**08 09 53.8**	**-0.1**
TTG				*e*Sn	**Sn**	**08 10 45.1**	**-0.3**
PVY	**Plav**	**4.49**	**358**	⇓*i*Pn	**Pn**	**08 09 56.3**	**+1.0**
PVY				*e*Sn	**Sn**	**08 10 48.4**	**+0.1**
PVY	**Plav**	**4.49**	**358**	⇓*i*Pn	**Pn**	**08 09 56.3**	**+0.9**
PVY				*e*Sn	**Sn**	**08 10 48.3**	**0.0**
SGO	**Sicignano**	**4.51**	**304**	P	**Pn**	**08 09 57.6**	**+1.9**
HCY	**Herceg Novi**	**4.53**	**344**	⇓*i*Pn	**Pn**	**08 09 55.1**	**-0.8**
HCY				*e*Sn	**Sn**	**08 10 48.4**	**-0.8**
GVD	**Gavdhos**	**4.53**	**135**	*e*Pn	**Pn**	**08 09 54.4**	**-1.5**
GVD	**Gavdhos**	**4.53**	**135**	*e*Pn	**Pn**	**08 09 54.4**	**-1.5**
SANT	**Santorini**	**4.55**	**111**	Pn	**Pn**	**08 09 57.0**	**+0.7**
SANT	**Santorini**	**4.55**	**111**	Pn	**Pn**	**08 09 57.0**	**+0.8**
VAE	**Valguarnera**	**4.62**	**264**	Pn	**Pn**	**08 09 57.4**	**+0.2**
	comp=Z,4.6nm,0.3s,baz=108,slow=13,SNR=3.1						
VAE				Sn	**Sn**	**08 10 50.8**	**-0.7**
	comp=Z,14nm,0.3s,baz=151,slow=23,SNR=3.3						
VAE	**Valguarnera**	**4.62**	**264**	Pn	**Pn**	**08 09 57.5**	**+0.3**
VAE				Sn	**Sn**	**08 10 50.8**	**-0.8**
IDI	**Anoyia**	**4.71**	**125**	Pn	**Pn**	**08 09 57.3**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=5.5,slow=15,SNR=11						
IDI				Sn	**Sn**	**08 10 50.7**	**-3.1**
	comp=Z,16nm,0.3s,baz=131,slow=23,SNR=15						
IDI				LR	LR	08 11 43.5	
	comp=Z,426nm,19.3s,baz=317,slow=37						
IVA	**Berane**	**4.77**	**357**	⇑*i*Pn	**Pn**	**08 10 00.1**	**+0.8**
IVA				*e*Sn	**Sn**	**08 10 55.0**	**-0.3**
NKY	**Niksic**	**4.79**	**349**	⇓*i*Pn	**Pn**	**08 09 59.3**	**-0.4**
NKY				*e*Sn	**Sn**	**08 10 54.9**	**-1.0**
TREB	**Trebinje**	**4.82**	**344**	Pn	**Pn**	**08 09 59.2**	**-0.8**
TREB				Sn	**Sn**	**08 10 55.5**	**-1.1**
FGMS	**Monte Sant'Ang**	**4.85**	**319**	P	**Pn**	**08 10 00.9**	**+0.4**
BARS	**Barje**	**4.87**	**14**	⇑*i*Pn	**Pn**	**08 10 00.8**	**-0.1**
PRK	**Paraskevi**	**4.89**	**75**	*e*PN	**Pn**	**08 10 03.5**	**+2.4**
BRY	**Bratogost**	**4.95**	**346**	⇓*i*Pn	**Pn**	**08 10 01.2**	**-0.7**
BRY				*e*Sn	**Sn**	**08 10 58.3**	**-1.7**
RDO	**Rodhopi**	**5.12**	**52**	*e*PN	**Pn**	**08 10 07.4**	**+3.0**
RDO	**Rodhopi**	**5.12**	**52**	Pn	**Pn**	**08 10 05.6**	**+1.2**
UPM	**Unac-Piva**	**5.18**	**350**	⇑*i*Pn	**Pn**	**08 10 05.2**	**0.0**
UPM				*e*Sn	**Sn**	**08 11 04.2**	**-1.6**
NPS	**Neapolis**	**5.20**	**121**	*e*PN	**Pn**	**08 10 05.3**	**-0.1**
AYVA	**Ayvalik**	**5.22**	**75**	*i* P	**Pn**	**08 10 02.0**	**-3.8**
PLE	**Pljevlja**	**5.25**	**354**	⇓*i*Pn	**Pn**	**08 10 06.1**	**-0.1**
PLE				*e*Sn	**Sn**	**08 11 06.4**	**-1.2**
SMG	**Samos**	**5.27**	**92**	*e*PN	**Pn**	**08 10 07.1**	**+0.6**
ALN	**Alexandroupoli**	**5.32**	**57**	*e*P	**Pn**	**08 10 06.7**	**-0.4**
FG2	**Serracapriola**	**5.34**	**315**	P	**Pn**	**08 10 08.6**	**+1.1**
NVSS	**Nova Varos 2**	**5.41**	**356**	⇑*i*Pn	**Pn**	**08 10 10.1**	**+1.7**
NVSS				Sn	**Sn**	**08 11 08.6**	**-2.9**
XRY	**Khrisi**	**5.48**	**124**	*e*Pn	**Pn**	**08 10 07.8**	**-1.6**
CLTB	**Caltabellotta**	**5.54**	**267**	P	**Pn**	**08 10 12.6**	**+2.3**
KDAG	**Bornova**	**5.58**	**85**	*i* P	**Pn**	**08 10 15.8**	**+5.1**
RFI	**Roccamonfina**	**5.75**	**306**	P	**Pn**	**08 10 14.7**	**+1.5**
CII	**Carovilli**	**5.79**	**310**	*e*Pn	**Pn**	**08 10 15.8**	**+2.0**
	comp=Z,107nm,0.7s						
CII				*e*Sn	**Sn**	**08 11 20.3**	**-0.7**
CII	**Carovilli**	**5.79**	**310**	*e*Pn	**Pn**	**08 10 15.8**	**+2.1**
	comp=Z,107nm,0.7s						
GRUS	**Gruza**	**5.79**	**4**	*i* Pn	**Pn**	**08 10 12.7**	**-1.1**
DIVS	**Divcibare**	**5.99**	**359**	⇓*i*Pn	**Pn**	**08 10 14.6**	**-1.9**
DIVS				Sn	**Sn**	**08 11 20.3**	**-5.7**
KARP	**Karpathos**	**6.15**	**112**	*e*PN	**Pn**	**08 10 18.5**	**-0.3**
INTR	**Introdacqua**	**6.20**	**311**	P	**Pn**	**08 10 22.2**	**+2.6**
SVIS	**Svilajnac**	**6.23**	**7**	⇑*i*Pn	**Pn**	**08 10 18.3**	**-1.7**
SVIS				Sn	**Sn**	**08 11 27.9**	**-4.2**
VVLD	**Villa Vallelon**	**6.29**	**309**	P	**Pn**	**08 10 22.1**	**+1.3**
BTOK	**Tokmak**	**6.33**	**72**	*i* P	**Pn**	**08 10 19.9**	**-1.5**
AQU	**L'Aquila**	**6.71**	**311**	*e*Pn	**Pn**	**08 10 27.8**	**+1.1**
	comp=Z,87nm,0.8s						
AQU	**L'Aquila**	**6.71**	**311**	*e*Pn	**Pn**	**08 10 27.8**	**+1.1**
	comp=Z,87nm,0.8s						
AQU	**L'Aquila**	**6.71**	**311**	*e*P	**Pn**	**08 10 27.8**	**+1.1**
AQU				pmax	pmax		
	comp=Z,87nm,0.8s						
TERO	**Teramo**	**6.75**	**314**	P	**Pn**	**08 10 29.1**	**+1.7**
BLY	**Banja Luka**	**7.01**	**342**	Pn	**Pn**	**08 10 29.8**	**-1.2**
MNS	**Montasola**	**7.16**	**309**	P	**Pn**	**08 10 34.1**	**+1.1**
NRCA	**Norcia**	**7.17**	**313**	P	**Pn**	**08 10 34.5**	**+1.3**
ULDT	**Uludag**	**7.25**	**71**	*i* P	**Pn**	**08 10 35.0**	**+0.7**
CING	**Cingoli**	**7.47**	**317**	P	**Pn**	**08 10 37.5**	**0.0**
SNTG	**Esanatoglia**	**7.54**	**315**	P	**Pn**	**08 10 38.7**	**+0.4**
NVLJ	**Novalja**	**7.59**	**330**	*i* Pn	**Pn**	**08 10 36.1**	**-3.0**
NVLJ				*i* Sn	**Sn**	**08 12 00.1**	**-6.0**
ARV	**Arcevia**	**7.70**	**317**	P	**Pn**	**08 10 40.5**	**0.0**
SLUM		**7.78**	**146**	⇑P	**Pn**	**08 10 35.3**	**-6.5**
FSSB	**Fossombrone**	**7.91**	**317**	P	**Pn**	**08 10 43.5**	**-0.1**
TKTP	**Tekketepe**	**7.99**	**87**	*i* P	**Pn**	**08 10 51.0**	**+6.3**
VOIR		**8.18**	**25**	⇓*i*P	**P**	**08 10 47.6**	**+0.4**
PKSM	**Moragy**	**8.18**	**352**	P	**P**	**08 10 46.7**	**-0.6**
RSM	**Repubblica di**	**8.25**	**317**	P	**P**	**08 10 49.0**	**+0.7**
ESKT	**Eskisehir**	**8.44**	**77**	*i* P	**P**	**08 10 53.2**	**+2.2**
ISR	**Istrita**	**8.47**	**32**	⇓*i*P	**P**	**08 10 51.4**	**+0.1**
CRES	**Cresnjev**	**8.48**	**337**	⇑*e*Pn	**P**	**08 10 49.8**	**-1.7**
CRES				*e*		08 12 13.7	
CRES				*i*		08 12 22.4	
MLR	**Muntele Rosu**	**8.54**	**28**	Pn	**P**	**08 10 53.2**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=224,slow=5.2,SNR=20						
MLR	**Muntele Rosu**	**8.54**	**28**	⇑*i*P	**P**	**08 10 53.8**	**+1.5**
MLR	**Muntele Rosu**	**8.54**	**28**	⇑*i*P	**P**	**08 10 53.9**	**+1.6**
GRFL	**Gerfalco**	**8.62**	**309**	P	**P**	**08 10 54.9**	**+1.4**
VISS	**Visnje**	**8.66**	**334**	*i* Pn	**P**	**08 10 52.5**	**-1.5**
HENT	**Hendek**	**8.72**	**69**	*i* P	**P**	**08 10 56.7**	**+1.9**
CEY	**Cerknica**	**8.75**	**332**	*e*Pn	**P**	**08 10 53.3**	**-1.9**
CEY				*e*Sn	**Sn**	**08 12 30.4**	**-4.6**
DOBS	**Dobrina**	**8.77**	**338**	*i* Pn	**P**	**08 10 53.4**	**-2.1**
PDKS	**Podkum**	**8.84**	**336**	*i* Pn	**P**	**08 10 54.7**	**-1.8**
DRGR		**8.88**	**11**	P	**P**	**08 10 56.4**	**-0.6**
LJU	**Ljubljana**	**8.98**	**334**	*i* Pn	**P**	**08 10 57.0**	**-1.4**
LJU				*e*Sn	**Sn**	**08 12 34.8**	**-5.8**
HMAT	**Matruh**	**9.02**	**139**	⇓*e*P	**P**	**08 10 51.4**	**-7.5**
HMAT				S	**Sn**	**08 12 22.4**	**-19**
VRI	**Vrincioaia**	**9.15**	**30**	⇑*i*P	**P**	**08 11 02.3**	**+1.5**
VOY	**Vojsko**	**9.20**	**331**	*e*Pn	**P**	**08 11 00.2**	**-1.2**
VOY				*e*		08 11 11.9	
VOY				*e*Sn	**Sn**	**08 12 38.0**	**-8.0**
PERS	**Pernice**	**9.31**	**338**	*e*Pn	**P**	**08 11 00.8**	**-2.2**
PERS				*e*Sn	**Sn**	**08 12 39.9**	**-9.0**
OBKA	**Obir**	**9.38**	**335**	⇓*i*PN	**P**	**08 11 02.0**	**-1.9**
OBKA				*i* SN	**Sn**	**08 12 43.5**	**-7.0**
OBKA	**Obir**	**9.38**	**335**	⇓*i*Pn	**P**	**08 11 02.0**	**-1.9**
	SNR=18						
SGKT	**Sivrigoynuk**	**9.52**	**71**	*i* P	**P**	**08 11 05.9**	**+0.1**
ROBS	**Robic**	**9.52**	**331**	*e*Pn	**P**	**08 11 04.8**	**-1.0**
PGF	**Pioggiola**	**9.63**	**301**	*e*P	**P**	**08 11 11.1**	**+3.8**
	comp=Z,34nm,0.9s						
ARSA	**Arzberg**	**9.76**	**341**	⇑*i*PN	**P**	**08 11 06.3**	**-2.9**
ARSA				*i* SN	**Sn**	**08 12 52.0**	**-7.9**
ARSA	**Arzberg**	**9.76**	**341**	⇑*i*Pn	**P**	**08 11 06.3**	**-2.9**
	SNR=7.0						
ARSA	**Arzberg**	**9.76**	**341**	⇑*i*Sn	**Sn**	**08 12 52.0**	**-8.0**
PSZ	**Piszkesteto**	**9.81**	**359**	*e*	**P**	**08 11 07.9**	**-1.9**
PSZ				*e*Sn	**Sn**	**08 12 54.1**	**-7.0**
PSZ	**Piszkesteto**	**9.81**	**359**	Pn	**P**	**08 11 11.6**	**+1.7**
	comp=Z,14nm,0.7s						
PSZ	**Piszkesteto**	**9.81**	**359**	Pn	**P**	**08 11 11.6**	**+1.8**
	comp=Z,14nm,0.7s						
PSZ	**Piszkesteto**	**9.81**	**359**	P	**P**	**08 11 11.6**	**+1.8**
PSZ				pmax	pmax		
	comp=Z,14nm,0.7s						
SWA2		**9.87**	**152**	⇓*e*P	**P**	**08 11 04.2**	**-6.4**
SWA2				S	**Sn**	**08 12 45.5**	**-17**
SWA1		**9.94**	**151**	⇓*e*P	**P**	**08 11 05.4**	**-6.3**
SWA1				S	**Sn**	**08 12 46.7**	**-18**
CMAH	**Djebel Manchou**	**10.27**	**266**	P	**P**	**08 11 17.5**	**+1.3**
KBA	**Koelnbreinsper**	**10.29**	**333**	⇑*i*PN	**P**	**08 11 14.7**	**-1.6**
KBA				*i* SN	**S**	**08 13 06.4**	**-6.4**
ABSA	**Djebel Ababsia**	**10.31**	**264**	P	**P**	**08 11 18.5**	**+1.8**
KECS	**Kecovo**	**10.38**	**1**	*e*PN	**P**	**08 11 17.9**	**+0.3**
VYHS	**Vyhne**	**10.43**	**355**	*e*PN	**P**	**08 11 16.7**	**-1.6**
VYHS				*e*SN	**S**	**08 13 08.1**	**-8.2**
VYHS	**Vyhne**	**10.43**	**355**	*e*Pn	**P**	**08 11 15.8**	**-2.5**
VYHS	**Vyhne**	**10.43**	**355**	*e*P	**P**	**08 11 16.7**	**-1.6**
BR131	**Keskin Array S**	**10.61**	**77**	*e*Pn	**P**	**08 11 20.0**	**-0.8**
	comp=Z,2.4nm,0.6s						
BRTR	**Keskin Array B**	**10.61**	**77**	Pn	**P**	**08 11 19.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=257,slow=12,SNR=2.2						
MOA	**Molln**	**10.66**	**338**	⇑*i*PN	**P**	**08 11 19.3**	**-2.1**
MOA				*i* SN	**S**	**08 13 15.0**	**-6.9**
MOA	**Molln**	**10.66**	**338**	⇑*i*Pn	**P**	**08 11 19.3**	**-2.2**
	SNR=24						
MOA	**Molln**	**10.66**	**338**	⇓*i*Sn	**S**	**08 13 15.0**	**-6.9**
CKFL	**Kef-Lekhel**	**10.87**	**265**	P	**P**	**08 11 24.5**	**+0.1**
KIS	**Kishinev**	**10.92**	**33**	*e*P	**P**	**08 11 30.0**	**+4.9**
KIS				MLR	MLR		
	comp=E,1μm,13.0s						
KIS				MLR	MLR		
	comp=Z,1μm,13.0s						
KIS				MLR	MLR		
	comp=Z,1μm,12.0s						
KOLS	**Kolonicke sedl**	**10.93**	**7**	*e*PN	**P**	**08 11 24.4**	**-0.7**
KOLS	**Kolonicke sedl**	**10.93**	**7**	*e*Pn	**P**	**08 11 24.1**	**-1.0**
HBRG	**Burj al 'Arab**	**10.95**	**130**	⇑P	**P**	**08 11 18.0**	**-7.5**
HBRG				S	S	08 13 08.3	-21
CASM	**Ain Smara**	**11.09**	**265**	P	**P**	**08 11 28.5**	**+1.2**
WTTA	**Wattenberg**	**11.10**	**328**	⇓*i*PN	**P**	**08 11 25.4**	**-2.1**
WTTA				*i* SN	**S**	**08 13 25.6**	**-7.1**
SBF	**Sospel**	**11.22**	**305**	*e*P	**P**	**08 11 30.9**	**+1.7**
STHS	**Stebnicka Huta**	**11.33**	**4**	*e*PN	**P**	**08 11 31.3**	**+0.6**
STHS				*e*SN	**S**	**08 13 31.9**	**-6.5**
DFRA	**Djebel Bou Aff**	**11.50**	**267**	P	**P**	**08 11 34.0**	**+1.0**
DAVOX	**Davos**	**11.53**	**322**	Pn	**P**	**08 11 33.8**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=146,slow=18,SNR=7.3						
DAVOX				Sn	**S**	**08 13 38.9**	**-4.4**
	comp=Z,1.6nm,0.3s,baz=307,slow=22,SNR=6.3						
DAVOX				LR	LR	08 16 17.3	
	comp=Z,139nm,20.3s,baz=108,slow=39						
TUE	**Stuetta**	**11.58**	**320**	P	**P**	**08 11 33.2**	**-0.9**
GEC2	**GERESS Array S**	**11.72**	**338**	*e*Pn	**P**	**08 11 33.6**	**-2.3**
	comp=Z,8.0nm,0.7s						
GEC2	**GERESS Array S**	**11.72**	**338**	*e*P	**P**	**08 11 33.6**	**-2.3**
GEC2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GERES	**GERESS Array B**	**11.72**	**338**	Pn	**P**	**08 11 33.6**	**-2.3**
	comp=Z,1.4nm,0.3s,baz=158,slow=14,SNR=29						
GERES				Sn	**S**	**08 13 40.2**	**-7.6**
	comp=Z,2.6nm,0.3s,baz=151,slow=24,SNR=9.7						
OKC	**Ostrava-Krasne**	**11.82**	**354**	AMS	AMS	08 17 10.0	
	comp=Z,2μm,9.1s						
MORC	**Moravsky Berou**	**11.82**	**352**	*e*Pn	**P**	**08 11 38.2**	**+0.9**
MORC	**Moravsky Berou**	**11.82**	**352**	*e*P	**P**	**08 11 38.2**	**+0.9**
DAVA	**Damuels**	**11.89**	**324**	⇓*i*Sn	**S**	**08 13 46.0**	**-6.1**
DAVA	**Damuels**	**11.89**	**324**	⇑*i*Pn	**P**	**08 11 37.9**	**-0.4**
DAVA				*i* Sn	**S**	**08 13 46.0**	**-6.1**
KHC	**Kasperske Hory**	**12.01**	**339**	*e*P	**P**	**08 11 37.3**	**-2.5**
KHC				x	x	08 11 55.0	
KHC				*e*S	**S**	**08 13 46.8**	**-8.1**
KHC				x	x	08 14 13.5	
KHC	**Kasperske Hory**	**12.01**	**339**	*e*P	**P**	**08 11 37.3**	**-2.5**
KHC				*e*		08 11 55.0	
KHC				*e*S	**S**	**08 13 46.8**	**-8.1**
KHC				*e*		08 14 13.5	
KHC	**Kasperske Hory**	**12.01**	**339**	*e*P	**P**	**08 11 37.3**	**-2.5**
KHC				*e*S	**S**	**08 13 46.8**	**-8.1**
MBDF	**Montbardon**	**12.04**	**308**	*e*P	**P**	**08 11 43.1**	**+2.8**
	comp=Z,26nm,0.8s						
MBDF	**Montbardon**	**12.04**	**308**	*e*P	**P**	**08 11 43.1**	**+2.8**
MBDF				pmax	pmax		
	comp=Z,13nm,0.8s						
AWBH		**12.18**	**141**	⇓P	**P**	**08 11 35.4**	**-6.8**
WET	**Wettzell**	**12.23**	**337**	*e*Pn	**P**	**08 11 40.7**	**-2.1**
	comp=Z,11nm,1.0s						
WET	**Wettzell**	**12.23**	**337**	*e*P	**P**	**08 11 40.7**	**-2.1**
WET				pmax	pmax		
	comp=Z,11nm,1.0s						
BNI	**Bardonecchia**	**12.26**	**309**	Pn	**P**	**08 11 44.4**	**+1.1**
	comp=Z,12nm,1.1s						
BNI	**Bardonecchia**	**12.26**	**309**	Pn	**P**	**08 11 44.3**	**+1.1**
	comp=Z,12nm,1.1s						
BNI	**Bardonecchia**	**12.26**	**309**	P	**P**	**08 11 44.4**	**+1.2**
BNI				pmax	pmax		
	comp=Z,12nm,1.1s						
LPG	**La Plagne**	**12.44**	**311**	*e*P	**P**	**08 11 49.6**	**+3.9**
	comp=Z,20nm,0.8s						
LPG	**La Plagne**	**12.44**	**311**	*e*P	**P**	**08 11 49.6**	**+3.9**
LPG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LPL	**La Plagne**	**12.46**	**311**	*e*P	**P**	**08 11 49.9**	**+3.9**
	comp=Z,7.4nm,0.5s						
LPL	**La Plagne**	**12.46**	**311**	*e*P	**P**	**08 11 49.9**	**+3.9**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SMRF	**Simiane la Rot**	**12.49**	**303**	*e*P	**P**	**08 11 49.0**	**+2.7**
PRU	**Pruhonice**	**12.55**	**343**	*e*P	**P**	**08 11 44.9**	**-2.2**
PRU				*e*x	x	08 11 57.2	
PRU				AMS	AMS	08 17 20.0	
	comp=Z,1μm,9.3s						
DPC	**Dobruska-Polom**	**12.55**	**349**	*e*P	**P**	**08 11 56.1**	**+9.0**
DPC				AMS	AMS	08 17 30.0	
	comp=Z,2μm,11.4s						
ORIF	**Oris-en-Rattie**	**12.69**	**307**	*e*P	**P**	**08 11 49.3**	**+0.3**
	comp=Z,69nm,1.3s						
ORIF				*e*R			
	comp=Z,406nm,18.8s						
GLL	**Jalalah**	**12.80**	**128**	⇑P	**P**	**08 11 43.2**	**-7.3**
PVCC	**Panska Ves**	**13.05**	**344**	AMS	AMS	08 17 50.0	
	comp=Z,400nm,10.9s						
SUZ		**13.33**	**124**	⇑P	**P**	**08 11 50.8**	**-6.7**
CABF	**La Chapelle**	**13.44**	**314**	*e*P	**P**	**08 12 02.8**	**+3.9**
BRG	**Berggiesshubel**	**13.51**	**343**	P	**P**	**08 12 17.3**	**+17**
BRG				*e*		08 14 47.8	
HINF	**Hinteralfeld**	**13.75**	**319**	*e*P	**P**	**08 12 02.7**	**-0.2**
	comp=Z,17nm,0.7s						
HINF	**Hinteralfeld**	**13.75**	**319**	*e*P	**P**	**08 12 02.7**	**-0.2**
HINF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GZT	**Gaziantep**	**13.78**	**88**	*i* P	**P**	**08 11 56.9**	**-6.5**
CDF	**Champ du Feu**	**13.93**	**322**	*e*P	**P**	**08 12 04.5**	**-0.8**
	comp=Z,8.1nm,0.5s						
CDF	**Champ du Feu**	**13.93**	**322**	*e*P	**P**	**08 12 04.5**	**-0.8**
CDF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MOX	**Moxa**	**13.94**	**337**	*i* P	**P**	**08 12 04.7**	**-0.7**
	comp=Z,logA/T=1.2						
MOX				S	**S**	**08 14 35.0**	**-6.2**
MOX				L		08 18 45.0	
MOX	**Moxa**	**13.94**	**337**	*e*P	**P**	**08 12 04.7**	**-0.7**
	comp=Z,17nm,1.0s						
MOX				*e*S	**S**	**08 14 35.1**	**-6.2**
MOX	**Moxa**	**13.94**	**337**	*e*P	**P**	**08 12 04.7**	**-0.7**
MOX				*e*S	**S**	**08 14 35.1**	**-6.2**
MOX				pmax	pmax		
	comp=Z,17nm,1.0s						
HNKL	**Nakhl**	**14.04**	**121**	⇑P	**P**	**08 12 00.4**	**-6.5**
AKASG	**Malin Array Be**	**14.14**	**24**	Pn	**P**	**08 12 06.3**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=212,slow=12,SNR=11						
AKASG	**Malin Array Be**	**14.14**	**24**	Pn	**P**	**08 12 06.3**	**-1.7**
CLL	**Collm**	**14.14**	**341**	*i* PP	PP	08 12 16.9	-2.4
CLL				*e*		08 12 32.0	
MALT	**Malatya**	**14.35**	**84**	*e*Pn	**P**	**08 12 11.8**	**+1.0**
	comp=Z,9.7nm,0.9s						
MALT	**Malatya**	**14.35**	**84**	*e*P	**P**	**08 12 11.8**	**+1.0**
	comp=Z,10.0nm,0.9s						
MALT	**Malatya**	**14.35**	**84**	*e*P	**P**	**08 12 11.8**	**+1.0**
MALT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GRB	**Gharib**	**14.39**	**129**	⇑*e*P	**P**	**08 12 05.7**	**-5.8**
HKAT	**Jabal Katrina**	**14.97**	**126**	⇓P	**P**	**08 12 13.6**	**-5.4**
SSF	**Saint Saulge**	**15.18**	**311**	*e*P	**P**	**08 12 25.1**	**+3.4**
AKRG	**Al Kharijah**	**15.30**	**142**	⇑P	**P**	**08 12 18.9**	**-4.6**
GTR	**Jabal at Tayr**	**15.33**	**142**	⇓P	**P**	**08 12 19.4**	**-4.3**
WLF	**Walferdange**	**15.33**	**323**	*e*P	**P**	**08 12 25.1**	**+1.4**
	comp=Z,20nm,0.9s						
WLF	**Walferdange**	**15.33**	**323**	*e*P	**P**	**08 12 25.1**	**+1.5**
	comp=Z,20nm,0.9s						
WLF	**Walferdange**	**15.33**	**323**	*e*P	**P**	**08 12 25.1**	**+1.5**
WLF				pmax	pmax		
	comp=Z,20nm,0.9s						
HHRG	**Al Ghardaqah**	**15.63**	**130**	⇑P	**P**	**08 12 22.4**	**-5.3**
SOC	**Sochi**	**15.75**	**64**	*e*P	**P**	**08 12 30.9**	**+1.8**
SOC				*e*		08 15 21.8	
SOC				pmax	pmax		
	comp=N,47nm,1.3s						
SOC				pmax	pmax		
	comp=E,40nm,1.3s						
SOC				pmax	pmax		
	comp=Z,29nm,1.3s						
SOC				MLR	MLR		
	comp=Z,287nm,23.0s						
SUW	**Suwalki**	**16.04**	**6**	*e*P	**P**	**08 12 32.8**	**0.0**
SUW				*e*		08 12 39.4	
SUW	**Suwalki**	**16.04**	**6**	*e*P	**P**	**08 12 32.8**	**0.0**
SUW				*e*		08 12 39.4	
ETSF	**Etsaut**	**16.48**	**293**	*e*P	**P**	**08 12 41.2**	**+2.7**
HEDF	**Idfu**	**17.03**	**136**	⇓P	**P**	**08 12 42.8**	**-2.6**
MFF	**Saint Martin d**	**17.23**	**306**	*e*P	**P**	**08 12 50.4**	**+2.6**
	comp=Z,91nm,1.4s						
MFF	**Saint Martin d**	**17.23**	**306**	*e*P	**P**	**08 12 50.4**	**+2.6**
MFF				pmax	pmax		
	comp=Z,45nm,1.4s						
IDID	**Didziasalis**	**17.78**	**12**	*e*P	**P**	**08 12 52.7**	**-1.9**
ISAL	**Salakas**	**17.93**	**11**	*e*P	**P**	**08 12 54.2**	**-2.3**
ISAL				AMb	AMB	08 12 55.9	
	comp=Z,11nm,1.0s						
ISAL	**Salakas**	**17.93**	**11**	*e*P	**P**	**08 12 54.2**	**-2.3**
	comp=Z,11nm,1.0s,SNR=46						
KIV	**Kislovodsk**	**17.93**	**64**	*e*P	**P**	**08 12 56.9**	**+0.3**
	comp=Z,9.2nm,0.4s						
KIV	**Kislovodsk**	**17.93**	**64**	*e*P	**P**	**08 12 56.9**	**+0.3**
	comp=Z,9.2nm,0.4s						
KIV	**Kislovodsk**	**17.93**	**64**	⇑*e*P	**P**	**08 12 57.5**	**+0.9**
KIV				pmax	pmax		
	comp=Z,16nm,1.2s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
IZAR	**Zarasai**	**18.12**	**11**	*e*P	**P**	**08 12 56.8**	**-2.1**
HAKT	**HAKKARI**	**18.58**	**84**	*i* P	**P**	**08 13 05.0**	**+0.3**
VRSR	**Storozhevoye**	**18.75**	**40**	*e*P	**P**	**08 13 05.0**	**-1.8**
	comp=Z,30nm,1.2s						
VRSR	**Storozhevoye**	**18.75**	**40**	*e*P	**P**	**08 13 05.0**	**-1.8**
VRSR				pmax	pmax		
	comp=Z,20nm,1.4s						
VRSR				pmax	pmax		
	comp=N,30nm,1.2s						
VRSR				pmax	pmax		
	comp=E,20nm,0.7s						
ESDC	**Sonseca Array**	**18.86**	**282**	P	**P**	**08 13 07.2**	**-0.8**
	comp=E,0.5nm,0.3s,baz=81,slow=12,SNR=9.8						
ESLA	**Sonseca Array**	**18.86**	**282**	*e*P	**P**	**08 13 07.4**	**-0.7**
	comp=E,3.0nm,1.1s						
ESLA	**Sonseca Array**	**18.86**	**282**	*e*P	**P**	**08 13 07.4**	**-0.7**
	comp=E,3.0nm,1.1s						
GNI	**Garni**	**19.15**	**76**	P	**P**	**08 13 11.5**	**-0.1**
	comp=E,1.6nm,0.3s,baz=274,slow=10,SNR=5.5						
GNI				LR	LR	08 21 41.2	
	comp=E,11nm,21.2s,baz=306,slow=40						
TI2	**Plekhanov**	**19.16**	**71**	*e*P	**P**	**08 13 04.4**	**-7.3**
OBN	**Obninsk**	**20.31**	**28**	P	**P**	**08 13 23.3**	**-1.0**
OBN	**Obninsk**	**20.31**	**28**	⇓*i*P	**P**	**08 13 23.8**	**-0.5**
OBN				*e*		08 13 31.5	
OBN				*e*		08 13 44.1	
OBN				pmax	pmax		
	comp=Z,36nm,0.9s						
OBN				MLR	MLR		
	comp=Z,400nm,14.0s,MS3.9						
VSU	**Vasula**	**20.81**	**10**	⇑*i*P	**P**	**08 13 28.1**	**-1.4**
MDT	**Midelt**	**20.86**	**263**	P	**P**	**08 13 29.0**	**-1.1**
	comp=Z,4.4nm,0.7s,baz=76,slow=10,SNR=10						
MDT				LR	LR	08 23 54.4	
	comp=Z,103nm,18.0s,MS3.2,baz=137,slow=43						
MOS	**Moscow**	**21.18**	**28**	*e*P	**P**	**08 13 35.2**	**+2.0**
MOS				pmax	pmax		
	comp=Z,69nm,0.9s,mb5.0						
HFS	**Hagfors**	**22.43**	**351**	P	**P**	**08 13 46.6**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,32nm,0.8s,mb4.8,baz=146,slow=11,SNR=36						
ESK	**Eskdalemuir**	**23.35**	**325**	*e*P	**P**	**08 13 55.7**	**+1.0**
	comp=Z,25nm,0.9s,mb4.6						
ESK	**Eskdalemuir**	**23.35**	**325**	*e*P	**P**	**08 13 55.7**	**+1.0**
ESK				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.6						
NAO01	**NORSAR Array S**	**23.50**	**349**	*e*P	**P**	**08 13 56.5**	**+0.3**
	comp=Z,6.4nm,0.6s,mb4.2						
NB2	**NORSAR Subarra**	**23.64**	**349**	P	**P**	**08 13 57.1**	**-0.4**
	comp=Z,12nm,0.8s,mb4.4,baz=160,slow=9.3						
NB2	**NORSAR Subarra**	**23.64**	**349**	P	**P**	**08 13 57.1**	**-0.4**
NB2				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**23.64**	**349**	P	**P**	**08 13 57.7**	**+0.2**
	comp=Z,5.6nm,0.7s,mb4.1,baz=163,slow=10,SNR=20						
FINES	**FINESS Array B**	**23.65**	**7**	P	**P**	**08 13 58.0**	**+0.5**
	comp=Z,8.7nm,0.8s,mb4.3,baz=180,slow=9.5,SNR=14						
KAF	**Kangasniemi**	**24.33**	**7**	*e*p	**P**	**08 14 03.7**	**-0.5**
	comp=Z,10nm,0.9s,mb4.3,baz=189,slow=9.4						
KAF	**Kangasniemi**	**24.33**	**7**	*e*P	**P**	**08 14 03.7**	**-0.5**
KAF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
JOF	**Joensuu**	**25.75**	**12**	*e*p	**P**	**08 14 15.4**	**-2.4**
	comp=Z,3.3nm,0.6s,mb4.0						
ARU	**Arti**	**31.29**	**42**	*i* P	**P**	**08 15 04.4**	**-3.3**
ARU				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.6						
ARU				MLR	MLR		
	comp=Z,200nm,19.0s,MS3.8						
ARCES	**ARCESS Array B**	**31.62**	**4**	P	**P**	**08 15 08.9**	**-1.6**
	comp=Z,1.4nm,0.6s,mb4.0,baz=172,slow=8.6,SNR=7.8						
BRVK	**Borovoye**	**37.30**	**50**	*e*P	**P**	**08 15 57.6**	**-1.8**
	comp=Z,3.6nm,0.7s,mb4.3						
BRVK	**Borovoye**	**37.30**	**50**	*e*P	**P**	**08 15 57.6**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**37.37**	**50**	P	**P**	**08 15 58.5**	**-1.5**
	comp=Z,2.9nm,0.6s,mb4.3,baz=270,slow=4.4,SNR=14						
BVAR				PP	PP	08 17 23.1	-4.5
	comp=Z,1.9nm,0.7s,baz=270,slow=12,SNR=4.3						
DBIC	**Dimbokro**	**38.66**	**222**	P	**P**	**08 16 09.2**	**-2.0**
	comp=Z,3.5nm,0.5s,mb4.3,baz=30,slow=9.2,SNR=8.2						
TIC	**Toumodi**	**38.77**	**223**	*e*P	**P**	**08 16 10.1**	**-2.1**
	comp=Z,129nm,1.6s,mb5.4						
KIC	**Kosan Boka**	**38.86**	**222**	*e*P	**P**	**08 16 10.6**	**-2.4**
	comp=Z,14nm,0.6s,mb4.8						
LIC	**Lamto**	**39.13**	**222**	*e*P	**P**	**08 16 12.5**	**-2.7**
	comp=Z,24nm,0.8s,mb5.0						
LIC	**Lamto**	**39.13**	**222**	*e*P	**P**	**08 16 12.8**	**-2.4**
	comp=Z,8.4nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**41.03**	**66**	⇑*i*P	**P**	**08 16 28.7**	**-1.8**
KMBO	**Kilima Mbogo**	**42.10**	**154**	LR	LR	08 36 31.3	
	comp=Z,69nm,21.0s,MS3.5,baz=96,slow=40						
NVS	**Novosibirsk**	**44.92**	**47**	*e*P	**P**	**08 16 59.1**	**-2.9**
NVS				*e*S	**S**	**08 23 38.7**	**-0.6**
NVS				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.6s						
NVS				smax			
	comp=N,17nm,1.8s						
NVS				smax			
	comp=E,6.0nm,1.1s						
MKAR	**Makanchi Array**	**45.56**	**58**	P	**P**	**08 17 05.0**	**-2.2**
	comp=E,3.2nm,0.5s,mb4.5,baz=273,slow=7.8,SNR=27						
MKAR				LR	LR	08 38 05.3	
	comp=E,44nm,20.2s,MS3.4,baz=214,slow=39						
ZAL	**Zalesovo**	**45.92**	**48**	P	**P**	**08 17 08.2**	**-1.8**
	comp=E,12nm,0.5s,mb5.0,baz=196,slow=7.2,SNR=13						
SCHQ	**Schefferville**	**58.34**	**317**	P	**P**	**08 18 42.0**	**-0.9**
	comp=E,2.7nm,0.9s,mb4.3,baz=64,slow=19,SNR=4.0						
SCHQ	**Schefferville**	**58.34**	**317**	P	**P**	**08 18 42.0**	**-0.9**
MATP	**Matopo**	**58.74**	**171**	LR	LR	08 45 28.8	
	comp=E,102nm,18.8s,MS4.0,baz=233,slow=38						
CN2	**Changchun**	**74.13**	**47**	*e*P	**P**	**08 20 26.3**	**+2.6**
MDJ	**Mudanjiang**	**75.94**	**44**	P	**P**	**08 20 30.9**	**-3.2**
MDJ				AP	pP	08 20 43.3	+6.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,67nm,6.3s						
MDJ				LR	LR		
	comp=N,55nm,20.3s,MS4.0						
MDJ				LR	LR		
	comp=E,62nm,19.3s,MS4.0						
MDJ				LR	LR		
	comp=Z,63nm,16.2s,MS4.0						
ILAR	**Eielson Array**	**76.96**	**354**	P	**P**	**08 20 39.8**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=4.3,slow=5.8,SNR=8.2						
NJ2	**Nanjing**	**77.08**	**59**	*e*P	**P**	**08 20 38.3**	**-2.5**
NJ2				PP	PP	08 23 33.8	-2.1
NJ2				S	S	08 30 21.0	-7.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,160nm,4.7s						
NJ2				LR	LR		
	comp=N,170nm,21.8s,MS4.6						
NJ2				LR	LR		
	comp=E,300nm,21.8s,MS4.6						
NJ2				LR	LR		
	comp=Z,730nm,32.0s						
YSS	**Yuzh-Sakhalins**	**80.98**	**36**	*e*P	**P**	**08 20 58.0**	**-3.6**
MJAR	**Matsushiro Arr**	**86.22**	**45**	P	**P**	**08 21 28.5**	**-0.1**
	comp=Z,0.5nm,0.4s,mb4.1,baz=278,slow=26,SNR=3.1						
TXAR	**Lajitas Array**	**94.83**	**313**	P	**P**	**08 22 10.2**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.8,baz=76,slow=5.2,SNR=4.4						
CPUP	**Villa Florida**	**96.78**	**242**	LR	LR	09 06 57.9	
	comp=Z,122nm,20.7s,MS4.4,baz=99,slow=36						

NEIC ***16*** *08:17:11.2±2.9, 16.42S×174.77E, h65km±24km, mb4.3/3, Error ellipse: s-maj=23.2km s-min=18.6km az=170.0*
IDC ***16*** *08:17:11.1±6.4, 16.41S×174.78E, h62km±56km, mb3.9/6, mb1 4.2/7, mb1mx4.0/15, mbtmp4.2/7, ML3.4/1, MS3.8/13, Ms1 3.8/13, ms1mx3.7/21, Error ellipse: s-maj=41.1km s-min=31.2km az=147.0*
ISC 16 08:17:10.0±4.7**, 16.6S**±0.2×**174.8E**±0.2**, h67**km±39km**, n22,** σ**0?56**/12**, mb4.1**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.59**	**234**	P	**P**	**08 19 27.6**	**-0.1**
	0.4nm,0.3s,baz=53,slow=12,SNR=8.6						
DZM				LR	LR	08 22 29.7	
	comp=Z,493nm,19.0s,baz=27,slow=33						
AFI	**Afiamalu**	**13.24**	**80**	LR	LR	08 24 14.9	
	comp=Z,139nm,20.3s,baz=64,slow=32						
RAO	**Raoul Island**	**14.30**	**153**	LR	LR	08 25 02.4	
	comp=Z,120nm,18.6s,baz=194,slow=33						
HNR	**Honiara**	**16.09**	**294**	LR	LR	08 26 21.6	
	comp=Z,191nm,18.8s,baz=308,slow=34						
RPZ	**Rata Peaks**	**27.25**	**186**	LR	LR	08 31 11.2	
	comp=Z,246nm,18.3s,baz=360,slow=31						
CTA	**Charters Tower**	**27.29**	**258**	P	**P**	**08 22 51.5**	**+1.0**
	4.6nm,0.6s,mb4.2,baz=72,slow=13,SNR=6.2						
CTA				LR	LR	08 33 00.4	
	comp=Z,171nm,18.1s,baz=75,slow=35						
PMG	**Port Moresby**	**27.82**	**281**	LR	LR	08 33 14.4	
	comp=Z,245nm,18.4s,baz=317,slow=35						
STKA	**Stephens Creek**	**33.73**	**237**	P	**P**	**08 23 47.2**	**+0.1**
	5.6nm,0.9s,mb4.4,baz=95,slow=12,SNR=4.9						
STKA				LR	LR	08 36 36.5	
	comp=Z,158nm,19.0s,baz=206,slow=34						
PPT	**Papeete**	**34.06**	**97**	LR	LR	08 34 20.5	
	comp=Z,161nm,18.0s,baz=234,slow=30						
WB2	**Warramunga Arr**	**38.48**	**259**	*e*P	**P**	**08 24 26.6**	**-0.8**
WRAB	**Tennant Creek**	**38.48**	**259**	*e*P	**P**	**08 24 26.6**	**-0.8**
	2.6nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**38.49**	**259**	P	**P**	**08 24 27.2**	**-0.3**
	3.1nm,0.9s,mb4.1,baz=90,slow=8.6,SNR=17						
KAKA	**Kakadu**	**41.09**	**270**	*e*P	**P**	**08 25 08.3**	**+19**
	3.8nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**46.83**	**261**	*e*P	**P**	**08 25 36.2**	**+0.9**
	11nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**46.83**	**261**	LR	LR	08 43 37.0	
	comp=Z,160nm,20.6s,baz=359,slow=34						
NWAO	**Narrogin (SRO)**	**54.12**	**241**	LR	LR	08 48 36.6	
	comp=Z,128nm,19.2s,baz=301,slow=35						
VNDA	**Vanda**	**61.33**	**183**	P	**P**	**08 27 20.9**	**+0.3**
	2.5nm,1.2s,mb4.1,baz=8.5,slow=6.4,SNR=4.4						
VNDA				LR	LR	08 48 04.0	
	comp=Z,79nm,21.4s,baz=335,slow=30						
SBA	**Scott Base**	**61.45**	**182**	*e*P	**P**	**08 27 21.1**	**-0.3**
	0.8nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**86.19**	**15**	P	**P**	**08 29 44.5**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=254,slow=6.6,SNR=4.2						
TXAR	**Lajitas Array**	**90.86**	**60**	P	**P**	**08 30 08.2**	**+0.3**
	0.7nm,1.0s,mb3.7,baz=238,slow=8.5,SNR=4.4						
YKA	**Yellowknife Ar**	**95.91**	**26**	LR	LR	09 04 17.9	
	comp=Z,74nm,21.0s,baz=150,slow=30						
GERES	**GERESS Array B**	**144.29**	**338**	PKP	PKPdf	08 36 39.0	+0.7
	0.4nm,0.3s,baz=27,slow=2.2,SNR=5.7						

IDC ***16*** *08:22:35.4±1.4, 56.09N×157.50W, mb4.0/10, mb1 4.4/11, mb1mx4.2/22, mbtmp4.1/11, ML4.4/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/29, Error ellipse: s-maj=36.3km s-min=17.8km az=40.0*
BJI ***16*** *08:22:40.1, 56.30N×156.90W, h19km, mB4.7, mb4.4, Ms4.0, Msz3.8*
NEIC ***16*** *08:22:40.2, 56.35N×156.90W, h9km, mb3.9/1, ML4.1(AEIC), After AEIC.*
ISC 16 08:22:39.9±0.8**, 56.43N**±0.05×**156.93W**±0.07**, h29**km±7km**, n58,** σ**0?92**/60**, mb4.1**/14**, MS3.3**/3**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPK	**Aniakchak Peak**	**0.78**	**302**	P	**Pb**	**08 22 55.1**	**+0.3**
ANPB	**Aniakchak Plen**	**0.84**	**297**	P	**Pb**	**08 22 56.0**	**+0.2**
CHGN	**Chignik**	**0.84**	**262**	P	**Pb**	**08 22 55.1**	**-0.7**
CHGN				S	**Sb**	**08 23 06.5**	**-0.3**
KJL	**Kejulik**	**1.79**	**24**	P	**Pn**	**08 23 10.4**	**+1.0**
CAHL	**Cahill**	**1.85**	**28**	P	**Pn**	**08 23 11.3**	**+1.0**
MGLS	**Mageik LS**	**1.98**	**25**	P	**Pn**	**08 23 12.7**	**+0.4**
KABR	**Katmai Barrier**	**2.01**	**31**	P	**Pn**	**08 23 13.3**	**+0.7**
SDPT	**Sand Point**	**2.28**	**243**	P	**Pn**	**08 23 15.8**	**-0.6**
KAPH	**Katmai Pasha**	**2.58**	**32**	P	**Pn**	**08 23 21.8**	**+1.1**
KDAK	**Kodiak Island**	**2.73**	**58**	P	**Pn**	**08 23 22.7**	**-0.2**
PVV	**Pavlof Volcano**	**2.94**	**251**	P	**Pn**	**08 23 26.1**	**+0.2**
BLHA	**Black Hill**	**2.97**	**258**	P	**Pn**	**08 23 26.7**	**+0.3**
HAG	**Hague Volcano**	**3.02**	**250**	P	**Pn**	**08 23 26.9**	**-0.1**
PN7A	**Pavlof North-7**	**3.02**	**253**	P	**Pn**	**08 23 27.3**	**+0.2**
DOL	**Dolgoi Island**	**3.07**	**247**	P	**Pn**	**08 23 28.0**	**+0.2**
BGM	**Big Mountain**	**3.10**	**16**	P	**Pn**	**08 23 28.7**	**+0.5**
DTNA	**Dutton South F**	**3.27**	**249**	P	**Pn**	**08 23 30.9**	**+0.4**
SYI	**Shuyak Island**	**3.28**	**46**	P	**Pn**	**08 23 32.5**	**+1.9**
DT1	**Dutton Round H**	**3.30**	**249**	P	**Pn**	**08 23 31.4**	**+0.4**
RSO	**Redoubt South**	**4.60**	**27**	*e*P	**Pn**	**08 23 50.6**	**+1.2**
SVW2	**Sparrevohn**	**4.73**	**8**	*e*P	**Pn**	**08 23 51.4**	**+0.1**
SLKM	**Skilak Lake**	**5.39**	**38**	P	**Pn**	**08 24 01.4**	**+0.8**
SPU	**Mount Spurr**	**5.39**	**26**	*e*P	**Pn**	**08 24 01.1**	**+0.5**
UNV	**Unalaska Valle**	**6.07**	**249**	*e*P	**Pn**	**08 24 09.8**	**-0.4**
PMR	**Palmer**	**6.55**	**35**	*e*P	**Pn**	**08 24 16.3**	**-0.7**
SML	**Sawmill**	**6.97**	**36**	*e*P	**Pn**	**08 24 21.9**	**-0.9**
DIV	**Divide**	**7.46**	**46**	*e*P	**Pn**	**08 24 27.2**	**-2.6**
	103nm,0.9s						
MCK	**McKinley**	**8.34**	**25**	*e*P	**P**	**08 24 40.7**	**-1.2**
THY	**Trims Highway**	**8.96**	**34**	P	**P**	**08 24 50.6**	**0.0**
ILAR	**Eielson Array**	**9.70**	**26**	Pn	**P**	**08 24 57.1**	**-3.4**
	1.2nm,0.3s,baz=224,slow=12,SNR=30						
ILAR				Sn	**Sn**	**08 26 41.0**	**-8.6**
	0.4nm,0.3s,baz=216,slow=23,SNR=2.7						
DAWY	**Dawson**	**11.56**	**41**	*e*P	**P**	**08 25 24.0**	**-2.0**
DLBC	**Dease Lake**	**14.59**	**71**	Pn	**P**	**08 26 04.1**	**-1.9**
	0.2nm,0.3s,baz=294,slow=13,SNR=4.4						
DLBC				LR	LR	08 31 31.6	
	comp=Z,92nm,20.3s,baz=286,slow=36						
DLBC	**Dease Lake**	**14.59**	**71**	*e*P	**P**	**08 26 05.7**	**-0.3**
INK	**Inuvik**	**15.96**	**32**	Pn	**P**	**08 26 22.4**	**-1.4**
	0.5nm,0.3s,baz=233,slow=16,SNR=22						
INK	**Inuvik**	**15.96**	**32**	*e*P	**P**	**08 26 22.5**	**-1.2**
	8.8nm,0.9s						
BBB	**Bella Bella**	**17.27**	**92**	LR	LR	08 32 13.3	
	comp=Z,89nm,21.7s,baz=261,slow=33						
YKA	**Yellowknife Ar**	**22.00**	**57**	P	**P**	**08 27 32.0**	**-1.2**
	5.1nm,0.9s,mb4.0,baz=271,slow=9.3,SNR=9.6						
YKA				LR	LR	08 35 53.9	
	comp=Z,106nm,19.5s,MS3.3,baz=270,slow=36						
EDM	**Edmonton**	**24.99**	**79**	*e*P	**P**	**08 28 01.8**	**-0.5**
NEW	**Newport**	**25.34**	**92**	P	**P**	**08 28 05.7**	**+0.1**
	3.9nm,0.9s,mb3.9,baz=289,slow=5.6,SNR=5.4						
NEW				LR	LR	08 38 17.4	
	comp=Z,50nm,19.0s,MS3.0,baz=269,slow=37						
WVOR	**Wild Horse Val**	**28.14**	**103**	*e*P	**P**	**08 28 31.9**	**+0.6**
NVAR	**Mina Array Bea**	**31.18**	**109**	P	**P**	**08 28 59.0**	**+0.6**
	2.7nm,0.8s,mb4.2,baz=292,slow=9.7,SNR=23						
FLWY	**Flagg Ranch**	**31.41**	**93**	*e*P	**P**	**08 29 00.9**	**+0.4**
PDAR	**Pinedale Array**	**32.90**	**94**	P	**P**	**08 29 13.3**	**-0.1**
	2.3nm,0.6s,mb4.3,baz=319,slow=5.4,SNR=29						
ARUT	**Antelope Range**	**34.24**	**104**	*e*P	**P**	**08 29 25.0**	**-0.2**
SRU	**San Rafael**	**34.87**	**100**	*e*P	**P**	**08 29 31.0**	**+0.5**
PV01	**Paradox Valley**	**36.64**	**99**	*e*P	**P**	**08 29 45.9**	**+0.4**
TXAR	**Lajitas Array**	**45.94**	**103**	P	**P**	**08 31 01.8**	**0.0**
	3.2nm,0.7s,mb4.4,baz=312,slow=5.8,SNR=37						
TXAR	**Lajitas Array**	**45.94**	**103**	P	**P**	**08 31 01.8**	**0.0**
MDJ	**Mudanjiang**	**45.99**	**288**	P	**P**	**08 31 03.6**	**+1.6**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
MDJ				LR	LR		
	comp=N,55nm,19.6s,MS3.7						
MDJ				LR	LR		
	comp=E,62nm,17.4s,MS3.7						
MDJ				LR	LR		
	comp=Z,63nm,15.2s,MS3.7						
CN2	**Changchun**	**48.72**	**290**	*e*P	**P**	**08 31 21.9**	**-1.5**
CN2				*e*S	**S**	**08 38 23.0**	**-0.1**
CN2				SCS	ScS	08 41 14.3	+3.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				AMB	AMB		
	comp=Z,130nm,5.0s						
ARCES	**ARCESS Array B**	**54.33**	**359**	P	**P**	**08 32 03.9**	**-1.4**
	comp=Z,4.6nm,1.0s,mb4.4,slow=6.3,SNR=3.6						
NOA	**NORSAR Array B**	**62.50**	**6**	P	**P**	**08 33 03.3**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.2,baz=351,slow=7.0,SNR=3.2						
BVAR	**Borovoye Array**	**64.20**	**330**	P	**P**	**08 33 11.6**	**-2.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=26,slow=5.6,SNR=3.9						
GTA	**Gaotai**	**64.72**	**303**	*e*P	**P**	**08 33 20.8**	**+3.5**
GTA				AP	pP	08 33 25.8	-0.4
GTA				XP	sP	08 33 29.8	+0.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.3						
MKAR	**Makanchi Array**	**65.87**	**320**	P	**P**	**08 33 24.2**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=38,slow=6.0,SNR=4.9						
MKAR	**Makanchi Array**	**65.87**	**320**	P	**P**	**08 33 24.2**	**-0.3**
GERES	**GERESS Array B**	**74.80**	**6**	P	**P**	**08 34 19.1**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.8,baz=270,slow=6.7,SNR=3.9						
ESDC	**Sonseca Array**	**81.56**	**21**	P	**P**	**08 34 56.7**	**+0.9**
	comp=Z,0.4nm,0.3s,mb3.8,baz=301,slow=40,SNR=3.2						

CSEM ***16*** *08:53:35.8, 35.10N×45.77E, h14km, ML3.7/2, After THR*
THR 16 08:53:35.8±0.6**, 35.10N**×**45.77E, h14**km±9km**, ML2.9, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGE	**Sanandaj**	**1.29**	**90**	*e*Pg	Pg	08 53 59.6	-2.1
SNGE				*e*Sg	Sg	08 54 17.6	-1.5
SNGE				AML	AML	08 54 20.6	
	comp=N,292nm,0.6s						
ASAO	**Ashtian**	**3.54**	**98**	*e*PN	Pn	08 54 32.9	+1.3
ASAO				*e*Sg	Sg	08 55 26.3	-7.6
ASAO				AML	AML	08 55 36.2	
	comp=N,19nm,0.5s						
GRMI	**Germi**	**4.08**	**24**	*e*PN	Pn	08 54 40.0	+0.8

THR ***16*** *08:56:51.2±0.8, 33.94N×53.87E, h14km±7km, ML3.9*
CSEM ***16*** *08:56:51.7±0.1, 33.85N×53.88E, h18km, mb3.8/2, ML4.5/1, Error ellipse: s-maj=3.2km s-min=2.5km az=94.0*
TEH ***16*** *08:56:53.0, 33.82N×53.88E, h10km, Mn4.2*
NEIC ***16*** *08:56:53.0, 33.82N×53.88E, h10km, mb3.7/3, ML4.2(TEH), After TEH.*
ISC 16 08:56:51.6±0.5**, 33.85N**±0.03×**53.89E**±0.05**, h10**km**, n27,** σ**0?76**/31**, mb3.8**/2**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NASN	**Na'in**	**1.38**	**221**	*e*PG	**Pg**	**08 57 17.6**	**-1.7**
NASN				*e*SG	**Sg**	**08 57 37.6**	**-0.2**
IZEF	**Zefreh**	**1.61**	**234**	Pn	**Pn**	**08 57 21.0**	**+0.6**
ICHK	**Chekchek**	**1.66**	**165**	Pn	**Pn**	**08 57 21.1**	**+0.1**
ISAD	**Sadrabad**	**1.94**	**185**	Pn	**Pn**	**08 57 25.1**	**+0.1**
IFIR	**Firoozkooh**	**2.02**	**333**	Pn	**Pn**	**08 57 24.5**	**-1.7**
IFIR				Lg		08 57 55.8	
IVRN	**Varamin**	**2.12**	**303**	Pn	**Pn**	**08 57 28.2**	**+0.5**
IDMV	**Damavand**	**2.31**	**319**	Pn	**Pn**	**08 57 30.9**	**+0.6**
IKIA	**Kiasar**	**2.36**	**356**	Pn	**Pn**	**08 57 31.6**	**+0.5**
DAMV	**Damavand**	**2.38**	**319**	*e*PN	**Pn**	**08 57 31.2**	**-0.1**
DAMV				*e*SG	**Sg**	**08 58 03.1**	**-7.8**
DAMV				AML	AML	08 58 35.1	
	comp=N,597nm,0.7s						
DAMV	**Damavand**	**2.38**	**319**	*e*Pn	**Pn**	**08 57 31.2**	**-0.1**
	SNR=52						
DAMV				*e*Sg	**Sg**	**08 58 03.1**	**-7.8**
	comp=N,597nm,0.7s,SNR=90						
IGLO	**Galoogah**	**2.48**	**353**	Pn	**Pn**	**08 57 36.3**	**+3.6**
IMEH	**Mehriz**	**2.52**	**166**	Pn	**Pn**	**08 57 33.8**	**+0.4**
IQOM	**Qom**	**2.54**	**294**	Pn	**Pn**	**08 57 33.9**	**+0.3**
IBAF	**Bafgh**	**2.66**	**147**	Pn	**Pn**	**08 57 35.5**	**+0.2**
IAFJ	**Afjeh**	**2.69**	**319**	Pn	**Pn**	**08 57 36.5**	**+0.8**
IPRN	**Paran-Amol**	**2.75**	**331**	Pn	**Pn**	**08 57 37.1**	**+0.5**
IPIR	**Pirpir**	**2.77**	**246**	Pn	**Pn**	**08 57 37.3**	**+0.4**
THKV	**Tehran--Karaj**	**3.22**	**311**	*e*PN	**Pn**	**08 57 42.8**	**-0.6**
IMHD	**Mahdasht**	**3.22**	**306**	Pn	**Pn**	**08 57 43.1**	**-0.3**
ASAO	**Ashtian**	**3.28**	**283**	*e*PN	**Pn**	**08 57 44.0**	**-0.1**
ASAO				AML	AML	08 58 56.0	
	comp=N,338nm,0.6s						
KRBR	**Kerman**	**4.56**	**147**	*e*PN	**Pn**	**08 58 03.0**	**+0.6**
KRBR				*e*SG	**Sg**	**08 59 15.5**	**-8.1**
BNDS	**Bandar-Abbas**	**6.72**	**162**	*e*PN	**Pn**	**08 58 32.9**	**+0.1**
AAK	**Ala-Archa**	**18.38**	**55**	*e*P	**P**	**09 01 08.0**	**-0.2**
	comp=N,1.1nm,0.5s						
AAK	**Ala-Archa**	**18.38**	**55**	*e*P	**P**	**09 01 08.0**	**-0.2**
	comp=N,1.1nm,0.5s						
BRVK	**Borovoye**	**22.49**	**26**	*e*P	**P**	**09 01 52.5**	**0.0**
	comp=N,3.8nm,1.1s,mb3.7						
KURK	**Kurchatov**	**24.70**	**40**	*e*P	**P**	**09 02 12.1**	**-1.9**
	comp=N,2.4nm,0.8s,mb3.8						
KURK	**Kurchatov**	**24.70**	**40**	*e*P	**P**	**09 02 12.1**	**-1.8**
	comp=N,2.4nm,0.8s,mb3.8						

HLW ***16*** *08:57:33.3, 30.46N×37.01E, h22km, Mb3.0*
CSEM ***16*** *08:57:42.6±0.4, 29.86N×36.16E, h2km, ML1.8, Error ellipse: s-maj=8.6km s-min=3.8km az=62.0, Mining explosion.*
ISC 16 08:57:35.0±1.8**, 30.22N**±0.09×**36.59E**±0.09**, n12,** σ**0?91**/19**, 1C-5D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**1.26**	**285**	Pg	**Pg**	**08 58 04.4**	**+4.2**
HRFI	**Mount Harif**	**1.36**	**262**	Pg	**Pg**	**08 58 02.7**	**+0.6**
PRNI	**Paran**	**1.38**	**276**	Pg	**Pg**	**08 58 04.7**	**+2.2**
PRNI				Sg	**Sg**	**08 58 21.6**	**+0.8**
EIL	**Elat**	**1.52**	**249**	Pg	**Pg**	**08 58 04.2**	**-1.3**
KMTI	**Karmit**	**1.62**	**266**	Pg	**Pg**	**08 58 07.3**	**0.0**
KMTI				Sg	**Sg**	**08 58 25.5**	**-3.4**
HBST	**Basata**	**1.90**	**239**	⇓P	**Pn**	**08 58 09.5**	**+0.5**
HDHB	**Dhahab**	**2.28**	**229**	P	**Pn**	**08 58 14.9**	**+0.5**
HDHB				S	**Sn**	**08 58 44.5**	**+1.0**
HNKL	**Nakhl**	**2.28**	**263**	⇓P	**Pn**	**08 58 13.7**	**-0.7**
HNKL				S	**Sn**	**08 58 43.7**	**+0.1**
HKAT	**Jabal Katrina**	**2.83**	**234**	⇓P	**Pn**	**08 58 22.3**	**0.0**
HKAT				S	**Sn**	**08 58 57.7**	**+0.1**
TR2		**3.10**	**235**	⇑P	**Pn**	**08 58 25.7**	**-0.4**
TR2				S	**Sn**	**08 59 04.4**	**-0.1**
TR1		**3.19**	**227**	⇓P	**Pn**	**08 58 27.4**	**-0.1**
SUZ		**3.28**	**264**	⇓P	**Pn**	**08 58 27.5**	**-1.2**
SUZ				S	**Sn**	**08 59 08.0**	**-1.0**

IDC ***16*** *09:00:45.1±0.8, 12.06N×125.65E, mb4.3/10, mb1 4.3/11, mb1mx4.1/22, mbtmp4.3/11, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/29, Error ellipse: s-maj=75.7km s-min=15.6km az=70.0*
MAN ***16*** *09:00:47.4, 12.22N×125.86E, h25km, mb5.1, ML4.0, MS4.1*
BJI ***16*** *09:00:51.4, 12.10N×125.70E, h50km*
NEIC ***16*** *09:00:51.5±0.5, 12.09N×125.71E, h50km, mb4.8/10, Error ellipse: s-maj=16.8km s-min=7.8km az=70.0*
ISC 16 09:00:49.0±1.1**, 12.19N**±0.05×**125.85E**±0.08**, h44**km±9km**, n38,** σ**1?09**/41**, mb4.6**/20**, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.70**	**215**	*e*P	**P**	**09 01 01.8**	**-0.9**
BESP				*e*S	**S**	**09 01 13.1**	**+0.4**
CNP	**Catarman**	**1.20**	**286**	*e*P	**P**	**09 01 08.4**	**-1.2**
CNP				*e*S	**S**	**09 01 26.4**	**+1.3**
PLP	**Palo**	**1.32**	**220**	*e*P	**P**	**09 01 10.1**	**-1.5**
PLP				*e*S	**S**	**09 01 29.2**	**+1.0**
PVCP	**Virac**	**2.17**	**311**	*e*P	**P**	**09 01 21.6**	**-1.8**
MSLP	**Maasin**	**2.26**	**206**	*e*P	**P**	**09 01 25.2**	**+0.5**
SCPH	**Surigao**	**2.41**	**188**	*e*P	**P**	**09 01 26.1**	**-0.9**
SCPH				*e*S	**S**	**09 01 55.8**	**+0.3**
LLP	**Lapu-Lapu**	**2.62**	**225**	*e*S	**S**	**09 02 05.4**	**+4.7**
BUTP	**Butuan**	**3.20**	**184**	*e*P	**P**	**09 01 40.0**	**+1.8**
GUIM	**Jordan**	**3.55**	**244**	*e*P	**P**	**09 01 43.8**	**+0.7**
GUIM				*e*S	**S**	**09 02 20.8**	**-3.6**
SNPH	**Sibulan**	**3.82**	**223**	*e*P	**P**	**09 01 47.0**	**+0.2**
BUKP	**Musuan**	**4.35**	**190**	*e*P	**P**	**09 01 57.7**	**+3.3**
JOW	**Kunigami**	**14.75**	**9**	Pn	**P**	**09 04 16.9**	**+0.4**
	0.9nm,0.3s,baz=150,slow=14,SNR=3.5						
GUMO	**Guam**	**18.60**	**84**	LR	LR	09 10 51.8	
	comp=Z,52nm,19.1s,baz=137,slow=32						
GYA	**Guiyang**	**22.96**	**311**	P	**P**	**09 05 52.9**	**+2.2**
KAKA	**Kakadu**	**25.58**	**165**	*e*P	**P**	**09 06 35.0**	**+19**
	8.0nm,0.5s,mb4.5						
XAN	**Xi'an**	**26.67**	**327**	P	**P**	**09 06 25.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.09**	**180**	*e*P	**P**	**09 06 55.6**	**-1.2**
	5.0nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.09**	**180**	P	**P**	**09 06 55.5**	**-1.4**
	1.9nm,0.3s,mb4.3,baz=14,slow=18,SNR=8.2						
WRA	**Warramunga Arr**	**33.00**	**165**	P	**P**	**09 07 20.4**	**-1.9**
	0.3nm,0.5s,mb3.5,baz=344,slow=9.6,SNR=4.3						
WRA				PcP	PcP	09 10 05.8	+0.3
	0.7nm,0.5s,baz=339,slow=3.0,SNR=8.2						
GUN	**Gumba**	**40.46**	**299**	*e*P	**P**	**09 08 25.4**	**+0.2**
	34nm,0.7s,mb5.2						
PKI	**Pulchoki**	**40.78**	**298**	*e*P	**P**	**09 08 27.2**	**-0.6**
	18nm,0.6s,mb4.9						
KKN	**Kakani**	**40.95**	**298**	*e*P	**P**	**09 08 28.5**	**-0.7**
	57nm,1.2s,mb5.1						
DMN	**Daman**	**41.05**	**298**	*e*P	**P**	**09 08 29.6**	**-0.5**
	50nm,1.2s,mb5.0						
GKN	**Gorkha**	**41.55**	**299**	*e*P	**P**	**09 08 33.5**	**-0.7**
	15nm,0.5s,mb4.9						
KOLN	**Koldanda**	**42.39**	**298**	*e*P	**P**	**09 08 40.6**	**-0.5**
	40nm,1.0s,mb5.0						
KLBR	**Kellerberrin**	**44.21**	**190**	*e*P	**P**	**09 08 54.1**	**-1.8**
	14nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**46.34**	**161**	P	**P**	**09 09 13.2**	**+0.4**
	3.9nm,0.8s,mb4.4,baz=333,slow=10,SNR=7.9						
MKAR	**Makanchi Array**	**50.27**	**322**	P	**P**	**09 09 43.6**	**+0.5**
	4.4nm,0.7s,mb4.6,baz=116,slow=8.6,SNR=18						
KURK	**Kurchatov**	**54.27**	**325**	*e*P	**P**	**09 10 12.7**	**-0.2**
	18nm,1.0s,mb5.0						
BVAR	**Borovoye Array**	**59.87**	**325**	P	**P**	**09 10 52.6**	**0.0**
	4.3nm,0.9s,mb4.5,baz=112,slow=8.0,SNR=17						
BRVK	**Borovoye**	**59.94**	**325**	*e*P	**P**	**09 10 52.6**	**-0.4**
	8.4nm,1.1s,mb4.7						
ARCES	**ARCESS Array B**	**82.27**	**340**	P	**P**	**09 13 08.1**	**+1.2**
	1.4nm,0.6s,mb4.1,baz=90,slow=4.9,SNR=9.7						
FINES	**FINESS Array B**	**84.02**	**332**	P	**P**	**09 13 17.3**	**+1.4**
	6.8nm,0.9s,mb4.8,baz=79,slow=6.3,SNR=10						
AKASG	**Malin Array Be**	**84.83**	**321**	P	**P**	**09 13 20.6**	**+0.4**
	1.7nm,0.6s,mb4.3,baz=63,slow=4.6,SNR=8.5						
HFS	**Hagfors**	**90.17**	**332**	P	**P**	**09 13 47.2**	**+1.4**
	1.4nm,0.5s,mb4.5,baz=108,slow=9.4,SNR=6.5						
VNDA	**Vanda**	**91.87**	**173**	P	**P**	**09 13 53.8**	**+0.4**
	1.3nm,1.1s,mb4.2,baz=321,slow=7.5,SNR=3.8						
KHC	**Kasperske Hory**	**94.89**	**322**	*e*P	**P**	**09 14 12.0**	**+4.3**
PLCA	**Paso Flores**	**148.12**	**156**	PKPbc	PKPdf	09 20 33.4	+6.4
	1.0nm,0.7s,baz=162,slow=1.3,SNR=4.7						

IDC ***16*** *09:34:07.3±4.5, 4.26S×152.83E, h57km±38km, mb4.3/8, mb1 4.5/10, mb1mx4.2/18, mbtmp4.6/10, ML3.7/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/15, Error ellipse: s-maj=25.4km s-min=25.0km az=139.0*
NEIC ***16*** *09:34:10.4±2.1, 4.33S×152.81E, h86km±17km, mb4.8/6, Error ellipse: s-maj=16.1km s-min=14.4km az=173.0*
ISC 16 09:34:08.2±3.5**, 4.3S**±0.2×**152.8E**±0.1**, h79**km±28km**, n24,** σ**0?83**/22**, mb4.5**/12**, 5D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.55	228	P	P	09 35 57.4	-0.2
	3.4nm,0.3s,baz=42,slow=12,SNR=12						
PMG				S	S	09 37 21.0	-1.3
	4.5nm,0.3s,baz=111,slow=19,SNR=12						
PMG	Port Moresby	7.55	228	ePn	P	09 35 58.3	+0.7
PMG				eSn	S	09 37 22.7	+0.4
CTA	Charters Tower	16.92	202	P	P	09 38 02.3	+1.0
	0.3nm,0.3s,baz=27,slow=14,SNR=3.6						
CTA				LR	LR	09 43 51.5	
	comp=Z,180nm,19.2s,baz=44,slow=34						
CTAO	Charters Tower	16.92	202	eP	P	09 38 02.0	+0.7
	6.1nm,0.8s						
GUMO	Guam	19.46	336	LR	LR	09 45 29.8	
	comp=Z,40nm,18.6s,baz=96,slow=35						
KAKA	Kakadu	21.79	246	⇓iP	P	09 39 13.1	+18
	37nm,0.6s,mb4.9						
DZM	Mont Dzumac	22.04	144	P	P	09 38 57.3	-0.3
	11nm,1.0s,mb4.2,baz=99,slow=16,SNR=12						
WRAB	Tennant Creek	23.76	228	⇓eP	P	09 39 14.9	+0.6
	68nm,0.6s,mb5.2						
WB2	Warramunga Arr	23.76	228	⇓iP	P	09 39 14.9	+0.6
WRA	Warramunga Arr	23.77	228	P	P	09 39 14.9	+0.6
	42nm,0.5s,mb5.0,baz=54,slow=9.7,SNR=228						
WRA				PcP	PcP	09 42 58.1	+0.3
	2.3nm,0.8s,baz=52,slow=2.2,SNR=5.4						
ASPA	Alice Springs	26.51	222	eP	P	09 39 40.5	+0.1
STKA	Stephens Creek	29.36	200	eP	P	09 40 04.8	-1.2
	4.2nm,0.6s,mb4.2						
STKA	Stephens Creek	29.36	200	P	P	09 40 04.6	-1.4
	5.4nm,0.6s,mb4.3,baz=30,slow=12,SNR=14						
STKA				LR	LR	09 51 40.6	
	comp=Z,164nm,18.0s,baz=23,slow=36						
FITZ	Fitzroy Crossi	29.90	241	⇓iP	P	09 40 09.3	-1.6
	28nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	29.90	241	P	P	09 40 09.4	-1.5
	18nm,0.4s,mb5.1,baz=66,slow=4.6,SNR=32						
FITZ				LR	LR	09 54 02.4	
	comp=Z,108nm,18.8s,baz=88,slow=40						
FORT	Forrest	35.16	219	⇓iP	P	09 40 55.5	-0.9
	16nm,0.5s,mb5.1						
KLBR	Kellerberrin	42.64	226	eP	P	09 41 58.6	0.0
	6.9nm,0.5s,mb4.6						
VNDA	Vanda	73.30	178	P	P	09 45 33.1	+0.6
	2.4nm,0.7s,mb4.2,baz=331,slow=6.8,SNR=20						
ILAR	Eielson Array	81.71	22	P	P	09 46 18.1	-1.1
	0.9nm,0.7s,mb3.7,baz=246,slow=5.9,SNR=9.7						
MAW	Mawson	86.01	203	P	P	09 46 41.4	+0.7
	3.4nm,0.6s,mb4.5,baz=92,slow=6.4,SNR=15						
BVAR	Borovoye Array	88.87	323	P	P	09 46 55.8	+1.1
	1.1nm,0.6s,mb4.1,baz=101,slow=7.6,SNR=7.1						
LPAZ	La Paz	134.63	118	PKP	PKPdf	09 53 21.2	+2.6
	1.9nm,0.8s,baz=279,slow=2.6,SNR=10						
BDFB	Brasilia	151.39	134	PKPbc	PKPdf	09 53 56.4	+8.9
	8.5nm,0.6s,baz=287,slow=2.8,SNR=14						
BAO	Brasilia Array	151.41	134	P	PKPdf	09 53 57.0	+9.4

*CSEM **16** 09:49:21.5±0.1, 59.33N×27.00E, h2km, ML2.0, Error ellipse: s-maj=3.8km s-min=1.9km az=92.0, Mining explosion.*
*BER **16** 09:49:22.2±3.9, 59.32N×27.17E, ML2.4(NAO), Suspected explosion*
*HEL **16** 09:49:22.4±0.2, 59.31N×27.05E, ML2.0, ML3.0(UPP), ML2.4(NAO), Explosion*
*NAO **16** 09:49:22.3±1.3, 59.33N×26.89E, ML2.4*
*IDC **16** 09:49:24.4±1.2, 59.44N×27.10E, mb1 3.2/5, mb1mx3.1/22, mbtmp3.2/5, ML3.0/5, Error ellipse: s-maj=13.9km s-min=10.0km az=97.0*
*UPP **16** 09:49:24.7, 59.50N×26.78E, h0km, ML3.0, Mining explosion.*
ISC 16 09:49:20.3±0.6**, 59.33N**±0.03×**26.86E**±0.09**, n35, σ1§81**/60**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	Vasula	0.87	184	iP	Pg	09 49 38.0	+0.3
VSU				iS	Sg	09 49 49.5	+0.2
VSU				eRG		09 49 55.1	
VSU	Vasula	0.87	184	Pg	Pg	09 49 38.0	+0.3
	SNR=90						
VSU				S	Sg	09 49 49.4	+0.1
VJF	Virojoki	1.27	16	eP	Pb	09 49 44.8	+0.1
VJF				eS	Sb	09 50 01.2	-0.2
VJF	Virojoki	1.27	16	P	Pb	09 49 44.7	0.0
VJF				S	Sb	09 50 01.2	-0.2
PVF	Pernaja	1.32	338	eP	Pb	09 49 47.6	+1.9
PVF				eS	Sb	09 50 05.4	+2.3
PVF	Pernaja	1.32	338	P	Pb	09 49 47.5	+1.8
PVF				S	Sb	09 50 05.3	+2.3
FIA0	FINESS Array S	2.16	350	eP	Pn	09 49 59.9	+1.9
FIA0				eS	Sn	09 50 27.1	+1.3
FIA0	FINESS Array S	2.16	350	Pn	Pn	09 49 60.0	+2.0
	baz=165,slow=16						
FIA0				Lg		09 50 29.6	
	baz=171,slow=28						
FIA0				Rg		09 50 43.6	
	baz=166,slow=37						
FIA0	FINESS Array S	2.16	350	P	Pn	09 49 59.8	+1.8
FIA0				S	Sn	09 50 27.1	+1.3
FINES	FINESS Array B	2.16	350	Pn	Pn	09 49 59.8	+1.8
	2.9nm,0.3s,baz=163,slow=15,SNR=60						
FINES				Pg	Pg	09 50 01.2	-2.2
	2.9nm,0.3s,baz=165,slow=16,SNR=61						
FINES				Sn	Sn	09 50 30.7	+4.8
	6.0nm,0.3s,baz=176,slow=24,SNR=19						
KEF	Keuruu	3.01	342	eP	Pn	09 50 13.0	+2.8
KEF				eS	Sn	09 50 48.7	+1.2
KEF				eSG	Sg	09 50 57.1	-3.4
KEF				MSG		09 50 58.1	
	comp=Z,3.2nm,0.2s						
SUF	Sumiainen	3.42	355	eP	Pn	09 50 17.9	+1.9
SUF				eS	Sn	09 50 59.0	+1.1
SUF	Sumiainen	3.42	355	P	Pn	09 50 17.8	+1.8
SUF				S	Sn	09 50 58.9	+1.1
JOF	Joensuu	4.20	29	eP	Pn	09 50 26.7	-0.3
JOF				eS	Sn	09 51 13.5	-4.1
NRTU	Norrtaelje	4.21	278	eP	Pn	09 50 28.5	+1.3
GRAU	Graesoe	4.32	287	eP	Pn	09 50 29.6	+0.9
GRAU				eS	Sn	09 51 18.1	-2.5
NYNU	Nynaeshamn	4.57	270	eP	Pn	09 50 34.6	+2.3
FLYU	Flymyra	4.61	284	eP	Pn	09 50 34.0	+1.0
GOTU	Gotland	4.65	253	eP	Pn	09 50 35.2	+1.7
GOTU	Gotland	4.65	253	P	Pn	09 50 35.1	+1.7
HFS	Hagfors	6.71	283	Pn	Pn	09 51 02.8	+0.3
	baz=122,slow=11						
HFS				Sn	Sn	09 52 17.2	-3.3
	baz=96,slow=28						
HFS				Lg		09 52 54.2	
	baz=86,slow=28						
HFS	Hagfors	6.71	283	eP	Pn	09 51 02.8	+0.3
HFS				eS	Sn	09 52 17.2	-3.3
HFS				eSG		09 52 54.2	
HFS	Hagfors	6.71	283	Pn	Pn	09 51 03.0	+0.6
	comp=Z,0.0nm,0.3s,baz=108,slow=14,SNR=3.9						
HFS				Lg		09 52 52.8	
	comp=Z,0.2nm,0.3s,baz=93,slow=32,SNR=6.6						
HFS	Hagfors	6.71	283	P	Pn	09 51 02.7	+0.2
HFS				Sg	Sg	09 52 54.1	-9.5
NB2	NORSAR Subarra	7.98	289	Pn	Pn	09 51 18.8	-1.6
	baz=90,slow=14						
NB2				Sn	Sn	09 52 47.8	-4.7
NB2				Lg		09 53 31.8	
NB2	NORSAR Subarra	7.98	289	eP	Pn	09 51 18.8	-1.6
NB2				eS	Sn	09 52 47.8	-4.7
NB2				eSG		09 53 31.8	
NB2	NORSAR Subarra	7.98	289	Pn	Pn	09 51 18.8	-1.6
	SNR=50						
NB2				Sg		09 53 31.7	
NOA	NORSAR Array B	7.98	289	Pn	Pn	09 51 19.2	-1.2
	comp=Z,0.2nm,0.3s,baz=84,slow=12,SNR=2.6						
NOA				Sn	Sn	09 52 47.4	-5.1
	comp=Z,0.2nm,0.3s,baz=120,slow=22,SNR=3.1						
NOA				Lg		09 53 36.9	
	comp=Z,0.5nm,0.3s,baz=148,slow=22,SNR=3.4						
APA0	Apatity Array	8.75	16	Pn	P	09 51 28.1	-2.8
	baz=194,slow=12						
APA0	Apatity Array	8.75	16	eP	P	09 51 28.1	-2.8
APA0	Apatity Array	8.75	16	Pn	P	09 51 28.1	-2.9
	SNR=50						
AKASG	Malin Array Be	8.75	170	Pn	P	09 51 28.6	-2.4
	comp=Z,1.0nm,0.3s,baz=355,slow=13,SNR=4.3						
ARA0	ARCESS Array S	10.27	357	Pn	P	09 51 48.3	-3.5
	baz=173,slow=16						
ARA0				Sn	S	09 53 37.6	-11
	baz=176,slow=28						
ARA0				Lg		09 54 39.4	
	baz=157,slow=37						
ARA0	ARCESS Array S	10.27	357	eP	P	09 51 48.3	-3.5
ARA0				eS	S	09 53 37.6	-11
ARA0				eSG		09 54 39.4	
ARCES	ARCESS Array B	10.27	357	Pn	P	09 51 48.7	-3.0
	comp=Z,0.2nm,0.3s,baz=173,slow=14,SNR=13						
ARCES				Sn	S	09 53 37.8	-11
	comp=Z,0.2nm,0.3s,baz=173,slow=24,SNR=3.5						

*MOS **16** 10:00:06.3±1.3, 35.67N×21.36E, h10km, mb4.3/1, Error ellipse: s-maj=15.2km s-min=7.5km az=90.0*
*HLW **16** 10:00:26.7, 37.23N×23.20E, h20km, Mb4.5*
*IDC **16** 10:00:26.7±2.5, 36.72N×22.21E, h105km±20km, mb3.8/6, mb1 3.8/11, mb1mx3.6/28, mbtmp4.1/11, MS3.1/1, Ms1 3.1/1, ms1mx2.4/29, Error ellipse: s-maj=49.8km s-min=16.1km az=43.0*
*ATH **16** 10:00:27.5, 37.22N×22.55E, h84km±1km, ML4.1*
*CSEM **16** 10:00:27.6±0.1, 37.23N×22.55E, h90km±1km, ML4.1, Error ellipse: s-maj=2.3km s-min=1.3km az=40.0*
*NEIC **16** 10:00:27.9±0.7, 37.13N×22.28E, h82km±8km, Error ellipse: s-maj=14.9km s-min=5.3km az=218.0*
*PDG **16** 10:00:29.9±0.1, 37.45N×21.66E, h9km±1km*
*THE **16** 10:00:30.1, 37.30N×22.69E, h20km*
ISC 16 10:00:25.6±0.3**, 37.13N**±0.02×**22.55E**±0.04**, h111**km±4km**, n119, σ1§44**/157**, mb4.0**/6**, 22C-18D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.50	275	⇓iP	P	10 00 42.6	0.0
ITM				eS	S	10 00 52.8	-2.7
KYTH	Kithira	0.94	155	eP	P	10 00 48.5	+2.0
KYTH	Kithira	0.94	155	eP	P	10 00 49.1	+2.6
NAIG	Nisos Aigina	0.97	50	eP	P	10 00 47.0	+0.2
MGER	Gerania Oros	1.02	33	eP	P	10 00 47.3	0.0
NSAL	Nisos Salamina	1.06	43	eP	P	10 00 48.0	+0.3
ATH	Athens Observa	1.25	48	eP	P	10 00 50.3	+0.4
ATH				eS	S	10 01 05.6	-2.6
MPAR	Parnis Oros	1.38	42	eP	P	10 00 51.5	0.0
PTL	Penteli	1.39	48	eP	P	10 00 52.0	+0.5
PTL				eS	S	10 01 09.0	-2.1
LKR	Lokris	1.56	13	eP	P	10 00 53.8	+0.3
LKR				eS	S	10 01 12.1	-2.4
VLS	Valsamata	1.87	304	eP	P	10 00 58.3	+0.9
EVR	Evrytania	1.87	342	eP	P	10 00 58.7	+1.3
AGG	Agios Georgios	1.89	355	ePb	P	10 00 58.6	+0.9
AGG				eSb	S	10 01 20.6	-1.1
LKD	Levkas	2.17	317	ePn	P	10 01 03.2	+1.8
VAM	Vamos	2.18	142	eP	P	10 01 04.2	+2.8
NEO	Neokhori	2.23	14	eP	P	10 01 02.8	+0.6
XOR	Xorichti	2.29	13	ePn	P	10 01 03.5	+0.7
XOR				eSn	S	10 01 28.9	-2.0
THR5	Thira Island,	2.36	107	ePn	P	10 01 06.5	+2.6
THR5	Thira Island,	2.36	107	ePn	P	10 01 06.4	+2.6
APE	Apeiranthos	2.38	91	⇑iP	P	10 01 05.9	+1.7
SANT	Santorini	2.46	107	ePn	P	10 01 07.7	+2.5
SANT	Santorini	2.46	107	ePn	P	10 01 07.7	+2.5
GVD	Gavdhos	2.61	151	eP	P	10 01 10.0	+2.8
GVD	Gavdhos	2.61	151	ePn	P	10 01 09.8	+2.6
IDI	Anoyia	2.64	134	P	P	10 01 09.4	+1.7
	15nm,0.3s,baz=321,slow=16,SNR=127						
IDI				S	S	10 01 38.7	-0.7
	33nm,0.3s,baz=309,slow=23,SNR=10						
JAN	Janina	2.85	333	⇑iP	P	10 01 12.5	+2.0
PAIG	Paliouri	2.93	17	ePn	P	10 01 11.9	+0.4
PAIG				eSn	S	10 01 45.8	-0.4
LIT	Litokhoron	2.96	359	ePn	P	10 01 12.6	+0.6
LIT				eSn	S	10 01 46.8	-0.4
NPS	Neapolis	3.10	126	eP	P	10 01 15.7	+1.8
KZN	Kozani	3.23	349	eP	P	10 01 17.0	+1.4
PLG	Polygyros	3.31	12	eP	P	10 01 17.3	+0.6
KEK	Kerkira	3.36	321	⇑iP	P	10 01 17.9	+0.5
OUR	Ouranopolis	3.39	19	ePn	P	10 01 18.7	+0.9
OUR				eSn	S	10 01 55.9	-1.5
SRN	Sarande	3.39	325	iPn	P	10 01 18.7	+0.8
XRY	Khrisi	3.40	131	eP	P	10 01 20.5	+2.5
LOS	Limnos	3.43	35	ePn	P	10 01 19.5	+1.2
SMG	Samos	3.46	79	eP	P	10 01 20.6	+1.8
THE	Thessaloniki	3.51	5	ePn	P	10 01 19.7	+0.3
PRK	Paraskevi	3.61	53	eP	P	10 01 21.5	+0.7
SOH	Sokhos	3.73	9	ePn	P	10 01 23.5	+1.0
SOH				eSn	S	10 02 04.8	-1.0
FNA	Florina	3.76	346	ePn	P	10 01 23.8	+1.1
FNA				eSn	S	10 02 06.0	-0.4
KNT	Kendrikon	4.03	4	ePn	P	10 01 28.0	+1.5
KARP	Karpathos	4.04	112	eP	P	10 01 29.5	+2.8
SRS	Serrai	4.06	11	ePn	P	10 01 28.1	+1.2
NVR	Nevrokopi	4.33	13	eP	P	10 01 31.6	+1.0
ARG	Arkhangelos	4.58	100	eP	P	10 01 37.5	+3.6
RDO	Rodhopi	4.63	29	eP	P	10 01 36.2	+1.6
ALN	Alexandroupoli	4.64	35	ePn	P	10 01 35.3	+0.6
ALN				eSn	S	10 02 25.6	-2.3
TIP	Timpagrande	5.00	296	ePn	P	10 01 40.0	+0.4
TIP				eSn	S	10 02 27.1	-10
TIP	Timpagrande	5.00	296	ePn	P	10 01 40.0	+0.4
PE1	Pezze di Greco	5.42	314	⇓iPn	P	10 01 45.3	0.0
ULC	Ulcinj	5.46	333	⇓iPn	P	10 01 45.1	-0.7
ULC				eSn	S	10 02 41.6	-6.2
PVY	Plav	5.80	341	⇓iPn	P	10 01 51.1	+0.6
PVY				eSn	S	10 02 52.0	-4.3
TTG	Podgorica	5.86	335	⇓iPn	P	10 01 50.6	-0.7
TTG				eSn	S	10 02 51.9	-5.9
BUM	Brajici-Budva	5.88	333	⇓iPn	P	10 01 50.7	-0.8
BUM				eSn	S	10 02 51.3	-6.8
SG1	Sgolgore (BA)	5.88	311	⇓iPn	P	10 01 51.6	0.0
BAI	Bari	5.93	314	⇓iPn	P	10 01 50.5	-1.7
SLUM		6.04	158	⇑eP	P	10 01 53.4	-0.4
SLUM				S	S	10 02 56.5	-5.7
SLUM		6.04	158	P	P	10 01 53.3	-0.5
SLUM				S	S	10 02 56.5	-5.7
IVA	Berane	6.08	341	ePn	P	10 01 54.6	+0.3
IVA				eSn	S	10 02 58.6	-4.5
HCY	Herceg Novi	6.16	331	⇓iPn	P	10 01 54.2	-1.1
HCY				eSn	S	10 02 57.7	-7.2
CDT	Castel del Mon	6.27	311	⇓iPn	P	10 01 58.1	+1.2
NKY	Niksic	6.29	335	⇓iPn	P	10 01 56.6	-0.6
NKY				eSn	S	10 03 02.2	-6.0
ISP	Isparta	6.37	81	ePn	P	10 02 03.0	+4.7
	10.0nm,0.6s						
ISP	Isparta	6.37	81	ePn	P	10 02 03.0	+4.7
	10.0nm,0.6s						
ISP	Isparta	6.37	81	eP	P	10 02 03.0	+4.7
ISP				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TREB	Trebinje	6.44	331	Pn	P	10 01 57.9	-1.4
BRY	Bratogost	6.53	333	⇓iPn	P	10 01 59.3	-1.2
BRY				eSn	S	10 03 07.0	-7.0
PLE	Pljevlja	6.64	340	⇑iPn	P	10 02 02.1	0.0
PLE				eSn	S	10 03 11.5	-5.3
UPM	Unac-Piva	6.67	336	⇓iPn	P	10 02 02.1	-0.4
UPM				eSn	S	10 03 11.6	-5.8
NVSS	Nova Varos 2	6.73	342	⇑iPn	P	10 02 01.6	-1.6
NVSS				Sn	S	10 03 11.4	-7.4
HMAT	Matruh	7.11	147	⇑P	P	10 02 06.8	-1.6
HMAT				S	S	10 03 19.8	-8.3
DIVS	Divcibare	7.22	345	⇓iPn	P	10 02 07.8	-2.2
DABA	Dabaa	7.74	140	⇑eP	P	10 02 14.7	-2.2
DABA				S	S	10 03 33.6	-10
CII	Carovilli	7.85	308	ePn	P	10 02 19.9	+1.4
	comp=Z,20nm,0.3s						
CII				eSn	S	10 03 41.6	-4.8
CII	Carovilli	7.85	308	ePn	P	10 02 20.0	+1.5
	comp=Z,20nm,0.3s						
CII				eSn	S	10 03 41.6	-4.8
SWA2		8.24	162	⇓P	P	10 02 23.9	+0.2
SWA1		8.28	160	⇓P	P	10 02 24.9	+0.6
SWA1				S	S	10 03 50.6	-6.2
MLR	Muntele Rosu	8.73	16	P	P	10 02 37.1	+6.8
	comp=Z,0.9nm,0.3s,baz=276,slow=11,SNR=6.9						
HBRG	Burj al 'Arab	8.92	135	⇑P	P	10 02 30.0	-2.8
HBRG				S	S	10 04 00.6	-12
BR131	Keskin Array S	9.08	70	ePn	P	10 02 40.4	+5.4
	comp=Z,1.7nm,0.5s						
BR131	Keskin Array S	9.08	70	ePn	P	10 02 40.4	+5.4
	comp=Z,1.7nm,0.5s						
BRTR	Keskin Array B	9.08	70	P	P	10 02 40.7	+5.7
	comp=Z,0.5nm,0.3s,baz=250,slow=13,SNR=8.1						
HNAT	Natroun	10.07	136	⇑P	P	10 02 46.9	-1.4
CRES	Cresnjev	10.18	331	iPn	P	10 02 47.9	-1.8
CRES				i		10 02 48.7	
FYM	Al Fayyum	10.27	134	⇑eP	P	10 02 49.2	-1.7
AWBH		10.29	147	⇑P	P	10 02 50.8	-0.4
VISS	Visnje	10.41	329	ePn	P	10 02 51.6	-1.2
VISS				iSn	S	10 04 41.0	-6.9
DOBS	Dobrina	10.45	332	ePn	P	10 02 52.9	-0.3
CEY	Cerknica	10.53	327	iPn	P	10 02 53.4	-1.0
KOT	Kottamia	10.56	130	⇑iP	P	10 02 52.4	-2.4
HHAG	Hagoal	10.71	129	⇑P	P	10 02 54.9	-1.9
GLL	Jalalah	10.74	132	⇓eP	P	10 02 55.6	-1.6
AMAG	Maghara	10.97	123	⇑P	P	10 02 57.8	-2.5
VOJS	Vojsko	11.00	327	iPn	P	10 02 59.4	-1.2
SUZ		11.25	127	⇑P	P	10 03 02.2	-1.8
ZAF		11.46	130	⇑P	P	10 03 05.1	-1.7
ZNM		11.59	129	⇑P	P	10 03 06.6	-1.9
ZNM				S	S	10 05 04.1	-12
HNKL	Nakhl	11.93	124	⇑P	P	10 03 11.4	-1.7
HNKL				S	S	10 05 11.0	-13
GRB	Gharib	12.34	133	⇑P	P	10 03 17.9	-0.5
MALT	Malatya	12.63	80	ePn	P	10 03 27.1	+4.9
	comp=Z,0.8nm,0.4s						
MALT	Malatya	12.63	80	eP	P	10 03 27.1	+4.9
MALT				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TR2		12.82	130	⇑P	P	10 03 23.8	-0.9
HKAT	Jabal Katrina	12.89	128	⇓P	P	10 03 25.1	-0.5
GERES	GERESS Array B	13.36	334	P	P	10 03 33.6	+2.0
	comp=Z,0.8nm,0.3s,baz=157,slow=13,SNR=12						
GERES				S	S	10 05 55.1	-2.8
	comp=Z,0.3nm,0.3s,baz=152,slow=26,SNR=4.0						
DAVOX	Davos	13.47	320	P	P	10 03 35.6	+2.7
	comp=Z,0.9nm,0.3s,baz=152,slow=17,SNR=4.1						
DAVOX				S	S	10 05 57.0	-3.3
	comp=Z,0.3nm,0.3s,baz=307,slow=21,SNR=4.2						
DAVOS	Davos	13.55	320	P	P	10 03 35.7	+1.7
HHRG	Al Ghardaqah	13.58	134	⇑P	P	10 03 35.2	+0.6
OBN	Obninsk	20.37	24	eP	P	10 04 57.6	+2.5
	comp=Z,7.0nm,0.8s						
OBN	Obninsk	20.37	24	eP	P	10 04 57.6	+2.5
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HFS	Hagfors	23.71	349	P	P	10 05 32.2	+4.5
	comp=Z,2.2nm,0.6s,mb3.7,baz=143,slow=11,SNR=7.3						
HFS				LR	LR	10 16 22.7	
	comp=Z,40nm,19.3s,baz=174,slow=40						
FINES	FINESS Array B	24.43	4	P	P	10 05 38.5	+3.8
	comp=Z,0.8nm,0.3s,mb3.5,baz=180,slow=9.5,SNR=4.5						
FINES	FINESS Array B	24.43	4	P	P	10 05 38.5	+3.8
KAF	Kangasniemi	25.11	4	ep	P	10 05 47.2	+6.0
JOF	Joensuu	26.37	9	ep	P	10 05 55.4	+2.6
ARCES	ARCESS Array B	32.50	2	P	P	10 06 50.7	+3.4
	comp=Z,4.8nm,1.1s,mb4.2,baz=201,slow=10,SNR=5.6						
BVAR	Borovoye Array	36.58	49	P	P	10 07 26.8	+4.6
	comp=Z,1.6nm,0.6s,mb4.1,baz=243,slow=6.6,SNR=6.5						
MKAR	Makanchi Array	44.48	58	P	P	10 08 30.9	+3.8
	comp=Z,0.8nm,0.3s,mb3.9,baz=270,slow=8.2,SNR=15						
ZAL	Zalesovo	45.19	48	P	P	10 08 36.4	+3.7
	comp=Z,3.8nm,0.3s,mb4.6,baz=185,slow=7.1,SNR=7.1						

*IDC **16** 10:48:30.2±1.2, 4.56S×153.88E, mb4.5/9, mb1 4.6/9, mb1mx4.4/17, mbtmp4.5/9, MS3.5/1, Ms1 3.4/1, ms1mx2.5/19, Error ellipse: s-maj=34.5km s-min=17.2km az=103.0*
*NEIC **16** 10:48:47.1±2.7, 4.57S×153.56E, h135km±19km, mb4.5/11, Error ellipse: s-maj=25.8km s-min=9.1km az=87.0*
ISC 16 10:48:45.9±4.1**, 4.59S**±0.09×**153.6E**±0.2**, h140**km±31km**, n28, σ0§69**/31**, mb4.4**/20**, 4D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.99	233	Pn	P	10 50 39.9	-0.4
	2.3nm,0.3s,baz=42,slow=5.2,SNR=3.0						
PMG				Sn	S	10 52 10.1	+0.7
	9.2nm,0.3s,baz=134,slow=17,SNR=9.1						
PMG	Port Moresby	7.99	233	eP	P	10 50 39.9	-0.4
	188nm,0.8s						
PMG				eS	S	10 52 09.8	+0.4
KAKA	Kakadu	22.41	248	⇓iP	P	10 53 52.9	+19
	11nm,0.4s,mb4.6						
WRAB	Tennant Creek	24.17	229	eP	P	10 53 51.4	+0.7
	28nm,0.6s,mb5.0						
WB2	Warramunga Arr	24.18	229	⇓iP	P	10 53 51.5	+0.8
WRA	Warramunga Arr	24.19	229	P	P	10 53 51.4	+0.6
	20nm,0.7s,mb4.8,baz=54,slow=9.9,SNR=166						
WRA				S	S	10 58 12.7	+17
	1.7nm,1.0s,baz=45,slow=14,SNR=5.7						
ASPA	Alice Springs	26.85	223	⇓iP	P	10 54 15.3	-0.2
STKA	Stephens Creek	29.39	201	P	P	10 54 37.1	-1.2
	4.7nm,0.8s,mb4.3,baz=69,slow=17,SNR=5.9						
STKA				LR	LR	11 04 25.2	
	comp=Z,86nm,19.5s,baz=188,slow=32						
FITZ	Fitzroy Crossi	30.46	242	⇓iP	P	10 54 47.1	-0.8
	14nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	30.46	242	P	P	10 54 47.2	-0.7
	22nm,0.6s,mb5.0,baz=78,slow=3.5,SNR=21						
FORT	Forrest	35.46	220	eP	P	10 55 30.6	-0.1
	34nm,0.7s,mb5.1						
JOW	Kunigami	39.70	323	P	P	10 56 06.4	+0.2
	3.1nm,0.4s,mb4.3,baz=150,slow=11,SNR=5.8						
KLBR	Kellerberrin	43.03	227	eP	P	10 56 32.6	-0.9
	139nm,1.9s,mb5.3						
JNU	Nakatsue	43.25	332	P	P	10 56 35.0	-0.2
	7.0nm,0.7s,mb4.4,baz=76,slow=6.3,SNR=5.2						
KULM	Kulim	53.79	280	eP	P	10 57 55.9	-0.7
VNDA	Vanda	73.01	178	P	P	11 00 02.1	+0.4
	0.3nm,0.7s,mb3.2,baz=336,slow=4.7,SNR=4.0						
PKI	Pulchoki	73.02	300	eP	P	11 00 01.7	-1.0
KKN	Kakani	73.18	301	eP	P	11 00 04.4	+0.7
	10nm,0.6s,mb4.8						
DMN	Daman	73.29	300	eP	P	11 00 03.4	-0.9
	20nm,0.9s,mb4.8						
GKN	Gorkha	73.79	301	eP	P	11 00 07.7	+0.5
	13nm,0.8s,mb4.7						
KOLN	Koldanda	74.62	300	eP	P	11 00 10.7	-1.3
	5.4nm,0.7s,mb4.3						
MKAR	Makanchi Array	80.70	319	P	P	11 00 46.0	+1.0
	0.7nm,0.4s,mb3.6,baz=92,slow=7.7,SNR=7.4						
MKAR	Makanchi Array	80.70	319	P	P	11 00 46.0	+1.0
KURK	Kurchatov	84.10	322	eP	P	11 01 02.9	+0.6
	2.3nm,0.7s,mb4.0						
AAK	Ala-Archa	85.11	313	P	P	11 01 07.9	+0.4
	1.8nm,0.4s,mb4.2						
MAW	Mawson	86.07	203	P	P	11 01 12.2	+0.6
	4.5nm,0.6s,mb4.3,baz=95,slow=5.6,SNR=23						
BVAR	Borovoye Array	89.56	323	P	P	11 01 28.8	+0.2
	2.7nm,0.8s,mb4.2,baz=104,slow=6.1,SNR=12						
BRVK	Borovoye	89.62	323	eP	P	11 01 29.0	+0.1
	1.7nm,0.8s,mb4.0						

ISC 16 11:08:47.4±0.6**, 39.30N**±0.04×**34.22E**±0.06**, h10**km**, n9, σ1§13**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	Cicekdag	0.35	20	iP	Pg	11 08 53.7	-0.9
CDAG				iS	Sg	11 09 00.2	+0.8
AVNT	Avonos	0.72	136	iP	Pb	11 09 00.9	-0.6
AVNT				iS	Sb	11 09 11.2	+0.1
CORM	Corum	0.94	20	ePG	Pg	11 09 05.8	-0.4
NIG	Nigde	1.22	165	ePN	Pn	11 09 10.2	-0.4
ANTO	Ankara	1.24	298	ePN	Pn	11 09 09.4	-1.5
ANTO				eSN	Sn	11 09 25.6	-2.2
ELDT	Eldivan	1.34	333	iP	Pb	11 09 11.4	-0.8
ELDT				iS	Sb	11 09 30.4	+1.2
KDHN	Kadinhani	1.81	245	iP	Pn	11 09 20.1	+1.0
KDHN				iS	Sn	11 09 44.2	+1.9
BOYT	Boyabat	2.19	14	iP	Pn	11 09 26.1	+1.7
BOYT				iS	Sn	11 09 58.5	+6.8
BALT	Daday	2.32	344	iP	Pn	11 09 26.3	0.0

*NEIC **16** 11:12:08.8±1.1, 0.23S×100.96E, h150km, mb4.0/1, Error ellipse: s-maj=48.8km s-min=10.4km az=59.0*
*IDC **16** 11:12:14.7±24.0, 0.00N×101.35E, h196km±208km, mb3.6/4, mb1 3.8/4, mb1mx3.3/16, mbtmp4.1/4, Error ellipse: s-maj=276.4km s-min=22.4km az=55.0*
ISC 16 11:12:13.9±10.0**, 0 N**±1 ×**10 2E**± **, h191**km±56km**, n8,**

σ0^{s}35/7, mb3.9/5, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.00	347	*e*Pn	P	11 13 28.8	0.0
WRA	Warramunga Arr	37.78	124	P	P	11 19 13.2	-0.3
	1.1nm,0.4s,mb3.8,baz=302,slow=9.1,SNR=19						
WRAB	Tennant Creek	37.78	124	*e*P	P	11 19 13.5	0.0
	1.6nm,0.4s,mb4.0						
WB2	Warramunga Arr	37.79	124	⇓*i*P	P	11 19 13.9	+0.3
MKAR	Makanchi Array	49.26	342	P	P	11 20 45.5	+0.4
	0.5nm,0.3s,mb3.6,baz=155,slow=8.8,SNR=10						
ZAL	Zalesovo	55.19	348	P	P	11 21 28.6	-0.2
	1.0nm,0.4s,mb3.9,baz=335,slow=3.1,SNR=3.5						
ARCES	ARCESS Array B	84.85	340	P	P	11 24 27.7	-0.2
	4.7nm,1.0s,mb4.2,baz=90,slow=5.4,SNR=5.8						
TXAR	Lajitas Array	141.76	37	PKP	PKPdf	11 31 24.8	+1.5
	0.4nm,0.7s,baz=196,slow=0.6,SNR=6.5						

*KNET **16** 11:48:54.7±0.4, 42.20N×74.99E, h17km±2km, ml1.6, Error ellipse: s-maj=3.6km s-min=1.9km az=39.0*
*NNC **16** 11:48:55.9±12.0, 42.18N×74.92E, mpv2.5, Error ellipse: s-maj=102.8km s-min=51.6km az=86.0*
ISC 16 11:48:55.2±0.9**, 42.17N**±0.06×**74.93E**±0.06**, h13**km±6km**, n10, σ0^{s}48**/17**, 12C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	0.25	111	⇓P	Pg	11 49 00.7	0.0
	39nm,0.2s,SNR=6.1						
KZA				⇑S	Sg	11 49 04.7	+0.3
	219nm,0.3s						
UCH	Uchtor	0.32	281	⇑P	Pg	11 49 02.2	+0.3
	9.1nm,0.2s,SNR=9.2						
KBK	Karagaybulak	0.49	1	⇓P	Pb	11 49 04.9	-0.2
	15nm,0.1s,SNR=12						
KBK				⇑S	Sg	11 49 11.7	-0.1
	103nm,0.2s						
AAK	Ala-Archa	0.57	325	⇓P	Pb	11 49 06.6	+0.1
	11nm,0.2s,SNR=13						
AAK				⇑S	Sb	11 49 14.5	+0.3
	49nm,0.2s						
AAK	Ala-Archa	0.57	325	⇓P	Pb	11 49 06.5	-0.1
	8.0nm,0.5s						
AAK				⇑S	Sb	11 49 14.4	+0.2
	49nm,0.6s						
CHMS	Chumysh	0.84	351	⇑P	Pb	11 49 11.2	0.0
	3.3nm,0.2s,SNR=6.1						
CHMS				⇓S	Sb	11 49 22.5	+0.4
	8.7nm,0.2s						
TKM2	Tokmak 2	0.90	33	⇑P	Pb	11 49 12.0	-0.2
	4.6nm,0.1s,SNR=6.1						
TKM2				⇑S	Sb	11 49 23.5	-0.3
	12nm,0.1s						
ULHL	Ulahol	0.97	85	⇓P	Pb	11 49 13.4	-0.1
	2.2nm,0.1s,SNR=20						
ULHL				⇑S	Sb	11 49 26.0	0.0
	11nm,0.2s						
USP	Ospenovka	1.14	344	⇑P	Pb	11 49 16.8	+0.4
	2.7nm,0.2s,SNR=8.2						
KK31	Karatay Array	3.39	287	⇑Pg	Pg	11 49 59.6	-3.4
	1.3nm,0.7s,baz=99,slow=16						
KK31				⇑Lg		11 50 42.9	
	2.6nm,0.7s,baz=109,slow=27,SNR=6.3						

*IDC **16** 11:59:18.2±2.8, 25.26S×178.88W, h396km±31km, mb3.4/3, mb1 3.6/4, mb1mx3.2/14, mbtmp4.3/4, Error ellipse: s-maj=42.3km s-min=32.0km az=179.0*
NEIC 16 11:59:18.0±1.9**, 25.30S**×**178.79W, h403**km±20km**, mb4.0**/2**, Error ellipse: s-maj=33.5km s-min=24.2km az=183.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.01	169	P	P	12 00 30.6	-0.3
	376nm,0.3s,baz=79,slow=5.2,SNR=35						
RAO	Raoul Island	4.01	169	*e*Pn	P	12 00 30.3	-0.6
URZ	Urewera	13.38	194	P	P	12 02 12.6	-2.9
	1.3nm,0.3s,baz=279,slow=16,SNR=8.3						
URZ				S	S	12 04 37.2	-0.1
	2.2nm,0.3s,baz=75,slow=22,SNR=18						
CTA	Charters Tower	32.60	272	P	P	12 05 15.0	-0.6
	2.3nm,0.3s,baz=97,slow=13,SNR=14						
CTAO	Charters Tower	32.60	272	*e*P	P	12 05 14.4	-1.2
	2.6nm,0.4s						
STKA	Stephens Creek	35.25	250	P	P	12 05 37.6	-0.3
	2.0nm,0.9s,baz=120,slow=14,SNR=3.3						
WRAB	Tennant Creek	43.42	267	*e*P	P	12 06 42.3	-2.4
	2.6nm,0.3s						
WRA	Warramunga Arr	43.42	267	P	P	12 06 42.5	-2.2
	1.1nm,0.4s,baz=101,slow=8.0,SNR=46						
NOA	NORSAR Array B	143.62	352	PKP	PKPdf	12 18 04.7	-0.1
	0.9nm,0.7s,baz=15,slow=2.5,SNR=3.5						
AKASG	Malin Array Be	146.74	327	PKPbc	PKPbc	12 18 13.9	+1.5
	1.0nm,0.4s,baz=45,slow=4.1,SNR=4.2						

*NAO **16** 12:53:07.8±1.8, 67.83N×20.52E, ML2.6*
*CSEM **16** 12:53:07.3±0.1, 67.91N×19.91E, h2km, ML3.6/2, Error ellipse: s-maj=4.8km s-min=3.2km az=121.0, Mining explosion.*
*BER **16** 12:53:08.9±4.0, 67.89N×20.28E, ML2.3, ML2.6(NAO), Suspected explosion*
HEL 16 12:53:08.2±0.2**, 67.85N**×**20.27E, ML2.2, ML2.3**(BER)**, ML2.6**(NAO)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.18	9	*e*P	Pb	12 53 29.9	-1.2
KIF				*e*S	Sb	12 53 46.1	-0.6
KTK1	Kautokeino	1.60	42	*e*P	Pn	12 53 36.8	-1.1
KTK1				*e*SN	Sn	12 53 59.7	+0.1
KTK1				AML	AML	12 54 01.7	
	comp=Z,40nm,0.2s						
KTK1	Kautokeino	1.60	42	P	Pn	12 53 36.8	-1.1
KTK1				Sn	Sn	12 53 59.7	+0.1
	comp=Z,40nm,0.2s						
KTK1				*e*Sg	Sg	12 53 59.7	-1.8
	comp=Z,40nm,0.2s,SNR=90						
TRO	Tromso	1.86	345	*e*P	Pn	12 53 39.6	-2.0
TRO				*e*SG	Sg	12 54 05.3	-4.7
TRO				AML	AML	12 54 08.3	
	comp=Z,36nm,0.4s						
SGF	Sodankyl	2.42	97	*e*P	Pn	12 53 49.1	-0.6
SGF				*e*S	Sn	12 54 19.6	-0.9
SGF				*e*SG	Sg	12 54 22.3	-6.6
SGF				MSG		12 54 24.5	
	comp=Z,12nm,0.1s						
LOF	Lofoten	2.55	279	*e*P	Pn	12 53 51.0	-0.5
ARA0	ARCESS Array S	2.55	46	*e*P	Pn	12 53 50.8	-0.7
ARA0				*e*SB	Sb	12 54 24.4	-2.3
ARA0	ARCESS Array S	2.55	46	Pn	Pn	12 53 50.8	-0.7
	baz=234,slow=14						
ARA0				Lg		12 54 24.4	
	baz=226,slow=28						
MELSS	Ber_school_2	2.72	252	*e*P	Pn	12 53 52.3	-1.7
MELSS				*e*Sg	Sg	12 54 32.3	-6.5
MOR8	Moi Rana	2.84	236	*e*P	Pn	12 53 53.8	-1.9
MOR8				*e*SG	Sg	12 54 30.6	-12
MOR8				AML	AML	12 54 32.9	
	comp=Z,56nm,0.3s						
KEV	Kevo	3.11	49	*e*P	Pn	12 53 58.7	-0.7
KEV				*e*S	Sn	12 54 36.1	-1.6
STOK	Stokkvaagen	3.22	245	*e*P	Pn	12 53 58.7	-2.4
APA0	Apatity Array	4.85	87	Pn	Pn	12 54 20.8	-3.3
	baz=290,slow=12						
APA0				Sn	Sn	12 55 15.9	-5.9
	baz=278,slow=22						
APA0				Lg		12 55 35.7	
	baz=291,slow=37						
APA0	Apatity Array	4.85	87	*e*P	Pn	12 54 20.8	-3.3
APA0				*e*S	Sn	12 55 15.9	-5.9
APA0				*e*SG		12 55 35.7	
FIA0	FINESS Array S	6.89	156	Pn	Pn	12 54 48.8	-4.3
	baz=347,slow=14						
FIA0				Sn	Sn	12 56 06.6	-6.6
	baz=348,slow=28						
FIA0				Lg		12 56 41.2	
	baz=332,slow=37						
FIA0	FINESS Array S	6.89	156	*e*P	Pn	12 54 48.8	-4.3
FIA0				*e*S	Sn	12 56 06.6	-6.6
FIA0				*e*SG		12 56 41.2	
NB2	NORSAR Subarra	7.87	214	Lg		12 57 13.5	
	baz=39,slow=28						
NB2	NORSAR Subarra	7.87	214	*e*SG		12 57 13.5	
NB2	NORSAR Subarra	7.87	214	Lg		12 57 13.5	
	baz=39,slow=28						
HFS	Hagfors	8.26	204	Pn	P	12 55 07.3	-4.8
	baz=7.2,slow=14						
HFS				Sn	Sn	12 56 38.0	-9.3
	baz=27,slow=28						
HFS				Lg		12 57 26.1	
	baz=11,slow=28						
HFS	Hagfors	8.26	204	*e*P	P	12 55 07.3	-4.8
HFS				*e*S	Sn	12 56 38.0	-9.3
HFS				*e*		12 57 26.1	
HFS	Hagfors	8.26	204	Pn	P	12 55 07.3	-4.9
	SNR=4.5						
HFS				Sn	Sn	12 56 38.0	-9.4
	SNR=6.6						

*NEIC **16** 13:07:42.7±3.0, 4.76S×152.84E, h106km±25km, mb4.0/4, Error ellipse: s-maj=37.7km s-min=19.4km az=102.0*
*IDC **16** 13:07:42.9±5.7, 4.72S×152.64E, h101km±53km, mb3.7/4, mb1 3.8/6, mb1mx3.6/15, mbtmp4.0/6, MS3.0/3, Ms1 3.0/3, ms1mx2.8/22, Error ellipse: s-maj=62.2km s-min=36.1km az=122.0*
ISC 16 13:07:40.0±1.1**, 4.7S**±0.2×**153.1E**±0.2**, h100**km**, n15, σ0^{s}99**/14**, mb3.9**/7**, 1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.47	231	P	P	13 09 25.4	-2.5
	1.7nm,0.3s,baz=45,slow=13,SNR=7.4						
PMG	Port Moresby	7.47	231	*e*Pn	P	13 09 26.9	-1.0
PMG				*e*Sn	S	13 10 52.5	+1.0
HNR	Honiara	8.28	125	LR	LR	13 12 04.1	
	comp=Z,48nm,21.5s,baz=298,slow=30						
CTA	Charters Tower	16.64	203	P	P	13 11 26.8	-1.7
	0.3nm,0.3s,baz=13,slow=12,SNR=3.1						
CTA				LR	LR	13 16 49.2	
	comp=Z,74nm,21.4s,baz=228,slow=33						
CTAO	Charters Tower	16.64	203	*e*P	P	13 11 28.6	+0.2
	1.8nm,0.5s						
DZM	Mont Dzumac	21.57	144	LR	LR	13 18 32.4	
	comp=Z,71nm,18.2s,baz=210,slow=30						
WRAB	Tennant Creek	23.66	229	*e*P	P	13 12 43.4	+0.1
	1.9nm,0.5s,mb3.7						
WB2	Warramunga Arr	23.67	229	⇓*i*P	P	13 12 44.0	+0.7
WRA	Warramunga Arr	23.68	229	P	P	13 12 43.6	+0.2
	1.1nm,0.4s,mb3.6,baz=54,slow=9.8,SNR=32						
MKAR	Makanchi Array	80.44	319	P	P	13 19 42.2	0.0
	2.5nm,0.6s,mb4.2,baz=104,slow=6.6,SNR=24						
ZAL	Zalesovo	81.24	326	P	P	13 19 45.5	-0.9
	2.1nm,0.3s,mb4.5,baz=25,slow=3.0,SNR=3.5						
ZAL	Zalesovo	81.24	326	P	P	13 19 45.5	-0.9
ILAR	Eielson Array	82.00	22	P	P	13 19 52.4	+2.4
	0.2nm,0.8s,mb3.0,baz=252,slow=5.7,SNR=3.1						
KURK	Kurchatov	83.87	322	*e*P	P	13 19 59.5	-0.3
	3.2nm,0.8s,mb4.2						
AAK	Ala-Archa	84.80	313	*e*P	P	13 20 04.3	-0.4
	1.7nm,0.4s,mb4.3						

*IDC **16** 13:42:18.1±0.9, 4.49N×95.73E, mb4.4/11, mb1 4.5/11, mb1mx4.2/21, mbtmp4.4/11, MS3.6/2, Ms1 3.7/2, ms1mx3.2/19, Error ellipse: s-maj=37.4km s-min=15.0km az=50.0*
*NEIC **16** 13:42:23.0±0.6, 4.74N×96.08E, h30km, mb4.5/8, Error ellipse: s-maj=21.9km s-min=9.5km az=47.0*
*BJI **16** 13:42:26.0, 4.70N×96.10E, h30km, mB4.9, mb4.4, Ms4.0, Msz3.9*
ISC 16 13:42:20.6±0.7**, 4.5N**±0.1×**95.6E**±0.1**, h30**km**, n32, σ1^{s}00**/29**, mb4.3**/19**, MS3.7**/3**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.07	80	*e*Pn	Pn	13 43 29.1	-7.6
KSM	Kuching	14.96	101	*e*P	P	13 45 55.2	+3.2
LSA	Lhasa	25.46	351	P	P	13 47 55.0	+7.2
LSA	Lhasa	25.46	351	*e*P	P	13 47 47.2	-0.6
	7.6nm,0.6s,mb4.4						
GTA	Gaotai	35.00	6	*e*P	P	13 49 20.4	+7.9
GTA				AP	pP	13 49 24.0	+2.6
GTA				XP	sP	13 49 27.3	+2.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
FITZ	Fitzroy Crossi	37.13	128	*e*P	P	13 49 28.4	-2.3
	comp=Z,12nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	37.13	128	P	P	13 49 28.7	-2.0
	comp=Z,13nm,0.6s,mb4.9,baz=335,slow=5.2,SNR=16						
JOW	Kunigami	38.30	51	P	P	13 49 39.9	-0.6
	comp=Z,9.9nm,0.9s,mb4.5,baz=208,slow=11,SNR=5.8						
AAK	Ala-Archa	42.40	337	*e*P	P	13 50 13.9	-0.3
	comp=Z,1.7nm,0.8s,mb3.7						
MKAR	Makanchi Array	43.72	347	P	P	13 50 23.4	-1.5
	comp=Z,0.3nm,0.6s,mb3.2,baz=161,slow=8.8,SNR=3.9						
SONM	Songino Array	44.19	10	P	P	13 50 27.5	-1.3
	comp=Z,3.1nm,0.5s,mb4.3,baz=192,slow=9.2,SNR=2.8						
WRA	Warramunga Arr	45.11	124	P	P	13 50 35.6	-0.9
	comp=Z,5.7nm,0.6s,mb4.6,baz=301,slow=9.2,SNR=38						
WRAB	Tennant Creek	45.12	124	*e*P	P	13 50 36.5	0.0
	comp=Z,10nm,0.6s,mb4.8						
WB2	Warramunga Arr	45.12	124	*e*P	P	13 50 35.9	-0.6
ASPA	Alice Springs	46.62	129	*e*P	P	13 50 48.6	+0.3
KURK	Kurchatov	48.26	346	P	P	13 51 01.0	+0.2
	comp=Z,1.4nm,0.7s,mb4.1						
MDJ	Mudanjiang	49.86	31	P	P	13 51 13.4	+0.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
MDJ				LR	LR		
	comp=N,56nm,16.4s,MS3.8						
MDJ				LR	LR		
	comp=E,65nm,20.4s,MS3.8						
MDJ				LR	LR		
	comp=Z,40nm,18.4s,MS3.5						
ZAL	Zalesovo	50.11	352	P	P	13 51 16.5	+1.5
	comp=Z,6.4nm,0.2s,mb5.2,baz=48,slow=2.2,SNR=3.1						
ZAL				LR	LR	14 14 46.9	
	comp=Z,35nm,21.7s,MS3.3,baz=173,slow=39						
ZAL	Zalesovo	50.11	352	P	P	13 51 16.5	+1.5
ZAL				LR	LR	14 14 46.9	
BVAR	Borovoye Array	52.68	341	P	P	13 51 35.1	+0.7
	comp=Z,0.5nm,0.5s,mb3.7,baz=120,slow=12,SNR=3.8						
BVAR	Borovoye Array	52.68	341	P	P	13 51 35.1	+0.6
PMG	Port Moresby	53.17	105	P	P	13 51 38.9	+0.3
	comp=Z,6.6nm,0.7s,mb4.7,baz=341,slow=4.5,SNR=4.6						
CTA	Charters Tower	55.38	118	*e*P	P	13 51 56.4	+1.6
	comp=Z,4.2nm,0.8s,mb4.5						
CTAO	Charters Tower	55.38	118	*e*P	P	13 51 55.8	+1.0
	comp=Z,5.7nm,0.8s,mb4.7						
STKA	Stephens Creek	56.70	133	*e*P	P	13 52 04.1	0.0
	comp=Z,5.2nm,2.0s,mb4.2						
STKA	Stephens Creek	56.70	133	P	P	13 52 04.1	0.0
	comp=Z,3.4nm,0.7s,mb4.5,baz=319,slow=10,SNR=8.7						
BRTR	Keskin Array B	65.78	312	P	P	13 53 05.7	+0.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=135,slow=8.2,SNR=2.9						
ARCES	ARCESS Array B	78.96	340	P	P	13 54 23.1	+0.4
	comp=Z,3.7nm,1.0s,mb4.3,baz=59,slow=7.1,SNR=4.0						
GERES	GERESS Array B	81.34	319	P	P	13 54 36.4	+0.5
	comp=Z,0.2nm,0.3s,mb3.5,baz=82,slow=6.9,SNR=2.3						
VNDA	Vanda	89.31	169	LR	LR	14 30 55.6	
	comp=Z,71nm,20.4s,MS4.1,baz=285,slow=33						
NVAR	Mina Array Bea	127.01	33	PKP	PKPdf	14 01 26.8	-0.7
	comp=Z,0.4nm,0.7s,baz=297,slow=2.0,SNR=4.6						
PLCA	Paso Flores	141.81	197	PKP	PKPdf	14 01 52.2	-2.7
	comp=Z,0.6nm,0.4s,baz=194,slow=4.2,SNR=3.6						

*IDC **16** 13:48:57.8±1.0, 30.97N×138.70E, h312km±16km, mb3.4/7, mb1 3.4/11, mb1mx3.2/24, mbtmp4.1/11, Error ellipse: s-maj=42.4km s-min=10.0km az=72.0*
*NEIC **16** 13:48:58.9±1.4, 31.04N×138.45E, h315km±17km, mb4.0/2, Error ellipse: s-maj=48.8km s-min=18.4km az=74.0*
*JMA **16** 13:48:58.6±0.3, 31.23N×139.11E, h350km, M3.6*
ISC 16 13:48:58.1±0.5**, 31.19N**±0.05×**139.3E**±0.1**, h344**km±5km**, n35, σ1^{s}22**/48**, mb3.5**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.96	12	P	P	13 49 51.3	+2.4
JHJ	Hachijo jima 2	1.96	12	P	P	13 49 50.0	+1.0
	16nm,0.3s,baz=190,slow=12,SNR=5.4						
JHJ				S	S	13 50 29.6	+0.9
	88nm,0.3s,baz=249,slow=21,SNR=8.0						
BSO1	Boso 1	3.72	22	P	P	13 50 05.2	+0.8
BSO1				S	S	13 50 56.6	+0.2
BSO3	Boso 3	3.74	15	P	P	13 50 05.0	+0.5
BSO3				*e*S	S	13 50 56.4	-0.3
BSO2	Boso 2	3.75	18	*e*S	S	13 50 57.9	+1.0
JWZ	Kozaga	3.84	308	P	P	13 50 03.4	-2.1
JIE	Ise	3.87	326	P	P	13 50 05.7	-0.2
BSO4	Boso 4	3.88	12	P	P	13 50 07.1	+1.1
BSO4				*e*S	S	13 51 00.0	+0.7
HMMJ	Hamamatsu 2	3.89	340	P	P	13 50 06.6	+0.5
JKN2	Miekihoku	3.98	321	P	P	13 50 06.0	-1.0
JOD2	Odawara 2	4.07	357	P	P	13 50 08.4	+0.5
JOD2				*e*S	S	13 51 04.1	+1.4
JNY	Yasuok	4.33	344	P	P	13 50 11.9	+1.2
JAO	Obara	4.41	338	P	P	13 50 12.2	+0.6
JHU	Hanno	4.65	360	P	P	13 50 13.7	-0.4
JHU				*e*S	S	13 51 12.3	-1.5
CBIJ	Chichi jima	4.79	148	P	P	13 50 14.5	-1.2
	6.7nm,0.3s,baz=230,slow=23,SNR=21						
CBIJ				S	S	13 51 14.5	-2.1
	46nm,0.3s,baz=280,slow=24,SNR=19						
CBIJ	Chichi jima	4.79	148	P	P	13 50 16.7	+1.0
JRY	Ryogami san	4.82	356	P	P	13 50 16.5	+0.5
JYT	Yasato	5.08	8	P	P	13 50 17.9	-0.9
JYT				S	S	13 51 19.3	-2.9
JAG	Ashikaga	5.22	1	P	P	13 50 19.6	-0.9
JAG				*e*S	S	13 51 22.6	-2.5
MJAR	Matsushiro Arr	5.42	351	P	P	13 50 21.9	-0.7
	2.7nm,0.3s,baz=167,slow=11,SNR=14						
MAJO	Matsushiro	5.42	351	*e*Pn	P	13 50 23.0	+0.4
	14nm,0.4s						
MAT	Matsushiro	5.42	351	P	P	13 50 22.7	0.0
MAT				*e*S	S	13 51 30.7	+1.7
MAT	Matsushiro	5.42	351	*e*P	P	13 50 23.0	+0.3
	7.3nm,0.6s						
JHO	Hitachi	5.50	11	P	P	13 50 23.1	-0.6
JHO				*e*S	S	13 51 28.1	-2.7
JFK	Kawauchi	6.29	11	P	P	13 50 32.4	-0.4
JFK				*e*S	S	13 51 44.7	-2.4
JMK	Ichinoseki	7.90	11	P	P	13 50 52.3	+0.6
JMK				*e*S	S	13 52 20.7	-0.5
ASAJ	Asahikawa	13.16	10	P	P	13 51 57.6	+2.8
	0.8nm,0.3s,baz=233,slow=11,SNR=15						
SONM	Songino Array	30.06	313	P	P	13 54 34.8	-3.4
	1.3nm,0.6s,mb3.3,baz=129,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	45.98	307	P	P	13 56 48.2	-1.2
	1.2nm,0.7s,mb3.2,baz=90,slow=10,SNR=11						
WRA	Warramunga Arr	51.06	186	P	P	13 57 28.3	0.0
	0.8nm,0.5s,mb3.2,baz=1.5,slow=7.7,SNR=17						
BVAR	Borovoye Array	53.36	315	P	P	13 57 43.9	-0.8
	2.3nm,0.5s,mb3.8,baz=93,slow=8.6,SNR=9.9						
ARCES	ARCESS Array B	68.85	340	P	P	13 59 28.8	+1.7
	0.9nm,0.5s,mb3.8,baz=67,slow=9.2,SNR=6.8						
FINES	FINESS Array B	73.17	333	P	P	13 59 54.0	+1.1
	0.6nm,0.4s,mb3.7,baz=58,slow=6.5,SNR=12						
FINES	FINESS Array B	73.17	333	P	P	13 59 54.0	+1.1
AKASG	Malin Array Be	77.85	322	P	P	14 00 20.1	+0.8
	0.9nm,0.3s,mb3.9,baz=50,slow=5.2,SNR=3.5						

*IDC **16** 14:01:56.5±0.9, 86.94N×56.74E, mb3.7/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, ML3.2/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/21, Error ellipse: s-maj=43.7km s-min=16.3km az=93.0*
*NEIC **16** 14:01:58.1±0.5, 86.90N×56.22E, h10km, mb4.1/6, Error ellipse: s-maj=23.2km s-min=8.2km az=92.0*
ISC 16 14:01:56.4±0.6**, 86.91N**±0.07×**5 6E**± **, h10**km**, n24, σ0^{s}86**/20**, mb3.9**/13**, MS3.3**/5**, North of Franz Josef Land**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	17.97	215	P	P	14 06 06.4	-1.0
	0.1nm,0.3s,baz=9.5,slow=11,SNR=3.5						
INK	Inuvik	24.91	8	P	P	14 07 19.4	-0.7
	2.0nm,0.9s,mb3.6,baz=328,slow=8.0,SNR=3.7						
INK	Inuvik	24.91	8	P	P	14 07 19.4	-0.7
FINES	FINESS Array B	26.06	213	P	P	14 07 31.3	+0.3
	1.7nm,0.8s,mb3.6,baz=30,slow=11,SNR=3.8						
FINES				LR	LR	14 17 04.1	
	comp=Z,99nm,21.1s,MS3.3,baz=342,slow=35						
HFS	Hagfors	27.80	226	LR	LR	14 18 09.3	
	comp=Z,47nm,19.3s,MS3.1,baz=47,slow=35						
ILAR	Eielson Array	28.28	20	LR	LR	14 17 42.7	
	comp=Z,51nm,21.1s,MS3.1,baz=178,slow=34						
YKA	Yellowknife Ar	30.74	351	LR	LR	14 19 11.9	
	comp=Z,78nm,19.4s,MS3.4,baz=180,slow=34						
BVAR	Borovoye Array	34.15	164	P	P	14 08 40.8	-2.3
	0.7nm,0.6s,mb3.8,baz=350,slow=8.8,SNR=4.1						
MKAR	Makanchi Array	40.63	152	P	P	14 09 39.0	+1.4
	0.4nm,0.8s,mb3.1,baz=346,slow=5.9,SNR=3.7						
MKAR	Makanchi Array	40.63	152	P	P	14 09 39.0	+1.4
ULM	Lac du Bonnet	42.70	333	P	P	14 09 54.9	+0.5
	2.9nm,0.9s,mb4.0						
ASAJ	Asahikawa	45.98	90	LR	LR	14 28 52.4	
	comp=Z,44nm,18.9s,MS3.4,baz=343,slow=35						
BRTR	Keskin Array B	47.59	203	P	P	14 10 35.1	+1.5
	0.4nm,0.5s,mb3.7,baz=34,slow=5.2,SNR=3.9						
BOZ	Bozeman (W)	47.59	348	*e*P	P	14 10 34.1	+0.6
	1.9nm,1.2s,mb4.0						
MCMT	McKenzie Canyo	48.42	349	*e*P	P	14 10 40.8	+0.7
BW06	Boulder Array	50.45	346	*e*P	P	14 10 55.9	+0.3
	2.0nm,1.0s,mb4.1						
PDAR	Pinedale Array	50.45	346	P	P	14 10 55.9	+0.3
	1.4nm,0.9s,mb4.0,baz=14,slow=6.1,SNR=9.7						
HWUT	Hardware Ranch	51.63	348	*e*P	P	14 11 04.6	0.0
	7.3nm,1.4s,mb4.4						
NVAR	Mina Array Bea	54.86	354	P	P	14 11 27.9	-0.7
	baz=20,slow=4.6,SNR=5.2						
PV01	Paradox Valley	55.06	345	*e*P	P	14 11 30.1	+0.1
ANMO	Albuquerque	58.20	343	*e*P	P	14 11 52.1	-0.4
	2.5nm,0.8s,mb4.3						
WMOK	Wichita Mounta	58.27	335	*e*P	P	14 11 52.6	-0.3
	1.1nm,0.5s,mb4.1						
TXAR	Lajitas Array	63.76	340	P	P	14 12 29.3	-0.8
	1.0nm,0.6s,mb4.0,baz=34,slow=4.5,SNR=5.0						
TXAR	Lajitas Array	63.76	340	P	P	14 12 29.3	-0.8

*MOS **16** 14:12:19.3±0.9, 1.68N×124.38E, h143km, mb4.9/27, Error ellipse: s-maj=12.7km s-min=6.7km az=112.8*
*IDC **16** 14:12:25.7±1.6, 1.64N×124.49E, h186km±14km, mb4.5/23, mb1 4.6/24, mb1mx4.6/25, mbtmp5.0/24, Error ellipse: s-maj=14.8km s-min=8.7km az=75.0*
*BJI **16** 14:12:30.6, 1.60N×124.74E, h255km, mB4.4, mb4.8*
*NEIC **16** 14:12:32.4±1.1, 1.64N×124.58E, h251km±10km, mb4.7/37, Error ellipse: s-maj=7.7km s-min=4.9km az=60.0*
ISC 16 14:12:30.8±1.2**, 1.61N**±0.04×**124.60E**±0.05**, h252**km±11km**, h230**km±5.2km**:pP-P, n167, σ1^{s}04**/156**, mb4.7**/84**, 6C-13D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	9.46	298	Pn	P	14 14 43.6	+0.3
KSM	Kuching	14.29	270	*e*Pn	P	14 15 44.6	+0.8
KAKA	Kakadu	16.21	152	⇓*i*P	P	14 16 21.1	+15
	196nm,0.6s						
KAKA				*e*S	S	14 19 38.0	+39
FITZ	Fitzroy Crossi	19.61	177	⇑*i*P	P	14 16 39.4	-2.5
	39nm,0.4s						
FITZ				*i* S	S	14 20 06.7	+2.2
FITZ	Fitzroy Crossi	19.61	177	P	P	14 16 39.5	-2.4
	19nm,0.3s,baz=8.4,slow=8.5,SNR=105						
FITZ				S	S	14 20 04.6	+0.1
	0.6nm,0.3s,baz=166,slow=12,SNR=9.2						
FITZ				ScP		14 24 10.4	
	0.6nm,0.3s,baz=352,slow=4.1,SNR=5.0						
KGM	Kluang	21.28	271	P	P	14 16 59.2	+0.8
YHNB	Yeheng	23.14	353	*e*P	P	14 17 17.2	+0.9
GUMO	Guam	23.32	58	P	P	14 17 17.6	-0.4
	14nm,0.3s,mb4.9,baz=206,slow=20,SNR=5.3						
WRAB	Tennant Creek	23.45	156	*e*P	P	14 17 18.4	-0.8
	120nm,2.0s,mb5.1						
WRAB	Tennant Creek	23.45	156	⇓*i*P	P	14 17 17.8	-1.4
WRA	Warramunga Arr	23.45	156	P	P	14 17 18.0	-1.3
	82nm,0.5s,mb5.6,baz=329,slow=11,SNR=424						
WRA				S	S	14 21 10.5	-0.9
	9.7nm,0.7s,baz=333,slow=17,SNR=9.5						
WRA				ScP		14 24 19.5	
	3.9nm,0.6s,baz=339,slow=2.9,SNR=15						
IPM	Ipoh	23.72	278	P	P	14 17 22.1	+0.2
KULM	Kulim	24.18	279	*e*P	P	14 17 26.3	+0.2
PMG	Port Moresby	24.99	116	P	P	14 17 33.2	-0.4
	84nm,1.0s,mb5.3,baz=289,slow=6.4,SNR=22						
PMG	Port Moresby	24.99	116	*e*P	P	14 17 33.6	0.0
	69nm,0.9s,mb5.3						
PMG	Port Moresby	24.99	116	*e*P	P	14 17 33.6	0.0

PMG pmax pmax
comp=Z,69nm,0.9s
ASPA Alice Springs 26.70 161⇑*i*P **P** **14 17 48.1 -1.0**
ASPA *i* S **S** **14 22 07.6 +3.2**
NANT Nan 29.00 308 ⇓P **P** **14 18 10.5 +0.8**
comp=Z,150nm,0.6s
SSE Sheshan 29.50 354 P **P** **14 18 11.8 -2.3**
SSE AMB AMB
comp=Z,28nm,0.6s,mb5.1
GYA Guiyang 30.13 327 P **P** **14 18 19.9 +0.3**
GYA PCP PcP 14 21 16.3 +1.9
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CTA Charters Tower 30.26 137 *e*P **P** **14 18 20.9 +0.1**
comp=Z,8.8nm,1.3s,mb4.2
CTA Charters Tower 30.26 137 *e*P **P** **14 18 20.9 +0.1**
CTA pmax pmax
comp=Z,9.0nm,1.3s
CTAO Charters Tower 30.26 137 *e*P **P** **14 18 20.8 0.0**
comp=Z,40nm,1.4s,mb4.9
CTAO Charters Tower 30.26 137 *e*P **P** **14 18 20.8 0.0**
CTAO pmax pmax
comp=Z,40nm,1.4s,mb4.9
CHG Chiang Mai 30.41 306 P **P** **14 18 22.1 0.0**
comp=Z,17nm,0.7s,mb4.8
CBIJ Chichi jima 30.44 32 P **P** **14 18 21.0 -1.3**
comp=Z,55nm,0.4s,mb5.5,baz=297,slow=1.3,SNR=16
NJ2 Nanjing 30.76 350 *e*P **P** **14 18 21.8 -3.3**
NJ2 S **S** **14 23 15.0 +6.5**
NJ2 AMB AMB
comp=Z,270nm,10.0s
NJ2 LR LR
comp=N,440nm,30.0s
NJ2 LR LR
comp=E,350nm,35.0s
NJ2 LR LR
comp=Z,450nm,28.8s
KMI Kunming 31.49 320 P **P** **14 18 33.3 +1.9**
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb4.6
ENH Enshi 31.91 335 *e*P **P** **14 18 35.2 +0.1**
comp=Z,44nm,0.8s,mb5.0
FORT Forrest 32.37 174⇓*i*P **P** **14 18 38.4 -0.6**
comp=Z,50nm,0.5s,mb5.3
KLBR Kellerberrin 33.65 191⇓*i*P **P** **14 18 49.3 -0.6**
comp=Z,16nm,1.2s,mb4.4
CD2 Chengdu 35.20 328 P **P** **14 19 03.8 +0.8**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.7
XAN Xi'an 35.44 337 P **P** **14 19 03.9 -1.1**
XAN AMB AMB
comp=Z,44nm,0.8s,mb5.0
HNR Honiara 36.87 108 P **P** **14 19 16.7 -0.6**
comp=Z,35nm,0.5s,mb5.2,baz=216,slow=1.8,SNR=3.6
HNR Honiara 36.87 108 *e*P **P** **14 19 17.6 +0.3**
comp=Z,64nm,1.0s,mb5.1
HNR Honiara 36.87 108 *e*P **P** **14 19 17.6 +0.4**
HNR pmax pmax
comp=Z,64nm,1.0s,mb5.1
MAJO Matsushiro 36.97 18 *e*P **P** **14 19 17.3 -0.5**
comp=Z,34nm,0.8s,mb4.9
MAJO Matsushiro 36.97 18 *e*P **P** **14 19 17.3 -0.5**
MAJO pmax pmax
comp=Z,34nm,0.8s,mb4.9
MAT Matsushiro 36.97 18 P **P** **14 19 17.1 -0.7**
MAT Matsushiro 36.97 18 *e*P **P** **14 19 17.0 -0.8**
comp=Z,24nm,0.7s,mb4.8
MAT Matsushiro 36.97 18 *e*P **P** **14 19 17.0 -0.8**
MAT pmax pmax
comp=Z,24nm,0.7s,mb4.8
MJAR Matsushiro Arr 36.97 18 P **P** **14 19 17.4 -0.4**
comp=Z,28nm,0.6s,mb4.9,baz=193,slow=9.1,SNR=71
MJAR ScP 14 25 03.1
comp=Z,0.5nm,0.3s,baz=180,slow=2.5,SNR=4.2
STKA Stephens Creek 37.00 156⇑*i*P **P** **14 19 18.2 +0.1**
comp=Z,35nm,0.9s,mb4.9
STKA Stephens Creek 37.00 156 P **P** **14 19 18.3 +0.2**
comp=Z,23nm,0.3s,mb5.1,baz=327,slow=8.7,SNR=41
LZH Lanzhou 39.33 333 *e*P **P** **14 19 39.1 +1.7**
LZH PCP PcP 14 21 43.4 +2.3
LZH AMB AMB
comp=Z,65nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,260nm,5.5s
SHL Shillong 39.51 310 *e*P **P** **14 19 39.0 +0.2**
SHL AMb AMB 14 19 40.8
comp=Z,343nm,1.1s,mb5.7
SNY Shenyang 40.05 359⇑P **P** **14 19 44.8 +1.6**
SNY AMB AMB
comp=Z,30nm,0.5s,mb5.0
HHC Hu-ho-hao-te 40.81 345 *e*P **P** **14 19 50.4 +1.0**
HHC AP pP 14 20 43.3 +1.5
HHC PP PP 14 21 31.5 +1.9
HHC PCP PcP 14 21 45.4 -0.4
HHC S **S** **14 25 42.3 +1.2**
HHC SS SS 14 28 50.3 +3.4
HHC SCS ScS 14 29 24.6 +0.4
HHC AMB AMB
comp=Z,18nm,0.5s,mb4.8
HHC AMB AMB
comp=Z,80nm,4.5s
HHC LR LR
comp=N,94nm,15.5s
HHC LR LR
comp=E,342nm,16.6s
HHC LR LR
comp=Z,76nm,14.3s
LSA Lhasa 42.32 315 *e*P **P** **14 20 03.2 +1.3**
comp=Z,12nm,0.7s,mb4.4
LSA *e*PcP PcP 14 21 52.8 +1.8
LSA Lhasa 42.32 315 *e*P **P** **14 20 03.2 +1.3**
LSA *e* 14 21 52.8
LSA pmax pmax
comp=Z,12nm,0.7s,mb4.4
MDJ Mudanjiang 43.05 5 P **P** **14 20 08.8 +1.2**
MDJ AP pP 14 20 56.4 -4.0
MDJ AMB AMB
comp=Z,34nm,0.7s,mb4.9
MDJ AMB AMB
comp=Z,73nm,4.3s
MDJ LR LR
comp=N,37nm,30.8s
MDJ LR LR
comp=E,36nm,30.8s
MDJ LR LR
comp=Z,20nm,23.8s
MDJ Mudanjiang 43.05 5 *e*P **P** **14 20 08.6 +1.0**
comp=Z,14nm,0.6s,mb4.6
CNB Canberra Magne 43.42 150⇓*i*P **P** **14 20 12.3 +1.6**
comp=Z,30nm,1.0s,mb4.7
TOO Toolangi 43.52 156 *e*P **P** **14 20 13.1 +1.7**
comp=Z,25nm,0.9s,mb4.5
TOO Toolangi 43.52 156 *e*P **P** **14 20 13.1 +1.7**
TOO pmax pmax
comp=Z,25nm,0.9s,mb4.5
VIS Vishakhapatnam 43.57 294 *e*P **P** **14 20 11.0 -1.0**
VIS AMb AMB 14 20 14.4
comp=Z,40nm,0.8s,mb4.8
GTA Gaotai 43.89 332 *e*P **P** **14 20 14.5 +0.2**
GTA PCP PcP 14 21 57.8 +1.6
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb3.8
ASAJ Asahikawa 45.24 18 P **P** **14 20 26.3 +1.4**
comp=Z,17nm,0.7s,mb4.5,baz=232,slow=11,SNR=29
PKI Pulchoki 45.53 308 *e*P **P** **14 20 27.6 +0.2**
comp=Z,20nm,0.6s,mb4.6
PKI Pulchoki 45.53 308 *e*P **P** **14 20 27.6 +0.2**
PKI pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
KKN Kakani 45.73 308 *e*P **P** **14 20 29.1 +0.1**
comp=Z,48nm,0.9s,mb4.8
KKN Kakani 45.73 308 *e*P **P** **14 20 29.1 +0.1**
KKN pmax pmax
comp=Z,24nm,0.9s,mb4.5
DMN Daman 45.78 308 *e*P **P** **14 20 29.1 -0.3**
comp=Z,52nm,0.9s,mb4.9
GKN Gorkha 46.33 308 *e*P **P** **14 20 33.6 -0.1**
comp=Z,57nm,1.0s,mb4.9
KOLN Koldanda 47.05 307 *e*P **P** **14 20 39.5 +0.3**
comp=Z,103nm,0.9s,mb5.1
HIA Hailar 47.66 356 *e*P **P** **14 20 45.4 +1.7**
comp=Z,5.8nm,0.3s,mb4.4
HIA Hailar 47.66 356 *e*P **P** **14 20 45.4 +1.7**
HIA pmax pmax
comp=Z,6.0nm,0.3s
KLR Kul'dur 47.84 6 *e*P **P** **14 20 42.2 -2.9**

YSS Yuzh-Sakhalins 47.86 17 *e*P **P** **14 20 45.4 +0.2**
comp=Z,11nm,0.6s,mb4.4
YSS Yuzh-Sakhalins 47.86 17 *e*P **P** **14 20 45.4 +0.2**
YSS pmax pmax
comp=Z,11nm,0.6s,mb4.4
HYB Hyderabad 47.88 292 *i* P **P** **14 20 45.5 -0.3**
HYB *e*pP pP 14 21 34.5 -5.3
HYB Hyderabad 47.88 292 *e*P **P** **14 20 45.5 -0.3**
NGP Nagpur 48.44 297 *e*P **P** **14 20 50.1 +0.1**
NGP AMb AMB 14 20 51.4
comp=Z,80nm,0.5s,mb5.3
SONM Songino Array 48.67 344 P **P** **14 20 51.0 -0.4**
comp=Z,7.2nm,0.7s,mb4.1,baz=159,slow=9.0,SNR=19
SONM PcP PcP 14 22 13.8 +0.7
comp=Z,3.0nm,0.7s,baz=166,slow=4.8,SNR=4.5
SONM ScP 14 25 49.6
comp=Z,1.8nm,0.7s,slow=3.0,SNR=4.7
BHPL Bhopal 50.51 299 *e*P **P** **14 21 05.2 -0.5**
BHPL AMb AMB 14 21 07.0
comp=Z,76nm,0.5s,mb5.4
CIT Chita 51.09 351 *e*P **P** **14 21 11.7 +2.2**
CIT *e* 14 22 23.7
ZAK Zakamensk 51.86 343 *e*P **P** **14 21 15.0 -0.3**
ZAK *e* 14 22 25.2
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb3.9
KAD Karad 51.92 291 *e*P **P** **14 21 14.3 -1.9**
KAD AMb AMB 14 21 25.4
comp=Z,70nm,2.4s,mb4.7
POO Poona 52.49 292 *e*P **P** **14 21 18.0 -2.3**
NDI New Delhi 52.56 305 *e*P **P** **14 21 18.8 -1.9**
NDI AMb AMB 14 21 20.9
comp=Z,32nm,1.6s,mb4.5
WMQ Urumqi 53.29 327 P **P** **14 21 26.5 +0.7**
WMQ AMB AMB
comp=Z,22nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,79nm,3.7s
WMQ LR LR
comp=N,70nm,17.2s
WMQ LR LR
comp=E,74nm,20.6s
WMQ LR LR
comp=Z,60nm,19.3s
MOY Mondy 53.68 342 *e*P **P** **14 21 30.5 +1.9**
BOD Bodaibo 56.67 353 *e*P **P** **14 21 49.4 -0.4**
BOD *e* pP 14 22 41.9 -4.1
BOD pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
MKAR Makanchi Array 58.12 327 P **P** **14 21 59.6 -0.6**
comp=Z,12nm,0.5s,mb4.8,baz=123,slow=7.4,SNR=152
MKAR PcP PcP 14 22 49.3 +0.4
comp=Z,12nm,0.6s,baz=122,slow=4.9,SNR=17
MKAR ScP 14 26 29.6
comp=Z,1.3nm,0.8s,baz=133,slow=4.9,SNR=4.2
PET Petropavlovsk 58.50 23 *e*P **P** **14 22 03.0 +0.3**
comp=Z,16nm,0.9s,mb4.7
PET Petropavlovsk 58.50 23⇓*i*P **P** **14 22 02.9 +0.2**
ULHL Ulahol 59.21 320 P **P** **14 22 08.9 +1.2**
SNR=6.8
TKM2 Tokmak 2 59.96 320 P **P** **14 22 13.0 +0.2**
SNR=19
KBK Karagaybulak 60.25 320 P **P** **14 22 15.5 +0.8**
SNR=7.1
UCH Uchtor 60.33 319 P **P** **14 22 16.6 +1.3**
SNR=9.8
YAK Yakutsk 60.40 3 *e*P **P** **14 22 15.7 +0.2**
comp=Z,192nm,0.8s
YAK Yakutsk 60.40 3*d i*P **P** **14 22 15.8 +0.3**
YAK pmax pmax
comp=Z,163nm,0.7s
AAK Ala-Archa 60.53 319 P **P** **14 22 18.0 +1.3**
SNR=9.1
AAK Ala-Archa 60.53 319 *e*P **P** **14 22 16.1 -0.5**
comp=Z,6.4nm,0.6s,mb4.4
AAK *e*PcP PcP 14 22 58.1 -0.5
AAK Ala-Archa 60.53 319⇓*i*P **P** **14 22 15.8 -0.9**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
AML Almayashu 60.82 319 P **P** **14 22 19.3 +0.7**
SNR=27
USP Ospenovka 60.83 320 P **P** **14 22 18.5 -0.2**
SNR=18
EKS2 Erkin-Say 61.01 319 P **P** **14 22 20.7 +0.8**
SNR=16
ZAL Zalesovo 61.54 334 P **P** **14 22 21.9 -1.4**
comp=Z,5.9nm,0.5s,mb4.5,baz=352,slow=4.8,SNR=20
ZAL PcP PcP 14 23 01.4 -1.1
comp=Z,1.7nm,0.4s,baz=13,slow=4.8,SNR=3.3
KURK Kurchatov 62.41 329 *e*P **P** **14 22 28.0 -1.0**
comp=Z,28nm,0.6s,mb5.1
KURK Kurchatov 62.41 329 *e*P **P** **14 22 28.0 -1.0**
KURK pmax pmax
comp=Z,28nm,0.6s,mb5.1
NVS Novosibirsk 62.83 335 *e*P **P** **14 22 29.3 -2.4**
NVS pmax pmax
comp=N,8.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.5s
NVS pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
KKAR Karatay Array 63.36 318 *i* P **P** **14 22 35.1 -0.2**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
SEY Seymchan 64.57 14⇑*i*P **P** **14 22 44.0 +1.2**
VOSK Vostochnaya 67.50 328 P **P** **14 23 00.3 -1.2**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BVA0 Borovoye Array 67.96 328 *i* P **P** **14 23 03.2 -1.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 67.96 328 P **P** **14 23 03.2 -1.1**
comp=Z,5.9nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=36
BRVK Borovoye 68.03 328 *e*P **P** **14 23 03.8 -0.9**
comp=Z,8.8nm,0.9s,mb4.4
BRVK Borovoye 68.03 328 *e*P **P** **14 23 03.8 -1.0**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
CASY Casey 68.48 186 *e*P **P** **14 23 08.7 +1.3**
comp=Z,18nm,0.6s,mb4.9
TIXI Tiksi 69.99 1*d i*P **P** **14 23 16.1 -0.3**
TIXI pmax pmax
comp=Z,43nm,1.2s,mb5.0
AB31 Akbulak array 72.46 322 *i* P **P** **14 23 30.9 -0.7**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
AKTO Aktyubinsk 74.01 322 P **P** **14 23 40.2 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
SVE Sverdlovsk 74.66 329 *e*P **P** **14 23 44.0 -0.2**
SVE *e* 14 24 36.0
ARU Arti 75.60 328 *e*P **P** **14 23 48.7 -0.8**
comp=Z,10nm,0.8s,mb4.5
ARU Arti 75.60 328⇓*i*P **P** **14 23 48.3 -1.2**
ARU *e* 14 26 40.7
ARU *e*S S 14 33 13.8 +5.7
ARU *e*SS SS 14 38 11.2 +3.4
ARU pmax pmax
comp=Z,12nm,0.8s,mb4.6
UNV Unalaska Valle 76.37 35 *e*P **P** **14 23 55.0 +1.2**
comp=Z,34nm,0.6s,mb5.2
MAW Mawson 81.04 200 P **P** **14 24 20.1 +1.5**
comp=Z,4.3nm,0.6s,mb4.2,baz=90,slow=8.7,SNR=23
VNDA Vanda 81.61 172 P **P** **14 24 22.9 +1.4**
comp=Z,1.2nm,0.5s,mb3.8,baz=318,slow=5.7,SNR=19
VNDA Vanda 81.61 172 *e*P **P** **14 24 22.6 +1.2**
comp=Z,2.0nm,0.9s,mb3.8
VNDA Vanda 81.61 172 *e*P **P** **14 24 22.6 +1.1**
VNDA pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 83.06 314⇓*i*P **P** **14 24 29.7 +0.2**
KIV pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
VRHR Novokhopersk 84.34 321 *e*P **P** **14 24 35.5 -0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.8s
VORD Divnogorie 85.80 321 *e*P **P** **14 24 42.9 -0.1**
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s,mb5.0
VRSR Storozhevoye 85.87 321 *e*P **P** **14 24 43.4 0.0**
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,20nm,1.4s
VRSR pmax pmax
comp=E,10.0nm,0.6s
ANN Anapa 86.86 315 *e*P **P** **14 24 47.3 -1.0**
ANN *i* *PP pP 14 25 34.8 -14
ANN *e* 14 34 54.3
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.0
MCK McKinley 87.00 26 *e*P **P** **14 24 50.0 +1.5**
comp=Z,2.4nm,0.8s,mb4.0
MCK McKinley 87.00 26 *e*P **P** **14 24 50.0 +1.5**
MCK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KMBO Kilima Mbogo 87.38 269 P **P** **14 24 53.2 +1.7**
comp=Z,7.9nm,0.8s,mb4.5,baz=56,slow=7.8,SNR=22
OBN Obninsk 87.56 325*d i*P **P** **14 24 51.1 -0.2**
OBN *e* 14 25 46.3
OBN pmax pmax
comp=Z,16nm,0.7s,mb5.0
ILAR Eielson Array 87.92 25 P **P** **14 24 53.1 +0.4**
comp=Z,1.1nm,0.5s,mb3.9,baz=246,slow=4.6,SNR=22
BRTR Keskin Array B 89.73 310 P **P** **14 25 01.8 -0.1**
comp=Z,1.4nm,0.8s,mb3.8,baz=108,slow=3.9,SNR=5.9
JOF Joensuu 90.08 333 *e*p **P** **14 25 02.4 -0.6**
comp=Z,16nm,0.6s,mb5.0
KEV Kevo 91.14 340 *e*p **P** **14 25 06.4 -1.3**
comp=Z,6.5nm,0.8s,mb4.6
KEV Kevo 91.14 340 *e*P **P** **14 25 06.4 -1.3**
KEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ARCES ARCESS Array B 91.69 340 P **P** **14 25 10.4 +0.1**
comp=Z,5.0nm,0.5s,mb4.7,baz=83,slow=5.5,SNR=52
AKASG Malin Array Be 92.18 321 P **P** **14 25 12.4 -0.6**
comp=Z,1.2nm,0.5s,mb4.1,baz=70,slow=4.5,SNR=6.2
KAF Kangasniemi 92.48 332 *e*p **P** **14 25 13.3 -0.8**
comp=Z,5.9nm,0.6s,mb4.7,baz=77,slow=4.2
KAF Kangasniemi 92.48 332 *e*P **P** **14 25 13.3 -0.8**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
FINES FINESS Array B 92.68 332 P **P** **14 25 14.7 -0.4**
comp=Z,4.1nm,0.7s,mb4.6,baz=90,slow=5.7,SNR=14
INK Inuvik 92.90 21 P **P** **14 25 16.9 +1.0**
comp=Z,4.8nm,1.1s,mb4.4,baz=257,slow=8.5,SNR=3.7
INK Inuvik 92.90 21 *e*P **P** **14 25 17.1 +1.2**
comp=Z,7.7nm,1.2s,mb4.6
INK Inuvik 92.90 21 *e*P **P** **14 25 17.1 +1.1**
INK pmax pmax
comp=Z,8.0nm,1.2s
LSZ Lusaka 96.61 255 *e*P **P** **14 25 34.5 +0.5**
comp=Z,11nm,0.8s,mb5.1
LSZ Lusaka 96.61 255 *e*P **P** **14 25 34.5 +0.5**
LSZ pmax pmax
comp=Z,11nm,0.8s,mb5.1
HFS Hagfors 98.88 332 P **P** **14 25 41.9 -1.5**
comp=Z,1.8nm,0.5s,mb4.6,baz=109,slow=4.5,SNR=11
NB2 NORSAR Subarra 99.72 333 P **P** **14 25 46.1 -1.0**
comp=Z,3.1nm,0.8s,mb4.8,baz=70,slow=4.5
NB2 NORSAR Subarra 99.72 333 P **P** **14 25 46.1 -1.0**
baz=70,slow=4.6
NB2 NORSAR Subarra 99.72 333 P **P** **14 25 46.1 -1.0**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
NOA NORSAR Array B 99.72 333 P **P** **14 25 46.5 -0.6**
comp=Z,2.4nm,0.8s,mb4.7,baz=70,slow=4.6,SNR=5.8
PDAR Pinedale Array 114.34 41 PKP PKPdf 14 30 44.6 +3.9
comp=Z,0.3nm,0.4s,baz=89,slow=2.4,SNR=4.5
ANMO Albuquerque 120.01 48⇑*i*PKIKP PKPdf 14 30 57.2 +5.4
MNTX Cornudas Mount 122.23 51 *e*PKPdf PKPdf 14 30 58.6 +2.4
SCHQ Schefferville 122.97 8 PKP PKPdf 14 31 00.1 +3.1
comp=Z,5.3nm,0.4s,baz=314,slow=3.4,SNR=17
KSU1 Kansas State U 124.58 39 *e*PKPdf PKPdf 14 31 02.6 +1.9
WMOK Wichita Mounta 125.63 44 *e*PKPdf PKPdf 14 31 03.6 +0.8
KIC Kosan Boka 128.81 279 *e*PKIKP PKPdf 14 31 12.3 +2.8
comp=Z,38nm,0.8s
DBIC Dimbokro 128.89 280 PKP PKPdf 14 31 12.7 +3.1
comp=Z,4.3nm,0.6s,baz=86,slow=1.9,SNR=9.0
TIC Toumodi 129.05 280 *e*PKIKP PKPdf 14 31 12.3 +2.4
comp=Z,8.5nm,0.2s
LIC Lamto 129.11 279 *e*PKIKP PKPdf 14 31 12.1 +2.0
comp=Z,21nm,0.5s
WVT Waverly 131.81 36 *e*PKPdf PKPdf 14 31 16.4 +1.8
PLCA Paso Flores 138.71 162 PKP PKPdf 14 31 31.2 +4.1
comp=Z,1.4nm,0.7s,baz=199,slow=4.0,SNR=5.2
PLCA Paso Flores 138.71 162 *e*PKIKP PKPdf 14 31 29.4 +2.3
TRQA Tornquist 143.23 171 *e*PKPdf PKPdf 14 31 37.7 +2.5
LPAZ La Paz 160.76 140 PKP PKPdf 14 32 06.9 +5.8
comp=Z,2.0nm,0.9s,baz=25,slow=15,SNR=5.4
LPAZ La Paz 160.76 140 *e*PKIKP PKPdf 14 32 03.7 +2.6
BDFB Brasilia 164.27 207 PKP PKPdf 14 32 09.2 +4.6
comp=Z,2.3nm,0.5s,baz=104,slow=6.8,SNR=3.3

IDC ***16*** *14:47:07.3±3.1,3.38S×153.86E,h91km±26km,mb3.8/4, mb1 4.1/5,mb1mx3.7/14,mbtmp4.2/5,MS3.1/1,Ms1 3.1/1, ms1mx2.8/16,Error ellipse: s-maj=38.1km s-min=24.5km az=119.0*

NEIC ***16*** *14:47:21.6±7.2,4.42S×153.37E,h134km±43km,mb4.0/2, Error ellipse: s-maj=70.8km s-min=30.0km az=50.0*

ISC 16 14:47:05.1±3.4,4.0S±0.2×154.3E±0.3,h60km±23km,n11, σ0§63/13,mb4.1/6,2D,North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.88**	**232**	P	**P**	**P**	**14 49 12.9**	**-0.1**
	11nm,0.3s,baz=33,slow=7.4,SNR=44							
PMG				S	**S**	**S**	**14 50 43.4**	**-9.2**
	3.4nm,0.3s,baz=123,slow=19,SNR=15							
PMG	**Port Moresby**	**8.88**	**232**	*e*Pn	**P**	**P**	**14 49 13.9**	**+0.8**
	51nm,0.6s							
PMG				*e*Sn	**S**	**S**	**14 50 43.6**	**-9.0**
CTA	**Charters Tower**	**17.82**	**205**	LR	LR	LR	14 57 18.3	
	comp=Z,66nm,19.8s,baz=234,slow=34							
KAKA	**Kakadu**	**23.25**	**247**⇓	*i*P	**P**	**P**	**14 52 26.7**	**+19**
	11nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**25.08**	**229**	P	**P**	**P**	**14 52 25.6**	**-0.1**
	6.8nm,0.7s,mb4.3,baz=53,slow=9.6,SNR=50							
WRA				S	**S**	**S**	**14 56 43.6**	**+0.4**
	2.2nm,1.2s,baz=46,slow=17,SNR=5.1							
STKA	**Stephens Creek**	**30.20**	**202**	P	**P**	**P**	**14 53 12.1**	**0.0**
	3.0nm,0.7s,mb4.1,baz=27,slow=14,SNR=6.8							
FITZ	**Fitzroy Crossi**	**31.33**	**241**⇓	*i*P	**P**	**P**	**14 53 21.0**	**-1.2**
	4.6nm,0.5s,mb4.6							
KULM	**Kulim**	**54.33**	**279**	*e*P	**P**	**P**	**14 56 28.7**	**+0.5**
VNDA	**Vanda**	**73.61**	**178**	P	**P**	**P**	**14 58 33.8**	**+0.5**
	0.7nm,0.7s,mb3.7,baz=340,slow=7.3,SNR=3.1							
VNDA	**Vanda**	**73.61**	**178**	*e*P	**P**	**P**	**14 58 37.7**	**+4.4**
	0.8nm,0.7s,mb3.8							
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**P**	**14 59 06.3**	**-6.8**
	0.5nm,0.6s,mb3.6,baz=100,slow=4.6,SNR=5.8							

BJI ***16*** *15:09:42.3,39.10N×119.60W,h10km,mB4.8,mb4.5, Ms4.3,Msz4.0*

NEIC ***16*** *15:09:44.4,39.07N×119.62W,h11km,ML4.2(REN), MW4.2(BRK),MW4.0(SLM),After REN.*

NEIC Felt [IV] at Carson City; [III] at Gardnerville, Glenbrook, Incline Village, Minden and Yerington; [II] at Reno. Also felt [III] at Pioneer, South Lake Tahoe and Truckee; [II] at Arnold, Placerville and Pollock Pines, California.

IDC ***16*** *15:09:44.3±0.8,39.08N×119.62W,mb3.9/6,mb1 4.1/11, mb1mx3.9/28,mbtmp3.9/11,ML4.0/5,MS3.4/5,Ms1 3.3/5, ms1mx3.1/34,Error ellipse: s-maj=10.8km s-min=5.1km az=41.0*

ISC 16 15:09:44.0±0.3,39.02N±0.04×119.58W±0.04,h11km,n45, σ1§19/46,mb4.2/6,MS3.5/3,Nevada

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**0.70**	**13**	*e*Pn	**Pn**	**Pn**	**15 09 56.8**	**-2.8**
NVAR	**Mina Array Bea**	**1.16**	**120**	Pg	**Pg**	**Pg**	**15 10 06.9**	**-0.3**
	1µm,0.3s,baz=293,slow=17,SNR=819							
NVAR				Lg			15 10 24.0	
	3µm,0.3s,baz=204,slow=7.7,SNR=27							
CMB	**Columbia Colle**	**1.17**	**213**	*e*Pg	**Pg**	**Pg**	**15 10 06.2**	**-1.3**
MNV	**Mina**	**1.26**	**117**	*e*Pg	**Pg**	**Pg**	**15 10 08.4**	**-0.9**
OHCM	**Honcut**	**1.51**	**282**	*e*Pg	**Pg**	**Pg**	**15 10 10.3**	**-3.9**
MTUM	**Tungsten Hills**	**1.85**	**154**	*e*Pg	**Pg**	**Pg**	**15 10 17.5**	**-3.5**

TPH Tonopah 2.08 116 ePn Pn 15 10 19.9 +0.6
BMN Battle Mountai 2.30 52 ePn Pn 15 10 21.2 -1.2
NSHM Saint Helena R 2.42 259 ePn Pn 15 10 24.9 +0.7
SAO San Andreas Ge 2.70 214 ePn Pn 15 10 28.7 +0.6
HOPS Hopland 2.72 270 ePn Pn 15 10 28.1 -0.4
WDC Whiskeytown Da 2.76 305 ePn Pn 15 10 28.2 -0.8
LRV Little Rabbit 2.83 204 ePn Pn 15 10 31.6 +1.5
MOD Modoc 2.93 349 ePn Pn 15 10 35.7 +4.3
DAC Darwin (Calif) 3.16 149 ePn Pn 15 10 35.6 +0.8
KCPM Cahto Peak 3.17 283 ePn Pn 15 10 37.6 +2.7
WVOR Wild Horse Val 3.48 12 ePn Pn 15 10 40.7 +1.4
YBH Yreka Blue Hor 3.61 320 Pn Pn 15 10 41.8 +0.7
1.5nm,0.3s,baz=156,slow=8.0,SNR=11
YBH Lg 15 11 35.7
2.5nm,0.3s,baz=193,slow=14,SNR=2.7
YBH LR LR 15 12 18.2
comp=Z,407nm,18.9s,baz=136,slow=43
YBH Yreka Blue Hor 3.61 320 ePn Pn 15 10 39.8 -1.3
KHMM Horse Mountain 3.69 301 ePn Pn 15 10 41.0 -1.2
ELK Elko 3.76 61 Pn Pn 15 10 42.2 -1.0
18nm,0.3s,baz=259,slow=14,SNR=69
ELK Pg Pg 15 10 52.6 -6.3
54nm,0.3s,baz=269,slow=14,SNR=19
ELK Sn Sn 15 11 27.9 0.0
23nm,0.3s,baz=35,slow=22,SNR=5.9
ELK Lg 15 11 42.0
55nm,0.3s,baz=351,slow=17,SNR=16
ELK Elko 3.76 61 ePn Pn 15 10 42.0 -1.2
GSC Goldstone 4.33 148 ePn Pn 15 10 50.1 -1.2
HUMO Hull Mountain 4.40 325 ePn Pn 15 10 53.8 +1.4
KBO Bosley Butte 4.76 313 ePn Pn 15 11 03.0 +5.6
ARUT Antelope Range 4.98 102 ePn Pn 15 11 00.6 +0.1
MSU Marysvale 5.81 93 eP Pn 15 11 12.6 +0.3
HLID Hailey 5.97 39 ePn Pn 15 11 17.7 +3.1
MPU Maple Canyon 6.22 78 eP Pn 15 11 18.3 +0.2
HWUT Hardware Ranch 6.65 65 ePn Pn 15 11 24.6 +0.5
SRU San Rafael 7.05 86 ePn Pn 15 11 31.1 +1.3
FLWY Flagg Ranch 8.36 50 ePn P 15 11 48.9 +0.9
PDAR Pinedale Array 8.46 61 Pn P 15 11 49.5 +0.1
0.4nm,0.3s,baz=249,slow=13,SNR=14
PDAR Lg 15 14 08.2
0.2nm,0.3s,baz=234,slow=26,SNR=3.4
NEW Newport 9.41 10 Pn P 15 12 03.6 +1.1
0.2nm,0.3s,baz=169,slow=18,SNR=1.5
NEW LR LR 15 16 10.1
comp=Z,155nm,19.0s,baz=205,slow=41
PHWY Pilot Hill 11.05 74 ePn P 15 12 24.1 -1.0
ANMO Albuquerque 11.25 107 Lg 15 15 41.4
baz=210,slow=21,SNR=3.6
ANMO LR LR 15 17 24.2
comp=Z,129nm,19.4s,baz=257,slow=41
TXAR Lajitas Array 16.31 122 Pn P 15 13 37.1 +2.4
0.2nm,0.3s,baz=304,slow=13,SNR=2.8
ULM Lac du Bonnet 20.17 48 P P 15 14 19.1 -2.0
6.6nm,0.8s,baz=232,slow=8.9,SNR=3.7
ULM LR LR 15 22 38.5
comp=Z,85nm,18.2s,MS3.1,baz=341,slow=38
DLBC Dease Lake 20.57 344 P P 15 14 24.5 -0.7
1.0nm,0.7s,baz=184,slow=19,SNR=2.3
DLBC LR LR 15 22 48.0
comp=Z,208nm,18.3s,MS3.5,baz=18,slow=38
ILAR Eielson Array 30.32 337 P P 15 15 57.2 -0.1
1.5nm,0.9s,mb3.7,baz=151,slow=9.4,SNR=5.3
INK Inuvik 30.32 350 P P 15 15 58.3 +1.0
1.6nm,0.9s,mb3.7,baz=151,slow=12,SNR=3.1
MDJ Mudanjiang 76.05 317 P P 15 21 29.8 -3.1
MDJ AMB AMB
comp=Z,7.0nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,75nm,3.9s
MDJ LR LR
comp=N,68nm,27.8s
MDJ LR LR
comp=E,11nm,22.2s
MDJ LR LR
comp=Z,83nm,27.8s,MS3.9
ZAL Zalesovo 85.05 346 P P 15 22 20.8 +0.3
comp=Z,0.8nm,0.5s,mb4.1,baz=62,slow=3.5,SNR=3.6
NJ2 Nanjing 90.86 314 eP P 15 22 48.1 -0.8
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.2
MKAR Makanchi Array 92.35 345 P P 15 22 54.8 -0.6
comp=Z,0.5nm,0.7s,mb4.0,slow=4.3,SNR=5.2

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*MOS **16** 15:27:39.6±1.1, 1.06N×126.21E, h33km, mb4.8/19, Error ellipse: s-maj=16.7km s-min=7.3km az=108.9*
*BJI **16** 15:27:43.4, 1.06N×126.08E, h63km, mB5.0, mb4.7, Ms4.2, Msz3.9*
*IDC **16** 15:27:43.4±3.9, 0.94N×126.18E, h50km±35km, mb4.3/21, mb1 4.3/22, mb1mx4.3/24, mbtmp4.5/22, ML4.7/1, MS3.7/8, Ms1 3.7/8, ms1mx3.5/22, Error ellipse: s-maj=23.6km s-min=9.3km az=77.0*
*NEIC **16** 15:27:45.5±2.2, 0.99N×126.26E, h72km±20km, mb4.8/20, Error ellipse: s-maj=11.6km s-min=6.7km az=78.0*
ISC 16 15:27:39.6±0.3, **0.97N**±0.04×**126.15E**±0.08, **h33**km, **n102**, σ**1s04**/100, **mb4.7**/60, **MS3.8**/15, **7C-6D, Northern Molucca Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAKA Kakadu 14.96 156 eP P 15 31 27.0 +16
28nm,0.6s
KSM Kuching 15.85 272 eP P 15 31 28.4 +6.4
FITZ Fitzroy Crossi 18.96 182 eP P 15 31 59.9 -1.0
20nm,0.9s
FITZ Fitzroy Crossi 18.96 182 P P 15 31 59.6 -1.2
1.9nm,0.3s,baz=8.2,slow=7.7,SNR=16
WRA Warramunga Arr 22.28 159 P P 15 32 35.1 -0.4
35nm,1.0s,mb4.8,baz=335,slow=11,SNR=64
WRA S S 15 36 37.7 +4.0
3.9nm,1.0s,baz=334,slow=14,SNR=6.2
GUMO Guam 22.37 55 LR LR 15 40 24.0
comp=Z,169nm,20.6s,MS3.5,baz=252,slow=34
ASPA Alice Springs 25.62 163 eP P 15 33 07.9 -0.1
ASPA eS S 15 37 21.9 -10
JOW Kunigami 25.79 4 P P 15 33 11.5 +2.0
14nm,0.6s,mb4.7,baz=177,slow=11,SNR=6.0
JOW LR LR 15 43 23.9
comp=Z,97nm,21.1s,MS3.3,baz=242,slow=36
KKTK Khon Kaen 27.60 305 P P 15 33 24.0 -2.2
247nm,0.5s
CTA Charters Tower 28.75 138 P P 15 33 36.6 +0.2
1.5nm,0.7s,mb3.9,baz=336,slow=18,SNR=3.0
SSE Sheshan 30.32 352 P P 15 33 46.3 -4.1
SSE PP PP 15 34 52.8 +2.7
SSE PCP PcP 15 36 50.4 +0.1
SSE S S 15 38 40.1 -7.0
SSE AMB AMB
comp=Z,18nm,0.8s,mb4.8
SSE LR LR
comp=N,72nm,23.6s,MS3.3
SSE LR LR
comp=E,30nm,23.6s,MS3.3
SSE LR LR
comp=Z,108nm,24.2s,MS3.4
NANT Nan 30.61 307 ⇓P P 15 33 53.0 -0.1
comp=Z,50nm,0.9s,mb5.3
GYA Guiyang 31.52 325 P P 15 34 01.3 +0.2
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
FORT Forrest 31.63 177⇑iP P 15 34 01.6 -0.4
comp=Z,32nm,0.7s,mb5.3
NJ2 Nanjing 31.67 348 eP P 15 34 01.5 -0.8
NJ2 PP PP 15 35 09.3 +1.8
NJ2 S S 15 39 03.0 -5.2
NJ2 AMB AMB
comp=Z,140nm,10.1s
NJ2 LR LR
comp=N,340nm,25.4s
NJ2 LR LR
comp=E,220nm,32.0s
NJ2 LR LR
comp=Z,780nm,30.0s,MS4.2
JNU Nakatsue 32.28 7 P P 15 34 07.1 -0.6
comp=Z,7.1nm,0.9s,mb4.5,baz=176,slow=1.4,SNR=3.3
JNU LR LR 15 46 07.6
comp=Z,100nm,21.7s,MS3.5,baz=50,slow=34
KMI Kunming 32.98 319 P P 15 34 15.8 +2.0
KMI AMB AMB
comp=Z,9.0nm,1.5s,mb4.5
KLBR Kellerberrin 33.35 193 eP P 15 34 17.2 +0.2
comp=Z,18nm,0.7s,mb5.1
JHJ Hachijo jima 2 34.45 20 LR LR 15 46 39.4
comp=Z,119nm,20.5s,MS3.6,baz=312,slow=33
NWAO Narrogin (SRO) 34.75 193 P P 15 34 28.7 -0.3
comp=Z,7.4nm,0.7s,mb4.8,baz=347,slow=6.0,SNR=4.5
NWAO LR LR 15 51 56.0
comp=Z,87nm,19.1s,MS3.5,baz=106,slow=42
HNR Honiara 35.20 108 LR LR 15 47 11.8
comp=Z,282nm,22.0s,MS4.0,baz=196,slow=33
STKA Stephens Creek 35.80 157⇓iP P 15 34 37.9 0.0
comp=Z,13nm,0.8s,mb4.9
STKA Stephens Creek 35.80 157 P P 15 34 37.5 -0.4
comp=Z,15nm,0.8s,mb5.0,baz=330,slow=8.9,SNR=18
XAN Xi’an 36.64 336 P P 15 34 44.5 -0.5
MJAR Matsushiro Arr 37.11 16 P P 15 34 48.1 -0.8
comp=Z,3.0nm,0.7s,mb4.3,baz=184,slow=9.2,SNR=8.2
MAJO Matsushiro 37.11 16 eP P 15 34 48.4 -0.5
comp=Z,4.9nm,0.5s,mb4.6
MAJO Matsushiro 37.11 16 eP P 15 34 48.4 -0.5
MAJO pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
MAT Matsushiro 37.11 16 P P 15 34 47.3 -1.6
MAT Matsushiro 37.11 16 eP P 15 34 47.0 -1.9
LZH Lanzhou 40.61 332 eP P 15 35 18.5 +0.5
LZH AP pP 15 35 28.4 +0.5
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,110nm,4.4s
LZH LR LR
comp=E,356nm,14.0s
LZH LR LR
comp=Z,562nm,14.9s,MS4.5
SNY Shenyang 40.73 357 ⇑P P 15 35 21.0 +2.0
SNY AMB AMB
comp=Z,20nm,1.4s,mb4.5
HHC Hu-ho-hao-te 41.84 343 eP P 15 35 30.3 +2.2
HHC AP pP 15 35 48.8 +11
HHC PP PP 15 37 11.5 +3.5
HHC PCP PcP 15 37 24.4 +0.1
HHC S S 15 41 43.5 0.0
HHC SS SS 15 44 46.4 +1.5
HHC SCS ScS 15 45 22.5 -3.7
HHC AMB AMB
comp=Z,7.0nm,0.4s,mb4.6
HHC AMB AMB
comp=Z,80nm,4.3s
HHC LR LR
comp=N,102nm,11.9s,MS4.5
HHC LR LR
comp=E,421nm,15.5s,MS4.5
HHC LR LR
comp=Z,155nm,23.8s
MDJ Mudanjiang 43.56 4 P P 15 35 43.3 +1.1
MDJ LR LR
comp=N,60nm,29.0s
MDJ LR LR
comp=E,11nm,20.9s
MDJ LR LR
comp=Z,83nm,27.4s,MS3.5
MDJ Mudanjiang 43.56 4 eP P 15 35 43.5 +1.3
comp=Z,11nm,0.9s,mb4.6
LSA Lhasa 43.87 314 eP P 15 35 46.0 +1.1
comp=Z,3.4nm,0.4s,mb4.4
LSA Lhasa 43.87 314 eP P 15 35 46.0 +1.1
LSA pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
GTA Gaotai 45.18 331 eP P 15 35 55.5 +0.2
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
ASAJ Asahikawa 45.38 17 P P 15 35 57.9 +1.1
comp=Z,4.8nm,0.6s,mb4.5,baz=210,slow=14,SNR=5.3
PKI Pulchoki 47.14 308 eP P 15 36 10.5 -0.4
comp=Z,8.4nm,0.4s,mb5.1
PKI Pulchoki 47.14 308 eP P 15 36 10.5 -0.4
PKI pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KKN Kakani 47.34 308 eP P 15 36 12.7 +0.2
DMN Daman 47.40 308 eP P 15 36 12.3 -0.6
comp=Z,28nm,0.9s,mb5.2
GKN Gorkha 47.94 308 eP P 15 36 17.5 +0.3
comp=Z,12nm,0.6s,mb5.1
YSS Yuzh-Sakhalins 48.03 15 eP P 15 36 16.2 -1.4
comp=Z,4.2nm,0.6s,mb4.7
YSS Yuzh-Sakhalins 48.03 15 eP P 15 36 16.2 -1.4
YSS pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KLR Kul’dur 48.31 5 eP P 15 36 18.0 -1.8
HIA Hailar 48.42 354 eP P 15 36 21.5 +0.9
comp=Z,22nm,1.4s,mb5.0
HIA Hailar 48.42 354 eP P 15 36 21.5 +0.9
HIA pmax pmax
comp=Z,22nm,1.4s
KOLN Koldanda 48.66 307 eP P 15 36 22.4 -0.4
comp=Z,31nm,0.6s,mb5.5
SONM Songino Array 49.72 343 P P 15 36 31.8 +1.1
comp=Z,2.1nm,0.7s,mb4.3,baz=159,slow=8.9,SNR=4.8
CIT Chita 51.96 350 eP P 15 36 48.7 +1.2
CIT e 15 37 05.5
CIT pmax pmax
comp=Z,78nm,1.6s,mb5.4
ZAK Zakamensk 52.93 342 eP P 15 36 55.3 +0.5
ZAK e 15 38 03.9
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
WMQ Urumqi 54.66 327 eP P 15 37 07.0 -0.7
WMQ PCP PcP 15 38 06.0 -4.2
WMQ AMB AMB
comp=Z,12nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,82nm,4.2s
WMQ LR LR
comp=N,108nm,20.0s,MS4.1
WMQ LR LR
comp=E,123nm,23.2s,MS4.1
WMQ LR LR
comp=Z,136nm,26.4s,MS3.9
BOD Bodaibo 57.49 352 eP P 15 37 27.6 -0.2
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MKAR Makanchi Array 59.50 326 P P 15 37 41.1 -0.8
comp=Z,4.4nm,0.4s,mb4.9,baz=121,slow=7.2,SNR=122
MKAR LR LR 16 03 42.8
comp=Z,98nm,21.6s,MS3.9,baz=179,slow=36
MKAR Makanchi Array 59.50 326 eP P 15 37 41.0 -0.9
MKAR pmax pmax
comp=Z,1.0nm,0.3s
YAK Yakutsk 60.96 2 eP P 15 37 51.9 +0.1
comp=Z,14nm,0.6s,mb5.3
YAK Yakutsk 60.96 2c iP P 15 37 51.6 -0.1
YAK pmax pmax
comp=Z,33nm,1.9s,mb5.1
AAK Ala-Archa 62.02 319 eP P 15 37 58.0 -1.2
comp=Z,7.7nm,1.1s,mb4.8
AAK Ala-Archa 62.02 319c iP P 15 37 57.7 -1.4
AAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.7
AAK MLR MLR
comp=Z,100nm,20.0s,MS4.0
ZAL Zalesovo 62.78 334 P P 15 38 03.0 -1.0
comp=Z,2.2nm,0.4s,mb4.7,baz=296,slow=4.1,SNR=6.8
KURK Kurchatov 63.76 328 eP P 15 38 09.6 -0.9
comp=Z,29nm,0.9s,mb5.3
KURK Kurchatov 63.76 328c iP P 15 38 09.7 -0.8
NVS Novosibirsk 64.07 334 i P P 15 38 10.3 -2.1
SEY Seymchan 64.83 13⇓iP P 15 38 18.6 +1.4
KKAR Karatay Array 64.86 318 P P 15 38 16.8 -1.0
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
VOSK Vostochnaya 68.86 328 P P 15 38 41.9 -0.9
VOSK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BVA2 Borovoye Array 69.31 328 P P 15 38 45.1 -0.5
BVA2 pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BVAR Borovoye Array 69.31 328 P P 15 38 45.2 -0.4
comp=Z,3.4nm,0.5s,mb4.5,baz=140,slow=8.7,SNR=18
BRVK Borovoye 69.39 328 eP P 15 38 45.4 -0.6
comp=Z,4.6nm,0.7s,mb4.5
BRVK Borovoye 69.39 328 eP P 15 38 45.4 -0.7
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
TIXI Tiksi 70.59 1 eP P 15 38 50.7 -2.4
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AB31 Akbulak array 73.92 321 P P 15 39 12.7 -0.5
SVE Sverdlovsk 76.00 329 eP P 15 39 25.5 +0.5
SVE pmax pmax
comp=Z,40nm,1.1s,mb5.3
ARU Arti 76.95 328 eP P 15 39 29.9 -0.5
comp=Z,9.0nm,0.5s,mb5.0
ARU Arti 76.95 328⇑iP P 15 39 30.1 -0.4
ARU pmax pmax
comp=Z,40nm,1.8s,mb5.0
OPO Ambohidratompo 79.85 251 P P 15 39 48.1 +1.0
comp=Z,4.7nm,0.9s,mb4.4,baz=19,slow=4.9,SNR=4.9
VNDA Vanda 80.78 173 P P 15 39 51.3 +0.3
comp=Z,2.9nm,0.9s,mb4.2,baz=322,slow=6.1,SNR=19
VNDA Vanda 80.78 173 eP P 15 39 51.4 +0.5
comp=Z,4.4nm,0.9s,mb4.4
VNDA Vanda 80.78 173 eP P 15 39 51.4 +0.4
VNDA pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 80.99 200 P P 15 39 53.1 +0.9
comp=Z,6.1nm,0.9s,mb4.5,baz=58,slow=7.6,SNR=13
SBA Scott Base 81.70 172 eP P 15 39 57.2 +1.4
comp=Z,0.1nm,0.3s
GNI Garni 82.80 310 P P 15 40 02.5 +0.4
comp=Z,3.9nm,0.4s,mb4.8,baz=150,slow=20,SNR=3.8
KIV Kislovodsk 84.61 314⇓iP P 15 40 12.5 +1.3
KIV pmax pmax
comp=Z,26nm,1.9s,mb5.0
VORD Divnogorie 87.27 321 eP P 15 40 27.3 +3.2
VORD pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,5.0nm,0.8s
VRSR Storozhevoye 87.34 321 eP P 15 40 27.9 +3.5
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,7.0nm,0.6s
MALT Malatya 87.61 308 eP P 15 40 27.1 +1.0
comp=E,5.2nm,0.9s,mb4.8
MALT Malatya 87.61 308 eP P 15 40 27.1 +1.0
MALT pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
ILAR Eielson Array 87.82 25 P P 15 40 26.8 +0.3
comp=Z,0.6nm,0.7s,mb4.0,baz=253,slow=5.4,SNR=5.3
ANN Anapa 88.41 315 eP P 15 40 29.4 -0.3
ANN e pP 15 40 38.1 -2.2
ANN e 15 50 53.8
ANN pmax pmax
comp=Z,37nm,1.3s,mb5.5
KMBO Kilima Mbogo 88.92 269 P P 15 40 33.8 +0.9
comp=Z,2.9nm,0.9s,mb4.6,baz=30,slow=6.3,SNR=5.7
KMBO LR LR 16 15 56.8
comp=Z,109nm,19.9s,MS4.3,baz=94,slow=32
KMBO Kilima Mbogo 88.92 269 i P P 15 40 35.8 +2.9
KMBO pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 88.97 325⇑iP P 15 40 32.1 0.0
OBN pmax pmax
comp=Z,27nm,1.7s,mb5.3
SYO Syowa Base 89.66 201 ⇓P P 15 40 34.5 -0.6
SYO Syowa Base 89.66 201 ⇓PcP PcP 15 40 35.8 -0.9
BRTR Keskin Array B 91.32 310 P P 15 40 42.8 -0.8
comp=Z,0.9nm,0.7s,mb4.2,baz=27,slow=2.8,SNR=4.4
ARCES ARCESS Array B 92.82 340 P P 15 40 50.0 +0.3
comp=Z,1.6nm,0.7s,mb4.6,baz=59,slow=7.1,SNR=4.1
FINES FINESS Array B 93.97 332 P P 15 40 57.0 +1.9
comp=Z,1.1nm,0.9s,mb4.3,baz=112,slow=10,SNR=5.1
FINES FINESS Array B 93.97 332 i P P 15 40 59.9 +4.8
FINES pmax pmax
comp=Z,1.0nm,0.9s
SCHQ Schefferville 123.36 9 PKP PKPdf 15 46 35.5 +2.1
comp=Z,1.5nm,0.7s,baz=259,slow=10,SNR=2.4
TXAR Lajitas Array 123.72 53 PKP PKPdf 15 46 35.8 +1.0
comp=Z,0.3nm,0.3s,baz=270,slow=2.5,SNR=3.7
PLCA Paso Flores 137.62 161 PKP PKPdf 15 47 04.0 +3.2
comp=Z,1.1nm,0.8s,baz=232,slow=9.0,SNR=3.1

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*BJI **16** 15:40:28.5, 5.78S×152.55E, h76km, mB5.0, mb4.7*
*MOS **16** 15:40:30.7±1.3, 5.10S×151.94E, h33km, mb4.8/7, Error ellipse: s-maj=14.3km s-min=10.8km az=90.4*
*IDC **16** 15:40:35.8±1.8, 5.30S×151.92E, h69km±15km, mb4.4/18, mb1 4.5/21, mb1mx4.5/23, mbtmp4.7/21, MS3.6/11, Ms1 3.6/11, ms1mx3.5/24, Error ellipse: s-maj=13.5km s-min=10.2km az=98.0*
*NEIC **16** 15:40:36.5±1.2, 5.27S×151.93E, h76km±11km, mb4.6/15, Error ellipse: s-maj=9.7km s-min=7.8km az=71.0*
ISC 16 15:40:34.2±1.6, **5.27S**±0.06×**151.92E**±0.06, **h70**km±15km, **n63**, σ**0s77**/58, **mb4.5**/32, **4C, New Britain region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 6.26 229 P P 15 42 06.1 +0.2
33nm,0.3s,baz=25,slow=4.9,SNR=113
PMG S S 15 43 16.3 -0.4
23nm,0.3s,baz=140,slow=16,SNR=11
PMG Port Moresby 6.26 229 ePn P 15 42 06.0 +0.1
112nm,0.5s
PMG eSn S 15 43 17.1 +0.4
PMG Port Moresby 6.26 229 eP P 15 42 06.0 +0.1
PMG e 15 43 17.1
PMG pmax pmax
comp=Z,112nm,0.5s
HNR Honiara 8.97 118 P P 15 42 42.2 -1.0
comp=Z,12nm,0.3s,baz=236,slow=2.3,SNR=8.7
HNR Honiara 8.97 118 ePn P 15 42 42.2 -1.1
comp=Z,88nm,0.8s
HNR Honiara 8.97 118 eP P 15 42 42.2 -1.1
HNR pmax pmax
comp=Z,88nm,0.8s
CTA Charters Tower 15.73 200 eP P 15 44 17.7 +4.7
comp=Z,12nm,1.1s
CTA Charters Tower 15.73 200 P P 15 44 13.7 +0.7
comp=Z,0.2nm,0.3s,baz=42,slow=15,SNR=6.2
CTA LR LR 15 49 36.6
comp=Z,242nm,20.8s,baz=227,slow=34
CTAO Charters Tower 15.73 200 eP P 15 44 15.5 +2.5
comp=Z,21nm,1.0s
CTAO Charters Tower 15.73 200 eP P 15 44 15.5 +2.5
CTAO pmax pmax
comp=Z,21nm,1.0s
GUMO Guam 20.00 340 P P 15 45 04.5 +0.7
comp=Z,142nm,1.0s,baz=166,slow=8.4,SNR=4.4
GUMO LR LR 15 51 41.8
comp=Z,47nm,19.0s,baz=201,slow=33
KAKA Kakadu 20.60 248⇑iP P 15 45 27.9 +18
comp=Z,94nm,0.4s
DZM Mont Dzumac 21.84 141 P P 15 45 22.4 0.0
comp=Z,20nm,0.6s,mb4.6,baz=348,slow=10,SNR=31
WRA Warramunga Arr 22.48 228 P P 15 45 29.1 +0.4
comp=Z,30nm,0.6s,mb4.8,baz=53,slow=10.0,SNR=139
WRA PcP PcP 15 49 22.9 +0.7
comp=Z,0.9nm,0.4s,baz=45,slow=2.1,SNR=4.2
WRA S S 15 49 32.0 +6.2
comp=Z,7.9nm,1.2s,baz=55,slow=19,SNR=5.2
WRA ScP 15 52 55.4
comp=Z,1.4nm,0.8s,baz=47,slow=2.7,SNR=5.3
ASPA Alice Springs 25.22 222⇑iP P 15 45 55.4 +0.1
STKA Stephens Creek 28.18 199 eP P 15 46 21.8 -0.6
comp=Z,4.4nm,0.6s,mb4.2
STKA Stephens Creek 28.18 199 P P 15 46 21.0 -1.4
comp=Z,6.5nm,0.7s,mb4.3,baz=1.1,slow=9.6,SNR=12
FITZ Fitzroy Crossi 28.67 241⇑iP P 15 46 25.9 -0.9
comp=Z,28nm,0.8s,mb5.0
FITZ Fitzroy Crossi 28.67 241 P P 15 46 25.9 -0.9
comp=Z,30nm,0.6s,mb5.1,baz=71,slow=4.2,SNR=46
CBIJ Chichi jima 33.52 344 LR LR 15 59 29.4
comp=Z,127nm,21.2s,baz=334,slow=34
FORT Forrest 33.88 219⇑iP P 15 47 11.7 -0.7
comp=Z,16nm,0.5s,mb5.1
JOW Kunigami 39.27 326 P P 15 47 59.7 +1.9
comp=Z,26nm,0.6s,mb5.2,baz=166,slow=9.6,SNR=18
JOW LR LR 16 01 07.7
comp=Z,104nm,20.9s,baz=196,slow=31
JHJ Hachijo jima 2 39.87 344 LR LR 16 02 46.3
comp=Z,65nm,19.0s,baz=80,slow=33
URZ Urewera 40.04 149 P P 15 48 04.2 +0.1
comp=Z,8.0nm,0.8s,mb4.6,baz=277,slow=3.3,SNR=4.5
KLBR Kellerberrin 41.35 226 eP P 15 48 15.6 +0.7
comp=Z,67nm,1.6s,mb5.2
RPZ Rata Peaks 41.85 159 P P 15 48 19.1 +0.2
comp=Z,7.6nm,0.8s,mb4.5,baz=308,slow=1.7,SNR=3.1
YHNB Yeheng 42.06 316 eP P 15 48 21.6 +0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	42.44	225	LR	LR	16 06 50.2	
	comp=Z,115nm,20.7s,baz=224,slow=37						
JNU	Nakatsue	43.08	334	P	P	15 48 29.2	0.0
	comp=Z,15nm,0.9s,mb4.7,baz=78,slow=1.9,SNR=9.7						
JNU				LR	LR	16 05 13.3	
	comp=Z,61nm,19.9s,baz=38,slow=34						
MJAR	Matsushiro Arr	43.52	344	P	P	15 48 32.6	-0.1
	comp=Z,0.8nm,0.6s,mb3.6,baz=13,slow=1.5,SNR=5.8						
MJAR				LR	LR	16 05 56.5	
	comp=Z,66nm,18.5s,baz=185,slow=35						
MDJ	Mudanjiang	53.55	340	P	P	15 49 50.5	+0.3
MDJ				AP	pP	15 50 06.3	-1.9
MDJ				XP	sP	15 50 13.3	-2.7
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,66nm,3.9s						
KMI	Kunming	56.52	305	P	P	15 50 12.0	0.0
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
SONM	Songino Array	66.25	328	P	P	15 51 16.9	-0.2
	comp=Z,4.9nm,0.5s,mb4.6,baz=143,slow=5.5,SNR=13						
SONM				LR	LR	16 18 54.3	
	comp=Z,63nm,18.4s,baz=54,slow=35						
LSA	Lhasa	67.78	305	eP	P	15 51 27.4	+0.3
	comp=Z,6.9nm,0.7s,mb4.6						
LSA	Lhasa	67.78	305	eP	P	15 51 27.4	+0.4
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
ZAK	Zakamensk	69.43	329	eP	P	15 51 36.1	-0.8
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
PKI	Pulchoki	71.92	301	eP	P	15 51 52.0	-0.2
	comp=Z,2.5nm,0.4s,mb4.4						
KKN	Kakani	72.08	301	eP	P	15 51 52.5	-0.7
	comp=Z,7.7nm,0.6s,mb4.7						
KKN	Kakani	72.08	301	eP	P	15 51 52.5	-0.7
KKN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
DMN	Daman	72.18	301	eP	P	15 51 53.5	-0.3
	comp=Z,16nm,0.8s,mb4.9						
VNDA	Vanda	72.40	178	P	P	15 51 54.0	-0.3
	comp=Z,1.5nm,0.7s,mb3.9,baz=332,slow=6.8,SNR=17						
VNDA	Vanda	72.40	178	eP	P	15 51 54.7	+0.4
	comp=Z,12nm,1.5s,mb4.5						
VNDA				e		15 52 06.9	
VNDA	Vanda	72.40	178	eP	P	15 51 54.7	+0.4
VNDA				e		15 52 06.9	
VNDA				pmax	pmax		
	comp=Z,12nm,1.5s						
GKN	Gorkha	72.69	301	eP	P	15 51 55.9	-1.0
	comp=Z,7.6nm,0.5s,mb4.8						
KOLN	Koldanda	73.51	301	eP	P	15 52 00.6	-1.1
	comp=Z,14nm,0.6s,mb4.8						
MKAR	Makanchi Array	80.10	319	P	P	15 52 37.8	-0.3
	comp=Z,1.0nm,0.5s,mb3.9,baz=104,slow=5.0,SNR=9.2						
MKAR				LR	LR	16 26 23.6	
	comp=Z,59nm,19.3s,baz=181,slow=34						
ZAL	Zalesovo	81.06	327	P	P	15 52 42.6	-0.5
	comp=Z,2.6nm,0.5s,mb4.3,baz=354,slow=6.4,SNR=12						
ILAR	Eielson Array	82.92	22	P	P	15 52 52.0	-0.4
	comp=Z,2.7nm,0.7s,mb4.2,baz=229,slow=5.6,SNR=16						
KURK	Kurchatov	83.59	322	eP	P	15 52 55.4	-0.8
	comp=Z,4.3nm,0.9s,mb4.3						
KURK	Kurchatov	83.59	322	eP	P	15 52 55.4	-0.8
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
AAK	Ala-Archa	84.35	314	eP	P	15 52 59.6	-0.5
	comp=Z,3.3nm,0.8s,mb4.2						
AAK	Ala-Archa	84.35	314	eP	P	15 52 59.6	-0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
QSPA	South Pole Qui	84.70	180	eP	P	15 53 02.7	+1.6
	comp=Z,10.0nm,1.0s,mb4.7						
MAW	Mawson	84.81	203	P	P	15 53 01.7	-0.2
	comp=Z,2.5nm,0.6s,mb4.3,baz=93,slow=9.2,SNR=10						
BRVK	Borovoye	89.15	323	P	P	15 53 24.2	+1.0
	comp=Z,1.1nm,0.6s,mb4.1						
BRVK	Borovoye	89.15	323	P	P	15 53 24.2	+1.0
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NVAR	Mina Array Bea	93.06	52	P	P	15 53 43.6	+1.8
	comp=Z,2.3nm,0.7s,mb4.6,baz=255,slow=4.6,SNR=15						
PDAR	Pinedale Array	99.81	48	P	P	15 54 12.2	-0.1
	comp=Z,0.7nm,0.8s,mb4.3,baz=270,slow=3.0,SNR=4.8						
PDAR				LR	LR	16 29 16.7	
	comp=Z,41nm,21.6s,baz=111,slow=29						
ARCES	ARCESS Array B	107.05	343	PKiKP		15 58 55.5	
	comp=Z,4.2nm,0.9s,baz=81,slow=1.7,SNR=8.0						
FINES	FINESS Array B	111.11	335	PKiKP		15 59 02.9	
	comp=Z,0.7nm,0.7s,baz=90,slow=3.8,SNR=5.2						
SCHQ	Schefferville	121.58	25	PKP	PKPdf	15 59 18.9	-1.0
	comp=Z,10nm,0.2s,baz=89,slow=17,SNR=16						
GERES	GERESS Array B	123.98	328	PKP	PKPdf	15 59 25.7	+1.0
	comp=Z,0.9nm,0.4s,baz=75,slow=2.1,SNR=9.9						
LPAZ	La Paz	134.97	119	PKP	PKPdf	15 59 48.8	+2.3
	comp=Z,1.2nm,0.8s,baz=80,slow=2.0,SNR=6.1						

*NEIC **16** 15:52:43.3±6.0, 6.64S×129.73E, h96km±61km, Error ellipse: s-maj=52.6km s-min=20.4km az=216.0*

*IDC **16** 15:52:45.9±7.7, 6.78S×129.53E, h121km±76km, mb3.7/5, mb1 3.9/7, mb1mx3.7/15, mbtmp4.2/7, MS3.2/1, Ms1 3.2/1, ms1mx2.7/16, Error ellipse: s-maj=59.9km s-min=24.9km az=46.0*

ISC 16 15:52:49.0±4.6, **6.9S**±0.2×**129.6E**±0.2, **h172**km±46km, **n14, σ1^{s}07**/17, **mb3.8**/4, **1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.39	154	eP	Px	15 54 41.8	
	40nm,0.2s						
KAKA				eS	Sx	15 55 50.9	
FITZ	Fitzroy Crossi	11.75	199	eP	P	15 55 32.3	0.0
	4.5nm,0.3s						
FITZ				eS	S	15 57 35.5	-5.0
FITZ	Fitzroy Crossi	11.75	199	P	P	15 55 32.5	+0.2
	1.9nm,0.3s,baz=20,slow=9.7,SNR=45						
FITZ				S	S	15 57 36.8	-3.7
	9.3nm,0.3s,baz=179,slow=12,SNR=12						
FITZ				LR	LR	15 59 57.2	
	comp=Z,127nm,21.9s,baz=133,slow=36						
WRA	Warramunga Arr	13.73	161	P	P	15 55 56.8	-0.9
	1.6nm,0.3s,baz=337,slow=13,SNR=28						
WRA				S	S	15 58 25.2	-1.1
	3.0nm,0.3s,baz=327,slow=24,SNR=8.8						
ASPA	Alice Springs	17.14	166	eP	P	15 56 41.7	+1.9
ASPA				eS	S	15 59 48.8	+5.5
CTA	Charters Tower	20.79	131	P	P	15 57 17.9	-0.2
	2.5nm,0.6s,baz=312,slow=12,SNR=4.8						
CTA	Charters Tower	20.79	131	P	P	15 57 17.9	-0.2
STKA	Stephens Creek	27.23	157	⇑iP	P	15 58 20.6	+1.5
	2.2nm,0.3s,mb4.3						
STKA	Stephens Creek	27.23	157	P	P	15 58 20.6	+1.5
	2.5nm,0.3s,mb4.3,baz=348,slow=8.2,SNR=31						
STKA	Stephens Creek	27.23	157	eP	P	15 58 20.5	+1.4
MKAR	Makanchi Array	67.95	327	P	P	16 03 30.8	-0.7
	0.7nm,0.3s,mb3.8,baz=119,slow=8.0,SNR=30						
MKAR	Makanchi Array	67.95	327	P	P	16 03 30.8	-0.7
ZAL	Zalesovo	71.35	334	P	P	16 03 52.8	+0.9
	1.0nm,0.4s,mb3.9,baz=90,slow=4.0,SNR=3.8						
BVAR	Borovoye Array	77.79	328	P	P	16 04 27.5	-1.2
	0.3nm,0.4s,mb3.2,baz=124,slow=5.2,SNR=3.4						

MAN 16 15:59:11.4, 5.90N×126.47E, h27km, mb5.0, ML3.9, MS4.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	1.06	349	eP	Pn	15 59 30.3	-0.4
MATI				eS	Sb	15 59 46.9	+2.3
BIPH	Bislig	2.28	357	⇓eP	Pn	15 59 48.5	+0.5
BIPH				iS	Sn	16 00 23.2	+7.8
BUKP	Musuan	2.42	325	eP	Pn	15 59 50.3	+0.3
BUKP				eS	Sn	16 00 20.8	+1.8
BUTP	Butuan	3.17	345	eP	Pn	16 00 00.2	-0.5
PAGZ	Pagadian	3.63	302	eP	Pn	16 00 08.9	+1.7

*NEIC **16** 16:02:43.0, 15.61N×95.65W, h15km, MD3.6(MEX), After MEX.*

MEX 16 16:02:43.0±0.6, **15.61N×95.65W, h15km, MD3.6, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.47	290	iP	Pb	16 02 50.7	-1.8
HUIG				iS	Sb	16 02 57.1	-1.7
HUIG	Huatulco	0.47	290	eP	Pb	16 02 50.7	-1.8
HUIG				eS	Sb	16 02 57.1	-1.7
CMIG	Matias Romero	1.65	26	eP	Pn	16 03 08.1	-3.6
CMIG				iS	Sn	16 03 27.1	-5.6
VHO	Vista Hermosa	1.79	325	eP	Pn	16 03 10.8	-3.0
VHO				eS	Sn	16 03 31.3	-5.0
OXX	Oaxaca	1.79	325	iP	Pn	16 03 10.7	-3.1
OXX				iS	Sn	16 03 31.7	-4.6

*BJI **16** 17:19:24.9, 2.20N×96.38E, h34km, mB5.0, mb5.3, Ms4.7, Msz4.4*

*MOS **16** 17:19:26.9±0.9, 2.53N×96.42E, h33km, mb5.3/32, MS4.2/5, Error ellipse: s-maj=11.7km s-min=5.6km az=116.0*

*NEIC **16** 17:19:27.4±0.2, 2.43N×96.31E, mb5.1/38, Error ellipse: s-maj=5.5km s-min=3.8km az=208.0*

*HRVD **16** 17:19:27.4±1.4, 2.47N×96.17E, h31km±1km, MW4.8/29, Centroid moment Tensor Solution. LP body waves: s16,c19; Mantle waves: s29,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.56±.18; $M_{\theta\theta}$-1.08±.14; $M_{\phi\phi}$-0.48±.17; $M_{r\theta}$0.52±.13; $M_{\theta\phi}$0.80±.08; $M_{\phi r}$-1.00±.16; Best double couple: $M_0$1.956×10^{16} NP1:ϕ_s290°,δ31°,λ64°. NP2:ϕ_s140°,δ63°,λ105°. Principal axes: T 1.979, Plg69°, Azm80°; N -.049, Plg13°, Azm313°; P -1.933, Plg16°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **16** 17:19:27.8±4.2, 2.44N×96.35E, h27km±27km, mb4.6/20, mb1 4.7/20, mb1mx4.6/22, mbtmp4.7/20, MS4.2/10, Ms1 4.2/10, ms1mx4.1/13 Error ellipse: s-maj=16.7km s-min=12.3km az=56.0*

ISC 16 17:19:26.1±1.6, **2.40N**±0.05×**96.34E**±0.04, **h29**km±11km, **h26**km±1.4km**:pP-P, n194, σ0^{s}95**/185, **mb5.0**/80, **MS4.3**/26, **12C-12D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.15	65	P	Pn	17 20 44.6	+1.2
KULM	Kulim	5.17	56	ePn	Pn	17 20 44.9	+1.2
SNG	Songkhla	6.38	42	P	Pn	17 20 59.0	-1.7
	414nm,1.0s						
KGM	Kluang	6.99	93	P	Pn	17 21 10.4	+1.2
NST	Nakhon Sawan	13.71	16	P	P	17 22 44.0	+2.9
KSM	Kuching	13.99	94	ePn	P	17 22 46.2	+1.3
KSM				eP		17 22 52.6	
KKTK	Khon Kaen	15.25	24	P	P	17 23 05.0	+3.7
	1μm,0.7s						
NANT	Nan	16.85	14	P	P	17 23 23.5	+1.8
	138nm,0.5s						
CHRT	Chiangrai	17.68	11	⇓P	P	17 23 30.0	-2.2
	205nm,0.8s						
KKM	Kota Kinabalu	20.15	79	P	P	17 24 01.9	+0.8
KKM	Kota Kinabalu	20.15	79	eP	P	17 24 01.1	+0.1
QIZ	Qiongzhong	21.16	38	eP	P	17 24 11.4	0.0
QIZ				XP		17 24 21.4	
QIZ				eS	S	17 28 02.1	+1.8
QIZ				AMB	AMB		
	comp=Z,214nm,4.2s						
QIZ				LR	LR		
	comp=N,2μm,13.6s						
QIZ				LR	LR		
	comp=Z,2μm,12.7s,MS4.7						
QIZ	Qiongzhong	21.16	38	eP	P	17 24 10.6	-0.9
	comp=Z,20nm,0.8s,mb4.5						
TSM	Tawau	21.58	84	P	P	17 24 16.0	+0.3
HYB	Hyderabad	22.97	312	iP	P	17 24 31.5	+1.9
HYB	Hyderabad	22.97	312	eP	P	17 24 31.5	+1.9
HYB				eS	S	17 28 48.0	+14
KMI	Kunming	23.42	15	P	P	17 24 35.4	+1.6
KMI				AP		17 24 45.4	
KMI				XP		17 24 49.9	
KMI				PP	PP	17 25 06.5	+0.8
KMI				PPP	PPP	17 25 15.6	-0.1
KMI				S	S	17 28 45.8	+4.4
KMI				XS		17 29 01.3	
KMI				SS	SS	17 29 34.6	+5.5
KMI				SSS	SSS	17 29 50.0	+4.9
KMI				AMB	AMB		
	comp=Z,51nm,0.9s,mb5.0						
KMI				AMB	AMB		
	comp=Z,288nm,3.9s						
KMI				LR	LR		
	comp=N,626nm,16.8s,MS4.3						
KMI				LR	LR		
	comp=E,750nm,16.8s,MS4.3						
GYA	Guiyang	25.89	22	⇑iP	P	17 24 57.6	+0.1
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,260nm,6.0s						
GYA				LR	LR		
	comp=N,640nm,15.3s,MS4.3						
GYA				LR	LR		
	comp=E,370nm,14.6s,MS4.3						
GYA				LR	LR		
	comp=Z,750nm,13.2s,MS4.4						
PKI	Pulchoki	27.12	338	eP	P	17 25 09.3	+0.5
	comp=Z,140nm,0.9s,mb5.5						
PKI	Pulchoki	27.12	338	eP	P	17 25 09.3	+0.5
PKI				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.2						
DMN	Daman	27.27	338	eP	P	17 25 10.7	+0.5
	comp=Z,94nm,0.6s,mb5.5						
KKN	Kakani	27.37	338	eP	P	17 25 11.5	+0.4
	comp=Z,200nm,0.8s,mb5.7						
KKN	Kakani	27.37	338	eP	P	17 25 11.5	+0.4
KKN				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.4						
LSA	Lhasa	27.59	350	P	P	17 25 14.0	+1.0
LSA	Lhasa	27.59	350	eP	P	17 25 13.8	+0.7
	comp=Z,84nm,1.0s,mb5.3						
LSA	Lhasa	27.59	350	eP	P	17 25 13.8	+0.8
LSA				pmax	pmax		
	comp=Z,84nm,1.0s,mb5.3						
GKN	Gorkha	27.80	337	eP	P	17 25 15.4	+0.4
	comp=Z,197nm,0.8s,mb5.8						
KOLN	Koldanda	28.01	335	eP	P	17 25 17.6	+0.7
	comp=Z,174nm,0.8s,mb5.8						
CD2	Chengdu	29.21	13	P	P	17 25 26.1	-1.5
CD2				S	S	17 30 22.3	+5.4
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CD2				LR	LR		
	comp=E,520nm,14.4s						
CD2				LR	LR		
	comp=Z,400nm,16.8s,MS4.1						
ENH	Enshi	30.39	23	eP	P	17 25 36.6	-1.5
	comp=Z,19nm,0.8s,mb4.9						
YHNB	Yeheng	32.77	45	eP	P	17 25 59.1	+0.1
XAN	Xi'an	33.60	19	P	P	17 26 04.9	-1.3
XAN				AMB	AMB		
	comp=Z,81nm,1.0s,mb5.6						
LZH	Lanzhou	34.23	11	⇑P	P	17 26 11.0	-0.6
LZH				AP	pP	17 26 19.0	-1.2
LZH				XP	sP	17 26 22.6	-1.4
LZH				AMB	AMB		
	comp=Z,63nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,273nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,15.4s						
LZH				LR	LR		
	comp=Z,2μm,16.5s,MS5.0						
FITZ	Fitzroy Crossi	35.33	126	⇑iP	P	17 26 19.9	-1.3
	comp=Z,33nm,0.7s,mb5.4						
FITZ	Fitzroy Crossi	35.33	126	P	P	17 26 19.9	-1.3
	comp=Z,36nm,0.9s,mb5.3,baz=334,slow=4.1,SNR=34						
FITZ				PcP	PcP	17 28 50.7	-0.6
	comp=Z,9.6nm,0.8s,baz=313,slow=0.4,SNR=5.4						
NJ2	Nanjing	36.32	33	eP	P	17 26 29.3	-0.1
NJ2				PP	PP	17 27 53.9	+1.0
NJ2				S	S	17 32 02.0	-5.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,90nm,6.2s						
NJ2				LR	LR		
	comp=N,980nm,18.9s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,21.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,540nm,15.3s						
GTA	Gaotai	36.97	4	P	P	17 26 34.6	-0.2
GTA				AP	pP	17 26 44.5	+1.0
GTA				XP	sP	17 26 48.6	+1.4
GTA				AMB	AMB		
	comp=Z,68nm,1.1s,mb5.4						
GTA				AMB	AMB		
	comp=Z,129nm,6.5s						
GTA				LR	LR		
	comp=N,260nm,16.1s,MS4.3						
GTA				LR	LR		
	comp=E,254nm,14.9s,MS4.3						
GTA				LR	LR		
	comp=Z,373nm,18.3s,MS4.2						
TIA	Tai'an	38.74	27	eP	P	17 26 49.5	-0.3
KAKA	Kakadu	38.86	114	⇑iP	P	17 27 08.4	+17
	comp=Z,54nm,0.6s,mb5.5						
JOW	Kunigami	39.07	49	P	P	17 26 52.9	+0.3
	comp=Z,23nm,0.7s,mb5.0,baz=240,slow=6.7,SNR=10						
NWAO	Narrogin (SRO)	40.31	152	P	P	17 27 03.8	+1.0
	comp=Z,8.0nm,0.8s,mb4.5,baz=321,slow=16,SNR=2.8						
HHC	Hu-ho-hao-te	40.67	18	⇑iP	P	17 27 07.1	+1.5
HHC				AP	pP	17 27 14.3	0.0
HHC				XP	sP	17 27 17.8	-0.2
HHC				PP	PP	17 28 45.0	+2.5
HHC				PCP	PcP	17 29 08.4	+0.8
HHC				SCP		17 32 55.1	
HHC				PCS		17 32 58.5	
HHC				S	S	17 33 15.1	+1.6
HHC				XS		17 33 27.8	
HHC				SS	SS	17 36 10.3	+0.9
HHC				SCS	ScS	17 37 08.6	+1.8
HHC				AMB	AMB		
	comp=Z,86nm,0.9s,mb5.4						
HHC				LR	LR		
	comp=N,409nm,11.9s,MS4.7						
HHC				LR	LR		
	comp=E,448nm,13.1s,MS4.7						
HHC				LR	LR		
	comp=Z,392nm,17.8s,MS4.3						
KSH	Kashi	41.33	336	P	P	17 27 11.0	0.0
KSH				AP	pP	17 27 17.1	-2.7
KSH				XP	sP	17 27 26.1	+2.7
KSH				AMB	AMB		
	comp=Z,720nm,6.3s						
WMQ	Urumqi	41.95	351	⇑iP	P	17 27 16.4	+0.3
WMQ				AP	pP	17 27 27.0	+2.1
WMQ				XP	sP	17 27 30.0	+1.5
WMQ				SCS	ScS	17 37 09.0	-5.4
WMQ				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,199nm,4.2s						
WMQ				LR	LR		
	comp=N,432nm,22.6s,MS4.5						
WMQ				LR	LR		
	comp=E,532nm,25.8s,MS4.5						
WMQ				LR	LR		
	comp=Z,444nm,20.5s						
WRA	Warramunga Arr	43.40	123	P	P	17 27 27.8	-0.4
	comp=Z,12nm,0.6s,mb4.8,baz=300,slow=9.5,SNR=87						
WRA				PcP	PcP	17 29 16.3	-0.6
	comp=Z,4.3nm,0.7s,baz=312,slow=2.8,SNR=6.4						
WRA				ScP		17 33 06.3	
	comp=Z,1.0nm,0.9s,baz=324,slow=3.6,SNR=4.4						
ULHL	Ulahol	43.56	338	P	P	17 27 30.2	+0.9
	SNR=18						
KZA	Kyzart	43.80	337	P	P	17 27 31.0	-0.2
	SNR=7.3						
UCH	Uchtor	44.21	337	P	P	17 27 36.2	+1.6
	SNR=12						
TKM2	Tokmak 2	44.39	338	P	P	17 27 36.6	+0.7
	SNR=16						
KBK	Karagaybulak	44.41	337	P	P	17 27 37.1	+0.9
	SNR=34						
AML	Almayashu	44.46	336	P	P	17 27 38.1	+1.5
	SNR=30						
JNU	Nakatsue	44.49	43	P	P	17 27 36.9	-0.1
	comp=Z,4.5nm,0.6s,mb4.4,baz=313,slow=4.4,SNR=4.9						
AAK	Ala-Archa	44.56	337	P	P	17 27 39.1	+1.7
	SNR=14						
AAK	Ala-Archa	44.56	337	eP	P	17 27 37.6	+0.2
	comp=Z,18nm,0.9s,mb4.9						
AAK	Ala-Archa	44.56	337	eP	P	17 27 37.6	+0.2
AAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
FRU	Bishkek	44.68	337	eP	P	17 27 38.0	-0.4
FRU				e		17 27 54.0	
FORT	Forrest	44.74	140	eP	P	17 27 39.9	+0.9
	comp=Z,39nm,0.5s,mb5.5						
CHMS	Chumysh	44.77	337	P	P	17 27 39.8	+0.7
	SNR=8.9						
ASPA	Alice Springs	44.80	128	eP	P	17 27 39.2	-0.4
EKS2	Erkin-Say	44.87	336	P	P	17 27 41.2	+1.3
	SNR=37						
USP	Ospenovka	45.10	337	P	P	17 27 42.4	+0.7
	SNR=40						
MKAR	Makanchi Array	45.88	347	P	P	17 27 47.9	+0.1
	comp=Z,69nm,0.7s,mb5.7,baz=162,slow=7.7,SNR=465						
MKAR				LR	LR	17 49 32.7	
	comp=Z,130nm,20.7s,MS3.9,baz=180,slow=39						
MKAR	Makanchi Array	45.88	347	iP	P	17 27 47.8	0.0
MKAR				pmax	pmax		
	comp=Z,29nm,0.6s						
SONM	Songino Array	46.08	9	P	P	17 27 49.6	+0.2
	comp=Z,20nm,0.7s,mb5.2,baz=188,slow=8.9,SNR=33						
SONM				PcP	PcP	17 29 26.1	+0.3
	comp=Z,2.5nm,0.4s,baz=193,slow=2.3,SNR=4.6						
SONM				LR	LR	17 49 25.7	
	comp=Z,564nm,19.4s,MS4.5,baz=48,slow=39						
SONM	Songino Array	46.08	9	P	P	17 27 49.6	+0.2
SONM				PcP	PcP	17 29 26.1	+0.3
SONM				LR	LR	17 49 25.7	
KKAR	Karatay Array	46.60	334	iP	P	17 27 53.6	0.0
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
ZAK	Zakamensk	48.17	6	⇑iP	P	17 28 05.5	-0.2
ZAK				e		17 29 33.0	
ZAK				pmax	pmax		
	comp=Z,79nm,0.9s,mb5.7						
ZAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
CN2	Changchun	48.64	28	eP	P	17 28 08.3	-1.2
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
KURK	Kurchatov	50.42	345	eP	P	17 28 22.5	-0.5
	comp=Z,28nm,0.9s,mb5.3						
KURK	Kurchatov	50.42	345	eP	P	17 28 22.5	-0.5
KURK				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
HIA	Hailar	50.79	20	eP	P	17 28 25.6	-0.3
	comp=Z,36nm,1.0s,mb5.2						
HIA	Hailar	50.79	20	eP	P	17 28 25.6	-0.3
HIA				pmax	pmax		
	comp=Z,36nm,1.0s						
MDJ	Mudanjiang	51.25	30	P	P	17 28 29.8	+0.3
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,67nm,3.7s						
MDJ				LR	LR		
	comp=N,57nm,17.4s,MS4.1						
MDJ				LR	LR		
	comp=E,154nm,16.1s,MS4.1						
MDJ				LR	LR		
	comp=Z,110nm,18.0s,MS3.9						
MDJ	Mudanjiang	51.25	30	eP	P	17 28 29.6	+0.1
	comp=Z,9.2nm,0.9s,mb4.7						
MAJO	Matsushiro	51.40	43	eP	P	17 28 29.7	-1.0
	comp=Z,8.8nm,0.8s,mb4.7						
MAJO	Matsushiro	51.40	43	eP	P	17 28 29.7	-1.0
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
MAT	Matsushiro	51.40	43	P	P	17 28 29.7	-1.0
MAT	Matsushiro	51.40	43	eP	P	17 28 30.0	-0.7
	comp=Z,10nm,1.1s,mb4.7						
MAT	Matsushiro	51.40	43	eP	P	17 28 30.0	-0.7
MAT				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
MJAR	Matsushiro Arr	51.40	43	P	P	17 28 30.3	-0.4
	comp=Z,6.6nm,0.8s,mb4.6,baz=210,slow=6.4,SNR=14						
MJAR				PcP	PcP	17 29 44.9	-0.3
	comp=Z,3.9nm,0.9s,baz=230,slow=3.6,SNR=5.9						

MJAR LR LR 17 51 53.2
comp=Z,150nm,19.5s,MS4.0,baz=245,slow=38
CIT Chita 51.50 14 *e*P **P 17 28 31.0 -0.2**
CIT *e* pP 17 28 41.6 +1.5
CIT pmax pmax
comp=Z,67nm,1.6s,mb5.3
PMG Port Moresby 51.97 104 *e*P **P 17 28 34.5 -0.8**
comp=Z,42nm,0.8s,mb5.4
PMG Port Moresby 51.97 104 *e*P **P 17 28 34.5 -0.8**
PMG pmax pmax
comp=Z,42nm,0.8s
ZAL Zalesovo 52.24 351 P **P 17 28 36.5 -0.3**
comp=Z,34nm,0.5s,mb5.6,baz=307,slow=5.5,SNR=142
OPO Ambohidratompo 52.65 245 P **P 17 28 40.4 +0.1**
comp=Z,2.5nm,1.0s,mb4.1,baz=54,slow=13,SNR=2.0
CTA Charters Tower 53.81 117⇓*i*P **P 17 28 48.9 +0.1**
comp=Z,20nm,0.9s,mb5.0
CTA Charters Tower 53.81 117⇓*i*P **P 17 28 48.9 +0.1**
CTA pmax pmax
comp=Z,20nm,0.9s
CTAO Charters Tower 53.81 117 *e*P **P 17 28 48.9 +0.1**
comp=Z,36nm,1.0s,mb5.3
CTAO Charters Tower 53.81 117 *e*P **P 17 28 48.9 +0.1**
CTAO pmax pmax
comp=Z,36nm,1.0s,mb5.3
VOSK Vostochnaya 54.39 341 P **P 17 28 51.6 -1.1**
VOSK pmax pmax
comp=Z,11nm,0.6s,mb5.0
STKA Stephens Creek 54.80 132⇓*i*P **P 17 28 55.7 -0.3**
comp=Z,12nm,0.7s,mb5.0
STKA Stephens Creek 54.80 132 P **P 17 28 55.7 -0.3**
comp=Z,7.3nm,0.8s,mb4.8,baz=330,slow=8.6,SNR=9.5
STKA LR LR 17 54 02.7
comp=Z,232nm,19.1s,MS4.3,baz=24,slow=38
BVA0 Borovoye Array 54.84 341 *i*P **P 17 28 54.9 -1.1**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BRVK Borovoye 54.90 341 *e*P **P 17 28 55.1 -1.4**
comp=Z,16nm,0.8s,mb5.1
BRVK Borovoye 54.90 341 *e*P **P 17 28 55.1 -1.4**
BRVK pmax pmax
comp=Z,16nm,0.8s,mb5.1
KLR Kul'dur 55.58 27 *e*P **P 17 28 58.4 -3.0**
KLR MLR MLR
comp=N,800nm,15.0s,MS5.0
KLR MLR MLR
comp=E,500nm,15.0s,MS5.0
KLR MLR MLR
comp=Z,1μm,15.0s,MS5.0
AB31 Akbulak array 56.05 332 *i*P **P 17 29 03.8 -1.0**
AB31 pmax pmax
comp=Z,21nm,0.9s,mb5.2
BOD Bodaibo 57.00 11 *e*P **P 17 29 10.9 -0.6**
BOD pmax pmax
comp=Z,24nm,1.0s,mb5.2
AKTO Aktyubinsk 57.77 332 P **P 17 29 15.6 -1.4**
AKTO pmax pmax
comp=Z,30nm,2.5s,mb4.9
KMBO Kilima Mbogo 59.18 267 P **P 17 29 28.1 +0.8**
comp=Z,2.0nm,0.9s,mb4.2,baz=65,slow=22,SNR=4.7
KMBO LR LR 17 51 14.3
comp=Z,236nm,18.1s,MS4.4,baz=96,slow=32
YSS Yuzh-Sakhalins 59.85 35 *e*P **P 17 29 31.2 -0.3**
comp=Z,23nm,0.9s,mb5.2
YSS *e*pP pP 17 29 39.7 -0.9
YSS Yuzh-Sakhalins 59.85 35 *e*P **P 17 29 31.3 -0.2**
YSS *e**PP pP 17 29 39.7 -0.9
YSS pmax pmax
comp=Z,23nm,0.9s,mb5.2
TI2 Plekhanov 60.51 318 *i*P **P 17 29 28.4 -7.7**
SVE Sverdlovsk 61.26 339 *e*P **P 17 29 40.2 -0.7**
SVE *e*S **S 17 38 02.0 +4.7**
SVE MLR MLR
comp=N,100nm,15.0s,MS4.2
SVE MLR MLR
comp=E,100nm,15.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,15.0s,MS4.4
ARU Arti 61.75 337 *e*P **P 17 29 42.5 -1.7**
comp=Z,13nm,0.9s,mb5.1
ARU Arti 61.75 337⇑*i*P **P 17 29 42.9 -1.4**
ARU *e* 17 30 22.2
ARU *e* 17 31 57.8
ARU *e*PPP PPP 17 33 25.0 -6.1
ARU *e*S **S 17 38 04.9 +1.4**
ARU *e*SS SS 17 42 07.3 +0.3
ARU pmax pmax
comp=Z,14nm,0.8s,mb5.1
KIV Kislovodsk 62.84 319 *e*P **P 17 29 50.8 -0.9**
comp=Z,18nm,1.0s,mb5.2
KIV Kislovodsk 62.84 319⇓*i*P **P 17 29 51.0 -0.7**
KIV *e* 17 30 04.0
KIV *e*S **S 17 38 18.4 +1.0**
KIV pmax pmax
comp=Z,13nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,100nm,23.0s,MS3.9
MALT Malatya 63.69 312 *e*P **P 17 29 57.0 -0.4**
comp=Z,3.4nm,0.8s,mb4.4
MALT *e*pP pP 17 30 05.1 -1.4
MALT Malatya 63.69 312 *e*P **P 17 29 57.0 -0.4**
MALT *e**PP pP 17 30 05.1 -1.4
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YAK Yakutsk 64.52 17 *e*P **P 17 30 01.1 -1.3**
comp=Z,119nm,0.9s,mb5.9
YAK *e*pP pP 17 30 08.7 -2.8
YAK Yakutsk 64.52 17 *e*P **P 17 30 01.1 -1.3**
YAK *e**PP pP 17 30 08.7 -2.8
YAK pmax pmax
comp=Z,119nm,0.9s,mb5.9
SOC Sochi 64.66 318 *e*P **P 17 30 01.8 -1.8**
SOC *e* 17 30 41.1
SOC *e*PPP PPP 17 33 53.4 -7.7
SOC *e*S **S 17 38 41.4 +1.4**
SOC pmax pmax
comp=N,12nm,0.8s
SOC pmax pmax
comp=Z,19nm,0.8s,mb5.2
SOC pmax pmax
comp=E,16nm,1.2s
SOKR Solikamsk 64.66 339⇑*i*P **P 17 30 02.6 -0.8**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOKR MLR MLR
comp=Z,320nm,19.0s,MS4.5
ANN Anapa 66.63 318 *e*P **P 17 30 14.4 -1.9**
ANN *i**PP pP 17 30 24.5 -0.9
ANN *e*S S 17 39 04.3 +0.1
ANN pmax pmax
comp=Z,30nm,1.8s,mb5.0
VRHR Novokhopersk 66.66 326 *e*P **P 17 30 14.6 -1.7**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.3
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,1.1s
BRTR Keskin Array B 67.67 312 P **P 17 30 21.8 -1.2**
comp=E,5.1nm,0.8s,mb4.6,baz=128,slow=7.0,SNR=20
BR131 Keskin Array S 67.67 312 *e*P **P 17 30 21.8 -1.1**
comp=E,3.8nm,0.7s,mb4.5
VRSR Storozhevoye 68.08 325 *e*P **P 17 30 23.5 -1.8**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
OBN Obninsk 71.15 328 *e*P **P 17 30 43.2 -0.8**
OBN *e*SS SS 17 44 31.3 -2.0
OBN pmax pmax
comp=Z,17nm,0.8s,mb5.0
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
PET Petropavlovsk 71.72 34 *e*P **P 17 30 47.2 -0.3**
comp=Z,22nm,0.7s,mb5.2
PET Petropavlovsk 71.72 34 *e*P **P 17 30 47.3 -0.2**
PET pmax pmax
comp=Z,36nm,0.7s,mb5.4
PET MLR MLR
comp=Z,100nm,18.0s,MS4.1
TIXI Tiksi 72.16 10 *e*P **P 17 30 45.2 -4.6**
TIXI *e*S S 17 40 07.5 -1.3
TIXI pmax pmax
comp=Z,25nm,1.0s,mb5.1

TIRR Tirgusor 72.67 316⇓*i*P **P 17 30 52.7 -0.6**
CFR Carcaliu 73.03 317⇑*i*P **P 17 30 54.5 -0.9**
HARR Harsova 73.06 316⇑*i*P **P 17 30 54.8 -0.7**
MAW Mawson 73.69 193 P **P 17 30 59.9 +1.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=266,slow=8.6,SNR=4.1
AKASG Malin Array Be 73.79 322 P **P 17 30 58.5 -1.1**
comp=Z,8.7nm,0.6s,mb4.8,baz=92,slow=4.6,SNR=41
VRI Vrincioaia 74.16 317⇓*i*P **P 17 31 02.6 +0.7**
MLR Muntele Rosu 74.61 317⇑*i*P **P 17 31 05.4 +0.9**
BURAR Bucovina Array 75.56 319⇓*i*P **P 17 31 10.9 +1.0**
BURAR Bucovina Array 75.56 319⇓*i*P **P 17 31 10.9 +1.0**
JOF Joensuu 76.70 335 *e*p **P 17 31 14.8 -1.2**
comp=Z,8.9nm,0.8s,mb4.8
APA Apatity 77.71 340⇓*i*P **P 17 31 20.3 -1.2**
APA pmax pmax
comp=Z,18nm,1.0s,mb5.0
KOLS Kolonicke sedl 77.75 320 *e*P **P 17 31 22.8 +0.7**
CRVS Cervenica-Dubn 78.27 319 *e*P **P 17 31 24.9 -0.1**
STHS Stebnicka Huta 78.50 320 *e*P **P 17 31 27.7 +1.5**
FINES FINESS Array B 78.54 333 P **P 17 31 26.2 0.0**
comp=Z,9.9nm,0.6s,mb4.9,baz=90,slow=5.7,SNR=42
FINES LR LR 18 11 16.7
comp=Z,178nm,18.1s,MS4.4,baz=115,slow=40
KAF Kangasniemi 78.63 333 *e*p **P 17 31 26.0 -0.7**
comp=Z,14nm,0.7s,mb5.0,baz=102,slow=5.1
KAF Kangasniemi 78.63 333 *e*P **P 17 31 26.0 -0.7**
KAF pmax pmax
comp=Z,14nm,0.7s,mb5.0
KECS Kecovo 78.84 319 *e*P **P 17 31 28.2 +0.1**
PSZ Piszkesteto 79.14 318 *e*P **P 17 31 30.1 +0.3**
comp=Z,5.6nm,0.7s,mb4.6
PSZ *e*pP pP 17 31 37.2 -1.8
PSZ Piszkesteto 79.14 318 *e*P **P 17 31 30.1 +0.3**
PSZ *e**PP pP 17 31 37.2 -1.9
PSZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
OJC Ojcow 79.55 321 *e*P **P 17 31 32.3 +0.3**
VYHS Vyhne 79.93 319 *e*P **P 17 31 33.7 -0.3**
OKC Ostrava-Krasne 80.55 320 *e*P **P 17 31 37.6 +0.3**
KEV Kevo 80.69 341 *e*p **P 17 31 37.3 -0.3**
comp=Z,10nm,0.8s,mb4.8
KEV Kevo 80.69 341 *e*P **P 17 31 37.3 -0.3**
KEV pmax pmax
comp=Z,11nm,0.8s,mb4.8
SYO Syowa Base 80.88 198⇓PcP PcP 17 31 46.3 +0.8
SYO Syowa Base 80.88 198⇓pP pP 17 31 47.8 -0.1
MORC Moravsky Berou 80.93 320 *e*P **P 17 31 39.3 0.0**
comp=Z,4.0nm,0.9s,mb4.3
MORC Moravsky Berou 80.93 320 *e*P **P 17 31 39.3 0.0**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ZST Bratislava 81.04 318 *e*P **P 17 31 40.5 +0.6**
ZST *e*pP pP 17 31 47.9 -1.3
ARCES ARCESS Array B 81.12 340 P **P 17 31 40.5 +0.6**
comp=Z,4.6nm,0.5s,mb4.7,baz=96,slow=4.9,SNR=70
ARCES LR LR 18 13 14.4
comp=Z,157nm,18.1s,MS4.4,baz=298,slow=40
ARE0 ARCESS Array S 81.12 340 *e*P **P 17 31 39.7 -0.2**
DPC Dobruska-Polom 81.78 320 *e*P **P 17 31 44.7 +1.0**
UPC Upice 82.00 321 *e*pP pP 17 31 52.2 -1.9
PERS Pernice 82.23 317 *e*P **P 17 31 46.6 +0.5**
VISS Visnje 82.35 316 *e*P **P 17 31 47.2 +0.4**
PRU Pruhonice 82.89 320 *e*P **P 17 31 50.5 +1.0**
BRG Berggiesshubel 83.34 321 *e*P **P 17 31 52.4 +0.6**
comp=Z,3.5nm,0.8s,mb4.4
BRG Berggiesshubel 83.34 321 *e*P **P 17 31 52.4 +0.6**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
GERES GERESS Array B 83.35 319 P **P 17 31 52.8 +0.9**
comp=Z,4.4nm,0.8s,mb4.6,baz=99,slow=5.3,SNR=35
KHC Kasperske Hory 83.45 319 *e*P **P 17 31 52.4 0.0**
KHC *e*pP pP 17 32 00.0 -1.7
CLL Collm 83.96 321 P **P 17 31 55.0 +0.1**
comp=Z,logA/T=0.7,mb4.6
CLL *e* 17 32 17.0
CLL Collm 83.96 321 *e*P **P 17 31 55.0 +0.1**
comp=Z,6.0nm,1.1s,mb4.6
CLL *e* 17 32 17.0
CLL Collm 83.96 321 *e*P **P 17 31 55.0 +0.1**
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
GRA1 Grafenberg Arr 85.02 319 *e*P **P 17 32 01.2 +1.0**
comp=Z,8.0nm,0.8s,mb4.9
GRA1 *e*pP pP 17 32 08.5 -1.1
GRF Grafenberg Arr 85.02 319 *e*P **P 17 32 01.2 +1.0**
comp=Z,8.0nm,0.8s,mb4.9
GRF *e*pP pP 17 32 08.5 -1.1
GRF Grafenberg Arr 85.02 319 *e*P **P 17 32 01.2 +1.0**
GRF *e**PP pP 17 32 08.5 -1.1
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
GRF Grafenberg Arr 85.02 319 *e*P **P 17 32 01.2 +1.0**
GRF *e**PP pP 17 32 08.5 -1.1
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
NB2 NORSAR Subarra 85.54 331 P **P 17 32 02.6 0.0**
comp=Z,9.0nm,1.0s,mb5.0,baz=91,slow=5.0
NB2 NORSAR Subarra 85.54 331 P **P 17 32 02.6 0.0**
NB2 pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
NOA NORSAR Array B 85.54 331 P **P 17 32 02.8 +0.2**
comp=Z,4.3nm,0.9s,mb4.7,baz=95,slow=4.9,SNR=7.1
NOA LR LR 18 14 22.6
comp=Z,85nm,20.5s,MS4.1,baz=100,slow=38
NOA NORSAR Array B 85.54 331 P **P 17 32 02.8 +0.2**
NOA LR LR 18 14 22.6
VNDA Vanda 87.17 169 LR LR 18 09 50.3
comp=Z,130nm,18.5s,MS4.4,baz=294,slow=35
LPG La Plagne 88.01 315 *e*P **P 17 32 15.8 +0.8**
comp=Z,8.9nm,0.7s,mb4.8
LPG La Plagne 88.01 315 *e*P **P 17 32 15.8 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ILAR Eielson Array 98.93 23 P **P 17 33 03.8 -1.0**
comp=Z,0.4nm,0.8s,mb4.0,baz=305,slow=3.9,SNR=4.3
ILAR LR LR 18 26 01.5
comp=Z,100nm,18.7s,MS4.3,baz=355,slow=40
MOD Modoc 124.80 33 *e*PKPdf PKPdf 17 38 25.9 -2.8
DLMT Dillon 125.94 25 *e*PKPdf PKPdf 17 38 27.8 -3.0
BOZ Bozeman (W) 126.11 24 *e*PKPdf PKPdf 17 38 28.2 -2.9
ULM Lac du Bonnet 126.51 10 PKP PKPdf 17 38 27.3 -4.4
comp=Z,4.7nm,0.8s,baz=349,slow=2.6,SNR=7.4
ULM Lac du Bonnet 126.51 10 *e*PKPdf PKPdf 17 38 28.0 -3.8
HLID Hailey 126.55 28 *e*PKPdf PKPdf 17 39 04.4 -2.6
LOHW Long Hollow 128.19 25 *e*PKPdf PKPdf 17 38 32.5 -2.8
ELK Elko 128.29 30 *e*PKPdf PKPdf 17 38 33.1 -2.4
NVAR Mina Array Bea 128.30 35 PKP PKPdf 17 38 33.5 -2.1
comp=Z,1.5nm,0.8s,baz=270,slow=0.5,SNR=7.0
PDAR Pinedale Array 129.32 25 PKP PKPdf 17 38 34.6 -2.8
comp=Z,0.9nm,0.6s,baz=300,slow=1.2,SNR=6.4
HWUT Hardware Ranch 129.39 27 *e*PKPdf PKPdf 17 38 34.8 -2.8
ANMO Albuquerque 137.13 28 *e*PKPdf PKPdf 17 38 49.9 -2.2
MNTX Cornudas Mount 140.30 30 *e*PKPdf PKPdf 17 38 56.0 -2.0
TXAR Lajitas Array 143.08 30 PKP PKPdf 17 38 57.2 -5.8
comp=Z,2.2nm,0.7s,baz=270,slow=2.5,SNR=9.5
CPUP Villa Florida 145.28 224 PKPbc PKPbc 17 39 03.1 +0.8
comp=Z,2.6nm,0.8s,baz=163,slow=3.1,SNR=4.9

CICH Cipreses 1.20 187⇓*i*P Pb 17 46 16.5 +0.4
CICH *i* S Sb 17 46 33.5 +2.3
LNV Longovilo 1.28 229 *e*P Pn 17 46 16.9 -0.4

IDC ***16*** *17:59:19.8±15.0, 30.24N×81.68E, mb3.6/4, mb1 3.6/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=297.1km s-min=59.8km az=142.0*
NDI ***16*** *17:59:20.1±5.3, 30.11N×81.88E, h15km±46km, ML3.4*
NEIC ***16*** *17:59:24.0±1.6, 30.57N×81.55E, h10km, mb3.9/1, Error ellipse: s-maj=31.9km s-min=15.5km az=28.0*
ISC 16 17:59:21.0±0.8, 30.42N±0.06×81.65E±0.06, h10km, n12, σ1§30/17, mb3.6/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**1.52**	**236**	*e*P	**Pn**	**17 59 47.0**	**-1.3**
PTH				*e*S	**Sb**	**18 00 05.0**	**-2.9**
LGTI	**Lohaghat**	**1.55**	**232**	*e*P	**Pg**	**17 59 50.5**	**-1.6**
LGTI				*e*S	**Sg**	**18 00 13.0**	**+0.2**
KLP	**Kalpa**	**3.13**	**292**	*e*P	**Pb**	**18 00 15.4**	**-0.9**
KLP				*e*S	**Sb**	**18 00 55.8**	**+1.1**
KLP				AML	AML	18 01 01.3	
	comp=E,145nm,0.7s						
KLP				AML	AML	18 01 08.6	
	comp=N,139nm,0.4s						
NDI	**New Delhi**	**4.23**	**247**	*e*PB	**Pb**	**18 00 36.0**	**+0.8**
NDI				*e*SB	**Sb**	**18 01 29.0**	**+2.2**
SONA	**Sohna**	**4.54**	**243**	*e*P	**Pb**	**18 00 44.5**	**+4.0**
SONA				*e*S	**Sb**	**18 01 36.0**	**+0.4**
SONA				AML	AML	18 01 52.4	
	comp=N,35nm,0.6s						
SONA				AML	AML	18 01 53.2	
	comp=E,36nm,0.6s						
LSA	**Lhasa**	**8.26**	**93**	*e*Pn	**P**	**18 01 25.7**	**+1.9**
MKAR	**Makanchi Array**	**16.36**	**2**	Pn	**P**	**18 03 10.8**	**-1.5**
	baz=186,slow=13,SNR=2.4						
KURK	**Kurchatov**	**20.41**	**354**	*e*P	**P**	**18 04 00.4**	**-0.3**
	comp=E,7.6nm,1.3s						
ZAL	**Zalesovo**	**23.62**	**5**	P	**P**	**18 04 34.3**	**+1.5**
	comp=E,0.8nm,0.4s,mb3.5,baz=277,slow=3.9,SNR=4.0						
AKASG	**Malin Array Be**	**43.64**	**313**	P	**P**	**18 07 27.6**	**+0.4**
	comp=E,0.1nm,0.3s,mb3.0,baz=81,slow=7.3,SNR=3.4						
FINES	**FINESS Array B**	**47.44**	**327**	P	**P**	**18 07 55.9**	**-1.4**
	comp=E,0.7nm,0.5s,mb3.9,baz=117,slow=8.5,SNR=7.3						
ARCES	**ARCESS Array B**	**50.15**	**338**	P	**P**	**18 08 18.1**	**0.0**
	comp=E,1.8nm,0.9s,mb4.1,baz=90,slow=7.3,SNR=5.1						

IDC ***16*** *18:20:39.8±1.2, 36.95N×95.78E, mb3.9/8, mb1 4.1/11, mb1mx4.0/22, mbtmp4.0/11, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/29, Error ellipse: s-maj=46.0km s-min=22.2km az=50.0*
BJI ***16*** *18:20:42.8, 37.43N×95.75E, h26km, mB4.6, mb4.6, ML4.3, Ms3.9, Msz3.7*
NEIC ***16*** *18:20:42.8±0.7, 37.14N×95.63E, h10km, mb4.1/3, Error ellipse: s-maj=17.5km s-min=11.8km az=223.0*
MOS ***16*** *18:20:43.1±0.9, 37.04N×95.81E, h36km, mb4.2/4, Error ellipse: s-maj=24.7km s-min=9.6km az=122.2*
ISC 16 18:20:40.5±2.7, 37.18N±0.09×95.58E±0.07, h2km±17km, n31, σ0§89/37, mb4.1/12, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**4.01**	**55**	P	**Pn**	**18 21 44.6**	**+0.4**
GTA				PG	**Pg**	**18 21 52.1**	**-8.4**
GTA				S	**Sn**	**18 22 27.8**	**-4.7**
GTA				SG	**Sg**	**18 22 38.6**	**-15**
GTA				Smax			
	comp=N,72nm,0.8s						
GTA				Smax			
	comp=E,69nm,1.0s						
GTA				LR	LR		
	comp=N,669nm,9.2s						
GTA				LR	LR		
	comp=E,811nm,9.6s						
GTA				LR	LR		
	comp=Z,896nm,9.6s						
LZH	**Lanzhou**	**6.74**	**97**	P	**Pn**	**18 22 22.4**	**-0.4**
LZH				PG	**Pg**	**18 22 37.3**	**-18**
LZH				S	**Sn**	**18 23 41.9**	**+0.8**
LZH				Smax			
	comp=N,177nm,0.8s						
LZH				Smax			
	comp=E,206nm,0.8s						
LZH				LR	LR		
	comp=N,792nm,8.3s						
LZH				LR	LR		
	comp=Z,612nm,10.3s						
WMQ	**Urumqi**	**8.94**	**320**	P	**P**	**18 22 53.5**	**-0.2**
WMQ				AP		18 23 00.3	
WMQ				XP		18 23 05.0	
WMQ				S	**Sn**	**18 24 35.0**	**-1.2**
WMQ				XS		18 24 46.0	
WMQ				AMB	AMB		
	comp=Z,113nm,4.8s						
WMQ				LR	LR		
	comp=N,442nm,5.0s						
WMQ				LR	LR		
	comp=E,390nm,6.2s						
SONM	**Songino Array**	**13.29**	**33**	Pn	**P**	**18 23 52.3**	**-0.4**
	comp=E,2.3nm,0.3s,baz=217,slow=15,SNR=36						
SONM				LR	LR	18 29 42.5	
	comp=E,82nm,18.0s,baz=331,slow=40						
MKAR	**Makanchi Array**	**13.76**	**318**	Pn	**P**	**18 23 57.4**	**-1.5**
	comp=E,1.0nm,0.3s,baz=125,slow=14,SNR=63						
MKAR	**Makanchi Array**	**13.76**	**318**	*e*P	**P**	**18 23 57.1**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GYA	**Guiyang**	**14.24**	**136**	P	**P**	**18 24 03.8**	**-1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
ZAK	**Zakamensk**	**14.31**	**20**	*e*P	**P**	**18 24 13.3**	**+7.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**17.05**	**295**	*e*P	**P**	**18 24 43.0**	**+1.5**
	comp=Z,5.0nm,1.1s						
AAK	**Ala-Archa**	**17.05**	**295**	*e*P	**P**	**18 24 43.0**	**+1.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURK	**Kurchatov**	**18.16**	**324**	*e*P	**P**	**18 24 55.5**	**+0.2**
	comp=Z,4.5nm,0.8s						
KURK	**Kurchatov**	**18.16**	**324**	*e*P	**P**	**18 24 55.6**	**+0.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAL	**Zalesovo**	**18.34**	**339**	P	**P**	**18 24 57.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=330,slow=9.8,SNR=4.7						
KKAR	**Karatay Array**	**20.02**	**295**	P	**P**	**18 25 17.5**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VOSK	**Vostochnaya**	**23.17**	**320**	P	**P**	**18 25 49.8**	**+0.8**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
BVA0	**Borovoye Array**	**23.63**	**320**	*i*P	**P**	**18 25 54.9**	**+1.4**
BVAR	**Borovoye Array**	**23.63**	**320**	P	**P**	**18 25 55.0**	**+1.5**
	comp=Z,3.8nm,0.6s,mb4.0,baz=114,slow=9.4,SNR=30						
BRVK	**Borovoye**	**23.70**	**320**	*e*P	**P**	**18 25 55.6**	**+1.4**
	comp=Z,4.2nm,0.6s,mb4.0						
BRVK				*e*		18 26 03.4	
BRVK	**Borovoye**	**23.70**	**320**	*e*P	**P**	**18 25 55.6**	**+1.4**
BRVK				*e*		18 26 03.4	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
ARU	**Arti**	**31.28**	**320**	*e*P	**P**	**18 27 03.3**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.2						
ARU	**Arti**	**31.28**	**320**	*e*P	**P**	**18 27 03.3**	**-0.4**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
JOF	**Joensuu**	**46.07**	**325**	*e*p	**P**	**18 29 06.6**	**-0.5**
BRTR	**Keskin Array B**	**47.72**	**293**	P	**P**	**18 29 20.9**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=90,slow=8.4,SNR=4.2						
AKASG	**Malin Array Be**	**48.08**	**308**	P	**P**	**18 29 22.8**	**-0.3**
	comp=Z,0.1nm,0.2s,mb3.4,baz=67,slow=6.8,SNR=4.9						
FINES	**FINESS Array B**	**48.54**	**323**	P	**P**	**18 29 26.1**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=104,slow=7.9,SNR=7.2						
ARCES	**ARCESS Array B**	**48.77**	**334**	P	**P**	**18 29 28.1**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=106,slow=6.6,SNR=3.9						
NB2	**NORSAR Subarra**	**55.68**	**324**	P	**P**	**18 30 19.1**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=73,slow=7.4						
NOA	**NORSAR Array B**	**55.68**	**324**	P	**P**	**18 30 19.0**	**-1.1**

GUC 16 17:45:54.2±0.6, 33.13S×70.25W, h19km±3km, MD3.5, ML2.0, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.20**	**191**⇑	*i*P	Pb	17 45 57.1	-2.2
FCH				*i* P		17 45 57.2	
FCH				*i* S	Sb	17 46 01.4	-1.4
FCH				AMP		17 46 01.7	
	comp=E,580nm,0.2s						
CLCH	**Cerro Calan**	**0.36**	**222**⇓	*i*P	Pb	17 46 01.5	-0.4
CLCH				*i* S	Sb	17 46 07.3	+0.2
CLCH				AMP		17 46 08.8	
	comp=N,248nm,0.2s						
JACH	**Jahuel**	**0.53**	**326**	*e*P	Pb	17 46 04.6	-0.1
JACH				*i* S	Sb	17 46 12.7	+0.8
PCH	**Pirque**	**0.54**	**204**	*e*P	Pb	17 46 04.5	-0.4
PCH				*i* S	Sb	17 46 13.1	+0.9
LMEL	**Las Melosas**	**0.72**	**177**⇑	*i*P	Pb	17 46 08.0	+0.1
LMEL				*i* S	Sb	17 46 18.4	+1.1
LMEL				AMP		17 46 25.5	
	comp=N,123nm,0.1s						
CHCH	**Chadas Angostu**	**0.87**	**203**	*e*P	Pb	17 46 10.6	+0.1
CACH	**El Canelo**	**1.03**	**197**	*e*P	Pb	17 46 13.8	+0.6
LCCH	**Las Cruces**	**1.16**	**252**⇓	*i*P	Pb	17 46 15.2	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.2nm,0.9s,mb4.2,baz=74,slow=7.0,SNR=4.0						
GERES	**GERESS Array B**	**58.24**	**310**	P	**P**	**18 30 37.4**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.4,baz=76,slow=5.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**61.86**	**147**	P	**P**	**18 31 04.0**	**+0.3**
	comp=Z,8.5nm,1.1s,mb4.8,baz=350,slow=6.1,SNR=4.3						
WRA	**Warramunga Arr**	**67.55**	**140**	P	**P**	**18 31 36.4**	**-4.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=337,slow=6.5,SNR=6.9						

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*BJI **16** 18:27:19.2, 5.21S×153.99E, h136km, mB4.7, mb4.5*
*NEIC **16** 18:27:20.8±0.3, 5.37S×154.13E, h150km, mb4.2/6, Error ellipse: s-maj=8.2km s-min=6.0km az=76.0*
*IDC **16** 18:27:20.9±2.3, 5.41S×154.12E, h150km±21km, mb4.1/16, mb1 4.1/19, mb1mx4.1/24, mbtmp4.6/19, Error ellipse: s-maj=15.3km s-min=11.9km az=81.0*
ISC 16 18:27:19.0±1.4**, 5.40S**±0.07×**154.17E**±0.05**, h148**km±14km**, n37, σ0.80**/39**, mb4.4**/21**, 1C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.99**	**125**	P	**P**	**18 29 01.3**	**+1.3**
	2.8nm,0.3s,baz=91,slow=4.0,SNR=4.6						
HNR				S	**S**	**18 30 16.6**	**-1.8**
	2.8nm,0.3s,baz=39,slow=15,SNR=2.8						
PMG	**Port Moresby**	**8.02**	**240**	P	**P**	**18 29 13.7**	**0.0**
	24nm,0.3s,baz=64,slow=5.9,SNR=105						
PMG				S	**S**	**18 30 44.0**	**+1.0**
	4.5nm,0.3s,baz=58,slow=17,SNR=6.8						
PMG	**Port Moresby**	**8.02**	**240**	*e*Pn	**P**	**18 29 13.5**	**-0.1**
	63nm,0.4s						
PMG				*e*Sn	**S**	**18 30 42.7**	**-0.4**
CTA	**Charters Tower**	**16.51**	**207**	*e*P	**P**	**18 31 04.3**	**+0.9**
	5.3nm,0.8s						
CTA	**Charters Tower**	**16.51**	**207**	P	**P**	**18 31 03.8**	**+0.3**
	0.2nm,0.3s,baz=35,slow=12,SNR=7.4						
CTAO	**Charters Tower**	**16.51**	**207**	*e*P	**P**	**18 31 04.2**	**+0.8**
	7.7nm,0.8s						
DZM	**Mont Dzumac**	**20.39**	**146**	P	**P**	**18 31 46.0**	**0.0**
	16nm,0.9s,baz=133,slow=22,SNR=15						
WRA	**Warramunga Arr**	**24.11**	**231**	P	**P**	**18 32 22.6**	**+0.2**
	28nm,0.7s,mb4.9,baz=54,slow=9.5,SNR=72						
ARMA	**Armidale**	**25.01**	**185**	*e*P	**P**	**18 32 31.5**	**+0.7**
STKA	**Stephens Creek**	**28.86**	**203**	*e*P	**P**	**18 33 04.4**	**-1.5**
	3.3nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**28.86**	**203**	P	**P**	**18 33 04.4**	**-1.5**
	6.7nm,1.0s,mb4.3,baz=174,slow=9.5,SNR=3.4						
FITZ	**Fitzroy Crossi**	**30.59**	**243**	⇑*i*P	**P**	**18 33 19.6**	**-1.8**
	32nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.59**	**243**	P	**P**	**18 33 19.7**	**-1.7**
	39nm,0.6s,mb5.3,baz=62,slow=4.0,SNR=60						
JOW	**Kunigami**	**40.68**	**323**	P	**P**	**18 34 46.9**	**+0.4**
	7.7nm,0.9s,mb4.3,baz=155,slow=9.7,SNR=3.9						
RPZ	**Rata Peaks**	**40.96**	**161**	P	**P**	**18 34 49.3**	**+0.6**
	15nm,0.8s,mb4.7,baz=179,slow=9.9,SNR=5.8						
NWAO	**Narrogin (SRO)**	**43.96**	**227**	P	**P**	**18 35 13.4**	**+0.2**
	7.2nm,0.8s,mb4.3,baz=154,slow=16,SNR=3.2						
JNU	**Nakatsue**	**44.22**	**332**	P	**P**	**18 35 14.2**	**-1.1**
	8.4nm,0.8s,mb4.5,baz=127,slow=3.1,SNR=6.4						
KSM	**Kuching**	**44.34**	**278**	*e*P	**P**	**18 35 16.1**	**-0.4**
ASAJ	**Asahikawa**	**50.38**	**349**	P	**P**	**18 36 04.0**	**+1.0**
	8.3nm,0.8s,mb4.4,baz=224,slow=7.1,SNR=5.7						
MDJ	**Mudanjiang**	**54.46**	**339**	P	**P**	**18 36 33.9**	**+0.5**
MDJ				AP	pP	18 37 08.5	+0.8
MDJ				XP	sP	18 37 24.9	+0.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,80nm,3.6s						
MDJ				LR	LR		
	comp=N,48nm,20.4s						
MDJ				LR	LR		
	comp=E,26nm,22.5s						
MDJ				LR	LR		
	comp=Z,62nm,20.4s						
SONM	**Songino Array**	**67.56**	**327**	P	**P**	**18 38 01.4**	**-0.2**
	comp=Z,1.3nm,0.6s,mb3.9,baz=143,slow=4.3,SNR=4.2						
LSA	**Lhasa**	**69.70**	**304**	*e*P	**P**	**18 38 15.3**	**+0.3**
	comp=Z,2.5nm,0.5s,mb4.2						
VNDA	**Vanda**	**72.19**	**178**	P	**P**	**18 38 28.9**	**-0.3**
	comp=Z,4.8nm,0.8s,mb4.3,baz=328,slow=6.4,SNR=37						
VNDA	**Vanda**	**72.19**	**178**	*e*P	**P**	**18 38 29.4**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.2						
PKI	**Pulchoki**	**73.91**	**301**	*e*P	**P**	**18 38 39.6**	**-0.5**
KKN	**Kakani**	**74.08**	**301**	*e*P	**P**	**18 38 40.9**	**-0.2**
DMN	**Daman**	**74.18**	**301**	*e*P	**P**	**18 38 41.6**	**0.0**
	comp=Z,28nm,0.9s,mb5.0						
GKN	**Gorkha**	**74.68**	**301**	*e*P	**P**	**18 38 44.1**	**-0.4**
	comp=Z,27nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**81.67**	**319**	P	**P**	**18 39 22.6**	**+0.3**
	comp=Z,2.2nm,0.8s,mb3.8,baz=104,slow=6.2,SNR=19						
ILAR	**Eielson Array**	**82.20**	**22**	P	**P**	**18 39 24.2**	**-0.4**
	comp=Z,1.8nm,0.6s,mb3.9,baz=245,slow=5.8,SNR=18						
ZAL	**Zalesovo**	**82.41**	**326**	P	**P**	**18 39 25.3**	**-0.6**
	comp=Z,1.2nm,0.4s,mb3.9,baz=2.2,slow=6.6,SNR=4.3						
ZAL	**Zalesovo**	**82.41**	**326**	P	**P**	**18 39 25.3**	**-0.6**
QSPA	**South Pole Qui**	**84.57**	**180**	*e*P	**P**	**18 39 37.0**	**+0.8**
	comp=Z,5.9nm,0.8s,mb4.4						
MAW	**Mawson**	**85.55**	**203**	P	**P**	**18 39 42.0**	**+0.8**
	comp=Z,6.7nm,0.6s,mb4.5,baz=104,slow=5.8,SNR=18						
INK	**Inuvik**	**88.52**	**21**	P	**P**	**18 39 57.0**	**+1.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=308,slow=5.3,SNR=3.8						
BVAR	**Borovoye Array**	**90.53**	**323**	P	**P**	**18 40 04.5**	**-0.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=101,slow=6.6,SNR=7.3						
GERES	**GERESS Array B**	**125.27**	**329**	PKP	PKPdf	18 46 04.4	+2.0
	comp=Z,0.4nm,0.7s,slow=1.3,SNR=4.6						

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*IDC **16** 18:28:46.4±0.9, 2.69S×139.20E, mb4.4/5, mb1 4.6/6, mb1mx4.3/11, mbtmp4.4/6, ML4.2/1, MS3.8/14, Ms1 3.8/14, ms1mx3.7/19, Error ellipse: s-maj=53.4km s-min=24.0km az=76.0*
*NEIC **16** 18:28:53.4±4.8, 2.84S×138.59E, h38km±43km, mb4.6/7, Error ellipse: s-maj=35.5km s-min=16.0km az=67.0*
ISC 16 18:28:50.7±0.6**, 2.62S**±0.08×**139.1E**±0.2**, h33**km**, n30, σ1.10**/22**, mb4.4**/12**, MS3.8**/13**, 2C, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.99**	**213**	⇑*i*P	**P**	**18 31 57.0**	**+15**
	50nm,0.8s						
KAKA				*e*S	**S**	**18 34 06.7**	**+11**
GUMO	**Guam**	**17.09**	**19**	LR	LR	18 39 12.1	
	comp=Z,105nm,18.7s,baz=140,slow=36						
WRA	**Warramunga Arr**	**17.83**	**195**	P	**P**	**18 32 54.8**	**-3.2**
	0.9nm,0.3s,baz=16,slow=13,SNR=7.2						
WRA				S	**S**	**18 36 04.3**	**-8.8**
	0.5nm,0.3s,baz=12,slow=22,SNR=6.1						
CTA	**Charters Tower**	**18.71**	**159**	P	**P**	**18 33 09.1**	**+0.1**
	0.1nm,0.3s,baz=52,slow=16,SNR=3.0						
CTA				LR	LR	18 40 44.5	
	comp=Z,577nm,18.3s,baz=47,slow=39						
FITZ	**Fitzroy Crossi**	**20.27**	**220**	LR	LR	18 42 00.1	
	comp=Z,316nm,20.1s,MS3.7,baz=69,slow=39						
FITZ	**Fitzroy Crossi**	**20.27**	**220**	*e*S	**S**	**18 36 58.6**	**-8.2**
ASPA	**Alice Springs**	**21.52**	**193**	*e*P	**P**	**18 33 38.3**	**-0.7**
ASPA				*e*S	**S**	**18 37 31.9**	**+1.3**
STKA	**Stephens Creek**	**29.20**	**176**	LR	LR	18 47 31.4	
	comp=Z,354nm,19.6s,MS4.0,baz=25,slow=39						
CBIJ	**Chichi jima**	**29.69**	**6**	LR	LR	18 46 16.3	
	comp=Z,67nm,19.6s,MS3.3,baz=262,slow=35						
JOW	**Kunigami**	**31.09**	**341**	LR	LR	18 45 06.0	
	comp=Z,127nm,20.1s,MS3.6,baz=138,slow=31						
JNU	**Nakatsue**	**36.39**	**348**	LR	LR	18 48 03.5	
	comp=Z,100nm,21.2s,MS3.6,baz=198,slow=32						
MJAR	**Matsushiro Arr**	**38.97**	**359**	LR	LR	18 50 28.2	
	comp=Z,108nm,21.6s,MS3.6,baz=125,slow=33						
KMI	**Kunming**	**44.76**	**310**	P	**P**	**18 37 03.0**	**-0.2**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.3						
KMI				LR	LR		
	comp=Z,97nm,29.9s,MS3.5						
SONM	**Songino Array**	**57.80**	**335**	LR	LR	19 02 06.1	
	comp=Z,86nm,18.4s,MS3.9,baz=232,slow=34						
YAK	**Yakutsk**	**64.88**	**355**	*e*P	**P**	**18 39 29.5**	**+0.8**
	comp=Z,10nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**69.95**	**322**	P	**P**	**18 40 00.9**	**+0.2**
	comp=Z,3.1nm,0.8s,mb4.3,baz=117,slow=8.1,SNR=14						
MKAR				LR	LR	19 10 43.3	
	comp=Z,30nm,18.9s,MS3.6,baz=182,slow=36						
PPT	**Papeete**	**71.42**	**108**	LR	LR	19 07 13.7	
	comp=Z,144nm,19.9s,MS4.2,baz=87,slow=32						
ZAL	**Zalesovo**	**72.06**	**330**	P	**P**	**18 40 12.1**	**-1.2**
	comp=Z,0.8nm,0.3s,mb4.1,baz=30,slow=7.3,SNR=3.7						
ZAL				LR	LR	19 12 25.8	
	comp=Z,68nm,20.4s,MS3.9,baz=198,slow=36						
ZAL	**Zalesovo**	**72.06**	**330**	P	**P**	**18 40 12.1**	**-1.2**
ZAL				LR	LR	19 12 25.8	
KURK	**Kurchatov**	**73.86**	**325**	*e*P	**P**	**18 40 23.5**	**-0.5**
	comp=Z,6.1nm,1.3s,mb4.4						
VNDA	**Vanda**	**75.83**	**175**	P	**P**	**18 40 33.6**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=321,slow=5.7,SNR=10						
VNDA				LR	LR	19 14 55.5	
	comp=Z,76nm,18.9s,MS4.0,baz=300,slow=37						
VNDA	**Vanda**	**75.83**	**175**	*e*P	**P**	**18 40 33.1**	**-1.7**
	comp=Z,2.5nm,0.8s,mb4.2						
SBA	**Scott Base**	**76.59**	**174**	*e*P	**P**	**18 40 39.0**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**79.46**	**325**	P	**P**	**18 40 55.7**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=114,slow=7.6,SNR=14						
BRVK	**Borovoye**	**79.53**	**325**	*e*P	**P**	**18 40 56.4**	**+0.6**
	comp=Z,6.9nm,1.4s,mb4.4						
MAW	**Mawson**	**82.35**	**202**	P	**P**	**18 41 12.1**	**+1.8**
	comp=Z,1.4nm,0.3s,mb4.3,baz=139,slow=9.3,SNR=3.6						
ILAR	**Eielson Array**	**85.59**	**24**	P	**P**	**18 41 26.1**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.5,baz=263,slow=4.8,SNR=16						
QSPA	**South Pole Qui**	**87.32**	**180**	⇑*i*P	**P**	**18 41 37.3**	**+2.4**
	comp=Z,9.0nm,1.1s,mb4.9						
YKA	**Yellowknife Ar**	**99.81**	**27**	LR	LR	19 22 55.6	
	comp=Z,68nm,20.0s,MS4.2,baz=355,slow=33						
LPAZ	**La Paz**	**147.19**	**126**	PKPbc	PKPdf	18 48 33.3	+4.0
	comp=Z,0.5nm,0.5s,baz=298,slow=1.6,SNR=5.2						

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*IDC **16** 18:52:48.6±1.2, 31.23S×68.88W, h94km±10km, mb3.5/5, mb1 3.7/9, mb1mx3.7/17, mbtmp3.9/9, Error ellipse: s-maj=38.2km s-min=13.2km az=86.0*
*GUC **16** 18:52:49.3±0.8, 31.31S×69.01W, h150km, MD3.9, ML4.0*
*NEIC **16** 18:52:49.2±0.4, 31.27S×68.70W, h102km±4km, mb4.1/5, MD3.9(GUC), Error ellipse: s-maj=7.2km s-min=4.4km az=92.0*
ISC 16 18:52:48.5±0.4**, 31.28S**±0.03×**68.74W**±0.05**, h113**km±4km**, n42, σ0.86**/53**, mb3.7**/9**, 10C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.54**	**128**	P	**P**	**18 53 06.3**	**+0.3**
	68nm,0.3s,baz=305,slow=7.2,SNR=2628						
CFAA				S	**S**	**18 53 19.1**	**-0.2**
	134nm,0.3s,baz=142,slow=19,SNR=214						
CMCH	**Combarbala**	**1.94**	**272**	⇓*i*P	**P**	**18 53 21.8**	**+0.5**
CMCH				*i* S	**S**	**18 53 46.2**	**+0.3**
CMCH				AMP		18 53 47.9	
	comp=N,3μm,0.4s						
TLL	**Tololo Astrono**	**2.10**	**301**	⇑*i*P	**P**	**18 53 24.6**	**+1.3**
TLL				*i* S	**S**	**18 53 51.1**	**+1.6**
TLL				AMP		18 53 55.2	
	comp=N,2μm,0.5s						
JACH	**Jahuel**	**2.11**	**228**	⇓*i*P	**P**	**18 53 24.1**	**+0.5**
JACH				*i* S	**S**	**18 53 50.7**	**+0.8**
FCH	**Farellones**	**2.43**	**212**	⇑*i*P	**P**	**18 53 28.9**	**+1.1**
FCH				*i* S	**S**	**18 53 59.5**	**+2.0**
FCH				AMP		18 54 08.3	
	comp=E,422nm,0.3s						
CHNG	**Los Chungos**	**2.43**	**255**	⇑*i*P	**P**	**18 53 27.6**	**-0.2**
CHNG				*i* S	**S**	**18 53 55.5**	**-2.1**
CHNG				AMP		18 54 02.9	
	comp=N,263nm,0.5s						
PEL	**Peldehue**	**2.49**	**221**	*e*P	**P**	**18 53 29.1**	**+0.5**
PEL				*e*S	**S**	**18 53 58.9**	**+0.1**
LSCH	**La Serena**	**2.56**	**302**	⇑*i*P	**P**	**18 53 29.6**	**+0.1**
LSCH				*i* S	**S**	**18 53 58.9**	**-1.5**
LSCH				AMP		18 54 01.8	
	comp=E,715nm,0.2s						
ROCH	**El Roble**	**2.56**	**228**	⇑*i*P	**P**	**18 53 29.2**	**-0.5**
ROCH				*i* S	**S**	**18 54 00.3**	**-0.4**
CLCH	**Cerro Calan**	**2.61**	**215**	⇑*i*P	**P**	**18 53 30.4**	**+0.2**
CLCH				*i* S	**S**	**18 54 01.9**	**+0.3**
CLCH				AMP		18 54 08.8	
	comp=N,649nm,0.5s						
DSCH	**Colegio Aleman**	**2.62**	**216**	*i* P	**P**	**18 53 30.6**	**+0.2**
DSCH				*i* S	**S**	**18 54 02.0**	**0.0**
DSCH				AMP		18 54 04.7	
	comp=E,935nm,0.6s						
SAN	**Santiago**	**2.71**	**216**	*i* S	**S**	**18 54 04.0**	**-0.2**
SAN				AMP		18 54 05.2	
	comp=N,401nm,0.6s						
PCH	**Pirque**	**2.78**	**212**	⇑*i*P	**P**	**18 53 33.1**	**+0.6**
ANTU	**Antumapu**	**2.79**	**215**	*e*P	**P**	**18 53 32.6**	**-0.1**
ANTU				*i* S	**S**	**18 54 06.0**	**0.0**
ANTU				AMP		18 54 07.4	
	comp=N,612nm,0.3s						
RCDM	**Rinconada Maip**	**2.82**	**218**	*e*P	**P**	**18 53 32.7**	**-0.3**
RCDM				*i* S	**S**	**18 54 06.1**	**-0.5**
RCDM				AMP		18 54 06.9	
	comp=N,718nm,0.5s						
LMEL	**Las Melosas**	**2.85**	**205**	*e*P	**P**	**18 53 33.8**	**+0.3**
LMEL				AMP		18 54 17.8	
	comp=N,254nm,0.2s						
TACH	**Talagante**	**3.01**	**218**	⇑*i*P	**P**	**18 53 34.7**	**-0.9**
CHCH	**Chadas Angostu**	**3.10**	**211**	⇓*i*P	**P**	**18 53 36.7**	**-0.2**
CHCH				*i* S	**S**	**18 54 12.4**	**-1.2**
CACH	**El Canelo**	**3.24**	**209**	⇓*i*P	**P**	**18 53 39.2**	**+0.4**
LCCH	**Las Cruces**	**3.25**	**227**	⇑*i*P	**P**	**18 53 37.6**	**-1.3**
CICH	**Cipreses**	**3.35**	**205**	⇑*i*P	**P**	**18 53 40.6**	**+0.4**
LVC	**Limon Verde**	**8.63**	**359**	P	**P**	**18 54 50.4**	**-1.5**
	comp=N,3.5nm,0.3s,baz=187,slow=8.4,SNR=23						
LVC				S	**S**	**18 56 23.9**	**-4.2**
	comp=N,0.1nm,0.3s,baz=63,slow=19,SNR=2.5						
LVC	**Limon Verde**	**8.63**	**359**	*e*Pn	**P**	**18 54 50.1**	**-1.8**
LVC				S	**S**	**18 56 23.9**	**-4.2**
TRQA	**Tornquist**	**8.76**	**142**	*e*Pn	**P**	**18 54 52.0**	**-1.6**
	comp=N,9.1nm,0.4s						
PLCA	**Paso Flores**	**9.55**	**188**	P	**P**	**18 55 02.3**	**-1.9**
	comp=N,0.4nm,0.3s,baz=348,slow=12,SNR=12						
LPAZ	**La Paz**	**14.93**	**2**	P	**P**	**18 56 15.3**	**+0.5**
	comp=N,0.3nm,0.3s,baz=184,slow=8.1,SNR=18						
LPAZ	**La Paz**	**14.93**	**2**	P	**P**	**18 56 15.3**	**+0.5**
SIV	**San Ignacio**	**16.75**	**26**	P	**P**	**18 56 38.1**	**+0.5**
	comp=N,0.4nm,0.3s,baz=215,slow=9.5,SNR=8.2						
SAML	**Samuel**	**22.81**	**14**	*e*P	**P**	**18 57 48.3**	**+6.0**
	comp=N,6.9nm,1.3s,mb3.8						
USHA	**Ushuaia**	**23.55**	**180**	P	**P**	**18 57 50.3**	**+1.3**
	comp=N,7.4nm,1.0s,mb4.0,baz=105,slow=1.3,SNR=2.9						
SNAA	**Sanae**	**53.08**	**159**	*e*P	**P**	**19 01 55.8**	**-0.1**
	comp=N,2.1nm,1.0s,mb4.1						
VNDA	**Vanda**	**67.30**	**190**	P	**P**	**19 03 33.5**	**+1.0**
	comp=N,0.3nm,0.9s,mb3.1,baz=318,slow=8.9,SNR=1.9						
TXAR	**Lajitas Array**	**68.83**	**328**	P	**P**	**19 03 42.9**	**+0.1**
	comp=N,0.3nm,0.7s,mb3.2,baz=63,slow=5.6,SNR=3.6						
WVT	**Waverly**	**69.40**	**344**	*e*P	**P**	**19 03 46.0**	**-0.2**
	comp=N,4.3nm,0.6s,mb4.5						
MNTX	**Cornudas Mount**	**71.61**	**328**	*e*P	**P**	**19 03 58.5**	**-1.0**
	comp=N,1.1nm,0.8s,mb3.7						
MAW	**Mawson**	**74.97**	**163**	P	**P**	**19 04 18.9**	**+0.5**
	comp=N,0.8nm,0.5s,mb3.7,baz=233,slow=9.3,SNR=4.1						
PDAR	**Pinedale Array**	**82.67**	**331**	P	**P**	**19 05 01.1**	**+0.4**
	comp=N,0.5nm,0.7s,mb3.5,baz=124,slow=5.3,SNR=4.1						
YAK	**Yakutsk**	**146.99**	**344**	*e*PKPbc	PKPbc	19 12 18.6	+2.0
AAK	**Ala-Archa**	**148.74**	**58**	*e*PKPbc	PKPdf	19 12 24.4	+6.1
KURK	**Kurchatov**	**149.00**	**42**	*e*PKPbc	PKPdf	19 12 25.1	+6.6
ZAL	**Zalesovo**	**150.44**	**32**	PKPbc	PKPdf	19 12 29.0	+8.4
	comp=N,1.7nm,0.4s,baz=113,slow=3.3,SNR=6.8						
MKAR	**Makanchi Array**	**152.88**	**47**	PKPbc	PKPdf	19 12 34.2	+10
	comp=N,0.8nm,0.8s,baz=306,slow=2.1,SNR=7.3						
MKAR				PKPab	PKPab	19 12 46.1	+0.4
	comp=N,1.3nm,0.8s,baz=294,slow=3.8,SNR=9.7						

IDC 16 18:53:44.6±1.3**, 22.50N**×**145.35E, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.6**/20**, mbtmp3.7**/4**, ML3.7**/1**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx2.3**/18**, Error ellipse: s-maj=49.4km s-min=26.8km az=88.0, North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.41**	**328**	Pn	Pn	18 55 07.2	-1.3
	5.6nm,0.3s,baz=90,slow=10,SNR=8.1						
CBIJ				Sn	Sn	18 56 06.2	-6.2
	7.4nm,0.3s,baz=113,slow=23,SNR=6.0						
GUMO	**Guam**	**8.87**	**183**	LR	LR	18 58 45.9	
	comp=Z,30nm,19.0s,baz=270,slow=34						
MJAR	**Matsushiro Arr**	**15.30**	**338**	Pn	P	18 57 27.6	+3.9
	0.3nm,0.3s,baz=166,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**43.53**	**195**	P	P	19 01 50.1	-1.9
	0.3nm,0.4s,baz=12,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**55.65**	**312**	P	P	19 03 22.7	-2.0
	0.3nm,0.7s,baz=96,slow=9.0,SNR=3.7						
ILAR	**Eielson Array**	**60.41**	**27**	P	P	19 03 55.1	-2.7
	0.6nm,0.8s,baz=269,slow=5.9,SNR=4.5						
PLCA	**Paso Flores**	**144.74**	**129**	PKP	PKPdf	19 13 23.2	-2.2
	0.9nm,0.7s,baz=226,slow=1.6,SNR=3.9						

IDC 16 18:58:36.9±4.1**, 22.82N**×**11.67W, mb4.0**/4**, mb1 4.0**/5**, mb1mx3.7**/23**, mbtmp4.0**/5**, ML3.9**/1**, Error ellipse: s-maj=157.3km s-min=32.6km az=87.0, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**17.34**	**157**	P	P	19 02 39.1	-3.0
	0.4nm,0.3s,baz=321,slow=13,SNR=6.1						
GERES	**GERESS Array B**	**32.84**	**31**	P	P	19 05 11.6	-2.7
	1.2nm,0.8s,baz=225,slow=9.4,SNR=7.8						
FINES	**FINESS Array B**	**46.47**	**24**	P	P	19 07 05.3	-1.9
	0.5nm,0.4s,baz=243,slow=6.2,SNR=8.1						
ARCES	**ARCESS Array B**	**51.72**	**16**	P	P	19 07 45.0	-2.7
	2.3nm,0.9s,baz=225,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**76.33**	**45**	P	P	19 10 28.8	-0.7
	0.7nm,0.5s,baz=293,slow=5.6,SNR=12						
WRA	**Warramunga Arr**	**148.26**	**91**	PKPbc	PKPdf	19 18 25.5	+1.4
	0.9nm,0.7s,baz=292,slow=2.4,SNR=12						

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*IDC **16** 19:29:21.0±3.0, 4.30S×153.77E, h71km±24km, mb4.0/6, mb1 4.2/7, mb1mx4.0/14, mbtmp4.4/7, Error ellipse: s-maj=31.1km s-min=17.9km az=121.0*
*NEIC **16** 19:29:26.8±2.9, 4.44S×153.51E, h120km±21km, mb4.3/11, Error ellipse: s-maj=26.8km s-min=10.9km az=74.0*
ISC 16 19:29:25.0±2.5**, 4.4S**±0.1×**153.55E**±0.07**, h117**km±23km**, n22, σ0.67**/23**, mb4.2**/15**, 2C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.05**	**232**	P	**P**	**19 31 20.4**	**-0.1**
	9.6nm,0.3s,baz=52,slow=8.5,SNR=41						
PMG				S	**S**	**19 32 51.1**	**+0.7**
	4.9nm,0.3s,baz=132,slow=21,SNR=16						
HNR	**Honiara**	**8.07**	**128**	S	**S**	**19 32 51.0**	**-0.1**
	7.1nm,0.3s,baz=35,slow=23,SNR=3.4						
WRA	**Warramunga Arr**	**24.25**	**229**	P	**P**	**19 34 33.0**	**+0.5**
	8.3nm,0.6s,mb4.2,baz=54,slow=9.9,SNR=72						
WRA				PcP	PcP	19 38 10.7	-0.2
	0.9nm,0.8s,baz=50,slow=2.3,SNR=5.1						
WRA				S	**S**	**19 38 50.9**	**+11**
	1.3nm,0.9s,baz=49,slow=16,SNR=5.1						
STKA	**Stephens Creek**	**29.53**	**201**	⇑*i*P	**P**	**19 35 19.3**	**-1.5**
	7.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**29.53**	**201**	P	**P**	**19 35 20.0**	**-0.7**
	6.9nm,0.8s,mb4.3,baz=25,slow=13,SNR=15						
FITZ	**Fitzroy Crossi**	**30.50**	**241**	⇑*i*P	**P**	**19 35 27.9**	**-1.5**
	6.6nm,0.6s,mb4.4						
KULM	**Kulim**	**53.70**	**280**	*e*P	**P**	**19 38 36.5**	**-1.1**
LSA	**Lhasa**	**68.64**	**304**	*e*P	**P**	**19 40 19.4**	**+1.4**
	2.8nm,0.7s,mb4.2						
PKI	**Pulchoki**	**72.88**	**300**	*e*P	**P**	**19 40 43.3**	**-0.2**
KKN	**Kakani**	**73.05**	**301**	*e*P	**P**	**19 40 44.5**	**+0.1**
	9.1nm,0.7s,mb4.7						
DMN	**Daman**	**73.15**	**300**	*e*P	**P**	**19 40 45.1**	**0.0**
	15nm,0.8s,mb4.9						
VNDA	**Vanda**	**73.19**	**178**	P	**P**	**19 40 45.1**	**+0.8**
	1.8nm,0.8s,mb4.0,baz=339,slow=6.5,SNR=13						
VNDA	**Vanda**	**73.19**	**178**	*e*P	**P**	**19 40 44.6**	**+0.3**
	1.8nm,0.8s,mb4.0						
GKN	**Gorkha**	**73.65**	**301**	*e*P	**P**	**19 40 47.7**	**-0.3**
	17nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**80.53**	**319**	P	**P**	**19 41 26.4**	**+0.6**
	0.4nm,0.5s,mb3.5,baz=104,slow=5.9,SNR=9.0						
ZAL	**Zalesovo**	**81.26**	**326**	P	**P**	**19 41 29.1**	**-0.4**
	0.6nm,0.3s,mb3.9,baz=97,slow=2.8,SNR=3.0						
KURK	**Kurchatov**	**83.93**	**322**	*e*P	**P**	**19 41 43.4**	**+0.3**
	2.0nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**84.94**	**313**	*e*P	**P**	**19 41 48.6**	**+0.1**
	1.6nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**85.54**	**180**	*e*P	**P**	**19 41 51.3**	**+0.7**
	1.8nm,0.3s,mb4.5						
MAW	**Mawson**	**86.21**	**203**	P	**P**	**19 41 54.0**	**0.0**
	1.9nm,0.8s,mb4.1,baz=84,slow=9.2,SNR=4.6						
BRVK	**Borovoye**	**89.45**	**323**	*e*P	**P**	**19 42 09.4**	**-0.4**
	0.9nm,0.8s,mb3.9						
GERES	**GERESS Array B**	**124.11**	**329**	PKP	PKPdf	19 48 11.4	+1.5
	0.7nm,1.0s,baz=45,slow=2.8,SNR=4.4						

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*IDC **16** 19:48:08.0±1.0, 18.84N×104.24W, mb4.3/10, mb1 4.5/12, mb1mx4.3/24, mbtmp4.2/12, ML3.7/1, MS3.9/11, Ms1 3.9/11, ms1mx3.6/27, Error ellipse: s-maj=42.0km s-min=16.6km az=63.0*
*NEIC **16** 19:48:11.8, 19.35N×104.77W, h120km, mb4.2/4, MD4.5(MEX), After MEX.*
*MEX **16** 19:48:12.7±0.4, 19.25N×104.67W, h110km±8km, MD4.8*
ISC 16 19:48:13.4±0.9**, 18.88N**±0.07×**104.44W**±0.05**, h46**km±6km**, n73, σ1.33**/79**, mb4.4**/15**, MS3.9**/9**, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.84**	**318**	*i* P	**P**	**19 48 28.0**	**-0.9**
CJM				*i* S	**S**	**19 48 39.5**	**-0.9**
CJM	**Chamela**	**0.84**	**318**	*i* P	**P**	**19 48 27.5**	**-1.4**
CJM				*i* S	**S**	**19 48 39.6**	**-0.8**
SFJM	**Santa Fe**	**2.08**	**39**	*i* P	**P**	**19 48 44.3**	**-2.2**
ZIIG	**Zihuatanejo**	**3.10**	**114**	*e*P	**P**	**19 49 02.4**	**+1.3**
ZIIG				*i* S	**S**	**19 49 43.7**	**+6.5**
MOIG	**Morelia**	**3.18**	**75**	*e*P	**P**	**19 49 02.6**	**+0.5**
MOIG				*i* S	**S**	**19 49 41.0**	**+1.9**
MOIG	**Morelia**	**3.18**	**75**	*e*P	**P**	**19 49 01.6**	**-0.6**
MOIG				*i* S	**S**	**19 49 41.4**	**+2.3**
CAIG	**El Cayaco**	**4.37**	**114**	*i* P	**P**	**19 49 21.0**	**+1.9**
CAIG				*i* S	**S**	**19 50 13.9**	**+4.5**
CAIG	**El Cayaco**	**4.37**	**114**	*i* P	**P**	**19 49 24.1**	**+5.0**
CAIG				*i* S	**S**	**19 50 18.4**	**+9.0**
PLIG	**Platanillo**	**4.71**	**95**	*e*P	**P**	**19 49 24.5**	**+0.7**
PLIG				*i* S	**S**	**19 50 19.2**	**+1.4**
ACX	**Acapulco**	**4.75**	**114**	*i* P	**P**	**19 49 26.6**	**+2.1**
IIZ	**Mezontepec**	**4.93**	**86**	*i* P	**P**	**19 49 27.1**	**+0.2**
MDVM	**Presa Madin**	**4.95**	**82**	*e*P	**P**	**19 49 25.0**	**-2.2**
UNM	**Universidad Na**	**5.00**	**84**	*e*P	**P**	**19 49 27.9**	**0.0**
UNM				*e*P		19 49 29.0	
UNM				*i* S	**S**	**19 50 25.2**	**+0.1**
UNM	**Universidad Na**	**5.00**	**84**	*e*P	**P**	**19 49 27.9**	**0.0**
UNM				*i* S	**S**	**19 50 25.2**	**+0.1**
PTVM	**Pico Tres Padr**	**5.09**	**81**	*e*P	**P**	**19 49 27.1**	**-2.0**
YAIG	**Yautepec**	**5.09**	**89**	*i* P	**P**	**19 49 28.0**	**-1.2**
YAIG				*i* S	**S**	**19 50 27.2**	**-0.2**
YAIG	**Yautepec**	**5.09**	**89**	*i* P	**P**	**19 49 28.0**	**-1.2**
YAIG				*i* S	**S**	**19 50 31.8**	**+4.4**
PPM	**Popocatepetl**	**5.51**	**87**	*e*P	**P**	**19 49 33.9**	**-1.1**
PPM				*e*P		19 49 35.0	
VHO	**Vista Hermosa**	**7.55**	**103**	*i* P	**P**	**19 50 02.2**	**-1.4**
VHO				*i* S	**S**	**19 51 31.2**	**+2.4**
VHO	**Vista Hermosa**	**7.55**	**103**	*i* P	**P**	**19 50 09.1**	**+5.5**
VHO				*i* S	**S**	**19 51 37.9**	**+9.1**
OXX	**Oaxaca**	**7.56**	**102**	*e*P	**P**	**19 50 00.0**	**-3.7**
OXX	**Oaxaca**	**7.56**	**102**	*e*P	**P**	**19 50 10.0**	**+6.3**
LTX	**Lajitas**	**10.43**	**4**	*e*P	**P**	**19 50 44.8**	**+1.4**
TXAR	**Lajitas Array**	**10.43**	**4**	Pn	**P**	**19 50 41.6**	**-1.6**
	0.1nm,0.3s,baz=186,slow=14,SNR=32						
TXAR				Lg		19 53 39.3	
	0.1nm,0.3s,baz=175,slow=26,SNR=3.8						
TXAR				LR	LR	19 54 30.7	
	comp=Z,275nm,19.1s,baz=190,slow=37						
MNTX	**Cornudas Mount**	**12.79**	**356**	*e*Pn	**P**	**19 51 16.5**	**+1.4**
MNTX				*e*pPn		19 51 26.0	
TUC	**Tucson**	**14.54**	**338**	*e*P	**P**	**19 51 42.9**	**+4.8**
ANMO	**Albuquerque**	**16.11**	**354**	Pn	**P**	**19 51 58.8**	**+0.6**
	baz=165,slow=12,SNR=16						
ANMO				LR	LR	19 58 57.1	
	comp=Z,614nm,18.5s,baz=65,slow=40						
ANMO	**Albuquerque**	**16.11**	**354**	*e*P	**P**	**19 52 02.2**	**+4.0**
WMOK	**Wichita Mounta**	**16.58**	**17**	*e*P	**P**	**19 52 02.0**	**-2.1**
	15nm,1.0s						
WUAZ	**Wupatki**	**17.67**	**341**	*e*P	**P**	**19 52 20.3**	**+2.4**
SDCO	**Great Sand Dun**	**18.82**	**357**	*e*P	**P**	**19 52 31.2**	**-0.7**
NEN	**Nelson**	**19.07**	**333**	*e*P	**P**	**19 52 33.3**	**-1.4**
MSU	**Marysvale**	**20.69**	**343**	*e*P	**P**	**19 52 52.2**	**+0.1**
MTUM	**Tungsten Hills**	**22.17**	**329**	*e*P	**P**	**19 53 09.7**	**+2.7**
DUG	**Dugway**	**22.43**	**343**	*e*P	**P**	**19 53 11.2**	**+1.7**
WVT	**Waverly**	**22.58**	**37**	*e*P	**P**	**19 53 09.7**	**-1.3**
	9.2nm,1.0s,mb4.2						
MNV	**Mina**	**22.85**	**331**	*e*P	**P**	**19 53 15.9**	**+2.3**
NVAR	**Mina Array Bea**	**22.91**	**331**	P	**P**	**19 53 17.0**	**+2.7**
	5.2nm,0.8s,mb4.0,baz=151,slow=10.0,SNR=32						
HWUT	**Hardware Ranch**	**23.46**	**346**	*e*P	**P**	**19 53 19.9**	**+0.4**
CMB	**Columbia Colle**	**23.61**	**327**	*e*P	**P**	**19 53 22.3**	**+1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELK	Elko	23.68	339	LR	LR	20 02 38.7	
	comp=Z,168nm,20.9s,MS3.5,baz=357,slow=37						
BW06	Boulder Array	24.20	351	eP	P	19 53 26.6	-0.2
PDAR	Pinedale Array	24.20	351	P	P	19 53 26.7	0.0
	3.5nm,0.9s,mb3.8,baz=152,slow=8.5,SNR=19						
BEKR	Beckwourth	25.02	330	eP	P	19 53 36.6	+2.0
BEKR				epP	pP	19 53 45.1	-1.2
RRI2	Red Ridge	25.07	348	eP	P	19 53 35.6	+0.5
TPAW	Teton Pass	25.14	349	eP	P	19 53 36.9	+1.1
LOHW	Long Hollow	25.20	349	eP	P	19 53 36.9	+0.6
HLID	Hailey	26.00	343	eP	P	19 53 43.3	-0.6
ULM	Lac du Bonnet	32.04	10	LR	LR	20 07 51.1	
	comp=Z,111nm,21.1s,MS3.5,baz=168,slow=37						
DLBC	Dease Lake	43.72	341	P	P	19 56 16.4	+0.8
	4.7nm,0.8s,mb4.3,baz=145,slow=7.8,SNR=10						
DLBC	Dease Lake	43.72	341	P	P	19 56 16.4	+0.8
SAML	Samuel	49.19	121	eP	P	19 56 55.3	-4.1
	5.6nm,0.9s,mb4.6						
SAML				epP	pP	19 57 01.5	-10
LPAZ	La Paz	49.98	132	P	P	19 57 04.6	-0.8
	1.3nm,0.9s,mb4.0,baz=288,slow=6.4,SNR=3.0						
LPAZ	La Paz	49.98	132	eP	P	19 57 04.0	-1.4
	2.7nm,1.2s,mb4.2						
INK	Inuvik	52.68	347	P	P	19 57 23.4	-1.8
	2.9nm,0.6s,mb4.4,baz=181,slow=7.8,SNR=5.6						
INK	Inuvik	52.68	347	eP	P	19 57 23.8	-1.4
ILAR	Eielson Array	53.84	339	P	P	19 57 32.9	-0.8
	5.5nm,0.9s,mb4.5,baz=158,slow=4.8,SNR=28						
PPT	Papeete	57.27	233	LR	LR	20 18 01.0	
	comp=Z,117nm,18.5s,MS4.0,baz=32,slow=31						
BDFB	Brasilia	65.28	118	P	P	19 58 51.6	-1.5
	4.5nm,0.8s,mb4.5,baz=286,slow=4.7,SNR=4.9						
PLCA	Paso Flores	67.15	153	LR	LR	20 21 50.7	
	comp=Z,159nm,20.6s,MS4.2,baz=179,slow=30						
EVO	Evora	83.32	52	eP	P	20 00 34.7	-2.3
	19nm,0.9s,mb4.8						
GRR	Gorron	84.75	41	eP	P	20 00 43.6	-0.4
	14nm,0.7s,mb4.9						
FLN	La Foliniere	84.84	40	eP	P	20 00 44.2	-0.2
	26nm,0.7s,mb5.1						
ARCES	ARCESS Array B	85.00	16	P	P	20 00 44.5	-0.2
	4.9nm,0.9s,mb4.7,baz=326,slow=8.7,SNR=4.5						
ARCES				LR	LR	20 40 43.4	
	comp=Z,72nm,18.8s,MS4.1,baz=43,slow=37						
ARCES	ARCESS Array B	85.00	16	P	P	20 00 44.5	-0.2
ARCES				LR	LR	20 40 43.4	
NOA	NORSAR Array B	85.33	26	LR	LR	20 40 17.6	
	comp=Z,65nm,18.3s,MS4.0,baz=300,slow=37						
ESDC	Sonseca Array	85.90	50	P	P	20 00 49.2	-0.6
	1.9nm,0.8s,mb4.4,baz=306,slow=5.1,SNR=8.2						
ETSF	Etsaut	87.07	46	eP	P	20 00 55.4	-0.1
YAK	Yakutsk	88.74	338	eP	P	20 01 02.8	-0.2
FINES	FINESS Array B	90.78	21	LR	LR	20 42 28.4	
	comp=Z,54nm,18.9s,MS4.0,baz=320,slow=36						
GERES	GERESS Array B	93.07	36	P	P	20 01 22.3	-1.2
	0.2nm,0.5s,mb3.8,slow=5.3,SNR=5.0						
GERES				LR	LR	20 44 23.8	
	comp=Z,38nm,18.3s,MS3.9,baz=339,slow=36						
DBIC	Dimbokro	96.87	81	LR	LR	20 42 21.5	
	comp=Z,45nm,19.6s,MS4.0,baz=315,slow=34						
WRA	Warramunga Arr	124.80	258	PKP	PKPdf	20 07 09.9	+0.8
	0.8nm,0.7s,baz=80,slow=2.1,SNR=10						

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*BJI **16** 20:38:43.1, 4.15S×152.95E, h364^{km}, mB4.2, mb4.1*
*NEIC **16** 20:38:50.9±1.0, 3.31S×152.22E, h364^{km}±10^{km}, mb4.6/18, Error ellipse: s-maj=9.3km s-min=7.3km az=59.0*
*IDC **16** 20:38:50.7±0.7, 3.31S×152.18E, h362^{km}±6^{km}, mb3.9/12, mb1 4.1/15, mb1mx4.1/18, mbtmp4.8/15, Error ellipse: s-maj=12.6km s-min=9.1km az=89.0*
ISC 16 20:38:50.2±1.0**, 3.40S**±0.06×**152.14E**±0.06**, h368**^{km}±10^{km}**, h362**^{km}±2.6^{km}**: pP-P, n63, σ0^{s}95**/54**, mb4.4**/28**, 1C-5D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.75	219	P	P	20 40 42.9	+0.3
	23nm,0.3s,baz=27,slow=6.3,SNR=69						
PMG				S	S	20 42 09.1	-2.1
	1.4nm,0.3s,baz=19,slow=21,SNR=4.0						
PMG	Port Moresby	7.75	219	ePn	P	20 40 43.0	+0.4
	235nm,0.8s						
HNR	Honiara	9.80	128	P	P	20 41 06.4	-0.6
	45nm,0.3s,baz=210,slow=0.9,SNR=15						
HNR				S	S	20 42 56.0	+1.1
	baz=183,slow=15,SNR=2.4						
HNR	Honiara	9.80	128	ePn	P	20 41 06.8	-0.1
	113nm,0.8s						
CTA	Charters Tower	17.56	199⇓	iP	P	20 42 35.1	+2.2
	57nm,0.4s						
CTA	Charters Tower	17.56	199	P	P	20 42 35.0	+2.0
	19nm,0.3s,baz=22,slow=11,SNR=229						
CTAO	Charters Tower	17.56	199⇓	iP	P	20 42 35.0	+2.0
	106nm,0.8s						
KAKA	Kakadu	21.57	243	eP	P	20 43 31.4	+19
	35nm,0.7s,mb4.7						
KAKA				eS	S	20 47 08.8	+25
DZM	Mont Dzumac	23.18	144⇓	eP	P	20 43 27.0	-0.4
DZM	Mont Dzumac	23.18	144	P	P	20 43 27.5	+0.1
	79nm,0.6s,mb5.1,baz=336,slow=7.5,SNR=134						
WRA	Warramunga Arr	23.92	225	P	P	20 43 34.8	+0.6
	100nm,0.5s,mb5.3,baz=48,slow=9.1,SNR=73						
WRA				PcP	PcP	20 47 05.8	-0.2
	7.8nm,0.4s,baz=46,slow=2.2,SNR=8.9						
WRA				S	S	20 47 23.7	+1.4
	9.8nm,0.8s,baz=45,slow=15,SNR=9.2						
ASPA	Alice Springs	26.77	220	eP	P	20 43 59.6	-0.3
ASPA				eS	S	20 48 07.2	-0.9
ARMA	Armidale	26.88	181	eP	P	20 44 01.2	+0.4
FITZ	Fitzroy Crossi	29.79	239	eP	P	20 44 25.7	-0.7
	37nm,0.3s,mb5.1						
FITZ	Fitzroy Crossi	29.79	239	P	P	20 44 25.1	-1.4
	58nm,0.4s,mb5.2,baz=91,slow=3.2,SNR=3.8						
FITZ				pP		20 45 34.4	
	31nm,0.8s,baz=24,slow=3.9,SNR=4.2						
STKA	Stephens Creek	30.02	198	eP	P	20 44 27.6	-0.7
	10nm,1.0s,mb4.0						
STKA	Stephens Creek	30.02	198	P	P	20 44 27.1	-1.2
	8.0nm,0.5s,mb4.2,baz=1.4,slow=8.5,SNR=44						
CNB	Canberra Magne	31.86	184⇓	iP	P	20 44 44.5	+0.3
	22nm,0.6s,mb4.6						
FORT	Forrest	35.48	217	eP	P	20 45 14.6	-0.2
	269nm,0.5s,mb5.7						
JNU	Nakatsue	41.52	333	P	P	20 46 04.0	-0.5
	9.2nm,0.8s,mb4.0,baz=90,slow=6.1						
KSM	Kuching	42.09	276	eP	P	20 46 10.3	+0.9
KLBR	Kellerberrin	42.80	225	eP	P	20 46 13.3	-1.6
RPZ	Rata Peaks	43.51	160	P	P	20 46 20.5	+0.2
	20nm,0.5s,mb4.5,baz=353,slow=6.1						
MDJ	Mudanjiang	51.88	340	P	P	20 47 24.8	+0.4
MDJ				AMB	AMB		
	comp=Z,42nm,3.5s						
MDJ				LR	LR		
	comp=N,24nm,31.9s						
MDJ				LR	LR		
	comp=E,27nm,35.2s						
MDJ				LR	LR		
	comp=Z,21nm,21.8s						
KULM	Kulim	52.16	279	eP	P	20 47 26.3	-0.5
KMI	Kunming	55.67	304	P	P	20 47 53.1	+1.3
KMI				LR	LR		
	comp=Z,22nm,21.8s						
GTA	Gaotai	64.19	317	eP	P	20 48 49.5	+0.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
SONM	Songino Array	64.80	328	P	P	20 48 51.3	-1.0
	comp=Z,0.8nm,0.5s,mb3.6,baz=148,slow=5.0,SNR=3.7						
LSA	Lhasa	66.91	304	eP	P	20 49 07.8	+1.8
	comp=Z,3.1nm,0.6s,mb4.2						
CASY	Casey	69.16	197	eP	P	20 49 19.0	-0.1
	comp=Z,10nm,0.6s,mb4.7						
PKI	Pulchoki	71.16	300	eP	P	20 49 32.9	+1.1
KKN	Kakani	71.32	301	eP	P	20 49 33.6	+0.8
	comp=Z,13nm,0.6s,mb4.8						
DMN	Daman	71.43	300	eP	P	20 49 34.4	+1.0
	comp=Z,16nm,0.7s,mb4.9						
GKN	Gorkha	71.93	301	eP	P	20 49 36.9	+0.6
	comp=Z,18nm,0.8s,mb4.8						
KOLN	Koldanda	72.76	300	eP	P	20 49 41.8	+0.5
VNDA	Vanda	74.25	178	P	P	20 49 49.0	+0.1
	comp=Z,4.8nm,0.6s,mb4.4,baz=330,slow=6.3,SNR=66						
VNDA	Vanda	74.25	178	eP	P	20 49 48.8	-0.1
	comp=Z,9.5nm,1.0s,mb4.5						
MKAR	Makanchi Array	78.84	319	P	P	20 50 15.0	+0.3
	comp=Z,2.5nm,0.8s,mb4.0,baz=101,slow=6.2,SNR=16						
MKAR				pP	pP	20 51 36.7	-2.1
	comp=Z,1.5nm,1.0s,baz=104,slow=5.0,SNR=4.1						
ZAL	Zalesovo	79.64	326	P	P	20 50 17.2	-1.5
	comp=Z,0.7nm,0.4s,mb3.7,baz=54,slow=8.3,SNR=3.6						
ZAL				pP	pP	20 51 41.2	-1.8
	comp=Z,0.9nm,0.3s,baz=338,slow=3.3,SNR=2.1						
ILAR	Eielson Array	81.12	22	P	P	20 50 24.6	-1.7
	comp=Z,1.1nm,0.7s,mb3.7,baz=260,slow=5.8,SNR=13						
ILAR				pP	pP	20 51 48.0	-2.8
	comp=Z,1.7nm,1.0s,baz=260,slow=5.0,SNR=4.9						
ILAR				PKKPbc		21 08 59.0	
	comp=Z,0.4nm,0.9s,baz=344,slow=0.8,SNR=4.2						
KURK	Kurchatov	82.27	322	eP	P	20 50 32.6	+0.2
	comp=Z,3.3nm,1.3s,mb4.0						
AAK	Ala-Archa	83.23	313	eP	P	20 50 37.6	+0.1
	comp=Z,6.4nm,1.0s,mb4.4						
QSPA	South Pole Qui	86.55	180	eP	P	20 50 54.0	+1.0
	comp=Z,22nm,0.6s,mb5.2						
MAW	Mawson	86.60	203⇓	iP	P	20 50 53.8	+0.3
	comp=Z,2.4nm,0.8s,mb4.1						
MAW	Mawson	86.60	203	P	P	20 50 53.7	+0.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=64,slow=6.0,SNR=7.6						
BVAR	Borovoye Array	87.73	323	P	P	20 50 58.5	-0.6
	comp=Z,3.4nm,0.6s,mb4.3,baz=106,slow=6.2,SNR=24						
BRVK	Borovoye	87.80	323	eP	P	20 50 58.6	-0.9
	comp=Z,1.8nm,0.7s,mb4.0						
NVAR	Mina Array Bea	91.74	52	P	P	20 51 17.6	-0.6
	comp=Z,0.8nm,0.6s,mb3.8,baz=257,slow=3.7,SNR=5.9						
SYO	Syowa Base	94.76	200	⇑P	P	20 51 30.0	-1.3
PDAR	Pinedale Array	98.39	47	P	P	20 51 46.9	-1.6
	comp=Z,0.6nm,0.7s,mb3.9,baz=225,slow=2.1,SNR=6.1						
AKASG	Malin Array Be	112.98	325	PKiKP		20 56 44.5	
	comp=Z,0.2nm,0.3s,baz=51,slow=2.4,SNR=4.4						
LBTB	Lobatse	120.97	238	ePKPdf	PKPdf	20 57 01.7	+1.7
PLCA	Paso Flores	121.29	143	PKP	PKPdf	20 57 02.0	+1.7
	comp=Z,1.8nm,0.5s,baz=238,slow=1.7,SNR=12						
PLCA	Paso Flores	121.29	143	ePKPdf	PKPdf	20 57 02.1	+1.8
LSZ	Lusaka	121.51	250	ePKPdf	PKPdf	20 57 03.3	+2.0
GERES	GERESS Array B	122.52	329	PKP	PKPdf	20 57 04.0	+1.5
	comp=Z,1.1nm,0.6s,baz=103,slow=1.7,SNR=8.6						
LPAZ	La Paz	135.65	117	PKP	PKPdf	20 57 31.4	+3.2
	comp=Z,3.1nm,0.7s,baz=8.9,slow=1.3,SNR=9.9						
LPAZ				SKP		21 00 30.0	
	comp=Z,1.8nm,0.6s,baz=263,slow=1.7,SNR=8.0						
LPAZ	La Paz	135.65	117	ePKPdf	PKPdf	20 57 31.6	+3.4
SDV	Santo Domingo	137.15	81	PKP	PKPdf	20 57 33.0	+1.8
	comp=Z,5.5nm,0.4s,baz=320,slow=4.5,SNR=4.0						
SDV	Santo Domingo	137.15	81	PKPdf	PKPdf	20 57 33.1	+2.0
SAML	Samuel	142.71	109	ePKPdf	PKPdf	20 57 42.8	+1.7
BDFB	Brasilia	152.51	134	PKP	PKPdf	20 57 58.7	+1.9
	comp=Z,1.8nm,0.4s,baz=125,slow=2.1,SNR=4.7						
BDFB				PKPbc	PKPdf	20 58 05.9	+9.1
	comp=Z,13nm,0.7s,baz=224,slow=1.2,SNR=14						
DBIC	Dimbokro	156.86	279	PKP	PKPdf	20 58 03.4	+0.6
	comp=Z,2.9nm,1.0s,baz=46,slow=11,SNR=1.8						
DBIC				PKPab	PKPab	20 58 37.0	-0.1
	comp=Z,2.2nm,0.5s,baz=67,slow=8.3,SNR=5.0						

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*IDC **16** 20:43:31.5±1.9, 34.91S×179.43W, mb4.6/1, mb1 4.8/2, mb1mx4.0/12, mbtmp4.5/2, ML4.0/1, MS3.5/3, Ms1 3.5/3, ms1mx3.2/16, Error ellipse: s-maj=72.3km s-min=32.4km az=129.0*
NEIC 16 20:43:47.0±0.9**, 35.83S**×**179.77W, h125**^{km}**, mb4.4**/1**, Error ellipse: s-maj=35.3km s-min=19.3km az=136.0, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	3.48	225	Pn	P	20 44 39.7	-1.0
	7.7nm,0.3s,baz=27,slow=7.4,SNR=20						
URZ				Sn	S	20 45 30.0	+8.3
	14nm,0.3s,baz=323,slow=23,SNR=9.3						
URZ				LR	LR	20 45 48.3	
	comp=Z,88nm,20.0s,baz=211,slow=32						
CTAO	Charters Tower	33.65	289	eP	P	20 50 16.1	-1.7
	4.9nm,0.7s						
WRA	Warramunga Arr	43.14	279	P	P	20 51 35.1	-1.6
	6.4nm,0.7s,baz=121,slow=7.5,SNR=7.4						
PLCA	Paso Flores	79.90	133	LR	LR	21 25 18.7	
	comp=Z,144nm,20.5s,baz=188,slow=31						
YBH	Yreka Blue Hor	93.19	39	LR	LR	21 27 05.5	
	comp=Z,23nm,20.2s,baz=356,slow=28						
ARCES	ARCESS Array B	143.51	345	PKP	PKPdf	21 03 04.5	-1.1
	2.9nm,0.8s,baz=37,slow=4.5,SNR=3.0						
JOF	Joensuu	146.79	334	ep	PKPdf	21 03 11.6	+0.3
KAF	Kangasniemi	149.04	336	ep	PKPdf	21 03 16.8	+1.8
FINES	FINESS Array B	149.59	336	PKPbc	PKPdf	21 03 19.8	+3.9
	3.5nm,0.7s,baz=34,slow=5.0,SNR=21						
BRTR	Keskin Array B	153.39	289	PKPbc	PKPdf	21 03 30.3	+8.1
	1.1nm,0.9s,baz=117,slow=3.2,SNR=3.9						
NOA	NORSAR Array B	153.81	348	PKPbc	PKPdf	21 03 31.2	+9.1
	1.0nm,0.7s,baz=18,slow=4.2,SNR=3.4						

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*IDC **16** 20:44:28.6±2.0, 4.53S×153.68E, h112^{km}±19^{km}, mb4.1/11, mb1 4.2/13, mb1mx4.0/19, mbtmp4.5/13, MS3.2/4, Ms1 3.2/4, ms1mx3.1/17, Error ellipse: s-maj=16.8km s-min=12.8km az=119.0*
*BJI **16** 20:44:29.4, 3.86S×153.71E, h97^{km}, mB5.0, mb4.7*
*NEIC **16** 20:44:30.3±1.1, 4.53S×153.66E, h124^{km}±11^{km}, mb4.4/8, Error ellipse: s-maj=10.0km s-min=8.7km az=66.0*
ISC 16 20:44:29.4±1.8**, 4.58S**±0.08×**153.62E**±0.07**, h126**^{km}±16^{km}**, n43, σ0^{s}89**/45**, mb4.5**/26**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.91	128	P	P	20 46 22.7	-0.2
	5.9nm,0.3s,baz=219,slow=6.5,SNR=2.1						
HNR				S	S	20 47 45.4	-6.0
	26nm,0.3s,baz=155,slow=4.7,SNR=3.5						
PMG	Port Moresby	8.01	233	P	P	20 46 24.7	+0.5
	62nm,0.3s,baz=47,slow=6.2,SNR=121						
PMG				S	S	20 47 52.8	-0.8
	9.8nm,0.3s,baz=115,slow=16,SNR=6.9						
PMG	Port Moresby	8.01	233	ePn	P	20 46 24.6	+0.3
PMG				eSn	S	20 47 53.5	-0.1
CTA	Charters Tower	17.00	204	P	P	20 48 21.3	+0.3
	0.1nm,0.3s,baz=328,slow=12,SNR=2.3						
CTA				LR	LR	20 54 29.1	
	comp=Z,115nm,18.9s,baz=48,slow=35						
GUMO	Guam	20.03	334	LR	LR	20 55 36.7	
	comp=Z,9.9nm,18.5s,baz=186,slow=33						
DZM	Mont Dzumac	21.37	146	P	P	20 49 09.0	+1.0
	10nm,1.2s,mb4.0,baz=240,slow=16,SNR=2.9						
KAKA	Kakadu	22.43	248	eP	P	20 49 37.5	+19
	17nm,0.9s,mb4.4						
WRA	Warramunga Arr	24.21	229	P	P	20 49 36.0	+0.4
	19nm,0.6s,mb4.6,baz=53,slow=9.8,SNR=31						
WRA				S	S	20 53 48.4	+6.5
	1.1nm,1.1s,baz=45,slow=15,SNR=5.8						
ARMA	Armidale	25.77	184	eP	P	20 49 50.8	+0.5
ASPA	Alice Springs	26.87	223	eP	P	20 50 00.2	-0.3
STKA	Stephens Creek	29.41	201	eP	P	20 50 21.8	-1.4
	4.5nm,0.9s,mb4.1						
STKA	Stephens Creek	29.41	201	P	P	20 50 21.6	-1.6
	5.8nm,0.9s,mb4.2,baz=32,slow=7.5,SNR=4.5						
STKA	Stephens Creek	29.41	201	eP	P	20 50 21.9	-1.3
FITZ	Fitzroy Crossi	30.49	242	eP	P	20 50 31.5	-1.4
	15nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	30.49	242	P	P	20 50 30.1	-2.8
	14nm,0.5s,mb4.9,baz=72,slow=2.2,SNR=9.1						
FITZ				LR	LR	21 03 27.5	
	comp=Z,98nm,18.6s,baz=75,slow=37						
FORT	Forrest	35.48	220	eP	P	20 51 15.0	-0.7
	29nm,0.6s,mb5.3						
JNU	Nakatsue	43.25	332	P	P	20 52 20.1	0.0
	8.0nm,0.8s,mb4.5,baz=104,slow=6.9,SNR=4.7						
KSM	Kuching	43.69	277	eP	P	20 52 25.4	+1.5
KULM	Kulim	53.81	280	eP	P	20 53 41.0	-0.7
ENH	Enshi	54.61	312	eP	P	20 53 46.1	-1.2
	5.6nm,0.6s,mb4.8						
GYA	Guiyang	54.91	307	P	P	20 53 50.8	+1.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KMI	Kunming	57.55	304	P	P	20 54 09.4	+1.0
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
KMI				LR	LR		
	comp=Z,33nm,18.9s						
LZH	Lanzhou	61.65	315	eP	P	20 54 37.4	+1.0
LZH				AP	pP	20 55 04.9	-2.0
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
GTA	Gaotai	66.05	317	eP	P	20 55 05.8	+0.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.2						
SONM	Songino Array	66.58	327	P	P	20 55 06.9	-1.4
	comp=Z,1.4nm,0.5s,mb4.1,baz=136,slow=4.7,SNR=5.7						
LSA	Lhasa	68.79	304	eP	P	20 55 24.1	+1.8
	comp=Z,1.6nm,0.5s,mb4.1						
VNDA	Vanda	73.02	178	eP	P	20 55 46.5	-0.2
	comp=Z,0.2nm,0.4s						
PKI	Pulchoki	73.03	300	eP	P	20 55 48.3	+0.5
KKN	Kakani	73.19	301	eP	P	20 55 48.7	0.0
DMN	Daman	73.30	300	eP	P	20 55 49.5	+0.2
	comp=Z,54nm,1.4s,mb5.2						
GKN	Gorkha	73.80	301	eP	P	20 55 52.6	+0.3
	comp=Z,23nm,0.9s,mb4.9						
KOLN	Koldanda	74.63	300	eP	P	20 55 53.2	-3.9
	comp=Z,20nm,0.6s,mb5.0						
MKAR	Makanchi Array	80.70	319	P	P	20 56 29.5	-0.6
	comp=Z,0.8nm,0.4s,mb4.0,baz=89,slow=8.5,SNR=21						
ZAL	Zalesovo	81.43	326	P	P	20 56 33.0	-0.8
	comp=Z,1.3nm,0.3s,mb4.2,baz=4.1,slow=11,SNR=3.8						
ZAL	Zalesovo	81.43	326	P	P	20 56 33.0	-0.8
ILAR	Eielson Array	81.65	22	P	P	20 56 33.2	-1.5
	comp=Z,1.2nm,1.0s,mb3.7,baz=252,slow=6.2,SNR=4.3						
KURK	Kurchatov	84.10	322	eP	P	20 56 47.0	-0.4
	comp=Z,6.4nm,1.1s,mb4.4						
AAK	Ala-Archa	85.11	313	eP	P	20 56 52.8	+0.2
	comp=Z,1.4nm,0.4s,mb4.2						
QSPA	South Pole Qui	85.38	180	eP	P	20 56 54.6	+1.4
	comp=Z,2.5nm,0.5s,mb4.4						
MAW	Mawson	86.09	203	P	P	20 56 57.1	+0.3
	comp=Z,3.9nm,0.5s,mb4.6,baz=90,slow=3.9,SNR=16						
BVAR	Borovoye Array	89.56	323	P	P	20 57 12.9	-0.8
	comp=Z,1.2nm,0.7s,mb4.1,baz=166,slow=6.1,SNR=9.3						
BRVK	Borovoye	89.62	323	eP	P	20 57 13.8	-0.2
	comp=Z,1.3nm,0.6s,mb4.2						
NVAR	Mina Array Bea	91.30	52	LR	LR	21 30 29.7	
	comp=Z,24nm,21.3s,slow=30						

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*IDC **16** 21:31:27.4±2.6, 40.55N×19.70E, mb3.3/2, mb1 3.5/5, mb1mx3.4/22, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=28.9km s-min=16.2km az=13.0*
*TIR **16** 21:31:28.9, 40.61N×20.02E, h15^{km}, Ml3.2*
*ATH **16** 21:31:29.2, 40.61N×19.60E, h43^{km}±14^{km}, MD3.5/5*
*ROM **16** 21:31:29.2±0.2, 40.59N×19.87E, h8^{km}, Md3.0/3, Ml3.4/17, Error ellipse: s-maj=4.2km s-min=2.6km az=90.0*
*CSEM **16** 21:31:30.4±0.1, 40.59N×19.94E, h5^{km}, MD3.0/3, Error ellipse: s-maj=1.4km s-min=1.1km az=17.0*
*THE **16** 21:31:31.3, 40.84N×19.71E, h20^{km}, ML3.5*
*NEIC **16** 21:31:31.3, 40.84N×19.71E, h36^{km}, MD3.3(PDG), MD3.0(ROM), ML3.5(THE), After THE.*
*PDG **16** 21:31:31.6±0.2, 40.59N×19.40E, h14^{km}±1^{km}*
ISC 16 21:31:30.0±0.2**, 40.60N**±0.02×**19.87E**±0.02**, h10**^{km}**, n117, σ1^{s}17**/159**, mb3.2**/2**, 18C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLO	Vlora	0.31	245	ePg	Pg	21 31 37.7	+1.2
VLO				i Sg	Sg	21 31 46.0	+5.2
TPE	Tepelena	0.32	160	i Pg	Pg	21 31 36.3	-0.4
TPE				i Sg	Sg	21 31 41.2	0.0
TPE	Tepelena	0.32	160	ePg	Pg	21 31 36.3	-0.4
TPE				i Sg	Sg	21 31 41.2	0.0
KBN	Korca	0.70	88	i Pg	Pg	21 31 41.5	-2.6
LSK	Leskovik	0.72	129	i Pg	Pg	21 31 41.1	-3.3
LSK				i Sg	Sg	21 31 54.1	0.0
SRN	Sarande	0.73	172	i Pg	Pg	21 31 43.8	-0.8
SRN				i Sg	Sg	21 31 55.5	+1.1
TIR	Tirane	0.75	360	Pn	Pg	21 31 44.6	-0.4
	1µm,0.5s						
TIR	Tirane	0.75	360	i Pg	Pg	21 31 45.0	0.0
TIR				i Sg	Sg	21 32 00.5	+5.5
TIR	Tirane	0.75	360	ePg	Pg	21 31 45.0	0.0
KEK	Kerkira	0.89	183	eP	Pb	21 31 46.5	-0.5
KEK				eS	Sb	21 31 59.3	+0.6
KEK	Kerkira	0.89	183	Pn	Pn	21 31 46.9	-1.4
	561nm,0.4s						
KEK				eS	Sb	21 31 59.3	+0.6
QSH	Qafa e Shtames	0.92	2	i Pg	Pg	21 31 46.6	-1.8
FNA	Florina	1.16	80	ePg	Pg	21 31 50.2	-3.0
	comp=Z,18nm,0.3s						
FNA				eSg	Sg	21 32 06.5	-2.3
JAN	Janina	1.21	141	eP	Pb	21 31 52.1	-0.4
JAN	Janina	1.21	141	eP	Pb	21 31 52.0	-0.5
LCI	Lecce	1.36	259	Pn	Pn	21 31 55.7	+0.5
	161nm,0.2s						
ULC	Ulcinj	1.44	341⇑	iPg	Pg	21 31 57.0	-1.7
ULC				eSg	Sg	21 32 17.7	-0.2
SKO	Skopje	1.81	40⇑	iPn	Pn	21 32 02.8	+1.3
SKO				i Sn	Sn	21 32 27.2	+2.5
SKO				Lg		21 32 32.5	
	comp=Z,0.2nm,0.6s						
BUM	Brajici-Budva	1.85	337⇑	iPn	Pn	21 32 02.4	+0.4
BUM				eSn	Sn	21 32 27.0	+1.4
PE1	Pezze di Greco	1.87	277	ePn	Pn	21 32 02.6	+0.2
TTG	Podgorica	1.88	346⇑	iPn	Pn	21 32 03.4	+0.9
TTG				eSn	Sn	21 32 29.4	+2.8
GRG	Griva	1.96	79	ePn	Pn	21 32 03.5	-0.1
GRG				eSn	Sn	21 32 28.8	+0.3
LKD	Levkas	1.98	162	ePn	Pn	21 32 07.3	+3.3
	comp=Z,6.5nm,0.3s						
PVY	Plav	1.99	2⇓	iPn	Pn	21 32 06.7	+2.6
PVY				eSn	Sn	21 32 34.1	+4.8
BRT	Bari-Castellan	2.04	279	Pn	Pn	21 32 05.7	+0.8
	comp=Z,97nm,0.4s						
LIT	Litokhoron	2.07	103	ePn	Pn	21 32 05.9	+0.7
	comp=Z,8.4nm,0.4s						
LIT				eSn	Sn	21 32 35.0	+3.8
HCY	Herceg Novi	2.11	331⇑	iPn	Pn	21 32 05.7	-0.1
HCY				eSn	Sn	21 32 32.6	+0.2
NOCI	Noci	2.14	276	Pn	Pn	21 32 06.3	+0.1
	comp=Z,288nm,0.5s						
EVR	Evrytania	2.25	138	eP	Pn	21 32 10.5	+2.7
IVA	Berane	2.27	1⇑	iPn	Pn	21 32 10.8	+2.7
IVA				eSn	Sn	21 32 40.1	+3.7
NKY	Niksic	2.30	344⇓	iPn	Pn	21 32 09.0	+0.4
NKY				eSn	Sn	21 32 39.3	+2.0
LTRZ	Laterza	2.32	271	Pn	Pn	21 32 07.9	-0.9
	comp=Z,61nm,0.4s						
BAI	Bari	2.32	284	ePn	Pn	21 32 09.1	+0.2
THE	Thessaloniki	2.36	88	ePn	Pn	21 32 09.5	+0.1
	comp=Z,1.4nm,0.3s						
KNT	Kendrikon	2.37	75	ePn	Pn	21 32 08.9	-0.6
	comp=Z,3.5nm,0.4s						
KNT				eSn	Sn	21 32 39.8	+0.9
TREB	Trebinje	2.40	332	Pn	Pn	21 32 09.7	-0.3
TREB				Sn	Sn	21 32 41.6	+1.9
SG1	Sgolgore (BA)	2.44	277	ePn	Pn	21 32 10.5	0.0
AGG	Agios Georgios	2.47	129	ePn	Pn	21 32 12.5	+1.6
	comp=Z,5.7nm,0.4s						
AGG				eSn	Sn	21 32 45.0	+3.6
VLS	Valsamata	2.48	167	eP	Pn	21 32 10.3	-0.9
VLS	Valsamata	2.48	167	eP	Pn	21 32 09.5	-1.7
AMUR	Altamura	2.50	278	Pn	Pn	21 32 11.2	-0.2
	comp=Z,48nm,0.4s						
BRY	Bratogost	2.50	337⇑	iPn	Pn	21 32 11.1	-0.3
BRY				eSn	Sn	21 32 42.5	+0.2
BARS	Barje	2.66	33⇓	iPn	Pn	21 32 13.6	0.0
BARS				Sn	Sn	21 32 51.4	+5.1
SOH	Sokhos	2.66	84	ePn	Pn	21 32 13.6	-0.1
SOH				eSn	Sn	21 32 46.3	0.0
UPM	Unac-Piva	2.70	345⇓	iPn	Pn	21 32 15.2	+1.0
UPM				eSn	Sn	21 32 48.9	+1.7
KKB	Krupnik	2.74	61	P	Pn	21 32 14.5	-0.3
PLG	Polygyros	2.74	94	eP	Pn	21 32 14.8	0.0
PLG	Polygyros	2.74	94	eP	Pn	21 32 14.7	-0.1
PLE	Pljevlja	2.75	353⇑	iPn	Pn	21 32 16.5	+1.6
PLE				eSn	Sn	21 32 50.4	+1.9
CDT	Castel del Mon	2.77	281	ePn	Pn	21 32 15.3	+0.1
XOR	Xorichti	2.84	115	ePn	Pn	21 32 17.2	+1.0
SRS	Serrai	2.87	78	ePn	Pn	21 32 16.5	-0.3
SRS				eSn	Sn	21 32 51.6	-0.1
NEO	Neokhori	2.89	116	eP	Pn	21 32 17.4	+0.5
NEO	Neokhori	2.89	116	eP	Pn	21 32 17.8	+0.9
NVSS	Nova Varos 2	2.91	358⇑	iPn	Pn	21 32 22.8	+5.6
PAIG	Paliouri	2.99	102	ePn	Pn	21 32 18.0	-0.4
PAIG				eSn	Sn	21 32 54.9	+0.1
PAIG	Paliouri	2.99	102	ePn	Pn	21 32 18.0	-0.4
PAIG				S	Sn	21 32 54.8	0.0
MMB	Musomiste	3.08	70	P	Pn	21 32 19.0	-0.7
NVR	Nevrokopi	3.12	75	eP	Pn	21 32 20.3	+0.1
OUR	Ouranopolis	3.15	94	ePn	Pn	21 32 20.9	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.0nm,0.3s						
OUR				eSn	Sn	21 32 59.1	+0.4
FGMS	Monte Sant'Ang	3.15	292	Pn	Pn	21 32 20.6	-0.1
	comp=Z,20nm,0.3s						
CUC	Castrocucco	3.16	260	Pn	Pn	21 32 21.6	+0.8
	comp=Z,85nm,0.7s						
VTS	Vitosha	3.20	50	P	Pn	21 32 22.0	+0.6
SLCN	Sala Consilina	3.23	268	Pn	Pn	21 32 22.8	+0.9
	comp=Z,34nm,0.5s						
BBLS	Bajina Basta -	3.28	354	ePn	Pg	21 32 32.6	-2.9
BBLS				Sn	Sg	21 33 18.7	-0.6
MGR	Morigerati	3.33	263	Pn	Pn	21 32 24.6	+1.4
	comp=Z,15nm,0.4s						
MRLC	Muro Lucano	3.33	274	Pn	Pn	21 32 24.1	+0.8
GRUS	Gruza	3.35	11	i Pn	Pn	21 32 23.7	+0.2
GRUS				Sn	Sn	21 33 05.4	+1.7
SGO	Sicignano	3.47	271	Pn	Pn	21 32 25.3	+0.1
	comp=Z,11nm,0.3s						
DIVS	Divcibare	3.50	1	⇑iPn	Pn	21 32 28.6	+3.0
MCRV	Calabrutti - M	3.58	274	Pn	Pn	21 32 26.7	0.0
	comp=Z,40nm,0.5s						
FG2	Serracapriola	3.75	290	Pn	Pn	21 32 29.0	-0.2
	comp=Z,63nm,0.3s						
PGB	Panagyurishte	3.77	57	eP	Pn	21 32 29.0	-0.4
RZN	Rozhen	3.82	72	P	Pn	21 32 30.0	-0.2
SOI	Samo	3.89	231	Pn	Pn	21 32 30.6	-0.5
	comp=Z,36nm,0.7s						
CIGN	Sant'Elia a Pi	3.89	287	Pn	Pn	21 32 31.3	+0.1
	comp=Z,149nm,2.4s						
SACR	S. Croce Del S	3.99	283	Pn	Pn	21 32 33.1	+0.6
	comp=Z,25nm,0.6s						
BSSO	Busso	4.10	285	Pn	Pn	21 32 34.3	+0.2
	comp=Z,26nm,0.4s						
TRIV	Trivento	4.18	288	Pn	Pn	21 32 35.5	+0.2
SGG	Gregorio Mates	4.23	282	Pn	Pn	21 32 37.0	+1.0
KDZ	Kurdzhali	4.32	74	eP	Pn	21 32 36.0	-1.3
VAGA	Valle Agricola	4.34	283	Pn	Pn	21 32 37.9	+0.3
MIDA	Miranda	4.37	286	Pn	Pn	21 32 38.4	+0.5
	comp=Z,34nm,0.5s						
RNI2	Rionero Sannit	4.45	286	Pn	Pn	21 32 39.9	+0.7
	comp=Z,44nm,0.3s						
INTR	Introdacqua	4.71	289	Pn	Pn	21 32 42.8	0.0
	comp=Z,37nm,0.5s						
VVLD	Villa Vallelon	4.88	287	Pn	Pn	21 32 45.4	+0.2
	comp=Z,30nm,0.5s						
FAGN	Fagnano	5.01	291	Pn	Pn	21 32 46.9	-0.1
	comp=Z,73nm,0.4s						
PTQR	Pietraquaria	5.07	288	Pn	Pn	21 32 48.4	+0.5
	comp=Z,9.0nm,0.3s						
TERO	Teramo	5.11	295	Pn	Pn	21 32 48.1	-0.4
	comp=Z,27nm,0.4s						
AQU	L'Aquila	5.16	292	Pn	Pn	21 32 49.3	+0.1
	comp=Z,22nm,0.6s						
CAMP	Campotosto	5.21	294	Pn	Pn	21 32 49.8	-0.2
	comp=Z,22nm,0.4s						
FIAM	Fiamignano	5.34	290	Pn	Pn	21 32 52.4	+0.7
	comp=Z,33nm,0.5s						
NRCA	Norcia	5.52	296	Pn	Pn	21 32 53.9	-0.4
	comp=Z,20nm,0.4s						
PKSM	Moragy	5.68	351	⇑iP	Pn	21 33 01.8	+5.3
MNS	Montasola	5.68	291	Pn	Pn	21 32 55.5	-1.0
	comp=Z,13nm,0.4s						
FSSB	Fossombrone	6.11	303	Pn	Pn	21 33 00.7	-1.8
	comp=Z,26nm,0.3s						
VISS	Visnje	6.37	326	ePn	Pn	21 33 04.6	-1.6
CEY	Cerknica	6.49	324	i Pn	Pn	21 33 06.4	-1.6
CEY				eSn	Sn	21 34 20.3	-2.7
PDKS	Podkum	6.51	329	ePn	Pn	21 33 06.3	-2.0
MLR	Muntele Rosu	6.61	40	Pn	Pn	21 33 08.8	-0.8
	comp=Z,0.2nm,0.3s,baz=244,slow=14,SNR=3.6						
MLR				Sn	Sn	21 34 25.3	-0.6
	baz=270,slow=20						
MLR	Muntele Rosu	6.61	40	⇑iP	Pn	21 33 11.1	+1.5
PERS	Pernice	6.95	332	i Pn	Pn	21 33 12.6	-1.8
VOJS	Vojsko	6.96	323	ePn	Pn	21 33 12.4	-2.2
OBKA	Obir	7.05	329	⇑iPN	Pn	21 33 13.6	-2.3
OBKA				i SN	Sn	21 34 31.8	-5.2
OBKA	Obir	7.05	329	⇑iPn	Pn	21 33 13.6	-2.3
VRI	Vrincioaia	7.26	41	⇑iP	Pn	21 33 19.0	+0.2
MOA	Molln	8.29	333	⇑iPN	P	21 33 29.7	-3.4
MOA				i SN	Sn	21 35 01.8	-5.9
MOA	Molln	8.29	333	⇑iPn	P	21 33 29.7	-3.4
WTTA	Wattenberg	8.92	321	⇓iPN	P	21 33 39.7	-2.2
WTTA				i SN	Sn	21 35 16.9	-6.6
WATA	Walderalm	9.00	321	⇓iPN	P	21 33 40.6	-2.4
WATA				i SN	Sn	21 35 19.5	-5.9
WATA	Walderalm	9.00	321	⇓iPn	P	21 33 40.6	-2.4
SQTA	Sankt Quirin	9.10	320	⇑iPN	P	21 33 42.2	-2.1
SQTA				i SN	Sn	21 35 21.5	-6.4
MOTA	Moosalm	9.23	320	⇓iPN	P	21 33 43.9	-2.3
MOTA				i SN	Sn	21 35 25.7	-5.6
GERES	GERESS Array B	9.34	334	Pn	P	21 33 44.0	-3.6
	comp=Z,0.2nm,0.3s,baz=158,slow=14,SNR=7.3						
GERES				Sn	Sn	21 35 28.9	-4.8
	comp=Z,0.2nm,0.3s,baz=156,slow=24,SNR=5.7						
DAVOX	Davos	9.51	314	Pn	P	21 33 45.9	-4.0
	comp=Z,0.1nm,0.3s,baz=97,slow=17,SNR=1.9						
FINES	FINESS Array B	21.21	8	P	P	21 36 13.3	-4.6
	comp=Z,1.6nm,0.9s,mb3.3,baz=190,slow=8.5,SNR=2.7						
MKAR	Makanchi Array	44.51	60	P	P	21 39 42.5	-0.6
	comp=Z,0.2nm,0.5s,mb3.2,baz=292,slow=7.0,SNR=4.3						

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*CSEM **16** 22:26:38.9±0.1, 42.88N×4.53E, h12km, ML2.7/24, Error ellipse: s-maj=1.5km s-min=1.1km az=170.0*
*NEIC **16** 22:26:39.5, 42.89N×4.51E, h8km, ML2.7(LDG), MN2.4(MDD), After LDG.*
*LDG **16** 22:26:39.5±0.1, 42.89N×4.51E, h8km, Md2.9/2, Ml2.7/21, Error ellipse: s-maj=1.9km s-min=1.0km az=5.0*
MDD 16 22:26:39.2±0.7**, 42.91N×4.49E, h8**km±5km**, mbLg2.0**/16**, Error ellipse: s-maj=5.5km s-min=3.2km az=150.0, PRXIMO, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LASF	Ste Croix	1.25	339	ePn	Pn	22 27 00.9	-2.1
LASF				ePg	Pg	22 27 02.5	-1.8
LASF				eSn	Sn	22 27 18.2	-2.0
LASF				eSg	Sg	22 27 19.6	-1.4
	47nm,0.3s						
LASF	Ste Croix	1.25	339	Pn	Pn	22 27 00.9	-2.1
LASF				Pn	Pn	22 27 02.3	-0.7
LASF				Pg	Pg	22 27 02.5	-1.8
LASF				Sn	Sn	22 27 18.2	-2.0
LASF				Lg		22 27 19.6	
	24nm,0.3s						
LASF	Ste Croix	1.25	339	Pn	Pn	22 27 02.3	-0.7
LASF				ePg	Pg	22 27 02.5	-1.8
LASF				eSn	Sn	22 27 18.2	-2.0
LASF				eSg	Sg	22 27 19.6	-1.4
EJON	La Jonquera	1.27	249	Pn	Pn	22 27 01.9	-1.3
	SNR=12						
EJON				Lg		22 27 18.6	
	60nm,0.3s,SNR=17						
EJON	La Jonquera	1.27	249	Pn	Pn	22 27 01.9	-1.3
	SNR=12						
SMRF	Simiane la Rot	1.33	36	ePn	Pn	22 27 02.8	-1.3
SMRF				ePg	Pg	22 27 04.8	-0.9
SMRF				eSn	Sn	22 27 19.5	-2.6
SMRF				eSg	Sg	22 27 21.1	-2.3
	11nm,0.2s						
SMRF	Simiane la Rot	1.33	36	Pn	Pn	22 27 02.8	-1.3
SMRF				Pg	Pg	22 27 03.3	-2.4
SMRF				Sn	Sn	22 27 18.4	-3.7
SMRF				Lg		22 27 19.9	
SMRF	Simiane la Rot	1.33	36	ePn	Pn	22 27 02.8	-1.3
SMRF				Pg	Pg	22 27 03.3	-2.4
SMRF				ePg	Pg	22 27 04.8	-0.9
SMRF				Sn	Sn	22 27 18.4	-3.7
SMRF				eSn	Sn	22 27 19.5	-2.6
SMRF				Lg		22 27 19.9	
SMRF				eSg	Sg	22 27 21.1	-2.3
SMRF	Simiane la Rot	1.33	36	Pg	Pg	22 27 03.3	-2.4
SMRF				Sn	Sn	22 27 18.4	-3.7
SMRF				eSg	Sg	22 27 21.1	-2.3
	5.6nm,0.2s						
LMR	La Mourre	1.54	73	ePn	Pn	22 27 05.6	-1.5
LMR				ePg	Pg	22 27 07.8	-2.1
LMR				eSn	Sn	22 27 24.1	-3.3
LMR				eSg	Sg	22 27 27.4	-3.1
	33nm,0.2s						
LMR	La Mourre	1.54	73	Pn	Pn	22 27 05.8	-1.3
LMR				Pg	Pg	22 27 07.4	-2.5
LMR				Sn	Sn	22 27 23.4	-4.0
FRF	La Foret Royal	1.71	67	ePn	Pn	22 27 07.9	-1.6
FRF				ePg	Pg	22 27 11.3	-2.0
FRF				eSn	Sn	22 27 28.2	-3.5
FRF				eSg	Sg	22 27 32.8	-3.2
	32nm,0.2s						
FRF	La Foret Royal	1.71	67	Pn	Pn	22 27 07.9	-1.6
FRF				ePg	Pg	22 27 11.3	-2.0
FRF				eSn	Sn	22 27 28.2	-3.5
FRF				Sn	Sn	22 27 29.0	-2.7
FRF				Lg		22 27 30.5	
FRF				eSg	Sg	22 27 32.8	-3.2
FRF	La Foret Royal	1.71	67	ePg	Pg	22 27 11.3	-2.0
FRF				Sn	Sn	22 27 29.0	-2.7
FRF				eSg	Sg	22 27 32.8	-3.2
	16nm,0.2s						
MTLF	Montolieu	1.72	285	ePn	Pn	22 27 07.3	-2.4
MTLF				ePg	Pg	22 27 11.3	-2.2
MTLF				eSn	Sn	22 27 30.0	-2.0
MTLF				eSg	Sg	22 27 33.5	-3.0
	24nm,0.5s						
MTLF	Montolieu	1.72	285	Lg		22 27 33.5	
VIVF	Saint-Julien-l	1.95	4	ePn	Pn	22 27 09.5	-3.5
VIVF				ePg	Pg	22 27 16.3	-1.8
VIVF				eSn	Sn	22 27 34.2	-3.7
VIVF				eSg	Sg	22 27 41.1	-3.1
	18nm,0.3s						
VIVF	Saint-Julien-l	1.95	4	Pn	Pn	22 27 09.9	-3.1
VIVF				Lg		22 27 40.5	
VIVF	Saint-Julien-l	1.95	4	ePn	Pn	22 27 09.5	-3.5
VIVF				ePg	Pg	22 27 16.3	-1.8
VIVF				eSn	Sn	22 27 34.2	-3.7
VIVF				Lg		22 27 40.5	
VIVF				eSg	Sg	22 27 41.1	-3.1
ORIF	Oris-en-Rattie	2.25	26	ePn	Pn	22 27 15.4	-1.8
ORIF				ePg	Pg	22 27 21.5	-2.5
ORIF				eSg	Sg	22 27 49.9	-4.1
	2.0nm,0.3s						
SBF	Sospel	2.35	65	ePn	Pn	22 27 16.7	-2.0
SBF				ePg	Pg	22 27 23.1	-3.0
SBF				eSg	Sg	22 27 52.6	-4.8
	22nm,0.3s						
SBF	Sospel	2.35	65	Pn	Pn	22 27 17.4	-1.3
SBF				Lg		22 27 52.6	
SBF	Sospel	2.35	65	Pn	Pn	22 27 17.4	-1.3
SBF				ePg	Pg	22 27 23.1	-3.0
SBF				eSg	Sg	22 27 52.6	-4.8
EMIR	Miracle	2.41	247	Pn	Pn	22 27 17.7	-1.9
	2.4nm,0.3s,SNR=7.9						
EMIR				Sn	Sn	22 27 46.5	-3.1
	1.8nm,0.2s,SNR=4.0						
EMIR				Lg		22 27 54.5	
	9.9nm,0.3s,SNR=6.4						
EMIR	Miracle	2.41	247	Pn	Pn	22 27 17.7	-1.9
	2.4nm,0.3s,SNR=7.9						
EMIR				Sn	Sn	22 27 46.5	-3.1
	1.8nm,0.2s,SNR=4.0						
MBDF	Montbardon	2.46	41	ePn	Pn	22 27 18.2	-2.0
MBDF				ePg	Pg	22 27 25.5	-2.7
MBDF				eSg	Sg	22 27 56.5	-4.5
	2.7nm,0.3s						
CAF	Calviac	2.67	320	ePn	Pn	22 27 21.6	-1.7
CAF				ePg	Pg	22 27 29.8	-2.7
CAF				eSg	Sg	22 28 04.7	-3.4
	4.8nm,0.2s						
CAF	Calviac	2.67	320	Pn	Pn	22 27 22.4	-0.9
CAF				Lg		22 28 04.7	
CAF	Calviac	2.67	320	Pn	Pn	22 27 22.4	-0.9
CAF				ePg	Pg	22 27 29.8	-2.7
CAF				Pg	Pg	22 27 31.0	-1.5
CAF				eSg	Sg	22 28 04.7	-3.4
EPOB	Poblet	2.98	240	Pn	Pn	22 27 26.5	-1.2
	0.9nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	22 27 59.6	-4.3
	1.5nm,0.5s,SNR=4.0						
EPOB				Lg		22 28 13.6	
	8.3nm,0.6s,SNR=5.9						
EPOB	Poblet	2.98	240	Pn	Pn	22 27 26.5	-1.2
EPOB				Sn	Sn	22 27 59.6	-4.3
EPOB				Lg		22 28 11.3	
EPOB	Poblet	2.98	240	Pn	Pn	22 27 26.5	-1.2
	0.9nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	22 27 59.6	-4.4
	1.5nm,0.5s,SNR=4.0						
EPF	Esparros	3.05	274	ePn	Pn	22 27 25.8	-2.9
EPF				ePg	Pg	22 27 37.1	-3.0
EPF				eSg	Sg	22 28 16.4	-4.3
	7.0nm,0.4s						
EPF	Esparros	3.05	274	Pn	Pn	22 27 25.8	-2.9
EPF				Lg		22 28 16.4	
	3.5nm,0.4s						
LPG	La Plagne	3.06	31	ePn	Pn	22 27 27.2	-1.6
LPL	La Plagne	3.06	31	ePn	Pn	22 27 27.4	-1.5
LPL	La Plagne	3.06	31	Pn	Pn	22 27 27.4	-1.5
LPL				Pn	Pn	22 27 28.0	-0.9
EGRA	Graus	3.17	258	Pn	Pn	22 27 28.5	-1.9
	0.7nm,0.4s,SNR=7.9						
EGRA				Sn	Sn	22 28 04.5	-4.3
	3.9nm,0.7s,SNR=7.9						
EGRA				Lg		22 28 20.6	
	5.5nm,0.7s,SNR=7.9						
EGRA	Graus	3.17	258	Pn	Pn	22 27 28.5	-1.9
EGRA				Sn	Sn	22 28 04.5	-4.3
EGRA				Lg		22 28 18.2	
EBIE	Bielsa	3.21	267	Pn	Pn	22 27 30.4	-0.6
	0.6nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	22 28 07.5	-2.3
	2.4nm,0.4s,SNR=7.9						
EBIE				Lg		22 28 21.7	
	2.0nm,0.6s,SNR=7.9						
EBIE	Bielsa	3.21	267	Pn	Pn	22 27 30.4	-0.6
EBIE				Sn	Sn	22 28 07.5	-2.3
EBIE				Lg		22 28 18.5	
EBIE	Bielsa	3.21	267	Pn	Pn	22 27 30.4	-0.5
	0.6nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	22 28 07.5	-2.3
	2.4nm,0.4s,SNR=7.9						
RJF	Les Rejaudoux	3.21	319	ePn	Pn	22 27 28.8	-2.2
RJF				ePg	Pg	22 27 39.7	-3.6
RJF				eSg	Sg	22 28 20.4	-5.7
	7.6nm,0.3s						
RJF	Les Rejaudoux	3.21	319	Lg		22 28 19.8	
PGF	Pioggiola	3.34	95	ePn	Pn	22 27 29.3	-3.6
PGF				eSn	Sn	22 28 05.2	-8.0
	2.8nm,0.2s						
PGF	Pioggiola	3.34	95	Pn	Pn	22 27 29.5	-3.4
ETOS	Mallorca	3.38	202	Pn	Pn	22 27 30.0	-3.4
	1.0nm,0.3s,SNR=7.9						
ETOS				Sn	Sn	22 28 08.6	-5.7
	0.7nm,0.7s,SNR=7.9						
ETOS	Mallorca	3.38	202	Pn	Pn	22 27 30.0	-3.4
ETOS				Sn	Sn	22 28 04.4	-10
ETOS	Mallorca	3.38	202	Pn	Pn	22 27 30.0	-3.4
	1.0nm,0.3s,SNR=7.9						
ETOS				Sn	Sn	22 28 04.4	-10
LFF	La Frestale	3.38	308	ePn	Pn	22 27 31.4	-2.1
LFF				eSg	Sg	22 28 26.8	-5.1
	10nm,0.4s						
LFF	La Frestale	3.38	308	Pn	Pn	22 27 33.0	-0.5
LFF				Lg		22 28 27.8	
LFF	La Frestale	3.38	308	ePn	Pn	22 27 31.4	-2.1
LFF				Lg		22 28 27.8	
ERTA	Horta de San J	3.66	239	Pn	Pn	22 27 34.2	-3.2
	2.3nm,0.3s,SNR=7.9						
ERTA				Lg		22 28 35.7	
	7.8nm,0.7s,SNR=7.9						
ERTA	Horta de San J	3.66	239	Pn	Pn	22 27 34.2	-3.2
ERTA				Lg		22 28 33.3	
ERTA	Horta de San J	3.66	239	Pn	Pn	22 27 34.2	-3.2
ETSF	Etsaut	3.71	272	ePn	Pn	22 27 35.4	-2.7
TCF	Toulx Ste Croi	3.75	335	eSg	Sg	22 28 37.8	-6.2
	4.4nm,0.4s						
TCF	Toulx Ste Croi	3.75	335	Lg		22 28 37.8	
	2.2nm,0.4s						
TCF				Lg		22 28 38.9	
SMF	Signal de Mont	3.76	353	eSg	Sg	22 28 38.0	-6.5
	1.8nm,0.2s						
BGF	Bois d'Agland	3.83	343	ePn	Pn	22 27 37.2	-2.6
BGF				eSg	Sg	22 28 40.0	-6.7
	9.8nm,0.4s						
BGF	Bois d'Agland	3.83	343	Pn	Pn	22 27 37.2	-2.6
BGF				Lg		22 28 40.9	
ESAC	San Caprasio	3.86	254	Lg		22 28 43.6	
	8.1nm,0.3s,SNR=4.0						
AVF	Avril sur Loir	3.96	349	eSg	Sg	22 28 44.3	-6.9
	1.7nm,0.3s						
SSF	Saint Saulge	4.21	351	ePn	Pn	22 27 41.7	-3.5
SSF				ePg	Pg	22 27 57.9	-5.3
SSF				eSg	Sg	22 28 51.9	-7.5
	1.6nm,0.3s						
LOR	Lormes	4.38	354	ePn	Pn	22 27 44.5	-3.1
LOR				eSg	Sg	22 28 57.4	-7.7
	1.1nm,0.2s						
EIBI	Ibiza	4.55	213	Sn	Sn	22 28 35.9	-7.9
	8.9nm,0.5s,SNR=4.0						
HAU	Haudompre	5.26	14	ePn	Pn	22 27 56.7	-3.4

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*IDC **16** 22:29:00.7±3.3, 23.19S×66.49W, h153km±35km, mb3.0/1, mb1 3.3/5, mb1mx3.2/16, mbtmp3.6/5, Error ellipse: s-maj=32.5km s-min=24.9km az=56.0*
*NEIC **16** 22:29:02.3±1.2, 23.13S×66.41W, h175km±16km, mb3.5/1, Error ellipse: s-maj=20.6km s-min=13.3km az=124.0*
ISC 16 22:28:59.9±1.0**, 23.26S**±0.06×**66.4W**±0.1**, h176**km±16km**, n11, σ1§15**/13**, mb3.4**/1**, 1C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.39	285	S	S	22 30 14.4	+0.6
LVC	Limon Verde	2.39	285	⇑iPn	P	22 29 44.3	+2.6
LVC				eSn	S	22 30 13.2	-0.6
LPAZ	La Paz	7.12	347	P	P	22 30 42.0	-0.4
	0.3nm,0.3s,baz=185,slow=11,SNR=5.8						
LPAZ				S	S	22 32 01.1	-1.4
	0.1nm,0.3s,baz=14,slow=19,SNR=2.4						
CFAA	Coronel Fontan	8.47	191	S	S	22 32 32.4	-1.9
	0.2nm,0.3s,baz=126,slow=20,SNR=6.3						
SIV	San Ignacio	8.81	36	P	P	22 31 05.5	+0.7
	0.8nm,0.3s,baz=229,slow=13,SNR=8.4						
SAML	Samuel	14.56	13	eP	P	22 32 17.9	-1.0
	1.9nm,0.8s						
PLCA	Paso Flores	17.77	190	P	P	22 32 57.7	+0.5
	0.1nm,0.3s,baz=2.0,slow=6.9,SNR=4.7						
PLCA	Paso Flores	17.77	190	P	P	22 32 57.7	+0.5
BDFB	Brasilia	18.92	70	P	P	22 33 10.1	+0.6
	0.4nm,0.3s,baz=247,slow=12,SNR=5.9						
TXAR	Lajitas Array	63.40	324	P	P	22 39 13.6	+0.7
	0.7nm,1.1s,mb3.4,baz=141,slow=5.8,SNR=3.6						
TXAR	Lajitas Array	63.40	324	P	P	22 39 13.6	+0.7

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*NEIC **16** 22:34:19.2±1.1, 20.10S×68.93W, h114km±12km, mb3.7/1, Error ellipse: s-maj=20.9km s-min=10.2km az=106.0*
*IDC **16** 22:34:19.2±2.1, 20.09S×68.94W, h117km±20km, mb3.6/3, mb1 3.6/7, mb1mx3.4/18, mbtmp4.0/7, Error ellipse: s-maj=36.2km s-min=17.1km az=118.0*
ISC 16 22:34:18.4±1.3**, 20.16S**±0.08×**68.8W**±0.1**, h116**km±13km**, n11, σ1§02**/16**, mb4.0**/1**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.44	182	P	P	22 34 59.5	+1.5
	11nm,0.3s,baz=338,slow=8.9,SNR=21						
LVC				S	S	22 35 26.6	-1.3
	59nm,0.3s,baz=348,slow=11,SNR=26						
LVC	Limon Verde	2.44	182	ePn	P	22 34 59.1	+1.1
LVC				S	S	22 35 26.6	-1.3
LPAZ	La Paz	3.91	10	P	P	22 35 18.1	+0.3
	1.3nm,0.3s,baz=210,slow=7.3,SNR=31						
LPAZ				S	S	22 35 56.0	-7.1
	1.3nm,0.3s,baz=193,slow=18,SNR=2.5						
LPAZ	La Paz	3.91	10	ePn	P	22 35 17.8	0.0
LPAZ				S	S	22 35 56.0	-7.1
SIV	San Ignacio	8.47	62	P	P	22 36 19.3	-0.3
	2.6nm,0.3s,baz=258,slow=11,SNR=79						
SIV				S	S	22 37 53.3	-0.7
	0.1nm,0.3s,baz=8.1,slow=21,SNR=2.1						
CPUP	Villa Florida	12.23	122	P	P	22 37 10.9	+1.3
	0.2nm,0.3s,baz=331,slow=13,SNR=2.7						
BDFB	Brasilia	20.32	81	P	P	22 38 48.2	+0.9
	2.7nm,0.4s,baz=263,slow=11,SNR=3.1						
PLCA	Paso Flores	20.56	184	P	P	22 38 48.9	-0.7
	1.8nm,0.7s,baz=360,slow=11,SNR=6.2						
PLCA	Paso Flores	20.56	184	eP	P	22 38 49.3	-0.3
	4.0nm,1.1s						
DBIC	Dimbokro	68.30	74	P	P	22 45 08.6	-0.9
	2.1nm,0.8s,mb4.0,baz=246,slow=6.3,SNR=3.6						
DBIC	Dimbokro	68.30	74	P	P	22 45 08.6	-0.9

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*BJI **16** 23:14:27.4, 2.34N×95.74E, h42km, mB4.8, mb4.9, Ms4.4, Msz4.2*
*NEIC **16** 23:14:28.7±0.3, 2.66N×95.54E, mb4.8/16, Error ellipse: s-maj=11.9km s-min=6.3km az=57.0*
*IDC **16** 23:14:28.3±0.5, 2.59N×95.47E, h23km±2km, mb4.2/13, mb1 4.3/13, mb1mx4.2/18, mbtmp4.3/13, MS3.8/8, Ms1 3.8/8, ms1mx3.6/24, Error ellipse: s-maj=18.1km s-min=11.2km az=51.0*
*MOS **16** 23:14:28.1±0.9, 2.72N×95.59E, h33km, mb5.0/14, Error ellipse: s-maj=20.7km s-min=8.1km az=110.0*
ISC 16 23:14:26.4±0.4**, 2.57N**±0.05×**95.46E**±0.05**, h24**km**, h24**km±.6km**: pP-P, n94, σ1§09**/87**, mb4.7**/51**, MS4.0**/19**, 3C-5D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.90	70	P	Pn	23 15 54.5	-0.2
KGM	Kluang	7.87	94	P	Pn	23 16 22.9	+0.6
CHG	Chiang Mai	16.50	12	P	P	23 18 18.4	+0.3
	19nm,0.9s						
NANT	Nan	16.93	17	P	P	23 18 25.0	+1.5
	112nm,0.7s						
KKM	Kota Kinabalu	20.98	80	P	P	23 19 12.4	+1.9
QIZ	Qiongzhong	21.58	40	P	P	23 19 15.4	-1.2
QIZ				eS	S	23 23 04.9	-4.5
QIZ				LR	LR		
	comp=N,461nm,12.6s						
QIZ				LR	LR		
	comp=Z,497nm,17.5s,MS4.0						
TSM	Tawau	22.44	85	P	P	23 19 28.0	+2.9
KMI	Kunming	23.50	17	⇑P	P	23 19 36.8	+1.3
KMI				AP		23 19 44.1	
KMI				XP		23 19 47.4	
KMI				PP	PP	23 20 10.0	+2.3
KMI				S	S	23 23 45.1	+1.1
KMI				XS		23 23 58.1	
KMI				SS	SS	23 24 33.3	+1.1
KMI				AMB	AMB		
	comp=Z,39nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,115nm,3.5s						
KMI				LR	LR		
	comp=N,768nm,13.0s,MS4.3						
KMI				LR	LR		
	comp=E,356nm,16.8s,MS4.3						
KMI				LR	LR		
	comp=Z,879nm,12.3s,MS4.4						
GYA	Guiyang	26.08	23	⇓iP	P	23 20 00.3	+0.2
GYA				AP	pP	23 20 07.8	+0.6
GYA				XP	sP	23 20 10.6	+0.1
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,100nm,4.2s						
GYA				LR	LR		
	comp=N,360nm,13.7s,MS4.2						
GYA				LR	LR		
	comp=E,230nm,13.1s,MS4.2						
GYA				LR	LR		
	comp=Z,460nm,13.5s,MS4.2						
PKI	Pulchoki	26.66	340	eP	P	23 20 06.0	+0.6
	comp=Z,54nm,1.1s,mb5.0						
PKI	Pulchoki	26.66	340	eP	P	23 20 06.0	+0.6
PKI				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.7						
DMN	Daman	26.80	339	eP	P	23 20 07.2	+0.5
	comp=Z,27nm,0.8s,mb4.8						
KKN	Kakani	26.90	340	eP	P	23 20 07.9	+0.2
	comp=Z,48nm,0.9s,mb5.0						
KKN	Kakani	26.90	340	eP	P	23 20 07.9	+0.2
KKN				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
LSA	Lhasa	27.29	352	P	P	23 20 12.0	+0.8
LSA	Lhasa	27.29	352	eP	P	23 20 12.2	+1.0
	comp=Z,15nm,0.6s,mb4.7						
LSA	Lhasa	27.29	352	eP	P	23 20 12.2	+1.0
LSA				pmax	pmax		

comp=Z,15nm,0.6s,mb4.7
GKN Gorkha 27.32 339 *e*P P **23 20 11.0 -0.5**
comp=Z,65nm,0.9s,mb5.2
KOLN Koldanda 27.51 337 *e*P P **23 20 13.4 +0.2**
comp=Z,37nm,0.8s,mb5.1
CD2 Chengdu 29.26 15 P P **23 20 27.6 -1.4**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
CD2 LR LR
comp=N,260nm,10.6s
CD2 LR LR
comp=Z,340nm,13.2s,MS4.1
ENH Enshi 30.59 24 *e*P P **23 20 39.0 -1.8**
comp=Z,21nm,0.9s,mb5.0
WHN Wuhan 33.07 31 *e*P P **23 21 02.3 -0.2**
XAN Xi'an 33.74 20 P P **23 21 07.1 -1.2**
XAN AMB AMB
comp=Z,65nm,0.8s,mb5.6
LZH Lanzhou 34.24 12 *e*P P **23 21 11.8 -0.8**
LZH AP pP 23 21 19.3 -0.6
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,117nm,4.0s
FITZ Fitzroy Crossi 36.13 126 *e*P P **23 21 28.9 0.0**
comp=Z,8.2nm,0.6s,mb4.8
FITZ Fitzroy Crossi 36.13 126 P P **23 21 28.6 -0.3**
comp=Z,12nm,0.8s,mb4.9,baz=274,slow=2.0,SNR=12
FITZ pP pP 23 21 35.8 -0.4
comp=Z,12nm,0.7s,baz=201,slow=3.0,SNR=6.7
NJ2 Nanjing 36.67 34 *e*P P **23 21 32.0 -1.3**
NJ2 AP pP 23 21 43.6 +3.0
NJ2 XP sP 23 21 46.4 +2.8
NJ2 PP PP 23 22 54.1 -4.2
NJ2 S S **23 27 08.0 -6.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,160nm,9.4s
NJ2 LR LR
comp=N,290nm,14.4s,MS4.4
NJ2 LR LR
comp=E,360nm,16.6s,MS4.4
NJ2 LR LR
comp=Z,220nm,25.5s
GTA Gaotai 36.88 6 P P **23 21 34.8 -0.2**
GTA AP pP 23 21 42.4 +0.1
GTA XP sP 23 21 47.3 +1.9
GTA AMB AMB
comp=Z,17nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,86nm,4.6s
GTA LR LR
comp=N,154nm,12.2s,MS4.1
GTA LR LR
comp=E,127nm,13.4s,MS4.1
GTA LR LR
comp=Z,216nm,13.8s,MS4.1
SSE Sheshan 37.35 38 P P **23 21 34.6 -4.4**
SSE PCP PcP 23 23 56.1 -2.2
SSE S S **23 27 17.8 -7.1**
SSE PCS 23 27 44.0
SSE SS SS 23 29 59.5 +2.2
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,41nm,3.9s
SSE LR LR
comp=N,109nm,16.6s,MS3.8
SSE LR LR
comp=E,60nm,16.5s,MS3.8
SSE LR LR
comp=Z,167nm,15.5s,MS3.9
KAKA Kakadu 39.73 113⇑ *i*P P **23 22 17.1 +18**
comp=Z,9.2nm,0.7s,mb4.6
HHC Hu-ho-hao-te 40.79 19 *e*P P **23 22 08.9 +1.4**
HHC AP pP 23 22 16.3 +1.5
HHC XP sP 23 22 19.9 +2.0
HHC PP PP 23 23 46.4 +1.7
HHC PCP PcP 23 24 10.1 +1.1
HHC SCP 23 27 57.3
HHC PCS 23 27 59.8
HHC S S **23 28 17.5 +0.9**
HHC SCS ScS 23 32 10.6 +1.6
HHC AMB AMB
comp=Z,19nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,154nm,4.5s
HHC LR LR
comp=N,163nm,14.3s,MS4.3
HHC LR LR
comp=E,298nm,17.8s,MS4.3
HHC LR LR
comp=Z,305nm,13.1s,MS4.3
KSH Kashi 40.83 337 *e*P P **23 22 10.5 +2.7**
KSH *e*AP pP 23 22 17.8 +2.7
KSH *e*XP sP 23 22 20.8 +2.6
KSH *e*PP PP 23 23 46.8 +1.7
KSH *e*PCP PcP 23 24 13.0 +3.9
KSH *e*PCS 23 28 01.9
KSH *e*S S **23 28 19.3 +2.1**
KSH *e*SCS ScS 23 32 11.4 +2.1
KSH AMB AMB
comp=Z,270nm,6.4s
KSH LR LR
comp=N,410nm,5.2s
KSH LR LR
comp=E,510nm,5.5s
WMQ Urumqi 41.65 352⇓ *i*P P **23 22 16.1 +1.5**
WMQ AP pP 23 22 23.5 +1.6
WMQ XP sP 23 22 27.0 +2.0
WMQ PP PP 23 23 56.0 +2.0
WMQ PPP PPP 23 24 26.0 +1.0
WMQ S S **23 28 30.0 +0.6**
WMQ SS SS 23 31 30.0 0.0
WMQ AMB AMB
comp=Z,19nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,112nm,5.8s
WMQ LR LR
comp=N,104nm,22.4s,MS4.1
WMQ LR LR
comp=E,251nm,22.4s,MS4.1
WMQ LR LR
comp=Z,128nm,19.8s,MS3.8
AAK Ala-Archa 44.07 338 *e*P P **23 22 34.3 0.0**
comp=Z,13nm,1.1s,mb4.6
AAK Ala-Archa 44.07 338 *i* P P **23 22 35.2 +0.9**
AAK pmax pmax
comp=Z,10.0nm,2.1s,mb4.2
WRA Warramunga Arr 44.23 122 P P **23 22 36.5 +0.6**
comp=Z,7.9nm,0.8s,mb4.5,baz=301,slow=9.0,SNR=22
WRA pP pP 23 22 43.7 +0.4
comp=Z,11nm,1.0s,baz=300,slow=8.9,SNR=13
WRAB Tennant Creek 44.23 122 *e*P P **23 22 36.4 +0.4**
comp=Z,18nm,0.8s,mb4.8
WRAB *e*pP pP 23 22 43.9 +0.6
WRAB Tennant Creek 44.23 122 *e*P P **23 22 36.4 +0.5**
WRAB *e**PP pP 23 22 43.9 +0.6
WRAB pmax pmax
comp=Z,18nm,0.8s,mb4.8
MKAR Makanchi Array 45.52 347 P P **23 22 46.2 +0.4**
comp=Z,18nm,0.8s,mb5.1,baz=161,slow=8.7,SNR=144
MKAR pP pP 23 22 53.4 +0.1
comp=Z,20nm,0.8s,baz=160,slow=8.5,SNR=22
SONM Songino Array 46.07 10 P P **23 22 50.0 -0.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=191,slow=7.6,SNR=9.2
SONM pP pP 23 22 56.8 -0.8
comp=Z,3.8nm,0.7s,baz=188,slow=9.3,SNR=7.4
SONM PcP PcP 23 24 27.2 +0.4
comp=Z,1.5nm,0.7s,baz=208,slow=2.9,SNR=3.3
SONM pPcP 23 24 34.8
comp=Z,3.4nm,0.7s,baz=208,slow=3.2,SNR=6.7
SONM LR LR 23 43 15.6
comp=Z,105nm,21.1s,MS3.8,baz=199,slow=38
KKAR Karatay Array 46.08 335 *i* P P **23 22 51.1 +0.8**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ZAK Zakamensk 48.10 7 *e*P P **23 23 04.2 -2.0**
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
CN2 Changchun 48.91 29 *e*P P **23 23 14.0 +1.5**
KURK Kurchatov 50.04 346 *e*P P **23 23 21.2 +0.2**
comp=Z,17nm,0.9s,mb5.1
KURK *e*pP pP 23 23 28.7 +0.1
KURK Kurchatov 50.04 346 *e*P P **23 23 21.3 +0.2**
KURK *e**PP pP 23 23 28.7 +0.1
KURK pmax pmax
comp=Z,17nm,0.9s,mb5.1
CIT Chita 51.55 14 *e*P P **23 23 23.1 -9.4**
MDJ Mudanjiang 51.56 31 P P **23 23 31.6 -1.1**
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
MDJ LR LR
comp=N,26nm,25.4s,MS3.7
MDJ LR LR
comp=E,82nm,20.8s,MS3.7
MDJ LR LR
comp=Z,61nm,16.1s,MS3.7
MJAR Matsushiro Arr 51.89 44 LR LR 23 48 53.3
comp=Z,105nm,19.2s,MS3.9,baz=110,slow=40
ZAL Zalesovo 51.95 352 P P **23 23 35.5 0.0**
comp=Z,9.9nm,0.9s,mb4.7,baz=301,slow=7.1,SNR=45
ZAL pP pP 23 23 43.5 +0.5
comp=Z,10nm,0.6s,baz=305,slow=6.1,SNR=14
NVS Novosibirsk 53.05 351 *e*P P **23 23 42.6 -1.2**
NVS pmax pmax
comp=Z,18nm,0.9s,mb5.0
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.0s
VOSK Vostochnaya 53.96 342 P P **23 23 50.0 -0.4**
VOSK pmax pmax
comp=Z,15nm,0.8s,mb5.0
BVA0 Borovoye Array 54.40 342 P P **23 23 53.1 -0.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 54.40 342 P P **23 23 53.1 -0.5**
comp=Z,7.2nm,0.6s,mb4.8,baz=146,slow=9.1,SNR=59
BVAR pP pP 23 24 00.4 -0.8
comp=Z,14nm,0.8s,baz=140,slow=8.7,SNR=28
BRVK Borovoye 54.47 342 *e*P P **23 23 52.8 -1.3**
comp=Z,8.5nm,0.8s,mb4.7
BRVK Borovoye 54.47 342 *e*P P **23 23 52.8 -1.3**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CTAO Charters Tower 54.67 117 *e*P P **23 23 56.6 +0.6**
comp=Z,7.4nm,0.7s,mb4.8
CTAO *e*pP pP 23 24 04.1 +0.5
CTAO Charters Tower 54.67 117 *e*P P **23 23 56.6 +0.5**
CTAO *e**PP pP 23 24 04.1 +0.5
CTAO pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
AB31 Akbulak array 55.50 332 *i* P P **23 24 01.4 -0.4**
AB31 pmax pmax
comp=Z,25nm,1.0s,mb5.2
STKA Stephens Creek 55.56 132 P P **23 24 01.4 -1.0**
comp=Z,2.8nm,0.8s,mb4.3,baz=313,slow=7.9,SNR=3.4
STKA pP pP 23 24 09.8 -0.1
comp=Z,4.1nm,0.7s,baz=309,slow=3.3,SNR=4.2
STKA LR LR 23 48 59.5
comp=Z,102nm,18.5s,MS3.9,baz=350,slow=37
KLR Kul'dur 55.84 28 *e*P P **23 24 00.0 -4.2**
KLR MLR MLR
comp=N,400nm,13.0s
KLR MLR MLR
comp=Z,500nm,13.0s,MS4.8
BOD Bodaibo 57.01 12 *e*P P **23 24 11.3 -1.2**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
AKTO Aktyubinsk 57.22 332 P P **23 24 13.3 -0.8**
AKTO pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
KMBO Kilima Mbogo 58.31 267 P P **23 24 22.2 +0.1**
comp=Z,1.1nm,0.9s,mb3.9,baz=45,slow=19,SNR=3.5
KMBO pP pP 23 24 31.0 +1.2
comp=Z,2.6nm,0.9s,baz=43,slow=7.2,SNR=5.5
KMBO LR LR 23 47 29.2
comp=Z,110nm,18.3s,MS4.0,baz=91,slow=34
SVE Sverdlovsk 60.79 339 *e*P P **23 24 38.6 -0.1**
SVE *e* pP 23 24 45.5 -0.8
SVE *e* 23 25 28.6
ARU Arti 61.26 338 *e*P P **23 24 41.2 -0.6**
comp=Z,12nm,1.0s,mb5.0
ARU *e*pP pP 23 24 48.5 -1.0
ARU Arti 61.26 338⇓ *i*P P **23 24 41.4 -0.5**
ARU *e* 23 25 23.1
ARU *e*S S **23 33 00.8 +2.1**
ARU *e*SS SS 23 36 59.4 -1.2
ARU pmax pmax
comp=Z,14nm,1.1s,mb5.0
KIV Kislovodsk 62.14 319*d* *i*P P **23 24 51.7 +3.7**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
ASF Jabal al Asfar 62.26 305 pP pP 23 24 57.5 +0.8
comp=Z,3.5nm,0.8s,baz=50,slow=2.6,SNR=8.0
YAK Yakutsk 64.61 17*c* *i*P P **23 25 02.5 -1.5**
YAK pmax pmax
comp=Z,35nm,1.1s,mb5.3
ANN Anapa 65.93 319 *e*P P **23 25 09.1 -3.6**
ANN *i**PP pP 23 25 19.3 -1.1
ANN *e* 23 25 38.7
ANN *e*S S 23 33 51.0 -6.0
ANN pmax pmax
comp=Z,11nm,1.3s,mb4.7
BR131 Keskin Array S 66.91 312 P P **23 25 20.8 +1.7**
comp=Z,1.3nm,0.6s,mb4.1
BR131 *e* pP 23 25 26.7 0.0
BRTR Keskin Array B 66.91 312 P P **23 25 19.4 +0.3**
comp=Z,1.2nm,1.1s,mb3.8,baz=114,slow=5.5,SNR=2.9
BRTR pP pP 23 25 26.8 0.0
comp=Z,1.7nm,0.8s,baz=134,slow=5.8,SNR=8.2
MATP Matopo 69.44 247 P P **23 25 35.5 +0.4**
comp=Z,2.7nm,1.0s,mb4.1,baz=107,slow=5.6,SNR=3.3
MATP pP pP 23 25 42.1 -0.7
comp=Z,3.5nm,0.9s,baz=77,slow=12,SNR=5.7
OBN Obninsk 70.55 329⇓ *i*P P **23 25 41.2 -0.1**
OBN *i* pP 23 25 48.7 -0.3
OBN *e* 23 26 05.2
OBN *e* 23 28 17.7
OBN *e*SS SS 23 39 27.7 +2.5
OBN pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TIXI Tiksi 72.16 11 *e*P P **23 25 46.8 -3.9**
IDI Anoyia 72.69 306 pP pP 23 26 02.2 0.0
comp=Z,8.4nm,0.7s,baz=76,slow=14,SNR=2.3
AKASG Malin Array Be 73.12 323 P P **23 25 56.0 -0.7**
comp=Z,0.2nm,0.3s,mb3.5,baz=88,slow=5.6,SNR=3.8
AKASG pP pP 23 26 02.8 -1.7
comp=Z,2.6nm,0.7s,baz=85,slow=4.6,SNR=3.7
SEY Seymchan 73.20 24 *i* P P **23 25 54.7 -2.3**
DZM Mont Dzumac 73.42 114 LR LR 23 59 28.9
comp=Z,69nm,19.0s,MS4.0,baz=214,slow=37
MLR Muntele Rosu 73.89 317 pP pP 23 26 08.5 -0.5
comp=Z,3.5nm,0.9s,baz=170,slow=5.6,SNR=4.1
FINES FINESS Array B 77.99 333 P P **23 26 24.0 -0.2**
comp=Z,2.5nm,1.1s,mb4.1,baz=108,slow=4.4,SNR=4.0
FINES pP pP 23 26 30.3 -1.6
comp=Z,1.6nm,0.6s,baz=90,slow=7.6,SNR=2.8
ARCES ARCESS Array B 80.67 340 pP pP 23 26 46.9 +0.6
comp=Z,4.6nm,0.8s,baz=117,slow=5.4,SNR=3.2
ARCES LR LR 00 07 18.3
comp=Z,86nm,18.0s,MS4.1,baz=135,slow=39
GERES GERESS Array B 82.65 319 P P **23 26 50.1 +0.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=141,slow=8.5,SNR=3.7
GERES pP pP 23 26 57.9 +0.9
comp=Z,1.9nm,0.9s,baz=90,slow=6.7,SNR=6.2
BRG Berggiesshubel 82.66 321 *e*P pP 23 26 58.3 +1.3
comp=Z,13nm,1.7s
BRG Berggiesshubel 82.66 321 *e*P pP 23 26 58.3 +1.3
BRG pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
HFS Hagfors 83.68 330 pP pP 23 27 00.7 -1.4
comp=Z,1.5nm,0.6s,baz=63,slow=3.3,SNR=2.0
NOA NORSAR Array B 84.97 331 pP pP 23 27 08.8 +0.2
comp=Z,2.0nm,0.8s,baz=94,slow=5.5,SNR=4.4
NOA LR LR 00 10 59.4
comp=Z,38nm,18.8s,MS3.8,baz=355,slow=40
VNDA Vanda 87.50 168 pP pP 23 27 21.2 +0.5
comp=Z,0.6nm,0.8s,baz=297,slow=4.5,SNR=2.8
VNDA LR LR 23 59 02.0
comp=Z,23nm,19.9s,MS3.6,baz=288,slow=30
VNA2 Neumayer--Watz 96.61 199 P P **23 27 58.2 +3.0**
VNA2 Neumayer--Watz 96.61 199 sP 23 28 11.4 +5.8
VNA3 Neumayer Olymp 97.27 198 P P **23 27 57.0 -1.1**
VNA3 Neumayer Olymp 97.27 198 sP 23 28 11.1 +2.6
TXAR Lajitas Array 143.37 29 PKhKP 23 33 58.2
comp=Z,0.4nm,0.8s,baz=304,slow=4.5,SNR=4.1
CPUP Villa Florida 144.78 225 PKP PKPdf 23 34 05.2 -1.4
comp=Z,2.6nm,0.8s,baz=70,slow=4.0,SNR=4.0
CPUP pPKP 23 34 12.1
comp=Z,3.5nm,0.7s,baz=135,slow=3.8,SNR=4.7

NEIC ***16*** *23:51:40.8±2.0, 4.63S×153.55E, h135km±17km, mb4.1/5, Error ellipse: s-maj=16.0km s-min=10.4km az=68.0*
IDC ***16*** *23:51:41.5±4.2, 4.66S×153.55E, h142km×36km, mb3.9/8, mb1 4.0/9, mb1mx3.8/17, mbtmp4.4/9, Error ellipse: s-maj=29.2km s-min=19.6km az=78.0*
ISC 16 23:51:40.1±3.5,**4.6S**±0.1×**153.6E**±0.1,**h142**km±30km,**n14, σ0s65**/15,**mb4.0**/12,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.94**	**233**	P	**P**	**23 53 33.3**	**-0.5**
	22nm,0.3s,baz=42,slow=5.5,SNR=61						
PMG				S	**S**	**23 55 03.0**	**+0.7**
	8.7nm,0.3s,baz=130,slow=19,SNR=6.1						
DZM	**Mont Dzumac**	**21.36**	**145**	P	**P**	**23 56 17.7**	**+0.4**
	8.7nm,1.1s,mb4.0,baz=284,slow=21,SNR=3.2						
WRAB	**Tennant Creek**	**24.12**	**229**	*e*P	**P**	**23 56 44.6**	**+0.5**
	16nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**24.14**	**229**	P	**P**	**23 56 44.5**	**+0.3**
	9.6nm,0.7s,mb4.4,baz=53,slow=9.7,SNR=29						
WRA				pP		23 57 14.0	
	1.8nm,0.6s,baz=55,slow=10,SNR=7.6						
STKA	**Stephens Creek**	**29.34**	**201**	P	**P**	**23 57 30.6**	**-1.2**
	2.1nm,0.8s,mb3.9,baz=6.2,slow=12,SNR=3.8						
FITZ	**Fitzroy Crossi**	**30.42**	**242**	*e*P	**P**	**23 57 40.1**	**-1.3**
	5.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.42**	**242**	P	**P**	**23 57 39.9**	**-1.5**
	6.6nm,0.5s,mb4.6,baz=52,slow=5.2,SNR=15						
JNU	**Nakatsue**	**43.27**	**332**	P	**P**	**23 59 29.3**	**+0.1**
	7.5nm,0.8s,mb4.4,baz=139,slow=16,SNR=3.8						
SONM	**Songino Array**	**66.59**	**327**	P	**P**	**00 02 16.6**	**-0.7**
	0.3nm,0.4s,mb3.4,baz=127,slow=7.2,SNR=2.7						
VNDA	**Vanda**	**72.98**	**178**	P	**P**	**00 02 55.6**	**+0.2**
	0.2nm,0.5s,mb3.1						
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**	**00 03 39.5**	**+0.6**
	0.3nm,0.3s,mb3.3,baz=103,slow=6.7,SNR=5.7						
KURK	**Kurchatov**	**84.10**	**322**	*e*P	**P**	**00 03 56.0**	**-0.1**
	1.1nm,0.8s,mb3.6						
AAK	**Ala-Archa**	**85.10**	**313**	*e*P	**P**	**00 04 02.1**	**+0.8**
	1.2nm,0.4s,mb4.0						
MAW	**Mawson**	**86.03**	**203**	P	**P**	**00 04 05.4**	**+0.1**
	2.4nm,0.6s,mb4.1,baz=104,slow=7.0,SNR=10						

CSEM ***17*** *00:09:03.6±0.7, 38.89N×29.27W, h10km, ML2.3, Error ellipse: s-maj=20.9km s-min=5.3km az=45.0, After PDA*
PDA ***17*** *00:09:03.6±0.7, 38.89N×29.27W, h10km, MD3.2, ML2.3, Error ellipse: s-maj=20.9km s-min=5.3km az=45.0*
SVSA 17 00:09:03.6±0.7,**38.89N×29.27W,h10km,MD3.2,ML2.3, Error ellipse: s-maj=20.9km s-min=5.3km az=45.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.47**	**129**	*e*P	Pg	00 09 11.8	-1.4
PTCA				*e*S	Sg	00 09 17.8	-1.9
PCED	**Cedros**	**0.51**	**120**	*i* P	Pg	00 09 12.3	-1.6
PCED				*e*S	Sg	00 09 18.7	-2.2
	32nm,0.1s						
PCED	**Cedros**	**0.51**	**120**	*e*S	Sg	00 09 18.7	-2.2
CALA	**Caldeira**	**0.54**	**125**	*e*P	Pg	00 09 12.6	-1.8
CALA				*e*S	Sg	00 09 19.5	-2.2
HOR	**Horta**	**0.61**	**126**	*e*S	Sg	00 09 20.6	-3.6
PICO	**Pico**	**0.76**	**120**	*e*P	Pb	00 09 15.6	-2.9
PICO				*e*S	Sb	00 09 24.9	-3.7
PGRA	**Graciosa**	**1.01**	**82**	*erx*		00 09 33.5	

CASC ***17*** *01:50:17.1±2.0, 13.98N×91.73W, h21km±7km, MD4.4, ML4.1*
MEX ***17*** *01:50:19.4±0.3, 13.93N×91.61W, h119km±242km, MD4.5*
ISC 17 01:50:16.2±1.0,**13.87N**±0.05×**91.76W**±0.03,**h20**km±7km, **n28,σ0s88/49,3C-7D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.05**	**57**⇓	*i* P	**Pb**	**01 50 34.5**	**-1.1**
FUG				*e*S	**Sb**	**01 50 49.0**	**+0.1**
TP2	**Tecpan 2**	**1.15**	**38**⇓	*e*P	**Pb**	**01 50 36.5**	**-0.7**
TP2				*e*S	**Sb**	**01 50 50.7**	**-1.0**
PCG	**Pacaya**	**1.23**	**65**⇓	*e*P	**Pn**	**01 50 37.6**	**-0.8**
PCG				*e*S	**Sb**	**01 50 55.2**	**+1.2**
IXG	**Ixpaco**	**1.30**	**77**	*e*P	**Pn**	**01 50 38.5**	**-0.9**
IXG				*e*S	**Sb**	**01 50 58.6**	**+2.6**
RBDL	**Robledal**	**2.02**	**83**	*e*P	**Pn**	**01 50 49.7**	**-0.1**
RBDL				*e*S	**Sn**	**01 51 14.8**	**+0.2**
RTR	**El Retiro**	**2.05**	**89**⇓	*e*P	**Pn**	**01 50 50.5**	**+0.3**
RTR				*e*S	**Sn**	**01 51 15.5**	**+0.2**
SBLS	**San Blas**	**2.07**	**91**⇓	*e*P	**Pn**	**01 50 50.2**	**-0.2**
SBLS				*e*S	**Sn**	**01 51 15.5**	**-0.4**
SNJE	**San Jose**	**2.09**	**90**⇑	*e*P	**Pn**	**01 50 50.6**	**0.0**
SNJE				*e*S	**Sn**	**01 51 18.1**	**+1.7**
MRL	**Marmol**	**2.33**	**59**⇓	*e*P	**Pn**	**01 50 53.3**	**-0.8**
MRL				*e*S	**Sn**	**01 51 22.1**	**-0.2**
MTO2	**Montecristo 2**	**2.38**	**77**	*e*P	**Pn**	**01 50 54.1**	**-0.8**
BOQS	**Boqueron**	**2.41**	**93**	*e*P	**Pn**	**01 50 55.1**	**-0.2**
BOQS				*e*S	**Sn**	**01 51 22.8**	**-1.7**
COMG	**Comitan**	**2.42**	**351**	*e*P	**Pn**	**01 50 56.9**	**+1.5**
CCIG				*e*S	**Sn**	**01 51 25.8**	**+1.0**
SNET	**Serv Nac Est T**	**2.46**	**94**	*e*P	**Pn**	**01 50 56.0**	**0.0**
SNET				*e*S	**Sn**	**01 51 24.9**	**-0.9**
SNET				*i*		01 51 29.6	
	comp=Z,2μm,0.4s						
LFU	**La Fuente**	**2.57**	**92**	*e*P	**Pn**	**01 50 57.4**	**-0.2**
LFU				*e*S	**Sn**	**01 51 29.2**	**+0.6**
LFRS	**El Faro**	**2.63**	**95**⇑	*i* P	**Pn**	**01 50 58.7**	**+0.2**
LFRS				*e*S	**Sn**	**01 51 29.4**	**-0.6**
LBRS	**Las Brisas**	**2.64**	**93**	*e*P	**Pn**	**01 50 58.5**	**-0.1**
LBRS				*e*S	**Sn**	**01 51 32.2**	**+1.9**
LCBS	**La Ceiba**	**2.71**	**94**	*e*P	**Pn**	**01 50 59.6**	**0.0**
LCBS				*e*S	**Sn**	**01 51 31.1**	**-0.9**
SNVI	**San Vicente**	**2.85**	**95**	*e*P	**Pn**	**01 51 01.7**	**+0.2**
SNVI				*e*S	**Sn**	**01 51 34.9**	**-0.7**
VSM	**San Miguel**	**3.41**	**97**	*e*P	**Pn**	**01 51 10.1**	**+0.5**
VSM				*e*S	**Sn**	**01 51 52.1**	**+1.3**
BLLM	**Bellamira**	**3.45**	**97**⇓	*e*P	**Pn**	**01 51 09.4**	**-0.6**
BLLM				*e*S	**Sn**	**01 51 50.9**	**+0.1**
CNCH	**Conchagua**	**3.86**	**98**⇑	*e*P	**Pn**	**01 51 15.2**	**-0.7**
CMIG	**Matias Romero**	**4.40**	**317**	*e*P	**Pn**	**01 51 23.6**	**+0.1**
CMIG				*e*S	**Sn**	**01 52 14.7**	**-0.1**
OXX	**Oaxaca**	**5.75**	**304**	*i* P	**Pn**	**01 51 45.5**	**+2.8**
VHO	**Vista Hermosa**	**5.76**	**304**	*i* P	**Pn**	**01 51 42.7**	**0.0**
VHO				*e*P		01 51 45.0	
VHO				*e*S	**Sn**	**01 52 47.9**	**-1.1**
VPS2	**Volcan Poas 2**	**8.22**	**116**	*e*P	**P**	**01 52 16.8**	**-0.4**
LAJ	**Bijagual**	**8.47**	**117**	*e*P	**P**	**01 52 15.3**	**-5.5**
LCR2	**La Lucha 2**	**8.63**	**118**	*e*P	**P**	**01 52 23.4**	**+0.4**
BUS	**Buena Vista**	**8.93**	**118**	*e*P	**P**	**01 52 28.4**	**+1.3**

JSN 17 01:51:23.8±0.7,**17.44N×74.37W,MD4.2,3C,Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJ	**Castle Mountai**	**2.03**	**290**⇑	*e*P	Pn	01 51 57.4	-2.2
STH	**Stony Hill**	**2.41**	**286**⇑	*e*P	Pn	01 52 03.0	-2.0
STH				*e*S	Sn	01 52 32.5	-3.1
BNJ	**Bonny Gate**	**2.61**	**290**⇑	*e*P	Pn	01 52 06.4	-1.5
CVJ	**Coleyville**	**3.11**	**285**	*e*S	Sn	01 52 50.3	-3.2

WEL 17 01:56:33.7±0.2,**40.21S×177.34E,h30km±1km,ML3.6**/16, **1C,Error ellipse: s-maj=1.8km s-min=1.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	**Pawanui**	**0.41**	**295**	P*	Pb	01 56 42.4	-0.3
PXZ				S*	Sb	01 56 49.2	+0.3
BFZ	**Birch Farm**	**0.96**	**240**	PN	Pn	01 56 51.0	-0.3
BFZ				SN	Sn	01 57 00.9	-3.2
TSZ	**Takapari Road**	**1.07**	**277**	PN	Pn	01 56 52.1	-0.7
TSZ				SN	Sn	01 57 05.4	-1.4
KNZ	**Kokohu**	**1.21**	**12**	PN	Pn	01 56 54.1	-0.8
BKZ	**Black Stump Fm**	**1.23**	**327**	PN	Pn	01 56 54.5	-0.7
BKZ				SN	Sn	01 57 08.3	-2.6
MRZ	**Mangatainoka R**	**1.42**	**251**	PN	Pn	01 56 57.0	-0.9
MRZ				SN	Sn	01 57 14.0	-1.7

MOVZ	Moawhango	1.46	303	PN	Pn	01 56 58.0	-0.5
MOVZ				SN	Sn	01 57 15.5	-1.3
WNVZ	Wahianoa	1.60	303	PN	Pn	01 57 00.8	+0.2
TRVZ	Turoa	1.65	303	PN	Pn	01 57 02.0	+0.8
DRZ	Dome Shelter	1.66	304	PN	Pn	01 57 03.3	+2.1
FWVZ	Far West T-bar	1.68	304	PN	Pn	01 57 02.0	+0.5
MTW	Mount Morrison	1.69	235	PN	Pn	01 57 00.4	-1.4
MTW				SN	Sn	01 57 20.6	-2.0
WPVZ	Whakapapa	1.71	305	PN	Pn	01 57 03.0	+1.0
CNZ	Chateau	1.71	305	PN	Pn	01 57 03.9	+1.8
TRWZ	Traveller	1.73	226	PN	Pn	01 57 00.5	-1.8
PKVZ	Pokaka	1.79	300	PN	Pn	01 57 02.0	-1.2
PAWZ	Paruwai Farm	1.87	230	PN	Pn	01 57 02.4	-1.9
MWZ	Matawai	1.88	4	⇑PN	Pn	01 57 02.9	-1.5
URZ	Urewera	1.95	355	PN	Pn	01 57 02.8	-2.7

*NEIC **17** 02:06:04.4, 31.70S×71.83W, h28^{km}, ML2.9(GUC), After GUC.*

GUC 17 02:06:04.4±0.7, 31.70S×71.83W, h28^{km}±3^{km}, MD3.7, ML2.9, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.57	84	⇑iP	Pb	02 06 15.8	0.0
ILCH				iS	Sb	02 06 24.1	+0.4
ILCH				AMP		02 06 27.2	
	comp=N,690nm,0.2s						
CMCH	Combarbala	0.89	54	⇑iP	Pn	02 06 20.6	-0.4
CMCH				iS	Sb	02 06 32.9	+0.3
CMCH				AMP		02 06 34.0	
	comp=E,2μm,0.5s						
JACH	Jahuel	1.44	133	⇓iP	Pn	02 06 29.6	+0.7
JACH				iS	Sn	02 06 48.7	+1.8
ROCH	El Roble	1.45	151	eP	Pn	02 06 29.4	+0.4
ROCH				iS	Sn	02 06 48.8	+1.6
PEL	Peldehue	1.73	146	eS	Sn	02 06 56.0	+1.5
RCDM	Rinconada Maip	1.98	154	iS	Sn	02 07 03.0	+2.1
RCDM				AMP		02 07 12.8	
	comp=E,101nm,0.2s						
CLCH	Cerro Calan	2.01	147	⇓iP	Pn	02 06 37.9	+0.7
CLCH				iS	Sn	02 07 03.4	+1.7
CLCH				AMP		02 07 13.0	
	comp=E,178nm,0.4s						
FCH	Farellones	2.08	142	⇓iP	Pn	02 06 39.2	+1.0
FCH				eP		02 06 39.3	
FCH				iS	Sn	02 07 05.8	+2.4
FCH				iS	Sn	02 07 05.8	+2.5
FCH				AMP		02 07 12.8	
	comp=E,78nm,0.3s						
FCH	Farellones	2.08	142	⇓iP	Pn	02 06 39.2	+1.0
FCH				iS	Sn	02 07 05.8	+2.5
TACH	Talagante	2.09	159	eP	Pn	02 06 38.7	+0.5
TACH				iS	Sn	02 07 05.5	+1.9
LVC	Limon Verde	9.42	17	eP	P	02 08 15.4	-6.0

*CSEM **17** 03:01:19.9±0.7, 38.76N×27.66W, h20^{km}, ML1.5, Error ellipse: s-maj=11.0km s-min=2.9km az=95.0*

*PDA **17** 03:01:19.9±0.7, 38.76N×27.66W, h20^{km}, MD3.2, ML1.5, Error ellipse: s-maj=11.0km s-min=2.9km az=95.0*

SVSA 17 03:01:19.9±0.7, 38.76N×27.66W, h20^{km}, MD3.2, ML1.5, Error ellipse: s-maj=11.0km s-min=2.9km az=95.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	0.41	320	eS	Sb	03 01 32.4	-1.8
	19nm,0.2s						
STGR	Santa Cruz	0.41	320	eS	Sb	03 01 41.3	+7.1
PICO	Pico	0.65	246	eP	Pb	03 01 30.6	-1.9
PICO				eS	Sb	03 01 38.3	-2.8
PICO	Pico	0.65	246	eS	Sb	03 01 47.8	+6.7
HOR	Horta	0.79	253	erx		03 01 33.7	
HOR	Horta	0.79	253	e-		03 01 33.7	
CALA	Caldeira	0.83	258	eP	Pb	03 01 32.5	-3.0
PLUZ	Luz	1.06	284	eP	Pb	03 01 26.3	-13
PLUZ				iS	Sb	03 01 30.7	-22
PLUZ	Luz	1.06	284	eP	Pb	03 01 26.3	-13
PLUZ				iS	Sb	03 01 30.6	-22

*CASC **17** 03:41:44.5±2.5, 14.25N×90.46W, h182^{km}±7^{km}, MD4.7, ML4.4, mb4.8(NEIC)*

*BJI **17** 03:41:46.2, 14.30N×90.40W, h183^{km}, mB5.0*

*NEIC **17** 03:41:46.3±0.3, 14.30N×90.38W, mb4.8/34, MD4.5(MEX), Error ellipse: s-maj=6.9km s-min=4.7km az=217.0*

*MEX **17** 03:41:46.3±0.8, 14.47N×90.69W, h238^{km}±59^{km}, MD4.8*

*IDC **17** 03:41:47.8±0.8, 14.51N×90.11W, h190^{km}±6^{km}, mb3.8/19, mb1 4.0/22, mb1mx4.0/26, mbtmp4.4/22, Error ellipse: s-maj=16.8km s-min=7.1km az=54.0*

ISC 17 03:41:45.2±0.2, 14.32N±0.04×90.46W±0.03, h184^{km}±1^{km}, h184^{km}±1.6^{km}:pP-P, n154, σ1^{s}02/173, mb4.5/47, 10C-5D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.14	179	⇑eP	P	03 42 08.3	-1.4
IXG				eS	S	03 42 28.1	-0.4
PCG	Pacaya	0.16	297	eP	P	03 42 09.1	-0.7
PCG				eS	S	03 42 29.4	+0.7
FUG	Fuego 3	0.39	289	eP	P	03 42 09.1	-1.3
TP2	Tecpan 2	0.71	310	⇑eP	P	03 42 11.6	-0.1
TP2				eS	S	03 42 32.6	+0.4
RBDL	Robledal	0.78	105	⇑eP	P	03 42 12.1	+0.1
RBDL				eS	S	03 42 33.0	+0.2
RTR	El Retiro	0.89	118	eP	P	03 42 13.3	+0.5
RTR				eS	S	03 42 34.0	0.0
SBLS	San Blas	0.94	120	eP	P	03 42 13.5	+0.5
SBLS				eS	S	03 42 33.6	-0.9
SNJE	San Jose	0.94	118	eP	P	03 42 13.4	+0.4
MRL	Marmol	1.05	45	⇓eP	P	03 42 14.0	+0.2
MRL				eS	S	03 42 35.2	-0.8
MTO2	Montecristo 2	1.07	86	⇓eP	P	03 42 14.4	+0.5
MTO2				eS	S	03 42 36.1	-0.1
BOQS	Boqueron	1.28	117	⇑eP	P	03 42 16.1	+0.3
BOQS				eS	S	03 42 39.5	-0.1
SNET	Serv Nac Est T	1.35	118	eP	P	03 42 16.2	-0.2
SNET				eS	S	03 42 40.4	-0.1
SNET				i		03 42 47.5	
	comp=Z,3μm,0.8s						
LFU	La Fuente	1.42	113	eP	P	03 42 17.3	+0.2
LBRS	Las Brisas	1.49	113	⇑eP	P	03 42 18.2	+0.5
LBRS				eS	S	03 42 43.7	+0.9
LFRS	El Faro	1.52	117	⇑eP	P	03 42 18.3	+0.3
LCBS	La Ceiba	1.58	115	⇓eP	P	03 42 18.9	+0.3
BLLM	Bellamira	2.33	112	⇑eP	P	03 42 25.4	-1.2
CCIG	Comitan	2.54	321	⇓iP	P	03 42 29.7	+0.7
CCIG				iS	S	03 43 03.0	+0.2
CNCH	Conchagua	2.75	112	⇑eP	P	03 42 32.0	+0.4
CNCH				eS	S	03 43 04.9	-2.4
SCX	San Cristobal	3.19	319	iP	P	03 42 35.5	-1.4
SCX				iS	S	03 43 16.0	-0.8
XAVN	Gruta Xavier	4.56	118	eP	P	03 42 54.8	+0.5
MGAN	Managua	4.63	117	eP	P	03 42 55.7	+0.5
MGAN				eS	S	03 43 46.9	-2.5
MGAN				i		03 43 51.3	
	comp=E,1μm,0.7s						
WILN	Americas 2	4.68	117	eP	P	03 42 55.6	-0.2
WILN				eS	S	03 43 49.9	-0.5
TICN	Ticuantepe	4.70	118	eP	P	03 42 56.4	+0.3
APON	Apoyo	4.90	119	eP	P	03 42 58.8	+0.2
CMIG	Matias Romero	5.08	303	iP	P	03 43 00.5	-0.4
CMIG				iS	S	03 43 54.0	-5.6
CMIG	Matias Romero	5.08	303	eP	P	03 43 00.1	-0.8
CMIG				iS	S	03 43 57.2	-2.4
SSNN	San Juan del S	5.41	123	eP	P	03 43 05.3	0.0
CONN	Concepcion	5.45	120	eP	P	03 43 05.5	-0.3
MADN	Villa Maderas	5.61	121	eP	P	03 43 08.1	+0.3
HUIG	Huatulco	5.64	286	iP	P	03 43 06.3	-2.1
HUIG	Huatulco	5.64	286	iP	P	03 43 06.2	-2.1
HUIG				iS	S	03 44 02.7	-10
VCR	Vista de Mar	6.29	131	eP	P	03 43 17.6	+0.7
VCR				eS	S	03 44 28.7	+0.5
OXX	Oaxaca	6.63	295	iP	P	03 43 22.2	+1.0
OXX				iS	S	03 44 30.5	-5.6
OXX	Oaxaca	6.63	295	iP	P	03 43 22.2	+1.0
OXX				iS	S	03 44 29.5	-6.6
VHO	Vista Hermosa	6.63	295	iP	P	03 43 19.8	-1.5
VHO				iS	S	03 44 29.8	-6.4
VHO	Vista Hermosa	6.63	295	iP	P	03 43 21.7	+0.4
VHO				iS	S	03 44 29.8	-6.4
JCR	Jicaral	6.86	130	eP	P	03 43 24.7	+0.4
CGA2	Cerro Gallo 2	7.25	125	⇓eP	P	03 43 30.4	+0.9
LAJ	Bijagual	7.62	125	eP	P	03 43 31.6	-2.7
SJS	Escuela Geolog	7.63	124	eS	S	03 45 02.2	+2.5
PNIG	Pinotepa	7.68	287	eP	P	03 43 33.7	-1.4
PNIG				iS	S	03 44 51.4	-9.5
PNIG	Pinotepa	7.68	287	iP	P	03 43 34.3	-0.8
PNIG				iS	S	03 44 50.3	-11
LCR2	La Lucha 2	7.78	125	⇑eP	P	03 43 36.6	+0.2
LCR2				eS	S	03 45 04.6	+1.4
BUS	Buena Vista	8.09	125	⇑eP	P	03 43 41.5	+1.1
BUS				eS	S	03 45 13.3	+2.9
PPM	Popocatepetl	9.14	302	iP	P	03 43 57.0	+2.8
YAIG	Yautepec	9.41	300	iP	P	03 43 58.8	+1.1
ACX	Acapulco	9.46	287	iP	P	03 43 58.5	+0.1
PLIG	Platanillo	9.58	296	iP	P	03 43 56.6	-3.5
PLIG				iS	S	03 45 37.0	-8.5
SOR	Soroa	10.99	39	eP	P	03 44 21.9	+3.5
LMGC	Las Mercedes	14.06	64	eP	P	03 45 00.9	+3.4
RCC	Rio Carpintero	15.19	66	eP	P	03 45 13.2	+1.6
HLGC	Holguin	15.20	63	eP	P	03 45 13.1	+1.4
DWPF	Disney	16.09	30	eP	P	03 45 22.8	+0.2
	comp=E,157nm,0.8s						
NATX	Nacogdoches	17.78	348	eP	P	03 45 42.1	-0.2
	comp=E,71nm,0.7s						
ROSC	El Rosal	18.46	119	P	P	03 45 49.7	+0.2
	comp=E,1.5nm,0.3s,baz=345,slow=2.7,SNR=15						
TXAR	Lajitas Array	19.30	323	P	P	03 45 59.9	+1.8
	comp=E,1.0nm,0.3s,baz=144,slow=10.0,SNR=137						
TXAR				ScP		03 53 32.0	
	comp=E,0.0nm,0.3s,baz=153,slow=5.6,SNR=4.9						
TXAR	Lajitas Array	19.30	323	P	P	03 45 59.9	+1.8
TXAR				ScP		03 53 32.0	
GOGA	Godfrey	20.04	17	eP	P	03 46 06.4	+0.7
	comp=E,104nm,0.6s						
SDV	Santo Domingo	20.15	103	P	P	03 46 05.3	-1.6
	comp=E,7.2nm,0.3s,baz=314,slow=8.2,SNR=23						
SDV	Santo Domingo	20.15	103	eP	P	03 46 05.2	-1.7
	comp=E,72nm,0.6s						
PLAL	Pickwick Lake	20.69	6	eP	P	03 46 12.6	+0.5
	comp=E,16nm,0.6s						
NHSC	New Hope	20.91	25	eP	P	03 46 14.6	+0.3
	comp=E,315nm,1.1s						
HBAR	Harrisburg	21.15	360	eP	P	03 46 16.6	0.0
SWET	Sewanee	21.20	10	eP	P	03 46 17.2	0.0
HALT	Halls	21.52	2	eP	P	03 46 21.3	+1.0
JSC	Jenkinsville	21.55	21	eP	P	03 46 21.6	+1.0
GNAR	Gosnell	21.56	1	eP	P	03 46 21.8	+1.1
	comp=E,261nm,1.1s,mb5.6						
GNAR				epP		03 46 51.7	
CPCT	Cooper Cave	21.71	13	eP	P	03 46 22.9	+0.8
WVT	Waverly	21.85	6	eP	P	03 46 23.4	-0.1
	comp=E,20nm,0.6s,mb4.7						
GLAT	Glass	21.88	3	eP	P	03 46 24.8	+1.0
UTMT	University of	21.98	3	eP	P	03 46 25.4	+0.7
	comp=E,188nm,1.0s,mb5.5						
MNTX	Cornudas Mount	22.04	324	eP	P	03 46 26.1	+0.7
	comp=E,11nm,0.8s,mb4.3						
MNTX				epP		03 47 00.2	
MNTX				esP		03 47 19.6	
PARMO	Parma	22.26	1	eP	P	03 46 28.6	+1.0
SIUC	Southern Illin	23.33	2	eP	P	03 46 38.9	+1.0
	comp=E,317nm,1.4s,mb5.6						
SIUC				epP		03 47 09.8	
FVM	French Village	23.57	0	eP	P	03 46 39.6	-0.5
	comp=E,5.9nm,0.6s,mb4.3						
SJG	San Juan	23.64	78	P	P	03 46 39.1	-1.9
	comp=E,11nm,0.7s,mb4.5,baz=246,slow=6.5,SNR=5.4						
WCI	Wyandotte Cave	24.10	8	eP	P	03 46 45.2	+0.1
	comp=E,239nm,0.9s,mb5.7						
WCI				epP		03 47 20.0	
ELN	Prospectdale	24.40	19	eP	P	03 46 47.8	-0.2
FWV	Forest Hill	24.71	19	eP	P	03 46 50.6	-0.2
BLO	Bloomington	25.00	7	eP	P	03 46 53.1	-0.5
	comp=E,41nm,0.8s,mb5.0						
ANMO	Albuquerque	25.10	328	P	P	03 46 55.2	+0.6
	comp=E,2.3nm,0.6s,mb3.9,baz=136,slow=9.5,SNR=13						
ANMO	Albuquerque	25.10	328	eP	P	03 46 55.9	+1.4
	comp=E,2.2nm,0.6s,mb3.9						
ANMO				epP	pP	03 47 33.5	+2.3
KSU1	Kansas State U	25.27	349	eP	P	03 46 55.5	-0.7
TUC	Tucson	25.78	317	eP	P	03 47 01.4	+0.5
	comp=E,4.0nm,0.8s,mb4.1						
TUC				epP	pP	03 47 39.5	+1.8
CBN	Corbin	26.47	24	eP	P	03 47 06.8	-0.3
	comp=E,39nm,0.7s,mb5.1						
ACSO	Alum Creek Sta	26.63	13	eP	P	03 47 08.1	-0.5
	comp=E,91nm,1.0s,mb5.4						
SDCO	Great Sand Dun	26.89	333	eP	P	03 47 11.7	+0.7
	comp=E,5.9nm,1.1s,mb4.1						
MVL	Millersville	28.42	23	eP	P	03 47 24.2	-0.5
SMCO	Snowmass	28.72	333	eP	P	03 47 28.3	+0.9
PHWY	Pilot Hill	29.88	337	eP	P	03 47 38.2	+0.5
PAL	Palisades	30.25	25	eP	P	03 47 39.7	-1.2
LDFC	Landfair	30.32	317	eP	P	03 47 43.4	+1.8
SRU	San Rafael	30.37	328	eP	P	03 47 42.4	+0.4
NEN	Nelson	30.50	319	eP	P	03 47 43.9	+0.7
SADO	Sadowa	31.84	15	P	P	03 47 53.5	-1.3
	comp=E,28nm,0.4s,mb5.3,baz=214,slow=9.3,SNR=40						
ACCN	Adirondack Com	32.35	23	eP	P	03 47 57.6	-1.6
DUG	Dugway	32.36	327	P	P	03 47 58.7	-0.7
NCB	Newcomb	32.65	22	eP	P	03 48 00.1	-1.6
	comp=E,20nm,0.7s,mb5.0						
PDAR	Pinedale Array	32.78	334	P	P	03 48 02.0	-0.9
	comp=E,1.0nm,0.8s,mb3.6,baz=129,slow=9.5,SNR=9.4						
PDAR				PcP	PcP	03 50 42.2	-1.5
	comp=E,0.4nm,0.5s,baz=116,slow=5.3,SNR=4.5						
PDAR				ScP		03 54 09.2	
	comp=E,0.9nm,0.8s,baz=133,slow=4.7,SNR=7.4						
MIV	Mineville/With	32.99	23	eP	P	03 48 03.0	-1.7
FRNY	Flat Rock	33.62	22	eP	P	03 48 08.8	-1.3
REDW	Red Top Meadow	33.82	333	eP	P	03 48 12.2	+0.5
	comp=E,20nm,0.8s,mb4.9						
REDW				epP	pP	03 48 49.4	-1.1
SNOW	Snow King Moun	33.86	333	eP	P	03 48 12.4	+0.4
	comp=E,20nm,0.7s,mb5.0						
SNOW				epP	pP	03 48 50.5	-0.4
LOHW	Long Hollow	33.91	333	eP	P	03 48 12.5	0.0
	comp=E,7.8nm,0.8s,mb4.5						
TPAW	Teton Pass	33.97	333	eP	P	03 48 13.3	+0.3
	comp=E,16nm,1.1s,mb4.7						
TPAW				epP	pP	03 48 51.0	-0.8
RRI2	Red Ridge	34.02	332	eP	P	03 48 13.3	-0.1
	comp=E,14nm,1.0s,mb4.7						
RRI2				epP	pP	03 48 51.3	-0.9
ELK	Elko	34.06	325	P	P	03 48 14.8	+1.0
	comp=E,2.1nm,0.7s,mb4.0,baz=121,slow=6.6,SNR=12						
MOOW	Moose Ponds	34.08	333	eP	P	03 48 14.1	+0.1
	comp=E,5.8nm,0.9s,mb4.3						
MOOW				epP	pP	03 48 51.8	-1.0
IMW	Indian Meadow	34.28	333	eP	P	03 48 16.2	+0.5
	comp=E,4.9nm,0.8s,mb4.3						
MNV	Mina	34.29	320	eP	P	03 48 16.9	+1.1
	comp=E,6.3nm,0.8s,mb4.4						
MNV				epP	pP	03 48 55.1	+0.4
FLWY	Flagg Ranch	34.33	334	eP	P	03 48 16.1	0.0
NVAR	Mina Array Bea	34.38	319	P	P	03 48 18.6	+1.9
	comp=E,9.1nm,0.7s,mb4.6,baz=135,slow=8.8,SNR=54						
NVAR				pP	pP	03 48 58.6	+3.1
	comp=E,2.4nm,0.7s,baz=139,slow=9.0,SNR=3.3						
NVAR				ScP		03 54 17.3	
	comp=E,1.3nm,0.7s,baz=140,slow=4.4,SNR=9.4						
SAML	Samuel	35.59	129	eP	P	03 48 24.5	-2.5
	comp=E,23nm,0.7s,mb4.9						
SAML				iPcP	PcP	03 50 50.9	-1.1
MCMT	McKenzie Canyo	35.86	332	eP	P	03 48 30.6	+1.6
BOZ	Bozeman (W)	35.98	334	eP	P	03 48 30.3	+0.3
	comp=E,8.0nm,0.8s,mb4.4						
ULM	Lac du Bonnet	36.10	354	P	P	03 48 29.8	-1.2
	comp=E,49nm,0.7s,mb5.2,baz=170,slow=9.1,SNR=74						
ULM	Lac du Bonnet	36.10	354	eP	P	03 48 29.1	-1.9
	comp=E,97nm,1.0s,mb5.4						
HRY	Holter Researc	36.92	335	eP	P	03 48 38.7	+0.8
WVOR	Wild Horse Val	37.08	325	eP	P	03 48 39.6	+0.3
	comp=E,4.1nm,0.8s,mb4.1						
LPAZ	La Paz	37.57	143	P	P	03 48 44.8	+1.1
	comp=E,4.1nm,0.7s,mb4.2,baz=334,slow=8.9,SNR=25						
LPAZ				PcP	PcP	03 50 58.1	+0.2
	comp=E,1.0nm,0.5s,baz=6.7,slow=5.5,SNR=4.5						
LPAZ	La Paz	37.57	143	eP	P	03 48 44.7	+1.1
	comp=E,3.2nm,0.6s,mb4.1						
CHMT	Chamberlain Mo	37.67	334	eP	P	03 48 44.6	+0.5
NEW	Newport	40.39	332	P	P	03 49 06.0	-0.6
	comp=E,1.7nm,0.7s,mb3.8,baz=117,slow=13,SNR=3.7						
FFC	Flin Flon	41.31	350	eP	P	03 49 13.9	-0.2
	comp=E,11nm,0.6s,mb4.7						
SIV	San Ignacio	41.84	135	P	P	03 49 18.1	-0.7
	comp=E,10.0nm,0.7s,mb4.5,baz=313,slow=7.6,SNR=50						
SIV				PcP	PcP	03 51 11.6	-0.2
	comp=E,7.9nm,0.8s,baz=320,slow=3.3,SNR=13						
LVC	Limon Verde	42.34	150	P	P	03 49 24.5	+1.6
	comp=E,4.3nm,0.8s,mb4.1,baz=342,slow=9.6,SNR=3.8						
EDM	Edmonton	42.83	340	eP	P	03 49 26.0	-0.5
EDM				epP	pP	03 50 05.6	-0.9
SCHQ	Schefferville	44.42	19	P	P	03 49 38.3	-0.8
	comp=E,76nm,0.6s,mb5.5,baz=216,slow=6.5,SNR=189						
CFAA	Coronel Fontan	50.40	155	PcP	PcP	03 51 41.7	0.0
	comp=E,0.1nm,0.5s,baz=268,slow=3.3,SNR=3.6						
YKA	Yellowknife Ar	51.07	346	P	P	03 50 29.4	-1.0
	comp=E,4.5nm,0.6s,mb4.2,baz=146,slow=7.6,SNR=9.8						
YKA				pP	pP	03 51 11.0	-0.7
	comp=E,2.8nm,0.7s,baz=139,slow=7.4,SNR=3.6						
YKA	Yellowknife Ar	51.07	346	P	P	03 50 29.4	-1.0
YKA				pP	pP	03 51 11.1	-0.7
BDFB	Brasilia	51.44	124	P	P	03 50 32.1	-1.8
	comp=E,4.4nm,0.5s,mb4.4,baz=293,slow=11,SNR=11						
CPUP	Villa Florida	51.68	141	P	P	03 50 33.5	-2.0
	comp=E,4.6nm,0.9s,mb4.1,baz=3.0,slow=11,SNR=6.4						
CPUP				PcP	PcP	03 51 46.2	-0.3
	comp=E,4.0nm,0.9s,baz=17,slow=7.1,SNR=5.1						
CPUP	Villa Florida	51.68	141	P	P	03 50 33.5	-2.0
CPUP				PcP	PcP	03 51 46.2	-0.3
DLBC	Dease Lake	52.98	335	P	P	03 50 45.1	+0.4
	comp=E,3.7nm,0.7s,mb4.3,baz=136,slow=7.6,SNR=8.4						
DLBC				pP	pP	03 51 27.0	+0.7
	comp=E,3.5nm,0.7s,baz=106,slow=6.0,SNR=4.3						
ILAR	Eielson Array	63.14	336	P	P	03 51 54.2	-1.0
	comp=E,2.5nm,0.7s,mb4.1,baz=176,slow=5.4,SNR=14						
ESDC	Sonseca Array	78.34	52	P	P	03 53 24.7	-2.1
	comp=E,1.7nm,0.5s,mb4.0,baz=289,slow=4.5,SNR=19						
NOA	NORSAR Array B	83.15	29	P	P	03 53 51.5	-0.1
	comp=E,0.9nm,0.8s,mb3.6,baz=310,slow=2.7,SNR=3.6						
DBIC	Dimbokro	84.14	85	P	P	03 53 55.2	-2.3
	comp=E,9.1nm,1.2s,mb4.4,baz=282,slow=1.5,SNR=5.5						
DBIC	Dimbokro	84.14	85	P	P	03 53 55.2	-2.3
ARCES	ARCESS Array B	85.36	18	P	P	03 54 00.8	-1.6
	comp=E,1.2nm,0.7s,mb3.8,baz=281,slow=6.2,SNR=3.8						
ARCES				pP	pP	03 54 48.2	+0.3
	comp=E,2.7nm,0.7s,baz=270,slow=7.3,SNR=2.8						
CLL	Collm	87.15	38	P	P	03 54 11.0	-0.4
CLL	Collm	87.15	38	eP	P	03 54 11.0	-0.4
GERES	GERESS Array B	88.40	40	P	P	03 54 16.1	-1.2
	comp=E,0.9nm,0.8s,mb3.6,baz=270,slow=4.0,SNR=6.0						
MKAR	Makanchi Array	118.82	6	PKP	PKPdf	04 00 10.8	-0.8
	comp=E,0.2nm,0.4s,baz=322,slow=3.3,SNR=4.2						
MKAR	Makanchi Array	118.82	6	PKP	PKPdf	04 00 10.8	-0.8
WMQ	Urumqi	122.12	2	ePKP	PKPdf	04 00 19.0	+0.9
MAW	Mawson	123.98	168	PKP	PKPdf	04 00 22.5	+1.3
	comp=E,2.4nm,0.6s,baz=52,slow=1.9,SNR=7.5						
NJ2	Nanjing	126.01	329	ePKP	PKPdf	04 00 30.5	+4.6
LZH	Lanzhou	128.08	345	ePKP	PKPdf	04 00 34.5	+4.6
LZH				XPKP		04 01 38.0	
LZH				LR	LR		
	comp=N,223nm,19.4s						
LZH				LR	LR		
	comp=Z,309nm,20.8s						
WRA	Warramunga Arr	136.92	256	PKP	PKPdf	04 00 49.6	+2.8
	comp=Z,5.5nm,0.8s,baz=84,slow=2.1,SNR=14						
KMI	Kunming	138.74	342	PKP	PKPdf	04 00 48.3	-1.7
FITZ	Fitzroy Crossi	145.17	259	PKPbc	PKPbc	04 01 04.7	+2.7
	comp=Z,22nm,0.6s,baz=168,slow=3.6,SNR=6.4						

*IDC **17** 03:54:40.9±4.0, 5.25S×145.53E, h63^{km}±35^{km}, mb4.3/6, mb1 4.4/8, mb1mx4.2/13, mbtmp4.6/8, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/18, Error ellipse: s-maj=27.7km s-min=23.6km az=96.0*

*NEIC **17** 03:54:42.8±2.3, 5.26S×145.48E, h81^{km}±19^{km}, mb4.3/3, Error ellipse: s-maj=22.0km s-min=16.2km az=131.0*

ISC 17 03:54:41.4±3.1, 5.3S±0.1×145.5E±0.1, h80^{km}±26^{km}, n13, σ0^{s}52/14, mb4.3/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.36	158	P	P	03 55 47.6	+0.9
	15nm,0.3s,baz=325,slow=5.7,SNR=44						
PMG				S	S	03 56 35.9	-0.8
	39nm,0.3s,baz=164,slow=21,SNR=17						
PMG				LR	LR	03 57 23.7	
	comp=Z,142nm,18.3s,baz=21,slow=37						
PMG	Port Moresby	4.36	158	eP	P	03 55 47.8	+1.0
WRAB	Tennant Creek	18.13	216	eP	P	03 58 48.7	-0.8
	11nm,0.4s						
WRA	Warramunga Arr	18.14	216	P	P	03 58 50.0	+0.4
	1.9nm,0.3s,baz=38,slow=11,SNR=23						
FITZ	Fitzroy Crossi	23.20	235	P	P	03 59 41.8	-0.3
	76nm,0.7s,mb5.1,baz=40,slow=5.7,SNR=100						
STKA	Stephens Creek	26.66	187	P	P	04 00 15.2	+0.3
	4.0nm,0.6s,mb4.1,baz=5.5,slow=8.7,SNR=11						
NWAO	Narrogin (SRO)	38.06	220	P	P	04 01 54.0	+0.1
	17nm,1.1s,mb4.8,baz=36,slow=8.7,SNR=3.1						
VNDA	Vanda	72.66	176	P	P	04 06 02.1	+0.2
	1.4nm,0.7s,mb3.9,baz=328,slow=7.1,SNR=15						
VNDA	Vanda	72.66	176	eP	P	04 06 01.8	-0.1
	2.0nm,1.0s,mb3.9						
MKAR	Makanchi Array	76.05	321	P	P	04 06 21.9	-0.1
	0.2nm,0.4s,mb3.2,baz=97,slow=8.2,SNR=5.5						
MAW	Mawson	82.29	203	P	P	04 06 55.8	+0.4
	2.3nm,0.6s,mb4.2,baz=85,slow=5.6,SNR=7.7						
QSPA	South Pole Qui	84.63	180	eP	P	04 07 07.2	+0.4
	5.3nm,0.8s,mb4.5						
ILAR	Eielson Array	85.45	23	P	P	04 07 10.5	-0.7
	2.3nm,0.7s,mb4.2,baz=252,slow=5.3,SNR=23						

*BER **17** 04:24:22.7±0.6, 71.09N×7.39W, h13^{km}, MD3.7, ML3.4, ML2.3(NAO)*

*CSEM **17** 04:24:22.9±0.1, 70.95N×7.67W, h10^{km}, ML3.4, Error ellipse: s-maj=5.7km s-min=2.5km az=13.0*

*NEIC **17** 04:24:23.2, 71.34N×8.03W, MD3.0(BER), After BER.*

*NAO **17** 04:24:23.1±1.6, 71.03N×7.48W, ML2.3*

ISC 17 04:24:20.1±0.7, 71.1N±0.1×7.2W±0.1, h10^{km}, n18, σ0^{s}85/26, 7D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	Jan Mayen East	0.38	250	⇓iP	Pg	04 24 28.7	+0.9
JNW	Jan Mayen West	0.41	257	⇓iP	Pg	04 24 29.1	+0.7
JNW				eS	Sg	04 24 33.9	-0.1
JNW				AML	AML	04 24 37.0	
	comp=Z,7μm,0.3s						
JNW	Jan Mayen West	0.41	257	⇓iP	Pg	04 24 29.1	+0.7
	SNR=109						
JNW				eS	Sg	04 24 33.9	-0.1
	comp=Z,7μm,0.3s,SNR=109						
JMIC	Jan Mayen	0.45	253	Pg	Pg	04 24 29.4	+0.2
JMIC				Lg		04 24 34.7	
JMIC	Jan Mayen	0.45	253	⇓iP	Pg	04 24 29.4	+0.2
JMIC				eS	Sg	04 24 34.6	-0.7
JMIC				AML	AML	04 24 35.8	
	comp=Z,3μm,0.4s						
JMIC	Jan Mayen	0.45	253	⇓iP	Pg	04 24 29.4	+0.2
	SNR=107						
JMIC				eS	Sg	04 24 34.6	-0.7
	comp=Z,3μm,0.4s,SNR=107						
JMI	Jan Mayen	0.53	249	⇓iP	Pg	04 24 31.2	+0.3
JMI				eS	Sg	04 24 37.4	-0.7
JMI				AML	AML	04 24 38.1	
	comp=Z,7μm,0.2s						
JMI	Jan Mayen	0.53	249	⇓iP	Pg	04 24 31.2	+0.3
	SNR=104						
JMI				eS	Sg	04 24 37.4	-0.7
	comp=Z,7μm,0.2s,SNR=104						
LOF	Lofoten	7.82	103	eP	Pn	04 26 30.0	+13
STOK	Stokkvaagen	8.75	113	ePn	P	04 26 29.5	-0.1
STOK				eSn	Sn	04 28 00.8	-8.6
STOK				AML	AML	04 28 10.3	
	comp=Z,5.2nm,0.8s						
STOK	Stokkvaagen	8.75	113	eP	P	04 26 29.5	-0.1
STOK				eS	Sn	04 28 02.0	-7.4
TRO	Tromso	8.88	87	ePn	P	04 26 29.1	-2.4
MOR8	Moi Rana	9.28	112	ePn	P	04 26 38.4	+1.4
SPA0	Spitsbergen Ar	9.34	31	Pn	P	04 26 38.3	+0.4
	baz=231,slow=14						
ARA0	ARCESS Array S	11.05	83	Pn	P	04 27 00.5	-0.6
	baz=293,slow=12						
HFS	Hagfors	13.88	132	P	P	04 27 39.0	+0.1
	baz=327,slow=8.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIA0	FINESS Array S	16.27	110	P	P	04 28 14.2	+4.3
	baz=312,slow=12						
FIA0	FINESS Array S	16.27	110	Pn	P	04 28 14.1	+4.3
	SNR=53						

MAN 17 04:25:10.1, 15.48N×119.93E, h28km, mb4.4, ML3.2, MS3.0, 2C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.30	356	eP	Pb	04 25 19.2	+1.8
SCZP				eS	Sb	04 25 26.6	+4.2
BOLP	Bolinao	0.90	359	eP	Pn	04 25 26.2	-0.8
BOLP				eS	Sb	04 25 38.7	0.0
BCPH	Baguio City Da	1.10	35	⇑iP	Pn	04 25 29.9	+0.1
BCPH				iS	Sn	04 25 46.1	+2.0
PCPH	Palayan	1.12	85	⇑iP	Pn	04 25 29.0	-1.3
PCPH				iS	Sn	04 25 44.1	-0.7
BALP	Baler	1.60	80	eP	Pn	04 25 36.9	-0.2
BALP				eS	Sn	04 25 58.0	+0.9
LUBP	Lubang	1.76	170	eP	Pn	04 25 39.4	+0.2
LUBP				eS	Sn	04 26 00.6	-0.3
POLP	Polilio Island	2.08	111	eP	Pn	04 25 44.0	+0.1
POLP				eS	Sn	04 26 10.3	+1.3
ABRA	Dolores	2.29	19	eP	Pn	04 25 46.6	-0.3
ABRA				eS	Sn	04 26 18.5	+4.1
CAUP	Cauayan	2.33	51	eP	Pn	04 25 47.8	+0.4
CAUP				eS	Sn	04 26 22.2	+6.8

SVSA 17 04:48:06.0±0.8, 37.77N×25.44W, h4km±5km, MD1.6, ML0.8, Error ellipse: s-maj=2.2km s-min=1.9km az=105.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	182	eP	Pg	04 48 07.0	+0.2
VIF				eS	Sg	04 48 08.3	+0.9
	70nm,0.2s						
VIF	Vila Franca	0.02	182	eP	Pg	04 48 07.0	+0.2
VIF				eS	Sg	04 48 08.2	+0.8
	69nm,0.2s						
MESC	Monte Escuro	0.03	349	iP	Pg	04 48 07.2	+0.3
MESC				eS	Sg	04 48 08.6	+1.1
MESC	Monte Escuro	0.03	349	iP	Pg	04 48 07.1	+0.2
MESC				eS	Sg	04 48 08.4	+0.9
PCNG	Congro	0.03	88	eP	Pg	04 48 07.7	+0.7
PCNG				eS	Sg	04 48 08.7	+1.1
	41nm,0.2s						
PCNG	Congro	0.03	88	eP	Pg	04 48 07.5	+0.5
PCNG				eS	Sg	04 48 08.5	+0.8
	42nm,0.2s						
LFA	Lagoa do Fogo	0.04	281	eP	Pg	04 48 07.6	+0.6
LFA				eS	Sg	04 48 08.9	+1.2
LFA	Lagoa do Fogo	0.04	281	eP	Pg	04 48 07.4	+0.4
PRCH	Ribeira Ch	0.05	221	eS	Sg	04 48 09.0	+1.0
	34nm,0.1s						
FRA1	Furnas	0.07	109	eS	Sg	04 48 09.5	+0.9
FRA1	Furnas	0.07	109	eP	Pg	04 48 06.9	-0.7
PFAD	Fenais da Ajud	0.12	52	eP	Pg	04 48 08.3	-0.1

MOS 17 04:58:10.0±2.5, 53.84N×91.08E, h15km, mb4.3/1, Error ellipse: s-maj=32.0km s-min=25.0km az=106.6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CERR	Cheremushki	1.01	168	ePG	Pg	04 58 28.2	-2.1
CERR				eS	Sb	04 58 41.1	-0.4
TASR	Tashtagol	2.20	242	ePN	Pn	04 58 50.0	+3.4
TASR				eS	Sn	04 59 19.5	+5.7
ELT	Yel'tsovka	2.95	261	ePN	Pn	04 59 02.3	+5.1
ELT				eS	Sn	04 59 41.3	+8.7
NVS	Novosibirsk	4.70	285	ePN	Pn	04 59 38.2	+16
NVS				eS	Sn	05 00 34.4	+17
UKR	Ust'-Kan	4.83	236	ePN	Pn	04 59 37.1	+13
UKR				eS	Sn	05 00 40.9	+21

CSEM 17 04:59:39.7±0.1, 36.82N×28.45E, h80km, MD3.2, Error ellipse: s-maj=2.3km s-min=1.7km az=93.0
ISK 17 04:59:41.7, 36.84N×28.29E, h61km, MD3.2
HLW 17 04:59:42.8, 36.64N×28.42E, h20km, Mb3.6
ATH 17 04:59:43.0, 36.87N×28.16E, h63km±4km
ISC 17 04:59:40.9±0.3, 36.75N±0.03×28.29E±0.04, h61km, n47, σ1^{s}20/63, 8C-7D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.28	86	iPG	P	04 59 51.9	+0.9
DALT				iSG	S	04 59 59.5	+1.0
YER	Yerkesik	0.39	360	iPG	P	04 59 53.2	+1.3
ARG	Arkhangelos	0.55	194	⇓iP	P	04 59 57.3	+3.8
ARG				eS	S	05 00 08.1	+5.3
MLSB	Milas	0.68	323	iPG	P	04 59 56.4	+1.4
BODT	Bodrum	0.84	292	PG	P	04 59 57.7	+0.7
DNZL	Cakiroluk	1.12	33	iP	P	05 00 01.8	+1.0
DNZL				iS	S	05 00 15.6	0.0
GOLH	Golhisar	1.13	64	iP	P	05 00 02.1	+1.1
GOLH				iS	S	05 00 20.1	+4.3
DENT	Denizli	1.17	31	PN	P	05 00 02.2	+0.8
AKAS	Kas	1.18	115	iP	P	05 00 04.7	+3.1
AKAS				iS	S	05 00 20.1	+3.0
ELL	Elmali	1.30	90	PN	P	05 00 05.3	+1.8
SMG	Samos	1.50	310	⇓iP	P	05 00 06.9	+0.7
SMG				eS	S	05 00 24.6	-0.2
KARP	Karpathos	1.50	218	⇑iP	P	05 00 09.2	+3.0
KARP				eS	S	05 00 29.2	+4.3
MANT	Manisa	1.75	7	iP	P	05 00 09.5	-0.1
MANT				iS	S	05 00 23.9	-6.9
IZM	Izmir	1.84	334	PN	P	05 00 10.8	+0.1
KDAG	Bornova	1.84	334	iP	P	05 00 09.7	-1.0
KDAG				iS	S	05 00 28.4	-4.4
KHL	Karahalli	1.85	32	PN	P	05 00 11.1	+0.1
BLCB	Balcova	1.91	329	PN	P	05 00 11.5	-0.2
BCK	Bucak	1.97	68	ePN	P	05 00 13.7	+1.1
TKTP	Tekketepe	2.07	51	iP	P	05 00 13.7	-0.3
TKTP				iS	S	05 00 30.4	-8.1
URLA	Izmir	2.10	321	iP	P	05 00 13.7	-0.7
URLA				iS	S	05 00 36.9	-2.3
AKS	Akhisar	2.16	350	PN	P	05 00 14.6	-0.7
APE	Apeiranthos	2.23	279	ePN	P	05 00 17.4	+1.1
APE	Apeiranthos	2.23	279	eP	P	05 00 17.9	+1.6
GDZ	Gediz	2.52	22	iP	P	05 00 19.3	-1.1
GDZ				iS	S	05 00 46.4	-3.5
NPS	Neapolis	2.63	236	eP	P	05 00 23.7	+1.8
ALT	Altintas	2.72	32	ePN	P	05 00 22.5	-0.7
DST	Dursunbey	2.87	5	ePN	P	05 00 24.3	-1.0
PRK	Paraskevi	2.96	328	eP	P	05 00 26.7	+0.1
HDMB	Hadim	3.38	85	ePN	P	05 00 34.2	+1.7
ESKT	Eskisehir	3.43	35	iP	P	05 00 31.4	-1.8
ESKT				iS	S	05 01 06.3	-6.5
ESKT	Eskisehir	3.43	35	ePn	P	05 00 32.9	-0.3
LIA	Limnos Island	3.98	323	eP	P	05 00 41.0	+0.1
HMAT	Matruh	5.73	190	⇓P	P	05 01 05.1	-0.1
HMAT				S	S	05 02 05.2	-5.3
NVR	Nevrokopi	5.74	325	eP	P	05 01 05.7	+0.3
SLUM		5.83	207	⇑P	P	05 01 06.8	+0.2
HBRG	Burj al 'Arab	6.29	168	⇓P	P	05 01 12.5	-0.7
HRSH	Kfar Ka'horesh	7.33	140	⇑P	P	05 01 25.7	-2.0
RSH		7.33	140	P	P	05 01 25.7	-1.9
AMAG	Maghara	7.34	145	⇑eP	P	05 01 26.2	-1.5
AMAG				S	S	05 02 42.3	-8.1
HNAT	Natroun	7.36	164	⇑P	P	05 01 26.8	-1.2
KOT	Kottamia	7.42	155	⇓P	P	05 01 28.3	-0.6
HHAG	Hagoal	7.49	154	⇑P	P	05 01 29.3	-0.5
GLL	Jalalah	7.71	157	P	P	05 01 32.2	-0.6
SWA1		7.77	197	⇓P	P	05 01 33.5	-0.2
SWA2		7.85	198	⇓P	P	05 01 34.2	-0.6
SUZ		7.87	150	⇑P	P	05 01 33.7	-1.3
HNKL	Nakhl	8.30	143	⇑P	P	05 01 39.8	-1.2
HNKL				S	S	05 03 05.6	-8.6

CSEM 17 05:05:02.7±0.8, 38.68N×29.31W, h5km, ML1.9, Error ellipse: s-maj=8.0km s-min=7.2km az=60.0, After PDA
PDA 17 05:05:02.7±0.8, 38.68N×29.31W, h5km, MD3.1, ML1.9, Error ellipse: s-maj=8.0km s-min=7.2km az=60.0
SVSA 17 05:05:02.7±0.8, 38.68N×29.31W, h5km, MD3.1, ML1.9, Error ellipse: s-maj=8.0km s-min=7.2km az=60.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.48	96	iP	Pg	05 05 11.3	-1.0
PCED				eS	Sg	05 05 17.6	-1.1
	15nm,0.1s						
PCED	Cedros	0.48	96	eS	Sg	05 05 17.6	-1.1
CALA	Caldeira	0.49	101	eS	Sg	05 05 17.3	-1.6
HOR	Horta	0.55	106	eP	Pg	05 05 11.9	-1.9
HOR				eS	Sg	05 05 19.0	-2.2
PICO	Pico	0.71	104	eP	Pg	05 05 14.6	-2.4
PICO				eS	Sg	05 05 23.7	-2.9
PGRA	Graciosa	1.09	71	eS	Sb	05 05 32.5	-5.7

MOS 17 05:27:10.7±2.1, 44.12N×38.38E, h10km, mb3.6/1, Error ellipse: s-maj=26.0km s-min=17.0km az=38.3
TIF 17 05:27:11.2, 44.05N×38.08E, h28km±4km
CSEM 17 05:27:12.4±0.2, 44.05N×38.25E, h15km, ML4.0/4, Error ellipse: s-maj=7.0km s-min=3.6km az=30.0
ISC 17 05:27:11.1±0.7, 44.08N±0.08×38.33E±0.09, h10km, n17, σ1^{s}48/22, 1C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANN	Anapa	0.96	318	iPg	Pg	05 27 30.1	-0.3
	1μm,0.3s						
ANN				eSg	Sg	05 27 43.7	+0.5
	2μm,0.3s						
ANN	Anapa	0.96	318c	iPG	Pg	05 27 30.1	-0.3
ANN				eS	Sg	05 27 43.7	+0.5
ANN				pmax	pmax		
	comp=Z,1μm,0.3s						
ANN				smax			
	comp=N,2μm,0.3s						
SOC	Sochi	1.12	116	iPg	Pg	05 27 35.2	+1.7
SOC				eSg	Sg	05 27 49.8	+1.3
	comp=N,54nm,0.8s						
SOC	Sochi	1.12	116	⇓iPG	Pg	05 27 35.2	+1.7
SOC				e		05 27 49.8	
SOC				pmax	pmax		
	comp=N,13nm,0.5s						
SOC				pmax	pmax		
	comp=Z,19nm,0.5s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.4s						
SOC				smax			
	comp=N,54nm,0.8s						
KIV	Kislovodsk	3.14	91	ePn	Pn	05 28 00.0	-1.7
	comp=N,3.0nm,1.0s						
KIV	Kislovodsk	3.14	91	ePN	Pn	05 28 00.0	-1.7
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SHAR	Shatzhatmas	3.15	95	ePn	Pn	05 28 01.8	0.0
ZEI	Tsey	4.26	106	ePn	Pn	05 28 14.7	-2.9
	comp=Z,11nm,0.1s						
ZEI	Tsey	4.26	106	ePb	Pb	05 28 31.3	+5.5
	comp=Z,19nm,0.1s						
ZEI				eSn	Sn	05 29 03.6	-4.4
	comp=Z,22nm,0.2s						
ZEI				eSg	Sg	05 29 27.6	-5.4
	comp=Z,19nm,0.2s						
ZEI	Tsey	4.26	106	ePN	Pn	05 28 14.7	-2.9
ZEI				e		05 28 31.3	
ZEI				e		05 29 03.6	
ZEI				e		05 29 27.6	
ZEI				pmax	pmax		
	comp=Z,11nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,19nm,0.1s						
ZEI				smax			
	comp=N,22nm,0.2s						
ZEI				smax			
	comp=N,19nm,0.2s						
TIRR	Tirgusor	7.13	276	⇓iP	Pn	05 28 52.6	-5.5
CFR	Carcaliu	7.36	282	⇓iP	Pn	05 28 57.5	-3.7
HARR	Harsova	7.48	278	⇓iP	Pn	05 28 57.2	-5.7
ISP	Isparta	8.59	226	iP	P	05 29 18.7	+0.3
ISP	Isparta	8.59	226d	iP	P	05 29 18.7	+0.3
FINES	FINESS Array B	18.84	342	iP	P	05 31 34.6	+1.5
	comp=N,1.0nm,0.7s						
FINES	FINESS Array B	18.84	342	iP	P	05 31 34.6	+1.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						

NEIC 17 05:42:51.8, 52.06N×179.44W, h237km, MG3.1(AEIC), After AEIC.
IDC 17 05:42:51.9±14.0, 52.37N×179.83W, h237km±147km, mb3.0/7, mb1 3.3/7, mb1mx3.0/24, mbtmp3.6/7, Error ellipse: s-maj=73.8km s-min=31.9km az=168.0
ISC 17 05:42:49.8±2.2, 52.3N±0.3×179.7W±0.4, h228km±14km, n9, σ0^{s}67/9, mb3.2/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	1.61	108	P	P	05 43 27.7	+0.3
ETKA	Kagalaska Isla	2.08	101	P	P	05 43 31.2	-0.4
ILAR	Eielson Array	20.90	41	P	P	05 47 15.4	+0.5
	0.5nm,0.6s,baz=242,slow=8.1,SNR=9.4						
INK	Inuvik	27.04	36	P	P	05 48 11.9	-0.5
	1.1nm,0.6s,mb3.7,baz=278,slow=7.1,SNR=4.6						
DLBC	Dease Lake	28.33	58	P	P	05 48 24.4	+0.4
	0.8nm,0.5s,mb3.6,baz=270,slow=11,SNR=3.2						
NVAR	Mina Array Bea	43.99	83	P	P	05 50 37.3	+1.4
	0.6nm,0.6s,mb3.1,baz=300,slow=7.3,SNR=3.7						
PDAR	Pinedale Array	46.56	73	P	P	05 50 55.4	-0.7
	0.5nm,0.6s,mb3.0,baz=308,slow=4.1,SNR=5.8						
TXAR	Lajitas Array	59.06	81	P	P	05 52 26.9	-1.0
	0.1nm,0.4s,mb2.8,baz=288,slow=6.9,SNR=4.2						
WRA	Warramunga Arr	82.29	223	P	P	05 54 47.0	+0.1
	0.2nm,0.4s,mb3.1,baz=32,slow=5.9,SNR=4.9						

IDC 17 05:54:38.2±1.4, 16.20N×147.98E, mb3.8/3, mb1 4.1/4, mb1mx3.8/20, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=39.8km s-min=25.4km az=97.0
NEIC 17 05:54:45.0±1.0, 16.12N×147.81E, h50km, mb4.5/2, Error ellipse: s-maj=28.2km s-min=15.9km az=99.0
ISC 17 05:54:37.0±5.9, 16.2N±0.1×148.0E±0.2, h6km±40km, n8, σ0^{s}58/7, mb4.1/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.99	229	Pn	Pn	05 55 40.0	0.0
	2.7nm,0.3s,baz=197,slow=19,SNR=2.1						
GUMO				Sn	Sn	05 56 27.8	0.0
	14nm,0.3s,baz=348,slow=22,SNR=6.1						
WRAB	Tennant Creek	38.34	201	eP	P	06 02 00.2	-0.5
	6.2nm,0.5s,mb4.6						
WRA	Warramunga Arr	38.36	201	P	P	06 02 01.3	+0.5
	5.1nm,0.7s,mb4.4,baz=25,slow=9.2,SNR=41						
SONM	Songino Array	46.43	322	P	P	06 03 06.6	+0.3
	0.7nm,0.9s,mb3.6,baz=124,slow=10,SNR=3.0						
MKAR	Makanchi Array	61.75	315	P	P	06 04 59.0	+0.4
	0.3nm,0.5s,mb3.7,baz=89,slow=8.0,SNR=5.8						
KURK	Kurchatov	64.57	319	P	P	06 05 16.5	-0.7
	1.6nm,0.7s,mb4.2						
LPAZ	La Paz	145.35	95	PKPbc	PKPbc	06 14 18.5	+1.3
	0.6nm,0.5s,baz=297,slow=6.6,SNR=6.6						
LPAZ	La Paz	145.35	95	PKPbc	PKPbc	06 14 18.5	+1.3

BJI 17 06:08:41.1, 45.60N×26.50E, h139km, mB4.8, mb4.7
IDC 17 06:08:42.6±0.6, 45.75N×26.24E, h148km±4km, mb3.5/4, mb1 3.3/10, mb1mx3.2/23, mbtmp3.7/10, Error ellipse: s-maj=19.1km s-min=12.3km az=113.0
BUC 17 06:08:42.7±1.0, 45.61N×26.39E, h156km±9km, MD4.6/7, Error ellipse: s-maj=5.9km s-min=5.7km az=328.0
MOS 17 06:08:42.4±0.7, 45.60N×26.38E, h152km, mb4.0/1, Error ellipse: s-maj=7.8km s-min=4.8km az=103.4
NEIC 17 06:08:44.1, 45.59N×26.46E, h139km, MD4.3(BUC), After BUC.
SOF 17 06:08:45.5, 45.47N×26.30E, h125km, MD3.3
ISC 17 06:08:42.2±0.2, 45.63N±0.02×26.41E±0.03, h155km±2km, n87, σ1^{s}05/126, mb4.4/10, 22C-11D, Romania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.28	36	⇑iP	P	06 09 04.0	+0.3
PLOR				eS	S	06 09 19.6	-0.5
VRI	Vrincioaia	0.33	42	⇑iP	P	06 09 04.3	+0.5
VRI				iS	S	06 09 20.3	-0.1
VRI	Vrincioaia	0.33	42	⇑iP	P	06 09 04.3	+0.5
VRI				iS	S	06 09 20.2	-0.2
MLR	Muntele Rosu	0.35	248	P	P	06 09 04.4	+0.5
	356nm,0.3s,baz=342,slow=7.2,SNR=1862						
MLR				S	S	06 09 20.0	-0.6
	436nm,0.3s,baz=83,slow=19,SNR=27						
MLR	Muntele Rosu	0.35	248	⇑iP	P	06 09 04.3	+0.4
MLR				iS	S	06 09 20.0	-0.6
BRD	Bordesti	0.44	99	⇑iP	P	06 09 05.0	+0.7
ISR	Istrita	0.52	170	⇑iP	P	06 09 04.3	-0.3
ISR				iS	S	06 09 18.7	-3.1
PETR		0.58	80	⇑iP	P	06 09 06.1	+1.2
PETR				iS	S	06 09 22.8	+0.4
SECR		0.64	202	⇑iP	P	06 09 06.2	+1.0
SECR				iS	S	06 09 23.1	+0.2
OZUR		0.64	317	⇑iP	P	06 09 05.4	+0.2
OZUR				iS	S	06 09 20.9	-2.0
SNX	Sinaia	0.69	247	⇓iP	P	06 09 05.4	-0.1
SNX				iS	S	06 09 23.1	-0.3
GHRR		0.82	58	⇑iP	P	06 09 07.4	+1.1
GHRR				iS	S	06 09 25.4	+0.6
TUDR		0.88	92	⇑iP	P	06 09 07.3	+0.6
TUDR				iS	S	06 09 25.6	0.0
SULR		0.95	187	⇑iP	P	06 09 08.2	+1.0
SULR				iS	S	06 09 27.0	+0.6
VOIR		0.97	259	⇑iP	P	06 09 07.6	+0.3
VOIR				iS	S	06 09 25.2	-1.5
VOIR		0.97	259	⇓iP	P	06 09 07.6	+0.3
VOIR				iS	S	06 09 25.8	-0.9
ONCR	Oncesti	1.03	35	⇑iP	P	06 09 08.6	+0.8
ONCR				iS	S	06 09 26.7	-0.8
MTUR	Matau	1.03	248	⇑iP	P	06 09 07.9	+0.1
MTUR				iS	S	06 09 26.6	-0.9
VARR		1.04	75	⇑iP	P	06 09 09.1	+1.2
VARR				iS	S	06 09 27.8	0.0
PPE	Popeni	1.19	57	⇓iP	P	06 09 09.4	+0.1
PPE				iS	S	06 09 29.1	-1.1
AMRR		1.21	147	⇓iP	P	06 09 10.5	+1.0
AMRR				iS	S	06 09 30.3	-0.3
CFR	Carcaliu	1.29	110	⇑iP	P	06 09 10.9	+0.5
CFR				iS	S	06 09 31.3	-0.8
CFR	Carcaliu	1.29	110	⇑iP	P	06 09 09.8	-0.6
CFR				iS	S	06 09 29.6	-2.5
BUC1	Bucharest	1.31	192	⇑iP	P	06 09 11.2	+0.7
BUC1				iS	S	06 09 31.7	-0.6
HARR	Harsova	1.43	130	⇓iP	P	06 09 11.4	-0.3
HARR				iS	S	06 09 31.5	-2.9
TLCR		1.75	104	⇑iP	P	06 09 15.8	+0.7
TLCR				iS	S	06 09 40.1	-0.4
IAS	Iasi	1.76	27	⇓iP	P	06 09 16.0	+0.8
IAS				iS	S	06 09 39.6	-1.1
TIRR	Tirgusor	1.84	129	⇓iP	P	06 09 16.8	+0.7
TIRR				iS	S	06 09 40.8	-1.4
TIRR	Tirgusor	1.84	129	⇓iP	P	06 09 16.8	+0.7
TIRR				iS	S	06 09 40.9	-1.3
BURAR	Bucovina Array	2.15	338	⇓iP	P	06 09 21.8	+2.0
BURAR				iS	S	06 09 50.3	+1.6
BURAR	Bucovina Array	2.15	338	⇓iP	P	06 09 21.8	+2.0
BURAR				iS	S	06 09 50.2	+1.6
KIS	Kishinev	2.16	50	eP	P	06 09 20.0	+0.1
KIS				iS	S	06 09 46.0	-2.8
KIS				smax			
	comp=E,4μm,0.5s						
PSN	Preselentsi	2.32	146	iP	P	06 09 22.7	+0.9
SZH	Strazhica	2.38	188	iP	P	06 09 22.7	+0.1
PRD	Provadia	2.53	163	iP	P	06 09 25.3	+0.9
PVL	Pavlikeni	2.53	198	iP	P	06 09 26.0	+1.5
DRGR		2.82	296	P	P	06 09 27.0	-1.1
DJES	Djerdap	2.92	252	iPn	P	06 09 18.3	-11
DJES				Sn	S	06 10 01.6	-4.0
JMB	Yambol	3.16	178	iP	P	06 09 32.0	-0.5
VTS	Vitosha	3.81	218	P	P	06 09 41.5	+0.6
KDZ	Kurdzhali	4.04	191	P	P	06 09 43.5	-0.4
UZH	Uzhgorod	4.12	318	iP	P	06 09 45.0	+0.1
KOLS	Kolonicke sedl	4.34	321	iPN	P	06 09 48.3	+0.4
GRUS	Gruza	4.41	249	iPn	P	06 09 45.8	-3.0
GRUS				Sn	S	06 10 30.8	-9.3
KKB	Krupnik	4.46	214	P	P	06 09 51.0	+1.5
MMB	Musomiste	4.48	207	P	P	06 09 50.3	+0.6
LVV	L'vov	4.49	340	eP	P	06 09 50.2	+0.3
CRVS	Cervenica-Dubn	4.70	316	ePN	P	06 09 52.8	+0.2
DIVS	Divcibare	4.81	254	iPn	P	06 09 47.6	-6.4
DIVS				Sn	S	06 10 43.5	-6.0
KECS	Kecovo	4.96	307	iPN	P	06 09 56.0	0.0
PSZ	Piszkesteto	5.03	299	⇑iPn	P	06 09 56.6	-0.3
PSZ	Piszkesteto	5.03	299	eP	P	06 09 56.2	-0.7
STHS	Stebnicka Huta	5.16	319	iPN	P	06 09 59.2	+0.6
BBLS	Bajina Basta -	5.29	253	iPn	P	06 10 02.0	+1.7
BBLS				Sn	S	06 10 49.4	-11
AKASG	Malin Array Be	5.42	19	P	P	06 10 01.7	-0.3
	comp=E,3.2nm,0.3s,baz=204,slow=12,SNR=10						
AKASG				S	S	06 10 58.8	-5.1
	comp=E,4.8nm,0.3s,baz=211,slow=25,SNR=6.4						
AKASG	Malin Array Be	5.42	19	P	P	06 10 01.7	-0.3
AKASG				S	S	06 10 58.8	-5.1
PKSM	Moragy	5.45	279	P	P	06 10 03.0	+0.5
SIM	Simferopol'	5.48	94	P	P	06 10 03.0	+0.2
SIM				eS	S	06 11 04.0	-1.4
VYHS	Vyhne	5.92	302	ePN	P	06 10 08.6	-0.1
VRAC	Vranov	7.60	302	eP	P	06 10 31.3	0.0
ANN	Anapa	7.83	92	eP	P	06 10 30.0	-4.3
ANN				eS	S	06 11 56.4	-5.3
ANN				pmax	pmax		
	comp=Z,21nm,1.2s						
BR131	Keskin Array S	7.94	135	eP	P	06 10 35.9	+0.1
BRTR	Keskin Array B	7.94	135	P	P	06 10 35.9	+0.1
	comp=Z,0.3nm,0.3s,baz=323,slow=11,SNR=7.0						
DPC	Dobruska-Polom	8.25	309	ePN	P	06 10 42.5	+2.6
ISP	Isparta	8.36	157	eP	P	06 10 41.5	+0.2
GERES	GERESS Array B	9.23	295	P	P	06 10 51.9	-0.9
	comp=Z,0.1nm,0.3s,baz=108,slow=13,SNR=17						
KHC	Kasperske Hory	9.38	297	ePn	P	06 10 54.2	-0.6
VRSR	Storozhevoye	10.16	52	eP	P	06 11 05.8	+0.8
VRSR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VRSR				pmax	pmax		
	comp=N,6.0nm,0.4s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.4s						
OBN	Obninsk	11.49	31	⇑eP	P	06 11 22.5	+0.2
OBN				eS	S	06 13 31.1	+3.1
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIV	Kislovodsk	11.69	92	⇓eP	P	06 11 31.0	+6.1
KIV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZEI	Tsey	12.87	97	eP	P	06 11 40.4	+0.2
FINES	FINESS Array B	15.85	359	P	P	06 12 15.2	-2.4
	comp=Z,0.2nm,0.3s,baz=169,slow=9.7,SNR=3.4						
HFS	Hagfors	16.39	337	P	P	06 12 21.8	-2.5
	comp=Z,0.0nm,0.3s,baz=178,slow=40,SNR=3.6						
KAF	Kangasniemi	16.52	360	ep	P	06 12 27.6	+1.7
NB2	NORSAR Subarra	17.83	335	P	P	06 12 40.5	-1.0
	comp=Z,0.9nm,0.5s,baz=140,slow=11						
NOA	NORSAR Array B	17.83	335	P	P	06 12 39.6	-1.9
	comp=Z,0.3nm,0.3s,baz=146,slow=11,SNR=3.7						
ARCES	ARCESS Array B	23.98	359	P	P	06 13 41.0	-2.0
	comp=Z,3.8nm,0.8s,mb4.0,baz=323,slow=6.1,SNR=5.1						
ARCES				pP		06 14 10.2	
	comp=Z,9.2nm,1.2s,baz=180,slow=8.5,SNR=1.7						
MKAR	Makanchi Array	37.99	68	P	P	06 15 47.7	+1.3
	comp=Z,0.5nm,0.4s,mb3.5,baz=274,slow=7.9,SNR=15						
DBIC	Dimbokro	47.31	225	P	P	06 17 00.6	-1.4
	comp=Z,4.1nm,0.3s,mb4.5,baz=7.4,slow=9.0,SNR=27						
TIC	Toumodi	47.41	225	eP	P	06 17 01.8	-1.0
	comp=Z,124nm,1.4s,mb5.3						
KIC	Kosan Boka	47.52	224	eP	P	06 17 02.5	-1.1
	comp=Z,32nm,0.9s,mb5.0						
LIC	Lamto	47.78	224	eP	P	06 17 04.7	-0.9
	comp=Z,34nm,0.9s,mb5.0						
KMI	Kunming	63.18	81	P	P	06 18 57.3	+1.4
KMI				AP	pP	06 19 32.6	-0.2
KMI				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.8						
MDJ	Mudanjiang	67.39	49	P	P	06 19 23.0	+0.5
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.5						
MDJ				LR	LR		
	comp=N,49nm,28.3s						
MDJ				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,17nm,28.3s						
MDJ				LR	LR		
	comp=Z,19nm,17.4s						
SSE	Sheshan	71.58	64	P	P	06 19 45.8	-2.4
SSE				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
SSE				AMB	AMB		
	comp=Z,78nm,3.9s						
PDAR	Pinedale Array	83.66	329	P	P	06 20 53.4	-0.7
	comp=Z,0.3nm,0.5s,mb3.2,baz=58,slow=8.5,SNR=3.4						
WRA	Warramunga Arr	116.41	92	PKP	PKPdf	06 27 08.0	+0.6
	comp=Z,0.3nm,0.7s,baz=320,slow=1.6,SNR=8.1						

*PDA **17** 06:23:01.8±1.3, 38.78N×27.75W, MD3.3, ML2.1, Error ellipse: s-maj=2.8km s-min=2.6km az=64.0*
*CSEM **17** 06:23:01.8±1.3, 38.78N×27.75W, ML2.1, Error ellipse: s-maj=2.8km s-min=2.6km az=64.0, After PDA*
SVSA 17 06:23:01.8±1.3**, 38.78N×27.75W, MD3.3, ML2.1, Error ellipse: s-maj=2.8km s-min=2.6km az=64.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMAN	Manadas	0.30	241	iP	Pg	06 23 07.2	-0.6
PMAN				iS	Sg	06 23 11.9	0.0
	297nm,0.1s						
PMAN	Manadas	0.30	241	iS	Sg	06 23 11.9	0.0
PGRA	Graciosa	0.30	324	eP	Pg	06 23 07.1	-0.8
PGRA				eS	Sg	06 23 11.6	-0.3
	76nm,0.3s						
ASBA	Santa Barbara	0.34	100	eS	Sg	06 23 12.9	-0.2
PAMA	Santo Amaro	0.35	253	eS	Sg	06 23 13.8	+0.4
STGR	Santa Cruz	0.36	327	iS	Sg	06 23 13.8	+0.1
	36nm,0.1s						
PPAD	Pico dos Padre	0.37	102	eS	Sg	06 23 14.3	+0.1
PICO	Pico	0.60	242	eP	Pg	06 23 12.2	-1.5
PICO				eS	Sg	06 23 20.5	-1.2
CALA	Caldeira	0.77	255	eS	Sg	06 23 24.9	-2.5
PLUZ	Luz	0.98	284	eP	Pb	06 23 07.4	-14
PLUZ				eS	Sg	06 23 11.7	-23

MAN 17 07:11:23.7, 9.53N×123.34E, h1km, mb3.8, ML2.5, MS2.1, 1C, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBP	Tagbilaran	0.54	72	eP	Pg	07 11 34.2	-0.2
TBP				eS	Sg	07 11 40.8	-0.8
DCPH	Dipolog City	0.94	179	⇑eP	Pg	07 11 41.4	-1.0
DCPH				iS	Sg	07 11 54.8	-0.1
GUIM	Jordan	1.32	326	eP	Pb	07 11 49.2	+0.3
GUIM				eS	Sb	07 12 07.7	+1.5
MSLP	Maasin	1.61	68	eP	Pn	07 11 52.7	-0.8
MSLP				eS	Sb	07 12 15.4	+0.6
PAGZ	Pagadian	1.67	179	eP	Pn	07 11 54.5	+0.3

*NEIC **17** 07:25:31.0±2.3, 6.68S×127.43E, h397km±28km, mb4.5/2, Error ellipse: s-maj=17.5km s-min=12.7km az=54.0*
*IDC **17** 07:25:31.7±3.4, 6.68S×127.45E, h403km±42km, mb3.5/8, mb1 3.7/11, mb1mx3.5/16, mbtmp4.3/11, Error ellipse: s-maj=25.5km s-min=16.2km az=56.0*
ISC 17 07:25:28.7±2.1**, 6.69S**±0.09×**127.4E**±0.2**, h388**km±25km**, n19, σ0.96**/21**, mb3.8**/9**, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.79	140	⇑iP	P	07 27 42.4	+20
	51nm,0.6s						
KAKA				eS	S	07 29 10.1	+19
FITZ	Fitzroy Crossi	11.46	188	eP	P	07 28 05.0	0.0
	17nm,0.6s						
FITZ	Fitzroy Crossi	11.46	188	P	P	07 28 05.1	+0.1
	3.0nm,0.3s,baz=15,slow=9.1,SNR=27						
WRA	Warramunga Arr	14.81	153	P	P	07 28 41.1	-1.0
	2.0nm,0.3s,baz=336,slow=12,SNR=128						
WRA				S	S	07 31 14.5	-2.9
	0.6nm,0.3s,baz=327,slow=19,SNR=14						
ASPA	Alice Springs	18.01	160	eP	P	07 29 15.8	+1.0
ASPA				eS	S	07 32 18.9	+1.5
PMG	Port Moresby	19.78	99	P	P	07 29 33.6	+1.4
	0.8nm,0.3s,baz=276,slow=9.2,SNR=3.4						
CTA	Charters Tower	22.65	128	P	P	07 30 00.2	+0.6
	4.3nm,0.9s,mb3.9,baz=315,slow=14,SNR=3.7						
STKA	Stephens Creek	28.36	154	P	P	07 30 50.7	-0.1
	1.9nm,0.4s,mb3.8,baz=316,slow=11,SNR=14						
STKA	Stephens Creek	28.36	154	P	P	07 30 50.7	-0.1
MJAR	Matsushiro Arr	44.19	13	P	P	07 33 02.0	-0.7
	6.5nm,0.5s,mb4.2,baz=187,slow=9.3,SNR=17						
MAT	Matsushiro	44.19	13	P	P	07 33 02.0	-0.7
MAT	Matsushiro	44.19	13	eP	P	07 33 02.0	-0.7
SONM	Songino Array	57.36	343	P	P	07 34 40.7	+0.7
	0.8nm,0.4s,mb3.5,baz=168,slow=9.0,SNR=12						
MKAR	Makanchi Array	66.56	328	P	P	07 35 40.5	+0.3
	1.3nm,0.4s,mb3.9,baz=122,slow=8.1,SNR=19						
ZAL	Zalesovo	70.17	335	P	P	07 36 01.9	-0.2
	2.6nm,0.6s,mb3.9,baz=324,slow=4.4,SNR=8.5						
KURK	Kurchatov	70.91	330	eP	P	07 36 06.4	-0.1
	8.1nm,1.0s,mb4.2						
BVAR	Borovoye Array	76.43	329	P	P	07 36 38.2	+0.2
	0.9nm,0.4s,mb3.7,baz=126,slow=8.8,SNR=7.2						
ILAR	Eielson Array	94.19	25	P	P	07 38 04.5	-0.7
	0.3nm,0.5s,mb3.6,baz=248,slow=5.8,SNR=7.4						
TXAR	Lajitas Array	127.00	58	PKP	PKPdf	07 43 49.0	+1.1
	0.1nm,0.4s,baz=185,slow=2.2,SNR=4.3						

*WAR **17** 07:41:52.4, 50.36N×18.86E, h0km, ML2.4, Mining Induced*
*PRU **17** 07:41:53.0, 50.41N×18.73E*
ISC 17 07:41:52.6±0.6**, 50.33N**±0.05×**18.79E**±0.04**, n13, σ1.55**/25**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.64	220	ePG	Pg	07 42 06.1	+0.7
OKC				eSG	Sg	07 42 15.4	+1.4
	6.4nm,0.2s						
OJC	Ojcow	0.66	99	ePG	Pg	07 42 05.0	-0.7
OJC				eSG	Sg	07 42 13.0	-1.4
NIE	Niedzica	1.34	132	ePG	Pg	07 42 18.0	-1.4
NIE				eSG	Sg	07 42 36.0	-1.3
DPC	Dobruska-Polom	1.58	272	ePG	Pg	07 42 21.3	-2.9
DPC				eSG	Sg	07 42 43.6	-1.6
	7.3nm,0.3s						
KSP	Ksiaz	1.67	289	ePG	Pg	07 42 23.0	-3.0
KSP				eSG	Sg	07 42 46.0	-2.3
KSP	Ksiaz	1.67	289	ePn	Pn	07 42 24.0	+0.7
KSP				ePg	Pg	07 42 26.1	+0.1
KSP				eSn	Sn	07 42 46.4	+0.6
KSP				eSg	Sg	07 42 49.1	+0.8
STHS	Stebnicka Huta	1.83	119	ePN	Pn	07 42 27.0	+1.4
STHS				eSN	Sn	07 42 52.2	+2.4
VYHS	Vyhne	1.84	179	ePN	Pn	07 42 24.7	-1.0
VYHS				eSN	Sn	07 42 48.9	-1.1
CRVS	Cervenica-Dubn	2.25	128	ePN	Pn	07 42 34.3	+2.8
CRVS				eSN	Sn	07 43 04.6	+4.2
KOLS	Kolonicke sedl	2.66	120	eSN	Sn	07 43 13.3	+2.4
PRU	Pruhonice	2.75	265	eSG	Sg	07 43 20.2	-4.1
KHC	Kasperske Hory	3.59	252	ePG	Pg	07 42 57.8	-6.4
KHC				eSG	Sg	07 43 46.8	-5.2
CLL	Collm	3.80	287	eSG	Sg	07 44 01.0	+1.9

*NEIC **17** 08:16:14.1, 17.81N×61.10W, h7km, MD3.5(TRN), After TRN.*
TRN 17 08:16:14.6, 17.63N×61.07W, h8km, MD3.5, M3.5(FDF)**, 2C-4D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPB	Codrington	0.72	271	⇓iP	Pb	08 16 31.5	+2.6
CPB				eS	Sg	08 16 43.2	+4.6
BPA	Boggy Peak	0.95	232	⇓iP	Pb	08 16 36.1	+3.3
BPA				eS	Sb	08 16 51.6	+6.3
BPA	Boggy Peak	0.95	232	⇓iP	Pb	08 16 36.1	+3.3
BPA				eS	Sb	08 16 54.9	+10
DEG	La Desirade	1.31	179	eP	Pb	08 16 40.5	+1.5
DEG				eS	Sb	08 17 00.2	+4.3
NVRH	Round Hill, Ne	1.52	253	eP	Pn	08 16 44.6	+2.3
NVRH				eS	Sb	08 17 05.9	+3.9
NVBH	Bath Hotel, Ne	1.56	251	eP	Pn	08 16 45.2	+2.4
NVBH				eS	Sb	08 17 07.1	+4.0
SKI	Saint Kitts	1.62	260	eP	Pn	08 16 45.4	+1.8
SKI				eS	Sb	08 17 08.8	+4.0
SKI	Saint Kitts	1.62	260	eP	Pn	08 16 45.4	+1.8
SKI				eS	Sb	08 17 09.4	+4.6
BCG	Bois Riant Cap	1.62	199	eP	Pn	08 16 46.0	+2.3
LZG	Guadaloupe-1	1.63	204	⇓eP	Pn	08 16 46.1	+2.4
LZG				eS	Sb	08 17 12.1	+7.1
DOG	Dongo Capester	1.67	198	eP	Pn	08 16 47.6	+3.2
SCG	Saint Claude	1.69	200	eP	Pn	08 16 47.4	+2.6
TBG	Guadaloupe-3	1.85	197	eP	Pn	08 16 50.0	+3.0
SABS	Saba	2.07	270	⇑iP	Pn	08 16 51.4	+1.3
SABS				eS	Sn	08 17 18.0	+1.7
SABT	Saba	2.07	270	⇑iP	Pn	08 16 51.4	+1.3
SABT				eS	Sn	08 17 18.0	+1.7
CRM	Caravelle	2.86	177	eP	Pn	08 17 02.1	+0.7
FDF	Fort de France	2.88	181	eP	Pn	08 17 03.3	+1.6
FDF				eS	Sn	08 17 37.7	+0.7
MVM	Montagne Vaucl	3.06	177	eP	Pn	08 17 05.4	+1.1
SJG	San Juan	4.86	276	ePn	Pn	08 17 26.5	-3.2
SJG				eSn	Sn	08 18 22.5	-4.5

*IDC **17** 09:06:33.0±3.4, 7.39S×128.27E, h101km±31km, mb3.8/8, mb1 4.0/10, mb1mx4.0/16, mbtmp4.3/10, Error ellipse: s-maj=29.4km s-min=14.8km az=75.0*
*NEIC **17** 09:06:34.1±1.5, 7.37S×128.57E, h114km±14km, mb4.2/5, Error ellipse: s-maj=15.7km s-min=7.3km az=66.0*
ISC 17 09:06:35.4±2.3**, 7.48S**±0.08×**128.4E**±0.1**, h144**km±23km**, n28, σ1.15**/27**, mb3.9**/9**, 1C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.57	143	⇓iP	P	09 08 31.2	+21
	70nm,0.1s						
KAKA				eS	S	09 09 41.6	+17
FITZ	Fitzroy Crossi	10.89	194	eP	P	09 09 08.9	+0.7
	25nm,0.6s						
FITZ				eS	S	09 11 04.7	-3.3
FITZ	Fitzroy Crossi	10.89	194	P	P	09 09 07.5	-0.7
	5.4nm,0.3s,baz=16,slow=9.7,SNR=66						
FITZ				S	S	09 11 04.4	-3.6
	24nm,0.3s,baz=160,slow=17,SNR=14						
WRAB	Tennant Creek	13.68	156	eSn	S	09 12 04.3	-8.9
WRA	Warramunga Arr	13.68	156	P	P	09 09 43.1	-1.4
	2.4nm,0.3s,baz=330,slow=13,SNR=97						
WRA				S	S	09 12 06.0	-7.3
	7.6nm,0.3s,baz=336,slow=23,SNR=9.2						
MBWA	Marble Bar	15.96	211	eP	P	09 10 14.4	+1.1
	6.8nm,0.8s						
ASPA	Alice Springs	16.95	162	eP	P	09 10 27.8	+2.4
ASPA				eS	S	09 13 26.6	-1.1
KKM	Kota Kinabalu	18.09	318	P	P	09 10 38.6	-0.3
KSM	Kuching	20.09	296	eP	P	09 11 00.6	+0.8
CTA	Charters Tower	21.39	128	P	P	09 11 15.2	+2.4
	2.6nm,0.7s,mb3.7,baz=308,slow=13,SNR=4.3						
CTAO	Charters Tower	21.39	128	eP	P	09 11 13.2	+0.4
	1.9nm,0.7s,mb3.5						
CTAO				e		09 11 33.5	
STKA	Stephens Creek	27.23	155	⇑iP	P	09 12 08.9	+0.8
	4.5nm,0.5s,mb4.3						
STKA	Stephens Creek	27.23	155	P	P	09 12 08.9	+0.8
	5.2nm,0.5s,mb4.4,baz=329,slow=9.2,SNR=14						
NWAO	Narrogin (SRO)	27.35	201	P	P	09 12 09.6	+0.4
	8.0nm,0.8s,mb4.4,baz=25,slow=8.6,SNR=4.9						
MJAR	Matsushiro Arr	44.75	11	P	P	09 14 34.7	-1.6
	1.8nm,0.6s,mb3.9,baz=186,slow=9.8,SNR=5.6						
MJAR	Matsushiro Arr	44.75	11	P	P	09 14 34.7	-1.6
SONM	Songino Array	58.39	343	P	P	09 16 17.3	-0.8
	1.1nm,0.7s,mb3.8,baz=167,slow=6.8,SNR=7.9						
MKAR	Makanchi Array	67.75	328	P	P	09 17 19.4	-0.2
	0.9nm,0.4s,mb3.8,baz=120,slow=8.1,SNR=18						
MKAR	Makanchi Array	67.75	328	P	P	09 17 19.4	-0.2
KURK	Kurchatov	72.09	329	eP	P	09 17 45.8	0.0
	4.6nm,0.9s,mb4.2						
KURK				e		09 18 11.8	
VNDA	Vanda	72.18	173	P	P	09 17 46.3	+0.4
	0.8nm,0.6s,mb3.6,baz=323,slow=7.1,SNR=8.4						
BVAR	Borovoye Array	77.61	328	P	P	09 18 17.2	0.0
	0.8nm,0.5s,mb3.6,baz=127,slow=7.4,SNR=5.9						
TXAR	Lajitas Array	126.56	59	PKP	PKPdf	09 25 24.8	+2.5
	0.3nm,0.9s,baz=153,slow=2.8,SNR=3.9						
TXAR	Lajitas Array	126.56	59	PKP	PKPdf	09 25 24.8	+2.5
DBIC	Dimbokro	133.59	272	PKP	PKPdf	09 25 38.8	+2.8
	3.2nm,0.9s,baz=130,slow=7.9,SNR=2.7						
CPUP	Villa Florida	145.94	171	PKPbc	PKPbc	09 26 01.1	+2.2
	2.3nm,0.7s,baz=254,slow=4.6,SNR=3.9						
LPAZ	La Paz	151.29	145	PKPbc	PKPdf	09 26 16.6	+10
	1.4nm,0.4s,baz=42,slow=4.6,SNR=14						
LPAZ	La Paz	151.29	145	ePKPbc	PKPdf	09 26 16.4	+10
LPAZ				ePKPab	PKPab	09 26 25.5	+1.8

MAN 17 09:18:49.8, 10.03N×125.79E, h1km, mb4.4, ML3.2, MS3.0, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.38	230	eP	Pg	09 18 57.1	-0.4
SCPH				eS	Sg	09 19 13.2	+11
MSLP	Maasin	0.92	276	eP	Pg	09 19 16.4	+8.2
MSLP				eS	Sg	09 19 40.8	+20
BUTP	Butuan	1.07	189	eP	Pb	09 19 10.7	-0.1
BUTP				eS	Sb	09 19 32.5	+7.4
BUKP	Musuan	2.25	199	eP	Pn	09 19 29.8	+1.0
BUKP				eS	Sn	09 19 59.0	+1.4

*MOS **17** 09:35:24.8±0.7, 36.39N×70.72E, h209km, mb3.6/3, Error ellipse: s-maj=15.5km s-min=7.2km az=85.8*
*BJI **17** 09:35:25.8, 36.49N×70.73E, h205km, mB4.4, mb4.0*
*NEIC **17** 09:35:25.9±1.1, 36.40N×70.80E, h201km±13km, mb4.2/8, Error ellipse: s-maj=14.3km s-min=5.0km az=58.0*
*IDC **17** 09:35:25.3±4.7, 36.34N×70.82E, h200km±46km, mb3.5/8, mb1 3.6/10, mb1mx3.4/21, mbtmp4.1/10, Error ellipse: s-maj=20.6km s-min=18.4km az=42.0*
*NNC **17** 09:35:30.6±3.2, 36.82N×70.65E, h200km±27km, mpv4.4, Error ellipse: s-maj=29.0km s-min=18.9km az=33.0*
ISC 17 09:35:25.5±0.4**, 36.41N**±0.03×**70.83E**±0.06**, h212**km±6km**, n60, σ0.85**/72**, mb3.5**/8**, 13C-11D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.72	161	⇑P	P	09 36 13.6	+0.5
CHCP	Chirah Chowk	3.39	143	⇑P	P	09 36 22.5	+1.6
THW	Thamme Wali	3.68	168	⇓P	P	09 36 24.5	+0.1
SBDP	Sheikh Budin	4.09	180	⇓P	P	09 36 29.2	-0.3
DRP	Derazinda	4.68	187	P	P	09 36 36.5	-0.3
SARP	Sargodha	4.72	161	P	P	09 36 36.9	-0.5
SARP				S	S	09 37 30.0	-3.2
KSH	Kashi	5.12	51	P	P	09 36 43.4	+1.1
KSH				S	S	09 37 42.3	+0.3
AML	Almayashu	6.13	20	P	P	09 36 55.6	+0.2
	SNR=504						
UCH	Uchtor	6.48	25	P	P	09 37 00.3	+0.5
	SNR=42						
KZA	Kyzart	6.62	30	P	P	09 37 01.6	-0.1
	SNR=6.7						
EKS2	Erkin-Say	6.65	19	P	P	09 37 02.2	+0.2
	SNR=15						
KK31	Karatay Array	6.70	358	⇓P	P	09 37 01.9	-0.7
	9.7nm,0.3s,baz=174,slow=12,SNR=404						
KK31				⇑S	S	09 38 13.1	-5.3
	70nm,0.5s						
KK31	Karatay Array	6.70	358	⇓P	P	09 37 01.9	-0.7
	9.7nm,0.3s						
KK31				S	S	09 38 13.1	-5.3
KKAR	Karatay Array	6.70	358	PN	P	09 37 01.9	-0.7
KKAR				pmax	pmax		
	comp=Z,12nm,0.4s						
AAK	Ala-Archa	6.83	23	P	P	09 37 04.8	+0.3
	SNR=44						
AAK	Ala-Archa	6.83	23	⇓P	P	09 37 04.7	+0.3
	comp=Z,20nm,0.5s						
AAK				⇑S	S	09 38 20.5	-1.1
	comp=Z,97nm,0.6s						
AAK	Ala-Archa	6.83	23	⇓P	P	09 37 04.7	+0.3
	comp=Z,20nm,0.4s						
AAK				S	S	09 38 20.5	-1.1
AAK	Ala-Archa	6.83	23	⇓PN	P	09 37 04.7	+0.3
AAK				S	S	09 38 20.5	-1.1
AAK				pmax	pmax		
	comp=Z,20nm,0.4s						
KBK	Karagaybulak	7.01	26	P	P	09 37 07.1	+0.5
	SNR=9.9						
ULHL	Ulahol	7.18	34	P	P	09 37 09.3	+0.3
	SNR=13						
CHMS	Chumysh	7.25	23	P	P	09 37 10.0	+0.3
	SNR=13						
USP	Ospenovka	7.41	21	P	P	09 37 11.8	-0.1
	SNR=19						
TKM2	Tokmak 2	7.47	28	P	P	09 37 13.0	+0.3
	SNR=56						
MK02	Makanchi Array	13.44	36	⇓P	P	09 38 28.7	-0.2
MK02				pmax	pmax		
	comp=Z,14nm,0.9s						
MK31	Makanchi Array	13.45	36	⇓P	P	09 38 28.7	-0.3
	comp=Z,14nm,0.9s,baz=216,slow=14,SNR=68						
MKAR	Makanchi Array	13.45	36	P	P	09 38 29.1	0.0
	comp=Z,0.8nm,0.3s,baz=211,slow=12,SNR=30						
KOLN	Koldanda	13.82	125	eP	P	09 38 34.1	+0.4
	comp=Z,6.2nm,0.3s						
KOLN				eS	S	09 41 01.0	-1.4
GKN	Gorkha	14.37	122	eP	P	09 38 40.9	+0.4
	comp=Z,34nm,0.4s						
DMN	Daman	14.94	122	eP	P	09 38 47.8	+0.2
KKN	Kakani	14.95	121	eP	P	09 38 48.3	+0.7
	comp=Z,25nm,0.5s						
AB31	Akbulak array	15.10	332	⇓P	P	09 38 48.4	-1.0
	comp=Z,0.3nm,0.2s,baz=146,slow=11,SNR=17						
AB31				⇑S	S	09 41 30.2	-0.8
	comp=Z,1.7nm,0.7s,baz=159,slow=22,SNR=3.9						
AB31	Akbulak array	15.10	332	⇓P	P	09 38 48.4	-1.0
	comp=Z,0.3nm,0.3s						
PKI	Pulchoki	15.17	121	eP	P	09 38 50.5	+0.1
	comp=Z,25nm,0.5s						
KURK	Kurchatov	15.37	19	⇑P	P	09 38 51.5	-1.1
	comp=Z,3.0nm,0.8s						
VOSK	Vostochnaya	16.32	0	⇑P	P	09 39 03.4	-0.8
	comp=Z,3.8nm,0.5s						
VOSK	Vostochnaya	16.32	0	⇑P	P	09 39 03.4	-0.8
	comp=Z,3.8nm,0.4s						
VOSK	Vostochnaya	16.32	0	⇑P	P	09 39 03.4	-0.8
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BVA0	Borovoye Array	16.62	359	⇑P	P	09 39 07.2	-0.6
	comp=Z,0.4nm,0.4s						
BVAR	Borovoye Array	16.62	359	P	P	09 39 07.0	-0.8
	comp=Z,2.2nm,0.3s,baz=160,slow=12,SNR=25						
BVAR				S	S	09 42 06.9	+2.1
	comp=Z,0.3nm,0.3s,baz=169,slow=23,SNR=4.0						
BRVK	Borovoye	16.66	359	eP	P	09 39 07.9	-0.3
	comp=Z,2.7nm,0.4s						
BRVK	Borovoye	16.66	359	eP	P	09 39 07.9	-0.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKTK	Aktyubinsk	16.80	331	⇑P	P	09 39 09.2	-0.6
AKTK				S	S	09 42 11.7	+3.1
AKTO	Aktyubinsk	16.80	331	⇑P	P	09 39 09.2	-0.6
	comp=Z,0.3nm,0.5s						
AKTO				⇑S	S	09 42 11.7	+3.1
	comp=Z,2.5nm,2.9s						
ZAL	Zalesovo	20.04	25	P	P	09 39 43.4	-0.2
	comp=Z,14nm,0.4s,baz=254,slow=6.5,SNR=30						
NVS	Novosibirsk	20.32	21	iP	P	09 39 46.6	+0.2
KBD	Kabd	20.72	256	eP	P	09 39 52.1	+1.7
KBD				AMb	AMB	09 39 54.3	
	comp=Z,97nm,0.5s						
RDF	Al-Radifah	20.94	256	eP	P	09 39 53.5	+0.8
RDF				AMb	AMB	09 39 56.5	
	comp=Z,36nm,0.6s						
NAY	Al-Naaiem	21.04	257	eP	P	09 39 54.1	+0.5
GTA	Gaotai	23.02	74	eP	P	09 40 15.8	+3.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
SONM	Songino Array	28.50	55	P	P	09 41 02.5	-0.6
	comp=Z,0.6nm,0.6s,mb3.4,baz=271,slow=9.4,SNR=4.9						
FINES	FINESS Array B	37.49	326	P	P	09 42 19.9	-0.2
	comp=Z,0.6nm,0.4s,mb3.5,baz=115,slow=11,SNR=11						
ARCES	ARCESS Array B	41.18	338	P	P	09 42 50.1	-0.3
	comp=Z,3.8nm,1.0s,mb3.8,baz=109,slow=7.0,SNR=12						
NB2	NORSAR Subarra	44.38	323	P	P	09 43 15.6	-0.5
	comp=Z,0.6nm,0.5s,mb3.2,baz=97,slow=7.4						
NB2	NORSAR Subarra	44.38	323	P	P	09 43 15.6	-0.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
NOA	NORSAR Array B	44.38	323	P	P	09 43 15.3	-0.8
	comp=Z,0.9nm,0.6s,mb3.2,baz=100,slow=7.7,SNR=4.6						
KMBO	Kilima Mbogo	48.66	227	P	P	09 43 49.1	-1.1
	comp=Z,1.3nm,0.5s,mb3.5,baz=46,slow=14,SNR=5.4						
INK	Inuvik	74.02	9	P	P	09 46 39.8	+0.8
	comp=Z,0.7nm,0.5s,mb3.5,baz=328,slow=15,SNR=8.2						
INK	Inuvik	74.02	9	P	P	09 46 39.8	+0.8
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	82.06	122	P	P	09 47 23.1	-0.5
	comp=Z,0.5nm,0.6s,mb3.3,baz=325,slow=5.0,SNR=12						
WRA	Warramunga Arr	82.06	122	P	P	09 47 23.1	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*IDC **17** 09:46:02.0±3.6, 14.57N×91.22W, mb4.0/5, mb1 4.3/6, mb1mx3.9/21, mbtmp4.0/6, ML4.0/1, MS3.4/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=110.0km s-min=63.9km az=46.0*
*CASC **17** 09:46:12.3±2.0, 14.44N×92.29W, h59km±32km, MD4.4, mb4.1(NEIC)*
*NEIC **17** 09:46:13.7, 14.23N×92.50W, h50km, mb4.1/1, MD4.3(MEX), After MEX.*
*MEX **17** 09:46:13.2±0.7, 14.20N×92.51W, h40km, MD4.4*
ISC 17 09:46:12.0±0.7**, 14.31N**±0.06×**92.55W**±0.04**, h33**km**, n30, σ1.56**/46**, mb4.1**/5**, MS3.3**/1**, 3C-3D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.66	85	⇑eP	P	09 46 36.3	-2.8
FUG				eS	S	09 46 54.0	-5.5
CCIG	Comitan	2.00	11	iP	P	09 46 44.3	+0.3
CCIG				iS	S	09 47 08.5	+0.3
IXG	Ixpaco	2.04	93	⇑eP	P	09 46 41.6	-2.9
IXG				eS	S	09 47 04.5	-4.5
SCX	San Cristobal	2.42	358	iP	P	09 46 51.3	+1.4
SCX				iS	S	09 47 21.2	+2.6
RBDL	Robledal	2.79	94	⇑eP	P	09 46 56.6	+1.4
RBDL				eS	S	09 47 28.3	+0.3
RTR	El Retiro	2.85	98	eP	P	09 46 57.1	+1.0
RTR				eS	S	09 47 31.5	+1.9
MRL	Marmol	2.87	74	⇓eP	P	09 46 53.4	-3.0
MRL				eS	S	09 47 23.2	-6.9
SBLS	San Blas	2.88	99	eP	P	09 46 57.8	+1.2
SBLS				eS	S	09 47 29.6	-0.8
SNJE	San Jose	2.89	98	eP	P	09 46 57.7	+1.0
SNJE				eS	S	09 47 28.7	-2.0
MTO2	Montecristo 2	3.09	88	eP	P	09 47 01.3	+1.7
MTO2				eS	S	09 47 38.4	+2.6
BOQS	Boqueron	3.23	100	eP	P	09 47 02.2	+0.7
BOQS				eS	S	09 47 38.8	-0.5
LFU	La Fuente	3.38	99	eP	P	09 47 04.5	+0.8
LFU				eS	S	09 47 36.0	-7.2
LFRS	El Faro	3.46	101	⇓eP	P	09 47 05.6	+0.8
LFRS				eS	S	09 47 44.4	-0.7
LCBS	La Ceiba	3.53	100	⇓eP	P	09 47 06.8	+1.0
LCBS				eS	S	09 47 45.2	-1.7
CMIG	Matias Romero	3.56	321	eP	P	09 47 06.2	-0.1
CMIG				iS	S	09 47 47.9	0.0
CMIG	Matias Romero	3.56	321	eP	P	09 47 06.2	-0.1
CMIG				iS	S	09 47 45.5	-2.3
TUIG	Tuzandepetl	4.12	334	iS	S	09 48 01.0	-0.9
OXX	Oaxaca	4.87	305	iP	P	09 47 27.5	+2.6
VHO	Vista Hermosa	4.88	305	iP	P	09 47 26.2	+1.2
VHO				iS	S	09 48 20.0	-1.0
PPM	Popocatepetl	7.50	310	eP	P	09 48 05.0	+3.2
TXAR	Lajitas Array	18.15	327	P	P	09 50 22.1	-1.1
	0.1nm,0.3s,baz=147,slow=11,SNR=21						
MNTX	Cornudas Mount	20.92	328	eP	P	09 50 50.7	-3.6
	12nm,1.3s						
ANMO	Albuquerque	24.08	331	P	P	09 51 23.3	-2.2
	3.3nm,0.6s,mb3.9,baz=153,slow=11,SNR=21						
ANMO	Albuquerque	24.08	331	P	P	09 51 23.3	-2.2
PV10	Paradox Valley	28.07	332	eP	P	09 51 58.5	-4.1
NVAR	Mina Array Bea	33.10	321	P	P	09 52 45.1	-2.0
	2.6nm,0.8s,mb4.2,baz=128,slow=8.9,SNR=20						
NVAR				PcP	PcP	09 55 25.1	-4.9
	0.4nm,0.6s,baz=124,slow=4.5,SNR=4.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**35.95**	**356**	LR	LR	10 08 11.3	
	comp=Z,56nm,19.5s,MS3.3,baz=67,slow=37						
YKA	**Yellowknife Ar**	**50.61**	**347**	P	**P**	**09 55 02.5**	**-7.0**
	0.9nm,0.5s,mb4.0,baz=150,slow=7.4,SNR=5.5						
INK	**Inuvik**	**59.99**	**344**	P	**P**	**09 56 11.1**	**-6.3**
	1.8nm,0.6s,mb4.2,baz=129,slow=16,SNR=5.3						
ILAR	**Eielson Array**	**62.35**	**337**	P	**P**	**09 56 27.6**	**-5.8**
	1.0nm,0.7s,mb4.1,baz=119,slow=5.0,SNR=18						

THR ***17*** *10:05:36.8±0.3, 30.36N×51.94E, h14km±3km, ML2.8*
CSEM ***17*** *10:05:37.6±0.1, 30.34N×51.80E, h20km, ML3.2, Error ellipse: s-maj=4.3km s-min=2.4km az=73.0*
TEH ***17*** *10:05:39.9, 30.37N×51.90E, h14km, Mn3.2*
KISR ***17*** *10:05:41.2±0.7, 30.49N×51.49E, h33km, ML2.8*
ISC 17 10:05:37.9±0.5**, 30.43N**±0.04×**51.72E**±0.05**, h14**km**, n15, σ1s06**/21**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPAR	**Pars**	**1.29**	**117**	Pn	**Pn**	**10 06 01.3**	**-0.3**
ISRV	**Sarvestan**	**1.60**	**131**	Pn	**Pn**	**10 06 05.8**	**-0.2**
IMOK	**Mook**	**1.63**	**148**	Pn	**Pn**	**10 06 06.3**	**-0.1**
GHIR	**Ghir-Karzin**	**2.41**	**152**	*e*Pg	**Pn**	**10 06 17.9**	**+0.3**
NASN	**Na'in**	**2.54**	**21**	*e*Pg	**Pn**	**10 06 22.9**	**+3.5**
NASN				*e*Sg	**Sn**	**10 06 56.8**	**+6.5**
QRN	**Al-Qurain**	**3.71**	**244**	*e*S	**Sn**	**10 07 19.6**	**-0.6**
RDF	**Al-Radifah**	**3.93**	**249**	*e*P	**Pn**	**10 06 40.8**	**+1.6**
RDF				AML	AML	10 07 20.1	
	comp=Z,18nm,0.4s						
RDF				*e*S	**Sn**	**10 07 25.1**	**-0.5**
RDF	**Al-Radifah**	**3.93**	**249**	*e*P	**Pn**	**10 06 40.8**	**+1.6**
RDF				*e*S	**Sn**	**10 07 25.1**	**-0.5**
NAY	**Al-Naaiem**	**4.07**	**254**	*e*P	**Pn**	**10 06 41.9**	**+0.7**
NAY				*e*S	**Sn**	**10 07 28.0**	**-1.1**
NAY				AML	AML	10 07 30.4	
	comp=Z,10nm,0.4s						
ASAO	**Ashtian**	**4.35**	**341**	*e*Pn	**Pn**	**10 06 46.6**	**+1.4**
ASAO				AML	AML	10 07 42.1	
	comp=N,8.4nm,0.6s						
KRBR	**Kerman**	**4.38**	**95**	*e*Pn	**Pn**	**10 06 42.6**	**-3.1**
KRBR				AML	AML	10 08 24.2	
	comp=N,11nm,0.7s						
IQOM	**Qom**	**4.43**	**353**	Pn	**Pn**	**10 06 47.4**	**+1.0**
IQOM				Sn	**Sn**	**10 07 37.5**	**-0.9**
IVRN	**Varamin**	**4.55**	**0**	Pn	**Pn**	**10 06 48.8**	**+0.7**
IVRN				Sn	**Sn**	**10 07 39.8**	**-1.6**
IFIR	**Firoozkooh**	**5.27**	**9**	Pn	**Pn**	**10 06 58.0**	**-0.2**
IMHD	**Mahdasht**	**5.31**	**351**	Pn	**Pn**	**10 06 53.4**	**-5.4**

ISK ***17*** *10:28:01.6, 38.60N×25.34E, h9km, MD3.7*
ATH ***17*** *10:28:03.6, 38.59N×25.46E, h30km±5km, MD3.7/18, ML3.5*
CSEM ***17*** *10:28:04.5±0.1, 38.61N×25.54E, h60km, ML3.5, Error ellipse: s-maj=1.7km s-min=1.4km az=149.0*
THE ***17*** *10:28:05.7, 38.65N×25.51E, h20km, ML3.6*
ISC 17 10:28:05.5±0.3**, 38.61N**±0.02×**25.47E**±0.03**, h48**km±19km**, n57, σ0s73**/75**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.89**	**45**	*e*PN	**P**	**10 28 21.4**	**-0.4**
PRK				*e*SN	**S**	**10 28 34.4**	**+0.4**
URLA	**Izmir**	**0.92**	**105**	*i* P	**P**	**10 28 21.5**	**-0.8**
URLA				*i* S	**S**	**10 28 33.5**	**-1.2**
AYVA	**Ayvalik**	**1.18**	**54**	*i* P	**P**	**10 28 27.1**	**+1.3**
AYVA				*i* S	**S**	**10 28 40.9**	**-0.2**
BLCB	**Balcova**	**1.26**	**100**	*i* PN	**P**	**10 28 27.2**	**+0.2**
LIA	**Limnos Island**	**1.30**	**350**	*e*PN	**P**	**10 28 27.5**	**-0.3**
LOS	**Limnos**	**1.35**	**347**	*e*Pg	**P**	**10 28 28.4**	**0.0**
LOS				*e*Sg	**S**	**10 28 46.9**	**+1.4**
AOS	**Alonnisos**	**1.36**	**295**	*e*Pg	**P**	**10 28 28.8**	**+0.3**
AOS				*e*Sg	**S**	**10 28 49.4**	**+3.8**
PTL	**Penteli**	**1.38**	**246**	*e*PN	**P**	**10 28 28.6**	**-0.2**
EZN	**Ezine**	**1.38**	**29**	PN	**P**	**10 28 28.3**	**-0.6**
SMG	**Samos**	**1.41**	**129**	*e*PN	**P**	**10 28 29.0**	**-0.2**
IZM	**Izmir**	**1.43**	**98**	PN	**P**	**10 28 30.0**	**+0.5**
KDAG	**Bornova**	**1.43**	**98**	*i* P	**P**	**10 28 28.6**	**-0.9**
KDAG				*i* S	**S**	**10 28 52.5**	**+5.1**
MPAR	**Parnis Oros**	**1.44**	**252**	*e*PN	**P**	**10 28 29.9**	**+0.3**
ATH	**Athens Observa**	**1.52**	**246**	*e*PN	**P**	**10 28 30.8**	**+0.1**
APE	**Apeiranthos**	**1.54**	**178**	PN	**P**	**10 28 29.8**	**-1.3**
APE				SN	**S**	**10 28 50.4**	**+0.3**
APE	**Apeiranthos**	**1.54**	**178**	*e*Pb	**P**	**10 28 30.3**	**-0.8**
APE				*e*Sn	**S**	**10 28 50.4**	**+0.3**
NSAL	**Nisos Salamina**	**1.73**	**247**	*e*PN	**P**	**10 28 33.6**	**-0.1**
MGER	**Gerania Oros**	**1.84**	**251**	*e*PB	**P**	**10 28 35.5**	**+0.2**
AKS	**Akhisar**	**1.85**	**81**	*e*PN	**P**	**10 28 36.5**	**+1.0**
CANB	**Canakkale**	**1.87**	**41**	*e*PN	**P**	**10 28 36.4**	**+0.7**
NEO	**Neokhori**	**1.88**	**292**	*e*PN	**P**	**10 28 35.7**	**-0.1**
PAIG	**Paliouri**	**1.91**	**314**	*e*Pb	**P**	**10 28 37.1**	**+0.8**
PAIG				*e*Sb	**S**	**10 29 07.1**	**+8.0**
XOR	**Xorichti**	**1.93**	**294**	*e*Pb	**P**	**10 28 35.7**	**-0.7**
LKR	**Lokris**	**1.93**	**272**	*e*PN	**P**	**10 28 36.0**	**-0.6**
LPK	**Lapseki**	**2.02**	**29**	*e*PN	**P**	**10 28 38.0**	**+0.1**
OUR	**Ouranopolis**	**2.07**	**327**	*e*Pn	**P**	**10 28 38.3**	**-0.2**
	comp=Z,9.0nm,0.3s						
OUR				*e*Sn	**S**	**10 28 46.9**	**-16**
AYDN	**Tasoluk**	**2.13**	**116**	*i* P	**P**	**10 28 45.0**	**+5.7**
AYDN				*i* S	**S**	**10 29 12.5**	**+7.9**
BODT	**Bodrum**	**2.13**	**136**	*e*PN	**P**	**10 28 38.6**	**-0.7**
BALB	**Balikesir**	**2.14**	**61**	*e*PN	**P**	**10 28 39.8**	**+0.3**
THR5	**Thira Island,**	**2.19**	**182**	*e*Pn	**P**	**10 28 41.9**	**+1.7**
BDRM	**Kayabasi**	**2.20**	**134**	*i* P	**P**	**10 28 40.2**	**-0.2**
BDRM				*i* S	**S**	**10 29 08.1**	**+1.7**
MLSB	**Milas**	**2.25**	**125**	*e*PN	**P**	**10 28 40.3**	**-0.8**
ALN	**Alexandroupoli**	**2.33**	**11**	*e*Pn	**P**	**10 28 41.6**	**-0.6**
ALN				*e*Sn	**S**	**10 29 18.4**	**+8.7**
PLG	**Polygyros**	**2.35**	**319**	*e*Pb	**P**	**10 28 43.6**	**+1.0**
MANT	**Manisa**	**2.43**	**92**	*i* P	**P**	**10 28 49.8**	**+6.1**
MANT				*i* S	**S**	**10 29 21.5**	**+9.2**
SART	**Tekirdag**	**2.46**	**32**	*i* P	**P**	**10 28 47.8**	**+3.7**
SART				*i* S	**S**	**10 29 21.2**	**+8.1**
AGG	**Agios Georgios**	**2.48**	**280**	*e*Pn	**P**	**10 28 44.7**	**+0.3**
	comp=Z,5.0nm,0.4s						
AGG				*e*Sn	**S**	**10 29 24.3**	**+11**
RDO	**Rodhopi**	**2.53**	**1**	*e*PN	**P**	**10 28 44.8**	**-0.3**
RDO	**Rodhopi**	**2.53**	**1**	*e*Pn	**P**	**10 28 44.1**	**-1.0**
EDC	**Edincik**	**2.54**	**46**	*e*PN	**P**	**10 28 45.0**	**-0.2**
BNT	**Bandirma**	**2.58**	**47**	*e*PN	**P**	**10 28 45.5**	**-0.3**
MRMT	**Marmara Adasi**	**2.58**	**39**	*e*PN	**P**	**10 28 45.4**	**-0.4**
MFT	**Murefte**	**2.58**	**32**	*e*PN	**P**	**10 28 46.6**	**+0.7**
YER	**Yerkesik**	**2.67**	**123**	*e*PN	**P**	**10 28 47.2**	**+0.1**
SOH	**Sokhos**	**2.74**	**324**	*e*Pn	**P**	**10 28 47.8**	**-0.3**
LIT	**Litokhoron**	**2.74**	**304**	*e*Pn	**P**	**10 28 48.2**	**+0.1**
	comp=Z,1.8nm,0.3s						
LIT				*e*Sn	**S**	**10 29 19.0**	**-1.3**
VLI	**Veliai**	**2.76**	**227**	*e*PN	**P**	**10 28 47.9**	**-0.4**
EVR	**Evrytania**	**2.88**	**277**	*e*PN	**P**	**10 28 50.5**	**+0.5**
EVR	**Evrytania**	**2.88**	**277**	*e*Pn	**P**	**10 28 50.9**	**+0.9**
SRS	**Serrai**	**2.89**	**331**	*e*Pn	**P**	**10 28 50.0**	**-0.2**
NVR	**Nevrokopi**	**3.00**	**336**	*e*PN	**P**	**10 28 52.0**	**+0.2**
KYTH	**Kithira**	**3.02**	**220**	*e*PN	**P**	**10 28 51.5**	**-0.6**
ITM	**Ithomi**	**3.14**	**244**	*e*PN	**P**	**10 28 54.5**	**+0.7**
KNT	**Kendrikon**	**3.22**	**323**	*e*Pn	**P**	**10 28 55.7**	**+0.8**
	comp=Z,2.5nm,0.4s						
KNT				*e*Sn	**S**	**10 29 30.8**	**-1.6**
GRG	**Griva**	**3.33**	**316**	*e*Pn	**P**	**10 28 57.1**	**+0.7**
KARP	**Karpathos**	**3.35**	**156**	*e*PN	**P**	**10 28 56.2**	**-0.5**
EDRB	**Edirne**	**3.38**	**16**	*e*PN	**P**	**10 28 56.4**	**-0.7**

BJI ***17*** *10:33:12.1, 0.20N×96.93E, h30km, mB4.8, mb4.8, Ms4.2, Msz4.0*
IDC ***17*** *10:33:17.6±1.2, 1.11N×97.23E, mb4.2/10, mb1 4.3/10, mb1mx4.0/18, mbtmp4.2/10, Error ellipse: s-maj=51.2km s-min=17.6km az=54.0*
NEIC ***17*** *10:33:21.7±0.7, 1.10N×97.22E, h30km, mb4.3/2, Error ellipse: s-maj=19.5km s-min=12.3km az=57.0*
ISC 17 10:33:22.0±3.9**, 1.1N**±0.1×**97.3E**±0.2**, h46**km±30km**, n24, σ1s07**/23**, mb4.3**/15**, MS3.9**/1**, 1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.09**	**47**	P	**P**	**10 34 37.7**	**-0.1**
KULM	**Kulim**	**5.35**	**39**	*e*Pn	**P**	**10 34 40.4**	**-1.0**
KGM	**Kluang**	**6.11**	**81**	P	**P**	**10 34 52.6**	**+0.6**
SNG	**Songkhla**	**6.89**	**29**	P	**P**	**10 34 59.0**	**-4.0**
NANT	**Nan**	**17.91**	**11**	⇓P	**P**	**10 37 32.0**	**+2.5**
TSM	**Tawau**	**20.81**	**81**	P	**P**	**10 38 09.6**	**+7.4**
KMI	**Kunming**	**24.46**	**12**	P	**P**	**10 38 40.1**	**+2.0**
KMI				AP		10 38 45.8	
KMI				XP		10 38 48.6	
KMI				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,145nm,4.9s						
KMI				LR	LR		
	comp=N,286nm,15.6s,MS4.0						
KMI				LR	LR		
	comp=E,161nm,11.1s,MS4.0						
KMI				LR	LR		
	comp=Z,281nm,16.0s,MS3.9						
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P	**P**	**10 40 00.7**	**-1.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=238,slow=5.1,SNR=4.2						
GTA	**Gaotai**	**38.20**	**3**	*e*P	**P**	**10 40 39.8**	**+0.7**
GTA				AP	pP	10 40 45.5	-6.0
GTA				XP	sP	10 40 49.0	-8.1
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**10 41 10.9**	**+0.7**
	comp=Z,2.0nm,0.6s,mb3.9,baz=300,slow=9.1,SNR=101						
KS15	**Wonju Array Si**	**45.85**	**34**	*e*P	**P**	**10 41 41.3**	**-0.5**
KS15				*e*	pP	10 41 50.4	-3.9
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**10 41 52.8**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.5,baz=191,slow=9.1,SNR=20						
SONM				PcP	PcP	10 43 24.1	+0.6
	comp=Z,1.1nm,0.9s,baz=202,slow=3.8,SNR=4.5						
MKAR	**Makanchi Array**	**47.35**	**346**	P	**P**	**10 41 53.8**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.4,baz=161,slow=8.0,SNR=24						
CN2	**Changchun**	**49.36**	**27**	*e*P	**P**	**10 42 08.6**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
MJAR	**Matsushiro Arr**	**51.71**	**42**	P	**P**	**10 42 26.0**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=214,slow=7.9,SNR=4.5						
KURK	**Kurchatov**	**51.91**	**345**	*e*P	**P**	**10 42 26.9**	**-1.4**
	comp=Z,4.4nm,1.0s,mb4.3						
KURK				*e*		10 42 34.1	
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**10 42 39.6**	**+1.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=314,slow=12,SNR=5.3						
ZAL	**Zalesovo**	**53.66**	**351**	P	**P**	**10 42 41.1**	**-0.1**
	comp=Z,3.5nm,0.5s,mb4.5,baz=284,slow=6.2,SNR=14						
BRVK	**Borovoye**	**56.43**	**341**	*e*P	**P**	**10 42 59.9**	**-1.5**
	comp=Z,2.0nm,0.9s,mb4.2						
FINES	**FINESS Array B**	**80.12**	**333**	P	**P**	**10 45 28.5**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=45,slow=2.7,SNR=4.3						
ARCES	**ARCESS Array B**	**82.65**	**340**	P	**P**	**10 45 41.0**	**-0.7**
	comp=Z,2.9nm,0.9s,mb4.3,baz=90,slow=6.1,SNR=4.7						
ARCES	**ARCESS Array B**	**82.65**	**340**	P	**P**	**10 45 41.0**	**-0.7**
GERES	**GERESS Array B**	**84.94**	**319**	P	**P**	**10 45 54.9**	**+1.2**
	comp=Z,0.2nm,0.3s,mb3.7,slow=1.3,SNR=4.5						
TXAR	**Lajitas Array**	**143.71**	**32**	PKP	PKPdf	10 52 53.0	+0.3
	comp=Z,0.1nm,0.5s,baz=130,slow=0.9,SNR=5.7						

IDC ***17*** *10:35:55.9±0.4, 0.92N×29.21W, mb4.5/26, mb1 4.6/26, mb1mx4.5/30, mbtmp4.5/26, MS4.2/19, Ms1 4.2/19, ms1mx4.1/24, Error ellipse: s-maj=14.3km s-min=10.3km az=150.0*
MOS ***17*** *10:35:56.5±0.9, 0.87N×29.15W, h17km, mb5.0/39, MS4.1/4, Error ellipse: s-maj=15.6km s-min=5.3km az=57.2*
BJI ***17*** *10:35:57.4, 0.90N×29.20W, h10km, mB5.4, Ms4.4, Msz4.4*
NEIC ***17*** *10:35:57.4±0.2, 0.86N×29.24W, h10km, mb4.9/41, MS4.2/2, Error ellipse: s-maj=6.7km s-min=3.7km az=132.0*
HRVD ***17*** *10:35:57.4±0.4, 0.99N×29.07W, h13km±2km, MW4.8/58, Centroid moment Tensor Solution. LP body waves: s20,c24; Mantle waves: s58,c90; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.11±.10; Mθθ-0.16±.10; Mφφ0.05±.10; Mrθ-0.75±.28; Mθφ-2.15±.11; Mφr-0.66±.29; Best double couple: M0 2.338×10^16 NP1:φs359°, δ75°, λ-14°. NP2:φs93°, δ77°, λ-164°. Principal axes: T 2.1, Plg1°, Azm226°; N .477, Plg70°, Azm133°; P -2.576, Plg20°, Azm317°; nsta1 refers to body waves, nsta2 refers to surface waves, cutoff=50s.*
ISC 17 10:35:55.5±0.2**, 0.86N**±0.05×**29.16W**±0.05**, h10**km**, (h9**km±.7km**:pP-P), n172, σ0s83**/160**, mb4.7**/69**, MS4.2**/27**, 41C-4D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.46**	**225**	*e*Pn	**P**	**10 38 11.7**	**-3.2**
	55nm,0.5s						
RCBR				*e*Sn	**Sn**	**10 39 49.3**	**-13**
LIC	**Lamto**	**24.66**	**77**	*e*P	**P**	**10 41 17.9**	**-0.2**
	353nm,1.3s,mb5.7						
LIC	**Lamto**	**24.66**	**77**	⇑*i*P	**P**	**10 41 17.9**	**-0.2**
	52nm,0.7s,mb5.2						
TIC	**Toumodi**	**24.76**	**76**	*e*P	**P**	**10 41 18.6**	**-0.4**
	454nm,1.4s,mb5.8						
BAO	**Brasilia Array**	**24.80**	**228**	P	**P**	**10 41 20.0**	**+0.7**
BDFB	**Brasilia**	**24.82**	**228**	P	**P**	**10 41 19.5**	**0.0**
	7.0nm,0.8s,mb4.2,baz=57,slow=9.8,SNR=6.7						
BDFB				LR	LR	10 50 08.7	
	comp=Z,1μm,18.8s,MS4.4,baz=76,slow=34						
DBIC	**Dimbokro**	**24.92**	**76**	P	**P**	**10 41 20.3**	**-0.3**
	134nm,1.1s,mb5.4,baz=241,slow=12,SNR=46						
DBIC				LR	LR	10 49 12.7	
	comp=Z,723nm,18.8s,MS4.2,baz=236,slow=32						
DBIC	**Dimbokro**	**24.92**	**76**	*e*P	**P**	**10 41 20.0**	**-0.5**
	182nm,1.2s,mb5.5						
DBIC	**Dimbokro**	**24.92**	**76**	*e*P	**P**	**10 41 20.0**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,182nm,1.2s						
KIC	**Kosan Boka**	**24.97**	**77**	*e*P	**P**	**10 41 20.8**	**-0.2**
	comp=Z,614nm,1.2s						
SAML	**Samuel**	**35.27**	**253**	*e*P	**P**	**10 42 51.9**	**-0.9**
	comp=Z,19nm,1.0s,mb5.0						
SIV	**San Ignacio**	**35.68**	**241**	P	**P**	**10 42 56.7**	**+0.4**
	comp=Z,8.1nm,0.9s,mb4.7,baz=83,slow=9.0,SNR=32						
CPUP	**Villa Florida**	**38.33**	**223**	P	**P**	**10 43 18.9**	**+0.4**
	comp=Z,5.7nm,1.1s,mb4.2,baz=78,slow=11,SNR=4.6						
CPUP				LR	LR	10 58 48.5	
	comp=Z,1μm,18.9s,MS4.8,baz=97,slow=36						
CPUP	**Villa Florida**	**38.33**	**223**	*e*P	**P**	**10 43 18.4**	**-0.1**
	comp=Z,10nm,1.2s,mb4.4						
CPUP	**Villa Florida**	**38.33**	**223**	*e*P	**P**	**10 43 18.4**	**-0.1**
CPUP				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MDT	**Midelt**	**39.29**	**34**	P	**P**	**10 43 27.9**	**+1.4**
	comp=Z,9.7nm,0.9s,mb4.5,baz=205,slow=5.4,SNR=14						
SDV	**Santo Domingo**	**42.04**	**282**	P	**P**	**10 43 50.0**	**+0.6**
	comp=Z,19nm,0.6s,mb4.9,baz=92,slow=3.0,SNR=13						
SDV	**Santo Domingo**	**42.04**	**282**	*e*P	**P**	**10 43 50.0**	**+0.6**
	comp=Z,27nm,0.9s,mb4.9						
LPAZ	**La Paz**	**42.06**	**244**	P	**P**	**10 43 51.0**	**+1.5**
	comp=Z,14nm,0.8s,mb4.6,baz=66,slow=7.5,SNR=29						
LPAZ				LR	LR	11 00 56.9	
	comp=Z,465nm,18.5s,MS4.4,baz=89,slow=36						
LPAZ	**La Paz**	**42.06**	**244**	*e*P	**P**	**10 43 50.8**	**+1.3**
	comp=Z,19nm,0.9s,mb4.7						
LPAZ	**La Paz**	**42.06**	**244**	*e*P	**P**	**10 43 50.8**	**+1.3**
LPAZ				pmax	pmax		
	comp=Z,19nm,0.9s						
EVO	**Evora**	**42.21**	**25**	⇑*i*P	**P**	**10 43 51.9**	**+1.4**
	comp=Z,11nm,0.7s,mb4.3						
EVO				*e*R			
	comp=Z,258nm,20.8s						
ESDC	**Sonseca Array**	**44.95**	**28**	P	**P**	**10 44 14.0**	**+1.3**
	comp=Z,8.2nm,0.8s,mb4.6,baz=224,slow=8.7,SNR=25						
LVC	**Limon Verde**	**45.20**	**236**	P	**P**	**10 44 14.6**	**-0.3**
	comp=Z,4.7nm,1.0s,mb4.3,baz=27,slow=4.9,SNR=4.1						
ROSC	**El Rosal**	**45.27**	**276**	P	**P**	**10 44 16.6**	**+1.0**
	comp=Z,37nm,0.8s,mb5.3,baz=110,slow=4.3,SNR=17						
ROSC				LR	LR	11 01 54.2	
	comp=Z,406nm,21.8s,MS4.3,baz=8.6,slow=34						
SJPF	**Ste Jean**	**48.92**	**27**	⇑*i*P	**P**	**10 44 45.2**	**+1.3**
	comp=Z,25nm,0.7s,mb5.1						
SJPF	**Ste Jean**	**48.92**	**27**	⇑*i*P	**P**	**10 44 45.2**	**+1.3**
SJPF				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
ETSF	**Etsaut**	**49.06**	**28**	⇑*i*P	**P**	**10 44 46.3**	**+1.3**
	comp=Z,24nm,0.7s,mb5.0						
ETSF	**Etsaut**	**49.06**	**28**	⇑*i*P	**P**	**10 44 46.3**	**+1.3**
ETSF				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
CFAA	**Coronel Fontan**	**49.12**	**225**	P	**P**	**10 44 44.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=52,slow=12,SNR=3.3						
CFAA	**Coronel Fontan**	**49.12**	**225**	P	**P**	**10 44 44.9**	**-0.6**
EPF	**Esparros**	**49.59**	**28**	⇑*i*P	**P**	**10 44 50.3**	**+1.3**
	comp=Z,39nm,1.1s,mb5.0						
EPF	**Esparros**	**49.59**	**28**	⇑*i*P	**P**	**10 44 50.3**	**+1.3**
EPF				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
TSUM	**Tsumeb**	**50.01**	**116**	P	**P**	**10 44 52.5**	**0.0**
	comp=Z,6.0nm,0.9s,mb4.6,baz=261,slow=7.0,SNR=10						
TSUM	**Tsumeb**	**50.01**	**116**	*e*P	**P**	**10 44 53.0**	**+0.4**
	comp=Z,12nm,1.1s,mb4.8						
MTLF	**Montolieu**	**50.73**	**29**	*e*P	**P**	**10 44 57.6**	**-0.1**
LFF	**La Frestale**	**51.23**	**27**	⇑*i*P	**P**	**10 45 02.2**	**+0.7**
	comp=Z,47nm,0.6s,mb5.3						
LFF	**La Frestale**	**51.23**	**27**	⇑*i*P	**P**	**10 45 02.2**	**+0.7**
LFF				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.3						
RJF	**Les Rejaudoux**	**51.87**	**27**	⇑*i*P	**P**	**10 45 06.3**	**0.0**
	comp=Z,15nm,0.8s,mb4.7						
RJF	**Les Rejaudoux**	**51.87**	**27**	⇑*i*P	**P**	**10 45 06.3**	**0.0**
RJF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MFF	**Saint Martin d**	**52.14**	**25**	⇑*i*P	**P**	**10 45 08.5**	**+0.1**
	comp=Z,20nm,0.8s,mb4.8						
MFF	**Saint Martin d**	**52.14**	**25**	⇑*i*P	**P**	**10 45 08.5**	**+0.1**
MFF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ROSF	**Rostrenen**	**52.31**	**22**	⇑*i*P	**P**	**10 45 09.8**	**+0.2**
SGMF	**Saint Gilles**	**52.51**	**22**	⇑*i*P	**P**	**10 45 11.4**	**+0.3**
	comp=Z,89nm,1.3s,mb5.2						
SGMF	**Saint Gilles**	**52.51**	**22**	⇑*i*P	**P**	**10 45 11.4**	**+0.3**
SGMF				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.2						
SMRF	**Simiane la Rot**	**52.88**	**31**	⇑*i*P	**P**	**10 45 14.4**	**+0.5**
TCF	**Toulx Ste Croi**	**52.93**	**27**	⇑*i*P	**P**	**10 45 14.6**	**+0.3**
	comp=Z,11nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**52.93**	**27**	⇑*i*P	**P**	**10 45 14.6**	**+0.3**
TCF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
VIVF	**Saint-Julien-l**	**53.04**	**30**	⇑*i*P	**P**	**10 45 15.5**	**+0.4**
	comp=Z,53nm,1.3s,mb5.0						
VIVF	**Saint-Julien-l**	**53.04**	**30**	⇑*i*P	**P**	**10 45 15.5**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
GRR	**Gorron**	**53.28**	**23**	*e*P	**P**	**10 45 16.7**	**-0.1**
	comp=Z,17nm,0.8s,mb4.7						
GRR	**Gorron**	**53.28**	**23**	*e*P	**P**	**10 45 16.7**	**-0.1**
GRR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BGF	**Bois d'Agland**	**53.42**	**27**	*e*P	**P**	**10 45 18.5**	**+0.6**
	comp=Z,32nm,0.9s,mb4.9						
BGF	**Bois d'Agland**	**53.42**	**27**	*e*P	**P**	**10 45 18.5**	**+0.6**
BGF				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ORIF	**Oris-en-Rattie**	**53.69**	**30**	*e*P	**P**	**10 45 20.6**	**+0.7**
ORIF				*e*R			
	comp=Z,217nm,22.2s						
FLN	**La Foliniere**	**53.73**	**23**	*e*P	**P**	**10 45 19.9**	**-0.2**
	comp=Z,19nm,0.8s,mb4.8						
FLN				*e*R			
	comp=Z,214nm,22.2s						
FLN	**La Foliniere**	**53.73**	**23**	*e*P	**P**	**10 45 19.9**	**-0.2**
FLN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
FLN				MLR	MLR		
	comp=Z,210nm,22.3s,MS4.2						
LDF	**La Druitiere**	**53.73**	**24**	⇑*i*P	**P**	**10 45 19.9**	**-0.2**
	comp=Z,18nm,0.9s,mb4.7						
LDF	**La Druitiere**	**53.73**	**24**	⇑*i*P	**P**	**10 45 19.9**	**-0.2**
LDF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**53.83**	**27**	*e*P	**P**	**10 45 20.9**	**+0.1**
	comp=Z,11nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**53.83**	**27**	*e*P	**P**	**10 45 20.9**	**+0.1**
AVF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
SMF	**Signal de Mont**	**53.95**	**28**	*e*P	**P**	**10 45 21.4**	**-0.3**
	comp=Z,10nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**53.95**	**28**	*e*P	**P**	**10 45 21.4**	**-0.3**
SMF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MBDF	**Montbardon**	**54.01**	**31**	⇑*i*P	**P**	**10 45 22.6**	**+0.4**
	comp=Z,19nm,0.9s,mb4.7						
MBDF	**Montbardon**	**54.01**	**31**	⇑*i*P	**P**	**10 45 22.6**	**+0.4**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
SSF	**Saint Saulge**	**54.10**	**27**	*e*P	**P**	**10 45 22.9**	**+0.1**
LOR	**Lormes**	**54.42**	**27**	⇑*i*P	**P**	**10 45 25.2**	**+0.1**
	comp=Z,25nm,1.0s,mb4.8						
LOR				*e*R			
	comp=Z,170nm,18.2s						
LOR	**Lormes**	**54.42**	**27**	⇑*i*P	**P**	**10 45 25.2**	**+0.1**
LOR				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
LOR				MLR	MLR		
	comp=Z,170nm,18.3s,MS4.2						
LPG	**La Plagne**	**54.54**	**30**	⇑*i*P	**P**	**10 45 26.6**	**+0.5**
	comp=Z,15nm,1.0s,mb4.7						
LPG	**La Plagne**	**54.54**	**30**	⇑*i*P	**P**	**10 45 26.6**	**+0.5**
LPG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
LPL	**La Plagne**	**54.54**	**30**	*e*P	**P**	**10 45 27.1**	**+1.0**
CABF	**La Chapelle**	**54.99**	**29**	⇑*i*P	**P**	**10 45 29.5**	**+0.1**
	comp=Z,35nm,1.1s,mb5.0						
CABF	**La Chapelle**	**54.99**	**29**	⇑*i*P	**P**	**10 45 29.5**	**+0.1**
CABF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
MEZF	**Maizieres J'vi**	**55.87**	**27**	*e*P	**P**	**10 45 35.6**	**-0.1**
PLCA	**Paso Flores**	**55.92**	**217**	P	**P**	**10 45 37.5**	**+1.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=21,slow=14,SNR=2.4						
PLCA				LR	LR	11 09 37.6	
	comp=Z,193nm,19.6s,MS4.2,baz=56,slow=36						
HAU	**Haudompre**	**56.11**	**28**	*e*P	**P**	**10 45 37.3**	**-0.1**
	comp=Z,15nm,0.7s,mb4.8						
HAU				*e*R			
	comp=Z,239nm,21.8s						
HAU	**Haudompre**	**56.11**	**28**	*e*P	**P**	**10 45 37.3**	**-0.1**
HAU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
HAU				MLR	MLR		
	comp=Z,240nm,21.8s,MS4.2						
HINF	**Hinteralfeld**	**56.21**	**28**	⇑*i*P	**P**	**10 45 37.9**	**-0.3**
CII	**Carovilli**	**56.42**	**38**	*e*P	**P**	**10 45 40.1**	**+0.4**
	comp=Z,48nm,1.1s,mb5.4						
CDF	**Champ du Feu**	**56.83**	**28**	⇑*i*P	**P**	**10 45 42.4**	**-0.3**
	comp=Z,32nm,1.2s,mb4.9						
CDF	**Champ du Feu**	**56.83**	**28**	⇑*i*P	**P**	**10 45 42.4**	**-0.3**
CDF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
SUR	**Sutherland**	**57.58**	**130**	P	**P**	**10 45 49.4**	**+1.3**
	comp=Z,8.4nm,0.9s,mb4.8,baz=270,slow=13,SNR=3.7						
LBTB	**Lobatse**	**58.86**	**120**	P	**P**	**10 45 56.6**	**-0.5**
	comp=Z,7.6nm,0.8s,mb4.8,baz=301,slow=7.2,SNR=9.9						
LBTB				LR	LR	11 07 37.1	
	comp=Z,185nm,18.2s,MS4.2,baz=301,slow=32						
LSZ	**Lusaka**	**58.89**	**108**	*e*P	**P**	**10 45 57.0**	**-0.5**
	comp=Z,8.9nm,1.0s,mb4.8						
LSZ	**Lusaka**	**58.89**	**108**	*e*P	**P**	**10 45 57.0**	**-0.5**
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
GRA1	**Grafenberg Arr**	**59.60**	**29**	*e*P	**P**	**10 46 01.4**	**-0.6**
	comp=Z,17nm,1.3s,mb4.9						
GRF	**Grafenberg Arr**	**59.60**	**29**	*e*P	**P**	**10 46 01.4**	**-0.6**
	comp=Z,17nm,1.3s,mb4.9						
GRF	**Grafenberg Arr**	**59.60**	**29**	*e*P	**P**	**10 46 01.4**	**-0.6**
GRF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
GRF	**Grafenberg Arr**	**59.60**	**29**	*e*P	**P**	**10 46 01.4**	**-0.6**
GRF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
MBAR	**Mbarara**	**59.92**	**91**	*e*P	**P**	**10 46 03.8**	**-0.9**
MATP	**Matopo**	**60.23**	**114**	P	**P**	**10 46 05.5**	**-1.2**
	comp=Z,4.2nm,1.0s,mb4.4,baz=266,slow=8.7,SNR=4.7						
MATP				LR	LR	11 08 06.5	
	comp=Z,165nm,20.1s,MS4.2,baz=277,slow=32						
GERES	**GERESS Array B**	**60.31**	**31**	P	**P**	**10 46 06.3**	**-0.5**
	comp=Z,4.3nm,0.7s,mb4.6,baz=226,slow=6.4,SNR=28						
GERES				LR	LR	11 12 06.5	
	comp=Z,93nm,18.1s,MS4.0,baz=188,slow=36						
KHC	**Kasperske Hory**	**60.42**	**31**	*e*P	**P**	**10 46 07.0**	**-0.6**
KHC				AMS	AMS	11 09 40.0	
	comp=Z,200nm,11.1s						
KHC	**Kasperske Hory**	**60.42**	**31**	*ce*P	**P**	**10 46 06.9**	**-0.7**
NKC	**Novy Kostel**	**60.56**	**29**	AMS	AMS	11 08 40.0	
SKO	**Skopje**	**61.11**	**41**	*e*P	**P**	**10 46 12.0**	**-0.4**
PRU	**Pruhonice**	**61.45**	**31**	*e*P	**P**	**10 46 10.5**	**-4.1**
PRU				AMS	AMS	11 09 10.0	
TREC	**Trest**	**61.51**	**32**	*e*P	**P**	**10 46 14.6**	**-0.4**
CLL	**Collm**	**61.52**	**29**	⇓*i*P	**P**	**10 46 15.4**	**+0.4**
	comp=Z,31nm,1.9s,mb5.1						
CLL				*e*sP	sP	10 46 20.0	+0.7

CLL				eS	S	10 54 48.0	+13
CLL	Collm	61.52	29⇓	iP	P	10 46 15.4	+0.4
CLL				e*SP	sP	10 46 20.0	+0.7
CLL				eS	S	10 54 48.0	+13
CLL				pmax	pmax		
	comp=Z,31nm,1.9s,mb5.1						
BRG	Berggiesshubel	61.70	29	eP	P	10 46 16.0	-0.3
	comp=Z,5.1nm,1.1s,mb4.6						
BRG	Berggiesshubel	61.70	29	eP	P	10 46 16.0	-0.3
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
ZST	Bratislava	61.73	33	eP	P	10 46 15.8	-0.7
PVCC	Panska Ves	61.80	30	eP	P	10 46 16.7	-0.2
VRAC	Vranov	62.10	32	eP	P	10 46 18.7	-0.3
UPC	Upice	62.51	31	eP	P	10 46 21.6	-0.1
DPC	Dobruska-Polom	62.58	31	eP	P	10 46 21.8	-0.3
DPC				AMS	AMS	11 08 30.0	
VYHS	Vyhne	62.86	34	eP	P	10 46 21.8	-2.2
MORC	Moravsky Berou	62.88	32	eP	P	10 46 24.1	0.0
	comp=Z,15nm,1.5s,mb4.9						
MORC	Moravsky Berou	62.88	32	eP	P	10 46 24.1	0.0
MORC				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.9						
PSZ	Piszkesteto	63.14	35⇓	iP	P	10 46 26.6	+0.7
PSZ	Piszkesteto	63.14	35	eP	P	10 46 26.1	+0.3
	comp=Z,17nm,0.9s,mb5.2						
PSZ	Piszkesteto	63.14	35	eP	P	10 46 26.1	+0.2
PSZ				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
OKC	Ostrava-Krasne	63.23	32	eP	P	10 46 27.3	+0.8
OJC	Ojcow	64.33	33	eP	P	10 46 33.9	+0.2
KMBO	Kilima Mbogo	66.44	92	P	P	10 46 50.0	+2.1
	comp=Z,2.2nm,0.5s,mb4.4,baz=275,slow=5.9,SNR=8.5						
KMBO				LR	LR	11 12 17.5	
	comp=Z,160nm,19.3s,MS4.2,baz=271,slow=33						
NB2	NORSAR Subarra	67.43	20	P	P	10 46 52.7	-0.7
	comp=Z,1.4nm,0.8s,mb4.0,baz=224,slow=6.2						
NB2	NORSAR Subarra	67.43	20	P	P	10 46 52.7	-0.7
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
NOA	NORSAR Array B	67.43	20	P	P	10 46 53.3	0.0
	comp=Z,4.3nm,1.0s,mb4.4,baz=222,slow=6.1,SNR=5.7						
NOA				LR	LR	11 13 13.1	
	comp=Z,95nm,18.5s,MS4.0,baz=240,slow=33						
BR131	Keskin Array S	68.78	47	eP	P	10 47 02.0	-0.2
	comp=Z,2.8nm,0.7s,mb4.3						
BR131				ePP	PP	10 49 33.6	-2.8
BRTR	Keskin Array B	68.78	47	P	P	10 47 02.1	0.0
	comp=Z,3.2nm,0.8s,mb4.3,baz=236,slow=4.5,SNR=11						
BRTR				PP	PP	10 49 33.1	-3.2
	comp=Z,1.8nm,0.8s,baz=244,slow=6.7,SNR=5.0						
AKASG	Malin Array Be	69.83	35	P	P	10 47 08.0	-0.4
	comp=Z,12nm,0.7s,mb5.0,baz=245,slow=6.5,SNR=34						
AKASG	Malin Array Be	69.83	35	P	P	10 47 08.0	-0.4
MALT	Malatya	72.00	50	eP	P	10 47 22.0	+0.3
	comp=Z,7.0nm,0.9s,mb4.6						
MALT	Malatya	72.00	50	eP	P	10 47 22.0	+0.3
MALT				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
VNA1	Neumayer--Stat	72.71	173	e	P	10 47 28.5	+3.2
VNA1	Neumayer--Stat	72.71	173	e	P	10 47 31.7	+6.4
VNA1	Neumayer--Stat	72.71	173	e	P	10 47 43.3	+18
VNA1	Neumayer--Stat	72.71	173⇑	iP	P	10 47 26.1	+0.8
VNA1				e	pP	10 47 28.5	+0.1
VNA1				e		10 47 31.7	
VNA1				e		10 47 43.3	
ANN	Anapa	72.95	43	eP	P	10 47 27.5	+0.3
ANN				eS	S	10 56 48.1	-4.5
ANN				e		10 57 45.8	
ANN				eSS	SS	11 01 39.5	+4.0
ANN				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
VNA2	Neumayer--Watz	73.07	173	e	P	10 47 31.2	+3.8
VNA2	Neumayer--Watz	73.07	173	e	P	10 47 33.9	+6.5
VNA2	Neumayer--Watz	73.07	173	e	P	10 47 45.4	+18
VNA2	Neumayer--Watz	73.07	173⇑	iP	P	10 47 28.1	+0.7
VNA2				e	pP	10 47 31.2	+0.6
VNA2				e		10 47 33.9	
VNA2				e		10 47 45.4	
VNA3	Neumayer Olymp	73.09	174	e	P	10 47 31.3	+3.7
VNA3	Neumayer Olymp	73.09	174	e	P	10 47 33.6	+6.0
VNA3	Neumayer Olymp	73.09	174	e	P	10 47 45.1	+18
VNA3	Neumayer Olymp	73.09	174⇑	iP	P	10 47 28.1	+0.5
VNA3				e	pP	10 47 31.3	+0.6
VNA3				e		10 47 33.6	
VNA3				e		10 47 45.1	
FINES	FINESS Array B	73.32	24	P	P	10 47 29.1	+0.1
	comp=Z,4.9nm,0.7s,mb4.5,baz=243,slow=4.3,SNR=15						
FINES				LR	LR	11 16 02.0	
	comp=Z,124nm,19.4s,MS4.2,baz=346,slow=33						
KAF	Kangasniemi	73.76	24	ep	P	10 47 30.7	-0.9
	comp=Z,6.6nm,0.7s,mb4.7,baz=240,slow=5.6						
KAF	Kangasniemi	73.76	24	eP	P	10 47 30.7	-0.9
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
SOC	Sochi	74.21	45c	iP	P	10 47 33.1	-1.5
SOC				e		10 50 22.8	
SOC				ePPP	PPP	10 52 04.7	-2.5
SOC				eS	S	10 56 56.7	-10
SOC				e		10 57 33.9	
SOC				pmax	pmax		
	comp=N,7.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
SOC				pmax	pmax		
	comp=E,3.0nm,0.5s						
SNAA	Sanae	74.37	172	P	P	10 47 35.2	+0.3
	comp=E,1.5nm,0.9s,mb3.9,baz=330,slow=5.7,SNR=17						
ULM	Lac du Bonnet	74.62	322	P	P	10 47 34.8	-2.1
	comp=E,2.2nm,0.7s,mb4.2,baz=148,slow=9.5,SNR=3.9						
ULM				LR	LR	11 14 34.7	
	comp=E,135nm,18.6s,MS4.3,baz=26,slow=31						
OBN	Obninsk	75.62	33⇑	eP	P	10 47 40.0	-2.5
OBN				e		10 50 26.8	
OBN				eS	S	10 57 19.5	-2.7
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
VORD	Divnogorie	75.89	37	eP	P	10 47 43.3	-0.8
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
VORD				pmax	pmax		
	comp=N,20nm,0.6s						
VORD				pmax	pmax		
	comp=E,20nm,1.4s						
VRSR	Storozhevoye	75.90	37	eP	P	10 47 44.0	-0.1
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
VRSR				pmax	pmax		
	comp=N,7.0nm,0.5s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
TXAR	Lajitas Array	76.08	300	P	P	10 47 45.1	-0.5
	comp=E,2.5nm,0.8s,mb4.2,baz=122,slow=7.1,SNR=30						
TXAR				LR	LR	11 18 25.4	
	comp=E,77nm,21.8s,MS4.0,baz=80,slow=34						
JOF	Joensuu	76.18	24	ep	P	10 47 44.3	-1.2
KIV	Kislovodsk	76.39	45	eP	P	10 47 44.6	-2.5
KIV				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
KIV				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.1						
MOS	Moscow	76.40	32	eP	P	10 47 46.8	0.0
MOS				e		10 48 02.1	
ARCES	ARCESS Array B	77.45	17	LR	LR	11 17 12.8	
	comp=Z,66nm,21.4s,MS3.9,baz=60,slow=32						
SDCO	Great Sand Dun	78.68	308	eP	P	10 47 59.8	0.0
	comp=Z,4.2nm,1.5s,mb4.2						
ANMO	Albuquerque	79.10	305	P	P	10 48 00.7	-1.5
	comp=Z,2.3nm,1.2s,mb4.0,baz=183,slow=1.9,SNR=4.6						
PV10	Paradox Valley	81.53	309	eP	P	10 48 15.5	+0.5
PV10				ePP	PP	10 51 22.6	-1.0
PDAR	Pinedale Array	82.36	313	P	P	10 48 18.6	-0.6
	comp=Z,0.9nm,0.8s,mb3.8,baz=72,slow=9.4,SNR=7.8						
PDAR				LR	LR	11 19 16.3	
	comp=Z,138nm,21.7s,MS4.3,baz=128,slow=32						
EDM	Edmonton	85.82	323	eP	P	10 48 35.9	-0.7
YKA	Yellowknife Ar	87.13	332	LR	LR	11 24 01.1	
	comp=Z,123nm,19.3s,MS4.3,baz=110,slow=33						
ARU	Arti	88.03	34⇓	iP	P	10 48 48.8	+1.6
ARU				e		10 52 18.5	
ARU				ePPP	PPP	10 54 12.0	-2.2
ARU				eSS	SS	11 05 15.3	-5.1
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.6						
NVAR	Mina Array Bea	88.80	308	P	P	10 48 51.8	+0.5
	comp=Z,1.1nm,0.8s,mb4.3,baz=101,slow=4.6,SNR=7.7						
MAW	Mawson	91.57	157	LR	LR	11 19 54.8	
	comp=Z,74nm,21.7s,MS4.1,baz=58,slow=29						
INK	Inuvik	94.49	339	LR	LR	11 25 48.2	
	comp=Z,125nm,21.4s,MS4.3,baz=249,slow=32						
LZH	Lanzhou	122.94	45	ePKP	PKPdf	10 54 49.9	-5.7
LZH				XPKP		10 54 54.6	
LZH				ePP	PP	10 56 32.0	-4.1
LZH				PP	PP		
	comp=Z,93nm,6.8s						
LZH				LR	LR		
	comp=Z,327nm,20.9s,MS5.0						
KMI	Kunming	126.80	57	PKP	PKPdf	10 55 00.8	-2.6
KMI				XPKP		10 55 04.0	
KMI				LR	LR		
	comp=Z,54nm,20.1s,MS4.2						
GYA	Guiyang	129.51	54	ePKP	PKPdf	10 55 06.6	-2.1
GYA				PP	PP	10 57 19.3	-0.6
GYA				PKS	PKS	10 58 41.8	+0.8
GYA				SKS	SKS	11 02 16.6	-0.5
GYA				SKKS		11 04 11.5	
GYA				PP	PP		
	comp=Z,120nm,8.0s						
GYA				LR	LR		
	comp=Z,110nm,21.4s,MS4.5						
CN2	Changchun	130.07	24	ePKP	PKPdf	10 55 03.6	-5.7
MDJ	Mudanjiang	130.93	20	PKP	PKPdf	10 55 08.1	-2.8
MDJ				PP	PP		
	comp=Z,36nm,3.8s						
MDJ				LR	LR		
	comp=N,37nm,22.7s,MS4.1						
MDJ				LR	LR		
	comp=E,16nm,21.6s,MS4.1						
MDJ				LR	LR		
	comp=Z,48nm,22.7s,MS4.1						
NJ2	Nanjing	135.42	40	ePKP	PKPdf	10 55 14.3	-5.4
STKA	Stephens Creek	147.94	165	PKPbc	PKPdf	10 55 43.3	+1.6
	comp=Z,3.9nm,0.8s,baz=172,slow=6.3,SNR=5.6						
FITZ	Fitzroy Crossi	149.90	126	eP	PKPdf	10 55 48.6	+3.4
	comp=Z,12nm,0.6s						
ASPA	Alice Springs	152.00	145	eP	PKPdf	10 55 52.7	+4.5
WRA	Warramunga Arr	155.09	141	PKPbc	PKPdf	10 55 58.6	+6.1
	comp=Z,1.2nm,0.8s,baz=240,slow=2.1,SNR=12						

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*NEIC **17** 10:48:47.1, 18.72N×64.99W, h8^{km}, MD4.3(RSPR), After RSPR.*

RSPR 17 10:48:47.1, 18.72N×64.99W, h8^{km}±4^{km}, MD3.0/8, **6C-2D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.47	130	eS	Sg	10 49 02.0	-1.0
TBVI	Tortola	0.47	130⇓	iP	Pg	10 48 55.5	-1.1
TBVI				eS	Sg	10 49 02.0	-1.0
CDVI	St. Croix	0.98	167⇑	eP	Pb	10 49 04.6	-1.3
CDVI				eS	Sb	10 49 17.3	-1.6
HUMP	Col San Antoni	0.99	235⇓	eP	Pb	10 49 04.4	-1.8
HUMP				eS	Sb	10 49 17.5	-1.7
SJG	San Juan	1.25	242⇑	eP	Pb	10 49 07.6	-3.0
SJG				eS	Sb	10 49 23.2	-3.6
SJG	San Juan	1.25	242⇑	eP	Pb	10 49 07.5	-3.1
SJG				eS	Sb	10 49 23.9	-2.9
AOPR	Arecibo Observ	1.71	258⇑	eP	Pn	10 49 14.5	-3.0
AOPR				eS	Sn	10 49 35.3	-4.5
LSP	Las Mesas	2.06	255⇑	eP	Pn	10 49 18.8	-3.7
LSP				eS	Sn	10 49 43.4	-5.2
MGP	Maguayo	2.11	251⇑	eP	Pn	10 49 20.5	-2.7
MGP				eS	Sn	10 49 44.2	-5.8

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*NEIC **17** 11:56:22.4±1.3, 59.15S×25.83W, h40^{km}±12^{km}, mb4.7/8, Error ellipse: s-maj=12.4km s-min=7.2km az=212.0*

*IDC **17** 11:56:26.1±4.7, 59.08S×26.01W, h68^{km}±41^{km}, mb4.1/13, mb1 4.2/13, mb1mx4.1/16, mbtmp4.4/13, MS3.7/9, Ms1 3.6/9, ms1mx3.6/16, Error ellipse: s-maj=18.5km s-min=14.2km az=40.0*

ISC 17 11:56:17.1±6.3**, 59.08S**±0.09×**25.8W**±0.1**, h10**^{km}±41^{km}**, n59,** σ0^{s}**75**/37**, mb4.6**/21**, MS3.7**/8**, 3C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.71	155⇑	i	P	11 59 32.8	-0.7
VNA1	Neumayer--Stat	13.71	155	e	P	11 59 34.1	+0.6
VNA3	Neumayer Olymp	13.88	158⇑	i	P	11 59 35.0	-0.8
VNA3	Neumayer Olymp	13.88	158	e	P	11 59 36.3	+0.5
VNA2	Neumayer--Watz	14.11	155⇑	i	P	11 59 37.6	-1.2
VNA2	Neumayer--Watz	14.11	155	e	P	11 59 38.9	+0.1
SNAA	Sanae	15.68	153	P	P	11 59 59.1	-0.1
	1.5nm,0.3s,baz=324,slow=14,SNR=155						
SNAA				S	S	12 02 38.1	-15
	0.2nm,0.3s,baz=15,slow=21,SNR=3.0						
SNAA				LR	LR	12 04 48.9	
	comp=Z,90nm,19.0s,baz=23,slow=32						
SNAA	Sanae	15.68	153	P	P	11 59 59.1	-0.1
SNAA				LR	LR	12 04 48.9	
MAIT	Maitri	19.33	142	eP	P	12 00 44.7	0.0
EFI	East Falkland	19.61	278	eP	P	12 00 48.2	+0.2
	66nm,0.9s						
USHA	Ushuaia	23.32	262	P	P	12 01 26.1	+0.4
	21nm,0.8s,mb4.6,baz=92,slow=8.5,SNR=5.2						
USHA				LR	LR	12 07 14.0	
	comp=Z,250nm,20.8s,MS3.6,baz=189,slow=28						
USHA	Ushuaia	23.32	262	P	P	12 01 26.1	+0.4
USHA				LR	LR	12 07 14.0	
QSPA	South Pole Qui	31.16	180	eP	P	12 02 38.0	+0.4
	15nm,0.6s,mb5.0						
TRQA	Tornquist	31.27	296	eP	P	12 02 39.6	+0.7
	18nm,0.8s,mb5.0						
TRQA				e		12 02 54.6	
PLCA	Paso Flores	33.35	283	P	P	12 02 57.0	0.0
	8.4nm,0.7s,mb4.8,baz=144,slow=8.3,SNR=28						
PLCA				LR	LR	12 14 54.4	
	comp=Z,93nm,18.7s,MS3.5,baz=165,slow=33						
PLCA	Paso Flores	33.35	283	eP	P	12 02 56.9	-0.2
	8.3nm,0.7s,mb4.8						
PLCA				e		12 03 12.9	
MAW	Mawson	37.29	141	P	P	12 03 30.5	+0.1
	1.1nm,0.5s,mb4.0,baz=267,slow=12,SNR=5.3						
MAW				PcP	PcP	12 05 49.6	-0.7
	1.9nm,0.7s,baz=280,slow=4.4,SNR=4.1						
MAW				LR	LR	12 16 50.5	
	comp=Z,137nm,20.5s,MS3.7,baz=234,slow=33						
CPUP	Villa Florida	39.39	312	P	P	12 03 46.7	-1.7
	0.8nm,0.4s,mb3.8,baz=198,slow=16,SNR=4.3						
CPUP				LR	LR	12 17 41.1	
	comp=Z,66nm,19.6s,MS3.5,baz=301,slow=32						
CPUP	Villa Florida	39.39	312	P	P	12 03 46.7	-1.7
CPUP				LR	LR	12 17 41.1	
CFAA	Coronel Fontan	39.49	295	P	P	12 03 49.1	0.0
	3.0nm,0.7s,mb4.1,baz=146,slow=7.4,SNR=35						
VNDA	Vanda	43.57	182	P	P	12 04 23.1	+1.1
	7.2nm,0.6s,mb4.6,baz=188,slow=6.7,SNR=63						
VNDA				PcP	PcP	12 06 09.7	-0.5
	1.6nm,0.6s,baz=219,slow=0.8,SNR=4.6						
VNDA				LR	LR	12 21 21.9	
	comp=Z,58nm,19.2s,MS3.5,baz=182,slow=34						
BDFB	Brasilia	46.37	330	P	P	12 04 45.9	+0.8
	4.5nm,0.6s,mb4.6,baz=166,slow=5.8,SNR=5.9						
BDFB				LR	LR	12 22 15.2	
	comp=Z,70nm,18.7s,MS3.6,baz=248,slow=33						
BDFB	Brasilia	46.37	330	P	P	12 04 45.9	+0.8
BDFB				LR	LR	12 22 15.2	
LVC	Limon Verde	47.49	301	eP	P	12 04 54.9	+1.0
	5.7nm,0.7s,mb4.6						
LVC				e		12 05 12.8	
LBTB	Lobatse	49.28	69	P	P	12 05 08.2	+0.5
	1.4nm,0.7s,mb4.1,baz=201,slow=6.9,SNR=2.5						
TSUM	Tsumeb	50.61	57	P	P	12 05 19.1	+1.0
	0.5nm,0.4s,mb3.8,baz=172,slow=8.3,SNR=5.7						
LPAZ	La Paz	52.75	306	P	P	12 05 34.1	-0.1
	2.8nm,0.5s,mb4.4,baz=145,slow=6.2,SNR=15						
LPAZ	La Paz	52.75	306	eP	P	12 05 34.2	0.0
	2.8nm,0.6s,mb4.4						
LPAZ				e		12 05 52.9	
SAML	Samuel	57.47	315	eP	P	12 06 06.2	-2.4
	2.6nm,0.6s,mb4.4						
SAML				e		12 06 26.0	
LSZ	Lusaka	58.86	66	eP	P	12 06 17.9	-0.3
	3.0nm,0.7s,mb4.4						
LSZ				e		12 06 37.9	
LIC	Lamto	67.19	22	eP	P	12 07 13.5	+0.1
	42nm,0.7s,mb5.6						
KIC	Kosan Boka	67.38	23	eP	P	12 07 14.4	-0.2
	46nm,0.8s,mb5.6						
TIC	Toumodi	67.60	22	eP	P	12 07 15.8	-0.2
	33nm,0.7s,mb5.5						
DBIC	Dimbokro	67.65	23	P	P	12 07 16.3	0.0
	5.1nm,0.6s,mb4.8,baz=177,slow=4.7,SNR=13						
KMBO	Kilima Mbogo	75.48	67	LR	LR	12 37 19.4	
	comp=Z,106nm,18.7s,MS4.2,baz=87,slow=32						
SJG	San Juan	83.70	322	LR	LR	12 45 29.4	
	comp=Z,49nm,18.4s,MS3.9,baz=265,slow=35						
STKA	Stephens Creek	88.78	169	P	P	12 09 11.8	-0.1
	2.3nm,0.6s,mb4.7,baz=146,slow=9.6,SNR=6.7						
WRA	Warramunga Arr	99.59	161	P	P	12 10 00.5	-1.2
	0.5nm,0.8s,mb4.0,baz=194,slow=4.4,SNR=6.9						
SCHQ	Schefferville	118.24	334	PKP	PKPdf	12 15 03.6	-3.0
	3.2nm,0.5s,baz=135,slow=2.9,SNR=8.9						
PDAR	Pinedale Array	122.55	300	PKP	PKPdf	12 15 11.9	-3.3
	0.3nm,0.4s,baz=116,slow=5.8,SNR=8.7						
ULM	Lac du Bonnet	122.93	314	PKP	PKPdf	12 15 12.2	-3.5
	1.1nm,0.4s,baz=86,slow=2.0,SNR=5.6						
ULM	Lac du Bonnet	122.93	314	ePKPdf	PKPdf	12 15 12.0	-3.7
NB2	NORSAR Subarra	123.19	20	PKPdf	PKPdf	12 15 13.0	-3.0
	0.5nm,0.5s,baz=204,slow=1.9						
NOA	NORSAR Array B	123.19	20	PKP	PKPdf	12 15 12.6	-3.4
	1.0nm,0.8s,baz=203,slow=2.0,SNR=3.6						
NOA	NORSAR Array B	123.19	20	PKP	PKPdf	12 15 12.6	-3.4
NVAR	Mina Array Bea	123.21	290	PKP	PKPdf	12 15 13.8	-2.9
	0.7nm,0.6s,baz=125,slow=3.0,SNR=7.2						
NVAR	Mina Array Bea	123.21	290	PKP	PKPdf	12 15 13.8	-2.9
FINES	FINESS Array B	126.72	28	PKP	PKPdf	12 15 19.9	-2.6
	1.0nm,0.4s,baz=180,slow=1.9,SNR=12						
FINES	FINESS Array B	126.72	28	PKP	PKPdf	12 15 19.9	-2.7
KAF	Kangasniemi	127.35	28	ep	PKPdf	12 15 20.1	-3.8
JOF	Joensuu	129.28	30	ep	PKPdf	12 15 24.8	-2.8
ARCES	ARCESS Array B	133.48	22	PKP	PKPdf	12 15 32.9	-2.4
	2.8nm,0.5s,baz=219,slow=2.6,SNR=23						
MKAR	Makanchi Array	137.09	74	PKhKP		12 15 31.6	
	0.3nm,0.6s,baz=243,slow=5.2,SNR=5.3						
YKA	Yellowknife Ar	138.89	315	PKP	PKPdf	12 15 42.7	-2.7
	5.2nm,0.7s,baz=137,slow=2.0,SNR=30						
YKA	Yellowknife Ar	138.89	315	PKP	PKPdf	12 15 42.7	-2.7
INK	Inuvik	148.58	317	ePKPbc	PKPdf	12 16 02.9	+1.1
INK				ePKPab	PKPab	12 16 06.8	-1.2
DAWY	Dawson	149.31	308	ePKPbc	PKPdf	12 16 04.4	+1.4
DAWY				ePKPab	PKPab	12 16 09.0	-2.2
SONM	Songino Array	150.06	91	PKPbc	PKPdf	12 16 07.9	+3.1
	2.9nm,0.3s,baz=220,slow=3.3,SNR=46						
ILAR	Eielson Array	152.62	307	PKPbc	PKPdf	12 16 12.4	+4.4
	1.6nm,0.6s,baz=319,slow=1.6,SNR=25						

WEL 17 12:02:32.8±0.2**, 38.15S**×**176.31E, h140**^{km}±2^{km}**, ML3.6**/14**, 2C, Error ellipse: s-maj=2.4km s-min=2.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.64	100	PN	P	12 02 53.8	-0.5
URZ				SN	S	12 03 09.8	-1.0
MWZ	Matawai	0.97	101	PN	P	12 02 56.5	-0.1
MWZ				SN	S	12 03 14.6	-0.2
BKZ	Black Stump Fm	1.02	172 ⇑	PN	P	12 02 56.8	-0.2
BKZ				SN	S	12 03 15.0	-0.6
WTVZ	West Tongariro	1.12	210	PN	P	12 02 57.8	-0.2
OTVZ	Oturere	1.13	206	PN	P	12 02 58.3	+0.2
CNZ	Chateau	1.21	210	PN	P	12 02 58.6	-0.3
WPVZ	Whakapapa	1.21	210	PN	P	12 02 58.8	-0.1
FWVZ	Far West T-bar	1.25	208	PN	P	12 02 59.2	-0.2
KNZ	Kokohu	1.37	130	PN	P	12 03 00.4	-0.3
PUZ	Puketiti	1.54	88	PN	P	12 03 01.6	-0.7
PUZ				SN	S	12 03 23.3	-1.7
WAZ	Wanganui	1.91	212	PN	P	12 03 05.2	-1.4
TSZ	Takapari Road	1.92	188	PN	P	12 03 05.2	-1.6
TSZ				SN	S	12 03 30.4	-2.4
BFZ	Birch Farm	2.53	181	PN	P	12 03 11.9	-2.6
MRZ	Mangatainoka R	2.57	193 ⇑	PN	P	12 03 12.1	-2.9
MRZ				SN	S	12 03 42.3	-4.8
KIW	Kapiti Island	2.92	201	PN	P	12 03 15.7	-3.8
CAW	Cannon Point	3.10	198	PN	P	12 03 18.2	-3.8
TRWZ	Traveller	3.28	188	PN	P	12 03 20.4	-3.8
MRW	Makara Radio	3.31	202	PN	P	12 03 20.5	-4.2
MSWZ	Moikau Station	3.36	194	PN	P	12 03 20.9	-4.4
BHW	Baring Head	3.44	198	PN	P	12 03 21.8	-4.5
TCW	Tory Channel	3.44	207	PN	P	12 03 21.9	-4.4
TUWZ	Tuamarina	3.75	208	PN	P	12 03 25.6	-4.8
NNZ	Nelson	3.81	216	PN	P	12 03 25.6	-5.6
QRZ	Quartz Range	3.96	226	PN	P	12 03 28.3	-5.0

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*IDC **17** 12:06:09.7±2.5, 21.64N×143.10E, h307^{km}±24^{km}, mb3.2/7, mb1 3.5/8, mb1mx3.3/21, mbtmp4.0/8, Error ellipse: s-maj=32.8km s-min=16.7km az=100.0*

ISC 17 12:06:08.9±2.3**, 21.6N**±0.2×**143.0E**±0.3**, h311**^{km}±20^{km}**, n8,** σ1^{s}**03**/8**, mb3.5**/7**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.50	352	P	P	12 07 33.2	+0.1
	16nm,0.3s,baz=111,slow=20,SNR=19						
WRA	Warramunga Arr	42.17	192	P	P	12 13 33.1	-0.2
	0.5nm,0.4s,mb3.1,baz=17,slow=9.4,SNR=23						
MKAR	Makanchi Array	54.65	313	P	P	12 15 08.2	+0.4
	0.2nm,0.5s,mb2.8,baz=90,slow=9.7,SNR=3.6						
ILAR	Eielson Array	62.17	27	P	P	12 15 57.8	-1.3
	0.8nm,0.6s,mb3.5,baz=257,slow=5.3,SNR=9.3						
YKA	Yellowknife Ar	76.59	28	P	P	12 17 26.4	-0.1
	1.0nm,0.5s,mb3.8,baz=290,slow=6.0,SNR=6.0						
ARCES	ARCESS Array B	78.95	341	P	P	12 17 39.4	+0.2
	2.5nm,0.6s,mb4.1,baz=73,slow=8.0,SNR=9.3						
FINES	FINESS Array B	83.19	334	P	P	12 18 00.8	-0.4
	1.2nm,0.5s,mb4.0,baz=69,slow=5.3,SNR=10						
NVAR	Mina Array Bea	83.30	51	P	P	12 18 03.8	+1.4
	0.7nm,0.8s,mb3.6,baz=274,slow=4.5,SNR=5.6						

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*NDI **17** 12:20:08.2±2.2, 23.35N×70.46E, h5^{km}±24^{km}, ML3.2*

*IDC **17** 12:20:09.8±7.3, 23.15N×71.20E, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=214.3km s-min=37.7km az=83.0*

ISC 17 12:20:06.4±0.6**, 23.29N**±0.06×**70.59E**±0.04**, h10**^{km}**, n11,** σ1^{s}**44**/15**, mb3.3**/3**, MS3.4**/1**, 1D, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	Bhuj	0.86	268	eP	Pb	12 20 22.8	-0.2
BHUJ				eS	Sb	12 20 33.0	-1.5
BHUJ				AML	AML	12 20 35.3	
	comp=N,693nm,0.2s						
BHUJ				AML	AML	12 20 35.4	
	comp=E,957nm,0.1s						
BHV	Bhavnagar	2.10	137	ex	Pn	12 20 42.5	+0.4
BHV				eSN	Sn	12 21 14.5	+6.0
AJM	Ajmer	4.86	48	eS	Sn	12 22 17.0	-1.5
POO	Poona	5.63	147	eP	Pn	12 21 34.9	+2.7
POO				eS	Sn	12 22 35.7	-2.0
POO				AML	AML	12 23 08.9	
	comp=E,35nm,0.4s						
POO				AML	AML	12 23 09.3	
	comp=N,34nm,0.5s						
BHPL	Bhopal	6.28	89	eP	Pn	12 21 42.0	+0.5
BHPL				eS	Sn	12 22 52.6	-1.6
BHPL				AML	AML	12 23 29.0	
	comp=N,43nm,0.4s						
BHPL				AML	AML	12 23 29.5	
	comp=E,22nm,0.4s						
KAD	Karad	6.84	150	eP	Pn	12 21 49.8	+0.5
KAD				eS	Sn	12 23 04.8	-3.1
KAD				AML	AML	12 23 57.4	
	comp=E,27nm,0.3s						
KAD				AML	AML	12 23 57.9	
	comp=N,17nm,0.3s						
MKAR	Makanchi Array	25.28	19	P	P	12 25 37.1	+2.7
	comp=N,0.4nm,0.7s,mb3.1,baz=207,slow=8.1,SNR=5.6						
SONM	Songino Array	37.54	40	P	P	12 27 23.8	+1.3
	comp=N,0.5nm,0.7s,mb3.4,baz=225,slow=12,SNR=4.1						
DAVOX	Davos	53.51	312	LR	LR	12 54 19.5	
	comp=N,28nm,18.8s,MS3.4,baz=84,slow=38						
WRA	Warramunga Arr	75.56	119	P	P	12 31 53.5	0.0
	comp=N,0.6nm,0.9s,mb3.5,baz=313,slow=5.3,SNR=7.3						
WB2	Warramunga Arr	75.57	119⇓	iP	P	12 32 02.7	+9.1

JMA 17 12:46:39.5±0.2, 29.27N×139.94E, h448^{km}±4^{km}, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.94	137	P	P	12 47 46.2	-0.2
CBIJ				S	S	12 48 39.1	-0.2
JHHJ	Haha-jima-NKT	3.29	143	S	S	12 48 44.3	+0.1
JHJ2	Mitsune	3.83	358	P	P	12 47 54.0	+0.3
JHJ2				S	S	12 48 52.2	0.0
BSO1	Boso 1	5.44	9	S	S	12 49 20.8	+1.4
JIM2	Oshima 3	5.45	356	P	P	12 48 10.0	+1.0
JIM2				S	S	12 49 19.5	0.0
BSO3	Boso 3	5.54	5	S	S	12 49 21.2	+0.1
BSO4	Boso 4	5.71	3	S	S	12 49 24.6	+0.3
JOD2	Odawara 2	6.02	353	P	P	12 48 14.7	-0.1
JOD2				S	S	12 49 30.5	+0.5
JNY	Yasuok	6.32	344	P	P	12 48 18.1	+0.1
JHU	Hanno	6.59	355	P	P	12 48 20.5	-0.3
JHU				S	S	12 49 39.0	-1.8
JRY	Ryogami san	6.78	353	P	P	12 48 22.6	-0.3
JRY				S	S	12 49 44.5	-0.1
JAG	Ashikaga	7.15	357	P	P	12 48 25.7	-1.1
JAG				S	S	12 49 48.0	-3.7
JHO	Hitachi	7.34	4	P	P	12 48 29.6	+0.7
JHO				S	S	12 49 54.7	-0.7

NEIC 17 12:46:54.3, 36.60N×9.82W, h25^{km}, MN2.7(MDD), After MDD.
INMG 17 12:46:55.4±0.8, 36.69N×9.68W, h8^{km}±5^{km}, ML2.1, Error ellipse: s-maj=5.6km s-min=3.2km az=63.0
CSEM 17 12:46:57.8±0.8, 36.63N×9.32W, h40^{km}, ML2.1, Error ellipse: s-maj=16.4km s-min=11.4km az=36.0
MDD 17 12:46:54.9±2.0, 36.63N×9.75W, h20^{km}±48^{km}, mb3.2/1, Error ellipse: s-maj=57.2km s-min=12.1km az=48.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.23	42	eP	Pn	12 47 16.2	-1.0
PTEO				eS	Sb	12 47 31.6	-1.1
	15nm,0.4s						
PTEO	Sao Teotonio	1.23	42	P	Pn	12 47 16.2	-1.0
PTEO				S	Sb	12 47 31.6	-1.1
	7.6nm,0.4s						
EGRO	El Granado	2.03	63	P	Pn	12 47 27.1	-1.5
	0.9nm,0.1s,SNR=13						
EGRO				S	Sn	12 47 50.7	-2.8
	4.6nm,0.1s,SNR=13						
EGRO	El Granado	2.03	63	P	Pn	12 47 27.1	-1.5
	0.9nm,0.1s,SNR=13						
EGRO				S	Sn	12 47 50.7	-2.9
	4.6nm,0.1s,SNR=13						
PBEJ	Beja	2.05	47	ePn	Pn	12 47 27.2	-1.7
PBEJ				eSn	Sn	12 47 52.0	-2.2
	4.9nm,0.1s						
PBEJ	Beja	2.05	47	Pn	Pn	12 47 27.2	-1.7
PBEJ				Sn	Sn	12 47 52.0	-2.2
	2.5nm,0.1s						
PLOU	Loures	2.30	12	eSn	Sn	12 47 58.0	-2.6
	17nm,0.1s						
PLOU	Loures	2.30	12	Sn	Sn	12 47 58.0	-2.6
	8.6nm,0.1s						
EMIN	Mina Concepcio	2.71	64	P	Pn	12 47 36.0	-2.3
	0.4nm,0.1s,SNR=7.7						
EMIN				S	Sn	12 48 07.2	-3.7
	1.5nm,0.2s,SNR=9.7						
EMIN	Mina Concepcio	2.71	64	P	Pn	12 47 36.0	-2.3
	0.4nm,0.1s,SNR=7.7						
EMIN				S	Sn	12 48 07.2	-3.7
	1.5nm,0.2s,SNR=9.7						
EBAD	Badajoz	3.04	45	P	Pn	12 47 40.4	-2.6
	1.2nm,0.2s,SNR=10						
EBAD				S	Sn	12 48 14.9	-4.3
	17nm,0.2s,SNR=8.6						
EBAD	Badajoz	3.04	45	P	Pn	12 47 40.4	-2.6
	1.2nm,0.2s,SNR=10						
EBAD				S	Sn	12 48 14.9	-4.3
	17nm,0.2s,SNR=8.6						
ESPR	Espera	3.14	84	P	Pn	12 47 42.3	-2.1
	1.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	12 48 16.5	-5.2
	12nm,0.3s,SNR=5.1						
ESPR	Espera	3.14	84	P	Pn	12 47 42.3	-2.1
	1.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	12 48 16.5	-5.2
	12nm,0.3s,SNR=5.1						
PTOM	Tomar	3.17	19	eSn	Sn	12 48 17.5	-5.0
PCBR	Castelo Branco	3.67	28	ePn	Pn	12 47 50.0	-2.0
PCBR				eSn	Sn	12 48 30.8	-4.5
ECAB	El Cabril	3.74	66	P	Pn	12 47 50.6	-2.4
	3.0nm,0.2s,SNR=11						
ECAB				S	Sn	12 48 31.6	-5.4
	1.3nm,0.1s,SNR=7.6						
ECAB	El Cabril	3.74	66	P	Pn	12 47 50.6	-2.4
	3.0nm,0.2s,SNR=11						
ECAB				S	Sn	12 48 31.6	-5.4
	1.3nm,0.1s,SNR=7.6						
EADA	Adamuz	4.40	68	P	Pn	12 47 59.5	-2.8
	1.5nm,0.2s,SNR=6.1						
EADA				S	Sn	12 48 46.7	-6.9
	2.1nm,0.1s						
EADA	Adamuz	4.40	68	P	Pn	12 47 59.5	-2.8
	1.5nm,0.2s,SNR=6.1						
EADA				S	Sn	12 48 46.7	-6.9
	2.1nm,0.1s						
PVRL	Vila Real	4.90	18	eSn	Sn	12 48 58.9	-7.5
	7.3nm,0.1s						
PVRL	Vila Real	4.90	18	Sn	Sn	12 48 58.9	-7.5
	3.7nm,0.1s						
EBAN	Banos Encina	4.99	70	P	Pn	12 48 07.3	-3.4
	0.5nm,0.1s,SNR=7.9						
EBAN				S	Sn	12 48 59.8	-8.8
	1.1nm,0.1s,SNR=7.9						
EQUE	Quentar	5.09	82	S	Sn	12 49 04.1	-7.0
	0.9nm,0.2s,SNR=7.9						
ELOB	Lobios	5.39	14	S	Sn	12 49 11.1	-7.6
	1.2nm,0.1s,SNR=7.9						
EQES	Quesada	5.46	76	P	Pn	12 48 17.1	-0.3
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	12 49 13.5	-6.8
	0.7nm,0.2s,SNR=4.9						
EQES	Quesada	5.46	76	P	Pn	12 48 11.8	-5.5
EQES				S	Sn	12 49 13.5	-6.8
EQES	Quesada	5.46	76	P	Pn	12 48 11.8	-5.5
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	12 49 13.5	-6.8
	0.7nm,0.2s,SNR=4.9						
ESDC	Sonseca Array	5.48	55	P	Pn	12 48 14.3	-3.4
	1.5nm,0.1s,baz=240,slow=13,SNR=9.7						
ESDC				S	Sn	12 49 13.4	-7.5
	1.6nm,0.1s,baz=242,slow=24,SNR=8.5						
ESDC	Sonseca Array	5.48	55	P	Pn	12 48 14.3	-3.3
	1.5nm,0.1s,SNR=9.7						
ESDC				S	Sn	12 49 13.4	-7.5
	1.6nm,0.1s,SNR=8.5						
ECAL	Calabor	5.80	23	P	Pn	12 48 17.6	-4.5
	0.5nm,0.1s,SNR=7.9						
ECAL				S	Sn	12 49 20.9	-7.9
	2.9nm,0.3s,SNR=7.9						
ETOB	Tobarra	6.81	70	P	Pn	12 48 32.2	-4.2
	0.2nm,0.2s,SNR=4.0						
ETOB				S	Sn	12 49 45.4	-8.8
	0.6nm,0.2s,SNR=7.9						
ETOB	Tobarra	6.81	70	P	Pn	12 48 32.2	-4.2
	0.2nm,0.2s,SNR=4.0						
ETOB				S	Sn	12 49 45.4	-8.8

IDC 17 12:56:17.8±1.5, 20.75N×97.45E, mb3.9/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/24, Error ellipse: s-maj=70.8km s-min=23.1km az=60.0
ISC 17 12:56:17.9±0.7, 20.91N±0.06×97.85E±0.09, h10^{km}, n12, σ0^s.88/18, mb3.8/6, MS3.4/1, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHRT	Chiangrai	2.08	119	⇑PN	Pn	12 56 54.5	+1.1
CHRT				PG	Pg	12 56 58.5	-1.1
CHRT				SG	Sg	12 57 27.0	-0.4
CHG	Chiang Mai	2.32	154	PN	Pn	12 56 58.0	+1.2
CHG				PG	Pg	12 57 04.1	-0.2
CHG				SG	Sg	12 57 35.8	+0.5
NANT	Nan	3.40	128	PG	Pn	12 57 12.0	-0.2
NANT				SG	Sn	12 57 39.0	-14
NST	Nakhon Sawan	5.64	157	P	Pn	12 57 45.2	+1.3
NST	Nakhon Sawan	5.64	157	PG	Pg	12 58 09.0	-1.5
NST				SG	Sg	12 59 25.2	-0.4
KKTK	Khon Kaen	6.55	133	P	Pb	12 58 07.0	-4.8
SONM	Songino Array	27.74	12	P	P	13 02 09.8	+1.2
	0.1nm,0.3s,mb2.9,baz=173,slow=12,SNR=2.9						
SONM				LR	LR	13 14 20.2	
	comp=Z,88nm,18.4s,MS3.4,baz=17,slow=39						
MKAR	Makanchi Array	28.77	337	P	P	13 02 17.9	0.0
	1.6nm,0.8s,mb3.8,baz=144,slow=9.5,SNR=12						
ZAL	Zalesovo	34.45	346	P	P	13 03 07.9	+0.2
	2.2nm,0.3s,mb4.6,baz=319,slow=2.3,SNR=7.6						
BVAR	Borovoye Array	38.39	333	P	P	13 03 40.0	-1.0
	1.5nm,0.6s,mb3.9,baz=135,slow=10,SNR=8.9						
WRA	Warramunga Arr	54.06	136	P	P	13 05 45.5	+0.3
	0.5nm,0.6s,mb3.6,baz=322,slow=7.4,SNR=11						
NOA	NORSAR Array B	70.33	329	P	P	13 07 32.3	-1.2
	1.5nm,0.8s,mb4.0,baz=83,slow=6.1,SNR=3.4						

IDC 17 13:08:32.1±1.5, 25.88N×141.83E, mb3.9/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.9/4, Error ellipse: s-maj=47.2km s-min=14.2km az=106.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.25	15	Pg	Pg	13 08 55.0	-2.1
	22nm,0.3s,baz=105,slow=21,SNR=3.3						
CBIJ				Lg		13 09 13.8	
	109nm,0.3s,baz=278,slow=23,SNR=7.6						
WB2	Warramunga Arr	46.12	190	eP	P	13 16 58.7	-1.5
WRA	Warramunga Arr	46.12	190	P	P	13 16 58.6	-1.5
	2.0nm,0.6s,baz=8.3,slow=8.7,SNR=37						
MKAR	Makanchi Array	51.01	310	P	P	13 17 35.3	-2.4
	0.1nm,0.3s,baz=90,slow=7.2,SNR=2.7						
BVAR	Borovoye Array	58.73	318	P	P	13 18 33.2	-0.6
	0.8nm,0.5s,baz=84,slow=6.6,SNR=7.4						
FINES	FINESS Array B	78.89	334	P	P	13 20 35.6	-2.8
	0.6nm,0.5s,baz=56,slow=5.0,SNR=8.0						

CASC 17 13:37:04.8±1.8, 10.68N×86.42W, h1^{km}±6^{km}, MD3.8, 2C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.82	42	iP	Pg	13 37 21.0	-0.3
SSNN				⇑eP		13 37 21.0	
SSNN				eS	Sg	13 37 34.7	+2.4
MADN	Villa Maderas	1.13	50	⇓eP	Pb	13 37 26.0	-0.9
MADN				eS	Sb	13 37 42.1	+0.2
LIM1	Limonal	1.14	89	⇑eP	Pb	13 37 26.3	-0.7
LIM1				eS	Sb	13 37 42.5	+0.2
CONN	Concepcion	1.18	41	iP	Pb	13 37 26.0	-1.6
CONN				eS	Sb	13 37 44.1	+0.9
APON	Apoyo	1.28	16	iP	Pb	13 37 28.1	-1.3
APON				eS	Sb	13 37 46.8	+0.6
TICN	Ticuantepe	1.36	8	⇓eP	Pb	13 37 29.7	-1.1
TICN				eS	Sb	13 37 49.5	+0.9
JCR	Jicaral	1.52	122	eP	Pn	13 37 31.1	-2.2
CGA2	Cerro Gallo 2	2.03	109	eP	Pn	13 37 43.0	+2.5
CGA2				eS	Sn	13 38 07.6	+0.7
LAJ	Bijagual	2.40	109	eP	Pn	13 37 41.6	-4.2
LCR2	La Lucha 2	2.55	111	eP	Pn	13 37 48.3	+0.3

IDC 17 14:13:39.7±1.1, 4.55S×105.09W, mb4.1/16, mb1 4.3/16, mb1mx4.2/21, mbtmp4.1/16, MS3.7/9, Ms1 3.7/9, ms1mx3.4/19, Error ellipse: s-maj=42.9km s-min=12.9km az=56.0
NEIC 17 14:13:43.8±0.7, 4.52S×105.03W, mb4.6/13, Error ellipse: s-maj=24.4km s-min=6.1km az=55.0
BJI 17 14:13:46.6, 4.50S×105.00W, h25^{km}, mB5.2, Ms4.9, Msz4.5
ISC 17 14:13:39.4±1.0, 4.6S±0.1×105.1W±0.2, h10^{km}, n55, σ0^s.76/41, mb4.2/25, MS4.0/11, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	33.75	2	P	P	14 20 24.1	+0.5
	0.4nm,0.6s,mb3.5,baz=191,slow=11,SNR=7.1						
TXAR				PcP	PcP	14 23 02.4	-0.7
	0.9nm,0.8s,baz=180,slow=9.0,SNR=4.0						
TXAR	Lajitas Array	33.75	2	P	P	14 20 24.1	+0.5
TXAR				PcP	PcP	14 23 02.4	-0.7
SDV	Santo Domingo	36.90	69	P	P	14 20 51.4	+1.0
	4.8nm,0.4s,mb4.6,baz=262,slow=2.6,SNR=3.6						
SDV				LR	LR	14 33 18.4	
	comp=Z,136nm,20.1s,MS3.7,baz=222,slow=32						
SDV	Santo Domingo	36.90	69	P	P	14 20 50.2	-0.3
	14nm,1.0s,mb4.8						
SDV				ePP	PP	14 22 11.8	-4.6
LPAZ	La Paz	38.12	111	P	P	14 20 59.9	-0.8
	0.7nm,0.7s,mb3.5,baz=270,slow=4.0,SNR=2.7						
LPAZ				LR	LR	14 33 48.2	
	comp=Z,61nm,21.6s,MS3.4,baz=284,slow=32						
LPAZ	La Paz	38.12	111	eP	P	14 21 01.0	+0.3
	4.1nm,1.2s,mb4.0						
LVC	Limon Verde	39.33	121	P	P	14 21 10.6	-0.2
	3.9nm,0.9s,mb4.1,baz=311,slow=11,SNR=3.1						
LVC				LR	LR	14 33 06.0	
	comp=Z,101nm,19.8s,MS3.7,baz=271,slow=30						
LVC	Limon Verde	39.33	121	P	P	14 21 12.7	+2.0
	4.5nm,1.0s,mb4.2						
LVC				e		14 21 19.3	
ANMO	Albuquerque	39.34	358	P	P	14 21 11.5	+0.7
	0.7nm,0.7s,mb3.5,baz=165,slow=7.6,SNR=5.8						
NEN	Nelson	41.05	348	eP	P	14 21 25.9	+1.1
NEN				e		14 21 33.8	
SAML	Samuel	41.86	98	eP	P	14 21 31.1	-0.7
	15nm,1.1s,mb4.5						
SAML				e		14 21 36.8	
SAML				ePcP	PcP	14 23 32.1	+3.8
SDCO	Great Sand Dun	42.11	360	eP	P	14 21 34.5	+0.9
	9.7nm,1.4s,mb4.2						
PLAL	Pickwick Lake	42.50	21	eP	P	14 21 36.6	-0.2
	2.7nm,0.6s,mb4.2						
PLAL				e		14 21 44.1	
ARUT	Antelope Range	42.86	350	eP	P	14 21 39.9	+0.2
ARUT				e		14 21 49.3	
MSU	Marysvale	43.37	352	eP	P	14 21 45.2	+1.3
CFAA	Coronel Fontan	43.81	132	P	P	14 21 48.6	+1.1
	0.6nm,1.0s,mb3.3,baz=294,slow=7.9,SNR=6.9						
CFAA				LR	LR	14 35 55.7	
	comp=Z,13nm,21.2s,baz=301,slow=30						
NVAR	Mina Array Bea	44.51	345	P	P	14 21 52.7	-0.4
	0.9nm,0.8s,mb3.6,baz=155,slow=8.1,SNR=6.8						
NVAR	Mina Array Bea	44.51	345	P	P	14 21 52.7	-0.4
SIV	San Ignacio	44.70	108	P	P	14 21 54.3	-0.6
	1.6nm,0.9s,mb3.8,baz=276,slow=9.2,SNR=4.8						
DUG	Dugway	45.12	352	eP	P	14 21 58.2	+0.3
	4.9nm,0.8s,mb4.4						
DUG				ePcP	PcP	14 23 39.9	+1.0
DAU	Daniels Canyon	45.13	353	eP	P	14 21 58.7	+0.7
PPT	Papeete	45.36	250	LR	LR	14 35 33.9	
	comp=Z,209nm,20.1s,MS4.1,baz=88,slow=29						
HWUT	Hardware Ranch	46.34	353	eP	P	14 22 08.0	+0.5
	8.2nm,1.0s,mb4.6						
PDAR	Pinedale Array	47.30	356	P	P	14 22 14.9	-0.2
	2.3nm,0.7s,mb4.2,baz=176,slow=5.8,SNR=28						
PDAR				PP	PP	14 24 13.8	+8.0
	1.2nm,0.6s,baz=172,slow=6.4,SNR=5.7						
PLCA	Paso Flores	47.52	144	P	P	14 22 16.8	-0.1
	3.2nm,1.0s,mb4.3,baz=302,slow=12,SNR=4.8						
PLCA				LR	LR	14 37 57.7	
	comp=Z,113nm,20.0s,MS3.8,baz=359,slow=31						
RRI2	Red Ridge	48.04	354	eP	P	14 22 20.1	-0.8
	8.7nm,0.8s,mb4.8						
TPAW	Teton Pass	48.14	354	eP	P	14 22 21.4	-0.3
	5.8nm,0.7s,mb4.7						
TPAW				e		14 22 29.2	
LOHW	Long Hollow	48.23	355	eP	P	14 22 21.7	-0.6
	4.4nm,0.9s,mb4.5						
IMW	Indian Meadow	48.54	354	eP	P	14 22 24.7	-0.1
	10nm,0.8s,mb4.9						
IMW				ePP	PP	14 24 24.2	+6.7
FLWY	Flagg Ranch	48.70	355	eP	P	14 22 26.3	+0.3
YBH	Yreka Blue Hor	48.81	343	P	P	14 22 26.7	-0.2
	1.2nm,0.5s,mb4.2,baz=106,slow=13,SNR=2.0						
QLMT	Earthquake Lak	49.52	354	eP	P	14 22 33.1	+0.8
QLMT				e		14 22 40.7	
QLMT				ePP	PP	14 24 31.4	+4.2
MCMT	McKenzie Canyo	49.67	353	eP	P	14 22 34.1	+0.6
MCMT				e		14 22 41.4	
CPUP	Villa Florida	50.51	121	P	P	14 22 40.0	-0.1
	3.4nm,0.9s,mb4.2,baz=322,slow=11,SNR=4.2						
CPUP				LR	LR	14 41 23.5	
	comp=Z,54nm,18.0s,MS3.6,baz=320,slow=33						
HRY	Holter Researc	51.42	354	eP	P	14 22 46.1	-0.6
NEW	Newport	53.67	350	P	P	14 23 03.0	-0.5
	2.9nm,0.7s,mb4.3,baz=147,slow=8.7,SNR=5.0						
ULM	Lac du Bonnet	55.20	7	P	P	14 23 13.2	-1.5
	3.3nm,0.8s,mb4.4,baz=182,slow=10,SNR=5.3						
ULM	Lac du Bonnet	55.20	7	eP	P	14 23 11.5	-3.2
	39nm,1.9s,mb5.1						
BDFB	Brasilia	57.13	106	LR	LR	14 45 42.1	
	comp=Z,113nm,19.0s,MS4.0,baz=164,slow=34						
EDM	Edmonton	58.01	354	eP	P	14 23 33.7	-1.0
SCHQ	Schefferville	67.18	23	LR	LR	14 53 02.9	
	comp=Z,74nm,21.2s,MS3.9,baz=94,slow=35						
YKA	Yellowknife Ar	67.28	355	P	P	14 24 34.8	-1.5
	1.2nm,0.7s,mb4.0,baz=167,slow=7.6,SNR=4.4						
YKA	Yellowknife Ar	67.28	355	P	P	14 24 34.8	-1.5
ILAR	Eielson Array	75.70	343	P	P	14 25 25.8	-0.9
	2.0nm,0.7s,mb4.2,baz=154,slow=5.3,SNR=24						
MDJ	Mudanjiang	117.83	319	PKP	PKPdf	14 32 29.0	-0.5
MDJ				PP	PP		
	comp=Z,60nm,5.2s						
SONM	Songino Array	129.14	333	PKP	PKPdf	14 32 50.9	-0.4
	comp=Z,0.3nm,0.6s,slow=1.4,SNR=3.0						
SSE	Sheshan	129.16	307	PKP	PKPdf	14 32 52.8	+1.0
SSE				PP	PP		
	comp=Z,91nm,4.3s						
NJ2	Nanjing	130.62	309	ePKP	PKPdf	14 32 51.1	-3.5
BVAR	Borovoye Array	131.57	4	PKP	PKPdf	14 32 55.0	-0.7
	comp=Z,0.2nm,0.3s,slow=2.9,SNR=3.4						
MKAR	Makanchi Array	137.47	352	PKP	PKPdf	14 33 06.2	-0.6
	comp=Z,0.4nm,0.8s,slow=4.3,SNR=3.3						
LZH	Lanzhou	138.85	323	ePKP	PKPdf	14 33 05.0	-4.7
LZH				LR	LR		
	comp=Z,213nm,21.0s,MS4.9						
WMQ	Urumqi	139.32	346	ePKP	PKPdf	14 33 10.0	-0.3
WMQ				LR	LR		
	comp=N,108nm,21.4s,MS4.7						
WMQ				LR	LR		
	comp=E,55nm,18.1s,MS4.7						
WMQ				LR	LR		
	comp=Z,76nm,19.8s,MS4.4						
GYA	Guiyang	142.63	309	ePKP	PKPdf	14 33 23.6	+6.9
GYA				PP	PP		
	comp=Z,80nm,7.6s						
KSH	Kashi	145.21	359	ePKP	PKPdf	14 33 21.1	+0.3
KSH				eAPKP		14 33 26.3	
KSH				eXPKP		14 33 35.5	
KMI	Kunming	146.34	310	PKP	PKPdf	14 33 23.6	+0.4
KMI				APKP		14 33 29.1	
KMI				LR	LR		
	comp=Z,35nm,29.4s,MS4.0						

IDC 17 14:19:20.4±2.5, 1.74S×99.27E, mb3.8/6, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, Error ellipse: s-maj=121.3km s-min=20.8km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.75	120	P	P	14 26 46.0	-2.5
	1.3nm,0.7s,baz=302,slow=9.2,SNR=14						
SONM	Songino Array	49.76	6	P	P	14 28 15.1	-1.6
	0.7nm,0.7s,baz=192,slow=8.1,SNR=4.9						
STKA	Stephens Creek	49.87	131	P	P	14 28 16.9	-0.9
	1.9nm,0.8s,baz=224,slow=2.2,SNR=4.0						
MKAR	Makanchi Array	50.59	345	P	P	14 28 21.0	-2.1
	0.4nm,0.6s,baz=158,slow=6.5,SNR=5.7						
ZAL	Zalesovo	56.78	350	P	P	14 29 06.5	-2.1
	0.9nm,0.4s,baz=320,slow=15,SNR=3.0						
BVAR	Borovoye Array	59.69	340	P	P	14 29 25.9	-3.1
	0.4nm,0.5s,baz=124,slow=10,SNR=3.8						
TXAR	Lajitas Array	144.94	36	PKP	PKPdf	14 38 59.9	-2.3
	0.8nm,0.6s,baz=264,slow=1.5,SNR=13						

BJI 17 14:27:10.4, 2.10N×126.80E, h10^{km}, mB5.0, mb4.6, Ms4.2, Msz3.8
NEIC 17 14:27:12.4±0.3, 2.13N×126.81E, h10^{km}, mb4.9/7, Error ellipse: s-maj=13.9km s-min=6.6km az=77.0
IDC 17 14:27:16.1±3.7, 2.10N×126.66E, h34^{km}±28^{km}, mb4.3/16, mb1 4.3/16, mb1mx4.3/20, mbtmp4.4/16, MS3.3/2, Ms1 3.3/2, ms1mx3.1/14, Error ellipse: s-maj=33.2km s-min=10.6km az=76.0
ISC 17 14:27:10.7±0.4, 2.13N±0.06×126.7E±0.1, h10^{km}, n36, σ0^s.94/35, mb4.5/23, MS3.4/3, 2C-2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.79	159	eP	Px	14 31 18.3	
	24nm,0.6s						
KSM	Kuching	16.43	268	eP	P	14 31 05.7	+2.5
FITZ	Fitzroy Crossi	20.13	183	eP	P	14 31 47.3	-0.6
	22nm,0.4s						
FITZ	Fitzroy Crossi	20.13	183	P	P	14 31 47.3	-0.6
	25nm,0.4s,baz=12,slow=8.8,SNR=71						
GUMO	Guam	21.24	57	LR	LR	14 39 42.5	
	comp=Z,42nm,20.1s,MS2.8,baz=248,slow=35						
WRA	Warramunga Arr	23.17	162	P	P	14 32 18.8	+0.1
	27nm,0.7s,mb4.8,baz=335,slow=11,SNR=162						
WRA				S	S	14 36 30.4	+4.5
	1.1nm,0.7s,baz=339,slow=18,SNR=5.3						
WB2	Warramunga Arr	23.17	162	⇑iP	P	14 32 18.5	-0.2
WB2				eS	S	14 36 28.3	+2.3
JOW	Kunigami	24.61	3	P	P	14 32 34.2	+1.6
	6.2nm,0.6s,mb4.3,baz=197,slow=9.3,SNR=4.2						
ASPA	Alice Springs	26.57	165	eP	P	14 32 50.7	-0.3
CTA	Charters Tower	29.23	140	P	P	14 33 16.1	+0.9
	3.6nm,0.7s,mb4.2,baz=322,slow=17,SNR=2.8						
KMI	Kunming	32.52	317	P	P	14 33 44.3	+0.1
KMI				AP	pP	14 33 48.8	+1.7
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
KMI				AMB	AMB		
	comp=Z,155nm,5.4s						
FORT	Forrest	32.75	178	⇓iP	P	14 33 45.5	-0.6
	comp=Z,71nm,0.7s,mb5.7						
KLBR	Kellerberrin	34.60	194	eP	P	14 34 01.7	-0.4
	comp=Z,39nm,1.3s,mb5.2						
MJAR	Matsushiro Arr	35.85	16	P	P	14 34 13.3	+0.6
	comp=Z,2.5nm,0.8s,mb4.2,baz=180,slow=10.0,SNR=7.2						
MJAR	Matsushiro Arr	35.85	16	P	P	14 34 13.3	+0.6
NWAO	Narrogin (SRO)	36.00	194	P	P	14 34 13.7	-0.4
	comp=Z,16nm,1.0s,mb4.9,baz=351,slow=12,SNR=6.0						
STKA	Stephens Creek	36.64	159	eP	P	14 34 18.9	-0.5
	comp=Z,5.9nm,0.8s,mb4.5						
STKA	Stephens Creek	36.64	159	P	P	14 34 19.1	-0.4
	comp=Z,5.8nm,0.5s,mb4.6,baz=338,slow=8.5,SNR=16						
LZH	Lanzhou	39.88	331	eP	P	14 34 47.5	+1.0
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,129nm,4.3s						
HHC	Hu-ho-hao-te	40.91	342	eP	P	14 34 51.9	-3.0
HHC				PP	PP	14 36 29.3	-3.2
HHC				S	S	14 40 59.1	-7.2
HHC				SCS	ScS	14 44 55.8	-2.3
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,103nm,3.9s						
HHC				LR	LR		
	comp=N,127nm,11.9s,MS4.1						
HHC				LR	LR		
	comp=E,107nm,13.1s,MS4.1						
HHC				LR	LR		
	comp=Z,129nm,17.8s,MS3.8						
SONM	Songino Array	48.81	342	P	P	14 35 58.4	+0.3
	comp=Z,1.3nm,0.5s,mb4.2,baz=152,slow=7.8,SNR=11						
SONM				LR	LR	14 57 17.9	
	comp=Z,49nm,18.7s,MS3.5,baz=160,slow=37						
MKAR	Makanchi Array	58.87	326	P	P	14 37 10.7	-1.4
	comp=Z,1.6nm,0.3s,mb4.5,baz=121,slow=7.8,SNR=44						
ZAL	Zalesovo	62.01	333	P	P	14 37 34.0	+0.5
	comp=Z,1.3nm,0.3s,mb4.5,baz=324,slow=2.3,SNR=3.4						
ZAL	Zalesovo	62.01	333	P	P	14 37 34.0	+0.5
KURK	Kurchatov	63.09	328	eP	P	14 37 39.4	-1.2
	comp=Z,8.2nm,0.6s,mb5.0						
BVAR	Borovoye Array	68.66	327	P	P	14 38 14.9	-1.4
	comp=Z,2.1nm,0.7s,mb4.2,baz=117,slow=6.6,SNR=7.7						

BRVK	Borovoye	68.73	327	eP	P	14 38 16.9	+0.2
	comp=Z,1.7nm,0.6s,mb4.2						
ARU	Arti	76.28	328	eP	P	14 39 00.7	-0.7
	comp=Z,4.2nm,0.6s,mb4.5						
VNDA	Vanda	81.85	173	P	P	14 39 31.2	+0.1
	comp=Z,3.7nm,0.8s,mb4.3,baz=315,slow=6.6,SNR=18						
MAW	Mawson	82.26	200	P	P	14 39 34.3	+0.9
	comp=Z,3.1nm,0.6s,mb4.5,baz=86,slow=8.6,SNR=6.1						
ILAR	Eielson Array	86.54	25	P	P	14 39 54.3	-0.7
	comp=Z,0.3nm,0.7s,mb3.6,baz=257,slow=4.3,SNR=4.5						
SYO	Syowa Base	90.94	201	⇓P	P	14 40 15.3	-0.5
SYO	Syowa Base	90.94	201	⇑pP	pP	14 40 20.0	+1.0
ARCES	ARCESS Array B	91.94	340	P	P	14 40 20.8	+0.4
	comp=Z,4.8nm,0.9s,mb4.8,baz=76,slow=7.4,SNR=3.2						
FINES	FINESS Array B	93.24	332	P	P	14 40 27.2	+0.7
	comp=Z,1.9nm,1.0s,mb4.5,baz=45,slow=2.7,SNR=3.5						
WCI	Wyandotte Cave	129.58	34	ePKPdf	PKPdf	14 46 22.4	-1.3

CSEM 17 14:49:01.5±1.4, 38.78N×27.76W, ML2.9, Error ellipse: s-maj=2.4km s-min=1.8km az=5.0, After PDA
PDA 17 14:49:01.5±1.4, 38.78N×27.76W, MD2.9, ML2.9, Error ellipse: s-maj=2.4km s-min=1.8km az=5.0
SVSA 17 14:49:01.5±1.4, 38.78N×27.76W, MD2.9, ML2.9, Error ellipse: s-maj=2.4km s-min=1.8km az=5.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAN	Manadas	0.30	239	eP	Pg	14 49 06.7	-0.7
PMAN				eS	Sg	14 49 11.4	+0.1
	3µm,0.2s						
PGRA	Graciosa	0.30	325	eP	Pg	14 49 06.5	-0.9
PGRA				i S	Sg	14 49 11.2	-0.2
	2µm,0.3s						
PAMA	Santo Amaro	0.34	252	eP	Pg	14 49 08.0	-0.3
PAMA				i S	Sg	14 49 13.2	+0.3
PSBA	Serra de Santa	0.34	93	eP	Pg	14 49 07.8	-0.6
PSBA				eS	Sg	14 49 12.2	-0.7
	143nm,0.3s						
ASBA	Santa Barbara	0.35	100	eS	Sg	14 49 13.3	+0.2
STGR	Santa Cruz	0.35	328	eP	Pg	14 49 08.6	+0.1
STGR				i S	Sg	14 49 12.9	-0.2
	467nm,0.1s						
PPAD	Pico dos Padre	0.38	102	i S	Sg	14 49 14.2	0.0
PBIS	Biscoitos	0.40	93	eS	Sg	14 49 14.8	0.0
PIED	Piedade	0.43	212	eS	Sg	14 49 15.6	-0.2
ADH	Angra Heroismo	0.43	107	eS	Sg	14 49 15.2	-0.7
PVNV	Vila Nova	0.48	92	i S	Sg	14 49 16.8	-0.5
RIB2	Ribeirinha	0.48	103	i S	Sg	14 49 16.7	-0.6
PFAV	Pico das Favas	0.54	98	i S	Sg	14 49 18.9	-0.5
PICO	Pico	0.59	242	i P	Pg	14 49 11.7	-1.6
PICO				eS	Sg	14 49 19.8	-1.4
PICO	Pico	0.59	242	eS	Sg	14 49 19.8	-1.4
PBOI	Pico dos Bois	0.59	234	eS	Sg	14 49 20.1	-1.1
HOR	Horta	0.72	250	eS	Sg	14 49 23.0	-2.6
CALA	Caldeira	0.76	255	eP	Pg	14 49 14.5	-2.2
PTCA	Ponta do Capel	0.83	256	eS	Sg	14 49 26.2	-3.0

IDC 17 15:02:51.3±1.8, 1.92S×139.55E, mb3.9/4, mb1 4.2/5, mb1mx3.9/12, mbtmp4.0/5, ML4.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=64.1km s-min=28.0km az=83.0
ISC 17 15:02:54.7±5.4, 2.1S±0.1×139.1E±0.4, h27^{km}±40^{km}, n10, σ0^{s}76/9, mb3.7/3, 1C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	12.42	212	eP	Px	15 06 10.4	
	7.1nm,0.4s						
GUMO	Guam	16.61	20	LR	LR	15 11 34.7	
	comp=Z,67nm,21.2s,baz=298,slow=32						
WB2	Warramunga Arr	18.33	194	eP	P	15 07 08.6	-0.5
WRA	Warramunga Arr	18.33	194	P	P	15 07 08.6	-0.6
	1.0nm,0.3s,baz=19,slow=12,SNR=39						
WRA				S	S	15 10 29.3	-0.3
	0.1nm,0.3s,baz=9.3,slow=22,SNR=4.1						
FITZ	Fitzroy Crossi	20.65	219	eP	P	15 07 41.0	+5.8
	7.7nm,0.9s						
FITZ	Fitzroy Crossi	20.65	219	P	P	15 07 38.4	+3.2
	11nm,0.8s,baz=19,slow=8.8,SNR=8.0						
ASPA	Alice Springs	22.02	193	⇑iP	P	15 07 50.2	+1.2
STKA	Stephens Creek	29.72	176	P	P	15 09 01.2	0.0
	2.6nm,0.9s,mb4.0,baz=15,slow=12,SNR=3.3						
MKAR	Makanchi Array	69.52	322	P	P	15 14 02.8	-0.5
	0.5nm,0.6s,mb3.6,baz=112,slow=7.8,SNR=5.5						
VNDA	Vanda	76.36	175	P	P	15 14 42.9	0.0
	0.8nm,0.9s,mb3.6,baz=333,slow=5.0,SNR=4.4						

NEIC 17 15:14:07.8, 18.21N×69.67W, h14^{km}, MD3.5(RSPR), After RSPR.
RSPR 17 15:14:07.8, 18.21N×69.67W, h14^{km}±50^{km}, MD3.5/5, MD3.5/5, 3C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	2.44	84	⇑eP	Pn	15 14 44.6	-3.3
AGPR				eS	Sn	15 15 11.7	-6.0
LSP	Las Mesas	2.45	90	⇑eP	Pn	15 14 44.7	-3.4
LSP				eS	Sn	15 15 13.4	-4.6
MGP	Maguayo	2.46	94	⇑eP	Pn	15 14 43.2	-4.9
MGP				eS	Sn	15 15 14.9	-3.3
AOPR	Arecibo Observ	2.77	87	⇓eP	Pn	15 14 50.8	-1.8
AOPR				eS	Sn	15 15 22.3	-3.9

IDC 17 15:21:59.8±0.8, 11.45N×144.36E, mb4.5/12, mb1 4.7/13, mb1mx4.5/23, mbtmp4.5/13, ML3.8/1, MS3.5/10, Ms1 3.6/10, ms1mx3.5/19, Error ellipse: s-maj=26.4km s-min=17.5km az=92.0
BJI 17 15:22:01.8, 11.23N×144.30E, h19^{km}, mB5.0, mb4.8, Ms4.4, Msz3.9
MOS 17 15:22:02.7±1.1, 11.45N×144.27E, h33^{km}, mb4.8/24, Error ellipse: s-maj=16.0km s-min=7.7km az=105.3
NEIC 17 15:22:04.3±0.3, 11.44N×144.33E, mb4.7/17, Error ellipse: s-maj=9.2km s-min=6.3km az=89.0
ISC 17 15:22:02.6±0.4, 11.41N±0.04×144.35E±0.06, h31^{km}, h31^{km}±.6^{km}:pP-P, n91, σ1^{s}11/93, mb4.7/52, MS3.7/16, 2C-5D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.22	13	Pn	Pn	15 22 38.1	-0.1
	25nm,0.3s,baz=180,slow=10,SNR=69						
GUMO				Sn	Sn	15 23 03.6	-1.3
	46nm,0.3s,baz=6.4,slow=19,SNR=7.1						
GUMO				LR	LR	15 23 29.2	
	comp=Z,336nm,19.6s,baz=237,slow=41						
GUMO	Guam	2.22	13	ePn	Pn	15 22 37.8	-0.4
GUMO				eSn	Sn	15 23 04.2	-0.7
PMG	Port Moresby	20.87	172	LR	LR	15 33 18.5	
	comp=Z,168nm,18.4s,MS3.5,baz=48,slow=32						
JOW	Kunigami	21.55	318	P	P	15 26 51.5	-0.1
	47nm,0.9s,mb4.9,baz=133,slow=8.3,SNR=9.4						
JOW				LR	LR	15 34 29.7	
	comp=Z,53nm,20.6s,MS2.9,baz=359,slow=35						
JHJ	Hachijo jima 2	22.01	350	LR	LR	15 33 52.2	
	comp=Z,139nm,21.1s,MS3.4,baz=159,slow=32						
JNU	Nakatsue	24.90	332	P	P	15 27 23.9	-0.6
	26nm,0.8s,mb4.8,baz=109,slow=6.4,SNR=15						
MJAR	Matsushiro Arr	25.63	349	P	P	15 27 28.8	-2.5
	7.1nm,0.8s,mb4.2,baz=165,slow=8.8,SNR=23						
MJAR				LR	LR	15 36 43.6	
	comp=Z,128nm,19.1s,MS3.5,baz=160,slow=35						
MAJO	Matsushiro	25.63	349	eP	P	15 27 30.9	-0.5
	10nm,0.6s,mb4.5						
MAJO				eS	S	15 31 56.5	+1.5
MAJO	Matsushiro	25.63	349	eP	P	15 27 30.9	-0.4
MAJO				eS	S	15 31 56.5	+1.5
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
MAT	Matsushiro	25.63	349	P	P	15 27 28.2	-3.1
MAT				S	S	15 31 59.0	+4.0
MAT	Matsushiro	25.63	349	eP	P	15 27 28.0	-3.3
	comp=Z,8.2nm,0.8s,mb4.3						
MAT				eS	S	15 32 04.0	+9.0
MAT	Matsushiro	25.63	349	eP	P	15 27 28.0	-3.3
MAT				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
SSE	Sheshan	29.04	316	P	P	15 28 00.6	-1.8
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,91nm,4.3s						
NJ2	Nanjing	31.20	315	eP	P	15 28 22.4	+0.8
NJ2				AP	pP	15 28 32.1	+1.4
NJ2				XP	sP	15 28 35.6	+1.0
NJ2				PP	PP	15 29 23.1	-1.7
NJ2				S	S	15 33 24.0	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,170nm,4.8s						
NJ2				LR	LR		
	comp=N,350nm,22.3s,MS4.5						
NJ2				LR	LR		
	comp=E,1µm,23.2s,MS4.5						
NJ2				LR	LR		
	comp=Z,180nm,26.1s,MS3.6						
CTA	Charters Tower	31.36	177	eP	P	15 28 22.9	-0.2
	comp=Z,2.9nm,1.0s,mb4.1						
CTA	Charters Tower	31.36	177	eP	P	15 28 22.9	-0.2
CTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CTAO	Charters Tower	31.36	177	P	P	15 28 21.9	-1.2
	comp=Z,3.2nm,0.9s,mb4.2						
CTAO	Charters Tower	31.36	177	P	P	15 28 21.9	-1.2
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
WRAB	Tennant Creek	32.67	198	eP	P	15 28 33.4	-1.1
	comp=Z,8.3nm,0.7s,mb4.8						
WRAB				e	pP	15 28 42.3	-1.3
WRAB	Tennant Creek	32.67	198	eP	P	15 28 33.4	-1.1
WRAB				e	pP	15 28 42.3	-1.3
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
WB2	Warramunga Arr	32.67	198	eP	P	15 28 34.1	-0.5
WRA	Warramunga Arr	32.68	198	P	P	15 28 33.8	-0.9
	comp=Z,4.1nm,0.7s,mb4.5,baz=20,slow=9.8,SNR=45						
FITZ	Fitzroy Crossi	34.66	212	P	P	15 28 51.5	-0.3
	comp=Z,8.2nm,1.0s,mb4.6,baz=24,slow=6.7,SNR=4.0						
MDJ	Mudanjiang	35.44	342	P	P	15 29 00.0	+1.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,58nm,4.6s						
MDJ				LR	LR		
	comp=Z,59nm,22.1s,MS3.3						
CN2	Changchun	36.17	337	eP	P	15 29 06.5	+2.1
ASPA	Alice Springs	36.33	196	eP	P	15 29 05.8	-0.1
ENH	Enshi	37.38	305	eP	P	15 29 15.2	+0.5
	comp=Z,37nm,0.9s,mb5.2						
GYA	Guiyang	38.49	298	⇓iP	P	15 29 25.8	+1.7
GYA				AP	pP	15 29 35.3	+2.1
GYA				XP	sP	15 29 39.3	+2.2
GYA				PP	PP	15 30 58.4	+2.5
GYA				PCP	PcP	15 31 38.3	+1.2
GYA				S	S	15 35 19.5	+2.3
GYA				SCS	ScS	15 39 32.6	+2.2
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GYA				LR	LR		
	comp=N,310nm,17.8s,MS4.3						
GYA				LR	LR		
	comp=E,290nm,18.0s,MS4.3						
GYA				LR	LR		
	comp=Z,240nm,17.6s,MS4.1						
KLR	Kul'dur	39.13	347	eP	P	15 29 25.8	-3.4
XAN	Xi'an	39.38	311	P	P	15 29 30.8	-0.6
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
HHC	Hu-ho-hao-te	41.12	321	eP	P	15 29 52.1	+6.5
HHC				PCP	PcP	15 31 47.8	+2.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,85nm,3.6s						
HHC				LR	LR		
	comp=N,143nm,14.3s,MS4.1						
HHC				LR	LR		
	comp=E,153nm,14.3s,MS4.1						
HHC				LR	LR		
	comp=Z,98nm,14.3s,MS3.8						
KMI	Kunming	41.62	295	P	P	15 29 52.3	+2.3
KMI				AP	pP	15 30 01.8	+2.6
KMI				XP	sP	15 30 06.3	+3.3
KMI				PP	PP	15 31 29.4	+0.1
KMI				S	S	15 36 05.8	+1.7
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,137nm,4.3s						
KMI				LR	LR		
	comp=Z,46nm,32.7s,MS3.1						
CD2	Chengdu	42.23	304	⇑iP	P	15 29 55.4	+0.4
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
HIA	Hailar	42.91	336	eP	P	15 29 59.1	-1.1
	comp=Z,3.2nm,0.6s,mb4.2						
HIA	Hailar	42.91	336	eP	P	15 29 59.1	-1.1
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LZH	Lanzhou	44.02	311	eP	P	15 30 10.5	+1.1
LZH				AP	pP	15 30 20.3	+1.7
LZH				XP	sP	15 30 24.1	+1.7
LZH				PP	PP	15 31 54.0	+0.6
LZH				eS	S	15 36 39.0	0.0
LZH				XS		15 36 56.0	
LZH				SS	SS	15 39 47.0	-1.2
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,113nm,4.6s						
LZH				LR	LR		
	comp=E,580nm,15.5s						
LZH				LR	LR		
	comp=Z,739nm,16.7s,MS4.7						
SONM	Songino Array	48.23	326	P	P	15 30 43.1	+0.5
	comp=Z,3.1nm,0.6s,mb4.5,baz=145,slow=7.5,SNR=18						
GTA	Gaotai	48.26	313	P	P	15 30 43.5	+0.5
GTA				AP	pP	15 30 53.3	+1.0
GTA				XP	sP	15 30 57.3	+1.4
GTA				AMB	AMB		
	comp=Z,19nm,1.1s,mb5.0						
GTA				AMB	AMB		
	comp=Z,148nm,6.5s						
GTA				LR	LR		
	comp=N,74nm,8.0s						
GTA				LR	LR		
	comp=E,90nm,6.1s						
GTA				LR	LR		
	comp=Z,91nm,9.2s						
ZAK	Zakamensk	51.37	327	eP	P	15 31 06.4	-0.2
ZAK				e		15 32 20.3	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
YAK	Yakutsk	51.64	351	eP	P	15 31 07.3	-1.2
	comp=Z,20nm,0.9s,mb5.0						
YAK				e	pP	15 31 16.8	-1.0
YAK	Yakutsk	51.64	351	eP	P	15 31 07.3	-1.2
YAK				e	pP	15 31 16.8	-1.1
YAK				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
LSA	Lhasa	52.56	299	eP	P	15 31 16.6	+0.7
	comp=Z,4.4nm,0.6s,mb4.6						
LSA	Lhasa	52.56	299	eP	P	15 31 16.6	+0.7
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
PKI	Pulchoki	57.35	295	eP	P	15 31 50.2	-0.5
	comp=Z,25nm,1.0s,mb5.2						
PKI	Pulchoki	57.35	295	eP	P	15 31 50.2	-0.5
PKI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
KKN	Kakani	57.48	296	eP	P	15 31 51.3	-0.3
	comp=Z,20nm,0.7s,mb5.2						
DMN	Daman	57.62	295	eP	P	15 31 52.3	-0.3
	comp=Z,38nm,0.8s,mb5.5						
GKN	Gorkha	58.06	296	eP	P	15 31 55.4	-0.2
	comp=Z,71nm,1.2s,mb5.6						
WMQ	Urumqi	58.28	315	⇓iP	P	15 31 57.8	+0.8
WMQ				AP	pP	15 32 08.0	+1.5
WMQ				XP	sP	15 32 12.0	+2.1
WMQ				PCP	PcP	15 32 49.0	+1.3
WMQ				PP	PP	15 34 09.0	+1.3
WMQ				eS	S	15 39 56.0	+0.7
WMQ				XS		15 40 12.0	
WMQ				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,127nm,5.0s						
WMQ				LR	LR		
	comp=N,96nm,16.4s,MS4.1						
WMQ				LR	LR		
	comp=E,59nm,17.2s,MS4.1						
WMQ				LR	LR		
	comp=Z,80nm,19.6s,MS3.8						
KOLN	Koldanda	58.96	296	eP	P	15 32 01.8	-0.1
	comp=Z,26nm,0.8s,mb5.3						
TIXI	Tiksi	60.94	354	eP	P	15 32 12.7	-2.2
TIXI				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
MKAR	Makanchi Array	62.71	317	P	P	15 32 27.1	0.0
	comp=Z,3.6nm,0.9s,mb4.5,baz=92,slow=8.4,SNR=26						
MKAR				LR	LR	16 02 35.1	
	comp=Z,23nm,18.3s,MS3.4,baz=187,slow=39						
MKAR	Makanchi Array	62.71	317	i P	P	15 32 27.0	-0.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAL	Zalesovo	63.11	325	P	P	15 32 29.1	-0.5
	comp=Z,1.6nm,0.6s,mb4.3,baz=4.6,slow=5.5,SNR=8.8						
ZAL				LR	LR	15 58 47.8	
	comp=Z,46nm,18.4s,MS3.7,baz=173,slow=35						
NVS	Novosibirsk	64.26	326	eP	P	15 32 34.5	-2.7
NVS				pmax	pmax		
	comp=N,9.0nm,2.0s						
NVS				pmax	pmax		
	comp=Z,15nm,2.0s,mb4.7						
NVS				pmax	pmax		
	comp=E,11nm,1.8s						
KURK	Kurchatov	65.92	321	eP	P	15 32 47.3	-0.6
	comp=E,23nm,1.1s,mb5.1						
KURK				epP	pP	15 32 56.7	-0.8
KURK				esP	sP	15 33 01.9	+0.9
KURK	Kurchatov	65.92	321	eP	P	15 32 47.3	-0.6
KURK				e*PP	pP	15 32 56.7	-0.8
KURK				e*SP	sP	15 33 01.9	+1.0
KURK				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
AAK	Ala-Archa	67.55	311	d iP	P	15 32 57.5	-1.0
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
KKAR	Karatay Array	70.51	312	i P	P	15 33 16.7	+0.1
KKAR				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
ILAR	Eielson Array	70.74	25	P	P	15 33 16.4	-1.3
	comp=Z,2.7nm,0.8s,mb4.2,baz=251,slow=6.0,SNR=23						
ILAR				LR	LR	16 01 50.8	
	comp=Z,71nm,20.3s,MS3.9,baz=356,slow=34						
VOSK	Vostochnaya	70.93	322	P	P	15 33 18.5	-0.5
VOSK				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
BVA0	Borovoye Array	71.32	322	i P	P	15 33 21.3	-0.1
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
BRVK	Borovoye	71.39	322	eP	P	15 33 21.7	-0.1
	comp=Z,15nm,1.3s,mb4.8						
BRVK	Borovoye	71.39	322	eP	P	15 33 21.7	-0.1
BRVK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
SVE	Sverdlovsk	77.10	326	eP	P	15 33 55.5	+0.8
ARU	Arti	78.26	326	eP	P	15 34 01.1	0.0
	comp=Z,5.6nm,1.0s,mb4.5						
ARU				e	pP	15 34 10.1	-0.7
ARU	Arti	78.26	326	⇓iP	P	15 34 01.0	-0.1
ARU				e		15 36 57.2	
ARU				eS	S	15 43 51.3	-1.3
ARU				eSS	SS	15 48 53.1	-5.0
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
YBH	Yreka Blue Hor	84.68	49	eP	P	15 34 36.0	+0.9
	comp=Z,6.9nm,0.8s,mb4.8						
YBH				e	pP	15 34 45.4	+0.5
YBH	Yreka Blue Hor	84.68	49	eP	P	15 34 36.0	+1.0
YBH				e	pP	15 34 45.4	+0.5
YBH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA	Yellowknife Ar	85.02	27	P	P	15 34 36.7	+0.5
	comp=Z,2.4nm,0.8s,mb4.4,baz=286,slow=5.4,SNR=6.1						
YKA	Yellowknife Ar	85.02	27	P	P	15 34 36.7	+0.5
YKA	Yellowknife Ar	85.02	27	⇑eP	P	15 34 37.3	+1.1
BEKR	Beckwourth	86.79	50	eP	P	15 34 47.0	+1.4
	comp=Z,5.1nm,0.9s,mb4.8						
BEKR				e	pP	15 34 56.0	+0.6
CMB	Columbia Colle	87.16	52	eP	P	15 34 49.3	+1.9
	comp=Z,3.8nm,1.0s,mb4.6						
CMB				e	pP	15 34 58.0	+0.8
CMB	Columbia Colle	87.16	52	eP	P	15 34 49.3	+1.9
CMB				e	pP	15 34 58.0	+0.8
CMB				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
WVOR	Wild Horse Val	87.50	47	eP	P	15 34 49.4	+0.5
	comp=Z,2.5nm,0.8s,mb4.5						
WVOR				e	pP	15 34 59.6	+0.9
WVOR	Wild Horse Val	87.50	47	eP	P	15 34 49.4	+0.5
WVOR				e	pP	15 34 59.6	+0.8
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
NVAR	Mina Array Bea	88.67	51	P	P	15 34 57.1	+2.5
	comp=Z,4.0nm,0.8s,mb4.8,baz=258,slow=8.9,SNR=30						
KIV	Kislovodsk	90.41	315	eP	P	15 35 01.7	-1.0
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.8						
OBN	Obninsk	90.64	327	⇓iP	P	15 35 03.4	0.0
OBN				eS	S	15 45 49.1	-5.5
OBN				ePS	PS	15 47 11.4	+1.8
OBN				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.2						
HRY	Holter Researc	91.06	42	eP	P	15 35 07.0	+1.5
HRY				e	pP	15 35 16.3	+0.9
NEN	Nelson	92.04	53	eP	P	15 35 11.6	+1.2
NEN				e	pP	15 35 21.9	+1.7
NEN				e		15 35 27.9	
FINES	FINESS Array B	92.91	335	P	P	15 35 12.9	-0.8
	comp=Z,3.6nm,1.0s,mb4.8,baz=207,slow=16,SNR=4.7						
FINES	FINESS Array B	92.91	335	i P	P	15 35 12.2	-1.5
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAW	Mawson	97.23	202	LR	LR	16 19 33.1	
	comp=Z,61nm,18.6s,MS4.1,baz=108,slow=36						
NOA	NORSAR Array B	98.89	339	LR	LR	16 22 30.0	
	comp=Z,25nm,18.7s,MS3.7,baz=325,slow=37						
DBIC	Dimbokro	144.49	299	PKP	PKPdf	15 41 37.1	-5.1
	comp=Z,9.2nm,0.8s,baz=356,slow=3.4,SNR=7.3						
KIC	Kosan Boka	144.54	298	ePKP1	PKPbc	15 41 37.4	+0.5
	comp=Z,67nm,1.0s						
TIC	Toumodi	144.64	299	ePKP1	PKPbc	15 41 37.8	+0.6
	comp=Z,10.0nm,0.2s						
LIC	Lamto	144.85	298	ePKP1	PKPbc	15 41 38.5	+0.7
	comp=Z,54nm,1.0s						
LPAZ	La Paz	148.12	102	PKPbc	PKPdf	15 41 49.5	+1.3
	comp=Z,1.5nm,0.8s,baz=222,slow=3.5,SNR=4.5						

IDC 17 15:39:19.1±1.4, 11.38N×144.40E, mb3.6/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.7/5, Error ellipse: s-maj=54.7km s-min=25.0km az=97.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.24	12	Pn	Pn	15 39 56.7	-1.2
	18nm,0.3s,baz=158,slow=8.6,SNR=26						
GUMO				Sn	Sn	15 40 22.5	-4.2
	40nm,0.3s,baz=333,slow=23,SNR=15						
MJAR	Matsushiro Arr	25.67	348	P	P	15 44 49.0	-3.3
	0.9nm,0.7s,baz=166,slow=9.2,SNR=4.4						
WRA	Warramunga Arr	32.67	198	P	P	15 45 52.5	-2.8
	0.3nm,0.5s,baz=21,slow=10.0,SNR=5.2						
SONM	Songino Array	48.28	326	P	P	15 48 03.5	-0.4
	0.4nm,0.6s,baz=148,slow=7.2,SNR=4.3						
NVAR	Mina Array Bea	88.65	51	P	P	15 52 15.7	-0.1
	0.7nm,0.7s,baz=262,slow=6.4,SNR=6.7						

NEIC 17 16:23:32.9, 28.03N×16.15W, h21^{km}, MN2.8(MDD), After MDD.
CSEM 17 16:23:32.9±0.2, 28.03N×16.15W, h21^{km}±13^{km}, mb4.4/9, Error ellipse: s-maj=5.0km s-min=1.0km az=7.0, After MDD
MDD 17 16:23:33.0±0.2, 28.02N×16.16W, h20^{km}, mbLg2.8/10, 1C-6D, Error ellipse: s-maj=4.3km s-min=1.0km az=8.0,

PRXIMO TT-MODEL: CANARY,Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCAN	Las Canadas	0.44	296	⇓P	Pb	16 23 41.2	-0.8
	94nm,0.1s,SNR=18						
CCAN				UNK		16 23 44.6	
	SNR=9.6						
CCAN				S	Sb	16 23 48.2	0.0
	303nm,0.3s						
CCAN	Las Canadas	0.44	296	⇓P	Pb	16 23 41.2	-0.8
CCAN				S	Sb	16 23 48.2	0.0
CRAJ	Montana Rajada	0.46	302	⇓P	Pb	16 23 41.4	-0.9
	204nm,0.1s,SNR=18						
CRAJ				S	Sb	16 23 46.3	-2.3
	3μm,0.2s,SNR=12						
CRAJ	Montana Rajada	0.46	302	P	Pb	16 23 41.4	-0.8
	204nm,0.1s,SNR=18						
CRAJ				S	Sb	16 23 46.3	-2.3
	3μm,0.2s,SNR=12						
EOSO	Osorio	0.54	85	⇑P	Pb	16 23 42.4	-1.2
	106nm,0.1s,SNR=18						
EOSO				S	Sb	16 23 47.7	-3.1
	559nm,0.2s						
EOSO	Osorio	0.54	85	P	Pb	16 23 42.4	-1.1
	106nm,0.1s,SNR=18						
EOSO				S	Sb	16 23 47.7	-3.1
	559nm,0.2s						
CICO	Icod de los Vi	0.60	303	⇓P	Pb	16 23 43.6	-1.0
	15nm,0.1s,SNR=18						
CICO				S	Sb	16 23 50.7	-1.8
	15nm,0.2s,SNR=7.8						
CHIO	Chio	0.62	290	P	Pb	16 23 44.8	-0.2
	90nm,0.2s,SNR=9.3						
CHIO				S	Sb	16 23 51.8	-1.5
	222nm,0.2s,SNR=12						
EGOM	La Gomera	0.94	278	⇓P	Pb	16 23 47.8	-2.6
	10nm,0.1s,SNR=18						
EGOM				S	Sb	16 23 59.6	-2.9
	203nm,0.2s						
EGOM	La Gomera	0.94	278	⇓P	Pb	16 23 47.8	-2.6
EGOM				S	Sb	16 23 57.5	-4.9
EGOM	La Gomera	0.94	278	P	Pb	16 23 47.8	-2.6
	10nm,0.1s,SNR=18						
EGOM				S	Sb	16 23 57.5	-5.0
	203nm,0.2s						
EHIG	Higuera	1.55	290	P	Pn	16 23 58.0	-1.8
	10nm,0.2s,SNR=4.0						
EHIG				S	Sn	16 24 14.9	-4.6
	38nm,0.2s,SNR=7.9						
EHIG	Higuera	1.55	290	P	Pn	16 23 58.0	-1.8
	10nm,0.2s,SNR=4.0						
EHIG				S	Sn	16 24 14.9	-4.6
	38nm,0.2s,SNR=7.9						
CHIE	El Hierro	1.63	260	P	Pn	16 23 58.2	-2.7
	3.3nm,0.1s,SNR=6.0						
CHIE				S	Sn	16 24 15.7	-5.7
	8.5nm,0.2s,SNR=7.7						
CHIE	El Hierro	1.63	260	P	Pn	16 23 58.2	-2.7
CHIE				S	Sn	16 24 14.1	-7.3
CHIE	El Hierro	1.63	260	P	Pn	16 23 58.2	-2.7
	3.3nm,0.1s,SNR=6.0						
CHIE				S	Sn	16 24 14.1	-7.3
	8.5nm,0.2s,SNR=7.7						
CFTV	Fuerteventura	1.87	78	P	Pn	16 24 01.0	-3.3
	2.9nm,0.2s,SNR=6.7						
CFTV				S	Sn	16 24 22.9	-4.7
	11nm,0.1s						
CFTV	Fuerteventura	1.87	78	P	Pn	16 24 01.0	-3.3
CFTV				S	Sn	16 24 20.8	-6.8
CFTV	Fuerteventura	1.87	78	P	Pn	16 24 01.0	-3.4
	2.9nm,0.2s,SNR=6.7						
CFTV				S	Sn	16 24 20.8	-6.8
	11nm,0.1s						
EFAM	Famara	2.56	64	P	Pn	16 24 09.8	-4.4
	5.1nm,0.1s,SNR=4.0						
EFAM				S	Sn	16 24 38.5	-6.6
	11nm,0.2s,SNR=7.9						
EFAM	Famara	2.56	64	P	Pn	16 24 09.8	-4.4
EFAM				S	Sn	16 24 36.2	-8.9
EFAM	Famara	2.56	64	P	Pn	16 24 09.8	-4.4
	5.1nm,0.1s,SNR=4.0						

IDC 17 16:24:15.7±1.7**,11.51S**×**165.14E,mb3.7**/3**,mb1 3.9**/5**, mb1mx3.7**/16**,mbtmp3.8**/5**,ML3.8**/2**,Error ellipse: s-maj=40.4km s-min=35.2km az=111.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.51	291	Pn	Pn	16 25 39.4	-1.6
	6.6nm,0.3s,baz=200,slow=12,SNR=3.8						
DZM	Mont Dzumac	10.58	173	Pn	P	16 26 49.3	-2.4
	0.3nm,0.3s,baz=283,slow=23,SNR=8.2						
WRA	Warramunga Arr	30.77	250	P	P	16 30 33.1	-2.2
	0.9nm,0.8s,baz=83,slow=9.0,SNR=7.5						
ILAR	Eielson Array	84.13	19	P	P	16 36 48.4	-1.2
	0.4nm,0.5s,baz=232,slow=4.2,SNR=4.6						
MKAR	Makanchi Array	93.45	317	P	P	16 37 33.0	-1.4
	0.2nm,0.7s,baz=108,slow=4.6,SNR=2.9						

*NEIC **17** 16:33:27.6±1.0,22.95S×179.87W,h554^{km}±12^{km}, mb4.6/10,Error ellipse: s-maj=14.4km s-min=10.2km az=183.0*

*IDC **17** 16:33:28.4±1.1,22.96S×179.89W,h559^{km}±10^{km}, mb3.9/11,mb1 4.1/12,mb1mx3.9/18,mbtmp4.9/12,Error ellipse: s-maj=16.2km s-min=12.8km az=2.0*

ISC 17 16:33:28.0±1.1**,23.1S**±0.1×**179.93W**±0.08**,h573**^{km}±14^{km}**, n42,**σ**0**^{s}**86**/37**,mb4.5**/21**,1C-6D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.41	164	P	P	16 35 10.1	-2.0
	225nm,0.3s,baz=114,slow=19,SNR=7.9						
DZM	Mont Dzumac	12.63	272	P	P	16 36 14.3	+1.1
	0.4nm,0.3s,baz=103,slow=17,SNR=6.0						
HNR	Honiara	23.56	302	P	P	16 37 55.3	-1.3
	17nm,0.4s,mb5.0,baz=124,slow=3.6,SNR=3.2						
HNR	Honiara	23.56	302	eP	P	16 37 53.2	-3.3
	8.7nm,0.4s,mb4.7						
ARMA	Armidale	26.38	248	eP	P	16 38 22.8	+1.5
CTA	Charters Tower	31.55	269	⇓iP	P	16 39 06.8	+1.1
	62nm,0.3s,mb5.7						
CTA	Charters Tower	31.55	269	P	P	16 39 06.8	+1.1
	77nm,0.4s,mb5.7,baz=95,slow=11,SNR=267						
TOO	Toolangi	32.95	236	eP	P	16 39 18.3	+0.9
	4.0nm,0.5s,mb4.3						
PMG	Port Moresby	34.30	288	P	P	16 39 29.5	+0.6
	57nm,0.7s,mb5.3,baz=100,slow=4.5,SNR=27						
PMG	Port Moresby	34.30	288	eP	P	16 39 29.0	+0.2
	62nm,0.8s,mb5.3						
STKA	Stephens Creek	35.09	247	⇓iP	P	16 39 36.4	+1.1
	6.9nm,0.6s,mb4.5						
STKA	Stephens Creek	35.09	247	P	P	16 39 36.5	+1.2
	8.3nm,0.6s,mb4.6,baz=90,slow=11,SNR=34						
ASPA	Alice Springs	42.24	260	⇓iP	P	16 40 33.5	+0.2
ASPA				eS	S	16 46 13.2	-0.4
WB2	Warramunga Arr	42.52	265	⇓iP	P	16 40 35.3	-0.2
WB2				eSCP		16 45 15.4	
WB2				eS	S	16 46 16.9	-0.7
WRAB	Tennant Creek	42.52	265	eP	P	16 40 34.9	-0.7
	37nm,0.8s,mb5.0						
WRA	Warramunga Arr	42.53	265	P	P	16 40 35.4	-0.2
	22nm,0.7s,mb4.8,baz=102,slow=8.1,SNR=99						
WRA				ScP		16 45 15.5	
	4.6nm,0.9s,baz=97,slow=4.1,SNR=18						
WRA				S	S	16 46 16.7	-1.1
	0.7nm,0.7s,baz=96,slow=15,SNR=5.2						
KAKA	Kakadu	46.30	274	⇓iP	P	16 41 23.1	+18
	18nm,0.3s,mb5.1						
FORT	Forrest	46.66	249	eP	P	16 41 06.9	-0.5
	45nm,0.6s,mb5.2						
GUMO	Guam	50.16	313	P	P	16 41 33.1	-0.6
	25nm,0.4s,mb5.0,baz=234,slow=22,SNR=4.4						
GUMO	Guam	50.16	313	eP	P	16 41 33.2	-0.5
	16nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	50.96	265	eP	P	16 41 39.4	-0.1
	20nm,0.5s,mb4.8						
VNDA	Vanda	55.20	185	P	P	16 42 09.3	+0.5
	2.1nm,0.5s,mb3.7,baz=0.3,slow=7.8,SNR=20						
VNDA	Vanda	55.20	185	P	P	16 42 09.3	+0.5
KLBR	Kellerberrin	55.37	247	eP	P	16 42 10.0	-0.5
	50nm,1.4s,mb4.7						
MBWA	Marble Bar	55.58	259	eP	P	16 42 11.5	-0.6
	16nm,0.6s,mb4.4						
QSPA	South Pole Qui	67.00	180	⇑iP	P	16 43 26.4	+0.9
	14nm,0.6s,mb4.6						
MJAR	Matsushiro Arr	71.26	325	P	P	16 43 51.0	-0.6
	1.6nm,0.8s,mb3.6,baz=158,slow=5.9,SNR=7.5						
MJAR	Matsushiro Arr	71.26	325	P	P	16 43 51.0	-0.6
CMB	Columbia Colle	82.56	43	eP	P	16 44 52.6	0.0
	4.7nm,0.9s,mb4.0						
SYO	Syowa Base	83.82	193	⇓P	P	16 44 56.3	-1.7
NVAR	Mina Array Bea	84.12	44	P	P	16 45 00.7	+0.4
	1.3nm,0.6s,mb3.7,baz=220,slow=7.4,SNR=11						
TXAR	Lajitas Array	89.95	58	P	P	16 45 29.0	+0.9
	2.6nm,0.8s,mb4.1,baz=211,slow=6.8,SNR=27						
ANMO	Albuquerque	90.41	52	eP	P	16 45 30.0	0.0
	4.3nm,1.2s,mb4.2						
PDAR	Pinedale Array	92.06	44	P	P	16 45 37.5	+0.1
	1.3nm,0.8s,mb4.0,baz=207,slow=3.3,SNR=8.3						
MKAR	Makanchi Array	111.64	313	PKiKP		16 50 57.9	
	0.2nm,0.5s,baz=144,slow=1.8,SNR=4.3						
MKAR				SKP		16 53 41.4	
	0.4nm,0.6s,baz=213,slow=0.9,SNR=5.7						
BVAR	Borovoye Array	119.87	319	PKP	PKPdf	16 51 14.0	+0.6
	0.6nm,0.5s,baz=270,slow=1.5,SNR=4.1						
BVAR				SKP		16 53 57.7	
	0.7nm,0.7s,baz=135,slow=2.1,SNR=3.9						
FINES	FINESS Array B	137.69	342	SKP		16 54 29.7	
	1.5nm,0.6s,baz=22,slow=4.1,SNR=14						
NOA	NORSAR Array B	141.28	351	PKhKP		16 51 49.5	
	1.0nm,0.8s,baz=341,slow=4.2,SNR=3.4						
HFS	Hagfors	141.76	349	PKhKP		16 51 50.8	
	1.9nm,0.4s,baz=72,slow=4.7,SNR=28						
AKASG	Malin Array Be	144.32	328	PKP	PKPdf	16 51 59.1	+0.4
	0.6nm,0.4s,baz=43,slow=4.1,SNR=6.0						
AKASG				SKPbc		16 54 47.0	
	1.8nm,0.6s,baz=45,slow=2.7,SNR=11						
CLL	Collm	150.09	344	i PKP1	PKPdf	16 52 15.4	+7.3
GERES	GERESS Array B	152.11	341	PKPbc	PKPdf	16 52 19.7	+8.6
	0.5nm,0.6s,slow=2.7,SNR=5.0						

*NEIC **17** 16:34:17.6,37.87S×176.63E,h155^{km},MG4.1(WEL), After WEL.*

WEL 17 16:34:17.3±0.3**,37.85S**×**176.62E,h156**^{km}±3^{km}**,ML4.0**/6**, 1C,Error ellipse: s-maj=3.4km s-min=2.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.56	137	PN	P	16 34 39.7	-0.4
URZ				SN	S	16 34 56.6	-1.0
URZ	Urewera	0.56	137	P	P	16 34 39.7	-0.4
MWZ	Matawai	0.86	125	PN	P	16 34 41.6	-0.2
MWZ				SN	S	16 35 00.6	-0.1
MWZ	Matawai	0.86	125	P	P	16 34 41.6	-0.2
MWZ				S	S	16 35 00.6	-0.1
PUZ	Puketiti	1.31	100	PN	P	16 34 45.2	-0.5
PUZ				SN	S	16 35 06.1	-1.6
BKZ	Black Stump Fm	1.32	184	PN	P	16 34 45.5	-0.3
BKZ				SN	S	16 35 06.8	-1.1
BKZ	Black Stump Fm	1.32	184	P	P	16 34 45.5	-0.3
BKZ				S	S	16 35 06.8	-1.1
KNZ	Kokohu	1.43	145	PN	P	16 34 46.8	-0.2
KNZ				SN	S	16 35 08.5	-1.4
KNZ	Kokohu	1.43	145	P	P	16 34 46.8	-0.2
OTVZ	Oturere	1.52	209	PN	P	16 34 48.2	+0.4
TUVZ	Tukino	1.61	208	PN	P	16 34 48.9	+0.1
TUVZ	Tukino	1.61	208	P	P	16 34 48.9	+0.1
FWVZ	Far West T-bar	1.64	211	PN	P	16 34 48.9	-0.2
FWVZ				SN	S	16 35 14.0	+0.3
WNVZ	Wahianoa	1.68	208	PN	P	16 34 49.5	-0.1
MOVZ	Moawhango	1.70	203	PN	P	16 34 49.1	-0.6
MOVZ	Moawhango	1.70	203	P	P	16 34 49.1	-0.7
PXZ	Pawanui	2.19	175	PN	P	16 34 54.2	-1.2
PXZ				SN	S	16 35 22.9	-1.8
TSZ	Takapari Road	2.27	193	PN	P	16 34 55.0	-1.4
TSZ	Takapari Road	2.27	193	P	P	16 34 55.0	-1.4
BFZ	Birch Farm	2.84	186	PN	P	16 35 01.1	-2.5
MRZ	Mangatainoka R	2.93	196	⇑PN	P	16 35 01.9	-2.7
MRZ				SN	S	16 35 37.2	-3.7
KIW	Kapiti Island	3.29	203	PN	P	16 35 06.1	-3.2
KIW				SN	S	16 35 44.4	-4.8
MTW	Mount Morrison	3.42	194	PN	P	16 35 07.1	-3.9
MTW				eSN	S	16 35 46.2	-6.0
CAW	Cannon Point	3.47	200	PN	P	16 35 08.1	-3.6
DUWZ	D'Urville Isla	3.62	215	ePN	P	16 35 10.1	-3.4

*CASC **17** 16:51:57.0±1.6,3.88N×82.34W,h35^{km}±999^{km},MD4.6, mb5.2(NEIC)*

*BJI **17** 16:51:58.9,3.90N×82.60W,h10^{km},mB5.6,Ms4.9,Msz4.5*

*NEIC **17** 16:51:58.9±0.2,3.89N×82.65W,h10^{km},mb5.2/73, MS4.4/9,Error ellipse: s-maj=6.1km s-min=3.6km az=40.0*

*HRVD **17** 16:51:58.9±0.2,3.94N×82.61W,h16^{km}±1^{km},MW5.2/69, Centroid moment Tensor Solution. LP body waves: s49,c80;Mantle waves: s69,c140; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.19±.17; $M_{\theta\theta}$0.02±.13; $M_{\phi\phi}$0.17±.17; $M_{r\theta}$-0.14±.39; $M_{\theta\phi}$6.53±.15; $M_{\phi r}$2.25±.48; Best double couple: $M_0$6.91×10^{16} NP1:ϕ_s89°, δ71°,λ-2°. NP2:ϕ_s180°,δ88°,λ-161°. Principal axes: T 6.953, Plg12°, Azm313°; N -.085, Plg71°, Azm184°; P -6.868, Plg14°, Azm46°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **17** 16:52:01.7±1.1,3.99N×82.71W,h35^{km},mb5.3/43, MS4.4/7 Error ellipse: s-maj=9.1km s-min=6.8km az=84.6*

*IDC **17** 16:52:04.4±3.0,3.93N×82.61W,h54^{km}±27^{km},mb4.3/21, mb1 4.5/23,mb1mx4.5/29,mbtmp4.6/23,ML4.0/2,MS4.3/19, Ms1 4.3/19,ms1mx4.2/21,Error ellipse: s-maj=18.8km s-min=10.3km az=59.0*

ISC 17 16:51:57.9±0.2**,4.02N**±0.04×**82.65W**±0.04**,h10**^{km}**, (h17**^{km}±.9^{km}**:pP-P),n279,**σ**1**^{s}**05**/247**,mb5.0**/91**,MS4.3**/24**, 10C-2D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	Buena Vista	5.61	349	⇓iP	Pn	16 53 21.8	-1.7
LCR2	La Lucha 2	5.84	347	⇑eP	Pn	16 53 24.3	-2.5
SJS	Escuela Geolog	6.04	347	⇓eP	Pn	16 53 27.3	-2.3
SJS				eS	Sn	16 54 39.0	-0.7
CGA2	Cerro Gallo 2	6.22	343	eP	Pn	16 53 30.1	-2.1
VPS2	Volcan Poas 2	6.33	346	eP	Pn	16 53 33.5	-0.1
VPS2				eS	Sn	16 54 46.1	-0.6
FORC	Fortuna	6.71	343	eP	Pn	16 53 38.6	-0.4
VCR	Vista de Mar	6.75	334	eP	Pn	16 53 37.8	-1.8
ROSC	El Rosal	8.33	84	P	P	16 54 03.0	+1.3
	16nm,0.3s,baz=5.8,slow=1.6,SNR=14						
ROSC				S	Sn	16 55 40.7	+3.8
	baz=102,slow=24,SNR=1.6						
ROSC				LR	LR	16 57 01.3	
	comp=Z,1μm,18.7s,baz=310,slow=36						
PAYG	Puerto Ayora	8.95	239	eP	P	16 54 08.0	-2.3
	651nm,1.5s						
SDV	Santo Domingo	12.88	67	P	P	16 55 03.5	-0.4
	3.2nm,0.3s,baz=262,slow=11,SNR=39						
SDV				S	S	16 57 25.5	-2.8
	1.6nm,0.3s,baz=343,slow=1.9,SNR=1.9						
SDV				LR	LR	16 59 47.7	
	comp=Z,3μm,22.0s,baz=262,slow=36						
SDV	Santo Domingo	12.88	67	ePn	P	16 55 03.0	-0.8
	135nm,1.1s						
NNA	Nana	16.92	160	eP	P	16 55 56.3	-0.2
	99nm,1.1s						
SJG	San Juan	21.37	48	P	P	16 56 47.0	-0.9
	97nm,0.8s,mb5.2,baz=204,slow=14,SNR=17						
SJG	San Juan	21.37	48	P	P	16 56 47.0	-0.9
SJG				MLR	MLR		
	comp=Z,416nm,20.0s						
ARE	Arequipa	23.15	152	eP	P	16 57 06.0	+0.3
SAML	Samuel	23.29	124	eP	P	16 57 04.3	-2.8
	comp=Z,119nm,1.3s,mb5.2						
FDF	Fort de France	23.70	62	eP	P	16 57 11.9	+0.8
BBL	Barber's Block	23.76	60	eP	P	16 57 11.8	+0.2
LZG	Guadaloupe-1	23.78	58	eP	P	16 57 12.4	+0.6
MVM	Montagne Vaucl	23.85	63	⇑eP	P	16 57 13.3	+0.8
DWPF	Disney	23.98	3	eP	P	16 57 15.3	+1.6
	comp=Z,37nm,0.7s,mb4.9						
DEG	La Desirade	24.47	59	eP	P	16 57 17.6	-0.9
LPAZ	La Paz	24.76	145	P	P	16 57 20.9	-0.4
	comp=Z,56nm,1.0s,mb5.1,baz=332,slow=9.2,SNR=76						
LPAZ				LR	LR	17 07 57.1	
	comp=Z,379nm,21.5s,MS3.9,baz=293,slow=39						
LPAZ	La Paz	24.76	145	eP	P	16 57 20.9	-0.5
	comp=Z,135nm,1.2s,mb5.3						
LPAZ	La Paz	24.76	145	eP	P	16 57 20.9	-0.5
LPAZ				pmax	pmax		
	comp=Z,135nm,1.2s						
LRAL	Lakeview Retre	29.15	352	eP	P	16 58 01.1	-0.4
	comp=Z,10nm,1.0s,mb4.5						
SIV	San Ignacio	29.17	133	P	P	16 57 59.8	-2.1
	comp=Z,3.3nm,0.9s,mb4.1,baz=312,slow=11,SNR=14						
LVC	Limon Verde	29.68	154	P	P	16 58 05.6	-0.8
	comp=Z,6.1nm,1.0s,mb4.3,baz=340,slow=9.6,SNR=6.2						
LVC				LR	LR	17 10 17.9	
	comp=Z,344nm,18.9s,MS4.0,baz=123,slow=37						
NATX	Nacogdoches	29.81	339	eP	P	16 58 06.9	-0.6
	comp=Z,106nm,1.9s,mb5.2						
TXAR	Lajitas Array	32.11	324	P	P	16 58 27.9	+0.2
	comp=Z,3.5nm,0.9s,mb4.2,baz=140,slow=9.8,SNR=25						
TXAR				LR	LR	17 11 08.8	
	comp=Z,234nm,19.9s,MS3.9,baz=140,slow=36						
WCI	Wyandotte Cave	34.21	355	eP	P	16 58 45.2	-0.7
	comp=Z,31nm,0.9s,mb5.2						
WCI	Wyandotte Cave	34.21	355	eP	P	16 58 45.2	-0.7
WCI				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
MNTX	Cornudas Mount	34.85	325	⇑eP	P	16 58 51.5	+0.1
	comp=Z,63nm,1.4s,mb5.3						
ACSO	Alum Creek Sta	36.05	360	eP	P	16 58 59.7	-1.9
MVL	Millersville	36.26	8	eP	P	16 59 04.8	+1.4
KSU1	Kansas State U	37.15	342	eP	P	16 59 10.2	-0.6
ANMO	Albuquerque	37.87	327	P	P	16 59 18.6	+1.7
	comp=Z,32nm,0.9s,mb5.0,baz=148,slow=10.0,SNR=70						
ANMO	Albuquerque	37.87	327	eP	P	16 59 18.4	+1.5
	comp=Z,45nm,1.0s,mb5.2						
ANMO	Albuquerque	37.87	327	eP	P	16 59 18.4	+1.5
ANMO				pmax	pmax		
	comp=Z,45nm,1.0s						
CFAA	Coronel Fontan	37.99	160	P	P	16 59 15.3	-2.7
	comp=Z,0.6nm,0.9s,baz=350,slow=7.1,SNR=8.9						
CFAA	Coronel Fontan	37.99	160	P	P	16 59 15.3	-2.7
CPUP	Villa Florida	38.87	142	LR	LR	17 17 03.3	
	comp=Z,530nm,18.8s,MS4.4,baz=336,slow=39						
CPUP	Villa Florida	38.87	142	eP	P	16 59 22.2	-3.3
	comp=Z,15nm,1.2s,mb4.6						
CPUP	Villa Florida	38.87	142	eP	P	16 59 22.2	-3.2
CPUP				pmax	pmax		
	comp=Z,15nm,1.2s						
MDZ	Mendoza	38.96	161	eP	P	16 59 28.3	+2.2
BDFB	Brasilia	39.45	120	LR	LR	17 18 04.7	
	comp=Z,776nm,18.3s,MS4.6,baz=298,slow=40						
SDCO	Great Sand Dun	39.54	331	PFAKE		16 59 40.0	+9.1
SDCO				LR	LR		
	comp=Z,332nm,20.0s,MS4.2						
MIV	Mineville/With	40.69	10	eP	P	16 59 41.0	+0.7
SADO	Sadowa	40.70	4	P	P	16 59 38.6	-1.7
	comp=Z,2.5nm,0.4s,mb4.2,baz=221,slow=11,SNR=2.5						
WUAZ	Wupatki	41.07	323	eP	P	16 59 45.0	+1.5
	comp=Z,46nm,1.0s,mb5.1						
PV10	Paradox Valley	41.80	328	eP	P	16 59 50.5	+0.9
PHWY	Pilot Hill	42.38	334	eP	P	16 59 55.7	+1.4
LDFC	Landfair	43.10	320	eP	P	17 00 01.7	+1.6
SRU	San Rafael	43.13	328	eP	P	17 00 00.9	+0.6
	comp=Z,65nm,1.1s,mb5.3						
SRU	San Rafael	43.13	328	eP	P	17 00 00.9	+0.5
SRU				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.3						
NEN	Nelson	43.28	321	eP	P	17 00 02.5	+0.8
RWWY	Rawlins	43.47	333	eP	P	17 00 03.9	+0.8
	comp=Z,26nm,1.0s,mb4.9						
MSU	Marysvale	43.60	326	⇑eP	P	17 00 05.5	+1.3
TMUT	Trail Mountain	43.63	327	eP	P	17 00 05.4	+1.0
ARUT	Antelope Range	43.83	324	eP	P	17 00 07.6	+1.6
MPU	Maple Canyon	44.38	328	eP	P	17 00 11.0	+0.6
	comp=Z,31nm,1.0s,mb5.0						
DAU	Daniels Canyon	44.47	329	eP	P	17 00 12.8	+1.6
CTU	Camp Tracy	44.93	328	eP	P	17 00 15.9	+1.0
	comp=Z,40nm,1.2s,mb5.1						
TCUT	Toone Canyon	45.06	329	eP	P	17 00 16.9	+1.0
PDAR	Pinedale Array	45.40	332	P	P	17 00 19.0	+0.4
	comp=Z,4.9nm,0.9s,mb4.3,baz=129,slow=9.5,SNR=35						
PDAR				LR	LR	17 20 47.2	
	comp=Z,427nm,18.0s,MS4.4,baz=146,slow=38						
HWUT	Hardware Ranch	45.50	329	⇑eP	P	17 00 19.8	+0.4
	comp=Z,38nm,0.9s,mb5.3						
SPUT	South Promonto	45.74	328	eP	P	17 00 21.9	+0.6
BGU	Big Grassy Mou	45.77	328	eP	P	17 00 22.3	+0.7
PLCA	Paso Flores	45.90	167	P	P	17 00 21.4	-1.2
	comp=Z,3.7nm,0.8s,mb4.4,baz=348,slow=9.9,SNR=9.9						
PLCA	Paso Flores	45.90	167	eP	P	17 00 20.1	-2.4
	comp=Z,10nm,1.0s,mb4.7						
PLCA	Paso Flores	45.90	167	eP	P	17 00 20.1	-2.4
PLCA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TRQA	Tornquist	46.05	157	eP	P	17 00 22.0	-1.8
	comp=Z,29nm,1.4s,mb5.0						
HVU	Hansel Valley	46.25	329	eP	P	17 00 25.7	+0.4
	comp=Z,11nm,1.0s,mb4.8						
HVU	Hansel Valley	46.25	329	eP	P	17 00 25.7	+0.4
HVU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
REDW	Red Top Meadow	46.46	332	eP	P	17 00 26.9	-0.1
	comp=Z,81nm,1.4s,mb5.5						
LOHW	Long Hollow	46.54	332	eP	P	17 00 27.7	+0.2
	comp=Z,8.9nm,0.9s,mb4.7						
TPAW	Teton Pass	46.61	332	eP	P	17 00 28.3	+0.1
	comp=Z,18nm,1.0s,mb5.0						
RRI2	Red Ridge	46.67	331	⇑eP	P	17 00 29.1	+0.4
	comp=Z,26nm,0.8s,mb5.2						
MTUM	Tungsten Hills	46.70	320	eP	P	17 00 29.4	+0.5
FLWY	Flagg Ranch	46.94	332	eP	P	17 00 31.0	+0.2
MNV	Mina	47.09	321	eP	P	17 00 32.8	+0.8
	comp=Z,24nm,1.1s,mb5.0						
MNV	Mina	47.09	321	eP	P	17 00 32.8	+0.8
MNV				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
NVAR	Mina Array Bea	47.18	321	P	P	17 00 33.6	+0.9
	comp=Z,11nm,0.8s,mb4.8,baz=140,slow=7.8,SNR=82						
NVAR				LR	LR	17 20 08.0	
	comp=Z,432nm,18.2s,MS4.5,baz=240,slow=36						
YFT	Old Faithful	47.29	333	eP	P	17 00 35.3	+1.8
ULM	Lac du Bonnet	47.40	348	P	P	17 00 32.1	-2.2
	comp=Z,7.8nm,0.9s,mb4.6,baz=160,slow=7.4,SNR=7.4						
ULM				LR	LR	17 24 08.7	
	comp=Z,116nm,18.8s,MS3.9,baz=200,slow=40						
ULM	Lac du Bonnet	47.40	348	eP	P	17 00 32.5	-1.9
	comp=Z,31nm,1.1s,mb5.2						
ULM				LR	LR		
	comp=Z,327nm,20.0s,MS4.3						
YMR	Madison River	47.51	333	eP	P	17 00 36.5	+1.2
	comp=Z,47nm,1.3s,mb5.4						
QLMT	Earthquake Lak	47.85	332	eP	P	17 00 39.2	+1.3
CMB	Columbia Colle	48.27	320	eP	P	17 00 40.1	-1.1
	comp=Z,7.1nm,1.4s,mb4.5						
CMB	Columbia Colle	48.27	320	eP	P	17 00 40.1	-1.2
CMB				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
MCMT	McKenzie Canyo	48.51	331	eP	P	17 00 43.7	+0.7
DLMT	Dillon	48.79	332	eP	P	17 00 45.8	+0.6
HRY	Holter Researc	49.47	334	eP	P	17 00 50.6	+0.2
WVOR	Wild Horse Val	49.88	325	⇑eP	P	17 00 53.2	-0.4
	comp=Z,42nm,1.1s,mb5.4						
WVOR	Wild Horse Val	49.88	325	⇑eP	P	17 00 53.2	-0.4
WVOR				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.4						
YBH	Yreka Blue Hor	51.86	322	P	P	17 01 06.7	-1.9
	comp=Z,7.0nm,0.8s,mb4.6,baz=89,slow=8.4,SNR=11						
SCHQ	Schefferville	52.26	12	P	P	17 01 10.2	-1.3
	comp=Z,9.1nm,0.9s,mb4.7,baz=170,slow=6.1,SNR=6.1						
SCHQ				LR	LR	17 22 33.2	
	comp=Z,273nm,20.4s,MS4.3,baz=325,slow=35						
VTHM	Trough	52.71	327	P	P	17 01 15.4	+0.4
CROR	Criterion Ridg	52.82	326	P	P	17 01 16.1	+0.2
HBO	Huckleberry Mo	52.87	325	P	P	17 01 15.2	-1.0
IRO	Indian Ridge	52.93	325	P	P	17 01 16.0	-0.7
HAWA	Hanford	52.95	329	eP	P	17 01 15.9	-0.8
	comp=Z,3.0nm,1.7s,mb4.0						
NEW	Newport	53.04	332	P	P	17 01 16.0	-1.4
	comp=Z,4.0nm,0.9s,mb4.3,baz=132,slow=6.8,SNR=7.3						
GBL	Gable Mountain	53.05	329	P	P	17 01 16.9	-0.6
SNIWA	Snively Ranch	53.06	329	P	P	17 01 17.1	-0.5
BENWA	Benson Ranch	53.13	329	P	P	17 01 17.7	-0.4
GBB	Gable Butte	53.14	329	P	P	17 01 17.7	-0.5
BROR	Big Rock Looko	53.20	325	P	P	17 01 17.5	-1.1
OD2	Odessa Site #2	53.20	330	P	P	17 01 18.2	-0.4
WAH2	Wahluke Slope	53.21	329	P	P	17 01 17.9	-0.8
MDW	Midway	53.21	329	P	P	17 01 18.3	-0.4
MXC	Moxie City	53.47	328	P	P	17 01 20.8	+0.2
EPH	Ephrata	53.62	329	P	P	17 01 21.6	0.0
SAW	Saint Andrews	53.76	330	P	P	17 01 22.6	-0.1

WTV	**Waterville**	**54.03**	**330**	P	**P**	**17 01 24.5**	**-0.1**
SLFW	**Sugar Loaf**	**54.36**	**329**	P	**P**	**17 01 27.2**	**+0.1**
NLW	**Nelson Butte**	**54.48**	**330**	P	**P**	**17 01 27.7**	**-0.2**
PNT	**Penticton**	**54.95**	**331**	P	**P**	**17 01 31.7**	**+0.2**
EDM	**Edmonton**	**55.15**	**338**	*e*P	**P**	**17 01 31.6**	**-1.2**
YKA	**Yellowknife Ar**	**62.96**	**344**	P	**P**	**17 02 25.8**	**-1.0**
	comp=Z,6.6nm,0.8s,mb4.8,baz=141,slow=6.5,SNR=19						
YKA				LR	LR	17 35 11.8	
	comp=Z,169nm,18.2s,MS4.2,baz=100,slow=41						
YKW3	**Yellowknife Ar**	**63.01**	**344**	*e*P	**P**	**17 02 25.6**	**-1.6**
DLBC	**Dease Lake**	**65.51**	**335**	*e*P	**P**	**17 02 43.6**	**+0.1**
PPT	**Papeete**	**69.39**	**250**	LR	LR	17 25 36.9	
	comp=Z,505nm,21.7s,MS4.7,baz=90,slow=29						
INK	**Inuvik**	**72.62**	**342**	P	**P**	**17 03 26.6**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.3,baz=112,slow=4.1,SNR=4.6						
INK	**Inuvik**	**72.62**	**342**	*e*P	**P**	**17 03 27.0**	**-0.2**
	comp=Z,18nm,1.1s,mb4.9						
INK	**Inuvik**	**72.62**	**342**	*e*P	**P**	**17 03 27.0**	**-0.2**
INK				pmax	pmax		
	comp=Z,18nm,1.1s						
SUMG	**Summit**	**73.62**	**13**	*e*P	**P**	**17 03 32.8**	**-0.3**
	comp=Z,35nm,1.0s,mb5.2						
EVO	**Evora**	**75.49**	**51**	*e*P	**P**	**17 03 42.4**	**-2.1**
	comp=Z,40nm,1.1s,mb5.0						
EVO				*e*R			
	comp=Z,221nm,22.2s						
ILAR	**Eielson Array**	**75.60**	**337**	P	**P**	**17 03 44.1**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=131,slow=4.0,SNR=13						
ESPR	**Espera**	**77.03**	**53**	P	**P**	**17 03 53.4**	**+0.3**
	comp=Z,128nm,2.4s,mb5.4						
TIC	**Toumodi**	**77.27**	**84**	*e*P	**P**	**17 03 53.4**	**-1.5**
	comp=Z,168nm,1.3s,mb5.8						
LIC	**Lamto**	**77.28**	**85**	*e*P	**P**	**17 03 53.7**	**-1.3**
	comp=Z,84nm,1.1s,mb5.6						
DBIC	**Dimbokro**	**77.43**	**84**	P	**P**	**17 03 53.6**	**-2.2**
	comp=Z,10nm,0.9s,mb4.7,baz=302,slow=5.4,SNR=6.4						
DBIC				LR	LR	17 36 13.6	
	comp=Z,70nm,20.4s,MS4.0,baz=261,slow=34						
KIC	**Kosan Boka**	**77.56**	**84**	*e*P	**P**	**17 03 55.3**	**-1.2**
	comp=Z,95nm,0.9s,mb5.7						
EMIJ	**Mijas**	**77.88**	**54**	P	**P**	**17 03 58.1**	**+0.3**
	comp=Z,29nm,1.6s,mb5.0						
SVW2	**Sparrevohn**	**78.28**	**332**	*e*P	**P**	**17 03 58.3**	**-1.2**
ELOJ	**Sierra Loja**	**78.41**	**53**	P	**P**	**17 04 02.5**	**+1.8**
	comp=Z,9.2nm,0.6s,mb4.9						
ELOJ	**Sierra Loja**	**78.41**	**53**	P	**P**	**17 04 02.5**	**+1.8**
ELOJ				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
ERON	**Agron**	**78.68**	**53**	P	**P**	**17 04 03.4**	**+1.2**
	comp=Z,6.1nm,0.6s,mb4.7						
ESDC	**Sonseca Array**	**78.73**	**51**	P	**P**	**17 04 02.3**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8,baz=273,slow=5.5,SNR=23						
ESDC	**Sonseca Array**	**78.73**	**51**	P	**P**	**17 04 02.4**	**-0.1**
	comp=Z,6.8nm,0.8s,mb4.6						
ESLA	**Sonseca Array**	**78.73**	**51**	*e*P	**P**	**17 04 02.2**	**-0.2**
	comp=Z,7.3nm,1.3s,mb4.5						
EBAN	**Banos Encina**	**78.77**	**52**	P	**P**	**17 04 03.6**	**+0.9**
TTA	**Tatalina**	**78.90**	**333**	P	**P**	**17 04 01.1**	**-1.7**
	comp=Z,32nm,1.7s,mb5.0						
TTA				*e*PcP	PcP	17 04 12.5	+0.5
TTA	**Tatalina**	**78.90**	**333**	P	**P**	**17 04 01.1**	**-1.7**
TTA				*e*		17 04 12.5	
TTA				pmax	pmax		
	comp=Z,32nm,1.7s,mb5.0						
EALB	**Alboran**	**79.24**	**54**	P	**P**	**17 04 06.2**	**+0.8**
EQES	**Quesada**	**79.31**	**52**	P	**P**	**17 04 06.1**	**+0.5**
	comp=Z,100nm,1.9s,mb5.4						
EBER	**Berja**	**79.41**	**53**	P	**P**	**17 04 06.5**	**+0.4**
EHUE	**Huescar**	**79.69**	**52**	P	**P**	**17 04 08.0**	**+0.3**
	comp=Z,5.9nm,0.8s,mb4.6						
EHUE	**Huescar**	**79.69**	**52**	P	**P**	**17 04 08.0**	**+0.3**
EHUE				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
EVIA	**Vianos**	**79.80**	**52**	P	**P**	**17 04 10.5**	**+2.2**
	comp=Z,13nm,0.9s,mb4.9						
EVIA	**Vianos**	**79.80**	**52**	P	**P**	**17 04 10.5**	**+2.2**
EVIA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
ROSF	**Rostrenen**	**79.94**	**42**	*e*P	**P**	**17 04 08.5**	**-0.3**
	comp=Z,93nm,1.5s,mb5.2						
ROSF	**Rostrenen**	**79.94**	**42**	*e*P	**P**	**17 04 08.5**	**-0.3**
ROSF				pmax	pmax		
	comp=Z,47nm,1.5s,mb5.2						
QUIF	**Quistinic**	**79.98**	**42**	*e*P	**P**	**17 04 08.7**	**-0.3**
	comp=Z,161nm,1.6s,mb5.4						
QUIF	**Quistinic**	**79.98**	**42**	*e*P	**P**	**17 04 08.7**	**-0.3**
QUIF				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.4						
EMUR	**La Murta**	**80.76**	**52**	P	**P**	**17 04 13.4**	**0.0**
	comp=Z,551nm,2.7s,mb6.0						
SJPF	**Ste Jean**	**81.00**	**47**	*e*P	**P**	**17 04 14.0**	**-0.5**
	comp=Z,69nm,1.3s,mb5.1						
SJPF	**Ste Jean**	**81.00**	**47**	*e*P	**P**	**17 04 14.0**	**-0.5**
SJPF				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.1						
ETSF	**Etsaut**	**81.48**	**47**	*e*P	**P**	**17 04 17.4**	**+0.4**
	comp=Z,44nm,1.4s,mb4.9						
ETSF	**Etsaut**	**81.48**	**47**	*e*P	**P**	**17 04 17.4**	**+0.4**
ETSF				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
GRR	**Gorron**	**81.55**	**42**	*e*P	**P**	**17 04 17.0**	**-0.3**
FLN	**La Foliniere**	**81.82**	**41**	*e*P	**P**	**17 04 18.6**	**-0.1**
FLN				*e*R			
	comp=Z,204nm,21.0s						
MFF	**Saint Martin d**	**81.94**	**44**	*e*P	**P**	**17 04 19.2**	**-0.1**
	comp=Z,48nm,1.2s,mb5.0						
MFF	**Saint Martin d**	**81.94**	**44**	*e*P	**P**	**17 04 19.2**	**-0.1**
MFF				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
LDF	**La Druitiere**	**82.05**	**42**	*e*P	**P**	**17 04 19.7**	**-0.2**
	comp=Z,56nm,1.1s,mb5.1						
LDF	**La Druitiere**	**82.05**	**42**	*e*P	**P**	**17 04 19.7**	**-0.2**
LDF				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
EGRA	**Graus**	**82.10**	**48**	P	**P**	**17 04 20.3**	**0.0**
EPF	**Esparros**	**82.14**	**47**	*e*P	**P**	**17 04 19.9**	**-0.6**
	comp=Z,64nm,1.4s,mb5.1						
EPF	**Esparros**	**82.14**	**47**	*e*P	**P**	**17 04 19.9**	**-0.6**
EPF				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.1						
LFF	**La Frestale**	**82.49**	**45**	*e*P	**P**	**17 04 22.2**	**-0.1**
RJF	**Les Rejaudoux**	**83.05**	**45**	*e*P	**P**	**17 04 25.9**	**+0.7**
	comp=Z,105nm,1.6s,mb5.3						
RJF				*e*R			
	comp=Z,153nm,21.0s						
RJF	**Les Rejaudoux**	**83.05**	**45**	*e*P	**P**	**17 04 25.9**	**+0.7**
RJF				pmax	pmax		
	comp=Z,53nm,1.6s,mb5.3						
RJF				MLR	MLR		
	comp=Z,150nm,21.0s,MS4.3						
MTLF	**Montolieu**	**83.52**	**47**	*e*P	**P**	**17 04 27.6**	**0.0**
	comp=Z,149nm,1.6s,mb5.6						
MTLF	**Montolieu**	**83.52**	**47**	*e*P	**P**	**17 04 27.6**	**0.0**
MTLF				pmax	pmax		
	comp=Z,75nm,1.6s,mb5.6						
TCF	**Toulx Ste Croi**	**83.56**	**44**	*e*P	**P**	**17 04 27.1**	**-0.6**
AVF	**Avril sur Loir**	**84.35**	**44**	*e*P	**P**	**17 04 31.0**	**-0.7**
	comp=Z,23nm,1.2s,mb4.9						
AVF	**Avril sur Loir**	**84.35**	**44**	*e*P	**P**	**17 04 31.0**	**-0.7**
AVF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.9						
SSF	**Saint Saulge**	**84.46**	**43**	*e*P	**P**	**17 04 32.4**	**+0.1**
	comp=Z,28nm,1.3s,mb4.9						
SSF	**Saint Saulge**	**84.46**	**43**	*e*P	**P**	**17 04 32.4**	**+0.1**
SSF				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.9						
SMF	**Signal de Mont**	**84.69**	**44**	*e*P	**P**	**17 04 32.9**	**-0.5**
	comp=Z,71nm,1.7s,mb5.2						
SMF	**Signal de Mont**	**84.69**	**44**	*e*P	**P**	**17 04 32.9**	**-0.5**
SMF				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.2						
LOR	**Lormes**	**84.70**	**43**	*e*P	**P**	**17 04 33.6**	**+0.1**
LOR				*e*R			
	comp=Z,198nm,22.0s						
LASF	**Ste Croix**	**84.71**	**46**	*e*P	**P**	**17 04 35.1**	**+1.5**
	comp=Z,146nm,1.5s,mb5.6						
BAIF	**Baives**	**84.92**	**40**	*e*P	**P**	**17 04 34.8**	**+0.3**
	comp=Z,11nm,1.0s,mb4.7						
BAIF	**Baives**	**84.92**	**40**	*e*P	**P**	**17 04 34.8**	**+0.3**
BAIF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
VIVF	**Saint-Julien-l**	**85.29**	**45**	*e*P	**P**	**17 04 36.2**	**-0.3**
	comp=Z,80nm,1.4s,mb5.3						
VIVF	**Saint-Julien-l**	**85.29**	**45**	*e*P	**P**	**17 04 36.2**	**-0.3**
VIVF				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.4						
GIVF	**Givet**	**85.32**	**40**	*e*P	**P**	**17 04 36.5**	**0.0**
MEZF	**Maizieres J'vi**	**85.49**	**42**	*e*P	**P**	**17 04 36.3**	**-1.1**
SMRF	**Simiane la Rot**	**85.95**	**46**	*e*P	**P**	**17 04 38.8**	**-1.0**
	comp=Z,49nm,1.2s,mb5.3						
ORIF	**Oris-en-Rattie**	**86.14**	**45**	*e*P	**P**	**17 04 40.5**	**-0.2**
	comp=Z,37nm,1.1s,mb5.2						
ORIF				*e*R			
	comp=Z,118nm,21.8s						
WLF	**Walferdange**	**86.18**	**41**	*e*P	**P**	**17 04 40.5**	**-0.3**
	comp=Z,26nm,1.0s,mb5.4						
WLF	**Walferdange**	**86.18**	**41**	*e*P	**P**	**17 04 40.6**	**-0.2**
WLF				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.4						
CABF	**La Chapelle**	**86.23**	**44**	*e*P	**P**	**17 04 41.2**	**+0.1**
	comp=Z,44nm,1.0s,mb5.4						
CABF	**La Chapelle**	**86.23**	**44**	*e*P	**P**	**17 04 41.2**	**+0.1**
CABF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.3						
HAU	**Haudompre**	**86.37**	**42**	*e*P	**P**	**17 04 41.4**	**-0.3**
HAU				*e*R			
	comp=Z,141nm,22.2s						
LMR	**La Mourre**	**86.65**	**47**	*e*P	**P**	**17 04 43.1**	**-0.2**
	comp=Z,141nm,1.7s,mb5.6						
LMR	**La Mourre**	**86.65**	**47**	*e*P	**P**	**17 04 43.1**	**-0.2**
LMR				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.6						
HINF	**Hinteralfeld**	**86.71**	**42**	*e*P	**P**	**17 04 42.8**	**-0.6**
	comp=Z,15nm,0.9s,mb4.9						
HINF	**Hinteralfeld**	**86.71**	**42**	*e*P	**P**	**17 04 42.8**	**-0.6**
HINF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
LPL	**La Plagne**	**86.72**	**45**	*e*P	**P**	**17 04 44.4**	**+0.8**
	comp=Z,39nm,1.3s,mb5.2						
LPL	**La Plagne**	**86.72**	**45**	*e*P	**P**	**17 04 44.4**	**+0.8**
LPL				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.2						
LPG	**La Plagne**	**86.74**	**45**	*e*P	**P**	**17 04 44.5**	**+0.9**
	comp=Z,48nm,1.4s,mb5.2						
LPG	**La Plagne**	**86.74**	**45**	*e*P	**P**	**17 04 44.5**	**+0.9**
LPG				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.2						
MBDF	**Montbardon**	**86.78**	**46**	*e*P	**P**	**17 04 43.5**	**-0.4**
	comp=Z,65nm,1.4s,mb5.4						
MBDF	**Montbardon**	**86.78**	**46**	*e*P	**P**	**17 04 43.5**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.4						
CDF	**Champ du Feu**	**86.97**	**42**	*e*P	**P**	**17 04 44.5**	**-0.2**
	comp=Z,44nm,1.3s,mb5.2						
CDF	**Champ du Feu**	**86.97**	**42**	*e*P	**P**	**17 04 44.5**	**-0.2**
CDF				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.2						
BFO	**Black Forest**	**87.68**	**42**	*e*P	**P**	**17 04 49.0**	**+0.9**
	comp=Z,9.0nm,1.2s,mb4.9						
BFO	**Black Forest**	**87.68**	**42**	*e*P	**P**	**17 04 49.0**	**+0.9**
BFO				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
VNA3	**Neumayer Olymp**	**88.36**	**162**	P	**P**	**17 04 53.4**	**+2.5**
VNA3	**Neumayer Olymp**	**88.36**	**162**		**P**	**17 04 57.9**	**+7.0**
VNA3	**Neumayer Olymp**	**88.36**	**162**		**P**	**17 05 04.9**	**+14**
VNA3	**Neumayer Olymp**	**88.36**	**162**		**P**	**17 05 09.4**	**+19**
NOA	**NORSAR Array B**	**88.39**	**29**	P	**P**	**17 04 51.6**	**+0.4**
	comp=Z,2.4nm,1.0s,mb4.4,baz=275,slow=5.0,SNR=2.9						
NOA				LR	LR	17 41 24.7	
	comp=Z,124nm,18.1s,MS4.4,baz=270,slow=34						
BSEG	**Bad Segeberg**	**88.53**	**36**	*e*P	**P**	**17 04 53.4**	**+1.4**
VNA1	**Neumayer--Stat**	**88.63**	**161**	P	**P**	**17 04 59.6**	**+7.4**
VNA1	**Neumayer--Stat**	**88.63**	**161**		**P**	**17 05 07.2**	**+15**
CLZ	**Clausthal**	**88.74**	**38**	*e*P	**P**	**17 04 54.0**	**+0.9**
	comp=Z,16nm,1.1s,mb5.3						
CLZ	**Clausthal**	**88.74**	**38**	*e*P	**P**	**17 04 54.0**	**+0.9**
CLZ				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.3						
VNA2	**Neumayer--Watz**	**88.99**	**161**	P	**P**	**17 04 56.4**	**+2.5**
VNA2	**Neumayer--Watz**	**88.99**	**161**		**P**	**17 05 00.8**	**+6.9**
VNA2	**Neumayer--Watz**	**88.99**	**161**		**P**	**17 05 07.5**	**+14**
GRA1	**Grafenberg Arr**	**89.47**	**40**	*e*P	**P**	**17 04 57.4**	**+0.8**
	comp=Z,18nm,1.3s,mb5.2						
GRA1				LR	LR		
	comp=Z,200nm,21.3s,MS4.5						
GRF	**Grafenberg Arr**	**89.47**	**40**	*e*P	**P**	**17 04 57.4**	**+0.8**
	comp=Z,18nm,1.3s,mb5.2						
GRF				LR	LR		
	comp=Z,200nm,21.3s,MS4.5						
GRF	**Grafenberg Arr**	**89.47**	**40**	*e*P	**P**	**17 04 57.4**	**+0.8**
GRF				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.2						
GRF				MLR	MLR		
	comp=Z,200nm,21.3s,MS4.5						
GRF	**Grafenberg Arr**	**89.47**	**40**	*e*P	**P**	**17 04 57.4**	**+0.8**
GRF				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.2						
GRF				MLR	MLR		
	comp=Z,200nm,21.3s,MS4.5						
NKC	**Novy Kostel**	**90.20**	**40**	*e*P	**P**	**17 05 02.4**	**+2.4**
NKC				AMS	AMS	17 37 20.0	
	comp=Z,300nm,17.2s						
CLL	**Collm**	**90.42**	**39**	P	**P**	**17 05 02.0**	**+1.0**
CLL				*e**SP	sP	17 05 07.0	+1.7
CLL				*e*		17 05 12.0	
CLL				*e*SS	SS	17 22 12.0	+14
CLL	**Collm**	**90.42**	**39**	*e*P	**P**	**17 05 02.0**	**+1.0**
CLL				*e*pP	pP	17 05 07.0	+2.8
CLL				*e*sP	sP	17 05 12.0	+6.7
CLL	**Collm**	**90.42**	**39**	*e*P	**P**	**17 05 02.0**	**+1.0**
CLL				*e**SP	sP	17 05 12.0	+6.7
WET	**Wettzell**	**90.60**	**41**	*e*P	**P**	**17 05 02.4**	**+0.5**
	comp=Z,10.0nm,1.1s,mb5.1						
WET	**Wettzell**	**90.60**	**41**	*e*P	**P**	**17 05 02.4**	**+0.5**
WET				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
KHC	**Kasperske Hory**	**91.06**	**41**	*e*P	**P**	**17 05 05.4**	**+1.4**
KHC				*e*pP	pP	17 05 10.2	+3.0
KHC				AMS	AMS	17 38 00.0	
	comp=Z,200nm,21.3s						
KHC	**Kasperske Hory**	**91.06**	**41**	*e*P	**P**	**17 05 05.4**	**+1.4**
KHC				MLR	MLR		
	comp=Z,200nm,21.3s,MS4.5						
BRG	**Berggiesshubel**	**91.07**	**39**	*i* P	**P**	**17 05 05.0**	**+1.0**
	comp=Z,8.7nm,1.3s,mb4.9						
BRG	**Berggiesshubel**	**91.07**	**39**	*i* P	**P**	**17 05 05.0**	**+1.0**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.9						
GEC2	**GERESS Array S**	**91.18**	**41**	*e*P	**P**	**17 05 05.6**	**+1.1**
	comp=Z,7.0nm,1.3s,mb4.8						
GEC2	**GERESS Array S**	**91.18**	**41**	*e*P	**P**	**17 05 05.6**	**+1.1**
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.8						
GERES	**GERESS Array B**	**91.18**	**41**	P	**P**	**17 05 05.2**	**+0.7**
	comp=Z,1.9nm,0.9s,mb4.4,baz=270,slow=2.7,SNR=11						
GERES				LR	LR	17 38 58.5	
	comp=Z,164nm,21.6s,MS4.4,baz=299,slow=31						
PVCC	**Panska Ves**	**91.51**	**39**	*e*P	**P**	**17 05 08.5**	**+2.5**
PVCC				AMS	AMS	17 38 00.0	
PRU	**Pruhonice**	**91.57**	**40**	*e*P	**P**	**17 05 07.8**	**+1.5**
PRU				*e*pP	pP	17 05 13.6	+4.1
PRU				AMS	AMS	17 38 10.0	
	comp=Z,300nm,28.3s						
TREC	**Trest**	**92.28**	**40**	AMS	AMS	17 38 50.0	
UPC	**Upice**	**92.42**	**39**	*e*P	**P**	**17 05 12.3**	**+2.1**
ARCES	**ARCESS Array B**	**92.53**	**20**	LR	LR	17 41 18.0	
	comp=Z,164nm,21.7s,MS4.4,baz=92,slow=32						
DPC	**Dobruska-Polom**	**92.64**	**39**	*e*P	**P**	**17 05 12.1**	**+0.9**
DPC				*e*pP	pP	17 05 18.2	+3.8
DPC				AMS	AMS	17 38 40.0	
OKC	**Ostrava-Krasne**	**93.89**	**40**	*e*P	**P**	**17 05 18.2**	**+1.2**
OKC				AMS	AMS	17 39 40.0	
	comp=Z,200nm,22.7s						
QSPA	**South Pole Qui**	**94.04**	**180**	*e*P	**P**	**17 05 22.7**	**+5.6**
	comp=Z,17nm,1.0s,mb5.4						
FINES	**FINESS Array B**	**95.32**	**27**	LR	LR	17 41 38.3	
	comp=Z,182nm,21.7s,MS4.5,baz=102,slow=31						
VNDA	**Vanda**	**99.29**	**191**	LR	LR	17 42 14.9	
	comp=Z,85nm,19.4s,MS4.3,baz=28,slow=30						
OBN	**Obninsk**	**102.87**	**31**⇑	*e*P	Pdif	17 05 58.7	+1.2
OBN				*e*		17 10 14.3	
OBN				pmax	pmax		
	comp=Z,11nm,1.2s						
KIV	**Kislovodsk**	**111.62**	**39**	*i* PKIKP	PKPdf	17 10 34.0	-1.8
MBAR	**Mbarara**	**113.37**	**89**	*i* PKIKP	PKPdf	17 10 35.9	-4.2
YSS	**Yuzh-Sakhalins**	**115.41**	**327**	*e*P	Pdif	17 07 07.0	+14
ZAL	**Zalesovo**	**121.30**	**9**	PKP	PKPdf	17 10 51.0	-3.6
	comp=Z,0.9nm,0.6s,baz=250,slow=2.7,SNR=6.1						
KURK	**Kurchatov**	**123.15**	**14**	*i* PKIKP	PKPdf	17 10 57.1	-1.0
MDJ	**Mudanjiang**	**123.63**	**333**	PKP	PKPdf	17 10 57.0	-2.3
MDJ				PKS	PKS	17 14 30.6	-1.3
MDJ				SKS	SKS	17 18 05.8	+3.8
MDJ				PP	PP		
	comp=Z,66nm,5.8s						
MDJ				LR	LR		
	comp=N,54nm,25.3s,MS4.4						
MDJ				LR	LR		
	comp=E,101nm,29.5s,MS4.4						
MDJ				LR	LR		
	comp=Z,91nm,19.7s						
CN2	**Changchun**	**126.10**	**335**	*e*PKP	PKPdf	17 10 58.0	-6.0
MKAR	**Makanchi Array**	**127.68**	**13**	PKP	PKPdf	17 11 03.6	-3.4
	comp=Z,1.3nm,0.9s,slow=2.4,SNR=5.5						
SONM	**Songino Array**	**127.75**	**352**	PKP	PKPdf	17 11 04.0	-3.1
	comp=Z,1.6nm,0.9s,baz=301,slow=3.0,SNR=9.8						
AAK	**Ala-Archa**	**129.15**	**22***c*	*i* PKIKP	PKPdf	17 11 08.9	-1.1
WMQ	**Urumqi**	**131.59**	**9**	*e*PKP	PKPdf	17 11 12.0	-2.6
WMQ				PP	PP	17 13 36.0	+0.7
WMQ				PKS	PKS	17 14 46.0	-0.7
WMQ				SKS	SKS	17 18 18.0	-6.2
WMQ				SS	SS	17 31 10.0	+3.6
WMQ				PP	PP		
	comp=Z,147nm,5.8s						
WMQ				LR	LR		
	comp=N,258nm,30.6s,MS4.8						
WMQ				LR	LR		
	comp=E,234nm,34.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,263nm,24.8s						
GTA	**Gaotai**	**136.72**	**357**	PKP	PKPdf	17 11 23.5	-0.6
SSE	**Sheshan**	**138.33**	**329**	PKP	PKPdf	17 11 26.8	-0.6
SSE				PP	PP	17 14 19.8	+1.7
SSE				SS	SS	17 32 30.8	+3.2
SSE				PP	PP		
	comp=Z,117nm,4.3s						
SSE				LR	LR		
	comp=N,41nm,25.7s,MS4.4						
SSE				LR	LR		
	comp=E,87nm,26.1s,MS4.4						
SSE				LR	LR		
	comp=Z,62nm,25.7s,MS4.2						
NJ2	**Nanjing**	**138.71**	**332**	*e*PKP	PKPdf	17 11 21.5	-6.6
NJ2				PP	PP	17 14 22.0	+1.7
NJ2				PKS	PKS	17 14 55.0	-4.9
NJ2				PP	PP		
	comp=Z,290nm,5.4s						
NJ2				LR	LR		
	comp=N,410nm,29.8s						
NJ2				LR	LR		
	comp=E,310nm,23.4s						
LZH	**Lanzhou**	**139.64**	**352**	*e*PKP	PKPdf	17 11 23.0	-6.6
LZH				XPKP		17 11 27.9	
LZH				*e*PP	PP	17 14 22.0	-3.8
LZH				PP	PP		
	comp=Z,183nm,6.5s						
LZH				LR	LR		
	comp=E,316nm,20.3s						
WRA	**Warramunga Arr**	**140.65**	**243**	PKP	PKPdf	17 11 27.5	-4.5
	comp=E,1.3nm,0.7s,baz=109,slow=2.1,SNR=9.7						
ENH	**Enshi**	**143.98**	**342**	*e*PKPdf	PKPdf	17 11 34.1	-3.3
CD2	**Chengdu**	**144.73**	**350**	*e*PKP	PKPdf	17 11 35.3	-3.4
KOLN	**Koldanda**	**145.72**	**22**	*e*P	PKPbc	17 11 38.6	+0.3
	comp=E,114nm,1.4s						
GKN	**Gorkha**	**145.88**	**20**	*e*P	PKPbc	17 11 39.4	+0.7
	comp=E,214nm,1.4s						
LSA	**Lhasa**	**145.95**	**10**	PKP	PKPdf	17 11 39.0	-1.9
LSA	**Lhasa**	**145.95**	**10**	*e*PKP2	PKPab	17 11 40.6	-0.5
KKN	**Kakani**	**146.30**	**20**	*e*P	PKPbc	17 11 40.7	+1.0
	comp=E,35nm,0.9s						
DMN	**Daman**	**146.41**	**20**	*e*P	PKPbc	17 11 41.0	+1.1
	comp=E,46nm,1.1s						
PKI	**Pulchoki**	**146.54**	**19**	*e*P	PKPbc	17 11 39.8	-0.4
	comp=E,18nm,0.8s						
GYA	**Guiyang**	**148.39**	**344**	*i* PKP	PKPdf	17 11 47.0	+2.0
GYA				SKS	SKS	17 18 53.3	+0.8
GYA				PP	PP		
	comp=Z,160nm,8.2s						
KMI	**Kunming**	**150.56**	**350**	PKP	PKPdf	17 11 45.3	-3.1
KMI				XPKP		17 11 52.5	

*NEIC **17** 17:01:58.5±0.7, 18.13S×178.09W, h600km, mb4.3/2, Error ellipse: s-maj=33.7km s-min=22.9km az=133.0*

*IDC **17** 17:02:00.9±5.0, 17.99S×178.10W, h621km±60km, mb3.0/6, mb1 3.3/6, mb1mx3.1/14, mbtmp3.9/6, Error ellipse: s-maj=25.8km s-min=22.9km az=98.0*

ISC 17 17:01:57.9±0.8**, 18.0S**±0.2×**178.1W**±0.2**, h600km, n15, σ0^{s}73/8, mb3.6/8, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**44.85**	**260**	*e*P	**P**	**17 09 21.9**	**0.0**
	15nm,1.6s,mb4.3						
WRA	**Warramunga Arr**	**44.86**	**260**	P	**P**	**17 09 22.9**	**+0.8**
	1.0nm,0.4s,mb3.7,baz=96,slow=7.2,SNR=47						
WRA				PcP	PcP	17 10 49.7	-1.1
	0.3nm,0.5s,baz=90,slow=3.6,SNR=7.7						
VNDA	**Vanda**	**60.35**	**185**	P	**P**	**17 11 11.0**	**-0.5**
	0.4nm,0.7s,mb2.8,baz=330,slow=8.1,SNR=3.3						
CASY	**Casey**	**66.14**	**205**	P	**P**	**17 11 44.0**	**-4.3**
	17nm,1.1s,mb4.4						
MJAR	**Matsushiro Arr**	**68.15**	**323**	P	**P**	**17 12 00.6**	**-0.4**
	1.1nm,0.5s,mb3.6,baz=127,slow=6.1,SNR=9.8						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**17 13 04.0**	**+0.2**
	0.7nm,0.8s,mb3.1,baz=219,slow=7.4,SNR=5.4						
TXAR	**Lajitas Array**	**85.84**	**58**	P	**P**	**17 13 37.5**	**+1.0**
	0.6nm,0.7s,mb3.4,baz=223,slow=6.2,SNR=7.7						
ILAR	**Eielson Array**	**85.94**	**13**	P	**P**	**17 13 35.1**	**-1.0**
	0.6nm,0.4s,mb3.6,baz=221,slow=4.9,SNR=14						
MKAR	**Makanchi Array**	**109.40**	**314**	PKiKP		17 19 20.5	
	0.1nm,0.5s,baz=118,slow=3.2,SNR=4.1						
MKAR	**Makanchi Array**	**109.40**	**314**	PKPdf		17 19 20.5	
ARCES	**ARCESS Array B**	**126.47**	**350**	PKP	PKPdf	17 19 52.7	-0.3
	2.1nm,0.8s,baz=90,slow=1.8,SNR=5.9						
BRTR	**Keskin Array B**	**145.04**	**315**	PKPbc	PKPbc	17 20 30.1	+1.5
	0.9nm,0.6s,baz=135,slow=3.5,SNR=6.0						
CLL	**Collm**	**145.63**	**348**⇓	*i*PKP1	PKPbc	17 20 31.0	+1.3
GERES	**GERESS Array B**	**147.79**	**345**	PKPbc	PKPdf	17 20 37.2	+5.2
	1.2nm,0.6s,baz=22,slow=3.0,SNR=12						
ESDC	**Sonseca Array**	**157.84**	**12**	PKP	PKPdf	17 20 49.8	+3.4
	0.3nm,0.3s,baz=211,slow=31,SNR=4.1						

*NEIC **17** 17:34:28.8, 33.85S×70.88W, h78km, MD3.5(GUC), After GUC.*

GUC 17 17:34:28.8±0.8**, 33.85S×70.88W, h78km**±3km**, MD3.5, ML3.5, 9C-15D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**0.20**	**113**⇓	*i*P	P	17 34 40.4	0.0
CHCH				*i* S	S	17 34 49.6	+0.5
TACH	**Talagante**	**0.21**	**346**⇓	*i*P	P	17 34 40.8	+0.4
TACH				*i* S	S	17 34 49.8	+0.7
ANTU	**Antumapu**	**0.35**	**36**⇓	*i*P	P	17 34 41.7	+0.4
ANTU				*i* S	S	17 34 51.2	+0.5
ANTU				AMP		17 34 51.6	
	comp=E,6μm,0.4s						
CACH	**El Canelo**	**0.35**	**139**⇑	*i*P	P	17 34 41.8	+0.5
CACH				*i* S	S	17 34 52.3	+1.7
RCDM	**Rinconada Maip**	**0.37**	**9**⇓	*i*P	P	17 34 41.7	+0.3
RCDM				*i* S	S	17 34 51.1	+0.3
RCDM				AMP		17 34 51.9	
	comp=E,13μm,0.1s						
PCH	**Pirque**	**0.38**	**53**⇑	*i*P	P	17 34 41.8	+0.3
PCH				*i* S	S	17 34 51.3	+0.2
SAN	**Santiago**	**0.44**	**24**⇑	*i*P	P	17 34 41.4	-0.5
SAN				*i* S	S	17 34 52.2	+0.4
SAN				AMP		17 34 52.5	
	comp=E,4μm,0.2s						
LNV	**Longovilo**	**0.46**	**257**⇑	*i*P	P	17 34 42.2	+0.1
LNV				*i* S	S	17 34 51.9	-0.2
STL	**Santa Lucia**	**0.46**	**25**⇓	*i*P	P	17 34 41.6	-0.5
STL				*i* S	S	17 34 51.8	-0.3
STL				AMP		17 34 52.1	
	comp=E,4μm,0.2s						
FSR	**Penalolen**	**0.47**	**38**⇓	*i*P	P	17 34 42.6	+0.4
FSR				*i* S	S	17 34 52.9	+0.5
FSR				AMP		17 34 54.4	
	comp=N,2μm,0.2s						
SJCH	**San Jose de Ma**	**0.48**	**64**⇑	*i*P	P	17 34 42.1	-0.2
SJCH				*i* S	S	17 34 52.6	+0.1
SJCH				AMP		17 34 53.5	
	comp=N,2μm,0.2s						
DSCH	**Colegio Aleman**	**0.52**	**30**⇑	*i*P	P	17 34 43.0	+0.3
DSCH				*i* S	S	17 34 53.9	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DSCH				AMP		17 34 54.4	
	comp=E,3μm,0.3s						
CLCH	Cerro Calan	0.54	32	⇓iP	P	17 34 43.1	+0.3
CLCH				iS	S	17 34 54.0	+0.7
CLCH				AMP		17 34 55.0	
	comp=N,2μm,0.3s						
CLCH				AMP		17 34 55.6	
	comp=N,2μm,0.3s						
LMEL	Las Melosas	0.56	90	⇓iP	P	17 34 43.8	+0.6
LMEL				iS	S	17 34 55.2	+1.6
LMEL				AMP		17 34 56.5	
	comp=E,5μm,0.1s						
CICH	Cipreses	0.60	141	⇓iP	P	17 34 43.9	+0.4
CICH				iS	S	17 34 55.4	+1.1
LCCH	Las Cruces	0.69	303	⇓iP	P	17 34 44.4	0.0
FCH	Farellones	0.72	43	⇓iP	P	17 34 45.3	+0.5
FCH				iS	S	17 34 57.7	+1.2
FCH				AMP		17 34 58.2	
	comp=N,3μm,0.3s						
PEL	Peldehue	0.72	13	⇑iP	P	17 34 45.3	+0.5
PEL				iS	S	17 34 57.6	+0.9
SFDO	San Fernando	0.77	188	⇑iP	P	17 34 45.4	+0.1
SFDO				iS	S	17 34 57.7	+0.2
ROCH	El Roble	0.89	353	⇓iP	P	17 34 47.1	+0.6
ROCH				iS	S	17 35 00.6	+0.6
IHA	Instituto Hidr	1.04	322	iP	P	17 34 49.5	+1.0
IHA				iS	S	17 35 04.5	+1.2
NICH	Los Niches	1.18	194	⇓iP	P	17 34 50.2	-0.1
NICH				iS	S	17 35 06.5	+0.1
JACH	Jahuel	1.19	12	⇑iP	P	17 34 50.5	+0.1
JACH				iS	S	17 35 07.0	+0.4
CHNG	Los Chungos	2.03	345	⇓iP	P	17 35 01.6	0.0
CHNG				iS	S	17 35 26.3	+0.3
CHNG				AMP		17 35 32.7	
	comp=E,76nm,0.6s						
CMCH	Combarbala	2.67	358	⇓iP	P	17 35 10.0	-0.7
CMCH				iS	S	17 35 40.4	-1.6
CMCH				AMP		17 36 04.0	
	comp=N,284nm,0.9s						

*NEIC **17** 18:07:38.4, 43.49N×7.62E, h10km, ML2.7(GEN), ML2.3(STR), ML2.3(LDG), After LDG.*
*STR **17** 18:07:39.5±0.2, 43.52N×7.57E, h6km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 17 18:07:38.4±0.1**, 43.49N×7.62E, h10km, Ml2.3**/9**, Error ellipse: s-maj=1.6km s-min=1.4km az=83.0, Near south coast of France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REVF	Revere	0.31	324	Pg	Pg	18 07 45.1	+0.2
REVF				Sg	Sg	18 07 48.9	-0.4
NEGI	Negi	0.37	9	P	Pg	18 07 45.9	-0.1
NEGI				S	Sg	18 07 50.9	0.0
SBF	Sospel	0.40	340	ePg	Pg	18 07 46.5	-0.1
SBF				eSg	Sg	18 07 51.7	-0.4
	79nm,0.2s						
IMI	Imperia	0.47	24	P	Pg	18 07 48.1	+0.2
IMI				S	Sg	18 07 54.3	+0.1
SAOF	Saorge	0.50	354	Pg	Pg	18 07 48.5	-0.1
SAOF				Sg	Sg	18 07 55.5	+0.1
AUTN	L'Aution	0.53	345	Pg	Pg	18 07 48.7	-0.4
AUTN				Sg	Sg	18 07 56.8	+0.6
MVIF	Mont Vial	0.53	320	Pg	Pg	18 07 48.8	-0.4
MVIF				Sg	Sg	18 07 55.8	-0.6
TOUF	Mont Tournerai	0.59	333	Pg	Pg	18 07 49.7	-0.7
TOUF				Sg	Sg	18 07 57.5	-0.9
CALN	Calern	0.59	297	Pg	Pg	18 07 50.3	-0.1
MONE	Monesi	0.60	9	P	Pg	18 07 50.2	-0.3
MONE				S	Sg	18 07 58.0	-0.7
FRF	La Foret Royal	0.71	276	ePg	Pg	18 07 52.4	-0.4
FRF				eSg	Sg	18 08 01.1	-1.2
	48nm,0.2s						
ENR	Entracque	0.75	349	P	Pb	18 07 52.9	-0.3
ENR				S	Sb	18 08 02.5	-0.7
STV	Sta Anna Valdi	0.79	344	P	Pb	18 07 53.3	-0.4
STV				S	Sb	18 08 03.4	-0.8
STV2	Anna di Valdie	0.79	344	P	Pb	18 07 53.2	-0.5
STV2				S	Sb	18 08 03.2	-1.0
LMR	La Mourre	0.82	260	ePg	Pg	18 07 54.1	-0.9
LMR				eSg	Sg	18 08 04.9	-1.1
	7.7nm,0.2s						
ROB	Roburent	0.83	12	P	Pb	18 07 54.5	+0.1
ROB				S	Sb	18 08 05.0	-0.4
FIN	Finale Ligure	0.84	30	P	Pb	18 07 54.6	0.0
FIN				S	Sb	18 08 05.5	-0.2
SURF	Saint Ours	1.15	330	Pg	Pg	18 08 00.1	-1.4
SURF				Sg	Sg	18 08 15.6	-1.3
PCP	Pian Castagno	1.25	32	P	Pb	18 08 01.5	-0.1
PGF	Pioggiola	1.38	132	ePn	Pn	18 08 02.4	-1.4
PGF				eSn	Sn	18 08 19.1	-3.1
	16nm,0.9s						
BHB	Bricherasio	1.38	349	P	Pn	18 08 02.5	-1.3
MBDF	Montbardon	1.38	334	ePg	Pg	18 08 04.2	-1.9
MBDF				eSn	Sn	18 08 19.4	-2.9
MBDF				eSg	Sg	18 08 22.1	-2.5
	16nm,0.3s						
RRL	Cesana Torines	1.56	337	P	Pn	18 08 07.0	+0.7
SMRF	Simiane la Rot	1.56	289	ePn	Pn	18 08 04.5	-1.9
SMRF				ePg	Pg	18 08 07.5	-2.1
SMRF				eSg	Sg	18 08 27.8	-2.7
	17nm,0.3s						
RSP	Reno Superiore	1.69	351	P	Pn	18 08 06.9	-1.3
ORIF	Oris-en-Rattie	1.90	319	ePn	Pn	18 08 09.3	-2.0
ORIF				ePg	Pg	18 08 13.5	-2.9
ORIF				eSg	Sg	18 08 39.1	-2.7
	7.9nm,0.5s						
LPG	La Plagne	2.10	343	ePn	Pn	18 08 12.3	-1.9
LPG				ePg	Pg	18 08 17.8	-2.7
LPG				eSg	Sg	18 08 45.2	-3.4
	4.6nm,0.5s						
LPL	La Plagne	2.13	343	ePn	Pn	18 08 12.6	-1.9
LPL				ePg	Pg	18 08 18.1	-2.8
LPL				eSg	Sg	18 08 45.6	-3.7
	3.1nm,0.4s						
VIVF	Saint-Julien-l	2.53	304	ePg	Pg	18 08 24.8	-4.1
VIVF				eSn	Sn	18 08 46.7	-4.6
VIVF				eSg	Sg	18 08 58.1	-4.4
	2.1nm,0.2s						
LASF	Ste Croix	2.79	283	eSn	Sn	18 08 53.0	-5.0
	2.2nm,0.2s						
MTLF	Montolieu	3.94	270	eSn	Sn	18 09 19.7	-7.4
	0.3nm,0.3s						

*IDC **17** 18:20:04.4±1.0, 11.40S×165.07E, mb4.0/7, mb1 4.3/9, mb1mx4.1/17, mbtmp4.1/9, ML4.2/2, MS3.7/5, Ms1 3.7/5, ms1mx3.4/20, Error ellipse: s-maj=28.0km s-min=21.2km az=129.0*
*NEIC **17** 18:20:08.3±4.4, 11.45S×165.08E, h28km±31km, mb4.4/4, Error ellipse: s-maj=15.4km s-min=12.8km az=71.0*
ISC 17 18:20:05.4±4.9**, 11.5S**±0.1×**165.00E**±0.09**, h20**km±35km**, n20, σ0^{s}93**/19**, mb4.2**/8**, MS3.8**/4**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.38	292	Pn	Pn	18 21 27.9	+1.2
	15nm,0.3s,baz=147,slow=9.0,SNR=9.4						
HNR				Sn	Sn	18 22 28.3	-0.5
	7.8nm,0.3s,baz=315,slow=22,SNR=6.9						
HNR	Honiara	5.38	292	ePn	Pn	18 21 27.8	+1.1
	51nm,0.6s						
DZM	Mont Dzumac	10.61	173	Pn	P	18 22 38.4	-1.2
	0.9nm,0.3s,baz=346,slow=17,SNR=11						
CTA	Charters Tower	19.95	242	eP	P	18 24 39.9	+0.6
	4.0nm,0.8s						
CTA	Charters Tower	19.95	242	P	P	18 24 40.1	+0.8
	4.8nm,1.0s,baz=64,slow=12,SNR=4.9						
CTA				LR	LR	18 31 15.4	
	comp=Z,142nm,21.8s,baz=52,slow=34						
CTAO	Charters Tower	19.95	242	eP	P	18 24 40.0	+0.6
	12nm,1.2s						
STKA	Stephens Creek	29.61	223	P	P	18 26 13.0	+1.3
	2.0nm,0.6s,mb4.0,baz=82,slow=6.5,SNR=5.6						
STKA				LR	LR	18 37 20.7	
	comp=Z,179nm,20.8s,MS3.7,baz=28,slow=35						
STKA	Stephens Creek	29.61	223	P	P	18 26 13.0	+1.3
STKA				LR	LR	18 37 20.7	
WRAB	Tennant Creek	30.63	250	eP	P	18 26 20.7	-0.2
	20nm,1.2s,mb4.8						
WB2	Warramunga Arr	30.63	250	eP	P	18 26 21.5	+0.6
WRA	Warramunga Arr	30.64	250	P	P	18 26 20.6	-0.4
	4.1nm,1.0s,mb4.2,baz=79,slow=7.4,SNR=20						
WRA				PcP	PcP	18 29 19.2	+0.1
	0.7nm,0.9s,baz=85,slow=2.9,SNR=6.1						
GUMO	Guam	31.94	321	P	P	18 26 31.4	-1.0
PPT	Papeete	44.30	103	LR	LR	18 43 02.4	
	comp=Z,115nm,21.3s,MS3.8,baz=264,slow=31						
MBWA	Marble Bar	44.36	252	eP	P	18 28 15.4	-1.1
	16nm,1.1s,mb4.7						
MJAR	Matsushiro Arr	54.04	333	P	P	18 29 29.3	-1.6
	1.2nm,0.7s,mb3.9,baz=164,slow=8.4,SNR=5.7						
SONM	Songino Array	78.60	324	P	P	18 32 08.4	+1.0
	1.2nm,0.8s,mb3.9,baz=141,slow=7.9,SNR=9.6						
ILAR	Eielson Array	84.17	19	P	P	18 32 36.6	+0.4
	1.1nm,0.7s,mb4.1,baz=234,slow=5.1,SNR=14						
NVAR	Mina Array Bea	86.87	50	P	P	18 32 51.1	+0.8
	1.4nm,0.9s,mb4.2,baz=212,slow=6.8,SNR=5.7						
NVAR				LR	LR	19 06 17.5	
	comp=Z,41nm,20.2s,MS3.8,baz=180,slow=32						
NVAR	Mina Array Bea	86.87	50	P	P	18 32 51.1	+0.8
NVAR				LR	LR	19 06 17.5	
TXAR	Lajitas Array	96.68	62	LR	LR	19 08 18.6	
	comp=Z,60nm,19.7s,MS4.1,baz=285,slow=30						

ISC 17 18:21:17.8±0.6**, 37.80N**±0.04×**29.74E**±0.05**, h10**km**, n7, σ1^{s}27**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKTP	Tekketepe	0.52	62	iP	Pg	18 21 28.2	-0.1
TKTP				iS	Sg	18 21 41.4	+6.1
KHL	Karahalli	0.55	342	ePG	Pg	18 21 27.5	-1.4
DNZL	Cakiroluk	0.56	259	iP	Pg	18 21 27.8	-1.3
DNZL				iS	Sg	18 21 39.4	+2.7
GOLH	Golhisar	0.58	194	iP	Pg	18 21 28.1	-1.4
GOLH				iS	Sg	18 21 38.0	+0.8
ISP	Isparta	0.61	86	ePG	Pg	18 21 28.9	-1.1
ISP				eSG	Sg	18 21 40.2	+1.9
MANT	Manisa	1.16	307	iP	Pb	18 21 39.2	-0.3
MANT				iS	Sb	18 21 55.9	+1.5
ALT	Altintas	1.29	13	ePN	Pn	18 21 42.2	+0.3

*PRU **17** 18:43:49.1, 40.96N×19.98E*
*ATH **17** 18:43:50.1, 41.51N×19.59E, h23km±7km, MD3.9/8*
*IDC **17** 18:43:50.4±1.6, 41.18N×19.74E, mb3.7/6, mb1 3.8/11, mb1mx3.7/25, mbtmp3.6/11, ML3.5/5, MS2.7/2, Ms1 2.7/2, ms1mx2.4/30, Error ellipse: s-maj=24.7km s-min=17.6km az=22.0*
*TIR **17** 18:43:51.6, 41.24N×19.89E, h8km, Ml3.7*
*MOS **17** 18:43:51.6±1.1, 41.18N×19.70E, h10km, mb3.7/1, Error ellipse: s-maj=5.9km s-min=3.8km az=119.4*
*ROM **17** 18:43:52.7±0.7, 41.24N×19.86E, h12km, Ml3.1/4, Error ellipse: s-maj=13.0km s-min=3.4km az=120.0*
*NEIC **17** 18:43:53.1, 41.26N×19.99E, h1km, MD3.9(ATH), ML4.1(THE), ML3.8(PDG), After PDG.*
NEIC Felt at Tirana.
*PDG **17** 18:43:53.1±0.3, 41.26N×19.99E, h1km*
*CSEM **17** 18:43:53.4±0.1, 41.28N×19.93E, h5km, ML3.4/2, Error ellipse: s-maj=1.2km s-min=0.8km az=41.0*
*LDG **17** 18:43:53.8±0.2, 41.28N×20.00E, h10km, Ml3.6/6, Error ellipse: s-maj=4.4km s-min=3.7km az=62.0*
ISC 17 18:43:52.8±0.3**, 41.25N**±0.01×**19.80E**±0.02**, h10**km±2km**, n171, σ1^{s}42**/249**, mb3.6**/4**, 26C-9D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.11	24	iPg	Pg	18 43 54.0	-1.7
TIR				iSg	Sg	18 43 57.0	-0.7
PRZA	Preza	0.21	331	ipg?	Pg	18 43 59.3	+1.9
PRZA				iSg	Sg	18 44 03.5	+3.0
QSH	Qafa e Shtames	0.29	15	iPg	Pg	18 43 59.0	+0.1
QSH				iSg	Sg	18 44 04.8	+1.9
PHP	Peshkopia	0.65	47	iPg	Pg	18 44 03.5	-2.4
PHP				iSg	Sg	18 44 14.3	-0.4
OHR	Ohrid	0.76	100	iPg	Pg	18 44 06.3	-1.9
OHR				iSg	Sg	18 44 16.6	-1.8
PUK	Puka	0.80	5	iPg	Pg	18 44 08.2	-0.7
PUK				iSg	Sg	18 44 21.9	+2.2
ULC	Ulcinj	0.83	330	⇓iPg	Pg	18 44 09.6	+0.1
ULC				eSg	Sg	18 44 23.8	+3.2
SDA	Shkodra	0.84	344	iPg	Pg	18 44 09.0	-0.7
SDA				iSg	Sg	18 44 22.0	+1.1
KKS	Kukesi	0.95	29	iPg	Pg	18 44 09.7	-2.1
KKS				iSg	Sg	18 44 24.0	-0.5
TPE	Tepelena	0.96	171	iPg	Pg	18 44 09.8	-2.3
TPE				iSg	Sg	18 44 23.0	-2.0
KBN	Korca	0.97	129	iPg	Pg	18 44 10.7	-1.6
KBN				iSg	Sg	18 44 25.7	+0.4
BCI	Bajram Curri	1.14	10	iPg	Pg	18 44 13.9	-1.7
BCI				iSg	Sg	18 44 32.4	+1.5
BIA	Bitola	1.17	101	iPn	Pn	18 44 12.3	-2.9
BIA				eSn	Sn	18 44 29.3	-2.0
LSK	Leskovik	1.25	151	iPg	Pg	18 44 15.8	-2.1
LSK				iSg	Sg	18 44 36.3	+1.7
TTG	Podgorica	1.25	341	⇑iPg	Pg	18 44 16.3	-1.6
TTG				eSg	Sg	18 44 37.4	+2.8
BUM	Brajici-Budva	1.25	328	⇑iPg	Pg	18 44 17.7	-0.3
BUM				eSg	Sg	18 44 38.3	+3.6
FNA	Florina	1.28	111	P	Pb	18 44 14.9	-1.6
FNA				S	Sb	18 44 34.5	+1.7
FNA	Florina	1.28	111	P	Pb	18 44 14.9	-1.6
FNA				S	Sb	18 44 34.5	+1.7
PVY	Plav	1.35	5	⇑iPg	Pg	18 44 17.5	-2.4
PVY				eSg	Sg	18 44 38.9	+0.8
SRN	Sarande	1.37	174	iPn	Pn	18 44 18.8	+0.7
SRN				iSn	Sn	18 44 41.6	+5.2
SKO	Skopje	1.43	59	iPn	Pn	18 44 18.4	-0.5
SKO				iSn	Sn	18 44 36.5	-1.3
SKO				Lg		18 44 40.5	
	comp=Z,0.5nm,0.6s						
SKO	Skopje	1.43	59	iP	Pn	18 44 18.4	-0.5
SKO						18 44 40.5	
KEK	Kerkira	1.53	180	ePN	Pn	18 44 21.8	+1.4
KEK				eSN	Sn	18 44 45.1	+4.7
KEK	Kerkira	1.53	180	Pn	Pn	18 44 21.7	+1.3
KEK				eSn	Sn	18 44 45.1	+4.7
HCY	Herceg Novi	1.55	321	⇓iPn	Pn	18 44 22.7	+2.1
HCY				eSn	Sn	18 44 47.8	+6.9
IVA	Berane	1.63	2	⇑iPn	Pn	18 44 22.9	+1.1
IVA				eSn	Sn	18 44 48.0	+5.1
NKY	Niksic	1.68	339	ePn	Pn	18 44 24.7	+2.2
NKY				eSn	Sn	18 44 50.5	+6.3
KZN	Kozani	1.76	121	ePB	Pb	18 44 25.0	+0.2
JAN	Janina	1.78	153	ePB	Pb	18 44 25.8	+0.8
TREB	Trebinje	1.83	324	Pn	Pn	18 44 26.4	+1.8
PE1	Pezze di Greco	1.85	257	ePn	Pn	18 44 25.8	+0.8
BRY	Bratogost	1.90	331	⇓iPn	Pn	18 44 28.5	+2.9
BRY				eSn	Sn	18 44 56.0	+6.1
GRG	Griva	1.98	97	P	Pn	18 44 27.1	+0.3
GRG				S	Sn	18 44 53.6	+1.7
GRG	Griva	1.98	97	P	Pn	18 44 27.1	+0.2
GRG				S	Sn	18 44 53.6	+1.7
UPM	Unac-Piva	2.07	342	ePn	Pn	18 44 31.1	+3.1
UPM				eSn	Sn	18 44 59.5	+5.5
VAY	Valandovo	2.09	87	ePn	Pn	18 44 27.6	-0.7
PLE	Pljevlja	2.11	352	⇑iPn	Pn	18 44 31.0	+2.4
PLE				eSn	Sn	18 45 00.6	+5.5
NOCI	Noci	2.12	259	Pn	Pn	18 44 29.5	+0.7
BARS	Barje	2.18	43	⇑iPn	Pn	18 44 29.9	+0.3
BARS				Sn	Sn	18 44 54.5	-2.4
BAI	Bari	2.21	267	ePn	Pn	18 44 34.1	+4.0
NVSS	Nova Varos 2	2.26	358	⇑iPn	Pn	18 44 33.7	+2.9
NVSS				Sn	Sn	18 45 04.5	+5.5
KNT	Kendrikon	2.34	91	P	Pn	18 44 31.8	-0.1
KNT				S	Sn	18 45 02.4	+1.5
KNT	Kendrikon	2.34	91	P	Pn	18 44 31.8	-0.1
KNT				S	Sn	18 45 02.4	+1.5
LIT	Litokhoron	2.34	118	P	Pn	18 44 32.5	+0.5
LIT	Litokhoron	2.34	118	P	Pn	18 44 32.5	+0.5
LTRZ	Laterza	2.35	255	Pn	Pn	18 44 33.2	+1.1
SG1	Sgolgore (BA)	2.40	261	ePn	Pn	18 44 34.6	+1.8
AMUR	Altamura	2.44	263	Pn	Pn	18 44 34.3	+0.9
	comp=Z,18nm,0.9s						
THE	Thessaloniki	2.47	103	P	Pn	18 44 34.3	+0.5
THE	Thessaloniki	2.47	103	P	Pn	18 44 34.3	+0.5
BBLS	Bajina Basta -	2.64	354	ePn	Pn	18 44 40.3	+4.0
BBLS				Sn	Sn	18 45 16.6	+8.1
CDT	Castel del Mon	2.67	268	ePn	Pn	18 44 38.0	+1.3
GRUS	Gruza	2.73	14	ePn	Pn	18 44 38.3	+0.8
GRUS				Sn	Sn	18 45 14.5	+3.7
EVR	Evrytania	2.79	146	ePN	Pn	18 44 40.5	+2.1
DIVS	Divcibare	2.85	3	⇓iPn	Pn	18 44 41.1	+1.8
DIVS				Sn	Sn	18 45 20.9	+6.8
SRS	Serrai	2.86	91	P	Pn	18 44 39.0	-0.4
SRS				S	Sn	18 45 14.6	+0.4
SRS	Serrai	2.86	91	P	Pn	18 44 39.0	-0.4
SRS				S	Sn	18 45 14.6	+0.3
PLG	Polygyros	2.90	106	ePN	Pn	18 44 40.2	+0.3
PLG				eSN	Sn	18 45 16.6	+1.4
FGMS	Monte Sant'Ang	2.93	280	Pn	Pn	18 44 40.7	+0.3
AGG	Agios Georgios	2.95	138	P	Pn	18 44 41.8	+1.2
AGG				S	Sn	18 45 17.6	+1.2
AGG	Agios Georgios	2.95	138	P	Pn	18 44 41.8	+1.2
AGG				S	Sn	18 45 17.6	+1.2
BOLS	Boljevac	3.04	31	iPn	Pn	18 44 42.7	+0.8
BOLS				Sn	Sn	18 45 18.6	-0.1
NVR	Nevrokopi	3.06	87	ePN	Pn	18 44 42.4	+0.2
NVR				eSN	Sn	18 45 19.8	+0.6
NVR	Nevrokopi	3.06	87	ePn	Pn	18 44 42.5	+0.3
NVR				eSn	Sn	18 45 18.3	-0.9
TIP	Timpagrande	3.11	229	Pn	Pn	18 44 43.3	+0.3
VLS	Valsamata	3.12	169	ePn	Pn	18 44 42.1	-1.0
XOR	Xorichti	3.20	125	P	Pn	18 44 44.8	+0.6
SVIS	Svilajnac	3.22	18	⇓iPn	Pn	18 44 44.9	+0.4
SVIS				Sn	Sn	18 45 23.4	0.0
PAIG	Paliouri	3.23	113	P	Pn	18 44 44.7	0.0
PAIG				S	Sn	18 45 24.8	+1.2
PAIG	Paliouri	3.23	113	P	Pn	18 44 44.7	0.0
PAIG				S	Sn	18 45 24.8	+1.2
NEO	Neokhori	3.25	125	ePN	Pn	18 44 45.5	+0.5
SLCN	Sala Consilina	3.28	256	Pn	Pn	18 44 47.6	+2.3
	comp=Z,13nm,0.3s						
CUC	Castrocucco	3.28	249	Pn	Pn	18 44 46.0	+0.6
OUR	Ouranopolis	3.30	105	P	Pn	18 44 45.7	+0.1
OUR				S	Sn	18 45 25.3	0.0
OUR	Ouranopolis	3.30	105	P	Pn	18 44 45.7	+0.1
OUR				S	Sn	18 45 25.3	0.0
MRLC	Muro Lucano	3.30	263	Pn	Pn	18 44 47.4	+1.7
SGO	Sicignano	3.48	260	Pn	Pn	18 44 49.3	+1.2
	comp=Z,12nm,0.2s						
MCRV	Calabrutti - M	3.54	264	Pn	Pn	18 44 49.7	+0.7
	comp=Z,24nm,0.3s						
BEO	Belgrade	3.61	7	ePn	Pn	18 44 54.4	+4.4
BEO				Sn	Sn	18 45 21.9	-11
CSSN	Cassano Irpino	3.63	266	Pn	Pn	18 44 51.6	+1.2
	comp=Z,9.0nm,0.3s						
DJES	Djerdap	3.93	30	ePn	Pn	18 44 56.4	+1.8
DJES				Sn	Sn	18 45 42.0	+0.7
BLY	Banja Luka	4.00	332	eP	Pn	18 44 56.6	+1.1
SGG	Gregorio Mates	4.09	274	Pn	Pn	18 44 58.4	+1.6
CII	Carovilli	4.16	278	Pn	Pn	18 44 59.3	+1.5
	comp=Z,26nm,0.4s						
CII	Carovilli	4.16	278	ePn	Pn	18 44 54.9	-2.9
CII				Pn	Pn	18 44 59.3	+1.5
CII				epPn		18 45 00.2	
MIDA	Miranda	4.19	277	Pn	Pn	18 44 59.1	+0.8
	comp=Z,45nm,0.7s						
VAGA	Valle Agricola	4.20	274	Pn	Pn	18 44 59.9	+1.5
CEL	Celeste	4.24	227	Pn	Pn	18 44 58.4	-0.6
LIA	Limnos Island	4.31	106	ePN	Pn	18 44 59.9	-0.1
RDO	Rodhopi	4.33	89	ePN	Pn	18 44 59.3	-0.9
VVLD	Villa Vallelon	4.68	280	Pn	Pn	18 45 06.8	+1.6
	comp=Z,68nm,0.8s						
ALN	Alexandroupoli	4.73	92	P	Pn	18 45 05.9	-0.1
ALN				S	Sn	18 46 00.3	-1.3
ALN	Alexandroupoli	4.73	92	P	Pn	18 45 05.9	-0.1
ALN				S	Sn	18 46 00.3	-1.2
FAGN	Fagnano	4.76	284	Pn	Pn	18 45 07.5	+1.1
AQU	L'Aquila	4.91	285	ePb	Pb	18 45 15.9	-2.8
	comp=Z,51nm,1.2s						
AQU				eSb	Sb	18 46 12.1	-6.3
AQU	L'Aquila	4.91	285	eS	Sn	18 46 12.1	+6.0
AQU	L'Aquila	4.91	285	eP	Pb	18 45 15.9	-2.8
AQU				e		18 46 12.1	
AQU				pmax	pmax		
	comp=Z,51nm,1.2s						
RHK1	Bakonya	5.01	346	eP	Pn	18 45 10.9	+1.0
RHK1				eS	Sn	18 46 10.2	+1.7
PKSM	Moragy	5.04	351	⇑eP	Pn	18 45 10.3	0.0
PKSM				eS	Sn	18 46 09.1	-0.1
NRCA	Norcia	5.23	290	Pn	Pn	18 45 13.1	+0.1
SNTG	Esanatoglia	5.48	294	Pn	Pn	18 45 15.6	-0.9
MTUR	Matau	5.53	42	⇑iP	Pn	18 45 18.3	+1.1
ARV	Arcevia	5.56	296	Pn	Pn	18 45 16.7	-1.0
CRES	Cresnjev	5.56	327	iPn	Pn	18 45 18.2	+0.5
VAE	Valguarnera	5.62	230	LR	LR	18 47 14.6	
	comp=Z,72nm,19.3s,baz=302,slow=37						
PKSN	Nyarlorinc	5.65	0	⇑eP	Pn	18 45 20.8	+1.8
VOIR		5.67	41	⇓iP	Pn	18 45 19.6	+0.3
PKS8	Sarbogard	5.69	352	⇑iP	Pn	18 45 21.4	+1.9
FSSB	Fossombrone	5.74	298	Pn	Pn	18 45 19.3	-0.9
MURB	Monte Urbino	5.77	293	Pn	Pn	18 45 20.6	0.0
VISS	Visnje	5.81	323	iPn	Pn	18 45 21.5	+0.3
PKS7	Kunszentmiklos	5.82	356	⇑eP	Pn	18 45 23.4	+2.1
SNX	Sinaia	5.85	43	⇑iP	Pn	18 45 23.3	+1.5
DRGR		5.93	20	⇑iP	Pg	18 45 43.0	-8.2
MLR	Muntele Rosu	6.17	44	Pn	Pn	18 45 26.2	0.0
	comp=Z,1.2nm,0.3s,baz=244,slow=7.8,SNR=22						
MLR				Sn	Sn	18 46 30.7	-6.9
	comp=Z,0.2nm,0.3s,baz=128,slow=23,SNR=1.6						
MLR	Muntele Rosu	6.17	44	⇑iP	Pn	18 45 28.0	+1.8
MLR	Muntele Rosu	6.17	44	⇑iP	Pn	18 45 28.0	+1.8
MLR	Muntele Rosu	6.17	44	P	Pn	18 45 26.2	0.0
MLR						18 46 30.7	
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PERS	Pernice	6.36	329	iPn	Pn	18 45 28.1	-0.9
OBKA	Obir	6.49	326	⇑iPN	Pn	18 45 30.2	-0.6
OBKA				iSN	Sn	18 46 45.3	-0.3
PSZ	Piszkesteto	6.67	1	ePn	Pn	18 45 27.5	-5.9
	comp=Z,16nm,0.8s						
PSZ				epPn		18 45 34.1	
PSZ	Piszkesteto	6.67	1	⇑iP	Pn	18 45 33.6	+0.2
PSZ				eS	Sn	18 46 49.1	-1.1
PSZ	Piszkesteto	6.67	1	eP	Pn	18 45 27.5	-5.9
PSZ				pmax	pmax		
	comp=Z,16nm,0.8s						
ARSA	Arzberg	6.74	334	⇑iPN	Pn	18 45 34.2	-0.2
ARSA				iSN	Sn	18 46 51.4	-0.6
IDI	Anoyia	7.17	144	Pn	Pn	18 45 36.9	-3.4
	comp=Z,0.1nm,0.3s,baz=279,slow=8.0,SNR=2.3						
IDI				Sn	Sn	18 46 53.8	-8.8
	comp=Z,0.2nm,0.3s,baz=179,slow=14,SNR=2.4						
ZST	Bratislava	7.21	345	e	Pn	18 45 49.9	+9.0
KECS	Kecovo	7.25	4	ePN	Pn	18 45 42.2	+0.7
VYHS	Vyhne	7.28	355	ePN	Pn	18 45 43.6	+1.7
VYHS				eSG	Sn	18 47 04.0	-1.5
BURAR	Bucovina Array	7.45	29	⇓iP	Pn	18 45 46.7	+2.4
BURAR	Bucovina Array	7.45	29	⇓iP	Pn	18 45 46.7	+2.4
KBA	Koelnbreinsper	7.45	324	⇑iPN	Pn	18 45 44.1	-0.2
KBA				iSN	Sn	18 47 09.1	-0.7
MOA	Molln	7.70	331	⇑iPN	Pn	18 45 47.0	-0.7
MOA				iSN	Sn	18 47 14.1	-1.7
CRVS	Cervenica-Dubn	7.75	8	ePN	Pn	18 45 48.5	+0.1
KOLS	Kolonicke sedl	7.88	12	ePN	Pn	18 45 50.5	+0.2
PGF	Pioggiola	8.16	283	ePn	P	18 45 52.3	-2.0
WTTA	Wattenberg	8.40	319	⇑iPN	P	18 45 56.6	-0.9
WTTA				iSN	Sn	18 47 30.9	-2.4
WATA	Walderalm	8.48	319	⇓iPN	P	18 45 57.6	-1.0
WATA				iSN	Sn	18 47 35.8	+0.5
SQTA	Sankt Quirin	8.59	317	⇑iPN	P	18 45 59.6	-0.5
SQTA				iSN	Sn	18 47 36.5	-1.5
MOTA	Moosalm	8.72	317	⇑iPN	P	18 46 01.1	-0.9
MOTA				iSN	Sn	18 47 41.1	-0.3
GERES	GERESS Array B	8.74	332	Pn	P	18 46 00.5	-1.7
	comp=Z,0.3nm,0.3s,baz=154,slow=14,SNR=9.9						
KHC	Kasperske Hory	9.03	333	ePN	P	18 46 04.8	-1.4
KHC				x	x	18 46 25.0	
KHC				eSN	Sn	18 47 45.3	-3.6
KHC	Kasperske Hory	9.03	333	ePn	P	18 46 04.8	-1.4
KHC				e		18 46 25.0	
KHC				eSn	Sn	18 47 45.3	-3.6
KHC	Kasperske Hory	9.03	333	eP	P	18 46 04.8	-1.4
KHC				e		18 47 45.3	
DAVOX	Davos	9.04	311	Pn	P	18 46 06.6	+0.3
	comp=Z,0.5nm,0.3s,baz=138,slow=18,SNR=5.3						
DAVOX				LR	LR	18 50 18.0	
	comp=Z,53nm,18.5s,baz=252,slow=43						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAVA	**Damuels**	**9.33**	**314**	⇑iPN	**P**	**18 46 09.0**	**-1.4**
DAVA				i SN	**Sn**	**18 47 54.2**	**-2.3**
DAVA	**Damuels**	**9.33**	**314**	⇑iPn	**P**	**18 46 09.0**	**-1.4**
PRU	**Pruhonice**	**9.49**	**339**	ePN	**P**	**18 46 11.3**	**-1.3**
SBF	**Sospel**	**9.50**	**290**	ePn	**P**	**18 46 09.8**	**-2.9**
FRF	**La Foret Royal**	**10.01**	**288**	ePn	**P**	**18 46 17.8**	**-1.8**
LMR	**La Mourre**	**10.07**	**286**	ePn	**P**	**18 46 17.3**	**-3.3**
MBDF	**Montbardon**	**10.16**	**294**	ePn	**P**	**18 46 19.2**	**-2.6**
MBDF				eSn	**S**	**18 48 07.4**	**-10**
	comp=Z,6.1nm,0.7s						
LPG	**La Plagne**	**10.41**	**298**	ePn	**P**	**18 46 22.8**	**-2.4**
LPG				eSn	**S**	**18 48 13.1**	**-10**
	comp=Z,3.8nm,0.4s						
LPL	**La Plagne**	**10.43**	**299**	ePn	**P**	**18 46 22.4**	**-3.0**
LPL				eSn	**S**	**18 48 13.5**	**-10**
	comp=Z,4.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**10.83**	**294**	eSn	**S**	**18 48 23.3**	**-10**
	comp=Z,1.0nm,0.3s						
CABF	**La Chapelle**	**11.25**	**303**	ePn	**P**	**18 46 33.1**	**-3.5**
CABF				eSn	**S**	**18 48 32.7**	**-11**
	comp=Z,1.0nm,0.4s						
HINF	**Hinteralfeld**	**11.33**	**310**	ePn	**P**	**18 46 35.2**	**-2.6**
HINF				eSn	**S**	**18 48 34.7**	**-11**
	comp=Z,1.3nm,0.3s						
CDF	**Champ du Feu**	**11.41**	**313**	ePn	**P**	**18 46 36.0**	**-2.9**
AKASG	**Malin Array Be**	**11.50**	**31**	Pn	**P**	**18 46 34.7**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=34,slow=25,SNR=2.5						
AKASG	**Malin Array Be**	**11.50**	**31**	Pn	**P**	**18 46 34.7**	**-5.3**
LOR	**Lormes**	**12.91**	**303**	ePn	**P**	**18 46 55.8**	**-3.2**
HFS	**Hagfors**	**19.29**	**351**	P	**P**	**18 48 17.0**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=8.0,SNR=7.7						
HFS	**Hagfors**	**19.29**	**351**	P	**P**	**18 48 17.1**	**-3.1**
NOA	**NORSAR Array B**	**20.51**	**348**	P	**P**	**18 48 30.6**	**-2.9**
	comp=Z,2.5nm,0.9s,baz=150,slow=9.8,SNR=3.5						
FINES	**FINESS Array B**	**20.58**	**9**	P	**P**	**18 48 31.4**	**-2.9**
	comp=Z,3.9nm,0.9s,baz=180,slow=7.6,SNR=7.1						
KAF	**Kangasniemi**	**21.26**	**8**	ep	**P**	**18 48 37.5**	**-3.7**
JOF	**Joensuu**	**22.76**	**14**	ep	**P**	**18 48 57.1**	**+1.1**
ARCES	**ARCESS Array B**	**28.51**	**4**	P	**P**	**18 49 47.2**	**-2.8**
	comp=Z,1.5nm,0.7s,mb3.8,baz=192,slow=8.3,SNR=2.6						
MKAR	**Makanchi Array**	**44.23**	**61**	P	**P**	**18 52 01.8**	**-1.9**
	comp=Z,0.4nm,0.4s,mb3.5,baz=283,slow=7.7,SNR=10						
SONM	**Songino Array**	**58.97**	**52**	P	**P**	**18 53 52.5**	**-2.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=295,slow=8.3,SNR=4.8						
CPCT	**Cooper Cave**	**76.89**	**306**	eP	**P**	**18 55 40.2**	**-6.5**
TXAR	**Lajitas Array**	**92.47**	**313**	P	**P**	**18 57 02.4**	**-2.8**
	comp=Z,0.2nm,0.7s,mb3.5,baz=346,slow=3.7,SNR=2.8						

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*IDC **17** 18:53:30.1±14.0, 37.26N×72.60E, h126^{km}±108^{km}, mb3.4/5, mb1 3.3/7, mb1mx3.1/20, mbtmp3.7/7, ML3.4/2, Error ellipse: s-maj=161.4km s-min=80.4km az=162.0*
*NEIC **17** 18:53:31.7±2.9, 37.60N×72.24E, h106^{km}±34^{km}, mb4.1/2, Error ellipse: s-maj=37.9km s-min=7.1km az=64.0*
*NNC **17** 18:53:37.9±5.6, 38.10N×71.86E, h86^{km}±63^{km}, mpv3.5, Error ellipse: s-maj=44.7km s-min=35.8km az=7.0*
ISC 17 18:53:29.7±1.9**, 37.68N**±0.08×**72.2E**±0.2**, h95**^{km}±23^{km}**, n20,** σ**1^{s}28**/26**, mb3.9**/5**, 3C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.25**	**19**	⇓P	**P**	**18 54 49.8**	**+2.6**
	1.8nm,0.4s						
AAK				⇓S	**S**	**18 55 45.7**	**-1.3**
	21nm,0.8s						
AAK	**Ala-Archa**	**5.25**	**19**	ePn	**P**	**18 54 48.5**	**+1.4**
	9.2nm,0.6s						
AAK				eSn	**S**	**18 55 45.3**	**-1.7**
KK31	**Karatay Array**	**5.56**	**347**	⇑P	**P**	**18 54 52.3**	**+0.9**
	2.5nm,0.2s,baz=161,slow=11,SNR=206						
KK31				⇑S	**S**	**18 55 50.2**	**-4.5**
	7.3nm,0.3s,baz=173,slow=17,SNR=18						
MKAR	**Makanchi Array**	**11.78**	**36**	P	**P**	**18 56 16.2**	**+0.6**
	0.0nm,0.3s,baz=248,slow=7.8,SNR=3.3						
KOLN	**Koldanda**	**13.77**	**133**	eP	**P**	**18 56 40.4**	**-1.4**
	4.7nm,0.3s						
KOLN				eS	**S**	**18 59 05.1**	**-7.6**
GKN	**Gorkha**	**14.22**	**129**	eP	**P**	**18 56 47.1**	**-0.6**
	6.4nm,0.2s						
AB31	**Akbulak array**	**14.57**	**326**	P	**P**	**18 56 49.6**	**-2.4**
	0.4nm,0.3s,baz=156,slow=11,SNR=14						
AB31				⇑S	**S**	**18 59 18.2**	**-13**
	1.2nm,0.3s,baz=135,slow=24,SNR=7.2						
KKN	**Kakani**	**14.77**	**128**	eP	**P**	**18 56 55.5**	**+0.7**
DMN	**Daman**	**14.79**	**129**	eP	**P**	**18 56 55.0**	**0.0**
	4.0nm,0.3s						
PKI	**Pulchoki**	**15.01**	**128**	eP	**P**	**18 56 58.1**	**+0.3**
	1.9nm,0.2s						
VOSK	**Vostochnaya**	**15.06**	**357**	P	**P**	**18 57 00.7**	**+2.3**
BVA0	**Borovoye Array**	**15.39**	**356**	P	**P**	**18 57 05.5**	**+3.0**
	0.6nm,0.9s,baz=163,slow=11,SNR=26						
BVAR	**Borovoye Array**	**15.39**	**356**	P	**P**	**18 57 05.7**	**+3.1**
	1.2nm,0.3s,baz=160,slow=9.3,SNR=24						
AKTO	**Aktyubinsk**	**16.28**	**326**	⇓P	**P**	**18 57 14.9**	**+1.2**
	0.3nm,0.5s						
AKTO				S	**S**	**19 00 01.9**	**-8.9**
AKASG	**Malin Array Be**	**32.97**	**307**	P	**P**	**18 59 57.0**	**-0.2**
	3.2nm,1.0s,mb4.1,baz=94,slow=6.4,SNR=4.5						
FINES	**FINESS Array B**	**37.05**	**325**	P	**P**	**19 00 31.7**	**-0.1**
	1.9nm,1.0s,mb4.0,baz=113,slow=8.8,SNR=8.0						
ARCES	**ARCESS Array B**	**40.43**	**337**	P	**P**	**19 00 59.8**	**0.0**
	2.0nm,0.8s,mb4.0,baz=110,slow=8.2,SNR=10						
HFS	**Hagfors**	**42.74**	**321**	P	**P**	**19 01 18.6**	**-0.1**
	0.9nm,0.4s,mb3.8,baz=97,slow=12,SNR=8.1						
NOA	**NORSAR Array B**	**44.02**	**322**	P	**P**	**19 01 28.9**	**-0.2**
	0.4nm,0.4s,mb3.5,baz=94,slow=7.7,SNR=2.8						
NOA	**NORSAR Array B**	**44.02**	**322**	P	**P**	**19 01 28.9**	**-0.2**

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*IDC **17** 18:58:57.9±1.0, 25.01N×125.44E, mb4.0/14, mb1 4.1/15, mb1mx4.0/24, mbtmp4.0/15, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/33, Error ellipse: s-maj=25.0km s-min=22.6km az=10.0*
*NIED **17** 18:59:00, 25.00N×125.60E, h53^{km}, Mw4.2 Best double couple: $M_0$2.21×10^{15} NP1:ϕ_s58°, δ76°, λ97°. NP2:ϕ_s211°, δ15°, λ63°.*
*JMA **17** 18:59:04.1, 25.02N×125.63E, h52^{km}±1^{km}, M4.3*
JMA Felt I J1.
*NEIC **17** 18:59:06.2±1.1, 25.11N×125.54E, h62^{km}±9^{km}, mb4.5/10, MW4.2(NIED), Error ellipse: s-maj=19.3km s-min=10.3km az=157.0*
ISC 17 18:59:03.8±0.4**, 25.07N**±0.08×**125.61E**±0.06**, h54**^{km}±4^{km}**, n55,** σ**1^{s}11**/69**, mb4.2**/24**, 1D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.36**	**211**	P	**P**	**18 59 13.5**	**-0.4**
JOGS				S	**S**	**18 59 20.5**	**-0.8**
JMJ	**Miyako jima 2**	**0.39**	**228**	P	**P**	**18 59 13.9**	**-0.3**
JMJ				S	**S**	**18 59 21.1**	**-0.6**
JTJ	**Tarama**	**0.93**	**243**	P	**P**	**18 59 21.1**	**+0.2**
JTJ				S	**S**	**18 59 33.4**	**-0.2**
JIJ	**Ishigaki jima**	**1.51**	**242**	P	**P**	**18 59 28.7**	**-0.4**
JIJ				S	**S**	**18 59 47.6**	**-0.2**
JKE	**Kume jima 2**	**1.64**	**40**	P	**P**	**18 59 31.1**	**+0.3**
JKE				eS	**S**	**18 59 52.8**	**+2.0**
JKRS	**Kuro-shima**	**1.68**	**241**	P	**P**	**18 59 31.7**	**+0.3**
JKRS				S	**S**	**18 59 54.5**	**+2.7**
IRIF	**Iriomote-Funau**	**1.86**	**247**	P	**P**	**18 59 33.6**	**-0.4**
IRIF				S	**S**	**18 59 56.1**	**-0.2**
HATJ	**Hateruma jima**	**1.93**	**239**	P	**P**	**18 59 35.2**	**+0.3**
HATJ				eS	**S**	**18 59 59.9**	**+1.9**
JAGN	**Aguni-jima**	**2.11**	**44**	P	**P**	**18 59 37.8**	**+0.4**
JAGN				eS	**S**	**19 00 04.3**	**+1.9**
NAH1	**Naha**	**2.19**	**59**	eS	**S**	**19 00 06.3**	**+1.9**
JJT2	**Tamagusuku 2**	**2.20**	**61**	P	**P**	**18 59 39.0**	**+0.2**
YOJ	**Yonaguni jima**	**2.44**	**256**	P	**P**	**18 59 41.8**	**-0.4**
YOJ				eS	**S**	**19 00 11.1**	**+0.2**
JIH	**Iheya**	**2.88**	**47**	P	**P**	**18 59 48.6**	**+0.2**
JOW	**Kunigami**	**2.97**	**53**	Pn	**P**	**18 59 49.8**	**+0.1**
	5.3nm,0.3s,baz=203,slow=14,SNR=40						
JOW				Sn	**S**	**19 00 31.1**	**+6.8**
	18nm,0.3s,baz=141,slow=26,SNR=5.6						
JOW	**Kunigami**	**2.97**	**53**	P	**P**	**18 59 49.7**	**0.0**
TATO	**Taipei**	**3.74**	**269**	eP	**P**	**19 00 01.9**	**+1.4**
NACB	**Ninganchiao**	**3.76**	**257**	eP	**P**	**18 59 60.0**	**-0.9**
YHNB	**Yeheng**	**3.87**	**265**	ePn	**P**	**19 00 03.5**	**+1.2**
JTK	**Tokunoshima**	**4.03**	**47**	P	**P**	**19 00 03.4**	**-1.2**
JTK				eS	**S**	**19 00 49.4**	**-1.7**
JAM	**Amami Oshima**	**4.88**	**46**	P	**P**	**19 00 14.7**	**-1.8**
JAM				eS	**S**	**19 01 08.2**	**-4.2**
JZK	**Kikaishima**	**5.06**	**49**	P	**P**	**19 00 18.2**	**-0.9**
JZK				eS	**S**	**19 01 13.4**	**-3.6**
JMZ	**Minamidaito 2**	**5.12**	**80**	P	**P**	**19 00 15.3**	**-4.7**
JMZ				eS	**S**	**19 01 09.1**	**-9.4**
JHJ	**Hachijo jima 2**	**14.75**	**54**	LR	LR	19 08 19.7	
	comp=Z,47nm,19.6s,baz=315,slow=38						
MAJO	**Matsushiro**	**15.72**	**40**	P	**P**	**19 02 50.6**	**+7.3**
MJAR	**Matsushiro Arr**	**15.72**	**40**	Pn	**P**	**19 02 46.5**	**+3.3**
	0.2nm,0.3s,baz=232,slow=11,SNR=8.0						
ASAJ	**Asahikawa**	**23.50**	**32**	P	**P**	**19 04 10.2**	**+0.6**
	2.0nm,0.4s,mb3.9,baz=168,slow=16,SNR=6.3						
HIA	**Hailar**	**24.58**	**351**	eP	**P**	**19 04 19.2**	**-0.7**
	10nm,1.4s,mb4.2						
SONM	**Songino Array**	**27.33**	**331**	P	**P**	**19 04 44.0**	**-1.6**
	0.7nm,0.6s,mb3.4,baz=149,slow=9.2,SNR=7.4						
MKAR	**Makanchi Array**	**40.58**	**314**	P	**P**	**19 06 38.8**	**-0.9**
	0.7nm,0.4s,mb3.7,baz=103,slow=10,SNR=13						
ZAL	**Zalesovo**	**41.78**	**325**	P	**P**	**19 06 48.1**	**-1.3**
	1.1nm,0.6s,mb3.7,baz=9.8,slow=4.9,SNR=7.1						
KURK	**Kurchatov**	**44.06**	**318**	eP	**P**	**19 07 06.6**	**-1.5**
WRA	**Warramunga Arr**	**45.54**	**168**	P	**P**	**19 07 18.9**	**-1.4**
	0.6nm,0.7s,mb3.6,baz=349,slow=8.8,SNR=6.4						
BVAR	**Borovoye Array**	**49.59**	**319**	P	**P**	**19 07 50.3**	**-1.1**
	0.6nm,0.5s,mb3.9,baz=112,slow=8.4,SNR=7.2						
BRVK	**Borovoye**	**49.66**	**319**	eP	**P**	**19 07 48.4**	**-3.6**
	5.3nm,1.9s,mb4.2						
ARU	**Arti**	**56.85**	**322**	eP	**P**	**19 08 43.5**	**-1.6**
	3.7nm,0.6s,mb4.6						
ILAR	**Eielson Array**	**66.56**	**28**	P	**P**	**19 09 51.0**	**+0.9**
	0.4nm,0.4s,mb3.8,baz=299,slow=9.5,SNR=6.3						
JOF	**Joensuu**	**69.90**	**331**	ep	**P**	**19 10 09.7**	**-1.1**
ARCES	**ARCESS Array B**	**70.21**	**338**	P	**P**	**19 10 11.6**	**-1.0**
	2.8nm,0.9s,mb4.2,baz=72,slow=6.6,SNR=8.9						
INK	**Inuvik**	**70.87**	**23**	P	**P**	**19 10 16.9**	**+0.3**
	1.0nm,0.3s,mb4.2,baz=306,slow=9.5,SNR=2.8						
KAF	**Kangasniemi**	**72.36**	**331**	ep	**P**	**19 10 22.3**	**-3.3**
FINES	**FINESS Array B**	**72.70**	**330**	P	**P**	**19 10 27.5**	**0.0**
	0.7nm,0.3s,mb4.0,baz=53,slow=4.9,SNR=17						
FINES	**FINESS Array B**	**72.70**	**330**	P	**P**	**19 10 27.5**	**0.0**
MALT	**Malatya**	**72.83**	**305**	eP	**P**	**19 10 30.0**	**+1.3**
	3.2nm,0.7s,mb4.4						
BRTR	**Keskin Array B**	**75.87**	**307**	P	**P**	**19 10 46.5**	**+0.3**
	2.8nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=8.7						
ASF	**Jabal al Asfar**	**76.08**	**299**	P	**P**	**19 10 47.6**	**-0.1**
	2.4nm,0.8s,mb4.2,baz=252,slow=12,SNR=4.7						
NB2	**NORSAR Subarra**	**79.29**	**333**	P	**P**	**19 11 03.4**	**-1.4**
	2.1nm,0.8s,mb4.1,baz=57,slow=5.3						
NOA	**NORSAR Array B**	**79.29**	**333**	P	**P**	**19 11 03.8**	**-1.0**
	1.0nm,0.7s,mb3.9,baz=55,slow=5.8,SNR=3.9						
CLL	**Collm**	**83.73**	**324**	⇓P	**P**	**19 11 28.9**	**+0.8**
	logA/T=0.8,mb4.7						
GERES	**GERESS Array B**	**84.67**	**322**	P	**P**	**19 11 34.1**	**+1.1**
	1.0nm,0.7s,mb4.0,baz=72,slow=4.2,SNR=10						
CDF	**Champ du Feu**	**88.42**	**324**	eP	**P**	**19 11 52.1**	**+0.9**
	2.0nm,0.6s,mb4.2						
HINF	**Hinteralfeld**	**89.01**	**324**	eP	**P**	**19 11 55.0**	**+1.0**
	3.0nm,0.6s,mb4.5						
LPG	**La Plagne**	**90.47**	**322**	eP	**P**	**19 12 02.1**	**+1.2**
	9.0nm,0.8s,mb4.8						
LPL	**La Plagne**	**90.47**	**322**	eP	**P**	**19 12 01.9**	**+1.0**
MBDF	**Montbardon**	**90.93**	**321**	eP	**P**	**19 12 04.8**	**+1.7**
	10nm,0.8s,mb4.9						
TCF	**Toulx Ste Croi**	**92.44**	**325**	eP	**P**	**19 12 10.5**	**+0.5**
	15nm,1.1s,mb4.9						

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*IDC **17** 19:06:22.5±1.1, 11.50N×144.28E, mb4.0/9, mb1 4.1/10, mb1mx4.0/23, mbtmp4.0/10, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/28, Error ellipse: s-maj=31.5km s-min=21.0km az=99.0*
*NEIC **17** 19:06:27.7±0.9, 11.53N×144.24E, h35^{km}, mb4.3/1, Error ellipse: s-maj=26.6km s-min=18.0km az=101.0*
ISC 17 19:06:25.7±0.9**, 11.50N**±0.09×**144.2E**±0.2**, h33**^{km}**, n14,** σ**1^{s}16**/14**, mb4.0**/10**, MS3.4**/2**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.19**	**18**	Pn	**Pn**	**19 07 00.1**	**-0.4**
	25nm,0.3s,baz=168,slow=9.2,SNR=18						
GUMO				Sn	**Sn**	**19 07 26.6**	**-0.1**
	28nm,0.3s,baz=275,slow=23,SNR=5.0						
GUMO	**Guam**	**2.19**	**18**	eP	**P**	**19 07 00.3**	**-0.1**
GUMO				Sn	**Sn**	**19 07 26.6**	**-0.1**
JOW	**Kunigami**	**21.36**	**318**	LR	LR	19 17 16.9	
	comp=Z,41nm,20.8s,MS2.8,baz=130,slow=31						
JNU	**Nakatsue**	**24.73**	**333**	P	**P**	**19 11 46.1**	**+0.6**
	3.4nm,0.4s,mb4.2,baz=110,slow=8.0,SNR=6.8						
MJAR	**Matsushiro Arr**	**25.50**	**349**	P	**P**	**19 11 50.8**	**-2.1**
	1.7nm,0.6s,mb3.7,baz=163,slow=9.0,SNR=8.4						
WRA	**Warramunga Arr**	**32.71**	**197**	P	**P**	**19 12 56.3**	**-1.4**
	0.8nm,0.8s,mb3.7,baz=20,slow=9.8,SNR=8.1						
SONM	**Songino Array**	**48.05**	**326**	P	**P**	**19 15 05.1**	**+1.2**
	0.7nm,0.5s,mb3.9,baz=143,slow=8.6,SNR=5.1						
MKAR	**Makanchi Array**	**62.52**	**317**	P	**P**	**19 16 49.5**	**+1.1**
	0.3nm,0.5s,mb3.6,baz=90,slow=9.6,SNR=6.6						
KURK	**Kurchatov**	**65.74**	**321**	eP	**P**	**19 17 08.4**	**-1.0**
	2.3nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**70.74**	**25**	P	**P**	**19 17 38.6**	**-1.6**
	0.4nm,0.5s,mb3.6,baz=244,slow=6.0,SNR=5.1						
BVAR	**Borovoye Array**	**71.14**	**322**	P	**P**	**19 17 43.3**	**+0.5**
	1.4nm,0.7s,mb4.0,baz=110,slow=7.1,SNR=5.4						
INK	**Inuvik**	**76.55**	**22**	LR	LR	19 50 45.1	
	comp=Z,94nm,21.9s,MS4.1,baz=28,slow=35						
YBH	**Yreka Blue Hor**	**84.76**	**49**	P	**P**	**19 18 59.5**	**+1.4**
	2.2nm,0.7s,mb4.4,baz=236,slow=3.6,SNR=4.0						
NVAR	**Mina Array Bea**	**88.76**	**51**	P	**P**	**19 19 19.4**	**+1.8**
	0.9nm,0.6s,mb4.2,baz=278,slow=6.0,SNR=9.2						

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*CSEM **17** 19:13:10.4, 38.15N×26.67W, ML2.3, After PDA*
*PDA **17** 19:13:10.4±1.1, 38.15N×26.67W, MD2.5, ML2.3, Error ellipse: s-maj=6.1km s-min=1.1km az=44.0*
SVSA 17 19:13:10.4±1.1**, 38.15N×26.67W, MD2.5, ML2.3, Error ellipse: s-maj=6.1km s-min=1.1km az=44.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.65**	**330**	eP	Pg	19 13 21.7	-1.6
PFAV				eS	Sg	19 13 30.2	-1.7
PSCM	**Serra do Cume**	**0.65**	**328**	i P	Pg	19 13 20.8	-2.6
PSCM				eS	Sg	19 13 29.4	-2.7
	88nm,0.2s						
RIB2	**Ribeirinha**	**0.65**	**323**	eP	Pg	19 13 21.7	-1.7
RIB2				eS	Sg	19 13 30.3	-1.8
	36nm,0.2s						
ADH	**Angra Heroismo**	**0.67**	**319**	i P	Pg	19 13 21.3	-2.5
ADH				eS	Sg	19 13 30.8	-1.9
PVNV	**Vila Nova**	**0.72**	**328**	eP	Pg	19 13 22.7	-2.0
PVNV				eS	Sg	19 13 32.3	-2.0
PPAD	**Pico dos Padre**	**0.73**	**319**	i P	Pg	19 13 23.1	-1.9
PPAD				eS	Sg	19 13 32.7	-2.0
SET4	**Mosteiros**	**0.74**	**112**	eP	Pg	19 13 23.1	-2.1
SET4				eS	Sg	19 13 32.8	-2.3
SET2	**Ginetes**	**0.75**	**114**	eP	Pg	19 13 23.1	-2.3
SET2				eS	Sg	19 13 32.9	-2.4
PBIS	**Biscoitos**	**0.76**	**323**	eP	Pg	19 13 23.5	-2.1
PBIS				eS	Sg	19 13 33.2	-2.5
ASBA	**Santa Barbara**	**0.77**	**318**	eP	Pg	19 13 23.6	-2.1
ASBA				eS	Sg	19 13 33.8	-2.1
PFET	**Feteiras**	**0.77**	**115**	eS	Sg	19 13 33.9	-2.2
PSAN	**Santo Antonio**	**0.81**	**112**	eS	Sg	19 13 34.2	-3.0
PSET	**Sete Cidades**	**0.82**	**113**	eP	Pg	19 13 23.1	-3.7
PSET				eS	Sg	19 13 33.7	-4.0
	145nm,0.2s						
FAC	**Faja de Cima**	**0.89**	**115**	eP	Pg	19 13 25.5	-2.7
FAC				i S	Sg	19 13 36.8	-3.3
CML	**Cha da Macela**	**0.97**	**113**	eP	Pg	19 13 26.8	-2.9
CML				eS	Sg	19 13 37.7	-4.9
PMAT	**Coroa da Mata**	**1.01**	**109**	eS	Sg	19 13 39.4	-4.5
LFA	**Lagoa do Fogo**	**1.01**	**112**	eP	Pb	19 13 27.2	-3.3
PRCH	**Ribeira Ch**	**1.03**	**114**	erx		19 13 40.6	
PRCH	**Ribeira Ch**	**1.03**	**114**	e-		19 13 40.6	
MESC	**Monte Escuro**	**1.03**	**110**	eP	Pb	19 13 27.4	-3.4
MESC				eS	Sb	19 13 39.7	-5.1
VIF	**Vila Franca**	**1.05**	**112**	eS	Sb	19 13 40.3	-5.1
PCNG	**Congro**	**1.08**	**110**	erx		19 13 41.9	
PCNG	**Congro**	**1.08**	**110**	e-		19 13 41.9	
PFAD	**Fenais da Ajud**	**1.11**	**106**	eS	Sb	19 13 41.7	-5.3
MIRA	**Miradouro**	**1.16**	**108**	eP	Pb	19 13 28.5	-4.5
MIRA				i S	Sb	19 13 42.7	-5.8
PICO	**Pico**	**1.42**	**285**	eP	Pb	19 13 33.0	-4.5
PICO				eS	Sb	19 13 49.3	-6.8
PSMN	**Pico do Norte,**	**1.71**	**131**	eS	Sb	19 13 56.1	-8.5

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*IDC **17** 19:35:45.1±2.7, 5.02S×151.77E, h124^{km}±19^{km}, mb3.8/6, mb1 3.9/8, mb1mx3.7/17, mbtmp4.3/8, Error ellipse: s-maj=44.6km s-min=14.9km az=116.0*
*NEIC **17** 19:35:47.9±2.6, 4.99S×151.49E, h140^{km}±22^{km}, mb4.6/1, Error ellipse: s-maj=27.0km s-min=17.9km az=100.0*
ISC 17 19:35:45.9±3.7**, 4.9S**±0.1×**151.5E**±0.2**, h132**^{km}±32^{km}**, n15,** σ**0^{s}91**/16**, mb4.0**/6**, 2C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.21**	**223**	P	**P**	**19 37 15.9**	**-0.5**
	6.8nm,0.3s,baz=27,slow=9.0,SNR=26						
PMG				S	**S**	**19 38 27.4**	**+0.8**
	15nm,0.3s,baz=151,slow=20,SNR=14						
CTA	**Charters Tower**	**15.96**	**198**	P	**P**	**19 39 24.1**	**-0.2**
	0.2nm,0.3s,baz=20,slow=13,SNR=5.5						
KAKA	**Kakadu**	**20.34**	**246**	⇑iP	**P**	**19 40 33.1**	**+19**
	21nm,0.5s						
WB2	**Warramunga Arr**	**22.41**	**227**	⇑iP	**P**	**19 40 34.8**	**+0.6**
WRA	**Warramunga Arr**	**22.42**	**227**	P	**P**	**19 40 34.8**	**+0.5**
	8.0nm,0.4s,mb4.5,baz=52,slow=9.8,SNR=142						
WRA				S	**S**	**19 44 34.4**	**+7.7**
	2.2nm,1.1s,baz=55,slow=17,SNR=6.1						
STKA	**Stephens Creek**	**28.43**	**198**	P	**P**	**19 41 27.6**	**-2.8**
	2.0nm,0.8s,mb3.9,baz=85,slow=18,SNR=3.9						
FITZ	**Fitzroy Crossi**	**28.47**	**240**	eP	**P**	**19 41 30.1**	**-0.7**
	13nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**28.47**	**240**	P	**P**	**19 41 30.3**	**-0.6**
	4.1nm,0.3s,mb4.6,baz=33,slow=5.7,SNR=38						
BOAC	**Boac**	**34.58**	**302**	eP	**P**	**19 42 22.4**	**-1.7**
SJMP	**San Jose**	**34.72**	**300**	eP	**P**	**19 42 25.9**	**+0.5**
SONM	**Songino Array**	**65.67**	**328**	P	**P**	**19 46 18.9**	**+0.6**
	0.9nm,0.5s,mb3.9,baz=139,slow=5.6,SNR=13						
MKAR	**Makanchi Array**	**79.50**	**319**	P	**P**	**19 47 39.7**	**+0.3**
	0.7nm,0.8s,mb3.3,baz=101,slow=6.2,SNR=4.5						
BVAR	**Borovoye Array**	**88.49**	**323**	P	**P**	**19 48 24.3**	**-0.2**
	0.5nm,0.5s,mb3.6,baz=111,slow=7.4,SNR=4.7						
BGU	**Big Grassy Mou**	**97.32**	**50**	eP	**P**	**19 49 06.3**	**+1.0**
GERES	**GERESS Array B**	**123.40**	**328**	PKP	PKPdf	19 54 28.0	+0.5
	0.3nm,0.5s,baz=72,slow=4.2,SNR=4.2						

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*MAN **17** 19:41:46.2, 14.48N×119.73E, h31^{km}, mb4.9, ML3.8, MS3.8*
*IDC **17** 19:41:48.7±10.0, 14.38N×120.05E, h70^{km}±96^{km}, mb3.6/9, mb1 3.7/9, mb1mx3.5/20, mbtmp3.9/9, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=132.6km s-min=20.3km az=66.0*
ISC 17 19:41:45.7±0.6**, 14.46N**±0.03×**119.69E**±0.06**, h47**^{km}±8^{km}**, n28,** σ**0^{s}90**/35**, mb3.9**/9**, MS2.8**/1**, 2C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.90**	**143**	eP	**P**	**19 42 02.8**	**+0.6**
LUBP				eS	**S**	**19 42 14.3**	**0.0**
TGY	**Tagaytay City**	**1.26**	**106**	⇓eP	**P**	**19 42 08.1**	**+0.8**
SCZP	**Santa Cruz**	**1.33**	**9**	eP	**P**	**19 42 08.1**	**-0.2**
SCZP				eS	**S**	**19 42 23.5**	**-1.5**
PCPH	**Palayan**	**1.75**	**51**	⇓iP	**P**	**19 42 13.0**	**-1.2**
PCPH				i S	**S**	**19 42 33.7**	**-1.6**
BOLP	**Bolinao**	**1.92**	**6**	eP	**P**	**19 42 16.5**	**-0.1**
BCPH	**Baguio City Da**	**2.09**	**24**	⇑eP	**P**	**19 42 18.9**	**-0.2**
BCPH				eS	**S**	**19 42 44.7**	**+0.7**
POLP	**Polilio Island**	**2.19**	**83**	eP	**P**	**19 42 20.6**	**+0.1**
POLP				eS	**S**	**19 42 46.6**	**0.0**
BALP	**Baler**	**2.22**	**55**	eP	**P**	**19 42 20.6**	**-0.3**
BALP				eS	**S**	**19 42 47.1**	**-0.2**
BUSP	**Coron**	**2.49**	**168**	eP	**P**	**19 42 26.7**	**+2.0**
BUSP				eS	**S**	**19 42 53.2**	**-0.9**
GQP	**Guinayangan**	**2.73**	**101**	⇑eP	**P**	**19 42 28.7**	**+0.5**
OTRP	**Odiongan**	**3.08**	**132**	eP	**P**	**19 42 34.5**	**+1.4**
CAUP	**Cauayan**	**3.21**	**39**	eP	**P**	**19 42 36.0**	**+1.0**
ENPP	**El Nido**	**3.25**	**185**	eP	**P**	**19 42 35.8**	**+0.3**
ENPP				eS	**S**	**19 43 11.4**	**-1.7**
ABRA	**Dolores**	**3.32**	**17**	eP	**P**	**19 42 37.4**	**+0.9**
CUYO	**Cuyo Island**	**3.81**	**160**	eP	**P**	**19 42 42.8**	**-0.7**
PVCP	**Virac**	**4.42**	**101**	eP	**P**	**19 42 52.4**	**+0.4**
JNU	**Nakatsue**	**21.18**	**27**	LR	LR	19 54 51.3	
	comp=Z,40nm,19.7s,MS2.8,baz=330,slow=37						
SONM	**Songino Array**	**35.06**	**344**	P	**P**	**19 48 36.5**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=161,slow=8.4,SNR=3.5						
WRA	**Warramunga Arr**	**37.10**	**157**	P	**P**	**19 48 50.7**	**-2.9**
	0.4nm,0.4s,mb3.6,baz=330,slow=10,SNR=19						
MKAR	**Makanchi Array**	**44.84**	**324**	P	**P**	**19 49 57.9**	**+0.9**
	0.6nm,0.6s,mb3.6,baz=124,slow=8.7,SNR=5.2						
ZAL	**Zalesovo**	**47.94**	**333**	P	**P**	**19 50 21.4**	**+0.1**
	0.9nm,0.5s,mb4.1,baz=13,slow=9.1,SNR=3.0						
BVAR	**Borovoye Array**	**54.60**	**326**	P	**P**	**19 51 12.0**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=117,slow=9.7,SNR=5.9						
JOF	**Joensuu**	**76.52**	**332**	ep	**P**	**19 53 32.0**	**-0.2**
ARCES	**ARCESS Array B**	**78.03**	**339**	P	**P**	**19 53 40.5**	**0.0**
	4.5nm,0.8s,mb4.4,baz=63,slow=5.4,SNR=8.5						
KAF	**Kangasniemi**	**78.92**	**331**	ep	**P**	**19 53 44.1**	**-1.5**
FINES	**FINESS Array B**	**79.15**	**331**	P	**P**	**19 53 46.9**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=52,slow=5.7,SNR=15						
HFS	**Hagfors**	**85.34**	**331**	P	**P**	**19 54 19.1**	**+0.4**
	1.2nm,0.7s,mb4.2,baz=117,slow=3.2,SNR=5.0						
NOA	**NORSAR Array B**	**86.14**	**332**	P	**P**	**19 54 23.3**	**+0.7**
	0.9nm,0.8s,mb4.0,baz=72,slow=5.6,SNR=2.6						

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*NEIC **17** 19:59:49.5±8.8, 11.43N×144.33E, h17^{km}±55^{km}, Error ellipse: s-maj=33.2km s-min=19.8km az=102.0*
*IDC **17** 19:59:51.8±6.6, 11.46N×144.33E, h32^{km}±50^{km}, mb3.6/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=38.2km s-min=22.0km az=102.0*
ISC 17 19:59:50.1±1.0**, 11.5N**±0.1×**144.3E**±0.2**, h33**^{km}**, n9,** σ**0^{s}99**/11**, mb3.8**/6**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.20**	**15**	Pn	**Pn**	**20 00 25.5**	**+0.3**
	24nm,0.3s,baz=185,slow=8.6,SNR=20						
GUMO				Sn	**Sn**	**20 00 50.7**	**-0.8**
	74nm,0.3s,baz=336,slow=24,SNR=21						
GUMO	**Guam**	**2.20**	**15**	ePn	**Pn**	**20 00 25.5**	**+0.3**
GUMO				eSn	**Sn**	**20 00 51.2**	**-0.3**
WRA	**Warramunga Arr**	**32.70**	**198**	P	**P**	**20 06 21.1**	**-0.8**
	0.8nm,0.5s,mb3.9,baz=20,slow=9.7,SNR=11						
SONM	**Songino Array**	**48.16**	**326**	P	**P**	**20 08 30.2**	**+1.0**
	0.4nm,0.6s,mb3.6,baz=143,slow=6.0,SNR=3.6						
MKAR	**Makanchi Array**	**62.64**	**317**	P	**P**	**20 10 13.8**	**+0.1**
	0.7nm,0.9s,mb3.8,baz=92,slow=5.8,SNR=4.2						
MKAR	**Makanchi Array**	**62.64**	**317**	P	**P**	**20 10 13.8**	**+0.1**
ILAR	**Eielson Array**	**70.73**	**25**	P	**P**	**20 11 03.2**	**-1.3**
	0.5nm,0.6s,mb3.6,baz=259,slow=5.4,SNR=4.2						
BVAR	**Borovoye Array**	**71.25**	**322**	P	**P**	**20 11 07.3**	**-0.6**
	0.7nm,0.6s,mb3.8,baz=100,slow=6.1,SNR=4.3						
NVAR	**Mina Array Bea**	**88.69**	**51**	P	**P**	**20 12 43.8**	**+2.1**
	0.9nm,0.6s,mb4.2,baz=259,slow=6.1,SNR=7.3						

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*CSEM **17** 20:39:19.3, 52.20N×174.08E, h10^{km}, mb5.5*
*BJI **17** 20:39:22.6, 52.67N×173.60E, h16^{km}, mB5.3, mb5.5, Ms4.7, Msz4.4*
*MOS **17** 20:39:23.6±0.9, 52.21N×174.03E, h37^{km}, mb5.5/95, MS4.6/33, Error ellipse: s-maj=8.4km s-min=3.9km az=96.8*
*IDC **17** 20:39:24.8±2.2, 52.26N×174.00E, h33^{km}±15^{km}, mb4.8/30, mb1 5.0/30, mb1mx5.0/32, mbtmp5.0/30, MS4.5/25, Ms1 4.5/25, ms1mx4.5/30, Error ellipse: s-maj=15.7km s-min=10.0km az=165.0*
*NEIC **17** 20:39:25.3±0.6, 52.18N×174.04E, h41^{km}±4^{km}, mb5.2/124, MS4.6/30, ML5.3(AEIC), Error ellipse: s-maj=4.8km s-min=2.3km az=184.0*
NEIC Felt on Shemya.
*HRVD **17** 20:39:25.3±0.2, 52.28N×174.03E, h36^{km}±1^{km}, MW5.2/65, Centroid moment Tensor Solution. LP body waves: s40,c54;Mantle waves: s65,c117; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.14±.26; $M_{\theta\theta}$-6.06±.19; $M_{\phi\phi}$1.91±.17; $M_{r\theta}$3.92±.27; $M_{\theta\phi}$-0.31±.13; $M_{\phi r}$3.69±.24; Best double couple: $M_0$7.604×10^{16} NP1: ϕ_s297°, δ33°, λ144°. NP2:ϕ_s59°, δ71°, λ62°. Principal axes: T 7.565, Plg55°, Azm293°; N .069, Plg26°, Azm69°; P -7.644, Plg21°, Azm170°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 17 20:39:22.9±0.2**, 52.15N**±0.04×**174.03E**±0.03**, h33**^{km}**, h33**^{km}±1.4^{km}**:pP-P, n597,** σ**0^{s}90**/587**, mb5.2**/201**, MS4.6**/82**,**

130C-20D,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	Shemya	0.58	4	P	P	20 39 35.0	+0.5
SMY				S	S	20 39 43.8	+0.9
KIMD	Kanaga Island	5.42	91	P	P	20 40 44.1	+0.7
PET	Petropavlovsk	9.40	281	eP	P	20 41 36.6	-2.4
	38nm,0.4s						
PET	Petropavlovsk	9.40	281	⇑iP	P	20 41 36.8	-2.2
PET				eS	S	20 43 20.1	-4.6
PET				pmax	pmax		
	comp=Z,79nm,1.2s						
PET				pmax	pmax		
	comp=Z,400nm,5.5s						
PET				pmax	pmax		
	comp=Z,400nm,16.0s						
PET				MLR	MLR		
	comp=Z,2µm,16.0s						
PET				MLR	MLR		
	comp=Z,2µm,16.0s						
SKR	Severo-Kuril's	11.28	270	eP	P	20 41 59.4	-5.2
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				MLR	MLR		
	comp=N,3µm,18.0s						
SKR				MLR	MLR		
	comp=Z,3µm,18.0s						
UNV	Unalaska Valle	11.85	74	ePn	P	20 42 13.1	+0.8
	comp=Z,637nm,1.2s						
MA2	Magadan	14.96	309	eP	P	20 42 54.0	+0.7
	comp=Z,145nm,0.9s						
MA2	Magadan	14.96	309	c eP	P	20 42 54.3	+1.0
MA2				eS	S	20 45 38.5	-0.1
MA2				pmax	pmax		
	comp=N,20nm,1.0s						
MA2				pmax	pmax		
	comp=E,50nm,1.0s						
MA2				pmax	pmax		
	comp=Z,100nm,1.0s						
TNA	Tin City	16.27	27	eP	P	20 43 10.9	+0.9
	comp=Z,86nm,1.1s						
CHGN	Chignik	16.59	65	eP	P	20 43 21.3	+7.3
SVW2	Sparrevohn	18.80	50	eP	P	20 43 41.9	+0.2
TTA	Tatalina	19.16	44	eP	P	20 43 46.0	+0.2
KDAK	Kodiak Island	19.84	60	eP	P	20 43 51.2	-2.0
	comp=Z,194nm,1.1s						
KDAK				eS	S	20 47 25.6	-4.1
SPU	Mount Spurr	20.49	51	eP	P	20 44 00.0	-0.2
YSS	Yuzh-Sakhalins	20.84	268	eP	P	20 44 04.7	+0.8
	comp=Z,60nm,0.9s						
YSS	Yuzh-Sakhalins	20.84	268	α iP	P	20 44 04.8	+0.9
YSS				i		20 44 26.3	
YSS				eS	S	20 47 52.0	+2.4
YSS				e		20 48 13.0	
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS				pmax	pmax		
	comp=Z,600nm,3.0s						
YSS				pmax	pmax		
	comp=Z,80nm,1.0s						
SLKM	Skilak Lake	21.27	53	eP	P	20 44 07.5	-0.7
FIB	Fire Island	21.38	51	PFAKE		20 44 20.0	+11
FIB				LR	LR		
	comp=Z,1µm,19.0s,MS4.4						
PMR	Palmer	21.95	50	eP	P	20 44 16.2	+1.3
ASAJ	Asahikawa	22.32	261	P	P	20 44 20.1	+1.3
	comp=Z,66nm,0.9s,mb5.1,baz=50,slow=6.2,SNR=20						
ASAJ				LR	LR	20 52 27.0	
	comp=Z,895nm,20.2s,MS4.2,baz=340,slow=35						
ASAJ	Asahikawa	22.32	261	P	P	20 44 20.1	+1.3
ASAJ				pmax	pmax		
	comp=Z,66nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,895nm,20.2s						
SML	Sawmill	22.35	50	eP	P	20 44 19.3	+0.4
ERM	Erimo	23.17	256	PFAKE		20 44 40.0	+13
ERM				LR	LR		
	comp=Z,1.0nm,21.0s						
DIV	Divide	23.50	52	eP	P	20 44 31.4	+1.4
	comp=Z,166nm,1.1s,mb5.4						
DIV				LR	LR		
	comp=Z,4µm,21.0s,MS4.8						
ILAR	Eielson Array	23.57	43	P	P	20 44 30.6	0.0
	comp=Z,25nm,0.7s,mb4.8,baz=254,slow=9.5,SNR=74						
ILAR				PcP	PcP	20 48 15.2	-1.7
	comp=Z,3.0nm,0.7s,baz=266,slow=3.3,SNR=7.8						
ILAR				LR	LR	20 53 56.7	
	comp=Z,588nm,18.8s,MS4.1,baz=98,slow=37						
THY	Trims Highway	23.78	46	eP	P	20 44 33.1	+0.4
YAK	Yakutsk	25.53	310	eP	P	20 44 48.5	-1.1
	comp=Z,280nm,0.8s,mb5.8						
YAK	Yakutsk	25.53	310	c iP	P	20 44 48.2	-1.4
YAK				pmax	pmax		
	comp=Z,606nm,1.3s,mb6.0						
YAK				MLR	MLR		
	comp=Z,1µm,23.0s,MS4.3						
KLR	Kul'dur	26.67	281	κ iP	P	20 44 57.4	-2.8
KLR				e		20 45 47.5	
KLR				pmax	pmax		
	comp=Z,40nm,1.6s,mb4.7						
KLR				MLR	MLR		
	comp=E,600nm,14.0s						
KLR				MLR	MLR		
	comp=Z,700nm,14.0s,MS4.4						
TIXI	Tiksi	27.79	331	⇑iP	P	20 45 08.4	-1.8
TIXI	Tiksi	27.79	331	eP	P	20 45 07.1	-3.1
TIXI				eS	S	20 49 42.8	-6.3
TIXI				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,696nm,15.0s,MS4.4						
CLNS	Chul'man	28.41	299	eP	P	20 45 09.1	-6.8
CLNS				e*PP	pP	20 45 17.1	-8.5
CLNS				e		20 48 24.9	
CLNS				eS	S	20 49 48.8	-10
CLNS				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.7						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,16nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,24nm,0.9s						
CLNS				pmax	pmax		
	comp=E,19nm,1.0s						
CLNS				smax			
	comp=N,139nm,14.3s						
CLNS				smax			
	comp=Z,142nm,12.0s						
CLNS				smax			
	comp=E,197nm,12.3s						
CLNS				MLR	MLR		
	comp=Z,3µm,22.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,1µm,16.0s						
CLNS				MLR	MLR		
	comp=E,2µm,20.0s						
INK	Inuvik	29.45	37	P	P	20 45 24.7	-0.4
	comp=E,3.5nm,0.3s,mb4.6,baz=279,slow=14,SNR=20						
INK				PcP	PcP	20 48 29.5	-1.0
	comp=E,12nm,0.9s,baz=228,slow=3.3,SNR=6.2						
INK				ScP		20 52 08.6	
	comp=E,5.1nm,0.9s,baz=218,slow=3.1,SNR=4.9						
INK				LR	LR	20 59 43.6	
	comp=E,729nm,18.8s,MS4.3,baz=253,slow=42						
INK	Inuvik	29.45	37	P	P	20 45 24.7	-0.4
INK				PcP	PcP	20 48 29.5	-1.0
INK				ScP		20 52 08.6	
INK				LR	LR	20 59 43.6	
MJAR	Matsushiro Arr	29.62	252	P	P	20 45 27.8	+0.8
	comp=E,12nm,0.8s,mb4.6,baz=49,slow=8.0,SNR=45						
MJAR				ScP		20 52 09.1	
	comp=E,1.4nm,1.0s,baz=333,slow=2.8,SNR=4.6						
MJAR				LR	LR	20 54 14.7	
	comp=E,333nm,22.0s,MS3.9,baz=65,slow=30						
MJAR	Matsushiro Arr	29.62	252	P	P	20 45 27.8	+0.8
MJAR				ScP		20 52 09.1	
MJAR				LR	LR	20 54 14.7	
MAJO	Matsushiro	29.62	252	eP	P	20 45 27.8	+0.8
	comp=E,50nm,0.9s,mb5.2						
MAJO	Matsushiro	29.62	252	eP	P	20 45 27.8	+0.8
MAJO				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2						
MAT	Matsushiro	29.62	252	P	P	20 45 26.8	-0.2
MAT				S	S	20 50 20.0	+1.2
MAT	Matsushiro	29.62	252	eP	P	20 45 28.0	+1.0
	comp=Z,43nm,1.0s,mb5.1						
MAT				eS	S	20 50 12.0	-6.8
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.0						
MAT	Matsushiro	29.62	252	eP	P	20 45 28.0	+1.0
MAT				eS	S	20 50 12.0	-6.8
MAT				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.1						
MAT				MLR	MLR		
	comp=Z,350nm,20.0s,MS4.0						
MDJ	Mudanjiang	30.06	273	P	P	20 45 29.4	-1.4
MDJ				AP	pP	20 45 40.3	-0.2
MDJ				XP	sP	20 45 45.3	+0.4
MDJ				PCP	PcP	20 48 29.5	-2.8
MDJ				S	S	20 50 24.3	-1.3
MDJ				SCP		20 52 08.8	
MDJ				PCS		20 52 13.4	
MDJ				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,103nm,7.0s						
MDJ				LR	LR		
	comp=N,596nm,15.0s,MS4.4						
MDJ				LR	LR		
	comp=E,567nm,19.3s,MS4.4						
MDJ				LR	LR		
	comp=Z,730nm,17.9s,MS4.4						
MDJ	Mudanjiang	30.06	273	eP	P	20 45 29.4	-1.4
	comp=Z,19nm,0.9s,mb4.8						
DLBC	Dease Lake	31.64	56	P	P	20 45 45.5	+0.8
	comp=Z,8.2nm,0.8s,mb4.6,baz=300,slow=14,SNR=14						
DLBC	Dease Lake	31.64	56	eP	P	20 45 43.8	-0.8
CN2	Changchun	33.03	275	eP	P	20 45 55.6	-1.3
CN2				eXP	sP	20 46 10.0	-1.0
CN2				eS	S	20 51 10.3	-1.8
CN2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
CN2				AMB	AMB		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,500nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,600nm,18.0s,MS4.3						
HIA	Hailar	33.83	287	eP	P	20 46 02.1	-1.6
	comp=Z,30nm,1.0s,mb5.2						
HIA	Hailar	33.83	287	c iP	P	20 46 02.5	-1.2
BOD	Bodaibo	33.89	304	eP	P	20 46 02.4	-1.7
BOD				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.6						
BBB	Bella Bella	34.67	66	P	P	20 46 11.4	+0.5
KS15	Wonju Array Si	35.25	264	eP	P	20 46 16.6	+0.6
SNY	Shenyang	35.26	273	⇑P	P	20 46 16.1	0.0
SNY				PP	PP	20 47 38.8	+3.1
SNY				S	S	20 51 46.9	+0.1
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
SNY				LR	LR		
	comp=N,680nm,17.5s,MS4.5						
SNY				LR	LR		
	comp=E,290nm,19.4s,MS4.5						
SNY				LR	LR		
	comp=Z,370nm,14.5s,MS4.3						
INCN	Inchon	35.99	265	PFAKE		20 46 30.0	+7.6
INCN				LR	LR		
	comp=Z,380nm,21.0s,MS4.1						
CIT	Chita	36.21	294	eP	P	20 46 23.9	-0.1
CIT				pmax	pmax		
	comp=Z,167nm,1.6s,mb5.7						
YKW3	Yellowknife Ar	37.88	46	eP	P	20 46 37.7	-0.3
YKA	Yellowknife Ar	37.91	46	P	P	20 46 38.1	0.0
	comp=Z,3.5nm,0.5s,mb4.4,baz=288,slow=8.1,SNR=12						
YKA				PcP	PcP	20 48 53.8	-0.6
	comp=Z,2.1nm,0.6s,baz=291,slow=3.5,SNR=4.2						
YKA	Yellowknife Ar	37.91	46	P	P	20 46 38.2	0.0
YKA						20 48 53.8	
DL2	Dalian	38.19	271	P	P	20 46 41.1	+0.3
DL2				AP	pP	20 46 49.9	-0.7
DL2				XP	sP	20 46 53.3	-1.6
DL2				S	S	20 52 31.9	+0.3
DL2				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.5						
DL2				AMB	AMB		
	comp=Z,210nm,4.7s						
DL2				LR	LR		
	comp=N,150nm,13.9s,MS4.3						
DL2				LR	LR		
	comp=E,260nm,14.1s,MS4.3						
DL2				LR	LR		
	comp=Z,330nm,14.8s,MS4.3						
MBW	Mount Baker	39.74	68	P	P	20 46 54.6	+1.0
JCW	Jim Creek	40.02	69	P	P	20 46 56.7	+0.9
PNT	Penticton	40.78	67	P	P	20 47 02.4	+0.3
LVP	Lakeview Peak	40.86	72	P	P	20 47 07.0	+4.2
NLW	Nelson Butte	41.00	69	P	P	20 47 04.6	+0.6
COR	Corvallis	41.14	75	PFAKE		20 47 20.0	+15
COR				LR	LR		
	comp=Z,558nm,20.0s,MS4.4						
TWW	Teanaway	41.18	70	P	P	20 47 06.7	+1.2
IRK	Irkutsk	41.22	299	eP	P	20 46 59.5	-6.2
ETW	Entiat	41.25	69	P	P	20 47 06.3	+0.3
TBM	Table Mountain	41.32	70	P	P	20 47 07.2	+0.5
WTV	Waterville	41.42	69	P	P	20 47 07.7	+0.3
EBG	Ellensburg	41.48	70	P	P	20 47 08.5	+0.5
EPH	Ephrata	41.80	69	P	P	20 47 10.6	+0.1
SNIWA	Snively Ranch	42.25	70	P	P	20 47 14.5	+0.4
SONM	Songino Array	42.27	292	P	P	20 47 14.8	+0.5
	comp=Z,9.7nm,0.6s,mb4.6,baz=57,slow=7.8,SNR=93						
SONM				PcP	PcP	20 49 07.8	-0.6
	comp=Z,4.5nm,0.8s,baz=89,slow=1.7,SNR=4.0						
SONM				ScP		20 52 55.8	
	comp=Z,1.7nm,1.0s,baz=61,slow=3.8,SNR=4.5						
SONM				LR	LR	21 06 28.4	
	comp=Z,562nm,18.3s,MS4.5,baz=57,slow=38						
EDM	Edmonton	42.27	59	eP	P	20 47 13.8	-0.5
GBL	Gable Mountain	42.29	70	P	P	20 47 14.4	-0.1
OD2	Odessa Site #2	42.29	69	P	P	20 47 14.7	+0.2
DPW	Davenport	42.33	68	P	P	20 47 14.9	+0.1
HAWA	Hanford	42.36	70	eP	P	20 47 15.1	0.0
	comp=Z,2.0nm,0.8s						
HAWA				LR	LR		
	comp=Z,35nm,20.0s						
H2OWA	Water	42.42	70	P	P	20 47 15.8	+0.2
HUMO	Hull Mountain	42.47	77	PFAKE		20 47 30.0	+14
HUMO				LR	LR		
	comp=Z,797nm,21.0s,MS4.6						
TIA	Tai'an	42.66	271	⇑P	P	20 47 18.4	+0.7
TIA				AMB	AMB		
	comp=Z,1µm,1.5s,mb6.3						
ZAK	Zakamensk	42.68	297	eP	P	20 47 17.3	-0.4
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
YBH	Yreka Blue Hor	43.13	78	P	P	20 47 21.5	0.0
	comp=Z,6.9nm,1.0s,mb4.3						
YBH	Yreka Blue Hor	43.13	78	P	P	20 47 21.5	+0.1
YBH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC	Hu-ho-hao-te	43.17	281	⇑P	P	20 47 22.5	+0.7
HHC				AP	pP	20 47 33.8	+2.0
HHC				XP	sP	20 47 37.6	+1.6
HHC				PP	PP	20 49 04.8	+0.6
HHC				PCP	PcP	20 49 13.1	+1.6
HHC				SCP		20 52 58.4	
HHC				PCS		20 53 03.8	
HHC				S	S	20 53 44.3	-1.4
HHC				SS	SS	20 56 49.8	-2.5
HHC				SCS	ScS	20 57 17.3	+0.3
HHC				AMB	AMB		
	comp=Z,39nm,0.5s,mb5.4						
HHC				AMB	AMB		
	comp=Z,207nm,4.5s						
HHC				LR	LR		
	comp=N,398nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=E,528nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=Z,344nm,19.0s,MS4.3						
MOY	Mondy	43.26	300	eP	P	20 47 22.2	-0.2
MOY				pmax	pmax		
	comp=Z,59nm,2.3s,mb4.9						
LNOR	Lincton Mounta	43.37	70	P	P	20 47 23.4	0.0
SSE	Sheshan	43.61	262	P	P	20 47 27.3	+1.8
SSE				XP	sP	20 47 39.9	+0.3
SSE				PP	PP	20 49 08.4	-0.3
SSE				SCP		20 53 04.1	
SSE				S	S	20 53 54.4	+2.2
SSE				XS		20 54 09.3	
SSE				AMB	AMB		
	comp=Z,69nm,0.7s,mb5.5						
SSE				LR	LR		
	comp=N,288nm,24.6s,MS4.1						
SSE				LR	LR		
	comp=E,155nm,24.9s,MS4.1						
SSE				LR	LR		
	comp=Z,321nm,28.7s,MS4.1						
BSMT	Bassoo Peak	44.27	66	P	P	20 47 30.8	+0.3
NJ2	Nanjing	44.38	265	eP	P	20 47 32.5	+0.9
NJ2				AP	pP	20 47 42.4	+0.8
NJ2				XP	sP	20 47 46.8	+1.0
NJ2				PCP	PcP	20 49 12.5	-3.2
NJ2				PP	PP	20 49 17.0	+0.6
NJ2				S	S	20 54 03.0	-0.3
NJ2				XS		20 54 20.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,180nm,6.4s						
NJ2				LR	LR		
	comp=N,1µm,21.3s,MS4.9						
NJ2				LR	LR		
	comp=E,2µm,25.3s,MS4.9						
NJ2				LR	LR		
	comp=Z,480nm,24.7s,MS4.3						
MOD	Modoc	44.48	76	eP	P	20 47 32.4	+0.1
	comp=Z,5.2nm,0.7s,mb4.4						
HOPS	Hopland	44.58	81	PFAKE		20 47 40.0	+6.9
HOPS				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
GUMO	Guam	45.00	222	PFAKE		20 47 50.0	+13
GUMO				LR	LR		
	comp=Z,467nm,19.0s,MS4.4						
CHMT	Chamberlain Mo	45.66	66	eP	P	20 47 40.9	-0.8
BEKR	Beckwourth	45.68	78	eP	P	20 47 42.4	+0.4
	comp=Z,6.3nm,1.0s,mb4.5						
HRY	Holter Researc	46.58	66	eP	P	20 47 48.5	-0.4
CMB	Columbia Colle	46.81	80	eP	P	20 47 50.3	-0.6
	comp=Z,6.4nm,0.8s,mb4.6						
CMB				LR	LR		
	comp=Z,922nm,21.0s,MS4.7						
CMB	Columbia Colle	46.81	80	eP	P	20 47 50.3	-0.6
CMB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CMB				MLR	MLR		
	comp=Z,922nm,21.0s,MS4.7						
MCMT	McKenzie Canyo	47.10	68	eP	P	20 47 52.4	-0.6
NVAR	Mina Array Bea	47.83	79	P	P	20 47 59.0	+0.1
	comp=Z,1.8nm,0.6s,mb4.3,baz=283,slow=9.6,SNR=16						
NVAR				ScP		20 53 19.2	
	comp=Z,1.4nm,0.9s,baz=270,slow=5.9,SNR=4.4						
NVAR	Mina Array Bea	47.83	79	P	P	20 47 59.0	+0.1
NVAR				ScP		20 53 19.2	
MNV	Mina	47.91	79	eP	P	20 47 58.9	-0.6
	comp=Z,5.5nm,1.0s,mb4.5						
MNV	Mina	47.91	79	eP	P	20 48 02.7	+3.1
MNV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
QLMT	Earthquake Lak	47.91	68	eP	P	20 47 59.3	-0.1
WHN	Wuhan	48.19	268	⇑P	P	20 48 01.5	-0.3
YMR	Madison River	48.28	67	eP	P	20 48 02.6	+0.4
	comp=Z,29nm,1.0s,mb5.3						
MTUM	Tungsten Hills	48.36	80	eP	P	20 48 03.9	+0.9
YNR	Norris Junctio	48.41	67	eP	P	20 48 04.2	+0.9
YFT	Old Faithful	48.48	68	eP	P	20 48 04.5	+0.6
FLWY	Flagg Ranch	48.78	68	eP	P	20 48 06.8	+0.6
RRI2	Red Ridge	48.88	69	eP	P	20 48 08.0	+1.1
	comp=Z,17nm,1.1s,mb5.0						
RRI2				e	pP	20 48 19.1	+2.2
TPAW	Teton Pass	49.00	69	eP	P	20 48 07.4	-0.5
	comp=Z,7.6nm,0.9s,mb4.7						
LOHW	Long Hollow	49.12	68	eP	P	20 48 09.1	+0.3
	comp=Z,7.5nm,0.9s,mb4.7						
REDW	Red Top Meadow	49.14	69	eP	P	20 48 07.9	-1.0
	comp=Z,18nm,1.4s,mb4.9						
XAN	Xi'an	49.14	275	P	P	20 48 09.0	-0.1
XAN				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.1						
HWUT	Hardware Ranch	49.82	71	eP	P	20 48 14.1	-0.1
DUG	Dugway	49.98	73	eP	P	20 48 14.9	-0.6
	comp=Z,13nm,0.8s,mb5.0						
DUG				LR	LR		
	comp=Z,359nm,20.0s,MS4.4						
DUG	Dugway	49.98	73	eP	P	20 48 14.9	-0.6
DUG				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
DUG				MLR	MLR		
	comp=Z,359nm,20.0s,MS4.4						
ZAL	Zalesovo	50.20	310	P	P	20 48 15.1	-1.9
	comp=Z,3.2nm,0.8s,mb4.4,baz=53,slow=9.3,SNR=19						
ZAL				PcP	PcP	20 49 35.8	-0.2
	comp=Z,5.7nm,0.8s,baz=117,slow=3.4,SNR=6.8						
ZAL				LR	LR	21 11 20.7	
	comp=Z,818nm,18.7s,MS4.8,baz=56,slow=38						
ZAL	Zalesovo	50.20	310	P	P	20 48 15.1	-1.9
ZAL				PcP	PcP	20 49 35.8	-0.2
ZAL				LR	LR	21 11 20.7	
PDAR	Pinedale Array	50.25	69	P	P	20 48 17.4	-0.1
	comp=Z,7.5nm,0.9s,mb4.7,baz=315,slow=4.0,SNR=30						
PDAR				LR	LR	21 08 58.2	
	comp=Z,183nm,21.8s,MS4.0,baz=115,slow=35						
CTU	Camp Tracy	50.29	72	eP	P	20 48 17.4	-0.4
NVS	Novosibirsk	50.39	311	⇑iP	P	20 48 15.8	-2.6
NVS				i		20 49 35.0	
NVS				e		20 50 15.2	
NVS				eS	S	20 55 22.3	-5.6
NVS				pmax	pmax		
	comp=Z,66nm,1.6s,mb5.4						
NVS				pmax	pmax		
	comp=N,34nm,1.7s						
NVS				pmax	pmax		
	comp=E,20nm,1.6s						
NVS				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
NVS				pmax	pmax		
	comp=N,25nm,1.6s						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
NVS				smax			
	comp=N,30nm,2.4s						
NVS				smax			
	comp=E,19nm,2.1s						
MWC	Mount Wilson	50.74	83	eP	P	20 48 21.5	+0.2
LZH	Lanzhou	50.87	281	⇑P	P	20 48 23.0	+0.7
LZH				AP	pP	20 48 31.6	-0.7
LZH				XP	sP	20 48 35.9	-0.5
LZH				PP	PP	20 50 20.0	+0.6
LZH				S	S	20 55 35.3	+0.5
LZH				XS		20 55 51.0	
LZH				SS	SS	20 59 10.3	+3.0
LZH				AMB	AMB		
	comp=Z,133nm,1.4s,mb5.7						
LZH				AMB	AMB		
	comp=Z,433nm,4.3s						
LZH				LR	LR		
	comp=E,1µm,15.1s						
LZH				LR	LR		
	comp=Z,1µm,16.3s,MS5.1						
DAG	Danmarks Havn	51.10	4	⇑iP	P	20 48 22.8	-0.7
	comp=Z,7.0nm,1.0s,mb4.5						
GTA	Gaotai	51.10	287	⇑P	P	20 48 24.3	+0.3
GTA				AP	pP	20 48 34.0	0.0
GTA				XP	sP	20 48 38.3	+0.1
GTA				PCP	PcP	20 49 39.5	-0.1
GTA				PP	PP	20 50 23.3	+1.8
GTA				SCP		20 53 31.0	
GTA				PCS		20 53 37.5	
GTA				S	S	20 55 43.3	+5.3
GTA				SCS	ScS	20 58 13.0	+4.3
GTA				AMB	AMB		
	comp=Z,57nm,1.0s,mb5.5						
GTA				AMB	AMB		
	comp=Z,178nm,8.0s						
GTA				LR	LR		
	comp=N,533nm,18.3s						
GTA				LR	LR		
	comp=E,482nm,23.7s						

GTA LR LR
comp=Z,676nm,20.3s,MS4.7
ENH Enshi 51.38 271 *eP* **P 20 48 25.4 -0.8**
comp=Z,19nm,0.8s,mb5.1
MSU Marysvale 51.44 74 *eP* **P 20 48 26.5 -0.1**
MSU Marysvale 51.44 74 *eP* **P 20 48 26.8 +0.2**
TMUT Trail Mountain 51.51 73 *eP* **P 20 48 26.7 -0.3**
LDFC Landfair 51.96 80 P **P 20 48 29.6 -0.9**
SRU San Rafael 52.03 73 *eP* **P 20 48 30.9 -0.1**
comp=Z,390nm,0.9s,mb6.3
SRU San Rafael 52.03 73 *eP* **P 20 48 30.9 0.0**
SRU pmax pmax
comp=Z,390nm,0.9s,mb6.3
RWWY Rawlins 52.28 68 P **P 20 48 32.7 0.0**
comp=Z,23nm,1.3s,mb5.0
BAR Barrett 52.63 83 P **P 20 48 34.0 -1.6**
ULM Lac du Bonnet 52.90 54 P **P 20 48 36.6 -0.7**
comp=Z,20nm,0.8s,mb5.1,baz=313,slow=8.2,SNR=36
ULM PcP PcP 20 49 45.2 -0.8
comp=Z,14nm,0.8s,baz=319,slow=6.8,SNR=4.7
ULM LR LR 21 12 11.7
comp=Z,380nm,18.5s,MS4.5,baz=264,slow=37
ULM Lac du Bonnet 52.90 54 *eP* **P 20 48 36.1 -1.2**
comp=Z,25nm,0.8s,mb5.2
PV10 Paradox Valley 53.38 73 P **P 20 48 39.3 -1.8**
SUMG Summit 53.53 12 *eP* **P 20 48 40.5 -1.2**
comp=Z,84nm,1.0s,mb5.6
WUAZ Wupatki 53.91 77 *eP* **P 20 48 44.1 -1.0**
comp=Z,42nm,1.4s,mb5.2
CD2 Chengdu 54.45 276⇑ *iP* **P 20 48 48.8 -0.2**
CD2 PP PP 20 50 52.3 -0.4
CD2 PPP PPP 20 52 03.1 -1.0
CD2 S **S 20 56 22.8 -1.0**
CD2 SS SS 21 00 04.3 -1.5
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CD2 LR LR
comp=E,250nm,16.8s
CD2 LR LR
comp=Z,260nm,19.2s,MS4.3
FRB Frobisher Bay 54.60 29 P **P 20 48 47.9 -1.8**
comp=Z,18nm,0.8s,mb5.2,baz=322,slow=7.3,SNR=4.6
WMQ Urumqi 55.11 298⇑ *iP* **P 20 48 53.4 -0.3**
WMQ AP pP 20 49 03.5 -0.4
WMQ XP sP 20 49 07.5 -0.3
WMQ PCP PcP 20 49 54.0 -0.6
WMQ PP PP 20 50 57.0 -1.5
WMQ S **S 20 56 32.0 -0.4**
WMQ XS 20 56 48.0
WMQ SCS ScS 20 58 37.0 +0.4
WMQ SS SS 21 00 15.0 -1.2
WMQ AMB AMB
comp=Z,80nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,209nm,4.8s
WMQ LR LR
comp=N,2μm,19.8s,MS5.2
WMQ LR LR
comp=E,1μm,21.6s,MS5.2
WMQ LR LR
comp=Z,1μm,25.2s,MS4.9
KURK Kurchatov 55.17 310 *eP* **P 20 48 52.8 -1.2**
comp=Z,263nm,1.1s,mb6.2
KURK Kurchatov 55.17 310⇑ *eP* **P 20 48 52.7 -1.3**
KURK pmax pmax
comp=Z,132nm,1.1s,mb5.9
GYA Guiyang 55.83 270⇑ *iP* **P 20 48 59.0 -0.1**
GYA AP pP 20 49 09.3 0.0
GYA XP sP 20 49 13.0 -0.2
GYA PP PP 20 51 04.3 -0.9
GYA SCP 20 53 53.3
GYA S **S 20 56 40.8 -1.5**
GYA XS 20 56 57.5
GYA SS SS 21 00 25.9 -2.1
GYA AMB AMB
comp=Z,70nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,640nm,6.0s
GYA LR LR
comp=N,380nm,18.4s,MS4.7
GYA LR LR
comp=E,360nm,17.8s,MS4.7
GYA LR LR
comp=Z,410nm,18.0s,MS4.6
SDCO Great Sand Dun 55.88 71 *eP* **P 20 48 59.8 +0.6**
comp=Z,24nm,1.3s,mb5.1
MKAR Makanchi Array 55.98 304 P **P 20 48 58.2 -1.7**
comp=Z,20nm,0.4s,mb5.5,baz=51,slow=6.7,SNR=410
MKAR LR LR 21 14 07.3
comp=Z,1μm,20.6s,MS4.9,baz=18,slow=37
MKAR Makanchi Array 55.98 304 *i* P **P 20 48 58.1 -1.8**
MKAR pmax pmax
comp=Z,8.0nm,0.4s
KEV Kevo 56.05 347 *ep* **P 20 48 57.5 -2.6**
ARCES ARCESS Array B 56.46 347 P **P 20 49 01.6 -1.5**
comp=Z,10nm,0.5s,mb5.1,baz=28,slow=8.2,SNR=102
ARCES PcP PcP 20 49 59.2 -0.3
comp=Z,16nm,0.8s,baz=333,slow=2.7,SNR=7.9
ARCES LR LR 21 14 56.9
comp=Z,588nm,18.3s,MS4.7,baz=22,slow=38
ARCES ARCESS Array B 56.46 347 P **P 20 49 01.6 -1.4**
ARCES PcP PcP 20 49 59.2 -0.3
ARCES LR LR 21 14 56.9
TUC Tucson 56.47 79 *eP* **P 20 49 03.8 +0.1**
comp=Z,2.0nm,1.0s
TUC *e* pP 20 49 13.5 -0.3
TUC Tucson 56.47 79 *eP* **P 20 49 03.8 +0.2**
TUC *e* pP 20 49 13.5 -0.3
TUC pmax pmax
comp=Z,2.0nm,1.0s
SFJD Kangerlussuaq 56.50 19 *i* P **P 20 49 02.0 -1.3**
comp=Z,87nm,1.5s,mb5.6
comp=Z,210nm,17.0s
SFJD Kangerlussuaq 56.50 19 *i* P **P 20 49 02.0 -1.3**
SFJD pmax pmax
comp=Z,87nm,1.5s,mb5.6
SFJD MLR MLR
comp=Z,220nm,17.0s,MS4.3
APA Apatity 57.01 343⇑ *iP* **P 20 49 05.5 -1.5**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
TRO Tromso 57.17 350 *eP* **P 20 49 05.7 -2.5**
ANMO Albuquerque 57.23 74 PFAKE 20 49 20.0 +11
ANMO LR LR
comp=Z,359nm,22.0s,MS4.4
ANMO Albuquerque 57.23 74⇑ *eP* **P 20 49 09.4 +0.4**
KTK1 Kautokeino 57.25 348 *eP* **P 20 49 06.8 -1.8**
KTK1 AMb AMB 20 49 08.9
comp=Z,71nm,1.2s,mb5.6
KTK1 Kautokeino 57.25 348 *eP* **P 20 49 06.8 -1.8**
comp=Z,71nm,1.2s,mb5.6
VOSK Vostochnaya 57.28 315 *i* P **P 20 49 07.7 -1.4**
BVA0 Borovoye Array 57.32 316 *i* P **P 20 49 08.2 -1.2**
BVA0 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BVAR Borovoye Array 57.32 316 P **P 20 49 08.2 -1.2**
comp=Z,48nm,0.7s,mb5.6,baz=51,slow=7.3,SNR=229
BVAR PcP PcP 20 50 02.3 -0.8
comp=Z,16nm,0.8s,baz=90,slow=4.4,SNR=5.9
BRVK Borovoye 57.34 316 *eP* **P 20 49 08.2 -1.3**
comp=Z,40nm,0.8s,mb5.5
BRVK LR LR
comp=Z,149nm,22.0s,MS4.0
BRVK Borovoye 57.34 316 *eP* **P 20 49 08.2 -1.3**
BRVK pmax pmax
comp=Z,40nm,0.8s,mb5.5
BRVK MLR MLR
comp=Z,149nm,22.0s,MS4.0
SOKR Solikamsk 57.70 328*c iP* **P 20 49 10.8 -1.1**
SOKR *e* pP 20 49 23.4 +1.3
SOKR pmax pmax
comp=Z,60nm,1.0s,mb5.6
SOKR MLR MLR
comp=Z,620nm,17.0s,MS4.8
SVE Sverdlovsk 58.44 324 *eP* **P 20 49 16.8 -0.3**
SVE *e* 20 50 11.0
SVE pmax pmax
comp=Z,120nm,1.8s,mb5.6
SVE MLR MLR
comp=N,300nm,15.0s,MS4.8
SVE MLR MLR
comp=E,500nm,15.0s,MS4.8
SVE MLR MLR
comp=Z,1μm,15.0s,MS5.1
KMI Kunming 59.22 272 P **P 20 49 22.8 -0.2**
KMI AP pP 20 49 30.9 -2.3
KMI XP sP 20 49 34.3 -2.9
KMI PCP PcP 20 50 11.3 +0.4
KMI PP PP 20 51 34.9 -0.8
KMI PPP PPP 20 52 55.1 -5.4
KMI S **S 20 57 22.4 -4.4**
KMI XS 20 57 38.3
KMI AMB AMB
comp=Z,284nm,4.6s
KMI LR LR
comp=N,282nm,20.0s,MS4.5
KMI LR LR
comp=E,218nm,19.3s,MS4.5
KMI LR LR
comp=Z,259nm,16.3s,MS4.4
ARU Arti 59.49 324 *eP* **P 20 49 23.5 -0.9**
comp=Z,78nm,0.9s,mb5.7
ARU LR LR
comp=Z,156nm,21.0s,MS4.1
ARU Arti 59.49 324 *eP* **P 20 49 23.5 -0.9**
ARU pmax pmax
comp=Z,78nm,0.9s,mb5.7
ARU MLR MLR
comp=Z,156nm,21.0s,MS4.1
KSU1 Kansas State U 60.00 64 *eP* **P 20 49 26.4 -1.8**
MNTX Cornudas Mount 60.15 76 *eP* **P 20 49 29.3 -0.1**
comp=Z,20nm,1.0s,mb5.1
MNTX *e* 20 49 46.2
MOR8 Moi Rana 60.98 351 *eP* **P 20 49 31.5 -3.0**
JOF Joensuu 61.58 342 *ep* **P 20 49 36.4 -2.2**
SCHQ Schefferville 62.04 35 P **P 20 49 40.7 -1.1**
comp=Z,75nm,0.8s,mb5.9,baz=335,slow=6.7,SNR=76
SCHQ LR LR 21 19 07.3
comp=Z,700nm,19.0s,MS4.8,baz=314,slow=38
TKM2 Tokmak 2 62.09 305 P **P 20 49 41.8 -0.5**
SNR=28
ULHL Ulahol 62.25 304 P **P 20 49 42.7 -0.6**
SNR=27
USP Ospenovka 62.39 306 P **P 20 49 43.8 -0.5**
SNR=53
CHMS Chumysh 62.46 305 P **P 20 49 43.8 -0.9**
SNR=20
HNR Honiara 62.52 196 PFAKE
HNR LR LR 20 50 00.0 +14
comp=Z,390nm,19.0s,MS4.6
KBK Karagaybulak 62.61 305 P **P 20 49 45.5 -0.3**
SNR=14
NSS Namsos 62.82 351 *eP* **P 20 49 44.9 -2.0**
BORG Borgarnes 62.83 7 LR LR 21 14 57.8
comp=Z,408nm,19.9s,MS4.6,baz=351,slow=34
AAK Ala-Archa 62.86 305 P **P 20 49 47.0 -0.4**
SNR=29
AAK Ala-Archa 62.86 305 *eP* **P 20 49 45.9 -1.5**
comp=Z,42nm,1.0s,mb5.5
AAK LR LR
comp=Z,157nm,20.0s,MS4.2
AAK Ala-Archa 62.86 305⇑ *eP* **P 20 49 45.8 -1.6**
AAK pmax pmax
comp=Z,41nm,1.1s,mb5.5
AAK MLR MLR
comp=Z,500nm,18.0s,MS4.7
TXAR Lajitas Array 62.88 76 P **P 20 49 47.6 -0.1**
comp=Z,8.4nm,0.7s,mb5.0,baz=298,slow=4.0,SNR=108
TXAR LR LR 21 14 05.9
comp=Z,276nm,20.5s,MS4.4,baz=270,slow=33
TXAR Lajitas Array 62.88 76 P **P 20 49 47.6 -0.1**
TXAR LR LR 21 14 05.9
LSA Lhasa 62.95 284 P **P 20 49 49.0 +0.8**
LSA Lhasa 62.95 284 *eP* **P 20 49 48.8 +0.6**
comp=Z,29nm,0.9s,mb5.4
LSA Lhasa 62.95 284 *eP* **P 20 49 48.8 +0.6**
LSA pmax pmax
comp=Z,29nm,0.9s,mb5.4
UCH Uchtor 63.14 305 P **P 20 49 49.4 +0.1**
SNR=7.4
EKS2 Erkin-Say 63.20 306 P **P 20 49 49.3 -0.4**
SNR=63
KAF Kangasniemi 63.24 344 *ep* **P 20 49 46.6 -3.1**
comp=Z,22nm,0.5s,mb5.5,baz=18,slow=6.0
KAF Kangasniemi 63.24 344 *eP* **P 20 49 46.6 -3.1**
KAF pmax pmax
comp=Z,22nm,0.5s,mb5.5
AML Almayashu 63.63 305 P **P 20 49 52.8 +0.4**
SNR=42
FINES FINESS Array B 63.91 344 P **P 20 49 52.7 -1.1**
comp=Z,24nm,0.8s,mb5.3,baz=16,slow=8.1,SNR=99
FINES LR LR 21 19 36.4
comp=Z,485nm,20.6s,MS4.7,baz=4.8,slow=38
FINES FINESS Array B 63.91 344 P **P 20 49 52.7 -1.1**
FINES LR LR 21 19 36.4
FVM French Village 64.17 61 *eP* **P 20 49 54.6 -1.4**
comp=Z,15nm,0.8s,mb5.1
FVM French Village 64.17 61 *eP* **P 20 49 54.6 -1.4**
FVM pmax pmax
comp=Z,15nm,0.8s,mb5.1
AKTO Aktyubinsk 64.36 320 P **P 20 49 56.3 -0.7**
AKTO pmax pmax
comp=Z,23nm,1.0s,mb5.2
KSH Kashi 64.38 302 P **P 20 49 57.9 +0.6**
KSH AP pP 20 50 08.0 +0.3
KSH XP sP 20 50 12.6 +1.1
KSH PCP PcP 20 50 32.3 +0.8
KSH PP PP 20 52 20.1 -0.8
KSH PPP PPP 20 53 52.0 -1.6
KSH eSCP 20 54 32.0
KSH PCS 20 54 35.5
KSH S **S 20 58 31.6 -0.2**
KSH XS 20 58 46.8
KSH SCS ScS 20 59 44.1 -1.0
KSH SS SS 21 02 41.1 -2.4
KKAR Karatay Array 64.48 308 *i* P **P 20 49 56.8 -1.1**
AB31 Akbulak array 64.52 318 *i* P **P 20 49 57.3 -0.7**
AB31 pmax pmax
comp=Z,18nm,0.6s,mb5.3
CHRT Chiangrai 64.94 270⇑ P **P 20 50 05.5 +4.3**
comp=Z,184nm,0.7s,mb6.2
MOL Molde 65.12 353 *eP* **P 20 50 02.9 +1.1**
MOL AMb AMB 20 50 09.2
comp=Z,93nm,1.5s,mb5.6
MOL Molde 65.12 353 *eP* **P 20 50 02.9 +1.1**
comp=Z,93nm,1.5s,mb5.6
NANT Nan 65.18 269⇓ P **P 20 50 00.0 -2.8**
comp=Z,100nm,0.9s,mb5.8
BLO Bloomington 65.36 58 *eP* **P 20 50 02.5 -1.2**
comp=Z,25nm,0.8s,mb5.3
BLO Bloomington 65.36 58 *eP* **P 20 50 02.5 -1.2**
BLO pmax pmax
comp=Z,25nm,0.8s,mb5.3
DOMB Dombas 65.53 352 *eP* **P 20 50 03.5 -0.8**
DOMB AMb AMB 20 50 05.3
comp=Z,77nm,1.2s,mb5.6
DOMB Dombas 65.53 352 *eP* **P 20 50 03.5 -0.8**
comp=Z,77nm,1.2s,mb5.6
SHL Shillong 65.54 281 *eP* **P 20 50 05.2 +0.2**
KKTK Khon Kaen 65.75 266 P **P 20 50 04.5 -2.0**
comp=Z,586nm,0.9s
WCI Wyandotte Cave 66.19 58 *eP* **P 20 50 07.8 -1.1**
comp=Z,31nm,0.8s,mb5.4
WCI Wyandotte Cave 66.19 58 *eP* **P 20 50 07.8 -1.1**
WCI pmax pmax
comp=Z,31nm,0.8s,mb5.4
UTMT University of 66.22 61 P **P 20 50 08.4 -0.8**
CHG Chiang Mai 66.25 270 PN **P 20 50 09.5 -0.2**
comp=Z,56nm,0.8s,mb5.6
NB2 NORSAR Subarra 66.32 351 P **P 20 50 08.6 -0.8**
comp=Z,54nm,0.9s,mb5.6,baz=11,slow=6.2
NB2 NORSAR Subarra 66.32 351 P **P 20 50 08.6 -0.8**
baz=11,slow=6.5
NB2 NORSAR Subarra 66.32 351 P **P 20 50 08.6 -0.8**
NB2 pmax pmax
comp=Z,54nm,0.9s,mb5.6
NOA NORSAR Array B 66.32 351 P **P 20 50 08.4 -0.9**
comp=Z,39nm,0.8s,mb5.5,baz=12,slow=6.4,SNR=74
NOA LR LR 21 18 42.3
comp=Z,172nm,18.9s,MS4.3,baz=20,slow=36
ACSO Alum Creek Sta 66.38 55 *eP* **P 20 50 08.8 -1.3**
comp=Z,10.0nm,0.9s,mb4.8
ACSO LR LR
comp=Z,265nm,21.0s,MS4.4
ERPA Erie 66.42 51 *eP* **P 20 50 09.6 -0.7**
comp=Z,95nm,0.9s,mb5.8
ERPA LR LR
comp=Z,545nm,22.0s,MS4.7
NAO01 NORSAR Array S 66.55 351 *eP* **P 20 50 09.6 -1.2**
comp=Z,6.9nm,0.6s,mb4.9
MSNY Massena 66.57 46 *eP* **P 20 50 08.9 -2.3**
VSU Vasula 66.58 342⇑ *eP* **P 20 50 10.5 -0.5**
MOS Moscow 66.60 335 *eP* **P 20 50 10.3 -0.9**
MOS *e* 20 50 37.9
MOS *eS* S 20 59 02.3 +3.8
MOS pmax pmax
comp=Z,116nm,1.3s,mb5.8
MOS MLR MLR
comp=Z,1μm,19.5s,MS5.0
ALLY Alegheny Colle 66.70 52 *eP* **P 20 50 11.5 -0.7**
AFI Afiamalu 66.93 165 LR LR 21 13 02.4
comp=Z,543nm,19.4s,MS4.8,baz=297,slow=30
WVT Waverly 66.94 61 *eP* **P 20 50 12.8 -0.9**
comp=Z,25nm,0.8s,mb5.3
WVT Waverly 66.94 61 *eP* **P 20 50 12.8 -0.9**
WVT pmax pmax
comp=Z,25nm,0.8s,mb5.3
OBN Obninsk 67.43 335 *eP* **P 20 50 15.9 -0.5**
comp=Z,77nm,1.1s,mb5.6
OBN Obninsk 67.43 335*c eP* **P 20 50 15.7 -0.7**
OBN *i* S S 20 59 05.0 -3.6
OBN pmax pmax
comp=Z,101nm,1.5s,mb5.6
OBN MLR MLR
comp=Z,1μm,23.0s,MS5.0
PLAL Pickwick Lake 67.67 62 *eP* **P 20 50 17.0 -1.3**
comp=Z,25nm,0.7s,mb5.4
ODD1 Odda 67.83 353 *eP* **P 20 50 17.7 -1.2**
ODD1 AMb AMB 20 50 21.1
comp=Z,82nm,1.5s,mb5.5
ODD1 Odda 67.83 353 *eP* **P 20 50 17.7 -1.2**
comp=Z,82nm,1.5s,mb5.5
KKN Kakani 67.84 287 *eP* **P 20 50 19.5 0.0**
comp=Z,164nm,1.1s,mb6.0
KKN Kakani 67.84 287 *eP* **P 20 50 19.5 0.0**
KKN pmax pmax
comp=Z,82nm,1.1s,mb5.7
KONO Kongsberg 67.85 352⇑ *eP* **P 20 50 18.6 -0.4**
PKI Pulchoki 67.92 287 *eP* **P 20 50 20.1 0.0**
comp=Z,169nm,1.1s,mb6.0
GKN Gorkha 68.06 288 *eP* **P 20 50 20.8 -0.1**
comp=Z,188nm,1.1s,mb6.0
DMN Daman 68.08 287 *eP* **P 20 50 21.0 0.0**
comp=Z,205nm,1.4s,mb6.0
BLS5 Blasjo 68.33 353 *eP* **P 20 50 22.6 +0.6**
BLS5 AMb AMB 20 50 26.8
comp=Z,35nm,1.8s,mb5.1
BLS5 Blasjo 68.33 353 *eP* **P 20 50 22.6 +0.6**
comp=Z,35nm,1.8s,mb5.1
ACCN Adirondack Com 68.37 47 *eP* **P 20 50 20.6 -2.0**
SWET Sewanee 68.64 60 *eP* **P 20 50 21.9 -2.5**
KOLN Koldanda 68.84 288 *eP* **P 20 50 25.6 -0.1**
comp=Z,90nm,1.1s,mb5.6
KLP Kalpa 69.09 295 *eP* **P 20 50 26.9 -0.3**
KLP AMb AMB 20 50 29.1
comp=Z,42nm,0.9s,mb5.4
CPCT Cooper Cave 69.21 59 *eP* **P 20 50 26.9 -1.0**
VRHR Novokhopersk 69.56 330*c iP* **P 20 50 28.2 -1.5**
VRHR pmax pmax
comp=Z,70nm,1.0s,mb5.5
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,20nm,1.0s
LRAL Lakeview Retre 69.72 62 *eP* **P 20 50 29.5 -1.6**
comp=E,11nm,0.8s,mb4.8
ELN Prospectdale 69.80 55 *eP* **P 20 50 30.5 -0.9**
MVL Millersville 69.80 50 *eP* **P 20 50 30.3 -1.1**
BLA Blacksburg 69.98 55 *eP* **P 20 50 31.6 -1.0**
comp=E,12nm,0.7s,mb4.9
BLA Blacksburg 69.98 55 *eP* **P 20 50 31.6 -0.9**
BLA pmax pmax
comp=Z,12nm,0.7s,mb4.9
HRV Harvard–Oak R 70.01 46 PFAKE 20 50 40.0 +7.4
HRV LR LR
comp=Z,643nm,19.0s,MS4.9
MNK Minsk 70.05 340 *eP* **P 20 50 31.0 -1.7**
PAL Palisades 70.15 48 *eP* **P 20 50 32.1 -1.4**
VRSR Storozhevoye 70.18 332*c iP* **P 20 50 33.3 -0.2**
VRSR pmax pmax
comp=Z,80nm,1.2s,mb5.5
VRSR pmax pmax
comp=N,90nm,1.1s
VRSR pmax pmax
comp=E,30nm,1.2s
VORD Divnogorie 70.37 332 *eP* **P 20 50 34.2 -0.5**
VORD pmax pmax
comp=Z,50nm,1.1s,mb5.4
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
MUD Monsted U'grnd 71.04 351 *i* P **P 20 50 38.5 -0.2**
comp=E,47nm,1.1s,mb5.3
MUD Monsted U'grnd 71.04 351 *i* P **P 20 50 38.5 -0.2**
MUD pmax pmax
comp=Z,47nm,1.1s,mb5.3
GOGA Godfrey 71.33 60 *eP* **P 20 50 39.7 -1.1**
comp=Z,18nm,0.2s,mb5.7
GOGA LR LR
comp=Z,597nm,20.0s,MS4.8
GOGA Godfrey 71.33 60 *eP* **P 20 50 39.7 -1.1**
GOGA pmax pmax
comp=Z,18nm,0.2s,mb5.7
GOGA MLR MLR
comp=Z,597nm,20.0s,MS4.8
SUW Suwalki 71.44 342 *eP* **P 20 50 40.7 -0.4**
BSD Bornholm Skovb 71.70 348 *i* P **P 20 50 41.4 -1.2**
comp=Z,29nm,0.7s,mb5.3
BSD Bornholm Skovb 71.70 348 *i* P **P 20 50 41.4 -1.2**
BSD pmax pmax
comp=Z,29nm,0.7s,mb5.3
JSC Jenkinsville 71.82 57 *eP* **P 20 50 42.6 -1.1**
AYAN Aya Nagar 72.03 293 *eP* **P 20 50 43.4 -1.6**
AGRA Agra 72.52 292 *ex* x 20 51 47.8
KUDL Kundal 72.65 293 *eP* **P 20 50 48.1 -0.6**
KUDL AMb AMB 20 50 49.5
comp=Z,62nm,0.9s,mb5.5
KHET Khetri 73.09 294 *eP* **P 20 50 51.1 -0.2**
KHET AMb AMB 20 50 52.6
comp=Z,24nm,1.1s,mb5.0
GKP Gorka Klasztor 73.17 346 *eP* **P 20 50 51.2 0.0**
AKASG Malin Array Be 73.28 337 P **P 20 50 51.6 -0.4**
comp=Z,20nm,0.6s,mb5.3,baz=23,slow=6.0,SNR=77
AKASG PP PP 20 53 27.2 -10
comp=Z,0.1nm,0.3s,baz=30,slow=7.5,SNR=3.6
BSEG Bad Segeberg 73.41 350 *eP* **P 20 50 52.8 +0.2**
KAKA Kakadu 73.89 222 *eP* **P 20 51 14.0 +18**
comp=Z,29nm,0.9s,mb5.2
BLSP Bilaspur 73.97 285 *eP* **P 20 50 55.5 -1.0**
BLSP AMb AMB 20 50 57.5
comp=Z,62nm,1.1s,mb5.5
DCN Croghan 74.87 1 *eP* **P 20 51 00.9 -0.2**
DLF Lyons Farm 74.92 0 *eP* **P 20 51 00.3 -1.1**
CLZ Clausthal 75.47 350 *eP* **P 20 51 04.5 -0.1**
comp=Z,35nm,1.1s,mb5.2
CLZ Clausthal 75.47 350 *eP* **P 20 51 04.5 -0.1**
CLZ pmax pmax
comp=Z,35nm,1.1s,mb5.2
KIV Kislovodsk 75.47 326 *eP* **P 20 51 05.5 +0.7**
comp=Z,45nm,1.0s,mb5.3
KIV Kislovodsk 75.47 326*c iP* **P 20 51 05.4 +0.6**
KIV pmax pmax
comp=Z,60nm,1.3s,mb5.4
KIV MLR MLR
comp=Z,400nm,23.0s,MS4.7
KSP Ksiaz 75.67 346 *eP* **P 20 51 06.0 +0.3**
KSP Ksiaz 75.67 346 *eP* **P 20 51 05.8 +0.1**
KSP MLR MLR
comp=Z,900nm,24.9s,MS5.0
CLL Collm 75.68 348⇑ P **P 20 51 05.3 -0.5**
comp=Z,logA/T=1.3,mb5.0
CLL *i* 20 51 11.4
CLL Collm 75.68 348⇑ *iP* **P 20 51 05.3 -0.5**
comp=Z,38nm,1.8s,mb5.0
CLL *i* 20 51 11.4
CLL Collm 75.68 348⇑ *iP* **P 20 51 05.3 -0.5**
CLL *i* 20 51 11.4
CLL pmax pmax
comp=Z,38nm,1.8s,mb5.0
OJC Ojcow 75.69 343 *eP* **P 20 51 06.7 +0.8**
KWP Kalwaria 75.70 341 *eP* **P 20 51 07.1 +1.1**
BHPL Bhopal 75.89 290 *eP* **P 20 51 07.1 -0.4**
BHPL AMb AMB 20 51 08.6
comp=Z,141nm,1.0s,mb5.8
CTA Charters Tower 75.91 207 *eP* **P 20 51 05.1 -2.6**
comp=Z,39nm,0.8s,mb5.4

CTA Charters Tower 75.91 207 *e*P **P** **20 51 05.1 -2.6**
CTA pmax pmax
comp=Z,39nm,0.8s
CTAO Charters Tower 75.91 207 *e*P **P** **20 51 05.2 -2.5**
comp=Z,47nm,0.8s,mb5.5
CTAO Charters Tower 75.91 207 *e*P **P** **20 51 05.5 -2.2**
CTAO pmax pmax
comp=Z,47nm,0.8s,mb5.5
BRG Berggiesshubel 75.98 347⇑ *i*P **P** **20 51 07.3 -0.1**
comp=Z,17nm,1.0s,mb4.9
BRG *e* 20 51 22.2
BRG Berggiesshubel 75.98 347⇑ *i*P **P** **20 51 07.3 -0.2**
BRG *e* 20 51 22.2
BRG pmax pmax
comp=Z,17nm,1.0s,mb4.9
UPC Upice 76.03 346 *e*P **P** **20 51 08.1 +0.3**
ZEI Tsey 76.08 325 *e*P **P** **20 51 05.0 -3.3**
ZEI *i* *PP pP 20 51 16.0 -2.7
ZEI pmax pmax
comp=E,66nm,1.0s,mb5.5
DPC Dobruska-Polom 76.14 346 *e*P **P** **20 51 08.9 +0.5**
DPC AMS AMS 21 29 50.0
comp=Z,500nm,15.9s
PVCC Panska Ves 76.23 347 *e*P **P** **20 51 09.3 +0.4**
PVCC AMS AMS 21 29 30.0
comp=Z,400nm,14.5s
PPT Papeete 76.30 144 LR LR 21 16 34.9
comp=Z,589nm,19.9s,MS4.9,baz=277,slow=29
OKC Ostrava-Krasne 76.34 344 *e*P **P** **20 51 10.3 +0.7**
OKC AMS AMS 21 27 40.0
comp=Z,600nm,18.0s
NIE Niedzica 76.37 343⇑ *e*P **P** **20 51 10.8 +1.1**
ANN Anapa 76.44 330 *e*P **P** **20 51 09.3 -1.0**
ANN pmax pmax
comp=Z,51nm,1.6s,mb5.2
ANN MLR MLR
comp=N,911nm,25.0s,MS5.1
ANN MLR MLR
comp=E,654nm,25.0s,MS5.1
ANN MLR MLR
comp=Z,525nm,25.0s,MS4.8
KOLS Kolonicke sedl 76.46 341 *i* P **P** **20 51 11.1 +0.8**
KOLS *e* 20 51 17.9
MORC Moravsky Berou 76.50 345 *e*P **P** **20 51 10.5 +0.1**
comp=Z,24nm,1.2s,mb5.0
MORC Moravsky Berou 76.50 345 *e*P **P** **20 51 10.5 0.0**
MORC pmax pmax
comp=Z,24nm,1.2s,mb5.0
MOX Moxa 76.50 349 *i* P **P** **20 51 10.3 -0.2**
comp=Z,logA/T=1.1,mb4.8
MOX L 21 27 56.0
MOX Moxa 76.50 349 *e*P **P** **20 51 10.3 -0.2**
comp=Z,15nm,1.3s,mb4.8
MOX LR LR
comp=Z,100nm,19.0s,MS4.2
MOX Moxa 76.50 349 *e*P **P** **20 51 10.3 -0.2**
MOX pmax pmax
comp=Z,15nm,1.3s,mb4.8
MOX MLR MLR
comp=Z,100nm,19.0s,MS4.2
NGP Nagpur 76.55 287 *e*P **P** **20 51 11.2 -0.2**
NGP AMb AMB 20 51 12.4
comp=Z,62nm,1.2s,mb5.4
DWPF Disney 76.56 62 PFAKE 20 51 20.0 +8.7
DWPF LR LR
comp=Z,422nm,21.0s,MS4.7
VIS Vishakhapatnam 76.64 282 *e*P **P** **20 51 10.8 -1.1**
VIS AMb AMB 20 51 13.5
comp=Z,48nm,1.1s,mb5.3
CRVS Cervenica-Dubn 76.65 342 *e* **P** **20 51 17.0 +5.7**
TI2 Plekhanov 76.68 323⇑ *i*P **P** **20 51 01.8 -10**
TI2 pmax pmax
comp=Z,80nm,1.0s,mb5.6
TI2 MLR MLR
comp=Z,1μm,16.0s,MS5.2
TBLG Delisi 76.69 323 P **P** **20 51 13.0 +1.3**
DGRG David-gareji 76.70 323 P **P** **20 51 11.5 -0.3**
JASL Jaisalmer 76.71 297 *e*P **P** **20 51 11.8 -0.4**
PRU Pruhonice 76.76 347 *e*P **P** **20 51 12.2 +0.3**
PRU *ex* x 20 51 17.0
PRU AMS AMS 21 27 50.0
comp=Z,400nm,16.6s
NKC Novy Kostel 76.80 348 *e*P **P** **20 51 12.3 +0.1**
NKC *ex* x 20 51 18.1
NKC AMS AMS 21 21 40.0
comp=Z,400nm,21.0s
NKC Novy Kostel 76.80 348 *e*P **P** **20 51 12.3 +0.1**
NKC *e* 20 51 18.1
SOC Sochi 76.80 328*c i*P **P** **20 51 11.9 -0.4**
SOC *e*PPP PPP 20 55 49.6 -4.9
SOC *e*S S 21 00 56.2 +0.2
SOC *e* 21 01 35.6
SOC *e*SS SS 21 05 53.3 -2.0
SOC pmax pmax
comp=Z,32nm,0.9s,mb5.2
SOC pmax pmax
comp=N,9.0nm,0.7s
SOC pmax pmax
comp=E,4.0nm,0.7s
SOC MLR MLR
comp=N,315nm,19.0s,MS4.7
SOC MLR MLR
comp=Z,582nm,19.0s,MS4.9
SOC MLR MLR
comp=E,179nm,17.0s,MS4.7
HGN Heimansgroeve 76.97 352⇑ *i*P **P** **20 51 10.6 -2.5**
comp=E,19nm,3.0s
BURAR Bucovina Array 77.09 339⇓ *i*P **P** **20 51 14.5 +0.6**
BURAR Bucovina Array 77.09 339⇓ *i*P **P** **20 51 14.5 +0.6**
VRAC Vranov 77.11 345 *e*P **P** **20 51 14.6 +0.7**
KECS Kecovo 77.23 342 *i* P **P** **20 51 15.5 +0.8**
TNS Taunus Mts 77.27 351 *e*P **P** **20 51 14.9 +0.1**
comp=E,17nm,0.9s,mb5.0
TNS Taunus Mts 77.27 351 *e*P **P** **20 51 14.9 +0.1**
TNS pmax pmax
comp=Z,17nm,0.9s,mb5.0
TREC Trest 77.29 346 *e*P **P** **20 51 15.2 +0.2**
TREC AMS AMS 21 30 20.0
comp=Z,600nm,17.8s
GRA1 Grafenberg Arr 77.49 349 *e*P **P** **20 51 16.4 +0.4**
comp=Z,16nm,0.9s,mb5.0
GRA1 LR LR
comp=Z,300nm,22.0s,MS4.6
GRF Grafenberg Arr 77.49 349 *e*P **P** **20 51 16.4 +0.4**
comp=Z,16nm,0.9s,mb5.0
GRF LR LR
comp=Z,300nm,22.0s,MS4.6
GRF Grafenberg Arr 77.49 349 *e*P **P** **20 51 16.4 +0.4**
GRF pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRF MLR MLR
comp=Z,300nm,22.0s,MS4.6
GRF Grafenberg Arr 77.49 349 *e*P **P** **20 51 16.4 +0.4**
GRF pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRF MLR MLR
comp=Z,300nm,22.0s,MS4.6
VYHS Vyhne 77.52 343 *i* P **P** **20 51 17.2 +0.9**
ABH Alteburg 77.70 351 *e*P **P** **20 51 17.2 0.0**
GIVF Givet 77.71 353⇑ *i*P **P** **20 51 17.2 -0.1**
comp=Z,53nm,1.0s,mb5.1
GIVF Givet 77.71 353⇑ *i*P **P** **20 51 17.2 -0.1**
GIVF pmax pmax
comp=Z,27nm,1.0s,mb5.1
KHC Kasperske Hory 77.73 347 *e*P **P** **20 51 17.9 +0.5**
KHC *ex* x 20 51 22.4
KHC *e*pP pP 20 51 29.6 +1.8
KHC AMS AMS 21 30 10.0
comp=Z,500nm,17.0s
KHC Kasperske Hory 77.73 347 *e*P **P** **20 51 17.9 +0.5**
KHC *e**PP pP 20 51 29.6 +1.8
KHC MLR MLR
comp=Z,500nm,17.0s,MS4.9
BAIF Baives 77.80 353⇑ *i*P **P** **20 51 18.0 +0.3**
comp=Z,59nm,1.1s,mb5.2
BAIF Baives 77.80 353⇑ *i*P **P** **20 51 18.0 +0.3**
BAIF pmax pmax
comp=Z,30nm,1.1s,mb5.1
WET Wettzell 77.81 347 *e*P **P** **20 51 17.7 -0.1**
comp=Z,18nm,1.2s,mb4.9
WET Wettzell 77.81 347 *e*P **P** **20 51 17.7 -0.1**
WET pmax pmax
comp=Z,18nm,1.2s,mb4.9
TOD Tromm 77.84 350 *e*P **P** **20 51 17.9 -0.1**
PSZ Piszkesteto 77.89 343 *e*P **P** **20 51 19.6 +1.3**
comp=Z,65nm,1.3s,mb5.4
PSZ Piszkesteto 77.89 343 *e*P **P** **20 51 19.6 +1.4**
PSZ pmax pmax
comp=Z,65nm,1.3s,mb5.4
GEC2 GERESS Array S 77.99 347 *e*P **P** **20 51 18.7 -0.1**
comp=Z,15nm,1.0s,mb4.9
GEC2 GERESS Array S 77.99 347 *e*P **P** **20 51 18.7 -0.1**
GEC2 pmax pmax
comp=Z,15nm,1.0s,mb4.9
GERES GERESS Array B 77.99 347 P **P** **20 51 18.9 +0.1**
comp=Z,5.5nm,0.8s,mb4.6,baz=18,slow=4.2,SNR=39
GERES LR LR 21 31 04.0
comp=Z,343nm,19.2s,MS4.7,baz=355,slow=40
GNI Garni 78.06 323 P **P** **20 51 21.2 +1.8**
comp=Z,14nm,0.8s,mb4.9,baz=17,slow=1.8,SNR=12
GNI LR LR 21 29 24.7
comp=Z,708nm,21.7s,MS5.0,baz=28,slow=38
ZST Bratislava 78.11 344 *e*P **P** **20 51 20.4 +1.0**
SRO Srobarova 78.27 344 *e*P **P** **20 51 22.1 +1.7**
SRO2 Moca 78.31 343 *e*P **P** **20 51 21.8 +1.2**
VRI Vrincioaia 78.39 337⇓ *i*P **P** **20 51 21.6 +0.5**
DRGR 78.41 340 P **P** **20 51 20.9 -0.3**
TLCR 78.52 336⇓ *i*P **P** **20 51 22.6 +0.8**
LANF Langenberg 78.56 351 *e*P **P** **20 51 21.7 -0.2**
CFR Carcaliu 78.70 336⇓ *i*P **P** **20 51 22.3 -0.5**
MOA Molln 78.89 346⇑ *i*P **P** **20 51 24.3 +0.6**
comp=Z,19nm,2.0s,mb4.7
MLR Muntele Rosu 78.93 338 P **P** **20 51 25.0 +1.0**
comp=Z,24nm,0.9s,mb5.1,baz=205,slow=1.3,SNR=34
MLR LR LR 21 28 44.7
comp=Z,572nm,21.4s,MS4.9,baz=207,slow=38
MLR Muntele Rosu 78.93 338⇑ *i*P **P** **20 51 25.9 +1.8**
FUR Furstenfeldbru 78.98 348 *e*P **P** **20 51 24.4 +0.1**
comp=Z,39nm,1.3s,mb5.2
FUR Furstenfeldbru 78.98 348 *e*P **P** **20 51 24.4 +0.1**
FUR pmax pmax
comp=Z,39nm,1.3s,mb5.2
ISR Istrita 79.14 337⇓ *i*P **P** **20 51 25.3 +0.1**
BFO Black Forest 79.15 350 *e*P **P** **20 51 24.7 -0.5**
comp=Z,17nm,0.9s,mb5.0
BFO Black Forest 79.15 350 *e*P **P** **20 51 24.7 -0.5**
BFO pmax pmax
comp=Z,17nm,0.9s,mb5.0
WLS Welschbruch 79.17 351 *e*P **P** **20 51 25.5 +0.2**
CDF Champ du Feu 79.18 351⇑ *i*P **P** **20 51 25.4 +0.1**
comp=Z,39nm,1.0s,mb5.0
CDF Champ du Feu 79.18 351⇑ *i*P **P** **20 51 25.4 +0.1**
CDF pmax pmax
comp=Z,20nm,1.0s,mb5.0
VOIR 79.19 338⇓ *i*P **P** **20 51 26.6 +1.1**
HARR Harsova 79.21 336⇓ *i*P **P** **20 51 25.0 -0.6**
ARSA Arzberg 79.28 345⇑ *i*P **P** **20 51 27.1 +1.2**
comp=Z,25nm,1.1s,mb5.1
ARSA Arzberg 79.28 345 *i* P **P** **20 51 27.1 +1.2**
comp=Z,25nm,1.1s,mb5.1,SNR=9.5
MEZF Maizieres J'vi 79.28 353⇑ *i*P **P** **20 51 26.2 +0.3**
comp=Z,86nm,1.2s,mb5.2
TIRR Tirgusor 79.30 336⇑ *i*P **P** **20 51 26.4 +0.3**
FLN La Foliniere 79.36 356⇑ *i*P **P** **20 51 26.1 -0.2**
comp=Z,116nm,1.1s,mb5.4
FLN *e*R
comp=Z,230nm,23.0s
FLN La Foliniere 79.36 356⇑ *i*P **P** **20 51 26.1 -0.2**
FLN pmax pmax
comp=Z,58nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,230nm,23.0s,MS4.5
ECH Echery 79.38 351 *e*P **P** **20 51 26.4 0.0**
THEF They Montfort 79.48 352 *e*P **P** **20 51 26.9 -0.1**
LDF La Druitiere 79.51 356⇑ *i*P **P** **20 51 26.8 -0.3**
comp=Z,57nm,0.9s,mb5.2
LDF La Druitiere 79.51 356⇑ *i*P **P** **20 51 26.8 -0.3**
LDF pmax pmax
comp=Z,28nm,0.9s,mb5.2
FELD Feldberg 79.64 350 *e*P **P** **20 51 27.9 +0.1**
HAU Haudompre 79.67 352⇑ *i*P **P** **20 51 28.0 0.0**
comp=Z,54nm,1.1s,mb5.1
HAU *e*R
comp=Z,387nm,20.8s
HAU Haudompre 79.67 352⇑ *i*P **P** **20 51 28.0 0.0**
HAU pmax pmax
comp=Z,27nm,1.1s,mb5.1
HAU MLR MLR
comp=Z,390nm,20.8s,MS4.7
WRAB Tennant Creek 79.67 218 *i* P **P** **20 51 28.6 0.0**
WB2 Warramunga Arr 79.68 218⇑ *i*P **P** **20 51 28.6 0.0**
WRA Warramunga Arr 79.69 218 P **P** **20 51 28.9 +0.2**
comp=Z,18nm,0.8s,mb5.0,baz=34,slow=6.0,SNR=96
WRA PKKPbc 21 10 15.5
comp=Z,1.1nm,0.8s,baz=225,slow=2.4,SNR=8.0
HYB Hyderabad 79.73 285 *i* P **P** **20 51 29.0 +0.1**
HYB Hyderabad 79.73 285 *e*P **P** **20 51 29.0 +0.1**
GRR Gorron 79.74 357⇑ *i*P **P** **20 51 28.4 0.0**
comp=Z,97nm,0.9s,mb5.4
GRR Gorron 79.74 357⇑ *i*P **P** **20 51 28.4 0.0**
GRR pmax pmax
comp=Z,48nm,0.9s,mb5.4
MOF Molkenrain 79.75 351 *e*P **P** **20 51 28.3 -0.1**
WATA Walderalm 79.76 348⇑ *i*P **P** **20 51 29.1 +0.6**
comp=Z,24nm,1.1s,mb5.0
WATA Walderalm 79.76 348⇑ *i*P **P** **20 51 29.1 +0.6**
WATA pmax pmax
comp=Z,24nm,1.1s,mb5.0
PKSM Moragy 79.76 343 P **P** **20 51 28.8 +0.3**
KBA Koelnbreinsper 79.77 347⇑ *i*P **P** **20 51 30.0 +1.4**
comp=Z,80nm,1.0s,mb5.6
KBA Koelnbreinsper 79.77 347 *i* P **P** **20 51 30.0 +1.5**
comp=Z,80nm,1.0s,mb5.6,SNR=18
KBA Koelnbreinsper 79.77 347⇑ *i*P **P** **20 51 30.0 +1.4**
KBA pmax pmax
comp=Z,80nm,1.0s,mb5.6
HINF Hinteralfeld 79.81 351⇑ *i*P **P** **20 51 28.5 -0.2**
comp=Z,28nm,1.1s,mb4.8
HINF Hinteralfeld 79.81 351⇑ *i*P **P** **20 51 28.5 -0.2**
HINF pmax pmax
comp=Z,14nm,1.1s,mb4.8
MOTA Moosalm 79.81 348⇑ *i*P **P** **20 51 29.1 +0.3**
comp=Z,39nm,1.2s,mb5.2
MOTA Moosalm 79.81 348⇑ *i*P **P** **20 51 29.1 +0.3**
MOTA pmax pmax
comp=Z,39nm,1.2s,mb5.2
WTTA Wattenberg 79.82 348⇓ *i*P **P** **20 51 29.7 +0.9**
comp=Z,47nm,1.3s,mb5.3
WTTA Wattenberg 79.82 348⇓ *i*P **P** **20 51 29.7 +0.9**
WTTA pmax pmax
comp=Z,47nm,1.3s,mb5.3
ROSF Rostrenen 79.86 358⇑ *i*P **P** **20 51 29.2 +0.2**
comp=Z,52nm,1.0s,mb5.1
ROSF Rostrenen 79.86 358⇑ *i*P **P** **20 51 29.2 +0.2**
ROSF pmax pmax
comp=Z,26nm,1.0s,mb5.1
SQTA Sankt Quirin 79.92 348⇑ *i*P **P** **20 51 30.0 +0.7**
comp=Z,28nm,1.1s,mb5.1
SQTA Sankt Quirin 79.92 348⇑ *i*P **P** **20 51 30.1 +0.7**
comp=Z,28nm,1.1s,mb5.1,SNR=13
SQTA Sankt Quirin 79.92 348⇑ *i*P **P** **20 51 30.0 +0.7**
SQTA pmax pmax
comp=Z,28nm,1.1s,mb5.1
SGMF Saint Gilles 79.93 358⇑ *i*P **P** **20 51 29.4 0.0**
comp=Z,46nm,0.8s,mb5.2
SGMF Saint Gilles 79.93 358⇑ *i*P **P** **20 51 29.4 0.0**
SGMF pmax pmax
comp=Z,23nm,0.8s,mb5.2
PERS Pernice 79.94 345 *i* P **P** **20 51 30.5 +1.0**
DAVA Damuels 80.01 349⇓ *i*P **P** **20 51 30.4 +0.5**
comp=Z,23nm,1.3s,mb5.0
LOMF Lomont 80.27 351 *e*P **P** **20 51 30.9 -0.3**
QUIF Quistinic 80.28 358⇑ *i*P **P** **20 51 31.3 0.0**
comp=Z,119nm,1.6s,mb5.3
QUIF Quistinic 80.28 358⇑ *i*P **P** **20 51 31.3 0.0**
QUIF pmax pmax
comp=Z,60nm,1.6s,mb5.3
BOYT Boyabat 80.29 330 *i* P **P** **20 51 31.5 0.0**
DAVOX Davos 80.51 349 P **P** **20 51 33.4 +0.9**
comp=Z,14nm,0.8s,mb4.9,baz=2.7,slow=3.8,SNR=12
DAVOX LR LR 21 28 50.5
comp=Z,218nm,19.6s,MS4.5,baz=29,slow=37
LOR Lormes 80.60 353⇑ *i*P **P** **20 51 33.1 +0.1**
comp=Z,68nm,1.2s,mb5.2
LOR *e*R
comp=Z,245nm,20.2s
LOR Lormes 80.60 353⇑ *i*P **P** **20 51 33.1 +0.1**
LOR pmax pmax
comp=Z,34nm,1.2s,mb5.2
LOR MLR MLR
comp=Z,240nm,20.3s,MS4.5
GCIS Gornji Cirnik 80.61 345 *e*P **P** **20 51 33.6 +0.5**
HYF Humbligny 80.69 354⇑ *i*P **P** **20 51 33.9 +0.5**
HAKT HAKKARI 80.72 322 *i* P **P** **20 51 32.1 -1.7**
SSF Saint Saulge 80.83 353⇑ *i*P **P** **20 51 34.4 +0.2**
comp=Z,36nm,0.9s,mb5.0
SSF Saint Saulge 80.83 353⇑ *i*P **P** **20 51 34.4 +0.2**
SSF pmax pmax
comp=Z,18nm,0.9s,mb5.0
CTKT Corum 81.05 330 *i* P **P** **20 51 35.3 -0.1**
CABF La Chapelle 81.07 352⇑ *i*P **P** **20 51 36.0 +0.5**
comp=Z,69nm,1.3s,mb5.1
CABF La Chapelle 81.07 352⇑ *i*P **P** **20 51 36.0 +0.5**
CABF pmax pmax
comp=Z,34nm,1.3s,mb5.1
SVIS Svilajnac 81.11 341⇑ *i*P **P** **20 51 36.2 +0.5**
AVF Avril sur Loir 81.11 354⇑ *i*P **P** **20 51 35.9 +0.2**
comp=Z,46nm,1.0s,mb5.1
AVF Avril sur Loir 81.11 354⇑ *i*P **P** **20 51 35.9 +0.2**
AVF pmax pmax
comp=Z,23nm,1.0s,mb5.1
SMF Signal de Mont 81.22 353⇑ *i*P **P** **20 51 36.4 +0.1**
comp=Z,58nm,1.0s,mb5.2
SMF Signal de Mont 81.22 353⇑ *i*P **P** **20 51 36.4 +0.1**
SMF pmax pmax
comp=Z,29nm,1.0s,mb5.2
BGF Bois d'Agland 81.38 354⇑ *i*P **P** **20 51 37.3 +0.2**
comp=Z,57nm,1.3s,mb5.0
BGF Bois d'Agland 81.38 354⇑ *i*P **P** **20 51 37.3 +0.2**
BGF pmax pmax
comp=Z,28nm,1.3s,mb5.0
MFF Saint Martin d 81.50 356⇑ *i*P **P** **20 51 38.0 +0.3**
comp=Z,59nm,1.1s,mb5.1
MFF Saint Martin d 81.50 356⇑ *i*P **P** **20 51 38.0 +0.3**
MFF pmax pmax
comp=Z,30nm,1.1s,mb5.1
DIVS Divcibare 81.54 341⇓ *i*P **P** **20 51 37.5 -0.5**
ELDT Eldivan 81.59 331 *i* P **P** **20 51 38.5 +0.2**
ELZG Elazig 81.60 326 *i* P **P** **20 51 39.4 +1.0**
GRUS Gruza 81.60 341 *i* P **P** **20 51 38.6 +0.3**
FITZ Fitzroy Crossi 81.61 226⇑ *i*P **P** **20 51 39.6 +0.8**
comp=Z,46nm,1.0s,mb5.4
FITZ Fitzroy Crossi 81.61 226 P **P** **20 51 39.5 +0.6**
comp=Z,65nm,0.9s,mb5.5,baz=9.8,slow=4.6,SNR=40
POO Poona 81.63 289 *e*P **P** **20 51 39.3 +0.3**
TCF Toulx Ste Croi 81.69 354⇑ *i*P **P** **20 51 39.0 +0.3**
comp=Z,48nm,1.1s,mb5.1
TCF Toulx Ste Croi 81.69 354⇑ *i*P **P** **20 51 39.0 +0.3**
TCF pmax pmax
comp=Z,24nm,1.0s,mb5.1
ORX Oropa 81.86 350 P **P** **20 51 40.5 +0.9**
AGO Saint Agoulin 81.86 354 *e*P **P** **20 51 40.3 +0.7**
PLDF La Plantade 81.91 353 *e*P **P** **20 51 40.8 +0.9**
SGKT Sivrigoynuk 81.92 332 *i* P **P** **20 51 40.0 0.0**
RSL Roselend 81.94 351 *e*P **P** **20 51 41.0 +1.0**
MALT Malatya 81.95 326 *e*P **P** **20 51 41.6 +1.3**
comp=Z,25nm,1.0s,mb5.1
MALT *e*pP pP 20 51 51.7 +0.9
MALT Malatya 81.95 326 *e*P **P** **20 51 41.6 +1.4**
MALT *e**PP pP 20 51 51.7 +0.9
MALT pmax pmax
comp=Z,25nm,1.0s,mb5.1
TRAV 82.00 350 P **P** **20 51 41.5 +1.1**
HENT Hendek 82.02 333 *i* P **P** **20 51 38.9 -1.6**
CDAG Cicekdag 82.09 330 *i* P **P** **20 51 39.4 -1.5**
LPL La Plagne 82.10 351⇑ *i*P **P** **20 51 42.3 +1.5**
comp=Z,54nm,1.2s,mb5.0
LPL La Plagne 82.10 351⇑ *i*P **P** **20 51 42.3 +1.5**
LPL pmax pmax
comp=Z,27nm,1.2s,mb5.0
LPG La Plagne 82.11 351⇑ *i*P **P** **20 51 42.7 +1.8**
comp=Z,78nm,1.1s,mb5.2
LPG La Plagne 82.11 351⇑ *i*P **P** **20 51 42.7 +1.8**
LPG pmax pmax
comp=Z,39nm,1.1s,mb5.2
LSD Ceresole Reale 82.11 351 P **P** **20 51 42.4 +1.5**
PGB Panagyurishte 82.13 338 *i* P **P** **20 51 41.5 +0.4**
NVSS Nova Varos 2 82.17 341⇑ *i*P **P** **20 51 42.6 +1.4**
BR131 Keskin Array S 82.22 330 *e*P **P** **20 51 42.0 +0.4**
comp=Z,22nm,0.8s,mb5.1
BR131 Keskin Array S 82.22 330 P **P** **20 51 42.3 +0.7**
comp=Z,219nm,20.0s,MS4.5
BRTR Keskin Array B 82.22 330 P **P** **20 51 42.3 +0.7**
comp=Z,24nm,0.8s,mb5.2,baz=51,slow=3.1,SNR=126
BRTR PP PP 20 54 50.0 -2.1
comp=Z,2.9nm,0.9s,baz=34,slow=4.5,SNR=4.5
VTS Vitosha 82.31 339 *i* P **P** **20 51 42.5 +0.5**
ANTO Ankara 82.35 331 *e*P **P** **20 51 43.2 +0.9**
comp=Z,32nm,0.9s,mb5.2
ANTO LR LR
comp=Z,282nm,22.0s,MS4.6
ANTO Ankara 82.35 331 *e*P **P** **20 51 43.2 +1.0**
ANTO pmax pmax
comp=Z,32nm,0.9s,mb5.2
ANTO MLR MLR
comp=Z,282nm,22.0s,MS4.6
KAD Karad 82.40 288 *e*P **P** **20 51 43.2 +0.3**
KAD AMb AMB 20 51 45.6
comp=Z,90nm,1.5s,mb5.5
RSP Reno Superiore 82.41 351 P **P** **20 51 43.4 +1.0**
FENE Fenestrelle 82.55 351 P **P** **20 51 44.4 +1.3**
BNI Bardonecchia 82.56 351 *e*P **P** **20 51 44.1 +0.9**
comp=Z,43nm,1.1s,mb5.4
BNI Bardonecchia 82.56 351 *e*P **P** **20 51 44.1 +0.9**
BNI pmax pmax
comp=Z,43nm,1.1s,mb5.4
LBL Lubilhac 82.67 353 *e*P **P** **20 51 44.3 +0.5**
RRL Cesana Torines 82.68 351 P **P** **20 51 44.9 +1.0**
AVNT Avonos 82.71 329 *i* P **P** **20 51 44.7 +0.6**
RJF Les Rejaudoux 82.71 355 *e*P **P** **20 51 44.3 +0.3**
comp=Z,41nm,1.3s,mb5.0
RJF *e*R
comp=Z,341nm,19.8s
RJF Les Rejaudoux 82.71 355 *e*P **P** **20 51 44.3 +0.3**
RJF pmax pmax
comp=Z,20nm,1.3s,mb5.0
RJF MLR MLR
comp=Z,340nm,19.8s,MS4.7
BHB Bricherasio 82.71 351 P **P** **20 51 44.9 +1.0**
ORIF Oris-en-Rattie 82.77 352⇑ *i*P **P** **20 51 45.6 +1.3**
comp=Z,51nm,0.9s,mb5.2
ORIF *e*R
comp=Z,302nm,22.2s
RZN Rozhen 82.82 337 *i* P **P** **20 51 45.5 +0.9**
CODM 82.87 349 P **P** **20 51 45.5 +0.7**
PCP Pian Castagno 82.88 350 P **P** **20 51 44.9 +0.1**
MBDF Montbardon 82.88 351⇑ *i*P **P** **20 51 46.2 +1.4**
comp=Z,41nm,0.8s,mb5.2
MBDF Montbardon 82.88 351⇑ *i*P **P** **20 51 46.2 +1.4**
MBDF pmax pmax
comp=Z,21nm,0.8s,mb5.2
VIVF Saint-Julien-l 82.94 352⇑ *i*P **P** **20 51 46.0 +0.9**
comp=Z,32nm,1.0s,mb5.0
VIVF Saint-Julien-l 82.94 352⇑ *i*P **P** **20 51 46.0 +0.9**
VIVF pmax pmax
comp=Z,16nm,1.0s,mb5.0
BACM 82.95 348 P **P** **20 51 44.7 -0.5**
SARO Sassorosso 83.01 348 P **P** **20 51 46.4 +0.9**
KKB Krupnik 83.03 339 *i* P **P** **20 51 46.5 +0.9**
CAF Calviac 83.05 354⇑ *i*P **P** **20 51 46.7 +1.0**
comp=Z,62nm,0.9s,mb5.3
CAF Calviac 83.05 354⇑ *i*P **P** **20 51 46.7 +1.0**
CAF pmax pmax
comp=Z,31nm,0.9s,mb5.3
VINC Vinca 83.08 348 P **P** **20 51 46.7 +0.9**
KAHT Ahir Dag 83.10 327 *i* P **P** **20 51 47.4 +1.3**
LFF La Frestale 83.12 355⇑ *i*P **P** **20 51 46.6 +0.6**
comp=Z,50nm,0.9s,mb5.2
LFF La Frestale 83.12 355⇑ *i*P **P** **20 51 46.6 +0.6**
LFF pmax pmax
comp=Z,25nm,0.9s,mb5.2
ULDT Uludag 83.14 334 *i* P **P** **20 51 46.1 -0.2**
MMB Musomiste 83.14 338 *i* P **P** **20 51 47.5 +1.3**
ROB Roburent 83.19 350 P **P** **20 51 46.3 -0.2**
FIN Finale Ligure 83.24 350 P **P** **20 51 46.2 -0.5**
ALN Alexandroupoli 83.24 336 P **P** **20 51 47.5 +0.7**
ASPA Alice Springs 83.25 217 *e*P **P** **20 51 48.1 +1.0**
MAIM 83.26 348 P **P** **20 51 47.0 +0.2**
SKO Skopje 83.29 340 *i* P **P** **20 51 47.7 +0.7**
STV2 Anna di Valdie 83.30 350 P **P** **20 51 45.9 -1.0**
STV Sta Anna Valdi 83.30 350 P **P** **20 51 46.3 -0.6**
ENR Entracque 83.31 350 P **P** **20 51 46.1 -0.9**
IMI Imperia 83.57 350 P **P** **20 51 48.2 -0.1**
SRS Serrai 83.62 338 P **P** **20 51 49.3 +0.6**
MVIF Mont Vial 83.66 350 *e*P **P** **20 51 49.9 +1.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBF	Sospel	83.67	350	⇑iP	P	20 51 49.4	+0.6
	comp=Z,64nm,0.9s,mb5.5						
SBF	Sospel	83.67	350	⇑iP	P	20 51 49.4	+0.6
SBF				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.5						
SMRF	Simiane la Rot	83.73	352	eP	P	20 51 50.8	+1.7
	comp=Z,66nm,1.0s,mb5.4						
KNT	Kendrikon	83.74	338	P	P	20 51 50.4	+1.2
LASF	Ste Croix	83.78	353	⇑iP	P	20 51 50.5	+1.2
	comp=Z,25nm,0.9s,mb5.0						
REVF	Revere	83.79	350	eP	P	20 51 49.1	-0.3
BTOK	Tokmak	83.80	334	i P	P	20 51 49.2	-0.4
SOH	Sokhos	83.96	338	P	P	20 51 50.5	+0.2
FRF	La Foret Royal	84.04	351	⇑iP	P	20 51 52.2	+1.5
OUR	Ouranopolis	84.28	337	P	P	20 51 52.5	+0.6
LMR	La Mourre	84.28	351	⇑iP	P	20 51 52.9	+1.0
	comp=Z,29nm,0.9s,mb5.1						
LMR	La Mourre	84.28	351	⇑iP	P	20 51 52.9	+1.0
LMR				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
COBT	Iskenderun	84.31	327	i P	P	20 51 52.5	+0.3
FNA	Florina	84.44	339	P	P	20 51 53.4	+0.6
MTLF	Montolieu	84.62	354	⇑iP	P	20 51 54.8	+1.2
	comp=Z,80nm,1.1s,mb5.5						
MTLF	Montolieu	84.62	354	⇑iP	P	20 51 54.8	+1.2
MTLF				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.5						
TKTP	Tekketepe	84.77	332	i P	P	20 51 53.6	-0.8
PGF	Pioggiola	84.79	349	⇑iP	P	20 51 55.5	+1.0
	comp=Z,122nm,1.0s,mb5.7						
PGF	Pioggiola	84.79	349	⇑iP	P	20 51 55.5	+1.0
PGF				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.7						
ISP	Isparta	84.89	332	eP	P	20 51 54.9	-0.2
	comp=Z,37nm,1.0s,mb5.5						
ISP	Isparta	84.89	332	c iP	P	20 51 55.5	+0.4
SJPF	Ste Jean	85.03	357	⇑iP	P	20 51 57.0	+1.4
	comp=Z,42nm,0.8s,mb5.3						
SJPF	Ste Jean	85.03	357	⇑iP	P	20 51 57.0	+1.4
SJPF				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.3						
EPF	Esparros	85.04	355	⇑iP	P	20 51 56.0	+0.3
	comp=Z,40nm,0.9s,mb5.2						
EPF	Esparros	85.04	355	⇑iP	P	20 51 56.0	+0.3
EPF				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
MLS	Moulis	85.07	355	eP	P	20 51 56.9	+1.1
BANOM	Banah	85.16	307	⇓P	P	20 51 56.6	-0.1
	SNR=21						
ETSF	Etsaut	85.21	356	⇑iP	P	20 51 57.8	+1.3
	comp=Z,62nm,0.7s,mb5.5						
ETSF	Etsaut	85.21	356	⇑iP	P	20 51 57.8	+1.3
ETSF				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.5						
RESF	Ens	85.26	355	eP	P	20 51 58.4	+1.6
KDAG	Bornova	85.28	334	i P	P	20 51 53.0	-4.0
ERMK	Ermenek	85.28	330	i P	P	20 51 56.0	-1.0
XOR	Xorichti	85.38	338	P	P	20 51 57.6	+0.1
URLA	Izmir	85.49	335	i P	P	20 51 57.1	-1.0
MIB	Mutribah	86.01	316	eP	P	20 52 01.5	+0.8
MIB				AMb	AMB	20 52 02.8	
	comp=Z,141nm,1.0s,mb6.1						
UMR	Umm Al-Rimmam	86.07	315	eP	P	20 52 01.0	0.0
UMR				AMb	AMB	20 52 02.2	
	comp=Z,56nm,0.9s,mb5.8						
BIDO	Bidbid	86.24	304	⇓P	P	20 52 02.8	+0.8
	SNR=5.6						
ASHO	Ashiyiah	86.32	306	⇓P	P	20 52 02.3	-0.1
	SNR=7.3						
KBD	Kabd	86.40	315	eP	P	20 52 03.3	+0.6
KBD				AMb	AMB	20 52 04.7	
	comp=Z,255nm,1.0s						
NAY	Al-Naaiem	86.53	315	eP	P	20 52 03.3	-0.1
NAY				AMb	AMB	20 52 04.5	
	comp=Z,53nm,1.1s,mb5.7						
WBK	Wadi Bani Khal	86.56	303	⇑P	P	20 52 04.4	+0.8
	SNR=6.8						
HOQ	Hoqain	86.61	305	⇓P	P	20 52 03.3	-0.5
	SNR=8.6						
SMDO	Samad	86.67	304	P	P	20 52 04.7	+0.6
	SNR=11						
QRN	Al-Qurain	86.68	315	eP	P	20 52 04.3	+0.2
QRN				AMb	AMB	20 52 05.7	
	comp=Z,77nm,0.8s,mb6.0						
RDF	Al-Radifah	86.68	315	eP	P	20 52 04.5	+0.4
RDF				AMb	AMB	20 52 05.7	
	comp=Z,116nm,0.8s,mb6.2						
CSS	Prodhromos	86.69	329	eP	P	20 52 04.5	+0.5
	comp=Z,16nm,0.8s,mb5.3						
JMDO	Jabal Madar	87.21	304	⇑P	P	20 52 07.1	+0.4
	SNR=20						
ARQ	Araqi	87.21	305	P	P	20 52 07.1	+0.4
	SNR=15						
BSY	Bisya	87.36	304	P	P	20 52 07.8	+0.3
	SNR=22						
ASF	Jabal al Asfar	88.03	325	P	P	20 52 11.6	+1.1
	comp=Z,12nm,0.7s,mb5.2,baz=248,slow=2.9,SNR=27						
STKA	Stephens Creek	88.37	207	eP	P	20 52 13.1	+1.0
	comp=Z,4.5nm,0.6s,mb4.9						
STKA	Stephens Creek	88.37	207	P	P	20 52 13.2	+1.1
	comp=Z,5.1nm,0.7s,mb4.9,baz=1.2,slow=4.3,SNR=16						
STKA				LR	LR	21 30 26.1	
	comp=Z,264nm,18.4s,MS4.7,baz=24,slow=35						
ESDC	Sonseca Array	88.53	358	P	P	20 52 12.5	-0.2
	comp=Z,4.0nm,0.8s,mb4.8,baz=359,slow=4.0,SNR=12						
QURS	Qurayyt al Mil	88.59	324	P	P	20 52 14.6	+1.4
IDI	Anoyia	88.84	335	LR	LR	21 35 37.9	
	comp=Z,234nm,20.3s,MS4.6,baz=15,slow=38						
VAE	Valguarnera	88.98	344	LR	LR	21 33 45.6	
	comp=Z,254nm,20.0s,MS4.6,baz=88,slow=37						
HILS	Ha’il	90.45	319	P	P	20 52 22.7	+0.6
TBKS	Tabuk	91.73	323	P	P	20 52 29.0	+1.0
MZLS	Mizel	91.96	315	P	P	20 52 29.2	+0.1
DBAS	Duba	92.86	323	P	P	20 52 33.6	+0.3
KBRS	Khaybar	92.89	320	P	P	20 52 34.4	+1.0
AFFS	‘Afif	93.01	316	P	P	20 52 34.1	+0.2
UMJS	Umm Lajj	94.14	321	P	P	20 52 40.2	+1.1
MDT	Midelt	95.39	359	LR	LR	21 35 50.0	
	comp=Z,124nm,21.1s,MS4.4,baz=116,slow=36						
DBIC	Dimbokro	121.40	359	PKP	PKPdf	20 58 13.2	+0.2
	comp=Z,6.6nm,1.0s,baz=27,slow=2.3,SNR=4.0						
DBIC	Dimbokro	121.40	359	PKIKP	PKPdf	20 58 13.2	+0.3
DBIC				MLR	MLR		
	comp=Z,158nm,21.0s						
CASY	Casey	127.52	207	PFAKE		20 58 40.0	+17
CASY				LR	LR		
	comp=Z,427nm,21.0s,MS5.1						
BDFB	Brasilia	130.68	58	PKP	PKPdf	20 58 31.5	+0.8
	comp=Z,8.8nm,1.0s,baz=15,slow=3.5,SNR=6.0						
CPUP	Villa Florida	133.85	76	PKP	PKPdf	20 58 36.0	-0.4
	comp=Z,1.4nm,0.7s,baz=0.6,slow=6.5,SNR=3.6						
PLCA	Paso Flores	135.48	102	PKP	PKPdf	20 58 40.9	+1.8
	comp=Z,2.1nm,0.8s,baz=260,slow=3.1,SNR=7.7						
LBTB	Lobatse	143.85	306	ePKP	PKPdf	20 58 53.6	-0.7
MAW	Mawson	144.36	218	⇑iP	PKPbc	20 58 53.6	+0.1
	comp=Z,34nm,0.9s						
MAW	Mawson	144.36	218	PKP	PKPdf	20 58 53.7	-0.2
	comp=Z,42nm,0.9s,baz=77,slow=4.0,SNR=79						
SYO	Syowa Base	152.89	214	⇑X	PKPdf	20 59 14.2	+6.7
SYO	Syowa Base	152.89	214	⇓PKiKP		20 59 15.5	
VNA3	Neumayer Olymp	160.77	176		PKPdf	20 59 24.2	+6.9
VNA3	Neumayer Olymp	160.77	176			20 59 41.8	
VNA3	Neumayer Olymp	160.77	176	PKPdf	PKPdf	20 59 18.2	+0.9
VNA3				P		20 59 24.2	
VNA3				P		20 59 41.8	
VNA2	Neumayer--Watz	161.15	179		PKPdf	20 59 26.5	+8.8
VNA2	Neumayer--Watz	161.15	179			20 59 46.2	
VNA2	Neumayer--Watz	161.15	179	PKPdf	PKPdf	20 59 20.0	+2.3
VNA2				P		20 59 26.5	
VNA2				P		20 59 46.2	

*NEIC **17** 20:46:39.4±1.4, 10.81S×164.15E, h38km±13km, mb4.8/3, Error ellipse: s-maj=11.6km s-min=8.9km az=90.0*
*IDC **17** 20:46:40.7±3.2, 10.85S×164.16E, h50km±28km, mb4.3/14, mb1 4.6/17, mb1mx4.6/19, mbtmp4.6/17, ML5.0/3, MS4.2/10, Ms1 4.2/10, ms1mx3.9/23, Error ellipse: s-maj=20.1km s-min=15.0km az=66.0*
*BJI **17** 20:46:41.4, 10.80S×164.10E, h38km, mb4.9*
ISC 17 20:46:37.3±0.4**, 10.85S**±0.06×**164.21E**±0.06**, h33**km**, n37, σ1^{s}23**/37**, mb4.5**/19**, MS4.3**/7**, 1D, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	4.43	288	P	P	20 47 44.4	+0.5
	202nm,0.3s,baz=125,slow=5.3,SNR=45						
HNR				S	S	20 48 36.1	+1.2
	86nm,0.3s,baz=146,slow=22,SNR=3.5						
HNR				LR	LR	20 49 25.4	
	comp=Z,2μm,20.6s,baz=135,slow=38						
DZM	Mont Dzumac	11.36	169	eP	P	20 49 19.0	-1.4
DZM				eS	S	20 51 21.5	-5.6
DZM	Mont Dzumac	11.36	169	P	P	20 49 19.3	-1.1
	5.0nm,0.3s,baz=140,slow=22,SNR=70						
DZM				S	S	20 51 20.6	-6.6
	0.6nm,0.3s,baz=249,slow=23,SNR=4.3						
DZM				LR	LR	20 53 05.2	
	comp=Z,654nm,18.6s,baz=14,slow=34						
DZM	Mont Dzumac	11.36	169	eP	P	20 49 18.9	-1.4
DZM				eS	S	20 51 21.5	-5.6
CTA	Charters Tower	19.57	240	P	P	20 51 05.5	+0.1
	3.1nm,0.3s,baz=68,slow=12,SNR=73						
CTA				LR	LR	20 57 40.2	
	comp=Z,301nm,20.8s,baz=62,slow=34						
KWAJ	Kwajalein Atol	19.82	10	eP	P	20 51 06.1	-2.0
	189nm,0.8s						
ARMA	Armidale	22.71	209	eP	P	20 51 39.7	+2.2
AFI	Afiamalu	23.65	100	LR	LR	20 59 33.5	
	comp=Z,528nm,18.2s,MS4.0,baz=250,slow=33						
STKA	Stephens Creek	29.56	222	P	P	20 52 41.8	+0.4
	11nm,0.8s,mb4.6,baz=137,slow=5.2,SNR=2.9						
STKA				LR	LR	21 03 53.6	
	comp=Z,573nm,18.1s,MS4.2,baz=33,slow=35						
WB2	Warramunga Arr	30.13	249	eP	P	20 52 44.1	-2.4
WRA	Warramunga Arr	30.14	249	P	P	20 52 44.2	-2.4
	6.8nm,0.5s,mb4.6,baz=80,slow=9.3,SNR=16						
WRA				S	S	20 57 37.5	-4.5
	1.1nm,1.0s,baz=76,slow=18,SNR=3.4						
KAKA	Kakadu	31.14	263	eP	P	20 53 11.4	+16
	9.8nm,0.4s,mb5.0						
RPZ	Rata Peaks	33.27	171	P	P	20 53 13.8	-0.1
	13nm,0.8s,mb4.9,baz=9.5,slow=6.1,SNR=3.5						
FITZ	Fitzroy Crossi	37.98	255	eP	P	20 53 51.7	-2.3
	19nm,0.7s,mb4.9						
FITZ	Fitzroy Crossi	37.98	255	P	P	20 53 52.0	-2.0
	27nm,0.6s,mb5.2,baz=75,slow=3.9,SNR=25						
MJAR	Matsushiro Arr	53.12	334	P	P	20 55 52.6	-1.5
	7.8nm,1.2s,mb4.5,baz=156,slow=7.8,SNR=12						
MAT	Matsushiro	53.12	334	P	P	20 55 52.9	-1.2
MAT	Matsushiro	53.12	334	eP	P	20 55 53.0	-1.1
VNDA	Vanda	66.67	181	P	P	20 57 26.9	+0.5
	2.4nm,1.0s,mb4.2,baz=5.9,slow=6.8,SNR=7.6						
KMI	Kunming	69.74	302	P	P	20 57 49.1	+2.7
KMI				XP	sP	20 58 05.6	+5.2
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.7						
SONM	Songino Array	77.62	324	P	P	20 58 32.4	+0.4
	comp=Z,2.0nm,0.7s,mb4.2,baz=146,slow=6.8,SNR=17						
GTA	Gaotai	77.84	314	eP	P	20 58 34.6	+1.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
QSPA	South Pole Qui	79.15	180	⇓iP	P	20 58 41.4	+1.6
	comp=Z,7.8nm,0.8s,mb4.7						
ILAR	Eielson Array	83.82	19	P	P	20 59 04.4	0.0
	comp=Z,4.2nm,0.8s,mb4.6,baz=231,slow=4.5,SNR=19						
YBH	Yreka Blue Hor	84.84	46	LR	LR	21 29 11.0	
	comp=Z,171nm,21.4s,MS4.4,baz=327,slow=30						
HUMO	Hull Mountain	84.96	45	eP	P	20 59 11.2	+0.6
	comp=Z,3.6nm,0.8s,mb4.5						
BBB	Bella Bella	85.28	35	LR	LR	21 32 39.7	
	comp=Z,139nm,18.0s,MS4.4,baz=137,slow=32						
DLBC	Dease Lake	86.96	29	LR	LR	21 29 10.5	
	comp=Z,213nm,20.9s,MS4.5,baz=277,slow=29						
NVAR	Mina Array Bea	87.06	50	P	P	20 59 21.7	+0.7
	comp=Z,2.1nm,1.0s,mb4.3,baz=242,slow=11,SNR=9.5						
NVAR				LR	LR	21 28 43.3	
	comp=Z,114nm,20.1s,MS4.3,slow=29						
MKAR	Makanchi Array	92.35	317	P	P	20 59 45.8	0.0
	comp=Z,2.0nm,0.7s,mb4.5,baz=104,slow=5.0,SNR=19						
ZAL	Zalesovo	92.53	324	P	P	20 59 46.1	-0.3
	comp=Z,0.8nm,0.3s,mb4.6,baz=351,slow=3.3,SNR=3.4						
MCMT	McKenzie Canyo	92.61	45	eP	P	20 59 47.9	+0.8
DLMT	Dillon	92.90	45	eP	P	20 59 49.1	+0.7
PDAR	Pinedale Array	94.53	47	P	P	20 59 57.0	+1.2
	comp=Z,0.9nm,0.9s,mb4.2,baz=297,slow=3.3,SNR=7.5						
PDAR				PP	PP	21 03 44.1	-2.2
	comp=Z,0.3nm,0.7s,baz=270,slow=3.0,SNR=4.0						
YKA	Yellowknife Ar	95.50	27	P	P	20 59 58.6	-1.1
	comp=Z,1.7nm,0.7s,mb4.6,baz=259,slow=5.1,SNR=8.6						
YKA				LR	LR	21 39 24.9	
	comp=Z,130nm,20.2s,MS4.4,baz=275,slow=33						
TXAR	Lajitas Array	97.06	62	P	P	21 00 07.3	-0.4
	comp=Z,0.3nm,0.7s,mb3.9,baz=219,slow=5.8,SNR=3.2						
ESDC	Sonseca Array	149.43	342	PKPbc	PKPdf	21 06 25.0	+6.1
	comp=Z,1.7nm,0.9s,baz=86,slow=1.0,SNR=4.2						

*ATH **17** 20:53:47.8, 39.39N×20.47E, h5km±4km, MD3.5/6*
*NEIC **17** 20:53:47.0, 39.36N×20.48E, h5km, MD3.5(ATH), After ATH.*
*MOS **17** 20:53:47.0±1.1, 39.35N×20.29E, h10km, mb3.6/1, Error ellipse: s-maj=15.0km s-min=7.0km az=52.5*
*CSEM **17** 20:53:48.3±0.1, 39.38N×20.42E, h2km, MD3.5, Error ellipse: s-maj=2.8km s-min=2.0km az=7.0*
*IDC **17** 20:53:50.9±4.8, 39.10N×19.97E, h65km±34km, mb3.5/4, mb1 3.6/6, mb1mx3.4/23, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=78.5km s-min=20.5km az=60.0*
ISC 17 20:53:47.5±1.0**, 39.33N**±0.03×**20.40E**±0.04**, h2**km±7km**, n45, σ1^{s}13**/56**, mb3.6**/4**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	Janina	0.47	47	ePg	Pg	20 53 55.5	-1.5
JAN				eSb	Sg	20 54 02.7	-0.6
KEK	Kerkira	0.60	309	ePB	Pb	20 53 59.9	-0.6
KEK	Kerkira	0.60	309	ePb	Pb	20 53 59.7	-0.8
KEK				eSb	Sb	20 54 10.1	+0.9
SRN	Sarande	0.63	330	i Pg	Pg	20 53 59.6	-0.5
SRN				i Sg	Sg	20 54 10.5	+2.0
VLS	Valsamata	1.16	173	ePB	Pb	20 54 11.0	+1.0
VLS	Valsamata	1.16	173	ePb	Pb	20 54 10.4	+0.4
EVR	Evrytania	1.17	110	ePB	Pb	20 54 10.0	-0.1
KZN	Kozani	1.43	47	ePB	Pb	20 54 13.8	-0.9
AGG	Agios Georgios	1.53	101	P	Pn	20 54 15.5	-0.5
AGG	Agios Georgios	1.53	101	P	Pn	20 54 15.5	-0.5
FNA	Florina	1.63	27	P	Pn	20 54 17.0	-0.4
FNA	Florina	1.63	27	P	Pn	20 54 17.0	-0.5
LIT	Litokhoron	1.78	64	P	Pn	20 54 20.5	+0.9
LIT	Litokhoron	1.78	64	P	Pn	20 54 20.5	+0.9
LKR	Lokris	2.13	108	ePg	Pb	20 54 27.0	+0.3
XOR	Xorichti	2.16	88	P	Pb	20 54 27.5	+0.3
XOR				S	Sb	20 54 55.5	+1.1
XOR	Xorichti	2.16	88	P	Pb	20 54 27.5	+0.4
XOR				S	Sb	20 54 55.5	+1.1
NEO	Neokhori	2.19	90	ePN	Pn	20 54 26.9	+1.5
QSH	Qafa e Shtames	2.22	350	i Pn	Pn	20 54 27.4	+1.5
QSH				i Sn	Sg	20 55 00.4	-1.0
THE	Thessaloniki	2.36	56	P	Pn	20 54 28.2	+0.4
THE	Thessaloniki	2.36	56	P	Pn	20 54 28.2	+0.3
ITM	Ithomi	2.46	150	ePN	Pn	20 54 32.2	+2.9
PLG	Polygyros	2.56	65	ePN	Pn	20 54 31.4	+0.6
KNT	Kendrikon	2.64	45	P	Pn	20 54 32.4	+0.5
KNT	Kendrikon	2.64	45	P	Pn	20 54 32.4	+0.5
SOH	Sokhos	2.71	56	P	Pn	20 54 33.5	+0.6
SOH				S	Sn	20 55 07.4	+0.7
SOH	Sokhos	2.71	56	P	Pn	20 54 33.5	+0.6
SOH				S	Sn	20 55 07.4	+0.7
PE1	Pezze di Greco	2.72	304	ePn	Pn	20 54 32.5	-0.5
SKO	Skopje	2.75	16	i Pn	Pn	20 54 34.0	+0.5
SKO				eP		03 58 52.0	
TIP	Timpagrande	2.83	268	ePn	Pn	20 54 34.5	-0.1
TIP	Timpagrande	2.83	268	ePn	Pn	20 54 34.5	-0.2
OUR	Ouranopolis	2.93	69	P	Pn	20 54 36.4	+0.3
SRS	Serrai	3.02	53	P	Pn	20 54 37.2	-0.2
SRS				S	Sb	20 55 17.9	-1.5
SRS	Serrai	3.02	53	P	Pn	20 54 37.2	-0.2
SRS				S	Sb	20 55 17.9	-1.5
SG1	Sgolgore (BA)	3.23	299	ePn	Pn	20 54 39.5	-0.8
LOS	Limnos	3.66	79	P	Pn	20 54 46.4	-0.1
LOS	Limnos	3.66	79	P	Pn	20 54 46.4	0.0
LIA	Limnos Island	3.73	80	ePN	Pn	20 54 48.5	+1.0
IDI	Anoyia	5.39	137	P	Pn	20 55 10.0	-1.0
	0.2nm,0.3s,baz=328,slow=13,SNR=2.8						
IDI				S	Sn	20 56 12.1	-2.4
	0.5nm,0.3s,baz=304,slow=23,SNR=3.4						
MLR	Muntele Rosu	7.39	32	P	Pn	20 55 41.2	+2.1
	0.3nm,0.3s,baz=246,slow=13,SNR=4.4						
CEY	Cerknica	7.77	327	i P	Pn	20 55 40.9	-3.5
HFS	Hagfors	21.25	351	P	P	20 58 32.7	-4.3
	2.1nm,0.8s,mb3.5,baz=169,slow=15,SNR=4.1						
FINES	FINESS Array B	22.41	7	P	P	20 58 47.2	-1.5
	0.5nm,0.3s,mb3.4,baz=180,slow=11,SNR=5.1						
MKAR	Makanchi Array	44.78	59	P	P	21 02 00.9	-3.3
	0.3nm,0.5s,mb3.4,baz=282,slow=7.4,SNR=7.1						
ZAL	Zalesovo	44.99	49	P	P	21 02 02.8	-3.0
	1.0nm,0.4s,mb4.0,baz=186,slow=11,SNR=3.7						

*PRU **17** 20:54:21.5, 50.48N×18.76E*
*NEIC **17** 20:54:21.3±1.1, 50.37N×18.89E, h5km, MG2.6(WAR), Error ellipse: s-maj=14.5km s-min=6.9km az=190.0*
WAR 17 20:54:21.5, 50.36N×18.91E, h0km, ML2.5, 2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.54	239	ePG	Pg	20 54 32.0	-0.3
RAC				eSG	Sg	20 54 40.0	+0.5
OJC	Ojcow	0.59	104	⇓iPG	Pg	20 54 32.8	-0.4
OJC				⇓iSG	Sg	20 54 41.6	+0.5
OKC	Ostrava-Krasne	0.72	223	ePG	Pg	20 54 35.2	-0.7
OKC				eSG	Sg	20 54 45.3	-0.2
	19nm,0.4s						
MORC	Moravsky Berou	1.06	237	eP	Pb	20 54 40.7	-1.6
MORC				eS	Sb	20 54 54.0	-2.6
NIE	Niedzica	1.31	136	ePG	Pg	20 54 47.0	-0.7
NIE				eSG	Sg	20 55 05.0	-0.1
DPC	Dobruska-Polom	1.66	271	ePG	Pg	20 54 50.7	-3.9
DPC				eSG	Sg	20 55 12.3	-4.4
	9.8nm,0.2s						
KSP	Ksiaz	1.74	287	ePN	Pn	20 54 52.0	-1.1
KSP				ePG	Pg	20 54 53.0	-3.1
KSP				eSG	Sg	20 55 16.0	-3.3
VRAC	Vranov	1.83	236	ePn	Pn	20 54 54.0	-0.5
VRAC				eSg	Sg	20 55 18.6	-4.0
VYHS	Vyhne	1.87	182	ePN	Pn	20 54 53.8	-1.2
VYHS				eSN	Sn	20 55 19.0	-0.7
KECS	Kecovo	2.15	151	ePN	Pn	20 54 57.8	-1.1
KECS				eSN	Sn	20 55 23.5	-3.1
CRVS	Cervenica-Dubn	2.21	130	ePN	Pn	20 55 02.1	+2.2
CRVS				eSN	Sn	20 55 33.5	+5.2
ZST	Bratislava	2.47	209	eSN	Sn	20 55 40.4	+5.5
ZST	Bratislava	2.47	209	eSn	Sn	20 55 40.4	+5.5
KOLS	Kolonicke sedl	2.61	122	ePN	Pn	20 55 12.7	+7.1
KOLS				eSN	Sn	20 55 45.1	+6.6
PRU	Pruhonice	2.83	264	ePG	Pg	20 55 11.0	-7.1
PRU				eSG	Sg	20 55 48.7	-7.1
BRG	Berggiesshubel	3.21	281	i Pg	Pg	20 55 21.6	-3.9
BRG				i Sg	Sg	20 56 01.4	-6.8
KHC	Kasperske Hory	3.67	252	ePN	Pn	20 55 19.0	-1.7
KHC				ePG	Pg	20 55 29.5	-5.3
KHC				eSN	Sn	20 56 00.0	-5.3
KHC				eSG	Sg	20 56 16.3	-7.4
CLL	Collm	3.86	286	ePG	Pg	20 55 36.0	-2.6
CLL				eSG	Sg	20 56 28.0	-2.1
NKC	Novy Kostel	4.15	271	eSG	Sg	20 56 31.0	-8.5
NKC	Novy Kostel	4.15	271	eSg	Sg	20 56 31.0	-8.5

*IDC **17** 21:02:13.3±16.0, 59.62S×26.79W, h149km±138km, mb3.7/4, mb1 3.8/4, mb1mx3.6/12, mbtmp4.1/4, Error ellipse: s-maj=83.1km s-min=21.7km az=65.0*
ISC 17 21:01:54.5±2.0**, 59.6S**±0.3×**26.0W**±0.8**, h10**km**, n11, σ0^{s}67**/7**, mb4.0**/4**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.32	154		P	21 05 05.9	-0.2
VNA3	Neumayer Olymp	13.48	157		P	21 05 07.5	-0.7
VNA2	Neumayer--Watz	13.72	154		P	21 05 10.9	-0.3
PLCA	Paso Flores	33.38	284	P	P	21 08 34.0	-0.8
	1.3nm,0.5s,mb4.1,baz=150,slow=5.1,SNR=4.4						
CPUP	Villa Florida	39.65	313	P	P	21 09 28.1	+0.1
	0.9nm,0.5s,mb3.7,baz=146,slow=11,SNR=3.2						
VNDA	Vanda	43.10	182	P	P	21 09 56.8	+1.2
	1.8nm,0.7s,mb3.9,baz=181,slow=6.5,SNR=10						
STKA	Stephens Creek	88.33	169	P	P	21 14 47.9	+0.7
	2.4nm,0.9s,mb4.4,baz=63,slow=7.7,SNR=3.7						
FINES	FINESS Array B	127.17	28	PKP	PKPdf	21 20 57.3	-3.6
	0.7nm,0.6s,baz=243,slow=3.1,SNR=5.8						
ARCES	ARCESS Array B	133.95	22	PKP	PKPdf	21 21 11.5	-2.1
	5.9nm,1.0s,baz=207,slow=2.0,SNR=8.3						
SONM	Songino Array	150.13	92	PKPbc	PKPdf	21 21 46.5	+4.2
	2.9nm,0.7s,baz=218,slow=3.0,SNR=22						
ILAR	Eielson Array	152.83	306	PKPbc	PKPdf	21 21 50.2	+4.5
	0.3nm,0.4s,baz=142,slow=2.4,SNR=6.1						

*IDC **17** 21:12:49.5±6.1, 57.23N×155.38W, h41km±49km, mb3.6/9, mb1 3.9/11, mb1mx3.7/22, mbtmp3.8/11, ML3.9/2, Error ellipse: s-maj=40.3km s-min=20.0km az=38.0*
*NEIC **17** 21:12:50.1, 56.88N×155.13W, h40km, ML3.6(AEIC), After AEIC.*
ISC 17 21:12:47.3±0.6**, 56.86N**±0.06×**155.01W**±0.07**, h71**km±6km**, n69, σ1^{s}03**/73**, mb3.8**/8**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAHL	Cahill	1.21	353	P	P	21 13 09.4	+0.6
KJL	Kejulik	1.24	346	P	P	21 13 09.7	+0.4
KJL				S	S	21 13 24.7	-0.9
KABR	Katmai Barrier	1.28	1	P	P	21 13 10.5	+0.7
ACHA	Angle Creek He	1.37	353	P	P	21 13 11.6	+0.5
ACHA				S	S	21 13 28.0	-0.7
MGLS	Mageik LS	1.37	353	P	P	21 13 10.5	-0.7
KDAK	Kodiak Island	1.61	54	P	P	21 13 15.8	+1.5
KDAK				S	S	21 13 36.0	+1.8
ANPK	Aniakchak Peak	1.71	271	P	P	21 13 15.8	+0.1
KAPH	Katmai Pasha	1.78	11	P	P	21 13 18.1	+1.5
CHGN	Chignik	1.97	255	P	P	21 13 19.2	+0.1
AUI	Augustine Isla	2.62	18	P	P	21 13 29.8	+1.4
AUP	Augustine Pinn	2.65	18	P	P	21 13 30.2	+1.4
IVS	Iliamna South	3.32	17	P	P	21 13 39.6	+1.4
CNPM	China Poot	3.34	35	P	P	21 13 39.7	+1.3
IVE	Iliamna Volcan	3.34	17	P	P	21 13 39.5	+1.1
SDPT	Sand Point	3.42	246	P	P	21 13 39.5	0.0
RSO	Redoubt South	3.81	17	P	P	21 13 45.9	+1.0
RDT	Redoubt	3.97	19	P	P	21 13 48.2	+1.0
PN7A	Pavlof North-7	4.16	253	P	P	21 13 50.0	+0.1
DOL	Dolgoi Island	4.21	249	P	P	21 13 49.9	-0.7
SVW2	Sparrevohn	4.27	356	P	P	21 13 51.0	-0.4
NKA	Nikishka	4.36	25	P	P	21 13 55.1	+2.4
SEW	Seward	4.37	40	P	P	21 13 52.5	-0.4
SLKM	Skilak Lake	4.43	32	P	P	21 13 53.8	+0.1
DRIA	Deer Island	4.50	248	P	P	21 13 53.8	-0.8
CKL	Chakachamna La	4.57	16	P	P	21 13 56.3	+0.8
SPU	Mount Spurr	4.60	18	P	P	21 13 56.5	+0.5
MPA	Moose Pass	4.69	37	P	P	21 13 57.1	-0.1
STLK	Strandline Lak	4.94	18	P	P	21 14 01.4	+0.7
FIB	Fire Island	4.99	28	P	P	21 14 02.4	+0.9
RC01	Rabbit Creek A	5.05	30	P	P	21 14 02.2	0.0
PWL	Port Wells	5.30	38	P	P	21 14 05.4	-0.3
PMR	Palmer	5.63	30	P	P	21 14 09.6	-0.5
KNK	Knik Glacier	5.68	34	P	P	21 14 10.3	-0.5
HIN	Hinchinbrook I	5.69	48	P	P	21 14 10.9	-0.1
CFI	College Fiord	5.73	38	P	P	21 14 10.9	-0.6
GLI	Glacier Island	5.75	42	P	P	21 14 10.9	-1.0
FID	Port Fidalgo	5.91	45	P	P	21 14 13.0	-1.0
SML	Sawmill	6.03	32	P	P	21 14 15.4	-0.3
TT01	Tatalina	6.09	356	P	P	21 14 16.2	-0.4
VLZ	Valdez	6.20	43	P	P	21 14 17.6	-0.5
SCM	Sheep Creek Mo	6.35	35	P	P	21 14 19.9	-0.3
DIV	Divide	6.41	44	P	P	21 14 20.9	-0.2
KLU	Klutina	6.59	41	P	P	21 14 23.3	-0.3
BMRM	Bremner River	6.78	48	P	P	21 14 25.7	-0.6
GLB	Gilahina Butte	7.36	47	P	P	21 14 34.1	-0.2
BALM	Baldy	7.77	52	P	P	21 14 39.5	-0.4
CTGM	Chitina Glacie	8.18	54	P	P	21 14 45.3	-0.3
MENT	Mentasta	8.32	38	eP	P	21 14 45.2	-2.2
WRH	Wood River Hil	8.36	21	P	P	21 14 45.5	-2.4
PCA	Pinnacle	8.38	61	P	P	21 14 46.8	-1.5
CCB	Clear Creek Bu	8.57	21	P	P	21 14 48.4	-2.4
PNL	Peninsula	8.70	65	P	P	21 14 51.8	-0.8
MDM	Murphy Dome	8.77	19	P	P	21 14 51.7	-1.9
ILAR	Eielson Array	8.87	23	P	P	21 14 52.8	-2.2
	0.9nm,0.3s,baz=214,slow=14,SNR=26						

ILAR				S	**S**	**21 16 24.9**	**-9.3**
	0.7nm,0.3s,baz=210,slow=26,SNR=7.1						
IL1	**Eielson Array**	**8.87**	**23**	P	**P**	**21 14 52.9**	**-2.0**
IM3	**Indian Mountai**	**9.18**	**3**	P	**P**	**21 14 57.5**	**-1.7**
INK	**Inuvik**	**15.04**	**32**	P	**P**	**21 16 17.0**	**+0.4**
	0.3nm,0.3s,baz=290,slow=7.0,SNR=3.5						
YKA	**Yellowknife Ar**	**20.88**	**58**	P	**P**	**21 17 27.6**	**+2.3**
	1.6nm,0.5s,baz=272,slow=9.8,SNR=8.6						
YKA	**Yellowknife Ar**	**20.88**	**58**	P	**P**	**21 17 27.6**	**+2.3**
PDAR	**Pinedale Array**	**31.88**	**97**	P	**P**	**21 19 12.4**	**+4.9**
	0.8nm,0.5s,mb3.7,baz=330,slow=4.6,SNR=8.2						
PDAR				pP	pP	21 19 26.4	+1.7
	0.6nm,0.5s,baz=332,slow=3.7,SNR=4.0						
TXAR	**Lajitas Array**	**45.02**	**105**	P	**P**	**21 21 02.7**	**+5.5**
	0.2nm,0.6s,mb3.0,baz=315,slow=6.4,SNR=3.4						
TXAR				pP	pP	21 21 17.1	+2.1
	0.7nm,0.8s,baz=320,slow=6.4,SNR=6.5						
ARCES	**ARCESS Array B**	**53.91**	**360**	P	**P**	**21 22 05.0**	**0.0**
	4.2nm,0.9s,mb4.5,baz=40,slow=6.9,SNR=7.0						
ARCES				PcP	PcP	21 23 12.7	+3.3
	1.7nm,1.0s,baz=27,slow=2.0,SNR=5.1						
SONM	**Songino Array**	**55.80**	**306**	P	**P**	**21 22 19.3**	**+0.5**
	0.9nm,0.5s,mb4.1,baz=38,slow=5.3,SNR=7.8						
KAF	**Kangasniemi**	**61.37**	**359**	*e*p	**P**	**21 22 58.1**	**+0.8**
NOA	**NORSAR Array B**	**61.95**	**8**	P	**P**	**21 23 02.7**	**+1.5**
	0.3nm,0.3s,mb3.8,baz=348,slow=8.6,SNR=2.6						
FINES	**FINESS Array B**	**62.04**	**359**	P	**P**	**21 23 02.5**	**+0.7**
	1.5nm,0.9s,mb4.0,baz=6.3,slow=8.9,SNR=8.0						
MKAR	**Makanchi Array**	**66.22**	**321**	P	**P**	**21 23 28.6**	**-0.5**
	0.7nm,0.6s,mb3.7,baz=39,slow=6.9,SNR=5.5						
AKASG	**Malin Array Be**	**72.75**	**357**	P	**P**	**21 24 10.0**	**+1.2**
	0.3nm,0.4s,mb3.5,baz=7.9,slow=6.1,SNR=4.9						
AKASG	**Malin Array Be**	**72.75**	**357**	P	**P**	**21 24 10.0**	**+1.2**

*IDC **17** 21:53:49.2±1.1, 1.60N×99.07E, mb3.9/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.9/8, MS3.9/2, Ms1 3.8/2, ms1mx3.3/19, Error ellipse: s-maj=60.1km s-min=19.4km az=53.0*

*NEIC **17** 21:53:53.2±0.9, 1.94N×99.58E, h20^{km}, mb4.5/2, Error ellipse: s-maj=26.0km s-min=15.6km az=70.0*

ISC 17 21:53:51.7±0.8**, 1.51N**±0.08×**99.11E**±0.09**, h33**^{km}**, n14, σ0^{s}71**/14**, mb4.0**/10**, MS3.9**/2**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**3.59**	**32**	P	**P**	**21 54 45.9**	**-0.6**
KULM	**Kulim**	**4.05**	**22**	*e*Pb	**Pn**	**21 54 52.9**	**-0.2**
KULM				*e*Sg	**S**	**21 55 40.9**	**+1.0**
KGM	**Kluang**	**4.23**	**83**	P	**P**	**21 54 54.8**	**-0.7**
WRA	**Warramunga Arr**	**40.59**	**123**	P	**P**	**22 01 31.1**	**+0.9**
	1.7nm,0.8s,mb3.8,baz=302,slow=9.1,SNR=10						
WRA				PcP	PcP	22 03 35.0	+2.5
	0.7nm,0.8s,baz=315,slow=2.2,SNR=5.3						
AAK	**Ala-Archa**	**46.50**	**335**	*e*P	**P**	**22 02 18.9**	**+1.1**
	15nm,2.0s,mb4.6						
SONM	**Songino Array**	**46.57**	**7**	P	**P**	**22 02 18.5**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=186,slow=9.2,SNR=5.2						
SONM				PcP	PcP	22 03 53.3	+0.8
	1.0nm,0.7s,baz=207,slow=3.2,SNR=2.8						
MKAR	**Makanchi Array**	**47.43**	**344**	P	**P**	**22 02 24.8**	**-0.3**
	2.1nm,0.8s,mb4.1,baz=153,slow=8.1,SNR=12						
KURK	**Kurchatov**	**52.01**	**344**	*e*P	**P**	**22 02 59.7**	**-0.3**
	4.4nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**52.16**	**133**	P	**P**	**22 03 01.7**	**+0.3**
	4.5nm,0.9s,mb4.4,baz=319,slow=9.8,SNR=2.9						
STKA				LR	LR	22 26 11.9	
	comp=Z,119nm,20.8s,MS3.9,baz=27,slow=37						
ZAL	**Zalesovo**	**53.57**	**350**	P	**P**	**22 03 10.2**	**-1.4**
	1.1nm,0.4s,mb4.1,baz=139,slow=2.0,SNR=4.7						
BVAR	**Borovoye Array**	**56.60**	**340**	P	**P**	**22 03 32.9**	**-0.8**
	0.7nm,0.5s,mb4.0,baz=148,slow=9.8,SNR=5.6						
KMBO	**Kilima Mbogo**	**61.91**	**268**	LR	LR	22 26 22.4	
	comp=Z,95nm,20.9s,MS3.9,baz=94,slow=32						
BRTR	**Keskin Array B**	**70.32**	**312**	P	**P**	**22 05 04.8**	**+0.6**
	1.3nm,0.9s,mb3.9,baz=117,slow=5.5,SNR=5.5						
AKASG	**Malin Array Be**	**76.18**	**322**	P	**P**	**22 05 38.4**	**0.0**
	0.3nm,0.4s,mb3.6,baz=85,slow=4.0,SNR=3.6						

*INMG **17** 22:04:08.8±0.7, 35.96N×6.65W, h30^{km}±7^{km}, ML1.9, Error ellipse: s-maj=4.9km s-min=2.8km az=23.0*

*NEIC **17** 22:04:08.9, 36.02N×6.64W, h37^{km}, MG3.7(MDD), After MDD.*

*CSEM **17** 22:04:09.1±0.4, 36.14N×6.53W, h50^{km}, mb3.7/8, Error ellipse: s-maj=10.4km s-min=4.0km az=15.0*

MDD 17 22:04:09.0±1.2**, 36.02N**×**6.63W, h52**^{km}±33^{km}**, mb3.7**/7**, Error ellipse: s-maj=13.8km s-min=5.6km az=17.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJIF	**Jimena Fronter**	**1.03**	**65**	P	P	22 04 27.0	-0.4
	0.6nm,0.1s,SNR=7.9						
EJIF				S	S	22 04 38.8	-2.3
	0.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**1.05**	**36**	P	P	22 04 26.9	-0.8
	SNR=7.9						
ESPR				UNK		22 04 33.3	
	SNR=4.0						
ESPR				S	S	22 04 40.4	-1.2
	5.0nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.05**	**36**	P	P	22 04 26.9	-0.8
ESPR				S	S	22 04 40.4	-1.2
ESPR	**Espera**	**1.05**	**36**	P	P	22 04 26.9	-0.8
	SNR=7.9						
ESPR				S	S	22 04 40.4	-1.1
	5.0nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.60**	**70**	P	P	22 04 33.8	-1.7
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	S	22 04 53.1	-1.9
	0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.65**	**336**	P	P	22 04 34.8	-1.4
	1.3nm,0.3s,SNR=18						
EGRO				UNK		22 04 44.4	
	SNR=4.0						
EGRO				S	S	22 04 54.8	-1.6
	4.7nm,0.1s,SNR=5.1						
EGRO	**El Granado**	**1.65**	**336**	P	P	22 04 34.8	-1.4
EGRO				S	S	22 04 54.8	-1.6
EGRO	**El Granado**	**1.65**	**336**	P	P	22 04 34.8	-1.4
	1.3nm,0.3s,SNR=18						
EGRO				S	S	22 04 54.8	-1.6
	4.7nm,0.1s,SNR=5.1						
EMIN	**Mina Concepcio**	**1.74**	**359**	P	P	22 04 36.0	-1.4
	0.8nm,0.1s,SNR=14						
EMIN				UNK		22 04 47.2	
	SNR=4.0						
EMIN				S	S	22 04 56.1	-2.4
	1.5nm,0.3s,SNR=5.7						
EMIN	**Mina Concepcio**	**1.74**	**359**	P	P	22 04 36.0	-1.4
EMIN				S	S	22 04 56.1	-2.4
EMIN	**Mina Concepcio**	**1.74**	**359**	P	P	22 04 36.0	-1.4
	0.8nm,0.1s,SNR=14						
EMIN				S	S	22 04 56.1	-2.4
	1.5nm,0.3s,SNR=5.7						
PBEJ	**Beja**	**2.23**	**334**	*e*Pn	P	22 04 42.7	-1.6
PBEJ				*e*Sn	S	22 05 08.6	-2.1
PTEO	**Sao Teotonio**	**2.26**	**313**	*e*Pn	P	22 04 42.7	-2.1
PTEO				*e*Sn	S	22 05 08.9	-2.7
	6.8nm,0.2s						
PTEO	**Sao Teotonio**	**2.26**	**313**	Pn	P	22 04 42.7	-2.1
PTEO				Sn	S	22 05 08.9	-2.7
	3.4nm,0.2s						
ELUQ	**Luque**	**2.44**	**50**	P	P	22 04 45.9	-1.4
	1.5nm,0.2s,SNR=6.3						
ELUQ				S	S	22 05 13.6	-2.5
	1.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.70**	**37**	P	P	22 04 49.4	-1.6
	0.4nm,0.2s,SNR=18						
EADA				S	S	22 05 18.0	-4.6
	2.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.70**	**37**	P	P	22 04 49.5	-1.5
EBAD	**Badajoz**	**2.74**	**354**	P	P	22 04 49.9	-1.7
	0.6nm,0.0s,SNR=6.7						
EBAD				S	S	22 05 19.8	-3.9
	1.5nm,0.0s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.77**	**62**	P	P	22 04 51.1	-0.8
	1.8nm,0.2s,SNR=7.9						
ECOG				S	S	22 05 21.2	-3.1
	1.1nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.83**	**64**	P	P	22 04 51.9	-0.9
	0.4nm,0.1s,SNR=8.9						
EQUE				S	S	22 05 22.6	-3.3
	0.4nm,0.1s,SNR=7.9						
EALB	**Alboran**	**2.92**	**91**	S	S	22 05 23.7	-4.5
	9.5nm,0.0s,SNR=4.0						
EBAN	**Banos Encina**	**3.12**	**46**	P	P	22 04 55.1	-2.0
	1.6nm,0.1s,SNR=18						
EBAN				S	S	22 05 28.3	-5.0
	1.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.36**	**57**	P	P	22 04 58.5	-1.9
	0.4nm,0.1s,SNR=9.9						
EQES				S	S	22 05 35.2	-4.2
	0.4nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**3.70**	**60**	P	P	22 05 02.9	-2.2
	0.8nm,0.1s,SNR=10						
EHUE				S	S	22 05 42.8	-5.1
	0.2nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**3.70**	**60**	P	P	22 05 02.9	-2.2
EHUE				S	S	22 05 42.8	-5.1
PTOM	**Tomar**	**3.85**	**339**	*e*Pn	P	22 05 05.5	-1.8
EVIA	**Vianos**	**4.20**	**50**	P	P	22 05 09.6	-2.7
	1.8nm,0.1s,SNR=7.9						
EVIA				S	S	22 05 54.4	-6.2
	0.9nm,0.1s,SNR=4.0						
ESDC	**Sonseca Array**	**4.21**	**29**	S	S	22 05 54.1	-6.8
	0.3nm,0.3s,baz=211,slow=23,SNR=7.8						
MTE	**Manteigas**	**4.43**	**351**	*e*Pn	P	22 05 13.4	-2.0
ETOB	**Tobarra**	**4.82**	**56**	P	P	22 05 17.9	-3.0
	3.2nm,0.1s,SNR=51						
ETOB				S	S	22 06 08.7	-7.5
	SNR=7.9						
ETOB	**Tobarra**	**4.82**	**56**	P	P	22 05 18.0	-3.0
ECAL	**Calabor**	**5.91**	**359**	P	P	22 05 33.7	-2.3
	0.7nm,0.1s,SNR=7.9						
ECAL				S	S	22 06 36.2	-7.2
	0.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.94**	**350**	P	P	22 05 33.7	-2.8
	0.3nm,0.1s,SNR=7.9						
ELOB				S	S	22 06 36.4	-7.7
	SNR=7.9						
ELOB	**Lobios**	**5.94**	**350**	P	P	22 05 33.7	-2.8
ELOB				S	S	22 06 36.4	-7.7

*NEIC **17** 22:34:47.2±0.9, 17.55S×178.86W, h544^{km}±12^{km}, mb4.3/1, Error ellipse: s-maj=29.2km s-min=9.4km az=150.0*

*IDC **17** 22:34:47.4±2.0, 17.53S×178.87W, h542^{km}±24^{km}, mb3.3/8, mb1 3.5/10, mb1mx3.4/17, mbtmp4.2/10, Error ellipse: s-maj=35.7km s-min=14.1km az=149.0*

ISC 17 22:34:46.7±1.3**, 17.5S**±0.2×**178.9W**±0.2**, h546**^{km}±18^{km}**, n18, σ0^{s}70**/16**, mb3.7**/9**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.74**	**64**	P	**P**	**22 36 41.9**	**-0.6**
	4.4nm,0.3s,baz=225,slow=18,SNR=5.1						
DZM	**Mont Dzumac**	**14.51**	**249**	P	**P**	**22 37 52.4**	**+1.3**
	0.4nm,0.3s,baz=287,slow=17,SNR=4.3						
ARMA	**Armidale**	**29.74**	**239**	*e*P	**P**	**22 40 10.7**	**+0.2**
STKA	**Stephens Creek**	**38.41**	**241**	*e*P	**P**	**22 41 23.0**	**+0.2**
	3.3nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**22 41 23.3**	**+0.5**
	4.7nm,0.5s,mb4.3,baz=84,slow=10,SNR=15						
WB2	**Warramunga Arr**	**44.22**	**259**	*e*P	**P**	**22 42 08.6**	**-0.6**
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**22 42 08.8**	**-0.5**
	2.1nm,0.5s,mb3.9,baz=98,slow=6.9,SNR=45						
ASPA	**Alice Springs**	**44.45**	**254**	⇓*i*P	**P**	**22 42 10.6**	**-0.3**
KAKA	**Kakadu**	**47.11**	**269**	*e*P	**P**	**22 42 50.3**	**+19**
	3.0nm,0.3s,mb4.3						
MJAR	**Matsushiro Arr**	**67.28**	**324**	P	**P**	**22 44 48.7**	**-0.1**
	1.4nm,0.7s,mb3.6,baz=163,slow=6.5,SNR=6.0						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**22 45 58.3**	**+0.6**
	1.2nm,0.7s,mb3.3,baz=231,slow=11,SNR=9.8						
ELK	**Elko**	**82.68**	**43**	P	**P**	**22 46 14.4**	**+0.3**
	0.6nm,0.6s,mb3.3,baz=233,slow=5.1,SNR=4.9						
MAW	**Mawson**	**84.09**	**200**	P	**P**	**22 46 19.4**	**-1.1**
	0.4nm,0.2s,mb3.5,baz=149,slow=5.9,SNR=4.0						
TMUT	**Trail Mountain**	**84.69**	**46**	*e*P	**P**	**22 46 24.4**	**+0.3**
ILAR	**Eielson Array**	**85.59**	**13**	P	**P**	**22 46 26.9**	**-0.9**
	0.6nm,0.4s,mb3.6,baz=224,slow=5.6,SNR=7.4						
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**	**22 46 32.6**	**+1.1**
	0.9nm,0.7s,mb3.5,baz=216,slow=6.2,SNR=14						
CLL	**Collm**	**144.95**	**347**	*e*PKP1	PKPbc	22 53 23.0	+1.0
GERES	**GERESS Array B**	**147.08**	**345**	PKPbc	PKPdf	22 53 29.3	+4.4
	0.8nm,0.5s,baz=22,slow=2.4,SNR=9.1						

*CSEM **17** 23:00:21.1±0.6, 38.77N×28.95W, h4^{km}±5^{km}, ML1.2, Error ellipse: s-maj=20.7km s-min=4.5km az=47.0, After PDA*

*PDA **17** 23:00:21.1±0.6, 38.77N×28.95W, h4^{km}±5^{km}, MD2.9, ML1.2, Error ellipse: s-maj=20.7km s-min=4.5km az=47.0*

SVSA 17 23:00:21.1±0.6**, 38.77N**×**28.95W, h4**^{km}±5^{km}**, MD2.9, ML1.2, Error ellipse: s-maj=20.7km s-min=4.5km az=47.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.24**	**127**	*i* P	Pg	23 00 25.6	-0.4
PCED				*e*S	Sg	23 00 28.9	-0.4
	20nm,0.2s						
PCED	**Cedros**	**0.24**	**127**	*e*S	Sg	23 00 28.9	-0.4
CALA	**Caldeira**	**0.27**	**134**	*e*P	Pg	23 00 25.9	-0.7
CALA				*e*S	Sg	23 00 30.1	-0.2
PICO	**Pico**	**0.49**	**123**	*e*P	Pg	23 00 29.9	-1.1
PICO				*e*S	Sg	23 00 36.1	-1.5

IDC 17 23:26:01.5±1.7**, 4.25N**×**128.28E, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.6**/17**, mbtmp3.7**/3**, MS4.2**/1**, Ms1 4.2**/1**, ms1mx2.8**/27**, Error ellipse: s-maj=132.5km s-min=25.8km az=70.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**166**	P	P	23 31 25.2	-1.2
	1.1nm,0.7s,baz=347,slow=10,SNR=9.6						
JHJ	**Hachijo jima 2**	**30.66**	**19**	LR	LR	23 42 47.9	
	comp=Z,423nm,21.7s,baz=215,slow=33						
SONM	**Songino Array**	**47.32**	**340**	P	P	23 34 37.3	-1.6
	1.0nm,0.7s,baz=150,slow=8.7,SNR=9.4						
MKAR	**Makanchi Array**	**58.03**	**324**	P	P	23 35 56.1	-2.5
	0.7nm,0.5s,baz=115,slow=8.0,SNR=15						

*IDC **17** 23:43:12.9±0.7, 3.94S×141.63E, h110^{km}±6^{km}, mb3.9/5, mb1 4.1/7, mb1mx4.0/11, mbtmp4.3/7, MS3.0/1, Ms1 3.0/1, ms1mx2.7/17, Error ellipse: s-maj=24.3km s-min=15.0km az=70.0*

*NEIC **17** 23:43:13.0±0.7, 3.96S×141.54E, mb4.4/3, Error ellipse: s-maj=17.8km s-min=12.8km az=87.0*

ISC 17 23:43:13.6±2.6**, 4.08S**±0.09×**141.6E**±0.1**, h132**^{km}±27^{km}**, n18, σ0^{s}99**/23**, mb3.9**/7**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.69**	**134**	P	**P**	**23 45 04.4**	**+0.5**
	1.1nm,0.3s,baz=275,slow=5.5,SNR=5.2						
PMG				S	**S**	**23 46 29.9**	**0.0**
	0.0nm,0.3s,baz=142,slow=23,SNR=2.5						
KAKA	**Kakadu**	**12.44**	**226**	*e*P	**P**	**23 46 22.1**	**+15**
	40nm,0.6s						
KAKA				*e*S	**S**	**23 48 33.9**	**+11**
WB2	**Warramunga Arr**	**17.26**	**203**	*e*P	**P**	**23 47 07.1**	**-0.9**
WB2				*e*S	**S**	**23 50 12.9**	**-0.9**
WRA	**Warramunga Arr**	**17.26**	**203**	P	**P**	**23 47 08.5**	**+0.5**
	3.0nm,0.3s,baz=21,slow=12,SNR=70						
WRA				S	**S**	**23 50 10.9**	**-3.0**
	0.1nm,0.3s,baz=27,slow=23,SNR=3.8						
GUMO	**Guam**	**17.86**	**11**	LR	LR	23 52 19.8	
	comp=Z,52nm,20.2s,baz=267,slow=31						
ASPA	**Alice Springs**	**20.83**	**200**	*e*P	**P**	**23 47 47.1**	**+0.8**
ASPA				*e*S	**S**	**23 51 41.7**	**+16**
FITZ	**Fitzroy Crossi**	**20.90**	**227**	*e*P	**P**	**23 47 47.8**	**+0.8**
	20nm,0.6s						
FITZ				*e*S	**S**	**23 51 31.2**	**+4.0**
FITZ	**Fitzroy Crossi**	**20.90**	**227**	P	**P**	**23 47 47.0**	**0.0**
	37nm,0.8s,baz=35,slow=7.2,SNR=26						
FITZ				S	**S**	**23 51 30.2**	**+3.0**
	21nm,0.7s,baz=102,slow=4.9,SNR=5.3						
MBWA	**Marble Bar**	**27.16**	**229**	*e*P	**P**	**23 48 47.3**	**+0.6**
	14nm,1.0s,mb4.5						
SONM	**Songino Array**	**60.18**	**333**	P	**P**	**23 53 09.6**	**-0.2**
	0.1nm,0.3s,mb3.1,baz=159,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	**72.60**	**322**	P	**P**	**23 54 28.6**	**+0.2**
	1.4nm,0.6s,mb3.9,baz=96,slow=8.8,SNR=17						
MKAR				pP	pP	23 54 57.4	-3.7
	1.4nm,1.1s,baz=117,slow=5.4,SNR=2.6						
MKAR				sP	sP	23 55 07.8	-7.7
	1.7nm,0.8s,baz=121,slow=7.1,SNR=5.6						
MKAR	**Makanchi Array**	**72.60**	**322**	P	**P**	**23 54 28.6**	**+0.2**
MKAR				pP	pP	23 54 57.4	-3.7
MKAR				sP	sP	23 55 07.8	-7.7
VNDA	**Vanda**	**74.19**	**176**	P	**P**	**23 54 36.3**	**-0.8**
	0.8nm,0.7s,mb3.5,baz=9.1,slow=4.1,SNR=3.7						
ZAL	**Zalesovo**	**74.55**	**329**	P	**P**	**23 54 38.7**	**-0.8**
	0.7nm,0.3s,mb3.7,baz=276,slow=1.7,SNR=4.3						
ZAL	**Zalesovo**	**74.55**	**329**	P	**P**	**23 54 38.7**	**-0.9**
MAW	**Mawson**	**81.94**	**202**	P	**P**	**23 55 21.7**	**+2.1**
	9.1nm,0.3s,mb4.9,baz=13,slow=4.5,SNR=51						
ILAR	**Eielson Array**	**85.91**	**24**	P	**P**	**23 55 38.5**	**-1.0**
	1.8nm,0.8s,mb3.9,baz=261,slow=5.0,SNR=12						
ILAR				pP	pP	23 56 06.3	-7.0
	1.2nm,1.0s,baz=295,slow=6.3,SNR=3.7						
LPAZ	**La Paz**	**144.35**	**125**	PKP	PKPdf	00 02 38.2	+3.3
	2.0nm,1.0s,baz=236,slow=0.5,SNR=6.1						
LPAZ				pPKP		00 03 07.3	
	1.2nm,0.9s,baz=24,slow=7.5,SNR=2.7						

*IDC **17** 23:50:19.8±1.9, 24.27S×179.87E, h517^{km}±20^{km}, mb3.6/11, mb1 3.8/13, mb1mx3.6/19, mbtmp4.5/13, Error ellipse: s-maj=20.5km s-min=13.3km az=166.0*

*NEIC **17** 23:50:20.9±0.8, 24.35S×179.85E, h532^{km}±10^{km}, mb4.7/4, Error ellipse: s-maj=12.9km s-min=9.5km az=195.0*

ISC 17 23:50:19.5±1.2**, 24.21S**±0.09×**179.81E**±0.10**, h522**^{km}±14^{km}**, n41, σ0^{s}88**/29**, mb4.0**/11**, 2C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.42**	**158**	*e*P	**P**	**23 51 51.8**	**-0.4**
	854nm,1.1s						
DZM	**Mont Dzumac**	**12.48**	**277**	P	**P**	**23 53 05.9**	**+2.2**
	0.7nm,0.3s,baz=83,slow=14,SNR=10						
URZ	**Urewera**	**14.20**	**189**	P	**P**	**23 53 20.1**	**-1.0**
	3.2nm,0.3s,baz=300,slow=23,SNR=8.7						
URZ				S	**S**	**23 55 49.5**	**+1.9**
	1.3nm,0.3s,baz=35,slow=22,SNR=5.7						
RPZ	**Rata Peaks**	**20.75**	**198**	P	**P**	**23 54 23.6**	**-0.9**
	9.3nm,0.8s,baz=226,slow=11,SNR=5.8						
CTA	**Charters Tower**	**31.30**	**271**	⇓*i*P	**P**	**23 55 58.5**	**+0.4**
	14nm,0.3s,mb5.0						
CTA	**Charters Tower**	**31.30**	**271**	P	**P**	**23 55 58.7**	**+0.6**
	16nm,0.3s,mb5.0,baz=94,slow=11,SNR=65						
CTAO	**Charters Tower**	**31.30**	**271**	*e*P	**P**	**23 55 58.4**	**+0.4**
	13nm,0.4s,mb4.8						
PMG	**Port Moresby**	**34.43**	**290**	P	**P**	**23 56 24.8**	**+0.4**
	14nm,0.7s,mb4.6,baz=164,slow=17,SNR=3.5						
PMG	**Port Moresby**	**34.43**	**290**	*e*P	**P**	**23 56 24.9**	**+0.5**
	15nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**42.20**	**267**	⇓*i*P	**P**	**23 57 26.9**	**-0.8**
WRAB	**Tennant Creek**	**42.20**	**267**	*e*P	**P**	**23 57 26.7**	**-1.0**
	5.6nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**42.21**	**267**	P	**P**	**23 57 27.0**	**-0.7**
	2.8nm,0.4s,mb4.2,baz=97,slow=8.4,SNR=71						
WRA				ScP		00 02 13.0	
	2.0nm,0.9s,baz=103,slow=3.9,SNR=8.7						
WRA				S	**S**	**00 03 10.9**	**+0.1**
	0.3nm,0.7s,baz=117,slow=15,SNR=2.6						
FITZ	**Fitzroy Crossi**	**50.63**	**266**	P	**P**	**23 58 31.8**	**-0.3**
	6.4nm,0.6s,mb4.1,baz=168,slow=7.5,SNR=6.6						
MAW	**Mawson**	**77.40**	**200**	P	**P**	**00 01 21.0**	**+0.1**
	1.0nm,0.4s,mb3.6,baz=105,slow=9.7,SNR=4.8						
VNA3	**Neumayer Olymp**	**84.58**	**177**	*e*	**P**	**00 02 02.2**	**+4.6**
VNA3	**Neumayer Olymp**	**84.58**	**177**	*e*	**P**	**00 02 14.1**	**+16**
VNA3	**Neumayer Olymp**	**84.58**	**177**	⇑*i*P	**P**	**00 01 56.7**	**-0.9**
VNA3				*e*		00 02 14.1	
VNA2	**Neumayer--Watz**	**85.00**	**178**	*e*	**P**	**00 02 04.5**	**+4.8**
VNA2	**Neumayer--Watz**	**85.00**	**178**	*e*	**P**	**00 02 15.8**	**+16**
VNA2	**Neumayer--Watz**	**85.00**	**178**	⇑*i*P	**P**	**00 01 58.9**	**-0.8**
VNA2				*e*		00 02 15.8	
NVAR	**Mina Array Bea**	**85.09**	**44**	P	**P**	**00 02 01.3**	**+0.4**
	0.8nm,0.8s,mb3.3,baz=211,slow=6.3,SNR=5.2						
NVAR	**Mina Array Bea**	**85.09**	**44**	P	**P**	**00 02 01.3**	**+0.4**
ELK	**Elko**	**88.36**	**44**	P	**P**	**00 02 16.7**	**+0.4**
	0.5nm,0.5s,mb3.5,baz=198,slow=11,SNR=4.4						
ELK	**Elko**	**88.36**	**44**	P	**P**	**00 02 16.7**	**+0.4**
TXAR	**Lajitas Array**	**90.74**	**58**	P	**P**	**00 02 28.4**	**+0.8**
	2.1nm,0.7s,mb4.2,baz=213,slow=6.6,SNR=29						
ILAR	**Eielson Array**	**92.37**	**14**	P	**P**	**00 02 33.7**	**-0.5**
	0.3nm,0.6s,mb3.5,baz=213,slow=5.7,SNR=4.2						
PDAR	**Pinedale Array**	**93.03**	**44**	P	**P**	**00 02 38.0**	**+0.2**
	0.6nm,0.7s,mb3.7,baz=225,slow=2.1,SNR=5.2						
MKAR	**Makanchi Array**	**112.23**	**313**	PKiKP		00 07 55.1	
	0.3nm,0.4s,baz=226,slow=1.9,SNR=6.6						
ARCES	**ARCESS Array B**	**132.15**	**348**	PKhKP		00 08 29.6	
	3.8nm,0.8s,SNR=13						
FINES	**FINESS Array B**	**138.68**	**341**	PKhKP		00 08 35.7	
	0.7nm,0.6s,baz=45,slow=5.4,SNR=5.6						
FINES				PKP	PKPdf	00 08 47.4	+2.3
	1.3nm,0.8s,baz=1.1,slow=2.3,SNR=5.7						
FINES	**FINESS Array B**	**138.68**	**341**	PKP	PKPdf	00 08 47.4	+2.3
NOA	**NORSAR Array B**	**142.36**	**351**	PKhKP		00 08 49.0	
	1.4nm,0.8s,baz=17,slow=4.6,SNR=2.7						
AKASG	**Malin Array Be**	**145.13**	**327**	PKPbc	PKPbc	00 08 57.9	+0.4
	2.1nm,0.5s,baz=40,slow=3.8,SNR=16						
BRTR	**Keskin Array B**	**147.62**	**307**	PKPbc	PKPdf	00 09 05.8	+4.8
	1.2nm,0.6s,baz=138,slow=4.1,SNR=10						
OJC	**Ojcow**	**149.74**	**334**	*e*PKP	PKPdf	00 09 10.8	+6.7
NIE	**Niedzica**	**150.15**	**333**	*e*PKP	PKPdf	00 09 12.7	+7.9
UPC	**Upice**	**150.89**	**339**	*e*P	PKPdf	00 09 13.5	+7.7
CLL	**Collm**	**151.10**	**343**	⇓*i*PKP1	PKPdf	00 09 13.9	+7.8
PRU	**Pruhonice**	**151.82**	**340**	*e*P	PKPdf	00 09 15.2	+8.0
KHC	**Kasperske Hory**	**152.87**	**340**	*e*P	PKPab	00 09 32.6	+0.1
GERES	**GERESS Array B**	**153.08**	**339**	PKPbc	PKPdf	00 09 17.4	+8.5
	0.1nm,0.3s,baz=27,slow=3.0,SNR=4.8						

*NEIC **18** 00:04:01.7±1.6, 6.17S×147.48E, h71^{km}±14^{km}, mb4.3/2, Error ellipse: s-maj=16.9km s-min=10.6km az=84.0*

*IDC **18** 00:04:02.2±2.0, 6.20S×147.32E, h78^{km}±20^{km}, mb3.9/7, mb1 4.1/11, mb1mx4.0/16, mbtmp4.3/11, MS3.6/2, Ms1 3.6/2, ms1mx3.1/13, Error ellipse: s-maj=21.1km s-min=11.6km az=101.0*

ISC 18 00:03:58.8±1.8**, 6.08S**±0.07×**147.5E**±0.1**, h62**^{km}±18^{km}**, n27, σ1^{s}06**/23**, mb4.3**/9**, 1C-3D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.32**	**186**	P	**P**	**00 04 49.2**	**-0.4**
	22nm,0.3s,baz=24,slow=5.4,SNR=50						
PMG				S	**S**	**00 05 27.5**	**-0.6**
	35nm,0.3s,baz=210,slow=20,SNR=4.4						
PMG	**Port Moresby**	**3.32**	**186**	⇓*i*P	**P**	**00 04 48.9**	**-0.7**
PMG				*e*		00 04 53.5	
PMG				*e*S	**S**	**00 05 29.9**	**+1.9**
CTA	**Charters Tower**	**13.97**	**185**	P	**P**	**00 07 16.1**	**+0.7**
	0.2nm,0.3s,baz=18,slow=15,SNR=5.2						
CTAO	**Charters Tower**	**13.97**	**185**	*e*P	**P**	**00 07 15.1**	**-0.3**
KAKA	**Kakadu**	**16.24**	**245**	*e*P	Px	00 08 04.8	
	8.5nm,0.4s						
WRAB	**Tennant Creek**	**18.78**	**222**	*e*P	**P**	**00 08 14.7**	**-1.1**
	11nm,0.8s						
WB2	**Warramunga Arr**	**18.79**	**222**	⇓*i*P	**P**	**00 08 14.7**	**-1.2**
WRA	**Warramunga Arr**	**18.80**	**222**	P	**P**	**00 08 15.0**	**-1.0**
	1.3nm,0.3s,baz=48,slow=11,SNR=57						
WRA				S	**S**	**00 11 41.4**	**+1.4**
	0.1nm,0.3s,baz=37,slow=18,SNR=3.7						
GUMO	**Guam**	**19.72**	**352**	P	**P**	**00 08 28.2**	**+2.0**
	2.8nm,0.3s,baz=192,slow=19,SNR=2.8						
ASPA	**Alice Springs**	**21.84**	**215**	⇓*i*P	**P**	**00 08 48.0**	**+0.3**
DZM	**Mont Dzumac**	**24.25**	**133**	P	**P**	**00 09 12.4**	**+1.1**
	8.3nm,1.0s,mb4.1,baz=322,slow=17,SNR=2.7						
DZM				LR	LR	00 17 10.6	
	comp=Z,118nm,19.7s,baz=16,slow=32						
FITZ	**Fitzroy Crossi**	**24.45**	**239**	⇑*i*P	**P**	**00 09 15.2**	**+1.9**
	12nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.45**	**239**	P	**P**	**00 09 15.4**	**+2.1**
	15nm,0.5s,mb4.7,baz=48,slow=5.5,SNR=46						
ARMA	**Armidale**	**24.52**	**171**	*e*P	**P**	**00 09 14.1**	**+0.2**
STKA	**Stephens Creek**	**26.25**	**191**	P	**P**	**00 09 29.1**	**-1.1**
	5.0nm,0.5s,mb4.3,baz=4.5,slow=13,SNR=6.5						
STKA				LR	LR	00 19 07.7	
	comp=Z,158nm,21.1s,baz=26,slow=35						
CBIJ	**Chichi jima**	**33.38**	**351**	P	**P**	**00 10 33.0**	**-0.6**
	51nm,0.6s,mb5.6,baz=104,slow=4.4,SNR=5.0						
MJAR	**Matsushiro Arr**	**43.29**	**349**	P	**P**	**00 11 57.1**	**+0.8**
	2.5nm,0.9s,mb3.9,baz=161,slow=7.5,SNR=8.2						
SONM	**Songino Array**	**64.72**	**331**	P	**P**	**00 14 32.7**	**-0.1**
	2.0nm,1.0s,mb4.1,baz=133,slow=6.1,SNR=10						
VNDA	**Vanda**	**71.80**	**177**	P	**P**	**00 15 15.7**	**-0.7**
	0.5nm,0.5s,mb3.7,baz=348,slow=5.5,SNR=3.9						

MKAR	Makanchi Array	77.88	320	P	P	00 15 51.4	-0.2
	0.5nm,0.4s,mb3.8,baz=97,slow=8.6,SNR=16						
ZAL	Zalesovo	79.35	328	P	P	00 15 58.0	-1.6
	1.3nm,0.4s,mb4.3,baz=332,slow=5.9,SNR=3.7						
GERES	GERESS Array B	122.26	326	PKP	PKPdf	00 22 47.6	+0.6
	0.4nm,0.4s,baz=116,slow=1.5,SNR=7.5						
CPUP	Villa Florida	139.78	144	PKP	PKPdf	00 23 24.4	+3.8
	2.2nm,0.9s,baz=164,slow=2.0,SNR=4.1						
SAML	Samuel	145.97	116	ePKPdf	PKPdf	00 23 33.1	+1.3
DBIC	Dimbokro	152.52	273	PKPbc	PKPdf	00 23 50.5	+8.3
	2.0nm,0.6s,baz=45,slow=1.4,SNR=5.9						
DBIC	Dimbokro	152.52	273	ePKPbc	PKPdf	00 23 50.6	+8.4
BDFB	Brasilia	153.50	145	PKPbc	PKPdf	00 23 53.2	+10
	4.9nm,0.8s,baz=179,slow=5.9,SNR=8.3						

*NEIC **18** 00:53:21.4±1.0, 29.56S×179.10W, h271km±9km, Error ellipse: s-maj=28.2km s-min=22.9km az=175.0*

*IDC **18** 00:53:21.3±1.2, 30.09S×178.91W, h279km±12km, mb3.4/2, mb1 3.8/4, mb1mx3.4/14, mbtmp4.2/4, Error ellipse: s-maj=30.9km s-min=19.5km az=132.0*

ISC 18 00:53:18.6±0.7**, 29.93S**±0.06×**179.0W**±0.1**, h247**km±7km**, n30,** σ1s**32**/33**, mb3.5**/2**, 2C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.19	56	P	P	00 54 00.1	+5.5
	109nm,0.3s,baz=283,slow=24,SNR=9.3						
RAO				S	S	00 54 21.9	-0.8
	271nm,0.3s,baz=85,slow=20,SNR=6.4						
RAO	Raoul Island	1.19	56	eP	P	00 53 59.0	+4.3
RAO				S	S	00 54 21.9	-0.8
URZ	Urewera	8.90	200	P	P	00 55 25.6	+1.5
	3.1nm,0.3s,baz=90,slow=3.0,SNR=10						
URZ				S	S	00 57 03.6	+1.1
	4.7nm,0.3s,baz=223,slow=23,SNR=11						
URZ	Urewera	8.90	200	ePN	P	00 55 27.7	+3.6
KNZ	Kokohu	9.46	196	ePN	P	00 55 34.8	+3.6
BKZ	Black Stump Fm	9.92	201	ePN	P	00 55 37.4	+0.4
FWVZ	Far West T-bar	10.31	204	ePN	P	00 55 43.6	+1.6
WNVZ	Wahianoa	10.36	204	PN	P	00 55 45.5	+2.9
PXZ	Pawanui	10.62	197	PN	P	00 55 46.9	+0.9
TSZ	Takapari Road	10.90	201	ePN	P	00 55 48.3	-1.1
BFZ	Birch Farm	11.39	198	ePN	P	00 55 56.1	+0.4
BFZ				eSN	S	00 57 60.0	+0.6
MRZ	Mangatainoka R	11.57	201	ePN	P	00 55 56.8	-1.1
MRZ				eSN	S	00 58 01.9	-1.5
KIW	Kapiti Island	11.97	203	ePN	P	00 56 02.3	-0.5
KIW				eSN	S	00 58 12.3	0.0
CAW	Cannon Point	12.14	202	ePN	P	00 56 02.7	-2.2
TUWZ	Tuamarina	12.81	204	ePN	P	00 56 11.1	-2.2
NNZ	Nelson	12.84	207	ePN	P	00 56 13.9	+0.4
NNZ				eSN	S	00 58 32.4	+0.5
THZ	Tophouse	13.49	207	PN	P	00 56 21.5	-0.1
THZ				SN	S	00 58 47.1	+0.8
DZM	Mont Dzumac	15.21	298	P	P	00 56 44.7	+1.8
	1.5nm,0.3s,baz=159,slow=16,SNR=21						
MQZ	McQueen's Vall	15.26	203	eSN	S	00 59 23.3	-2.7
RPZ	Rata Peaks	15.87	207	S	S	00 59 35.8	-3.4
	0.9nm,0.3s,baz=335,slow=19,SNR=7.7						
WRAB	Tennant Creek	43.18	272	eP	P	01 00 55.5	-1.5
WRA	Warramunga Arr	43.18	272	P	P	01 00 56.2	-0.9
	1.0nm,0.3s,mb3.7,baz=109,slow=8.1,SNR=39						
VNA3	Neumayer Olymp	78.83	177	⇑i	P	01 04 55.9	+0.9
VNA2	Neumayer--Watz	79.25	177	⇑i	P	01 04 58.5	+1.2
NVAR	Mina Array Bea	88.51	43	P	P	01 05 43.8	-0.5
	0.3nm,0.6s,mb3.3,baz=217,slow=9.0,SNR=4.4						
FINES	FINESS Array B	144.39	339	PKP	PKPdf	01 12 22.3	-2.1
	1.8nm,0.5s,baz=40,slow=3.4,SNR=18						
NB2	NORSAR Subarra	148.15	351	PKPabc	PKPdf	01 12 33.7	+2.9
	1.2nm,0.7s,baz=12,slow=2.9						
NOA	NORSAR Array B	148.15	351	PKPbc	PKPdf	01 12 33.5	+2.7
	1.7nm,1.0s,baz=55,slow=5.4,SNR=3.3						
HFS	Hagfors	148.60	348	PKPbc	PKPdf	01 12 34.4	+2.9
	2.4nm,0.7s,baz=45,slow=4.2,SNR=11						
CLL	Collm	156.83	341	i PKP2	PKPab	01 13 13.1	-3.9

IDC 18 01:08:55.5±28.0**, 16.52S**×**179.16W, h356**km±296km**, mb2.9**/3**, mb1 3.2**/3**, mb1mx3.0**/14**, mbtmp3.6**/3**, Error ellipse: s-maj=167.7km s-min=52.1km az=174.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.69	239	P	P	01 15 46.2	-1.4
	1.0nm,0.4s,baz=88,slow=11,SNR=4.7						
WRA	Warramunga Arr	44.19	258	P	P	01 16 30.8	-1.5
	0.2nm,0.4s,baz=91,slow=8.1,SNR=5.6						
TXAR	Lajitas Array	85.87	58	P	P	01 20 56.3	-0.9
	0.1nm,0.7s,baz=225,slow=6.4,SNR=2.7						
GERES	GERESS Array B	146.09	345	PKPbc	PKPbc	01 27 53.4	-0.3
	0.4nm,0.5s,slow=2.7,SNR=4.7						

*IDC **18** 01:24:50.5±0.6, 3.95N×82.60W, mb4.6/18, mb1 4.9/19, mb1mx4.8/23, mbtmp4.7/19, ML3.7/1, MS4.9/20, Ms1 4.9/20, ms1mx4.8/21, Error ellipse: s-maj=23.3km s-min=11.1km az=61.0*

*BJI **18** 01:24:52.3, 3.90N×82.60W, h10km, mB5.9, Ms5.3, Msz5.1*

*NEIC **18** 01:24:52.3±0.2, 3.95N×82.57W, h10km, mb5.3/102, MS4.8/14, MW5.4, Error ellipse: s-maj=5.1km s-min=3.0km az=217.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}0.25; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$0.21; $M_{r\theta}$-0.26; $M_{\theta\phi}$1.54; $M_{\phi r}$0.69; Best double couple: $M_0$1.7×10^{17} NP1: ϕ_s83°, δ66°, λ0°. NP2: ϕ_s353°, δ90°, λ156°. Principal axes: T 1.57, Plg17°, Azm306°; N .32, Plg66°, Azm173°; P -1.89, Plg17°, Azm41°;*

*CASC **18** 01:24:52.6±1.6, 4.11N×82.74W, h11km±25km, MD5.0, MW5.2, mb5.3(NEIC)*

*HRVD **18** 01:24:52.3±0.2, 3.94N×82.65W, h12km, MW5.4/69, Centroid moment Tensor Solution. LP body waves: s60,c115; Mantle waves: s69,c162; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.04±.03; $M_{\theta\theta}$0.01±.02; $M_{\phi\phi}$-0.04±.03; $M_{r\theta}$0.10±.06; $M_{\theta\phi}$1.47±.02; $M_{\phi r}$0.31±.07; Best double couple: $M_0$1.506×10^{17} NP1: ϕ_s91°, δ78°, λ4°. NP2: ϕ_s0°, δ86°, λ168°. Principal axes: T 1.509, Plg11°, Azm315°; N -.006, Plg77°, Azm163°; P -1.503, Plg6°, Azm46°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **18** 01:24:56.1±0.7, 4.32N×82.55W, h33km, mb5.5/65, MS5.0/15 Error ellipse: s-maj=7.8km s-min=5.5km az=74.1*

ISC 18 01:24:50.2±1.6**, 3.96N**±0.03×**82.66W**±0.03**, h6**km±9km**, h4**km±3.2km**: pP-P, n387,** σ1s**00**/358**, mb5.2**/116**, MS4.8**/42**, 19C-4D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRU2	Volcan	4.80	360	⇑iP	Pn	01 26 02.3	-2.5
BRU2				eS	Sn	01 26 59.3	-2.3
BUS	Buena Vista	5.66	349	⇓eP	Pn	01 26 14.8	-2.1
BUS				eS	Sn	01 27 20.8	-2.4
LCR2	La Lucha 2	5.89	347	⇑eP	Pn	01 26 17.1	-3.1
LCR2				eS	Sn	01 27 24.8	-4.2
SJS	Escuela Geolog	6.10	347	eP	Pn	01 26 20.4	-2.7
SJS				eS	Sn	01 27 28.8	-5.3
CGA2	Cerro Gallo 2	6.27	344	eP	Pn	01 26 23.6	-2.0
VPS2	Volcan Poas 2	6.38	346	eP	Pn	01 26 25.1	-2.1
FORC	Fortuna	6.76	343	eP	Pn	01 26 31.3	-1.2
VCR	Vista de Mar	6.79	334	eP	Pn	01 26 31.6	-1.3
ROSC	El Rosal	8.36	84	Pn	P	01 26 56.6	+1.8
	3.4nm,0.3s,baz=226,slow=0.6,SNR=29						
PAYG	Puerto Ayora	8.90	239	eP	P	01 27 02.0	-0.4
	368nm,1.4s						
PAYG				eS	Sn	01 29 06.4	+22
SDV	Santo Domingo	12.91	67	Pn	P	01 27 56.3	-0.9
	0.4nm,0.3s,baz=268,slow=9.2,SNR=33						
SDV				LR	LR	01 32 39.5	
	comp=Z,11µm,21.7s,baz=266,slow=36						
SDV	Santo Domingo	12.91	67	⇓iP	P	01 27 56.0	-1.2
	261nm,1.2s						
MCJ	Malvern	14.71	19	⇑iP	P	01 28 22.7	+1.8
PCJ	Portland Cotta	14.72	21	⇑iP	P	01 28 23.0	+1.9
CVJ	Coleyville	15.04	19	⇑iP	P	01 28 27.2	+2.0
MBJ	Montego Bay	15.10	18	⇑iP	P	01 28 28.1	+2.0
STH	Stony Hill	15.15	22	⇑iP	P	01 28 28.7	+2.0
GWJ	Greenwich	15.18	22	⇑iP	P	01 28 29.1	+2.0
BNJ	Bonny Gate	15.33	21	⇑eP	P	01 28 31.2	+2.2
CMJ	Castle Mountai	15.37	23	⇑eP	P	01 28 31.4	+1.8
NNA	Nana	16.87	160	eP	P	01 28 49.1	+0.3
	90nm,1.3s						
LMGC	Las Mercedes	16.93	19	eP	P	01 28 50.4	+0.9
RCC	Rio Carpintero	17.32	23	eP	P	01 28 55.0	+0.6
RCC				eS	S	01 32 09.2	+3.1
	comp=N,623nm,14.5s						
	comp=E,1µm,28.5s						
HLGC	Holguin	18.01	20	eP	P	01 29 04.1	+1.1
MASC	Masc	18.09	26	eP	P	01 29 08.1	+4.1
MOAC	Moa	18.21	24	eP	P	01 29 06.9	+1.4
SOR	Soroa	18.72	359	eP	P	01 29 17.5	+5.7
SJG	San Juan	21.43	48	P	P	01 29 40.1	-1.3
	comp=E,114nm,1.1s,mb5.1,baz=239,slow=6.4,SNR=16						
SJG				LR	LR	01 38 07.9	
	comp=E,1µm,19.3s,MS4.3,baz=244,slow=37						
SJG	San Juan	21.43	48	⇓eP	P	01 29 40.3	-1.1
	comp=E,236nm,1.4s,mb5.3						
SJG	San Juan	21.43	48	⇓eP	P	01 29 40.3	-1.0
SJG				pmax	pmax		
	comp=Z,236nm,1.4s						
TPP	Pointe-a-Pierr	21.96	72	e	P	01 29 44.6	-2.2
TRN	Trinidad (W)	22.10	71	e	P	01 29 43.2	-4.9
TBH	Brigand Hill	22.37	72	e	P	01 29 49.6	-1.2
SVB	Belmont	23.08	65	eP	P	01 29 57.9	-0.1
ARE	Arequipa	23.11	152	eP	P	01 30 02.0	+3.8
SAML	Samuel	23.27	124	⇑iP	P	01 29 57.0	-2.8
	comp=Z,71nm,1.0s,mb5.0						
SAML				LR	LR		
	comp=Z,5µm,21.0s,MS4.9						
FDF	Fort de France	23.74	62	eP	P	01 30 04.6	+0.3
TBG	Guadaloupe-3	23.80	59	eP	P	01 30 05.3	+0.4
BBL	Barber's Block	23.81	60	eP	P	01 30 05.6	+0.6
LZG	Guadaloupe-1	23.83	58	eP	P	01 30 05.6	+0.4
MVM	Montagne Vaucl	23.90	62	eP	P	01 30 06.5	+0.6
CRM	Caravelle	23.96	62	eP	P	01 30 07.1	+0.6
DWPF	Disney	24.04	3	eP	P	01 30 08.3	+1.2
	comp=Z,242nm,1.5s,mb5.4						
DWPF				LR	LR		
	comp=Z,447nm,20.0s,MS3.9						
DEG	La Desirade	24.52	58	eP	P	01 30 11.2	-0.6
LPAZ	La Paz	24.73	145	P	P	01 30 13.1	-0.9
	comp=Z,19nm,1.0s,mb4.6,baz=335,slow=9.9,SNR=24						
LPAZ				LR	LR	01 40 49.5	
	comp=Z,2µm,19.2s,MS4.6,baz=300,slow=39						
LPAZ	La Paz	24.73	145	eP	P	01 30 13.0	-0.9
	comp=Z,123nm,1.3s,mb5.3						
LPAZ				LR	LR		
	comp=Z,4µm,20.0s,MS4.9						
LPAZ	La Paz	24.73	145	eP	P	01 30 13.0	-0.9
LPAZ				pmax	pmax		
	comp=Z,123nm,1.3s						
LPAZ				MLR	MLR		
	comp=Z,4µm,20.0s						
SIV	San Ignacio	29.14	133	P	P	01 30 53.6	-1.0
	comp=Z,2.8nm,0.9s,baz=310,slow=11,SNR=8.6						
LRAL	Lakeview Retre	29.20	353	eP	P	01 30 54.6	-0.4
	comp=Z,20nm,1.1s,mb4.8						
GOGA	Godfrey	29.31	359	eP	P	01 30 55.0	-0.9
	comp=Z,14nm,0.9s,mb4.7						
GOGA	Godfrey	29.31	359	eP	P	01 30 55.0	-0.9
GOGA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
LVC	Limon Verde	29.64	154	P	P	01 30 58.5	-0.4
	comp=Z,3.4nm,0.8s,mb4.1,baz=246,slow=3.1,SNR=4.5						
LVC				LR	LR	01 43 31.1	
	comp=Z,2µm,21.3s,MS4.7,baz=330,slow=38						
NATX	Nacogdoches	29.86	339	eP	P	01 31 02.0	+1.1
	comp=Z,109nm,1.3s,mb5.4						
NATX				LR	LR		
	comp=Z,854nm,19.0s,MS4.4						
JSC	Jenkinsville	30.19	2	eP	P	01 31 02.8	-1.0
OXF	Oxford	31.04	349	eP	P	01 31 09.5	-1.7
	comp=Z,34nm,1.2s,mb5.0						
OXF	Oxford	31.04	349	eP	P	01 31 09.5	-1.7
OXF				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.0						
SWET	Sewanee	31.25	355	eP	P	01 31 11.4	-1.6
PLAL	Pickwick Lake	31.27	351	eP	P	01 31 11.2	-2.0
	comp=Z,65nm,2.0s,mb5.1						
CPCT	Cooper Cave	31.38	357	eP	P	01 31 13.1	-1.1
TXAR	Lajitas Array	32.15	324	P	P	01 31 20.7	-0.2
	comp=Z,4.6nm,1.0s,mb4.3,baz=141,slow=5.0,SNR=34						
TXAR				PcP	PcP	01 34 10.8	+0.6
	comp=Z,1.4nm,0.9s,baz=166,slow=5.2,SNR=4.6						
TXAR				LR	LR	01 44 01.2	
	comp=Z,980nm,19.3s,MS4.5,baz=145,slow=36						
TXAR	Lajitas Array	32.15	324	P	P	01 31 20.7	-0.2
TXAR				PcP	PcP	01 34 10.8	+0.6
TXAR				LR	LR	01 44 01.1	
WVT	Waverly	32.36	352	eP	P	01 31 20.9	-1.9
	comp=Z,9.3nm,0.9s,mb4.6						
WVT				LR	LR		
	comp=Z,718nm,22.0s,MS4.3						
WVT	Waverly	32.36	352	eP	P	01 31 20.9	-1.9
WVT				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
WVT				MLR	MLR		
	comp=Z,718nm,22.0s,MS4.3						
GLAT	Glass	32.72	350	P	P	01 31 23.6	-2.3
BLA	Blacksburg	33.15	3	eP	P	01 31 28.6	-1.1
	comp=Z,42nm,1.3s,mb5.2						
BLA	Blacksburg	33.15	3	eP	P	01 31 28.6	-1.1
BLA				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.2						
ELN	Prospectdale	33.15	3	eP	P	01 31 29.4	-0.3
FWV	Forest Hill	33.50	3	eP	P	01 31 32.0	-0.7
WCI	Wyandotte Cave	34.27	355	eP	P	01 31 37.7	-1.7
	comp=Z,70nm,1.5s,mb5.4						
WCI				LR	LR		
	comp=Z,749nm,19.0s,MS4.4						
WCI	Wyandotte Cave	34.27	355	eP	P	01 31 37.7	-1.6
WCI				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.4						
WCI				MLR	MLR		
	comp=Z,749nm,19.0s,MS4.4						
FVM	French Village	34.60	349	eP	P	01 31 41.7	-0.5
	comp=Z,65nm,1.6s,mb5.3						
FVM	French Village	34.60	349	eP	P	01 31 41.7	-0.5
FVM				pmax	pmax		
	comp=Z,65nm,1.6s,mb5.3						
MNTX	Cornudas Mount	34.88	325	eP	P	01 31 44.1	-0.5
	comp=Z,94nm,1.6s,mb5.5						
MNTX				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
BLO	Bloomington	35.22	355	eP	P	01 31 46.2	-1.3
	comp=Z,24nm,1.0s,mb5.1						
BLO	Bloomington	35.22	355	eP	P	01 31 46.2	-1.3
BLO				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
ACSO	Alum Creek Sta	36.11	360	eP	P	01 31 53.9	-1.0
	comp=Z,41nm,1.3s,mb5.2						
MVL	Millersville	36.33	8	eP	P	01 31 56.6	-0.2
KSU1	Kansas State U	37.20	342	eP	P	01 32 03.4	-0.8
ALLY	Alegheny Colle	37.59	3	eP	P	01 32 06.5	-0.9
ANMO	Albuquerque	37.91	327	eP	P	01 32 11.3	+1.1
	comp=Z,74nm,1.1s,mb5.3						
ANMO				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
ANMO	Albuquerque	37.91	327	eP	P	01 32 11.3	+1.1
ANMO				pmax	pmax		
	comp=Z,74nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,1µm,20.0s						
CFAA	Coronel Fontan	37.95	160	P	P	01 32 10.3	-0.2
	comp=Z,0.8nm,1.0s,baz=328,slow=7.9,SNR=11						
CFAA	Coronel Fontan	37.95	160	P	P	01 32 10.3	-0.2
ERPA	Erie	38.06	3	P	P	01 32 10.0	-1.4
TUC	Tucson	38.59	320	eP	P	01 32 16.2	+0.3
	comp=Z,22nm,1.4s,mb4.7						
TUC	Tucson	38.59	320	eP	P	01 32 16.2	+0.2
TUC				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.7						
CPUP	Villa Florida	38.84	142	P	P	01 32 15.7	-2.4
	comp=Z,4.0nm,0.9s,mb4.2,baz=326,slow=8.7,SNR=7.1						
CPUP				LR	LR	01 49 55.3	
	comp=Z,2µm,18.5s,MS5.1,baz=340,slow=39						
FCH	Farellones	38.89	163	i P	P	01 32 17.3	-1.2
BDFB	Brasilia	39.44	120	P	P	01 32 22.3	-0.8
	comp=Z,1.4nm,0.7s,baz=301,slow=8.7,SNR=2.2						
BDFB				LR	LR	01 49 18.2	
	comp=Z,4µm,18.6s,MS5.2,baz=299,slow=37						
WES	Weston	39.57	13	eP	P	01 32 21.0	-3.0
	comp=Z,468nm,1.7s,mb5.9						
WES	Weston	39.57	13	eP	P	01 32 21.0	-3.0
WES				pmax	pmax		
	comp=Z,468nm,1.7s,mb5.9						
SDCO	Great Sand Dun	39.58	331	eP	P	01 32 25.6	+1.5
	comp=Z,127nm,1.2s,mb5.5						
SDCO				LR	LR		
	comp=Z,1µm,21.0s,MS4.7						
ACCN	Adirondack Com	40.06	10	eP	P	01 32 28.5	+0.5
MIV	Mineville/With	40.75	10	eP	P	01 32 33.0	-0.7
WUAZ	Wupatki	41.10	323	eP	P	01 32 38.0	+1.3
	comp=Z,71nm,1.1s,mb5.2						
PV01	Paradox Valley	41.42	329	eP	P	01 32 40.1	+0.9
MSNY	Massena	41.44	8	eP	P	01 32 38.4	-0.9
FRNY	Flat Rock	41.48	10	eP	P	01 32 39.8	+0.1
PV10	Paradox Valley	41.85	328	eP	P	01 32 42.9	+0.1
PHWY	Pilot Hill	42.43	334	eP	P	01 32 48.2	+0.7
SRU	San Rafael	43.17	328	eP	P	01 32 54.0	+0.4
	comp=Z,98nm,1.2s,mb5.4						
SRU	San Rafael	43.17	328	eP	P	01 32 54.0	+0.4
SRU				pmax	pmax		
	comp=Z,98nm,1.2s,mb5.4						
NEN	Nelson	43.32	321	eP	P	01 32 54.9	0.0
RWWY	Rawlins	43.52	333	eP	P	01 32 58.0	+1.6
	comp=Z,66nm,1.3s,mb5.2						
MSU	Marysvale	43.64	326	eP	P	01 32 58.2	+0.7
TMUT	Trail Mountain	43.67	328	eP	P	01 32 58.6	+1.0
ARUT	Antelope Range	43.86	324	eP	P	01 33 00.5	+1.3
MPU	Maple Canyon	44.41	328	eP	P	01 33 04.5	+0.7
	comp=Z,41nm,1.1s,mb5.1						
DAU	Daniels Canyon	44.51	329	eP	P	01 33 05.2	+0.7
MWC	Mount Wilson	44.58	317	eP	P	01 33 06.3	+1.2
CTU	Camp Tracy	44.97	328	eP	P	01 33 10.1	+2.0
	comp=Z,65nm,1.2s,mb5.3						
TCUT	Toone Canyon	45.10	329	eP	P	01 33 10.2	+0.9
LPA	La Plata	45.12	151	ceP	P	01 33 08.0	-1.5
NOQ	North Oquirrh	45.13	328	eP	P	01 33 10.4	+1.0
DUG	Dugway	45.18	327	eP	P	01 33 10.0	+0.2
	comp=Z,33nm,1.4s,mb5.0						
DUG	Dugway	45.18	327	eP	P	01 33 10.0	+0.2
DUG				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.0						
PDAR	Pinedale Array	45.44	332	P	P	01 33 11.5	-0.4
	comp=Z,9.2nm,1.0s,mb4.5,baz=135,slow=6.3,SNR=50						
PDAR				PcP	PcP	01 34 51.6	+0.1
	comp=Z,1.2nm,0.9s,baz=170,slow=5.5,SNR=8.9						
PDAR				LR	LR	01 53 49.3	
	comp=Z,2µm,19.1s,MS5.0,baz=151,slow=38						
HWUT	Hardware Ranch	45.54	329	eP	P	01 33 12.5	-0.2
	comp=Z,75nm,1.1s,mb5.5						
HWUT				ePcP	PcP	01 34 51.6	-0.2
SPUT	South Promonto	45.78	329	eP	P	01 33 15.0	+0.5
BGU	Big Grassy Mou	45.81	328	eP	P	01 33 15.5	+0.7
PLCA	Paso Flores	45.84	167	P	P	01 33 13.9	-1.1
	comp=Z,5.6nm,1.0s,mb4.5,baz=342,slow=11,SNR=9.7						
AHID	Auburn Hatcher	46.17	331	eP	P	01 33 18.2	+0.6
	comp=Z,76nm,0.8s,mb5.7						
HVU	Hansel Valley	46.29	329	eP	P	01 33 18.5	0.0
	comp=Z,45nm,1.3s,mb5.2						
HVU	Hansel Valley	46.29	329	eP	P	01 33 18.5	-0.1
HVU				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.2						
REDW	Red Top Meadow	46.51	332	eP	P	01 33 19.9	-0.3
	comp=Z,132nm,1.5s,mb5.7						
SNOW	Snow King Moun	46.54	332	eP	P	01 33 20.4	-0.1
	comp=Z,67nm,1.4s,mb5.4						
LOHW	Long Hollow	46.58	332	eP	P	01 33 19.9	-1.0
	comp=Z,44nm,1.6s,mb5.1						
TPAW	Teton Pass	46.65	332	eP	P	01 33 21.0	-0.4
	comp=Z,46nm,1.3s,mb5.2						
RRI2	Red Ridge	46.72	331	eP	P	01 33 22.0	0.0
	comp=Z,99nm,1.5s,mb5.5						
MTUM	Tungsten Hills	46.73	320	eP	P	01 33 23.2	+1.1
FLWY	Flagg Ranch	46.98	332	eP	P	01 33 23.4	-0.7
MNV	Mina	47.12	322	eP	P	01 33 25.3	0.0
	comp=Z,45nm,1.3s,mb5.2						
MNV	Mina	47.12	322	eP	P	01 33 25.3	+0.1
MNV				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.2						
NVAR	Mina Array Bea	47.21	321	P	P	01 33 26.1	+0.1
	comp=Z,20nm,1.0s,mb5.0,baz=134,slow=6.2,SNR=68						
NVAR				LR	LR	01 53 10.5	
	comp=Z,2µm,19.0s,MS5.1,baz=105,slow=36						
YFT	Old Faithful	47.33	333	eP	P	01 33 28.6	+1.8
ULM	Lac du Bonnet	47.46	349	P	P	01 33 26.5	-1.2
	comp=Z,18nm,1.0s,mb5.0,baz=165,slow=7.0,SNR=21						
ULM				LR	LR	01 57 11.3	
	comp=Z,548nm,18.6s,MS4.5,baz=323,slow=41						
ULM	Lac du Bonnet	47.46	349	eP	P	01 33 25.6	-2.1
	comp=Z,70nm,1.3s,mb5.4						
ULM				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
YMR	Madison River	47.56	333	eP	P	01 33 30.2	+1.7
	comp=Z,55nm,1.2s,mb5.5						
GCMT	Greycliff	47.86	335	eP	P	01 33 31.1	+0.2
QLMT	Earthquake Lak	47.89	333	eP	P	01 33 32.5	+1.2
MCMT	McKenzie Canyo	48.56	331	eP	P	01 33 34.6	-1.8
PAHR	Pah Rah Range	48.66	322	P	P	01 33 38.3	+1.1
DLMT	Dillon	48.84	332	eP	P	01 33 38.8	+0.3
BEKR	Beckwourth	49.35	322	eP	P	01 33 43.1	+0.5
	comp=Z,50nm,1.7s,mb5.3						
HRY	Holter Researc	49.51	334	eP	P	01 33 44.0	+0.4
OHCM	Honcut	49.75	320	eP	P	01 33 45.4	-0.2
WVOR	Wild Horse Val	49.92	325	eP	P	01 33 46.1	-0.8
	comp=Z,82nm,1.3s,mb5.6						
WVOR	Wild Horse Val	49.92	325	eP	P	01 33 46.1	-0.8
WVOR				pmax	pmax		
	comp=Z,82nm,1.3s,mb5.6						
CHMT	Chamberlain Mo	50.30	333	eP	P	01 33 48.9	-0.8
MOD	Modoc	50.55	324	eP	P	01 33 50.9	-0.8
	comp=Z,19nm,1.5s,mb4.8						
LASM	Arnica Sink	51.12	323	P	P	01 33 56.4	+0.3
KIPM	Iron Peak	51.29	320	eP	P	01 33 58.1	+0.8
LHEM	Herd Peak	51.53	322	P	P	01 33 59.9	+0.8
HOG	Hogback Mounta	51.59	323	P	P	01 34 00.5	+0.9
BUOR	Burton Butte	51.93	323	P	P	01 34 02.0	-0.1
LNOR	Lincton Mounta	51.99	329	P	P	01 34 02.1	-0.5
KHMM	Horse Mountain	52.04	321	eP	P	01 34 03.4	+0.4
SCHQ	Schefferville	52.32	12	P	P	01 34 02.7	-2.2
	comp=Z,19nm,1.0s,mb5.0,baz=202,slow=6.1,SNR=9.9						
SCHQ				LR	LR	01 55 25.2	
	comp=Z,1µm,20.4s,MS4.9,baz=204,slow=35						
SCHQ	Schefferville	52.32	12	P	P	01 34 02.7	-2.2
SCHQ				LR	LR	01 55 25.1	
KTRM	Thompson Ridge	52.40	322	P	P	01 34 06.2	+0.5
KSXB	Camp Six Broad	52.66	322	P	P	01 34 08.4	+0.8
CROR	Criterion Ridg	52.86	326	P	P	01 34 09.6	+0.5
HBO	Huckleberry Mo	52.91	325	P	P	01 34 09.9	+0.4
FFC	Flin Flon	52.98	346	eP	P	01 34 09.0	-0.9
	comp=Z,77nm,1.4s,mb5.4						
FFC	Flin Flon	52.98	346	eP	P	01 34 09.0	-0.9
FFC				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.4						
HAWA	Hanford	52.99	329	eP	P	01 34 09.7	-0.3
KBO	Bosley Butte	53.09	322	eP	P	01 34 12.3	+1.4
BROR	Big Rock Looko	53.24	325	P	P	01 34 10.9	-1.0
OD2	Odessa Site #2	53.24	330	P	P	01 34 11.7	-0.2
VFP	Flag Point	53.33	327	P	P	01 34 13.1	+0.6
MXC	Moxie City	53.51	328	P	P	01 34 15.1	+1.2
RNO	Roman Nose	53.77	324	P	P	01 34 16.9	+1.0
SAW	Saint Andrews	53.80	330	P	P	01 34 15.8	-0.1
COR	Corvallis	53.92	325	P	P	01 34 16.2	-0.6
	comp=Z,138nm,1.6s,mb5.6						
COR	Corvallis	53.92	325	P	P	01 34 16.2	-0.6
COR				pmax	pmax		
	comp=Z,137nm,1.6s,mb5.6						
MPOR	Mary's Peak	54.01	325	P	P	01 34 18.6	+1.0
TBM	Table Mountain	54.05	329	P	P	01 34 19.1	+1.3
WTV	Waterville	54.07	330	P	P	01 34 18.8	+0.9
WPW	White Pass	54.24	328	P	P	01 34 20.3	+1.0
FMW	Mount Fremont	54.46	328	P	P	01 34 21.7	+0.9
NLW	Nelson Butte	54.52	330	P	P	01 34 22.1	+0.9
RMW	Rattlesnake Mo	54.87	328	P	P	01 34 23.9	+0.1
EDM	Edmonton	55.20	338	eP	P	01 34 24.4	-1.8
PGC	Sidney	56.48	329	eP	P	01 34 35.2	-0.2
	comp=Z,99nm,1.5s,mb5.6						
YKA	Yellowknife Ar	63.01	344	P	P	01 35 19.0	-1.1
	comp=Z,19nm,1.0s,mb5.2,baz=139,slow=6.8,SNR=70						
YKA				LR	LR	02 05 37.3	
	comp=Z,434nm,19.2s,MS4.6,baz=115,slow=39						
YKW3	Yellowknife Ar	63.06	344	eP	P	01 35 19.5	-1.1
DLBC	Dease Lake	65.56	335	eP	P	01 35 37.1	+0.3
PPT	Papeete	69.35	250	LR	LR	01 58 37.3	
	comp=Z,1µm,18.4s,MS5.2,baz=89,slow=29						
INK	Inuvik	72.67	342	eP	P	01 36 20.9	+0.4
	comp=Z,45nm,1.3s,mb5.2						
INK	Inuvik	72.67	342	eP	P	01 36 20.9	+0.4
INK				pmax	pmax		

comp=Z,45nm,1.3s
SUMG Summit 73.69 13 *e*P P **01 36 25.0 -1.4**
comp=Z,64nm,1.1s,mb5.5
SML Sawmill 75.19 333 *e*P P **01 36 35.1 -0.1**
EVO Evora 75.54 51 *e*P P **01 36 36.8 -0.9**
comp=Z,51nm,1.2s,mb5.0
EVO *e*R
comp=Z,875nm,22.5s
ILAR Eielson Array 75.64 337 P P **01 36 37.6 -0.1**
comp=Z,5.5nm,1.0s,mb4.4,baz=120,slow=3.4,SNR=31
ILAR PP PP 01 39 28.9 -0.3
comp=Z,1.5nm,1.1s,baz=83,slow=7.3,SNR=4.6
ILAR LR LR 02 12 30.1
comp=Z,845nm,18.1s,MS5.1,baz=122,slow=38
EGRO El Granado 75.85 52 P P **01 36 40.4 +0.9**
comp=Z,23nm,1.1s,mb5.0
SPU Mount Spurr 76.69 332 *e*P P **01 36 43.7 -0.1**
ESPR Espera 77.08 53 P P **01 36 47.7 +1.3**
comp=Z,17nm,1.0s,mb4.9
TIC Toumodi 77.29 84 *e*P P **01 36 47.2 -0.8**
comp=Z,67nm,1.7s,mb5.3
LIC Lamto 77.31 85 *e*P P **01 36 47.4 -0.7**
comp=Z,90nm,1.0s,mb5.7
LIC Lamto 77.31 85 *e*P P **01 36 47.5 -0.6**
comp=Z,33nm,1.0s,mb5.2
EJIF Jimena Fronter 77.36 54 P P **01 36 48.2 +0.3**
DBIC Dimbokro 77.45 84 P P **01 36 48.6 -0.3**
comp=Z,14nm,0.9s,mb4.9,baz=286,slow=6.6,SNR=10
DBIC LR LR 02 08 54.1
comp=Z,317nm,20.9s,MS4.6,baz=250,slow=34
KIC Kosan Boka 77.58 84 *e*P P **01 36 49.1 -0.5**
comp=Z,122nm,1.0s,mb5.8
EMIJ Mijas 77.92 54 P P **01 36 51.6 +0.5**
EADA Adamuz 78.20 52 P P **01 36 53.0 +0.5**
comp=Z,10nm,1.0s,mb4.7
SVW2 Sparrevohn 78.32 332 *e*P P **01 36 52.1 -0.6**
ELOJ Sierra Loja 78.46 53 P P **01 36 55.8 +1.8**
comp=Z,21nm,1.0s,mb5.0
ELOJ Sierra Loja 78.46 53 P P **01 36 55.8 +1.8**
ELOJ pmax pmax
comp=Z,21nm,1.0s,mb5.0
ERON Agron 78.73 53 P P **01 36 56.7 +1.2**
ESDC Sonseca Array 78.78 50 P P **01 36 55.5 -0.2**
comp=Z,12nm,0.9s,mb4.8,baz=272,slow=5.6,SNR=32
ESDC Sonseca Array 78.78 50 P P **01 36 55.6 -0.1**
comp=Z,29nm,1.1s,mb5.1
EBAN Banos Encina 78.82 52 P P **01 36 55.6 -0.3**
ECOG Cogollos-Vega 78.94 53 P P **01 36 57.6 +1.0**
comp=Z,11nm,1.0s,mb4.8
ECOG Cogollos-Vega 78.94 53 P P **01 36 57.6 +1.0**
ECOG pmax pmax
comp=Z,11nm,1.0s,mb4.7
TTA Tatalina 78.94 333 *e*P P **01 36 56.6 +0.5**
EQES Quesada 79.36 52 P P **01 36 59.6 +0.7**
comp=Z,14nm,0.7s,mb5.0
EHUE Huescar 79.74 52 P P **01 37 02.3 +1.4**
comp=Z,23nm,1.0s,mb5.1
EHUE Huescar 79.74 52 P P **01 37 02.3 +1.4**
EHUE pmax pmax
comp=Z,23nm,1.0s,mb5.1
EVIA Vianos 79.85 52 P P **01 37 01.8 +0.3**
ROSF Rostrenen 80.00 42 *e*P P **01 37 01.7 -0.4**
comp=Z,83nm,1.5s,mb5.1
ROSF Rostrenen 80.00 42 *e*P P **01 37 01.7 -0.4**
ROSF pmax pmax
comp=Z,42nm,1.5s,mb5.2
QUIF Quistinic 80.03 42 *e*P P **01 37 01.8 -0.5**
comp=Z,100nm,1.5s,mb5.2
QUIF Quistinic 80.03 42 *e*P P **01 37 01.8 -0.5**
QUIF pmax pmax
comp=Z,50nm,1.5s,mb5.2
SGMF Saint Gilles 80.47 42 *e*P P **01 37 04.0 -0.6**
comp=Z,54nm,1.2s,mb5.0
SGMF Saint Gilles 80.47 42 *e*P P **01 37 04.0 -0.6**
SGMF pmax pmax
comp=Z,27nm,1.2s,mb5.0
ETOB Tobarra 80.60 52 P P **01 37 06.3 +0.8**
comp=Z,25nm,0.9s,mb5.1
SJPF Ste Jean 81.06 47 *e*P P **01 37 08.2 +0.4**
comp=Z,68nm,1.1s,mb5.2
SJPF Ste Jean 81.06 47 *e*P P **01 37 08.2 +0.4**
SJPF pmax pmax
comp=Z,34nm,1.1s,mb5.2
ETSF Etsaut 81.53 47 *e*P P **01 37 10.6 +0.3**
comp=Z,168nm,1.9s,mb5.3
ETSF Etsaut 81.53 47 *e*P P **01 37 10.6 +0.3**
ETSF pmax pmax
comp=Z,84nm,1.9s,mb5.3
GRR Gorron 81.61 42 *e*P P **01 37 10.2 -0.4**
comp=Z,109nm,1.3s,mb5.3
GRR Gorron 81.61 42 *e*P P **01 37 10.2 -0.4**
GRR pmax pmax
comp=Z,54nm,1.3s,mb5.3
FLN La Foliniere 81.88 41 *e*P P **01 37 11.8 -0.2**
comp=Z,93nm,1.3s,mb5.2
FLN *e*R
comp=Z,1µm,23.0s
FLN La Foliniere 81.88 41 *e*P P **01 37 11.8 -0.2**
FLN pmax pmax
comp=Z,46nm,1.3s,mb5.2
FLN MLR MLR
comp=Z,1µm,23.0s,MS5.2
MFF Saint Martin d 81.99 44 *e*P P **01 37 12.4 -0.2**
comp=Z,84nm,1.3s,mb5.2
MFF Saint Martin d 81.99 44 *e*P P **01 37 12.4 -0.2**
MFF pmax pmax
comp=Z,42nm,1.3s,mb5.2
LDF La Druitiere 82.11 42 *e*P P **01 37 13.0 -0.2**
comp=Z,70nm,1.3s,mb5.1
LDF La Druitiere 82.11 42 *e*P P **01 37 13.0 -0.2**
LDF pmax pmax
comp=Z,35nm,1.3s,mb5.1
EPF Esparros 82.20 47 *e*P P **01 37 14.0 +0.3**
comp=Z,56nm,1.2s,mb5.1
EPF Esparros 82.20 47 *e*P P **01 37 14.0 +0.3**
EPF pmax pmax
comp=Z,28nm,1.2s,mb5.1
LFF La Frestale 82.55 45 *e*P P **01 37 15.4 -0.1**
comp=Z,41nm,1.1s,mb5.1
LFF La Frestale 82.55 45 *e*P P **01 37 15.4 -0.1**
LFF pmax pmax
comp=Z,21nm,1.1s,mb5.1
EANR 'Ain N'Sour 82.64 54 P P **01 37 17.0 +0.8**
ETRT Tiaret 82.80 55 P P **01 37 19.0 +1.9**
RJF Les Rejaudoux 83.11 45 *e*P P **01 37 18.1 -0.3**
comp=Z,54nm,1.3s,mb5.1
RJF *e*R
comp=Z,621nm,22.8s
RJF Les Rejaudoux 83.11 45 *e*P P **01 37 18.1 -0.3**
RJF pmax pmax
comp=Z,27nm,1.3s,mb5.1
RJF MLR MLR
comp=Z,620nm,22.8s,MS4.9
CAF Calviac 83.49 45 *e*P P **01 37 20.2 -0.2**
comp=Z,70nm,1.4s,mb5.2
CAF Calviac 83.49 45 *e*P P **01 37 20.2 -0.2**
CAF pmax pmax
comp=Z,35nm,1.4s,mb5.2
MTLF Montolieu 83.58 47 *e*P P **01 37 20.7 -0.2**
comp=Z,68nm,1.4s,mb5.3
MTLF Montolieu 83.58 47 *e*P P **01 37 20.7 -0.2**
MTLF pmax pmax
comp=Z,34nm,1.4s,mb5.3
TCF Toulx Ste Croi 83.61 44 *e*P P **01 37 20.6 -0.4**
comp=Z,26nm,1.0s,mb5.0
TCF Toulx Ste Croi 83.61 44 *e*P P **01 37 20.6 -0.4**
TCF pmax pmax
comp=Z,13nm,1.0s,mb5.0
HYF Humbligny 83.92 43 *e*P P **01 37 22.4 -0.2**
BGF Bois d'Agland 84.06 44 *e*P P **01 37 22.8 -0.5**
comp=Z,72nm,1.2s,mb5.4
BGF Bois d'Agland 84.06 44 *e*P P **01 37 22.8 -0.5**
BGF pmax pmax
comp=Z,36nm,1.2s,mb5.4
AVF Avril sur Loir 84.41 44 *e*P P **01 37 24.3 -0.7**
comp=Z,40nm,1.3s,mb5.1
AVF Avril sur Loir 84.41 44 *e*P P **01 37 24.3 -0.7**
AVF pmax pmax
comp=Z,20nm,1.3s,mb5.1
SSF Saint Saulge 84.51 43⇑*i*P P **01 37 24.8 -0.7**
comp=Z,47nm,1.3s,mb5.2
SSF Saint Saulge 84.51 43⇑*i*P P **01 37 24.8 -0.7**
SSF pmax pmax
comp=Z,24nm,1.3s,mb5.2
SMF Signal de Mont 84.74 44 *e*P P **01 37 26.0 -0.7**
comp=Z,70nm,1.4s,mb5.3
SMF Signal de Mont 84.74 44 *e*P P **01 37 26.0 -0.7**
SMF pmax pmax
comp=Z,35nm,1.4s,mb5.3
LOR Lormes 84.75 43 *e*P P **01 37 26.1 -0.6**
comp=Z,80nm,1.8s,mb5.2
LOR *e*R
comp=Z,855nm,21.5s
LOR Lormes 84.75 43 *e*P P **01 37 26.1 -0.6**
LOR pmax pmax
comp=Z,40nm,1.8s,mb5.2
LOR MLR MLR
comp=Z,850nm,21.5s,MS5.1
LASF Ste Croix 84.77 46 *e*P P **01 37 27.3 +0.4**
comp=Z,60nm,1.3s,mb5.3
BAIF Baives 84.98 40 *e*P P **01 37 27.7 -0.1**
comp=Z,19nm,1.2s,mb4.8
BAIF Baives 84.98 40 *e*P P **01 37 27.7 -0.1**
BAIF pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
VIVF Saint-Julien-l 85.34 45 *e*P P **01 37 30.3 +0.6**
comp=Z,135nm,1.4s,mb5.6
VIVF Saint-Julien-l 85.34 45 *e*P P **01 37 30.3 +0.6**
VIVF pmax pmax
comp=Z,67nm,1.4s,mb5.6
GIVF Givet 85.37 40 *e*P P **01 37 29.6 -0.1**
comp=Z,130nm,1.6s,mb5.5
GIVF Givet 85.37 40 *e*P P **01 37 29.6 -0.1**
GIVF pmax pmax
comp=Z,65nm,1.6s,mb5.5
MEZF Maizieres J'vi 85.54 42 *e*P P **01 37 30.4 -0.2**
comp=Z,64nm,1.2s,mb5.4
SMRF Simiane la Rot 86.01 46 *e*P P **01 37 33.7 +0.6**
comp=Z,95nm,1.4s,mb5.5
HGN Heimansgroeve 86.07 40 *e*P P **01 37 32.7 -0.6**
comp=Z,22nm,0.9s,mb5.4
THEF They Montfort 86.17 42 *e*P P **01 37 33.8 0.0**
ORIF Oris-en-Rattie 86.20 45 *e*P P **01 37 34.6 +0.6**
comp=Z,67nm,1.1s,mb5.5
ORIF *e*R
comp=Z,476nm,19.5s
WLF Walferdange 86.24 41 *e*P P **01 37 33.6 -0.4**
comp=Z,115nm,1.6s,mb5.9
WLF Walferdange 86.24 41 *e*P P **01 37 33.6 -0.5**
WLF pmax pmax
comp=Z,115nm,1.6s,mb5.9
CABF La Chapelle 86.29 44 *e*P P **01 37 34.3 -0.1**
comp=Z,81nm,1.0s,mb5.6
CABF La Chapelle 86.29 44 *e*P P **01 37 34.3 -0.1**
CABF pmax pmax
comp=Z,41nm,1.0s,mb5.6
HAU Haudompre 86.42 42 *e*P P **01 37 34.7 -0.3**
comp=Z,40nm,1.1s,mb5.2
HAU *e*R
comp=Z,617nm,22.5s
HAU Haudompre 86.42 42 *e*P P **01 37 34.7 -0.3**
HAU pmax pmax
comp=Z,20nm,1.1s,mb5.3
HAU MLR MLR
comp=Z,620nm,22.5s,MS5.0
LMR La Mourre 86.71 47 *e*P P **01 37 36.4 -0.1**
comp=Z,83nm,1.3s,mb5.5
LMR La Mourre 86.71 47 *e*P P **01 37 36.4 -0.1**
LMR pmax pmax
comp=Z,42nm,1.3s,mb5.5
HINF Hinteralfeld 86.77 42 *e*P P **01 37 36.1 -0.6**
comp=Z,34nm,1.1s,mb5.2
HINF Hinteralfeld 86.77 42 *e*P P **01 37 36.1 -0.6**
HINF pmax pmax
comp=Z,17nm,1.1s,mb5.2
LOMF Lomont 86.77 43 *e*P P **01 37 36.9 +0.2**
LPL La Plagne 86.78 45 *e*P P **01 37 37.5 +0.7**
comp=Z,59nm,1.2s,mb5.4
LPL La Plagne 86.78 45 *e*P P **01 37 37.5 +0.7**
LPL pmax pmax
comp=Z,30nm,1.2s,mb5.4
LPG La Plagne 86.79 45 *e*P P **01 37 37.7 +0.8**
comp=Z,57nm,1.3s,mb5.3
LPG La Plagne 86.79 45 *e*P P **01 37 37.7 +0.8**
LPG pmax pmax
comp=Z,29nm,1.3s,mb5.3
FRF La Foret Royal 86.80 47 *e*P P **01 37 36.8 -0.2**
comp=Z,82nm,1.4s,mb5.5
FRF La Foret Royal 86.80 47 *e*P P **01 37 36.8 -0.2**
FRF pmax pmax
comp=Z,41nm,1.4s,mb5.5
MBDF Montbardon 86.84 46 *e*P P **01 37 37.6 +0.5**
comp=Z,84nm,1.5s,mb5.4
MBDF Montbardon 86.84 46 *e*P P **01 37 37.6 +0.5**
MBDF pmax pmax
comp=Z,42nm,1.5s,mb5.5
MOF Molkenrain 86.96 42 *e*P P **01 37 37.0 -0.6**
ECH Echery 86.96 42 *e*P P **01 37 37.3 -0.3**
CDF Champ du Feu 87.03 42⇑*i*P P **01 37 37.7 -0.2**
comp=Z,46nm,1.3s,mb5.2
CDF Champ du Feu 87.03 42⇑*i*P P **01 37 37.7 -0.2**
CDF pmax pmax
comp=Z,23nm,1.3s,mb5.2
WLS Welschbruch 87.08 42 *e*P P **01 37 38.0 -0.2**
ABH Alteburg 87.14 40 *e*P P **01 37 38.5 +0.1**
LANF Langenberg 87.35 41 *e*P P **01 37 39.7 +0.2**
FELD Feldberg 87.54 42 *e*P P **01 37 39.9 -0.5**
TNS Taunus Mts 87.70 40 *e*P P **01 37 41.6 +0.5**
comp=Z,44nm,1.8s,mb5.4
TNS Taunus Mts 87.70 40 *e*P P **01 37 41.6 +0.5**
TNS pmax pmax
comp=Z,44nm,1.8s,mb5.4
BFO Black Forest 87.73 42 *e*P P **01 37 41.1 -0.2**
comp=Z,16nm,1.2s,mb5.1
BFO Black Forest 87.73 42 *e*P P **01 37 41.1 -0.2**
BFO pmax pmax
comp=Z,16nm,1.2s,mb5.1
STU Stuttgart 88.28 41 *e*P P **01 37 43.5 -0.4**
comp=Z,21nm,1.1s,mb5.3
STU Stuttgart 88.28 41 *e*P P **01 37 43.5 -0.4**
STU pmax pmax
comp=Z,21nm,1.1s,mb5.3
VNA3 Neumayer Olymp 88.31 162 *e* P **01 37 44.1 +0.5**
VNA3 Neumayer Olymp 88.31 162 *e* P **01 37 49.4 +5.8**
VNA3 Neumayer Olymp 88.31 162 *e* P **01 37 51.9 +8.3**
VNA3 Neumayer Olymp 88.31 162 *e* P **01 37 55.2 +12**
VNA3 Neumayer Olymp 88.31 162⇑*i*P P **01 37 43.2 -0.4**
VNA3 *e* pP 01 37 44.1 -1.3
VNA3 *e* 01 37 49.4
VNA3 *e* 01 37 51.9
VNA3 *e* 01 37 55.2
VNA3 *e* 01 41 16.9
NOA NORSAR Array B 88.45 29 P P **01 37 42.9 -1.6**
comp=Z,1.1nm,0.8s,mb4.1,baz=210,slow=2.6,SNR=3.3
NOA LR LR 02 14 17.7
comp=Z,391nm,19.6s,MS4.8,baz=270,slow=34
VNA1 Neumayer--Stat 88.58 161 *e* P **01 37 45.6 +0.7**
VNA1 Neumayer--Stat 88.58 161 *e* P **01 37 52.2 +7.3**
VNA1 Neumayer--Stat 88.58 161 *e* P **01 37 55.3 +10**
VNA1 Neumayer--Stat 88.58 161 *e* P **01 37 59.2 +14**
VNA1 Neumayer--Stat 88.58 161⇑*i*P P **01 37 44.8 -0.1**
VNA1 *e* pP 01 37 45.6 -1.1
VNA1 *e* 01 37 52.2
VNA1 *e* 01 37 55.3
VNA1 *e* 01 37 59.2
BSEG Bad Segeberg 88.59 36 *e*P P **01 37 45.9 +0.6**
CLZ Clausthal 88.79 38 *e*P P **01 37 46.5 +0.2**
comp=Z,22nm,1.1s,mb5.4
CLZ Clausthal 88.79 38 *e*P P **01 37 46.5 +0.2**
CLZ pmax pmax
comp=Z,22nm,1.1s,mb5.4
VNA2 Neumayer--Watz 88.94 161 *e* P **01 37 46.9 +0.3**
VNA2 Neumayer--Watz 88.94 161 *e* P **01 37 52.0 +5.4**
VNA2 Neumayer--Watz 88.94 161 *e* P **01 37 54.7 +8.1**
VNA2 Neumayer--Watz 88.94 161 *e* P **01 37 58.1 +11**
VNA2 Neumayer--Watz 88.94 161⇑*i*P P **01 37 46.1 -0.5**
VNA2 *e* pP 01 37 46.9 -1.5
VNA2 *e* 01 37 52.0
VNA2 *e* 01 37 54.7
VNA2 *e* 01 37 58.1
VNA2 *e* 01 41 30.6
GRA1 Grafenberg Arr 89.53 40 *e*P P **01 37 49.5 -0.4**
comp=Z,31nm,1.3s,mb5.5
GRA1 LR LR
comp=Z,600nm,21.5s,MS5.0
GRF Grafenberg Arr 89.53 40 *e*P P **01 37 49.5 -0.4**
comp=Z,31nm,1.3s,mb5.5
GRF LR LR
comp=Z,600nm,21.5s,MS5.0
GRF Grafenberg Arr 89.53 40 *e*P P **01 37 49.5 -0.4**
GRF pmax pmax
comp=Z,31nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,600nm,21.5s,MS5.0
GRF Grafenberg Arr 89.53 40 *e*P P **01 37 49.5 -0.4**
GRF pmax pmax
comp=Z,31nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,600nm,21.5s,MS5.0
NKC Novy Kostel 90.26 40 *e*P P **01 37 54.1 +0.8**
NKC AMS AMS 02 11 10.0
comp=Z,1µm,26.1s
CLL Collm 90.48 39 P P **01 37 53.5 -0.8**
comp=Z,logA/T=1.2,mb5.3
CLL *i* *SP sP 01 38 01.1 +4.5
CLL *e* 01 48 28.0
CLL *e*S S 01 48 53.0 +5.5
CLL *e*PS PS 01 49 55.0 -3.4
CLL *e*SS SS 01 55 00.0 +8.3
CLL Collm 90.48 39 *i* P P **01 37 53.5 -0.8**
comp=Z,25nm,1.7s,mb5.3
CLL *i* sP sP 01 38 01.1 +4.5
CLL *e*SKS SKS 01 48 28.0 -0.4
CLL *e*S S 01 48 53.0 +5.5
CLL LR LR
comp=Z,600nm,20.1s,MS5.0
CLL Collm 90.48 39 *i* P P **01 37 53.5 -0.8**
CLL *i* *SP sP 01 38 01.1 +4.5
CLL *e* 01 48 28.0
CLL *e*S S 01 48 53.0 +5.5
CLL pmax pmax
comp=Z,25nm,1.7s,mb5.3
CLL MLR MLR
comp=Z,600nm,20.1s,MS5.0
WET Wettzell 90.66 41 *e*P P **01 37 55.0 -0.1**
comp=Z,16nm,1.1s,mb5.3
WET Wettzell 90.66 41 *e*P P **01 37 55.0 -0.1**
WET pmax pmax
comp=Z,16nm,1.1s,mb5.3
KHC Kasperske Hory 91.12 41 *e*P P **01 37 57.8 +0.6**
KHC pP pP 01 38 04.5 +5.5
KHC AMS AMS 02 11 00.0
comp=Z,1µm,26.4s
KHC Kasperske Hory 91.12 41 *e*P P **01 37 57.8 +0.6**
KHC *e* 01 38 04.5
KHC MLR MLR
comp=Z,1µm,26.4s,MS5.1
BRG Berggiesshubel 91.12 39 *i* P P **01 37 57.3 +0.1**
comp=Z,9.4nm,1.1s,mb5.0
BRG *i* 01 48 34.0
BRG *e* 01 55 06.0
BRG Berggiesshubel 91.12 39 *i* P P **01 37 57.3 +0.1**
BRG *e* 01 55 06.0
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
GEC2 GERESS Array S 91.23 41 *e*P P **01 37 58.5 +0.7**
comp=Z,5.0nm,1.0s,mb4.8
GEC2 GERESS Array S 91.23 41 *e*P P **01 37 58.5 +0.7**
GEC2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
GERES GERESS Array B 91.23 41 P P **01 37 58.5 +0.7**
comp=Z,2.6nm,0.9s,mb4.5,baz=297,slow=3.0,SNR=13
GERES LR LR 02 15 39.1
comp=Z,498nm,19.1s,MS5.0,baz=312,slow=33
PVCC Panska Ves 91.57 39 *e*P P **01 38 00.7 +1.4**
PVCC AMS AMS 02 11 10.0
comp=Z,1µm,27.5s
PRU Pruhonice 91.62 40 *e*P P **01 38 00.8 +1.3**
PRU AMS AMS 02 11 20.0
comp=Z,1µm,25.0s
TREC Trest 92.33 40 *e*P P **01 38 03.6 +0.8**
TREC AMS AMS 02 12 10.0
comp=Z,2µm,27.1s
UPC Upice 92.48 39 *e*P P **01 38 04.3 +0.8**
ARCES ARCESS Array B 92.59 20 LR LR 02 13 46.6
comp=Z,581nm,21.4s,MS5.0,baz=279,slow=32
DPC Dobruska-Polom 92.70 39 *e*P P **01 38 05.3 +0.8**
DPC AMS AMS 02 11 50.0
comp=Z,1µm,25.2s
VRAC Vranov 93.05 40 *e*P P **01 38 06.4 +0.3**
OKC Ostrava-Krasne 93.95 40 *e*P P **01 38 11.8 +1.6**
OKC AMS AMS 02 12 50.0
comp=Z,800nm,17.8s
VYHS Vyhne 94.65 41 *e* P **01 38 10.7 -2.8**
FINES FINESS Array B 95.38 27 LR LR 02 16 45.2
comp=Z,557nm,20.1s,MS5.0,baz=290,slow=33
KECS Kecovo 95.73 41 *e*P P **01 38 19.3 +0.8**
VSU Vasula 96.65 30 *i* P P **01 38 21.6 -0.8**
VNDA Vanda 99.23 191 LR LR 02 15 06.5
comp=Z,324nm,18.3s,MS4.9,baz=118,slow=30
MLR Muntele Rosu 100.09 43 P P 01 38 39.0 +0.7
comp=Z,7.7nm,1.2s,baz=320,slow=2.9,SNR=6.7
OBN Obninsk 102.93 31 *e*P Pdif 01 38 51.8 +1.0
OBN *e* 01 43 06.7
OBN *e* 01 49 24.3
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.7
ZAL Zalesovo 121.36 9 PKP PKPdf 01 43 45.0 -2.1
comp=Z,1.5nm,0.7s,baz=83,slow=5.6,SNR=11
KURK Kurchatov 123.21 14 *e*PKPdf PKPdf 01 43 47.9 -2.8
KURK Kurchatov 123.21 14 *i* PKIKP PKPdf 01 43 47.7 -3.0
MDJ Mudanjiang 123.68 333 PKP PKPdf 01 43 49.4 -2.4
MDJ PKS PKS 01 47 26.1 +1.2
MDJ SKS SKS 01 51 01.4 +6.7
MDJ SS SS 02 02 20.3 -0.9
MDJ PP PP
comp=Z,37nm,5.0s
MDJ LR LR
comp=N,115nm,28.8s,MS4.8
MDJ LR LR
comp=E,299nm,30.1s,MS4.8
MDJ LR LR
comp=Z,366nm,21.3s
CN2 Changchun 126.14 335 *e*PKP PKPdf 01 43 51.0 -5.6
MKAR Makanchi Array 127.74 13 PKP PKPdf 01 43 57.4 -2.3
comp=Z,2.2nm,0.9s,baz=45,slow=1.7,SNR=12
MKAR PP PP 01 45 53.1 -10
comp=Z,0.4nm,0.7s,baz=9.5,slow=8.8,SNR=2.7
SONM Songino Array 127.81 352 PKP PKPdf 01 43 57.9 -1.8
comp=Z,2.2nm,0.8s,baz=351,slow=1.1,SNR=13
SONM PP PP 01 45 50.6 -13
comp=Z,0.3nm,0.4s,baz=349,slow=7.3,SNR=3.1
AAK Ala-Archa 129.21 22 *e*PKPdf PKPdf 01 44 00.9 -1.6
AAK Ala-Archa 129.21 22 *i* PKIKP PKPdf 01 44 00.9 -1.7
AAK MLR MLR
comp=Z,300nm,23.0s,MS4.9
CTA Charters Tower 129.76 247 *e*PKP PKPdf 01 44 01.7 -2.5
comp=Z,5.0nm,1.6s
WMQ Urumqi 131.65 9 PKP PKPdf 01 44 03.5 -3.7
WMQ PP PP 01 46 28.0 -0.6
WMQ PKS PKS 01 47 38.0 -1.7
WMQ SKS SKS 01 51 10.0 -7.0
WMQ SS SS 02 04 02.0 +1.4
WMQ PP PP
comp=Z,203nm,5.0s
WMQ LR LR
comp=N,761nm,28.0s,MS5.3
WMQ LR LR
comp=E,617nm,30.0s,MS5.3
WMQ LR LR
comp=Z,858nm,23.2s
GTA Gaotai 136.78 357 PKP PKPdf 01 44 18.8 +2.1
GTA PP PP 01 47 00.3 -0.2
GTA PKS PKS 01 47 53.0 +3.8
GTA SKS SKS 01 51 26.4 -0.5
GTA SKKS 01 53 50.8
GTA SS SS 02 05 00.1 -2.5
GTA PP PP
comp=Z,101nm,5.4s
GTA LR LR
comp=N,253nm,19.9s,MS5.1
GTA LR LR
comp=E,263nm,21.8s,MS5.1
GTA LR LR
comp=Z,429nm,24.1s,MS5.1
SSE Sheshan 138.37 329 PKP PKPdf 01 44 19.8 -0.2
SSE SS SS 02 05 23.9 +2.5
SSE LR LR
comp=N,131nm,20.0s,MS4.8
SSE LR LR
comp=E,140nm,20.0s,MS4.8
SSE LR LR
comp=Z,169nm,20.0s,MS4.8
NJ2 Nanjing 138.75 332 *e*PKP PKPdf 01 44 18.1 -2.5
NJ2 PP PP 01 47 14.0 +0.5

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
NJ2				PKS	PKS	01 47 54.0	+1.1
NJ2				SKS	SKS	01 51 24.0	-6.4
NJ2				PP	PP		
	comp=Z,1µm,9.4s						
NJ2				LR	LR		
	comp=N,520nm,24.6s,MS5.3						
NJ2				LR	LR		
	comp=E,410nm,25.6s,MS5.3						
NJ2				LR	LR		
	comp=Z,130nm,24.3s,MS4.6						
WB2	Warramunga Arr	140.59	243	ePKP	PKPdf	01 44 20.9	-3.5
WRA	Warramunga Arr	140.61	243	PKhKP		01 44 16.6	
	comp=Z,1.7nm,0.9s,baz=109,slow=2.7,SNR=6.6						
WRA				PKP	PKPdf	01 44 22.4	-2.0
	comp=Z,2.0nm,0.9s,baz=108,slow=1.9,SNR=10						
ENH	Enshi	144.03	342	eP	PKPbc	01 44 26.2	-0.5
KAKA	Kakadu	144.24	254	ePKP	PKPdf	01 44 46.4	+16
	comp=Z,28nm,1.0s						
CD2	Chengdu	144.79	350	PKP	PKPdf	01 44 28.6	-2.7
KOLN	Koldanda	145.78	22	eP	PKPbc	01 44 31.6	+0.2
	comp=Z,126nm,1.2s						
GKN	Gorkha	145.95	20	eP	PKPbc	01 44 32.6	+0.8
	comp=Z,255nm,1.1s						
LSA	Lhasa	146.01	10	PKP	PKPdf	01 44 33.0	-0.4
KKN	Kakani	146.36	20	eP	PKPbc	01 44 34.6	+1.8
	comp=Z,278nm,1.6s						
DMN	Daman	146.47	20	eP	PKPbc	01 44 33.8	+0.8
	comp=Z,135nm,1.3s						
PKI	Pulchoki	146.60	19	eP	PKPbc	01 44 33.6	+0.3
	comp=Z,32nm,0.9s						
GYA	Guiyang	148.44	344	i PKP	PKPdf	01 44 39.8	+2.3
GYA				SKS	SKS	01 51 46.1	+0.9
GYA				PP	PP		
	comp=Z,250nm,8.3s						
GYA				LR	LR		
	comp=N,410nm,20.8s,MS5.4						
GYA				LR	LR		
	comp=E,460nm,20.6s,MS5.4						
GYA				LR	LR		
	comp=Z,450nm,21.2s,MS5.2						
FITZ	Fitzroy Crossi	148.94	241	ePKP	PKPdf	01 44 36.0	-2.5
	comp=Z,16nm,1.2s						
KMI	Kunming	150.62	350	PKP	PKPdf	01 44 38.5	-2.5
KMI				APKP		01 44 41.8	
KMI				XPKP		01 44 43.0	

*CSEM **18** 01:35:58.5±0.4, 38.83N×28.96W, h5km±4km, ML1.7, Error ellipse: s-maj=8.5km s-min=3.2km az=64.0, After PDA*

*PDA **18** 01:35:58.5±0.4, 38.83N×28.96W, h5km±4km, MD2.9, ML1.7, Error ellipse: s-maj=8.5km s-min=3.2km az=64.0*

SVSA 18 01:35:58.5±0.4, 38.83N×28.96W, h5km±4km, MD2.9, ML1.7, Error ellipse: s-maj=8.5km s-min=3.2km az=64.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PTCA	Ponta do Capel	0.28	152	eS	Sg	01 36 07.4	-0.4
PCED	Cedros	0.28	134	i P	Pg	01 36 03.7	-0.5
PCED				i S	Sg	01 36 07.7	-0.4
	26nm,0.2s						
PCED	Cedros	0.28	134	i S	Sg	01 36 07.7	-0.4
CALA	Caldeira	0.32	140	eP	Pg	01 36 04.3	-0.6
CALA				eS	Sg	01 36 07.4	-1.8
PICO	Pico	0.53	128	eP	Pg	01 36 07.8	-1.3
PICO				eS	Sg	01 36 14.6	-1.7

*ISK **18** 01:36:41.5, 36.93N×27.75E, h11km, MD3.1*

*CSEM **18** 01:36:41.6±0.1, 36.96N×27.78E, h12km, MD3.1, Error ellipse: s-maj=2.9km s-min=2.7km az=162.0*

*ATH **18** 01:36:42.0, 36.95N×27.82E, h33km, MD3.1/4*

*NEIC **18** 01:36:42.0, 36.90N×27.70E, h26km, MD3.2(ISK), MD3.1(ATH), After ATH.*

ISC 18 01:36:42.0±0.6, 36.92N±0.03×27.74E±0.03, h8km±4km, n21, σ1.09/32, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	301	i P	Pg	01 36 48.7	+0.9
BDRM				i S	Sg	01 36 53.2	+1.6
BODT	Bodrum	0.37	292	i PG	Pg	01 36 49.5	-0.1
BODT				i SG	Sg	01 36 55.5	+0.8
MLSB	Milas	0.38	4	i PG	Pg	01 36 48.6	-1.0
MLSB				i SG	Sg	01 36 54.7	0.0
YER	Yerkesik	0.48	64	i PG	Pg	01 36 51.0	-0.7
YER				i SG	Sg	01 36 59.0	+0.8
DALT	Dalyan (Mudla)	0.73	102	PG	Pg	01 36 55.2	-1.5
AYDN	Tasoluk	0.75	8	i P	Pb	01 36 56.3	-0.5
AYDN				i S	Sb	01 37 05.5	-1.4
ARG	Arkhangelos	0.77	156	ePN	Pn	01 36 57.3	-1.6
SMG	Samos	1.07	318	ePN	Pn	01 37 02.7	-0.4
DNZL	Cakiroluk	1.29	53	i P	Pb	01 37 05.2	-1.0
DNZL				i S	Sb	01 37 22.8	0.0
DENT	Denizli	1.32	51	PN	Pn	01 37 06.7	-0.1
KARP	Karpathos	1.45	199	ePn	Pn	01 37 08.8	+0.2
KARP				eSn	Sn	01 37 27.2	-0.7
GOLH	Golhisar	1.49	77	i P	Pn	01 37 10.5	+1.3
GOLH				i S	Sb	01 37 30.5	+2.1
IZM	Izmir	1.52	346	PN	Pn	01 37 09.1	-0.6
BLCB	Balcova	1.56	339	ePN	Pn	01 37 09.3	-0.9
AKAS	Kas	1.65	114	i P	Pn	01 37 12.8	+1.4
AKAS				i S	Sn	01 37 34.9	+1.9
MANT	Manisa	1.70	22	i P	Pn	01 37 10.6	-1.5
MANT				i S	Sn	01 37 35.4	+1.3
URLA	Izmir	1.70	328	i P	Pn	01 37 14.5	+2.3
URLA				i S	Sn	01 37 41.2	+6.9
ELL	Elmali	1.75	95	ePN	Pn	01 37 12.2	-0.6
APE	Apeiranthos	1.78	275	ePN	Pn	01 37 13.3	0.0
APE	Apeiranthos	1.78	275	ePn	Pn	01 37 12.9	-0.4
AKS	Akhisar	1.96	2	ePN	Pn	01 37 15.3	-0.5

*IDC **18** 02:33:17.6±0.6, 7.64S×125.43E, mb4.4/12, mb1 4.5/13, mb1mx4.4/17, mbtmp4.5/13, ML4.6/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/24, Error ellipse: s-maj=23.1km s-min=14.5km az=74.0*

*BJI **18** 02:33:18.9, 8.26S×125.90E, h47km, mB5.1, mb4.9, Ms4.9, Msz4.2*

*NEIC **18** 02:33:20.9±2.6, 7.65S×125.59E, h21km±18km, mb4.8/15, Error ellipse: s-maj=10.3km s-min=5.8km az=70.0*

*MOS **18** 02:33:21.4±1.0, 7.61S×125.43E, h33km, mb5.0/18, Error ellipse: s-maj=16.2km s-min=9.2km az=112.4*

ISC 18 02:33:22.1±0.3, 7.74S±0.05×125.62E±0.09, h44km, h44km±4.6km:pP-P, n93, σ1.21/91, mb4.7/42, MS3.9/7, 13C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KAKA	Kakadu	8.34	127	eP	Px	02 35 41.5	
	21nm,0.4s						
FITZ	Fitzroy Crossi	10.30	180	eP	P	02 35 47.3	-3.1
	19nm,0.3s						
FITZ				eS	S	02 37 36.2	-9.4
FITZ	Fitzroy Crossi	10.30	180	Pn	P	02 35 47.3	-3.0
	4.1nm,0.3s,baz=4.5,slow=10,SNR=22						
FITZ				Sn	S	02 37 36.3	-9.3
	23nm,0.3s,baz=345,slow=14,SNR=7.3						
FITZ				LR	LR	02 39 24.8	
	comp=Z,346nm,19.9s,baz=84,slow=35						
MBWA	Marble Bar	14.51	202	eP	P	02 36 46.5	0.0
WRA	Warramunga Arr	14.79	146	Pn	P	02 36 45.2	-5.0
	1.2nm,0.3s,baz=317,slow=13,SNR=50						
WRA				Sn	S	02 39 19.5	-14
	2.7nm,0.3s,baz=320,slow=23,SNR=12						
WB2	Warramunga Arr	14.79	146	eP	P	02 36 44.8	-5.5
WB2				eS	S	02 39 23.0	-10
ASPA	Alice Springs	17.72	154	eP	P	02 37 27.3	-0.1
ASPA				eS	S	02 40 32.1	-8.7
KSM	Kuching	17.80	300	eP	P	02 37 27.9	-0.6
PMG	Port Moresby	21.36	96	P	P	02 38 10.5	+2.6
	25nm,0.8s,mb4.6,baz=299,slow=9.7,SNR=6.6						
PMG	Port Moresby	21.36	96	eP	P	02 38 10.3	+2.4
	31nm,0.9s,mb4.6						
PMG	Port Moresby	21.36	96	eP	P	02 38 10.3	+2.4
PMG				pmax	pmax		
	comp=Z,31nm,0.9s						
CTA	Charters Tower	23.46	124	eP	P	02 38 31.2	+2.6
	comp=Z,5.6nm,0.8s,mb4.0						
CTA	Charters Tower	23.46	124	P	P	02 38 31.6	+3.0
	comp=Z,6.7nm,0.9s,mb4.1,baz=346,slow=9.7,SNR=5.6						
CTA				LR	LR	02 46 20.4	
	comp=Z,171nm,20.5s,MS3.5,baz=47,slow=33						
CTA	Charters Tower	23.46	124	eP	P	02 38 31.2	+2.6
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTAO	Charters Tower	23.46	124	eP	P	02 38 30.9	+2.4
	comp=Z,17nm,0.5s,mb4.7						
CTAO	Charters Tower	23.46	124	eP	P	02 38 31.0	+2.4
CTAO				pmax	pmax		
	comp=Z,17nm,0.5s,mb4.7						
NWAO	Narrogin (SRO)	26.25	196	P	P	02 38 53.8	-1.3
	comp=Z,7.5nm,0.6s,mb4.4,slow=7.1,SNR=6.3						
NWAO	Narrogin (SRO)	26.25	196	eP	P	02 38 53.7	-1.4
STKA	Stephens Creek	28.26	150	eP	P	02 39 13.5	+0.1
	comp=Z,5.5nm,1.0s,mb4.1						
STKA	Stephens Creek	28.26	150	P	P	02 39 13.5	+0.1
	comp=Z,2.9nm,0.6s,mb4.1,baz=324,slow=8.9,SNR=10						
STKA				LR	LR	02 52 38.4	
	comp=Z,175nm,18.4s,MS3.7,baz=116,slow=41						
GUMO	Guam	28.53	42	LR	LR	02 49 11.2	
	comp=Z,78nm,19.4s,MS3.3,baz=18,slow=33						
SSE	Sheshan	38.84	354	P	P	02 40 45.3	+0.6
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,201nm,6.6s						
KMI	Kunming	39.54	326	P	P	02 40 52.9	+2.3
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
WHN	Wuhan	39.57	345	eP	P	02 40 52.0	+1.2
NJ2	Nanjing	40.09	351	eP	P	02 40 55.6	+0.5
NJ2				PP	PP	02 42 33.3	+2.0
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,66nm,5.2s						
NJ2				LR	LR		
	comp=N,760nm,14.6s,MS4.8						
NJ2				LR	LR		
	comp=E,710nm,15.3s,MS4.8						
NJ2				LR	LR		
	comp=Z,210nm,15.2s,MS4.1						
CD2	Chengdu	43.77	332	P	P	02 41 26.6	+1.2
MAJO	Matsushiro	45.60	14	eP	P	02 41 38.4	-1.6
	comp=Z,9.5nm,1.1s,mb4.6						
MAJO	Matsushiro	45.60	14	eP	P	02 41 38.4	-1.6
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
MAT	Matsushiro	45.60	14	P	P	02 41 38.3	-1.7
MAT	Matsushiro	45.60	14	eP	P	02 41 38.0	-2.0
	comp=Z,6.3nm,1.1s,mb4.5						
MAT	Matsushiro	45.60	14	eP	P	02 41 38.0	-2.0
MAT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MJAR	Matsushiro Arr	45.60	14	P	P	02 41 38.6	-1.4
	comp=Z,5.9nm,1.0s,mb4.5,baz=188,slow=8.9,SNR=14						
MJAR				PP	PP	02 43 24.4	-3.0
	comp=Z,1.3nm,0.9s,baz=186,slow=6.7,SNR=3.4						
LZH	Lanzhou	48.16	336	eP	P	02 42 02.5	+2.4
LZH				AP	pP	02 42 12.5	+0.1
LZH				XP	sP	02 42 16.8	-0.8
LZH				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,110nm,4.5s						
LSA	Lhasa	49.84	320	eP	P	02 42 13.4	+0.3
	comp=Z,8.7nm,0.6s,mb5.0						
LSA	Lhasa	49.84	320	eP	P	02 42 13.4	+0.3
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
MDJ	Mudanjiang	52.23	4	P	P	02 42 31.8	+0.8
MDJ				AP	pP	02 42 47.9	+4.5
MDJ				XP	sP	02 42 54.6	+6.0
MDJ				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,190nm,7.8s						
PKI	Pulchoki	52.39	314	eP	P	02 42 31.5	-0.9
	comp=Z,16nm,0.6s,mb5.2						
PKI	Pulchoki	52.39	314	eP	P	02 42 31.5	-0.9
PKI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
KKN	Kakani	52.61	314	eP	P	02 42 33.2	-0.9
	comp=Z,17nm,0.8s,mb5.1						
DMN	Daman	52.63	314	eP	P	02 42 33.8	-0.4
	comp=Z,27nm,0.8s,mb5.2						
GTA	Gaotai	52.65	335	eP	P	02 42 33.8	-0.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
GKN	Gorkha	53.20	314	eP	P	02 42 37.8	-0.6
	comp=Z,61nm,1.1s,mb5.5						
KOLN	Koldanda	53.81	313	eP	P	02 42 42.3	-0.7
	comp=Z,36nm,0.8s,mb5.3						
URZ	Urewera	55.37	132	LR	LR	03 04 06.1	
	comp=Z,117nm,21.4s,MS3.9,baz=202,slow=33						
HIA	Hailar	56.99	355	eP	P	02 43 05.2	-0.5
	comp=Z,8.9nm,1.1s,mb4.7						
HIA	Hailar	56.99	355	eP	P	02 43 05.2	-0.5
HIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SONM	Songino Array	57.88	345	P	P	02 43 11.0	-0.9
	comp=Z,4.6nm,0.9s,mb4.5,baz=162,slow=8.2,SNR=12						
ZAK	Zakamensk	61.04	344	P	P	02 43 34.5	+0.8
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
WMQ	Urumqi	61.73	330	eP	P	02 43 39.5	+1.1
WMQ				AP	pP	02 43 56.0	+4.9
WMQ				XP	sP	02 44 03.0	+6.8
WMQ				PCP	PcP	02 44 20.0	+0.9
WMQ				PP	PP	02 45 58.0	+1.2
WMQ				eS	S	02 51 56.0	-0.3
WMQ				XS		02 52 23.0	
WMQ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,191nm,6.4s						
WMQ				LR	LR		
	comp=N,133nm,19.3s,MS4.4						
WMQ				LR	LR		
	comp=E,191nm,18.8s,MS4.4						
WMQ				LR	LR		
	comp=Z,180nm,19.3s,MS4.2						
BOD	Bodaibo	66.01	353	eP	P	02 44 02.2	-4.0
BOD				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
MKAR	Makanchi Array	66.54	329	P	P	02 44 09.0	-0.7
	comp=Z,8.4nm,0.8s,mb4.8,baz=129,slow=7.8,SNR=42						
MKAR	Makanchi Array	66.54	329	i P	P	02 44 08.8	-0.9
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PET	Petropavlovsk	66.71	21⇑	eP	P	02 44 10.3	-0.4
PET				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
TKM2	Tokmak 2	67.85	323	P	P	02 44 18.3	+0.3
	SNR=5.2						
AAK	Ala-Archa	68.36	322	P	P	02 44 21.8	+0.7
	SNR=8.1						
AAK	Ala-Archa	68.36	322	eP	P	02 44 20.6	-0.6
	comp=Z,8.1nm,0.8s,mb4.8						
AAK	Ala-Archa	68.36	322⇑	eP	P	02 44 20.7	-0.5
AAK				pmax	pmax		
	comp=Z,8.0nm,4.0s						
AAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
AML	Almayashu	68.58	321	P	P	02 44 23.3	+0.8
	SNR=14						
USP	Ospenovka	68.71	322	P	P	02 44 23.1	-0.2
	SNR=7.9						
EKS2	Erkin-Say	68.82	322	P	P	02 44 24.7	+0.7
	SNR=6.6						
YAK	Yakutsk	69.63	2	eP	P	02 44 27.6	-1.0
YAK	Yakutsk	69.63	2⇑	eP	P	02 44 29.4	+0.8
YAK				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
MA2	Magadan	70.03	13	eP	P	02 44 32.1	+0.9
	comp=Z,20nm,1.0s,mb5.0						
MA2	Magadan	70.03	13⇑	eP	P	02 44 32.7	+1.6
MA2				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
ZAL	Zalesovo	70.39	336	P	P	02 44 31.5	-1.9
	comp=Z,2.7nm,0.8s,mb4.3,baz=338,slow=5.3,SNR=13						
KURK	Kurchatov	70.94	331	eP	P	02 44 35.5	-1.3
	comp=Z,10nm,0.8s,mb4.8						
KURK	Kurchatov	70.94	331⇑	eP	P	02 44 36.3	-0.5
NVS	Novosibirsk	71.68	336	eP	P	02 44 39.3	-1.8
VNDA	Vanda	72.28	172	P	P	02 44 45.6	+1.2
	comp=Z,2.0nm,0.9s,mb4.0,baz=334,slow=7.9,SNR=6.3						
MAW	Mawson	72.70	201	P	P	02 44 48.1	+1.2
	comp=Z,2.3nm,0.7s,mb4.2,baz=65,slow=8.1,SNR=8.0						
BRVK	Borovoye	76.49	329	eP	P	02 45 08.5	-0.6
	comp=Z,3.5nm,1.1s,mb4.2						
BRVK	Borovoye	76.49	329	eP	P	02 45 08.5	-0.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
OPO	Ambohidratompo	76.65	253	P	P	02 45 10.6	-0.1
	comp=Z,1.7nm,0.6s,mb4.1,baz=112,slow=5.2,SNR=7.2						
TIXI	Tiksi	79.25	1⇑	eP	P	02 45 25.8	+1.8
AB31	Akbulak array	80.42	323	i P	P	02 45 29.8	-0.9
AB31				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SYO	Syowa Base	81.40	201	⇑P	P	02 45 37.5	+2.0
AKTO	Aktyubinsk	82.03	323	P	P	02 45 39.1	0.0
AKTO				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.5						
QSPA	South Pole Qui	82.25	180	eP	P	02 45 41.2	+1.5
	comp=Z,7.4nm,0.7s,mb4.7						
SVE	Sverdlovsk	83.18	330	eP	P	02 45 44.9	+0.1
ARU	Arti	84.06	329	eP	P	02 45 48.8	-0.5
	comp=Z,7.2nm,0.9s,mb4.8						
ARU	Arti	84.06	329⇑	eP	P	02 45 49.0	-0.3
ARU				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
KMBO	Kilima Mbogo	88.23	269	P	P	02 46 11.5	+0.8
	comp=Z,1.9nm,0.7s,mb4.4,baz=64,slow=4.6,SNR=7.7						
KMBO	Kilima Mbogo	88.23	269⇑	eP	P	02 46 10.5	-0.2
KIV	Kislovodsk	90.25	314	eP	P	02 46 19.9	+0.3
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.6						
KIV				pmax	pmax		
	comp=N,3.0nm,0.6s						
KIV				pmax	pmax		
	comp=E,1.0nm,0.9s						
VNA2	Neumayer--Watz	95.51	194⇑	iP	P	02 46 44.7	+1.6
VNA2				e	pP	02 46 57.8	+1.3
VNA2				e		02 47 19.7	
VNA2				e		02 47 49.8	
OBN	Obninsk	95.74	325	eP	P	02 46 44.3	-0.1
OBN				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.6						
VNA3	Neumayer Olymp	95.81	193⇑	iP	P	02 46 49.7	+5.3
VNA3				e	pP	02 47 01.0	+3.2
VNA3				e		02 47 21.3	
VNA3				e		02 47 51.9	
VNA1	Neumayer--Stat	95.91	194⇑	iP	P	02 46 47.3	+2.4
VNA1				e	pP	02 47 00.0	+1.7
VNA1				e		02 47 51.0	
PDAR	Pinedale Array	120.48	45	PKP	PKPdf	02 52 10.7	+1.5
	comp=Z,0.5nm,0.9s,baz=180,slow=1.5,SNR=4.1						
ANMO	Albuquerque	125.21	52⇑	iPKIKP	PKPdf	02 52 20.8	+2.2
TXAR	Lajitas Array	129.02	58	PKP	PKPdf	02 52 27.9	+1.8
	comp=Z,0.4nm,1.0s,baz=315,slow=3.5,SNR=3.8						
CPUP	Villa Florida	146.02	175	PKPbc	PKPbc	02 53 00.1	+1.9
	comp=Z,7.5nm,1.0s,baz=200,slow=2.8,SNR=14						
LPAZ	La Paz	152.52	150	PKPbc	PKPdf	02 53 17.2	+10
	comp=Z,0.7nm,0.6s,baz=141,slow=6.5,SNR=3.9						

*MOS **18** 02:44:40.6±1.4, 22.12S×179.39W, h417km, mb5.1/4, Error ellipse: s-maj=20.6km s-min=15.1km az=157.8*

*NEIC **18** 02:44:52.3±0.4, 21.82S×179.42W, mb5.0/10, Error ellipse: s-maj=11.8km s-min=9.4km az=144.0*

*IDC **18** 02:44:53.1±0.7, 21.77S×179.55W, h578km±8km, mb3.7/12, mb1 3.9/14, mb1mx3.8/19, mbtmp4.7/14, Error ellipse: s-maj=15.2km s-min=10.7km az=146.0*

ISC 18 02:44:50.4±0.8, 21.92S±0.06×179.49W±0.08, h556km±12km, h574km±4.2km:pP-P, n88, σ1.11/66, mb4.5/22, 10C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RAO	Raoul Island	7.44	169	P	P	02 46 45.8	+2.3
	196nm,0.3s,baz=13,slow=18,SNR=6.1						
RAO	Raoul Island	7.44	169	eP	P	02 46 46.1	+2.5
AFI	Afiamalu	10.83	44	P	P	02 47 17.6	+0.1
	28nm,0.3s,baz=47,slow=6.8,SNR=26						
AFI				S	S	02 49 14.6	-0.9
	5.7nm,0.3s,baz=152,slow=22,SNR=4.6						
AFI	Afiamalu	10.83	44	eP	P	02 47 16.4	-1.1
AFI				S	S	02 49 14.6	-0.9
DZM	Mont Dzumac	13.05	267	eP	P	02 47 43.4	+3.4
DZM	Mont Dzumac	13.05	267	P	P	02 47 42.1	+2.2
	3.2nm,0.3s,baz=80,slow=18,SNR=40						
DZM	Mont Dzumac	13.05	267	eP	P	02 47 43.4	+3.4
URZ	Urewera	16.55	189	P	P	02 48 13.7	-0.6
	9.4nm,0.3s,baz=352,slow=5.0,SNR=21						
URZ				S	S	02 50 53.9	-5.1
	2.1nm,0.3s,baz=167,slow=23,SNR=10.0						
MRZ	Mangatainoka R	19.15	191	PN	P	02 48 38.0	-1.1
QRZ	Quartz Range	20.02	198	PN	P	02 48 48.1	+0.8
NNZ	Nelson	20.16	196	PN	P	02 48 47.8	-0.8
TUWZ	Tuamarina	20.23	194	ePN	P	02 48 48.2	-1.0
THZ	Tophouse	20.80	196	PN	P	02 48 54.1	-0.3
LTZ	Lake Taylor	21.91	196	PN	P	02 49 02.8	-1.8
RPZ	Rata Peaks	23.11	198	P	P	02 49 15.5	+0.1
	9.2nm,0.5s,mb4.6,baz=316,slow=4.4,SNR=9.5						
RPZ	Rata Peaks	23.11	198	P	P	02 49 15.5	+0.1
JCZ	Jackson Bay	24.14	201	ePN	P	02 49 24.0	-0.6
ARMA	Armidale	27.21	246⇓	iP	P	02 49 53.6	+1.8
CNB	Canberra Magne	30.29	237⇓	iP	P	02 50 19.8	+1.5
	153nm,1.2s,mb5.4						
CTA	Charters Tower	31.99	267⇓	iP	P	02 50 33.8	+0.9
	26nm,0.4s,mb5.1						
CTA	Charters Tower	31.99	267	P	P	02 50 33.4	+0.5
	30nm,0.4s,mb5.2,baz=90,slow=11,SNR=152						
CTA	Charters Tower	31.99	267⇓	iP	P	02 50 33.8	+0.9
CTA				pmax	pmax		
	comp=Z,26nm,0.4s						
CTAO	Charters Tower	31.99	267	eP	P	02 50 33.6	+0.7
	comp=Z,28nm,0.4s,mb5.2						
CTAO	Charters Tower	31.99	267	eP	P	02 50 33.7	+0.8
CTAO				pmax	pmax		
	comp=Z,28nm,0.4s,mb5.2						
TOO	Toolangi	33.94	235⇓	iP	P	02 50 50.1	+1.0
	comp=Z,25nm,0.6s,mb4.9						
TOO	Toolangi	33.94	235⇓	iP	P	02 50 50.1	+1.0
TOO				pmax	pmax		
	comp=Z,25nm,0.6s,mb4.9						
PMG	Port Moresby	34.35	286	P	P	02 50 53.4	+0.7
	comp=Z,21nm,0.6s,mb4.8,baz=149,slow=3.5,SNR=9.1						
PMG	Port Moresby	34.35	286	eP	P	02 50 53.3	+0.6
STKA	Stephens Creek	35.93	246⇓	iP	P	02 51 06.7	+1.1
	comp=Z,41nm,1.0s,mb4.9						
STKA	Stephens Creek	35.93	246	P	P	02 51 06.8	+1.2
	comp=Z,21nm,0.4s,mb5.1,baz=90,slow=10,SNR=135						
WB2	Warramunga Arr	43.03	264⇓	iP	P	02 52 02.4	-0.7
WB2				eS	S	02 57 42.3	-7.1
WRAB	Tennant Creek	43.04	264c	iP	P	02 52 02.0	-1.1
WRA	Warramunga Arr	43.05	264	P	P	02 52 02.5	-0.7
	comp=Z,12nm,0.4s,mb4.8,baz=92,slow=7.9,SNR=650						
WRA				ScP		02 56 37.4	
	comp=Z,4.5nm,1.1s,baz=92,slow=4.0,SNR=8.6						
WRA				S	S	02 57 44.1	-5.5
	comp=Z,0.7nm,0.8s,baz=96,slow=14,SNR=4.6						
KAKA	Kakadu	46.64	273⇓	iP	P	02 52 49.0	+18
	comp=Z,23nm,0.3s,mb5.2						
FORT	Forrest	47.47	248⇓	iP	P	02 52 36.2	-0.8
	comp=Z,37nm,0.5s,mb5.2						
FITZ	Fitzroy Crossi	51.48	264⇓	iP	P	02 53 06.2	-0.7
	comp=Z,24nm,0.8s,mb4.6						
MBWA	Marble Bar	56.20	259	eP	P	02 53 38.9	-1.2
	comp=Z,25nm,0.4s,mb4.8						
KLBR	Kellerberrin	56.20	246⇓	iP	P	02 53 38.8	-1.2
	comp=Z,44nm,1.0s,mb4.6						
SBA	Scott Base	56.37	183	eP	P	02 53 41.7	+1.1
	comp=Z,10nm,1.2s,mb3.9						
SBA	Scott Base	56.37	183	eP	P	02 53 41.7	+1.1
SBA				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb3.9						
VNDA	Vanda	56.38	185	P	P	02 53 41.4	+0.8
	comp=Z,2.3nm,0.7s,mb3.5,baz=357,slow=7.5,SNR=14						
NWAO	Narrogin (SRO)	56.50	244	P	P	02 53 41.4	-0.6
	comp=Z,11nm,0.6s,mb4.3,baz=110,slow=5.7,SNR=13						
MUN	Mundaring	57.47	245	eP	P	02 53 46.7	-1.9
QSPA	South Pole Qui	68.16	180⇓	iP	P	02 54 56.8	+0.5
	comp=Z,12nm,0.9s,mb4.4						
MIR	Mirnyy	69.12	205c	iP	P	02 55 02.4	+0.1
MIR				pmax	pmax		
	comp=Z,48nm,1.4s,mb4.8						
MAW	Mawson	79.76	200	P	P	02 56 01.8	+0.3
	comp=Z,4.6nm,0.8s,mb3.9,baz=122,slow=7.7,SNR=8.7						
NVAR	Mina Array Bea	83.01	44	P	P	02 56 19.7	+1.0
	comp=Z,0.4nm,0.6s,baz=232,slow=10,SNR=4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NVAR				pP	pP	02 58 21.9	+2.8
	comp=Z,0.2nm,0.4s,baz=239,slow=10,SNR=2.5						
NVAR	Mina Array Bea	83.01	44	P	P	02 56 19.7	+1.0
NVAR				pP	pP	02 58 21.9	+2.8
MA2	Magadan	84.79	345	eP	P	02 56 29.0	+2.1
MA2				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.1						
VNA3	Neumayer Olymp	86.82	177	e	P	02 56 37.7	+1.3
VNA3	Neumayer Olymp	86.82	177	e	P	02 56 50.2	+14
VNA3	Neumayer Olymp	86.82	177	⇑iP	P	02 56 35.5	-0.9
VNA3				e		02 58 47.9	
VNA2	Neumayer--Watz	87.24	177	e	P	02 56 40.4	+2.0
VNA2	Neumayer--Watz	87.24	177	e	P	02 56 52.6	+14
VNA2	Neumayer--Watz	87.24	177	⇑iP	P	02 56 38.0	-0.4
VNA2				e		02 58 48.7	
VNA1	Neumayer--Stat	87.48	177	⇑i	P	02 56 39.1	-0.4
VNA1	Neumayer--Stat	87.48	177	e	P	02 56 54.0	+15
TXAR	Lajitas Array	88.99	58	P	P	02 56 48.3	+0.7
	comp=Z,0.7nm,1.0s,mb3.5,baz=211,slow=6.5,SNR=5.4						
TXAR				pP	pP	02 58 53.9	+4.2
	comp=Z,0.7nm,1.0s,baz=225,slow=6.4,SNR=4.5						
ILAR	Eielson Array	90.00	13	P	P	02 56 49.5	-1.9
	comp=Z,0.6nm,0.8s,mb3.5,baz=238,slow=5.3,SNR=5.0						
ILAR				pP	pP	02 58 56.0	+2.2
	comp=Z,0.5nm,1.0s,baz=203,slow=6.9,SNR=2.3						
PDAR	Pinedale Array	90.94	44	P	P	02 56 56.9	+0.7
	comp=Z,0.4nm,0.8s,baz=190,slow=5.5,SNR=3.7						
TIXI	Tiksi	99.76	345	eP	P	02 57 51.4	+16
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
ARCES	ARCESS Array B	130.05	349	PKP	PKPdf	03 02 55.9	-0.7
	comp=Z,1.6nm,0.7s,baz=81,slow=1.3,SNR=11						
JOF	Joensuu	134.03	341	ep	PKPdf	03 03 02.9	-1.3
KAF	Kangasniemi	136.11	343	ep	PKPdf	03 03 08.3	+0.3
FINES	FINESS Array B	136.72	342	PKhKP		03 02 57.0	
	comp=Z,0.7nm,0.7s,slow=2.8,SNR=3.4						
FINES				PKP	PKPdf	03 03 08.0	-1.1
	comp=Z,2.5nm,1.0s,baz=62,slow=0.7,SNR=9.3						
OBN	Obninsk	137.31	330	ePKIKP	PKPdf	03 03 32.9	+22
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	Malin Array Be	143.54	329	PKP	PKPdf	03 03 19.7	-1.8
	comp=Z,1.7nm,0.3s,baz=38,slow=4.4,SNR=27						
BRTR	Keskin Array B	146.72	310	PKPbc	PKPbc	03 03 29.9	+0.6
	comp=Z,0.9nm,0.4s,baz=135,slow=3.5,SNR=8.8						
BURAR	Bucovina Array	147.57	328	⇑iP	PKPdf	03 03 33.4	+5.0
BURAR	Bucovina Array	147.57	328	⇑iP	PKPdf	03 03 33.4	+5.0
CFR	Carcaliu	147.59	322	⇑iP	PKPdf	03 03 31.9	+3.4
KOLS	Kolonicke sedl	147.96	333	ePKP	PKPdf	03 03 33.4	+4.4
STHS	Stebnicka Huta	148.02	334	ePKP	PKPdf	03 03 33.8	+4.8
MLR	Muntele Rosu	148.61	325	⇑iP	PKPdf	03 03 34.8	+4.7
OKC	Ostrava-Krasne	148.85	338	ePKP	PKPdf	03 03 35.9	+5.6
UPC	Upice	148.98	341	ePKP	PKPdf	03 03 36.1	+5.6
DPC	Dobruska-Polom	149.02	340	ePKP	PKPdf	03 03 36.5	+5.9
KECS	Kecovo	149.06	334	ePKP	PKPdf	03 03 35.9	+5.2
CLL	Collm	149.09	345	⇓iP	PKPdf	03 03 35.9	+5.2
CLL				e		03 03 51.0	
CLL				e		03 04 06.0	
CLZ	Clausthal	149.17	348	ePKP	PKPdf	03 03 36.5	+5.7
BRG	Berggiesshubel	149.25	343	i P	PKPdf	03 03 36.9	+5.9
DRGR		149.36	329	⇑iP	PKPdf	03 03 36.0	+4.8
PVCC	Panska Ves	149.39	342	ePKP	PKPdf	03 03 37.2	+6.0
VYHS	Vyhne	149.71	336	ePKP	PKPdf	03 03 37.9	+6.2
PRU	Pruhonice	149.88	342	ePKP	PKPdf	03 03 38.0	+6.0
NKC	Novy Kostel	150.22	344	ePKP	PKPdf	03 03 38.4	+5.9
KHC	Kasperske Hory	150.93	342	ePKP	PKPdf	03 03 40.4	+6.8
KHC				ex	x	03 03 52.2	
GERES	GERESS Array B	151.15	342	PKPbc	PKPdf	03 03 40.9	+7.0
	comp=Z,0.8nm,0.3s,baz=346,slow=0.7,SNR=20						

*NEIC **18** 03:28:37.0, 38.61N×25.43E, h29km, MD3.4(ATH), MD3.3(ISK), After ATH.*
*ISK **18** 03:28:38.6, 38.66N×25.28E, h33km, MD3.3*
*ATH **18** 03:28:38.6, 38.62N×25.46E, h39km±5km, MD3.4/8*
*CSEM **18** 03:28:39.2±0.1, 38.67N×25.49E, h60km, MD3.4, Error ellipse: s-maj=4.1km s-min=2.8km az=25.0*
ISC 18 03:28:38.3±1.1, **38.62N**±0.04×**25.38E**±0.05, **h18**km±10km, **n24**, σ0.84/32, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.93	48	ePN	Pn	03 28 55.7	-0.9
PRK				eSN	Sn	03 29 09.2	-0.3
URLA	Izmir	0.99	105	i P	Pb	03 28 56.3	-0.3
URLA				i S	Sb	03 29 07.0	-2.2
AYVA	Ayvalik	1.23	56	i P	Pb	03 29 01.3	+0.6
AYVA				i S	Sb	03 29 17.4	+1.3
LIA	Limnos Island	1.28	353	ePN	Pn	03 29 01.6	0.0
BLCB	Balcova	1.32	100	PN	Pn	03 29 02.8	+0.7
BLCB				SN	Sn	03 29 19.4	0.0
EZN	Ezine	1.41	31	PN	Pn	03 29 02.3	-1.1
SMG	Samos	1.46	128	ePN	Pn	03 29 03.5	-0.7
IZM	Izmir	1.49	98	ePN	Pn	03 29 05.7	+1.1
KDAG	Bornova	1.49	98	i P	Pn	03 29 05.7	+1.1
KDAG				i S	Sn	03 29 24.5	+0.7
APE	Apeiranthos	1.55	176	ePN	Pn	03 29 04.7	-0.8
APE				eSN	Sn	03 29 24.6	-0.7
APE	Apeiranthos	1.55	176	ePn	Pn	03 29 05.2	-0.3
APE				eSn	Sn	03 29 24.6	-0.7
NEO	Neokhori	1.82	293	ePN	Pn	03 29 10.2	+1.0
LKR	Lokris	1.87	272	ePN	Pn	03 29 10.5	+0.6
CANB	Canakkale	1.91	43	ePN	Pn	03 29 10.1	-0.4
AKS	Akhisar	1.92	82	ePN	Pn	03 29 11.6	+1.0
BODT	Bodrum	2.18	135	ePN	Pn	03 29 15.2	+0.8
AYDN	Tasoluk	2.19	115	i P	Pn	03 29 19.2	+4.7
AYDN				i S	Sn	03 29 47.4	+6.0
BALB	Balikesir	2.19	62	ePN	Pn	03 29 15.0	+0.4
MLSB	Milas	2.31	124	ePN	Pn	03 29 17.1	+0.8
RDO	Rodhopi	2.52	3	ePN	Pn	03 29 18.7	-0.6
MFT	Murefte	2.61	34	ePN	Pn	03 29 19.2	-1.4
MRMT	Marmara Adasi	2.62	40	ePN	Pn	03 29 20.1	-0.5
ORLT	Orhaneli	3.07	61	ePN	Pn	03 29 26.5	-0.6
KARP	Karpathos	3.38	155	ePN	Pn	03 29 31.0	-0.5

*IDC **18** 03:34:33.6±0.6, 22.79S×68.25W, h97km±5km, mb3.8/10, mb1 3.9/12, mb1mx3.8/16, mbtmp4.1/12, Error ellipse: s-maj=18.5km s-min=14.6km az=45.0*
*NEIC **18** 03:34:34.3±0.5, 22.81S×68.21W, h104km±4km, mb4.3/3, MD4.0(GUC), Error ellipse: s-maj=8.7km s-min=7.5km az=96.0*
*GUC **18** 03:34:35.4±0.7, 23.00S×68.53W, h100km±5km, MD4.0, ML4.2*
ISC 18 03:34:32.7±0.5, **22.94S**±0.05×**68.26W**±0.06, **h106**km±5km, **n39**, σ1.12/50, **mb4.2**/13, **5C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.06	56	⇓iP	P	03 34 50.5	+3.0
SPCH				i S	S	03 35 02.8	+4.3
SPCH				AMP		03 35 03.5	
	comp=E,23μm,0.4s						
LVC	Limon Verde	0.69	298	P	P	03 34 52.3	+1.6
	baz=118,slow=6.2						
LVC				S	S	03 35 04.6	+0.3
	comp=E,1μm,0.3s,baz=306,slow=19,SNR=117						
LVC	Limon Verde	0.69	298	⇑iP	P	03 34 52.4	+1.6
LVC				i S	S	03 35 04.7	+0.4
LVC				AMP		03 35 06.4	
	comp=N,7μm,0.4s						
LVC	Limon Verde	0.69	298	⇑iP	P	03 34 52.0	+1.3
LVC				P		03 34 52.3	
LVC				S	S	03 35 04.6	+0.3
LVC				eS	S	03 35 05.0	+0.6
ANCH	Antofagasta	2.11	249	⇓iP	P	03 35 08.4	+1.0
ANCH				i S	S	03 35 32.2	-1.2
ANCH				AMP		03 35 40.2	
	comp=N,3μm,0.3s						
CPN1	Cerro Paranal	2.58	229	⇓iP	P	03 35 14.4	+0.6
CPN1				i S	S	03 35 43.8	-1.0
CPN1				AMP		03 35 53.5	
	comp=E,1μm,0.4s						
CDCH	Caldera	4.73	209	i P	P	03 35 40.5	-2.6
CDCH				i S	S	03 36 32.6	-4.5
LPAZ	La Paz	6.62	1	P	P	03 36 10.5	+1.6
	comp=E,2.1nm,0.3s,baz=167,slow=7.1,SNR=55						
LPAZ				S	S	03 37 13.6	-10
	comp=E,0.5nm,0.3s,baz=196,slow=11,SNR=3.6						
LPAZ	La Paz	6.62	1	eP	P	03 36 10.0	+1.1
LPAZ				P		03 36 10.5	
LPAZ				S	S	03 37 13.6	-10
CFAA	Coronel Fontan	8.63	180	P	P	03 36 34.4	-1.7
	comp=E,0.2nm,0.3s,baz=354,slow=14,SNR=14						
CFAA				S	S	03 38 06.5	-5.9
	comp=E,0.2nm,0.3s,baz=222,slow=15,SNR=3.2						
CFAA	Coronel Fontan	8.63	180	P	P	03 36 34.4	-1.7
CFAA				S	S	03 38 06.5	-5.9
SIV	San Ignacio	9.68	46	P	P	03 36 47.8	-2.6
	comp=E,27nm,0.3s,baz=241,slow=11,SNR=521						
SIV				S	S	03 38 28.8	-9.1
	comp=E,0.7nm,0.3s,baz=150,slow=20,SNR=2.4						
CPUP	Villa Florida	10.49	111	P	P	03 37 01.7	+0.5
	comp=E,0.1nm,0.3s,baz=324,slow=16,SNR=6.4						
SAML	Samuel	14.74	20	eP	P	03 37 53.8	-3.2
	comp=E,2.5nm,0.6s						
PLCA	Paso Flores	17.84	186	P	P	03 38 34.9	-0.6
	comp=E,0.1nm,0.3s,baz=335,slow=6.4,SNR=3.5						
BDFB	Brasilia	20.43	73	P	P	03 39 03.0	-0.5
	comp=E,9.4nm,0.8s,baz=243,slow=12,SNR=15						
RCBR	Riachuelo	35.53	66	eP	P	03 41 20.8	-0.6
VNA3	Neumayer Olymp	58.52	161	⇑iP	P	03 44 20.6	+0.8
VNA3				e		03 44 59.0	
VNA1	Neumayer--Stat	58.73	160	⇑i	P	03 44 22.6	+1.4
VNA2	Neumayer--Watz	59.09	160	⇑iP	P	03 44 24.6	+0.9
VNA2				e		03 45 00.9	
SNAA	Sanae	60.72	161	P	P	03 44 35.5	+0.6
	comp=E,0.6nm,0.7s,mb3.7,baz=275,slow=3.8,SNR=12						
TXAR	Lajitas Array	62.15	325	P	P	03 44 44.1	-0.9
	comp=E,0.5nm,0.7s,mb3.7,baz=145,slow=8.1,SNR=7.8						
ANMO	Albuquerque	68.04	327	eP	P	03 45 22.6	-0.2
LIC	Lamto	68.22	73	eP	P	03 45 23.5	-0.8
	comp=E,77nm,2.1s,mb5.2						
TIC	Toumodi	68.42	73	eP	P	03 45 26.1	+0.6
	comp=E,14nm,1.3s,mb4.6						
KIC	Kosan Boka	68.53	73	eP	P	03 45 25.8	-0.4
	comp=E,67nm,1.1s,mb5.4						
DBIC	Dimbokro	68.58	73	P	P	03 45 26.1	-0.4
	comp=E,3.9nm,0.5s,mb4.5,baz=202,slow=8.8,SNR=11						
VNDA	Vanda	75.54	190	P	P	03 46 08.1	+1.6
	comp=E,0.5nm,0.8s,mb3.3,baz=118,slow=4.6,SNR=3.7						
PDAR	Pinedale Array	75.66	330	P	P	03 46 07.8	-0.1
	comp=E,0.9nm,0.7s,mb3.6,baz=138,slow=6.8,SNR=10						
REDW	Red Top Meadow	76.72	330	eP	P	03 46 14.5	+0.7
	comp=E,8.5nm,1.3s,mb4.3						
ULM	Lac du Bonnet	76.87	342	P	P	03 46 13.6	-0.9
	comp=E,3.1nm,0.5s,mb4.3,baz=149,slow=5.8,SNR=13						
ULM	Lac du Bonnet	76.87	342	eP	P	03 46 13.3	-1.2
	comp=E,3.8nm,0.6s,mb4.3						
NVAR	Mina Array Bea	77.00	322	P	P	03 46 15.6	+0.1
	comp=E,0.5nm,0.6s,mb3.5,baz=138,slow=6.3,SNR=5.9						
NVAR	Mina Array Bea	77.00	322	P	P	03 46 15.6	+0.1
DLMT	Dillon	79.05	330	eP	P	03 46 27.0	+0.4
MAW	Mawson	82.78	163	P	P	03 46 47.1	+1.4
	comp=E,1.2nm,0.5s,mb4.0,baz=208,slow=3.3,SNR=4.5						
YKA	Yellowknife Ar	92.74	340	P	P	03 47 33.4	-0.2
	comp=E,1.0nm,0.5s,mb4.4,baz=136,slow=4.9,SNR=9.5						
WRA	Warramunga Arr	132.01	209	PKP	PKPdf	03 53 36.6	+2.1
	comp=E,1.2nm,0.6s,baz=157,slow=1.7,SNR=20						
MKAR	Makanchi Array	146.42	38	PKPbc	PKPbc	03 54 02.0	+1.0
	comp=E,2.0nm,0.8s,baz=297,slow=2.7,SNR=14						

*BJI **18** 03:47:32.2, 6.87N×93.68E, h30km, mB5.1, mb5.0, Ms4.9, Msz4.6*
*MOS **18** 03:47:39.6±0.9, 7.72N×94.02E, h38km, mb5.5/83, MS4.2/10, Error ellipse: s-maj=9.2km s-min=4.0km az=122.8*
*NEIC **18** 03:47:40.0±0.1, 7.65N×93.97E, h30km, mb5.2/88, Error ellipse: s-maj=5.7km s-min=3.2km az=221.0*
*HRVD **18** 03:47:40.0±0.3, 7.60N×94.16E, h12km, MW5.1/62, Centroid moment Tensor Solution. LP body waves: s37,c46; Mantle waves: s62,c112; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.16±.11; $M_{\theta\theta}$-0.08±.09; $M_{\phi\phi}$3.24±.10; $M_{r\theta}$-1.09±.33; $M_{\theta\phi}$0.75±.08; $M_{\phi r}$-3.81±.30; Best double couple: $M_0$5.145×10^{16} NP1: ϕ_s189°, δ20°, λ-96°. NP2: ϕ_s15°, δ70°, λ-88°. Principal axes: T 5.26, Plg25°, Azm103°; N -.226, Plg2°, Azm194°; P -5.029, Plg65°, Azm289°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **18** 03:47:41.4±1.3, 7.69N×94.08E, h37km±9km, mb4.7/22, mb1 4.8/22, mb1mx4.8/22, mbtmp4.9/22, MS4.1/16, Ms1 4.1/16, ms1mx4.0/24 Error ellipse: s-maj=15.3km s-min=11.0km az=60.0*
ISC 18 03:47:38.1±0.2, **7.60N**±0.03×**94.00E**±0.03, **h30**km±1.4km**: pP-P, n427**, σ1.10/404, **mb5.2**/143, **MS4.3**/43, **27C-68D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	Phuket	4.18	83	P	Pn	03 48 49.0	+7.4
SNG	Songkhla	6.58	93	P	Pn	03 49 15.0	-0.4
	152nm,0.9s						
KULM	Kulim	7.00	109	ePn	Pn	03 49 19.3	-2.0
NNT	Nongplab	7.52	48	P	Pn	03 49 28.0	-0.6
IPM	Ipoh	7.60	113	P	Pn	03 49 27.8	-2.0
KGM	Kluang	10.81	120	P	P	03 50 18.2	+3.9
CHG	Chiang Mai	12.14	23	⇑P	P	03 50 35.4	+3.2
	51nm,1.1s						
KKTK	Khon Kaen	12.24	44	P	P	03 50 49.0	+15
	309nm,0.7s						
NANT	Nan	12.90	30	⇑P	P	03 50 48.0	+5.7
	150nm,1.0s						
VIS	Vishakhapatnam	14.47	315	eP	P	03 51 01.2	-1.8
VIS				i PP	PP	03 51 09.3	-5.0
VIS				AMb	AMB	03 51 15.9	
	comp=Z,141nm,0.6s						
VIS				eS	S	03 53 32.8	-10
KSM	Kuching	17.35	110	ePn	P	03 51 42.9	+2.9
BOK	Bokaro	17.89	335	eP	P	03 51 45.9	-0.7
BOK				AMb	AMB	03 51 51.5	
	comp=Z,138nm,1.2s						
BOK				ex	x	03 54 49.8	
HYB	Hyderabad	17.95	304	i P	P	03 51 49.5	+2.2
HYB				eS	S	03 55 07.5	+3.8
HYB	Hyderabad	17.95	304	eP	P	03 51 49.5	+2.2
HYB				eS	S	03 55 07.5	+3.8
SHL	Shillong	17.98	354	eP	P	03 51 46.0	-1.8
SHL				ex	x	03 55 27.0	
BLSP	Bilaspur	18.43	323	eP	P	03 51 53.2	-0.1
BLSP				AMb	AMB	03 51 56.1	
	comp=Z,64nm,0.9s						
QIZ	Qiongzhong	19.13	52	eP	P	03 52 01.8	0.0
QIZ				eS	S	03 55 32.6	+2.0
QIZ				LR	LR		
	comp=N,4μm,10.4s						
QIZ				LR	LR		
	comp=Z,3μm,6.4s						
KMI	Kunming	19.33	25	P	P	03 52 07.5	+3.5
KMI				AP		03 52 15.8	
KMI				XP		03 52 18.6	
KMI				PP	PP	03 52 25.4	+4.1
KMI				S	S	03 55 39.0	+4.1
KMI				AMB	AMB		
	comp=Z,31nm,1.2s						
KMI				AMB	AMB		
	comp=Z,617nm,5.8s						
KMI				LR	LR		
	comp=N,868nm,10.4s						
KMI				LR	LR		
	comp=E,735nm,13.7s						
KMI				LR	LR		
	comp=Z,545nm,13.7s						
PKI	Pulchoki	21.47	339	eP	P	03 52 26.3	-0.1
	comp=Z,131nm,0.7s,mb5.3						
PKI	Pulchoki	21.47	339	eP	P	03 52 26.3	-0.1
PKI				pmax	pmax		
	comp=Z,66nm,0.7s,mb5.1						
KAD	Karad	21.60	298	eP	P	03 52 28.2	+0.5
KAD				AMb	AMB	03 52 30.9	
	comp=Z,63nm,0.8s,mb5.1						
DMN	Daman	21.61	338	eP	P	03 52 27.7	-0.2
	comp=Z,217nm,1.0s,mb5.5						
KKN	Kakani	21.71	339	eP	P	03 52 28.7	-0.2
	comp=Z,167nm,0.9s,mb5.5						
KKM	Kota Kinabalu	22.11	93	P	P	03 52 36.7	+3.8
KKM	Kota Kinabalu	22.11	93	eP	P	03 52 35.1	+2.2
GKN	Gorkha	22.14	338	eP	P	03 52 33.0	-0.2
	comp=Z,213nm,0.9s,mb5.6						
LSA	Lhasa	22.15	353	P	P	03 52 33.6	+0.4
LSA	Lhasa	22.15	353	eP	P	03 52 33.0	-0.2
	comp=Z,123nm,0.8s,mb5.4						
LSA	Lhasa	22.15	353	eP	P	03 52 33.0	-0.2
LSA				pmax	pmax		
	comp=Z,123nm,0.8s,mb5.4						
BHPL	Bhopal	22.26	316	eP	P	03 52 35.6	+1.3
BHPL				AMb	AMB	03 52 40.1	
	comp=Z,169nm,1.1s,mb5.4						
GYA	Guiyang	22.29	31	⇓iP	P	03 52 36.9	+2.2
GYA				AP		03 52 45.8	
GYA				XP		03 52 49.6	
GYA				PP	PP	03 53 07.3	+5.5
GYA				S	S	03 56 44.0	+11
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,350nm,5.6s						
GYA				LR	LR		
	comp=N,1μm,15.3s,MS4.6						
GYA				LR	LR		
	comp=E,790nm,12.3s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,11.7s,MS4.6						
KOLN	Koldanda	22.35	335	eP	P	03 52 35.5	+0.3
	comp=Z,169nm,0.9s,mb5.5						
CD2	Chengdu	24.93	20	P	P	03 53 01.4	+1.1
CD2				AP		03 53 11.1	
CD2				XP		03 53 15.3	
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
CD2				LR	LR		
	comp=E,680nm,10.7s						
CD2				LR	LR		
	comp=Z,640nm,13.0s,MS4.3						
AJM	Ajmer	26.29	318	i P	P	03 53 14.0	+0.9
ENH	Enshi	26.83	31	eP	P	03 53 17.4	-0.6
	comp=Z,21nm,0.8s,mb4.7						
ENH				LR	LR		
	comp=Z,636nm,20.0s,MS4.2						
QZH	Quanzhou	29.15	51	eP	P	03 53 41.4	+2.4
QZH				S	S	03 58 27.3	-0.5
QZH				LR	LR		
	comp=N,3μm,13.6s,MS5.3						
QZH				LR	LR		
	comp=E,3μm,12.1s,MS5.3						
QZH				LR	LR		
	comp=Z,5μm,13.4s,MS5.3						
XAN	Xi'an	29.70	26	P	P	03 53 43.5	-0.4
XAN				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7						
WHN	Wuhan	29.74	37	eP	P	03 53 44.9	+0.6
WHN				S	S	03 58 39.0	+1.8
WHN				LR	LR		
	comp=Z,2μm,16.5s,MS4.9						
LZH	Lanzhou	29.75	16	eP	P	03 53 44.8	+0.4
LZH				AP	pP	03 53 53.0	-0.1
LZH				XP	sP	03 53 57.0	-0.1
LZH				PP	PP	03 54 42.6	+1.1
LZH				eS	S	03 58 37.0	-0.3
LZH				AMB	AMB		
	comp=Z,108nm,1.4s,mb5.4						
LZH				AMB	AMB		
	comp=Z,350nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,13.8s						
LZH				LR	LR		
	comp=Z,2μm,14.5s,MS5.0						
GTA	Gaotai	32.10	8	P	P	03 54 05.3	+0.3
GTA				AP	pP	03 54 14.8	+1.0
GTA				XP	sP	03 54 18.8	+1.1
GTA				PCP	PcP	03 56 55.3	+1.4
GTA				S	S	03 59 15.4	+1.2
GTA				SCP		04 00 35.4	
GTA				PCS		04 00 38.5	
GTA				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
GTA				AMB	AMB		
	comp=Z,81nm,6.1s						
GTA				LR	LR		
	comp=N,222nm,17.2s,MS4.1						
GTA				LR	LR		
	comp=E,249nm,17.6s,MS4.1						
GTA				LR	LR		
	comp=Z,262nm,19.9s,MS3.9						
NJ2	Nanjing	33.57	40	eP	P	03 54 17.6	-0.3
NJ2				AP	pP	03 54 27.5	+0.8
NJ2				XP	sP	03 54 31.6	+1.0
NJ2				PP	PP	03 55 30.3	-0.3
NJ2				S	S	03 59 37.0	-0.1
NJ2				XS		03 59 56.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,32nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,15.2s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,15.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,16.2s,MS4.8						
SSE	Sheshan	34.52	44	P	P	03 54 25.9	-0.1
SSE				AP	pP	03 54 34.6	-0.3
SSE				PP	PP	03 55 44.4	+1.9
SSE				S	S	03 59 53.4	+1.6
SSE				XS		04 00 08.5	
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,194nm,8.1s						
SSE				LR	LR		
	comp=N,321nm,25.0s,MS4.0						
SSE				LR	LR		
	comp=E,207nm,25.0s,MS4.0						
SSE				LR	LR		
	comp=Z,274nm,13.2s						
KSH	Kashi	35.66	336	eP	P	03 54 36.5	+0.8
KSH				eAP	pP	03 54 45.8	+1.2
KSH				XP	sP	03 54 49.8	+1.4
KSH				PP	PP	03 55 56.0	-0.6
KSH				S	S	04 00 07.1	-2.4
KSH				XS		04 00 23.4	
KSH				eSCP		04 00 47.3	
KSH				eSCS	ScS	04 04 50.8	+0.8
KSH				AMB	AMB		
	comp=Z,410nm,6.4s						
KSH				LR	LR		
	comp=N,560nm,5.3s						
KSH				LR	LR		
	comp=E,890nm,5.1s						
WMQ	Urumqi	36.50	352	⇑iP	P	03 54 43.8	+1.1
WMQ				AP	pP	03 54 53.0	+1.4
WMQ				XP	sP	03 54 57.5	+2.1
WMQ				PP	PP	03 56 06.0	-1.1
WMQ				PCP	PcP	03 57 07.0	+0.6
WMQ				S	S	04 00 22.5	+0.2
WMQ				XS		04 00 38.5	
WMQ				AMB	AMB		
	comp=Z,52nm,0.9s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,173nm,5.6s						
WMQ				LR	LR		
	comp=N,410nm,18.9s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,21.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,402nm,18.9s,MS4.2						
HHC	Hu-ho-hao-te	36.63	23	⇓P	P	03 54 45.3	+1.5
HHC				AP	pP	03 54 55.0	+2.3
HHC				XP	sP	03 54 58.8	+2.3
HHC				PP	PP	03 56 12.8	+4.0
HHC				PCP	PcP	03 57 07.5	+0.7
HHC				S	S	04 00 27.3	+3.1
HHC				XS		04 00 42.8	
HHC				SCP		04 00 51.1	
HHC				PCS		04 00 54.8	
HHC				SCS	ScS	04 04 56.1	+0.8
HHC				AMB	AMB		
	comp=Z,68nm,0.9s,mb5.5						
HHC				LR	LR		
	comp=N,363nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=E,633nm,10.7s,MS4.7						
HHC				LR	LR		
	comp=Z,383nm,16.7s						
WBK	Wadi Bani Khal	36.84	298	P	P	03 54 49.3	+3.6
	SNR=6.8						
JOW	Kunigami	37.73	55	LR	LR	04 12 51.5	
	comp=Z,309nm,18.6s,MS4.1,baz=208,slow=40						

SMDO	Samad	37.78	298	P	P	03 54 57.2	+3.5
	SNR=10						
BIDO	Bidbid	37.86	299	P	P	03 54 57.8	+3.5
	SNR=14						
ULHL	Ulahol	37.91	338	P	P	03 54 54.6	+0.1
	SNR=6.5						
MBWA	Marble Bar	38.15	139	eP	P	03 54 56.1	-0.7
	comp=Z,28nm,1.0s,mb5.0						
BSY	Bisya	38.44	297	P	P	03 55 02.8	+3.6
	SNR=26						
UCH	Uchtor	38.55	337	P	P	03 55 01.2	+1.3
	SNR=8.2						
HOQ	Hoqain	38.59	299	P	P	03 55 04.0	+3.5
	SNR=23						
TKM2	Tokmak 2	38.73	338	P	P	03 55 01.8	+0.4
	SNR=10						
KBK	Karagaybulak	38.75	337	P	P	03 55 02.7	+1.1
	SNR=8.2						
AML	Almayashu	38.80	336	P	P	03 55 03.1	+1.1
	SNR=52						
AAK	Ala-Archa	38.90	337	P	P	03 55 03.8	+0.9
	SNR=14						
AAK	Ala-Archa	38.90	337	eP	P	03 55 02.5	-0.4
	comp=Z,26nm,1.1s,mb4.9						
AAK	Ala-Archa	38.90	337	eP	P	03 55 02.5	-0.4
AAK				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.9						
FRU	Bishkek	39.02	337	eP	P	03 55 03.0	-0.9
FRU				e		03 56 55.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.9s,mb4.8						
CHMS	Chumysh	39.11	337	P	P	03 55 05.2	+0.5
	SNR=8.0						
ARQ	Araqi	39.21	298	P	P	03 55 09.1	+3.5
	SNR=12						
EKS2	Erkin-Say	39.21	336	P	P	03 55 06.2	+0.7
	SNR=13						
USP	Ospenovka	39.44	337	P	P	03 55 07.7	+0.3
	SNR=21						
ASHO	Ashiyiah	40.02	300	P	P	03 55 15.7	+3.3
	SNR=31						
BANOM	Banah	40.23	301	P	P	03 55 17.6	+3.6
	SNR=11						
MKAR	Makanchi Array	40.33	348	P	P	03 55 13.9	-0.7
	comp=Z,19nm,1.0s,mb4.8,baz=164,slow=8.8,SNR=51						
MKAR				PcP	PcP	03 57 18.1	-0.2
	comp=Z,5.9nm,0.9s,baz=90,slow=2.4,SNR=4.5						
MKAR				ScP		04 01 04.7	
	comp=Z,0.8nm,0.8s,baz=153,slow=5.4,SNR=3.8						
MKAR				LR	LR	04 15 16.3	
	comp=Z,215nm,18.7s,MS4.0,baz=177,slow=41						
MKAR	Makanchi Array	40.33	348	P	P	03 55 13.9	-0.7
MKAR				PcP	PcP	03 57 18.1	-0.2
MKAR				ScP		04 01 04.7	
MKAR				LR	LR	04 15 16.3	
FITZ	Fitzroy Crossi	40.34	130	eP	P	03 55 14.0	-1.0
	comp=Z,21nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	40.34	130	P	P	03 55 14.1	-1.0
	comp=Z,23nm,0.9s,mb4.9,baz=314,slow=2.9,SNR=15						
FITZ				PcP	PcP	03 57 18.9	+0.2
	comp=Z,14nm,0.8s,slow=4.0,SNR=4.0						
FITZ				ScP		04 01 04.5	
	comp=Z,3.4nm,0.7s,baz=258,slow=2.0,SNR=7.1						
WHFO	Wadi Hawf	40.47	289	P	P	03 55 18.7	+2.7
	SNR=21						
KKAR	Karatay Array	40.95	334	iP	P	03 55 19.8	+0.1
SONM	Songino Array	41.46	13	P	P	03 55 24.5	+0.6
	comp=Z,28nm,1.0s,mb4.9,baz=196,slow=7.9,SNR=116						
SONM				PcP	PcP	03 57 21.8	-0.2
	comp=Z,6.8nm,0.8s,baz=205,slow=3.5,SNR=5.6						
SONM				ScP		04 01 09.3	
	comp=Z,1.7nm,0.8s,baz=193,slow=3.3,SNR=6.4						
JNU	Nakatsue	42.53	48	P	P	03 55 33.5	+0.5
	comp=Z,4.0nm,0.6s,mb4.3,baz=166,slow=18,SNR=2.4						
JNU				LR	LR	04 13 30.6	
	comp=Z,285nm,19.2s,MS4.2,baz=63,slow=36						
SNY	Shenyang	42.98	33	⇑P	P	03 55 38.1	+1.6
SNY				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
SNY				AMB	AMB		
	comp=Z,90nm,4.7s						
SNY				LR	LR		
	comp=N,400nm,16.4s						
SNY				LR	LR		
	comp=Z,600nm,14.3s,MS4.6						
ZAK	Zakamensk	43.34	9	eP	P	03 55 39.6	+0.3
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
MUN	Mundaring	44.70	153	eP	P	03 55 51.2	+0.6
KURK	Kurchatov	44.84	346	eP	P	03 55 50.1	-1.3
	comp=Z,60nm,1.2s,mb5.3						
KURK				ePcP	PcP	03 57 33.6	+0.2
KURK				LR	LR		
	comp=Z,103nm,20.0s,MS3.8						
KURK	Kurchatov	44.84	346	eP	P	03 55 50.2	-1.2
KURK				e		03 57 33.6	
KURK				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.3						
KURK				MLR	MLR		
	comp=Z,103nm,20.0s,MS3.8						
KLBR	Kellerberrin	45.10	151	eP	P	03 55 53.9	+0.1
	comp=Z,24nm,1.1s,mb4.9						
CN2	Changchun	45.34	32	eP	P	03 55 55.0	-0.4
CN2				eXP	sP	03 56 08.0	-0.1
CN2				PCP	PcP	03 57 34.8	-0.3
CN2				eS	S	04 02 33.0	-0.5
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=E,300nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.5						
HASS	Wahat al Ahsa'	45.70	298	P	P	03 56 00.8	+2.2
NWAO	Narrogin (SRO)	45.97	153	P	P	03 56 01.2	+0.6
	comp=Z,12nm,0.8s,mb4.9,baz=338,slow=7.0,SNR=6.3						
ZAL	Zalesovo	46.80	353	P	P	03 56 06.4	-0.5
	comp=Z,25nm,0.7s,mb5.3,baz=300,slow=6.0,SNR=108						
ZAL				LR	LR	04 20 59.1	
	comp=Z,291nm,19.9s,MS4.2,baz=111,slow=43						
ZAL	Zalesovo	46.80	353	P	P	03 56 06.4	-0.5
ZAL				LR	LR	04 20 59.1	
HIA	Hailar	46.83	23	eP	P	03 56 08.1	+0.9
	comp=Z,93nm,1.1s,mb5.6						
HIA				LR	LR		
	comp=Z,484nm,19.0s,MS4.5						
HIA	Hailar	46.83	23	eP	P	03 56 08.1	+1.0
HIA				pmax	pmax		
	comp=Z,93nm,1.1s						
HIA				MLR	MLR		
	comp=Z,484nm,19.0s						
CIT	Chita	47.12	16	eP	P	03 56 09.6	+0.2
CIT				e		03 57 40.1	
CIT				pmax	pmax		
	comp=Z,101nm,1.5s,mb5.5						
NVS	Novosibirsk	47.90	352	⇓iP	P	03 56 14.3	-1.2
NVS				e		03 56 32.0	
NVS				eS	S	04 03 07.4	-2.3
NVS				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.6						
NVS				pmax	pmax		
	comp=N,54nm,1.4s						
NVS				pmax	pmax		
	comp=E,23nm,1.1s						
NVS				smax			
	comp=N,16nm,2.5s						
NVS				smax			
	comp=E,50nm,2.4s						
MDJ	Mudanjiang	48.12	34	P	P	03 56 18.9	+1.6
MDJ				AP	pP	03 56 27.9	+1.5
MDJ				XP	sP	03 56 31.9	+1.9
MDJ				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,123nm,6.3s						
MDJ	Mudanjiang	48.12	34	eP	P	03 56 19.0	+1.7
	comp=Z,24nm,1.0s,mb5.2						
RYDS	Riyadh	48.18	296	P	P	03 56 20.8	+2.7
QRN	Al-Qurain	48.19	302	eP	P	03 56 18.8	+0.7
QRN				AMb	AMB	03 56 20.4	
	comp=Z,96nm,0.9s,mb5.8						
WRA	Warramunga Arr	48.22	125	P	P	03 56 17.2	-1.2
	comp=Z,11nm,0.9s,mb4.9,baz=305,slow=9.0,SNR=55						
WRA				ScP		04 01 38.2	
	comp=Z,2.0nm,1.1s,baz=310,slow=3.4,SNR=7.1						
WRA				S	S	04 03 10.4	-4.3
	comp=Z,0.7nm,0.7s,baz=296,slow=15,SNR=4.9						
WRA	Warramunga Arr	48.22	125	P	P	03 56 17.2	-1.2
WRA				S	S	04 03 10.4	-4.3
WRAB	Tennant Creek	48.22	125	eP	P	03 56 17.3	-1.1
	comp=Z,23nm,0.8s,mb5.2						
WRAB	Tennant Creek	48.22	125	eP	P	03 56 17.3	-1.2
WRAB				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
WB2	Warramunga Arr	48.23	125	⇓iP	P	03 56 17.2	-1.3
KBD	Kabd	48.50	302	eP	P	03 56 21.1	+0.6
VLA	Vladivostok	48.53	37	iP	P	03 56 20.5	0.0
RDF	Al-Radifah	48.55	302	eP	P	03 56 21.5	+0.6
RDF				AMb	AMB	03 56 23.2	
	comp=Z,114nm,0.9s,mb5.9						
UMR	Umm Al-Rimmam	48.59	303	eP	P	03 56 21.8	+0.6
UMR				AMb	AMB	03 56 23.1	
	comp=Z,63nm,1.0s,mb5.6						
VOSK	Vostochnaya	48.76	342	iP	P	03 56 21.3	-0.9
NAY	Al-Naaiem	48.90	302	eP	P	03 56 23.7	+0.1
NAY				AMb	AMB	03 56 25.4	
	comp=Z,67nm,0.8s,mb5.7						
MIB	Mutribah	48.98	303	eP	P	03 56 25.1	+0.9
MIB				AMb	AMB	03 56 26.8	
	comp=Z,133nm,1.0s,mb5.9						
BVA0	Borovoye Array	49.20	341	iP	P	03 56 24.5	-1.1
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BVAR	Borovoye Array	49.20	341	ScP		04 01 42.7	
	comp=Z,0.6nm,0.4s,baz=135,slow=6.1,SNR=3.6						
BRVK	Borovoye	49.27	341	eP	P	03 56 25.1	-0.9
	comp=Z,5.2nm,0.9s,mb4.6						
BRVK				LR	LR		
	comp=Z,31nm,23.6s,MS3.2						
BRVK	Borovoye	49.27	341	eP	P	03 56 25.2	-0.9
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BRVK				MLR	MLR		
	comp=Z,31nm,23.6s,MS3.2						
JHJ	Hachijo jima 2	49.34	52	LR	LR	04 18 33.9	
	comp=Z,89nm,19.9s,MS3.8,baz=125,slow=38						
MZLS	Mizel	49.43	295	P	P	03 56 29.8	+2.1
MAT	Matsushiro	49.45	48	P	P	03 56 27.7	0.0
MAT	Matsushiro	49.45	48	eP	P	03 56 28.0	+0.3
MJAR	Matsushiro Arr	49.45	48	P	P	03 56 28.6	+0.9
	comp=Z,1.5nm,0.8s,mb4.1,baz=230,slow=10,SNR=7.4						
MJAR				PcP	PcP	03 57 50.2	+0.4
	comp=Z,7.8nm,0.9s,baz=234,slow=3.9,SNR=15						
MJAR				ScP		04 01 41.1	
	comp=Z,0.5nm,0.7s,baz=236,slow=5.7,SNR=4.4						
MJAR				LR	LR	04 16 12.7	
	comp=Z,124nm,20.5s,MS3.9,baz=180,slow=35						
ASPA	Alice Springs	49.84	130	eP	P	03 56 29.8	-1.1
FORT	Forrest	50.21	141	eP	P	03 56 34.1	+0.5
	comp=Z,83nm,0.8s,mb5.8						
GUMO	Guam	50.28	79	LR	LR	04 17 44.6	
	comp=Z,70nm,20.6s,MS3.6,baz=259,slow=36						
AB31	Akbulak array	50.41	332	P	P	03 56 34.8	0.0
AB31				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
AFFS	'Afif	51.40	295	P	P	03 56 45.0	+2.2
AKTO	Aktyubinsk	52.12	332	P	P	03 56 47.2	-0.6
AKTO				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
BLJS	Baljurashi	52.14	289	P	P	03 56 51.0	+2.6
KLR	Kul'dur	52.19	31	eP	P	03 56 45.9	-2.5
KLR				eS	S	04 04 05.5	-4.0
KLR				eSS	SS	04 07 40.5	-4.7
KLR				eSSS	SSS	04 09 23.0	-5.2
KLR				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.9						
KLR				MLR	MLR		
	comp=E,600nm,13.0s						
KLR				MLR	MLR		
	comp=Z,800nm,13.0s,MS4.9						
HILS	Ha'il	53.11	299	P	P	03 56 57.4	+1.9
LTHS	Al Lith	53.30	290	P	P	03 56 59.2	+2.2
CLNS	Chul'man	54.74	20	eP	P	03 57 07.8	+0.7
CLNS				e		03 58 09.7	
CLNS				e		03 59 07.0	
CLNS				eS	S	04 04 47.4	+3.6
CLNS				eSS	SS	04 08 26.5	-0.2
CLNS				pmax	pmax		
	comp=Z,102nm,0.9s,mb5.8						
CLNS				pmax	pmax		
	comp=N,59nm,1.0s						
CLNS				pmax	pmax		
	comp=E,52nm,1.0s						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
CLNS				smax			
	comp=N,80nm,14.1s						
CLNS				smax			
	comp=Z,41nm,11.0s						
CLNS				smax			
	comp=E,162nm,14.5s						
CLNS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.6						
CLNS				MLR	MLR		
	comp=N,500nm,14.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,400nm,13.0s,MS4.9						
KBRS	Khaybar	55.05	296	P	P	03 57 12.2	+2.3
PMG	Port Moresby	55.59	107	P	P	03 57 13.1	-0.7
	comp=E,14nm,0.8s,mb5.0,baz=118,slow=4.0,SNR=4.3						
PMG	Port Moresby	55.59	107	P	P	03 57 13.2	-0.6
SVE	Sverdlovsk	55.60	339	⇓eP	P	03 57 13.4	0.0
SVE				e		03 58 19.0	
SVE				pmax	pmax		
	comp=Z,144nm,1.7s,mb5.7						
SVE				MLR	MLR		
	comp=N,200nm,18.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,200nm,18.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,9μm,18.0s,MS5.9						
ASAJ	Asahikawa	55.72	41	LR	LR	04 22 42.5	
	comp=Z,114nm,18.2s,MS4.0,baz=165,slow=38						
ARU	Arti	56.09	337	eP	P	03 57 16.0	-0.8
	comp=Z,73nm,1.3s,mb5.5						
ARU	Arti	56.09	337	⇑eP	P	03 57 15.7	-1.1
ARU				pmax	pmax		
	comp=Z,63nm,1.5s,mb5.4						
ZEI	Tsey	56.14	317	eP	P	03 57 14.2	-3.2
ZEI				i *PP	pP	03 57 23.9	-2.7
ZEI				i		03 58 10.6	
ZEI				i		03 59 19.5	
ZEI				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
YSS	Yuzh-Sakhalins	57.09	38	eP	P	03 57 24.5	+0.4
	comp=Z,21nm,0.9s,mb5.2						
YSS	Yuzh-Sakhalins	57.09	38	⇑iP	P	03 57 25.0	+0.9
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.5						
YSS				MLR	MLR		
	comp=N,300nm,14.0s,MS4.7						
YSS				MLR	MLR		
	comp=E,300nm,14.0s,MS4.7						
KMBO	Kilima Mbogo	57.25	264	P	P	03 57 28.4	+2.6
	comp=E,30nm,0.9s,mb5.3,baz=58,slow=10.0,SNR=104						
KMBO				LR	LR	04 18 45.0	
	comp=E,258nm,18.4s,MS4.4,baz=92,slow=32						
QURS	Qurayyt al Mil	57.73	302	P	P	03 57 29.9	+1.0
CTA	Charters Tower	58.30	119	eP	P	03 57 32.0	-0.9
	comp=E,4.8nm,1.0s,mb4.5						
CTA	Charters Tower	58.30	119	LR	LR	04 25 13.8	
	comp=E,167nm,20.9s,MS4.1,baz=245,slow=39						
CTA	Charters Tower	58.30	119	eP	P	03 57 32.0	-0.9
CTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MALT	Malatya	58.53	310	eP	P	03 57 33.8	-0.6
	comp=Z,15nm,1.1s,mb4.9						
MALT	Malatya	58.53	310	eP	P	03 57 33.8	-0.6
MALT				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
GZT	Gaziantep	58.93	309	iP	P	03 57 35.6	-1.6
AYUS	'Aynunah	58.94	298	P	P	03 57 38.9	+1.5
SOKR	Solikamsk	59.01	339	c iP	P	03 57 37.4	0.0
SOKR				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.8						
SOKR				MLR	MLR		
	comp=Z,420nm,22.0s,MS4.5						
BDAS	Al Bad'	59.12	299	P	P	03 57 39.8	+1.2
JMOS	Jabal al Moall	59.23	299	P	P	03 57 40.3	+1.0
SOC	Sochi	59.28	317	eP	P	03 57 37.7	-1.8
ALWS	Ilw as Safayha	59.28	300	P	P	03 57 41.2	+1.5
STKA	Stephens Creek	60.02	134	eP	P	03 57 43.6	-1.1
	comp=Z,13nm,2.0s,mb4.6						
STKA	Stephens Creek	60.02	134	P	P	03 57 43.6	-1.1
	comp=Z,4.7nm,0.8s,mb4.5,baz=325,slow=12,SNR=6.0						
STKA				LR	LR	04 26 27.6	
	comp=Z,199nm,21.9s,MS4.2,baz=214,slow=39						
YAK	Yakutsk	60.30	18	eP	P	03 57 44.5	-1.8
	comp=Z,188nm,1.3s,mb6.0						
YAK	Yakutsk	60.30	18	eP	P	03 57 45.2	-1.0
YAK				pmax	pmax		
	comp=Z,124nm,1.3s,mb5.8						
VRHR	Novokhopersk	61.08	325	eP	P	03 57 49.8	-1.9
VRHR				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.7						
VRHR				pmax	pmax		
	comp=N,20nm,0.8s						
VRHR				pmax	pmax		
	comp=E,20nm,0.7s						
AVNT	Avonos	61.36	310	iP	P	03 57 52.5	-1.2
CSS	Prodhromos	61.72	306	eP	P	03 57 55.9	-0.4
	comp=E,16nm,1.0s,mb5.1						
CTKT	Corum	61.87	312	iP	P	03 57 54.4	-2.8
BOYT	Boyabat	62.00	313	iP	P	03 57 55.5	-2.6
BR131	Keskin Array S	62.50	311	eP	P	03 57 59.5	-1.9
	comp=E,8.5nm,0.8s,mb4.9						
BRTR	Keskin Array B	62.50	311	P	P	03 57 59.6	-1.8
	comp=E,9.1nm,0.7s,mb5.0,baz=124,slow=7.6,SNR=74						
VOR	Voronezh	62.73	325	P	P	03 58 03.0	+0.3
VOR				pmax	pmax		
	comp=Z,150nm,3.0s						
ELDT	Eldivan	62.84	312	iP	P	03 58 01.4	-2.2
BALT	Daday	63.13	313	iP	P	03 58 03.2	-2.3
ANTO	Ankara	63.17	311	eP	P	03 58 04.3	-1.4
	comp=Z,33nm,1.3s,mb5.3						
ANTO	Ankara	63.17	311	eP	P	03 58 04.3	-1.5
ANTO				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.3						
SIM	Simferopol'	63.53	317	eP	P	03 58 06.7	-1.4
SIM				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
SIM				MLR	MLR		
	comp=Z,110nm,19.9s,MS4.0						
SGKT	Sivrigoynuk	63.88	312	iP	P	03 58 07.9	-2.6
ESKT	Eskisehir	64.56	310	iP	P	03 58 12.3	-2.7
TKTP	Tekketepe	64.68	308	iP	P	03 58 13.6	-2.2
HENT	Hendek	64.79	312	iP	P	03 58 13.4	-3.1
GOLH	Golhisar	65.13	307	iP	P	03 58 16.1	-2.6
MOS	Moscow	65.24	329	eP	P	03 58 16.9	-2.2
MOS				pmax	pmax		
	comp=Z,163nm,1.6s,mb5.8						
OBN	Obninsk	65.54	328	eP	P	03 58 19.6	-1.4
	comp=Z,87nm,1.3s,mb5.6						
OBN	Obninsk	65.54	328	⇓iP	P	03 58 19.8	-1.2
OBN				e		04 00 43.7	
OBN				eSS	SS	04 11 17.1	-0.8
OBN				pmax	pmax		
	comp=Z,84nm,1.3s,mb5.6						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
TOO	Toolangi	65.75	137	eP	P	03 58 23.7	+1.0
	comp=Z,18nm,1.1s,mb5.0						
TOO	Toolangi	65.75	137	eP	P	03 58 23.7	+1.0
TOO				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
ULDT	Uludag	65.97	311	iP	P	03 58 22.1	-1.9
BTOK	Tokmak	66.74	310	iP	P	03 58 27.3	-1.6
MA2	Magadan	67.08	28	eP	P	03 58 30.7	-0.1
	comp=Z,75nm,0.9s,mb5.7						
MA2	Magadan	67.08	28	d iP	P	03 58 30.8	+0.1
MA2				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.7						
KDAG	Bornova	67.11	308	iP	P	03 58 30.0	-1.3
TIRR	Tirgusor	67.35	315	⇓iP	P	03 58 31.5	-1.2
TIXI	Tiksi	67.53	11	⇑eP	P	03 58 32.3	-1.1
URLA	Izmir	67.63	308	iP	P	03 58 32.8	-1.8
AYVA	Ayvalik	67.69	309	iP	P	03 58 33.5	-1.5
CFR	Carcaliu	67.69	316	⇑iP	P	03 58 33.0	-1.9
HARR	Harsova	67.73	315	⇓iP	P	03 58 33.2	-1.9
AKASG	Malin Array Be	68.28	322	P	P	03 58 36.6	-1.8
	comp=Z,7.6nm,0.8s,mb4.8,baz=89,slow=5.2,SNR=34						
VRI	Vrincioaia	68.80	316	⇑iP	P	03 58 41.6	-0.1
PET	Petropavlovsk	68.84	36	⇑eP	P	03 58 41.9	+0.1
LSZ	Lusaka	69.04	251	eP	P	03 58 45.1	+1.4
	comp=Z,43nm,0.8s,mb5.4						
LSZ	Lusaka	69.04	251	eP	P	03 58 45.1	+1.4
LSZ				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.4						
MLR	Muntele Rosu	69.27	316	⇑iP	P	03 58 44.7	+0.1
RZN	Rozhen	69.53	312	iP	P	03 58 46.0	-0.3
SNX	Sinaia	69.54	316	⇓iP	P	03 58 44.7	-1.6
MTUR	Matau	69.83	315	⇑iP	P	03 58 46.6	-1.5
VOIR		69.88	316	⇑iP	P	03 58 47.2	-1.1
MNK	Minsk	70.10	325	eP	P	03 58 46.0	-3.5
BURAR	Bucovina Array	70.16	318	⇓iP	P	03 58 49.8	-0.2
BURAR	Bucovina Array	70.16	318	⇓iP	P	03 58 49.9	-0.1
MMB	Musomiste	70.25	311	iP	P	03 58 49.5	-1.2
KKB	Krupnik	70.77	312	iP	P	03 58 53.0	-0.8
VTS	Vitosha	70.77	312	iP	P	03 58 53.0	-0.8
VTS	Vitosha	70.77	312	P	P	03 58 53.3	-0.5
JOF	Joensuu	71.04	335	ep	P	03 58 53.5	-1.6
DRGR		71.70	317	⇓iP	P	03 58 58.2	-1.2
VSU	Vasula	71.75	329	⇑eP	P	03 58 58.9	-0.5
APA	Apatity	72.06	339	eP	P	03 59 00.0	-1.1
APA				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
KWP	Kalwaria	72.15	320	eP	P	03 59 01.7	-0.2
KOLS	Kolonicke sedl	72.32	319	eP	P	03 59 03.0	0.0
SUW	Suwalki	72.65	324	eP	P	03 59 03.7	-1.1
CRVS	Cervenica-Dubn	72.84	319	eP	P	03 59 05.9	-0.2
FINES	FINESS Array B	72.89	332	P	P	03 59 06.0	-0.1
	comp=Z,33nm,0.8s,mb5.3,baz=104,slow=7.9,SNR=75						
FINES				LR	LR	04 38 07.4	
	comp=Z,59nm,19.4s,MS3.9,baz=120,slow=42						
FINES	FINESS Array B	72.89	332	iP	P	03 59 05.7	-0.4
FINES				pmax	pmax		
	comp=Z,33nm,0.8s						
KAF	Kangasniemi	72.97	333	ep	P	03 59 04.2	-2.4
	comp=Z,46nm,0.9s,mb5.4,baz=104,slow=5.6						
KAF	Kangasniemi	72.97	333	eP	P	03 59 04.2	-2.4
KAF				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.4						
STHS	Stebnicka Huta	73.06	319	eP	P	03 59 06.9	-0.4
KECS	Kecovo	73.43	318	eP	P	03 59 08.1	-1.4
NIE	Niedzica	73.66	319	eP	P	03 59 11.1	+0.3
PSZ	Piszkesteto	73.75	318	eP	P	03 59 10.5	-0.8
	comp=Z,23nm,1.3s,mb5.0						
PSZ	Piszkesteto	73.75	318	eP	P	03 59 10.5	-0.9
PSZ				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
LBTB	Lobatse	73.99	241	eP	P	03 59 14.8	+1.6
	comp=Z,59nm,0.9s,mb5.5						
LBTB	Lobatse	73.99	241	eP	P	03 59 14.9	+1.7
LBTB				pmax	pmax		
	comp=Z,59nm,0.9s,mb5.5						
OJC	Ojcow	74.09	320	eP	P	03 59 13.2	-0.1
PKSM	Moragy	74.42	316	P	P	03 59 14.7	-0.6
VYHS	Vyhne	74.52	318	eP	P	03 59 14.9	-0.9
KEV	Kevo	75.05	341	ep	P	03 59 15.1	-3.4
RAC	Raciborz	75.10	320	eP	P	03 59 19.8	+0.6
OKC	Ostrava-Krasne	75.11	319	eP	P	03 59 19.6	+0.4
TIP	Timpagrande	75.36	308	eP	P	03 59 20.6	-0.3
ARCES	ARCESS Array B	75.48	340	P	P	03 59 21.6	+0.6
	comp=Z,17nm,0.9s,mb5.0,baz=100,slow=7.4,SNR=17						
ARCES				LR	LR	04 35 12.4	
	comp=Z,226nm,20.8s,MS4.5,baz=88,slow=38						
ARE0	ARCESS Array S	75.48	340	eP	P	03 59 21.1	+0.2
MORC	Moravsky Berou	75.49	319	eP	P	03 59 21.3	-0.1
	comp=Z,32nm,1.2s,mb5.1						
MORC	Moravsky Berou	75.49	319	eP	P	03 59 21.3	-0.1
MORC				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
ZST	Bratislava	75.64	318	eP	P	03 59 22.2	-0.1
ZST				epP	pP	03 59 30.9	-0.8
VKA	Vienna	76.17	318	⇓iP	P	03 59 25.3	+0.1
DPC	Dobruska-Polom	76.33	320	eP	P	03 59 26.7	+0.6
KSP	Ksiaz	76.38	320	eP	P	03 59 26.8	+0.4
KSP	Ksiaz	76.38	320	⇓eP	P	03 59 26.7	+0.3

UPC Upice 76.54 320 *e*P P **03 59 27.8 +0.5**
ARSA Arzberg 76.64 317⇑*i*P P **03 59 28.6 +0.7**
comp=Z,31nm,1.6s,mb5.0
ARSA Arzberg 76.64 317⇓*i*P P **03 59 27.1 -0.8**
comp=Z,31nm,1.6s,mb5.0
TREC Trest 76.79 319 *e*P P **03 59 28.9 +0.2**
PERS Pernice 76.89 316 *i* P P **03 59 29.4 +0.1**
LJU Ljubljana 77.27 315 *i* P P **03 59 32.0 +0.6**
PRU Pruhonice 77.44 319 *e*P P **03 59 32.8 +0.5**
PVCC Panska Ves 77.46 320 *e*P P **03 59 33.2 +0.8**
MOA Molln 77.52 317⇓*i*P P **03 59 32.6 -0.2**
comp=Z,16nm,1.1s,mb4.8
GORS Gorjuse 77.65 316 *e*P P **03 59 33.9 +0.4**
BRG Berggiesshubel 77.87 320⇓*i*P P **03 59 35.1 +0.4**
comp=Z,17nm,1.0s,mb4.9
BRG *e* 03 59 40.5
BRG Berggiesshubel 77.87 320⇓*i*P P **03 59 35.1 +0.5**
BRG *e* 03 59 40.5
BRG pmax pmax
comp=Z,17nm,1.0s,mb4.9
GEC2 GERESS Array S 77.94 318 *e*P P **03 59 35.6 +0.6**
comp=Z,34nm,1.0s,mb5.2
GEC2 GERESS Array S 77.94 318 *e*P P **03 59 35.6 +0.6**
GEC2 pmax pmax
comp=Z,34nm,1.0s,mb5.2
GERES GERESS Array B 77.94 318 P P **03 59 35.4 +0.4**
comp=Z,18nm,0.8s,mb5.0,baz=90,slow=5.3,SNR=90
KHC Kasperske Hory 78.03 319 *e*P P **03 59 35.8 +0.3**
KHC pP pP 03 59 40.0 -5.0
KHC Kasperske Hory 78.03 319 *e*P P **03 59 35.8 +0.3**
KHC *e* 03 59 40.0
RUE Ruedersdorf 78.06 322 *e*P P **03 59 35.4 -0.2**
comp=Z,47nm,0.8s,mb5.5
MAW Mawson 78.23 192 *e*P P **03 59 38.3 +2.0**
comp=Z,9.8nm,0.8s,mb4.8
MAW Mawson 78.23 192 P P **03 59 38.1 +1.8**
comp=Z,12nm,0.8s,mb4.9,baz=22,slow=5.2,SNR=28
MAW Mawson 78.23 192 *e*P P **03 59 38.3 +2.0**
MAW pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 78.48 321 ⇓P P **03 59 37.8 -0.2**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 03 59 41.2 -6.3
CLL *i* *SP sP 03 59 43.5 -7.2
CLL *i* PCP PcP 03 59 47.5 +0.1
CLL *e* 03 59 56.0
CLL Collm 78.48 321⇓*i*P P **03 59 37.8 -0.2**
comp=Z,17nm,1.2s,mb4.8
CLL *i* pP pP 03 59 41.2 -6.3
CLL *i* sP sP 03 59 43.5 -7.2
CLL Collm 78.48 321⇓*i*P P **03 59 37.8 -0.2**
CLL *i* *SP sP 03 59 43.5 -7.2
CLL pmax pmax
comp=Z,17nm,1.2s,mb4.8
WET Wettzell 78.49 319 *e*P P **03 59 38.7 +0.6**
comp=Z,21nm,1.1s,mb5.0
WET Wettzell 78.49 319 *e*P P **03 59 38.7 +0.6**
WET pmax pmax
comp=Z,21nm,1.1s,mb5.0
NKC Novy Kostel 78.80 320 *e*P P **03 59 39.1 -0.6**
WTTA Wattenberg 79.29 317⇑*i*P P **03 59 42.3 -0.2**
comp=Z,46nm,1.0s,mb5.4
WTTA Wattenberg 79.29 317 *i* P P **03 59 42.3 -0.2**
comp=Z,46nm,1.0s,mb5.3,SNR=9.4
WTTA Wattenberg 79.29 317⇑*i*P P **03 59 42.3 -0.2**
WTTA pmax pmax
comp=Z,46nm,1.0s,mb5.4
WATA Walderalm 79.33 317⇑*i*P P **03 59 41.8 -0.9**
comp=Z,19nm,1.0s,mb5.0
WATA Walderalm 79.33 317⇑*i*P P **03 59 41.8 -0.9**
WATA pmax pmax
comp=Z,19nm,1.0s,mb5.0
MOX Moxa 79.34 320 *i* P P **03 59 43.3 +0.6**
comp=Z,logA/T=1.1,mb4.8
MOX Moxa 79.34 320 *e*P P **03 59 43.3 +0.6**
comp=Z,16nm,1.4s,mb4.8
MOX Moxa 79.34 320 *e*P P **03 59 43.3 +0.6**
MOX pmax pmax
comp=Z,16nm,1.4s,mb4.8
FUR Furstenfeldbru 79.53 318 *e*P P **03 59 43.9 +0.1**
comp=Z,32nm,1.1s,mb5.2
FUR Furstenfeldbru 79.53 318 *e*P P **03 59 43.9 +0.1**
FUR pmax pmax
comp=Z,32nm,1.1s,mb5.2
SQTA Sankt Quirin 79.58 317⇓*i*P P **03 59 43.6 -0.4**
comp=Z,23nm,0.9s,mb5.1
SQTA Sankt Quirin 79.58 317⇓*i*P P **03 59 43.6 -0.4**
SQTA pmax pmax
comp=Z,23nm,0.9s,mb5.1
GRA1 Grafenberg Arr 79.58 319 *e*P P **03 59 45.0 +1.0**
comp=Z,37nm,1.1s,mb5.2
GRF Grafenberg Arr 79.58 319 *e*P P **03 59 45.0 +1.0**
comp=Z,37nm,1.1s,mb5.2
GRF Grafenberg Arr 79.58 319 *e*P P **03 59 45.0 +1.0**
GRF pmax pmax
comp=Z,37nm,1.1s,mb5.2
GRF Grafenberg Arr 79.58 319 *e*P P **03 59 45.0 +1.0**
GRF pmax pmax
comp=Z,37nm,1.1s,mb5.2
MOTA Moosalm 79.65 317⇓*i*P P **03 59 44.0 -0.4**
comp=Z,24nm,1.0s,mb5.1
MOTA Moosalm 79.65 317⇓*i*P P **03 59 44.0 -0.4**
MOTA pmax pmax
comp=Z,24nm,1.0s,mb5.1
NB2 NORSAR Subarra 79.90 331 P P **03 59 45.2 -0.3**
comp=Z,36nm,1.0s,mb5.3,baz=91,slow=5.8
NB2 NORSAR Subarra 79.90 331 P P **03 59 45.2 -0.3**
baz=91,slow=5.9
NB2 NORSAR Subarra 79.90 331 P P **03 59 45.2 -0.3**
NB2 pmax pmax
comp=Z,37nm,1.0s,mb5.3
NOA NORSAR Array B 79.90 331 P P **03 59 45.5 0.0**
comp=Z,17nm,0.9s,mb5.0,baz=93,slow=5.5,SNR=27
NOA LR LR 04 38 53.2
comp=Z,114nm,18.8s,MS4.2,baz=105,slow=38
NAO01 NORSAR Array S 80.05 330 *e*P P **03 59 46.0 -0.3**
comp=Z,16nm,0.9s,mb5.0
CLZ Clausthal 80.14 321 *e*P P **03 59 47.5 +0.6**
comp=Z,27nm,1.0s,mb5.1
CLZ Clausthal 80.14 321 *e*P P **03 59 47.5 +0.6**
CLZ pmax pmax
comp=Z,27nm,1.0s,mb5.1
BSEG Bad Segeberg 80.19 323 *e*P P **03 59 48.0 +0.9**
DAVA Damuels 80.48 317⇑*i*P P **03 59 49.5 +0.6**
comp=Z,31nm,1.2s,mb5.1
DAVA Damuels 80.48 317⇑*i*P P **03 59 48.5 -0.4**
comp=Z,31nm,1.2s,mb5.1,SNR=10
KONO Kongsberg 80.66 329⇑*e*P P **03 59 49.9 +0.4**
STU Stuttgart 80.92 318 *e*P P **03 59 51.2 +0.1**
comp=Z,14nm,0.9s,mb4.9
STU Stuttgart 80.92 318 *e*P P **03 59 51.2 +0.1**
STU pmax pmax
comp=Z,14nm,0.9s,mb4.9
TOD Tromm 81.15 319 *e*P P **03 59 51.2 -1.1**
PGF Pioggiola 81.24 312 *e*P P **03 59 52.9 0.0**
comp=Z,58nm,1.1s,mb5.1
PGF Pioggiola 81.24 312 *e*P P **03 59 52.9 0.0**
PGF pmax pmax
comp=Z,29nm,1.1s,mb5.1
TNS Taunus Mts 81.37 320 *e*P P **03 59 54.3 +0.9**
comp=Z,24nm,1.1s,mb5.0
TNS Taunus Mts 81.37 320 *e*P P **03 59 54.3 +0.9**
TNS pmax pmax
comp=Z,24nm,1.1s,mb5.0
BFO Black Forest 81.50 318 *e*P P **03 59 54.3 +0.1**
comp=Z,14nm,1.0s,mb4.8
BFO Black Forest 81.50 318 *e*P P **03 59 54.3 +0.1**
BFO pmax pmax
comp=Z,14nm,1.0s,mb4.8
FELD Feldberg 81.73 317 *e*P P **03 59 55.9 +0.5**
LANF Langenberg 81.83 318 *e*P P **03 59 56.7 +0.9**
CDF Champ du Feu 82.20 318⇓*i*P P **03 59 57.5 -0.3**
comp=Z,16nm,0.9s,mb4.7
CDF Champ du Feu 82.20 318⇓*i*P P **03 59 57.5 -0.3**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ECH Echery 82.29 318 *e*P P **03 59 58.7 +0.4**
SBF Sospel 82.32 313⇓*i*P P **03 59 58.5 0.0**
comp=Z,80nm,0.9s,mb5.3
SBF Sospel 82.32 313⇓*i*P P **03 59 58.5 0.0**
SBF pmax pmax
comp=Z,40nm,0.9s,mb5.3
HINF Hinteralfeld 82.51 317 *e*P P **03 59 58.8 -0.6**
LOMF Lomont 82.56 317 *e*P P **03 59 59.2 -0.5**
LPG La Plagne 82.71 315⇓*i*P P **04 00 00.9 +0.4**
comp=Z,61nm,0.8s,mb5.4
LPG La Plagne 82.71 315⇓*i*P P **04 00 00.9 +0.4**
LPG pmax pmax
comp=Z,30nm,0.8s,mb5.4
LPL La Plagne 82.72 315⇓*i*P P **04 00 01.0 +0.4**
comp=Z,86nm,0.9s,mb5.5
LPL La Plagne 82.72 315⇓*i*P P **04 00 01.0 +0.4**
LPL pmax pmax
comp=Z,43nm,0.9s,mb5.5
MBDF Montbardon 82.74 314⇓*i*P P **04 00 00.2 -0.5**
comp=Z,46nm,1.1s,mb5.1
MBDF Montbardon 82.74 314⇓*i*P P **04 00 00.2 -0.5**
MBDF pmax pmax
comp=Z,23nm,1.1s,mb5.1
BNI Bardonecchia 82.79 314 *e*P P **04 00 00.9 0.0**
comp=Z,22nm,0.9s,mb5.2
BNI Bardonecchia 82.79 314 *e*P P **04 00 00.9 0.0**
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.2
HAU Haudompre 82.84 317⇓*i*P P **04 00 00.9 -0.2**
comp=Z,61nm,0.9s,mb5.3
HAU *e*R
comp=Z,68nm,22.0s
HAU Haudompre 82.84 317⇓*i*P P **04 00 00.9 -0.2**
HAU pmax pmax
comp=Z,31nm,0.9s,mb5.3
HAU MLR MLR
comp=Z,70nm,22.0s,MS4.0
FRF La Foret Royal 82.91 313⇓*i*P P **04 00 01.7 +0.1**
comp=Z,86nm,1.3s,mb5.3
FRF La Foret Royal 82.91 313⇓*i*P P **04 00 01.7 +0.1**
FRF pmax pmax
comp=Z,43nm,1.3s,mb5.3
LMR La Mourre 83.02 313 *e*P P **04 00 02.2 0.0**
comp=Z,133nm,1.5s,mb5.4
LMR La Mourre 83.02 313 *e*P P **04 00 02.2 0.0**
LMR pmax pmax
comp=Z,67nm,1.5s,mb5.5
THEF They Montfort 83.07 318 *e*P P **04 00 02.6 +0.3**
CABF La Chapelle 83.10 316⇓*i*P P **04 00 02.9 +0.4**
comp=Z,33nm,0.9s,mb5.1
CABF La Chapelle 83.10 316⇓*i*P P **04 00 02.9 +0.4**
CABF pmax pmax
comp=Z,17nm,0.9s,mb5.1
ORIF Oris-en-Rattie 83.36 314 *e*P P **04 00 04.3 +0.4**
comp=Z,24nm,0.9s,mb4.9
ORIF *e*R
comp=Z,104nm,22.5s
SMRF Simiane la Rot 83.65 313 *e*P P **04 00 06.0 +0.6**
comp=Z,38nm,1.2s,mb5.1
MEZF Maizieres J'vi 83.67 318 *e*P P **04 00 05.4 0.0**
comp=Z,22nm,0.9s,mb5.0
GIVF Givet 83.70 320⇓*i*P P **04 00 05.3 -0.2**
BAIF Baives 84.10 320 *e*P P **04 00 07.8 +0.3**
comp=Z,70nm,1.3s,mb5.3
BAIF Baives 84.10 320 *e*P P **04 00 07.8 +0.3**
BAIF pmax pmax
comp=Z,35nm,1.3s,mb5.3
VIVF Saint-Julien-l 84.22 314⇓*i*P P **04 00 08.4 +0.1**
comp=Z,27nm,0.9s,mb5.1
VIVF Saint-Julien-l 84.22 314⇓*i*P P **04 00 08.4 +0.1**
VIVF pmax pmax
comp=Z,13nm,0.9s,mb5.1
LOR Lormes 84.58 317⇓*i*P P **04 00 09.9 -0.1**
comp=Z,46nm,0.9s,mb5.3
LOR *e*R
comp=Z,64nm,21.5s
LOR Lormes 84.58 317⇓*i*P P **04 00 09.9 -0.1**
LOR pmax pmax
comp=Z,23nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,60nm,21.5s,MS3.9
SMF Signal de Mont 84.64 316⇓*i*P P **04 00 10.2 -0.1**
comp=Z,34nm,0.8s,mb5.2
SMF Signal de Mont 84.64 316⇓*i*P P **04 00 10.2 -0.1**
SMF pmax pmax
comp=Z,17nm,0.8s,mb5.2
SSF Saint Saulge 84.83 317⇓*i*P P **04 00 11.2 -0.1**
comp=Z,38nm,1.3s,mb5.1
SSF Saint Saulge 84.83 317⇓*i*P P **04 00 11.2 -0.1**
SSF pmax pmax
comp=Z,19nm,1.3s,mb5.1
LASF Ste Croix 84.88 314⇓*i*P P **04 00 12.0 +0.4**
comp=Z,124nm,1.5s,mb5.5
AVF Avril sur Loir 84.97 316⇓*i*P P **04 00 11.8 -0.1**
comp=Z,27nm,1.0s,mb5.0
AVF Avril sur Loir 84.97 316⇓*i*P P **04 00 11.8 -0.1**
AVF pmax pmax
comp=Z,14nm,1.0s,mb5.0
SYO Syowa Base 85.10 197 ⇑P P **04 00 12.0 -0.1**
SYO Syowa Base 85.10 197 ⇑PcP PcP 04 00 17.0 +1.3
BGF Bois d'Agland 85.34 316⇓*i*P P **04 00 14.1 +0.3**
comp=Z,42nm,1.1s,mb5.2
BGF Bois d'Agland 85.34 316⇓*i*P P **04 00 14.1 +0.3**
BGF pmax pmax
comp=Z,21nm,1.1s,mb5.2
HYF Humbligny 85.40 317 *e*P P **04 00 14.7 +0.6**
TCF Toulx Ste Croi 85.80 316 *e*P P **04 00 16.4 +0.3**
comp=Z,34nm,1.3s,mb5.1
TCF Toulx Ste Croi 85.80 316 *e*P P **04 00 16.4 +0.3**
TCF pmax pmax
comp=Z,17nm,1.3s,mb5.1
CAF Calviac 86.06 315⇓*i*P P **04 00 18.0 +0.5**
comp=Z,34nm,1.1s,mb5.2
CAF Calviac 86.06 315⇓*i*P P **04 00 18.0 +0.5**
CAF pmax pmax
comp=Z,17nm,1.1s,mb5.2
MTLF Montolieu 86.14 313⇓*i*P P **04 00 18.3 +0.4**
comp=Z,42nm,1.1s,mb5.3
MTLF Montolieu 86.14 313⇓*i*P P **04 00 18.3 +0.4**
MTLF pmax pmax
comp=Z,21nm,1.1s,mb5.3
RJF Les Rejaudoux 86.40 315⇓*i*P P **04 00 19.7 +0.6**
comp=Z,57nm,1.2s,mb5.4
RJF *e*R
comp=Z,82nm,21.2s
RJF Les Rejaudoux 86.40 315⇓*i*P P **04 00 19.7 +0.6**
RJF pmax pmax
comp=Z,29nm,1.2s,mb5.4
RJF MLR MLR
comp=Z,80nm,21.3s,MS4.1
LFF La Frestale 86.99 315 *e*P P **04 00 22.7 +0.7**
LDF La Druitiere 87.08 318⇓*i*P P **04 00 22.5 +0.2**
comp=Z,45nm,1.1s,mb5.3
LDF La Druitiere 87.08 318⇓*i*P P **04 00 22.5 +0.2**
LDF pmax pmax
comp=Z,22nm,1.1s,mb5.3
FLN La Foliniere 87.29 319 *e*P P **04 00 23.4 +0.1**
comp=Z,37nm,0.9s,mb5.3
FLN *e*R
comp=Z,90nm,22.8s
FLN La Foliniere 87.29 319 *e*P P **04 00 23.4 +0.1**
FLN pmax pmax
comp=Z,19nm,0.9s,mb5.3
FLN MLR MLR
comp=Z,90nm,22.8s,MS4.1
MFF Saint Martin d 87.38 316⇓*i*P P **04 00 24.0 +0.2**
comp=Z,26nm,0.9s,mb5.2
MFF Saint Martin d 87.38 316⇓*i*P P **04 00 24.0 +0.2**
MFF pmax pmax
comp=Z,13nm,0.9s,mb5.2
EPF Esparros 87.54 313 *e*P P **04 00 24.9 +0.2**
comp=Z,43nm,1.3s,mb5.2
EPF Esparros 87.54 313 *e*P P **04 00 24.9 +0.2**
EPF pmax pmax
comp=Z,22nm,1.3s,mb5.2
GRR Gorron 87.59 318 *e*P P **04 00 25.2 +0.4**
comp=Z,16nm,1.1s,mb4.9
GRR Gorron 87.59 318 *e*P P **04 00 25.2 +0.4**
GRR pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
ETSF Etsaut 88.21 313⇓*i*P P **04 00 28.7 +0.8**
comp=Z,32nm,0.9s,mb5.2
ETSF Etsaut 88.21 313⇓*i*P P **04 00 28.7 +0.8**
ETSF pmax pmax
comp=Z,16nm,0.9s,mb5.2
SJPF Ste Jean 88.66 313 *e*P P **04 00 30.8 +0.7**
comp=Z,84nm,1.4s,mb5.6
SJPF Ste Jean 88.66 313 *e*P P **04 00 30.8 +0.7**
SJPF pmax pmax
comp=Z,42nm,1.4s,mb5.6
SGMF Saint Gilles 88.73 318 *e*P P **04 00 30.6 +0.3**
comp=Z,48nm,1.3s,mb5.4
SGMF Saint Gilles 88.73 318 *e*P P **04 00 30.6 +0.3**
SGMF pmax pmax
comp=Z,24nm,1.3s,mb5.4
ROSF Rostrenen 89.19 319 *e*P P **04 00 32.8 +0.3**
comp=Z,25nm,1.0s,mb5.2
ROSF Rostrenen 89.19 319 *e*P P **04 00 32.8 +0.3**
ROSF pmax pmax
comp=Z,12nm,1.0s,mb5.2
QUIF Quistinic 89.20 318 *e*P P **04 00 32.5 0.0**
comp=Z,42nm,1.2s,mb5.3
QUIF Quistinic 89.20 318 *e*P P **04 00 32.5 0.0**
QUIF pmax pmax
comp=Z,21nm,1.2s,mb5.3
ESDC Sonseca Array 91.29 310 P P **04 00 43.4 +1.1**
comp=Z,8.6nm,0.8s,mb5.1,baz=58,slow=4.2,SNR=26
VNDA Vanda 92.69 168 P P **04 00 49.5 +1.5**
comp=Z,4.6nm,0.8s,mb4.9,baz=288,slow=4.9,SNR=27
VNDA LR LR 04 40 40.9
comp=Z,112nm,18.5s,MS4.3,baz=312,slow=34
VNDA Vanda 92.69 168 P P **04 00 49.5 +1.5**
VNDA LR LR 04 40 40.9
SPU Mount Spurr 94.59 26 *e*P P **04 00 57.6 +0.6**
EVO Evora 94.61 310 *e*P P **04 00 58.2 +0.5**
comp=Z,46nm,1.4s,mb5.4
EVO *e*R
comp=Z,50nm,21.8s
ILAR Eielson Array 95.05 22 P P **04 00 59.0 -0.1**
comp=Z,2.3nm,0.8s,mb4.7,baz=301,slow=4.0,SNR=18
ILAR PP PP 04 04 48.1 -2.6
comp=Z,1.3nm,0.9s,baz=304,slow=7.7,SNR=3.5
SML Sawmill 95.92 25 *e*P P **04 01 04.4 +1.3**
DBIC Dimbokro 97.84 278 P P **04 01 14.9 +2.0**
comp=Z,9.0nm,1.1s,mb5.2,baz=107,slow=4.7,SNR=4.9
DBIC LR LR 04 45 17.0
comp=Z,158nm,18.0s,MS4.5,baz=67,slow=35
YKA Yellowknife Ar 106.73 13 PP PP 04 06 14.8 -5.4
comp=Z,1.1nm,0.9s,baz=338,slow=8.0,SNR=3.8
CHMT Chamberlain Mo 120.57 21 *e*PKPdf PKPdf 04 06 27.9 -4.5
MOD Modoc 121.60 30 *e*PKPdf PKPdf 04 06 31.4 -3.0
ULM Lac du Bonnet 121.76 7 PKP PKPdf 04 06 30.5 -4.0
comp=Z,4.4nm,0.8s,baz=11,slow=6.0,SNR=8.8
WVOR Wild Horse Val 121.99 28 *e*PKPdf PKPdf 04 06 32.2 -3.0
DLMT Dillon 122.13 22 *e*PKPdf PKPdf 04 06 32.3 -3.1
QLMT Earthquake Lak 123.01 21 *e*PKPdf PKPdf 04 06 35.1 -1.9
RRI2 Red Ridge 124.33 22 *e*PKPdf PKPdf 04 06 37.1 -2.6
LOHW Long Hollow 124.36 21 *e*PKPdf PKPdf 04 06 36.6 -3.2
SNOW Snow King Moun 124.44 22 *e*PKPdf PKPdf 04 06 37.8 -2.1
REDW Red Top Meadow 124.49 22 *e*PKPdf PKPdf 04 06 37.6 -2.4
NVAR Mina Array Bea 125.23 31 PKP PKPdf 04 06 39.5 -2.1
comp=Z,5.5nm,0.8s,baz=327,slow=0.8,SNR=32
MNV Mina 125.30 31 *e*PKPdf PKPdf 04 06 39.5 -2.2
PDAR Pinedale Array 125.47 21 PKP PKPdf 04 06 38.5 -3.5
comp=Z,5.2nm,0.9s,baz=25,slow=1.8,SNR=40
PDAR SKP 04 10 10.2
comp=Z,0.6nm,0.9s,baz=292,slow=4.9,SNR=3.7
DUG Dugway 126.39 25 *e*PKPdf PKPdf 04 06 41.5 -2.3
RWWY Rawlins 127.24 20 *e*PKPdf PKPdf 04 06 42.1 -3.2
MSU Marysvale 128.06 26 *e*PKPdf PKPdf 04 06 45.3 -1.7
ANMO Albuquerque 133.48 23 *e*PKPdf PKPdf 04 06 55.5 -2.2
ANMO Albuquerque 133.48 23⇑*i*PKIKP PKPdf 04 06 55.5 -1.9
WVT Waverly 136.47 2 *e*PKPdf PKPdf 04 06 59.1 -3.8
PLAL Pickwick Lake 137.61 3 *e*PKPdf PKPdf 04 07 00.9 -4.1
JSC Jenkinsville 138.11 354 *e*PKPdf PKPdf 04 07 02.7 -3.2
TXAR Lajitas Array 139.53 24 PKhKP 04 06 59.3
comp=Z,0.7nm,0.8s,baz=160,slow=1.4,SNR=8.9
TXAR PKP PKPdf 04 07 06.2 -2.5
comp=Z,2.0nm,0.8s,baz=53,slow=0.7,SNR=16
TXAR PP PP 04 09 56.9 -5.6
comp=Z,0.5nm,0.9s,baz=297,slow=2.0,SNR=4.2
TXAR SKPbc 04 10 38.5
comp=Z,2.4nm,0.9s,baz=278,slow=1.3,SNR=8.2
BDFB Brasilia 141.99 254 PKhKP 04 07 06.1
comp=Z,5.3nm,0.8s,baz=121,slow=4.7,SNR=13
BDFB PKP PKPdf 04 07 10.3 -3.1
comp=Z,11nm,1.0s,baz=124,slow=1.2,SNR=8.7
BDFB SKPbc 04 10 43.4
comp=Z,2.9nm,0.8s,baz=34,slow=7.3,SNR=2.0
PLCA Paso Flores 144.24 200 PKP PKPdf 04 07 12.5 -4.1
comp=Z,10nm,0.9s,baz=127,slow=4.3,SNR=20
PLCA SKPbc 04 10 50.1
comp=Z,2.7nm,1.0s,baz=130,slow=6.6,SNR=2.9
PLCA Paso Flores 144.24 200 *e*PKIKP PKPdf 04 07 12.0 -4.6
CPUP Villa Florida 146.98 232 PKPbc PKPbc 04 07 19.5 +1.3
comp=Z,19nm,0.8s,baz=122,slow=4.1,SNR=40
CPUP Villa Florida 146.98 232 *e*PKP2 PKPab 04 07 19.0 -3.2
SJG San Juan 147.80 323 PKPbc PKPdf 04 07 23.2 0.0
comp=Z,22nm,0.9s,baz=21,slow=8.6,SNR=3.3
FCH Farellones 150.55 207⇑*i*P PKPdf 04 07 30.8 +3.5
CFAA Coronel Fontan 150.93 212 PKP PKPdf 04 07 25.7 -2.1
comp=Z,10nm,0.8s,baz=175,slow=2.9,SNR=30
CFAA PKPbc PKPdf 04 07 31.1 +3.2
comp=Z,10nm,0.8s,baz=189,slow=1.9,SNR=126
SIV San Ignacio 154.23 249 PKP PKPdf 04 07 30.3 -2.6
comp=Z,4.2nm,1.0s,baz=150,slow=2.7,SNR=16
SIV PKPbc PKPdf 04 07 38.1 +5.2
comp=Z,5.9nm,0.8s,baz=102,slow=4.7,SNR=21
SAML Samuel 157.38 265 *e*PKPdf PKPdf 04 07 34.4 -2.9
LVC Limon Verde 157.79 226 PKP PKPdf 04 07 34.8 -2.7
comp=Z,3.2nm,0.8s,baz=150,slow=6.8,SNR=4.4
LVC PKPab PKPab 04 08 09.2 +1.7
comp=Z,11nm,0.8s,baz=136,slow=3.0,SNR=11
LPAZ La Paz 160.51 242 PKP PKPdf 04 07 39.7 -1.1
comp=Z,6.4nm,1.0s,baz=38,slow=2.7,SNR=20
LPAZ PKPab PKPab 04 08 20.4 +1.1
comp=Z,7.2nm,0.9s,baz=84,slow=5.6,SNR=10
LPAZ La Paz 160.51 242 *e*PKIKP PKPdf 04 07 39.1 -1.6
LPAZ *e* 04 08 19.2
ROSC El Rosal 163.01 316 PKP PKPdf 04 07 41.7 -1.7
comp=Z,7.6nm,1.0s,baz=111,slow=6.8,SNR=7.6

NEIC ***18*** *04:09:51.0,28.20N×140.05E,h500km,mb4.1/5,After JMA.*
JMA ***18*** *04:09:50.9±0.1,28.20N×140.05E,h500km,M3.9*
IDC ***18*** *04:09:50.2±0.6,28.09N×139.90E,h489km±21km,mb3.2/5, mb1 3.3/8,mb1mx3.0/24,mbtmp4.1/8,Error ellipse: s-maj=64.2km s-min=11.5km az=77.0*

ISC 18 04:09:49.7±0.5,28.14N±0.06×140.0E±0.2,h511km±8km, n29,σ0°76/39,mb3.8/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.17**	**118**	P	**P**	**04 10 57.2**	**+0.1**
	50nm,0.3s,baz=264,slow=6.6,SNR=45						
CBIJ				S	**S**	**04 11 48.6**	**-2.0**
	110nm,0.3s,baz=284,slow=23,SNR=15						
CBIJ	**Chichi jima**	**2.17**	**118**	P	**P**	**04 10 57.3**	**+0.1**
CBIJ				S	**S**	**04 11 49.7**	**-0.9**
JHHJ	**Haha-jima-NKT**	**2.43**	**128**	P	**P**	**04 10 59.1**	**+0.5**
JHHJ				S	**S**	**04 11 53.3**	**+0.2**
JHJ2	**Mitsune**	**4.96**	**358**	P	**P**	**04 11 17.8**	**+0.2**
JHJ	**Hachijo jima 2**	**4.97**	**358**	P	**P**	**04 11 17.9**	**+0.3**
	8.4nm,0.3s,baz=241,slow=18,SNR=7.6						
JHJ				S	**S**	**04 12 27.6**	**+0.2**
	26nm,0.3s,baz=57,slow=23,SNR=7.1						
JWZ	**Kozaga**	**6.53**	**326**	P	**P**	**04 11 33.0**	**+0.5**
BSO1	**Boso 1**	**6.54**	**7**	P	**P**	**04 11 33.7**	**+1.1**
BSO1				S	**S**	**04 12 54.4**	**+0.1**
JIM2	**Oshima 3**	**6.58**	**356**	P	**P**	**04 11 33.6**	**+0.6**
JIE	**Ise**	**6.85**	**336**	P	**P**	**04 11 37.1**	**+1.4**
JOD2	**Odawara 2**	**7.15**	**354**	P	**P**	**04 11 38.6**	**0.0**
JOD2				S	**S**	**04 13 04.9**	**-0.3**
JAI	**Aioi**	**7.39**	**321**	P	**P**	**04 11 41.5**	**+0.3**
JTO	**Tosashimizu**	**7.81**	**309**	P	**P**	**04 11 45.6**	**+0.1**
JRY	**Ryogami san**	**7.91**	**353**	P	**P**	**04 11 46.5**	**0.0**
JRY				S	**S**	**04 13 19.7**	**+0.4**
JAG	**Ashikaga**	**8.28**	**357**	P	**P**	**04 11 49.5**	**-0.7**
JAG				*e*S	**S**	**04 13 23.8**	**-2.3**
MJAR	**Matsushiro Arr**	**8.52**	**350**	P	**P**	**04 11 52.8**	**0.0**
	1.5nm,0.3s,baz=175,slow=12,SNR=16						
MAJO	**Matsushiro**	**8.52**	**350**	*e*P	**P**	**04 11 52.2**	**-0.6**
	7.6nm,0.3s						
MAT	**Matsushiro**	**8.52**	**350**	P	**P**	**04 11 52.3**	**-0.5**
MAT				*e*S	**S**	**04 13 25.4**	**-5.3**
MAT	**Matsushiro**	**8.52**	**350**	*e*P	**P**	**04 11 52.0**	**-0.8**
MAT				S	**S**	**04 13 25.0**	**-5.7**
JHS	**Saijyo**	**9.03**	**321**	P	**P**	**04 11 58.6**	**+0.5**
ENH	**Enshi**	**26.71**	**282**	*e*P	**P**	**04 14 46.9**	**-2.2**
	6.4nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**48.03**	**199**	*e*P	**P**	**04 17 43.4**	**-0.4**
	2.3nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**48.03**	**199**	P	**P**	**04 17 43.9**	**+0.1**
	3.5nm,0.6s,mb4.1,baz=3.2,slow=9.3,SNR=9.0						
WRAB	**Tennant Creek**	**48.11**	**187**	*e*P	**P**	**04 17 43.8**	**-0.5**
WRA	**Warramunga Arr**	**48.12**	**187**	P	**P**	**04 17 44.4**	**0.0**
	0.5nm,0.3s,mb3.5,baz=2.3,slow=7.8,SNR=21						
CTAO	**Charters Tower**	**48.32**	**172**	P	**P**	**04 17 46.6**	**+0.7**
	8.6nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**48.34**	**309**	P	**P**	**04 17 45.7**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.5nm,0.4s,mb3.4,baz=82,slow=8.6,SNR=6.1						
KURK	**Kurchatov**	**50.89**	**314**	*e*P	**P**	**04 18 04.1**	**-0.5**
	1.5nm,0.6s,mb3.5						
BVAR	**Borovoye Array**	**55.98**	**317**	P	**P**	**04 18 40.8**	**0.0**
	1.9nm,0.5s,mb3.6,baz=88,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**76.16**	**333**	P	**P**	**04 20 46.6**	**+1.2**
	0.7nm,0.4s,mb3.4,baz=60,slow=4.9,SNR=12						

*SOF **18** 04:53:26.0, 39.79N×21.42E, h10km, MD3.1*
*CSEM **18** 04:53:28.9±0.1, 40.00N×21.48E, h5km, MD3.1/3, Error ellipse: s-maj=1.9km s-min=1.4km az=164.0*
*ATH **18** 04:53:29.3, 39.93N×21.47E, h22km±2km, MD3.4/6*
*NEIC **18** 04:53:30.9, 40.02N×21.58E, h3km, MD3.5(ATH), MD3.1(ROM), After THE.*
*TIR **18** 04:53:31.6, 40.08N×21.21E*
*ROM **18** 04:54:00.5±0.8, 40.76N×18.51E, h12km, Md3.1/3, Error ellipse: s-maj=10.4km s-min=4.2km az=87.0*
ISC 18 04:53:28.9±0.8**, 39.97N**±0.03×**21.47E**±0.03**, h4**km±6km**, n50, σ1ˢ16**/63**, 2C, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.41**	**34**	⇑*i*PB	**Pb**	**04 53 38.3**	**0.0**
KZN				*e*SB	**Sb**	**04 53 45.6**	**+1.0**
KZN	**Kozani**	**0.41**	**34**	⇑*i*Pb	**Pb**	**04 53 38.5**	**+0.2**
JAN	**Janina**	**0.57**	**237**	*e*PN	**Pn**	**04 53 39.9**	**-3.4**
JAN				*e*SN	**Sn**	**04 53 48.3**	**-4.9**
LIT	**Litokhoron**	**0.80**	**80**	P	**Pg**	**04 53 45.5**	**+0.7**
LIT	**Litokhoron**	**0.80**	**80**	P	**Pg**	**04 53 45.5**	**+0.7**
FNA	**Florina**	**0.82**	**355**	P	**Pg**	**04 53 44.6**	**-0.6**
FNA	**Florina**	**0.82**	**355**	P	**Pg**	**04 53 44.7**	**-0.5**
KBN	**Korca**	**0.84**	**322**	*i* Pg	**Pg**	**04 53 44.3**	**-1.3**
KBN				*i* Sg	**Sg**	**04 53 56.8**	**+0.1**
EVR	**Evrytania**	**1.08**	**166**	*e*PN	**Pn**	**04 53 49.3**	**-1.4**
SRN	**Sarande**	**1.13**	**266**	*i* Pg	**Pg**	**04 53 50.7**	**-0.8**
SRN				*i* Sg	**Sg**	**04 54 08.4**	**+1.8**
AGG	**Agios Georgios**	**1.16**	**144**	P	**Pb**	**04 53 52.0**	**+0.9**
AGG	**Agios Georgios**	**1.16**	**144**	P	**Pb**	**04 53 52.0**	**+0.9**
GRG	**Griva**	**1.22**	**35**	P	**Pb**	**04 53 52.3**	**+0.2**
GRG	**Griva**	**1.22**	**35**	P	**Pb**	**04 53 52.3**	**+0.2**
KEK	**Kerkira**	**1.31**	**259**	*e*PN	**Pn**	**04 53 54.5**	**+0.5**
THE	**Thessaloniki**	**1.32**	**59**	P	**Pb**	**04 53 53.8**	**-0.1**
THE	**Thessaloniki**	**1.32**	**59**	P	**Pb**	**04 53 53.8**	**-0.1**
LKD	**Levkas**	**1.41**	**207**	P	**Pb**	**04 53 58.3**	**+2.9**
LKD	**Levkas**	**1.41**	**207**	P	**Pb**	**04 53 58.3**	**+2.9**
XOR	**Xorichti**	**1.46**	**114**	P	**Pn**	**04 53 56.4**	**+0.3**
XOR	**Xorichti**	**1.46**	**114**	P	**Pn**	**04 53 56.4**	**+0.3**
NEO	**Neokhori**	**1.51**	**115**	*e*PN	**Pn**	**04 53 57.2**	**+0.4**
NEO	**Neokhori**	**1.51**	**115**	*e*Pb	**Pb**	**04 53 59.1**	**+2.0**
PLG	**Polygyros**	**1.57**	**74**	*e*PN	**Pn**	**04 53 57.3**	**-0.4**
PLG	**Polygyros**	**1.57**	**74**	*e*Pn	**Pn**	**04 53 57.5**	**-0.2**
KNT	**Kendrikon**	**1.61**	**42**	P	**Pn**	**04 53 58.2**	**-0.1**
KNT	**Kendrikon**	**1.61**	**42**	P	**Pn**	**04 53 58.2**	**-0.1**
SOH	**Sokhos**	**1.67**	**59**	P	**Pn**	**04 53 59.5**	**+0.3**
SOH				S	**Sb**	**04 54 22.2**	**+0.9**
SOH	**Sokhos**	**1.67**	**59**	P	**Pn**	**04 53 59.5**	**+0.3**
SOH				S	**Sb**	**04 54 22.2**	**+0.9**
PAIG	**Paliouri**	**1.70**	**91**	P	**Pn**	**04 53 59.0**	**-0.5**
PAIG				S	**Sb**	**04 54 20.6**	**-1.5**
PAIG	**Paliouri**	**1.70**	**91**	P	**Pn**	**04 53 59.0**	**-0.5**
PAIG				S	**Sb**	**04 54 20.5**	**-1.6**
TIR	**Tirane**	**1.84**	**319**	*i* pn?	**Pn**	**04 54 05.5**	**+4.0**
TIR				*i* Sn	**Sn**	**04 54 31.0**	**+5.4**
VLS	**Valsamata**	**1.91**	**201**	*e*Pn	**Pn**	**04 54 05.5**	**+2.9**
QSH	**Qafa e Shtames**	**1.95**	**323**	*i* Pn	**Pn**	**04 54 05.8**	**+2.6**
QSH				*i* Sn	**Sn**	**04 54 32.0**	**+3.5**
OUR	**Ouranopolis**	**1.96**	**78**	P	**Pn**	**04 54 03.2**	**0.0**
OUR	**Ouranopolis**	**1.96**	**78**	P	**Pn**	**04 54 03.2**	**-0.1**
SRS	**Serrai**	**1.98**	**54**	P	**Pn**	**04 54 03.1**	**-0.5**
SRS				S	**Sn**	**04 54 27.4**	**-1.8**
SRS	**Serrai**	**1.98**	**54**	P	**Pn**	**04 54 03.1**	**-0.5**
SRS				S	**Sn**	**04 54 27.4**	**-1.8**
SKO	**Skopje**	**2.00**	**359**	*i* Pn	**Pn**	**04 54 07.5**	**+3.6**
SKO				*i* Sn	**Sn**	**04 54 31.1**	**+1.4**
SKO				Lg		04 54 40.5	
	comp=Z,0.1nm,0.7s						
KKB	**Krupnik**	**2.26**	**32**	*i* P	**Pn**	**04 54 07.0**	**-0.5**
MMB	**Musomiste**	**2.36**	**46**	*i* P	**Pn**	**04 54 08.2**	**-0.8**
LCI	**Lecce**	**2.60**	**279**	Pn	**Pn**	**04 54 11.4**	**-1.0**
	comp=Z,59nm,1.0s						
VTS	**Vitosha**	**2.93**	**26**	*i* P	**Pn**	**04 54 17.6**	**+0.5**
RZN	**Rozhen**	**3.00**	**54**	*i* P	**Pn**	**04 54 18.0**	**-0.2**
PE1	**Pezze di Greco**	**3.20**	**286**	*e*Pn	**Pn**	**04 54 20.8**	**-0.2**
LTRZ	**Laterza**	**3.61**	**282**	Pn	**Pn**	**04 54 25.6**	**-1.2**
	comp=Z,7.0nm,0.3s						
SG1	**Sgolgore (BA)**	**3.76**	**285**	*e*Pn	**Pn**	**04 54 27.6**	**-1.3**
SLCN	**Sala Consilina**	**4.49**	**277**	Pn	**Pn**	**04 54 38.6**	**-0.7**
	comp=Z,16nm,0.4s						
FGMS	**Monte Sant'Ang**	**4.53**	**294**	Pn	**Pn**	**04 54 38.0**	**-1.9**
SGO	**Sicignano**	**4.75**	**279**	Pn	**Pn**	**04 54 42.8**	**-0.2**
	comp=Z,5.0nm,0.3s						

*ISK **18** 05:37:52.9, 39.80N×41.87E, h6km, MD3.6, ML3.7*
*TIF **18** 05:37:52.7, 39.75N×41.80E, h8km±3km*
*CSEM **18** 05:37:52.9, 39.80N×41.87E, h6km, MD3.6, After ISK*
ISC 18 05:37:53.9±0.3**, 39.82N**±0.03×**41.88E**±0.03**, h6**km**, n25, σ1ˢ33**/39**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.40**	**283**	*i* P	**Pg**	**05 38 00.1**	**-1.9**
ERZM				*i* S	**Sg**	**05 38 09.1**	**+1.6**
EZM	**Erzurum**	**0.41**	**283**	*i* PG	**Pg**	**05 38 01.3**	**-0.8**
BNGL	**BINGOL**	**1.03**	**213**	*i* P	**Pb**	**05 38 11.3**	**-2.5**
BNGL				*i* S	**Sb**	**05 38 26.6**	**-0.7**
KARS	**Kars**	**1.22**	**49**	PN	**Pn**	**05 38 16.5**	**-1.0**
KARS				SN	**Sn**	**05 38 34.6**	**+0.1**
DIGO	**Kars**	**1.29**	**62**	*i* P	**Pb**	**05 38 17.2**	**-1.1**
DIGO				*i* S	**Sb**	**05 38 37.2**	**+2.2**
ARTV	**Artvin**	**1.37**	**2**	*i* P	**Pb**	**05 38 17.6**	**-1.9**
ARTV				*i* S	**Sb**	**05 38 36.4**	**-0.7**
BTMT	**Batman**	**1.65**	**191**	PN	**Pn**	**05 38 24.3**	**+0.7**
BTMT				SN	**Sn**	**05 38 48.0**	**+2.6**
VANB	**Van**	**1.69**	**136**	PN	**Pn**	**05 38 24.3**	**+0.1**
CLDR	**Caldiran**	**1.72**	**112**	PN	**Pn**	**05 38 24.0**	**-0.6**
GUMT	**Gumushane**	**1.95**	**290**	PN	**Pn**	**05 38 27.7**	**-0.2**
MACK	**Trabzon**	**1.96**	**306**	*i* P	**Pn**	**05 38 29.3**	**+1.2**
MACK				*i* S	**Sn**	**05 38 54.3**	**+1.0**
BEST	**Besiri**	**1.98**	**194**	*i* P	**Pn**	**05 38 29.1**	**+0.8**
BEST				*i* S	**Sn**	**05 38 55.8**	**+2.1**
AKH	**Akhalkalaki**	**2.01**	**37**	P	**Pn**	**05 38 28.6**	**-0.2**
KELT	**Kelkit**	**2.04**	**280**	*i* P	**Pn**	**05 38 29.0**	**-0.2**
KELT				*i* S	**Sn**	**05 38 58.6**	**+3.3**
DIY	**Diyarbakir**	**2.31**	**214**	*e*PN	**Pn**	**05 38 32.3**	**-0.8**
SIRT	**Sirnak**	**2.35**	**169**	*e*PN	**Pn**	**05 38 32.3**	**-1.4**
ELZG	**Elazig**	**2.61**	**241**	*i* P	**Pn**	**05 38 35.9**	**-1.4**
ELZG				*i* S	**Sn**	**05 39 14.0**	**+4.3**
MARD	**Mardin**	**2.64**	**199**	*i* P	**Pn**	**05 38 39.1**	**+1.3**
MARD				*i* S	**Sn**	**05 39 13.9**	**+3.3**
HKR	**Hakkari**	**2.67**	**146**	*e*PN	**Pn**	**05 38 36.7**	**-1.5**
TBLG	**Delisi**	**2.89**	**48**	P	**Pn**	**05 38 43.4**	**+2.0**
TBLG				S	**Sn**	**05 39 25.6**	**+8.6**
MTA	**Mtatsminda**	**2.90**	**49**	P	**Pn**	**05 38 43.1**	**+1.6**
MTA				S	**Sn**	**05 39 29.3**	**+12**
GRSN	**GIRESUNGRSN**	**2.97**	**293**	*i* P	**Pn**	**05 38 43.2**	**+0.7**
GRSN				*i* S	**Sn**	**05 39 25.1**	**+6.2**
MYA	**Malataya**	**3.07**	**242**	*e*PN	**Pn**	**05 38 42.9**	**-1.0**
URFA	**Urfa**	**3.37**	**226**	*e*PN	**Pn**	**05 38 47.3**	**-0.9**
GAZ	**Gaziantep**	**4.51**	**236**	*e*PN	**Pn**	**05 39 03.9**	**-0.5**

*NEIC **18** 05:45:48.9±0.6, 21.31S×67.23W, h180km±8km, mb4.2/5, Error ellipse: s-maj=12.8km s-min=8.1km az=96.0*
*IDC **18** 05:45:49.0±0.8, 21.29S×67.17W, h176km±9km, mb3.6/8, mb1 3.7/15, mb1mx3.6/23, mbtmp4.2/15, Error ellipse: s-maj=15.2km s-min=9.0km az=97.0*
*GUC **18** 05:45:51.8±0.8, 21.94S×67.47W, h229km±10km, ML4.1*
ISC 18 05:45:48.0±0.5**, 21.36S**±0.04×**67.27W**±0.07**, h190**km±6km**, n36, σ1ˢ32**/48**, mb3.9**/9**, 3C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.77**	**209**	⇑*i*P	**P**	**05 46 27.4**	**+3.6**
SPCH				AMP		05 47 13.6	
	comp=N,686nm,0.2s						
LVC	**Limon Verde**	**1.97**	**230**	P	**P**	**05 46 28.1**	**+2.3**
	comp=N,138nm,0.3s,baz=38,slow=7.8,SNR=2916						
LVC				S	**S**	**05 46 56.7**	**+1.8**
	comp=N,156nm,0.3s,baz=270,slow=21,SNR=78						
LVC	**Limon Verde**	**1.97**	**230**	⇑*i*P	**P**	**05 46 28.2**	**+2.4**
LVC				*i* S	**S**	**05 46 56.6**	**+1.7**
LVC				AMP		05 46 57.8	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**1.97**	**230**	*e*P	**P**	**05 46 28.0**	**+2.2**
LVC				*e*S	**S**	**05 46 56.3**	**+1.4**
LVC				S	**S**	**05 46 56.7**	**+1.8**
ANCH	**Antofagasta**	**3.71**	**231**	⇓*i*P	**P**	**05 46 47.6**	**+1.1**
ANCH				*i* S	**S**	**05 47 29.8**	**-1.8**
CPN1	**Cerro Paranal**	**4.35**	**221**	⇓*i*P	**P**	**05 46 55.8**	**+1.2**
CPN1				*i* S	**S**	**05 47 43.9**	**-2.1**
LPAZ	**La Paz**	**5.11**	**351**	P	**P**	**05 47 05.8**	**+1.5**
	comp=E,5.2nm,0.3s,baz=165,slow=8.3,SNR=205						
LPAZ				S	**S**	**05 48 03.7**	**+0.3**
	comp=E,4.5nm,0.3s,baz=35,slow=16,SNR=11						
LPAZ	**La Paz**	**5.11**	**351**	P	**P**	**05 47 05.8**	**+1.5**
LPAZ				S	**S**	**05 48 03.7**	**+0.3**
LPAZ				*e*S	**S**	**05 48 06.0**	**+2.6**
CRCH	**Chaqaral**	**5.84**	**211**	*i* P	**P**	**05 47 13.1**	**-0.6**
CRCH				*i* S	**S**	**05 48 15.7**	**-4.6**
ARE	**Arequipa**	**6.30**	**320**	⇓*i*P	**P**	**05 47 18.7**	**-1.1**
ARE				*i* S	**S**	**05 48 26.0**	**-5.2**
CDCH	**Caldera**	**6.55**	**209**	⇑*i*P	**P**	**05 47 20.7**	**-2.4**
CDCH				*i* S	**S**	**05 48 30.4**	**-6.7**
SIV	**San Ignacio**	**7.94**	**49**	P	**P**	**05 47 40.2**	**-1.1**
	comp=E,36nm,0.3s,baz=232,slow=12,SNR=852						
SIV				S	**S**	**05 49 05.0**	**-4.7**
	comp=E,4.8nm,0.3s,baz=278,slow=16,SNR=8.7						
CFAA	**Coronel Fontan**	**10.24**	**185**	P	**P**	**05 48 10.9**	**-0.4**
	comp=E,0.4nm,0.3s,baz=358,slow=12,SNR=57						
CFAA				S	**S**	**05 49 59.0**	**-4.6**
	comp=E,0.5nm,0.3s,baz=124,slow=20,SNR=12						
CPUP	**Villa Florida**	**10.36**	**120**	P	**P**	**05 48 13.2**	**+0.3**
	comp=E,3.2nm,0.3s,baz=319,slow=14,SNR=73						
CPUP	**Villa Florida**	**10.36**	**120**	*e*P	**P**	**05 48 13.4**	**+0.6**
SAML	**Samuel**	**12.95**	**18**	*e*P	**P**	**05 48 45.2**	**-0.9**
	comp=E,24nm,1.0s						
TRQA	**Tornquist**	**17.26**	**166**	*e*P	**P**	**05 49 37.5**	**-1.3**
	comp=E,2.8nm,0.4s						
BDFB	**Brasilia**	**19.12**	**76**	P	**P**	**05 49 57.7**	**-1.0**
	comp=E,1.5nm,0.3s,baz=248,slow=8.7,SNR=13						
PLCA	**Paso Flores**	**19.52**	**187**	P	**P**	**05 50 02.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=1.4,slow=12,SNR=6.9						
PLCA	**Paso Flores**	**19.52**	**187**	*e*P	**P**	**05 50 02.7**	**0.0**
ROSC	**El Rosal**	**26.95**	**344**	P	**P**	**05 51 14.0**	**-0.1**
	comp=E,0.7nm,0.3s,mb3.7,baz=285,slow=21,SNR=1.9						
SDV	**Santo Domingo**	**30.23**	**353**	P	**P**	**05 51 42.9**	**-0.4**
	comp=E,1.4nm,0.3s,mb4.2,baz=319,slow=5.5,SNR=2.9						
SDV	**Santo Domingo**	**30.23**	**353**	*e*P	**P**	**05 51 41.6**	**-1.7**
SJG	**San Juan**	**39.24**	**2**	P	**P**	**05 52 58.2**	**-1.5**
	comp=E,22nm,0.8s,mb4.8,baz=333,slow=3.0,SNR=6.8						
VNA3	**Neumayer Olymp**	**59.72**	**162**	*e*	**P**	**05 55 35.1**	**+0.6**
VNA2	**Neumayer--Watz**	**60.28**	**161**	*e*	**P**	**05 55 40.0**	**+1.7**
WVT	**Waverly**	**60.39**	**341**	*e*P	**P**	**05 55 38.7**	**-0.8**
	comp=E,4.8nm,0.8s,mb4.4						
WVT				*e*		05 55 50.9	
SNAA	**Sanae**	**61.92**	**161**	P	**P**	**05 55 50.7**	**+1.4**
	comp=E,0.5nm,0.8s,mb3.4,baz=313,slow=4.9,SNR=5.3						
DBIC	**Dimbokro**	**67.23**	**73**	P	**P**	**05 56 24.0**	**-0.4**
	comp=E,2.5nm,0.9s,mb4.0,baz=260,slow=6.3,SNR=4.4						
DBIC	**Dimbokro**	**67.23**	**73**	*e*P	**P**	**05 56 23.8**	**-0.6**
	comp=E,3.4nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**74.76**	**329**	P	**P**	**05 57 10.5**	**+1.6**
	comp=E,0.1nm,0.4s,mb2.8,baz=261,slow=11,SNR=2.7						
ULM	**Lac du Bonnet**	**75.65**	**342**	P	**P**	**05 57 14.3**	**+0.5**
	comp=E,0.7nm,0.5s,mb3.5,baz=127,slow=5.9,SNR=5.7						
ULM	**Lac du Bonnet**	**75.65**	**342**	P	**P**	**05 57 14.3**	**+0.5**
MAW	**Mawson**	**84.02**	**163**	P	**P**	**05 58 00.1**	**+2.4**
	comp=E,0.6nm,0.3s,mb3.8,baz=218,slow=4.8,SNR=3.9						
WRA	**Warramunga Arr**	**133.83**	**209**	PKP	PKPdf	06 04 47.2	+4.1
	comp=E,0.4nm,0.6s,baz=154,slow=2.0,SNR=4.8						
MKAR	**Makanchi Array**	**144.61**	**37**	PKP	PKPdf	06 05 04.7	+3.0
	comp=E,1.0nm,0.8s,baz=323,slow=2.1,SNR=9.7						

*CASC **18** 06:13:58.0±1.5, 3.84N×82.59W, h20km, MD5.1, MW5.0, mb5.5(NEIC)*
*IDC **18** 06:13:59.1±0.6, 3.88N×82.72W, mb4.6/19, mb1 4.8/21, mb1mx4.7/26, mbtmp4.6/21, ML3.4/2, MS5.0/23, Ms1 5.0/23, ms1mx5.0/24, Error ellipse: s-maj=22.2km s-min=10.8km az=60.0*
*BJI **18** 06:14:01.1, 3.90N×82.60W, h10km, mB5.8, Ms5.5, Msz5.2*
*NEIC **18** 06:14:01.2±0.2, 3.92N×82.64W, h10km, mb5.2/86, MS5.0/6, MW5.6, Error ellipse: s-maj=5.9km s-min=3.7km az=224.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^17Nm; Mrr0.12; Mθθ0.97; Mφφ-1.09; Mrθ0.23; Mθφ2.73; Mφr0.90; Best double couple: Mo3.1×10^17 NP1: φs101°, δ72°, λ2°. NP2: φs10°, δ88°, λ162°. Principal axes: T 3.03, Plg14°, Azm324°; N .06, Plg72°, Azm184°; P -3.09, Plg11°, Azm57°;*
*HRVD **18** 06:14:01.2±0.1, 3.87N×82.64W, h12km, MW5.5/72, Centroid moment Tensor Solution. LP body waves: s62,c130; Mantle waves: s72,c157; Half duration: 1ˢ3 Moment tensor: Scale 10^17Nm; Mrr-0.24±.03; Mθθ0.31±.03; Mφφ-0.07±.03; Mrθ0.03±.06; Mθφ1.95±.02; Mφr0.39±.07; Best double couple: Mo1.999×10^17 NP1: φs93°, δ78°, λ-2°. NP2: φs183°, δ88°, λ-168°. Principal axes: T 2.113, Plg7°, Azm317°; N -.229, Plg78°, Azm192°; P -1.884, Plg9°, Azm48°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **18** 06:14:03.0±1.1, 3.89N×82.72W, h33km, mb5.4/53, MS5.1/13 Error ellipse: s-maj=8.4km s-min=6.5km az=86.6*
ISC 18 06:13:59.9±0.2**, 3.99N**±0.03×**82.67W**±0.04**, h10**km**, (h12**km±.9km**:pP-P), n300, σ1ˢ10**/269**, mb5.1**/101**, MS5.0**/33**, 10C-3D, South of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**4.77**	**360**	⇑*i*P	**Pn**	**06 15 11.5**	**-2.2**
BRU2				*e*S	**Sn**	**06 16 08.2**	**-1.5**
BUS	**Buena Vista**	**5.63**	**349**	*e*P	**Pn**	**06 15 23.8**	**-2.0**
BUS				*e*S	**Sn**	**06 16 31.4**	**+0.1**
LCR2	**La Lucha 2**	**5.86**	**347**	*e*P	**Pn**	**06 15 26.4**	**-2.6**
LCR2				*e*S	**Sn**	**06 16 36.7**	**-0.4**
SJS	**Escuela Geolog**	**6.07**	**347**	⇓*e*P	**Pn**	**06 15 29.8**	**-2.1**
SJS				*e*S	**Sn**	**06 16 42.6**	**+0.4**
CGA2	**Cerro Gallo 2**	**6.24**	**344**	*e*P	**Pn**	**06 15 32.8**	**-1.6**
CGA2				*e*S	**Sn**	**06 16 46.7**	**0.0**
FORC	**Fortuna**	**6.74**	**343**	*e*P	**Pn**	**06 15 38.5**	**-2.9**
VCR	**Vista de Mar**	**6.76**	**334**	*e*P	**Pn**	**06 15 40.9**	**-0.9**
ROSC	**El Rosal**	**8.36**	**84**	Pn	**P**	**06 16 04.1**	**0.0**
	3.5nm,0.3s,baz=263,slow=8.1,SNR=40						
ROSC				Sn	**Sn**	**06 17 46.3**	**+6.8**
	baz=94,slow=19,SNR=1.8						
ROSC				LR	LR	06 19 14.8	
	comp=Z,9μm,22.0s,baz=316,slow=38						
PAYG	**Puerto Ayora**	**8.91**	**239**	*e*P	**P**	**06 16 11.0**	**-0.7**
	243nm,1.3s						
SDV	**Santo Domingo**	**12.91**	**67**	Pn	**P**	**06 17 05.9**	**-0.4**
	0.8nm,0.3s,baz=258,slow=10,SNR=29						
SDV				Sn	**S**	**06 19 26.2**	**-4.9**
	0.2nm,0.3s,baz=67,slow=16,SNR=1.2						
SDV				LR	LR	06 21 49.7	
	comp=Z,14μm,21.6s,baz=265,slow=36						
SDV	**Santo Domingo**	**12.91**	**67**	⇓*e*P	**P**	**06 17 05.8**	**-0.6**
	161nm,1.3s						
NNA	**Nana**	**16.90**	**160**	*e*P	**P**	**06 17 57.5**	**-0.8**
	169nm,1.3s						
LMGC	**Las Mercedes**	**16.90**	**19**	*e*P	**P**	**06 18 03.7**	**+5.4**
LMGC				*e*S	**S**	**06 21 17.0**	**+12**
	comp=N,2.0nm,8.2s						
	comp=E,2.1nm,3.6s						
RCC	**Rio Carpintero**	**17.30**	**23**	*e*P	**P**	**06 18 06.2**	**+2.9**
RCC				*e*S	**S**	**06 21 09.9**	**-4.4**
	comp=N,2μm,20.3s						
	comp=E,1μm,19.3s						
HLGC	**Holguin**	**17.98**	**20**	*e*P	**P**	**06 18 02.7**	**-9.2**
MASC	**Masc**	**18.06**	**26**	*e*P	**P**	**06 18 15.7**	**+2.8**
MOAC	**Moa**	**18.19**	**24**	*e*P	**P**	**06 18 17.7**	**+3.2**
SOR	**Soroa**	**18.69**	**359**	*e*P	**P**	**06 18 27.5**	**+6.9**
SJG	**San Juan**	**21.41**	**48**	P	**P**	**06 18 49.5**	**-0.8**
	comp=E,53nm,0.9s,mb4.9,baz=260,slow=4.3,SNR=9.6						
SJG				LR	LR	06 27 18.9	
	comp=E,2μm,19.7s,MS4.4,baz=244,slow=37						
SJG	**San Juan**	**21.41**	**48**	*e*P	**P**	**06 18 48.0**	**-2.2**
	comp=E,104nm,1.1s,mb5.1						
SJG	**San Juan**	**21.41**	**48**	*e*P	**P**	**06 18 48.0**	**-2.3**
SJG				pmax	pmax		
	comp=Z,104nm,1.1s						
TPP	**Pointe-a-Pierr**	**21.96**	**72**	*e*	**P**	**06 18 56.1**	**+0.3**
TRN	**Trinidad (W)**	**22.09**	**71**	*e*	**P**	**06 18 55.4**	**-1.8**
TBH	**Brigand Hill**	**22.37**	**72**	*e*	**P**	**06 19 01.0**	**+1.1**
SVB	**Belmont**	**23.07**	**65**	*e*P	**P**	**06 19 08.5**	**+1.6**
ARE	**Arequipa**	**23.13**	**152**	*e*P	**P**	**06 19 09.0**	**+1.5**
SAML	**Samuel**	**23.30**	**124**	⇑*e*P	**P**	**06 19 06.2**	**-2.9**
	comp=Z,114nm,1.1s,mb5.2						
SAML				*e*S	**S**	**06 23 19.6**	**+2.1**
FDF	**Fort de France**	**23.73**	**62**	*e*P	**P**	**06 19 14.8**	**+1.5**
DWPF	**Disney**	**24.01**	**3**	*e*P	**P**	**06 19 17.1**	**+1.2**
	comp=Z,139nm,1.4s,mb5.2						
LPAZ	**La Paz**	**24.75**	**145**	P	**P**	**06 19 22.9**	**-0.4**
	comp=Z,135nm,1.2s,mb5.4,baz=336,slow=10,SNR=96						
LPAZ				LR	LR	06 29 57.7	
	comp=Z,2μm,20.0s,MS4.7,baz=303,slow=39						
LPAZ	**La Paz**	**24.75**	**145**	⇑*i*P	**P**	**06 19 22.7**	**-0.6**
	comp=Z,189nm,1.3s,mb5.5						
LPAZ	**La Paz**	**24.75**	**145**	⇑*i*P	**P**	**06 19 22.7**	**-0.6**
LPAZ				pmax	pmax		
	comp=Z,189nm,1.3s						
SIV	**San Ignacio**	**29.17**	**133**	P	**P**	**06 20 01.6**	**-2.3**
	comp=Z,5.5nm,1.0s,mb4.2,baz=309,slow=10,SNR=18						
LRAL	**Lakeview Retre**	**29.18**	**353**	*e*P	**P**	**06 20 02.6**	**-1.1**
	comp=Z,12nm,0.9s,mb4.6						
GOGA	**Godfrey**	**29.28**	**359**	*e*P	**P**	**06 20 04.3**	**-0.3**
	comp=Z,14nm,0.2s,mb5.3						
GOGA	**Godfrey**	**29.28**	**359**	*e*P	**P**	**06 20 04.3**	**-0.4**
GOGA				pmax	pmax		
	comp=Z,14nm,0.2s,mb5.3						
LVC	**Limon Verde**	**29.66**	**154**	P	**P**	**06 20 07.8**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.1,baz=332,slow=7.1,SNR=4.7						
LVC				LR	LR	06 32 39.9	
	comp=Z,3μm,21.7s,MS4.9,baz=336,slow=38						
JSC	**Jenkinsville**	**30.16**	**2**	*e*P	**P**	**06 20 12.5**	**-0.1**
OXF	**Oxford**	**31.00**	**349**	*e*P	**P**	**06 20 19.4**	**-0.6**
	comp=Z,10nm,0.9s,mb4.7						
OXF	**Oxford**	**31.00**	**349**	*e*P	**P**	**06 20 19.4**	**-0.6**
OXF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
SWET	**Sewanee**	**31.21**	**355**	P	**P**	**06 20 20.3**	**-1.5**
CPCT	**Cooper Cave**	**31.35**	**357**	*e*P	**P**	**06 20 23.0**	**0.0**
TXAR	**Lajitas Array**	**32.12**	**324**	P	**P**	**06 20 29.9**	**+0.1**
	comp=Z,4.0nm,1.0s,mb4.2,baz=144,slow=9.9,SNR=9.9						
TXAR				PcP	PcP	06 23 17.2	-2.0
	comp=Z,0.6nm,0.9s,baz=217,slow=4.5,SNR=2.9						
TXAR				LR	LR	06 33 12.1	
	comp=Z,1μm,19.2s,MS4.7,baz=160,slow=36						
TXAR	**Lajitas Array**	**32.12**	**324**	P	**P**	**06 20 29.9**	**+0.1**
TXAR				PcP	PcP	06 23 17.2	-2.0
TXAR				LR	LR	06 33 12.1	
HBAR	**Harrisburg**	**32.26**	**348**	P	**P**	**06 20 32.2**	**+1.2**
WVT	**Waverly**	**32.33**	**352**	*e*P	**P**	**06 20 27.2**	**-4.4**
	comp=Z,5.4nm,0.8s,mb4.4						
WVT	**Waverly**	**32.33**	**352**	*e*P	**P**	**06 20 27.2**	**-4.4**
WVT				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
ELN	**Prospectdale**	**33.12**	**3**	P	**P**	**06 20 38.7**	**+0.2**
FWV	**Forest Hill**	**33.47**	**3**	*e*P	**P**	**06 20 41.7**	**+0.2**
WCI	**Wyandotte Cave**	**34.24**	**355**	*e*P	**P**	**06 20 45.6**	**-2.5**
	comp=Z,62nm,1.5s,mb5.3						
WCI	**Wyandotte Cave**	**34.24**	**355**	*e*P	**P**	**06 20 45.6**	**-2.5**
WCI				pmax	pmax		
	comp=Z,62nm,1.5s,mb5.3						
FVM	**French Village**	**34.57**	**349**	*e*P	**P**	**06 20 50.3**	**-0.6**
	comp=Z,41nm,1.4s,mb5.2						
FVM	**French Village**	**34.57**	**349**	*e*P	**P**	**06 20 50.3**	**-0.7**
FVM				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.2						
MNTX	**Cornudas Mount**	**34.86**	**325**	*e*P	**P**	**06 20 52.9**	**-0.6**
	comp=Z,35nm,1.2s,mb5.2						
BLO	**Bloomington**	**35.19**	**355**	*e*P	**P**	**06 20 54.8**	**-1.5**
	comp=Z,15nm,0.8s,mb5.0						
BLO	**Bloomington**	**35.19**	**355**	*e*P	**P**	**06 20 54.8**	**-1.5**
BLO				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
ACSO	**Alum Creek Sta**	**36.08**	**360**	*e*P	**P**	**06 21 02.3**	**-1.5**
	comp=Z,26nm,1.0s,mb5.1						
MVL	**Millersville**	**36.30**	**8**	*e*P	**P**	**06 21 06.0**	**+0.3**
KSU1	**Kansas State U**	**37.17**	**342**	P	**P**	**06 21 10.6**	**-2.4**
ANMO	**Albuquerque**	**37.88**	**327**	*e*P	**P**	**06 21 20.1**	**+1.1**
	comp=Z,46nm,1.0s,mb5.2						
ANMO	**Albuquerque**	**37.88**	**327**	*c i*P	**P**	**06 21 20.7**	**+1.7**
CFAA	**Coronel Fontan**	**37.98**	**160**	P	**P**	**06 21 18.8**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=334,slow=7.1,SNR=13						
TUC	**Tucson**	**38.57**	**320**	*e*P	**P**	**06 21 24.9**	**+0.1**
	comp=Z,7.5nm,1.1s,mb4.3						
TUC	**Tucson**	**38.57**	**320**	*e*P	**P**	**06 21 24.9**	**+0.1**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
CPUP	**Villa Florida**	**38.87**	**142**	P	**P**	**06 21 24.6**	**-2.7**
	comp=Z,4.9nm,0.9s,mb4.3,baz=349,slow=13,SNR=11						
CPUP				LR	LR	06 39 04.0	
	comp=Z,4μm,18.3s,MS5.3,baz=342,slow=39						
CPUP	**Villa Florida**	**38.87**	**142**	*e*P	**P**	**06 21 24.4**	**-3.0**
	comp=Z,53nm,1.7s,mb5.0						
CPUP	**Villa Florida**	**38.87**	**142**	*e*P	**P**	**06 21 24.4**	**-3.0**
CPUP				pmax	pmax		
	comp=Z,53nm,1.7s						
FCH	**Farellones**	**38.92**	**163**	*i* P	**P**	**06 21 27.6**	**-0.2**
BDFB	**Brasilia**	**39.46**	**120**	P	**P**	**06 21 30.7**	**-1.7**
	comp=Z,6.2nm,1.1s,mb4.2,baz=240,slow=6.0,SNR=5.0						
BDFB				LR	LR	06 38 27.1	
	comp=Z,5μm,18.7s,MS5.4,baz=298,slow=37						
SDCO	**Great Sand Dun**	**39.55**	**331**	*e*P	**P**	**06 21 34.8**	**+1.8**
	comp=Z,90nm,1.0s,mb5.5						
ACCN	**Adirondack Com**	**40.03**	**10**	P	**P**	**06 21 37.2**	**+0.4**
RPN	**Rapa Nui**	**40.25**	**218**	LR	LR	06 33 30.2	
	comp=Z,2μm,21.6s,MS5.0,baz=227,slow=29						
WUAZ	**Wupatki**	**41.08**	**323**	*e*P	**P**	**06 21 47.2**	**+1.7**
	comp=Z,44nm,1.1s,mb5.0						
PV01	**Paradox Valley**	**41.39**	**329**	*e*P	**P**	**06 21 49.8**	**+1.7**
MSNY	**Massena**	**41.41**	**8**	*e*P	**P**	**06 21 48.9**	**+0.7**
FRNY	**Flat Rock**	**41.45**	**10**	*e*P	**P**	**06 21 48.4**	**-0.1**
PV10	**Paradox Valley**	**41.82**	**328**	*e*P	**P**	**06 21 52.2**	**+0.6**
PHWY	**Pilot Hill**	**42.40**	**334**	*e*P	**P**	**06 21 58.0**	**+1.7**
SRU	**San Rafael**	**43.14**	**328**	*e*P	**P**	**06 22 03.1**	**+0.7**
	comp=Z,56nm,1.1s,mb5.2						
SRU	**San Rafael**	**43.14**	**328**	*e*P	**P**	**06 22 03.1**	**+0.6**
SRU				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.2						
NEN	**Nelson**	**43.29**	**321**	*e*P	**P**	**06 22 04.4**	**+0.7**
RWWY	**Rawlins**	**43.49**	**333**	*e*P	**P**	**06 22 06.1**	**+0.9**
	comp=Z,54nm,1.1s,mb5.2						
MSU	**Marysvale**	**43.61**	**326**	*e*P	**P**	**06 22 07.6**	**+1.3**
TMUT	**Trail Mountain**	**43.64**	**328**	*e*P	**P**	**06 22 06.5**	**+0.1**
ARUT	**Antelope Range**	**43.84**	**324**	*e*P	**P**	**06 22 09.3**	**+1.2**
MPU	**Maple Canyon**	**44.39**	**328**	*e*P	**P**	**06 22 10.8**	**-1.8**
	comp=Z,23nm,1.0s,mb4.9						
DAU	**Daniels Canyon**	**44.48**	**329**	*e*P	**P**	**06 22 14.6**	**+1.3**
CTU	**Camp Tracy**	**44.94**	**328**	*e*P	**P**	**06 22 17.8**	**+0.8**
	comp=Z,46nm,1.2s,mb5.2						
TCUT	**Toone Canyon**	**45.07**	**329**	*e*P	**P**	**06 22 16.1**	**-1.9**
NOQ	**North Oquirrh**	**45.10**	**328**	*e*P	**P**	**06 22 19.5**	**+1.2**
	comp=Z,75nm,1.2s,mb5.4						
DUG	**Dugway**	**45.15**	**327**	*e*P	**P**	**06 22 18.3**	**-0.3**
	comp=Z,27nm,1.5s,mb4.9						
DUG	**Dugway**	**45.15**	**327**	*e*P	**P**	**06 22 18.3**	**-0.3**
DUG				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.9						
PDAR	**Pinedale Array**	**45.41**	**332**	P	**P**	**06 22 20.8**	**+0.1**
	comp=Z,6.9nm,0.9s,mb4.5,baz=129,slow=9.5,SNR=26						
PDAR				PcP	PcP	06 24 00.2	-0.2
	comp=Z,1.7nm,0.9s,baz=113,slow=6.9,SNR=2.3						
PDAR				LR	LR	06 43 00.2	
	comp=Z,2μm,18.9s,MS5.2,baz=151,slow=38						
HWUT	**Hardware Ranch**	**45.51**	**329**	*e*P	**P**	**06 22 21.5**	**0.0**
	comp=Z,56nm,1.1s,mb5.4						
SPUT	**South Promonto**	**45.75**	**329**	*e*P	**P**	**06 22 24.7**	**+1.3**
BGU	**Big Grassy Mou**	**45.78**	**328**	*e*P	**P**	**06 22 24.4**	**+0.8**
PLCA	**Paso Flores**	**45.87**	**167**	P	**P**	**06 22 21.9**	**-2.5**
	comp=Z,14nm,0.9s,mb4.8,baz=341,slow=7.4,SNR=20						
PLCA	**Paso Flores**	**45.87**	**167**	*e*P	**P**	**06 22 21.9**	**-2.5**
	comp=Z,48nm,1.4s,mb5.2						
PLCA	**Paso Flores**	**45.87**	**167**	*e*P	**P**	**06 22 21.9**	**-2.5**
PLCA				pmax	pmax		
	comp=Z,48nm,1.4s						
TRQA	**Tornquist**	**46.03**	**157**	*e*P	**P**	**06 22 23.5**	**-2.2**
	comp=Z,46nm,1.4s,mb5.2						
AHID	**Auburn Hatcher**	**46.15**	**331**	*e*P	**P**	**06 22 26.6**	**+0.1**
	comp=Z,51nm,1.5s,mb5.2						
HVU	**Hansel Valley**	**46.26**	**329**	*e*P	**P**	**06 22 26.9**	**-0.5**
	comp=Z,44nm,1.4s,mb5.2						
HVU	**Hansel Valley**	**46.26**	**329**	*e*P	**P**	**06 22 26.9**	**-0.5**
HVU				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.2						

REDW Red Top Meadow 46.48 332 *e*P **P 06 22 29.2 +0.1**
comp=Z,89nm,1.4s,mb5.5
SNOW Snow King Moun 46.51 332 *e*P **P 06 22 29.6 +0.3**
comp=Z,42nm,1.2s,mb5.2
LOHW Long Hollow 46.55 332 *e*P **P 06 22 30.1 +0.4**
comp=Z,10nm,0.9s,mb4.8
TPAW Teton Pass 46.62 332 *e*P **P 06 22 30.4 +0.2**
comp=Z,68nm,1.3s,mb5.4
RRI2 Red Ridge 46.69 331 *e*P **P 06 22 30.9 +0.1**
comp=Z,31nm,0.8s,mb5.3
MTUM Tungsten Hills 46.70 320 *e*P **P 06 22 32.3 +1.3**
FLWY Flagg Ranch 46.95 332 *e*P **P 06 22 32.6 -0.2**
MNV Mina 47.09 322 *e*P **P 06 22 34.5 +0.4**
comp=Z,28nm,1.3s,mb5.0
MNV Mina 47.09 322 *e*P **P 06 22 34.5 +0.4**
MNV pmax pmax
comp=Z,28nm,1.3s,mb5.0
NVAR Mina Array Bea 47.19 321 P **P 06 22 34.4 -0.4**
comp=Z,8.4nm,0.9s,mb4.7,baz=134,slow=7.8,SNR=30
NVAR LR LR 06 42 12.1
comp=Z,3µm,19.7s,MS5.2,baz=120,slow=36
LKWY Lake 47.19 333 P **P 06 22 34.2 -0.5**
comp=Z,18nm,0.9s,mb5.0
LKWY Lake 47.19 333 P **P 06 22 34.2 -0.5**
LKWY pmax pmax
comp=Z,18nm,0.9s,mb5.0
YFT Old Faithful 47.30 333 *e*P **P 06 22 34.9 -0.7**
ULM Lac du Bonnet 47.43 349 P **P 06 22 34.8 -1.7**
comp=Z,29nm,1.1s,mb5.1,baz=161,slow=6.6,SNR=16
ULM LR LR 06 44 19.6
comp=Z,782nm,20.7s,MS4.7,baz=330,slow=38
ULM Lac du Bonnet 47.43 349 *e*P **P 06 22 34.5 -2.0**
comp=Z,54nm,1.2s,mb5.3
YMR Madison River 47.53 333 *e*P **P 06 22 38.4 +1.0**
comp=Z,53nm,1.3s,mb5.4
QLMT Earthquake Lak 47.86 333 *e*P **P 06 22 40.9 +0.9**
MCMT McKenzie Canyo 48.53 331 *e*P **P 06 22 45.8 +0.6**
DLMT Dillon 48.81 332 *e*P **P 06 22 46.8 -0.5**
BEKR Beckwourth 49.33 322 *e*P **P 06 22 51.5 +0.2**
comp=Z,22nm,1.3s,mb5.0
OHCM Honcut 49.72 320 *e*P **P 06 22 54.7 +0.2**
WVOR Wild Horse Val 49.89 325 *e*P **P 06 22 54.3 -1.4**
comp=Z,129nm,1.5s,mb5.7
WVOR Wild Horse Val 49.89 325 *e*P **P 06 22 54.3 -1.4**
WVOR pmax pmax
comp=Z,129nm,1.5s,mb5.7
CHMT Chamberlain Mo 50.27 333 *e*P **P 06 22 56.2 -2.4**
MOD Modoc 50.52 324 *e*P **P 06 23 01.3 +0.7**
comp=Z,7.8nm,1.1s,mb4.5
KHMM Horse Mountain 52.01 321 *e*P **P 06 23 11.8 -0.1**
SCHQ Schefferville 52.29 12 P **P 06 23 12.9 -0.8**
comp=Z,11nm,1.1s,mb4.7,baz=182,slow=7.2,SNR=5.2
SCHQ LR LR 06 45 06.6
comp=Z,1µm,19.2s,MS4.9,baz=200,slow=36
KRMB Red Mountain 52.48 321 *e*P **P 06 23 15.3 -0.1**
HAWA Hanford 52.96 329 *e*P **P 06 23 18.6 -0.3**
NEW Newport 53.05 332 LR LR 06 46 28.1
comp=Z,2µm,20.6s,MS5.2,baz=130,slow=37
KBO Bosley Butte 53.07 322 P **P 06 23 20.8 +1.1**
EDM Edmonton 55.17 338 *e*P **P 06 23 33.6 -1.4**
YKA Yellowknife Ar 62.98 344 P **P 06 24 27.8 -1.1**
comp=Z,12nm,1.0s,mb5.0,baz=138,slow=6.6,SNR=28
YKA LR LR 06 57 32.6
comp=Z,665nm,18.6s,MS4.8,baz=135,slow=41
YKA Yellowknife Ar 62.98 344 P **P 06 24 27.8 -1.1**
YKA LR LR 06 57 32.6
YKW3 Yellowknife Ar 63.03 344 *e*P **P 06 24 27.1 -2.3**
DLBC Dease Lake 65.53 335 *e*P **P 06 24 44.0 -1.7**
PPT Papeete 69.36 250 LR LR 06 47 47.2
comp=Z,2µm,21.3s,MS5.2,baz=89,slow=29
DAWY Dawson 72.37 337 *e*P **P 06 25 28.8 +1.0**
INK Inuvik 72.64 342 P **P 06 25 28.6 -0.7**
comp=Z,13nm,1.1s,mb4.8,baz=308,slow=1.1,SNR=9.1
INK Inuvik 72.64 342 *e*P **P 06 25 30.2 +0.9**
comp=Z,63nm,1.5s,mb5.3
INK Inuvik 72.64 342 *e*P **P 06 25 30.2 +0.9**
INK pmax pmax
comp=Z,63nm,1.5s
SUMG Summit 73.66 13 *e*P **P 06 25 35.2 0.0**
comp=Z,29nm,1.0s,mb5.2
SML Sawmill 75.16 333 *e*P **P 06 25 44.5 +0.4**
EVO Evora 75.53 51 *e*P **P 06 25 45.8 -0.9**
comp=Z,63nm,1.5s,mb5.0
EVO *e*R
comp=Z,959nm,22.8s
ILAR Eielson Array 75.61 337 P **P 06 25 46.2 -0.4**
comp=Z,2.6nm,0.8s,mb4.2,baz=123,slow=3.4,SNR=13
ILAR LR LR 07 01 40.7
comp=Z,1µm,18.3s,MS5.2,baz=124,slow=38
SPU Mount Spurr 76.66 332 P **P 06 25 53.3 +0.7**
TIC Toumodi 77.30 84 *e*PKP1 **P 06 25 56.6 -0.5**
comp=Z,16nm,1.0s,mb4.9
LIC Lamto 77.31 85 *e*PKP1 **P 06 25 56.7 -0.4**
comp=Z,114nm,1.2s,mb5.7
LIC Lamto 77.31 85 ⇑*i*P **P 06 25 56.6 -0.5**
comp=Z,52nm,1.2s,mb5.3
DBIC Dimbokro 77.46 84 P **P 06 25 57.5 -0.5**
comp=Z,24nm,1.2s,mb5.0,baz=246,slow=7.4,SNR=2.9
DBIC LR LR 07 01 43.8
comp=Z,454nm,18.4s,MS4.8,baz=246,slow=37
DBIC Dimbokro 77.46 84 P **P 06 25 57.5 -0.5**
DBIC LR LR 07 01 43.8
KIC Kosan Boka 77.59 84 *e*PKP1 **P 06 25 57.4 -1.3**
comp=Z,149nm,1.1s,mb5.8
MDT Midelt 77.81 57 P **P 06 26 00.0 +0.5**
comp=Z,5.2nm,1.1s,mb4.4,baz=274,slow=11,SNR=3.1
SVW2 Sparrevohn 78.30 332 *e*P **P 06 26 04.5 +2.9**
ESDC Sonseca Array 78.77 50 P **P 06 26 05.1 +0.4**
comp=Z,6.2nm,0.9s,mb4.5,baz=269,slow=5.6,SNR=13
TTA Tatalina 78.91 333 *e*P **P 06 26 07.4 +2.5**
ROSF Rostrenen 79.98 42 *e*P **P 06 26 10.8 -0.2**
comp=Z,69nm,1.4s,mb5.1
ROSF Rostrenen 79.98 42 *e*P **P 06 26 10.8 -0.2**
ROSF pmax pmax
comp=Z,35nm,1.4s,mb5.1
QUIF Quistinic 80.01 42 *e*P **P 06 26 10.9 -0.3**
comp=Z,89nm,1.4s,mb5.2
QUIF Quistinic 80.01 42 *e*P **P 06 26 10.9 -0.3**
QUIF pmax pmax
comp=Z,45nm,1.4s,mb5.2
SGMF Saint Gilles 80.45 42 *e*P **P 06 26 13.0 -0.5**
comp=Z,118nm,1.7s,mb5.2
SGMF Saint Gilles 80.45 42 *e*P **P 06 26 13.0 -0.5**
SGMF pmax pmax
comp=Z,59nm,1.7s,mb5.2
SJPF Ste Jean 81.04 47 *e*P **P 06 26 17.1 +0.4**
comp=Z,52nm,1.1s,mb5.1
SJPF Ste Jean 81.04 47 *e*P **P 06 26 17.1 +0.4**
SJPF pmax pmax
comp=Z,26nm,1.1s,mb5.1
ETSF Etsaut 81.52 47 *e*P **P 06 26 19.6 +0.4**
GRR Gorron 81.59 42 *e*P **P 06 26 19.3 -0.2**
comp=Z,106nm,1.5s,mb5.2
GRR Gorron 81.59 42 *e*P **P 06 26 19.3 -0.2**
GRR pmax pmax
comp=Z,53nm,1.5s,mb5.2
FLN La Foliniere 81.86 41 *e*P **P 06 26 20.8 -0.1**
comp=Z,96nm,1.5s,mb5.2
FLN *e*R
comp=Z,2µm,23.0s
FLN La Foliniere 81.86 41 *e*P **P 06 26 20.8 -0.1**
FLN pmax pmax
comp=Z,48nm,1.5s,mb5.2
FLN MLR MLR
comp=Z,2µm,23.0s,MS5.3
MFF Saint Martin d 81.98 44 *e*P **P 06 26 21.2 -0.3**
comp=Z,36nm,1.0s,mb5.0
MFF Saint Martin d 81.98 44 *e*P **P 06 26 21.2 -0.3**
MFF pmax pmax
comp=Z,18nm,1.0s,mb5.0
LDF La Druitiere 82.09 42 *e*P **P 06 26 22.0 -0.1**
comp=Z,65nm,1.3s,mb5.1
LDF La Druitiere 82.09 42 *e*P **P 06 26 22.0 -0.1**
LDF pmax pmax
comp=Z,33nm,1.3s,mb5.1
EPF Esparros 82.18 47 *e*P **P 06 26 23.0 +0.3**
comp=Z,80nm,1.5s,mb5.1
EPF Esparros 82.18 47 *e*P **P 06 26 23.0 +0.3**
EPF pmax pmax
comp=Z,40nm,1.5s,mb5.1
LFF La Frestale 82.53 45 *e*P **P 06 26 24.3 -0.2**
comp=Z,68nm,1.3s,mb5.2
LFF La Frestale 82.53 45 *e*P **P 06 26 24.3 -0.2**
LFF pmax pmax
comp=Z,34nm,1.3s,mb5.2
RJF Les Rejaudoux 83.09 45 *e*P **P 06 26 27.1 -0.2**
comp=Z,53nm,1.3s,mb5.1
RJF *e*R
comp=Z,634nm,19.8s
RJF Les Rejaudoux 83.09 45 *e*P **P 06 26 27.1 -0.2**
RJF pmax pmax
comp=Z,27nm,1.3s,mb5.1
RJF MLR MLR
comp=Z,630nm,19.8s,MS5.0
CAF Calviac 83.47 45 *e*P **P 06 26 29.0 -0.3**
comp=Z,105nm,1.9s,mb5.2
CAF Calviac 83.47 45 *e*P **P 06 26 29.0 -0.3**
CAF pmax pmax
comp=Z,53nm,1.9s,mb5.2
MTLF Montolieu 83.56 47 *e*P **P 06 26 29.8 0.0**
comp=Z,41nm,1.2s,mb5.1
MTLF Montolieu 83.56 47 *e*P **P 06 26 29.8 0.0**
MTLF pmax pmax
comp=Z,20nm,1.2s,mb5.1
TCF Toulx Ste Croi 83.59 44 *e*P **P 06 26 29.3 -0.6**
comp=Z,20nm,1.0s,mb4.9
TCF Toulx Ste Croi 83.59 44 *e*P **P 06 26 29.3 -0.6**
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
BGF Bois d'Agland 84.04 44 *e*P **P 06 26 31.8 -0.4**
comp=Z,28nm,1.0s,mb5.0
BGF Bois d'Agland 84.04 44 *e*P **P 06 26 31.8 -0.4**
BGF pmax pmax
comp=Z,14nm,1.0s,mb5.0
AVF Avril sur Loir 84.39 44 *e*P **P 06 26 33.3 -0.6**
comp=Z,58nm,1.4s,mb5.2
AVF Avril sur Loir 84.39 44 *e*P **P 06 26 33.3 -0.6**
AVF pmax pmax
comp=Z,29nm,1.4s,mb5.2
SSF Saint Saulge 84.49 43 *e*P **P 06 26 33.7 -0.7**
comp=Z,40nm,1.6s,mb5.0
SSF Saint Saulge 84.49 43 *e*P **P 06 26 33.7 -0.7**
SSF pmax pmax
comp=Z,20nm,1.5s,mb5.0
SMF Signal de Mont 84.72 44 *e*P **P 06 26 35.1 -0.5**
comp=Z,54nm,1.4s,mb5.2
SMF Signal de Mont 84.72 44 *e*P **P 06 26 35.1 -0.5**
SMF pmax pmax
comp=Z,27nm,1.4s,mb5.2
LOR Lormes 84.73 43 *e*P **P 06 26 35.0 -0.6**
comp=Z,13nm,1.0s,mb4.7
LOR *e*R
comp=Z,919nm,21.5s
LOR Lormes 84.73 43 *e*P **P 06 26 35.0 -0.6**
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,920nm,21.5s,MS5.1
LASF Ste Croix 84.75 46 *e*P **P 06 26 36.3 +0.5**
comp=Z,64nm,1.6s,mb5.2
BAIF Baives 84.96 40 *e*P **P 06 26 36.6 -0.1**
VIVF Saint-Julien-l 85.32 45 *e*P **P 06 26 39.4 +0.8**
comp=Z,69nm,1.2s,mb5.3
VIVF Saint-Julien-l 85.32 45 *e*P **P 06 26 39.4 +0.8**
VIVF pmax pmax
comp=Z,35nm,1.2s,mb5.4
GIVF Givet 85.35 40 *e*P **P 06 26 38.7 0.0**
MEZF Maizieres J'vi 85.53 42 *e*P **P 06 26 39.5 -0.1**
SMRF Simiane la Rot 85.99 46 *e*P **P 06 26 42.6 +0.6**
comp=Z,59nm,1.3s,mb5.3
ORIF Oris-en-Rattie 86.18 45 *e*P **P 06 26 43.7 +0.8**
comp=Z,79nm,1.3s,mb5.5
ORIF *e*R
comp=Z,495nm,19.5s
WLF Walferdange 86.22 41 *e*P **P 06 26 42.8 -0.2**
comp=Z,20nm,0.8s,mb5.4
WLF Walferdange 86.22 41 *e*P **P 06 26 42.8 -0.2**
WLF pmax pmax
comp=Z,20nm,0.8s,mb5.4
CABF La Chapelle 86.27 44 *e*P **P 06 26 43.4 +0.1**
comp=Z,64nm,1.2s,mb5.4
CABF La Chapelle 86.27 44 *e*P **P 06 26 43.4 +0.1**
CABF pmax pmax
comp=Z,32nm,1.2s,mb5.4
HAU Haudompre 86.40 42 *e*P **P 06 26 44.6 +0.7**
comp=Z,46nm,1.4s,mb5.2
HAU *e*R
comp=Z,694nm,21.8s
HAU Haudompre 86.40 42 *e*P **P 06 26 44.6 +0.7**
HAU pmax pmax
comp=Z,23nm,1.4s,mb5.2
HAU MLR MLR
comp=Z,690nm,21.8s,MS5.0
LMR La Mourre 86.69 47 *e*P **P 06 26 45.5 0.0**
comp=Z,219nm,1.9s,mb5.8
LMR La Mourre 86.69 47 *e*P **P 06 26 45.5 0.0**
LMR pmax pmax
comp=Z,110nm,1.9s,mb5.8
HINF Hinteralfeld 86.75 42 *e*P **P 06 26 45.0 -0.6**
comp=Z,29nm,1.2s,mb5.1
HINF Hinteralfeld 86.75 42 *e*P **P 06 26 45.0 -0.6**
HINF pmax pmax
comp=Z,15nm,1.2s,mb5.1
LPL La Plagne 86.76 45 *e*P **P 06 26 46.6 +0.9**
comp=Z,47nm,1.4s,mb5.2
LPL La Plagne 86.76 45 *e*P **P 06 26 46.6 +0.9**
LPL pmax pmax
comp=Z,23nm,1.4s,mb5.2
LPG La Plagne 86.78 45 *e*P **P 06 26 46.8 +1.0**
comp=Z,50nm,1.2s,mb5.3
LPG La Plagne 86.78 45 *e*P **P 06 26 46.8 +1.0**
LPG pmax pmax
comp=Z,25nm,1.2s,mb5.3
FRF La Foret Royal 86.78 47 *e*P **P 06 26 45.5 -0.4**
comp=Z,177nm,1.6s,mb5.7
FRF La Foret Royal 86.78 47 *e*P **P 06 26 45.5 -0.4**
FRF pmax pmax
comp=Z,88nm,1.6s,mb5.7
MBDF Montbardon 86.82 46 *e*P **P 06 26 46.7 +0.6**
comp=Z,33nm,1.2s,mb5.2
MBDF Montbardon 86.82 46 *e*P **P 06 26 46.7 +0.6**
MBDF pmax pmax
comp=Z,17nm,1.2s,mb5.2
CDF Champ du Feu 87.01 42 *e*P **P 06 26 46.7 -0.2**
comp=Z,38nm,1.3s,mb5.2
CDF Champ du Feu 87.01 42 *e*P **P 06 26 46.7 -0.2**
CDF pmax pmax
comp=Z,19nm,1.3s,mb5.2
TNS Taunus Mts 87.68 40 *e*P **P 06 26 50.6 +0.6**
comp=Z,25nm,1.6s,mb5.2
TNS Taunus Mts 87.68 40 *e*P **P 06 26 50.6 +0.6**
TNS pmax pmax
comp=Z,25nm,1.6s,mb5.2
BFO Black Forest 87.71 42 *e*P **P 06 26 51.3 +1.0**
comp=Z,15nm,1.4s,mb5.0
BFO Black Forest 87.71 42 *e*P **P 06 26 51.3 +1.0**
BFO pmax pmax
comp=Z,15nm,1.4s,mb5.0
VNA3 Neumayer Olymp 88.34 162 *e* **P 06 26 55.3 +2.5**
VNA3 Neumayer Olymp 88.34 162 *e* **P 06 26 58.0 +5.2**
VNA3 Neumayer Olymp 88.34 162 *e* Px 06 27 20.7
VNA3 Neumayer Olymp 88.34 162 ⇑*i*P **P 06 26 51.2 -1.6**
VNA3 *e* pP 06 26 55.3 -0.7
VNA3 *e* 06 26 58.0
VNA3 *e* 06 27 20.7
NOA NORSAR Array B 88.42 29 LR LR 07 03 17.9
comp=Z,427nm,20.0s,MS4.9,baz=265,slow=33
VNA1 Neumayer--Stat 88.61 161 *e* **P 06 26 57.6 +3.5**
VNA1 Neumayer--Stat 88.61 161 *e* **P 06 26 59.8 +5.7**
VNA1 Neumayer--Stat 88.61 161 *e* Px 06 27 22.4
VNA1 Neumayer--Stat 88.61 161 ⇑*i*P **P 06 26 53.9 -0.2**
VNA1 *e* pP 06 26 57.6 +0.3
VNA1 *e* 06 26 59.8
VNA1 *e* 06 27 22.4
CLZ Clausthal 88.77 38 *e*P **P 06 26 56.5 +1.2**
comp=Z,21nm,1.3s,mb5.3
CLZ Clausthal 88.77 38 *e*P **P 06 26 56.5 +1.2**
CLZ pmax pmax
comp=Z,21nm,1.3s,mb5.3
VNA2 Neumayer--Watz 88.97 161 *e* **P 06 26 58.2 +2.4**
VNA2 Neumayer--Watz 88.97 161 *e* **P 06 27 01.1 +5.3**
VNA2 Neumayer--Watz 88.97 161 *e* Px 06 27 23.3
VNA2 Neumayer--Watz 88.97 161 ⇑*i*P **P 06 26 55.3 -0.5**
VNA2 *e* pP 06 26 58.2 -0.8
VNA2 *e* 06 27 01.1
VNA2 *e* 06 27 23.3
GRA1 Grafenberg Arr 89.51 40 *e*P **P 06 27 00.7 +1.9**
comp=Z,29nm,1.6s,mb5.4
GRA1 LR LR
comp=Z,700nm,21.6s,MS5.0
GRF Grafenberg Arr 89.51 40 *e*P **P 06 27 00.7 +1.9**
comp=Z,29nm,1.6s,mb5.4
GRF pmax pmax
comp=Z,700nm,21.6s,MS5.0
GRF Grafenberg Arr 89.51 40 *e*P **P 06 27 00.7 +1.9**
GRF pmax pmax
comp=Z,29nm,1.6s,mb5.4
GRF MLR MLR
comp=Z,700nm,21.6s,MS5.0
GRF Grafenberg Arr 89.51 40 *e*P **P 06 27 00.7 +1.9**
GRF pmax pmax
comp=Z,29nm,1.6s,mb5.4
GRF MLR MLR
comp=Z,700nm,21.6s,MS5.0
MOX Moxa 89.66 39 *e*P **P 06 27 04.0 +4.5**
MOX SKS SKS 06 37 41.0 +8.1
MOX L 07 04 42.0
MOX Moxa 89.66 39 *e*P **P 06 27 04.0 +4.5**
MOX *e* 06 37 41.0
MOX MLR MLR
comp=Z,400nm,21.0s,MS4.8
NKC Novy Kostel 90.24 40 *e*pP pP 06 27 07.4 +2.0
NKC AMS AMS 06 59 30.0
comp=Z,1µm,26.4s
CLL Collm 90.46 39 P **P 06 27 03.9 +0.7**
comp=Z,logA/T=0.7,mb4.8
CLL *e**PP pP 06 27 08.0 +1.6
CLL *i* 06 27 13.2
CLL *e* 06 27 20.0
CLL *e* 06 37 36.0
CLL *e*S S 06 38 00.0 +4.2
CLL *e*PS PS 06 39 12.0 +4.7
CLL *e*PPS PPS 06 39 36.0 -1.8
CLL *e*SS SS 06 44 12.0 +12
CLL Collm 90.46 39 *i* P **P 06 27 03.9 +0.7**
comp=Z,7.0nm,1.3s,mb4.8
CLL *e*pP pP 06 27 08.0 +1.6
CLL *i* 06 27 13.2
CLL *e*S S 06 38 00.0 +4.2
CLL Collm 90.46 39 *i* P **P 06 27 03.9 +0.7**
CLL *i* 06 27 13.2
CLL *e*S S 06 38 00.0 +4.2
CLL pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
WET Wettzell 90.64 41 *e*P **P 06 27 05.3 +1.2**
comp=Z,13nm,1.2s,mb5.1
WET Wettzell 90.64 41 *e*P **P 06 27 05.3 +1.2**
WET pmax pmax
comp=Z,13nm,1.2s,mb5.1
KHC Kasperske Hory 91.10 41 *e*P **P 06 27 06.8 +0.6**
KHC AMS AMS 06 59 50.0
comp=Z,1µm,25.8s
KHC Kasperske Hory 91.10 41 *d i*P **P 06 27 06.3 +0.1**
BRG Berggiesshubel 91.11 39 *e*P **P 06 27 07.4 +1.2**
comp=Z,8.2nm,1.2s,mb4.9
BRG *e* 06 37 49.0
BRG *e* 06 44 29.0
BRG LR LR
comp=Z,1µm,28.2s,MS5.2
BRG Berggiesshubel 91.11 39 *e*P **P 06 27 07.4 +1.3**
BRG pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
BRG MLR MLR
comp=Z,1µm,28.2s,MS5.2
GERES GERESS Array B 91.22 41 P **P 06 27 07.4 +0.7**
comp=Z,2.1nm,0.9s,mb4.5,baz=270,slow=1.3,SNR=4.3
GERES LR LR 07 03 31.3
comp=Z,582nm,21.1s,MS5.0,baz=70,slow=32
PVCC Panska Ves 91.55 39 *e*pP pP 06 27 13.2 +1.8
PVCC AMS AMS 07 01 00.0
comp=Z,1µm,28.3s
PRU Pruhonice 91.61 40 *e*P **P 06 27 10.9 +2.4**
PRU AMS AMS 07 01 20.0
comp=Z,1µm,25.5s
TREC Trest 92.31 40 *e*P **P 06 27 13.0 +1.3**
TREC AMS AMS 07 01 20.0
comp=Z,2µm,24.8s
UPC Upice 92.46 39 *e*P **P 06 27 14.7 +2.3**
ARCES ARCESS Array B 92.56 20 LR LR 07 03 19.9
comp=Z,662nm,20.9s,MS5.1,baz=281,slow=32
DPC Dobruska-Polom 92.68 39 *e*P **P 06 27 16.0 +2.6**
DPC AMS AMS 07 01 00.0
comp=Z,900nm,15.9s
OKC Ostrava-Krasne 93.93 40 AMS AMS 07 02 10.0
comp=Z,1µm,23.5s
QSPA South Pole Qui 94.02 180 *e*P **P 06 27 19.2 +0.3**
comp=Z,19nm,1.1s,mb5.4
FINES FINESS Array B 95.36 27 LR LR 07 05 44.2
comp=Z,587nm,19.8s,MS5.1,baz=352,slow=32
VNDA Vanda 99.26 191 LR LR 07 04 26.2
comp=Z,433nm,19.9s,MS5.0,baz=118,slow=30
OBN Obninsk 102.91 31 *e*P Pdif 06 27 58.4 -1.3
OBN *i* 06 32 17.0
OBN *e* 06 38 29.6
OBN *e*SS SS 06 46 46.8 -8.4
OBN pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 123.18 14 *i* PKIKP PKPdf 06 32 54.3 -5.9
MDJ Mudanjiang 123.65 333 PKP PKPdf 06 32 58.5 -2.8
MDJ PKS PKS 06 36 35.1 +1.2
MDJ SKS SKS 06 40 10.4 +6.3
MDJ SS SS 06 51 30.3 +0.8
MDJ PP PP
comp=Z,38nm,3.6s
MDJ LR LR
comp=N,785nm,32.9s,MS5.2
MDJ LR LR
comp=E,478nm,31.0s,MS5.2
MDJ LR LR
comp=Z,918nm,37.4s
CN2 Changchun 126.11 335 *e*PKP PKPdf 06 33 00.0 -6.1
MKAR Makanchi Array 127.71 13 PKP PKPdf 06 33 06.3 -2.8
comp=Z,1.0nm,0.8s,slow=3.6,SNR=6.0
MKAR Makanchi Array 127.71 13 *i* PKIKP PKPdf 06 33 07.0 -2.1
MKAR pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 127.78 352 PKP PKPdf 06 33 06.4 -2.8
comp=Z,0.9nm,0.8s,baz=270,slow=1.4,SNR=5.2
SONM PP PP 06 35 14.1 +2.1
comp=Z,1.9nm,1.2s,baz=45,slow=4.2,SNR=4.4
AAK Ala-Archa 129.19 22 ⇑*i* PKIKP PKPdf 06 33 09.7 -2.4
WMQ Urumqi 131.62 9 PKP PKPdf 06 33 13.0 -3.6
WMQ PP PP 06 35 38.0 +0.5
WMQ PKS PKS 06 36 48.0 -0.7
WMQ PPP PPP 06 38 28.0 +0.3
WMQ SKS SKS 06 40 19.0 -7.3
WMQ SKKS 06 42 23.0
WMQ SS SS 06 53 13.0 +4.2
WMQ PP PP
comp=Z,292nm,4.4s
WMQ LR LR
comp=N,914nm,28.2s,MS5.4
WMQ LR LR
comp=E,806nm,33.0s,MS5.4
WMQ LR LR
comp=Z,1µm,28.0s,MS5.5
HHC Hu-ho-hao-te 133.51 345 *e*PKP PKPdf 06 33 16.1 -4.1
HHC PP PP 06 35 51.9 +2.5
HHC PKS PKS 06 36 50.3 -2.0
HHC SKS SKS 06 40 21.9 -8.7
HHC SKKS 06 42 39.5
HHC SS SS 06 53 37.9 +6.0
HHC PP PP
comp=Z,170nm,7.4s
HHC LR LR
comp=N,222nm,22.6s,MS5.0
HHC LR LR
comp=E,255nm,17.8s,MS5.0
HHC LR LR
comp=Z,385nm,22.6s,MS5.1
GTA Gaotai 136.75 357 PKP PKPdf 06 33 30.1 +3.9
GTA PP PP 06 36 12.3 +2.9
GTA SKS SKS 06 40 35.9 -0.3
GTA SKKS 06 43 05.3
GTA SS SS 06 54 13.3 +2.5
GTA PP PP
comp=Z,81nm,7.6s
GTA LR LR
comp=N,270nm,28.3s,MS5.1
GTA LR LR
comp=E,397nm,29.1s,MS5.1
GTA LR LR
comp=Z,283nm,32.9s,MS4.8
NJ2 Nanjing 138.72 332 *e*PKP PKPdf 06 33 25.1 -5.0
NJ2 PP PP 06 36 23.0 +0.6
NJ2 PKS PKS 06 37 01.0 -0.9
NJ2 SKS SKS 06 40 31.0 -8.7

NJ2					PP	PP		
	comp=Z,1μm,9.0s							
NJ2					LR	LR		
	comp=N,300nm,26.8s							
NJ2					LR	LR		
	comp=E,380nm,21.3s							
NJ2					LR	LR		
	comp=Z,3μm,19.7s							
WB2	**Warramunga Arr**	**140.60**	**243**	*e*PKP	PKPdf	06 33 35.5	+1.6	
WRAB	**Tennant Creek**	**140.61**	**243**	*i* PKIKP	PKPdf	06 33 28.7	-5.2	
WRA	**Warramunga Arr**	**140.62**	**243**	PKhKP		06 33 24.7		
	comp=Z,1.4nm,0.9s,baz=116,slow=2.6,SNR=9.4							
WRA				PKP	PKPdf	06 33 30.7	-3.2	
	comp=Z,1.2nm,0.8s,baz=122,slow=2.6,SNR=8.7							
ENH	**Enshi**	**144.00**	**342**	*e*PKPdf	PKPdf	06 33 35.9	-3.6	
KAKA	**Kakadu**	**144.24**	**254**	*e*PKP	PKPdf	06 33 54.6	+14	
	comp=Z,18nm,0.9s							
CD2	**Chengdu**	**144.75**	**350**	*e*PKP	PKPdf	06 33 38.4	-2.4	
KOLN	**Koldanda**	**145.76**	**22**	*e*P	PKPbc	06 33 41.7	+1.3	
	comp=Z,201nm,1.8s							
GKN	**Gorkha**	**145.92**	**20**	*e*P	PKPbc	06 33 42.2	+1.4	
	comp=Z,231nm,1.4s							
KKN	**Kakani**	**146.33**	**19**	*e*P	PKPbc	06 33 43.3	+1.5	
	comp=Z,297nm,1.9s							
DMN	**Daman**	**146.44**	**20**	*e*P	PKPbc	06 33 43.8	+1.8	
	comp=Z,84nm,1.1s							
KLBR	**Kellerberrin**	**146.50**	**213**	*e*PKP	PKPdf	06 33 43.9	+0.1	
	comp=Z,42nm,1.2s							
PKI	**Pulchoki**	**146.58**	**19**	*e*P	PKPbc	06 33 45.3	+3.0	
	comp=Z,35nm,0.9s							
MUN	**Mundaring**	**147.00**	**210**	*e*PKP	PKPdf	06 33 47.9	+3.3	
GYA	**Guiyang**	**148.41**	**344**	*i* PKP	PKPdf	06 33 49.1	+2.1	
GYA				PP	PP			
	comp=Z,240nm,7.8s							
GYA				LR	LR			
	comp=N,310nm,20.4s,MS5.2							
GYA				LR	LR			
	comp=E,340nm,20.8s,MS5.2							
GYA				LR	LR			
	comp=Z,370nm,21.0s,MS5.2							
FITZ	**Fitzroy Crossi**	**148.95**	**241**	*e*PKP	PKPdf	06 33 50.5	+2.4	
	comp=Z,16nm,0.9s							
KMI	**Kunming**	**150.59**	**350**	PKP	PKPdf	06 33 47.8	-2.7	
KMI				APKP		06 33 50.9		

WEL 18 06:38:07.3±0.3, 36.83S×178.10E, h93km±5km, ML3.5/2, Error ellipse: s-maj=4.3km s-min=2.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.25**	**174**	PN	P	06 38 30.1	-0.5
PUZ				SN	S	06 38 46.8	-1.1
URZ	**Urewera**	**1.64**	**209**	P*	P	06 38 35.0	-0.3
URZ				S*	S	06 38 56.2	+0.1
KNZ	**Kokohu**	**2.22**	**189**	PN	P	06 38 42.2	-0.9
MQZ	**McQueen's Vall**	**8.04**	**210**	*e*SN	S	06 41 25.9	-7.1

MAN 18 07:01:06.8, 9.37N×125.50E, h1km, mb4.3, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.41**	**358**⇓	*e*P	Pg	07 01 15.0	0.0
BUTP	**Butuan**	**0.42**	**163**	*e*P	Pg	07 01 15.3	+0.1
BUTP				*e*S	Sg	07 01 23.6	+2.9
MSLP	**Maasin**	**0.99**	**320**	*e*P	Pb	07 01 25.8	-0.7
MSLP				*e*S	Sg	07 01 43.3	+3.6
CGP	**Cagayan de Oro**	**1.21**	**221**⇑	*e*P	Pb	07 01 29.6	-0.7
CGP				*e*S	Sb	07 01 47.2	+1.0
BIPH	**Bislig**	**1.45**	**144**	*e*P	Pn	07 01 31.8	-2.5
BIPH				*i* S	Sb	07 01 51.5	-1.8
BUKP	**Musuan**	**1.54**	**196**	*e*P	Pn	07 01 35.5	-0.1
LLP	**Lapu-Lapu**	**1.78**	**302**	*e*P	Pn	07 01 37.6	-1.4
LLP				*e*S	Sn	07 02 02.5	0.0
BESP	**Borongan**	**2.22**	**358**	*e*P	Pn	07 01 45.1	-0.1
BESP				*e*S	Sn	07 02 13.7	0.0
MATI	**Mati**	**2.52**	**163**	*e*P	Pn	07 01 50.8	+1.2
PAGZ	**Pagadian**	**2.58**	**234**	*e*P	Pn	07 01 50.2	-0.3

LDG ***18*** *07:25:49.8±0.2, 24.63N×94.49E, h10km, Mb5.7/44, Ms4.6/9, Error ellipse: s-maj=9.7km s-min=9.3km az=61.0*

MOS ***18*** *07:25:52.5±0.8, 24.55N×94.76E, h37km, mb5.8/105, MS4.9/31, Error ellipse: s-maj=7.2km s-min=2.9km az=131.0*

BJI ***18*** *07:25:57.8, 24.66N×94.66E, h87km, mB5.4, mb5.4, Ms5.3, Msz5.0*

NEIC ***18*** *07:25:59.5±0.1, 24.56N×94.78E, mb5.6/154, MW5.7, Error ellipse: s-maj=3.8km s-min=2.3km az=31.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{17}Nm; M_{rr}2.58; $M_{\theta\theta}$-1.72; $M_{\phi\phi}$-0.85; $M_{r\theta}$-0.51; $M_{\theta\phi}$2.38; $M_{\phi r}$-1.91; Best double couple: M_o3.8×10^{17} NP1:ϕ_s281°, δ46°, λ42°. NP2:ϕ_s159°, δ61°, λ128°. Principal axes: T 3.85, Plg56°, Azm120°; N -.02, Plg32°, Azm318°; P -3.83, Plg8°, Azm223°;*

NEIC Felt [III] at Dhaka, Bangladesh. Felt strongly at Chittagong, Narayanganj and Sylhet, Bangladesh. Felt in much of Bangladesh. Felt in Arunachal Pradesh, Assam, Manipur, Meghalaya and Mizoram, India and by people in high-rise buildings at Chiang Mai, Thailand.

IDC ***18*** *07:25:59.8±0.4, 24.62N×94.84E, h88km±2km, mb5.3/28, mb1 5.4/28, mb1mx5.4/28, mbtmp5.6/28, MS4.8/26, Ms1 4.8/26, ms1mx4.7/30 Error ellipse: s-maj=10.5km s-min=7.1km az=49.0*

HRVD ***18*** *07:25:59.5±0.2, 24.48N×94.71E, h105km±1km, MW5.7/74, Centroid moment Tensor Solution. LP body waves: s65,c133;Mantle waves: s74,c200; Half duration: 1ŝ7 Moment tensor: Scale 10^{17}Nm; M_{rr}2.25±.05; $M_{\theta\theta}$-2.17±.06; $M_{\phi\phi}$-0.08±.07; $M_{r\theta}$-0.66±.05; $M_{\theta\phi}$2.58±.06; $M_{\phi r}$-1.57±.04; Best double couple: M_o3.793×10^{17} NP1: ϕ_s271°, δ54°, λ38°. NP2:ϕ_s156°, δ60°, λ138°. Principal axes: T 3.656, Plg50°, Azm121°; N .27, Plg40°, Azm308°; P -3.929, Plg3°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BGS ***18*** *07:26:15.9, 25.97N×91.75E, h84km, mb5.5*

ISC 18 07:25:58.2±0.1, 24.62N±0.02×94.75E±0.02, h84km, h84km±.5km:pP-P, n1089, σ1ŝ00/1009, mb5.5/245, 356C-35D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.76**	**283**	*i* PG	**P**	**07 26 16.0**	**+0.9**
IMP				*ex*	x	07 27 35.0	
SHL	**Shillong**	**2.77**	**291**	*i* P	**P**	**07 26 41.0**	**-0.4**
SHL				*e*S	**S**	**07 27 10.0**	**-3.8**
LSA	**Lhasa**	**5.99**	**328**	P	**P**	**07 27 27.0**	**+1.1**
LSA	**Lhasa**	**5.99**	**328**⇑	*e*P	**P**	**07 27 26.9**	**+1.1**
	1μm,0.4s						
LSA				*e*S	**S**	**07 28 30.3**	**-3.5**
LSA	**Lhasa**	**5.99**	**328**⇑	*e*P	**P**	**07 27 26.9**	**+1.0**
LSA				*e*S	**S**	**07 28 30.3**	**-3.6**
LSA				pmax	pmax		
	comp=Z,1μm,0.4s						
GTK	**Gangtok**	**6.15**	**297**	*ex*	x	07 27 20.0	
CAL	**Calcutta**	**6.24**	**252**	*e*P	**P**	**07 27 29.2**	**-0.1**
CAL				*e*S	**S**	**07 28 32.7**	**-7.2**
CHG	**Chiang Mai**	**6.97**	**145**	⇑PN	**P**	**07 27 40.7**	**+1.2**
KMI	**Kunming**	**7.28**	**84**	⇑P	**P**	**07 27 49.3**	**+5.6**
KMI				XP		07 28 12.4	
KMI				S	**S**	**07 29 12.5**	**+7.1**
KMI				AMB	AMB		
	comp=Z,1μm,1.1s						
KMI				LR	LR		
	comp=N,30μm,8.2s						
KMI				LR	LR		
	comp=E,14μm,6.3s						
KMI				LR	LR		
	comp=Z,18μm,10.0s						
NANT	**Nan**	**8.00**	**135**	P	**P**	**07 27 53.0**	**-0.7**
BOK	**Bokaro**	**8.13**	**266**	*e*P	**P**	**07 27 52.6**	**-2.8**
BOK				*e*S	**S**	**07 27 17.5**	**-9.0**
BOK				AML	AML	07 29 20.8	
	comp=N,12μm,0.3s						
BOK				AML	AML	07 29 23.0	
	comp=E,10μm,0.6s						
GUN	**Gumba**	**8.61**	**294**	*e*P	**P**	**07 27 58.3**	**-3.6**
PKI	**Pulchoki**	**8.90**	**291**	*e*P	**P**	**07 28 02.7**	**-3.1**
	comp=E,962nm,0.4s						
PKI				*e*S	**S**	**07 29 36.8**	**-8.4**
PKI	**Pulchoki**	**8.90**	**291**	*e*P	**P**	**07 28 02.7**	**-3.1**
PKI				*e*S	**S**	**07 29 36.8**	**-8.4**
PKI				pmax	pmax		
	comp=Z,481nm,0.4s						
KKN	**Kakani**	**9.07**	**292**	*e*P	**P**	**07 28 04.8**	**-3.3**
	comp=Z,3μm,0.5s						
DMN	**Daman**	**9.16**	**291**	*e*P	**P**	**07 28 06.0**	**-3.4**
	comp=Z,776nm,0.4s						
GKN	**Gorkha**	**9.68**	**293**	*e*P	**P**	**07 28 12.8**	**-3.6**
	comp=Z,3μm,0.5s						
GKN	**Gorkha**	**9.68**	**293**	*e*P	**P**	**07 28 12.9**	**-3.5**
GKN				*e*S	**S**	**07 29 55.8**	**-8.4**
GKN	**Gorkha**	**9.68**	**293**	*e*P	**P**	**07 28 12.8**	**-3.6**
GKN				*e*S	**S**	**07 29 55.8**	**-8.4**
CD2	**Chengdu**	**10.14**	**50**⇑	*i* P	**P**	**07 28 21.3**	**-1.4**
CD2				XP		07 28 48.4	
CD2				S	**S**	**07 30 11.8**	**-3.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.3s						
CD2				AMB	AMB		
	comp=Z,660nm,5.4s						
CD2				LR	LR		
	comp=N,5μm,11.4s						
CD2				LR	LR		
	comp=Z,5μm,24.0s						
NST	**Nakhon Sawan**	**10.23**	**149**	P	**P**	**07 28 22.0**	**-1.9**
KOLN	**Koldanda**	**10.49**	**290**	*e*P	**P**	**07 28 24.1**	**-3.3**
	comp=Z,1μm,0.4s						
KOLN				*e*S	**S**	**07 30 14.8**	**-9.1**
GYA	**Guiyang**	**10.92**	**78**⇑	*i* P	**P**	**07 28 33.8**	**+0.7**
GYA				PP	PP	07 28 44.9	+2.8
GYA				XP		07 28 59.8	
GYA				S	**S**	**07 30 31.3**	**-2.8**
GYA				SS	SS	07 30 47.3	-2.8
GYA				PCP	PcP	07 34 29.8	+3.5
GYA				SCP		07 37 52.0	
GYA				SCS	ScS	07 41 24.3	+0.5
GYA				AMB	AMB		
	comp=Z,130nm,1.4s						
GYA				AMB	AMB		
	comp=Z,610nm,4.5s						
GYA				LR	LR		
	comp=N,25μm,8.6s						
GYA				LR	LR		
	comp=E,10μm,7.0s						
GYA				LR	LR		
	comp=Z,6μm,7.2s						
BLSP	**Bilaspur**	**11.85**	**260**	*i* P	**P**	**07 28 42.1**	**-3.5**
BLSP				*i* S	**S**	**07 30 43.5**	**-13**
VIS	**Vishakhapatnam**	**12.66**	**239**	*e*P	**P**	**07 28 53.9**	**-2.5**
VIS				*ex*	x	07 30 59.8	
VIS				AML	AML	07 31 06.7	
	comp=E,528nm,0.2s						
VIS				AML	AML	07 31 08.2	
	comp=N,280nm,0.9s						
NNT	**Nongplab**	**12.86**	**158**	P	**P**	**07 29 06.8**	**+7.8**
UBT	**Ubonrachathani**	**13.41**	**132**	P	**P**	**07 29 08.4**	**+2.2**
	comp=N,3μm,2.0s						
LZH	**Lanzhou**	**13.86**	**32**	⇓P	**P**	**07 29 10.5**	**-1.5**
LZH				AP		07 29 22.8	
LZH				PP	PP	07 29 23.8	0.0
LZH				XP		07 29 34.3	
LZH				S	**S**	**07 31 43.3**	**-0.8**
LZH				XS		07 32 01.3	
LZH				PCP	PcP	07 34 27.5	-2.2
LZH				SCP		07 37 50.5	
LZH				SCS	ScS	07 41 28.8	-1.3
LZH				AMB	AMB		
	comp=Z,406nm,1.0s						
LZH				AMB	AMB		
	comp=Z,2μm,5.2s						
LZH				LR	LR		
	comp=E,11μm,14.4s						
LZH				LR	LR		
	comp=Z,19μm,15.4s						
ENH	**Enshi**	**14.24**	**63**	*e*P	**P**	**07 29 16.7**	**-0.3**
	comp=Z,823nm,0.9s						
ENH				*e*S	**S**	**07 32 06.2**	**+13**
ENH				*e*ScP		07 37 54.7	
KALG	**Kalgarh**	**15.06**	**292**	*e*P	**P**	**07 29 26.4**	**-1.1**
KALG				*ex*	x	07 31 59.9	
KALG				AML	AML	07 32 03.1	
	comp=N,4.7nm,0.4s						
KALG				AML	AML	07 32 05.3	
	comp=E,2μm,0.2s						
QIZ	**Qiongzhong**	**15.07**	**109**	P	**P**	**07 29 29.1**	**+1.3**
QIZ				*e*S	**S**	**07 32 14.4**	**+1.6**
QIZ				XS		07 32 35.1	
QIZ				LR	LR		
	comp=N,6μm,19.0s						
QIZ				LR	LR		
	comp=Z,6μm,14.9s						
QIZ	**Qiongzhong**	**15.07**	**109**	*e*Pn	**P**	**07 29 26.8**	**-1.0**
	comp=Z,1μm,1.2s						
AGRA	**Agra**	**15.34**	**283**	*e*P	**P**	**07 29 28.1**	**-3.1**
AGRA				*ex*	x	07 32 05.1	
AGRA				AML	AML	07 32 08.3	
	comp=N,5μm,0.4s						
AGRA				AML	AML	07 32 09.6	
	comp=E,5μm,0.8s						
GTA	**Gaotai**	**15.36**	**15**	P	**P**	**07 29 28.8**	**-2.5**
GTA				AP		07 29 42.5	
GTA				XP		07 29 56.9	
GTA				PCP	PcP	07 34 32.6	+0.8
GTA				SCP		07 37 57.3	
GTA				PCS		07 38 07.3	
GTA				SCS	ScS	07 41 35.6	+1.7
GTA				AMB	AMB		
	comp=Z,67nm,2.1s						
GTA				AMB	AMB		
	comp=Z,1μm,6.1s						
GTA				LR	LR		
	comp=N,3μm,19.1s						
GTA				LR	LR		
	comp=E,5μm,16.8s						
GTA				LR	LR		
	comp=Z,5μm,21.0s						
XAN	**Xi'an**	**15.51**	**50**	P	**P**	**07 29 30.6**	**-2.6**
XAN				PP	PP	07 29 51.8	+5.1
XAN				S	**S**	**07 32 13.3**	**-9.3**
XAN				AMB	AMB		
	comp=Z,488nm,10.2s						
XAN				LR	LR		
	comp=N,2μm,10.8s						
XAN				LR	LR		
	comp=E,1μm,8.6s						
XAN				LR	LR		
	comp=Z,6μm,24.4s						
BHPL	**Bhopal**	**15.90**	**269**	*e*P	**P**	**07 29 36.3**	**-1.9**
BHPL				AMb	AMB	07 29 37.7	
	comp=Z,309nm,0.8s						
BHPL				*ex*	x	07 32 16.3	
BHPL				AML	AML	07 32 22.5	
	comp=E,1μm,0.8s						
BHPL				AML	AML	07 32 23.9	
	comp=N,1μm,1.2s						
AYAN	**Aya Nagar**	**16.23**	**288**	*e*P	**P**	**07 29 39.3**	**-3.0**
AYAN				AMb	AMB	07 29 45.7	
	comp=Z,372nm,1.0s						
AYAN				*ex*	x	07 32 25.2	
AYAN				AML	AML	07 32 35.5	
	comp=Z,401nm,0.6s						
HYB	**Hyderabad**	**16.72**	**248**	*i* P	**P**	**07 29 45.0**	**-3.5**
	comp=Z,1μm,1.0s						
HYB				*e*		07 32 37.0	
HYB				*e*S	**S**	**07 32 47.5**	**-3.0**
HYB				*e*		07 38 28.0	
HYB				LR	LR	07 39 26.0	
	comp=Z,9.1nm,12.0s						
HYB	**Hyderabad**	**16.72**	**248**	*e*P	**P**	**07 29 45.0**	**-3.5**
	comp=Z,1μm,1.0s						
HYB				*e*S	**S**	**07 32 37.0**	**-13**
HYB	**Hyderabad**	**16.72**	**248**	*e*P	**P**	**07 29 45.0**	**-3.5**
HYB				pmax	pmax		
	comp=Z,1μm,1.0s						
PKT	**Phuket**	**16.77**	**168**	P	**P**	**07 29 54.0**	**+4.9**
AKL	**Akola**	**16.82**	**260**⇓	*ix*	**P**	**07 29 43.2**	**-6.5**
AKL				*i* x	x	07 32 35.8	
GZH	**Guangzhou**	**17.08**	**91**	P	**P**	**07 29 56.8**	**+3.9**
GZH				LR	LR		
	comp=N,4μm,12.7s						
GZH				LR	LR		
	comp=E,6μm,8.5s						
GZH				LR	LR		
	comp=Z,7μm,7.4s						
KHET	**Khetri**	**17.32**	**286**	*e*P	**P**	**07 29 54.3**	**-1.6**
KHET				AML	AML	07 32 18.7	
	comp=E,75nm,0.5s						
KHET				AML	AML	07 32 20.5	
	comp=N,82nm,0.5s						
KHET				*ex*	x	07 32 50.5	
KHET				AML	AML	07 32 54.2	
	comp=N,2μm,0.8s						
KHET				AML	AML	07 32 56.2	
	comp=E,886nm,0.3s						
BHK	**Bhakra**	**17.54**	**297**	*ex*	**P**	**07 29 52.0**	**-6.6**
SNG	**Songkhla**	**18.23**	**161**	P	**P**	**07 30 08.0**	**+1.0**
	comp=E,164nm,0.9s						
AJM	**Ajmer**	**18.24**	**280**	*e*P	**P**	**07 30 04.0**	**-3.1**
AJM				*ex*	x	07 33 11.0	
WHN	**Wuhan**	**18.34**	**67**	⇑P	**P**	**07 30 08.4**	**+0.1**
WHN				S	**S**	**07 33 34.0**	**+7.3**
WHN				LR	LR		
	comp=N,3μm,5.7s						
WHN				LR	LR		
	comp=E,8μm,7.6s						
WHN				LR	LR		
	comp=Z,8μm,19.4s						
TIY	**Taiyuan**	**19.94**	**45**	PR	**P**	**07 30 25.0**	**-0.7**
TIY				S	**S**	**07 33 58.0**	**-2.4**
TIY				LR	LR		
	comp=N,3μm,11.0s						
TIY				LR	LR		
	comp=Z,1μm,5.0s						
WMQ	**Urumqi**	**20.01**	**345**⇓	*i* P	**P**	**07 30 27.5**	**+1.1**
WMQ				AP		07 30 44.0	
WMQ				PP	PP	07 30 51.0	+3.1
WMQ				XP		07 30 59.0	
WMQ				S	**S**	**07 34 03.0**	**+1.3**
WMQ				XS		07 34 28.0	
WMQ				SS	SS	07 34 36.0	+1.0
WMQ				AMB	AMB		
	comp=Z,438nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,4μm,5.8s						
WMQ				LR	LR		
	comp=N,5μm,14.6s						
WMQ				LR	LR		
	comp=E,4μm,15.6s						
WMQ				LR	LR		
	comp=Z,6μm,26.2s						
KULM	**Kulim**	**20.03**	**163**⇑	*e*P	**P**	**07 30 26.8**	**0.0**
SALM	**Salem**	**20.31**	**234**	*e*P	**P**	**07 30 29.0**	**-0.6**
SALM				*ex*	**S**	**07 34 00.0**	**-7.5**
POO	**Poona**	**20.35**	**257**	*e*P	**P**	**07 30 29.0**	**-1.0**
POO				*ex*	**S**	**07 34 00.0**	**-8.3**
KAD	**Karad**	**20.52**	**253**	*e*P	**P**	**07 30 31.9**	**+0.1**
KAD				AMb	AMB	07 30 37.2	
	comp=Z,1μm,1.3s						
KAD				*ex*	x	07 34 03.7	
BHV	**Bhavnagar**	**20.97**	**267**	*e*P	**P**	**07 30 35.0**	**-1.4**
HHC	**Hu-ho-hao-te**	**21.44**	**37**	*e*P	**P**	**07 30 41.4**	**+0.5**
HHC				AP		07 30 58.1	
HHC				XP		07 31 07.3	
HHC				S	**S**	**07 34 28.3**	**-0.2**
HHC				PCP	PcP	07 34 44.4	+2.4
HHC				SS	SS	07 35 05.8	-3.6
HHC				SCP		07 38 11.9	
HHC				PCS		07 38 21.4	
HHC				AMB	AMB		
	comp=Z,53nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,675nm,4.4s						
HHC				LR	LR		
	comp=N,4μm,11.9s						
HHC				LR	LR		
	comp=E,5μm,8.3s						
HHC				LR	LR		
	comp=Z,5μm,23.8s						
JASL	**Jaisalmer**	**21.59**	**281**	*e*P	**P**	**07 30 42.4**	**-0.1**
QZH	**Quanzhou**	**21.65**	**84**⇑	*i* P	**P**	**07 30 43.8**	**+0.7**
QZH				S	**S**	**07 34 39.6**	**+7.1**
QZH				AMB	AMB		
	comp=Z,1μm,1.4s,mb6.0						
QZH				LR	LR		
	comp=N,13μm,11.2s						
QZH				LR	LR		
	comp=E,4μm,9.5s						
QZH				LR	LR		
	comp=Z,9μm,16.2s						
KSH	**Kashi**	**21.70**	**318**	P	**P**	**07 30 46.5**	**+2.9**
KSH				AP		07 31 06.1	
KSH				PP	PP	07 31 15.8	+4.9
KSH				S	**S**	**07 34 35.6**	**+2.2**
KSH				PCP	PcP	07 34 40.1	-2.5
KSH				SCP		07 38 10.5	
KSH				PCS		07 38 20.8	
KSH				SCS	ScS	07 41 54.8	+1.1
KSH				AMB	AMB		
	comp=Z,2μm,1.3s,mb6.2						
KSH				LR	LR		
	comp=N,10μm,9.8s						
KSH				LR	LR		
	comp=E,12μm,8.7s						
TIA	**Tai'an**	**22.44**	**54**	*e*P	**P**	**07 30 50.0**	**-0.8**
TIA				S	**S**	**07 34 47.5**	**+0.9**
TIA				AMB	AMB		
	comp=Z,89nm,1.2s,mb5.0						
TIA				LR	LR		
	comp=N,671nm,11.0s						
TIA				LR	LR		
	comp=E,2μm,12.0s						
NJ2	**Nanjing**	**22.45**	**65**	*e*P	**P**	**07 30 50.9**	**0.0**
NJ2				AP		07 31 07.5	
NJ2				XP		07 31 17.3	
NJ2				PP	PP	07 31 22.3	+1.3
NJ2				S	**S**	**07 34 45.0**	**-1.7**
NJ2				XS		07 35 16.0	
NJ2				AMB	AMB		
	comp=Z,90nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,126nm,5.0s						
NJ2				LR	LR		
	comp=N,5μm,16.6s						
NJ2				LR	LR		
	comp=E,6μm,12.5s						
NJ2				LR	LR		
	comp=Z,11μm,14.2s						
ULHL	**Ulahol**	**23.32**	**323**	P	**P**	**07 31 02.9**	**+3.7**
	SNR=13						
AAA	**Alma-Ata**	**23.67**	**326**	*i* P	**P**	**07 31 04.8**	**+2.2**
AAA	**Alma-Ata**	**23.67**	**326**	*e*P	**P**	**07 31 07.0**	**+4.4**
AAA				*i* S	**S**	**07 35 14.5**	**+6.5**
AAA				pmax	pmax		
	comp=Z,5μm,1.2s						
AAA				smax			
	comp=N,3μm,2.7s						
AAA				MLR	MLR		
	comp=Z,3μm,9.6s						
KZA	**Kyzart**	**23.75**	**322**	P	**P**	**07 31 07.1**	**+3.7**
	SNR=6.3						
TKM2	**Tokmak 2**	**24.13**	**324**	P	**P**	**07 31 09.8**	**+2.8**
	SNR=131						
YHNB	**Yeheng**	**24.19**	**84**⇑	*i* P	**P**	**07 31 09.8**	**+1.9**
SSE	**Sheshan**	**24.22**	**69**	P	**P**	**07 31 08.9**	**+0.9**
SSE				AP		07 31 28.8	
SSE				XP		07 31 39.9	
SSE				S	**S**	**07 35 22.3**	**+4.8**
SSE				PCS		07 38 26.3	
SSE				AMB	AMB		
	comp=Z,207nm,1.0s,mb5.4						
SSE				AMB	AMB		
	comp=Z,956nm,9.8s						
SSE				LR	LR		
	comp=N,2μm,20.0s						
SSE				LR	LR		
	comp=E,2μm,20.0s						
SSE				LR	LR		
	comp=Z,3μm,22.0s						
UCH	**Uchtor**	**24.27**	**321**	P	**P**	**07 31 11.5**	**+3.1**
	SNR=44						
TATO	**Taipei**	**24.27**	**84**	*e*P	**P**	**07 31 10.4**	**+1.9**
	comp=Z,254nm,0.9s,mb5.5						
MKAR	**Makanchi Array**	**24.27**	**339**	P	**P**	**07 31 10.5**	**+2.0**
	comp=Z,76nm,0.5s,mb5.3,baz=155,slow=8.9,SNR=554						
MKAR				S	**S**	**07 35 21.4**	**+3.2**

comp=Z,24nm,1.0s,baz=166,slow=18,SNR=2.3
MKAR ScP 07 38 18.0
comp=Z,22nm,0.9s,baz=111,slow=3.8,SNR=9.8
MKAR ScS ScS 07 42 03.0 -0.5
comp=Z,12nm,1.2s,baz=169,slow=6.2,SNR=5.1
MKAR PKiKP 07 42 27.6
comp=Z,5.3nm,0.9s,SNR=3.6
MKAR LR LR 07 43 01.4
comp=Z,1μm,21.2s,baz=176,slow=42
MKAR P3KPbc 08 04 20.5
comp=Z,2.5nm,0.8s,baz=320,slow=4.0,SNR=16
MKAR Makanchi Array 24.27 339 P **P** **07 31 10.5 +2.1**
MKAR S **S** **07 35 21.5 +3.2**
MKAR 07 42 03.0
KBK Karagaybulak 24.30 323 P **P** **07 31 11.7 +2.9**
SNR=40
NACB Ninganchiao 24.44 85⇑ *i*P **P** **07 31 12.2 +1.9**
AAK Ala-Archa 24.54 322 P **P** **07 31 14.1 +3.0**
SNR=96
AAK Ala-Archa 24.54 322⇑ *i*P **P** **07 31 12.9 +1.9**
comp=Z,1μm,1.4s,mb6.1
AAK ⇓ *i*pP 07 31 30.9
AAK *i* PcP PcP 07 34 48.4 +0.1
AAK *e*S **S** **07 35 28.5 +5.7**
AAK *i* ScP 07 38 18.9
AAK Ala-Archa 24.54 322⇑ *i*P **P** **07 31 12.9 +1.8**
AAK *i* 07 31 30.9
AAK *i* 07 34 48.4
AAK *e*S **S** **07 35 28.5 +5.7**
AAK pmax pmax
comp=Z,1μm,1.4s,mb6.1
FRU Bishkek 24.60 323⇑ *e*P **P** **07 31 13.7 +2.0**
FRU *i* 07 31 32.5
FRU *e*S **S** **07 35 32.0 +8.1**
FRU pmax pmax
comp=Z,240nm,1.3s,mb5.5
CHMS Chumysh 24.64 323 P **P** **07 31 14.0 +2.0**
SNR=30
AML Almayashu 24.68 320 P **P** **07 31 15.6 +3.2**
SNR=19
BOLP Bolinao 24.92 104 *e*P **P** **07 31 16.9 +1.9**
SONM Songino Array 24.95 19 P **P** **07 31 16.3 +1.4**
comp=Z,148nm,0.7s,mb5.5,baz=198,slow=8.5,SNR=355
SONM S **S** **07 35 32.3 +2.7**
comp=Z,4.0nm,0.7s,baz=262,slow=32,SNR=3.2
SONM ScP 07 38 18.2
comp=Z,21nm,1.0s,baz=198,slow=3.0,SNR=8.0
SONM PKiKP 07 42 28.8
comp=Z,2.5nm,0.6s,baz=194,slow=2.7,SNR=11
SONM P3KPbc 08 04 12.0
comp=Z,0.9nm,1.0s,baz=11,slow=7.3,SNR=4.2
SONM P3KP 08 05 19.9
comp=Z,1.2nm,0.9s,baz=225,slow=2.3,SNR=3.8
USP Ospenovka 24.95 323 P **P** **07 31 16.9 +1.8**
SNR=53
EKS2 Erkin-Say 24.96 321 P **P** **07 31 17.7 +2.6**
SNR=110
ABRA Dolores 25.16 101 *e*P **P** **07 31 18.7 +1.4**
SCZP Santa Cruz 25.16 106 *e*P **P** **07 31 19.6 +2.3**
BBP Basco 25.46 94 *e*P **P** **07 31 21.1 +1.1**
BCPH Baguio City Da 25.51 104⇑ *e*P **P** **07 31 20.8 +0.3**
SGCP Mt. Cagua 26.16 99 *e*P **P** **07 31 27.3 +0.7**
LUBP Lubang 26.36 110 *e*P **P** **07 31 28.3 -0.1**
CAUP Cauayan 26.41 102 *e*P **P** **07 31 29.8 +1.0**
ZAK Zakamensk 26.56 12⇑ *e*P **P** **07 31 31.0 +1.1**
ZAK *e* 07 34 52.5
ZAK pmax pmax
comp=Z,68nm,1.4s,mb5.0
BALP Baler 26.64 104 *e*P **P** **07 31 31.3 +0.3**
DL2 Dalian 26.81 51 P **P** **07 31 31.3 -1.0**
DL2 AP pP 07 31 53.0 +1.5
DL2 XP sP 07 32 02.0 +0.4
DL2 PP PP 07 32 22.1 +2.0
DL2 PCP PcP 07 34 52.4 -1.1
DL2 S **S** **07 36 02.0 +1.6**
DL2 ScS ScS 07 42 12.5 -1.6
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,220nm,9.8s
DL2 LR LR
comp=N,810nm,13.5s
DL2 LR LR
comp=E,920nm,14.7s
DL2 LR LR
comp=Z,1μm,18.6s
ENPP El Nido 26.94 115 *e*P **P** **07 31 34.1 +0.3**
BATP Bataraza 27.04 122 *e*P **P** **07 31 34.6 0.0**
KKAR Karatay Array 27.14 319 *i*P **P** **07 31 35.5 +0.2**
BUSP Coron 27.16 113 *e*P **P** **07 31 35.7 -0.1**
POLP Polilio Island 27.38 106 *e*P **P** **07 31 37.9 +0.2**
MOY Mondy 27.43 8 *e*P **P** **07 31 40.2 +2.3**
MOY pmax pmax
comp=Z,248nm,1.3s,mb5.6
KSM Kuching 27.49 144⇑ *i*P **P** **07 31 39.0 +0.2**
KSM *e*pP pP 07 32 00.9 +2.9
KSM *e*PcP PcP 07 34 54.9 -0.4
KSM *e*ScP 07 38 26.1
KKM Kota Kinabalu 27.66 128⇑ *i*P **P** **07 31 41.0 +0.7**
KKM *i* PcP PcP 07 34 55.5 -0.2
SJMP San Jose 27.71 111 *e*P **P** **07 31 40.7 -0.1**
BOAC Boac 27.86 108 *e*P **P** **07 31 41.8 -0.3**
GQP Guinayangan 28.18 107 *e*P **P** **07 31 44.9 -0.1**
CUYO Cuyo Island 28.45 114 *e*P **P** **07 31 47.3 -0.1**
OTRP Odiongan 28.53 110 *e*P **P** **07 31 47.4 -0.7**
IRK Irkutsk 28.53 12 *e*P **P** **07 31 49.1 +1.4**
IRK *e* 07 34 57.9
IRK pmax pmax
comp=Z,161nm,1.7s,mb5.4
KURK Kurchatov 28.89 339⇓ *i*P **P** **07 31 51.4 +0.4**
comp=Z,188nm,1.2s,mb5.6
KURK *e*PcP PcP 07 34 58.0 -0.4
KURK *e*ScP 07 38 25.6
KURK Kurchatov 28.89 339⇓ *i*P **P** **07 31 51.4 +0.5**
KURK *e* 07 34 58.0
KURK *e* 07 38 25.7
KURK pmax pmax
comp=Z,188nm,1.2s,mb5.6
SNY Shenyang 29.41 47 ⇑P **P** **07 31 53.8 -1.9**
SNY S **S** **07 36 40.6 -1.4**
SNY AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
SNY AMB AMB
comp=Z,80nm,5.3s
SNY LR LR
comp=E,1μm,17.4s
SNY LR LR
comp=Z,2μm,41.6s
PVCP Virac 29.80 106 *e*P **P** **07 31 58.8 -0.7**
GUIM Jordan 29.88 113 *e*P **P** **07 32 00.4 +0.3**
ZAL Zalesovo 30.22 348 P **P** **07 32 03.0 +0.3**
comp=Z,29nm,0.3s,mb5.3,baz=300,slow=5.5,SNR=54
ZAL pP pP 07 32 22.1 -0.2
comp=Z,18nm,0.5s,baz=307,slow=9.4,SNR=4.2
ZAL PcP PcP 07 35 00.8 -0.9
comp=Z,18nm,0.5s,baz=344,slow=5.1,SNR=4.5
ZAL ScP 07 38 34.6
comp=Z,6.0nm,0.4s,baz=352,slow=7.1,SNR=5.7
ZAL LR LR 07 47 31.8
comp=Z,445nm,19.3s,baz=311,slow=43
ZAL P3KPbc 08 03 52.9
comp=Z,5.0nm,0.7s,baz=124,slow=4.5,SNR=20
ZAL Zalesovo 30.22 348 P **P** **07 32 03.0 +0.3**
ZAL pP pP 07 32 22.1 -0.2
ZAL PcP PcP 07 35 00.8 -0.9
ZAL ScP 07 38 34.6
ZAL LR LR 07 47 31.8
ZAL *e* 08 03 52.9
JOW Kunigami 30.24 79 LR LR 07 45 00.8
comp=Z,3μm,20.5s,baz=93,slow=38
CIT Chita 30.90 23 *e*P **P** **07 32 09.1 +0.4**
CIT *e* 07 33 16.3
CIT *e* 07 35 02.7
CIT *e*S **S** **07 37 06.7 +1.3**
CIT pmax pmax
comp=Z,77nm,1.2s,mb5.3
KS15 Wonju Array Si 30.98 58 *e*P **P** **07 32 06.7 -2.9**
KS15 *e*PcP PcP 07 35 02.8 -1.1
KS15 *e*S **S** **07 37 06.3 -0.4**
KS15 *e*ScP 07 38 36.1
NVS Novosibirsk 31.38 347 *i*P **P** **07 32 13.7 +0.8**
NVS *i* pP 07 32 32.0 -0.6
NVS *e*PPP PPP 07 33 39.7 +5.3
NVS *i* 07 35 03.2
NVS *i*S **S** **07 37 08.2 -4.6**
NVS pmax pmax
comp=E,101nm,1.4s
NVS pmax pmax
comp=Z,130nm,1.4s,mb5.5
NVS pmax pmax
comp=N,80nm,1.1s
NVS smax
comp=N,101nm,1.4s
HIA Hailar 31.42 32 *e*P **P** **07 32 12.6 -0.7**
comp=N,139nm,1.1s,mb5.6
HIA *e*PcP PcP 07 35 04.0 -1.0
HIA *e*ScP 07 38 38.1
HIA Hailar 31.42 32 *e*P **P** **07 32 12.6 -0.7**
HIA *e* 07 35 04.0
HIA pmax pmax
comp=Z,139nm,1.1s
CN2 Changchun 31.53 45 *e*P **P** **07 32 12.8 -1.5**
CN2 *e*XP sP 07 32 42.8 -1.3
CN2 *e*S **S** **07 37 12.6 -2.8**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,500nm,4.0s
PAGZ Pagadian 32.04 116 *e*P **P** **07 32 19.7 +0.7**
MSLP Maasin 32.04 111 *e*P **P** **07 32 19.9 +0.8**
JNU Nakatsue 32.63 67 P **P** **07 32 22.1 -2.0**
comp=Z,36nm,0.9s,mb5.2,baz=302,slow=3.4,SNR=20
JNU ScP 07 38 42.1
comp=Z,17nm,0.9s,baz=121,slow=6.1,SNR=7.2
SCPH Surigao 32.76 111⇑ *e*P **P** **07 32 20.2 -5.1**
VOSK Vostochnaya 33.34 334 *i*P **P** **07 32 30.4 +0.4**
BUKP Musuan 33.40 115 *e*P **P** **07 32 31.7 +0.8**
SMDO Samad 33.54 275 ⇓P **P** **07 32 32.8 +0.8**
SNR=9.7
VAN Vannovskaya 33.80 302 *e*P **P** **07 32 35.5 +1.4**
BVA0 Borovoye Array 33.80 333 *i*P **P** **07 32 34.3 +0.3**
BVA0 pmax pmax
comp=Z,38nm,1.7s,mb5.0
BVAR Borovoye Array 33.80 333 S **S** **07 37 48.8 -1.8**
comp=Z,9.1nm,0.9s,baz=245,slow=21,SNR=2.9
BVAR ScP 07 38 47.1
comp=Z,39nm,0.8s,baz=142,slow=4.5,SNR=21
BVAR PKiKP 07 42 33.8
comp=Z,10nm,1.0s,baz=180,slow=1.5,SNR=5.3
BRVK Borovoye 33.87 333⇑ *i*P **P** **07 32 35.2 +0.7**
comp=Z,34nm,0.8s,mb5.2
BRVK *e*PcP PcP 07 35 10.6 -1.1
BRVK *e*ScP 07 38 47.8
BRVK Borovoye 33.87 333⇑ *i*P **P** **07 32 35.2 +0.7**
BRVK *e* 07 35 10.6
BRVK pmax pmax
comp=Z,34nm,0.8s,mb5.2
HOQ Hoqain 34.12 276 ⇓P **P** **07 32 34.8 -2.2**
SNR=8.1
MDJ Mudanjiang 34.57 46 P **P** **07 32 39.8 -0.8**
MDJ AP pP 07 32 59.0 -1.6
MDJ XP sP 07 33 08.0 -2.8
MDJ PP PP 07 33 59.4 +0.1
MDJ S **S** **07 38 00.5 -2.1**
MDJ XS 07 38 36.6
MDJ SCP 07 38 49.4
MDJ PCS 07 38 58.3
MDJ SCS ScS 07 42 53.6 +1.8
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,178nm,9.0s
MDJ LR LR
comp=N,438nm,11.6s
MDJ LR LR
comp=E,927nm,16.5s
MDJ LR LR
comp=Z,887nm,11.6s
MDJ Mudanjiang 34.57 46 P **P** **07 32 39.3 -1.3**
comp=Z,44nm,1.0s,mb5.2
BANOM Banah 34.71 280 ⇓P **P** **07 32 45.1 +3.1**
SNR=6.3
MATI Mati 34.90 115 *e*P **P** **07 32 44.2 +0.4**
ASHO Ashiyiah 35.09 278⇑ P **P** **07 32 46.5 +1.3**
SNR=6.2
VLA Vladivostok 35.58 49 *i*P **P** **07 32 46.5 -2.7**
BOD Bodaibo 35.93 18 *e*P **P** **07 32 52.7 +0.7**
BOD *e* 07 38 23.6
BOD pmax pmax
comp=Z,84nm,1.2s,mb5.5
AB31 Akbulak array 36.62 321 *e*P **P** **07 32 59.3 +1.3**
AB31 pmax pmax
comp=Z,27nm,0.5s,mb5.4
KLR Kul'dur 37.88 40 *e*P **P** **07 33 05.2 -3.2**
KLR *e*PPP PPP 07 34 55.5 -6.9
KLR *e*S **S** **07 38 48.5 -4.6**
KLR *e*SSS SSS 07 41 38.5 -30
KLR smax
comp=N,800nm,10.5s
KLR smax
comp=E,1μm,10.5s
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
AKTO Aktyubinsk 38.29 322 P **P** **07 33 12.8 +1.0**
AKTO pmax pmax
comp=Z,39nm,1.1s,mb5.2
RBK Rabkut 38.39 267 P **P** **07 33 14.5 +1.6**
SNR=11
WHFO Wadi Hawf 38.66 268 P **P** **07 33 16.1 +0.9**
SNR=18
CLNS Chul'man 38.87 26 *e*P **P** **07 33 17.4 +0.9**
CLNS *e* 07 35 29.7
CLNS *e*S **S** **07 39 09.5 +1.5**
CLNS *e*SS SS 07 42 02.0 +7.0
CLNS pmax pmax
comp=Z,51nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,40nm,0.9s
CLNS pmax pmax
comp=E,53nm,0.9s
CLNS smax
comp=N,92nm,2.1s
CLNS smax
comp=Z,22nm,1.1s
CLNS smax
comp=E,46nm,1.2s
CLNS MLR MLR
comp=Z,4μm,24.0s
MAJO Matsushiro 38.96 62 *e*P **P** **07 33 15.8 -1.7**
comp=Z,60nm,0.9s,mb5.4
MAJO *e*pP pP 07 33 38.1 +0.3
MAJO *e*ScP 07 39 05.2
MAJO Matsushiro 38.96 62 *e*P **P** **07 33 15.8 -1.7**
MAJO *e* 07 39 05.2
MAJO pmax pmax
comp=Z,60nm,0.9s,mb5.4
MAT Matsushiro 38.96 62 P **P** **07 33 16.1 -1.4**
MAT Matsushiro 38.96 62 *e*P **P** **07 33 16.0 -1.5**
comp=Z,44nm,0.9s,mb5.3
MAT LR LR
comp=Z,1μm,19.0s
MAT Matsushiro 38.96 62 *e*P **P** **07 33 16.0 -1.5**
MAT pmax pmax
comp=Z,44nm,0.9s,mb5.3
MAT MLR MLR
comp=Z,1μm,19.0s
MJAR Matsushiro Arr 38.96 62 P **P** **07 33 16.7 -0.8**
comp=Z,26nm,0.7s,mb5.2,baz=269,slow=8.3,SNR=111
MJAR pP pP 07 33 36.6 -1.1
comp=Z,19nm,0.9s,baz=270,slow=9.0,SNR=3.3
MJAR PcP PcP 07 35 26.0 -1.1
comp=Z,16nm,0.7s,baz=227,slow=1.3,SNR=7.4
MJAR ScP 07 39 05.0
comp=Z,16nm,0.7s,baz=236,slow=3.5,SNR=23
MJAR LR LR 07 50 29.0
comp=Z,1μm,20.5s,baz=265,slow=38
MJAR P3KPbc 08 03 18.7
comp=Z,5.7nm,0.7s,baz=95,slow=2.8,SNR=26
MJAR Matsushiro Arr 38.96 62 P **P** **07 33 16.7 -0.8**
MJAR pP pP 07 33 36.6 -1.1
MJAR PcP PcP 07 35 26.0 -1.1
MJAR ScP 07 39 05.0
MJAR LR LR 07 50 29.0
MJAR *e* 08 03 18.7
ABTO Aybut 39.26 268 ⇑P **P** **07 33 20.8 +0.7**
SNR=7.5
JHJ Hachijo jima 2 40.09 67 LR LR 07 50 47.0
comp=Z,1μm,21.6s,baz=121,slow=37
SVE Sverdlovsk 40.51 332 *i*P **P** **07 33 32.5 +2.4**
SVE *e* pP 07 33 51.8 +1.4
SVE *e*PPP PPP 07 35 32.0 -4.9
SVE *e* 07 39 33.0
SVE *e* 07 43 24.0
SVE pmax pmax
comp=Z,200nm,1.2s,mb5.8
SVE MLR MLR
comp=N,1μm,18.0s
SVE MLR MLR
comp=E,2μm,18.0s
SVE MLR MLR
comp=Z,3μm,18.0s
ARU Arti 41.19 330⇑ *i*P **P** **07 33 36.9 +1.2**
comp=Z,158nm,0.5s,mb6.1
ARU *e*pP pP 07 33 56.0 0.0
ARU *e*PcP PcP 07 35 33.9 -0.1
ARU *e*ScP 07 39 15.5
ARU Arti 41.19 330⇑ *i*P **P** **07 33 36.9 +1.2**
ARU *e**PP pP 07 33 56.0 0.0
ARU *e* 07 35 33.9
ARU pmax pmax
comp=Z,158nm,0.5s,mb6.1
QRN Al-Qurain 41.84 286 *e*P **P** **07 33 42.4 +0.9**
QRN AMb AMB 07 34 04.2
comp=Z,498nm,0.9s,mb6.2
UMR Umm Al-Rimmam 41.95 287 *e*P **P** **07 33 43.2 +1.0**
UMR AMb AMB 07 34 04.9
comp=Z,432nm,0.8s,mb6.2
KBD Kabd 42.00 287 *e*P **P** **07 33 43.9 +1.2**
KBD AMb AMB 07 34 05.6
comp=Z,2μm,0.9s
RDF Al-Radifah 42.15 287 *e*P **P** **07 33 45.0 +1.1**
RDF AMb AMB 07 34 06.8
comp=Z,979nm,0.8s,mb6.6
NAY Al-Naaiem 42.38 287 *e*P **P** **07 33 46.7 +0.8**
NAY AMb AMB 07 34 08.6
comp=Z,596nm,1.0s,mb6.3
MAK Makhachkala 42.70 307⇓ *i*P **P** **07 33 49.8 +1.5**
MAK *i* pP 07 34 09.0 +0.3
MAK *e* 07 35 31.0
MAK *i*S **S** **07 40 06.0 +0.9**
MAK pmax pmax
comp=Z,231nm,1.0s,mb5.9
MAK smax
comp=E,2μm,9.0s
MAK MLR MLR
comp=E,5μm,16.0s
MAK MLR MLR
comp=Z,2μm,16.0s
RYDS Riyadh 43.63 280 P **P** **07 33 57.0 +0.9**
SOKR Solikamsk 43.79 333*c* *i*P **P** **07 33 58.4 +1.5**
SOKR 07 35 42.6
SOKR S **S** **07 40 22.6 +1.9**
SOKR SS SS 07 43 39.5 +8.9
SOKR pmax pmax
comp=Z,190nm,0.8s,mb5.9
SOKR MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 44.04 47 *e*P **P** **07 33 58.2 -0.9**
comp=Z,132nm,1.1s,mb5.6
YSS *e*ScP 07 39 24.9
YSS Yuzh-Sakhalins 44.04 47⇑ *i*P **P** **07 33 57.7 -1.4**
YSS *e* 07 34 08.0
YSS *e* 07 35 42.0
YSS *i*S **S** **07 40 22.0 -2.3**
YSS *e* 07 43 46.0
YSS pmax pmax
comp=Z,90nm,1.4s,mb5.3
YSS smax
comp=N,800nm,9.0s
YSS MLR MLR
comp=N,500nm,12.0s
YSS MLR MLR
comp=E,700nm,12.0s
YSS MLR MLR
comp=Z,700nm,12.0s
YAK Yakutsk 44.19 23 *e*P **P** **07 33 59.9 -0.2**
comp=Z,84nm,0.7s,mb5.6
YAK Yakutsk 44.19 23*c* *i*P **P** **07 33 59.6 -0.4**
YAK pmax pmax
comp=Z,110nm,1.7s,mb5.3
YAK MLR MLR
comp=Z,900nm,16.0s
TI2 Plekhanov 44.55 305⇑ *i*P **P** **07 33 54.0 -9.3**
TI2 pmax pmax
comp=Z,60nm,0.8s,mb5.4
BHD Baghdad 44.56 293 *ex* x 07 34 00.0
BHD *i* x x 07 34 20.0
BHD *ex* x 07 40 26.0
BHD Baghdad 44.56 293 *ex* x 07 39 25.5
MZLS Mizel 44.95 280 P **P** **07 34 07.7 +1.0**
MZLS Mizel 44.95 280 P 07 39 30.7
HKR Hakkari 45.05 299 *e*P **P** **07 34 07.9 +0.6**
HAKT HAKKARI 45.07 299 *i*P **P** **07 34 08.3 +0.9**
ZEI Tsey 45.30 307 *e*P **P** **07 34 07.4 -1.8**
ZEI *i* *PP pP 07 34 26.1 -3.6
ZEI *i* 07 35 49.8
ZEI pmax pmax
comp=Z,312nm,0.8s,mb6.1
DIGO Kars 45.47 303 *i*P **P** **07 34 12.1 +1.5**
MSL Mosul 45.55 297 *i*x x 07 34 30.0
MSL *i*x x 07 34 56.5
MSL *ex* x 07 35 09.0
MSL *ex* x 07 41 03.0
MSL Mosul 45.55 297 *ex* x 07 39 51.5
KIV Kislovodsk 46.32 308⇑ *i*P **P** **07 34 18.2 +0.9**
comp=Z,118nm,0.6s,mb5.8
KIV *e*pP pP 07 34 37.2 -0.6
KIV Kislovodsk 46.32 308*c* *i*P **P** **07 34 18.4 +1.1**
KIV *e* 07 35 51.9
KIV *i*S **S** **07 41 00.0 +2.9**
KIV pmax pmax
comp=Z,165nm,1.0s,mb5.7
KIV pmax pmax
comp=N,65nm,0.8s
KIV smax
comp=N,337nm,2.1s
KIV MLR MLR
comp=N,701nm,18.0s
KIV MLR MLR
comp=E,984nm,18.0s
KIV MLR MLR
comp=Z,1μm,18.0s
KAMS Al Khamasin 46.36 275 P **P** **07 34 18.1 +0.2**
KAMS Al Khamasin 46.36 275 P 07 39 36.4
BTMT Batman 46.84 300 *e*P **P** **07 34 22.8 +1.3**
AFFS 'Afif 46.95 280 P **P** **07 34 23.8 +1.3**
BEST Besiri 47.01 300 *i*P **P** **07 34 24.2 +1.5**
HILS Ha'il 47.39 285 P **P** **07 34 27.0 +1.1**
HILS Ha'il 47.39 285 P 07 39 42.2
MARD Mardin 47.40 299 *i*P **P** **07 34 26.2 +0.4**
LBOS 47.72 267⇑ *e*P **P** **07 34 29.4 +0.8**
VRHR Novokhopersk 48.25 317*c* *i*P **P** **07 34 31.8 -0.4**
VRHR *e* 07 35 57.6
VRHR *i*S **S** **07 41 22.0 -2.2**
VRHR *e* 07 44 15.0
VRHR pmax pmax
comp=Z,200nm,0.8s,mb6.0
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,70nm,0.6s
VRHR smax
comp=N,400nm,1.4s
VRHR smax
comp=Z,30nm,1.7s
VRHR smax
comp=E,240nm,1.8s
VRHR MLR MLR
comp=Z,1μm,16.0s
VRHR MLR MLR
comp=N,460nm,13.0s
VRHR MLR MLR
comp=E,1μm,17.0s
PECR Pechory 48.29 325⇓ *i*P **P** **07 34 33.6 +1.1**
PECR *e*S **S** **07 41 24.4 -0.3**
PECR *e* 07 41 41.0
PECR pmax pmax
comp=Z,600nm,5.6s
PECR smax
comp=N,1μm,5.0s
PECR smax

comp=E,700nm,5.0s
GUMO Guam 48.38 94 LR LR 07 56 22.2
comp=E,682nm,19.4s,baz=288,slow=38
GUMO Guam 48.38 94 *eP* **P 07 34 32.2 -1.5**
comp=E,189nm,1.2s,mb5.8
GUMO Guam 48.38 94 *eP* **P 07 34 32.2 -1.5**
GUMO pmax pmax
comp=Z,189nm,1.2s,mb5.8
SOC Sochi 48.42 307*c* *iP* **P 07 34 33.7 0.0**
SOC *e* 07 35 57.8
SOC *e*PPP PPP 07 37 21.9 +1.5
SOC *i* S **S 07 41 28.2 +1.4**
SOC *e*SS SS 07 44 54.2 +1.5
SOC pmax pmax
comp=E,24nm,0.8s
SOC pmax pmax
comp=Z,129nm,0.8s,mb5.8
SOC pmax pmax
comp=N,13nm,0.9s
SOC MLR MLR
comp=N,787nm,18.0s
SOC MLR MLR
comp=E,878nm,18.0s
SOC MLR MLR
comp=Z,973nm,18.0s
GUMT Gumushane 48.44 303 *eP* **P 07 34 36.1 +2.2**
KELT Kelkit 48.60 303 *i* P **P 07 34 36.4 +1.3**
ELZG Elazig 48.81 300 *i* P **P 07 34 37.6 +0.9**
URFA Urfa 48.96 299 *eP* **P 07 34 38.1 +0.3**
BLJS Baljurashi 49.17 276 P **P 07 34 41.1 +1.3**
MALT Malatya 49.25 300 *eP* **P 07 34 40.9 +0.8**
MALT Malatya 49.25 300⇑ *iP* **P 07 34 41.5 +1.3**
comp=Z,54nm,0.8s,mb5.5
MALT *e*ScP 07 39 48.9
MALT Malatya 49.25 300⇑ *iP* **P 07 34 41.5 +1.4**
MALT pmax pmax
comp=Z,54nm,0.8s,mb5.5
MYA Malatya 49.25 300 *eP* **P 07 34 41.7 +1.5**
GRSN GIRESUNGRSN 49.37 304 *i* P **P 07 34 40.5 -0.5**
ATAB Bozova 49.38 299 *i* P **P 07 34 40.9 -0.3**
VOR Voronezh 49.87 318⇑ *iP* **P 07 34 44.4 -0.3**
VOR *e* pP 07 35 04.3 -1.2
VOR *e*S **S 07 41 45.5 -1.2**
VOR pmax pmax
comp=N,90nm,1.0s
VOR pmax pmax
comp=Z,400nm,1.0s,mb6.3
VOR pmax pmax
comp=E,280nm,1.1s
VOR smax
comp=N,340nm,1.6s
VOR smax
comp=E,250nm,1.6s
VOR smax
comp=Z,180nm,1.8s
KBRS Khaybar 49.90 284 P **P 07 34 46.4 +1.1**
GZT Gaziantep 49.96 299 *i* P **P 07 34 45.6 0.0**
LTHS Al Lith 50.15 276 P **P 07 34 48.3 +1.0**
ANN Anapa 50.15 309 *eP* **P 07 34 46.0 -1.0**
ANN Anapa 50.15 309 *eP* **P 07 34 45.6 -1.4**
ANN *e**PP pP 07 35 04.8 -3.0
ANN *e* 07 36 04.6
ANN *e*PPP PPP 07 37 37.9 -4.0
ANN *e*S **S 07 41 51.5 +0.7**
ANN *e* 07 44 26.2
ANN pmax pmax
comp=Z,47nm,0.6s,mb5.6
GAZ Gaziantep 50.25 299 *eP* **P 07 34 48.9 +1.1**
SVSK Karacayir 50.34 302 *eP* **P 07 34 48.9 +0.5**
SVST Sivas 50.37 302 *i* P **P 07 34 50.5 +1.7**
KAHT Ahir Dag 50.50 299 *i* P **P 07 34 50.4 +0.7**
QURS Qurayyt al Mil 50.67 291 P **P 07 34 52.4 +1.3**
TOKT Tokat 50.68 303 *eP* **P 07 34 51.8 +0.7**
TIXI Tiksi 50.84 13⇑ *iP* **P 07 34 51.4 -0.4**
TIXI Tiksi 50.84 13 *eP* **P 07 34 45.0 -6.8**
TIXI pmax pmax
comp=E,76nm,0.7s
TIXI pmax pmax
comp=Z,323nm,0.7s,mb6.5
TIXI pmax pmax
comp=N,60nm,0.6s
TIXI pmax pmax
comp=Z,404nm,0.7s,mb6.6
TIXI MLR MLR
comp=Z,533nm,13.0s
ASF Jabal al Asfar 50.93 292 P **P 07 34 54.7 +1.6**
comp=Z,72nm,0.7s,mb5.8,baz=316,slow=5.7,SNR=100
ASF pP pP 07 35 14.2 +0.3
comp=Z,70nm,1.0s,baz=312,slow=4.7,SNR=8.9
ASF PcP PcP 07 36 09.0 +0.5
comp=Z,25nm,0.8s,baz=322,slow=8.7,SNR=2.5
ASF ScP 07 39 55.6
comp=Z,11nm,0.8s,baz=315,slow=7.3,SNR=5.2
ASF LR LR 07 59 48.3
comp=Z,540nm,18.5s,baz=127,slow=40
COBT Iskenderun 51.05 298 *i* P **P 07 34 53.9 -0.1**
FKH Fakeheh 51.12 295 *eP* **P 07 34 55.9 +1.4**
HTY Hatay 51.18 297 *eP* **P 07 34 55.5 +0.7**
BNN Bunyan 51.26 301 *eP* **P 07 34 56.3 +0.8**
YNBS Yanbu' al Bahr 51.33 282 P **P 07 34 57.4 +1.2**
KOZT Kozan 51.34 299 *eP* **P 07 34 56.5 +0.4**
CEYT Ceyhan 51.43 299 *eP* **P 07 34 57.9 +1.1**
MBWA Marble Bar 51.58 150⇑ *iP* **P 07 34 57.2 -0.8**
comp=Z,442nm,0.9s,mb6.5
MBWA *e*PcP PcP 07 36 09.6 -1.4
MOS Moscow 51.61 323⇑ *iP* **P 07 34 58.0 +0.2**
KRTS Karatas 51.76 298 *eP* **P 07 35 00.4 +1.1**
BHL Bhannes 51.77 295 *eP* **P 07 35 00.8 +1.4**
TBKS Tabuk 51.82 287 P **P 07 35 01.0 +1.1**
KSDI Kefar Szold 51.85 294 P **P 07 35 01.1 +1.1**
BOYT Boyabat 51.91 304 *i* P **P 07 35 00.0 -0.3**
KARA Karaisali 51.96 299 *eP* **P 07 35 01.4 +0.6**
CTKT Corum 52.01 303 *i* P **P 07 35 01.3 +0.2**
MA2 Magadan 52.02 32 *eP* **P 07 34 59.5 -1.4**
comp=Z,61nm,1.1s,mb5.5
MA2 epP pP 07 35 22.1 +0.3
MA2 eScP 07 39 58.3
MA2 Magadan 52.02 32*c* *iP* **P 07 34 59.4 -1.4**
MA2 pmax pmax
comp=Z,53nm,1.7s,mb5.3
MA2 MLR MLR
comp=Z,900nm,18.0s
AVNT Avonos 52.03 301 *i* P **P 07 35 01.5 +0.3**
FITZ Fitzroy Crossi 52.05 142⇑ *iP* **P 07 35 00.9 -0.7**
comp=Z,669nm,1.5s,mb6.5
FITZ *i* PCP PcP 07 36 11.6 -1.2
FITZ *i* SCP 07 39 58.9
FITZ *e*S **S 07 42 17.2 0.0**
FITZ *i* PKPPKP 08 05 34.5
FITZ Fitzroy Crossi 52.05 142 ScP 07 39 58.4
comp=Z,28nm,0.7s,baz=270,slow=1.4,SNR=3.8
FITZ LR LR 08 00 26.6
comp=Z,854nm,19.7s,baz=272,slow=40
FITZ PKPPKP 08 05 35.6
comp=Z,16nm,1.1s,baz=172,slow=3.5,SNR=5.9
OBN Obninsk 52.07 322⇑ *eP* **P 07 35 00.7 -0.6**
comp=Z,128nm,0.4s,mb6.3
OBN epP pP 07 35 21.8 -0.4
OBN ePcP PcP 07 36 12.2 -0.1
OBN eScP 07 40 00.5
OBN Obninsk 52.07 322*c* *iP* **P 07 35 00.9 -0.4**
OBN *e*S **S 07 42 18.2 +1.2**
OBN *e*SS SS 07 45 58.3 +5.1
OBN pmax pmax
comp=Z,259nm,1.3s,mb6.1
OBN MLR MLR
comp=Z,1μm,18.0s
MKRJ Makawir 52.07 292 P **P 07 35 02.9 +1.2**
MMA0 Mount Meron ar 52.08 294 P **P 07 35 02.1 +0.4**
MMLI Mount Malkishu 52.14 293 P **P 07 35 03.5 +1.4**
CORM Corum 52.15 303 *eP* **P 07 35 02.4 +0.3**
KAKA Kakadu 52.25 131⇑ *iP* **P 07 35 20.4 +17**
comp=Z,941nm,1.3s
NIG Nigde 52.26 300 *eP* **P 07 35 04.4 +1.4**
HNTI Hanita 52.27 294 P **P 07 35 04.2 +1.1**
JMQS Jabal Moqyreh 52.29 288 P **P 07 35 03.8 +0.5**
MZDA Masada 52.34 291 P **P 07 35 04.4 +0.7**
MERS Mersin 52.42 299 *eP* **P 07 35 04.6 +0.4**
OFRI 'Ofer 52.48 293 P **P 07 35 05.9 +1.2**
SLTI Sal'it 52.49 293 P **P 07 35 06.1 +1.4**
SIM Simferopol' 52.51 309⇑ *iP* **P 07 35 04.6 -0.2**
SIM Simferopol' 52.51 309*c* *iP* **P 07 35 04.4 -0.4**
SIM *e* 07 36 58.0
SIM *i* S **S 07 42 24.2 +1.0**
SIM pmax pmax
comp=Z,42nm,0.6s,mb5.7
TOS Tosya 52.59 304 *eP* **P 07 35 06.0 +0.6**
ZFRI Zfri 52.61 291 P **P 07 35 06.6 +0.9**
MEST Erdemli 52.74 298 *i* P **P 07 35 03.8 -2.8**
PRNI Paran 52.79 290 P **P 07 35 07.9 +0.8**
HRFI Mount Harif 52.82 290 P **P 07 35 07.5 +0.2**
KAMT Kaman 52.89 302 *eP* **P 07 35 08.0 +0.3**
CANT Cankiri 52.91 303 *eP* **P 07 35 08.3 +0.5**
BR131 Keskin Array S 52.93 302⇑ *iP* **P 07 35 07.9 -0.1**
comp=Z,33nm,0.5s,mb5.6
BR131 *e*ScP 07 40 03.6
BRTR Keskin Array B 52.93 302 P **P 07 35 08.1 +0.1**
comp=Z,32nm,0.5s,mb5.6,baz=119,slow=7.1,SNR=150
BRTR pP pP 07 35 28.2 -0.7
comp=Z,29nm,0.9s,baz=79,slow=5.6,SNR=5.6
BRTR PcP PcP 07 36 15.5 -0.2
comp=Z,13nm,0.8s,baz=102,slow=7.3,SNR=2.0
BRTR ScP 07 40 03.8
comp=Z,18nm,0.9s,baz=121,slow=5.2,SNR=13
BRTR S **S 07 42 29.8 +0.9**
comp=Z,1.6nm,1.0s,baz=53,slow=7.2,SNR=4.5
BRTR Keskin Array B 52.93 302 P **P 07 35 08.1 +0.1**
BRTR *PP pP 07 35 28.3 -0.7
BRTR 07 36 15.5
BRTR S **S 07 42 29.8 +0.9**
EIL Elat 52.95 290 P **P 07 35 08.6 +0.3**
MBH Mount Berech 52.96 290 P **P 07 35 08.9 +0.5**
PHNC Paralimni 52.99 296 P **P 07 35 08.1 -0.4**
BDAS Al Bad' 53.04 288 P **P 07 35 09.2 +0.2**
BALT Daday 53.05 304 *i* P **P 07 35 08.6 -0.2**
ELDT Eldivan 53.06 303 *i* P **P 07 35 08.7 -0.3**
KMTI Karmit 53.07 290 P **P 07 35 09.7 +0.5**
IKL Isikli 53.14 298 *eP* **P 07 35 09.1 -0.5**
KZIT Kziot 53.22 291 P **P 07 35 10.8 +0.5**
CSS Prodhromos 53.56 296⇑ *iP* **P 07 35 12.4 -0.3**
comp=Z,1.6nm,0.5s
CSS Prodhromos 53.56 296⇑ *iP* **P 07 35 12.4 -0.3**
ANTO Ankara 53.57 302 *eP* **P 07 35 12.7 0.0**
ANTO Ankara 53.57 302⇑ *iP* **P 07 35 12.8 +0.1**
comp=Z,71nm,0.6s,mb5.9
ANTO epP pP 07 35 32.9 -0.9
ANTO eScP 07 40 07.1
ANTO Ankara 53.57 302⇑ *iP* **P 07 35 12.8 +0.1**
ANTO *e**PP pP 07 35 32.9 -0.8
ANTO pmax pmax
comp=Z,71nm,0.6s,mb5.9
SAFT Safranbolu 53.59 304 *eP* **P 07 35 13.0 +0.2**
LOD Lodumlu 53.59 302 *eP* **P 07 35 13.2 +0.4**
ERMK Ermenek 53.73 298 *i* P **P 07 35 13.5 -0.4**
LEF Lefka 53.91 297 *eP* **P 07 35 15.4 +0.2**
SZAC Souni-Zanaja 53.95 296 P **P 07 35 15.7 +0.1**
HDMB Hadim 54.03 299 *eP* **P 07 35 15.9 -0.2**
KONT Konya--Tatoy 54.05 300 *eP* **P 07 35 15.9 -0.3**
SGKT Sivrigoynuk 54.10 303 *i* P **P 07 35 16.2 -0.3**
ALFC Alevga 54.14 297⇑ *iP* **P 07 35 16.6 -0.3**
comp=Z,4.5nm,0.5s,mb4.8
ALFC Alevga 54.14 297⇑ *eP* **P 07 35 16.6 -0.3**
KDHN Kadinhani 54.19 301 *i* P **P 07 35 18.7 +1.5**
KIZT Kizilcal 54.34 301 *eP* **P 07 35 18.4 +0.1**
PPCY Paphos 54.38 296 P **P 07 35 17.8 -0.8**
MDU Mudurnu 54.74 303 *eP* **P 07 35 21.4 +0.1**
HENT Hendek 54.96 304 *i* P **P 07 35 22.0 -0.8**
ESKT Eskisehir 55.09 302 *eP* **P 07 35 23.1 -0.7**
ESKT Eskisehir 55.09 302 *i* P **P 07 35 22.9 -0.9**
PET Petropavlovsk 55.12 41 *eP* **P 07 35 22.1 -1.7**
comp=Z,19nm,0.6s,mb5.3
PET Petropavlovsk 55.12 41 *eP* **P 07 35 21.6 -2.1**
PET pmax pmax
comp=Z,33nm,1.3s,mb5.2
PET MLR MLR
comp=Z,900nm,25.0s
BORA Eskisehir 55.37 303 *i* P **P 07 35 25.6 -0.2**
GPA Golpazari 55.45 303 *eP* **P 07 35 24.9 -1.4**
ISP Isparta 55.51 300 *eP* **P 07 35 25.3 -1.6**
ISP Isparta 55.51 300⇑ *iP* **P 07 35 25.7 -1.1**
comp=Z,95nm,0.8s,mb5.9
ISP epP pP 07 35 46.7 -1.3
ISP eScP 07 40 14.4
ISP Isparta 55.51 300⇑ *iP* **P 07 35 25.7 -1.1**
ISP pmax pmax
comp=Z,95nm,0.8s,mb5.9
TKTP Tekketepe 55.64 300 *i* P **P 07 35 25.0 -2.8**
ALT Altintas 55.70 302 *eP* **P 07 35 28.1 -0.1**
HRT Hereke 55.89 304 *eP* **P 07 35 29.1 -0.4**
AKASG Malin Array Be 55.98 316 P **P 07 35 29.0 -1.0**
comp=Z,74nm,0.5s,mb6.0,baz=81,slow=6.6,SNR=376
AKASG pP pP 07 35 49.8 -1.4
comp=Z,60nm,0.7s,baz=75,slow=6.9,SNR=9.5
AKASG PcP PcP 07 36 27.0 -0.3
comp=Z,11nm,0.6s,baz=72,slow=4.7,SNR=5.2
AKASG ScP 07 40 16.9
comp=Z,18nm,0.8s,baz=77,slow=4.3,SNR=10
AKASG S **S 07 43 08.1 -1.7**
comp=Z,6.8nm,1.0s,baz=87,slow=12,SNR=11
AKASG Malin Array Be 55.98 316 P **P 07 35 29.0 -1.0**
AKASG 07 36 27.0
AKASG S **S 07 43 08.1 -1.6**
ELL Elmali 56.11 299 *eP* **P 07 35 31.3 +0.2**
YLV Yalova 56.14 303 *eP* **P 07 35 30.1 -1.1**
GDZ Gediz 56.19 302 *i* P **P 07 35 30.5 -1.2**
KIS Kishinev 56.22 311*a* *iP* **P 07 35 30.0 -1.8**
KIS *e* 07 37 40.0
KIS *i* S **S 07 43 12.0 -0.9**
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.1
KIS MLR MLR
comp=Z,700nm,16.0s
PUL Pulkovo 56.22 327 *eP* **P 07 35 31.0 -0.6**
PUL Pulkovo 56.22 327⇓ *eP* **P 07 35 30.5 -1.1**
PUL *i* 07 43 12.7
PUL pmax pmax
comp=Z,257nm,1.1s,mb6.2
PUL pmax pmax
comp=E,789nm,1.3s
PUL MLR MLR
comp=Z,2μm,19.0s
TLCR 56.27 309⇑ *iP* **P 07 35 31.7 -0.4**
LVZ Lovozero 56.28 337⇓ *eP* **P 07 35 31.3 -0.6**
LVZ *i* 07 43 11.9
LVZ pmax pmax
comp=Z,90nm,0.9s,mb5.8
LVZ smax
comp=N,1μm,5.8s
LVZ MLR MLR
comp=Z,1μm,19.0s
LVZ MLR MLR
comp=E,1μm,21.0s
JOF Joensuu 56.32 331 *ep* **P 07 35 31.4 -0.9**
GOLH Golhisar 56.33 299 *i* P **P 07 35 31.2 -1.5**
ISK Istanbul-Kandi 56.33 304 *eP* **P 07 35 31.2 -1.5**
ULDT Uludag 56.35 303 *i* P **P 07 35 31.5 -1.4**
AKAS Kas 56.42 298 *i* P **P 07 35 31.6 -1.8**
KSL Kastellorizon 56.45 298 *eP* **P 07 35 32.0 -1.6**
ORLT Orhaneli 56.55 303 *eP* **P 07 35 34.2 0.0**
TIRR Tirgusor 56.58 308⇓ *iP* **P 07 35 33.7 -0.7**
APA Apatity 56.63 336⇓ *iP* **P 07 35 34.5 +0.1**
APA *e*S **S 07 43 22.0 +3.9**
APA pmax pmax
comp=Z,83nm,1.0s,mb5.7
APA MLR MLR
comp=Z,1μm,17.0s
DNZL Cakiroluk 56.68 300 *i* P **P 07 35 34.4 -0.8**
DENT Denizli 56.69 300 *eP* **P 07 35 33.9 -1.3**
CFR Carcaliu 56.75 309⇑ *iP* **P 07 35 34.0 -1.6**
PSN Preselentsi 56.79 307 *i* P **P 07 35 36.0 +0.1**
CTT Catalca 56.80 304 *eP* **P 07 35 35.1 -0.9**
HARR Harsova 56.92 309⇓ *iP* **P 07 35 35.7 -1.1**
MANT Manisa 56.97 301 *i* P **P 07 35 36.7 -0.6**
MNK Minsk 57.00 320⇑ *eP* **P 07 35 34.0 -3.2**
DALT Dalyan (Mudla) 57.12 299 *eP* **P 07 35 36.8 -1.6**
BTOK Tokmak 57.24 303 *i* P **P 07 35 37.9 -1.2**
YER Yerkesik 57.36 300 *eP* **P 07 35 39.7 -0.3**
BALB Balikesir 57.37 303 *eP* **P 07 35 39.2 -0.8**
MRMT Marmara Adasi 57.48 304 *eP* **P 07 35 39.3 -1.5**
AKS Akhisar 57.50 302 *eP* **P 07 35 38.8 -2.2**
BRD Bordesti 57.51 310⇓ *iP* **P 07 35 41.9 +1.0**
ARG Arkhangelos 57.61 298 *eP* **P 07 35 40.8 -1.0**
IDID Didziasalis 57.68 321 *eP* **P 07 35 41.9 -0.1**
IDID AMb AMb 07 35 43.1
comp=Z,44nm,0.9s,mb5.5
IDID epP pP 07 36 02.5 -0.7
IDID *e*sP sP 07 36 11.8 -1.0
VRI Vrincioaia 57.70 310⇓ *iP* **P 07 35 42.5 +0.2**
VRI Vrincioaia 57.70 310⇓ *iP* **P 07 35 42.6 +0.3**
MLSB Milas 57.73 300 *eP* **P 07 35 42.1 -0.5**
SART Tekirdag 57.78 304 *i* P **P 07 35 40.8 -2.2**
ISR Istrita 57.88 309⇓ *iP* **P 07 35 43.8 +0.3**
VSU Vasula 57.90 325⇑ *iP* **P 07 35 43.2 -0.2**
VSU Vasula 57.90 325*c* *iP* **P 07 35 43.1 -0.3**
IZAR Zarasai 57.98 322 *eP* **P 07 35 44.0 -0.1**
IZAR AMb AMb 07 35 45.0
comp=Z,87nm,0.5s,mb6.0
KDAG Bornova 57.99 301 *i* P **P 07 35 37.9 -6.4**
IZM Izmir 57.99 301 *eP* **P 07 35 44.0 -0.4**
EDRB Edirne 57.99 305 *eP* **P 07 35 42.1 -2.2**
BDRM Kayabasi 58.03 300 *i* P **P 07 35 43.9 -0.7**
ISAL Salakas 58.04 321 *eP* **P 07 35 44.5 0.0**
ISAL AMb AMb 07 35 45.7
comp=Z,58nm,1.1s,mb5.5
ISAL epP pP 07 36 05.0 -0.9
ISAL *e*sP sP 07 36 14.8 -0.6
JMB Yambol 58.05 306 *i* P **P 07 35 44.0 -0.8**
CRA Chernovtsy 58.13 313 P pP 07 35 57.5 -9.1
BODT Bodrum 58.14 300 *eP* **P 07 35 43.6 -1.8**
BLCB Balcova 58.16 301 *eP* pP 07 36 05.2 -1.8
MLR Muntele Rosu 58.27 310 P **P 07 35 46.8 +0.6**
comp=Z,173nm,0.8s,mb6.2,baz=4.8,slow=1.8,SNR=198
MLR pP pP 07 36 08.0 +0.4
comp=Z,299nm,1.1s,baz=76,slow=3.5,SNR=9.3
MLR S **S 07 43 38.5 -1.4**
comp=Z,2.6nm,0.5s,baz=51,slow=23,SNR=9.9
MLR LR LR 08 04 54.6
comp=Z,1μm,20.8s,baz=48,slow=40
MLR Muntele Rosu 58.27 310⇑ *iP* **P 07 35 46.6 +0.4**
BUC1 Bucharest 58.30 308 P **P 07 35 47.0 +0.6**
AYVA Ayvalik 58.32 302 *i* P **P 07 35 46.3 -0.3**
SMG Samos 58.42 300 *eP* **P 07 35 47.3 -0.1**
KAF Kangasniemi 58.48 329 *ep* **P 07 35 45.9 -1.5**
comp=Z,60nm,1.0s,mb5.6,baz=97,slow=6.9
KAF Kangasniemi 58.48 329 *eP* **P 07 35 45.9 -1.5**
KAF pmax pmax
comp=Z,60nm,1.0s,mb5.6
KARP Karpathos 58.48 298 *eP* **P 07 35 47.3 -0.6**
FINES FINESS Array B 58.51 328 P **P 07 35 47.6 -0.1**
comp=Z,38nm,0.7s,mb5.5,baz=96,slow=6.1,SNR=98
FINES pP pP 07 36 08.4 -0.6
comp=Z,36nm,0.7s,baz=101,slow=9.7,SNR=8.0
FINES ScP 07 40 28.7
comp=Z,7.1nm,0.7s,baz=135,slow=2.7,SNR=4.1
FINES PKiKP 07 42 58.6
comp=Z,1.5nm,0.7s,baz=63,slow=4.3,SNR=3.5
FINES S **S 07 43 42.2 -0.5**
comp=Z,4.0nm,1.0s,baz=270,slow=5.7,SNR=3.4
FINES LR LR 08 03 34.4
comp=Z,2μm,20.3s,baz=103,slow=38
URLA Izmir 58.52 301 *i* P **P 07 35 46.9 -1.2**
ALN Alexandroupoli 58.62 304 P **P 07 35 48.9 +0.2**
BURAR Bucovina Array 58.65 312⇑ *iP* **P 07 35 48.5 -0.3**
BURAR Bucovina Array 58.65 312⇑ *iP* **P 07 35 48.5 -0.3**
PRK Paraskevi 58.65 302 *eP* **P 07 35 48.4 -0.5**
WRA Warramunga Arr 58.71 135 P **P 07 35 47.9 -1.7**
comp=Z,245nm,0.5s,mb6.5,baz=324,slow=7.4,SNR=1132
WRA PKiKP 07 42 59.0
comp=Z,1.1nm,0.7s,baz=312,slow=1.3,SNR=4.9
WRA S **S 07 43 42.8 -3.0**
comp=Z,7.8nm,1.1s,baz=320,slow=12,SNR=7.7
WRA PKPPKP 08 05 21.1
comp=Z,3.5nm,0.8s,baz=104,slow=2.7,SNR=9.9
WRAB Tennant Creek 58.71 135⇑ *iP* **P 07 35 47.9 -1.7**
WB2 Warramunga Arr 58.71 135⇑ *iP* **P 07 35 48.9 -0.7**
WB2 *e*S **S 07 43 44.2 -2.0**
WB2 *e*PKPPKP 08 05 24.6
VOIR 58.90 310⇓ *iP* **P 07 35 50.0 -0.6**
VOIR 58.90 310⇓ *iP* **P 07 35 50.1 -0.5**
MTUR Matau 58.91 309⇓ *iP* **P 07 35 51.3 +0.7**
MTUR Matau 58.91 309⇓ *iP* **P 07 35 51.4 +0.8**
RDO Rodhopi 58.97 305 *eP* **P 07 35 50.6 -0.5**
LVV L'vov 59.32 315*c* *iP* **P 07 35 52.9 -0.5**
LVV *e*S **S 07 44 10.3 +17**
KEV Kevo 59.45 338 *ep* **P 07 35 53.6 -0.4**
KEV Kevo 59.45 338 P **P 07 35 54.4 +0.4**
KEV pmax pmax
comp=Z,90nm,0.9s,mb5.8
LOS Limnos 59.47 303 P **P 07 35 54.3 -0.3**
RZN Rozhen 59.52 305 *i* P **P 07 35 54.5 -0.4**
APE Apeiranthos 59.54 300 *eP* **P 07 35 53.9 -1.2**
APE Apeiranthos 59.54 300 P **P 07 35 54.0 -1.1**
APE Apeiranthos 59.54 300*c* *iP* **P 07 35 53.7 -1.4**
SUW Suwalki 59.72 320⇑ *iP* **P 07 35 55.5 -0.6**
comp=Z,600nm,1.0s,mb6.6
SUW epP pP 07 36 16.1 -1.4
SUW *e*S **S 07 43 57.4 -1.2**
SUW MLR MLR 08 04 22.5
comp=Z,1μm,21.9s
SUW Suwalki 59.72 320⇑ *iP* **P 07 35 55.5 -0.6**
SUW epP pP 07 36 16.1 -1.5
SUW *e*S **S 07 43 57.4 -1.1**
SUW Suwalki 59.72 320⇑ *iP* **P 07 35 55.5 -0.6**
SUW *e*S **S 07 43 57.4 -1.1**
NPS Neapolis 59.78 298 *eP* **P 07 35 56.3 -0.5**
XRY Khrisi 59.78 297 *eP* **P 07 35 56.5 -1.3**
PGB Panagyurishte 59.82 306 *i* P **P 07 35 57.0 0.0**
CRAR CRAIOVA 59.89 308 P **P 07 35 57.5 +0.1**
MUN Mundaring 59.89 159⇑ *iP* **P 07 35 56.5 -1.1**
ARCES ARCESS Array B 59.92 338 P **P 07 35 57.6 +0.3**
comp=Z,39nm,0.7s,mb5.5,baz=89,slow=8.1,SNR=119
ARCES pP pP 07 36 18.9 +0.1
comp=Z,40nm,0.7s,baz=90,slow=6.1,SNR=5.0
ARCES PcP PcP 07 36 43.1 +0.6
comp=Z,47nm,0.7s,baz=104,slow=5.0,SNR=7.8
ARCES ScP 07 40 34.5
comp=Z,16nm,1.0s,baz=100,slow=5.5,SNR=3.8
ARCES LR LR 08 05 22.7
comp=Z,886nm,18.6s,baz=97,slow=39
ARCES ARCESS Array B 59.92 338 P **P 07 35 57.6 +0.3**
ARCES pP pP 07 36 18.9 +0.1
ARCES PcP PcP 07 36 43.1 +0.6
ARCES ScP 07 40 34.5
ARCES LR LR 08 05 22.7
ARCES ARCESS Array B 59.92 338 P **P 07 35 57.6 +0.3**
ARCES 07 36 43.1
ARE0 ARCESS Array S 59.92 338⇑ *iP* **P 07 35 57.5 +0.2**
KLBR Kellerberrin 60.06 157⇑ *iP* **P 07 35 57.3 -1.5**
comp=Z,106nm,0.7s,mb6.0
KWP Kalwaria 60.19 315⇑ *iP* **P 07 35 59.4 0.0**
comp=Z,300nm,0.6s,mb6.5
KWP epP pP 07 36 20.5 -0.4
KWP *e*S **S 07 44 04.8 +0.2**
KWP MLR MLR 08 01 07.5
comp=Z,2μm,37.3s
KWP Kalwaria 60.19 315⇑ *iP* **P 07 35 59.4 0.0**
KWP *e*S **S 07 44 04.8 +0.2**
KWP pmax pmax
comp=Z,300nm,0.6s,mb6.5
OUR Ouranopolis 60.25 304 P **P 07 35 59.5 -0.5**
MMB Musomiste 60.27 305 *i* P **P 07 35 59.0 -1.0**
IDI Anoyia 60.36 298 S **S 07 44 05.8 -1.2**
comp=Z,38nm,1.0s,baz=334,slow=23,SNR=9.2
DRGR 60.41 311⇑ *iP* **P 07 36 00.0 -0.9**
AOS Alonnisos 60.50 302 P **P 07 36 00.9 -0.7**
VTS Vitosha 60.52 306 *i* P **P 07 36 01.5 -0.3**
VTS Vitosha 60.52 306 P **P 07 36 01.8 0.0**
KOLS Kolonicke sedl 60.52 314 *i* P **P 07 36 01.4 -0.3**
KOLS *ep*P pP 07 36 23.1 -0.1
UZH Uzhgorod 60.53 313*d* *iP* **P 07 36 02.0 +0.3**
UZH *e*S **S 07 44 12.0 +3.0**
PAIG Paliouri 60.54 303 P **P 07 36 02.4 +0.4**
KTK1 Kautokeino 60.63 337⇑ *iP* **P 07 36 02.1 -0.1**
KTK1 AMb AMb 07 36 04.2
comp=Z,185nm,1.0s,mb6.0
KTK1 *ep*P pP 07 36 23.0 -0.7
KTK1 Kautokeino 60.63 337⇑ *iP* **P 07 36 02.1 -0.1**
comp=Z,185nm,1.0s,mb6.1
PLG Polygyros 60.65 304 *eP* **P 07 36 02.0 -0.7**
SOH Sokhos 60.65 304 P pP 07 36 22.6 -1.5
KKB Krupnik 60.71 306 *i* P **P 07 36 01.8 -1.2**
MPAR Parnis Oros 60.77 301 *eP* **P 07 36 02.5 -1.0**
VAM Vamos 60.89 298 *eP* **P 07 36 03.6 -0.8**
KNT Kendrikon 60.95 305 P **P 07 36 03.6 -1.0**
THE Thessaloniki 60.97 304 P **P 07 36 03.4 -1.5**
XOR Xorichti 61.00 303 P **P 07 36 03.7 -1.3**
NSAL Nisos Salamina 61.03 301 *eP* **P 07 36 03.5 -1.7**
NAIG Nisos Aigina 61.03 301 *eP* **P 07 36 03.0 -2.3**
CRVS Cervenica-Dubn 61.06 314 *eP* **P 07 36 05.9 +0.6**
CRVS *e* pP 07 36 31.9 +5.1

GVD	Gavdhos	61.09 298	⇑iP	P	07 36 04.6 -1.1
	comp=Z,161nm,0.8s,mb6.1				
WAR	Warsaw	61.09 318	eP	P	07 36 06.5 +1.1
WAR			epP	pP	07 36 28.0 +1.0
WAR			eS	S	07 44 17.4 +1.3
WAR	Warsaw	61.09 318	eP	P	07 36 06.5 +1.1
WAR			epP	pP	07 36 28.0 +1.0
WAR			eS	S	07 44 17.4 +1.3
WAR	Warsaw	61.09 318	eP	P	07 36 06.5 +1.1
WAR			eS	S	07 44 17.4 +1.3
NWAO	Narrogin (SRO)	61.10 158	P	P	07 36 04.3 -1.5
	comp=Z,120nm,0.5s,mb6.2,baz=338,slow=6.5,SNR=204				
NWAO			pP	pP	07 36 26.7 -0.7
	comp=Z,37nm,0.8s,baz=309,slow=7.8,SNR=2.3				
NWAO	Narrogin (SRO)	61.10 158	⇑iP	P	07 36 04.2 -1.7
	comp=Z,325nm,1.1s,mb6.3				
NWAO	Narrogin (SRO)	61.10 158	⇑iP	P	07 36 04.2 -1.6
NWAO			pmax	pmax	
	comp=Z,325nm,1.1s				
STHS	Stebnicka Huta	61.16 314	i P	P	07 36 05.4 -0.5
STHS			epP	pP	07 36 26.9 -0.6
MGER	Gerania Oros	61.17 301	eP	P	07 36 04.5 -1.7
ASPA	Alice Springs	61.20 139	⇑iP	P	07 36 06.0 -0.6
ASPA			eS	S	07 44 20.9 +3.1
ASPA			ePKPPKP		08 05 26.7
KMBO	Kilima Mbogo	61.26 254	P	P	07 36 07.7 +0.5
	comp=Z,26nm,1.0s,mb5.2,baz=48,slow=9.9,SNR=60				
KMBO			pP	pP	07 36 29.1 +0.4
	comp=Z,48nm,1.0s,baz=47,slow=9.9,SNR=10				
KMBO			ScP		07 40 41.4
	comp=Z,6.1nm,0.9s,baz=13,slow=8.2,SNR=3.5				
KMBO			LR	LR	08 01 33.2
	comp=Z,855nm,21.3s,baz=227,slow=35				
KMBO	Kilima Mbogo	61.26 254	i P	P	07 36 07.9 +0.8
KMBO			pmax	pmax	
	comp=Z,26nm,1.0s				
BOLS	Boljevac	61.27 308	i P	P	07 36 05.5 -1.3
PMG	Port Moresby	61.28 117	LR	LR	08 00 22.3
	comp=Z,493nm,21.1s,baz=280,slow=34				
PMG	Port Moresby	61.28 117	⇑iP	P	07 36 06.9 -0.3
	comp=Z,294nm,0.9s,mb6.3				
PMG			ePcP	PcP	07 36 48.5 -0.1
PMG	Port Moresby	61.28 117	⇑iP	P	07 36 06.9 -0.3
PMG			e		07 36 48.5
PMG			pmax	pmax	
	comp=Z,294nm,0.9s				
GRG	Griva	61.35 305	P	P	07 36 06.2 -1.2
LIT	Litokhoron	61.41 304	P	P	07 36 06.5 -1.3
BARS	Barje	61.50 307	⇑iP	P	07 36 07.3 -1.1
VLI	Veliai	61.65 300	eP	P	07 36 06.9 -2.6
KYTH	Kithira	61.65 299	eP	P	07 36 07.5 -2.0
AGG	Agios Georgios	61.71 303	P	P	07 36 08.1 -1.8
SVIS	Svilajnac	61.73 309	⇑iP	P	07 36 09.2 -0.7
KECS	Kecovo	61.74 313	i P	P	07 36 09.7 -0.2
KECS			epP	pP	07 36 31.1 -0.4
NIE	Niedzica	61.76 314	⇑iP	P	07 36 10.6 +0.6
NIE			e	pP	07 36 32.0 +0.4
SKO	Skopje	61.91 306	⇑iP	P	07 36 10.0 -1.1
	comp=Z,0.1nm,0.9s				
SKO			i	pP	07 36 31.6 -1.1
SKO	Skopje	61.91 306	⇑iP	P	07 36 10.0 -1.1
SKO			pmax	pmax	
	comp=Z,51nm,0.9s,mb5.5				
KZN	Kozani	61.92 304	eP	P	07 36 09.8 -1.4
OJC	Ojcow	62.01 315	⇑eP	P	07 36 11.2 -0.5
OJC			eS	S	07 44 24.0 -3.8
OJC			MLR	MLR	08 06 54.1
	comp=Z,700nm,19.8s				
EVR	Evrytania	62.13 302	eP	P	07 36 10.0 -2.6
FNA	Florina	62.14 305	P	P	07 36 11.7 -1.0
GRUS	Gruza	62.15 308	i P	P	07 36 12.0 -0.7
PSZ	Piszkesteto	62.20 313	⇓iP	P	07 36 13.0 +0.1
PSZ			i pP	pP	07 36 34.6 +0.1
PSZ	Piszkesteto	62.20 313	P	P	07 36 12.9 0.0
TRO	Tromso	62.22 337	eP	P	07 36 11.2 -1.7
TRO			eS	S	07 44 31.8 +1.6
TRO			AMS	AMS	08 07 07.1
	comp=Z,655nm,18.9s				
TRO	Tromso	62.22 337	eP	P	07 36 11.2 -1.7
TRO			LR	LR	
	comp=Z,655µm,18.9s				
ITM	Ithomi	62.36 301	eP	P	07 36 12.2 -2.0
LIKS	Likavka	62.59 314	eP	P	07 36 15.0 -0.5
DIVS	Divcibare	62.64 308	⇓iP	P	07 36 15.3 -0.7
JAN	Janina	62.73 303	eP	P	07 36 11.5 -5.2
VYHS	Vyhne	62.83 314	i P	P	07 36 16.9 -0.3
VYHS			epP	pP	07 36 38.4 -0.4
PVY	Plav	62.88 307	⇑iP	P	07 36 16.9 -0.7
IVA	Berane	62.89 307	⇑iP	P	07 36 18.7 +1.0
RAC	Raciborz	63.05 315	eP	P	07 36 19.0 +0.3
RAC			MLR	MLR	08 07 13.3
	comp=Z,900nm,20.4s				
BBLS	Bajina Basta -	63.09 308	i P	P	07 36 19.2 +0.3
KOLL	Kolacno	63.10 314	i P	P	07 36 18.6 -0.4
QSH	Qafa e Shtames	63.11 306	ep	P	07 36 16.8 -2.4
OKC	Ostrava-Krasne	63.11 315	eP	P	07 36 19.0 -0.1
OKC			epP	pP	07 36 41.5 +0.8
OKC			AMS	AMS	08 02 40.0
	comp=Z,900nm,34.4s				
PLE	Pljevlja	63.18 308	⇑iP	P	07 36 20.0 +0.4
VLS	Valsamata	63.21 302	eP	P	07 36 17.6 -2.2
SRO	Srobarova	63.27 313	i P	P	07 36 20.3 +0.2
SRO			epP	pP	07 36 42.6 +0.9
PKSM	Moragy	63.27 311	P	P	07 36 19.7 -0.4
GKP	Gorka Klasztor	63.30 319	⇑iP	P	07 36 20.1 -0.1
	comp=Z,100nm,0.8s,mb5.8				
GKP			epP	pP	07 36 42.2 +0.4
GKP			eS	S	07 44 42.0 -1.9
GKP			MLR	MLR	08 06 48.0
	comp=Z,2µm,20.8s				
GKP	Gorka Klasztor	63.30 319	⇑iP	P	07 36 20.0 -0.2
	comp=Z,0.1nm,0.8s				
GKP			epP	pP	07 36 42.2 +0.3
GKP			eS	S	07 44 42.0 -1.9
GKP			LR	LR	
	comp=Z,2µm,20.8s				
GKP	Gorka Klasztor	63.30 319	⇑iP	P	07 36 20.0 -0.2
GKP			eS	S	07 44 42.0 -1.9
GKP			MLR	MLR	
	comp=Z,2µm,20.8s				
SRO1	Iza	63.33 313	eP	P	07 36 20.2 -0.3
TTG	Podgorica	63.43 307	⇑iP	P	07 36 19.9 -1.3
MORC	Moravsky Berou	63.51 315	P	P	07 36 21.6 0.0
ULC	Ulcinj	63.52 306	⇑iP	P	07 36 21.2 -0.6
UPM	Unac-Piva	63.55 308	⇑iP	P	07 36 21.7 -0.3
NKY	Niksic	63.56 307	⇑iP	P	07 36 21.4 -0.6
FORT	Forrest	63.66 148	⇑iP	P	07 36 22.1 -0.8
	comp=Z,186nm,1.0s,mb5.9				
FORT			i PCP	PcP	07 36 57.2 -1.0
BUM	Brajici-Budva	63.72 307	⇑iP	P	07 36 21.9 -1.2
HSP	Hornsund	63.77 346	eP	P	07 36 22.9 +0.1
MOR8	Moi Rana	63.85 334	⇑iP	P	07 36 22.4 -1.1
MOR8			AMb	AMB	07 36 24.6
	comp=Z,182nm,1.1s,mb5.8				
MOR8			epP	pP	07 36 44.0 -1.2
MOR8	Moi Rana	63.85 334	⇑iP	P	07 36 22.4 -1.1
	comp=Z,182nm,1.1s,mb5.8				
BRY	Bratogost	63.87 307	⇑iP	P	07 36 23.6 -0.5
HCY	Herceg Novi	63.98 307	⇑iP	P	07 36 24.2 -0.6
ZST	Bratislava	64.02 313	eP	P	07 36 24.5 -0.4
ZST			e	pP	07 36 47.2 +0.6
ZST			e		08 08 30.2
MELSS	Ber_school_2	64.11 334	⇑iP	P	07 36 25.0 -0.2
KSP	Ksiaz	64.16 316	⇑iP	P	07 36 26.0 +0.2
	comp=Z,400nm,1.6s,mb6.0				
KSP			epP	pP	07 36 47.4 -0.2
KSP			eS	S	07 44 55.5 +0.9
KSP			MLR	MLR	08 07 47.0
	comp=Z,1µm,19.4s				
KSP	Ksiaz	64.16 316	⇑iP	P	07 36 26.0 +0.2
KSP			epP	pP	07 36 47.3 -0.2
KSP			eS	S	07 44 54.0 -0.6
KSP	Ksiaz	64.16 316	⇑iP	P	07 36 26.0 +0.2
KSP			eS	S	07 44 54.0 -0.6
VRAC	Vranov	64.19 315	eP	P	07 36 26.4 +0.4
VRAC			e	pP	07 36 48.3 +0.6
DPC	Dobruska-Polom	64.21 316	eP	P	07 36 26.6 +0.4
DPC			epP	pP	07 36 48.3 +0.4
DPC			eS	S	07 44 54.4 -0.8
DPC			eXS		07 45 32.8
DPC			AMS	AMS	08 02 40.0
	comp=Z,1µm,26.6s				
DPC	Dobruska-Polom	64.21 316	eP	P	07 36 26.6 +0.4
DPC			eS	S	07 44 54.4 -0.8
DPC			e		07 45 32.8
DPC			MLR	MLR	
	comp=Z,1µm,26.6s				
UPC	Upice	64.39 316	eP	P	07 36 27.5 +0.2
UPC			epP	pP	07 36 49.6 +0.6
STOK	Stokkvaagen	64.42 334	eP	P	07 36 27.4 +0.1
BSD	Bornholm Skovb	64.45 321	⇑iP	P	07 36 26.4 -1.2
	comp=Z,127nm,0.7s,mb5.9				
BSD	Bornholm Skovb	64.45 321	⇑iP	P	07 36 26.4 -1.2
BSD			pmax	pmax	
	comp=Z,127nm,0.7s,mb5.9				
SOP	Sopron	64.46 313	⇑iP	P	07 36 27.5 -0.3
VKA	Vienna	64.52 314	⇑iP	P	07 36 27.6 -0.6
HFS	Hagfors	64.57 327	ScP		07 40 55.2
	comp=Z,12nm,0.7s,baz=101,slow=7.6,SNR=4.9				
HFS			LR	LR	08 07 04.2
	comp=Z,2µm,21.1s,baz=82,slow=38				
KBS	Kingsbay	64.63 348	eP	P	07 36 29.2 +0.7
KBS			eS	S	07 45 02.8 +2.8
KBS			AMS	AMS	08 11 06.3
	comp=Z,527nm,18.1s				
KBS	Kingsbay	64.63 348	eP	P	07 36 27.5 -1.0
	comp=Z,38nm,0.8s,mb5.3				
KBS			epP	pP	07 36 50.4 +0.2
KBS	Kingsbay	64.63 348	eP	P	07 36 27.5 -1.0
KBS			pmax	pmax	
	comp=Z,38nm,0.8s,mb5.3				
TREC	Trest	64.91 315	eP	P	07 36 31.0 +0.3
TREC			epP	pP	07 36 53.1 +0.7
TREC			AMS	AMS	08 03 20.0
NSS	Namsos	64.98 332	eP	P	07 36 29.6 -1.3
NSS			AMS	AMS	08 07 46.1
	comp=Z,2µm,19.4s				
ARSA	Arzberg	65.22 313	⇑iP	P	07 36 32.4 -0.3
	comp=Z,236nm,2.4s,mb5.6				
ARSA	Arzberg	65.22 313	i P	P	07 36 32.4 -0.4
	comp=Z,236nm,2.4s,mb5.6,SNR=27				
ARSA	Arzberg	65.22 313	⇑iX		07 36 54.6
	comp=Z,335nm,2.6s				
RORSS	Ber_school_1	65.26 332	eP	P	07 36 32.5 -0.2
PVCC	Panska Ves	65.30 316	eP	P	07 36 33.5 +0.3
PVCC			epP	pP	07 36 56.4 +1.5
PVCC			AMS	AMS	08 03 20.0
PRU	Pruhonice	65.40 316	eP	P	07 36 34.1 +0.2
PRU			epP	pP	07 36 56.2 +0.6
PRU			ePP	PP	07 39 05.5 +4.7
PRU			eS	S	07 45 08.2 -1.6
PRU			eXS		07 45 46.7
PRU			AMS	AMS	08 01 40.0
PRU	Pruhonice	65.40 316	eP	P	07 36 34.1 +0.2
PRU			e		07 39 05.5
PRU			eS	S	07 45 08.2 -1.6
PRU			e		07 45 46.7
RUE	Ruedersdorf	65.48 318	⇑iP	P	07 36 34.3 0.0
	comp=Z,326nm,1.4s,mb6.0				
RUE			epP	pP	07 36 56.0 -0.1
PERS	Pernice	65.60 312	⇑iP	P	07 36 34.9 -0.3
PERS			epP	pP	07 36 57.3 +0.3
BRG	Berggiesshubel	65.63 317	⇑iP	P	07 36 35.5 +0.2
	comp=Z,74nm,0.8s,mb5.6				
BRG			e		07 36 40.5
BRG			i	pP	07 36 57.5 +0.4
BRG			PP	PP	07 38 57.6 -5.3
BRG	Berggiesshubel	65.63 317	⇑iP	P	07 36 35.5 +0.2
BRG					07 38 57.6
BRG			pmax	pmax	
	comp=Z,74nm,0.8s,mb5.6				
NB2	NORSAR Subarra	65.69 328	P	P	07 36 34.8 -0.7
	comp=Z,225nm,1.4s,mb5.8,baz=83,slow=6.5				
NB2	NORSAR Subarra	65.69 328	P	P	07 36 34.8 -0.7
	baz=83,slow=6.5				
NB2	NORSAR Subarra	65.69 328	P	P	07 36 34.8 -0.7
NB2			pmax	pmax	
	comp=Z,225nm,1.4s,mb5.8				
NOA	NORSAR Array B	65.69 328	P	P	07 36 35.0 -0.5
	comp=Z,47nm,0.7s,mb5.5,baz=84,slow=6.3,SNR=108				
NOA			pP	pP	07 36 56.3 -1.0
	comp=Z,45nm,0.7s,baz=83,slow=6.4,SNR=7.2				
NOA			LR	LR	08 07 45.8
	comp=Z,2µm,19.9s,baz=80,slow=38				
COP	Copenhagen	65.78 322	⇑iP	P	07 36 36.4 +0.2
	comp=Z,39nm,0.7s,mb5.3				
	comp=Z,250nm,18.0s				
COP	Copenhagen	65.78 322	⇑iP	P	07 36 36.4 +0.2
COP			pmax	pmax	
	comp=Z,39nm,0.7s,mb5.3				
COP			MLR	MLR	
	comp=Z,250nm,18.0s				
NAO01	NORSAR Array S	65.87 328	⇑iP	P	07 36 35.9 -0.8
	comp=Z,32nm,0.7s,mb5.3				
NAO01			epP	pP	07 36 58.0 -0.5
MOA	Molln	65.95 313	⇑iP	P	07 36 37.0 -0.4
	comp=Z,86nm,1.2s,mb5.5				
MOA	Molln	65.95 313	i P	P	07 36 37.0 -0.4
	comp=Z,86nm,1.2s,mb5.5,SNR=79				
MOA	Molln	65.95 313	⇓iX	pP	07 36 58.4 -0.8
	comp=Z,271nm,1.9s				
OBKA	Obir	66.01 312	⇑iP	P	07 36 37.5 -0.3
	comp=Z,145nm,2.2s,mb5.4				
OBKA	Obir	66.01 312	⇓iX	pP	07 36 59.0 -0.7
	comp=Z,372nm,2.2s				
OSL	Oslo	66.07 327	eP	pP	07 37 02.9 +3.1
OSL			AMb	AMB	07 37 04.7
	comp=Z,261nm,1.1s,mb6.0				
LJU	Ljubljana	66.12 311	⇑iP	P	07 36 38.4 -0.1
LJU			epP	pP	07 37 00.7 +0.3
GEC2	GERESS Array S	66.14 314	eP	P	07 36 38.5 -0.1
	comp=Z,80nm,0.7s,mb5.7				
GEC2	GERESS Array S	66.14 314	eP	P	07 36 38.5 -0.1
GEC2			pmax	pmax	
	comp=Z,80nm,0.7s,mb5.7				
GERES	GERESS Array B	66.14 314	P	P	07 36 38.7 +0.1
	comp=Z,56nm,0.6s,mb5.6,baz=64,slow=6.4,SNR=422				
GERES			pP	pP	07 36 59.9 -0.5
	comp=Z,53nm,0.9s,baz=90,slow=5.3,SNR=8.3				
GERES			LR	LR	08 09 58.6
	comp=Z,866nm,19.6s,baz=92,slow=40				
CLL	Collm	66.14 317	⇑P	P	07 36 38.2 -0.4
	comp=Z,logA/T=1.8,mb5.4				
CLL			i		07 36 43.3
CLL			i *PP	pP	07 36 59.9 -0.5
CLL			i *SP	sP	07 37 10.1 +0.5
CLL			i		07 37 46.6
CLL			e*PPP		07 39 26.0
CLL			eS	S	07 45 17.0 -1.8
CLL			ePS	PS	07 45 55.0 +1.8
CLL			e*SSS		07 50 12.0
CLL			eSSS	SSS	07 53 00.0 +26
CLL	Collm	66.14 317	⇑iP	P	07 36 38.2 -0.4
	comp=Z,58nm,1.0s,mb5.4				
CLL			i pP	pP	07 36 59.9 -0.5
CLL			i sP	sP	07 37 10.1 +0.5
CLL			eS	S	07 45 17.0 -1.8
CLL	Collm	66.14 317	⇑iP	P	07 36 38.2 -0.4
CLL			i *SP	sP	07 37 10.1 +0.5
CLL			eS	S	07 45 17.0 -1.8
CLL			pmax	pmax	
	comp=Z,58nm,1.0s,mb5.4				
KHC	Kasperske Hory	66.17 315	eP	P	07 36 38.7 -0.1
KHC			x	x	07 36 42.5
KHC			x	x	07 36 51.5
KHC			epP	pP	07 37 01.4 +0.8
KHC			ePP	PP	07 39 06.7 -0.8
KHC			eS	S	07 45 20.3 +1.2
KHC			ex	x	07 45 51.2
KHC			AMS	AMS	08 05 20.0
	comp=Z,800nm,17.3s				
KHC	Kasperske Hory	66.17 315	eP	P	07 36 38.7 -0.1
KHC			e		07 36 42.5
KHC			e		07 36 51.5
KHC			epP	pP	07 37 01.4 +0.8
KHC			ePP	PP	07 39 06.7 -0.8
KHC			eS	S	07 45 20.3 +1.2
KHC			e		07 45 51.2
KHC			LR	LR	
	comp=Z,800nm,17.3s				
KHC	Kasperske Hory	66.17 315	eP	P	07 36 38.7 -0.1
KHC			e		07 36 51.5
KHC			e*PP	pP	07 37 01.4 +0.8
KHC			e		07 39 06.7
KHC			eS	S	07 45 20.3 +1.2
KHC			e		07 45 51.2
KHC			MLR	MLR	
	comp=Z,800nm,17.3s				
CEY	Cerknica	66.25 311	⇑iP	P	07 36 39.1 -0.2
CEY			e		07 39 10.6
VOY	Vojsko	66.55 311	eP	P	07 36 40.3 -0.9
VOY			e	pP	07 37 02.5 -0.6
VOY			e		07 37 09.5
DOMB	Dombas	66.57 329	⇑iP	P	07 36 40.9 -0.2
DOMB			AMb	AMB	07 36 42.0
	comp=Z,139nm,1.1s,mb5.7				
DOMB			epP	pP	07 37 02.8 -0.2
DOMB	Dombas	66.57 329	⇑iP	P	07 36 40.9 -0.2
	comp=Z,139nm,1.1s,mb5.7				
WET	Wettzell	66.62 315	eP	P	07 36 41.6 0.0
	comp=Z,55nm,0.8s,mb5.4				
WET	Wettzell	66.62 315	eP	P	07 36 41.6 0.0
WET			pmax	pmax	
	comp=Z,55nm,0.8s,mb5.4				
KONO	Kongsberg	66.68 327	eP	P	07 36 41.6 -0.2
KONO			eS	S	07 45 26.5 +1.4
KONO			eSS	SS	07 49 34.6 -11
KONO	Kongsberg	66.68 327	eP	P	07 36 41.1 -0.7
	comp=Z,92nm,1.2s,mb5.5				
KONO	Kongsberg	66.68 327	eP	P	07 36 41.1 -0.7
KONO			pmax	pmax	
	comp=Z,92nm,1.2s,mb5.5				
NKC	Novy Kostel	66.68 316	eP	P	07 36 42.2 +0.2
NKC			epP	pP	07 37 04.5 +0.6
NKC			AMS	AMS	08 04 10.0
	comp=Z,1µm,25.6s				
KBA	Koelnbreinsper	66.71 313	⇑iP	P	07 36 41.6 -0.6
	comp=Z,149nm,2.6s,mb5.4				
KBA	Koelnbreinsper	66.71 313	⇑iX		07 37 04.2
	comp=Z,116nm,1.9s				
KBA	Koelnbreinsper	66.71 313	⇑iP	P	07 36 41.6 -0.6
KBA			pmax	pmax	
	comp=Z,149nm,2.6s,mb5.4				
CTA	Charters Tower	66.98 127	⇑iP	P	07 36 43.8 -0.5
	comp=Z,56nm,0.6s,mb5.6				
CTA			ePKPPKP		08 05 07.7
CTA	Charters Tower	66.98 127	⇑iP	P	07 36 43.8 -0.5
CTA			pmax	pmax	
	comp=Z,56nm,0.6s				
CTAO	Charters Tower	66.98 127	P	P	07 36 43.9 -0.4
CTAO	Charters Tower	66.98 127	⇑iP	P	07 36 43.8 -0.6
	comp=Z,232nm,1.0s,mb6.0				
CTAO	Charters Tower	66.98 127	⇑iP	P	07 36 43.8 -0.5
CTAO			pmax	pmax	
	comp=Z,232nm,1.0s,mb6.0				
MOX	Moxa	67.13 317	⇑iP	P	07 36 44.8 0.0
	comp=Z,logA/T=2.0,mb5.6				
MOX			i	pP	07 37 06.0 -0.7
MOX			S	S	07 45 34.0 +3.3
MOX			L		08 09 45.0
MOX	Moxa	67.13 317	⇑eP	P	07 36 44.8 0.0
	comp=Z,174nm,1.6s,mb5.6				
MOX			LR	LR	
	comp=Z,600nm,21.0s				
MOX	Moxa	67.13 317	⇑eP	P	07 36 44.8 0.0
MOX			pmax	pmax	
	comp=Z,174nm,1.6s,mb5.6				
MOX			MLR	MLR	
	comp=Z,600nm,21.0s				
MOL	Molde	67.19 330	⇑iP	P	07 36 48.4 +3.4
MOL			AMb	AMB	07 36 50.7
	comp=Z,206nm,1.2s,mb5.8				
MOL			epP	pP	07 37 10.8 +4.0
MOL	Molde	67.19 330	⇑iP	P	07 36 48.4 +3.4
	comp=Z,206nm,1.2s,mb5.8				
BSEG	Bad Segeberg	67.28 320	eP	P	07 36 46.0 +0.4
MUD	Monsted U'grnd	67.45 323	⇑iP	P	07 36 47.2 +0.5
	comp=Z,80nm,1.0s,mb5.5				
MUD			i S	S	07 45 35.6 +1.1
MUD			i		07 46 14.5
MUD			e		07 46 44.4
MUD			e		07 47 25.3
MUD			i		07 53 44.0
	comp=Z,390nm,17.0s				
MUD	Monsted U'grnd	67.45 323	⇑iP	P	07 36 47.2 +0.5
MUD			i S	S	07 45 35.6 +1.1
MUD			i		07 46 14.5
MUD			e		07 46 44.4
MUD			pmax	pmax	
	comp=Z,80nm,1.0s,mb5.5				
GRA1	Grafenberg Arr	67.57 316	eP	P	07 36 48.1 +0.6
	comp=Z,77nm,1.0s,mb5.5				
GRA1			epP	pP	07 37 10.1 +0.7
GRA1			ePP	PP	07 39 14.2 -5.1
GRA1			eS	S	07 45 39.4 +3.4
GRF	Grafenberg Arr	67.57 316	eP	P	07 36 48.1 +0.6
	comp=Z,77nm,1.0s,mb5.5				
GRF			epP	pP	07 37 10.1 +0.7
GRF			ePP	PP	07 39 14.2 -5.1
GRF			eS	S	07 45 39.4 +3.4
GRF			LR	LR	
	comp=Z,600nm,18.1s				
GRF	Grafenberg Arr	67.57 316	eP	P	07 36 48.1 +0.6
GRF			e*PP	pP	07 37 10.1 +0.7
GRF			e		07 39 14.2
GRF			eS	S	07 45 39.4 +3.4
GRF			pmax	pmax	
	comp=Z,77nm,1.0s,mb5.5				
GRF			MLR	MLR	
	comp=Z,600nm,18.1s				
CLZ	Clausthal	67.66 318	eP	P	07 36 48.1 +0.1
	comp=Z,116nm,0.8s,mb5.8				
CLZ	Clausthal	67.66 318	eP	P	07 36 48.1 +0.1
CLZ			pmax	pmax	
	comp=Z,116nm,0.8s,mb5.8				
WTTA	Wattenberg	67.81 313	⇑iP	P	07 36 48.4 -0.7
	comp=Z,140nm,1.9s,mb5.5				
WTTA	Wattenberg	67.81 313	i P	P	07 36 48.4 -0.7
	comp=Z,140nm,1.9s,mb5.5,SNR=33				
WTTA	Wattenberg	67.81 313	⇑iX	pP	07 37 10.8 -0.2
	comp=Z,178nm,1.5s				
WTTA	Wattenberg	67.81 313	⇑iP	P	07 36 48.4 -0.7
WTTA			pmax	pmax	
	comp=Z,140nm,1.9s,mb5.5				
WATA	Walderalm	67.84 313	⇑iP	P	07 36 48.3 -0.9
	comp=Z,18nm,0.8s,mb5.0				
WATA	Walderalm	67.84 313	⇑iP	P	07 36 48.3 -0.9
WATA			pmax	pmax	
	comp=Z,19nm,0.8s,mb5.0				
FUR	Furstenfeldbru	67.86 314	eP	P	07 36 49.4 +0.1
	comp=Z,110nm,1.1s,mb5.6				
FUR	Furstenfeldbru	67.86 314	eP	P	07 36 49.4 +0.1
FUR			pmax	pmax	
	comp=Z,110nm,1.1s,mb5.6				
SQTA	Sankt Quirin	68.11 313	⇑iP	P	07 36 50.1 -0.8
	comp=Z,15nm,0.8s,mb4.9				
SQTA	Sankt Quirin	68.11 313	i P	P	07 36 50.1 -0.8
	comp=Z,15nm,0.8s,mb4.9,SNR=70				
SQTA	Sankt Quirin	68.11 313	⇑iP	P	07 36 50.1 -0.8
SQTA			pmax	pmax	
	comp=Z,15nm,0.8s,mb4.9				
SNART	Snartemo	68.13 325	⇑iP	P	07 36 51.2 +0.4
SNART			AMb	AMB	07 36 53.2
	comp=Z,96nm,0.8s,mb5.7				
SNART			epP	pP	07 37 12.5 -0.3
SNART	Snartemo	68.13 325	⇑iP	P	07 36 51.2 +0.4
	comp=Z,96nm,0.8s,mb5.7				
VAE	Valguarnera	68.13 302	P	P	07 36 52.2 +1.0
	comp=Z,4.9nm,0.4s,mb4.7,baz=63,slow=4.5,SNR=2.6				
VAE			LR	LR	08 10 46.0
	comp=Z,329nm,18.8s,baz=102,slow=39				
MOTA	Moosalm	68.15 313	⇑iP	P	07 36 50.3 -0.9
	comp=Z,40nm,0.9s,mb5.2				
MOTA	Moosalm	68.15 313	⇑iP	P	07 36 50.3 -0.9
MOTA			pmax	pmax	
	comp=Z,40nm,0.9s,mb5.2				
BLS5	Blasjo	68.29 327	⇑iP	P	07 36 53.4 +1.5
BLS5			AMb	AMB	07 36 56.6
	comp=Z,55nm,1.1s,mb5.3				
BLS5	Blasjo	68.29 327	⇑iP	P	07 36 53.4 +1.5
	comp=Z,55nm,1.1s,mb5.3				
HDH	Heidenheim	68.46 315	⇑eP	P	07 36 52.9 -0.2
FOO	Floro	68.53 329	eP	P	07 36 53.7 +0.4
BER	Bergen	68.65 328	eP	P	07 36 54.6 +0.5
BER			AMb	AMB	07 36 56.4
	comp=Z,181nm,1.3s,mb5.7				
BER			epP	pP	07 37 16.8 +0.8
BER			AMS	AMS	08 10 02.9
	comp=Z,2µm,17.8s				
BER	Bergen	68.65 328	eP	P	07 36 54.6 +0.5
	comp=Z,181nm,1.3s,mb5.7				
BER			LR	LR	

comp=Z,1550µm,17.8s
SIND Sindeldorf 68.67 316⇑eP P 07 36 54.4 0.0
ASK Askoy 68.69 328 eP P 07 36 55.4 +1.0
EGD Espegrend 68.72 328 eP P 07 36 56.4 +1.9
UBR Uberruh 68.73 314⇑eP P 07 36 54.3 -0.5
FUORN Ofenpass 68.88 313⇑iP P 07 36 55.4 -0.3
DAVA Damuels 68.97 313⇑iP P 07 36 55.8 -0.5
comp=Z,172nm,1.8s,mb5.6
DAVA Damuels 68.97 313 iP P 07 36 55.8 -0.5
comp=Z,172nm,1.8s,mb5.6,SNR=35
DAVA Damuels 68.97 313⇓iX pP 07 37 17.8 -0.5
comp=Z,199nm,1.4s
BERNI Berninapass 69.09 312⇑iP P 07 36 56.7 -0.3
DAVOX Davos 69.09 313 P P 07 36 56.8 -0.2
comp=Z,46nm,0.5s,mb5.6,baz=120,slow=5.1,SNR=131
DAVOX pP pP 07 37 19.3 +0.2
comp=Z,25nm,0.7s,baz=0.5,slow=6.4,SNR=3.4
DAVOX LR LR 08 11 41.6
comp=Z,869nm,21.0s,baz=64,slow=40
DAVOX Davos 69.09 313⇑iP P 07 36 56.8 -0.2
TOD Tromm 69.12 316⇑eP P 07 36 57.1 0.0
TNS Taunus Mts 69.20 317 eP P 07 36 57.6 0.0
comp=Z,87nm,1.0s,mb5.5
TNS Taunus Mts 69.20 317 eP P 07 36 57.6 0.0
TNS pmax pmax
comp=Z,87nm,1.0s,mb5.5
SWS Schriesheim 69.21 316 eP P 07 36 57.5 -0.2
LIENZ Alp Oberkamor 69.23 313⇑iP P 07 36 57.4 -0.4
GUT Gutenstein 69.29 314⇑eP P 07 36 57.9 -0.3
LBG Lerchenberg 69.35 315⇑eP P 07 36 58.8 +0.2
PLONS Plons 69.36 313⇑iP P 07 36 58.2 -0.5
SARO Sassorosso 69.38 310 P P 07 36 58.9 +0.1
MAIM 69.39 310 P P 07 36 58.0 -0.9
VDL Val di Lei 69.44 313⇑iP P 07 36 59.0 -0.2
SPAK Spaichingen 69.49 314 eP P 07 36 59.4 -0.1
GRAM 69.53 310 P P 07 36 59.5 -0.3
STEIN Stein am Rhein 69.55 314⇑iP P 07 36 59.3 -0.5
VINC Vinca 69.56 310 P P 07 36 58.6 -1.3
BACM 69.58 310 P P 07 36 58.8 -1.3
WIT Witteveen 69.66 320⇑eP P 07 37 01.1 +0.8
comp=Z,481nm,1.5s,mb6.1
WIT epP pP 07 37 23.5 +1.0
LLS Linth-Limmern 69.66 313⇑iP P 07 37 00.1 -0.4
CODM 69.71 310 P P 07 37 00.8 -0.1
BFO Black Forest 69.73 315 eP P 07 37 00.5 -0.4
comp=Z,71nm,1.6s,mb5.2
BFO Black Forest 69.73 315 eP P 07 37 00.5 -0.4
BFO pmax pmax
comp=Z,71nm,1.6s,mb5.2
FLACH Flaach 69.77 314⇑iP P 07 37 00.6 -0.5
SLE Schleitheim 69.77 314⇑iP P 07 37 00.6 -0.5
ZUR Zurich 69.81 314⇑iP P 07 37 00.8 -0.6
ABH Alteburg 69.84 317⇑eP P 07 37 01.8 +0.3
ABH Alteburg 69.84 317⇑eP P 07 37 02.0 +0.5
MUGIO Muggio 69.87 312⇑iP P 07 37 00.6 -1.2
MUO Muotathal 69.87 313⇑iP P 07 37 01.7 -0.1
LANF Langenberg 69.91 316⇑eP P 07 37 02.3 +0.4
FUSIO Fusio 69.99 313⇑iP P 07 37 02.1 -0.4
STR Strasbourg 70.03 315⇑eP P 07 37 03.1 +0.4
FELD Feldberg 70.06 314⇑eP P 07 37 02.8 -0.1
SULZ Sulz-Cheisache 70.08 314⇑iP P 07 37 02.6 -0.4
KIZ Kirchzarten 70.09 314⇑eP P 07 37 02.7 -0.4
LIBD Limburg 70.25 315 eP P 07 37 04.2 +0.2
LIBD Limburg 70.25 315 eP P 07 37 04.0 0.0
HASLI Hasliberg 70.25 313⇑iP P 07 37 03.9 -0.2
WLS Welschbruch 70.34 315⇑eP P 07 37 04.4 -0.2
CDF Champ du Feu 70.39 315⇑iP P 07 37 04.7 -0.2
comp=Z,127nm,0.8s,mb5.5
CDF Champ du Feu 70.39 315⇑iP P 07 37 04.7 -0.2
CDF pmax pmax
comp=Z,63nm,0.8s,mb5.5
BALST Balsthal 70.40 314⇑iP P 07 37 04.6 -0.4
BBS Basel-Blauen 70.49 314⇑eP P 07 37 05.1 -0.4
ECH Echery 70.52 315⇑eP P 07 37 05.4 -0.3
MMK Mattmark 70.56 312⇑iP P 07 37 05.9 -0.1
PCP Pian Castagno 70.57 311 P P 07 37 04.4 -1.6
HGN Heimansgroeve 70.62 318⇑iP P 07 37 06.0 -0.2
comp=Z,39nm,1.6s,mb5.0
HGN *i* pP pP 07 37 28.9 +0.5
HGN eS S 07 46 05.7 -6.3
HGN eSS SS 07 50 50.4 +3.4
comp=Z,5.7nm,0.4s
WIMIS Wimmis 70.62 313⇑iP P 07 37 06.3 0.0
MOF Molkenrain 70.63 314⇑eP P 07 37 06.4 +0.1
ORX Oropa 70.66 312 P P 07 37 04.4 -2.2
LKBD Leukerbad 70.70 313⇑iP P 07 37 06.8 0.0
PGF Pioggiola 70.80 309⇑iP P 07 37 07.2 -0.2
comp=Z,120nm,0.7s,mb5.5
PGF Pioggiola 70.80 309⇑iP P 07 37 07.2 -0.2
PGF pmax pmax
comp=Z,60nm,0.7s,mb5.5
HINF Hinteralfeld 70.82 315⇑iP P 07 37 07.0 -0.5
comp=Z,34nm,0.6s,mb5.1
HINF Hinteralfeld 70.82 315⇑iP P 07 37 07.0 -0.5
HINF pmax pmax
comp=Z,17nm,0.6s,mb5.0
TRAV 70.85 312 P P 07 37 05.9 -1.8
FIN Finale Ligure 70.89 311 P P 07 37 06.4 -1.6
SENIN Lac Senin 70.92 313⇑iP P 07 37 08.2 +0.1
DIX Grande Dixence 70.92 313⇑iP P 07 37 08.9 +0.8
LOMF Lomont 70.96 314 eP P 07 37 08.0 -0.3
TORNY Torny 71.04 313⇑iP P 07 37 08.9 +0.1
HAU Haudompre 71.10 315⇑iP P 07 37 08.9 -0.2
comp=Z,57nm,0.6s,mb5.3
HAU eR
comp=Z,327nm,19.8s
HAU Haudompre 71.10 315⇑iP P 07 37 08.9 -0.2
HAU pmax pmax
comp=Z,28nm,0.6s,mb5.3
HAU MLR MLR
comp=Z,330nm,19.8s
ROB Roburent 71.10 311 P P 07 37 07.8 -1.4
AIGLE Aigle 71.16 313⇑iP P 07 37 09.4 -0.1
JMIC Jan Mayen 71.16 340 LR LR 08 12 21.6
comp=Z,355nm,18.5s,baz=274,slow=39
JMIC Jan Mayen 71.16 340 AMS AMS 08 09 30.0
comp=Z,258nm,25.0s
IMI Imperia 71.20 310 P P 07 37 09.2 -0.6
SALAN Lac Salanfe 71.20 313⇑iP P 07 37 10.0 +0.2
MONE Monesi 71.24 311 P P 07 37 10.0 -0.1
LSD Ceresole Reale 71.27 312 P P 07 37 10.5 +0.3
THEF They Montfort 71.27 315⇑eP P 07 37 10.0 -0.2
EMV Vieux Emosson 71.27 313⇑iP P 07 37 10.5 +0.3
RSP Reno Superiore 71.28 312 P P 07 37 08.5 -1.8
BRANT Les Verrieres 71.31 314⇑iP P 07 37 10.4 0.0
NEGI Negi 71.34 310 P P 07 37 10.2 -0.5
DAG Danmarks Havn 71.35 347⇓iP P 07 37 10.0 -0.2
comp=Z,166nm,1.5s,mb5.6
BHB Bricherasio 71.37 311 P P 07 37 08.9 -1.9
SAOF Saorge 71.41 310 eP P 07 37 11.1 0.0
ENR Entracque 71.43 311 P P 07 37 09.8 -1.4
FENE Fenestrelle 71.45 312 P P 07 37 10.7 -0.6
GIVF Givet 71.48 317⇑iP P 07 37 11.6 +0.2
comp=Z,81nm,0.9s,mb5.2
GIVF Givet 71.48 317⇑iP P 07 37 11.6 +0.2
GIVF pmax pmax
comp=Z,41nm,0.9s,mb5.3
STV2 Anna di Valdie 71.49 311 P P 07 37 09.7 -1.9
AUTN L'Aution 71.49 311 eP P 07 37 11.9 +0.3
STV Sta Anna Valdi 71.50 311 P P 07 37 09.7 -1.9
SBF Sospel 71.53 310⇑iP P 07 37 11.6 -0.2
comp=Z,117nm,0.8s,mb5.4
SBF Sospel 71.53 310⇑iP P 07 37 11.6 -0.2
SBF pmax pmax
comp=Z,58nm,0.8s,mb5.5
LPG La Plagne 71.53 312⇑iP P 07 37 12.3 +0.5
comp=Z,136nm,0.7s,mb5.6
LPG La Plagne 71.53 312⇑iP P 07 37 12.3 +0.5
LPG pmax pmax
comp=Z,68nm,0.7s,mb5.6
LPL La Plagne 71.54 312⇑iP P 07 37 12.2 +0.4
comp=Z,126nm,0.5s,mb5.7
LPL La Plagne 71.54 312⇑iP P 07 37 12.2 +0.4
LPL pmax pmax
comp=Z,63nm,0.5s,mb5.7
GIMEL Gimel 71.56 313⇑iP P 07 37 12.0 +0.1
TOUF Mont Tournerai 71.61 311 eP P 07 37 12.4 +0.1
CABF La Chapelle 71.66 313⇑iP P 07 37 12.5 0.0
comp=Z,60nm,0.6s,mb5.3
CABF La Chapelle 71.66 313⇑iP P 07 37 12.5 0.0
CABF pmax pmax
comp=Z,30nm,0.6s,mb5.3
RRL Cesana Torines 71.67 312 P P 07 37 11.8 -0.8
MVIF Mont Vial 71.71 310 eP P 07 37 12.2 -0.7
MBDF Montbardon 71.74 311⇑iP P 07 37 12.2 -0.8
comp=Z,94nm,0.6s,mb5.5
MBDF Montbardon 71.74 311⇑iP P 07 37 12.2 -0.8
MBDF pmax pmax
comp=Z,47nm,0.6s,mb5.5
SURF Saint Ours 71.78 311 eP P 07 37 13.3 0.0
MEZF Maizieres J'vi 71.79 316⇑iP P 07 37 13.5 +0.2
comp=Z,236nm,0.7s,mb5.8
STKA Stephens Creek 71.82 139⇑iP P 07 37 12.9 -0.9
comp=Z,134nm,1.0s,mb5.7
STKA Stephens Creek 71.82 139 P P 07 37 12.6 -1.2
comp=Z,154nm,0.9s,mb5.8,baz=321,slow=6.1,SNR=131
STKA LR LR 08 12 37.1
comp=Z,548nm,20.2s,baz=315,slow=39
BAIF Baives 71.87 317⇑iP P 07 37 13.9 +0.2
comp=Z,145nm,1.2s,mb5.4
BAIF Baives 71.87 317⇑iP P 07 37 13.9 +0.2
BAIF pmax pmax
comp=Z,72nm,1.2s,mb5.4
HNR Honiara 71.98 110 eP P 07 37 13.2 -1.8
comp=Z,443nm,1.1s,mb6.2
HNR Honiara 71.98 110 eP P 07 37 13.2 -1.8
HNR pmax pmax
comp=Z,443nm,1.1s,mb6.2
GDM Grand'Maison 72.04 312⇑eP P 07 37 15.0 +0.1
FRF La Foret Royal 72.16 310⇑iP P 07 37 15.2 -0.4
comp=Z,104nm,0.9s,mb5.3
FRF La Foret Royal 72.16 310⇑iP P 07 37 15.2 -0.4
FRF pmax pmax
comp=Z,52nm,0.9s,mb5.4
GRN Grenoble 72.28 312⇑eP P 07 37 16.7 +0.4
ORIF Oris-en-Rattie 72.29 312⇑iP P 07 37 15.8 -0.5
comp=Z,62nm,0.6s,mb5.3
ORIF eR
comp=Z,972nm,21.5s
LMR La Mourre 72.32 310⇑iP P 07 37 16.3 -0.2
comp=Z,132nm,1.0s,mb5.4
LMR La Mourre 72.32 310⇑iP P 07 37 16.3 -0.2
LMR pmax pmax
comp=Z,66nm,1.0s,mb5.4
SMRF Simiane la Rot 72.78 311⇑iP P 07 37 19.4 +0.2
comp=Z,54nm,0.8s,mb5.1
OCF Saint Nazaire 72.78 312⇑eP P 07 37 19.7 +0.5
OG26 St.-Nazaire-De 72.78 312⇑eP P 07 37 19.7 +0.5
LOR Lormes 72.92 315⇑iP P 07 37 19.6 -0.3
comp=Z,74nm,0.8s,mb5.3
LOR eR
comp=Z,311nm,21.2s
LOR Lormes 72.92 315⇑iP P 07 37 19.6 -0.3
LOR pmax pmax
comp=Z,37nm,0.8s,mb5.3
LOR MLR MLR
comp=Z,310nm,21.3s
MENF Mencas 72.98 318⇑eP P 07 37 20.3 +0.1
VIVF Saint-Julien-l 73.12 312⇑iP P 07 37 21.1 0.0
comp=Z,88nm,0.7s,mb5.4
VIVF Saint-Julien-l 73.12 312⇑iP P 07 37 21.1 0.0
VIVF pmax pmax
comp=Z,44nm,0.7s,mb5.4
SMF Signal de Mont 73.12 314⇑iP P 07 37 21.0 -0.1
comp=Z,190nm,0.7s,mb5.7
SMF Signal de Mont 73.12 314⇑iP P 07 37 21.0 -0.1
SMF pmax pmax
comp=Z,95nm,0.7s,mb5.7
SSF Saint Saulge 73.22 314⇑iP P 07 37 21.6 0.0
comp=Z,182nm,0.9s,mb5.6
SSF Saint Saulge 73.22 314⇑iP P 07 37 21.6 0.0
SSF pmax pmax
comp=Z,91nm,0.9s,mb5.6
AVF Avril sur Loir 73.40 314⇑iP P 07 37 22.6 -0.1
comp=Z,154nm,0.9s,mb5.5
AVF Avril sur Loir 73.40 314⇑iP P 07 37 22.6 -0.1
AVF pmax pmax
comp=Z,77nm,0.9s,mb5.5
PLDF La Plantade 73.48 313⇑eP P 07 37 23.6 +0.4
COLF Collangettes 73.58 313⇑eP P 07 37 24.1 +0.3
HYF Humbligny 73.71 315⇑iP P 07 37 25.1 +0.6
CMAH Djebel Manchou 73.73 303 P P 07 37 24.0 -0.9
AGO Saint Agoulin 73.78 314⇑eP P 07 37 25.6 +0.6
ABSA Djebel Ababsia 73.80 303 P P 07 37 25.0 -0.3
BGF Bois d'Agland 73.80 314⇑iP P 07 37 25.1 0.0
comp=Z,83nm,0.8s,mb5.2
BGF Bois d'Agland 73.80 314⇑iP P 07 37 25.1 0.0
BGF pmax pmax
comp=Z,42nm,0.8s,mb5.2
LASF Ste Croix 73.92 311⇑iP P 07 37 26.1 +0.2
comp=Z,136nm,0.8s,mb5.4
PYM Petit Puy Mans 73.96 313⇑eP P 07 37 26.5 +0.5
CAEH 'Ain El Ouahch 74.11 303 P P 07 37 26.0 -1.2
EBL Broad Law 74.22 324⇑iP P 07 37 27.9 +0.6
EDI Edinburgh 74.24 325⇑eP P 07 37 27.9 +0.4
EDI AMb AMB 07 37 29.3
comp=Z,177nm,1.4s,mb5.6
KBI1 Birley Grange 74.26 322⇑eP P 07 37 27.3 -0.4
TCF Toulx Ste Croi 74.31 314⇑iP P 07 37 28.5 +0.4
comp=Z,189nm,0.8s,mb5.6
TCF Toulx Ste Croi 74.31 314⇑iP P 07 37 28.5 +0.4
TCF pmax pmax
comp=Z,94nm,0.8s,mb5.6
CKFL Kef-Lekhel 74.34 303 P P 07 37 28.0 -0.4
EAU Auchinoon 74.41 325⇑iP P 07 37 29.1 +0.7
EAU AMb AMB 07 37 31.1
comp=Z,246nm,1.6s,mb5.7
ECK Cauldkaine Hil 74.47 324⇑iP P 07 37 29.0 +0.2
ECK AMb AMB 07 37 30.6
comp=Z,83nm,1.4s,mb5.3
KWE Weaver Farm 74.52 321⇑eP P 07 37 29.3 +0.2
CASM Ain Smara 74.56 303 P P 07 37 30.0 +0.3
CKE Keswick 74.67 323⇑eP P 07 37 30.7 +0.7
EAB Aberfoyle 74.75 325⇑eP P 07 37 30.9 +0.5
EAB AMb AMB 07 37 33.1
comp=Z,107nm,1.6s,mb5.3
KAC Achnashellach 74.76 327⇑eP P 07 37 31.0 +0.6
CAF Calviac 74.86 313⇑iP P 07 37 31.7 +0.5
comp=Z,109nm,0.8s,mb5.4
CAF Calviac 74.86 313⇑iP P 07 37 31.7 +0.5
CAF pmax pmax
comp=Z,54nm,0.8s,mb5.3
XDE Dent Fell 74.91 323⇑eP P 07 37 31.5 +0.2
XDE AMb AMB 07 37 33.2
comp=Z,135nm,1.2s,mb5.6
DFRA Djebel Bou Aff 74.93 304 P P 07 37 31.0 -0.8
KPL Plockton 75.00 326⇑eP P 07 37 32.1 +0.4
LDF La Druitiere 75.02 317⇑iP P 07 37 32.1 0.0
comp=Z,137nm,0.8s,mb5.4
LDF La Druitiere 75.02 317⇑iP P 07 37 32.1 0.0
LDF pmax pmax
comp=Z,69nm,0.8s,mb5.4
RJF Les Rejaudoux 75.09 313⇑iP P 07 37 33.3 +0.7
comp=Z,182nm,0.7s,mb5.6
RJF eR
comp=Z,623nm,21.8s
RJF Les Rejaudoux 75.09 313⇑iP P 07 37 33.3 +0.7
RJF pmax pmax
comp=Z,91nm,0.7s,mb5.6
RJF MLR MLR
comp=Z,620nm,21.8s
FLN La Foliniere 75.19 317⇑iP P 07 37 33.0 0.0
comp=Z,88nm,0.9s,mb5.2
FLN eR
comp=Z,907nm,22.8s
FLN La Foliniere 75.19 317⇑iP P 07 37 33.0 0.0
FLN pmax pmax
comp=Z,44nm,0.9s,mb5.2
FLN MLR MLR
comp=Z,910nm,22.8s
CMER Merouana 75.22 303 P P 07 37 34.0 +0.5
KAR1 Arisaig 75.24 326⇑eP P 07 37 34.2 +1.0
MTLF Montolieu 75.29 311⇑iP P 07 37 33.9 +0.2
comp=Z,118nm,0.8s,mb5.4
MTLF Montolieu 75.29 311⇑iP P 07 37 33.9 +0.2
MTLF pmax pmax
comp=Z,59nm,0.8s,mb5.4
CKHR Kef el Ahmar 75.39 303 P P 07 37 35.0 +0.6
SET Setif 75.41 303 P P 07 37 36.0 +1.4
UNV Unalaska Valle 75.43 37 eP P 07 37 33.8 -0.5
KSK Scoval 75.47 327⇑eP P 07 37 35.7 +1.2
GIM North Isle of 75.52 323⇑eP P 07 37 35.7 +0.9
GRR Gorron 75.55 317⇑iP P 07 37 35.3 +0.2
comp=Z,96nm,0.8s,mb5.3
GRR Gorron 75.55 317⇑iP P 07 37 35.3 +0.2
GRR pmax pmax
comp=Z,48nm,0.8s,mb5.3
WPM1 Penmaenmawr 75.59 322⇑eP P 07 37 35.7 +0.5
WPM1 AMb AMB 07 37 38.0
comp=Z,114nm,1.2s,mb5.5
MFF Saint Martin d 75.73 315⇑iP P 07 37 36.2 0.0
comp=Z,132nm,1.2s,mb5.2
MFF Saint Martin d 75.73 315⇑iP P 07 37 36.2 0.0
MFF pmax pmax
comp=Z,66nm,1.2s,mb5.2
LFF La Frestale 75.74 313⇑iP P 07 37 36.9 +0.7
comp=Z,131nm,0.6s,mb5.5
LFF La Frestale 75.74 313⇑iP P 07 37 36.9 +0.7
LFF pmax pmax
comp=Z,66nm,0.6s,mb5.5
VALF Valcebollere 75.75 310⇑eP P 07 37 37.0 +0.6
YLL Llanberis 75.78 322⇑eP P 07 37 36.7 +0.4
YLL AMb AMB 07 37 38.4
comp=Z,120nm,1.3s,mb5.5
WLF1 Llynfaes 75.85 322⇑eP P 07 37 37.4 +0.7
WLF1 AMb AMB 07 37 38.8
comp=Z,39nm,0.6s,mb5.3
WCB1 Church Bay 75.90 322⇑eP P 07 37 37.2 +0.2
WCB1 AMb AMB 07 37 39.1
comp=Z,123nm,1.4s,mb5.5
YRC Rhoscolyn 75.97 322⇑eP P 07 37 38.2 +0.8
YRC AMb AMB 07 37 40.2
comp=Z,138nm,1.4s,mb5.5
YRE Yr Eifl 75.99 322⇑eP P 07 37 38.1 +0.6
YRE AMb AMB 07 37 39.0
comp=Z,128nm,1.2s,mb5.5
LSZ Lusaka 76.06 246⇑iP P 07 37 39.4 +0.8
comp=Z,136nm,0.9s,mb5.7
LSZ epP pP 07 38 01.4 +0.5
LSZ Lusaka 76.06 246⇑iP P 07 37 39.4 +0.8
LSZ pmax pmax
comp=Z,135nm,0.9s,mb5.7
LCHF La Chataignera 76.09 315 eP P 07 37 38.5 +0.3
MLS Moulis 76.19 311⇑eP P 07 37 38.6 -0.3
EMIR Miracle 76.26 310 P P 07 37 40.0 +0.8
comp=Z,42nm,0.6s,mb5.3
HSA Swansea 76.30 321⇑eP P 07 37 39.5 +0.3
HEX Exmoor 76.35 320⇑eP P 07 37 39.4 -0.2
TTA Tatalina 76.64 26 eP P 07 37 41.2 +0.3
SGMF Saint Gilles 76.66 317⇑iP P 07 37 41.9 +0.5
comp=Z,157nm,0.8s,mb5.5
SGMF Saint Gilles 76.66 317⇑iP P 07 37 41.9 +0.5
SGMF pmax pmax
comp=Z,78nm,0.8s,mb5.5
EPF Esparros 76.68 311⇑iP P 07 37 41.1 -0.5
comp=Z,20nm,0.7s,mb4.7
EPF Esparros 76.68 311⇑iP P 07 37 41.1 -0.5
EPF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
RESF Ens 76.77 311⇑eP P 07 37 42.9 +0.8
EPOB Poblet 76.78 309 P P 07 37 42.1 -0.1
comp=Z,29nm,0.7s,mb5.1
EBIE Bielsa 76.94 311 P P 07 37 43.8 +0.7
comp=Z,22nm,0.6s,mb5.1
VIEF Viey 76.95 311⇑eP P 07 37 43.9 +0.8
EGRA Graus 77.00 311 P P 07 37 44.2 +0.8
comp=Z,58nm,0.6s,mb5.5
DLF Lyons Farm 77.03 323⇑iP P 07 37 44.2 +0.9
DLF Lyons Farm 77.03 323⇑iP pP 07 38 06.3 +0.5
ROSF Rostrenen 77.07 317⇑iP P 07 37 44.2 +0.5
comp=Z,176nm,0.8s,mb5.5
ROSF Rostrenen 77.07 317⇑iP P 07 37 44.2 +0.5
ROSF pmax pmax
comp=Z,88nm,0.8s,mb5.5
QUIF Quistinic 77.16 317⇑iP P 07 37 44.3 +0.1
comp=Z,64nm,0.9s,mb5.1
QUIF Quistinic 77.16 317⇑iP P 07 37 44.3 +0.1
QUIF pmax pmax
comp=Z,32nm,0.9s,mb5.0
EMHD Djebel Mahouad 77.26 304 P P 07 37 46.0 +1.0
CSA1 St Austell 77.27 320⇑eP P 07 37 45.3 +0.6
ETSF Etsaut 77.35 311⇑iP P 07 37 46.0 +0.7
comp=Z,110nm,0.6s,mb5.5
ETSF Etsaut 77.35 311⇑iP P 07 37 46.0 +0.7
ETSF pmax pmax
comp=Z,55nm,0.6s,mb5.5
DCN Croghan 77.42 323⇑iP P 07 37 46.6 +1.1
DCN Croghan 77.42 323⇑iP pP 07 38 08.8 +0.9
CRQ2 Rosemanowes 2 77.50 320⇑eP P 07 37 46.3 +0.2
CRQ2 AMb AMB 07 37 47.4
comp=Z,91nm,1.2s,mb5.4
CMA1 Manaccan 77.51 319⇑iP P 07 37 46.6 +0.5
CCA1 Carnmenellis 77.53 320⇑iP P 07 37 46.7 +0.5
CGH1 Goonhilly 77.55 319⇑eP P 07 37 46.7 +0.5
CGW Gweek 77.56 319⇑iP P 07 37 46.9 +0.6
LARF Larrau 77.59 312 eP P 07 37 47.6 +1.0
SVW2 Sparrevohn 77.69 28 eP P 07 37 47.0 +0.2
SJPF Ste Jean 77.72 312⇑iP P 07 37 47.8 +0.4
comp=Z,107nm,1.0s,mb5.2
SJPF Ste Jean 77.72 312⇑iP P 07 37 47.8 +0.4
SJPF pmax pmax
comp=Z,54nm,1.0s,mb5.2
ESAC San Caprasio 77.72 310 P P 07 37 47.7 +0.3
comp=Z,44nm,0.5s,mb5.4
CPZ Penzance 77.75 320⇑iP P 07 37 48.0 +0.6
CPZ AMb AMB 07 37 48.9
comp=Z,90nm,0.9s,mb5.5
EALK Alkurruntz 77.87 312 P P 07 37 48.9 +0.7
comp=Z,31nm,0.7s,mb5.1
TOO Toolangi 78.10 141⇑iP P 07 37 49.8 +0.2
comp=Z,73nm,0.8s,mb5.5
TOO Toolangi 78.10 141⇑iP P 07 37 49.8 +0.2
TOO pmax pmax
comp=Z,73nm,0.8s,mb5.5
EMOS Mosqueruela 78.23 309 P P 07 37 51.2 +1.0
comp=Z,30nm,0.9s,mb5.0
EBNR Beni Rached 78.30 305 P P 07 37 53.0 +2.3
BORG Borgarnes 78.31 337 P P 07 37 51.9 +1.8
comp=Z,50nm,0.7s,mb5.3,baz=345,slow=6.2,SNR=14
BORG pP pP 07 38 13.4 +0.8
comp=Z,69nm,0.9s,baz=42,slow=4.9,SNR=6.1
BORG LR LR 08 14 05.1
comp=Z,419nm,19.4s,baz=128,slow=37
BORG Borgarnes 78.31 337 eP P 07 37 52.5 +2.3
comp=Z,49nm,0.8s,mb5.3
BORG epP pP 07 38 13.5 +0.8
ECHA Ech Chlef 78.47 304 P P 07 37 53.5 +1.9
ECHF Ech Chlef 78.49 304 P P 07 37 53.5 +1.8
CHGN Chignik 78.64 33 eP P 07 37 51.6 -0.5
EANR 'Ain N'Sour 78.75 304 P P 07 37 54.0 +0.8
ECRI Cripan 78.79 312 P P 07 37 53.7 +0.5
ETRT Tiaret 78.81 304 P P 07 37 55.0 +1.5
ECHE Chera 78.88 308 P P 07 37 54.4 +0.6
comp=Z,9.7nm,0.7s,mb4.7
ECHE Chera 78.88 308 P P 07 37 54.4 +0.6
ECHE pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CNB Canberra Magne 78.89 137⇑iP P 07 37 53.6 -0.4
comp=Z,150nm,0.7s,mb5.9
ILAR Eielson Array 79.11 23 P P 07 37 53.7 -0.8
comp=Z,55nm,0.8s,mb5.4,baz=281,slow=5.1,SNR=218
ILAR pP pP 07 38 16.8 -0.2
comp=Z,18nm,1.0s,baz=309,slow=12,SNR=4.8
ILAR PKKPbc 07 56 44.8
comp=Z,2.9nm,0.6s,baz=150,slow=1.8,SNR=18
ILAR PKPPKP 08 04 50.9
comp=Z,5.0nm,1.1s,baz=135,slow=2.0,SNR=9.6
ILAR LR LR 08 15 26.2
comp=Z,458nm,20.7s,baz=159,slow=38
ELAN Lanestosa 79.16 313 P P 07 37 56.1 +0.9
comp=Z,64nm,0.9s,mb5.5
VAL Valentia 79.66 323 eP P 07 37 57.1 -0.7
VAL epPCP pP 07 38 20.9 +0.6
ETOB Tobarra 79.66 308 P P 07 37 58.9 +0.9
comp=Z,19nm,0.6s,mb5.1
EMUR La Murta 79.75 307 P P 07 37 59.1 +0.5
comp=Z,16nm,0.7s,mb5.0
PMR Palmer 80.09 26 eP P 07 37 59.5 -0.4
EARI Arriondas 80.32 313 P P 07 38 01.4 0.0
comp=Z,21nm,0.7s,mb5.1
EVIA Vianos 80.35 308 P P 07 38 02.4 +0.6
comp=Z,15nm,0.6s,mb5.0
EVIA Vianos 80.35 308 P P 07 38 02.4 +0.6
EVIA pmax pmax
comp=Z,15nm,0.6s,mb5.0
ENIJ Nijar 80.81 306 P P 07 38 03.4 -0.8
comp=Z,5.7nm,0.8s,mb4.5
ENIJ Nijar 80.81 306 P P 07 38 03.4 -0.8
ENIJ pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
INK Inuvik 80.84 16 LR LR 08 18 58.9
comp=Z,519nm,18.4s,baz=288,slow=39
ESDC Sonseca Array 80.97 309 P P 07 38 05.5 +0.5

ESDC pP pP 07 38 27.5 -0.1
comp=Z,16nm,0.9s,baz=60,slow=5.5,SNR=4.7
ESDC PP PP 07 41 08.9 -3.4
comp=Z,3.0nm,0.9s,baz=57,slow=7.8,SNR=3.3
ESDC Sonseca Array 80.97 309 P **P 07 38 05.4 +0.4**
comp=Z,11nm,0.6s,mb4.8
EQES Quesada 81.10 307 P **P 07 38 06.0 +0.3**
comp=Z,47nm,0.8s,mb5.4
EBER Berja 81.34 307 P **P 07 38 08.8 +1.8**
comp=Z,19nm,0.5s,mb5.2
MENT Mentasta 81.34 23 *e*P **P 07 38 07.2 +0.8**
SLR Silverton 81.44 237 *e*P **P 07 38 09.5 +1.8**
EBAN Banos Encina 81.47 308 P **P 07 38 07.9 +0.3**
comp=Z,15nm,0.6s,mb5.0
EBAN Banos Encina 81.47 308 P **P 07 38 07.9 +0.3**
EBAN pmax pmax
comp=Z,15nm,0.6s,mb5.0
EPON Pontenova 81.59 314 P **P 07 38 08.6 +0.4**
comp=Z,24nm,0.5s,mb5.3
ECAL Calabor 81.92 312 P **P 07 38 10.6 +0.7**
comp=Z,29nm,0.7s,mb5.2
ERON Agron 81.96 307 P **P 07 38 10.0 -0.2**
comp=Z,13nm,0.8s,mb4.8
PBRG Braganca 81.98 312 *e*P **P 07 38 10.8 +0.6**
comp=Z,81nm,1.6s,mb5.3
PBRG *ep*P pP 07 38 33.5 +0.7
ERUA La Rua 81.99 313 P **P 07 38 07.6 -2.7**
EADA Adamuz 82.03 308 P **P 07 38 10.9 +0.4**
comp=Z,25nm,0.7s,mb5.2
ELUQ Luque 82.06 308 P **P 07 38 10.9 +0.1**
comp=Z,14nm,0.5s,mb5.1
ELUQ Luque 82.06 308 P **P 07 38 10.9 +0.2**
ELUQ pmax pmax
comp=Z,14nm,0.5s,mb5.0
ELOJ Sierra Loja 82.15 307 P **P 07 38 10.7 -0.5**
comp=Z,11nm,1.0s,mb4.6
ELOJ Sierra Loja 82.15 307 P **P 07 38 10.7 -0.5**
ELOJ pmax pmax
comp=Z,11nm,1.0s,mb4.6
KSR Koster 82.55 237 *e*P **P 07 38 14.9 +1.5**
ECAB El Cabril 82.67 308 P **P 07 38 14.5 +0.7**
comp=Z,35nm,0.8s,mb5.2
STS Santiago 82.71 314 P **P 07 38 15.2 +1.3**
comp=Z,19nm,0.5s,mb5.2
STS Santiago 82.71 314 P **P 07 38 15.2 +1.3**
STS pmax pmax
comp=Z,19nm,0.5s,mb5.2
PRYS Parys 82.77 236 *e*P **P 07 38 15.1 +0.5**
TAU Tasmania Unive 82.79 144⇑ *e*P **P 07 38 14.3 -0.1**
comp=Z,154nm,1.1s,mb5.7
TAU Tasmania Unive 82.79 144⇑ *e*P **P 07 38 14.3 -0.1**
TAU pmax pmax
comp=Z,154nm,1.1s,mb5.8
ELOB Lobios 82.84 313 P **P 07 38 15.7 +1.1**
comp=Z,66nm,1.2s,mb5.3
EMIJ Mijas 82.85 307 P **P 07 38 13.8 -0.9**
comp=Z,15nm,0.9s,mb4.8
PVRL Vila Real 82.87 312 *e*P **P 07 38 14.3 -0.5**
comp=Z,72nm,1.4s,mb5.3
EMAZ Mazaricos 82.96 314 P **P 07 38 16.0 +0.8**
comp=Z,30nm,0.7s,mb5.2
LBTB Lobatse 83.12 239 *e*P **P 07 38 16.9 +0.6**
LBTB Lobatse 83.12 239⇑ *i*P **P 07 38 17.7 +1.3**
comp=Z,398nm,0.7s,mb6.4
LBTB Lobatse 83.12 239⇑ *i*P **P 07 38 17.7 +1.3**
LBTB pmax pmax
comp=Z,398nm,0.7s,mb6.3
MTE Manteigas 83.14 311 *e*P **P 07 38 17.5 +1.3**
comp=Z,130nm,1.3s,mb5.6
MTE *ep*P pP 07 38 39.7 +0.9
MTE Manteigas 83.14 311 *e*LR LR 08 07 13.7
comp=Z,171nm,15.2s
MTE Manteigas 83.14 311 *e*P **P 07 38 17.4 +1.2**
comp=Z,122nm,1.3s,mb5.6
MTE *ep*P pP 07 38 40.1 +1.2
PCBR Castelo Branco 83.34 311 *e*P **P 07 38 18.4 +1.2**
comp=Z,103nm,1.3s,mb5.5
PCBR *ep*P pP 07 38 41.0 +1.1
PCBR *es*P sP 07 38 51.6 +2.5
EJIF Jimena Fronter 83.41 307 P **P 07 38 17.5 -0.1**
comp=Z,15nm,0.8s,mb4.9
EJIF Jimena Fronter 83.41 307 P **P 07 38 17.5 -0.1**
EJIF pmax pmax
comp=Z,15nm,0.8s,mb4.9
EBAD Badajoz 83.50 310 P **P 07 38 18.8 +0.7**
comp=Z,49nm,1.0s,mb5.3
ESPR Espera 83.50 308 P **P 07 38 18.6 +0.5**
comp=Z,23nm,0.8s,mb5.0
DZM Mont Dzumac 83.66 118 *e*P **P 07 38 20.3 +1.1**
DZM Mont Dzumac 83.66 118 PKKPbc 07 56 38.7
comp=Z,6.4nm,0.8s,baz=185,slow=11,SNR=5.2
DZM Mont Dzumac 83.66 118 *e*P **P 07 38 20.3 +1.1**
EMIN Mina Concepcio 83.70 309 P **P 07 38 19.7 +0.7**
comp=Z,34nm,0.8s,mb5.2
PTOM Tomar 84.09 311 *e*P **P 07 38 22.3 +1.4**
comp=Z,126nm,1.1s,mb5.7
PTOM *i*pP pP 07 38 45.2 +1.5
EVO Evora 84.30 310⇑ *i*P **P 07 38 23.5 +1.5**
comp=Z,159nm,1.3s,mb5.4
EVO *e*R
comp=Z,327nm,19.8s
MDT Midelt 84.33 303 P **P 07 38 22.6 +0.2**
comp=Z,15nm,1.0s,mb4.8,baz=76,slow=6.3,SNR=18
MDT pP pP 07 38 46.0 +1.0
comp=Z,10nm,0.9s,baz=97,slow=4.6,SNR=4.6
EGRO El Granado 84.38 309 P **P 07 38 23.4 +1.0**
comp=Z,35nm,0.8s,mb5.2
PBEJ Beja 84.43 309 *e*P **P 07 38 23.8 +1.1**
comp=Z,67nm,1.1s,mb5.4
PBEJ *i*pP pP 07 38 46.8 +1.4
SWZ Schweizer 84.44 237 *e*P **P 07 38 24.0 +1.0**
SFJD Kangerlussuaq 85.04 347⇑ *i*P **P 07 38 25.6 +0.6**
comp=Z,307nm,1.1s,mb6.2
SFJD Kangerlussuaq 85.04 347 *i*S S 07 48 39.5 -6.2
comp=Z,350nm,19.0s
HVD Hendrik Verwoe 86.09 234 *e*P **P 07 38 32.4 +1.3**
TSUM Tsumeb 86.81 247‖ *e*P **P 07 38 35.6 +0.8**
comp=Z,131nm,1.4s,mb5.7
TSUM pP pP 07 38 57.3 -0.4
YKA Yellowknife Ar 90.09 13 P **P 07 38 49.7 +0.4**
comp=Z,42nm,0.8s,mb5.7,baz=328,slow=4.3,SNR=142
YKA pP pP 07 39 12.8 +0.4
comp=Z,2.7nm,0.6s,baz=334,slow=5.5,SNR=1.3
YKA PP PP 07 42 21.8 -3.9
comp=Z,14nm,1.0s,baz=337,slow=8.0,SNR=6.1
YKA PKKPbc 07 56 18.8
comp=Z,3.8nm,0.5s,baz=159,slow=2.4,SNR=23
YKA PKPPKP 08 04 20.7
comp=Z,1.0nm,0.9s,baz=160,slow=2.9,SNR=4.6
YKA Yellowknife Ar 90.09 13 P **P 07 38 49.7 +0.4**
YKA pP pP 07 39 12.8 +0.4
YKA PP PP 07 42 21.8 -3.9
YKA PKKPbc 07 56 18.8
YKA P'P' 08 04 20.8
YKA Yellowknife Ar 90.09 13 P **P 07 38 49.7 +0.3**
YKA 07 42 21.8
SUR Sutherland 90.44 234⇑ *e*P **P 07 38 52.8 +1.0**
comp=Z,180nm,1.1s,mb6.1
MIR Mirnyy 90.89 181 *c i*P **P 07 38 54.0 +1.0**
MIR pmax pmax
comp=Z,197nm,1.4s,mb6.0
CASY Casey 91.40 174⇑ *i*P **P 07 38 55.1 -0.3**
CFTV Fuerteventura 93.60 303 P **P 07 39 07.9 +1.5**
comp=Z,23nm,0.8s,mb5.5
MAW Mawson 94.96 192⇑ *i*P **P 07 39 12.3 +0.7**
comp=Z,39nm,1.1s,mb5.8
MAW Mawson 94.96 192 P **P 07 39 11.8 +0.1**
comp=Z,57nm,1.1s,mb5.9,baz=14,slow=6.0,SNR=55
MAW PKiKP 07 43 52.2
comp=Z,5.7nm,0.8s,baz=15,slow=5.7,SNR=6.8
MAW PKKPbc 07 56 07.0
comp=Z,2.2nm,0.7s,baz=232,slow=5.6,SNR=6.7
MAW LR LR 08 18 39.8
comp=Z,231nm,21.4s,baz=31,slow=33
MAW Mawson 94.96 192⇑ *i*P **P 07 39 12.3 +0.7**
MAW pmax pmax
comp=Z,39nm,1.1s
DBIC Dimbokro 95.92 280 P **P 07 39 17.6 +0.3**
comp=Z,25nm,0.8s,mb5.7,baz=61,slow=5.1,SNR=35
DBIC pP pP 07 39 41.1 +0.7
comp=Z,15nm,0.8s,baz=31,slow=5.7,SNR=5.9
DBIC PKiKP 07 43 56.5
comp=Z,5.8nm,0.7s,baz=51,slow=7.7,SNR=3.9
DBIC PKKPbc 07 56 03.0
comp=Z,2.7nm,0.5s,baz=355,slow=3.6,SNR=6.8
DBIC LR LR 08 23 52.2
comp=Z,488nm,21.4s,baz=48,slow=36
DBIC Dimbokro 95.92 280⇑ *e*P **P 07 39 17.6 +0.4**
comp=Z,34nm,1.2s,mb5.7
DBIC *ep*P pP 07 39 41.0 +0.7
DBIC Dimbokro 95.92 280⇑ *e*P **P 07 39 17.6 +0.4**
DBIC pmax pmax
comp=Z,34nm,1.2s
KIC Kosan Boka 95.94 280 *e*PKP1 **P 07 39 18.1 +0.7**
comp=Z,159nm,1.0s,mb6.4
TIC Toumodi 96.07 280 *e*PKP1 **P 07 39 18.6 +0.7**
comp=Z,5.7nm,0.5s,mb5.3
LIC Lamto 96.26 280 *e*PKP1 **P 07 39 19.2 +0.4**
comp=Z,73nm,1.1s,mb6.0
RPZ Rata Peaks 97.41 135 P **P 07 39 22.7 -0.6**
comp=Z,14nm,0.9s,mb5.4,baz=347,slow=12,SNR=5.6
RPZ PP PP 07 43 21.6 -2.2
comp=Z,14nm,0.9s,baz=230,slow=20,SNR=4.3
EDM Edmonton 98.73 17 *e*PKKPbc 07 55 55.6
EDM *ep*PKKP 07 56 22.1
SCHQ Schefferville 99.31 349 P **P 07 39 32.2 +0.5**
comp=Z,10nm,0.5s,mb5.6,baz=33,slow=4.7,SNR=30
SCHQ PKKPbc 07 55 54.1
comp=Z,8.5nm,0.5s,baz=192,slow=2.1,SNR=26
SCHQ LR LR 08 27 59.3
comp=Z,281nm,18.5s,baz=327,slow=37
VDB Vedder Mountai 99.65 24 P **P 07 39 33.8 +0.4**
OBC Olympics--Boni 99.72 25 P **P 07 39 35.3 +1.6**
STW Striped Peak 99.78 25 P **P 07 39 36.1 +2.0**
MBW Mount Baker 99.92 24 P **P 07 39 36.0 +1.3**
CMW Cultus Mountai 100.14 24 P P 07 39 37.3 +1.7
PNT Penticton 100.28 22 P P 07 39 37.2 +1.0
RPW Rockport 100.35 24 P P 07 39 37.6 +1.1
JCW Jim Creek 100.41 24 P P 07 39 37.9 +1.1
HDW Hoodsport 100.43 25 P P 07 39 39.0 +2.1
RMW Rattlesnake Mo 101.06 24 P P 07 39 41.2 +1.4
NLW Nelson Butte 101.08 23 P P 07 39 41.2 +1.3
RVC Mount Rainier- 101.43 25 P P 07 39 43.3 +1.9
SYO Syowa Base 101.48 198‖ P P 07 39 39.2 -1.9
ETW Entiat 101.48 23 P P 07 39 42.8 +1.1
WTV Waterville 101.54 23 P P 07 39 42.5 +0.6
LON Longmire 101.65 25 P P 07 39 43.5 +1.1
TWW Teanaway 101.68 24 P P 07 39 44.3 +1.7
TBM Table Mountain 101.76 24 P P 07 39 44.1 +1.3
TDL Tradedollar La 101.83 25 P P 07 39 45.0 +1.8
EPH Ephrata 101.96 23 P P 07 39 44.7 +0.9
EBG Ellensburg 101.99 24 P P 07 39 45.4 +1.5
WRD Warden 102.59 23 P Pdif 07 39 47.4 +0.8
CHMT Chamberlain Mo 104.44 19 *e*PKKPab 07 55 59.4
ULM Lac du Bonnet 104.88 7 Pdiff Pdif 07 39 55.5 -1.1
comp=Z,7.7nm,0.9s,baz=330,slow=5.8,SNR=9.6
ULM PKiKP 07 44 10.7
comp=Z,5.7nm,0.7s,baz=21,slow=3.7,SNR=5.0
ULM PKKPbc 07 55 37.6
comp=Z,5.9nm,0.7s,baz=198,slow=2.6,SNR=10
ULM Lac du Bonnet 104.88 7 Pdif Pdif 07 39 55.5 -1.1
DLMT Dillon 106.04 20 *e*Pdif Pdif 07 40 02.2 +0.4
DLMT *e*PKiKP 07 44 14.4
DLMT *e*PP PP 07 44 26.3 -2.5
DLMT *e*PKKPbc 07 55 35.7
DLMT *e*PKKPdf 07 55 47.2
MOD Modoc 106.30 27 *e*Pdif Pdif 07 40 04.8 +1.8
comp=Z,8.2nm,1.1s
MOD *e*PKiKP 07 44 14.8
MCMT McKenzie Canyo 106.44 20 *e*PKiKP 07 44 14.8
WVOR Wild Horse Val 106.51 25 *e*Pdif Pdif 07 40 03.6 -0.3
comp=Z,6.9nm,0.9s
WVOR *e*PKKPbc 07 55 34.9
WVOR Wild Horse Val 106.51 25 P Pdif 07 40 06.5 +2.6
WVOR pmax pmax
comp=Z,7.0nm,0.9s
YMR Madison River 107.16 19 *e*PKKPbc 07 55 32.2
YMR *e* 07 55 47.5
YFT Old Faithful 107.39 19 *e*PKKPbc 07 55 32.4
FLWY Flagg Ranch 107.77 19 *e*Pdif Pdif 07 40 11.7 +2.3
LOHW Long Hollow 108.22 19 *e*PKPdf 07 44 18.2
LOHW *e*PP PP 07 44 42.8 -2.6
LOHW *e*PKKPbc 07 55 29.0
LOHW *e*PKKPdf 07 55 42.0
RRI2 Red Ridge 108.25 20 *e*PKKPbc 07 55 28.9
SNOW Snow King Moun 108.32 19 *e*PKiKP 07 44 18.8
REDW Red Top Meadow 108.38 19 *e*PKiKP 07 44 18.7
REDW PKKPdf 07 55 41.2
AHID Auburn Hatcher 108.84 20 *e*PKKPbc 07 55 26.7
AHID *e*PKKPdf 07 55 39.9
VNDA Vanda 109.10 168 Pdiff Pdif 07 40 14.2 -0.4
comp=Z,1.5nm,0.6s,baz=320,slow=4.4,SNR=7.9
VNDA PKiKP 07 44 18.1
comp=Z,5.3nm,0.9s,baz=285,slow=4.7,SNR=11
VNDA PKKPbc 07 55 25.6
comp=Z,11nm,0.8s,baz=125,slow=2.0,SNR=29
PDAR Pinedale Array 109.31 19 Pdiff Pdif 07 40 17.0 +0.8
comp=Z,0.9nm,0.8s,slow=1.5,SNR=3.6
PDAR PKiKP 07 44 19.6
comp=Z,3.8nm,0.8s,baz=158,slow=2.2,SNR=17
PDAR PKKPbc 07 55 24.4
comp=Z,3.0nm,0.9s,baz=148,slow=4.2,SNR=9.8
PDAR PKKPab 07 55 37.0
comp=Z,6.0nm,0.8s,baz=134,slow=5.6,SNR=14
HWUT Hardware Ranch 109.75 21 *e*PKiKP 07 44 20.7
HWUT *e*PKKPbc 07 55 23.4
HWUT *e* 07 55 35.2
NVAR Mina Array Bea 110.05 27 Pdiff Pdif 07 40 21.6 +2.0
comp=Z,1.7nm,0.7s,baz=336,slow=2.8,SNR=10
NVAR PKiKP 07 44 22.4
comp=Z,3.4nm,0.8s,baz=348,slow=1.5,SNR=12
NVAR PKKPbc 07 55 23.6
comp=Z,3.0nm,0.8s,baz=138,slow=5.2,SNR=9.3
NVAR PKPPKP 08 03 46.2
comp=Z,0.7nm,0.9s,baz=200,slow=4.8,SNR=4.2
FRNY Flat Rock 110.07 351 *e*PKiKP 07 44 20.6
MNV Mina 110.11 27 *e*PKiKP 07 44 22.1
SBA Scott Base 110.20 168 *e*PKiKP 07 44 20.9
SBA *e*PKKPbc 07 55 23.1
CTU Camp Tracy 110.51 21 *e*PKKPbc 07 55 21.3
DUG Dugway 110.60 22 *e*PKKPbc 07 55 21.1
DUG *e*PKKPab 07 55 31.8
NVL N'lazarevskaya 110.71 201 *e*PKiKP PKPdf 07 44 21.0 +0.7
NVL *e*S SKS 07 50 54.9 +2.9
NVL pmax pmax
comp=Z,1.0nm,0.5s
MIV Mineville/With 110.81 351 *e*PKiKP 07 44 22.5
DAU Daniels Canyon 110.92 21 *e*PKiKP 07 44 23.3
DAU *e*PKKPbc 07 55 20.3
DAU *e* 07 55 30.6
DAU Daniels Canyon 110.92 21 *e*PKIKP PKPdf 07 44 23.3 +1.9
DAU *e* 07 55 30.6
RWWY Rawlins 110.97 17 *e*PKiKP 07 44 22.5
RWWY *e*PP PP 07 45 00.9 -4.4
RWWY *e*PKKPbc 07 55 19.7
RWWY *e* 07 55 29.8
MPU Maple Canyon 111.16 21 *e*PKKPbc 07 55 19.4
MPU *e*PKKPab 07 55 29.6
PHWY Pilot Hill 111.79 16 *e*PKiKP 07 44 24.2
PHWY *e*PKKPbc 07 55 16.7
PHWY *e* 07 55 26.4
TMUT Trail Mountain 111.95 21 *e*PKiKP 07 44 23.4
TMUT *e*PKKPbc 07 55 17.0
TMUT *e* 07 55 26.3
MSU Marysvale 112.32 23 *e*Pdif Pdif 07 40 31.4 +1.8
MSU *e*PKiKP 07 44 26.5
MSU *e*PKKPbc 07 55 16.1
MSU Marysvale 112.32 23 *e*P Pdif 07 40 31.4 +1.8
MSU *i* 07 44 26.5
SRU San Rafael 112.34 21 PKiKP 07 44 25.4
SRU *e*PKKPbc 07 55 14.3
SRU *e* 07 55 23.7
ARUT Antelope Range 112.51 24 *e*PKKPbc 07 55 15.3
ARUT *e*PKKPab 07 55 24.3
PV10 Paradox Valley 113.49 20 *e*PKiKP 07 44 29.0
NEN Nelson 113.85 26 *e*PKiKP 07 44 29.0
NEN *e*PKKPbc 07 55 10.4
NEN *e* 07 55 17.7
PV01 Paradox Valley 113.86 20 Pdif Pdif 07 40 38.7 +2.4
PV01 *e*PKPdf PKPdf 07 44 28.0 +0.8
PV01 *e*PKKPbc 07 55 10.1
PV01 *e*PKKPab 07 55 17.1
QSPA South Pole Qui 114.42 180 *e*P PKPdf 07 44 28.5 +1.0
SDCO Great Sand Dun 115.12 18 *e*PKiKP 07 44 30.9
SDCO *e*PP PP 07 45 30.2 -5.3
SDCO *e*PKKPbc 07 55 06.1
MVL Millersville 115.19 352 *e*PKPdf PKPdf 07 44 31.2 +1.4
MVL *e*PKKPbc 07 55 04.2
MVL *i* PKKPab 07 55 10.7
WUAZ Wupatki 115.29 23 *e*PKPdf PKPdf 07 44 32.1 +1.9
WUAZ *e*PKKPbc 07 55 06.0
WUAZ *e* 07 55 11.8
ACSO Alum Creek Sta 115.45 358 *e*PKPdf PKPdf 07 44 31.1 +0.7
CBKS Cedar Bluff 115.46 12 *e*PKPdf PKPdf 07 44 31.2 +0.8
CBKS *e*PKKPbc 07 55 04.5
CBKS *e*PKKPab 07 55 10.1
CBKS Cedar Bluff 115.46 12 *e*PKIKP PKPdf 07 44 31.2 +0.8
CBKS *e* 07 55 10.1
SNAA Sanae 115.53 200 PKP PKPdf 07 44 30.6 +0.8
comp=Z,3.3nm,0.8s,baz=139,slow=2.8,SNR=31
KSU1 Kansas State U 115.73 10 *e*PKPdf PKPdf 07 44 31.9 +0.9
BLO Bloomington 116.54 1 *e*PKPdf PKPdf 07 44 33.5 +1.1
BLO *e*PKKPbc 07 55 00.0
BLO *e* 07 55 03.8
SLM Saint Louis 116.91 4 *e*PKPdf PKPdf 07 44 33.6 +0.5
VNA2 Neumayer--Watz 117.01 201 *e* PKPdf 07 44 35.1 +2.5
VNA2 Neumayer--Watz 117.01 201 *e* PKPdf 07 45 01.1 +29
VNA2 Neumayer--Watz 117.01 201 *e* PKPdf 07 45 11.0 +38
VNA2 Neumayer--Watz 117.01 201⇑ *i*PKPdf PKPdf 07 44 34.0 +1.4
VNA2 *e* 07 44 35.1
VNA2 *e* 07 45 01.1
VNA2 *e* 07 45 11.0
VNA2 *e* 07 48 01.2
VNA2 *e* 07 51 14.9
VNA2 *e* 07 52 31.5
VNA2 *e* 07 54 58.9
VNA2 *e* 07 55 02.0
VNA2 *e* 07 55 19.1
VNA1 Neumayer--Stat 117.31 201 *e* PKPdf 07 44 35.7 +2.6
VNA1 Neumayer--Stat 117.31 201 *e* PKPdf 07 45 02.0 +29
VNA1 Neumayer--Stat 117.31 201 *e* PKPdf 07 45 11.4 +38
VNA1 Neumayer--Stat 117.31 201⇑ *i*PKPdf PKPdf 07 44 34.7 +1.6
VNA1 *e* 07 44 35.7
VNA1 *e* 07 45 02.0
VNA1 *e* 07 45 11.4
VNA1 *e* 07 48 01.8
VNA1 *e* 07 51 19.2
VNA1 *e* 07 54 58.1
VNA1 *e* 07 55 01.7
VNA1 *e* 07 55 17.7
ANMO Albuquerque 117.44 20 PKKPbc 07 54 56.4
comp=Z,3.6nm,0.5s,baz=144,slow=5.6,SNR=12
ANMO Albuquerque 117.44 20 *e*PKPdf PKPdf 07 44 36.0 +1.8
ANMO *ep*PKPdf 07 44 59.8
ANMO *e*SKPdf 07 48 03.3
ANMO *e*PKKPbc 07 54 58.0
WCI Wyandotte Cave 117.48 1 *e*PKPdf PKPdf 07 44 34.9 +0.7
FVM French Village 117.55 5 *e*PKPdf PKPdf 07 44 35.0 +0.7
VNA3 Neumayer Olymp 117.72 201 *e* PKPdf 07 44 36.0 +2.1
VNA3 Neumayer Olymp 117.72 201 *e* PKPdf 07 45 02.9 +29
VNA3 Neumayer Olymp 117.72 201 *e* PKPdf 07 45 12.7 +39
VNA3 Neumayer Olymp 117.72 201⇑ *i*PKPdf PKPdf 07 44 35.0 +1.1
VNA3 *e* 07 44 36.0
VNA3 *e* 07 45 02.9
VNA3 *e* 07 45 12.7
VNA3 *e* 07 48 02.2
VNA3 *e* 07 51 21.5
VNA3 *e* 07 52 29.5
VNA3 *e* 07 54 56.6
VNA3 *e* 07 54 59.8
VNA3 *e* 07 55 15.6
FWV Forest Hill 118.00 356 *e*PKPdf PKPdf 07 44 36.2 +0.9
ELN Prospectdale 118.34 356 *e*PKPdf PKPdf 07 44 36.8 +0.8
ELN *e*PKKPbc 07 54 53.5
PARMO Parma 118.91 4 *e*PKPdf PKPdf 07 44 38.4 +1.3
UTMT University of 119.28 3 *e*PKPdf PKPdf 07 44 39.3 +1.5
GLAT Glass 119.33 4 *e*PKPdf PKPdf 07 44 39.2 +1.3
GLAT *e*PKKPbc 07 54 50.2
WVT Waverly 119.54 2 *e*Pdif Pdif 07 41 04.4 +3.0
WVT *e*PKPdf PKPdf 07 44 39.1 +0.8
WVT *e*PKKPbc 07 54 48.6
GNAR Gosnell 119.58 4 *e*PKPdf PKPdf 07 44 39.8 +1.4
HBAR Harrisburg 119.94 5 *e*PKPdf PKPdf 07 44 40.5 +1.4
CPCT Cooper Cave 120.26 359 *e*PKPdf PKPdf 07 44 40.9 +1.1
CPCT *ep*PKPdf 07 45 04.2
CPCT *e*PKKPbc 07 54 45.8
SWET Sewanee 120.49 1 *e*PKPdf PKPdf 07 44 39.5 -0.7
SWET *e*PKKPbc 07 54 43.9
PLAL Pickwick Lake 120.67 3 *e*PKPdf PKPdf 07 44 40.9 +0.3
MNTX Cornudas Mount 120.79 20 *e*PKPdf PKPdf 07 44 42.3 +1.4
MNTX *e*PKKPbc 07 54 44.9
OXF Oxford 121.07 4 *e*PKPdf PKPdf 07 44 41.9 +0.5
OXF *e*PKKPbc 07 54 43.1
JSC Jenkinsville 121.31 356 *e*PKPdf PKPdf 07 44 42.8 +1.0
GOGA Godfrey 122.27 358 *e*PKPdf PKPdf 07 44 45.0 +1.4
RGRS Roger Stewart 122.60 355 *e*PKPdf PKPdf 07 44 45.9 +1.6
LRAL Lakeview Retre 122.65 2 *e*PKPdf PKPdf 07 44 44.9 +0.5
LRAL *e*PKKPbc 07 54 37.9
NATX Nacogdoches 123.23 10 *e*PKPdf PKPdf 07 44 46.9 +1.3
TXAR Lajitas Array 123.52 19 PKP PKPdf 07 44 47.7 +1.5
comp=Z,24nm,0.9s,baz=243,slow=0.8,SNR=95
TXAR PKKPbc 07 54 35.5
comp=Z,3.2nm,1.0s,baz=156,slow=7.2,SNR=13
TXAR Lajitas Array 123.52 19 PKP PKPdf 07 44 47.7 +1.5
TXAR PKKPbc 07 54 35.5
RCBR Riachuelo 129.17 283 *e*PKPdf PKPdf 07 44 58.6 +1.1
SJG San Juan 133.63 335 *e*PKPdf PKPdf 07 45 06.8 +1.0
SJG *e*SKPbc 07 48 27.0
CRM Caravelle 134.23 326 *e*P PKPdf 07 45 09.3 +2.4
FDF Fort de France 134.36 326 *e*P PKPdf 07 45 09.2 +2.0
BNJ Bonny Gate 136.56 348‖ *i*P PKPdf 07 45 13.8 +2.7
CMJ Castle Mountai 136.64 348‖ *e*P PKPdf 07 45 12.7 +1.5
CVJ Coleyville 136.76 349⇑ *e*P PKPdf 07 45 14.0 +2.5
GWJ Greenwich 136.76 348‖ *i*P PKPdf 07 45 14.3 +2.8
STH Stony Hill 136.78 348⇑ *i*P PKPdf 07 45 14.0 +2.5
MCJ Malvern 137.08 349‖ *e*P PKPdf 07 45 14.4 +2.3
CAM4 Nova Friburgo 140.90 264 *e*P PKPdf 07 45 13.9 -5.2
CAM4 *i* 07 45 16.4
CAM4 *i* 07 45 21.3
CAM4 *i* 07 45 23.1
CAM4 *i* 07 45 25.8
CAM4 *i* 07 45 29.1
SDV Santo Domingo 143.78 335 PKP PKPdf 07 45 23.7 -0.5
comp=Z,680nm,0.9s,baz=91,slow=2.4,SNR=624
SDV Santo Domingo 143.78 335 *e*PKPpre 07 45 23.7
SDV *e*SKPbc 07 48 57.7
BDFB Brasilia 144.01 277 PKP PKPdf 07 45 24.9 +0.4
comp=Z,70nm,0.7s,baz=97,slow=2.1,SNR=143
EFI East Falkland 145.92 211 *e*PKP PKPdf 07 45 28.4 +1.6
USHA Ushuaia 147.34 198 PKPbc PKPdf 07 45 33.3 +4.2
comp=Z,200nm,0.8s,baz=93,slow=4.3,SNR=80
ROSC El Rosal 148.84 339 PKP PKPdf 07 45 36.1 +3.4
comp=Z,498nm,0.7s,baz=96,slow=1.8,SNR=160
ROSC PKPbc PKPdf 07 45 40.4 +7.6
comp=Z,1μm,0.8s,baz=91,slow=16,SNR=321
SAML Samuel 153.82 303 *e*PKPdf PKPdf 07 45 42.1 +2.0
SAML *e*PKPbc PKPdf 07 45 50.5 +10
CPUP Villa Florida 154.75 260 *e*PKPdf PKPdf 07 45 42.6 +1.6
CPUP *e*PKPbc PKPdf 07 45 50.9 +10
PAYG Puerto Ayora 155.71 12 *e*PKPab PKPab 07 46 11.8 -0.1
SIV San Ignacio 155.78 286 PKP PKPdf 07 45 44.6 +2.0
comp=Z,17nm,1.0s,baz=106,slow=2.9,SNR=43
SIV PKPab PKPab 07 46 11.9 -0.2
comp=Z,16nm,0.8s,baz=101,slow=11,SNR=4.7
TRQA Tornquist 156.11 230 *e*PKPdf PKPdf 07 45 44.4 +1.9
TRQA *e*PKPab PKPab 07 46 11.9 -1.0
TRQA *e*PP PP 07 49 48.9 -2.6
PLCA Paso Flores 159.76 214 PKP PKPdf 07 45 48.9 +2.1
comp=Z,43nm,1.0s,baz=142,slow=1.3,SNR=47
PLCA PKPab PKPab 07 46 27.1 -1.5
comp=Z,26nm,0.8s,baz=137,slow=3.6,SNR=17
PLCA Paso Flores 159.76 214 *e*PKIKP PKPdf 07 45 49.4 +2.5
PLCA *e* 07 46 27.4
LPAZ La Paz 161.96 294 PKP PKPdf 07 45 52.8 +3.1
comp=Z,26nm,1.0s,baz=39,slow=3.8,SNR=70
LPAZ PKPab PKPab 07 46 38.2 -0.5
comp=Z,17nm,0.9s,baz=32,slow=6.7,SNR=5.9
LPAZ La Paz 161.96 294 *e*PKIKP PKPdf 07 45 52.4 +2.7
LPAZ *e* 07 46 38.0
MDZ Mendoza 163.44 236 *e*P PKPdf 07 45 54.5 +3.7
MDZ *e* 07 46 45.4
CFAA Coronel Fontan 163.46 241 PKP PKPdf 07 45 53.6 +2.7
comp=Z,9.8nm,1.0s,baz=129,slow=0.3,SNR=134
FCH Farellones 164.30 233 *i*P PKPdf 07 45 53.6 +2.0
FCH *i* 07 46 48.8
CLCH Cerro Calan 164.45 232⇑ *i*P PKPdf 07 45 54.2 +2.4
CLCH *i* 07 46 49.0
ARE Arequipa 164.78 300 *e*P PKPdf 07 45 56.0 +3.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LVC	Limon Verde	164.89	274	PKP	PKPdf	07 45 55.9	+3.4
	comp=Z,29nm,1.1s,baz=214,slow=0.8,SNR=18						
LVC				PKPab	PKPab	07 46 51.5	+0.2
	comp=Z,21nm,0.8s,baz=67,slow=4.0,SNR=9.5						
LVC	Limon Verde	164.89	274	*e*PKPdf	PKPdf	07 45 55.4	+2.9
LVC				*e*PKPab	PKPab	07 46 51.8	+0.5

WEL 18 07:33:31.5±0.4, 38.90S×175.45E, h117km±3km, ML3.6/8, Error ellipse: s-maj=2.9km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	Ngauruhoe	0.30	157	PN	P	07 33 48.3	+0.2
NGZ				*e*SN	S	07 34 01.3	+0.5
FWVZ	Far West T-bar	0.37	168	*e*PN	P	07 33 48.5	+0.1
PKVZ	Pokaka	0.40	192	*e*PN	P	07 33 48.3	-0.3
TRVZ	Turoa	0.41	169	PN	P	07 33 48.9	+0.3
WNVZ	Wahianoa	0.44	165	*e*PN	P	07 33 48.9	0.0
MTVZ	Mangateitei	0.49	178	PN	P	07 33 49.0	-0.2
MOVZ	Moawhango	0.56	155	PN	P	07 33 49.1	-0.5
MOVZ				SN	S	07 34 02.8	-0.6
VRZ	Vera Road	0.58	247	*e*PN	P	07 33 49.5	-0.3
HIZ	Hauiti	0.60	309	PN	P	07 33 49.4	-0.4
WAZ	Wanganui	0.93	203	*e*PN	P	07 33 52.7	-0.1
WAZ				*e*SN	S	07 34 08.3	-0.5
TSZ	Takapari Road	1.23	161	PN	P	07 33 55.7	-0.3
TSZ				*e*SN	S	07 34 12.7	-1.7
PXZ	Pawanui	1.57	136	PN	P	07 33 59.4	-0.7
PXZ				SN	S	07 34 20.9	-0.7
KNZ	Kokohu	1.74	95	*e*PN	P	07 34 01.4	-0.6
MRZ	Mangatainoka R	1.76	177	PN	P	07 34 01.0	-1.3
MRZ				SN	S	07 34 22.4	-3.1
BFZ	Birch Farm	1.88	161	PN	P	07 34 02.6	-1.1
CAW	Cannon Point	2.23	187	PN	P	07 34 06.3	-1.9
MTW	Mount Morrison	2.26	179	PN	P	07 34 06.4	-2.3
TCW	Tory Channel	2.48	201	SN	S	07 34 37.3	-4.6
TRWZ	Traveller	2.50	176	*e*PN	P	07 34 09.4	-2.6
MSWZ	Moikau Station	2.52	183	PN	P	07 34 09.4	-2.7
MSWZ				*e*SN	S	07 34 36.8	-6.0

*BJI **18** 08:11:11.6, 2.39N×94.14E, h29km, mB5.1, mb4.8, Ms4.9, Msz4.8*
*MOS **18** 08:11:13.2±1.1, 2.82N×94.24E, h33km, mb5.1/29, Error ellipse: s-maj=12.9km s-min=6.2km az=111.1*
*NEIC **18** 08:11:14.5±0.2, 2.74N×94.19E, mb4.8/18, Error ellipse: s-maj=7.5km s-min=4.9km az=220.0*
*IDC **18** 08:11:14.5±0.4, 2.74N×94.16E, h29km±2km, mb4.2/21, mb1 4.3/21, mb1mx4.3/24, mbtmp4.4/21, MS4.0/8, Ms1 4.0/8, ms1mx3.8/28, Error ellipse: s-maj=13.9km s-min=9.4km az=52.0*
ISC 18 08:11:12.6±0.3, 2.79N±0.05×94.23E±0.04, h29km, h29km±.4km:pP-P, n142, σ1§07/134, mb4.7/73, MS4.4/20, 7C-8D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.87	69	*e*P	Pn	08 12 53.5	-0.6
IPM	Ipoh	7.01	75	P	Pn	08 12 56.1	0.0
SNG	Songkhla	7.71	55	P	Pn	08 13 05.0	-0.9
PBA	Port Blair	8.94	351	*i* x	x	08 13 34.8	
PBA				*e*x	x	08 18 53.0	
KGM	Kluang	9.12	95	P	P	08 13 24.8	-0.6
NST	Nakhon Sawan	14.06	24	P	P	08 14 23.8	-8.6
KSM	Kuching	16.12	94	*e*P	P	08 14 60.0	+0.9
CHG	Chiang Mai	16.59	16	P	P	08 15 15.5	+11
VIS	Vishakhapatnam	18.29	325	*i* P	P	08 15 26.2	-0.1
VIS				*e*S	S	08 18 54.8	+8.6
KKM	Kota Kinabalu	22.16	81	*e*P	P	08 16 07.7	-0.2
BOK	Bokaro	22.39	340	*e*P	P	08 16 10.5	+0.3
BOK				AMb	AMB	08 16 14.2	
	comp=Z,53nm,2.3s,mb4.6						
BOK				*e*x	x	08 20 32.8	
NGP	Nagpur	23.49	322	*e*P	P	08 16 20.1	-1.0
NGP				AMb	AMB	08 16 45.9	
	comp=Z,44nm,1.5s,mb4.7						
KMI	Kunming	23.68	20	⇑P	P	08 16 24.9	+2.1
KMI				AP		08 16 32.8	
KMI				XP		08 16 37.1	
KMI				PP	PP	08 16 58.1	+2.3
KMI				S	S	08 20 32.6	+0.3
KMI				AMB	AMB		
	comp=Z,31nm,1.4s,mb4.5						
KMI				AMB	AMB		
	comp=Z,341nm,4.8s						
KMI				LR	LR		
	comp=N,2μm,9.8s						
KMI				LR	LR		
	comp=E,1μm,9.9s						
KMI				LR	LR		
	comp=Z,2μm,10.7s,MS4.8						
KAD	Karad	24.41	308	*i* P	P	08 16 32.8	+2.8
KAD				AMb	AMB	08 16 49.7	
	comp=Z,43nm,1.4s,mb4.7						
BHPL	Bhopal	26.05	323	*i* P	P	08 16 46.0	+0.6
BHPL				AMb	AMB	08 16 51.7	
	comp=Z,21nm,1.5s,mb4.5						
BHPL				*e*x	x	08 20 42.8	
PKI	Pulchoki	26.05	342	*e*P	P	08 16 46.4	+0.9
	comp=Z,47nm,1.3s,mb4.9						
PKI	Pulchoki	26.05	342	*e*P	P	08 16 46.4	+0.9
PKI				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.5						
DMN	Daman	26.18	341	*e*P	P	08 16 47.5	+0.8
	comp=Z,49nm,1.0s,mb5.0						
GUN	Gumba	26.23	343	*e*P	P	08 16 48.0	+0.9
	comp=Z,67nm,1.2s,mb5.1						
KKN	Kakani	26.29	342	*e*P	P	08 16 47.9	+0.2
	comp=Z,105nm,1.6s,mb5.1						
GYA	Guiyang	26.39	26	P	P	08 16 52.8	+4.2
GYA				AP	pP	08 17 01.6	+4.4
GYA				XP	sP	08 17 05.4	+4.3
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
GYA				AMB	AMB		
	comp=Z,460nm,5.0s						
GYA				LR	LR		
	comp=N,2μm,13.8s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,13.5s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,12.3s,MS4.7						
GKN	Gorkha	26.70	341	*e*P	P	08 16 51.3	-0.1
	comp=Z,45nm,1.0s,mb5.0						
KOLN	Koldanda	26.84	339	*e*P	P	08 16 52.7	0.0
	comp=Z,80nm,1.4s,mb5.1						
LSA	Lhasa	26.93	354	*e*P	P	08 16 55.0	+1.5
	comp=Z,22nm,0.7s,mb4.8						
LSA	Lhasa	26.93	354	*e*P	P	08 16 55.0	+1.5
LSA				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.8						
WHN	Wuhan	33.54	32	*e*P	P	08 17 52.9	+0.7
WHN				LR	LR		
	comp=Z,2μm,14.2s,MS5.0						
XAN	Xi'an	33.98	22	P	P	08 17 54.9	-1.1
XAN				AP	pP	08 18 03.9	-0.8
XAN				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.8						
LZH	Lanzhou	34.31	14	*e*P	P	08 18 06.6	+7.8
LZH				AP	pP	08 18 14.5	+7.0
LZH				PP	PP	08 19 23.0	+8.7
LZH				*e*S	S	08 23 31.0	+7.9
LZH				XS		08 23 44.5	
LZH				SS	SS	08 25 41.0	+7.4
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,129nm,4.4s						
LZH				LR	LR		
	comp=E,1μm,13.1s						
LZH				LR	LR		
	comp=Z,2μm,14.5s,MS5.0						
MBWA	Marble Bar	34.50	135	*e*P	P	08 18 00.9	+0.4
	comp=Z,18nm,0.9s,mb5.0						
GTA	Gaotai	36.81	7	P	P	08 18 20.3	+0.4
GTA				AP	pP	08 18 29.4	+0.7
GTA				XP	sP	08 18 33.8	+1.4
GTA				S	S	08 24 08.0	+6.4
GTA				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.8						
GTA				AMB	AMB		
	comp=Z,263nm,8.4s						
GTA				LR	LR		
	comp=N,328nm,10.7s,MS4.5						
GTA				LR	LR		
	comp=E,352nm,14.5s,MS4.5						
GTA				LR	LR		
	comp=Z,390nm,12.6s,MS4.4						
NJ2	Nanjing	37.20	36	*e*P	P	08 18 22.6	-0.7
NJ2				AP	pP	08 18 32.8	+0.7
NJ2				XP	sP	08 18 36.4	+0.6
NJ2				PP	PP	08 19 50.3	-0.4
NJ2				S	S	08 24 05.0	-2.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,224nm,5.4s						
NJ2				LR	LR		
	comp=N,1μm,11.3s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,13.8s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,13.2s,MS4.8						
FITZ	Fitzroy Crossi	37.26	125	*e*P	P	08 18 23.7	-0.2
	comp=Z,8.2nm,1.1s,mb4.5						
FITZ				*i*	pP	08 18 32.3	-0.4
FITZ	Fitzroy Crossi	37.26	125	P	P	08 18 23.8	-0.2
	comp=Z,9.5nm,0.9s,mb4.6,baz=278,slow=2.2,SNR=6.5						
FITZ				pP	pP	08 18 32.5	-0.2
	comp=Z,27nm,0.9s,baz=318,slow=2.3,SNR=12						
FITZ				pPcP		08 20 52.9	
	comp=Z,14nm,0.9s,baz=6.1,slow=2.4,SNR=5.5						
SSE	Sheshan	37.95	39	P	P	08 18 28.3	-1.3
SSE				AP	pP	08 18 37.3	-1.1
SSE				XP	sP	08 18 41.0	-1.1
SSE				S	S	08 24 18.5	-0.7
SSE				SS	SS	08 27 05.3	+8.9
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,252nm,9.8s						
SSE				LR	LR		
	comp=N,291nm,19.6s,MS4.1						
SSE				LR	LR		
	comp=E,122nm,19.7s,MS4.1						
SSE				LR	LR		
	comp=Z,437nm,15.9s,MS4.4						
JOW	Kunigami	40.43	50	P	P	08 18 51.2	+1.0
	comp=Z,14nm,0.7s,mb4.8,baz=277,slow=21,SNR=4.8						
KAKA	Kakadu	40.95	113	*e*P	P	08 19 13.3	+19
	comp=Z,15nm,0.9s,mb4.6						
KAKA				*i*	pP	08 19 22.3	+19
HHC	Hu-ho-hao-te	41.00	20	⇑P	P	08 18 56.0	+1.2
HHC				AP	pP	08 19 05.0	+1.4
HHC				XP	sP	08 19 09.4	+2.2
HHC				PCP	PcP	08 20 56.8	+1.7
HHC				SCP		08 24 41.5	
HHC				PCS		08 24 46.3	
HHC				S	S	08 25 05.5	+0.7
HHC				XS		08 25 22.6	
HHC				SCS	ScS	08 28 57.3	+2.1
HHC				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,235nm,6.3s						
HHC				LR	LR		
	comp=N,515nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=E,737nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=Z,617nm,14.3s,MS4.6						
WMQ	Urumqi	41.27	353	P	P	08 18 58.9	+1.9
WMQ				AP	pP	08 19 07.0	+1.2
WMQ				XP	sP	08 19 10.0	+0.5
WMQ				PP	PP	08 20 38.0	+2.7
WMQ				SCP		08 24 45.0	
WMQ				S	S	08 25 11.0	+2.1
WMQ				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,145nm,6.4s						
WMQ				LR	LR		
	comp=N,133nm,25.3s,MS3.9						
WMQ				LR	LR		
	comp=E,191nm,25.7s,MS3.9						
WMQ				LR	LR		
	comp=Z,180nm,20.5s						
AAK	Ala-Archa	43.41	339	*e*P	P	08 19 12.1	-2.5
FRU	Bishkek	43.55	339	*e*P	P	08 19 16.0	+0.4
FRU				pmax	pmax		
	comp=Z,45nm,2.1s,mb4.8						
MKAR	Makanchi Array	45.05	348	P	P	08 19 28.2	+0.5
	comp=Z,5.1nm,0.5s,mb4.6,baz=165,slow=8.8,SNR=62						
MKAR				pP	pP	08 19 37.5	+1.0
	comp=Z,11nm,0.7s,baz=166,slow=8.3,SNR=20						
MKAR				LR	LR	08 41 01.9	
	comp=Z,217nm,20.2s,MS4.1,baz=172,slow=40						
KKAR	Karatay Array	45.36	336	*i* P	P	08 19 30.2	0.0
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
WRA	Warramunga Arr	45.39	122	P	P	08 19 30.9	+0.1
	comp=Z,19nm,1.0s,mb4.9,baz=300,slow=9.0,SNR=56						
WRA				pP	pP	08 19 40.2	+0.6
	comp=Z,22nm,0.9s,baz=300,slow=9.0,SNR=25						
WRA				PcP	PcP	08 21 10.5	+0.2
	comp=Z,0.9nm,0.9s,baz=310,slow=2.9,SNR=5.8						
WRA				pPcP		08 21 19.0	
	comp=Z,2.2nm,0.9s,baz=310,slow=2.9,SNR=4.5						
WRAB	Tennant Creek	45.39	122⇓	*i*P	P	08 19 30.5	-0.3
WB2	Warramunga Arr	45.40	122⇓	*i*P	P	08 19 31.3	+0.5
WB2				*i*	pP	08 19 40.4	+0.7
JNU	Nakatsue	45.67	44	P	P	08 19 33.9	+1.1
	comp=Z,12nm,1.1s,mb4.8,baz=250,slow=13,SNR=5.0						
JNU				pP	pP	08 19 42.2	+0.6
	comp=Z,9.5nm,0.9s,baz=205,slow=10,SNR=4.0						
SONM	Songino Array	46.09	11	P	P	08 19 36.5	+0.6
	comp=Z,10nm,1.1s,mb4.7,baz=195,slow=8.4,SNR=39						
SONM				pP	pP	08 19 45.4	+0.7
	comp=Z,8.6nm,1.0s,baz=194,slow=8.2,SNR=11						
SONM				PcP	PcP	08 21 12.3	0.0
	comp=Z,1.7nm,0.9s,baz=171,slow=3.5,SNR=3.0						
SONM				pPcP		08 21 21.9	
	comp=Z,3.7nm,0.8s,baz=194,slow=4.0,SNR=5.2						
SONM				LR	LR	08 41 32.7	
	comp=Z,151nm,18.4s,MS4.0,baz=305,slow=39						
ZAK	Zakamensk	48.04	8⇑	*i*P	P	08 19 51.7	+0.4
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KURK	Kurchatov	49.55	347	*e*P	P	08 20 02.7	-0.2
	comp=Z,16nm,0.9s,mb5.0						
KURK				*e*	pP	08 20 12.1	+0.3
KURK	Kurchatov	49.55	347	*e*P	P	08 20 02.7	-0.2
KURK				*e*	pP	08 20 12.1	+0.3
KURK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
HIA	Hailar	51.17	21	*e*P	P	08 20 16.2	+0.9
	comp=Z,11nm,0.9s,mb4.8						
HIA	Hailar	51.17	21	*e*P	P	08 20 16.2	+0.9
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
ZAL	Zalesovo	51.57	353	P	P	08 20 18.8	+0.5
	comp=Z,7.8nm,0.5s,mb4.9,baz=303,slow=4.7,SNR=26						
ZAL				pP	pP	08 20 26.4	-0.9
	comp=Z,7.0nm,0.5s,baz=317,slow=5.7,SNR=9.2						
CIT	Chita	51.65	15	*e*P	P	08 20 19.1	+0.2
CIT				pmax	pmax		
	comp=Z,58nm,1.7s,mb5.2						
MDJ	Mudanjiang	52.01	32	P	P	08 20 23.1	+1.4
MDJ				AP	pP	08 20 29.9	-0.8
MDJ				XP	sP	08 20 32.1	-2.1
MDJ				PCP	PcP	08 21 34.4	+0.6
MDJ				PP	PP	08 22 21.6	+1.2
MDJ				PCS		08 25 32.8	
MDJ				S	S	08 27 47.6	+5.9
MDJ				XS		08 27 58.0	
MDJ				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,130nm,5.7s						
MDJ				LR	LR		
	comp=N,448nm,15.0s,MS4.7						
MDJ				LR	LR		
	comp=E,273nm,14.1s,MS4.7						
MDJ				LR	LR		
	comp=Z,615nm,13.2s,MS4.8						
MDJ	Mudanjiang	52.01	32	*e*P	P	08 20 22.5	+0.8
	comp=Z,14nm,1.0s,mb4.8						
MJAR	Matsushiro Arr	52.60	45	P	P	08 20 26.8	+0.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=280,slow=7.6,SNR=4.8						
MJAR				pP	pP	08 20 35.5	+0.3
	comp=Z,0.6nm,0.2s,baz=251,slow=5.7,SNR=3.3						
MJAR				LR	LR	08 44 56.8	
	comp=Z,330nm,20.1s,MS4.4,baz=260,slow=38						
NVS	Novosibirsk	52.66	352	*i* P	P	08 20 25.2	-1.2
NVS				*i*	pP	08 20 32.8	-2.6
NVS				*e*S	S	08 27 47.5	-2.9
NVS				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
NVS				pmax	pmax		
	comp=N,22nm,1.4s						
NVS				pmax	pmax		
	comp=E,14nm,1.4s						
NVS				smax			
	comp=E,30nm,2.3s						
VOSK	Vostochnaya	53.38	343	P	P	08 20 30.8	-1.0
VOSK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
BVA0	Borovoye Array	53.82	342	*i* P	P	08 20 33.9	-1.0
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BVAR	Borovoye Array	53.82	342	P	P	08 20 33.8	-1.1
	comp=Z,3.1nm,0.8s,mb4.3,baz=149,slow=8.6,SNR=15						
BVAR				pP	pP	08 20 43.4	-0.6
	comp=Z,6.6nm,0.7s,baz=146,slow=11,SNR=14						
BRVK	Borovoye	53.88	342	*e*P	P	08 20 34.8	-0.6
	comp=Z,14nm,1.3s,mb4.7						
BRVK	Borovoye	53.88	342	*e*P	P	08 20 34.8	-0.6
BRVK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
AB31	Akbulak array	54.75	333	*i* P	P	08 20 40.6	-1.2
AB31				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
CTA	Charters Tower	55.86	116	*e*P	P	08 20 50.6	+0.3
	comp=Z,8.5nm,1.0s,mb4.7						
CTA				*i*	pP	08 20 59.8	+0.5
CTA	Charters Tower	55.86	116	*e*P	P	08 20 50.6	+0.3
CTA				*i*	pP	08 20 59.8	+0.5
CTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CTAO	Charters Tower	55.86	116	*e*P	P	08 20 49.8	-0.5
	comp=Z,23nm,0.9s,mb5.2						
CTAO				*e*	pP	08 20 57.8	-1.6
CTAO	Charters Tower	55.86	116	*e*P	P	08 20 49.8	-0.5
CTAO				*e*	pP	08 20 57.8	-1.5
CTAO				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
KLR	Kul'dur	56.24	29	*e*P	P	08 20 50.8	-1.8
KLR				*e*S	S	08 28 42.0	+3.5
KLR				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.1						
KLR				MLR	MLR		
	comp=E,500nm,11.5s						
KLR				MLR	MLR		
	comp=Z,900nm,11.5s,MS5.1						
AKTO	Aktyubinsk	56.46	333	P	P	08 20 53.0	-1.2
STKA	Stephens Creek	56.62	131	*e*P	P	08 20 55.7	+0.1
	comp=Z,7.6nm,1.3s,mb4.6						
STKA				*i*	pP	08 21 04.4	-0.3
STKA	Stephens Creek	56.62	131	P	P	08 20 55.2	-0.4
	comp=Z,7.6nm,1.0s,mb4.7,baz=286,slow=4.8,SNR=6.3						
STKA				pP	pP	08 21 04.1	-0.5
	comp=Z,18nm,0.9s,baz=282,slow=5.4,SNR=14						
BOD	Bodaibo	57.06	12	*e*P	P	08 20 55.8	-2.6
BOD				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
KMBO	Kilima Mbogo	57.09	267	P	P	08 20 59.6	+0.4
	comp=Z,3.7nm,1.0s,mb4.4,baz=49,slow=11,SNR=7.7						
KMBO				pP	pP	08 21 09.3	+1.1
	comp=Z,12nm,1.1s,baz=52,slow=8.9,SNR=14						
SVE	Sverdlovsk	60.15	339	*e*P	P	08 21 19.0	-0.9
SVE				*e*	pP	08 21 29.0	-0.1
SVE				*e*		08 22 10.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
SVE				MLR	MLR		
	comp=N,100nm,15.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,100nm,15.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.5						
ARU	Arti	60.60	338⇓	*i*P	P	08 21 22.0	-0.9
ARU				*e*		08 22 04.7	
ARU				*e*		08 23 34.7	
ARU				*e*S	S	08 29 38.0	+2.7
ARU				*e*SS	SS	08 33 38.1	+3.1
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
YSS	Yuzh-Sakhalins	60.77	36	*e*P	P	08 21 23.6	-0.6
YSS				pmax	pmax		
	comp=Z,34nm,1.7s,mb5.2						
KIV	Kislovodsk	61.18	320*d*	*i*P	P	08 21 26.8	-0.3
KIV				pmax	pmax		
	comp=Z,20nm,1.7s,mb5.0						
MALT	Malatya	61.87	312	*e*P	P	08 21 31.8	-0.1
	comp=Z,16nm,1.0s,mb5.1						
MALT				*e*	pP	08 21 41.0	-0.1
MALT	Malatya	61.87	312	*e*P	P	08 21 31.8	-0.1
MALT				*e*	pP	08 21 41.0	0.0
MALT				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
SOC	Sochi	62.97	318	*e*P	P	08 21 36.3	-2.7
SOC				*e*		08 22 21.0	
SOC				*e*PPP	PPP	08 25 23.0	-7.0
SOC				*e*S	S	08 30 02.8	-2.7
SOC				*e*		08 31 22.3	
SOC				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.2						
SOC				pmax	pmax		
	comp=N,9.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.8s						
YAK	Yakutsk	64.78	18	*e*P	P	08 21 50.0	-0.6
	comp=E,49nm,1.2s,mb5.4						
YAK	Yakutsk	64.78	18*c*	*i*P	P	08 21 49.9	-0.7
YAK				pmax	pmax		
	comp=Z,55nm,1.7s,mb5.3						
BRTR	Keskin Array B	65.86	313	P	P	08 21 57.4	-0.5
	comp=Z,1.0nm,0.5s,mb4.1,baz=127,slow=6.2,SNR=7.3						
BRTR				pP	pP	08 22 06.2	-0.9
	comp=Z,5.2nm,0.9s,baz=135,slow=7.0,SNR=9.9						
SIM	Simferopol'	67.21	318	*e*P	P	08 22 06.1	-0.3
SIM				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
ISP	Isparta	67.69	310	*e*P	P	08 22 09.4	-0.1
	comp=Z,10nm,1.0s,mb4.8						
ISP	Isparta	67.69	310	*e*P	P	08 22 09.5	-0.1
ISP				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
OBN	Obninsk	69.73	329⇓	*i*P	P	08 22 20.8	-1.0
OBN				*e*	pP	08 22 30.3	-0.7
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
TIRR	Tirgusor	70.93	316	P	P	08 22 27.2	-2.2
MA2	Magadan	71.23	27*d*	*e*P	P	08 22 31.7	+0.8
MA2				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
IDI	Anoyia	71.57	306	P	P	08 22 32.2	-1.2
	comp=Z,5.5nm,0.9s,mb4.5,baz=31,slow=6.5,SNR=3.9						
IDI				pP	pP	08 22 42.9	+0.3
	comp=Z,15nm,0.9s,baz=81,slow=3.9,SNR=6.8						
IDI				LR	LR	08 57 05.0	
	comp=Z,38nm,19.4s,MS3.7,baz=264,slow=38						
LBTB	Lobatse	71.95	243	LR	LR	08 48 38.3	
	comp=Z,242nm,19.7s,MS4.5,baz=80,slow=31						
TIXI	Tiksi	72.18	11⇑	*i*P	P	08 22 34.9	-1.5
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
AKASG	Malin Array Be	72.20	323	P	P	08 22 35.5	-1.4
	comp=Z,0.3nm,0.4s,baz=89,slow=4.8,SNR=8.4						
AKASG				pP	pP	08 22 44.7	-1.4
	comp=Z,3.2nm,0.7s,baz=91,slow=5.2,SNR=8.1						
AKASG	Malin Array Be	72.20	323	P	P	08 22 35.5	-1.4
AKASG				pP	pP	08 22 44.7	-1.4
PET	Petropavlovsk	72.61	35	*i* P	P	08 22 38.9	-0.3
MLR	Muntele Rosu	72.89	317	P	P	08 22 41.4	+0.4
	comp=Z,7.3nm,1.0s,mb4.6,baz=66,slow=3.3,SNR=8.8						
MLR				pP	pP	08 22 50.8	+0.6
	comp=Z,13nm,0.9s,baz=96,slow=1.5,SNR=12						
MAW	Mawson	73.60	192	P	P	08 22 42.4	-2.4
	comp=Z,0.6nm,0.3s,mb4.1,baz=317,slow=7.1,SNR=3.5						
MAW				pP	pP	08 22 53.8	-0.2

comp=Z,2.6nm,0.9s,baz=350,slow=6.7,SNR=3.4
MAW LR LR 08 49 15.3
comp=Z,79nm,19.4s,MS4.0,baz=228,slow=31
KOLS Kolonicke sedl 76.09 320 *e*P **P 08 23 01.0 +1.6**
KOLS *e*pP pP 08 23 09.9 +1.2
STHS Stebnicka Huta 76.85 320 *e*P **P 08 23 05.0 +1.3**
STHS *e*pP pP 08 23 14.4 +1.4
KECS Kecovo 77.17 319 *e*P **P 08 23 06.4 +1.0**
KECS *e*pP pP 08 23 14.8 +0.1
FINES FINESS Array B 77.23 333 P **P 08 23 05.2 -0.3**
comp=Z,2.6nm,0.9s,mb4.2,baz=117,slow=4.3,SNR=5.7
FINES pP pP 08 23 14.6 -0.2
comp=Z,3.6nm,0.8s,baz=79,slow=7.1,SNR=3.5
FINES LR LR 09 04 59.1
comp=Z,67nm,18.1s,MS4.0,baz=17,slow=42
FINES FINESS Array B 77.23 333 P **P 08 23 05.2 -0.3**
FINES pP pP 08 23 14.6 -0.2
FINES LR LR 09 04 59.1
OJC Ojcow 77.92 321 *e*P pP 08 23 17.8 -1.0
LIKS Likavka 78.17 319 *e*P **P 08 23 10.5 -0.4**
VYHS Vyhne 78.25 319 *e*P **P 08 23 12.2 +0.8**
VYHS *e* pP 08 23 21.0 +0.3
TSUM Tsumeb 78.33 250 pP pP 08 23 22.2 +0.5
comp=Z,5.9nm,1.1s,baz=70,slow=11,SNR=5.5
ZST Bratislava 79.35 318 *e*P **P 08 23 18.0 +0.6**
ZST *e*pP pP 08 23 27.6 +0.9
ARCES ARCESS Array B 80.06 341 P **P 08 23 21.1 +0.3**
comp=Z,3.8nm,1.0s,mb4.3,baz=90,slow=5.4,SNR=4.9
ARCES pP pP 08 23 30.1 0.0
comp=Z,3.9nm,0.8s,baz=141,slow=7.8,SNR=3.8
ARCES LR LR 09 04 27.0
comp=Z,85nm,18.4s,MS4.1,baz=238,slow=40
DPC Dobruska-Polom 80.15 321 *e*P **P 08 23 23.0 +1.4**
DPC *e*pP pP 08 23 31.9 +0.9
SYO Syowa Base 80.60 197 ⇓pP pP 08 23 33.0 0.0
GERES GERESS Array B 81.67 319 P **P 08 23 30.8 +1.2**
comp=Z,4.4nm,1.0s,mb4.3,baz=90,slow=4.0,SNR=19
GERES pP pP 08 23 40.3 +1.2
comp=Z,8.5nm,0.9s,baz=100,slow=6.0,SNR=16
BRG Berggiesshubel 81.71 321 *e*P **P 08 23 31.2 +1.4**
comp=Z,12nm,1.4s,mb4.6
BRG *e* pP 08 23 39.0 -0.2
BRG Berggiesshubel 81.71 321 *e*P **P 08 23 31.2 +1.4**
BRG *e* pP 08 23 39.0 -0.2
BRG pmax pmax
comp=Z,12nm,1.4s,mb4.6
KHC Kasperske Hory 81.78 319 *e*P **P 08 23 28.5 -1.7**
KHC *e*pP pP 08 23 40.2 +0.6
KHC *e*x x 08 23 47.8
KHC Kasperske Hory 81.78 319 *e*P pP 08 23 40.2 +0.6
KHC *e*pP x 08 23 47.8
CLL Collm 82.34 321 *e**PP pP 08 23 43.0 +0.5
MOX Moxa 83.17 321 *e*P **P 08 23 44.0 +6.6**
GRA1 Grafenberg Arr 83.36 320 *e*P **P 08 23 39.4 +1.0**
comp=Z,6.0nm,1.3s,mb4.5
GRF Grafenberg Arr 83.36 320 *e*P **P 08 23 39.4 +1.0**
comp=Z,6.0nm,1.3s,mb4.5
GRF Grafenberg Arr 83.36 320 *e*P **P 08 23 39.4 +1.0**
GRF pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
GRF Grafenberg Arr 83.36 320 *e*P **P 08 23 39.4 +1.0**
GRF pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
NB2 NORSAR Subarra 84.19 331 P pP 08 23 51.3 -0.4
comp=Z,5.3nm,1.0s,baz=94,slow=5.0
NOA NORSAR Array B 84.19 331 P **P 08 23 42.7 +0.4**
comp=Z,1.9nm,0.9s,mb4.2,baz=90,slow=5.9,SNR=3.0
NOA pP pP 08 23 51.9 +0.2
comp=Z,3.4nm,0.9s,baz=93,slow=5.7,SNR=5.7
LPG La Plagne 86.26 315 *e*P pP 08 24 02.4 -0.1
comp=Z,43nm,1.4s
LPG La Plagne 86.26 315 *e*P pP 08 24 02.4 -0.1
LPG pmax pmax
comp=Z,22nm,1.4s,mb5.2
VNDA Vanda 87.96 168 P **P 08 24 02.1 +1.6**
comp=Z,1.6nm,1.1s,mb4.2,baz=339,slow=3.2,SNR=4.4
VNDA pP pP 08 24 11.0 +1.0
comp=Z,3.6nm,1.1s,baz=258,slow=5.8,SNR=5.8
SBA Scott Base 89.06 168 *e*P **P 08 24 06.1 +0.3**
comp=Z,13nm,1.2s,mb5.2
SBA Scott Base 89.06 168 *e*P **P 08 24 06.1 +0.2**
SBA pmax pmax
comp=Z,13nm,1.2s,mb5.1
VNA2 Neumayer--Watz 96.42 199⇑*i*P **P 08 24 41.3 +1.5**
VNA2 *e* 08 24 55.9
VNA3 Neumayer Olymp 97.08 198⇑*i*P **P 08 24 39.0 -3.8**
VNA3 *e* 08 24 55.5
ULM Lac du Bonnet 126.46 8 PKP PKPdf 08 30 14.4 -3.8
comp=Z,1.2nm,1.0s,baz=341,slow=11,SNR=3.1
REDW Red Top Meadow 128.81 23 PKPdf PKPdf 08 30 18.1 -4.8
NVAR Mina Array Bea 129.16 33 PKP PKPdf 08 30 21.1 -2.6
comp=Z,0.5nm,0.8s,baz=224,slow=1.7,SNR=4.5
NVAR pPKP 08 30 31.5
comp=Z,0.9nm,0.7s,baz=341,slow=0.8,SNR=5.8
PDAR Pinedale Array 129.82 23 PKP PKPdf 08 30 22.6 -2.3
comp=Z,1.1nm,1.1s,SNR=5.7
PDAR pPKP 08 30 31.5
comp=Z,1.0nm,0.9s,slow=1.5,SNR=6.2
ANMO Albuquerque 137.74 26⇓*i*PKIKP PKPdf 08 30 39.2 -0.6
PLCA Paso Flores 139.80 198 PKhKP 08 30 33.7
comp=Z,2.1nm,1.1s,baz=225,slow=1.4,SNR=2.5
PLCA PKP PKPdf 08 30 40.7 -2.7
comp=Z,2.5nm,1.1s,baz=137,slow=2.6,SNR=3.6
TXAR Lajitas Array 143.75 27 PKP PKPdf 08 30 46.4 -4.3
comp=Z,2.0nm,0.9s,baz=10.0,slow=1.0,SNR=17
TXAR pPKP 08 30 55.6
comp=Z,3.6nm,0.9s,baz=283,slow=0.8,SNR=12
CPUP Villa Florida 144.04 227 *e*PKP PKPdf 08 30 46.5 -4.8
NATX Nacogdoches 144.62 13 *e*PKP PKPdf 08 30 48.4 -3.7
SAML Samuel 156.72 254 *e*PKPab PKPab 08 31 37.8 +0.1
SAML *e* 08 31 46.0
LPAZ La Paz 158.06 231 PKPbc PKPdf 08 31 19.9 +7.4
comp=Z,1.6nm,0.9s,baz=149,slow=5.9,SNR=6.1
LPAZ PKPab PKPab 08 31 42.9 -0.5
comp=Z,0.7nm,0.9s,baz=135,slow=3.6,SNR=2.0

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*IDC **18** 08:44:24.2±0.8, 14.49N×56.29E, mb4.0/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, MS3.5/3, Ms1 3.5/3, ms1mx3.1/25, Error ellipse: s-maj=35.5km s-min=19.1km az=117.0*
*NEIC **18** 08:44:25.7±0.6, 14.50N×56.30E, h10km, mb4.5/2, Error ellipse: s-maj=25.0km s-min=14.9km az=117.0*
*CSEM **18** 08:44:25.7, 14.50N×56.30E, h10km, mb4.5/2, After NEIC*
ISC 18 08:44:24.3±0.7**, 14.5N**±0.1×**56.3E**±0.2**, h10km, n18,** σ**0s87**/12**, mb4.0**/9**, MS3.4**/3**, Owen Fracture Zone region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KMBO Kilima Mbogo 24.43 232 P **P 08 49 44.8 +0.2**
0.6nm,0.5s,mb3.3,baz=40,slow=17,SNR=4.0
KMBO LR LR 08 59 09.2
comp=Z,149nm,20.2s,MS3.5,baz=88,slow=36
GNI Garni 27.45 341 LR LR 09 00 56.9
comp=Z,59nm,19.2s,MS3.2,baz=356,slow=36
MKAR Makanchi Array 38.82 29 P **P 08 51 52.5 +1.4**
1.0nm,0.8s,mb3.6,baz=211,slow=7.1,SNR=8.6
MKAR PcP PcP 08 54 02.2 -0.6
0.4nm,0.6s,baz=225,slow=4.1,SNR=3.9
MKAR LR LR 09 07 23.2
comp=Z,65nm,19.5s,MS3.5,baz=0.7,slow=36
MKAR Makanchi Array 38.82 29 P **P 08 51 52.5 +1.4**
MKAR PcP PcP 08 54 02.2 -0.6
MKAR LR LR 09 07 23.2
AKASG Malin Array Be 42.20 334 P **P 08 52 18.9 +0.1**
0.4nm,0.4s,mb3.4,baz=138,slow=7.7,SNR=4.5
MATP Matopo 44.19 219 P **P 08 52 34.8 -0.7**
3.5nm,0.8s,mb4.1,baz=44,slow=9.6,SNR=6.4
ZAL Zalesovo 45.23 23 P **P 08 52 43.6 +0.2**
1.2nm,0.4s,mb4.1,baz=209,slow=8.7,SNR=3.2
GERES GERESS Array B 48.84 324 PcP PcP 08 54 40.6 +3.8
0.2nm,0.5s,baz=135,slow=3.8,SNR=3.6
LBTB Lobatse 49.40 218 P **P 08 53 17.7 +1.3**
2.8nm,0.9s,mb4.3,baz=58,slow=8.9,SNR=4.1
LBTB Lobatse 49.40 218 P **P 08 53 17.7 +1.3**
1.6nm,0.5s,mb4.3
FINES FINESS Array B 51.62 342 P **P 08 53 31.5 -1.4**
6.5nm,1.1s,mb4.5,baz=142,slow=8.0,SNR=5.1
WRA Warramunga Arr 84.03 112 P **P 08 56 56.2 -0.8**
1.2nm,0.8s,mb4.1,baz=298,slow=4.3,SNR=7.6
WRAB Tennant Creek 84.03 112 *e*P **P 08 56 56.7 -0.3**
5.3nm,1.0s,mb4.6
WRAB Tennant Creek 84.03 112 *e*P **P 08 56 56.7 -0.3**
5.3nm,1.0s,mb4.6
PDAR Pinedale Array 121.52 348 PKP PKPdf 09 03 18.2 -3.2
0.2nm,0.5s,baz=45,slow=4.2,SNR=3.5
PDAR Pinedale Array 121.52 348 PKP PKPdf 09 03 18.2 -3.3
NVAR Mina Array Bea 127.08 355 PKP PKPdf 09 03 31.8 -0.5
0.3nm,0.7s,baz=88,slow=2.9,SNR=3.5
NVAR Mina Array Bea 127.08 355 PKP PKPdf 09 03 31.8 -0.5

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*NEIC **18** 08:47:26.9±3.3, 4.87S×154.14E, h132km±25km, mb4.3/4, Error ellipse: s-maj=40.2km s-min=16.7km az=111.0*
*IDC **18** 08:47:27.9±5.6, 4.84S×154.05E, h139km±45km, mb3.9/7, mb1 4.1/8, mb1mx3.9/16, mbtmp4.4/8, MS3.0/3, Ms1 3.0/3, ms1mx2.9/31, Error ellipse: s-maj=49.3km s-min=24.6km az=109.0*
ISC 18 08:47:27.3±4.3**, 4.8S**±0.2×**154.0E**±0.3**, h144km**±34km**, n17,** σ**0s75**/17**, mb4.0**/11**, 1C, Bougainville - Solomon Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
HNR Honiara 7.46 128 LR LR 08 51 50.6
comp=Z,43nm,19.9s,baz=263,slow=35
PMG Port Moresby 8.17 236 P **P 08 49 24.2 +0.2**
20nm,0.3s,baz=40,slow=8.5,SNR=58
PMG S **S 08 50 54.7 -0.3**
8.3nm,0.3s,baz=353,slow=16,SNR=6.2
PMG LR LR 08 52 31.6
comp=Z,149nm,19.8s,baz=283,slow=37
PMG Port Moresby 8.17 236 *e*P **P 08 49 23.9 -0.1**
PMG *e*S **S 08 50 54.7 -0.3**
PMG LR LR 08 52 31.6
CTA Charters Tower 16.93 206 LR LR 08 57 12.9
comp=Z,97nm,19.5s,baz=343,slow=34
KAKA Kakadu 22.68 248 *e*P **P 08 52 36.2 +19**
7.5nm,0.6s,mb4.3
WB2 Warramunga Arr 24.32 230 *e*P **P 08 52 34.4 +1.3**
WRA Warramunga Arr 24.33 230 P **P 08 52 34.4 +1.2**
16nm,0.9s,mb4.5,baz=53,slow=10.0,SNR=84
FITZ Fitzroy Crossi 30.70 242⇑*i*P **P 08 53 29.8 -1.2**
9.0nm,0.8s,mb4.5
FITZ Fitzroy Crossi 30.70 242 P **P 08 53 29.9 -1.1**
11nm,0.7s,mb4.7,baz=69,slow=4.5,SNR=14
MBWA Marble Bar 36.99 241 *e*P **P 08 54 24.1 -0.7**
5.6nm,0.9s,mb4.2
SONM Songino Array 67.00 327 P **P 08 58 06.2 -0.7**
0.6nm,0.6s,mb3.6,baz=144,slow=6.0,SNR=4.7
MKAR Makanchi Array 81.14 319 P **P 08 59 28.3 0.0**
1.6nm,0.9s,mb3.6,baz=104,slow=5.7,SNR=8.4
ILAR Eielson Array 81.75 22 P **P 08 59 30.7 -0.3**
0.6nm,0.8s,mb3.2,baz=236,slow=5.4,SNR=5.7
KURK Kurchatov 84.54 322 *e*P **P 08 59 46.3 +0.8**
2.2nm,0.8s,mb3.9
MAW Mawson 86.00 203 P **P 08 59 51.4 -0.8**
4.0nm,0.7s,mb4.2,baz=99,slow=2.4,SNR=8.1
BVAR Borovoye Array 89.99 323 P **P 09 00 11.6 0.0**
1.7nm,0.7s,mb4.1,baz=90,slow=5.9,SNR=8.9
BRVK Borovoye 90.06 323 *e*P **P 09 00 12.4 +0.6**
1.4nm,0.7s,mb4.0

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*NEIC **18** 09:42:48.5, 55.89N×161.83W, h207km, MG3.5(AEIC), After AEIC.*
*IDC **18** 09:43:00.5±11.0, 56.49N×161.71W, h285km±92km, mb3.2/5, mb1 3.4/7, mb1mx3.1/23, mbtmp3.8/7, MS3.6/1, Ms1 3.6/1, ms1mx2.8/10, Error ellipse: s-maj=100.1km s-min=18.2km az=40.0*
ISC 18 09:42:47.6±0.4**, 56.20N**±0.08×**162.1W**±0.1**, h185km**±6km**, n38,** σ**0s97**/42**, mb3.7**/5**, Bristol Bay**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
BLHA Black Hill 0.50 175 P **P 09 43 13.7 +0.3**
PN7A Pavlof North-7 0.77 174 P **P 09 43 15.7 +1.0**
PVV Pavlof Volcano 0.85 166 P **P 09 43 15.4 +0.3**
DTNA Dutton South F 1.05 183 P **P 09 43 17.0 +0.6**
DOL Dolgoi Island 1.06 171 P **P 09 43 16.6 +0.1**
DOL S **S 09 43 38.9 0.0**
DRIA Deer Island 1.24 183 P **P 09 43 18.2 +0.2**
DRIA S **S 09 43 41.1 -0.4**
SDPT Sand Point 1.27 131 P **P 09 43 17.5 -0.8**
SDPT S **S 09 43 39.5 -2.5**
CHGN Chignik 2.08 86 P **P 09 43 26.2 -0.1**
ANPK Aniakchak Peak 2.32 72 P **P 09 43 29.4 +0.4**
UNV Unalaska Valle 3.44 229 P **P 09 43 42.6 0.0**
UNV S **S 09 44 23.7 -1.3**
MSW Makushin Switc 3.52 231 P **P 09 43 44.0 +0.5**
MSW S **S 09 44 27.0 +0.5**
KJL Kejulik 4.04 60 P **P 09 43 51.7 +1.7**
CAHL Cahill 4.17 61 P **P 09 43 52.5 +0.8**
ACHA Angle Creek He 4.22 59 P **P 09 43 53.8 +1.4**
MGLS Mageik LS 4.22 59 P **P 09 43 53.6 +1.2**
KABR Katmai Barrier 4.36 61 P **P 09 43 54.4 +0.2**
KAHC Katmai Hardscr 4.57 55 P **P 09 43 57.9 +1.0**
KAPH Katmai Pasha 4.85 57 P **P 09 44 01.2 +0.7**
KDAK Kodiak Island 5.46 69 P **P 09 44 07.2 -1.3**
INE Iliamna NE 6.17 47 P **P 09 44 20.0 +2.3**
CNPM China Poot 6.71 56 P **P 09 44 24.1 -0.6**
SEW Seward 7.77 55 P **P 09 44 37.8 -0.9**
MPA Moose Pass 7.98 52 P **P 09 44 40.7 -0.7**
RC01 Rabbit Creek A 8.11 48 P **P 09 44 42.7 -0.5**
ATKA Atka Island 8.12 245 P **P 09 44 43.6 +0.3**
PWL Port Wells 8.60 51 P **P 09 44 48.1 -1.5**
SML Sawmill 9.06 46 P **P 09 44 54.5 -1.2**
GLI Glacier Island 9.15 53 P **P 09 44 54.7 -2.1**
HIN Hinchinbrook I 9.24 56 P **P 09 44 56.9 -1.0**
ILAR Eielson Array 11.39 35 P **P 09 45 31.0 +5.4**
0.1nm,0.3s,baz=216,slow=13,SNR=3.6
DLBC Dease Lake 17.40 69 P **P 09 46 40.3 +0.3**
0.2nm,0.3s,baz=319,slow=11,SNR=4.7
NVAR Mina Array Bea 33.91 103 P **P 09 49 15.5 +1.0**
0.9nm,0.7s,mb3.6,baz=299,slow=9.3,SNR=7.9
NVAR Mina Array Bea 33.91 103 P **P 09 49 15.5 +1.0**
PDAR Pinedale Array 35.80 89 P **P 09 49 31.2 +0.8**
0.9nm,0.4s,mb3.7,baz=307,slow=2.7,SNR=16
TXAR Lajitas Array 48.75 98 P **P 09 51 15.4 +0.3**
0.7nm,0.7s,mb3.4,baz=306,slow=6.1,SNR=10
SONM Songino Array 52.90 302 LR LR 10 14 06.1
comp=Z,63nm,21.6s,baz=39,slow=35
FINES FINESS Array B 62.52 356 P **P 09 52 51.7 -1.2**
3.8nm,1.1s,mb4.2,baz=354,slow=7.6,SNR=4.5
BVAR Borovoye Array 62.91 327 P **P 09 52 55.1 -0.5**
0.8nm,0.6s,mb3.8,baz=68,slow=7.8,SNR=4.9

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*ISK **18** 09:54:13.2, 37.02N×27.82E, h19km, MD3.4*
*ATH **18** 09:54:13.3, 37.05N×27.88E, h24km±1km, MD3.6/6*
*NEIC **18** 09:54:13.0, 37.05N×27.88E, h24km, MD3.6(ATH), MD3.4(ISK), After ATH.*
*CSEM **18** 09:54:13.5±0.1, 37.04N×27.85E, h15km, MD3.4, Error ellipse: s-maj=2.5km s-min=1.8km az=19.0*
ISC 18 09:54:13.3±0.4**, 36.98N**±0.03×**27.80E**±0.03**, h10km, n33,** σ**1s09**/49**, Dodecanese Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
BDRM Kayabasi 0.29 286 *i* P **Pg 09 54 20.5 +1.0**
BDRM *i* S **Sg 09 54 26.6 +3.1**
MLSB Milas 0.31 357 *i* PG **Pg 09 54 19.3 -0.5**
MLSB *i* SG **Sg 09 54 24.7 +0.6**
BODT Bodrum 0.40 282 *i* PG **Pg 09 54 21.4 0.0**
BODT *i* SG **Sg 09 54 29.5 +2.6**
YER Yerkesik 0.42 69 *i* PG **Pg 09 54 21.4 -0.4**
YER *i* SG **Sg 09 54 28.8 +1.3**
NISR Nisiros 0.65 236 *e*PN **Pn 09 54 28.0 -0.3**
AYDN Tasoluk 0.68 6 *i* P **Pb 09 54 26.5 -0.3**
AYDN *i* S **Sb 09 54 36.2 +0.3**
DALT Dalyan (Mudla) 0.71 107 PG **Pg 09 54 26.6 -0.9**
ARG Arkhangelos 0.81 161 *e*PN **Pn 09 54 29.8 -0.8**
SMG Samos 1.05 314 *e*PN **Pn 09 54 33.5 -0.5**
DNZL Cakiroluk 1.22 54 *i* P **Pb 09 54 35.8 -0.2**
DNZL *i* S **Sb 09 54 51.9 +0.2**
DENT Denizli 1.25 52 PN **Pn 09 54 36.2 -0.6**
GOLH Golhisar 1.43 79 *i* P **Pg 09 54 42.6 +0.6**
GOLH *i* S **Sg 09 55 03.0 +1.9**
IZM Izmir 1.48 343 PN **Pn 09 54 38.8 -1.3**
KDAG Bornova 1.48 344 *i* P **Pn 09 54 39.1 -1.0**
KDAG *i* S **Sb 09 54 56.2 -2.9**
KARP Karpathos 1.52 200 *e*PN **Pn 09 54 42.3 +1.6**
MANT Manisa 1.62 22 *i* P **Pn 09 54 42.3 +0.1**
MANT *i* S **Sn 09 55 06.6 +3.4**
AKAS Kas 1.64 117 *i* P **Pn 09 54 44.4 +2.0**
AKAS *i* S **Sn 09 55 09.6 +6.0**
URLA Izmir 1.67 326 *i* P **Pn 09 54 42.5 -0.3**
URLA *i* S **Sn 09 55 08.7 +4.1**
ELL Elmali 1.71 97 *e*PN **Pn 09 54 42.4 -1.0**
APE Apeiranthos 1.81 273 *e*PN **Pn 09 54 44.9 0.0**
APE Apeiranthos 1.81 273 *e*Pb **Pb 09 54 45.8 -0.4**
AKS Akhisar 1.89 0 *e*PN **Pn 09 54 45.5 -0.5**
TKTP Tekketepe 2.27 62 *i* P **Pn 09 54 51.7 +0.3**
TKTP *i* S **Sg 09 55 30.3 +1.5**
ISP Isparta 2.32 68 *e*PN **Pn 09 54 51.2 -1.0**
AYVA Ayvalik 2.48 340 *i* P **Pn 09 55 01.2 +6.7**
AYVA *i* S **Sg 09 55 38.4 +2.5**
GDZ Gediz 2.49 32 *i* P **Pn 09 55 00.5 +5.9**
GDZ *i* S **Sg 09 55 36.6 +0.4**
PRK Paraskevi 2.56 332 *e*PN **Pn 09 54 55.5 -0.1**
BALB Balikesir 2.65 1 *e*PN **Pn 09 54 55.3 -1.6**
BTOK Tokmak 2.78 4 *i* P **Pn 09 54 58.0 -0.8**
BTOK *i* S **Sg 09 55 45.2 -0.7**
ULDT Uludag 3.33 18 *i* P **Pn 09 55 05.4 -1.1**
ULDT *i* S **Sn 09 55 53.3 +6.8**
KIZT Kizilcal 3.74 58 *e*PN **Pn 09 55 11.1 -1.3**
HDMB Hadim 3.75 89 *e*PN **Pn 09 55 12.6 0.0**
IKL Isikli 4.79 97 *e*PN **Pn 09 55 27.3 -0.1**

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*IDC **18** 10:12:26.5±2.9, 1.20N×97.06E, mb4.1/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.1/5, Error ellipse: s-maj=116.7km s-min=24.8km az=55.0*
*BJI **18** 10:12:28.7, 0.86N×97.20E, h48km, mB4.7, mb4.6*
*NEIC **18** 10:12:31.1±0.9, 1.24N×97.11E, h30km, mb4.1/1, Error ellipse: s-maj=21.6km s-min=12.5km az=56.0*
ISC 18 10:12:29.2±1.2**, 1.3N**±0.1×**97.1E**±0.2**, h30km, n10,** σ**0s46**/10**, mb4.1**/7**, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KULM Kulim 5.36 42 *e*P **Pn 10 13 49.0 -0.3**
GTA Gaotai 38.06 3 *e*P **P 10 19 47.5 +0.6**
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.3
WRA Warramunga Arr 42.16 122 P **P 10 20 21.0 -0.1**
comp=Z,1.0nm,0.7s,mb3.6,baz=300,slow=9.1,SNR=14
WRAB Tennant Creek 42.17 122 *e*P **P 10 20 21.3 +0.2**
SONM Songino Array 47.09 9 P **P 10 21 00.9 +0.6**
comp=Z,2.6nm,0.8s,mb4.2,baz=187,slow=8.6,SNR=12
MKAR Makanchi Array 47.16 346 P **P 10 21 01.3 +0.4**
comp=Z,1.3nm,0.6s,mb4.0,baz=160,slow=8.8,SNR=11
KURK Kurchatov 51.71 345 *e*P **P 10 21 35.6 -0.2**
comp=Z,2.5nm,0.9s,mb4.1
ZAL Zalesovo 53.48 351 P **P 10 21 48.7 -0.2**
comp=Z,3.2nm,0.7s,mb4.4,baz=313,slow=6.4,SNR=11
ZAL Zalesovo 53.48 351 P **P 10 21 48.7 -0.2**
BVAR Borovoye Array 56.16 341 P **P 10 22 07.6 -0.9**
comp=Z,2.3nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=10

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*NNC **18** 10:57:58.5±1.4, 43.00N×85.36E, mpv2.5, Error ellipse: s-maj=45.3km s-min=10.2km az=61.0*
BJI 18 10:57:58.4, 42.55N×85.27E, h13km, ML2.9, 2C, Northern Xinjiang

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WMQ Urumqi 2.18 54 P Pn 10 58 37.0 +2.1
WMQ S Sn 10 59 07.0 +5.0
WMQ Smax
comp=N,53nm,0.4s
WMQ Smax
comp=E,79nm,0.5s
MK31 Makanchi Array 4.75 334 ⇑Pn Pn 10 59 09.0 -2.4
comp=E,0.2nm,0.3s,baz=150,slow=14,SNR=4.2
MK31 Pg Pg 10 59 19.0 -14
comp=E,0.5nm,0.3s,baz=148,slow=17,SNR=9.8
MK31 ⇑Sn Sn 11 00 04.5 -2.5
comp=E,1.9nm,0.4s
MK31 Lg 11 00 16.9
comp=E,5.8nm,0.5s,baz=149,slow=29,SNR=11

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*NEIC **18** 11:25:53.1, 17.05N×100.02W, h8km, mb3.7/6, MD4.4(MEX), After MEX.*
*MEX **18** 11:25:53.1±1.2, 17.03N×100.02W, h8km±11km, MD4.5*
*IDC **18** 11:26:02.0±11.0, 17.08N×99.98W, h88km±90km, mb3.4/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.6/5, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=143.3km s-min=70.5km az=80.0*
ISC 18 11:25:51.1±0.7**, 17.05N**±0.05×**99.94W**±0.04**, h13km**±7km**, n32,** σ**1s15**/39**, mb3.6**/6**, MS3.1**/1**, 1D, Guerrero**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ACX Acapulco 0.18 172 *i* P **Pg 11 25 56.3 +0.9**
CAIG El Cayaco 0.31 270 *e*P **Pg 11 25 57.7 0.0**
CAIG *e*S **Sg 11 26 00.9 -1.3**
PLIG Platanillo 1.40 17 *i* P **Pn 11 26 16.4 0.0**
PLIG *i* S **Sb 11 26 34.6 +0.5**
ZIIG Zihuatanejo 1.56 291 *e*P **Pn 11 26 17.3 -1.3**
ZIIG *i* S **Sb 11 26 34.5 -4.2**
PNIG Pinotepa 1.86 110 *e*P **Pn 11 26 23.2 +0.2**
PNIG *i* S **Sn 11 26 45.2 -1.1**
YAIG Yautepec 1.99 25 *e*P **Pn 11 26 25.0 +0.2**
YAIG *e*S **Sn 11 26 47.3 -2.3**
IIZ Mezontepec 2.23 17 *e*P **Pn 11 26 25.0 -3.2**
PPM Popocatepetl 2.37 32 *i* P **Pn 11 26 30.3 +0.1**
UNM Universidad Na 2.38 18 *e*P **Pn 11 26 35.0 +4.6**
MOIG Morelia 2.87 336 *e*P **Pn 11 26 41.2 +3.8**
MOIG *i* S **Sn 11 27 15.5 +3.4**
VHO Vista Hermosa 3.07 89 *e*P **Pn 11 26 41.0 +0.8**
VHO ⇓*e*S **Sn 11 27 17.5 +0.4**
OXX Oaxaca 3.08 89 *i* P **Pn 11 26 40.5 +0.1**
HUIG Huatulco 3.89 109 *i* S **Sn 11 27 38.2 +0.2**
LVIG Laguna Verde 4.27 51 *e*P **Pn 11 27 05.3 +8.0**
LVIG *e*S **Sn 11 27 47.6 0.0**
SFJM Santa Fe 4.50 320 *i* P **Pn 11 27 05.6 +5.0**
CMIG Matias Romero 4.84 89 *e*P **Pn 11 27 05.2 -0.1**
CMIG *i* S **Sn 11 27 59.0 -2.9**
CCIG Comitan 7.52 95 *i* S **Sn 11 29 09.9 +0.9**
TXAR Lajitas Array 12.70 345 P **P 11 28 59.3 +5.1**
0.0nm,0.3s,baz=165,slow=14,SNR=12
MNTX Cornudas Mount 15.40 342 *e*P **P 11 29 32.9 +3.1**
2.8nm,1.0s
ANMO Albuquerque 18.75 343 P **P 11 30 11.7 -0.3**
baz=149,slow=11,SNR=3.6
ANMO Albuquerque 18.75 343 *e*P **P 11 30 11.9 0.0**
1.2nm,0.7s
PLAL Pickwick Lake 20.77 28 *e*P **P 11 30 33.6 -0.7**
5.9nm,0.8s
WUAZ Wupatki 21.02 333 *e*P **P 11 30 37.6 +0.8**
3.4nm,0.7s,mb3.8
SDCO Great Sand Dun 21.19 348 *e*P **P 11 30 37.6 -1.0**
2.9nm,0.9s,mb3.6
WVT Waverly 21.84 27 *e*P **P 11 30 45.8 +0.7**
4.5nm,0.9s,mb3.9
CPCT Cooper Cave 22.90 34 *e*P **P 11 30 54.3 -1.4**
ARUT Antelope Range 23.83 333 *e*P **P 11 31 06.0 +1.3**
NVAR Mina Array Bea 26.69 327 P **P 11 31 32.6 +0.8**
1.8nm,0.9s,mb3.6,baz=137,slow=11,SNR=11
PDAR Pinedale Array 26.91 344 P **P 11 31 36.0 +2.3**
0.5nm,0.6s,mb3.2,baz=140,slow=11,SNR=5.7
SDV Santo Domingo 29.66 102 LR LR 11 45 46.5
comp=Z,46nm,19.9s,MS3.1,baz=66,slow=40
ILAR Eielson Array 57.10 338 P **P 11 35 38.1 -1.1**
0.9nm,1.0s,mb3.8,baz=122,slow=6.4,SNR=5.9
WRA Warramunga Arr 128.62 258 PKP PKPdf 11 44 59.3 -3.1
0.8nm,0.9s,baz=85,slow=2.8,SNR=12

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*ATH **18** 11:37:07.3, 38.40N×25.01E, h46km, MD3.4/3*
*CSEM **18** 11:37:09.4±0.8, 38.28N×25.44E, h48km±16km, MD3.3, Error ellipse: s-maj=18.8km s-min=8.2km az=111.0*
*ISK **18** 11:37:11.6, 38.02N×25.59E, h21km, MD3.3*
ISC 18 11:37:08.4±1.5**, 38.35N**±0.06×**25.32E**±0.09**, h19km**±10km**, n14,** σ**1s09**/22**, Aegean Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
URLA Izmir 1.00 89 *i* P **Pb 11 37 27.4 +0.5**
URLA *i* S **Sb 11 37 39.0 -0.7**
PRK Paraskevi 1.16 39 *e*P **Pn 11 37 30.1 +0.3**
PRK *e*S **Sb 11 37 44.1 -0.2**
APE Apeiranthos 1.29 173 PG **Pn 11 37 30.0 -1.7**
APE Apeiranthos 1.29 173 *e*P **Pn 11 37 31.4 -0.3**
BLCB Balcova 1.35 88 PN **Pn 11 37 34.0 +1.4**
BLCB SN **Sn 11 37 50.4 +0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**1.36**	**118**	*e*P	**Pn**	**11 37 35.0**	**+2.3**
SMG				*e*S	**Sn**	**11 37 54.0**	**+3.7**
SMG	**Samos**	**1.36**	**118**	*e*P	**Pn**	**11 37 34.6**	**+1.9**
AYVA	**Ayvalik**	**1.43**	**48**	*i* P	**Pn**	**11 37 33.5**	**-0.2**
AYVA				*i* S	**Sn**	**11 37 50.7**	**-1.4**
IZM	**Izmir**	**1.53**	**88**	*e*PN	**Pn**	**11 37 35.7**	**+0.6**
IZM				*e*SN	**Sn**	**11 37 53.4**	**-1.1**
KDAG	**Bornova**	**1.53**	**88**	*i* P	**Pn**	**11 37 35.1**	**0.0**
KDAG				*i* S	**Sn**	**11 37 55.4**	**+0.8**
AKS	**Akhisar**	**2.02**	**74**	*e*PN	**Pn**	**11 37 43.8**	**+1.6**
BODT	**Bodrum**	**2.04**	**129**	*e*PN	**Pn**	**11 37 41.0**	**-1.4**
MLSB	**Milas**	**2.21**	**118**	*e*PN	**Pn**	**11 37 43.4**	**-1.5**
MANT	**Manisa**	**2.55**	**86**	*i* P	**Pn**	**11 37 57.1**	**+7.4**
MANT				*i* S	**Sn**	**11 38 28.0**	**+7.6**

MAN 18 11:48:13.9, 9.62N×122.88E, h16km, mb4.3, ML3.2, MS2.9, 2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.04**	**344**	*e*P	Pb	11 48 31.1	-2.0
GUIM				*e*S	Sb	11 48 47.4	+1.1
DCPH	**Dipolog City**	**1.13**	**155**	⇓*i*P	Pb	11 48 32.4	-2.2
DCPH				*i* S	Sb	11 48 47.7	-1.1
LLP	**Lapu-Lapu**	**1.28**	**57**	⇓*i*P	Pb	11 48 33.6	-3.6
LLP				*e*S	Sb	11 48 48.8	-4.4
PAGZ	**Pagadian**	**1.83**	**164**	*e*P	Pn	11 48 44.6	-0.5
PAGZ				*e*S	Sn	11 49 08.2	+0.2
IPIL	**Ipil**	**1.84**	**189**	*e*P	Pn	11 48 45.3	0.0
IPIL				*e*S	Sn	11 49 08.6	+0.2
RCP	**Roxas**	**1.94**	**356**	*e*P	Pn	11 48 47.3	+0.7
MSLP	**Maasin**	**2.02**	**75**	*e*P	Pn	11 48 47.4	-0.5
MSLP				*e*S	Sn	11 49 12.9	0.0
CUYO	**Cuyo Island**	**2.20**	**304**	*e*P	Pn	11 48 50.2	-0.2
BUKP	**Musuan**	**2.77**	**128**	*e*P	Pn	11 48 59.1	+0.6
BUKP				*e*S	Sn	11 49 32.6	+0.8
OTRP	**Odiongan**	**2.85**	**343**	*e*P	Pn	11 48 59.9	+0.1
SJMP	**San Jose**	**3.31**	**329**	*e*P	Pn	11 49 06.3	0.0
ENPP	**El Nido**	**3.74**	**295**	*e*P	Pn	11 49 11.7	-0.7

*NEIC **18** 11:48:12.1±5.6, 36.50N×71.04E, h197km±32km, mb3.9/2, Error ellipse: s-maj=61.8km s-min=18.9km az=187.0*
*IDC **18** 11:48:18.2±12.0, 36.84N×71.12E, h238km±87km, mb3.2/6, mb1 3.2/9, mb1mx3.0/22, mbtmp3.7/9, Error ellipse: s-maj=108.3km s-min=24.3km az=7.0*
*NNC **18** 11:48:21.2±3.0, 37.20N×71.23E, h242km±41km, mpv3.6, Error ellipse: s-maj=33.4km s-min=21.9km az=37.0*
ISC 18 11:48:17.9±2.4, **37.0N**±0.2×**71.2E**±0.1, **h240**km±16km, **n20**, σ**0s60**/23, **mb3.4**/6, **2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.50**	**20**	P	**P**	**11 49 40.3**	**+0.2**
	SNR=126						
UCH	**Uchtor**	**5.83**	**25**	P	**P**	**11 49 44.7**	**+0.4**
	SNR=11						
EKS2	**Erkin-Say**	**6.01**	**18**	P	**P**	**11 49 47.0**	**+0.5**
	SNR=13						
KK31	**Karatay Array**	**6.14**	**355**	P	**P**	**11 49 47.8**	**-0.4**
	2.4nm,0.4s,baz=181,slow=12,SNR=50						
KK31				⇓S	**S**	**11 50 58.1**	**-0.6**
	1.5nm,0.4s,baz=183,slow=22,SNR=3.9						
AAK	**Ala-Archa**	**6.19**	**23**	P	**P**	**11 49 49.0**	**+0.2**
	SNR=8.1						
AAK	**Ala-Archa**	**6.19**	**23**	⇑P	**P**	**11 49 48.9**	**+0.1**
	3.7nm,0.5s						
AAK				⇓S	**S**	**11 50 59.3**	**-0.6**
	8.4nm,0.7s						
AAK	**Ala-Archa**	**6.19**	**23**	*e*P	**P**	**11 49 47.9**	**-1.0**
	5.7nm,0.6s						
USP	**Ospenovka**	**6.77**	**21**	P	**P**	**11 49 55.7**	**-0.5**
	SNR=5.8						
TKM2	**Tokmak 2**	**6.83**	**28**	P	**P**	**11 49 57.0**	**+0.1**
	SNR=7.6						
MKAR	**Makanchi Array**	**12.81**	**37**	P	**P**	**11 51 13.5**	**+0.8**
	0.1nm,0.3s,baz=221,slow=10,SNR=4.3						
AB31	**Akbulak array**	**14.75**	**330**	⇓P	**P**	**11 51 36.9**	**+0.4**
	0.3nm,0.5s,baz=145,slow=11,SNR=8.5						
AB31				⇑S	**S**	**11 54 17.2**	**+3.3**
BVAR	**Borovoye Array**	**16.06**	**358**	P	**P**	**11 51 52.4**	**+0.4**
	0.2nm,0.3s,baz=159,slow=13,SNR=4.1						
ZAL	**Zalesovo**	**19.40**	**25**	P	**P**	**11 52 27.6**	**+0.3**
	0.7nm,0.3s,baz=230,slow=7.9,SNR=4.0						
SONM	**Songino Array**	**27.93**	**56**	P	**P**	**11 53 47.9**	**0.0**
	0.3nm,0.5s,mb3.1,baz=286,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**11 55 36.6**	**-0.2**
	1.6nm,0.7s,mb3.5,baz=117,slow=8.1,SNR=4.0						
HFS	**Hagfors**	**42.79**	**322**	P	**P**	**11 55 53.0**	**-0.2**
	2.0nm,0.8s,mb3.6,baz=117,slow=6.6,SNR=5.1						
NOA	**NORSAR Array B**	**44.10**	**323**	P	**P**	**11 56 02.6**	**-1.0**
	1.1nm,0.8s,mb3.2,baz=96,slow=9.2,SNR=2.9						
INK	**Inuvik**	**73.41**	**9**	P	**P**	**11 59 24.6**	**-0.2**
	1.0nm,0.5s,mb3.7,baz=285,slow=3.3,SNR=5.8						
INK	**Inuvik**	**73.41**	**9**	*e*P	**P**	**11 59 24.5**	**-0.3**
	0.9nm,0.5s,mb3.7						
YKA	**Yellowknife Ar**	**80.76**	**3**	P	**P**	**12 00 05.3**	**0.0**
	0.3nm,0.4s,mb3.2,baz=354,slow=5.6,SNR=5.2						

OTT 18 11:54:58.6±0.2, **61.77N**×**76.85W**, **h18**km, **MN2.8**/4, **80km southwest from Salluit, Qc Boothia Ungava Seismic Zone., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**4.30**	**59**	PN	Pn	11 56 02.9	-1.9
FRB				SN	Sn	11 56 48.2	-6.8
FRB				SG	Sn	11 57 04.7	+10
FRB				Trac		11 57 08.0	
	comp=Z,9.5nm,0.5s						
KUQ	**Kuujjuuaa**	**5.61**	**127**	PN	Pn	11 56 20.5	-2.7
KUQ				SN	Sn	11 57 20.8	-7.2
KUQ				LG		11 57 46.8	
KUQ				Trac		11 57 49.3	
	comp=Z,7.0nm,0.2s						
QILN	**Qililugaq Expl**	**6.42**	**324**	PN	Pn	11 56 30.4	-4.3
QILN				SN	Sn	11 57 40.4	-8.0
QILN				LG		11 58 16.5	
QILN				Trac		11 58 19.9	
	comp=Z,8.7nm,0.8s						
SRLN	**Sarcpa Lake, N**	**7.33**	**341**	PN	Pn	11 56 44.1	-3.5
SRLN				SN	Sn	11 58 02.5	-8.6
SRLN				LG		11 58 41.9	
SRLN				Trac		11 58 50.5	
	comp=Z,9.3nm,0.7s						
LAIN	**Lailor River,**	**7.87**	**342**	PN	Pn	11 56 51.0	-4.1
LAIN				SN	Sn	11 58 13.7	-11
LAIN				LG		11 58 55.9	
LAIN				Trac		11 59 06.2	
	comp=Z,8.7nm,1.1s						
ILON	**Igloolik, Nuna**	**7.91**	**347**	PN	Pn	11 56 52.0	-3.6
ILON				SN	Sn	11 58 15.2	-10
ILON				LG		11 58 56.7	
ILON				Trac		11 59 06.8	
	comp=Z,102nm,1.4s						
LG4Q	**La Grande 4**	**8.29**	**169**	PN	P	11 56 56.8	-4.2
LG4Q				SN	Sn	11 58 24.4	-11
LG4Q				Trac		11 59 18.5	
	comp=Z,3.4nm,0.3s						
AP3N	**Apex site 3 Nu**	**8.33**	**341**	PN	P	11 56 58.0	-3.5
AP3N				SN	Sn	11 58 25.1	-11
AP3N				LG		11 59 12.6	
AP3N				Trac		11 59 18.9	
	comp=Z,11nm,0.5s						
SILO	**Sutton Inlier**	**8.46**	**214**	PN	P	11 56 57.1	-6.1
SILO				SN	Sn	11 58 26.2	-13
SILO				SN	Sn	11 58 27.8	-11
SILO				LG		11 59 13.9	
GIFN	**Gifford Fjord,**	**8.49**	**349**	PN	P	11 56 59.5	-4.1
GIFN				SN	Sn	11 58 29.6	-10
GIFN				LG		11 59 19.2	
GIFN				Trac		11 59 28.0	
	comp=Z,8.8nm,1.4s						
WEMQ	**Wemindji, Queb**	**8.76**	**184**	PN	P	11 57 00.7	-6.7
WEMQ				SN	Sn	11 58 32.8	-14
WEMQ				LG		11 59 17.4	
WEMQ				Trac		11 59 23.9	
	comp=Z,9.2nm,0.4s						
FCC	**Fort Churchill**	**9.08**	**258**	PN	P	11 57 06.8	-5.0
FCC				SN	Sn	11 58 42.5	-12
FCC				LG		11 59 35.6	
FCC				Trac		11 59 37.9	
	comp=Z,3.5nm,0.7s						
VIMO	**Victor Mine**	**9.71**	**206**	PN	P	11 57 15.5	-4.9
VIMO				SN	Sn	11 58 54.3	-16
PINU	**Pond Inlet**	**10.99**	**358**	PN	P	11 57 19.2	-19
PINU				SN	S	11 59 13.2	-28
PINU				LG		12 00 19.1	

*IDC **18** 12:00:03.5±1.4, 32.38N×93.47E, mb3.6/3, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=55.4km s-min=25.9km az=53.0*
*NEIC **18** 12:00:08.4±0.9, 32.45N×93.42E, h35km, mb3.7/1, Error ellipse: s-maj=21.0km s-min=13.0km az=95.0*
*BJI **18** 12:00:15.9, 32.72N×93.61E, h35km, mb4.1*
ISC 18 12:00:08.3±1.5, **32.7N**±0.1×**93.4E**±0.2, **h33**km, **n9**, σ**1s02**/10, **mb3.6**/4, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.54**	**214**	*e*P	**P**	**12 00 58.5**	**-3.8**
LSA				*e*S	**S**	**12 01 44.0**	**+0.4**
GTA	**Gaotai**	**8.49**	**36**	*e*P	**P**	**12 02 17.8**	**+6.0**
GTA				AP		12 02 21.6	
GTA				XP		12 02 25.0	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s						
KMI	**Kunming**	**11.11**	**130**	P	**P**	**12 02 54.0**	**+6.0**
KMI				AMB	AMB		
	comp=Z,15nm,2.0s						
MKAR	**Makanchi Array**	**16.46**	**332**	Pn	**P**	**12 03 58.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=141,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**18.06**	**29**	P	**P**	**12 04 18.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=216,slow=13,SNR=5.1						
KURK	**Kurchatov**	**21.06**	**333**	P	**P**	**12 04 51.3**	**-0.5**
	comp=Z,3.3nm,0.9s,mb3.7						
BVAR	**Borovoye Array**	**26.22**	**328**	P	**P**	**12 05 43.2**	**+1.5**
	comp=Z,0.4nm,0.4s,mb3.3,baz=121,slow=8.4,SNR=2.7						
GERES	**GERESS Array B**	**59.80**	**311**	P	**P**	**12 10 11.5**	**-0.9**
	comp=Z,0.3nm,0.5s,mb3.6,baz=63,slow=6.6,SNR=2.4						
WRA	**Warramunga Arr**	**65.34**	**137**	P	**P**	**12 10 46.2**	**-3.5**
	comp=Z,1.2nm,1.0s,mb3.9,baz=333,slow=6.5,SNR=5.8						

*IDC **18** 12:04:52.1±1.1, 20.27N×91.42E, mb3.9/11, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, MS3.4/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=42.9km s-min=23.2km az=50.0*
*NEIC **18** 12:04:53.9±3.2, 20.33N×91.45E, h11km±18km, mb4.0/1, Error ellipse: s-maj=11.4km s-min=9.2km az=120.0*
ISC 18 12:04:57.1±0.6, **20.53N**±0.05×**91.18E**±0.05, **h33**km, **n32**, σ**0s90**/41, **mb3.9**/11, **MS3.4**/1, **Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**5.06**	**7**	*e*P	**P**	**12 06 13.0**	**+0.4**
SHL				*e*S	**S**	**12 07 08.0**	**-2.7**
BOK	**Bokaro**	**5.88**	**305**	*e*P	**P**	**12 06 25.7**	**+1.6**
BOK				*i* S	**S**	**12 07 33.0**	**+1.7**
BOK				AML	AML	12 07 37.8	
	comp=N,87nm,0.3s						
BOK				AML	AML	12 07 41.3	
	comp=E,57nm,0.4s						
CHG	**Chiang Mai**	**7.52**	**102**	P	**P**	**12 06 46.5**	**-0.5**
VIS	**Vishakhapatnam**	**7.92**	**251**	*e*P	**P**	**12 06 51.6**	**-1.2**
VIS				*i* x	x	12 07 07.3	
VIS				*e*S	**S**	**12 08 15.5**	**-6.7**
VIS				AML	AML	12 08 16.1	
	comp=N,30nm,0.1s						
VIS				AML	AML	12 08 17.0	
	comp=E,29nm,0.2s						
PKI	**Pulchoki**	**8.77**	**324**	*e*P	**P**	**12 07 04.9**	**+0.4**
	comp=E,67nm,0.3s						
PKI				*e*S	**S**	**12 08 43.7**	**+0.4**
DMN	**Daman**	**8.97**	**323**	*e*P	**P**	**12 07 08.0**	**+0.8**
	comp=E,53nm,0.4s						
DMN				*e*S	**S**	**12 08 47.3**	**-0.9**
KKN	**Kakani**	**9.01**	**324**	*e*P	**P**	**12 07 08.6**	**+0.8**
	comp=E,40nm,0.5s						
KKN				*e*S	**S**	**12 08 48.8**	**-0.5**
LSA	**Lhasa**	**9.13**	**360**	*e*P	**P**	**12 07 08.9**	**-0.7**
	comp=E,16nm,0.6s						
GKN	**Gorkha**	**9.54**	**323**	*e*P	**P**	**12 07 15.7**	**+0.6**
	comp=E,67nm,0.3s						
GKN				*e*S	**S**	**12 09 01.2**	**-1.1**
NST	**Nakhon Sawan**	**9.79**	**118**	P	**P**	**12 07 13.0**	**-5.7**
KOLN	**Koldanda**	**9.99**	**318**	*e*P	**P**	**12 07 21.7**	**+0.3**
	comp=E,92nm,0.3s						
KOLN				*e*S	**S**	**12 09 12.5**	**-1.0**
NGP	**Nagpur**	**11.36**	**275**	*e*P	**P**	**12 07 38.9**	**-1.1**
NGP				*e*S	**S**	**12 09 42.9**	**-3.9**
NGP				AML	AML	12 10 17.1	
	comp=E,23nm,0.4s						
NGP				AML	AML	12 10 18.9	
	comp=N,30nm,0.4s						
HYB	**Hyderabad**	**12.33**	**258**	*i* P	**P**	**12 07 53.0**	**-0.3**
HYB				*e*S	**S**	**12 10 09.5**	**-1.1**
HYB	**Hyderabad**	**12.33**	**258**	*e*P	**P**	**12 07 53.0**	**-0.3**
HYB				*e*S	**S**	**12 10 09.5**	**-1.1**
BHPL	**Bhopal**	**13.05**	**284**	*e*P	**P**	**12 08 03.8**	**+1.0**
BHPL				*e*S	**S**	**12 10 20.3**	**-7.4**
BHPL				AML	AML	12 10 41.6	
	comp=N,17nm,0.5s						
BHPL				AML	AML	12 10 45.0	
	comp=E,16nm,0.6s						
AJM	**Ajmer**	**16.27**	**294**	*e*P	**P**	**12 08 45.5**	**+0.7**
AJM				*e*x	x	12 11 38.3	
AJM				AML	AML	12 11 55.2	
	comp=E,8.5nm,0.6s						
AJM				AML	AML	12 12 04.4	
	comp=N,8.0nm,0.6s						
KAD	**Karad**	**16.39**	**262**	*e*x	x	12 11 35.0	
MKAR	**Makanchi Array**	**27.19**	**347**	P	**P**	**12 10 40.6**	**+1.0**
	comp=N,0.6nm,0.4s,mb3.5,baz=174,slow=8.0,SNR=8.6						
SONM	**Songino Array**	**29.90**	**21**	P	**P**	**12 11 03.0**	**-0.8**
	comp=N,0.5nm,0.6s,mb3.4,baz=186,slow=6.6,SNR=4.2						
BVAR	**Borovoye Array**	**36.19**	**339**	P	**P**	**12 11 58.7**	**+0.3**
	comp=N,0.4nm,0.4s,mb3.7,baz=166,slow=12,SNR=3.4						
MJAR	**Matsushiro Arr**	**43.85**	**58**	LR	LR	12 33 01.9	
	comp=N,47nm,20.0s,MS3.4,baz=150,slow=39						
BR131	**Keskin Array S**	**52.42**	**305**	*e*P	**P**	**12 14 08.9**	**+0.3**
	comp=N,0.9nm,0.4s,mb4.0						
BRTR	**Keskin Array B**	**52.42**	**305**	P	**P**	**12 14 09.3**	**+0.8**
	comp=N,1.1nm,0.7s,mb3.9,baz=123,slow=9.7,SNR=5.2						
AKASG	**Malin Array Be**	**56.68**	**318**	P	**P**	**12 14 38.9**	**-0.6**
	comp=N,0.2nm,0.2s,mb3.8,baz=81,slow=7.1,SNR=8.1						
AKASG	**Malin Array Be**	**56.68**	**318**	P	**P**	**12 14 38.9**	**-0.6**
WRA	**Warramunga Arr**	**58.33**	**131**	P	**P**	**12 14 46.8**	**-4.8**
	comp=N,0.3nm,0.6s,mb3.5,baz=318,slow=7.5,SNR=8.5						
FINES	**FINESS Array B**	**60.31**	**330**	P	**P**	**12 15 04.5**	**-0.2**
	comp=N,2.3nm,0.9s,mb4.2,baz=90,slow=9.5,SNR=7.4						
ARCES	**ARCESS Array B**	**62.48**	**339**	P	**P**	**12 15 19.1**	**-0.1**
	comp=N,2.2nm,0.8s,mb4.4,baz=90,slow=8.5,SNR=7.0						
HFS	**Hagfors**	**66.20**	**328**	P	**P**	**12 15 43.2**	**-0.2**
	comp=N,5.6nm,0.9s,mb4.6,baz=90,slow=7.4,SNR=9.7						
GERES	**GERESS Array B**	**66.67**	**315**	P	**P**	**12 15 47.2**	**+0.6**
	comp=N,0.7nm,0.5s,mb4.0,baz=80,slow=8.1,SNR=5.3						
ESDC	**Sonseca Array**	**80.97**	**309**	P	**P**	**12 17 11.0**	**+1.0**
	comp=N,0.3nm,0.5s,mb3.5,baz=51,slow=5.3,SNR=6.7						
SDV	**Santo Domingo**	**145.73**	**327**	PKPbc	PKPbc	12 24 34.8	+0.9
	comp=N,2.0nm,0.2s,baz=35,slow=12,SNR=4.4						

MAN 18 12:34:48.7, 9.83N×125.41E, h12km, mb3.9, ML2.7, MS2.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.09**	**121**	⇓*e*P	Pg	12 34 51.6	+0.1
SCPH						12 34 54.1	
MSLP	**Maasin**	**0.62**	**299**	*e*P	Pb	12 35 01.0	0.0
MSLP				*e*S	Sb	12 35 12.6	+3.3
BUTP	**Butuan**	**0.88**	**166**	*e*P	Pb	12 35 05.4	-0.1
BUTP				*e*S	Sb	12 35 20.0	+3.1
BESP	**Borongan**	**1.76**	**1**	*e*P	Pn	12 35 19.1	-0.2

*IDC **18** 12:42:31.0±2.2, 24.10S×179.71E, h518km±22km, mb3.5/7, mb1 3.8/8, mb1mx3.5/14, mbtmp4.4/8, Error ellipse: s-maj=36.4km s-min=14.4km az=162.0*
*NEIC **18** 12:42:34.6±1.8, 24.21S×179.63E, h567km±20km, mb4.7/5, Error ellipse: s-maj=15.2km s-min=12.7km az=118.0*
ISC 18 12:42:31.8±2.3, **24.2S**±0.1×**179.7E**±0.1, **h545**km±27km, **n26**, σ**0s71**/23, **mb4.2**/14, **4D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.36**	**277**	*e*P	**P**	**12 45 16.8**	**+2.4**
DZM	**Mont Dzumac**	**12.36**	**277**	P	**P**	**12 45 14.1**	**-0.3**
	2.0nm,0.3s,baz=87,slow=16,SNR=25						
HNR	**Honiara**	**23.89**	**305**	P	**P**	**12 47 03.5**	**-1.0**
	19nm,0.5s,mb5.0,baz=149,slow=5.9,SNR=3.1						
CTAO	**Charters Tower**	**31.18**	**271**	*e*P	**P**	**12 48 09.1**	**+1.1**
	20nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**34.32**	**249**	P	**P**	**12 48 34.9**	**+0.6**
	4.0nm,0.5s,mb4.2,baz=93,slow=9.5,SNR=14						
ASPA	**Alice Springs**	**41.69**	**261**	⇓*i*P	**P**	**12 49 34.6**	**+0.2**
WB2	**Warramunga Arr**	**42.07**	**267**	⇓*i*P	**P**	**12 49 37.3**	**-0.2**
WRAB	**Tennant Creek**	**42.08**	**267**	*e*P	**P**	**12 49 37.2**	**-0.3**
	12nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**42.09**	**267**	P	**P**	**12 49 37.5**	**-0.1**
	8.4nm,0.5s,mb4.5,baz=102,slow=8.1,SNR=161						
WRA				ScP		12 54 22.4	
	3.8nm,0.9s,baz=101,slow=3.7,SNR=21						
WRA				S	**S**	**12 55 19.7**	**+1.2**
	0.8nm,0.9s,baz=101,slow=14,SNR=3.6						
FORT	**Forrest**	**45.91**	**250**	*e*P	**P**	**12 50 06.2**	**-1.1**
	13nm,0.5s,mb4.7						
KAKA	**Kakadu**	**46.04**	**276**	⇓*i*P	**P**	**12 50 27.0**	**+19**
	6.9nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.50**	**266**	*e*P	**P**	**12 50 41.8**	**-0.1**
	13nm,0.6s,mb4.4						
SBA	**Scott Base**	**54.02**	**183**	*e*P	**P**	**12 51 05.8**	**-0.5**
	2.7nm,1.0s,mb3.5						
KLBR	**Kellerberrin**	**54.58**	**248**	*e*P	**P**	**12 51 09.7**	**-1.2**
	65nm,1.8s,mb4.6						
MJAR	**Matsushiro Arr**	**72.01**	**326**	P	**P**	**12 53 01.6**	**-0.3**
	0.6nm,0.8s,mb3.1,baz=139,slow=12,SNR=4.1						
VNA3	**Neumayer Olymp**	**84.56**	**177**		**P**	**12 54 08.1**	**+0.3**
VNA2	**Neumayer--Watz**	**84.97**	**178**		**P**	**12 54 10.2**	**+0.4**
NVAR	**Mina Array Bea**	**85.20**	**44**	P	**P**	**12 54 12.0**	**+0.3**
	1.0nm,0.7s,mb3.4,baz=226,slow=9.9,SNR=9.1						
NVAR	**Mina Array Bea**	**85.20**	**44**	P	**P**	**12 54 12.0**	**+0.3**
TXAR	**Lajitas Array**	**90.86**	**58**	P	**P**	**12 54 39.0**	**+0.6**
	1.6nm,0.8s,mb4.0,baz=209,slow=6.6,SNR=22						
TXAR	**Lajitas Array**	**90.86**	**58**	P	**P**	**12 54 39.0**	**+0.6**
PDAR	**Pinedale Array**	**93.14**	**44**	P	**P**	**12 54 48.4**	**-0.2**
	0.4nm,0.6s,mb3.6,baz=175,slow=2.6,SNR=4.9						
ARCES	**ARCESS Array B**	**132.16**	**348**	PKP	PKPdf	13 00 43.0	+0.1
	1.7nm,0.8s,baz=315,slow=1.7,SNR=4.0						
AKASG	**Malin Array Be**	**145.09**	**327**	PKP	PKPdf	13 01 08.3	+1.8
	0.5nm,0.4s,baz=45,slow=3.9,SNR=7.2						
AKASG	**Malin Array Be**	**145.09**	**327**	PKP	PKPdf	13 01 08.3	+1.8
CLL	**Collm**	**151.09**	**343**	⇓*i*PKP1	PKPdf	13 01 24.7	+8.6

*CNRM **18** 13:05:14.7, 35.62N×3.80W, h23km, MD2.9*
*CSEM **18** 13:05:19.4±0.2, 35.25N×3.75W, h12km, MD2.9, Error ellipse: s-maj=4.9km s-min=3.3km az=93.0*
*MDD **18** 13:05:20.2±0.3, 35.42N×3.83W, mbLg2.0/7, Error ellipse: s-maj=3.4km s-min=2.5km az=96.0, PRXIMO*
ISC 18 13:05:18.8±0.6, **35.47N**±0.03×**3.88W**±0.05, **h1**km±6km, **n34**, σ**0s97**/50, **2C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.25**	**192**	P	**Pg**	**13 05 23.0**	**-0.9**
MPAL				S	**Sg**	**13 05 28.0**	**+0.8**
MPAL	**Palemas**	**0.25**	**192**	*i* P	**Pg**	**13 05 23.0**	**-0.9**
TOU	**Touzarine**	**0.52**	**169**	*i* P	**Pg**	**13 05 27.0**	**-2.2**
TOU				*i* S	**Sg**	**13 05 36.0**	**-0.1**
EMEL	**Melilla**	**0.77**	**103**	⇑Pg	**Pg**	**13 05 34.2**	**-0.1**
	94nm,0.4s,SNR=18						
EMEL				Lg		13 05 43.2	
	161nm,0.1s,SNR=17						
EMLI	**Melilla**	**0.78**	**102**	Pg	**Pg**	**13 05 34.2**	**-0.1**
	94nm,0.4s,SNR=18						
EMLI				Lg		13 05 43.2	
	161nm,0.1s,SNR=17						
EALB	**Alboran**	**0.83**	**55**	⇑Pg	**Pg**	**13 05 35.3**	**-0.1**
	38nm,0.4s,SNR=18						
EALB				Lg		13 05 45.5	
	17nm,0.1s,SNR=7.9						
EALB	**Alboran**	**0.83**	**55**	Pg	**Pg**	**13 05 35.3**	**-0.1**
	38nm,0.4s,SNR=18						
EALB				Lg		13 05 45.5	
	17nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.31**	**327**	Pn	**Pn**	**13 05 44.3**	**0.0**
	SNR=7.9						
EMIJ				Pg	**Pg**	**13 05 45.2**	**+0.2**
	3.1nm,0.3s,SNR=16						
EMIJ				Lg		13 06 02.8	
	14nm,0.2s,SNR=12						
EGUA	**Guajares**	**1.38**	**10**	Pg	**Pg**	**13 05 46.2**	**-0.3**
	SNR=4.0						
EGUA				Lg		13 06 03.3	
	0.9nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.40**	**190**	*i* S	**Sb**	**13 05 58.0**	**-5.8**
EBER	**Berja**	**1.63**	**29**	Pn	**Pn**	**13 05 49.3**	**+0.5**
	SNR=4.0						
EBER				Lg		13 06 12.3	
	1.3nm,0.1s,SNR=4.0						
EBER	**Berja**	**1.63**	**29**	Pn	**Pn**	**13 05 49.3**	**+0.4**
	SNR=4.0						
EBER				Lg		13 06 12.3	
	1.3nm,0.1s,SNR=4.0						
ELOJ	**Sierra Loja**	**1.69**	**352**	Pg	**Pg**	**13 05 51.5**	**-1.0**
	SNR=4.0						
ELOJ				Lg		13 06 14.8	
	1.9nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.77**	**11**	Pn	**Pn**	**13 05 51.8**	**+1.0**
	SNR=7.9						
EQUE				Pg	**Pg**	**13 05 53.6**	**-0.5**
	1.4nm,0.3s,SNR=8.9						
EQUE				Sn	**Sn**	**13 06 12.5**	**-1.7**
	SNR=7.9						
ELUQ	**Luque**	**2.11**	**352**	Pn	**Pn**	**13 05 57.1**	**+1.4**
	SNR=4.0						
ELUQ				Lg		13 06 28.8	
	1.6nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.11**	**352**	Pn	**Pn**	**13 05 58.4**	**+2.7**
	SNR=4.0						
ELUQ				Lg		13 06 28.8	
	1.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.12**	**312**	Lg		13 06 31.1	
	SNR=7.9						
EQES	**Quesada**	**2.42**	**15**	Pn	**Pn**	**13 06 01.6**	**+1.6**
	1.5nm,0.3s,SNR=21						
EQES				Sn	**Sn**	**13 06 30.4**	**-0.4**
	SNR=7.9						
EQES	**Quesada**	**2.42**	**15**	Pn	**Pn**	**13 06 01.6**	**+1.5**
	1.5nm,0.3s,SNR=21						
EQES				Sn	**Sn**	**13 06 30.4**	**-0.3**
	SNR=7.9						
EBAN	**Banos Encina**	**2.69**	**2**	Sn	**Sn**	**13 06 37.0**	**-0.6**
	SNR=7.9						
EADA	**Adamuz**	**2.75**	**348**	Pn	**Pn**	**13 06 07.0**	**+2.1**
	SNR=7.9						
EADA				Sn	**Sn**	**13 06 38.3**	**-0.9**
	SNR=7.9						
EADA	**Adamuz**	**2.75**	**348**	Pn	**Pn**	**13 06 07.0**	**+2.2**
	SNR=7.9						
EADA				Sn	**Sn**	**13 06 38.3**	**-0.9**
	SNR=7.9						
ECAB	**El Cabril**	**2.88**	**335**	Pn	**Pn**	**13 06 08.0**	**+1.3**
	SNR=7.9						
ECAB				Lg		13 06 53.4	
	1.6nm,0.3s,SNR=4.0						
ECAB	**El Cabril**	**2.88**	**335**	Pn	**Pn**	**13 06 08.0**	**+1.3**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.21**	**316**	Pn	**Pn**	**13 06 11.8**	**+0.4**
	SNR=7.9						
EMIN				Sn	**Sn**	**13 06 51.1**	**+0.2**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.21**	**316**	Pn	**Pn**	**13 06 11.8**	**+0.4**
	SNR=7.9						
EMIN				Sn	**Sn**	**13 06 51.1**	**+0.2**
	SNR=7.9						
EGRO	**El Granado**	**3.56**	**306**	Pn	**Pn**	**13 06 16.9**	**+0.5**
	5.0nm,0.9s,SNR=8.4						
EGRO				Sn	**Sn**	**13 06 58.6**	**-1.1**
	SNR=7.9						
EGRO	**El Granado**	**3.56**	**306**	Pn	**Pn**	**13 06 16.9**	**+0.5**
	5.0nm,0.9s,SNR=8.4						
EGRO				Sn	**Sn**	**13 06 58.6**	**-1.1**
	SNR=7.9						
ETOB	**Tobarra**	**3.67**	**30**	Pn	**Pn**	**13 06 18.4**	**+0.4**
	2.5nm,0.3s,SNR=24						
ETOB				Sn	**Sn**	**13 06 58.3**	**-4.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	SNR=7.9						
ETOB	Tobarra	3.67	30	Pn	Pn	13 06 18.4	+0.4
	2.5nm,0.3s,SNR=24						
ETOB				Sn	Sn	13 06 58.3	-4.3
	SNR=7.9						
EBAD	Badajoz	4.13	324	Pn	Pn	13 06 24.5	0.0
	SNR=7.9						
EBAD				Sn	Sn	13 07 11.0	-3.0
	SNR=7.9						
EBAD	Badajoz	4.13	324	Pn	Pn	13 06 24.5	+0.1
	SNR=7.9						
EBAD				Sn	Sn	13 07 13.2	-0.9
	SNR=7.9						
ESDC	Sonseca Array	4.20	359	Pn	Pn	13 06 25.9	+0.5
	0.1nm,0.3s,baz=178,slow=14,SNR=4.5						
ESDC	Sonseca Array	4.20	359	Pn	Pn	13 06 25.9	+0.5
	0.1nm,0.3s,SNR=4.5						

*CNRM **18** 13:14:39.5, 35.47N×3.69W, h14km, MD2.6*
*MDD **18** 13:14:53.9±0.9, 35.54N×3.85W, mbLg1.5/13, Error ellipse: s-maj=9.6km s-min=4.7km az=19.0, PRXIMO SOLUCIN POBRE*
CSEM 18 13:14:46.0±0.3**, 35.00N×3.74W, h10km, MD2.6, Error ellipse: s-maj=9.2km s-min=6.2km az=115.0, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.04	197	*i* P	Pg	13 14 49.5	+1.5
TOU				*i* S	Sg	13 14 56.5	+7.2
MPAL	Palemas	0.28	323	*i* P	Pg	13 14 45.0	-6.8
MPAL				*i* S	Sg	13 14 50.5	-5.2
EMEL	Melilla	0.71	65	P	Pb	13 15 08.5	+8.6
	73nm,0.1s,SNR=4.0						
EMEL				S	Sb	13 15 18.2	+8.7
	34nm,0.1s,SNR=5.0						
EMLI	Melilla	0.71	65	P	Pb	13 15 08.5	+8.5
	73nm,0.1s,SNR=4.0						
EMLI				S	Sb	13 15 18.2	+8.6
	34nm,0.1s,SNR=5.0						
ZAI	Zaio	0.82	92	*e*P	Pb	13 14 56.0	-5.8
ZAI				*i* S	Sb	13 15 08.0	-4.6
TZK	Tazeka	0.98	202	*e*P	Pb	13 15 05.0	+0.4
TZK				*i* S	Sb	13 15 21.0	+3.6
EALB	Alboran	1.10	31	P	Pb	13 15 08.0	+1.4
	8.2nm,0.2s,SNR=7.9						
EALB				S	Sb	13 15 18.2	-2.7
	3.6nm,0.1s,SNR=7.9						
EALB	Alboran	1.10	31	P	Pb	13 15 08.0	+1.3
	8.2nm,0.2s,SNR=7.9						
EALB				S	Sb	13 15 18.2	-2.7
	3.6nm,0.1s,SNR=7.9						
EMIJ	Mijas	1.77	332	P	Pn	13 15 16.7	-0.3
	0.6nm,0.1s,SNR=4.0						
EMIJ				S	Sn	13 15 35.1	-4.7
	1.2nm,0.1s,SNR=5.8						
EBER	Berja	2.02	20	P	Pn	13 15 22.8	+2.3
	0.4nm,0.2s,SNR=4.0						
EBER				S	Sn	13 15 42.3	-3.6
	3.9nm,0.3s,SNR=7.9						
EBER	Berja	2.02	20	P	Pn	13 15 22.8	+2.3
	0.4nm,0.2s,SNR=4.0						
EBER				S	Sn	13 15 42.3	-3.6
	3.9nm,0.3s,SNR=7.9						
EJIF	Jimena Fronter	2.02	316	P	Pn	13 15 22.4	+1.9
	0.2nm,0.2s,SNR=4.0						
EJIF				S	Sn	13 15 42.7	-3.4
	0.6nm,0.2s,SNR=4.0						
EQUE	Quentar	2.21	6	P	Pn	13 15 22.4	-0.9
	0.3nm,0.3s,SNR=4.0						
EQUE				S	Sn	13 15 46.8	-4.2
	0.9nm,0.2s,SNR=7.9						
EQES	Quesada	2.85	11	P	Pn	13 15 32.1	-0.3
	0.1nm,0.1s,SNR=4.0						
EQES				S	Sn	13 16 01.9	-5.2
	1.5nm,0.2s,SNR=7.9						
EQES	Quesada	2.85	11	P	Pn	13 15 32.1	-0.3
	0.1nm,0.1s,SNR=4.0						
EQES				S	Sn	13 16 01.9	-5.2
	1.5nm,0.2s,SNR=7.9						
EADA	Adamuz	3.23	348	S	Sn	13 16 09.4	-7.4
	0.2nm,0.1s,SNR=4.0						
EADA	Adamuz	3.23	348	S	Sn	13 16 09.4	-7.4
	0.2nm,0.1s,SNR=4.0						
ECAB	El Cabril	3.35	337	P	Pn	13 15 38.5	-1.1
	0.2nm,0.2s,SNR=4.0						
ECAB				S	Sn	13 16 11.7	-8.1
	0.4nm,0.2s,SNR=7.9						
ECAB	El Cabril	3.35	337	P	Pn	13 15 38.5	-1.1
	0.2nm,0.2s,SNR=4.0						
ECAB				S	Sn	13 16 11.7	-8.2
	0.4nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.64	320	P	Pn	13 15 43.8	+0.2
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	13 16 21.1	-5.9
	0.2nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.64	320	P	Pn	13 15 43.8	+0.2
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	13 16 21.1	-5.9
	0.2nm,0.2s,SNR=7.9						
EGRO	El Granado	3.94	311	P	Pn	13 15 48.6	+0.7
	0.3nm,0.1s,SNR=7.9						
EGRO				S	Sn	13 16 26.7	-8.1
	0.5nm,0.1s,SNR=7.9						
EGRO	El Granado	3.94	311	P	Pn	13 15 48.7	+0.8
	0.3nm,0.1s,SNR=7.9						
EGRO				S	Sn	13 16 26.7	-8.1
	0.5nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.04	25	P	Pn	13 15 49.8	+0.4
	0.3nm,0.3s,SNR=7.9						
ETOB				S	Sn	13 16 32.0	-5.3
	0.1nm,0.1s,SNR=4.0						
ETOB	Tobarra	4.04	25	P	Pn	13 15 49.8	+0.5
	0.3nm,0.3s,SNR=7.9						
ETOB				S	Sn	13 16 32.0	-5.3
	0.1nm,0.1s,SNR=4.0						
EBAD	Badajoz	4.58	326	P	Pn	13 15 57.0	+0.1
	0.3nm,0.1s,SNR=4.0						
EBAD				S	Sn	13 16 42.8	-8.0
	1.2nm,0.2s,SNR=7.9						

WEL 18 13:27:22.4±0.3**, 39.18S×174.97E, h211km±2km, ML3.8**/8**, 1C, Error ellipse: s-maj=3.8km s-min=2.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.17	288	*e*PN	P	13 27 49.3	-1.0
VRZ				SN	S	13 28 10.7	-1.1
PKVZ	Pokaka	0.32	111	PN	P	13 27 50.1	-0.5
PKVZ				SN	S	13 28 11.8	-0.6
MTVZ	Mangateitei	0.44	118	PN	P	13 27 50.6	-0.4
MTVZ				SN	S	13 28 11.9	-1.2
WPVZ	Whakapapa	0.45	94	PN	P	13 27 50.6	-0.4
CNZ	Chateau	0.45	93	PN	P	13 27 50.5	-0.5
FWVZ	Far West T-bar	0.46	100	PN	P	13 27 50.8	-0.3
FWVZ				SN	S	13 28 12.1	-1.0
TUVZ	Tukino	0.54	100	PN	P	13 27 51.1	-0.2
WAZ	Wanganui	0.58	178	PN	P	13 27 51.5	+0.1
WAZ				SN	S	13 28 13.8	0.0
MOVZ	Moawhango	0.65	111	PN	P	13 27 51.1	-0.6
MOVZ				SN	S	13 28 12.7	-1.8
TSZ	Takapari Road	1.17	139	PN	P	13 27 54.9	+0.1
TSZ				SN	S	13 28 19.5	-0.4
BKZ	Black Stump Fm	1.19	90	*e*PN	P	13 27 54.1	-0.9
BKZ				SN	S	13 28 18.2	-1.9
MRZ	Mangatainoka R	1.56	163	PN	P	13 27 57.3	-0.7
MRZ				SN	S	13 28 23.9	-1.6
KIW	Kapiti Island	1.68	181	PN	P	13 27 58.4	-0.8
PXZ	Pawanui	1.70	121	PN	P	13 27 59.0	-0.3
PXZ				SN	S	13 28 26.6	-1.0
BFZ	Birch Farm	1.80	147	PN	P	13 27 59.7	-0.5
DUWZ	D'Urville Isla	1.81	206	PN	P	13 27 59.3	-1.0
URZ	Urewera	1.91	62	PN	P	13 27 58.7	-2.5
URZ				SN	S	13 28 26.7	-4.5
CAW	Cannon Point	1.93	178	PN	P	13 28 00.7	-0.8
MTW	Mount Morrison	2.02	168	PN	P	13 28 01.3	-1.0
MRW	Makara Radio	2.06	186	PN	P	13 28 01.8	-1.0
TCW	Tory Channel	2.10	194	PN	P	13 28 02.3	-0.8
WEL	Wellington	2.11	184	PN	P	13 28 02.2	-1.1
SNZO	South Karori	2.14	185	PN	P	13 28 02.4	-1.2
MWZ	Matawai	2.17	68	PN	P	13 28 01.8	-2.2
BHW	Baring Head	2.23	182	PN	P	13 28 03.2	-1.3
PAWZ	Paruwai Farm	2.23	171	PN	P	13 28 03.5	-1.1
MSWZ	Moikau Station	2.25	175	PN	P	13 28 03.6	-1.2
NNZ	Nelson	2.37	210	⇑PN	P	13 28 04.4	-1.6
NNZ				SN	S	13 28 37.1	-2.7
TUWZ	Tuamarina	2.38	199	PN	P	13 28 04.9	-1.3

*CSEM **18** 13:55:27.3±0.8, 38.81N×27.67W, h10km, ML1.5, Error ellipse: s-maj=3.7km s-min=2.6km az=28.0, After PDA*
*PDA **18** 13:55:27.3±0.8, 38.81N×27.67W, h10km, MD3.1, ML1.5, Error ellipse: s-maj=3.7km s-min=2.6km az=28.0*
SVSA 18 13:55:27.3±0.8**, 38.81N×27.67W, h10km, MD3.1, ML1.5, Error ellipse: s-maj=3.7km s-min=2.6km az=28.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSBA	Serra de Santa	0.27	99	*e*S	Sg	13 55 36.0	-0.9
	11nm,0.1s						
PGRA	Graciosa	0.33	312	*e*P	Pg	13 55 33.0	-1.0
PGRA				*e*S	Sg	13 55 37.4	-1.1
	69nm,0.1s						
STGR	Santa Cruz	0.37	316	*e*S	Sg	13 55 39.8	-0.3
	19nm,0.1s						
PICO	Pico	0.67	242	*i* P	Pb	13 55 38.5	-2.1
PICO				*e*S	Sb	13 55 46.1	-3.5
PICO	Pico	0.67	242	*e*S	Sb	13 55 46.1	-3.5

*CSEM **18** 14:17:33.2±0.4, 38.80N×27.71W, ML1.8, Error ellipse: s-maj=9.2km s-min=1.8km az=92.0*
*PDA **18** 14:17:33.2±0.4, 38.80N×27.71W, MD3.1, ML1.8, Error ellipse: s-maj=9.2km s-min=1.8km az=92.0*
SVSA 18 14:17:33.2±0.4**, 38.80N×27.71W, MD3.1, ML1.8, Error ellipse: s-maj=9.2km s-min=1.8km az=92.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSBA	Serra de Santa	0.30	97	*e*rx		14 17 42.9	
PGRA	Graciosa	0.31	317	*e*P	Pg	14 17 39.0	-0.4
PGRA				*e*S	Sg	14 17 43.4	-0.1
PMAN	Manadas	0.34	240	*i* P	Pg	14 17 39.5	-0.5
PMAN				*i* S	Sg	14 17 44.3	-0.3
	299nm,0.2s						
PMAN	Manadas	0.34	240	*i* S	Sg	14 17 44.3	-0.3
STGR	Santa Cruz	0.36	320	*i* S	Sg	14 17 46.6	+1.4
	18nm,0.1s						
PICO	Pico	0.64	242	*e*P	Pg	14 17 44.5	-1.4
PICO				*e*S	Sg	14 17 53.0	-1.4

*NEIC **18** 14:23:53.8, 15.60N×95.61W, h15km, MD3.5(MEX), After MEX.*
MEX 18 14:23:53.7±0.6**, 15.60N×95.61W, h15km±72km, MD3.5, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.51	289	*i* P	Pb	14 24 02.3	-1.5
HUIG				*i* S	Sb	14 24 08.6	-2.1
CMIG	Matias Romero	1.64	25	*e*P	Pn	14 24 19.2	-3.0
CMIG				*i* S	Sn	14 24 37.7	-5.4
VHO	Vista Hermosa	1.82	324	*i* P	Pn	14 24 22.0	-2.8
VHO				*i* S	Sn	14 24 43.0	-4.7
OXX	Oaxaca	1.82	324	*i* P	Pn	14 24 23.8	-1.0
OXX				*i* S	Sn	14 24 44.0	-3.7

*NEIC **18** 14:24:10.0, 37.35N×21.37E, h19km, MD3.6(ATH), After ATH.*
*CSEM **18** 14:24:10.3, 37.35N×21.37E, h19km, MD3.6/11, After ATH*
ATH 18 14:24:10.1, 37.40N×21.38E, h14km±2km, MD3.6/10**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.49	117	*e*PG	Pg	14 24 19.6	-0.6
ITM				*e*SB	Sb	14 24 27.4	+0.8
VLS	Valsamata	1.00	321	*e*PB	Pb	14 24 29.2	+0.6
VLS	Valsamata	1.00	321	*e*Pb	Pb	14 24 29.0	+0.4
VLS				*e*Sn	Sn	14 24 45.4	+2.0
VLI	Veliai	1.42	118	*e*PG	Pg	14 24 36.8	-1.7
EVR	Evrytania	1.55	12	*e*Pn	Pn	14 24 41.0	+3.5
MGER	Gerania Oros	1.60	68	*e*PB	Pb	14 24 40.5	+1.5
NAIG	Nisos Aigina	1.71	77	*e*PN	Pn	14 24 41.5	+1.7
NSAL	Nisos Salamina	1.73	72	*e*PN	Pn	14 24 41.3	+1.3
NSAL	Nisos Salamina	1.73	72	*e*Pb	Pb	14 24 41.0	-0.2
KYTH	Kithira	1.74	130	*e*PN	Pn	14 24 42.2	+2.1
LKR	Lokris	1.79	45	*e*PN	Pn	14 24 42.7	+1.8
MPAR	Parnis Oros	2.01	67	*e*PN	Pn	14 24 45.5	+1.4
MPAR	Parnis Oros	2.01	67	*e*Pb	Pb	14 24 45.0	-1.0
JAN	Janina	2.29	350	*e*PN	Pn	14 24 50.0	+1.9
NEO	Neokhori	2.39	37	*e*PN	Pn	14 24 51.0	+1.5

*NEIC **18** 14:31:25.0, 37.30N×21.32E, h16km, ML3.5(ATH), After ATH.*
*CSEM **18** 14:31:25.6, 37.30N×21.32E, h16km, ML3.5, After ATH*
ATH 18 14:31:25.1, 37.25N×21.26E, h19km±1km, MD3.8/12**, ML3.5, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.54	97	*e*PN	Pn	14 31 36.2	-1.3
ITM				*e*SN	Sn	14 31 43.8	-2.2
ITM	Ithomi	0.54	97	*e*Pb	Pb	14 31 36.2	+0.5
ITM				*e*Sb	Sb	14 31 42.6	-0.3
VLS	Valsamata	1.07	330	*e*PN	Pn	14 31 45.4	+0.3
VLS				*e*SN	Sn	14 32 00.8	+1.3
VLI	Veliai	1.44	111	*e*PN	Pn	14 31 53.1	+2.6
VLI	Veliai	1.44	111	*e*Pn	Pn	14 31 53.2	+2.7
VLI				*e*Sn	Sn	14 32 11.8	+2.7
EVR	Evrytania	1.72	14	*e*PN	Pn	14 31 56.9	+2.4
EVR				*e*SN	Sn	14 32 19.3	+3.2
KYTH	Kithira	1.72	124	*e*Pn	Pn	14 31 58.0	+3.5
MGER	Gerania Oros	1.75	65	*e*PB	Pb	14 31 56.0	-0.4
NAIG	Nisos Aigina	1.84	73	*e*PN	Pn	14 31 58.0	+1.8
NSAL	Nisos Salamina	1.87	69	*e*PB	Pb	14 31 57.8	-0.6
NSAL	Nisos Salamina	1.87	69	*e*Pb	Pb	14 31 57.5	-0.9
LKR	Lokris	1.96	44	*e*PB	Pb	14 31 59.0	-1.0
LKR				*e*SN	Sn	14 32 24.5	+2.3
LKR	Lokris	1.96	44	*e*Pb	Pb	14 31 58.9	-1.1
LKR				*e*Sn	Sn	14 32 24.5	+2.3
ATH	Athens Observa	2.08	69	*e*PN	Pn	14 32 01.0	+1.4
ATH	Athens Observa	2.08	69	*e*Pb	Pb	14 32 00.5	-1.5
MPAR	Parnis Oros	2.16	65	*e*PB	Pb	14 32 02.0	-1.4
PTL	Penteli	2.22	68	*e*PB	Pb	14 32 03.0	-1.3
JAN	Janina	2.42	353	*e*PN	Pn	14 32 06.0	+1.4
NEO	Neokhori	2.57	36	*e*PN	Pn	14 32 07.8	+1.2

*IDC **18** 14:41:47.4±1.0, 11.38N×144.61E, mb3.8/8, mb1 4.0/9, mb1mx4.0/22, mbtmp3.8/9, ML3.8/1, MS3.0/2, Ms1 3.1/2, ms1mx2.7/29, Error ellipse: s-maj=35.2km s-min=21.1km az=87.0*
*NEIC **18** 14:41:49.6±6.7, 11.38N×144.82E, h18km±42km, mb4.3/1, Error ellipse: s-maj=19.1km s-min=12.3km az=56.0*
ISC 18 14:41:50.0±0.8**, 11.39N**±0.06**×144.8E**±0.1**, h33km, n15, σ0.82**/14**, mb3.9**/9**, MS3.0**/2**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.19	2	Pn	Pn	14 42 25.8	+1.0
	26nm,0.3s,baz=168,slow=8.7,SNR=23						
GUMO				Sn	Sn	14 42 51.4	+0.4
	60nm,0.3s,baz=208,slow=24,SNR=25						
GUMO	Guam	2.19	2	*e*P	P	14 42 25.6	+1.0
GUMO				*e*S	S	14 42 49.0	-1.8
JHJ	Hachijo jima 2	22.11	349	LR	LR	14 54 34.2	
	comp=Z,8.6nm,19.7s,MS2.2,baz=63,slow=35						
KWAJ	Kwajalein Atol	22.61	94	P	P	14 46 49.4	0.0
JNU	Nakatsue	25.11	332	P	P	14 47 13.5	0.0
	1.9nm,0.4s,mb4.0,baz=139,slow=9.3,SNR=4.9						
MJAR	Matsushiro Arr	25.73	348	P	P	14 47 17.9	-1.4
	0.9nm,0.6s,mb3.5,baz=166,slow=9.0,SNR=5.9						
WRA	Warramunga Arr	32.79	198	P	P	14 48 21.7	-0.9
	1.0nm,0.5s,mb4.0,baz=19,slow=9.8,SNR=19						
SONM	Songino Array	48.49	326	P	P	14 50 31.7	+0.2
	0.7nm,0.6s,mb3.9,baz=145,slow=7.9,SNR=7.3						
MKAR	Makanchi Array	63.02	317	P	P	14 52 16.5	+0.4
	0.3nm,0.6s,mb3.6,baz=91,slow=8.3,SNR=4.4						
KURK	Kurchatov	66.21	321	*e*P	P	14 52 37.4	+0.8
	1.5nm,0.7s,mb4.1						
ILAR	Eielson Array	70.58	25	P	P	14 53 03.5	+0.1
	0.8nm,1.1s,mb3.6,baz=239,slow=5.3,SNR=4.1						
BVAR	Borovoye Array	71.60	322	P	P	14 53 09.7	-0.1
	0.7nm,0.5s,mb3.9,baz=104,slow=6.1,SNR=3.7						
NVAR	Mina Array Bea	88.35	51	P	P	14 54 44.1	+4.2
	1.0nm,0.7s,mb4.1,baz=269,slow=6.8,SNR=7.8						
PDAR	Pinedale Array	93.56	45	LR	LR	15 31 30.4	
	comp=Z,42nm,21.4s,MS3.9,baz=252,slow=32						
LPAZ	La Paz	147.69	102	PKPbc	PKPdf	15 01 34.8	+5.4
	0.8nm,0.3s,baz=198,slow=3.2,SNR=6.1						

*CSEM **18** 14:46:53.2, 37.15N×21.19E, h4km, MD3.5/3, After ATH*
ATH 18 14:46:53.2, 37.16N×21.19E, h4km, MD3.5/3**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.59	88	*e*PG	Pg	14 47 04.8	-0.2
ITM				*e*SG	Sg	14 47 12.4	-0.4
VLS	Valsamata	1.12	335	*e*Pg	Pg	14 47 14.1	-1.5
VLS				*e*Sb	Sb	14 47 30.6	+1.0
EVR	Evrytania	1.82	15	*e*PB	Pb	14 47 27.7	+0.9
EVR	Evrytania	1.82	15	*e*Pb	Pb	14 47 28.2	+1.4

*NIED **18** 14:57:00, 24.00N×122.90E, h8km, Mw4.3 Best double couple: $M_0$3.75×10[15] NP1:ϕ_s189°, δ46°, λ-81°. NP2: ϕ_s356°, δ44°, λ-99°.*
*IDC **18** 14:57:52.8±0.6, 24.11N×122.86E, mb4.2/15, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, ML3.6/2, MS3.4/9, Ms1 3.5/9, ms1mx3.3/25, Error ellipse: s-maj=20.9km s-min=13.8km az=74.0*
*BJI **18** 14:57:53.5, 23.86N×122.88E, h13km, mB4.4, mb4.4, ML4.3, Ms4.1, Msz3.9*
*NEIC **18** 14:57:54.8±3.6, 24.08N×122.95E, h14km±23km, mb4.7/5, Error ellipse: s-maj=9.3km s-min=8.5km az=216.0*
*JMA **18** 14:57:55.3±0.2, 24.04N×122.89E, h19km±4km, M4.7*
ISC 18 14:57:55.1±0.7**, 24.03N**±0.04**×122.89E**±0.03**, h26km**±5km**, n63, σ1.16**/69**, mb4.3**/22**, MS3.5**/6**, 5C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.45	15	P	Pb	14 58 04.1	-0.4
YOJ				*e*S	Sb	14 58 10.0	-0.9
IRIF	Iriomote-Funau	0.83	68	P	Pb	14 58 10.7	-0.1
IRIF				S	Sb	14 58 22.2	+0.6
HATJ	Hateruma jima	0.84	88	P	Pb	14 58 10.7	-0.3
HATJ				*e*S	Sb	14 58 22.2	+0.3
JKRS	Kuro-shima	1.05	78	P	Pn	14 58 13.9	-0.4
JKRS				*e*S	Sb	14 58 28.7	+0.9
NACB	Ninganchiao	1.19	277	*e*P	Pn	14 58 17.0	+0.6
JIJ	Ishigaki jima	1.20	73	P	Pn	14 58 16.4	0.0
JIJ				*e*S	Sn	14 58 32.3	+0.4
YHNB	Yeheng	1.52	295	⇑*i*P	Pn	14 58 22.8	+1.7
TATO	Taipei	1.59	307	*e*P	Pn	14 58 23.0	+1.0
TATO				*e*S	Sn	14 58 42.4	+0.6
JTJ	Tarama	1.77	69	P	Pn	14 58 25.1	+0.5
JTJ				*e*S	Sn	14 58 47.5	+1.1
JMJ	Miyako jima 2	2.33	70	P	Pn	14 58 33.6	+1.0
JOGS	Gusukube	2.41	72	P	Pn	14 58 35.5	+1.7
QZH	Quanzhou	4.02	284	P	Pn	14 58 56.0	-0.7
QZH				S	Sn	14 59 41.3	-2.2
QZH				Smax			
	comp=N,440nm,1.0s						
QZH				Smax			
	comp=E,490nm,1.3s						
JKE	Kume jima 2	4.21	56	P	Pn	14 58 59.2	-0.2
JKE				*e*S	Sn	14 59 47.7	-0.6
JAGN	Aguni-jima	4.70	56	P	Pn	14 59 06.8	+0.5
JAGN				*e*S	Sn	15 00 00.9	+0.3
JIH	Iheya	5.48	56	P	Pn	14 59 16.4	-0.9
JOW	Kunigami	5.62	59	Pn	Pn	14 59 17.8	-1.4
	comp=E,4.3nm,0.3s,baz=121,slow=18,SNR=14						
JOW	Kunigami	5.62	59	P	Pn	14 59 17.9	-1.3
JTK	Tokunoshima	6.62	54	P	Pn	14 59 31.1	-2.3
JAM	Amami Oshima	7.45	53	P	Pn	14 59 41.7	-3.3
NJ2	Nanjing	8.75	337	*e*P	P	15 00 06.0	+2.8
NJ2				LR	LR		
	comp=N,960nm,17.4s						
NJ2				LR	LR		
	comp=E,1μm,10.0s						
NJ2				LR	LR		
	comp=Z,5μm,17.0s						
KS15	Wonju Array Si	14.04	17	*e*P	P	15 01 11.7	-3.0
JHJ	Hachijo jima 2	17.37	55	P	P	15 02 01.4	+4.0
	comp=Z,5.7nm,0.3s,baz=215,slow=20,SNR=4.7						
JHJ				LR	LR	15 08 10.6	
	comp=Z,53nm,21.1s,baz=26,slow=36						
CBIJ	Chichi jima	17.68	76	LR	LR	15 07 35.8	
	comp=Z,88nm,18.9s,baz=303,slow=33						
MJAR	Matsushiro Arr	18.16	43	P	P	15 02 06.2	-1.0
	comp=Z,0.1nm,0.3s,baz=221,slow=9.7,SNR=6.4						
MJAR				LR	LR	15 08 47.9	
	comp=Z,82nm,20.8s,baz=225,slow=36						
CD2	Chengdu	18.30	296	*e*P	P	15 02 09.3	+0.2
HHC	Hu-ho-hao-te	19.28	333	*e*P	P	15 02 23.8	+3.1
HHC				AP		15 02 30.5	
HHC				XP		15 02 35.1	
HHC				PP	PP	15 02 39.0	+1.1
HHC				S	S	15 05 52.8	+1.5
HHC				AMB	AMB		
	comp=Z,15nm,0.9s						
HHC				AMB	AMB		
	comp=Z,63nm,4.2s						
HHC				LR	LR		
	comp=N,286nm,9.5s						
HHC				LR	LR		
	comp=E,221nm,11.9s						
HHC				LR	LR		
	comp=Z,246nm,11.9s						
LZH	Lanzhou	20.36	311	*e*P	P	15 02 37.0	+4.5
LZH				AMB	AMB		
	comp=Z,27nm,1.4s						
LZH				AMB	AMB		
	comp=Z,109nm,4.5s						
MDJ	Mudanjiang	21.26	13	P	P	15 02 45.9	+4.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,84nm,5.7s						
MDJ				LR	LR		
	comp=N,238nm,9.0s						
MDJ				LR	LR		
	comp=E,112nm,7.9s						
MDJ				LR	LR		
	comp=Z,278nm,9.6s						
GUMO	Guam	23.22	113	LR	LR	15 10 50.4	
	comp=Z,52nm,19.4s,MS3.0,baz=278,slow=33						
ASAJ	Asahikawa	25.73	34	P	P	15 03 24.8	-0.4
	comp=Z,3.3nm,0.5s,mb4.1,baz=220,slow=8.5,SNR=11						
ASAJ				LR	LR	15 15 03.6	
	comp=Z,165nm,18.5s,MS3.6,baz=18,slow=40						
SONM	Songino Array	27.14	335	P	P	15 03 36.5	-1.6
	comp=Z,3.0nm,0.9s,mb3.8,baz=145,slow=9.3,SNR=12						
SONM				LR	LR	15 15 35.1	
	comp=Z,99nm,19.7s,MS3.4,baz=323,slow=39						
LSA	Lhasa	28.82	288	*e*P	P	15 03 55.3	+1.9
	comp=Z,9.7nm,0.8s,mb4.6						
YAK	Yakutsk	38.27	5	*e*P	P	15 05 12.3	-2.5
	comp=Z,7.3nm,0.6s,mb4.6						
MKAR	Makanchi Array	39.54	315	P	P	15 05 24.6	-1.0
	comp=Z,1.7nm,0.8s,mb3.8,baz=105,slow=9.6,SNR=16						
ZAL	Zalesovo	41.23	326	LR	LR	15 24 53.0	
	comp=Z,94nm,18.8s,MS3.7,baz=142,slow=39						
FITZ	Fitzroy Crossi	41.96	176	⇑*i*P	P	15 05 45.4	-0.4
	comp=Z,15nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	41.96	176	P	P	15 05 45.5	-0.4
	comp=Z,21nm,0.8s,mb4.8,baz=4.7,slow=7.4,SNR=15						
KURK	Kurchatov	43.22	320	P	P	15 05 56.5	+0.8
	comp=Z,0.8nm,0.5s,mb3.7						
WRAB	Tennant Creek	45.10	165	*e*P	P	15 06 08.7	-2.6
WRA	Warramunga Arr	45.10	165	P	P	15 06 11.0	-0.4
	comp=Z,3.5nm,0.7s,mb4.3,baz=345,slow=8.6,SNR=17						
WB2	Warramunga Arr	45.11	165	*e*P	P	15 06 10.8	-0.6
ASPA	Alice Springs	48.60	166	⇑*i*P	P	15 06 39.5	+0.7
BVAR	Borovoye Array	48.78	320	P	P	15 06 38.3	-1.5
	comp=Z,0.6nm,0.6s,mb3.8,baz=76,slow=5.9,SNR=4.2						
BVAR				PcP	PcP	15 08 03.7	-1.1
	comp=Z,0.8nm,0.6s,baz=90,slow=4.4,SNR=4.0						
CTA	Charters Tower	49.41	151	P	P	15 06 45.7	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.8nm,0.4s,mb4.1,baz=338,slow=19,SNR=7.5						
CTA	**Charters Tower**	**49.41**	**151**	P	**P**	**15 06 45.7**	**+0.6**
FORT	**Forrest**	**54.72**	**175**	⇑iP	**P**	**15 07 25.1**	**+0.3**
	comp=Z,16nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**58.40**	**161**	⇑iP	**P**	**15 07 51.0**	**0.0**
	comp=Z,5.7nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**58.40**	**161**	P	**P**	**15 07 50.9**	**-0.1**
	comp=Z,6.7nm,0.8s,mb4.7,baz=348,slow=5.3,SNR=10						
STKA	**Stephens Creek**	**58.40**	**161**	eP	**P**	**15 07 50.2**	**-0.7**
UMR	**Umm Al-Rimmam**	**66.26**	**293**	eP	**P**	**15 08 43.7**	**+0.2**
KBD	**Kabd**	**66.38**	**293**	eP	**P**	**15 08 43.9**	**-0.4**
RDF	**Al-Radifah**	**66.56**	**292**	eP	**P**	**15 08 45.1**	**-0.4**
RDF				AMb	AMB	15 08 46.3	
	comp=Z,22nm,0.8s,mb5.3						
NAY	**Al-Naaiem**	**66.74**	**293**	eP	**P**	**15 08 46.1**	**-0.5**
NAY				AMb	AMB	15 08 50.6	
	comp=Z,7.9nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**68.64**	**27**	P	**P**	**15 08 56.4**	**-1.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=268,slow=4.8,SNR=17						
FINES	**FINESS Array B**	**72.36**	**330**	P	**P**	**15 09 19.1**	**-1.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=56,slow=6.9,SNR=7.6						
BRTR	**Keskin Array B**	**74.52**	**307**	P	**P**	**15 09 34.6**	**+1.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=124,slow=5.2,SNR=4.9						
NOA	**NORSAR Array B**	**79.09**	**333**	LR	LR	15 48 50.4	
	comp=Z,49nm,21.5s,MS3.8,baz=345,slow=39						
YKA	**Yellowknife Ar**	**82.51**	**23**	P	**P**	**15 10 16.7**	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.5,baz=313,slow=4.8,SNR=14						
GERES	**GERESS Array B**	**83.95**	**321**	P	**P**	**15 10 25.3**	**+1.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=56,slow=4.8,SNR=5.5						
GERES				LR	LR	15 54 02.2	
	comp=Z,40nm,18.1s,MS3.8,baz=227,slow=40						
KMBO	**Kilima Mbogo**	**86.46**	**267**	P	**P**	**15 10 38.8**	**+1.2**
	comp=Z,1.4nm,0.6s,mb4.4,baz=54,slow=20,SNR=4.7						
NVAR	**Mina Array Bea**	**95.48**	**44**	P	**P**	**15 11 21.2**	**+2.1**
	comp=Z,0.9nm,0.8s,mb4.3,baz=323,slow=4.5,SNR=3.6						
NVAR	**Mina Array Bea**	**95.48**	**44**	P	**P**	**15 11 21.2**	**+2.1**
SDV	**Santo Domingo**	**144.72**	**24**	PKP	PKPdf	15 17 31.3	-3.9
	comp=Z,3.7nm,0.2s,baz=19,slow=10,SNR=5.1						

JMA 18 14:59:39.8±0.2**, 24.05N**×**122.87E, h17**km**, M4.3, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.43**	**17**	P	Pb	14 59 48.5	0.0
YOJ				eS	Sb	14 59 54.4	-0.1
IRIF	**Iriomote-Funau**	**0.83**	**70**	P	Pb	14 59 55.2	-0.3
IRIF				eS	Sb	15 00 07.1	+0.9
HATJ	**Hateruma jima**	**0.85**	**89**	P	Pb	14 59 55.5	-0.3
HATJ				eS	Sb	15 00 08.1	+1.3
JKRS	**Kuro-shima**	**1.06**	**80**	P	Pb	14 59 59.3	+0.1
JKRS				eS	Sb	15 00 14.1	+1.4
JIJ	**Ishigaki jima**	**1.20**	**75**	P	Pb	15 00 01.5	-0.2
JIJ				eS	Sb	15 00 16.9	0.0
JTJ	**Tarama**	**1.77**	**70**	P	Pn	15 00 10.3	+0.2
JTJ				eS	Sn	15 00 32.6	+0.3
JOGS	**Gusukube**	**2.42**	**72**	P	Pn	15 00 20.2	+0.9
JKE	**Kume jima 2**	**4.21**	**57**	P	Pn	15 00 44.4	-0.4

*NEIC **18** 15:02:12.6, 41.60S×172.22E, h19km, mb4.2/1, ML3.8(WEL), After WEL.*

WEL 18 15:02:12.7±0.1**, 41.55S**×**172.20E, h5**km**, ML3.8**/21**, 1C-4D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.35**	**237**	PG	Pg	15 02 19.6	-0.1
DSZ				SG	Sg	15 02 24.2	-0.2
DSZ	**Denniston Nort**	**0.35**	**237**	P	Pg	15 02 19.6	-0.2
DSZ				S	Sg	15 02 24.2	-0.3
QRZ	**Quartz Range**	**0.77**	**19**	P*	Pb	15 02 27.7	-0.4
QRZ				S*	Sb	15 02 38.3	-0.3
QRZ	**Quartz Range**	**0.77**	**19**	P	Pg	15 02 27.7	-0.3
NNZ	**Nelson**	**0.95**	**70**	P*	Pb	15 02 30.1	-1.1
NNZ				S*	Sb	15 02 43.2	-0.7
NNZ	**Nelson**	**0.95**	**70**	P	Pb	15 02 30.1	-1.1
LTZ	**Lake Taylor**	**1.23**	**178**	⇑P*	Pb	15 02 35.7	-0.3
LTZ				S*	Sb	15 02 51.4	-0.6
BSWZ	**Blackbirch Sta**	**1.27**	**98**	⇓P*	Pb	15 02 36.4	-0.3
TUWZ	**Tuamarina**	**1.32**	**85**	⇓P*	Pb	15 02 36.3	-1.2
TUWZ				S*	Sb	15 02 53.8	-0.7
KHZ	**Kahutara**	**1.32**	**131**	⇓P*	Pb	15 02 37.7	+0.1
DUWZ	**D'Urville Isla**	**1.50**	**61**	PN	Pn	15 02 40.1	-0.3
CMWZ	**Cape Campbell**	**1.52**	**98**	⇓PN	Pn	15 02 41.7	+1.1
TCW	**Tory Channel**	**1.60**	**78**	PN	Pn	15 02 41.5	-0.3
WVZ	**Waitaha Valley**	**1.87**	**215**	PN	Pn	15 02 43.9	-1.7
SNZO	**South Karori**	**1.90**	**83**	PN	Pn	15 02 46.0	0.0
SNZO	**South Karori**	**1.90**	**83**	eP	Pn	15 02 45.9	-0.1
SNZO				eS	Sn	15 03 09.5	-1.2
MRW	**Makara Radio**	**1.91**	**81**	ePN	Pn	15 02 45.8	-0.4
BHW	**Baring Head**	**2.01**	**87**	ePN	Pn	15 02 47.4	-0.3
CRLZ	**Canterbury Las**	**2.05**	**171**	PN	Pn	15 02 46.1	-2.0
MQZ	**McQueen's Vall**	**2.18**	**171**	PN	Pn	15 02 47.9	-2.1
CAW	**Cannon Point**	**2.21**	**79**	PN	Pn	15 02 50.4	-0.1
MSWZ	**Moikau Station**	**2.30**	**88**	PN	Pn	15 02 50.8	-1.0
MTW	**Mount Morrison**	**2.52**	**82**	ePN	Pn	15 02 53.6	-1.4
MRZ	**Mangatainoka R**	**2.71**	**72**	PN	Pn	15 02 56.6	-1.0
FOZ	**Fox Glacier**	**2.73**	**222**	PN	Pn	15 02 54.5	-3.5
VRZ	**Vera Road**	**3.12**	**40**	PN	Pn	15 03 02.5	-0.9
BFZ	**Birch Farm**	**3.18**	**75**	ePN	Pn	15 03 02.1	-2.2

ISC 18 15:12:24.8±0.7**, 37.21N**±0.05×**28.17E**±0.04**, h10**km**, n6, σ0**s**.63**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**128**	i PG	**Pg**	**15 12 27.4**	**-0.4**
YER				i SG	**Sg**	**15 12 30.1**	**+0.3**
MLSB	**Milas**	**0.32**	**286**	ePG	**Pg**	**15 12 31.4**	**-0.1**
AYDN	**Tasoluk**	**0.51**	**333**	i P	**Pg**	**15 12 34.6**	**-0.5**
AYDN				i S	**Sg**	**15 12 42.0**	**+0.1**
BDRM	**Kayabasi**	**0.59**	**256**	i P	**Pg**	**15 12 36.3**	**-0.5**
BDRM				i S	**Sg**	**15 12 46.0**	**+1.2**
BODT	**Bodrum**	**0.70**	**258**	ePG	**Pg**	**15 12 38.5**	**-0.4**
DNZL	**Cakiroluk**	**0.85**	**55**	i P	**Pb**	**15 12 40.5**	**-0.7**
DNZL				i S	**Sb**	**15 12 53.5**	**+1.1**

*PRU **18** 15:53:51.6, 43.49N×17.43E*
*VIE **18** 15:53:55.5±0.3, 43.65N×17.20E, h10km, mb2.9/5, ML2.8/6, Error ellipse: s-maj=2.8km s-min=2.2km az=8.0*
*NEIC **18** 15:53:56.4±0.6, 43.64N×17.06E, h10km, MD3.1(PDG), Error ellipse: s-maj=21.4km s-min=4.4km az=222.0*
*PDG **18** 15:53:57.4±0.2, 43.44N×17.07E, h10km±1km*
*CSEM **18** 15:53:58.3±0.1, 43.70N×16.84E, h30km, MD3.1, Error ellipse: s-maj=3.9km s-min=1.2km az=42.0*

ISC 18 15:53:56.0±0.3**, 43.68N**±0.04×**17.06E**±0.05**, h10**km**, n43, σ1**s**.36**/70**, 13C-14D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**1.07**	**5**	Pn	**Pn**	**15 54 16.6**	**-0.4**
BRY	**Bratogost**	**1.33**	**125**	⇓iPg	**Pg**	**15 54 19.7**	**-3.0**
BRY				eSg	**Sg**	**15 54 39.0**	**-1.5**
TREB	**Trebinje**	**1.35**	**135**	Pn	**Pn**	**15 54 19.1**	**-1.9**
TREB				Sn	**Sn**	**15 54 39.1**	**+0.1**
UPM	**Unac-Piva**	**1.43**	**109**	⇓iPg	**Pg**	**15 54 22.2**	**-2.4**
UPM				eSg	**Sg**	**15 54 43.9**	**+0.2**
HCY	**Herceg Novi**	**1.62**	**139**	⇓iPg	**Pg**	**15 54 23.9**	**-4.5**
HCY				eSg	**Sg**	**15 54 47.4**	**-2.7**
NKY	**Niksic**	**1.66**	**121**	⇓iPg	**Pg**	**15 54 26.1**	**-3.1**
NKY				eSg	**Sg**	**15 54 50.2**	**-1.2**
BBLS	**Bajina Basta -**	**1.71**	**83**	ePn	**Pn**	**15 54 28.5**	**+2.3**
PLE	**Pljevlja**	**1.73**	**101**	⇓iPn	**Pn**	**15 54 27.8**	**+1.4**
PLE				eSn	**Sn**	**15 54 54.1**	**+5.3**
NVLJ	**Novalja**	**1.81**	**300**	i Pn	**Pn**	**15 54 27.9**	**+0.4**
NVLJ				i Sn	**Sn**	**15 54 53.2**	**+2.6**
NVLJ	**Novalja**	**1.81**	**300**	i Pn	**Pn**	**15 54 27.8**	**+0.3**
NVSS	**Nova Varos 2**	**1.93**	**94**	ePn	**Pn**	**15 54 32.5**	**+3.3**
NVSS				Sg	**Sg**	**15 55 05.9**	**+5.7**
BUM	**Brajici-Budva**	**1.93**	**135**	⇓iPn	**Pn**	**15 54 29.6**	**+0.3**
BUM				eSn	**Sn**	**15 54 56.2**	**+2.4**
TTG	**Podgorica**	**2.04**	**127**	⇓iPn	**Pn**	**15 54 31.3**	**+0.5**
TTG				eSn	**Sn**	**15 54 59.3**	**+2.7**
DIVS	**Divcibare**	**2.16**	**78**	ePn	**Pn**	**15 54 28.3**	**-4.3**
IVA	**Berane**	**2.23**	**110**	⇓iPn	**Pn**	**15 54 35.7**	**+2.2**
IVA				eSn	**Sn**	**15 55 05.5**	**+4.2**
ULC	**Ulcinj**	**2.35**	**136**	⇓iPn	**Pn**	**15 54 36.1**	**+0.7**
ULC				eSn	**Sn**	**15 55 06.9**	**+2.3**
PVY	**Plav**	**2.39**	**116**	⇓iPn	**Pn**	**15 54 37.6**	**+1.7**
PVY				eSn	**Sn**	**15 55 09.5**	**+3.9**
CRES	**Cresnjev**	**2.43**	**333**	⇓ePn	**Pn**	**15 54 36.3**	**-0.1**
RHK1	**Bakonya**	**2.52**	**16**	⇓iP	**Pn**	**15 54 36.9**	**-0.8**
RHK1				eS	**Sn**	**15 55 09.2**	**+0.4**
	2.1nm,0.7s						
CEY	**Cerknica**	**2.79**	**319**	i Pn	**Pn**	**15 54 42.4**	**+0.9**
CEY				eSn	**Sn**	**15 55 19.1**	**+3.6**
	comp=Z,21nm,0.3s						
GROS	**Grobnik**	**2.99**	**339**	i Pn	**Pn**	**15 54 43.9**	**-0.6**
GROS	**Grobnik**	**2.99**	**339**	i Pn	**Pn**	**15 54 43.8**	**-0.7**
JAVS	**Javornik**	**3.07**	**317**	i Pn	**Pn**	**15 54 46.0**	**+0.4**
JAVS				i Sn	**Sn**	**15 55 25.8**	**+3.0**
PERS	**Pernice**	**3.26**	**336**	⇑ePn	**Pn**	**15 54 47.8**	**-0.4**
VOJS	**Vojsko**	**3.26**	**317**	i Pn	**Pn**	**15 54 48.5**	**+0.2**
VOJS				eSn	**Sn**	**15 55 29.8**	**+2.3**
OBKA	**Obir**	**3.34**	**329**	⇑iPN	**Pn**	**15 54 49.0**	**-0.4**
OBKA				i SN	**Sn**	**15 55 30.8**	**+1.2**
OBKA	**Obir**	**3.34**	**329**	⇑iPn	**Pn**	**15 54 49.0**	**-0.4**
ARSA	**Arzberg**	**3.73**	**344**	⇑iPN	**Pn**	**15 54 54.1**	**-0.9**
ARSA				i SN	**Sn**	**15 55 39.8**	**+0.4**
ARSA	**Arzberg**	**3.73**	**344**	i Pn	**Pn**	**15 54 54.1**	**-0.9**
	SNR=23						
KBA	**Koelnbreinsper**	**4.29**	**324**	⇑iPN	**Pn**	**15 55 01.9**	**-1.0**
KBA				i SN	**Sn**	**15 55 53.8**	**+0.2**
KBA	**Koelnbreinsper**	**4.29**	**324**	⇑iPn	**Pn**	**15 55 01.9**	**-1.0**
MOA	**Molln**	**4.61**	**336**	⇑iPN	**Pn**	**15 55 06.4**	**-1.0**
MOA				i SN	**Sn**	**15 56 01.6**	**0.0**
MOA	**Molln**	**4.61**	**336**	⇑iPn	**Pn**	**15 55 06.4**	**-0.9**
	SNR=12						
WTTA	**Wattenberg**	**5.23**	**315**	⇑iPN	**Pn**	**15 55 15.8**	**-0.5**
WTTA				i SN	**Sn**	**15 56 17.7**	**+0.3**
WTTA	**Wattenberg**	**5.23**	**315**	i Pn	**Pn**	**15 55 15.8**	**-0.5**
	SNR=7.5						
WATA	**Walderalm**	**5.31**	**315**	⇑iPN	**Pn**	**15 55 16.0**	**-1.4**
WATA				i SN	**Sn**	**15 56 19.5**	**+0.1**
WATA	**Walderalm**	**5.31**	**315**	⇑iPn	**Pn**	**15 55 16.0**	**-1.3**
	SNR=12						
SQTA	**Sankt Quirin**	**5.43**	**313**	⇑iPN	**Pn**	**15 55 17.9**	**-1.1**
SQTA				i SN	**Sn**	**15 56 21.5**	**-0.8**
MOTA	**Moosalm**	**5.56**	**313**	⇑iPN	**Pn**	**15 55 20.0**	**-0.9**
MOTA				i SN	**Sn**	**15 56 26.0**	**+0.3**
KHC	**Kasperske Hory**	**5.96**	**337**	ePN	**Pn**	**15 55 24.8**	**-1.7**
KHC				ex	x	15 55 33.0	
KHC				eSN	**Sn**	**15 56 32.3**	**-3.3**
DAVA	**Damuels**	**6.20**	**308**	⇓iPN	**Pn**	**15 55 28.5**	**-1.4**
DAVA				i SN	**Sn**	**15 56 41.4**	**-0.3**
DAVA	**Damuels**	**6.20**	**308**	⇓iPn	**Pn**	**15 55 28.5**	**-1.4**
PRU	**Pruhonice**	**6.54**	**346**	eSN	**Sn**	**15 56 45.6**	**-4.6**

*IDC **18** 16:14:51.7±2.5, 23.92N×144.93E, mb4.0/6, mb1 4.1/8, mb1mx3.8/23, mbtmp4.0/8, ML4.0/2, MS3.3/2, Ms1 3.4/2, ms1mx2.7/26, Error ellipse: s-maj=89.1km s-min=19.1km az=77.0*
*NEIC **18** 16:14:52.9±2.1, 23.96N×145.04E, h10km, mb4.1/2, Error ellipse: s-maj=82.2km s-min=11.1km az=81.0*

ISC 18 16:14:51.5±1.3**, 24.0N**±0.1×**144.9E**±0.3**, h10**km**, n13, σ0**s**.68**/12**, mb4.0**/8**, MS3.7**/1**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.97**	**323**	Pn	**Pn**	**16 15 54.2**	**+0.3**
	27nm,0.3s,baz=94,slow=18,SNR=44						
CBIJ				Sn	**Sn**	**16 16 41.0**	**-0.1**
	7.5nm,0.3s,baz=266,slow=19,SNR=3.3						
MJAR	**Matsushiro Arr**	**13.81**	**337**	Pn	**P**	**16 18 08.1**	**-1.7**
	0.3nm,0.3s,baz=162,slow=12,SNR=4.5						
JNU	**Nakatsue**	**15.32**	**310**	LR	LR	16 23 39.9	
	comp=Z,58nm,18.9s,baz=333,slow=34						
SONM	**Songino Array**	**38.67**	**318**	P	**P**	**16 22 18.2**	**+1.2**
	0.4nm,0.4s,mb3.5,baz=127,slow=8.5,SNR=8.7						
SONM	**Songino Array**	**38.67**	**318**	P	**P**	**16 22 18.2**	**+1.2**
WRAB	**Tennant Creek**	**44.80**	**194**	eP	**P**	**16 23 07.8**	**+0.1**
	2.4nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**44.82**	**194**	P	**P**	**16 23 07.2**	**-0.5**
	1.6nm,0.8s,mb3.9,baz=17,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**45.82**	**206**	P	**P**	**16 23 15.3**	**-0.4**
	6.5nm,0.6s,mb4.7,baz=39,slow=3.0,SNR=6.3						
MKAR	**Makanchi Array**	**54.37**	**311**	P	**P**	**16 24 20.4**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=89,slow=9.9,SNR=5.2						
KURK	**Kurchatov**	**56.93**	**316**	P	**P**	**16 24 39.5**	**+0.3**
	0.6nm,0.5s,mb3.9						
BVAR	**Borovoye Array**	**62.01**	**319**	P	**P**	**16 25 14.4**	**+0.3**
	0.6nm,0.4s,mb4.1,baz=84,slow=7.4,SNR=6.6						
FINES	**FINESS Array B**	**81.83**	**335**	P	**P**	**16 27 12.5**	**+0.6**
	2.7nm,1.0s,mb4.1,baz=45,slow=5.4,SNR=4.4						
PDAR	**Pinedale Array**	**84.70**	**45**	LR	LR	17 02 20.0	
	comp=Z,37nm,21.1s,MS3.7,baz=87,slow=34						

*IDC **18** 16:16:48.8±1.2, 9.49S×151.16E, mb4.0/7, mb1 4.1/9, mb1mx4.0/14, mbtmp3.9/9, ML3.0/2, Error ellipse: s-maj=30.5km s-min=19.9km az=140.0*
*NEIC **18** 16:16:53.6±0.8, 9.48S×151.05E, h30km, Error ellipse: s-maj=18.8km s-min=10.0km az=112.0*

ISC 18 16:16:48.5±0.8**, 9.54S**±0.09×**151.17E**±0.08**, h10**km**, n13, σ0**s**.74**/15**, mb3.9**/7**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.96**	**272**	Pn	**Pn**	**16 17 50.1**	**-0.7**
	3.1nm,0.3s,baz=87,slow=12,SNR=14						
PMG				Sn	**Sb**	**16 18 47.0**	**+0.6**
	4.5nm,0.3s,baz=30,slow=21,SNR=3.9						
PMG				Lg		16 18 54.7	
	3.1nm,0.3s,baz=149,slow=19,SNR=7.2						
PMG	**Port Moresby**	**3.96**	**272**	eP	**Pn**	**16 17 50.0**	**-0.8**
PMG				Sn	**Sb**	**16 18 47.0**	**+0.6**
PMG				Lg		16 18 54.7	
CTAO	**Charters Tower**	**11.52**	**204**	ePn	**P**	**16 19 35.2**	**-1.0**
WRAB	**Tennant Creek**	**19.26**	**236**	eP	**P**	**16 21 16.1**	**+0.1**
WRA	**Warramunga Arr**	**19.27**	**236**	P	**P**	**16 21 15.2**	**-0.9**
	0.1nm,0.3s,baz=59,slow=11,SNR=12						
STKA	**Stephens Creek**	**23.94**	**200**	P	**P**	**16 22 05.2**	**+1.4**
	0.9nm,0.5s,mb3.4,baz=85,slow=22,SNR=3.8						
STKA	**Stephens Creek**	**23.94**	**200**	eP	**P**	**16 22 05.7**	**+1.9**
FITZ	**Fitzroy Crossi**	**26.19**	**248**	P	**P**	**16 22 25.7**	**+0.4**
	6.0nm,0.6s,mb4.3,baz=101,slow=3.2,SNR=8.3						
MJAR	**Matsushiro Arr**	**47.43**	**346**	P	**P**	**16 25 24.6**	**-0.7**
	1.7nm,0.9s,mb4.0,baz=167,slow=8.4,SNR=6.7						
SONM	**Songino Array**	**69.50**	**330**	P	**P**	**16 27 59.4**	**0.0**
	1.2nm,0.8s,mb3.9,baz=132,slow=5.6,SNR=9.8						
MKAR	**Makanchi Array**	**82.84**	**320**	P	**P**	**16 29 15.1**	**+0.5**
	0.7nm,0.7s,mb3.8,baz=111,slow=6.6,SNR=7.7						
ILAR	**Eielson Array**	**87.12**	**22**	P	**P**	**16 29 36.1**	**+0.6**
	1.0nm,0.8s,mb4.1,baz=252,slow=4.2,SNR=9.7						
BVAR	**Borovoye Array**	**92.05**	**323**	P	**P**	**16 29 58.6**	**-0.4**
	0.4nm,0.6s,mb3.9,baz=124,slow=5.2,SNR=3.2						

*MOS **18** 16:26:59.7±1.8, 54.99N×110.70E, h18km, mb4.3/1, Error ellipse: s-maj=13.9km s-min=7.3km az=62.4*
MOS Felt (II) at Ulyunkhan.

BYKL 18 16:26:59.4±0.2**, 55.01N**×**110.68E, h15**km±3km**, 6C-2D, FELT I=II MSK at Ulyunkhan, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.31**	**116**	⇑iPg	Pg	16 27 05.9	-0.2
YLYR				i Sg	Sg	16 27 10.5	-0.1
YLYR				Pmax			
	477nm,0.1s						
YLYR				Smax			
	5µm,0.1s						
YLYR	**Ulyunkhan**	**0.31**	**116**	ePG	Pg	16 27 05.9	-0.2
YLYR				e		16 27 10.4	
YLYR				pmax	pmax		
	comp=Z,599nm,0.1s						
YLYR				smax			
	comp=E,8µm,0.2s						
KMO	**Kumora**	**0.93**	**18**	⇑iPg	Pg	16 27 16.4	-1.7
KMO				eSg	Sg	16 27 28.8	-1.8
KMO				Pmax			
	comp=E,191nm,0.3s						
KMO				Smax			
	comp=E,1µm,0.9s						
KMO	**Kumora**	**0.93**	**18**	ePG	Pg	16 27 16.4	-1.7
KMO				e		16 27 28.6	
KMO				pmax	pmax		
	comp=Z,194nm,0.3s						
KMO				smax			
	comp=N,1µm,0.9s						
NIZ	**Nizh Angarsk**	**1.00**	**320**	⇑iPg	Pg	16 27 18.5	-1.1
NIZ				eSg	Sg	16 27 32.4	-0.8
NIZ				Pmax			
	comp=N,204nm,0.4s						
NIZ				Smax			
	comp=N,582nm,0.6s						
NIZ	**Nizh Angarsk**	**1.00**	**320**	ePG	Pg	16 27 18.4	-1.2
NIZ				e		16 27 32.4	
NIZ				pmax	pmax		
	comp=Z,176nm,0.3s						
NIZ				smax			
	comp=N,377nm,0.4s						
YOA	**Uoyan**	**1.27**	**27**	ePg	Pg	16 27 23.0	-1.9
YOA				ePb	Pb	16 27 24.0	+1.5
YOA				eSg	Sg	16 27 40.0	-2.0
YOA				max			
	comp=N,259nm,0.2s						
YOA				Smax			
	comp=N,2µm,1.0s						
YOA	**Uoyan**	**1.27**	**27**	⇑iPG	Pg	16 27 22.7	-2.2
YOA				i		16 27 40.1	
YOA				pmax	pmax		
	comp=Z,35nm,0.3s						
YOA				smax			
	comp=E,1µm,0.4s						
SYVR	**Suvo**	**1.41**	**197**	⇑iPg	Pg	16 27 25.3	-2.4
SYVR				eSg	Sg	16 27 44.8	-1.8
SYVR				Pmax			
	comp=E,72nm,0.3s						
SYVR				Smax			
	comp=E,2µm,0.3s						
SYVR	**Suvo**	**1.41**	**197**	ePN	Pn	16 27 25.3	+0.6
SYVR				e		16 27 44.9	
SYVR				pmax	pmax		
	comp=Z,62nm,0.1s						
SYVR				smax			
	comp=E,1µm,0.3s						
UKT	**Uakit**	**1.75**	**73**	⇓iPg	Pg	16 27 30.3	-4.2
UKT				eSg	Sg	16 27 53.5	-4.5
UKT				Pmax			
	comp=E,102nm,0.5s						
UKT				Smax			
	comp=E,515nm,0.3s						
UKT	**Uakit**	**1.75**	**73**	ePN	Pn	16 27 30.3	+0.7
UKT				e		16 27 53.7	
UKT				pmax	pmax		
	comp=Z,81nm,0.2s						
UKT				smax			
	comp=N,542nm,0.2s						
SVKR	**Severomuysk**	**1.98**	**55**	ePn	Pn	16 27 33.0	+0.2
SVKR				ePg	Pg	16 27 34.7	-4.2
SVKR				eSg	Sg	16 28 01.3	-4.0
SVKR				Pmax			
	comp=N,141nm,0.3s						
SVKR				Smax			
	comp=N,1µm,0.6s						
SVKR	**Severomuysk**	**1.98**	**55**	ePN	Pn	16 27 34.8	+2.0
SVKR				e		16 27 37.0	
SVKR				eS	Sn	16 27 58.4	+1.0
SVKR				e		16 28 01.6	
SVKR				pmax	pmax		
	comp=Z,170nm,0.2s						
SVKR				smax			
	comp=E,1µm,0.4s						
MXMB	**Maximikha**	**2.09**	**214**	ePn	Pn	16 27 35.0	+0.6
MXMB				ePg	Pg	16 27 36.9	-4.3
MXMB				eSg	Sg	16 28 05.6	-3.5
MXMB				Pmax			
	comp=E,39nm,0.3s						
MXMB				Smax			
	comp=E,1µm,0.6s						
OGRR	**Ongureny**	**2.27**	**234**	⇓iPn	Pn	16 27 37.8	+0.9
OGRR				ePg	Pg	16 27 39.8	-4.9
OGRR				eSg	Sg	16 28 09.9	-5.1
OGRR				Pmax			
	comp=E,71nm,0.4s						
OGRR				Smax			
	comp=E,191nm,0.3s						
OGRR	**Ongureny**	**2.27**	**234**	ePN	Pn	16 27 37.9	+1.0
OGRR				e		16 27 40.3	
OGRR				e		16 28 10.4	
OGRR				pmax	pmax		
	comp=Z,79nm,0.7s						
OGRR				smax			
	comp=N,197nm,0.6s						
NLYR	**Nelyaty**	**3.20**	**60**	ePn	Pn	16 27 50.2	-0.1
NLYR				ePg	Pg	16 27 56.8	-6.6
NLYR				eSg	Sg	16 28 38.6	-7.5
NLYR				Pmax			
	comp=N,38nm,1.1s						
NLYR				Smax			
	comp=N,204nm,1.0s						
NLYR	**Nelyaty**	**3.20**	**60**	ePN	Pn	16 27 49.9	-0.4
NLYR				e		16 27 56.6	
NLYR				e		16 28 37.8	
NLYR				pmax	pmax		
	comp=Z,37nm,0.6s						
NLYR				smax			
	comp=N,203nm,1.0s						
TRTB	**Turuntaevo**	**3.33**	**214**	⇑iPn	Pn	16 27 52.1	+0.1
TRTB				ePg	Pg	16 27 59.3	-6.5
TRTB				eSg	Sg	16 28 42.6	-7.6
TRTB				Pmax			
	comp=N,13nm,0.4s						
TRTB				Smax			
	comp=N,131nm,1.5s						
BOD	**Bodaibo**	**3.37**	**32**	ePn	Pn	16 27 52.5	-0.1
BOD				ePg	Pg	16 27 58.8	-7.9
BOD				e		16 28 32.8	
BOD				eSg	Sg	16 28 41.8	-10
BOD				Pmax			
	comp=N,12nm,0.5s						
BOD				Smax			
	comp=N,118nm,1.1s						
TRG	**Tyrgan**	**3.41**	**230**	e	Pn	16 27 53.5	+0.2
TRG				ePg	Pg	16 27 59.8	-7.8
TRG				eSg	Sg	16 28 44.6	-8.5
TRG				Pmax			
	comp=N,25nm,0.2s						
TRG				Smax			
	comp=N,98nm,0.6s						
CIT	**Chita**	**3.45**	**149**	ePn	Pn	16 27 52.3	-1.5
CIT				ePg	Pg	16 28 01.1	-7.2
CIT				eSg	Sg	16 28 46.3	-8.1
CIT				Pmax			
	comp=N,49nm,1.3s						
CIT				Smax			
	comp=N,62nm,0.4s						
KAB	**Kabansk**	**3.82**	**221**	ePN	Pn	16 28 07.9	+8.9
KAB				e		16 28 58.1	
KAB				pmax	pmax		
	comp=Z,26nm,0.1s						
KAB				smax			
	comp=E,255nm,0.5s						
HRMR	**Khuramsha**	**4.06**	**215**	e	Pn	16 28 02.3	-0.1
HRMR				ePg	Pg	16 28 11.5	-9.0
HRMR				eSg	Sg	16 29 04.9	-10
HRMR				Pmax			
	comp=E,31nm,0.5s						
HRMR				Smax			
	comp=E,331nm,0.4s						
CRS	**Chara**	**4.67**	**63**	ePn	Pn	16 28 11.0	-0.1
CRS				ePg	Pg	16 28 23.5	-9.1
CRS				eSg	Sg	16 29 23.6	-11
CRS				Pmax			
	comp=E,17nm,0.6s						
CRS				Smax			
	comp=E,123nm,1.6s						
CRS	**Chara**	**4.67**	**63**	ePN	Pn	16 28 24.4	+13
CRS				e		16 29 24.5	
CRS				pmax	pmax		
	comp=Z,14nm,0.5s						
CRS				smax			
	comp=E,81nm,1.2s						
LSTR	**Listvyanka**	**4.70**	**230**	ePg	Pg	16 28 23.2	-10
LSTR				e		16 29 11.8	
LSTR				eSg	Sg	16 29 24.2	-12
LSTR				Pmax			
	comp=E,9.0nm,0.9s						
LSTR				Smax			
	comp=E,60nm,1.6s						
LSTR	**Listvyanka**	**4.70**	**230**	ePN	Pn	16 28 23.2	+12
LSTR				e		16 29 24.7	
LSTR				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,11nm,0.6s						
LSTR				smax			
	comp=E,60nm,1.4s						
IRK	Irkutsk	4.71	237	eSg	Sg	16 29 25.6	-11
IRK				Smax			
	comp=E,170nm,0.4s						
IRK	Irkutsk	4.71	237	ePN	Pn	16 28 24.5	+13
IRK				e		16 29 26.0	
IRK				pmax	pmax		
	comp=Z,24nm,0.2s						
IRK				smax			
	comp=N,171nm,0.4s						
TLY	Talaya	5.37	235	e	Pn	16 28 36.2	+15
TLY				eSg	Sg	16 29 44.4	-14
TLY				max			
	comp=N,7.0nm,0.7s						
TLY				Smax			
	comp=N,33nm,0.9s						
TLY	Talaya	5.37	235	ePN	Pn	16 28 36.2	+15
TLY				e		16 29 44.9	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TLY				smax			
	comp=E,34nm,0.9s						
TUP	Tupik	5.41	92	ePg	Pg	16 28 36.6	-11
TUP				eSg	Sg	16 29 46.5	-13
TUP				Pmax			
	comp=E,5.0nm,0.4s						
TUP				Smax			
	comp=E,143nm,1.6s						
TUP	Tupik	5.41	92	ePN	Pn	16 28 19.4	-2.1
TUP				e		16 28 35.4	
TUP				e		16 29 45.7	
TUP				pmax	pmax		
	comp=Z,5.0nm,0.2s						
TUP				smax			
	comp=N,96nm,0.9s						
KPC	Khapcheranga	5.42	168	e	Pn	16 28 28.0	+6.4
KPC				ePg	Pg	16 28 36.7	-11
KPC				e		16 29 31.7	
KPC				eSg	Sg	16 29 46.7	-13
KPC				Pmax			
	comp=N,6.0nm,0.5s						
KPC				Smax			
	comp=N,62nm,1.1s						
KPC	Khapcheranga	5.42	168	ePN	Pn	16 28 19.1	-2.5
KPC				e		16 28 36.8	
KPC				e		16 29 49.0	
KPC				pmax	pmax		
	comp=Z,74nm,0.7s						
KPC				smax			
	comp=E,413nm,1.0s						
ARS	Arshan	5.82	241	ePn	Pn	16 28 25.7	-1.7
ARS				ePg	Pg	16 28 43.6	-12
ARS				e		16 29 42.6	
ARS				eSg	Sg	16 29 57.9	-15
ARS				Pmax			
	comp=E,22nm,0.6s						
ARS				Smax			
	comp=E,148nm,1.0s						
ARS	Arshan	5.82	241	ePN	Pn	16 28 25.5	-1.9
ARS				e		16 28 43.1	
ARS				e		16 29 57.6	
ARS				pmax	pmax		
	comp=Z,22nm,0.5s						
ARS				smax			
	comp=E,1μm,0.6s						
ZAK	Zakamensk	6.46	227	e	Pn	16 28 57.4	+21
ZAK				eSg	Sg	16 30 19.7	-15
ZAK				Smax			
	comp=E,13nm,1.1s						
MOY	Mondy	6.70	244	e	Pn	16 28 53.7	+14
MOY				eSg	Sg	16 30 27.8	-15
MOY				max			
	comp=E,7.0nm,1.2s						
MOY				Smax			
	comp=E,51nm,2.3s						
MOY	Mondy	6.70	244	ePN	Pn	16 28 38.8	-0.9
MOY				e		16 29 00.4	
MOY				e		16 30 27.2	
MOY				pmax	pmax		
	comp=Z,17nm,1.4s						
MOY				smax			
	comp=N,50nm,1.3s						
ORL	Orlik	6.90	253	ePn	Pn	16 28 41.0	-1.6
ORL				eSn	Sn	16 29 58.6	-3.0
ORL				eSg	Sg	16 30 33.2	-16
ORL				Smax			
	comp=N,33nm,1.3s						
ORL	Orlik	6.90	253	ePN	Pn	16 28 41.6	-1.0
ORL				e		16 29 03.8	
ORL				e		16 30 33.7	
ORL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ORL				smax			
	comp=N,28nm,1.3s						
YAK	Yakutsk	12.13	47	iP	P	16 29 51.0	-3.5
ZAL	Zalesovo	15.06	277	iP	P	16 30 31.7	-1.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	Kislovodsk	43.84	285	eP	P	16 35 02.4	-3.8
KIV				pmax	pmax		
	comp=E,2.0nm,0.8s						
KIV				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*IDC **18** 16:45:57.8±1.2, 25.10S×70.34E, mb4.0/7, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, MS3.7/2, Ms1 3.6/2, ms1mx3.2/24, Error ellipse: s-maj=44.2km s-min=24.6km az=64.0*

*NEIC **18** 16:45:59.8±0.9, 25.02S×70.42E, h10km, mb4.3/1, Error ellipse: s-maj=32.2km s-min=15.9km az=70.0*

ISC 18 16:45:57.8±1.1, **25.0S**±0.1×**70.4E**±0.3, **h10**km, **n11**, σ**0.81**/9, **mb3.9**/8, **MS3.8**/2, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	17.64	7	P	P	16 50 04.2	-1.2
	91nm,0.6s						
MAW	Mawson	42.83	184	LR	LR	17 06 45.5	
	comp=Z,77nm,19.2s,MS3.6,baz=244,slow=29						
FITZ	Fitzroy Crossi	51.52	94	P	P	16 55 06.7	+0.6
	4.3nm,1.0s,mb4.3,baz=291,slow=4.5,SNR=5.0						
WRA	Warramunga Arr	58.80	99	P	P	16 55 58.0	-1.0
	0.4nm,0.7s,mb3.6,baz=251,slow=7.3,SNR=7.1						
VNDA	Vanda	66.05	166	P	P	16 56 46.0	-0.5
	0.6nm,0.4s,mb4.0,baz=267,slow=7.2,SNR=3.1						
MKAR	Makanchi Array	72.30	9	P	P	16 57 25.4	-0.1
	1.2nm,0.8s,mb3.9,baz=202,slow=6.5,SNR=12						
BRTR	Keskin Array B	73.00	331	P	P	16 57 29.2	-0.5
	0.8nm,0.8s,mb3.7,baz=135,slow=7.0,SNR=5.5						
KURK	Kurchatov	75.77	5	eP	P	16 57 46.4	+0.9
	3.0nm,1.1s,mb4.1						
SONM	Songino Array	79.42	24	P	P	16 58 07.0	+1.3
	0.6nm,0.7s,mb3.6,baz=225,slow=4.2,SNR=5.9						
ZAL	Zalesovo	79.63	9	P	P	16 58 07.1	+0.4
	1.1nm,0.3s,mb4.2,baz=276,slow=5.9,SNR=4.3						
ASAJ	Asahikawa	95.28	44	LR	LR	17 40 45.0	
	comp=Z,40nm,18.6s,MS3.9,baz=334,slow=34						

*NEIC **18** 16:54:24.4±1.6, 80.66N×3.55W, h10km, Error ellipse: s-maj=32.8km s-min=12.5km az=185.0*

*IDC **18** 16:54:25.7±1.6, 79.72N×6.91W, mb3.4/2, mb1 3.9/3, mb1mx3.4/21, mbtmp3.6/3, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=79.2km s-min=27.5km az=17.0*

ISC 18 16:54:22.4±1.6, **80.7N**±0.2×**3.7W**±0.6, **h10**km, **n8**, σ**1.12**/8, **mb3.4**/2, **1C**, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	3.26	114⇑	eP	Pn	16 55 14.9	+0.2
DAG	Danmarks Havn	4.87	225	iP	Pn	16 55 39.0	+1.5
DAG	Danmarks Havn	4.87	225	eP	Pn	16 55 39.0	+1.5
SUMG	Summit	11.14	243	eP	P	16 57 02.6	-1.9
	20nm,0.6s						
ARCES	ARCESS Array B	13.16	131	Pn	P	16 57 31.2	-0.5
	0.2nm,0.3s,baz=349,slow=11,SNR=11						
ARCES				LR	LR	17 02 38.2	
	comp=Z,86nm,20.1s,baz=62,slow=38						
MKAR	Makanchi Array	43.55	84	P	P	17 02 36.0	+8.7
	0.5nm,0.8s,mb3.3,baz=350,slow=7.4,SNR=5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TXAR	Lajitas Array	62.87	285	P	P	17 04 50.9	+0.5
	0.3nm,0.6s,mb3.6,baz=46,slow=4.9,SNR=4.1						
TXAR	Lajitas Array	62.87	285	P	P	17 04 50.9	+0.5

MEX 18 16:57:17.2±1.0, **16.71N**×**99.54W**, **h5**km, **MD3.5**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.40	294	iP	Pg	16 57 23.8	-1.3
ACX				iS	Sg	16 57 29.8	-0.6
CAIG	El Cayaco	0.78	296	eP	Pg	16 57 31.1	-1.6
CAIG				iS	Sg	16 57 42.1	-0.9

*IDC **18** 17:38:08.0±1.7, 51.43N×168.32W, mb3.7/6, mb1 3.9/7, mb1mx3.6/24, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=49.6km s-min=22.0km az=12.0*

*NEIC **18** 17:38:11.8, 51.61N×168.17W, h12km, ML3.3(AEIC), After AEIC.*

ISC 18 17:38:10.5±3.3, **51.59N**±0.07×**168.3W**±0.1, **h25**km±25km, **n12**, σ**0.95**/16, **mb3.7**/6, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.43	345	P	Pn	17 38 34.8	-0.5
NIKO				S	Sn	17 38 53.2	-0.2
OKCD	Okmok Cone D	1.85	3	P	Pn	17 38 41.4	+0.2
OKCD				S	Sn	17 39 05.2	+1.2
MSW	Makushin Switc	2.50	21	P	Pn	17 38 50.2	-0.3
MSW				S	Sn	17 39 20.4	0.0
UNV	Unalaska Valle	2.50	25	P	Pn	17 38 49.8	-0.8
UNV				S	Sn	17 39 19.1	-1.4
ILAR	Eielson Array	17.23	32	P	P	17 42 13.0	+2.1
	0.1nm,0.3s,baz=231,slow=11,SNR=3.7						
INK	Inuvik	23.64	32	P	P	17 43 21.4	+1.3
	3.3nm,0.8s,mb3.8,baz=216,slow=7.2,SNR=8.6						
NVAR	Mina Array Bea	36.97	91	P	P	17 45 20.1	+0.7
	0.4nm,0.7s,mb3.4,baz=304,slow=7.2,SNR=4.0						
TXAR	Lajitas Array	52.08	89	P	P	17 47 19.0	-1.4
	0.3nm,0.6s,mb3.4,baz=305,slow=6.4,SNR=5.6						
TXAR	Lajitas Array	52.08	89	P	P	17 47 19.0	-1.4
SONM	Songino Array	52.29	302	P	P	17 47 22.0	+0.2
	0.3nm,0.5s,mb3.5,baz=45,slow=6.4,SNR=3.1						
BVAR	Borovoye Array	64.74	325	P	P	17 48 48.6	+0.3
	1.7nm,0.6s,mb4.3,baz=55,slow=6.7,SNR=9.8						
MKAR	Makanchi Array	64.84	314	P	P	17 48 48.1	-1.0
	0.4nm,0.6s,mb3.6,baz=55,slow=6.5,SNR=6.6						

MAN 18 17:55:32.3, **15.44N**×**120.48E**, **h2**km, **mb4.2**, **ML3.0**, **MS2.7**, **1C-1D**, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	Palayan	0.61	78⇓	eP	Pg	17 55 44.5	0.0
PCPH				iS	Sg	17 55 54.5	+1.9
SCZP	Santa Cruz	0.64	302	eP	Pg	17 55 45.1	-0.1
SCZP				eS	Sg	17 55 56.8	+3.2
BCPH	Baguio City Da	0.94	6⇑	iP	Pb	17 55 49.9	-1.2
BCPH				iS	Sg	17 56 02.8	-0.9
BOLP	Bolinao	1.08	330	eP	Pb	17 55 52.8	-0.7
BALP	Baler	1.10	74	eP	Pb	17 55 53.0	-0.7
BALP				eS	Sb	17 56 10.0	+1.6
POLP	Polilio Island	1.58	116	eP	Pn	17 56 00.9	-0.6
POLP				eS	Sb	17 56 22.8	+0.6
LUBP	Lubang	1.71	188	eP	Pn	17 56 03.3	-0.1
CAUP	Cauayan	1.98	41	eP	Pn	17 56 08.0	+0.8
CAUP				eS	Sn	17 56 32.6	-0.2
ABRA	Dolores	2.21	6	eP	Pn	17 56 10.7	+0.2

*ATH **18** 18:19:13.5, 37.71N×21.05E, h13km±1km, MD3.8/18, ML3.8*

*NEIC **18** 18:19:13.0, 37.71N×21.05E, h15km, mb4.2/4, ML3.9(THE), ML3.9(ROM), ML3.8(ATH), After ATH.*

*MOS **18** 18:19:13.8±1.7, 37.66N×20.81E, h33km, mb4.3/4, Error ellipse: s-maj=8.6km s-min=4.1km az=72.3*

*IDC **18** 18:19:15.4±1.7, 37.71N×20.77E, h47km±19km, mb3.7/9, mb1 3.7/15, mb1mx3.6/29, mbtmp3.7/15, ML3.4/5, Error ellipse: s-maj=18.9km s-min=13.1km az=160.0*

*CSEM **18** 18:19:15.2±0.1, 37.72N×20.88E, h30km, ML4.5/1*

*ROM **18** 18:19:17.0±1.0, 37.30N×20.23E, h12km, Md3.5/7, Ml3.9/1, Error ellipse: s-maj=15.4km s-min=10.1km az=147.0*

ISC 18 18:19:13.1±0.6, **37.62N**±0.03×**20.82E**±0.03, **h30**km±5km, **n108**, σ**1.28**/135, **mb4.1**/13, **MS3.3**/1, **1C-1D**, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.58	342	ePB	Pb	18 19 25.0	+0.2
ITM	Ithomi	0.99	116	ePG	Pb	18 19 29.9	-1.6
ITM	Ithomi	0.99	116	ePb	Pb	18 19 29.8	-1.7
LKD	Levkas	1.09	353	P	Pn	18 19 38.2	+5.7
LKD				S	Sn	18 19 54.0	+7.3
EVR	Evrytania	1.51	31	ePB	Pb	18 19 39.0	-1.3
EVR				eSB	Sb	18 19 57.0	-2.2
EVR	Evrytania	1.51	31	ePn	Pb	18 19 39.7	-0.6
EVR				eSn	Sb	18 19 57.0	-2.2
AGG	Agios Georgios	1.84	40	P	Pb	18 19 45.8	-0.1
AGG				S	Sn	18 20 11.9	+6.3
AGG	Agios Georgios	1.84	40	P	Pb	18 19 45.8	-0.1
VLI	Veliai	1.92	117	ePG	Pb	18 19 46.9	-0.3
VLI				eSN	Sn	18 20 09.9	+2.3
MGER	Gerania Oros	1.97	79	ePN	Pn	18 19 46.0	+1.0
LKR	Lokris	2.00	58	ePG	Pb	18 19 46.8	-1.9
JAN	Janina	2.03	1	ePN	Pb	18 19 48.6	-0.6
NSAL	Nisos Salamina	2.12	81	ePN	Pn	18 19 47.5	+0.3
NAIG	Nisos Aigina	2.12	85	ePN	Pn	18 19 48.5	+1.2
KYTH	Kithira	2.22	126	ePN	Pn	18 19 51.0	+2.3
KEK	Kerkira	2.24	339	ePN	Pn	18 19 52.0	+3.1
ATH	Athens Observa	2.32	80	ePN	Pn	18 19 51.4	+1.3
ATH				eSN	Sn	18 20 17.7	-0.3
MPAR	Parnis Oros	2.37	76	ePN	Pn	18 19 51.5	+0.7
PTL	Penteli	2.45	79	ePN	Pn	18 19 53.0	+1.1
NEO	Neokhori	2.53	48	ePn	Pn	18 19 53.9	+0.8
NEO				eSn	Sn	18 20 22.4	-0.8
XOR	Xorichti	2.55	46	P	Pn	18 19 54.4	+1.0
XOR	Xorichti	2.55	46	P	Pn	18 19 54.3	+0.9
KZN	Kozani	2.78	15⇓	iPN	Pn	18 19 58.8	+2.1
LIT	Litokhoron	2.80	27	P	Pn	18 19 58.2	+1.2
LIT				S	Sn	18 20 31.6	+1.6
LIT	Litokhoron	2.80	27	P	Pn	18 19 58.2	+1.3
LIT				S	Sn	18 20 31.6	+1.6
AOS	Alonnisos	2.86	56	P	Pn	18 19 58.2	+0.4
AOS				S	Sn	18 20 32.8	+1.2
AOS	Alonnisos	2.86	56	P	Pn	18 19 58.2	+0.4
AOS				S	Sn	18 20 32.8	+1.2
FNA	Florina	3.19	8	P	Pn	18 20 04.0	+1.6
FNA				S	Sn	18 20 39.3	-0.5
FNA	Florina	3.19	8	P	Pn	18 20 04.0	+1.6
FNA				S	Sn	18 20 39.3	-0.6
PLG	Polygyros	3.43	36	ePN	Pn	18 20 05.9	+0.1
LCI	Lecce	3.43	323	Pn	Pn	18 20 08.1	+2.2
	35nm,0.3s						
THE	Thessaloniki	3.44	28	P	Pn	18 20 06.7	+0.7
THE	Thessaloniki	3.44	28	P	Pn	18 20 06.7	+0.7
VAM	Vamos	3.51	128	ePn	Pn	18 20 08.2	+1.2
TIP	Timpagrande	3.55	297	eP	Pn	18 20 08.6	+1.0
TIP	Timpagrande	3.55	297	eP	Pn	18 20 08.6	+1.1
GRG	Griva	3.55	20	P	Pn	18 20 08.1	+0.5
GRG	Griva	3.55	20	P	Pn	18 20 08.1	+0.5
OUR	Ouranopolis	3.66	41	P	Pn	18 20 09.4	+0.3
OUR				S	Sn	18 20 53.5	+1.6
OUR	Ouranopolis	3.66	41	P	Pn	18 20 09.4	+0.2
OUR				S	Sn	18 20 53.5	+1.6
SOH	Sokhos	3.75	31	P	Pn	18 20 10.9	+0.4
SOH				S	Sn	18 20 54.8	+0.6
SOH	Sokhos	3.75	31	P	Pn	18 20 10.9	+0.4
SOH				S	Sn	18 20 54.8	+0.6
APE	Apeiranthos	3.79	97	ePN	Pn	18 20 12.9	+1.8
APE	Apeiranthos	3.79	97	eP	Pn	18 20 13.5	+2.4
SOI	Samo	3.80	278	Pn	Pn	18 20 11.6	+0.5
KNT	Kendrikon	3.89	24	P	Pn	18 20 13.0	+0.7
KNT				S	Sn	18 20 57.0	-0.5
KNT	Kendrikon	3.89	24	P	Pn	18 20 13.0	+0.7
KNT				S	Sn	18 20 57.0	-0.5
SANT	Santorini	3.92	107	P	Pn	18 20 12.9	+0.1
SANT	Santorini	3.92	107	P	Pn	18 20 12.9	+0.1
CEL	Celeste	3.94	281	Pn	Pn	18 20 13.7	+0.5
CEL				Sn	Sn	18 20 58.2	-0.8
	187nm,0.5s						
QSH	Qafa e Shtames	3.96	350	iSn	Sn	18 21 02.4	+3.0
IDI	Anoyia	4.02	124	P	Pn	18 20 14.2	-0.2
	0.4nm,0.3s,baz=341,slow=18,SNR=3.7						
IDI				S	Sn	18 20 57.4	-3.7
	2.4nm,0.3s,baz=66,slow=19,SNR=6.3						
MTTG	Motta San Giov	4.08	277	Pn	Pn	18 20 15.5	+0.4
	79nm,0.6s						
LIA	Limnos Island	4.10	55	ePN	Pn	18 20 15.0	-0.4
SRS	Serrai	4.10	31	P	Pn	18 20 15.6	+0.2
SRS				S	Sn	18 21 01.9	-1.1
SRS	Serrai	4.10	31	P	Pn	18 20 15.6	+0.2
SRS				S	Sn	18 21 01.9	-1.1
PE1	Pezze di Greco	4.13	321	ePn	Pn	18 20 17.5	+1.7
SKO	Skopje	4.37	6	iPn	Pn	18 20 19.5	+0.2
SKO				iPg	Pn	18 20 36.6	+17
NVR	Nevrokopi	4.41	31⇑	iPN	Pn	18 20 19.6	-0.1
SG1	Sgolgore (BA)	4.54	316	ePn	Pn	18 20 23.1	+1.4
MMB	Musomiste	4.55	29	iP	Pn	18 20 22.0	+0.1
KKB	Krupnik	4.58	22	eP	Pn	18 20 17.0	-5.3
URLA	Izmir	4.62	79	iP	Pn	18 20 20.9	-1.9
SLCN	Sala Consilina	4.89	306	Pn	Pn	18 20 30.2	+3.6
	16nm,0.2s						
RZN	Rozhen	5.05	35	iP	Pn	18 20 30.0	+1.1
RDO	Rodhopi	5.08	45	ePn	Pn	18 20 28.0	-1.2
VAE	Valguarnera	5.09	270	P	Pn	18 20 30.0	+0.6
	0.7nm,0.3s,baz=56,slow=3.6,SNR=2.8						
VAE				S	Sn	18 21 26.4	-1.5
	3.0nm,0.3s,baz=280,slow=18,SNR=3.2						
SGO	Sicignano	5.20	306	Pn	Pn	18 20 33.9	+3.0
	11nm,0.3s						
ALN	Alexandroupoli	5.21	50	P	Pn	18 20 30.0	-1.1
ALN	Alexandroupoli	5.21	50	P	Pn	18 20 30.0	-1.1
VTS	Vitosha	5.29	20	eP	Pn	18 20 33.0	+0.8
KDZ	Kurdzhali	5.37	40	eP	Pn	18 20 31.5	-1.8
CSSN	Cassano Irpino	5.54	308	Pn	Pn	18 20 39.0	+3.3
	16nm,0.5s						
SGG	Gregorio Mates	6.24	309	Pn	Pn	18 20 49.4	+3.8
CII	Carovilli	6.48	311	eP	Pn	18 20 46.7	-2.3
ULDT	Uludag	6.96	66	iP	Pn	18 20 54.3	-1.5
MLR	Muntele Rosu	8.75	24	P	P	18 21 19.9	-0.7
	0.7nm,0.3s,baz=208,slow=12,SNR=9.9						
TIRR	Tirgusor	8.92	38	eP	P	18 21 21.6	-1.4
TIRR	Tirgusor	8.92	38	eP	P	18 21 21.6	-1.4
SGKT	Sivrigoynuk	9.22	68	iP	P	18 21 27.1	-0.1
BRTR	Keskin Array B	10.24	74	P	P	18 21 42.0	+0.7
	0.1nm,0.3s,baz=251,slow=12,SNR=3.0						
DAVOX	Davos	12.22	322	S	S	18 24 17.7	-6.4
	0.2nm,0.3s,baz=158,slow=16,SNR=2.4						
GERES	GERESS Array B	12.35	338	P	P	18 22 06.1	-3.7
	0.1nm,0.3s,baz=151,slow=12,SNR=2.8						
GERES				S	S	18 24 19.7	-7.8
	0.2nm,0.3s,baz=153,slow=21,SNR=3.7						
AKASG	Malin Array Be	14.39	22	P	P	18 22 36.9	+0.3
	2.4nm,0.3s,baz=207,slow=8.8,SNR=9.8						
SUW	Suwalki	16.48	5	eP	P	18 23 01.9	-1.5
	42nm,0.8s						
SUW	Suwalki	16.48	5	eP	P	18 23 02.0	-1.5
SUW				pmax	pmax		
	comp=Z,42nm,0.8s						
ZEI	Tsey	18.35	67	eP	P	18 23 26.0	-1.0
OBN	Obninsk	20.51	26	eP	P	18 23 49.0	-2.3
OBN				e		18 24 03.2	
OBN				e		18 24 08.7	
OBN				eS	S	18 27 27.7	-6.5
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.3						
MDT	Midelt	21.30	265	P	P	18 23 58.1	-1.3
	comp=Z,1.4nm,0.8s,mb3.4,baz=65,slow=11,SNR=3.5						
HFS	Hagfors	22.99	351	P	P	18 24 14.8	-1.1
	comp=Z,2.2nm,0.4s,mb4.0,baz=164,slow=11,SNR=22						
FINES	FINESS Array B	24.07	6	P	P	18 24 24.7	-1.7
	comp=Z,5.0nm,1.0s,mb3.9,baz=185,slow=11,SNR=14						
NB2	NORSAR Subarra	24.21	349	P	P	18 24 27.7	-0.1
	comp=Z,1.5nm,0.6s,mb3.6,baz=154,slow=9.3						
NB2	NORSAR Subarra	24.21	349	P	P	18 24 27.7	-0.1
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
NOA	NORSAR Array B	24.21	349	P	P	18 24 27.9	+0.1
	comp=Z,2.1nm,0.7s,mb3.7,baz=155,slow=9.2,SNR=5.9						
KAF	Kangasniemi	24.75	6	ep	P	18 24 32.0	-1.0
	comp=Z,2.9nm,0.5s,mb4.1,baz=183,slow=9.8						
KAF	Kangasniemi	24.75	6	eP	P	18 24 32.0	-1.0
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
JOF	Joensuu	26.13	11	ep	P	18 24 45.6	-0.3
ARCES	ARCESS Array B	32.07	3	P	P	18 25 37.5	-1.6
	comp=Z,0.9nm,0.7s,mb3.7,baz=188,slow=8.6,SNR=6.4						
BVAR	Borovoye Array	37.30	49	P	P	18 26 22.5	-1.6
	comp=Z,1.3nm,0.5s,mb4.0,baz=266,slow=6.5,SNR=13						
DBIC	Dimbokro	38.65	224	P	P	18 26 35.3	-0.5
	comp=Z,4.0nm,0.8s,mb4.2,baz=36,slow=8.7,SNR=6.1						
DBIC	Dimbokro	38.65	224	eP	P	18 26 35.7	-0.1
	comp=Z,5.3nm,0.9s,mb4.3						
DBIC	Dimbokro	38.65	224	eP	P	18 26 35.7	-0.1
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TIC	Toumodi	38.76	224	ePKIKP	P	18 26 37.0	+0.3
	comp=Z,5.4nm,1.0s,mb4.2						
KIC	Kosan Boka	38.84	223	ePKIKP	P	18 26 37.6	+0.2
	comp=Z,12nm,0.7s,mb4.8						
LIC	Lamto	39.11	223	ePKIKP	P	18 26 37.6	-2.0
	comp=Z,46nm,1.5s,mb5.0						
NVS	Novosibirsk	44.88	47	eP	P	18 27 23.2	-3.1
MKAR	Makanchi Array	45.40	58	P	P	18 27 27.9	-2.5
	comp=Z,0.5nm,0.4s,mb3.7,baz=270,slow=7.4,SNR=23						
ZAL	Zalesovo	45.88	48	P	P	18 27 31.7	-2.5
	comp=Z,2.1nm,0.4s,mb4.4,baz=182,slow=5.2,SNR=6.6						

*NIED **18** 18:31:00, 24.00N×122.90E, h8km, Mw4.0 Best double couple: $M_0$1.11×10^15 NP1:ϕ_s219°, δ58°, λ-46°. NP2: ϕ_s337°, δ52°, λ-138°.*

*NEIC **18** 18:31:13.9±2.2, 24.00N×122.89E, h5km±14km, mb4.4/2, Error ellipse: s-maj=13.6km s-min=10.1km az=56.0*

*IDC **18** 18:31:13.2±0.9, 23.83N×122.39E, mb4.1/7, mb1 4.3/7, mb1mx4.0/20, mbtmp4.1/7, MS3.1/2, Ms1 3.1/2, ms1mx2.8/24, Error ellipse: s-maj=64.5km s-min=17.8km az=70.0*

*JMA **18** 18:31:15.1±0.2, 24.01N×122.89E, h13km±4km, M4.3*

ISC 18 18:31:15.3±0.8, **24.01N**±0.05×**122.88E**±0.04, **h26**km±6km, **n33**, σ**1.10**/39, **mb4.0**/8, **MS3.0**/1, **2C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.47	15	P	Pb	18 31 24.4	-0.5
YOJ				S	Sb	18 31 30.6	-0.9
IRIF	Iriomote-Funau	0.84	67	P	Pb	18 31 30.9	-0.3
IRIF				S	Sb	18 31 43.2	+1.0
HATJ	Hateruma jima	0.85	87	P	Pb	18 31 30.9	-0.4
HATJ				S	Sb	18 31 42.1	-0.3
JKRS	Kuro-shima	1.06	77	P	Pn	18 31 34.8	+0.2
JKRS				eS	Sb	18 31 49.0	+0.6
NACB	Ninganchiao	1.18	278⇑	eP	Pn	18 31 36.9	+0.6
JIJ	Ishigaki jima	1.21	73	P	Pn	18 31 36.8	+0.1
JIJ				S	Sn	18 31 52.6	+0.2
YHNB	Yeheng	1.52	296⇑	eP	Pn	18 31 43.1	+2.0
TATO	Taipei	1.59	308	eP	Pn	18 31 42.8	+0.7
JTJ	Tarama	1.78	69	P	Pn	18 31 45.5	+0.6
JTJ				S	Sn	18 32 10.0	+3.1
JOGS	Gusukube	2.43	72	P	Pn	18 31 55.8	+1.6
JKE	Kume jima 2	4.23	56	P	Pn	18 32 20.3	+0.5
JAGN	Aguni-jima	4.71	56	P	Pn	18 32 27.8	+1.2
JAGN				eS	Sn	18 33 20.6	-0.6
JIH	Iheya	5.50	56	P	Pn	18 32 38.4	+0.7
JOW	Kunigami	5.63	59	Pn	Pn	18 32 38.0	-1.6
	1.8nm,0.3s,baz=136,slow=18,SNR=9.3						
JOW				Sn	Sn	18 33 42.9	-1.4
	0.1nm,0.3s,baz=68,slow=18,SNR=2.8						
JOW	Kunigami	5.63	59	P	Pn	18 32 40.6	+1.0
JTK	Tokunoshima	6.64	54	P	Pn	18 32 51.4	-2.4
JAM	Amami Oshima	7.46	53	P	Pn	18 33 03.2	-2.2
KS15	Wonju Array Si	14.06	17	eP	P	18 34 41.1	+6.0
MJAR	Matsushiro Arr	18.17	43	LR	LR	18 43 04.4	
	comp=Z,66nm,19.8s,baz=195,slow=38						
ASAJ	Asahikawa	25.75	34	LR	LR	18 48 33.7	
	comp=Z,42nm,19.5s,MS3.0,baz=312,slow=40						
SONM	Songino Array	27.15	335	P	P	18 36 57.6	-0.7
	0.8nm,0.7s,mb3.4,baz=148,slow=10,SNR=5.5						
MKAR	Makanchi Array	39.54	315	P	P	18 38 44.2	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.4nm,0.5s,mb3.4,baz=103,slow=10.0,SNR=7.0						
MKAR	**Makanchi Array**	**39.54**	**315**	P	**P**	**18 38 44.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**41.94**	**176**	*e*P	**P**	**18 39 05.5**	**-0.3**
	6.3nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**41.94**	**176**	P	**P**	**18 39 04.2**	**-1.6**
	9.1nm,0.8s,mb4.5,baz=0.2,slow=6.0,SNR=11						
WRAB	**Tennant Creek**	**45.09**	**165**	*e*P	**P**	**18 39 31.5**	**+0.2**
	7.8nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**45.09**	**165**	P	**P**	**18 39 30.5**	**-0.9**
	1.3nm,0.7s,mb3.9,baz=346,slow=8.8,SNR=19						
WB2	**Warramunga Arr**	**45.09**	**165**	*e*P	**P**	**18 39 30.7**	**-0.7**
STKA	**Stephens Creek**	**58.38**	**161**	P	**P**	**18 41 10.7**	**-0.4**
	3.1nm,0.8s,mb4.4,baz=6.3,slow=9.2,SNR=4.2						
FINES	**FINESS Array B**	**72.37**	**330**	P	**P**	**18 42 41.0**	**+0.3**
	4.1nm,1.1s,mb4.3,baz=45,slow=5.9,SNR=5.0						
FINES	**FINESS Array B**	**72.37**	**330**	P	**P**	**18 42 41.0**	**+0.3**
YKA	**Yellowknife Ar**	**82.53**	**23**	P	**P**	**18 43 39.2**	**+2.5**
	1.2nm,0.8s,mb4.0,baz=319,slow=5.5,SNR=4.9						
YKA	**Yellowknife Ar**	**82.53**	**23**	P	**P**	**18 43 39.2**	**+2.5**

*BJI **18** 18:41:39.5, 28.63N×65.03E, h7km, mB4.9, mb4.8, Ms4.6, Msz4.0*
*IDC **18** 18:41:40.0±0.9, 28.56N×65.02E, mb4.4/18, mb1 4.5/18, mb1mx4.4/24, mbtmp4.4/18, MS3.5/5, Ms1 3.6/5, ms1mx3.2/26, Error ellipse: s-maj=20.7km s-min=15.8km az=162.0*
*NEIC **18** 18:41:41.3±0.3, 28.59N×65.04E, h10km, mb4.7/70, Error ellipse: s-maj=9.0km s-min=4.3km az=190.0*
*MOS **18** 18:41:43.1±1.1, 28.58N×64.97E, h33km, mb4.9/47, Error ellipse: s-maj=7.0km s-min=4.5km az=125.6*
*CSEM **18** 18:41:46.7±0.1, 28.81N×64.93E, h60km, mb4.6/49, Error ellipse: s-maj=3.6km s-min=2.8km az=140.0*
*OMAN **18** 18:42:06.7±87.0, 27.98N×63.75E, h22km, Error ellipse: s-maj=21.4km s-min=4.5km az=239.0*
ISC 18 18:41:45.4±0.5**, 28.62N**±0.03×**65.17E**±0.02**, h62**km±5km**, h4**km±9.2km**: pP-P, n276, σ1§14**/299**, mb4.6**/102**, 39C-14D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**5.35**	**107**	*e*P	**P**	**18 43 05.6**	**+1.0**
JASL				*e*S	**S**	**18 44 04.1**	**-1.6**
DRP	**Derazinda**	**5.36**	**53**	⇑P	**P**	**18 43 06.5**	**+1.9**
SBDP	**Sheikh Budin**	**6.09**	**52**	⇑P	**P**	**18 43 15.3**	**+0.4**
BHUJ	**Bhuj**	**6.70**	**142**	*e*P	**P**	**18 43 24.7**	**+1.3**
BHUJ				*e*S	**S**	**18 44 36.1**	**-2.8**
BHUJ				AML	AML	18 44 41.7	
	comp=N,2μm,0.5s						
BHUJ				AML	AML	18 44 42.7	
	comp=E,2μm,0.5s						
THW	**Thamme Wali**	**7.02**	**52**	⇑P	**P**	**18 43 27.5**	**-0.5**
SARP	**Sargodha**	**7.28**	**61**	⇑P	**P**	**18 43 31.1**	**-0.3**
SARP				S	**S**	**18 44 46.0**	**-7.3**
CEP	**Cherat**	**7.76**	**46**	⇓P	**P**	**18 43 37.4**	**-0.7**
CEP				S	**S**	**18 45 06.0**	**+0.7**
BIDO	**Bidbid**	**8.11**	**233**	⇓P	**P**	**18 43 43.7**	**+0.7**
	SNR=37						
WBK	**Wadi Bani Khal**	**8.19**	**224**	⇓P	**P**	**18 43 44.0**	**0.0**
	SNR=59						
WBK				⇓S	**S**	**18 45 06.2**	**-10**
BANOM	**Banah**	**8.34**	**253**	P	**P**	**18 43 47.2**	**+1.2**
	SNR=263						
SMDO	**Samad**	**8.47**	**231**	⇑P	**P**	**18 43 48.9**	**+1.1**
	SNR=73						
CHCP	**Chirah Chowk**	**8.56**	**52**	⇑P	**P**	**18 43 48.5**	**-0.6**
HOQ	**Hoqain**	**8.66**	**236**	P	**P**	**18 43 50.7**	**+0.3**
	SNR=70						
AJM	**Ajmer**	**8.68**	**102**	*e*P	**P**	**18 43 50.3**	**-0.4**
AJM				*e*S	**S**	**18 45 20.9**	**-7.1**
AJM				AML	AML	18 45 25.7	
	comp=N,188nm,0.4s						
AJM				AML	AML	18 45 25.8	
	comp=E,220nm,0.3s						
JMDO	**Jabal Madar**	**8.91**	**227**	P	**P**	**18 43 55.9**	**+2.1**
	SNR=61						
ASHO	**Ashiyiah**	**9.04**	**246**	P	**P**	**18 43 56.5**	**+0.9**
	SNR=147						
ASHO				⇑S	**S**	**18 45 22.2**	**-15**
BSYO	**Bisya**	**9.25**	**232**	P	**P**	**18 44 00.7**	**+2.2**
	SNR=211						
BSY	**Bisya**	**9.27**	**233**	P	**P**	**18 44 00.7**	**+2.0**
	SNR=211						
BHV	**Bhavnagar**	**9.31**	**136**	*e*P	**P**	**18 43 58.5**	**-0.8**
KHET	**Khetri**	**9.39**	**91**	*e*P	**P**	**18 43 59.5**	**-0.9**
KHET				*e*S	**S**	**18 45 36.7**	**-8.8**
KHET				AML	AML	18 45 39.9	
	comp=N,250nm,0.7s						
KHET				AML	AML	18 45 40.5	
	comp=E,444nm,0.3s						
ARQ	**Araqi**	**9.39**	**238**	⇓P	**P**	**18 44 04.1**	**+3.7**
	SNR=76						
KUDL	**Kundal**	**9.98**	**90**	*e*S	**S**	**18 45 49.6**	**-10**
BHK	**Bhakra**	**10.14**	**71**	*e*x	**P**	**18 44 11.0**	**+0.3**
KKR	**Kurukshetra**	**10.26**	**80**	*e*P	**P**	**18 44 10.6**	**-1.7**
BHGR	**Bahadurgarh**	**10.34**	**87**	*e*P	**P**	**18 44 11.1**	**-2.4**
BHGR				*e*x	x	18 45 54.0	
AYAN	**Aya Nagar**	**10.52**	**88**	*e*P	**P**	**18 44 14.4**	**-1.4**
AYAN				*e*S	**S**	**18 46 02.3**	**-11**
AYAN				AML	AML	18 46 08.6	
	comp=Z,111nm,0.4s						
NDI	**New Delhi**	**10.58**	**87**	*e*P	**P**	**18 44 12.2**	**-4.6**
NDI				*e*S	**S**	**18 46 02.0**	**-13**
KLP	**Kalpa**	**11.70**	**72**	*e*P	**P**	**18 44 29.3**	**-2.4**
KLP				*e*x	x	18 46 24.8	
BHPL	**Bhopal**	**12.26**	**113**	*e*P	**P**	**18 44 38.6**	**-0.7**
BHPL				*e*S	**S**	**18 46 44.6**	**-10**
BHPL				AML	AML	18 47 32.4	
	comp=E,52nm,0.5s						
BHPL				AML	AML	18 47 32.5	
	comp=N,65nm,0.6s						
POO	**Poona**	**12.81**	**140**	*e*x	x	18 44 55.1	
POO				*e*S	**S**	**18 46 59.0**	**-9.1**
KAD	**Karad**	**13.98**	**142**	*e*P	**P**	**18 45 02.0**	**0.0**
KAD				*e*x	x	18 47 33.7	
KAD				AML	AML	18 47 50.5	
	comp=N,16nm,0.7s						
KAD				AML	AML	18 47 50.6	
	comp=E,12nm,0.5s						
KSH	**Kashi**	**14.07**	**37**	P	**P**	**18 45 03.5**	**+0.5**
KSH				AP		18 45 10.9	
KSH				PP	PP	18 45 13.0	-1.6
KSH				XP		18 45 14.4	
KSH				PPP	PPP	18 45 20.3	-1.9
KSH				S	**S**	**18 47 30.5**	**-7.6**
KSH				XS		18 47 42.5	
KSH				SCP		18 53 58.3	
KSH				SCS	ScS	18 57 34.1	+11
KSH				AMB	AMB		
	comp=Z,270nm,1.4s						
KSH				LR	LR		
	comp=N,440nm,4.9s						
KSH				LR	LR		
	comp=E,480nm,5.6s						
WHFO	**Wadi Hawf**	**14.93**	**227**	⇑P	**P**	**18 45 16.8**	**+2.5**
	SNR=12						
RBK	**Rabkut**	**14.96**	**225**	⇓P	**P**	**18 45 17.4**	**+2.7**
	SNR=6.8						
KKAR	**Karatay Array**	**15.08**	**15**	*i* P	**P**	**18 45 14.7**	**-1.5**
	comp=E,4.0nm,0.4s						
KKAR	**Karatay Array**	**15.08**	**15**	*i* P	**P**	**18 45 14.7**	**-1.5**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
QRN	**Al-Qurain**	**15.15**	**275**	*e*P	**P**	**18 45 16.4**	**-0.7**
QRN				AMb	AMB	18 45 18.0	
	comp=Z,380nm,0.4s						
AML	**Almayashu**	**15.16**	**25**	P	**P**	**18 45 16.7**	**-0.4**
	SNR=144						
UMR	**Umm Al-Rimmam**	**15.29**	**278**	*e*P	**P**	**18 45 18.0**	**-0.9**
UMR				AMb	AMB	18 45 21.7	
	comp=Z,156nm,0.4s						
KBD	**Kabd**	**15.32**	**276**	*e*P	**P**	**18 45 19.0**	**-0.3**
KBD				AMb	AMB	18 45 20.4	
	comp=Z,409nm,0.3s						
RDF	**Al-Radifah**	**15.46**	**275**	*e*P	**P**	**18 45 20.2**	**-0.9**
RDF				AMb	AMB	18 45 22.3	
	comp=Z,209nm,0.4s						
UCH	**Uchtor**	**15.55**	**27**	P	**P**	**18 45 22.7**	**+0.5**
	SNR=19						
MIB	**Mutribah**	**15.62**	**279**	*e*P	**P**	**18 45 22.9**	**-0.2**
MIB				AMb	AMB	18 45 24.5	
	comp=Z,205nm,0.5s						
EKS2	**Erkin-Say**	**15.65**	**24**	P	**P**	**18 45 23.6**	**+0.3**
	SNR=35						
NAY	**Al-Naaiem**	**15.71**	**277**	*e*P	**P**	**18 45 23.2**	**-1.1**
NAY				AMb	AMB	18 45 26.2	
	comp=Z,92nm,0.4s						
AAK	**Ala-Archa**	**15.89**	**26**	P	**P**	**18 45 26.2**	**-0.3**
	SNR=42						
AAK	**Ala-Archa**	**15.89**	**26**	⇓*i*P	**P**	**18 45 25.5**	**-1.0**
	comp=Z,55nm,0.8s						
AAK	**Ala-Archa**	**15.89**	**26**	*i* P	**P**	**18 45 25.6**	**-0.9**
	comp=Z,64nm,0.8s						
AAK	**Ala-Archa**	**15.89**	**26**	*d i*P	**P**	**18 45 25.6**	**-0.9**
AAK				pmax	pmax		
	comp=Z,64nm,0.8s						
KBK	**Karagaybulak**	**16.09**	**27**	P	**P**	**18 45 30.0**	**+1.0**
	SNR=32						
FRU	**Bishkek**	**16.11**	**26**	*i* P	**P**	**18 45 29.0**	**-0.2**
	comp=Z,130nm,1.2s						
FRU	**Bishkek**	**16.11**	**26**	⇓*i*P	**P**	**18 45 29.0**	**-0.2**
FRU				pmax	pmax		
	comp=Z,130nm,1.2s						
KOLN	**Koldanda**	**16.27**	**89**	*e*P	**P**	**18 45 30.2**	**-1.2**
	comp=Z,86nm,0.5s						
KOLN				*e*S	**S**	**18 48 22.8**	**-6.7**
ULHL	**Ulahol**	**16.30**	**31**	P	**P**	**18 45 32.4**	**+0.8**
	SNR=15						
CHMS	**Chumysh**	**16.30**	**26**	P	**P**	**18 45 31.5**	**-0.1**
	SNR=59						
USP	**Ospenovka**	**16.44**	**25**	P	**P**	**18 45 33.5**	**+0.2**
	SNR=12						
TKM2	**Tokmak 2**	**16.57**	**28**	P	**P**	**18 45 35.2**	**+0.2**
	SNR=108						
HYB	**Hyderabad**	**16.60**	**129**	*i* P	**P**	**18 45 37.5**	**+2.0**
HYB				*e*		18 48 28.5	
HYB				*e*S	**S**	**18 48 33.5**	**-3.5**
HYB	**Hyderabad**	**16.60**	**129**	*e*P	**P**	**18 45 37.5**	**+2.0**
HYB				*e*S	**S**	**18 48 28.5**	**-8.5**
GKN	**Gorkha**	**17.16**	**87**	*e*P	**P**	**18 45 41.0**	**-1.5**
	comp=Z,81nm,0.4s						
GKN				*e*S	**S**	**18 48 40.5**	**-9.1**
DMN	**Daman**	**17.62**	**89**	*e*P	**P**	**18 45 47.5**	**-0.8**
	comp=Z,163nm,0.7s						
DMN				*e*S	**S**	**18 48 52.9**	**-7.0**
KKN	**Kakani**	**17.75**	**88**	*e*P	**P**	**18 45 48.9**	**-1.0**
	comp=Z,78nm,0.6s						
KKN				*e*S	**S**	**18 48 54.9**	**-7.9**
PKI	**Pulchoki**	**17.89**	**89**	*e*P	**P**	**18 45 50.8**	**-0.8**
	comp=Z,110nm,0.7s						
PKI				*e*S	**S**	**18 48 58.6**	**-7.4**
GNI	**Garni**	**20.36**	**310**	P	**P**	**18 46 19.4**	**+0.2**
	comp=Z,15nm,0.8s,baz=358,slow=1.8,SNR=11						
AB31	**Akbulak array**	**20.99**	**350**	*e*P	**P**	**18 46 26.6**	**+0.9**
	comp=Z,16nm,0.7s						
AB31	**Akbulak array**	**20.99**	**350**	*e*P	**P**	**18 46 26.6**	**+0.9**
AB31				pmax	pmax		
	comp=Z,16nm,0.7s						
TI2	**Plekhanov**	**21.14**	**314**	*e*P	**P**	**18 46 16.0**	**-11**
ZEI	**Tsey**	**22.23**	**315**	*e*P	**P**	**18 46 37.1**	**-0.9**
	comp=Z,3.0nm,0.7s,mb3.8						
ZEI	**Tsey**	**22.23**	**315**	*e*P	**P**	**18 46 37.1**	**-0.9**
ZEI				*i* *PP		18 46 44.3	
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
MK02	**Makanchi Array**	**22.55**	**32**	P	**P**	**18 46 42.2**	**+1.1**
MK02				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**22.56**	**32**	P	**P**	**18 46 42.4**	**+1.2**
	comp=Z,16nm,0.7s,mb4.6,baz=210,slow=12,SNR=51						
LSA	**Lhasa**	**22.70**	**81**	P	**P**	**18 46 48.0**	**+5.2**
LSA	**Lhasa**	**22.70**	**81**	*e*P	**P**	**18 46 46.8**	**+4.0**
	comp=Z,174nm,0.1s						
LSA	**Lhasa**	**22.70**	**81**	*e*P	**P**	**18 46 46.8**	**+4.0**
LSA				pmax	pmax		
	comp=Z,174nm,0.1s						
WMQ	**Urumqi**	**23.57**	**44**	P	**P**	**18 46 54.8**	**+3.8**
WMQ				AP		18 46 59.0	
WMQ				XP		18 47 02.0	
WMQ				PP	PP	18 47 27.0	+2.0
WMQ				*e*S	**S**	**18 51 06.0**	**+8.7**
WMQ				XS		18 51 13.0	
WMQ				AMB	AMB		
	comp=Z,37nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,139nm,4.0s						
WMQ				LR	LR		
	comp=N,332nm,14.7s						
WMQ				LR	LR		
	comp=E,136nm,11.7s						
WMQ				LR	LR		
	comp=Z,201nm,18.2s						
KIV	**Kislovodsk**	**23.61**	**316**	*e*P	**P**	**18 46 54.2**	**+2.8**
	comp=Z,16nm,0.9s,mb4.5						
KIV	**Kislovodsk**	**23.61**	**316**	*d i*P	**P**	**18 46 54.4**	**+3.0**
KIV				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.3						
MALT	**Malatya**	**24.24**	**300**	*e*P	**P**	**18 47 00.6**	**+3.0**
	comp=Z,3.3nm,0.6s,mb3.9						
MALT	**Malatya**	**24.24**	**300**	*e*P	**P**	**18 47 00.6**	**+3.0**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
KURK	**Kurchatov**	**24.30**	**21**	*e*P	**P**	**18 47 00.3**	**+2.2**
	comp=Z,12nm,0.7s,mb4.4						
KURK	**Kurchatov**	**24.30**	**21**	*e*P	**P**	**18 47 00.3**	**+2.3**
KURK				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.4						
VOSK	**Vostochnaya**	**24.46**	**9**	P	**P**	**18 47 02.4**	**+2.8**
VOSK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.5						
ASF	**Jabal al Asfar**	**24.61**	**285**	P	**P**	**18 47 01.7**	**+0.4**
	comp=Z,12nm,0.8s,mb4.5,baz=323,slow=4.6,SNR=18						
GZT	**Gaziantep**	**24.67**	**298**	*i* P	**P**	**18 47 02.4**	**+0.6**
BVAR	**Borovoye Array**	**24.69**	**8**	P	**P**	**18 47 04.1**	**+2.4**
	comp=Z,24nm,0.5s,mb5.0,baz=175,slow=9.3,SNR=242						
BRVK	**Borovoye**	**24.71**	**7**	*e*P	**P**	**18 47 03.9**	**+1.9**
	comp=Z,66nm,1.0s,mb5.1						
BRVK	**Borovoye**	**24.71**	**7**	*e*P	**P**	**18 47 03.9**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,66nm,1.0s,mb5.1						
SOC	**Sochi**	**25.28**	**313**	*e*P	**P**	**18 47 08.1**	**+0.6**
SOC				*e*		18 47 43.1	
SOC				*e*S	**S**	**18 51 31.1**	**+4.7**
SOC				*e*SS	SS	18 52 29.3	-2.1
SOC				pmax	pmax		
	comp=N,5.0nm,0.8s						
SOC				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
SOC				pmax	pmax		
	comp=E,7.0nm,0.7s						
BOYT	**Boyabat**	**27.73**	**305**	*i* P	**P**	**18 47 29.3**	**-0.8**
ARU	**Arti**	**28.19**	**352**	⇓*i*P	**P**	**18 47 36.7**	**+2.6**
ARU				*e*		18 48 25.7	
ARU				*e*PPP	PPP	18 48 36.1	-2.7
ARU				*e*S	**S**	**18 52 23.8**	**+10**
ARU				*e*SS	SS	18 53 46.3	+5.7
ARU				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb3.8						
BRTR	**Keskin Array B**	**28.20**	**301**	P	**P**	**18 47 33.7**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=126,slow=11,SNR=3.7						
ZAL	**Zalesovo**	**29.08**	**24**	P	**P**	**18 47 42.9**	**+0.8**
	comp=Z,9.8nm,0.4s,mb4.9,baz=235,slow=6.7,SNR=27						
NVS	**Novosibirsk**	**29.29**	**22**	⇓*i*P	**P**	**18 47 44.8**	**+0.9**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
NVS				pmax	pmax		
	comp=N,6.0nm,0.6s						
SGKT	**Sivrigoynuk**	**29.58**	**303**	*i* P	**P**	**18 47 44.6**	**-2.1**
ISP	**Isparta**	**30.27**	**297**	*e*P	**P**	**18 47 52.4**	**-0.5**
	comp=N,21nm,0.9s,mb4.9						
ISP	**Isparta**	**30.27**	**297**	*c i*P	**P**	**18 47 52.5**	**-0.3**
TKTP	**Tekketepe**	**30.45**	**297**	*i* P	**P**	**18 47 53.1**	**-1.3**
TIRR	**Tirgusor**	**33.17**	**308**	*e*P	**P**	**18 48 17.4**	**-0.8**
LZH	**Lanzhou**	**33.34**	**67**	⇑P	**P**	**18 48 20.5**	**+0.8**
LZH				AP	pP	18 48 23.5	-12
LZH				XP	sP	18 48 25.6	-17
LZH				PP	PP	18 49 30.1	-2.7
LZH				PCP	PcP	18 51 04.5	+4.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,56nm,4.0s						
CD2	**Chengdu**	**33.47**	**76**	P	**P**	**18 48 22.1**	**+1.3**
OBN	**Obninsk**	**33.54**	**330**	*e*P	**P**	**18 48 22.4**	**+1.2**
OBN				*e*S	**S**	**18 53 47.4**	**+10**
OBN				pmax	pmax		
	comp=Z,30nm,2.5s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,13.0s						
KMI	**Kunming**	**33.61**	**87**	P	**P**	**18 48 22.8**	**+0.7**
KMI				AMB	AMB		
	comp=Z,15nm,2.0s,mb4.6						
APE	**Apeiranthos**	**34.16**	**295**	*i* P	**P**	**18 48 26.3**	**-0.4**
AKASG	**Malin Array Be**	**34.88**	**319**	P	**P**	**18 48 31.8**	**-0.9**
	comp=Z,1.7nm,0.3s,mb4.4,baz=121,slow=7.8,SNR=15						
AKASG	**Malin Array Be**	**34.88**	**319**	P	**P**	**18 48 31.8**	**-0.9**
MLR	**Muntele Rosu**	**35.14**	**309**	P	**P**	**18 48 36.3**	**+1.3**
	comp=Z,6.5nm,0.5s,mb4.8						
MLR	**Muntele Rosu**	**35.14**	**309**	⇓*i*P	**P**	**18 48 36.6**	**+1.6**
VOIR		**35.73**	**309**	⇑*i*P	**P**	**18 48 40.5**	**+0.5**
ZAK	**Zakamensk**	**36.01**	**42**	*e*P	**P**	**18 48 44.2**	**+1.9**
	comp=Z,3.0nm,1.0s,mb4.2						
ZAK	**Zakamensk**	**36.01**	**42**	*e*P	**P**	**18 48 44.2**	**+1.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BURAR	**Bucovina Array**	**36.21**	**313**	⇑*i*P	**P**	**18 48 44.5**	**+0.5**
BURAR	**Bucovina Array**	**36.21**	**313**	⇑*i*P	**P**	**18 48 44.5**	**+0.4**
GYA	**Guiyang**	**36.73**	**83**	P	**P**	**18 48 51.5**	**+2.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
SONM	**Songino Array**	**37.10**	**47**	P	**P**	**18 48 54.6**	**+3.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=254,slow=8.9,SNR=19						
SONM				LR	LR	19 06 37.3	
	comp=Z,53nm,20.9s,baz=70,slow=40						
KOLS	**Kolonicke sedl**	**38.47**	**314**	*e*P	**P**	**18 49 00.2**	**-2.7**
KOLS				*e*pP	pP	18 49 04.5	-14
KECS	**Kecovo**	**39.50**	**313**	*e*P	**P**	**18 49 10.8**	**-0.7**
KMBO	**Kilima Mbogo**	**39.88**	**227**	P	**P**	**18 49 13.9**	**-1.0**
	comp=Z,1.3nm,0.2s,mb4.3,baz=32,slow=3.6,SNR=7.4						
KMBO				LR	LR	19 07 10.8	
	comp=Z,45nm,18.5s,baz=88,slow=38						
VYHS	**Vyhne**	**40.57**	**312**	*e*P	**P**	**18 49 21.5**	**+1.2**
JOF	**Joensuu**	**40.73**	**337**	*e*p	**P**	**18 49 21.9**	**+0.5**
FINES	**FINESS Array B**	**41.78**	**333**	P	**P**	**18 49 30.1**	**+0.2**
	comp=Z,1.4nm,0.5s,mb3.9,baz=128,slow=8.3,SNR=17						
FINES				LR	LR	19 08 30.7	
	comp=Z,54nm,18.1s,baz=70,slow=39						
FINES	**FINESS Array B**	**41.78**	**333**	*i* P	**P**	**18 49 30.5**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.7						
FINES	**FINESS Array B**	**41.78**	**333**	*i* P	**P**	**18 49 30.5**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**42.06**	**334**	*e*p	**P**	**18 49 32.7**	**+0.4**
	comp=Z,0.6nm,0.3s,mb3.7,baz=124,slow=8.1						
KAF	**Kangasniemi**	**42.06**	**334**	*e*P	**P**	**18 49 32.7**	**+0.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
ARSA	**Arzberg**	**42.55**	**310**	⇑*i*P	**P**	**18 49 37.7**	**+1.1**
	comp=Z,3.2nm,0.8s,mb4.1						
CIT	**Chita**	**42.65**	**43**	*e*P	**P**	**18 49 40.7**	**+3.4**
GERES	**GERESS Array B**	**43.98**	**312**	P	**P**	**18 49 48.0**	**-0.2**
	comp=Z,1.2nm,0.5s,mb3.9,baz=108,slow=7.6,SNR=11						
GERES				LR	LR	19 10 57.0	
	comp=Z,44nm,18.4s,baz=97,slow=40						
KHC	**Kasperske Hory**	**44.10**	**312**	*e*P	**P**	**18 49 48.6**	**-0.6**
BRG	**Berggiesshubel**	**44.15**	**315**	*i* P	**P**	**18 49 50.6**	**+1.1**
	comp=Z,3.7nm,0.8s,mb4.2						
BRG	**Berggiesshubel**	**44.15**	**315**	*i* P	**P**	**18 49 50.6**	**+1.1**
	comp=Z,4.0nm,0.8s,mb4.2						
BRG	**Berggiesshubel**	**44.15**	**315**	*i* P	**P**	**18 49 50.6**	**+1.1**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
BOD	**Bodaibo**	**44.58**	**35**	*e*P	**P**	**18 49 54.6**	**+1.7**
	comp=Z,7.0nm,0.9s,mb4.5						
BOD	**Bodaibo**	**44.58**	**35**	*e*P	**P**	**18 49 54.6**	**+1.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
WTTA	**Wattenberg**	**45.19**	**309**	⇑*i*P	**P**	**18 49 57.3**	**-0.6**
	comp=Z,2.5nm,0.3s,mb4.5						
WTTA	**Wattenberg**	**45.19**	**309**	⇑*i*P	**P**	**18 49 57.3**	**-0.6**
WTTA				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.6						
WATA	**Walderalm**	**45.23**	**310**	⇑*i*P	**P**	**18 49 57.3**	**-0.9**
	comp=Z,2.0nm,0.3s,mb4.4						
WATA	**Walderalm**	**45.23**	**310**	⇑*i*P	**P**	**18 49 57.3**	**-0.9**
WATA				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
SQTA	**Sankt Quirin**	**45.48**	**309**	⇑*i*P	**P**	**18 49 59.4**	**-0.7**
	comp=Z,5.6nm,0.3s,mb4.9						
SQTA	**Sankt Quirin**	**45.48**	**309**	⇑*i*P	**P**	**18 49 59.4**	**-0.7**
SQTA				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.9						
MOTA	**Moosalm**	**45.55**	**310**	⇑*i*P	**P**	**18 49 59.8**	**-1.0**
	comp=Z,5.9nm,0.3s,mb5.0						
MOTA	**Moosalm**	**45.55**	**310**	⇑*i*P	**P**	**18 49 59.8**	**-1.0**
MOTA				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.0						
MOX	**Moxa**	**45.58**	**314**	*i* P	**P**	**18 50 01.6**	**+0.7**
	comp=Z,logA/T=0.9,mb4.6						
MOX	**Moxa**	**45.58**	**314**	*e*P	**P**	**18 50 01.6**	**+0.7**
	comp=Z,13nm,1.5s,mb4.6						
MOX	**Moxa**	**45.58**	**314**	*e*P	**P**	**18 50 01.6**	**+0.7**
MOX				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
GRA1	**Grafenberg Arr**	**45.70**	**313**	*e*P	**P**	**18 50 02.6**	**+0.7**
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	**Grafenberg Arr**	**45.70**	**313**	*e*P	**P**	**18 50 02.6**	**+0.7**
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	**Grafenberg Arr**	**45.70**	**313**	*e*P	**P**	**18 50 02.6**	**+0.7**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	**Grafenberg Arr**	**45.70**	**313**	*e*P	**P**	**18 50 02.6**	**+0.7**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
HIA	**Hailar**	**46.06**	**48**	*e*P	**P**	**18 50 08.3**	**+3.5**
	comp=Z,7.3nm,0.8s,mb4.7						
HIA	**Hailar**	**46.06**	**48**	*e*P	**P**	**18 50 08.3**	**+3.5**
	comp=Z,7.0nm,0.8s,mb4.6						
HIA	**Hailar**	**46.06**	**48**	*e*P	**P**	**18 50 08.3**	**+3.5**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NJ2	**Nanjing**	**46.07**	**72**	*e*P	**P**	**18 50 07.3**	**+2.2**
NJ2				AP	pP	18 50 17.3	-3.6
NJ2				XP	sP	18 50 21.0	-7.1
NJ2				PP	PP	18 51 56.0	+2.1
NJ2				S	**S**	**18 56 50.0**	**+4.8**
NJ2				XS		18 57 05.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,228nm,5.6s						
NJ2				LR	LR		
	comp=N,510nm,14.8s						
NJ2				LR	LR		
	comp=E,280nm,14.8s						
NJ2				LR	LR		
	comp=Z,20nm,14.8s						
DAVA	**Damuels**	**46.38**	**309**	⇑*i*P	**P**	**18 50 06.7**	**-0.6**
	comp=Z,8.4nm,0.4s,mb5.0						
KEV	**Kevo**	**46.58**	**343**	*e*p	**P**	**18 50 09.8**	**+1.2**
ARCES	**ARCESS Array B**	**46.84**	**342**	P	**P**	**18 50 11.3**	**+0.7**
	comp=Z,2.5nm,0.6s,mb4.3,baz=129,slow=7.8,SNR=17						
SBF	**Sospel**	**48.05**	**305**	*e*P	**P**	**18 50 19.8**	**-0.6**
	comp=Z,32nm,0.6s,mb5.3						
SBF	**Sospel**	**48.05**	**305**	*e*P	**P**	**18 50 19.8**	**-0.6**
SBF				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.2						
NB2	**NORSAR Subarra**	**48.08**	**328**	P	**P**	**18 50 19.9**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=108,slow=7.4						
NB2	**NORSAR Subarra**	**48.08**	**328**	P	**P**	**18 50 19.9**	**-0.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**48.08**	**328**	P	**P**	**18 50 19.5**	**-1.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=110,slow=7.6,SNR=3.9						
SSE	**Sheshan**	**48.21**	**73**	P	**P**	**18 50 20.8**	**-1.0**
SSE				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,175nm,3.8s						
HINF	**Hinteralfeld**	**48.45**	**310**	*e*P	**P**	**18 50 23.2**	**-0.3**
MBDF	**Montbardon**	**48.50**	**306**	⇑*i*P	**P**	**18 50 23.1**	**-0.8**
	comp=Z,20nm,0.5s,mb5.1						
MBDF	**Montbardon**	**48.50**	**306**	⇑*i*P	**P**	**18 50 23.1**	**-0.8**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
LPG	**La Plagne**	**48.50**	**307**	*e*P	**P**	**18 50 23.4**	**-0.5**
	comp=Z,5.7nm,0.4s,mb4.7						
LPG	**La Plagne**	**48.50**	**307**	*e*P	**P**	**18 50 23.4**	**-0.5**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
LPL	**La Plagne**	**48.52**	**307**	*e*P	**P**	**18 50 23.5**	**-0.5**
	comp=Z,14nm,0.7s,mb4.8						
LPL	**La Plagne**	**48.52**	**307**	*e*P	**P**	**18 50 23.5**	**-0.5**
LPL				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,7.0nm,0.7s,mb4.8						
FRF	**La Foret Royal**	**48.63**	**304**	*e*P	**P**	**18 50 24.3**	**-0.6**
LMR	**La Mourre**	**48.74**	**304**	*e*P	**P**	**18 50 25.4**	**-0.4**
CABF	**La Chapelle**	**48.96**	**308**	*e*P	**P**	**18 50 27.4**	**0.0**
	comp=Z,20nm,0.9s,mb4.9						
CABF	**La Chapelle**	**48.96**	**308**	*e*P	**P**	**18 50 27.4**	**0.0**
CABF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ORIF	**Oris-en-Rattie**	**49.13**	**306**	*e*P	**P**	**18 50 27.0**	**-1.8**
	comp=Z,7.1nm,0.7s,mb4.5						
ORIF	**Oris-en-Rattie**	**49.13**	**306**	*e*P	**P**	**18 50 27.0**	**-1.8**
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
SMRF	**Simiane la Rot**	**49.39**	**305**	*e*P	**P**	**18 50 30.4**	**-0.4**
RFYF	**Reffroy**	**49.39**	**311**	*e*P	**P**	**18 50 30.6**	**-0.1**
MEZF	**Maizieres J'vi**	**49.67**	**311**	*e*P	**P**	**18 50 32.7**	**-0.2**
SFTF	**Sexfontaines**	**49.68**	**310**	*e*P	**P**	**18 50 32.6**	**-0.3**
	comp=Z,19nm,0.8s,mb4.9,baz=92						
GIVF	**Givet**	**49.86**	**313**	*e*P	**P**	**18 50 34.9**	**+0.6**
VIVF	**Saint-Julien-l**	**49.99**	**306**	*e*P	**P**	**18 50 34.6**	**-0.8**
	comp=Z,23nm,0.9s,mb4.9						
VIVF	**Saint-Julien-l**	**49.99**	**306**	*e*P	**P**	**18 50 34.6**	**-0.8**
VIVF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
CLNS	**Chul'man**	**50.08**	**38**	*e*P	**P**	**18 50 39.1**	**+3.2**
	comp=Z,19nm,0.9s,mb5.1						
CLNS	**Chul'man**	**50.08**	**38**	*e*P	**P**	**18 50 39.1**	**+3.2**
CLNS				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.3						
CLNS				pmax	pmax		
	comp=N,19nm,0.9s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
BAIF	**Baives**	**50.26**	**313**	*e*P	**P**	**18 50 37.9**	**+0.6**
LOR	**Lormes**	**50.48**	**309**⇑	*i*P	**P**	**18 50 38.2**	**-0.9**
	comp=E,8.3nm,0.7s,mb4.6,baz=62						
LOR	**Lormes**	**50.48**	**309**⇑	*i*P	**P**	**18 50 38.2**	**-0.9**
LOR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
SMF	**Signal de Mont**	**50.51**	**308**⇑	*i*P	**P**	**18 50 38.7**	**-0.6**
	comp=Z,34nm,0.7s,mb5.1						
SMF	**Signal de Mont**	**50.51**	**308**⇑	*i*P	**P**	**18 50 38.7**	**-0.6**
SMF				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
LASF	**Ste Croix**	**50.62**	**305**	*e*P	**P**	**18 50 39.4**	**-0.8**
	comp=Z,21nm,0.9s,mb4.8						
SSF	**Saint Saulge**	**50.73**	**309**⇑	*i*P	**P**	**18 50 40.4**	**-0.6**
	comp=Z,15nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**50.73**	**309**	*i* P	**P**	**18 50 40.4**	**-0.6**
	comp=Z,8.0nm,0.7s,mb4.8						
SSF	**Saint Saulge**	**50.73**	**309**⇑	*i*P	**P**	**18 50 40.4**	**-0.6**
SSF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
TCF	**Toulx Ste Croi**	**51.65**	**308**	*e*P	**P**	**18 50 47.4**	**-0.5**
	comp=Z,15nm,0.8s,mb4.7						
TCF	**Toulx Ste Croi**	**51.65**	**308**	*e*P	**P**	**18 50 47.4**	**-0.5**
TCF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CAF	**Calviac**	**51.84**	**306**⇑	*i*P	**P**	**18 50 49.0**	**-0.4**
	comp=Z,17nm,0.7s,mb4.8						
CAF	**Calviac**	**51.84**	**306**⇑	*i*P	**P**	**18 50 49.0**	**-0.4**
CAF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
MTLF	**Montolieu**	**51.86**	**304**	*e*P	**P**	**18 50 49.0**	**-0.6**
	comp=Z,9.6nm,0.4s,mb4.8						
MTLF	**Montolieu**	**51.86**	**304**	*e*P	**P**	**18 50 49.0**	**-0.6**
MTLF				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
RJF	**Les Rejaudoux**	**52.20**	**307**	*e*P	**P**	**18 50 51.8**	**-0.2**
	comp=Z,8.8nm,0.6s,mb4.6						
RJF	**Les Rejaudoux**	**52.20**	**307**	*e*P	**P**	**18 50 51.8**	**-0.2**
RJF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LFF	**La Frestale**	**52.77**	**306**⇑	*i*P	**P**	**18 50 56.0**	**-0.4**
	comp=Z,24nm,0.6s,mb5.0						
LFF	**La Frestale**	**52.77**	**306**⇑	*i*P	**P**	**18 50 56.0**	**-0.4**
LFF				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
MDJ	**Mudanjiang**	**52.80**	**54**	P	**P**	**18 50 57.4**	**+0.8**
MDJ				AP	pP	18 51 00.5	-12
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,54nm,4.1s						
MDJ				LR	LR		
	comp=N,43nm,15.7s						
MDJ				LR	LR		
	comp=E,15nm,19.2s						
MDJ				LR	LR		
	comp=Z,31nm,22.7s						
EPOB	**Poblet**	**52.93**	**302**	P	**P**	**18 50 57.2**	**-0.4**
	comp=Z,3.0nm,0.5s,mb4.5						
LDF	**La Druitiere**	**53.11**	**311**	*e*P	**P**	**18 50 57.8**	**-1.0**
	comp=Z,2.7nm,0.4s,mb4.2						
LDF	**La Druitiere**	**53.11**	**311**	*e*P	**P**	**18 50 57.8**	**-1.0**
LDF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
YAK	**Yakutsk**	**53.23**	**32**	*e*P	**P**	**18 51 00.3**	**+0.8**
	comp=Z,25nm,1.1s,mb5.0						
YAK	**Yakutsk**	**53.23**	**32**	*i* P	**P**	**18 51 00.5**	**+1.0**
	comp=Z,25nm,1.3s,mb5.0						
YAK	**Yakutsk**	**53.23**	**32***d*	*i*P	**P**	**18 51 00.5**	**+1.0**
YAK				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
MFF	**Saint Martin d**	**53.25**	**309**	*e*P	**P**	**18 50 58.9**	**-1.0**
EPF	**Esparros**	**53.26**	**304**	*e*P	**P**	**18 50 58.4**	**-1.6**
	comp=Z,2.6nm,0.5s,mb4.1						
EPF	**Esparros**	**53.26**	**304**	*e*P	**P**	**18 50 58.4**	**-1.6**
EPF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
FLN	**La Foliniere**	**53.34**	**311**	*e*P	**P**	**18 50 59.6**	**-0.9**
	comp=Z,4.3nm,0.5s,mb4.3						
FLN	**La Foliniere**	**53.34**	**311**	*e*P	**P**	**18 50 59.6**	**-0.9**
FLN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
EBIE	**Bielsa**	**53.45**	**304**	P	**P**	**18 51 00.7**	**-0.7**
	comp=Z,1.2nm,0.4s,mb4.2						
ERTA	**Horta de San J**	**53.54**	**302**	P	**P**	**18 51 01.8**	**-0.4**
	comp=Z,3.6nm,0.6s,mb4.5						
GRR	**Gorron**	**53.61**	**311**	*e*P	**P**	**18 51 01.7**	**-0.8**
	comp=Z,2.8nm,0.4s,mb4.3						
GRR	**Gorron**	**53.61**	**311**	*e*P	**P**	**18 51 01.7**	**-0.8**
GRR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KLR	**Kul'dur**	**53.92**	**48**	*e*P	**P**	**18 51 04.2**	**-0.6**
ETSF	**Etsaut**	**53.93**	**304**⇑	*i*P	**P**	**18 51 04.5**	**-0.5**
	comp=Z,13nm,0.5s,mb4.8						
ETSF	**Etsaut**	**53.93**	**304**⇑	*i*P	**P**	**18 51 04.5**	**-0.5**
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
ESAC	**San Caprasio**	**54.03**	**303**	P	**P**	**18 51 05.3**	**-0.4**
	comp=Z,10nm,0.4s,mb5.1						
EMOS	**Mosqueruela**	**54.23**	**301**	P	**P**	**18 51 07.6**	**+0.4**
	comp=Z,5.5nm,0.5s,mb4.7						
SJPF	**Ste Jean**	**54.39**	**304**	*e*P	**P**	**18 51 07.9**	**-0.4**
	comp=Z,11nm,0.8s,mb4.6						
SJPF	**Ste Jean**	**54.39**	**304**	*e*P	**P**	**18 51 07.9**	**-0.4**
SJPF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ECHE	**Chera**	**54.74**	**300**	P	**P**	**18 51 11.3**	**+0.4**
	comp=Z,8.7nm,0.7s,mb4.9						
ECHE	**Chera**	**54.74**	**300**	P	**P**	**18 51 11.3**	**+0.4**
	comp=Z,9.0nm,0.7s,mb4.9						
ECHE	**Chera**	**54.74**	**300**	P	**P**	**18 51 11.3**	**+0.4**
ECHE				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
SGMF	**Saint Gilles**	**54.75**	**311**⇑	*i*P	**P**	**18 51 10.4**	**-0.4**
	comp=Z,10nm,0.7s,mb4.7						
SGMF	**Saint Gilles**	**54.75**	**311**⇑	*i*P	**P**	**18 51 10.4**	**-0.4**
SGMF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
QUIF	**Quistinic**	**55.19**	**310**	*e*P	**P**	**18 51 13.1**	**-0.9**
	comp=Z,8.9nm,0.7s,mb4.6						
QUIF	**Quistinic**	**55.19**	**310**	*e*P	**P**	**18 51 13.1**	**-0.9**
QUIF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ROSF	**Rostrenen**	**55.22**	**311**	*e*P	**P**	**18 51 13.4**	**-0.8**
	comp=Z,21nm,0.8s,mb4.9						
ROSF	**Rostrenen**	**55.22**	**311**	*e*P	**P**	**18 51 13.4**	**-0.8**
ROSF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
ETOB	**Tobarra**	**55.36**	**299**	P	**P**	**18 51 15.6**	**+0.3**
	comp=Z,6.6nm,0.7s,mb4.8						
EVIA	**Vianos**	**56.09**	**299**	P	**P**	**18 51 20.7**	**0.0**
	comp=Z,11nm,0.7s,mb5.0						
EVIA	**Vianos**	**56.09**	**299**	P	**P**	**18 51 20.7**	**0.0**
	comp=Z,11nm,0.7s,mb5.0						
EVIA	**Vianos**	**56.09**	**299**	P	**P**	**18 51 20.7**	**0.0**
EVIA				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
EQES	**Quesada**	**56.70**	**298**	P	**P**	**18 51 24.8**	**-0.3**
	comp=Z,9.0nm,0.7s,mb4.9						
EBER	**Berja**	**56.76**	**297**	P	**P**	**18 51 24.7**	**-0.8**
	comp=Z,11nm,0.6s,mb5.0						
ESDC	**Sonseca Array**	**57.00**	**301**	P	**P**	**18 51 26.3**	**-0.8**
	comp=Z,2.7nm,0.6s,mb4.4,baz=67,slow=6.8,SNR=16						
ESDC	**Sonseca Array**	**57.00**	**301**	P	**P**	**18 51 26.5**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.5						
EBAN	**Banos Encina**	**57.17**	**299**	P	**P**	**18 51 27.9**	**-0.5**
	comp=Z,7.1nm,0.5s,mb5.0						
EBAN	**Banos Encina**	**57.17**	**299**	P	**P**	**18 51 27.9**	**-0.5**
	comp=Z,7.0nm,0.5s,mb5.0						
EBAN	**Banos Encina**	**57.17**	**299**	P	**P**	**18 51 27.9**	**-0.5**
EBAN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
EARI	**Arriondas**	**57.24**	**305**	P	**P**	**18 51 27.6**	**-1.2**
	comp=Z,4.8nm,0.8s,mb4.6						
ERON	**Agron**	**57.45**	**298**	P	**P**	**18 51 29.2**	**-1.2**
	comp=Z,4.2nm,0.4s,mb4.8						
ELUQ	**Luque**	**57.68**	**298**	P	**P**	**18 51 31.0**	**-1.0**
	comp=Z,6.7nm,0.8s,mb4.7						
ELUQ	**Luque**	**57.68**	**298**	P	**P**	**18 51 31.0**	**-1.0**
	comp=Z,7.0nm,0.8s,mb4.7						
ELUQ	**Luque**	**57.68**	**298**	P	**P**	**18 51 31.0**	**-1.0**
ELUQ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
EADA	**Adamuz**	**57.78**	**299**	P	**P**	**18 51 32.1**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.5						
EMIJ	**Mijas**	**58.31**	**297**	P	**P**	**18 51 34.5**	**-1.8**
	comp=Z,9.0nm,0.6s,mb5.0						
EPON	**Pontenova**	**58.62**	**305**	P	**P**	**18 51 34.1**	**-4.3**
	comp=Z,8.8nm,0.9s,mb4.8						
EMIN	**Mina Concepcio**	**59.49**	**299**	P	**P**	**18 51 43.5**	**-1.0**
	comp=Z,3.3nm,0.6s,mb4.5						
EBAD	**Badajoz**	**59.51**	**300**	P	**P**	**18 51 43.7**	**-1.0**
	comp=Z,2.8nm,0.6s,mb4.5						
MTE	**Manteigas**	**59.53**	**302**	*e*P	**P**	**18 51 45.0**	**+0.3**
ELOB	**Lobios**	**59.58**	**304**	P	**P**	**18 51 43.1**	**-2.0**
	comp=Z,4.8nm,0.9s,mb4.5						
PCBR	**Castelo Branco**	**59.61**	**302**	*e*P	**P**	**18 51 45.2**	**-0.1**
EGRO	**El Granado**	**60.17**	**299**	P	**P**	**18 51 48.0**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.4						
EVO	**Evora**	**60.32**	**300**	*e*P	**P**	**18 51 50.5**	**+0.3**
	comp=Z,9.4nm,0.8s,mb4.6						
PBEJ	**Beja**	**60.34**	**300**	*e*P	**P**	**18 51 51.0**	**+0.7**
DBIC	**Dimbokro**	**69.31**	**266**	P	**P**	**18 52 50.4**	**+1.7**
	comp=Z,8.3nm,1.0s,mb4.6,baz=46,slow=6.9,SNR=6.0						
KIC	**Kosan Boka**	**69.35**	**266**	*e*P	**P**	**18 52 51.1**	**+2.1**
	comp=Z,19nm,0.8s,mb5.0						
TIC	**Toumodi**	**69.47**	**266**	*e*P	**P**	**18 52 50.0**	**+0.4**
	comp=Z,1.2nm,0.2s,mb4.4						
LIC	**Lamto**	**69.67**	**266**	*e*P	**P**	**18 52 53.2**	**+2.3**
	comp=Z,53nm,1.5s,mb5.2						
LIC	**Lamto**	**69.67**	**266**	*e*P	**P**	**18 52 53.5**	**+2.6**
	comp=Z,1.6nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**82.38**	**117**	P	**P**	**18 54 04.8**	**+2.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=318,slow=4.8,SNR=20						
WRA	**Warramunga Arr**	**82.38**	**117**	*i* P	**P**	**18 54 05.0**	**+2.4**
	comp=Z,2.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**82.38**	**117**	*i* P	**P**	**18 54 05.0**	**+2.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRAB	**Tennant Creek**	**82.39**	**117**	*e*P	**P**	**18 54 05.0**	**+2.4**
	comp=Z,5.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**82.39**	**117**	*e*P	**P**	**18 54 05.0**	**+2.4**
	comp=Z,5.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**82.39**	**117**	*e*P	**P**	**18 54 05.0**	**+2.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
WB2	**Warramunga Arr**	**82.39**	**117**	*e*P	**P**	**18 54 04.9**	**+2.3**
ILAR	**Eielson Array**	**83.62**	**13**	P	**P**	**18 54 09.6**	**+1.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=319,slow=4.1,SNR=8.6						
ASPA	**Alice Springs**	**84.13**	**121**	*e*P	**P**	**18 54 13.9**	**+2.5**
YKA	**Yellowknife Ar**	**89.21**	**360**	LR	LR	19 34 46.5	
	comp=Z,82nm,18.8s,baz=275,slow=36						

IDC 18 19:01:11.2±5.3**,5.29S**×**153.99E,h162**km±43km**,mb3.7**/6**, mb1 3.9**/7**,mb1mx3.7**/15**,mbtmp4.2**/7**,MS2.6**/1**,Ms1 2.6**/1**, ms1mx2.4**/25**,Error ellipse: s-maj=47.7km s-min=25.3km az=112.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.20**	**125**	LR	LR	19 05 32.6	
	comp=Z,43nm,19.4s,baz=187,slow=36						
PMG	**Port Moresby**	**7.91**	**238**	P	P	19 03 02.9	-1.5
	6.7nm,0.3s,baz=50,slow=13,SNR=39						
PMG				S	S	19 04 34.5	+1.9
	1.4nm,0.3s,baz=32,slow=18,SNR=3.4						
KAKA	**Kakadu**	**22.51**	**249**	*e*P	P	19 06 17.0	+19
	6.8nm,0.9s						
WB2	**Warramunga Arr**	**24.02**	**231**	*e*P	P	19 06 12.2	-0.5
WRA	**Warramunga Arr**	**24.03**	**231**	P	P	19 06 12.5	-0.3
	4.9nm,0.6s,baz=54,slow=9.6,SNR=89						
STKA	**Stephens Creek**	**28.89**	**202**	P	P	19 06 54.1	-3.1
	0.8nm,0.6s,baz=36,slow=16,SNR=3.3						
FITZ	**Fitzroy Crossi**	**30.48**	**243**	*e*P	P	19 07 09.5	-1.9
	6.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.48**	**243**	P	P	19 07 08.1	-3.3
	9.4nm,0.6s,baz=53,slow=5.2,SNR=37						
MKAR	**Makanchi Array**	**81.47**	**319**	P	P	19 13 11.1	-0.8
	0.2nm,0.4s,baz=89,slow=7.0,SNR=4.7						
ILAR	**Eielson Array**	**82.17**	**22**	P	P	19 13 13.8	-1.3
	0.4nm,0.6s,baz=250,slow=5.7,SNR=7.1						
MAW	**Mawson**	**85.58**	**203**	P	P	19 13 31.3	-0.8
	0.6nm,0.3s,baz=83,slow=8.6,SNR=6.8						

IDC 18 19:39:29.5±2.7**,15.49S**×**173.38W,mb3.8**/4**,mb1 4.2**/4**, mb1mx3.9**/16**,mbtmp3.8**/4**,Error ellipse: s-maj=179.1km s-min=28.1km az=156.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**45**	Pn	Pn	19 40 02.5	-5.4
	57nm,0.3s,baz=74,slow=1.8,SNR=50						
AFI				Sn	Sn	19 40 21.2	-15
	455nm,0.3s,baz=146,slow=22,SNR=25						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	19 48 24.4	-2.2
	0.2nm,0.3s,baz=95,slow=7.7,SNR=13						
NVAR	**Mina Array Bea**	**74.38**	**42**	P	P	19 51 09.3	-1.8
	0.9nm,0.6s,baz=231,slow=10,SNR=7.8						
TXAR	**Lajitas Array**	**80.64**	**56**	P	P	19 51 45.1	-0.9
	0.7nm,0.8s,baz=211,slow=7.3,SNR=7.3						
PDAR	**Pinedale Array**	**82.32**	**42**	P	P	19 51 53.0	-1.4
	0.7nm,0.6s,baz=225,slow=2.1,SNR=4.9						
GERES	**GERESS Array B**	**146.23**	**352**	PKPbc	PKPbc	19 59 10.9	-1.0
	0.6nm,0.8s,baz=27,slow=2.2,SNR=3.0						
BRTR	**Keskin Array B**	**146.24**	**321**	PKPbc	PKPbc	19 59 12.6	+0.4
	0.6nm,0.8s,baz=57,slow=2.1,SNR=3.5						

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*NEIC **18** 19:43:02.3±0.7,21.24S×67.31W,h190km±11km,mb3.8/1, Error ellipse: s-maj=15.2km s-min=10.3km az=108.0*
*IDC **18** 19:43:02.5±0.8,21.30S×67.22W,h188km±14km,mb3.5/1, mb1 3.4/7,mb1mx3.3/18,mbtmp3.9/7,Error ellipse: s-maj=22.5km s-min=11.4km az=105.0*
*GUC **18** 19:43:04.2±0.5,21.88S×67.32W,h215km±7km,ML4.0*
ISC 18 19:43:01.3±0.5**,21.29S**±0.04×**67.46W**±0.09**, h220**km±12km**,n18,**σ**1**s**19**/29**,mb3.6**/1**,4C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.89**	**225**	P	**P**	**19 43 41.9**	**+1.4**
	96nm,0.3s,baz=41,slow=7.6,SNR=1358						
LVC				S	**S**	**19 44 10.7**	**-0.1**
	18nm,0.3s,baz=274,slow=22,SNR=12						
LVC	**Limon Verde**	**1.89**	**225**⇑	*i*P	**P**	**19 43 42.0**	**+1.4**
LVC				*i* S	**S**	**19 44 11.3**	**+0.5**
LVC				AMP		19 44 16.8	
	comp=E,158nm,0.3s						
LVC	**Limon Verde**	**1.89**	**225**⇑	*i*P	**P**	**19 43 41.9**	**+1.4**
LVC				*e*S	**S**	**19 44 10.4**	**-0.4**
LVC				S	**S**	**19 44 10.7**	**-0.1**
ANCH	**Antofagasta**	**3.62**	**228**⇑	*i*P	**P**	**19 44 01.1**	**+1.3**
ANCH				*i* S	**S**	**19 44 44.0**	**-1.1**
ANCH				AMP		19 44 46.1	
	comp=N,511nm,0.1s						
CPN1	**Cerro Paranal**	**4.29**	**219**⇓	*i*P	**P**	**19 44 09.2**	**+1.3**
CPN1				*i* S	**S**	**19 44 58.2**	**-1.5**
LPAZ	**La Paz**	**5.01**	**353**	P	**P**	**19 44 19.6**	**+2.7**
	comp=N,1.0nm,0.3s,baz=140,slow=5.1,SNR=34						
LPAZ				S	**S**	**19 45 17.1**	**+1.4**
	comp=N,0.6nm,0.3s,baz=68,slow=24,SNR=13						
LPAZ	**La Paz**	**5.01**	**353**⇑	*e*P	**P**	**19 44 19.3**	**+2.4**
LPAZ				*e*S	**S**	**19 45 12.8**	**-2.9**
LPAZ				S	**S**	**19 45 17.1**	**+1.4**
CRCH	**Chaqaral**	**5.81**	**209**⇓	*i*P	**P**	**19 44 27.2**	**+0.1**
CRCH				*i* S	**S**	**19 45 30.2**	**-3.7**
ARE	**Arequipa**	**6.13**	**321**	*e*P	**P**	**19 44 30.0**	**-1.2**
ARE				*e*S	**S**	**19 45 41.0**	**-0.2**
SIV	**San Ignacio**	**8.02**	**50**	P	**P**	**19 44 53.4**	**-2.1**
	comp=N,5.4nm,0.3s,baz=242,slow=11,SNR=92						
SIV				S	**S**	**19 46 17.7**	**-7.2**
	comp=N,1.0nm,0.3s,baz=149,slow=23,SNR=13						
CFAA	**Coronel Fontan**	**10.30**	**184**	P	**P**	**19 45 25.1**	**+0.2**
	comp=N,0.1nm,0.3s,baz=354,slow=14,SNR=4.6						
CFAA				S	**S**	**19 47 12.8**	**-4.8**
	comp=N,0.1nm,0.3s,baz=261,slow=22,SNR=5.6						
CPUP	**Villa Florida**	**10.54**	**120**	P	**P**	**19 45 28.2**	**+0.1**
	comp=N,0.9nm,0.3s,baz=322,slow=14,SNR=15						
SAML	**Samuel**	**12.94**	**19**	*e*P	**P**	**19 45 57.8**	**-0.5**
	comp=N,5.0nm,1.1s						
BDFB	**Brasilia**	**19.27**	**76**	P	**P**	**19 47 10.8**	**-0.4**
	comp=N,0.4nm,0.3s,baz=260,slow=5.5,SNR=3.5						
DBIC	**Dimbokro**	**67.38**	**73**	P	**P**	**19 53 35.9**	**+0.7**
	comp=N,0.9nm,0.5s,mb3.6,baz=188,slow=7.1,SNR=5.1						
DBIC	**Dimbokro**	**67.38**	**73**	*e*P	**P**	**19 53 36.2**	**+1.0**
WRA	**Warramunga Arr**	**133.81**	**209**	PKP	PKPdf	20 01 59.1	+6.4
	comp=N,0.4nm,1.1s,baz=153,slow=1.9,SNR=7.6						
MKAR	**Makanchi Array**	**144.66**	**37**	PKP	PKPdf	20 02 16.2	+4.9
	comp=N,1.0nm,0.5s,baz=341,slow=2.7,SNR=21						

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*IDC **18** 20:13:51.8±0.8,22.46N×145.27E,mb4.1/13,mb1 4.3/15, mb1mx4.2/22,mbtmp4.1/15,ML4.1/2,MS3.0/1,Ms1 3.0/1, ms1mx2.6/31,Error ellipse: s-maj=25.8km s-min=20.2km az=65.0*
*NEIC **18** 20:13:53.3±0.4,22.48N×145.37E,h10km,mb4.5/7,Error ellipse: s-maj=11.3km s-min=9.8km az=68.0*
ISC 18 20:13:52.3±0.5**,22.51N**±0.07×**145.2E**±0.1**,h10**km**,n38,** σ**0**s**99**/34**,mb4.3**/21**,1C,North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.33**	**330**	Pn	**Pn**	**20 15 13.8**	**0.0**
	15nm,0.3s,baz=266,slow=21,SNR=22						
CBIJ				Sn	**Sn**	**20 16 12.8**	**-3.3**
	46nm,0.3s,baz=287,slow=23,SNR=15						
MJAR	**Matsushiro Arr**	**15.24**	**338**	Pn	**P**	**20 17 30.0**	**+0.7**
	0.7nm,0.3s,baz=164,slow=6.0,SNR=10						
MAJO	**Matsushiro**	**15.25**	**338**	*e*P	**P**	**20 17 25.3**	**-4.1**
	9.3nm,0.8s						
MAT	**Matsushiro**	**15.25**	**338**	P	**P**	**20 17 23.7**	**-5.6**
MAT	**Matsushiro**	**15.25**	**338**	P	**P**	**20 17 24.0**	**-5.3**
KS15	**Wonju Array Si**	**21.09**	**319**	*e*P	**P**	**20 18 44.1**	**+4.9**
ASAJ	**Asahikawa**	**21.66**	**355**	P	**P**	**20 18 46.1**	**+1.3**
	3.6nm,0.6s,mb4.0,baz=232,slow=17,SNR=6.5						
ASAJ				LR	LR	20 26 15.7	
	comp=Z,36nm,20.4s,baz=355,slow=34						
SONM	**Songino Array**	**39.94**	**319**	P	**P**	**20 21 29.5**	**+1.2**
	0.6nm,0.4s,mb3.7,baz=128,slow=7.4,SNR=9.3						
WB2	**Warramunga Arr**	**43.51**	**195**⇑	*i*P	**P**	**20 21 57.1**	**-0.8**
WRA	**Warramunga Arr**	**43.51**	**195**	P	**P**	**20 21 57.2**	**-0.7**
	1.5nm,0.4s,mb4.1,baz=14,slow=8.7,SNR=81						
WRA				PP	PP	20 23 38.8	-2.4
	0.9nm,1.0s,baz=11,slow=8.5,SNR=2.3						
FITZ	**Fitzroy Crossi**	**44.67**	**207**	*e*P	**P**	**20 22 06.6**	**-0.8**
	6.2nm,0.6s,mb4.6						
LSA	**Lhasa**	**48.72**	**290**	*e*P	**P**	**20 22 41.7**	**+2.6**
	4.7nm,0.9s,mb4.5						
PKI	**Pulchoki**	**53.98**	**288**	*e*P	**P**	**20 23 19.9**	**+1.1**
KKN	**Kakani**	**54.06**	**289**	*e*P	**P**	**20 23 20.0**	**+0.6**
DMN	**Daman**	**54.24**	**289**	*e*P	**P**	**20 23 21.2**	**+0.5**
	147nm,2.3s,mb5.5						
GKN	**Gorkha**	**54.59**	**289**	*e*P	**P**	**20 23 23.5**	**+0.2**
	6.4nm,0.5s,mb4.9						
ZAL	**Zalesovo**	**54.77**	**321**	P	**P**	**20 23 22.6**	**-1.7**
	0.8nm,0.3s,mb4.2,baz=82,slow=2.0,SNR=3.2						
KOLN	**Koldanda**	**55.53**	**289**	*e*P	**P**	**20 23 31.0**	**+0.8**
	33nm,1.4s,mb5.2						
MKAR	**Makanchi Array**	**55.55**	**312**	P	**P**	**20 23 30.1**	**+0.1**
	0.9nm,0.6s,mb4.0,baz=91,slow=9.6,SNR=11						
KURK	**Kurchatov**	**58.17**	**317**	*e*P	**P**	**20 23 48.1**	**-0.5**
	2.5nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**60.46**	**27**	P	**P**	**20 24 02.2**	**-2.0**
	2.0nm,0.7s,mb4.3,baz=258,slow=5.6,SNR=30						
BRVK	**Borovoye**	**63.35**	**319**	*e*P	**P**	**20 24 23.3**	**-0.5**
ARCES	**ARCESS Array B**	**78.75**	**342**	P	**P**	**20 25 55.6**	**-0.4**
	3.3nm,0.9s,mb4.2,baz=59,slow=7.1,SNR=4.1						
JOF	**Joensuu**	**80.39**	**335**	*e*p	**P**	**20 26 04.3**	**-0.7**
NVAR	**Mina Array Bea**	**81.16**	**52**	P	**P**	**20 26 10.7**	**+1.0**
	2.7nm,0.8s,mb4.3,baz=264,slow=8.6,SNR=22						
KAF	**Kangasniemi**	**82.78**	**335**	*e*p	**P**	**20 26 16.9**	**-0.6**
	0.4nm,0.4s,mb3.8,baz=47,slow=5.5						
FINES	**FINESS Array B**	**83.25**	**335**	P	**P**	**20 26 20.0**	**0.0**
	3.7nm,1.0s,mb4.4,baz=90,slow=3.8,SNR=12						
PDAR	**Pinedale Array**	**85.49**	**45**	P	**P**	**20 26 32.4**	**+0.8**
	0.7nm,0.7s,mb3.9,baz=179,slow=2.1,SNR=7.0						
SRU	**San Rafael**	**86.45**	**49**	*e*P	**P**	**20 26 36.6**	**+0.1**
	2.4nm,0.6s,mb4.6						
AKASG	**Malin Array Be**	**87.93**	**325**	P	**P**	**20 26 42.8**	**-0.6**
	0.1nm,0.3s,mb3.6,baz=50,slow=5.3,SNR=5.1						
NB2	**NORSAR Subarra**	**88.86**	**340**	P	**P**	**20 26 47.0**	**-0.6**
	0.8nm,0.6s,mb4.2,baz=47,slow=4.5						
NOA	**NORSAR Array B**	**88.86**	**340**	P	**P**	**20 26 47.0**	**-0.5**
	1.0nm,0.6s,mb4.3,baz=45,slow=4.4,SNR=4.4						
TXAR	**Lajitas Array**	**96.05**	**55**	P	**P**	**20 27 22.4**	**+0.9**
	0.3nm,0.8s,mb3.8,baz=301,slow=2.3,SNR=3.9						
PLCA	**Paso Flores**	**144.85**	**130**	PKP	PKPdf	20 33 28.8	-3.9
	2.4nm,0.7s,baz=294,slow=3.0,SNR=7.2						
PLCA	**Paso Flores**	**144.85**	**130**	PKP	PKPdf	20 33 28.8	-3.9
PLCA				*e*PKP	PKPdf	20 33 29.2	-3.5
LPAZ	**La Paz**	**147.99**	**85**	PKPbc	PKPdf	20 33 40.2	+1.6
	1.6nm,0.7s,baz=188,slow=0.8,SNR=6.0						
LPAZ	**La Paz**	**147.99**	**85**	*e*PKPbc	PKPdf	20 33 40.8	+2.2
SAML	**Samuel**	**149.60**	**68**	*e*PKPbc	PKPdf	20 33 43.3	+2.0
SAML				*e*PKPab	PKPab	20 33 47.9	-2.3

MAN 18 20:15:50.3,15.62N×**122.18E,h15**km**,mb4.1,ML3.0, MS2.7,1C-1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.59**	**282**	*e*P	Pb	20 16 02.2	+0.4
BALP				*e*S	Sb	20 16 14.1	+4.4
POLP	**Polilio Island**	**0.91**	**195**	*e*P	Pb	20 16 07.1	-0.2
POLP				*e*S	Sb	20 16 22.2	+3.2
PCPH	**Palayan**	**1.04**	**267**⇓	*e*P	Pb	20 16 08.6	-0.9
PCPH				*i* S	Sb	20 16 25.5	+2.7
CAUP	**Cauayan**	**1.36**	**346**	*e*P	Pn	20 16 12.8	-2.1
CAUP				*e*S	Sb	20 16 32.4	+0.3
GQP	**Guinayangan**	**1.72**	**171**⇑	*e*P	Pn	20 16 19.0	-1.1
GQP				*i* S	Sn	20 16 42.0	+0.2
ABRA	**Dolores**	**2.46**	**325**	*e*P	Pn	20 16 30.6	0.0

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*IDC **18** 20:24:04.3±0.8,41.93S×88.41E,mb4.0/8,mb1 4.2/8, mb1mx4.1/14,mbtmp4.0/8,MS4.2/16,Ms1 4.2/16, ms1mx4.1/20,Error ellipse: s-maj=26.1km s-min=20.1km az=144.0*
*BJI **18** 20:24:05.7,41.80S×88.40E,h10km,mB5.1,mb4.7,Ms4.8, Msz4.5*
*NEIC **18** 20:24:05.7±0.6,41.85S×88.44E,h10km,mb4.3/4,Error ellipse: s-maj=18.3km s-min=12.9km az=138.0*
ISC 18 20:24:03.7±0.5**,41.92S**±0.10×**88.4E**±0.1**,h10**km**,n40,** σ**0**s**93**/26**,mb4.2**/13**,MS4.2**/17**,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**24.50**	**78**	LR	LR	20 36 41.6	
	comp=Z,752nm,21.4s,MS4.2,baz=43,slow=31						
MAW	**Mawson**	**29.21**	**200**	P	**P**	**20 30 07.3**	**+0.1**
	4.0nm,0.9s,mb4.1,baz=30,slow=12,SNR=4.2						
MAW				LR	LR	20 39 16.2	
	comp=Z,872nm,20.9s,MS4.3,baz=40,slow=31						
FITZ	**Fitzroy Crossi**	**39.58**	**65**	*e*P	**P**	**20 31 38.0**	**+1.1**
	5.5nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**39.58**	**65**	P	**P**	**20 31 37.8**	**+0.9**
	6.7nm,1.1s,mb4.3,baz=324,slow=5.4,SNR=3.2						
STKA	**Stephens Creek**	**43.09**	**94**	P	**P**	**20 32 04.7**	**-0.9**
	2.2nm,0.8s,mb3.9,baz=259,slow=16,SNR=2.5						
STKA				LR	LR	20 46 16.4	
	comp=Z,434nm,21.6s,MS4.3,baz=208,slow=31						
WRA	**Warramunga Arr**	**44.44**	**75**	P	**P**	**20 32 16.7**	**0.0**

	3.4nm,0.8s,mb4.1,baz=233,slow=8.1,SNR=32						
WB2	**Warramunga Arr**	**44.45**	**75**	eP	**P**	**20 32 15.8**	**-0.9**
VNDA	**Vanda**	**45.90**	**163**	P	**P**	**20 32 28.1**	**+0.5**
	1.5nm,0.7s,mb4.0,baz=284,slow=6.4,SNR=6.4						
VNDA				LR	LR	20 49 38.7	
	comp=Z,254nm,20.3s,MS4.2,baz=268,slow=33						
SBA	**Scott Base**	**46.97**	**164**	eP	**P**	**20 32 35.2**	**-0.8**
	3.0nm,0.8s,mb4.3						
SNAA	**Sanae**	**51.23**	**204**	P	**P**	**20 33 08.6**	**-0.3**
	1.1nm,0.9s,mb3.8,baz=135,slow=12,SNR=9.0						
SNAA	**Sanae**	**51.23**	**204**	eP	**P**	**20 33 08.3**	**-0.6**
	3.3nm,0.9s,mb4.3						
VNA2	**Neumayer--Watz**	**52.86**	**204**		**P**	**20 33 23.0**	**+1.8**
VNA2	**Neumayer--Watz**	**52.86**	**204**		**P**	**20 33 29.9**	**+8.7**
VNA2	**Neumayer--Watz**	**52.86**	**204**		**P**	**20 33 41.3**	**+20**
VNA1	**Neumayer--Stat**	**53.23**	**204**		**P**	**20 33 25.9**	**+1.9**
VNA1	**Neumayer--Stat**	**53.23**	**204**		**P**	**20 33 30.5**	**+6.5**
VNA1	**Neumayer--Stat**	**53.23**	**204**		**P**	**20 33 39.2**	**+15**
VNA3	**Neumayer Olymp**	**53.43**	**204**		**P**	**20 33 27.2**	**+1.8**
VNA3	**Neumayer Olymp**	**53.43**	**204**		**P**	**20 33 34.5**	**+9.1**
VNA3	**Neumayer Olymp**	**53.43**	**204**		**P**	**20 33 39.7**	**+14**
LSZ	**Lusaka**	**57.86**	**278**	eP	**P**	**20 33 56.3**	**-1.8**
	12nm,1.4s,mb4.8						
KMBO	**Kilima Mbogo**	**61.25**	**297**	P	**P**	**20 34 21.4**	**-0.1**
	0.7nm,1.0s,mb3.7,baz=54,slow=18,SNR=2.1						
KMBO				LR	LR	20 57 58.7	
	comp=Z,99nm,18.7s,MS4.0,baz=93,slow=33						
HNR	**Honiara**	**70.03**	**85**	LR	LR	21 01 57.1	
	comp=Z,108nm,18.9s,MS4.1,baz=325,slow=32						
GUMO	**Guam**	**75.78**	**57**	LR	LR	21 09 40.8	
	comp=Z,41nm,18.9s,MS3.8,baz=197,slow=36						
JOW	**Kunigami**	**77.70**	**36**	LR	LR	21 08 23.5	
	comp=Z,61nm,18.9s,MS3.9,baz=181,slow=34						
GTA	**Gaotai**	**81.61**	**9**	eP	**P**	**20 36 24.0**	**+1.0**
GTA				AP	pP	20 36 30.0	+3.8
GTA				XP	sP	20 36 33.3	+6.0
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.2						
JNU	**Nakatsue**	**84.26**	**35**	LR	LR	21 14 48.1	
	comp=Z,62nm,18.1s,MS4.0,baz=242,slow=36						
HHC	**Hu-ho-hao-te**	**85.01**	**17**	eP	**P**	**20 36 46.3**	**+6.0**
HHC				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.3						
HHC				AMB	AMB		
	comp=Z,110nm,4.2s						
WMQ	**Urumqi**	**85.36**	**359**	eP	**P**	**20 36 41.5**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,92nm,4.9s						
WMQ				LR	LR		
	comp=N,267nm,25.2s,MS4.7						
WMQ				LR	LR		
	comp=E,169nm,20.6s,MS4.7						
WMQ				LR	LR		
	comp=Z,225nm,22.4s,MS4.5						
AFI	**Afiamalu**	**87.97**	**107**	LR	LR	21 08 29.1	
	comp=Z,58nm,19.2s,MS4.0,baz=157,slow=30						
MKAR	**Makanchi Array**	**88.49**	**356**	P	**P**	**20 36 57.9**	**+0.8**
	comp=Z,0.6nm,0.9s,mb3.8,baz=180,slow=2.4,SNR=3.9						
MKAR				LR	LR	21 15 23.2	
	comp=Z,119nm,18.1s,MS4.3,baz=191,slow=35						
MKAR	**Makanchi Array**	**88.49**	**356**	P	**P**	**20 36 57.9**	**+0.8**
MKAR				LR	LR	21 15 23.2	
SONM	**Songino Array**	**90.78**	**12**	LR	LR	21 16 16.7	
	comp=Z,165nm,18.8s,MS4.5,baz=353,slow=34						
GNI	**Garni**	**90.78**	**328**	LR	LR	21 12 57.6	
	comp=Z,143nm,21.6s,MS4.4,baz=144,slow=32						
ZAL	**Zalesovo**	**95.53**	**358**	LR	LR	21 20 56.1	
	comp=Z,128nm,20.2s,MS4.4,baz=108,slow=36						
PLCA	**Paso Flores**	**95.55**	**196**	LR	LR	21 21 11.2	
	comp=Z,278nm,18.6s,MS4.8,baz=176,slow=36						
DBIC	**Dimbokro**	**96.83**	**273**	LR	LR	21 15 06.2	
	comp=Z,132nm,20.8s,MS4.4,baz=50,slow=32						
INK	**Inuvik**	**145.52**	**26**	PKPbc	PKPbc	20 43 42.7	+1.2
	comp=Z,21nm,1.0s,baz=45,slow=3.4,SNR=5.6						
INK	**Inuvik**	**145.52**	**26**	PKPbc	PKPbc	20 43 42.7	+1.2
NVAR	**Mina Array Bea**	**159.32**	**91**	PKPab	PKPab	20 44 43.3	+1.7
	comp=Z,0.9nm,0.9s,baz=238,slow=8.5,SNR=1.8						

*NEIC **18** 20:58:11.6±0.3, 5.39N×125.43E, mb4.5/11, Error ellipse: s-maj=10.6km s-min=5.9km az=74.0*
*MAN **18** 20:58:12.9, 5.33N×125.35E, h166km, mb5.2, ML4.2, MS4.4*
*IDC **18** 20:58:12.3±0.9, 5.38N×125.48E, h195km±8km, mb3.8/15, mb1 3.9/15, mb1mx3.8/21, mbtmp4.3/15, Error ellipse: s-maj=24.5km s-min=8.7km az=79.0*
ISC 18 20:58:10.9±0.4, **5.34N**±0.05×**125.39E**±0.07, **h196**km±4km, **n51**, σ**0s93**/59, **mb4.2**/28, **3C-9D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.86**	**330**	⇓eP	**P**	**20 58 39.2**	**-0.3**
GSPH				iS	**S**	**20 59 00.8**	**-0.8**
KCP	**Kidapawan**	**1.68**	**350**	⇑eP	**P**	**20 58 46.5**	**+0.2**
KCP				iS	**S**	**20 59 11.5**	**-2.1**
DAV	**Davao City (W)**	**1.73**	**6**	eP	**P**	**20 58 47.3**	**+0.6**
DMPH	**Davao City--Mi**	**1.73**	**4**	⇑iP	**P**	**20 58 47.4**	**+0.6**
DMPH				iS	**S**	**20 59 20.6**	**+6.1**
MATI	**Mati**	**1.81**	**29**	eP	**P**	**20 58 46.8**	**-0.7**
CTBH	**Cotabato--PC H**	**2.18**	**329**	⇓eP	**P**	**20 58 51.8**	**+0.4**
CTBH				eS	**S**	**20 59 21.7**	**-1.0**
BUKP	**Musuan**	**2.54**	**353**	eP	**P**	**20 58 55.7**	**+0.2**
BUKP				eS	**S**	**20 59 29.5**	**-0.4**
CGP	**Cagayan de Oro**	**3.17**	**348**	⇓eP	**P**	**20 59 03.1**	**+0.3**
PAGZ	**Pagadian**	**3.19**	**321**	eP	**P**	**20 59 03.4**	**+0.3**
BUTP	**Butuan**	**3.61**	**4**	eP	**P**	**20 59 09.8**	**+1.5**
BUTP				eS	**S**	**20 59 55.5**	**+2.9**
IPIL	**Ipil**	**3.70**	**311**	eP	**P**	**20 59 10.5**	**+1.1**
IPIL				eS	**S**	**20 59 54.0**	**-0.7**
SCPH	**Surigao**	**4.41**	**1**	⇑eP	**P**	**20 59 22.0**	**+3.6**
KSM	**Kuching**	**15.53**	**256**	eP	**P**	**21 01 42.9**	**+1.7**
KAKA	**Kakadu**	**19.26**	**159**	⇓iP	**P**	**21 02 41.9**	**+19**
	28nm,0.6s						
KAKA				eS	S	21 06 10.4	+25
JOW	**Kunigami**	**21.55**	**7**	P	**P**	**21 02 47.1**	**+1.7**
	19nm,0.8s,mb4.7,baz=169,slow=10,SNR=4.3						
FITZ	**Fitzroy Crossi**	**23.30**	**179**	⇓iP	**P**	**21 03 03.1**	**+0.6**
	16nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**23.30**	**179**	P	**P**	**21 03 03.3**	**+0.8**
	25nm,0.8s,mb4.8,baz=7.1,slow=8.3,SNR=29						
FITZ				pP		21 03 40.5	
	9.0nm,0.7s,baz=6.2,slow=8.0,SNR=2.8						
KULM	**Kulim**	**24.63**	**271**	eP	**P**	**21 03 16.0**	**+0.9**
WRAB	**Tennant Creek**	**26.62**	**161**	eP	**P**	**21 03 32.5**	**-0.9**
	8.9nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**26.62**	**161**	P	**P**	**21 03 32.8**	**-0.7**
	5.5nm,0.7s,mb4.3,baz=335,slow=11,SNR=64						
WRA				pP	pP	21 04 10.9	-1.6
	4.4nm,0.8s,baz=339,slow=10,SNR=4.8						
WRA				PcP	PcP	21 06 52.4	-0.1
	0.9nm,0.8s,baz=346,slow=3.1,SNR=4.6						
WRA				S	**S**	**21 07 51.8**	**-0.3**
	0.5nm,0.8s,baz=344,slow=15,SNR=2.9						
WB2	**Warramunga Arr**	**26.63**	**161**	⇓iP	**P**	**21 03 32.8**	**-0.7**
WB2				eS	**S**	**21 07 50.3**	**-1.8**
NST	**Nakhon Sawan**	**26.83**	**294**	P	**P**	**21 03 35.0**	**-0.4**
	36nm,0.8s,mb5.0						
MBWA	**Marble Bar**	**26.91**	**192**	eP	**P**	**21 03 35.4**	**-0.7**
	19nm,1.3s,mb4.6						
NANT	**Nan**	**27.54**	**301**	P	**P**	**21 03 41.0**	**-0.8**
ASPA	**Alice Springs**	**30.01**	**164**	eP	**P**	**21 04 03.1**	**-0.6**
CTAO	**Charters Tower**	**32.55**	**142**	eP	**P**	**21 04 26.6**	**+0.7**
	5.8nm,1.0s,mb4.1						
MJAR	**Matsushiro Arr**	**33.20**	**19**	P	**P**	**21 04 29.1**	**-2.2**
	2.3nm,0.8s,mb3.7,baz=200,slow=9.3,SNR=10.0						
FORT	**Forrest**	**36.01**	**176**	⇓iP	**P**	**21 04 55.2**	**+0.1**
	11nm,0.7s,mb4.5						
KLBR	**Kellerberrin**	**37.44**	**191**	⇓iP	**P**	**21 05 06.8**	**-0.3**
	18nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**38.84**	**191**	P	**P**	**21 05 19.0**	**+0.3**
	15nm,0.8s,mb4.6,baz=8.4,slow=9.2,SNR=8.0						
NWAO	**Narrogin (SRO)**	**38.84**	**191**	P	**P**	**21 05 19.0**	**+0.3**
STKA	**Stephens Creek**	**40.11**	**158**	⇓iP	**P**	**21 05 30.2**	**+1.1**
	6.4nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**40.11**	**158**	P	**P**	**21 05 30.3**	**+1.2**
	7.7nm,0.6s,mb4.3,baz=336,slow=9.1,SNR=18						
KKN	**Kakani**	**44.14**	**305**	eP	**P**	**21 06 02.0**	**+0.1**
	33nm,1.1s,mb4.6						
DMN	**Daman**	**44.21**	**305**	eP	**P**	**21 06 02.9**	**+0.4**
	23nm,1.0s,mb4.5						
GKN	**Gorkha**	**44.75**	**305**	eP	**P**	**21 06 06.6**	**-0.1**
	20nm,1.2s,mb4.3						
KOLN	**Koldanda**	**45.51**	**304**	eP	**P**	**21 06 13.3**	**+0.5**
	26nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**55.47**	**325**	P	**P**	**21 07 27.3**	**-0.2**
	2.0nm,0.6s,mb3.9,baz=122,slow=8.8,SNR=18						
MKAR				PcP	PcP	21 08 23.9	-1.2
	0.5nm,0.5s,baz=135,slow=1.7,SNR=4.3						
KURK	**Kurchatov**	**59.67**	**328**	eP	**P**	**21 07 55.3**	**-1.5**
	7.4nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**65.25**	**327**	P	**P**	**21 08 33.0**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=120,slow=12,SNR=8.0						
ILAR	**Eielson Array**	**84.23**	**25**	P	**P**	**21 10 22.1**	**+0.8**
	0.5nm,0.5s,mb3.5,baz=252,slow=4.6,SNR=8.0						
ILAR				pP	pP	21 11 08.2	-1.2
	1.4nm,0.8s,baz=240,slow=5.1,SNR=6.6						
MAW	**Mawson**	**84.80**	**200**	P	**P**	**21 10 24.6**	**+0.6**
	1.3nm,0.6s,mb3.8,baz=50,slow=2.8,SNR=4.4						
VNDA	**Vanda**	**85.19**	**173**	P	**P**	**21 10 26.3**	**+0.4**
	1.4nm,0.7s,mb3.8,baz=297,slow=4.7,SNR=5.7						
SBA	**Scott Base**	**86.11**	**172**	P	**P**	**21 10 31.6**	**+1.3**
	1.1nm,0.7s,mb3.7						
JOF	**Joensuu**	**87.14**	**333**	ep	**P**	**21 10 33.7**	**-1.9**
BRTR	**Keskin Array B**	**87.97**	**310**	P	**P**	**21 10 40.2**	**+0.2**
	0.6nm,0.7s,mb3.5,baz=117,slow=5.5,SNR=4.4						
KMBO	**Kilima Mbogo**	**88.25**	**269**	P	**P**	**21 10 42.5**	**+0.6**
	1.6nm,1.0s,mb3.8,baz=260,slow=6.1,SNR=5.3						
ARCES	**ARCESS Array B**	**88.48**	**340**	P	**P**	**21 10 41.5**	**-0.2**
	4.3nm,1.0s,mb4.2,baz=53,slow=6.1,SNR=4.1						
KAF	**Kangasniemi**	**89.56**	**332**	ep	**P**	**21 10 46.0**	**-0.9**
	0.5nm,0.3s,mb3.8,baz=76,slow=4.3						
FINES	**FINESS Array B**	**89.79**	**332**	P	**P**	**21 10 47.4**	**-0.7**
	0.9nm,0.5s,mb3.9,baz=108,slow=6.0,SNR=6.1						
TXAR	**Lajitas Array**	**121.65**	**51**	PKP	PKPdf	21 16 44.5	+2.5
	0.2nm,0.6s,baz=249,slow=0.8,SNR=4.7						

*CSEM **18** 21:08:29.6±0.1, 36.56N×21.69E, h25km, ML3.6, Error ellipse: s-maj=4.4km s-min=2.1km az=81.0*
*ATH **18** 21:08:31.1, 36.74N×21.65E, h34km±2km, MD3.8/13, ML3.6*
*NEIC **18** 21:08:31.0, 36.77N×21.71E, h38km, MD3.8(ATH), After ATH.*
*HLW **18** 21:08:32.7, 36.63N×21.90E, h22km, Mb3.7*
ISC 18 21:08:28.8±1.2, **36.59N**±0.04×**21.64E**±0.08, **h17**km±12km, **n25**, σ**1s04**/31, **3C-2D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.64**	**21**	ePB	**Pb**	**21 08 41.8**	**+0.7**
ITM				eSB	**Sb**	**21 08 49.8**	**+0.4**
VLI	**Veliai**	**1.05**	**82**	ePN	**Pn**	**21 08 50.6**	**+1.8**
VLI				eSN	**Sn**	**21 09 05.5**	**+2.5**
KYTH	**Kithira**	**1.16**	**105**	ePN	**Pn**	**21 08 54.0**	**+3.6**
VLS	**Valsamata**	**1.80**	**333**	ePN	**Pn**	**21 09 00.2**	**+0.8**
NAIG	**Nisos Aigina**	**1.88**	**51**	ePB	**Pb**	**21 09 01.8**	**-0.5**
NAIG	**Nisos Aigina**	**1.88**	**51**	ePb	**Pb**	**21 09 02.0**	**-0.3**
MGER	**Gerania Oros**	**1.90**	**42**	ePN	**Pn**	**21 09 01.5**	**+0.5**
NSAL	**Nisos Salamina**	**1.96**	**47**	ePN	**Pn**	**21 09 02.0**	**+0.2**
NSAL	**Nisos Salamina**	**1.96**	**47**	ePn	**Pn**	**21 09 01.5**	**-0.3**
ATH	**Athens Observa**	**2.16**	**49**	ePB	**Pb**	**21 09 05.8**	**-1.2**
ATH	**Athens Observa**	**2.16**	**49**	ePn	**Pn**	**21 09 03.7**	**-0.9**
ATH				eSn	**Sn**	**21 09 28.6**	**-2.6**
MPAR	**Parnis Oros**	**2.29**	**46**	ePN	**Pn**	**21 09 06.5**	**0.0**
PTL	**Penteli**	**2.30**	**50**	ePN	**Pn**	**21 09 06.5**	**-0.1**
EVR	**Evrytania**	**2.33**	**3**	ePN	**Pn**	**21 09 07.0**	**-0.1**
VAM	**Vamos**	**2.38**	**119**	ePN	**Pn**	**21 09 10.6**	**+2.7**
GVD	**Gavdhos**	**2.64**	**130**	P	**Pn**	**21 09 12.7**	**+1.1**
GVD	**Gavdhos**	**2.64**	**130**	P	**Pn**	**21 09 12.7**	**+1.1**
JAN	**Janina**	**3.13**	**349**	ePn	**Pn**	**21 09 19.0**	**+0.5**
APE	**Apeiranthos**	**3.16**	**80**	ePn	**Pn**	**21 09 18.4**	**-0.5**
KEK	**Kerkira**	**3.44**	**336**	ePN	**Pn**	**21 09 22.5**	**-0.4**
SLUM		**5.88**	**149**	⇑P	**Pn**	**21 09 57.3**	**-0.1**
SLUM				S	**Sn**	**21 10 58.5**	**-6.7**
HMAT	**Matruh**	**7.11**	**139**	⇓P	**Pn**	**21 10 13.8**	**-0.9**
SWA2		**7.99**	**155**	⇑P	**Pn**	**21 10 26.5**	**-0.6**
SWA2				S	**Sn**	**21 11 50.1**	**-7.8**
SWA1		**8.06**	**154**	⇓P	**P**	**21 10 27.5**	**-0.5**
SWA1				S	**Sn**	**21 11 51.8**	**-7.9**
AWBH		**10.27**	**141**	⇑P	**P**	**21 10 57.6**	**-0.9**

*BJI **18** 21:34:28.9, 6.80N×77.90W, h30km, mB5.2, Msz4.5*
*NEIC **18** 21:34:28.9±0.2, 6.83N×77.95W, mb4.8/51, MS4.0/3, Error ellipse: s-maj=6.3km s-min=3.9km az=225.0*
*MOS **18** 21:34:28.7±0.8, 6.87N×77.94W, h39km, mb5.0/40, MS4.0/4, Error ellipse: s-maj=9.5km s-min=7.1km az=85.7*
*IDC **18** 21:34:30.8±2.3, 6.85N×77.94W, h47km±22km, mb4.2/21, mb1 4.4/24, mb1mx4.4/26, mbtmp4.5/24, ML4.8/1, MS4.0/11, Ms1 4.0/11, ms1mx3.8/27, Error ellipse: s-maj=17.2km s-min=10.0km az=66.0*
ISC 18 21:34:27.3±0.3, **6.85N**±0.05×**77.94W**±0.05, **h30**km±.8km**:pP-P**, **n156**, σ**0s84**/144, **mb4.6**/72, **MS4.1**/12, **36C-1D, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.10**	**119**	P	**Pn**	**21 35 32.5**	**+2.9**
	9.2nm,0.3s,baz=99,slow=4.0,SNR=17						
SDV	**Santo Domingo**	**7.51**	**74**	P	**Pn**	**21 36 16.9**	**-0.8**
	14nm,0.3s,baz=269,slow=9.5,SNR=33						
SDV				S	**Sn**	**21 37 43.8**	**+1.0**
	17nm,0.3s,baz=64,slow=13,SNR=5.9						
SDV				LR	LR	21 39 32.4	
	comp=Z,2μm,18.2s,baz=238,slow=40						
SDV	**Santo Domingo**	**7.51**	**74**	⇑ePn	**Pn**	**21 36 16.9**	**-0.9**
SDV				eSn	**Sn**	**21 37 36.9**	**-5.9**
SJG	**San Juan**	**16.04**	**45**	P	**P**	**21 38 12.3**	**-0.4**
	6.3nm,0.3s,baz=250,slow=11,SNR=8.7						
SJG				S	**S**	**21 41 00.2**	**-9.1**
	1.0nm,0.3s,baz=34,slow=13,SNR=3.7						
SJG				LR	LR	21 45 26.4	
	comp=Z,166nm,18.1s,baz=255,slow=41						
SAML	**Samuel**	**21.50**	**137**	⇑eP	**P**	**21 39 14.1**	**-2.0**
	75nm,1.0s,mb5.1						
SAML				i		21 39 17.8	
ARE	**Arequipa**	**24.02**	**165**	eP	**P**	**21 39 45.0**	**+4.1**
LPAZ	**La Paz**	**24.95**	**157**	P	**P**	**21 39 50.6**	**+0.8**
	4.1nm,0.7s,mb4.1,baz=325,slow=10.0,SNR=18						
LPAZ	**La Paz**	**24.95**	**157**	eP	**P**	**21 39 50.7**	**+0.8**
	11nm,1.1s,mb4.3						
LPAZ	**La Paz**	**24.95**	**157**	eP	**P**	**21 39 50.7**	**+0.8**
LPAZ				pmax	pmax		
	comp=Z,11nm,1.1s						
GOGA	**Godfrey**	**26.93**	**350**	P	**P**	**21 40 09.8**	**+1.7**
	comp=Z,5.6nm,0.7s,mb4.2						
GOGA	**Godfrey**	**26.93**	**350**	P	**P**	**21 40 09.8**	**+1.8**
GOGA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
LRAL	**Lakeview Retre**	**27.38**	**343**	eP	**P**	**21 40 11.6**	**-0.6**
	comp=Z,9.4nm,0.9s,mb4.3						
SIV	**San Ignacio**	**28.17**	**144**	P	**P**	**21 40 18.7**	**-0.8**
	comp=Z,22nm,0.9s,mb4.8,baz=324,slow=10,SNR=94						
WVT	**Waverly**	**30.52**	**344**	eP	**P**	**21 40 38.2**	**-2.1**
	comp=Z,3.7nm,0.6s,mb4.4						
WVT				epP	pP	21 40 47.8	-1.4
WVT	**Waverly**	**30.52**	**344**	eP	**P**	**21 40 38.2**	**-2.1**
WVT				e*PP	pP	21 40 47.8	-1.4
WVT				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
LVC	**Limon Verde**	**30.58**	**163**	P	**P**	**21 40 40.7**	**-0.3**
	comp=Z,3.8nm,1.0s,mb4.2,baz=323,slow=3.8,SNR=4.5						
FWV	**Forest Hill**	**30.70**	**356**	P	**P**	**21 40 41.7**	**-0.2**
WCI	**Wyandotte Cave**	**32.15**	**348**	eP	**P**	**21 40 53.3**	**-1.3**
	comp=Z,9.1nm,0.9s,mb4.6						
WCI	**Wyandotte Cave**	**32.15**	**348**	eP	**P**	**21 40 53.3**	**-1.3**
WCI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	**32.99**	**316**	P	**P**	**21 41 00.9**	**-1.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=134,slow=8.5,SNR=23						
TXAR				PcP	PcP	21 43 46.2	+0.6
	comp=Z,0.9nm,1.0s,baz=135,slow=3.5,SNR=3.5						
FVM	**French Village**	**33.00**	**342**	eP	**P**	**21 41 02.7**	**+0.7**
	comp=Z,12nm,0.8s,mb4.9						
FVM				epP	pP	21 41 10.2	-0.7
FVM	**French Village**	**33.00**	**342**	eP	**P**	**21 41 02.7**	**+0.7**
FVM				e*PP	pP	21 41 10.2	-0.7
FVM				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
BLO	**Bloomington**	**33.10**	**348**	eP	**P**	**21 41 02.3**	**-0.6**
	comp=Z,13nm,0.6s,mb5.0						
BLO	**Bloomington**	**33.10**	**348**	eP	**P**	**21 41 02.3**	**-0.6**
BLO				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
MNTX	**Cornudas Mount**	**35.60**	**318**	eP	**P**	**21 41 22.6**	**-1.8**
	comp=Z,6.7nm,0.8s,mb4.6						
MNTX				epP	pP	21 41 31.2	-2.2
BDFB	**Brasilia**	**37.12**	**127**	P	**P**	**21 41 37.4**	**+0.1**
	comp=Z,6.8nm,0.7s,mb4.6,baz=290,slow=8.8,SNR=10						
BDFB				LR	LR	21 57 53.7	
	comp=Z,684nm,20.2s,MS4.4,baz=305,slow=38						
NCB	**Newcomb**	**37.12**	**4**	P	**P**	**21 41 36.9**	**-0.2**
NCB				epP	pP	21 41 46.4	+0.4
SADO	**Sadowa**	**37.79**	**359**	P	**P**	**21 41 42.6**	**-0.1**
	comp=Z,5.5nm,0.8s,mb4.3,baz=190,slow=9.7,SNR=4.2						
FRNY	**Flat Rock**	**38.03**	**5**	P	**P**	**21 41 44.9**	**+0.1**
FRNY				e	pP	21 41 54.2	+0.5
ANMO	**Albuquerque**	**38.35**	**321**	P	**P**	**21 41 48.1**	**+0.5**
	comp=Z,7.7nm,0.8s,mb4.5,baz=135,slow=8.9,SNR=17						
ANMO	**Albuquerque**	**38.35**	**321**	eP	**P**	**21 41 48.1**	**+0.5**
	comp=Z,22nm,1.3s,mb4.7						
ANMO				epP	pP	21 41 57.5	+0.9
ANMO	**Albuquerque**	**38.35**	**321**	eP	**P**	**21 41 48.1**	**+0.5**
ANMO				e*PP	pP	21 41 57.5	+0.9
ANMO				pmax	pmax		
	comp=Z,21nm,1.3s						
CPUP	**Villa Florida**	**38.57**	**150**	P	**P**	**21 41 47.6**	**-1.9**
	comp=Z,4.7nm,0.9s,mb4.2,baz=352,slow=11,SNR=8.4						
CFAA	**Coronel Fontan**	**39.34**	**167**	P	**P**	**21 41 56.7**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=337,slow=5.9,SNR=8.2						
CFAA	**Coronel Fontan**	**39.34**	**167**	P	**P**	**21 41 56.7**	**+0.9**
SDCO	**Great Sand Dun**	**39.65**	**325**	P	**P**	**21 41 59.7**	**+1.4**
	comp=Z,13nm,1.2s,mb4.5						
SDCO				e	pP	21 42 09.0	+1.7
TUC	**Tucson**	**39.70**	**314**	eP	**P**	**21 41 58.8**	**0.0**
	comp=Z,4.6nm,0.7s,mb4.3						
TUC				epP	pP	21 42 07.3	-0.5
TUC	**Tucson**	**39.70**	**314**	eP	**P**	**21 41 58.8**	**0.0**
TUC				e*PP	pP	21 42 07.3	-0.5
TUC				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
PV01	**Paradox Valley**	**41.70**	**323**	eP	**P**	**21 42 16.4**	**+1.1**
PV01				epP	pP	21 42 26.1	+1.8
WUAZ	**Wupatki**	**41.89**	**318**	eP	**P**	**21 42 18.2**	**+1.4**
	comp=Z,12nm,0.9s,mb4.5						
SRU	**San Rafael**	**43.51**	**323**	eP	**P**	**21 42 30.6**	**+0.6**
	comp=Z,12nm,0.8s,mb4.7						
SRU	**San Rafael**	**43.51**	**323**	eP	**P**	**21 42 30.6**	**+0.6**
SRU				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
MSU	**Marysvale**	**44.16**	**321**	eP	**P**	**21 42 36.2**	**+0.9**
NEN	**Nelson**	**44.33**	**316**	eP	**P**	**21 42 37.3**	**+0.6**
NEN				epP	pP	21 42 46.1	+0.4
PFO	**Pinyon Flat Ob**	**44.47**	**312**	eP	**P**	**21 42 38.1**	**+0.2**
	comp=Z,25nm,1.4s,mb4.8						
PFO	**Pinyon Flat Ob**	**44.47**	**312**	eP	**P**	**21 42 38.1**	**+0.2**
PFO				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.8						
ARUT	**Antelope Range**	**44.55**	**319**	eP	**P**	**21 42 39.8**	**+1.3**
TCUT	**Toone Canyon**	**45.30**	**324**	eP	**P**	**21 42 44.9**	**+0.6**
PDAR	**Pinedale Array**	**45.35**	**327**	P	**P**	**21 42 45.5**	**+0.7**
	comp=Z,1.7nm,1.0s,mb3.8,baz=130,slow=10,SNR=9.5						
PDAR				LR	LR	22 04 55.5	
	comp=Z,137nm,20.9s,MS3.9,baz=130,slow=40						
DUG	**Dugway**	**45.56**	**322**	eP	**P**	**21 42 46.9**	**+0.4**
	comp=Z,13nm,1.1s,mb4.8						
DUG				epP	pP	21 42 55.8	+0.3
DUG	**Dugway**	**45.56**	**322**	eP	**P**	**21 42 46.9**	**+0.4**
DUG				e*PP	pP	21 42 55.8	+0.3
DUG				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
HWUT	**Hardware Ranch**	**45.70**	**325**	eP	**P**	**21 42 47.1**	**-0.5**
	comp=Z,6.5nm,0.9s,mb4.6						
ULM	**Lac du Bonnet**	**45.79**	**344**	P	**P**	**21 42 46.2**	**-1.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=148,slow=7.6,SNR=4.9						
RRI2	**Red Ridge**	**46.70**	**327**	eP	**P**	**21 42 55.8**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.1						
PLCA	**Paso Flores**	**47.83**	**172**	P	**P**	**21 43 04.5**	**+0.1**
	comp=Z,4.7nm,0.8s,mb4.5,baz=342,slow=10,SNR=7.2						
MNV	**Mina**	**48.02**	**317**	eP	**P**	**21 43 06.7**	**+0.7**
	comp=Z,18nm,1.1s,mb5.0						
MNV	**Mina**	**48.02**	**317**	eP	**P**	**21 43 06.7**	**+0.8**
MNV				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
NVAR	**Mina Array Bea**	**48.12**	**317**	P	**P**	**21 43 07.2**	**+0.5**
	comp=Z,7.8nm,0.8s,mb4.8,baz=123,slow=8.2,SNR=34						
MCMT	**McKenzie Canyo**	**48.50**	**327**	P	**P**	**21 43 08.4**	**-1.0**
SCHQ	**Schefferville**	**48.67**	**9**	P	**P**	**21 43 09.9**	**-0.7**
	comp=Z,5.6nm,0.9s,mb4.6,baz=191,slow=4.0,SNR=3.9						
SCHQ	**Schefferville**	**48.67**	**9**	P	**P**	**21 43 09.6**	**-1.0**
	comp=Z,24nm,1.4s,mb5.0						
WVOR	**Wild Horse Val**	**50.44**	**321**	eP	**P**	**21 43 23.8**	**-0.6**
	comp=Z,27nm,1.1s,mb5.2						
WVOR	**Wild Horse Val**	**50.44**	**321**	eP	**P**	**21 43 23.8**	**-0.6**
WVOR				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
OHCM	**Honcut**	**50.73**	**316**	eP	**P**	**21 43 25.4**	**-1.3**
YKA	**Yellowknife Ar**	**61.66**	**342**	P	**P**	**21 44 42.5**	**-2.2**
	comp=Z,4.2nm,0.7s,mb4.7,baz=132,slow=6.9,SNR=16						
USHA	**Ushuaia**	**61.96**	**174**	LR	LR	22 12 22.5	
	comp=Z,406nm,18.6s,MS4.6,baz=25,slow=37						
SUMG	**Summit**	**69.89**	**12**	eP	**P**	**21 45 36.7**	**-0.4**
	comp=Z,20nm,0.9s,mb5.0						
EVO	**Evora**	**70.07**	**52**	eP	**P**	**21 45 37.8**	**-1.0**
	comp=Z,16nm,1.0s,mb4.6						
EVO				eR			
	comp=Z,102nm,20.2s						
INK	**Inuvik**	**71.42**	**341**	eP	**P**	**21 45 45.4**	**-1.2**
	comp=Z,5.4nm,0.6s,mb4.7						
INK				epP	pP	21 45 54.4	-1.5
INK	**Inuvik**	**71.42**	**341**	eP	**P**	**21 45 45.4**	**-1.1**
INK				e*PP	pP	21 45 54.4	-1.5
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIC	**Toumodi**	**72.34**	**85**	eP	**P**	**21 45 52.3**	**-0.6**
	comp=Z,4.5nm,0.8s,mb4.5						
LIC	**Lamto**	**72.37**	**86**	eP	**P**	**21 45 52.6**	**-0.5**
	comp=Z,91nm,1.8s,mb5.4						
LIC	**Lamto**	**72.37**	**86**	⇑iP	**P**	**21 45 52.5**	**-0.6**
	comp=Z,22nm,1.1s,mb5.0						
DBIC	**Dimbokro**	**72.50**	**85**	P	**P**	**21 45 53.5**	**-0.3**
	comp=Z,5.0nm,0.6s,mb4.6,baz=264,slow=6.3,SNR=12						
DBIC				LR	LR	22 15 20.4	
	comp=Z,85nm,18.6s,MS4.0,baz=173,slow=34						
KIC	**Kosan Boka**	**72.64**	**85**	eP	**P**	**21 45 54.3**	**-0.5**
	comp=Z,119nm,1.3s,mb5.7						
ESDC	**Sonseca Array**	**73.33**	**51**	P	**P**	**21 45 58.6**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.5,baz=267,slow=5.7,SNR=23						
ROSF	**Rostrenen**	**74.72**	**42**	eP	**P**	**21 46 06.1**	**-0.1**
	comp=Z,31nm,1.2s,mb4.8						
ROSF	**Rostrenen**	**74.72**	**42**	eP	**P**	**21 46 06.1**	**-0.1**
ROSF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
QUIF	**Quistinic**	**74.75**	**42**	eP	**P**	**21 46 06.2**	**-0.1**
	comp=Z,68nm,1.3s,mb5.1						
QUIF	**Quistinic**	**74.75**	**42**	eP	**P**	**21 46 06.2**	**-0.1**
QUIF				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
PPT	**Papeete**	**74.76**	**250**	LR	LR	22 11 07.7	
	comp=Z,162nm,18.8s,MS4.3,baz=61,slow=29						
ILAR	**Eielson Array**	**74.94**	**336**	P	**P**	**21 46 06.5**	**-0.7**
	comp=Z,3.8nm,0.9s,mb4.3,baz=112,slow=4.5,SNR=28						
SGMF	**Saint Gilles**	**75.19**	**42**	eP	**P**	**21 46 08.8**	**-0.1**
	comp=Z,11nm,0.9s,mb4.5						
SGMF	**Saint Gilles**	**75.19**	**42**	eP	**P**	**21 46 08.8**	**-0.1**
SGMF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
SJPF	**Ste Jean**	**75.65**	**47**	⇑iP	**P**	**21 46 12.3**	**+0.7**
	comp=Z,34nm,0.8s,mb5.0						
SJPF	**Ste Jean**	**75.65**	**47**	⇑iP	**P**	**21 46 12.3**	**+0.7**
SJPF				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
ETSF	**Etsaut**	**76.13**	**48**	eP	**P**	**21 46 14.7**	**+0.4**
GRR	**Gorron**	**76.33**	**42**	⇑iP	**P**	**21 46 15.3**	**-0.1**
	comp=Z,29nm,0.9s,mb4.9						
GRR	**Gorron**	**76.33**	**42**	⇑iP	**P**	**21 46 15.3**	**-0.1**
GRR				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
FLN	**La Foliniere**	**76.61**	**42**	⇑iP	**P**	**21 46 17.1**	**+0.2**
	comp=Z,16nm,0.7s,mb4.7						
FLN				eR			
	comp=Z,57nm,17.2s						
FLN	**La Foliniere**	**76.61**	**42**	⇑iP	**P**	**21 46 17.1**	**+0.2**
FLN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
FLN				MLR	MLR		
	comp=Z,60nm,17.3s,MS4.0						
MFF	**Saint Martin d**	**76.67**	**44**	⇑iP	**P**	**21 46 17.4**	**+0.1**
	comp=Z,28nm,1.0s,mb4.9						
MFF	**Saint Martin d**	**76.67**	**44**	⇑iP	**P**	**21 46 17.4**	**+0.1**
MFF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						

EPF	**Esparros**	**76.79**	**48**	⇑*i*P	**P**	**21 46 18.6**	**+0.5**
	comp=Z,78nm,1.6s,mb5.1						
EPF	**Esparros**	**76.79**	**48**	⇑*i*P	**P**	**21 46 18.6**	**+0.5**
EPF				pmax	pmax		
	comp=Z,39nm,1.6s,mb5.1						
LDF	**La Druitiere**	**76.84**	**42**	⇑*i*P	**P**	**21 46 18.2**	**0.0**
	comp=Z,27nm,0.9s,mb4.9						
LDF	**La Druitiere**	**76.84**	**42**	⇑*i*P	**P**	**21 46 18.2**	**0.0**
LDF				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
JMIC	**Jan Mayen**	**76.92**	**18**	LR	LR	22 15 31.3	
	comp=Z,53nm,19.5s,MS3.9,baz=254,slow=32						
LFF	**La Frestale**	**77.18**	**46**	⇑*i*P	**P**	**21 46 20.2**	**0.0**
	comp=Z,8.3nm,0.7s,mb4.5						
LFF	**La Frestale**	**77.18**	**46**	⇑*i*P	**P**	**21 46 20.2**	**0.0**
LFF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
RJF	**Les Rejaudoux**	**77.75**	**45**	⇑*i*P	**P**	**21 46 23.3**	**0.0**
	comp=Z,49nm,1.4s,mb5.0						
RJF				*e*R			
	comp=Z,76nm,19.5s						
RJF	**Les Rejaudoux**	**77.75**	**45**	⇑*i*P	**P**	**21 46 23.3**	**0.0**
RJF				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
RJF				MLR	MLR		
	comp=Z,80nm,19.5s,MS4.0						
CAF	**Calviac**	**78.12**	**46**	*e*P	**P**	**21 46 25.7**	**+0.4**
MTLF	**Montolieu**	**78.18**	**47**	*e*P	**P**	**21 46 25.6**	**-0.1**
TCF	**Toulx Ste Croi**	**78.28**	**44**	*e*P	**P**	**21 46 26.0**	**-0.2**
	comp=Z,36nm,1.4s,mb4.8						
TCF	**Toulx Ste Croi**	**78.28**	**44**	*e*P	**P**	**21 46 26.0**	**-0.2**
TCF				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**79.20**	**43**	*e*P	**P**	**21 46 30.8**	**-0.4**
	comp=Z,28nm,1.3s,mb4.7						
SSF	**Saint Saulge**	**79.20**	**43**	*e*P	**P**	**21 46 30.8**	**-0.4**
SSF				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
SMF	**Signal de Mont**	**79.42**	**44**	⇑*i*P	**P**	**21 46 32.2**	**-0.2**
	comp=Z,28nm,1.2s,mb4.8						
SMF	**Signal de Mont**	**79.42**	**44**	⇑*i*P	**P**	**21 46 32.2**	**-0.2**
SMF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
LOR	**Lormes**	**79.44**	**43**	⇑*i*P	**P**	**21 46 32.2**	**-0.3**
	comp=Z,11nm,0.9s,mb4.5						
LOR				*e*R			
	comp=Z,70nm,18.5s						
LOR	**Lormes**	**79.44**	**43**	⇑*i*P	**P**	**21 46 32.2**	**-0.3**
LOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LOR				MLR	MLR		
	comp=Z,70nm,18.5s,MS4.0						
BAIF	**Baives**	**79.75**	**40**	⇑*i*P	**P**	**21 46 34.1**	**0.0**
	comp=Z,8.3nm,0.8s,mb4.4						
BAIF	**Baives**	**79.75**	**40**	⇑*i*P	**P**	**21 46 34.1**	**0.0**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
VIVF	**Saint-Julien-l**	**79.97**	**46**	⇑*i*P	**P**	**21 46 36.3**	**+0.9**
	comp=Z,21nm,1.0s,mb4.7						
VIVF	**Saint-Julien-l**	**79.97**	**46**	⇑*i*P	**P**	**21 46 36.3**	**+0.9**
VIVF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
GIVF	**Givet**	**80.14**	**40**	⇑*i*P	**P**	**21 46 36.4**	**+0.2**
MEZF	**Maizieres J'vi**	**80.27**	**42**	*e*P	**P**	**21 46 37.0**	**+0.1**
	comp=Z,26nm,0.8s,mb4.9						
ORIF	**Oris-en-Rattie**	**80.83**	**46**	*e*P	**P**	**21 46 41.1**	**+1.1**
	comp=Z,32nm,1.0s,mb4.9						
ORIF				*e*R			
	comp=Z,68nm,18.5s						
CABF	**La Chapelle**	**80.96**	**44**	⇑*i*P	**P**	**21 46 41.0**	**+0.4**
	comp=Z,29nm,1.1s,mb4.8						
CABF	**La Chapelle**	**80.96**	**44**	⇑*i*P	**P**	**21 46 41.0**	**+0.4**
CABF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
HAU	**Haudompre**	**81.13**	**43**	*e*P	**P**	**21 46 41.4**	**-0.1**
HAU				*e*R			
	comp=Z,58nm,18.2s						
LPL	**La Plagne**	**81.43**	**45**	⇑*i*P	**P**	**21 46 44.2**	**+1.2**
	comp=Z,3.9nm,0.7s,mb4.1						
LPL	**La Plagne**	**81.43**	**45**	⇑*i*P	**P**	**21 46 44.2**	**+1.2**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LPG	**La Plagne**	**81.44**	**45**	*e*P	**P**	**21 46 44.4**	**+1.3**
	comp=Z,7.0nm,0.8s,mb4.3						
LPG	**La Plagne**	**81.44**	**45**	*e*P	**P**	**21 46 44.4**	**+1.3**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
HINF	**Hinteralfeld**	**81.47**	**43**	⇑*i*P	**P**	**21 46 43.0**	**-0.2**
	comp=Z,9.9nm,0.8s,mb4.5						
HINF	**Hinteralfeld**	**81.47**	**43**	⇑*i*P	**P**	**21 46 43.0**	**-0.2**
HINF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**81.75**	**42**	*e*P	**P**	**21 46 44.8**	**+0.2**
NB2	**NORSAR Subarra**	**83.65**	**29**	P	**P**	**21 46 54.5**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.3,baz=271,slow=5.0						
NB2	**NORSAR Subarra**	**83.65**	**29**	P	**P**	**21 46 54.5**	**+0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
NOA	**NORSAR Array B**	**83.65**	**29**	P	**P**	**21 46 55.3**	**+1.1**
	comp=Z,3.7nm,0.9s,mb4.5,baz=273,slow=5.2,SNR=6.8						
NOA				LR	LR	22 21 09.3	
	comp=Z,48nm,19.2s,MS3.9,baz=95,slow=34						
CLL	**Collm**	**85.30**	**39**	P	**P**	**21 47 03.0**	**+0.3**
	comp=Z,logA/T=0.8,mb4.7						
CLL	**Collm**	**85.30**	**39**	*e*P	**P**	**21 47 03.0**	**+0.3**
	comp=Z,6.0nm,1.0s,mb4.7						
CLL				*i*		21 47 23.1	
CLL	**Collm**	**85.30**	**39**	*e*P	**P**	**21 47 03.0**	**+0.3**
CLL				*i*		21 47 23.1	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
KHC	**Kasperske Hory**	**85.87**	**41**	*e*P	**P**	**21 47 06.5**	**+0.9**
KHC	**Kasperske Hory**	**85.87**	**41**	*di*P	**P**	**21 47 03.6**	**-2.0**
BRG	**Berggiesshubel**	**85.93**	**39**	⇑*i*P	**P**	**21 47 06.8**	**+0.9**
	comp=Z,5.4nm,0.9s,mb4.8						
BRG	**Berggiesshubel**	**85.93**	**39**	⇑*i*P	**P**	**21 47 06.8**	**+1.0**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
GERES	**GERESS Array B**	**85.98**	**41**	P	**P**	**21 47 07.0**	**+0.9**
	comp=Z,1.7nm,0.8s,mb4.3,baz=270,slow=2.7,SNR=12						
ARCES	**ARCESS Array B**	**88.30**	**20**	P	**P**	**21 47 17.1**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.7,baz=288,slow=3.8,SNR=8.4						
ARCES				LR	LR	22 28 27.3	
	comp=Z,55nm,18.6s,MS4.0,baz=255,slow=37						
KAF	**Kangasniemi**	**90.59**	**27**	*e*p	**P**	**21 47 27.8**	**0.0**
	comp=Z,0.4nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**90.67**	**28**	P	**P**	**21 47 28.1**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.5,baz=270,slow=1.9,SNR=7.5						
FINES				LR	LR	22 26 03.8	
	comp=Z,48nm,18.3s,MS4.0,baz=343,slow=34						
OBN	**Obninsk**	**98.03**	**32**	*e*P	**P**	**21 48 01.6**	**-0.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.9						
MDJ	**Mudanjiang**	**123.09**	**337**	PKP	PKPdf	21 53 21.8	-4.6
MDJ				PP	PP		
	comp=Z,45nm,3.9s						
MKAR	**Makanchi Array**	**123.78**	**16**	PKP	PKPdf	21 53 22.1	-5.7
	comp=Z,0.9nm,0.8s,baz=307,slow=3.2,SNR=7.1						
MKAR	**Makanchi Array**	**123.78**	**16**	*e*PKIKP	PKPdf	21 53 21.7	-6.1
SONM	**Songino Array**	**125.42**	**356**	PKP	PKPdf	21 53 26.2	-4.7
	comp=Z,0.9nm,0.8s,baz=270,slow=3.0,SNR=5.4						
PMG	**Port Moresby**	**135.31**	**264**	*i* PKHKP		21 53 30.2	
NJ2	**Nanjing**	**138.13**	**338**	*e*PKP	PKPdf	21 53 50.6	-4.7
NJ2				XPKP		21 54 05.0	
NJ2				PP	PP	21 56 44.0	+0.8
NJ2				PKS	PKS	21 57 26.0	+0.8
NJ2				SKS	SKS	22 00 56.0	-8.4
NJ2				PP	PP		
	comp=Z,1µm,8.8s						
CD2	**Chengdu**	**142.42**	**358**	PKP	PKPdf	21 53 57.3	-5.7
WRAB	**Tennant Creek**	**146.09**	**244**	*e*PKPdf	PKPdf	21 54 05.6	-4.0
WRA	**Warramunga Arr**	**146.09**	**244**	PKPbc	PKPbc	21 54 06.2	+0.6
	comp=Z,3.6nm,0.8s,baz=102,slow=3.1,SNR=21						
GYA	**Guiyang**	**146.59**	**352**	PKP	PKPdf	21 54 07.5	-2.8
GYA				APKP		21 54 17.8	
GYA				XPKP		21 54 21.9	
GYA				SKS	SKS	22 01 10.5	-7.1
GYA				SKKS		22 04 25.9	
GYA				PP	PP		
	comp=Z,90nm,7.6s						
KLBR	**Kellerberrin**	**151.35**	**209**	*e*P	PKPdf	21 54 19.9	+2.2
	comp=Z,28nm,1.2s						
FITZ	**Fitzroy Crossi**	**154.44**	**242**	PKPbc	PKPdf	21 54 26.9	+4.6
	comp=Z,2.5nm,0.7s,baz=172,slow=3.9,SNR=5.9						

*NEIC **18** 21:45:34.7±0.3, 1.36N×97.38E, mb4.3/6, Error ellipse: s-maj=13.1km s-min=7.2km az=62.0*
*IDC **18** 21:45:34.3±0.6, 1.41N×97.39E, h26^{km}±3^{km}, mb3.9/14, mb1 4.0/14, mb1mx3.9/21, mbtmp4.1/14, MS3.6/1, Ms1 3.6/1, ms1mx3.0/24, Error ellipse: s-maj=22.5km s-min=12.9km az=63.0*
*BJI **18** 21:45:36.6, 1.40N×97.40E, h27^{km}, mB4.8, mb4.6, Ms4.2, Msz3.9*
ISC 18 21:45:32.9±0.4**, 1.30N**±0.06×**97.33E**±0.09**, h27^{km}, h27^{km}±.7^{km}:pP-P, n39,** σ**1^{s}30**/35**, mb4.3**/27**, MS3.6**/4**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**40**	*e*P	**Pn**	**21 46 50.0**	**-0.5**
KMI	**Kunming**	**24.26**	**12**	P	**P**	**21 50 51.3**	**+2.2**
KMI				AP		21 50 57.1	
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.0						
KMI				LR	LR		
	comp=Z,80nm,14.6s,MS3.3						
DMN	**Daman**	**28.67**	**337**	*e*P	**P**	**21 51 33.0**	**+3.2**
	comp=Z,87nm,1.6s,mb5.2						
KKN	**Kakani**	**28.76**	**337**	*e*P	**P**	**21 51 32.1**	**+1.4**
	comp=Z,6.6nm,0.6s,mb4.6						
GKN	**Gorkha**	**29.20**	**337**	*e*P	**P**	**21 51 33.8**	**-0.9**
	comp=Z,11nm,0.7s,mb4.7						
KOLN	**Koldanda**	**29.43**	**335**	*e*P	**P**	**21 51 36.9**	**+0.2**
	comp=Z,14nm,0.7s,mb4.8						
MBWA	**Marble Bar**	**31.27**	**137**	*e*P	**P**	**21 51 53.9**	**+0.8**
	comp=Z,2.8nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**33.88**	**126**	P	**P**	**21 52 14.3**	**-1.5**
	comp=Z,2.3nm,0.8s,mb4.2,baz=296,slow=4.9,SNR=3.1						
FITZ				pP	pP	21 52 23.0	-1.0
	comp=Z,3.4nm,0.8s,baz=14,slow=23,SNR=3.2						
XAN	**Xi'an**	**34.33**	**17**	P	**P**	**21 52 23.4**	**+3.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**35.14**	**9**	*e*P	**P**	**21 52 29.8**	**+3.4**
LZH				AP	pP	21 52 39.0	+4.4
LZH				XP	sP	21 52 42.0	+3.9
LZH				PP	PP	21 53 47.5	+2.0
LZH				PCP	PcP	21 54 59.5	+1.8
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,63nm,4.0s						
NJ2	**Nanjing**	**36.71**	**31**	*e*P	**P**	**21 52 40.5**	**+0.7**
NWAO	**Narrogin (SRO)**	**38.88**	**153**	P	**P**	**21 52 58.2**	**+0.2**
	comp=Z,7.6nm,1.0s,mb4.4,baz=257,slow=3.6,SNR=3.3						
NWAO	**Narrogin (SRO)**	**38.88**	**153**	P	**P**	**21 52 58.2**	**+0.2**
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**21 53 23.2**	**-0.5**
	comp=Z,2.0nm,0.6s,mb3.9,baz=302,slow=9.0,SNR=24						
WRAB	**Tennant Creek**	**41.98**	**122**	*e*P	**P**	**21 53 23.1**	**-0.6**
	comp=Z,2.7nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**41.98**	**122**	*e*P	**P**	**21 53 23.2**	**-0.6**
WB2				*e*		21 54 06.2	
WMQ	**Urumqi**	**43.20**	**350**	*e*PKP	**P**	**21 53 31.0**	**-2.4**
WMQ				LR	LR		
	comp=Z,106nm,20.2s,MS3.7						
WMQ	**Urumqi**	**43.20**	**350**	*e*P	**P**	**21 53 35.0**	**+1.6**
WMQ				LR	LR		
	comp=N,100nm,21.6s,MS3.9						
WMQ				LR	LR		
	comp=E,140nm,25.9s,MS3.9						
WMQ				LR	LR		
	comp=Z,106nm,20.2s						
FORT	**Forrest**	**43.26**	**140**	⇑*i*P	**P**	**21 53 36.2**	**+2.1**
	comp=Z,16nm,0.6s,mb4.9						
SONM	**Songino Array**	**47.02**	**8**	P	**P**	**21 54 02.9**	**-1.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=188,slow=9.4,SNR=6.8						
SONM				pP	pP	21 54 10.9	-1.2
	comp=Z,2.7nm,0.7s,baz=189,slow=8.5,SNR=10.0						
SONM				PcP	PcP	21 55 35.2	-1.0
	comp=Z,0.4nm,0.8s,baz=207,slow=3.2,SNR=2.5						
SONM				pPcP		21 55 43.0	
	comp=Z,0.7nm,0.5s,baz=177,slow=3.5,SNR=4.7						
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**21 54 04.3**	**-0.8**
	comp=Z,1.4nm,0.5s,mb4.1,baz=163,slow=8.4,SNR=19						
MKAR				pP	pP	21 54 12.0	-1.5
	comp=Z,3.6nm,0.7s,baz=158,slow=7.1,SNR=12						
MJAR	**Matsushiro Arr**	**51.53**	**42**	P	**P**	**21 54 36.8**	**-2.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=239,slow=7.4,SNR=2.8						
MJAR				pP	pP	21 54 45.4	-1.8
	comp=Z,0.9nm,0.6s,baz=226,slow=6.8,SNR=3.1						
MJAR				LR	LR	22 15 52.2	
	comp=Z,58nm,21.3s,MS3.6,baz=100,slow=35						
MDJ	**Mudanjiang**	**51.72**	**29**	P	**P**	**21 54 41.4**	**+1.3**
MDJ				AP	pP	21 54 50.5	+2.0
MDJ				XP	sP	21 54 55.0	+3.3
MDJ				PCP	PcP	21 55 53.9	+0.6
MDJ				PP	PP	21 56 39.4	+1.0
MDJ				SCP		21 59 48.3	
MDJ				PCS		21 59 51.6	
MDJ				S	**S**	**22 02 01.3**	**+2.9**
MDJ				XS		22 02 18.1	
MDJ				SCS	ScS	22 04 28.8	+3.7
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,53nm,4.3s						
MDJ				LR	LR		
	comp=N,33nm,22.0s,MS3.6						
MDJ				LR	LR		
	comp=E,53nm,22.0s,MS3.6						
MDJ				LR	LR		
	comp=Z,45nm,17.6s,MS3.5						
KURK	**Kurchatov**	**51.73**	**345**	*e*P	**P**	**21 54 39.7**	**-0.4**
	comp=Z,3.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**21 54 52.6**	**+0.4**
	comp=Z,4.7nm,0.7s,mb4.5,baz=281,slow=8.1,SNR=5.7						
ZAL	**Zalesovo**	**53.48**	**351**	P	**P**	**21 54 51.4**	**-1.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=315,slow=7.3,SNR=3.1						
ZAL				pP	pP	21 54 59.5	-1.9
	comp=Z,2.8nm,0.5s,baz=332,slow=6.9,SNR=6.8						
BVAR	**Borovoye Array**	**56.20**	**341**	P	**P**	**21 55 10.9**	**-2.0**
	comp=Z,0.6nm,0.4s,mb4.0,baz=142,slow=9.3,SNR=6.6						
BVAR				pP	pP	21 55 18.8	-2.6
	comp=Z,1.1nm,0.5s,baz=158,slow=8.0,SNR=7.4						
BRVK	**Borovoye**	**56.27**	**341**	P	**P**	**21 55 13.6**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.9						
BRTR	**Keskin Array B**	**69.14**	**312**	P	**P**	**21 56 37.8**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=76,slow=5.9,SNR=3.4						
BRTR				pP	pP	21 56 46.6	-1.1
	comp=Z,0.5nm,0.6s,baz=124,slow=8.9,SNR=2.9						
MATP	**Matopo**	**70.68**	**248**	P	**P**	**21 56 49.6**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=170,slow=7.1,SNR=3.7						
MAW	**Mawson**	**72.84**	**193**	P	**P**	**21 57 00.7**	**-0.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=342,slow=13,SNR=4.9						
FINES	**FINESS Array B**	**79.97**	**332**	P	**P**	**21 57 40.0**	**-1.0**
	comp=Z,3.6nm,0.9s,mb4.3,baz=180,slow=3.8,SNR=2.6						
ARCES	**ARCESS Array B**	**82.49**	**340**	P	**P**	**21 57 53.9**	**-0.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=104,slow=5.0,SNR=5.8						
ARCES				pP	pP	21 58 01.7	-1.2
	comp=Z,1.8nm,0.7s,baz=90,slow=4.9,SNR=2.4						
CLL	**Collm**	**85.44**	**321**	*e*L		21 58 41.0	
MOX	**Moxa**	**86.28**	**320**	*e*P	**P**	**21 58 16.0**	**+2.4**
TXAR	**Lajitas Array**	**143.52**	**32**	PKhKP		22 05 02.7	
	comp=Z,0.5nm,1.1s,baz=135,slow=1.3,SNR=3.8						
TXAR				PKP	PKPdf	22 05 06.0	-4.7
	comp=Z,0.2nm,0.7s,baz=44,slow=1.3,SNR=3.8						
CPUP	**Villa Florida**	**145.17**	**222**	PKPbc	PKPbc	22 05 10.3	+1.2
	comp=Z,3.8nm,0.8s,baz=103,slow=5.0,SNR=6.9						
CFAA	**Coronel Fontan**	**146.91**	**203**	PKPbc	PKPbc	22 05 15.5	+2.3
	comp=Z,0.5nm,0.5s,baz=164,slow=3.7,SNR=11						
CFAA	**Coronel Fontan**	**146.91**	**203**	PKPbc	PKPbc	22 05 15.5	+2.3

*NEIC **18** 21:54:20.9, 43.80N×12.43E, h20^{km}, ML3.1(ROM), After ROM.*
*ROM **18** 21:54:20.9±0.1, 43.80N×12.43E, h20^{km}±1^{km}, Md2.9/25, Ml3.1/13, Error ellipse: s-maj=1.1km s-min=0.8km az=154.0*
*CSEM **18** 21:54:20.9±0.1, 43.81N×12.45E, h12^{km}, ML3.7/1, Error ellipse: s-maj=1.5km s-min=1.0km az=27.0*
*PRU **18** 21:54:27.0, 44.35N×13.53E*
ISC 18 21:54:22.0±0.3**, 43.83N**±0.02×**12.45E**±0.03**, h16^{km}**±4^{km}**, n58,** σ**0^{s}75**/79**, 5C-6D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSM	**Repubblica di**	**0.10**	**2**	⇑*i*Pg	**Pb**	**21 54 25.5**	**-0.1**
RSM				Sg	**Sb**	**21 54 29.4**	**+1.5**
	14µm,0.7s						
FSSB	**Fossombrone**	**0.28**	**120**	⇓*i*Pg	**Pb**	**21 54 27.2**	**-1.0**
	245nm,0.3s						
BADI	**Badiali**	**0.35**	**205**	⇑*i*Pg	**Pb**	**21 54 28.4**	**-1.1**
BADI				Sg	**Sb**	**21 54 34.1**	**-0.3**
	4µm,0.3s						
CRE	**Caprese Michel**	**0.41**	**240**	⇑*i*Pg	**Pb**	**21 54 29.5**	**-1.0**
CRE				Sg	**Sb**	**21 54 36.7**	**+0.4**
	721nm,0.5s						
SFI	**Santa Sofia**	**0.44**	**280**	⇓*e*Pg	**Pb**	**21 54 30.1**	**-0.8**
SFI				Sg	**Sb**	**21 54 37.3**	**+0.3**
	528nm,0.4s						
ARV	**Arcevia**	**0.49**	**132**	⇓*e*Pg	**Pb**	**21 54 30.9**	**-0.9**
ARV				Sg	**Sb**	**21 54 39.2**	**+0.8**
PGD	**Poggio Sodo**	**0.53**	**275**	⇓*e*Pg	**Pb**	**21 54 31.8**	**-0.6**
MURB	**Monte Urbino**	**0.57**	**174**	Pg	**Pb**	**21 54 32.5**	**-0.6**
MURB				Sg	**Sb**	**21 54 41.4**	**+0.7**
	7µm,0.3s						
VMG	**Vicchio**	**0.67**	**282**	⇑*i*Pg	**Pb**	**21 54 34.4**	**-0.4**
VMG				Sg	**Sb**	**21 54 45.4**	**+1.9**
	218nm,0.2s						
SNTG	**Esanatoglia**	**0.68**	**148**	⇓*i*Pg	**Pb**	**21 54 34.2**	**-0.8**
SNTG				Sg	**Sb**	**21 54 45.4**	**+1.5**
CING	**Cingoli**	**0.71**	**130**	Pg	**Pb**	**21 54 35.1**	**-0.4**
	373nm,0.5s						
SEI	**Scarperia**	**0.82**	**286**	Pg	**Pb**	**21 54 36.9**	**-0.5**
	773nm,0.3s						
AOI	**Ancona**	**0.88**	**108**	Pg	**Pb**	**21 54 38.9**	**+0.4**
	498nm,0.4s						
CSNT	**Castellina Chi**	**0.91**	**247**	Pg	**Pb**	**21 54 38.8**	**-0.2**
CSNT				Sg	**Sb**	**21 54 51.6**	**+1.0**
	241nm,0.6s						
SACS	**San Casciano d**	**1.05**	**202**	Pg	**Pb**	**21 54 40.9**	**-0.5**
	275nm,0.7s						
NRCA	**Norcia**	**1.11**	**154**	Pg	**Pb**	**21 54 41.9**	**-0.5**
ARCI	**Arcidosso**	**1.21**	**216**	Pg	**Pb**	**21 54 43.8**	**-0.2**
	203nm,1.1s						
GRFL	**Gerfalco**	**1.27**	**238**	Pg	**Pb**	**21 54 44.8**	**-0.3**
	33nm,0.7s						
LNSS	**Leonessa**	**1.30**	**160**	Pg	**Pn**	**21 54 45.7**	**+0.1**
	348nm,0.6s						
BDI	**Bagni Di Lucca**	**1.35**	**281**	Pg	**Pn**	**21 54 47.6**	**+1.2**
PII	**Pisa**	**1.40**	**266**	Pg	**Pn**	**21 54 47.0**	**0.0**
	73nm,0.3s						
MAIM		**1.42**	**274**	P	**Pn**	**21 54 46.7**	**-0.6**
MAIM				S	**Sb**	**21 55 04.3**	**-1.0**
MAIM		**1.42**	**274**	P	**Pn**	**21 54 46.7**	**-0.6**
MAIM				S	**Sb**	**21 55 04.3**	**-1.0**
MNS	**Montasola**	**1.45**	**173**	Pg	**Pn**	**21 54 47.9**	**+0.1**
	85nm,0.5s						
CAMP	**Campotosto**	**1.47**	**151**	Pg	**Pn**	**21 54 48.3**	**+0.2**
	196nm,0.6s						
TERO	**Teramo**	**1.47**	**145**	Pg	**Pn**	**21 54 48.6**	**+0.5**
	676nm,1.2s						
SARO	**Sassorosso**	**1.52**	**284**	P	**Pn**	**21 54 48.7**	**0.0**
SARO	**Sassorosso**	**1.52**	**284**	P	**Pn**	**21 54 48.7**	**0.0**
SARO	**Sassorosso**	**1.52**	**284**	P	**Pn**	**21 54 48.7**	**0.0**
VLC	**Villacollemand**	**1.52**	**283**	*e*P	**Pn**	**21 54 51.0**	**+2.2**
VLC	**Villacollemand**	**1.52**	**283**	*e*P	**Pn**	**21 54 51.0**	**+2.2**
VALM		**1.67**	**289**	P	**Pn**	**21 54 51.7**	**+0.8**
VINC	**Vinca**	**1.68**	**281**	P	**Pn**	**21 54 51.0**	**-0.1**
VINC	**Vinca**	**1.68**	**281**	P	**Pn**	**21 54 51.0**	**-0.1**
VINC	**Vinca**	**1.68**	**281**	P	**Pn**	**21 54 51.0**	**-0.1**
BACM		**1.77**	**286**	P	**Pn**	**21 54 52.4**	**+0.1**
BACM		**1.77**	**286**	P	**Pn**	**21 54 52.4**	**+0.1**
GRAM		**1.84**	**292**	P	**Pn**	**21 54 54.2**	**+0.9**
GRAM		**1.84**	**292**	P	**Pn**	**21 54 54.2**	**+0.9**
NVLJ	**Novalja**	**1.89**	**66**	*i* Pn	**Pn**	**21 54 55.0**	**+0.9**
NVLJ				*i* Sn	**Sn**	**21 55 17.9**	**+0.1**
NVLJ				*i* Sg	**Sn**	**21 55 19.4**	**+1.7**
NVLJ	**Novalja**	**1.89**	**66**	*i* Pn	**Pn**	**21 54 54.9**	**+0.8**
NVLJ				*i* Sn	**Sn**	**21 55 17.8**	**+0.1**
NVLJ				*i* Sg	**Sn**	**21 55 19.3**	**+1.6**
CODM		**1.95**	**288**	P	**Pn**	**21 54 55.3**	**+0.4**
TRI	**Trieste**	**2.10**	**26**	Pg	**Pn**	**21 54 56.9**	**-0.2**
SC2M	**Scurtabr**	**2.17**	**286**	P	**Pn**	**21 54 58.0**	**-0.1**
CTI	**Castel Tesino**	**2.29**	**346**	Pg	**Pn**	**21 54 59.8**	**0.0**
	28nm,0.6s						
VOY	**Vojsko**	**2.43**	**25**	*e*Pn	**Pn**	**21 55 01.5**	**-0.3**
VOY				*e*Sn	**Sn**	**21 55 30.7**	**-0.7**
PTCC	**Patocco-Chiusa**	**2.66**	**14**	Pg	**Pn**	**21 55 04.7**	**-0.3**
	27nm,0.6s						
APPI	**Appiano**	**2.79**	**342**	Pg	**Pn**	**21 55 07.3**	**+0.4**
	45nm,0.4s						
PDKS	**Podkum**	**2.88**	**38**	*e*Pn	**Pn**	**21 55 08.3**	**+0.2**
FIN	**Finale Ligure**	**3.08**	**279**	Pg	**Pn**	**21 55 10.5**	**-0.5**
	15nm,0.4s						
MOTA	**Moosalm**	**3.64**	**345**	⇓*i*Sn	**Sn**	**21 56 01.1**	**-0.9**
MOA	**Molln**	**4.22**	**17**	⇑*i*PN	**Pn**	**21 55 27.2**	**0.0**
MOA				*i*		21 56 15.4	
KHC	**Kasperske Hory**	**5.36**	**8**	*e*PN	**Pn**	**21 55 38.2**	**-5.2**
KHC				x	x	21 55 45.5	
KHC				*e*SN	**Sn**	**21 56 32.7**	**-13**
KHC				*e*x	x	21 56 49.0	
KHC				x	x	21 57 13.0	
KHC	**Kasperske Hory**	**5.36**	**8**	*e*Pn	**Pn**	**21 55 38.2**	**-5.2**
KHC				*e*		21 55 45.5	
KHC				*e*Sn	**Sn**	**21 56 32.7**	**-13**
KHC				*e*		21 56 49.0	
KHC				*e*		21 57 13.0	
KHC	**Kasperske Hory**	**5.36**	**8**	*e*Pn	**Pn**	**21 55 38.2**	**-5.2**
KHC				*e*Sn	**Sn**	**21 56 32.7**	**-13**
PRU	**Pruhonice**	**6.33**	**12**	*e*PN	**Pn**	**21 55 50.2**	**-6.8**
MOX	**Moxa**	**6.84**	**356**	*i* P	**Pn**	**21 56 02.9**	**-1.4**
MOX				S	**Sn**	**21 57 15.0**	**-7.5**
MOX	**Moxa**	**6.84**	**356**	*e*Pn	**Pn**	**21 56 02.9**	**-1.4**
MOX				*e*Sn	**Sn**	**21 57 15.4**	**-7.1**

*NEIC **18** 21:54:25.5, 46.03N×6.94E, h2^{km}, ML2.9(LDG), ML2.4(STR), ML2.3(GEN), After LDG.*
*LDG **18** 21:54:25.5±0.1, 46.03N×6.94E, h2^{km}, Md2.8/2, Ml2.9/23, Error ellipse: s-maj=1.9km s-min=1.3km az=103.0*
*ZUR **18** 21:54:25.4, 46.06N×6.91E, h5^{km}, ML2.2/7*
*CSEM **18** 21:54:25.2±0.0, 46.02N×6.94E, h8^{km}, ML2.8/20, Error ellipse: s-maj=1.0km s-min=0.7km az=99.0*
*STR **18** 21:54:26.3±0.3, 46.08N×6.81E, h7^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **18** 21:54:26.5, 45.99N×7.01E, h0^{km}, ML2.0*
ISC 18 21:54:24.1±0.2**, 46.058N**±0.010×**6.80E**±0.02**, h10^{km}, n86,** σ**1^{s}21**/157**, 10C-5D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.07**	**86**	⇑*i*Pg	**Pg**	**21 54 26.8**	**+0.4**
EMV				*i* Sg	**Sg**	**21 54 27.7**	**-0.2**
SALAN	**Lac Salanfe**	**0.15**	**55**	⇑*i*Pg	**Pg**	**21 54 28.0**	**+0.4**
SALAN				*i* Sg	**Sg**	**21 54 29.7**	**-0.2**
OG01	**Vacheresse**	**0.28**	**344**	Pg	**Pg**	**21 54 31.8**	**+1.8**
OG01				Sg	**Sg**	**21 54 36.4**	**+2.4**
GRYON	**Gryon**	**0.29**	**49**	⇑*i*Pg	**Pg**	**21 54 30.5**	**+0.3**
GRYON				*i* Sg	**Sg**	**21 54 34.0**	**-0.3**
AIGLE	**Aigle**	**0.30**	**21**	⇑*i*Pg	**Pg**	**21 54 31.2**	**+0.8**
AIGLE				*e*Sg	**Sg**	**21 54 35.1**	**+0.4**
DIX	**Grande Dixence**	**0.43**	**87**	⇓*i*Pg	**Pg**	**21 54 32.8**	**0.0**
DIX				*i* Sg	**Sg**	**21 54 37.7**	**-1.0**
SENIN	**Lac Senin**	**0.46**	**49**	⇑*i*Pg	**Pg**	**21 54 33.7**	**+0.2**
SENIN				*i* Sg	**Sg**	**21 54 39.6**	**-0.2**
LPL	**La Plagne**	**0.54**	**185**	*e*Pg	**Pg**	**21 54 35.8**	**+0.7**
LPL				*e*Sg	**Sg**	**21 54 42.7**	**+0.3**
	15nm,0.2s						
LPG	**La Plagne**	**0.56**	**183**	*e*Pg	**Pg**	**21 54 36.2**	**+0.8**
LPG				*e*Sg	**Sg**	**21 54 43.1**	**+0.1**
	45nm,0.2s						
GIMEL	**Gimel**	**0.60**	**322**	*e*Pg	**Pg**	**21 54 38.1**	**+1.9**
LSD	**Ceresole Reale**	**0.65**	**157**	P	**Pb**	**21 54 37.3**	**+0.2**
LSD				S	**Sb**	**21 54 44.6**	**-1.3**
LKBD	**Leukerbad**	**0.67**	**60**	*e*Pg	**Pg**	**21 54 37.3**	**-0.2**
TORNY	**Torny**	**0.72**	**9**	*e*Pg	**Pg**	**21 54 39.6**	**+0.9**
CABF	**La Chapelle**	**0.74**	**319**	*e*Pg	**Pg**	**21 54 40.4**	**+1.4**
CABF				*e*Pn	**Pn**	**21 54 42.3**	**+2.0**
CABF				*e*Sg	**Sg**	**21 54 52.5**	**+3.6**
CABF				*e*Sn	**Sn**	**21 54 55.4**	**+3.8**
	45nm,0.3s						
MMK	**Mattmark**	**0.81**	**90**	*e*Pg	**Pg**	**21 54 39.2**	**-1.2**
WIMIS	**Wimmis**	**0.84**	**43**	⇑*i*Pg	**Pg**	**21 54 40.6**	**-0.3**
TRAV		**0.86**	**129**	P	**Pb**	**21 54 40.2**	**-0.4**
TRAV				S	**Sb**	**21 54 49.5**	**-2.5**
TRAV		**0.86**	**129**	P	**Pb**	**21 54 40.2**	**-0.5**
TRAV				S	**Sb**	**21 54 49.5**	**-2.5**
BRANT	**Les Verrieres**	**0.91**	**346**	*e*Pg	**Pg**	**21 54 43.8**	**+1.5**
OG05	**Jujurieux**	**0.93**	**269**	Pg	**Pg**	**21 54 44.5**	**+1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ORX	Oropa	0.93	117	P	Pb	21 54 41.4	-0.5
ORX				S	Sb	21 54 51.5	-2.6
ORX	Oropa	0.93	117	P	Pb	21 54 41.4	-0.5
ORX				S	Sb	21 54 51.5	-2.6
RSP	Reno Superiore	0.96	160	P	Pb	21 54 43.2	+0.8
RSP				S	Sb	21 54 54.4	-0.6
RSP	Reno Superiore	0.96	160	P	Pb	21 54 43.2	+0.8
RSP				S	Sb	21 54 54.4	-0.6
FENE	Fenestrelle	1.04	170	P	Pb	21 54 44.6	+0.8
FENE				S	Sb	21 54 57.0	-0.3
FENE	Fenestrelle	1.04	170	P	Pb	21 54 44.6	+0.8
FENE				S	Sb	21 54 57.0	-0.3
GRN	Grenoble	1.10	222	Pg	Pg	21 54 47.0	+0.9
RRL	Cesana Torines	1.14	180	P	Pb	21 54 46.8	+1.4
RRL				S	Sb	21 55 01.1	+1.1
RRL	Cesana Torines	1.14	180	P	Pb	21 54 46.8	+1.4
RRL				S	Sb	21 55 01.1	+1.1
BHB	Bricherasio	1.26	165	P	Pb	21 54 48.4	+0.9
BHB				S	Sb	21 55 03.1	-0.5
BHB	Bricherasio	1.26	165	P	Pb	21 54 48.4	+0.9
BHB				S	Sb	21 55 03.1	-0.5
LOMF	Lomont	1.29	1	Pn	Pn	21 54 49.2	+0.9
LOMF				Sg	Sg	21 55 07.3	0.0
ORIF	Oris-en-Rattie	1.31	210	*e*Pn	Pn	21 54 49.8	+1.3
ORIF				*e*Pg	Pg	21 54 50.2	-0.1
ORIF				*e*Sg	Sg	21 55 08.0	+0.2
	21nm,0.3s						
MBDF	Montbardon	1.33	181	*e*Pn	Pn	21 54 49.7	+0.9
MBDF				*e*Pg	Pg	21 54 50.4	-0.3
MBDF				*e*Sg	Sg	21 55 06.7	-1.8
	18nm,0.6s						
BBS	Basel-Blauen	1.49	19	Pn	Pn	21 54 52.0	+0.9
BBS				Pg	Pg	21 54 53.9	0.0
BBS				Sg	Sg	21 55 14.4	+0.6
BBS	Basel-Blauen	1.49	19	Pg	Pg	21 54 53.9	0.0
BBS				Sg	Sg	21 55 14.4	+0.6
HINF	Hinteralfeld	1.76	1	*e*Pn	Pn	21 54 55.6	+0.7
HINF				*e*Pg	Pg	21 54 58.8	-0.5
HINF				*e*Sn	Sn	21 55 17.0	-0.6
HINF				*e*Sg	Sg	21 55 21.0	-1.8
	15nm,0.2s						
MOF	Molkenrain	1.81	7	Pn	Pn	21 54 56.3	+0.7
MOF				Sg	Sg	21 55 23.9	-0.5
STV2	Anna di Valdie	1.85	168	P	Pn	21 54 56.9	+0.6
STV2	Anna di Valdie	1.85	168	P	Pn	21 54 56.9	+0.7
STV	Sta Anna Valdi	1.85	168	P	Pn	21 54 57.2	+1.0
STV	Sta Anna Valdi	1.85	168	P	Pn	21 54 57.2	+1.0
ENR	Entracque	1.88	166	P	Pn	21 54 57.4	+0.7
VIVF	Saint-Julien-l	1.92	232	*e*Pn	Pn	21 54 59.3	+2.1
VIVF				*e*P		21 55 02.6	
VIVF				*e*Sn	Sn	21 55 22.3	+0.7
VIVF				*e*Sg	Sg	21 55 26.8	-1.2
	47nm,0.3s						
VIVF	Saint-Julien-l	1.92	232	*e*Pn	Pn	21 54 59.3	+2.1
VIVF				*e*Sn	Sn	21 55 22.3	+0.7
VIVF				*e*Sg	Sg	21 55 26.8	-1.2
	24nm,0.3s						
ROB	Roburent	1.92	156	P	Pn	21 54 57.8	+0.5
ROB	Roburent	1.92	156	P	Pn	21 54 57.8	+0.6
HAU	Haudompre	1.97	351	*e*Pn	Pn	21 54 59.0	+1.0
HAU				*e*Pg	Pg	21 55 03.1	-0.4
HAU				*e*Sn	Sn	21 55 21.3	-1.7
HAU				*e*Sg	Sg	21 55 28.5	-1.3
	15nm,0.3s						
MONE	Monesi	2.09	161	P	Pn	21 55 00.1	+0.4
MONE	Monesi	2.09	161	P	Pn	21 55 00.1	+0.4
FIN	Finale Ligure	2.10	151	P	Pn	21 54 59.3	-0.5
FIN	Finale Ligure	2.10	151	P	Pn	21 54 59.3	-0.5
SMF	Signal de Mont	2.13	287	*e*Pn	Pn	21 55 02.3	+2.1
SMF				*e*Pg	Pg	21 55 06.9	+0.3
SMF				*e*Sg	Sg	21 55 34.6	-0.4
	8.6nm,0.2s						
ECH	Echery	2.17	6	Pg	Pg	21 55 07.4	-0.1
ECH	Echery	2.17	6	Pn	Pn	21 55 01.2	+0.3
ECH				Pg	Pg	21 55 07.4	-0.1
ECH	Echery	2.17	6	Pg	Pg	21 55 07.4	-0.1
SBF	Sospel	2.24	168	*e*Pg	Pg	21 55 06.4	-2.5
SBF				*e*Sg	Sg	21 55 34.0	-4.8
	4.7nm,0.2s						
SMRF	Simiane la Rot	2.25	203	*e*Sg	Sg	21 55 36.9	-2.3
	3.2nm,0.3s						
LOR	Lormes	2.36	302	*e*Pn	Pn	21 55 05.3	+1.8
LOR				*e*Pg	Pg	21 55 10.4	-0.8
LOR				*e*Sg	Sg	21 55 38.9	-3.7
	6.1nm,0.2s						
CDF	Champ du Feu	2.38	8	*e*Pn	Pn	21 55 03.8	0.0
CDF				*e*Pg	Pg	21 55 10.0	-1.6
CDF				*e*Sn	Sn	21 55 32.4	-0.9
CDF				*e*Sg	Sg	21 55 40.9	-2.4
	10.0nm,0.3s						
DAVA	Damuels	2.45	59	⇓*i*Pn	Pg	21 55 11.3	-1.8
DAVA	Damuels	2.45	59	⇑*i*Sn	Sg	21 55 48.8	+3.0
SFTF	Sexfontaines	2.46	331	*e*Pg	Pg	21 55 13.1	-0.1
SFTF				*e*Sg	Sg	21 55 44.6	-1.5
	7.7nm,0.3s						
SSF	Saint Saulge	2.48	295	*e*Pn	Pn	21 55 07.0	+1.7
SSF				*e*Pg	Pg	21 55 13.0	-0.7
SSF				*e*Sg	Sg	21 55 46.8	0.0
	3.3nm,0.2s						
SSF	Saint Saulge	2.48	295	*e*Pg	Pg	21 55 13.0	-0.7
SSF				*e*Sg	Sg	21 55 46.8	0.0
	1.6nm,0.2s						
AVF	Avril sur Loir	2.49	288	*e*Pn	Pn	21 55 07.0	+1.6
AVF				*e*Pg	Pg	21 55 13.8	-0.1
AVF				*e*Sg	Sg	21 55 47.0	-0.1
	34µm,0.3s						
FRF	La Foret Royal	2.50	182	*e*Pg	Pg	21 55 11.0	-3.0
FRF				*e*Sg	Sg	21 55 42.8	-4.5
	7.0nm,0.3s						
BFO	Black Forest	2.50	24	*e*Pn	Pn	21 55 04.7	-0.9
BFO				*e*Sg	Sg	21 55 42.5	-5.0
MEZF	Maizieres J'vi	2.72	335	*e*Pg	Pg	21 55 17.5	-0.9
MEZF				*e*Sg	Sg	21 55 53.5	-1.1
	21nm,0.4s						
RFYF	Reffroy	2.73	341	*e*Pg	Pg	21 55 17.0	-1.5
RFYF				*e*Sn	Sn	21 55 41.5	-0.6
RFYF				*e*Sg	Sg	21 55 52.7	-2.2
	17nm,0.3s						
LASF	Ste Croix	2.87	227	*e*Pn	Pn	21 55 12.7	+1.8
LASF				*e*Pg	Pg	21 55 19.8	-1.7
LASF				*e*Sg	Sg	21 55 56.5	-3.3
	9.4nm,0.4s						
TCF	Toulx Ste Croi	3.19	276	*e*Pn	Pn	21 55 16.8	+1.4
TCF				*e*Pg	Pg	21 55 26.4	-1.5
TCF				*e*Sg	Sg	21 56 08.9	-1.6
	5.8nm,0.3s						
MOTA	Moosalm	3.23	65	⇓*i*Pn	Pn	21 55 17.3	+1.4
SQTA	Sankt Quirin	3.25	67	⇑*i*Pn	Pn	21 55 15.7	-0.6
SQTA	Sankt Quirin	3.25	67	Pn	Pn	21 55 15.7	-0.6
SQTA				Sn	Sn	21 56 00.0	+4.5
CAF	Calviac	3.52	253	*e*Sg	Sg	21 56 18.0	-3.1
	4.2nm,0.4s						
WATA	Walderalm	3.53	67	⇑*i*Pn	Pn	21 55 19.7	-0.4
WATA	Walderalm	3.53	67	⇓*i*Sn	Sn	21 56 05.7	+3.3
WATA	Walderalm	3.53	67	Pn	Pn	21 55 19.7	-0.5
WATA				Sn	Sn	21 56 05.7	+3.3
WTTA	Wattenberg	3.54	68	⇑*i*Pn	Pn	21 55 18.9	-1.5
WTTA	Wattenberg	3.54	68	⇓*i*Sn	Sn	21 56 04.8	+1.9
WTTA	Wattenberg	3.54	68	Pn	Pn	21 55 18.9	-1.5
WTTA				Sn	Sn	21 56 04.8	+2.0
RJF	Les Rejaudoux	3.78	260	*e*Sg	Sg	21 56 27.0	-2.8
	6.3nm,0.5s						
GIVF	Givet	4.26	343	*e*Pn	Pn	21 55 31.8	+1.3
BAIF	Baives	4.36	338	*e*Pn	Pn	21 55 32.9	+0.9
LFF	La Frestale	4.40	257	*e*Sn	Sn	21 56 23.3	-1.2
	3.1nm,0.4s						

*NEIC **18** 21:56:42.9, 32.42S×71.45W, h36km, MD3.6(GUC), After GUC.*

GUC 18 21:56:42.9±0.9, 32.42S×71.45W, h36km±3km, MD3.6, ML2.9, 15C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.54	355	⇑*i*P	P	21 56 54.1	+0.1
CHNG				*i* S	S	21 57 02.3	+0.3
CHNG				AMP		21 57 02.9	
	comp=N,714nm,0.1s						
IHA	Instituto Hidr	0.62	195	⇑*i*P	P	21 56 55.2	0.0
IHA				*i* S	S	21 57 04.3	+0.1
ROCH	El Roble	0.66	146	⇑*i*P	P	21 56 56.4	+0.6
ROCH				*i* S	S	21 57 06.2	+1.2
JACH	Jahuel	0.77	110	⇑*i*P	P	21 56 58.2	+0.9
JACH				*i* S	S	21 57 09.6	+1.9
ILCH	Illapel	0.82	17	⇑*i*P	P	21 56 58.6	+0.7
ILCH				*i* S	S	21 57 10.2	+1.2
ILCH				AMP		21 57 11.6	
	comp=N,633nm,0.2s						
LCCH	Las Cruces	1.06	186	⇑*i*P	P	21 57 01.6	+0.2
LCCH				*i* S	S	21 57 16.2	+1.1
RCDM	Rinconada Maip	1.19	153	⇑*i*P	P	21 57 03.7	+0.4
RCDM				*i* S	S	21 57 19.5	+0.9
RCDM				AMP		21 57 27.6	
	comp=E,528nm,0.1s						
DSCH	Colegio Aleman	1.22	143	⇓*i*P	P	21 57 04.6	+0.9
DSCH				*i* S	S	21 57 20.9	+1.5
DSCH				AMP		21 57 22.1	
	comp=N,640nm,0.5s						
CLCH	Cerro Calan	1.24	142	⇓*i*P	P	21 57 04.8	+0.8
CLCH				*i* S	S	21 57 21.8	+2.1
CLCH				AMP		21 57 23.4	
	comp=E,274nm,0.6s						
CMCH	Combarbala	1.30	17	⇑*i*P	P	21 57 05.0	+0.2
CMCH				*i* S	S	21 57 22.6	+1.3
CMCH				AMP		21 57 23.6	
	comp=E,1µm,0.4s						
TACH	Talagante	1.30	161	*e*P	P	21 57 05.4	+0.5
TACH				*i* S	S	21 57 22.4	+1.1
FCH	Farellones	1.33	133	⇓*i*P	P	21 57 06.2	+0.8
FCH				*i* S	S	21 57 24.1	+2.1
FCH				AMP		21 57 24.5	
	comp=E,471nm,0.2s						
ANTU	Antumapu	1.33	149	⇑*i*P	P	21 57 05.9	+0.5
ANTU				*i* S	S	21 57 24.4	+2.3
ANTU				AMP		21 57 25.4	
	comp=E,272nm,0.2s						
PCH	Pirque	1.43	147	⇑*i*P	P	21 57 07.6	+0.9
PCH				*i* S	S	21 57 26.6	+2.0
CHCH	Chadas Angostu	1.65	156	⇑*i*P	P	21 57 10.9	+1.0
CHCH				*i* S	S	21 57 32.4	+2.3
LMEL	Las Melosas	1.76	144	⇑*i*P	P	21 57 12.7	+1.2
LMEL				⇑*e*P		21 57 12.8	
LMEL				*i* S	S	21 57 35.2	+2.2
LMEL				AMP		21 57 42.9	
	comp=N,313nm,0.1s						
LMEL	Las Melosas	1.76	144	⇑*e*P	P	21 57 12.8	+1.2
LMEL				*i* S	S	21 57 35.2	+2.2
CICH	Cipreses	2.08	156	⇑*i*P	P	21 57 17.4	+1.4

NNC 18 22:00:08.3±3.2, 38.10N×71.72E, h197km±50km, mpv3.0, 5C, Error ellipse: s-maj=37.4km s-min=18.9km az=22.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.00	24	⇑P	P	22 01 22.1	-1.2
	2.1nm,0.5s						
AAK				⇑S	S	22 02 22.1	+0.6
	2.5nm,0.7s						
KK31	Karatay Array	5.08	350	P	P	22 01 23.9	-0.4
	0.4nm,0.3s,baz=170,slow=12,SNR=21						
KK31				⇑S	S	22 02 23.4	+0.1
	0.9nm,0.3s,baz=175,slow=20,SNR=13						
AB31	Akbulak array	14.01	326	⇑P	P	22 03 19.3	+0.1
	0.1nm,0.3s						
AB31				⇑S	S	22 05 53.3	+3.2
	0.2nm,0.3s						

MEX 18 22:03:10.3±0.4, 15.63N×93.23W, h16km±16km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.24	58	*i* P	Pb	22 03 29.4	-3.4
CCIG				*i* S	Sb	22 03 44.1	-4.2
SCX	San Cristobal	1.24	27	*e*P	Pb	22 03 30.0	-2.9
CMIG	Matias Romero	2.15	313	*e*P	Pn	22 03 42.3	-3.9
CMIG				*i* S	Sn	22 04 07.3	-5.3

*IDC **18** 22:10:04.1±1.4, 6.64N×78.12W, mb3.6/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, ML1.7/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/26, Error ellipse: s-maj=53.0km s-min=17.7km az=33.0*

*NEIC **18** 22:10:12.9±2.7, 6.92N×77.73W, h78km±30km, mb3.7/2, Error ellipse: s-maj=38.5km s-min=12.2km az=58.0*

ISC 18 22:10:10.7±2.7, 6.8N±0.1×77.8W±0.1, h73km±30km, n9, σ0.50/11, mb3.5/5, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	4.01	119	Pn	P	22 11 11.6	+0.5
	1.0nm,0.3s,baz=8.7,slow=19,SNR=3.0						
ROSC				Sn	S	22 11 50.9	-6.3
	1.8nm,0.3s,baz=89,slow=23,SNR=4.0						
ROSC				Lg		22 12 15.8	
	1.1nm,0.3s,baz=212,slow=16,SNR=4.4						
SDV	Santo Domingo	7.43	74	Pn	P	22 11 58.0	-0.5
	1.1nm,0.3s,baz=350,slow=6.3,SNR=7.1						
SDV				Sn	S	22 13 22.4	+0.4
	1.7nm,0.3s,baz=69,slow=15,SNR=5.6						
SDV				LR	LR	22 15 21.7	
	comp=Z,118nm,19.9s,baz=132,slow=41						
SDV	Santo Domingo	7.43	74	*e*P	P	22 11 57.0	-1.5
SDV				Sn	S	22 13 22.4	+0.4
SDV				LR	LR	22 15 21.7	
SAML	Samuel	21.43	137	*e*P	P	22 14 54.5	-0.1
	3.6nm,0.9s,mb3.7						
SIV	San Ignacio	28.11	144	P	P	22 15 57.8	-0.2
	1.2nm,0.8s,mb3.5,baz=330,slow=8.4,SNR=6.4						
TXAR	Lajitas Array	33.06	316	P	P	22 16 41.3	-0.3
	0.2nm,0.6s,mb3.1,baz=143,slow=9.0,SNR=4.2						
BDFB	Brasilia	37.03	127	LR	LR	22 33 23.7	
	comp=Z,120nm,18.3s,baz=95,slow=38						
ANMO	Albuquerque	38.42	321	P	P	22 17 27.1	+0.2
	0.6nm,0.6s,mb3.6						
NVAR	Mina Array Bea	48.20	317	P	P	22 18 46.3	+0.4
	0.4nm,0.5s,mb3.5,baz=122,slow=8.2,SNR=4.4						

*IDC **18** 22:13:34.7±0.5, 9.28S×117.73E, mb4.5/11, mb1 4.6/13, mb1mx4.5/20, mbtmp4.6/13, ML4.7/2, MS3.7/5, Ms1 3.7/5, ms1mx3.5/16, Error ellipse: s-maj=26.3km s-min=14.4km az=60.0*

*BJI **18** 22:13:36.2, 9.40S×117.70E, h25km, mB4.9, mb4.8, Ms4.7, Msz4.5*

*NEIC **18** 22:13:38.2±0.3, 9.40S×117.68E, h25km, mb4.7/16, Error ellipse: s-maj=12.8km s-min=6.2km az=58.0*

ISC 18 22:13:37.5±0.3, 9.37S±0.06×117.80E±0.07, h33km, n74, σ1.13/71, mb4.8/38, MS4.0/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.54	140	*e*P	P	22 16 20.7	-2.4
	22nm,0.3s						
FITZ				*e*S	S	22 18 19.7	-12
FITZ	Fitzroy Crossi	11.54	140	Pn	P	22 16 20.7	-2.4
	9.7nm,0.3s,baz=338,slow=7.5,SNR=145						
FITZ				Sn	S	22 18 18.3	-14
	17nm,0.3s,baz=360,slow=23,SNR=14						
MBWA	Marble Bar	11.87	171	*e*P	P	22 16 22.9	-4.5
	130nm,0.5s						
MBWA				*e*S	S	22 18 19.4	-20
KAKA	Kakadu	14.74	104	*e*P	Px	22 17 25.7	
	17nm,0.6s						
KAKA				*e*S	Sx	22 20 02.2	
KKM	Kota Kinabalu	15.39	354	P	P	22 17 14.3	+0.2
WRA	Warramunga Arr	19.12	125	P	P	22 18 00.7	+0.1
	1.1nm,0.3s,baz=296,slow=14,SNR=59						
WRA				S	S	22 21 20.2	-8.9
	1.7nm,0.3s,baz=292,slow=22,SNR=6.9						
WRAB	Tennant Creek	19.13	125	*e*P	P	22 18 01.4	+0.7
	9.4nm,0.6s						
WB2	Warramunga Arr	19.13	125	*e*P	P	22 18 00.9	+0.2
WB2				*e*S	S	22 21 21.0	-8.3
ASPA	Alice Springs	20.95	135	*e*P	P	22 18 20.6	+0.5
ASPA				*e*S	S	22 22 04.0	-2.8
KLBR	Kellerberrin	22.11	180	*e*P	P	22 18 42.1	+10
	69nm,0.4s,mb5.4						
KLBR				*e*S	S	22 22 20.7	-7.7
KULM	Kulim	22.46	310	*e*P	P	22 18 36.8	+1.6
FORT	Forrest	23.35	157	*e*P	P	22 18 44.5	+0.6
	18nm,0.5s,mb4.8						
FORT				*e*S	S	22 22 58.3	+7.6
NWAO	Narrogin (SRO)	23.45	181	P	P	22 18 45.6	+0.7
	9.3nm,0.6s,mb4.4,baz=342,slow=9.8,SNR=10						
NWAO				S	S	22 22 52.3	-0.2
	10nm,0.3s,baz=177,slow=3.4,SNR=6.2						
NWAO				LR	LR	22 27 13.6	
	comp=Z,212nm,20.9s,MS3.6,baz=195,slow=35						
NWAO	Narrogin (SRO)	23.45	181	*e*P	P	22 18 45.3	+0.4
	55nm,0.4s,mb5.3						
CTA	Charters Tower	29.46	114	P	P	22 19 42.4	+1.6
	3.1nm,0.7s,mb4.1,baz=280,slow=15,SNR=5.5						
CTA				LR	LR	22 32 01.7	
	comp=Z,144nm,19.2s,MS3.6,baz=44,slow=38						
CTAO	Charters Tower	29.46	114	*e*P	P	22 19 42.2	+1.5
	3.4nm,0.7s,mb4.2						
STKA	Stephens Creek	31.44	139	*e*P	P	22 19 58.8	+0.6
	3.1nm,0.6s,mb4.3						
STKA	Stephens Creek	31.44	139	P	P	22 19 58.7	+0.5
	5.4nm,0.9s,mb4.4,baz=328,slow=7.8,SNR=16						
STKA				LR	LR	22 33 29.5	
	comp=Z,127nm,21.7s,MS3.5,baz=273,slow=38						
GYA	Guiyang	37.22	343	P	P	22 20 50.8	+3.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
KMI	Kunming	37.29	337	P	P	22 20 52.0	+3.5
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
ENH	Enshi	40.21	349	*e*P	P	22 21 13.3	+0.5
	comp=Z,4.7nm,0.3s,mb4.7						
NJ2	Nanjing	41.20	1	*e*P	P	22 21 21.1	+0.3
NJ2				AP	pP	22 21 25.3	-5.4
NJ2				PP	PP	22 23 00.8	+1.9
NJ2				S	S	22 27 36.0	+4.0
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,112nm,5.0s						
NJ2				LR	LR		
	comp=N,380nm,15.3s,MS4.5						
NJ2				LR	LR		
	comp=E,300nm,15.5s,MS4.5						
NJ2				LR	LR		
	comp=Z,5µm,19.9s,MS5.4						
CD2	Chengdu	42.25	342	P	P	22 21 32.8	+3.2
CD2				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.7						
LSA	Lhasa	46.55	327	*e*P	P	22 22 04.5	+0.3
	comp=Z,16nm,1.3s,mb4.8						
LZH	Lanzhou	47.08	345	*e*P	P	22 22 08.8	+0.6
LZH				PP	PP	22 23 58.3	-0.2
LZH				*e*S	S	22 29 00.0	+2.8
LZH				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,69nm,5.7s						
LZH				LR	LR		
	comp=E,652nm,12.8s						
LZH				LR	LR		
	comp=Z,826nm,13.1s,MS4.9						
KS15	Wonju Array Si	47.51	11	*e*P	P	22 22 13.0	+1.4
PKI	Pulchoki	48.30	320	*e*P	P	22 22 16.3	-1.6
	comp=Z,11nm,0.6s,mb5.1						
DMN	Daman	48.52	320	*e*P	P	22 22 18.5	-1.0
	comp=Z,33nm,0.9s,mb5.3						
KKN	Kakani	48.53	321	*e*P	P	22 22 19.1	-0.6
	comp=Z,17nm,0.9s,mb5.1						
GKN	Gorkha	49.09	320	*e*P	P	22 22 22.4	-1.5
	comp=Z,26nm,0.8s,mb5.3						
MAJO	Matsushiro	49.53	22	*e*P	P	22 22 26.3	-0.9
	comp=Z,9.4nm,0.8s,mb4.9						
MAT	Matsushiro	49.53	22	P	P	22 22 26.6	-0.7
MAT	Matsushiro	49.53	22	*e*P	P	22 22 27.0	-0.3
	comp=Z,3.7nm,0.8s,mb4.5						
MJAR	Matsushiro Arr	49.53	22	P	P	22 22 26.9	-0.3
	comp=Z,11nm,0.8s,mb4.9,baz=197,slow=7.5,SNR=42						
KOLN	Koldanda	49.59	319	*e*P	P	22 22 26.2	-1.6
	comp=Z,28nm,0.9s,mb5.3						
MDJ	Mudanjiang	54.78	10	P	P	22 23 07.0	+0.6
MDJ				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,42nm,5.0s						
MDJ				LR	LR		
	comp=N,49nm,26.3s						
MDJ				LR	LR		
	comp=E,44nm,20.6s						
MDJ				LR	LR		
	comp=Z,55nm,21.2s						
MDJ	Mudanjiang	54.78	10	*e*P	P	22 23 06.3	-0.1
	comp=Z,26nm,0.8s,mb5.3						
SONM	Songino Array	57.84	351	P	P	22 23 28.2	0.0
	comp=Z,9.5nm,0.8s,mb4.9,baz=168,slow=8.7,SNR=67						
WMQ	Urumqi	59.58	335	*e*P	P	22 23 40.3	-0.1
WMQ				PP	PP	22 25 54.0	+0.2
WMQ				*e*S	S	22 31 49.6	+3.2
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,129nm,4.2s						
WMQ				LR	LR		
	comp=N,116nm,22.4s,MS4.1						
WMQ				LR	LR		
	comp=E,143nm,26.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,125nm,22.2s,MS4.0						
MKAR	Makanchi Array	64.25	334	P	P	22 24 10.6	-1.1
	comp=Z,2.6nm,0.5s,mb4.5,baz=153,slow=6.7,SNR=30						
MKAR				LR	LR	22 52 50.9	
	comp=Z,57nm,19.2s,MS3.8,baz=276,slow=37						
TKM2	Tokmak 2	64.71	327	P	P	22 24 14.3	-0.4
	SNR=6.4						
KBK	Karagaybulak	64.88	326	P	P	22 24 16.2	+0.4
	SNR=7.8						
AAK	Ala-Archa	65.11	326	P	P	22 24 17.4	0.0
	SNR=6.0						
AAK	Ala-Archa	65.11	326	*e*P	P	22 24 16.3	-1.1
	comp=Z,6.1nm,0.8s,mb4.7						
AML	Almayashu	65.23	325	P	P	22 24 18.2	+0.2
	SNR=6.6						
EKS2	Erkin-Say	65.53	326	P	P	22 24 19.8	-0.2
	SNR=8.7						
USP	Ospenovka	65.53	327	P	P	22 24 19.0	-1.0
	SNR=5.2						
MAW	Mawson	68.49	200	LR	LR	22 47 57.3	
	comp=Z,81nm,20.5s,MS3.9,baz=256,slow=30						
OPO	Ambohidratompo	68.78	254	P	P	22 24 42.5	+1.6
	comp=Z,3.9nm,1.0s,mb4.3,baz=64,slow=6.8,SNR=3.6						
KURK	Kurchatov	68.81	334	*e*P	P	22 24 38.8	-1.7
	comp=Z,4.6nm,0.9s,mb4.4						
ZAL	Zalesovo	68.97	340	P	P	22 24 39.8	-1.6
	comp=Z,4.1nm,0.5s,mb4.6,baz=350,slow=4.9,SNR=18						
BVAR	Borovoye Array	74.07	332	P	P	22 25 11.3	-0.6
	comp=Z,4.3nm,0.7s,mb4.5,baz=137,slow=7.4,SNR=36						
BRVK	Borovoye	74.14	332	*e*P	P	22 25 11.7	-0.6
	comp=Z,4.1nm,1.1s,mb4.3						
RDF	Al-Radifah	77.61	302	*e*P	P	22 25 32.1	-0.5
RDF				AMb	AMB	22 25 32.8	
	comp=Z,35nm,0.5s,mb5.6						
UMR	Umm Al-Rimmam	77.67	303	*e*P	P	22 25 32.3	-0.6
UMR				AMb	AMB	22 25 32.9	
	comp=Z,20nm,0.4s,mb5.4						
NAY	Al-Naaiem	77.97	303	*e*P	P	22 25 33.7	-0.9
NAY				AMb	AMB	22 25 34.4	
	comp=Z,12nm,0.7s,mb5.0						
MIB	Mutribah	78.06	303	*e*P	P	22 25 34.9	-0.1
MIB				AMb	AMB	22 25 35.9	
	comp=Z,15nm,0.7s,mb5.0						
LSZ	Lusaka	87.21	255	*e*P	P	22 26 23.6	+1.2
	comp=Z,12nm,0.6s,mb5.3						
LSZ				*e*		22 26 41.4	
ASF	Jabal al Asfar	87.33	303	P	P	22 26 25.1	+2.4
	comp=Z,7.6nm,0.8s,mb5.0,baz=342,slow=3.2,SNR=14						
MALT	Malatya	87.52	309	*e*P	P	22 26 24.9	+1.4
	comp=Z,7.2nm,0.8s,mb5.0						
BRTR	Keskin Array B	91.46	310	P	P	22 26 42.1	+0.1
	comp=Z,0.8nm,0.8s,mb4.1,baz=141,slow=7.7,SNR=6.9						
YKA	Yellowknife Ar	115.01	24	PKP	PKPdf	22 32 16.6	+1.6
	comp=Z,1.2nm,0.4s,baz=302,slow=1.9,SNR=6.1						
NVAR	Mina Array Bea	122.16	50	PKP	PKPdf	22 32 32.9	+3.5
	comp=Z,1.5nm,0.7s,baz=282,slow=0.3,SNR=15						
NVAR	Mina Array Bea	122.16	50	PKP	PKPdf	22 32 32.9	+3.5
DBIC	Dimbokro	123.20	272	PKP	PKPdf	22 32 33.5	+1.4
	comp=Z,2.4nm,0.9s,slow=5.1,SNR=3.1						
MSU	Marysvale	126.74	49	*e*PKP	PKPdf	22 32 42.3	+4.0
PDAR	Pinedale Array	126.99	43	PKP	PKPdf	22 32 41.3	+2.6
	comp=Z,0.4nm,0.4s,baz=80,slow=1.0,SNR=5.8						
TXAR	Lajitas Array	136.43	57	PKhKP		22 32 49.1	

	comp=Z,0.2nm,0.5s,baz=243,slow=2.8,SNR=5.3						
CPUP	**Villa Florida**	**144.20**	**187**	PKP	PKPdf	22 33 11.6	+0.8
	comp=Z,1.9nm,0.7s,baz=144,slow=5.0,SNR=4.5						
PLAL	**Pickwick Lake**	**145.22**	**39**	*e*PKP	PKPdf	22 33 12.4	+0.1
CPCT	**Cooper Cave**	**147.00**	**35**	*e*PKP	PKPdf	22 33 18.8	+3.5
BDFB	**Brasilia**	**151.46**	**210**	PKPbc	PKPdf	22 33 32.2	+9.5
	comp=Z,1.6nm,0.7s,baz=120,slow=2.7,SNR=5.5						
BDFB	**Brasilia**	**151.46**	**210**	PKPbc	PKPdf	22 33 32.2	+9.5
LPAZ	**La Paz**	**153.84**	**167**	PKPbc	PKPdf	22 33 38.7	+13
	comp=Z,1.1nm,0.6s,baz=236,slow=4.3,SNR=6.6						

*NEIC **18** 22:14:43.2, 39.11N×11.37W, MG3.5(MDD), After MDD.*
*INMG **18** 22:14:45.6±0.9, 38.96N×11.81W, h10km, ML1.9, Error ellipse: s-maj=7.4km s-min=3.7km az=84.0*
*CSEM **18** 22:14:45.6±0.8, 39.20N×10.92W, h2km, ML1.9, Error ellipse: s-maj=16.8km s-min=9.5km az=83.0*
MDD 18 22:14:43.1±2.1**, 39.03N×11.40W, mb3.5**/4**, Error ellipse: s-maj=18.5km s-min=11.3km az=84.0, PRXIMO, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**1.76**	**94**	*e*Sn	Sn	22 15 36.8	-1.7
	18nm,0.3s						
PLOU	**Loures**	**1.76**	**94**	Sn	Sn	22 15 36.8	-1.7
	9.2nm,0.3s						
PTEO	**Sao Teotonio**	**2.58**	**124**	*e*Pn	Pn	22 15 24.5	-2.2
PTEO				*e*Sn	Sn	22 15 54.1	-5.1
	6.4nm,0.4s						
PTEO	**Sao Teotonio**	**2.58**	**124**	Pn	Pn	22 15 24.5	-2.2
PTEO				Sn	Sn	22 15 54.1	-5.1
	3.2nm,0.4s						
PBEJ	**Beja**	**2.95**	**109**	*e*Pn	Pn	22 15 30.7	-1.4
PBEJ				*e*Sn	Sn	22 16 04.4	-4.3
	1.9nm,0.2s						
PBEJ	**Beja**	**2.95**	**109**	Pn	Pn	22 15 30.7	-1.4
PBEJ				Sn	Sn	22 16 04.4	-4.3
	0.9nm,0.2s						
PCBR	**Castelo Branco**	**3.15**	**74**	*e*Sn	Sn	22 16 09.7	-4.0
PCBR				*e*Sn	Sn	22 16 09.8	-3.9
MTE	**Manteigas**	**3.28**	**64**	*e*Sn	Sn	22 16 14.2	-2.8
	3.0nm,0.3s						
MTE	**Manteigas**	**3.28**	**64**	Sn	Sn	22 16 14.2	-2.8
	1.5nm,0.3s						
EGRO	**El Granado**	**3.43**	**115**	P	Pn	22 15 36.4	-2.5
	2.1nm,0.2s,SNR=5.7						
EGRO				S	Sn	22 16 15.2	-5.5
	0.6nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.43**	**115**	P	Pn	22 15 36.4	-2.5
	2.1nm,0.2s,SNR=5.7						
EGRO				S	Sn	22 16 15.2	-5.6
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.44**	**93**	P	Pn	22 15 37.0	-2.0
	0.4nm,0.0s,SNR=7.9						
EBAD				S	Sn	22 16 15.8	-5.2
	0.8nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.44**	**93**	P	Pn	22 15 37.0	-2.0
	0.4nm,0.0s,SNR=7.9						
EBAD				S	Sn	22 16 15.8	-5.2
	0.8nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**3.72**	**43**	*e*Pn	Pn	22 15 40.9	-2.1
PCAB				*e*Sn	Sn	22 16 22.3	-5.9
	2.0nm,0.1s						
PCAB	**Cabril**	**3.72**	**43**	Pn	Pn	22 15 40.9	-2.1
PCAB				Sn	Sn	22 16 22.3	-5.9
	1.0nm,0.1s						
ELOB	**Lobios**	**3.81**	**41**	P	Pn	22 15 40.9	-3.5
	0.2nm,0.1s,SNR=8.4						
ELOB				S	Sn	22 16 23.3	-7.3
	2.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**3.81**	**41**	P	Pn	22 15 40.9	-3.5
	0.2nm,0.1s,SNR=8.4						
ELOB				S	Sn	22 16 23.3	-7.3
	2.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.92**	**107**	P	Pn	22 15 43.7	-2.2
	0.6nm,0.1s,SNR=7.9						
EMIN				S	Sn	22 16 27.0	-6.4
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.92**	**107**	P	Pn	22 15 43.7	-2.2
	0.6nm,0.1s,SNR=7.9						
EMIN				S	Sn	22 16 27.0	-6.4
	0.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**4.33**	**24**	S	Sn	22 16 33.1	-10
	SNR=7.9						
ECAL	**Calabor**	**4.60**	**49**	S	Sn	22 16 43.7	-6.8
	SNR=7.9						
ECAL	**Calabor**	**4.60**	**49**	S	Sn	22 16 43.7	-6.7
	SNR=7.9						
EADA	**Adamuz**	**5.42**	**97**	P	Pn	22 16 04.3	-2.8
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	22 17 03.3	-7.7
	SNR=7.9						
EADA	**Adamuz**	**5.42**	**97**	P	Pn	22 16 04.3	-2.8
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	22 17 03.3	-7.8
	SNR=7.9						
ESDC	**Sonseca Array**	**5.80**	**81**	P	Pn	22 16 10.4	-2.1
	1.8nm,0.1s,baz=262,slow=13,SNR=9.1						
ESDC				S	Sn	22 17 12.6	-8.1
	0.4nm,0.2s,baz=265,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**5.80**	**81**	P	Pn	22 16 10.4	-2.1
	1.8nm,0.1s,SNR=9.1						
ESDC				S	Sn	22 17 12.6	-8.2
	0.4nm,0.2s,SNR=7.9						

*CSEM **18** 22:46:45.0, 37.11N×23.58E, h10km, MD3.5/3, After ATH*
ATH 18 22:46:45.0, 37.11N×23.58E, h10km, MD3.4/3**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.94**	**208**	*e*PB	Pb	22 47 02.8	-0.1
ITM	**Ithomi**	**1.32**	**274**	*e*PB	Pb	22 47 10.0	+0.5
VAM	**Vamos**	**1.77**	**163**	*e*PN	Pn	22 47 18.0	+2.0

*NEIC **18** 22:57:12.6±0.8, 43.78N×105.17W, ML3.1, Error ellipse: s-maj=9.6km s-min=8.1km az=113.0, Suspected Mining explosion.*
NEIC 0.0 [ ]. 60 km [40 miles] SSE of Gillette.
*IDC **18** 22:57:12.2±1.8, 43.68N×105.35W, mb1 3.7/3, mb1mx3.3/23, mbtmp3.3/3, ML3.7/2, Error ellipse: s-maj=49.3km s-min=9.0km az=150.0*
ISC 18 22:57:10.6±0.9**, 43.87N**±0.05×**105.2W**±0.1**, n23, σ1§13**/24**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.58**	**185**	*e*P	**Pn**	**22 57 54.7**	**+0.4**
PHWY				*e*S	**Sn**	**22 58 28.1**	**+1.3**
RWWY	**Rawlins**	**2.66**	**215**	*e*P	**Pn**	**22 57 56.5**	**+1.1**
RWWY				*e*S	**Sn**	**22 58 29.1**	**+0.3**
PDAR	**Pinedale Array**	**3.40**	**253**	Pn	**Pn**	**22 58 06.6**	**+0.7**
	2.7nm,0.3s,baz=73,slow=16,SNR=47						
PDAR				Lg		22 58 52.8	
	8.3nm,0.3s,baz=76,slow=33,SNR=9.2						
LOHW	**Long Hollow**	**3.96**	**268**	*e*P	**Pn**	**22 58 15.4**	**+1.5**
FLWY	**Flagg Ranch**	**4.01**	**275**	*e*P	**Pn**	**22 58 14.9**	**+0.3**
SNOW	**Snow King Moun**	**4.08**	**266**	*e*P	**Pn**	**22 58 16.2**	**+0.5**
REDW	**Red Top Meadow**	**4.17**	**265**	*e*P	**Pn**	**22 58 18.6**	**+1.7**
TPAW	**Teton Pass**	**4.22**	**267**	*e*P	**Pn**	**22 58 17.5**	**-0.1**
RRI2	**Red Ridge**	**4.51**	**265**	*e*P	**Pn**	**22 58 22.5**	**+0.8**
QLMT	**Earthquake Lak**	**4.60**	**284**	P	**Pn**	**22 58 27.2**	**+4.1**
HWUT	**Hardware Ranch**	**5.23**	**247**	*e*P	**Pn**	**22 58 31.2**	**-0.8**
	5.9nm,0.5s						
TCUT	**Toone Canyon**	**5.38**	**241**	*e*P	**Pn**	**22 58 34.5**	**+0.5**
DLMT	**Dillon**	**5.52**	**288**	*e*P	**Pn**	**22 58 36.6**	**+0.6**
DAU	**Daniels Canyon**	**5.70**	**235**	*e*P	**Pn**	**22 58 38.2**	**-0.4**
HVU	**Hansel Valley**	**5.98**	**252**	P	**Pn**	**22 58 40.0**	**-2.5**
SRU	**San Rafael**	**6.23**	**222**	*e*P	**Pn**	**22 58 44.0**	**-2.1**
CHMT	**Chamberlain Mo**	**6.46**	**301**	*e*P	**Pn**	**22 58 49.0**	**-0.3**
DUG	**Dugway**	**6.78**	**240**	*e*P	**Pn**	**22 58 51.5**	**-2.3**
	3.7nm,0.8s						
MSU	**Marysvale**	**7.53**	**227**	*e*P	**Pn**	**22 59 02.5**	**-1.8**
ULM	**Lac du Bonnet**	**8.98**	**42**	Pn	**P**	**22 59 24.4**	**-0.2**
	0.8nm,0.3s,baz=228,slow=10,SNR=9.5						
ULM				Lg		23 01 55.1	
	0.2nm,0.3s,baz=98,slow=20,SNR=2.4						
ULM	**Lac du Bonnet**	**8.98**	**42**	Pn	**P**	**22 59 24.4**	**-0.2**
ULM				Lg		23 01 55.1	
NEW	**Newport**	**9.40**	**302**	Lg		23 02 09.2	
	0.1nm,0.3s,baz=72,slow=12,SNR=2.9						
NVAR	**Mina Array Bea**	**11.30**	**246**	Pn	**P**	**22 59 55.6**	**-0.8**

	0.1nm,0.3s,baz=45,slow=12,SNR=4.0						

IDC 18 23:08:22.7±4.0**, 18.53S×176.54W, mb4.3**/2**, mb1 4.5**/2**, mb1mx3.8**/14**, mbtmp4.3**/2**, Error ellipse: s-maj=192.6km s-min=43.4km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.34**	**255**	*e*P	P	23 12 27.1	+12
NOUC	**Port Laguerre**	**16.48**	**255**	*e*P	P	23 12 28.6	+12
STKA	**Stephens Creek**	**39.90**	**242**	P	P	23 15 56.8	-3.4
	1.8nm,0.8s,baz=95,slow=12,SNR=3.1						
WB2	**Warramunga Arr**	**46.26**	**260**	*e*P	P	23 16 50.6	-1.3
WRA	**Warramunga Arr**	**46.27**	**260**	P	P	23 16 51.1	-0.8
	3.3nm,0.3s,baz=92,slow=7.4,SNR=280						
ASPA	**Alice Springs**	**46.34**	**255**	*e*P	P	23 16 51.0	-1.5
FITZ	**Fitzroy Crossi**	**54.68**	**261**	*e*P	P	23 17 55.2	-0.9
	2.6nm,0.9s						
AKASG	**Malin Array Be**	**141.92**	**333**	PKhKP		23 27 51.5	
	0.2nm,0.2s,baz=44,slow=4.1,SNR=4.6						
BRTR	**Keskin Array B**	**146.47**	**315**	PKPbc	PKPbc	23 28 05.7	-0.2
	1.1nm,0.5s,baz=124,slow=2.0,SNR=6.6						
GERES	**GERESS Array B**	**148.64**	**347**	PKPbc	PKPdf	23 28 11.0	+1.4
	0.4nm,0.5s,baz=53,slow=4.9,SNR=3.5						

IDC 18 23:12:56.0±3.2**, 20.17S×66.21E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/17**, mbtmp3.7**/4**, Error ellipse: s-maj=111.4km s-min=33.7km az=42.0, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**63.55**	**103**	P	P	23 23 28.9	-2.1
	1.5nm,0.9s,baz=255,slow=6.1,SNR=9.3						
BRTR	**Keskin Array B**	**66.90**	**333**	P	P	23 23 50.5	-1.8
	0.3nm,0.7s,baz=180,slow=5.8,SNR=2.3						
MKAR	**Makanchi Array**	**68.22**	**12**	P	P	23 23 57.5	-3.0
	0.8nm,1.0s,baz=207,slow=5.4,SNR=3.8						
SONM	**Songino Array**	**76.69**	**27**	P	P	23 24 49.3	-1.3
	0.9nm,0.9s,baz=236,slow=5.3,SNR=5.3						

IDC 18 23:19:03.2±7.0**, 55.02S×132.93W, mb4.0**/2**, mb1 4.4**/2**, mb1mx3.8**/13**, mbtmp4.0**/2**, MS3.6**/3**, Ms1 3.6**/3**, ms1mx3.2**/21**, Error ellipse: s-maj=417.5km s-min=45.8km az=144.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**31.74**	**202**	LR	LR	23 34 50.1	
	comp=Z,111nm,19.7s,baz=152,slow=30						
URZ	**Urewera**	**37.27**	**276**	LR	LR	23 37 49.8	
	comp=Z,126nm,18.9s,baz=37,slow=30						
PPT	**Papeete**	**39.50**	**335**	LR	LR	23 38 37.7	
	comp=Z,55nm,22.0s,baz=90,slow=30						
WRA	**Warramunga Arr**	**75.44**	**256**	P	P	23 30 48.8	-1.8
	1.4nm,0.8s,baz=144,slow=5.2,SNR=8.8						
TXAR	**Lajitas Array**	**87.70**	**25**	P	P	23 31 53.3	-1.3
	1.2nm,1.1s,baz=192,slow=4.9,SNR=5.6						
MKAR	**Makanchi Array**	**156.53**	**264**	PKPab	PKPab	23 39 28.1	-1.9
	1.3nm,0.9s,baz=124,slow=5.2,SNR=6.4						
ZAL	**Zalesovo**	**158.22**	**283**	PKPab	PKPab	23 39 34.7	-2.3
	0.6nm,0.4s,baz=298,slow=10,SNR=3.1						

IDC 18 23:19:40.3±13.0**, 20.23S×66.12E, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.8**/17**, mbtmp4.0**/4**, MS3.8**/7**, Ms1 3.8**/7**, ms1mx3.5**/22**, Error ellipse: s-maj=442.3km s-min=40.4km az=56.0, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**34.01**	**300**	LR	LR	23 36 59.0	
	comp=Z,76nm,19.3s,baz=162,slow=30						
MAW	**Mawson**	**47.41**	**182**	LR	LR	23 42 11.2	
	comp=Z,107nm,19.9s,baz=257,slow=28						
WRA	**Warramunga Arr**	**63.62**	**103**	P	P	23 30 13.6	-2.2
	1.6nm,1.0s,baz=261,slow=6.2,SNR=8.6						
MKAR	**Makanchi Array**	**68.29**	**12**	P	P	23 30 42.4	-2.8
	0.6nm,0.8s,baz=214,slow=5.2,SNR=4.2						
MKAR				LR	LR	23 59 38.1	
	comp=Z,45nm,18.2s,baz=180,slow=35						
VNDA	**Vanda**	**71.64**	**167**	LR	LR	23 58 42.1	
	comp=Z,43nm,20.4s,baz=54,slow=33						
CTA	**Charters Tower**	**74.42**	**106**	LR	LR	00 02 59.9	
	comp=Z,58nm,19.6s,baz=49,slow=35						
DBIC	**Dimbokro**	**74.67**	**283**	LR	LR	00 01 57.0	
	comp=Z,86nm,19.1s,baz=17,slow=34						
ZAL	**Zalesovo**	**75.59**	**11**	P	P	23 31 27.4	-1.2
	1.1nm,0.3s,baz=270,slow=1.7,SNR=4.4						
SONM	**Songino Array**	**76.78**	**27**	P	P	23 31 33.9	-1.5
	1.3nm,0.9s,baz=225,slow=4.1,SNR=6.0						
PMG	**Port Moresby**	**78.46**	**96**	LR	LR	23 58 51.8	
	comp=Z,96nm,21.5s,baz=9.8,slow=30						

MAN 18 23:42:45.3, 8.32N×124.15E, mb4.5, ML3.3, MS3.1, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.56**	**76**	⇑*e*P	Pg	23 42 56.3	-0.1
CGP				*i* S	Sg	23 43 03.8	0.0
DCPH	**Dipolog City**	**0.83**	**289**	⇑*e*P	Pg	23 43 01.3	-0.6
DCPH				*i* S	Sg	23 43 12.7	-0.3
PAGZ	**Pagadian**	**0.89**	**238**	*e*P	Pg	23 43 04.3	+1.2
PAGZ				*e*S	Sg	23 43 18.0	+3.0
BUKP	**Musuan**	**1.00**	**116**	*e*P	Pb	23 43 05.9	+0.6
BUKP				*e*S	Sg	23 43 20.9	+2.2
IPIL	**Ipil**	**1.65**	**251**	*e*P	Pn	23 43 16.6	+0.9
IPIL				*e*S	Sb	23 43 37.9	+0.3

*PRU **19** 00:14:55.5, 50.42N×18.79E*
WAR 19 00:14:55.2, 50.37N×18.91E, h0km, ML2.6, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.54**	**238**	*e*PG	Pg	00 15 06.0	0.0
RAC				*e*SG	Sg	00 15 14.0	+0.8
OJC	**Ojcow**	**0.59**	**104**	*e*PG	Pg	00 15 06.0	-1.0
OJC				*e*SG	Sg	00 15 15.0	+0.2
OKC	**Ostrava-Krasne**	**0.72**	**223**	*e*PG	Pg	00 15 08.8	-0.8
OKC				*e*SG	Sg	00 15 18.6	-0.7
	33nm,0.2s						
NIE	**Niedzica**	**1.31**	**136**	*e*PG	Pg	00 15 20.0	-1.4
NIE				*e*SG	Sg	00 15 38.0	-1.0
DPC	**Dobruska-Polom**	**1.66**	**270**	*e*PG	Pg	00 15 24.4	-3.9
DPC				*e*SG	Sg	00 15 46.8	-3.6
	10nm,0.2s						
KSP	**Ksiaz**	**1.73**	**287**	*e*PG	Pg	00 15 27.0	-2.8
KSP				*e*SG	Sg	00 15 50.0	-2.9
STHS	**Stebnicka Huta**	**1.79**	**121**	*e*PN	Pn	00 15 29.0	+1.5
STHS				*e*SN	Sn	00 15 55.1	+4.0
UPC	**Upice**	**1.86**	**275**	*e*SG	Sg	00 15 52.7	-4.3
VYHS	**Vyhne**	**1.88**	**181**	*e*PN	Pn	00 15 27.6	-1.2
VYHS				*e*SN	Sn	00 15 51.8	-1.7
KECS	**Kecovo**	**2.15**	**151**	*e*PN	Pn	00 15 31.4	-1.3
CRVS	**Cervenica-Dubn**	**2.21**	**131**	*e*PN	Pn	00 15 36.6	+3.0
CRVS				*e*SN	Sn	00 16 06.3	+4.2
KOLS	**Kolonicke sedl**	**2.62**	**122**	*e*PN	Pn	00 15 40.2	+0.8
PRU	**Pruhonice**	**2.83**	**264**	*e*PG	Pg	00 15 45.9	-5.9
PRU				*e*SG	Sg	00 16 22.4	-7.1
KHC	**Kasperske Hory**	**3.67**	**252**	*e*PN	Pn	00 15 51.0	-3.4
KHC				*e*PG	Pg	00 16 00.0	-8.5
KHC				*e*SG	Sg	00 16 49.9	-7.5
CLL	**Collm**	**3.86**	**286**	*e*SG	Sg	00 16 57.0	-6.7
MOA	**Molln**	**3.96**	**232**	*i*	Pn	00 16 04.3	+5.9
MOA	**Molln**	**3.96**	**232**	*i* SG	Sg	00 17 00.2	-6.7
	4.2nm,0.5s						
MOA	**Molln**	**3.96**	**232**	⇑*i*X	Pn	00 16 04.3	+5.9
MOA				⇑*i*Sg	Sg	00 17 00.2	-6.8
	comp=Z,4.2nm,0.5s						

MAN 19 00:30:11.7, 15.63N×122.18E, h18km, mb4.0, ML2.7, MS2.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.59**	**281**	*e*P	Pb	00 30 23.6	+0.4
BALP				*e*S	Sb	00 30 35.3	+4.2
POLP	**Polilio Island**	**0.93**	**195**	*e*P	Pb	00 30 28.5	-0.4
POLP				*e*S	Sb	00 30 43.0	+2.4
PCPH	**Palayan**	**1.05**	**267**	*e*P	Pb	00 30 30.7	-0.3
PCPH				*e*S	Sb	00 30 45.8	+1.6
CAUP	**Cauayan**	**1.35**	**345**	*e*P	Pn	00 30 34.2	-1.7
CAUP				*e*S	Sb	00 30 53.4	+0.3
SCZP	**Santa Cruz**	**2.19**	**274**	*e*P	Pn	00 30 55.4	+7.5
SCZP				*e*S	Sn	00 30 59.5	-15
GUIM	**Jordan**	**4.99**	**175**	*e*P	Pn	00 31 26.2	-1.4

*NEIC **19** 00:42:10.0, 37.89N×26.82E, h21km, MD2.9(ATH), After ATH.*
*CSEM **19** 00:42:11.2±0.1, 37.79N×26.79E, h25km, MD2.8, Error ellipse: s-maj=4.1km s-min=3.5km az=86.0*
*ISK **19** 00:42:12.4, 37.83N×26.73E, h32km, MD2.8*
*ATH **19** 00:42:13.7, 37.69N×26.71E, h6km, MD2.9/3*
ISC 19 00:42:12.2±0.7**, 37.79N**±0.04×**26.70E**±0.06**, h17km**±10km**, n11, σ0§81**/17**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.14**	**126**	⇑*i*PG	**Pb**	**00 42 15.8**	**-0.5**
SMG				*e*SG	**Sb**	**00 42 18.0**	**-1.0**
URLA	**Izmir**	**0.57**	**352**	*i* P	**Pb**	**00 42 23.1**	**-0.2**
URLA				*i* S	**Sb**	**00 42 32.1**	**+1.1**
IZM	**Izmir**	**0.75**	**36**	*i* PG	**Pb**	**00 42 26.5**	**+0.1**
IZM				*i* SG	**Sb**	**00 42 36.6**	**+0.4**
KDAG	**Bornova**	**0.76**	**36**	*i* P	**Pb**	**00 42 26.1**	**-0.4**
KDAG				*i* S	**Sb**	**00 42 36.1**	**-0.2**
BODT	**Bodrum**	**0.88**	**146**	PG	**Pb**	**00 42 29.3**	**+0.7**
AYDN	**Tasoluk**	**0.95**	**98**	*i* P	**Pb**	**00 42 30.8**	**+1.0**
AYDN				*i* S	**Sb**	**00 42 42.4**	**+0.5**
MLSB	**Milas**	**0.99**	**120**	*e*PG	**Pb**	**00 42 29.9**	**-0.6**
MLSB				*e*SG	**Sb**	**00 42 43.3**	**+0.2**
APE	**Apeiranthos**	**1.18**	**232**	*e*PN	**Pn**	**00 42 33.3**	**-0.6**
APE	**Apeiranthos**	**1.18**	**232**	*e*PB	**Pb**	**00 42 35.0**	**+1.4**
PRK	**Paraskevi**	**1.49**	**347**	*e*PB	**Pb**	**00 42 43.6**	**+4.6**
PRK	**Paraskevi**	**1.49**	**347**	*e*Pn	**Pn**	**00 42 36.6**	**-1.8**

IDC 19 00:53:37.4±1.6**, 11.47S×165.19E, mb3.7**/3**, mb1 4.0**/4**, mb1mx3.8**/15**, mbtmp3.8**/4**, ML3.9**/1**, MS3.0**/2**, Ms1 3.0**/2**, ms1mx2.6**/22**, Error ellipse: s-maj=50.0km s-min=32.8km az=112.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.61**	**174**	Pn	P	00 56 11.4	-2.4
	0.9nm,0.3s,baz=40,slow=12,SNR=6.6						
PMG	**Port Moresby**	**17.85**	**275**	LR	LR	01 02 26.0	
	comp=Z,47nm,21.1s,baz=170,slow=30						
CTA	**Charters Tower**	**20.12**	**242**	LR	LR	01 03 51.5	
	comp=Z,41nm,20.8s,baz=227,slow=30						
WRA	**Warramunga Arr**	**30.82**	**250**	P	P	00 59 55.3	-2.2
	0.7nm,0.7s,baz=84,slow=8.9,SNR=8.5						
SONM	**Songino Array**	**78.68**	**324**	P	P	01 05 41.7	-1.4
	0.5nm,0.8s,baz=135,slow=4.1,SNR=3.2						
ILAR	**Eielson Array**	**84.09**	**19**	P	P	01 06 09.8	-1.3
	0.5nm,0.6s,baz=240,slow=5.1,SNR=7.7						

*ATH **19** 01:01:26.0, 38.66N×25.89E, h23km±8km, MD3.3/5*
*NEIC **19** 01:01:26.0, 38.67N×25.88E, h25km, MD3.3(ATH), After ATH.*
*CSEM **19** 01:01:26.9±0.1, 38.65N×25.97E, h25km, MD3.3, Error ellipse: s-maj=3.3km s-min=1.9km az=95.0*
*ISK **19** 01:01:27.4, 38.66N×25.91E, h32km, MD3.2*
ISC 19 01:01:27.0±1.0**, 38.68N**±0.03×**25.92E**±0.06**, h25km**±7km**, n23, σ0§83**/36**, 2C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.62**	**121**	*i* P	**Pb**	**01 01 38.0**	**-1.2**
URLA				*i* S	**Sb**	**01 01 48.0**	**+0.5**
PRK	**Paraskevi**	**0.62**	**26**	⇑*i*PN	**Pn**	**01 01 38.8**	**-1.4**
PRK				*e*SN	**Sn**	**01 01 48.2**	**-1.2**
AYVA	**Ayvalik**	**0.86**	**44**	*i* P	**Pb**	**01 01 43.0**	**-0.3**
AYVA				*i* S	**Sb**	**01 01 54.3**	**-0.2**
IZM	**Izmir**	**1.09**	**105**	*i* PN	**Pn**	**01 01 47.5**	**+0.7**
IZM				*i* SN	**Sn**	**01 02 00.7**	**-0.5**
KDAG	**Bornova**	**1.09**	**104**	*i* P	**Pn**	**01 01 46.5**	**-0.3**
KDAG				*i* S	**Sb**	**01 02 02.0**	**+1.1**
EZN	**Ezine**	**1.18**	**15**	PN	**Pn**	**01 01 48.6**	**+0.4**
SMG	**Samos**	**1.21**	**143**	*e*PN	**Pn**	**01 01 48.9**	**+0.3**
SMG				*e*SN	**Sn**	**01 02 06.2**	**+1.9**
LIA	**Limnos Island**	**1.34**	**335**	⇑*i*Pn	**Pn**	**01 01 51.8**	**+1.3**
LIA				*e*Sn	**Sn**	**01 02 08.9**	**+1.3**
AKS	**Akhisar**	**1.49**	**82**	PN	**Pn**	**01 01 52.6**	**0.0**
AKS				SN	**Sn**	**01 02 11.8**	**+0.4**
APE	**Apeiranthos**	**1.64**	**191**	PN	**Pn**	**01 01 54.6**	**-0.2**
APE				SN	**Sn**	**01 02 13.9**	**-1.3**
APE	**Apeiranthos**	**1.64**	**191**	*e*PN	**Pn**	**01 01 55.1**	**+0.3**
BALB	**Balikesir**	**1.80**	**57**	*e*PN	**Pn**	**01 01 57.3**	**+0.3**
LPK	**Lapseki**	**1.81**	**21**	*e*PN	**Pn**	**01 01 56.5**	**-0.6**
AYDN	**Tasoluk**	**1.85**	**123**	*i* P	**Pn**	**01 02 02.9**	**+5.1**
AYDN				*i* S	**Sn**	**01 02 27.2**	**+6.7**
BODT	**Bodrum**	**1.96**	**145**	*e*PN	**Pn**	**01 01 58.6**	**-0.7**
BTOK	**Tokmak**	**1.96**	**56**	*e*P	**Pn**	**01 02 03.3**	**+4.0**
BTOK				*i* S	**Sn**	**01 02 29.1**	**+5.8**
MANT	**Manisa**	**2.07**	**95**	*i* P	**Pn**	**01 02 06.5**	**+5.6**
MANT				*i* S	**Sn**	**01 02 33.1**	**+6.8**
BNT	**Bandirma**	**2.27**	**42**	*e*PN	**Pn**	**01 02 03.7**	**-0.1**
DST	**Dursunbey**	**2.30**	**66**	*e*PN	**Pn**	**01 02 04.0**	**-0.1**
MRMT	**Marmara Adasi**	**2.31**	**33**	*e*PN	**Pn**	**01 02 03.8**	**-0.6**
YER	**Yerkesik**	**2.42**	**129**	*e*PN	**Pn**	**01 02 05.4**	**-0.6**
RDO	**Rodhopi**	**2.48**	**353**	*e*PN	**Pn**	**01 02 07.4**	**+0.7**
ULDT	**Uludag**	**2.88**	**59**	*i* P	**Pn**	**01 02 18.4**	**+5.9**
ULDT				*i* S	**Sn**	**01 02 57.5**	**+11**

*IDC **19** 01:18:26.3±1.8, 54.01N×108.85E, mb3.6/3, mb1 3.7/5, mb1mx3.4/22, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=35.3km s-min=22.4km az=110.0*
*MOS **19** 01:18:26.6±1.1, 53.93N×108.90E, h13km, mb4.1/2, Error ellipse: s-maj=13.4km s-min=8.1km az=64.1*
BYKL 19 01:18:27.3±0.3**, 54.00N×108.78E, h10km**±12km**, 9C-6D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.74**	**182**	⇓*i*Pg	Pg	01 18 41.6	-0.6
MXMB				*e*Sg	Sg	01 18 51.5	-0.6
MXMB				*e*Sb	Sb	01 18 55.8	+4.1
MXMB				Pmax			
	222nm,0.3s						
MXMB				max			
	2μm,0.3s						
OGRR	**Ongureny**	**0.79**	**244**	⇓*i*Pg	Pg	01 18 42.7	-0.4
	66nm,0.7s						
OGRR				⇓*i*Pg	Pg	01 18 42.7	-0.4
	242nm,0.7s						
OGRR				⇑*i*Pg	Pg	01 18 42.7	-0.4
	205nm,0.7s						
OGRR				*e*Sg	Sg	01 18 53.9	+0.2
OGRR				Pmax			
	245nm,0.2s						
OGRR				Smax			
	2μm,0.3s						
OGRR	**Ongureny**	**0.79**	**244**	*e*PG	Pg	01 18 42.6	-0.5
OGRR				*e*		01 18 53.9	
OGRR				pmax	pmax		
	comp=Z,275nm,0.2s						
OGRR				smax			
	comp=N,2μm,0.3s						
SYVR	**Suvo**	**0.80**	**115**	⇓*i*Pg	Pg	01 18 41.9	-1.5
	comp=N,232nm,0.4s						
SYVR				⇑*i*Pg	Pg	01 18 41.9	-1.5
	comp=N,698nm,0.4s						
SYVR				⇑*i*Pg	Pg	01 18 41.9	-1.5
	comp=N,1μm,0.4s						
SYVR				*e*Sg	Sg	01 18 52.1	-2.0
SYVR				Pmax			
	comp=N,1μm,0.4s						
SYVR				Smax			
	comp=N,2μm,0.6s						
SYVR	**Suvo**	**0.80**	**115**	*e*PG	Pg	01 18 41.9	-1.5
SYVR				*e*		01 18 51.3	
SYVR				pmax	pmax		
	comp=Z,506nm,0.2s						
SYVR				smax			
	comp=N,2μm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YLYR	Ulyunkhan	1.65	57	⇑iPg	Pg	01 18 56.9	-3.3
	comp=N,135nm,0.5s						
YLYR				⇑iPg	Pg	01 18 56.9	-3.3
	comp=N,180nm,0.5s						
YLYR				⇑iPg	Pg	01 18 56.9	-3.3
	comp=N,195nm,0.5s						
YLYR				eSg	Sg	01 19 19.0	-3.1
YLYR				Pmax			
	comp=N,248nm,0.8s						
YLYR				Smax			
	comp=N,2µm,0.9s						
YLYR	Ulyunkhan	1.65	57	ePN	Pn	01 18 56.9	+0.4
YLYR				e		01 19 19.1	
YLYR				pmax	pmax		
	comp=Z,226nm,0.4s						
YLYR				smax			
	comp=N,1µm,0.5s						
NIZ	Nizh Angarsk	1.83	14	ePg	Pg	01 19 00.5	-3.4
NIZ				eSg	Sg	01 19 24.6	-3.8
NIZ				Pmax			
	comp=N,82nm,0.6s						
NIZ				Smax			
	comp=N,372nm,0.6s						
NIZ	Nizh Angarsk	1.83	14	ePN	Pn	01 19 00.1	+0.9
NIZ				e		01 19 24.8	
NIZ				pmax	pmax		
	comp=Z,60nm,0.7s						
NIZ				smax			
	comp=N,315nm,0.6s						
TRTB	Turuntaevo	1.90	202	ePn	Pn	01 19 00.1	-0.1
TRTB				⇓iPg	Pg	01 19 01.7	-3.7
TRTB				eSn	Sn	01 19 24.0	-0.4
TRTB				eSg	Sg	01 19 26.4	-4.4
TRTB				Pmax			
	comp=N,81nm,0.4s						
TRTB				Smax			
	comp=N,528nm,0.7s						
TRG	Tyrgan	1.92	231	ePg	Pg	01 19 01.7	-3.9
TRG				eSg	Sg	01 19 26.6	-4.5
TRG				Pmax			
	comp=N,148nm,0.2s						
TRG				Smax			
	comp=N,2µm,0.3s						
TRG	Tyrgan	1.92	231	ePN	Pn	01 19 01.1	+0.7
TRG				e		01 19 02.2	
TRG				e		01 19 26.9	
TRG				pmax	pmax		
	comp=Z,248nm,0.3s						
TRG				smax			
	comp=E,2µm,0.3s						
KAB	Kabansk	2.34	214	ePN	Pn	01 19 07.9	+1.5
KAB				e		01 19 40.8	
KAB				pmax	pmax		
	comp=Z,145nm,0.3s						
KAB				smax			
	comp=E,1µm,0.4s						
KMO	Kumora	2.35	35	ePn	Pn	01 19 06.9	+0.3
KMO				ePg	Pg	01 19 09.8	-4.5
KMO				eSg	Sg	01 19 41.1	-4.5
KMO				Pmax			
	comp=E,145nm,0.7s						
KMO				Smax			
	comp=E,562nm,1.2s						
KMO	Kumora	2.35	35	ePN	Pn	01 19 06.2	-0.4
KMO				e		01 19 09.7	
KMO				eS	Sn	01 19 36.2	+0.4
KMO				e		01 19 41.2	
KMO				pmax	pmax		
	comp=Z,103nm,0.4s						
KMO				smax			
	comp=N,550nm,1.0s						
HRMR	Khuramsha	2.62	206	⇓iPn	Pn	01 19 10.2	-0.3
HRMR				ePg	Pg	01 19 14.6	-5.1
HRMR				eSn	Sn	01 19 41.8	-0.9
HRMR				eSg	Sg	01 19 48.3	-6.3
HRMR				Pmax			
	comp=N,139nm,0.2s						
HRMR				Smax			
	comp=N,1µm,0.6s						
YOA	Uoyan	2.73	37	ePg	Pg	01 19 16.2	-5.6
YOA				eSg	Sg	01 19 51.3	-6.8
YOA				Pmax			
	comp=N,323nm,0.2s						
YOA				Smax			
	comp=N,805nm,0.6s						
YOA	Uoyan	2.73	37	⇑iPN	Pn	01 19 16.1	+4.1
YOA				i		01 19 54.0	
YOA				pmax	pmax		
	comp=Z,225nm,0.3s						
YOA				smax			
	comp=N,741nm,0.5s						
UKT	Uakit	3.18	60	ePn	Pn	01 19 17.7	-0.7
UKT				⇑iPg	Pg	01 19 23.2	-7.6
UKT				eSg	Sg	01 20 05.0	-8.2
UKT				Pmax			
	comp=N,46nm,0.7s						
UKT				Smax			
	comp=N,242nm,1.4s						
UKT	Uakit	3.18	60	ePN	Pn	01 19 23.1	+4.7
UKT				e		01 20 04.0	
UKT				pmax	pmax		
	comp=Z,42nm,0.5s						
UKT				smax			
	comp=N,133nm,0.4s						
LSTR	Listvyanka	3.20	230	ePn	Pn	01 19 18.2	-0.6
LSTR				ePg	Pg	01 19 23.6	-7.7
LSTR				e		01 19 56.5	
LSTR				eSg	Sg	01 20 04.8	-9.2
LSTR				Pmax			
	comp=N,26nm,0.5s						
LSTR				Smax			
	comp=N,316nm,1.0s						
LSTR	Listvyanka	3.20	230	ePN	Pn	01 19 23.3	+4.5
LSTR				e		01 20 04.7	
LSTR				pmax	pmax		
	comp=Z,22nm,0.7s						
LSTR				smax			
	comp=N,316nm,0.9s						
IRK	Irkutsk	3.24	239	ePg	Pg	01 19 25.0	-6.9
IRK				e		01 19 56.3	
IRK				eSg	Sg	01 20 06.6	-8.5
IRK				Pmax			
	comp=N,103nm,0.2s						
IRK				Smax			
	comp=N,2µm,0.5s						
IRK	Irkutsk	3.24	239	ePN	Pn	01 19 25.1	+5.9
IRK				e		01 20 06.0	
IRK				pmax	pmax		
	comp=Z,122nm,0.2s						
IRK				smax			
	comp=N,2µm,0.4s						
SVKR	Severomuysk	3.47	50	ePn	Pn	01 19 22.4	-0.2
SVKR				ePg	Pg	01 19 30.1	-6.5
SVKR				eSg	Sg	01 20 15.4	-7.5
SVKR				Pmax			
	comp=N,103nm,0.4s						
SVKR				Smax			
	comp=N,599nm,0.8s						
CIT	Chita	3.50	123	ePg	Pg	01 19 29.7	-7.5
CIT				eSg	Sg	01 20 14.7	-9.1
CIT				Pmax			
	comp=N,81nm,1.5s						
CIT				Smax			
	comp=N,295nm,0.7s						
CIT	Chita	3.50	123	ePN	Pn	01 19 20.8	-2.1
CIT				e		01 19 28.8	
CIT				e		01 20 13.9	
CIT				pmax	pmax		
	comp=Z,82nm,0.5s						
CIT				smax			
	comp=N,289nm,0.6s						
TLY	Talaya	3.88	235	ePn	Pn	01 19 27.4	-1.0
TLY				ePg	Pg	01 19 36.5	-8.4
TLY				e		01 19 41.9	
TLY				e		01 20 13.8	
TLY				eSg	Sg	01 20 25.5	-11
TLY				max			
	comp=N,25nm,0.7s						
TLY				Smax			
	comp=N,333nm,0.5s						
TLY	Talaya	3.88	235	ePN	Pn	01 19 26.9	-1.5
TLY				e		01 19 35.6	
TLY				e		01 20 25.5	
TLY				pmax	pmax		
	comp=Z,40nm,0.5s						
TLY				smax			
	comp=E,330nm,0.5s						
NLYR	Nelyaty	4.68	55	ePn	Pn	01 19 39.5	-0.3
NLYR				ePg	Pg	01 19 52.3	-8.5
NLYR				eSg	Sg	01 20 54.1	-9.1
NLYR				Pmax			
	comp=E,21nm,0.6s						
NLYR				Smax			
	comp=E,164nm,1.6s						
NLYR	Nelyaty	4.68	55	ePN	Pn	01 19 39.0	-0.8
NLYR				e		01 19 49.7	
NLYR				e		01 20 52.6	
NLYR				pmax	pmax		
	comp=Z,12nm,0.7s						
NLYR				smax			
	comp=N,163nm,1.3s						
BOD	Bodaibo	4.83	35	ePn	Pn	01 19 40.3	-1.5
BOD				ePg	Pg	01 19 53.0	-11
BOD				eSn	Sn	01 20 35.0	-3.4
BOD				eSg	Sg	01 20 55.3	-13
BOD				Pmax			
	comp=N,9.0nm,0.7s						
BOD				Smax			
	comp=N,46nm,0.7s						
KPC	Khapcheranga	4.85	151	e	Pn	01 19 55.5	+13
KPC				eSg	Sg	01 20 55.9	-13
KPC				max			
	comp=N,12nm,1.0s						
KPC				Smax			
	comp=N,282nm,0.9s						
KPC	Khapcheranga	4.85	151	ePN	Pn	01 19 38.7	-3.4
KPC				e		01 19 52.7	
KPC				eS	Sn	01 20 32.0	-7.0
KPC				e		01 20 57.1	
KPC				pmax	pmax		
	comp=Z,91nm,0.5s						
KPC				smax			
	comp=E,2µm,0.9s						
ZAK	Zakamensk	4.96	225	ePg	Pg	01 19 57.3	-9.0
ZAK				eSg	Sg	01 21 01.9	-10
ZAK				Pmax			
	comp=E,9.0nm,0.5s						
ZAK				Smax			
	comp=E,119nm,1.4s						
ZAK	Zakamensk	4.96	225	ePN	Pn	01 19 56.1	+12
ZAK				eS	Sn	01 21 01.4	+20
ZAK				pmax	pmax		
	comp=Z,11nm,0.6s						
ZAK				smax			
	comp=E,120nm,1.1s						
MOY	Mondy	5.27	247	ePN	Pn	01 19 48.1	+0.1
MOY				e		01 20 03.8	
MOY				eS	Sn	01 20 43.2	-6.3
MOY				e		01 21 10.8	
MOY				pmax	pmax		
	comp=Z,33nm,0.4s						
MOY				smax			
	comp=E,260nm,1.2s						
ORL	Orlik	5.58	258	ePn	Pn	01 19 52.1	-0.3
ORL				e		01 19 58.1	
ORL				eSn	Sn	01 20 54.9	-2.5
ORL				eSg	Sg	01 21 20.5	-13
ORL				max			
	comp=E,17nm,0.6s						
ORL				Smax			
	comp=E,93nm,1.0s						
ORL	Orlik	5.58	258	ePN	Pn	01 19 53.0	+0.6
ORL				e		01 20 09.8	
ORL				e		01 21 21.9	
ORL				pmax	pmax		
	comp=Z,18nm,0.9s						
ORL				smax			
	comp=N,93nm,1.2s						
CRS	Chara	6.13	58	e	Pn	01 20 18.0	+18
CRS				eSg	Sg	01 21 38.1	-13
CRS				max			
	comp=N,10.0nm,0.8s						
CRS				Smax			
	comp=N,98nm,1.7s						
SONM	Songino Array	6.36	195	Pn	Pn	01 20 01.5	-1.9
	comp=N,1.3nm,0.3s,baz=8.0,slow=14,SNR=26						
SONM				Lg		01 21 47.7	
	comp=N,4.0nm,0.3s,baz=6.0,slow=28,SNR=16						
TUP	Tupik	6.57	82	⇑iPn	Pn	01 20 03.1	-3.3
TUP				e		01 20 24.5	
TUP				eSg	Sg	01 21 50.8	-15
TUP				max			
	comp=N,6.0nm,0.5s						
TUP				Smax			
	comp=N,151nm,0.9s						
TUP	Tupik	6.57	82	ePN	Pn	01 20 03.2	-3.2
TUP				e		01 20 23.5	
TUP				e		01 21 47.4	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TUP				smax			
	comp=N,152nm,0.7s						
MKAR	Makanchi Array	18.29	258	P	P	01 22 42.8	+0.2
	comp=N,0.1nm,0.3s,baz=68,slow=12,SNR=3.0						
BVAR	Borovoye Array	22.67	283	P	P	01 23 29.8	+0.3
	comp=N,1.2nm,0.5s,baz=60,slow=13,SNR=13						
BVAR	Borovoye Array	22.67	283	P	P	01 23 29.8	+0.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	41.94	315	P	P	01 26 17.4	-1.7
	comp=Z,2.7nm,1.0s,baz=90,slow=6.9,SNR=2.7						
FINES				pP	pP	01 26 23.9	+1.9
	comp=Z,0.6nm,0.4s,baz=68,slow=7.5,SNR=1.4						
FINES	FINESS Array B	41.94	315	P	P	01 26 17.4	-1.7
FINES				*PP	pP	01 26 24.0	+1.9
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	Eielson Array	48.20	34	P	P	01 27 07.7	-1.4
	comp=Z,0.5nm,0.8s,baz=309,slow=5.8,SNR=4.4						

*NEIC **19** 01:41:29.6±1.6, 36.30N×141.17E, h35^{km}, mb4.2/1, Error ellipse: s-maj=35.6km s-min=20.2km az=218.0*
*IDC **19** 01:41:38.7±4.2, 35.81N×140.16E, h83^{km}±28^{km}, mb3.4/2, mb1 3.6/3, mb1mx3.2/21, mbtmp3.8/3, Error ellipse: s-maj=58.7km s-min=7.9km az=63.0*
*JMA **19** 01:41:39.7±0.2, 35.85N×139.97E, h82^{km}±2^{km}, M3.1 Broadband fault plane solution: P waves. NP1:ϕ_s19°, δ19°, λ86°. NP2:ϕ_s203°, δ71°, λ91°. Principal axes: T Plg64°, Azm115°; N Plg1°, Azm23°; P Plg26°, Azm292°;*
ISC 19 01:41:38.1±0.7**, 35.81N**±0.05×**140.07E**±0.08**, h94**^{km}±5^{km}**, n20,** σ**0^{s}82**/28**, mb3.8**/3**, 6C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOK	Tokyo	0.28	245	⇑P	P	01 41 52.6	+0.7
TOK				eS	S	01 42 02.6	+0.1
JYT	Yasato	0.43	14	⇑P	P	01 41 52.9	0.0
JYT				S	S	01 42 02.7	-1.3
JAG	Ashikaga	0.79	321	⇑P	P	01 41 55.8	-0.3
JOD2	Odawara 2	0.97	236	⇑P	P	01 41 57.6	-0.3
JOD2				eS	S	01 42 10.7	-2.1
JRY	Ryogami san	0.97	283	⇑P	P	01 41 58.3	+0.3
BSO3	Boso 3	1.07	160	⇓P	P	01 42 00.1	+1.0
JKT	Katashina	1.16	326	P	P	01 42 00.2	-0.2
JIM2	Oshima 3	1.21	206	P	P	01 42 00.6	-0.3
JYN	Shimob	1.28	256	P	P	01 42 01.6	-0.2
BSO1	Boso 1	1.37	147	P	P	01 42 03.9	+1.0
JIZS	Izushimoda	1.46	222	⇑P	P	01 42 04.0	0.0
MJAR	Matsushiro Arr	1.67	297	P	P	01 42 05.8	-0.9
	14nm,0.3s,baz=111,slow=14,SNR=70						
MJAR				S	S	01 42 28.3	+0.6
	16nm,0.3s,baz=114,slow=5.7,SNR=13						
MAJO	Matsushiro	1.68	297	ePn	P	01 42 07.1	+0.4
MAJO				eSn	S	01 42 30.1	+2.3
MAT	Matsushiro	1.68	297	P	P	01 42 06.4	-0.3
MAT				S	S	01 42 28.0	+0.2
MAT	Matsushiro	1.68	297	P	P	01 42 06.9	+0.2
JHJ	Hachijo jima 2	2.69	185	P	P	01 42 21.2	+0.7
	33nm,0.3s,baz=69,slow=11,SNR=7.4						
JHJ				S	S	01 42 52.0	-0.2
	51nm,0.3s,baz=89,slow=22,SNR=8.5						
CBIJ	Chichi jima	8.87	168	P	P	01 43 40.8	-4.3
	1.7nm,0.3s,baz=270,slow=20,SNR=5.6						
CBIJ				S	S	01 45 13.4	-11
	2.9nm,0.3s,baz=252,slow=19,SNR=4.0						
MKAR	Makanchi Array	43.86	303	P	P	01 49 36.6	+0.2
	0.8nm,0.7s,mb3.5,baz=98,slow=9.8,SNR=6.9						
KURK	Kurchatov	45.84	309	eP	P	01 49 50.9	-1.2
	1.6nm,0.6s,mb3.9						
WRA	Warramunga Arr	55.71	187	P	P	01 51 06.9	-0.3
	0.3nm,0.3s,mb3.8,baz=1.5,slow=7.5,SNR=6.1						

*NEIC **19** 01:46:45.9±10.0, 5.64S×151.70E, h125^{km}±34^{km}, mb4.5/2, Error ellipse: s-maj=232.0km s-min=21.7km az=109.0*
*IDC **19** 01:46:48.1±6.7, 5.52S×151.37E, h129^{km}±44^{km}, mb3.8/4, mb1 4.0/5, mb1mx3.7/14, mbtmp4.3/5, Error ellipse: s-maj=101.7km s-min=33.8km az=115.0*
ISC 19 01:46:47.2±5.3**, 5.4S**±0.3×**151.2E**±0.6**, h129**^{km}±33^{km}**, n9,** σ**0^{s}29**/10**, mb4.0**/5**, 3C, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.69	225	P	P	01 48 10.4	-0.1
	14nm,0.3s,baz=49,slow=7.4,SNR=33						
PMG				S	S	01 49 15.4	+0.1
	22nm,0.3s,baz=113,slow=18,SNR=11						
KAKA	Kakadu	19.93	247	⇑iP	P	01 51 29.8	+19
	22nm,0.6s						
WRAB	Tennant Creek	21.89	227	eP	P	01 51 31.1	+0.3
	12nm,0.6s,mb4.5						
WB2	Warramunga Arr	21.90	227	⇑iP	P	01 51 31.1	+0.3
WRA	Warramunga Arr	21.91	227	P	P	01 51 30.7	-0.2
	8.7nm,0.7s,mb4.3,baz=52,slow=9.9,SNR=32						
FITZ	Fitzroy Crossi	28.02	241	⇑iP	P	01 52 27.9	-0.7
	6.3nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	28.02	241	P	P	01 52 28.1	-0.5
	10nm,0.4s,mb4.9,baz=46,slow=4.4,SNR=24						
SONM	Songino Array	66.00	329	P	P	01 57 22.4	+0.2
	0.6nm,0.7s,mb3.6,baz=148,slow=5.3,SNR=4.3						
MKAR	Makanchi Array	79.75	319	P	P	01 58 42.4	-0.1
	0.2nm,0.4s,mb3.1,baz=98,slow=8.8,SNR=3.9						

*CSEM **19** 01:48:26.6, 38.81N×27.77W, h0^{km}, ML2.5, After PDA*
*PDA **19** 01:48:26.6±1.1, 38.81N×27.77W, h0^{km}±8^{km}, MD3.2, ML2.5, Error ellipse: s-maj=3.3km s-min=2.9km az=132.0*
SVSA 19 01:48:27.4±0.9**, 38.77N**×**27.78W, MD1.8, ML1.5, Error ellipse: s-maj=2.0km s-min=1.5km az=18.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMAN	Manadas	0.28	240	eP	Pg	01 48 32.4	-0.6
PMAN				eS	Sg	01 48 37.0	+0.2
	978nm,0.1s						
PGRA	Graciosa	0.30	328	eP	Pg	01 48 32.0	-1.4
PGRA				eS	Sg	01 48 35.9	-1.5
	103nm,0.2s						
PAMA	Santo Amaro	0.33	254	i S	Sg	01 48 38.4	+0.1
PSBA	Serra de Santa	0.35	91	eS	Sg	01 48 38.1	-1.1
STGR	Santa Cruz	0.35	330	eP	Pg	01 48 34.2	-0.3
STGR				i S	Sg	01 48 39.1	-0.1
	64nm,0.2s						
ASBA	Santa Barbara	0.36	98	eP	Pg	01 48 34.1	-0.4
ASBA				eS	Sg	01 48 39.4	+0.1
	18nm,0.1s						
PPAD	Pico dos Padre	0.39	101	eS	Sg	01 48 40.0	-0.4
	9.2nm,0.1s						
PBIS	Biscoitos	0.41	91	eS	Sg	01 48 40.9	-0.2
	12nm,0.1s						
PIED	Piedade	0.41	212	eS	Sg	01 48 40.7	-0.5
RIB2	Ribeirinha	0.48	102	eS	Sg	01 48 42.7	-0.8
	7.3nm,0.1s						
PVNV	Vila Nova	0.49	91	eS	Sg	01 48 42.8	-0.8
	5.6nm,0.1s						
PFAV	Pico das Favas	0.55	96	eS	Sg	01 48 44.9	-0.6
	8.8nm,0.2s						
PICO	Pico	0.58	242	eP	Pg	01 48 37.4	-1.5
PICO				eS	Sg	01 48 45.0	-1.6
PBOI	Pico dos Bois	0.58	235	eS	Sg	01 48 45.6	-1.0
HOR	Horta	0.71	250	erx		01 48 46.9	
CALA	Caldeira	0.75	255	eS	Sg	01 48 50.0	-2.3

*CRAAG **19** 02:07:23.8, 35.99N×0.28E, Ml3.3*
*CSEM **19** 02:07:25.4±0.2, 36.20N×0.40E, h20^{km}, ML3.3, Error ellipse: s-maj=6.8km s-min=2.5km az=26.0*
*NEIC **19** 02:07:26.8, 36.25N×0.40E, MG3.3(MDD), After MDD.*
*MDD **19** 02:07:26.1±0.5, 36.16N×0.39E, mb3.3/5, Error ellipse: s-maj=10.8km s-min=3.7km az=32.0, PRXIMO*
ISC 19 02:07:25.2±0.5**, 36.22N**±0.05×**0.37E**±0.04**, h10**^{km}**, n30,** σ**1^{s}03**/49**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKGL	Djebel Kef Gue	0.29	130	P	Pg	02 07 30.0	-1.2
OJBR	Djebel Berber	0.64	182	P	Pb	02 07 31.0	-6.9
EANR	'Ain N'Sour	0.65	115	P	Pb	02 07 38.0	-0.1
OJGS	Djebel Guires	0.78	157	P	Pb	02 07 31.5	-8.8
ECHF	Ech Chlef	0.79	95	P	Pb	02 07 41.0	+0.5
ECHA	Ech Chlef	0.81	95	P	Pb	02 07 41.0	+0.2
USTO	Oran	0.89	237	P	Pb	02 07 56.0	+14
EBNR	Beni Rached	0.94	86	P	Pb	02 07 44.0	+0.9
ETRT	Tiaret	1.12	138	P	Pb	02 07 45.0	-1.2
EMUR	La Murta	2.07	322	P	Pn	02 08 00.8	+0.4
	1.1nm,0.2s,SNR=12						
EMUR				S	Sn	02 08 27.5	+1.0
	4.5nm,0.4s,SNR=7.9						
EMUR	La Murta	2.07	322	P	Pn	02 08 00.8	+0.4
EMUR				S	Sn	02 08 25.5	-1.0
EMUR	La Murta	2.07	322	P	Pn	02 08 00.8	+0.4
EMUR				S	Sn	02 08 25.5	-1.0
ENIJ	Nijar	2.21	291	P	Pn	02 08 03.3	+0.9
	0.6nm,0.2s,SNR=7.9						
ENIJ				S	Sn	02 08 29.3	-0.7
	0.3nm,0.2s,SNR=7.9						
EBER	Berja	2.71	285	P	Pn	02 08 10.5	+0.9
	1.5nm,0.3s,SNR=7.9						
EBER				S	Sn	02 08 42.8	-0.1
	5.5nm,0.2s,SNR=7.9						
EBER	Berja	2.71	285	P	Pn	02 08 10.5	+0.9
EBER				S	Sn	02 08 42.8	0.0
ETOB	Tobarra	2.86	328	P	Pn	02 08 13.0	+1.3
	1.4nm,0.1s,SNR=29						
ETOB				S	Sn	02 08 46.0	-0.6
	1.9nm,0.2s,SNR=5.6						
ETOB	Tobarra	2.86	328	P	Pn	02 08 13.1	+1.3
ETOB				S	Sn	02 08 46.0	-0.6
EIBI	Ibiza	2.90	15	P	Pn	02 08 11.8	-0.6
	1.1nm,0.2s,SNR=7.9						
EIBI				S	Sn	02 08 44.0	-3.6
	1.6nm,0.3s,SNR=7.9						
EIBI	Ibiza	2.90	15	P	Pn	02 08 11.8	-0.6
EIBI				S	Sn	02 08 44.0	-3.7
EQES	Quesada	3.18	301	P	Pn	02 08 18.1	+1.9
	1.2nm,0.1s,SNR=15						
EQES				S	Sn	02 08 53.4	-1.1
	2.4nm,0.2s,SNR=7.9						
EQES	Quesada	3.18	301	P	Pn	02 08 18.1	+1.9
EQES				S	Sn	02 08 53.5	-1.1
EQUE	Quentar	3.22	289	P	Pn	02 08 18.2	+1.4
	0.3nm,0.1s,SNR=5.4						
EQUE				S	Sn	02 08 56.1	+0.5
	1.0nm,0.3s,SNR=7.9						
EVIA	Vianos	3.33	317	P	Pn	02 08 20.3	+1.9
	SNR=7.9						
EVIA				S	Sn	02 08 58.7	+0.4
	SNR=7.9						
EBAN	Banos Encina	3.84	302	S	Sn	02 09 11.0	-0.4
	SNR=7.9						
EMIJ	Mijas	4.17	276	P	Pn	02 08 29.1	-1.2
	0.4nm,0.2s,SNR=7.9						
EMIJ				S	Sn	02 09 15.3	-4.3
	1.4nm,0.3s,SNR=7.9						
EADA	Adamuz	4.40	298	P	Pn	02 08 33.6	0.0
	0.4nm,0.2s,SNR=7.9						
EADA				S	Sn	02 09 23.3	-2.3
	1.0nm,0.2s,SNR=7.9						
EADA	Adamuz	4.40	298	P	Pn	02 08 33.7	0.0
EADA				S	Sn	02 09 23.3	-2.3
ERTA	Horta de San J	4.73	360	P	Pn	02 08 38.1	-0.2
	0.4nm,0.2s,SNR=7.9						
ERTA				S	Sn	02 09 29.5	-4.3
	0.4nm,0.1s,SNR=7.9						
ERTA	Horta de San J	4.73	360	P	Pn	02 08 38.1	-0.2
ERTA				S	Sn	02 09 29.5	-4.3
EPOB	Poblet	5.15	6	P	Pn	02 08 43.5	-0.8
	SNR=4.0						

*NEIC **19** 02:15:14.2, 37.09N×13.26W, MG3.7(MDD), After MDD.*
*INMG **19** 02:15:16.4±0.8, 36.92N×13.58W, h10^{km}, ML2.2, Error ellipse: s-maj=7.5km s-min=5.4km az=108.0*
MDD 19 02:15:14.8±2.6**, 37.11N×13.21W, mb4.0**/5**, Error ellipse: s-maj=23.7km s-min=16.8km az=84.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	3.60	82	ePn	Pn	02 16 10.9	-2.1
PTEO				eSn	Sn	02 16 51.2	-5.7
PLOU	Loures	3.66	60	ePn	Pn	02 16 11.7	-2.2
PLOU				eSn	Sn	02 16 53.1	-5.3
PBEJ	Beja	4.34	76	ePn	Pn	02 16 21.0	-2.6
PTOM	Tomar	4.53	55	ePn	Pn	02 16 23.7	-2.5
PTOM				eSn	Sn	02 17 14.7	-5.6
	3.9nm,0.1s						
PTOM	Tomar	4.53	55	Pn	Pn	02 16 23.7	-2.5
PTOM				Sn	Sn	02 17 14.7	-5.6
	1.9nm,0.1s						
EGRO	El Granado	4.58	83	P	Pn	02 16 24.4	-2.5
	0.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	02 17 15.2	-6.6
	0.3nm,0.1s,SNR=7.9						
EGRO	El Granado	4.58	83	P	Pn	02 16 24.4	-2.5
EGRO				S	Sn	02 17 15.2	-6.6
EBAD	Badajoz	5.16	70	P	Pn	02 16 32.6	-2.6
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	02 17 29.1	-7.4
	0.4nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	5.24	81	P	Pn	02 16 32.5	-3.8
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	02 17 30.7	-7.7
	0.1nm,0.0s,SNR=7.9						
PCBR	Castelo Branco	5.26	57	ePn	Pn	02 16 33.4	-3.2
PCBR				eSn	Sn	02 17 31.4	-7.4
	0.9nm,0.1s						
PCBR	Castelo Branco	5.26	57	Pn	Pn	02 16 33.4	-3.2
PCBR				Sn	Sn	02 17 31.4	-7.4
	0.4nm,0.1s						
MTE	Manteigas	5.51	52	eSn	Sn	02 17 38.2	-7.0
	2.4nm,0.2s						
MTE	Manteigas	5.51	52	Sn	Sn	02 17 38.2	-7.0
	1.2nm,0.2s						
ESPR	Espera	5.89	90	P	Pn	02 16 42.7	-2.7
	0.7nm,0.1s,SNR=6.6						
PVRL	Vila Real	5.96	44	eSn	Sn	02 17 48.6	-7.8
PCAB	Cabril	6.10	39	eSn	Sn	02 17 49.9	-10
	1.7nm,0.1s						
PCAB	Cabril	6.10	39	Sn	Sn	02 17 49.9	-10
	0.9nm,0.1s						
ELOB	Lobios	6.20	38	S	Sn	02 17 52.0	-10
	1.9nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.67	28	S	Sn	02 17 59.3	-15
	1.1nm,0.1s,SNR=7.9						
PBRG	Braganca	6.86	45	ePn	Pn	02 16 54.8	-4.3
PBRG				eSn	Sn	02 18 09.4	-9.4
EADA	Adamuz	6.93	79	P	Pn	02 16 56.5	-3.6
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	02 18 11.0	-10
	0.4nm,0.2s,SNR=7.9						
ECAL	Calabor	6.95	44	P	Pn	02 16 55.8	-4.6
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	02 18 12.6	-8.5
	0.3nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	7.70	68	P	Pn	02 17 06.7	-4.2
	1.6nm,0.1s,baz=253,slow=13,SNR=9.0						

*NEIC **19** 02:17:02.1, 41.85S×174.13E, h17^{km}, ML3.8(WEL), After WEL.*
WEL 19 02:17:02.0±0.1**, 41.85S×174.12E, h17**^{km}±1^{km}**, ML3.8**/23**, 3C-4D, Error ellipse: s-maj=1.2km s-min=1.1km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.12	33	⇑P*	Pb	02 17 05.7	-0.1
CMWZ				S*	Sb	02 17 09.2	+0.7
CMWZ				S*	Sb	02 17 09.3	+0.8
CMWZ	Cape Campbell	0.12	33	⇑P	Pb	02 17 05.7	-0.2
CMWZ				S	Sb	02 17 09.2	+0.8
BSWZ	Blackbirch Sta	0.23	307	P*	Pb	02 17 06.8	-0.7
BSWZ				S*	Sb	02 17 10.9	-0.2
BSWZ	Blackbirch Sta	0.23	307	P	Pb	02 17 06.8	-0.6
BSWZ				S	Sb	02 17 10.9	-0.2
TUWZ	Tuamarina	0.44	342	⇓P*	Pb	02 17 10.8	-0.2
TUWZ				S*	Sb	02 17 17.1	0.0
TCW	Tory Channel	0.65	10	P*	Pb	02 17 14.3	-0.3
TCW				S*	Sb	02 17 24.0	+0.9
TCW	Tory Channel	0.65	10	P	Pb	02 17 14.3	-0.2
TCW				S	Sb	02 17 24.0	+0.9
SNZO	South Karori	0.70	39	P*	Pb	02 17 15.7	+0.4
SNZO	South Karori	0.70	39	P	Pb	02 17 15.7	+0.4
KHZ	Kahutara	0.71	217	⇑P*	Pb	02 17 16.0	+0.4
KHZ	Kahutara	0.71	217	⇓P	Pb	02 17 16.0	+0.4
BHW	Baring Head	0.71	52	P*	Pb	02 17 16.2	+0.5
BHW				S*	Sb	02 17 27.2	+2.3
BHW	Baring Head	0.71	52	P	Pb	02 17 16.2	+0.6
WEL	Wellington	0.74	41	P*	Pb	02 17 16.6	+0.5
WEL				S*	Sb	02 17 27.3	+1.5
WEL	Wellington	0.74	41	P	Pb	02 17 16.6	+0.4
MRW	Makara Radio	0.76	35	P*	Pb	02 17 16.5	+0.1
MRW				S*	Sb	02 17 27.8	+1.6
MRW	Makara Radio	0.76	35	P	Pb	02 17 16.5	+0.1
MRW				S	Sb	02 17 27.8	+1.6
NNZ	Nelson	0.85	318	P*	Pb	02 17 17.7	-0.1
NNZ	Nelson	0.85	318	P	Pb	02 17 17.7	-0.2
THZ	Tophouse	0.92	275	⇓eP*	Pb	02 17 19.2	+0.2
THZ	Tophouse	0.92	275	⇓eP	Pb	02 17 19.2	+0.1
MSWZ	Moikau Station	0.95	63	P*	Pb	02 17 19.6	-0.1
MSWZ	Moikau Station	0.95	63	P	Pb	02 17 19.6	0.0
CAW	Cannon Point	1.03	44	P*	Pb	02 17 21.2	+0.2
CAW				S*	Sb	02 17 35.5	+1.4
CAW	Cannon Point	1.03	44	P	Pb	02 17 21.2	+0.2
DUWZ	D'Urville Isla	1.06	352	P*	Pb	02 17 21.5	0.0
PAWZ	Paruwai Farm	1.08	65	P*	Pb	02 17 21.2	-0.7
KIW	Kapiti Island	1.15	31	P*	Pb	02 17 23.1	0.0
KIW	Kapiti Island	1.15	31	P	Pb	02 17 23.1	0.0
QRZ	Quartz Range	1.58	310	PN	Pn	02 17 30.2	+0.6
QRZ	Quartz Range	1.58	310	P	Pn	02 17 30.2	+0.6
MRZ	Mangatainoka R	1.62	43	ePN	Pn	02 17 28.6	-1.5
MRZ	Mangatainoka R	1.62	43	eP	Pn	02 17 28.6	-1.5
LTZ	Lake Taylor	1.66	235	PN	Pn	02 17 29.3	-1.5
LTZ	Lake Taylor	1.66	235	P	Pn	02 17 29.3	-1.4
MQZ	McQueen's Vall	2.15	210	ePN	Pn	02 17 34.2	-3.5

*FUNV **19** 02:29:41.1, 11.59N×66.12W, h14^{km}, MW2.9*
*RSPR **19** 02:29:52.5, 23.95N×66.44W, h15^{km}±88^{km}, MD4.7/5, MD4.7/5*
*NEIC **19** 02:29:52.5, 23.95N×66.44W, h15^{km}, MD4.7(RSPR), After RSPR.*
ISC 19 02:29:39.5±0.4**, 11.79N**±0.03×**66.23W**±0.03**, h40**^{km}±7^{km}**, n24,** σ**1**^{s}**45**/39**, 6C-2D, Caribbean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORCV	Isla La Orchil	0.04	59	⇓iP	P	02 29 45.9	+0.2
ORCV				eS	S	02 29 49.7	-0.6
BIRV	Birongo	1.31	182	eP	P	02 30 01.3	-0.4
BIRV				eS	S	02 30 16.3	-2.0
FUNV	FUNVISIS	1.44	204	eP	P	02 30 03.9	+0.4
FUNV				eS	S	02 30 21.9	+0.5
IBAV	Isla La Blanqu	1.61	89	eS	S	02 30 27.0	+1.2
CUPV	Cœpira	1.78	166	eP	P	02 30 08.7	+0.3
CUPV				eS	S	02 30 27.4	-2.4
PCRV	Puerto La Cruz	2.24	136	eP	P	02 30 15.0	+0.1
MERV	Las Mercedes	2.53	182	eP	P	02 30 18.9	-0.1
TEPV	Terepaima	3.44	238	eP	P	02 30 33.2	+1.3
TEPV				eS	S	02 31 11.8	-0.1
MONV	Montecano	3.67	273	eP	P	02 30 38.3	+3.1
MONV				eS	S	02 31 19.6	+1.7
SIQV	Siquisique	3.69	252	eP	P	02 30 37.3	+1.7
SANV	Sanarito	3.97	235	eS	S	02 31 24.0	-1.5
DABV	Dabajuro	4.41	259	eP	P	02 30 47.4	+1.6
DABV				eS	S	02 31 35.3	-1.2
QARV	Quebrada Arrib	4.51	250	eP	P	02 30 48.4	+1.3
QARV				eS	S	02 31 36.7	-2.3
FDF	Fort de France	5.74	59	eP	P	02 31 04.4	0.0
CRM	Caravelle	5.95	60	eP	P	02 31 06.9	-0.4
MGP	Maguayo	6.23	352	⇑eP	P	02 31 14.2	+2.9
MGP				eS	S	02 32 19.6	-2.6
SJG	San Juan	6.28	1	⇑eP	P	02 31 13.2	+1.2
SJG				eS	S	02 32 19.8	-3.6
HUMP	Col San Antoni	6.32	3	⇑eP	P	02 31 13.2	+0.7
HUMP				eS	S	02 32 18.4	-6.0
LSP	Las Mesas	6.40	353	⇓eP	P	02 31 16.6	+2.9
LSP				eS	S	02 32 23.8	-2.6
LRS	Lares	6.49	355	⇑eP	P	02 31 18.7	+3.8
LRS				eS	S	02 32 21.3	-7.3
AOPR	Arecibo Observ	6.53	356	⇑eP	P	02 31 17.7	+2.1
AOPR				eS	S	02 32 19.3	-10
AGPR	Aguadilla, PR	6.69	353	eS	S	02 32 18.2	-15
DEG	La Desirade	6.73	48	eP	P	02 31 18.4	+0.1
TBVI	Tortola	6.76	13	⇑eP	P	02 31 18.0	-0.7
TBVI				eS	S	02 32 25.3	-10

*IDC **19** 03:09:58.1±1.7, 3.55N×126.84E, mb4.0/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, Error ellipse: s-maj=103.8km s-min=23.8km az=68.0*
*NEIC **19** 03:10:02.0±1.2, 3.67N×127.14E, h30^{km}, mb4.2/2, Error ellipse: s-maj=66.7km s-min=16.4km az=69.0*
ISC 19 03:10:00.8±1.5**, 3.6N**±0.3×**126.9E**±0.6**, h33**^{km}**, n10,** σ**0**^{s}**30**/9**, mb4.1**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	17.13	161	eP	Px	03 14 20.7	
	3.4nm,0.5s						
FITZ	Fitzroy Crossi	21.60	183	eP	P	03 14 50.7	+0.7
	4.2nm,0.9s,mb3.9						
FITZ	Fitzroy Crossi	21.60	183	P	P	03 14 49.5	-0.5
	3.3nm,0.6s,mb3.9,baz=17,slow=9.5,SNR=12						
WRAB	Tennant Creek	24.52	163	eP	P	03 15 18.8	0.0
	17nm,1.0s,mb4.5						
WRA	Warramunga Arr	24.52	163	P	P	03 15 18.6	-0.2
	3.7nm,0.5s,mb4.2,baz=342,slow=9.8,SNR=31						
WB2	Warramunga Arr	24.53	163	eP	P	03 15 18.7	-0.1
STKA	Stephens Creek	37.96	159	P	P	03 17 17.7	+0.3
	2.4nm,0.6s,mb4.1,baz=333,slow=9.4,SNR=6.7						
STKA	Stephens Creek	37.96	159	P	P	03 17 17.7	+0.3
MKAR	Makanchi Array	57.74	325	P	P	03 19 50.9	0.0
	0.4nm,0.4s,mb3.8,baz=110,slow=7.4,SNR=7.1						
MKAR	Makanchi Array	57.74	325	P	P	03 19 50.9	0.0

IDC 19 03:24:43.8±2.4**, 28.55N×127.97E, h63**^{km}±26^{km}**, mb3.5**/6**, mb1 3.7**/7**, mb1mx3.5**/21**, mbtmp3.8**/7**, ML3.2**/1**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/22**, Error ellipse: s-maj=30.5km s-min=20.9km az=76.0, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	1.73	171	P	P	03 25 11.2	-1.1
	6.0nm,0.3s,baz=333,slow=16,SNR=14						
JOW				LR	LR	03 25 58.3	
	comp=Z,594nm,19.4s,baz=114,slow=43						
JNU	Nakatsue	5.20	28	P	P	03 26 04.2	+3.3
	0.4nm,0.3s,baz=222,slow=5.0,SNR=8.7						
MJAR	Matsushiro Arr	11.75	45	P	P	03 27 29.6	-1.2
	0.1nm,0.3s,baz=245,slow=12,SNR=3.1						
GUMO	Guam	21.64	130	LR	LR	03 35 58.5	
	comp=Z,54nm,20.6s,baz=32,slow=31						
SONM	Songino Array	25.51	325	P	P	03 30 08.2	+0.4
	9.4nm,0.5s,baz=140,slow=9.3,SNR=79						
MKAR	Makanchi Array	39.85	310	P	P	03 32 11.0	-1.6
	0.3nm,0.7s,baz=90,slow=8.6,SNR=2.9						
BVAR	Borovoye Array	48.41	317	P	P	03 33 17.6	-3.7
	1.3nm,0.8s,baz=90,slow=8.6,SNR=5.5						
WRA	Warramunga Arr	48.60	172	P	P	03 33 21.6	-1.6
	1.2nm,0.8s,baz=354,slow=8.1,SNR=6.0						
ILAR	Eielson Array	62.52	29	P	P	03 34 59.5	-3.3
	0.3nm,0.6s,baz=288,slow=6.7,SNR=5.7						
NVAR	Mina Array Bea	89.07	46	P	P	03 37 33.3	0.0
	0.2nm,0.6s,baz=292,slow=4.2,SNR=3.6						

*THR **19** 03:26:58.6±0.4, 35.62N×48.90E, h14^{km}±4^{km}, ML3.4*
*CSEM **19** 03:27:00.9±0.1, 35.49N×49.02E, h2^{km}, ML3.4, Error ellipse: s-maj=5.7km s-min=2.8km az=171.0*
*TEH **19** 03:27:04.4, 35.45N×49.04E, h10^{km}, Mn3.3*
ISC 19 03:27:03.1±0.6**, 35.45N**±0.05×**49.06E**±0.05**, h10**^{km}**, n18,** σ**1**^{s}**01**/20**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	Ashtian	1.20	138	ePg	Pg	03 27 24.6	-2.5
ASAO				eSg	Sg	03 27 43.9	+0.8
SNGE	Sanandaj	1.44	256	ePg	Pg	03 27 24.0	-7.9
SNGE				AML	AML	03 27 45.2	
	comp=N,501nm,0.8s						
IQOM	Qom	1.76	109	Pn	Pn	03 27 32.9	-1.0
IKOM	Komasi	1.79	225	Pn	Pn	03 27 33.0	-1.4
IVIS	Veys	2.03	244	Pn	Pn	03 27 38.1	+0.3
IVRN	Varamin	2.23	101	Pn	Pn	03 27 41.2	+0.5
IDHR	Dehrash	2.31	252	Pn	Pn	03 27 42.3	+0.5
IGHG	Ghaleghazi	2.33	242	Pn	Pn	03 27 41.9	-0.1
DAMV	Damavand	2.38	85	ePn	Pn	03 27 41.1	-1.8
DAMV				AML	AML	03 28 19.6	
	comp=N,173nm,0.6s						
IDMV	Damavand	2.43	86	Pn	Pn	03 27 43.1	-0.4
IPRN	Paran-Amol	2.71	72	Pn	Pn	03 27 47.0	-0.5
IKLH	Kalahroud	2.98	135	Pn	Pn	03 27 52.8	+1.5
IFIR	Firoozkooh	3.02	85	Pn	Pn	03 27 52.8	+0.9
IPIR	Pirpir	3.15	151	Pn	Pn	03 27 53.9	+0.2
GRMI	Germi	3.48	345	ePn	Pn	03 27 51.9	-6.6
GRMI				eSg	Sn	03 28 40.8	+0.6
IGLO	Galoogah	3.71	75	Pn	Pn	03 28 05.8	+4.1
IZEF	Zefreh	3.72	132	Pn	Pn	03 28 03.1	+1.2
IKIA	Kiasar	3.84	77	Pn	Pn	03 28 03.6	+0.1

*BJI **19** 03:27:51.2, 49.88N×120.95E, h10^{km}, mB4.7, mb4.7, ML5.4, Ms4.6, Msz4.4*
*IDC **19** 03:27:52.7±0.6, 49.82N×120.81E, h10^{km}±2^{km}, mb4.6/19, mb1 4.7/22, mb1mx4.7/23, mbtmp4.6/22, ML4.0/3, MS3.8/17, Ms1 3.8/17, ms1mx3.7/37, Error ellipse: s-maj=14.8km s-min=12.8km az=18.0*
*NEIC **19** 03:27:53.2±0.2, 49.88N×121.00E, h10^{km}, mb4.9/58, MS4.1/3, Error ellipse: s-maj=5.5km s-min=4.7km az=206.0*
NEIC Felt [III] at Priargunsk and [II] at Krasnokamensk, Russia.
*LDG **19** 03:27:53.7±0.4, 50.33N×120.47E, h10^{km}, Mb5.0/21, Ms3.8/7, Error ellipse: s-maj=20.9km s-min=6.1km az=112.0*
*HRVD **19** 03:27:53.2±1.1, 49.72N×120.93E, h12^{km}, MW4.6/26, Centroid moment Tensor Solution. LP body waves: s15,c19; Mantle waves: s26,c32; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.72±.09; $M_{\theta\theta}$-0.13±.09; $M_{\phi\phi}$-0.59±.09; $M_{r\theta}$0.29±.43; $M_{\theta\phi}$0.42±.07; $M_{\phi r}$-0.20±.32; Best double couple: M_0.862×10^{16} NP1:ϕ_s342°, δ35°, λ110°. NP2:ϕ_s138°, δ57°, λ77°. Principal axes: T .817, Plg74°, Azm12°; N .092, Plg11°, Azm146°; P -.908, Plg11°, Azm238°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BYKL **19** 03:27:54.9±1.7, 49.88N×120.72E, h49^{km}±24^{km}, FELT I=II-III MSK at Priargunsk, II at Krasnokamensk, Zabaykalsk*
*MOS **19** 03:27:54.3±1.1, 49.80N×120.80E, h29^{km}, mb5.1/54, MS4.1/14, Error ellipse: s-maj=9.0km s-min=4.9km az=119.7*
MOS Felt (II-III) at Priargunsk; (II) at Zabaikalsk, Krasnokamensk.
ISC 19 03:27:51.6±0.1**, 49.90N**±0.02×**120.83E**±0.03**, h9**^{km}±.4^{km}**:pP-P, n312,** σ**1**^{s}**21**/327**, mb4.8**/97**, MS4.1**/35**, 25C-17D, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIA	Hailar	0.95	228	⇑eP	Pb	03 28 08.6	-1.2
HIA				eS	Sb	03 28 24.7	+2.4
TUP	Tupik	4.56	354	⇑iPn	Pn	03 29 01.2	-1.2
TUP				e		03 29 18.2	
TUP				max		03 29 29.3	
	560nm,0.5s						
TUP				eSg	Sg	03 30 16.0	-7.4
TUP				Smax		03 30 22.1	
	10µm,1.2s						
TUP	Tupik	4.56	354	eP	Pn	03 29 01.3	-1.1
TUP				eS	Sn	03 29 54.3	-1.9
TUP				pmax	pmax		
	comp=Z,415nm,0.5s						
TUP				smax			
	comp=E,10µm,0.9s						
CIT	Chita	5.06	298	ePn	Pn	03 29 08.4	-1.1
CIT				ePg	Pg	03 29 23.8	-8.9
CIT				Pmax		03 29 26.0	
	comp=E,632nm,0.5s						
CIT				eSn	Sn	03 30 05.4	-3.5
CIT				eSg	Sg	03 30 28.9	-11
CIT				Smax		03 30 32.3	
	comp=E,7µm,1.2s						
CIT	Chita	5.06	298	eP	Pn	03 29 08.2	-1.3
CIT				eS	Sn	03 30 05.8	-3.1
CIT				pmax	pmax		
	comp=Z,635nm,0.6s						
CIT				smax			
	comp=N,7µm,1.2s						
KPC	Khapcheranga	5.48	271	⇓iPn	Pn	03 29 13.8	-1.5
	comp=N,46nm,0.5s						
KPC				⇑iPn	Pn	03 29 13.8	-1.5
	comp=N,253nm,0.5s						
KPC				⇓iPn	Pn	03 29 13.8	-1.5
	comp=N,201nm,0.5s						
KPC				e		03 29 22.1	
KPC				e		03 29 33.0	
KPC				max		03 29 34.3	
	comp=N,515nm,0.8s						
KPC				e		03 30 15.1	
KPC				eSg	Sg	03 30 41.0	-13
KPC				Smax		03 30 47.0	
	comp=N,7µm,1.8s						
KPC	Khapcheranga	5.48	271	eP	Pn	03 29 13.8	-1.5
TNDR	Tynda	5.76	23	e	Pn	03 29 28.0	+8.6
TNDR				e		03 30 39.2	
TNDR				eSg	Sg	03 30 54.5	-8.9
KROS	Kirovskiy	5.90	37	e	Sx	03 30 54.0	
KROS				eSg	Sg	03 30 59.6	-8.5
CN2	Changchun	6.88	151	eP	Pn	03 29 33.3	-1.7
CN2				eS	Sn	03 30 50.8	-3.4
CN2				SG	Sg	03 31 28.1	-12
CN2				Smax			
	comp=N,1µm,0.8s						
CN2				Smax			
	comp=E,1µm,0.8s						
UKT	Uakit	7.10	325	ePn	Pn	03 29 36.4	-1.8
UKT				e		03 30 52.5	
UKT				eSg	Sg	03 31 32.6	-15
UKT				Smax		03 31 53.7	
	comp=E,4µm,1.9s						
KLR	Kul'dur	7.13	91	eP	Pn	03 29 33.8	-4.9
KLR				MLR	MLR		
	comp=E,6µm,10.0s						
KLR				MLR	MLR		
	comp=Z,8µm,10.0s						
CRS	Chara	7.17	349	ePn	Pn	03 29 36.3	-2.9
CRS				e		03 30 05.3	
CRS				max		03 30 10.5	
CRS				eSg	Sg	03 31 38.6	-12
CRS				Smax		03 31 44.7	
	comp=Z,3µm,1.4s						
NLYR	Nelyaty	7.28	337	ePn	Pn	03 29 38.2	-2.5
NLYR				eSg	Sg	03 31 38.7	-15
NLYR				Smax		03 31 54.3	
	comp=Z,8µm,1.1s						
CLNS	Chul'man	7.36	18	e	Pn	03 29 42.0	+0.2
CLNS				e		03 31 17.0	
CLNS				eSg	Sg	03 31 45.6	-11
CLNS	Chul'man	7.36	18	eP	Pn	03 29 40.1	-1.7
CLNS				eS	Sn	03 31 10.9	+4.6
CLNS				pmax	pmax		
	comp=Z,30nm,0.6s						
CLNS				pmax	pmax		
	comp=N,25nm,0.9s						
CLNS				pmax	pmax		
	comp=E,16nm,0.8s						
CLNS				pmax	pmax		
	comp=N,87nm,0.7s						
CLNS				pmax	pmax		
	comp=E,121nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,164nm,0.7s						
CLNS				smax			
	comp=N,550nm,0.8s						
CLNS				smax			
	comp=Z,342nm,0.8s						
CLNS				smax			
	comp=E,338nm,0.6s						
CLNS				MLR	MLR		
	comp=N,300nm,9.0s						
CLNS				MLR	MLR		
	comp=Z,700nm,9.0s						
CLNS				MLR	MLR		
	comp=E,300nm,8.0s						
SYVR	Suvo	7.70	303	⇓iPn	Pn	03 29 43.8	-2.8
SYVR				e		03 31 07.4	
SYVR				eSg	Sg	03 31 51.0	-17
SYVR				Smax		03 31 57.0	
	comp=E,8µm,1.4s						
YLYR	Ulyunkhan	7.73	314	⇓iPn	Pn	03 29 44.5	-2.5
YLYR				e		03 30 16.2	
YLYR				max		03 30 17.6	
YLYR				eSg	Sg	03 31 52.4	-16
YLYR				Smax		03 31 58.1	
	comp=E,5µm,1.3s						
MDJ	Mudanjiang	7.97	128	P	Pn	03 29 46.9	-3.4
MDJ				S	Sn	03 31 17.8	-3.7
MDJ				SCP		03 39 57.3	
MDJ				SCS	ScS	03 43 31.0	+0.7
MDJ				AMB	AMB		
	comp=Z,94nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,41nm,5.5s						
MDJ				LR	LR		
	comp=N,3µm,9.0s						
MDJ				LR	LR		
	comp=E,2µm,10.3s						
MDJ				LR	LR		
	comp=Z,4µm,9.3s						
MDJ	Mudanjiang	7.97	128	ePn	Pn	03 29 46.9	-3.5
	comp=Z,117nm,0.4s						
MDJ				eSg	Sg	03 31 58.8	-18
SNY	Shenyang	8.30	166	⇑P	P	03 29 58.3	+3.3
SNY				S	Sn	03 31 35.8	+6.0
SNY				LR	LR		
	comp=N,2µm,11.4s						
SNY				LR	LR		
	comp=E,3µm,6.1s						
SNY				LR	LR		
	comp=Z,2µm,6.9s						
KMO	Kumora	8.35	320	ePn	P	03 29 53.2	-2.5
KMO				e		03 31 31.9	
KMO				eSg	Sg	03 32 13.2	-16
KMO				Smax		03 32 29.0	
	comp=Z,5µm,1.2s						
BOD	Bodaibo	8.89	336	ePn	P	03 30 00.1	-3.1
BOD				e		03 32 02.8	
BOD				eSg	Sg	03 32 29.5	-18
BOD				Smax		03 32 42.3	
	comp=Z,2µm,1.4s						
OGRR	Ongureny	9.02	300	ePn	P	03 30 01.0	-3.9
OGRR				eSg	Sg	03 32 33.9	-18
OGRR				Smax		03 32 39.9	
	comp=Z,3µm,2.1s						
TRG	Tyrgan	9.51	293	⇑i	P	03 30 07.4	-4.2
TRG				e		03 32 11.4	
TRG				eSg	Sg	03 32 49.5	-18
TRG				Smax		03 33 04.6	
	comp=Z,2µm,2.0s						
SONM	Songino Array	9.74	263	Pn	P	03 30 10.5	-4.3
	comp=Z,3.6nm,0.3s,baz=77,slow=13,SNR=19						
SONM				Sn	Sn	03 31 58.1	-7.2
	comp=Z,8.6nm,0.3s,baz=70,slow=22,SNR=5.0						
SONM				Lg		03 32 53.5	
	comp=Z,47nm,0.3s,baz=63,slow=22,SNR=5.6						
SONM				LR	LR	03 34 11.6	
	comp=Z,1µm,18.1s,baz=70,slow=39						
SONM	Songino Array	9.74	263	Pn	P	03 30 10.5	-4.3
SONM				Sn	Sn	03 31 58.1	-7.2
SONM				Lg		03 32 53.5	
SONM				LR	LR	03 34 11.6	
IRK	Irkutsk	10.68	289	eSg	Sx	03 33 24.3	
IRK				Smax		03 33 50.0	

comp=Z,3μm,1.8s
IRK Irkutsk 10.68 289 *e*P **P** **03 30 22.9 -4.8**
IRK pmax pmax
comp=Z,150nm,0.2s
DL2 Dalian 11.01 177 *e*P **P** **03 30 36.3 +4.1**
DL2 *e*S **S** **03 32 42.4 +5.8**
DL2 LG1 03 33 41.3
DL2 LG2 03 33 56.0
DL2 AMB AMB
comp=Z,10.0nm,0.7s
DL2 LR LR
comp=N,1μm,10.1s
DL2 LR LR
comp=E,600nm,10.2s
DL2 LR LR
comp=Z,1μm,10.2s
TLY Talaya 11.03 286 *e* **P** **03 30 28.1 -4.3**
TLY *e* 03 32 23.2
TLY *e*Sg S 03 33 35.4 +59
TLY Smax 03 33 57.0
comp=Z,864nm,1.8s
HHC Hu-ho-hao-te 11.15 219 *e*P **P** **03 30 33.3 -0.8**
HHC AP 03 30 36.5
HHC XP 03 30 39.4
HHC PP PP 03 30 42.0 -0.6
HHC S **S** **03 32 36.1 -3.8**
HHC SS SS 03 32 49.9 -3.8
HHC AMB AMB
comp=Z,20nm,0.7s
HHC AMB AMB
comp=Z,76nm,4.0s
HHC LR LR
comp=N,2μm,7.1s
HHC LR LR
comp=E,1μm,6.5s
HHC LR LR
comp=Z,2μm,7.7s
ZAK Zakamensk 11.28 279 *e* **P** **03 30 31.2 -4.6**
ZAK *e* 03 32 42.6
ZAK *e*Sg S 03 33 43.2 +60
ZAK Smax 03 33 57.8
comp=Z,1μm,1.6s
ZAK Zakamensk 11.28 279 *e*P **P** **03 30 31.9 -3.9**
ZAK *e* 03 32 42.6
ZAK pmax pmax
comp=Z,23nm,0.7s
ZAK smax
comp=N,1μm,1.8s
MOY Mondy 12.68 286 *e*P **P** **03 30 54.7 0.0**
MOY *e*S **S** **03 33 17.2 +0.2**
MOY pmax pmax
comp=Z,20nm,0.8s
MOY smax
comp=Z,2μm,14.0s
YAK Yakutsk 13.11 19 *e*Pn **P** **03 30 56.6 -3.8**
YAK Yakutsk 13.11 19 *e*P **P** **03 31 03.9 +3.5**
YAK pmax pmax
comp=Z,13nm,0.5s
TIA Tai'an 13.95 193 *e*P **P** **03 31 13.8 +2.3**
TIA LR LR
comp=N,621nm,5.0s
TIA LR LR
comp=E,681nm,7.0s
YSS Yuzh-Sakhalins 14.84 93 *e*P **P** **03 31 26.0 +2.8**
YSS *e*S **S** **03 34 12.5 +3.9**
YSS MLR MLR
comp=Z,800nm,13.0s
YSS MLR MLR
comp=E,900nm,11.0s
JEW Eniwo 15.86 109 P **P** **03 31 39.3 +2.9**
ASAJ Asahikawa 15.91 103 Pn **P** **03 31 41.4 +4.3**
comp=E,2.7nm,0.3s,baz=285,slow=11,SNR=42
ASAJ LR LR 03 37 59.7
comp=E,450nm,19.1s,baz=280,slow=38
ASAJ Asahikawa 15.91 103 P **P** **03 31 43.3 +6.2**
ASAJ Asahikawa 15.91 103 P **P** **03 31 41.4 +4.3**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,450nm,19.1s
JEM Erimo 17.37 108 P **P** **03 31 55.0 -0.5**
JHS Saijyo 17.40 144 P **P** **03 31 57.7 +1.7**
JYA Atsumi 17.58 123 P **P** **03 31 59.4 +1.2**
JAD Aida 17.86 142 P **P** **03 32 01.2 -0.5**
NJ2 Nanjing 17.90 185 *e*P **P** **03 31 59.4 -2.8**
NJ2 AP 03 32 03.0
NJ2 XP 03 32 06.5
NJ2 PP PP 03 32 14.3 -2.7
NJ2 S **S** **03 35 14.0 -5.4**
NJ2 AMB AMB
comp=Z,20nm,0.9s
NJ2 LR LR
comp=N,660nm,13.8s
NJ2 LR LR
comp=E,2μm,20.3s
NJ2 LR LR
comp=Z,520nm,17.6s
JWT Wachi 18.08 138 P **P** **03 32 03.1 -1.4**
GTA Gaotai 18.20 243 P **P** **03 32 07.3 +1.3**
GTA AP 03 32 11.9
GTA XP 03 32 14.3
GTA AMB AMB
comp=Z,18nm,0.6s
GTA AMB AMB
comp=Z,138nm,8.8s
GTA LR LR
comp=N,1μm,11.1s
GTA LR LR
comp=E,2μm,9.9s
GTA LR LR
comp=Z,2μm,11.5s
MAJO Matsushiro 18.34 130 *e*P **P** **03 32 06.7 -1.0**
comp=Z,11nm,0.7s
MAJO Matsushiro 18.34 130 *e*P **P** **03 32 06.7 -1.1**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAT Matsushiro 18.34 130 P **P** **03 32 06.6 -1.2**
MJAR Matsushiro Arr 18.34 130 P **P** **03 32 07.1 -0.7**
comp=Z,0.3nm,0.3s,baz=316,slow=12,SNR=20
MJAR LR LR 03 39 22.2
comp=Z,289nm,18.4s,baz=335,slow=38
JNU Nakatsue 18.35 152 P **P** **03 32 07.5 -0.4**
comp=Z,0.3nm,0.3s,baz=60,slow=8.3,SNR=6.4
LZH Lanzhou 18.52 228 *e*P **P** **03 32 09.8 -0.1**
LZH AP 03 32 12.9
LZH XP 03 32 14.5
LZH PP PP 03 32 25.3 -0.2
LZH *e*S **S** **03 35 32.3 -1.1**
LZH XS 03 35 38.0
LZH SS SS 03 35 58.0 +0.3
LZH AMB AMB
comp=Z,66nm,1.5s
LZH AMB AMB
comp=Z,150nm,4.0s
LZH LR LR
comp=E,2μm,11.5s
LZH LR LR
comp=Z,3μm,12.1s
SSE Sheshan 18.79 179 P **P** **03 32 10.0 -3.3**
SSE AP 03 32 13.3
SSE S **S** **03 35 39.3 -0.3**
SSE XS 03 35 48.3
SSE AMB AMB
comp=Z,49nm,0.9s
SSE AMB AMB
comp=Z,127nm,6.3s
SSE LR LR
comp=N,55nm,21.5s
SSE LR LR
comp=E,251nm,21.5s
SSE LR LR
comp=Z,155nm,16.3s
JMN Monobe 18.82 144 P **P** **03 32 12.8 -0.7**
JRY Ryogami san 19.10 130 P **P** **03 32 16.7 -0.2**
JIE Ise 19.40 137 P **P** **03 32 20.2 -0.2**
MA2 Magadan 19.64 49 *e*P **P** **03 32 22.7 -0.3**
comp=Z,46nm,0.9s
MA2 Magadan 19.64 49 *c* *i*P **P** **03 32 23.5 +0.5**
MA2 pmax pmax
comp=Z,37nm,1.3s
JWZ Kozaga 19.71 141 P **P** **03 32 21.6 -2.4**
WHN Wuhan 19.95 197 *e*P **P** **03 32 30.0 +3.4**
ENH Enshi 21.40 208 *e*P **P** **03 32 39.6 -2.0**
comp=Z,11nm,0.7s,mb4.3
JHJ Hachijo jima 2 21.87 133 LR LR 03 41 24.4
comp=Z,118nm,21.2s,MS3.3,baz=154,slow=37
TIXI Tiksi 22.13 7 *d* *i*P **P** **03 32 49.0 +0.4**
TIXI pmax pmax
comp=Z,83nm,1.7s,mb4.9
CD2 Chengdu 22.90 220 P **P** **03 33 01.8 +5.3**
CD2 AP 03 33 05.9
CD2 XP 03 33 10.4
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb4.6
CD2 LR LR
comp=E,470nm,10.3s
CD2 LR LR
comp=Z,400nm,10.1s,MS4.2
NVS Novosibirsk 23.28 297 *e*P **P** **03 32 59.8 -0.1**
NVS pmax pmax
comp=Z,53nm,1.9s,mb4.7
NVS pmax pmax
comp=E,53nm,1.8s
WMQ Urumqi 23.33 268 ⇑ *i*P **P** **03 33 01.3 +0.8**
WMQ AP 03 33 05.5
WMQ XP 03 33 09.0
WMQ PP PP 03 33 33.0 +1.2
WMQ PCP PcP 03 36 48.0 -1.3
WMQ S **S** **03 37 10.0 +0.9**
WMQ XS 03 37 16.0
WMQ SS SS 03 37 57.0 +1.5
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,139nm,3.9s
WMQ LR LR
comp=Z,629nm,19.4s,MS4.1
PET Petropavlovsk 23.59 68 *e*P **P** **03 33 03.8 +0.9**
PET *e*S **S** **03 37 10.5 -3.1**
PET pmax pmax
comp=Z,56nm,1.5s,mb4.8
PET smax
comp=E,400nm,14.7s
PET MLR MLR
comp=Z,400nm,12.0s,MS4.1
JOW Kunigami 23.74 163 LR LR 03 42 48.8
comp=Z,83nm,19.0s,MS3.2,baz=44,slow=38
YHNB Yeheng 25.19 179 *e*P **P** **03 33 19.3 +0.5**
MKAR Makanchi Array 25.61 278 P **P** **03 33 21.6 -0.9**
comp=Z,11nm,0.8s,mb4.5,baz=83,slow=9.8,SNR=36
MKAR LR LR 03 43 53.7
comp=Z,360nm,20.8s,MS3.9,slow=38
MKAR Makanchi Array 25.61 278 P **P** **03 33 22.8 +0.3**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
GYA Guiyang 25.83 210 ⇑ *i*P **P** **03 33 24.4 -0.4**
GYA AP pP 03 33 28.8 +1.3
GYA XP sP 03 33 31.6 +2.9
GYA PP PP 03 34 04.8 -0.4
GYA S **S** **03 37 50.9 -1.0**
GYA XS 03 37 57.9
GYA SS SS 03 38 55.6 -1.2
GYA SCP 03 40 32.3
GYA AMB AMB
comp=Z,20nm,0.6s,mb4.8
GYA LR LR
comp=N,370nm,16.2s,MS4.2
GYA LR LR
comp=E,540nm,16.0s,MS4.2
GYA LR LR
comp=Z,570nm,15.9s,MS4.2
KURK Kurchatov 26.71 288 *e*P **P** **03 33 33.4 +0.8**
comp=Z,9.1nm,0.9s,mb4.3
KURK Kurchatov 26.71 288 *e*P **P** **03 33 33.4 +0.8**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
CBIJ Chichi jima 28.06 136 LR LR 03 45 14.4
comp=Z,102nm,20.4s,MS3.4,baz=118,slow=37
KMI Kunming 28.45 216 P **P** **03 33 49.4 +0.8**
KMI AP pP 03 33 52.8 +1.4
KMI XP sP 03 33 55.3 +2.7
KMI PP PP 03 33 43.5 +3.3
KMI S **S** **03 38 35.8 +1.3**
KMI XS 03 38 40.5
KMI SS SS 03 40 00.1 +1.0
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb4.6
KMI AMB AMB
comp=Z,119nm,3.8s
KMI LR LR
comp=N,599nm,10.5s
KMI LR LR
comp=E,703nm,9.5s
KMI LR LR
comp=Z,365nm,12.3s,MS4.2
BILL Bilibino 28.66 34 *e*P **P** **03 33 51.0 +0.9**
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
BILL MLR MLR
comp=Z,200nm,15.0s,MS3.8
VOSK Vostochnaya 30.79 295 P **P** **03 34 08.9 -0.3**
VOSK pmax pmax
comp=Z,17nm,1.4s,mb4.7
BVA0 Borovoye Array 31.05 295 *i* P **P** **03 34 11.8 +0.2**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s
BVAR Borovoye Array 31.05 295 P **P** **03 34 11.4 -0.2**
comp=Z,3.9nm,0.7s,mb4.3,baz=79,slow=7.6,SNR=17
BVAR pP pP 03 34 13.8 -0.5
comp=Z,4.5nm,0.7s,baz=46,slow=6.9,SNR=13
BVAR PcP PcP 03 37 06.6 -0.8
comp=Z,3.8nm,0.5s,baz=92,slow=1.9,SNR=17
BVAR pPcP 03 37 09.4
comp=Z,3.8nm,0.5s,baz=92,slow=1.9,SNR=17
BVAR Borovoye Array 31.05 295 P **P** **03 34 11.4 -0.2**
BVAR 03 37 06.6
BRVK Borovoye 31.11 296 *e*P **P** **03 34 14.2 +2.2**
comp=Z,4.4nm,0.9s,mb4.3
BRVK Borovoye 31.11 296 *e*P **P** **03 34 14.2 +2.1**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
AAK Ala-Archa 32.41 275 ⇓ *i*P **P** **03 34 24.5 +0.9**
GUN Gumba 34.49 244 *e*P **P** **03 34 44.3 +2.5**
KKAR Karatay Array 34.74 278 *i* P **P** **03 34 43.5 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KKN Kakani 34.93 244 *e*P **P** **03 34 47.3 +1.7**
comp=Z,18nm,0.7s,mb5.1
KKN Kakani 34.93 244 *e*P **P** **03 34 47.3 +1.7**
KKN pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
GKN Gorkha 35.15 245 *e*P **P** **03 34 50.1 +2.7**
DMN Daman 35.17 244 *e*P **P** **03 34 48.1 +0.5**
comp=Z,41nm,1.3s,mb5.2
SVE Sverdlovsk 35.52 305 *e*P **P** **03 34 52.5 +2.2**
SVE pmax pmax
comp=Z,60nm,1.4s,mb5.3
SVE MLR MLR
comp=N,200nm,11.0s,MS4.8
SVE MLR MLR
comp=E,900nm,11.0s,MS4.8
SVE MLR MLR
comp=Z,1μm,11.0s,MS4.8
KOLN Koldanda 35.93 246 *e*P **P** **03 34 54.1 0.0**
comp=Z,24nm,0.8s,mb5.2
ARU Arti 36.73 305 *e*P **P** **03 35 00.7 +0.2**
comp=Z,20nm,0.9s,mb4.9
ARU Arti 36.73 305 ⇓ *i*P **P** **03 35 00.8 +0.3**
ARU *e* 03 36 22.6
ARU *e* 03 37 19.6
ARU *e*S **S** **03 40 41.5 -2.1**
ARU *e*SS SS 03 43 17.8 +7.2
ARU pmax pmax
comp=Z,22nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.1
ARU MLR MLR
comp=N,60nm,14.0s,MS4.2
ARU MLR MLR
comp=E,300nm,18.0s,MS4.2
SOKR Solikamsk 36.80 310 ⇑ *i*P **P** **03 35 04.4 +3.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
SOKR MLR MLR
comp=Z,300nm,16.0s,MS4.2
AB31 Akbulak array 38.52 293 *i* P **P** **03 35 16.1 +0.5**
AB31 pmax pmax
comp=Z,19nm,0.8s,mb4.9
TNA Tin City 38.73 39 P **P** **03 35 16.1 -1.1**
TTA Tatalina 44.48 40 *e*P **P** **03 36 03.7 -0.5**
comp=Z,70nm,1.6s,mb5.1
TTA Tatalina 44.48 40 *e*P **P** **03 36 03.7 -0.5**
TTA pmax pmax
comp=Z,70nm,1.6s,mb5.1
KEV Kevo 45.56 331 *e*p **P** **03 36 11.8 -1.0**
comp=Z,14nm,0.8s,mb5.0
KEV Kevo 45.56 331 *e*P **P** **03 36 11.8 -1.0**
KEV pmax pmax
comp=Z,15nm,0.8s,mb5.0
ARCES ARCESS Array B 46.13 331 P **P** **03 36 17.1 -0.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=67,slow=9.2,SNR=11
ARCES pP pP 03 36 20.0 -0.1
comp=Z,2.9nm,0.7s,baz=67,slow=9.2,SNR=3.7
ARCES PcP PcP 03 37 53.1 -0.7
comp=Z,3.0nm,0.8s,baz=82,slow=8.6,SNR=5.6
ARCES LR LR 04 00 12.1
comp=Z,100nm,18.7s,MS3.8,baz=232,slow=42
ARCES ARCESS Array B 46.13 331 P **P** **03 36 17.1 -0.2**
ARCES pP pP 03 36 20.0 -0.1
ARCES PcP PcP 03 37 53.1 -0.7
ARCES LR LR 04 00 12.1
ARCES ARCESS Array B 46.13 331 P **P** **03 36 17.1 -0.2**
ARCES 03 37 53.1
SPU Mount Spurr 46.92 41 *e*P **P** **03 36 23.3 -0.3**
JOF Joensuu 47.10 321 *e*p **P** **03 36 24.7 -0.3**
comp=Z,18nm,0.6s,mb5.2
ILAR Eielson Array 47.30 36 P **P** **03 36 26.9 +0.3**
comp=Z,13nm,0.6s,mb5.0,baz=296,slow=8.1,SNR=123
ILAR pP pP 03 36 30.4 +1.0
comp=Z,20nm,0.9s,baz=297,slow=8.0,SNR=27
MOS Moscow 47.75 311 *e*P **P** **03 36 29.7 -0.6**
MOS pmax pmax
comp=Z,76nm,0.7s,mb5.8
PMR Palmer 47.95 40 *e*P **P** **03 36 31.8 0.0**
comp=Z,33nm,0.9s,mb5.4
PMR Palmer 47.95 40 *e*P **P** **03 36 31.8 0.0**
PMR pmax pmax
comp=Z,33nm,0.9s,mb5.4
VRHR Novokhopersk 48.06 304 *e*P **P** **03 36 33.9 +1.2**
VRHR pmax pmax
comp=Z,40nm,0.8s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,1.1s
SML Sawmill 48.18 40 *e*P **P** **03 36 33.9 +0.5**
THY Trims Highway 48.40 37 *e*P **P** **03 36 35.3 +0.1**
OBN Obninsk 48.59 310 *d* *i*P **P** **03 36 39.0 +2.3**
OBN pmax pmax
comp=Z,61nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.3
VRSR Storozhevoye 49.29 305 *e*P **P** **03 36 44.6 +2.4**
VRSR pmax pmax
comp=Z,30nm,0.7s,mb5.4
VRSR pmax pmax
comp=N,30nm,0.6s
VRSR pmax pmax
comp=E,20nm,0.6s
KAF Kangasniemi 49.52 322 *e*p **P** **03 36 42.8 -1.0**
comp=E,6.9nm,0.6s,mb4.9,baz=57,slow=7.2
KAF Kangasniemi 49.52 322 *e*P **P** **03 36 42.8 -1.0**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
INK Inuvik 49.96 28 P **P** **03 36 47.8 +0.6**
comp=Z,12nm,0.9s,mb4.9,baz=317,slow=8.7,SNR=13
INK LR LR 04 00 23.3
comp=Z,170nm,20.6s,MS4.0,baz=265,slow=39
INK Inuvik 49.96 28 *e*P **P** **03 36 45.4 -1.8**
comp=Z,12nm,0.9s,mb4.9
INK Inuvik 49.96 28 *e*P **P** **03 36 45.4 -1.8**
INK pmax pmax
comp=Z,12nm,0.9s
FINES FINESS Array B 49.97 321 P **P** **03 36 47.0 -0.3**
comp=Z,20nm,0.7s,mb5.3,baz=64,slow=8.6,SNR=45
FINES pP pP 03 36 49.8 -0.3
comp=Z,21nm,0.7s,baz=66,slow=8.7,SNR=24
FINES PcP PcP 03 38 05.8 -1.9
comp=Z,1.1nm,0.4s,baz=61,slow=5.0,SNR=4.6
FINES pPcP 03 38 08.8
comp=Z,1.1nm,0.4s,baz=56,slow=5.0,SNR=5.5
FINES LR LR 03 59 48.0
comp=Z,152nm,20.2s,MS4.0,baz=161,slow=38
FINES FINESS Array B 49.97 321 P **P** **03 36 47.0 -0.3**
FINES 03 38 08.8
VSU Vasula 51.34 318 *e*P **P** **03 36 58.4 +0.6**
KIV Kislovodsk 51.42 295 *e*P **P** **03 36 59.4 +0.8**
KIV *e* 03 38 55.2
KIV *e*S **S** **03 44 11.1 -5.8**
KIV *e*SS SS 03 47 52.2 +1.5
KIV pmax pmax
comp=N,10.0nm,1.1s
KIV pmax pmax
comp=E,8.0nm,1.1s
KIV pmax pmax
comp=Z,25nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,104nm,16.0s,MS4.0
GNI Garni 52.48 290 LR LR 04 01 58.6
comp=Z,83nm,18.1s,MS3.8,baz=232,slow=39
SOC Sochi 53.37 297 *e*P **P** **03 37 11.9 -1.3**
SOC *e*S **S** **03 44 39.7 -3.8**
SOC *e* 03 46 52.8
SOC pmax pmax
comp=N,4.0nm,0.8s
SOC pmax pmax
comp=E,9.0nm,0.8s
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.9
SOC MLR MLR
comp=N,112nm,16.0s,MS4.2
SOC MLR MLR
comp=E,113nm,16.0s,MS4.2
SOC MLR MLR
comp=Z,189nm,16.0s,MS4.2
ANN Anapa 53.94 299 *e*P **P** **03 37 18.7 +1.4**
ANN pmax pmax
comp=Z,35nm,1.6s,mb5.0
AKASG Malin Array Be 54.75 309 P **P** **03 37 22.4 -0.8**
comp=Z,2.7nm,0.5s,mb4.6,baz=46,slow=8.1,SNR=5.8
AKASG pP pP 03 37 24.9 -1.2
comp=Z,15nm,0.6s,baz=46,slow=8.2,SNR=33
SUW Suwalki 55.60 315 *e*P **P** **03 37 31.2 +1.9**
SUW MLR MLR 04 03 00.2
comp=Z,200nm,16.2s,MS4.3
SIM Simferopol' 55.71 301 *e*P **P** **03 37 32.9 +2.6**
SIM pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
SIM MLR MLR
comp=Z,110nm,16.6s,MS4.0
NB2 NORSAR Subarra 55.89 326 P **P** **03 37 30.2 -1.2**
comp=Z,9.2nm,0.7s,mb4.9,baz=44,slow=7.0
NB2 NORSAR Subarra 55.89 326 P **P** **03 37 30.2 -1.2**
NB2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
NOA NORSAR Array B 55.89 326 P **P** **03 37 30.3 -1.1**
comp=Z,8.2nm,0.7s,mb4.8,baz=45,slow=6.9,SNR=22
NOA pP pP 03 37 32.9 -1.3
comp=Z,8.1nm,0.7s,baz=45,slow=6.9,SNR=15
SUMG Summit 56.96 353 *e*P **P** **03 37 38.1 -0.8**
comp=Z,8.4nm,0.8s,mb4.8
KIS Kishinev 57.28 306 *e*P **P** **03 37 43.0 +1.5**
MALT Malatya 57.44 292 *e*P **P** **03 37 43.4 +0.7**
comp=Z,7.6nm,0.9s,mb4.7
MALT Malatya 57.44 292 *e*P **P** **03 37 43.4 +0.7**
MALT pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KWP Kalwaria 58.66 311 *e*P **P** **03 37 51.2 +0.2**
KWP *e* pP 03 37 54.1 +0.1
KWP MLR MLR 04 05 32.3
comp=Z,600nm,15.3s,MS4.8
KWP Kalwaria 58.66 311 *e*P **P** **03 37 51.3 +0.2**
KWP *e* pP 03 37 54.1 +0.1
GKP Gorka Klasztor 58.76 317 *e*P **P** **03 37 48.3 -3.4**
CFR Carcaliu 58.82 304 ⇓ P **P** **03 37 53.8 +1.5**
VRI Vrincioaia 59.11 306 ⇑ P **P** **03 37 57.1 +2.8**
BR131 Keskin Array S 59.34 296 *e*P **P** **03 37 55.2 -0.7**
comp=Z,3.4nm,0.7s,mb4.5
BRTR Keskin Array B 59.34 296 P **P** **03 37 55.5 -0.5**
comp=Z,4.1nm,0.6s,mb4.6,baz=54,slow=5.7,SNR=19
BRTR pP pP 03 37 58.2 -0.6
comp=Z,4.6nm,0.8s,baz=53,slow=4.4,SNR=26
KOLS Kolonicke sedl 59.34 311 *e*P **P** **03 37 55.1 -0.7**
KOLS *e*pP pP 03 37 58.3 -0.4
STHS Stebnicka Huta 59.51 312 *e*sP sP 03 38 02.6 +1.6
YKA Yellowknife Ar 59.65 26 P **P** **03 37 56.6 -1.2**

comp=Z,11nm,0.7s,mb5.0,baz=324,slow=6.7,SNR=22
YKA LR LR 04 05 29.2
comp=Z,60nm,18.2s,MS3.8,baz=280,slow=38
YKA Yellowknife Ar 59.65 26 *i* P **P 03 37 56.9 -0.9**
YKA pmax pmax
comp=Z,11nm,0.7s
OJC Ojcow 59.66 313 *eP* **P 03 37 59.9 +1.9**
MLR Muntele Rosu 59.77 306 ⇑P **P 03 38 01.9 +3.0**
NIE Niedzica 59.96 312 *eP* **P 03 38 03.5 +3.4**
KECS Kecovo 60.51 311 *eP* **P 03 38 03.0 -0.9**
KECS *e* 03 38 11.6
DRGR 60.56 309 ⇓P **P 03 38 03.4 -0.8**
OKC Ostrava-Krasne 60.70 314 *eP* **P 03 38 07.3 +2.2**
KSP Ksiaz 60.86 315 *eP* **P 03 38 08.7 +2.5**
KSP MLR MLR 04 06 37.2
comp=Z,400nm,16.3s,MS4.7
DPC Dobruska-Polom 61.19 315 *eP* **P 03 38 08.0 -0.4**
DPC *epP* *pP* 03 38 10.8 -0.5
DPC AMS AMS 04 07 30.0
comp=Z,500nm,9.8s
UPC Upice 61.22 315 *eP* **P 03 38 08.4 -0.2**
UPC *epP* *pP* 03 38 11.2 -0.3
VYHS Vyhne 61.30 312 *eP* **P 03 38 09.1 -0.1**
VYHS *epP* *pP* 03 38 12.2 +0.1
VRAC Vranov 61.79 314 *eP* **P 03 38 12.5 -0.1**
VRAC *e* *pP* 03 38 15.5 0.0
PVCC Panska Ves 61.86 316 *eP* **P 03 38 12.8 -0.2**
PVCC *epP* *pP* 03 38 15.3 -0.6
BRG Berggiesshubel 61.89 317 *eP* **P 03 38 13.4 +0.2**
comp=Z,12nm,1.4s,mb4.8
BRG Berggiesshubel 61.89 317 *eP* **P 03 38 13.4 +0.2**
BRG pmax pmax
comp=Z,12nm,1.4s,mb4.8
CLL Collm 61.99 317 ⇑P **P 03 38 15.8 +1.9**
comp=Z,logA/T=1.1,mb5.0
CLL Collm 61.99 317⇑*i*P **P 03 38 15.8 +1.9**
comp=Z,9.0nm,0.8s,mb5.0
CLL Collm 61.99 317⇑*i*P **P 03 38 15.8 +1.9**
CLL pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
PRU Pruhonice 62.25 316 *eP* **P 03 38 16.0 +0.4**
PRU *epP* *pP* 03 38 18.5 0.0
PRU AMS AMS 04 08 10.0
comp=Z,400nm,13.6s
PRU Pruhonice 62.25 316 *eP* **P 03 38 16.0 +0.4**
PRU MLR MLR
comp=Z,400nm,13.6s,MS4.8
TREC Trest 62.32 315 *eP* **P 03 38 16.1 0.0**
TREC *epP* *pP* 03 38 18.6 -0.4
ISP Isparta 62.41 297*d i*P **P 03 38 16.2 -0.7**
ASF Jabal al Asfar 62.47 288 LR LR 04 09 19.7
comp=Z,58nm,19.7s,MS3.8,baz=258,slow=40
NKC Novy Kostel 63.01 317 *eP* **P 03 38 20.8 +0.2**
NKC *epP* *pP* 03 38 23.0 -0.5
MOX Moxa 63.08 318 *i* P **P 03 38 23.6 +2.5**
comp=Z,logA/T=1.1,mb5.0
MOX Moxa 63.08 318 *eP* **P 03 38 23.6 +2.5**
comp=Z,17nm,1.5s,mb5.0
MOX Moxa 63.08 318 *eP* **P 03 38 23.6 +2.5**
MOX pmax pmax
comp=Z,17nm,1.5s,mb5.0
KAKA Kakadu 63.17 167 *eP* **P 03 38 39.2 +17**
comp=Z,8.4nm,0.8s,mb4.9
KHC Kasperske Hory 63.31 315 *eP* **P 03 38 22.9 +0.3**
KHC *epP* *pP* 03 38 25.0 -0.5
KHC AMS AMS 04 08 40.0
comp=Z,400nm,10.9s
KHC Kasperske Hory 63.31 315 *eP* **P 03 38 22.9 +0.3**
KHC MLR MLR
comp=Z,400nm,10.9s,MS4.9
GERES GERESS Array B 63.46 315 P **P 03 38 23.1 -0.5**
comp=Z,4.5nm,0.9s,mb4.6,baz=45,slow=7.5,SNR=8.6
GERES *pP* *pP* 03 38 26.0 -0.5
comp=Z,1.9nm,0.8s,baz=111,slow=23,SNR=7.3
GERES LR LR 04 08 19.5
comp=Z,152nm,20.7s,MS4.2,baz=69,slow=38
GERES GERESS Array B 63.46 315 P **P 03 38 23.1 -0.5**
GERES *pP* *pP* 03 38 26.0 -0.5
GERES LR LR 04 08 19.5
GRA1 Grafenberg Arr 63.95 317 *eP* **P 03 38 27.1 +0.4**
comp=Z,15nm,1.1s,mb4.9
GRF Grafenberg Arr 63.95 317 *eP* **P 03 38 27.1 +0.4**
comp=Z,15nm,1.1s,mb4.9
GRF Grafenberg Arr 63.95 317 *eP* **P 03 38 27.1 +0.4**
GRF pmax pmax
comp=Z,15nm,1.1s,mb4.9
GRF Grafenberg Arr 63.95 317 *eP* **P 03 38 27.1 +0.4**
GRF pmax pmax
comp=Z,15nm,1.1s,mb4.9
PERS Pernice 64.40 313 *i* P **P 03 38 33.1 +3.4**
CRES Cresnjev 64.82 312 *i* P **P 03 38 35.4 +2.9**
KBA Koelnbreinsper 64.91 314⇓*i*P **P 03 38 34.2 +1.2**
comp=Z,22nm,0.9s,mb5.2
KBA Koelnbreinsper 64.91 314⇓*i*P **P 03 38 34.2 +1.2**
KBA pmax pmax
comp=Z,22nm,0.9s,mb5.2
LJU Ljubljana 65.11 313 *i* P **P 03 38 37.8 +3.5**
HGN Heimansgroeve 65.39 321 *eP* **P 03 38 35.5 -0.5**
comp=Z,1.9nm,1.1s,mb4.0
HGN *i* x x 03 38 38.5
comp=Z,3.4nm,0.3s
ROBS Robic 65.44 313 *i* P **P 03 38 39.0 +2.6**
WATA Walderalm 65.53 315⇑*i*P **P 03 38 38.1 +1.1**
comp=Z,12nm,1.0s,mb4.9
WATA Walderalm 65.53 315⇑*i*P **P 03 38 38.1 +1.1**
WATA pmax pmax
comp=Z,12nm,1.0s,mb4.9
WTTA Wattenberg 65.56 315⇓*i*P **P 03 38 38.3 +1.1**
comp=Z,17nm,0.9s,mb5.1
WTTA Wattenberg 65.56 315⇓*i*P **P 03 38 38.3 +1.1**
WTTA pmax pmax
comp=Z,17nm,0.9s,mb5.1
MOTA Moosalm 65.74 315⇑*i*P **P 03 38 38.7 +0.4**
comp=Z,12nm,0.9s,mb4.9
MOTA Moosalm 65.74 315⇑*i*P **P 03 38 38.7 +0.4**
MOTA pmax pmax
comp=Z,12nm,0.9s,mb4.9
SQTA Sankt Quirin 65.79 315⇓*i*P **P 03 38 39.3 +0.7**
comp=Z,10nm,0.9s,mb4.9
SQTA Sankt Quirin 65.79 315⇓*i*P **P 03 38 39.3 +0.7**
SQTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
APE Apeiranthos 65.79 299*c i*P **P 03 38 35.7 -3.1**
GIVF Givet 66.36 321 *eP* **P 03 38 41.6 -0.6**
CDF Champ du Feu 66.63 318 *eP* **P 03 38 44.0 0.0**
comp=Z,42nm,1.4s,mb5.0
CDF Champ du Feu 66.63 318 *eP* **P 03 38 44.0 0.0**
CDF pmax pmax
comp=Z,21nm,1.4s,mb5.0
BAIF Baives 66.64 321 *eP* **P 03 38 43.6 -0.4**
DAVOX Davos 66.72 316 LR LR 04 10 39.9
comp=Z,134nm,18.9s,MS4.2,baz=188,slow=38
HINF Hinteralfeld 67.27 318 *eP* **P 03 38 47.6 -0.5**
HAU Haudompre 67.34 319 *eP* **P 03 38 48.1 -0.4**
comp=Z,21nm,1.2s,mb4.7
HAU *eR*
comp=Z,90nm,18.0s
HAU Haudompre 67.34 319 *eP* **P 03 38 48.1 -0.4**
HAU pmax pmax
comp=Z,11nm,1.2s,mb4.8
HAU MLR MLR
comp=Z,90nm,18.0s,MS4.0
MEZF Maizieres J'vi 67.50 320 *eP* **P 03 38 49.5 0.0**
comp=Z,32nm,1.1s,mb5.0
EDM Edmonton 67.55 32 *eP* **P 03 38 49.6 -0.1**
FITZ Fitzroy Crossi 67.84 175⇑*i*P **P 03 38 50.6 -1.5**
comp=Z,15nm,0.6s,mb5.2
GVD Gavdhos 68.20 298 *eP* **P 03 38 53.4 -0.8**
comp=Z,25nm,0.8s,mb5.3
LOR Lormes 68.97 319 *eP* **P 03 38 58.1 -0.6**
comp=Z,21nm,0.9s,mb4.8
LOR *eR*
comp=Z,86nm,21.8s
LOR Lormes 68.97 319 *eP* **P 03 38 58.1 -0.6**
LOR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,90nm,21.8s,MS4.0
LPL La Plagne 69.10 317 *eP* **P 03 39 00.0 +0.5**
comp=Z,19nm,0.9s,mb4.7
LPL La Plagne 69.10 317 *eP* **P 03 39 00.0 +0.5**
LPL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LPG La Plagne 69.10 317 *eP* **P 03 39 00.1 +0.6**
comp=Z,18nm,0.9s,mb4.7
LPG La Plagne 69.10 317 *eP* **P 03 39 00.1 +0.6**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SSF Saint Saulge 69.28 320 *eP* **P 03 39 00.1 -0.5**
comp=Z,31nm,1.6s,mb4.7
SSF Saint Saulge 69.28 320 *eP* **P 03 39 00.1 -0.5**
SSF pmax pmax
comp=Z,16nm,1.6s,mb4.7
SMF Signal de Mont 69.47 319 *eP* **P 03 39 01.3 -0.5**
comp=Z,24nm,1.0s,mb4.8
SMF Signal de Mont 69.47 319 *eP* **P 03 39 01.3 -0.5**
SMF pmax pmax
comp=Z,12nm,1.0s,mb4.8
LDF La Druitiere 69.53 323 *eP* **P 03 39 01.1 -1.0**
comp=Z,37nm,1.2s,mb4.9
LDF La Druitiere 69.53 323 *eP* **P 03 39 01.1 -1.0**
LDF pmax pmax
comp=Z,19nm,1.3s,mb4.9
FLN La Foliniere 69.54 323 *eP* **P 03 39 02.0 -0.1**
comp=Z,12nm,0.8s,mb4.6
FLN *eR*
comp=Z,164nm,17.5s
FLN La Foliniere 69.54 323 *eP* **P 03 39 02.0 -0.1**
FLN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
FLN MLR MLR
comp=Z,160nm,17.5s,MS4.3
AVF Avril sur Loir 69.56 319 *eP* **P 03 39 01.8 -0.5**
comp=Z,35nm,1.3s,mb4.8
AVF Avril sur Loir 69.56 319 *eP* **P 03 39 01.8 -0.5**
AVF pmax pmax
comp=Z,18nm,1.3s,mb4.8
MBDF Montbardon 69.69 316 *eP* **P 03 39 02.8 -0.3**
ORIF Oris-en-Rattie 69.94 317 *eP* **P 03 39 04.7 0.0**
ORIF *eR*
comp=Z,90nm,18.0s
GRR Gorron 69.99 323 *eP* **P 03 39 04.8 -0.1**
comp=Z,21nm,1.2s,mb4.6
GRR Gorron 69.99 323 *eP* **P 03 39 04.8 -0.1**
GRR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
SBF Sospel 70.06 315 *eP* **P 03 39 06.0 +0.6**
comp=Z,53nm,1.0s,mb5.1
TCF Toulx Ste Croi 70.44 320 *eP* **P 03 39 07.5 -0.2**
comp=Z,32nm,1.1s,mb4.9
TCF Toulx Ste Croi 70.44 320 *eP* **P 03 39 07.5 -0.2**
TCF pmax pmax
comp=Z,16nm,1.1s,mb4.9
VIVF Saint-Julien-l 70.52 317 *eP* **P 03 39 08.3 +0.1**
WRAB Tennant Creek 70.55 167 *eP* **P 03 39 06.9 -1.9**
comp=Z,14nm,1.0s,mb4.8
WRAB Tennant Creek 70.55 167 *eP* **P 03 39 06.9 -1.9**
WRAB pmax pmax
comp=Z,14nm,1.0s,mb4.8
WRA Warramunga Arr 70.56 167 P **P 03 39 06.6 -2.2**
comp=Z,5.0nm,0.7s,mb4.6,baz=352,slow=6.8,SNR=50
WRA Warramunga Arr 70.56 167 *i* P **P 03 39 06.9 -1.9**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WB2 Warramunga Arr 70.56 167⇑*i*P **P 03 39 06.8 -2.0**
SGMF Saint Gilles 70.75 324 *eP* **P 03 39 09.3 -0.3**
SMRF Simiane la Rot 70.81 316 *eP* **P 03 39 09.8 -0.2**
comp=Z,43nm,1.2s,mb4.9
MFF Saint Martin d 71.15 321 *eP* **P 03 39 11.8 -0.2**
comp=Z,12nm,1.0s,mb4.5
MFF Saint Martin d 71.15 321 *eP* **P 03 39 11.8 -0.2**
MFF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
QUIF Quistinic 71.26 324 *eP* **P 03 39 12.2 -0.5**
comp=Z,20nm,1.0s,mb4.7
QUIF Quistinic 71.26 324 *eP* **P 03 39 12.2 -0.5**
QUIF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
RJF Les Rejaudoux 71.52 320 *eP* **P 03 39 14.3 +0.1**
RJF *eR*
comp=Z,136nm,19.0s
CAF Calviac 71.59 319 *eP* **P 03 39 15.3 +0.6**
CTAO Charters Tower 73.23 155 *eP* **P 03 39 22.4 -2.4**
comp=Z,7.5nm,1.0s,mb4.6
CTAO Charters Tower 73.23 155 *eP* **P 03 39 22.4 -2.4**
CTAO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
HRY Holter Researc 73.52 35 *eP* **P 03 39 25.9 -0.1**
EPF Esparros 73.85 319 *eP* **P 03 39 28.8 +0.9**
MOD Modoc 74.07 43 *eP* **P 03 39 29.8 +0.6**
comp=Z,10nm,1.2s,mb4.6
WVOR Wild Horse Val 74.36 41 *eP* **P 03 39 31.4 +0.6**
comp=Z,7.8nm,1.0s,mb4.6
WVOR Wild Horse Val 74.36 41 *eP* **P 03 39 31.4 +0.5**
WVOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
DLMT Dillon 74.37 36 *eP* **P 03 39 31.5 +0.6**
MCMT McKenzie Canyo 74.73 36 *eP* **P 03 39 33.5 +0.6**
GCMT Greycliff 75.10 34 P **P 03 39 34.2 -0.9**
QLMT Earthquake Lak 75.27 36 *eP* **P 03 39 36.6 +0.6**
ULM Lac du Bonnet 75.40 23 P **P 03 39 35.4 -1.3**
comp=Z,8.3nm,0.6s,mb4.9,baz=336,slow=6.2,SNR=22
ULM Lac du Bonnet 75.40 23 *eP* **P 03 39 35.4 -1.3**
comp=Z,6.7nm,0.6s,mb4.8
SCHQ Schefferville 75.44 5 P **P 03 39 37.0 +0.1**
comp=Z,4.5nm,0.9s,mb4.4,baz=355,slow=5.1,SNR=4.7
BEKR Beckwourth 75.69 44 *eP* **P 03 39 38.9 +0.3**
comp=Z,3.6nm,0.9s,mb4.3
FLWY Flagg Ranch 76.18 36 *eP* **P 03 39 42.5 +1.3**
RRI2 Red Ridge 76.57 36 *eP* **P 03 39 44.2 +0.7**
comp=Z,3.9nm,0.7s,mb4.5
LOHW Long Hollow 76.61 36 *eP* **P 03 39 44.5 +0.8**
comp=Z,3.8nm,0.6s,mb4.5
PDAR Pinedale Array 77.73 35 P **P 03 39 49.3 -0.6**
comp=Z,4.0nm,0.6s,mb4.5,baz=13,slow=2.8,SNR=45
NVAR Mina Array Bea 77.78 44 P **P 03 39 50.5 +0.2**
comp=Z,1.5nm,0.8s,mb4.0,baz=315,slow=4.0,SNR=7.0
NVAR LR LR 04 17 26.7
comp=Z,45nm,19.9s,MS3.8,baz=320,slow=38
HWUT Hardware Ranch 77.95 37 *eP* **P 03 39 50.4 -0.8**
comp=Z,16nm,1.0s,mb4.9
ESDC Sonseca Array 78.45 320 P **P 03 39 54.5 +0.6**
comp=Z,2.2nm,0.8s,mb4.1,baz=34,slow=4.4,SNR=6.4
ESDC pP pP 03 39 57.9 +1.0
comp=Z,1.9nm,0.8s,baz=30,slow=4.5,SNR=6.2
DAU Daniels Canyon 79.09 38 *eP* **P 03 39 58.3 +0.9**
ARUT Antelope Range 80.43 41 *eP* **P 03 40 04.6 0.0**
EVO Evora 81.07 322 *eP* **P 03 40 08.1 +0.1**
comp=Z,25nm,1.3s,mb4.7
EVO *eR*
comp=Z,93nm,19.0s
NEN Nelson 81.63 43 *eP* **P 03 40 11.9 +1.0**
PV10 Paradox Valley 81.72 37 *eP* **P 03 40 12.2 +0.8**
LDFC Landfair 81.99 43 *eP* **P 03 40 13.6 +0.7**
PV01 Paradox Valley 82.11 37 *eP* **P 03 40 14.2 +0.7**
STKA Stephens Creek 83.48 162 P **P 03 40 19.7 -1.0**
comp=Z,5.9nm,0.8s,mb4.7,baz=349,slow=5.5,SNR=9.6
STKA Stephens Creek 83.48 162 *eP* **P 03 40 20.0 -0.7**
SDCO Great Sand Dun 83.62 35 *eP* **P 03 40 21.5 +0.3**
comp=Z,3.3nm,0.7s,mb4.6
KSU1 Kansas State U 85.43 28 *eP* **P 03 40 30.0 -0.2**
NCB Newcomb 85.59 11 *eP* **P 03 40 31.7 +0.8**
comp=Z,14nm,1.0s,mb5.2
ANMO Albuquerque 85.71 37⇑*e*P **P 03 40 33.1 +1.4**
KMBO Kilima Mbogo 86.71 264 LR LR 04 24 21.7
comp=Z,84nm,20.0s,MS4.1,baz=273,slow=39
WCI Wyandotte Cave 89.04 21 *eP* **P 03 40 48.1 +0.4**
comp=Z,18nm,1.0s,mb5.4
WCI Wyandotte Cave 89.04 21 *eP* **P 03 40 48.1 +0.3**
WCI pmax pmax
comp=Z,18nm,1.0s,mb5.4
WVT Waverly 90.66 23 *eP* **P 03 40 55.7 +0.3**
comp=Z,8.9nm,1.0s,mb5.0
WVT Waverly 90.66 23 *eP* **P 03 40 55.7 +0.3**
WVT pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
TXAR Lajitas Array 91.77 38 P **P 03 41 01.2 +0.6**
comp=Z,0.6nm,0.8s,mb4.0,baz=322,slow=3.6,SNR=7.4
MAW Mawson 124.97 203 PKP PKPdf 03 46 51.4 -2.6
comp=Z,1.7nm,0.6s,baz=120,slow=1.6,SNR=7.5
VNDA Vanda 129.68 169 PKP PKPdf 03 47 00.6 -2.3
comp=Z,2.3nm,0.8s,baz=322,slow=4.5,SNR=11
BDFB Brasilia 144.65 341 PKP PKPdf 03 47 28.8 -2.7
comp=Z,12nm,1.0s,baz=42,slow=1.6,SNR=13
LPAZ La Paz 145.69 15 PKPbc PKPbc 03 47 31.8 +0.7
comp=Z,13nm,0.7s,baz=349,slow=3.3,SNR=58
LPAZ La Paz 145.69 15 *e*PKP2 PKPab 03 47 31.8 -1.3
SIV San Ignacio 146.14 3 PKPbc PKPbc 03 47 32.6 +0.4
comp=Z,8.4nm,0.8s,baz=39,slow=1.4,SNR=38
SIV pPKPbc 03 47 36.3
comp=Z,4.1nm,0.5s,baz=6.5,slow=3.9,SNR=10
SIV San Ignacio 146.14 3 PKPbc PKPbc 03 47 32.6 +0.4
SIV pPKPbc 03 47 36.3
SNAA Sanae 146.83 209 PKPbc PKPbc 03 47 32.3 +0.1
comp=Z,5.1nm,1.0s,baz=133,slow=3.3,SNR=26
VNA2 Neumayer--Watz 148.42 210 *e* PKPdf 03 47 40.5 +4.3
VNA2 Neumayer--Watz 148.42 210 *e* PKPdf 03 47 43.5 +7.3
VNA2 Neumayer--Watz 148.42 210⇑*i*PKPdf PKPdf 03 47 37.5 +1.3
VNA2 *e* 03 47 40.5
VNA2 *e* 03 47 43.5
VNA2 *e* 03 49 19.0
VNA1 Neumayer--Stat 148.77 210 *e* PKPdf 03 47 41.5 +4.7
VNA1 Neumayer--Stat 148.77 210 *e* PKPdf 03 47 45.2 +8.4
VNA1 Neumayer--Stat 148.77 210⇑*i*PKPdf PKPdf 03 47 38.6 +1.8
VNA1 *e* 03 47 41.5
VNA1 *e* 03 47 45.2
VNA1 *e* 03 49 20.3
VNA3 Neumayer Olymp 149.05 209 *e* PKPdf 03 47 41.6 +4.4
VNA3 Neumayer Olymp 149.05 209 *e* PKPdf 03 47 44.8 +7.6
VNA3 Neumayer Olymp 149.05 209⇑*i*PKPdf PKPdf 03 47 38.6 +1.4
VNA3 *e* 03 47 41.6
VNA3 *e* 03 47 44.8
VNA3 *e* 03 49 19.8
LVC Limon Verde 151.70 19 PKPbc PKPdf 03 47 47.5 +4.8
comp=Z,2.5nm,0.8s,baz=347,slow=4.8,SNR=5.3
CPUP Villa Florida 156.42 356 PKPab PKPab 03 48 15.6 -1.5
comp=Z,3.9nm,1.0s,baz=336,slow=2.7,SNR=5.4

IDC ***19*** *03:51:38.6±2.2, 7.68S×126.89E, mb3.7/2, mb1 3.9/3, mb1mx3.7/11, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=200.7km s-min=41.8km az=62.0*
NEIC ***19*** *03:51:42.5± 1.1, 7.12S×128.07E, h30km, mb3.8/1, Error ellipse: s-maj=21.5km s-min=13.1km az=62.0*
ISC 19 03:51:57.3±2.9, 8.0S±0.1×128.0E±0.1, h216km±34km, n8, σ0§81/11, mb3.3/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.47**	**137**	*eP*		Px		03 53 49.6	
	24nm,0.4s								
KAKA				*eS*		Sx		03 54 59.9	
FITZ	**Fitzroy Crossi**	**10.33**	**192**	*eP*		**P**		**03 54 20.4**	**-1.1**
	4.1nm,0.3s								
FITZ				*eS*		**S**		**03 56 13.8**	**-0.6**
WRAB	**Tennant Creek**	**13.42**	**153**	*ePn*		**P**		**03 55 00.4**	**-0.1**
	5.8nm,0.8s								
WRAB				*eSn*		**S**		**03 57 25.5**	**+0.3**
WRA	**Warramunga Arr**	**13.43**	**153**	Pn		**P**		**03 55 00.7**	**+0.2**
	0.9nm,0.3s,baz=328,slow=14,SNR=43								
WRA				Sn		**S**		**03 57 25.6**	**+0.4**
	2.6nm,0.3s,baz=331,slow=22,SNR=13								
WB2	**Warramunga Arr**	**13.43**	**153**	*eP*		**P**		**03 55 00.9**	**+0.3**
WB2				*eS*		**S**		**03 57 24.7**	**-0.7**
MBWA	**Marble Bar**	**15.34**	**210**	*ePn*		**P**		**03 55 26.9**	**+2.7**
	2.3nm,0.3s								
SONM	**Songino Array**	**58.73**	**343**	P		**P**		**04 01 34.4**	**-0.2**
	0.3nm,0.6s,mb3.1,baz=157,slow=5.9,SNR=3.9								
MKAR	**Makanchi Array**	**67.93**	**328**	P		**P**		**04 02 34.4**	**-0.3**
	0.4nm,0.4s,mb3.4,baz=116,slow=7.8,SNR=7.5								

IDC ***19*** *04:00:41.8±0.8, 35.90S×103.87W, mb4.0/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.0/8, MS3.8/4, Ms1 3.8/4, ms1mx3.5/18, Error ellipse: s-maj=27.7km s-min=20.2km az=52.0*
ISC 19 04:00:41.5±0.9, 35.9S±0.1×104.0W±0.2, h10km, n27, σ1§10/21, mb3.8/9, MS3.5/4, 3C, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.84**	**331**	LR		LR		04 05 52.4	
	comp=Z,419nm,20.4s,baz=99,slow=31								
PLCA	**Paso Flores**	**26.56**	**111**	P		**P**		**04 06 22.1**	**+0.7**
	4.8nm,1.1s,mb3.9,baz=284,slow=6.3,SNR=4.3								
CFAA	**Coronel Fontan**	**29.90**	**92**	P		**P**		**04 06 52.2**	**+0.6**
	0.2nm,0.9s,mb2.8,baz=289,slow=13,SNR=3.6								
CFAA				LR		LR		04 15 00.7	
	comp=Z,9.3nm,19.9s,MS2.4,baz=249,slow=29								
LVC	**Limon Verde**	**33.12**	**76**	LR		LR		04 17 16.2	
	comp=Z,114nm,20.3s,MS3.6,baz=232,slow=30								
LPAZ	**La Paz**	**37.33**	**68**	P		**P**		**04 07 55.9**	**-0.1**
	2.9nm,1.0s,mb4.0,baz=293,slow=3.2,SNR=7.0								
CPUP	**Villa Florida**	**40.71**	**90**	LR		LR		04 22 44.3	
	comp=Z,93nm,19.8s,MS3.6,baz=284,slow=32								
SIV	**San Ignacio**	**42.93**	**74**	P		**P**		**04 08 40.8**	**-1.5**
	1.5nm,0.7s,mb3.8,baz=237,slow=11,SNR=13								
VNA3	**Neumayer Olymp**	**57.84**	**158**	⇑*i*		**P**		**04 10 34.1**	**-1.0**
VNA3	**Neumayer Olymp**	**57.84**	**158**	*e*		**P**		**04 10 37.2**	**+2.1**
VNA3	**Neumayer Olymp**	**57.84**	**158**	*e*		**P**		**04 10 42.3**	**+7.2**
VNA3	**Neumayer Olymp**	**57.84**	**158**	*e*		**P**		**04 10 47.6**	**+12**
VNA1	**Neumayer--Stat**	**58.47**	**157**	⇑*i*		**P**		**04 10 42.6**	**+3.1**
VNA1	**Neumayer--Stat**	**58.47**	**157**	*e*		**P**		**04 10 45.3**	**+5.8**
VNA1	**Neumayer--Stat**	**58.47**	**157**	*e*		**P**		**04 10 49.5**	**+10**
VNA1	**Neumayer--Stat**	**58.47**	**157**	*e*		**P**		**04 10 53.2**	**+14**
VNA2	**Neumayer--Watz**	**58.65**	**158**	⇑*i*		**P**		**04 10 40.1**	**-0.7**
VNA2	**Neumayer--Watz**	**58.65**	**158**	*e*		**P**		**04 10 43.2**	**+2.4**
VNA2	**Neumayer--Watz**	**58.65**	**158**	*e*		**P**		**04 10 47.5**	**+6.7**
VNA2	**Neumayer--Watz**	**58.65**	**158**	*e*		**P**		**04 10 52.6**	**+12**
SNAA	**Sanae**	**59.76**	**159**	P		**P**		**04 10 47.1**	**-1.4**
	0.5nm,0.8s,mb3.6,baz=246,slow=8.6,SNR=7.6								
TXAR	**Lajitas Array**	**64.85**	**0**	P		**P**		**04 11 23.0**	**0.0**
	0.5nm,0.7s,mb3.7,baz=189,slow=9.0,SNR=8.9								
NVAR	**Mina Array Bea**	**75.10**	**348**	P		**P**		**04 12 26.0**	**+0.6**
	1.2nm,0.7s,mb3.9,baz=207,slow=8.2,SNR=9.9								
MAW	**Mawson**	**76.37**	**175**	P		**P**		**04 12 31.3**	**-0.7**
	2.0nm,0.9s,mb4.0,baz=190,slow=6.1,SNR=3.8								
PDAR	**Pinedale Array**	**78.42**	**356**	P		**P**		**04 12 43.8**	**0.0**
	2.2nm,0.7s,mb4.2,baz=159,slow=6.8,SNR=13								
CTA	**Charters Tower**	**93.41**	**242**	LR		LR		04 47 03.1	
	comp=Z,116nm,20.6s,MS4.3,baz=48,slow=30								
BRTR	**Keskin Array B**	**146.49**	**70**	PKPbc		PKPbc		04 20 25.3	+2.7
	0.5nm,0.5s,baz=243,slow=3.2,SNR=3.5								
SONM	**Songino Array**	**154.59**	**307**	PKPbc		PKPdf		04 20 43.9	+7.6
	0.1nm,0.3s,baz=292,slow=0.1,SNR=3.9								
SONM				PKPab		PKPab		04 21 01.3	+2.3
	0.7nm,0.7s,baz=81,slow=5.6,SNR=5.2								

ATH ***19*** *04:04:10.6, 38.22N×23.08E, h19km, MD3.1/7, ML2.8*
THE ***19*** *04:04:10.6, 38.08N×23.13E, h20km, ML2.9*
NEIC ***19*** *04:04:10.0, 38.25N×23.10E, h15km, ML2.7(ATH), After ATH.*
CSEM ***19*** *04:04:11.4±0.1, 38.27N×23.18E, h15km, ML2.7, Error ellipse: s-maj=3.1km s-min=1.3km az=60.0*
ISC 19 04:04:10.1±0.9, 38.26N±0.04×23.22E±0.07, h10km±9km, n16, σ0§92/21, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MGER	**Gerania Oros**	**0.27**	**173**	*e*PB		**Pb**		**04 04 16.5**	**-0.1**
MGER				*e*SB		**Sb**		**04 04 21.5**	**+0.6**
NSAL	**Nisos Salamina**	**0.40**	**151**	*e*PB		**Pb**		**04 04 19.5**	**+0.7**
NSAL				*e*SB		**Sb**		**04 04 26.0**	**+1.4**
MPAR	**Parnis Oros**	**0.42**	**104**	*e*PN		**Pn**		**04 04 20.3**	**-1.5**
MPAR	**Parnis Oros**	**0.42**	**104**	*e*Pb		**Pb**		**04 04 20.0**	**+0.8**
LKR	**Lokris**	**0.43**	**337**	*e*PB		**Pb**		**04 04 19.3**	**0.0**
LKR				*e*SB		**Sb**		**04 04 25.9**	**+0.4**
ATH	**Athens Observa**	**0.49**	**126**	*e*PN		**Pn**		**04 04 21.6**	**-1.1**
NAIG	**Nisos Aigina**	**0.54**	**157**	*e*PN		**Pn**		**04 04 22.0**	**-1.5**
PTL	**Penteli**	**0.55**	**112**	*e*PN		**Pn**		**04 04 22.5**	**-1.1**
AGG	**Agios Georgios**	**1.03**	**318**	*e*Pg		**Pg**		**04 04 30.1**	**-0.7**
AGG				*e*Sg		**Sg**		**04 04 44.2**	**-0.4**
NEO	**Neokhori**	**1.05**	**0**	*e*PN		**Pn**		**04 04 31.3**	**+0.5**
AOS	**Alonnisos**	**1.05**	**29**	*e*Pg		**Pg**		**04 04 31.1**	**0.0**
XOR	**Xorichti**	**1.11**	**359**	*e*Pg		**Pg**		**04 04 32.0**	**-0.2**
XOR				*e*Sg		**Sg**		**04 04 48.7**	**+1.7**
EVR	**Evrytania**	**1.28**	**301**	*e*PN		**Pn**		**04 04 33.5**	**-0.6**
VLI	**Velíai**	**1.55**	**188**	*e*PN		**Pn**		**04 04 38.7**	**+0.7**
VLI	**Veliai**	**1.55**	**188**	*e*Pn		**Pn**		**04 04 40.3**	**+2.3**
OUR	**Ouranopolis**	**2.16**	**16**	*e*Pn		**Pn**		**04 04 46.5**	**-0.2**

NEIC ***19*** *04:12:22.1, 31.81S×71.07W, h85km, MD3.6(GUC), After GUC.*
GUC 19 04:12:22.1±0.9, 31.81S×71.07W, h85km±3km, MD3.6, ML3.6, 11C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.20**	**335**	⇑*i*		P		04 12 34.7	+0.3
ILCH				*i*	S	S		04 12 43.8	+0.1

ILCH				AMP		04 12 44.4	
	comp=E,16µm,0.2s						
CHNG	Los Chungos	0.37	259⇓	iP	P	04 12 35.7	+0.3
CHNG				iS	S	04 12 46.1	+0.6
CHNG				AMP		04 12 46.8	
	comp=E,2µm,0.2s						
CMCH	Combarbala	0.64	5⇑	iP	P	04 12 37.9	+0.1
CMCH				iS	S	04 12 49.9	+0.4
CMCH				AMP		04 12 50.4	
	comp=E,8µm,0.4s						
JACH	Jahuel	0.96	155⇑	iP	P	04 12 41.5	+0.4
JACH				iS	S	04 12 56.1	+0.6
ROCH	El Roble	1.16	177⇑	iP	P	04 12 43.4	-0.2
ROCH				iS	S	04 13 00.1	+0.3
IHA	Instituto Hidr	1.30	202⇑	iP	P	04 12 44.9	-0.7
PEL	Peldehue	1.37	166⇓	iP	P	04 12 46.6	+0.3
PEL				iS	S	04 13 04.4	+0.1
DSCH	Colegio Aleman	1.64	165⇓	iP	P	04 12 50.3	+0.4
DSCH				iS	S	04 13 11.1	+0.8
DSCH				AMP		04 13 13.2	
	comp=E,2µm,0.8s						
CLCH	Cerro Calan	1.64	164⇑	iP	P	04 12 50.2	+0.2
CLCH				iS	S	04 13 11.2	+0.7
CLCH				AMP		04 13 15.6	
	comp=E,1µm,0.5s						
CLCH				AMP		04 13 16.2	
	comp=E,2µm,0.6s						
FCH	Farellones	1.65	157⇑	iP	P	04 12 50.7	+0.7
FCH				iS	S	04 13 12.6	+2.0
FCH				AMP		04 13 13.8	
	comp=E,856nm,0.2s						
STL	Santa Lucia	1.66	167	iP	P	04 12 48.7	-1.5
STL				iS	S	04 13 10.5	-0.3
STL				AMP		04 13 11.2	
	comp=N,623nm,0.4s						
TLL	Tololo Astrono	1.66	8	eP	P	04 12 50.7	+0.6
TLL				iS	S	04 13 12.0	+1.2
TLL				AMP		04 13 13.5	
	comp=E,567nm,0.4s						
RCDM	Rinconada Maip	1.69	172	eP	P	04 12 50.3	-0.2
RCDM				iS	S	04 13 11.7	+0.3
RCDM				AMP		04 13 14.1	
	comp=E,1µm,0.1s						
LCCH	Las Cruces	1.71	194⇑	iP	P	04 12 50.2	-0.6
FSR	Penalolen	1.72	165	eP	P	04 12 51.6	+0.6
FSR				iS	S	04 13 13.0	+0.7
FSR				AMP		04 13 14.3	
	comp=E,600nm,0.5s						
ANTU	Antumapu	1.79	168⇑	iP	P	04 12 52.0	+0.1
ANTU				iS	S	04 13 14.2	+0.4
ANTU				AMP		04 13 15.2	
	comp=E,868nm,0.3s						
TACH	Talagante	1.84	176⇓	iP	P	04 12 52.4	-0.1
TACH				iS	S	04 13 15.0	+0.1
PCH	Pirque	1.86	165⇑	iP	P	04 12 52.9	0.0
PCH				iS	S	04 13 16.0	+0.5
SJCH	San Jose de Ma	1.92	162	iS	S	04 13 17.6	+0.8
SJCH				AMP		04 13 18.6	
	comp=E,264nm,0.2s						
CHCH	Chadas Angostu	2.14	171⇑	iP	P	04 12 56.5	-0.2
CHCH				iS	S	04 13 22.9	+0.7
CACH	El Canelo	2.33	170	eP	P	04 12 59.9	+0.6
SFDO	San Fernando	2.79	179⇓	iP	P	04 13 05.3	-0.5

*JMA **19** 04:52:21.6±0.2, 32.93N×139.34E, h189km±2km, M3.3*
*IDC **19** 04:52:21.4±0.8, 32.79N×139.03E, h185km±6km, mb3.4/9, mb1 3.6/9, mb1mx3.3/21, mbtmp3.8/9, Error ellipse: s-maj=28.9km s-min=13.5km az=74.0*
ISC 19 04:52:20.5±0.5**, 32.88N**±0.05×**139.35E**±0.07**, h193**km±4km**, n30, σ0§77**/37**, mb3.4**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	0.44	57	P	P	04 52 47.4	+0.5
	143nm,0.3s,baz=58,slow=2.9,SNR=29						
JHJ				S	S	04 53 09.5	+2.2
	68nm,0.3s,baz=68,slow=23,SNR=7.5						
JHJ2	Mitsune	0.46	59	P	P	04 52 47.3	+0.3
JKO	Kozu shima	1.32	352	P	P	04 52 52.4	+0.1
TK02	Tokai 2	1.71	309	P	P	04 52 56.0	+0.1
TK01	Tokai 1	1.72	301	P	P	04 52 55.7	-0.3
JIZS	Izushimoda	1.88	348	P	P	04 52 57.7	+0.1
TK04	Tokai 4	1.94	321	P	P	04 52 58.7	+0.5
BSO3	Boso 3	2.15	26	P	P	04 53 00.7	+0.2
BSO3				S	S	04 53 31.4	+0.1
BSO1	Boso 1	2.23	37	P	P	04 53 01.0	-0.4
BSO1				eS	S	04 53 31.8	-1.1
SHZ3	Shizuoka 3	2.38	337	P	P	04 53 03.5	+0.4
SHZ3				eS	S	04 53 35.8	-0.1
JOD2	Odawara 2	2.39	355	P	P	04 53 03.3	+0.1
JIE	Ise	2.67	305	P	P	04 53 06.4	0.0
JYN	Shimob	2.70	346	P	P	04 53 07.3	+0.6
JWZ	Kozaga	3.12	283	P	P	04 53 11.5	-0.2
JRY	Ryogami san	3.15	353	P	P	04 53 12.5	+0.3
JRY				eS	S	04 53 50.6	-1.4
JWY	Kouya	3.41	294	P	P	04 53 15.6	+0.3
JAG	Ashikaga	3.54	1	P	P	04 53 15.6	-1.3
JGM	Miyama	3.56	323	P	P	04 53 17.5	+0.3
MJAR	Matsushiro Arr	3.77	346	P	P	04 53 19.4	-0.4
	0.7nm,0.3s,baz=176,slow=13,SNR=6.1						
MJAR				S	S	04 54 05.9	+0.2
	1.3nm,0.3s,baz=146,slow=15,SNR=4.4						
MAT	Matsushiro	3.77	346	P	P	04 53 19.6	-0.3
MAT				S	S	04 54 04.9	-0.8
CBIJ	Chichi jima	6.27	156	S	S	04 55 01.7	-1.3
	23nm,0.3s,baz=266,slow=23,SNR=8.6						
BVAR	Borovoye Array	52.19	314	P	P	05 01 12.9	-0.2
	0.5nm,0.5s,mb3.2,baz=90,slow=4.3,SNR=3.5						
WRA	Warramunga Arr	52.74	186	P	P	05 01 16.0	-1.6
	0.2nm,0.3s,mb3.0,baz=1.6,slow=7.6,SNR=4.2						
ILAR	Eielson Array	53.91	31	P	P	05 01 26.5	+0.9
	0.4nm,0.8s,mb3.0,baz=260,slow=7.0,SNR=4.3						
INK	Inuvik	58.85	26	P	P	05 02 01.2	+0.7
	2.7nm,0.9s,mb3.9,baz=301,slow=5.9,SNR=4.6						
ARCES	ARCESS Array B	67.29	340	P	P	05 02 55.7	0.0
	2.6nm,0.9s,mb3.8,baz=57,slow=6.9,SNR=8.2						
FINES	FINESS Array B	71.69	332	P	P	05 03 22.6	0.0
	0.8nm,0.4s,mb3.7,baz=45,slow=5.4,SNR=8.4						
AKASG	Malin Array Be	76.53	322	P	P	05 03 50.3	-0.3
	0.3nm,0.3s,mb3.4,baz=50,slow=5.9,SNR=4.4						
NOA	NORSAR Array B	77.34	337	P	P	05 03 55.3	+0.5
	1.2nm,0.8s,mb3.5,baz=42,slow=5.4,SNR=3.3						
TXAR	Lajitas Array	94.02	51	P	P	05 05 20.5	+2.7
	0.2nm,0.6s,mb3.4,baz=263,slow=2.6,SNR=3.6						

*CSEM **19** 04:52:58.6±1.0, 28.63N×34.42E, h30km, Mw2.9, Error ellipse: s-maj=27.1km s-min=7.0km az=65.0*
*SNSN **19** 04:53:00.1, 28.73N×34.65E, h10km, Ml2.6*
*GII **19** 04:53:00.5±0.5, 28.89N×34.77E, h3km±30km, ML2.8/4, Mw2.9/3*
ISC 19 04:52:59.5±1.2**, 28.84N**±0.04×**34.7E**±0.1**, h10**km**, n11, σ1§13**/18**, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDAS	Al Bad‘	0.53	139	P	Pg	04 53 09.7	-0.5
AYUS	‘Aynunah	0.81	143	P	Pb	04 53 14.8	-0.5
AYUS				S	Sb	04 53 25.6	-0.4
EIL	Elat	0.86	14	Pg	Pg	04 53 16.2	-0.6
EIL				Sg	Sg	04 53 28.3	+0.1
AQBJ	Aqaba	0.94	18	Pg	Pg	04 53 17.6	-0.7
MBH	Mount Berech	0.97	11	Pg	Pg	04 53 18.4	-0.6
HRFI	Mount Harif	1.23	13	Pg	Pg	04 53 22.7	-1.4
HRFI				Sg	Sg	04 53 39.2	-1.4
KMTI	Karmit	1.26	1	Pg	Pg	04 53 23.2	-1.7
KMTI				Sg	Sg	04 53 40.7	-1.0
PRNI	Paran	1.53	10	Pn	Pn	04 53 27.6	+0.5
PRNI				Sn	Sn	04 53 49.0	+1.7
TBKS	Tabuk	1.73	110	P	Pn	04 53 30.6	+0.6
TBKS				S	Sn	04 53 53.6	+1.4
RMNI	Mount Ramon	1.75	1	Pn	Pn	04 53 31.5	+1.2
RMNI				Sn	Sn	04 53 54.8	+1.9
KZIT	Kziot	2.08	353	Sn	Sn	04 54 03.1	+2.0

JMA 19 05:10:41.1±0.6**, 46.44N**×**147.39E, h329**km**, M3.8, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	3.29	201	P	P	05 11 41.9	-0.2
NEM2				eS	S	05 12 29.9	+0.1
JAK	Akkeshi	3.94	210	P	P	05 11 48.5	-0.2
JAK				eS	S	05 12 41.3	-0.4
ASAJ	Asahikawa	4.10	237	P	P	05 11 51.0	+0.6
JCH	Churui	4.79	218	P	P	05 11 57.1	-0.8
JCH				eS	S	05 12 55.1	-3.1
JNBK	Urakawa-nobuka	5.32	220	P	P	05 12 02.7	-1.3
JNBK				eS	S	05 13 04.7	-4.3
JKB	Kayabe	6.45	227	P	P	05 12 15.1	-2.1
JKB				eS	S	05 13 26.4	-6.2
JOT	Ohata	6.82	224	eS	S	05 13 33.5	-7.0
JANG	Nango	7.42	217	eS	S	05 13 46.7	-6.6
JMK	Ichinoseki	8.75	213	eS	S	05 14 21.3	-1.0
MAT	Matsushiro	12.04	218	P	P	05 13 26.5	+1.8

IDC 19 05:15:47.5±7.3**, 25.41N**×**109.91W, mb1 3.6**/5**, mb1mx3.5**/23**, mbtmp3.2**/5**, ML3.2**/3**, Error ellipse: s-maj=86.4km s-min=24.4km az=176.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	6.78	53	Pn	Pn	05 17 28.8	-1.9
	0.3nm,0.3s,baz=232,slow=13,SNR=13						
TXAR				Pg	Pg	05 17 55.7	-7.1
	0.7nm,0.3s,baz=238,slow=16,SNR=11						
TXAR				Sn	Sn	05 18 44.5	-5.2
	1.5nm,0.3s,baz=84,slow=20,SNR=8.8						
TXAR				Lg		05 19 21.5	
	2.0nm,0.3s,baz=212,slow=24,SNR=5.0						
ANMO	Albuquerque	9.96	17	Pn	P	05 18 13.2	-1.7
	baz=205,slow=7.9,SNR=3.7						
NVAR	Mina Array Bea	14.80	333	Pn	P	05 19 21.0	+1.2
	0.1nm,0.3s,baz=159,slow=13,SNR=2.7						
ELK	Elko	15.92	345	Pn	P	05 19 34.8	+0.3
	0.1nm,0.3s,baz=186,slow=9.2,SNR=3.7						
PDAR	Pinedale Array	17.31	1	P	P	05 19 51.8	-0.3
	0.1nm,0.3s,baz=162,slow=11,SNR=5.4						

*BJI **19** 06:13:18.8, 28.30N×55.20E, h18km, mB4.7, mb4.5, Ms4.0, Msz3.8*
*NEIC **19** 06:13:22.8, 28.30N×55.24E, h18km, mb4.0/6, ML4.2(THR), After THR.*
*CSEM **19** 06:13:22.3±0.1, 28.29N×55.17E, h22km, mb3.9/3, Error ellipse: s-maj=2.6km s-min=1.8km az=171.0*
*THR **19** 06:13:22.6±0.3, 28.34N×55.26E, h14km±2km, ML4.0*
*IDC **19** 06:13:23.1±1.1, 28.21N×55.11E, h20km±5km, mb3.9/15, mb1 4.0/16, mb1mx3.9/24, mbtmp4.0/16, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/20, Error ellipse: s-maj=19.8km s-min=16.0km az=135.0*
*TEH **19** 06:13:26.2, 28.41N×55.10E, h10km, Mn3.9*
*MOS **19** 06:13:26.2±0.9, 28.70N×55.11E, h33km, mb4.0/5, Error ellipse: s-maj=15.1km s-min=10.1km az=112.6*
ISC 19 06:13:21.6±0.3**, 28.25N**±0.04×**55.12E**±0.03**, h19**km±2.4km**:pP-P, n101, σ1§28**/104**, mb4.0**/24**, MS3.5**/3**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.26	132	ePG	Pn	06 13 45.6	+1.2
BNDS				AML	AML	06 14 15.4	
	comp=N,2µm,0.5s						
BNDS	Bandar-Abbas	1.26	132	ePg	Pn	06 13 45.5	+1.1
BNDS	Bandar-Abbas	1.26	132	ePg	Pn	06 13 45.5	+1.1
BNDS				eSg	Sb	06 14 03.4	+3.1
	SNR=90						
GHIR	Ghir-Karzin	1.88	272	ePG	Pn	06 13 59.2	+5.9
GHIR				AML	AML	06 14 41.7	
	comp=N,2µm,0.4s						
GHIR	Ghir-Karzin	1.88	272	ePg	Pn	06 13 59.2	+5.9
	SNR=90						
GHIR				eSg	Sn	06 14 27.0	+10
	comp=N,2µm,0.4s,SNR=90						
ISRV	Sarvestan	2.09	303	Pn	Pn	06 14 00.1	+3.8
KRBR	Kerman	2.25	39	ePG	Pn	06 14 00.9	+2.3
KRBR				AML	AML	06 14 36.9	
	comp=N,751nm,0.6s						
KRBR	Kerman	2.25	39	ePg	Pn	06 14 01.7	+3.1
KRBR				eSg	Sn	06 14 30.4	+4.4
KRBR	Kerman	2.25	39	ePg	Pn	06 14 01.7	+3.1
KRBR				eSg	Sn	06 14 30.4	+4.3
IMOK	Mook	2.26	291	Pn	Pn	06 14 02.6	+3.9
IPAR	Pars	2.41	312	Pn	Pn	06 14 05.3	+4.4
IMEH	Mehriz	3.16	352	Pn	Pn	06 14 14.9	+3.3
IBAF	Bafgh	3.36	7	Pn	Pn	06 14 16.5	+2.2
ICHK	Chekchek	4.03	351	Pn	Pn	06 14 26.6	+2.6
NASN	Na’in	4.96	337	ePN	Pn	06 14 38.7	+1.7
NASN	Na’in	4.96	337	ePn	Pn	06 14 38.7	+1.6
ZHSF	Zahedan	5.14	73	ePn	Pn	06 14 39.5	-0.1
ZHSF	Zahedan	5.14	73	ePn	Pn	06 14 39.5	-0.2
IZEF	Zefreh	5.22	333	Pn	Pn	06 14 41.2	+0.4
HASS	Wahat al Ahsa’	5.73	239	S	Sn	06 15 54.7	+0.8
IPIR	Pirpir	5.73	322	Pn	Pn	06 14 46.9	-1.1
IKLH	Kalahroud	5.90	330	Pn	Pn	06 14 50.1	-0.3
UMR	Umm Al-Rimmam	6.62	283	eP	Pn	06 15 01.6	+1.1
UMR				eS	Sn	06 16 17.8	+1.6
UMR				AML	AML	06 16 21.1	
	comp=Z,74nm,0.3s						
UMR	Umm Al-Rimmam	6.62	283	eP	Pn	06 15 01.6	+1.1
UMR				eS	Sn	06 16 16.3	+0.1
RDF	Al-Radifah	6.69	278	eP	Pn	06 15 02.3	+0.8
RDF				AML	AML	06 16 18.8	
	comp=Z,52nm,0.4s						
NAY	Al-Naaiem	6.99	280	eP	Pn	06 15 06.5	+0.8
NAY				AML	AML	06 16 25.3	
	comp=Z,15nm,0.5s						
NAY	Al-Naaiem	6.99	280	eP	Pn	06 15 06.4	+0.7
IVRN	Varamin	7.32	338	Lg		06 17 09.6	
IVRN	Varamin	7.32	338	Pn	Pn	06 15 09.4	-1.0
IQOM	Qom	7.43	333	Pn	Pn	06 15 11.1	-0.7
ASAO	Ashtian	7.64	327	ePN	Pn	06 15 16.0	+1.2
ASAO	Ashtian	7.64	327	ePn	Pn	06 15 16.0	+1.2
IDMV	Damavand	7.76	341	Pn	Pn	06 15 16.3	-0.3
DAMV	Damavand	7.83	341	ePN	Pn	06 15 18.2	+0.7
DAMV	Damavand	7.83	341	ePn	Pn	06 15 18.2	+0.7
SNGE	Sanandaj	9.51	318	ePN	P	06 15 42.1	+1.4
SNGE	Sanandaj	9.51	318	ePn	P	06 15 41.9	+1.2
SNGE	Sanandaj	9.51	318	ePn	P	06 15 41.9	+1.2
MZLS	Mizel	9.85	247	P	P	06 15 48.6	+3.2
BHD	Baghdad	10.50	301	ex	x	06 15 51.0	
BHD				ex	x	06 18 42.0	
BHD				ix	x	06 20 29.0	
AFFS	‘Afif	11.71	251	P	P	06 16 12.4	+1.5
GNI	Garni	14.64	327	Pn	P	06 16 56.2	+6.5
	baz=90,slow=19,SNR=3.6						
YNBS	Yanbu‘ al Bahr	15.84	260	P	P	06 17 06.4	+1.0
ASF	Jabal al Asfar	16.23	288	Pn	P	06 17 11.7	+1.4
	comp=Z,0.6nm,0.3s,baz=200,slow=4.0,SNR=3.7						
ASF				Sn	S	06 20 08.3	-1.3
	comp=Z,0.5nm,0.3s,baz=180,slow=21,SNR=3.7						
TBKS	Tabuk	16.37	274	P	P	06 17 10.7	-1.4
ZEI	Tsey	17.11	331	eP	P	06 17 18.6	-2.7
MALT	Malatya	17.17	310	ePn	P	06 17 23.4	+1.3
	comp=Z,14nm,1.0s						
MALT	Malatya	17.17	310	eP	P	06 17 23.4	+1.3
	comp=Z,14nm,1.0s						
MALT	Malatya	17.17	310	eP	P	06 17 23.4	+1.3
MALT				pmax	pmax		
	comp=Z,14nm,1.0s						
AYUS	‘Aynunah	17.50	275	P	P	06 17 24.6	-1.7
JMOS	Jabal al Moall	17.58	278	P	P	06 17 25.9	-1.4
HAQS	Haql	17.74	277	P	P	06 17 28.0	-1.3
KIV	Kislovodsk	18.58	331	eP	P	06 17 37.2	-2.5
SOC	Sochi	19.69	325	eP	P	06 17 55.5	+2.8
SOC				e		06 21 21.1	
SOC				pmax	pmax		
	comp=N,19nm,1.1s						
SOC				pmax	pmax		
	comp=Z,20nm,1.1s						
SOC				pmax	pmax		
	comp=E,24nm,0.9s						
SOC				MLR	MLR		
	comp=Z,121nm,12.0s						
SOC				MLR	MLR		
	comp=N,84nm,11.0s						
SOC				MLR	MLR		
	comp=E,115nm,13.0s						
CSS	Prodhromos	19.71	295	eP	P	06 17 51.4	-1.5
BR131	Keskin Array S	21.12	308	ePn	P	06 18 08.2	+0.6
	comp=E,5.5nm,0.6s,mb4.1						
BRTR	Keskin Array B	21.12	308	P	P	06 18 08.0	+0.4
	comp=E,5.3nm,1.0s,mb3.8,baz=130,slow=9.6,SNR=17						
AAK	Ala-Archa	21.27	42	eP	P	06 18 08.5	-0.6
	comp=E,5.2nm,0.9s,mb3.9						
AAK	Ala-Archa	21.27	42	eP	P	06 18 08.5	-0.6
	comp=E,5.2nm,0.9s,mb3.9						
AAK	Ala-Archa	21.27	42	eP	P	06 18 08.5	-0.6
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
GVD	Gavdhos	27.18	292	eP	P	06 19 06.4	+0.5
GVD	Gavdhos	27.18	292	eP	P	06 19 06.4	+0.4
BVAR	Borovoye Array	27.21	20	P	P	06 19 05.9	-0.2
	comp=Z,0.7nm,0.6s,mb3.3,baz=214,slow=11,SNR=5.4						
MKAR	Makanchi Array	28.20	42	P	P	06 19 14.8	-0.2
	comp=Z,0.5nm,0.8s,mb3.2,baz=217,slow=7.2,SNR=4.4						
KURK	Kurchatov	28.63	32	P	P	06 19 18.4	-0.5
	comp=Z,1.2nm,0.9s,mb3.6						
KURK	Kurchatov	28.63	32	P	P	06 19 18.4	-0.5
	comp=Z,1.2nm,0.9s,mb3.6						
KURK	Kurchatov	28.63	32	P	P	06 19 18.4	-0.5
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
AKASG	Malin Array Be	29.77	326	P	P	06 19 28.1	-1.1
	comp=Z,0.4nm,0.3s,mb3.6,baz=134,slow=8.6,SNR=6.2						
AKASG				pP	pP	06 19 34.4	-0.4
	comp=Z,0.6nm,0.4s,baz=136,slow=8.4,SNR=4.4						
WMQ	Urumqi	30.35	50	eP	P	06 19 34.0	-0.4
WMQ				XP	sP	06 19 41.0	-1.5
WMQ				PP	PP	06 20 33.0	-0.9
WMQ				eS	S	06 24 32.0	-0.5
WMQ				XS		06 24 40.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,58nm,4.4s						
WMQ				LR	LR		
	comp=N,189nm,28.2s,MS3.7						
WMQ				LR	LR		
	comp=E,92nm,23.3s,MS3.7						
WMQ				LR	LR		
	comp=Z,84nm,25.7s,MS3.3						
ZAL	Zalesovo	33.60	32	P	P	06 20 01.7	-1.1
	comp=Z,1.6nm,0.3s,mb4.4,baz=207,slow=13,SNR=5.3						
ZAL				sP	sP	06 20 10.5	-0.4
	comp=Z,2.1nm,0.7s,baz=190,slow=8.0,SNR=3.3						
MORC	Moravsky Berou	35.73	317	eP	P	06 20 19.2	-1.9
	comp=Z,1.1nm,0.5s,mb4.0						
MORC	Moravsky Berou	35.73	317	eP	P	06 20 19.2	-1.8
	comp=Z,1.1nm,0.5s,mb4.0						
MORC	Moravsky Berou	35.73	317	eP	P	06 20 19.2	-1.8
MORC				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
GERES	GERESS Array B	37.77	314	pP	pP	06 20 44.6	+0.7
	comp=Z,0.9nm,0.5s,baz=100,slow=6.0,SNR=2.1						
KHC	Kasperske Hory	37.93	315	eP	P	06 20 39.0	-0.5
KHC				pP	pP	06 20 46.0	+0.7
KHC	Kasperske Hory	37.93	315	eP	P	06 20 39.0	-0.5
KHC				e	pP	06 20 46.0	+0.7
GTA	Gaotai	38.41	61	eP	P	06 20 43.8	+0.1
GTA				AP	pP	06 20 48.1	-1.3
GTA				XP	sP	06 20 51.0	-0.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.3						
FINES	FINESS Array B	38.42	338	P	P	06 20 43.0	-0.5
	comp=Z,0.5nm,0.3s,mb3.6,baz=143,slow=9.5,SNR=5.5						
FINES				pP	pP	06 20 49.9	+0.6
	comp=Z,1.7nm,0.5s,baz=137,slow=11,SNR=3.1						
FINES	FINESS Array B	38.42	338	P	P	06 20 43.0	-0.5
FINES				pP	pP	06 20 49.8	+0.6
CLL	Collm	38.99	318	e*SP	sP	06 20 57.0	+0.5
LZH	Lanzhou	41.63	66	eP	P	06 21 10.0	-0.3
LZH				AP	pP	06 21 14.1	-1.9
LZH				XP	sP	06 21 18.0	-0.4
LZH				PP	PP	06 22 49.0	-0.7
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
LZH				AMB	AMB		
	comp=Z,46nm,4.0s						
ZAK	Zakamensk	42.40	45	eP	P	06 21 16.1	-0.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
NB2	NORSAR Subarra	43.89	331	P	P	06 21 27.4	-1.0
	comp=Z,1.8nm,0.6s,mb4.0,baz=117,slow=7.9						
NB2	NORSAR Subarra	43.89	331	P	P	06 21 27.4	-1.0
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	43.89	331	P	P	06 21 27.4	-1.0
	comp=Z,3.6nm,0.8s,mb4.1,baz=117,slow=7.9,SNR=6.6						
SONM	Songino Array	43.97	49	P	P	06 21 29.1	-0.1
	comp=Z,1.4nm,1.0s,mb3.6,baz=243,slow=6.6,SNR=6.1						
SONM				LR	LR	06 41 43.2	
	comp=Z,64nm,20.4s,MS3.5,baz=36,slow=39						
ESDC	Sonseca Array	49.52	299	P	P	06 22 12.5	-0.5
	comp=Z,0.2nm,0.3s,mb3.6,baz=102,slow=12,SNR=2.7						
BOD	Bodaibo	50.08	37	eP	P	06 22 12.3	-4.8
MDT	Midelt	51.07	291	P	P	06 22 25.6	+0.6
	comp=Z,2.3nm,0.9s,mb4.1,baz=121,slow=8.4,SNR=2.8						
MATP	Matopo	54.80	211	P	P	06 22 51.9	-1.0
	comp=Z,2.9nm,0.8s,mb4.4,baz=15,slow=8.0,SNR=5.3						
MATP	Matopo	54.80	211	P	P	06 22 51.9	-1.0
TSUM	Tsumeb	59.52	222	P	P	06 23 24.2	-2.2
	comp=Z,2.9nm,0.8s,mb4.3,baz=44,slow=14,SNR=3.3						
LBTB	Lobatse	60.09	211	P	P	06 23 28.2	-2.0
	comp=Z,2.0nm,0.6s,mb4.3,baz=61,slow=4.4,SNR=4.2						
MDJ	Mudanjiang	60.12	53	P	P	06 23 25.9	-4.2
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,44nm,5.3s						
MDJ				LR	LR		
	comp=N,85nm,43.6s,MS3.6						
MDJ				LR	LR		
	comp=E,52nm,41.1s,MS3.6						
MDJ				LR	LR		
	comp=Z,42nm,18.0s						
DBIC	Dimbokro	60.47	261	P	P	06 23 31.2	-1.8
	comp=Z,4.3nm,0.9s,mb4.5,baz=45,slow=8.6,SNR=3.2						
KIC	Kosan Boka	60.52	261	eP	P	06 23 34.1	+0.8
	comp=Z,48nm,1.3s						
TIC	Toumodi	60.63	261	eP	P	06 23 34.3	+0.3
	comp=Z,5.6nm,1.0s,mb4.6						
LIC	Lamto	60.84	261	eP	P	06 23 35.6	+0.2
	comp=Z,38nm,1.6s						
WRA	Warramunga Arr	90.25	112	P	P	06 26 24.7	+1.8
	comp=Z,0.7nm,0.8s,mb4.0,baz=314,slow=3.8,SNR=5.1						
TXAR	Lajitas Array	119.25	339	PKP	PKPdf	06 32 15.1	+1.0
	comp=Z,0.2nm,0.7s,baz=90,slow=1.3,SNR=3.9						

*IDC **19** 06:14:18.6±0.9, 15.52N×59.90W, mb3.8/8, mb1 4.1/8, mb1mx3.9/22, mbtmp3.8/8, MS2.9/1, Ms1 2.9/1, ms1mx2.7/19, Error ellipse: s-maj=16.0km s-min=13.4km az=103.0*
*TRN **19** 06:14:22.2, 15.45N×59.93W, h35km, MD4.0, M4.0(FDF)*
*NEIC **19** 06:14:23.4, 15.43N×59.82W, h35km, mb4.1/1, MD4.2(TRN), After TRN.*
ISC 19 06:14:22.0±0.6**, 15.50N**±0.04×**59.80W**±0.05**, h33**km**, n36, σ1§14**/50**, mb3.8**/9**, 5C-3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRM	Caravelle	1.31	235⇑	eP	P	06 14 42.8	-1.3
CRM			⇑	eS	S	06 14 59.7	-0.9
MVM	Montagne Vaucl	1.42	228⇑	eP	P	06 14 45.2	-0.5
DEG	La Desirade	1.46	304⇓	eP	P	06 14 45.7	-0.5
DEG				eS	S	06 15 03.8	-0.5
DBCT	Belle View Cho	1.51	261	eP	P	06 14 50.6	+3.6
DBCT	Belle View Cho	1.51	261	eP	P	06 14 51.6	+4.7
DBCT				eS	S	06 15 09.9	+4.2
FDF	Fort de France	1.51	240⇓	eP	P	06 14 46.2	-0.8
FDF				eS	S	06 15 04.8	-1.0
DSHT	Scott’s Head	1.55	259	eP	P	06 14 49.9	+2.5
DSHT				eS	S	06 15 05.0	-1.5
DSHT	Scott’s Head	1.55	259	eP	P	06 14 49.9	+2.5
DSHT				eS	S	06 15 09.6	+3.0
MDN	Morne-Daniel	1.55	263	eP	P	06 14 49.5	+2.1
MDN				eS	S	06 15 05.1	-1.4
MDN	Morne-Daniel	1.55	263	eP	P	06 14 49.5	+2.1
MDN				eS	S	06 15 08.6	+2.0
BBL	Barber’s Block	1.61	271	eP	P	06 14 48.5	+0.2
BBL				eS	S	06 15 09.3	+1.1
TBG	Guadaloupe-3	1.81	281	eP	P	06 14 51.2	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DOG	**Dongo Capester**	**1.83**	**287**	⇓eP	**P**	**06 14 51.8**	**+0.3**
BCG	**Bois Riant Cap**	**1.84**	**288**	eP	**P**	**06 14 52.0**	**+0.3**
SCG	**Saint Claude**	**1.89**	**286**	eP	**P**	**06 14 52.6**	**+0.3**
LZG	**Guadaloupe-1**	**2.00**	**289**	eP	**P**	**06 14 54.2**	**+0.2**
SLB	**Belfond**	**2.06**	**216**	⇑eP	**P**	**06 14 56.5**	**+1.8**
SLB				eS	**S**	**06 15 17.4**	**-2.1**
SLB	**Belfond**	**2.06**	**216**	⇑eP	**P**	**06 14 56.5**	**+1.8**
SLB				eS	**S**	**06 15 15.0**	**-4.4**
SVB	**Belmont**	**2.63**	**213**	eP	**P**	**06 15 03.2**	**+0.2**
SVB				eS	**S**	**06 15 33.6**	**-0.4**
GRW	**Mount Saint Ca**	**3.78**	**209**	eP	**P**	**06 15 21.1**	**+1.7**
GRW				eS	**S**	**06 16 02.2**	**-1.2**
SJG	**San Juan**	**6.61**	**294**	Pn	**Pn**	**06 15 58.2**	**-1.3**
	2.4nm,0.3s,baz=56,slow=7.3,SNR=5.0						
SJG				Sn	**Sn**	**06 17 12.9**	**-1.6**
	0.5nm,0.3s,baz=288,slow=20,SNR=2.0						
SJG	**San Juan**	**6.61**	**294**	ePn	**Pn**	**06 15 58.9**	**-0.6**
SJG				eSn	**Sn**	**06 17 15.7**	**+1.2**
SDV	**Santo Domingo**	**12.46**	**239**	LR	LR	06 23 02.3	
	comp=Z,55nm,18.2s,baz=37,slow=42						
SDV	**Santo Domingo**	**12.46**	**239**	Pn	**P**	**06 17 21.5**	**+1.6**
	1.3nm,0.4s						
ROSC	**El Rosal**	**17.77**	**235**	P	**P**	**06 18 31.2**	**+2.6**
	0.8nm,0.3s,baz=100,slow=9.8,SNR=7.3						
SIV	**San Ignacio**	**31.32**	**182**	P	**P**	**06 20 41.3**	**-0.4**
	0.2nm,0.5s,mb3.2,baz=354,slow=9.2,SNR=3.4						
TXAR	**Lajitas Array**	**42.58**	**297**	P	**P**	**06 22 15.3**	**-1.4**
	0.3nm,0.5s,mb3.2,baz=124,slow=8.8,SNR=7.4						
TXAR	**Lajitas Array**	**42.58**	**297**	P	**P**	**06 22 15.3**	**-1.4**
MNTX	**Cornudas Mount**	**44.44**	**300**	eP	**P**	**06 22 30.8**	**-0.9**
	1.1nm,0.4s,mb3.9						
ULM	**Lac du Bonnet**	**45.26**	**328**	P	**P**	**06 22 37.0**	**-1.1**
	1.0nm,0.6s,mb3.8,baz=120,slow=12,SNR=4.4						
ULM	**Lac du Bonnet**	**45.26**	**328**	P	**P**	**06 22 37.0**	**-1.1**
PDAR	**Pinedale Array**	**50.33**	**313**	P	**P**	**06 23 17.4**	**-0.3**
	2.4nm,0.7s,mb4.3,baz=113,slow=9.3,SNR=24						
NVAR	**Mina Array Bea**	**55.94**	**306**	P	**P**	**06 23 59.2**	**-0.1**
	0.7nm,0.7s,mb3.8,baz=106,slow=6.3,SNR=7.9						
FINES	**FINESS Array B**	**74.56**	**30**	P	**P**	**06 25 59.1**	**+0.2**
	1.0nm,0.5s,mb4.0,baz=315,slow=2.0,SNR=6.5						
ILAR	**Eielson Array**	**74.87**	**334**	P	**P**	**06 26 00.1**	**-0.7**
	1.1nm,0.7s,mb3.9,baz=101,slow=5.1,SNR=15						
BRTR	**Keskin Array B**	**82.85**	**51**	P	**P**	**06 26 45.4**	**+0.8**
	0.7nm,0.7s,mb3.8,baz=256,slow=5.1,SNR=4.6						

*IDC **19** 06:20:27.9±12.0, 18.22S×174.70W, h79km±117km, mb3.9/9, mb1 4.1/9, mb1mx4.0/16, mbtmp4.2/9, Error ellipse: s-maj=60.4km s-min=22.9km az=165.0*

*NEIC **19** 06:20:28.8±1.2, 18.25S×174.72W, h88km±11km, Error ellipse: s-maj=20.4km s-min=8.1km az=139.0*

ISC 19 06:20:27.0±2.3**, 18.3S**±0.2×**174.8W**±0.2**, h86**km±22km**, n17, σ0ˢ43**/13**, mb4.1**/10**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.18**	**34**	ePn	**P**	**06 21 43.6**	**0.0**
URZ	**Urewera**	**21.17**	**198**	P	**P**	**06 25 06.9**	**-0.2**
	11nm,0.5s,mb4.4,baz=342,slow=5.3,SNR=7.7						
CTA	**Charters Tower**	**36.81**	**261**	P	**P**	**06 27 29.6**	**+1.0**
	2.3nm,0.5s,mb4.3,baz=67,slow=10,SNR=5.1						
STKA	**Stephens Creek**	**41.53**	**242**	P	**P**	**06 28 07.8**	**+0.2**
	3.4nm,1.1s,mb4.0,baz=101,slow=5.2,SNR=2.6						
WB2	**Warramunga Arr**	**47.97**	**259**	eP	**P**	**06 28 59.1**	**-0.2**
WRAB	**Tennant Creek**	**47.97**	**259**	eP	**P**	**06 28 59.4**	**+0.1**
	5.6nm,0.3s,mb4.9						
WRA	**Warramunga Arr**	**47.98**	**259**	P	**P**	**06 28 59.2**	**-0.2**
	2.5nm,0.3s,mb4.5,baz=97,slow=5.7,SNR=52						
FITZ	**Fitzroy Crossi**	**56.39**	**260**	P	**P**	**06 30 01.6**	**-0.6**
	0.8nm,0.3s,mb4.2,baz=152,slow=8.1,SNR=3.9						
NVAR	**Mina Array Bea**	**77.30**	**42**	P	**P**	**06 32 14.0**	**0.0**
	0.8nm,0.7s,mb3.6,baz=218,slow=8.3,SNR=6.9						
NVAR	**Mina Array Bea**	**77.30**	**42**	P	**P**	**06 32 14.0**	**0.0**
TXAR	**Lajitas Array**	**83.27**	**56**	P	**P**	**06 32 46.6**	**+0.7**
	0.8nm,0.8s,mb3.6,baz=213,slow=7.9,SNR=10						
PDAR	**Pinedale Array**	**85.24**	**42**	P	**P**	**06 32 55.1**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=243,slow=2.7,SNR=5.8						
ILAR	**Eielson Array**	**85.48**	**12**	P	**P**	**06 32 55.8**	**-0.3**
	1.6nm,0.5s,mb4.2,baz=228,slow=6.2,SNR=46						
ARCES	**ARCESS Array B**	**127.22**	**351**	PKP	PKPdf	06 39 21.4	+0.2
	1.4nm,0.9s,baz=63,slow=2.7,SNR=8.3						
CLL	**Collm**	**146.44**	**351**	ePKP1	PKPbc	06 39 59.0	+1.1
BRTR	**Keskin Array B**	**147.44**	**317**	PKPbc	PKPdf	06 40 03.2	+4.6
	0.8nm,0.6s,baz=135,slow=3.5,SNR=5.0						
GERES	**GERESS Array B**	**148.72**	**349**	PKPbc	PKPdf	06 40 06.1	+5.7
	0.9nm,0.4s,slow=2.0,SNR=3.3						

KRSC 19 07:03:57.1±1.3**, 50.19N**×**156.72E, ML4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.63**	**322**	i P	Pg	07 04 09.5	-0.1
SKR				i S	Sg	07 04 20.0	+2.0
ALID	**Alaid**	**1.01**	**313**	i P	Pb	07 04 17.7	+0.5
ALID				eS	Sg	07 04 31.9	+1.2
PAU	**Pauzhetka**	**1.28**	**3**	eP	Pb	07 04 22.3	+0.5
PAU				eS	Sb	07 04 39.9	+1.2
PAU				Smax			
	3μm,0.1s						
MIPR	**Malaya Ipel'ka**	**2.09**	**1**	eP	Pn	07 04 33.3	-0.5
MIPR				eS	Sn	07 04 59.4	-1.5
RUS	**Russkaya**	**2.51**	**26**	i P	Pn	07 04 38.7	-1.1
RUS				eS	Sn	07 05 09.1	-2.5
GRL	**Gorelyy**	**2.51**	**19**	eP	Pn	07 04 40.3	+0.5
GRL				eS	Sn	07 05 11.5	-0.1
KRMR	**Karymshinskiy**	**2.79**	**18**	S	Sn	07 05 19.5	+0.9
PET	**Petropavlovsk**	**3.08**	**22**	eP	Pn	07 04 47.8	-0.2
PET				eS	Sn	07 05 24.3	-1.8
UGLR	**Uglovaya**	**3.29**	**23**	eP	Pn	07 04 51.9	+0.9
UGLR				eS	Sn	07 05 31.4	-0.1
AVH	**Avacha**	**3.33**	**21**	eP	Pn	07 04 52.2	+0.8
AVH				eS	Sn	07 05 32.0	-0.2
KOK	**Koryaka**	**3.33**	**20**	eP	Pn	07 04 52.4	+1.0
KOK				eS	Sn	07 05 32.2	-0.1
SMAR	**Somma**	**3.34**	**22**	eP	Pn	07 04 52.7	+1.1
SMAR				eS	Sn	07 05 32.7	+0.1
SDLR	**Sedlovina**	**3.37**	**23**	eP	Pn	07 04 52.3	+0.2
SDLR				eS	Sn	07 05 31.9	-1.5
NLC	**Nalytchevo**	**3.40**	**28**	S	Sn	07 05 29.0	-5.2
SPN	**Mys Shipunski**	**3.56**	**34**	eP	Pn	07 04 53.9	-0.9
SPN				eS	Sn	07 05 34.8	-3.5
GNL	**Ganaly**	**3.59**	**12**	eP	Pn	07 04 56.6	+1.4
KII	**Karymskiy**	**4.20**	**23**	eP	Pn	07 05 03.6	-0.3
KMNR	**Kamenistaya**	**5.97**	**19**	eP	Pn	07 05 27.7	-1.1
KBTR	**Krutoberegovo**	**7.05**	**29**	P	Pn	07 05 41.1	-3.0

IGQ 19 07:44:59.6, 1.04S×**78.22W, h15**km±1km**, mb4.2, 1D, Error ellipse: s-maj=1.6km s-min=0.5km az=17.2, Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.17**	**263**	⇓P	Pb	07 45 04.3	+0.4
TAMB	**Tambo**	**0.37**	**337**	P	Pb	07 45 07.9	+0.5
VC1	**Cotopaxi 1**	**0.43**	**335**	P	Pb	07 45 09.0	+0.6
CAMI	**Rancho Maria**	**0.46**	**322**	P	Pb	07 45 09.3	+0.5
NAS1	**Nasa**	**0.48**	**327**	P	Pb	07 45 09.6	+0.5

IDC 19 08:01:02.3±7.0**, 5.58S**×**154.29E, h171**km±62km**, mb3.3**/3**, mb1 3.7**/4**, mb1mx3.4**/12**, mbtmp4.0**/4**, Error ellipse: s-maj=86.2km s-min=31.2km az=115.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.03**	**241**	P	P	08 02 56.1	-0.7
	6.7nm,0.3s,baz=62,slow=6.9,SNR=15						
WB2	**Warramunga Arr**	**24.08**	**232**	eP	P	08 06 02.4	-1.0
WRA	**Warramunga Arr**	**24.09**	**232**	P	P	08 06 02.6	-0.9
	2.5nm,0.7s,baz=55,slow=9.6,SNR=22						
STKA	**Stephens Creek**	**28.74**	**203**	P	P	08 06 43.3	-2.7
	1.3nm,0.7s,baz=33,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**82.32**	**22**	P	P	08 13 04.5	-1.3
	0.2nm,0.6s,baz=242,slow=5.2,SNR=4.3						

IDC 19 08:16:35.0±3.1**, 0.49S**×**99.45E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/14**, mbtmp3.6**/3**, Error ellipse: s-maj=132.2km s-min=27.8km az=59.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.24**	**122**	P	P	08 24 05.7	-1.5
	0.6nm,0.5s,baz=303,slow=8.9,SNR=10.0						
WRA				PcP	PcP	08 26 13.8	-3.0
	0.1nm,0.4s,baz=312,slow=2.4,SNR=4.7						
SONM	**Songino Array**	**48.51**	**6**	P	P	08 25 20.4	-1.3
	0.5nm,0.4s,baz=180,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**49.44**	**345**	P	P	08 25 26.6	-2.3
	0.6nm,0.7s,baz=148,slow=8.1,SNR=6.3						

*NNC **19** 09:00:19.9±9.6, 37.15N×68.54E, mpv3.3, Error ellipse: s-maj=84.0km s-min=58.7km az=169.0*

ISC 19 09:00:09.1±1.4**, 36.16N**±0.07×**69.1E**±0.2**, h33**km**, n8, σ0ˢ78**/10**, 3C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.02**	**9**	P	**P**	**09 01 52.2**	**0.0**
	0.2nm,0.2s,baz=192,slow=16,SNR=11						
KK31				⇑S	**S**	**09 03 04.6**	**-7.1**
	5.8nm,0.5s,baz=199,slow=25,SNR=11						
AAK	**Ala-Archa**	**7.70**	**31**	⇑P	**P**	**09 02 04.6**	**+3.0**
	2.8nm,0.4s						
AAK				⇑S	**S**	**09 03 28.1**	**-0.5**
	10nm,0.7s						
AB31	**Akbulak array**	**14.70**	**336**	P	**P**	**09 03 35.9**	**-0.4**
	0.1nm,0.2s,baz=156,slow=12,SNR=9.8						
KOLN	**Koldanda**	**14.87**	**120**	eP	**P**	**09 03 38.9**	**+0.2**
	3.4nm,0.3s						
GKN	**Gorkha**	**15.47**	**117**	eP	**P**	**09 03 45.4**	**-1.0**
	22nm,0.4s						
DMN	**Daman**	**16.04**	**118**	eP	**P**	**09 03 54.2**	**+0.5**
	8.0nm,0.4s						
KKN	**Kakani**	**16.05**	**117**	eP	**P**	**09 03 53.8**	**-0.1**
	12nm,0.5s						
PKI	**Pulchoki**	**16.27**	**117**	eP	**P**	**09 03 56.8**	**+0.1**

*IDC **19** 09:00:57.3±1.8, 13.31N×142.88E, mb4.2/5, mb1 4.5/5, mb1mx3.9/19, mbtmp4.2/5, Error ellipse: s-maj=140.1km s-min=22.1km az=109.0*

*NEIC **19** 09:01:00.6±0.9, 12.91N×143.92E, h10km, mb4.3/1, Error ellipse: s-maj=76.1km s-min=14.8km az=115.0*

ISC 19 09:00:59.0±1.1**, 12.9N**±0.3×**143.8E**±0.5**, h10**km**, n10, σ0ˢ93**/10**, mb4.3**/7**, 1C, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**33.95**	**196**	eP	**P**	**09 07 45.1**	**+0.2**
	4.0nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**33.95**	**196**	eP	**P**	**09 07 44.9**	**-0.1**
WRA	**Warramunga Arr**	**33.96**	**196**	P	**P**	**09 07 44.9**	**-0.1**
	2.2nm,0.6s,mb4.3,baz=16,slow=9.7,SNR=58						
ASPA	**Alice Springs**	**37.63**	**195**	⇑iP	**P**	**09 08 16.5**	**+0.4**
MBWA	**Marble Bar**	**41.30**	**215**	eP	**P**	**09 08 47.0**	**+0.4**
	1.9nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**44.59**	**183**	P	**P**	**09 09 12.8**	**-0.6**
	1.9nm,0.6s,mb4.1,baz=353,slow=8.1,SNR=8.6						
STKA	**Stephens Creek**	**44.59**	**183**	eP	**P**	**09 09 11.5**	**-1.9**
ILAR	**Eielson Array**	**69.61**	**25**	P	**P**	**09 12 08.2**	**-2.0**
	0.8nm,0.6s,mb3.8,baz=250,slow=6.0,SNR=12						
NEW	**Newport**	**86.42**	**41**	P	**P**	**09 13 43.9**	**+0.8**
	2.0nm,0.6s,mb4.5,baz=270,slow=4.0,SNR=8.1						
NVAR	**Mina Array Bea**	**88.15**	**51**	P	**P**	**09 13 52.8**	**+1.1**
	0.6nm,0.5s,mb4.1,baz=260,slow=5.5,SNR=6.7						

*IDC **19** 09:32:49.8±1.6, 14.93N×122.57E, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=149.2km s-min=24.3km az=67.0*

*MAN **19** 09:32:53.1, 14.95N×122.04E, h7km, mb4.6, ML3.5, MS3.4*

ISC 19 09:32:52.8±0.4**, 14.95N**±0.02×**122.12E**±0.04**, h10**km**, n24, σ1ˢ17**/44**, mb3.9**/4**, 3C-3D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.28**	**218**	eP	**Pg**	**09 32 58.6**	**0.0**
POLP				eS	**Sg**	**09 33 02.8**	**+0.2**
BALP	**Baler**	**0.94**	**326**	eP	**Pb**	**09 33 10.2**	**-0.6**
BALP				eS	**Sb**	**09 33 25.5**	**+2.4**
QVPH	**Quezon City--P**	**1.07**	**254**	⇓eP	**Pb**	**09 33 11.5**	**-1.3**
QVPH				eS	**Sb**	**09 33 26.2**	**-0.4**
GQP	**Guinayangan**	**1.09**	**163**	⇓iP	**Pb**	**09 33 12.8**	**-0.4**
GQP				i S	**Sb**	**09 33 28.1**	**+0.8**
PCPH	**Palayan**	**1.16**	**302**	⇓eP	**Pb**	**09 33 13.0**	**-1.5**
PCPH				i S	**Sb**	**09 33 29.0**	**-0.4**
TGY	**Tagaytay City**	**1.42**	**234**	⇑eP	**Pn**	**09 33 18.8**	**+0.1**
TGY				i S	**Sb**	**09 33 39.4**	**+2.4**
BOAC	**Boac**	**1.51**	**190**	eP	**Pn**	**09 33 19.4**	**-0.6**
BOAC				eS	**Sb**	**09 33 38.9**	**-0.5**
AUQP	**San Andres**	**1.71**	**161**	eP	**Pn**	**09 33 23.7**	**+0.9**
AUQP				eS	**Sn**	**09 33 50.4**	**+5.6**
CAUP	**Cauayan**	**2.00**	**352**	eP	**Pn**	**09 33 26.9**	**-0.1**
CAUP				eS	**Sn**	**09 33 54.6**	**+2.2**
BCPH	**Baguio City Da**	**2.05**	**314**	⇑iP	**Pn**	**09 33 27.7**	**-0.1**
BCPH				i S	**Sn**	**09 33 55.1**	**+1.5**
LUBP	**Lubang**	**2.18**	**237**	eP	**Pn**	**09 33 29.0**	**-0.6**
LUBP				eS	**Sn**	**09 33 58.2**	**+1.3**
SCZP	**Santa Cruz**	**2.28**	**291**	eP	**Pn**	**09 33 30.7**	**-0.4**
SCZP				eS	**Sn**	**09 33 58.1**	**-1.3**
PVCP	**Virac**	**2.39**	**124**	eP	**Pn**	**09 33 34.4**	**+1.8**
PVCP				eS	**Sn**	**09 34 06.7**	**+4.5**
BOLP	**Bolinao**	**2.56**	**304**	eP	**Pn**	**09 33 35.1**	**+0.1**
BOLP				eS	**Sn**	**09 34 07.9**	**+1.4**
OTRP	**Odiongan**	**2.58**	**182**	eP	**Pn**	**09 33 35.8**	**+0.5**
OTRP				eS	**Sn**	**09 34 11.2**	**+4.2**
SJMP	**San Jose**	**2.66**	**202**	eP	**Pn**	**09 33 36.7**	**+0.3**
SJMP				eS	**Sn**	**09 34 15.3**	**+6.3**
CVP	**Callao Caves**	**2.75**	**354**	⇑eP	**Pn**	**09 33 37.5**	**-0.3**
CVP				eS	**Sn**	**09 34 13.0**	**+1.6**
ABRA	**Dolores**	**3.00**	**333**	eP	**Pn**	**09 33 41.1**	**-0.2**
ABRA				eS	**Sn**	**09 34 18.7**	**+0.9**
SGCP	**Mt. Cagua**	**3.27**	**359**	eP	**Pn**	**09 33 43.1**	**-2.1**
SGCP				eS	**Sn**	**09 34 20.8**	**-3.8**
BUSP	**Coron**	**3.47**	**213**	eP	**Pn**	**09 33 46.9**	**-1.1**
BUSP				eS	**Sn**	**09 34 38.4**	**+8.7**
SONM	**Songino Array**	**35.28**	**342**	P	**P**	**09 39 48.2**	**-1.6**
	1.0nm,0.6s,mb3.9,baz=159,slow=10,SNR=8.7						
WRA	**Warramunga Arr**	**36.70**	**161**	P	**P**	**09 39 57.3**	**-4.7**
	0.2nm,0.4s,mb3.3,baz=343,slow=9.2,SNR=6.5						
MKAR	**Makanchi Array**	**45.87**	**322**	P	**P**	**09 41 15.8**	**-1.2**
	2.6nm,0.9s,mb4.2,baz=121,slow=9.3,SNR=18						
ZAL	**Zalesovo**	**48.60**	**331**	P	**P**	**09 41 36.3**	**-2.1**
	0.9nm,0.4s,mb4.1,baz=19,slow=18,SNR=4.6						

*IDC **19** 10:22:44.8±3.3, 15.38S×174.02W, h55km±30km, mb3.9/6, mb1 4.3/7, mb1mx4.1/14, mbtmp4.3/7, MS3.1/1, Ms1 3.1/1, ms1mx2.3/20, Error ellipse: s-maj=85.3km s-min=18.1km az=148.0*

*NEIC **19** 10:22:45.6±1.6, 15.36S×174.00W, h64km±15km, mb4.5/2, Error ellipse: s-maj=67.2km s-min=11.0km az=150.0*

ISC 19 10:22:43.3±2.0**, 15.3S**±0.5×**174.1W**±0.3**, h56**km±20km**, n16, σ0ˢ85**/17**, mb4.3**/9**, 1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.59**	**58**	P	**P**	**10 23 25.0**	**+1.1**
	238nm,0.3s,baz=64,slow=4.6,SNR=423						
AFI				S	**S**	**10 23 51.4**	**-2.9**
	543nm,0.3s,baz=31,slow=20,SNR=15						
AFI				LR	LR	10 24 03.5	
	comp=Z,355nm,21.1s,baz=19,slow=30						
AFI	**Afiamalu**	**2.59**	**58**	⇓iPn	**P**	**10 23 25.3**	**+1.5**
AFI				eSn	**S**	**10 23 52.0**	**-2.3**
AFI				LR	LR	10 24 03.5	
STKA	**Stephens Creek**	**43.55**	**240**	P	**P**	**10 30 43.0**	**-0.4**
	1.8nm,0.5s,mb4.0,baz=98,slow=14,SNR=7.7						
STKA	**Stephens Creek**	**43.55**	**240**	eP	**P**	**10 30 43.8**	**+0.3**
STKA				e	pP	10 30 57.1	-1.0
WB2	**Warramunga Arr**	**49.25**	**257**	eP	**P**	**10 31 28.1**	**-0.4**
WRAB	**Tennant Creek**	**49.25**	**257**	eP	**P**	**10 31 28.6**	**+0.1**
	2.7nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**49.26**	**257**	P	**P**	**10 31 28.2**	**-0.5**
	2.2nm,0.5s,mb4.4,baz=93,slow=6.8,SNR=67						
ASPA	**Alice Springs**	**49.55**	**252**	eP	**P**	**10 31 30.6**	**-0.2**
KAKA	**Kakadu**	**51.88**	**266**	eP	**P**	**10 32 08.2**	**+20**
	3.5nm,0.5s,mb4.5						
NVAR	**Mina Array Bea**	**74.67**	**42**	P	**P**	**10 34 19.2**	**+0.5**
	3.6nm,0.7s,mb4.4,baz=232,slow=12,SNR=32						
MOD	**Modoc**	**75.43**	**38**	eP	**P**	**10 34 23.9**	**+0.8**
	7.1nm,1.2s,mb4.5						
PV10	**Paradox Valley**	**80.89**	**46**	eP	**P**	**10 34 51.6**	**-1.5**
TXAR	**Lajitas Array**	**81.07**	**56**	P	**P**	**10 34 54.9**	**+0.6**
	0.9nm,0.8s,mb3.7,baz=220,slow=8.2,SNR=11						
ILAR	**Eielson Array**	**82.47**	**11**	P	**P**	**10 35 01.0**	**+0.3**
	1.3nm,0.6s,mb4.1,baz=227,slow=6.2,SNR=22						
PDAR	**Pinedale Array**	**82.61**	**42**	P	**P**	**10 35 02.2**	**+0.3**
	1.9nm,0.8s,mb4.2,baz=232,slow=2.2,SNR=19						
BRTR	**Keskin Array B**	**145.68**	**321**	PKPbc	PKPbc	10 42 18.5	+2.1
	2.1nm,0.8s,baz=118,slow=2.7,SNR=9.3						

*IDC **19** 11:09:13.8±1.1, 0.16S×97.37E, mb4.3/11, mb1 4.4/11, mb1mx4.2/17, mbtmp4.3/11, MS3.8/7, Ms1 3.8/7, ms1mx3.6/18, Error ellipse: s-maj=54.6km s-min=16.9km az=52.0*

*BJI **19** 11:09:16.1, 0.74S×97.57E, h60km, mB5.0, mb4.7, Ms4.2, Msz4.0*

*NEIC **19** 11:09:18.5±0.4, 0.10S×97.55E, h30km, mb4.7/7, Error ellipse: s-maj=11.9km s-min=7.3km az=51.0*

ISC 19 11:09:17.3±0.5**, 0.06S**±0.06×**97.56E**±0.08**, h33**km**, n37, σ0ˢ98**/33**, mb4.5**/21**, MS3.9**/10**, 1C, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.14**	**30**	ePn	**Pn**	**11 10 46.6**	**-1.7**
KULM				eSn	**Sn**	**11 11 59.0**	**+0.8**
SNG	**Songkhla**	**7.81**	**23**	P	**P**	**11 11 15.0**	**+3.6**
	90nm,1.0s						
NANT	**Nan**	**18.99**	**9**	P	**P**	**11 13 36.0**	**-3.0**
KKM	**Kota Kinabalu**	**19.58**	**72**	eP	**P**	**11 13 45.0**	**-0.6**
KMI	**Kunming**	**25.53**	**11**	P	**P**	**11 14 47.3**	**+2.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,111nm,6.7s						
KMI				LR	LR		
	comp=N,422nm,19.9s,MS4.2						
KMI				LR	LR		
	comp=E,494nm,17.7s,MS4.2						
KMI				LR	LR		
	comp=Z,405nm,14.7s,MS4.1						
LSA	**Lhasa**	**30.22**	**349**	P	**P**	**11 15 28.1**	**+0.8**
	comp=Z,7.8nm,0.6s,mb4.6						
ENH	**Enshi**	**32.23**	**20**	eP	**P**	**11 15 44.1**	**-0.9**
	comp=Z,8.7nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**32.91**	**125**	eP	**P**	**11 15 50.7**	**-0.4**
	comp=Z,11nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**32.91**	**125**	P	**P**	**11 15 50.5**	**-0.6**
	comp=Z,29nm,1.2s,mb5.1,baz=309,slow=3.2,SNR=4.9						
XAN	**Xi'an**	**35.55**	**16**	P	**P**	**11 16 12.6**	**-1.0**
XAN				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
LZH	**Lanzhou**	**36.43**	**9**	eP	**P**	**11 16 27.5**	**+6.5**
LZH				AP	pP	11 16 40.0	+9.3
LZH				XP	sP	11 16 45.0	+10
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,116nm,4.0s						
GTA	**Gaotai**	**39.33**	**3**	eP	**P**	**11 16 45.8**	**+0.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,107nm,4.6s						
GTA				LR	LR		
	comp=N,112nm,16.4s,MS4.0						
GTA				LR	LR		
	comp=E,180nm,18.0s,MS4.0						
GTA				LR	LR		
	comp=Z,92nm,15.7s,MS3.7						
WRA	**Warramunga Arr**	**41.08**	**121**	P	**P**	**11 17 00.4**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.2,baz=301,slow=9.0,SNR=43						
WRAB	**Tennant Creek**	**41.08**	**121**	eP	**P**	**11 16 59.1**	**-0.8**
	comp=Z,18nm,1.1s,mb4.6						
WRAB				e		11 19 02.5	
WB2	**Warramunga Arr**	**41.09**	**121**	eP	**P**	**11 16 59.8**	**-0.1**
ASPA	**Alice Springs**	**42.36**	**126**	⇑iP	**P**	**11 17 10.7**	**+0.3**
WMQ	**Urumqi**	**44.57**	**350**	eP	**P**	**11 17 27.3**	**-0.7**
WMQ				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,162nm,5.6s						
WMQ				LR	LR		
	comp=N,142nm,20.4s,MS4.1						
WMQ				LR	LR		
	comp=E,189nm,24.6s,MS4.1						
WMQ				LR	LR		
	comp=Z,146nm,18.4s						
KS15	**Wonju Array Si**	**46.65**	**34**	eP	**P**	**11 17 45.7**	**+1.1**
AAK	**Ala-Archa**	**47.29**	**337**	eP	**P**	**11 17 49.7**	**+0.1**
	comp=Z,8.5nm,1.3s,mb4.5						
SONM	**Songino Array**	**48.32**	**8**	P	**P**	**11 17 57.9**	**+0.3**
	comp=Z,1.1nm,0.4s,mb4.2,baz=191,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**48.54**	**346**	P	**P**	**11 17 59.7**	**+0.4**
	comp=Z,8.1nm,0.6s,mb4.9,baz=155,slow=7.8,SNR=78						
MKAR				LR	LR	11 42 46.1	
	comp=Z,58nm,19.6s,MS3.6,slow=41						
STKA	**Stephens Creek**	**52.25**	**132**	eP	**P**	**11 18 30.6**	**+2.8**
	comp=Z,3.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**52.25**	**132**	P	**P**	**11 18 28.2**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.5,baz=292,slow=6.0,SNR=4.7						
STKA				LR	LR	11 39 10.2	
	comp=Z,180nm,20.3s,MS4.1,baz=273,slow=34						
MJAR	**Matsushiro Arr**	**52.38**	**41**	LR	LR	11 41 32.8	
	comp=Z,96nm,18.6s,MS3.9,baz=145,slow=37						
KURK	**Kurchatov**	**53.09**	**345**	eP	**P**	**11 18 33.4**	**-0.4**
	comp=Z,8.6nm,0.9s,mb4.7						
KURK				e		11 20 28.6	
ZAL	**Zalesovo**	**54.84**	**351**	P	**P**	**11 18 46.2**	**-0.4**
	comp=Z,4.2nm,0.6s,mb4.6,baz=299,slow=4.9,SNR=16						
ZAL				LR	LR	11 44 45.1	
	comp=Z,94nm,18.8s,MS3.9,baz=91,slow=39						
ZAL	**Zalesovo**	**54.84**	**351**	P	**P**	**11 18 46.2**	**-0.4**
ZAL				LR	LR	11 44 45.1	
BVAR	**Borovoye Array**	**57.55**	**341**	P	**P**	**11 19 05.0**	**-1.0**
	comp=Z,1.3nm,0.7s,mb4.1,baz=127,slow=7.4,SNR=5.0						
BRTR	**Keskin Array B**	**70.22**	**313**	P	**P**	**11 20 28.6**	**-0.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=149,slow=8.4,SNR=3.4						
FINES	**FINESS Array B**	**81.27**	**333**	P	**P**	**11 21 31.1**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=124,slow=6.9,SNR=5.1						
FINES				LR	LR	12 01 22.5	
	comp=Z,48nm,18.6s,MS3.9,baz=112,slow=38						
FINES	**FINESS Array B**	**81.27**	**333**	P	**P**	**11 21 31.1**	**-0.4**
FINES				LR	LR	12 01 22.5	
ARCES	**ARCESS Array B**	**83.83**	**340**	P	**P**	**11 21 45.3**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.2,baz=117,slow=2.0,SNR=4.9						
ARCES				LR	LR	11 59 38.8	
	comp=Z,60nm,21.2s,MS3.9,baz=268,slow=36						
GERES	**GERESS Array B**	**85.99**	**319**	P	**P**	**11 21 56.6**	**+1.0**
	comp=Z,0.3nm,0.2s,mb4.1,baz=96,slow=8.9,SNR=2.7						
NOA	**NORSAR Array B**	**88.27**	**331**	LR	LR	12 07 01.6	
	comp=Z,31nm,19.1s,MS3.7,baz=100,slow=39						
CPUP	**Villa Florida**	**144.31**	**221**	PKP	PKPdf	11 28 51.9	+1.0
	comp=Z,3.2nm,0.7s,baz=173,slow=6.3,SNR=6.7						
TXAR	**Lajitas Array**	**144.53**	**33**	PKP	PKPdf	11 28 52.5	+1.3
	comp=Z,0.6nm,0.8s,baz=294,slow=0.9,SNR=7.8						
TXAR	**Lajitas Array**	**144.53**	**33**	PKP	PKPdf	11 28 52.5	+1.3

*MAN **19** 11:11:42.1, 15.32N×118.86E, h8km, mb4.5, ML3.3, MS3.2*

ISC 19 11:11:46.6±0.9**, 15.24N**±0.04×**119.12E**±0.07**, h41**km±14km**, n21, σ1ˢ40**/32**, 2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.94**	**55**	eP	**P**	**11 12 02.8**	**-0.7**
SCZP				eS	**S**	**11 12 13.3**	**-2.5**
BOLP	**Bolinao**	**1.37**	**34**	eP	**P**	**11 12 09.2**	**-0.6**
BOLP				eS	**S**	**11 12 25.3**	**-1.6**
BCPH	**Baguio City Da**	**1.81**	**51**	⇑iP	**P**	**11 12 15.9**	**-0.1**
BCPH				i S	**S**	**11 12 39.4**	**+1.6**
PCPH	**Palayan**	**1.94**	**80**	⇓eP	**P**	**11 12 17.3**	**-0.4**
PCPH				i S	**S**	**11 12 41.1**	**+0.1**
QVPH	**Quezon City--P**	**1.96**	**107**	eP	**P**	**11 12 19.4**	**+1.3**
QVPH				eS	**S**	**11 12 42.8**	**+1.1**
TGY	**Tagaytay City**	**2.09**	**122**	⇑eP	**P**	**11 12 22.5**	**+2.5**
BALP	**Baler**	**2.42**	**78**	eP	**P**	**11 12 25.5**	**+0.8**
BALP				eS	**S**	**11 12 50.2**	**-3.2**
POLP	**Polilio Island**	**2.77**	**100**	eP	**P**	**11 12 31.2**	**+1.6**
POLP				eS	**S**	**11 13 00.9**	**-1.3**
ABRA	**Dolores**	**2.85**	**32**	eS	**S**	**11 13 03.2**	**-0.9**
CAUP	**Cauayan**	**3.11**	**56**	eP	**P**	**11 12 36.3**	**+1.9**
CAUP				eS	**S**	**11 13 15.5**	**+4.8**
BOAC	**Boac**	**3.18**	**123**	eS	**S**	**11 13 06.0**	**-6.5**
SJMP	**San Jose**	**3.38**	**145**	eP	**P**	**11 12 39.3**	**+1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJMP				eS	S	11 13 14.7	-2.8
BUSP	Coron	3.38	162	eP	P	11 12 38.8	+0.5
BUSP				eS	S	11 13 14.3	-3.3
CVP	Callao Caves	3.57	46	eP	P	11 12 42.0	+1.0
ENPP	El Nido	4.02	176	eP	P	11 12 46.0	-1.3
ENPP				eS	S	11 13 29.2	-4.5
SGCP	Mt. Cagua	4.10	43	eP	P	11 12 48.0	-0.5
CUYO	Cuyo Island	4.74	157	eP	P	11 12 56.0	-1.4
PVCP	Virac	5.14	108	eP	P	11 13 05.1	+1.8
PAGZ	Pagadian	8.45	150	eP	P	11 13 51.0	+1.6
WB2	Warramunga Arr	38.03	156	eP	P	11 19 02.3	-0.7
ASPA	Alice Springs	41.28	159	eP	P	11 19 30.1	+0.2

MAN 19 11:33:34.8, 4.93N×125.65E, h39km, mb4.4, ML3.2, MS3.0, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.35	329⇓	iP	P	11 34 02.6	+5.2
GSPH				eS	S	11 34 32.2	+18
MATI	Mati	2.10	17	eP	P	11 34 07.9	-0.2
MATI				eS	S	11 34 33.5	+0.4
BUKP	Musuan	2.99	349	eP	P	11 34 20.9	0.0
BUKP				eS	S	11 34 59.9	+4.0
PAGZ	Pagadian	3.67	322	eP	P	11 34 30.9	+0.4
PAGZ				eS	S	11 35 13.2	0.0
IPIL	Ipil	4.17	313	eP	P	11 34 37.9	+0.2
IPIL				eS	S	11 35 23.7	-2.2

*IDC **19** 11:45:21.9±11.0, 52.15N×176.22W, mb3.7/5, mb1 4.1/6, mb1mx3.7/24, mbtmp3.7/6, Error ellipse: s-maj=219.0km s-min=50.9km az=74.0*

*NEIC **19** 11:45:50.1, 52.32N×174.56W, h189km, MG3.3(AEIC), After AEIC.*

ISC 19 11:45:48.3±0.5, **52.8N**±0.2×**174.6W**±0.2, **h179**km±10km, **n20**, σ**0.65**/28, **mb3.5**/5, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.65	155	P	P	11 46 14.3	+0.3
ATKA				S	S	11 46 33.4	-0.3
GSTR	Great Sitkin T	1.11	232	P	P	11 46 17.6	+0.6
GSIG	Igitkin Island	1.12	225	P	P	11 46 17.3	+0.2
GSMY	Great Sitkin M	1.15	230	P	P	11 46 17.5	+0.2
GSMY				S	S	11 46 39.4	-0.2
GSSP	Great Sitkin S	1.17	234	P	P	11 46 17.8	+0.3
GSTD	Great Sitkin T	1.18	232	P	P	11 46 17.7	+0.1
GSTD				S	S	11 46 39.6	-0.5
GSCK	Great Sitkin C	1.21	231	P	P	11 46 18.1	+0.3
GSCK				S	S	11 46 41.0	+0.3
ETKA	Kagalaska Isla	1.43	230	P	P	11 46 19.4	-0.4
ETKA				S	S	11 46 43.0	-1.2
ADAG	Mount Adagdak	1.45	237	P	P	11 46 20.2	+0.1
ADAG				S	S	11 46 45.4	+0.8
KINC	Kanaga Island	1.75	242	P	P	11 46 23.4	+0.4
KIKV	Kanaga Island	1.80	241	P	P	11 46 24.1	+0.5
KIKV				S	S	11 46 50.7	+0.1
KIWB	Kanaga Island	1.80	240	eP	P	11 46 24.0	+0.5
KIMD	Kanaga Island	1.90	238	P	P	11 46 24.7	+0.2
KIMD				S	S	11 46 51.0	-1.4
ILAR	Eielson Array	18.53	39	P	P	11 49 51.6	-1.6
	0.1nm,0.3s,baz=241,slow=10.0,SNR=15						
INK	Inuvik	24.82	36	P	P	11 50 55.4	+0.5
	0.6nm,0.4s,mb3.5,baz=221,slow=9.3,SNR=6.4						
NEW	Newport	36.00	74	P	P	11 52 33.6	+0.2
	1.2nm,0.4s,mb3.8,baz=287,slow=11,SNR=3.7						
NVAR	Mina Array Bea	40.88	87	P	P	11 53 15.0	+1.1
	0.3nm,0.6s,mb3.1,baz=296,slow=8.5,SNR=4.9						
NVAR	Mina Array Bea	40.88	87	P	P	11 53 15.0	+1.1
PDAR	Pinedale Array	43.46	76	P	P	11 53 34.8	0.0
	1.6nm,0.5s,mb3.9,baz=320,slow=3.3,SNR=18						
TXAR	Lajitas Array	55.94	85	P	P	11 55 08.5	-1.2
	0.3nm,0.8s,mb3.2,baz=297,slow=4.0,SNR=3.3						

ISC 19 11:59:48.9±2.2, **41.0N**±0.1×**40.25E**±0.07, **h2**km±14km, **n6**, σ**0.67**/10, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMT	Gumushane	0.77	230	i PG	Pg	12 00 04.3	0.0
KELT	Kelkit	1.11	223	i P	Pb	12 00 10.1	-0.4
KELT				i S	Sb	12 00 24.8	-0.4
EZM	Erzurum	1.35	141	PN	Pn	12 00 14.8	-0.1
EZM				SN	Sn	12 00 33.6	0.0
ERZM	Erzurum	1.36	141	i P	Pb	12 00 14.5	-0.2
ERZM				i S	Sb	12 00 32.2	-0.2
GRSN	GIRESUNGRSN	1.50	269	i P	Pn	12 00 16.4	-0.6
GRSN				i S	Sb	12 00 36.9	+0.2
PTK	Pertek	2.17	198	ePN	Pn	12 00 28.6	+2.1

MAN 19 13:17:56.6, 7.48N×126.38E, h25km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.55	192	eP	Pb	13 18 08.4	+0.9
MATI				eS	Sb	13 18 18.4	+3.4
BUKP	Musuan	1.36	287	eP	Pn	13 18 19.9	-0.5
BUKP				eS	Sn	13 18 42.5	+4.8
BUTP	Butuan	1.65	333	eP	Pn	13 18 23.9	-0.6
BUTP				eS	Sn	13 18 47.2	+2.0
PAGZ	Pagadian	2.99	277	eP	Pn	13 18 43.4	-0.2
BESP	Borongan	4.19	347	eP	Pn	13 19 00.5	-0.2
BESP				eS	Sn	13 19 52.8	+3.3

*CASC **19** 13:18:06.6±2.1, 14.01N×91.59W, h22km±9km, MD4.3, ML4.0*

*NEIC **19** 13:18:09.8, 14.65N×91.47W, h200km, MD4.6(MEX), After MEX.*

*MEX **19** 13:18:09.8±0.6, 14.66N×91.47W, h200km±22km, MD4.6*

*IDC **19** 13:18:22.7±8.3, 15.97N×90.19W, h127km±104km, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.8/4, MS3.4/3, Ms1 3.5/3, ms1mx3.1/21, Error ellipse: s-maj=282.0km s-min=25.5km az=32.0*

ISC 19 13:18:05.5±0.6, **13.92N**±0.05×**91.70W**±0.03, **h45**km±11km, **n56**, σ**1.02**/79, **mb3.9**/3, **MS3.7**/2, **4C-10D**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.99	58⇓	eP	P	13 18 22.1	-0.9
TP2	Tecpan 2	1.08	37⇓	eP	P	13 18 24.2	-0.2
TP2				eS	S	13 18 38.2	-0.4
PCG	Pacaya	1.16	66⇑	eP	P	13 18 25.3	-0.3
PCG				eS	S	13 18 41.0	+0.5
IXG	Ixpaco	1.24	78⇓	eP	P	13 18 25.7	-1.0
IXG				eS	S	13 18 41.9	-0.5
RBDL	Robledal	1.97	84⇑	eP	P	13 18 36.9	-0.1
RBDL				eS	S	13 19 01.4	+0.9
RTR	El Retiro	2.00	90⇓	eP	P	13 18 37.4	0.0
SBLS	San Blas	2.02	92	eP	P	13 18 37.7	-0.1
SBLS				eS	S	13 19 03.1	+1.2
SNJE	San Jose	2.04	91	eP	P	13 18 38.1	+0.1
SNJE				eS	S	13 19 03.5	+1.1
MRL	Marmol	2.26	59⇓	eP	P	13 18 40.7	-0.4
MTO2	Montecristo 2	2.32	78⇓	eP	P	13 18 41.0	-1.1
MTO2				eS	S	13 19 10.5	+1.0
BOQS	Boqueron	2.36	94⇓	eP	P	13 18 42.4	-0.3
BOQS				eS	S	13 19 09.9	-0.6
CCIG	Comitan	2.39	350	i P	P	13 18 44.7	+1.7
CCIG				i S	S	13 19 11.3	+0.1
SNET	Serv Nac Est T	2.41	95	eP	P	13 18 43.7	+0.3
SNET				eS	S	13 19 11.5	-0.4
SNET				i		13 19 18.3	
	comp=Z,2µm,0.3s						
LFU	La Fuente	2.52	94	eP	P	13 18 44.7	-0.2
LFU				eS	S	13 19 14.0	-0.6
LFRS	El Faro	2.58	96	eP	P	13 18 45.8	-0.1
LFRS				eS	S	13 19 15.1	-1.1
LBRS	Las Brisas	2.59	94	eP	P	13 18 45.6	-0.3
LBRS				eS	S	13 19 17.6	+1.3
LCBS	La Ceiba	2.66	95⇑	eP	P	13 18 46.8	-0.2
LCBS				eS	S	13 19 17.6	-0.5
SNVI	San Vicente	2.80	96	eP	P	13 18 48.9	0.0
SNVI				eS	S	13 19 22.8	+1.1
SCX	San Cristobal	2.94	342	eP	P	13 18 53.5	+2.6
BLLM	Bellamira	3.40	98	eP	P	13 18 57.6	+0.1
BLLM				eS	S	13 19 36.6	-0.3
CNCH	Conchagua	3.81	99⇑	eP	P	13 19 02.6	-0.7
CNCH				eS	S	13 19 47.9	+0.5
CMIG	Matias Romero	4.40	316	eP	P	13 19 11.3	-0.2
CMIG				i S	S	13 20 01.4	-0.7
HUIG	Huatulco	4.64	294	i S	S	13 20 12.0	+3.7
CRIN	San Cristobal	4.69	104	eP	P	13 19 16.0	+0.4
TEL3	Telica 3	4.92	105	eP	P	13 19 18.2	-0.6
TEL3				eS	S	13 20 15.8	+0.7
LEON	Leon	4.92	107	eP	P	13 19 19.6	+0.8
TELN	Telica	4.92	105	eP	P	13 19 16.6	-2.2
CNGN	Cerro Negro	5.07	106	eS	S	13 20 17.9	-1.2
CNGN				i		13 20 30.9	
	comp=Z,176nm,0.7s						
MIRN	Miramar	5.08	106⇓	eP	P	13 19 22.6	+1.5
MOMJ	Momotombo	5.25	106	eP	P	13 19 23.1	-0.3
COPN	Copaltepe	5.27	109⇓	eP	P	13 19 23.4	-0.4
XAVN	Gruta Xavier	5.53	108	eP	P	13 19 27.0	-0.3
WILN	Americas 2	5.65	107	eP	P	13 19 28.8	-0.3
WILN				eS	S	13 20 33.6	0.0
TICN	Ticuantepe	5.65	109	eP	P	13 19 29.3	+0.3
PYTN	Playitas	5.67	103	eP	P	13 19 28.0	-1.2
PYTN				eS	S	13 20 32.5	-1.4
OXX	Oaxaca	5.77	304	eP	P	13 19 34.3	+3.6
OXX				i S	S	13 20 33.5	-3.1
VHO	Vista Hermosa	5.78	304	i P	P	13 19 32.6	+1.8
VHO				i S	S	13 20 35.4	-1.3
APON	Apoyo	5.84	109	eP	P	13 19 32.6	+0.9
APON				eS	S	13 20 39.4	+1.0
SSNN	San Juan del S	6.28	114	eP	P	13 19 36.6	-1.4
VCR	Vista de Mar	7.03	122	eP	P	13 19 49.2	+0.8
LVIG	Laguna Verde	7.33	323	i S	S	13 21 03.1	-12
JCR	Jicaral	7.61	121	eP	P	13 19 57.0	+0.5
PPM	Popocatepetl	8.38	309	eP	P	13 20 12.5	+5.3
LAJ	Bijagual	8.44	118	eP	P	13 20 05.0	-3.0
ACX	Acapulco	8.45	291	i P	P	13 20 07.0	-1.0
LCR2	La Lucha 2	8.60	118	eP	P	13 20 12.1	+1.9
PLIG	Platanillo	8.71	302	i P	P	13 20 13.4	+1.6
BUS	Buena Vista	8.90	118⇓	eP	P	13 20 15.9	+1.5
MOIG	Morelia	10.74	304	i P	P	13 20 39.4	-0.2
MOIG	Morelia	10.74	304	i P	P	13 20 43.7	+4.1
TXAR	Lajitas Array	18.92	326	P	P	13 22 25.6	+0.2
	baz=153,slow=10,SNR=9.7						
TXAR				LR	LR	13 31 15.6	
	comp=Z,49nm,18.5s,baz=345,slow=42						
SDV	Santo Domingo	21.24	101	P	P	13 22 49.4	-0.6
	comp=Z,10nm,0.8s,mb4.2,baz=326,slow=8.0,SNR=9.8						
MNTX	Cornudas Mount	21.69	327	eP	P	13 22 53.7	-0.7
NVAR	Mina Array Bea	33.92	321	P	P	13 24 48.8	+2.4
	comp=Z,1.2nm,0.8s,mb3.9,baz=130,slow=8.9,SNR=8.3						
NVAR				pP	pP	13 25 01.6	+3.2
	comp=Z,13nm,0.8s,baz=164,slow=8.5,SNR=54						
ILAR	Eielson Array	63.03	337	P	P	13 28 27.2	-2.8
	comp=Z,0.3nm,0.5s,mb3.7,baz=113,slow=5.7,SNR=9.3						
ILAR				pP	pP	13 28 42.6	-0.3
	comp=Z,1.0nm,0.9s,baz=122,slow=5.0,SNR=6.8						
ILAR				LR	LR	13 57 53.5	
	comp=Z,69nm,18.2s,MS3.9,baz=178,slow=38						
NOA	NORSAR Array B	84.08	28	LR	LR	14 09 26.7	
	comp=Z,22nm,21.3s,MS3.5,baz=310,slow=38						

*NEIC **19** 13:20:56.1±0.6, 19.98S×68.97W, h92km±5km, mb5.1/25, Error ellipse: s-maj=7.5km s-min=4.8km az=69.0*

NEIC Felt [III] at Iquique, Pisagua and Pozo Almonte.

*HRVD **19** 13:20:56.1±0.4, 20.04S×69.14W, h104km±5km, MW5.0/44, Centroid moment Tensor Solution. LP body waves: s14,c15;Mantle waves: s44,c68; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.45±.18; $M_{\theta\theta}$-1.24±.18; $M_{\phi\phi}$2.68±.20; $M_{r\theta}$1.28±.09; $M_{\theta\phi}$-2.04±.15; $M_{\phi r}$-0.94±.15; Best double couple: $M_0$3.33×10^{16} NP1:ϕ_s199°,δ52°,λ-19°. NP2:ϕ_s301°,δ75°,λ-140°. Principal axes: T 3.903, Plg15°, Azm65°; N -1.155, Plg48°, Azm318°; P -2.758, Plg38°, Azm167°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **19** 13:20:56.8±0.5, 20.09S×69.01W, h104km±5km, mb4.7/12, mb1 4.8/15, mb1mx4.8/16, mbtmp5.1/15, MS3.4/6, Ms1 3.4/6, ms1mx3.3/21 Error ellipse: s-maj=17.2km s-min=7.8km az=87.0*

*BJI **19** 13:20:59.1, 20.00S×69.00W, h92km, mB5.2*

*LDG **19** 13:20:59.8±0.2, 19.65S×68.83W, h127km, Mb5.0/9, Ms3.6/6, Error ellipse: s-maj=9.9km s-min=5.5km az=35.0*

ISC 19 13:20:55.4±0.2, **20.04S**±0.03×**69.01W**±0.06, **h104**km±.5km**:pP-P**, **n119**, σ**1.09**/105, **mb4.9**/30, **3C-9D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.56	178	P	P	13 21 37.0	+0.8
	629nm,0.3s,baz=349,slow=9.0,SNR=1755						
LVC				S	S	13 22 06.7	-0.1
	707nm,0.3s,baz=204,slow=20,SNR=24						
LVC	Limon Verde	2.56	178⇓	iP	P	13 21 37.0	+0.7
LVC				i S	S	13 22 07.4	+0.5
LVC				AMP		13 22 13.0	
	comp=E,16µm,0.4s						
LVC	Limon Verde	2.56	178⇓	iPn	P	13 21 36.9	+0.7
LPAZ	La Paz	3.83	13	P	P	13 21 57.7	+4.2
	comp=E,45nm,0.3s,baz=189,slow=9.2,SNR=393						
LPAZ				S	S	13 22 44.4	+6.7
	baz=47,slow=24,SNR=2.3						
LPAZ	La Paz	3.83	13	eP	P	13 21 58.2	+4.7
ANCH	Antofagasta	3.85	199	eP	P	13 21 50.5	-3.3
ANCH				i S	S	13 22 31.0	-7.3
ANCH				AMP		13 22 53.1	
	comp=E,11µm,0.6s						
ARE	Arequipa	4.27	326⇓	iP	P	13 21 58.1	-1.4
ARE				eS	S	13 22 52.0	+3.4
CPN1	Cerro Paranal	4.74	196	eP	P	13 22 03.3	-2.6
CPN1				i S	S	13 22 54.5	-5.7
CRCH	Chaqaral	6.45	193	eP	P	13 22 24.2	-5.1
CRCH				i S	S	13 23 33.1	-8.8
SIV	San Ignacio	8.56	63	P	P	13 22 57.9	-0.1
	comp=E,61nm,0.3s,baz=252,slow=13,SNR=1628						
NNA	Nana	10.99	316	eP	P	13 23 29.2	-1.5
	comp=E,43nm,0.7s						
CFAA	Coronel Fontan	11.54	177	P	P	13 23 32.8	-5.1
	comp=E,0.3nm,0.3s,baz=351,slow=12,SNR=32						
CFAA				S	S	13 25 32.6	-12
	comp=E,0.2nm,0.3s,baz=180,slow=13,SNR=2.5						
CFAA				LR	LR	13 28 54.6	
	comp=E,23nm,22.0s,baz=337,slow=42						
SAML	Samuel	12.38	28	eP	P	13 23 47.9	-1.3
	comp=E,36nm,0.7s						
CPUP	Villa Florida	12.43	122	P	P	13 23 49.2	-0.5
	comp=E,1.3nm,0.3s,baz=321,slow=15,SNR=46						
CPUP	Villa Florida	12.43	122	ePn	P	13 23 49.6	-0.1
	comp=E,63nm,1.0s						
TRQA	Tornquist	18.96	163	eP	P	13 25 09.6	-1.4
	comp=E,94nm,0.9s						
BDFB	Brasilia	20.46	81	P	P	13 25 26.8	+0.1
	comp=E,76nm,0.5s,baz=262,slow=10,SNR=80						
BDFB				LR	LR	13 34 32.3	
	comp=E,310nm,18.1s,baz=185,slow=40						
PLCA	Paso Flores	20.66	183	P	P	13 25 28.2	-0.5
	comp=E,82nm,0.7s,baz=4.7,slow=12,SNR=134						
PLCA	Paso Flores	20.66	183	eP	P	13 25 27.9	-0.8
	comp=E,105nm,0.8s						
ROSC	El Rosal	25.29	348	P	P	13 26 16.3	+2.4
	comp=E,9.6nm,0.4s,mb4.5,baz=93,slow=24,SNR=3.4						
ROSC				LR	LR	13 37 05.9	
	comp=E,143nm,20.9s,baz=188,slow=38						
SDV	Santo Domingo	28.79	357	P	P	13 26 44.5	-1.3
	comp=E,10nm,0.8s,mb4.5,baz=253,slow=4.2,SNR=12						
SDV				LR	LR	13 39 35.5	
	comp=E,43nm,20.6s,baz=44,slow=39						
SDV	Santo Domingo	28.79	357	eP	P	13 26 44.9	-0.9
	comp=E,130nm,2.0s,mb5.2						
RCBR	Riachuelo	35.13	71	eP	P	13 27 41.8	+0.8
	comp=E,51nm,0.7s,mb5.5						
MVM	Montagne Vaucl	35.29	14	eP	P	13 27 41.0	-1.3
CRM	Caravelle	35.48	14	eP	P	13 27 41.5	-2.4
SJG	San Juan	38.02	4	P	P	13 28 03.7	-1.5
	comp=E,35nm,0.4s,mb5.5,baz=337,slow=18,SNR=20						
SJG	San Juan	38.02	4	eP	P	13 28 04.1	-1.1
	comp=E,62nm,0.8s,mb5.5						
JSC	Jenkinsville	55.27	348	eP	P	13 30 20.2	-0.1
SWET	Sewanee	57.25	344	eP	P	13 30 32.7	-1.7
BLA	Blacksburg	57.95	349	eP	P	13 30 39.3	0.0
	comp=E,13nm,0.8s,mb5.0						
ELN	Prospectdale	58.03	349	eP	P	13 30 40.2	+0.4
FWV	Forest Hill	58.38	349	eP	P	13 30 42.3	+0.1
WVT	Waverly	58.64	342	eP	P	13 30 42.3	-1.8
	comp=E,13nm,0.9s,mb5.0						
TXAR	Lajitas Array	59.39	325	pP	pP	13 31 13.8	-1.2
	comp=E,0.4nm,0.4s,baz=144,slow=11,SNR=1.5						
FVM	French Village	61.13	341	eP	P	13 30 59.5	-1.6
	comp=E,8.4nm,0.4s,mb5.1						
ACSO	Alum Creek Sta	61.36	348	eP	P	13 30 59.0	-3.6
	comp=E,22nm,1.2s,mb5.0						
VNA3	Neumayer Olymp	61.48	162⇓	iP	P	13 31 03.5	+0.5
VNA3	Neumayer Olymp	61.48	162		P	13 31 14.8	+12
VNA3	Neumayer Olymp	61.48	162		P	13 31 17.7	+15
VNA1	Neumayer--Stat	61.68	161⇓	iP	P	13 31 05.4	+1.0
BRYW	Bryant College	61.69	358	eP	P	13 31 04.9	+0.1
	comp=E,15nm,0.7s,mb5.1						
VNA2	Neumayer--Watz	62.05	161⇓	iP	P	13 31 07.4	+0.6
ALLY	Alegheny Colle	62.24	351	eP	P	13 31 08.3	-0.2
ERPA	Erie	62.67	351	eP	P	13 31 11.2	-0.1
	comp=E,29nm,0.6s,mb5.4						
SNAA	Sanae	63.68	161	eP	P	13 31 17.5	-0.1
	comp=E,27nm,0.8s,mb5.1						
FRNY	Flat Rock	64.69	356	eP	P	13 31 24.3	-0.2
SADO	Sadowa	65.16	352	P	P	13 31 26.8	-0.8
	comp=E,8.9nm,0.8s,mb4.7,baz=185,slow=7.4,SNR=6.7						
SADO	Sadowa	65.16	352	P	P	13 31 26.8	-0.8
LIC	Lamto	68.08	74	eP	P	13 31 45.7	-0.7
	comp=E,112nm,1.0s,mb5.7						
LIC	Lamto	68.08	74	eP	P	13 31 45.8	-0.6
	comp=E,13nm,0.4s,mb5.1						
MAIT	Maitri	68.19	159⇓	iP	P	13 31 47.0	+0.8
TIC	Toumodi	68.26	74	eP	P	13 31 46.9	-0.7
	comp=E,27nm,1.0s,mb5.0						
KIC	Kosan Boka	68.39	74	eP	P	13 31 48.0	-0.4
	comp=E,196nm,0.7s						
DBIC	Dimbokro	68.42	74	P	P	13 31 48.1	-0.4
	comp=E,44nm,0.7s,mb5.4,baz=224,slow=6.2,SNR=93						
DBIC				pP	pP	13 32 14.5	-0.3
	comp=E,12nm,0.9s,baz=223,slow=6.4,SNR=2.5						
DBIC				LR	LR	14 01 36.9	
	comp=E,64nm,19.8s,baz=191,slow=36						
DBIC	Dimbokro	68.42	74	eP	P	13 31 48.2	-0.3
	comp=E,54nm,0.8s,mb5.4						
QSPA	South Pole Qui	70.14	180⇓	iP	P	13 31 59.2	+1.2
	comp=E,19nm,0.7s,mb5.0						
NEN	Nelson	70.38	322	P	P	13 32 00.6	+0.4
SRU	San Rafael	70.51	327	eP	P	13 32 02.0	+1.2
	comp=E,3.0nm,0.7s,mb4.2						
MSU	Marysvale	70.93	325	eP	P	13 32 04.8	+1.3
PDAR	Pinedale Array	72.81	330	P	P	13 32 15.2	+0.8
	comp=E,0.5nm,0.6s,baz=113,slow=6.9,SNR=2.9						
PDAR				LR	LR	14 09 24.1	
	comp=E,47nm,19.6s,baz=74,slow=40						
PDAR	Pinedale Array	72.81	330	P	P	13 32 15.2	+0.8
PDAR				LR	LR	14 09 24.1	
ULM	Lac du Bonnet	73.90	342	P	P	13 32 19.9	-0.8
	comp=E,6.3nm,0.6s,mb4.5,baz=144,slow=5.3,SNR=15						
RRI2	Red Ridge	74.09	329	eP	P	13 32 23.5	+1.6
	comp=E,4.5nm,0.8s,mb4.2						
NVAR	Mina Array Bea	74.29	322	P	P	13 32 23.6	+0.3
	comp=E,1.0nm,0.8s,baz=180,slow=5.1,SNR=8.2						
NVAR				pP	pP	13 32 50.0	0.0
	comp=E,1.3nm,0.8s,baz=180,slow=7.3,SNR=3.3						
FLWY	Flagg Ranch	74.35	330	eP	P	13 32 25.2	+1.8
SCHQ	Schefferville	74.59	1	P	P	13 32 24.0	-0.6
	comp=E,12nm,0.8s,mb4.6,baz=195,slow=5.1,SNR=11						
SCHQ	Schefferville	74.59	1	eP	P	13 32 24.8	+0.2
	comp=E,10nm,0.8s,mb4.6						
MCMT	McKenzie Canyo	75.92	329	eP	P	13 32 34.5	+2.1
SBA	Scott Base	77.24	190	eP	P	13 32 41.0	+1.9
	comp=E,8.6nm,1.0s,mb4.4						
SYO	Syowa Base	77.89	160	⇑P	P	13 32 42.5	-0.3
TSUM	Tsumeb	80.55	107	eP	P	13 32 59.4	+1.1
	comp=E,8.8nm,0.6s,mb4.8						
EVO	Evora	81.59	44⇑	iP	P	13 33 04.0	+0.7
	comp=E,6.6nm,0.6s,mb4.4						
EDM	Edmonton	82.41	335	eP	P	13 33 07.3	+0.1
ESDC	Sonseca Array	84.87	45	P	P	13 33 20.9	+1.1
	comp=E,4.9nm,1.0s,mb4.4,baz=241,slow=5.7,SNR=14						
ESDC				pP	pP	13 33 48.4	+1.2
	comp=E,0.2nm,0.3s,baz=175,slow=16,SNR=1.8						
MAW	Mawson	85.75	163⇓	iP	P	13 33 25.0	+1.5
	comp=E,3.9nm,0.6s,mb4.5						
MAW	Mawson	85.75	163	P	P	13 33 24.4	+0.9
	comp=E,4.0nm,0.5s,mb4.6,baz=216,slow=6.7,SNR=24						
SJPF	Ste Jean	88.38	43	eP	P	13 33 37.8	+1.0
	comp=E,20nm,1.1s,mb4.8						
ETSF	Etsaut	88.70	43	eP	P	13 33 39.3	+1.0
QUIF	Quistinic	89.61	38	eP	P	13 33 42.3	-0.2
ROSF	Rostrenen	89.77	37	eP	P	13 33 43.1	-0.1
	comp=E,6.0nm,0.6s,mb4.6						
YKA	Yellowknife Ar	89.79	341	P	P	13 33 43.4	+0.5
	comp=E,5.3nm,0.7s,mb4.8,baz=135,slow=4.4,SNR=8.0						
YKA				pP	pP	13 34 11.2	+0.6
	comp=E,5.6nm,0.8s,baz=138,slow=4.5,SNR=4.0						
YKA	Yellowknife Ar	89.79	341	P	P	13 33 43.4	+0.5
YKA				pP	pP	13 34 11.2	+0.6
SGMF	Saint Gilles	90.14	38	eP	P	13 33 44.6	-0.3
LFF	La Frestale	90.50	42	eP	P	13 33 47.1	+0.4
	comp=E,26nm,0.6s,mb5.2						
MTLF	Montolieu	90.70	44	eP	P	13 33 47.8	+0.1
MFF	Saint Martin d	90.75	40	eP	P	13 33 47.9	+0.1
RJF	Les Rejaudoux	91.16	42	eP	P	13 33 49.9	+0.1
RJF				eR			
	comp=E,52nm,18.0s						
GRR	Gorron	91.19	38	eP	P	13 33 49.5	-0.4
	comp=E,11nm,0.8s,mb4.8						
CAF	Calviac	91.33	42	eP	P	13 33 50.9	+0.3
FLN	La Foliniere	91.59	38	eP	P	13 33 51.6	-0.1
FLN				eR			
	comp=E,53nm,21.0s						
LDF	La Druitiere	91.72	38	eP	P	13 33 52.1	-0.2
TCF	Toulx Ste Croi	92.04	41	eP	P	13 33 53.5	-0.3
AVF	Avril sur Loir	92.97	41	eP	P	13 33 57.7	-0.4
SSF	Saint Saulge	93.18	41	eP	P	13 33 58.5	-0.5
SMF	Signal de Mont	93.21	41	eP	P	13 33 59.1	-0.1
LOR	Lormes	93.49	41	eP	P	13 34 00.1	-0.3
LOR				eR			
	comp=E,50nm,17.5s						
CASY	Casey	93.94	180⇑	iP	P	13 34 04.2	+2.2
CABF	La Chapelle	94.59	42	eP	P	13 34 05.8	+0.3
BRTR	Keskin Array B	112.06	54	PP	PP	13 40 07.5	-0.8
	comp=E,1.2nm,0.8s,baz=243,slow=7.8,SNR=4.2						
WRA	Warramunga Arr	134.15	211	PKhKP		13 39 48.6	
	comp=E,0.3nm,0.7s,baz=180,slow=1.0,SNR=10						
WRA				PKP	PKPdf	13 40 03.1	+1.5
	comp=E,1.3nm,0.7s,baz=154,slow=1.8,SNR=18						
WRA				SKPbc		13 43 22.6	
	comp=E,2.3nm,1.1s,baz=160,slow=2.7,SNR=7.4						
ZAL	Zalesovo	140.68	24	PKP	PKPdf	13 40 11.3	-1.2
	comp=E,1.6nm,0.7s,baz=73,slow=2.3,SNR=6.1						
ZAL				SKPbc		13 43 41.8	
	comp=E,1.6nm,0.8s,baz=133,slow=1.8,SNR=5.1						
MKAR	Makanchi Array	144.50	35	PKP	PKPdf	13 40 20.1	+0.7
	comp=E,5.5nm,0.6s,baz=315,slow=5.1,SNR=50						
WMQ	Urumqi	149.33	34	PKP	PKPdf	13 40 35.3	+7.8
WMQ				PP	PP		
	comp=Z,198nm,5.2s						
WMQ				LR	LR		
	comp=N,484nm,27.6s						
WMQ				LR	LR		
	comp=E,936nm,21.7s						
WMQ				LR	LR		
	comp=Z,567nm,25.7s						
MDJ	Mudanjiang	151.03	332	PKP	PKPdf	13 40 33.1	+3.0
MDJ				PKS	PKS	13 44 07.6	+3.8
MDJ				SKS	SKS	13 47 33.3	+7.9
MDJ				SS	SS	14 03 33.9	+4.8
MDJ				PP	PP		
	comp=Z,44nm,4.7s						
MDJ				LR	LR		
	comp=N,321nm,20.4s						
MDJ				LR	LR		
	comp=E,79nm,16.9s						
MDJ				LR	LR		
	comp=Z,443nm,16.9s						
MJAR	Matsushiro Arr	151.08	310	PKPbc	PKPdf	13 40 38.1	+7.7
	comp=Z,0.6nm,0.5s,baz=347,slow=17,SNR=4.0						
MJAR				pPKPbc		13 41 06.6	
	comp=Z,1.9nm,0.8s,baz=97,slow=2.1,SNR=3.2						
MJAR	Matsushiro Arr	151.08	310	PKPbc	PKPdf	13 40 38.1	+7.7
MJAR				pPKPbc		13 41 06.6	
MAJO	Matsushiro	151.08	310	ePKPbc	PKPdf	13 40 38.9	+8.5
MAT	Matsushiro	151.08	310	PKP	PKPdf	13 40 36.8	+6.4
SONM	Songino Array	152.03	7	PKPbc	PKPdf	13 40 41.0	+9.5
	comp=Z,3.0nm,0.7s,baz=293,slow=1.4,SNR=17						
CN2	Changchun	153.40	336	ePKP	PKPdf	13 40 37.0	+3.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CN2				ePP	PP	13 44 31.0	-0.1
CN2				LR	LR		
	comp=N,200nm,19.0s						
CN2				LR	LR		
	comp=E,200nm,19.0s						
CN2				LR	LR		
	comp=Z,300nm,21.0s						
KOLN	Koldanda	153.84	68	eP	PKPab	13 40 57.8	-0.8
	comp=Z,17nm,1.0s						
GKN	Gorkha	154.70	67	eP	PKPab	13 41 01.4	-0.8
	comp=Z,23nm,0.5s						
DMN	Daman	155.19	67	eP	PKPab	13 41 04.3	+0.1
	comp=Z,38nm,0.9s						
KKN	Kakani	155.30	67	eP	PKPab	13 41 04.4	-0.3
	comp=Z,56nm,1.2s						
PKI	Pulchoki	155.46	67	eP	PKPab	13 41 05.1	-0.3
	comp=Z,13nm,0.7s						
HHC	Hu-ho-hao-te	159.25	359	ePKP	PKPdf	13 40 40.9	-0.3
HHC				PKS	PKS	13 44 13.1	-0.6
HHC				SKS	SKS	13 47 35.3	+0.9
HHC				PP	PP		
	comp=Z,105nm,10.7s						
HHC				LR	LR		
	comp=N,180nm,17.8s						
HHC				LR	LR		
	comp=E,182nm,13.7s						
HHC				LR	LR		
	comp=Z,110nm,14.3s						
LZH	Lanzhou	162.83	20	ePKP	PKPdf	13 40 44.1	-0.9
LZH				APKP		13 41 17.0	
LZH				PP	PP	13 45 22.0	-0.1
LZH				PP	PP		
	comp=Z,192nm,7.6s						
LZH				LR	LR		
	comp=E,140nm,20.0s						
LZH				LR	LR		
	comp=Z,200nm,21.0s						
NJ2	Nanjing	166.12	331	ePKP	PKPdf	13 40 51.6	+3.4
NJ2				PKP2	PKPab	13 41 51.1	-0.3
NJ2				PKS	PKS	13 44 24.0	+4.1
NJ2				PP	PP	13 45 40.0	+0.3
NJ2				SKKS		13 52 21.0	
NJ2				PP	PP		
	comp=Z,80nm,8.0s						
NJ2				LR	LR		
	comp=N,630nm,23.4s						
NJ2				LR	LR		
	comp=E,220nm,23.6s						
NJ2				LR	LR		
	comp=Z,320nm,21.9s						
KMI	Kunming	170.85	55	PKP	PKPdf	13 40 57.3	+5.9

ISC 19 13:40:46.8±1.7, **47.17N**±0.03×**15.10E**±0.08, **h12**^{km}±36^{km}, **n10**, σ**0^{s}31**/15, **7C-1D, Austria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARSA	Arzberg	0.30	74	⇑iPg	Pg	13 40 52.9	-0.2
	comp=Z,8.2nm,0.1s						
ARSA				⇓iSg	Sg	13 40 57.4	+0.1
	comp=Z,9.5nm,0.1s						
BISS	Bistriski jare	0.52	178	i Pg	Pg	13 40 57.5	-0.1
	comp=Z,67nm,0.1s						
PERS	Pernice	0.54	179	i Pg	Pg	13 40 57.7	0.0
PERS				i Sg	Sg	13 41 04.9	-0.1
	comp=Z,9.0nm,0.1s						
OBKA	Obir	0.76	210	⇑iPG	Pg	13 41 02.0	-0.2
OBKA				i SG	Sg	13 41 12.5	0.0
	comp=Z,2.6nm,0.1s						
OBKA	Obir	0.76	210	⇑iPg	Pg	13 41 02.0	-0.2
	comp=Z,2.5nm,0.1s						
OBKA	Obir	0.76	210	⇑iSg	Sg	13 41 12.5	-0.1
	comp=Z,2.6nm,0.1s						
MOA	Molln	0.88	320	⇑iPG	Pg	13 41 04.3	-0.3
MOA				i SG	Sg	13 41 17.0	+0.5
	comp=Z,1.8nm,0.2s						
MOA	Molln	0.88	320	⇑iPg	Pg	13 41 04.3	-0.3
	comp=Z,2.9nm,0.1s						
MOA	Molln	0.88	320	⇑iSg	Sg	13 41 17.0	+0.5
	comp=Z,1.8nm,0.2s						
GOLS	Golise	1.22	163	i Pg	Pg	13 41 11.0	-0.2
GOLS				i Sg	Sg	13 41 28.2	+0.7

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*IDC **19** 13:45:19.3±4.2, 5.64S×154.45E, h142^{km}±37^{km}, mb3.6/6, mb1 3.8/7, mb1mx3.7/14, mbtmp4.2/7, Error ellipse: s-maj=26.7km s-min=24.4km az=76.0*

*NEIC **19** 13:45:20.5±2.7, 5.67S×154.39E, h155^{km}±23^{km}, mb4.2/3, Error ellipse: s-maj=21.8km s-min=18.3km az=189.0*

ISC 19 13:45:19.8±3.3, **5.7S**±0.2×**154.4E**±0.1, **h162**^{km}±28^{km}, **n14**, σ**0^{s}96**/15, **mb3.9**/7, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.08	243	P	P	13 47 15.1	0.0
	14nm,0.3s,baz=60,slow=7.6,SNR=30						
PMG				S	S	13 48 45.2	+0.1
	0.7nm,0.3s,baz=224,slow=7.1,SNR=2.2						
DZM	Mont Dzumac	20.00	146	P	P	13 49 41.6	-0.1
	4.7nm,0.7s,baz=329,slow=17,SNR=7.4						
WRAB	Tennant Creek	24.09	232	eP	P	13 50 22.9	+1.1
	6.8nm,0.6s,mb4.3						
WB2	Warramunga Arr	24.10	232	eP	P	13 50 22.7	+0.8
WRA	Warramunga Arr	24.11	232	P	P	13 50 22.9	+0.9
	4.5nm,0.7s,mb4.1,baz=56,slow=9.8,SNR=47						
ASPA	Alice Springs	26.62	226	eP	P	13 50 45.0	-0.3
STKA	Stephens Creek	28.66	203	eP	P	13 51 02.9	-0.8
	1.2nm,0.4s,mb4.0						
STKA	Stephens Creek	28.66	203	P	P	13 51 02.8	-0.9
	2.0nm,0.7s,mb4.0,baz=33,slow=14,SNR=6.1						
FITZ	Fitzroy Crossi	30.67	244	eP	P	13 51 20.0	-1.6
	2.8nm,0.6s,mb4.2						
MBWA	Marble Bar	36.94	242	P	P	13 52 12.8	-2.3
MKAR	Makanchi Array	82.06	319	P	P	13 57 24.1	+0.7
	0.4nm,0.7s,mb3.2,baz=111,slow=5.9,SNR=3.4						
MKAR	Makanchi Array	82.06	319	P	P	13 57 24.1	+0.7
ILAR	Eielson Array	82.40	22	P	P	13 57 24.4	-0.3
	0.5nm,0.7s,mb3.3,baz=241,slow=5.5,SNR=9.1						
MAW	Mawson	85.35	203	P	P	13 57 40.7	+1.2
	1.6nm,0.5s,mb4.0,baz=95,slow=9.9,SNR=8.3						

MAN 19 13:59:50.5, 15.61N×122.21E, h6^{km}**, mb4.5, ML3.4, MS3.3, 2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	Baler	0.62	282	eP	Pg	14 00 03.3	+0.4
BALP				eS	Sg	14 00 15.1	+3.9
POLP	Polilio Island	0.91	197	eP	Pb	14 00 07.8	-0.5
POLP				eS	Sb	14 00 22.6	+2.2
PCPH	Palayan	1.07	268	⇑eP	Pb	14 00 10.4	-0.6
PCPH				i S	Sb	14 00 27.3	+2.2
CAUP	Cauayan	1.38	345	eP	Pb	14 00 13.9	-2.4
CAUP				eS	Sb	14 00 33.5	-0.6
GQP	Guinayangan	1.71	172	⇑eP	Pn	14 00 19.8	-1.2
GQP				i S	Sn	14 00 43.1	-0.3
CVP	Callao Caves	2.12	350	eP	Pn	14 00 26.5	-0.3
BOAC	Boac	2.17	189	eP	Pn	14 00 26.9	-0.7
SCZP	Santa Cruz	2.22	275	eP	Pn	14 00 29.0	+0.7
AUQP	San Andres	2.32	169	eP	Pn	14 00 38.3	+8.6
BOLP	Bolinao	2.34	290	eP	Pn	14 00 29.7	-0.3
BOLP				eS	Sn	14 00 60.0	+0.6
PGP	Puerto Galera	2.42	210	eP	Pn	14 00 44.2	+13
ABRA	Dolores	2.48	325	eP	Pn	14 00 31.7	-0.5
ABRA				eS	Sn	14 01 00.5	-2.6
LUBP	Lubang	2.66	226	eP	Pn	14 00 37.8	+3.2
PVCP	Virac	2.75	136	eP	Pn	14 00 30.9	-5.0
OTRP	Odiongan	3.23	183	eP	Pn	14 00 47.9	+5.1
SJMP	San Jose	3.30	199	eP	Pn	14 00 46.2	+2.4
BUTP	Butuan	7.39	153	eP	Pn	14 01 42.6	+1.1

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*IDC **19** 14:06:11.1±1.1, 11.50N×144.37E, mb4.0/8, mb1 4.3/8, mb1mx4.1/20, mbtmp4.0/8, MS3.1/2, Ms1 3.1/2, ms1mx2.8/22, Error ellipse: s-maj=36.2km s-min=24.1km az=87.0*

*BJI **19** 14:06:16.5, 11.50N×144.40E, h35^{km}, mB5.0, mb4.4*

*NEIC **19** 14:06:16.6±1.0, 11.53N×144.37E, h35^{km}, mb4.2/2, Error ellipse: s-maj=32.8km s-min=19.5km az=86.0*

ISC 19 14:06:13.3±1.2, **11.5N**±0.1×**144.7E**±0.2, **h33**^{km}, **n17**, σ**0^{s}89**/16, **mb4.2**/13, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	20.89	173	LR	LR	14 16 40.5	
	comp=Z,51nm,20.8s,baz=102,slow=30						
JNU	Nakatsue	24.98	332	P	P	14 11 35.5	+0.1
	6.8nm,0.7s,mb4.3,baz=47,slow=9.5,SNR=6.7						
JNU				LR	LR	14 20 30.0	
	comp=Z,43nm,18.2s,baz=348,slow=35						
MJAR	Matsushiro Arr	25.63	348	P	P	14 11 40.5	-1.1
	2.8nm,0.8s,mb3.8,baz=167,slow=8.5,SNR=7.1						
MAJO	Matsushiro	25.63	348	eP	P	14 11 40.2	-1.3
	5.3nm,0.6s,mb4.2						
YHNB	Yeheng	25.68	304	P	P	14 11 38.0	-4.1
WRA	Warramunga Arr	32.83	198	P	P	14 12 45.6	-0.6
	1.6nm,0.8s,mb4.0,baz=20,slow=9.8,SNR=13						
CD2	Chengdu	42.45	304	P	P	14 14 07.0	0.0
LZH	Lanzhou	44.21	311	eP	P	14 14 24.9	+3.8
LZH				AP	pP	14 14 37.1	+6.1
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,92nm,4.0s						
SONM	Songino Array	48.35	326	P	P	14 14 54.2	+0.5
	comp=Z,1.2nm,0.6s,mb4.1,baz=147,slow=7.4,SNR=10						
GTA	Gaotai	48.44	313	eP	P	14 14 55.4	+0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
MKAR	Makanchi Array	62.87	317	P	P	14 16 37.7	-0.7
	comp=Z,0.5nm,0.6s,mb3.8,baz=90,slow=8.5,SNR=5.8						
MKAR	Makanchi Array	62.87	317	P	P	14 16 37.7	-0.7
KURK	Kurchatov	66.07	321	eP	P	14 16 59.0	-0.1
	comp=Z,2.9nm,0.8s,mb4.4						
ILAR	Eielson Array	70.56	25	P	P	14 17 27.4	+0.8
	comp=Z,0.8nm,0.7s,mb3.8,baz=253,slow=5.8,SNR=12						
BVAR	Borovoye Array	71.46	322	P	P	14 17 32.4	+0.2
	comp=Z,2.0nm,0.8s,mb4.1,baz=112,slow=8.0,SNR=7.4						
BRVK	Borovoye	71.52	322	eP	P	14 17 34.0	+1.4
	comp=Z,1.1nm,0.7s,mb3.9						
NVAR	Mina Array Bea	88.39	51	P	P	14 19 08.2	+4.8
	comp=Z,1.4nm,0.7s,mb4.3,baz=267,slow=7.3,SNR=9.8						

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*IDC **19** 14:14:43.6±7.4, 53.15N×168.54W, h65^{km}±64^{km}, mb3.8/12, mb1 4.0/13, mb1mx3.9/23, mbtmp4.1/13, ML4.4/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/28, Error ellipse: s-maj=28.5km s-min=17.5km az=30.0*

*BJI **19** 14:14:44.2, 52.88N×168.66W, h66^{km}, mB4.8, mb4.4, Ms4.2, Msz4.1*

*NEIC **19** 14:14:44.4±0.4, 53.01N×168.44W, h73^{km}±3^{km}, mb4.3/2, Error ellipse: s-maj=11.8km s-min=3.6km az=157.0*

ISC 19 14:14:43.2±0.5, **53.01N**±0.08×**168.46W**±0.07, **h76**^{km}±3^{km}, **n67**, σ**1^{s}06**/70, **mb4.0**/19, **1C, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	0.24	263	P	P	14 14 52.5	-2.3
NIKO				S	S	14 15 00.1	-3.3
OKCE	Okmok Cone E	0.46	23	P	P	14 14 56.1	-0.2
OKCE				S	S	14 15 06.1	0.0
OKCD	Okmok Cone D	0.48	26	P	P	14 14 56.5	0.0
OKER	East Rim	0.51	29	P	P	14 14 56.7	-0.2
MSOM	Makushin Julie	1.22	47	P	P	14 15 04.8	-0.3
MGOD	Makushin Gods	1.24	50	P	P	14 15 05.0	-0.3
MGOD				S	S	14 15 22.4	+0.5
MCIR	Makushin Cirqu	1.33	44	P	P	14 15 07.1	+0.4
MSW	Makushin Switc	1.36	47	P	P	14 15 07.3	+0.2
MSW				S	S	14 15 25.4	+0.8
MNAT	Makushin Natee	1.38	50	P	P	14 15 07.7	+0.3
MTBL	Makushin Table	1.44	47	P	P	14 15 08.5	+0.4
UNV	Unalaska Valle	1.45	54	P	P	14 15 07.9	-0.3
UNV				S	S	14 15 26.9	+0.3
AKLV	Akutan Long Va	1.89	51	P	P	14 15 14.9	+0.7
AKUT	Akutan	1.96	54	P	P	14 15 15.8	+0.7
AKUT				S	S	14 15 41.8	+3.1
WPOG	Pogromni	2.72	53	P	P	14 15 26.2	+0.5
WESN	West Dahl Nort	2.78	54	P	P	14 15 27.1	+0.5
WTUG	Tugumak	3.04	51	P	P	14 15 30.1	-0.1
SSLW	Shishaldin Wes	3.12	54	P	P	14 15 31.7	+0.4
ATKA	Atka Island	3.59	259	P	P	14 15 37.5	-0.3
BALA	Baldy Mountain	4.00	54	P	P	14 15 43.8	+0.3
DTNA	Dutton South F	4.24	57	P	P	14 15 46.3	-0.6
SPIA	Saint Paul Isl	4.31	347	P	P	14 15 49.3	+1.5
GSTR	Great Sitkin T	4.72	262	P	P	14 15 54.5	+0.9
GSMY	Great Sitkin M	4.74	261	P	P	14 15 53.6	-0.2
GSTD	Great Sitkin T	4.79	262	P	P	14 15 54.5	0.0
ETKA	Kagalaska Isla	4.99	260	P	P	14 15 57.5	+0.1
ADAG	Mount Adagdak	5.08	262	P	P	14 15 59.5	+1.0
SDPT	Sand Point	5.25	60	P	P	14 15 59.8	-1.0
KIKV	Kanaga Island	5.45	262	P	P	14 16 04.5	+1.1
KIMD	Kanaga Island	5.51	260	P	P	14 16 04.3	-0.2
CHGN	Chignik	6.70	56	eP	P	14 16 16.3	-4.7
SVW2	Sparrevohn	10.71	36	eP	P	14 17 15.4	0.0
SPU	Mount Spurr	12.08	41	eP	P	14 17 34.8	+0.9
SLKM	Skilak Lake	12.48	46	eP	P	14 17 37.9	-1.3
PMR	Palmer	13.48	43	eP	P	14 17 52.0	-0.3
	2.2nm,0.3s						
SML	Sawmill	13.92	43	eP	P	14 17 56.3	-1.5
DIV	Divide	14.71	47	eP	P	14 18 06.3	-1.9
	34nm,0.6s						
THY	Trims Highway	15.77	40	eP	P	14 18 23.1	+1.5
ILAR	Eielson Array	16.11	35	P	P	14 18 23.9	-2.0
	0.7nm,0.3s,baz=222,slow=9.5,SNR=34						
ILAR				LR	LR	14 25 02.2	
	comp=Z,134nm,18.4s,baz=184,slow=39						
MENT	Mentasta	16.35	43	eP	P	14 18 28.5	-0.4
DLBC	Dease Lake	22.09	60	P	P	14 19 36.1	+3.3
	1.7nm,0.5s,mb3.6,baz=92,slow=17,SNR=3.5						
INK	Inuvik	22.51	34	P	P	14 19 35.0	-1.7
	8.9nm,0.6s,mb4.2,baz=234,slow=12,SNR=34						
INK				LR	LR	14 28 17.2	
	comp=Z,121nm,22.0s,baz=185,slow=36						
INK	Inuvik	22.51	34	eP	P	14 19 35.0	-1.7
	5.6nm,0.5s,mb4.2						
YKA	Yellowknife Ar	29.41	50	P	P	14 20 40.1	-0.9
	1.3nm,0.4s,mb3.9,baz=274,slow=8.6,SNR=6.2						
YKA				LR	LR	14 34 03.2	
	comp=Z,78nm,19.3s,baz=270,slow=40						
ASAJ	Asahikawa	33.01	274	LR	LR	14 33 50.0	
	comp=Z,32nm,19.9s,baz=169,slow=35						
MCMT	McKenzie Canyo	36.62	80	eP	P	14 21 43.9	+0.3
NVAR	Mina Array Bea	37.13	93	P	P	14 21 49.6	+1.6
	1.7nm,1.0s,mb3.9,baz=298,slow=8.1,SNR=7.0						
NVAR				PcP	PcP	14 24 07.3	0.0
	0.7nm,0.6s,baz=281,slow=4.9,SNR=4.7						
PDAR	Pinedale Array	39.75	80	P	P	14 22 10.1	+0.5
	0.9nm,0.5s,mb3.9,baz=307,slow=4.7,SNR=11						
MDJ	Mudanjiang	40.48	284	P	P	14 22 16.8	+1.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,76nm,4.2s						
MDJ				LR	LR		
	comp=N,56nm,21.8s						
MDJ				LR	LR		
	comp=E,111nm,21.8s						
MDJ				LR	LR		
	comp=Z,75nm,21.8s						
CN2	Changchun	43.37	285	eP	P	14 22 42.0	+2.7
MNTX	Cornudas Mount	49.47	89	eP	P	14 23 28.1	+0.6
	comp=Z,2.0nm,0.6s,mb4.2						
SONM	Songino Array	51.45	301	P	P	14 23 42.6	+0.3
	comp=Z,0.3nm,0.6s,mb3.5,slow=4.3,SNR=3.1						
SONM				PcP	PcP	14 24 55.0	-0.8
	comp=Z,0.6nm,0.5s,baz=85,slow=2.0,SNR=5.7						
TXAR	Lajitas Array	52.19	90	P	P	14 23 47.4	-0.8
	comp=Z,2.3nm,0.6s,mb4.4,baz=270,slow=5.0,SNR=9.5						
NJ2	Nanjing	55.00	278	eP	P	14 24 13.6	+4.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
ARCES	ARCESS Array B	57.35	354	P	P	14 24 24.0	-1.0
	comp=Z,1.0nm,0.6s,mb4.0,baz=18,slow=5.7,SNR=3.5						
ARCES				PcP	PcP	14 25 16.5	-1.6
	comp=Z,1.5nm,0.5s,baz=14,slow=5.0,SNR=9.5						
ARCES				LR	LR	14 47 58.5	
	comp=Z,58nm,20.1s,baz=261,slow=35						
LZH	Lanzhou	60.86	292	eP	P	14 24 52.9	+3.1
LZH				AP	pP	14 25 06.0	-3.5
LZH				PP	PP	14 27 08.0	+1.4
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,53nm,4.0s						
BVAR	Borovoye Array	63.51	325	P	P	14 25 05.9	-1.1
	comp=Z,1.5nm,0.5s,mb4.1,baz=58,slow=7.1,SNR=9.4						
WMQ	Urumqi	63.57	308	eP	P	14 25 12.5	+4.9
MKAR	Makanchi Array	63.77	314	P	P	14 25 07.0	-1.9
	comp=Z,0.2nm,0.6s,mb3.1,baz=34,slow=5.2,SNR=4.0						
FINES	FINESS Array B	65.31	352	P	P	14 25 16.4	-2.1
	comp=Z,1.1nm,0.7s,mb3.8,baz=18,slow=6.0,SNR=3.5						
KMI	Kunming	69.64	285	P	P	14 25 49.3	+3.0
KMI				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.3						
BRTR	Keskin Array B	85.68	343	P	P	14 27 14.0	-0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=90,slow=1.2,SNR=3.6						
ESDC	Sonseca Array	86.72	12	P	P	14 27 19.4	+0.1
	comp=Z,0.8nm,0.5s,mb3.9,baz=354,slow=4.8,SNR=4.9						
WB2	Warramunga Arr	87.82	232	⇑iP	P	14 27 24.4	-0.7
WRA	Warramunga Arr	87.83	232	P	P	14 27 24.6	-0.5
	comp=Z,2.0nm,0.7s,mb4.3,baz=32,slow=6.1,SNR=30						
ASPA	Alice Springs	91.23	231	eP	P	14 27 40.9	-0.1
MATP	Matopo	144.94	332	PKP	PKPdf	14 34 11.2	-0.1
	comp=Z,1.9nm,0.5s,baz=27,slow=2.9,SNR=6.6						
MAW	Mawson	151.72	219	PKPbc	PKPdf	14 34 29.0	+8.3
	comp=Z,1.5nm,0.4s,baz=103,slow=3.9,SNR=8.6						
MAW				PKPab	PKPab	14 34 38.4	-0.2
	comp=Z,2.8nm,0.5s,baz=85,slow=6.7,SNR=9.3						

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*IDC **19** 14:34:49.1±0.5, 1.39N×97.14E, mb4.7/20, mb1 4.8/20, mb1mx4.7/22, mbtmp4.7/20, MS4.4/14, Ms1 4.4/14, ms1mx4.3/16, Error ellipse: s-maj=17.1km s-min=13.0km az=60.0*

*BJI **19** 14:34:51.7, 1.23N×97.32E, h33^{km}, mB5.1, mb5.2, Ms5.0, Msz4.8*

*MOS **19** 14:34:52.7±0.9, 1.45N×97.25E, h33^{km}, mb5.1/31, MS4.4/6, Error ellipse: s-maj=12.4km s-min=6.3km az=107.1*

*NEIC **19** 14:34:53.8±0.2, 1.34N×97.17E, h30^{km}, mb5.0/22, Error ellipse: s-maj=7.6km s-min=5.4km az=50.0*

*HRVD **19** 14:34:53.8±1.0, 1.40N×97.31E, h33^{km}±1^{km}, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s19,c29;Mantle waves: s37,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.63±.25; $M_{\theta\theta}$-1.12±.15; $M_{\phi\phi}$-0.51±.21; $M_{r\theta}$0.90±.18; $M_{\theta\phi}$1.87±.10; $M_{\phi r}$0.20±.28; Best double couple: $M_0$2.482×10^{16} NP1:ϕ_s341°, δ47°, λ138°. NP2:ϕ_s102°, δ60°, λ51°. Principal axes: T 2.18, Plg56°, Azm320°; N .598, Plg33°, Azm124°; P -2.783, Plg7°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 14:34:51.3±0.3, **1.34N**±0.04×**97.18E**±0.04, **h25**^{km}, **h25**^{km}±1.5^{km}**:pP-P, n168**, σ**1^{s}11**/169, **mb5.0**/85, **MS4.6**/39, **18C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.01	50	P	Pn	14 36 08.7	+1.7
KULM	Kulim	5.24	41	⇑iPn	Pn	14 36 10.9	+0.8
KGM	Kluang	6.18	84	P	Pn	14 36 25.6	+2.2
SNG	Songkhla	6.74	31	P	Pn	14 36 31.5	+0.2
	476nm,0.8s						
KSM	Kuching	13.13	89	eP	P	14 38 03.3	+4.3
NST	Nakhon Sawan	14.54	11	P	P	14 38 18.0	+0.4
KKTK	Khon Kaen	15.90	20	⇑P	P	14 38 38.0	+2.6
	494nm,0.8s						
CHG	Chiang Mai	17.45	6	⇑P	P	14 38 56.8	+1.9
	26nm,1.1s						
NANT	Nan	17.69	11	⇑P	P	14 38 58.0	+0.1
	262nm,1.0s						
CHRT	Chiangrai	18.59	8	⇓P	P	14 39 06.5	-2.6
	200nm,0.8s						
KKM	Kota Kinabalu	19.56	76	P	P	14 39 20.9	+0.4
KKM	Kota Kinabalu	19.56	76	eP	P	14 39 20.0	-0.4
TSM	Tawau	20.88	82	P	P	14 39 34.2	-0.1
VIS	Vishakhapatnam	21.21	321	eP	P	14 39 35.3	-2.4
VIS				eS	S	14 43 24.3	-3.0
QIZ	Qiongzhong	21.52	34	P	P	14 39 41.3	+0.5
QIZ				XP		14 39 54.8	
QIZ				S	S	14 43 39.3	+6.2
QIZ				AMB	AMB		
	comp=Z,33nm,1.3s,mb4.6						
QIZ				LR	LR		
	comp=N,1μm,15.3s,MS4.5						
QIZ				LR	LR		
	comp=E,805nm,14.0s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,14.3s,MS4.4						
KMI	Kunming	24.25	12	⇑P	P	14 40 09.6	+1.9
KMI				AP		14 40 15.8	
KMI				XP		14 40 18.6	
KMI				PP	PP	14 40 42.8	0.0
KMI				S	S	14 44 21.3	-0.4
KMI				AMB	AMB		
	comp=Z,119nm,1.4s,mb5.1						
KMI				LR	LR		
	comp=N,4μm,15.2s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,14.6s,MS5.0						
KMI				LR	LR		
	comp=Z,4μm,15.9s,MS5.0						
HYB	Hyderabad	24.30	312	i P	P	14 40 10.5	+2.3
HYB	Hyderabad	24.30	312	eP	P	14 40 10.5	+2.3
SHL	Shillong	24.62	348	eP	P	14 40 12.2	+0.9
BOK	Bokaro	24.86	335	eP	P	14 40 13.6	0.0
BOK				AMb	AMB	14 40 18.3	
	comp=Z,139nm,1.0s,mb5.4						
BOK				ex	x	14 44 42.3	
NGP	Nagpur	26.46	319	eP	P	14 40 30.0	+1.4
NGP				AMb	AMB	14 40 40.8	
	comp=Z,35nm,1.2s,mb4.8						
GYA	Guiyang	26.59	19	⇑iP	P	14 40 29.4	-0.3
GYA				AP	pP	14 40 38.5	+1.5
GYA				XP	sP	14 40 42.8	+2.4
GYA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
GYA				LR	LR		
	comp=N,3μm,15.3s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,14.4s,MS5.0						
GYA				LR	LR		
	comp=Z,3μm,13.5s,MS5.1						
GZH	Guangzhou	26.71	35	P	P	14 40 35.0	+4.1
GZH				LR	LR		
	comp=N,1μm,12.4s,MS4.7						
GZH				LR	LR		
	comp=E,1μm,16.2s,MS4.7						
GZH				LR	LR		
	comp=Z,2μm,13.7s,MS4.9						
PKI	Pulchoki	28.41	338	eP	P	14 40 46.8	+0.6
	comp=Z,223nm,1.4s,mb5.6						
PKI	Pulchoki	28.41	338	eP	P	14 40 46.8	+0.6
PKI				pmax	pmax		
	comp=Z,112nm,1.4s,mb5.3						
DMN	Daman	28.56	337	eP	P	14 40 48.5	+0.9
	comp=Z,166nm,1.3s,mb5.6						
KKN	Kakani	28.66	338	eP	P	14 40 48.7	+0.2
	comp=Z,178nm,1.2s,mb5.7						
LSA	Lhasa	28.78	349	P	P	14 40 51.0	+1.5
LSA	Lhasa	28.78	349	eP	P	14 40 50.9	+1.4
	comp=Z,32nm,0.8s,mb5.1						
LSA	Lhasa	28.78	349	eP	P	14 40 50.9	+1.4
LSA				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.1						
BHPL	Bhopal	29.00	320	eP	P	14 40 51.8	+0.2
GKN	Gorkha	29.10	337	eP	P	14 40 53.3	+0.9
	comp=Z,187nm,1.0s,mb5.8						
KOLN	Koldanda	29.32	335	eP	P	14 40 55.3	+0.9
	comp=Z,102nm,0.8s,mb5.6						
CD2	Chengdu	30.06	11	P	P	14 40 59.6	-1.4
CD2				AP	pP	14 41 08.4	0.0
CD2				XP	sP	14 41 13.3	+1.6
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,190nm,4.4s						
CD2				LR	LR		
	comp=E,2μm,14.4s						
CD2				LR	LR		
	comp=Z,1μm,16.5s,MS4.6						
ENH	Enshi	31.06	21	eP	P	14 41 08.5	-1.3
	comp=Z,84nm,0.6s,mb5.8						
KALG	Kalgarh	33.05	330	eP	P	14 41 24.4	-2.8
AYAN	Aya Nagar	33.09	326	eP	P	14 41 27.5	-0.1
AYAN				AMb	AMB	14 41 33.2	
	comp=Z,21nm,1.4s,mb4.9						
NDI	New Delhi	33.20	327	eP	P	14 41 30.2	+1.7

NDI AMb AMB 14 41 34.6
comp=Z,39nm,1.3s,mb5.2
WHN Wuhan 33.30 28 *eP* **P 14 41 27.8 -1.6**
WHN LR LR
comp=Z,3µm,13.8s,MS5.2
KHET Khetri 33.53 324 *eP* **P 14 41 30.9 -0.5**
KHET AMb AMB 14 41 33.4
comp=Z,14nm,1.4s,mb4.7
FITZ Fitzroy Crossi 34.03 126⇑ *iP* **P 14 41 34.3 -1.5**
comp=Z,13nm,0.6s,mb5.0
FITZ Fitzroy Crossi 34.03 126 P **P 14 41 33.8 -2.0**
comp=Z,18nm,0.7s,mb5.1,baz=309,slow=3.4,SNR=24
XAN Xi'an 34.34 17 P **P 14 41 37.1 -1.2**
XAN AP pP 14 41 44.3 -1.5
XAN AMB AMB
comp=Z,52nm,1.0s,mb5.4
KLP Kalpa 34.95 331 *eP* **P 14 41 41.8 -1.8**
KLP *ex* x 14 47 22.2
LZH Lanzhou 35.12 9 *eP* **P 14 41 44.5 -0.5**
LZH AP pP 14 41 51.6 -0.9
LZH XP sP 14 41 55.5 -0.2
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,220nm,4.0s
LZH LR LR
comp=E,2µm,16.1s
LZH LR LR
comp=Z,3µm,16.4s,MS5.2
JASL Jaisalmer 35.82 318 *eP* **P 14 41 52.4 +1.4**
NJ2 Nanjing 36.76 32 *eP* **P 14 41 58.9 0.0**
NJ2 AP pP 14 42 08.5 +2.1
NJ2 XP sP 14 42 12.6 +3.0
NJ2 PP PP 14 43 23.3 -1.1
NJ2 S **S 14 47 36.0 -4.6**
NJ2 XS 14 47 52.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,170nm,5.2s
NJ2 LR LR
comp=N,1µm,16.5s,MS5.0
NJ2 LR LR
comp=E,1µm,14.4s,MS5.0
NJ2 LR LR
comp=Z,880nm,18.4s,MS4.6
SSE Sheshan 37.31 35 P **P 14 42 01.3 -2.2**
SSE XP sP 14 42 14.1 -0.1
SSE S **S 14 47 46.8 -2.3**
SSE XS 14 48 01.4
SSE PCS 14 48 09.3
SSE AMB AMB
comp=Z,51nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,84nm,3.8s
SSE LR LR
comp=N,408nm,20.0s,MS4.3
SSE LR LR
comp=E,215nm,20.0s,MS4.3
SSE LR LR
comp=Z,541nm,16.3s,MS4.4
KAKA Kakadu 37.68 113⇑ *iP* **P 14 42 24.2 +17**
comp=Z,21nm,0.8s,mb4.9
GTA Gaotai 37.97 3 P **P 14 42 09.3 +0.4**
GTA AP pP 14 42 14.0 -2.5
GTA AMB AMB
comp=Z,30nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,129nm,6.8s
GTA LR LR
comp=N,1µm,14.8s,MS4.8
GTA LR LR
comp=E,728nm,14.8s,MS4.8
GTA LR LR
comp=Z,1µm,14.4s,MS4.8
NWAO Narrogin (SRO) 38.99 153 P **P 14 42 19.4 +1.8**
comp=Z,8.1nm,1.1s,mb4.4,baz=347,slow=19,SNR=1.9
JOW Kunigami 39.16 47 P **P 14 42 19.4 +0.3**
comp=Z,59nm,0.6s,mb5.5,baz=247,slow=8.0,SNR=34
HHC Hu-ho-hao-te 41.43 17 *eP* **P 14 42 38.9 +1.3**
HHC AP pP 14 42 48.9 +3.7
HHC XP sP 14 42 53.0 +4.7
HHC PP PP 14 44 16.1 -0.3
HHC S **S 14 48 41.3 -10**
HHC AMB AMB
comp=Z,16nm,0.6s,mb4.8
HHC AMB AMB
comp=Z,253nm,4.5s
HHC LR LR
comp=N,1µm,14.3s,MS5.0
HHC LR LR
comp=E,813nm,14.3s,MS5.0
HHC LR LR
comp=Z,1µm,16.6s,MS4.9
WRA Warramunga Arr 42.13 122 P **P 14 42 43.3 -0.4**
comp=Z,11nm,0.7s,mb4.6,baz=300,slow=9.1,SNR=157
WRA PcP PcP 14 44 38.0 -0.6
comp=Z,1.0nm,0.8s,baz=316,slow=2.7,SNR=4.5
WRAB Tennant Creek 42.14 122 *eP* **P 14 42 43.8 0.0**
comp=Z,17nm,0.6s,mb4.8
WRAB Tennant Creek 42.14 122 *eP* **P 14 42 43.8 +0.1**
WRAB pmax pmax
comp=Z,17nm,0.6s,mb4.8
WB2 Warramunga Arr 42.14 122 *eP* **P 14 42 43.4 -0.4**
WB2 *i* pP 14 42 50.7 -0.6
KSH Kashi 42.63 336 *eP* **P 14 42 49.5 +2.0**
KSH *eAP* pP 14 42 54.3 -0.8
WMQ Urumqi 43.13 350⇑ *iP* **P 14 42 52.5 +1.0**
WMQ AP pP 14 43 02.0 +2.9
WMQ XP sP 14 43 06.0 +3.8
WMQ PP PP 14 44 38.0 +4.0
WMQ AMB AMB
comp=Z,47nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,196nm,6.2s
WMQ LR LR
comp=N,705nm,18.9s,MS4.7
WMQ LR LR
comp=E,583nm,16.2s,MS4.7
WMQ LR LR
comp=Z,566nm,23.3s
FORT Forrest 43.40 140 *eP* **P 14 42 55.6 +1.7**
comp=Z,40nm,0.7s,mb5.3
ASPA Alice Springs 43.50 127 *eP* **P 14 42 54.8 0.0**
DL2 Dalian 43.56 28 P **P 14 42 55.6 +0.5**
DL2 *eS* **S 14 49 26.3 +4.0**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
DL2 LR LR
comp=N,340nm,15.7s,MS4.5
DL2 LR LR
comp=E,300nm,16.0s,MS4.5
DL2 LR LR
comp=Z,500nm,15.3s,MS4.5
JNU Nakatsue 44.72 41 P **P 14 43 04.1 -0.4**
comp=Z,28nm,0.9s,mb5.1,baz=204,slow=2.4,SNR=27
UCH Uchtor 45.51 336 P **P 14 43 12.2 +1.5**
SNR=20
TKM2 Tokmak 2 45.68 338 P **P 14 43 13.3 +1.3**
SNR=13
KBK Karagaybulak 45.70 337 P **P 14 43 14.0 +1.8**
SNR=15
KS15 Wonju Array Si 45.72 35 *eP* **P 14 43 12.9 +0.5**
AML Almayashu 45.76 336 P **P 14 43 14.1 +1.4**
SNR=11
AAK Ala-Archa 45.86 337 *eP* **P 14 43 14.2 +0.7**
comp=Z,12nm,1.0s,mb4.8
AAK Ala-Archa 45.86 337 *c iP* **P 14 43 13.9 +0.4**
AAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
FRU Bishkek 45.98 337 *eP* **P 14 43 15.0 +0.6**
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.0
CHMS Chumysh 46.07 337 P **P 14 43 16.1 +1.0**
SNR=5.7
EKS2 Erkin-Say 46.17 336 P **P 14 43 17.1 +1.2**
SNR=14
USP Ospenovka 46.39 337 P **P 14 43 18.5 +0.8**
SNR=26
SNY Shenyang 46.79 27⇑ P **P 14 43 20.5 -0.3**
SONM Songino Array 46.99 8 P **P 14 43 22.6 +0.2**
comp=Z,25nm,0.8s,mb5.2,baz=189,slow=9.0,SNR=198
SONM PcP PcP 14 44 54.8 0.0
comp=Z,3.3nm,0.6s,baz=201,slow=3.2,SNR=4.9
SONM LR LR 15 05 36.4
comp=Z,823nm,18.5s,MS4.7,baz=189,slow=39

MKAR Makanchi Array 47.10 346 P **P 14 43 23.5 +0.3**
comp=Z,17nm,0.7s,mb5.1,baz=158,slow=8.8,SNR=169
MKAR LR LR 15 06 57.9
comp=Z,274nm,20.7s,MS4.2,baz=179,slow=41
MKAR Makanchi Array 47.10 346 P **P 14 43 23.2 0.0**
MKAR pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 47.92 334 *i* P **P 14 43 29.9 +0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ZAK Zakamensk 49.13 5⇑ *iP* **P 14 43 39.2 +0.2**
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CN2 Changchun 49.19 27⇑ P **P 14 43 39.4 -0.1**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
MOY Mondy 50.25 3 *eP* **P 14 43 48.3 +0.8**
IRK Irkutsk 51.07 6 *eP* **P 14 43 53.6 -0.1**
IRK *e* 14 45 03.5
IRK pmax pmax
comp=Z,43nm,1.6s,mb5.1
HIA Hailar 51.51 19 *eP* **P 14 43 57.1 -0.1**
comp=Z,22nm,0.8s,mb5.2
HIA Hailar 51.51 19 *eP* **P 14 43 57.1 -0.1**
HIA pmax pmax
comp=Z,22nm,0.8s
MAJO Matsushiro 51.60 42 *eP* **P 14 43 57.3 -0.7**
comp=Z,4.8nm,0.8s,mb4.5
MAJO Matsushiro 51.60 42 *eP* **P 14 43 57.3 -0.7**
MAJO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MAT Matsushiro 51.60 42 P **P 14 43 55.8 -2.2**
MJAR Matsushiro Arr 51.60 42 P **P 14 43 56.9 -1.1**
comp=Z,4.8nm,0.8s,mb4.5,baz=218,slow=6.5,SNR=20
MJAR LR LR 15 06 14.1
comp=Z,250nm,22.0s,MS4.2,baz=240,slow=36
KURK Kurchatov 51.65 345 *eP* **P 14 43 57.9 -0.3**
comp=Z,22nm,0.9s,mb5.1
KURK Kurchatov 51.65 345 *eP* **P 14 43 57.9 -0.3**
KURK pmax pmax
comp=Z,22nm,0.9s,mb5.1
MDJ Mudanjiang 51.76 29 P **P 14 43 59.6 +0.5**
MDJ AMB AMB
comp=Z,25nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,150nm,6.1s
MDJ LR LR
comp=N,478nm,15.3s,MS4.8
MDJ LR LR
comp=E,388nm,15.3s,MS4.8
MDJ LR LR
comp=Z,799nm,15.3s,MS4.9
MDJ Mudanjiang 51.76 29 *eP* **P 14 43 59.9 +0.8**
comp=Z,19nm,0.8s,mb5.1
CIT Chita 52.34 13 *eP* **P 14 44 03.9 +0.6**
CIT *e* 14 44 16.6
CIT *e* 14 45 12.3
CIT *e* 14 47 03.5
CIT pmax pmax
comp=Z,86nm,1.7s,mb5.4
CTA Charters Tower 52.59 117 *eP* **P 14 44 05.7 +0.1**
comp=Z,5.9nm,0.8s,mb4.6
CTA Charters Tower 52.59 117 *eP* **P 14 44 05.7 +0.1**
CTA pmax pmax
comp=Z,6.0nm,0.8s
OPO Ambohidratompo 52.96 246 P **P 14 44 08.3 -0.2**
comp=Z,3.0nm,1.0s,mb4.2,baz=21,slow=7.5,SNR=3.6
ZAL Zalesovo 53.41 351 P **P 14 44 10.6 -0.7**
comp=Z,27nm,0.7s,mb5.3,baz=312,slow=5.1,SNR=97
ZAL LR LR 15 12 52.1
comp=Z,297nm,18.5s,MS4.4,baz=298,slow=43
STKA Stephens Creek 53.47 132⇑ *iP* **P 14 44 12.1 +0.1**
comp=Z,9.3nm,0.8s,mb4.8
STKA *i* pP 14 44 19.2 -0.5
STKA Stephens Creek 53.47 132 P **P 14 44 12.5 +0.5**
comp=Z,14nm,0.9s,mb4.9,baz=301,slow=8.0,SNR=20
STKA LR LR 15 09 20.1
comp=Z,664nm,20.8s,MS4.7,baz=20,slow=39
STKA Stephens Creek 53.47 132 *eP* **P 14 44 12.2 +0.2**
STKA *i* pP 14 44 19.2 -0.5
NVS Novosibirsk 54.53 350 *eP* **P 14 44 17.8 -1.7**
NVS *e**PP pP 14 44 31.1 +3.9
NVS *eS* **S 14 51 45.5 -10**
NVS pmax pmax
comp=N,17nm,0.9s
NVS pmax pmax
comp=Z,22nm,0.9s,mb5.2
NVS pmax pmax
comp=E,9.0nm,0.7s
NVS smax
comp=N,28nm,2.6s
NVS smax
comp=E,17nm,2.6s
VOSK Vostochnaya 55.66 341 P **P 14 44 26.2 -1.5**
VOSK pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
BVAR Borovoye Array 56.11 341 P **P 14 44 30.1 -0.9**
comp=Z,20nm,0.7s,mb5.3,baz=149,slow=8.6,SNR=135
KLR Kul'dur 56.14 27 *eP* **P 14 44 28.8 -2.4**
KLR *eS* **S 14 52 18.0 +1.1**
KLR MLR MLR
comp=N,900nm,13.5s,MS5.1
KLR MLR MLR
comp=E,500nm,13.5s,MS5.1
KLR MLR MLR
comp=Z,1µm,13.5s,MS5.2
BRVK Borovoye 56.17 341 *eP* **P 14 44 30.3 -1.1**
comp=Z,11nm,0.7s,mb5.0
BRVK Borovoye 56.17 341 *eP* **P 14 44 30.3 -1.1**
BRVK pmax pmax
comp=Z,11nm,0.7s,mb5.0
BOD Bodaibo 57.88 11 *eP* **P 14 44 41.6 -1.8**
BOD pmax pmax
comp=Z,149nm,0.9s,mb6.0
AKTO Aktyubinsk 59.09 332 P **P 14 44 50.2 -1.8**
AKTO pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
CLNS Chul'man 59.61 17 *eP* **P 14 44 55.1 -0.4**
CLNS *e**PP pP 14 45 01.7 -1.7
CLNS *e* 14 45 44.1
CLNS *eS* **S 14 52 57.5 -4.9**
CLNS pmax pmax
comp=Z,39nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,22nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=Z,11nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS smax
comp=N,73nm,12.5s
CLNS smax
comp=Z,50nm,13.5s
CLNS smax
comp=E,116nm,14.4s
CLNS MLR MLR
comp=N,800nm,16.0s,MS5.2
CLNS MLR MLR
comp=Z,1µm,16.0s,MS5.2
CLNS MLR MLR
comp=E,1µm,17.0s,MS5.2
KMBO Kilima Mbogo 59.97 268 LR LR 15 09 41.2
comp=E,237nm,18.2s,MS4.4,baz=91,slow=35
YSS Yuzh-Sakhalins 60.24 34 P **P 14 45 00.0 0.0**
YSS *e* pP 14 45 06.4 -1.4
YSS *e* 14 45 12.0
YSS MLR MLR
comp=E,500nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.8
ARMA Armidale 60.64 126 *eP* **P 14 45 11.5 +8.6**
SVE Sverdlovsk 62.55 338⇑ *eP* **P 14 45 14.8 -0.6**
SVE *eS* S 14 54 13.0 +33
SVE *e* 14 57 46.0
SVE pmax pmax
comp=Z,40nm,1.4s,mb5.4
SVE MLR MLR
comp=N,200nm,18.0s,MS4.4
SVE MLR MLR
comp=E,100nm,18.0s,MS4.4
SVE MLR MLR
comp=Z,300nm,18.0s,MS4.5
SVE MLR MLR
comp=N,200nm,18.0s
SVE MLR MLR
comp=E,100nm,18.0s
SVE MLR MLR
comp=Z,300nm,18.0s
ZEI Tsey 62.88 318 *eP* **P 14 45 15.1 -2.6**
ZEI *i* *PP pP 14 45 27.7 +2.1
ZEI *i* 14 45 51.8
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ARU Arti 63.04 337 *eP* **P 14 45 17.4 -1.3**
comp=Z,12nm,0.9s,mb5.0
ARU Arti 63.04 337 *eP* **P 14 45 17.2 -1.4**
ARU pmax pmax
comp=Z,16nm,1.0s,mb5.1
HNR Honiara 63.41 101 *eP* **P 14 45 21.1 -0.6**
comp=Z,35nm,0.8s,mb5.5
HNR Honiara 63.41 101 *eP* **P 14 45 21.1 -0.6**
HNR pmax pmax
comp=Z,35nm,0.8s,mb5.5
KIV Kislovodsk 64.18 319 *eP* **P 14 45 25.7 -0.7**
KIV *e* 14 47 46.8
KIV *eS* **S 14 53 59.5 -0.9**
KIV *eSS* SS 14 58 08.9 -2.5
KIV pmax pmax
comp=N,10.0nm,1.1s
KIV pmax pmax
comp=E,12nm,1.1s
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.9
MALT Malatya 65.02 312 *eP* **P 14 45 32.2 +0.3**
comp=Z,9.0nm,1.1s,mb4.7
MALT *ep*P pP 14 45 39.7 0.0
MALT Malatya 65.02 312 *eP* **P 14 45 32.2 +0.3**
MALT *e**PP pP 14 45 39.7 0.0
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
YAK Yakutsk 65.29 16 *eP* **P 14 45 32.5 -0.7**
comp=Z,103nm,0.9s,mb5.9
YAK Yakutsk 65.29 16 *c iP* **P 14 45 32.0 -1.2**
YAK *e* pP 14 45 39.3 -1.8
YAK pmax pmax
comp=Z,50nm,0.9s,mb5.5
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=Z,33nm,0.9s,mb5.4
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK MLR MLR
comp=N,315nm,16.0s,MS4.8
YAK MLR MLR
comp=Z,467nm,16.0s,MS4.8
YAK MLR MLR
comp=E,304nm,15.0s,MS4.8
SOKR Solikamsk 65.94 339⇓ *iP* **P 14 45 37.3 -0.1**
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.4
SOKR MLR MLR
comp=Z,280nm,19.0s,MS4.5
SOC Sochi 66.00 318 *eP* **P 14 45 47.3 +9.3**
SOC *eS* S 14 54 19.8 -2.9
SOC *e* 14 55 24.6
SOC MLR MLR
comp=Z,133nm,20.0s,MS4.1
MBAR Mbarara 66.46 269 *i* P **P 14 45 43.3 +1.8**
ANN Anapa 67.98 318 *eP* **P 14 45 49.8 -0.8**
BRTR Keskin Array B 69.00 312 P **P 14 45 55.6 -1.3**
comp=Z,1.9nm,0.7s,mb4.1,baz=134,slow=6.9,SNR=11
VORD Divnogorie 69.26 325 *eP* **P 14 45 56.9 -1.5**
VORD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
MATP Matopo 70.56 248 P **P 14 46 06.5 -0.3**
comp=E,3.7nm,0.8s,mb4.4,baz=91,slow=7.9,SNR=10
MATP LR LR 15 13 08.1
comp=E,266nm,18.5s,MS4.5,baz=65,slow=33
MA2 Magadan 71.22 26 *eP* **P 14 46 09.9 -0.2**
MA2 pmax pmax
comp=Z,21nm,0.7s,mb5.2
PET Petropavlovsk 72.13 34⇓ *iP* **P 14 46 15.9 +0.2**
PET *eS* S 14 55 34.1 -0.8
PET *ePS* PS 14 56 06.6 -2.4
PET pmax pmax
comp=Z,47nm,0.8s,mb5.5
PET pmax pmax
comp=N,43nm,0.8s
PET smax
comp=E,100nm,28.0s
PET MLR MLR
comp=Z,300nm,17.0s,MS4.6
OBN Obninsk 72.48 328 *eP* **P 14 46 17.4 -0.4**
OBN *i* pP 14 46 24.8 -0.9
OBN *e* 14 46 34.0
OBN *e* 14 48 56.5
OBN *eS* S 14 55 38.2 -0.8
OBN pmax pmax
comp=Z,55nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,100nm,23.0s,MS4.0
MAW Mawson 72.84 193 P **P 14 46 20.5 +0.8**
comp=Z,2.4nm,0.9s,mb4.1,baz=72,slow=8.8,SNR=4.4
MAW LR LR 15 12 56.6
comp=Z,196nm,19.6s,MS4.4,baz=189,slow=31
TIXI Tiksi 73.05 10 *eP* **P 14 46 15.4 -5.4**
TIXI *eS* S 14 55 33.7 -11
TIXI *eSS* SS 15 00 20.5 -8.2
TIXI pmax pmax
comp=Z,14nm,0.8s,mb4.9
TIXI MLR MLR
comp=Z,548nm,15.0s,MS5.0
SEY Seymchan 73.64 23 *eP* **P 14 46 24.1 -0.3**
SEY 14 46 40.3
SEY *e* 14 49 11.4
SEY *ePPP* PPP 14 50 55.8 +1.0
SEY *eS* S 14 55 54.2 +2.3
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.3
SEY pmax pmax
comp=E,10.0nm,1.1s
SEY smax
comp=N,230nm,20.3s
SEY smax
comp=E,80nm,17.5s
SEY MLR MLR
comp=Z,70nm,13.0s,MS4.1
LBTB Lobatse 73.93 244 LR LR 15 17 44.9
comp=Z,350nm,18.2s,MS4.7,baz=94,slow=35
AKASG Malin Array Be 75.13 322 P **P 14 46 31.5 -1.8**
comp=Z,5.1nm,0.7s,mb4.6,baz=90,slow=4.9,SNR=20
JOF Joensuu 78.01 335 *ep* **P 14 46 47.9 -1.2**
comp=Z,7.1nm,0.8s,mb4.7
SUR Sutherland 79.22 237 LR LR 15 19 39.7
comp=Z,261nm,18.8s,MS4.6,baz=210,slow=34
FINES FINESS Array B 79.86 332 P **P 14 46 58.5 -0.7**
comp=Z,3.9nm,0.8s,mb4.4,baz=92,slow=6.5,SNR=18
FINES LR LR 15 25 35.4
comp=Z,103nm,18.1s,MS4.2,baz=293,slow=38
FINES FINESS Array B 79.86 332 *i* P **P 14 46 59.2 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.8s
KAF Kangasniemi 79.95 333 *ep* **P 14 46 59.1 -0.5**
comp=Z,5.3nm,0.7s,mb4.6,baz=104,slow=5.0
KAF Kangasniemi 79.95 333 *eP* **P 14 46 59.1 -0.5**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
TSUM Tsumeb 80.61 250 LR LR 15 17 19.7
comp=Z,107nm,20.8s,MS4.2,baz=326,slow=32
BILL Bilibino 81.04 21 *eP* **P 14 47 05.1 -0.2**
BILL *e* pP 14 47 11.8 -1.6
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ARCES ARCESS Array B 82.39 340 P **P 14 47 12.5 +0.2**
comp=Z,5.0nm,0.7s,mb4.5,baz=101,slow=4.6,SNR=23
ARCES LR LR 15 28 05.7
comp=Z,222nm,19.5s,MS4.5,baz=98,slow=39
ARCES ARCESS Array B 82.39 340 P **P 14 47 12.5 +0.2**
ARCES LR LR 15 28 05.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GERES	GERESS Array B	84.69	319	P	P	14 47 25.0	+0.6
	comp=Z,2.3nm,0.7s,mb4.4,baz=108,slow=4.2,SNR=15						
KHC	Kasperske Hory	84.79	319	eP	P	14 47 25.5	+0.5
KHC	Kasperske Hory	84.79	319⇑	eP	P	14 47 26.0	+1.0
GRA1	Grafenberg Arr	86.36	320	eP	P	14 47 33.3	+0.6
	comp=Z,5.0nm,0.9s,mb4.7						
GRF	Grafenberg Arr	86.36	320	eP	P	14 47 33.3	+0.6
	comp=Z,5.0nm,0.9s,mb4.7						
GRF	Grafenberg Arr	86.36	320	eP	P	14 47 33.3	+0.6
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
GRF	Grafenberg Arr	86.36	320	eP	P	14 47 33.3	+0.6
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
NB2	NORSAR Subarra	86.87	331	P	P	14 47 35.0	0.0
	comp=Z,1.8nm,0.7s,mb4.4,baz=93,slow=4.8						
NB2	NORSAR Subarra	86.87	331	P	P	14 47 35.0	0.0
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
NOA	NORSAR Array B	86.87	331	P	P	14 47 34.9	-0.1
	comp=Z,2.7nm,0.8s,mb4.6,baz=95,slow=5.0,SNR=6.9						
NOA				LR	LR	15 32 31.2	
	comp=Z,122nm,18.6s,MS4.3,baz=45,slow=40						
LPL	La Plagne	89.36	315	eP	P	14 47 47.1	-0.2
	comp=Z,5.5nm,0.6s,mb4.8						
LPL	La Plagne	89.36	315	eP	P	14 47 47.1	-0.2
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8						
NVL	N'lazarevskaya	89.72	199⇑	iP	P	14 47 56.7	+8.3
NVL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.4						
ILAR	Eielson Array	99.58	23	PP	PP	14 52 32.7	-7.2
	comp=Z,0.7nm,1.0s,baz=293,slow=6.9,SNR=3.3						
NVAR	Mina Array Bea	128.68	36	PKP	PKPdf	14 53 59.1	-2.6
	comp=Z,1.4nm,0.8s,baz=238,slow=0.7,SNR=8.3						
PDAR	Pinedale Array	129.92	26	PKP	PKPdf	14 54 00.1	-3.9
	comp=Z,0.9nm,0.7s,baz=136,slow=0.6,SNR=6.9						
PDAR				PP	PP	14 56 11.2	-4.2
	comp=Z,1.0nm,1.1s,baz=333,slow=3.3,SNR=4.4						
TXAR	Lajitas Array	143.56	32	PKP	PKPdf	14 54 24.7	-4.6
	comp=Z,0.9nm,0.3s,baz=333,slow=2.0,SNR=6.4						
CPUP	Villa Florida	145.09	222	PKPbc	PKPbc	14 54 29.2	+1.5
	comp=Z,1.8nm,0.7s,baz=120,slow=4.4,SNR=4.0						
LRAL	Lakeview Retre	145.58	6	ePKPdf	PKPdf	14 54 29.5	-3.2

CASC 19 14:55:47.0±2.6**, 12.28N×87.86W, h22**^{km}±7^{km}**, MD3.8, ML3.0, 3C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.90	62⇑	eP	Pb	14 56 04.3	+0.6
CRIN				eS	Sb	14 56 13.5	-1.7
LEON	Leon	0.95	82⇓	eP	Pb	14 56 04.2	-0.5
CNCH	Conchagua	0.99	1	eP	Pb	14 56 06.0	+0.6
TEL3	Telica 3	1.03	73	eP	Pb	14 56 05.9	-0.2
TELN	Telica	1.05	72	eP	Pb	14 56 06.6	+0.2
MIRN	Miramar	1.13	82	eP	Pb	14 56 06.9	-0.8
CNGN	Cerro Negro	1.16	79	eP	Pn	14 56 07.2	-0.8
VSM	San Miguel	1.22	341⇓	eP	Pn	14 56 07.8	-1.1
VSM				eS	Sb	14 56 25.9	+1.4
BLLM	Bellamira	1.22	342	eP	Pn	14 56 09.0	0.0
BLLM				eS	Sb	14 56 26.5	+2.0
COPN	Copaltepe	1.24	94⇑	eP	Pn	14 56 08.2	-1.1
COPN				eS	Sb	14 56 27.1	+1.9
MOMJ	Momotombo	1.29	84	eP	Pn	14 56 09.2	-0.9
MOMJ				eS	Sb	14 56 27.1	+0.4
XAVN	Gruta Xavier	1.50	95	eP	Pn	14 56 12.2	-0.8
XAVN				eS	Sn	14 56 33.6	+1.5
MGAN	Managua	1.58	94⇑	eP	Pn	14 56 13.6	-0.6
MGAN				eS	Sn	14 56 33.8	-0.3
MGAN				i		14 56 34.8	
	comp=E,182nm,0.2s						
TICN	Ticuantepe	1.61	98⇓	eP	Pn	14 56 14.7	+0.2
TICN				eS	Sn	14 56 34.1	-0.7
SNVI	San Vicente	1.64	324	eP	Pn	14 56 17.3	+2.4
SNVI				eS	Sn	14 56 35.5	0.0
WILN	Americas 2	1.64	94	eP	Pn	14 56 14.5	-0.5
WILN				eS	Sn	14 56 35.2	-0.3
LCBS	La Ceiba	1.75	322	eP	Pn	14 56 15.4	-1.2
LCBS				eS	Sn	14 56 37.8	-0.7
PYTN	Playitas	1.78	81	eP	Pn	14 56 16.8	-0.1
PYTN				eS	Sn	14 56 40.9	+1.8
LFRS	El Faro	1.78	319	eP	Pn	14 56 16.1	-0.9
LFRS				eS	Sn	14 56 39.3	+0.1
APON	Apoyo	1.79	101	eP	Pn	14 56 15.7	-1.4
CONN	Concepcion	2.30	108	eP	Pn	14 56 22.9	-1.5
RBDL	Robledal	2.55	316	eP	Pn	14 56 26.1	-2.0
RBDL				eS	Sn	14 56 59.6	+0.9

*SOF **19** 14:56:13.7, 42.72N×21.50E, h5^{km}, MD2.6*
*BEO **19** 14:56:14.4±0.3, 42.85N×21.54E, h10^{km}±1^{km}*
*CSEM **19** 14:56:14.5±0.3, 42.86N×21.52E, h10^{km}, MD2.6, Error ellipse: s-maj=11.5km s-min=4.1km az=36.0*
ISC 19 14:56:14.5±0.5**, 42.84N**±0.03×**21.50E**±0.05**, h10**^{km}**, n11,** σ**1^{s}01**/19**, 1C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARS	Barje	0.24	95⇓	iPg	Pg	14 56 19.0	-0.6
BARS				Sg	Sg	14 56 22.1	-0.8
SKO	Skopje	0.87	183	iPg	Pg	14 56 32.2	+0.2
SKO				iSg	Sg	14 56 43.2	-0.5
SKO				Lg		14 56 45.5	
	comp=Z,0.1nm,0.4s						
GRUS	Gruza	1.19	331	ePn	Pn	14 56 37.4	+0.1
GRUS				Sg	Sg	14 56 54.2	-0.1
GRUS	Gruza	1.19	331	Pn	Pn	14 56 37.3	+0.1
GRUS				Sg	Sg	14 56 54.2	-0.1
VTS	Vitosha	1.28	101	iP	Pb	14 56 38.0	-0.3
SVIS	Svilajnac	1.47	352	ePn	Pn	14 56 41.4	+0.2
SVIS				Sg	Sg	14 57 02.9	-0.6
SVIS	Svilajnac	1.47	352	Pn	Pn	14 56 41.4	+0.2
SVIS				Sg	Sg	14 57 02.8	-0.6
NVSS	Nova Varos 2	1.48	297⇓	iPg	Pg	14 56 42.8	-1.2
NVSS				Sg	Sg	14 57 00.9	-2.9
KKB	Krupnik	1.52	129	iP	Pn	14 56 43.0	+1.0
DIVS	Divcibare	1.67	319⇑	iPn	Pn	14 56 45.6	+1.6
DIVS				Sn	Sn	14 57 07.7	+2.0
MMB	Musomiste	2.07	126	iP	Pn	14 56 50.5	+0.7

*IDC **19** 15:24:00.6±3.4, 35.92N×141.21E, mb3.7/2, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=94.2km s-min=29.7km az=55.0*
*NEIC **19** 15:24:05.5±1.6, 35.95N×141.20E, h35^{km}, mb4.1/1, Error ellipse: s-maj=41.1km s-min=18.2km az=223.0*
*JMA **19** 15:24:07.7±0.1, 35.91N×140.83E, h41^{km}±1^{km}, M3.1*
ISC 19 15:24:06.7±0.9**, 35.93N**±0.06×**141.0E**±0.1**, h49**^{km}±6^{km}**, n13,** σ**1^{s}12**/18**, mb3.8**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.24	198	P	P	15 24 14.8	-0.4
CHOJ				S	S	15 24 20.6	-0.6
JYT	Yasato	0.68	296	P	P	15 24 19.9	-0.2
JYT				S	S	15 24 27.9	-2.1
JHO	Hitachi	0.74	336	P	P	15 24 21.7	+0.7
JHO				S	S	15 24 32.0	+0.5
BSO4	Boso 4	1.06	208	P	P	15 24 26.9	+1.5
BSO3	Boso 3	1.18	198	P	P	15 24 28.5	+1.5
BSO1	Boso 1	1.27	179	P	P	15 24 27.8	-0.6
JAG	Ashikaga	1.30	293	P	P	15 24 28.6	-0.4
MJAR	Matsushiro Arr	2.30	286	Pn	P	15 24 43.5	+0.5
	7.4nm,0.3s,baz=102,slow=8.7,SNR=74						
MAJO	Matsushiro	2.30	286	ePn	P	15 24 43.8	+0.8
MAJO				eSn	S	15 25 07.3	-2.8
MAT	Matsushiro	2.30	286	P	P	15 24 43.3	+0.4
MAT				S	S	15 25 12.2	+2.1
MKAR	Makanchi Array	44.40	303	P	P	15 32 13.8	-0.2
	1.0nm,0.6s,mb3.7,baz=84,slow=9.8,SNR=12						
KURK	Kurchatov	46.32	309	eP	P	15 32 29.1	-0.1
	1.0nm,0.4s,mb4.1						
WRA	Warramunga Arr	55.92	188	P	P	15 33 40.4	-1.7
	0.2nm,0.3s,mb3.6,baz=1.5,slow=7.6,SNR=11						

*CSEM **19** 15:34:21.1, 37.66N×24.52W, h10^{km}, ML2.5, After PDA*
*PDA **19** 15:34:21.1±0.4, 37.66N×24.52W, h10^{km}, MD2.4, ML2.5, Error ellipse: s-maj=10.4km s-min=2.6km az=12.0*
SVSA 19 15:34:21.1±0.4**, 37.66N×24.52W, h10**^{km}**, MD2.4, ML2.5, Error ellipse: s-maj=10.4km s-min=2.6km az=12.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIRA	Miradouro	0.62	282	eP	Pb	15 34 30.3	-3.2
MIRA				iS	Sg	15 34 38.0	-3.8
PFAD	Fenais da Ajud	0.66	286	eP	Pb	15 34 31.8	-2.5
PFAD				eS	Sb	15 34 39.9	-3.4
FRA1	Furnas	0.67	277	eS	Sb	15 34 39.1	-4.4
PCNG	Congro	0.70	279	eS	Sb	15 34 41.1	-3.4
	76nm,0.2s						
VIF	Vila Franca	0.74	277	eP	Pb	15 34 32.9	-2.6
VIF				eS	Sb	15 34 41.6	-3.8
MESC	Monte Escuro	0.75	280	eP	Pb	15 34 33.0	-2.7
MESC				eS	Sb	15 34 41.9	-3.8
PRCH	Ribeira Ch	0.77	275	eS	Sb	15 34 42.4	-3.9
	110nm,0.1s						
LFA	Lagoa do Fogo	0.77	278	iP	Pb	15 34 33.6	-2.6
PSMN	Pico do Norte,	0.79	214	eS	Sb	15 34 38.7	-8.3

JMA 19 15:47:20.3±0.2**, 29.99N×142.03E, h52**^{km}**, M3.7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.89	177	P	P	15 48 05.2	+0.2
CBIJ				eS	S	15 48 37.1	-1.6
JHJ2	Mitsune	3.64	329	P	P	15 48 16.2	+0.6
JOD2	Odawara 2	5.81	336	P	P	15 48 47.3	+1.3
JHU	Hanno	6.29	339	P	P	15 48 53.7	+1.1
JYT	Yasato	6.41	347	P	P	15 48 55.0	+0.6
JRY	Ryogami san	6.56	337	P	P	15 48 57.1	+0.6
JHO	Hitachi	6.71	350	P	P	15 48 58.1	-0.6
JHO				eS	S	15 50 08.9	-5.7
JAG	Ashikaga	6.77	342	P	P	15 48 59.1	-0.4
MAT	Matsushiro	7.28	335	P	P	15 49 06.4	-0.1
MAT				eS	S	15 50 27.7	-0.8
MAT	Matsushiro	7.28	335	P	P	15 49 07.7	+1.2
JFK	Kawauchi	7.42	353	P	P	15 49 07.4	-1.1

IDC 19 16:07:13.1±5.5**, 12.92N×145.10E, h36**^{km}±47^{km}**, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.3**/18**, mbtmp3.5**/3**, Error ellipse: s-maj=68.1km s-min=23.9km az=96.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.70	341	Pn	P	16 07 26.5	0.0
	baz=163,slow=13						
GUMO				Sn	S	16 07 36.2	0.0
	340nm,0.3s,baz=32,slow=19,SNR=50						
MJAR	Matsushiro Arr	24.32	346	P	P	16 12 27.4	-1.1
	0.7nm,0.5s,baz=159,slow=10,SNR=4.4						
WRA	Warramunga Arr	34.33	198	P	P	16 13 56.3	-2.3
	0.4nm,0.8s,baz=22,slow=9.7,SNR=4.7						
ILAR	Eielson Array	69.07	25	P	P	16 18 14.9	-2.0
	0.6nm,0.6s,baz=248,slow=4.9,SNR=8.4						

*BGR **19** 16:20:25.9±0.6, 51.53N×16.14E, h1^{km}, ML3.1/9, Error ellipse: s-maj=11.1km s-min=5.6km az=160.0*
*IPEC **19** 16:20:25.2±0.3, 51.60N×16.20E, ML2.4/3, Error ellipse: s-maj=1.9km s-min=1.5km az=42.0*
*NEIC **19** 16:20:26.6±0.9, 51.59N×16.15E, h15^{km}, ML3.1(SZGRF), ML2.5(CLL), Error ellipse: s-maj=12.8km s-min=7.6km az=12.0*
*CSEM **19** 16:20:26.6±0.2, 51.53N×16.10E, h0^{km}, ML3.3/5, Error ellipse: s-maj=2.6km s-min=2.1km az=20.0*
*IDC **19** 16:20:27.4±1.0, 51.48N×16.05E, mb1 3.4/5, mb1mx3.3/21, mbtmp3.3/5, ML3.0/5, Error ellipse: s-maj=16.4km s-min=9.2km az=123.0*
*WAR **19** 16:20:27.0, 51.53N×16.09E, h1^{km}, ML2.9, Mining Induced*
*VIE **19** 16:20:30.6±0.5, 51.19N×16.26E, mb2.4/4, ML2.9/4, Error ellipse: s-maj=3.3km s-min=2.7km az=90.0, Suspected Mining induced.*
ISC 19 16:20:24.3±0.5**, 51.49N**±0.03×**16.10E**±0.03**, n50,** σ**1^{s}48**/90**, 3C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	170	ePG	Pg	16 20 40.0	+2.5
KSP				eSG	Sg	16 20 49.0	+2.8
KSP	Ksiaz	0.66	170	ePg	Pg	16 20 39.9	+2.4
KSP				eSg	Sg	16 20 49.4	+3.2
KSP				e		16 20 54.8	
KSP	Ksiaz	0.66	170	ePg	Pg	16 20 39.9	+2.4
KSP				eSg	Sg	16 20 48.4	+2.2
DPC	Dobruska-Polom	1.15	173	ePg	Pg	16 20 48.6	+1.3
DPC				eSg	Sg	16 21 04.4	+1.8
PVCC	Panska Ves	1.37	226	ePg	Pg	16 20 52.4	+0.8
PVCC				eSg	Sg	16 21 11.6	+1.8
BRG	Berggiesshubel	1.49	246	ePg	Pg	16 20 53.9	-0.2
BRG				eSg	Sg	16 21 15.1	+1.1
BRG	Berggiesshubel	1.49	246	iPn	Pn	16 20 54.2	+1.7
BRG				iPg	Pg	16 20 55.2	+1.1
BRG				iSg	Sg	16 21 15.4	+1.4
BRG	Berggiesshubel	1.49	246	iPg	Pg	16 20 55.2	+1.1
BRG				Sg	Sg	16 21 15.1	+1.1
RUE	Ruedersdorf	1.75	306	ePn	Pn	16 20 56.4	+0.3
RUE				eSn	Sn	16 21 18.7	-0.6
RUE	Ruedersdorf	1.75	306	ePn	Pn	16 20 56.4	+0.3
RUE				eSn	Sn	16 21 18.7	-0.7
FBE	Freiberg	1.82	253	Pn	Pn	16 20 59.9	+2.7
FBE				Sg	Sg	16 21 24.5	-0.4
RAC	Raciborz	1.94	136	eP	Pn	16 21 03.0	+4.2
RAC				eS	Sn	16 21 30.0	+5.8
MORC	Moravsky Berou	1.94	151	ePn	Pn	16 21 00.1	+1.2
MORC				eSn	Sn	16 21 25.9	+1.5
MORC	Moravsky Berou	1.94	151	ePn	Pn	16 21 00.1	+1.2
MORC				eSn	Sn	16 21 25.9	+1.5
MORC				eSg	Sg	16 21 28.2	-0.8
	25nm,0.3s						
CLL	Collm	1.95	266	ePn	Pn	16 20 59.4	+0.4
CLL				eSg	Sg	16 21 28.6	-0.7
CLL	Collm	1.95	266	iPN	Pn	16 20 59.5	+0.5
CLL				iPG	Pg	16 21 02.5	-0.8
CLL				iSG	Sg	16 21 28.6	-0.7
CLL	Collm	1.95	266	iPg	Pg	16 21 02.5	-0.8
CLL				Sg	Sg	16 21 28.5	-0.8
VRAC	Vranov	2.21	172	Pn	Pn	16 21 05.0	+2.3
	1.6nm,0.3s,baz=342,slow=13,SNR=6.7						
VRAC				Lg		16 21 36.8	
	5.0nm,0.3s,baz=67,slow=15,SNR=12						
VRAC	Vranov	2.21	172	ePn	Pn	16 21 04.9	+2.2
VRAC				eSg	Sg	16 21 37.4	-0.4
VRAC	Vranov	2.21	172	ePn	Pn	16 21 04.8	+2.1
VRAC				eSg	Sg	16 21 37.4	-0.4
	18nm,0.3s						
KRUC	Moravsky	2.44	175	ePn	Pn	16 21 07.7	+1.7
KRUC				eSg	Sg	16 21 45.1	-0.4
	17nm,0.5s						
TANN	Tannenbergstha	2.54	246	ePn	Pn	16 21 08.6	+1.2
TANN				eSg	Sg	16 21 47.4	-1.6
WERD	Werda	2.62	248	ePn	Pn	16 21 09.5	+1.0
WERD				eSg	Sg	16 21 49.1	-2.4
OJC	Ojcow	2.66	117	ePG	Pg	16 21 16.0	-1.5
OJC				eSG	Sg	16 21 52.0	-1.0
OJC	Ojcow	2.66	117	ePg	Pg	16 21 15.8	-1.7
OJC				eSg	Sg	16 21 52.4	-0.6
MOX	Moxa	2.96	255	ePn	Pn	16 21 14.0	+0.6
MOX				eSg	Sg	16 22 01.4	-1.3
ROTZ	Rotzenmuhle	3.02	237	ePn	Pn	16 21 15.6	+1.3
ROTZ				eSg	Sg	16 22 02.2	-2.7
GEC2	GERESS Array S	3.06	211	ePn	Pn	16 21 16.8	+1.8
GEC2	GERESS Array S	3.06	211	ePn	Pn	16 21 16.8	+1.9
GERES	GERESS Array B	3.06	211	Pn	Pn	16 21 17.0	+2.0
	1.6nm,0.3s,baz=31,slow=13,SNR=35						
GERES				Pg	Pg	16 21 22.9	-2.6
	2.6nm,0.3s,baz=26,slow=17,SNR=26						
GERES				Lg		16 22 03.7	
	4.4nm,0.3s,baz=36,slow=25,SNR=12						
GERES	GERESS Array B	3.06	211	Pg	Pg	16 21 22.9	-2.6
WET	Wettzell	3.13	223	ePn	Pn	16 21 17.0	+1.2
WET				eSg	Sg	16 22 06.1	-2.3
WET	Wettzell	3.13	223	ePn	Pn	16 21 17.0	+1.2
WET				eSg	Sg	16 22 06.1	-2.4
ZST	Bratislava	3.36	169	eSG	Sg	16 22 15.5	-0.7
NIE	Niedzica	3.40	126	eP	Pg	16 21 31.0	-1.1
NIE				eS	Sg	16 22 16.0	-1.4
VYHS	Vyhne	3.48	148	ePG	Pg	16 21 32.4	-1.4
VYHS				eSG	Sg	16 22 21.0	+0.9
GRA1	Grafenberg Arr	3.59	242	ePn	Pn	16 21 20.9	-1.5
GRA1				eSg	Sg	16 22 21.9	-2.1
GRA1	Grafenberg Arr	3.59	242	Pn	Pn	16 21 20.9	-1.5
GRA1				Sg	Sg	16 22 21.9	-2.1
GRF	Grafenberg Arr	3.59	242	ePn	Pn	16 21 20.9	-1.6
GRF				eSg	Sg	16 22 21.9	-2.1
MOA	Molln	3.83	199⇑	iPN	Pn	16 21 27.1	+1.2
MOA				iSG	Sg	16 22 29.9	-2.1
	8.5nm,0.5s						
MOA	Molln	3.83	199⇑	iPn	Pn	16 21 27.1	+1.2
STHS	Stebnicka Huta	3.88	120	ePG	Pg	16 21 41.1	-0.8
STHS				eSG	Sg	16 22 31.6	-2.0
KECS	Kecovo	4.13	135	eSG	Sg	16 22 39.8	-2.0
ARSA	Arzberg	4.26	185⇑	iPN	Pn	16 21 32.9	+1.0
ARSA				iSG	Sg	16 22 41.6	-4.6
	11nm,0.7s						
CRVS	Cervenica-Dubn	4.31	125	eSG	Sg	16 22 47.9	+0.2
KOLS	Kolonicke sedl	4.72	120	ePN	Pn	16 21 39.6	+1.2
AKASG	Malin Array Be	8.30	90	Pn	P	16 22 25.7	-3.1
	0.6nm,0.3s,baz=278,slow=12,SNR=5.8						
AKASG	Malin Array Be	8.30	90	Pn	P	16 22 25.7	-3.1
FINES	FINESS Array B	11.38	25	Pn	P	16 23 06.5	-4.6
	0.1nm,0.3s,baz=210,slow=11,SNR=3.3						
ARCES	ARCESS Array B	18.64	10	Pn	P	16 24 41.9	-3.3
	0.1nm,0.3s,baz=193,slow=12,SNR=4.5						

IDC 19 16:32:39.9±5.0**, 12.20N×141.21E, h106**^{km}±50^{km}**, mb3.0**/3**, mb1 3.4**/4**, mb1mx3.2**/18**, mbtmp3.5**/4**, Error ellipse: s-maj=60.0km s-min=29.3km az=107.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.83	68	P	P	16 33 36.9	-1.2
	6.4nm,0.3s,baz=180,slow=18,SNR=7.8						
GUMO				S	S	16 34 27.5	+5.2
	4.0nm,0.3s,baz=360,slow=18,SNR=2.9						
WRA	Warramunga Arr	32.64	192	P	P	16 39 01.9	-2.2
	0.4nm,0.9s,baz=9.6,slow=9.3,SNR=3.4						
MKAR	Makanchi Array	60.05	317	P	P	16 42 35.9	-2.1
	0.3nm,0.9s,baz=121,slow=8.4,SNR=2.3						
ILAR	Eielson Array	71.35	25	P	P	16 43 48.0	-1.9
	0.4nm,0.7s,baz=248,slow=6.2,SNR=5.4						

*IDC **19** 16:32:53.3±0.9, 0.86S×91.10W, mb4.2/14, mb1 4.3/15, mb1mx4.3/22, mbtmp4.2/15, ML2.7/1, MS4.0/14, Ms1 4.0/14, ms1mx3.9/18, Error ellipse: s-maj=31.3km s-min=13.5km az=52.0*
*NEIC **19** 16:32:55.4±0.5, 0.78S×90.95W, h10^{km}, mb4.6/3, Error ellipse: s-maj=14.4km s-min=7.9km az=221.0*
ISC 19 16:32:52.3±3.2**, 0.9S**±0.1×**91.1W**±0.1**, h4**^{km}±18^{km}**, n31,** σ**0^{s}99**/28**, mb4.2**/17**, MS4.0**/13**, 1C, Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAYG	Puerto Ayora	0.80	77⇑	iPg	Pg	16 33 07.8	-0.4
PAYG				eSg	Sg	16 33 18.8	-0.1
ROSC	El Rosal	17.65	71	P	P	16 37 03.3	+2.2
	0.6nm,0.3s,baz=271,slow=16,SNR=6.4						
ROSC				LR	LR	16 42 53.7	
	comp=Z,334nm,18.6s,slow=34						
SDV	Santo Domingo	22.54	64	P	P	16 37 57.1	+2.0
	15nm,0.8s,mb4.5,baz=255,slow=9.9,SNR=25						
SDV				LR	LR	16 45 50.9	
	comp=Z,427nm,20.4s,MS3.9,baz=119,slow=34						
SDV	Santo Domingo	22.54	64	eP	P	16 37 56.0	+0.9
	18nm,0.8s,mb4.5						
SDV				LR	LR	16 45 50.9	
LPAZ	La Paz	27.31	125	P	P	16 38 41.1	+0.7
	0.6nm,0.4s,mb3.4,baz=304,slow=6.6,SNR=8.5						
LPAZ				LR	LR	16 48 55.8	
	comp=Z,282nm,20.2s,MS3.8,baz=241,slow=35						
SAML	Samuel	28.89	107	eP	P	16 38 53.5	-1.2
	43nm,1.9s,mb4.9						
LVC	Limon Verde	30.52	137	P	P	16 39 09.3	0.0
	2.3nm,0.8s,mb4.0,baz=302,slow=6.6,SNR=5.6						
LVC				LR	LR	16 48 23.6	
	comp=Z,246nm,21.6s,MS3.8,baz=246,slow=30						
LVC	Limon Verde	30.52	137	eP	P	16 39 09.8	+0.6
LVC				LR	LR	16 48 23.6	
SJG	San Juan	30.92	51	P	P	16 39 11.8	-1.0
	8.8nm,0.3s,mb5.0,baz=180,slow=20,SNR=6.7						
SJG	San Juan	30.92	51	eP	P	16 39 12.3	-0.5
TXAR	Lajitas Array	32.35	339	P	P	16 39 25.4	+0.2
	1.1nm,0.9s,mb3.7,baz=156,slow=12,SNR=5.3						
TXAR				LR	LR	16 51 26.5	
	comp=Z,376nm,19.2s,MS4.1,baz=135,slow=34						
SIV	San Ignacio	33.18	119	P	P	16 39 32.7	+0.2
	2.3nm,1.0s,mb4.1,baz=283,slow=9.7,SNR=11						
CFAA	Coronel Fontan	37.43	147	P	P	16 40 08.7	+0.1
	0.2nm,0.3s,mb3.4,baz=300,slow=7.1,SNR=6.6						
WUAZ	Wupatki	40.85	334	eP	P	16 40 38.8	+1.7
	9.4nm,1.0s,mb4.4						
CPUP	Villa Florida	41.17	131	P	P	16 40 40.6	+0.8
	11nm,1.3s,mb4.3,baz=334,slow=7.0,SNR=4.0						
CPUP				LR	LR	16 57 53.5	
	comp=Z,155nm,18.3s,MS3.9,baz=334,slow=36						
PLCA	Paso Flores	43.84	157	LR	LR	16 55 53.9	
	comp=Z,202nm,20.7s,MS4.0,baz=348,slow=32						
BDFB	Brasilia	44.93	111	P	P	16 41 09.5	-1.1
	7.3nm,1.0s,mb4.5,baz=283,slow=13,SNR=5.9						
BDFB				LR	LR	16 59 48.3	
	comp=Z,365nm,19.2s,MS4.3,baz=135,slow=36						
NVAR	Mina Array Bea	46.45	330	P	P	16 41 23.4	+1.1
	1.8nm,0.8s,mb4.1,baz=159,slow=9.4,SNR=14						
NVAR	Mina Array Bea	46.45	330	P	P	16 41 23.4	+1.1
PDAR	Pinedale Array	46.51	341	P	P	16 41 22.9	+0.2
	1.0nm,0.7s,mb3.8,baz=135,slow=6.3,SNR=8.5						
PDAR				LR	LR	16 59 41.4	
	comp=Z,202nm,18.1s,MS4.1,baz=170,slow=35						
ULM	Lac du Bonnet	51.08	356	P	P	16 41 56.1	-1.9
	3.8nm,0.9s,mb4.3,baz=169,slow=8.5,SNR=4.0						
SCHQ	Schefferville	58.97	16	LR	LR	17 06 40.9	
	comp=Z,74nm,20.8s,MS3.8,baz=46,slow=34						
YKA	Yellowknife Ar	65.64	348	LR	LR	17 14 49.5	
	comp=Z,63nm,18.9s,MS3.8,baz=175,slow=38						
INK	Inuvik	74.90	345	eP	P	16 44 34.9	-1.0
ILAR	Eielson Array	76.86	339	P	P	16 44 46.2	-0.9
	3.1nm,0.7s,mb4.3,baz=140,slow=4.3,SNR=33						
ILAR				LR	LR	17 19 10.0	
	comp=Z,85nm,19.2s,MS4.1,baz=356,slow=36						
LIC	Lamto	86.15	84	eP	P	16 45 36.3	-0.7
	66nm,1.6s						
TIC	Toumodi	86.17	83	eP	P	16 45 37.9	+0.9
	3.3nm,0.7s,mb4.7						
DBIC	Dimbokro	86.33	83	P	P	16 45 36.9	-0.9
	3.5nm,0.9s,mb4.6,baz=272,slow=6.2,SNR=4.0						
DBIC				LR	LR	17 24 40.6	
	comp=Z,107nm,19.0s,MS4.3,baz=152,slow=36						
DBIC	Dimbokro	86.33	83	P	P	16 45 36.9	-0.9
DBIC				LR	LR	17 24 40.6	
KIC	Kosan Boka	86.44	84	eP	P	16 45 38.0	-0.4
	82nm,1.4s						
NOA	NORSAR Array B	96.69	29	LR	LR	17 29 35.5	
	comp=Z,32nm,18.1s,MS3.9,baz=265,slow=35						

NIED 19 16:39:00, 24.70N×121.80E, h8^{km}**, Mw3.7 Best double couple:** $M_0$4.45×10^{14} **NP1:**ϕ_s28°, δ85°, λ-145°. **NP2:** ϕ_s295°, δ55°, λ-6°.**, Taiwan**

CASC 19 17:36:33.3±2.4**, 15.86N×89.81W, MD4.1, 2C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTO2	Montecristo 2	1.51	163	eP	Pn	17 37 00.1	-1.6
TP2	Tecpan 2	1.59	228⇑	eP	Pn	17 37 02.4	-0.4
TP2				eS	Sb	17 37 27.5	+3.8
RBDL	Robledal	1.74	176	eP	Pn	17 37 04.2	-0.7
RBDL				eS	Sn	17 37 28.1	0.0
IXG	Ixpaco	1.79	201⇓	eP	Pn	17 37 04.6	-1.1
IXG				eS	Sn	17 37 30.4	+1.0
RTR	El Retiro	1.95	175	eP	Pn	17 37 08.0	-0.1
RTR				eS	Sn	17 37 36.1	+2.5
SNJE	San Jose	1.99	174	eP	Pn	17 37 09.7	+1.2

BOQS	Boqueron	2.17	166	eP	Pn	17 37 11.6	+0.5
BOQS				eS	Sn	17 37 41.9	+2.7
LBRS	Las Brisas	2.23	161	⇓eP	Pn	17 37 12.1	+0.1
LBRS				eS	Sn	17 37 40.6	-0.1
LCBS	La Ceiba	2.33	160	⇑eP	Pn	17 37 13.9	+0.5
LCBS				eS	Sn	17 37 43.8	+0.6
LFRS	El Faro	2.33	162	eP	Pn	17 37 14.0	+0.5
LFRS				eS	Sn	17 37 44.0	+0.7
SNVI	San Vicente	2.42	157	eP	Pn	17 37 14.4	-0.3
SNVI				eS	Sn	17 37 46.8	+1.4

MAN 19 17:39:44.3, 10.92N×124.38E, h32^{km}, mb4.0, ML2.8, MS2.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.64	67	eP	Pb	17 39 57.7	+0.7
PLP				eS	Sb	17 40 06.4	+0.7
BESP	Borongan	1.24	57	eP	Pn	17 40 05.4	-0.2
BESP				eS	Sn	17 40 18.7	-2.7
GUIM	Jordan	1.78	261	eP	Pn	17 40 13.1	-0.4
GUIM				eS	Sn	17 40 48.8	+14

*WEL **19** 17:54:09.2±0.0, 39.30S×175.01E, h29^{km}, ML4.1/30, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0, MM 4.*
WEL Felt between King Country, Wanganui and Taranaki, maximum reported intensity.
*NEIC **19** 17:54:09.2, 39.30S×175.01E, h29^{km}, ML4.1(WEL), After WEL.*
ISC 19 17:54:08.8±0.3**, 39.30S**±0.03×**175.00E**±0.03**, h32^{km}**±3^{km}**, n83,** σ0^{s}**69**/90**, mb3.1**/1**, 20C-17D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.26	313	⇓P*	Pb	17 54 15.9	0.0
VRZ				S*	Sb	17 54 21.5	+0.8
VRZ	Vera Road	0.26	313	⇓P	Pb	17 54 15.9	0.0
VRZ				S	Sb	17 54 21.5	+0.7
PKVZ	Pokaka	0.27	88	⇓P*	Pb	17 54 15.9	-0.2
PKVZ				S*	Sb	17 54 21.0	0.0
MTVZ	Mangateitei	0.38	103	⇑P*	Pb	17 54 17.3	-0.2
TWVZ	Taurewa	0.41	56	⇓P*	Pb	17 54 17.7	-0.3
TWVZ				S*	Sb	17 54 23.9	-0.3
TWVZ	Taurewa	0.41	56	⇓P	Pb	17 54 17.7	-0.3
TWVZ				S	Sb	17 54 23.9	-0.4
TRVZ	Turoa	0.43	90	⇓P*	Pb	17 54 18.2	0.0
FWVZ	Far West T-bar	0.43	84	⇑P*	Pb	17 54 18.2	-0.1
FWVZ	Far West T-bar	0.43	84	⇑P	Pb	17 54 18.2	-0.1
WPVZ	Whakapapa	0.44	77	⇓P*	Pb	17 54 18.2	-0.1
WPVZ				S*	Sb	17 54 25.0	+0.1
WPVZ	Whakapapa	0.44	77	⇓P	Pb	17 54 18.2	-0.2
CNZ	Chateau	0.44	77	⇑P*	Pb	17 54 18.3	-0.1
CNZ	Chateau	0.44	77	⇑P	Pb	17 54 18.3	-0.1
DRZ	Dome Shelter	0.44	87	⇑P*	Pb	17 54 18.5	+0.1
DRZ	Dome Shelter	0.44	87	⇑P	Pb	17 54 18.5	+0.1
WAZ	Wanganui	0.45	181	⇑P*	Pb	17 54 18.4	-0.2
WAZ	Wanganui	0.45	181	⇑P	Pb	17 54 18.4	-0.2
WNVZ	Wahianoa	0.47	93	⇑P*	Pb	17 54 18.8	0.0
WNVZ	Wahianoa	0.47	93	⇑P	Pb	17 54 18.8	0.0
RAEZ	Rainy Point	0.47	272	⇑P*	Pb	17 54 19.3	+0.4
RAEZ	Rainy Point	0.47	272	⇑P	Pb	17 54 19.3	+0.4
NGZ	Ngauruhoe	0.48	75	⇓P*	Pb	17 54 19.0	-0.1
NGZ	Ngauruhoe	0.48	75	⇓P	Pb	17 54 19.0	-0.1
WTVZ	West Tongariro	0.49	68	⇓P*	Pb	17 54 19.1	-0.2
WTVZ	West Tongariro	0.49	68	⇓P	Pb	17 54 19.1	-0.2
TUVZ	Tukino	0.51	86	⇑P*	Pb	17 54 19.6	+0.1
TUVZ	Tukino	0.51	86	⇑P	Pb	17 54 19.6	+0.1
OTVZ	Oturere	0.54	75	⇓P*	Pb	17 54 19.9	0.0
KRVZ	Karewarewa	0.54	68	⇓P*	Pb	17 54 19.8	-0.2
MOVZ	Moawhango	0.59	100	⇑P*	Pb	17 54 20.4	-0.4
MOVZ	Moawhango	0.59	100	⇑P	Pb	17 54 20.4	-0.4
KATZ	Kakaramea	0.63	59	P*	Pb	17 54 21.2	-0.2
KATZ	Kakaramea	0.63	59	P	Pb	17 54 21.2	-0.2
DFE	Dawson Falls	0.69	268	PN	Pn	17 54 22.6	+0.2
DFE	Dawson Falls	0.69	268	P	Pn	17 54 22.6	+0.2
NEZ	North Egmont	0.70	272	PN	Pn	17 54 22.6	+0.1
NEZ	North Egmont	0.70	272	P	Pn	17 54 22.6	+0.1
RATZ	Rangitukua	0.74	54	⇓PN	Pn	17 54 23.0	-0.1
RATZ	Rangitukua	0.74	54	⇓P	Pn	17 54 23.0	-0.1
RITZ	Rihia Road	0.74	64	PN	Pn	17 54 23.5	+0.4
PKE	Pukeiti	0.79	277	PN	Pn	17 54 24.1	+0.3
PKE	Pukeiti	0.79	277	P	Pn	17 54 24.1	+0.3
HIZ	Hauiti	0.80	352	⇑PN	Pn	17 54 23.9	+0.1
HIZ	Hauiti	0.80	352	⇓P	Pn	17 54 23.9	+0.1
WATZ	Wairara	0.82	44	PN	Pn	17 54 24.0	-0.2
WATZ	Wairara	0.82	44	P	Pn	17 54 24.0	-0.2
NRZ	Ngariki Road	0.83	267	PN	Pn	17 54 24.7	+0.4
NWEZ	Newall Road	0.88	271	PN	Pn	17 54 25.7	+0.7
NWEZ	Newall Road	0.88	271	P	Pn	17 54 25.7	+0.7
HATZ	Hinemaiaia	0.94	65	ePN	Pn	17 54 25.9	-0.1
WHTZ	Whakaora	0.98	50	PN	Pn	17 54 27.9	+1.5
TSZ	Takapari Road	1.06	136	⇑PN	Pn	17 54 27.4	-0.2
TSZ	Takapari Road	1.06	136	⇑P	Pn	17 54 27.4	-0.2
BKZ	Black Stump Fm	1.17	84	ePN	Pn	17 54 29.0	-0.1
BKZ	Black Stump Fm	1.17	84	eP	Pn	17 54 29.0	-0.1
MRZ	Mangatainoka R	1.43	162	ePN	Pn	17 54 33.3	+0.5
MRZ	Mangatainoka R	1.43	162	eP	Pn	17 54 33.3	+0.4
KIW	Kapiti Island	1.56	182	PN	Pn	17 54 35.0	+0.2
KIW	Kapiti Island	1.56	182	P	Pn	17 54 35.0	+0.3
TOZ	Tahuroa Road	1.62	14	PN	Pn	17 54 35.0	-0.6
TOZ	Tahuroa Road	1.62	14	P	Pn	17 54 35.0	-0.6
DUWZ	D'Urville Isla	1.71	209	PN	Pn	17 54 37.0	+0.1
CAW	Cannon Point	1.80	178	PN	Pn	17 54 38.8	+0.6
CAW	Cannon Point	1.80	178	P	Pn	17 54 38.9	+0.7
TGRZ	Tauranga	1.86	33	ePN	Pn	17 54 41.2	+2.2
MTW	Mount Morrison	1.89	168	ePN	Pn	17 54 40.6	+1.1
MRW	Makara Radio	1.94	187	ePN	Pn	17 54 40.6	+0.5
URZ	Urewera	1.95	58	ePN	Pn	17 54 40.8	+0.5
TCW	Tory Channel	1.99	196	PN	Pn	17 54 40.6	-0.3
SNZO	South Karori	2.02	186	ePn	Pn	17 54 41.9	+0.6
SNZO				eSn	Sn	17 55 05.4	-0.3
MKAZ	Moumakai	2.19	4	PN	Pn	17 54 43.4	-0.4
MWZ	Matawai	2.20	65	ePN	Pn	17 54 45.3	+1.4
TUWZ	Tuamarina	2.27	200	ePN	Pn	17 54 45.0	0.0
NNZ	Nelson	2.28	212	ePN	Pn	17 54 45.1	+0.1
WTAZ	Waiatarua	2.39	352	PN	Pn	17 54 46.4	-0.2
QRZ	Quartz Range	2.43	230	ePN	Pn	17 54 45.8	-1.4
QRZ	Quartz Range	2.43	230	eP	Pn	17 54 45.8	-1.4
BSWZ	Blackbirch Sta	2.56	199	ePN	Pn	17 54 49.5	+0.5
KUZ	Kuaotunu	2.62	13	ePN	Pn	17 54 48.1	-1.7
KHZ	Kahutara	3.30	199	ePN	Pn	17 54 57.5	-2.1
WCZ	Waipu Caves	3.40	351	ePN	Pn	17 54 59.7	-1.3
FOZ	Fox Glacier	5.83	221	ePN	Pn	17 55 31.5	-3.9
VNDA	Vanda	38.73	185	eP	P	18 01 29.4	-1.8
	0.3nm,0.7s,mb3.1						

*CSEM **19** 17:59:37.8±1.3, 38.78N×27.76W, ML2.4, Error ellipse: s-maj=2.1km s-min=1.6km az=1.0, After PDA*
*PDA **19** 17:59:37.8±1.3, 38.78N×27.76W, MD3.0, ML2.4, Error ellipse: s-maj=2.1km s-min=1.6km az=1.0*
SVSA 19 17:59:37.8±1.3**, 38.78N×27.76W, MD3.0, ML2.4, Error ellipse: s-maj=2.1km s-min=1.6km az=1.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAN	Manadas	0.30	240	i P	Pg	17 59 43.1	-0.6
PMAN				eS	Sg	17 59 47.8	+0.1
	5μm,0.2s						
PMAN	Manadas	0.30	240	eS	Sg	17 59 47.8	+0.1
PGRA	Graciosa	0.30	325	eP	Pg	17 59 43.0	-0.8
PGRA				eS	Sg	17 59 47.2	-0.6
	1μm,0.3s						
PAMA	Santo Amaro	0.34	253	eP	Pg	17 59 44.2	-0.4
PAMA				eS	Sg	17 59 49.4	+0.2
PSBA	Serra de Santa	0.34	92	eP	Pg	17 59 44.2	-0.4
PSBA				eS	Sg	17 59 49.0	-0.2
	125nm,0.3s						
ASBA	Santa Barbara	0.35	100	eP	Pg	17 59 45.0	+0.3
ASBA				eS	Sg	17 59 50.4	+1.0
	85nm,0.2s						
STGR	Santa Cruz	0.35	328	eP	Pg	17 59 44.9	+0.1
STGR				eS	Sg	17 59 49.8	+0.3
	215nm,0.2s						
PPAD	Pico dos Padre	0.38	102	eP	Pg	17 59 45.3	-0.1
PPAD				eS	Sg	17 59 50.4	-0.1
	54nm,0.2s						
PBIS	Biscoitos	0.40	93	eP	Pg	17 59 45.1	-0.7
PBIS				eS	Sg	17 59 51.2	+0.1
	54nm,0.2s						
PIED	Piedade	0.43	212	eS	Sg	17 59 52.1	0.0
ADH	Angra Heroismo	0.43	107	eP	Pg	17 59 45.7	-0.7
ADH				eS	Sg	17 59 51.8	-0.4
PVNV	Vila Nova	0.47	92	eP	Pg	17 59 46.7	-0.6
PVNV				eS	Sg	17 59 53.1	-0.5
	30nm,0.1s						
RIB2	Ribeirinha	0.47	103	eP	Pg	17 59 46.7	-0.6
RIB2				eS	Sg	17 59 53.1	-0.5
	44nm,0.1s						
PSCM	Serra do Cume	0.51	99	eP	Pg	17 59 47.1	-0.9
PSCM				eS	Sg	17 59 53.9	-0.9
	90nm,0.3s						
PFAV	Pico das Favas	0.54	97	eS	Sg	17 59 55.4	-0.2
PICO	Pico	0.59	242	eP	Pg	17 59 48.1	-1.5
PICO				eS	Sg	17 59 56.1	-1.4
PBOI	Pico dos Bois	0.59	234	eP	Pg	17 59 48.5	-1.1
PBOI				eS	Sg	17 59 56.8	-0.7
HOR	Horta	0.72	250	eP	Pg	17 59 50.1	-2.2
HOR				eS	Sg	17 59 59.5	-2.5
CALA	Caldeira	0.76	255	eP	Pg	17 59 50.6	-2.4
CALA				eS	Sg	18 00 00.6	-2.6
PTCA	Ponta do Capel	0.83	257	eS	Sg	18 00 02.6	-2.9

*NEIC **19** 18:03:18.6, 9.36N×84.24W, mb4.5/1, MD4.1(CASC), After CASC.*
CASC 19 18:03:17.9±2.4**, 9.28N×84.27W, h4^{km}**±7^{km}**, MD3.8, mb4.5**(NEIC)**, 9C-7D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	La Lucha 2	0.53	29	⇓eP	Pg	18 03 29.1	+0.6
LCR2				eS	Sg	18 03 37.9	+2.3
LCR2	La Lucha 2	0.53	29	⇓iP	Pg	18 03 29.1	+0.6
BUS	Buena Vista	0.57	61	⇓iP	Pg	18 03 30.1	+0.8
BUS				eS	Sg	18 03 39.2	+2.3
BUS	Buena Vista	0.57	61	⇓iP	Pg	18 03 30.1	+0.8
LAJ	Bijagual	0.60	14	⇑iP	Pg	18 03 28.2	-1.7
LAJ				eS	Sg	18 03 37.2	-0.7
LAJ	Bijagual	0.60	14	⇑iP	Pg	18 03 28.2	-1.7
SJS	Escuela Geolog	0.69	18	⇑eP	Pg	18 03 31.9	+0.2
SJS				eS	Sg	18 03 40.9	0.0
SJS	Escuela Geolog	0.69	18	⇑iP	Pg	18 03 31.8	+0.1
SJS				eS	Sg	18 03 40.7	-0.2
CGA2	Cerro Gallo 2	0.76	345	eP	Pg	18 03 32.5	-0.6
CGA2				eS	Sg	18 03 45.2	+2.0
VPS2	Volcan Poas 2	0.91	2	⇑eP	Pb	18 03 35.5	-0.3
VPS2				eS	Sb	18 03 50.2	+2.2
JCR	Jicaral	1.01	304	eP	Pb	18 03 35.6	-2.0
JCR				eS	Sb	18 03 49.1	-1.9
JCR	Jicaral	1.01	304	⇓eP	Pb	18 03 36.3	-1.3
ACR	Cerro Adams	1.25	120	eP	Pb	18 03 41.2	-0.5
ACR				eS	Sb	18 03 58.5	+0.6
FORC	Fortuna	1.25	342	⇑eP	Pb	18 03 41.0	-0.7
FORC	Fortuna	1.25	342	⇑eP	Pb	18 03 41.0	-0.7
LIO	Limon	1.41	59	⇓eP	Pn	18 03 44.1	-0.3
LIO				eS	Sb	18 04 01.9	-0.7
LIO	Limon	1.41	59	⇓eP	Pn	18 03 44.1	-0.3
VCR	Vista de Mar	1.59	302	⇑eP	Pn	18 03 47.6	+0.7
VCR				eS	Sb	18 04 10.6	+2.8
VCR	Vista de Mar	1.59	302	⇑eP	Pn	18 03 47.5	+0.6
VCR				eS	Sb	18 04 11.3	+3.4
LIM1	Limonal	1.72	326	eP	Pn	18 03 47.3	-1.5
LIM1				eS	Sn	18 04 12.3	+0.9
MADN	Villa Maderas	2.46	330	eP	Pn	18 03 56.6	-2.8
TICN	Ticuantepe	3.35	325	eP	Pn	18 04 12.2	+0.1
LVC	Limon Verde	35.08	155	eP	P	18 10 12.8	-1.5
	4.7nm,0.6s						

*TIR **19** 18:25:07.7, 41.15N×19.97E, h17^{km}, Ml2.6*
*NEIC **19** 18:25:10.3, 41.20N×19.98E, MD3.1(PDG), After PDG.*
*PDG **19** 18:25:10.3±0.4, 41.20N×19.98E*
*CSEM **19** 18:25:11.0±0.1, 41.26N×19.99E, h2^{km}, MD3.1, Error ellipse: s-maj=3.5km s-min=1.7km az=62.0*
*ATH **19** 18:25:19.1, 40.74N×20.26E, h5^{km}, MD3.4/4*
ISC 19 18:25:11.3±0.5**, 41.22N**±0.03×**19.94E**±0.05**, h10^{km}, n32,** σ**1^{s}23**/51**, 1C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.14	337	⇓iPg	Pg	18 25 14.0	-0.6
TIR				i Sg	Sg	18 25 16.5	-0.3
QSH	Qafa e Shtames	0.30	355	i Pg	Pg	18 25 15.6	-2.0
QSH				i Sg	Sg	18 25 31.6	+10
PUK	Puka	0.82	358	i Pg	Pg	18 25 26.0	-1.8
PUK				i Sg	Sg	18 25 39.9	+1.1
SDA	Shkodra	0.89	339	i Pg	Pg	18 25 26.8	-2.4
SDA				i Sg	Sg	18 25 40.7	-0.5
ULC	Ulcinj	0.90	325	⇓iPg	Pg	18 25 27.3	-2.1
ULC				eSg	Sg	18 25 42.3	+0.8
KKS	Kukesi	0.92	22	i Pg	Pg	18 25 27.5	-2.4
KKS				i Sg	Sg	18 25 41.9	-0.3
BCI	Bajram Curri	1.15	5	i Pg	Pg	18 25 31.7	-2.6
BCI				i Sg	Sg	18 25 50.4	+0.7
BCI	Bajram Curri	1.15	5	ePg	Pg	18 25 31.7	-2.6
BCI				i Sg	Sg	18 25 50.4	+0.7
FNA	Florina	1.17	111	eP	Pb	18 25 33.5	+0.3
TTG	Podgorica	1.31	337	⇓iPg	Pg	18 25 34.4	-3.1
TTG				eSg	Sg	18 25 55.8	+0.8
BUM	Brajici-Budva	1.33	325	ePg	Pg	18 25 36.0	-1.9
BUM				eSg	Sg	18 25 56.6	+1.0
SKO	Skopje	1.35	56	i Pn	Pn	18 25 36.0	-0.4
SKO				i Sn	Sn	18 25 54.3	-0.2
SKO				Lg		18 25 58.0	
	comp=Z,0.1nm,0.4s						
PVY	Plav	1.37	1	ePg	Pg	18 25 35.3	-3.5
PVY				eSg	Sg	18 25 58.1	+1.0
KEK	Kerkira	1.51	184	ePN	Pn	18 25 39.5	+0.9
HCY	Herceg Novi	1.63	319	⇓iPn	Pn	18 25 40.5	+0.2
HCY				eSn	Sn	18 26 05.8	+4.3
IVA	Berane	1.65	359	⇓iPn	Pn	18 25 40.7	+0.2
IVA				eSn	Sn	18 26 06.9	+5.0
KZN	Kozani	1.67	123	ePG	Pg	18 25 42.3	-2.3
JAN	Janina	1.71	156	ePB	Pb	18 25 41.5	-1.0
NKY	Niksic	1.74	337	⇓iPn	Pn	18 25 42.9	+1.1
NKY				eSn	Sn	18 26 09.1	+4.9
GRG	Griva	1.88	97	eP	Pn	18 25 44.4	+0.5
BRY	Bratogost	1.97	329	⇓iPn	Pn	18 25 46.6	+1.4
BRY				eSn	Sn	18 26 15.0	+4.8
UPM	Unac-Piva	2.12	339	ePn	Pn	18 25 49.2	+1.8
UPM				eSn	Sn	18 26 18.8	+4.8
PLE	Pljevlja	2.15	349	⇓iPn	Pn	18 25 49.5	+1.8
PLE				eSn	Sn	18 26 19.3	+4.8
KNT	Kendrikon	2.23	91	eP	Pn	18 25 49.2	+0.2
LIT	Litokhoron	2.24	119	eP	Pn	18 25 49.5	+0.5
NVSS	Nova Varos 2	2.29	356	⇑iPn	Pn	18 25 50.6	+0.8
NVSS				Sn	Sn	18 26 17.5	-0.8
KKB	Krupnik	2.45	74	i P	Pn	18 25 53.0	+1.0
EVR	Evrytania	2.71	147	ePG	Pg	18 25 59.5	-6.0
VTS	Vitosha	2.80	60	i P	Pn	18 25 58.0	+1.0
AGG	Agios Georgios	2.86	139	eP	Pn	18 25 58.1	+0.2
MMB	Musomiste	2.88	81	eP	Pn	18 25 59.0	+0.9
XOR	Xorichti	3.10	126	eP	Pn	18 26 02.1	+0.8

*IDC **19** 18:34:29.0±7.4, 7.92S×126.75E, h94^{km}±68^{km}, mb3.6/4, mb1 3.8/5, mb1mx3.6/12, mbtmp4.0/5, ML4.4/1, Error ellipse: s-maj=163.1km s-min=29.4km az=63.0*
*NEIC **19** 18:34:32.6±0.6, 7.65S×127.43E, h130^{km}, mb4.4/2, Error ellipse: s-maj=30.8km s-min=8.1km az=66.0*
ISC 19 18:34:36.3±2.4**, 8.0S**±0.1×**127.3E**±0.1**, h193^{km}**±26^{km}**, n12,** σ**1^{s}37**/15**, mb3.5**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.92	133	eP	Px	18 36 35.5	
	27nm,0.2s						
KAKA				eS	Sx	18 37 49.2	
FITZ	Fitzroy Crossi	10.21	189	eP	P	18 37 00.3	+1.2
	2.3nm,0.3s						
FITZ				eS	S	18 38 50.0	-1.0
WRAB	Tennant Creek	13.72	151	ePn	P	18 37 45.2	+1.2
	19nm,0.8s						
WRAB				eSn	S	18 40 10.3	-1.8
WRA	Warramunga Arr	13.72	151	P	P	18 37 43.7	-0.3
	1.8nm,0.3s,baz=325,slow=14,SNR=49						
WRA				S	S	18 40 09.7	-2.4
	1.3nm,0.3s,baz=330,slow=22,SNR=9.2						
WB2	Warramunga Arr	13.73	151	eP	P	18 37 44.7	+0.6
WB2				eS	S	18 40 12.0	-0.3
ASPA	Alice Springs	16.85	159	eP	P	18 38 26.3	+3.9
ASPA				eS	S	18 41 24.8	+2.6
KKM	Kota Kinabalu	17.77	321	eP	P	18 38 29.1	-3.6
SONM	Songino Array	58.55	344	P	P	18 44 14.9	+0.2
	0.7nm,0.7s,mb3.4,baz=163,slow=6.9,SNR=7.1						
MKAR	Makanchi Array	67.60	328	P	P	18 45 14.1	+0.1
	1.1nm,0.6s,mb3.7,baz=123,slow=7.5,SNR=16						
ZAL	Zalesovo	71.29	335	P	P	18 45 35.3	-1.0
	1.2nm,0.6s,mb3.7,baz=340,slow=5.5,SNR=6.4						
BVAR	Borovoye Array	77.47	329	P	P	18 46 12.8	+1.1
	0.4nm,0.4s,mb3.4,baz=135,slow=8.2,SNR=6.2						
LPAZ	La Paz	151.47	148	PKPbc	PKPdf	18 54 14.6	+13
	0.6nm,0.3s,baz=166,slow=4.2,SNR=6.3						

IDC 19 18:44:26.8±2.9**, 16.25N×148.21E, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.7**/20**, mbtmp3.7**/5**, ML3.2**/1**, 1D, Error ellipse: s-maj=84.9km s-min=25.8km az=90.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.17	231	Pn	Pn	18 45 31.5	-1.7
	1.4nm,0.3s,baz=149,slow=21,SNR=1.6						
GUMO				Sn	Sn	18 46 17.7	-5.7
	8.6nm,0.3s,baz=180,slow=23,SNR=4.9						
WB2	Warramunga Arr	38.46	201	⇓iP	P	18 51 50.5	-1.9
WRA	Warramunga Arr	38.46	201	P	P	18 51 50.7	-1.7
	2.8nm,0.6s,baz=25,slow=9.1,SNR=46						
SONM	Songino Array	46.54	322	P	P	18 52 57.0	-0.9
	0.3nm,0.6s,baz=128,slow=8.3,SNR=4.2						
MKAR	Makanchi Array	61.88	315	P	P	18 54 47.7	-2.6
	0.2nm,0.5s,baz=101,slow=7.3,SNR=4.7						
BVAR	Borovoye Array	69.88	321	P	P	18 55 39.1	-2.2
	0.7nm,0.6s,baz=91,slow=7.7,SNR=6.1						

*IDC **19** 18:56:04.9±1.2, 28.62N×105.63E, mb3.6/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=75.9km s-min=23.7km az=59.0*
*BJI **19** 18:56:07.2, 28.79N×105.66E, h14^{km}, ML3.6, Ms3.7, Msz3.7*
*NEIC **19** 18:56:10.2±0.9, 28.64N×105.63E, h35^{km}, Error ellipse: s-maj=18.8km s-min=12.4km az=181.0*
ISC 19 18:56:05.7±0.6**, 28.84N**±0.05×**105.69E**±0.08**, h10^{km}, n13,** σ**1^{s}44**/23**, mb3.6**/4**, 1C-1D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	Guiyang	2.52	160	⇑iP	Pn	18 56 48.3	+0.9
GYA				PG	Pg	18 56 53.8	-2.2
GYA				S	Sn	18 57 21.4	+3.0
GYA				SG	Sg	18 57 24.5	-5.1
GYA				Smax			
	comp=N,300nm,0.9s						
GYA				Smax			
	comp=E,400nm,0.8s						
ENH	Enshi	3.60	66	ePn	Pn	18 57 05.8	+3.0
ENH				eS	Sg	18 58 00.6	-5.0
KMI	Kunming	4.54	216	P	Pn	18 57 18.1	+2.0
KMI				PG	Pg	18 57 31.3	-5.0
KMI				S	Sn	18 58 15.9	+6.3
KMI				SG	Sg	18 58 32.3	-4.5
KMI				Smax			
	comp=N,19nm,1.7s						
KMI				Smax			
	comp=E,15nm,1.5s						
KMI				LR	LR		
	comp=N,342nm,5.9s						
KMI				LR	LR		
	comp=E,277nm,5.2s						
XAN	Xi'an	5.88	27	P	Pn	18 57 38.6	+3.6
XAN				S	Sn	18 58 42.8	-0.4
XAN				SG	Sg	18 59 15.6	-5.7
XAN				Smax			
	comp=N,80nm,1.3s						
XAN				Smax			
	comp=E,108nm,1.0s						
LZH	Lanzhou	7.40	348	eP	Pn	18 57 56.1	-0.3
LZH				eS	Sn	18 59 28.0	+6.8
LZH				Smax			
	comp=N,35nm,0.9s						
LZH				Smax			
	comp=E,94nm,1.1s						
WHN	Wuhan	7.72	75	⇓P	Pn	18 58 01.0	+0.1
LSA	Lhasa	12.73	277	P	P	18 59 07.0	-2.5
LSA	Lhasa	12.73	277	eP	P	18 59 09.5	-0.1
	comp=E,7.1nm,0.8s						
SONM	Songino Array	18.98	1	P	P	19 00 30.8	+1.3
	comp=E,0.1nm,0.3s,baz=188,slow=13,SNR=3.4						
MKAR	Makanchi Array	25.60	321	P	P	19 01 36.5	-0.1
	comp=E,0.4nm,0.6s,mb3.2,baz=120,slow=11,SNR=6.9						
WRA	Warramunga Arr	55.83	147	P	P	19 05 43.0	-2.7
	comp=E,0.8nm,0.5s,mb4.0,baz=335,slow=8.3,SNR=12						
FINES	FINESS Array B	60.21	327	P	P	19 06 15.2	-0.8
	comp=E,0.5nm,0.6s,mb3.7,baz=104,slow=7.9,SNR=4.1						
GERES	GERESS Array B	70.12	315	P	P	19 07 20.3	+0.3
	comp=E,0.2nm,0.4s,mb3.4,baz=90,slow=4.9,SNR=2.6						

*IDC **19** 19:09:32.2±2.8, 43.39N×105.22W, mb3.8/1, mb1 3.8/3, mb1mx3.5/22, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=69.8km s-min=9.7km az=154.0*
*NEIC **19** 19:09:34.7±0.5, 43.78N×105.27W, ML3.3, Error ellipse: s-maj=6.0km s-min=4.6km az=60.0, Suspected Mining explosion.*
NEIC 0.0 [ ]. 60 km [35 miles] SSE of Gillette.
ISC 19 19:09:32.5±0.7**, 43.79N**±0.05×**105.21W**±0.08**, n32,** σ**0^{s}84**/32**, mb3.8**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.49	184	eP	Pn	19 10 16.1	+1.1
RWWY	Rawlins	2.56	216	eP	Pn	19 10 17.8	+1.7
PDAR	Pinedale Array	3.33	254	Pn	Pn	19 10 27.8	+0.8
	4.7nm,0.3s,baz=72,slow=15,SNR=68						
PDAR				Lg		19 11 13.1	
	7.2nm,0.3s,baz=73,slow=25,SNR=6.8						
GCMT	Greycliff	3.75	304	P	Pn	19 10 33.9	+1.1
LKWY	Lake	3.81	284	P	Pn	19 10 34.9	+1.1
LOHW	Long Hollow	3.91	269	P	Pn	19 10 35.3	+0.1
FLWY	Flagg Ranch	3.97	276	eP	Pn	19 10 36.7	+0.7
SNOW	Snow King Moun	4.04	267	P	Pn	19 10 36.4	-0.6
YFT	Old Faithful	4.10	281	P	Pn	19 10 38.9	+1.0
REDW	Red Top Meadow	4.12	266	eP	Pn	19 10 37.5	-0.7
IMW	Indian Meadow	4.14	273	eP	Pn	19 10 38.7	+0.2
TPAW	Teton Pass	4.18	268	eP	Pn	19 10 38.6	-0.3
RRI2	Red Ridge	4.46	266	eP	Pn	19 10 43.2	+0.3
QLMT	Earthquake Lak	4.58	285	P	Pn	19 10 46.3	+1.6
HWUT	Hardware Ranch	5.16	247	eP	Pn	19 10 52.3	-0.7
TCUT	Toone Canyon	5.30	242	eP	Pn	19 10 54.9	0.0
DLMT	Dillon	5.50	289	P	Pn	19 10 57.1	-0.6
HRY	Holter Researc	5.51	304	P	Pn	19 10 57.8	0.0
MCMT	McKenzie Canyo	5.58	283	eP	Pn	19 10 57.8	-1.0
DAU	Daniels Canyon	5.62	235	P	Pn	19 10 58.6	-0.7
SPUT	South Promonto	5.89	248	eP	Pn	19 11 02.2	-1.0
HVU	Hansel Valley	5.92	253	eP	Pn	19 11 03.2	-0.4
PV10	Paradox Valley	6.13	209	P	Pn	19 11 07.2	+0.6
SRU	San Rafael	6.14	222	eP	Pn	19 11 05.2	-1.6
PV01	Paradox Valley	6.19	205	P	Pn	19 11 07.0	-0.5
TMUT	Trail Mountain	6.35	227	eP	Pn	19 11 09.3	-0.5
CBKS	Cedar Bluff	6.46	138	P	Pn	19 11 11.9	+0.7
CHMT	Chamberlain Mo	6.47	302	eP	Pn	19 11 11.0	-0.4
MSU	Marysvale	7.44	227	eP	Pn	19 11 24.2	-0.8
ULM	Lac du Bonnet	9.07	41	Pn	P	19 11 46.4	-1.3
	0.8nm,0.3s,baz=226,slow=11,SNR=5.5						
ULM				Lg		19 14 20.7	
	0.3nm,0.3s,baz=151,slow=20,SNR=2.3						
ULM	Lac du Bonnet	9.07	41	Pn	P	19 11 46.4	-1.4
ULM				Lg		19 14 20.7	
MKAR	Makanchi Array	89.56	355	P	P	19 22 33.0	+0.3
	0.4nm,0.7s,mb3.8,baz=6.5,slow=5.2,SNR=5.4						

*IDC **19** 19:17:59.7±2.3, 3.99N×96.30E, mb4.0/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, Error ellipse: s-maj=102.8km s-min=21.0km az=57.0*
*NEIC **19** 19:18:04.2±1.0, 3.99N×96.27E, h30^{km}, mb4.7/1, Error*

ellipse: s-maj=22.6km s-min=13.4km az=225.0
ISC 19 19:18:02.3±1.0**,4.0N**±0.1×**96.27E**±0.09**,h30^{km},n8, σ0^{s}80**/9**,mb4.0**/6**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	4.55	73	ePn	Pn	19 19 11.9	+0.8
KULM				eSn	Sn	19 20 03.9	+0.2
KKM	Kota Kinabalu	19.97	83	eP	P	19 22 33.4	-2.0
FITZ	Fitzroy Crossi	36.32	128	P	P	19 25 05.3	-0.4
	8.1nm,1.2s,mb4.5,baz=342,slow=6.4,SNR=3.1						
WRA	Warramunga Arr	44.31	124	P	P	19 26 11.6	-0.1
	2.1nm,0.5s,mb4.1,baz=302,slow=9.2,SNR=15						
WRAB	Tennant Creek	44.31	124	eP	P	19 26 13.0	+1.2
	6.7nm,0.6s,mb4.5						
MKAR	Makanchi Array	44.34	346	P	P	19 26 11.7	0.0
	0.3nm,0.3s,mb3.5,baz=156,slow=7.4,SNR=11						
SONM	Songino Array	44.55	10	P	P	19 26 13.2	-0.2
	0.3nm,0.7s,mb3.2,baz=198,slow=11,SNR=3.6						
ARCES	ARCESS Array B	79.63	340	P	P	19 30 08.4	+0.3
	2.2nm,0.8s,mb4.1,baz=90,slow=6.3,SNR=4.4						

IDC 19 19:23:56.9±1.8,9.95N×92.89E,mb4.1/7,mb1 4.2/7, mb1mx3.9/18,mbtmp4.1/7,MS3.7/1,Ms1 3.7/1, ms1mx2.9/28,Error ellipse: s-maj=81.3km s-min=19.0km az=62.0
NEIC 19 19:24:01.9±0.9,10.07N×93.10E,h30^{km},mb4.3/2,Error ellipse: s-maj=37.1km s-min=8.0km az=59.0
BJI 19 19:24:03.9,10.10N×93.10E,h30^{km},mb4.3
ISC 19 19:23:57.7±5.4**,10.0N**±0.2×**93.1E**±0.2**,h14**^{km}±35^{km}**,n14, σ0^{s}62**/15**,mb4.1**/9**,MS3.7**/1**,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	8.85	121	Pn	P	19 26 07.3	-0.7
KULM				eSn	Sn	19 27 48.1	-0.4
LSA	Lhasa	19.69	355	P	P	19 28 29.8	+0.4
LSA	Lhasa	19.69	355	ePn	P	19 28 29.6	+0.1
	4.7nm,0.4s						
GTA	Gaotai	29.91	11	eP	P	19 30 07.9	+0.5
GTA				AP	pP	19 30 15.8	+4.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
MKAR	Makanchi Array	37.81	348	P	P	19 31 14.9	-0.4
	comp=Z,1.4nm,0.7s,mb3.8,baz=170,slow=7.4,SNR=6.3						
SONM	Songino Array	39.36	14	P	P	19 31 28.8	+0.4
	comp=Z,1.5nm,0.7s,mb3.9,baz=200,slow=8.2,SNR=13						
SONM				PcP	PcP	19 33 37.4	+0.1
	comp=Z,0.5nm,0.8s,baz=195,slow=2.1,SNR=3.9						
FITZ	Fitzroy Crossi	42.58	131	P	P	19 31 55.8	+0.6
	comp=Z,2.0nm,0.7s,mb4.0,baz=346,slow=9.9,SNR=3.8						
FITZ				LR	LR	19 52 01.6	
	comp=Z,87nm,19.0s,MS3.7,baz=206,slow=40						
ZAL	Zalesovo	44.33	353	P	P	19 32 08.1	-0.8
	comp=Z,2.0nm,0.3s,mb4.3,baz=332,slow=6.4,SNR=5.2						
WRA	Warramunga Arr	50.35	126	P	P	19 32 57.1	+0.5
	comp=Z,2.9nm,0.7s,mb4.4,baz=305,slow=8.6,SNR=48						
WRAB	Tennant Creek	50.36	126	eP	P	19 32 57.5	+0.9
	comp=Z,4.5nm,0.6s,mb4.7						
WB2	Warramunga Arr	50.36	126	eP	P	19 32 57.3	+0.6
STKA	Stephens Creek	62.33	134	P	P	19 34 21.3	-0.9
	comp=Z,1.6nm,0.8s,mb4.2,baz=323,slow=10,SNR=2.9						
STKA	Stephens Creek	62.33	134	P	P	19 34 21.3	-0.9
FINES	FINESS Array B	70.36	332	P	P	19 35 12.2	-0.6
	comp=Z,0.7nm,0.8s,mb3.6,baz=101,slow=9.7,SNR=3.4						

IDC 19 19:26:12.1±1.2,28.57N×105.59E,mb3.5/4,mb1 3.6/5, mb1mx3.5/18,mbtmp3.4/5,ML3.3/1,Error ellipse: s-maj=83.5km s-min=23.8km az=59.0
BJI 19 19:26:18.2,28.60N×105.75E,h30^{km},ML3.4
NEIC 19 19:26:18.2±0.5,28.72N×105.73E,h35^{km},mb4.4/1,Error ellipse: s-maj=9.7km s-min=8.8km az=99.0
ISC 19 19:26:12.3±0.5**,28.71N**±0.04×**105.82E**±0.07**,h10^{km},n15, σ1^{s}53**/25**,mb3.8**/5**,2C,Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GYA	Guiyang	2.37	161	⇑iP	Pn	19 26 55.3	+3.5
GYA				PG	Pg	19 27 00.9	+1.3
GYA				S	Sn	19 27 27.3	+6.1
GYA				SG	Sg	19 27 29.6	-1.6
GYA				Smax			
	comp=N,240nm,0.6s						
GYA				Smax			
	comp=E,330nm,0.9s						
ENH	Enshi	3.56	63	ePn	Pn	19 27 13.1	+4.4
ENH				eS	Sg	19 28 02.7	-8.0
KMI	Kunming	4.51	218	P	Pn	19 27 25.5	+3.2
KMI				PG	Pg	19 27 38.1	-4.2
KMI				SG	Sg	19 28 42.4	0.0
KMI				Smax			
	comp=N,14nm,1.7s						
KMI				Smax			
	comp=E,13nm,1.2s						
XAN	Xi'an	5.94	26	P	Pn	19 27 44.1	+1.7
XAN				PG	Pg	19 28 02.8	-7.9
XAN				S	Sn	19 28 48.6	-2.6
XAN				SG	Sg	19 29 19.6	-10
XAN				Smax			
	comp=N,85nm,0.8s						
XAN				Smax			
	comp=E,127nm,0.8s						
LZH	Lanzhou	7.54	348	eP	Pn	19 28 06.1	+1.2
LZH				eS	Sn	19 29 38.0	+6.7
LZH				Smax			
	comp=N,35nm,0.9s						
LZH				Smax			
	comp=E,76nm,1.0s						
WHN	Wuhan	7.65	74	⇑P	Pn	19 28 08.0	+1.5
LSA	Lhasa	12.85	278	ePn	P	19 29 17.6	-0.2
	comp=E,9.2nm,0.7s						
SONM	Songino Array	19.10	1	P	P	19 30 38.6	+1.0
	comp=E,0.1nm,0.3s,baz=185,slow=10.0,SNR=3.0						
SNG	Songkhla	21.98	194	P	P	19 31 06.0	-2.3
MKAR	Makanchi Array	25.76	321	P	P	19 31 43.8	-0.9
	comp=E,0.3nm,0.5s,mb3.1,baz=135,slow=8.2,SNR=4.7						
WRAB	Tennant Creek	55.66	147	eP	P	19 35 50.5	-0.6
	comp=E,4.7nm,1.1s,mb4.4						
WRA	Warramunga Arr	55.66	147	P	P	19 35 50.1	-1.1
	comp=E,0.4nm,0.3s,mb3.9,baz=336,slow=8.2,SNR=19						
FINES	FINESS Array B	60.38	327	P	P	19 36 22.2	-1.5
	comp=E,0.9nm,0.8s,mb3.8,baz=90,slow=8.3,SNR=3.4						
FINES	FINESS Array B	60.38	327	P	P	19 36 22.2	-1.5
GERES	GERESS Array B	70.28	315	P	P	19 37 27.8	+0.2
	comp=E,0.3nm,0.5s,mb3.5,baz=63,slow=6.6,SNR=2.9						

NEIC 19 19:48:38.4±0.7,6.68S×130.06E,h35^{km},mb3.9/1,Error ellipse: s-maj=31.3km s-min=8.6km az=74.0
IDC 19 19:48:52.6±9.7,7.53S×129.68E,h197^{km}±116^{km},mb3.3/3, mb1 3.7/5,mb1mx3.5/13,mbtmp4.1/5,Error ellipse: s-maj=66.8km s-min=50.4km az=6.0
ISC 19 19:48:48.9±2.6**,7.31S**±0.10×**129.8E**±0.1**,h170**^{km}±29^{km}**, n12,σ0^{s}79**/17**,mb3.5**/4**,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	5.96	154	eP	Px	19 50 35.2	
	55nm,0.5s						
KAKA				eS	Sx	19 51 42.5	
FITZ	Fitzroy Crossi	11.47	200	eP	P	19 51 29.2	+0.6
	5.0nm,0.3s						
FITZ				eS	S	19 53 33.4	-0.6
FITZ	Fitzroy Crossi	11.47	200	P	P	19 51 28.3	-0.3
	2.8nm,0.3s,baz=15,slow=12,SNR=38						
FITZ				S	S	19 53 34.0	0.0
	2.4nm,0.3s,baz=12,slow=12,SNR=3.7						
WRAB	Tennant Creek	13.30	161	ePn	P	19 51 52.1	+0.1
	15nm,0.6s						
WRAB				eSn	S	19 54 17.1	+0.7
WRA	Warramunga Arr	13.31	161	P	P	19 51 51.7	-0.4
	3.3nm,0.3s,baz=345,slow=13,SNR=73						
WRA				S	S	19 54 17.6	+1.1
	2.4nm,0.3s,baz=327,slow=24,SNR=10						
WB2	Warramunga Arr	13.31	161	eP	P	19 51 52.0	-0.2
WB2				eS	S	19 54 14.0	-2.6
ASPA	Alice Springs	16.73	167	eP	P	19 52 38.8	+3.9
ASPA				eS	S	19 55 40.3	+6.1
KKM	Kota Kinabalu	18.97	314	eP	P	19 53 00.1	+0.5
SONM	Songino Array	58.67	342	P	P	19 58 29.8	-0.8
	0.4nm,0.6s,mb3.5,baz=159,slow=6.9,SNR=9.6						
MKAR	Makanchi Array	68.38	327	P	P	19 59 34.1	+0.1
	1.0nm,0.5s,mb3.8,baz=121,slow=8.1,SNR=18						
KURK	Kurchatov	72.68	329	eP	P	19 59 59.9	+0.1
	0.6nm,0.5s,mb3.6						
BVAR	Borovoye Array	78.22	328	P	P	20 00 31.2	+0.2
	0.1nm,0.3s,mb3.0,baz=117,slow=3.3,SNR=3.6						

IGQ 19 20:01:48.0,0.21S×78.54W,h11^{km}±2^{km},mb4.0,6C-8D, Error ellipse: s-maj=0.8km s-min=0.5km az=16.8, Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GGP	Refugio Guagua	0.07	302	⇑P	Pg	20 01 51.0	+0.6
JUA2	San Juan 2	0.07	267	⇑P	Pg	20 01 50.7	+0.3
TERV	Terraza Guagua	0.08	298	⇑P	Pg	20 01 51.2	+0.7
PINO	Pino	0.09	307	⇓P	Pg	20 01 51.3	+0.7
YANA	Yana	0.10	340	⇑P	Pg	20 01 51.3	+0.5
JOR1	San Jorge 1	0.23	334	⇓P	Pg	20 01 51.1	-2.0
NAS1	Nasa	0.42	172	P	Pg	20 01 57.4	+0.7
ANTI	Antisana	0.44	122	⇓P	Pg	20 01 57.2	+0.1
VC1	Cotopaxi 1	0.45	163	⇓P	Pg	20 01 57.6	+0.4
CAMI	Rancho Maria	0.46	176	⇑P	Pg	20 01 58.2	+0.7
TAMB	Tambo	0.51	161	⇓P	Pg	20 01 58.7	+0.3
CAYR	Refugio Cayamb	0.58	67	⇓P	Pb	20 02 00.1	+0.5
COTA	Cotacachi	0.58	20	P	Pb	20 01 59.7	0.0
CAYA	Cayambe	0.61	63	P	Pb	20 02 00.6	+0.2
QIL1	Quilotoa	0.74	212	⇓P	Pb	20 02 02.4	-0.2
PISA	Pisayambo	0.85	170	P	Pb	20 02 04.8	+0.4
PISA				S	Sb	20 02 17.2	+1.5
CONE	Cono NE Rev Vo	0.91	81	P	Pb	20 02 05.9	+0.6
LAV3	Lava3-Reventad	0.91	83	P	Pb	20 02 05.9	+0.5
ECOPE	Copete-Rev Vol	0.92	84	⇓P	Pb	20 02 06.0	+0.4
ECOPE				S	Sb	20 02 17.6	-0.1
CUPA	Cupa	1.12	301	P	Pb	20 02 05.9	-3.1
ECEN	Cerro Negro	1.17	29	P	Pb	20 02 10.9	+1.0
MAG1	Magdalena	1.24	276	⇑P	Pb	20 02 11.9	+0.8

NEIC 19 20:02:25.7±0.8,15.60N×147.11E,h35^{km},mb4.3/3,Error ellipse: s-maj=16.4km s-min=9.6km az=86.0
IDC 19 20:02:29.5±4.6,15.63N×146.49E,h49^{km}±33^{km},mb3.8/5, mb1 4.0/7,mb1mx3.7/22,mbtmp4.2/7,ML3.8/2,Error ellipse: s-maj=62.0km s-min=17.2km az=96.0
ISC 19 20:02:28.7±2.9**,15.55N**±0.06×**146.7E**±0.3**,h69**^{km}±18^{km}**, n15,σ0^{s}92**/18**,mb4.1**/8**,3C,Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAPN	Saipan	0.99	250	⇑iP	P	20 02 47.2	0.0
ANA2	Anatahan	1.25	309	⇑eP	P	20 02 51.3	+0.6
SARN	Sarigan	1.46	322	⇑eP	P	20 02 53.8	+0.1
SARN				eS	S	20 03 13.2	+1.1
GUMO	Guam	2.65	223	P	P	20 03 09.3	-0.8
	13nm,0.3s,baz=184,slow=21,SNR=12						
GUMO				S	S	20 03 39.1	-2.0
	66nm,0.3s,baz=16,slow=22,SNR=12						
GUMO	Guam	2.65	223	ePn	P	20 03 09.8	-0.2
GUMO				eSn	S	20 03 40.3	-0.7
CBIJ	Chichi jima	12.24	341	P	P	20 05 19.2	-2.7
	2.7nm,0.3s,baz=152,slow=15,SNR=5.8						
WRAB	Tennant Creek	37.30	199	eP	P	20 09 36.8	+0.7
	2.1nm,0.5s,mb4.3						
WRA	Warramunga Arr	37.31	199	P	P	20 09 36.7	+0.6
	1.3nm,0.7s,mb4.0,baz=20,slow=9.2,SNR=15						
FITZ	Fitzroy Crossi	39.36	213	P	P	20 09 54.6	+1.4
	1.7nm,0.3s,mb4.3,baz=16,slow=13,SNR=17						
MKAR	Makanchi Array	61.35	315	P	P	20 12 39.5	-0.1
	0.4nm,0.4s,mb3.8,baz=86,slow=8.2,SNR=12						
MKAR	Makanchi Array	61.35	315	P	P	20 12 39.5	-0.1
KURK	Kurchatov	64.26	319	eP	P	20 12 58.1	-0.6
	2.0nm,0.4s,mb4.3						
BVAR	Borovoye Array	69.52	321	P	P	20 13 31.8	-0.1
	1.7nm,0.5s,mb4.2,baz=104,slow=7.4,SNR=14						
BRVK	Borovoye	69.58	321	eP	P	20 13 32.1	-0.1
	0.7nm,0.4s,mb3.8						
FINES	FINESS Array B	90.14	336	P	P	20 15 21.9	-0.2
	2.1nm,1.1s,mb4.2,baz=72,slow=6.0,SNR=5.1						

IDC 19 20:10:15.5±0.7,2.83S×129.50E,mb4.2/7,mb1 4.4/9, mb1mx4.3/17,mbtmp4.3/9,ML4.3/2,MS3.5/5,Ms1 3.5/5, ms1mx3.3/22,Error ellipse: s-maj=40.5km s-min=12.4km az=71.0
NEIC 19 20:10:17.0±0.4,2.82S×129.53E,h10^{km},mb4.4/9,Error ellipse: s-maj=15.7km s-min=6.4km az=71.0
ISC 19 20:10:18.4±0.4**,2.80S**±0.06×**129.6E**±0.1**,h33^{km},n35, σ1^{s}05**/32**,mb4.2**/14**,MS3.4**/5**,Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.26	164	eP	P	20 13 04.2	+18
	21nm,0.6s						
KAKA				eS	S	20 14 58.0	+16
FITZ	Fitzroy Crossi	15.69	194	eP	P	20 13 56.6	-2.2
	16nm,0.6s						
FITZ	Fitzroy Crossi	15.69	194	Pn	P	20 13 57.1	-1.7
	1.0nm,0.3s,baz=13,slow=9.4,SNR=19						
WRAB	Tennant Creek	17.67	165	eP	P	20 14 22.7	-1.0
	57nm,1.3s						
WRA	Warramunga Arr	17.67	165	P	P	20 14 22.1	-1.7
	0.9nm,0.3s,baz=344,slow=12,SNR=38						
WRA				S	S	20 17 39.8	+2.5
	0.2nm,0.3s,baz=334,slow=25,SNR=4.0						
WB2	Warramunga Arr	17.68	165	eP	P	20 14 22.2	-1.6
MBWA	Marble Bar	20.60	207	eP	P	20 14 58.2	+0.8
ASPA	Alice Springs	21.17	169	eP	P	20 15 03.2	-0.1
GUMO	Guam	22.27	43	LR	LR	20 22 16.9	
	comp=Z,86nm,20.9s,MS3.1,baz=241,slow=32						
CTA	Charters Tower	23.69	138	eP	P	20 15 29.6	+1.3
	5.2nm,0.8s,mb4.0						
CTA	Charters Tower	23.69	138	P	P	20 15 29.8	+1.5
	7.0nm,0.8s,mb4.2,baz=323,slow=13,SNR=9.3						
CTAO	Charters Tower	23.69	138	eP	P	20 15 31.0	+2.7
	17nm,1.3s,mb4.3						
JOW	Kunigami	29.48	358	LR	LR	20 27 49.3	
	comp=Z,105nm,19.0s,MS3.5,baz=138,slow=36						
STKA	Stephens Creek	31.07	160	eP	P	20 16 35.6	-0.3
	2.7nm,0.8s,mb4.1						
STKA	Stephens Creek	31.07	160	P	P	20 16 35.9	0.0
	2.5nm,0.7s,mb4.2,baz=331,slow=9.3,SNR=6.6						
STKA				LR	LR	20 29 35.7	
	comp=Z,92nm,19.6s,MS3.5,baz=18,slow=37						
STKA	Stephens Creek	31.07	160	eP	P	20 16 36.2	+0.3
JHJ	Hachijo jima 2	37.01	14	LR	LR	20 30 07.9	
	comp=Z,47nm,20.7s,MS3.3,baz=236,slow=32						
MAJO	Matsushiro	39.96	11	eP	P	20 17 51.5	0.0
	3.4nm,0.6s,mb4.2						
MAT	Matsushiro	39.96	11	P	P	20 17 50.6	-0.9
MJAR	Matsushiro Arr	39.96	11	P	P	20 17 51.6	+0.1
	2.4nm,0.9s,mb3.9,baz=188,slow=8.9,SNR=5.8						
MJAR				LR	LR	20 31 11.6	
	comp=Z,113nm,19.6s,MS3.7,baz=260,slow=31						
PKI	Pulchoki	52.12	308	eP	P	20 19 29.1	+1.2
KKN	Kakani	52.32	309	eP	P	20 19 29.3	-0.1
DMN	Daman	52.37	308	eP	P	20 19 30.0	+0.2
GKN	Gorkha	52.92	309	eP	P	20 19 32.6	-1.3
	18nm,1.0s,mb5.0						
KOLN	Koldanda	53.63	308	eP	P	20 19 39.1	-0.1
	25nm,1.0s,mb5.1						
SONM	Songino Array	54.34	341	P	P	20 19 45.0	+0.9
	0.3nm,0.7s,mb3.3,baz=135,slow=8.2,SNR=3.3						
MKAR	Makanchi Array	64.50	326	P	P	20 20 54.0	-0.2
	1.3nm,0.6s,mb4.1,baz=129,slow=7.8,SNR=16						
ZAL	Zalesovo	67.64	333	P	P	20 21 13.8	-0.3
	1.8nm,0.6s,mb4.3,baz=358,slow=6.3,SNR=11						
KURK	Kurchatov	68.72	328	eP	P	20 21 20.9	+0.1
	6.9nm,0.8s,mb4.6						
BVAR	Borovoye Array	74.29	327	P	P	20 21 53.7	-0.5
	2.8nm,0.8s,mb4.2,baz=121,slow=8.6,SNR=16						
BRVK	Borovoye	74.36	327	eP	P	20 21 55.1	+0.6
	2.5nm,0.8s,mb4.2						
VNDA	Vanda	76.65	173	eP	P	20 22 07.2	-0.1
	1.3nm,0.9s,mb3.9						
OPO	Ambohidratompo	81.88	252	P	P	20 22 38.5	+1.9
	2.3nm,0.8s,mb4.2,baz=15,slow=5.4,SNR=4.4						
LVC	Limon Verde	148.98	145	PKPbc	PKPdf	20 30 06.2	+6.4
	4.3nm,1.1s,baz=277,slow=4.6,SNR=5.8						
CPUP	Villa Florida	150.29	167	PKPbc	PKPdf	20 30 10.6	+8.9
	5.9nm,0.9s,baz=293,slow=0.3,SNR=8.9						

MOS 19 20:24:40.0±2.1,50.31N×87.79E,h15^{km},mb4.5/1,Error ellipse: s-maj=14.0km s-min=8.9km az=84.5
NNC 19 20:24:42.4±4.5,50.44N×87.52E,h7^{km}±23^{km},mpv3.9, Error ellipse: s-maj=35.2km s-min=19.9km az=77.0
ISC 19 20:24:41.2±1.0**,50.43N**±0.06×**87.5E**±0.1**,h10^{km},n17, σ1^{s}30**/26**,12C-2D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKAR	Aktash	0.12	154	i PG	Pg	20 24 43.3	-0.9
UKR	Ust'-Kan	1.83	287	ePN	Pn	20 25 17.2	+4.2
UKR				eS	Sn	20 25 42.7	+6.3
TASR	Tashtagol	2.34	5	ePN	Pn	20 25 24.6	+4.2
TASR				eS	Sn	20 25 56.2	+6.7
ZAL	Zalesovo	3.90	335	ePN	Pn	20 25 43.8	+1.3
MK31	Makanchi Array	5.03	226	⇑Pn	Pn	20 26 00.3	+1.7
	3.8nm,0.3s,baz=50,slow=12,SNR=438						
MK31				⇑Pg	Pg	20 26 13.3	-8.4
	27nm,0.7s,baz=39,slow=17,SNR=4.7						
MK31				Sn	Sn	20 26 57.8	+0.2
	21nm,0.5s,baz=46,slow=26,SNR=14						
MK31				⇑Lg		20 27 19.7	
	26nm,0.5s,baz=43,slow=30,SNR=6.0						
MKAR	Makanchi Array	5.03	226	ePN	Pn	20 26 00.2	+1.6
NVS	Novosibirsk	5.14	331	ePN	Pn	20 26 00.0	-0.1
NVS				e		20 26 16.8	
NVS				e		20 27 01.4	
NVS				eS	Sg	20 27 25.6	-6.6
KURK	Kurchatov	5.69	276	⇑Pn	Pn	20 26 08.4	+0.5
	4.7nm,0.5s						
KURK				⇑Sn	Sn	20 27 14.2	+0.1
	6.1nm,0.5s						
KURK				⇑Lg		20 27 42.0	
	51nm,1.0s						
KRAR	Krasnoyarsk	6.44	28	ePN	Pn	20 26 12.7	-5.8
VOSK	Vostochnaya	10.56	289	⇑Pn	P	20 27 12.6	-2.9
	1.3nm,0.5s						
VOSK				⇓Sn	S	20 29 09.4	-5.5
	6.5nm,0.8s						
BVA0	Borovoye Array	10.95	290	⇑Pn	P	20 27 18.9	-2.0
	0.4nm,0.7s,baz=107,slow=14,SNR=14						
BVA0				⇑Sn	S	20 29 19.5	-5.0
	0.5nm,0.5s,baz=103,slow=24,SNR=6.5						
AAK	Ala-Archa	11.88	234	eP	P	20 27 29.5	-4.1
KK31	Karatay Array	13.76	244	⇓P	P	20 27 57.1	-1.4
	0.9nm,0.6s,baz=52,slow=14,SNR=13						
SVE	Sverdlovsk	17.12	302	eP	P	20 28 43.8	+2.0
AB31	Akbulak array	17.80	277	⇑P	P	20 28 49.2	-1.2
	0.8nm,0.6s,baz=72,slow=11,SNR=11						
ARU	Arti	18.19	300	⇑iP	P	20 28 55.3	+0.1
ARU				eS	S	20 32 25.5	+10
ARU				pmax	pmax		
	comp=Z,6.0nm,1.7s						
AKTO	Aktyubinsk	18.76	281	⇑P	P	20 29 01.5	-0.6
	comp=Z,0.5nm,1.0s						

IDC 19 21:20:48.0±1.7**,6.99S×128.74E,mb3.6**/2**,mb1 3.9**/3**, mb1mx3.6**/11**,mbtmp3.7**/3**,ML3.9**/1**,Error ellipse: s-maj=107.1km s-min=28.8km az=63.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.97	158	Pn	P	21 24 09.5	-0.3
	0.6nm,0.3s,baz=336,slow=14,SNR=33						
WRA				Sn	S	21 26 32.4	-14
	1.2nm,0.3s,baz=332,slow=22,SNR=10						
STKA	Stephens Creek	27.51	156	P	P	21 26 35.7	-2.6
	1.2nm,0.7s,baz=323,slow=10,SNR=3.8						
MKAR	Makanchi Array	67.54	327	P	P	21 31 46.3	-2.0
	0.1nm,0.4s,baz=118,slow=7.8,SNR=6.7						

CSEM 19 21:26:00.4,33.67N×3.95W,h15^{km},MD3.2,After CNRM
CNRM 19 21:26:00.4,33.67N×3.95W,h15^{km},MD3.2
MDD 19 21:26:01.3±1.8**,33.65N×4.07W,mb3.5**/3**,Error ellipse: s-maj=18.1km s-min=4.9km az=114.0,PRXIMO, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TZK	Tazeka	0.45	348	P	Pg	21 26 08.0	-2.3
TZK				S	Sg	21 26 16.5	+0.2
MIF	Mishlifen	0.99	256	P	Pb	21 26 18.5	-2.6
MIF				S	Sg	21 26 32.5	-1.9
CZD	Col de Zad	1.02	233	P	Pb	21 26 20.5	-1.0
CZD				S	Sg	21 26 35.5	+0.3
EMIJ	Mijas	2.96	349	P	Pn	21 26 50.0	-0.6
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	Sn	21 27 23.7	-3.6
	0.7nm,0.1s,SNR=7.9						
EQES	Quesada	4.22	11	P	Pn	21 27 08.8	+0.4
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	21 27 54.5	-4.7
	0.3nm,0.2s,SNR=7.9						
EADA	Adamuz	4.53	355	P	Pn	21 27 12.5	-0.2
	0.2nm,0.1s,SNR=4.0						
EADA				S	Sn	21 28 00.9	-6.0
	0.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.62	334	P	Pn	21 27 13.6	-0.4
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	21 28 04.5	-4.8
	0.3nm,0.1s,SNR=7.9						
EGRO	El Granado	4.77	325	P	Pn	21 27 14.8	-1.3
	0.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	21 28 06.1	-6.9
	0.7nm,0.1s,SNR=7.9						
EBAD	Badajoz	5.62	336	P	Pn	21 27 26.8	-1.4
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	21 28 27.7	-6.7
	0.7nm,0.2s,SNR=7.9						

MAN 19 21:28:44.2,13.76N×120.60E,h114^{km},mb3.8,ML2.5, MS2.1,1D,Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.34	266	eP	P	21 29 02.7	+2.0
LUBP				eS	S	21 29 15.6	+2.4
PGP	Puerto Galera	0.43	126	i P	P	21 29 02.7	+1.5
TGY	Tagaytay City	0.47	44	⇓eP	P	21 29 03.6	+2.1
SJMP	San Jose	1.39	158	eP	P	21 29 10.8	+0.5
SJMP				eS	S	21 29 30.6	+0.5
BUSP	Coron	1.79	193	eP	P	21 29 15.4	+0.3
BUSP				eS	S	21 29 38.4	0.0
SCZP	Santa Cruz	2.11	342	eP	P	21 29 19.3	0.0
BOLP	Bolinao	2.69	346	eP	P	21 29 26.5	-0.6
ENPP	El Nido	2.78	204	eP	P	21 29 29.0	+0.7

NEIC 19 21:42:23.0,40.96N×20.73E,h5^{km},MD3.2(ATH),After ATH.
CSEM 19 21:42:23.5±0.2,40.83N×20.56E,h8^{km},ML2.7,Error ellipse: s-maj=4.2km s-min=3.5km az=126.0
ATH 19 21:42:24.2,40.89N×20.76E,h5^{km},MD3.2/4
THE 19 21:42:26.1,40.75N×20.76E,h10^{km},ML2.7
ISC 19 21:42:25.1±0.8**,40.84N**±0.05×**20.73E**±0.05**,h10^{km},n14, σ1^{s}37**/22**,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBN	Korca	0.22	169	i Pg	Pg	21 42 29.3	-0.5
KBN				i Sg	Sg	21 42 33.7	+0.7
FNA	Florina	0.49	96	ePg	Pg	21 42 34.9	-0.3
FNA				eSg	Sg	21 42 42.9	+1.2
FNA	Florina	0.49	96	ePg	Pg	21 42 34.8	-0.3
FNA				eSg	Sg	21 42 42.9	+1.1
KZN	Kozani	0.95	123	ePb	Pb	21 42 42.8	-0.5
KZN				eSb	Sb	21 42 57.8	+2.1
SRN	Sarande	1.11	211	i Pn	Pn	21 42 45.6	-1.1
SRN				i Sn	Sn	21 43 03.7	+1.7
JAN	Janina	1.18	176	ePB	Pb	21 42 47.5	+0.3
SKO	Skopje	1.25	25	i Pn	Pn	21 42 50.0	+1.3
SKO				i Sn	Sn	21 43 08.9	+3.2
GRG	Griva	1.27	84	ePg	Pg	21 42 48.9	-1.7
GRG				eSg	Sg	21 43 07.8	+0.2
KEK	Kerkira	1.33	213	ePB	Pb	21 42 50.5	+0.7
LIT	Litokhoron	1.53	118	ePg	Pg	21 42 53.0	-2.7
KNT	Kendrikon	1.67	78	ePb	Pb	21 42 54.7	-0.8
KNT				eSb	Sb	21 43 18.0	+1.4
SOH	Sokhos	1.99	90	ePb	Pb	21 42 58.6	-2.4
EVR	Evrytania	2.09	156	ePG	Pg	21 43 03.8	-3.1
PAIG	Paliouri	2.43	111	ePn	Pn	21 43 04.7	-0.8

MAN 19 21:56:13.2, 5.94N×125.65E, h76km, mb4.4, ML3.2, MS3.0, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.71**	**282**	iP	P	21 56 29.2	+0.2
GSPH				eS	S	21 56 38.9	-1.7
MATI	**Mati**	**1.16**	**31**	eP	P	21 56 34.9	+0.5
MATI				eS	S	21 56 48.0	-2.1
KCP	**Kidapawan**	**1.20**	**332**	⇑iP	P	21 56 37.0	+2.2
KCP				iS	S	21 56 52.2	+1.2
BUKP	**Musuan**	**2.01**	**343**	eP	P	21 56 46.7	+1.0
BUKP				eS	S	21 57 09.6	-0.2
BIPH	**Bislig**	**2.33**	**17**	⇑eP	P	21 56 50.2	-0.1
BIPH				eS	S	21 57 16.1	-1.8
CGP	**Cagayan de Oro**	**2.67**	**339**	⇑eP	P	21 57 02.1	+7.0
CGP				eS	S	21 57 29.8	+3.5
PAGZ	**Pagadian**	**2.94**	**310**	eP	P	21 56 58.5	-0.4
BUTP	**Butuan**	**3.01**	**359**	eS	S	21 57 34.6	-0.1
IPIL	**Ipil**	**3.57**	**301**	eP	P	21 57 07.8	+0.3
IPIL				eS	S	21 57 46.5	-2.2

*CNRM **19** 22:11:44.2, 35.44N×3.81W, h8km, MD3.9*
*MDD **19** 22:11:46.5±0.4, 35.34N×3.86W, h9km±4km, mbLg2.6/18, Error ellipse: s-maj=3.9km s-min=3.3km az=174.0, PRXIMO*
*CSEM **19** 22:11:46.0±0.1, 35.32N×3.77W, h40km, MD3.9, Error ellipse: s-maj=2.9km s-min=1.9km az=101.0*
*NEIC **19** 22:11:47.7, 35.49N×3.82W, MN2.5(MDD), After MDD.*
*SFS **19** 22:11:47.0, 35.49N×3.82W*
ISC 19 22:11:44.6±0.3**, 35.36N**±0.01×**3.90W**±0.03**, h10km, n61, σ1§27**/103**, 9C-4D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.14**	**193**	P	**Pg**	**22 11 48.5**	**+0.6**
MPAL				S	**Sg**	**22 11 51.0**	**+0.9**
TOU	**Touzarine**	**0.41**	**163**	P	**Pg**	**22 11 54.0**	**+0.9**
TOU				S	**Sg**	**22 12 00.0**	**+1.3**
EMEL	**Melilla**	**0.78**	**94**	⇑P	**Pb**	**22 12 01.4**	**+1.6**
	2µm,0.3s,SNR=18						
EMEL				S	**Sb**	**22 12 11.2**	**+1.1**
	4µm,0.2s,SNR=7.9						
MELI	**Melilla**	**0.79**	**94**	⇑P	**Pb**	**22 12 01.4**	**+1.3**
MELI				S	**Sb**	**22 12 11.1**	**+0.5**
MELI	**Melilla**	**0.79**	**94**	iP	**Pb**	**22 12 01.4**	**+1.3**
MELI				iS	**Sb**	**22 12 11.1**	**+0.5**
EALB	**Alboran**	**0.92**	**50**	⇑P	**Pb**	**22 12 02.2**	**0.0**
	344nm,0.3s,SNR=18						
EALB				S	**Sb**	**22 12 14.0**	**-0.2**
	345nm,0.3s,SNR=7.9						
EALB	**Alboran**	**0.92**	**50**	⇑P	**Pb**	**22 12 02.2**	**+0.1**
EALB				S	**Sb**	**22 12 13.9**	**-0.2**
ZAI	**Zaio**	**1.02**	**112**	eP	**Pb**	**22 12 02.0**	**-2.0**
ZAI				iS	**Sb**	**22 12 15.0**	**-2.3**
TZK	**Tazeka**	**1.29**	**190**	iP	**Pb**	**22 12 08.0**	**-0.5**
TZK				eS	**Sb**	**22 12 24.0**	**-0.9**
EMIJ	**Mijas**	**1.40**	**330**	⇓P	**Pn**	**22 12 10.0**	**-0.2**
	17nm,0.6s,SNR=18						
EMIJ				S	**Sb**	**22 12 30.7**	**+2.7**
	117nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.40**	**330**	⇓P	**Pn**	**22 12 10.0**	**-0.2**
EMIJ				S	**Sb**	**22 12 30.7**	**+2.7**
EGUA	**Guajares**	**1.50**	**10**	⇑P	**Pn**	**22 12 12.8**	**+1.1**
	SNR=18						
EGUA				S	**Sb**	**22 12 30.3**	**-0.8**
	72nm,0.6s,SNR=7.9						
REAL	**Reales**	**1.54**	**317**	eP	**Pn**	**22 12 17.0**	**+4.6**
REAL				eS	**Sb**	**22 12 32.7**	**+0.3**
ERON	**Agron**	**1.66**	**3**	P	**Pn**	**22 12 14.4**	**+0.4**
	8.3nm,0.3s,SNR=17						
ERON				S	**Sn**	**22 12 34.5**	**-1.0**
	17nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.68**	**311**	P	**Pn**	**22 12 16.8**	**+2.5**
	22nm,0.6s,SNR=16						
EBER	**Berja**	**1.74**	**28**	P	**Pn**	**22 12 14.4**	**-0.8**
	6.6nm,0.3s,SNR=14						
EBER				S	**Sn**	**22 12 37.8**	**+0.2**
	43nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.74**	**28**	P	**Pn**	**22 12 14.4**	**-0.8**
EBER				S	**Sn**	**22 12 37.8**	**+0.2**
ELOJ	**Sierra Loja**	**1.80**	**354**	P	**Pn**	**22 12 16.4**	**+0.4**
	6.6nm,0.3s,SNR=12						
ELOJ				S	**Sn**	**22 12 37.7**	**-1.3**
	35nm,0.4s,SNR=11						
EQUE	**Quentar**	**1.88**	**11**	P	**Pn**	**22 12 17.3**	**+0.1**
	13nm,0.6s,SNR=17						
EQUE				S	**Sn**	**22 12 41.2**	**+0.1**
	68nm,0.7s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.93**	**8**	P	**Pn**	**22 12 18.4**	**+0.4**
	SNR=7.9						
ECOG				S	**Sn**	**22 12 43.4**	**+0.9**
	21nm,0.3s,SNR=9.2						
LIJA	**Lijar**	**1.96**	**322**	P	**Pn**	**22 12 22.0**	**+3.6**
LIJA	**Lijar**	**1.96**	**322**	eP	**Pn**	**22 12 22.0**	**+3.6**
IFR	**Ifrane**	**2.10**	**209**	S	**Sn**	**22 12 50.0**	**+3.3**
ENIJ	**Nijar**	**2.12**	**40**	P	**Pn**	**22 12 19.3**	**-1.2**
	SNR=7.9						
ESPR	**Espera**	**2.18**	**314**	P	**Pn**	**22 12 24.3**	**+2.8**
	SNR=7.9						
ESPR	**Espera**	**2.18**	**314**	P	**Pn**	**22 12 24.3**	**+2.8**
ELUQ	**Luque**	**2.22**	**353**	P	**Pn**	**22 12 23.6**	**+1.6**
	17nm,0.5s,SNR=12						
ELUQ				S	**Sn**	**22 12 50.3**	**+0.6**
	9.4nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**2.23**	**210**	eP	**Pn**	**22 12 21.0**	**-1.2**
MIF				iS	**Sn**	**22 12 49.0**	**-1.1**
CZD	**Col de Zad**	**2.50**	**202**	eP	**Pn**	**22 12 26.0**	**-0.1**
CZD				iS	**Sn**	**22 12 56.0**	**-1.0**
EQES	**Quesada**	**2.53**	**15**	⇑P	**Pn**	**22 12 27.8**	**+1.3**
	SNR=18						
EQES				S	**Sn**	**22 12 55.1**	**-2.5**
	8.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.53**	**15**	⇑P	**Pn**	**22 12 27.8**	**+1.3**
EQES				S	**Sn**	**22 12 55.1**	**-2.5**
EHUE	**Huescar**	**2.67**	**23**	P	**Pn**	**22 12 30.3**	**+1.9**
	3.5nm,0.3s,SNR=10						
EHUE				S	**Sn**	**22 12 60.0**	**-1.2**
	2.2nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.67**	**23**	P	**Pn**	**22 12 30.4**	**+1.9**
EHUE				S	**Sn**	**22 13 00.0**	**-1.2**
EBAN	**Banos Encina**	**2.80**	**2**	P	**Pn**	**22 12 32.2**	**+1.8**
	10.0nm,0.4s,SNR=11						
EBAN				S	**Sn**	**22 13 02.9**	**-1.7**
	2.7nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**2.85**	**349**	P	**Pn**	**22 12 32.0**	**+0.9**
	SNR=7.9						
EADA				S	**Sn**	**22 13 05.4**	**-0.5**
	5.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.85**	**349**	P	**Pn**	**22 12 32.0**	**+0.9**
EADA				S	**Sn**	**22 13 05.4**	**-0.5**
EMIN	**Mina Concepcio**	**3.28**	**318**	⇓P	**Pn**	**22 12 37.6**	**+0.5**
	SNR=18						
EMIN				S	**Sn**	**22 13 14.4**	**-2.2**
	5.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.28**	**318**	⇓P	**Pn**	**22 12 37.6**	**+0.5**
EMIN				S	**Sn**	**22 13 14.4**	**-2.2**
ZFT	**Errachidia**	**3.34**	**187**	eP	**Pn**	**22 12 36.0**	**-2.0**
ZFT				iS	**Sn**	**22 13 16.0**	**-2.1**
EVIA	**Vianos**	**3.46**	**18**	P	**Pn**	**22 12 40.9**	**+1.1**
	12nm,0.5s,SNR=8.7						
AVE	**Averroes**	**3.56**	**236**	P	**Pn**	**22 12 43.0**	**+1.9**
EGRO	**El Granado**	**3.61**	**308**	⇑P	**Pn**	**22 12 42.5**	**+0.6**
	SNR=18						
EGRO				S	**Sn**	**22 13 22.1**	**-2.9**
	12nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**3.61**	**308**	⇑P	**Pn**	**22 12 42.5**	**+0.6**
EGRO				S	**Sn**	**22 13 22.1**	**-2.9**
ETOB	**Tobarra**	**3.78**	**29**	P	**Pn**	**22 12 44.7**	**+0.4**
	SNR=7.9						
ETOB				S	**Sn**	**22 13 27.6**	**-1.8**
	3.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.78**	**29**	P	**Pn**	**22 12 44.7**	**+0.4**
ETOB				S	**Sn**	**22 13 27.6**	**-1.8**
EBAD	**Badajoz**	**4.21**	**325**	P	**Pn**	**22 12 50.3**	**0.0**
	SNR=7.9						
EBAD				S	**Sn**	**22 13 37.1**	**-2.9**
	4.4nm,0.3s,SNR=4.6						
EBAD	**Badajoz**	**4.21**	**325**	P	**Pn**	**22 12 50.3**	**0.0**
EBAD				S	**Sn**	**22 13 37.2**	**-2.9**
ESDC	**Sonseca Array**	**4.31**	**359**	P	**Pn**	**22 12 52.1**	**+0.3**
	1.3nm,0.3s,baz=173,slow=12,SNR=4.0						
ESDC	**Sonseca Array**	**4.31**	**359**	P	**Pn**	**22 12 52.1**	**+0.3**
ESLA	**Sonseca Array**	**4.31**	**359**	ePn	**Pn**	**22 12 52.0**	**+0.3**
ESLA				eSn	**Sn**	**22 13 43.4**	**+0.7**
ESLA	**Sonseca Array**	**4.31**	**359**	ePn	**Pn**	**22 12 52.0**	**+0.2**
EVO	**Evora**	**4.57**	**315**	ePn	**Pn**	**22 12 57.0**	**+1.5**
EVO				eSn	**Sn**	**22 13 47.7**	**-1.6**
	24nm,0.6s						
EIBI	**Ibiza**	**5.56**	**47**	P	**Pn**	**22 13 08.1**	**-1.4**
	SNR=7.9						
EIBI				S	**Sn**	**22 14 07.3**	**-6.9**
	SNR=7.9						
EIBI	**Ibiza**	**5.56**	**47**	P	**Pn**	**22 13 08.1**	**-1.4**
ECAL	**Calabor**	**6.94**	**342**	P	**Pn**	**22 13 29.0**	**+0.1**
	3.0nm,0.3s,SNR=8.2						
ECAL	**Calabor**	**6.94**	**342**	P	**Pn**	**22 13 29.0**	**+0.1**
ELOB	**Lobios**	**7.27**	**335**	P	**Pn**	**22 13 32.4**	**-1.1**
	SNR=7.9						
ELOB				S	**Sn**	**22 14 50.4**	**-6.5**
	SNR=7.9						
ELOB	**Lobios**	**7.27**	**335**	P	**Pn**	**22 13 32.4**	**-1.1**
ETSF	**Etsaut**	**7.96**	**18**	ePn	**Pn**	**22 13 42.5**	**-0.8**
SJPF	**Ste Jean**	**8.02**	**14**	ePn	**P**	**22 13 43.0**	**-1.0**
EPF	**Esparros**	**8.34**	**22**	ePn	**P**	**22 13 49.1**	**+0.6**

ECX 19 22:14:40.7±0.2**, 30.03N×114.49W, h11km, ML3.7, 1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.32**	**321**	eP	Pb	22 15 03.8	-1.3
SPX				eS	Sb	22 15 21.7	-0.2
SPX				⇓e		22 15 24.9	
	comp=E,592nm,0.3s						
SPX				e		22 15 25.1	
	comp=N,817nm,0.4s						
PBX	**Punta Banda**	**2.57**	**312**	eS	Sn	22 15 54.9	+0.2
ENX	**Ensenada**	**2.63**	**315**	eS	Sn	22 15 56.0	-0.1
RMX	**La Rumorosa**	**2.91**	**332**	ePN	Pn	22 15 27.0	-0.9
RMX				eS	Sn	22 16 03.3	+0.2
CBX	**Cerro Bola**	**2.95**	**321**	ePN	Pn	22 15 27.4	-1.0

*ORF **19** 22:16:32.4, 34.95N×23.00E, h30km, mb4.5*
*ROM **19** 22:17:11.3±1.2, 37.77N×20.82E, h12km, Ml4.9/16, Error ellipse: s-maj=19.9km s-min=4.4km az=65.0*
*BJI **19** 22:17:15.0, 38.00N×20.20E, h15km, mB5.1, mb5.0, Ms4.9, Msz4.8*
*LDG **19** 22:17:15.7±0.3, 38.25N×20.60E, h10km, Mb4.7/37, Ms3.8/7, Error ellipse: s-maj=15.1km s-min=4.3km az=17.0*
*ATH **19** 22:17:16.9, 38.04N×20.24E, h16km±1km, MD4.6/20, ML4.6*
*NEIC **19** 22:17:16.0, 38.04N×20.24E, h15km, mb4.5/61, ML4.7(THE), ML4.6(ATH), After ATH.*
*HRVD **19** 22:17:16.0±0.7, 38.04N×20.29E, h19km±1km, MW4.8/44, Centroid moment Tensor Solution. LP body waves: s22,c23;Mantle waves: s44,c66; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.07±.19; $M_{\theta\theta}$1.77±.13; $M_{\phi\phi}$0.29±.12; $M_{r\theta}$0.47±.26; $M_{\theta\phi}$-0.29±.09; $M_{\phi r}$-0.46±.36; Best double couple: $M_0$2.05×10^{16} NP1:ϕ_s93°,δ38°,λ-103°. NP2:ϕ_s290°,δ54°,λ-80°. Principal axes: T 1.902, Plg8°, Azm13°; N .294, Plg8°, Azm104°; P -2.199, Plg79°, Azm238°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*PDG **19** 22:17:17.1±0.3, 38.10N×20.16E, h11km±1km*
*MOS **19** 22:17:17.5±1.2, 38.20N×20.33E, h10km, mb4.9/20, MS4.4/10, Error ellipse: s-maj=3.3km s-min=2.0km az=106.0*
*PRU **19** 22:17:18.1, 38.31N×20.34E, M4.5*
*THE **19** 22:17:18.9, 37.92N×20.09E, h20km, ML4.7*
*IDC **19** 22:17:20.7±3.8, 38.21N×20.36E, h27km±27km, mb4.2/17, mb1 4.3/27, mb1mx4.3/33, mbtmp4.3/27, ML4.2/9, MS4.2/23, Ms1 4.2/23, ms1mx4.0/40, Error ellipse: s-maj=12.5km s-min=12.3km az=93.0*
*CSEM **19** 22:17:21.2, 38.32N×20.32E, h30km, mb4.8*
*CRAAG **19** 22:17:21.2, 38.32N×20.32E, Mb4.8*
*SOF **19** 22:17:34.7, 39.21N×21.38E, h2km, MD4.2*
*HLW **19** 22:17:34.7, 37.15N×21.65E, h17km, Mb4.2*
ISC 19 22:17:19.3±0.4**, 38.17N**±0.01×**20.32E**±0.01**, h27km**±3km**, h17km**±2.2km**:pP-P, n630, σ1§34**/710**, mb4.7**/66**, MS4.3**/30**, 48C-36D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**88**	⇓iPB	**Pb**	**22 17 23.6**	**-1.7**
LKD	**Levkas**	**0.60**	**26**	ePg	**Pb**	**22 17 30.7**	**-0.5**
EVR	**Evrytania**	**1.39**	**57**	ePN	**Pn**	**22 17 45.6**	**+2.4**
EVR				eSN	**Sn**	**22 18 06.5**	**+5.7**
EVR	**Evrytania**	**1.39**	**57**	ePn	**Pn**	**22 17 44.2**	**+1.0**
EVR				eSn	**Sn**	**22 18 06.5**	**+5.7**
JAN	**Janina**	**1.54**	**15**	⇑iPN	**Pn**	**22 17 47.8**	**+2.3**
JAN				eSN	**Sn**	**22 18 10.6**	**+5.8**
KEK	**Kerkira**	**1.59**	**345**	ePN	**Pn**	**22 17 47.9**	**+1.7**
KEK				eSN	**Sn**	**22 18 10.7**	**+4.6**
ITM	**Ithomi**	**1.61**	**127**	⇑iPN	**Pn**	**22 17 46.6**	**+0.1**
ITM				eSN	**Sn**	**22 18 07.6**	**+1.0**
SRN	**Sarande**	**1.73**	**352**	iPn	**Pn**	**22 17 50.2**	**+2.1**
SRN				iSn	**Sn**	**22 18 12.7**	**+3.3**
AGG	**Agios Georgios**	**1.79**	**61**	ePn	**Pn**	**22 17 51.1**	**+2.1**
TPE	**Tepelena**	**2.14**	**354**	ePn	**Pn**	**22 17 56.1**	**+2.1**
LKR	**Lokris**	**2.16**	**76**	⇑iPB	**Pb**	**22 17 55.5**	**-2.1**
MGER	**Gerania Oros**	**2.33**	**94**	ePB	**Pb**	**22 17 57.5**	**-3.0**
VLO	**Vlora**	**2.38**	**345**	ePn	**Pn**	**22 17 59.7**	**+2.2**
KZN	**Kozani**	**2.41**	**27**	ePB	**Pb**	**22 18 00.5**	**-1.4**
KZN				eSN	**Sn**	**22 18 31.5**	**+4.6**
KBN	**Korca**	**2.48**	**8**	ePn	**Pn**	**22 18 02.4**	**+3.5**
KBN				iSn	**Sn**	**22 18 35.0**	**+6.5**
NSAL	**Nisos Salamina**	**2.50**	**95**	ePB	**Pb**	**22 18 00.6**	**-2.7**
VLI	**Veliai**	**2.54**	**124**	⇓iPb	**Pb**	**22 18 00.7**	**-3.3**
VLI				eSn	**Sn**	**22 18 31.1**	**+1.0**
NAIG	**Nisos Aigina**	**2.54**	**98**	ePN	**Pn**	**22 18 00.5**	**+0.8**
NEO	**Neokhori**	**2.54**	**63**	ePN	**Pn**	**22 18 01.1**	**+1.4**
XOR	**Xorichti**	**2.54**	**61**	ePn	**Pn**	**22 18 01.3**	**+1.5**
LIT	**Litokhoron**	**2.56**	**41**	ePn	**Pn**	**22 18 01.8**	**+1.7**
ATH	**Athens Observa**	**2.69**	**93**	ePN	**Pn**	**22 18 02.3**	**+0.4**
ATH				eSN	**Sn**	**22 18 36.0**	**+2.1**
MPAR	**Parnis Oros**	**2.69**	**89**	ePN	**Pn**	**22 18 02.1**	**+0.2**
FNA	**Florina**	**2.74**	**17**	ePn	**Pn**	**22 18 04.2**	**+1.6**
FNA				eSn	**Sn**	**22 18 37.5**	**+2.4**
LCI	**Lecce**	**2.76**	**322**	⇑Pn	**Pn**	**22 18 03.5**	**+0.6**
KYTH	**Kithira**	**2.87**	**130**	ePB	**Pb**	**22 18 05.0**	**-4.8**
KYTH	**Kithira**	**2.87**	**130**	ePb	**Pb**	**22 18 05.5**	**-4.3**
AOS	**Alonnisos**	**2.96**	**69**	ePn	**Pn**	**22 18 06.7**	**+0.9**
TIP	**Timpagrande**	**2.96**	**291**	Pn	**Pn**	**22 18 06.8**	**+1.0**
	1µm,0.9s						
GRI	**Girifalco**	**3.13**	**283**	Pn	**Pn**	**22 18 08.7**	**+0.6**
	2µm,1.2s						
PAIG	**Paliouri**	**3.15**	**55**	ePn	**Pn**	**22 18 09.1**	**+0.6**
TIR	**Tirane**	**3.19**	**354**	Pn	**Pn**	**22 18 10.6**	**+1.6**
	17µm,1.7s						
TIR	**Tirane**	**3.19**	**354**	⇑iPn	**Pn**	**22 18 11.0**	**+2.0**
TIR				iSn	Sn	22 19 09.5	+23
THE	**Thessaloniki**	**3.20**	**39**	ePn	**Pn**	**22 18 09.5**	**+0.4**
GRG	**Griva**	**3.21**	**29**	ePn	**Pn**	**22 18 10.4**	**+1.1**
PLG	**Polygyros**	**3.28**	**47**	ePN	**Pn**	**22 18 10.8**	**+0.6**
PLG				eSN	**Sn**	**22 18 51.6**	**+2.8**
SOI	**Samo**	**3.36**	**270**	Pn	**Pn**	**22 18 11.4**	**-0.1**
	425nm,0.6s						
TDS	**Terranova Siba**	**3.44**	**297**	Pn	**Pn**	**22 18 13.2**	**+0.6**
	172nm,0.4s						
PE1	**Pezze di Greco**	**3.46**	**320**	ePn	**Pn**	**22 18 13.0**	**+0.2**
CEL	**Celeste**	**3.49**	**273**	Pn	**Pn**	**22 18 13.3**	**+0.1**
	1µm,0.8s						
SOH	**Sokhos**	**3.54**	**41**	ePn	**Pn**	**22 18 14.8**	**+0.9**
SOH				eSn	**Sn**	**22 18 57.1**	**+1.7**
ORI	**Oriolo Calabro**	**3.55**	**303**	Pn	**Pn**	**22 18 15.8**	**+1.6**
	1µm,0.6s						
OUR	**Ouranopolis**	**3.57**	**52**	ePn	**Pn**	**22 18 15.1**	**+0.7**
KNT	**Kendrikon**	**3.59**	**33**	ePn	**Pn**	**22 18 15.5**	**+0.8**
BRT	**Bari-Castellan**	**3.62**	**319**	Pn	**Pn**	**22 18 15.7**	**+0.6**
SCLL	**Scilla**	**3.63**	**273**	P	**Pn**	**22 18 23.0**	**+7.8**
NOCI	**Noci**	**3.63**	**317**	Pn	**Pn**	**22 18 15.6**	**+0.4**
	5µm,0.7s						
LTRZ	**Laterza**	**3.64**	**313**	Pn	**Pn**	**22 18 15.8**	**+0.4**
	2µm,1.0s						
MTTG	**Motta San Giov**	**3.65**	**269**	Pn	**Pn**	**22 18 15.1**	**-0.5**
	622nm,0.7s						
MSI	**Messina ING**	**3.75**	**272**	Pn	**Pn**	**22 18 16.7**	**-0.3**
	1µm,0.6s						
MSRU	**Castanea**	**3.79**	**273**	Pn	**Pn**	**22 18 17.1**	**-0.4**
	1µm,0.8s						
ULC	**Ulcinj**	**3.88**	**348**	⇓iPn	**Pn**	**22 18 18.5**	**-0.3**
ULC				eSn	**Sn**	**22 19 05.3**	**+1.4**
SG1	**Sgolgore (BA)**	**3.88**	**315**	ePn	**Pn**	**22 18 19.7**	**+1.0**
SKO	**Skopje**	**3.89**	**12**	iPn	**Pn**	**22 18 20.0**	**+1.0**
SKO				iPb	**Pb**	**22 18 28.0**	**+0.9**
SKO				iPg	**Pn**	**22 18 33.0**	**+14**
	comp=Z,1.0nm,1.0s						
SKO				iSn	**Sn**	**22 19 05.1**	**+0.7**
SKO				iSb	**Sb**	**22 19 16.0**	**+1.8**
SKO				Lg		22 19 17.0	
	comp=Z,1.0nm,0.9s						
SKO	**Skopje**	**3.89**	**12**	iPn	**Pn**	**22 18 20.0**	**+1.0**
SKO				iSn	**Sn**	**22 19 05.1**	**+0.7**
SKO				iSb	**Sb**	**22 19 16.0**	**+1.8**
SKO				Lg		22 19 17.0	
KKS	**Kukesi**	**3.90**	**1**	ePn	**Pn**	**22 18 20.3**	**+1.2**
SDA	**Shkodra**	**3.93**	**351**	ePn	**Pn**	**22 18 19.9**	**+0.4**
CUC	**Castrocucco**	**3.95**	**299**	Pn	**Pn**	**22 18 21.6**	**+1.8**
	comp=Z,2µm,0.8s						
BAI	**Bari**	**3.96**	**319**	ePn	**Pn**	**22 18 20.1**	**+0.2**
AMUR	**Altamura**	**3.96**	**315**	Pn	**Pn**	**22 18 20.2**	**+0.2**
	comp=Z,2µm,1.0s						
LOS	**Limnos**	**4.11**	**63**	ePn	**Pn**	**22 18 22.4**	**+0.4**
AGST	**Augusta-Monte**	**4.14**	**259**	Pn	**Pn**	**22 18 19.7**	**-2.8**
	comp=Z,847nm,1.1s						
VAM	**Vamos**	**4.16**	**130**	ePN	**Pn**	**22 18 22.3**	**-0.5**
LIA	**Limnos Island**	**4.16**	**64**	ePN	**Pn**	**22 18 23.4**	**+0.6**
NVR	**Nevrokopi**	**4.19**	**40**	ePN	**Pn**	**22 18 24.1**	**+0.9**
MGR	**Morigerati**	**4.19**	**299**	Pn	**Pn**	**22 18 23.9**	**+0.7**
	comp=Z,308nm,0.6s						
BCI	**Bajram Curri**	**4.20**	**357**	ePn	**Pn**	**22 18 24.7**	**+1.4**
VPL	**Vulcano Piano**	**4.20**	**274**	Pn	**Pn**	**22 18 23.1**	**-0.3**
	comp=Z,2µm,0.9s						
SLCN	**Sala Consilina**	**4.26**	**303**	Pn	**Pn**	**22 18 26.0**	**+1.8**
	comp=Z,300nm,0.4s						
KKB	**Krupnik**	**4.26**	**29**	iP	**Pn**	**22 18 24.5**	**+0.3**
BUM	**Brajici-Budva**	**4.27**	**346**	⇓iPn	**Pn**	**22 18 23.6**	**-0.6**
BUM				eSn	**Sn**	**22 19 14.0**	**+0.2**
CDT	**Castel del Mon**	**4.27**	**314**	ePn	**Pn**	**22 18 24.5**	**+0.2**
SSY	**Sortino**	**4.29**	**258**	Pn	**Pn**	**22 18 22.7**	**-1.8**
	comp=Z,869nm,0.6s						
MMB	**Musomiste**	**4.31**	**36**	iP	**Pn**	**22 18 25.0**	**+0.2**
SLNA	**Salina**	**4.33**	**277**	Pn	**Pn**	**22 18 24.3**	**-0.9**
	comp=Z,618nm,0.5s						
TTG	**Podgorica**	**4.33**	**350**	⇓iPn	**Pn**	**22 18 24.9**	**-0.3**
TTG				eSn	**Sn**	**22 19 16.3**	**+0.8**
PVY	**Plav**	**4.43**	**357**	⇓iPn	**Pn**	**22 18 27.0**	**+0.4**
PVY				eSn	**Sn**	**22 19 19.2**	**+1.3**
PVY	**Plav**	**4.43**	**357**	⇓iPn	**Pn**	**22 18 27.0**	**+0.4**
PVY				eSn	**Sn**	**22 19 19.2**	**+1.3**
HCY	**Herceg Novi**	**4.49**	**343**	⇓iPn	**Pn**	**22 18 26.5**	**-1.0**
HCY				eSn	**Sn**	**22 19 19.9**	**+0.3**
MRLC	**Muro Lucano**	**4.54**	**306**	Pn	**Pn**	**22 18 29.6**	**+1.4**
HVZN	**Vizzini**	**4.55**	**259**	Pn	**Pn**	**22 18 25.8**	**-2.6**
	comp=Z,3µm,0.7s						
SGO	**Sicignano**	**4.56**	**303**	Pn	**Pn**	**22 18 29.6**	**+1.2**
	comp=Z,211nm,0.6s						
IDI	**Anoyia**	**4.66**	**127**	Pn	**Pn**	**22 18 29.2**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=307,slow=12,SNR=18						
IDI				Sn	**Sn**	**22 19 20.9**	**-3.0**
	comp=Z,20nm,0.3s,baz=139,slow=19,SNR=14						
IDI				LR	LR	22 20 32.8	
	comp=Z,2µm,19.1s,baz=316,slow=41						
IVA	**Berane**	**4.71**	**356**	⇓iPn	**Pn**	**22 18 31.1**	**+0.6**
IVA				eSn	**Sn**	**22 19 25.6**	**+0.7**
IVA	**Berane**	**4.71**	**356**	⇓iPn	**Pn**	**22 18 31.1**	**+0.6**
IVA				eSn	**Sn**	**22 19 25.6**	**+0.6**
VAE	**Valguarnera**	**4.73**	**263**	Pn	**Pn**	**22 18 30.6**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=293,slow=10.0,SNR=9.6						
VAE				Sn	**Sn**	**22 19 23.4**	**-2.0**
	comp=Z,11nm,0.3s,baz=304,slow=6.3,SNR=7.5						
VAE	**Valguarnera**	**4.73**	**263**	Pn	**Pn**	**22 18 30.6**	**-0.2**
VAE				Sn	**Sn**	**22 19 23.5**	**-2.0**
FG4	**Candela**	**4.74**	**310**	Pn	**Pn**	**22 18 31.8**	**+0.8**
	comp=Z,1µm,0.7s						
NKY	**Niksic**	**4.75**	**348**	⇓iPn	**Pn**	**22 18 30.8**	**-0.3**
NKY				eSn	**Sn**	**22 19 26.4**	**+0.5**
MCRV	**Calabrutti - M**	**4.76**	**305**	Pn	**Pn**	**22 18 33.1**	**+1.8**
	comp=Z,811nm,0.9s						
PRK	**Paraskevi**	**4.78**	**75**	ePN	**Pn**	**22 18 33.0**	**+1.5**
TREB	**Trebinje**	**4.78**	**342**	Pg	**Pn**	**22 18 30.5**	**-1.1**
BARS	**Barje**	**4.79**	**13**	⇑iPn	**Pn**	**22 18 30.9**	**-0.8**
SNAL	**S. Angelo Dei**	**4.81**	**306**	Pn	**Pn**	**22 18 33.4**	**+1.4**
	comp=Z,2µm,1.4s						
CAFE	**Carife**	**4.85**	**308**	Pn	**Pn**	**22 18 33.6**	**+1.0**
	comp=Z,479nm,0.8s						
FGMS	**Monte Sant'Ang**	**4.87**	**318**	Pn	**Pn**	**22 18 33.0**	**+0.1**
	comp=Z,678nm,1.1s						
RZN	**Rozhen**	**4.88**	**43**	iP	**Pn**	**22 18 33.0**	**+0.1**
CSSN	**Cassano Irpino**	**4.90**	**305**	Pn	**Pn**	**22 18 34.7**	**+1.5**
	comp=Z,247nm,0.5s						
BRY	**Bratogost**	**4.92**	**345**	⇓iPn	**Pn**	**22 18 32.7**	**-0.8**
BRY				eSn	**Sn**	**22 19 30.3**	**+0.1**
VTS	**Vitosha**	**4.94**	**26**	iP	**Pn**	**22 18 34.0**	**+0.2**
VTS	**Vitosha**	**4.94**	**26**	P	**Pn**	**22 18 33.8**	**0.0**
URLA	**Izmir**	**4.94**	**86**	iP	**Pn**	**22 18 37.5**	**+3.6**
GIB	**Gibilmanna**	**4.97**	**270**	Pn	**Pn**	**22 18 33.9**	**-0.3**
	comp=Z,493nm,0.9s						
RDO	**Rodhopi**	**5.00**	**52**	ePn	**Pn**	**22 18 35.1**	**+0.4**
AYVA	**Ayvalik**	**5.11**	**75**	iP	**Pn**	**22 18 40.6**	**+4.4**
UPM	**Unac-Piva**	**5.14**	**348**	⇓iPn	**Pn**	**22 18 36.5**	**-0.1**
UPM				eSn	**Sn**	**22 19 35.9**	**+0.1**
NPS	**Neapolis**	**5.15**	**123**	ePN	**Pn**	**22 18 36.4**	**-0.3**
SMG	**Samos**	**5.17**	**93**	ePN	**Pn**	**22 18 37.1**	**0.0**
ALN	**Alexandroupoli**	**5.20**	**57**	ePn	**Pn**	**22 18 37.7**	**+0.2**
PLE	**Pljevlja**	**5.20**	**353**	⇓iPn	**Pn**	**22 18 37.9**	**+0.3**
PLE				eSn	**Sn**	**22 19 37.3**	**-0.1**
PLE	**Pljevlja**	**5.20**	**353**	⇓iPn	**Pn**	**22 18 37.8**	**+0.3**
PLE				eSn	**Sn**	**22 19 37.3**	**-0.1**
IPES	**Pescosannita**	**5.22**	**308**	Pn	**Pn**	**22 18 39.2**	**+1.4**
ISOR	**Termini**	**5.22**	**299**	Pn	**Pn**	**22 18 38.0**	**+0.2**
PSB1	**Pescosannita**	**5.23**	**307**	P	**Pn**	**22 18 39.5**	**+1.6**
KDZ	**Kurdzhali**	**5.24**	**47**	iP	**Pn**	**22 18 37.0**	**-1.0**
PGB	**Panagyurishte**	**5.27**	**33**	iP	**Pn**	**22 18 38.0**	**-0.5**
OVO	**Vesuviano**	**5.29**	**302**	Pn	**Pn**	**22 18 40.5**	**+1.7**
NVSS	**Nova Varos 2**	**5.35**	**355**	⇑iPn	**Pn**	**22 18 40.0**	**+0.4**
NVSS				Sn	**Sn**	**22 19 36.1**	**-5.1**
NVSS	**Nova Varos 2**	**5.35**	**355**	Pn	**Pn**	**22 18 40.0**	**+0.4**
NVSS				Sn	**Sn**	**22 19 36.1**	**-5.1**
FG2	**Serracapriola**	**5.37**	**314**	Pn	**Pn**	**22 18 40.1**	**+0.2**
	comp=Z,3µm,1.2s						
SACR	**S. Croce Del S**	**5.39**	**308**	Pn	**Pn**	**22 18 42.2**	**+2.0**
	comp=Z,338nm,0.8s						
CIGN	**Sant'Elia a Pi**	**5.42**	**312**	Pn	**Pn**	**22 18 41.4**	**+0.8**
	comp=Z,211nm,1.4s						
XRY	**Khrisi**	**5.44**	**126**	ePN	**Pn**	**22 18 39.5**	**-1.3**
KDAG	**Bornova**	**5.47**	**85**	iP	**Pn**	**22 18 41.9**	**+0.6**
BSSO	**Busso**	**5.55**	**309**	Pn	**Pn**	**22 18 43.7**	**+1.3**
	comp=Z,1µm,1.4s						
SGG	**Gregorio Mates**	**5.59**	**307**	Pn	**Pn**	**22 18 44.1**	**+1.1**
USI	**Ustica**	**5.63**	**278**	Pn	**Pn**	**22 18 41.8**	**-1.7**
	comp=Z,74nm,0.4s						
CLTB	**Caltabellotta**	**5.65**	**266**	P	**Pn**	**22 18 45.5**	**+1.7**
VAGA	**Valle Agricola**	**5.70**	**307**	Pn	**Pn**	**22 18 45.1**	**+0.6**
TRIV	**Trivento**	**5.70**	**311**	Pn	**Pn**	**22 18 44.4**	**-0.2**
GRUS	**Gruza**	**5.72**	**3**	ePn	**Pn**	**22 18 43.5**	**-1.3**
GRUS				Sn	**Sn**	**22 19 48.8**	**-1.6**
BBLS	**Bajina Basta -**	**5.73**	**353**	ePn	**Pn**	**22 18 44.2**	**-0.8**
BBLS				Sn	**Sn**	**22 19 50.4**	**-0.3**
MSC	**Monte Massico**	**5.75**	**304**	Pn	**Pn**	**22 18 45.8**	**+0.6**
FRES	**Fresagrandinar**	**5.76**	**313**	Pn	**Pn**	**22 18 46.1**	**+0.7**
	comp=Z,1µm,0.7s						
BDRM	**Kayabasi**	**5.76**	**99**	iP	**Pn**	**22 18 54.6**	**+9.2**
RFI	**Roccamonfina**	**5.80**	**305**	Pn	**Pn**	**22 18 46.9**	**+1.0**
	comp=Z,37nm,0.8s						
MIDA	**Miranda**	**5.81**	**309**	Pn	**Pn**	**22 18 47.6**	**+1.5**
	comp=Z,437nm,0.9s						
CII	**Carovilli**	**5.83**	**309**	Pn	**Pn**	**22 18 47.2**	**+0.9**
	comp=Z,633nm,0.8s						
MFNL	**Monte Finestre**	**5.86**	**269**	P	**Pn**	**22 18 50.0**	**+3.3**
RNI2	**Rionero Sannit**	**5.91**	**309**	Pn	**Pn**	**22 18 49.2**	**+1.8**
	comp=Z,593nm,1.0s						
DIVS	**Divcibare**	**5.93**	**358**	⇓iPn	**Pn**	**22 18 45.9**	**-1.9**
DIVS				Sn	**Sn**	**22 19 50.5**	**-5.1**
DIVS	**Divcibare**	**5.93**	**358**	Pn	**Pn**	**22 18 45.8**	**-1.9**
DIVS				Sn	**Sn**	**22 19 50.5**	**-5.1**
AYDN	**Tasoluk**	**6.00**	**93**	iP	**Pn**	**22 18 51.2**	**+2.4**
KARP	**Karpathos**	**6.08**	**113**	ePN	**Pn**	**22 18 50.3**	**+0.4**
SVIS	**Svilajnac**	**6.16**	**6**	⇑iPn	**Pn**	**22 18 49.4**	**-1.6**
SVIS				Sn	**Sn**	**22 19 54.7**	**-6.6**
BTOK	**Tokmak**	**6.22**	**73**	iP	**Pn**	**22 18 53.2**	**+1.3**

INTR **Introdacqua** 6.24 310 Pn Pn 22 18 53.3 +1.2
comp=Z,816nm,1.0s
VVLD **Villa Vallelon** 6.33 308 Pn Pn 22 18 53.9 +0.5
comp=Z,538nm,0.9s
VCEL **Villa Celiera** 6.50 312 Pn Pn 22 18 56.8 +0.9
comp=Z,869nm,1.2s
ARG **Arkhangelos** 6.53 105 *e*PN Pn 22 18 57.1 +0.9
PTQR **Pietraquaria** 6.55 308 Pn Pn 22 18 56.1 -0.4
comp=Z,123nm,1.0s
FAGN **Fagnano** 6.58 311 Pn Pn 22 18 58.7 +1.8
comp=Z,570nm,0.6s
AQU **L'Aquila** 6.74 310 *e*Pn Pn 22 18 54.0 -5.2
CERT **Cerreto** 6.78 306 Pn Pn 22 18 59.4 -0.3
comp=Z,233nm,1.1s
TERO **Teramo** 6.78 313 Pn Pn 22 19 00.1 +0.3
comp=Z,300nm,0.8s
CAMP **Campotosto** 6.84 312 Pn Pn 22 19 01.5 +0.8
comp=Z,364nm,1.1s
FIAM **Fiamignano** 6.86 309 Pn Pn 22 19 01.9 +1.0
comp=Z,285nm,1.0s
DNZL **Cakiroluk** 6.92 91 *i* P Pn 22 19 03.5 +1.9
MTCE **Montecelio** 6.97 306 P Pn 22 19 05.5 +3.1
LNSS **Leonessa** 7.10 311 Pn Pn 22 19 05.8 +1.5
comp=Z,113nm,0.5s
ULDT **Uludag** 7.13 71 *i* P Pn 22 19 03.2 -1.5
MNS **Montasola** 7.20 308 Pn Pn 22 19 05.7 +0.1
comp=Z,51nm,0.9s
NRCA **Norcia** 7.20 313 Pn Pn 22 19 06.3 +0.7
comp=Z,745nm,1.4s
GOLH **Golhisar** 7.39 94 *i* P Pn 22 19 09.6 +1.3
AOI **Ancona** 7.40 319 Pn Pn 22 19 07.6 -0.8
comp=Z,531nm,1.2s
CING **Cingoli** 7.50 316 P Pn 22 19 07.8 -2.0
SNTG **Esanatoglia** 7.56 315 Pn Pn 22 19 10.0 -0.7
comp=Z,202nm,0.8s
NVLJ **Novalja** 7.59 329 *i* Pn Pn 22 19 10.2 -0.8
NVLJ *i* Sn Sn 22 20 30.2 -6.9
NVLJ **Novalja** 7.59 329 *i* Pn Pn 22 19 10.2 -0.8
NVLJ *i* Sn Sn 22 20 30.2 -6.9
AKAS **Kas** 7.66 102 *i* P Pn 22 19 05.2 -6.8
ARV **Arcevia** 7.72 316 Pn Pn 22 19 12.1 -0.8
comp=Z,226nm,1.0s
SLUM 7.78 147 ⇑P Pn 22 19 07.2 -6.6
MURB **Monte Urbino** 7.80 313 P Pn 22 19 16.3 +2.2
TKTP **Tekketepe** 7.89 88 *i* P Pn 22 19 14.7 -0.6
FSSB **Fossombrone** 7.94 316 Pn Pn 22 19 14.6 -1.3
comp=Z,136nm,0.5s
ISP **Isparta** 8.05 89 *e*P P 22 19 18.2 +0.7
VOIR 8.07 24 ⇑P P 22 19 17.5 -0.3
BADI **Badiali** 8.12 314 P P 22 19 20.2 +1.8
PKSM **Moragy** 8.13 352 P P 22 19 16.2 -2.4
RSM **Repubblica di** 8.27 317 Pn P 22 19 19.8 -0.8
comp=Z,423nm,1.1s
ESKT **Eskisehir** 8.33 77 *i* P P 22 19 20.3 -1.1
CRE **Caprese Michel** 8.35 313 Pn P 22 19 20.1 -1.6
comp=Z,143nm,0.8s
MLR **Muntele Rosu** 8.43 28 Pn P 22 19 23.1 +0.3
comp=Z,1.9nm,0.3s,baz=228,slow=6.4,SNR=20
MLR **Muntele Rosu** 8.43 28 ⇓P P 22 19 23.5 +0.7
CRES **Cresnjev** 8.46 336 *i* Pn P 22 19 21.1 -2.1
CRES *e*Sn Sn 22 20 52.6 -6.3
GOLS **Golise** 8.57 338 P P 22 19 22.9 -1.9
SFI **Santa Sofia** 8.59 315 Pn P 22 19 26.1 +1.1
comp=Z,233nm,1.1s
PGD **Poggio Sodo** 8.64 314 P P 22 19 27.0 +1.3
VISS **Visnje** 8.65 334 *e*Pn P 22 19 24.5 -1.3
CSNT **Castellina Chi** 8.65 311 P P 22 19 27.9 +2.0
GRFL **Gerfalco** 8.66 308 P P 22 19 27.6 +1.6
CEY **Cerknica** 8.74 332 *i* Pn P 22 19 25.8 -1.3
CEY *i* Sn Sn 22 21 01.4 -4.4
TIRR **Tirgusor** 8.75 42 *e*Pn P 22 19 26.4 -0.8
TIRR *e*Sn Sn 22 21 01.0 -4.9
TIRR **Tirgusor** 8.75 42 *e*P P 22 19 26.4 -0.8
DOBS **Dobrina** 8.75 337 *i* Pn P 22 19 25.1 -2.1
DOBS *i* Sn Sn 22 20 59.2 -6.7
VMG **Vicchio** 8.79 314 P P 22 19 29.6 +1.8
DRGR 8.79 11 ⇑P P 22 19 26.6 -1.2
PDKS **Podkum** 8.82 335 P P 22 19 26.9 -1.3
SEI **Scarperia** 8.96 314 P P 22 19 33.9 +3.8
LJU **Ljubljana** 8.96 333 *i* Pn P 22 19 28.6 -1.6
LJU *e*Sn Sn 22 21 05.3 -6.1
LJU *i* 22 21 08.9
LJU 22 22 51.1
LJU **Ljubljana** 8.96 333 *i* Pn P 22 19 28.5 -1.7
LJU **Ljubljana** 8.96 333 *i* P P 22 19 28.6 -1.6
LJU *i* 22 21 08.9
TRI **Trieste** 8.97 329 P P 22 19 31.0 +0.7
HMAT **Matruh** 9.00 140 ⇓*e*P P 22 19 23.1 -7.6
HMAT S Sn 22 20 43.4 -29
JAVS **Javornik** 9.01 331 *i* Pn P 22 19 29.1 -1.7
JAVS *i* Sn Sn 22 21 07.4 -5.0
GROS **Grobnik** 9.02 338 P P 22 19 28.6 -2.3
VRI **Vrincioaia** 9.05 30 ⇑P P 22 19 32.2 +0.9
CFR **Carcaliu** 9.12 37 ⇓P P 22 19 34.8 +2.5
FNVD **Fontana Vidola** 9.16 314 P P 22 19 35.6 +2.7
PII **Pisa** 9.25 310 P P 22 19 41.2 +7.0
FIU **Minerbio Fiu** 9.26 317 P P 22 19 43.5 +9.3
PERS **Pernice** 9.29 337 *e*Pn P 22 19 31.9 -2.8
ZCCA **Zocca** 9.36 314 P P 22 19 38.6 +3.0
BUD **Budapest** 9.36 355 P P 22 19 35.1 -0.5
OBKA **Obir** 9.36 335 ⇑*i*PN P 22 19 34.1 -1.6
OBKA *i* SN Sn 22 21 13.8 -7.3
OBKA **Obir** 9.36 335 ⇑*i*Pn P 22 19 34.1 -1.6
SNR=11
SGKT **Sivrigoynuk** 9.40 72 *i* P P 22 19 37.9 +1.7
BDI **Bagni Di Lucca** 9.40 312 P P 22 19 44.3 +8.1
DRE **Drenchia** 9.40 330 ⇓*i*P P 22 19 34.0 -2.3
CADS **Cadrg** 9.41 331 *i* Pn P 22 19 34.7 -1.7
CADS *i* Sn Sn 22 21 13.6 -8.8
TLI **Talmassons** 9.42 328 ⇑*e*P P 22 19 35.0 -1.5
COLI **Coloredo** 9.48 329 ⇑*i*P P 22 19 35.0 -2.2
ROBS **Robic** 9.52 330 P P 22 19 38.5 +0.8
GSCL **Gusciola** 9.58 313 P P 22 19 40.8 +2.2
BAD **Bernadia** 9.62 329 ⇑*i*P P 22 19 38.0 -1.1
BUA **Buia** 9.65 329 ⇓*e*P P 22 19 38.0 -1.6
PGF **Pioggiola** 9.68 300 *e*P P 22 19 39.1 -0.9
comp=Z,88nm,0.9s
DABA **Dabaa** 9.70 135 ⇑P P 22 19 33.2 -7.1
LSR **Lussari** 9.70 331 ⇑*i*P P 22 19 39.0 -1.3
SRO1 **Iza** 9.71 352 *e*SN Sn 22 21 25.5 -4.1
ERBM **Eremo** 9.72 313 P P 22 19 44.8 +4.3
MPRI **Monte Prat** 9.72 328 ⇑*e*P P 22 19 39.0 -1.6
ARSA **Arzberg** 9.73 340 ⇑*i*PN P 22 19 38.0 -2.7
ARSA *i* SN Sn 22 21 21.6 -8.7
ARSA **Arzberg** 9.73 340 ⇑*i*Pn P 22 19 38.0 -2.8
SNR=23
PSZ **Piszkesteto** 9.75 358 ⇑*i* P 22 19 38.8 -2.1
PSZ *e*Sn Sn 22 21 22.1 -8.5
PSZ **Piszkesteto** 9.75 358 P P 22 19 39.3 -1.6
CAE **Caneva** 9.77 326 ⇑*e*P P 22 19 40.0 -1.3
SWA2 9.88 153 ⇓P P 22 19 37.0 -5.8
SWA2 S Sn 22 21 06.4 -27
SOP **Sopron** 9.90 345 ⇑*e* P 22 19 42.1 -0.9
SOP **Sopron** 9.90 345 P P 22 19 40.8 -2.2
PLRO **Paularo** 9.91 330 ⇓*i*P P 22 19 42.0 -1.1
SWA1 9.95 152 ⇑P P 22 19 37.8 -6.0
SWA1 S Sn 22 21 07.8 -28
ZOU **Zoufplan** 9.98 329 ⇓*e*P P 22 19 43.0 -1.2
CSMI **Casera Mimoias** 10.08 328 ⇓*i*P P 22 19 44.0 -1.5
FVI **Forni Avoltri** 10.09 329 P P 22 19 45.0 -0.7
ERMK **Ermenek** 10.14 95 *i* P P 22 19 50.9 +4.6
CTI **Castel Tesino** 10.16 324 P P 22 19 47.9 +1.2
KBA **Koelnbreinsper** 10.27 332 ⇑*i*PN P 22 19 46.2 -2.0
KBA *i* SN S 22 21 36.0 -7.5
KBA **Koelnbreinsper** 10.27 332 ⇑*i*Sn S 22 21 36.0 -7.5
ZST **Bratislava** 10.29 348 *e*SN S 22 21 34.3 -10
KECS **Kecovo** 10.31 1 *e*PN P 22 19 47.0 -1.6
KECS *e*SN S 22 21 36.2 -8.1
VYHS **Vyhne** 10.38 355 *e*PN P 22 19 48.0 -1.5
SAL **Salo** 10.41 319 P P 22 19 48.6 -1.4
ELDT **Eldivan** 10.42 73 *i* P P 22 19 48.6 -1.5
SEST **Monte Rota** 10.45 328 P P 22 19 50.0 -0.6
BOB **Bobbio (Coli)** 10.48 312 P P 22 19 52.7 +1.7
BR131 **Keskin Array S** 10.49 77 *e*Pn P 22 19 53.6 +2.4
comp=Z,3.2nm,0.5s
BRTR **Keskin Array B** 10.49 77 Pn P 22 19 52.6 +1.5
comp=Z,0.9nm,0.3s,baz=263,slow=12,SNR=13
KOLL **Kolacno** 10.50 353 *e*PN P 22 19 49.2 -2.0
KOLL *e*SN S 22 21 40.7 -8.2
UZH **Uzhgorod** 10.55 7 *e*P P 22 19 52.0 0.0
MOA **Molln** 10.64 337 ⇑*i*PN P 22 19 51.0 -2.1
MOA *i* SN S 22 21 44.4 -7.9
MOA **Molln** 10.64 337 ⇑*i*Pn P 22 19 51.0 -2.1
SNR=35
APPI **Appiano** 10.68 324 P P 22 19 52.8 -0.9
MABI **Malga Bissina** 10.72 320 P P 22 19 53.9 -0.4
CRVS **Cervenica-Dubn** 10.76 4 *e*PN P 22 19 53.7 -1.1
KIS **Kishinev** 10.81 33 *e*P P 22 19 54.0 -1.5
KIS **Kishinev** 10.81 33 P P 22 19 54.0 -1.5
KIS MLR MLR
comp=N,2µm,12.0s
KIS MLR MLR
comp=E,2µm,12.0s
KIS MLR MLR
comp=Z,3µm,12.0s
KIS MLR MLR
comp=Z,3µm,12.0s
KOLS **Kolonicke sedl** 10.85 7 *e*PN P 22 19 55.6 -0.4
JAVC **Velka Javorina** 10.86 351 P P 22 19 55.4 -0.7
CSS **Prodhromos** 10.94 103 *e*Pn P 22 19 59.1 +1.7
comp=Z,13nm,0.7s
BRMO **Bormio** 11.09 322 P P 22 20 00.2 +0.9
WTTA **Wattenberg** 11.10 328 ⇑*i*PN P 22 19 57.9 -1.5
WTTA *i* SN S 22 21 56.7 -7.0
WATA **Walderalm** 11.18 328 ⇑*i*PN P 22 19 58.9 -1.7
WATA *i* SN S 22 21 58.9 -6.8
NIE **Niedzica** 11.24 360 *e*P P 22 20 00.8 -0.6
SQTA **Sankt Quirin** 11.25 326 ⇑*i*Sn S 22 22 00.1 -7.2
SQTA **Sankt Quirin** 11.25 326 ⇑*i*Pn P 22 19 59.9 -1.6
SQTA *i* Sn S 22 22 00.1 -7.2
SQTA **Sankt Quirin** 11.25 326 *i* P P 22 19 59.9 -1.6
SQTA *i* S S 22 22 00.1 -7.2
KRUC **Moravsky** 11.25 347 P P 22 20 00.4 -1.1
REVF **Revere** 11.26 304 *e*P P 22 20 07.3 +5.7
STHS **Stebnicka Huta** 11.26 3 *e*Pn P 22 20 02.0 +0.3
STHS *e*Sn S 22 22 05.0 -2.7
SBF **Sospel** 11.27 304 *e*P P 22 20 02.1 +0.4
comp=Z,93nm,1.0s
AUTN **L'Aution** 11.33 305 *e*P P 22 20 06.9 +4.3
MOTA **Moosalm** 11.39 327 ⇓*i*Sn S 22 22 03.9 -6.8
MOTA **Moosalm** 11.39 327 ⇓*i*Pn P 22 20 02.1 -1.3
MOTA *i* Sn S 22 22 03.9 -6.9
MOTA **Moosalm** 11.39 327 *i* P P 22 20 02.1 -1.3
MOTA *i* S S 22 22 03.9 -6.9
VRAC **Vranov** 11.45 348 Pn P 22 20 02.6 -1.7
comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=10
VRAC Sn S 22 22 05.1 -7.2
comp=Z,0.7nm,0.3s,baz=109,slow=14,SNR=3.2
VRAC **Vranov** 11.45 348 *e*P P 22 20 02.1 -2.1
VRAC *e*S S 22 22 04.6 -7.7
TOUF **Mont Tournerai** 11.46 305 *e*P P 22 20 08.6 +4.3
CTKT **Corum** 11.46 73 *i* P P 22 20 09.8 +5.4
MVIF **Mont Vial** 11.47 304 *e*P P 22 20 05.3 +0.9
VAI **Varese** 11.52 316 P P 22 20 04.4 -0.8
DAVOX **Davos** 11.54 322 Pn P 22 20 05.1 -0.4
comp=Z,0.6nm,0.3s,baz=142,slow=19,SNR=7.8
DAVOX Sn S 22 22 08.7 -5.7
comp=Z,5.4nm,0.3s,baz=158,slow=22,SNR=3.4
CALN **Calern** 11.58 303 *e*P P 22 20 10.2 +4.2
KWP **Kalwaria** 11.59 8 *e*P P 22 20 06.9 +0.8
TUE **Stuetta** 11.60 319 P P 22 20 06.7 +0.5
TREC **Trest** 11.65 344 *e*P P 22 20 05.7 -1.2
TREC AMS AMS 22 25 30.0
comp=Z,3µm,11.2s
FRF **La Foret Royal** 11.66 302 *e*P P 22 20 08.9 +1.8
LMR **La Mourre** 11.67 301 *e*P P 22 20 07.0 -0.2
DOI **San Damiano** 11.68 307 P P 22 20 09.1 +1.8
GEC2 **GERESS Array S** 11.70 338 *e*P P 22 20 05.2 -2.3
comp=Z,26nm,0.9s
GEC2 **GERESS Array S** 11.70 338 *e*P P 22 20 05.2 -2.3
GEC2 pmax pmax
comp=Z,26nm,0.9s
GERES **GERESS Array B** 11.70 338 Pn P 22 20 05.3 -2.3
comp=Z,2.0nm,0.3s,baz=159,slow=14,SNR=40
GERES Sn S 22 22 11.4 -6.8
comp=Z,5.0nm,0.3s,baz=148,slow=22,SNR=12
OKC **Ostrava-Krasne** 11.77 353 *e*P P 22 20 05.8 -2.7
OKC *e*S S 22 22 11.5 -8.4
OKC AMS AMS 22 25 30.0
comp=Z,2µm,12.5s
MORC **Moravsky Berou** 11.77 351 P P 22 20 06.8 -1.8
ORO **Oropa** 11.82 313 P P 22 20 09.8 +0.5
DAVA **Damuels** 11.90 323 ⇑*i*Pn P 22 20 09.1 -1.2
DAVA *i* Sn S 22 22 16.3 -6.9
LVV **L'vov** 11.95 12 *e*P P 22 20 08.6 -2.3
FUR **Furstenfeldbru** 11.96 329 *e*P P 22 20 08.9 -2.2
comp=Z,81nm,1.1s
FUR **Furstenfeldbru** 11.96 329 *e*P P 22 20 08.9 -2.2
FUR pmax pmax
comp=Z,81nm,1.1s
KHC **Kasperske Hory** 11.99 338 *e*P P 22 20 09.1 -2.4
KHC x x 22 20 16.5
KHC *ex* x 22 20 23.5
KHC *ex* x 22 20 29.0
KHC *e*S S 22 22 15.7 -10
KHC AMS AMS 22 25 50.0
comp=Z,3µm,12.3s
KHC **Kasperske Hory** 11.99 338 *e*P P 22 20 09.1 -2.4
KHC *e* 22 20 23.5
KHC *e* 22 20 29.0
KHC *e*S S 22 22 15.7 -10
MCGN **Macugnaga** 12.01 314 P P 22 20 13.8 +2.0
LLS **Linth-Limmern** 12.02 320 ⇓P P 22 20 12.6 +0.7
OJC **Ojcow** 12.05 358 *e*P P 22 20 13.0 +0.7
MBDF **Montbardon** 12.09 307 *e*P P 22 20 13.5 +0.7
comp=Z,92nm,1.1s
MBDF **Montbardon** 12.09 307 *e*P P 22 20 13.5 +0.7
MBDF pmax pmax
comp=Z,46nm,1.1s
AWBH 12.16 141 ⇑P P 22 20 07.5 -6.4
WET **Wettzell** 12.21 336 *e*P P 22 20 12.0 -2.5
BNI **Bardonecchia** 12.30 308 *e*Pn P 22 20 19.1 +3.4
comp=Z,27nm,1.1s
BNI **Bardonecchia** 12.30 308 *e*P P 22 20 19.1 +3.5
BNI pmax pmax
comp=Z,27nm,1.1s
SIM **Simferopol'** 12.35 52 *e*P P 22 20 17.5 +1.2
comp=Z,710nm,16.5s
SIM **Simferopol'** 12.35 52 *e*P P 22 20 17.5 +1.2
SIM pmax pmax
comp=Z,14nm,1.0s
SIM pmax pmax
comp=Z,710nm,16.5s
DIX **Grande Dixence** 12.41 314 ⇑P P 22 20 19.0 +1.9
LKBD **Leukerbad** 12.47 315 ⇑P P 22 20 16.3 -1.6
LPG **La Plagne** 12.48 310 *e*P P 22 20 17.9 -0.1
comp=Z,64nm,0.8s
LPG **La Plagne** 12.48 310 *e*P P 22 20 17.9 -0.1
LPG pmax pmax
comp=Z,32nm,0.8s
LPL **La Plagne** 12.50 310 *e*P P 22 20 17.4 -0.9
comp=Z,79nm,1.1s
LPL **La Plagne** 12.50 310 *e*P P 22 20 17.4 -0.9
LPL pmax pmax
comp=Z,40nm,1.1s
DPC **Dobruska-Polom** 12.51 348 *e*P P 22 20 17.4 -1.0
DPC AMS AMS 22 26 10.0
comp=Z,4µm,12.6s
PRU **Pruhonice** 12.52 343 *e*P P 22 20 16.2 -2.4
PRU AMS AMS 22 26 00.0
comp=Z,2µm,9.7s
SMRF **Simiane la Rot** 12.54 302 *e*P P 22 20 19.5 +0.6
HSAF **As Saff** 12.63 129 ⇓P P 22 20 13.8 -6.3
UPC **Upice** 12.71 347 *e*P P 22 20 17.6 -3.5
ORIF **Oris-en-Rattie** 12.74 307 *e*P P 22 20 22.2 +0.7
comp=Z,135nm,1.2s
ORIF *e*R
comp=Z,1µm,17.8s
GLL **Jalalah** 12.76 129 ⇑P P 22 20 15.9 -5.9
COBT **Iskenderun** 12.79 93 *i* P P 22 20 22.7 +0.4
OG01 **Vacheresse** 12.97 313 *e*P P 22 20 28.1 +3.5
KSP **Ksiaz** 12.99 349 *e*P P 22 20 23.7 -1.1
KSP *e*S S 22 23 16.0 +27
AMAG **Maghara** 13.02 121 ⇓P P 22 20 19.7 -5.5
PVCC **Panska Ves** 13.02 344 *e*P P 22 20 23.3 -1.9
PVCC AMS AMS 22 26 20.0
comp=Z,2µm,10.1s
KAHT **Ahir Dag** 13.09 87 *i* P P 22 20 31.7 +5.5
HRSH **Kfar Ka'horesh** 13.17 119 ⇓*e*P P 22 20 22.0 -5.3
RSH 13.17 119 P P 22 20 22.0 -5.3
BBS **Basel-Blauen** 13.20 319 *e*P P 22 20 29.7 +2.1
FELD **Feldberg** 13.22 321 *e*P P 22 20 32.1 +4.2
GRA1 **Grafenberg Arr** 13.24 333 *e*P P 22 20 25.9 -2.2
GRF **Grafenberg Arr** 13.24 333 *e*P P 22 20 25.9 -2.2
SUZ 13.29 125 ⇑P P 22 20 23.1 -5.7
SUZ S S 22 22 26.4 -30
NKC **Novy Kostel** 13.30 338 *e*P P 22 20 27.9 -1.1
NKC AMS AMS 22 26 40.0
comp=Z,4µm,11.1s
STU **Stuttgart** 13.31 326 *e*Pn P 22 20 27.6 -1.4
comp=Z,33nm,0.8s
STU *e*Sn S 22 22 52.3 -4.8
STU **Stuttgart** 13.31 326 *e*P P 22 20 27.6 -1.4
comp=Z,33nm,0.8s
STU **Stuttgart** 13.31 326 *e*P P 22 20 27.6 -1.4
STU *e* 22 22 52.3
STU pmax pmax
comp=Z,33nm,0.8s
BFO **Black Forest** 13.38 323 *e*P P 22 20 28.1 -1.9
CABF **La Chapelle** 13.47 313 *e*P P 22 20 29.1 -2.0
comp=Z,28nm,0.7s
CABF **La Chapelle** 13.47 313 *e*P P 22 20 29.1 -2.0
CABF pmax pmax
comp=Z,14nm,0.7s
BRG **Berggiesshubel** 13.48 342 *e*P P 22 20 29.1 -2.2
comp=Z,8.7nm,1.0s
BRG *e* 22 20 44.1
BRG **Berggiesshubel** 13.48 342 *e*P P 22 20 29.1 -2.2
BRG pmax pmax
comp=Z,9.0nm,1.0s
VIVF **Saint-Julien-l** 13.48 305 *e*P P 22 20 31.9 +0.6
comp=Z,61nm,1.3s
VIVF **Saint-Julien-l** 13.48 305 *e*P P 22 20 31.9 +0.6
VIVF pmax pmax
comp=Z,31nm,1.3s
LOMF **Lomont** 13.49 317 *e*P P 22 20 33.9 +2.5
MOF **Molkenrain** 13.64 319 *e*P P 22 20 33.6 +0.2
GZT **Gaziantep** 13.67 88 *i* P P 22 20 34.4 +0.6
HINF **Hinteralfeld** 13.77 319 *e*P P 22 20 34.3 -0.7
comp=Z,21nm,0.5s
HINF **Hinteralfeld** 13.77 319 *e*P P 22 20 34.3 -0.7
HINF pmax pmax
comp=Z,11nm,0.5s
ECH **Echery** 13.87 321 *e*P P 22 20 36.1 -0.3
WLS **Welschbruch** 13.91 322 *e*P P 22 20 38.9 +2.1
MOX **Moxa** 13.92 336 *i* P P 22 20 36.6 -0.4
comp=Z,logA/T=1.8
MOX S S 22 23 03.0 -8.6
MOX L 22 27 12.0
MOX **Moxa** 13.92 336 *e*P P 22 20 36.6 -0.4
comp=Z,61nm,0.9s
MOX *e*S S 22 23 03.8 -7.8
MOX **Moxa** 13.92 336 *e*P P 22 20 36.6 -0.4
MOX *e*S S 22 23 03.8 -7.8
MOX pmax pmax
comp=Z,61nm,0.9s
CDF **Champ du Feu** 13.94 321 *e*P P 22 20 36.9 -0.4
comp=Z,44nm,0.9s
CDF **Champ du Feu** 13.94 321 *e*P P 22 20 36.9 -0.4
CDF pmax pmax
comp=Z,22nm,0.9s
HNKL **Nakhl** 13.98 122 ⇑P P 22 20 33.4 -4.6
EMHD **Djebel Mahouad** 13.99 267 P P 22 20 48.0 +10
AKASG **Malin Array Be** 14.04 24 Pn P 22 20 36.6 -1.9
comp=Z,1.1nm,0.3s,baz=212,slow=12,SNR=12
WAR **Warsaw** 14.08 2 *e*P P 22 20 48.4 +9.3
LANF **Langenberg** 14.09 324 *e*P P 22 20 41.7 +2.5
TOD **Tromm** 14.11 328 *e*P P 22 20 40.2 +0.7
CLL **Collm** 14.12 341 *e**SP 22 20 43.0
CLL *e**SPP 22 20 49.0
CLL *e* 22 21 57.0
CLL *e* 22 23 43.0
GRSN **GIRESUNGRSN** 14.12 73 *i* P P 22 20 38.7 -1.0
HAU **Haudompre** 14.15 318 *e*P P 22 20 39.5 -0.5
comp=Z,37nm,0.6s
HAU *e*R
comp=Z,1µm,17.0s
MALT **Malatya** 14.24 84 *e*Pn P 22 20 44.6 +3.3
comp=Z,16nm,0.8s
MALT **Malatya** 14.24 84 *e*P P 22 20 44.6 +3.3
comp=Z,16nm,0.8s
MALT **Malatya** 14.24 84 *e*P P 22 20 44.6 +3.3
MALT pmax pmax
comp=Z,16nm,0.8s
ANN **Anapa** 14.43 57 *e*P P 22 20 52.5 +8.8
ANN pmax pmax
comp=Z,70nm,1.4s
THEF **They Montfort** 14.48 319 *e*P P 22 20 44.5 +0.2
PLDF **La Plantade** 14.63 307 *e*P P 22 20 52.4 +6.1
MTLF **Montolieu** 14.65 296 *e*P P 22 20 45.2 -1.4
comp=Z,45nm,1.2s
MTLF **Montolieu** 14.65 296 *e*P P 22 20 45.2 -1.4
MTLF pmax pmax
comp=Z,22nm,1.2s
ELZG **Elazig** 14.66 83 *i* P P 22 20 51.2 +4.4
TNS **Taunus Mts** 14.73 329 *e*P P 22 20 48.3 +0.7
SMF **Signal de Mont** 14.81 310 *e*P P 22 20 49.0 +0.4
ASF **Jabal al Asfar** 14.81 109 Pn P 22 20 46.5 -2.3
comp=Z,0.2nm,0.3s,baz=95,slow=9.0,SNR=4.5
KELT **Kelkit** 14.83 76 *i* P P 22 20 51.6 +2.6
HKAT **Jabal Katrina** 14.92 126 ⇑P P 22 20 46.3 -4.0
RUE **Ruedersdorf** 15.02 344 *e*P P 22 20 58.1 +6.7
comp=Z,77nm,1.0s
EBNR **Beni Rached** 15.09 269 P P 22 20 57.0 +4.6
LOR **Lormes** 15.11 312 *e*P P 22 20 53.9 +1.3
comp=Z,22nm,0.8s
LOR *e*R
comp=Z,504nm,19.8s
MEZF **Maizieres J'vi** 15.14 318 *e*P P 22 20 52.7 -0.3
comp=Z,107nm,1.2s
AVF **Avril sur Loir** 15.17 310 *e*P P 22 20 52.6 -0.8
HAQS **Haql** 15.18 122 P P 22 20 49.9 -3.7
SSF **Saint Saulge** 15.21 311 *e*P P 22 20 55.2 +1.3
comp=Z,22nm,1.2s
SSF **Saint Saulge** 15.21 311 *e*P P 22 20 55.2 +1.3
SSF pmax pmax
comp=Z,22nm,1.2s
CAF **Calviac** 15.23 302 *e*P P 22 20 54.6 +0.4
comp=Z,88nm,1.6s
CAF **Calviac** 15.23 302 *e*P P 22 20 54.6 +0.4
CAF pmax pmax
comp=Z,44nm,1.6s
ECHA **Ech Chlef** 15.25 268 P P 22 20 58.0 +3.5
GKP **Gorka Klasztor** 15.25 353 *e*P P 22 21 00.9 +6.4
MACK **Trabzon** 15.26 73 *i* P P 22 20 59.2 +4.6
TR1 15.26 128 ⇑P P 22 20 50.5 -4.2
ECHF **Ech Chlef** 15.27 268 P P 22 20 58.0 +3.3
GTR **Jabal at Tayr** 15.32 143 ⇓P P 22 20 51.0 -4.4
CLZ **Clausthal** 15.35 336 *e*P P 22 21 01.0 +5.3
BGF **Bois d'Agland** 15.37 309 *e*P P 22 20 56.1 +0.1
comp=Z,38nm,1.1s
BGF **Bois d'Agland** 15.37 309 *e*P P 22 20 56.1 +0.1
BGF pmax pmax
comp=Z,19nm,1.1s
ETRT **Tiaret** 15.49 265 P P 22 21 03.0 +5.4
EANR **'Ain N'Sour** 15.50 268 P P 22 20 58.0 +0.2
QURS **Qurayyt al Mil** 15.52 111 P P 22 21 06.0 +8.0
HHRG **Al Ghardaqah** 15.59 131 ⇓P P 22 20 55.2 -3.8
SOC **Sochi** 15.63 64 *e*P P 22 21 02.4 +3.0
comp=Z,27nm,1.0s
SOC **Sochi** 15.63 64 *e*P P 22 21 02.4 +3.0
SOC *e* 22 23 44.9
SOC pmax pmax
comp=Z,43nm,1.2s
SOC pmax pmax
comp=N,27nm,1.0s
SOC pmax pmax
comp=E,32nm,1.3s
TCF **Toulx Ste Croi** 15.65 307 *e*P P 22 21 00.7 +1.1
comp=E,34nm,1.2s
TCF **Toulx Ste Croi** 15.65 307 *e*P P 22 21 00.7 +1.1
TCF pmax pmax
comp=Z,17nm,1.2s
ERTA **Horta de San J** 15.66 286 P P 22 21 02.3 +2.5
comp=Z,104nm,1.7s
BDAS **Al Bad'** 15.70 124 P P 22 20 58.6 -1.8
SUW **Suwalki** 15.97 6 *e*P P 22 21 03.7 0.0
EBIE **Bielsa** 16.00 293 P P 22 21 04.7 +0.5
comp=Z,64nm,2.3s
LFF **La Frestale** 16.12 301 *e*P P 22 21 06.2 +0.5
comp=Z,57nm,1.3s
LFF **La Frestale** 16.12 301 *e*P P 22 21 06.2 +0.5
LFF pmax pmax
comp=Z,29nm,1.3s
HGN **Heimansgroeve** 16.21 326 ⇑*e*P P 22 21 12.7 +6.0
comp=Z,38nm,2.1s
HGN *e*S S 22 24 23.3 +18
EMOS **Mosqueruela** 16.25 284 P P 22 21 09.0 +1.7
comp=Z,168nm,2.3s
GIVF **Givet** 16.27 322 *e*P P 22 21 06.6 -0.9

comp=Z,92nm,1.1s
GIVF Givet 16.27 322 *e*P **P 22 21 06.6 -0.9**
GIVF pmax pmax
comp=Z,46nm,1.1s
BNGL BINGOL 16.32 81 *i* P **P 22 21 11.4 +3.2**
ESAC San Caprasio 16.33 289 P **P 22 21 08.1 -0.2**
comp=Z,125nm,2.0s
ERZM Erzurum 16.45 77 *i* P **P 22 21 12.0 +2.2**
BEST Besiri 16.51 84 *i* P **P 22 21 14.0 +3.3**
BAIF Baives 16.54 321 *e*P **P 22 21 11.4 +0.4**
comp=Z,70nm,1.1s
BAIF Baives 16.54 321 *e*P **P 22 21 11.4 +0.4**
BAIF pmax pmax
comp=Z,35nm,1.1s
ECHE Chera 16.64 282 P **P 22 21 13.7 +1.5**
comp=Z,15nm,1.0s
ECHE Chera 16.64 282 P **P 22 21 13.7 +1.5**
ECHE pmax pmax
comp=Z,15nm,1.0s
TBKS Tabuk 16.80 121 P **P 22 21 16.3 +2.0**
ARTV Artvin 16.90 73 *i* P **P 22 21 15.4 -0.1**
EMUR La Murta 17.00 276 P **P 22 21 14.9 -1.8**
comp=Z,64nm,1.3s
SJPF Ste Jean 17.07 294 *e*P **P 22 21 19.7 +2.1**
comp=Z,21nm,1.0s
SJPF Ste Jean 17.07 294 *e*P **P 22 21 19.7 +2.1**
SJPF pmax pmax
comp=Z,11nm,1.0s
MNK Minsk 17.12 15 *e*P **P 22 21 13.0 -5.2**
ETOB Tobarra 17.14 278 P **P 22 21 18.8 +0.2**
comp=Z,130nm,2.2s
BSEG Bad Segeberg 17.20 340 *e*P **P 22 21 22.3 +3.1**
MFF Saint Martin d 17.27 306 *e*P **P 22 21 19.6 -0.6**
comp=Z,62nm,1.3s
MFF Saint Martin d 17.27 306 *e*P **P 22 21 19.6 -0.6**
MFF pmax pmax
comp=Z,31nm,1.3s
BSD Bornholm Skovb 17.34 350 *i* P **P 22 21 22.3 +1.3**
comp=Z,8.1nm,1.1s
BSD Bornholm Skovb 17.34 350 *i* P **P 22 21 22.3 +1.3**
BSD pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 17.81 64 *e*Pn **P 22 21 27.7 +0.9**
comp=Z,84nm,1.1s
KIV Kislovodsk 17.81 64 *e*P **P 22 21 27.4 +0.6**
comp=Z,85nm,1.2s
KIV *e*S **S 22 24 42.4 +0.4**
KIV Kislovodsk 17.81 64 *e*P **P 22 21 27.4 +0.6**
KIV *e*S **S 22 24 42.4 +0.4**
KIV pmax pmax
comp=Z,85nm,1.2s
KIV pmax pmax
comp=N,15nm,1.1s
KIV pmax pmax
comp=E,29nm,1.1s
KIV MLR MLR
comp=N,125nm,19.0s
KIV MLR MLR
comp=E,196nm,19.0s
KIV MLR MLR
comp=Z,200nm,19.0s
EVIA Vianos 17.89 279 P **P 22 21 27.4 -0.5**
comp=Z,14nm,0.8s
EVIA Vianos 17.89 279 P **P 22 21 27.4 -0.5**
EVIA pmax pmax
comp=Z,15nm,0.8s
ENIJ Nijar 17.89 273 P **P 22 21 28.4 +0.4**
comp=Z,4.2nm,1.1s
ENIJ Nijar 17.89 273 P **P 22 21 28.4 +0.4**
ENIJ pmax pmax
comp=Z,4.0nm,1.1s
DIGO Kars 17.98 76 *i* P **P 22 21 29.5 +0.5**
EHUE Huescar 18.06 276 P **P 22 21 30.7 +0.6**
comp=Z,9.6nm,1.4s
EHUE Huescar 18.06 276 P **P 22 21 30.7 +0.6**
EHUE pmax pmax
comp=Z,10.0nm,1.4s
LDF La Druitiere 18.09 312 *e*P **P 22 21 31.5 +1.1**
comp=Z,46nm,1.2s
LDF La Druitiere 18.09 312 *e*P **P 22 21 31.5 +1.1**
LDF pmax pmax
comp=Z,23nm,1.2s
COP Copenhagen 18.31 346 *i* P **P 22 21 35.3 +2.3**
comp=Z,8.3nm,0.5s
COP *i* S **S 22 24 53.5 +0.3**
comp=Z,350nm,18.0s
COP Copenhagen 18.31 346 *e*P **P 22 21 35.3 +2.3**
comp=Z,8.3nm,0.5s
COP *i* S **S 22 24 53.5 +0.3**
COP Copenhagen 18.31 346 *e*P **P 22 21 35.3 +2.3**
COP *i* S **S 22 24 53.5 +0.3**
COP pmax pmax
comp=Z,8.0nm,0.5s
FLN La Foliniere 18.38 312 *e*P **P 22 21 34.0 0.0**
comp=Z,57nm,1.3s
FLN *e*R
comp=Z,588nm,17.0s
EQES Quesada 18.44 276 P **P 22 21 34.6 -0.1**
comp=Z,45nm,1.2s
GRR Gorron 18.44 310 *e*P **P 22 21 34.6 0.0**
comp=Z,41nm,1.1s
GRR Gorron 18.44 310 *e*P **P 22 21 34.6 0.0**
GRR pmax pmax
comp=Z,21nm,1.1s
EBER Berja 18.45 273 P **P 22 21 33.2 -1.7**
comp=Z,33nm,1.1s
HAKT HAKKARI 18.47 85 *i* P **P 22 21 34.0 -1.1**
ZEI Tsey 18.50 68 *e*P **P 22 21 33.4 -2.1**
VRSR Storozhevoye 18.64 40 *e*P **P 22 21 36.3 -0.8**
comp=Z,20nm,0.8s
VRSR *e*S **S 22 24 57.9 -2.8**
comp=Z,380nm,8.0s
VRSR Storozhevoye 18.64 40 *e*P **P 22 21 36.3 -0.8**
VRSR *e*S **S 22 24 57.9 -2.8**
VRSR pmax pmax
comp=Z,10.0nm,0.6s
VRSR pmax pmax
comp=N,7.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR smax
comp=N,20nm,0.8s
VRSR smax
comp=Z,4.0nm,0.6s
VRSR smax
comp=E,20nm,1.7s
VRSR MLR MLR
comp=Z,1µm,11.0s
VRSR MLR MLR
comp=N,380nm,8.0s
VRSR MLR MLR
comp=E,1µm,15.0s
ESDC Sonseca Array 18.94 282 P **P 22 21 39.4 -1.4**
comp=E,0.2nm,0.3s,baz=81,slow=12,SNR=9.0
ESDC Sonseca Array 18.94 282 P **P 22 21 39.2 -1.6**
comp=E,10nm,1.5s
ESLA Sonseca Array 18.94 282 *e*Pn **P 22 21 40.1 -0.7**
comp=E,3.1nm,0.9s
EBAN Banos Encina 18.95 277 P **P 22 21 39.3 -1.5**
comp=E,12nm,1.2s
EBAN Banos Encina 18.95 277 P **P 22 21 39.3 -1.5**
EBAN pmax pmax
comp=Z,12nm,1.2s
VOR Voronezh 18.96 38 P **P 22 21 40.0 -0.9**
comp=Z,60nm,1.7s
VOR Voronezh 18.96 38 P **P 22 21 40.0 -0.9**
VOR pmax pmax
comp=Z,80nm,1.8s
VOR pmax pmax
comp=N,60nm,1.7s
VOR pmax pmax
comp=E,70nm,1.8s
GNI Garni 19.03 76 P **P 22 21 41.4 -0.5**
comp=E,0.8nm,0.3s,baz=206,slow=2.2,SNR=31
GNI LR LR 22 29 54.0
comp=E,568nm,20.1s,baz=280,slow=40
GNI Garni 19.03 76 P **P 22 21 41.4 -0.5**
GNI LR LR 22 29 54.0
TBLG Delisi 19.04 72 P **P 22 21 41.8 -0.1**
TBLG S **S 22 25 19.1 +9.2**
MTA Mtatsminda 19.08 72 P **P 22 21 41.1 -1.3**
MTA Mtatsminda 19.08 72 P **P 22 21 42.8 +0.4**
ELUQ Luque 19.41 276 P **P 22 21 44.5 -1.7**
comp=E,8.6nm,0.8s
ELUQ Luque 19.41 276 P **P 22 21 44.5 -1.8**
ELUQ pmax pmax
comp=Z,9.0nm,0.8s
SGMF Saint Gilles 19.41 309 *e*P **P 22 21 46.2 0.0**
comp=Z,24nm,1.0s
SGMF Saint Gilles 19.41 309 *e*P **P 22 21 46.2 0.0**
SGMF pmax pmax
comp=Z,12nm,1.0s
DGRG David-gareji 19.50 72 P **P 22 21 45.3 -2.0**
EADA Adamuz 19.56 278 P **P 22 21 46.9 -1.1**
comp=Z,79nm,1.7s
QUIF Quistinic 19.67 307 *e*P **P 22 21 48.5 -0.6**
comp=Z,31nm,1.1s
QUIF Quistinic 19.67 307 *e*P **P 22 21 48.5 -0.6**
QUIF pmax pmax
comp=Z,15nm,1.1s
MUD Monsted U'grnd 19.75 341 *i* P **P 22 22 03.1 +13**
comp=Z,20nm,0.8s
MUD *i* S **S 22 25 33.6 +8.3**
comp=Z,390nm,15.0s
MUD Monsted U'grnd 19.75 341 *i* P **P 22 22 03.1 +13**
MUD *i* S **S 22 25 33.6 +8.3**
MUD pmax pmax
comp=Z,20nm,0.8s
MUD MLR MLR
comp=Z,400nm,15.0s
VRHR Novokhopersk 19.83 42 *e*P **P 22 21 50.6 -0.2**
VRHR pmax pmax
comp=Z,50nm,1.8s
VRHR pmax pmax
comp=N,40nm,1.4s
VRHR pmax pmax
comp=E,40nm,1.5s
VRHR MLR MLR
comp=Z,1µm,13.0s
VRHR MLR MLR
comp=N,630nm,14.0s
VRHR MLR MLR
comp=E,1µm,14.0s
ROSF Rostrenen 19.89 308 *e*P **P 22 21 50.6 -0.9**
comp=E,54nm,1.3s
ROSF Rostrenen 19.89 308 *e*P **P 22 21 50.6 -0.9**
ROSF pmax pmax
comp=Z,27nm,1.3s
EMIJ Mijas 19.99 273 P **P 22 21 53.6 +0.9**
comp=Z,48nm,1.8s
BHD Baghdad 20.12 97 *ex* x 22 21 46.0
BHD *ex* x 22 25 41.0
OBN Obninsk 20.20 28 *e*Pn **P 22 21 57.4 +2.7**
comp=Z,35nm,0.4s
OBN Obninsk 20.20 28 ⇑ *i*P **P 22 21 57.1 +2.4**
OBN *e* 22 22 11.0
OBN *i* S **S 22 25 36.0 +1.2**
OBN pmax pmax
comp=Z,78nm,1.1s
OBN MLR MLR
comp=Z,1µm,18.0s,MS4.4
KBRS Khaybar 20.22 122 P **P 22 21 54.8 -0.2**
YNBS Yanbu' al Bahr 20.41 127 P **P 22 22 00.1 +3.1**
EJIF Jimena Fronter 20.57 273 P **P 22 22 01.6 +3.0**
comp=Z,30nm,1.3s
EJIF Jimena Fronter 20.57 273 P **P 22 22 01.6 +3.0**
EJIF pmax pmax
comp=Z,30nm,1.3s
VSU Vasula 20.73 10 *e*P **P 22 21 59.0 -1.1**
ESPR Espera 20.78 275 P **P 22 21 57.9 -2.9**
comp=Z,71nm,1.8s
MDT Midelt 20.96 263 P **P 22 22 02.4 -0.3**
comp=Z,4.0nm,0.8s,baz=83,slow=11,SNR=9.0
MDT LR LR 22 30 46.8
comp=Z,220nm,20.1s,MS3.5,baz=215,slow=38
HILS Ha'il 20.97 115 P **P 22 22 01.8 -1.0**
ECAL Calabor 21.02 289 P **P 22 22 01.6 -1.6**
comp=Z,64nm,1.6s,mb4.7
PBRG Braganca 21.02 288 *e*P **P 22 22 02.6 -0.6**
comp=Z,31nm,1.5s,mb4.4
ZFT Errachidia 21.06 261 *i* P **P 22 22 03.0 -0.7**
MOS Moscow 21.07 28 *e*P **P 22 22 00.0 -3.6**
comp=Z,2µm,14.0s
MOS Moscow 21.07 28 *e*P **P 22 22 00.0 -3.6**
MOS *e* 22 26 24.9
MOS pmax pmax
comp=Z,126nm,1.5s,mb5.0
MOS MLR MLR
comp=Z,2µm,14.0s,MS4.6
MOS MLR MLR
comp=N,1µm,13.5s,MS4.5
MOS MLR MLR
comp=E,400nm,14.0s,MS4.5
MAK Makhachkala 21.16 68 *d* iP **P 22 22 07.0 +2.4**
MAK *i* S **S 22 26 03.0 +9.4**
MAK pmax pmax
comp=Z,1µm,2.0s,mb5.8
MAK smax
comp=E,1µm,6.0s
CZD Col de Zad 21.22 264 *i* P **P 22 22 07.0 +1.7**
MIF Mishlifen 21.23 265 *e*P **P 22 22 05.5 +0.1**
EMIN Mina Concepcio 21.26 277 P **P 22 22 04.5 -1.2**
comp=E,69nm,1.7s,mb4.7
ERUA La Rua 21.33 290 P **P 22 22 04.9 -1.5**
comp=E,15nm,1.0s,mb4.3
ERUA La Rua 21.33 290 P **P 22 22 04.9 -1.4**
ERUA pmax pmax
comp=Z,15nm,1.0s,mb4.3
EBAD Badajoz 21.39 280 P **P 22 22 04.1 -2.8**
comp=Z,30nm,1.2s,mb4.5
PCBR Castelo Branco 21.64 283 *e*P **P 22 22 08.5 -0.9**
comp=Z,26nm,1.4s,mb4.5
MTE Manteigas 21.65 285 *e*P **P 22 22 08.4 -1.2**
comp=Z,30nm,1.4s,mb4.5
MTE *e*LR LR 22 26 10.2
comp=Z,368nm,19.7s
MTE Manteigas 21.65 285 *e*P **P 22 22 08.2 -1.4**
comp=Z,28nm,1.0s,mb4.7
PVRL Vila Real 21.75 287 *e*P **P 22 22 14.1 +3.5**
EGRO El Granado 21.93 277 P **P 22 22 13.4 +1.0**
comp=Z,4.5nm,0.7s,mb4.0
PBEJ Beja 22.15 278 *e*P **P 22 22 14.6 0.0**
comp=Z,32nm,1.7s,mb4.5
EVO Evora 22.19 280 *e*P **P 22 22 17.0 +2.0**
comp=Z,31nm,1.2s,mb4.3
EVO *e*R
comp=Z,300nm,18.0s
PTOM Tomar 22.37 283 *e*P **P 22 22 16.2 -0.6**
HFS Hagfors 22.38 351 P **P 22 22 17.3 +0.6**
comp=Z,41nm,0.8s,mb4.9,baz=153,slow=9.9,SNR=39
HFA0 Hagfors New Ar 22.39 351 P **P 22 22 19.2 +2.4**
KONO Kongsberg 22.57 346 *i* P **P 22 22 19.5 +1.1**
ESK Eskdalemuir 23.35 325 *e*P **P 22 22 27.1 +0.9**
comp=Z,71nm,1.1s,mb5.0
ESK Eskdalemuir 23.35 325 *e*P **P 22 22 27.1 +0.9**
ESK pmax pmax
comp=Z,71nm,1.1s,mb5.0
NAO01 NORSAR Array S 23.46 348 *e*P **P 22 22 27.9 +0.8**
comp=Z,27nm,0.8s,mb4.7
FINES FINESS Array B 23.57 7 P **P 22 22 27.5 -0.8**
comp=Z,3.1nm,0.4s,mb4.0,baz=165,slow=8.7,SNR=29
FINES S **S 22 26 39.1 +1.9**
comp=Z,3.0nm,1.0s,baz=203,slow=18,SNR=3.4
FINES LR LR 22 32 45.9
comp=Z,977nm,19.0s,MS4.3,baz=192,slow=39
NB2 NORSAR Subarra 23.59 349 P **P 22 22 29.0 +0.5**
comp=Z,43nm,1.2s,mb4.8,baz=159,slow=9.3
NB2 NORSAR Subarra 23.59 349 P **P 22 22 29.0 +0.5**
baz=159,slow=9.3
NB2 NORSAR Subarra 23.59 349 P **P 22 22 29.0 +0.5**
NB2 pmax pmax
comp=Z,43nm,1.2s,mb4.8
NOA NORSAR Array B 23.59 349 P **P 22 22 29.3 +0.8**
comp=Z,7.0nm,0.7s,mb4.2,baz=158,slow=9.2,SNR=16
MIB Mutribah 23.85 102 *e*P **P 22 22 30.3 -0.9**
MIB AMb AMB 22 22 33.3
comp=Z,80nm,0.7s,mb5.3
DLF Lyons Farm 23.89 318 *e*P **P 22 22 38.9 +7.5**
AFFS 'Afif 23.98 120 P **P 22 22 34.6 +2.0**
NAY Al-Naaiem 24.03 104 *e*P **P 22 22 32.6 -0.5**
NAY AMb AMB 22 22 34.4
comp=Z,38nm,0.8s,mb4.9
PECR Pechory 24.08 33 *e*P **P 22 22 35.0 +1.8**
PECR MLR MLR
comp=Z,2µm,13.0s,MS4.8
KAF Kangasniemi 24.25 7 *e*p **P 22 22 33.8 -1.1**
comp=Z,10nm,0.6s,mb4.4,baz=189,slow=9.5
KAF Kangasniemi 24.25 7 *e*P **P 22 22 33.8 -1.1**
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
UMR Umm Al-Rimmam 24.25 103 *e*P **P 22 22 34.5 -0.7**
UMR AMb AMB 22 22 35.4
comp=Z,39nm,0.5s,mb5.1
DCN Croghan 24.31 318 ⇑ *i*P **P 22 22 36.7 +1.2**
LTHS Al Lith 24.92 130 P **P 22 22 51.8 +10**
MZLS Mizel 25.45 116 P **P 22 22 47.7 +1.0**
JOF Joensuu 25.67 12 *e*p **P 22 22 47.4 -0.9**
comp=Z,5.3nm,0.6s,mb4.2
BLJS Baljurashi 25.94 129 P **P 22 22 55.2 +3.9**
ARU Arti 31.17 42 *e*P **P 22 23 35.7 -2.3**
comp=Z,55nm,1.6s,mb5.1
ARU Arti 31.17 42 ⇓ *i*P **P 22 23 38.1 +0.1**
ARU *e* 22 24 35.8
ARU *e*S **S 22 28 41.2 +0.1**
ARU pmax pmax
comp=Z,20nm,1.4s,mb4.8
ARU MLR MLR
comp=Z,500nm,15.0s,MS4.3
ARU MLR MLR
comp=N,60nm,16.0s,MS4.1
ARU MLR MLR
comp=E,300nm,16.0s,MS4.1
SOKR Solikamsk 31.53 35 ⇓ *i*P **P 22 23 40.5 -0.7**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
SOKR MLR MLR
comp=Z,510nm,15.0s,MS4.3
ARCES ARCESS Array B 31.55 3 P **P 22 23 39.6 -1.7**
comp=Z,5.2nm,0.9s,mb4.3,baz=189,slow=11,SNR=14
ARCES LR LR 22 37 34.9
comp=Z,778nm,18.7s,MS4.4,slow=38
KEV Kevo 31.85 4 *e*p **P 22 23 41.3 -2.6**
comp=Z,16nm,1.0s,mb4.8
KEV Kevo 31.85 4 *e*P **P 22 23 41.3 -2.6**
KEV pmax pmax
comp=Z,16nm,1.0s,mb4.8
SVE Sverdlovsk 32.39 42 *e*P **P 22 23 47.0 -1.6**
SVE pmax pmax
comp=Z,80nm,1.3s,mb5.4
BRVK Borovoye 37.18 50 *e*P **P 22 24 28.6 -1.2**
comp=Z,15nm,1.3s,mb4.7
BRVK *e*PP PP 22 25 54.9 -2.1
BRVK Borovoye 37.18 50 *e*P **P 22 24 28.6 -1.1**
BRVK *e* 22 25 54.9
BRVK pmax pmax
comp=Z,15nm,1.3s,mb4.7
BVAR Borovoye Array 37.25 50 P **P 22 24 29.2 -1.0**
comp=Z,1.5nm,0.6s,mb4.0,baz=259,slow=7.6,SNR=15
BVAR PP PP 22 25 56.8 -1.0
comp=Z,3.6nm,0.8s,baz=270,slow=5.8,SNR=2.9
DBIC Dimbokro 38.78 222 P **P 22 24 42.8 -0.8**
comp=Z,5.8nm,0.7s,mb4.4,baz=3.9,slow=11,SNR=13
DBIC LR LR 22 41 28.6
comp=Z,478nm,20.0s,MS4.3,baz=12,slow=37
TIC Toumodi 38.89 223 *e*P **P 22 24 46.4 +2.0**
comp=Z,1.5nm,0.2s,mb4.4
KIC Kosan Boka 38.98 222 *e*P **P 22 24 44.4 -0.8**
comp=Z,36nm,0.7s,mb5.2
LIC Lamto 39.24 222 ⇓ *i*P **P 22 24 46.6 -0.8**
comp=Z,27nm,0.5s,mb5.2
LIC Lamto 39.24 222 *e*P **P 22 24 46.4 -1.0**
comp=Z,15nm,0.7s,mb4.8
AAK Ala-Archa 40.91 66 *e*P **P 22 25 01.3 +0.5**
comp=Z,6.8nm,0.9s,mb4.3
AAK *e*PP PP 22 26 31.8 -6.4
AAK Ala-Archa 40.91 66 *e*P **P 22 25 01.3 +0.5**
AAK *e* 22 26 31.8
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
KMBO Kilima Mbogo 42.11 154 LR LR 22 45 11.2
comp=Z,185nm,18.9s,MS4.0,baz=88,slow=40
KURK Kurchatov 42.41 53 *e*P **P 22 25 11.8 -1.2**
comp=Z,13nm,0.7s,mb4.7
KURK Kurchatov 42.41 53 *e*P **P 22 25 11.8 -1.2**
KURK pmax pmax
comp=Z,13nm,0.7s,mb4.7
SUMG Summit 44.77 339 *e*P **P 22 25 33.7 +1.8**
comp=Z,20nm,1.0s,mb4.9
NVS Novosibirsk 44.80 47 *e*P **P 22 25 30.8 -1.5**
NVS *e* 22 27 13.6
NVS *e*S **S 22 32 04.1 -3.1**
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,27nm,1.4s
NVS pmax pmax
comp=Z,61nm,1.4s,mb5.2
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS pmax pmax
comp=Z,17nm,1.4s,mb4.7
NVS smax
comp=N,25nm,2.0s
NVS smax
comp=E,10.0nm,2.0s
MKAR Makanchi Array 45.44 58 P **P 22 25 35.7 -1.8**
comp=E,8.7nm,0.7s,mb4.7,baz=275,slow=7.5,SNR=48
MKAR PP PP 22 27 22.2 -2.3
comp=E,1.4nm,0.8s,baz=270,slow=8.6,SNR=1.9
MKAR LR LR 22 46 57.1
comp=E,166nm,21.8s,MS3.9,baz=302,slow=39
MKAR Makanchi Array 45.44 58 P **P 22 25 35.7 -1.8**
MKAR PP PP 22 27 22.2 -2.3
MKAR LR LR 22 46 57.1
ZAL Zalesovo 45.80 48 P **P 22 25 38.3 -2.0**
comp=E,5.5nm,0.4s,mb4.8,baz=203,slow=6.5,SNR=23
ZAL LR LR 22 48 15.1
comp=E,400nm,18.0s,MS4.4,baz=312,slow=40
WMQ Urumqi 49.90 61 *e*P **P 22 26 11.3 -1.1**
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,104nm,4.6s
WMQ LR LR
comp=N,312nm,23.4s,MS4.4
WMQ LR LR
comp=E,289nm,25.0s,MS4.4
WMQ LR LR
comp=Z,322nm,17.0s
KOLN Koldanda 53.18 81 *e*P **P 22 26 35.3 -2.1**
comp=Z,33nm,1.2s,mb5.2
LSZ Lusaka 53.67 171 *e*P **P 22 26 41.1 +0.1**
comp=Z,3.2nm,0.8s,mb4.3
LSZ Lusaka 53.67 171 *e*P **P 22 26 41.2 +0.1**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GKN Gorkha 53.88 81 *e*P **P 22 26 40.3 -2.2**
comp=Z,12nm,0.6s,mb5.0
DMN Daman 54.43 81 *e*P **P 22 26 42.9 -3.7**
comp=Z,23nm,0.9s,mb5.1
KKN Kakani 54.48 80 *e*P **P 22 26 42.9 -4.0**
PKI Pulchoki 54.69 81 *e*P **P 22 26 44.2 -4.2**
ZAK Zakamensk 57.68 49 *e*P **P 22 27 09.0 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
LSA Lhasa 58.09 75 *e*P **P 22 27 12.0 -0.8**
comp=Z,4.5nm,0.7s,mb4.6
LSA Lhasa 58.09 75 *e*P **P 22 27 12.0 -0.7**
LSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SCHQ Schefferville 58.36 317 P **P 22 27 13.8 -0.5**
comp=Z,3.2nm,0.8s,mb4.4,baz=40,slow=16,SNR=3.5
SCHQ LR LR 22 52 24.8
comp=Z,132nm,18.8s,MS4.1,baz=114,slow=36
MATP Matopo 58.79 171 P **P 22 27 17.4 -0.3**
comp=Z,3.7nm,0.9s,mb4.4,baz=360,slow=13,SNR=2.8
GTA Gaotai 59.97 62 *e*P **P 22 27 23.8 -1.8**
GTA AP pP 22 27 28.3 -5.7
GTA XP sP 22 27 30.9 -6.1
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.3
BOD Bodaibo 60.48 38 *e*P **P 22 27 24.2 -4.6**
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.9
SONM Songino Array 60.59 51 P **P 22 27 28.1 -1.6**
comp=Z,2.1nm,0.7s,mb4.3,baz=284,slow=8.0,SNR=21
SONM LR LR 22 57 15.9
comp=Z,166nm,18.4s,MS4.2,baz=300,slow=40
CIT Chita 62.85 44 *e*P **P 22 27 48.1 +3.3**
LZH Lanzhou 64.35 63 *e*P **P 22 27 58.0 +3.1**
LZH AP pP 22 28 04.9 +1.6
LZH AMB AMB
comp=Z,33nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,149nm,4.0s
YAK Yakutsk 65.19 29 *e*P **P 22 28 01.2 +1.3**

YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
YAK				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.6						
HHC	Hu-ho-hao-te	67.17	55	eP	P	22 28 16.3	+3.4
HHC				PCP	PcP	22 28 43.5	+2.7
HHC				PP	PP	22 30 46.9	+4.3
HHC				SCP		22 32 41.3	
HHC				S	S	22 37 06.3	+2.2
HHC				SCS	ScS	22 38 06.6	+1.6
HHC				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
HHC				AMB	AMB		
	comp=Z,76nm,3.8s						
HHC				LR	LR		
	comp=N,168nm,10.7s,MS4.6						
HHC				LR	LR		
	comp=E,202nm,15.5s,MS4.6						
HHC				LR	LR		
	comp=Z,143nm,15.5s,MS4.3						
HIA	Hailar	67.64	44	eP	P	22 28 15.6	-0.1
	comp=Z,25nm,1.1s,mb5.2						
HIA	Hailar	67.64	44	eP	P	22 28 15.6	-0.1
HIA				pmax	pmax		
	comp=Z,25nm,1.1s						
XAN	Xi'an	68.97	63	P	P	22 28 23.0	-1.3
XAN				AP	pP	22 28 27.5	-5.1
XAN				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
SADO	Sadowa	70.14	312	LR	LR	22 59 30.1	
	comp=Z,67nm,19.4s,MS3.9,baz=126,slow=36						
BILL	Bilibino	71.06	13	eP	P	22 28 37.7	+1.3
BILL				e		22 28 55.8	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
YKA	Yellowknife Ar	73.34	340	LR	LR	23 02 59.4	
	comp=Z,126nm,18.6s,MS4.2,baz=40,slow=37						
KLR	Kul'dur	73.98	39	eP	P	22 28 51.4	-2.5
KLR				MLR	MLR		
	comp=E,500nm,11.0s						
KLR				MLR	MLR		
	comp=Z,700nm,11.0s,MS5.2						
CN2	Changchun	74.01	47	⇑P	P	22 28 58.0	+3.9
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
ULM	Lac du Bonnet	75.61	324	P	P	22 29 03.1	-0.1
	comp=Z,5.8nm,1.0s,mb4.5,baz=41,slow=5.1,SNR=4.5						
ULM				LR	LR	23 04 58.1	
	comp=Z,110nm,19.4s,MS4.2,baz=30,slow=38						
DAWY	Dawson	76.84	351	eP	P	22 29 11.2	+1.3
ILAR	Eielson Array	76.90	354	P	P	22 29 11.1	+0.9
	comp=Z,3.2nm,1.1s,mb4.1,baz=8.2,slow=3.4,SNR=10.0						
ILAR				LR	LR	23 04 55.6	
	comp=Z,143nm,18.1s,MS4.3,baz=2.7,slow=37						
NJ2	Nanjing	76.96	60	eP	P	22 29 15.0	+3.8
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
SSE	Sheshan	79.12	59	P	P	22 29 18.4	-4.7
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,92nm,8.3s						
DLBC	Dease Lake	80.61	345	LR	LR	23 03 48.7	
	comp=Z,97nm,19.0s,MS4.2,baz=107,slow=35						
YSS	Yuzh-Sakhalins	80.87	36	eP	P	22 29 33.3	+1.2
	comp=Z,83nm,1.1s,mb5.6						
YSS	Yuzh-Sakhalins	80.87	36	eP	P	22 29 32.0	-0.1
YSS				e		22 29 37.0	
BDFB	Brasilia	83.37	244	LR	LR	23 07 58.1	
	comp=Z,251nm,19.8s,MS4.6,baz=282,slow=36						
JNU	Nakatsue	84.12	52	LR	LR	23 12 45.4	
	comp=Z,163nm,18.3s,MS4.4,baz=322,slow=40						
CHMT	Chamberlain Mo	85.66	330	eP	P	22 29 58.2	+1.7
MJAR	Matsushiro Arr	86.11	46	P	P	22 29 59.5	+0.5
	comp=Z,2.6nm,0.8s,mb4.5,baz=293,slow=6.7,SNR=5.5						
PDAR	Pinedale Array	87.47	326	P	P	22 30 06.0	+0.5
	comp=Z,0.4nm,0.7s,mb3.8,baz=27,slow=6.6,SNR=4.1						
PV10	Paradox Valley	90.71	323	eP	P	22 30 23.3	+2.4
ELK	Elko	91.57	328	LR	LR	23 11 46.5	
	comp=Z,106nm,20.4s,MS4.3,baz=288,slow=36						
TXAR	Lajitas Array	94.86	313	P	P	22 30 42.0	+1.8
	comp=Z,0.3nm,0.6s,mb3.9,baz=90,slow=3.8,SNR=3.8						
TXAR				LR	LR	23 13 11.7	
	comp=Z,83nm,18.9s,MS4.2,baz=340,slow=35						
TXAR	Lajitas Array	94.86	313	P	P	22 30 42.0	+1.8
TXAR				LR	LR	23 13 11.7	
CBIJ	Chichi jima	95.29	49	LR	LR	23 17 35.4	
	comp=Z,95nm,21.6s,MS4.2,baz=123,slow=38						
CPUP	Villa Florida	96.90	242	LR	LR	23 15 32.4	
	comp=Z,312nm,18.6s,MS4.8,baz=240,slow=36						
LPAZ	La Paz	98.69	256	LR	LR	23 18 40.3	
	comp=Z,78nm,19.5s,MS4.2,baz=254,slow=37						
WRA	Warramunga Arr	120.70	92	PKP	PKPdf	22 36 09.4	-4.7
	comp=Z,0.2nm,0.5s,baz=322,slow=1.8,SNR=3.2						

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*CSEM **19** 22:27:05.6, 37.96N×26.39W, h5km, ML2.8, After PDA*
*PDA **19** 22:27:05.6±1.1, 37.96N×26.39W, h5km±4km, MD2.8, ML2.8, Error ellipse: s-maj=8.3km s-min=1.3km az=35.0*
SVSA 19 22:27:05.6±1.1, 37.96N×26.39W, h5km±4km, MD2.8, ML2.8, Error ellipse: s-maj=8.3km s-min=1.3km az=35.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SET4	Mosteiros	0.48	100	i P	Pg	22 27 14.1	-1.0
SET4				i S	Sg	22 27 19.9	-1.6
SET2	Ginetes	0.48	104	i P	Pg	22 27 14.3	-0.9
SET2				i S	Sg	22 27 20.2	-1.3
PFET	Feteiras	0.50	106	eP	Pg	22 27 14.3	-1.3
PFET				i S	Sg	22 27 20.5	-1.7
PSAN	Santo Antonio	0.54	101	i P	Pg	22 27 15.0	-1.4
PSAN				i S	Sg	22 27 21.7	-1.8
PSET	Sete Cidades	0.55	104	i P	Pg	22 27 13.4	-3.2
PSET				eS	Sg	22 27 20.4	-3.5
	286nm,0.2s						
PDA	Ponta Delgada	0.61	110	eP	Pg	22 27 14.5	-3.4
PDA				i S	Sg	22 27 22.5	-3.6
FAC	Faja de Cima	0.61	107	i P	Pg	22 27 16.3	-1.6
FAC				i S	Sg	22 27 23.7	-2.4
CML	Cha da Macela	0.69	105	i P	Pg	22 27 17.4	-2.1
CML				i S	Sg	22 27 26.0	-2.8
CMLA	Cha da Macela	0.71	105	eS	Sg	22 27 24.5	-4.9
PMAT	Coroa da Mata	0.74	101	eP	Pg	22 27 17.7	-2.7
PMAT				i S	Sg	22 27 27.0	-3.4
LFA	Lagoa do Fogo	0.74	104	i P	Pg	22 27 17.8	-2.6
PRCH	Ribeira Ch	0.76	107	eP	Pg	22 27 18.0	-2.7
PRCH				eS	Sg	22 27 27.6	-3.3
MESC	Monte Escuro	0.77	102	i P	Pg	22 27 18.0	-2.9
MESC				eS	Sg	22 27 27.6	-3.6
VIF	Vila Franca	0.78	105	eS	Sg	22 27 28.1	-3.6
PCNG	Congro	0.81	103	eP	Pb	22 27 18.8	-3.0
PCNG				eS	Sg	22 27 28.9	-3.7
FRA1	Furnas	0.85	104	eP	Pb	22 27 18.7	-3.7
FRA1				eS	Sg	22 27 28.7	-5.1
PFAD	Fenais da Ajud	0.85	98	i P	Pb	22 27 19.1	-3.4
PFAD				i S	Sg	22 27 29.4	-4.7
MIRA	Miradouro	0.90	101	eP	Pb	22 27 19.2	-4.1
MIRA				eS	Sb	22 27 30.1	-5.2
PFAV	Pico das Favas	0.93	324	i P	Pb	22 27 20.9	-2.9
PFAV				i S	Sb	22 27 32.1	-4.2
PSCM	Serra do Cume	0.94	323	eP	Pb	22 27 19.1	-4.8
PSCM				eS	Sb	22 27 30.5	-6.0
	161nm,0.2s						
RIB2	Ribeirinha	0.94	320	eP	Pb	22 27 20.4	-3.6
RIB2				i S	Sb	22 27 31.8	-4.8
ADH	Angra Heroismo	0.96	317	eP	Pb	22 27 20.2	-4.2
ADH				eS	Sb	22 27 31.9	-5.3
PVNV	Vila Nova	1.00	323	eP	Pb	22 27 21.0	-4.1
PVNV				i S	Sb	22 27 33.1	-5.3
PPAD	Pico dos Padre	1.02	317	eS	Sb	22 27 34.0	-5.0
PBIS	Biscoitos	1.05	320	eS	Sb	22 27 34.4	-5.4
ASBA	Santa Barbara	1.06	316	eP	Pb	22 27 22.7	-3.3
ASBA				eS	Sb	22 27 35.2	-4.8
PSBA	Serra de Santa	1.09	318	eP	Pb	22 27 21.9	-4.7
PSBA				eS	Sb	22 27 35.4	-5.6
	82nm,0.5s						
PSMN	Pico do Norte,	1.42	132	eP	Pn	22 27 26.6	-5.6
PSMN				i S	Sb	22 27 42.7	-7.9
PSMN	Pico do Norte,	1.42	132	eS	Sb	22 27 41.8	-8.8
PMAN	Manadas	1.50	297	eP	Pn	22 27 28.4	-4.9
PMAN				eS	Sb	22 27 45.3	-7.4
PGRA	Graciosa	1.64	311	erx		22 27 47.3	
STGR	Santa Cruz	1.69	312	eS	Sn	22 27 51.3	-7.0
PICO	Pico	1.69	289	eP	Pn	22 27 31.1	-4.9
CALA	Caldeira	1.92	290	erx		22 27 34.3	

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*NEIC **19** 22:42:25.6±0.8, 23.48S×66.81W, h190km, mb3.9/2, Error ellipse: s-maj=17.4km s-min=10.5km az=89.0*
*IDC **19** 22:42:26.7±1.8, 23.45S×66.75W, h194km±20km, mb2.9/2, mb1 3.4/6, mb1mx3.3/15, mbtmp3.8/6, Error ellipse: s-maj=27.8km s-min=16.8km az=89.0*
ISC 19 22:42:24.5±0.9, 23.56S±0.05×66.8W±0.1, h190km±16km, n12, σ1.20/15, mb3.0/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	7.34	350	P	P	22 44 11.9	+2.0
	3.7nm,0.3s,baz=166,slow=7.4,SNR=67						
LPAZ				S	S	22 45 33.3	+1.1
	baz=25,slow=17,SNR=1.7						
CFAA	Coronel Fontan	8.12	189	P	P	22 44 22.2	+2.1
	0.3nm,0.3s,baz=18,slow=11,SNR=20						
CFAA				S	S	22 45 48.5	-2.0
	0.3nm,0.3s,baz=197,slow=13,SNR=8.3						
CFAA	Coronel Fontan	8.12	189	P	P	22 44 22.2	+2.1
CFAA				S	S	22 45 48.5	-2.0
ARE	Arequipa	8.33	327	eP	P	22 44 21.0	-1.9
ARE				eS	S	22 45 55.0	-0.5
SIV	San Ignacio	9.25	37	P	P	22 44 34.3	-0.5
	0.4nm,0.3s,baz=240,slow=11,SNR=16						
SAML	Samuel	14.93	14	ePn	P	22 45 46.5	-0.9
	3.2nm,0.6s						
TRQA	Tornquist	15.03	165	ePn	P	22 45 48.7	+0.3
	5.8nm,0.9s						
BDFB	Brasilia	19.34	69	P	P	22 46 37.2	-0.2
	0.8nm,0.3s,baz=248,slow=11,SNR=12						
BAO	Brasilia Array	19.36	69	P	P	22 46 37.0	-0.6
SNAA	Sanae	59.70	161	P	P	22 52 11.9	+1.1
	0.1nm,0.3s,mb3.1,baz=315,slow=11,SNR=3.3						
PDAR	Pinedale Array	76.87	329	P	P	22 53 57.1	0.0
	0.2nm,0.6s,mb2.9,baz=98,slow=6.4,SNR=3.2						
MKAR	Makanchi Array	146.06	39	PKPbc	PKPbc	23 01 42.0	+0.2
	0.6nm,0.9s,baz=326,slow=2.4,SNR=5.7						

IDC 19 22:42:52.7±4.0, 2.11N×96.81E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, MS4.1/1, Ms1 4.1/1, ms1mx3.1/20, Error ellipse: s-maj=154.8km s-min=29.4km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.85	123	P	P	22 50 52.9	-1.8
	0.3nm,0.5s,baz=300,slow=9.2,SNR=4.5						
MKAR	Makanchi Array	46.27	346	P	P	22 51 19.7	-2.0
	1.6nm,0.7s,baz=158,slow=9.5,SNR=16						
SONM	Songino Array	46.30	9	P	P	22 51 20.4	-1.6
	0.6nm,0.7s,baz=185,slow=9.7,SNR=6.8						
ZAL	Zalesovo	52.59	351	P	P	22 52 08.1	-2.3
	1.0nm,0.6s,baz=351,slow=7.9,SNR=5.0						
ASAJ	Asahikawa	58.18	37	LR	LR	23 17 11.5	
	comp=Z,135nm,18.1s,baz=355,slow=35						

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*ECX **19** 23:00:16.6±0.8, 33.23N×115.54W, h4km, MD3.7, ML4.0*
*NEIC **19** 23:00:16.3, 33.24N×115.53W, h10km, ML3.7(PAS), After PAS.*
NEIC Felt in the Niland-Obsidian Butte area.
*IDC **19** 23:00:16.6±2.0, 33.34N×115.54W, mb3.5/1, mb1 3.6/6, mb1mx3.5/25, mbtmp3.2/6, ML2.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/22, Error ellipse: s-maj=30.9km s-min=14.4km az=46.0*
ISC 19 23:00:14.8±0.7, 33.27N±0.02×115.53W±0.04, h9km±6km, n37, σ1.03/44, mb3.6/1, MS3.6/1, 5C-3D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRK	Frink	0.16	327	⇓iP	Pg	23 00 19.9	+1.5
COA	Coachella	0.53	139	⇑iP	Pg	23 00 26.1	+0.7
GLA	Glamis	0.63	110	⇑iP	Pg	23 00 27.6	+0.1
GLA	Glamis	0.63	110	⇑eP	Pg	23 00 27.6	+0.2
SGL	Mount Signal	0.64	195	⇑iP	Pg	23 00 27.3	-0.3
YUH	Yuha Desert	0.70	208	⇑iP	Pb	23 00 28.5	-0.2
RMX	La Rumorosa	0.81	215	eP	Pb	23 00 30.1	-0.4
RMX				eS	Sb	23 00 40.9	-0.3
RMX				e		23 00 42.3	
	comp=E,5μm,0.4s						
RMX				⇓e		23 00 42.5	
	comp=N,7μm,0.5s						
PFO	Pinyon Flat Ob	0.84	294	eP	Pb	23 00 31.6	+0.5
PFO				eS	Sb	23 00 42.8	+0.5
CPBX	Cerro Prieto	0.87	167	eP	Pb	23 00 31.1	-0.5
CPBX				eS	Sb	23 00 42.7	-0.3
CPBX				⇓e		23 00 58.3	
	comp=N,16μm,0.2s						
CPBX				e		23 01 18.6	
	comp=E,15μm,0.9s						
BAR	Barrett	1.12	239	eP	Pb	23 00 35.4	-0.5
CBX	Cerro Bola	1.34	225	eP	Pb	23 00 39.3	-0.4
CBX				eS	Sb	23 00 58.1	+1.2
ENX	Ensenada	1.68	215	eP	Pn	23 00 44.0	-0.5
PBX	Punta Banda	1.82	214	eP	Pn	23 00 46.4	-0.3
LDFC	Landfair	1.84	11	eP	Pn	23 00 47.1	+0.2
SPX	San Pedro Mart	2.21	178	ePN	Pn	23 00 53.1	+0.9
GSC	Goldstone	2.29	333	ePn	Pn	23 00 52.9	-0.4
GSC				ePg	Pg	23 00 58.8	-1.7
MWC	Mount Wilson	2.31	295	ePn	Pn	23 00 53.1	-0.5
NEN	Nelson	2.44	13	ePn	Pn	23 00 55.4	-0.1
WUAZ	Wupatki	4.11	56	ePn	Pn	23 01 19.6	+0.4
TUC	Tucson	4.11	102	ePn	Pn	23 01 16.6	-2.7
MTUM	Tungsten Hills	4.77	330	Pn	Pn	23 01 29.6	+1.0
ARUT	Antelope Range	4.82	20	ePn	Pn	23 01 29.6	+0.2
NVAR	Mina Array Bea	5.62	337	Pn	Pn	23 01 40.1	-0.5
	comp=E,0.1nm,0.3s,baz=161,slow=16,SNR=2.8						
NVAR				Pg	Pg	23 01 60.0	-7.1
	comp=E,1.5nm,0.3s,baz=162,slow=18,SNR=31						
NVAR				Lg		23 03 18.8	
	baz=132,slow=15,SNR=1.9						
MSU	Marysvale	5.90	27	ePn	Pn	23 01 44.3	-0.2
CMB	Columbia Colle	6.18	322	ePn	Pn	23 01 47.4	-1.2
TMUT	Trail Mountain	6.96	29	Pn	Pn	23 01 58.8	-0.7
SRU	San Rafael	7.10	33	Pn	Pn	23 01 57.5	-3.9
PV10	Paradox Valley	7.33	44	Pn	Pn	23 02 03.0	-1.7
PV01	Paradox Valley	7.46	47	Pn	Pn	23 02 05.8	-0.7
ELK	Elko	7.47	2	Pn	Pn	23 02 07.9	+1.3
	comp=E,0.1nm,0.3s,baz=210,slow=14,SNR=2.3						
ELK				Pg	Pg	23 02 36.6	-7.3
	comp=E,0.6nm,0.3s,baz=179,slow=15,SNR=15						
ELK				Lg		23 04 11.6	
	comp=E,0.1nm,0.3s,baz=74,slow=4.0,SNR=3.3						
ANMO	Albuquerque	7.71	75	Pn	Pn	23 02 11.8	+1.8
	baz=264,slow=12,SNR=4.8						
ANMO				Pg	Pg	23 02 37.3	-11
	baz=271,slow=18,SNR=8.3						
ANMO				Lg		23 04 17.9	
	baz=180,slow=17,SNR=3.3						
ANMO				LR	LR	23 05 15.5	
	comp=E,227nm,21.9s,slow=39						
HVU	Hansel Valley	8.78	14	Pn	P	23 02 22.1	-2.8
HWUT	Hardware Ranch	8.90	20	Pn	P	23 02 26.1	-0.5
PDAR	Pinedale Array	10.59	25	Pn	P	23 02 51.8	+2.0
	baz=216,slow=13,SNR=8.7						
TXAR	Lajitas Array	10.88	108	Pn	P	23 02 55.3	+1.5
	comp=E,0.1nm,0.3s,baz=285,slow=12,SNR=5.1						
TXAR				Lg		23 05 56.0	
	comp=E,0.2nm,0.3s,baz=213,slow=48,SNR=3.5						
ILAR	Eielson Array	36.88	338	P	P	23 07 27.2	+2.1
	comp=E,0.7nm,0.8s,mb3.6,baz=154,slow=7.2,SNR=7.6						
FRB	Frobisher Bay	42.00	29	LR	LR	23 25 59.8	
	comp=E,75nm,20.5s,MS3.6,baz=91,slow=37						

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*NIED **19** 23:15:00, 32.90N×139.90E, h125km, Mw4.1 Best double couple: Mo1.61×10^15 NP1:φs291°, δ80°, λ123°. NP2:φs36°, δ34°, λ18°.*
*IDC **19** 23:15:35.4±0.8, 32.76N×139.63E, h122km±5km, mb3.4/9, mb1 3.5/11, mb1mx3.5/22, mbtmp3.8/11, Error ellipse: s-maj=26.5km s-min=17.0km az=63.0*
*JMA **19** 23:15:36.3±0.1, 32.92N×139.90E, h129km±1km, M3.5*
*NEIC **19** 23:15:37.6±1.3, 32.89N×139.74E, h142km±10km, mb4.0/2, Error ellipse: s-maj=16.7km s-min=12.5km az=103.0*
ISC 19 23:15:34.2±0.4, 32.76N±0.04×139.92E±0.05, h129km, n36, σ1.04/50, mb3.6/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.36	347	P	P	23 15 54.1	+1.5
JHJ2				eS	S	23 16 07.9	+1.4
JHJ	Hachijo jima 2	0.37	343	P	P	23 15 54.2	+1.6
	346nm,0.3s,baz=81,slow=21,SNR=57						
JHJ				S	S	23 16 07.4	+0.7
	194nm,0.3s,baz=277,slow=22,SNR=5.3						
JKO	Kozu shima	1.56	336	P	P	23 16 03.7	+0.3
JKO				eS	S	23 16 25.1	-0.5
NJJJ	Nii jima 2	1.72	342	P	P	23 16 05.8	+0.6
JIM2	Oshima 3	1.99	348	P	P	23 16 08.7	+0.3
JIM2				S	S	23 16 33.3	-1.1
BSO1	Boso 1	2.08	25	P	P	23 16 10.5	+0.9
BSO1				eS	S	23 16 36.5	0.0
BSO3	Boso 3	2.09	14	P	P	23 16 10.1	+0.3
JIZS	Izushimoda	2.13	336	P	P	23 16 10.5	+0.2
JIZS				eS	S	23 16 36.3	-1.4
TK03	Tokai 3	2.15	311	P	P	23 16 13.1	+2.6
TK03				eS	S	23 16 39.3	+1.3
TK02	Tokai 2	2.16	304	P	P	23 16 11.3	+0.7
TK02				S	S	23 16 39.1	+0.9
TK01	Tokai 1	2.19	298	P	P	23 16 11.2	+0.2
TK01				S	S	23 16 38.5	-0.5
KTJJ	Kamata 2	2.27	342	P	P	23 16 11.9	-0.2
KTJJ				eS	S	23 16 40.1	-0.7
TK04	Tokai 4	2.35	314	P	P	23 16 13.8	+0.7
TK04				eS	S	23 16 42.9	+0.3
JOD2	Odawara 2	2.59	345	P	P	23 16 16.4	+0.2
JOD2				S	S	23 16 47.9	-0.2
SHZ3	Shizuoka 3	2.70	329	P	P	23 16 18.1	+0.4
JIE	Ise	3.13	302	P	P	23 16 23.5	+0.1
JIE				S	S	23 16 58.6	-2.2
MJAR	Matsushiro Arr	4.02	340	P	P	23 16 34.7	-0.6
	7.7nm,0.3s,baz=172,slow=12,SNR=45						
MAJO	Matsushiro	4.03	340	ePn	P	23 16 35.6	+0.3
MAT	Matsushiro	4.03	340	P	P	23 16 34.9	-0.4
MAT				S	S	23 17 17.0	-5.1
CBIJ	Chichi jima	5.98	160	P	P	23 17 01.2	-0.3
	13nm,0.3s,baz=84,slow=22,SNR=12						
CBIJ				S	S	23 18 07.0	-2.4
	8.7nm,0.3s,baz=118,slow=23,SNR=2.7						
JNU	Nakatsue	7.61	275	P	P	23 17 25.1	+1.5
	0.5nm,0.3s,baz=358,slow=11,SNR=3.9						
ASAJ	Asahikawa	11.53	10	P	P	23 18 12.8	-2.9
	2.6nm,0.3s,baz=190,slow=7.1,SNR=10.0						
SONM	Songino Array	29.39	311	P	P	23 21 26.3	-0.9
	0.3nm,0.4s,mb3.4,baz=119,slow=9.6,SNR=4.3						
MKAR	Makanchi Array	45.47	306	P	P	23 23 40.5	-1.3
	0.5nm,0.4s,mb3.5,baz=86,slow=10.0,SNR=14						
BVAR	Borovoye Array	52.61	315	P	P	23 24 35.2	-1.4
	0.6nm,0.4s,mb3.7,baz=108,slow=9.4,SNR=6.2						
WRAB	Tennant Creek	52.67	187	eP	P	23 24 38.0	+0.5
	2.5nm,0.7s,mb4.0						
WRA	Warramunga Arr	52.68	187	P	P	23 24 37.4	-0.2
	0.6nm,0.4s,mb3.6,baz=4.7,slow=7.6,SNR=4.9						
ILAR	Eielson Array	53.77	31	P	P	23 24 46.1	+1.1
	0.2nm,0.6s,mb3.0,baz=315,slow=6.4,SNR=3.8						
JOF	Joensuu	69.16	332	ep	P	23 26 26.7	-1.4
	1.3nm,0.4s,mb4.0						
KAF	Kangasniemi	71.54	333	ep	P	23 26 41.3	-1.2
	0.6nm,0.4s,mb3.7,baz=52,slow=5.6						
FINES	FINESS Array B	72.02	332	P	P	23 26 44.3	-1.1
	1.0nm,0.4s,mb3.9,baz=57,slow=7.8,SNR=17						
AKASG	Malin Array Be	76.92	322	P	P	23 27 12.5	-1.0
	0.8nm,0.5s,mb3.6,baz=50,slow=6.2,SNR=5.1						
AKASG	Malin Array Be	76.92	322	P	P	23 27 12.5	-1.0
NVAR	Mina Array Bea	78.56	52	P	P	23 27 24.9	+2.0
	0.5nm,0.6s,mb3.3,baz=301,slow=8.7,SNR=3.6						
BRTR	Keskin Array B	80.75	311	P	P	23 27 34.5	-0.1
	0.3nm,0.4s,mb3.3,baz=124,slow=4.5,SNR=3.7						
LPAZ	La Paz	149.80	64	PKPbc	PKPdf	23 35 12.9	+8.5
	0.6nm,0.5s,baz=34,slow=9.6,SNR=4.8						

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*NNC **19** 23:18:21.3±7.1, 36.47N×69.91E, h69km±108km, mpv3.8, Error ellipse: s-maj=52.7km s-min=43.4km az=167.0*
*NEIC **19** 23:18:23.3±3.4, 36.58N×70.42E, h127km±23km, mb3.7/3, Error ellipse: s-maj=45.4km s-min=17.4km az=157.0*
*IDC **19** 23:18:23.8±9.1, 36.49N×70.52E, h142km±75km, mb3.6/4, mb1 3.5/6, mb1mx3.2/21, mbtmp4.0/6, Error ellipse: s-maj=155.5km s-min=30.4km az=156.0*
ISC 19 23:18:21.4±2.2, 36.4N±0.1×70.4E±0.1, h131km±21km, n25, σ0.79/28, mb3.5/2, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	6.22	23	P	P	23 19 52.1	+0.1
	SNR=31						
UCH	Uchtor	6.59	28	P	P	23 19 57.0	0.0
	SNR=15						
KK31	Karatay Array	6.65	1	⇓P	P	23 19 57.4	-0.4
	2.1nm,0.3s,baz=178,slow=12,SNR=229						
KK31				S	S	23 21 12.1	-0.6
	6.5nm,0.3s,baz=190,slow=26,SNR=8.5						
EKS2	Erkin-Say	6.73	22	P	P	23 19 59.2	+0.3
	SNR=12						
KZA	Kyzart	6.76	32	P	P	23 19 59.1	-0.2
	SNR=6.2						
AAK	Ala-Archa	6.94	26	P	P	23 20 01.6	-0.1
	SNR=8.6						
AAK	Ala-Archa	6.94	26	⇑P	P	23 20 01.5	-0.3
	3.3nm,0.4s						
AAK				⇑S	S	23 21 21.3	+1.6
	20nm,0.7s						
AAK	Ala-Archa	6.94	26	ePn	P	23 20 00.4	-1.3
	6.7nm,0.4s						
AAK				eSn	S	23 21 19.6	0.0
CHMS	Chumysh	7.35	26	P	P	23 20 06.6	-0.7
	SNR=9.7						
USP	Ospenovka	7.50	23	P	P	23 20 09.5	+0.1
	SNR=16						
TKM2	Tokmak 2	7.60	30	P	P	23 20 10.3	-0.3
	SNR=8.9						
MK31	Makanchi Array	13.62	37	⇑P	P	23 21 34.3	+4.4
	1.3nm,0.6s,baz=217,slow=10,SNR=17						
MKAR	Makanchi Array	13.62	37	P	P	23 21 30.2	+0.4
	0.1nm,0.3s,baz=220,slow=11,SNR=6.4						
AB31	Akbulak array	14.91	332	P	P	23 21 46.2	-0.1
	1.9nm,0.4s,baz=151,slow=12,SNR=68						
KURK	Kurchatov	15.44	20	ePn	P	23 21 55.5	+2.5
	4.7nm,1.3s						
VOSK	Vostochnaya	16.28	1	⇑P	P	23 22 03.4	-0.1
	1.7nm,0.6s						
BVA0	Borovoye Array	16.58	360	⇑P	P	23 22 08.8	+1.7
	0.4nm,0.7s,baz=174,slow=11,SNR=15						
BVAR	Borovoye Array	16.58	360	P	P	23 22 06.9	-0.2
	0.5nm,0.3s,baz=166,slow=12,SNR=15						
AKTO	Aktyubinsk	16.60	331	⇓P	P	23 22 08.0	+0.6
	0.4nm,0.6s						
BRVK	Borovoye	16.61	360	eP	P	23 22 06.4	-1.1
	1.8nm,0.6s						
ZAL	Zalesovo	20.15	25	P	P	23 22 45.7	-1.3
	3.8nm,0.4s,baz=251,slow=8.9,SNR=17						
GNI	Garni	20.46	288	P	P	23 22 51.1	+0.8
	5.9nm,0.7s,baz=9.6,slow=2.5,SNR=5.1						
FINES	FINESS Array B	37.27	326	P	P	23 25 21.2	-0.5
	0.4nm,0.5s,mb3.3,baz=108,slow=6.0,SNR=6.3						
ARCES	ARCESS Array B	41.02	338	P	P	23 25 52.7	0.0
	1.5nm,0.7s,mb3.8,baz=106,slow=8.8,SNR=4.2						
CRES	Cresnjev	41.71	301	i P	P	23 25 58.1	-0.4

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*IDC **19** 23:23:49.9±18.0, 37.87N×20.14E, mb3.6/2, mb1 3.6/3, mb1mx3.5/19, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=345.3km s-min=37.4km az=37.0*
*ATH **19** 23:23:53.4, 38.07N×20.21E, h11km±2km, MD3.8/13, ML4.0*
*NEIC **19** 23:23:53.0, 38.09N×20.25E, h9km, MD3.9(PDG), ML4.0(ATH), ML3.9(CSEM), After ATH.*
NEIC Felt at Argostolion.
*THE **19** 23:23:56.5, 38.12N×20.27E, h1km, ML3.5*
*CSEM **19** 23:23:56.3±0.1, 38.08N×20.29E, h10km, ML4.0, Error ellipse: s-maj=2.8km s-min=1.7km az=39.0*
*PDG **19** 23:23:58.1±0.3, 38.33N×19.75E, h11km±8km*
ISC 19 23:23:53.5±0.5, 38.18N±0.03×20.17E±0.03, h1km, n70, σ1.25/94, mb3.8/4, 7C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.33	91	⇓iPg	Pg	23 23 59.9	-0.2
VLS				eSg	Sg	23 24 03.3	-1.2

LKD	Levkas	0.65	36	ePg	Pg	23 24 07.2	+0.7
EVR	Evrytania	1.48	60	ePB	Pb	23 24 22.2	+0.7
EVR				eSB	Sg	23 24 42.4	-0.4
KEK	Kerkira	1.56	349	ePG	Pn	23 24 24.6	+2.1
JAN	Janina	1.57	20	ePB	Pb	23 24 24.5	+1.5
JAN				eSB	Sg	23 24 47.2	+1.5
JAN	Janina	1.57	20	ePb	Pb	23 24 25.0	+2.0
JAN				eSb	Sb	23 24 45.8	+2.6
SRN	Sarande	1.70	356	i Pn	Pn	23 24 27.0	+2.5
SRN				i Sn	Sn	23 24 49.6	+2.4
ITM	Ithomi	1.71	125	ePG	Pn	23 24 23.7	-1.0
AGG	Agios Georgios	1.89	63	ePb	Pb	23 24 28.2	-0.3
LSK	Leskovik	1.99	10	ePn	Pb	23 24 31.0	+0.7
LSK				i Sn	Sg	23 25 03.1	+3.2
LKR	Lokris	2.27	77	ePN	Pn	23 24 32.7	0.0
KZN	Kozani	2.46	30	ePN	Pn	23 24 37.6	+2.2
NSAL	Nisos Salamina	2.62	95	ePN	Pn	23 24 38.2	+0.6
LIT	Litokhoron	2.63	43	ePn	Pn	23 24 38.7	+0.9
NEO	Neokhori	2.64	64	ePB	Pn	23 24 38.2	+0.2
VLI	Veliai	2.64	123	ePN	Pn	23 24 37.5	-0.5
XOR	Xorichti	2.64	62	ePn	Pn	23 24 38.5	+0.6
XOR	Xorichti	2.64	62	ePn	Pn	23 24 38.5	+0.5
NAIG	Nisos Aigina	2.66	98	ePN	Pn	23 24 38.0	-0.2
FNA	Florina	2.76	19	ePn	Pn	23 24 40.8	+1.1
FNA				eSn	Sn	23 25 14.8	+0.6
ATH	Athens Observa	2.81	93	ePB	Pn	23 24 40.2	-0.2
MPAR	Parnis Oros	2.81	90	ePN	Pn	23 24 41.0	+0.6
TIP	Timpagrande	2.85	292	ePn	Pb	23 24 43.3	-1.7
TIP				eSn	Sb	23 25 23.1	+2.5
TIP	Timpagrande	2.85	292	ePn	Pb	23 24 43.3	-1.7
TIP				eSn	Sb	23 25 23.0	+2.5
AOS	Alonnisos	3.07	70	ePn	Pn	23 24 43.5	-0.5
PAIG	Paliouri	3.24	56	ePn	Pn	23 24 45.6	-1.0
GRG	Griva	3.26	31	ePn	Pn	23 24 46.9	+0.1
THE	Thessaloniki	3.27	41	ePn	Pn	23 24 46.9	0.0
PLG	Polygyros	3.35	48	ePN	Pn	23 24 48.2	+0.1
PE1	Pezze di Greco	3.37	322	ePn	Pn	23 24 50.2	+1.8
SOH	Sokhos	3.61	42	ePn	Pn	23 24 51.6	-0.1
KNT	Kendrikon	3.65	34	ePn	Pn	23 24 52.6	+0.3
OUR	Ouranopolis	3.66	53	ePn	Pn	23 24 51.6	-0.8
SG1	Sgolgore (BA)	3.79	316	ePn	Pn	23 24 56.9	+2.6
ULC	Ulcinj	3.84	350	⇓iPn	Pn	23 24 55.9	+0.8
ULC				eSn	Sn	23 25 39.5	-2.0
SKO	Skopje	3.91	14	ePn	Pn	23 24 55.5	-0.5
SKO				i		23 25 09.0	
CDT	Castel del Mon	4.18	315	ePn	Pn	23 25 01.2	+1.4
BUM	Brajici-Budva	4.23	347	⇓iPn	Pn	23 25 00.4	-0.1
BUM				eSn	Sn	23 25 48.4	-2.9
NVR	Nevrokopi	4.25	41	ePN	Pn	23 25 01.3	+0.4
VAM	Vamos	4.26	129	ePN	Pn	23 24 59.8	-1.2
TTG	Podgorica	4.30	351	⇓iPn	Pn	23 25 01.6	+0.1
TTG				eSn	Sn	23 25 51.0	-2.2
TTG	Podgorica	4.30	351	⇓iPn	Pn	23 25 01.6	0.0
TTG				eSn	Sn	23 25 51.0	-2.1
KKB	Krupnik	4.31	30	i P	Pn	23 25 01.0	-0.7
MMB	Musomiste	4.37	38	i P	Pn	23 25 02.0	-0.5
PVY	Plav	4.41	358	⇓iPn	Pn	23 25 05.1	+1.9
PVY				eSn	Sn	23 25 55.0	-1.0
HCY	Herceg Novi	4.45	344	⇓iPn	Pn	23 25 03.0	-0.7
HCY				eSn	Sn	23 25 53.0	-3.9
IVA	Berane	4.69	358	⇓iPn	Pn	23 25 08.1	+0.9
IVA				eSn	Sn	23 26 01.7	-1.3
NKY	Niksic	4.71	349	⇓iPn	Pn	23 25 07.9	+0.5
NKY				eSn	Sn	23 26 00.9	-2.7
TREB	Trebinje	4.74	344	Pg	Pn	23 25 07.5	-0.3
TREB				Sg	Sn	23 26 01.6	-2.6
BRY	Bratogost	4.87	346	⇓iPn	Pn	23 25 10.0	+0.3
BRY				eSn	Sn	23 26 03.3	-4.3
RZN	Rozhen	4.95	44	eP	Pn	23 25 10.0	-0.8
VTS	Vitosha	4.98	27	eP	Pn	23 25 11.0	-0.2
RDO	Rodhopi	5.09	53	ePn	Pn	23 25 12.4	-0.4
UPM	Unac-Piva	5.11	350	⇓iPn	Pn	23 25 13.5	+0.5
UPM				eSn	Sn	23 26 10.1	-3.5
PLE	Pljevlja	5.18	354	ePn	Pn	23 25 15.0	+1.0
PLE				eSn	Sn	23 26 12.6	-2.7
CII	Carovilli	5.73	310	ePn	Pn	23 25 25.6	+3.8
	11nm,0.7s						
CII	Carovilli	5.73	310	ePn	Pn	23 25 25.5	+3.7
	11nm,0.7s						
DIVS	Divcibare	5.91	359	⇑iPn	Sn	23 26 28.1	-5.7
NVLJ	Novalja	7.52	330	i Pn	Pn	23 25 46.3	-0.6
NVLJ				i Sn	Sn	23 27 07.2	-6.7
OBKA	Obir	9.30	335	⇑iPN	P	23 26 10.3	-1.5
OBKA				i SN	Sn	23 27 49.2	-9.1
OBKA	Obir	9.30	335	⇑iPn	P	23 26 10.3	-1.5
OBKA	Obir	9.30	335	⇑iSn	Sn	23 27 54.2	-4.1
MOA	Molln	10.58	338	⇑iPN	P	23 26 27.7	-1.6
MOA				i SN	S	23 28 20.2	-10
MOA	Molln	10.58	338	⇑iPn	P	23 26 27.7	-1.6
MOA	Molln	10.58	338	⇑iSn	S	23 28 22.7	-7.1
GERES	GERESS Array B	11.64	338	Pn	P	23 26 41.6	-2.2
	0.1nm,0.3s,baz=156,slow=13,SNR=4.4						
FINES	FINESS Array B	23.58	7	P	P	23 29 06.0	-0.1
	0.8nm,0.5s,mb3.5,baz=174,slow=13,SNR=5.4						
MKAR	Makanchi Array	45.54	58	P	P	23 32 12.2	-4.1
	0.8nm,0.6s,mb3.9,baz=274,slow=7.7,SNR=8.0						
MKAR				pP	pP	23 32 17.0	+0.4
	0.7nm,0.5s,baz=274,slow=7.8,SNR=12						
ZAL	Zalesovo	45.88	48	pP	P	23 32 19.9	+0.9
	1.8nm,0.5s,mb4.4,baz=210,slow=6.6,SNR=8.3						
SONM	Songino Array	60.67	50	pP	P	23 34 09.1	+0.7
	0.3nm,0.8s,mb3.5,baz=304,slow=10,SNR=3.6						

*MOS **19** 23:25:43.6±1.0, 7.21S×128.06E, h33km, mb4.9/10, Error ellipse: s-maj=19.5km s-min=8.7km az=113.7*
*BJI **19** 23:25:53.4, 7.40S×128.40E, h136km, mB4.8, mb4.8*
*IDC **19** 23:25:54.3±3.4, 7.39S×128.31E, h124km±32km, mb4.3/8, mb1 4.3/9, mb1mx4.2/13, mbtmp4.7/9, Error ellipse: s-maj=28.7km s-min=13.7km az=72.0*
*NEIC **19** 23:25:55.4±1.4, 7.44S×128.45E, h137km±14km, mb4.6/16, Error ellipse: s-maj=12.8km s-min=7.1km az=59.0*
ISC 19 23:25:55.8±1.7**, 7.47S**±0.06×**128.47E**±0.09**, h159**km±18km**, n68, σ0^{s}91**/71**, mb4.6**/32**, 8C-3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.51	143	⇓iP	P	23 27 52.2	+22
	163nm,0.2s						
KAKA				eS	S	23 29 01.2	+17
FITZ	Fitzroy Crossi	10.92	194	eP	P	23 28 27.2	-1.4
	92nm,0.3s						
FITZ				eS	S	23 30 21.2	-7.2
FITZ	Fitzroy Crossi	10.92	194	P	P	23 28 27.6	-1.0
	36nm,0.3s,baz=13,slow=9.8,SNR=234						
FITZ				S	S	23 30 21.3	-7.1
	84nm,0.3s,baz=327,slow=23,SNR=17						
WRAB	Tennant Creek	13.64	156	ePn	P	23 29 03.6	-0.2
	126nm,0.7s						
WRAB				eSn	S	23 31 30.4	-1.4
WRAB	Tennant Creek	13.64	156	eP	P	23 29 03.6	-0.2
WRAB				e		23 31 30.4	
WRAB				pmax	pmax		
	comp=Z,126nm,0.7s						
WRA	Warramunga Arr	13.64	156	P	P	23 29 03.0	-0.9
	comp=Z,5.0nm,0.3s,baz=322,slow=14,SNR=44						
WRA				S	S	23 31 26.0	-5.9
	comp=Z,29nm,0.3s,baz=325,slow=24,SNR=13						
WB2	Warramunga Arr	13.65	156	eP	P	23 29 03.4	-0.5
WB2				eS	S	23 31 28.0	-4.0
MBWA	Marble Bar	16.02	211	ePn	P	23 29 33.6	0.0
	comp=Z,36nm,0.9s						
ASPA	Alice Springs	16.93	163	eP	P	23 29 46.3	+1.6
ASPA				eS	S	23 32 46.8	+0.6
KKM	Kota Kinabalu	18.15	317	ePn	P	23 30 00.5	+1.6
PMG	Port Moresby	18.59	97	P	P	23 30 07.2	+3.8
	comp=Z,2.8nm,0.3s,baz=247,slow=3.7,SNR=9.0						
PMG				S	S	23 33 30.2	+8.2
	comp=Z,0.7nm,0.3s,baz=7.3,slow=17,SNR=2.4						
PMG	Port Moresby	18.59	97	P	P	23 30 07.2	+3.8
PMG				ePn	P	23 30 09.0	+5.5
PMG				S	S	23 33 30.2	+8.2
CTA	Charters Tower	21.32	128	eP	P	23 30 34.9	+3.8
	comp=Z,2.5nm,0.4s,mb3.9						
CTA	Charters Tower	21.32	128	P	P	23 30 34.5	+3.3
	comp=Z,3.5nm,0.4s,mb4.0,baz=300,slow=13,SNR=8.9						
CTA	Charters Tower	21.32	128	eP	P	23 30 34.9	+3.8
CTA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CTAO	Charters Tower	21.32	128	eP	P	23 30 31.2	+0.1
	comp=Z,3.3nm,0.4s,mb4.0						
CTAO	Charters Tower	21.32	128	eP	P	23 30 31.2	+0.1
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
FORT	Forrest	23.19	181	eP	P	23 30 49.7	+0.3
	comp=Z,44nm,0.6s,mb5.1						
FORT				eS	S	23 35 10.4	+25
KLBR	Kellerberrin	26.00	201	eP	P	23 31 16.1	+0.3
	comp=Z,73nm,1.9s,mb5.0						
KLBR				eS	S	23 36 12.9	+40
STKA	Stephens Creek	27.19	155	⇓iP	P	23 31 28.0	+1.3
	comp=Z,6.8nm,0.5s,mb4.5						
STKA				e	pP	23 32 03.8	+4.4
STKA				eS		23 36 48.2	
STKA	Stephens Creek	27.19	155	P	P	23 31 27.9	+1.2
	comp=Z,7.5nm,0.5s,mb4.6,baz=326,slow=8.8,SNR=36						
NWAO	Narrogin (SRO)	27.39	201	P	P	23 31 28.1	-0.4
	comp=Z,4.7nm,0.4s,mb4.4,baz=359,slow=12,SNR=7.7						
NWAO	Narrogin (SRO)	27.39	201	eP	P	23 31 29.1	+0.6
TOO	Toolangi	33.72	155	⇑iP	P	23 32 27.3	+3.4
	comp=Z,5.2nm,1.4s,mb4.1						
TOO	Toolangi	33.72	155	⇑iP	P	23 32 27.3	+3.4
TOO				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
WHN	Wuhan	40.15	341	⇑P	P	23 33 19.3	+1.5
NJ2	Nanjing	40.35	347	eP	P	23 33 21.0	+1.5
NJ2				PP	PP	23 34 58.8	+1.1
NJ2				S	S	23 39 21.0	+5.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,140nm,10.2s						
NJ2				LR	LR		
	comp=N,260nm,12.1s						
NJ2				LR	LR		
	comp=E,180nm,28.8s						
NJ2				LR	LR		
	comp=Z,160nm,21.8s						
ENH	Enshi	41.72	335	P	P	23 33 31.1	+0.3
	comp=Z,6.7nm,0.4s,mb4.6						
MJAR	Matsushiro Arr	44.72	11	P	P	23 33 53.7	-1.2
	comp=Z,6.1nm,0.6s,mb4.4,baz=187,slow=9.5,SNR=20						
MAJO	Matsushiro	44.72	11	eP	P	23 33 55.0	0.0
	comp=Z,8.9nm,0.7s,mb4.5						
MAJO	Matsushiro	44.72	11	eP	P	23 33 55.0	+0.1
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.5						
MAT	Matsushiro	44.72	11	P	P	23 33 54.0	-0.9
LZH	Lanzhou	49.12	333	eP	P	23 34 30.0	+0.7
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.7						
LSA	Lhasa	51.50	318	eP	P	23 34 48.3	+0.9
	comp=Z,4.4nm,0.6s,mb4.3						
LSA	Lhasa	51.50	318	eP	P	23 34 48.3	+0.9
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
GTA	Gaotai	53.66	333	eP	P	23 35 03.9	+0.6
GTA				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
PKI	Pulchoki	54.29	312	eP	P	23 35 07.3	-0.6
	comp=Z,17nm,0.5s,mb5.0						
PKI	Pulchoki	54.29	312	eP	P	23 35 07.3	-0.6
PKI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
KKN	Kakani	54.50	312	eP	P	23 35 09.1	-0.4
	comp=Z,19nm,0.6s,mb5.0						
DMN	Daman	54.53	312	eP	P	23 35 09.4	-0.3
	comp=Z,25nm,0.7s,mb5.0						
GKN	Gorkha	55.09	312	eP	P	23 35 12.9	-0.9
	comp=Z,38nm,0.5s,mb5.4						
KOLN	Koldanda	55.74	311	eP	P	23 35 18.1	-0.4
	comp=Z,30nm,0.6s,mb5.3						
HIA	Hailar	57.01	353	eP	P	23 35 26.8	-0.3
SONM	Songino Array	58.42	343	P	P	23 35 37.3	+0.3
	comp=Z,5.7nm,0.8s,mb4.4,baz=157,slow=6.7,SNR=40						
ZAK	Zakamensk	61.62	342	⇑eP	P	23 35 58.7	-0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
PET	Petropavlovsk	65.49	20c	iP	P	23 36 24.0	-0.1
PET				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
BOD	Bodaibo	66.12	352	eP	P	23 36 27.3	-0.7
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
MKAR	Makanchi Array	67.79	328	P	P	23 36 38.7	+0.1
	comp=Z,4.4nm,0.5s,mb4.4,baz=118,slow=8.1,SNR=84						
YAK	Yakutsk	69.30	1c	iP	P	23 36 47.4	-0.2
YAK				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
AAK	Ala-Archa	69.92	321	eP	P	23 36 51.5	-0.2
	comp=Z,5.3nm,1.0s,mb4.2						
AAK	Ala-Archa	69.92	321	⇑eP	P	23 36 50.7	-1.0
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
ZAL	Zalesovo	71.34	334	P	P	23 36 59.0	-1.0
	comp=Z,5.0nm,0.5s,mb4.5,baz=345,slow=5.6,SNR=28						
KURK	Kurchatov	72.13	329	eP	P	23 37 05.0	+0.3
	comp=Z,25nm,0.8s,mb5.0						
KURK	Kurchatov	72.13	329	eP	P	23 37 05.0	+0.3
KURK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
NVS	Novosibirsk	72.62	335	eP	P	23 37 06.2	-1.4
NVS				pmax	pmax		
	comp=N,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
BVAR	Borovoye Array	77.65	328	P	P	23 37 36.0	-0.1
	comp=Z,6.4nm,0.7s,mb4.4,baz=135,slow=6.3,SNR=45						
BRVK	Borovoye	77.72	328	eP	P	23 37 37.0	+0.5
	comp=Z,10nm,1.1s,mb4.4						
BRVK	Borovoye	77.72	328	eP	P	23 37 37.0	+0.5
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
ARU	Arti	85.30	328	eP	P	23 38 15.8	0.0
	comp=Z,20nm,1.0s,mb4.8						
ARU	Arti	85.30	328	⇓iP	P	23 38 15.9	+0.1
ARU				e		23 41 34.6	
ARU				eS	S	23 48 30.3	-0.7
ARU				eSS	SS	23 54 14.6	+2.2
ARU				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
ILAR	Eielson Array	94.42	25	P	P	23 38 57.3	-1.1
	comp=Z,1.2nm,0.9s,mb4.0,baz=257,slow=4.6,SNR=8.1						
ARCES	ARCESS Array B	101.48	340	P	P	23 39 29.9	-0.4
	comp=Z,2.8nm,0.8s,baz=79,slow=6.2,SNR=5.6						
PDAR	Pinedale Array	118.30	45	PKP	PKPdf	23 44 26.8	+2.3
	comp=Z,0.8nm,0.8s,baz=281,slow=0.9,SNR=7.6						
ANMO	Albuquerque	122.80	53	⇑iPKIKP	PKPdf	23 44 35.9	+2.6
TXAR	Lajitas Array	126.47	59	PKP	PKPdf	23 44 43.7	+3.1
	comp=Z,0.2nm,0.4s,baz=270,slow=2.5,SNR=3.5						
PLCA	Paso Flores	128.94	161	PKP	PKPdf	23 44 48.1	+3.1
	comp=Z,0.7nm,0.7s,baz=246,slow=12,SNR=4.0						
CPUP	Villa Florida	145.94	171	PKPbc	PKPbc	23 45 19.0	+1.5
	comp=Z,1.8nm,0.5s,baz=163,slow=2.3,SNR=7.1						
LPAZ	La Paz	151.24	145	PKPbc	PKPdf	23 45 35.5	+11
	comp=Z,3.7nm,0.4s,baz=40,slow=4.2,SNR=30						

*IDC **19** 23:46:48.3±1.9, 2.43N×126.89E, mb3.8/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=109.9km s-min=24.8km az=68.0*
*NEIC **19** 23:46:53.0±1.4, 2.48N×127.07E, h35km, mb4.1/1, Error ellipse: s-maj=78.4km s-min=19.6km az=68.0*
ISC 19 23:46:51.3±1.5**, 2.4N**±0.3×**126.7E**±0.5**, h33**km**, n9, σ0^{s}43**/8**, mb3.8**/4**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	16.05	159	eP	Px	23 50 57.7	
	5.2nm,0.8s						
FITZ	Fitzroy Crossi	20.40	183	P	P	23 51 28.4	+0.1
	2.3nm,0.5s,baz=1.1,slow=16,SNR=7.2						
WRAB	Tennant Creek	23.42	162	eP	P	23 51 59.0	+0.4
	3.6nm,0.6s,mb4.0						
WRA	Warramunga Arr	23.43	162	P	P	23 51 58.0	-0.7
	1.6nm,0.5s,mb3.7,baz=340,slow=11,SNR=8.4						
WB2	Warramunga Arr	23.43	162	eP	P	23 51 58.4	-0.3
STKA	Stephens Creek	36.90	159	P	P	23 53 59.1	+0.2
	1.3nm,0.6s,mb4.0,baz=323,slow=9.6,SNR=3.6						
STKA	Stephens Creek	36.90	159	eP	P	23 53 59.8	+0.9
MKAR	Makanchi Array	58.64	326	P	P	23 56 47.7	0.0
	0.4nm,0.5s,mb3.8,baz=117,slow=8.2,SNR=5.6						
MKAR	Makanchi Array	58.64	326	P	P	23 56 47.7	0.0

*CSEM **20** 00:02:15.8±0.9, 35.30N×3.85W, h12km, MD3.5, Error ellipse: s-maj=29.2km s-min=9.0km az=150.0*
*CNRM **20** 00:02:16.5, 35.35N×3.76W, h6km, MD3.5*
*MDD **20** 00:02:17.5±0.3, 35.33N×3.86W, h10km±2km, mbLg2.4/19, Error ellipse: s-maj=3.3km s-min=3.0km az=132.0, PRXIMO*
*SFS **20** 00:02:19.0, 35.46N×3.79W, h8km*
ISC 20 00:02:16.1±0.3**, 35.38N**±0.02×**3.86W**±0.03**, h10**km**, n36, σ1^{s}18**/68**, 3C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.17	203	P	Pg	00 02 19.0	-0.9
MPAL				S	Sg	00 02 23.5	+1.0
MPAL	Palemas	0.17	203	i P	Pg	00 02 19.0	-0.9
TOU	Touzarine	0.43	168	P	Pg	00 02 24.5	-0.3
TOU				S	Sg	00 02 29.0	-1.6
TOU	Touzarine	0.43	168	i P	Pg	00 02 24.5	-0.3
EMEL	Melilla	0.74	96	⇑P	Pb	00 02 32.1	+1.4
	809nm,0.3s,SNR=34						
EMEL				S	Sb	00 02 41.5	+1.0
	1µm,0.2s,SNR=17						
MELI	Melilla	0.76	96	⇑P	Pb	00 02 32.3	+1.4
MELI				S	Sb	00 02 42.1	+1.0
MELI	Melilla	0.76	96	i P	Pb	00 02 32.3	+1.4
MELI				i S	Sb	00 02 42.1	+1.0
EALB	Alboran	0.87	50	⇑P	Pb	00 02 32.9	0.0
	132nm,0.2s,SNR=18						
EALB				S	Sb	00 02 43.4	-1.0
	587nm,0.4s,SNR=7.9						
ZAI	Zaio	1.00	114	eP	Pb	00 02 34.0	-1.0
TZK	Tazeka	1.32	192	i P	Pb	00 02 40.0	-0.4
TZK				eS	Sb	00 02 58.0	+0.8
EMIJ	Mijas	1.39	328	P	Pn	00 02 41.0	-0.7
	1.9nm,0.1s,SNR=17						
EMIJ				Pg	Pg	00 02 44.8	+0.8
	14nm,0.4s,SNR=14						
EMIJ				S	Sb	00 03 01.2	+1.8
	34nm,0.2s,SNR=10						
EGUA	Guajares	1.47	9	P	Pn	00 02 43.0	+0.3
	2.2nm,0.2s,SNR=7.9						
EGUA				S	Sb	00 03 01.7	0.0
	10nm,0.2s,SNR=7.9						
ERON	Agron	1.64	2	P	Pn	00 02 45.9	+0.8
	6.8nm,0.3s,SNR=12						
ERON				S	Sn	00 03 07.4	+1.1
	36nm,0.5s,SNR=15						
EJIF	Jimena Fronter	1.69	310	P	Pn	00 02 48.1	+2.2
	6.8nm,0.6s,SNR=11						
EJIF				S	Sn	00 03 07.5	-0.2
	19nm,0.8s,SNR=6.1						
EBER	Berja	1.71	27	P	Pn	00 02 45.7	-0.5
	6.9nm,0.5s,SNR=12						
EBER				S	Sn	00 03 07.3	-0.8
	92nm,0.7s,SNR=5.9						
ELOJ	Sierra Loja	1.78	352	P	Pn	00 02 48.3	+1.1
	6.1nm,0.4s,SNR=11						
ELOJ				S	Sn	00 03 10.7	+0.7
	29nm,0.8s,SNR=12						
EQUE	Quentar	1.85	10	P	Pn	00 02 48.3	+0.1
	4.4nm,0.4s,SNR=13						
EQUE				S	Sn	00 03 10.8	-1.0
	32nm,0.7s,SNR=5.7						
ECOG	Cogollos-Vega	1.91	7	P	Pn	00 02 49.8	+0.8
	10nm,0.4s,SNR=4.0						
ECOG				S	Sn	00 03 12.5	-0.7
	12nm,0.4s,SNR=5.7						
ENIJ	Nijar	2.08	40	P	Pn	00 02 52.1	+0.7
	1.6nm,0.5s,SNR=7.9						
ENIJ				S	Sn	00 03 15.1	-2.5
	4.1nm,0.6s,SNR=7.9						
IFR	Ifrane	2.13	210	S	Sn	00 03 20.5	+1.5
ESPR	Espera	2.19	313	P	Pn	00 02 55.4	+2.3
	3.5nm,0.4s,SNR=9.4						
ESPR				Lg		00 03 27.7	
	13nm,0.4s,SNR=4.0						
ELUQ	Luque	2.20	352	P	Pn	00 02 54.7	+1.5
	11nm,0.5s,SNR=7.7						
ELUQ				S	Sn	00 03 20.7	0.0
	9.9nm,0.4s						
MIF	Mishlifen	2.27	210	eP	Pn	00 02 53.5	-0.7
MIF				i S	Sn	00 03 20.0	-2.5
EQES	Quesada	2.50	14	P	Pn	00 02 58.4	+0.9
	7.6nm,0.3s,SNR=18						
EQES				S	Sn	00 03 28.6	+0.3
	32nm,0.4s,SNR=7.3						
CZD	Col de Zad	2.54	203	eP	Pn	00 02 57.0	-1.1
CZD				i S	Sn	00 03 25.5	-3.8
EBAN	Banos Encina	2.78	1	P	Pn	00 03 03.5	+2.0
	6.4nm,0.5s,SNR=5.6						
EBAN				S	Sn	00 03 33.9	-1.5
	4.9nm,0.3s,SNR=4.0						
EADA	Adamuz	2.84	349	P	Pn	00 03 02.2	-0.1
	0.5nm,0.1s,SNR=13						
EADA				Pg	Pg	00 03 09.8	-3.0
	1.9nm,0.2s,SNR=4.0						
EADA				S	Sn	00 03 35.2	-1.8
	8.7nm,0.3s,SNR=6.3						
EMUR	La Murta	3.24	40	P	Pn	00 03 07.8	-0.2
	1.2nm,0.4s,SNR=4.0						
EMUR				S	Sn	00 03 44.1	-2.9
	12nm,0.7s,SNR=7.9						
EMIN	Mina Concepcio	3.29	317	P	Pn	00 03 08.9	+0.2
	2.5nm,0.2s,SNR=11						
EMIN				S	Sn	00 03 44.8	-3.5
	1.2nm,0.5s						
EVIA	Vianos	3.43	18	P	Pn	00 03 11.8	+1.1
	15nm,0.6s,SNR=6.5						
EGRO	El Granado	3.63	307	P	Pn	00 03 13.3	-0.2
	2.0nm,0.4s,SNR=6.8						
EGRO				S	Sn	00 03 53.2	-3.6
	2.7nm,0.3s						
ETOB	Tobarra	3.75	29	P	Pn	00 03 15.6	+0.3
	2.2nm,0.3s,SNR=10						
ETOB				S	Sn	00 03 54.5	-5.4
	4.5nm,0.6s						
EBAD	Badajoz	4.21	324	P	Pn	00 03 21.1	-0.7
	1.8nm,0.2s,SNR=6.8						
EBAD				S	Sn	00 04 06.9	-4.7
	3.6nm,0.2s						
ESDC	Sonseca Array	4.29	359	P	Pn	00 03 22.8	-0.1
	2.5nm,0.2s,baz=176,slow=12,SNR=3.6						
ESDC				S	Sn	00 04 09.8	-3.8
	0.3nm,0.3s,baz=178,slow=24,SNR=4.5						
EIBI	Ibiza	5.52	47	P	Pn	00 03 40.2	-0.1
	0.6nm,0.1s,SNR=4.0						
EIBI				S	Sn	00 04 38.5	-6.2
	0.7nm,0.3s,SNR=4.0						
ECAL	Calabor	6.93	342	P	Pn	00 03 59.1	-1.1
	2.2nm,0.6s,SNR=4.0						
ECAL				S	Sn	00 05 14.9	-5.0
	4.6nm,0.5s,SNR=4.0						

*BJI **20** 01:27:43.0, 5.17S×154.35E, h128km, mB5.2, mb4.9*
*IDC **20** 01:27:44.9±2.6, 4.55S×153.97E, h93km±21km, mb4.3/8, mb1 4.4/10, mb1mx4.3/14, mbtmp4.6/10, MS3.4/3, Ms1 3.4/3, ms1mx3.2/15, Error ellipse: s-maj=28.7km s-min=13.3km az=119.0*
*NEIC **20** 01:27:49.3±2.5, 4.61S×153.74E, h128km±19km, mb4.9/8, Error ellipse: s-maj=21.6km s-min=10.6km az=91.0*
*HRVD **20** 01:27:49.3±0.5, 4.81S×153.64E, h106km±6km, MW4.9/49, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s49,c66; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.88±.16; $M_{\theta\theta}$-0.27±.18; $M_{\phi\phi}$-1.62±.19; $M_{r\theta}$-0.98±.12; $M_{\theta\phi}$1.09±.14; $M_{\phi r}$1.01±.12; Best double couple: $M_0$2.496×10^{16} NP1:ϕ_s162°,δ29°, λ109°. NP2:ϕ_s321°,δ62°,λ80°. Principal axes: T 2.352, Plg71°, Azm209°; N .282, Plg9°, Azm326°; P -2.64, Plg17°, Azm59°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 20 01:27:50.0±2.1**, 4.72S**±0.08×**153.7E**±0.1**, h143**km±18km**, h135**km±4.0km**:pP-P, n53, σ0^{s}93**/55**, mb4.7**/27**, 2C-4D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.99	234	P	P	01 29 44.0	-0.4
	28nm,0.3s,baz=34,slow=6.3,SNR=66						
PMG				S	S	01 31 13.9	+0.3
	11nm,0.3s,baz=156,slow=19,SNR=5.7						
PMG	Port Moresby	7.99	234	ePn	P	01 29 43.6	-0.8
	608nm,0.9s						

PMG eSn S 01 31 09.2 -4.3
CTA Charters Tower 16.91 205 P P 01 31 40.3 +0.7
0.3nm,0.3s,baz=43,slow=12,SNR=2.9
CTA LR LR 01 35 55.0
comp=Z,178nm,21.8s,baz=42,slow=28
CTAO Charters Tower 16.91 205 eP P 01 31 40.0 +0.4
GUMO Guam 20.19 334 LR LR 01 39 12.5
comp=Z,21nm,20.9s,baz=201,slow=34
KAKA Kakadu 22.45 248⇓iP P 01 32 56.6 +19
30nm,0.9s,mb4.7
KAKA eS S 01 36 56.0 +26
WRAB Tennant Creek 24.17 230 eP P 01 32 55.0 +0.7
62nm,0.8s,mb5.2
WRAB epP 01 33 23.7
WRAB eS S 01 37 18.0 +19
WB2 Warramunga Arr 24.17 230⇓iP P 01 32 54.8 +0.4
WB2 eS S 01 37 15.4 +16
WRA Warramunga Arr 24.18 230 P P 01 32 55.3 +0.8
36nm,0.7s,mb5.0,baz=53,slow=9.6,SNR=135
WRA S S 01 37 11.2 +12
1.4nm,0.7s,baz=47,slow=15,SNR=4.0
ASPA Alice Springs 26.83 224 eP P 01 33 19.3 +0.3
STKA Stephens Creek 29.31 201 eP P 01 33 40.4 -0.9
4.8nm,0.8s,mb4.3
STKA Stephens Creek 29.31 201 P P 01 33 40.6 -0.7
5.4nm,0.8s,mb4.3,baz=4.4,slow=7.3,SNR=11
FITZ Fitzroy Crossi 30.49 242⇑iP P 01 33 50.1 -1.8
25nm,0.8s,mb5.0
FORT Forrest 35.43 220 eP P 01 34 34.1 -0.1
49nm,0.7s,mb5.2
MBWA Marble Bar 36.80 241 eP P 01 34 45.3 -0.5
19nm,0.9s,mb4.7
MBWA e 01 35 00.6
SSE Sheshan 47.24 321 eP P 01 36 15.6 +5.0
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,24nm,3.5s
NJ2 Nanjing 49.35 320 eP P 01 36 25.4 -1.5
NJ2 AP pP 01 36 57.6 -2.2
NJ2 XP sP 01 37 13.5 -2.2
NJ2 PP PP 01 38 21.5 -1.0
NJ2 S S 01 43 20.0 -1.0
NJ2 XS 01 44 16.0
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
NJ2 AMB AMB
comp=Z,510nm,6.8s
NJ2 LR LR
comp=N,170nm,12.1s
NJ2 LR LR
comp=E,300nm,18.2s
NJ2 LR LR
comp=Z,120nm,12.7s
MDJ Mudanjiang 53.66 339 P P 01 36 58.9 -0.1
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
MDJ AMB AMB
comp=Z,65nm,5.0s
KULM Kulim 53.91 280 eP P 01 36 58.4 -2.9
CN2 Changchun 54.60 335 eP P 01 37 07.0 +1.1
ENH Enshi 54.76 312 eP P 01 37 05.9 -1.4
comp=Z,19nm,0.9s,mb4.8
GYA Guiyang 55.06 307⇑iP P 01 37 09.8 +0.3
GYA AP pP 01 37 42.6 -0.4
GYA XP sP 01 37 58.4 -0.4
GYA PP PP 01 39 16.3 +0.8
GYA SCP 01 41 53.3
GYA S S 01 44 39.0 +0.2
GYA XS 01 45 36.4
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA LR LR
comp=N,290nm,17.9s
GYA LR LR
comp=E,310nm,18.2s
GYA LR LR
comp=Z,270nm,18.4s
KMI Kunming 57.69 304 P P 01 37 28.8 +0.7
KMI XP sP 01 38 13.6 -4.1
KMI AMB AMB
comp=Z,17nm,0.8s,mb4.9
CD2 Chengdu 59.37 310 P P 01 37 39.6 -0.1
HHC Hu-ho-hao-te 59.51 324 eP P 01 37 42.1 +1.6
HHC AP pP 01 38 11.5 -3.1
HHC XP sP 01 38 26.4 -3.9
HHC SCS ScS 01 47 15.1 +2.5
HHC SS SS 01 49 37.3 +1.6
HHC AMB AMB
comp=Z,13nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,165nm,4.6s
HHC LR LR
comp=N,133nm,14.3s
HHC LR LR
comp=E,170nm,17.8s
HHC LR LR
comp=Z,112nm,11.9s
LZH Lanzhou 61.80 315 eP P 01 37 56.8 +0.7
LZH AP pP 01 38 29.6 -0.8
LZH PCP PcP 01 38 36.1 +0.7
LZH XP sP 01 38 44.8 -1.3
LZH PP PP 01 40 16.0 +0.1
LZH SCP 01 42 22.5
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,149nm,4.1s
LZH LR LR
comp=E,325nm,14.9s
LZH LR LR
comp=Z,530nm,16.0s
GTA Gaotai 66.21 317 eP P 01 38 25.1 +0.3
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
SONM Songino Array 66.74 327 P P 01 38 26.9 -1.1
comp=Z,1.6nm,0.7s,mb4.0,baz=134,slow=5.7,SNR=9.9
PKI Pulchoki 73.17 300 eP P 01 39 07.3 0.0
KKN Kakani 73.33 301 eP P 01 39 08.3 +0.1
comp=Z,13nm,0.7s,mb4.8
DMN Daman 73.44 300 eP P 01 39 09.2 +0.4
comp=Z,32nm,0.9s,mb5.0
GKN Gorkha 73.94 301 eP P 01 39 11.7 0.0
comp=Z,25nm,0.8s,mb5.0
KOLN Koldanda 74.77 300 eP P 01 39 16.3 -0.2
comp=Z,30nm,1.0s,mb4.9
MKAR Makanchi Array 80.86 319 P P 01 39 49.1 -0.4
comp=Z,4.6nm,0.9s,mb4.1,baz=104,slow=5.0,SNR=21
ZAL Zalesovo 81.59 326 P P 01 39 52.1 -1.0
comp=Z,1.7nm,0.7s,mb3.8,baz=26,slow=7.0,SNR=7.4
ILAR Eielson Array 81.75 22 P P 01 39 52.6 -1.2
comp=Z,1.8nm,0.9s,mb3.7,baz=247,slow=5.4,SNR=13
KURK Kurchatov 84.26 322 eP P 01 40 06.0 -0.8
TKM2 Tokmak 2 84.52 314 P P 01 40 09.3 +1.1
SNR=7.8
CHMS Chumysh 85.15 314 P P 01 40 12.2 +0.9
SNR=6.6
UCH Uchtor 85.17 313 P P 01 40 13.2 +1.7
SNR=9.2
AAK Ala-Archa 85.26 313 P P 01 40 13.6 +1.6
SNR=5.6
AAK Ala-Archa 85.26 313 eP P 01 40 11.7 -0.3
comp=Z,7.9nm,0.9s,mb4.4
USP Ospenovka 85.38 314 P P 01 40 13.4 +0.9
SNR=8.4
AML Almayashu 85.76 313 P P 01 40 16.2 +1.8
SNR=14
MAW Mawson 85.99 203 P P 01 40 15.8 +0.8
comp=Z,9.1nm,0.7s,mb4.6,baz=95,slow=5.7,SNR=28
BVAR Borovoye Array 89.72 323 P P 01 40 32.4 -0.6
comp=Z,6.2nm,0.8s,mb4.6,baz=108,slow=4.7,SNR=27
BRVK Borovoye 89.78 323 eP P 01 40 32.6 -0.7
SYO Syowa Base 94.04 199⇓P P 01 40 51.5 -1.1
SYO Syowa Base 94.04 199⇓PcP PcP 01 40 56.5 +3.3
PDAR Pinedale Array 98.13 48 LR LR 02 22 52.2
comp=Z,57nm,19.0s,baz=157,slow=34
GERES GERESS Array B 124.45 329 PKP PKPdf 01 46 31.4 -0.9
comp=Z,0.3nm,0.5s,slow=1.3,SNR=4.6
BDFB Brasilia 150.48 134 PKPbc PKPdf 01 47 26.7 +6.7
comp=Z,1.9nm,0.4s,baz=187,slow=3.3,SNR=4.5
DBIC Dimbokro 158.58 276 PKPab PKPab 01 48 08.6 -0.8
comp=Z,4.6nm,0.9s,baz=91,slow=7.0,SNR=3.2

*FUNV **20** 01:51:54.5, 10.66N×62.43W, h68km, MW2.5*

*TRN **20** 01:51:56.1, 10.61N×62.42W, h61km, MD3.0*
ISC 20 01:51:54.1±0.7, 10.63N±0.05×62.52W±0.03, h71km±8km, n13,σ1°05/24, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.29**	**87**	*i* P	**P**	**01 52 04.9**	**-0.5**
GUIV				*e*S	**S**	**01 52 12.0**	**-1.7**
GUNV	**Guanoco**	**0.63**	**222**	*e*P	**P**	**01 52 10.1**	**+1.7**
GUNV				*e*S	**S**	**01 52 20.2**	**+1.2**
CRUV	**Carupano**	**0.71**	**274**	*e*P	**P**	**01 52 10.3**	**+1.0**
CRUV				*e*S	**S**	**01 52 20.9**	**+0.2**
ITEV	**Isla Los Testi**	**0.94**	**320**	*i* P	**P**	**01 52 12.4**	**+0.3**
ITEV				*e*S	**S**	**01 52 25.3**	**-0.2**
TPP	**Pointe-a-Pierr**	**1.09**	**106**	*e*P	**P**	**01 52 15.2**	**+1.1**
TPP				*e*S	**S**	**01 52 30.4**	**+1.4**
TRN	**Trinidad (W)**	**1.10**	**89**⇑	*i*P	**P**	**01 52 14.5**	**+0.4**
TRN				*e*S	**S**	**01 52 26.7**	**-2.3**
TBH	**Brigand Hill**	**1.43**	**96**	*e*P	**P**	**01 52 19.1**	**+0.3**
TBH				*e*S	**S**	**01 52 36.5**	**-0.5**
GRW	**Mount Saint Ca**	**1.74**	**29**	*e*P	**P**	**01 52 23.3**	**+0.5**
GRW				*e*S	**S**	**01 52 45.4**	**+1.5**
TPR	**Prospect**	**1.80**	**72**	*e*P	**P**	**01 52 23.7**	**+0.1**
TPR				*e*S	**S**	**01 52 44.5**	**-0.9**
BOT	**Bacolet**	**1.85**	**73**	*e*P	**P**	**01 52 24.1**	**-0.2**
PCRV	**Puerto La Cruz**	**2.13**	**258**	*e*P	**P**	**01 52 27.8**	**-0.4**
PCRV				*e*S	**S**	**01 52 52.8**	**-0.8**
IBAV	**Isla La Blanqu**	**2.34**	**301**	*e*P	**P**	**01 52 31.0**	**-0.3**
IBAV				*e*S	**S**	**01 52 57.4**	**-1.4**
GURV	**El Guri**	**2.91**	**191**	*e*S	**S**	**01 53 09.9**	**-3.1**

*DHMR **20** 02:17:57.9±0.9, 12.63N×40.55E, h9km±39km, ML4.6*
*BJI **20** 02:17:59.7, 12.54N×40.53E, h15km, mB5.1, mb4.9, Ms5.0, Msz4.7*
*NEIC **20** 02:17:59.8±0.5, 12.42N×40.47E, h10km, mb4.8/47, MS4.5/5, Error ellipse: s-maj=11.6km s-min=5.8km az=191.0*
NEIC This is the first of a swarm of events associated with an eruption of Dabbahu Volcano on September 24-26.
*MOS **20** 02:17:59.9±1.1, 12.70N×40.44E, h10km, mb4.9/37, MS4.6/16, Error ellipse: s-maj=10.0km s-min=4.3km az=109.5*
*IDC **20** 02:18:00.7±0.9, 12.80N×40.46E, mb4.3/15, mb1 4.3/16, mb1mx4.3/21, mbtmp4.2/16, ML3.4/1, MS4.6/12, Ms1 4.6/12, ms1mx4.5/15, Error ellipse: s-maj=22.1km s-min=20.0km az=123.0*
*CSEM **20** 02:18:00.2±0.2, 12.28N×40.47E, h30km, mb4.8/45, Ms4.4, Error ellipse: s-maj=7.7km s-min=2.0km az=2.0*
ISC 20 02:18:00.7±0.5, 12.41N±0.07×40.51E±0.03, h29km, h29km±1.2km:pP-P, n212,σ1°14/218, mb4.7/82, MS4.7/27, 12C-13D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.45**	**111**	P	**Pn**	**02 18 41.0**	**+1.3**
ATD				S	**Sn**	**02 19 18.1**	**+9.0**
ATD	**Arta Tunnel**	**2.45**	**111**	P	**Pn**	**02 18 41.0**	**+1.3**
UDYN	**Al 'Udayn**	**3.71**	**65**⇓	*i*P	**Pn**	**02 18 56.2**	**-1.4**
UDYN				*i* S	**Sn**	**02 19 43.1**	**+2.3**
UDYN				AML	AML	02 20 14.7	
comp=E,3μm,0.6s							
DHBB	**Dhamar BB**	**4.35**	**60**⇓	*e*P	**Pn**	**02 19 04.9**	**-1.7**
DHBB				*i* S	**Sn**	**02 19 57.1**	**+0.1**
ADEN	**Aden**	**4.39**	**85**⇓	*e*P	**Pn**	**02 19 06.2**	**-1.0**
ADEN				*i* S	**Sn**	**02 19 59.2**	**+1.2**
HAJJ	**Hajjah**	**4.44**	**42**⇓	*e*P	**Pn**	**02 19 05.2**	**-2.7**
LBOS		**4.84**	**72**⇓	*e*P	**Pn**	**02 19 09.9**	**-3.7**
LBOS				*i* S	**Sn**	**02 20 06.1**	**-3.4**
BDHA	**Al Bayda'**	**5.17**	**72**⇓	*e*P	**Pn**	**02 19 14.9**	**-3.3**
BDHA				*i* S	**Sn**	**02 20 14.1**	**-3.6**
MUKL	**Al Mukalla**	**8.55**	**75**	*i* S	**Sn**	**02 21 37.1**	**-5.0**
KMBO	**Kilima Mbogo**	**13.83**	**194**	Pn	**P**	**02 21 22.8**	**+5.4**
comp=E,0.2nm,0.3s,baz=18,slow=14,SNR=6.9							
QRN	**Al-Qurain**	**17.66**	**22**	*e*P	**P**	**02 22 08.6**	**+2.1**
RDF	**Al-Radifah**	**17.69**	**21**	*e*P	**P**	**02 22 07.9**	**+1.1**
RDF	**Al-Radifah**	**17.69**	**21**	*e*P	**P**	**02 22 09.9**	**+3.1**
NAY	**Al-Naaiem**	**17.89**	**19**	*e*P	**P**	**02 22 11.1**	**+1.9**
NAY				AMb	AMB	02 22 18.9	
comp=Z,59nm,1.6s							
KBD	**Kabd**	**17.97**	**21**	*e*P	**P**	**02 22 12.1**	**+1.8**
KBD				AMb	AMB	02 22 18.1	
comp=Z,354nm,1.1s							
ARQ	**Araqi**	**18.70**	**52**	⇓P	**P**	**02 22 20.0**	**+0.7**
BSY	**Bisya**	**18.93**	**55**	⇓P	**P**	**02 22 20.6**	**-1.4**
SNR=15							
BSYO	**Bisya**	**18.95**	**55**	P	**P**	**02 22 20.5**	**-1.8**
SNR=15							
ASHO	**Ashiyiah**	**19.12**	**48**	⇓P	**P**	**02 22 23.8**	**-0.5**
SNR=30							
HOQ	**Hoqain**	**19.44**	**53**	⇓P	**P**	**02 22 26.3**	**-1.7**
SNR=9.7							
SMDO	**Samad**	**19.76**	**55**	⇑P	**P**	**02 22 31.4**	**-0.1**
SNR=6.2							
ASF	**Jabal al Asfar**	**19.95**	**351**	P	**P**	**02 22 34.1**	**+0.6**
comp=Z,0.1nm,0.3s,baz=52,slow=3.5,SNR=5.7							
ASF				LR	LR	02 29 07.0	
comp=Z,1μm,20.7s,baz=42,slow=34							
BIDO	**Bidbid**	**20.05**	**54**	⇑P	**P**	**02 22 33.4**	**-1.2**
WBK	**Wadi Bani Khal**	**20.30**	**58**	⇑P	**P**	**02 22 36.5**	**-0.7**
BHD	**Baghdad**	**21.06**	**9**	*ex*	x	02 22 41.0	
BHD				*ex*	x	02 26 42.0	
BHD				*ex*	x	02 27 18.0	
BHD				*ex*	x	02 30 13.5	
BHD				*ex*	x	02 31 14.0	
BHL	**Bhannes**	**21.85**	**349**	*e*P	**P**	**02 22 56.6**	**+3.7**
CSS	**Prodhromos**	**23.38**	**345**	*e*P	**P**	**02 23 09.1**	**+1.1**
comp=Z,13nm,0.9s,mb4.4							
CSS	**Prodhromos**	**23.38**	**345**	*e*P	**P**	**02 23 09.1**	**+1.2**
comp=Z,13nm,0.9s,mb4.4							
MSL	**Mosul**	**23.89**	**5**	*ex*	x	02 23 38.0	
MSL				*ex*	x	02 27 52.0	
MSL				*ex*	x	02 31 16.0	
MALT	**Malatya**	**25.86**	**356**	*e*P	**P**	**02 23 32.0**	**+0.3**
comp=Z,28nm,1.3s,mb4.6							
MALT	**Malatya**	**25.86**	**356**	*e*P	**P**	**02 23 32.0**	**+0.3**
comp=Z,28nm,1.3s,mb4.6							
MALT	**Malatya**	**25.86**	**356**	*e*P	**P**	**02 23 32.0**	**+0.3**
MALT				pmax	pmax		
comp=Z,28nm,1.3s,mb4.6							
IDI	**Anoyia**	**26.81**	**331**	P	**P**	**02 23 44.9**	**+4.5**
comp=Z,11nm,0.9s,mb4.4,baz=152,slow=8.0,SNR=5.1							
BRTR	**Keskin Array B**	**27.87**	**349**	P	**P**	**02 23 50.9**	**+0.8**
comp=Z,4.7nm,1.1s,mb4.0,baz=174,slow=11,SNR=14							
BR131	**Keskin Array S**	**27.88**	**349**	*e*P	**P**	**02 23 51.3**	**+1.2**
comp=Z,2.8nm,0.7s,mb4.0							
BR131	**Keskin Array S**	**27.88**	**349**	*e*P	**P**	**02 23 51.3**	**+1.2**
comp=Z,2.8nm,0.7s,mb4.0							
GNI	**Garni**	**27.88**	**7**	P	**P**	**02 23 52.2**	**+2.1**
comp=Z,3.3nm,0.4s,mb4.3,baz=121,slow=12,SNR=3.5							
GNI				LR	LR	02 35 09.9	
comp=Z,2μm,18.1s,MS4.7,baz=194,slow=37							
GNI	**Garni**	**27.88**	**7**	P	**P**	**02 23 52.2**	**+2.1**
GNI				LR	LR	02 35 09.9	
ANTO	**Ankara**	**28.18**	**347**	*e*P	**P**	**02 23 54.3**	**+1.5**
comp=Z,14nm,0.9s,mb4.6							
ANTO	**Ankara**	**28.18**	**347**	*e*P	**P**	**02 23 54.3**	**+1.4**
comp=Z,14nm,0.9s,mb4.6							
ANTO	**Ankara**	**28.18**	**347**	*e*P	**P**	**02 23 54.3**	**+1.4**
ANTO				pmax	pmax		
comp=Z,14nm,0.9s,mb4.6							
TI2	**Plekhanov**	**29.45**	**6**	*e*P	**P**	**02 24 03.0**	**-1.2**
TI2				MLR	MLR		
comp=E,2μm,11.0s							
TI2				MLR	MLR		
comp=Z,5μm,11.0s,MS5.4							
ZEI	**Tsey**	**30.39**	**5**	*e*P	**P**	**02 24 11.4**	**-1.2**
comp=Z,13nm,1.2s,mb4.5							
ZEI	**Tsey**	**30.39**	**5**	*e*P	**P**	**02 24 11.4**	**-1.2**
ZEI				*i* *PP	pP	02 24 19.9	-1.3
ZEI				pmax	pmax		
comp=Z,13nm,1.2s,mb4.5							
MAK	**Makhachkala**	**31.04**	**10**	P	**P**	**02 24 29.0**	**+11**
MAK				*e*SS	SS	02 31 22.0	+17
MAK				MLR	MLR		
comp=N,1μm,13.0s							
MAK				MLR	MLR		
comp=Z,3μm,13.0s,MS5.1							
MAK				MLR	MLR		
comp=E,2μm,7.0s							
MAK				smax			
comp=E,1μm,0.9s							

SOC Sochi 31.07 359 eP P 02 24 16.3 -2.2
SOC e 02 25 15.5
SOC ePPP PPP 02 25 31.9 -4.2
SOC eS S 02 29 19.4 -1.3
SOC eSSS SSS 02 31 18.9 -9.3
SOC pmax pmax
comp=N,13nm,0.9s
SOC pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
SOC pmax pmax
comp=E,7.0nm,0.8s
SOC MLR MLR
comp=N,2μm,11.0s,MS5.0
SOC MLR MLR
comp=E,547nm,11.0s,MS5.0
SOC MLR MLR
comp=Z,994nm,11.0s,MS4.7
KIV Kislovodsk 31.49 3 eP P 02 24 21.9 -0.3
comp=Z,22nm,1.3s,mb4.8
KIV Kislovodsk 31.49 3 eP P 02 24 21.9 -0.3
comp=Z,22nm,1.3s,mb4.8
KIV Kislovodsk 31.49 3 eP P 02 24 22.9 +0.7
KIV e 02 25 26.9
KIV eS S 02 29 29.8 +2.5
KIV pmax pmax
comp=E,9.0nm,1.1s
KIV pmax pmax
comp=Z,16nm,1.1s,mb4.8
KIV MLR MLR
comp=N,2μm,18.0s,MS4.9
KIV MLR MLR
comp=Z,2μm,18.0s,MS4.8
KIV MLR MLR
comp=E,864nm,15.0s,MS4.9
ANN Anapa 32.38 356 eP P 02 24 21.1 -9.0
ANN e 02 25 40.6
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.1
ANN MLR MLR
comp=N,1μm,13.0s,MS4.8
ANN MLR MLR
comp=E,675nm,13.0s,MS4.8
ANN MLR MLR
comp=Z,798nm,13.0s,MS4.6
SIM Simferopol' 32.88 352 P P 02 24 35.9 +1.5
SIM eS S 02 29 53.0 +4.0
SIM pmax pmax
comp=Z,12nm,1.3s,mb4.7
MLR Muntele Rosu 35.22 342⇓P P 02 24 55.3 +0.7
VRI Vrincioaia 35.34 343⇑P P 02 24 57.5 +1.9
VOIR 35.45 341⇓P P 02 24 58.3 +1.8
BURAR Bucovina Array 37.36 343⇑P P 02 25 13.2 +0.6
DRGR 37.41 340⇑P P 02 25 11.9 -1.1
AQU L'Aquila 38.00 327 P P 02 25 17.4 -0.6
comp=Z,30nm,1.3s,mb4.9
AQU L'Aquila 38.00 327 P P 02 25 17.4 -0.6
comp=Z,30nm,1.3s,mb4.9
AQU L'Aquila 38.00 327 P P 02 25 17.4 -0.6
AQU pmax pmax
comp=Z,30nm,1.3s,mb4.9
AKASG Malin Array Be 39.28 349 P P 02 25 27.9 -0.7
comp=Z,5.8nm,0.9s,mb4.3,baz=172,slow=7.2,SNR=15
AKASG Malin Array Be 39.28 349 P P 02 25 27.9 -0.7
PSZ Piszkesteto 39.37 338 eP P 02 25 29.8 +0.4
comp=Z,17nm,1.4s,mb4.6
PSZ Piszkesteto 39.37 338 eP P 02 25 29.8 +0.4
comp=Z,17nm,1.4s,mb4.6
PSZ Piszkesteto 39.37 338 eP P 02 25 29.8 +0.4
PSZ pmax pmax
comp=Z,17nm,1.4s,mb4.6
KOLS Kolonicke sedl 39.43 341 eP P 02 25 31.0 +1.1
CRVS Cervenica-Dubn 39.66 340 *i* pP pP 02 25 35.3 -5.3
KWP Kalwaria 39.91 342 eP P 02 25 35.8 +2.0
VYHS Vyhne 40.24 338 *i* P P 02 25 37.2 +0.7
VYHS eS S 02 31 45.2 +3.6
ARSA Arzberg 40.57 334⇑*i*P P 02 25 40.1 +0.8
comp=Z,11nm,1.0s,mb4.4
PGF Pioggiola 40.59 324 eP P 02 25 39.7 +0.2
ZST Bratislava 40.66 336 *i* P P 02 25 40.8 +0.8
OJC Ojcow 41.35 340 eP P 02 25 45.6 -0.1
MOA Molln 41.58 333⇑*i*P P 02 25 47.4 -0.2
comp=Z,8.5nm,1.1s,mb4.3
OKC Ostrava-Krasne 41.60 338 epP pP 02 25 55.8 -0.7
VRAC Vranov 41.76 337 P P 02 25 48.6 -0.4
comp=Z,5.1nm,0.9s,mb4.1,baz=117,slow=9.2,SNR=5.8
VRAC Vranov 41.76 337 eP P 02 25 49.1 +0.1
AAK Ala-Archa 42.11 38⇓eP P 02 25 53.0 +1.0
AAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.2
AAK MLR MLR
comp=Z,3μm,21.0s,MS5.1
TREC Trest 42.18 336 eP P 02 25 52.6 +0.1
FRU Bishkek 42.30 38 eP P 02 25 55.8 +2.2
FRU pmax pmax
comp=Z,50nm,2.1s,mb4.8
FRU MLR MLR
comp=Z,3μm,18.0s,MS5.2
SBF Sospel 42.30 324 eP P 02 25 53.2 -0.4
comp=Z,81nm,1.3s,mb4.9
WTTA Wattenberg 42.35 331⇑*i*P P 02 25 52.1 -1.8
comp=Z,8.9nm,1.2s,mb4.3
LMR La Mourre 42.52 323 eP P 02 25 55.3 -0.1
comp=Z,49nm,1.5s,mb4.7
LMR La Mourre 42.52 323 eP P 02 25 55.3 -0.1
LMR pmax pmax
comp=Z,24nm,1.5s,mb4.7
FRF La Foret Royal 42.58 323 eP P 02 25 55.8 0.0
comp=Z,19nm,0.9s,mb4.5
FRF La Foret Royal 42.58 323 eP P 02 25 55.8 0.0
FRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
GERES GERESS Array B 42.58 334 P P 02 25 55.3 -0.5
comp=Z,4.7nm,0.9s,mb4.2,baz=131,slow=7.3,SNR=14
GERES LR LR 02 46 16.1
comp=Z,398nm,18.9s,MS4.3,baz=147,slow=40
DPC Dobruska-Polom 42.70 337 AMS AMS 02 46 30.0
comp=Z,600nm,16.8s
OBN Obninsk 42.71 357 eP P 02 25 57.3 +0.5
comp=Z,11nm,0.7s,mb4.7
OBN Obninsk 42.71 357 eP P 02 25 57.3 +0.5
comp=Z,11nm,0.7s,mb4.7
OBN Obninsk 42.71 357⇑eP P 02 25 57.6 +0.8
OBN pmax pmax
comp=Z,26nm,1.5s,mb4.7
OBN MLR MLR
comp=Z,600nm,18.0s,MS4.5
KHC Kasperske Hory 42.85 334 eP P 02 25 57.5 -0.5
KHC pP pP 02 26 06.5 -0.2
KHC Kasperske Hory 42.85 334 eP P 02 25 57.5 -0.5
KHC e pP 02 26 06.5 -0.2
UPC Upice 42.94 337 eP P 02 25 59.2 +0.5
KOLN Koldanda 43.02 63 eP P 02 25 59.6 -0.1
comp=Z,180nm,1.9s,mb5.5
PRU Pruhonice 43.11 336 eP P 02 25 59.0 -1.1
PRU AMS AMS 02 48 10.0
comp=Z,600nm,15.3s
MBDF Montbardon 43.20 325 eP P 02 26 01.5 +0.6
comp=Z,36nm,1.0s,mb4.8
MBDF Montbardon 43.20 325 eP P 02 26 01.5 +0.6
MBDF pmax pmax
comp=Z,18nm,1.0s,mb4.8
DAVA Damuels 43.22 330⇑*i*P P 02 26 00.8 -0.2
comp=Z,10nm,1.0s,mb4.5
MOS Moscow 43.29 358 eP P 02 26 01.9 +0.5
MOS pmax pmax
comp=Z,46nm,1.1s,mb5.1
MOS MLR MLR
comp=Z,600nm,15.2s,MS4.6
SMRF Simiane la Rot 43.45 323 eP P 02 26 03.2 +0.3
comp=Z,53nm,1.5s,mb4.8
LPG La Plagne 43.69 326 eP P 02 26 04.0 -0.8
comp=Z,22nm,1.0s,mb4.5
LPG La Plagne 43.69 326 eP P 02 26 04.0 -0.8
LPG pmax pmax
comp=Z,11nm,1.0s,mb4.5
LPL La Plagne 43.71 326 eP P 02 26 04.0 -1.0
comp=Z,43nm,1.5s,mb4.7
LPL La Plagne 43.71 326 eP P 02 26 04.0 -1.0
LPL pmax pmax
comp=Z,21nm,1.5s,mb4.7
ORIF Oris-en-Rattie 43.83 324 eP P 02 26 05.9 -0.1
comp=Z,27nm,1.3s,mb4.5
ORIF eR
comp=Z,899nm,19.8s
GKN Gorkha 43.97 62 eP P 02 26 08.5 +1.2
comp=Z,36nm,1.1s,mb5.0

BRG	Berggiesshubel	44.04	336	eP	P	02 26 07.5	-0.2
	comp=Z,4.2nm,0.9s,mb4.2						
BRG				e	pP	02 26 16.1	-0.3
BRG				S	S	02 32 40.0	+2.6
BRG				SS	SS	02 35 54.0	+7.3
BRG	Berggiesshubel	44.04	336	eP	P	02 26 07.4	-0.2
BRG				e	pP	02 26 16.1	-0.3
BRG				S	S	02 32 40.0	+2.6
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
BRG				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
GRA1	Grafenberg Arr	44.29	333	eP	P	02 26 08.5	-1.2
	comp=Z,7.0nm,0.9s,mb4.4						
GRA1				LR	LR		
	comp=Z,800nm,19.4s,MS4.7						
GRF	Grafenberg Arr	44.29	333	eP	P	02 26 08.5	-1.2
	comp=Z,7.0nm,0.9s,mb4.4						
GRF				LR	LR		
	comp=Z,800nm,19.4s,MS4.7						
GRF	Grafenberg Arr	44.29	333	eP	P	02 26 08.5	-1.2
	comp=Z,7.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	44.29	333	eP	P	02 26 08.5	-1.2
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
GRF				MLR	MLR		
	comp=Z,800nm,19.4s,MS4.7						
GRF	Grafenberg Arr	44.29	333	eP	P	02 26 08.5	-1.2
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
GRF				MLR	MLR		
	comp=Z,800nm,19.4s,MS4.7						
DMN	Daman	44.30	63	eP	P	02 26 09.9	-0.1
KKN	Kakani	44.48	63	eP	P	02 26 11.5	0.0
	comp=Z,53nm,1.1s,mb5.2						
VIVF	Saint-Julien-l	44.48	324	eP	P	02 26 11.3	0.0
LASF	Ste Croix	44.52	322	eP	P	02 26 12.2	+0.6
	comp=Z,121nm,1.9s,mb5.1						
PKI	Pulchoki	44.55	63	eP	P	02 26 12.1	0.0
	comp=Z,42nm,1.3s,mb5.1						
CABF	La Chapelle	44.74	326	eP	P	02 26 12.2	-1.2
	comp=Z,49nm,1.4s,mb4.8						
CABF	La Chapelle	44.74	326	eP	P	02 26 12.2	-1.2
CABF				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.8						
CLL	Collm	44.75	336	P	P	02 26 15.0	+1.6
CLL				e*SP	sP	02 26 22.0	-3.8
CLL	Collm	44.75	336	eP	P	02 26 16.0	+2.6
CLL				e		02 26 22.0	
MOX	Moxa	44.83	334	eP	P	02 26 12.0	-2.0
MOX				SS	SS	02 36 22.0	+21
MOX				L		02 46 57.0	
MOX	Moxa	44.83	334	eP	P	02 26 12.0	-2.0
MOX				eSS	SS	02 36 22.0	+21
MOX				LR	LR		
	comp=Z,300nm,20.0s,MS4.2						
MOX	Moxa	44.83	334	eP	P	02 26 12.0	-2.0
MOX				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.2						
EPOB	Poblet	44.87	317	P	P	02 26 10.5	-4.0
	comp=Z,30nm,1.3s,mb5.0						
EMUR	La Murta	44.97	312	P	P	02 26 13.9	-1.4
	comp=Z,12nm,1.1s,mb4.6						
DBIC	Dimbokro	45.05	267	P	P	02 26 17.5	+1.2
	comp=Z,3.5nm,0.7s,mb4.3,baz=76,slow=9.7,SNR=7.4						
DBIC				LR	LR	02 47 15.8	
	comp=Z,969nm,18.1s,MS4.8,baz=64,slow=39						
HINF	Hinteralfeld	45.10	328	eP	P	02 26 15.5	-0.7
MTLF	Montolieu	45.13	320	eP	P	02 26 16.3	-0.2
CDF	Champ du Feu	45.27	329	eP	P	02 26 16.8	-0.7
LIC	Lamto	45.30	266	eP	P	02 26 19.7	+1.5
	comp=Z,8.4nm,0.9s,mb4.5						
HAU	Haudompre	45.48	328	eP	P	02 26 18.4	-0.8
HAU				eR			
	comp=Z,320nm,17.5s						
MDT	Midelt	45.92	304	P	P	02 26 23.4	+0.5
	comp=Z,1.8nm,0.8s,mb4.1,baz=94,slow=11,SNR=8.4						
SMF	Signal de Mont	46.00	325	eP	P	02 26 23.2	-0.1
CAF	Calviac	46.06	322	eP	P	02 26 24.3	+0.5
	comp=Z,27nm,1.3s,mb4.7						
CAF	Calviac	46.06	322	eP	P	02 26 24.3	+0.5
CAF				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
ARU	Arti	46.09	14	eP	P	02 26 24.8	+0.9
	comp=Z,6.6nm,0.8s,mb4.6						
ARU	Arti	46.09	14	⇓iP	P	02 26 24.7	+0.8
ARU				e		02 28 10.4	
ARU				eS	S	02 33 11.8	+5.0
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ARU				MLR	MLR		
	comp=Z,700nm,18.0s,MS4.7						
ARU				MLR	MLR		
	comp=N,500nm,20.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,300nm,17.0s,MS4.6						
EBIE	Bielsa	46.12	319	P	P	02 26 23.5	-0.8
	comp=E,18nm,1.2s,mb4.9						
EBIE	Bielsa	46.12	319	P	P	02 26 23.5	-0.8
	comp=E,18nm,1.2s,mb4.9						
EPF	Esparros	46.16	319	eP	P	02 26 24.7	+0.1
	comp=E,48nm,1.7s,mb4.8						
EPF	Esparros	46.16	319	eP	P	02 26 24.7	+0.1
EPF				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.8						
EQES	Quesada	46.29	311	P	P	02 26 25.9	+0.2
	comp=Z,2.7nm,0.7s,mb4.3						
EQES	Quesada	46.29	311	P	P	02 26 26.0	+0.2
	comp=Z,2.7nm,0.7s,mb4.3						
LOR	Lormes	46.35	326	eP	P	02 26 25.4	-0.7
LOR				eR			
	comp=Z,408nm,21.0s						
AVF	Avril sur Loir	46.36	325	eP	P	02 26 25.2	-0.9
SSF	Saint Saulge	46.43	325	eP	P	02 26 25.8	-0.9
MEZF	Maizieres J'vi	46.47	328	eP	P	02 26 27.0	0.0
	comp=Z,38nm,1.1s,mb4.9						
ECOG	Cogollos-Vega	46.48	310	P	P	02 26 27.5	+0.3
	comp=Z,3.1nm,0.7s,mb4.3						
ECOG	Cogollos-Vega	46.48	310	P	P	02 26 27.5	+0.3
	comp=Z,3.1nm,0.7s,mb4.3						
ECOG	Cogollos-Vega	46.48	310	P	P	02 26 27.5	+0.3
ECOG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BGF	Bois d'Agland	46.51	324	eP	P	02 26 27.2	-0.1
ERON	Agron	46.56	310	P	P	02 26 30.7	+2.7
	comp=Z,1.9nm,0.3s,mb4.5						
RJF	Les Rejaudoux	46.59	322	eP	P	02 26 28.2	+0.2
RJF				eR			
	comp=Z,591nm,18.5s						
ETSF	Etsaut	46.68	318	eP	P	02 26 29.6	+0.9
	comp=Z,53nm,1.4s,mb5.0						
ETSF	Etsaut	46.68	318	eP	P	02 26 29.6	+0.9
ETSF				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0						
TCF	Toulx Ste Croi	46.72	324	eP	P	02 26 29.2	+0.2
LFF	La Frestale	46.87	322	eP	P	02 26 30.5	+0.3
	comp=Z,24nm,0.9s,mb4.8						
LFF	La Frestale	46.87	322	eP	P	02 26 30.5	+0.3
LFF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ELOJ	Sierra Loja	46.87	310	P	P	02 26 31.1	+0.8
	comp=Z,15nm,1.2s,mb4.8						
ELOJ	Sierra Loja	46.87	310	P	P	02 26 31.1	+0.8
	comp=Z,15nm,1.2s,mb4.8						
ELOJ	Sierra Loja	46.87	310	P	P	02 26 31.1	+0.8
ELOJ				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
SVE	Sverdlovsk	46.95	15	eP	P	02 26 31.0	+0.3
SVE				eS	S	02 33 36.0	+17
BVAR	Borovoye Array	47.01	24	P	P	02 26 30.7	-0.5
	comp=Z,3.3nm,0.8s,mb4.3,baz=214,slow=5.3,SNR=13						
SJPF	Ste Jean	47.21	318	eP	P	02 26 33.9	+1.0
	comp=Z,45nm,1.2s,mb5.0						
SJPF	Ste Jean	47.21	318	eP	P	02 26 33.9	+1.0
SJPF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
EALK	Alkurruntz	47.44	318	P	P	02 26 35.4	+0.6
	comp=Z,126nm,2.0s,mb5.5						
EALK	Alkurruntz	47.44	318	P	P	02 26 35.4	+0.6
	comp=Z,126nm,2.0s,mb5.5						
ESDC	Sonseca Array	47.63	313	P	P	02 26 36.5	+0.1
	comp=Z,1.4nm,0.8s,mb4.0,baz=114,slow=7.0,SNR=6.5						
ESDC	Sonseca Array	47.63	313	P	P	02 26 36.3	0.0
	comp=Z,21nm,1.8s,mb4.9						
ESDC	Sonseca Array	47.63	313	P	P	02 26 36.3	0.0
	comp=Z,21nm,1.8s,mb4.9						
BAIF	Baives	47.87	329	eP	P	02 26 36.9	-1.2
ESPR	Espera	48.07	309	P	P	02 26 39.4	-0.4
	comp=Z,40nm,1.5s,mb5.2						
ESPR	Espera	48.07	309	P	P	02 26 39.3	-0.5
	comp=Z,40nm,1.5s,mb5.2						
MFF	Saint Martin d	48.26	323	eP	P	02 26 40.8	-0.3
MKAR	Makanchi Array	49.03	37	P	P	02 26 47.4	+0.3
	comp=Z,3.6nm,0.8s,mb4.4,baz=239,slow=7.1,SNR=12						
MKAR				LR	LR	02 50 03.1	
	comp=Z,1µm,18.8s,MS4.9,baz=181,slow=39						
MKAR	Makanchi Array	49.03	37	i P	P	02 26 48.3	+1.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EBAD	Badajoz	49.53	311	P	P	02 26 48.9	-2.2
	comp=Z,20nm,1.5s,mb4.9						
EBAD	Badajoz	49.53	311	P	P	02 26 48.9	-2.1
	comp=Z,20nm,1.5s,mb4.9						
FLN	La Foliniere	49.60	325	eP	P	02 26 50.2	-1.2
	comp=Z,31nm,1.1s,mb5.0						
FLN				eR			
	comp=Z,376nm,17.8s						
FLN	La Foliniere	49.60	325	eP	P	02 26 50.2	-1.2
FLN				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
FLN				MLR	MLR		
	comp=Z,380nm,17.8s,MS4.4						
GRR	Gorron	49.61	325	eP	P	02 26 50.2	-1.3
LSA	Lhasa	49.89	62	eP	P	02 26 55.2	+1.3
	comp=Z,5.7nm,0.5s,mb4.9						
LSA	Lhasa	49.89	62	eP	P	02 26 55.2	+1.3
	comp=Z,5.7nm,0.5s,mb4.9						
LSA	Lhasa	49.89	62	eP	P	02 26 55.2	+1.3
LSA				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
FINES	FINESS Array B	50.07	351	P	P	02 26 54.8	+0.1
	comp=Z,3.7nm,0.9s,mb4.4,baz=127,slow=9.5,SNR=7.5						
EVO	Evora	50.21	310	eP	P	02 26 56.8	+0.6
	comp=Z,57nm,1.6s,mb5.0						
EVO				eR			
	comp=Z,873nm,20.8s						
SGMF	Saint Gilles	50.52	324	eP	P	02 26 56.9	-1.5
	comp=Z,24nm,1.2s,mb4.7						
SGMF	Saint Gilles	50.52	324	eP	P	02 26 56.9	-1.5
SGMF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
KAF	Kangasniemi	50.67	351	ep	P	02 26 58.4	-1.0
	comp=Z,6.6nm,1.0s,mb4.5						
KAF	Kangasniemi	50.67	351	eP	P	02 26 58.4	-1.0
KAF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
QUIF	Quistinic	50.70	323	eP	P	02 26 58.6	-1.2
JOF	Joensuu	50.86	355	ep	P	02 26 58.6	-2.2
	comp=Z,12nm,1.1s,mb4.7						
ROSF	Rostrenen	50.97	324	eP	P	02 27 00.4	-1.4
HFS	Hagfors	51.59	343	P	P	02 27 04.7	-1.7
	comp=Z,4.7nm,0.9s,mb4.4,baz=157,slow=11,SNR=4.7						
NOA	NORSAR Array B	53.04	343	P	P	02 27 16.0	-1.2
	comp=Z,3.8nm,0.9s,mb4.3,baz=141,slow=7.4,SNR=5.3						
NOA				LR	LR	02 52 42.7	
	comp=Z,142nm,19.1s,MS4.0,baz=140,slow=40						
NOA	NORSAR Array B	53.04	343	P	P	02 27 16.0	-1.2
NOA				LR	LR	02 52 42.7	
NVS	Novosibirsk	53.89	29	eP	P	02 27 22.6	-0.9
ZAL	Zalesovo	54.15	31	P	P	02 27 24.0	-1.4
	comp=Z,1.9nm,0.7s,mb4.1,baz=231,slow=8.4,SNR=6.5						
ZAL				LR	LR	02 54 07.9	
	comp=Z,920nm,18.4s,MS4.9,baz=245,slow=40						
GTA	Gaotai	58.58	51	eP	P	02 27 58.9	+1.5
GTA				AP	pP	02 28 06.3	-0.1
GTA				XP	sP	02 28 09.8	+0.1
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
LZH	Lanzhou	61.30	56	eP	P	02 28 18.0	+2.0
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=N,625nm,13.4s						
LZH				LR	LR		
	comp=Z,869nm,14.5s,MS5.0						
SONM	Songino Array	64.74	43	P	P	02 28 39.2	+0.5
	comp=Z,3.6nm,0.8s,mb4.4,baz=248,slow=3.8,SNR=17						
SONM				LR	LR	03 00 33.1	
	comp=Z,992nm,18.5s,MS5.0,baz=252,slow=40						
BOD	Bodaibo	70.80	33	eP	P	02 29 16.1	-0.3
BOD				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.4						
NJ2	Nanjing	73.72	60	eP	P	02 29 36.6	+2.4
NJ2				AP	pP	02 29 47.0	+3.6
NJ2				XP	sP	02 29 49.8	+3.2
NJ2				PP	PP	02 32 21.3	+0.8
NJ2				S	S	02 39 01.0	-0.8
NJ2				XS		02 39 18.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,80nm,5.4s						
NJ2				LR	LR		
	comp=N,470nm,30.2s,MS4.7						
NJ2				LR	LR		
	comp=E,390nm,31.8s,MS4.7						
NJ2				LR	LR		
	comp=Z,540nm,29.0s,MS4.7						
SUMG	Summit	74.93	342	eP	P	02 29 41.5	+1.1
	comp=Z,7.7nm,1.0s,mb4.6						
SSE	Sheshan	75.79	61	eP	P	02 29 45.5	-0.7
SSE				AP	pP	02 29 55.0	-0.4
SSE				XP	sP	02 29 58.4	-0.2
SSE				PP	PP	02 32 35.0	-3.1
SSE				S	S	02 39 26.4	+1.6
SSE				XS		02 39 43.6	
SSE				SCS	ScS	02 39 55.6	+1.0
SSE				SS	SS	02 44 19.1	-0.7
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,22nm,3.5s						
SSE				LR	LR		
	comp=N,264nm,21.6s,MS4.5						
SSE				LR	LR		
	comp=E,99nm,21.6s,MS4.5						
SSE				LR	LR		
	comp=Z,250nm,18.6s,MS4.5						
TIXI	Tiksi	77.80	19	eP	P	02 29 57.2	+0.7
TIXI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
MAW	Mawson	81.43	172	P	P	02 30 22.3	+6.2
	comp=Z,1.7nm,0.8s,mb4.0,baz=339,slow=8.9,SNR=3.6						
MAW				LR	LR	03 04 18.8	
	comp=Z,379nm,19.1s,MS4.8,baz=354,slow=34						
MJAR	Matsushiro Arr	88.79	53	LR	LR	03 15 53.3	
	comp=Z,231nm,19.7s,MS4.6,baz=295,slow=39						
SCHQ	Schefferville	89.67	326	LR	LR	03 11 57.0	
	comp=Z,133nm,18.7s,MS4.4,baz=64,slow=36						
BDFB	Brasilia	91.89	255	LR	LR	03 11 16.0	
	comp=Z,324nm,18.3s,MS4.8,baz=85,slow=35						

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*IPEC **20** 03:15:27.6±0.3, 51.56N×16.24E, ML2.2/3, Error ellipse: s-maj=1.9km s-min=1.5km az=41.0*
*BGR **20** 03:15:28.8±0.6, 51.44N×16.22E, h1^{km}, ML3.0/10, Error ellipse: s-maj=5.6km s-min=4.4km az=161.0*
*PRU **20** 03:15:29.7, 51.45N×16.12E*
*NEIC **20** 03:15:29.9±0.7, 51.41N×16.13E, h5^{km}, ML3.2(VIE), ML3.0(SZGRF), Error ellipse: s-maj=9.0km s-min=4.7km az=212.0*
*CSEM **20** 03:15:30.2±0.1, 51.44N×16.14E, h1^{km}, ML3.3/7, Error ellipse: s-maj=2.0km s-min=1.3km az=17.0*
*VIE **20** 03:15:31.5±0.7, 51.23N×16.29E, mb2.4/3, ML2.8/4, Error ellipse: s-maj=4.2km s-min=4.1km az=31.0, Suspected Mining induced.*
WAR 20 03:15:29.8, 51.49N×16.13E, h1^{km}, ML2.9, 4C-5D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	171	⇓iPG	Pg	03 15 41.8	-1.1
KSP				⇓eSG	Sg	03 15 50.8	-0.9
KSP	Ksiaz	0.66	171	ePg	Pg	03 15 41.8	-1.1
KSP				eSg	Sg	03 15 49.4	-2.3
KSP	Ksiaz	0.66	171	⇓iPg	Pg	03 15 41.8	-1.1
KSP				eSg	Sg	03 15 49.2	-2.5
KSP				e		03 15 56.0	
KSP	Ksiaz	0.66	171	⇓iPg	Pg	03 15 41.8	-1.1
KSP				eSg	Sg	03 15 50.0	-1.7
UPC	Upice	0.99	184	ePG	Pg	03 15 47.7	-1.8
DPC	Dobruska-Polom	1.15	174	ePG	Pg	03 15 50.5	-2.3
DPC				eSG	Sg	03 16 05.4	-2.7
	32nm,0.4s						
PVCC	Panska Ves	1.38	226	ePG	Pg	03 15 54.8	-2.5
PVCC	Panska Ves	1.38	226	Pg	Pg	03 15 54.8	-2.5
PVCC				eSg	Sg	03 16 13.9	-1.8
BRG	Berggiesshubel	1.51	247	ePg	Pg	03 15 56.9	-3.1
BRG				eSg	Sg	03 16 18.2	-1.8
BRG	Berggiesshubel	1.51	247	Pn	Pn	03 15 56.8	-1.3
BRG				Pg	Pg	03 15 58.0	-2.0
BRG				Sg	Sg	03 16 18.1	-2.0
BRG	Berggiesshubel	1.51	247	Pg	Pg	03 15 58.0	-1.9
BRG				Sg	Sg	03 16 18.2	-1.9
RUE	Ruedersdorf	1.76	305	eP	Pn	03 16 02.8	+1.2
PRU	Pruhonice	1.81	214	ePN	Pn	03 15 59.9	-2.5
PRU				ePG	Pg	03 16 02.4	-3.6
PRU				eSG	Sg	03 16 26.1	-4.0
PRU	Pruhonice	1.81	214	ePg	Pg	03 16 02.4	-3.6
PRU				eSg	Sg	03 16 26.1	-4.0
FBE	Freiberg	1.84	253	Pg	Pg	03 16 03.1	-3.4
FBE				Sg	Sg	03 16 27.7	-3.3
RAC	Raciborz	1.93	136	eP	Pn	03 16 05.0	+1.0
RAC				eS	Sn	03 16 30.0	+0.8
MORC	Moravsky Berou	1.94	152	eP	Pn	03 16 02.1	-2.1
MORC	Moravsky Berou	1.94	152	ePn	Pn	03 16 02.2	-2.0
MORC				eSg	Sg	03 16 29.3	-5.0
	14nm,0.2s						
CLL	Collm	1.97	266	ePn	Pn	03 16 03.9	-0.7
CLL				eSg	Sg	03 16 33.2	-2.1
CLL	Collm	1.97	266	i PN	Pn	03 16 02.5	-2.1
CLL				i PG	Pg	03 16 05.7	-3.4
CLL				i SG	Sg	03 16 31.7	-3.6
CLL	Collm	1.97	266	i Pg	Pg	03 16 05.7	-3.4
CLL				Sg	Sg	03 16 33.2	-2.1
OKC	Ostrava-Krasne	2.10	141	ePG	Pg	03 16 07.6	-4.0
VRAC	Vranov	2.21	172	ePn	Pn	03 16 06.2	-1.8
VRAC				eSg	Sg	03 16 38.3	-5.0
VRAC	Vranov	2.21	172	ePn	Pn	03 16 06.2	-1.8
VRAC				eSg	Sg	03 16 38.2	-5.1
	12nm,0.3s						
KRUC	Moravsky	2.44	176	ePn	Pn	03 16 09.7	-1.7
KRUC				eSg	Sg	03 16 46.1	-4.9
	12nm,0.3s						
TANN	Tannenbergstha	2.56	246	ePn	Pn	03 16 11.5	-1.5
TANN				eSg	Sg	03 16 51.0	-4.0
WERD	Werda	2.63	248	ePn	Pn	03 16 12.2	-1.9
WERD				eSg	Sg	03 16 53.9	-3.6
OJC	Ojcow	2.65	117	ePG	Pg	03 16 19.0	-3.7
OJC				eSG	Sg	03 16 54.0	-4.1
NKC	Novy Kostel	2.65	243	ePN	Pn	03 16 12.8	-1.6
NKC				ePG	Pg	03 16 18.7	-4.0
NKC				eSG	Sg	03 16 52.8	-5.3
	55nm,0.3s						
KHC	Kasperske Hory	2.88	216	ePN	Pn	03 16 15.3	-2.3
KHC				ePG	Pg	03 16 21.8	-5.4
KHC				eSN	Sn	03 16 50.0	-3.3
KHC				eSG	Sg	03 17 00.0	-5.5
MOX	Moxa	2.97	255	ePn	Pn	03 16 17.7	-1.2
MOX				eSg	Sg	03 17 04.2	-4.5
MOX	Moxa	2.97	255	i P	Pn	03 16 17.5	-1.5
MOX				Pg	Pg	03 16 25.0	-4.1
MOX				Sg	Sg	03 17 05.0	-3.7
MOX	Moxa	2.97	255	ePn	Pn	03 16 17.5	-1.5
MOX				ePg	Pg	03 16 24.9	-4.2
MOX				eSg	Sg	03 17 04.9	-3.8
MOX	Moxa	2.97	255	ePg	Pg	03 16 24.9	-4.2
MOX				Sg	Sg	03 17 04.2	-4.5
ROTZ	Rotzenmuhle	3.04	237	ePn	Pn	03 16 18.2	-1.8
ROTZ				eSg	Sg	03 17 05.7	-5.2
GEC2	GERESS Array S	3.08	211	ePn	Pn	03 16 18.7	-1.7
GEC2				eSg	Sg	03 17 05.6	-6.6
GEC2	GERESS Array S	3.08	211	ePn	Pn	03 16 18.7	-1.8
GEC2				eSg	Sg	03 17 05.6	-6.6
WET	Wettzell	3.14	223	ePn	Pn	03 16 19.2	-2.2
WET				eSg	Sg	03 17 09.2	-5.2
WET	Wettzell	3.14	223	ePn	Pn	03 16 19.2	-2.2
WET				eSg	Sg	03 17 09.2	-5.2
NIE	Niedzica	3.38	126	eP	Pn	03 16 33.0	+8.2
NIE				eS	Sn	03 17 16.0	+10
GRA1	Grafenberg Arr	3.61	242	ePn	Pn	03 16 26.0	-2.0
GRA1				eSg	Sg	03 17 24.6	-5.4
GRA1	Grafenberg Arr	3.61	242	Pn	Pn	03 16 26.0	-2.0
GRA1				Sg	Sg	03 17 24.6	-5.4
GRF	Grafenberg Arr	3.61	242	ePn	Pn	03 16 26.0	-2.1
GRF				eSg	Sg	03 17 24.6	-5.3
MOA	Molln	3.84	199	⇑iPN	Pn	03 16 29.4	-1.9
MOA				i SG	Sg	03 17 32.0	-5.7
	17nm,0.5s						
MOA	Molln	3.84	199	⇑iPn	Pn	03 16 29.4	-2.0
MOA	Molln	3.84	199	⇓iSg	Sg	03 17 32.0	-5.8
	comp=Z,17nm,0.5s						
STHS	Stebnicka Huta	3.87	120	ePN	Pn	03 16 29.7	-2.1
STHS				eSG	Sg	03 17 37.7	-1.0
ARSA	Arzberg	4.26	186	⇑iPN	Pn	03 16 35.3	-2.0
ARSA				i SG	Sg	03 17 44.3	-7.5
	9.8nm,0.6s						
ARSA	Arzberg	4.26	186	⇑iPn	Pn	03 16 35.3	-2.1

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*LDG **20** 03:24:10.9±0.2, 40.28N×2.48W, h5^{km}, Ml2.5/5, Error ellipse: s-maj=7.5km s-min=1.9km az=138.0*
*NEIC **20** 03:24:11.8, 40.22N×2.35W, h7^{km}, ML2.5(LDG), MN2.3(MDD), After MDD.*
*CSEM **20** 03:24:11.4±0.1, 40.24N×2.35W, h5^{km}, ML2.5/3, Error ellipse: s-maj=2.2km s-min=1.3km az=128.0*
MDD 20 03:24:11.8±0.4, 40.23N×2.34W, h8^{km}±5^{km}, mbLg2.2/23, 1D, Error ellipse: s-maj=4.0km s-min=3.0km az=122.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECHE	Chera	1.23	120	⇓Pg	Pg	03 24 35.2	-1.2
	4.6nm,0.2s,SNR=18						
ECHE				Lg		03 24 50.7	
	4.7nm,0.2s,SNR=9.3						
ESDC	Sonseca Array	1.36	247	Pg	Pg	03 24 36.8	-2.2
	21nm,0.2s,baz=67,slow=17,SNR=34						
ESDC				Lg		03 24 54.2	
	74nm,0.1s,baz=66,slow=28,SNR=67						
ESDC	Sonseca Array	1.36	247	Pg	Pg	03 24 36.8	-2.2
EMOS	Mosqueruela	1.44	84	Pg	Pg	03 24 38.0	-2.5
	11nm,0.3s,SNR=48						
EMOS				Lg		03 24 56.9	
	4.4nm,0.1s,SNR=7.8						
EMOS	Mosqueruela	1.44	84	Pg	Pg	03 24 38.0	-2.5
EVIA	Vianos	1.59	185	Pg	Pg	03 24 41.0	-2.5
	11nm,0.3s,SNR=9.6						
EVIA				Lg		03 25 01.0	
	13nm,0.3s,SNR=7.3						
ETOB	Tobarra	1.69	158	Pn	Pn	03 24 41.4	-0.5
	SNR=4.0						
ETOB				Pg	Pg	03 24 42.8	-2.8
	2.5nm,0.1s,SNR=32						
ETOB				Lg		03 25 04.5	
	6.7nm,0.1s,SNR=14						
ETOB	Tobarra	1.69	158	Pn	Pn	03 24 41.4	-0.5
ETOB	Tobarra	1.69	158	Pg	Pg	03 24 42.8	-2.8
ESAC	San Caprasio	2.06	43	Pg	Pg	03 24 50.1	-2.9
	5.4nm,0.2s,SNR=4.5						
ESAC				Lg		03 25 16.9	
	102nm,0.3s,SNR=14						
ESAC	San Caprasio	2.06	43	Pg	Pg	03 24 50.1	-2.9
ESAC				Lg		03 25 15.3	
ESAC	San Caprasio	2.06	43	Pg	Pg	03 24 50.1	-2.9
ERTA	Horta de San J	2.17	69	Pn	Pn	03 24 47.2	-1.5
	0.5nm,0.1s,SNR=9.1						
ERTA				Sn	Sn	03 25 14.1	-1.9
	1.4nm,0.3s,SNR=7.9						
ERTA				Lg		03 25 20.4	
	7.1nm,0.2s,SNR=5.0						
ERTA	Horta de San J	2.17	69	Pn	Pn	03 24 47.2	-1.5
ERTA				Sn	Sn	03 25 14.1	-1.9
ERTA				Lg		03 25 18.3	
ERTA	Horta de San J	2.17	69	Pn	Pn	03 24 47.2	-1.5
ERTA				Sn	Sn	03 25 14.1	-1.8
EBAN	Banos Encina	2.34	209	Pg	Pg	03 24 54.1	-4.5
	1.7nm,0.2s,SNR=6.4						
EBAN				Lg		03 25 26.0	
	3.2nm,0.1s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EBAN	Banos Encina	2.34	209	Pg	Pg	03 24 54.1	-4.5
EBAN				Lg		03 25 24.5	
EBAN	Banos Encina	2.34	209	Pg	Pg	03 24 54.2	-4.4
EHUE	Huescar	2.42	185	Pg	Pg	03 24 56.8	-3.2
	2.0nm,0.1s,SNR=7.9						
EHUE				Lg		03 25 29.8	
	3.7nm,0.2s,SNR=7.9						
EQES	Quesada	2.48	193	Pg	Pg	03 24 56.8	-4.6
	2.9nm,0.2s,SNR=27						
EQES				Lg		03 25 32.3	
	4.6nm,0.2s,SNR=5.0						
EQES	Quesada	2.48	193	Pg	Pg	03 24 56.8	-4.6
EQES				Lg		03 25 28.2	
EQES	Quesada	2.48	193	Pg	Pg	03 24 56.8	-4.6
EMUR	La Murta	2.53	160	Pg	Pg	03 24 58.4	-3.9
	1.5nm,0.2s,SNR=7.9						
EMUR				Lg		03 25 32.3	
	5.7nm,0.3s,SNR=7.9						
EARA	Aranguren	2.61	12	Pg	Pg	03 24 59.5	-4.4
	3.4nm,0.1s,SNR=7.9						
EARA				Lg		03 25 34.1	
	15nm,0.2s,SNR=7.9						
EADA	Adamuz	2.69	221	Pn	Pn	03 24 53.6	-2.5
	0.2nm,0.1s,SNR=7.9						
EADA				Pg	Pg	03 25 00.7	-4.8
	1.8nm,0.2s,SNR=12						
EADA				Sn	Sn	03 25 23.4	-5.9
	0.6nm,0.1s,SNR=7.9						
EADA				Lg		03 25 37.2	
	5.9nm,0.1s,SNR=5.0						
EADA	Adamuz	2.69	221	Pn	Pn	03 24 53.6	-2.5
EADA				Pg	Pg	03 25 00.8	-4.8
EADA				Sn	Sn	03 25 23.4	-5.9
EADA				Lg		03 25 34.2	
EADA	Adamuz	2.69	221	Pn	Pn	03 24 53.7	-2.5
EADA	Adamuz	2.69	221	Pg	Pg	03 25 00.8	-4.7
EGRA	Graus	2.81	45	Pg	Pg	03 25 03.6	-4.3
	0.5nm,0.2s,SNR=7.9						
EGRA				Lg		03 25 40.2	
	1.7nm,0.2s,SNR=6.8						
EPOB	Poblet	2.83	65	Pn	Pn	03 24 55.8	-2.4
	0.3nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	03 25 28.2	-4.7
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg		03 25 40.9	
	2.1nm,0.3s,SNR=5.9						
EPOB	Poblet	2.83	65	Pn	Pn	03 24 55.8	-2.4
EPOB				Sn	Sn	03 25 28.2	-4.7
EPOB				Lg		03 25 37.6	
EPOB	Poblet	2.83	65	Pn	Pn	03 24 55.8	-2.4
EPOB				Sn	Sn	03 25 28.2	-4.6
ETSF	Etsaut	2.99	26	*e*Pn	Pn	03 24 57.3	-3.1
ETSF				*e*Pg	Pg	03 25 06.6	-4.8
ETSF				*e*Sg	Sg	03 25 44.5	-6.8
	2.5nm,0.3s						
SJPF	Ste Jean	3.00	16	*e*Pn	Pn	03 24 57.4	-3.2
SJPF				*e*Pg	Pg	03 25 07.4	-4.4
SJPF				*e*Sg	Sg	03 25 44.3	-7.6
	1.5nm,0.2s						
EALK	Alkurruntz	3.06	12	Pn	Pn	03 24 59.4	-1.9
	0.2nm,0.1s,SNR=7.9						
EALK				Pg	Pg	03 25 08.2	-4.7
	1.1nm,0.2s,SNR=7.9						
EALK				Sn	Sn	03 25 35.1	-3.4
	4.1nm,0.2s,SNR=7.9						
EALK				Lg		03 25 48.7	
	6.7nm,0.4s,SNR=7.9						
EBIE	Bielsa	3.09	36	Pn	Pn	03 25 01.0	-0.8
	0.1nm,0.1s,SNR=4.0						
EBIE				Pg	Pg	03 25 08.2	-5.2
	0.5nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	03 25 35.6	-3.8
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		03 25 49.6	
	0.5nm,0.1s,SNR=7.9						
EBIE	Bielsa	3.09	36	Pn	Pn	03 25 01.0	-0.8
EBIE	Bielsa	3.09	36	Pg	Pg	03 25 08.2	-5.2
EQUE	Quentar	3.13	196	Pg	Pg	03 25 09.3	-5.1
	1.1nm,0.3s,SNR=7.9						
EQUE				Lg		03 25 50.2	
	4.5nm,0.4s,SNR=5.8						
EBER	Berja	3.35	188	Lg		03 25 58.3	
	4.9nm,0.3s,SNR=4.0						
EMIR	Miracle	3.38	59	Sn	Sn	03 25 41.5	-5.1
	0.9nm,0.1s,SNR=7.9						
EMIR				Lg		03 25 55.9	
	4.8nm,0.2s,SNR=5.2						
EPF	Esparros	3.45	35	*e*Pn	Pn	03 25 03.7	-3.3
EPF				*e*Pg	Pg	03 25 15.3	-5.4
EPF				*e*Sg	Sg	03 25 59.4	-7.3
	3.3nm,0.2s						
ECAL	Calabor	3.74	299	Pn	Pn	03 25 08.8	-2.3
	0.7nm,0.1s,SNR=7.9						
ECAL				Pg	Pg	03 25 20.6	-5.8
	1.3nm,0.2s,SNR=7.9						
ECAL				Lg		03 26 10.8	
	4.0nm,0.3s,SNR=5.5						
ECAL	Calabor	3.74	299	Pn	Pn	03 25 08.8	-2.3
ECAL				Pg	Pg	03 25 20.6	-5.8
ECAL				Lg		03 26 08.0	
ECAL	Calabor	3.74	299	Pn	Pn	03 25 08.8	-2.3
ECAL	Calabor	3.74	299	Pg	Pg	03 25 20.6	-5.8
EARI	Arriondas	3.75	326	Lg		03 26 11.6	
	1.1nm,0.2s,SNR=5.4						
EMIN	Mina Concepcio	4.17	235	Pn	Pn	03 25 15.6	-1.6
	0.1nm,0.1s,SNR=4.0						
EMIN				Sn	Sn	03 26 01.6	-5.2
	0.3nm,0.2s,SNR=7.9						
EMIN				Lg		03 26 24.1	
	0.5nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.17	235	Pn	Pn	03 25 15.6	-1.6
EMIN				Sn	Sn	03 26 01.6	-5.2
EMIN				Lg		03 26 21.2	
EMIN	Mina Concepcio	4.17	235	Pn	Pn	03 25 15.6	-1.6
EMIN				Sn	Sn	03 26 01.6	-5.2
MTLF	Montolieu	4.62	46	*e*Pn	Pn	03 25 19.7	-3.8
MTLF				*e*Sg	Sg	03 26 35.1	-10
	1.8nm,0.3s						
ELOB	Lobios	4.62	293	Pn	Pn	03 25 20.7	-3.0
	0.2nm,0.2s,SNR=7.9						
ELOB				Lg		03 26 40.1	
	1.0nm,0.2s,SNR=7.9						
ELOB	Lobios	4.62	293	Pn	Pn	03 25 20.7	-3.0
ELOB				Lg		03 26 37.6	
ELOB	Lobios	4.62	293	Pn	Pn	03 25 20.7	-3.0
EVO	Evora	4.71	251	*e*Pn	Pn	03 25 20.2	-4.6
EVO				*e*Sg	Sg	03 26 38.7	-10
	4.3nm,0.4s						
EPON	Pontenova	4.75	312	Pn	Pn	03 25 22.3	-3.1
	0.3nm,0.2s,SNR=4.0						
EPON				Lg		03 26 43.9	
	1.7nm,0.3s,SNR=7.9						
EPON	Pontenova	4.75	312	Pn	Pn	03 25 22.3	-3.1
EPON				Lg		03 26 39.5	
EPON	Pontenova	4.75	312	Pn	Pn	03 25 22.3	-3.1
EGRO	El Granado	4.83	238	Sn	Sn	03 26 16.7	-6.7
	0.2nm,0.1s,SNR=7.9						
EGRO				Lg		03 26 44.4	
	0.4nm,0.2s,SNR=7.9						

PGC 20 03:45:29.8, 66.93N×137.16W, h20km, ML2.6/2, Richardson Mountains, Yukon Territory, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INK	Inuvik	1.96	44	Pn	Pn	03 46 01.6	-0.9
INK				Sn	Sn	03 46 25.5	-1.2
INK				Sg	Sn	03 46 31.6	+4.8
INK				Trac		03 46 33.3	
	comp=Z,23nm,0.1s						
DAWY	Dawson	3.02	199	Pn	Pn	03 46 15.8	-1.8
DAWY				Sg	Sn	03 47 04.6	+11
DAWY				Trac		03 47 06.3	
	comp=Z,15nm,0.1s						
YKW3	Yellowknife Ar	10.54	104	Pn	P	03 47 55.0	-7.8
YKW3				Pn	P	03 47 56.2	-6.5
YKW3				Sn	S	03 49 47.8	-14
YKW3				Sn	S	03 49 48.7	-13
YKW3				Trac		03 49 53.5	
	comp=Z,7.0nm,0.4s						
YKW3				Trac		03 49 53.6	
	comp=Z,2.0nm,0.1s						

IDC 20 04:11:00.4±64.0, 49.63N×144.38E, mb3.6/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.6/3, Error ellipse: s-maj=1351.0km s-min=66.8km az=142.0, Low Confidence Location, Sakhalin Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	24.95	281	P	P	04 16 25.4	-1.0
	0.4nm,0.6s,baz=75,slow=7.4,SNR=4.3						
MKAR	Makanchi Array	40.44	291	P	P	04 18 40.1	-1.7
	0.7nm,0.6s,baz=77,slow=8.4,SNR=8.8						
FINES	FINESS Array B	58.80	330	P	P	04 20 59.8	-2.4
	0.6nm,0.5s,baz=53,slow=9.5,SNR=6.4						

*NNC **20** 04:13:07.2±1.7, 36.46N×70.74E, h127km±35km, mpv3.7, Error ellipse: s-maj=15.1km s-min=14.2km az=39.0*

ISC 20 04:13:08.0±2.7, 36.6N±0.2×70.7E±0.3, h201km±52km, n8, σ0.86/11, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.01	22	P	P	04 14 35.7	-0.4
	SNR=43						
UCH	Uchtor	6.36	26	P	P	04 14 40.2	-0.5
	SNR=8.5						
KK31	Karatay Array	6.52	359	P	P	04 14 42.1	-0.6
	1.9nm,0.3s,baz=178,slow=12,SNR=42						
KK31				⇓S	S	04 15 57.0	+0.5
	4.1nm,0.5s,baz=189,slow=23,SNR=22						
EKS2	Erkin-Say	6.52	20	P	P	04 14 42.8	+0.1
	SNR=5.8						
AAK	Ala-Archa	6.71	25	P	P	04 14 45.2	-0.1
	SNR=6.3						
AAK	Ala-Archa	6.71	25	P	P	04 14 44.7	-0.6
	3.0nm,0.5s						
AAK				⇓S	S	04 16 01.6	+0.5
	4.9nm,0.8s						
USP	Ospenovka	7.29	22	P	P	04 14 52.8	+0.1
	SNR=8.5						
AB31	Akbulak array	14.90	332	⇑P	P	04 16 32.7	+2.9
	0.6nm,0.4s,baz=160,slow=12,SNR=24						
AB31				⇑S	S	04 19 08.6	-1.0
	0.5nm,0.5s,baz=159,slow=24,SNR=4.4						

*NIED **20** 04:22:00, 26.90N×125.70E, h195km, Mw5.1 Best double couple: M0 4.52×10^16 NP1:φs246°, δ89°, λ111°. NP2: φs338°, δ21°, λ2°.*
*MOS **20** 04:22:37.9±1.0, 26.98N×125.63E, h159km, mb5.0/60, Error ellipse: s-maj=10.1km s-min=4.6km az=117.8*
*JMA **20** 04:22:41.5±0.3, 26.94N×125.74E, h180km, M5.1*
JMA Felt I J1.
*NEIC **20** 04:22:42.9±0.2, 26.97N×125.62E, mb4.9/77, Error ellipse: s-maj=4.9km s-min=4.4km az=95.0*
NEIC Recorded [1 JMA] on Okinawa-jima, Ryukyu Islands.
*IDC **20** 04:22:42.2±0.5, 27.01N×125.71E, h189km±3km, mb4.4/24, mb1 4.5/27, mb1mx4.5/29, mbtmp4.9/27, MS3.6/3, Ms1 3.7/3, ms1mx3.3/19, Error ellipse: s-maj=13.2km s-min=8.7km az=50.0*
*HRVD **20** 04:22:42.9±0.3, 26.81N×125.78E, h198km±3km, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s27,c36; Mantle waves: s56,c91; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.46±.25; Mθθ1.11±.28; Mφφ-1.57±.27; Mrθ-4.72±.18; Mθφ-1.63±.21; Mφr-2.39±.18; Best double couple: M0 5.703×10^16 NP1:φs341°, δ21°, λ8°. NP2:φs244°, δ87°, λ111°. Principal axes: T 5.546, Plg44°, Azm174°; N .312, Plg21°, Azm63°; P -5.86, Plg38°, Azm315°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **20** 04:22:43.7, 26.94N×125.73E, h220km, mB5.1, mb5.2*

ISC 20 04:22:41.1±0.1, 26.91N±0.02×125.81E±0.02, h191km±.9km: pP-P, n351, σ1.20/369, mb4.8/116, 23C-27D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.05	123	P	P	04 23 10.5	0.0
JKE				S	S	04 23 32.6	-0.7
JAGN	Aguni-jima	1.32	104	P	P	04 23 12.7	-0.1
JAGN				S	S	04 23 35.5	-1.8
NAH1	Naha	1.83	112	P	P	04 23 17.7	+0.1
NAH1				S	S	04 23 43.5	-2.1
JJT2	Tamagusuku 2	1.90	113	P	P	04 23 19.0	+0.7
JJT2				S	S	04 23 45.8	-1.2
JIH	Iheya	1.93	86	P	P	04 23 18.8	+0.2
JIH				S	S	04 23 45.8	-1.7
JMJ	Miyako jima 2	2.14	193	P	P	04 23 20.5	-0.4
JMJ				S	S	04 23 49.2	-2.3
JOGS	Gusukube	2.17	190	P	P	04 23 21.2	0.0
JOGS				S	S	04 23 50.7	-1.4
JTK	Tokunoshima	2.93	72	P	P	04 23 29.4	-0.6
JTK				S	S	04 24 04.8	-2.9
JIJ	Ishigaki jima	2.95	211	P	P	04 23 28.8	-1.4
JIJ				S	S	04 24 03.5	-4.6
JKRS	Kuro-shima	3.12	212	P	P	04 23 31.1	-1.2
JKRS				S	S	04 24 08.5	-3.3
IRIF	Iriomote-Funau	3.18	217	P	P	04 23 31.8	-1.2
IRIF				S	S	04 24 09.9	-3.1
HATJ	Hateruma jima	3.37	213	P	P	04 23 34.2	-1.2
HATJ				S	S	04 24 13.8	-3.4
YOJ	Yonaguni jima	3.51	227	P	P	04 23 37.2	+0.1
YOJ				S	S	04 24 19.4	-0.9
JAM	Amami Oshima	3.69	65	P	P	04 23 38.3	-1.0
JAM				S	S	04 24 20.7	-3.6
JZK	Kikaishima	3.95	68	P	P	04 23 42.3	-0.4
JZK				S	S	04 24 27.9	-2.3
TATO	Taipei	4.34	245	*e*P	P	04 23 48.6	+1.0
YHNB	Yeheng	4.58	242	*e*P	P	04 23 51.7	+1.1
NACB	Ninganchiao	4.68	235	*e*P	P	04 23 50.6	-1.3
JMZ	Minamidaito 2	4.97	101	P	P	04 23 55.0	-0.7
JMZ				S	S	04 24 48.8	-4.7
SSE	Sheshan	5.81	317	P	P	04 24 08.0	+1.4
SSE				S	S	04 25 13.8	+0.8
SSE				AMB	AMB		
	comp=Z,91nm,1.2s						
SSE				AMB	AMB		
	comp=Z,171nm,3.5s						
SSE				LR	LR		
	comp=N,782nm,10.8s						
SSE				LR	LR		
	comp=E,672nm,10.8s						
SSE				LR	LR		
	comp=Z,3μm,12.6s						
JFU	Fukue jima 2	6.27	23	P	P	04 24 15.0	+2.4
QZH	Quanzhou	6.79	255	P	P	04 24 20.0	+0.7
QZH				S	S	04 25 36.8	+1.0
QZH				AMB	AMB		
	comp=Z,180nm,1.0s						
NJ2	Nanjing	7.94	312	*e*P	P	04 24 36.0	+1.6
NJ2				XP		04 25 19.0	
NJ2				S	S	04 26 03.0	+0.1
NJ2				AMB	AMB		
	comp=Z,130nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,210nm,3.8s						
NJ2				LR	LR		
	comp=N,1μm,7.5s						
NJ2				LR	LR		
	comp=E,750nm,12.2s						
NJ2				LR	LR		
	comp=Z,450nm,11.9s						
JTO	Tosashimizu	8.48	44	P	P	04 24 38.1	-3.5
CVP	Callao Caves	9.88	203	*e*P	P	04 25 01.0	+1.3
ABRA	Dolores	10.35	208	*e*P	P	04 25 04.8	-1.1
INCN	Inchon	10.57	4	*e*P	P	04 25 11.1	+2.4
	comp=Z,53nm,0.6s						
KS15	Wonju Array Si	10.65	9	*e*P	P	04 25 11.9	+2.2
WHN	Wuhan	10.69	292	P	P	04 25 11.0	+0.7
BALP	Baler	11.79	200	*e*P	P	04 25 25.6	+1.2
BOLP	Bolinao	11.82	209	*e*P	P	04 25 27.7	+2.9
TIA	Tai'an	11.86	324	⇓P	P	04 25 27.1	+1.8
TIA				AMB	AMB		
	comp=Z,284nm,1.2s						
SCZP	Santa Cruz	12.36	208	*e*P	P	04 25 32.6	+1.0
DL2	Dalian	12.47	345	PR		04 25 35.4	
DL2				S	S	04 27 54.4	+6.1
DL2				AMB	AMB		
	comp=Z,90nm,0.8s						
DL2				AMB	AMB		
	comp=Z,230nm,4.4s						
POLP	Polilio Island	12.64	197	*e*P	P	04 25 42.7	+7.4
PVCP	Virac	13.34	187	*e*P	P	04 25 47.0	+3.0
JHJ	Hachijo jima 2	13.59	60	P	P	04 25 49.5	+2.3
	comp=Z,2.5nm,0.3s,baz=244,slow=19,SNR=1.9						
JHJ				LR	LR	04 31 49.1	
	comp=Z,69nm,18.2s,baz=327,slow=40						
BOAC	Boac	13.89	196	*e*P	P	04 25 54.5	+3.5
LUBP	Lubang	14.10	203	*e*P	P	04 25 54.0	+0.3
MAJO	Matsushiro	14.26	45	P	P	04 25 54.6	-0.9
	comp=Z,20nm,0.8s						
MAJO	Matsushiro	14.26	45	P	P	04 25 54.6	-0.9
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s						
MAT	Matsushiro	14.26	45	P	P	04 25 54.8	-0.7
MAT				S	S	04 28 38.0	+9.0
MAT	Matsushiro	14.26	45	*e*P	P	04 25 55.0	-0.5
	comp=Z,8.4nm,0.9s						
MAT				*e*S	S	04 28 42.0	+13
MAT	Matsushiro	14.26	45	*e*P	P	04 25 55.0	-0.5
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR	Matsushiro Arr	14.26	45	P	P	04 25 57.4	+1.9
	comp=Z,0.9nm,0.3s,baz=235,slow=10,SNR=21						
MJAR				ScP		04 34 14.9	
	comp=Z,0.2nm,0.3s,baz=207,slow=2.8,SNR=4.4						
CNP	Catarman	14.36	185	*e*P	P	04 26 00.6	+3.6
CBIJ	Chichi jima	14.60	86	P	P	04 26 02.9	+3.0
	comp=Z,1.7nm,0.3s,baz=255,slow=15,SNR=2.3						
ENH	Enshi	14.72	287	*e*P	P	04 26 02.8	+1.4
	comp=Z,171nm,1.3s						
OTRP	Odiongan	14.90	195	*e*P	P	04 26 05.8	+2.1
SNY	Shenyang	15.00	354	⇓P	P	04 26 07.1	+2.5
SNY				S	S	04 28 50.6	+4.9
SNY				SCS	ScS	04 37 45.6	-6.7
SNY				AMB	AMB		
	comp=Z,190nm,0.7s						
SNY				AMB	AMB		
	comp=Z,1μm,5.0s						
SNY				LR	LR		
	comp=N,400nm,12.3s						
SNY				LR	LR		
	comp=Z,310nm,8.9s						
SJMP	San Jose	15.03	198	*e*P	P	04 26 07.0	+1.8
XAN	Xi'an	16.19	300	P	P	04 26 19.8	+0.4
XAN				AMB	AMB		
	comp=Z,98nm,0.8s						
GUIM	Jordan	16.48	191	*e*P	P	04 26 24.6	+1.6
CUYO	Cuyo Island	16.60	197	*e*P	P	04 26 26.0	+1.5
ENPP	El Nido	16.74	202	*e*P	P	04 26 26.6	+0.5
CN2	Changchun	16.86	359	*e*P	P	04 26 27.9	+0.6
CN2				*e*S	S	04 29 30.0	+2.7
CN2				AMB	AMB		
	comp=Z,80nm,0.9s						
GYA	Guiyang	17.12	273	⇑*i*P	P	04 26 31.3	+0.9
GYA				S	S	04 29 34.6	+1.6
GYA				SCP		04 34 20.0	
GYA				PCS		04 34 39.4	
GYA				SCS	ScS	04 37 58.8	+0.5
GYA				AMB	AMB		
	comp=Z,70nm,1.0s						
GYA				AMB	AMB		
	comp=Z,600nm,4.8s						
GYA				LR	LR		
	comp=N,450nm,13.2s						
GYA				LR	LR		
	comp=E,480nm,12.8s						
GYA				LR	LR		
	comp=Z,510nm,12.6s						
TBP	Tagbilaran	17.22	186	*e*P	P	04 26 28.5	-3.2
BUTP	Butuan	17.84	181	*e*P	P	04 26 38.7	+0.3
MDJ	Mudanjiang	17.93	9	P	P	04 26 39.6	+0.4
MDJ				S	S	04 29 53.5	+3.5
MDJ				PCP	PcP	04 31 08.5	+3.0
MDJ				AMB	AMB		
	comp=Z,24nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,183nm,9.1s						
MDJ	Mudanjiang	17.93	9	*e*P	P	04 26 38.4	-0.8
	comp=Z,25nm,0.9s						
HHC	Hu-ho-hao-te	18.22	323	⇓*i*P	P	04 26 43.0	+0.8
HHC				S	S	04 29 54.0	-1.8
HHC				PCP	PcP	04 31 07.5	+1.5
HHC				PCS		04 34 43.9	
HHC				AMB	AMB		
	comp=Z,101nm,1.0s						
HHC				AMB	AMB		
	comp=Z,823nm,3.6s						
HHC				LR	LR		
	comp=N,231nm,8.3s						
HHC				LR	LR		
	comp=E,252nm,10.7s						
HHC				LR	LR		
	comp=Z,258nm,10.7s						
BUKP	Musuan	18.94	182	*e*P	P	04 26 50.4	+0.6
PAGZ	Pagadian	19.10	187	*e*P	P	04 26 50.5	-0.9
IPIL	Ipil	19.26	190	*e*P	P	04 26 52.7	-0.5
CD2	Chengdu	19.70	287	⇓*i*P	P	04 26 56.5	-1.1
CD2				S	S	04 30 19.3	-5.0
CD2				AMB	AMB		
	comp=Z,30nm,0.4s						
CD2				LR	LR		
	comp=N,410nm,8.0s						
CD2				LR	LR		
	comp=Z,340nm,9.0s						
KMI	Kunming	20.80	270	P	P	04 27 10.0	+1.3
KMI				PP	PP	04 27 42.8	+5.3
KMI				PPP	PPP	04 27 55.5	+1.5
KMI				XP		04 28 09.8	
KMI				S	S	04 30 43.8	-0.7
KMI				AMB	AMB		
	comp=Z,21nm,0.8s						
KMI				AMB	AMB		
	comp=Z,336nm,7.0s						
LZH	Lanzhou	20.81	301	⇓P	P	04 27 09.3	+0.7
LZH				PP	PP	04 27 41.9	+4.4
LZH				S	S	04 30 45.5	+1.0
LZH				PCP	PcP	04 31 12.5	+1.7
LZH				SCP		04 34 27.5	
LZH				PCS		04 34 48.0	
LZH				AMB	AMB		
	comp=Z,298nm,1.4s						
LZH				AMB	AMB		
	comp=Z,870nm,4.0s						
ASAJ	Asahikawa	21.87	34	P	P	04 27 19.1	+0.1
	comp=Z,8.2nm,0.3s,mb4.6,baz=224,slow=12,SNR=6.0						
GUMO	Guam	22.21	123	P	P	04 27 24.6	+2.1
	comp=Z,139nm,1.0s,mb5.3,baz=218,slow=14,SNR=7.0						
KKM	Kota Kinabalu	22.67	205	P	P	04 27 28.1	+1.1
KKM	Kota Kinabalu	22.67	205	*e*P	P	04 27 28.2	+1.2
KLR	Kul'dur	22.76	10	*e*P	P	04 27 24.8	-2.7
KLR				*e*		04 28 04.0	
KLR				*e*		04 31 24.0	
HIA	Hailar	22.81	350	*e*P	P	04 27 27.9	-0.2
	comp=Z,60nm,1.1s,mb4.9						
HIA	Hailar	22.81	350	*e*P	P	04 27 27.9	-0.1
HIA				pmax	pmax		
	comp=Z,60nm,1.1s						
TSM	Tawau	23.73	200	P	P	04 27 37.9	+0.7
KKTK	Khon Kaen	23.78	248	P	P	04 27 37.0	-0.5
	comp=Z,556nm,0.7s						
YSS	Yuzh-Sakhalins	24.07	29	*e*P	P	04 27 40.9	+0.9
	comp=Z,17nm,0.4s,mb4.9						
YSS	Yuzh-Sakhalins	24.07	29	⇑*i*P	P	04 27 41.9	+1.9
YSS				*e*		04 28 13.5	
YSS				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.0						
NANT	Nan	24.47	256	P	P	04 27 44.5	+0.4
GTA	Gaotai	24.98	306	⇓P	P	04 27 48.1	-0.6
GTA				AP		04 28 28.4	
GTA				PCP	PcP	04 31 20.3	+1.0
GTA				S	S	04 31 52.8	-3.1
GTA				PCS		04 34 59.1	
GTA				SCS	ScS	04 38 27.3	+1.3
GTA				AMB	AMB		
	comp=Z,102nm,0.8s,mb5.4						
GTA				AMB	AMB		
	comp=Z,163nm,6.9s						
GTA				LR	LR		
	comp=N,160nm,10.3s						
GTA				LR	LR		
	comp=E,154nm,9.2s						
GTA				LR	LR		
	comp=Z,194nm,12.6s						
SONM	Songino Array	25.83	329	P	P	04 27 56.0	-0.4

comp=Z,63nm,0.5s,mb5.5,baz=144,slow=8.9,SNR=154
SONM pP pP 04 28 33.5 -1.0
comp=Z,18nm,0.7s,baz=142,slow=12,SNR=2.3
SONM PcP PcP 04 31 20.3 -0.8
comp=Z,0.6nm,0.4s,baz=168,slow=4.2,SNR=4.3
SONM ScP 04 34 42.1
comp=Z,21nm,1.0s,baz=157,slow=2.8,SNR=52
SONM Songino Array 25.83 329 P **P** **04 27 56.0 -0.4**
SONM 04 31 20.3
CHG Chiang Mai 25.99 258 P **P** **04 27 58.0 -0.2**
comp=Z,17nm,0.6s,mb4.9
CIT Chita 26.73 343 *eP* **P** **04 28 04.2 -0.4**
CIT pmax pmax
comp=Z,142nm,1.7s,mb5.3
ZAK Zakamensk 29.09 330 *eP* **P** **04 28 23.8 -2.0**
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
LSA Lhasa 30.57 283 P **P** **04 28 39.2 +0.1**
MOY Mondy 31.02 330 *eP* **P** **04 28 42.2 -0.5**
BOD Bodaibo 32.00 348 *eP* **P** **04 28 47.8 -3.4**
BOD *e* 04 30 09.0
BOD *e* 04 31 33.9
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb4.1
KULM Kulim 32.21 233 *eP* **P** **04 28 53.1 -0.3**
IPM Ipoh 32.45 231 P **P** **04 28 57.1 +1.6**
KGM Kluang 32.83 225 P **P** **04 29 00.1 +1.3**
WMQ Urumqi 35.00 309 ⇓*iP* **P** **04 29 16.5 -0.5**
WMQ AP pP 04 29 57.0 -0.4
WMQ PP PP 04 30 41.0 -0.7
WMQ PCP PcP 04 31 46.0 +1.0
WMQ S **S** **04 34 33.0 -1.0**
WMQ AMB AMB
comp=Z,60nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,201nm,4.1s
YAK Yakutsk 35.21 3 *eP* **P** **04 29 16.6 -2.0**
YAK pmax pmax
comp=Z,21nm,0.6s,mb4.9
PKI Pulchoki 35.81 281 *eP* **P** **04 29 23.3 -0.7**
comp=Z,18nm,0.5s,mb5.0
PKI Pulchoki 35.81 281 *eP* **P** **04 29 23.3 -0.7**
PKI pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
KKN Kakani 35.90 281 *eP* **P** **04 29 23.9 -0.8**
comp=Z,26nm,0.5s,mb5.1
DMN Daman 36.08 281 *eP* **P** **04 29 25.7 -0.5**
comp=Z,35nm,0.8s,mb5.0
GKN Gorkha 36.43 281 *eP* **P** **04 29 28.0 -1.1**
comp=Z,25nm,0.6s,mb5.0
KOLN Koldanda 37.37 281 *eP* **P** **04 29 36.5 -0.5**
comp=Z,62nm,1.0s,mb5.2
MKAR Makanchi Array 39.47 312 P **P** **04 29 53.6 -0.6**
comp=Z,37nm,0.6s,mb5.2,baz=99,slow=10,SNR=406
MKAR pP pP 04 30 33.3 -2.0
comp=Z,6.4nm,0.7s,baz=101,slow=8.8,SNR=2.5
MKAR PcP PcP 04 31 57.6 -1.1
comp=Z,9.0nm,0.7s,baz=90,slow=3.6,SNR=8.1
MKAR ScP 04 35 28.1
comp=Z,20nm,0.8s,baz=104,slow=5.0,SNR=51
KAKA Kakadu 39.91 170 ⇑*iP* **P** **04 30 16.8 +19**
comp=Z,32nm,0.6s,mb5.1
ZAL Zalesovo 40.41 323 P **P** **04 30 00.8 -1.1**
comp=Z,27nm,0.6s,mb5.0,baz=1.8,slow=7.8,SNR=101
ZAL pP pP 04 30 41.6 -1.5
comp=Z,4.5nm,0.8s,baz=350,slow=7.5,SNR=2.0
ZAL PcP PcP 04 31 59.5 -2.1
comp=Z,2.8nm,0.7s,baz=324,slow=5.8,SNR=3.3
ZAL ScP 04 35 31.3
comp=Z,8.2nm,0.9s,baz=348,slow=3.7,SNR=27
ZAL Zalesovo 40.41 323 P **P** **04 30 00.8 -1.1**
ZAL pP pP 04 30 41.6 -1.5
ZAL PcP PcP 04 31 59.5 -2.1
ZAL ScP 04 35 31.3
ZAL Zalesovo 40.41 323 P **P** **04 30 00.8 -1.1**
ZAL 04 31 59.5
NVS Novosibirsk 41.62 324 *eP* **P** **04 30 10.1 -1.6**
NVS *e* 04 31 52.2
NVS *e* 04 32 28.5
NVS pmax pmax
comp=N,24nm,1.4s
NVS pmax pmax
comp=E,49nm,1.4s
NVS pmax pmax
comp=Z,46nm,1.4s,mb4.9
PMG Port Moresby 41.62 147 *c iP* **P** **04 30 13.2 +0.9**
KURK Kurchatov 42.84 317 *eP* **P** **04 30 20.7 -1.0**
comp=Z,53nm,1.0s,mb5.1
KURK *e*pP pP 04 31 00.7 -2.4
KURK *e*PP PP 04 32 02.9 -2.8
KURK *e*ScP 04 35 42.0
KURK Kurchatov 42.84 317 *eP* **P** **04 30 20.7 -1.0**
KURK *e*'PP pP 04 31 00.7 -2.4
KURK *e* 04 32 02.9
KURK pmax pmax
comp=Z,53nm,1.0s,mb5.1
ULHL Ulahol 42.98 304 P **P** **04 30 23.1 +0.2**
SNR=10
KSH Kashi 43.05 300 *eP* **P** **04 30 24.6 +1.1**
KSH *e*AP pP 04 31 06.1 +1.1
KSH PP PP 04 32 09.1 +1.2
KSH PCP PcP 04 32 12.3 +1.8
KSH SCP 04 35 43.4
KSH PCS 04 36 03.5
KSH S **S** **04 36 35.6 +1.5**
KSH SS SS 04 39 47.8 +1.9
KSH AMB AMB
comp=Z,370nm,5.3s
KSH LR LR
comp=N,490nm,5.2s
KSH LR LR
comp=E,500nm,6.3s
TKM2 Tokmak 2 43.51 305 P **P** **04 30 27.5 +0.3**
SNR=37
KZA Kyzart 43.71 304 P **P** **04 30 30.1 +1.4**
SNR=8.3
KBK Karagaybulak 43.97 305 P **P** **04 30 31.7 +0.9**
SNR=8.2
CHMS Chumysh 44.14 305 P **P** **04 30 32.5 +0.4**
SNR=9.9
FRU Bishkek 44.23 305 *eP* **P** **04 30 32.0 -0.9**
FRU pmax pmax
comp=Z,40nm,1.7s,mb4.8
UCH Uchtor 44.26 304 P **P** **04 30 34.4 +1.2**
SNR=38
AAK Ala-Archa 44.30 304 P **P** **04 30 34.0 +0.5**
SNR=5.5
AAK Ala-Archa 44.30 304 *eP* **P** **04 30 32.9 -0.6**
comp=Z,3.9nm,0.8s,mb4.1
AAK *e*pP pP 04 31 15.8 +0.6
AAK *e*PcP PcP 04 32 13.7 -1.1
AAK *e*PP PP 04 32 20.5 +0.3
AAK Ala-Archa 44.30 304 *eP* **P** **04 30 32.9 -0.6**
AAK *e* 04 32 13.7
AAK *e* 04 32 20.5
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
USP Ospenovka 44.34 305 P **P** **04 30 33.7 -0.1**
SNR=9.9
FITZ Fitzroy Crossi 44.74 180 ⇑*iP* **P** **04 30 37.2 -0.1**
comp=Z,176nm,0.5s
TIXI Tiksi 44.81 1 *eP* **P** **04 30 33.7 -3.5**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
EKS2 Erkin-Say 44.83 304 P **P** **04 30 37.6 -0.1**
SNR=7.8
AML Almayashu 44.87 304 P **P** **04 30 39.2 +1.3**
SNR=6.0
WRAB Tennant Creek 47.29 169 *eP* **P** **04 30 57.3 +0.1**
comp=Z,164nm,0.8s,mb5.7
WRAB Tennant Creek 47.29 169 *eP* **P** **04 30 57.3 0.0**
WRAB pmax pmax
comp=Z,165nm,0.8s,mb5.7
WRA Warramunga Arr 47.30 169 P **P** **04 30 57.3 0.0**
comp=Z,99nm,0.6s,mb5.6,baz=350,slow=8.2,SNR=248
WRA pP pP 04 31 37.2 -2.4
comp=Z,12nm,1.1s,baz=351,slow=9.0,SNR=1.5
WRA ScP 04 36 00.9
comp=Z,2.7nm,1.1s,baz=358,slow=4.4,SNR=7.7
WB2 Warramunga Arr 47.30 169 ⇑*iP* **P** **04 30 57.3 0.0**
BILL Bilibino 47.73 19 *eP* **P** **04 30 59.0 -1.0**
BILL *i* 04 32 26.7
BILL pmax pmax
comp=Z,7.0nm,1.6s,mb4.0
VOSK Vostochnaya 47.92 318 P **P** **04 31 00.3 -1.4**
VOSK pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
MBWA Marble Bar 48.14 188 *eP* **P** **04 31 03.5 -0.3**
comp=Z,55nm,1.1s,mb5.1
MBWA *e*PcP PcP 04 32 27.6 -1.0
BVA0 Borovoye Array 48.33 318 *i P* **P** **04 31 03.9 -0.9**
BVA0 pmax pmax
comp=Z,8.0nm,1.6s,mb4.1
BVAR Borovoye Array 48.33 318 P **P** **04 31 03.2 -1.6**
comp=Z,7.4nm,0.6s,mb4.5,baz=98,slow=8.1,SNR=37
BVAR pP pP 04 31 45.7 -1.6
comp=Z,3.6nm,0.7s,baz=90,slow=7.4,SNR=2.6
BVAR PcP PcP 04 32 26.0 -2.8
comp=Z,13nm,0.8s,baz=90,slow=4.4,SNR=13
BVAR ScP 04 36 02.7
comp=Z,11nm,1.0s,baz=108,slow=4.7,SNR=18
BVAR Borovoye Array 48.33 318 P **P** **04 31 03.2 -1.6**
BVAR 04 32 26.0
BRVK Borovoye 48.40 318 *eP* **P** **04 31 04.5 -0.8**
comp=Z,18nm,1.1s,mb4.6
BRVK *e*pP pP 04 31 47.9 +0.1
BRVK *e*PcP PcP 04 32 28.4 -0.7
BRVK PP PP 04 32 59.3 0.0
BRVK *e*ScP 04 36 05.0
BRVK Borovoye 48.40 318 *eP* **P** **04 31 04.5 -0.8**
BRVK *e* 04 32 28.4
BRVK 04 32 59.3
BRVK pmax pmax
comp=Z,18nm,1.1s,mb4.6
CTA Charters Tower 50.75 155 ⇑*iP* **P** **04 31 24.5 +0.8**
comp=Z,24nm,1.2s,mb4.7
CTA Charters Tower 50.75 155 ⇑*iP* **P** **04 31 24.5 +0.8**
CTA pmax pmax
comp=Z,24nm,1.2s
CTAO Charters Tower 50.75 155 *eP* **P** **04 31 24.1 +0.5**
comp=Z,86nm,1.3s,mb5.2
CTAO Charters Tower 50.75 155 *eP* **P** **04 31 24.1 +0.4**
CTAO pmax pmax
comp=Z,86nm,1.3s,mb5.2
ASPA Alice Springs 50.88 170 ⇓*iP* **P** **04 31 25.5 +0.9**
SVE Sverdlovsk 54.40 322 ⇓*eP* **P** **04 31 48.8 -1.3**
SVE *e* 04 39 33.0
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.3
AB31 Akbulak array 54.60 313 P **P** **04 31 50.6 -1.1**
AB31 pmax pmax
comp=Z,32nm,1.0s,mb5.0
ARU Arti 55.52 322 *eP* **P** **04 31 56.6 -1.6**
comp=Z,47nm,1.0s,mb5.3
ARU *e*pP pP 04 32 40.5 -1.1
ARU Arti 55.52 322 ⇓*iP* **P** **04 31 56.5 -1.7**
ARU *e* 04 32 54.0
ARU *e*S **S** **04 39 34.9 +8.3**
ARU pmax pmax
comp=Z,39nm,0.9s,mb5.2
SOKR Solikamsk 56.62 325 *c iP* **P** **04 32 05.1 -0.8**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.0
FORT Forrest 57.40 178 *eP* **P** **04 32 12.1 +0.2**
comp=Z,60nm,0.6s,mb5.6
KLBR Kellerberrin 58.68 188 ⇑*iP* **P** **04 32 20.4 -0.3**
comp=Z,42nm,1.0s,mb5.2
NWAO Narrogin (SRO) 60.06 188 *eP* **P** **04 32 30.0 -0.2**
comp=Z,63nm,1.1s,mb5.4
NWAO Narrogin (SRO) 60.06 188 *eP* **P** **04 32 30.0 -0.2**
NWAO pmax pmax
comp=Z,63nm,1.1s
STKA Stephens Creek 60.36 165 ⇑*iP* **P** **04 32 32.4 +0.2**
comp=Z,51nm,0.6s,mb5.5
STKA Stephens Creek 60.36 165 P **P** **04 32 32.5 +0.2**
comp=Z,69nm,0.7s,mb5.6,baz=342,slow=6.6,SNR=135
DZM Mont Dzumac 62.59 137 *eP* **P** **04 32 46.0 -1.2**
SML Sawmill 64.74 32 *eP* **P** **04 33 00.3 -0.3**
ILAR Eielson Array 64.87 28 P **P** **04 32 59.4 -2.0**
comp=Z,1.9nm,0.5s,mb4.2,baz=297,slow=8.2,SNR=26
ILAR PcP PcP 04 33 31.8 -1.2
comp=Z,0.8nm,0.6s,baz=289,slow=3.5,SNR=4.5
CNB Canberra Magne 65.77 159 ⇑*iP* **P** **04 33 09.0 +1.3**
comp=Z,44nm,0.9s,mb5.3
DIV Divide 66.08 32 *eP* **P** **04 33 08.7 -0.5**
comp=Z,36nm,0.7s,mb5.3
ZEI Tsey 66.60 307 *eP* **P** **04 33 10.8 -2.0**
ZEI pmax pmax
comp=Z,15nm,1.1s,mb4.7
TOO Toolangi 66.75 163 ⇑*iP* **P** **04 33 14.9 +1.0**
comp=Z,27nm,0.8s,mb5.1
TOO Toolangi 66.75 163 ⇑*iP* **P** **04 33 14.9 +1.0**
TOO pmax pmax
comp=Z,27nm,0.8s,mb5.1
KIV Kislovodsk 67.13 309 *eP* **P** **04 33 16.1 0.0**
comp=Z,58nm,1.2s,mb5.3
KIV *e*pP pP 04 34 01.9 +0.5
KIV Kislovodsk 67.13 309 *eP* **P** **04 33 16.2 +0.1**
KIV pmax pmax
comp=Z,58nm,1.2s,mb5.3
OBN Obninsk 67.96 322 ⇓*iP* **P** **04 33 19.5 -1.6**
OBN *e* 04 33 45.0
OBN *e* 04 35 50.5
OBN pmax pmax
comp=Z,48nm,1.4s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s
KEV Kevo 68.01 338 *ep* **P** **04 33 19.5 -1.6**
comp=Z,8.6nm,1.0s,mb4.4
KEV Kevo 68.01 338 *eP* **P** **04 33 19.5 -1.6**
KEV pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
JOF Joensuu 68.40 331 *ep* **P** **04 33 21.2 -2.4**
comp=Z,8.4nm,0.7s,mb4.6
ARCES ARCESS Array B 68.58 338 P **P** **04 33 23.2 -1.4**
comp=Z,1.7nm,0.4s,mb4.2,baz=63,slow=7.3,SNR=25
ARCES PcP PcP 04 33 47.6 -0.8
comp=Z,5.6nm,0.7s,baz=90,slow=6.1,SNR=7.0
SOC Sochi 69.30 309 *eP* **P** **04 33 26.9 -2.5**
SOC *e*S S 04 42 10.0 -8.9
SOC pmax pmax
comp=Z,27nm,1.4s,mb4.8
SOC pmax pmax
comp=N,9.0nm,0.7s
SOC pmax pmax
comp=E,18nm,1.0s
KAF Kangasniemi 70.86 331 *ep* **P** **04 33 36.3 -2.2**
comp=E,8.8nm,0.8s,mb4.5,baz=67,slow=5.7
KAF Kangasniemi 70.86 331 *eP* **P** **04 33 36.3 -2.2**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
FINES FINESS Array B 71.20 330 P **P** **04 33 39.6 -0.9**
comp=Z,6.5nm,0.6s,mb4.6,baz=63,slow=6.7,SNR=64
FINES pP pP 04 34 24.1 -2.2
comp=Z,3.4nm,0.8s,baz=101,slow=7.1,SNR=2.4
MALT Malatya 71.94 304 *eP* **P** **04 33 46.0 +0.6**
comp=Z,15nm,1.1s,mb4.7
MALT Malatya 71.94 304 *eP* **P** **04 33 46.0 +0.6**
MALT pmax pmax
comp=Z,15nm,1.1s,mb4.6
VSU Vasula 72.01 327 ⇓*iP* **P** **04 33 44.6 -0.8**
AKASG Malin Array Be 73.60 319 P **P** **04 33 53.5 -1.5**
comp=Z,13nm,0.8s,mb4.7,baz=56,slow=6.0,SNR=39
AKASG pP pP 04 34 39.5 -1.4
comp=Z,9.6nm,1.0s,baz=55,slow=5.9,SNR=5.2
AKASG Malin Array Be 73.60 319 P **P** **04 33 53.5 -1.5**
AKASG pP pP 04 34 39.5 -1.4
BR131 Keskin Array S 74.90 307 *eP* **P** **04 33 59.7 -2.9**
comp=Z,3.9nm,0.7s,mb4.2
BRTR Keskin Array B 74.90 307 P **P** **04 34 01.9 -0.8**
comp=Z,5.9nm,0.8s,mb4.3,baz=104,slow=5.1,SNR=20
BRTR pP pP 04 34 47.5 -1.1
comp=Z,6.2nm,1.0s,baz=104,slow=5.1,SNR=5.0
BRTR PP PP 04 36 54.0 -0.3
comp=Z,2.0nm,0.9s,baz=104,slow=5.1,SNR=4.0
BRTR Keskin Array B 74.90 307 P **P** **04 34 01.9 -0.7**
BRTR 04 36 54.1
SUW Suwalki 75.63 324 *eP* **P** **04 34 06.2 -0.2**
SUW *e* pP 04 34 52.8 +0.3
SUW Suwalki 75.63 324 *eP* **P** **04 34 06.2 -0.2**
SUW *e* pP 04 34 52.8 +0.2
VRI Vrincioaia 77.08 315 ⇓P **P** **04 34 15.9 +1.3**
HFS Hagfors 77.21 332 P **P** **04 34 13.0 -2.0**
comp=Z,7.0nm,0.8s,mb4.3,baz=68,slow=4.7,SNR=18
BURAR Bucovina Array 77.27 317 ⇓P **P** **04 34 15.4 -0.2**
MLR Muntele Rosu 77.74 315 P **P** **04 34 17.0 -1.3**
comp=Z,9.5nm,1.0s,mb4.4,baz=25,slow=2.8,SNR=8.4
MLR pP pP 04 35 04.3 -0.4
comp=Z,4.9nm,0.9s,baz=261,slow=22,SNR=2.9
MLR Muntele Rosu 77.74 315 ⇑P **P** **04 34 18.7 +0.5**
NB2 NORSAR Subarra 77.74 333 P **P** **04 34 16.4 -1.5**
comp=Z,125nm,2.0s,mb5.2,baz=54,slow=5.6
NB2 NORSAR Subarra 77.74 333 P **P** **04 34 16.4 -1.5**
baz=54,slow=5.6
NB2 NORSAR Subarra 77.74 333 P **P** **04 34 16.4 -1.5**
NB2 pmax pmax
comp=Z,125nm,2.0s,mb5.2
NOA NORSAR Array B 77.74 333 P **P** **04 34 16.8 -1.1**
comp=Z,4.6nm,0.8s,mb4.2,baz=55,slow=5.7,SNR=16
NOA pP pP 04 35 01.8 -2.6
comp=Z,3.5nm,0.9s,baz=53,slow=5.8,SNR=3.2
NOA LR LR 05 09 04.3
comp=Z,52nm,18.3s,baz=80,slow=36
KOLS Kolonicke sedl 78.43 319 *i P* **P** **04 34 22.2 +0.3**
KOLS *e*pP pP 04 35 09.0 +0.6
STHS Stebnicka Huta 78.80 320 *i P* **P** **04 34 24.3 +0.4**
YKA Yellowknife Ar 78.82 24 P **P** **04 34 23.7 0.0**
comp=Z,14nm,0.9s,mb4.6,baz=311,slow=5.1,SNR=21
YKA Yellowknife Ar 78.82 24 P **P** **04 34 23.7 0.0**
YKA Yellowknife Ar 78.82 24 *i P* **P** **04 34 24.1 +0.4**
YKA pmax pmax
comp=Z,15nm,0.9s
CRVS Cervenica-Dubn 78.92 319 *i P* **P** **04 34 25.1 +0.5**
CRVS *e*pP pP 04 35 11.8 +0.7
GKP Gorka Klasztor 79.10 325 *eP* **P** **04 34 25.5 0.0**
DRGR 79.16 317 ⇑P **P** **04 34 24.5 -1.4**
OJC Ojcow 79.24 321 *eP* **P** **04 34 26.2 0.0**
OJC *e* pP 04 35 13.4 +0.5
BSD Bornholm Skovb 79.31 327 *i P* **P** **04 34 26.2 -0.3**
comp=Z,26nm,0.7s,mb5.0
BSD Bornholm Skovb 79.31 327 *i P* **P** **04 34 26.2 -0.3**
BSD pmax pmax
comp=Z,26nm,0.7s,mb5.0
NIE Niedzica 79.33 320 *eP* **P** **04 34 27.3 +0.5**
KECS Kecovo 79.69 319 *i P* **P** **04 34 29.3 +0.6**
KECS *e*pP pP 04 35 16.4 +1.0
SUMG Summit 80.20 355 *eP* **P** **04 34 31.3 +0.3**
comp=Z,25nm,1.0s,mb4.8
OKC Ostrava-Krasne 80.35 321 *eP* **P** **04 34 32.1 -0.1**
OKC *e*pP pP 04 35 17.8 -1.2
VYHS Vyhne 80.64 320 *i P* **P** **04 34 34.4 +0.7**
VYHS *i*pP pP 04 35 21.3 +0.8
MORC Moravsky Berou 80.72 321 *eP* **P** **04 34 33.8 -0.4**
comp=Z,22nm,1.3s,mb4.6
MORC *e*pP pP 04 35 21.1 +0.2
MORC Moravsky Berou 80.72 321 *eP* **P** **04 34 33.8 -0.3**
MORC pmax pmax
comp=Z,22nm,1.3s,mb4.6
KSP Ksiaz 80.85 323 *eP* **P** **04 34 34.8 0.0**
KSP *e* pP 04 35 21.6 -0.1
KSP Ksiaz 80.85 323 *eP* **P** **04 34 34.0 -0.8**
KSP *e*pP pP 04 35 22.1 +0.5
DPC Dobruska-Polom 81.09 322 *eP* **P** **04 34 36.5 +0.4**
DPC *e*pP pP 04 35 24.2 +1.2
UPC Upice 81.18 323 *eP* **P** **04 34 36.9 +0.3**
UPC *e*pP pP 04 35 24.2 +0.8
MUD Monsted U'grnd 81.25 330 ⇑*iP* **P** **04 34 37.0 +0.2**
comp=Z,23nm,1.0s,mb4.8
MUD Monsted U'grnd 81.25 330 ⇑*iP* **P** **04 34 37.0 +0.2**
MUD pmax pmax
comp=Z,23nm,1.0s,mb4.8
VRAC Vranov 81.49 321 P **P** **04 34 38.5 +0.3**
comp=Z,17nm,1.0s,mb4.6,baz=75,slow=5.6,SNR=17
VRAC Vranov 81.49 321 *eP* **P** **04 34 38.7 +0.5**
VRAC *e* pP 04 35 26.2 +1.1
PVCC Panska Ves 81.95 323 *eP* **P** **04 34 40.5 0.0**
PVCC *e*pP pP 04 35 29.4 +2.0
BRG Berggiesshubel 82.09 324 ⇓*iP* **P** **04 34 41.4 +0.2**
comp=Z,15nm,1.0s,mb4.6
BRG pP pP 04 35 29.2 +1.0
BRG Berggiesshubel 82.09 324 ⇓*iP* **P** **04 34 41.4 +0.2**
BRG pmax pmax
comp=Z,15nm,1.0s,mb4.6
TREC Trest 82.11 322 *eP* **P** **04 34 41.7 +0.3**
TREC *e*pP pP 04 35 29.3 +1.0
BSEG Bad Segeberg 82.20 327 *eP* **P** **04 34 42.2 +0.5**
PRU Pruhonice 82.26 323 *eP* **P** **04 34 42.2 +0.1**
PRU *e*pP pP 04 35 30.1 +1.1
CLL Collm 82.35 324 ⇓P **P** **04 34 42.5 0.0**
comp=Z,logA/T=1.5,mb4.9
CLL *i* *PP pP 04 35 29.6 +0.1
CLL Collm 82.35 324 ⇓*iP* **P** **04 34 42.5 0.0**
comp=Z,23nm,0.8s,mb4.9
CLL *i* pP pP 04 35 29.6 +0.1
CLL Collm 82.35 324 ⇓*iP* **P** **04 34 42.5 0.0**
CLL pmax pmax
comp=Z,23nm,0.8s,mb4.9
ARSA Arzberg 83.19 320 ⇑*iP* **P** **04 34 47.5 +0.6**
comp=Z,13nm,1.1s,mb4.6
NKC Novy Kostel 83.24 324 *eP* **P** **04 34 47.4 +0.2**
NKC *e*pP pP 04 35 34.7 +0.5
KHC Kasperske Hory 83.25 322 *eP* **P** **04 34 47.1 -0.1**
KHC *e*pP pP 04 35 34.6 +0.3
GEC2 GERESS Array S 83.34 322 *eP* **P** **04 34 47.5 -0.2**
comp=Z,16nm,1.5s,mb4.5
GEC2 GERESS Array S 83.34 322 *eP* **P** **04 34 47.5 -0.2**
GEC2 pmax pmax
comp=Z,16nm,1.5s,mb4.5
GERES GERESS Array B 83.34 322 P **P** **04 34 47.7 0.0**
comp=Z,3.5nm,0.7s,mb4.2,baz=45,slow=3.8,SNR=32
GERES pP pP 04 35 32.4 -2.3
comp=Z,3.1nm,1.0s,baz=63,slow=3.0,SNR=3.6
CLZ Clausthal 83.39 326 *eP* **P** **04 34 48.8 +0.9**
comp=Z,74nm,1.2s,mb5.3
CLZ Clausthal 83.39 326 *eP* **P** **04 34 48.8 +0.9**
CLZ pmax pmax
comp=Z,74nm,1.2s,mb5.3
MOX Moxa 83.45 324 *i P* **P** **04 34 48.8 +0.6**
comp=Z,logA/T=1.4,mb4.9
MOX Moxa 83.45 324 *eP* **P** **04 34 48.8 +0.6**
comp=Z,40nm,1.7s,mb4.9
MOX Moxa 83.45 324 *eP* **P** **04 34 48.8 +0.6**
MOX pmax pmax
comp=Z,40nm,1.7s,mb4.9
MOA Molln 83.58 321 ⇓*iP* **P** **04 34 49.3 +0.4**
comp=Z,10nm,0.9s,mb4.6
WET Wettzell 83.63 323 *eP* **P** **04 34 49.5 +0.4**
comp=Z,33nm,1.9s,mb4.7
WET Wettzell 83.63 323 *eP* **P** **04 34 49.5 +0.4**
WET pmax pmax
comp=Z,33nm,1.9s,mb4.7
RPW Rockport 83.88 38 P **P** **04 34 52.0 +1.7**
GRA1 Grafenberg Arr 84.20 324 *eP* **P** **04 34 52.7 +0.8**
comp=Z,75nm,1.3s,mb5.3
GRA1 *e*pP pP 04 35 39.3 +0.2
GRF Grafenberg Arr 84.20 324 *eP* **P** **04 34 52.7 +0.8**
comp=Z,75nm,1.3s,mb5.3
GRF *e*pP pP 04 35 39.3 +0.2
GRF Grafenberg Arr 84.20 324 *eP* **P** **04 34 52.7 +0.8**
GRF pmax pmax
comp=Z,75nm,1.3s,mb5.3
GRF Grafenberg Arr 84.20 324 *eP* **P** **04 34 52.7 +0.8**
GRF pmax pmax
comp=Z,75nm,1.3s,mb5.3
RMW Rattlesnake Mo 84.27 39 P **P** **04 34 54.7 +2.4**
GSM Grass Mountain 84.42 39 P **P** **04 34 55.2 +2.2**
LJU Ljubljana 84.42 319 *eP* **P** **04 34 53.1 0.0**
CADS Cadrg 84.78 320 *i P* **P** **04 34 54.1 -0.8**
FUR Furstenfeldbru 85.06 322 *eP* **P** **04 34 57.1 +0.9**
comp=Z,114nm,1.0s,mb5.6
FUR Furstenfeldbru 85.06 322 *eP* **P** **04 34 57.1 +0.9**
FUR pmax pmax
comp=Z,114nm,1.0s,mb5.6
TBM Table Mountain 85.11 39 P **P** **04 34 58.4 +1.9**
EDM Edmonton 85.16 31 *eP* **P** **04 34 57.8 +1.2**
EDM *e*pP pP 04 35 47.8 +4.0
TNS Taunus Mts 85.33 325 *eP* **P** **04 34 58.1 +0.6**
comp=Z,20nm,1.1s,mb4.8
TNS Taunus Mts 85.33 325 *eP* **P** **04 34 58.1 +0.6**
TNS pmax pmax
comp=Z,20nm,1.1s,mb4.8
WATA Walderalm 85.37 322 ⇓*iP* **P** **04 34 57.6 -0.2**
comp=Z,15nm,1.0s,mb4.7
WATA Walderalm 85.37 322 ⇓*iP* **P** **04 34 57.6 -0.2**
WATA pmax pmax
comp=Z,15nm,1.0s,mb4.7
WTTA Wattenberg 85.38 321 ⇓*iP* **P** **04 34 58.0 +0.2**
comp=Z,35nm,1.0s,mb5.0
WTTA Wattenberg 85.38 321 ⇓*iP* **P** **04 34 58.0 +0.2**
WTTA pmax pmax
comp=Z,35nm,1.0s,mb5.0

TDH	Tom, Dick, Har	85.49	41	P	P	04 35 00.7	+2.2
MOTA	Moosalm	85.63	322	⇑iP	P	04 34 59.0	-0.1
	comp=Z,14nm,1.0s,mb4.6						
MOTA	Moosalm	85.63	322	⇑iP	P	04 34 59.0	-0.1
MOTA				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
SQTA	Sankt Quirin	85.64	322	⇓iP	P	04 34 59.3	+0.2
	comp=Z,22nm,1.1s,mb4.8						
SQTA	Sankt Quirin	85.64	322	⇓iP	P	04 34 59.3	+0.2
SQTA				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.8						
GBL	Gable Mountain	86.08	39	P	P	04 35 03.4	+2.1
DAVA	Damuels	86.34	322	⇓iP	P	04 35 02.8	+0.3
	comp=Z,25nm,0.9s,mb4.9						
BFO	Black Forest	86.54	324	eP	P	04 35 03.9	+0.4
	comp=Z,23nm,1.1s,mb4.9						
BFO	Black Forest	86.54	324	eP	P	04 35 03.9	+0.4
BFO				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.9						
DAVOX	Davos	86.64	322	P	P	04 35 03.4	-0.6
	comp=Z,21nm,0.8s,mb5.0,baz=57,slow=2.5,SNR=19						
DAVOX				pP	pP	04 35 51.2	-0.1
	comp=Z,11nm,1.0s,baz=197,slow=2.3,SNR=4.2						
WLF	Walferdange	86.84	326	eP	P	04 35 05.4	+0.5
	comp=Z,21nm,0.8s,mb5.0						
WLF				epP	pP	04 35 54.3	+2.1
WLF	Walferdange	86.84	326	eP	P	04 35 05.4	+0.5
WLF				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.0						
BUOR	Burton Butte	86.90	44	P	P	04 35 07.8	+2.5
CDF	Champ du Feu	87.05	324	eP	P	04 35 05.2	-0.7
	comp=Z,34nm,1.0s,mb4.8						
CDF	Champ du Feu	87.05	324	eP	P	04 35 05.2	-0.7
CDF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
GIVF	Givet	87.23	326	eP	P	04 35 05.9	-0.8
LHEM	Herd Peak	87.28	44	P	P	04 35 09.6	+2.4
BAIF	Baives	87.56	327	eP	P	04 35 06.6	-1.7
	comp=Z,14nm,0.9s,mb4.5						
BAIF	Baives	87.56	327	eP	P	04 35 06.6	-1.7
BAIF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
HINF	Hinteralfeld	87.64	324	eP	P	04 35 07.5	-1.2
	comp=Z,14nm,1.0s,mb4.5						
HINF	Hinteralfeld	87.64	324	eP	P	04 35 07.5	-1.2
HINF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
HAU	Haudompre	87.79	324	eP	P	04 35 07.9	-1.5
	comp=Z,17nm,1.0s,mb4.5						
HAU				eR			
	comp=Z,108nm,20.8s						
HAU	Haudompre	87.79	324	eP	P	04 35 07.9	-1.5
HAU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
HAU				MLR	MLR		
	comp=Z,110nm,20.8s						
MEZF	Maizieres J'vi	88.14	325	eP	P	04 35 10.4	-0.7
	comp=Z,9.4nm,0.6s,mb4.5						
LBCM	Butte Creek Ri	88.27	44	P	P	04 35 13.9	+2.0
CABF	La Chapelle	88.80	323	eP	P	04 35 13.9	-0.3
LPL	La Plagne	89.14	322	eP	P	04 35 15.5	-0.3
	comp=Z,14nm,1.0s,mb4.6						
LPL	La Plagne	89.14	322	eP	P	04 35 15.5	-0.3
LPL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
LPG	La Plagne	89.14	322	eP	P	04 35 15.7	-0.1
	comp=Z,11nm,0.7s,mb4.6						
LPG	La Plagne	89.14	322	eP	P	04 35 15.7	-0.1
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KMBO	Kilima Mbogo	89.21	268	P	P	04 35 17.2	+0.3
	comp=Z,4.8nm,0.9s,mb4.4,baz=39,slow=7.5,SNR=13						
KMBO	Kilima Mbogo	89.21	268	iP	P	04 35 18.0	+1.1
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHMT	Chamberlain Mo	89.26	36	eP	P	04 35 18.0	+1.7
MBDF	Montbardon	89.61	321	eP	P	04 35 17.1	-1.0
	comp=Z,19nm,1.2s,mb4.6						
MBDF	Montbardon	89.61	321	eP	P	04 35 17.1	-1.0
MBDF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
PGF	Pioggiola	89.68	319	eP	P	04 35 18.2	-0.2
	comp=Z,84nm,1.1s,mb5.3						
PGF	Pioggiola	89.68	319	eP	P	04 35 18.2	-0.2
PGF				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.3						
SBF	Sospel	89.78	320	eP	P	04 35 18.0	-0.9
	comp=Z,63nm,0.8s,mb5.3						
SMF	Signal de Mont	89.97	324	eP	P	04 35 18.3	-1.4
	comp=Z,16nm,0.9s,mb4.7						
SMF	Signal de Mont	89.97	324	eP	P	04 35 18.3	-1.4
SMF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ORIF	Oris-en-Rattie	89.99	322	eP	P	04 35 19.3	-0.5
	comp=Z,6.9nm,0.8s,mb4.3						
ORIF				eR			
	comp=Z,102nm,19.8s						
AVF	Avril sur Loir	90.13	325	eP	P	04 35 19.1	-1.3
HRY	Holter Researc	90.13	36	eP	P	04 35 22.7	+2.2
HYF	Humbligny	90.18	325	eP	P	04 35 20.4	-0.2
FRF	La Foret Royal	90.41	321	eP	P	04 35 20.9	-0.9
	comp=Z,35nm,1.0s,mb4.9						
FRF	La Foret Royal	90.41	321	eP	P	04 35 20.9	-0.9
FRF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
DLMT	Dillon	90.61	37	eP	P	04 35 24.6	+1.9
DLMT				epP	pP	04 36 11.8	+1.4
LMR	La Mourre	90.63	320	eP	P	04 35 22.2	-0.7
	comp=Z,106nm,1.2s,mb5.4						
LMR	La Mourre	90.63	320	eP	P	04 35 22.2	-0.7
LMR				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.5						
VIVF	Saint-Julien-l	90.69	322	eP	P	04 35 22.1	-1.0
SMRF	Simiane la Rot	90.75	321	eP	P	04 35 22.2	-1.2
QLMT	Earthquake Lak	91.58	37	eP	P	04 35 29.8	+2.6
NVAR	Mina Array Bea	91.58	45	P	P	04 35 29.6	+2.2
	comp=Z,1.0nm,0.9s,mb3.8,baz=277,slow=7.9,SNR=8.6						
NVAR				pP	pP	04 36 13.3	-1.8
	comp=Z,0.2nm,0.4s,baz=278,slow=6.4,SNR=1.7						
NVAR	Mina Array Bea	91.58	45	P	P	04 35 29.6	+2.2
NVAR				pP	pP	04 36 13.3	-1.8
LASF	Ste Croix	91.64	322	eP	P	04 35 26.8	-0.7
	comp=Z,40nm,1.3s,mb5.0						
MFF	Saint Martin d	92.03	326	eP	P	04 35 28.3	-1.0
SGMF	Saint Gilles	92.04	328	eP	P	04 35 28.2	-1.1
	comp=Z,12nm,0.7s,mb4.7						
SGMF	Saint Gilles	92.04	328	eP	P	04 35 28.2	-1.1
SGMF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
RJF	Les Rejaudoux	92.07	324	eP	P	04 35 28.7	-0.8
	comp=Z,9.7nm,1.0s,mb4.5						
RJF				eR			
	comp=Z,90nm,17.0s						
RJF	Les Rejaudoux	92.07	324	eP	P	04 35 28.7	-0.8
RJF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
RJF				MLR	MLR		
	comp=Z,90nm,17.0s						
YFT	Old Faithful	92.15	37	eP	P	04 35 33.5	+3.6
LKWY	Lake	92.31	36	eP	P	04 35 32.2	+1.7
	comp=Z,9.9nm,0.9s,mb4.8						
LKWY	Lake	92.31	36	eP	P	04 35 32.3	+1.7
LKWY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ROSF	Rostrenen	92.31	329	eP	P	04 35 29.6	-0.9
	comp=Z,20nm,0.9s,mb4.9						
ROSF	Rostrenen	92.31	329	eP	P	04 35 29.6	-0.9
ROSF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
IMW	Indian Meadow	92.46	37	eP	P	04 35 34.4	+3.1
	comp=Z,5.4nm,0.9s,mb4.6						
QUIF	Quistinic	92.56	328	eP	P	04 35 30.1	-1.6
	comp=Z,18nm,1.0s,mb4.9						
QUIF	Quistinic	92.56	328	eP	P	04 35 30.1	-1.6
QUIF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
RRI2	Red Ridge	92.62	38	eP	P	04 35 34.9	+2.8
	comp=Z,3.4nm,0.7s,mb4.6						
REDW	Red Top Meadow	92.86	38	eP	P	04 35 33.7	+0.5
	comp=Z,18nm,1.7s,mb4.9						
MTLF	Montolieu	93.02	323	eP	P	04 35 33.1	-0.8
	comp=Z,31nm,1.3s,mb5.0						
MTLF	Montolieu	93.02	323	eP	P	04 35 33.1	-0.8
MTLF				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.0						
PPT	Papeete	93.16	108	LR	LR	05 13 10.2	
	comp=Z,85nm,21.9s,baz=53,slow=32						
HWUT	Hardware Ranch	93.63	39	eP	P	04 35 39.0	+2.3
	comp=Z,7.9nm,1.2s,mb4.7						
HWUT				epP	pP	04 36 25.5	+1.0
PDAR	Pinedale Array	93.97	37	P	P	04 35 39.8	+1.6
	comp=Z,1.0nm,0.5s,mb4.2,baz=342,slow=1.0,SNR=13						
PDAR				pP	pP	04 36 25.6	-0.4
	comp=Z,0.8nm,0.8s,baz=45,slow=2.1,SNR=2.9						
ULM	Lac du Bonnet	94.76	25	P	P	04 35 40.5	-1.1
	comp=Z,3.5nm,0.7s,mb4.7,baz=319,slow=6.5,SNR=6.6						
MSU	Marysvale	95.29	42	eP	P	04 35 47.3	+2.9
ESDC	Sonseca Array	98.90	323	P	P	04 35 59.6	-1.1
	comp=Z,2.1nm,0.8s,mb4.6,baz=37,slow=4.0,SNR=6.9						
ESDC				PP	PP	04 40 02.9	-3.7
	comp=Z,0.5nm,0.6s,baz=56,slow=11,SNR=4.1						
DBIC	Dimbokro	121.74	298	PKP	PKPdf	04 41 14.2	+1.3
	comp=Z,3.4nm,0.7s,baz=47,slow=3.6,SNR=7.4						
KIC	Kosan Boka	121.83	297	eP	PKPdf	04 41 14.6	+1.5
	comp=Z,64nm,1.2s						
TIC	Toumodi	121.88	298	eP	PKPdf	04 41 14.1	+0.9
	comp=Z,2.0nm,0.3s						
LIC	Lamto	122.14	297	eP	PKPdf	04 41 15.7	+2.0
	comp=Z,66nm,1.8s						
SNAA	Sanae	127.12	198	⇑iPdif	Pdif	04 38 06.0	+1.7
SNAA				e		04 41 23.0	
SNAA				e		04 42 06.2	
VNA2	Neumayer--Watz	128.76	198	⇑iPdif	Pdif	04 38 16.2	+4.6
VNA2				e		04 39 01.9	
VNA2				e		04 41 27.6	
VNA2				e		04 42 11.8	
VNA1	Neumayer--Stat	129.16	198	Pdif	Pdif	04 38 13.3	0.0
VNA1				e		04 41 29.1	
VNA3	Neumayer Olymp	129.19	197	e		04 42 12.5	
ROSC	El Rosal	142.90	35	PKP	PKPdf	04 41 55.0	+2.6
	comp=Z,2.9nm,0.4s,baz=92,slow=16,SNR=3.5						
PLCA	Paso Flores	160.68	140	PKPab	PKPab	04 43 03.4	+0.6
	comp=Z,5.6nm,0.9s,baz=238,slow=4.3,SNR=13						
LPAZ	La Paz	163.29	54	PKP	PKPdf	04 42 23.0	+2.2
	comp=Z,0.6nm,0.8s,baz=309,slow=14,SNR=4.0						
LPAZ				PKPab	PKPab	04 43 14.5	-0.4
	comp=Z,0.5nm,0.3s,baz=4.7,slow=8.7,SNR=4.8						
CFAA	Coronel Fontan	166.88	114	PKPab	PKPab	04 43 30.6	+0.6
	baz=216,slow=3.2						
SIV	San Ignacio	167.39	32	PKPab	PKPab	04 43 31.9	-0.8
	comp=Z,1.8nm,0.8s,baz=56,slow=12,SNR=5.3						
BDFB	Brasilia	167.40	332	PKPab	PKPab	04 43 31.5	-1.2
	comp=Z,1.2nm,0.4s,baz=231,slow=20,SNR=3.3						

MEX 20 04:31:06.1±1.0, 17.69N×101.37W, h38km±16km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.12	227	iP	P	04 31 10.7	-1.8
ZIIG				iS	S	04 31 15.7	-1.3
CAIG	El Cayaco	1.23	121	eP	P	04 31 24.8	-2.3
CAIG				iS	S	04 31 39.9	-3.0
ACX	Acapulco	1.61	120	iP	P	04 31 31.5	-1.1
ACX				iS	S	04 31 52.8	+0.4
PLIG	Platanillo	1.91	68	iP	P	04 31 35.5	-1.3
PLIG				iS	S	04 31 56.4	-3.5

NEIC 20 04:46:47.4±0.5, 22.13S×67.37W, h154km±5km, mb4.3/14, Error ellipse: s-maj=7.2km s-min=5.8km az=79.0
IDC 20 04:46:47.9±0.7, 22.09S×67.39W, h162km±7km, mb3.9/13, mb1 4.1/17, mb1mx4.1/20, mbtmp4.4/17, Error ellipse: s-maj=12.4km s-min=9.6km az=89.0
GUC 20 04:46:48.6±0.8, 22.57S×67.46W, h168km±12km, ML4.5
BJI 20 04:46:50.3, 22.10S×67.40W, h154km, mB4.8
ISC 20 04:46:45.7±0.5, 22.21S±0.04×67.32W±0.06, h157km±5km, h156km±5.9km:pP-P, n70, σ1.05/71, mb4.3/26, 6C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.52	255	P	P	04 47 19.3	+2.9
	321nm,0.3s,baz=68,slow=6.2,SNR=4389						
LVC				S	S	04 47 42.3	+2.3
	99nm,0.3s,baz=285,slow=21,SNR=26						
LVC	Limon Verde	1.52	255	⇑iP	P	04 47 19.4	+3.0
LVC				iS	S	04 47 42.5	+2.5
LVC				AMP		04 47 43.9	
	comp=E,2μm,0.5s						
LVC	Limon Verde	1.52	255	eP	P	04 47 18.9	+2.5
ANCH	Antofagasta	3.20	242	⇑iP	P	04 47 37.5	+0.9
ANCH				iS	S	04 48 13.9	-1.8
CPN1	Cerro Paranal	3.71	229	eP	P	04 47 44.1	+0.9
CPN1				iS	S	04 48 26.1	-1.4
CPN1				AMP		04 48 34.0	
	comp=E,1μm,0.5s						
CRCH	Chaqaral	5.10	216	eP	P	04 48 01.2	-0.2
CRCH				iS	S	04 48 56.2	-3.7
CPCH	Copiapo	5.82	208	⇑iP	P	04 48 10.5	-0.4
CPCH				iS	S	04 49 14.1	-3.0
LPAZ	La Paz	5.94	352	P	P	04 48 14.3	+1.7
	comp=E,20nm,0.3s,baz=166,slow=8.0,SNR=434						
LPAZ				S	S	04 49 20.2	+0.2
	baz=356,slow=19,SNR=3.2						
LPAZ	La Paz	5.94	352	⇓iP	P	04 48 15.1	+2.6
	comp=E,89nm,0.6s						
ARE	Arequipa	6.94	325	eP	P	04 48 24.0	-2.0
ARE				eS	S	04 49 38.0	-6.0
SIV	San Ignacio	8.55	45	P	P	04 48 46.8	-0.6
	comp=E,95nm,0.3s,baz=236,slow=11,SNR=1129						
SIV				S	S	04 50 18.1	-4.3
	comp=E,35nm,0.3s,baz=147,slow=22,SNR=12						
CFAA	Coronel Fontan	9.39	185	P	P	04 48 58.4	0.0
	comp=E,1.1nm,0.3s,baz=21,slow=8.4,SNR=29						
CFAA				S	S	04 50 38.1	-4.1
	comp=E,1.0nm,0.3s,baz=246,slow=20,SNR=12						
CPUP	Villa Florida	9.99	116	P	P	04 49 10.3	+3.9
	comp=E,0.5nm,0.3s,baz=307,slow=13,SNR=11						
CPUP	Villa Florida	9.99	116	eP	P	04 49 10.3	+3.9
NNA	Nana	13.64	317	eP	P	04 49 54.7	+0.9
	comp=E,68nm,0.8s						
SAML	Samuel	13.77	17	eP	P	04 49 54.6	-0.9
	comp=E,4.3nm,0.7s						
PLCA	Paso Flores	18.67	188	P	P	04 50 53.6	-0.5
	comp=E,0.3nm,0.3s,baz=8.5,slow=12,SNR=24						
PLCA	Paso Flores	18.67	188	eP	P	04 50 54.2	+0.1
	comp=E,7.3nm,0.8s						
BDFB	Brasilia	19.39	74	P	P	04 51 01.9	+0.1
	comp=E,9.6nm,0.3s,baz=263,slow=12,SNR=152						
BAO	Brasilia Array	19.41	74	P	P	04 51 02.0	0.0
CAM4	Nova Friburgo	22.90	95	eP	P	04 51 36.4	-0.3
CAM4				i		04 51 38.6	
CAM4				i		04 51 45.6	
SDV	Santo Domingo	31.07	354	P	P	04 52 45.9	-5.6
	comp=E,2.4nm,0.6s,mb4.1,baz=342,slow=1.5,SNR=3.9						
USHA	Ushuaia	32.58	181	P	P	04 53 05.2	+1.1
	comp=E,2.7nm,0.7s,mb4.1,slow=6.1,SNR=3.7						
RCBR	Riachuelo	34.44	66	eP	P	04 53 20.5	0.0
	comp=E,5.3nm,0.6s,mb4.5						
SJG	San Juan	40.09	2	P	P	04 54 05.0	-2.6
	comp=E,9.5nm,0.6s,mb4.6,baz=16,slow=17,SNR=3.1						
SJG	San Juan	40.09	2	eP	P	04 54 05.2	-2.4
VNA3	Neumayer Olymp	58.93	161	⇓iP	P	04 56 31.2	+0.8
VNA3				e	pP	04 57 05.0	-2.2
VNA1	Neumayer--Stat	59.12	161	⇓iP	P	04 56 32.9	+1.2
VNA1				e	pP	04 57 09.2	+0.7
VNA2	Neumayer--Watz	59.49	161	⇓iP	P	04 56 35.0	+0.8
VNA2				e	pP	04 57 12.0	+0.9
ELN	Prospectdale	60.46	348	eP	P	04 56 40.6	-0.6
SNAA	Sanae	61.13	161	P	P	04 56 45.5	+0.2
	comp=E,1.3nm,0.6s,mb3.9,baz=283,slow=7.2,SNR=33						
SNAA	Sanae	61.13	161	⇓iP	P	04 56 45.7	+0.4
SNAA				e	pP	04 57 26.6	+4.2
TXAR	Lajitas Array	62.06	324	P	P	04 56 50.1	-2.0
	comp=E,0.5nm,0.6s,mb3.5,baz=154,slow=10,SNR=7.0						
LIC	Lamto	67.18	73	⇑iP	P	04 57 24.1	-1.3
	comp=E,95nm,1.6s,mb5.4						
TIC	Toumodi	67.38	72	⇑iP	P	04 57 25.6	-1.1
	comp=E,36nm,1.7s,mb4.9						
KIC	Kosan Boka	67.49	73	⇑iP	P	04 57 26.5	-0.9
	comp=E,48nm,0.7s,mb5.5						
DBIC	Dimbokro	67.53	72	P	P	04 57 26.9	-0.7
	comp=E,11nm,0.7s,mb4.7,baz=219,slow=8.0,SNR=22						
ANMO	Albuquerque	67.91	326	P	P	04 57 28.8	-0.8
	comp=E,3.3nm,0.7s,mb4.2,baz=134,slow=6.2,SNR=18						
ANMO	Albuquerque	67.91	326	eP	P	04 57 29.1	-0.6
	comp=E,2.4nm,0.8s,mb4.0						
TUC	Tucson	68.31	321	eP	P	04 57 31.2	-0.9
	comp=E,3.1nm,1.1s,mb4.0						
SDCO	Great Sand Dun	69.61	328	eP	P	04 57 40.1	+0.1
	comp=E,15nm,1.2s,mb4.6						
WUAZ	Wupatki	70.98	323	eP	P	04 57 48.8	+0.5
	comp=E,9.4nm,1.0s,mb4.5						
PV01	Paradox Valley	71.44	327	P	P	04 57 50.5	-0.4
MSU	Marysvale	73.60	325	eP	P	04 58 04.4	+0.7
DUG	Dugway	75.17	326	eP	P	04 58 13.1	+0.5
PDAR	Pinedale Array	75.47	329	P	P	04 58 13.8	-0.4
	comp=E,1.6nm,0.6s,mb3.8,baz=127,slow=7.8,SNR=14						
HWUT	Hardware Ranch	75.57	327	eP	P	04 58 14.7	-0.1
	comp=E,4.4nm,0.7s,mb4.2						
SPUT	South Promonto	75.80	327	eP	P	04 58 16.4	+0.4
ULM	Lac du Bonnet	76.44	342	P	P	04 58 18.1	-1.4
	comp=E,4.8nm,0.6s,mb4.3,baz=148,slow=5.5,SNR=12						
SNOW	Snow King Moun	76.56	329	eP	P	04 58 20.0	-0.3
	comp=E,6.8nm,0.8s,mb4.3						
LOHW	Long Hollow	76.61	329	eP	P	04 58 21.2	+0.7
	comp=E,2.7nm,0.6s,mb4.0						
TPAW	Teton Pass	76.68	329	eP	P	04 58 21.2	+0.2
	comp=E,4.2nm,0.9s,mb4.1						
RRI2	Red Ridge	76.75	329	eP	P	04 58 22.1	+0.7
	comp=E,9.1nm,1.0s,mb4.4						
NVAR	Mina Array Bea	76.97	321	P	P	04 58 22.6	-0.1
	comp=E,1.6nm,0.8s,mb3.7,baz=152,slow=7.2,SNR=14						
FLWY	Flagg Ranch	77.01	329	eP	P	04 58 24.0	+1.2
MCMT	McKenzie Canyo	78.59	329	eP	P	04 58 32.8	+1.3
HRY	Holter Researc	79.51	331	eP	P	04 58 37.0	+0.6
MDT	Midelt	81.08	49	P	P	04 58 45.2	+0.2
	comp=E,2.0nm,0.7s,mb3.8,baz=268,slow=5.3,SNR=9.2						
MAW	Mawson	83.22	163	P	P	04 58 56.4	+1.1
	comp=E,2.0nm,0.6s,mb4.0,baz=203,slow=7.3,SNR=8.3						
ESDC	Sonseca Array	85.31	44	P	P	04 59 08.2	+1.9
	comp=E,0.7nm,0.6s,mb3.6,baz=240,slow=4.9,SNR=6.5						
YKA	Yellowknife Ar	92.35	340	P	P	04 59 39.1	+0.1
	comp=E,3.4nm,0.6s,mb4.5,baz=132,slow=4.8,SNR=9.5						
WRA	Warramunga Arr	133.06	208	PKP	PKPdf	05 05 44.9	+1.5
	comp=E,1.3nm,0.6s,baz=164,slow=1.8,SNR=17						
MKAR	Makanchi Array	145.32	38	PKPbc	PKPbc	05 06 06.0	+0.7
	comp=E,1.0nm,0.7s,baz=314,slow=3.8,SNR=8.6						
WMQ	Urumqi	150.15	38	ePKP	PKPdf	05 06 14.5	+2.0
MDJ	Mudanjiang	153.67	332	PKP	PKPdf	05 06 18.8	+1.2
MDJ				PP	PP		
	comp=Z,65nm,4.5s						
SONM	Songino Array	153.94	10	PKPab	PKPab	05 06 40.5	-2.0
	comp=Z,0.2nm,0.3s,baz=286,slow=1.8,SNR=4.6						
CN2	Changchun	156.01	337	ePKP	PKPdf	05 06 22.3	+1.6
LZH	Lanzhou	164.18	27	ePKP	PKPdf	05 06 32.9	+2.8
LZH				APKP		05 07 14.0	
LZH				XPKP		05 07 32.0	
SSE	Sheshan	168.34	321	ePKP	PKPdf	05 06 34.9	+1.4
SSE				PP	PP		
	comp=Z,90nm,12.0s						
NJ2	Nanjing	168.77	332	ePKP	PKPdf	05 06 35.1	+1.3

NEIC 20 05:11:55.9, 31.30S×71.67W, h29km, ML2.8(GUC), After GUC.
GUC 20 05:11:55.9±0.6, 31.30S×71.67W, h29km±2km, MD3.7, ML2.8, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILCH	Illapel	0.55	129	⇑iP	Pb	05 12 06.8	-0.2
ILCH				iS	Sb	05 12 14.9	+0.3
ILCH				AMP		05 12 15.4	
	comp=E,1μm,0.3s						
CMCH	Combarbala	0.58	78	⇑iP	Pb	05 12 07.5	-0.1
CMCH				iS	Sb	05 12 16.3	+0.7
CMCH				AMP		05 12 16.9	
	comp=N,2μm,0.3s						
CHNG	Los Chungos	0.60	166	⇑iP	Pb	05 12 07.5	-0.4
CHNG				iS	Sb	05 12 16.1	-0.1
CHNG				AMP		05 12 17.0	
	comp=E,234nm,0.3s						
TLL	Tololo Astrono	1.35	34	⇑iP	Pn	05 12 19.8	+0.8
TLL				iS	Sn	05 12 37.8	+1.7
TLL				AMP		05 12 40.8	
	comp=E,252nm,0.4s						
JACH	Jahuel	1.66	147	⇓iP	Pn	05 12 24.6	+1.1
JACH				iS	Sn	05 12 45.9	+2.0
ROCH	El Roble	1.76	162	⇑iP	Pn	05 12 26.7	+1.7
ROCH				iS	Sn	05 12 49.5	+2.9
CLCH	Cerro Calan	2.30	156	⇑iP	Pn	05 12 33.3	+0.6
CLCH				iS	Sn	05 13 02.1	+1.7
CLCH				AMP		05 13 11.8	
	comp=N,81nm,0.5s						
RCDM	Rinconada Maip	2.31	162	eP	Pn	05 12 33.0	+0.2
RCDM				AMP		05 13 12.4	
	comp=E,95nm,0.1s						
FCH	Farellones	2.34	150	eP	Pn	05 12 34.1	+0.9
FCH				iS	Sn	05 13 03.8	+2.5
FCH				AMP		05 13 14.0	
	comp=E,58nm,0.3s						
ANTU	Antumapu	2.43	159	iS	Sn	05 13 04.8	+1.2
ANTU				AMP		05 13 14.9	
	comp=E,48nm,0.5s						

NIED 20 05:15:00, 37.90N×142.30E, h50km, Mw3.3 Best double couple: $M_0$1.17×10[14] NP1:ϕ_s211°, δ80°, λ142°. NP2: ϕ_s309°, δ53°, λ12°.
JMA 20 05:15:38.3±0.2, 37.88N×142.26E, h34km±2km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.92	309	P	P	05 15 55.1	+0.3
JIO				S	S	05 16 07.4	+0.4
JMM	Marumori	1.16	270	P	P	05 15 58.6	+0.3
JMM				eS	S	05 16 12.8	-0.4
JFK	Kawauchi	1.21	245	P	P	05 15 59.3	+0.3
JFK				eS	S	05 16 13.7	-0.8
JMK	Ichinoseki	1.35	323	P	P	05 16 01.6	+0.6
JOU	Okura	1.35	292	P	P	05 16 02.0	+1.0
JFT	Otama	1.57	257	P	P	05 16 05.6	+1.5
JFT				S	S	05 16 24.8	+1.4
JOM	Ohasama	1.76	335	P	P	05 16 07.5	+0.6
JYS	Shirataka	1.77	282	P	P	05 16 08.5	+1.6
JYK	Kaneyama	1.82	305	P	P	05 16 08.7	+1.0
JFY	Yanaizu	2.08	258	P	P	05 16 12.9	+1.4

JMA 20 05:40:56.0±0.4, 31.25N×141.17E, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.18	329	P	Pn	05 41 34.0	0.0
JHJ2				eS	Sn	05 42 03.4	+1.3
BSO3	Boso 3	3.58	351	eS	Sn	05 42 39.0	+1.3
JAG	Ashikaga	5.36	345	P	Pn	05 42 20.9	+1.8

MOS 20 06:24:16.2±0.8, 4.46S×153.74E, h101km, mb4.7/12, Error ellipse: s-maj=14.5km s-min=10.5km az=92.4
IDC 20 06:24:18.0±0.9, 4.54S×153.69E, h108km±7km, mb4.3/13, mb1 4.4/15, mb1mx4.4/18, mbtmp4.7/15, MS3.7/8, Ms1 3.7/8, ms1mx3.5/19, Error ellipse: s-maj=18.4km s-min=11.3km az=105.0
BJI 20 06:24:18.5, 4.60S×153.70E, h131km, mB5.2, mb5.0
NEIC 20 06:24:20.6±1.5, 4.58S×153.67E, h131km±13km, mb4.8/13, Error ellipse: s-maj=10.2km s-min=6.7km az=83.0
ISC 20 06:24:15.0±1.8, 4.56S±0.06×153.75E±0.06, h92km±17km, n91, σ1.12/83, mb4.7/39, 7C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.83	129	S	S	06 27 34.8	-0.9
	7.4nm,0.3s,baz=356,slow=22,SNR=2.8						
PMG	Port Moresby	8.12	233	P	P	06 26 13.7	+1.7
	49nm,0.3s,baz=31,slow=7.3,SNR=88						
PMG				S	S	06 27 42.0	-0.9
	3.3nm,0.3s,baz=72,slow=11,SNR=3.8						
PMG	Port Moresby	8.12	233	ePn	P	06 26 14.2	+2.2
	667nm,0.9s						
PMG				eSn	S	06 27 39.6	-3.3
PMG	Port Moresby	8.12	233	eP	P	06 26 14.2	+2.2
PMG				e		06 27 39.6	
PMG				pmax	pmax		
	comp=Z,667nm,0.9s						
CTA	Charters Tower	17.08	205	eP	P	06 28 19.5	+10
	comp=Z,5.9nm,0.9s						
CTA	Charters Tower	17.08	205	P	P	06 28 11.3	+1.9
	comp=Z,0.2nm,0.3s,baz=14,slow=12,SNR=2.7						

CTA	**Charters Tower**	**17.08**	**205**	*e*P	**P**	**06 28 19.5**	**+10**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTAO	**Charters Tower**	**17.08**	**205**	*e*P	**P**	**06 28 11.9**	**+2.6**
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**17.08**	**205**	*e*P	**P**	**06 28 12.0**	**+2.6**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GUMO	**Guam**	**20.07**	**334**	P	**P**	**06 28 43.8**	**+0.3**
	comp=Z,38nm,0.4s,baz=14,slow=23,SNR=8.2						
GUMO				LR	LR	06 35 10.0	
	comp=Z,22nm,21.4s,baz=180,slow=33						
DZM	**Mont Dzumac**	**21.32**	**146**	P	**P**	**06 28 57.4**	**+1.3**
	comp=Z,3.6nm,0.9s,mb3.7,baz=324,slow=19,SNR=3.8						
KAKA	**Kakadu**	**22.56**	**248**	⇑*i*P	**P**	**06 29 27.4**	**+19**
	comp=Z,28nm,0.6s,mb4.8						
KAKA				*e*S	S	06 33 25.5	+21
WRAB	**Tennant Creek**	**24.30**	**229**	*e*P	**P**	**06 29 25.6**	**+0.3**
	comp=Z,71nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**24.30**	**229**	*e*P	**P**	**06 29 25.6**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,71nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**24.31**	**229**	*e*P	**P**	**06 29 25.5**	**+0.2**
WB2				*e*S	**S**	**06 33 42.3**	**+7.5**
WRA	**Warramunga Arr**	**24.32**	**229**	P	**P**	**06 29 25.8**	**+0.4**
	comp=Z,43nm,0.7s,mb4.9,baz=53,slow=9.7,SNR=179						
WRA				pP		06 29 49.1	
	comp=Z,5.8nm,0.7s,baz=51,slow=9.9,SNR=2.3						
ARMA	**Armidale**	**25.80**	**184**	*e*P	**P**	**06 29 40.0**	**+0.6**
STKA	**Stephens Creek**	**29.47**	**201**	*e*P	**P**	**06 30 11.5**	**-1.1**
	comp=Z,7.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**29.47**	**201**	P	**P**	**06 30 11.7**	**-1.0**
	comp=Z,9.5nm,0.9s,mb4.4,baz=6.0,slow=8.6,SNR=16						
STKA				LR	LR	06 41 34.1	
	comp=Z,145nm,19.1s,baz=28,slow=35						
FITZ	**Fitzroy Crossi**	**30.61**	**242**	⇑*i*P	**P**	**06 30 21.3**	**-1.5**
	comp=Z,34nm,0.7s,mb5.2						
FITZ				*e*		06 33 18.5	
FITZ	**Fitzroy Crossi**	**30.61**	**242**	P	**P**	**06 30 20.5**	**-2.3**
	comp=Z,42nm,0.7s,mb5.3,baz=69,slow=3.9,SNR=64						
FITZ				PcP	PcP	06 33 17.8	-1.3
	comp=Z,12nm,0.8s,baz=28,slow=1.7,SNR=5.0						
CBIJ	**Chichi jima**	**33.39**	**341**	P	**P**	**06 30 44.6**	**-2.3**
	comp=Z,54nm,0.8s,mb5.5,baz=315,slow=20,SNR=4.0						
AFI	**Afiamalu**	**35.23**	**108**	LR	LR	06 41 56.8	
	comp=Z,49nm,21.9s,baz=64,slow=30						
FORT	**Forrest**	**35.58**	**220**	⇑*i*P	**P**	**06 31 04.8**	**-0.7**
	comp=Z,64nm,0.7s,mb5.7						
MBWA	**Marble Bar**	**36.91**	**240**	*e*P	**P**	**06 31 15.3**	**-1.6**
	comp=Z,22nm,0.9s,mb5.1						
KKM	**Kota Kinabalu**	**38.93**	**285**	*e*P	**P**	**06 31 33.9**	**+0.2**
MJAR	**Matsushiro Arr**	**43.39**	**342**	P	**P**	**06 32 08.6**	**-1.7**
	comp=Z,1.1nm,0.5s,mb3.9,baz=228,slow=0.8,SNR=6.1						
KSM	**Kuching**	**43.82**	**277**	*e*P	**P**	**06 32 13.6**	**-0.4**
NWAO	**Narrogin (SRO)**	**44.23**	**226**	LR	LR	06 49 03.4	
	comp=Z,197nm,19.4s,baz=287,slow=34						
SSE	**Sheshan**	**47.14**	**321**	*e*P	**P**	**06 32 36.8**	**-3.4**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,50nm,3.5s						
NJ2	**Nanjing**	**49.26**	**320**	*e*P	**P**	**06 32 53.8**	**-2.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**52.20**	**350**	*e*P	**P**	**06 33 20.3**	**+1.7**
YSS				pmax	pmax		
	comp=Z,82nm,3.0s						
KULM	**Kulim**	**53.93**	**280**	*e*P	**P**	**06 33 30.8**	**-1.1**
ENH	**Enshi**	**54.69**	**312**	*e*P	**P**	**06 33 36.6**	**-0.6**
	comp=Z,21nm,0.9s,mb5.2						
KMI	**Kunming**	**57.64**	**303**	P	**P**	**06 33 59.1**	**+0.8**
KMI				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CD2	**Chengdu**	**59.30**	**310**	⇑*i*P	**P**	**06 34 10.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.6						
HHC	**Hu-ho-hao-te**	**59.41**	**324**	*e*P	**P**	**06 34 09.9**	**-0.4**
HHC				AP	pP	06 34 43.5	+10
HHC				PCP	PcP	06 34 56.0	-0.9
HHC				XP	sP	06 34 58.8	+15
HHC				PP	PP	06 36 23.9	-0.4
HHC				S	**S**	**06 42 04.5**	**-5.8**
HHC				XS		06 43 02.8	
HHC				SCS	ScS	06 43 42.0	-5.8
HHC				SS	SS	06 46 02.3	-5.8
HHC				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,111nm,4.6s						
HHC				LR	LR		
	comp=N,168nm,16.7s						
HHC				LR	LR		
	comp=E,162nm,15.5s						
HHC				LR	LR		
	comp=Z,116nm,16.7s						
LZH	**Lanzhou**	**61.72**	**315**	*e*P	**P**	**06 34 27.4**	**+1.3**
LZH				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,140nm,4.0s						
LZH				LR	LR		
	comp=E,293nm,14.8s						
LZH				LR	LR		
	comp=Z,445nm,16.0s						
MA2	**Magadan**	**63.98**	**358**	*e*P	**P**	**06 34 40.4**	**-0.3**
	comp=Z,12nm,0.6s,mb4.9						
MA2	**Magadan**	**63.98**	**358**	*e*P	**P**	**06 34 40.4**	**-0.3**
MA2				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
GTA	**Gaotai**	**66.12**	**317**	*e*P	**P**	**06 34 55.5**	**+0.6**
GTA				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.7						
SONM	**Songino Array**	**66.63**	**327**	P	**P**	**06 34 57.7**	**-0.3**
	comp=Z,2.0nm,0.5s,mb4.2,baz=144,slow=5.9,SNR=18						
SONM				pP	pP	06 35 24.5	+3.1
	comp=Z,1.6nm,0.8s,baz=151,slow=4.3,SNR=3.8						
SONM				LR	LR	07 05 35.1	
	comp=Z,56nm,18.1s,baz=56,slow=37						
CASY	**Casey**	**68.53**	**197**	*e*P	**P**	**06 35 08.0**	**-1.4**
YAK	**Yakutsk**	**68.93**	**348**	*i* P	**P**	**06 35 11.3**	**-0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**69.78**	**328**	*e*P	**P**	**06 35 16.6**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
BOD	**Bodaibo**	**69.91**	**339**	*e*P	**P**	**06 35 17.6**	**-0.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
GUN	**Gumba**	**72.81**	**301**	*e*P	**P**	**06 35 36.7**	**+0.8**
	comp=Z,51nm,0.8s,mb5.4						
BILL	**Bilibino**	**72.97**	**5**	*e*P	**P**	**06 35 36.0**	**0.0**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
PKI	**Pulchoki**	**73.12**	**300**	*e*P	**P**	**06 35 38.1**	**+0.3**
KKN	**Kakani**	**73.29**	**301**	*e*P	**P**	**06 35 39.1**	**+0.4**
	comp=Z,22nm,0.7s,mb5.1						
DMN	**Daman**	**73.39**	**300**	*e*P	**P**	**06 35 40.0**	**+0.7**
	comp=Z,68nm,1.0s,mb5.5						
GKN	**Gorkha**	**73.89**	**301**	*e*P	**P**	**06 35 42.5**	**+0.2**
KOLN	**Koldanda**	**74.73**	**300**	*e*P	**P**	**06 35 47.2**	**+0.1**
	comp=Z,28nm,0.9s,mb5.0						
WMQ	**Urumqi**	**76.21**	**317**	*e*P	**P**	**06 35 55.5**	**+0.3**
MKAR	**Makanchi Array**	**80.77**	**319**	P	**P**	**06 36 20.0**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.3,baz=101,slow=6.2,SNR=29						
MKAR	**Makanchi Array**	**80.77**	**319**	*i* P	**P**	**06 36 20.3**	**+0.3**
ZAL	**Zalesovo**	**81.49**	**326**	P	**P**	**06 36 22.2**	**-1.4**
	comp=Z,1.7nm,0.6s,mb4.1,baz=42,slow=3.1,SNR=7.9						
ILAR	**Eielson Array**	**81.58**	**22**	P	**P**	**06 36 23.4**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.0,baz=251,slow=5.3,SNR=25						
ILAR				pP	pP	06 36 50.1	+2.0
	comp=Z,0.6nm,0.6s,baz=243,slow=5.7,SNR=2.4						
ULHL	**Ulahol**	**83.84**	**313**	P	**P**	**06 36 37.8**	**+1.9**
	SNR=5.1						
KURK	**Kurchatov**	**84.16**	**322**	*e*P	**P**	**06 36 37.1**	**-0.1**
	comp=Z,12nm,1.1s,mb4.6						
KURK	**Kurchatov**	**84.16**	**322**	*e*P	**P**	**06 36 37.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
TKM2	**Tokmak 2**	**84.45**	**314**	P	**P**	**06 36 40.1**	**+1.2**
	SNR=14						
KZA	**Kyzart**	**84.53**	**313**	P	**P**	**06 36 41.8**	**+2.5**
	SNR=8.0						
CHMS	**Chumysh**	**85.07**	**314**	P	**P**	**06 36 43.3**	**+1.3**
	SNR=6.7						
UCH	**Uchtor**	**85.10**	**313**	P	**P**	**06 36 44.4**	**+2.2**
	SNR=12						
AAK	**Ala-Archa**	**85.19**	**313**	P	**P**	**06 36 43.9**	**+1.3**
	SNR=7.8						
AAK	**Ala-Archa**	**85.19**	**313**	*e*P	**P**	**06 36 42.7**	**+0.1**
	comp=Z,8.3nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**85.19**	**313**	*c i*P	**P**	**06 36 42.2**	**-0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
USP	**Ospenovka**	**85.30**	**314**	P	**P**	**06 36 44.1**	**+0.9**
	SNR=11						
EKS2	**Erkin-Say**	**85.71**	**313**	P	**P**	**06 36 46.7**	**+1.6**
	SNR=7.2						
MAW	**Mawson**	**86.16**	**203**	⇑*i*P	**P**	**06 36 46.5**	**-0.2**
	comp=Z,9.9nm,0.7s,mb4.8						
MAW	**Mawson**	**86.16**	**203**	P	**P**	**06 36 46.7**	**0.0**
	comp=Z,13nm,0.8s,mb5.0,baz=91,slow=6.3,SNR=45						
MAW	**Mawson**	**86.16**	**203**	⇑*i*P	**P**	**06 36 46.5**	**-0.2**
MAW				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DLBC	**Dease Lake**	**86.69**	**31**	LR	LR	07 11 59.6	
	comp=Z,96nm,18.9s,baz=103,slow=33						
KKAR	**Karatay Array**	**88.15**	**313**	*i* P	**P**	**06 36 57.0**	**0.0**
KKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
YBH	**Yreka Blue Hor**	**88.19**	**48**	LR	LR	07 06 36.8	
	comp=Z,124nm,21.6s,baz=250,slow=29						
VOSK	**Vostochnaya**	**89.22**	**323**	P	**P**	**06 37 00.9**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BVA0	**Borovoye Array**	**89.61**	**323**	*i* P	**P**	**06 37 03.1**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**89.68**	**323**	*e*P	**P**	**06 37 03.2**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**89.68**	**323**	*e*P	**P**	**06 37 03.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**91.19**	**52**	P	**P**	**06 37 13.0**	**+1.6**
	comp=Z,1.0nm,0.8s,mb4.0,baz=251,slow=9.4,SNR=6.6						
AB31	**Akbulak array**	**95.91**	**319**	*i* P	**P**	**06 37 31.3**	**-1.3**
ARU	**Arti**	**96.64**	**326**	*e*P	**P**	**06 37 33.6**	**-2.2**
PDAR	**Pinedale Array**	**97.99**	**48**	LR	LR	07 14 47.0	
	comp=Z,54nm,20.7s,baz=160,slow=31						
GERES	**GERESS Array B**	**124.34**	**329**	PKP	PKPdf	06 43 04.2	+0.7
	comp=Z,0.8nm,0.6s,baz=45,slow=1.9,SNR=5.3						
LPAZ	**La Paz**	**133.69**	**118**	PKP	PKPdf	06 43 22.9	+0.8
	comp=Z,0.6nm,0.6s,baz=232,slow=12,SNR=3.7						
BDFB	**Brasilia**	**150.56**	**133**	PKPbc	PKPdf	06 43 57.2	+5.6
	comp=Z,5.9nm,0.8s,baz=344,slow=2.1,SNR=9.4						
KIC	**Kosan Boka**	**158.51**	**276**	*e*PKP1	PKPab	06 44 39.4	-0.8
	comp=Z,189nm,1.8s						
DBIC	**Dimbokro**	**158.61**	**277**	PKPab	PKPab	06 44 39.8	-0.9
	comp=Z,7.0nm,1.0s,baz=61,slow=9.1,SNR=5.2						
TIC	**Toumodi**	**158.77**	**277**	*e*PKP1	PKPab	06 44 39.4	-1.9
	comp=Z,3.9nm,0.2s						
LIC	**Lamto**	**158.81**	**275**	*e*PKP1	PKPab	06 44 40.4	-1.1
	comp=Z,91nm,2.1s						

IDC 20 06:35:42.4±2.4**, 10.31S**×**112.08E, mb3.7**/3**, mb1 4.0**/4**, mb1mx3.7**/14**, mbtmp3.8**/4**, ML3.3**/1**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.9**/12**, Error ellipse: s-maj=116.1km s-min=26.2km az=47.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.25**	**122**	Pn	P	06 39 18.3	-2.6
	0.1nm,0.3s,baz=196,slow=5.3,SNR=4.6						
FITZ				Sn	S	06 41 53.4	-18
	0.1nm,0.3s,baz=190,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**23.50**	**117**	P	P	06 40 53.9	-1.1
	2.7nm,1.1s,baz=289,slow=11,SNR=12						
STKA	**Stephens Creek**	**34.72**	**133**	P	P	06 42 34.7	-1.6
	1.8nm,0.7s,baz=304,slow=8.4,SNR=4.5						
GUMO	**Guam**	**40.28**	**55**	LR	LR	06 58 19.8	
	comp=Z,20nm,21.3s,baz=331,slow=34						
MKAR	**Makanchi Array**	**62.76**	**337**	P	P	06 46 09.5	-2.3
	0.2nm,0.5s,baz=132,slow=8.2,SNR=5.0						

*IDC **20** 06:36:03.4±6.5, 53.05N×176.85W, mb3.5/3, mb1 4.0/5, mb1mx3.6/23, mbtmp3.7/5, ML4.3/2, Error ellipse: s-maj=125.6km s-min=59.4km az=107.0*

NEIC 20 06:36:08.5, 51.51N×173.62W, h26km**, ML2.9**(AEIC)**, After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.78**	**333**	P	Pb	06 36 21.6	-1.8
ATKA				S	Sb	06 36 32.3	-1.4
GSMY	**Great Sitkin M**	**1.61**	**290**	P	Pn	06 36 33.6	-2.1
GSMY				S	Sn	06 36 54.5	-1.3
GSTR	**Great Sitkin T**	**1.62**	**292**	P	Pn	06 36 33.9	-2.1
GSTD	**Great Sitkin T**	**1.66**	**290**	P	Pn	06 36 34.4	-2.1
GSTD				S	Sn	06 36 55.6	-1.6
ADAG	**Mount Adagdak**	**1.91**	**286**	P	Pn	06 36 37.9	-2.2
KIWB	**Kanaga Island**	**2.23**	**280**	P	Pn	06 36 43.5	-1.1
KIMD	**Kanaga Island**	**2.27**	**278**	P	Pn	06 36 43.1	-2.1
NIKO	**Nikolski**	**3.28**	**62**	P	Pn	06 36 57.0	-2.5
KDAK	**Kodiak Island**	**13.67**	**54**	Pn	P	06 39 29.8	+6.9
	1.5nm,0.3s,baz=280,slow=6.1,SNR=8.6						
KDAK	**Kodiak Island**	**13.67**	**54**	Pn	P	06 39 29.8	+6.9
ILAR	**Eielson Array**	**19.17**	**36**	P	P	06 40 27.9	-4.7
	0.4nm,0.3s,baz=235,slow=8.8,SNR=46						
NVAR	**Mina Array Bea**	**40.31**	**87**	P	P	06 43 57.1	+12
	0.2nm,0.4s,baz=281,slow=12,SNR=4.0						
PDAR	**Pinedale Array**	**43.16**	**75**	P	P	06 44 18.8	+10
	0.7nm,0.5s,baz=315,slow=6.3,SNR=7.1						
TXAR	**Lajitas Array**	**55.42**	**85**	P	P	06 45 52.5	+10
	0.4nm,0.8s,baz=293,slow=4.3,SNR=5.1						

*IDC **20** 06:53:30.3±0.9, 37.62N×112.18W, mb1 3.0/5, mb1mx3.0/26, mbtmp2.7/5, ML2.9/4, Error ellipse: s-maj=16.4km s-min=9.4km az=40.0*

*NEIC **20** 06:53:31.0, 37.51N×112.29W, h2km, ML3.0(SLC), After SLC.*

NEIC Felt at Bryce Canyon.

ISC 20 06:53:31.2±0.4**, 37.51N**±0.04×**112.36W**±0.05**, h10**km**, n30, σ0.93**/32**, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARUT	**Antelope Range**	**0.90**	**288**	*e*P	**Pb**	**06 53 49.7**	**+1.1**
MSU	**Marysvale**	**1.01**	**8**	*e*P	**Pb**	**06 53 50.5**	**+0.2**
TMUT	**Trail Mountain**	**2.00**	**27**	*e*P	**Pn**	**06 54 06.4**	**+0.9**
WUAZ	**Wupatki**	**2.14**	**158**	*e*Pn	**Pn**	**06 54 08.9**	**+1.3**
SRU	**San Rafael**	**2.15**	**42**	*e*Pn	**Pn**	**06 54 08.8**	**+1.1**
NLU	**North Lily Min**	**2.45**	**5**	Pn	**Pn**	**06 54 12.4**	**+0.5**
MPU	**Maple Canyon**	**2.56**	**13**	*e*Pn	**Pn**	**06 54 13.4**	**-0.2**
DUG	**Dugway**	**2.70**	**353**	*e*Pn	**Pn**	**06 54 15.3**	**-0.3**
NEN	**Nelson**	**2.73**	**228**	*e*Pn	**Pn**	**06 54 16.6**	**+0.6**
PV10	**Paradox Valley**	**2.76**	**71**	*e*Pn	**Pn**	**06 54 16.9**	**+0.5**
DAU	**Daniels Canyon**	**3.02**	**16**	Pn	**Pn**	**06 54 20.5**	**+0.4**
PV01	**Paradox Valley**	**3.06**	**77**	*e*Pn	**Pn**	**06 54 20.7**	**0.0**
NOQ	**North Oquirrh**	**3.14**	**3**	Pn	**Pn**	**06 54 22.9**	**+1.1**
CTU	**Camp Tracy**	**3.21**	**8**	Pn	**Pn**	**06 54 21.8**	**-1.0**
LDFC	**Landfair**	**3.29**	**223**	*e*Pn	**Pn**	**06 54 24.3**	**+0.4**
BGU	**Big Grassy Mou**	**3.45**	**351**	Pn	**Pn**	**06 54 26.1**	**0.0**
TCUT	**Toone Canyon**	**3.68**	**11**	*e*Pn	**Pn**	**06 54 31.2**	**+1.8**
SPUT	**South Promonto**	**3.79**	**359**	Pn	**Pn**	**06 54 29.8**	**-1.2**
ELK	**Elko**	**3.93**	**326**	Pn	**Pn**	**06 54 32.6**	**-0.4**
	0.3nm,0.3s,baz=142,slow=12,SNR=5.7						
ELK				Pg	**Pg**	**06 54 46.9**	**-2.8**
	1.3nm,0.3s,baz=141,slow=8.9,SNR=16						
ELK				Lg		06 55 33.1	
	1.7nm,0.3s,baz=226,slow=21,SNR=3.0						
HWUT	**Hardware Ranch**	**4.13**	**8**	*e*Pn	**Pn**	**06 54 36.1**	**+0.2**
HVU	**Hansel Valley**	**4.28**	**356**	Pn	**Pn**	**06 54 36.7**	**-1.3**
NVAR	**Mina Array Bea**	**4.79**	**283**	Pn	**Pn**	**06 54 45.4**	**+0.2**
	0.5nm,0.3s,baz=100,slow=12,SNR=11						
NVAR				Pg	**Pg**	**06 54 58.1**	**-8.7**
	0.6nm,0.3s,baz=194,slow=29,SNR=10						
PFO	**Pinyon Flat Ob**	**5.13**	**222**	Pn	**Pn**	**06 54 49.6**	**-0.4**
	3.7nm,0.7s						
TUC	**Tucson**	**5.35**	**166**	Pn	**Pn**	**06 54 51.6**	**-1.5**
ANMO	**Albuquerque**	**5.41**	**116**	Pn	**Pn**	**06 54 53.4**	**-0.5**
	baz=309,slow=12,SNR=28						
ANMO				Lg		06 56 16.6	
	baz=42,slow=21,SNR=3.1						
ANMO	**Albuquerque**	**5.41**	**116**	*e*Pn	**Pn**	**06 54 52.8**	**-1.2**
SDCO	**Great Sand Dun**	**5.45**	**85**	*e*Pn	**Pn**	**06 54 53.2**	**-1.2**
PDAR	**Pinedale Array**	**5.67**	**21**	Pn	**Pn**	**06 54 56.5**	**-1.1**
	0.0nm,0.3s,baz=266,slow=12,SNR=2.4						
PDAR				Lg		06 56 30.4	
	0.2nm,0.3s,baz=174,slow=16,SNR=3.8						
RWWY	**Rawlins**	**5.76**	**42**	Pn	**Pn**	**06 54 59.7**	**+0.8**
TXAR	**Lajitas Array**	**10.91**	**136**	Pn	**P**	**06 56 10.6**	**0.0**
	0.0nm,0.3s,baz=308,slow=10,SNR=3.6						
TXAR				Lg		06 59 12.4	
	0.0nm,0.3s,baz=303,slow=25,SNR=4.2						

MDD 20 07:16:04.9±0.9**, 35.82N**×**2.68W, h27**km±7km**, mbLg1.9**/9**, 1D, Error ellipse: s-maj=14.3km s-min=5.5km az=81.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.32**	**293**	⇓P	Pb	07 16 11.8	-0.5
	SNR=18						
EALB				S	Sb	07 16 17.8	+0.5
	214nm,0.2s,SNR=7.7						
EMEL	**Melilla**	**0.57**	**204**	P	Pb	07 16 17.1	+0.9
	88nm,0.1s,SNR=7.9						
EMEL				S	Sb	07 16 22.3	-1.7
	194nm,0.1s,SNR=7.9						
EBER	**Berja**	**1.09**	**351**	P	Pn	07 16 22.7	-1.9
	SNR=7.9						
EBER				S	Sn	07 16 36.4	-2.5
	12nm,0.3s,SNR=8.3						
EQUE	**Quentar**	**1.51**	**336**	P	Pn	07 16 28.3	-2.3
	0.4nm,0.1s,SNR=4.0						
EQUE				S	Sn	07 16 46.8	-2.8
	1.3nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.62**	**334**	P	Pn	07 16 31.3	-0.9
	1.1nm,0.1s,SNR=4.0						
ECOG				S	Sn	07 16 49.9	-2.5
	2.1nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**1.85**	**294**	P	Pn	07 16 38.5	+3.0
	0.9nm,0.1s,SNR=4.0						
EMIJ				S	Sn	07 16 55.5	-2.7
	2.1nm,0.2s,SNR=4.0						
EQES	**Quesada**	**2.00**	**351**	P	Pn	07 16 38.0	+0.3
	1.6nm,0.1s,SNR=7.9						
EQES				S	Sn	07 17 03.8	+1.7
	1.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.32**	**29**	S	Sn	07 17 05.9	-4.3
	3.8nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**2.79**	**328**	S	Sn	07 17 20.1	-2.0
	0.5nm,0.1s,SNR=4.0						

*CNRM **20** 07:16:55.4, 35.08N×3.89W, h6km, MD2.6*

CSEM 20 07:16:55.4, 35.08N×**3.89W, h6**km**, MD2.6, After CNRM, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.15**	**344**	*i* P	Pg	07 16 57.0	-1.6
MPAL				*i* S	Sg	07 17 01.0	+0.3
TOU	**Touzarine**	**0.16**	**136**	*i* P	Pg	07 16 58.5	-0.3
TOU				*i* S	Sg	07 17 01.5	+0.4
ZAI	**Zaio**	**0.94**	**96**	*i* P	Pb	07 17 14.0	+0.2
ZAI				*i* S	Sb	07 17 25.0	-1.4
TZK	**Tazeka**	**1.02**	**194**	*i* P	Pb	07 17 15.0	0.0
TZK				*i* S	Sb	07 17 27.0	-1.5

*MOS **20** 07:46:32.6±1.1, 54.93N×163.19E, h43km, mb4.3/1, Error ellipse: s-maj=23.4km s-min=14.1km az=69.5*

KRSC 20 07:46:33.7±0.4**, 54.90N**×**163.17E, h41**km±15km**, ML4.2, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.90**	**248**	P	P	07 46 50.7	+0.6
MKZ				S	S	07 47 02.9	+0.8
MKZ	**Mys Kozlova**	**0.90**	**248**	*e*P	P	07 46 50.7	+0.6
MKZ				*e*S	S	07 47 02.7	+0.6
KBTR	**Krutoberegovo**	**1.33**	**351**	P	P	07 46 55.1	-1.1
KBTR				S	S	07 47 11.4	-1.5
KBTR	**Krutoberegovo**	**1.33**	**351**	*e*P	P	07 46 55.0	-1.2
KBTR				*e*S	S	07 47 10.9	-2.0
KBG	**Krutoberegovo**	**1.38**	**349**	*e*P	P	07 46 56.3	-0.7
KBG				*e*S	S	07 47 13.4	-0.9
KBG				Smax			
	4μm,1.0s						
BKI	**Bering**	**1.64**	**78**	*e*P	P	07 47 00.9	+0.3
BKI				*e*S	S	07 47 19.9	-0.8
BKI				Smax			
	240nm,0.2s						
ZLN	**Zelenaya**	**1.75**	**311**	*e*P	P	07 47 03.3	+1.1
ZLN				*e*S	S	07 47 24.8	+1.4
TUMR	**Tumrok**	**1.78**	**284**	*e*P	P	07 47 03.6	+1.0
TUMR				*e*S	S	07 47 25.7	+1.6
CIRR	**Tsirk**	**1.84**	**312**	*e*P	P	07 47 04.2	+0.8
CIRR				*e*S	S	07 47 26.7	+1.1
LGNR	**Loginova**	**1.84**	**311**	*e*P	P	07 47 04.6	+1.1
LGNR				*e*S	S	07 47 27.3	+1.6
KMNR	**Kamenistaya**	**1.88**	**298**	*e*P	P	07 47 04.4	+0.4
KMNR				*e*S	S	07 47 27.1	+0.4
KRSR	**Krestovskiy**	**1.98**	**313**	*e*P	P	07 47 05.4	0.0
KRSR				*e*S	S	07 47 28.7	-0.5
KPT	**Kopyto**	**1.99**	**304**	*i* P	P	07 47 06.0	+0.4
KPT				*e*S	S	07 47 29.9	+0.5
KLY	**Klyuchi**	**2.01**	**316**	P	P	07 47 04.4	-1.5
KLY				S	S	07 47 28.4	-1.5
KLY	**Klyuchi**	**2.01**	**316**	*e*P	P	07 47 04.4	-1.5
KLY				*e*S	S	07 47 27.0	-2.9
KOZR	**Kozyr**	**2.20**	**303**	PN	P	07 47 08.8	+0.2
KOZR				S	S	07 47 35.5	+0.8
KOZ	**Kozyrevsk**	**2.21**	**303**	P	P	07 47 08.8	+0.1
KOZ				S	S	07 47 35.5	+0.6
KOZ	**Kozyrevsk**	**2.21**	**303**	*e*P	P	07 47 08.8	+0.1
KOZ				*e*S	S	07 47 34.4	-0.5
KII	**Karymskiy**	**2.34**	**250**	P	P	07 47 12.0	+1.5
KII				S	S	07 47 39.8	+1.6
KII	**Karymskiy**	**2.34**	**250**	*e*P	P	07 47 12.0	+1.5
KII				*e*S	S	07 47 40.0	+1.8
SRDR	**Sredinnyy**	**2.42**	**307**	*e*P	P	07 47 11.7	0.0
SRDR				*e*S	S	07 47 39.5	-0.8
SPN	**Mys Shipunski**	**2.59**	**227**	P	P	07 47 13.6	-0.5
SPN				S	S	07 47 42.4	-2.2
SPN	**Mys Shipunski**	**2.59**	**227**	*e*P	P	07 47 13.6	-0.5
SPN				*e*S	S	07 47 42.3	-2.3
ESO	**Esso**	**2.75**	**294**	*e*P	P	07 47 15.8	-0.6
ESO				*e*S	S	07 47 46.4	-2.2
ESO				Smax			
	70nm,0.5s						
NLC	**Nalytchevo**	**2.84**	**234**	P	P	07 47 18.3	+0.5
NLC				S	S	07 47 50.6	-0.5
NLC	**Nalytchevo**	**2.84**	**234**	*e*P	P	07 47 18.1	+0.3
NLC				*e*S	S	07 47 50.6	-0.5
SDLR	**Sedlovina**	**3.00**	**239**	*e*P	P	07 47 21.4	+1.4
SDLR				*e*S	S	07 47 56.2	+1.1
SMAR	**Somma**	**3.05**	**239**	*e*P	P	07 47 22.1	+1.4
SMAR				*e*S	S	07 47 57.5	+1.1
UGLR	**Uglovaya**	**3.07**	**238**	*e*P	P	07 47 22.4	+1.4
UGLR				*e*S	S	07 47 57.7	+0.8
AVH	**Avacha**	**3.08**	**240**	*e*P	P	07 47 22.9	+1.8
AVH				*e*S	S	07 47 58.8	+1.7
KOK	**Koryaka**	**3.12**	**241**	*e*P	P	07 47 23.0	+1.3
KOK				*e*S	S	07 47 58.8	+0.7
PET	**Petropavlovsk**	**3.26**	**237**	*e*P	P	07 47 23.9	+0.2
PET				*e*S	S	07 48 00.7	-1.1
PET	**Petropavlovsk**	**3.26**	**237**	*e*PN	P	07 47 24.3	+0.6
PET				*e*S	S	07 48 00.5	-1.2
PET				pmax	pmax		
	comp=Z,25nm,0.4s						
PET				smax			
	comp=E,223nm,0.6s						
GNL	**Ganaly**	**3.29**	**251**	*e*P	P	07 47 25.7	+1.6
GNL				*e*S	S	07 48 03.9	+1.4
KRMR	**Karymshinskiy**	**3.63**	**237**	*e*P	P	07 47 30.2	+1.3
KRMR				*e*S	S	07 48 10.7	-0.4
RUS	**Russkaya**	**3.71**	**230**	P	P	07 47 30.2	+0.1
RUS				S	S	07 48 10.9	-2.2
RUS	**Russkaya**	**3.71**	**230**	*e*P	P	07 47 29.9	-0.2
RUS				*e*S	S	07 48 10.2	-2.9
GRL	**Gorelyy**	**3.83**	**234**	*e*P	P	07 47 33.4	+1.6
GRL				*e*S	S	07 48 16.9	+0.7
APC	**Apacha**	**4.07**	**243**	*e*P	P	07 47 35.3	+0.2
APC				*e*S	S	07 48 19.8	-2.3
PAU	**Pauzhetka**	**5.14**	**231**	P	P	07 47 51.3	+1.1
ALID	**Alaid**	**6.13**	**232**	P	P	07 48 04.8	+0.8
KAMR	**Kamenskoye**	**7.74**	**11**	*e*P	P	07 48 25.6	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAMR				eS	S	07 49 46.7	-7.2

ROM ***20*** *07:46:36.8±0.1, 42.51N×13.20E, h16km±1km, Md3.1/13, Ml3.2/20, Error ellipse: s-maj=1.1km s-min=0.9km az=71.0*
CSEM ***20*** *07:46:36.8±0.1, 42.51N×13.18E, h12km, ML4.0/1, Error ellipse: s-maj=1.3km s-min=1.0km az=66.0*
NEIC ***20*** *07:46:38.7±0.6, 42.43N×13.10E, h10km, ML3.3(LDG), Error ellipse: s-maj=10.2km s-min=6.6km az=204.0*
LDG ***20*** *07:46:39.4±0.2, 42.45N×13.24E, h10km, Ml3.3/5, Error ellipse: s-maj=5.6km s-min=3.2km az=67.0*
ISC 20 07:46:37.8±0.3, **42.48N**±0.02×**13.19E**±0.03, **h16**km, **n54**, σ**0^{s}95**/75, **10C-1D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.17**	**69**⇑	iPg	**Pb**	**07 46 41.7**	**-0.5**
CAMP				Sg	**Sb**	**07 46 44.6**	**-0.6**
	9μm,0.8s						
LNSS	**Leonessa**	**0.17**	**319**	Pg	**Pb**	**07 46 41.6**	**-0.6**
LNSS				Sg	**Sb**	**07 46 44.5**	**-0.7**
	17μm,0.7s						
AQU	**L'Aquila**	**0.20**	**128**	Pg	**Pb**	**07 46 42.6**	**0.0**
AQU				Sg	**Sb**	**07 46 46.3**	**+0.5**
	6μm,0.9s						
AQU	**L'Aquila**	**0.20**	**128**	ePg	**Pb**	**07 46 42.4**	**-0.1**
AQU				eSg	**Sb**	**07 46 45.2**	**-0.6**
AQU	**L'Aquila**	**0.20**	**128**	ePg	**Pb**	**07 46 42.4**	**-0.2**
AQU				Sg	**Sb**	**07 46 46.3**	**+0.5**
	6μm,0.9s						
FIAM	**Fiamignano**	**0.21**	**195**⇑	iPg	**Pb**	**07 46 42.9**	**0.0**
FIAM				Sg	**Sb**	**07 46 46.9**	**+0.6**
	6μm,0.7s						
TERO	**Teramo**	**0.34**	**64**⇑	iPg	**Pb**	**07 46 44.2**	**-0.7**
TERO				Sg	**Sb**	**07 46 49.1**	**-0.7**
	3μm,0.4s						
FAGN	**Fagnano**	**0.36**	**126**	Pg	**Pb**	**07 46 45.2**	**-0.1**
	5μm,0.6s						
NRCA	**Norcia**	**0.36**	**351**⇑	iPg	**Pb**	**07 46 44.6**	**-0.8**
MNS	**Montasola**	**0.39**	**257**⇑	iPg	**Pb**	**07 46 45.6**	**-0.2**
PTQR	**Pietraquaria**	**0.48**	**161**	Pg	**Pb**	**07 46 47.6**	**+0.3**
	237nm,0.6s						
CERT	**Cerreto**	**0.55**	**197**	Pg	**Pb**	**07 46 48.4**	**-0.1**
	892nm,0.5s						
MTCE	**Montecelio**	**0.56**	**217**	Pg	**Pb**	**07 46 48.5**	**-0.3**
	2μm,1.0s						
VVLD	**Villa Vallelon**	**0.68**	**152**	Pg	**Pb**	**07 46 51.7**	**+0.9**
	798nm,0.6s						
GUAR	**Guarcino**	**0.69**	**173**	Pg	**Pb**	**07 46 52.1**	**+1.2**
	492nm,0.6s						
INTR	**Introdacqua**	**0.70**	**131**	Pg	**Pb**	**07 46 51.1**	**-0.1**
	1μm,0.6s						
SNTG	**Esanatoglia**	**0.80**	**347**	Pg	**Pb**	**07 46 52.1**	**-0.7**
SNTG				Sg	**Sb**	**07 47 04.3**	**+1.1**
CING	**Cingoli**	**0.90**	**0**	Pg	**Pb**	**07 46 53.9**	**-0.6**
CING				Sg	**Sb**	**07 47 07.9**	**+1.8**
MURB	**Monte Urbino**	**0.93**	**328**	Pg	**Pb**	**07 46 54.8**	**-0.2**
	2μm,0.3s						
TOLF	**Tolfa**	**0.98**	**246**	Pg	**Pb**	**07 46 55.9**	**+0.1**
	507nm,0.8s						
SACS	**San Casciano d**	**1.02**	**292**	Pg	**Pb**	**07 46 56.5**	**0.0**
SACS				Sg	**Sb**	**07 47 12.8**	**+3.3**
	550nm,0.8s						
ARV	**Arcevia**	**1.04**	**350**	Pg	**Pb**	**07 46 56.4**	**-0.5**
AOI	**Ancona**	**1.12**	**15**	Pg	**Pb**	**07 46 58.1**	**-0.1**
	527nm,0.6s						
CII	**Carovilli**	**1.12**	**132**	ePn	**Pn**	**07 47 02.1**	**+3.4**
MIDA	**Miranda**	**1.15**	**136**	Pg	**Pb**	**07 46 59.2**	**+0.5**
	256nm,0.7s						
BADI	**Badiali**	**1.25**	**326**	Pg	**Pb**	**07 47 01.2**	**+0.8**
	367nm,0.5s						
FSSB	**Fossombrone**	**1.25**	**346**	Pg	**Pb**	**07 47 00.5**	**-0.1**
	267nm,0.5s						
ARCI	**Arcidosso**	**1.32**	**287**	Pg	**Pn**	**07 47 02.3**	**+0.6**
	137nm,1.0s						
CRE	**Caprese Michel**	**1.46**	**322**	Pg	**Pn**	**07 47 04.0**	**+0.3**
	164nm,0.5s						
MAON	**Monte Argentar**	**1.53**	**269**	Pg	**Pn**	**07 47 04.6**	**0.0**
	125nm,0.9s						
CSNT	**Castellina Chi**	**1.72**	**306**	Pg	**Pn**	**07 47 08.1**	**+0.8**
	59nm,0.5s						
SFI	**Santa Sofia**	**1.74**	**326**	Pg	**Pn**	**07 47 08.5**	**+0.9**
	61nm,0.5s						
GRFL	**Gerfalco**	**1.77**	**293**	Pg	**Pn**	**07 47 08.5**	**+0.5**
	33nm,0.7s						
PGD	**Poggio Sodo**	**1.77**	**323**	Pg	**Pn**	**07 47 08.6**	**+0.6**
	39nm,0.4s						
NVLJ	**Novalja**	**2.42**	**30**	iPn	**Pn**	**07 47 17.5**	**+0.2**
NVLJ				iSn	**Sn**	**07 47 47.0**	**+0.2**
PGF	**Pioggiola**	**3.10**	**273**	ePn	**Pn**	**07 47 26.6**	**-0.5**
PGF				eSn	**Sn**	**07 48 03.3**	**-0.8**
	3.9nm,0.4s						
VOY	**Vojsko**	**3.59**	**8**	ePn	**Pn**	**07 47 34.8**	**+0.8**
VOY				eSn	**Sn**	**07 48 15.7**	**-0.8**
CADS	**Cadrg**	**3.77**	**6**	iPn	**Pn**	**07 47 36.3**	**-0.3**
CADS				iSn	**Sn**	**07 48 19.1**	**-1.9**
PTCC	**Patocco-Chiusa**	**3.93**	**2**	Pg	**Pn**	**07 47 37.9**	**-1.0**
	16nm,0.4s						
SBF	**Sospel**	**4.43**	**290**	ePn	**Pn**	**07 47 45.3**	**-0.7**
KBA	**Koelnbreinsper**	**4.61**	**1**⇑	iPN	**Pn**	**07 47 48.8**	**+0.4**
KBA				iSN	**Sn**	**07 48 42.1**	**-0.1**
WTTA	**Wattenberg**	**4.92**	**348**⇑	iPN	**Pn**	**07 47 53.9**	**+1.1**
WTTA				iSN	**Sn**	**07 48 51.6**	**+1.6**
WTTA	**Wattenberg**	**4.92**	**348**⇑	iPn	**Pn**	**07 47 53.9**	**+1.1**
FRF	**La Foret Royal**	**4.92**	**285**	ePn	**Pn**	**07 47 51.2**	**-1.7**
LMR	**La Mourre**	**4.99**	**282**	ePn	**Pn**	**07 47 51.6**	**-2.2**
MOTA	**Moosalm**	**5.09**	**344**⇑	iPN	**Pn**	**07 47 56.4**	**+1.1**
MOTA				iSN	**Sn**	**07 48 56.2**	**+1.8**
MOTA	**Moosalm**	**5.09**	**344**⇑	iPn	**Pn**	**07 47 56.4**	**+1.1**
MBDF	**Montbardon**	**5.18**	**298**	ePn	**Pn**	**07 47 56.3**	**-0.2**
DAVA	**Damuels**	**5.36**	**335**⇓	iPN	**Pn**	**07 48 00.2**	**+1.2**
DAVA				iSN	**Sn**	**07 49 03.9**	**+2.8**
LPG	**La Plagne**	**5.54**	**305**	ePn	**Pn**	**07 48 01.9**	**+0.2**
SMRF	**Simiane la Rot**	**5.76**	**288**	ePn	**Pn**	**07 48 04.9**	**+0.1**
HINF	**Hinteralfeld**	**6.97**	**322**	ePn	**Pn**	**07 48 20.4**	**-1.4**
HINF				eSn	**Sn**	**07 49 35.6**	**-5.9**
	4.8nm,0.4s						
CDF	**Champ du Feu**	**7.25**	**327**	ePn	**Pn**	**07 48 23.6**	**-2.1**
CDF				eSn	**Sn**	**07 49 42.6**	**-5.8**
	4.0nm,0.3s						
HAU	**Haudompre**	**7.34**	**321**	ePn	**Pn**	**07 48 24.7**	**-2.3**
HAU				eSn	**Sn**	**07 49 44.2**	**-6.5**
	8.1nm,0.4s						

HLW ***20*** *07:51:20.6, 33.67N×28.12E, h19km, Mb3.8*
CSEM ***20*** *07:51:22.6±0.2, 33.36N×28.09E, h30km, Mw3.4, Error ellipse: s-maj=5.2km s-min=1.9km az=159.0*
ISC 20 07:51:21.8±0.5, **33.49N**±0.04×**28.29E**±0.04, **h33**km, **n43**, σ**1^{s}32**/57, **11C-12D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DABA	**Dabaa**	**2.47**	**180**⇓	eP	**P**	**07 52 01.6**	**+1.1**
HMAT	**Matruh**	**2.59**	**203**⇓	eP	**P**	**07 52 02.4**	**+0.2**
AKAS	**Kas**	**2.95**	**21**	iP	**P**	**07 52 00.8**	**-6.6**
HBRG	**Burj al 'Arab**	**3.19**	**155**	⇑P	**P**	**07 52 12.2**	**+1.5**
SLUM		**3.27**	**233**⇓	eP	**P**	**07 52 10.3**	**-1.7**
SLUM				S	**S**	**07 52 46.0**	**-4.2**
BDRM	**Kayabasi**	**3.64**	**349**	iP	**P**	**07 52 16.1**	**-1.0**
GOLH	**Golhisar**	**3.88**	**15**	iP	**P**	**07 52 20.7**	**+0.1**
AYDN	**Tasoluk**	**4.18**	**356**	iP	**P**	**07 52 23.8**	**-1.1**
DNZL	**Cakiroluk**	**4.24**	**8**	iP	**P**	**07 52 22.8**	**-2.9**
HNAT	**Natroun**	**4.32**	**152**	⇑P	**P**	**07 52 28.3**	**+1.4**
FYM	**Al Fayyum**	**4.45**	**147**	⇓P	**P**	**07 52 29.7**	**+1.0**
AYT	**Al 'Ayyat**	**4.49**	**146**	⇑P	**P**	**07 52 30.2**	**+0.9**
KOT	**Kottamia**	**4.66**	**139**	⇓P	**P**	**07 52 32.8**	**+1.2**
SWA1		**4.75**	**208**⇑	eP	**P**	**07 52 31.8**	**-1.2**
SWA1				S	**S**	**07 53 23.7**	**-4.0**
SWA1		**4.75**	**208**	⇓P	**P**	**07 52 31.8**	**-1.2**
SWA1				S	**S**	**07 53 24.1**	**-3.6**
SWA1		**4.75**	**208**	P	**P**	**07 52 31.8**	**-1.2**
SWA1				S	**S**	**07 53 24.1**	**-3.6**
HSAF	**As Saff**	**4.76**	**143**⇓	eP	**P**	**07 52 33.7**	**+0.7**
HHAG	**Hagoal**	**4.79**	**136**⇑	eP	**P**	**07 52 34.0**	**+0.5**
HHAG	**Hagoal**	**4.79**	**136**	P	**P**	**07 52 34.0**	**+0.5**
GLL	**Jalalah**	**4.87**	**142**	⇓P	**P**	**07 52 35.1**	**+0.4**
SWA2		**4.88**	**211**	P	**P**	**07 52 33.4**	**-1.4**
SWA2				S	**S**	**07 53 26.4**	**-4.4**
AMAG	**Maghara**	**5.05**	**123**	⇓P	**P**	**07 52 37.8**	**+0.7**
HBNS	**Bani Suwayf**	**5.17**	**150**	⇓P	**P**	**07 52 39.4**	**+0.6**
AWBH		**5.17**	**174**⇑	eP	**P**	**07 52 39.4**	**+0.5**
AWBH				S	**S**	**07 53 36.6**	**-1.7**
HRSH	**Kfar Ka'horesh**	**5.25**	**117**	⇑P	**P**	**07 52 40.1**	**+0.2**
RSH		**5.25**	**117**	P	**P**	**07 52 40.1**	**+0.2**
SUZ		**5.31**	**132**⇑	eP	**P**	**07 52 41.5**	**+0.6**
ZAF		**5.55**	**138**⇑	eP	**P**	**07 52 44.7**	**+0.5**
ZNM		**5.67**	**135**⇓	eP	**P**	**07 52 46.6**	**+0.8**
OFRI	**'Ofer**	**5.69**	**97**	Sn	**Sn**	**07 53 49.6**	**-1.6**
KZIT	**Kziot**	**5.78**	**115**	Pn	**Pn**	**07 52 49.0**	**+1.4**
KZIT				Sn	**Sn**	**07 53 51.8**	**-1.7**
SLTI	**Sal'it**	**5.81**	**100**	Sn	**Sn**	**07 53 53.1**	**-1.3**
MMC7	**Mount Meron ar**	**5.97**	**92**	Pn	**Pn**	**07 52 52.5**	**+2.3**
MMC7				Sn	**Sn**	**07 53 57.9**	**-0.3**
MMA0	**Mount Meron ar**	**5.98**	**93**	Pn	**Pn**	**07 52 51.8**	**+1.4**
MMA0				Sn	**Sn**	**07 53 58.5**	**0.0**
HNKL	**Nakhl**	**6.01**	**125**⇑	eP	**P**	**07 52 50.9**	**+0.3**
HNKL				S	**S**	**07 53 57.1**	**-2.1**
MMLI	**Mount Malkishu**	**6.08**	**98**	Pn	**Pn**	**07 52 53.5**	**+1.6**
MMLI				Sn	**Sn**	**07 53 59.4**	**-1.7**
KSDI	**Kefar Szold**	**6.17**	**91**	Pn	**Pn**	**07 52 55.1**	**+1.9**
KSDI				Sn	**Sn**	**07 54 02.3**	**-1.1**
MKRJ	**Makawir**	**6.50**	**105**	Pn	**Pn**	**07 52 59.3**	**+1.5**
PRNI	**Paran**	**6.51**	**117**	Pn	**Pn**	**07 52 59.8**	**+1.9**
PRNI				Sn	**Sn**	**07 54 09.9**	**-1.8**
MBH	**Mount Berech**	**6.74**	**121**	Pn	**Pn**	**07 53 02.5**	**+1.3**
MBH				Sn	**Sn**	**07 54 15.5**	**-2.1**
EIL	**Elat**	**6.84**	**122**	Sn	**Sn**	**07 54 17.6**	**-2.4**
TR2		**6.90**	**136**⇑	eP	**P**	**07 53 03.3**	**+0.1**
HKAT	**Jabal Katrina**	**6.96**	**134**	⇓P	**P**	**07 53 03.5**	**-0.5**

CSEM ***20*** *07:56:56.9±0.3, 32.15N×5.94W, h10km, MD3.4, Error ellipse: s-maj=15.5km s-min=6.5km az=148.0*
MDD ***20*** *07:56:57.5±0.8, 32.12N×5.93W, mb3.6/2, Error ellipse: s-maj=10.3km s-min=7.7km az=150.0, PRXIMO*
CNRM ***20*** *07:56:58.2, 32.11N×5.91W, MD3.4*
ISC 20 07:56:57.6±0.5, **32.28N**±0.04×**5.98W**±0.04, **h10**km, **n13**, σ**1^{s}21**/25, **Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CZD	**Col de Zad**	**1.09**	**46**	iP	**Pb**	**07 57 18.5**	**+0.4**
CZD				iS	**Sb**	**07 57 37.0**	**+4.9**
MIF	**Mishlifen**	**1.29**	**29**	eP	**Pb**	**07 57 23.5**	**+2.0**
MIF				iS	**Sb**	**07 57 43.0**	**+5.0**
ZFT	**Errachidia**	**1.41**	**100**	iP	**Pn**	**07 57 23.0**	**-0.3**
ZFT				eS	**Sb**	**07 57 40.0**	**-1.3**
TIO	**Tiouine**	**1.74**	**219**	S	**Sn**	**07 57 52.0**	**+1.6**
OUK	**Oukaimeden**	**1.93**	**237**	iP	**Pn**	**07 57 29.0**	**-1.8**
OUK				iS	**Sn**	**07 57 54.5**	**-0.8**
TZK	**Tazeka**	**2.35**	**39**	eP	**Pn**	**07 57 37.5**	**+0.7**
TZK				eS	**Sn**	**07 58 06.0**	**0.0**
CIA	**Chichaoua**	**2.47**	**254**	iP	**Pn**	**07 57 39.0**	**+0.5**
CIA				iS	**Sn**	**07 58 08.5**	**-0.5**
EJIF	**Jimena Fronter**	**4.18**	**6**	P	**Pn**	**07 58 02.9**	**0.0**
	1.4nm,0.3s,SNR=12						
EJIF				S	**Sn**	**07 58 43.8**	**-8.6**
	2.6nm,0.1s						
EGRO	**El Granado**	**5.38**	**347**	P	**Pn**	**07 58 23.4**	**+3.5**
	2.0nm,0.3s,SNR=5.6						
EGRO				S	**Sn**	**07 59 22.5**	**-0.2**
	4.7nm,0.3s,SNR=5.5						
EMIN	**Mina Concepcio**	**5.50**	**354**	P	**Pn**	**07 58 23.3**	**+1.7**
	SNR=7.9						
EMIN				S	**Sn**	**07 59 23.9**	**-1.8**
	SNR=7.9						
ECAB	**El Cabril**	**5.80**	**4**	P	**Pn**	**07 58 24.7**	**-1.1**
	0.6nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**07 59 28.6**	**-4.6**
	0.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**5.98**	**11**	P	**Pn**	**07 58 29.8**	**+1.4**
	0.5nm,0.2s,SNR=6.9						
EADA				S	**Sn**	**07 59 36.0**	**-1.8**
	0.2nm,0.2s,SNR=5.5						
EBAD	**Badajoz**	**6.51**	**353**	P	**Pn**	**07 58 36.9**	**+1.0**
	0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**07 59 36.3**	**-15**
	SNR=7.9						

PRE 20 08:52:12.9±0.9, **26.17S**×**29.22E, ML3.5, Explosion, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**0.88**	**57**	eP	Pg	08 52 29.7	-0.7
BFT				eS	Sg	08 52 42.2	0.0
SLR	**Silverton**	**0.95**	**297**	eP	Pg	08 52 31.5	-0.3
SLR				eS	Sg	08 52 44.4	-0.1
SLR				AML	AML	08 52 55.9	
	comp=Z,1μm,0.7s						
PRYS	**Parys**	**1.83**	**245**	eP	Pn	08 52 46.4	+0.5
PRYS				eS	Sn	08 53 10.3	+0.1
PRYS				AML	AML	08 53 16.3	
	comp=Z,427nm,0.5s						
KSR	**Koster**	**2.12**	**278**	eP	Pn	08 52 50.5	+0.5
KSR				eS	Sn	08 53 16.8	-0.6
KSR				AML	AML	08 53 20.4	
	comp=Z,698nm,0.5s						
LBTB	**Lobatse**	**3.47**	**288**	eP	Pn	08 53 09.1	-0.1
LBTB				eS	Sn	08 53 49.9	-1.8
SWZ	**Schweizer**	**3.63**	**253**	eP	Pn	08 53 10.4	-1.1
SWZ				eS	Sn	08 53 53.8	-1.8
SWZ				AML	AML	08 54 02.3	
	comp=Z,44nm,0.4s						
MSNA	**Messina**	**3.87**	**11**	eP	Pn	08 53 14.1	-0.9
MSNA				eS	Sn	08 53 59.0	-2.9
MSNA				AML	AML	08 54 13.0	
	comp=Z,86nm,0.7s						

CSEM ***20*** *09:03:43.8±0.3, 37.46N×55.35E, h20km, ML3.5/2, Error ellipse: s-maj=14.8km s-min=3.2km az=162.0*
THR ***20*** *09:03:49.3±0.6, 38.17N×54.02E, h15km, ML3.0*
TEH ***20*** *09:03:51.4, 37.33N×54.70E, h10km, Mn3.4*
ISC 20 09:03:50.3±1.8, **37.2N**±0.2×**54.8E**±0.2, **h10**km, **n17**, σ**1^{s}05**/19, **Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**1.37**	**222**	Pg	**Pg**	**09 04 16.1**	**-1.6**
IGLO	**Galoogah**	**1.41**	**229**	Pg	**Pn**	**09 04 10.6**	**-5.5**
ISHM	**Shahmirzad**	**1.88**	**221**	Pn	**Pn**	**09 04 24.0**	**+1.2**
IANJ	**Anjiloo**	**1.91**	**203**	Pn	**Pn**	**09 04 22.7**	**-0.5**
IPRN	**Paran-Amol**	**2.29**	**245**	Pn	**Pn**	**09 04 28.2**	**-0.5**
IFIR	**Firoozkooh**	**2.30**	**227**	Lg		09 05 03.6	
IFIR	**Firoozkooh**	**2.30**	**227**	Pn	**Pn**	**09 04 29.6**	**+0.8**
ILAS	**Lasjerd**	**2.38**	**220**	Pn	**Pn**	**09 04 30.4**	**+0.4**
IDMV	**Damavand**	**2.79**	**234**	Pn	**Pn**	**09 04 36.4**	**+0.6**
DAMV	**Damavand**	**2.80**	**236**	ePn	**Pn**	**09 04 38.6**	**+2.6**
DAMV				eSG	**Sg**	**09 05 23.6**	**+0.2**
DAMV				AML	AML	09 05 29.1	
	comp=N,62nm,0.6s						
DAMV	**Damavand**	**2.80**	**236**	ePn	**Pn**	**09 04 38.6**	**+2.6**
	SNR=52						
DAMV				eSg	**Sg**	**09 05 23.6**	**+0.2**
	comp=N,62nm,0.6s,SNR=90						
IVRN	**Varamin**	**3.35**	**229**	Pn	**Pn**	**09 04 43.2**	**-0.6**
IVRN	**Varamin**	**3.35**	**229**	Lg		09 05 35.6	
THKV	**Tehran--Karaj**	**3.43**	**249**	ePn	**Pn**	**09 04 43.7**	**-1.3**
IQOM	**Qom**	**3.86**	**233**	Pn	**Pn**	**09 04 49.9**	**-1.2**
ASAO	**Ashtian**	**4.72**	**237**	ePn	**Pn**	**09 05 04.2**	**+0.9**
ASAO				eSg	**Sg**	**09 06 19.8**	**-7.8**
ASAO				AML	AML	09 06 34.2	
	comp=N,7.0nm,0.6s						
ASAO	**Ashtian**	**4.72**	**237**	ePn	**Pn**	**09 05 04.2**	**+0.9**
	SNR=52						
ASAO				eSg	**Sg**	**09 06 19.8**	**-7.7**
	comp=N,7.0nm,0.6s,SNR=90						

NEIC ***20*** *09:05:45.0, 38.34N×20.52E, h17km, MD3.4(ATH), After ATH.*
CSEM ***20*** *09:05:45.3, 38.34N×20.52E, h17km, MD3.4/6, After ATH*
ATH 20 09:05:45.7, 38.33N×**20.52E, h9**km±2km, **MD3.6**/5, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.16**	**160**	ePG	Pg	09 05 49.9	+0.6
VLS				eSG	Sg	09 05 52.2	+0.5
EVR	**Evrytania**	**1.17**	**59**	ePB	Pb	09 06 07.7	+0.1
KEK	**Kerkira**	**1.49**	**338**	ePB	Pb	09 06 13.6	+0.5
ITM	**Ithomi**	**1.60**	**135**	ePB	Pb	09 06 16.0	+1.0
ITM	**Ithomi**	**1.60**	**135**	ePn	Pn	09 06 14.8	+0.4
KZN	**Kozani**	**2.20**	**26**	ePn	Pn	09 06 19.5	-3.5
VLI	**Veliai**	**2.51**	**129**	ePN	Pn	09 06 28.9	+1.6

NIED ***20*** *09:29:00, 37.90N×142.80E, h11km, Mw4.3 Best double couple: Mo2.83×10^{15} NP1:φs211°, δ71°, λ122°. NP2: φs328°, δ37°, λ32°.*
JMA ***20*** *09:29:31.5±0.2, 37.91N×142.81E, h30km±3km, M4.8*
JMA Felt I J1.
MOS ***20*** *09:29:34.4±1.1, 37.95N×142.69E, h33km, mb4.8/21, Error ellipse: s-maj=10.4km s-min=7.3km az=102.7*
IDC ***20*** *09:29:35.5±6.7, 37.87N×142.67E, h28km±47km, mb4.1/19, mb1 4.3/23, mb1mx4.2/29, mbtmp4.3/23, ML3.9/4, MS3.5/5, Ms1 3.5/5, ms1mx3.1/35, Error ellipse: s-maj=17.5km s-min=13.9km az=102.0*
BJI ***20*** *09:29:36.1, 37.96N×142.55E, h45km, mB4.6, mb4.6, Ms4.4, Msz4.0*
NEIC ***20*** *09:29:38.8±0.9, 37.76N×142.63E, h58km±7km, mb4.7/19, MW4.2(NIED), Error ellipse: s-maj=8.6km s-min=6.2km az=125.0*
NEIC Recorded [1 JMA] in Miyagi Prefecture.
ISC 20 09:29:32.6±1.1, **37.91N**±0.03×**142.72E**±0.04, **h21**km±7km, **n121**, σ**1^{s}08**/126, **mb4.6**/52, **MS3.9**/8, **6C-2D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.21**	**297**	P	**Pn**	**09 29 53.8**	**-0.7**
JIO				eS	**Sb**	**09 30 10.5**	**+0.7**
OFUJ	**Ofunato**	**1.43**	**325**	P	**Pn**	**09 29 56.6**	**-1.0**
OFUJ				eS	**Sn**	**09 30 14.8**	**-1.1**
JMM	**Marumori**	**1.52**	**269**	P	**Pn**	**09 29 58.4**	**-0.7**
JFK	**Kawauchi**	**1.56**	**250**	eS	**Sn**	**09 30 18.5**	**-0.9**
JMK	**Ichinoseki**	**1.57**	**312**	P	**Pn**	**09 29 59.1**	**-0.6**
JOU	**Okura**	**1.68**	**286**	P	**Pn**	**09 30 01.4**	**+0.1**
JOU				eS	**Sn**	**09 30 22.9**	**+0.5**
JOM	**Ohasama**	**1.92**	**325**	P	**Pn**	**09 30 04.2**	**-0.4**
JOM				eS	**Sn**	**09 30 27.6**	**-0.8**
JFT	**Otama**	**1.93**	**259**	P	**Pn**	**09 30 05.1**	**+0.2**
JFT				eS	**Sn**	**09 30 29.4**	**+0.7**
JYK	**Kaneyama**	**2.11**	**299**	P	**Pn**	**09 30 07.2**	**-0.2**
JYS	**Shirataka**	**2.12**	**279**	P	**Pn**	**09 30 07.5**	**0.0**
JANG	**Nango**	**2.63**	**340**	P	**Pn**	**09 30 14.2**	**-0.6**
JANG				eS	**Sn**	**09 30 46.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.85**	**251**	Pn	**Pn**	**09 30 33.0**	**+0.7**
	10nm,0.3s,baz=84,slow=16,SNR=54						
MAJO	**Matsushiro**	**3.85**	**251**	ePn	**Pn**	**09 30 33.7**	**+1.4**
MAT	**Matsushiro**	**3.85**	**251**	P	**Pn**	**09 30 32.9**	**+0.7**
MAT				eS	**Sn**	**09 31 18.5**	**+1.1**
MAT	**Matsushiro**	**3.85**	**251**	eP	**Pn**	**09 30 33.0**	**+0.8**
MAT				eS	**Sn**	**09 31 22.0**	**+4.6**
JHJ	**Hachijo jima 2**	**5.35**	**207**	Pn	**Pn**	**09 30 51.5**	**-1.9**
	89nm,0.3s,baz=94,slow=22,SNR=59						
JHJ				Sn	**Sn**	**09 31 50.4**	**-4.9**
	239nm,0.3s,baz=60,slow=22,SNR=11						
ASAJ	**Asahikawa**	**6.20**	**359**	Pn	**Pn**	**09 31 04.7**	**-0.7**
	1.7nm,0.3s,baz=180,slow=12,SNR=16						
ASAJ				Sn	**Sn**	**09 32 14.9**	**-1.5**
	3.1nm,0.3s,baz=62,slow=32,SNR=4.4						
ASAJ				LR	LR	09 34 11.7	
	comp=Z,347nm,18.9s,baz=170,slow=44						
ASAJ	**Asahikawa**	**6.20**	**359**	P	**Pn**	**09 31 04.7**	**-0.7**
ASAJ						09 32 14.9	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,347nm,19.0s						
YUK	**Yuzh-Kuril'sk**	**6.56**	**20**	eP	**Pn**	**09 31 07.9**	**-2.6**
YSS	**Yuzh-Sakhalins**	**9.03**	**0**	ePn	**P**	**09 31 49.4**	**+4.4**
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**9.03**	**0**⇑	eP	**P**	**09 31 44.0**	**-1.0**
YSS				eS	**Sn**	**09 33 21.0**	**-6.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
JNU	**Nakatsue**	**10.77**	**247**	Pn	**P**	**09 32 07.8**	**-1.0**
	comp=E,0.4nm,0.3s,baz=15,slow=6.2,SNR=3.6						
JNU				LR	LR	09 36 41.0	
	comp=E,252nm,19.9s,baz=61,slow=40						
CBIJ	**Chichi jima**	**10.80**	**183**	Pn	**P**	**09 32 03.0**	**-6.3**
	comp=E,13nm,0.3s,baz=293,slow=20,SNR=22						
CBIJ				Sn	**S**	**09 33 57.8**	**-13**
	comp=E,7.3nm,0.3s,baz=273,slow=20,SNR=3.5						
KS15	**Wonju Array Si**	**11.77**	**272**	ePn	**P**	**09 32 23.7**	**+1.3**
MDJ	**Mudanjiang**	**11.93**	**308**	P	**P**	**09 32 26.5**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,13nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,47nm,4.2s						
MDJ				LR	LR		
	comp=Z,180nm,17.1s						
MDJ	**Mudanjiang**	**11.93**	**308**	ePn	**P**	**09 32 26.2**	**+1.6**
	comp=Z,18nm,0.9s						
CN2	**Changchun**	**14.32**	**300**	eP	**P**	**09 32 59.4**	**+3.1**
SSE	**Sheshan**	**18.98**	**255**	eP	**P**	**09 33 53.8**	**-1.5**
SSE				AP		09 34 06.1	
SSE				XP		09 34 14.8	
SSE				S	**S**	**09 37 23.0**	**+0.1**
SSE				XS		09 37 41.3	
SSE				AMB	AMB		
	comp=Z,34nm,0.8s						
SSE				AMB	AMB		
	comp=Z,37nm,3.5s						
SSE				LR	LR		
	comp=N,136nm,15.8s						
SSE				LR	LR		
	comp=E,190nm,15.8s						
SSE				LR	LR		
	comp=Z,304nm,13.4s						
HIA	**Hailar**	**20.06**	**312**	eP	**P**	**09 34 09.0**	**+1.7**
	comp=Z,10nm,0.6s						
HIA	**Hailar**	**20.06**	**312**	eP	**P**	**09 34 09.0**	**+1.7**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2	**Nanjing**	**20.39**	**261**	eP	**P**	**09 34 13.1**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
TIA	**Tai'an**	**20.48**	**273**	eP	**P**	**09 34 11.4**	**-0.4**
TIA				AMB	AMB		
	comp=Z,21nm,1.0s						
MA2	**Magadan**	**22.29**	**11**	eP	**P**	**09 34 34.7**	**+4.8**
	comp=Z,21nm,0.7s,mb4.7						
MA2	**Magadan**	**22.29**	**11**	eP	**P**	**09 34 34.7**	**+4.8**
MA2				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.7						
CLNS	**Chul'man**	**22.33**	**334**	eP	**P**	**09 34 28.4**	**-1.9**
CLNS				e*PP		09 34 32.9	
CLNS				ePPP	PPP	09 34 55.7	-12
CLNS				eS	**S**	**09 38 32.9**	**+3.1**
CLNS				eSS	SS	09 39 17.0	+6.4
CLNS				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
CLNS				pmax	pmax		
	comp=N,12nm,0.6s						
CLNS				pmax	pmax		
	comp=E,14nm,0.7s						
CLNS				smax			
	comp=N,7.0nm,1.0s						
CLNS				smax			
	comp=Z,3.0nm,0.8s						
CLNS				smax			
	comp=E,6.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,200nm,14.0s,MS3.7						
CLNS				MLR	MLR		
	comp=N,300nm,12.0s,MS4.0						
CLNS				MLR	MLR		
	comp=E,250nm,13.0s,MS4.0						
CIT	**Chita**	**24.79**	**314**	eP	**P**	**09 34 55.0**	**+0.8**
CIT				pmax	pmax		
	comp=Z,151nm,1.6s,mb5.3						
YAK	**Yakutsk**	**25.46**	**346**	eP	**P**	**09 35 06.8**	**+6.3**
YAK				pmax	pmax		

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	comp=Z,16nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
SEY	Seymchan	25.73	10	eP	P	09 35 04.7	+1.6
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.8						
SEY				pmax	pmax		
	comp=E,4.0nm,0.8s						
BOD	Bodaibo	27.36	326	eP	P	09 35 16.4	-1.7
BOD				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
SONM	Songino Array	28.18	302	P	P	09 35 25.5	0.0
	comp=Z,5.7nm,0.6s,mb4.4,baz=124,slow=8.7,SNR=46						
SONM				LR	LR	09 45 34.1	
	comp=Z,46nm,20.6s,MS3.1,baz=228,slow=34						
ENH	Enshi	28.45	264	eP	P	09 35 27.1	-1.0
	comp=Z,53nm,1.2s,mb5.0						
ZAK	Zakamensk	30.56	307	eP	P	09 35 46.1	-0.7
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
LZH	Lanzhou	30.95	279	eP	P	09 35 52.0	+1.5
LZH				AP	pP	09 36 07.0	+11
LZH				PP	PP	09 36 54.5	+2.0
LZH				eS	S	09 40 50.0	-2.6
LZH				SS	SS	09 42 33.0	-3.8
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
LZH				LR	LR		
	comp=E,435nm,11.9s						
LZH				LR	LR		
	comp=Z,752nm,13.8s,MS4.5						
GYA	Guiyang	32.39	260	⇑iP	P	09 36 02.1	-1.1
GYA				AP	pP	09 36 16.8	+7.6
GYA				XP	sP	09 36 24.3	+12
GYA				PP	PP	09 37 10.4	-0.9
GYA				S	S	09 41 08.3	-6.9
GYA				XS		09 41 33.8	
GYA				SCP		09 42 27.9	
GYA				SCS	ScS	09 46 25.8	-4.0
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
GYA				LR	LR		
	comp=N,370nm,16.8s,MS4.3						
GYA				LR	LR		
	comp=E,390nm,16.6s,MS4.3						
GYA				LR	LR		
	comp=Z,310nm,17.0s,MS4.1						
CD2	Chengdu	32.72	270	P	P	09 36 06.3	+0.4
KMI	Kunming	36.12	261	P	P	09 36 36.6	+1.3
KMI				PP	PP	09 37 58.6	+0.8
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ	Urumqi	41.38	296	⇑iP	P	09 37 20.9	+2.1
WMQ				PP	PP	09 39 00.5	+3.0
WMQ				eS	S	09 43 31.0	-1.2
WMQ				AMB	AMB		
	comp=Z,28nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,117nm,3.7s						
WMQ				LR	LR		
	comp=N,117nm,16.2s,MS4.1						
WMQ				LR	LR		
	comp=E,176nm,18.4s,MS4.1						
WMQ				LR	LR		
	comp=Z,103nm,18.7s,MS3.7						
ZAL	Zalesovo	42.11	312	P	P	09 37 24.9	+0.2
	comp=Z,4.3nm,0.5s,mb4.3,baz=37,slow=7.9,SNR=9.4						
ZAL				LR	LR	09 54 40.7	
	comp=Z,43nm,21.6s,MS3.3,baz=281,slow=36						
NVS	Novosibirsk	42.99	313	eP	P	09 37 30.8	-1.1
NVS				eS	S	09 43 52.6	-3.2
NVS				pmax	pmax		
	comp=N,1.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
NVS				smax			
	comp=N,5.0nm,1.2s						
MKAR	Makanchi Array	44.54	302	P	P	09 37 44.5	0.0
	comp=N,8.7nm,0.7s,mb4.7,baz=86,slow=9.8,SNR=45						
MKAR	Makanchi Array	44.54	302	i P	P	09 37 44.3	-0.2
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KDAK	Kodiak Island	45.75	43	P	P	09 37 53.7	-0.3
	comp=Z,11nm,0.7s,mb4.9,baz=288,slow=9.6,SNR=4.7						
KDAK	Kodiak Island	45.75	43	P	P	09 37 53.7	-0.3
KURK	Kurchatov	46.21	308	eP	P	09 37 57.4	-0.4
	comp=Z,23nm,0.8s,mb5.2						
KURK	Kurchatov	46.21	308	eP	P	09 37 57.4	-0.3
KURK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
PMR	Palmer	47.30	37	P	P	09 38 09.1	+2.9
	comp=Z,8.1nm,0.6s,mb4.8						
PMR	Palmer	47.30	37	P	P	09 38 09.1	+2.9
PMR				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
SML	Sawmill	47.67	37	eP	P	09 38 17.9	+8.8
GUN	Gumba	48.10	276	eP	P	09 38 13.5	+0.5
	comp=Z,54nm,0.7s						
ILAR	Eielson Array	48.20	33	P	P	09 38 13.2	0.0
	comp=Z,3.2nm,0.9s,mb4.4,baz=269,slow=8.0,SNR=7.6						
PKI	Pulchoki	48.63	275	eP	P	09 38 18.6	+1.6
	comp=Z,9.8nm,0.5s,mb5.1						
KKN	Kakani	48.63	276	eP	P	09 38 17.5	+0.5
	comp=Z,21nm,0.5s,mb5.4						
DMN	Daman	48.85	276	eP	P	09 38 20.8	+2.1
GKN	Gorkha	49.04	276	eP	P	09 38 19.8	-0.4
	comp=Z,20nm,0.5s,mb5.4						
KOLN	Koldanda	49.96	277	eP	P	09 38 27.6	+0.3
	comp=Z,12nm,0.6s,mb5.1						
BVAR	Borovoye Array	50.75	312	P	P	09 38 32.7	-0.3
	comp=Z,1.8nm,0.5s,mb4.2,baz=72,slow=7.1,SNR=12						
BRVK	Borovoye	50.81	312	eP	P	09 38 33.0	-0.4
	comp=Z,2.8nm,0.8s,mb4.2						
BRVK	Borovoye	50.81	312	eP	P	09 38 33.0	-0.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK	Ala-Archa	50.99	298	eP	P	09 38 34.2	-0.6
	comp=Z,4.9nm,0.9s,mb4.4						
AAK	Ala-Archa	50.99	298	eP	P	09 38 34.3	-0.6
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KAKA	Kakadu	51.27	193	eP	P	09 38 55.3	+18
	comp=Z,5.1nm,0.6s,mb4.6						
INK	Inuvik	53.13	28	P	P	09 38 50.5	-0.1
	comp=Z,2.2nm,0.9s,mb4.1,baz=297,slow=20,SNR=4.4						
ARU	Arti	56.39	318	eP	P	09 39 13.8	-0.7
	comp=Z,8.1nm,0.6s,mb4.9						
ARU	Arti	56.39	318	eP	P	09 39 13.9	-0.6
ARU				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
DLBC	Dease Lake	57.29	39	P	P	09 39 21.9	+0.9
	comp=Z,1.4nm,0.7s,mb4.1,baz=104,slow=17,SNR=3.7						
FITZ	Fitzroy Crossi	57.99	199	eP	P	09 39 25.9	-0.4
	comp=Z,4.9nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	57.99	199	P	P	09 39 25.5	-0.8
	comp=Z,6.8nm,0.7s,mb4.8,baz=9.9,slow=5.3,SNR=8.0						
WRAB	Tennant Creek	58.07	189	eP	P	09 39 25.3	-1.6
	comp=Z,16nm,0.8s,mb5.1						
WRAB	Tennant Creek	58.07	189	eP	P	09 39 25.3	-1.6
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
WB2	Warramunga Arr	58.08	189	⇑iP	P	09 39 25.3	-1.7
WRA	Warramunga Arr	58.08	189	P	P	09 39 25.5	-1.5
	comp=Z,12nm,0.7s,mb5.1,baz=7.3,slow=7.1,SNR=132						
AB31	Akbulak array	58.17	310	P	P	09 39 26.2	-1.0
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ASPA	Alice Springs	61.81	189	eP	P	09 39 51.6	-1.0
MBWA	Marble Bar	62.61	204	eP	P	09 39 56.8	-1.2
	comp=Z,4.0nm,0.5s,mb4.8						
ARCES	ARCESS Array B	63.54	340	P	P	09 40 03.5	+0.3
	comp=Z,4.0nm,0.8s,mb4.5,baz=28,slow=13,SNR=3.4						
OBN	Obninsk	68.01	323	eP	P	09 40 36.7	+4.5
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
FINES	FINESS Array B	68.52	333	P	P	09 40 35.1	-0.1
	comp=Z,5.1nm,0.8s,mb4.5,baz=14,slow=7.9,SNR=3.8						
STKA	Stephens Creek	69.44	181	eP	P	09 40 40.7	-0.7
	comp=Z,1.8nm,0.6s,mb4.2						
STKA	Stephens Creek	69.44	181	P	P	09 40 40.3	-1.1
	comp=Z,2.1nm,0.7s,mb4.2,baz=340,slow=10,SNR=5.7						
SUMG	Summit	69.80	0	P	P	09 40 44.0	+1.1
	comp=Z,6.8nm,0.6s,mb4.8						
KIV	Kislovodsk	71.11	311	eP	P	09 40 59.2	+7.8
KIV				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
KIV				pmax	pmax		
	comp=N,9.0nm,0.9s						
KIV				pmax	pmax		
	comp=E,5.0nm,1.2s						
FFC	Flin Flon	72.40	33	eP	P	09 40 59.6	+0.7
	comp=E,7.4nm,0.9s,mb4.6						
FFC	Flin Flon	72.40	33	eP	P	09 40 59.6	+0.7
FFC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
NVAR	Mina Array Bea	73.63	54	P	P	09 41 07.7	+1.4
	comp=Z,0.7nm,0.7s,mb3.7,baz=273,slow=6.2,SNR=5.6						
NB2	NORSAR Subarra	73.77	338	P	P	09 41 06.5	-0.1
	comp=Z,5.7nm,0.8s,mb4.5,baz=38,slow=5.8						
NB2	NORSAR Subarra	73.77	338	P	P	09 41 06.5	-0.1
NB2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
NOA	NORSAR Array B	73.77	338	P	P	09 41 06.7	+0.1
	comp=Z,3.5nm,0.6s,mb4.4,baz=39,slow=6.0,SNR=9.4						
AKASG	Malin Array Be	74.23	323	P	P	09 41 09.3	-0.2
	comp=Z,1.4nm,0.4s,mb4.2,baz=45,slow=5.9,SNR=9.7						
TPAW	Teton Pass	75.06	46	P	P	09 41 15.7	+1.2
	comp=Z,0.9nm,0.6s,mb3.9						
DUG	Dugway	76.00	50	eP	P	09 41 20.8	+0.9
	comp=Z,1.0nm,0.6s,mb3.9						
DUG	Dugway	76.00	50	eP	P	09 41 20.8	+0.9
DUG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
PDAR	Pinedale Array	76.31	46	P	P	09 41 22.2	+0.7
	comp=Z,0.7nm,0.5s,mb3.8,baz=287,slow=0.4,SNR=6.5						
BRTR	Keskin Array B	79.04	312	P	P	09 41 36.9	+0.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=133,slow=2.4,SNR=2.8						
MLR	Muntele Rosu	79.38	320	LR	LR	10 19 29.1	
	comp=Z,71nm,18.1s,MS4.0,baz=136,slow=38						
PV10	Paradox Valley	79.41	49	eP	P	09 41 39.8	+1.0
CLL	Collm	80.85	331	P	P	09 41 47.0	+0.9
	comp=Z,logA/T=0.9,mb4.6						
CLL				i PCP	PcP	09 41 53.1	-0.1
CLL	Collm	80.85	331	eP	P	09 41 47.0	+0.9
	comp=Z,3.0nm,0.4s,mb4.6						
CLL				i PcP	PcP	09 41 53.1	-0.1
CLL	Collm	80.85	331	eP	P	09 41 47.0	+0.9
CLL				i	pP	09 41 53.1	+0.4
CLL				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
TXAR	Lajitas Array	88.76	53	P	P	09 42 27.1	+0.9
	comp=Z,0.2nm,0.5s,mb3.7,baz=306,slow=3.5,SNR=8.5						
SNAA	Sanae	141.89	197	e	PKPdf	09 49 04.3	-1.7
SNAA	Sanae	141.89	197	e	PKPdf	09 49 18.6	+13
SNAA	Sanae	141.89	197	⇑iPKPdf	PKPdf	09 49 00.3	-5.7
SNAA				e		09 49 04.3	
SNAA				e		09 49 18.6	
VNA2	Neumayer--Watz	143.45	196	e	PKPbc	09 49 06.5	+3.5
VNA2	Neumayer--Watz	143.45	196	e	PKPbc	09 49 18.6	+16
VNA2	Neumayer--Watz	143.45	196	⇓iPKPdf	PKPdf	09 49 03.8	-4.9
VNA2				e		09 49 06.5	
VNA2				e		09 49 18.6	
VNA3	Neumayer Olymp	143.68	195	e	PKPbc	09 49 07.2	+3.5
VNA3	Neumayer Olymp	143.68	195	e	PKPbc	09 49 22.9	+19
VNA3	Neumayer Olymp	143.68	195	⇓iPKPdf	PKPdf	09 49 04.1	-5.0
VNA3				e		09 49 07.2	
VNA3				e		09 49 22.9	
VNA1	Neumayer--Stat	143.85	196	⇑iP	PKPbc	09 49 05.5	+1.3
LPAZ	La Paz	145.35	60	PKPbc	PKPbc	09 49 11.8	+1.9
	comp=Z,1.7nm,0.7s,baz=235,slow=5.9,SNR=6.3						
LPAZ	La Paz	145.35	60	ePKIKP	PKPdf	09 49 11.3	-2.3

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*NEIC **20** 09:38:45.8, 34.25S×71.81W, h34km, ML2.8(GUC), After GUC.*

GUC 20 09:38:45.8±0.6**, 34.25S×71.81W, h34**km±3km**, MD3.5, ML2.8, 5C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.45	48	⇑iP	P	09 38 55.6	0.0
LNV				i S	S	09 39 03.0	+0.4
SFDO	San Fernando	0.75	119	⇓iP	P	09 38 59.8	-0.1
SFDO				i S	S	09 39 10.3	+0.1
LCCH	Las Cruces	0.80	15	⇑iP	P	09 39 00.2	-0.4
LCCH				i S	S	09 39 11.5	0.0
TACH	Talagante	0.94	51	eP	P	09 39 02.7	0.0
TACH				i S	S	09 39 16.0	+0.9
CACH	El Canelo	1.01	83	eP	P	09 39 04.7	+1.0
CACH				i S	S	09 39 19.4	+2.4
CHCH	Chadas Angostu	1.01	72	⇓iP	P	09 39 04.2	+0.5
CHCH				i S	S	09 39 17.9	+1.0
RCDM	Rinconada Maip	1.13	48	⇑iP	P	09 39 05.5	+0.2
RCDM				i S	S	09 39 20.6	+0.7
RCDM				AMP		09 39 23.1	
	comp=E,512nm,0.1s						
CICH	Cipreses	1.15	94	⇑iP	P	09 39 06.5	+0.9
CICH				i S	S	09 39 22.0	+1.5
ANTU	Antumapu	1.20	55	eP	P	09 39 07.1	+0.9
ANTU				i S	S	09 39 22.9	+1.3
ANTU				AMP		09 39 24.6	
	comp=E,296nm,0.2s						
SAN	Santiago	1.25	50	i P	P	09 39 08.0	+1.0
SAN				i S	S	09 39 24.2	+1.4
SAN				AMP		09 39 25.1	
	comp=N,268nm,0.3s						
PCH	Pirque	1.25	60	eP	P	09 39 07.9	+0.9
PCH				i S	S	09 39 24.3	+1.4
DSCH	Colegio Aleman	1.34	51	eP	P	09 39 09.3	+1.0
DSCH				i S	S	09 39 26.8	+1.6
DSCH				AMP		09 39 28.2	
	comp=E,531nm,0.6s						
SJCH	San Jose de Ma	1.36	64	eP	P	09 39 08.5	-0.1
SJCH				i S	S	09 39 26.7	+1.0
SJCH				AMP		09 39 27.8	
	comp=E,204nm,0.1s						
CLCH	Cerro Calan	1.36	51	⇓iP	P	09 39 09.7	+1.0
CLCH				i S	S	09 39 27.6	+1.8
CLCH				AMP		09 39 28.6	
	comp=E,394nm,0.3s						
ROCH	El Roble	1.44	28	eP	P	09 39 11.5	+1.6
FCH	Farellones	1.57	54	⇑iP	P	09 39 12.5	+0.8
FCH				i S	S	09 39 33.0	+2.0
FCH				AMP		09 39 36.5	
	comp=N,183nm,0.2s						
JACH	Jahuel	1.87	33	eP	P	09 39 16.8	+0.9
JACH				i S	S	09 39 40.6	+2.0

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*NEIC **20** 09:38:56.8±2.2, 5.52S×154.41E, h146km±19km, mb4.4/4, Error ellipse: s-maj=17.4km s-min=13.7km az=49.0*
*IDC **20** 09:38:59.3±4.0, 5.62S×154.38E, h169km±37km, mb3.6/8, mb1 3.7/10, mb1mx3.7/16, mbtmp4.1/10, MS2.6/2, Ms1 2.6/2, ms1mx2.5/22, Error ellipse: s-maj=25.2km s-min=22.0km az=83.0*

ISC 20 09:38:57.7±3.2**, 5.6S**±0.1×**154.4E**±0.2**, h167**km±28km**, n17,** $\sigma 0^{s}80$/16**, mb3.9**/10**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.67	125	LR	LR	09 42 49.2	
	comp=Z,40nm,18.2s,baz=138,slow=34						
PMG	Port Moresby	8.10	242	P	P	09 40 54.3	+1.1
	5.3nm,0.3s,baz=52,slow=7.5,SNR=22						
PMG				LR	LR	09 43 46.1	
	comp=Z,38nm,20.4s,baz=114,slow=35						
PMG	Port Moresby	8.10	242	ePn	P	09 40 52.3	-0.9
	64nm,0.9s						
CTA	Charters Tower	16.41	208	P	P	09 42 40.1	+0.1
	0.2nm,0.3s,baz=106,slow=0.7,SNR=3.6						
DZM	Mont Dzumac	20.07	146	P	P	09 43 19.9	-0.2
	2.5nm,0.4s,baz=346,slow=22,SNR=7.7						
WRAB	Tennant Creek	24.13	232	eP	P	09 44 00.3	+0.6
	7.2nm,0.7s,mb4.3						
WB2	Warramunga Arr	24.13	232	eP	P	09 44 00.2	+0.5
WRA	Warramunga Arr	24.14	232	P	P	09 44 00.3	+0.5
	4.4nm,0.7s,mb4.1,baz=54,slow=9.6,SNR=38						
STKA	Stephens Creek	28.73	203	P	P	09 44 40.4	-1.3
	1.9nm,0.7s,mb3.9,baz=38,slow=14,SNR=4.9						
STKA	Stephens Creek	28.73	203	eP	P	09 44 40.9	-0.8
FITZ	Fitzroy Crossi	30.69	244	P	P	09 44 57.9	-1.3
	4.6nm,0.7s,mb4.3,baz=145,slow=6.8,SNR=4.1						
SONM	Songino Array	67.87	327	P	P	09 49 38.5	-1.7
	0.5nm,0.6s,mb3.4,baz=150,slow=7.4,SNR=4.4						
MKAR	Makanchi Array	81.99	319	P	P	09 51 01.3	+0.9
	0.6nm,0.8s,mb3.3,baz=90,slow=6.1,SNR=3.9						
ILAR	Eielson Array	82.33	22	P	P	09 51 02.2	+0.4
	0.4nm,0.7s,mb3.2,baz=240,slow=5.3,SNR=7.3						
KURK	Kurchatov	85.40	322	P	P	09 51 17.4	-0.1
	2.3nm,0.7s,mb4.0						
MAW	Mawson	85.42	203	P	P	09 51 17.7	+0.5
	1.7nm,0.6s,mb3.9,baz=120,slow=2.0,SNR=7.2						
BRVK	Borovoye	90.92	323	eP	P	09 51 44.2	+0.5
	1.6nm,0.4s,mb4.4						

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*MOS **20** 09:48:19.7±1.1, 18.68N×145.29E, h549km, mb4.5/28, Error ellipse: s-maj=13.1km s-min=7.0km az=104.7*
*BJI **20** 09:48:21.8, 18.52N×145.47E, h599km, mB4.6, mb4.8*
*NEIC **20** 09:48:23.5±0.5, 18.65N×145.35E, h582km±6km, mb4.4/35, Error ellipse: s-maj=4.4km s-min=3.8km az=83.0*
*IDC **20** 09:48:25.3±1.2, 18.68N×145.30E, h606km±15km, mb3.7/22, mb1 3.9/27, mb1mx3.9/29, mbtmp4.8/27, Error ellipse: s-maj=13.8km s-min=8.4km az=86.0*

ISC 20 09:48:23.2±0.5**, 18.60N**±0.04×**145.26E**±0.05**, h596**km±6km**, n166,** $\sigma 0^{s}82$/163**, mb4.3**/77**, 7C-5D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	5.00	184	P	P	09 49 55.2	-1.0
	47nm,0.3s,baz=171,slow=9.4,SNR=31						
GUMO				S	S	09 51 10.0	-0.1
	34nm,0.3s,baz=9.4,slow=20,SNR=7.6						
GUMO	Guam	5.00	184	eP	P	09 49 55.0	-1.3
	80nm,0.6s						
GUMO				eS	S	09 51 09.1	-1.0
GUMO	Guam	5.00	184	eP	P	09 49 55.0	-1.3
GUMO				eS	S	09 51 09.1	-1.1
GUMO				pmax	pmax		
	comp=Z,81nm,0.6s						
CBIJ	Chichi jima	8.92	342	P	P	09 50 32.1	+0.5
	comp=Z,47nm,0.3s,baz=267,slow=19,SNR=48						
CBIJ				S	S	09 52 16.4	+2.0
	comp=Z,8.4nm,0.3s,baz=290,slow=21,SNR=3.8						
JHJ	Hachijo jima 2	15.27	342	P	P	09 51 34.8	+0.8
	comp=Z,45nm,0.3s,baz=181,slow=12,SNR=35						
JHJ				S	S	09 54 09.6	+2.0
	comp=Z,7.1nm,0.3s,baz=48,slow=22,SNR=3.5						
JOW	Kunigami	17.67	301	P	P	09 51 57.8	+0.9
	comp=Z,9.1nm,0.3s,baz=127,slow=10,SNR=34						
MJAR	Matsushiro Arr	18.92	342	P	P	09 52 07.3	-1.2
	comp=Z,2.9nm,0.3s,baz=165,slow=9.6,SNR=37						
MAJO	Matsushiro	18.93	342	eP	P	09 52 07.8	-0.7
	comp=Z,35nm,0.7s						
MAJO	Matsushiro	18.93	342	eP	P	09 52 07.8	-0.7
MAJO				pmax	pmax		
	comp=Z,35nm,0.7s						
MAT	Matsushiro	18.93	342	P	P	09 52 07.5	-1.0
MAT				S	S	09 55 14.6	+5.0
MAT	Matsushiro	18.93	342	eP	P	09 52 08.0	-0.5
	comp=Z,25nm,1.0s						
MAT				eS	S	09 55 15.0	+5.4
MAT	Matsushiro	18.93	342	eP	P	09 52 08.0	-0.5
MAT				eS	S	09 55 15.0	+5.4
MAT				pmax	pmax		
	comp=Z,25nm,1.0s						
JNU	Nakatsue	19.38	321	P	P	09 52 12.2	-0.5
	comp=Z,3.4nm,0.3s,baz=133,slow=7.7,SNR=29						
YHNB	Yeheng	23.00	289	P	P	09 52 46.2	+0.5
KS15	Wonju Array Si	24.17	325	eP	P	09 52 55.4	-0.6
SSE	Sheshan	25.08	304	eP	P	09 53 03.9	-0.2
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,35nm,5.1s						
ASAJ	Asahikawa	25.54	356	P	P	09 53 08.4	+0.4
	comp=Z,18nm,0.6s,mb4.9,baz=221,slow=8.6,SNR=26						
NJ2	Nanjing	27.28	305	eP	P	09 53 23.3	0.0
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
YSS	Yuzh-Sakhalins	28.35	356	eP	P	09 53 31.6	-0.8
	comp=Z,11nm,0.5s,mb4.7						
YSS	Yuzh-Sakhalins	28.35	356	eP	P	09 53 31.6	-0.8
YSS				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.7						
MDJ	Mudanjiang	29.06	337	P	P	09 53 39.0	+0.5
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,66nm,5.2s						
CN2	Changchun	30.15	331	eP	P	09 53 48.1	+0.3
CN2				eS	S	09 58 07.0	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
KKM	Kota Kinabalu	30.94	250	eP	P	09 53 55.8	+1.0
ENH	Enshi	34.44	297	eP	P	09 54 25.0	+1.0
	comp=Z,8.1nm,0.3s,mb4.8						
PET	Petropavlovsk	35.91	14	eP	P	09 54 35.8	+0.1
	comp=Z,5.6nm,0.4s,mb4.5						
PET	Petropavlovsk	35.91	14	eP	P	09 54 35.8	+0.1
PET				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.5						
HHC	Hu-ho-hao-te	36.38	315	eP	P	09 54 40.6	+0.8
HHC				AP		09 56 21.9	
HHC				PP	PP	09 56 24.1	+6.2
HHC				PCP	PcP	09 56 48.1	0.0
HHC				XP	sP	09 57 28.5	+1.9
HHC				S	S	09 59 42.9	+1.4
HHC				PCS		10 00 34.5	
HHC				XS		10 02 44.4	
HHC				SS	SS	10 02 52.0	+3.1
HHC				SCS	ScS	10 03 44.3	-1.5
HHC				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.7						
HHC				AMB	AMB		
	comp=Z,93nm,5.8s						
HIA	Hailar	36.85	332	eP	P	09 54 44.0	+0.5
	comp=Z,43nm,1.3s,mb4.8						
HIA	Hailar	36.85	332	eP	P	09 54 44.1	+0.6
HIA				pmax	pmax		
	comp=Z,43nm,1.3s						
CTA	Charters Tower	38.46	179	P	P	09 54 57.8	+0.8
	comp=Z,5.2nm,1.0s,mb4.0,slow=4.0,SNR=3.2						
CTAO	Charters Tower	38.46	179	eP	P	09 54 57.8	+0.8
	comp=Z,6.5nm,1.0s,mb4.1						
CTAO	Charters Tower	38.46	179	eP	P	09 54 57.8	+0.8
CTAO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
CD2	Chengdu	39.42	296	P	P	09 55 03.6	-1.0
WRAB	Tennant Creek	39.76	196	eP	P	09 55 07.7	+0.2
	comp=Z,8.4nm,0.6s,mb4.5						
WRAB	Tennant Creek	39.76	196	eP	P	09 55 07.7	+0.2
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
WB2	Warramunga Arr	39.77	196	eP	P	09 55 07.8	+0.3
WRA	Warramunga Arr	39.77	196	P	P	09 55 07.9	+0.4
	comp=Z,4.3nm,0.5s,mb4.2,baz=20,slow=8.7,SNR=42						
WRA				PcP	PcP	09 56 58.7	-0.4
	comp=Z,1.3nm,0.5s,baz=14,slow=3.5,SNR=5.7						
KMI	Kunming	39.87	287	P	P	09 55 07.5	-0.8
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.4						
LZH	Lanzhou	40.36	304	eP	P	09 55 13.0	+0.9
LZH				AP	pP	09 56 52.5	-2.8
LZH				PCP	PcP	09 57 01.5	+0.6
LZH				XP	sP	09 58 01.0	+0.4
LZH				SCP		09 59 54.0	
LZH				PCS		10 00 52.0	
LZH				AMB	AMB		
	comp=Z,51nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,211nm,4.0s						
CLNS	Chul'man	41.10	343	eP	P	09 55 16.9	-0.9
CLNS				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.6						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.7s						
MA2	Magadan	41.12	4	eP	P	09 55 17.5	-0.4
	comp=E,28nm,0.7s,mb4.9						
MA2	Magadan	41.12	4	deP	P	09 55 17.7	-0.2
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	41.26	209	⇑iP	P	09 55 20.0	+0.6
	comp=Z,16nm,0.6s,mb4.7						

FITZ Fitzroy Crossi 41.26 209 P P 09 55 20.0 +0.6
comp=Z,14nm,0.3s,mb4.9,baz=15,slow=7.8,SNR=13
SONM Songino Array 42.96 322 P P 09 55 33.3 +0.7
comp=Z,11nm,0.5s,mb4.6,baz=126,slow=6.0,SNR=76
SONM PcP PcP 09 57 09.1 -0.5
comp=Z,3.2nm,0.8s,baz=132,slow=3.8,SNR=6.5
SONM ScP 10 00 01.8
comp=Z,0.5nm,0.6s,baz=144,slow=3.6,SNR=3.7
GTA Gaotai 44.28 308 eP P 09 55 43.8 +0.9
GTA PCP PcP 09 57 14.3 +0.1
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
YAK Yakutsk 44.74 350 eP P 09 55 45.1 -1.1
comp=Z,49nm,0.9s,mb5.0
YAK Yakutsk 44.74 350d iP P 09 55 45.3 -0.8
YAK pmax pmax
comp=Z,67nm,0.9s,mb5.2
DZM Mont Dzumac 45.42 152 P P 09 55 52.2 +0.3
comp=Z,2.3nm,0.5s,mb3.9,baz=343,slow=19,SNR=4.9
BOD Bodaibo 45.44 337 eP P 09 55 50.6 -0.9
BOD pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
KULM Kulim 45.47 259 eP P 09 55 53.5 +1.2
ZAK Zakamensk 45.98 323 eP P 09 55 55.3 -0.5
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
MBWA Marble Bar 46.76 214 eP P 09 56 01.7 -0.4
comp=Z,9.3nm,0.6s,mb4.5
LSA Lhasa 50.21 293 eP P 09 56 29.7 +2.1
comp=Z,10nm,0.6s,mb4.4
LSA Lhasa 50.21 293 eP P 09 56 29.7 +2.0
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
STKA Stephens Creek 50.31 184 P P 09 56 27.8 -0.6
comp=Z,0.9nm,0.5s,mb3.4,baz=350,slow=6.1,SNR=4.5
STKA Stephens Creek 50.31 184 P P 09 56 27.8 -0.6
BILL Bilibino 51.19 10⇑iP P 09 56 33.6 -0.7
BILL pmax pmax
comp=Z,15nm,0.7s,mb4.5
WMQ Urumqi 54.06 311 P P 09 56 55.8 +0.9
WMQ PCP PcP 09 57 51.0 +0.7
WMQ AP pP 09 58 45.0 -2.1
WMQ PP PP 09 59 08.0 +2.6
WMQ PCS 10 01 50.0
WMQ eS S 10 03 49.0 +1.7
WMQ AMB AMB
comp=Z,13nm,1.1s,mb4.2
WMQ AMB AMB
comp=Z,109nm,4.6s
GUN Gumba 54.90 291 eP P 09 57 01.7 +0.7
comp=Z,20nm,0.6s,mb4.7
PKI Pulchoki 55.34 291 eP P 09 57 03.9 -0.1
comp=Z,12nm,0.5s,mb4.5
KKN Kakani 55.43 291 eP P 09 57 04.7 0.0
DMN Daman 55.60 291 eP P 09 57 06.3 +0.4
GKN Gorkha 55.98 292 eP P 09 57 08.8 +0.3
comp=Z,23nm,0.6s,mb4.6
KOLN Koldanda 56.92 291 eP P 09 57 15.0 +0.1
comp=Z,20nm,0.8s,mb4.4
ZAL Zalesovo 57.85 323 P P 09 57 19.9 -0.9
comp=Z,3.7nm,0.5s,mb3.8,baz=360,slow=6.1,SNR=15
MKAR Makanchi Array 58.23 314 P P 09 57 23.8 +0.3
comp=Z,14nm,0.7s,mb4.2,baz=90,slow=8.5,SNR=113
MKAR PcP PcP 09 58 06.0 -0.7
comp=Z,2.6nm,0.7s,baz=80,slow=7.4,SNR=5.2
NVS Novosibirsk 58.94 323 eP P 09 57 26.7 -1.4
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=E,13nm,1.1s
NVS pmax pmax
comp=Z,16nm,1.1s,mb4.1
KDAK Kodiak Island 59.67 33 P P 09 57 32.0 -0.9
comp=Z,8.0nm,0.6s,mb4.2,baz=11,slow=5.4,SNR=11
KURK Kurchatov 61.07 318⇓iP P 09 57 41.8 -0.3
comp=Z,39nm,0.8s,mb4.7
KURK Kurchatov 61.07 318⇓iP P 09 57 41.8 -0.3
KURK pmax pmax
comp=Z,39nm,0.8s,mb4.7
PMR Palmer 62.24 29 eP P 09 57 48.8 -0.8
comp=Z,15nm,0.8s,mb4.3
PMR Palmer 62.24 29 eP P 09 57 48.8 -0.8
PMR pmax pmax
comp=Z,15nm,0.8s,mb4.3
SML Sawmill 62.66 29 eP P 09 57 51.3 -1.0
AAK Ala-Archa 63.61 309 eP P 09 57 57.8 -0.8
comp=Z,4.5nm,1.0s,mb3.8
AAK Ala-Archa 63.61 309⇑eP P 09 57 58.2 -0.4
ILAR Eielson Array 63.91 26 P P 09 57 58.0 -2.1
comp=Z,7.8nm,0.6s,mb4.2,baz=244,slow=6.3,SNR=81
THY Trims Highway 64.14 28 eP P 09 58 01.2 -0.4
VOSK Vostochnaya 65.93 320 P P 09 58 12.2 -0.7
VOSK pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
BVA0 Borovoye Array 66.29 320 i P P 09 58 14.8 -0.3
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
BVAR Borovoye Array 66.29 320 P P 09 58 14.7 -0.4
comp=Z,14nm,0.5s,mb4.6,baz=96,slow=7.7,SNR=101
BRVK Borovoye 66.35 320 eP P 09 58 15.1 -0.4
comp=Z,10.0nm,0.8s,mb4.3
BRVK Borovoye 66.35 320 eP P 09 58 15.1 -0.4
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
KKAR Karatay Array 66.51 310 i P P 09 58 16.9 +0.2
KKAR pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
INK Inuvik 69.63 23 P P 09 58 34.2 -0.7
comp=Z,9.1nm,0.8s,mb4.3,baz=257,slow=7.3,SNR=20
INK Inuvik 69.63 23 eP P 09 58 34.0 -0.9
comp=Z,13nm,1.0s,mb4.3
INK Inuvik 69.63 23 eP P 09 58 34.0 -0.9
INK pmax pmax
comp=Z,13nm,1.0s
ARU Arti 72.91 325 eP P 09 58 53.7 -0.4
comp=Z,12nm,0.4s,mb4.8
ARU Arti 72.91 325⇓iP P 09 58 53.9 -0.2
ARU e 10 01 44.7
ARU ePPP PPP 10 03 35.8 -0.1
ARU eS S 10 07 33.4 -0.3
ARU eSS SS 10 12 30.1 -3.7
ARU pmax pmax
comp=Z,22nm,0.7s,mb4.8
AB31 Akbulak array 73.13 317 P P 09 58 55.1 -0.4
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
OOW Octopus West 76.83 44 P P 09 59 17.6 +1.6
JCW Jim Creek 78.20 43 P P 09 59 24.1 +0.9
YKW3 Yellowknife Ar 78.24 28 eP P 09 59 22.6 -0.5
YKA Yellowknife Ar 78.27 28 P P 09 59 23.0 -0.3
comp=Z,6.8nm,0.5s,mb4.3,baz=287,slow=5.1,SNR=33
TBM Table Mountain 79.33 44 P P 09 59 29.9 +0.6
EBG Ellensburg 79.42 44 P P 09 59 30.5 +0.8
OHCM Honcut 80.89 52 eP P 09 59 37.5 +0.1
MOD Modoc 81.01 49 eP P 09 59 38.2 +0.2
comp=Z,1.4nm,0.4s,mb3.7
KEV Kevo 81.90 342 ep P 09 59 40.5 -1.5
comp=Z,8.5nm,0.5s,mb4.5
KEV Kevo 81.90 342 eP P 09 59 40.5 -1.5
KEV pmax pmax
comp=Z,9.0nm,0.5s,mb4.6
EDM Edmonton 81.91 37 eP P 09 59 42.3 0.0
WVOR Wild Horse Val 82.04 48 eP P 09 59 43.4 +0.2
comp=Z,1.9nm,0.6s,mb3.8
WVOR Wild Horse Val 82.04 48 eP P 09 59 43.4 +0.2
WVOR pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
CMB Columbia Colle 82.08 53 eP P 09 59 43.8 +0.3
comp=Z,6.9nm,0.6s,mb4.4
CMB Columbia Colle 82.08 53 eP P 09 59 43.8 +0.2
CMB pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
ARCES ARCESS Array B 82.46 342 P P 09 59 44.5 -0.3
comp=Z,8.5nm,0.6s,mb4.4,baz=68,slow=6.5,SNR=32
ARE0 ARCESS Array S 82.46 342 eP P 09 59 44.6 -0.2
PTRM Twissleman Ran 82.93 55 eP P 09 59 48.3 +0.4
NVAR Mina Array Bea 83.52 52 P P 09 59 51.6 +0.8
comp=Z,7.4nm,0.6s,mb4.4,baz=267,slow=5.0,SNR=83
JOF Joensuu 83.94 335 ep P 09 59 50.2 -1.9
comp=Z,4.2nm,0.4s,mb4.3
JOF Joensuu 83.94 335 eP P 09 59 50.2 -1.9
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
CHMT Chamberlain Mo 84.18 42 eP P 09 59 53.6 -0.2
OBN Obninsk 85.13 327 eP P 09 59 57.2 -1.0
OBN pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
HRY Holter Researc 85.17 42 eP P 09 59 58.7 +0.2
MCMT McKenzie Canyo 85.20 44 eP P 09 59 59.0 +0.2
KIV Kislovodsk 85.98 315⇑eP P 10 00 02.4 -0.1
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.5
QLMT Earthquake Lak 86.13 44 eP P 10 00 04.1 +0.9
KAF Kangasniemi 86.34 336 ep P 10 00 01.6 -2.2
comp=Z,2.6nm,0.4s,mb4.2,baz=54,slow=4.5
KAF Kangasniemi 86.34 336 eP P 10 00 01.6 -2.2
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
RRI2 Red Ridge 86.77 45 eP P 10 00 06.6 +0.3
comp=Z,1.8nm,0.5s,mb4.1
FINES FINESS Array B 86.80 335 P P 10 00 04.5 -1.4
comp=Z,5.4nm,0.4s,mb4.6,baz=63,slow=4.5,SNR=53
FINES FINESS Array B 86.80 335 i P P 10 00 04.6 -1.4
FINES pmax pmax
comp=Z,5.0nm,0.4s
FLWY Flagg Ranch 86.90 44 eP P 10 00 08.0 +1.1
DUG Dugway 86.92 49 eP P 10 00 07.4 +0.3
comp=Z,2.6nm,0.6s,mb4.1
DUG Dugway 86.92 49 eP P 10 00 07.4 +0.3
DUG pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
TPAW Teton Pass 86.97 45 eP P 10 00 08.1 +0.9
comp=Z,1.2nm,0.5s,mb3.9
LDFC Landfair 87.06 54 eP P 10 00 08.4 +0.6
NEN Nelson 87.06 53 eP P 10 00 08.4 +0.6
SNOW Snow King Moun 87.11 45 eP P 10 00 07.7 -0.1
comp=Z,1.0nm,0.6s,mb3.7
HWUT Hardware Ranch 87.27 47 eP P 10 00 08.9 +0.2
comp=Z,7.3nm,1.4s,mb4.2
ARUT Antelope Range 87.35 51 eP P 10 00 09.8 +0.7
FFC Flin Flon 87.40 32 eP P 10 00 08.8 -0.1
comp=Z,5.2nm,0.8s,mb4.3
FFC Flin Flon 87.40 32 eP P 10 00 08.8 -0.1
FFC pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
DAU Daniels Canyon 87.94 48 eP P 10 00 11.9 0.0
MSU Marysvale 88.00 50 eP P 10 00 13.1 +0.9
PDAR Pinedale Array 88.19 45 P P 10 00 12.8 -0.1
comp=Z,0.7nm,0.8s,mb3.5,baz=310,slow=2.6,SNR=5.5
SRU San Rafael 88.97 49 eP P 10 00 16.8 +0.1
comp=Z,12nm,0.6s,mb4.9
SRU San Rafael 88.97 49 eP P 10 00 16.8 +0.1
SRU pmax pmax
comp=Z,12nm,0.6s,mb4.9
ANN Anapa 89.09 317 eP P 10 00 15.6 -1.5
ANN e 10 09 47.0
ANN pmax pmax
comp=Z,39nm,1.2s,mb5.1
PV10 Paradox Valley 90.33 49 eP P 10 00 23.4 +0.4
PV01 Paradox Valley 90.76 49 eP P 10 00 25.2 +0.2
AKASG Malin Array Be 91.15 325 P P 10 00 24.4 -2.1
comp=Z,0.4nm,0.3s,mb3.8,baz=46,slow=5.4,SNR=4.9
AKASG Malin Array Be 91.15 325 i P P 10 00 25.2 -1.2
TUC Tucson 91.43 55 eP P 10 00 28.7 +0.5
comp=Z,2.2nm,1.0s,mb4.0
TUC Tucson 91.43 55 eP P 10 00 28.7 +0.5
TUC pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
NB2 NORSAR Subarra 92.52 340 P P 10 00 30.8 -1.6
comp=Z,1.3nm,0.6s,mb4.1,baz=47,slow=4.5
NOA NORSAR Array B 92.52 340 P P 10 00 31.3 -1.1
comp=Z,0.4nm,0.6s,mb3.7,baz=47,slow=4.1,SNR=5.3
SDCO Great Sand Dun 93.12 49 eP P 10 00 36.0 +0.3
comp=Z,0.6nm,0.6s,mb3.8
BR131 Keskin Array S 93.89 314 eP P 10 00 38.7 -0.4
comp=Z,1.0nm,0.5s,mb4.2
BRTR Keskin Array B 93.89 314 P P 10 00 38.2 -0.9
comp=Z,1.6nm,0.7s,mb4.3,baz=76,slow=5.1,SNR=6.4
MNTX Cornudas Mount 95.86 54 eP P 10 00 48.6 +0.4
comp=Z,1.5nm,0.9s,mb4.2
TXAR Lajitas Array 98.23 55 P P 10 01 00.6 +1.6
comp=Z,0.2nm,0.6s,mb3.7,baz=270,slow=1.8,SNR=4.3
LSZ Lusaka 119.98 263 ePKPdf PKPdf 10 06 09.6 +2.0
SNAA Sanae 123.75 192⇑i PKPdf 10 06 14.2 +0.6
SNAA Sanae 123.75 192 e PKPdf 10 06 23.4 +10
VNA2 Neumayer--Watz 125.20 191⇑i PKPdf 10 06 17.8 +1.5
VNA2 Neumayer--Watz 125.20 191 e PKPdf 10 06 27.4 +11
VNA3 Neumayer Olymp 125.30 190⇑i PKPdf 10 06 17.8 +1.3
VNA3 Neumayer Olymp 125.30 190 e PKPdf 10 06 26.5 +10
DBIC Dimbokro 141.29 308 PKhKP 10 06 44.0
comp=Z,2.8nm,0.4s,baz=352,slow=3.5,SNR=11
PLCA Paso Flores 142.23 133 PKP PKPdf 10 06 47.5 -1.1
comp=Z,3.7nm,0.9s,baz=217,slow=6.0,SNR=7.8
PLCA Paso Flores 142.23 133 ePKHKP 10 06 47.5
LVC Limon Verde 147.81 103 ePKPbc PKPdf 10 07 04.7 +6.1
LPAZ La Paz 148.08 91 PKPbc PKPdf 10 07 06.2 +7.0
comp=Z,5.2nm,0.5s,baz=331,slow=3.7,SNR=11
LPAZ La Paz 148.08 91 ePKPdf PKPdf 10 07 02.0 +2.9
LPAZ ePKPbc PKPdf 10 07 06.2 +7.0
SAML Samuel 150.79 75 ePKPbc PKPdf 10 07 10.6 +7.1
SAML ePKPab PKPab 10 07 20.2 -2.0

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*NEIC **20** 09:54:00.3±2.5, 6.56S×126.77E, h407km±36km, mb4.5/4, Error ellipse: s-maj=18.9km s-min=15.0km az=57.0*
*IDC **20** 09:54:01.9±4.2, 6.58S×126.94E, h429km±58km, mb3.5/6, mb1 3.7/8, mb1mx3.6/14, mbtmp4.4/8, Error ellipse: s-maj=40.9km s-min=23.6km az=79.0*
ISC 20 09:54:00.1±2.5**, 6.6S**±0.1×**126.8E**±0.2**, h429**km±33km**, n19,** σ**0^{s}70**/23**, mb3.9**/7**, 1D, Banda Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KAKA Kakadu 8.21 138⇓iP P 09 56 18.5 +20
50nm,0.6s
FITZ Fitzroy Crossi 11.47 186 eP P 09 56 35.3 -0.3
12nm,0.5s
FITZ Fitzroy Crossi 11.47 186 P P 09 56 35.5 0.0
3.1nm,0.3s,baz=11,slow=6.4,SNR=10
WRAB Tennant Creek 15.12 152 eP P 09 57 14.9 +0.1
16nm,0.5s
WRAB eS S 09 59 51.8 +0.2
WRA Warramunga Arr 15.13 152 P P 09 57 14.8 0.0
2.1nm,0.3s,baz=327,slow=11,SNR=50
WRA S S 09 59 50.1 -1.6
0.6nm,0.3s,baz=324,slow=21,SNR=7.4
WRA Warramunga Arr 15.13 152 P P 09 57 14.8 0.0
WRA S S 09 59 50.1 -1.6
WB2 Warramunga Arr 15.13 152 eP P 09 57 14.8 -0.1
WB2 eS S 09 59 52.0 +0.3
MBWA Marble Bar 15.99 205 eP P 09 57 22.8 -0.8
4.1nm,0.3s
ASPA Alice Springs 18.27 159 eP P 09 57 48.3 +1.9
STKA Stephens Creek 28.67 153 P P 09 59 22.4 +0.5
1.6nm,0.5s,mb3.6,baz=352,slow=7.6,SNR=5.6
STKA Stephens Creek 28.67 153 eP P 09 59 22.7 +0.7
STKA e 10 00 35.8
QIZ Qiongzhong 30.48 327 P P 09 59 37.5 -0.2
43nm,1.7s,mb4.5
MJAR Matsushiro Arr 44.25 13 P P 10 01 30.4 -0.8
4.8nm,0.8s,mb3.9,baz=189,slow=9.0,SNR=13
MAT Matsushiro 44.25 13 P P 10 01 30.7 -0.5
MAT Matsushiro 44.25 13 eP P 10 01 31.0 -0.2
SONM Songino Array 57.14 344 P P 10 03 06.7 +0.5
1.3nm,0.5s,mb3.5,baz=169,slow=7.3,SNR=14
MKAR Makanchi Array 66.21 328 P P 10 04 05.8 +0.2
2.0nm,0.6s,mb3.9,baz=130,slow=7.9,SNR=21
ZAL Zalesovo 69.88 335 P P 10 04 27.5 -0.3
2.7nm,0.4s,mb4.1,baz=15,slow=9.6,SNR=6.0
BVAR Borovoye Array 76.08 329 P P 10 05 04.0 +0.6
1.6nm,0.8s,mb3.7,baz=135,slow=6.3,SNR=8.0

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*NEIC **20** 10:01:01.5, 42.50N×13.19E, h14km, ML2.8(ROM), After ROM.*
*CSEM **20** 10:01:01.5, 42.50N×13.19E, h14km, ML3.8/2, After ROM*
ROM 20 10:01:01.5±0.1**, 42.50N**×**13.19E, h14**km±2km**, Md2.7**/15**, Ml2.8**/12**, Error ellipse: s-maj=1.3km s-min=1.0km az=141.0, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LNSS Leonessa 0.15 313 Pg Pg 10 01 05.9 +0.4
LNSS Sg Sg 10 01 08.8 +0.7
2μm,0.6s
CAMP Campotosto 0.17 77 Pg Pg 10 01 06.1 +0.4
CAMP Sg Sg 10 01 09.1 +0.6
2μm,0.4s
AQU L'Aquila 0.21 133 Pg Pg 10 01 07.1 +0.6
AQU Sg Sg 10 01 10.8 +1.0
1μm,0.4s
FIAM Fiamignano 0.24 193 Pg Pg 10 01 07.3 +0.4
FIAM Sg Sg 10 01 11.2 +0.7
3μm,0.8s
TERO Teramo 0.33 68 Pg Pg 10 01 08.6 +0.1
TERO Sg Sg 10 01 13.6 +0.3
1μm,0.2s
NRCA Norcia 0.34 350 Pg Pg 10 01 08.9 +0.2
96nm,0.4s
FAGN Fagnano 0.37 129 Pg Pg 10 01 09.8 +0.4
1μm,0.4s
MNS Montasola 0.40 253 Pg Pg 10 01 09.9 +0.1
VCEL Villa Celiera 0.49 102 Pg Pg 10 01 11.7 0.0
VCEL Sg Sg 10 01 20.1 +1.7
632nm,0.3s
PTQR Pietraquaria 0.50 162 Pg Pg 10 01 12.5 +0.6
33nm,0.2s
CERT Cerreto 0.57 196 Pg Pg 10 01 12.7 -0.5
334nm,0.4s
INTR Introdacqua 0.72 132 Pg Pg 10 01 15.9 -0.2
345nm,0.7s
CING Cingoli 0.88 0 Pg Pg 10 01 18.4 -0.8
CING Sg Sg 10 01 32.6 +1.7
167nm,0.7s
MURB Monte Urbino 0.91 328 Pg Pg 10 01 19.3 -0.5
MURB Sg Sg 10 01 34.2 +2.2
339nm,0.3s
SACS San Casciano d 1.01 291 Pg Pg 10 01 21.1 -0.7
97nm,0.8s
ARV Arcevia 1.01 350 Pg Pg 10 01 21.7 -0.2
166nm,1.0s

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*IDC **20** 10:23:36.5±4.1, 3.03N×96.47E, mb3.9/4, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, MS3.5/1, Ms1 3.5/1, ms1mx3.0/18, Error ellipse: s-maj=158.9km s-min=29.5km az=57.0*
*NEIC **20** 10:23:40.1±1.4, 2.91N×96.29E, h30km, Error ellipse: s-maj=28.0km s-min=18.2km az=217.0*
ISC 20 10:23:38.3±1.7**, 2.9N**±0.2×**96.3E**±0.2**, h30**km**, n6,** σ**0^{s}42**/6**, mb3.9**/4**, MS3.6**/1**, 1D, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KULM Kulim 4.94 62⇓ePn Pn 10 24 52.4 0.0
WRA Warramunga Arr 43.72 123 P P 10 31 42.9 0.0
0.7nm,0.9s,mb3.4,baz=302,slow=9.1,SNR=4.6
MKAR Makanchi Array 45.35 346 P P 10 31 56.0 +0.3
2.6nm,0.7s,mb4.2,baz=141,slow=7.8,SNR=18
MKAR Makanchi Array 45.35 346 P P 10 31 56.0 +0.3
SONM Songino Array 45.57 10 P P 10 31 57.7 +0.3
0.3nm,0.4s,mb3.5,baz=185,slow=9.0,SNR=4.5
ZAL Zalesovo 51.71 351 P P 10 32 44.3 -0.5
2.4nm,0.5s,mb4.4,baz=259,slow=6.5,SNR=3.7
ZAL LR LR 10 59 17.5
comp=Z,50nm,19.2s,MS3.6,baz=312,slow=42

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*IDC **20** 10:33:50.5±0.7, 6.79N×72.99W, h163km±8km, mb3.4/6, mb1 3.7/8, mb1mx3.5/22, mbtmp3.9/8, MS3.4/1, Ms1 3.4/1, ms1mx2.4/16, Error ellipse: s-maj=22.0km s-min=7.4km az=129.0*
*NEIC **20** 10:33:51.3±0.7, 6.76N×72.94W, h173km±7km, mb3.7/2, Error ellipse: s-maj=13.4km s-min=9.4km az=85.0*
*FUNV **20** 10:33:53.6, 7.04N×73.22W, h30km, MW3.3*
ISC 20 10:33:49.9±0.5**, 6.89N**±0.06×**72.96W**±0.07**, h168**km±7km**, n30,** σ**1^{s}37**/36**, mb3.6**/6**, Northern Colombia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ROSC El Rosal 2.43 214 P P 10 34 32.1 +0.5
46nm,0.3s,baz=44,slow=2.6,SNR=83
ROSC S S 10 35 02.2 -1.6
86nm,0.3s,baz=105,slow=16,SNR=19
SOCV Socops 2.51 56 eP P 10 34 33.6 +1.1
SOCV eS S 10 35 03.1 -2.2
SDV Santo Domingo 3.04 49 P P 10 34 41.2 +2.1
12nm,0.3s,baz=247,slow=3.8,SNR=38
SDV S S 10 35 18.8 +1.8
35nm,0.3s,baz=272,slow=23,SNR=28
SDV Santo Domingo 3.04 49 ePn P 10 34 41.2 +2.0
SDV eSn S 10 35 18.8 +1.7
ELOV Elorza 3.45 88 eS S 10 35 27.5 +1.2
VIRV Villa del Rosa 3.63 9 eP P 10 34 46.2 -0.5
VIRV eS S 10 35 23.4 -7.1
QARV Quebrada Arrib 4.08 36 eP P 10 34 53.3 +0.8
QARV eS S 10 35 37.8 -2.9
SANV Sanarito 4.27 52 eP P 10 34 57.0 +2.1
SANV eS S 10 35 43.6 -1.5
CURV Curarigua 4.29 43 eP P 10 34 56.3 +1.1
CURV eS S 10 35 43.2 -2.5
DABV Dabajuro 4.62 30 eP P 10 34 60.0 +0.5
DABV eS S 10 35 48.5 -4.7
SIQV Siquisique 4.87 40 eP P 10 35 03.3 +0.7
SIQV eS S 10 35 56.6 -2.3
IMOV Isla Los Monje 5.80 20 eP P 10 35 14.9 -0.1
MONV Montecano 5.84 30 eP P 10 35 15.7 +0.4
TURV Turiamo 6.18 55 eP P 10 35 22.8 +2.9
SAML Samuel 18.50 148 eP P 10 37 53.9 -2.0
2.5nm,0.4s
LPAZ La Paz 23.52 168 P P 10 38 46.1 +0.2
0.5nm,0.3s,mb3.5,baz=322,slow=2.4,SNR=3.6
LPAZ La Paz 23.52 168 eP P 10 38 45.0 -1.0
0.6nm,0.4s,mb3.5
CPUP Villa Florida 36.34 156 LR LR 10 58 02.5
comp=Z,57nm,19.8s,baz=323,slow=40
TXAR Lajitas Array 36.54 312 P P 10 40 41.3 +0.2
0.8nm,0.6s,mb3.5,baz=125,slow=9.3,SNR=15
TXAR PcP PcP 10 43 02.2 +0.8
0.3nm,0.7s,baz=135,slow=5.3,SNR=4.6
TXAR Lajitas Array 36.54 312 P P 10 40 41.3 +0.2
TXAR PcP PcP 10 43 02.2 +0.8
ULM Lac du Bonnet 47.28 340 P P 10 42 07.4 -0.6
1.4nm,0.3s,mb4.0,baz=158,slow=5.2,SNR=7.4
MSU Marysvale 47.36 318 eP P 10 42 10.2 +1.3
PDAR Pinedale Array 48.12 324 P P 10 42 14.7 0.0
0.6nm,0.5s,mb3.5,baz=126,slow=8.9,SNR=5.8
VIF Vila Franca 52.83 47 eS S 10 49 56.6 -7.4
23nm,0.2s
PCNG Congro 52.87 47 eS S 10 49 56.6 -8.0
YKA Yellowknife Ar 63.26 340 P P 10 44 02.0 -0.5
2.1nm,0.6s,mb4.2,baz=134,slow=6.3,SNR=7.2
ILAR Eielson Array 76.97 335 P P 10 45 24.9 -0.2
0.3nm,0.7s,mb3.0,baz=99,slow=4.6,SNR=5.0
MKAR Makanchi Array 122.21 20 PKP PKPdf 10 52 26.0 +1.2
0.2nm,0.4s,baz=304,slow=3.1,SNR=4.2
WB2 Warramunga Arr 150.50 241 eP PKPdf 10 53 22.7 +5.9
WRA Warramunga Arr 150.51 241 PKPbc PKPdf 10 53 23.0 +6.2
1.0nm,0.4s,baz=107,slow=2.7,SNR=47
WRA pPKPbc 10 54 04.1
0.5nm,0.6s,baz=111,slow=2.6,SNR=5.3

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*NEIC **20** 10:41:27.6, 18.89N×68.74W, h48km, MD3.5(RSPR), After RSPR.*
RSPR 20 10:41:27.6, 18.89N×68.74W, h48km±16km**, MD3.5**/7**, MD3.5**/7**, 5C-1D, Mona Passage**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AGPR Aguadilla, PR 1.60 105⇑eP P 10 41 52.8 -1.2
AGPR eS S 10 42 11.5 -2.0
LSP Las Mesas 1.72 114⇑eP P 10 41 53.8 -1.9
LSP eS S 10 42 15.4 -1.1
MGP Maguayo 1.79 119⇑iP P 10 41 55.0 -1.8
MGP eS S 10 42 17.2 -1.1
AOPR Arecibo Observ 1.96 106⇑eP P 10 41 57.9 -1.2
AOPR eS S 10 42 20.8 -1.7
SJG San Juan 2.57 107⇑eP P 10 42 06.7 -1.2
SJG eS S 10 42 36.1 -2.0
SJG San Juan 2.57 107⇓eP P 10 42 06.1 -1.7
SJG eS S 10 42 35.5 -2.6
HUMP Col San Antoni 2.84 105⇑eP P 10 42 10.1 -1.5
HUMP eS S 10 42 43.0 -1.7

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*BJI **20** 10:53:28.9, 8.60S×81.10W, h29km, mB5.2, Ms5.0, Msz4.9*
*NEIC **20** 10:53:28.9±0.2, 8.56S×81.09W, mb4.9/28, Error ellipse: s-maj=9.4km s-min=4.4km az=60.0*
*HRVD **20** 10:53:28.9±1.0, 8.35S×81.07W, h37km±2km, MW5.0/39, Centroid moment Tensor Solution. LP body waves: s11,c11;Mantle waves: s39,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.37±.45; $M_{\theta\theta}$0.45±.33;*

Mφφ0.91±.34; Mrθ-0.58±.26; Mθφ-3.44±.26; Mφr1.31±.33; Best double couple: M0 3.691×10^16 NP1:φs271°,δ66°, λ-175°. NP2:φs179°,δ85°,λ-24°. Principal axes: T 4.447, Plg13°, Azm228°; N -1.516, Plg66°, Azm349°; P -2.934, Plg20°, Azm133°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*IDC **20** 10:53:32.9±4.4, 8.47S×81.10W, h62km±39km, mb4.2/13, mb1 4.3/16, mb1mx4.2/22, mbtmp4.4/16, ML3.4/2, MS3.9/12, Ms1 3.9/12, ms1mx3.7/28 Error ellipse: s-maj=28.8km s-min=13.7km az=70.0*

ISC 20 10:53:27.1±3.3**, 8.48S**±0.07×**81.12W**±0.09**, h27**km±23km**, h29**km±1.1km**:pP-P, n133, σ0§81**/92**, mb4.8**/35**, MS4.3**/12**, 9D, Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.47**	**130**	ePn	**Pn**	**10 54 45.8**	**-3.3**
	44nm,0.4s						
NNA				eSn	**Sn**	**10 55 45.8**	**-6.1**
PAYG	**Puerto Ayora**	**11.97**	**310**	ePn	**P**	**10 56 19.3**	**+0.1**
	44nm,0.6s						
LPAZ	**La Paz**	**14.87**	**123**	P	**P**	**10 57 00.4**	**+2.7**
	0.3nm,0.3s,baz=315,slow=8.1,SNR=9.2						
LPAZ				LR	LR	11 03 18.8	
	comp=Z,345nm,20.9s,baz=70,slow=39						
LPAZ	**La Paz**	**14.87**	**123**	ePn	**P**	**10 56 58.2**	**+0.6**
	14nm,0.8s						
ROSC	**El Rosal**	**14.88**	**27**	P	**P**	**10 56 59.9**	**+2.2**
	1.0nm,0.3s,baz=270,slow=20,SNR=1.8						
ROSC				LR	LR	11 03 08.5	
	comp=Z,191nm,20.2s,baz=213,slow=39						
SAML	**Samuel**	**17.74**	**93**	eP	**P**	**10 57 26.3**	**-7.8**
	12nm,0.8s						
LVC	**Limon Verde**	**18.31**	**142**	P	**P**	**10 57 43.8**	**+2.5**
	baz=295,slow=9.1,SNR=8.1						
LVC				LR	LR	11 03 37.1	
	comp=Z,60nm,19.4s,baz=297,slow=33						
LVC	**Limon Verde**	**18.31**	**142**	eP	**P**	**10 57 38.0**	**-3.2**
	10.0nm,0.9s						
LVC				LR	LR	11 03 37.1	
SDV	**Santo Domingo**	**20.17**	**31**	P	**P**	**10 58 03.5**	**+1.0**
	34nm,0.9s,baz=234,slow=8.3,SNR=16						
SDV	**Santo Domingo**	**20.17**	**31**	eP	**P**	**10 58 03.4**	**+0.8**
	39nm,0.9s						
SIV	**San Ignacio**	**20.96**	**113**	P	**P**	**10 58 10.1**	**-0.6**
	11nm,0.8s,baz=296,slow=11,SNR=41						
CFAA	**Coronel Fontan**	**25.95**	**154**	P	**P**	**10 58 60.0**	**+0.6**
	1.7nm,1.1s,mb3.5,baz=327,slow=9.6,SNR=11						
CFAA	**Coronel Fontan**	**25.95**	**154**	P	**P**	**10 58 60.0**	**+0.6**
CPUP	**Villa Florida**	**28.73**	**131**	LR	LR	11 13 02.4	
	comp=Z,113nm,21.1s,MS3.5,baz=157,slow=41						
SJG	**San Juan**	**30.27**	**29**	P	**P**	**10 59 38.5**	**0.0**
	6.7nm,0.3s,mb4.9,baz=288,slow=9.6,SNR=2.6						
BDFB	**Brasilia**	**33.12**	**106**	LR	LR	11 14 18.8	
	comp=Z,222nm,19.5s,MS3.9,baz=282,slow=38						
PLCA	**Paso Flores**	**33.47**	**165**	P	**P**	**11 00 05.5**	**-0.9**
	1.6nm,0.8s,mb4.0,baz=332,slow=11,SNR=4.3						
PLCA				PcP	PcP	11 02 46.0	-1.1
	1.1nm,0.7s,baz=12,slow=6.2,SNR=3.9						
NATX	**Nacogdoches**	**42.05**	**343**	eP	**P**	**11 01 19.9**	**+1.5**
	58nm,1.0s,mb5.2						
TXAR	**Lajitas Array**	**43.41**	**331**	P	**P**	**11 01 29.9**	**+0.3**
	2.6nm,0.8s,mb4.0,baz=153,slow=9.7,SNR=31						
TXAR				PcP	PcP	11 03 18.1	-0.2
	2.7nm,0.8s,baz=151,slow=6.6,SNR=13						
TXAR	**Lajitas Array**	**43.41**	**331**	P	**P**	**11 01 29.9**	**+0.3**
TXAR				PcP	PcP	11 03 18.1	-0.2
WVT	**Waverly**	**44.81**	**352**	eP	**P**	**11 01 39.6**	**-1.2**
	6.5nm,0.6s,mb4.6						
MNTX	**Cornudas Mount**	**46.20**	**331**	eP	**P**	**11 01 51.3**	**-0.5**
	8.8nm,0.9s,mb4.7						
MNTX				ePcP	PcP	11 03 26.9	-0.9
ANMO	**Albuquerque**	**49.39**	**332**	eP	**P**	**11 02 17.1**	**+0.3**
	8.0nm,1.3s,mb4.6						
TUC	**Tucson**	**49.46**	**327**	eP	**P**	**11 02 16.8**	**-0.5**
	4.0nm,0.9s,mb4.5						
TUC				e	pP	11 02 25.9	+0.5
KSU1	**Kansas State U**	**49.47**	**344**	eP	**P**	**11 02 16.9**	**-0.4**
KSU1				e	pP	11 02 26.4	+0.9
SDCO	**Great Sand Dun**	**51.32**	**335**	eP	**P**	**11 02 31.4**	**+0.1**
	12nm,0.9s,mb4.8						
WUAZ	**Wupatki**	**52.23**	**329**	eP	**P**	**11 02 38.6**	**+0.3**
	14nm,0.9s,mb4.9						
WUAZ				epP	pP	11 02 47.3	+0.8
WUAZ				ePcP	PcP	11 03 49.4	-0.3
PV01	**Paradox Valley**	**52.97**	**333**	eP	**P**	**11 02 43.8**	**0.0**
BAR	**Barrett**	**53.12**	**322**	eP	**P**	**11 02 44.5**	**-0.5**
PV10	**Paradox Valley**	**53.38**	**333**	eP	**P**	**11 02 46.1**	**-0.7**
RKT	**Rikitea**	**53.53**	**248**	eLR	LR	11 17 54.4	
	186nm,26.2s						
NEN	**Nelson**	**54.18**	**326**	eP	**P**	**11 02 52.1**	**-0.6**
MSU	**Marysvale**	**54.97**	**330**	eP	**P**	**11 02 58.6**	**+0.1**
MSU				ePcP	PcP	11 04 00.1	+0.2
ARUT	**Antelope Range**	**55.04**	**329**	eP	**P**	**11 02 59.6**	**+0.6**
RWWY	**Rawlins**	**55.36**	**336**	eP	**P**	**11 03 01.4**	**+0.1**
	27nm,1.1s,mb5.2						
DAU	**Daniels Canyon**	**56.03**	**332**	eP	**P**	**11 03 06.4**	**+0.3**
DUG	**Dugway**	**56.59**	**331**	eP	**P**	**11 03 10.1**	**0.0**
	9.8nm,1.3s,mb4.7						
HWUT	**Hardware Ranch**	**57.13**	**333**	eP	**P**	**11 03 13.5**	**-0.5**
	17nm,0.8s,mb5.1						
HWUT				ePcP	PcP	11 04 07.1	-1.2
PDAR	**Pinedale Array**	**57.21**	**335**	P	**P**	**11 03 13.8**	**-0.7**
	6.0nm,0.8s,mb4.7,baz=125,slow=8.5,SNR=44						
PDAR				PcP	PcP	11 04 07.7	-0.9
	2.8nm,0.7s,baz=132,slow=5.6,SNR=7.1						
NVAR	**Mina Array Bea**	**58.10**	**326**	PcP	PcP	11 04 12.2	+0.1
	2.6nm,0.7s,baz=135,slow=3.8,SNR=4.0						
REDW	**Red Top Meadow**	**58.24**	**335**	eP	**P**	**11 03 21.3**	**-0.4**
	28nm,1.3s,mb5.1						
SNOW	**Snow King Moun**	**58.28**	**335**	eP	**P**	**11 03 21.7**	**-0.3**
	5.7nm,0.6s,mb4.8						
LRV	**Little Rabbit**	**58.29**	**323**	eP	**P**	**11 03 22.4**	**+0.3**
LOHW	**Long Hollow**	**58.34**	**335**	eP	**P**	**11 03 22.1**	**-0.3**
	5.7nm,0.7s,mb4.7						
TPAW	**Teton Pass**	**58.39**	**335**	eP	**P**	**11 03 22.5**	**-0.2**
	4.8nm,0.6s,mb4.7						
RRI2	**Red Ridge**	**58.43**	**334**	⇓iP	**P**	**11 03 22.9**	**-0.1**
	34nm,0.8s,mb5.4						
IMW	**Indian Meadow**	**58.71**	**335**	eP	**P**	**11 03 24.6**	**-0.4**
	7.0nm,0.6s,mb4.9						
FLWY	**Flagg Ranch**	**58.77**	**335**	eP	**P**	**11 03 25.3**	**-0.1**
YFT	**Old Faithful**	**59.12**	**336**	eP	**P**	**11 03 28.9**	**+1.0**
YMR	**Madison River**	**59.36**	**336**	eP	**P**	**11 03 30.1**	**+0.6**
	11nm,0.7s,mb5.0						
QLMT	**Earthquake Lak**	**59.68**	**335**	eP	**P**	**11 03 32.2**	**+0.6**
GCMT	**Greycliff**	**59.77**	**337**	eP	**P**	**11 03 32.0**	**-0.3**
ULM	**Lac du Bonnet**	**59.88**	**349**	P	**P**	**11 03 31.6**	**-1.3**
	9.0nm,0.8s,mb4.9,baz=169,slow=7.5,SNR=12						
ULM	**Lac du Bonnet**	**59.88**	**349**	eP	**P**	**11 03 31.0**	**-1.9**
	9.7nm,0.8s,mb4.9						
BEKR	**Beckwourth**	**60.25**	**326**	eP	**P**	**11 03 35.3**	**-0.3**
	8.8nm,0.9s,mb4.8						
MCMT	**McKenzie Canyo**	**60.27**	**334**	eP	**P**	**11 03 36.1**	**+0.3**
OHCM	**Honcut**	**60.52**	**325**	eP	**P**	**11 03 37.1**	**-0.4**
DLMT	**Dillon**	**60.59**	**335**	eP	**P**	**11 03 37.9**	**0.0**
WVOR	**Wild Horse Val**	**61.15**	**329**	eP	**P**	**11 03 41.0**	**-0.8**
	7.8nm,1.1s,mb4.8						
HRY	**Holter Researc**	**61.38**	**336**	eP	**P**	**11 03 42.9**	**-0.3**
MOD	**Modoc**	**61.64**	**328**	⇓eP	**P**	**11 03 45.1**	**0.0**
	16nm,0.8s,mb5.2						
CHMT	**Chamberlain Mo**	**62.11**	**336**	eP	**P**	**11 03 48.0**	**-0.2**
SCHQ	**Schefferville**	**64.20**	**9**	P	**P**	**11 03 59.2**	**-2.6**
	2.3nm,0.7s,mb4.3,baz=201,slow=15,SNR=3.6						
SCHQ	**Schefferville**	**64.20**	**9**	P	**P**	**11 03 59.2**	**-2.6**
GBL	**Gable Mountain**	**64.59**	**332**	P	**P**	**11 04 04.8**	**+0.3**
VFP	**Flag Point**	**64.64**	**330**	P	**P**	**11 04 05.6**	**+0.8**
TDH	**Tom, Dick, Har**	**64.79**	**329**	P	**P**	**11 04 06.2**	**+0.4**
OD2	**Odessa Site #2**	**64.84**	**333**	P	**P**	**11 04 06.4**	**+0.4**
EBG	**Ellensburg**	**65.34**	**331**	P	**P**	**11 04 10.4**	**+1.1**
TBM	**Table Mountain**	**65.55**	**332**	P	**P**	**11 04 11.5**	**+0.8**
ETW	**Entiat**	**65.74**	**332**	P	**P**	**11 04 12.6**	**+0.7**
JCW	**Jim Creek**	**66.91**	**332**	P	**P**	**11 04 18.8**	**-0.5**
EDM	**Edmonton**	**67.28**	**340**	⇓eP	**P**	**11 04 20.5**	**-1.0**
YKA	**Yellowknife Ar**	**75.32**	**345**	P	**P**	**11 05 09.1**	**-0.5**
	3.5nm,0.8s,mb4.3,baz=147,slow=5.2,SNR=5.6						
YKW3	**Yellowknife Ar**	**75.38**	**345**	eP	**P**	**11 05 09.7**	**-0.3**
YKW3				e	pP	11 05 17.9	-0.5
VNA3	**Neumayer Olymp**	**76.09**	**162**	e	**P**	**11 05 22.9**	**+9.0**
VNA3	**Neumayer Olymp**	**76.09**	**162**	e	**P**	**11 05 24.8**	**+11**
VNA3	**Neumayer Olymp**	**76.09**	**162**	e	**P**	**11 05 27.5**	**+14**
VNA3	**Neumayer Olymp**	**76.09**	**162**	e	PP	11 08 04.5	-2.0
VNA3	**Neumayer Olymp**	**76.09**	**162**	e		11 14 30.1	
VNA3	**Neumayer Olymp**	**76.09**	**162**	⇓iP	**P**	**11 05 13.9**	**0.0**
VNA3				e	pP	11 05 22.9	+0.6
VNA3				e		11 05 24.8	
VNA3				e		11 05 27.5	
VNA3				e		11 08 04.5	
VNA3				e		11 14 30.1	
VNA1	**Neumayer--Stat**	**76.40**	**161**	e	PP	11 08 09.6	+0.7
VNA1	**Neumayer--Stat**	**76.40**	**161**	⇓iP	**P**	**11 05 15.9**	**+0.3**
VNA1				e	pP	11 05 25.0	+1.0
VNA1				e		11 05 26.4	
VNA1				e		11 05 29.7	
VNA1				e		11 08 09.6	
VNA2	**Neumayer--Watz**	**76.74**	**161**	e	**P**	**11 05 26.0**	**+8.5**
VNA2	**Neumayer--Watz**	**76.74**	**161**	e	**P**	**11 05 27.7**	**+10**
VNA2	**Neumayer--Watz**	**76.74**	**161**	e	**P**	**11 05 30.1**	**+13**
VNA2	**Neumayer--Watz**	**76.74**	**161**	e	PP	11 08 09.6	-2.1
VNA2	**Neumayer--Watz**	**76.74**	**161**	e		11 14 34.5	
VNA2	**Neumayer--Watz**	**76.74**	**161**	⇓iP	**P**	**11 05 17.3**	**-0.2**
VNA2				e	pP	11 05 26.0	+0.1
VNA2				e	pP	11 05 27.7	+1.8
VNA2				e		11 05 30.1	
VNA2				e		11 08 09.6	
VNA2				e		11 14 34.5	
DBIC	**Dimbokro**	**77.50**	**81**	P	**P**	**11 05 21.4**	**-1.4**
	7.2nm,0.9s,mb4.6,baz=311,slow=9.3,SNR=2.4						
DBIC				LR	LR	11 36 14.6	
	comp=Z,143nm,20.4s,MS4.3,baz=324,slow=33						
SNAA	**Sanae**	**78.32**	**162**	e	**P**	**11 05 32.9**	**+6.7**
SNAA	**Sanae**	**78.32**	**162**	e	**P**	**11 05 34.7**	**+8.5**
SNAA	**Sanae**	**78.32**	**162**	e	**P**	**11 05 38.2**	**+12**
SNAA	**Sanae**	**78.32**	**162**	e		11 14 40.0	
SNAA	**Sanae**	**78.32**	**162**	⇓iP	**P**	**11 05 26.0**	**-0.2**
SNAA				e	pP	11 05 32.9	-1.8
SNAA				e	pP	11 05 34.7	0.0
SNAA				e		11 05 38.2	
SNAA				e		11 14 40.0	
QSPA	**South Pole Qui**	**81.63**	**180**	⇓iP	**P**	**11 05 44.8**	**+1.1**
	25nm,1.1s,mb5.1						
INK	**Inuvik**	**84.92**	**343**	LR	LR	11 46 55.4	
	comp=Z,81nm,19.4s,MS4.1,baz=203,slow=38						
INK	**Inuvik**	**84.92**	**343**	⇓eP	**P**	**11 06 01.1**	**+0.4**
	23nm,1.1s,mb5.2						
SUMG	**Summit**	**85.44**	**12**	eP	**P**	**11 06 03.8**	**+0.6**
	9.7nm,1.1s,mb4.8						
SUMG				epP	pP	11 06 13.2	+1.4
ESDC	**Sonseca Array**	**85.61**	**49**	P	**P**	**11 06 06.3**	**+1.5**
	0.4nm,0.4s,mb4.0,baz=274,slow=4.8,SNR=5.7						
SBA	**Scott Base**	**86.32**	**191**	eP	**P**	**11 06 08.9**	**+1.4**
	72nm,2.4s,mb5.5						
ILAR	**Eielson Array**	**87.61**	**337**	P	**P**	**11 06 13.9**	**0.0**
	5.4nm,0.8s,mb4.8,baz=151,slow=3.4,SNR=53						
AFI	**Afiamalu**	**88.62**	**256**	LR	LR	11 35 26.7	
	comp=Z,84nm,20.4s,MS4.2,baz=95,slow=28						
URZ	**Urewera**	**93.93**	**231**	LR	LR	11 36 55.1	
	comp=Z,342nm,20.2s,MS4.8,baz=150,slow=28						
RPZ	**Rata Peaks**	**96.82**	**224**	LR	LR	11 44 44.9	
	comp=Z,244nm,18.9s,MS4.7,baz=212,slow=32						
NOA	**NORSAR Array B**	**98.48**	**29**	LR	LR	11 51 57.8	
	comp=Z,28nm,18.1s,MS3.8,baz=180,slow=36						
GERES	**GERESS Array B**	**99.49**	**42**	LR	LR	11 47 19.8	
	comp=Z,31nm,18.1s,MS3.9,baz=154,slow=32						
STKA	**Stephens Creek**	**122.78**	**223**	ePKPdf	PKPdf	11 12 22.3	-3.8
CTAO	**Charters Tower**	**125.42**	**238**	ePKPdf	PKPdf	11 12 28.0	-3.6
BVAR	**Borovoye Array**	**129.93**	**22**	PKP	PKPdf	11 12 36.4	-3.0
	1.2nm,0.7s,SNR=7.1						
ZAL	**Zalesovo**	**133.27**	**11**	PKP	PKPdf	11 12 41.9	-3.8
	1.5nm,0.4s,baz=26,slow=4.3,SNR=7.2						
KURK	**Kurchatov**	**134.67**	**18**	ePKPdf	PKPdf	11 12 45.0	-3.3
WB2	**Warramunga Arr**	**135.09**	**231**	eP	PKPdf	11 12 45.5	-4.5
WRAB	**Tennant Creek**	**135.10**	**231**	ePKPdf	PKPdf	11 12 46.0	-4.0
WRA	**Warramunga Arr**	**135.10**	**231**	PKP	PKPdf	11 12 46.1	-3.9
	5.7nm,0.8s,baz=124,slow=1.7,SNR=44						
CN2	**Changchun**	**137.87**	**331**	ePKP	PKPdf	11 12 49.3	-5.1
MKAR	**Makanchi Array**	**139.27**	**17**	PKhKP		11 12 47.4	
	0.9nm,0.8s,SNR=3.8						
MKAR				PKP	PKPdf	11 12 53.7	-3.2
	1.1nm,0.8s,slow=2.9,SNR=7.2						
MKAR	**Makanchi Array**	**139.27**	**17**	PKP	PKPdf	11 12 53.7	-3.2
AAK	**Ala-Archa**	**139.79**	**28**	ePKPdf	PKPdf	11 12 54.8	-3.2
SONM	**Songino Array**	**140.26**	**352**	PKhKP		11 12 47.5	
	1.0nm,0.6s,baz=312,slow=1.7,SNR=6.6						
SONM				PKP	PKPdf	11 12 53.2	-5.4
	1.6nm,0.9s,baz=300,slow=1.0,SNR=5.8						
SONM	**Songino Array**	**140.26**	**352**	PKP	PKPdf	11 12 53.2	-5.4
FITZ	**Fitzroy Crossi**	**142.64**	**225**	eP	PKPdf	11 12 56.6	-7.1
	5.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**142.64**	**225**	PKhKP		11 12 56.1	
	6.8nm,0.8s,baz=162,slow=2.0,SNR=6.0						
WMQ	**Urumqi**	**143.46**	**14**	PKP	PKPdf	11 13 00.0	-4.3
WMQ				APKP		11 13 10.5	
WMQ				XPKP		11 13 15.0	
WMQ				PP	PP	11 16 17.0	+1.8
WMQ				SKS	SKS	11 20 04.0	-8.7
WMQ				PP	PP		
	comp=Z,139nm,4.4s						
WMQ				LR	LR		
	comp=N,82nm,17.8s,MS4.7						
WMQ				LR	LR		
	comp=E,96nm,17.7s,MS4.7						
WMQ				LR	LR		
	comp=Z,61nm,15.4s,MS4.5						
MBWA	**Marble Bar**	**144.13**	**215**	ePKPdf	PKPdf	11 13 00.6	-5.5
HHC	**Hu-ho-hao-te**	**145.84**	**343**	ePKP	PKPdf	11 13 05.1	-3.5
HHC				APKP		11 13 15.5	
HHC				XPKP		11 13 19.6	
HHC				PKS	PKS	11 16 38.3	+0.2
HHC				SKS	SKS	11 20 06.5	-10
HHC				PP	PP		
	comp=Z,93nm,7.1s						
HHC				LR	LR		
	comp=N,117nm,15.5s,MS5.0						
HHC				LR	LR		
	comp=E,179nm,17.8s,MS5.0						
HHC				LR	LR		
	comp=Z,140nm,15.5s,MS4.8						
JOW	**Kunigami**	**146.70**	**307**	PKPbc	PKPbc	11 13 07.3	+0.2
	comp=Z,11nm,0.7s,baz=56,slow=3.6,SNR=4.8						
GTA	**Gaotai**	**149.19**	**359**	ePKP	PKPdf	11 13 15.1	+1.0
GTA				APKP		11 13 20.6	
GTA				XPKP		11 13 24.1	
SSE	**Sheshan**	**149.35**	**320**	ePKP	PKPdf	11 13 08.3	-6.3
SSE				PP	PP		
	comp=Z,56nm,7.3s						
NJ2	**Nanjing**	**150.09**	**324**	ePKP	PKPdf	11 13 10.0	-5.7
NJ2				APKP		11 13 20.0	
NJ2				PKP2	PKPab	11 13 24.0	-0.1
NJ2				XPKP		11 13 26.3	
NJ2				PKS	PKS	11 16 42.0	-2.7
NJ2				PP	PP	11 16 55.0	+0.7
NJ2				SKS	SKS	11 20 13.0	-9.4
NJ2				PP	PP		
	comp=Z,90nm,8.0s						
NJ2				LR	LR		
	comp=N,220nm,23.3s						
NJ2				LR	LR		
	comp=E,400nm,34.4s						
NJ2				LR	LR		
	comp=Z,350nm,29.3s						
LZH	**Lanzhou**	**152.15**	**351**	ePKP	PKPdf	11 13 12.8	-5.9
LZH				XPKP		11 13 22.8	
LZH				PKP2	PKPab	11 13 31.5	-1.1
LZH				PP	PP	11 17 04.0	-1.5
LZH				eSKS	SKS	11 20 15.0	-10
LZH				eSKKS		11 23 48.0	
LZH				PP	PP		
	comp=Z,120nm,6.7s						
LZH				LR	LR		
	comp=E,142nm,19.8s						
LZH				LR	LR		
	comp=Z,230nm,20.5s,MS5.0						
CD2	**Chengdu**	**157.22**	**349**	ePKP	PKPdf	11 13 19.1	-6.6
KMI	**Kunming**	**163.04**	**348**	PKP	PKPdf	11 13 28.6	-3.6
KMI				LR	LR		
	comp=Z,52nm,29.0s						

IDC 20 10:53:28.7±1.2**, 11.45N×144.45E, mb3.7**/6**, mb1 3.9**/6**, mb1mx3.8**/18**, mbtmp3.7**/6**, Error ellipse: s-maj=41.5km s-min=26.3km az=92.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.17**	**11**	Pn	Pn	10 54 01.4	-5.1
	28nm,0.3s,baz=154,slow=23,SNR=14						
GUMO				Sn	Sn	10 54 33.4	-1.0
	36nm,0.3s,baz=2.1,slow=23,SNR=5.7						
MJAR	**Matsushiro Arr**	**25.61**	**348**	P	P	10 58 58.0	-3.5
	1.8nm,0.8s,baz=161,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**32.74**	**198**	P	P	11 00 03.0	-2.6
	0.7nm,0.8s,baz=20,slow=9.7,SNR=9.2						
SONM	**Songino Array**	**48.25**	**326**	P	P	11 02 12.7	-0.6
	0.5nm,0.7s,baz=143,slow=7.7,SNR=4.3						
MKAR	**Makanchi Array**	**62.75**	**317**	P	P	11 03 56.0	-2.0
	0.2nm,0.5s,baz=98,slow=8.6,SNR=4.0						
ILAR	**Eielson Array**	**70.67**	**25**	P	P	11 04 45.5	-2.5
	0.5nm,0.6s,baz=263,slow=5.6,SNR=4.5						
BVAR	**Borovoye Array**	**71.35**	**322**	P	P	11 04 50.5	-1.8
	1.0nm,0.6s,baz=117,slow=6.4,SNR=3.7						
NVAR	**Mina Array Bea**	**88.57**	**51**	P	P	11 06 25.0	0.0

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*IDC **20** 10:59:42.5±0.7, 7.46N×126.80E, mb4.2/10, mb1 4.2/10, mb1mx4.1/22, mbtmp4.2/10, Error ellipse: s-maj=36.3km s-min=14.5km az=90.0*

*MAN **20** 10:59:49.0, 7.47N×126.68E, h1km, mb4.8, ML3.7, MS3.7*

*NEIC **20** 10:59:50.9±2.3, 7.49N×126.80E, h65km±23km, mb3.9/1, Error ellipse: s-maj=29.7km s-min=10.7km az=81.0*

ISC 20 10:59:44.6±1.9**, 7.27N**±0.04×**127.13E**±0.05**, h12**km±12km**, n34, σ1§22**/39**, mb4.1**/10**, 3C-4D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.19**	**320**	⇓iP	**Pb**	**11 00 05.4**	**-1.2**
BIPH				iS	**Sn**	**11 00 16.6**	**-6.5**
DAV	**Davao City (W)**	**1.56**	**263**	⇓iPn	**Pn**	**11 00 12.8**	**+0.6**
DAV				e		11 00 27.1	
DMPH	**Davao City--Mi**	**1.62**	**264**	⇓iP	**Pn**	**11 00 14.3**	**+1.1**
DMPH				eS	**Pg**	**11 00 21.4**	**+4.4**
KCP	**Kidapawan**	**2.04**	**263**	⇓eP	**Pn**	**11 00 19.2**	**0.0**
KCP				eS	**Sn**	**11 00 41.5**	**-3.3**
BUKP	**Musuan**	**2.14**	**287**	eP	**Pn**	**11 00 20.1**	**-0.5**
BUTP	**Butuan**	**2.26**	**319**	eP	**Pn**	**11 00 22.9**	**+0.6**
BUTP				eS	**Sn**	**11 00 51.8**	**+1.6**
GSPH	**General Santos**	**2.47**	**242**	⇑eP	**Pn**	**11 00 23.8**	**-1.5**
CGP	**Cagayan de Oro**	**2.69**	**296**	⇑eP	**Pn**	**11 00 27.4**	**-1.0**
CGP				eS	**Sn**	**11 01 00.4**	**-0.8**
MSLP	**Maasin**	**3.63**	**322**	eP	**Pn**	**11 00 42.5**	**+0.8**
MSLP				eS	**Sn**	**11 01 31.1**	**+6.2**
PAGZ	**Pagadian**	**3.76**	**279**	eP	**Pn**	**11 00 42.5**	**-1.3**
LLP	**Lapu-Lapu**	**4.36**	**314**	eP	**Pn**	**11 00 52.3**	**+0.2**
SNPH	**Sibulan**	**4.37**	**298**	eP	**Pn**	**11 00 52.5**	**+0.1**
PLP	**Palo**	**4.42**	**331**	eP	**Sn**	**11 01 47.9**	**+3.0**
IPIL	**Ipil**	**4.55**	**277**	eP	**Pn**	**11 00 56.7**	**+1.8**
BESP	**Borongan**	**4.62**	**339**	eP	**Pn**	**11 00 57.9**	**+2.1**
BESP				eS	**Sn**	**11 01 56.6**	**+6.6**
GUIM	**Jordan**	**5.59**	**307**	eP	**Pn**	**11 01 08.9**	**-0.7**
CNP	**Catarman**	**5.75**	**335**	eP	**Pn**	**11 01 11.8**	**0.0**
CNP				eS	**Sn**	**11 02 17.8**	**-0.6**
KAKA	**Kakadu**	**20.54**	**165**	⇑iP	Px	11 04 45.5	
	14nm,1.0s						
CBIJ	**Chichi jima**	**24.35**	**34**	P	**P**	**11 05 02.5**	**-1.1**
	49nm,0.9s,mb4.9,baz=221,slow=19,SNR=2.8						
FITZ	**Fitzroy Crossi**	**25.25**	**183**	P	**P**	**11 05 11.9**	**-0.4**
	2.7nm,0.3s,mb4.2,baz=4.8,slow=12,SNR=12						
JNU	**Nakatsue**	**25.96**	**7**	P	**P**	**11 05 14.9**	**-3.9**
	6.1nm,0.9s,mb4.2,baz=160,slow=17,SNR=3.7						
WRAB	**Tennant Creek**	**27.95**	**165**	ePn	**P**	**11 05 39.5**	**+2.4**
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**27.96**	**165**	P	**P**	**11 05 36.8**	**-0.3**
	0.5nm,0.5s,mb3.4,baz=348,slow=9.7,SNR=16						
WRA				PcP	PcP	11 08 50.9	-1.9
	0.7nm,0.6s,baz=335,slow=2.8,SNR=6.2						
WB2	**Warramunga Arr**	**27.96**	**165**	eP	**P**	**11 05 39.0**	**+1.8**
MJAR	**Matsushiro Arr**	**30.84**	**18**	P	**P**	**11 06 00.5**	**-2.3**
	2.1nm,0.7s,mb4.1,baz=189,slow=9.9,SNR=6.3						
MJAR	**Matsushiro Arr**	**30.84**	**18**	P	**P**	**11 06 00.5**	**-2.3**
NWAO	**Narrogin (SRO)**	**41.07**	**193**	P	**P**	**11 07 29.5**	**-0.2**
	10.0nm,1.0s,mb4.4,slow=7.1,SNR=3.8						
NWAO	**Narrogin (SRO)**	**41.07**	**193**	P	**P**	**11 07 29.5**	**-0.2**
STKA	**Stephens Creek**	**41.30**	**161**	P	**P**	**11 07 32.2**	**+0.5**
	1.6nm,0.8s,mb3.7,baz=351,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	**54.93**	**324**	P	**P**	**11 09 12.9**	**-4.7**
	1.0nm,0.4s,mb4.2,baz=116,slow=7.7,SNR=14						
BVAR	**Borovoye Array**	**64.61**	**326**	P	**P**	**11 10 18.9**	**-5.1**
	0.4nm,0.4s,mb3.8,baz=124,slow=5.3,SNR=4.0						
ILAR	**Eielson Array**	**81.75**	**26**	P	**P**	**11 12 03.1**	**-1.2**
	1.2nm,0.7s,mb4.0,baz=247,slow=5.6,SNR=8.8						
TXAR	**Lajitas Array**	**119.09**	**51**	PKP	PKPdf	11 18 34.9	-2.5
	0.3nm,0.6s,baz=338,slow=1.3,SNR=6.3						
CFAA	**Coronel Fontan**	**151.86**	**151**	PKPbc	PKPdf	11 19 40.6	+3.9
	0.3nm,0.3s,baz=278,slow=1.3,SNR=6.0						

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*BJI **20** 11:18:37.5, 24.80S×179.90E, h400km, mB4.8, mb4.6*

*IDC **20** 11:18:42.6±0.8, 24.71S×179.84E, h484km±8km, mb4.2/17, mb1 4.3/20, mb1mx4.3/22, mbtmp5.0/20, Error ellipse: s-maj=12.2km s-min=10.1km az=170.0*

*NEIC **20** 11:18:43.6±0.6, 24.78S×179.89E, h494km±7km, mb4.7/25, Error ellipse: s-maj=8.0km s-min=5.6km az=151.0*

ISC 20 11:18:42.2±0.7**, 24.81S**±0.05×**179.85E**±0.05**, h486**km±8km**, n127, σ1§02**/116**, mb4.6**/42**, 12C-11D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.85**	**156**	P	**P**	**11 20 08.6**	**+0.8**
	165nm,0.3s,baz=80,slow=19,SNR=3.9						
RAO				S	**S**	**11 21 15.1**	**-0.5**
	201nm,0.3s,baz=84,slow=22,SNR=3.5						
DZM	**Mont Dzumac**	**12.61**	**280**	eP	**P**	**11 21 31.0**	**+2.5**
DZM	**Mont Dzumac**	**12.61**	**280**	P	**P**	**11 21 31.0**	**+2.6**
	5.6nm,0.3s,baz=81,slow=16,SNR=54						
NOUC	**Port Laguerre**	**12.73**	**279**	eP	**P**	**11 21 32.3**	**+2.6**
NOUC	**Port Laguerre**	**12.73**	**279**	eP	**P**	**11 21 32.3**	**+2.6**
PUZ	**Puketiti**	**13.29**	**185**	SN	**S**	**11 23 53.6**	**-1.4**
AFI	**Afiamalu**	**13.41**	**38**	P	**P**	**11 21 34.3**	**-2.5**
	4.0nm,0.3s,baz=223,slow=19,SNR=9.5						
AFI				S	**S**	**11 23 49.6**	**-7.7**
	1.9nm,0.3s,baz=29,slow=16,SNR=4.7						
AFI	**Afiamalu**	**13.41**	**38**	P	**P**	**11 21 34.3**	**-2.5**
AFI				eP		11 21 35.0	
AFI				S	**S**	**11 23 49.6**	**-7.7**
AFI				eS	**S**	**11 23 50.5**	**-6.7**
URZ	**Urewera**	**13.61**	**189**	P	**P**	**11 21 38.1**	**-0.8**
	8.4nm,0.3s,baz=42,slow=2.4,SNR=25						
URZ				S	**S**	**11 24 03.4**	**+2.3**
	5.2nm,0.3s,baz=301,slow=21,SNR=12						
URZ	**Urewera**	**13.61**	**189**	PN	**P**	**11 21 37.2**	**-1.7**
URZ				SN	**S**	**11 24 03.1**	**+2.0**
MRZ	**Mangatainoka R**	**16.21**	**192**	PN	**P**	**11 22 03.1**	**-2.1**
QRZ	**Quartz Range**	**17.11**	**199**	PN	**P**	**11 22 15.2**	**+1.1**
NNZ	**Nelson**	**17.23**	**197**	PN	**P**	**11 22 15.4**	**+0.1**
NNZ				SN	**S**	**11 25 06.2**	**-1.4**
NNZ				SN	**S**	**11 25 06.7**	**-1.0**
THZ	**Tophouse**	**17.87**	**197**	PN	**P**	**11 22 21.6**	**0.0**
DSZ	**Denniston Nort**	**18.17**	**200**	PN	**P**	**11 22 25.3**	**+0.8**
LTZ	**Lake Taylor**	**18.99**	**197**	PN	**P**	**11 22 32.1**	**-0.4**
RPZ	**Rata Peaks**	**20.19**	**199**	P	**P**	**11 22 45.2**	**+1.4**
	13nm,0.6s,baz=4.9,slow=7.8,SNR=11						
HNR	**Honiara**	**24.36**	**305**	P	**P**	**11 23 20.3**	**-1.9**
	204nm,0.7s,mb5.7,baz=143,slow=1.7,SNR=16						
HNR	**Honiara**	**24.36**	**305**	eP	**P**	**11 23 20.4**	**-1.9**
	114nm,0.7s,mb5.4						
ARMA	**Armidale**	**25.59**	**251**	eP	**P**	**11 23 34.7**	**+1.5**
TBI	**Tubuai**	**28.03**	**93**	eLR	LR	11 24 04.2	
	159nm,32.0s						
CNB	**Canberra Magne**	**28.29**	**241**	eP	**P**	**11 23 58.0**	**+1.1**
	8.9nm,0.5s,mb4.5						
PPT	**Papeete**	**29.35**	**82**	eLR	LR	11 24 07.7	
	210nm,27.0s						
CTA	**Charters Tower**	**31.36**	**272**	⇓iP	**P**	**11 24 24.1**	**+0.6**
	158nm,0.4s						
CTA				eSCP		11 30 00.5	
CTAO	**Charters Tower**	**31.36**	**272**	⇓iP	**P**	**11 24 24.1**	**+0.6**
	210nm,0.5s						
TOO	**Toolangi**	**31.85**	**238**	⇓iP	**P**	**11 24 28.3**	**+0.8**
	12nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**34.27**	**249**	⇓iP	**P**	**11 24 48.5**	**+0.6**
	16nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**34.27**	**249**	P	**P**	**11 24 48.6**	**+0.7**
	19nm,0.4s,mb4.8,baz=95,slow=10,SNR=80						
STKA				ScP		11 30 09.9	
	4.6nm,0.9s,baz=85,slow=6.3,SNR=5.0						
PMG	**Port Moresby**	**34.67**	**290**	P	**P**	**11 24 51.4**	**-0.1**
	131nm,0.7s,mb5.5,baz=108,slow=5.5,SNR=31						
PMG	**Port Moresby**	**34.67**	**290**	⇓iP	**P**	**11 24 51.1**	**-0.4**
	142nm,0.8s,mb5.5						
ASPA	**Alice Springs**	**41.77**	**262**	⇓iP	**P**	**11 25 49.1**	**-0.3**
ASPA				eS	**S**	**11 31 28.9**	**-2.7**

WB2 Warramunga Arr 42.21 267⇓iP P 11 25 52.2 -0.8
WB2 eSCP 11 30 40.3
WB2 eS S 11 31 34.3 -3.7
WRAB Tennant Creek 42.21 267⇓iP P 11 25 52.0 -1.1
88nm,0.6s,mb5.4
WRA Warramunga Arr 42.22 267 P P 11 25 52.2 -0.9
51nm,0.5s,mb5.2,baz=100,slow=7.5,SNR=820
WRA ScP 11 30 41.2
15nm,0.8s,baz=101,slow=4.1,SNR=28
WRA S S 11 31 34.2 -3.9
4.9nm,1.0s,baz=103,slow=14,SNR=11
FORT Forrest 45.88 250⇓iP P 11 26 20.2 -1.4
111nm,0.6s,mb5.5
KAKA Kakadu 46.27 276 eP P 11 26 41.7 +17
53nm,0.7s,mb5.1
FITZ Fitzroy Crossi 50.63 266⇓iP P 11 26 56.7 -0.9
100nm,0.7s,mb5.3
FITZ Fitzroy Crossi 50.63 266 P P 11 26 56.8 -0.8
151nm,0.8s,mb5.4,baz=158,slow=5.9,SNR=136
GUMO Guam 51.20 314 P P 11 26 59.8 -2.0
54nm,0.8s,mb5.0,baz=201,slow=18,SNR=3.1
KLBR Kellerberrin 54.52 248⇓iP P 11 27 23.8 -1.6
43nm,0.6s,mb5.0
MBWA Marble Bar 55.09 261 eP P 11 27 27.7 -1.8
31nm,1.0s,mb4.6
CASY Casey 59.24 206 eP P 11 27 56.0 -1.2
QSPA South Pole Qui 65.28 180⇑iP P 11 28 36.8 +0.6
4.6nm,0.6s,mb4.3
MJAR Matsushiro Arr 72.57 326 P P 11 29 19.4 -1.3
5.1nm,0.8s,mb4.1,baz=160,slow=5.1,SNR=15
MAW Mawson 76.86 201 eP P 11 29 44.1 +0.1
1.6nm,0.6s,mb3.7
MAW Mawson 76.86 201 P P 11 29 44.4 +0.5
1.6nm,0.5s,mb3.8,baz=129,slow=5.7,SNR=7.9
NJ2 Nanjing 81.16 311 eP P 11 30 09.0 +1.6
NJ2 PP PP 11 33 25.0 +3.0
NJ2 S S 11 39 50.0 +14
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
NJ2 AMB AMB
comp=Z,70nm,10.1s
PTRM Twissleman Ran 82.61 45 eP P 11 30 14.5 -0.2
BAR Barrett 83.22 49 eP P 11 30 17.6 -0.1
BAR e pP 11 32 05.0 -1.0
ISA Isabella 83.74 46 eP P 11 30 20.4 0.0
comp=Z,24nm,1.4s,mb4.5
ISA e 11 31 30.9
SNAA Sanae 83.77 179 e P 11 30 23.3 +3.7
SNAA Sanae 83.77 179⇑iP P 11 30 18.8 -0.8
SNAA e 11 30 23.3
CMB Columbia Colle 83.95 43 eP P 11 30 21.3 0.0
comp=Z,28nm,1.2s,mb4.7
VNA3 Neumayer Olymp 83.98 177 e P 11 30 25.2 +4.5
VNA3 Neumayer Olymp 83.98 177⇑iP P 11 30 20.2 -0.5
VNA3 e 11 30 25.2
VNA3 e 11 31 49.2
VNA3 e 11 32 13.8
VNA2 Neumayer--Watz 84.39 178 e P 11 30 27.1 +4.4
VNA2 Neumayer--Watz 84.39 178⇑iP P 11 30 22.6 -0.1
VNA2 e 11 30 27.1
VNA2 e 11 31 50.8
VNA2 e 11 32 16.2
CN2 Changchun 84.54 324 eP P 11 30 26.8 +2.7
VNA1 Neumayer--Stat 84.63 177 e P 11 30 29.0 +5.1
VNA1 Neumayer--Stat 84.63 177⇑iP P 11 30 24.5 +0.6
VNA1 e 11 30 29.0
VNA1 e pP 11 32 17.6 +5.1
MTUM Tungsten Hills 84.69 45 eP P 11 30 25.1 +0.1
YBH Yreka Blue Hor 84.87 39 P P 11 30 26.2 +0.5
comp=Z,5.0nm,0.9s,mb4.2,baz=151,slow=3.7,SNR=6.9
LBCM Butte Creek Ri 85.10 41 P P 11 30 26.8 -0.1
HUMO Hull Mountain 85.29 39 eP P 11 30 28.2 +0.4
comp=Z,12nm,1.2s,mb4.4
BUOR Burton Butte 85.48 39 P P 11 30 29.3 +0.6
NVAR Mina Array Bea 85.50 44 P P 11 30 28.9 0.0
comp=Z,5.3nm,0.7s,mb4.3,baz=229,slow=11,SNR=17
NEN Nelson 86.15 48⇑eP P 11 30 32.2 +0.1
MOD Modoc 86.38 40 eP P 11 30 32.9 -0.1
comp=Z,13nm,1.1s,mb4.5
BROR Big Rock Looko 86.64 37 P P 11 30 34.3 +0.2
ENH Enshi 86.86 305 eP P 11 30 36.0 +0.4
comp=Z,4.3nm,0.6s,mb4.4
GYA Guiyang 87.09 301 P P 11 30 36.9 +0.1
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
TUC Tucson 87.17 53⇑eP P 11 30 37.9 +0.8
comp=Z,14nm,0.9s,mb4.7
WVOR Wild Horse Val 87.68 41 eP P 11 30 39.2 +0.1
comp=Z,15nm,1.0s,mb4.7
PLCA Paso Flores 87.73 134 P P 11 30 40.1 +0.7
comp=Z,1.9nm,0.8s,mb3.9,baz=263,slow=1.8,SNR=7.0
VIPM Ingram Point 87.81 38 P P 11 30 40.0 +0.3
LVP Lakeview Peak 87.81 36 P P 11 30 40.1 +0.4
TDL Tradedollar La 88.09 36 P P 11 30 41.4 +0.4
ARUT Antelope Range 88.27 47 eP P 11 30 42.4 +0.3
NANT Nan 88.38 291 ⇑P P 11 30 44.0 +1.1
SLKM Skilak Lake 88.44 14 eP P 11 30 41.5 -0.8
GSM Grass Mountain 88.86 35 P P 11 30 44.9 +0.3
TBM Table Mountain 89.47 36 P P 11 30 47.6 +0.2
MSU Marysvale 89.50 47 eP P 11 30 48.4 +0.6
KMI Kunming 89.57 298 P P 11 30 49.3 +0.9
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
CHG Chiang Mai 89.87 291 ⇑P P 11 30 58.1 +8.2
comp=Z,10nm,0.8s,mb4.7
TMUT Trail Mountain 90.56 46⇑eP P 11 30 53.3 +0.7
SPUT South Promonto 90.83 44 eP P 11 30 53.7 -0.1
MNTX Cornudas Mount 90.84 55 eP P 11 30 54.0 -0.1
comp=Z,2.3nm,0.8s,mb4.2
HVU Hansel Valley 90.88 44 eP P 11 30 54.1 +0.1
comp=Z,7.3nm,0.7s,mb4.7
SRU San Rafael 90.91 47 eP P 11 30 54.3 +0.1
comp=Z,23nm,1.1s,mb5.0
LTX Lajitas 91.02 58 eP P 11 30 55.0 0.0
comp=Z,6.0nm,0.8s,mb4.6
TXAR Lajitas Array 91.02 58 P P 11 30 55.2 +0.3
comp=Z,6.5nm,0.7s,mb4.7,baz=214,slow=6.5,SNR=90
DAU Daniels Canyon 91.12 45 eP P 11 30 55.1 0.0
TCUT Toone Canyon 91.39 45 eP P 11 30 56.6 +0.2
CD2 Chengdu 91.47 303 P P 11 30 59.8 +2.8
PV10 Paradox Valley 91.53 48⇑iP P 11 30 56.4 -0.7
HWUT Hardware Ranch 91.56 44 eP P 11 30 56.6 -0.5
comp=Z,3.5nm,0.6s,mb4.5
ANMO Albuquerque 91.62 52 P P 11 30 57.6 0.0
comp=Z,3.0nm,0.8s,mb4.3,baz=213,slow=5.8,SNR=16
ANMO Albuquerque 91.62 52 eP P 11 30 57.4 -0.2
comp=Z,2.8nm,0.8s,mb4.2
PV01 Paradox Valley 91.72 48 eP P 11 30 57.4 -0.6
NEW Newport 92.00 37 P P 11 30 57.3 -1.7
comp=Z,1.1nm,0.6s,mb4.0,baz=252,slow=3.2,SNR=3.5
AHID Auburn Hatcher 92.46 44 eP P 11 31 02.0 +0.7
comp=Z,4.1nm,0.8s,mb4.4
MCMT McKenzie Canyo 92.50 41 eP P 11 31 01.2 -0.2
ILAR Eielson Array 92.94 14 P P 11 31 01.1 -1.8
comp=Z,1.2nm,0.8s,mb4.0,baz=227,slow=5.6,SNR=13
FLWY Flagg Ranch 93.40 43 eP P 11 31 05.6 0.0
PDAR Pinedale Array 93.43 44 P P 11 31 05.2 -0.6
comp=Z,2.0nm,0.7s,mb4.2,baz=234,slow=3.2,SNR=21
PDAR PP PP 11 34 55.4 -4.3
comp=Z,0.7nm,0.9s,baz=243,slow=6.6,SNR=4.3
LZH Lanzhou 93.83 308 eP P 11 31 10.6 +2.9
LZH PP PP 11 35 05.1 +2.1
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,62nm,4.0s
MKAR Makanchi Array 112.67 312 PKiKP 11 36 22.1
comp=Z,0.3nm,0.4s,baz=85,slow=2.9,SNR=3.9
MKAR SKP 11 39 10.9
comp=Z,0.9nm,0.7s,baz=63,slow=2.7,SNR=6.4
BVAR Borovoye Array 121.03 318 PKP PKPdf 11 36 38.2 -0.2
comp=Z,1.0nm,0.4s,baz=83,slow=1.7,SNR=8.8
BVAR SKP 11 39 27.5
comp=Z,0.3nm,0.3s,baz=135,slow=2.0,SNR=3.6
ARCES ARCESS Array B 132.75 348 PKP PKPdf 11 37 00.0 -0.4
comp=Z,1.9nm,0.6s,baz=77,slow=1.7,SNR=9.2
ARCES SKPbc 11 39 41.7
comp=Z,5.9nm,0.8s,baz=27,slow=2.7,SNR=7.8
KMBO Kilima Mbogo 135.53 240 SKPbc 11 39 53.7
comp=Z,2.6nm,0.8s,baz=340,slow=6.1,SNR=5.1
FINES FINESS Array B 139.26 341 PKhKP 11 37 04.2
comp=Z,0.4nm,0.4s,baz=90,slow=5.7,SNR=4.5
FINES PKP PKPdf 11 37 13.9 +1.4
comp=Z,1.3nm,0.6s,baz=90,slow=1.9,SNR=4.4
FINES SKPbc 11 40 01.4
comp=Z,7.8nm,0.7s,baz=45,slow=2.7,SNR=18
NB2 NORSAR Subarra 142.95 351 PKPabc PKPdf 11 37 16.0 -2.9
comp=Z,3.2nm,0.9s,baz=16,slow=3.1
NOA NORSAR Array B 142.95 351 PKhKP 11 37 16.4
comp=Z,3.9nm,0.8s,baz=13,slow=2.3,SNR=8.7
AKASG Malin Array Be 145.66 326 PKPbc PKPbc 11 37 25.2 0.0
comp=Z,2.2nm,0.4s,baz=45,slow=3.9,SNR=13
AKASG SKPbc 11 40 17.2
comp=Z,3.6nm,0.8s,baz=49,slow=3.0,SNR=5.2
ASF Jabal al Asfar 146.75 291 PKPbc PKPbc 11 37 28.8 +0.4
comp=Z,2.0nm,0.5s,baz=153,slow=2.3,SNR=2.8
BR131 Keskin Array S 148.01 306 ePKPdf PKPdf 11 37 32.2 +4.2
BRTR Keskin Array B 148.01 306 PKPbc PKPdf 11 37 32.8 +4.7
comp=Z,2.4nm,0.6s,baz=129,slow=3.7,SNR=7.2
OJC Ojcow 150.29 334 ePKP PKPdf 11 37 37.9 +6.5
CLL Collm 151.68 342⇑iPKP1 PKPdf 11 37 40.8 +7.5
GERES GERESS Array B 153.66 339 PKPbc PKPdf 11 37 45.0 +8.9
comp=Z,1.1nm,0.7s,baz=27,slow=2.2,SNR=3.1
LOR Lormes 157.36 353 ePKP1 PKPab 11 38 16.0 -1.8
comp=Z,3.7nm,0.5s
SSF Saint Saulge 157.60 353 ePKP1 PKPab 11 38 16.9 -1.9
comp=Z,10nm,0.8s
CABF La Chapelle 157.68 349 ePKP1 PKPab 11 38 18.2 -1.0
AVF Avril sur Loir 157.89 354 ePKP1 PKPab 11 38 17.3 -2.7
SMF Signal de Mont 157.98 353 ePKP1 PKPab 11 38 17.7 -2.7
ESDC Sonseca Array 164.83 11 PKPab PKPab 11 38 49.1 -1.3
comp=Z,0.7nm,0.5s,baz=339,slow=5.0,SNR=7.2

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*NEIC **20** 11:24:54.6±0.8, 17.54S×69.31W, h165^{km}±12^{km}, mb4.0/1, Error ellipse: s-maj=18.0km s-min=12.8km az=129.0*
*IDC **20** 11:24:56.0±1.5, 17.68S×69.07W, h163^{km}±9^{km}, mb3.7/3, mb1 3.7/5, mb1mx3.4/16, mbtmp4.2/5, Error ellipse: s-maj=31.0km s-min=10.4km az=109.0*
ISC 20 11:24:53.7±0.7**, 17.57S**±0.06×**69.31W**±0.07**, h171**^{km}±9^{km}**, n11,** σ**1**^{s}**20**/19**, mb4.1**/2**, 1C-1D, Peru-Bolivia border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 1.70 42 P P 11 25 29.0 +1.8
59nm,0.3s,baz=232,slow=8.1,SNR=1649
LPAZ S S 11 25 54.0 +1.0
8.3nm,0.3s,baz=79,slow=20,SNR=6.7
LPAZ La Paz 1.70 42 P P 11 25 29.0 +1.8
LPAZ ⇓iP 11 25 29.1
LPAZ S S 11 25 54.0 +1.0
ARE Arequipa 2.36 297⇑iP P 11 25 34.4 -0.3
ARE i S S 11 26 05.2 -1.1
LVC Limon Verde 5.03 176 P P 11 26 08.9 +0.2
1.8nm,0.3s,baz=350,slow=8.5,SNR=51
LVC S S 11 27 05.7 -1.0
5.1nm,0.3s,baz=269,slow=22,SNR=16
LVC Limon Verde 5.03 176 P P 11 26 08.9 +0.2
LVC ePn P 11 26 09.9 +1.2
LVC S S 11 27 05.7 -1.0
LVC eSn S 11 27 06.7 0.0
SIV San Ignacio 8.04 80 P P 11 26 47.1 -1.4
4.5nm,0.3s,baz=279,slow=10.0,SNR=54
SIV S S 11 28 15.4 -2.6
0.9nm,0.3s,baz=322,slow=17,SNR=8.4
CFAA Coronel Fontan 14.01 176 P P 11 28 05.5 -0.3
0.0nm,0.3s,baz=7.1,slow=10,SNR=3.2
BDFB Brasilia 20.49 88 P P 11 29 20.7 +0.8
2.7nm,0.5s,baz=247,slow=9.6,SNR=4.4
PLCA Paso Flores 23.11 182 P P 11 29 47.5 +2.2
2.5nm,0.9s,mb3.6,baz=14,slow=12,SNR=4.7
PLCA Paso Flores 23.11 182 P P 11 29 47.1 +1.8
5.4nm,1.1s,mb3.9
PLCA P 11 29 47.5
DBIC Dimbokro 68.03 75 P P 11 35 36.6 -0.5
5.5nm,0.5s,mb4.5,baz=228,slow=6.5,SNR=12

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*NEIC **20** 11:33:56.5±5.6, 35.83S×179.31W, h84^{km}±33^{km}, mb4.8/5, Error ellipse: s-maj=66.8km s-min=15.2km az=57.0*
ISC 20 11:33:49.3±1.7**, 35.6S**±0.1×**178.8W**±0.2**, h57**^{km}±14^{km}**, n32,** σ**1**^{s}**14**/42**, mb4.8**/4**, 1C, East of North Island**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXZ Matakaoa Point 3.01 229 PN P 11 34 36.9 +1.2
MXZ SN S 11 35 10.0 -0.7
MXZ Matakaoa Point 3.01 229 eP P 11 34 36.6 +0.9
MXZ S S 11 35 10.0 -0.8
PUZ Puketiti 3.38 223 PN P 11 34 42.3 +1.3
PUZ SN S 11 35 22.1 +2.0
PUZ Puketiti 3.38 223 eP P 11 34 42.3 +1.3
MWZ Matawai 3.98 226 PN P 11 34 50.1 +0.7
MWZ SN S 11 35 36.6 +1.5
MWZ Matawai 3.98 226 eP P 11 34 49.9 +0.6
MWZ S S 11 35 36.9 +1.7
URZ Urewera 4.18 230 PN P 11 34 52.5 +0.3
URZ SN S 11 35 39.6 -0.7
URZ Urewera 4.18 230 eP P 11 34 52.3 +0.1
KNZ Kokohu 4.39 218 PN P 11 34 56.8 +1.7
KNZ SN S 11 35 46.0 +0.5
KNZ Kokohu 4.39 218 eP P 11 34 56.3 +1.2
KNZ S S 11 35 46.0 +0.5
KUZ Kuaotunu 4.55 254 PN P 11 34 56.4 -0.9
KUZ Kuaotunu 4.55 254 eP P 11 34 56.4 -0.9
BKZ Black Stump Fm 5.14 225 ePN P 11 35 05.8 +0.3
BKZ SN S 11 36 01.7 -2.6
BKZ Black Stump Fm 5.14 225 eP P 11 35 04.8 -0.7
BKZ S S 11 36 01.7 -2.5
WCZ Waipu Caves 5.56 265 PN P 11 35 10.2 -1.2
WCZ Waipu Caves 5.56 265 P P 11 35 09.6 -1.8
CNZ Chateau 5.72 230 PN P 11 35 13.6 -0.1
CNZ Chateau 5.72 230 eP P 11 35 13.6 -0.1
MOVZ Moawhango 5.73 227 PN P 11 35 13.2 -0.5
MOVZ Moawhango 5.73 227 P P 11 35 13.1 -0.6
BFZ Birch Farm 6.37 216 PN P 11 35 21.6 -1.1
BFZ Birch Farm 6.37 216 eP P 11 35 21.6 -1.1
MRZ Mangatainoka R 6.69 220 PN P 11 35 25.3 -1.9
THZ Tophouse 8.90 224 ePN P 11 35 53.0 -4.7
THZ SN S 11 37 30.0 -7.7
CTA Charters Tower 34.32 287 eP P 11 40 33.7 +1.2
7.9nm,1.0s,mb4.6
CTAO Charters Tower 34.32 287 eP P 11 40 32.6 +0.1
20nm,1.1s,mb5.0
ASPA Alice Springs 42.41 273 eP P 11 41 41.3 +1.3
WB2 Warramunga Arr 43.85 278⇑iP P 11 41 52.2 +0.4
WRAB Tennant Creek 43.86 278 eP P 11 41 51.9 0.0
7.6nm,0.7s,mb4.5
FITZ Fitzroy Crossi 51.86 274 eP P 11 42 54.3 +0.2
9.5nm,0.7s,mb4.8
MAW Mawson 67.20 201 P P 11 44 37.2 -1.7
32nm,2.3s,mb4.9
GNI Garni 145.57 291 PKPdf PKPdf 11 53 24.6 +3.7

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*NIED **20** 11:39:00, 35.60N×140.10E, h80^{km}, Mw4.4 Best double couple: $M_0$5.02×10^{15} NP1:ϕ_s357°, δ77°, λ105°. NP2: ϕ_s128°, δ19°, λ42°.*
*MOS **20** 11:39:41.0±1.4, 35.40N×140.38E, h33^{km}, mb5.0/18, Error ellipse: s-maj=14.2km s-min=6.7km az=118.1*
*BJI **20** 11:39:46.3, 35.76N×140.60E, h99^{km}, mB4.9, mb4.6*
*JMA **20** 11:39:47.3±0.2, 35.60N×140.13E, h72^{km}±2^{km}, M4.3 Broadband fault plane solution: P waves. NP1:ϕ_s132°, δ12°, λ41°. NP2:ϕ_s1°, δ82°, λ99°. Principal axes: T Plg52°, Azm282°; N Plg9°, Azm180°; P Plg36°, Azm83°;*
JMA Felt III J1.
*NEIC **20** 11:39:48.4±0.3, 35.51N×140.05E, mb4.7/12, MW4.4(NIED) Error ellipse: s-maj=7.9km s-min=6.7km az=219.0*
NEIC Felt at Yokosuka. Recorded [3 JMA] in Chiba; [2 JMA] in Kanagawa, Saitama and Tokyo; [1 JMA] in Ibaraki and Shizuoka Prefectures.
*IDC **20** 11:39:49.8±1.2, 35.45N×140.05E, h84^{km}±10^{km}, mb4.0/18, mb1 4.2/20, mb1mx4.2/25, mbtmp4.4/20, MS3.5/2, Ms1 3.5/2, ms1mx2.9/27, Error ellipse: s-maj=18.4km s-min=6.1km az=69.0*
ISC 20 11:39:47.3±0.3**, 35.49N**±0.03×**140.11E**±0.04**, h79**^{km}±2^{km}**, h71**^{km}±1.5^{km}**:pP-P, n97,** σ**0**^{s}**93**/116**, mb4.5**/49**, 8C-12D, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JCN Nagara 0.10 133 ⇑P P 11 39 58.7 0.0
JCN S S 11 40 07.4 +0.4
TOK Tokyo 0.35 305 ⇓P P 11 39 59.4 -0.4
TOK S S 11 40 08.7 -0.5
KTR Katsuura 0.38 154 P P 11 40 00.1 +0.1
KTR S S 11 40 09.3 -0.2
BSO3 Boso 3 0.76 154 ⇓P P 11 40 04.0 +0.3
JOD2 Odawara 2 0.87 255 ⇓P P 11 40 05.0 +0.1
JOD2 S S 11 40 17.4 -0.7
JIM2 Oshima 3 0.95 216 ⇓P P 11 40 05.9 0.0
JIM2 S S 11 40 20.0 +0.2
JAG Ashikaga 1.08 330 ⇓P P 11 40 06.1 -1.3
BSO1 Boso 1 1.09 139 P P 11 40 07.5 -0.2
JRY Ryogami san 1.12 299 ⇓P P 11 40 07.9 -0.1
JIZS Izushimoda 1.27 233 ⇓P P 11 40 10.4 +0.4
JIZS S S 11 40 27.0 +0.1
JYN Shimob 1.28 271 ⇓P P 11 40 10.3 +0.2
JYN S S 11 40 27.4 +0.3
JKT Katashina 1.46 332 ⇓P P 11 40 11.0 -1.5
JMY Miyakejima3 1.50 199 P P 11 40 13.2 +0.2
MJAR Matsushiro Arr 1.87 305 P P 11 40 17.4 -0.5
133nm,0.3s,baz=146,slow=14,SNR=731
MJAR LR LR 11 40 40.1
comp=Z,898nm,21.6s,baz=145,slow=28
MJAR S S 11 40 43.0 +2.5
146nm,0.3s,baz=129,slow=17,SNR=14
MJAR Matsushiro Arr 1.87 305 P P 11 40 17.5 -0.4
MJAR S S 11 40 43.0 +2.5
MAJO Matsushiro 1.87 305⇓iPn P 11 40 17.8 -0.2
MAJO eSn S 11 40 42.1 +1.5
MAT Matsushiro 1.87 305 P P 11 40 18.0 0.0
MAT S S 11 40 41.5 +0.9
MAT Matsushiro 1.87 305 eP P 11 40 18.0 0.0
MAT eS S 11 40 42.0 +1.4
JHJ Hachijo jima 2 2.38 187 P P 11 40 25.7 +0.6
304nm,0.3s,baz=194,slow=0.9,SNR=101
JHJ S S 11 40 54.4 +1.2
680nm,0.3s,baz=261,slow=22,SNR=13
JNU Nakatsue 8.00 255 P P 11 41 42.2 -0.6
1.8nm,0.3s,baz=51,slow=22,SNR=12
CBIJ Chichi jima 8.55 167 P P 11 41 47.0 -3.4
28nm,0.3s,baz=337,slow=10,SNR=43
CBIJ S S 11 43 17.1 -9.0
26nm,0.3s,baz=274,slow=22,SNR=7.4
ASAJ Asahikawa 8.83 12 P P 11 41 49.0 -5.1
1.8nm,0.3s,baz=219,slow=15,SNR=18
ASAJ S S 11 43 23.6 -9.2
1.3nm,0.3s,baz=181,slow=32,SNR=3.6
ASAJ Asahikawa 8.83 12 P P 11 41 49.0 -5.1
ASAJ S S 11 43 23.7 -9.2
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
YUK Yuzh-Kuril'sk 9.61 26 eP P 11 42 00.5 -4.3
YUK eS S 11 43 38.5 -13
YUK smax
comp=N,380nm,0.5s
YUK smax
comp=E,380nm,0.5s
KS15 Wonju Array Si 10.04 285 P P 11 42 10.3 -0.3
CN2 Changchun 14.01 311 eP P 11 43 07.1 +3.9
CN2 AMB AMB
comp=Z,10.0nm,1.0s
SNY Shenyang 14.38 301 ⇑P P 11 43 12.6 +4.6
SNY AMB AMB
comp=Z,30nm,0.8s
XAN Xi'an 25.61 276 P P 11 45 10.8 -0.1
XAN AMB AMB
comp=Z,7.0nm,0.9s,mb4.1
ENH Enshi 26.18 267 eP P 11 45 15.9 -0.3
comp=Z,20nm,0.8s,mb4.6
YAK Yakutsk 27.37 349d iP P 11 45 27.2 +0.4
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
YAK MLR MLR
comp=Z,100nm,17.0s
SONM Songino Array 27.82 307 P P 11 45 30.0 -1.1
comp=Z,3.3nm,0.7s,mb4.0,baz=107,slow=9.3,SNR=16
SONM LR LR 11 56 10.9
comp=Z,88nm,18.7s,baz=106,slow=35
BOD Bodaibo 28.31 330 eP P 11 45 34.2 -1.1
BOD pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
ZAK Zakamensk 30.44 311 eP P 11 45 51.6 -2.7
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
GTA Gaotai 32.04 289 eP P 11 46 08.6 +0.1
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.2
KMI Kunming 33.70 263 P P 11 46 22.4 -0.6
KMI PP PP 11 47 39.3 +1.3
KMI S S 11 51 43.8 +4.4
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
KMI AMB AMB
comp=Z,127nm,5.2s
KMI LR LR
comp=Z,52nm,30.9s
BILL Bilibino 35.80 16 P P 11 46 40.9 +0.4
BILL e 11 48 00.5
BILL pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
WMQ Urumqi 40.62 298 P P 11 47 22.3 +1.5
WMQ AP pP 11 47 40.5 +0.5
WMQ PP PP 11 49 01.0 +2.2
WMQ PCS 11 53 14.0
WMQ S S 11 53 26.0 +1.6
WMQ AMB AMB
comp=Z,19nm,0.9s,mb4.9
WMQ AMB AMB
comp=Z,143nm,6.7s
WMQ LR LR
comp=N,94nm,25.4s
WMQ LR LR
comp=E,118nm,16.9s
WMQ LR LR
comp=Z,73nm,21.6s
ZAL Zalesovo 42.21 314 P P 11 47 33.1 -0.5
comp=Z,4.1nm,0.7s,mb4.3,baz=21,slow=7.5,SNR=24
NVS Novosibirsk 43.16 315 i P P 11 47 40.3 -1.2
MKAR Makanchi Array 44.07 303 P P 11 47 49.2 +0.3
comp=Z,10.0nm,0.8s,mb4.6,baz=90,slow=9.7,SNR=61
MKAR LR LR 12 06 37.6
comp=Z,52nm,19.5s,slow=36
MKAR Makanchi Array 44.07 303 i P P 11 47 49.2 +0.3
MKAR pmax pmax
comp=Z,30nm,1.1s
KURK Kurchatov 46.07 309⇑iP P 11 48 04.5 -0.3
comp=Z,18nm,0.7s,mb4.9
KURK Kurchatov 46.07 309⇑iP P 11 48 04.6 -0.2
KURK pmax pmax
comp=Z,18nm,0.7s,mb4.9
GUN Gumba 46.27 276 eP P 11 48 07.6 +0.9
PKI Pulchoki 46.79 276 eP P 11 48 10.9 +0.1
comp=Z,24nm,0.9s,mb4.9
KKN Kakani 46.81 277 eP P 11 48 11.3 +0.4
comp=Z,20nm,0.7s,mb5.0
DMN Daman 47.02 276 eP P 11 48 12.8 +0.2
comp=Z,29nm,1.0s,mb5.0
GKN Gorkha 47.24 277 eP P 11 48 14.3 -0.1
comp=Z,44nm,0.8s,mb5.3
KOLN Koldanda 48.17 277 eP P 11 48 21.8 +0.2
comp=Z,16nm,0.8s,mb4.9
KAKA Kakadu 48.48 190 eP P 11 48 42.7 +19
comp=Z,15nm,1.1s,mb4.7
AAK Ala-Archa 50.31 299 eP P 11 48 37.4 -0.4
comp=Z,4.6nm,0.9s,mb4.4
AAK epP pP 11 48 55.0 -2.5
AAK Ala-Archa 50.31 299 eP P 11 48 37.4 -0.5
AAK e*PP pP 11 48 55.0 -2.4
AAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VOSK Vostochnaya 50.54 313 P P 11 48 38.7 -0.7
VOSK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BVA0 Borovoye Array 50.84 313 i P P 11 48 42.4 +0.6
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
BVAR Borovoye Array 50.84 313 P P 11 48 41.5 -0.3
comp=Z,1.7nm,0.4s,mb4.4,baz=78,slow=7.5,SNR=12
BRVK Borovoye 50.90 313 eP P 11 48 41.9 -0.3
comp=Z,4.3nm,0.8s,mb4.5
BRVK Borovoye 50.90 313 eP P 11 48 41.9 -0.3
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ILAR Eielson Array 51.36 32 P P 11 48 45.5 0.0
comp=Z,1.2nm,0.7s,mb4.0,baz=270,slow=6.3,SNR=18
KKAR Karatay Array 53.00 301 P P 11 48 58.4 +0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**55.03**	**197**⇑	*i*P	**P**	**11 49 13.3**	**0.0**
	comp=Z,16nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**55.03**	**197**	P	**P**	**11 49 13.4**	**+0.1**
	comp=Z,23nm,0.6s,mb5.4,baz=5.9,slow=6.5,SNR=40						
WRAB	**Tennant Creek**	**55.38**	**187**	*e*P	**P**	**11 49 14.6**	**-1.2**
	comp=Z,11nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**55.38**	**187**	*e*P	**P**	**11 49 14.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**55.40**	**187**⇑	*i*P	**P**	**11 49 15.0**	**-0.9**
WRA	**Warramunga Arr**	**55.40**	**187**	P	**P**	**11 49 15.0**	**-0.9**
	comp=Z,6.1nm,0.5s,mb4.9,baz=1.4,slow=7.5,SNR=143						
ARU	**Arti**	**56.83**	**319**	*e*P	**P**	**11 49 24.6**	**-1.0**
	comp=Z,15nm,0.6s,mb5.2						
ARU				*e*pP	pP	11 49 43.2	-2.5
ARU	**Arti**	**56.83**	**319**⇑	*i*P	**P**	**11 49 24.8**	**-0.8**
ARU				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
AB31	**Akbulak array**	**58.14**	**311**	P	**P**	**11 49 34.1**	**-0.8**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KEV	**Kevo**	**64.51**	**339**	*e*p	**P**	**11 50 14.3**	**-3.1**
	comp=Z,7.3nm,0.8s,mb4.6						
KEV	**Kevo**	**64.51**	**339**	*e*P	**P**	**11 50 14.3**	**-3.1**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**65.07**	**339**	P	**P**	**11 50 19.8**	**-1.3**
	comp=Z,6.0nm,1.0s,mb4.4,baz=24,slow=12,SNR=3.8						
JOF	**Joensuu**	**66.83**	**332**	*e*p	**P**	**11 50 31.0**	**-1.3**
	comp=Z,3.1nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**67.02**	**179**	P	**P**	**11 50 33.3**	**-0.8**
	comp=Z,3.0nm,1.1s,mb4.0,baz=349,slow=10,SNR=3.4						
OBN	**Obninsk**	**68.70**	**323**	*e*P	**P**	**11 50 44.1**	**0.0**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KAF	**Kangasniemi**	**69.20**	**333**	*e*p	**P**	**11 50 46.0**	**-1.0**
	comp=Z,6.1nm,0.8s,mb4.5,baz=51,slow=5.8						
KAF	**Kangasniemi**	**69.20**	**333**	*e*P	**P**	**11 50 46.0**	**-1.0**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**69.69**	**332**	P	**P**	**11 50 49.9**	**-0.2**
	comp=Z,5.5nm,0.7s,mb4.5,baz=63,slow=8.5,SNR=17						
KIV	**Kislovodsk**	**71.12**	**311***c*	*i*P	**P**	**11 50 59.7**	**+0.7**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**71.36**	**200**	P	**P**	**11 51 00.4**	**-0.2**
	comp=Z,15nm,1.0s,mb4.8,baz=84,slow=5.7,SNR=5.3						
SOC	**Sochi**	**73.14**	**312**	*e*P	**P**	**11 51 08.7**	**-2.2**
SOC				pmax	pmax		
	comp=N,13nm,0.9s						
SOC				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
SOC				pmax	pmax		
	comp=E,15nm,1.1s						
AKASG	**Malin Array Be**	**74.87**	**322**	P	**P**	**11 51 20.8**	**0.0**
	comp=E,5.1nm,0.6s,mb4.5,baz=48,slow=5.9,SNR=23						
NB2	**NORSAR Subarra**	**75.20**	**337**	P	**P**	**11 51 22.4**	**0.0**
	comp=E,2.6nm,0.6s,mb4.1,baz=41,slow=5.6						
NB2	**NORSAR Subarra**	**75.20**	**337**	P	**P**	**11 51 22.4**	**0.0**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**75.20**	**337**	P	**P**	**11 51 22.3**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.1,baz=40,slow=5.7,SNR=6.8						
HRY	**Holter Researc**	**75.80**	**42**	P	**P**	**11 51 28.3**	**+2.2**
HRY				*e*PcP	PcP	11 51 39.7	+0.9
NVAR	**Mina Array Bea**	**76.76**	**52**	P	**P**	**11 51 33.8**	**+2.0**
	comp=Z,0.7nm,0.7s,mb3.5,baz=300,slow=4.9,SNR=5.3						
KWP	**Kalwaria**	**78.77**	**324**	*e*P	**P**	**11 51 43.6**	**+1.1**
	comp=Z,17nm,0.9s,mb4.9						
KWP	**Kalwaria**	**78.77**	**324**	*e*P	**P**	**11 51 43.6**	**+1.0**
KWP				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
BRTR	**Keskin Array B**	**79.08**	**311**	P	**P**	**11 51 45.7**	**+1.2**
	comp=Z,1.8nm,0.9s,mb3.9,baz=90,slow=3.7,SNR=5.9						
PDAR	**Pinedale Array**	**79.50**	**45**	P	**P**	**11 51 48.4**	**+1.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=265,slow=2.2,SNR=11						
MORC	**Moravsky Berou**	**81.07**	**326**	P	**P**	**11 51 55.4**	**+0.5**
	comp=Z,6.6nm,1.2s,mb4.3						
MORC	**Moravsky Berou**	**81.07**	**326**	P	**P**	**11 51 55.4**	**+0.5**
MORC				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4						
CLL	**Collm**	**81.90**	**330**	P	**P**	**11 52 00.0**	**+0.8**
PV10	**Paradox Valley**	**82.59**	**48**	*e*P	**P**	**11 52 05.9**	**+2.9**
KHC	**Kasperske Hory**	**83.30**	**328**⇓	*i*P	**P**	**11 52 07.4**	**+1.0**
GERES	**GERESS Array B**	**83.46**	**328**	P	**P**	**11 52 07.9**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.8,baz=45,slow=3.8,SNR=5.6						
TXAR	**Lajitas Array**	**91.90**	**52**	P	**P**	**11 52 49.9**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=297,slow=2.0,SNR=3.3						

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*NIED **20** 11:59:00, 43.60N×140.50E, h195km, Mw3.9 Best double couple: M₀6.77×10¹⁴ NP1:φs194°, δ88°, λ24°. NP2:φs103°, δ66°, λ177°.*
*MOS **20** 11:59:16.8±0.8, 43.64N×140.42E, h198km, mb4.0/12, Error ellipse: s-maj=13.9km s-min=9.1km az=106.2*
*BJI **20** 11:59:17.7, 43.87N×140.56E, h219km, mB4.6, mb4.5*
*NEIC **20** 11:59:17.8±0.7, 43.63N×140.41E, h192km±9km, mb4.2/6, Error ellipse: s-maj=11.5km s-min=7.8km az=132.0*
*IDC **20** 11:59:17.8±0.7, 43.60N×140.45E, h196km±8km, mb3.5/13, mb1 3.6/15, mb1mx3.5/23, mbtmp4.0/15, Error ellipse: s-maj=15.1km s-min=13.2km az=148.0*
*JMA **20** 11:59:18.6±0.1, 43.62N×140.54E, h198km±1km, M3.6*
ISC 20 11:59:17.3±0.2**, 43.64N**±0.04×**140.51E**±0.06**, h204**km±3km**, n71, σ0ˢ96**/83**, mb3.7**/21**, 1C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.28**	**186**	P	**P**	**11 59 44.9**	**+0.3**
JSK				*e*S	**S**	**12 00 04.9**	**-0.7**
JHR	**Hokuryu**	**0.89**	**83**	P	**P**	**11 59 47.9**	**+0.9**
JYG	**Yagishiri**	**1.03**	**39**	P	**P**	**11 59 48.4**	**+0.5**
JEW	**Eniwo**	**1.05**	**139**	P	**P**	**11 59 48.4**	**+0.4**
JSH	**Shimam**	**1.05**	**199**	P	**P**	**11 59 48.7**	**+0.7**
JSH				*e*S	**S**	**12 00 12.0**	**+0.2**
JNB	**Noboribetsu**	**1.23**	**162**	P	**P**	**11 59 49.8**	**+0.4**
ASAJ	**Asahikawa**	**1.58**	**72**	P	**P**	**11 59 53.0**	**+0.5**
	35nm,0.3s,baz=248,slow=7.8,SNR=390						
ASAJ				S	**S**	**12 00 19.3**	**-0.3**
	4.4nm,0.3s,baz=119,slow=31,SNR=21						
ASAJ	**Asahikawa**	**1.58**	**72**	PN	**P**	**11 59 53.0**	**+0.5**
ASAJ				S	**S**	**12 00 19.3**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,35nm,0.3s						
JFR	**Furan**	**1.59**	**107**	P	**P**	**11 59 52.5**	**0.0**
JFR				*e*S	**S**	**12 00 19.6**	**-0.1**
JKK2	**Kamakawa 2**	**1.64**	**81**	P	**P**	**11 59 53.5**	**+0.5**
JKK2				*e*S	**S**	**12 00 20.3**	**-0.2**
JOSM	**Okushiri--Mats**	**1.73**	**207**	P	**P**	**11 59 54.5**	**+0.7**
JOSM				*e*S	**S**	**12 00 22.1**	**+0.1**
JKB	**Kayabe**	**1.79**	**167**	P	**P**	**11 59 54.6**	**+0.2**
JWK2	**Keihoku**	**1.95**	**30**	P	**P**	**11 59 57.1**	**+1.1**
JSE	**Soyaes**	**1.99**	**48**	P	**P**	**11 59 57.0**	**+0.6**
JSE				*e*S	**S**	**12 00 26.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.13**	**129**	P	**P**	**11 59 57.8**	**-0.1**
JOT	**Ohata**	**2.29**	**170**	P	**P**	**11 59 59.4**	**-0.2**
JCH	**Churui**	**2.32**	**115**	P	**P**	**11 59 58.6**	**-1.3**
JCH				*e*S	**S**	**12 00 29.6**	**-3.2**
JAR	**Ashorobuto**	**2.39**	**97**	P	**P**	**12 00 01.0**	**+0.3**
JTKR	**Abashiri--Toko**	**2.48**	**81**	P	**P**	**12 00 02.0**	**+0.3**
JTKR				*e*S	**S**	**12 00 35.6**	**-0.4**
YSS	**Yuzh-Sakhalins**	**3.68**	**25**	*e*P	**P**	**12 00 16.1**	**+0.2**
YSS				*e*		12 00 57.8	
YSS	**Yuzh-Sakhalins**	**3.68**	**25**⇑	*e*PN	**P**	**12 00 15.8**	**-0.1**
YSS				*e*S	**S**	**12 00 59.5**	**-1.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
YSS				smax			
	comp=E,90nm,1.0s						
MAJO	**Matsushiro**	**7.30**	**195**	*e*Pn	**P**	**12 01 00.7**	**-1.5**
	comp=E,4.1nm,0.5s						
MAJO	**Matsushiro**	**7.30**	**195**	*e*PN	**P**	**12 01 00.7**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MJAR	**Matsushiro Arr**	**7.30**	**195**	P	**P**	**12 01 02.3**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=0.8,slow=13,SNR=4.1						
KLR	**Kul'dur**	**8.24**	**316**	*e*PN	**P**	**12 01 11.8**	**-2.7**
JHJ	**Hachijo jima 2**	**10.52**	**183**	P	**P**	**12 01 41.4**	**-2.6**
	comp=Z,4.5nm,0.3s,baz=252,slow=23,SNR=7.7						
JHJ				S	**S**	**12 03 30.7**	**-8.2**
	comp=Z,10nm,0.3s,baz=244,slow=24,SNR=6.0						
CN2	**Changchun**	**10.91**	**276**	*e*P	**P**	**12 01 50.3**	**+1.3**
PET	**Petropavlovsk**	**15.25**	**46**	*e*Pn	**P**	**12 02 43.2**	**0.0**
	comp=Z,59nm,1.4s						
PET	**Petropavlovsk**	**15.25**	**46**	*e*P	**P**	**12 02 43.3**	**0.0**
PET				pmax	pmax		
	comp=Z,59nm,1.4s						
HIA	**Hailar**	**15.37**	**299**	*e*P	**P**	**12 02 43.6**	**-1.2**
	comp=Z,6.6nm,0.4s						
HIA	**Hailar**	**15.37**	**299**	*e*P	**P**	**12 02 43.6**	**-1.1**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SSE	**Sheshan**	**19.76**	**237**	*e*P	**P**	**12 03 34.6**	**+1.4**
SSE				AMB	AMB		
	comp=Z,33nm,0.7s						
SSE				AMB	AMB		
	comp=Z,94nm,12.0s						
NJ2	**Nanjing**	**20.58**	**243**	*e*P	**P**	**12 03 43.3**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**21.57**	**273**	*e*P	**P**	**12 03 48.8**	**-2.2**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,73nm,5.1s						
HHC				LR	LR		
	comp=N,66nm,10.9s						
HHC				LR	LR		
	comp=E,167nm,14.9s						
HHC				LR	LR		
	comp=Z,79nm,15.9s						
SONM	**Songino Array**	**24.06**	**292**	P	**P**	**12 04 15.2**	**+0.4**
	comp=Z,2.4nm,0.5s,mb4.1,baz=86,slow=8.9,SNR=22						
ZAK	**Zakamensk**	**26.06**	**298**	*e*P	**P**	**12 04 32.6**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.7						
CD2	**Chengdu**	**31.63**	**259**	P	**P**	**12 05 23.3**	**+0.2**
ZAL	**Zalesovo**	**37.22**	**306**	P	**P**	**12 06 08.7**	**-1.6**
	comp=Z,3.1nm,0.4s,mb4.2,baz=12,slow=7.7,SNR=7.3						
WMQ	**Urumqi**	**37.62**	**289**	*e*P	**P**	**12 06 15.0**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,169nm,3.8s						
MKAR	**Makanchi Array**	**40.33**	**296**	P	**P**	**12 06 36.1**	**0.0**
	comp=Z,4.5nm,0.7s,mb4.0,baz=86,slow=10,SNR=35						
MKAR	**Makanchi Array**	**40.33**	**296**	*i* P	**P**	**12 06 37.5**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**41.56**	**302**	*e*P	**P**	**12 06 46.1**	**+0.1**
	comp=Z,13nm,0.8s,mb4.4						
KURK				*e*		12 08 18.8	
KURK	**Kurchatov**	**41.56**	**302**	*e*P	**P**	**12 06 46.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**44.41**	**36**	P	**P**	**12 07 09.1**	**+0.3**
	comp=Z,0.2nm,0.6s,mb2.6,baz=282,slow=9.9,SNR=4.6						
VOSK	**Vostochnaya**	**45.56**	**307**	P	**P**	**12 07 19.1**	**+1.1**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.7						
BVAR	**Borovoye Array**	**45.81**	**308**	P	**P**	**12 07 20.0**	**0.0**
	comp=Z,4.1nm,0.4s,mb4.1,baz=61,slow=7.8,SNR=10						
BRVK	**Borovoye**	**45.86**	**308**	*e*P	**P**	**12 07 20.3**	**-0.1**
	comp=Z,2.0nm,0.3s,mb3.9						
BRVK	**Borovoye**	**45.86**	**308**	*e*P	**P**	**12 07 20.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
AAK	**Ala-Archa**	**47.02**	**293**	P	**P**	**12 07 28.9**	**-0.6**
	comp=Z,1.3nm,0.4s,mb3.6						
AAK	**Ala-Archa**	**47.02**	**293**	P	**P**	**12 07 28.9**	**-0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
INK	**Inuvik**	**48.90**	**29**	*e*P	**P**	**12 07 43.4**	**-0.3**
KKAR	**Karatay Array**	**49.46**	**295**	*i* P	**P**	**12 07 48.0**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
ARU	**Arti**	**51.08**	**315**	P	**P**	**12 08 00.1**	**-0.2**
ARU	**Arti**	**51.08**	**315**	P	**P**	**12 08 00.1**	**-0.2**
AB31	**Akbulak array**	**53.32**	**306**	*i* P	**P**	**12 08 16.8**	**-0.2**
ARCES	**ARCESS Array B**	**57.61**	**338**	P	**P**	**12 08 46.5**	**-0.9**
	comp=Z,3.6nm,0.9s,mb4.0,baz=51,slow=7.8,SNR=6.0						
ARCES	**ARCESS Array B**	**57.61**	**338**	P	**P**	**12 08 46.5**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**62.70**	**331**	P	**P**	**12 09 20.7**	**-1.3**
	comp=Z,1.5nm,0.6s,mb3.8,baz=50,slow=7.6,SNR=10.0						
FINES	**FINESS Array B**	**62.70**	**331**	P	**P**	**12 09 20.7**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**63.52**	**186**	P	**P**	**12 09 26.9**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=2.7,slow=7.0,SNR=6.9						
NB2	**NORSAR Subarra**	**67.86**	**336**	P	**P**	**12 09 53.9**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.6,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**67.86**	**336**	P	**P**	**12 09 53.9**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.5,baz=39,slow=6.3,SNR=3.5						
NOA	**NORSAR Array B**	**67.86**	**336**	P	**P**	**12 09 53.9**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**68.71**	**321**	P	**P**	**12 09 59.6**	**-0.7**
	comp=Z,1.4nm,0.4s,mb3.9,baz=41,slow=6.3,SNR=5.2						
AKASG	**Malin Array Be**	**68.71**	**321**	P	**P**	**12 09 59.6**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**71.64**	**54**	P	**P**	**12 10 19.2**	**+1.1**
	comp=Z,0.4nm,0.6s,mb3.2,baz=302,slow=3.6,SNR=4.9						
PDAR	**Pinedale Array**	**73.56**	**46**	P	**P**	**12 10 29.9**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.4,baz=297,slow=3.3,SNR=5.6						
CLL	**Collm**	**75.06**	**329**	P	**P**	**12 10 40.0**	**+2.3**
CLL	**Collm**	**75.06**	**329**	*e*P	**P**	**12 10 40.0**	**+2.3**
PV10	**Paradox Valley**	**76.95**	**49**	*e*P	**P**	**12 10 50.7**	**+2.2**
TXAR	**Lajitas Array**	**86.62**	**52**	P	**P**	**12 11 39.2**	**+0.6**
	comp=Z,0.1nm,0.4s,mb2.9,baz=278,slow=2.6,SNR=4.7						

CASC 20 12:04:51.5±1.5**, 14.11N**×**89.72W, h8**km±5km**, MD3.5, 4C-3D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.03**	**84**	*e*P	Pg	12 04 54.4	+1.4
RTR	**El Retiro**	**0.22**	**162**⇓	*e*P	Pg	12 04 56.9	+0.7
RTR				*e*S	Sg	12 05 01.4	+2.1
SNJE	**San Jose**	**0.26**	**156**	*e*P	Pg	12 04 57.7	+0.7
SNJE				*e*S	Sg	12 05 01.7	+1.1
SBLS	**San Blas**	**0.28**	**161**	*e*P	Pg	12 04 57.4	+0.1
MTO2	**Montecristo 2**	**0.45**	**50**⇑	*e*P	Pg	12 05 01.0	+0.4
MTO2				*e*S	Sg	12 05 07.8	+1.2
BOQS	**Boqueron**	**0.57**	**131**⇑	*e*P	Pg	12 05 03.0	+0.1
BOQS				*e*S	Sg	12 05 12.0	+1.5
LFU	**La Fuente**	**0.69**	**121**⇑	*e*P	Pb	12 05 05.1	-0.2
LFU				*e*S	Sg	12 05 15.7	+1.2
IXG	**Ixpaco**	**0.72**	**275**	*e*P	Pb	12 04 55.4	-10
IXG				*e*S	Sg	12 05 05.1	-10
LBRS	**Las Brisas**	**0.75**	**119**⇓	*e*P	Pb	12 05 06.4	0.0
LBRS				*e*S	Sb	12 05 17.7	+1.2
LFRS	**El Faro**	**0.80**	**127**⇑	*e*P	Pb	12 05 07.0	-0.2
LFRS				*e*S	Sb	12 05 18.6	+0.6
LCBS	**La Ceiba**	**0.85**	**122**	*e*P	Pb	12 05 07.8	-0.3
LCBS				*e*S	Sb	12 05 19.2	-0.2
MRL	**Marmol**	**0.95**	**2**⇓	*e*P	Pb	12 05 00.9	-8.9
MRL				*e*S	Sb	12 05 14.9	-7.4

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*IDC **20** 12:05:31.1±3.5, 1.11N×97.03E, mb3.6/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=142.0km s-min=28.0km az=55.0*
*NEIC **20** 12:05:34.6±1.4, 0.99N×97.08E, h30km, mb4.6/1, Error ellipse: s-maj=32.3km s-min=19.0km az=63.0*
ISC 20 12:05:32.7±1.5**, 1.0N**±0.2×**97.1E**±0.2**, h30**km**, n6, σ1ˢ47**/6**, mb3.8**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.55**	**40**	*e*Pn	**Pn**	**12 06 55.3**	**-0.2**
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**12 13 25.4**	**+1.7**
	0.4nm,0.6s,mb3.2,baz=303,slow=8.8,SNR=5.3						
WRAB	**Tennant Creek**	**42.06**	**122**	P	**P**	**12 13 22.2**	**-1.6**
	18nm,1.6s,mb4.5						
SONM	**Songino Array**	**47.33**	**9**	P	**P**	**12 14 06.2**	**+0.5**
	0.7nm,0.8s,mb3.6,baz=187,slow=9.7,SNR=4.7						
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**12 14 06.6**	**+0.5**
	0.7nm,0.7s,mb3.7,baz=153,slow=8.1,SNR=6.0						
BVAR	**Borovoye Array**	**56.37**	**341**	P	**P**	**12 15 12.7**	**-0.8**
	0.7nm,0.7s,mb3.8,baz=135,slow=8.2,SNR=3.8						

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*CSEM **20** 12:38:00.7, 37.76N×25.42W, h9km, ML1.9, After PDA*
*PDA **20** 12:38:00.7±0.5, 37.76N×25.42W, h9km±3km, MD2.7, ML1.9, Error ellipse: s-maj=4.5km s-min=3.4km az=81.0*
SVSA 20 12:38:00.7±0.5**, 37.76N**×**25.42W, h9**km±3km**, MD2.7, ML1.9, Error ellipse: s-maj=4.5km s-min=3.4km az=81.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**78**	*e*P	Pg	12 38 02.8	+0.5
PCNG				*e*S	Sg	12 38 04.1	+0.7
	168nm,0.1s						
PCNG	**Congro**	**0.02**	**78**	*e*rx	rx	12 38 00.6	
PCNG	**Congro**	**0.02**	**78**	*e*S	Sg	12 38 11.7	+8.3
	198nm,0.1s						
VIF	**Vila Franca**	**0.02**	**222**	*e*P	Pg	12 38 02.8	+0.4
VIF				*e*S	Sg	12 38 04.4	+0.9
	105nm,0.2s						
VIF	**Vila Franca**	**0.02**	**222**	*e*rx	rx	12 37 59.4	
VIF	**Vila Franca**	**0.02**	**222**	*e*rx	rx	12 38 10.5	
MESC	**Monte Escuro**	**0.04**	**325**	*e*P	Pg	12 38 03.0	+0.5
MESC				*e*S	Sg	12 38 04.6	+1.0
MESC	**Monte Escuro**	**0.04**	**325**	*e*rx	rx	12 37 59.4	
MESC	**Monte Escuro**	**0.04**	**325**	*e*rx	rx	12 38 10.7	
MESC				*e*rx	rx	12 38 11.1	
LFA	**Lagoa do Fogo**	**0.05**	**281**	*e*P	Pg	12 38 02.8	+0.2
PRCH	**Ribeira Ch**	**0.06**	**234**	*e*rx		12 38 04.7	
PMAT	**Coroa da Mata**	**0.07**	**322**	*e*rx		12 38 04.6	

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*PDA **20** 12:40:22.6±1.0, 37.76N×25.42W, h6km±3km, ML2.5, Error ellipse: s-maj=3.0km s-min=2.4km az=109.0*
*CSEM **20** 12:40:22.6, 37.76N×25.42W, h6km, ML2.5, After PDA*
SVSA 20 12:40:22.6±1.0**, 37.76N**×**25.42W, h6**km±3km**, ML2.5, Error ellipse: s-maj=3.0km s-min=2.4km az=109.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**80**	*e*P	Pg	12 40 24.1	+0.5
PCNG				*i* S	Sg	12 40 25.3	+1.0
	4μm,0.2s						
PCNG	**Congro**	**0.02**	**80**	*e*P	Pg	12 40 24.1	+0.5
PCNG				*i* S	Sg	12 40 25.3	+1.0
VIF	**Vila Franca**	**0.03**	**223**	*i* P	Pg	12 40 24.2	+0.5
VIF				*e*S	Sg	12 40 25.7	+1.2
	1μm,0.1s						
VIF	**Vila Franca**	**0.03**	**223**	*e*rx	rx	12 40 18.9	
MESC	**Monte Escuro**	**0.04**	**322**	*e*P	Pg	12 40 24.1	+0.3
MESC				*i* S	Sg	12 40 26.0	+1.3
MESC	**Monte Escuro**	**0.04**	**322**	*e*rx	rx	12 40 18.6	
MESC	**Monte Escuro**	**0.04**	**322**	*e*P	Pg	12 40 24.1	+0.3
MESC				*i* S	Sg	12 40 26.0	+1.3
FRA1	**Furnas**	**0.05**	**114**	*e*P	Pg	12 40 24.1	+0.1
FRA1				*e*S	Sg	12 40 25.8	+0.8
FRA1	**Furnas**	**0.05**	**114**	*e*P	Pg	12 40 24.1	+0.1
FRA1				*e*S	Sg	12 40 25.8	+0.8
LFA	**Lagoa do Fogo**	**0.05**	**279**	*e*P	Pg	12 40 24.6	+0.6
LFA	**Lagoa do Fogo**	**0.05**	**279**	*e*P	Pg	12 40 24.6	+0.6
PRCH	**Ribeira Ch**	**0.06**	**234**	*e*P	Pg	12 40 24.6	+0.4
PRCH				*e*S	Sg	12 40 26.2	+1.0
	2μm,0.2s						
PRCH	**Ribeira Ch**	**0.06**	**234**	*e*P	Pg	12 40 24.6	+0.4
PRCH				*e*S	Sg	12 40 26.2	+1.0
PMAT	**Coroa da Mata**	**0.07**	**321**	*e*P	Pg	12 40 24.5	+0.2
PMAT				*e*S	Sg	12 40 26.4	+1.0
PMAT	**Coroa da Mata**	**0.07**	**321**	*e*P	Pg	12 40 24.5	+0.2
PMAT				*e*S	Sg	12 40 26.4	+1.0
CML	**Cha da Macela**	**0.10**	**274**	*e*P	Pg	12 40 25.8	+0.9
CML	**Cha da Macela**	**0.10**	**274**	*e*P	Pg	12 40 25.8	+0.9
PFAD	**Fenais da Ajud**	**0.10**	**45**	*e*P	Pg	12 40 25.7	+0.8
PFAD	**Fenais da Ajud**	**0.10**	**45**	*e*P	Pg	12 40 25.7	+0.8
MIRA	**Miradouro**	**0.11**	**79**	*e*P	Pg	12 40 25.0	0.0
MIRA				*e*S	Sg	12 40 28.0	+1.3
MIRA	**Miradouro**	**0.11**	**79**	*e*P	Pg	12 40 25.0	0.0
MIRA				*e*S	Sg	12 40 28.0	+1.3
FAC	**Faja de Cima**	**0.18**	**273**	*e*rx		12 40 28.6	
PDA	**Ponta Delgada**	**0.20**	**265**	*e*P	Pg	12 40 26.2	-0.4
PDA				*i* S	Sg	12 40 29.9	+0.6
PSAN	**Santo Antonio**	**0.26**	**290**	*e*rx		12 40 28.9	
PFET	**Feteiras**	**0.30**	**280**	*e*rx		12 40 29.4	

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*CSEM **20** 12:42:49.3, 37.77N×25.42W, h6km, ML2.7, After PDA*
*PDA **20** 12:42:49.3±0.6, 37.77N×25.42W, h6km±2km, ML2.7, Error ellipse: s-maj=1.7km s-min=1.7km az=16.0*
SVSA 20 12:42:49.3±0.6**, 37.77N**×**25.42W, h6**km±2km**, ML2.7, Error ellipse: s-maj=1.7km s-min=1.7km az=16.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**86**	*e*P	Pg	12 42 50.7	+0.3
PCNG				*e*S	Sg	12 42 52.2	+1.1
	3μm,0.2s						
VIF	**Vila Franca**	**0.03**	**222**	*e*P	Pg	12 42 50.9	+0.4
VIF				*e*S	Sg	12 42 52.2	+0.9
	3μm,0.2s						
VIF	**Vila Franca**	**0.03**	**222**	*e*P	Pg	12 42 50.9	+0.4
VIF				*e*S	Sg	12 42 52.2	+0.9
MESC	**Monte Escuro**	**0.04**	**319**	*e*P	Pg	12 42 51.2	+0.6
MESC				*e*S	Sg	12 42 52.4	+1.0
FRA1	**Furnas**	**0.05**	**116**	*e*S	Sg	12 42 52.7	+0.9
LFA	**Lagoa do Fogo**	**0.05**	**277**	*e*P	Pg	12 42 51.6	+0.8
PRCH	**Ribeira Ch**	**0.06**	**233**	*e*S	Sg	12 42 52.7	+0.7
	2μm,0.2s						
PRCH	**Ribeira Ch**	**0.06**	**233**	*e*S	Sg	12 42 52.7	+0.7
PMAT	**Coroa da Mata**	**0.07**	**319**	*e*S	Sg	12 42 52.9	+0.8
CML	**Cha da Macela**	**0.10**	**273**	*e*P	Pg	12 42 52.2	+0.6
CML				*e*S	Sg	12 42 54.1	+1.0
PFAD	**Fenais da Ajud**	**0.10**	**45**	*e*P	Pg	12 42 51.8	+0.2
MIRA	**Miradouro**	**0.11**	**80**	*e*P	Pg	12 42 51.7	0.0
MIRA				*e*S	Sg	12 42 53.9	+0.5
MIRA	**Miradouro**	**0.11**	**80**	*e*P	Pg	12 42 51.7	0.0
MIRA				*e*S	Sg	12 42 53.9	+0.5
FAC	**Faja de Cima**	**0.19**	**272**	*e*S	Sg	12 42 56.1	+0.4
PDA	**Ponta Delgada**	**0.20**	**264**	*e*rx		12 42 54.3	
PSAN	**Santo Antonio**	**0.26**	**289**	*e*rx		12 42 59.2	
PFET	**Feteiras**	**0.30**	**280**	*e*rx		12 42 58.9	
SET2	**Ginetes**	**0.32**	**284**	*e*S	Sg	12 43 00.1	0.0
SET4	**Mosteiros**	**0.32**	**290**	*e*S	Sg	12 43 00.3	+0.1
PSMN	**Pico do Norte,**	**0.81**	**160**	*e*S	Sg	12 43 12.7	-3.7

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*CSEM **20** 12:44:57.2±0.1, 37.76N×25.41W, h3km, ML2.5, Error ellipse: s-maj=4.8km s-min=1.7km az=173.0, After PDA*
*PDA **20** 12:44:57.2±0.8, 37.76N×25.41W, h3km±2km, ML2.5, Error ellipse: s-maj=2.1km s-min=1.4km az=116.0*
SVSA 20 12:44:57.2±0.8**, 37.76N**×**25.41W, h3**km±2km**, ML2.5, Error ellipse: s-maj=2.1km s-min=1.4km az=116.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**58**	*i* P	Pg	12 44 58.2	+0.4
PCNG				*e*S	Sg	12 44 59.5	+1.3
PCNG	**Congro**	**0.02**	**58**	*e*S	Sg	12 44 59.5	+1.3
VIF	**Vila Franca**	**0.02**	**237**	*e*P	Pg	12 44 58.3	+0.4
VIF				*e*S	Sg	12 44 59.6	+1.3
	2μm,0.3s						
MESC	**Monte Escuro**	**0.04**	**324**	*i* P	Pg	12 44 58.5	+0.3
MESC				*e*S	Sg	12 45 00.3	+1.5
MESC	**Monte Escuro**	**0.04**	**324**	*e*S	Sg	12 45 00.3	+1.5
FRA1	**Furnas**	**0.05**	**108**	*e*P	Pg	12 44 58.0	-0.3
FRA1				*e*S	Sg	12 44 59.1	+0.1
LFA	**Lagoa do Fogo**	**0.06**	**285**	*i* P	Pg	12 44 59.0	+0.6
PRCH	**Ribeira Ch**	**0.06**	**240**	*e*P	Pg	12 44 58.8	+0.3
PRCH				*e*S	Sg	12 45 00.1	+0.7
	2μm,0.2s						
PMAT	**Coroa da Mata**	**0.07**	**322**	*e*P	Pg	12 44 59.0	+0.3
PMAT				*e*S	Sg	12 45 00.8	+1.0
CML	**Cha da Macela**	**0.10**	**277**	*e*P	Pg	12 45 00.1	+0.7
PFAD	**Fenais da Ajud**	**0.11**	**42**	*e*P	Pg	12 44 59.7	+0.3
MIRA	**Miradouro**	**0.11**	**76**	*e*P	Pg	12 44 59.0	-0.5
MIRA				*e*S	Sg	12 45 01.4	+0.4
FAC	**Faja de Cima**	**0.19**	**275**	*e*P	Pg	12 45 01.5	+0.5
PDA	**Ponta Delgada**	**0.20**	**267**	*e*S	Sg	12 45 03.9	+0.1
PSAN	**Santo Antonio**	**0.26**	**291**	*e*P	Pg	12 45 03.2	+0.7
PFET	**Feteiras**	**0.30**	**281**	*e*P	Pg	12 45 03.6	+0.3
SET2	**Ginetes**	**0.32**	**285**	*e*P	Pg	12 45 04.1	+0.4
SET4	**Mosteiros**	**0.33**	**291**	*e*P	Pg	12 45 04.0	+0.3

*CSEM **20** 12:45:13.3, 37.76N×25.42W, h3km, ML2.8, After PDA*
*PDA **20** 12:45:13.3±0.9, 37.76N×25.42W, h3km±2km, ML2.8, Error ellipse: s-maj=2.4km s-min=1.5km az=111.0*
SVSA 20 12:45:13.3±0.9, 37.76N×25.42W, h3km±2km, ML2.8, Error ellipse: s-maj=2.4km s-min=1.5km az=111.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**69**	*i* P	Pg	12 45 14.3	+0.4
PCNG				*e*S	Sg	12 45 15.6	+1.3
PCNG	**Congro**	**0.02**	**69**	*e*S	Sg	12 45 15.6	+1.3
VIF	**Vila Franca**	**0.03**	**229**	*i* P	Pg	12 45 14.5	+0.5
VIF				*e*S	Sg	12 45 15.7	+1.2
	7μm,0.2s						
VIF	**Vila Franca**	**0.03**	**229**	*e*S	Sg	12 45 15.7	+1.2
MESC	**Monte Escuro**	**0.04**	**324**	*e*P	Pg	12 45 14.6	+0.4
MESC				*e*S	Sg	12 45 16.1	+1.2
FRA1	**Furnas**	**0.05**	**111**	*e*P	Pg	12 45 14.2	-0.2
LFA	**Lagoa do Fogo**	**0.05**	**282**	*e*P	Pg	12 45 14.8	+0.3
PRCH	**Ribeira Ch**	**0.06**	**237**	*e*P	Pg	12 45 14.9	+0.3
PRCH				*e*S	Sg	12 45 16.2	+0.7
	6μm,0.2s						
PMAT	**Coroa da Mata**	**0.07**	**322**	*e*P	Pg	12 45 15.0	+0.2
PMAT				*e*S	Sg	12 45 16.7	+0.9
CML	**Cha da Macela**	**0.10**	**275**	*e*P	Pg	12 45 16.1	+0.7
PFAD	**Fenais da Ajud**	**0.11**	**43**	*i* P	Pg	12 45 15.9	+0.4
MIRA	**Miradouro**	**0.11**	**77**	*e*P	Pg	12 45 15.3	-0.3
MIRA				*e*S	Sg	12 45 17.3	+0.2
FAC	**Faja de Cima**	**0.19**	**274**	*e*P	Pg	12 45 18.0	+0.9
PDA	**Ponta Delgada**	**0.20**	**266**	*e*S	Sg	12 45 20.1	+0.2
PSAN	**Santo Antonio**	**0.26**	**290**	*e*P	Pg	12 45 19.2	+0.7
PFET	**Feteiras**	**0.30**	**281**	*e*P	Pg	12 45 19.7	+0.4
SET2	**Ginetes**	**0.32**	**285**	*e*P	Pg	12 45 20.1	+0.4
SET4	**Mosteiros**	**0.32**	**291**	*e*P	Pg	12 45 20.0	+0.2
PSMN	**Pico do Norte,**	**0.81**	**160**	*e*P	Pg	12 45 26.2	-3.2
PSMN				*e*S	Sg	12 45 36.0	-4.2
PICO	**Pico**	**2.49**	**288**	*e*P	Pn	12 45 51.0	-4.3
CALA	**Caldeira**	**2.72**	**289**	*e*rx		12 45 54.0	

*CSEM **20** 12:49:30.7, 37.77N×25.42W, h0km, ML3.0, After PDA*
*PDA **20** 12:49:30.7±0.7, 37.77N×25.42W, h0km±1km, MD1.8, ML3.0, Error ellipse: s-maj=1.5km s-min=1.2km az=96.0*
SVSA 20 12:49:30.7±0.7, 37.77N×25.42W, h0km±1km, MD1.8, ML3.0, Error ellipse: s-maj=1.5km s-min=1.2km az=96.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**84**	*e*P	Pg	12 49 31.7	+0.6
PCNG	**Congro**	**0.02**	**84**	*e*rx	rx	12 49 24.2	
VIF	**Vila Franca**	**0.03**	**218**	*e*P	Pg	12 49 31.8	+0.6
VIF	**Vila Franca**	**0.03**	**218**	*e*rx	rx	12 49 24.6	
VIF	**Vila Franca**	**0.03**	**218**	*e*rx	rx	13 05 55.9	
MESC	**Monte Escuro**	**0.04**	**324**	*e*P	Pg	12 49 32.0	+0.6
MESC	**Monte Escuro**	**0.04**	**324**	*e*rx	rx	12 49 24.6	
MESC	**Monte Escuro**	**0.04**	**324**	*e*rx	rx	13 05 56.5	
LFA	**Lagoa do Fogo**	**0.05**	**279**	*e*P	Pg	12 49 32.3	+0.6
LFA	**Lagoa do Fogo**	**0.05**	**279**	*e*rx	rx	12 49 24.0	
FRA1	**Furnas**	**0.06**	**114**	*e*P	Pg	12 49 31.8	0.0
PRCH	**Ribeira Ch**	**0.06**	**232**	*e*P	Pg	12 49 32.4	+0.5
PRCH				*e*S	Sg	12 49 33.8	+1.1
	9μm,0.2s						
PMAT	**Coroa da Mata**	**0.07**	**322**	*e*P	Pg	12 49 32.5	+0.5
PMAT				*e*S	Sg	12 49 34.1	+1.2
CML	**Cha da Macela**	**0.10**	**273**	*e*P	Pg	12 49 33.6	+0.9
PFAD	**Fenais da Ajud**	**0.11**	**46**	*e*P	Pg	12 49 33.4	+0.6
MIRA	**Miradouro**	**0.11**	**80**	*e*P	Pg	12 49 32.8	-0.2
FAC	**Faja de Cima**	**0.18**	**273**	*e*P	Pg	12 49 35.5	+1.1
PDA	**Ponta Delgada**	**0.19**	**265**	*e*S	Sg	12 49 37.4	+0.2
PSAN	**Santo Antonio**	**0.26**	**290**	*e*P	Pg	12 49 36.9	+1.1
PFET	**Feteiras**	**0.30**	**280**	*e*P	Pg	12 49 37.3	+0.7
SET2	**Ginetes**	**0.32**	**284**	*e*P	Pg	12 49 37.8	+0.8
SET4	**Mosteiros**	**0.32**	**290**	*e*P	Pg	12 49 37.7	+0.6
PSMN	**Pico do Norte,**	**0.81**	**160**	*e*P	Pg	12 49 43.6	-3.3
PSMN				*e*S	Sg	12 49 53.8	-3.9

*CSEM **20** 12:53:46.3, 37.76N×25.41W, h1km, ML3.0, After PDA*
*PDA **20** 12:53:46.3±1.5, 37.76N×25.41W, h1km±2km, ML3.0, Error ellipse: s-maj=3.9km s-min=1.9km az=133.0*
SVSA 20 12:53:46.3±1.5, 37.76N×25.41W, h1km±2km, ML3.0, Error ellipse: s-maj=3.9km s-min=1.9km az=133.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**43**	*i* P	Pg	12 53 46.9	+0.2
PCNG				*e*S	Sg	12 53 48.0	+1.1
PCNG	**Congro**	**0.02**	**43**	*e*S	Sg	12 53 48.0	+1.1
VIF	**Vila Franca**	**0.03**	**247**	*e*P	Pg	12 53 47.3	+0.5
VIF				*e*S	Sg	12 53 48.3	+1.1
VIF	**Vila Franca**	**0.03**	**247**	*e*P	Pg	12 53 47.3	+0.5
VIF				*e*S	Sg	12 53 48.3	+1.1
FRA1	**Furnas**	**0.04**	**106**	*e*P	Pg	12 53 47.4	+0.2
FRA1	**Furnas**	**0.04**	**106**	*e*P	Pg	12 53 47.4	+0.2
MESC	**Monte Escuro**	**0.05**	**323**	*i* P	Pg	12 53 47.4	+0.1
MESC				*e*S	Sg	12 53 49.3	+1.4
MESC	**Monte Escuro**	**0.05**	**323**	*e*S	Sg	12 53 49.3	+1.4
LFA	**Lagoa do Fogo**	**0.06**	**287**	*e*P	Pg	12 53 48.1	+0.6
LFA	**Lagoa do Fogo**	**0.06**	**287**	*e*P	Pg	12 53 48.1	+0.6
PRCH	**Ribeira Ch**	**0.06**	**244**	*e*S	Sg	12 53 49.8	+1.4
PRCH	**Ribeira Ch**	**0.06**	**244**	*e*S	Sg	12 53 49.8	+1.4
PMAT	**Coroa da Mata**	**0.08**	**322**	*e*P	Pg	12 53 48.6	+0.7
PMAT				*e*S	Sg	12 53 50.3	+1.4
PMAT	**Coroa da Mata**	**0.08**	**322**	*e*P	Pg	12 53 48.6	+0.7
PMAT				*e*S	Sg	12 53 50.3	+1.4
CMLA	**Cha da Macela**	**0.09**	**276**	*e*P	Pg	12 53 48.8	+0.7
CMLA				*e*S	Sg	12 53 50.6	+1.3
MIRA	**Miradouro**	**0.11**	**74**	*e*P	Pg	12 53 47.8	-0.7
MIRA	**Miradouro**	**0.11**	**74**	*e*P	Pg	12 53 47.8	-0.7
PFAD	**Fenais da Ajud**	**0.11**	**39**	*e*P	Pg	12 53 49.3	+0.8
PFAD	**Fenais da Ajud**	**0.11**	**39**	*e*P	Pg	12 53 49.3	+0.8
CML	**Cha da Macela**	**0.11**	**278**	*e*P	Pg	12 53 50.1	+1.6
CML	**Cha da Macela**	**0.11**	**278**	*e*P	Pg	12 53 50.1	+1.6
FAC	**Faja de Cima**	**0.19**	**276**	*i* S	Sg	12 53 52.1	-0.6
FAC	**Faja de Cima**	**0.19**	**276**	*i* S	Sg	12 53 52.1	-0.6
PDA	**Ponta Delgada**	**0.20**	**268**	*e*P	Pg	12 53 52.7	+2.4
PDA				*e*S	Sg	12 53 56.3	+3.3
PSET	**Sete Cidades**	**0.26**	**286**	*e*P	Pg	12 53 53.0	+1.6
PSET				*e*S	Sg	12 53 57.3	+2.5
	4μm,0.4s						
PSAN	**Santo Antonio**	**0.27**	**291**	*e*P	Pg	12 53 51.8	+0.1
PSAN	**Santo Antonio**	**0.27**	**291**	*e*P	Pg	12 53 51.8	+0.1
PFET	**Feteiras**	**0.31**	**282**	*e*P	Pg	12 53 51.9	-0.5
PFET	**Feteiras**	**0.31**	**282**	*e*P	Pg	12 53 51.9	-0.5
SET2	**Ginetes**	**0.33**	**286**	*e*P	Pg	12 53 52.6	-0.2
SET2	**Ginetes**	**0.33**	**286**	*e*P	Pg	12 53 52.6	-0.2
SET4	**Mosteiros**	**0.33**	**291**	*e*P	Pg	12 53 52.4	-0.5
SET4	**Mosteiros**	**0.33**	**291**	*e*P	Pg	12 53 52.4	-0.5
PSMN	**Pico do Norte,**	**0.80**	**160**	*e*P	Pg	12 54 02.5	+0.2
PSMN				*e*S	Sg	12 54 12.0	-0.9
PFAV	**Pico das Favas**	**1.63**	**306**	*e*S	Sb	12 54 35.7	-2.1
PSCM	**Serra do Cume**	**1.64**	**306**	*e*P	Pn	12 54 12.6	-3.9
PSCM				*e*S	Sb	12 54 32.4	-5.9
	48nm,0.3s						
ADH	**Angra Heroismo**	**1.69**	**303**	*e*P	Pn	12 54 13.1	-4.1
ADH				*e*S	Sb	12 54 33.5	-6.3

*CSEM **20** 12:58:00.8, 37.76N×25.43W, h5km, ML2.5, After PDA*
*PDA **20** 12:58:00.8±0.6, 37.76N×25.43W, h5km±1km, ML2.5, Error ellipse: s-maj=1.9km s-min=1.3km az=105.0*
SVSA 20 12:58:00.8±0.6, 37.76N×25.43W, h5km±1km, ML2.5, Error ellipse: s-maj=1.9km s-min=1.3km az=105.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**209**	*i* P	Pg	12 58 02.4	+0.6
VIF				*e*S	Sg	12 58 03.6	+1.1
VIF	**Vila Franca**	**0.02**	**209**	*e*S	Sg	12 58 03.6	+1.1
PCNG	**Congro**	**0.03**	**81**	*e*P	Pg	12 58 02.2	+0.3
PCNG				*e*S	Sg	12 58 03.5	+0.9
MESC	**Monte Escuro**	**0.03**	**334**	*i* P	Pg	12 58 02.6	+0.6
MESC				*e*S	Sg	12 58 04.0	+1.3
MESC	**Monte Escuro**	**0.03**	**334**	*e*S	Sg	12 58 04.0	+1.3
LFA	**Lagoa do Fogo**	**0.04**	**282**	*e*P	Pg	12 58 02.8	+0.7
PRCH	**Ribeira Ch**	**0.06**	**230**	*e*P	Pg	12 58 02.8	+0.6
PRCH				*e*S	Sg	12 58 04.2	+1.0
	3μm,0.3s						
FRA1	**Furnas**	**0.06**	**110**	*e*P	Pg	12 58 02.1	-0.2
PMAT	**Coroa da Mata**	**0.06**	**327**	*e*P	Pg	12 58 02.9	+0.5
PMAT				*e*S	Sg	12 58 04.3	+0.9
CML	**Cha da Macela**	**0.10**	**275**	*e*P	Pg	12 58 04.1	+1.2
PFAD	**Fenais da Ajud**	**0.11**	**47**	*e*P	Pg	12 58 03.9	+0.7
MIRA	**Miradouro**	**0.12**	**79**	*e*P	Pg	12 58 03.3	-0.1
MIRA				*e*S	Sg	12 58 05.7	+0.6
FAC	**Faja de Cima**	**0.18**	**273**	*e*P	Pg	12 58 05.7	+1.2
PDA	**Ponta Delgada**	**0.19**	**265**	*e*P	Pg	12 58 04.5	-0.2
PSAN	**Santo Antonio**	**0.25**	**290**	*e*P	Pg	12 58 06.8	+0.9
PFET	**Feteiras**	**0.29**	**281**	*e*P	Pg	12 58 07.0	+0.3
SET2	**Ginetes**	**0.31**	**285**	*e*P	Pg	12 58 07.7	+0.6
SET4	**Mosteiros**	**0.32**	**291**	*e*P	Pg	12 58 07.5	+0.3

*CSEM **20** 12:59:22.1, 37.76N×25.41W, h5km, ML3.0, After PDA*
*PDA **20** 12:59:22.1±0.8, 37.76N×25.41W, h5km±1km, ML3.0, Error ellipse: s-maj=2.7km s-min=1.9km az=52.0*
SVSA 20 12:59:22.1±0.8, 37.76N×25.41W, h5km±1km, ML3.0, Error ellipse: s-maj=2.7km s-min=1.9km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**69**	*e*P	Pg	12 59 23.4	+0.4
VIF	**Vila Franca**	**0.03**	**234**	*e*P	Pg	12 59 23.8	+0.6
MESC	**Monte Escuro**	**0.04**	**313**	*e*P	Pg	12 59 23.9	+0.6
MESC				*e*S	Sg	12 59 25.1	+1.0
LFA	**Lagoa do Fogo**	**0.06**	**278**	*e*P	Pg	12 59 24.1	+0.5
PRCH	**Ribeira Ch**	**0.07**	**239**	*e*P	Pg	12 59 24.1	+0.4
PMAT	**Coroa da Mata**	**0.07**	**315**	*e*P	Pg	12 59 24.5	+0.7
CMLA	**Cha da Macela**	**0.09**	**270**	*e*P	Pg	12 59 23.6	-0.6
CMLA				*e*S	Sg	12 59 25.7	+0.2
PFAD	**Fenais da Ajud**	**0.10**	**41**	*e*P	Pg	12 59 24.9	+0.6
MIRA	**Miradouro**	**0.10**	**78**	*e*P	Pg	12 59 24.4	+0.1
MIRA				*i* S	Sg	12 59 26.5	+0.7
CML	**Cha da Macela**	**0.11**	**274**	*e*P	Pg	12 59 25.5	+1.0
FAC	**Faja de Cima**	**0.19**	**273**	*e*P	Pg	12 59 27.9	+1.8
PDA	**Ponta Delgada**	**0.20**	**265**	*e*P	Pg	12 59 26.5	+0.2
PDA				*e*S	Sg	12 59 29.8	+0.7
PSET	**Sete Cidades**	**0.26**	**283**	*e*P	Pg	12 59 26.8	-0.5
PSET				*e*S	Sg	12 59 31.5	+0.7
	2μm,0.3s						
PSAN	**Santo Antonio**	**0.27**	**289**	*e*P	Pg	12 59 28.4	+0.9
PFET	**Feteiras**	**0.31**	**280**	*e*P	Pg	12 59 29.3	+1.0
SET2	**Ginetes**	**0.33**	**284**	*e*P	Pg	12 59 29.5	+0.8
SET4	**Mosteiros**	**0.33**	**290**	*e*P	Pg	12 59 30.1	+1.4
PSMN	**Pico do Norte,**	**0.81**	**160**	*e*P	Pb	12 59 35.9	-2.3
PSMN				*e*S	Sg	12 59 45.7	-3.3
PSCM	**Serra do Cume**	**1.64**	**305**	*e*P	Pn	12 59 47.2	-4.6
PSCM				*e*S	Sb	13 00 06.8	-6.6
	137nm,0.5s						

*CSEM **20** 12:59:30.6, 37.74N×25.42W, h4km, ML3.3, After PDA*
*PDA **20** 12:59:30.6±1.6, 37.74N×25.42W, h4km±4km, ML3.3, Error ellipse: s-maj=7.6km s-min=3.5km az=55.0*
SVSA 20 12:59:30.6±1.6, 37.74N×25.42W, h4km±4km, ML3.3, Error ellipse: s-maj=7.6km s-min=3.5km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.01**	**294**	*e*P	Pg	12 59 32.3	+0.9
VIF	**Vila Franca**	**0.01**	**294**	*e*P	Pg	12 59 32.3	+0.9
PCNG	**Congro**	**0.04**	**37**	*e*P	Pg	12 59 32.2	+0.5
PCNG	**Congro**	**0.04**	**37**	*e*P	Pg	12 59 32.2	+0.5
MESC	**Monte Escuro**	**0.06**	**342**	*e*P	Pg	12 59 32.5	+0.5
MESC	**Monte Escuro**	**0.06**	**342**	*e*P	Pg	12 59 32.5	+0.5
CMLA	**Cha da Macela**	**0.08**	**287**	*e*P	Pg	12 59 32.6	+0.1
CMLA				*e*S	Sg	12 59 33.8	+0.1
CMLA	**Cha da Macela**	**0.08**	**287**	*e*P	Pg	12 59 32.6	+0.1
CMLA				*e*S	Sg	12 59 33.8	+0.1
PMAT	**Coroa da Mata**	**0.09**	**334**	*e*P	Pg	12 59 32.8	+0.3
PMAT	**Coroa da Mata**	**0.09**	**334**	*e*P	Pg	12 59 32.8	+0.3
PFAD	**Fenais da Ajud**	**0.13**	**38**	*e*P	Pg	12 59 33.8	+0.5
PFAD	**Fenais da Ajud**	**0.13**	**38**	*e*P	Pg	12 59 33.8	+0.5
PDA	**Ponta Delgada**	**0.19**	**272**	*e*P	Pg	12 59 34.7	+0.2
PDA	**Ponta Delgada**	**0.19**	**272**	*e*P	Pg	12 59 34.7	+0.2
PSET	**Sete Cidades**	**0.25**	**290**	*e*P	Pg	12 59 35.7	0.0
PSET				*e*S	Sg	12 59 39.3	+0.3
	5μm,0.3s						
PSET	**Sete Cidades**	**0.25**	**290**	*e*P	Pg	12 59 35.7	0.0
PSET				*e*S	Sg	12 59 39.3	+0.3
PFET	**Feteiras**	**0.30**	**285**	*e*P	Pg	12 59 34.2	-2.4
PFET	**Feteiras**	**0.30**	**285**	*e*P	Pg	12 59 34.2	-2.4
PSMN	**Pico do Norte,**	**0.79**	**159**	*e*P	Pg	12 59 44.1	-2.2
PSMN				*e*S	Sg	12 59 54.0	-2.9
PSMN	**Pico do Norte,**	**0.79**	**159**	*e*P	Pg	12 59 44.1	-2.2
PSMN				*e*S	Sg	12 59 54.0	-2.9
PFAV	**Pico das Favas**	**1.63**	**307**	*e*P	Pn	12 59 56.8	-3.4
PSCM	**Serra do Cume**	**1.64**	**306**	*e*P	Pn	12 59 56.3	-4.1
PSCM				*e*S	Sb	13 00 15.6	-6.5
	136nm,0.4s						
PSCM	**Serra do Cume**	**1.64**	**306**	*e*P	Pn	12 59 56.3	-4.1
PSCM				*e*S	Sb	13 00 15.6	-6.5
RIB2	**Ribeirinha**	**1.66**	**305**	*e*P	Pn	12 59 57.3	-3.4
RIB2				*e*S	Sb	13 00 17.2	-5.5
	49nm,0.2s						
ADH	**Angra Heroismo**	**1.69**	**303**	*e*S	Sn	13 00 16.4	-7.1
PPAD	**Pico dos Padre**	**1.75**	**304**	*e*P	Pn	12 59 58.4	-3.6
PPAD				*e*S	Sn	13 00 18.6	-6.4
ASBA	**Santa Barbara**	**1.79**	**304**	*e*P	Pn	12 59 59.0	-3.5
ASBA				*e*S	Sn	13 00 20.9	-5.0
	32nm,0.2s						

*CSEM **20** 13:02:59.2±0.1, 37.76N×25.42W, h2km, ML2.5, Error ellipse: s-maj=3.2km s-min=2.7km az=30.0, After PDA*
*PDA **20** 13:02:59.2±0.6, 37.76N×25.42W, h2km, ML2.5, Error ellipse: s-maj=1.6km s-min=0.9km az=127.0*
SVSA 20 13:02:59.2±0.6, 37.76N×25.42W, h2km, ML2.5, Error ellipse: s-maj=1.6km s-min=0.9km az=127.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**71**	*e*P	Pg	13 03 00.2	+0.4
PCNG				*i* S	Sg	13 03 01.5	+1.3
PCNG	**Congro**	**0.02**	**71**	*e*rx	rx	13 02 56.9	
VIF	**Vila Franca**	**0.02**	**224**	*i* P	Pg	13 03 00.4	+0.6
VIF				*e*S	Sg	13 03 01.3	+1.1
VIF	**Vila Franca**	**0.02**	**224**	*e*rx	rx	13 02 56.4	
VIF	**Vila Franca**	**0.02**	**224**	*e*S	Sg	13 03 01.3	+1.1
MESC	**Monte Escuro**	**0.04**	**329**	*i* P	Pg	13 03 00.6	+0.5
MESC				*e*S	Sg	13 03 02.1	+1.4
MESC	**Monte Escuro**	**0.04**	**329**	*e*S	Sg	13 03 02.1	+1.4
LFA	**Lagoa do Fogo**	**0.05**	**284**	*e*P	Pg	13 03 00.8	+0.5
FRA1	**Furnas**	**0.05**	**108**	*e*P	Pg	13 03 00.4	0.0
PRCH	**Ribeira Ch**	**0.06**	**236**	*e*P	Pg	13 03 00.9	+0.5
PRCH				*e*S	Sg	13 03 02.1	+0.9
PRCH	**Ribeira Ch**	**0.06**	**236**	*e*P	Pg	13 03 00.9	+0.5
PRCH				*e*S	Sg	13 03 02.1	+0.9
PMAT	**Coroa da Mata**	**0.07**	**325**	*e*P	Pg	13 03 00.9	+0.3
PMAT				*e*S	Sg	13 03 02.7	+1.1
PMAT	**Coroa da Mata**	**0.07**	**325**	*e*P	Pg	13 03 00.9	+0.3
PMAT				*e*S	Sg	13 03 02.7	+1.1
CMLA	**Cha da Macela**	**0.08**	**273**	*e*P	Pg	13 02 59.6	-1.3
CMLA				*e*S	Sg	13 03 01.3	-0.7
CML	**Cha da Macela**	**0.10**	**276**	*e*P	Pg	13 03 01.9	+0.7
PFAD	**Fenais da Ajud**	**0.11**	**45**	*i* P	Pg	13 03 01.8	+0.4
MIRA	**Miradouro**	**0.12**	**77**	*e*P	Pg	13 03 01.3	-0.2
MIRA				*e*S	Sg	13 03 03.7	+0.6
FAC	**Faja de Cima**	**0.18**	**274**	*e*P	Pg	13 03 03.6	+0.7
PDA	**Ponta Delgada**	**0.19**	**266**	*e*S	Sg	13 03 06.0	+0.4
PSET	**Sete Cidades**	**0.25**	**285**	*e*P	Pg	13 03 03.2	-0.9
PSET				*e*S	Sg	13 03 07.3	-0.1
	339nm,0.2s						
PSAN	**Santo Antonio**	**0.26**	**291**	*e*P	Pg	13 03 05.0	+0.6
PFET	**Feteiras**	**0.30**	**281**	*e*P	Pg	13 03 05.5	+0.4
SET2	**Ginetes**	**0.32**	**285**	*e*P	Pg	13 03 06.0	+0.5
SET4	**Mosteiros**	**0.32**	**291**	*e*P	Pg	13 03 05.9	+0.3
PSMN	**Pico do Norte,**	**0.81**	**159**	*e*P	Pg	13 03 11.7	-3.6
PSMN				*e*S	Sg	13 03 22.1	-4.0

*CSEM **20** 13:04:23.1±1.1, 37.75N×25.42W, h9km±4km, ML2.9, Error ellipse: s-maj=4.5km s-min=2.9km az=143.0, After PDA*
*PDA **20** 13:04:23.1±1.1, 37.75N×25.42W, h9km±4km, MD3.7, ML2.9, Error ellipse: s-maj=4.5km s-min=2.9km az=143.0*
SVSA 20 13:04:23.1±1.1, 37.75N×25.42W, h9km±4km, MD3.7, ML2.9, Error ellipse: s-maj=4.5km s-min=2.9km az=143.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**269**	*i* P	Pg	13 04 25.3	+0.6
VIF				*e*S	Sg	13 04 26.6	+0.8
VIF	**Vila Franca**	**0.02**	**269**	*e*rx	rx	13 03 19.9	
VIF				*e*rx	rx	13 03 20.0	
VIF	**Vila Franca**	**0.02**	**269**	*e*rx	rx	13 04 54.6	
VIF	**Vila Franca**	**0.02**	**269**	*e*S	Sg	13 04 26.6	+0.8
PCNG	**Congro**	**0.03**	**38**	*i* P	Pg	13 04 25.1	+0.3
PCNG				*e*S	Sg	13 04 26.6	+0.7
PCNG	**Congro**	**0.03**	**38**	*e*rx	rx	13 03 20.3	
PCNG	**Congro**	**0.03**	**38**	*e*S	Sg	13 04 26.6	+0.7
FRA1	**Furnas**	**0.05**	**92**	*e*P	Pg	13 04 24.9	-0.1
PRCH	**Ribeira Ch**	**0.05**	**251**	*e*P	Pg	13 04 25.6	+0.6
PRCH				*e*S	Sg	13 04 27.0	+0.7
	5μm,0.2s						
PRCH	**Ribeira Ch**	**0.05**	**251**	*e*rx	rx	13 04 56.4	
PRCH	**Ribeira Ch**	**0.05**	**251**	*e*P	Pg	13 04 25.6	+0.6
PRCH				*e*S	Sg	13 04 27.0	+0.7
MESC	**Monte Escuro**	**0.05**	**336**	*i* P	Pg	13 04 25.5	+0.5
MESC				*e*S	Sg	13 04 27.0	+0.7
MESC	**Monte Escuro**	**0.05**	**336**	*e*rx	rx	13 03 23.1	
MESC				*e*rx	rx	13 03 33.3	
MESC	**Monte Escuro**	**0.05**	**336**	*e*rx	rx	13 04 55.6	
MESC	**Monte Escuro**	**0.05**	**336**	*e*S	Sg	13 04 27.0	+0.7
LFA	**Lagoa do Fogo**	**0.06**	**298**	*i* P	Pg	13 04 25.8	+0.7
LFA	**Lagoa do Fogo**	**0.06**	**298**	*e*rx	rx	13 04 57.2	
PMAT	**Coroa da Mata**	**0.08**	**329**	*e*P	Pg	13 04 25.8	+0.4
PMAT				*e*S	Sg	13 04 27.4	+0.5
CMLA	**Cha da Macela**	**0.09**	**283**	*e*P	Pg	13 04 24.5	-0.9
CMLA				*e*S	Sg	13 04 26.7	-0.3
CML	**Cha da Macela**	**0.10**	**284**	*i* P	Pg	13 04 26.9	+1.2
CML				*e*S	Sg	13 04 29.1	+1.6
CML	**Cha da Macela**	**0.10**	**284**	*e*S	Sg	13 04 29.1	+1.6
MIRA	**Miradouro**	**0.12**	**70**	*i* P	Pg	13 04 26.0	+0.1
MIRA				*e*S	Sg	13 04 28.2	+0.4
MIRA	**Miradouro**	**0.12**	**70**	*e*S	Sg	13 04 28.2	+0.4
PFAD	**Fenais da Ajud**	**0.12**	**39**	*i* P	Pg	13 04 26.6	+0.6
PFAD				*e*S	Sg	13 04 28.4	+0.5
FAC	**Faja de Cima**	**0.19**	**279**	*e*P	Pg	13 04 28.8	+1.6
PDA	**Ponta Delgada**	**0.19**	**271**	*e*P	Pg	13 04 27.3	0.0
PDA				*e*S	Sg	13 04 29.9	-0.2
PSAN	**Santo Antonio**	**0.27**	**294**	*e*P	Pg	13 04 29.9	+1.3
PFET	**Feteiras**	**0.30**	**284**	*e*P	Pg	13 04 30.5	+1.2
SET2	**Ginetes**	**0.32**	**288**	*e*P	Pg	13 04 30.9	+1.2
SET4	**Mosteiros**	**0.33**	**293**	*e*P	Pg	13 04 30.9	+1.1
PSMN	**Pico do Norte,**	**0.79**	**159**	*e*P	Pb	13 04 36.9	-1.7
PSMN				*e*S	Sb	13 04 46.0	-3.2

*CSEM **20** 13:05:30.0, 37.76N×25.43W, h6km, ML2.6, After PDA*
*PDA **20** 13:05:30.0±0.8, 37.76N×25.43W, h6km±1km, ML2.6, Error ellipse: s-maj=2.4km s-min=1.8km az=108.0*
SVSA 20 13:05:30.0±0.8, 37.76N×25.43W, h6km±1km, ML2.6, Error ellipse: s-maj=2.4km s-min=1.8km az=108.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**204**	*i* P	Pg	13 05 31.5	+0.4
VIF				*e*S	Sg	13 05 32.8	+1.0
	3μm,0.2s						
VIF	**Vila Franca**	**0.02**	**204**	*e*S	Sg	13 05 32.8	+1.0
PCNG	**Congro**	**0.03**	**76**	*e*P	Pg	13 05 31.5	+0.3
PCNG				*e*S	Sg	13 05 32.8	+0.9
	4μm,0.2s						
PCNG	**Congro**	**0.03**	**76**	*e*P	Pg	13 05 31.5	+0.3
PCNG				*e*S	Sg	13 05 32.8	+0.9
MESC	**Monte Escuro**	**0.04**	**341**	*e*P	Pg	13 05 31.6	+0.4
MESC				*e*S	Sg	13 05 33.2	+1.2
MESC	**Monte Escuro**	**0.04**	**341**	*e*P	Pg	13 05 31.6	+0.4
MESC				*e*S	Sg	13 05 33.2	+1.2
PRCH	**Ribeira Ch**	**0.05**	**231**	*e*S	Sg	13 05 33.5	+1.1
	2μm,0.2s						
PRCH	**Ribeira Ch**	**0.05**	**231**	*e*S	Sg	13 05 33.5	+1.1
PMAT	**Coroa da Mata**	**0.06**	**330**	*e*P	Pg	13 05 32.1	+0.5
PMAT				*e*S	Sg	13 05 33.6	+0.9
PMAT	**Coroa da Mata**	**0.06**	**330**	*e*P	Pg	13 05 32.1	+0.5
PMAT				*e*S	Sg	13 05 33.6	+0.9
CML	**Cha da Macela**	**0.09**	**277**	*e*P	Pg	13 05 33.4	+1.3
PFAD	**Fenais da Ajud**	**0.12**	**47**	*i* P	Pg	13 05 32.9	+0.4
PFAD				*e*S	Sg	13 05 35.3	+1.1
PFAD	**Fenais da Ajud**	**0.12**	**47**	*e*S	Sg	13 05 35.3	+1.1
PDA	**Ponta Delgada**	**0.18**	**266**	*e*P	Pg	13 05 33.5	-0.3

*CSEM **20** 13:12:07.7, 37.75N×25.41W, h6km, ML2.5, After PDA*
*PDA **20** 13:12:07.7±0.6, 37.75N×25.41W, h6km±2km, ML2.5, Error ellipse: s-maj=2.0km s-min=1.6km az=154.0*
SVSA 20 13:12:07.7±0.6, 37.75N×25.41W, h6km±2km, ML2.5, Error ellipse: s-maj=2.0km s-min=1.6km az=154.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**28**	*e*P	Pg	13 12 09.3	+0.4
PCNG				*e*S	Sg	13 12 10.8	+1.1
	3μm,0.2s						
VIF	**Vila Franca**	**0.02**	**267**	*i* P	Pg	13 12 09.4	+0.5
VIF				*e*S	Sg	13 12 10.7	+1.0
	2μm,0.1s						
VIF	**Vila Franca**	**0.02**	**267**	*e*S	Sg	13 12 10.7	+1.0
FRA1	**Furnas**	**0.04**	**94**	*e*P	Pg	13 12 08.2	-0.9
FRA1				*e*S	Sg	13 12 09.9	-0.1
MESC	**Monte Escuro**	**0.06**	**329**	*i* P	Pg	13 12 09.7	+0.4
MESC				*e*S	Sg	13 12 11.3	+1.0
MESC	**Monte Escuro**	**0.06**	**329**	*e*S	Sg	13 12 11.3	+1.0
PRCH	**Ribeira Ch**	**0.06**	**252**	*e*S	Sg	13 12 11.2	+0.8
LFA	**Lagoa do Fogo**	**0.06**	**295**	*e*P	Pg	13 12 10.2	+0.8
PMAT	**Coroa da Mata**	**0.09**	**325**	*e*P	Pg	13 12 10.0	+0.3
PMAT				*e*S	Sg	13 12 12.1	+1.0
CML	**Cha da Macela**	**0.11**	**283**	*e*P	Pg	13 12 11.0	+0.8
CML				*e*S	Sg	13 12 13.3	+1.5
MIRA	**Miradouro**	**0.11**	**69**	*e*P	Pg	13 12 09.8	-0.4
MIRA				*e*S	Sg	13 12 12.1	+0.3
PFAD	**Fenais da Ajud**	**0.12**	**37**	*i* P	Pg	13 12 10.8	+0.5
PFAD				*e*S	Sg	13 12 12.8	+0.8
PFAD	**Fenais da Ajud**	**0.12**	**37**	*e*S	Sg	13 12 12.8	+0.8

*CSEM **20** 13:12:45.4, 37.76N×25.42W, h5km, ML2.8, After PDA*
*PDA **20** 13:12:45.4±0.5, 37.76N×25.42W, h5km, MD1.8, ML2.8, Error ellipse: s-maj=1.2km s-min=0.9km az=94.0*
SVSA 20 13:12:45.4±0.5, 37.76N×25.42W, h5km, MD1.8, ML2.8, Error ellipse: s-maj=1.2km s-min=0.9km az=94.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**62**	*i* P	Pg	13 12 46.9	+0.5
PCNG				*e*S	Sg	13 12 48.2	+1.1
	6μm,0.2s						
PCNG	**Congro**	**0.02**	**62**	*e*S	Sg	13 12 48.2	+1.1
VIF	**Vila Franca**	**0.02**	**234**	*i* P	Pg	13 12 47.0	+0.5
VIF				*e*S	Sg	13 12 48.3	+1.1
	5μm,0.1s						
VIF	**Vila Franca**	**0.02**	**234**	*e*S	Sg	13 12 48.3	+1.1
MESC	**Monte Escuro**	**0.04**	**327**	*i* P	Pg	13 12 47.1	+0.4
MESC				*e*S	Sg	13 12 48.7	+1.2
MESC	**Monte Escuro**	**0.04**	**327**	*e*S	Sg	13 12 48.7	+1.2
FRA1	**Furnas**	**0.05**	**107**	*e*P	Pg	13 12 47.0	+0.2
FRA1				*e*S	Sg	13 12 48.4	+0.7
LFA	**Lagoa do Fogo**	**0.05**	**286**	*e*P	Pg	13 12 47.4	+0.5
PRCH	**Ribeira Ch**	**0.06**	**239**	*e*P	Pg	13 12 47.3	+0.4
PRCH				*e*S	Sg	13 12 48.9	+1.0
	3μm,0.2s						
PMAT	**Coroa da Mata**	**0.07**	**324**	*e*P	Pg	13 12 47.6	+0.5
PMAT				*e*S	Sg	13 12 49.3	+1.0
CML	**Cha da Macela**	**0.10**	**277**	*e*P	Pg	13 12 48.5	+0.8
CML				*e*S	Sg	13 12 50.5	+1.3
PFAD	**Fenais da Ajud**	**0.11**	**43**	*i* P	Pg	13 12 48.5	+0.7
PFAD				*e*S	Sg	13 12 50.2	+0.8
PFAD	**Fenais da Ajud**	**0.11**	**43**	*e*S	Sg	13 12 50.2	+0.8
MIRA	**Miradouro**	**0.11**	**76**	*e*P	Pg	13 12 47.9	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIRA				eS	Sg	13 12 50.1	+0.6
FAC	Faja de Cima	0.19	275	eP	Pg	13 12 50.7	+1.5
PSAN	Santo Antonio	0.26	291	eP	Pg	13 12 51.7	+1.0
PFET	Feteiras	0.30	282	eP	Pg	13 12 52.4	+0.9
SET2	Ginetes	0.32	286	eP	Pg	13 12 52.7	+0.8
SET4	Mosteiros	0.32	291	eP	Pg	13 12 52.8	+0.9
PSMN	Pico do Norte,	0.80	160	eP	Pb	13 12 59.1	-2.3
PSMN				eS	Sg	13 13 08.9	-3.3

*CSEM **20** 13:14:17.9, 37.75N×25.39W, h6km, ML2.6, After PDA*
*PDA **20** 13:14:17.9±0.6, 37.75N×25.39W, h6km±2km, ML2.6, Error ellipse: s-maj=2.7km s-min=1.7km az=143.0*
SVSA 20 13:14:17.9±0.6, 37.75N×25.39W, h6km±2km, ML2.6, Error ellipse: s-maj=2.7km s-min=1.7km az=143.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	351	eP	Pg	13 14 19.4	+0.4
PCNG				eS	Sg	13 14 20.7	+1.0
	4µm,0.2s						
FRA1	Furnas	0.03	96	eP	Pg	13 14 19.0	-0.1
FRA1				eS	Sg	13 14 20.5	+0.7
VIF	Vila Franca	0.04	268	eP	Pg	13 14 19.7	+0.5
VIF				eS	Sg	13 14 21.0	+1.0
	2µm,0.1s						
MESC	Monte Escuro	0.06	318	eP	Pg	13 14 20.0	+0.5
MESC				eS	Sg	13 14 21.8	+1.2
PRCH	Ribeira Ch	0.07	256	eS	Sg	13 14 21.7	+0.9
	3µm,0.2s						
LFA	Lagoa do Fogo	0.08	290	eP	Pg	13 14 20.4	+0.7
PMAT	Coroa da Mata	0.09	318	eS	Sg	13 14 22.6	+1.1
MIRA	Miradouro	0.10	66	eP	Pg	13 14 20.3	+0.2
MIRA				eS	Sg	13 14 22.3	+0.7
PFAD	Fenais da Ajud	0.11	30	i P	Pg	13 14 20.9	+0.6
PFAD				eS	Sg	13 14 22.6	+0.7
PFAD	Fenais da Ajud	0.11	30	eS	Sg	13 14 22.6	+0.7
CML	Cha da Macela	0.12	282	eP	Pg	13 14 21.4	+0.8
CML				eS	Sg	13 14 23.6	+1.2
FAC	Faja de Cima	0.21	278	eP	Pg	13 14 24.0	+1.8
PSAN	Santo Antonio	0.28	292	eP	Pg	13 14 24.7	+1.0
PFET	Feteiras	0.32	283	eP	Pg	13 14 25.1	+0.7
SET2	Ginetes	0.34	287	eP	Pg	13 14 25.4	+0.6
SET4	Mosteiros	0.35	292	eP	Pg	13 14 25.7	+0.8

*BJI **20** 13:14:19.9, 38.20N×20.30E, h15km, mB4.9, mb4.5, Ms4.3, Msz4.0*
*IDC **20** 13:14:19.7±1.6, 38.18N×20.37E, mb3.9/8, mb1 4.1/12, mb1mx4.0/26, mbtmp3.9/12, ML4.1/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/25, Error ellipse: s-maj=26.3km s-min=21.1km az=34.0*
*NEIC **20** 13:14:21.9, 38.18N×20.28E, h15km, mb4.0/2, MD3.9(ATH), MD3.6(ROM), MD4.3(PDG), After ATH.*
NEIC Felt at Argostolion.
*MOS **20** 13:14:21.6±1.8, 38.31N×20.26E, h10km, mb4.0/4, Error ellipse: s-maj=8.6km s-min=4.2km az=105.5*
*HLW **20** 13:14:21.1, 38.02N×20.20E, h19km, Mb4.2*
*ATH **20** 13:14:22.8, 38.19N×20.36E, h17km±2km, MD3.8/12*
*CSEM **20** 13:14:22.1±0.1, 38.17N×20.33E, MD3.9, Error ellipse: s-maj=2.6km s-min=1.4km az=3.0*
*PDG **20** 13:14:23.1±0.7, 38.44N×20.35E*
*ROM **20** 13:14:24.7±2.0, 38.41N×20.18E, h12km, Md3.6/10, Ml4.0/7, Error ellipse: s-maj=32.6km s-min=8.1km az=139.0*
*THE **20** 13:14:25.0, 38.29N×20.39E, h20km, ML4.1*
ISC 20 13:14:22.2±0.3, 38.25N±0.02×20.30E±0.03, h17km, n150, σ1.42/195, mb4.2/10, 22C-16D, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.24	108	ePB	Pb	13 14 27.8	+0.1
LKD	Levkas	0.53	31	ePg	Pb	13 14 33.5	+0.8
RLS	Riolos of Patr	0.94	102	ePN	Pn	13 14 39.3	-1.2
RLS				eSN	Sn	13 14 51.7	-1.9
EVR	Evrytania	1.35	60	ePN	Pn	13 14 48.7	+2.2
JAN	Janina	1.47	17	ePN	Pn	13 14 51.0	+2.9
KEK	Kerkira	1.51	345	ePN	Pn	13 14 51.2	+2.5
KEK	Kerkira	1.51	345	ePn	Pn	13 14 51.1	+2.4
ITM	Ithomi	1.68	129	ePN	Pn	13 14 52.6	+1.5
AGG	Agios Georgios	1.77	64	ePb	Pb	13 14 54.4	+0.6
AGG	Agios Georgios	1.77	64	ePb	Pb	13 14 54.3	+0.6
LSK	Leskovik	1.91	7	i Pn	Pn	13 14 57.0	+2.6
LSK				i Sn	Sn	13 15 22.6	+4.4
LKR	Lokris	2.16	79	ePN	Pn	13 14 59.5	+1.5
KZN	Kozani	2.35	29	ePN	Pn	13 15 03.8	+3.1
MGER	Gerania Oros	2.35	96	ePG	Pn	13 15 01.5	+0.8
KBN	Korca	2.40	9	i Pn	Pn	13 15 04.6	+3.2
KBN				i Sn	Sn	13 15 38.1	+7.5
KBN	Korca	2.40	9	ePn	Pn	13 15 04.6	+3.2
LIT	Litokhoron	2.51	42	ePn	Pn	13 15 05.1	+2.1
LIT				eSn	Sn	13 15 34.0	+0.6
LIT	Litokhoron	2.51	42	ePn	Pn	13 15 05.1	+2.1
LIT				eSn	Sn	13 15 34.0	+0.5
NEO	Neokhori	2.52	64	ePB	Pb	13 15 05.3	-1.2
XOR	Xorichti	2.52	63	ePn	Pn	13 15 04.4	+1.3
NSAL	Nisos Salamina	2.52	97	ePG	Pn	13 15 03.5	+0.3
NAIG	Nisos Aigina	2.57	100	ePn	Pn	13 15 05.2	+1.4
VLI	Veliai	2.60	125	ePB	Pb	13 15 06.0	-1.9
FNA	Florina	2.66	18	ePn	Pn	13 15 07.5	+2.4
LCI	Lecce	2.69	321	Pn	Pn	13 15 06.7	+1.2
	309nm,0.5s						
MPAR	Parnis Oros	2.71	91	ePB	Pb	13 15 06.0	-3.8
ATH	Athens Observa	2.71	95	ePB	Pb	13 15 07.0	-2.8
ATH	Athens Observa	2.71	95	ePn	Pn	13 15 08.3	+2.4
PTL	Penteli	2.82	93	ePn	Pn	13 15 07.5	+0.1
TIP	Timpagrande	2.92	290	Pn	Pn	13 15 10.1	+1.2
TIP	Timpagrande	2.92	290	ePn	Pn	13 15 09.9	+1.0
KYTH	Kithira	2.94	131	ePN	Pn	13 15 10.0	+0.9
AOS	Alonnisos	2.95	71	ePn	Pn	13 15 09.9	+0.7
TIR	Tirane	3.11	354	Pn	Pn	13 15 13.6	+2.0
	431nm,0.5s						
TIR	Tirane	3.11	354	⇓iPn	Pn	13 15 23.5	+12
TIR				i Sn	Sn	13 15 53.0	+4.3
PAIG	Paliouri	3.12	56	ePn	Pn	13 15 12.3	+0.7
THE	Thessaloniki	3.15	40	ePn	Pn	13 15 13.4	+1.3
GRG	Griva	3.15	30	ePn	Pn	13 15 13.3	+1.1
PLG	Polygyros	3.23	48	ePN	Pn	13 15 14.9	+1.6
PE1	Pezze di Greco	3.38	320	ePn	Pn	13 15 16.2	+0.8
TDS	Terranova Siba	3.39	296	Pn	Pn	13 15 16.8	+1.2
	150nm,0.8s						
SOH	Sokhos	3.49	42	ePn	Pn	13 15 18.2	+1.3
SOH				eSn	Sn	13 15 58.1	-0.1
ORI	Oriolo Calabro	3.50	302	Pn	Pn	13 15 18.4	+1.3
	594nm,0.5s						
KNT	Kendrikon	3.53	34	ePn	Pn	13 15 18.7	+1.2
OUR	Ouranopolis	3.53	53	ePn	Pn	13 15 18.6	+1.1
BRT	Bari-Castellan	3.55	319	Pn	Pn	13 15 18.9	+1.1
	91nm,0.2s						
NOCI	Noci	3.56	316	Pn	Pn	13 15 18.6	+0.6
	448nm,0.4s						
LTRZ	Laterza	3.58	312	Pn	Pn	13 15 18.9	+0.7
	370nm,0.9s						
ULC	Ulcinj	3.79	348	⇑iPn	Pn	13 15 21.4	+0.1
ULC				eSn	Sn	13 16 06.3	+0.4
SG1	Sgolgore (BA)	3.81	314	ePn	Pn	13 15 22.6	+1.1
SKO	Skopje	3.82	13	⇑iPn	Pn	13 15 23.2	+1.6
SKO				i Pb	Pb	13 15 27.5	-1.2
SKO				i Pg	Pn	13 15 35.5	+14
SKO				i Sn	Sn	13 16 09.3	+2.7
SKO	Skopje	3.82	13	⇑iPn	Pn	13 15 23.2	+1.6
SKO				i Pg	Pn	13 15 35.5	+14
SKO				i Sn	Sn	13 16 09.3	+2.7
SKO	Skopje	3.82	13	⇑iPn	Pn	13 15 23.2	+1.6
SKO				i S	Sn	13 16 09.3	+2.7
BAI	Bari	3.89	318	ePn	Pn	13 15 23.5	+0.9
AMUR	Altamura	3.90	314	Pn	Pn	13 15 23.4	+0.7
	111nm,0.7s						
CUC	Castrocucco	3.90	298	Pn	Pn	13 15 24.3	+1.6
	187nm,0.8s						
MGR	Morigerati	4.14	299	Pn	Pn	13 15 27.5	+1.3
	20nm,0.3s						
BUM	Brajici-Budva	4.18	346	⇑iPn	Pn	13 15 26.7	-0.1
BUM				eSn	Sn	13 16 15.9	0.0
CDT	Castel del Mon	4.20	314	ePn	Pn	13 15 27.7	+0.7
SLCN	Sala Consilina	4.20	302	Pn	Pn	13 15 29.2	+2.1
	52nm,0.2s						
VAM	Vamos	4.22	131	ePn	Pn	13 15 28.0	+0.6
TTG	Podgorica	4.25	350	⇑iPn	Pn	13 15 27.8	0.0
TTG				eSn	Sn	13 16 17.7	+0.2
APE	Apeiranthos	4.32	104	ePn	Pn	13 15 29.5	+0.8
PVY	Plav	4.34	357	⇑iPn	Pn	13 15 29.8	+0.7
PVY				eSn	Sn	13 16 20.0	0.0
HCY	Herceg Novi	4.41	342	⇑iPn	Pn	13 15 29.3	-0.7
HCY				eSn	Sn	13 16 21.6	0.0
SGO	Sicignano	4.50	302	Pn	Pn	13 15 32.8	+1.5
	32nm,0.3s						
GVD	Gavdhos	4.57	137	ePn	Pn	13 15 31.6	-0.7
GVD				eSn	Sn	13 16 23.7	-2.0
GVD	Gavdhos	4.57	137	ePn	Pn	13 15 31.6	-0.7
GVD				eSn	Sn	13 16 23.7	-2.0
IVA	Berane	4.62	356	⇑iPn	Pn	13 15 34.0	+0.9
IVA				eSn	Sn	13 16 26.6	-0.4
NKY	Niksic	4.66	348	⇑iPn	Pn	13 15 33.4	-0.2
NKY				eSn	Sn	13 16 27.4	-0.5
FG4	Candela	4.68	309	Pn	Pn	13 15 36.0	+2.2
	219nm,0.6s						
TREB	Trebinje	4.70	342	Pg	Pn	13 15 33.5	-0.7
MCRV	Calabrutti - M	4.71	304	Pn	Pn	13 15 36.4	+2.2
	84nm,0.5s						
BARS	Barje	4.71	14	⇓iPn	Pn	13 15 34.3	+0.1
IDI	Anoyia	4.72	127	Pn	Pn	13 15 32.2	-2.3
	0.6nm,0.3s,baz=297,slow=16,SNR=2.5						
IDI				LR	LR	13 17 37.7	
	comp=Z,86nm,21.5s,baz=86,slow=43						
FGMS	Monte Sant'Ang	4.80	317	Pn	Pn	13 15 35.9	+0.3
	33nm,0.2s						
BRY	Bratogost	4.83	344	⇑iPn	Pn	13 15 35.7	-0.3
BRY				eSn	Sn	13 16 31.3	-0.9
CSSN	Cassano Irpino	4.84	304	Pn	Pn	13 15 38.2	+2.1
	30nm,0.3s						
UPM	Unac-Piva	5.06	348	⇑iPn	Pn	13 15 39.0	-0.1
UPM				eSn	Sn	13 16 36.9	-1.0
UPM	Unac-Piva	5.06	348	⇑iPn	Pn	13 15 39.0	-0.2
UPM				eSn	Sn	13 16 36.9	-1.0
PLE	Pljevlja	5.12	353	⇓iPn	Pn	13 15 40.4	+0.3
PLE				eSn	Sn	13 16 38.6	-0.8
ALN	Alexandroupoli	5.17	57	ePn	Pn	13 15 40.8	+0.1
NVSS	Nova Varos 2	5.27	355	⇓iPn	Pn	13 15 41.3	-0.9
NVSS				Sn	Sn	13 16 38.8	-4.4
FG2	Serracapriola	5.30	314	Pn	Pn	13 15 43.2	+0.5
	139nm,0.2s						
CII	Carovilli	5.76	309	Pn	Pn	13 15 50.8	+1.7
	29nm,0.5s						
CII	Carovilli	5.76	309	ePn	Pn	13 15 51.2	+2.1
	33nm,0.6s						
DIVS	Divcibare	5.84	358	⇑iPn	Pn	13 15 48.9	-1.4
DIVS				Sn	Sn	13 16 54.2	-3.5
BLY	Banja Luka	6.90	341	P	Pn	13 16 03.7	-1.5
BLY				S	Sn	13 17 21.2	-2.8
NRCA	Norcia	7.13	312	Pn	Pn	13 16 09.6	+1.2
	23nm,0.5s						
SNTG	Esanatoglia	7.49	314	Pn	Pn	13 16 12.9	-0.6
	9.0nm,0.3s						
NVLJ	Novalja	7.51	329	i Pn	Pn	13 16 12.6	-1.1
NVLJ				i Sn	Sn	13 17 33.7	-5.6
NVLJ	Novalja	7.51	329	i Pn	Pn	13 16 12.5	-1.2
ARV	Arcevia	7.65	316	Pn	Pn	13 16 15.1	-0.6
	17nm,0.3s						
SLUM		7.86	148	⇑eP	Pn	13 16 12.4	-6.2
FSSB	Fossombrone	7.87	316	Pn	Pn	13 16 19.0	+0.3
	31nm,0.3s						
VOIR		8.01	25	⇓P	P	13 16 20.7	+0.1
MLR	Muntele Rosu	8.37	28	Pn	P	13 16 25.2	-0.5
	0.9nm,0.3s,baz=175,slow=5.1,SNR=20						
MLR	Muntele Rosu	8.37	28	⇑P	P	13 16 28.4	+2.7
SFI	Santa Sofia	8.52	314	Pn	P	13 16 28.1	+0.3
CEY	Cerknica	8.66	332	i Pn	P	13 16 28.7	-1.0
DOBS	Dobrina	8.67	337	i Pn	P	13 16 27.8	-2.0
DOBS				i Sn	Sn	13 18 01.8	-6.3
LJU	Ljubljana	8.89	333	i Pn	P	13 16 31.4	-1.5
LJU				eSn	Sn	13 18 06.8	-6.8
VRI	Vrincioaia	8.98	30	⇓P	P	13 16 35.3	+1.1
HMAT	Matruh	9.07	140	⇑eP	P	13 16 29.5	-5.9
HMAT				S	Sn	13 18 03.0	-15
VOY	Vojsko	9.11	331	ePn	P	13 16 34.2	-1.8
VOY				eSn	Sn	13 18 11.7	-7.5
PERS	Pernice	9.21	337	i Pn	P	13 16 35.3	-2.0
OBKA	Obir	9.28	335	⇑iPN	P	13 16 36.5	-1.8
OBKA				i SN	Sn	13 18 16.4	-7.0
OBKA	Obir	9.28	335	⇑iPn	P	13 16 36.5	-1.8
	SNR=15						
PTCC	Patocco-Chiusa	9.63	330	Pn	P	13 16 41.3	-1.8
	9.0nm,0.2s						
ARSA	Arzberg	9.65	340	⇓iPN	P	13 16 41.2	-2.2
ARSA				i SN	Sn	13 18 26.9	-5.6
ARSA	Arzberg	9.65	340	⇓iPn	P	13 16 41.2	-2.2
SWA2		9.96	153	⇓eP	P	13 16 40.5	-7.1
SWA2				S	Sn	13 18 23.6	-16
SWA2		9.96	153	P	P	13 16 40.5	-7.1
SWA2				S	Sn	13 18 23.6	-16
SWA1		10.03	152	⇑eP	P	13 16 42.0	-6.6
SWA1				S	S	13 18 24.9	-17
VYHS	Vyhne	10.29	355	ePN	P	13 16 50.3	-1.9
VYHS				eSN	S	13 18 40.6	-7.6
BRTR	Keskin Array B	10.49	78	Pn	P	13 16 59.0	+4.1
	0.2nm,0.3s,baz=266,slow=14,SNR=3.1						
MOA	Molln	10.55	337	⇓iPN	P	13 16 54.1	-1.7
MOA				i SN	S	13 18 48.5	-6.1
MOA	Molln	10.55	337	⇓iPn	P	13 16 54.1	-1.7
	SNR=10.0						
WTTA	Wattenberg	11.02	328	⇓iPn	P	13 16 59.4	-2.8
WTTA				i Sn	S	13 19 00.1	-6.0
WATA	Walderalm	11.11	328	⇑iSn	S	13 19 02.1	-6.0
WATA	Walderalm	11.11	328	⇓iPn	P	13 17 01.4	-1.9
WATA				i Sn	S	13 19 02.1	-6.0
WATA	Walderalm	11.11	328	i P	P	13 17 01.4	-1.9
SQTA	Sankt Quirin	11.17	326	⇓iSn	S	13 19 03.8	-6.0
SQTA	Sankt Quirin	11.17	326	⇑iPn	P	13 17 01.8	-2.4
SQTA				i Sn	S	13 19 03.8	-5.9
SQTA	Sankt Quirin	11.17	326	i P	P	13 17 01.8	-2.4
STHS	Stebnicka Huta	11.18	3	eSN	S	13 18 59.4	-11
MOTA	Moosalm	11.31	326	⇓iSn	S	13 19 07.4	-5.8
MOTA	Moosalm	11.31	326	⇓iPn	P	13 17 04.1	-2.0
MOTA				i Sn	S	13 19 07.4	-5.8
MOTA	Moosalm	11.31	326	i P	P	13 17 04.1	-2.0
DAVOX	Davos	11.47	321	Pn	P	13 17 11.3	+3.1
	0.8nm,0.3s,baz=313,slow=22,SNR=3.8						
GERES	GERESS Array B	11.62	338	Pn	P	13 17 07.4	-2.8
	1.2nm,0.3s,baz=158,slow=14,SNR=17						
KHC	Kasperske Hory	11.91	338	eP	P	13 17 11.5	-2.7
AKASG	Malin Array Be	13.97	24	Pn	P	13 17 39.1	-2.3
	1.2nm,0.3s,baz=209,slow=9.9,SNR=5.2						
OBN	Obninsk	20.14	28	eP	P	13 18 57.3	-0.8
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDT	Midelt	20.96	263	P	P	13 19 05.4	-1.4
	comp=Z,0.9nm,0.7s,baz=64,slow=13,SNR=2.8						
HFS	Hagfors	22.30	351	P	P	13 19 20.4	+0.4
	comp=Z,10.0nm,0.6s,mb4.4,baz=164,slow=11,SNR=17						
FINES	FINESS Array B	23.49	7	P	P	13 19 30.8	-0.8
	comp=Z,1.9nm,0.5s,mb3.8,baz=161,slow=10,SNR=13						
NB2	NORSAR Subarra	23.51	349	P	P	13 19 31.8	0.0
	comp=Z,2.0nm,0.5s,mb3.8,baz=154,slow=9.3						
NB2	NORSAR Subarra	23.51	349	P	P	13 19 31.8	0.0
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
NOA	NORSAR Array B	23.51	349	P	P	13 19 33.7	+1.9
	comp=Z,2.6nm,0.6s,mb3.8,baz=164,slow=10,SNR=9.7						
KAF	Kangasniemi	24.17	7	ep	P	13 19 36.1	-2.1
	comp=Z,4.3nm,0.7s,mb4.0						
KAF	Kangasniemi	24.17	7	eP	P	13 19 36.1	-2.1
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
ARCES	ARCESS Array B	31.47	4	P	P	13 20 42.9	-1.8
	comp=Z,2.0nm,0.8s,mb4.0,baz=184,slow=12,SNR=3.2						
MKAR	Makanchi Array	45.41	58	P	P	13 22 39.2	-2.3
	comp=Z,2.0nm,0.6s,mb4.1,baz=273,slow=7.3,SNR=12						
ZAL	Zalesovo	45.76	48	P	P	13 22 41.9	-2.3
	comp=Z,2.7nm,0.5s,mb4.4,baz=189,slow=6.9,SNR=5.2						
ZAL	Zalesovo	45.76	48	P	P	13 22 41.8	-2.4
WMQ	Urumqi	49.88	61	eP	P	13 23 14.5	-1.9
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
SONM	Songino Array	60.55	51	P	P	13 24 31.5	-2.2
	comp=Z,0.6nm,0.7s,mb3.8,baz=272,slow=8.2,SNR=6.2						
SONM	Songino Array	60.55	51	P	P	13 24 31.5	-2.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MDJ	Mudanjiang	75.77	44	P	P	13 26 04.1	-4.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,46nm,4.4s						
MDJ				LR	LR		
	comp=E,104nm,24.8s						
MDJ				LR	LR		
	comp=Z,79nm,22.1s						

*CSEM **20** 13:15:30.8, 37.80N×25.42W, h11km, ML2.7, After PDA*
*PDA **20** 13:15:30.8±0.5, 37.80N×25.42W, h11km±2km, ML2.7, Error ellipse: s-maj=2.9km s-min=1.8km az=128.0*
SVSA 20 13:15:30.8±0.5, 37.80N×25.42W, h11km±2km, ML2.7, Error ellipse: s-maj=2.9km s-min=1.8km az=128.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESC	Monte Escuro	0.02	255	eP	Pg	13 15 33.1	+0.3
MESC				i S	Sg	13 15 34.9	+0.8
PCNG	Congro	0.04	145	i S	Sg	13 15 35.0	+0.7
PMAT	Coroa da Mata	0.04	295	eS	Sg	13 15 34.7	+0.4
LFA	Lagoa do Fogo	0.05	242	eP	Pg	13 15 33.6	+0.6
VIF	Vila Franca	0.06	194	eP	Pg	13 15 33.5	+0.5
VIF				i S	Sg	13 15 35.2	+0.7
FRA1	Furnas	0.08	136	eP	Pg	13 15 32.7	-0.6
PRCH	Ribeira Ch	0.08	213	eP	Pg	13 15 33.2	-0.2
PRCH				eS	Sg	13 15 35.5	+0.4
	3µm,0.3s						
PFAD	Fenais da Ajud	0.09	63	eP	Pg	13 15 33.6	+0.2
PFAD				i S	Sg	13 15 35.6	+0.4
CML	Cha da Macela	0.10	254	eP	Pg	13 15 34.5	+0.9
MIRA	Miradouro	0.12	96	eP	Pg	13 15 34.7	+0.9
MIRA				eS	Sg	13 15 37.2	+1.4
FAC	Faja de Cima	0.18	262	eP	Pg	13 15 36.4	+1.5
PSAN	Santo Antonio	0.25	283	erx		13 15 39.0	
PFET	Feteiras	0.29	274	erx		13 15 39.5	
SET2	Ginetes	0.31	279	erx		13 15 40.0	
SET4	Mosteiros	0.31	285	erx		13 15 39.4	

*CSEM **20** 13:20:23.5, 37.76N×25.42W, h6km, ML2.7, After PDA*
*PDA **20** 13:20:23.5±0.5, 37.76N×25.42W, h6km±2km, ML2.7, Error ellipse: s-maj=1.5km s-min=1.4km az=107.0*
SVSA 20 13:20:23.5±0.5, 37.76N×25.42W, h6km±2km, ML2.7, Error ellipse: s-maj=1.5km s-min=1.4km az=107.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	70	i P	Pg	13 20 25.0	+0.4
PCNG				i S	Sg	13 20 26.4	+1.0
PCNG	Congro	0.02	70	i S	Sg	13 20 26.4	+1.0
VIF	Vila Franca	0.02	226	eP	Pg	13 20 25.1	+0.5
VIF				i S	Sg	13 20 26.5	+1.1
MESC	Monte Escuro	0.04	328	eP	Pg	13 20 25.3	+0.5
MESC				i S	Sg	13 20 26.6	+0.9
LFA	Lagoa do Fogo	0.05	284	eP	Pg	13 20 25.6	+0.6
FRA1	Furnas	0.05	109	i P	Pg	13 20 24.9	-0.1
PRCH	Ribeira Ch	0.06	236	eP	Pg	13 20 25.3	+0.3
PRCH				i S	Sg	13 20 26.9	+0.8
	2µm,0.2s						
PMAT	Coroa da Mata	0.07	324	eP	Pg	13 20 25.6	+0.4
PMAT				i S	Sg	13 20 27.2	+0.8
CML	Cha da Macela	0.10	276	eP	Pg	13 20 26.5	+0.7
CML				eS	Sg	13 20 28.7	+1.4
PFAD	Fenais da Ajud	0.11	44	i P	Pg	13 20 26.6	+0.7
MIRA	Miradouro	0.12	77	eP	Pg	13 20 26.0	0.0
MIRA				eS	Sg	13 20 28.3	+0.6
FAC	Faja de Cima	0.18	274	eP	Pg	13 20 27.8	+0.5
FAC				eS	Sg	13 20 31.0	+1.2
PSAN	Santo Antonio	0.26	291	eP	Pg	13 20 29.9	+1.1
PFET	Feteiras	0.30	281	eP	Pg	13 20 30.3	+0.8
PFET				eS	Sg	13 20 34.8	+1.2
SET2	Ginetes	0.32	285	eP	Pg	13 20 30.7	+0.8
SET4	Mosteiros	0.32	291	eP	Pg	13 20 31.0	+1.0

GUC 20 13:20:40.9±0.5, 34.12S×70.05W, h20km±1km, MD3.7, ML1.7, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CICH	Cipreses	0.37	236	⇑iP	Pb	13 20 48.3	-0.4
CICH				i S	Sb	13 20 53.8	-0.2
CACH	El Canelo	0.46	270	eP	Pb	13 20 49.4	-0.7
CACH				i S	Sb	13 20 56.1	-0.3
CHCH	Chadas Angostu	0.53	290	eP	Pb	13 20 51.2	-0.2
CHCH				i S	Sb	13 20 59.0	+0.4
SJCH	San Jose de Ma	0.54	332	eP	Pb	13 20 51.1	-0.4
SJCH				i S	Sb	13 20 58.7	-0.1
PCH	Pirque	0.63	322	eP	Pb	13 20 52.9	-0.2
PCH				i S	Sb	13 21 01.9	+0.6
FCH	Farellones	0.81	346	eP	Pb	13 20 56.4	+0.2
FCH				i S	Sb	13 21 08.1	+1.4
FCH				AMP		13 21 10.8	
	comp=E,40nm,0.2s						
TACH	Talagante	0.87	302	eP	Pb	13 20 56.6	-0.6
TACH				i S	Sb	13 21 09.3	+0.9
RCDM	Rinconada Maip	0.89	315	eP	Pb	13 20 57.4	-0.1
RCDM				i S	Sb	13 21 09.8	+1.0
RCDM				AMP		13 21 13.5	
	comp=E,86nm,0.1s						
SFDO	San Fernando	0.94	238	eP	Pb	13 20 58.2	-0.1
SFDO				i S	Sb	13 21 11.2	+0.8
LNV	Longovilo	1.14	278	i P	Pb	13 21 01.7	-0.1
LNV				i S	Sb	13 21 16.9	+0.7
LCCH	Las Cruces	1.42	296	eP	Pn	13 21 06.0	+0.2
LCCH				i S	Sn	13 21 24.9	+0.9

*BJI **20** 13:20:46.7, 0.37N×97.33E, h30km, mb4.4*
*IDC **20** 13:20:49.8±2.5, 1.05N×97.24E, mb4.1/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.1/6, Error ellipse: s-maj=110.4km s-min=21.9km az=58.0*
*NEIC **20** 13:20:54.4±0.8, 1.07N×97.23E, h30km, mb4.6/1, Error ellipse: s-maj=18.8km s-min=11.2km az=59.0*
ISC 20 13:20:52.5±1.0, 1.1N±0.1×97.3E±0.2, h30km, n13, σ0.60/13, mb4.2/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.40	39	eP	Pn	13 22 13.1	-0.1
KKM	Kota Kinabalu	19.56	75	P	P	13 25 20.4	-0.7
KKM				e		13 25 30.2	
KMI	Kunming	24.50	12	P	P	13 26 11.8	+1.1
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.4						
GTA	Gaotai	38.24	3	eP	P	13 28 12.1	+0.3
GTA				AP	pP	13 28 18.6	-2.1
GTA				XP	sP	13 28 22.3	-2.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
WRA	Warramunga Arr	41.92	122	P	P	13 28 42.0	-0.5
	comp=Z,0.4nm,0.6s,mb3.2,baz=298,slow=9.3,SNR=5.6						
WRAB	Tennant Creek	41.93	122	P	P	13 28 43.5	+1.0
	comp=Z,18nm,1.5s,mb4.5						
SONM	Songino Array	47.26	8	P	P	13 29 25.1	+0.1
	comp=Z,2.7nm,0.6s,mb4.4,baz=190,slow=8.6,SNR=18						
MKAR	Makanchi Array	47.38	346	P	P	13 29 25.9	-0.1
	comp=Z,2.0nm,0.7s,mb4.2,baz=158,slow=8.5,SNR=24						
MKAR	Makanchi Array	47.38	346	P	P	13 29 25.9	-0.1
STKA	Stephens Creek	53.23	132	P	P	13 30 10.8	0.0
	comp=Z,1.3nm,0.3s,mb4.4,baz=311,slow=11,SNR=3.1						
STKA	Stephens Creek	53.23	132	P	P	13 30 10.8	0.0
ZAL	Zalesovo	53.69	351	P	P	13 30 13.7	-0.2
	comp=Z,2.3nm,0.7s,mb4.2,baz=346,slow=7.2,SNR=5.8						
BVAR	Borovoye Array	56.39	341	P	P	13 30 32.5	-1.0
	comp=Z,0.9nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=7.4						

*CSEM **20** 13:20:58.0, 37.76N×25.42W, h5km, ML2.8, After PDA*
*PDA **20** 13:20:58.0±0.4, 37.76N×25.42W, h5km±1km, ML2.8, Error ellipse: s-maj=1.2km s-min=0.9km az=103.0*
SVSA 20 13:20:58.0±0.4, 37.76N×25.42W, h5km±1km, ML2.8, Error ellipse: s-maj=1.2km s-min=0.9km az=103.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	81	eP	Pg	13 20 59.3	+0.4
PCNG				eS	Sg	13 21 00.6	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	218	eP	Pg	13 20 59.4	+0.4
VIF				eS	Sg	13 21 00.6	+1.0
MESC	Monte Escuro	0.04	326	eP	Pg	13 20 59.7	+0.6
MESC				eS	Sg	13 21 00.9	+1.1
LFA	Lagoa do Fogo	0.05	280	eP	Pg	13 21 00.0	+0.7
FRA1	Furnas	0.06	112	eP	Pg	13 20 59.3	-0.1
PRCH	Ribeira Ch	0.06	232	eP	Pg	13 20 59.9	+0.5
PRCH				eS	Sg	13 21 01.2	+0.8
	4µm,0.2s						
PMAT	Coroa da Mata	0.07	323	eP	Pg	13 20 59.9	+0.3
PMAT				eS	Sg	13 21 01.3	+0.7
CML	Cha da Macela	0.10	274	eP	Pg	13 21 01.1	+0.9
CML				eS	Sg	13 21 03.4	+1.8
PFAD	Fenais da Ajud	0.11	46	eP	Pg	13 21 00.9	+0.6
MIRA	Miradouro	0.12	79	eP	Pg	13 21 00.3	-0.1
MIRA				eS	Sg	13 21 02.5	+0.4
FAC	Faja de Cima	0.18	273	eP	Pg	13 21 02.8	+1.1
FAC				eS	Sg	13 21 05.8	+1.6
PSAN	Santo Antonio	0.26	290	eP	Pg	13 21 04.5	+1.3
PFET	Feteiras	0.30	280	eP	Pg	13 21 04.9	+0.9
SET2	Ginetes	0.32	285	eP	Pg	13 21 05.4	+1.0
SET4	Mosteiros	0.32	290	eP	Pg	13 21 05.4	+1.0

*CSEM **20** 13:23:52.5, 37.76N×25.43W, h5^{km}, ML2.7, After PDA*
*PDA **20** 13:23:52.5±0.6, 37.76N×25.43W, h5^{km}±1^{km}, MD1.9, ML2.7, Error ellipse: s-maj=1.6km s-min=1.3km az=96.0*
SVSA 20 13:23:52.5±0.6**, 37.76N×25.43W, h5**^{km}±1^{km}**, MD1.9, ML2.7, Error ellipse: s-maj=1.6km s-min=1.3km az=96.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	213	eP	Pg	13 23 53.8	+0.4
VIF				eS	Sg	13 23 55.1	+1.0
PCNG	Congro	0.02	80	eP	Pg	13 23 54.3	+0.9
PCNG				eS	Sg	13 23 55.0	+0.9
MESC	Monte Escuro	0.03	331	eP	Pg	13 23 54.1	+0.5
MESC				eS	Sg	13 23 55.3	+1.0
LFA	Lagoa do Fogo	0.05	282	eP	Pg	13 23 54.5	+0.8
PRCH	Ribeira Ch	0.06	231	eP	Pg	13 23 54.5	+0.6
PRCH				eS	Sg	13 23 55.5	+0.7
	4µm,0.2s						
FRA1	Furnas	0.06	110	eP	Pg	13 23 52.2	-1.7
PMAT	Coroa da Mata	0.06	325	eP	Pg	13 23 54.4	+0.4
PMAT				eS	Sg	13 23 56.1	+1.1
CML	Cha da Macela	0.10	275	eP	Pg	13 23 55.2	+0.6
PFAD	Fenais da Ajud	0.11	47	eP	Pg	13 23 55.4	+0.5
PFAD				eS	Sg	13 23 57.6	+1.2
MIRA	Miradouro	0.12	79	eP	Pg	13 23 54.4	-0.6
PSMN	Pico do Norte,	0.81	159	eP	Pg	13 24 05.5	-3.2
PSMN				eS	Sg	13 24 15.6	-3.9

*CSEM **20** 13:24:37.6, 37.75N×25.42W, h5^{km}, ML3.0, After PDA*
*PDA **20** 13:24:37.6±0.7, 37.75N×25.42W, h5^{km}±3^{km}, ML3.0, Error ellipse: s-maj=1.7km s-min=1.4km az=113.0*
SVSA 20 13:24:37.6±0.7**, 37.75N×25.42W, h5**^{km}±3^{km}**, ML3.0, Error ellipse: s-maj=1.7km s-min=1.4km az=113.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	246	i P	Pg	13 24 38.8	+0.2
VIF				eS	Sg	13 24 39.5	+0.2
VIF	Vila Franca	0.02	246	eS	Sg	13 24 39.5	+0.2
PCNG	Congro	0.02	51	i P	Pg	13 24 38.6	-0.1
PCNG				eS	Sg	13 24 39.6	+0.2
PCNG	Congro	0.02	51	eS	Sg	13 24 39.6	+0.2
MESC	Monte Escuro	0.05	333	eP	Pg	13 24 39.0	+0.1
MESC				eS	Sg	13 24 40.3	+0.5
PRCH	Ribeira Ch	0.05	244	i P	Pg	13 24 39.2	+0.2
LFA	Lagoa do Fogo	0.06	292	i P	Pg	13 24 39.3	+0.2
PMAT	Coroa da Mata	0.08	327	eP	Pg	13 24 39.4	0.0
PMAT				eS	Sg	13 24 40.8	+0.2
CML	Cha da Macela	0.10	281	eP	Pg	13 24 40.4	+0.5
CML				eS	Sg	13 24 42.5	+1.1
PFAD	Fenais da Ajud	0.12	41	i P	Pg	13 24 40.4	+0.3
MIRA	Miradouro	0.12	73	eP	Pg	13 24 39.8	-0.3
MIRA				eS	Sg	13 24 41.6	-0.2
PDA	Ponta Delgada	0.19	269	eP	Pg	13 24 41.1	-0.5
PSET	Sete Cidades	0.25	287	eP	Pg	13 24 41.9	-0.8
PSET				eS	Sg	13 24 45.9	-0.2
	2µm,0.2s						
PSAN	Santo Antonio	0.26	292	eP	Pg	13 24 44.3	+1.4
PFET	Feteiras	0.30	283	eP	Pg	13 24 44.3	+0.6
SET2	Ginetes	0.32	287	eP	Pg	13 24 44.9	+0.8
PSMN	Pico do Norte,	0.80	159	eS	Sg	13 25 00.3	-3.9
PSCM	Serra do Cume	1.64	306	eS	Sb	13 25 22.6	-6.2
	62nm,0.4s						

*CSEM **20** 13:24:57.7, 37.63N×25.32W, h15^{km}, ML3.2, After PDA*
*PDA **20** 13:24:57.7±2.2, 37.63N×25.32W, h15^{km}±31^{km}, ML3.2, Error ellipse: s-maj=17.7km s-min=12.4km az=3.0*
SVSA 20 13:24:57.7±2.2**, 37.63N×25.32W, h15**^{km}±31^{km}**, ML3.2, Error ellipse: s-maj=17.7km s-min=12.4km az=3.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.15	335	eP	Pb	13 25 01.0	-0.6
VIF	Vila Franca	0.15	319	eP	Pb	13 25 01.1	-0.5
MIRA	Miradouro	0.15	12	eP	Pb	13 25 02.2	+0.5
PRCH	Ribeira Ch	0.16	306	eP	Pb	13 25 01.4	-0.4
MESC	Monte Escuro	0.19	328	i P	Pb	13 25 01.3	-1.0
LFA	Lagoa do Fogo	0.19	317	eP	Pb	13 25 01.5	-0.8
PFAD	Fenais da Ajud	0.20	359	eP	Pb	13 25 02.7	+0.1
CMLA	Cha da Macela	0.21	309	eS	Sb	13 25 06.7	+0.8
PMAT	Coroa da Mata	0.22	326	eP	Pb	13 25 01.7	-1.1
PDA	Ponta Delgada	0.29	292	eP	Pb	13 25 03.6	-0.5
PSET	Sete Cidades	0.37	301	eP	Pb	13 25 04.6	-0.8
PSET				eS	Sb	13 25 08.8	-1.9
PSAN	Santo Antonio	0.39	304	eS	Sb	13 25 06.4	-4.8
PFET	Feteiras	0.41	296	eS	Sb	13 25 06.5	-5.4
SET2	Ginetes	0.44	299	eS	Sb	13 25 07.3	-5.4
PSCM	Serra do Cume	1.77	307	eP	Pn	13 25 25.3	-2.9
PSCM				eS	Sn	13 25 44.9	-5.6
	359nm,0.5s						
PSCM	Serra do Cume	1.77	307	eP	Pn	13 25 25.3	-2.9
PSCM				eS	Sn	13 25 44.9	-5.6
RIB2	Ribeirinha	1.79	306	eS	Sn	13 25 45.4	-5.6
	60nm,0.3s						
ADH	Angra Heroismo	1.82	305	eP	Pn	13 25 25.7	-3.2
ADH				eS	Sn	13 25 45.4	-6.4
PPAD	Pico dos Padre	1.88	305	eS	Sn	13 25 47.3	-6.0
	14nm,0.1s						
ASBA	Santa Barbara	1.92	305	eS	Sn	13 25 49.0	-5.2
	28nm,0.3s						
PICO	Pico	2.60	290	eP	Pn	13 25 37.5	-2.5
PICO				eS	Sn	13 26 06.0	-5.5
CALA	Caldeira	2.83	291	eP	Pn	13 25 39.9	-3.4
CALA				eS	Sn	13 26 11.7	-5.7

*CSEM **20** 13:25:28.3±0.5, 37.76N×25.40W, h8^{km}±3^{km}, ML3.2, Error ellipse: s-maj=3.3km s-min=2.3km az=91.0, After PDA*
*PDA **20** 13:25:28.3±0.5, 37.76N×25.40W, h8^{km}±3^{km}, ML3.2, Error ellipse: s-maj=3.3km s-min=2.3km az=91.0*
SVSA 20 13:25:28.3±0.5**, 37.76N×25.40W, h8**^{km}±3^{km}**, ML3.2, Error ellipse: s-maj=3.3km s-min=2.3km az=91.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.01	16	eP	Pg	13 25 29.8	0.0
PCNG				eS	Sg	13 25 31.0	+0.2
	7µm,0.3s						
VIF	Vila Franca	0.03	250	i P	Pg	13 25 29.8	-0.1
VIF				eS	Sg	13 25 31.0	-0.1
VIF	Vila Franca	0.03	250	eS	Sg	13 25 31.0	-0.1
MESC	Monte Escuro	0.05	316	i P	Pg	13 25 30.0	-0.1
MESC				eS	Sg	13 25 31.2	-0.1
MESC	Monte Escuro	0.05	316	eS	Sg	13 25 31.2	-0.1
PRCH	Ribeira Ch	0.07	246	eS	Sg	13 25 31.6	-0.1
	5µm,0.2s						
PMAT	Coroa da Mata	0.08	317	eP	Pg	13 25 30.5	0.0
PMAT				eS	Sg	13 25 31.8	-0.2
CMLA	Cha da Macela	0.10	274	eP	Pg	13 25 29.4	-1.4
CMLA				eS	Sg	13 25 31.3	-1.1
CML	Cha da Macela	0.12	277	eP	Pg	13 25 31.5	+0.4

*CSEM **20** 13:26:11.7, 37.77N×25.43W, h1^{km}, ML2.7, After PDA*
*PDA **20** 13:26:11.7±0.9, 37.77N×25.43W, h1^{km}±1^{km}, ML2.7, Error ellipse: s-maj=2.2km s-min=1.1km az=98.0*
SVSA 20 13:26:11.7±0.9**, 37.77N×25.43W, h1**^{km}±1^{km}**, ML2.7, Error ellipse: s-maj=2.2km s-min=1.1km az=98.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	92	eP	Pg	13 26 12.8	+0.6
VIF	Vila Franca	0.03	205	eP	Pg	13 26 12.8	+0.6
VIF				eS	Sg	13 26 13.5	+0.9
MESC	Monte Escuro	0.03	328	eP	Pg	13 26 13.0	+0.7
LFA	Lagoa do Fogo	0.04	276	eP	Pg	13 26 13.3	+0.7
PRCH	Ribeira Ch	0.06	227	eP	Pg	13 26 13.3	+0.4
PRCH				eS	Sg	13 26 14.8	+1.1
PMAT	Coroa da Mata	0.06	323	eP	Pg	13 26 13.6	+0.7
PMAT				eS	Sg	13 26 14.8	+1.1
PVER	Pico Vermelho	0.07	293	eP	Pg	13 26 15.1	+1.9
CML	Cha da Macela	0.10	272	eP	Pg	13 26 14.6	+1.0
PFAD	Fenais da Ajud	0.11	49	eP	Pg	13 26 14.3	+0.4
MIRA	Miradouro	0.12	81	eP	Pg	13 26 13.7	-0.4
FAC	Faja de Cima	0.18	272	eP	Pg	13 26 16.5	+1.2
PDA	Ponta Delgada	0.19	264	eP	Pg	13 26 15.5	0.0
PSAN	Santo Antonio	0.25	289	eP	Pg	13 26 17.8	+1.1
PFET	Feteiras	0.29	280	eP	Pg	13 26 18.3	+0.8
SET2	Ginetes	0.31	284	eP	Pg	13 26 18.8	+0.9
SET4	Mosteiros	0.31	290	eP	Pg	13 26 18.7	+0.7
PFAV	Pico das Favas	1.61	306	eP	Pn	13 26 37.5	-3.9
PFAV				eS	Sb	13 26 56.4	-6.3
	22nm,0.2s						
RIB2	Ribeirinha	1.65	304	eP	Pn	13 26 38.4	-3.5
RIB2				eS	Sb	13 26 57.3	-6.4
	28nm,0.2s						
ADH	Angra Heroismo	1.68	302	eS	Sb	13 26 58.8	-5.8
PVNV	Vila Nova	1.69	307	eP	Pn	13 26 38.1	-4.4
PVNV				eS	Sb	13 26 58.1	-6.8
	26nm,0.3s						
PPAD	Pico dos Padre	1.74	303	eP	Pn	13 26 39.0	-4.2
PPAD				eS	Sn	13 26 59.3	-7.0
	14nm,0.1s						
ASBA	Santa Barbara	1.77	303	eP	Pn	13 26 40.0	-3.7
ASBA				eS	Sn	13 27 00.8	-6.4
	18nm,0.2s						

*CSEM **20** 13:27:10.3, 37.76N×25.43W, h5^{km}, ML3.0, After PDA*
*PDA **20** 13:27:10.3±0.6, 37.76N×25.43W, h5^{km}±1^{km}, ML3.0, Error ellipse: s-maj=1.9km s-min=1.6km az=148.0*
SVSA 20 13:27:10.3±0.6**, 37.76N×25.43W, h5**^{km}±1^{km}**, ML3.0, Error ellipse: s-maj=1.9km s-min=1.6km az=148.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	224	eP	Pg	13 27 11.9	+0.6
VIF				eS	Sg	13 27 12.8	+0.8
	6µm,0.2s						
PCNG	Congro	0.03	67	eP	Pg	13 27 12.0	+0.6
PCNG				eS	Sg	13 27 13.1	+1.0
	10µm,0.2s						
MESC	Monte Escuro	0.04	336	eP	Pg	13 27 12.2	+0.7
LFA	Lagoa do Fogo	0.05	289	eP	Pg	13 27 12.1	+0.4
PRCH	Ribeira Ch	0.05	236	eS	Sg	13 27 13.5	+0.8
FRA1	Furnas	0.06	104	erx		13 27 13.2	
PMAT	Coroa da Mata	0.07	328	eS	Sg	13 27 14.0	+0.9
CML	Cha da Macela	0.10	278	eP	Pg	13 27 13.5	+1.0
CML				eS	Sg	13 27 15.7	+1.8
PFAD	Fenais da Ajud	0.12	45	eP	Pg	13 27 13.1	+0.3
MIRA	Miradouro	0.12	76	erx		13 27 14.2	
FAC	Faja de Cima	0.18	275	eP	Pg	13 27 14.2	+0.2
FAC				eS	Sg	13 27 17.0	+0.5
PSAN	Santo Antonio	0.26	292	erx		13 27 16.8	
PFET	Feteiras	0.29	282	erx		13 27 17.0	
SET2	Ginetes	0.31	286	erx		13 27 17.9	
SET4	Mosteiros	0.32	292	erx		13 27 16.6	

*CSEM **20** 13:28:37.9, 37.76N×25.41W, h5^{km}, ML2.6, After PDA*
*PDA **20** 13:28:37.9±0.4, 37.76N×25.41W, h5^{km}±1^{km}, ML2.6, Error ellipse: s-maj=1.5km s-min=1.2km az=97.0*
SVSA 20 13:28:37.9±0.4**, 37.76N×25.41W, h5**^{km}±1^{km}**, ML2.6, Error ellipse: s-maj=1.5km s-min=1.2km az=97.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	52	i P	Pg	13 28 39.2	+0.3
PCNG				eS	Sg	13 28 40.6	+1.0
PCNG	Congro	0.02	52	eS	Sg	13 28 40.6	+1.0
VIF	Vila Franca	0.02	241	i P	Pg	13 28 39.4	+0.5
VIF				eS	Sg	13 28 40.6	+1.0
VIF	Vila Franca	0.02	241	eS	Sg	13 28 40.6	+1.0
MESC	Monte Escuro	0.04	326	i P	Pg	13 28 39.6	+0.4
MESC				eS	Sg	13 28 41.3	+1.2
FRA1	Furnas	0.05	106	eP	Pg	13 28 39.2	0.0
LFA	Lagoa do Fogo	0.06	287	i P	Pg	13 28 40.1	+0.7
PRCH	Ribeira Ch	0.06	242	eS	Sg	13 28 41.3	+0.9
	2µm,0.2s						
PMAT	Coroa da Mata	0.07	323	eP	Pg	13 28 40.0	+0.3
PMAT				eS	Sg	13 28 41.7	+0.9
CML	Cha da Macela	0.11	278	eP	Pg	13 28 41.5	+1.3
PFAD	Fenais da Ajud	0.11	41	eP	Pg	13 28 40.7	+0.4
PFAD				eS	Sg	13 28 42.8	+0.9
MIRA	Miradouro	0.11	75	eS	Sg	13 28 42.0	+0.1

*IDC **20** 13:29:37.2±1.4, 36.35N×69.35E, mb3.9/8, mb1 4.1/10, mb1mx3.9/22, mbtmp3.9/10, ML3.7/2, Error ellipse: s-maj=29.4km s-min=24.0km az=7.0*
*NEIC **20** 13:29:39.1±1.2, 36.54N×69.17E, h10^{km}, mb3.4/3, Error ellipse: s-maj=18.5km s-min=16.1km az=165.0*
*NNC **20** 13:29:45.5±5.0, 36.70N×68.95E, h108^{km}±74^{km}, mpv4.2, Error ellipse: s-maj=38.5km s-min=32.5km az=18.0*
ISC 20 13:29:43.2±2.3**, 36.7N**±0.1×**69.2E**±0.1**, h57**^{km}±19^{km}**, n29,** σ**1**^{s}**31**/33**, mb3.9**/8**, 7C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.50	31	P	P	13 31 19.4	+1.0
	SNR=30						
KK31	Karatay Array	6.52	9	⇓P	P	13 31 19.1	+0.3
	2.6nm,0.3s,baz=201,slow=15,SNR=57						
KK31				⇑S	S	13 32 32.9	+0.4
	2.5nm,0.3s,baz=185,slow=19,SNR=4.4						
KK31				Lg		13 33 09.0	
	16nm,0.6s,baz=194,slow=30,SNR=9.2						
KK31	Karatay Array	6.52	9	⇓P	P	13 31 19.1	+0.3
	2.6nm,0.3s						
KK31				S	S	13 32 32.9	+0.4
KK31				Lg		13 33 09.0	
UCH	Uchtor	6.94	35	P	P	13 31 24.6	0.0
	SNR=32						
EKS2	Erkin-Say	6.97	29	P	P	13 31 25.9	+0.7
	SNR=7.9						
KZA	Kyzart	7.18	39	P	P	13 31 30.0	+2.1
	SNR=8.4						
AAK	Ala-Archa	7.25	33	P	P	13 31 29.3	+0.4
	SNR=26						
AAK	Ala-Archa	7.25	33	⇑P	P	13 31 29.5	+0.5
	12nm,0.4s						
AAK				⇓S	S	13 32 51.0	+0.4
	8.9nm,0.5s						
AAK	Ala-Archa	7.25	33	⇑eP	P	13 31 28.2	-0.8
	24nm,0.3s						
AAK				⇑P		13 31 29.4	
AAK				S	S	13 32 51.0	+0.4
CHMS	Chumysh	7.66	32	P	P	13 31 34.6	+0.1
	SNR=11						
USP	Ospenovka	7.77	30	P	P	13 31 35.7	-0.4
	SNR=6.9						
TKM2	Tokmak 2	7.98	36	P	P	13 31 39.0	0.0
	SNR=9.0						
MK31	Makanchi Array	14.08	40	P	P	13 33 00.1	-0.9
	2.8nm,1.1s,baz=226,slow=13,SNR=6.1						
MKAR	Makanchi Array	14.08	40	Pn	P	13 32 58.7	-2.3
	0.1nm,0.3s,baz=229,slow=14,SNR=6.3						
AB31	Akbulak array	14.27	335	⇑P	P	13 33 00.8	-2.7
	3.0nm,0.6s,baz=154,slow=13,SNR=43						
AB31				⇑S	S	13 35 34.3	-6.4
	1.3nm,0.5s,baz=164,slow=22,SNR=5.4						
BVA0	Borovoye Array	16.39	3	⇑P	P	13 33 30.9	+0.3
	0.3nm,0.5s,baz=168,slow=13,SNR=20						
BVAR	Borovoye Array	16.39	3	Pn	P	13 33 28.7	-1.9
	1.0nm,0.3s,baz=164,slow=13,SNR=18						
BRVK	Borovoye	16.42	2	ePn	P	13 33 31.2	+0.2
	1.5nm,0.6s						
ZAL	Zalesovo	20.40	27	P	P	13 34 16.9	-0.8
	3.1nm,0.4s,baz=218,slow=6.2,SNR=4.2						
ARU	Arti	21.03	343	P	P	13 34 21.6	-2.4
	24nm,2.0s,mb4.2						
SONM	Songino Array	29.47	56	P	P	13 35 43.2	-0.4
	0.4nm,0.3s,mb3.6,baz=240,slow=12,SNR=7.0						
AKASG	Malin Array Be	31.69	309	P	P	13 36 04.5	+1.2
	0.8nm,0.5s,mb3.8,baz=85,slow=7.6,SNR=4.8						
HFS	Hagfors	42.03	322	P	P	13 37 32.7	+2.6
	3.0nm,0.5s,mb4.2,baz=100,slow=9.0,SNR=11						
NB2	NORSAR Subarra	43.36	323	P	P	13 37 42.9	+1.8
	1.3nm,0.5s,mb3.9,baz=99,slow=7.9						
NOA	NORSAR Array B	43.36	323	P	P	13 37 42.8	+1.7
	1.1nm,0.4s,mb3.9,baz=98,slow=8.0,SNR=4.7						
INK	Inuvik	73.98	9	P	P	13 41 16.6	+3.0
	2.6nm,0.9s,mb4.2,baz=306,slow=10,SNR=6.3						
ILAR	Eielson Array	75.02	15	P	P	13 41 22.0	+2.3
	0.6nm,0.8s,mb3.6,baz=349,slow=4.3,SNR=6.7						
WRA	Warramunga Arr	83.34	121	P	P	13 42 04.6	-0.9
	0.2nm,0.5s,mb3.4,baz=328,slow=4.8,SNR=4.8						
SDV	Santo Domingo	121.04	312	PKP	PKPdf	13 48 33.1	+3.2
	4.3nm,0.6s,baz=285,slow=3.8,SNR=4.2						

*IDC **20** 13:29:55.3±1.1, 37.66N×25.30W, mb3.9/7, mb1 4.0/9, mb1mx3.8/27, mbtmp3.8/9, ML4.4/1, MS3.8/11, Ms1 3.8/11, ms1mx3.7/20, Error ellipse: s-maj=36.5km s-min=24.1km az=164.0*
*CSEM **20** 13:29:55.8±0.1, 37.76N×25.47W, h20^{km}, ML3.9, Error ellipse: s-maj=3.6km s-min=3.0km az=78.0*
*NEIC **20** 13:29:56.4±0.7, 37.68N×25.30W, h10^{km}, mb4.5/1, Error ellipse: s-maj=24.2km s-min=10.2km az=188.0*
*SVSA **20** 13:29:57.6±1.6, 37.74N×25.42W, h4^{km}±2^{km}, MD4.0, ML3.9, Error ellipse: s-maj=5.6km s-min=3.2km az=57.0*
*PDA **20** 13:29:57.6±1.6, 37.74N×25.42W, h4^{km}±2^{km}, MD4.0, ML3.9, Error ellipse: s-maj=5.6km s-min=3.2km az=57.0*
ISC 20 13:29:55.3±0.4**, 37.67N**±0.03×**25.66W**±0.03**, h4**^{km}**, n57,** σ**0**^{s}**91**/64**, mb4.0**/7**, MS3.8**/10**, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.08	0	i P	Pg	13 30 01.3	+4.3
FAC	Faja de Cima	0.10	6	eP	Pg	13 30 02.8	+5.3
CML	Cha da Macela	0.14	42	i P	Pg	13 30 00.8	+2.6
CMLA	Cha da Macela	0.14	49	eP	Pg	13 29 58.6	+0.3
CMLA				eS	Sg	13 30 00.0	-0.3
CMLA	Cha da Macela	0.14	49	ePg	Pg	13 29 59.2	+0.9
CMLA				eS	Sg	13 30 00.0	-0.3
PRCH	Ribeira Ch	0.16	68	eP	Pg	13 29 59.5	+1.0
PSET	Sete Cidades	0.16	344	eP	Pg	13 30 02.7	+4.1
LFA	Lagoa do Fogo	0.18	54	eP	Pg	13 29 59.6	+0.7
PFET	Feteiras	0.18	326	i P	Pg	13 30 04.8	+5.9
PSAN	Santo Antonio	0.19	345	i P	Pg	13 30 04.1	+5.0
PSAN	Santo Antonio	0.19	345	erx	rx	13 30 32.6	
VIF	Vila Franca	0.19	67	eP	Pg	13 29 59.0	-0.2
SET2	Ginetes	0.21	327	i P	Pg	13 30 05.0	+5.5
SET2	Ginetes	0.21	327	erx	rx	13 30 38.0	
PMAT	Coroa da Mata	0.21	46	eP	Pg	13 29 59.9	+0.3
MESC	Monte Escuro	0.21	54	eP	Pg	13 29 59.4	-0.2
SET4	Mosteiros	0.23	332	eP	Pg	13 30 05.0	+5.0
PCNG	Congro	0.23	65	eP	Pg	13 29 58.9	-1.1
PFAD	Fenais da Ajud	0.32	58	i P	Pg	13 30 00.8	-0.9
MIRA	Miradouro	0.33	69	i P	Pg	13 30 00.3	-1.6
PSMN	Pico do Norte,	0.82	144	eP	Pg	13 30 11.2	-0.4
PSMN				eS	Sg	13 30 21.2	-1.4
PFAV	Pico das Favas	1.53	313	eP	Pn	13 30 24.7	+1.2
PFAV				eS	Sb	13 30 43.7	+0.3
PSCM	Serra do Cume	1.54	312	eP	Pn	13 30 23.1	-0.5
PSCM				eS	Sb	13 30 42.6	-1.2
	2µm,0.4s						
RIB2	Ribeirinha	1.56	311	eP	Pn	13 30 24.2	+0.4
RIB2				eS	Sb	13 30 44.5	+0.3
	325nm,0.4s						
ADH	Angra Heroismo	1.58	309	eP	Pn	13 30 23.9	-0.3
ADH				eS	Sb	13 30 43.4	-1.6
PVNV	Vila Nova	1.60	313	eP	Pn	13 30 24.7	+0.2
PVNV				eS	Sb	13 30 44.2	-1.4
	107nm,0.2s						
PPAD	Pico dos Padre	1.64	309	eP	Pn	13 30 25.7	+0.6
PPAD				eS	Sb	13 30 46.6	-0.1
	341nm,0.5s						
PBIS	Biscoitos	1.66	312	eP	Pn	13 30 25.4	+0.1
PBIS				eS	Sb	13 30 46.2	-1.0
	146nm,0.5s						
ASBA	Santa Barbara	1.68	309	eP	Pn	13 30 26.4	+0.8
ASBA				eS	Sn	13 30 47.6	-0.2
	107nm,0.3s						
PIED	Piedade	2.03	292	erx		13 30 33.2	
PBOI	Pico dos Bois	2.27	291	eP	Pn	13 30 35.9	+1.8
PBOI				eS	Sn	13 31 02.8	-0.1
STGR	Santa Cruz	2.32	308	eP	Pn	13 30 37.0	+2.3
STGR				eS	Sn	13 31 04.5	+0.5
	33nm,0.2s						
PICO	Pico	2.33	292	eP	Pn	13 30 35.5	+0.5
PICO				eS	Sn	13 31 03.5	-0.9
HOR	Horta	2.49	291	eP	Pn	13 30 37.5	+0.3
HOR				eS	Sn	13 31 07.1	-1.4
CALA	Caldeira	2.56	292	eP	Pn	13 30 38.5	+0.2
CALA				eS	Sn	13 31 09.8	-0.5
PTCA	Ponta do Capel	2.63	291	eP	Pn	13 30 40.3	+1.0
PTCA				eS	Sn	13 31 12.2	+0.1
PLUZ	Luz	2.93	298	eP	Pn	13 30 36.6	-6.9
PLUZ				eS	Sn	13 31 02.5	-17
ESDC	Sonseca Array	17.06	77	Pn	P	13 33 50.0	-6.2
	0.3nm,0.3s,baz=264,slow=13,SNR=2.5						
MDT	Midelt	17.85	99	Pn	P	13 34 01.4	-4.7
	0.1nm,0.3s,baz=279,slow=13,SNR=2.0						
MDT				LR	LR	13 39 29.2	
	comp=Z,133nm,19.1s,baz=357,slow=33						
DAVOX	Davos	27.65	59	LR	LR	13 45 33.2	
	comp=Z,219nm,20.0s,MS3.7,baz=267,slow=34						
GERES	GERESS Array B	30.45	56	LR	LR	13 46 05.5	
	comp=Z,124nm,20.8s,MS3.5,baz=65,slow=32						
VAE	Valguarnera	31.60	78	LR	LR	13 47 04.8	
	comp=Z,189nm,20.4s,MS3.8,baz=148,slow=33						
NOA	NORSAR Array B	32.80	33	LR	LR	13 47 41.1	
	comp=Z,151nm,20.3s,MS3.7,baz=255,slow=33						
FINES	FINESS Array B	39.67	36	LR	LR	13 53 04.1	
	comp=Z,122nm,19.1s,MS3.8,baz=170,slow=35						
ARCES	ARCESS Array B	41.87	24	LR	LR	13 54 52.5	
	comp=Z,115nm,19.3s,MS3.8,baz=244,slow=36						
SDV	Santo Domingo	49.60	247	P	P	13 38 51.7	+2.0
	6.6nm,0.9s,mb4.7,baz=55,slow=4.0,SNR=5.8						
SDV	Santo Domingo	49.60	247	eP	P	13 38 50.4	+0.6
	3.7nm,0.6s,mb4.6						
SDV				P	pP	13 38 51.8	+0.7
SDV	Santo Domingo	49.60	247	eP	P	13 38 50.4	+0.6
ULM	Lac du Bonnet	50.28	308	LR	LR	13 58 56.5	
	comp=Z,82nm,18.6s,MS3.8,baz=301,slow=34						
YKA	Yellowknife Ar	56.92	326	LR	LR	14 02 29.9	
	comp=Z,61nm,18.3s,MS3.7,baz=80,slow=34						
PDAR	Pinedale Array	61.72	304	P	P	13 40 16.3	-0.5
	1.1nm,0.9s,mb4.0,baz=90,slow=3.0,SNR=6.7						
TXAR	Lajitas Array	63.86	288	P	P	13 40 31.6	+0.4
	0.6nm,0.3s,mb4.1,baz=72,slow=7.2,SNR=5.8						
ELK	Elko	66.42	304	P	P	13 40 48.5	+1.0
	1.2nm,0.8s,mb4.0,baz=52,slow=5.5,SNR=5.1						
ELK	Elko	66.42	304	P	P	13 40 48.5	+1.0
LPAZ	La Paz	66.89	225	P	P	13 40 50.8	-0.1
	1.7nm,0.8s,mb4.1,baz=28,slow=14,SNR=4.5						
LPAZ				LR	LR	14 06 52.5	
	comp=Z,61nm,18.6s,MS3.8,baz=86,slow=33						
ILAR	Eielson Array	68.07	337	P	P	13 40 57.2	-0.4
	0.5nm,0.9s,mb3.5,baz=34,slow=3.3,SNR=2.9						
MKAR	Makanchi Array	74.09	43	P	P	13 41 33.0	-1.0
	1.2nm,0.9s,mb3.8,baz=306,slow=5.1,SNR=5.3						
MKAR				LR	LR	14 13 19.3	
	comp=Z,125nm,21.4s,MS4.2,baz=182,slow=35						

*CSEM **20** 13:34:42.8, 37.75N×25.39W, h8^{km}, ML2.7, After PDA*
*PDA **20** 13:34:42.8±0.7, 37.75N×25.39W, h8^{km}±3^{km}, ML2.7, Error ellipse: s-maj=3.9km s-min=2.7km az=128.0*
SVSA 20 13:34:42.8±0.7**, 37.75N×25.39W, h8**^{km}±3^{km}**, ML2.7, Error ellipse: s-maj=3.9km s-min=2.7km az=128.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**340**	eP	Pg	13 34 44.6	+0.3
PCNG				eS	Sg	13 34 46.0	+0.6
	2µm,0.3s						
VIF	**Vila Franca**	**0.04**	**260**	eP	Pg	13 34 44.9	+0.4
VIF				eS	Sg	13 34 46.7	+1.0
	1µm,0.2s						
MESC	**Monte Escuro**	**0.06**	**312**	eP	Pg	13 34 45.0	+0.3
MESC				eS	Sg	13 34 47.0	+1.0
PRCH	**Ribeira Ch**	**0.08**	**252**	eS	Sg	13 34 46.9	+0.5
	1µm,0.2s						
LFA	**Lagoa do Fogo**	**0.08**	**285**	eP	Pg	13 34 45.1	+0.1
PMAT	**Coroa da Mata**	**0.09**	**315**	eS	Sg	13 34 47.3	+0.6
MIRA	**Miradouro**	**0.09**	**69**	erx		13 34 48.1	
MIRA	**Miradouro**	**0.09**	**69**	e-		13 34 48.1	
PFAD	**Fenais da Ajud**	**0.10**	**31**	eP	Pg	13 34 45.7	+0.4
CML	**Cha da Macela**	**0.13**	**279**	eP	Pg	13 34 46.0	+0.3
FAC	**Faja de Cima**	**0.21**	**276**	erx		13 34 46.9	

*CSEM **20** 13:34:55.9, 37.75N×25.43W, h5km, ML2.6, After PDA*
*PDA **20** 13:34:55.9±0.9, 37.75N×25.43W, h5km±1km, ML2.6, Error ellipse: s-maj=2.7km s-min=2.0km az=125.0*
SVSA 20 13:34:55.9±0.9, 37.75N×25.43W, h5km±1km, ML2.6, Error ellipse: s-maj=2.7km s-min=2.0km az=125.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.01**	**244**	i P	Pg	13 34 57.4	+0.6
VIF				eS	Sg	13 34 58.1	+0.7
VIF	**Vila Franca**	**0.01**	**244**	eS	Sg	13 34 58.1	+0.7
PCNG	**Congro**	**0.04**	**56**	i P	Pg	13 34 57.5	+0.4
PCNG				i S	Sg	13 34 58.7	+0.9
PCNG	**Congro**	**0.04**	**56**	i S	Sg	13 34 58.7	+0.9
PRCH	**Ribeira Ch**	**0.04**	**243**	eP	Pg	13 34 57.8	+0.7
PRCH				eS	Sg	13 34 58.8	+0.9
LFA	**Lagoa do Fogo**	**0.05**	**303**	eP	Pg	13 34 57.9	+0.7
MESC	**Monte Escuro**	**0.05**	**349**	eP	Pg	13 34 57.9	+0.7
MESC				eS	Sg	13 34 59.5	+1.4
FRA1	**Furnas**	**0.06**	**94**	eP	Pg	13 34 57.3	-0.1
CMLA	**Cha da Macela**	**0.07**	**283**	eP	Pg	13 34 57.0	-0.6
CMLA				eS	Sg	13 34 58.8	0.0
PMAT	**Coroa da Mata**	**0.07**	**337**	eP	Pg	13 34 58.3	+0.7
PMAT				eS	Sg	13 34 59.6	+0.8
CML	**Cha da Macela**	**0.09**	**285**	eP	Pg	13 34 58.9	+1.0
PFAD	**Fenais da Ajud**	**0.13**	**44**	eP	Pg	13 34 59.2	+0.6
MIRA	**Miradouro**	**0.13**	**73**	eP	Pg	13 34 58.5	-0.1
MIRA				eS	Sg	13 35 01.3	+0.9
FAC	**Faja de Cima**	**0.17**	**279**	eP	Pg	13 35 00.7	+1.2
PDA	**Ponta Delgada**	**0.18**	**270**	eP	Pg	13 34 59.8	+0.2
PDA				eS	Sg	13 35 02.7	+0.6
PSET	**Sete Cidades**	**0.24**	**289**	eP	Pg	13 35 00.4	-0.4
PSET				eS	Sg	13 35 04.5	+0.5
	792nm,0.3s						
PSAN	**Santo Antonio**	**0.25**	**294**	eP	Pg	13 35 02.1	+1.1
PFET	**Feteiras**	**0.29**	**284**	eP	Pg	13 35 02.8	+1.0
SET2	**Ginetes**	**0.31**	**288**	eP	Pg	13 35 03.0	+0.8
SET4	**Mosteiros**	**0.32**	**294**	eP	Pg	13 35 02.9	+0.6
PSMN	**Pico do Norte,**	**0.80**	**158**	eS	Sg	13 35 18.2	-4.3

*CSEM **20** 13:37:41.6, 37.77N×25.40W, h7km, ML2.5, After PDA*
*PDA **20** 13:37:41.6±0.7, 37.77N×25.40W, h7km±2km, ML2.5, Error ellipse: s-maj=2.8km s-min=1.5km az=50.0*
SVSA 20 13:37:41.6±0.7, 37.77N×25.40W, h7km±2km, ML2.5, Error ellipse: s-maj=2.8km s-min=1.5km az=50.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**70**	eP	Pg	13 37 43.4	+0.6
PCNG				eS	Sg	13 37 44.5	+0.9
	3µm,0.3s						
PCNG	**Congro**	**0.01**	**70**	erx	rx	13 37 37.0	
VIF	**Vila Franca**	**0.04**	**235**	eP	Pg	13 37 43.6	+0.6
VIF				eS	Sg	13 37 44.8	+0.8
	5µm,0.2s						
FRA1	**Furnas**	**0.04**	**121**	eP	Pg	13 37 44.6	+1.5
FRA1				eS	Sg	13 37 46.0	+1.9
MESC	**Monte Escuro**	**0.04**	**310**	eP	Pg	13 37 43.7	+0.6
MESC				eS	Sg	13 37 45.1	+1.0
LFA	**Lagoa do Fogo**	**0.06**	**277**	eP	Pg	13 37 44.2	+0.8
LFA	**Lagoa do Fogo**	**0.06**	**277**	erx	rx	13 37 37.3	
PRCH	**Ribeira Ch**	**0.07**	**239**	eP	Pg	13 37 44.1	+0.6
PRCH				eS	Sg	13 37 45.4	+0.7
	455nm,0.1s						
PRCH	**Ribeira Ch**	**0.07**	**239**	erx	rx	13 37 37.4	
PMAT	**Coroa da Mata**	**0.07**	**313**	eS	Sg	13 37 45.7	+0.9
PMAT	**Coroa da Mata**	**0.07**	**313**	eS	Sg	13 37 45.7	+0.9
CMLA	**Cha da Macela**	**0.10**	**269**	eP	Pg	13 37 44.7	+0.8
CMLA				eS	Sg	13 37 46.7	+1.3
CML	**Cha da Macela**	**0.11**	**273**	eP	Pg	13 37 45.3	+1.1
PDA	**Ponta Delgada**	**0.21**	**265**	eP	Pg	13 37 45.5	-0.4
PDA				eS	Sg	13 37 49.4	+0.6
PSET	**Sete Cidades**	**0.26**	**283**	eP	Pg	13 37 46.8	-0.1
PSET				eS	Sg	13 37 50.8	+0.4
	813nm,0.4s						
PSMN	**Pico do Norte,**	**0.81**	**160**	eS	Sb	13 38 05.1	-3.3

*CSEM **20** 13:38:13.2, 37.73N×25.45W, h6km, ML3.0, After PDA*
*PDA **20** 13:38:13.2±0.9, 37.73N×25.45W, h6km±4km, ML3.0, Error ellipse: s-maj=10.6km s-min=2.1km az=50.0*
SVSA 20 13:38:12.4±1.4, 37.77N×25.43W, h1km±1km, ML2.9, Error ellipse: s-maj=2.3km s-min=1.5km az=74.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**95**	eP	Pg	13 38 13.4	+0.5
PCNG				eS	Sg	13 38 14.5	+1.3
VIF	**Vila Franca**	**0.03**	**206**	eP	Pg	13 38 13.6	+0.7
VIF				eS	Sg	13 38 14.9	+1.6
MESC	**Monte Escuro**	**0.03**	**326**	eP	Pg	13 38 13.6	+0.6
MESC				eS	Sg	13 38 15.0	+1.6
LFA	**Lagoa do Fogo**	**0.05**	**274**	eP	Pg	13 38 14.0	+0.7
PMAT	**Coroa da Mata**	**0.06**	**322**	eS	Sg	13 38 15.4	+1.0
FRA1	**Furnas**	**0.06**	**116**	eP	Pg	13 38 13.1	-0.5
FRA1				eS	Sg	13 38 14.2	-0.2
PRCH	**Ribeira Ch**	**0.06**	**227**	eS	Sg	13 38 15.6	+1.2
CMLA	**Cha da Macela**	**0.08**	**266**	eP	Pg	13 38 14.4	+0.4
CMLA				eS	Sg	13 38 15.8	+0.8
CML	**Cha da Macela**	**0.10**	**271**	eP	Pg	13 38 16.2	+1.9
PFAD	**Fenais da Ajud**	**0.11**	**49**	eS	Sg	13 38 16.1	+0.1
MIRA	**Miradouro**	**0.12**	**82**	eP	Pg	13 38 15.8	+1.1
MIRA				eS	Sg	13 38 18.0	+1.7
FAC	**Faja de Cima**	**0.18**	**271**	eS	Sg	13 38 18.8	+0.4
PDA	**Ponta Delgada**	**0.19**	**263**	eP	Pg	13 38 16.7	+0.5
PSET	**Sete Cidades**	**0.24**	**283**	eP	Pg	13 38 18.2	+1.0
PSET				eS	Sg	13 38 21.9	+1.5
	4µm,0.3s						
PSAN	**Santo Antonio**	**0.25**	**289**	eS	Sg	13 38 20.1	-0.7
PFET	**Feteiras**	**0.29**	**280**	eS	Sg	13 38 20.1	-2.0
SET2	**Ginetes**	**0.31**	**284**	eS	Sg	13 38 20.7	-2.1
SET4	**Mosteiros**	**0.31**	**290**	eS	Sg	13 38 20.9	-2.0
PSMN	**Pico do Norte,**	**0.82**	**159**	eP	Pg	13 38 26.4	-2.3
PSMN				eS	Sg	13 38 36.3	-3.3
PSMN	**Pico do Norte,**	**0.82**	**159**	eP	Pg	13 38 26.7	-2.0
PSMN				eS	Sg	13 38 36.9	-2.7
PFAV	**Pico das Favas**	**1.61**	**306**	eP	Pn	13 38 40.9	-1.3
PFAV				eS	Sb	13 39 00.1	-3.4
PSCM	**Serra do Cume**	**1.62**	**305**	eP	Pn	13 38 38.1	-4.3
PSCM				eS	Sb	13 38 57.2	-6.7
	88nm,0.4s						
RIB2	**Ribeirinha**	**1.65**	**304**	eP	Pn	13 38 40.3	-2.4
RIB2				eS	Sb	13 38 59.6	-4.9
	45nm,0.3s						
RIB2	**Ribeirinha**	**1.65**	**304**	eP	Pn	13 38 39.0	-3.7
RIB2				eS	Sb	13 38 58.5	-6.0
	40nm,0.3s						
ADH	**Angra Heroismo**	**1.68**	**302**	eS	Sb	13 38 58.5	-6.9
PVNV	**Vila Nova**	**1.69**	**307**	eP	Pn	13 38 40.5	-2.7
PVNV				eS	Sb	13 39 00.4	-5.2
	34nm,0.3s						
PVNV	**Vila Nova**	**1.69**	**307**	eP	Pn	13 38 40.0	-3.2
PVNV				eS	Sb	13 38 59.5	-6.1
	31nm,0.3s						
PPAD	**Pico dos Padre**	**1.74**	**303**	eP	Pn	13 38 41.0	-3.0
PPAD				eS	Sn	13 39 01.0	-6.1
	14nm,0.2s						
PPAD	**Pico dos Padre**	**1.74**	**303**	eP	Pn	13 38 40.0	-4.0
PPAD				eS	Sn	13 39 00.7	-6.4
	12nm,0.1s						
PBIS	**Biscoitos**	**1.75**	**305**	eS	Sn	13 39 02.1	-5.3
	18nm,0.2s						
PBIS	**Biscoitos**	**1.75**	**305**	eS	Sn	13 39 01.3	-6.1
	11nm,0.1s						
ASBA	**Santa Barbara**	**1.77**	**303**	eP	Pn	13 38 42.9	-1.6
ASBA				eS	Sn	13 39 03.4	-4.6
	25nm,0.2s						
ASBA	**Santa Barbara**	**1.77**	**303**	eP	Pn	13 38 41.1	-3.4
ASBA				eS	Sn	13 39 02.3	-5.7
	16nm,0.2s						
PICO	**Pico**	**2.48**	**288**	eP	Pn	13 38 50.7	-3.9
PICO				eS	Sn	13 39 18.4	-7.5
CALA	**Caldeira**	**2.71**	**288**	erx		13 38 53.8	
CALA				eS	Sn	13 39 24.2	-7.5

*NEIC **20** 13:39:06.7±2.6, 3.46S×145.51E, h38km±27km, mb4.8/5, Error ellipse: s-maj=18.6km s-min=12.0km az=140.0*
*IDC **20** 13:39:06.8±4.5, 3.52S×145.61E, h41km±46km, mb4.0/8, mb1 4.2/12, mb1mx4.1/17, mbtmp4.3/12, ML3.5/4, MS4.1/12, Ms1 4.1/12, ms1mx4.0/17, Error ellipse: s-maj=33.6km s-min=21.2km az=110.0*
*BJI **20** 13:39:07.2, 3.50S×145.50E, h38km, mB5.0, mb4.6, Ms4.6, Msz4.3*
ISC 20 13:39:04.4±0.5**, 3.49S**±0.06**×145.48E**±0.09**, h33km, n38, σ1?05**/31**, mb4.7**/16**, MS4.1**/9**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.11**	**164**	P	**P**	**13 40 33.2**	**-1.3**
	1.0nm,0.3s,baz=335,slow=9.3,SNR=4.2						
HNR	**Honiara**	**15.53**	**113**	P	**P**	**13 42 43.1**	**+0.4**
	1.4nm,0.3s,baz=192,slow=5.0,SNR=3.9						
HNR				LR	LR	13 47 38.5	
	comp=Z,543nm,20.9s,baz=190,slow=33						
HNR	**Honiara**	**15.53**	**113**	P	**P**	**13 42 43.1**	**+0.4**
HNR				ePn	**P**	**13 42 43.9**	**+1.1**
HNR				LR	LR	13 47 38.5	
KAKA	**Kakadu**	**15.82**	**234**	eP	Px	13 43 08.5	
	25nm,1.1s						
CTA	**Charters Tower**	**16.51**	**177**	eP	**P**	**13 43 00.8**	**+5.6**
	8.4nm,1.1s						
CTA	**Charters Tower**	**16.51**	**177**	P	**P**	**13 42 56.9**	**+1.7**
	0.1nm,0.3s,baz=11,slow=16,SNR=1.9						
CTA				LR	LR	13 48 54.4	
	comp=Z,612nm,20.5s,baz=3.1,slow=36						
CTA	**Charters Tower**	**16.51**	**177**	P	**P**	**13 42 56.9**	**+1.7**
CTA				eP		13 43 00.8	
CTA				LR	LR	13 48 54.4	
CTAO	**Charters Tower**	**16.51**	**177**	eP	**P**	**13 42 57.5**	**+2.3**
	14nm,1.0s						
CTAO				epP		13 43 08.4	
GUMO	**Guam**	**16.98**	**358**	LR	LR	13 47 38.8	
	comp=Z,244nm,21.9s,baz=164,slow=30						
WRAB	**Tennant Creek**	**19.62**	**213**	eP	**P**	**13 43 32.5**	**-0.5**
	43nm,0.9s						
WB2	**Warramunga Arr**	**19.63**	**213**	eP	**P**	**13 43 32.9**	**-0.2**
WRA	**Warramunga Arr**	**19.63**	**213**	P	**P**	**13 43 32.5**	**-0.7**
	0.4nm,0.3s,baz=38,slow=11,SNR=24						
ASPA	**Alice Springs**	**22.97**	**208**	eP	**P**	**13 44 09.5**	**+2.3**
FITZ	**Fitzroy Crossi**	**24.26**	**232**	eP	**P**	**13 44 21.0**	**+1.2**
	19nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**24.26**	**232**	P	**P**	**13 44 20.2**	**+0.4**
	16nm,1.0s,mb4.4,baz=29,slow=9.9,SNR=8.9						
FITZ				LR	LR	13 55 15.5	
	comp=Z,591nm,18.2s,MS4.1,baz=67,slow=40						
DZM	**Mont Dzumac**	**27.47**	**134**	LR	LR	13 54 32.4	
	comp=Z,571nm,18.2s,MS4.2,baz=17,slow=34						
STKA	**Stephens Creek**	**28.47**	**187**	P	**P**	**13 44 57.7**	**-1.0**
	1.5nm,0.7s,mb3.7,baz=349,slow=10,SNR=2.3						
STKA				LR	LR	13 58 26.7	
	comp=Z,368nm,19.1s,MS4.0,baz=9.4,slow=41						
CBIJ	**Chichi jima**	**30.58**	**354**	P	**P**	**13 45 16.2**	**-1.3**
	59nm,1.0s,mb5.4,baz=217,slow=18,SNR=4.7						
CBIJ				LR	LR	13 55 57.8	
	comp=Z,94nm,20.7s,MS3.4,baz=87,slow=33						
MBWA	**Marble Bar**	**30.58**	**233**	P	**P**	**13 45 17.2**	**-0.4**
	73nm,2.1s,mb5.1						
MBWA				e		13 45 31.4	
MJAR	**Matsushiro Arr**	**40.40**	**351**	LR	LR	14 01 32.7	
	comp=Z,176nm,19.5s,MS3.9,baz=195,slow=33						
RPZ	**Rata Peaks**	**46.01**	**154**	LR	LR	14 03 50.6	
	comp=Z,477nm,18.2s,MS4.5,baz=312,slow=32						
CD2	**Chengdu**	**52.45**	**314**	P	**P**	**13 48 17.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**53.92**	**328**	eP	pP	13 48 34.6	-2.5
HHC				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
HHC				AMB	AMB		
	comp=Z,83nm,4.2s						
LZH	**Lanzhou**	**55.34**	**319**	eP	**P**	**13 48 38.1**	**+0.6**
LZH				AP	pP	13 48 46.0	-1.6
LZH				XP	sP	13 48 51.5	0.0
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,84nm,4.0s						
GTA	**Gaotai**	**59.86**	**320**	eP	**P**	**13 49 14.9**	**+5.5**
GTA				AP	pP	13 49 19.3	-0.2
GTA				XP	sP	13 49 22.3	-1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
SONM	**Songino Array**	**61.49**	**331**	P	**P**	**13 49 20.5**	**+0.2**
	comp=Z,1.1nm,0.8s,mb4.0,baz=130,slow=3.7,SNR=5.2						
SONM				LR	LR	14 14 03.2	
	comp=Z,213nm,20.4s,MS4.3,baz=210,slow=34						
PKI	**Pulchoki**	**65.53**	**302**	eP	**P**	**13 49 45.5**	**-1.7**
KKN	**Kakani**	**65.71**	**302**	eP	**P**	**13 49 47.1**	**-1.2**
DMN	**Daman**	**65.80**	**302**	eP	**P**	**13 49 47.3**	**-1.6**
	comp=Z,97nm,1.4s,mb5.6						
GKN	**Gorkha**	**66.31**	**303**	eP	**P**	**13 49 52.8**	**+0.6**
	comp=Z,35nm,1.1s,mb5.3						
KOLN	**Koldanda**	**67.12**	**302**	eP	**P**	**13 49 58.4**	**+1.2**
	comp=Z,18nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**74.61**	**321**	P	**P**	**13 50 43.0**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=112,slow=6.5,SNR=7.8						
ZAL	**Zalesovo**	**76.10**	**328**	P	**P**	**13 50 51.2**	**+0.7**
	comp=Z,1.3nm,0.4s,mb4.2,baz=78,slow=7.2,SNR=6.2						
ZAL				LR	LR	14 23 51.3	
	comp=Z,327nm,20.5s,MS4.6,baz=29,slow=35						
ILAR	**Eielson Array**	**83.79**	**23**	P	**P**	**13 51 30.2**	**-1.2**
	comp=Z,2.3nm,0.9s,mb4.3,baz=254,slow=4.6,SNR=15						
BVAR	**Borovoye Array**	**83.86**	**324**	P	**P**	**13 51 32.8**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.4,baz=108,slow=4.7,SNR=9.2						
INK	**Inuvik**	**89.89**	**22**	P	**P**	**13 52 01.8**	**+0.8**
	comp=Z,6.0nm,1.1s,mb4.8,baz=297,slow=6.1,SNR=3.3						
YKA	**Yellowknife Ar**	**97.67**	**27**	LR	LR	14 35 53.9	
	comp=Z,79nm,20.2s,MS4.2,baz=275,slow=35						
LPAZ	**La Paz**	**141.40**	**122**	PKP	PKPdf	13 58 34.8	+1.7
	comp=Z,0.5nm,0.2s,baz=326,slow=3.6,SNR=4.2						

*CSEM **20** 13:39:05.4, 37.77N×25.41W, h2km, ML3.3, After PDA*
*PDA **20** 13:39:05.4±1.7, 37.77N×25.41W, h2km±3km, MD4.2, ML3.3, Error ellipse: s-maj=4.0km s-min=3.1km az=121.0*
SVSA 20 13:39:05.4±1.7, 37.77N×25.41W, h2km±3km, MD4.2, ML3.3, Error ellipse: s-maj=4.0km s-min=3.1km az=121.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**85**	eS	Sg	13 39 07.7	+1.5
VIF	**Vila Franca**	**0.03**	**227**	eS	Sg	13 39 07.9	+1.3
MESC	**Monte Escuro**	**0.04**	**315**	eS	Sg	13 39 08.2	+1.3
LFA	**Lagoa do Fogo**	**0.06**	**277**	eS	Sg	13 39 08.3	+0.9
PRCH	**Ribeira Ch**	**0.07**	**235**	eS	Sg	13 39 08.4	+0.7
PMAT	**Coroa da Mata**	**0.07**	**316**	eS	Sg	13 39 08.5	+0.7
PVER	**Pico Vermelho**	**0.09**	**291**	eS	Sg	13 39 09.6	+1.2
CMLA	**Cha da Macela**	**0.09**	**269**	eP	Pg	13 39 07.7	+0.5
CMLA				eS	Sg	13 39 09.5	+1.0
PFAD	**Fenais da Ajud**	**0.10**	**44**	eS	Sg	13 39 09.3	+0.5
CML	**Cha da Macela**	**0.11**	**273**	eS	Sg	13 39 09.5	+0.5
MIRA	**Miradouro**	**0.11**	**79**	eS	Sg	13 39 08.7	-0.3
FAC	**Faja de Cima**	**0.19**	**272**	eS	Sg	13 39 11.6	-0.2
PDA	**Ponta Delgada**	**0.20**	**265**	eP	Pg	13 39 09.7	+0.3
PSET	**Sete Cidades**	**0.25**	**283**	i P	Pg	13 39 10.8	+0.4
PSET				eS	Sg	13 39 15.2	+1.4
	15µm,0.4s						
PSET	**Sete Cidades**	**0.25**	**283**	eS	Sg	13 39 15.2	+1.4
PSAN	**Santo Antonio**	**0.26**	**289**	eS	Sg	13 39 12.8	-1.4
PFET	**Feteiras**	**0.30**	**280**	eS	Sg	13 39 13.2	-2.3
SET2	**Ginetes**	**0.32**	**284**	eS	Sg	13 39 13.5	-2.7
SET4	**Mosteiros**	**0.33**	**290**	eS	Sg	13 39 13.4	-2.9
PSMN	**Pico do Norte,**	**0.81**	**160**	eP	Pg	13 39 19.2	-2.4
PSMN				eS	Sg	13 39 29.0	-3.4
PFAV	**Pico das Favas**	**1.62**	**306**	eP	Pn	13 39 32.9	-2.2
PFAV				eS	Sb	13 39 51.8	-4.7
	60nm,0.4s						
PSCM	**Serra do Cume**	**1.64**	**305**	eP	Pn	13 39 31.3	-4.0
PSCM				eS	Sb	13 39 50.8	-6.2
	387nm,0.4s						
RIB2	**Ribeirinha**	**1.66**	**304**	eP	Pn	13 39 32.5	-3.1
RIB2				eS	Sb	13 39 51.9	-5.6
	85nm,0.3s						
ADH	**Angra Heroismo**	**1.69**	**302**	eP	Pn	13 39 32.1	-4.0
ADH				eS	Sb	13 39 51.9	-6.6
PVNV	**Vila Nova**	**1.70**	**306**	eP	Pn	13 39 33.1	-3.1
PVNV				eS	Sb	13 39 53.2	-5.5
	45nm,0.2s						
PPAD	**Pico dos Padre**	**1.75**	**303**	eP	Pn	13 39 33.8	-3.1
PPAD				eS	Sn	13 39 54.4	-5.6
	48nm,0.3s						
PBIS	**Biscoitos**	**1.76**	**305**	eP	Pn	13 39 34.1	-3.0
PBIS				eS	Sn	13 39 54.9	-5.4
	28nm,0.2s						
ASBA	**Santa Barbara**	**1.78**	**303**	eP	Pn	13 39 34.7	-2.7
ASBA				eS	Sn	13 39 56.0	-4.9
	61nm,0.4s						
PICO	**Pico**	**2.49**	**288**	eS	Sn	13 40 12.0	-6.9
CALA	**Caldeira**	**2.72**	**288**	erx		13 40 14.3	

*CSEM **20** 13:41:32.5, 37.79N×25.40W, h2km, ML3.0, After PDA*
*PDA **20** 13:41:32.5±1.1, 37.79N×25.40W, h2km±1km, ML3.0, Error ellipse: s-maj=2.4km s-min=1.5km az=54.0*
SVSA 20 13:41:32.5±1.1, 37.79N×25.40W, h2km±1km, ML3.0, Error ellipse: s-maj=2.4km s-min=1.5km az=54.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**163**	i P	Pg	13 41 33.0	0.0
PCNG				i S	Sg	13 41 34.3	+1.0
PCNG	**Congro**	**0.02**	**163**	i S	Sg	13 41 34.3	+1.0
MESC	**Monte Escuro**	**0.04**	**283**	eP	Pg	13 41 33.6	+0.4
MESC				eS	Sg	13 41 35.3	+1.6
VIF	**Vila Franca**	**0.05**	**216**	eP	Pg	13 41 34.2	+0.7
VIF				eS	Sg	13 41 35.9	+1.7
PMAT	**Coroa da Mata**	**0.06**	**300**	eP	Pg	13 41 34.1	+0.3
PMAT				eS	Sg	13 41 36.2	+1.6
LFA	**Lagoa do Fogo**	**0.07**	**259**	i P	Pg	13 41 34.9	+1.1
PFAD	**Fenais da Ajud**	**0.08**	**50**	eP	Pg	13 41 34.7	+0.5
PRCH	**Ribeira Ch**	**0.08**	**227**	eP	Pg	13 41 34.7	+0.5
PRCH				eS	Sg	13 41 36.7	+1.4
	12µm,0.3s						
CMLA	**Cha da Macela**	**0.10**	**258**	eP	Pg	13 41 35.1	+0.6
CMLA				eS	Sg	13 41 36.5	+0.7
MIRA	**Miradouro**	**0.10**	**90**	eP	Pg	13 41 34.0	-0.5
MIRA				eS	Sg	13 41 36.7	+0.9
CML	**Cha da Macela**	**0.11**	**263**	eS	Sg	13 41 37.7	+1.4
FAC	**Faja de Cima**	**0.20**	**267**	eS	Sg	13 41 40.0	+0.9
PDA	**Ponta Delgada**	**0.21**	**260**	eP	Pg	13 41 37.5	+0.8
PDA				eS	Sg	13 41 39.7	+0.2
PSET	**Sete Cidades**	**0.26**	**279**	eP	Pg	13 41 38.5	+0.9
PSET				eS	Sg	13 41 42.4	+1.4
	2µm,0.4s						
PSAN	**Santo Antonio**	**0.26**	**285**	eS	Sg	13 41 41.1	-0.2
PFET	**Feteiras**	**0.31**	**276**	eS	Sg	13 41 40.0	-2.7
PSMN	**Pico do Norte,**	**0.83**	**161**	eP	Pg	13 41 47.1	-1.9
PSMN				eS	Sg	13 41 57.6	-2.4
PSCM	**Serra do Cume**	**1.63**	**305**	eS	Sb	13 42 17.8	-6.2
	44nm,0.3s						

*CSEM **20** 13:44:22.0, 37.77N×25.45W, h3km, ML2.7, After PDA*
*PDA **20** 13:44:22.0±0.3, 37.77N×25.45W, h3km±1km, ML2.7, Error ellipse: s-maj=0.8km s-min=0.5km az=88.0*
SVSA 20 13:44:22.0±0.3, 37.77N×25.45W, h3km±1km, ML2.7, Error ellipse: s-maj=0.8km s-min=0.5km az=88.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**1**	eP	Pg	13 44 23.3	+0.6
MESC				eS	Sg	13 44 24.1	+1.0
LFA	**Lagoa do Fogo**	**0.03**	**269**	eP	Pg	13 44 23.5	+0.7
VIF	**Vila Franca**	**0.03**	**170**	eP	Pg	13 44 23.3	+0.5
VIF				eS	Sg	13 44 24.4	+1.1
PCNG	**Congro**	**0.04**	**99**	eP	Pg	13 44 23.5	+0.5
PCNG				eS	Sg	13 44 24.7	+1.1
	7µm,0.3s						
PMAT	**Coroa da Mata**	**0.05**	**335**	eP	Pg	13 44 23.6	+0.5
PMAT				eS	Sg	13 44 24.6	+0.8
PRCH	**Ribeira Ch**	**0.05**	**211**	eP	Pg	13 44 23.7	+0.5
PRCH				eS	Sg	13 44 24.8	+0.9
CML	**Cha da Macela**	**0.08**	**268**	eP	Pg	13 44 24.5	+0.8
PFAD	**Fenais da Ajud**	**0.12**	**56**	eP	Pg	13 44 25.0	+0.6
MIRA	**Miradouro**	**0.13**	**85**	eP	Pg	13 44 24.4	-0.3
MIRA				eS	Sg	13 44 27.2	+0.7
PSAN	**Santo Antonio**	**0.23**	**289**	eS	Sg	13 44 27.2	-2.7
PFET	**Feteiras**	**0.28**	**279**	eS	Sg	13 44 27.4	-3.8
SET2	**Ginetes**	**0.29**	**284**	eS	Sg	13 44 27.6	-4.2
SET4	**Mosteiros**	**0.30**	**290**	eS	Sg	13 44 27.3	-4.6

*CSEM **20** 13:45:13.7, 37.77N×25.42W, h4km, ML2.6, After PDA*
*PDA **20** 13:45:13.7±0.4, 37.77N×25.42W, h4km±1km, ML2.6, Error ellipse: s-maj=1.1km s-min=0.8km az=113.0*
SVSA 20 13:45:13.7±0.4, 37.77N×25.42W, h4km±1km, ML2.6, Error ellipse: s-maj=1.1km s-min=0.8km az=113.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**85**	i P	Pg	13 45 15.0	+0.4
PCNG				eS	Sg	13 45 16.3	+1.2
PCNG	**Congro**	**0.02**	**85**	eS	Sg	13 45 16.3	+1.2
VIF	**Vila Franca**	**0.02**	**212**	i P	Pg	13 45 15.2	+0.6
VIF				eS	Sg	13 45 16.1	+0.9
VIF	**Vila Franca**	**0.02**	**212**	eS	Sg	13 45 16.1	+0.9
MESC	**Monte Escuro**	**0.03**	**329**	i P	Pg	13 45 15.4	+0.7
MESC				eS	Sg	13 45 16.5	+1.2
MESC	**Monte Escuro**	**0.03**	**329**	eS	Sg	13 45 16.5	+1.2
LFA	**Lagoa do Fogo**	**0.05**	**279**	i P	Pg	13 45 15.7	+0.8
FRA1	**Furnas**	**0.06**	**112**	eP	Pg	13 45 15.0	-0.1
PRCH	**Ribeira Ch**	**0.06**	**230**	eP	Pg	13 45 15.5	+0.4
PRCH				eS	Sg	13 45 16.9	+0.9
	2µm,0.2s						
PMAT	**Coroa da Mata**	**0.06**	**324**	eP	Pg	13 45 15.7	+0.5
PMAT				eS	Sg	13 45 17.0	+0.9
CML	**Cha da Macela**	**0.10**	**273**	eP	Pg	13 45 16.8	+1.0
PFAD	**Fenais da Ajud**	**0.11**	**47**	i P	Pg	13 45 16.6	+0.6
PFAD				eS	Sg	13 45 18.6	+1.1
MIRA	**Miradouro**	**0.12**	**80**	eP	Pg	13 45 16.1	0.0
MIRA				eS	Sg	13 45 18.5	+0.7
PSAN	**Santo Antonio**	**0.25**	**290**	eP	Pg	13 45 18.6	-0.2
PFET	**Feteiras**	**0.29**	**280**	eS	Sg	13 45 20.6	-3.0
SET2	**Ginetes**	**0.31**	**285**	eS	Sg	13 45 21.2	-3.0
SET4	**Mosteiros**	**0.32**	**290**	eS	Sg	13 45 21.1	-3.2
PSMN	**Pico do Norte,**	**0.81**	**159**	eS	Sg	13 45 37.2	-3.6

*CSEM **20** 13:56:52.0, 37.76N×25.41W, h2km, ML2.9, After PDA*
*PDA **20** 13:56:52.0±0.7, 37.76N×25.41W, h2km±1km, ML2.9, Error ellipse: s-maj=1.5km s-min=1.1km az=123.0*
SVSA 20 13:56:52.0±0.7, 37.76N×25.41W, h2km±1km, ML2.9, Error ellipse: s-maj=1.5km s-min=1.1km az=123.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**74**	i P	Pg	13 56 52.8	+0.3
PCNG				eS	Sg	13 56 54.0	+1.2
PCNG	**Congro**	**0.01**	**74**	eS	Sg	13 56 54.0	+1.2
VIF	**Vila Franca**	**0.03**	**232**	eP	Pg	13 56 53.3	+0.5
VIF				eS	Sg	13 56 54.1	+0.8
	5µm,0.3s						
MESC	**Monte Escuro**	**0.04**	**315**	eP	Pg	13 56 53.3	+0.4
MESC				eS	Sg	13 56 55.0	+1.4
FRA1	**Furnas**	**0.05**	**117**	eP	Pg	13 56 52.6	-0.4
LFA	**Lagoa do Fogo**	**0.06**	**278**	eP	Pg	13 56 53.4	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRCH	Ribeira Ch	0.07	237	eS	Sg	13 56 55.5	+1.2
PMAT	Coroa da Mata	0.07	317	eS	Sg	13 56 55.5	+1.0
PFAD	Fenais da Ajud	0.10	42	eP	Pg	13 56 54.5	+0.4
PFAD				eS	Sg	13 56 56.5	+1.1
MIRA	Miradouro	0.10	78	eP	Pg	13 56 53.9	-0.3
MIRA				eS	Sg	13 56 56.0	+0.4
CML	Cha da Macela	0.11	274	i P	Pg	13 56 54.6	+0.4
CML				eS	Sg	13 56 57.0	+1.3
FAC	Faja de Cima	0.19	273	eP	Pg	13 56 56.5	+0.6
PSAN	Santo Antonio	0.27	289	eP	Pg	13 56 57.7	+0.4
PFET	Feteiras	0.30	280	eP	Pg	13 56 58.4	+0.3
SET2	Ginetes	0.33	284	eP	Pg	13 56 58.5	0.0
SET4	Mosteiros	0.33	290	eP	Pg	13 56 59.1	+0.5
PSMN	Pico do Norte,	0.81	160	eP	Pg	13 57 04.4	-3.7
PSMN				eS	Sg	13 57 14.9	-4.0

*CSEM **20** 13:58:52.1, 37.77N×25.43W, h1^{km}, ML3.2, After PDA*
*PDA **20** 13:58:52.1±1.2, 37.77N×25.43W, h1^{km}±2^{km}, ML3.2, Error ellipse: s-maj=3.0km s-min=2.7km az=112.0*
SVSA 20 13:58:52.1±1.2**, 37.77N×25.43W, h1^{km}±2^{km}, ML3.2, Error ellipse: s-maj=3.0km s-min=2.7km az=112.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	195	i P	Pg	13 58 53.1	+0.6
PCNG	Congro	0.03	86	i P	Pg	13 58 53.2	+0.5
MESC	Monte Escuro	0.03	340	i P	Pg	13 58 53.4	+0.7
LFA	Lagoa do Fogo	0.04	281	i P	Pg	13 58 53.6	+0.7
PRCH	Ribeira Ch	0.05	225	i P	Pg	13 58 53.5	+0.3
PMAT	Coroa da Mata	0.06	329	eP	Pg	13 58 53.7	+0.4
FRA1	Furnas	0.06	110	i P	Pg	13 58 53.3	-0.1
CMLA	Cha da Macela	0.07	269	eP	Pg	13 58 52.7	-0.8
CMLA				eS	Sg	13 58 54.1	-0.4
CML	Cha da Macela	0.09	274	i P	Pg	13 58 54.7	+0.8
PFAD	Fenais da Ajud	0.11	50	i P	Pg	13 58 55.0	+0.6
MIRA	Miradouro	0.12	80	i P	Pg	13 58 54.4	-0.2
FAC	Faja de Cima	0.17	273	eP	Pg	13 58 56.7	+1.2
PDA	Ponta Delgada	0.18	264	eP	Pg	13 58 55.0	-0.8
PSET	Sete Cidades	0.23	284	eP	Pg	13 58 56.0	-0.8
PSET				eS	Sg	13 58 59.8	-0.1
	6μm,0.4s						
PSAN	Santo Antonio	0.25	290	eP	Pg	13 58 58.0	+1.0
SET2	Ginetes	0.31	285	eP	Pg	13 58 59.0	+0.8
SET4	Mosteiros	0.31	291	eP	Pg	13 58 59.1	+0.8
PSMN	Pico do Norte,	0.81	159	eP	Pg	13 59 05.0	-3.4
PSMN				eS	Sg	13 59 15.5	-3.7
PFAV	Pico das Favas	1.61	307	eP	Pn	13 59 18.7	-3.1
PFAV				eS	Sb	13 59 37.1	-6.0
PSCM	Serra do Cume	1.62	306	eP	Pn	13 59 16.9	-5.1
PSCM				eS	Sb	13 59 36.6	-6.9
	135nm,0.5s						
RIB2	Ribeirinha	1.64	304	eP	Pn	13 59 18.3	-4.0
RIB2				eS	Sb	13 59 37.9	-6.2
	61nm,0.2s						
PVNV	Vila Nova	1.68	307	eP	Pn	13 59 18.8	-4.1
PVNV				eS	Sb	13 59 38.8	-6.4
	33nm,0.2s						
PPAD	Pico dos Padre	1.73	303	eP	Pn	13 59 19.4	-4.2
PPAD				eS	Sn	13 59 40.4	-6.3
	41nm,0.4s						
ASBA	Santa Barbara	1.77	303	eP	Pn	13 59 20.1	-4.0
ASBA				eS	Sn	13 59 40.8	-6.8
	30nm,0.2s						
PICO	Pico	2.47	288	eP	Pn	13 59 29.3	-4.9
PICO				eS	Sn	13 59 56.7	-8.8
CALA	Caldeira	2.70	289	eP	Pn	13 59 32.5	-5.0

*CSEM **20** 14:12:56.7, 37.76N×25.41W, h2^{km}, ML3.1, After PDA*
*PDA **20** 14:12:56.7±0.9, 37.76N×25.41W, h2^{km}±2^{km}, ML3.1, Error ellipse: s-maj=2.4km s-min=1.6km az=111.0*
SVSA 20 14:12:56.7±0.9**, 37.76N×25.41W, h2^{km}±2^{km}, ML3.1, Error ellipse: s-maj=2.4km s-min=1.6km az=111.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.01	44	i P	Pg	14 12 57.8	+0.6
PCNG				eS	Sg	14 12 58.4	+0.9
PCNG	Congro	0.01	44	eS	Sg	14 12 58.4	+0.9
VIF	Vila Franca	0.03	243	i P	Pg	14 12 57.9	+0.5
VIF				eS	Sg	14 12 59.0	+1.1
VIF	Vila Franca	0.03	243	eS	Sg	14 12 59.0	+1.1
FRA1	Furnas	0.04	111	i P	Pg	14 12 57.6	0.0
MESC	Monte Escuro	0.05	319	i P	Pg	14 12 58.1	+0.4
MESC				eS	Sg	14 12 59.7	+1.3
MESC	Monte Escuro	0.05	319	eS	Sg	14 12 59.7	+1.3
LFA	Lagoa do Fogo	0.06	284	i P	Pg	14 12 58.5	+0.5
PRCH	Ribeira Ch	0.07	243	i P	Pg	14 12 58.3	+0.2
PRCH				eS	Sg	14 12 59.8	+0.8
	11μm,0.3s						
PRCH	Ribeira Ch	0.07	243	eS	Sg	14 12 59.8	+0.8
PMAT	Coroa da Mata	0.08	319	eS	Sg	14 13 00.0	+0.6
MIRA	Miradouro	0.10	75	i P	Pg	14 12 58.7	-0.1
MIRA				eS	Sg	14 13 00.2	-0.1
MIRA	Miradouro	0.10	75	eS	Sg	14 13 00.2	-0.1
PFAD	Fenais da Ajud	0.10	39	i P	Pg	14 12 59.3	+0.5
CML	Cha da Macela	0.11	277	i P	Pg	14 12 59.5	+0.5
FAC	Faja de Cima	0.19	275	eP	Pg	14 13 01.4	+0.8
PDA	Ponta Delgada	0.20	267	eP	Pg	14 12 59.8	-1.0
PSAN	Santo Antonio	0.27	290	eP	Pg	14 13 02.7	+0.6
PFET	Feteiras	0.31	281	eP	Pg	14 13 03.3	+0.4
SET2	Ginetes	0.33	285	eP	Pg	14 13 03.7	+0.4
SET4	Mosteiros	0.33	291	eP	Pg	14 13 03.6	+0.3
PSMN	Pico do Norte,	0.80	160	eP	Pg	14 13 09.5	-3.2
PSMN				eS	Sg	14 13 19.5	-3.9

*CSEM **20** 14:20:45.4±0.4, 37.77N×25.44W, h2^{km}±1^{km}, ML2.9, Error ellipse: s-maj=0.6km s-min=0.5km az=96.0, After PDA*
*PDA **20** 14:20:45.4±0.4, 37.77N×25.44W, h2^{km}±1^{km}, ML2.9, Error ellipse: s-maj=0.6km s-min=0.5km az=96.0*
SVSA 20 14:20:45.4±0.4**, 37.77N×25.44W, h2^{km}±1^{km}, ML2.9, Error ellipse: s-maj=0.6km s-min=0.5km az=96.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESC	Monte Escuro	0.02	355	i P	Pg	14 20 46.6	+0.6
MESC				eS	Sg	14 20 47.4	+1.0
MESC	Monte Escuro	0.02	355	eS	Sg	14 20 47.4	+1.0
VIF	Vila Franca	0.03	174	i P	Pg	14 20 46.6	+0.5
VIF				eS	Sg	14 20 47.6	+1.1
VIF	Vila Franca	0.03	174	eS	Sg	14 20 47.6	+1.1
LFA	Lagoa do Fogo	0.03	273	i P	Pg	14 20 46.8	+0.6
PCNG	Congro	0.04	96	i P	Pg	14 20 46.8	+0.5
PCNG				eS	Sg	14 20 47.9	+1.1
	6μm,0.3s						
PCNG	Congro	0.04	96	eS	Sg	14 20 47.9	+1.1
PMAT	Coroa da Mata	0.05	334	eP	Pg	14 20 47.0	+0.5
PMAT				eS	Sg	14 20 48.2	+1.0
PRCH	Ribeira Ch	0.05	214	eP	Pg	14 20 46.9	+0.4
PRCH				eS	Sg	14 20 48.0	+0.7
	6μm,0.2s						
PFAD	Fenais da Ajud	0.12	54	eP	Pg	14 20 48.5	+0.7
PFAD				eS	Sg	14 20 50.4	+1.1

SVSA 20 14:24:24.6±0.7**, 37.75N×25.40W, h3^{km}±2^{km}, ML2.8, Error ellipse: s-maj=4.1km s-min=2.1km az=128.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	12	eP	Pg	14 24 25.8	+0.6
PCNG	Congro	0.02	12	eP	Pg	14 24 25.8	+0.6
VIF	Vila Franca	0.03	262	eP	Pg	14 24 26.0	+0.6
VIF	Vila Franca	0.03	262	eP	Pg	14 24 26.0	+0.6
FRA1	Furnas	0.04	100	i P	Pg	14 24 25.8	+0.4
MESC	Monte Escuro	0.06	321	eP	Pg	14 24 26.3	+0.5
MESC	Monte Escuro	0.06	321	eP	Pg	14 24 26.3	+0.5
PRCH	Ribeira Ch	0.07	252	eP	Pg	14 24 26.8	+0.8
PRCH	Ribeira Ch	0.07	252	eP	Pg	14 24 26.8	+0.8
PRCH				eS	Sg	14 24 28.0	+1.1
LFA	Lagoa do Fogo	0.07	290	eP	Pg	14 24 26.7	+0.6
LFA	Lagoa do Fogo	0.07	290	eP	Pg	14 24 26.7	+0.6
PMAT	Coroa da Mata	0.09	320	eP	Pg	14 24 26.8	+0.4
PMAT	Coroa da Mata	0.09	320	eP	Pg	14 24 26.8	+0.4
PMAT				eS	Sg	14 24 28.1	+0.5
CMLA	Cha da Macela	0.10	279	eP	Pg	14 24 25.9	-0.7
CMLA				eS	Sg	14 24 27.4	-0.6
MIRA	Miradouro	0.10	69	i P	Pg	14 24 26.9	+0.2
MIRA	Miradouro	0.10	69	i P	Pg	14 24 26.9	+0.2
PFAD	Fenais da Ajud	0.11	35	i P	Pg	14 24 27.5	+0.7
PFAD	Fenais da Ajud	0.11	35	i P	Pg	14 24 27.5	+0.7
CML	Cha da Macela	0.12	281	eP	Pg	14 24 27.5	+0.5
CML	Cha da Macela	0.12	281	i P	Pg	14 24 27.9	+0.9
FAC	Faja de Cima	0.20	277	eP	Pg	14 24 29.3	+0.7
FAC	Faja de Cima	0.20	277	eP	Pg	14 24 29.3	+0.7
PDA	Ponta Delgada	0.21	269	eP	Pg	14 24 28.8	0.0
PDA	Ponta Delgada	0.21	269	i P	Pg	14 24 27.9	-0.9
PSAN	Santo Antonio	0.28	292	eP	Pg	14 24 30.9	+0.8
PSAN	Santo Antonio	0.28	292	eP	Pg	14 24 30.9	+0.8
PFET	Feteiras	0.32	283	eP	Pg	14 24 31.2	+0.3
PFET	Feteiras	0.32	283	eP	Pg	14 24 31.2	+0.3
SET2	Ginetes	0.34	286	eP	Pg	14 24 31.8	+0.5
SET2	Ginetes	0.34	286	eP	Pg	14 24 31.9	+0.6
SET4	Mosteiros	0.34	292	eP	Pg	14 24 31.5	+0.1
SET4	Mosteiros	0.34	292	eP	Pg	14 24 31.6	+0.2
PSMN	Pico do Norte,	0.79	160	i P	Pg	14 24 37.6	-2.8
PSMN				eS	Sg	14 24 47.7	-3.2
PSMN	Pico do Norte,	0.79	160	eP	Pg	14 24 37.6	-2.8
PSMN				eS	Sg	14 24 47.7	-3.2
PFAV	Pico das Favas	1.64	306	eP	Pn	14 24 50.1	-4.4
PFAV				eS	Sb	14 25 09.8	-6.3
	27nm,0.2s						
PSCM	Serra do Cume	1.65	306	eP	Pn	14 24 49.9	-4.8
PSCM				eS	Sb	14 25 09.2	-7.4
	72nm,0.2s						

*NEIC **20** 14:24:43.6, 32.68S×71.66W, h28^{km}, ML2.8(GUC), After GUC.*
GUC 20 14:24:43.6±0.8**, 32.68S×71.66W, h28^{km}±4^{km}, MD3.6, ML2.8, 5C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.35	177	⇓iP	Pb	14 24 51.4	-0.2
IHA				i S	Sb	14 24 57.0	-0.1
ROCH	El Roble	0.62	118	⇑iP	Pb	14 24 56.0	+0.1
ROCH				i S	Sb	14 25 05.0	+0.6
LCCH	Las Cruces	0.80	174	⇑iP	Pb	14 24 58.2	-0.7
LCCH				i S	Sb	14 25 08.4	-0.9
CHNG	Los Chungos	0.80	10	⇓iP	Pb	14 24 58.3	-0.6
CHNG				i S	Sb	14 25 09.2	-0.2
CHNG				AMP		14 25 10.8	
	comp=N,137nm,0.3s						
JACH	Jahuel	0.90	91	⇑iP	Pn	14 25 00.0	-0.5
JACH				i S	Sb	14 25 13.0	+0.8
RCDM	Rinconada Maip	1.08	139	i P	Pn	14 25 03.0	-0.1
RCDM				i S	Sn	14 25 17.1	-0.2
RCDM				AMP		14 25 21.4	
	comp=N,478nm,0.1s						
SAN	Santiago	1.14	133	i P	Pn	14 25 04.0	0.0
SAN				i S	Sn	14 25 19.0	+0.2
SAN				AMP		14 25 22.5	
	comp=E,351nm,0.2s						
TACH	Talagante	1.15	148	⇓iP	Pn	14 25 03.9	-0.1
TACH				i S	Sn	14 25 18.6	-0.3
CLCH	Cerro Calan	1.19	128	⇓iP	Pn	14 25 04.7	+0.1
CLCH				i S	Sn	14 25 20.5	+0.6
CLCH				AMP		14 25 26.7	
	comp=E,510nm,0.5s						
CLCH				AMP		14 25 27.1	
	comp=E,330nm,0.8s						
ANTU	Antumapu	1.24	136	⇑iP	Pn	14 25 05.9	+0.5
ANTU				i S	Sn	14 25 22.1	+0.8
ANTU				AMP		14 25 25.1	
	comp=N,402nm,0.4s						
LNV	Longovilo	1.29	171	i P	Pn	14 25 05.2	-0.9
LNV				i S	Sn	14 25 21.8	-0.8
FCH	Farellones	1.32	120	⇓iP	Pn	14 25 06.9	+0.4
FCH				i S	Sn	14 25 24.5	+1.2
FCH				AMP		14 25 26.2	
	comp=E,282nm,0.2s						
PCH	Pirque	1.35	135	eP	Pn	14 25 07.2	+0.4
CHCH	Chadas Angostu	1.51	146	eP	Pn	14 25 09.7	+0.5
CMCH	Combarbala	1.60	21	i P	Pn	14 25 10.8	+0.3
CMCH				i S	Sn	14 25 31.8	+1.4
CMCH				AMP		14 25 35.6	
	comp=E,871nm,0.7s						
CACH	El Canelo	1.69	149	i P	Pn	14 25 13.3	+1.5
CICH	Cipreses	1.94	148	⇑iP	Pn	14 25 16.3	+0.9
SFDO	San Fernando	2.01	165	eP	Pn	14 25 16.4	0.0
TLL	Tololo Astrono	2.61	17	eP	Pn	14 25 25.7	+0.8
TLL				AMP		14 26 08.1	
	comp=N,134nm,0.6s						
LPAZ	La Paz	16.63	12	P	P	14 28 34.9	-1.5
	comp=N,5.1nm,1.8s						
RPN	Rapa Nui	33.00	270	P	P	14 31 15.1	-3.4
	comp=N,450nm,1.6s						

*NEIC **20** 14:48:29.0, 33.26S×67.93W, h15^{km}, ML3.6(GUC), After GUC.*
GUC 20 14:48:29.0±0.8**, 33.26S×67.93W, h15^{km}±8^{km}, MD3.9, ML3.6, 3C-4D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDZ	Mendoza	0.86	295	eP	Pb	14 48 43.2	-1.9
MDZ				eP		14 48 44.2	
MDZ				i		14 48 49.4	
MDZ				i		14 48 50.4	
MDZ				i S	Sb	14 48 55.3	-0.8
FCH	Farellones	1.98	267	i P	Pn	14 49 01.7	-0.8
FCH				i S	Sn	14 49 27.0	-0.1
FCH				AMP		14 49 28.5	
	comp=N,261nm,0.2s						
CLCH	Cerro Calan	2.19	266	eP	Pn	14 49 05.5	+0.1
CLCH				i S	Sn	14 49 33.8	+1.3
CLCH				AMP		14 49 38.1	
	comp=E,306nm,0.4s						
PCH	Pirque	2.19	260	⇓iP	Pn	14 49 05.5	+0.1
PCH				i S	Sn	14 49 33.5	+1.0
ANTU	Antumapu	2.29	261	AMP		14 49 37.1	
	comp=N,342nm,0.3s						
JACH	Jahuel	2.31	284	⇓iP	Pn	14 49 07.3	+0.1
JACH				i S	Sn	14 49 36.8	+1.3
PEL	Peldehue	2.31	272	⇓iP	Pn	14 49 08.0	+0.7
PEL				i S	Sn	14 49 37.6	+2.0
CICH	Cipreses	2.33	242	⇑iP	Pn	14 49 07.9	+0.4
CICH				i S	Sn	14 49 37.0	+0.9
CHCH	Chadas Angostu	2.37	253	⇓iP	Pn	14 49 08.4	+0.4
CHCH				i S	Sn	14 49 38.6	+1.5
CACH	El Canelo	2.39	248	⇑iP	Pn	14 49 08.9	+0.6
CACH				i S	Sn	14 49 38.7	+1.2
TACH	Talagante	2.55	260	⇑iP	Pn	14 49 11.1	+0.6
TACH				i S	Sn	14 49 43.0	+1.5
CMCH	Combarbala	3.33	308	i P	Pn	14 49 21.4	-0.3
CMCH				eS	Sn	14 50 01.6	+0.2
CMCH				AMP		14 50 14.9	
	comp=E,757nm,0.7s						
TLL	Tololo Astrono	3.94	321	eP	Pn	14 49 30.2	-0.1

*CSEM **20** 14:53:32.1, 37.75N×25.44W, h15^{km}, ML2.9, After PDA*
*PDA **20** 14:53:32.1±1.9, 37.75N×25.44W, h15^{km}±11^{km}, ML2.9, Error ellipse: s-maj=17.6km s-min=10.7km az=102.0*
SVSA 20 14:53:32.1±1.9**, 37.75N×25.44W, h15^{km}±11^{km}, ML2.9, Error ellipse: s-maj=17.6km s-min=10.7km az=102.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.00	214	i P	Pb	14 53 35.1	+1.5
VIF				eS	Sb	14 53 36.4	+2.0
	5μm,0.1s						
PCNG	Congro	0.04	60	eP	Pb	14 53 35.1	+1.0
PCNG				eS	Sb	14 53 36.5	+1.1
	6μm,0.3s						
PRCH	Ribeira Ch	0.04	240	eP	Pb	14 53 35.4	+1.2
PRCH				eS	Sb	14 53 36.8	+1.4
	2μm,0.1s						
LFA	Lagoa do Fogo	0.04	304	i P	Pb	14 53 35.5	+1.3
MESC	Monte Escuro	0.05	351	i P	Pb	14 53 35.2	+0.9
MESC				eS	Sb	14 53 36.9	+1.3
PMAT	Coroa da Mata	0.07	338	eP	Pb	14 53 35.5	+0.8
PMAT				eS	Sb	14 53 37.0	+0.6
PFAD	Fenais da Ajud	0.13	45	i P	Pb	14 53 36.6	+0.9

*IDC **20** 14:54:43.3±1.0, 20.68N×118.63E, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=59.0km s-min=24.6km az=66.0*
*NEIC **20** 14:54:46.3±0.8, 21.51N×120.01E, h35^{km}, mb4.1/1, Error ellipse: s-maj=17.4km s-min=11.2km az=117.0*
*JMA **20** 14:54:48.1±0.2, 21.57N×120.34E, h156^{km}, M3.2*
ISC 20 14:54:46.0±1.6**, 21.50N**±0.07×**120.19E**±0.08**, h44^{km}**±18^{km}**, n15, σ0.79**/21**, mb3.7**/4**, MS3.1**/1**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.96	26	ePn	P	14 55 30.6	-1.1
NACB				eSn	S	14 56 08.2	+1.8
YHNB	Yeheng	3.34	19	ePn	P	14 55 36.5	-0.6
YHNB				eS	S	14 56 16.9	+0.9
TATO	Taipei	3.66	19	ePn	P	14 55 41.1	-0.5
TATO				e		14 55 54.3	
TATO				eSn	S	14 56 22.9	-1.3
YOJ	Yonaguni jima	3.93	41	P	P	14 55 46.3	+0.9
YOJ				eS	S	14 56 31.7	+0.8
HATJ	Hateruma jima	4.20	52	P	P	14 55 49.6	+0.4
HATJ				eS	S	14 56 37.1	-0.5
IRIF	Iriomote-Funau	4.31	48	P	P	14 55 51.3	+0.4
IRIF				eS	S	14 56 40.5	-0.1
JKRS	Kuro-shima	4.45	51	P	P	14 55 53.4	+0.6
JKRS				eS	S	14 56 43.9	-0.2
JIJ	Ishigaki jima	4.63	51	P	P	14 55 55.3	0.0
JIJ				eS	S	14 56 46.9	-1.5
QIZ	Qiongzhong	10.02	258	ePn	P	14 57 04.3	-6.1
	11nm,1.1s						
MJAR	Matsushiro Arr	21.69	42	LR	LR	15 09 29.7	
	comp=Z,69nm,18.2s,MS3.1,baz=260,slow=38						
MKAR	Makanchi Array	39.68	319	P	P	15 02 14.7	-0.8
	0.3nm,0.6s,mb3.2,baz=117,slow=8.1,SNR=4.0						
MKAR				PcP	PcP	15 04 22.4	+0.1
	0.4nm,0.7s,baz=117,slow=3.2,SNR=3.9						
ZAL	Zalesovo	42.04	329	P	P	15 02 35.4	+0.5
	1.5nm,0.3s,mb4.1,baz=189,slow=1.3,SNR=3.8						
WRAB	Tennant Creek	43.44	160	eP	P	15 02 46.9	+0.2
	3.2nm,0.8s,mb4.1						
WRA	Warramunga Arr	43.44	160	P	P	15 02 46.8	+0.1
	0.9nm,0.8s,mb3.5,baz=343,slow=9.2,SNR=7.8						
WRA				PcP	PcP	15 04 34.4	-0.6
	0.3nm,0.5s,baz=344,slow=3.2,SNR=7.1						
ILAR	Eielson Array	72.01	27	P	pP	15 06 17.5	-2.1
	0.5nm,0.6s,baz=268,slow=4.7,SNR=7.8						

*MOS **20** 14:59:57.0±0.9, 4.61N×95.49E, h33^{km}, mb5.5/82, MS4.1/10, Error ellipse: s-maj=9.9km s-min=4.2km az=124.5*
*BJI **20** 14:59:58.9, 4.27N×95.31E, h70^{km}, mB4.9, mb5.1, Ms4.6, Msz4.2*
*NEIC **20** 15:00:00.6±0.1, 4.52N×95.40E, mb5.2/90, Error ellipse: s-maj=5.1km s-min=3.2km az=217.0*
NEIC Felt [II] at Banda Aceh.
*HRVD **20** 15:00:00.6±0.6, 4.43N×95.42E, h52^{km}±2^{km}, MW4.8/41, Centroid moment Tensor Solution. LP body waves: s17,c23;Mantle waves: s41,c66; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.31±.21; $M_{\theta\theta}$1.30±.13; $M_{\phi\phi}$0.00±.15; $M_{r\theta}$-0.04±.09; $M_{\theta\phi}$-1.44±.11; $M_{\phi r}$-1.32±.11; Best double couple: $M_0$2.349×10^{16} NP1:ϕ_s90°,δ46°, λ-146°. NP2:ϕ_s335°,δ66°,λ-49°. Principal axes: T 2.373, Plg12°, Azm37°; N -.053, Plg37°, Azm136°; P -2.325, Plg51°, Azm292°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **20** 15:00:00.3±0.5, 4.54N×95.44E, h48^{km}±4^{km}, mb4.8/25, mb1 4.8/25, mb1mx4.8/25, mbtmp5.1/25, MS3.9/18, Ms1 3.9/18, ms1mx3.8/28 Error ellipse: s-maj=13.3km s-min=8.0km az=58.0*
ISC 20 14:59:58.8±0.2**, 4.45N**±0.03×**95.40E**±0.03**, h50^{km}, h50^{km}**±.9^{km}**:pP-P, n430, σ1.00**/420**, mb5.2**/158**, MS4.0**/47**, 41C-95D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PKT	Phuket	4.54	37	P	P	15 01 16.0	+9.1
KULM	Kulim	5.29	81	ePn	P	15 01 18.8	+1.5
KULM				eSn	S	15 02 17.4	-0.4
IPM	Ipoh	5.61	88	P	P	15 01 22.4	+0.8
SNG	Songkhla	5.85	62	P	P	15 01 27.0	+2.0
	1μm,1.0s						
KGM	Kluang	8.27	107	P	P	15 01 57.9	-0.8
NNT	Nongplab	9.15	28	P	P	15 02 13.0	+2.1
NST	Nakhon Sawan	12.08	22	P	P	15 02 54.5	+3.7
KKTK	Khon Kaen	13.88	31	P	P	15 03 20.0	+5.3
	2μm,0.7s						
CHG	Chiang Mai	14.69	13	P	P	15 03 29.6	+4.3
	51nm,0.7s						
NANT	Nan	15.17	20	P	P	15 03 36.5	+5.0
	425nm,0.4s						
KSM	Kuching	15.18	101	eP	P	15 03 33.2	+1.6
CHRT	Chiangrai	15.91	15	P	P	15 03 45.5	+4.5
	197nm,1.2s						
MDRS	Chennai	17.24	301	eP	P	15 03 57.5	-0.3
VIS	Vishakhapatnam	17.71	319	eP	P	15 04 04.7	+1.1
SALM	Salem	18.46	294	eP	P	15 04 15.0	+2.1
SALM				ex	x	15 07 24.0	
KOD	Kodaikanal	18.69	289	ex	x	15 06 59.2	
QIZ	Qiongzhong	20.21	43	P	P	15 04 32.8	+0.5
QIZ				AP		15 04 44.8	
QIZ				S	S	15 08 14.5	+3.1
QIZ				LR	LR		
	comp=N,373nm,17.7s						
QIZ				LR	LR		
	comp=Z,413nm,20.0s,MS3.8						
QIZ	Qiongzhong	20.21	43	eP	P	15 04 33.2	+0.8
	comp=Z,37nm,0.9s						
QIZ				LR	LR		
	comp=Z,430nm,21.0s,MS3.8						
KKM	Kota Kinabalu	20.78	85	P	P	15 04 40.7	+2.4
KKM	Kota Kinabalu	20.78	85	eP	P	15 04 39.5	+1.2
HYB	Hyderabad	20.94	309	⇓iP	P	15 04 41.0	+1.2
	comp=Z,180nm,1.0s						
HYB				eS	S	15 08 25.0	-0.4
HYB				e		15 08 42.0	
HYB	Hyderabad	20.94	309	⇓eP	P	15 04 41.0	+1.2
	comp=Z,180nm,1.0s						
HYB				e		15 08 25.0	
HYB				eS	S	15 08 42.0	+17
HYB	Hyderabad	20.94	309	⇓eP	P	15 04 41.0	+1.2
HYB				e		15 08 25.0	
HYB				eS	S	15 08 42.0	+17
HYB				pmax	pmax		
	comp=Z,180nm,1.0s						
SHL	Shillong	21.26	351	eP	P	15 04 41.0	-2.0
SHL				ex	x	15 08 29.0	
KMI	Kunming	21.73	18	P	P	15 04 50.8	+3.1
KMI				XP		15 05 08.3	
KMI				PP	PP	15 05 16.8	+3.1
KMI				S	S	15 08 41.8	+1.8
KMI				SS	SS	15 09 19.3	0.0
KMI				AMB	AMB		
	comp=Z,35nm,1.5s,mb4.6						
KMI				LR	LR		
	comp=N,559nm,17.8s,MS4.1						
KMI				LR	LR		
	comp=E,365nm,15.5s,MS4.1						
KMI				LR	LR		
	comp=Z,516nm,18.6s,MS4.0						
BLSP	Bilaspur	21.77	325	eP	P	15 04 49.0	+0.8
BLSP				AMb	AMB	15 04 50.9	
	comp=Z,269nm,0.9s,mb5.7						
TSM	Tawau	22.40	90	P	P	15 04 55.4	+1.0
NGP	Nagpur	22.97	318	eP	P	15 05 02.2	+2.1
LATR	Latur	23.06	308	eP	P	15 05 03.4	+2.4
LATR				ex	x	15 09 15.0	
AKL	Akola	24.10	314	eP	P	15 05 09.4	-1.5
AKL				ex	x	15 05 25.1	
GYA	Guiyang	24.39	25	⇑iP	P	15 05 15.3	+1.5
GYA				AP		15 05 26.8	
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.0						
GYA				LR	LR		
	comp=N,500nm,17.0s,MS4.3						
GYA				LR	LR		
	comp=E,570nm,16.4s,MS4.3						
GYA				LR	LR		

comp=Z,6µm,16.0s,MS5.2
PKI Pulchoki 24.89 339 *e*P **P 15 05 17.8 -0.8**
comp=Z,46nm,0.6s,mb5.2
PKI Pulchoki 24.89 339 *e*P **P 15 05 17.8 -0.8**
PKI pmax pmax
comp=Z,23nm,0.6s,mb4.9
DMN Daman 25.03 338 *e*P **P 15 05 20.2 +0.2**
comp=Z,32nm,0.4s,mb5.2
KKN Kakani 25.13 338 *e*P **P 15 05 20.7 -0.2**
comp=Z,146nm,0.8s,mb5.6
POO Poona 25.29 305 *e*P **P 15 05 23.8 +1.3**
POO AMb AMB 15 05 27.9
comp=Z,124nm,1.4s,mb5.3
LSA Lhasa 25.43 351 P **P 15 05 25.0 +1.3**
LSA Lhasa 25.43 351⇑ *e*P **P 15 05 24.6 +0.9**
comp=Z,44nm,0.6s,mb5.2
LSA LR LR
comp=Z,336nm,21.0s,MS3.8
LSA Lhasa 25.43 351⇑ *e*P **P 15 05 24.6 +0.9**
LSA pmax pmax
comp=Z,44nm,0.6s,mb5.2
LSA MLR MLR
comp=Z,336nm,21.0s,MS3.8
BHPL Bhopal 25.50 319 *e*P **P 15 05 24.7 +0.2**
BHPL AMb AMB 15 05 29.9
comp=Z,55nm,1.4s,mb4.9
GKN Gorkha 25.57 337 *e*P **P 15 05 24.6 -0.4**
comp=Z,183nm,0.7s,mb5.7
KOLN Koldanda 25.77 335 *e*P **P 15 05 27.0 +0.1**
comp=Z,238nm,0.6s,mb5.9
CD2 Chengdu 27.47 16⇑ *i*P **P 15 05 41.3 -1.2**
CD2 AMB AMB
comp=Z,40nm,0.5s,mb5.2
PTH Pithoragarh 28.81 332 *e*P **P 15 05 54.0 -0.5**
PTH *e*S **S 15 10 41.0 +1.7**
ENH Enshi 28.92 26 *e*P **P 15 05 52.6 -2.9**
comp=Z,9.3nm,0.5s,mb4.8
SONA Sohna 29.39 326 *i* P **P 15 05 58.8 -0.9**
SONA AMb AMB 15 05 59.4
comp=Z,37nm,0.6s,mb5.3
KALG Kalgarh 29.49 330 *e*P **P 15 06 00.6 0.0**
AJM Ajmer 29.57 320 *e*P **P 15 06 01.0 -0.3**
AJM AMb AMB 15 06 02.4
comp=Z,16nm,0.3s,mb5.2
KUDL Kundal 29.65 325 *e*P **P 15 06 01.3 -0.7**
NDI New Delhi 29.65 326 *e*P **P 15 06 00.1 -1.9**
KHET Khetri 29.99 324 *i* P **P 15 06 04.9 -0.2**
KHET AMb AMB 15 06 07.2
comp=Z,19nm,0.9s,mb4.8
BHUJ Bhuj 31.11 309 *e*P **P 15 06 16.0 +1.0**
KLP Kalpa 31.39 331 *i* P **P 15 06 16.9 -0.5**
KLP AMb AMB 15 06 22.3
comp=Z,64nm,1.6s,mb5.2
WHN Wuhan 31.51 32 P **P 15 06 19.0 +0.6**
XAN Xi'an 32.01 21 P **P 15 06 21.4 -1.4**
XAN AP pP 15 06 34.5 -1.3
XAN AMB AMB
comp=Z,54nm,0.9s,mb5.4
LZH Lanzhou 32.43 13 *e*P **P 15 06 25.1 -1.3**
LZH AP pP 15 06 38.1 -1.3
LZH PCP PcP 15 09 13.0 +0.1
LZH S **S 15 11 36.3 0.0**
LZH SCP 15 12 52.4
LZH SS SS 15 13 31.5 -2.7
LZH SCS ScS 15 16 49.3 +0.2
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,113nm,4.0s
LZH LR LR
comp=E,760nm,14.2s
LZH LR LR
comp=Z,985nm,15.2s,MS4.6
MBWA Marble Bar 34.88 138 *e*P **P 15 06 46.4 -1.3**
comp=Z,20nm,1.0s,mb5.0
GTA Gaotai 35.03 6 *e*P **P 15 06 47.5 -1.3**
GTA PP PP 15 08 03.6 -4.6
GTA PCP PcP 15 09 20.1 -0.1
GTA S **S 15 12 10.8 -5.7**
GTA SCS ScS 15 17 02.8 +0.1
GTA AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,79nm,5.0s
GTA LR LR
comp=N,143nm,18.7s,MS3.9
GTA LR LR
comp=E,116nm,15.7s,MS3.9
GTA LR LR
comp=Z,188nm,22.9s
NJ2 Nanjing 35.17 36 *e*P **P 15 06 51.8 +1.7**
NJ2 AP pP 15 07 03.8 +0.6
NJ2 PP PP 15 08 11.6 +1.6
NJ2 S **S 15 12 21.0 +2.2**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,270nm,10.0s
NJ2 LR LR
comp=N,540nm,27.8s,MS4.7
NJ2 LR LR
comp=E,2µm,23.5s,MS4.7
NJ2 LR LR
comp=Z,370nm,22.8s,MS4.1
FITZ Fitzroy Crossi 37.30 128 *e*P **P 15 07 07.0 -1.2**
comp=Z,20nm,0.6s,mb5.1
FITZ *i* pP pP 15 07 20.1 -1.3
FITZ Fitzroy Crossi 37.30 128 P **P 15 07 07.2 -0.9**
comp=Z,27nm,0.6s,mb5.3,baz=321,slow=3.3,SNR=51
FITZ pP pP 15 07 20.0 -1.4
comp=Z,70nm,0.8s,baz=251,slow=1.8,SNR=19
TIA Tai'an 37.40 30 *e*P **P 15 07 09.6 +0.8**
JOW Kunigami 38.48 51 P **P 15 07 18.1 +0.3**
comp=Z,30nm,0.7s,mb5.2,baz=243,slow=7.8,SNR=19
HHC Hu-ho-hao-te 39.04 20⇑P **P 15 07 23.5 +1.1**
HHC PP PP 15 08 56.0 -0.4
HHC S **S 15 13 17.3 -0.5**
HHC PCS 15 13 23.6
HHC AMB AMB
comp=Z,31nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,186nm,3.6s
HHC LR LR
comp=N,461nm,19.0s,MS4.4
HHC LR LR
comp=E,275nm,15.5s,MS4.4
HHC LR LR
comp=Z,340nm,16.6s,MS4.2
KSH Kashi 39.09 336 P **P 15 07 23.8 +1.0**
KSH AP pP 15 07 37.0 +0.9
KSH PP PP 15 08 59.3 +2.4
KSH PCP PcP 15 09 32.3 -0.2
KSH S **S 15 13 21.1 +2.6**
KSH SS SS 15 16 07.0 +2.1
KSH AMB AMB
comp=Z,490nm,3.9s
KSH LR LR
comp=N,700nm,5.8s
KSH LR LR
comp=E,570nm,5.1s
WBK Wadi Bani Khal 39.58 301⇑P **P 15 07 28.1 +1.0**
WMQ Urumqi 39.79 351⇑ *i*P **P 15 07 28.9 +0.3**
WMQ AP pP 15 07 41.0 -0.9
WMQ PP PP 15 09 04.0 -0.4
WMQ S **S 15 13 28.0 -1.1**
WMQ AMB AMB
comp=Z,27nm,0.7s,mb5.1
WMQ AMB AMB
comp=Z,159nm,5.4s
WMQ LR LR
comp=N,183nm,24.0s
WMQ LR LR
comp=E,102nm,17.0s
WMQ LR LR
comp=Z,140nm,21.4s,MS3.8
SMDO Samad 40.54 301⇑P **P 15 07 37.2 +2.2**
SNR=10
KAKA Kakadu 40.56 115 *e*P **P 15 07 54.5 +19**
comp=Z,19nm,0.7s,mb4.8
BIDO Bidbid 40.64 301⇑P **P 15 07 38.3 +2.4**
SNR=10
BSY Bisya 41.16 300⇓P **P 15 07 42.8 +2.7**
SNR=7.7
ULHL Ulahol 41.33 338 P **P 15 07 42.3 +1.0**
SNR=7.8

HOQ Hoqain 41.36 301⇑P **P 15 07 43.9 +2.2**
KZA Kyzart 41.56 337 P **P 15 07 44.9 +1.6**
SNR=8.8
KLBR Kellerberrin 41.69 151 *e*P **P 15 07 44.9 +0.4**
comp=Z,48nm,1.4s,mb4.9
KLBR *i* pP pP 15 07 59.0 +1.2
ARQ Araqi 41.95 300⇑P **P 15 07 49.0 +2.3**
UCH Uchtor 41.97 337 P **P 15 07 48.3 +1.7**
SNR=9.3
TKM2 Tokmak 2 42.15 338 P **P 15 07 48.7 +0.6**
SNR=32
KBK Karagaybulak 42.17 337 P **P 15 07 49.6 +1.3**
SNR=53
AML Almayashu 42.22 336 P **P 15 07 50.2 +1.5**
SNR=10
AAK Ala-Archa 42.32 337 P **P 15 07 51.1 +1.6**
SNR=33
AAK Ala-Archa 42.32 337 *e*P **P 15 07 50.0 +0.4**
comp=Z,30nm,0.7s,mb5.0
AAK LR LR
comp=Z,55nm,21.0s,MS3.4
AAK Ala-Archa 42.32 337 *d* iP **P 15 07 49.2 -0.3**
AAK pmax pmax
comp=Z,83nm,1.6s,mb5.1
AAK MLR MLR
comp=Z,100nm,15.0s,MS3.8
FRU Bishkek 42.45 337⇓ *e*P **P 15 07 51.0 +0.5**
FRU pmax pmax
comp=Z,110nm,1.9s,mb5.2
CHMS Chumysh 42.53 337 P **P 15 07 51.9 +0.6**
SNR=13
NWAO Narrogin (SRO) 42.55 152 P **P 15 07 51.4 -0.2**
comp=Z,11nm,0.7s,mb4.7,baz=337,slow=8.5,SNR=9.9
NWAO pP pP 15 08 04.9 0.0
comp=Z,53nm,0.9s,baz=320,slow=7.8,SNR=8.9
NWAO Narrogin (SRO) 42.55 152 *e*P **P 15 07 51.0 -0.6**
comp=Z,61nm,0.9s,mb5.3
NWAO *e*pP pP 15 08 06.0 +1.1
NWAO Narrogin (SRO) 42.55 152 *e*P **P 15 07 51.0 -0.6**
NWAO *e**PP pP 15 08 06.0 +1.1
NWAO pmax pmax
comp=Z,61nm,0.9s
EKS2 Erkin-Say 42.63 336 P **P 15 07 53.2 +1.1**
SNR=50
ASHO Ashiyiah 42.83 302⇑P **P 15 07 57.8 +3.8**
WHFO Wadi Hawf 42.85 292⇑P **P 15 07 55.7 +1.5**
SNR=14
USP Ospenovka 42.86 337 P **P 15 07 54.4 +0.4**
SNR=53
BANOM Banah 43.09 304⇓P **P 15 08 02.6 +6.5**
ABTO Aybut 43.17 291⇑P **P 15 07 58.3 +1.5**
JNU Nakatsue 43.67 45 P **P 15 08 00.8 +0.1**
comp=Z,14nm,0.8s,mb4.7,baz=198,slow=6.2,SNR=9.7
JNU pP pP 15 08 14.0 0.0
comp=Z,5.3nm,0.6s,baz=182,slow=22,SNR=2.3
JNU LR LR 15 28 42.2
comp=Z,170nm,18.8s,MS4.0,baz=63,slow=40
MKAR Makanchi Array 43.68 347 P **P 15 07 59.6 -0.9**
comp=Z,33nm,0.4s,mb5.4,baz=165,slow=7.6,SNR=352
MKAR pP pP 15 08 13.1 -0.9
comp=Z,16nm,0.8s,baz=162,slow=7.7,SNR=5.3
MKAR S **S 15 14 26.9 +0.5**
comp=Z,0.6nm,0.5s,baz=165,slow=14,SNR=3.9
MKAR LR LR 15 28 25.5
comp=Z,126nm,20.3s,MS3.8,baz=180,slow=39
MKAR Makanchi Array 43.68 347 P **P 15 07 59.6 -0.9**
MKAR pP pP 15 08 13.1 -0.9
MKAR S **S 15 14 26.9 +0.5**
MKAR LR LR 15 28 25.5
SONM Songino Array 44.24 11 P **P 15 08 04.2 -0.8**
comp=Z,6.6nm,0.8s,mb4.4,baz=191,slow=9.0,SNR=20
SONM PcP PcP 15 09 49.0 -0.5
comp=Z,9.4nm,0.6s,baz=196,slow=3.8,SNR=14
SONM pPcP 15 10 03.2
comp=Z,13nm,0.8s,baz=188,slow=3.5,SNR=9.0
SONM ScP 15 13 35.6
comp=Z,2.1nm,0.9s,baz=236,slow=1.4,SNR=5.8
SONM LR LR 15 28 14.9
comp=Z,287nm,21.8s,MS4.2,baz=190,slow=38
KS15 Wonju Array Si 44.27 38 *e*P **P 15 08 05.5 +0.1**
KKAR Karatay Array 44.37 334 *i* P **P 15 08 06.0 -0.1**
KKAR pmax pmax
comp=Z,68nm,1.0s,mb5.3
SNY Shenyang 44.92 30⇓P **P 15 08 10.1 -0.5**
SNY AP pP 15 08 24.1 +0.2
SNY XP sP 15 08 32.3 +2.4
SNY S **S 15 14 49.1 +4.7**
SNY AMB AMB
comp=Z,20nm,0.5s,mb5.2
SNY LR LR
comp=N,330nm,17.3s
SNY LR LR
comp=Z,270nm,18.4s,MS4.2
WRA Warramunga Arr 45.30 124 P **P 15 08 13.6 -0.3**
comp=Z,52nm,0.6s,mb5.5,baz=301,slow=9.3,SNR=722
WRA pP pP 15 08 26.7 -0.5
comp=Z,143nm,0.8s,baz=303,slow=9.2,SNR=36
WRA S **S 15 14 51.5 +1.5**
comp=Z,1.3nm,1.0s,baz=296,slow=16,SNR=3.1
WRAB Tennant Creek 45.30 124 *e*P **P 15 08 13.6 -0.3**
comp=Z,237nm,0.8s,mb6.1
WRAB *e*pP pP 15 08 24.6 -2.6
WRAB Tennant Creek 45.30 124 *e*P **P 15 08 13.6 -0.3**
WRAB *e**PP pP 15 08 24.6 -2.7
WRAB pmax pmax
comp=Z,237nm,0.8s,mb6.1
WB2 Warramunga Arr 45.30 124⇓ *i*P **P 15 08 13.7 -0.2**
WB2 *i* pP pP 15 08 27.2 -0.1
ZAK Zakamensk 46.25 7 *e*P **P 15 08 20.1 -0.9**
ZAK *e* 15 09 55.4
ZAK *e* 15 10 09.9
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ASPA Alice Springs 46.79 128⇓ *i*P **P 15 08 25.4 -0.2**
FORT Forrest 46.91 141⇓ *i*P **P 15 08 26.6 +0.2**
comp=Z,52nm,0.7s,mb5.6
FORT *i* pP pP 15 08 40.8 +1.0
CN2 Changchun 47.30 30 *e*P **P 15 08 29.0 -0.4**
CN2 *e*AP pP 15 08 44.1 +1.3
CN2 PCP PcP 15 09 59.0 -1.2
CN2 *e*S **S 15 15 19.0 +0.7**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 LR LR
comp=N,200nm,19.0s,MS4.2
CN2 LR LR
comp=E,200nm,19.0s,MS4.2
CN2 LR LR
comp=Z,210nm,19.0s,MS4.1
KURK Kurchatov 48.21 346 *e*P **P 15 08 35.1 -1.3**
comp=Z,15nm,0.8s,mb5.1
KURK *e*ScP 15 13 56.7
KURK *e*S **S 15 15 31.0 0.0**
KURK LR LR
comp=Z,57nm,19.0s,MS3.6
KURK Kurchatov 48.21 346 *e*P **P 15 08 35.1 -1.3**
KURK *e*S **S 15 15 31.0 0.0**
KURK pmax pmax
comp=Z,15nm,0.8s,mb5.1
KURK MLR MLR
comp=Z,57nm,19.0s,MS3.6
HIA Hailar 49.21 21⇓ *e*P **P 15 08 43.3 -0.8**
comp=Z,27nm,0.6s,mb5.5
HIA *e*pP pP 15 08 57.1 -0.4
HIA LR LR
comp=Z,104nm,19.0s,MS3.9
HIA Hailar 49.21 21⇓ *e*P **P 15 08 43.3 -0.8**
HIA *e**PP pP 15 08 57.1 -0.4
HIA pmax pmax
comp=Z,27nm,0.6s
HIA MLR MLR
comp=Z,104nm,19.0s
GUMO Guam 49.60 76 LR LR 15 27 23.2
comp=Z,99nm,21.0s,MS3.8,baz=276,slow=33
MDJ Mudanjiang 49.98 32 P **P 15 08 51.3 +1.2**
MDJ AP pP 15 09 02.9 -0.7
MDJ PP PP 15 10 46.9 +0.7
MDJ PCS 15 14 08.5
MDJ S **S 15 15 58.4 +2.6**
MDJ AMB AMB
comp=Z,18nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,76nm,9.4s
MDJ LR LR
comp=N,77nm,17.9s,MS3.9
MDJ LR LR
comp=E,71nm,20.6s,MS3.9
MDJ LR LR
comp=Z,142nm,22.4s,MS3.9
ZAL Zalesovo 50.09 352 P **P 15 08 49.5 -1.3**
comp=Z,17nm,0.5s,mb5.3,baz=306,slow=5.5,SNR=47
ZAL pP pP 15 09 03.2 -1.1
comp=Z,9.7nm,0.5s,baz=295,slow=8.2,SNR=5.0
ZAL S **S 15 15 55.5 -1.5**
comp=Z,2.6nm,0.7s,baz=148,slow=20,SNR=18
ZAL LR LR 15 33 59.1
comp=Z,63nm,20.6s,MS3.6,baz=184,slow=41
JHJ Hachijo jima 2 50.21 50 LR LR 15 34 03.6
comp=Z,58nm,18.2s,MS3.6,baz=275,slow=41
MAJO Matsushiro 50.59 45 PFAKE 15 09 10.0 +15
MAJO LR LR
comp=Z,216nm,22.0s,MS4.1
MAT Matsushiro 50.59 45 P **P 15 08 54.9 0.0**
MAT Matsushiro 50.59 45 *e*P **P 15 08 55.0 +0.1**
comp=Z,12nm,1.0s,mb4.8
MAT Matsushiro 50.59 45 *e*P **P 15 08 55.0 +0.1**
MAT pmax pmax
comp=Z,12nm,1.0s,mb4.8
MJAR Matsushiro Arr 50.59 45 P **P 15 08 55.2 +0.3**
comp=Z,6.1nm,0.9s,mb4.5,baz=243,slow=8.2,SNR=16
MJAR PcP PcP 15 10 11.3 -0.9
comp=Z,4.0nm,0.8s,baz=237,slow=3.9,SNR=5.9
MJAR LR LR 15 32 00.9
comp=Z,124nm,19.6s,MS3.9,baz=195,slow=38
MJAR Matsushiro Arr 50.59 45 P **P 15 08 55.2 +0.3**
MJAR PcP PcP 15 10 11.3 -0.9
MJAR LR LR 15 32 00.9
NVS Novosibirsk 51.20 351 *i* P **P 15 08 56.6 -2.6**
NVS *i* pP 15 09 10.2 -2.5
NVS *e*S **S 15 16 03.4 -9.0**
NVS pmax pmax
comp=Z,28nm,1.1s,mb5.1
NVS pmax pmax
comp=N,17nm,1.0s
NVS pmax pmax
comp=E,5.0nm,0.4s
NVS smax
comp=N,76nm,1.7s
NVS smax
comp=E,27nm,1.6s
KBD Kabd 51.38 304 *e*P **P 15 09 01.0 0.0**
RDF Al-Radifah 51.42 304 *e*P **P 15 09 01.2 0.0**
RDF AMb AMB 15 09 03.0
comp=Z,135nm,1.1s,mb5.8
UMR Umm Al-Rimmam 51.49 305 *e*P **P 15 09 01.3 -0.5**
UMR AMb AMB 15 09 03.5
comp=Z,36nm,0.5s,mb5.5
NAY Al-Naaiem 51.78 304 *e*P **P 15 09 03.7 -0.2**
NAY AMb AMB 15 09 05.3
comp=Z,66nm,0.8s,mb5.6
MIB Mutribah 51.88 305 *e*P **P 15 09 04.7 0.0**
MIB AMb AMB 15 09 06.5
comp=Z,128nm,0.9s,mb5.8
BVA0 Borovoye Array 52.61 341 *e*P **P 15 09 08.2 -1.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 52.61 341 P **P 15 09 08.2 -1.6**
comp=Z,21nm,0.7s,mb5.2,baz=141,slow=8.9,SNR=78
BRVK Borovoye 52.67 341 *e*P **P 15 09 08.5 -1.8**
comp=Z,11nm,0.6s,mb5.0
BRVK Borovoye 52.67 341 *e*P **P 15 09 08.5 -1.8**
BRVK pmax pmax
comp=Z,11nm,0.6s,mb5.0
PMG Port Moresby 53.38 105 *e*P **P 15 09 14.4 -1.7**
comp=Z,23nm,0.7s,mb5.2
PMG *e*pP pP 15 09 28.0 -1.8
PMG Port Moresby 53.38 105 *e*P **P 15 09 14.4 -1.7**
PMG *e**PP pP 15 09 28.0 -1.7
PMG pmax pmax
comp=Z,23nm,0.7s
AB31 Akbulak array 53.82 332 *i* P **P 15 09 18.1 -0.7**
AB31 pmax pmax
comp=Z,17nm,0.6s,mb5.2
KLR Kul'dur 54.22 29 *e*P **P 15 09 18.8 -3.0**
BOD Bodaibo 55.19 12 *e*P **P 15 09 26.7 -2.0**
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
CTA Charters Tower 55.58 118⇓ *i*P **P 15 09 31.2 -0.8**
comp=Z,11nm,0.7s,mb5.0
CTA *i* pP pP 15 09 45.5 -0.3
CTA Charters Tower 55.58 118 LR LR 15 35 32.4
comp=Z,163nm,20.0s,MS4.1,baz=269,slow=38
CTA Charters Tower 55.58 118⇓ *i*P **P 15 09 31.2 -0.8**
CTA *i* *PP pP 15 09 45.5 -0.3
CTA pmax pmax
comp=Z,11nm,0.7s
CTAO Charters Tower 55.58 118 *e*P **P 15 09 31.3 -0.7**
comp=Z,25nm,1.0s,mb5.2
CTAO *e*pP pP 15 09 44.4 -1.3
CTAO Charters Tower 55.58 118 *e*P **P 15 09 31.3 -0.7**
CTAO *e**PP pP 15 09 44.4 -1.4
CTAO pmax pmax
comp=Z,25nm,1.0s,mb5.2
STKA Stephens Creek 56.86 133⇓ *i*P **P 15 09 40.0 -1.1**
comp=Z,16nm,1.5s,mb4.8
STKA Stephens Creek 56.86 133 P **P 15 09 39.6 -1.5**
comp=Z,3.8nm,0.7s,mb4.5,baz=314,slow=5.9,SNR=12
STKA LR LR 15 33 56.3
comp=Z,205nm,21.8s,MS4.2,baz=268,slow=36
ASAJ Asahikawa 57.22 39 P **P 15 09 43.2 -0.2**
comp=Z,6.4nm,0.7s,mb4.7,baz=266,slow=14,SNR=7.6
ASAJ LR LR 15 34 20.9
comp=Z,110nm,20.2s,MS4.0,baz=229,slow=36
GNI Garni 57.73 315 P **P 15 09 46.8 -0.3**
comp=Z,12nm,0.4s,mb5.3,baz=166,slow=11,SNR=6.7
KMBO Kilima Mbogo 58.37 266 P **P 15 09 53.2 +1.4**
comp=Z,17nm,0.8s,mb5.1,baz=65,slow=10,SNR=44
KMBO LR LR 15 30 23.6
comp=Z,148nm,21.9s,MS4.1,baz=90,slow=31
KMBO Kilima Mbogo 58.37 266 P **P 15 09 53.2 +1.3**
KMBO LR LR 15 30 23.6
YSS Yuzh-Sakhalins 58.74 36 PFAKE 15 10 10.0 +16
YSS LR LR
comp=Z,125nm,20.0s,MS4.0
YSS Yuzh-Sakhalins 58.74 36⇑ *e*P **P 15 09 55.0 +1.0**
YSS *e* pP 15 10 07.0 -0.9
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
ZEI Tsey 59.39 318 *e*P **P 15 09 57.4 -1.2**
ZEI *i* *PP pP 15 10 14.3 +1.8
ZEI *i* 15 12 12.5
ZEI pmax pmax
comp=Z,23nm,0.8s,mb5.3
ARU Arti 59.51 337⇓ *e*P **P 15 09 57.4 -1.8**
ARU Arti 59.51 337 *d* iP **P 15 09 57.6 -1.6**
ARU pmax pmax
comp=Z,57nm,1.4s,mb5.4
TBKS Tabuk 60.57 300 P **P 15 10 07.8 +0.9**
QURS Qurayyt al Mil 60.61 304 P **P 15 10 07.7 +0.6**
KIV Kislovodsk 60.69 319 *e*P **P 15 10 06.2 -1.2**
comp=Z,31nm,0.8s,mb5.5
KIV Kislovodsk 60.69 319 *d* iP **P 15 10 06.3 -1.2**
KIV pmax pmax
comp=Z,49nm,1.1s,mb5.5
JMQS Jabal Moqyreh 61.28 300 P **P 15 10 12.2 +0.5**
MALT Malatya 61.64 311 *e*P **P 15 10 13.4 -0.6**
comp=Z,8.0nm,0.6s,mb5.0
MALT Malatya 61.64 311 *e*P **P 15 10 13.4 -0.5**
MALT pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
AYUS 'Aynunah 61.67 300 P **P 15 10 14.7 +0.3**
BDAS Al 'Bad' 61.87 300 P **P 15 10 15.8 +0.2**
JMOS Jabal al Moall 62.00 301 P **P 15 10 16.7 +0.2**
ALWS Ilw as Safayha 62.06 301 P **P 15 10 17.4 +0.5**
TAYS Tayyib Ism 62.09 300 P **P 15 10 17.3 +0.2**
HAQS Haql 62.13 300 P **P 15 10 17.6 +0.3**
SOKR Solikamsk 62.42 339 *c* iP **P 15 10 18.2 -0.7**
SOKR pmax pmax
comp=Z,40nm,0.8s,mb5.6
SOC Sochi 62.52 317 *e*P **P 15 10 16.7 -3.1**
SOC *e* 15 20 02.1
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=Z,35nm,0.8s,mb5.5
SOC pmax pmax
comp=E,18nm,0.9s

YAK Yakutsk 62.84 17 *e*P **P** **15 10 19.3 -2.4**
comp=E,13nm,0.6s,mb5.2
YAK *e*pP pP 15 10 32.6 -3.0
YAK LR LR
comp=Z,370nm,20.0s,MS4.5
YAK Yakutsk 62.84 17 *e*P **P** **15 10 18.3 -3.4**
YAK *e*S **S** **15 18 41.8 -3.8**
YAK pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK smax
comp=N,5.0nm,1.1s
YAK smax
comp=E,3.0nm,1.1s
YAK MLR MLR
comp=Z,301nm,22.0s,MS4.4
VRHR Novokhopersk 64.45 326*d* iP **P** **15 10 30.2 -2.1**
VRHR pmax pmax
comp=Z,90nm,0.6s,mb6.0
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,60nm,1.4s
ANN Anapa 64.49 318 *e*P **P** **15 10 34.0 +1.3**
ANN *e**PP pP 15 10 44.4 -2.4
ANN *e* 15 11 03.8
ANN *e*S **S** **15 19 14.0 +7.6**
ANN pmax pmax
comp=Z,22nm,0.9s,mb5.2
BR131 Keskin Array S 65.61 312 *e*P **P** **15 10 38.7 -1.3**
BRTR Keskin Array B 65.61 312 P **P** **15 10 38.8 -1.3**
comp=Z,22nm,0.6s,mb5.4,baz=128,slow=7.3,SNR=24
BRTR pP pP 15 10 52.9 -1.2
comp=Z,6.0nm,0.5s,baz=128,slow=7.0,SNR=5.0
VORD Divnogorie 65.72 325 *e*P **P** **15 10 38.1 -2.4**
VORD pmax pmax
comp=Z,50nm,0.8s,mb5.6
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,40nm,0.8s
VRSR Storozhevoye 65.88 325*d* iP **P** **15 10 39.3 -2.2**
VRSR pmax pmax
comp=Z,40nm,0.6s,mb5.6
VRSR pmax pmax
comp=N,6.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.5s
ANTO Ankara 66.28 312 *e*P **P** **15 10 42.9 -1.4**
comp=E,41nm,0.8s,mb5.5
ANTO Ankara 66.28 312 *e*P **P** **15 10 42.9 -1.4**
ANTO pmax pmax
comp=Z,41nm,0.8s,mb5.5
SIM Simferopol' 66.77 317*d* iP **P** **15 10 46.0 -1.3**
ISP Isparta 67.54 309*d* iP **P** **15 10 50.9 -1.3**
MOS Moscow 68.64 329 *e*P **P** **15 10 56.7 -2.0**
MOS *e* pP 15 11 11.1 -1.8
MOS pmax pmax
comp=Z,91nm,0.9s,mb5.7
OBN Obninsk 68.93 328 *e*P **P** **15 10 58.4 -2.2**
comp=Z,23nm,0.6s,mb5.3
OBN *e*pP pP 15 11 14.1 -0.7
OBN Obninsk 68.93 328*d* iP **P** **15 10 59.2 -1.3**
OBN *e* pP 15 11 13.7 -1.0
OBN *e* 15 13 32.4
OBN pmax pmax
comp=Z,80nm,1.4s,mb5.5
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
MA2 Magadan 69.22 27 PFAKE 15 11 10.0 +7.7
MA2 LR LR
comp=Z,117nm,22.0s,MS4.1
LSZ Lusaka 69.36 252 *e*P **P** **15 11 04.4 +0.5**
comp=Z,17nm,0.8s,mb5.0
LSZ LR LR
comp=Z,219nm,21.0s,MS4.4
LSZ Lusaka 69.36 252 *e*P **P** **15 11 04.4 +0.5**
LSZ pmax pmax
comp=Z,17nm,0.8s,mb5.0
LSZ MLR MLR
comp=Z,219nm,21.0s,MS4.4
TIXI Tiksi 70.33 11⇑ *i*P **P** **15 11 07.9 -0.9**
TIXI pmax pmax
comp=Z,41nm,1.5s,mb5.1
PSN Preselentsi 70.54 315 *e*P **P** **15 11 10.0 -0.6**
TIRR Tirgusor 70.56 316⇑ P **P** **15 11 09.8 -0.9**
PET Petropavlovsk 70.58 35 *e*P **P** **15 11 11.6 +1.0**
PET pmax pmax
comp=Z,37nm,1.7s,mb5.0
CFR Carcaliu 70.91 316⇓ P **P** **15 11 11.2 -1.6**
HARR Harsova 70.94 316⇑ P **P** **15 11 12.2 -0.8**
PRD Provadia 70.99 314 P **P** **15 11 13.0 -0.3**
SANT Santorini 71.25 307 *e*P **P** **15 11 13.8 -1.2**
comp=Z,34nm,0.6s,mb5.5
CASY Casey 71.41 174 *e*P **P** **15 11 15.3 -0.1**
comp=Z,20nm,1.4s,mb4.8
CASY LR LR
comp=Z,240nm,19.0s,MS4.5
AKASG Malin Array Be 71.60 322 P **P** **15 11 14.9 -1.9**
comp=Z,25nm,0.6s,mb5.4,baz=89,slow=5.5,SNR=4.6
AKASG Malin Array Be 71.60 322 *i* P **P** **15 11 12.2 -4.6**
AKASG pmax pmax
comp=Z,25nm,0.6s
VRI Vrincioaia 72.03 317⇓ P **P** **15 11 19.8 +0.3**
DIM Dimitrovgrad 72.12 313 P **P** **15 11 19.0 -1.1**
GVD Gavdhos 72.15 305 *e*P **P** **15 11 18.2 -2.2**
comp=Z,28nm,0.8s,mb5.2
MLR Muntele Rosu 72.49 316⇓ P **P** **15 11 23.1 +0.9**
RZN Rozhen 72.66 312 P **P** **15 11 22.7 -0.6**
VOIR 73.10 316⇓ P **P** **15 11 25.4 -0.4**
MMB Musomiste 73.37 312 P **P** **15 11 26.0 -1.5**
BURAR Bucovina Array 73.42 318⇑ P **P** **15 11 28.3 +0.7**
LBTB Lobatse 73.75 242⇓ *e*P **P** **15 11 30.4 +0.4**
comp=Z,43nm,1.1s,mb5.3
LBTB LR LR
comp=Z,300nm,19.0s,MS4.6
LBTB Lobatse 73.75 242⇓ *e*P **P** **15 11 30.4 +0.4**
LBTB pmax pmax
comp=Z,43nm,1.1s,mb5.3
LBTB MLR MLR
comp=Z,300nm,19.0s,MS4.6
KKB Krupnik 73.89 312 P **P** **15 11 29.0 -1.5**
VTS Vitosha 73.91 313 P **P** **15 11 29.8 -0.8**
JOF Joensuu 74.46 335 *e*p **P** **15 11 31.4 -2.0**
comp=Z,23nm,0.6s,mb5.3
VSU Vasula 75.15 330 *e*P **P** **15 11 36.7 -0.7**
KWP Kalwaria 75.44 320 *e*P **P** **15 11 39.5 +0.3**
KWP Kalwaria 75.44 320 *e*P **P** **15 11 39.5 +0.2**
MAW Mawson 75.47 192⇓ iP **P** **15 11 40.0 +0.9**
comp=Z,5.2nm,0.6s,mb4.6
MAW Mawson 75.47 192 P **P** **15 11 40.1 +1.0**
comp=Z,5.6nm,0.6s,mb4.7,baz=17,slow=5.7,SNR=23
MAW Mawson 75.47 192⇓ iP **P** **15 11 40.0 +0.9**
MAW pmax pmax
comp=Z,5.0nm,0.6s
APA Apatity 75.47 340⇑ iP **P** **15 11 32.8 -6.3**
APA *i* 15 11 54.0
APA pmax pmax
comp=Z,49nm,0.7s,mb5.5
KOLS Kolonicke sedl 75.59 319 *i* P **P** **15 11 40.6 +0.4**
SUW Suwalki 76.00 325 *e*P **P** **15 11 41.6 -0.7**
CRVS Cervenica-Dubn 76.12 319 *e*P **P** **15 11 43.8 +0.7**
PVY Plav 76.28 313⇑ iP **P** **15 11 43.4 -0.8**
FINES FINESS Array B 76.30 332 P **P** **15 11 43.2 -0.7**
comp=Z,39nm,0.7s,mb5.4,baz=103,slow=5.8,SNR=159
FINES LR LR 15 48 46.4
comp=Z,108nm,18.1s,MS4.2,baz=118,slow=38
STHS Stebnicka Huta 76.34 320 *i* P **P** **15 11 45.0 +0.6**
IVA Berane 76.36 313⇑ iP **P** **15 11 44.2 -0.4**
KAF Kangasniemi 76.39 333 *e*p **P** **15 11 43.2 -1.2**
comp=Z,23nm,0.5s,mb5.4,baz=104,slow=5.3
KAF Kangasniemi 76.39 333 *e*P **P** **15 11 43.2 -1.2**
KAF pmax pmax
comp=Z,23nm,0.5s,mb5.4
DIVS Divcibare 76.44 314 *i* P **P** **15 11 44.7 -0.4**
KECS Kecovo 76.69 319 *i* P **P** **15 11 46.2 -0.2**
ULC Ulcinj 76.74 312⇑ iP **P** **15 11 46.3 -0.5**
PLE Pljevlja 76.78 313⇑ iP **P** **15 11 47.3 +0.3**
TTG Podgorica 76.78 312⇑ iP **P** **15 11 46.2 -0.9**
NIE Niedzica 76.94 320 *e*P **P** **15 11 48.4 +0.6**
PSZ Piszkesteto 77.00 318⇓ iP **P** **15 11 48.2 0.0**
PSZ Piszkesteto 77.00 318 *e*P **P** **15 11 48.0 -0.2**
comp=Z,31nm,0.8s,mb5.3
PSZ Piszkesteto 77.00 318 *e*P **P** **15 11 48.0 -0.2**
PSZ pmax pmax
comp=Z,31nm,0.8s,mb5.3
NKY Niksic 77.02 313⇑ *i*P **P** **15 11 47.5 -0.8**
BUM Brajici-Budva 77.04 312⇑ iP **P** **15 11 47.8 -0.7**
UPM Unac-Piva 77.12 313⇑ iP **P** **15 11 49.1 +0.2**
HCY Herceg Novi 77.35 312⇑ iP **P** **15 11 49.5 -0.7**
BRY Bratogost 77.36 313⇑ iP **P** **15 11 49.3 -1.0**
OJC Ojcow 77.39 320 *e*P **P** **15 11 50.1 -0.2**
VYHS Vyhne 77.78 319 *i* P **P** **15 11 52.1 -0.4**
VYHS *e*pP pP 15 12 07.0 +0.2
SRO2 Moca 77.99 318 *e*P **P** **15 11 53.8 +0.2**
SRO Srobarova 78.05 318 *e*P **P** **15 11 54.2 +0.3**
OKC Ostrava-Krasne 78.39 320 *e*P **P** **15 11 56.1 +0.3**
OKC *e*pP pP 15 12 11.4 +1.2
KEV Kevo 78.46 341 *e*p **P** **15 11 54.6 -1.2**
comp=Z,18nm,0.7s,mb5.1
KEV Kevo 78.46 341 *e*P **P** **15 11 54.6 -1.2**
KEV pmax pmax
comp=Z,18nm,0.7s,mb5.1
MORC Moravsky Berou 78.78 320 *e*P **P** **15 11 58.0 +0.1**
comp=Z,29nm,1.0s,mb5.2
MORC Moravsky Berou 78.78 320 *e*P **P** **15 11 58.0 +0.1**
MORC pmax pmax
comp=Z,29nm,1.0s,mb5.2
BILL Bilibino 78.79 21 PFAKE 15 12 10.0 +12
BILL LR LR
comp=Z,180nm,20.0s,MS4.4
BILL Bilibino 78.79 21 *e*P **P** **15 11 57.5 -0.1**
BILL *e* pP 15 12 07.3 -4.7
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.5
ARCES ARCESS Array B 78.89 340 P **P** **15 11 58.0 -0.2**
comp=Z,14nm,0.4s,mb5.2,baz=93,slow=6.1,SNR=214
ARCES pP pP 15 12 11.8 -0.7
comp=Z,6.1nm,0.7s,baz=101,slow=6.2,SNR=2.8
ARCES LR LR 15 49 54.7
comp=Z,110nm,18.3s,MS4.2,baz=84,slow=38
ARCES ARCESS Array B 78.89 340 P **P** **15 11 58.0 -0.2**
ARCES pP pP 15 12 11.8 -0.7
ARCES LR LR 15 49 54.7
ZST Bratislava 78.90 318 *e*P **P** **15 11 59.0 +0.4**
ZST *e*pP pP 15 12 13.8 +0.8
VRAC Vranov 79.34 319 *e*P **P** **15 12 01.1 +0.1**
KTK1 Kautokeino 79.52 340⇓ iP **P** **15 12 01.0 -0.5**
DPC Dobruska-Polom 79.62 320 *e*P **P** **15 12 03.0 +0.5**
DPC *e*pP pP 15 12 17.8 +0.9
KSP Ksiaz 79.69 321 *e*P **P** **15 12 03.4 +0.6**
KSP Ksiaz 79.69 321 *e*P **P** **15 12 02.7 -0.1**
KSP *e* pP 15 12 16.4 -0.8
GOLS Golise 79.71 316 *i* P **P** **15 12 03.4 +0.3**
UPC Upice 79.83 320 *e*P **P** **15 12 04.0 +0.4**
ARSA Arzberg 79.88 317⇑ iP **P** **15 12 04.2 +0.3**
comp=Z,69nm,1.8s,mb5.3
TSUM Tsumeb 80.00 250 PFAKE 15 12 20.0 +15
TSUM LR LR
comp=Z,139nm,19.0s,MS4.3
TREC Trest 80.06 319 *e*P **P** **15 12 05.0 +0.1**
PERS Pernice 80.11 316 *i* P **P** **15 12 05.5 +0.3**
VISS Visnje 80.24 316 *i* P **P** **15 12 06.2 +0.3**
LJU Ljubljana 80.48 316 *i* P **P** **15 12 07.7 +0.5**
OBKA Obir 80.49 316⇓ iP **P** **15 12 07.6 +0.4**
comp=Z,36nm,1.4s,mb5.1
PRU Pruhonice 80.73 320 *e*P **P** **15 12 08.8 +0.4**
PRU *e*pP pP 15 12 23.6 +0.8
PVCC Panska Ves 80.75 320 *e*P **P** **15 12 08.9 +0.4**
MOA Molln 80.77 318⇑ iP **P** **15 12 08.4 -0.2**
comp=Z,19nm,1.7s,mb4.7
MOA Molln 80.77 318 *i* P **P** **15 12 08.4 -0.2**
comp=Z,19nm,1.7s,mb4.7,SNR=8.1
VOY Vojsko 80.92 316 *e*P **P** **15 12 09.1 -0.4**
VOY *e* pP 15 12 27.2 +3.3
BSD Bornholm Skovb 80.92 325 *i* P **P** **15 12 08.3 -1.0**
comp=Z,33nm,0.7s,mb5.4
BSD Bornholm Skovb 80.92 325 *i* P **P** **15 12 08.3 -1.0**
BSD pmax pmax
comp=Z,33nm,0.7s,mb5.4
AQU L'Aquila 81.11 312 *e*P **P** **15 12 10.8 +0.2**
comp=Z,31nm,0.7s,mb5.3
AQU L'Aquila 81.11 312 *e*P **P** **15 12 10.8 +0.2**
AQU pmax pmax
comp=Z,31nm,0.7s,mb5.3
TRO Tromso 81.15 340 *e*P **P** **15 12 08.5 -1.7**
TRO *e* pP 15 12 22.6 -2.1
BRG Berggiesshubel 81.17 321⇓ iP **P** **15 12 11.1 +0.4**
comp=Z,17nm,0.8s,mb5.0
BRG *e* pP 15 12 25.6 +0.5
BRG Berggiesshubel 81.17 321⇓ iP **P** **15 12 11.1 +0.4**
BRG *e* pP 15 12 25.6 +0.5
BRG pmax pmax
comp=Z,17nm,0.8s,mb5.0
GEC2 GERESS Array S 81.20 319 *e*P **P** **15 12 11.3 +0.4**
comp=Z,37nm,0.9s,mb5.3
GEC2 GERESS Array S 81.20 319 *e*P **P** **15 12 11.3 +0.4**
GEC2 pmax pmax
comp=Z,37nm,0.9s,mb5.3
GERES GERESS Array B 81.20 319 P **P** **15 12 11.3 +0.4**
comp=Z,19nm,0.7s,mb5.2,baz=90,slow=5.3,SNR=125
GERES LR LR 15 51 12.7
comp=Z,43nm,19.1s,MS3.8,baz=328,slow=38
KHC Kasperske Hory 81.30 319 *e*P **P** **15 12 11.2 -0.2**
KHC *e*pP pP 15 12 26.0 +0.1
KBA Koelnbreinsper 81.35 317⇑ iP **P** **15 12 11.4 -0.3**
comp=Z,12nm,1.2s,mb4.7
KBA Koelnbreinsper 81.35 317 *i* P **P** **15 12 11.4 -0.3**
comp=Z,12nm,1.2s,mb4.7,SNR=8.0
KBA Koelnbreinsper 81.35 317⇑ iP **P** **15 12 11.4 -0.3**
KBA pmax pmax
comp=Z,12nm,1.2s,mb4.7
RUE Ruedersdorf 81.38 322 *e*P **P** **15 12 11.1 -0.7**
comp=Z,36nm,0.7s,mb5.4
WET Wettzell 81.76 319 *e*P **P** **15 12 14.0 +0.2**
comp=Z,19nm,0.9s,mb5.0
WET Wettzell 81.76 319 *e*P **P** **15 12 14.0 +0.2**
WET pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLL Collm 81.79 321⇓ P **P** **15 12 13.7 -0.2**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 15 12 27.8 -0.6
CLL *i* *SP sP 15 12 36.0 +2.1
CLL Collm 81.79 321⇓ iP **P** **15 12 13.7 -0.2**
comp=Z,18nm,1.2s,mb4.9
CLL *i* pP pP 15 12 27.8 -0.6
CLL Collm 81.79 321⇓ iP **P** **15 12 13.7 -0.2**
CLL *i* *PP pP 15 12 27.8 -0.6
CLL pmax pmax
comp=Z,18nm,1.2s,mb4.9
MOR8 Moi Rana 82.29 336 *e*P **P** **15 12 15.4 -0.8**
MOR8 AMb AMB 15 12 18.4
comp=Z,65nm,2.2s,mb5.2
MOR8 Moi Rana 82.29 336 *e*P **P** **15 12 15.4 -0.8**
comp=Z,65nm,2.2s,mb5.2
WTTA Wattenberg 82.52 317⇑ iP **P** **15 12 17.5 -0.2**
comp=Z,66nm,1.4s,mb5.5
WTTA Wattenberg 82.52 317 *i* P **P** **15 12 17.5 -0.3**
comp=Z,66nm,1.4s,mb5.5,SNR=14
WTTA Wattenberg 82.52 317⇑ iP **P** **15 12 17.5 -0.2**
WTTA pmax pmax
comp=Z,67nm,1.4s,mb5.5
SYO Syowa Base 82.53 197⇑ P **P** **15 12 17.2 -0.2**
SYO Syowa Base 82.53 197⇓ PcP PcP 15 12 20.2 -2.6
WATA Walderalm 82.56 317⇓ iP **P** **15 12 17.5 -0.5**
comp=Z,20nm,1.2s,mb5.0
WATA Walderalm 82.56 317⇓ iP **P** **15 12 17.5 -0.5**
WATA pmax pmax
comp=Z,20nm,1.2s,mb5.0
MOX Moxa 82.64 320 *i* P **P** **15 12 18.7 +0.4**
MOX Moxa 82.64 320 *e*P **P** **15 12 18.7 +0.4**
SQTA Sankt Quirin 82.81 317⇓ iP **P** **15 12 19.0 -0.2**
comp=Z,8.6nm,0.6s,mb5.0
SQTA Sankt Quirin 82.81 317⇓ iP **P** **15 12 19.0 -0.2**
SQTA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
LOF Lofoten 82.86 338⇓ iP pP 15 12 36.0 +2.5
LOF AMb AMB 15 12 45.9
comp=Z,225nm,1.8s,mb5.9
GRA1 Grafenberg Arr 82.86 319 *e*P **P** **15 12 20.1 +0.7**
comp=Z,24nm,0.9s,mb5.2
GRA1 *e*pP pP 15 12 34.8 +0.9
GRF Grafenberg Arr 82.86 319 *e*P **P** **15 12 20.1 +0.7**
comp=Z,24nm,0.9s,mb5.2
GRF *e*pP pP 15 12 34.8 +0.9
GRF Grafenberg Arr 82.86 319 *e*P **P** **15 12 20.1 +0.7**
GRF *e**PP pP 15 12 34.8 +0.9
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.2
GRF Grafenberg Arr 82.86 319 *e*P **P** **15 12 20.1 +0.7**
GRF *e**PP pP 15 12 34.8 +0.9
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.2
MOTA Moosalm 82.88 317⇑ iP **P** **15 12 19.2 -0.4**
comp=Z,31nm,1.3s,mb5.2
MOTA Moosalm 82.88 317⇑ iP **P** **15 12 19.2 -0.4**
MOTA pmax pmax
comp=Z,31nm,1.3s,mb5.2
NSS Namsos 83.18 334 *e*P **P** **15 12 19.6 -1.1**
NB2 NORSAR Subarra 83.31 331 P **P** **15 12 20.9 -0.6**
comp=Z,12nm,0.8s,mb5.0,baz=97,slow=5.0
NB2 NORSAR Subarra 83.31 331 P **P** **15 12 20.9 -0.6**
baz=97,slow=5.1
NB2 NORSAR Subarra 83.31 331 P **P** **15 12 20.9 -0.6**
NB2 pmax pmax
comp=Z,13nm,0.8s,mb5.0
NOA NORSAR Array B 83.31 331 P **P** **15 12 20.5 -0.9**
comp=Z,8.4nm,0.8s,mb4.8,baz=93,slow=5.5,SNR=20
NOA pP pP 15 12 35.3 -0.6
comp=Z,7.9nm,0.9s,baz=93,slow=5.4,SNR=6.7
NOA LR LR 15 51 08.9
comp=Z,45nm,19.3s,MS3.9,baz=85,slow=37
NOA NORSAR Array B 83.31 331 P **P** **15 12 20.5 -0.9**
NOA pP pP 15 12 35.3 -0.6
NOA LR LR 15 51 08.9
CLZ Clausthal 83.45 322 *e*P **P** **15 12 22.6 +0.2**
comp=Z,24nm,1.0s,mb5.2
CLZ Clausthal 83.45 322 *e*P **P** **15 12 22.6 +0.2**
CLZ pmax pmax
comp=Z,24nm,1.0s,mb5.2
BSEG Bad Segeberg 83.53 324 *e*P **P** **15 12 23.2 +0.5**
DAVA Damuels 83.72 317⇑ iP **P** **15 12 23.9 +0.1**
comp=Z,28nm,1.1s,mb5.3
PGF Pioggiola 84.37 312⇓ iP **P** **15 12 27.4 +0.2**
comp=Z,26nm,0.8s,mb5.1
PGF Pioggiola 84.37 312⇓ iP **P** **15 12 27.4 +0.2**
PGF pmax pmax
comp=Z,13nm,0.8s,mb5.1
TNS Taunus Mts 84.66 320 *e*P **P** **15 12 28.6 +0.1**
comp=Z,16nm,1.0s,mb5.1
TNS Taunus Mts 84.66 320 *e*P **P** **15 12 28.6 +0.1**
TNS pmax pmax
comp=Z,16nm,1.0s,mb5.1
BFO Black Forest 84.76 318 *e*P **P** **15 12 29.0 0.0**
comp=Z,16nm,0.8s,mb5.2
BFO Black Forest 84.76 318 *e*P **P** **15 12 29.0 0.0**
BFO pmax pmax
comp=Z,16nm,0.8s,mb5.2
MOL Molde 85.09 332 *e*P **P** **15 12 34.0 +3.6**
MOL *e* pP 15 12 49.1 +4.2
CDF Champ du Feu 85.46 318⇓ iP **P** **15 12 32.3 -0.2**
comp=Z,15nm,0.8s,mb4.9
CDF Champ du Feu 85.46 318⇓ iP **P** **15 12 32.3 -0.2**
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
SBF Sospel 85.48 314⇓ iP **P** **15 12 32.9 +0.2**
comp=Z,74nm,0.8s,mb5.6
HINF Hinteralfeld 85.76 317 *e*P **P** **15 12 33.7 -0.3**
comp=Z,4.7nm,0.5s,mb4.7
HINF Hinteralfeld 85.76 317 *e*P **P** **15 12 33.7 -0.3**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
LPG La Plagne 85.91 315⇓ iP **P** **15 12 35.3 +0.5**
comp=Z,52nm,0.9s,mb5.5
LPG La Plagne 85.91 315⇓ iP **P** **15 12 35.3 +0.5**
LPG pmax pmax
comp=Z,26nm,0.9s,mb5.5
LPL La Plagne 85.92 315⇓ iP **P** **15 12 35.4 +0.6**
comp=Z,60nm,0.8s,mb5.6
LPL La Plagne 85.92 315⇓ iP **P** **15 12 35.4 +0.6**
LPL pmax pmax
comp=Z,30nm,0.8s,mb5.6
MBDF Montbardon 85.93 314⇓ iP **P** **15 12 34.5 -0.4**
comp=Z,15nm,0.8s,mb5.0
MBDF Montbardon 85.93 314⇓ iP **P** **15 12 34.5 -0.4**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
BNI Bardonecchia 85.98 315 *e*P **P** **15 12 35.3 +0.2**
comp=Z,14nm,0.9s,mb5.2
BNI Bardonecchia 85.98 315 *e*P **P** **15 12 35.3 +0.2**
BNI pmax pmax
comp=Z,14nm,0.9s,mb5.2
FRF La Foret Royal 86.06 313⇓ iP **P** **15 12 35.9 +0.3**
comp=Z,60nm,0.9s,mb5.5
FRF La Foret Royal 86.06 313⇓ iP **P** **15 12 35.9 +0.3**
FRF pmax pmax
comp=Z,30nm,0.9s,mb5.5
HAU Haudompre 86.09 318⇓ iP **P** **15 12 35.4 -0.2**
comp=Z,59nm,0.9s,mb5.5
HAU *eR
comp=Z,46nm,18.0s
HAU Haudompre 86.09 318⇓ iP **P** **15 12 35.4 -0.2**
HAU pmax pmax
comp=Z,30nm,0.9s,mb5.5
HAU MLR MLR
comp=Z,50nm,18.0s,MS4.0
LMR La Mourre 86.17 313⇓ iP **P** **15 12 36.4 +0.3**
comp=Z,55nm,1.1s,mb5.4
LMR La Mourre 86.17 313⇓ iP **P** **15 12 36.4 +0.3**
LMR pmax pmax
comp=Z,27nm,1.1s,mb5.4
CABF La Chapelle 86.33 316⇓ iP **P** **15 12 37.2 +0.4**
comp=Z,42nm,0.8s,mb5.4
CABF La Chapelle 86.33 316⇓ iP **P** **15 12 37.2 +0.4**
CABF pmax pmax
comp=Z,21nm,0.8s,mb5.4
ORIF Oris-en-Rattie 86.55 315 *e*P **P** **15 12 38.5 +0.6**
ORIF *eR
comp=Z,81nm,21.2s
SMRF Simiane la Rot 86.82 314⇓ iP **P** **15 12 40.1 +0.8**
comp=Z,22nm,0.8s,mb5.1
MEZF Maizieres J'vi 86.93 318 *e*P **P** **15 12 39.8 +0.1**
GIVF Givet 86.99 320 *e*P **P** **15 12 40.3 +0.3**
BAIF Baives 87.39 320⇓ iP **P** **15 12 42.4 +0.5**
comp=Z,26nm,0.8s,mb5.2
BAIF Baives 87.39 320⇓ iP **P** **15 12 42.4 +0.5**
BAIF pmax pmax
comp=Z,13nm,0.8s,mb5.2
VIVF Saint-Julien-l 87.41 315⇓ iP **P** **15 12 42.4 +0.3**
comp=Z,26nm,0.9s,mb5.2
VIVF Saint-Julien-l 87.41 315⇓ iP **P** **15 12 42.4 +0.3**
VIVF pmax pmax
comp=Z,13nm,0.9s,mb5.2
LOR Lormes 87.81 317⇓ iP **P** **15 12 44.1 +0.1**
comp=Z,32nm,0.8s,mb5.3
LOR *eR
comp=Z,55nm,22.0s
LOR Lormes 87.81 317⇓ iP **P** **15 12 44.1 +0.1**
LOR pmax pmax
comp=Z,16nm,0.8s,mb5.3
LOR MLR MLR
comp=Z,50nm,22.0s,MS3.9
SMF Signal de Mont 87.87 316⇓ iP **P** **15 12 44.3 0.0**
comp=Z,43nm,0.8s,mb5.4
SMF Signal de Mont 87.87 316⇓ iP **P** **15 12 44.3 0.0**
SMF pmax pmax
comp=Z,21nm,0.8s,mb5.4
LASF Ste Croix 88.05 314 *e*P **P** **15 12 45.9 +0.7**
comp=Z,12nm,0.8s,mb4.9
SSF Saint Saulge 88.07 317 *e*P **P** **15 12 45.3 +0.1**
comp=Z,14nm,0.7s,mb5.0
SSF Saint Saulge 88.07 317 *e*P **P** **15 12 45.3 +0.1**
SSF pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
AVF Avril sur Loir 88.19 317⇓ iP **P** **15 12 45.8 0.0**
comp=Z,20nm,0.9s,mb5.0
AVF Avril sur Loir 88.19 317⇓ iP **P** **15 12 45.8 0.0**
AVF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BGF Bois d'Agland 88.56 316⇓ iP **P** **15 12 48.1 +0.5**
TCF Toulx Ste Croi 89.02 316 *e*P **P** **15 12 50.3 +0.5**
comp=Z,6.4nm,0.6s,mb4.8
TCF Toulx Ste Croi 89.02 316 *e*P **P** **15 12 50.3 +0.5**
TCF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
CAF Calviac 89.25 315⇓ iP **P** **15 12 51.7 +0.8**
comp=Z,13nm,0.8s,mb5.0
CAF Calviac 89.25 315⇓ iP **P** **15 12 51.7 +0.8**
CAF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTLF	**Montolieu**	**89.30**	**313**⇓	*i*P	**P**	**15 12 51.7**	**+0.6**
	comp=Z,32nm,1.0s,mb5.3						
MTLF	**Montolieu**	**89.30**	**313**⇓	*i*P	**P**	**15 12 51.7**	**+0.6**
MTLF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.3						
RJF	**Les Rejaudoux**	**89.60**	**315**⇓	*i*P	**P**	**15 12 53.3**	**+0.8**
	comp=Z,17nm,0.7s,mb5.2						
RJF	**Les Rejaudoux**	**89.60**	**315**⇓	*i*P	**P**	**15 12 53.3**	**+0.8**
RJF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.2						
LFF	**La Frestale**	**90.19**	**315**	*e*P	**P**	**15 12 56.2**	**+0.9**
	comp=Z,16nm,0.6s,mb5.2						
LFF	**La Frestale**	**90.19**	**315**	*e*P	**P**	**15 12 56.2**	**+0.9**
LFF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.2						
LDF	**La Druitiere**	**90.35**	**319**⇓	*i*P	**P**	**15 12 56.3**	**+0.4**
	comp=Z,42nm,0.9s,mb5.5						
LDF	**La Druitiere**	**90.35**	**319**⇓	*i*P	**P**	**15 12 56.3**	**+0.4**
LDF				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.5						
FLN	**La Foliniere**	**90.56**	**319**⇓	*i*P	**P**	**15 12 57.3**	**+0.3**
	comp=Z,40nm,0.8s,mb5.5						
FLN				*e*R			
	comp=Z,41nm,21.8s						
FLN	**La Foliniere**	**90.56**	**319**⇓	*i*P	**P**	**15 12 57.3**	**+0.3**
FLN				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.5						
FLN				MLR	MLR		
	comp=Z,40nm,21.8s,MS3.8						
MFF	**Saint Martin d**	**90.61**	**317**	*e*P	**P**	**15 12 57.6**	**+0.4**
	comp=Z,76nm,1.3s,mb5.6						
MFF	**Saint Martin d**	**90.61**	**317**	*e*P	**P**	**15 12 57.6**	**+0.4**
MFF				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.6						
GRR	**Gorron**	**90.86**	**318**	*e*P	**P**	**15 12 58.8**	**+0.4**
	comp=Z,30nm,1.0s,mb5.3						
GRR	**Gorron**	**90.86**	**318**	*e*P	**P**	**15 12 58.8**	**+0.4**
GRR				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.3						
ETSF	**Etsaut**	**91.36**	**313**	*e*P	**P**	**15 13 02.5**	**+1.6**
	comp=Z,18nm,0.8s,mb5.2						
ETSF	**Etsaut**	**91.36**	**313**	*e*P	**P**	**15 13 02.5**	**+1.6**
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.2						
SJPF	**Ste Jean**	**91.82**	**313**⇓	*i*P	**P**	**15 13 04.0**	**+1.1**
	comp=Z,24nm,1.0s,mb5.2						
SJPF	**Ste Jean**	**91.82**	**313**⇓	*i*P	**P**	**15 13 04.0**	**+1.1**
SJPF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.2						
SGMF	**Saint Gilles**	**92.00**	**319**⇓	*i*P	**P**	**15 13 04.0**	**+0.4**
	comp=Z,23nm,0.9s,mb5.2						
SGMF	**Saint Gilles**	**92.00**	**319**⇓	*i*P	**P**	**15 13 04.0**	**+0.4**
SGMF				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.2						
QUIF	**Quistinic**	**92.46**	**318**	*e*P	**P**	**15 13 05.9**	**+0.2**
	comp=Z,6.1nm,0.4s,mb4.9						
ROSF	**Rostrenen**	**92.46**	**319**⇓	*i*P	**P**	**15 13 06.1**	**+0.4**
	comp=Z,37nm,1.0s,mb5.3						
ROSF	**Rostrenen**	**92.46**	**319**⇓	*i*P	**P**	**15 13 06.1**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.4						
ESDC	**Sonseca Array**	**94.37**	**310**	P	**P**	**15 13 15.4**	**+0.7**
	comp=Z,3.5nm,0.6s,mb5.0,baz=62,slow=4.2,SNR=10						
MDT	**Midelt**	**96.00**	**304**	LR	LR	15 57 37.4	
	comp=Z,62nm,20.5s,MS4.1,baz=105,slow=36						
SNAA	**Sanae**	**96.80**	**198**	P	**P**	**15 13 28.4**	**+3.4**
SNAA				*e*	pP	15 13 42.5	+2.8
SNAA				*e*		15 30 05.7	
COLA	**College**	**97.00**	**23**	PFAKE		15 13 40.0	+14
COLA				LR	LR		
	comp=Z,11nm,19.0s,MS3.4						
ILAR	**Eielson Array**	**97.41**	**22**	P	**P**	**15 13 26.6**	**-1.3**
	comp=Z,0.6nm,0.7s,mb4.1,baz=300,slow=4.1,SNR=6.7						
ILAR				LR	LR	16 02 38.2	
	comp=Z,52nm,18.3s,MS4.1,baz=178,slow=39						
VNA2	**Neumayer--Watz**	**98.36**	**199**⇓	*i*P	**P**	**15 13 33.3**	**+1.2**
VNA2				*e*	pP	15 13 45.3	-1.5
VNA2				*e*	pP	15 13 51.5	+4.7
VNA2				*e*		15 30 01.7	
VNA3	**Neumayer Olymp**	**99.02**	**198**⇓	*i*P	**P**	**15 13 30.5**	**-4.6**
VNA3	**Neumayer Olymp**	**99.02**	**198**	*e*	**P**	**15 13 44.0**	**+8.9**
VNA3	**Neumayer Olymp**	**99.02**	**198**	*e*	**P**	**15 13 50.7**	**+16**
DBIC	**Dimbokro**	**99.64**	**278**	P	**P**	**15 13 39.8**	**+0.6**
	comp=Z,3.4nm,0.8s,mb4.8,baz=90,slow=7.1,SNR=3.0						
DBIC				LR	LR	15 55 55.9	
	comp=Z,65nm,20.0s,MS4.1,baz=88,slow=34						
INK	**Inuvik**	**99.90**	**17**	P	**P**	**15 13 39.0**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.7,baz=20,slow=10,SNR=3.9						
DLMT	**Dillon**	**124.47**	**24**	*e*PKPdf	PKPdf	15 18 54.5	+1.7
RRI2	**Red Ridge**	**126.65**	**24**	*e*PKPdf	PKPdf	15 18 59.1	+1.9
PDAR	**Pinedale Array**	**127.84**	**23**	PKP	PKPdf	15 19 00.6	+1.1
	comp=Z,1.6nm,0.8s,baz=7.9,slow=2.7,SNR=12						
MSU	**Marysvale**	**130.20**	**28**	*e*PKPdf	PKPdf	15 19 07.0	+2.9
MNTX	**Cornudas Mount**	**138.96**	**27**	*e*PKPdf	PKPdf	15 19 22.2	+1.7
PLCA	**Paso Flores**	**141.73**	**197**	PKP	PKPdf	15 19 27.6	+2.3
	comp=Z,2.5nm,1.1s,baz=38,slow=7.0,SNR=2.8						
TXAR	**Lajitas Array**	**141.74**	**27**	PKhKP		15 19 22.1	
	comp=Z,1.4nm,0.7s,baz=146,slow=4.5,SNR=6.3						
BAO	**Brasilia Array**	**142.35**	**250**	PKPdf	PKPdf	15 19 25.0	-2.0
BDFB	**Brasilia**	**142.37**	**250**	PKhKP		15 19 25.0	
	comp=Z,9.1nm,0.8s,baz=114,slow=3.4,SNR=5.0						
BDFB				PKP	PKPdf	15 19 29.7	+2.7
	comp=Z,9.1nm,0.8s,baz=40,slow=4.7,SNR=7.4						
CPUP	**Villa Florida**	**146.03**	**227**	PKPbc	PKPbc	15 19 35.7	+1.5
	comp=Z,21nm,0.9s,baz=122,slow=4.4,SNR=36						
CPUP	**Villa Florida**	**146.03**	**227**	*e*PKP2	PKPab	15 19 34.9	-1.8
DEG	**La Desirade**	**148.89**	**312**	*e*P	PKPdf	15 19 43.2	+5.2
BCG	**Bois Riant Cap**	**149.45**	**312**	*e*P	PKPdf	15 19 45.0	+6.1
TBG	**Guadaloupe-3**	**149.62**	**312**	*e*P	PKPdf	15 19 45.4	+6.2
BBL	**Barber's Block**	**149.69**	**311**	*e*P	PKPdf	15 19 45.5	+6.2
MTP	**Monte Pirata**	**150.77**	**321**	*e*PKPbc	PKPdf	15 19 48.2	+7.3
CPD	**Cerro la Pandu**	**151.03**	**321**	*e*PKPbc	PKPdf	15 19 49.1	+7.8
CPD				*e*PKPab	PKPab	15 19 57.3	+0.2
SJG	**San Juan**	**151.13**	**321**	*e*PKPbc	PKPdf	15 19 48.9	+7.5
SAML	**Samuel**	**158.27**	**257**	*e*PKPdf	PKPdf	15 19 53.0	+1.7
SAML				*e*PKPbc	PKPdf	15 20 04.6	+13
LPAZ	**La Paz**	**160.01**	**233**	PKP	PKPdf	15 19 55.7	+2.5
	comp=Z,3.8nm,0.9s,baz=163,slow=1.4,SNR=14						
LPAZ				PKPab	PKPab	15 20 36.4	+1.1
	comp=Z,2.7nm,0.5s,baz=115,slow=4.5,SNR=9.5						
LPAZ	**La Paz**	**160.01**	**233**	*e*PKIKP	PKPdf	15 19 56.1	+2.9
LPAZ				*e*		15 20 35.9	
ROSC	**El Rosal**	**166.19**	**312**	PKP	PKPdf	15 20 01.8	+2.4
	comp=Z,3.5nm,0.4s,baz=266,slow=23,SNR=4.2						

*CSEM **20** 15:02:37.7,37.76N×25.42W,h2^{km},ML2.9,After PDA*
*PDA **20** 15:02:37.7±0.9,37.76N×25.42W,h2^{km}±1^{km},MD2.6, ML2.9,Error ellipse: s-maj=2.4km s-min=1.9km az=46.0*
SVSA 20 15:02:37.7±0.9**,37.76N×25.42W,h2**^{km}±1^{km}**,MD2.6, ML2.9,Error ellipse: s-maj=2.4km s-min=1.9km az=46.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**69**	*e*P	Pg	15 02 38.8	+0.6
VIF	**Vila Franca**	**0.03**	**229**	*e*P	Pg	15 02 39.0	+0.7
MESC	**Monte Escuro**	**0.04**	**324**	*e*P	Pg	15 02 39.1	+0.5
FRA1	**Furnas**	**0.05**	**111**	*e*P	Pg	15 02 39.6	+0.8
LFA	**Lagoa do Fogo**	**0.05**	**282**	*e*P	Pg	15 02 39.5	+0.6
PRCH	**Ribeira Ch**	**0.06**	**237**	*e*P	Pg	15 02 39.4	+0.4
PMAT	**Coroa da Mata**	**0.07**	**322**	*e*P	Pg	15 02 39.7	+0.5
CML	**Cha da Macela**	**0.10**	**275**	*e*P	Pg	15 02 41.5	+1.7
PFAD	**Fenais da Ajud**	**0.11**	**43**	*e*P	Pg	15 02 40.5	+0.6
MIRA	**Miradouro**	**0.11**	**77**	*e*P	Pg	15 02 40.7	+0.7
FAC	**Faja de Cima**	**0.19**	**274**	*e*P	Pg	15 02 43.4	+2.0
PSAN	**Santo Antonio**	**0.26**	**290**	*e*P	Pg	15 02 44.8	+1.9
PFET	**Feteiras**	**0.30**	**281**	*e*P	Pg	15 02 45.2	+1.5
SET2	**Ginetes**	**0.32**	**285**	*e*P	Pg	15 02 45.8	+1.7
SET4	**Mosteiros**	**0.32**	**291**	*e*P	Pg	15 02 45.8	+1.6
PSMN	**Pico do Norte,**	**0.81**	**160**	*e*P	Pg	15 02 51.8	-2.0
PSMN				*e*S	Sg	15 03 02.0	-2.6
PFAV	**Pico das Favas**	**1.62**	**306**	*e*P	Pn	15 03 05.6	-1.8
PFAV				*e*S	Sb	15 03 25.2	-3.6
RIB2	**Ribeirinha**	**1.66**	**304**	*e*P	Pn	15 03 04.9	-3.0
RIB2				*e*S	Sb	15 03 24.2	-5.6
	45nm,0.3s						
PVNV	**Vila Nova**	**1.69**	**307**	*e*P	Pn	15 03 05.2	-3.3
PVNV				*e*S	Sb	15 03 25.2	-5.8
	28nm,0.3s						
PPAD	**Pico dos Padre**	**1.75**	**303**	*e*P	Pn	15 03 05.7	-3.5
PPAD				*e*S	Sn	15 03 26.1	-6.2
	32nm,0.3s						
PBIS	**Biscoitos**	**1.76**	**305**	*e*S	Sn	15 03 26.8	-5.8
	37nm,0.3s						
ASBA	**Santa Barbara**	**1.78**	**303**	*e*P	Pn	15 03 06.8	-2.9
ASBA				*e*S	Sn	15 03 27.7	-5.6
	23nm,0.3s						
PICO	**Pico**	**2.49**	**288**	*e*P	Pn	15 03 16.4	-3.4
PICO				*e*S	Sn	15 03 44.3	-6.8
CALA	**Caldeira**	**2.72**	**289**	*e*P	Pn	15 03 19.2	-3.9

*BJI **20** 15:13:58.5,26.00N×130.60E,h45^{km},mB4.6,mb4.1*
*NIED **20** 15:14:00,26.40N×129.70E,h5^{km},Mw3.9 Best double couple: $M_0$7.37×10^{14} NP1:ϕ_s41°,δ57°,λ-98°. NP2:ϕ_s236°, δ34°,λ-77°.*
*IDC **20** 15:14:04.8±0.9,26.39N×129.54E,mb3.7/6,mb1 3.8/7, mb1mx3.7/19,mbtmp3.7/7,ML3.5/1,Error ellipse: s-maj=26.9km s-min=16.8km az=53.0*
*NEIC **20** 15:14:07.2,26.44N×129.66E,h45^{km},MG3.7(JMA),After JMA.*
*JMA **20** 15:14:07.2,26.44N×129.66E,h45^{km},M3.7*
ISC 20 15:14:06.1±1.7**,26.45N**±0.03×**129.65E**±0.03**,h24**^{km}±14^{km}**, n25,σ0^{s}84**/38**,mb3.8**/8**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.29**	**288**	Pn	**Pn**	**15 14 29.5**	**+0.6**
	113nm,0.3s,baz=121,slow=15,SNR=730						
JOW				Sn	**Sn**	**15 14 45.3**	**-0.2**
	122nm,0.3s,baz=96,slow=25,SNR=21						
JOW	**Kunigami**	**1.29**	**288**	P	**Pn**	**15 14 29.4**	**+0.5**
JOW				*e*S	**Sn**	**15 14 45.4**	**-0.1**
JTK	**Tokunoshima**	**1.47**	**335**	P	**Pn**	**15 14 32.1**	**+0.6**
JTK				*e*S	**Sn**	**15 14 49.9**	**-0.2**
JMZ	**Minamidaito 2**	**1.55**	**114**	P	**Pn**	**15 14 32.8**	**+0.2**
JMZ				*e*S	**Sn**	**15 14 51.4**	**-0.6**
JIH	**Iheya**	**1.61**	**292**	P	**Pn**	**15 14 34.2**	**+0.7**
JIH				S	**Sn**	**15 14 53.8**	**+0.1**
JJT2	**Tamagusuku 2**	**1.73**	**260**	P	**Pn**	**15 14 35.9**	**+0.6**
JJT2				*e*S	**Sn**	**15 14 57.1**	**+0.3**
NAH1	**Naha**	**1.77**	**263**	P	**Pn**	**15 14 36.5**	**+0.7**
NAH1				S	**Sn**	**15 14 57.6**	**-0.2**
JZK	**Kikaishima**	**1.88**	**9**	P	**Pn**	**15 14 38.3**	**+0.9**
JZK				S	**Sn**	**15 15 01.7**	**+1.2**
JAM	**Amami Oshima**	**1.96**	**359**	P	**Pn**	**15 14 38.6**	**+0.2**
JAM				S	**Sn**	**15 15 01.2**	**-1.2**
JAGN	**Aguni-jima**	**2.16**	**274**	P	**Pn**	**15 14 41.9**	**+0.5**
JAGN				*e*S	**Sn**	**15 15 07.4**	**-0.3**
JKE	**Kume jima 2**	**2.57**	**268**	P	**Pn**	**15 14 46.7**	**-0.5**
JKE				*e*S	**Sn**	**15 15 17.9**	**-0.2**
JNN	**Nakanoshima**	**3.38**	**3**	P	**Pn**	**15 14 58.6**	**-0.2**
JNN				*e*S	**Sn**	**15 15 36.0**	**-2.7**
JOGS	**Gusukube**	**4.18**	**247**	P	**Pn**	**15 15 09.5**	**-0.7**
JIJ	**Ishigaki jima**	**5.39**	**249**	P	**Pn**	**15 15 24.8**	**-2.5**
JKRS	**Kuro-shima**	**5.56**	**248**	P	**Pn**	**15 15 28.9**	**-0.7**
JNU	**Nakatsue**	**6.74**	**9**	Pn	**Pn**	**15 15 45.2**	**-0.9**
	1.0nm,0.3s,baz=306,slow=4.7,SNR=10.0						
JNU				Sn	**Sn**	**15 16 55.9**	**-7.1**
	baz=302,slow=19,SNR=1.6						
LZH	**Lanzhou**	**24.00**	**300**	*e*P	**P**	**15 19 24.1**	**+4.2**
LZH				AP		15 19 34.0	
LZH				XP		15 19 38.5	
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,98nm,4.0s						
SONM	**Songino Array**	**28.08**	**326**	P	**P**	**15 19 59.3**	**+1.5**
	comp=Z,0.2nm,0.3s,mb3.3,baz=135,slow=6.1,SNR=3.4						
MKAR	**Makanchi Array**	**42.34**	**311**	P	**P**	**15 21 59.3**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.1,baz=86,slow=9.9,SNR=2.9						
WRAB	**Tennant Creek**	**46.33**	**174**	*e*P	**P**	**15 22 32.8**	**+0.6**
	comp=Z,5.7nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**46.34**	**174**	P	**P**	**15 22 32.7**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=355,slow=8.5,SNR=10						
STKA	**Stephens Creek**	**59.11**	**168**	P	**P**	**15 24 06.3**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=333,slow=9.0,SNR=1.9						
ILAR	**Eielson Array**	**63.64**	**28**	P	**P**	**15 24 38.2**	**+1.0**
	comp=Z,0.3nm,0.8s,mb3.4,baz=278,slow=8.0,SNR=4.1						
FINES	**FINESS Array B**	**73.30**	**331**	P	**P**	**15 25 37.7**	**+0.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=60,slow=4.6,SNR=9.8						
FINES	**FINESS Array B**	**73.30**	**331**	P	**P**	**15 25 37.7**	**+0.6**

*CSEM **20** 15:22:04.2±0.4,37.77N×25.44W,h2^{km},ML3.1,Error ellipse: s-maj=1.0km s-min=0.5km az=88.0,After PDA*
*PDA **20** 15:22:04.2±0.4,37.77N×25.44W,h2^{km},MD2.0,ML3.1, Error ellipse: s-maj=1.0km s-min=0.5km az=88.0*
SVSA 20 15:22:04.2±0.4**,37.77N×25.44W,h2**^{km}**,MD2.0,ML3.1, Error ellipse: s-maj=1.0km s-min=0.5km az=88.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**347**	*i* P	Pg	15 22 05.5	+0.8
MESC				*e*S	Sg	15 22 06.0	+0.9
MESC	**Monte Escuro**	**0.02**	**347**	*e*S	Sg	15 22 06.0	+0.9
VIF	**Vila Franca**	**0.03**	**181**	*e*P	Pg	15 22 05.5	+0.7
VIF				*e*S	Sg	15 22 06.4	+1.2
PCNG	**Congro**	**0.03**	**97**	*i* P	Pg	15 22 05.5	+0.6
PCNG				*e*S	Sg	15 22 06.7	+1.2
PCNG	**Congro**	**0.03**	**97**	*e*S	Sg	15 22 06.7	+1.2
LFA	**Lagoa do Fogo**	**0.04**	**273**	*i* P	Pg	15 22 05.8	+0.8
PMAT	**Coroa da Mata**	**0.05**	**331**	*e*P	Pg	15 22 06.0	+0.7
PMAT				*e*S	Sg	15 22 07.3	+1.3
PRCH	**Ribeira Ch**	**0.05**	**217**	*e*P	Pg	15 22 05.9	+0.6
PRCH				*e*S	Sg	15 22 07.1	+1.0
	9μm,0.3s						
PFAD	**Fenais da Ajud**	**0.11**	**54**	*i* P	Pg	15 22 07.3	+0.8

*NEIC **20** 15:22:10.9,34.99S×70.51W,h17^{km},ML2.5(GUC),After GUC.*
GUC 20 15:22:10.9±0.5**,34.99S×70.51W,h17**^{km}±2^{km}**,MD3.5, ML2.5,5C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.56**	**312**⇓	*i*P	Pb	15 22 21.5	-0.3
SFDO				*i* S	Sb	15 22 29.6	+0.2
CICH	**Cipreses**	**0.67**	**6**⇓	*i*P	Pb	15 22 23.3	-0.5
CICH				*i* S	Sb	15 22 33.1	+0.6
CACH	**El Canelo**	**0.87**	**355**⇓	*i*P	Pb	15 22 26.9	-0.2
CACH				*i* S	Sb	15 22 39.7	+1.4
CHCH	**Chadas Angostu**	**1.06**	**353**⇑	*i*P	Pb	15 22 30.5	+0.1
CHCH				*i* S	Sb	15 22 45.0	+1.2
LNV	**Longovilo**	**1.27**	**324**	*i* P	Pb	15 22 34.0	0.0
LNV				*i* S	Sb	15 22 51.3	+1.4
PCH	**Pirque**	**1.36**	**360**⇑	*i*P	Pn	15 22 35.8	+0.5
TACH	**Talagante**	**1.38**	**345**⇑	*i*P	Pn	15 22 35.9	+0.4
TACH				*i* S	Sb	15 22 54.8	+1.8
RCDM	**Rinconada Maip**	**1.51**	**351**⇓	*i*P	Pn	15 22 38.2	+0.7
RCDM				*e*S	Sn	15 22 58.7	+1.8
RCDM				AMP		15 23 06.1	
	comp=E,113nm,0.1s						
FCH	**Farellones**	**1.67**	**6**⇑	*i*P	Pn	15 22 41.2	+1.6
LCCH	**Las Cruces**	**1.75**	**329**⇑	*i*P	Pn	15 22 41.8	+1.0
LCCH				*i* S	Sn	15 23 05.3	+2.6

MAN 20 15:25:21.0,9.75N×122.19E,h25^{km}**,mb4.0,ML2.8,MS2.4, 1C,Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.96**	**24**	*e*P	Pb	15 25 38.5	-0.3
GUIM				*e*S	Sb	15 25 51.6	+0.5
CUYO	**Cuyo Island**	**1.59**	**314**	*e*P	Pn	15 25 48.3	+0.2
CUYO				*e*S	Sn	15 26 07.8	-0.2
DCPH	**Dipolog City**	**1.63**	**135**⇑	*e*P	Pn	15 25 47.4	-1.1
DCPH				*i* S	Sn	15 26 08.8	-0.1
LLP	**Lapu-Lapu**	**1.84**	**72**	*e*P	Pn	15 25 51.5	-0.1
IPIL	**Ipil**	**1.98**	**169**	*e*P	Pn	15 25 52.6	-0.9
IPIL				*e*S	Sn	15 26 14.9	-2.9
PAGZ	**Pagadian**	**2.22**	**148**	*e*P	Pn	15 25 57.6	+0.6
PAGZ				*e*S	Sn	15 26 26.2	+2.2
SJMP	**San Jose**	**2.90**	**339**	*e*P	Pn	15 26 02.3	-4.4
SJMP				*e*S	Sn	15 26 39.1	-2.0
BUSP	**Coron**	**2.98**	**319**	*e*P	Pn	15 26 07.3	-0.5
BUSP				*e*S	Sn	15 26 40.9	-2.2
ENPP	**El Nido**	**3.08**	**298**	*e*P	Pn	15 26 08.9	-0.4
ENPP				*e*S	Sn	15 26 42.9	-2.9
BUKP	**Musuan**	**3.39**	**123**	*e*P	Pn	15 26 14.8	+1.1

*CSEM **20** 15:26:53.5±0.3,37.76N×25.42W,h4^{km},ML2.9,Error ellipse: s-maj=1.0km s-min=0.7km az=116.0,After PDA*
*PDA **20** 15:26:53.5±0.3,37.76N×25.42W,h4^{km},ML2.9,Error ellipse: s-maj=1.0km s-min=0.7km az=116.0*
SVSA 20 15:26:53.5±0.3**,37.76N×25.42W,h4**^{km}**,ML2.9,Error ellipse: s-maj=1.0km s-min=0.7km az=116.0,Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**55**	*i* P	Pg	15 26 54.8	+0.4
PCNG				*e*S	Sg	15 26 55.9	+1.0
PCNG	**Congro**	**0.02**	**55**	*e*S	Sg	15 26 55.9	+1.0
VIF	**Vila Franca**	**0.02**	**239**	*e*P	Pg	15 26 54.8	+0.4
VIF				*e*S	Sg	15 26 56.0	+1.0
MESC	**Monte Escuro**	**0.04**	**328**	*e*P	Pg	15 26 55.1	+0.4
MESC				*i* S	Sg	15 26 56.7	+1.3
LFA	**Lagoa do Fogo**	**0.06**	**287**	*e*P	Pg	15 26 55.3	+0.4
PRCH	**Ribeira Ch**	**0.06**	**241**	*i* P	Pg	15 26 55.3	+0.4
PRCH				*e*S	Sg	15 26 56.8	+1.0
	5μm,0.3s						
PRCH	**Ribeira Ch**	**0.06**	**241**	*e*S	Sg	15 26 56.8	+1.0
PMAT	**Coroa da Mata**	**0.07**	**324**	*e*P	Pg	15 26 55.6	+0.4
PMAT				*e*S	Sg	15 26 57.2	+0.9
PFAD	**Fenais da Ajud**	**0.11**	**42**	*i* P	Pg	15 26 56.4	+0.6
PDA	**Ponta Delgada**	**0.20**	**267**	*i* P	Pg	15 26 57.8	+0.3

*IDC **20** 15:27:55.0±2.0,27.71N×143.01E,mb3.8/2,mb1 4.1/3, mb1mx3.7/20,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=39.6km s-min=22.4km az=106.0*
*NEIC **20** 15:28:01.3±3.5,27.70N×142.90E,h45^{km},mb4.4/1,Error ellipse: s-maj=142.0km s-min=15.6km az=79.0*
ISC 20 15:27:58.1±3.8**,27.8N**±0.1×**143.1E**±0.4**,h40**^{km}±27^{km}**,n6, σ0^{s}65**/7**,mb4.1**/3**,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.03**	**230**	Pn	**P**	**15 28 16.4**	**+0.1**
	53nm,0.3s,baz=73,slow=19,SNR=94						
CBIJ				Sn	**S**	**15 28 29.6**	**-0.1**
	73nm,0.3s,baz=135,slow=20,SNR=11						
MJAR	**Matsushiro Arr**	**9.67**	**336**	Pn	**P**	**15 30 16.9**	**-0.9**
	0.8nm,0.3s,baz=150,slow=10,SNR=6.0						
MAJO	**Matsushiro**	**9.68**	**336**	Pn	**P**	**15 30 18.6**	**+0.8**
	3.1nm,0.3s						
WRA	**Warramunga Arr**	**48.17**	**191**	P	**P**	**15 36 36.6**	**-0.1**
	2.0nm,0.6s,mb4.3,baz=12,slow=8.4,SNR=21						
MKAR	**Makanchi Array**	**50.66**	**309**	P	**P**	**15 36 55.2**	**-0.2**
	0.2nm,0.3s,mb3.5,baz=85,slow=9.3,SNR=8.5						
KURK	**Kurchatov**	**53.09**	**314**	*e*P	**P**	**15 37 13.9**	**+0.3**
	3.4nm,0.8s,mb4.3						

*CSEM **20** 16:08:14.3±2.1,37.73N×25.40W,h15^{km}±12^{km},ML2.9, Error ellipse: s-maj=14.6km s-min=9.7km az=136.0,After PDA*
*PDA **20** 16:08:14.3±2.1,37.73N×25.40W,h15^{km}±12^{km},ML2.9, Error ellipse: s-maj=14.6km s-min=9.7km az=136.0*
SVSA 20 16:08:14.3±2.1**,37.73N×25.40W,h15**^{km}±12^{km}**,ML2.9, Error ellipse: s-maj=14.6km s-min=9.7km az=136.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.03**	**296**	*i* P	Pb	16 08 17.4	+1.1
VIF				*i* S	Sb	16 08 18.6	+1.1
	2μm,0.3s						
VIF	**Vila Franca**	**0.03**	**296**	*i* S	Sb	16 08 18.6	+1.1
FRA1	**Furnas**	**0.04**	**70**	*i* P	Pb	16 08 18.1	+1.8
FRA1				*e*S	Sb	16 08 18.8	+1.2
FRA1	**Furnas**	**0.04**	**70**	*e*S	Sb	16 08 18.8	+1.2
PCNG	**Congro**	**0.04**	**6**	*i* P	Pb	16 08 17.3	+1.0
PCNG				*e*S	Sb	16 08 18.6	+1.0
	2μm,0.3s						
PCNG	**Congro**	**0.04**	**6**	*e*S	Sb	16 08 18.6	+1.0
PRCH	**Ribeira Ch**	**0.06**	**268**	*e*P	Pb	16 08 17.8	+1.0
PRCH				*e*S	Sb	16 08 19.2	+0.9
	470nm,0.1s						
MESC	**Monte Escuro**	**0.07**	**331**	*e*P	Pb	16 08 17.8	+0.9
MESC				*i* S	Sb	16 08 19.3	+0.7
LFA	**Lagoa do Fogo**	**0.08**	**303**	*e*P	Pb	16 08 17.8	+0.8
PMAT	**Coroa da Mata**	**0.10**	**327**	*e*P	Pb	16 08 18.3	+0.9
PMAT				*e*S	Sb	16 08 19.9	+0.4
MIRA	**Miradouro**	**0.11**	**60**	*e*P	Pb	16 08 19.3	+1.7
PFAD	**Fenais da Ajud**	**0.12**	**30**	*i* P	Pb	16 08 19.0	+1.2
PFAD				*e*S	Sb	16 08 20.3	+0.2

*BJI **20** 16:10:26.7,10.26S×118.89E,h36^{km},mB4.8,mb4.8, Ms4.4,Msz3.9*
*IDC **20** 16:10:26.8±0.5,9.70S×118.44E,mb4.7/15,mb1 4.7/15, mb1mx4.7/16,mbtmp4.7/15,MS3.8/6,Ms1 3.7/6, ms1mx3.6/14,Error ellipse: s-maj=23.3km s-min=14.3km az=63.0*
*NEIC **20** 16:10:27.9±0.3,9.83S×118.47E,h10^{km},mb4.9/24,Error ellipse: s-maj=11.7km s-min=6.0km az=60.0*
*HRVD **20** 16:10:28.0±1.0,9.99S×118.33E,h19^{km}±3^{km},MW4.8/29, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s29,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.35±.28; $M_{\theta\theta}$0.23±.13; $M_{\phi\phi}$1.12±.23; $M_{r\theta}$0.76±.34; $M_{\theta\phi}$-0.69±.07; $M_{\phi r}$0.46±.43; Best double couple: $M_0$1.661×10^{16} NP1:ϕ_s306°,δ50°,λ-128°. NP2: ϕ_s177°,δ52°,λ-54°. Principal axes: T 1.497, Plg1°, Azm242°; N .325, Plg28°, Azm333°; P -1.825, Plg62°, Azm150°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **20** 16:10:29.6±1.3,9.74S×118.53E,h33^{km},mb4.6/7 Error ellipse: s-maj=14.5km s-min=7.9km az=120.7*
ISC 20 16:10:29.1±0.2**,9.85S**±0.04×**118.57E**±0.06**,h33**^{km}**,n114, σ1^{s}25**/105**,mb4.8**/55**,MS3.8**/7**,3C-6D,Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.69**	**141**	*e*P	**P**	**16 12 59.8**	**-3.3**
	34nm,0.4s						
FITZ				*e*S	**S**	**16 14 54.5**	**-8.1**
FITZ	**Fitzroy Crossi**	**10.69**	**141**	Pn	**P**	**16 13 00.5**	**-2.6**
	12nm,0.3s,baz=340,slow=6.9,SNR=118						
FITZ				Sn	**S**	**16 14 55.0**	**-7.6**
	9.5nm,0.3s,baz=190,slow=18,SNR=4.6						
FITZ				LR	LR	16 17 17.4	
	comp=Z,485nm,21.2s,baz=283,slow=38						
MBWA	**Marble Bar**	**11.30**	**174**	*e*P	**P**	**16 13 05.5**	**-5.9**
	99nm,0.3s						
MBWA				*e*S	**S**	**16 14 57.7**	**-20**
KAKA	**Kakadu**	**13.89**	**103**	*e*P	Px	16 14 05.3	
	37nm,0.4s						
KAKA				*e*S	Sx	16 16 37.5	
KSM	**Kuching**	**13.94**	**323**	*e*P	**P**	**16 13 56.2**	**+10**
KKM	**Kota Kinabalu**	**15.96**	**351**	*e*P	**P**	**16 14 18.6**	**+5.6**
WRA	**Warramunga Arr**	**18.23**	**125**	P	**P**	**16 14 40.2**	**-1.3**
	4.8nm,0.3s,baz=299,slow=13,SNR=136						
WRA				S	**S**	**16 17 53.6**	**-6.8**
	1.3nm,0.3s,baz=296,slow=21,SNR=5.5						
WRA	**Warramunga Arr**	**18.23**	**125**	*e*P	**P**	**16 14 40.2**	**-1.2**
WRAB	**Tennant Creek**	**18.23**	**125**	*e*P	**P**	**16 14 40.2**	**-1.3**
	69nm,0.8s						
WRAB				*e*S	**S**	**16 17 39.5**	**-21**
WB2	**Warramunga Arr**	**18.24**	**125**	*e*P	**P**	**16 14 40.4**	**-1.2**
WB2				*e*S	**S**	**16 17 50.7**	**-10**
ASPA	**Alice Springs**	**20.07**	**135**	*e*P	**P**	**16 15 03.1**	**+0.5**
ASPA				*e*S	**S**	**16 18 38.6**	**-2.8**
KLBR	**Kellerberrin**	**21.65**	**182**	*e*P	**P**	**16 15 17.7**	**-1.0**
	10nm,0.3s,mb4.7						
KLBR				*e*S	**S**	**16 18 57.4**	**-14**
FORT	**Forrest**	**22.62**	**158**	*e*P	**P**	**16 15 29.6**	**+1.2**
	76nm,0.7s,mb5.2						
NWAO	**Narrogin (SRO)**	**23.00**	**183**	P	**P**	**16 15 31.7**	**-0.4**
	25nm,0.7s,mb4.7,baz=355,slow=8.2,SNR=16						
NWAO				S	**S**	**16 19 34.4**	**-1.7**
	65nm,0.7s,baz=168,slow=6.3,SNR=10.0						
NWAO				LR	LR	16 24 57.8	
	comp=Z,180nm,20.0s,MS3.5,baz=5.3,slow=38						
NWAO	**Narrogin (SRO)**	**23.00**	**183**	*e*P	**P**	**16 15 30.8**	**-1.4**
	26nm,0.6s,mb4.8						
NWAO				*e*		16 15 40.1	
KULM	**Kulim**	**23.35**	**309**	*e*P	**P**	**16 15 34.1**	**-1.6**
CTA	**Charters Tower**	**28.57**	**114**	*e*P	**P**	**16 16 27.0**	**+2.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.7nm,0.6s,mb4.3						
CTA	**Charters Tower**	**28.57**	**114**	P	**P**	**16 16 25.6**	**+1.2**
	4.1nm,0.7s,mb4.3,baz=275,slow=13,SNR=8.4						
CTA				LR	LR	16 29 51.0	
	comp=Z,184nm,18.1s,MS3.7,baz=291,slow=40						
CTAO	**Charters Tower**	**28.57**	**114**	*e*P	**P**	**16 16 26.5**	**+2.1**
	23nm,1.5s,mb4.7						
QIZ	**Qiongzhong**	**29.96**	**343**	*e*P	**P**	**16 16 37.6**	**+0.8**
	36nm,1.4s,mb4.9						
STKA	**Stephens Creek**	**30.58**	**139**	⇓*i*P	**P**	**16 16 43.3**	**+1.1**
	7.4nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**30.58**	**139**	P	**P**	**16 16 43.3**	**+1.1**
	8.9nm,0.5s,mb4.9,baz=313,slow=9.2,SNR=66						
STKA				LR	LR	16 29 57.9	
	comp=Z,194nm,20.7s,MS3.7,baz=18,slow=38						
YHNB	**Yeheng**	**34.42**	**5**	P	**P**	**16 17 15.8**	**+0.1**
TOO	**Toolangi**	**36.74**	**143**	⇓*i*P	**P**	**16 17 38.2**	**+2.9**
	13nm,0.8s,mb4.8						
KMI	**Kunming**	**38.03**	**336**	P	**P**	**16 17 49.0**	**+2.7**
KMI				AP	pP	16 17 56.8	+0.8
KMI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
WHN	**Wuhan**	**40.37**	**354**	*e*P	**P**	**16 18 07.8**	**+2.2**
HNR	**Honiara**	**40.77**	**93**	P	**P**	**16 18 11.9**	**+2.8**
	comp=Z,36nm,1.1s,mb4.9,baz=294,slow=5.6,SNR=3.8						
HNR	**Honiara**	**40.77**	**93**	*e*P	**P**	**16 18 11.9**	**+2.8**
ENH	**Enshi**	**40.84**	**348**	*e*P	**P**	**16 18 10.7**	**+1.2**
	comp=Z,29nm,0.6s,mb5.1						
CD2	**Chengdu**	**42.95**	**341**	P	**P**	**16 18 27.0**	**+0.1**
JNU	**Nakatsue**	**44.31**	**15**	P	**P**	**16 18 38.5**	**+0.6**
	comp=Z,4.9nm,0.7s,mb4.4,baz=155,slow=18,SNR=4.4						
XAN	**Xi'an**	**44.60**	**349**	P	**P**	**16 18 40.1**	**-0.1**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
LSA	**Lhasa**	**47.37**	**327**	P	**P**	**16 19 04.4**	**+2.2**
LSA	**Lhasa**	**47.37**	**327**	*e*P	**P**	**16 19 03.1**	**+0.9**
	comp=Z,6.3nm,0.6s,mb4.7						
PKI	**Pulchoki**	**49.15**	**320**	*e*P	**P**	**16 19 14.7**	**-1.4**
	comp=Z,8.4nm,0.5s,mb5.0						
DMN	**Daman**	**49.37**	**320**	*e*P	**P**	**16 19 16.6**	**-1.1**
	comp=Z,32nm,1.0s,mb5.3						
KKN	**Kakani**	**49.39**	**320**	*e*P	**P**	**16 19 16.8**	**-1.1**
	comp=Z,13nm,0.6s,mb5.1						
MJAR	**Matsushiro Arr**	**49.70**	**21**	P	**P**	**16 19 20.3**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.4,baz=194,slow=8.4,SNR=11						
MJAR				LR	LR	16 42 34.4	
	comp=Z,68nm,18.0s,MS3.7,baz=215,slow=39						
MAJO	**Matsushiro**	**49.71**	**21**	P	**P**	**16 19 18.4**	**-1.8**
	comp=Z,16nm,1.1s,mb5.0						
MAT	**Matsushiro**	**49.71**	**21**	P	**P**	**16 19 20.4**	**+0.2**
MAT	**Matsushiro**	**49.71**	**21**	*e*P	**P**	**16 19 20.0**	**-0.2**
	comp=Z,4.2nm,0.5s,mb4.7						
GKN	**Gorkha**	**49.94**	**320**	*e*P	**P**	**16 19 21.0**	**-1.1**
	comp=Z,15nm,0.4s,mb5.4						
KOLN	**Koldanda**	**50.45**	**319**	*e*P	**P**	**16 19 24.6**	**-1.4**
	comp=Z,12nm,0.2s,mb5.5						
HHC	**Hu-ho-hao-te**	**50.86**	**353**	*e*P	**P**	**16 19 28.3**	**-0.6**
HHC				PP	PP	16 21 31.5	+5.5
HHC				S	**S**	**16 26 34.8**	**-6.6**
HHC				AMB	AMB		
	comp=Z,14nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,84nm,7.4s						
HHC				LR	LR		
	comp=N,183nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=E,150nm,15.5s,MS4.3						
HHC				LR	LR		
	comp=Z,108nm,16.6s,MS4.0						
SNY	**Shenyang**	**51.63**	**5**	⇑P	**P**	**16 19 35.4**	**+0.7**
SNY				AMB	AMB		
	comp=Z,20nm,2.0s,mb4.7						
SNY				LR	LR		
	comp=N,180nm,26.1s						
SNY				LR	LR		
	comp=Z,170nm,13.5s						
GTA	**Gaotai**	**52.02**	**342**	*e*P	**P**	**16 19 38.6**	**+1.0**
GTA				AP	pP	16 19 45.9	-1.7
GTA				XP	sP	16 19 49.3	-2.3
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
CN2	**Changchun**	**53.76**	**6**	*e*P	**P**	**16 19 50.9**	**+0.3**
MDJ	**Mudanjiang**	**55.12**	**10**	P	**P**	**16 20 01.3**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,62nm,4.7s						
MDJ				LR	LR		
	comp=N,23nm,16.3s						
MDJ				LR	LR		
	comp=E,42nm,21.7s						
MDJ				LR	LR		
	comp=Z,46nm,16.3s,MS3.6						
MDJ	**Mudanjiang**	**55.12**	**10**	*e*P	**P**	**16 20 01.5**	**+1.0**
	comp=Z,37nm,1.0s,mb5.4						
RPZ	**Rata Peaks**	**56.48**	**136**	P	**P**	**16 20 11.9**	**+1.5**
	comp=Z,29nm,0.8s,mb5.3,baz=34,slow=6.6,SNR=5.8						
SONM	**Songino Array**	**58.44**	**350**	P	**P**	**16 20 24.0**	**0.0**
	comp=Z,7.2nm,0.5s,mb5.0,baz=168,slow=7.9,SNR=67						
SONM	**Songino Array**	**58.44**	**350**	*e*P	**P**	**16 20 24.0**	**-0.1**
ZAK	**Zakamensk**	**61.45**	**349**	*e*P	**P**	**16 20 43.7**	**-0.9**
ZAK				*e*		16 21 27.2	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**65.02**	**333**	P	**P**	**16 21 07.6**	**-0.7**
	comp=Z,4.0nm,0.5s,mb4.7,baz=153,slow=6.8,SNR=9.3						
MKAR				LR	LR	16 50 47.1	
	comp=Z,61nm,19.1s,MS3.8,baz=270,slow=37						
MKAR	**Makanchi Array**	**65.02**	**333**	P	**P**	**16 21 07.6**	**-0.7**
MKAR				LR	LR	16 50 47.1	
MKAR	**Makanchi Array**	**65.02**	**333**	*e*P	**P**	**16 21 07.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**65.94**	**326**	*e*P	**P**	**16 21 12.8**	**-1.4**
	comp=Z,5.8nm,0.7s,mb4.7						
BOD	**Bodaibo**	**67.53**	**357**	*e*P	**P**	**16 21 24.2**	**+0.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
MAW	**Mawson**	**68.30**	**200**	P	**P**	**16 21 29.9**	**+1.3**
	comp=Z,4.7nm,0.6s,mb4.7,baz=70,slow=7.0,SNR=21						
MAW	**Mawson**	**68.30**	**200**	*e*P	**P**	**16 21 29.9**	**+1.3**
	comp=Z,8.9nm,1.0s,mb4.8						
KURK	**Kurchatov**	**69.57**	**334**	*e*P	**P**	**16 21 36.0**	**-0.7**
	comp=Z,95nm,1.3s,mb5.6						
ZAL	**Zalesovo**	**69.68**	**339**	P	**P**	**16 21 36.3**	**-1.1**
	comp=Z,4.7nm,0.5s,mb4.7,baz=316,slow=4.9,SNR=20						
ZAL	**Zalesovo**	**69.68**	**339**	*e*P	**P**	**16 21 36.3**	**-1.1**
NVS	**Novosibirsk**	**70.95**	**339**	*e*P	**P**	**16 21 42.8**	**-2.3**
YAK	**Yakutsk**	**72.18**	**5**	*e*P	**P**	**16 21 52.7**	**+0.5**
	comp=Z,9.4nm,0.6s,mb4.9						
SBA	**Scott Base**	**72.22**	**170**	*e*P	**P**	**16 21 54.1**	**+1.8**
	comp=Z,4.3nm,1.0s,mb4.3						
MA2	**Magadan**	**73.85**	**16**	P	**P**	**16 22 03.9**	**+1.8**
	comp=Z,9.4nm,0.8s,mb4.8						
MA2	**Magadan**	**73.85**	**16**	*e*P	**P**	**16 22 03.9**	**+1.8**
VOSK	**Vostochnaya**	**74.38**	**332**	P	**P**	**16 22 04.3**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
BVA0	**Borovoye Array**	**74.84**	**332**	*i* P	**P**	**16 22 07.5**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
BVAR	**Borovoye Array**	**74.84**	**332**	P	**P**	**16 22 07.5**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=143,slow=7.4,SNR=13						
BVAR	**Borovoye Array**	**74.84**	**332**	*e*P	**P**	**16 22 07.5**	**-0.5**
BRVK	**Borovoye**	**74.92**	**332**	*e*P	**P**	**16 22 08.0**	**-0.5**
	comp=Z,3.9nm,1.0s,mb4.3						
SYO	**Syowa Base**	**76.91**	**201**	⇑P	**P**	**16 22 19.0**	**-0.5**
SYO	**Syowa Base**	**76.91**	**201**	⇑PcP	PcP	16 22 30.6	-0.2
AB31	**Akbulak array**	**78.01**	**325**	P	**P**	**16 22 25.5**	**-0.5**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KBD	**Kabd**	**78.47**	**303**	*e*P	**P**	**16 22 28.7**	**-0.2**
RDF	**Al-Radifah**	**78.51**	**302**	*e*P	**P**	**16 22 28.8**	**-0.4**
RDF				AMb	AMB	16 22 29.5	
	comp=Z,30nm,0.5s,mb5.5						
UMR	**Umm Al-Rimmam**	**78.57**	**303**	*e*P	**P**	**16 22 29.2**	**-0.3**
UMR				AMb	AMB	16 22 33.5	
	comp=Z,28nm,0.8s,mb5.2						
NAY	**Al-Naaiem**	**78.87**	**302**	*e*P	**P**	**16 22 30.5**	**-0.6**
NAY				AMb	AMB	16 22 31.9	
	comp=Z,11nm,0.7s,mb4.9						
MIB	**Mutribah**	**78.96**	**303**	*e*P	**P**	**16 22 31.0**	**-0.6**
MIB				AMb	AMB	16 22 43.3	
	comp=Z,23nm,0.6s,mb5.3						
AKTO	**Aktyubinsk**	**79.68**	**326**	P	**P**	**16 22 35.2**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,300nm,5.0s						
KMBO	**Kilima Mbogo**	**81.26**	**270**	P	**P**	**16 22 46.0**	**+1.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=78,slow=6.5,SNR=8.5						
KMBO	**Kilima Mbogo**	**81.26**	**270**	*e*P	**P**	**16 22 45.9**	**+1.7**
TIXI	**Tiksi**	**81.61**	**3**	*e*P	**P**	**16 22 40.6**	**-4.3**
TIXI				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
TI2	**Plekhanov**	**84.68**	**314**	*i* P	**P**	**16 23 00.2**	**-0.9**
BILL	**Bilibino**	**84.72**	**16**	*e*P	**P**	**16 23 07.5**	**+6.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.4						
KIV	**Kislovodsk**	**86.79**	**315**	*e*P	sP	16 23 24.5	-0.9
KIV				pmax	pmax		
	comp=N,1.0nm,1.1s						
KIV				pmax	pmax		
	comp=E,6.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.7						
LSZ	**Lusaka**	**87.82**	**255**	*e*P	**P**	**16 23 18.2**	**+1.2**
	comp=Z,4.6nm,0.6s,mb4.9						
MALT	**Malatya**	**88.41**	**309**	*e*P	**P**	**16 23 21.2**	**+1.9**
	comp=Z,11nm,0.9s,mb5.1						
MALT				*e*		16 23 29.2	
MALT	**Malatya**	**88.41**	**309**	*e*P	**P**	**16 23 21.2**	**+1.8**
SNAA	**Sanae**	**90.07**	**196**	*e*	pP	16 23 37.2	+0.1
SNAA	**Sanae**	**90.07**	**196**	⇓*i*P	**P**	**16 23 28.9**	**+2.4**
SNAA				*e*		16 23 37.2	
VNA2	**Neumayer--Watz**	**91.71**	**195**	*e*	pP	16 23 44.9	+0.2
VNA2	**Neumayer--Watz**	**91.71**	**195**	⇓*i*P	**P**	**16 23 36.5**	**+2.4**
VNA2				*e*		16 23 44.9	
VNA3	**Neumayer Olymp**	**92.09**	**195**	*e*	pP	16 23 46.5	0.0
VNA3	**Neumayer Olymp**	**92.09**	**195**	⇓*i*P	**P**	**16 23 38.0**	**+2.1**
VNA3				*e*		16 23 46.5	
VNA1	**Neumayer--Stat**	**92.10**	**195**	*e*	pP	16 23 46.7	+0.2
VNA1	**Neumayer--Stat**	**92.10**	**195**	⇓*i*P	**P**	**16 23 38.4**	**+2.5**
VNA1				*e*		16 23 46.7	
BRTR	**Keskin Array B**	**92.35**	**310**	P	**P**	**16 23 38.3**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.5,baz=128,slow=5.2,SNR=6.3						
AKASG	**Malin Array Be**	**97.12**	**320**	P	**P**	**16 23 58.7**	**-0.5**
	comp=Z,0.4nm,0.2s,mb4.5,baz=83,slow=4.0,SNR=5.3						
FINES	**FINESS Array B**	**99.77**	**331**	P	**P**	**16 24 10.9**	**0.0**
	comp=Z,2.0nm,0.9s,mb4.6,baz=98,slow=9.8,SNR=3.6						
YKA	**Yellowknife Ar**	**115.14**	**24**	PKP	PKPdf	16 29 09.0	+2.2
	comp=Z,1.2nm,0.7s,baz=299,slow=1.8,SNR=3.4						
YKA	**Yellowknife Ar**	**115.14**	**24**	PKIKP	PKPdf	16 29 09.1	+2.2
WVT	**Waverly**	**144.52**	**38**	*e*PKPdf	PKPdf	16 30 05.0	+2.3
ACCN	**Adirondack Com**	**144.93**	**16**	*e*PKPdf	PKPdf	16 30 05.7	+2.6
HNH	**Hanover**	**144.97**	**14**	*e*PKPdf	PKPdf	16 30 06.7	+3.5
PLAL	**Pickwick Lake**	**145.11**	**40**	*e*PKPdf	PKPdf	16 30 06.6	+2.9
HRV	**Harvard--Oak R**	**146.28**	**14**	*e*PKPbc	PKPbc	16 30 10.2	+3.5
LVC	**Limon Verde**	**146.91**	**167**	*e*PKPbc	PKPbc	16 30 13.1	+4.4
CPCT	**Cooper Cave**	**146.96**	**36**	*e*PKPbc	PKPbc	16 30 12.6	+4.2
BDFB	**Brasilia**	**151.40**	**208**	PKPbc	PKPdf	16 30 24.4	+10
	comp=Z,8.7nm,0.6s,baz=226,slow=2.4,SNR=8.2						
LPAZ	**La Paz**	**153.20**	**166**	PKPbc	PKPdf	16 30 30.1	+13
	comp=Z,4.3nm,0.8s,baz=189,slow=0.7,SNR=22						
LPAZ				PKPab	PKPab	16 30 40.9	+2.4
	comp=Z,6.2nm,0.9s,baz=197,slow=9.3,SNR=13						
LPAZ	**La Paz**	**153.20**	**166**	PKPbc	PKPdf	16 30 30.1	+13
LPAZ				PKPab	PKPab	16 30 40.9	+2.4

*CSEM **20** 16:18:32.9, 37.81N×25.43W, h15km, ML3.3, After PDA*
*PDA **20** 16:18:32.9±3.6, 37.81N×25.43W, h15km±14km, ML3.3, Error ellipse: s-maj=13.5km s-min=11.6km az=177.0*
SVSA 20 16:18:32.9±3.6**, 37.81N×25.43W, h15**km±14km**, ML3.3, Error ellipse: s-maj=13.5km s-min=11.6km az=177.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**224**	*i* P	Pb	16 18 35.7	+1.0
MESC				*e*S	Sb	16 18 37.3	+1.5
MESC	**Monte Escuro**	**0.02**	**224**	*e*S	Sb	16 18 37.3	+1.5
PMAT	**Coroa da Mata**	**0.04**	**279**	*e*P	Pb	16 18 36.1	+1.2
PMAT				*e*S	Sb	16 18 37.8	+1.6
PCNG	**Congro**	**0.05**	**152**	*i* P	Pb	16 18 35.3	+0.2
PCNG				*e*S	Sb	16 18 36.4	-0.1
PCNG	**Congro**	**0.05**	**152**	*e*S	Sb	16 18 36.4	-0.1
LFA	**Lagoa do Fogo**	**0.06**	**231**	*i* P	Pb	16 18 35.9	+0.6
VIF	**Vila Franca**	**0.07**	**190**	*i* P	Pb	16 18 35.3	-0.1
VIF				*e*S	Sb	16 18 36.5	-0.5
VIF	**Vila Franca**	**0.07**	**190**	*e*S	Sb	16 18 36.5	-0.5
FRA1	**Furnas**	**0.09**	**141**	*i* P	Pb	16 18 36.0	+0.2
PFAD	**Fenais da Ajud**	**0.09**	**70**	*i* P	Pb	16 18 37.1	+1.3
PRCH	**Ribeira Ch**	**0.09**	**208**	*e*P	Pb	16 18 35.8	-0.1
PRCH				*e*S	Sb	16 18 37.2	-0.6
	7μm,0.2s						
CML	**Cha da Macela**	**0.10**	**248**	*i* P	Pb	16 18 37.9	+1.8
MIRA	**Miradouro**	**0.12**	**102**	*e*P	Pb	16 18 37.2	+0.9
MIRA				*e*S	Sb	16 18 39.4	+0.9
FAC	**Faja de Cima**	**0.18**	**258**	*e*P	Pb	16 18 39.9	+2.5
PDA	**Ponta Delgada**	**0.20**	**252**	*e*P	Pb	16 18 38.6	+0.9
PDA				*e*S	Sb	16 18 41.9	+1.0
PSAN	**Santo Antonio**	**0.24**	**280**	*e*P	Pb	16 18 41.1	+2.7
PFET	**Feteiras**	**0.29**	**272**	*e*P	Pb	16 18 41.6	+2.4
SET2	**Ginetes**	**0.30**	**276**	*e*P	Pb	16 18 42.1	+2.6
PSMN	**Pico do Norte,**	**0.85**	**160**	*e*P	Pb	16 18 48.0	-0.9
PSMN				*e*S	Sb	16 18 58.6	-1.3

*NEIC **20** 16:33:37.8, 35.98S×178.90E, h33km, ML4.1(WEL), After WEL.*
WEL 20 16:33:37.9±0.6**, 36.06S×178.77E, h12km, ML4.1**/8**, Error ellipse: s-maj=5.6km s-min=3.6km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.55**	**194**	P*	Pb	16 34 03.8	-2.2
MXZ				S*	Sb	16 34 22.8	-2.7
MXZ	**Matakaoa Point**	**1.55**	**194**	*e*P	Pn	16 34 03.7	-1.8
MXZ				S	Sb	16 34 22.6	-2.8
WIZ	**White Island**	**1.94**	**220**	P*	Pb	16 34 08.5	-4.2
WIZ	**White Island**	**1.94**	**220**	*e*P	Pn	16 34 08.5	-2.6
PUZ	**Puketiti**	**2.05**	**191**	PN	Pn	16 34 11.4	-1.2
PUZ				SN	Sn	16 34 36.1	-2.3
PUZ	**Puketiti**	**2.05**	**191**	P	Pn	16 34 11.4	-1.3
PUZ				S	Sn	16 34 36.1	-2.3
MYRZ	**Mayor Island**	**2.37**	**238**	P*	Pb	16 34 15.6	-4.5
MWZ	**Matawai**	**2.48**	**203**	P*	Pb	16 34 17.2	-4.8
MWZ				S*	Sb	16 34 46.6	-5.9
MWZ	**Matawai**	**2.48**	**203**	*e*P	Pn	16 34 17.1	-1.7
MWZ				S	Sn	16 34 46.5	-2.7
MARZ	**Manawahe**	**2.55**	**220**	P*	Pb	16 34 18.4	-4.8
MARZ	**Manawahe**	**2.55**	**220**	*e*P	Pn	16 34 18.0	-1.8
KUZ	**Kuaotunu**	**2.55**	**253**	PN	Pn	16 34 18.2	-1.7
KUZ	**Kuaotunu**	**2.55**	**253**	*e*P	Pn	16 34 18.2	-1.7
URZ	**Urewera**	**2.57**	**211**	P*	Pb	16 34 16.7	-6.7
URZ				S*	Sb	16 34 48.0	-7.1
URZ	**Urewera**	**2.57**	**211**	*e*P	Pn	16 34 16.7	-3.3
LIRZ	**Lichensteins R**	**2.72**	**224**	P*	Pb	16 34 21.9	-4.2
TAZ	**Tarawera**	**2.82**	**219**	P*	Pb	16 34 22.3	-5.5
PATZ	**Paeroa**	**3.06**	**220**	P*	Pb	16 34 26.9	-5.1
PATZ	**Paeroa**	**3.06**	**220**	*e*P	Pn	16 34 27.2	+0.1
KNZ	**Kokohu**	**3.08**	**196**	PN	Pn	16 34 23.7	-3.7
KNZ				SN	Sn	16 34 57.5	-7.1
KNZ	**Kokohu**	**3.08**	**196**	*e*P	Pn	16 34 23.6	-3.8
BKZ	**Black Stump Fm**	**3.59**	**210**	P*	Pb	16 34 30.8	-10
BKZ	**Black Stump Fm**	**3.59**	**210**	*e*P	Pn	16 34 30.8	-3.8
KRVZ	**Karewarewa**	**3.92**	**218**	P*	Pb	16 34 39.0	-7.6
CNZ	**Chateau**	**4.05**	**218**	P*	Pb	16 34 38.4	-10
CNZ	**Chateau**	**4.05**	**218**	*e*P	Pn	16 34 37.9	-3.2
FWVZ	**Far West T-bar**	**4.09**	**218**	*e*P	Pn	16 34 39.5	-2.2
MOVZ	**Moawhango**	**4.11**	**215**	P*	Pb	16 34 38.3	-12
MOVZ	**Moawhango**	**4.11**	**215**	*e*P	Pn	16 34 38.2	-3.8
WNVZ	**Wahianoa**	**4.12**	**217**	P*	Pb	16 34 39.4	-11
MTVZ	**Mangateitei**	**4.23**	**217**	P*	Pb	16 34 39.3	-13
PXZ	**Pawanui**	**4.24**	**200**	PN	Pn	16 34 37.6	-6.3
PXZ				SN	Sn	16 35 24.7	-9.2
BFZ	**Birch Farm**	**5.02**	**202**	PN	Pn	16 34 48.1	-6.8
BFZ	**Birch Farm**	**5.02**	**202**	*e*P	Pn	16 34 48.1	-6.8
MRZ	**Mangatainoka R**	**5.24**	**208**	PN	Pn	16 34 50.7	-7.2
MRZ				SN	Sn	16 35 46.8	-12
MRZ	**Mangatainoka R**	**5.24**	**208**	*e*P	Pn	16 34 50.2	-7.7
MRZ				S	Sn	16 35 46.8	-12
KIW	**Kapiti Island**	**5.67**	**211**	PN	Pn	16 34 56.3	-7.8
KIW	**Kapiti Island**	**5.67**	**211**	*e*P	Pn	16 34 56.1	-8.0
MTW	**Mount Morrison**	**5.70**	**206**	*e*P	Pn	16 34 58.5	-6.0
CAW	**Cannon Point**	**5.82**	**209**	PN	Pn	16 34 58.3	-7.8

*NIED **20** 17:04:00, 33.30N×137.10E, h11km, Mw4.0 Best double couple: $M_0$1.23×10¹⁵ NP1:ϕ_s81°, δ55°, λ90°. NP2:ϕ_s261°, δ35°, λ91°.*
*NEIC **20** 17:04:30.3, 33.35N×137.08E, h40km, MG4.1(JMA), After JMA.*
*JMA **20** 17:04:30.3±0.1, 33.35N×137.08E, h41km±2km, M4.1*
*MOS **20** 17:04:30.0±1.0, 33.28N×137.31E, h33km, mb4.1/8, Error ellipse: s-maj=25.1km s-min=10.8km az=88.3*
*IDC **20** 17:04:31.5±5.8, 33.30N×137.19E, h27km±41km, mb3.7/10, mb1 3.9/15, mb1mx3.8/25, mbtmp3.9/15, ML3.7/5, MS3.2/5, Ms1 3.2/5, ms1mx3.0/30, Error ellipse: s-maj=18.5km s-min=17.1km az=30.0*
ISC 20 17:04:30.4±0.8**, 33.37N**±0.03×**137.07E**±0.03**, h32**km±5km**, n48, σ0ˢ89**/65**, mb3.8**/11**, MS4.0**/1**, 12D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.58**	**47**	P	**Pb**	**17 04 42.2**	**0.0**
TK01				S	**Sb**	**17 04 50.9**	**+0.5**
TK02	**Tokai 2**	**0.81**	**45**	⇓P	**Pn**	**17 04 45.6**	**0.0**
TK02				*e*S	**Sb**	**17 04 56.5**	**-0.1**
JIE	**Ise**	**1.06**	**343**	⇓P	**Pn**	**17 04 49.9**	**+0.6**
JIE				*e*S	**Sn**	**17 05 03.4**	**+0.3**
TK03	**Tokai 3**	**1.09**	**43**	⇓P	**Pn**	**17 04 49.6**	**0.0**
TK03				*e*S	**Sn**	**17 05 03.4**	**-0.2**
JKN2	**Miekihoku**	**1.09**	**323**	⇓P	**Pn**	**17 04 49.9**	**+0.2**
JKN2				S	**Sn**	**17 05 02.9**	**-0.9**
JWZ	**Kozaga**	**1.15**	**278**	⇓P	**Pn**	**17 04 50.3**	**-0.2**
JWZ				S	**Sn**	**17 05 03.8**	**-1.4**
TK04	**Tokai 4**	**1.21**	**33**	⇓P	**Pn**	**17 04 51.7**	**+0.3**
TK04				*e*S	**Sn**	**17 05 06.9**	**+0.1**
TSUJ	**Tsu 2**	**1.44**	**338**	⇓P	**Pn**	**17 04 55.2**	**+0.5**
TSUJ				*e*S	**Sn**	**17 05 12.5**	**-0.2**
JWY	**Kouya**	**1.50**	**305**	⇓P	**Pn**	**17 04 56.0**	**+0.5**
JWY				*e*S	**Sn**	**17 05 13.6**	**-0.4**
JWM	**Minabe**	**1.51**	**289**	⇓P	**Pn**	**17 04 55.7**	**0.0**
JWM				S	**Sn**	**17 05 13.3**	**-1.2**
JHE	**Heguri**	**1.72**	**318**	⇓P	**Pn**	**17 04 59.1**	**+0.4**
JHE				S	**Sn**	**17 05 19.8**	**0.0**
SHZ3	**Shizuoka 3**	**1.94**	**29**	⇓P	**Pn**	**17 05 01.4**	**-0.3**
SHZ3				S	**Sn**	**17 05 23.7**	**-1.5**
JIZS	**Izushimoda**	**2.01**	**48**	P	**Pn**	**17 05 02.4**	**-0.5**
JAJ2	**Tsuna**	**2.10**	**300**	⇓P	**Pn**	**17 05 04.8**	**+0.7**
JAJ2				S	**Sn**	**17 05 28.9**	**-0.5**
JMY	**Miyakejima3**	**2.15**	**70**	P	**Pn**	**17 05 05.3**	**+0.5**
JMY				*e*S	**Sn**	**17 05 30.7**	**0.0**
JHJ	**Hachijo jima 2**	**2.28**	**96**	Pn	**Pn**	**17 05 06.5**	**-0.3**
	40nm,0.3s,baz=110,slow=22,SNR=11						
JHJ				Sn	**Sn**	**17 05 32.4**	**-1.7**
	125nm,0.3s,baz=49,slow=22,SNR=19						
JHJ				LR	LR	17 05 59.4	
	comp=Z,248nm,18.3s,baz=240,slow=40						
MJAR	**Matsushiro Arr**	**3.30**	**16**	Pn	**Pn**	**17 05 21.6**	**+0.4**
	23nm,0.3s,baz=202,slow=14,SNR=180						
MJAR				Sn	**Sn**	**17 05 59.7**	**-0.1**
	35nm,0.3s,baz=38,slow=27,SNR=13						
MJAR	**Matsushiro Arr**	**3.30**	**16**	P	**Pn**	**17 05 21.6**	**+0.4**
MJAR						17 05 59.7	
MJAR				pmax	pmax		
	comp=Z,23nm,0.3s						
MAJO	**Matsushiro**	**3.30**	**16**	*e*P	**Pn**	**17 05 21.3**	**+0.1**
MAJO				*e*S	**Sn**	**17 05 59.7**	**-0.1**
MAT	**Matsushiro**	**3.30**	**16**	P	**Pn**	**17 05 21.7**	**+0.5**
MAT				S	**Sn**	**17 05 59.2**	**-0.6**
MAT	**Matsushiro**	**3.30**	**16**	*e*P	**Pn**	**17 05 22.0**	**+0.8**
MAT				*e*S	**Sn**	**17 05 59.0**	**-0.8**
JNU	**Nakatsue**	**5.20**	**269**	LR	LR	17 08 05.1	
	comp=Z,136nm,18.0s,baz=44,slow=40						
CBIJ	**Chichi jima**	**7.66**	**143**	Pn	**Pn**	**17 06 18.9**	**-3.8**
	comp=Z,6.1nm,0.3s,baz=285,slow=22,SNR=5.6						
CBIJ				LR	LR	17 09 04.7	
	comp=Z,151nm,20.1s,baz=64,slow=36						
JOW	**Kunigami**	**10.02**	**232**	Pn	**P**	**17 06 53.7**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=214,slow=15,SNR=7.1						
ASAJ	**Asahikawa**	**11.56**	**20**	Pn	**P**	**17 07 14.1**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=139,slow=24,SNR=5.4						
ASAJ				LR	LR	17 12 16.4	
	comp=Z,96nm,18.9s,baz=26,slow=40						
ASAJ	**Asahikawa**	**11.56**	**20**	P	**P**	**17 07 14.1**	**-2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,96nm,18.9s						
SONM	**Songino Array**	**27.20**	**311**	P	**P**	**17 10 15.6**	**+2.6**
	comp=Z,0.5nm,0.6s,mb3.2,baz=121,slow=8.6,SNR=4.7						
SONM	**Songino Array**	**27.20**	**311**	P	**P**	**17 10 15.6**	**+2.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.17**	**305**	P	**P**	**17 12 31.0**	**+1.3**
	comp=Z,2.9nm,0.7s,mb4.2,baz=90,slow=10,SNR=38						
MKAR				PcP	PcP	17 14 18.7	-0.7
	comp=Z,0.9nm,0.8s,baz=72,slow=3.8,SNR=5.1						
MKAR	**Makanchi Array**	**43.17**	**305**	P	**P**	**17 12 31.0**	**+1.3**
MKAR				PcP	PcP	17 14 18.7	-0.8
MKAR	**Makanchi Array**	**43.17**	**305**	P	**P**	**17 12 31.0**	**+1.3**
MKAR						17 14 18.7	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**50.48**	**314**	P	**P**	**17 13 27.5**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.8,baz=98,slow=8.5,SNR=6.5						
BVAR	**Borovoye Array**	**50.48**	**314**	P	**P**	**17 13 27.5**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKAR	**Karatay Array**	**51.94**	**301**	*i* P	**P**	**17 13 39.6**	**+1.3**
WRA	**Warramunga Arr**	**53.08**	**183**	P	**P**	**17 13 45.8**	**-1.3**
	comp=Z,0.7nm,0.9s,mb3.6,baz=360,slow=7.6,SNR=8.9						
WRA	**Warramunga Arr**	**53.08**	**183**	P	**P**	**17 13 45.8**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**54.47**	**31**	P	**P**	**17 13 56.8**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=286,slow=6.2,SNR=5.2						
ILAR	**Eielson Array**	**54.47**	**31**	P	**P**	**17 13 56.8**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**74.97**	**321**	P	**P**	**17 16 10.2**	**+0.2**
	comp=Z,0.1nm,0.2s,mb3.3,baz=47,slow=5.5,SNR=6.5						
HFS	**Hagfors**	**75.91**	**334**	P	**P**	**17 16 14.4**	**-0.8**
	comp=Z,1.7nm,0.8s,mb4.0,baz=129,slow=9.5,SNR=4.7						
HFS	**Hagfors**	**75.91**	**334**	P	**P**	**17 16 14.4**	**-0.8**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**78.55**	**310**	P	**P**	**17 16 32.1**	**+1.9**
	comp=Z,1.9nm,0.9s,mb4.0,baz=90,slow=3.7,SNR=7.0						
BRTR	**Keskin Array B**	**78.55**	**310**	P	**P**	**17 16 32.1**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**82.76**	**43**	P	**P**	**17 16 53.9**	**+1.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=304,slow=5.3,SNR=3.9						
GERES	**GERESS Array B**	**83.86**	**326**	P	**P**	**17 16 58.4**	**+0.4**
	comp=Z,0.9nm,0.9s,mb3.9,slow=1.3,SNR=5.8						
GERES	**GERESS Array B**	**83.86**	**326**	P	**P**	**17 16 58.4**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**95.18**	**50**	P	**P**	**17 17 54.0**	**+1.9**
	comp=Z,0.4nm,0.5s,mb4.1,baz=297,slow=2.5,SNR=5.8						
KMBO	**Kilima Mbogo**	**98.83**	**274**	LR	LR	18 04 05.7	
	comp=Z,45nm,18.1s,MS4.0,baz=91,slow=36						

*NEIC **20** 17:04:53.4, 19.83N×68.68W, h87km, MD3.8(RSPR), After RSPR.*
RSPR 20 17:04:53.4, 19.83N×68.68W, h87km±12km**, MD3.8**/3**, MD3.8**/3**, 4C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.01**	**132**	⇑*e*P	P	17 05 25.1	-1.0
AGPR				*e*S	S	17 05 49.9	-0.3
LSP	**Las Mesas**	**2.23**	**137**	⇑*e*P	P	17 05 28.1	-1.1
LSP				*e*S	S	17 05 55.5	-0.3
SJG	**San Juan**	**2.94**	**125**	*e*S	S	17 06 12.1	-1.3
SJG	**San Juan**	**2.94**	**125**	*e*S	S	17 06 12.2	-1.3
CBYP	**Canovanas**	**3.09**	**120**	⇑*e*P	P	17 05 39.5	-1.6
CBYP				*e*S	S	17 06 16.1	-1.0
HUMP	**Col San Antoni**	**3.16**	**122**	*e*S	S	17 06 17.7	-1.2
CPD	**Cerro la Pandu**	**3.17**	**124**	*e*S	S	17 06 18.4	-0.7
MTP	**Monte Pirata**	**3.42**	**120**	⇑*e*P	P	17 05 44.9	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MTP				eS	S	17 06 24.6	-0.8
TBVI	Tortola	4.10	109	eS	S	17 06 41.0	-1.2

NIED ***20*** *17:12:00, 32.30N×141.50E, h50km, Mw4.4 Best double couple: M0 4.11×10^{15} NP1: φs145°, δ70°, λ-94°. NP2: φs338°, δ20°, λ-78°.*
MOS ***20*** *17:12:42.7±1.2, 32.09N×141.55E, h33km, mb4.4/6, Error ellipse: s-maj=18.8km s-min=8.1km az=107.4*
IDC ***20*** *17:12:46.1±1.4, 32.13N×141.48E, h45km±14km, mb4.2/11, mb1 4.3/15, mb1mx4.2/23, mbtmp4.4/15, ML3.9/4, MS3.2/3, Ms1 3.2/3, ms1mx2.9/24, Error ellipse: s-maj=18.5km s-min=8.8km az=62.0*
BJI ***20*** *17:12:47.0, 32.29N×141.57E, h87km, mB4.4, mb4.4*
JMA ***20*** *17:12:47.5±0.2, 32.32N×141.49E, h50km, M4.6*
NEIC ***20*** *17:12:49.7±1.3, 32.29N×141.40E, h72km±11km, mb4.4/4, Error ellipse: s-maj=13.4km s-min=9.6km az=113.0*
ISC 20 17:12:47.1±0.8**, 32.29N**±0.04×**141.46E**±0.06**, h64**km±7km**, n66,** σ1^{s}08/77**, mb4.3**/19**, 3C, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.61	301	⇑P	P	17 13 14.2	+0.3
JHJ2				S	S	17 13 34.0	+0.3
JHJ	Hachijo jima 2	1.64	301	P	P	17 13 14.3	0.0
	365nm,0.3s,baz=255,slow=19,SNR=118						
JHJ				S	S	17 13 34.1	-0.2
	887nm,0.3s,baz=49,slow=24,SNR=22						
BSO1	Boso 1	2.39	350	P	P	17 13 25.1	+0.3
BSO1				eS	S	17 13 54.4	+1.4
JMY	Miyakejima3	2.42	318	P	P	17 13 25.6	+0.5
JMY				eS	S	17 13 53.9	+0.4
BSO3	Boso 3	2.63	343	P	P	17 13 28.8	+0.6
JKO	Kozu shima	2.72	315	⇑P	P	17 13 29.9	+0.5
JKO				eS	S	17 14 01.4	+0.3
JIM2	Oshima 3	2.96	326	P	P	17 13 32.7	-0.1
JIM2				eS	S	17 14 05.5	-1.7
JOD2	Odawara 2	3.56	327	P	P	17 13 41.3	0.0
JOD2				S	S	17 14 20.7	-1.8
TK01	Tokai 1	3.57	295	P	P	17 13 43.0	+1.6
JYN	Shimob	4.02	324	P	P	17 13 48.9	+1.3
JRY	Ryogami san	4.28	331	P	P	17 13 51.7	+0.4
JRY				eS	S	17 14 39.4	-1.1
JAG	Ashikaga	4.45	339	P	P	17 13 53.3	-0.4
JAG				S	S	17 14 43.4	-1.3
JIE	Ise	4.50	299	⇑P	P	17 13 54.7	+0.3
JIE				eS	S	17 14 45.6	-0.3
JWZ	Kozaga	4.99	286	P	P	17 14 01.2	0.0
MJAR	Matsushiro Arr	5.02	329	P	P	17 14 01.8	+0.1
	5.3nm,0.3s,baz=161,slow=12,SNR=62						
MJAR				S	S	17 14 58.5	-0.5
	6.8nm,0.3s,baz=142,slow=20,SNR=6.9						
MAJO	Matsushiro	5.02	329	eP	P	17 14 01.9	+0.2
MAT	Matsushiro	5.02	329	P	P	17 14 02.0	+0.3
MAT				S	S	17 14 57.9	-1.2
MAT	Matsushiro	5.02	329	P	P	17 14 02.3	+0.6
MAT				eS	S	17 14 58.0	-1.1
MAT	Matsushiro	5.02	329	eP	P	17 14 02.0	+0.3
MAT				eS	S	17 14 58.0	-1.1
JGM	Miyama	5.20	312	P	P	17 14 05.7	+1.5
CBIJ	Chichi jima	5.21	173	P	P	17 14 01.1	-3.2
	15nm,0.3s,baz=304,slow=20,SNR=35						
CBIJ				S	S	17 14 55.1	-8.6
	47nm,0.3s,baz=89,slow=23,SNR=7.9						
CBIJ	Chichi jima	5.21	173	P	P	17 14 01.3	-3.0
JWY	Kouya	5.28	293	P	P	17 14 06.4	+1.2
JWY				eS	S	17 15 06.3	+0.9
JMM	Marumori	5.59	355	P	P	17 14 08.7	-0.8
JMM				eS	S	17 15 10.0	-3.2
JNU	Nakatsue	8.96	278	P	P	17 14 54.6	-1.4
	1.1nm,0.3s,baz=107,slow=18,SNR=15						
JNU				LR	LR	17 18 22.2	
	comp=Z,75nm,21.0s,baz=86,slow=37						
ASAJ	Asahikawa	11.84	4	P	P	17 15 32.9	-2.3
	0.9nm,0.3s,baz=261,slow=24,SNR=11						
ASAJ	Asahikawa	11.84	4	P	P	17 15 32.9	-2.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOW	Kunigami	12.70	248	P	P	17 15 49.0	+2.4
	comp=Z,2.1nm,0.3s,baz=84,slow=5.9,SNR=11						
HIA	Hailar	23.49	323	eP	P	17 17 51.1	-0.5
	comp=Z,9.8nm,0.7s,mb4.3						
HIA	Hailar	23.49	323	eP	P	17 17 51.1	-0.5
HIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XAN	Xi'an	27.23	283	P	P	17 18 24.5	-2.6
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.3						
CIT	Chita	28.30	322	eP	P	17 18 39.5	+3.0
SONM	Songino Array	30.69	311	P	P	17 18 58.7	+0.9
	comp=Z,2.5nm,0.7s,mb4.1,baz=116,slow=8.7,SNR=21						
SONM				LR	LR	17 32 09.7	
	comp=Z,47nm,18.2s,baz=342,slow=38						
BOD	Bodaibo	31.65	332	eP	P	17 19 05.6	-0.5
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
ZAK	Zakamensk	33.42	314	eP	P	17 19 22.6	+1.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BILL	Bilibino	38.58	15	eP	P	17 20 04.6	-0.4
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
ZAL	Zalesovo	45.26	316	LR	LR	17 40 34.3	
	comp=Z,38nm,20.6s,baz=96,slow=37						
MKAR	Makanchi Array	46.80	306	P	P	17 21 12.0	+0.1
	comp=Z,4.8nm,0.8s,mb4.5,baz=88,slow=10,SNR=47						
KURK	Kurchatov	48.99	311	eP	P	17 21 28.6	-0.4
	comp=Z,3.4nm,0.7s,mb4.5						
KURK	Kurchatov	48.99	311	eP	P	17 21 28.6	-0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
WRAB	Tennant Creek	52.37	188	eP	P	17 21 52.5	-2.5
WRA	Warramunga Arr	52.38	188	P	P	17 21 52.7	-2.3
	comp=Z,1.3nm,0.3s,mb4.3,baz=5.1,slow=7.6,SNR=75						
SML	Sawmill	52.84	34	eP	P	17 21 57.7	-0.3
ILAR	Eielson Array	53.52	30	P	P	17 22 02.5	-0.5
	comp=Z,7.1nm,0.7s,mb4.7,baz=264,slow=6.3,SNR=67						
INK	Inuvik	58.61	26	P	P	17 22 39.3	0.0
	comp=Z,6.3nm,0.6s,mb4.8,baz=306,slow=4.7,SNR=24						
FINES	FINESS Array B	73.04	333	P	P	17 24 11.2	-0.2
	comp=Z,3.2nm,1.0s,mb4.2,baz=63,slow=4.3,SNR=5.1						
NEW	Newport	73.53	43	P	P	17 24 14.2	-0.4
	comp=Z,2.7nm,0.4s,mb4.5,baz=285,slow=8.7,SNR=4.6						
HRY	Holter Researc	77.40	42	eP	P	17 24 37.5	+0.9
AKASG	Malin Array Be	78.09	323	P	P	17 24 40.2	-0.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=50,slow=5.8,SNR=5.3						
AKASG	Malin Array Be	78.09	323	P	P	17 24 40.2	-0.1
HFS	Hagfors	78.43	336	P	P	17 24 41.5	-0.5
	comp=Z,3.1nm,0.7s,mb4.4,baz=45,slow=2.1,SNR=7.0						
NB2	NORSAR Subarra	78.58	338	P	P	17 24 42.6	-0.2
	comp=Z,1.0nm,0.6s,mb3.9,baz=41,slow=5.0						
NB2	NORSAR Subarra	78.58	338	P	P	17 24 42.6	-0.2
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	NORSAR Array B	78.58	338	P	P	17 24 42.9	0.0
	comp=Z,2.4nm,0.8s,mb4.2,baz=40,slow=5.1,SNR=5.4						
QLMT	Earthquake Lak	78.69	44	eP	P	17 24 45.0	+1.2
PDAR	Pinedale Array	80.98	45	P	P	17 24 56.8	+0.6
	comp=Z,0.9nm,0.7s,mb3.8,baz=303,slow=1.9,SNR=7.1						
NEN	Nelson	81.66	53	eP	P	17 25 00.8	+0.9
MSU	Marysvale	81.81	50	eP	P	17 25 02.1	+1.5
SRU	San Rafael	82.52	48	eP	P	17 25 05.2	+1.0
	comp=Z,6.9nm,0.9s,mb4.7						
SRU				e		17 25 29.6	
SRU	San Rafael	82.52	48	eP	P	17 25 05.2	+1.0
SRU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
CLL	Collm	85.23	330	e*PP	pP	17 25 32.0	-3.4
TXAR	Lajitas Array	92.98	52	P	P	17 25 55.9	+1.1
	comp=Z,3.0nm,0.7s,mb4.8,baz=304,slow=3.3,SNR=39						
SBA	Scott Base	110.94	174	ePKPdf	PKPdf	17 31 15.1	+3.1
LPAZ	La Paz	148.82	66	PKPbc	PKPdf	17 32 30.6	+6.8
	comp=Z,1.9nm,0.6s,baz=346,slow=4.0,SNR=13						
PLCA	Paso Flores	153.04	117	PKPbc	PKPdf	17 32 39.1	+10
	comp=Z,1.0nm,0.7s,baz=177,slow=2.5,SNR=3.7						
SIV	San Ignacio	153.90	57	PKPbc	PKPdf	17 32 41.0	+10
SIV				PKPab	PKPab	17 32 54.0	-1.2
	baz=295,slow=6.3						

CSEM ***20*** *17:19:04.4, 37.76N×25.42W, h4km, ML3.1, After PDA*
PDA ***20*** *17:19:04.4±0.4, 37.76N×25.42W, h4km±1km, ML3.1, Error ellipse: s-maj=0.9km s-min=0.7km az=157.0*
SVSA 20 17:19:04.4±0.4**, 37.76N×25.42W, h4**km±1km**, ML3.1, Error ellipse: s-maj=0.9km s-min=0.7km az=157.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	232	i P	Pg	17 19 05.7	+0.5
VIF				eS	Sg	17 19 06.6	+0.8
	6μm,0.2s						
VIF	Vila Franca	0.02	232	eS	Sg	17 19 06.6	+0.8
PCNG	Congro	0.03	61	i P	Pg	17 19 05.6	+0.3
PCNG				eS	Sg	17 19 06.8	+0.9
PCNG	Congro	0.03	61	eS	Sg	17 19 06.8	+0.9
MESC	Monte Escuro	0.04	335	i P	Pg	17 19 06.0	+0.5
MESC				i S	Sg	17 19 07.6	+1.3
MESC	Monte Escuro	0.04	335	i S	Sg	17 19 07.6	+1.3
LFA	Lagoa do Fogo	0.05	290	i P	Pg	17 19 06.2	+0.5
PRCH	Ribeira Ch	0.05	239	i P	Pg	17 19 06.1	+0.4
PRCH				i S	Sg	17 19 07.5	+0.9
	5μm,0.2s						
PRCH	Ribeira Ch	0.05	239	i S	Sg	17 19 07.5	+0.9
FRA1	Furnas	0.05	103	i P	Pg	17 19 06.4	+0.7
PMAT	Coroa da Mata	0.07	328	eP	Pg	17 19 06.4	+0.4
PMAT				eS	Sg	17 19 08.0	+0.9
CML	Cha da Macela	0.10	279	i P	Pg	17 19 08.3	+1.8
CML				eS	Sg	17 19 10.4	+2.5
PFAD	Fenais da Ajud	0.12	43	i P	Pg	17 19 07.4	+0.6
MIRA	Miradouro	0.12	75	i P	Pg	17 19 07.6	+0.7
MIRA				i S	Sg	17 19 09.9	+1.4
FAC	Faja de Cima	0.18	276	eP	Pg	17 19 10.1	+2.0
FAC				eS	Sg	17 19 12.9	+2.3
PSAN	Santo Antonio	0.26	292	eP	Pg	17 19 11.6	+2.0
PFET	Feteiras	0.30	282	eP	Pg	17 19 12.2	+1.8
SET2	Ginetes	0.32	286	eP	Pg	17 19 12.6	+1.8
SET4	Mosteiros	0.32	292	eP	Pg	17 19 12.8	+2.0
PSMN	Pico do Norte,	0.80	159	eS	Sg	17 19 28.5	-2.7

WEL 20 17:21:59.2±0.5**, 39.27S×174.85E, h206**km±3km**, ML3.5**/11**, Error ellipse: s-maj=5.1km s-min=3.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	Wanganui	0.50	168	PN	P	17 22 27.1	-0.2
WAZ				SN	S	17 22 48.4	-0.7
WNVZ	Wahianoa	0.58	96	PN	P	17 22 27.4	-0.2
WNVZ				SN	S	17 22 47.8	-1.8
TUVZ	Tukino	0.62	91	PN	P	17 22 27.4	-0.4
TSZ	Takapari Road	1.17	133	PN	P	17 22 31.1	+0.1
TSZ				SN	S	17 22 55.1	-0.5
BKZ	Black Stump Fm	1.28	86	PN	P	17 22 31.0	-0.9
BKZ				SN	S	17 22 54.8	-2.4
MRZ	Mangatainoka R	1.50	158	PN	P	17 22 33.7	-0.1
MRZ				SN	S	17 22 59.4	-1.1
KIW	Kapiti Island	1.59	178	PN	P	17 22 34.1	-0.6
KIW				SN	S	17 22 59.9	-2.1
DUWZ	D'Urville Isla	1.69	205	PN	P	17 22 34.4	-1.2
PXZ	Pawanui	1.73	117	PN	P	17 22 36.1	+0.2
PXZ				SN	S	17 23 03.8	-0.4
CAW	Cannon Point	1.85	175	PN	P	17 22 36.5	-0.5
CAW				SN	S	17 23 04.8	-1.3
MTW	Mount Morrison	1.96	165	PN	P	17 22 37.5	-0.6
MRW	Makara Radio	1.96	183	PN	P	17 22 37.4	-0.7
MRW				SN	S	17 23 06.1	-2.0
TCW	Tory Channel	1.99	193	PN	P	17 22 37.9	-0.5
URZ	Urewera	2.03	61	PN	P	17 22 36.3	-2.5
NNZ	Nelson	2.25	210	PN	P	17 22 39.2	-2.0
TUWZ	Tuamarina	2.27	198	PN	P	17 22 40.2	-1.2
MWZ	Matawai	2.29	67	PN	P	17 22 39.5	-2.1
QRZ	Quartz Range	2.37	228	PN	P	17 22 39.4	-3.1
DSZ	Denniston Nort	3.40	222	PN	P	17 22 50.8	-3.6
LTZ	Lake Taylor	4.02	208	PN	P	17 22 59.2	-2.8

IDC ***20*** *17:24:15.4±11.0, 24.04S×179.59W, h388km±118km, mb3.1/2, mb1 3.3/3, mb1mx3.1/11, mbtmp4.0/3, Error ellipse: s-maj=69.9km s-min=45.9km az=36.0*
NEIC ***20*** *17:24:27.0±2.1, 24.80S×179.76W, h526km±30km, mb4.0/2, Error ellipse: s-maj=44.9km s-min=34.9km az=174.0*
ISC 20 17:24:22.2±2.3**, 24.1S**±0.2×**179.6W**±0.3**, h500**km**, n8,** σ0^{s}79/7**, mb3.6**/4**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	5.31	164	eP	P	17 25 53.1	+0.3
URZ	Urewera	14.37	191	P	P	17 27 22.5	-3.7
	0.5nm,0.3s,baz=316,slow=11,SNR=3.5						
URZ				S	S	17 29 54.7	+0.1
	0.8nm,0.3s,baz=221,slow=23,SNR=7.7						
CTAO	Charters Tower	31.87	270	eP	P	17 30 07.9	+0.9
	2.8nm,0.4s,mb4.0						
STKA	Stephens Creek	35.00	248	P	P	17 30 33.4	+0.2
	0.7nm,0.4s,mb3.5,baz=85,slow=13,SNR=5.2						
WRAB	Tennant Creek	42.77	266	eP	P	17 31 35.5	-1.0
	1.6nm,0.6s,mb3.6						
WRA	Warramunga Arr	42.78	266	P	P	17 31 36.5	0.0
	0.5nm,0.4s,mb3.3,baz=99,slow=6.9,SNR=15						
AKASG	Malin Array Be	145.38	327	PKPbc	PKPbc	17 43 07.2	+4.1
	0.5nm,0.3s,baz=42,slow=3.9,SNR=8.9						
AKASG	Malin Array Be	145.38	327	PKPbc	PKPbc	17 43 07.2	+4.1

IDC ***20*** *17:31:51.6±1.0, 62.09S×56.87W, mb4.1/6, mb1 4.0/7, mb1mx4.0/17, mbtmp4.0/7, ML3.2/1, MS3.7/10, Ms1 3.7/10, ms1mx3.7/18, Error ellipse: s-maj=50.9km s-min=16.6km az=58.0*
NEIC ***20*** *17:31:53.0±0.6, 62.15S×57.07W, h10km, mb4.4/2, Error ellipse: s-maj=17.4km s-min=11.3km az=62.0*
ISC 20 17:31:51.3±0.6**, 62.14S**±0.08×**57.1W**±0.2**, h10**km**, n24,** σ1^{s}16/14**, mb4.1**/8**, MS3.6**/9**, 1D, South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMSA	Palmer Station	4.08	226	ePn	Pn	17 32 54.0	-1.2
USHA	Ushuaia	9.40	316	Pn	P	17 34 09.2	-0.7
	0.2nm,0.3s,baz=239,slow=11,SNR=2.0						
USHA				LR	LR	17 37 11.5	
	comp=Z,818nm,18.7s,baz=136,slow=34						
VNA3	Neumayer Olymp	20.28	137	e	P	17 36 28.2	-1.2
VNA1	Neumayer--Stat	20.73	135	e	P	17 36 35.4	+1.3
VNA2	Neumayer--Watz	21.01	136	e	P	17 36 37.2	+0.2
SNAA	Sanae	22.46	138	e	P	17 36 51.0	-0.5
SNAA	Sanae	22.46	138	P	P	17 36 51.6	+0.1
	3.7nm,0.8s,mb3.8,baz=275,slow=7.8,SNR=18						
SNAA				LR	LR	17 43 54.6	
	comp=Z,107nm,20.4s,MS3.3,baz=204,slow=32						
PLCA	Paso Flores	22.91	333	P	P	17 36 57.8	+1.7
	3.8nm,0.9s,mb3.8,baz=308,slow=1.8,SNR=5.1						
PLCA				LR	LR	17 44 44.9	
	comp=Z,261nm,19.2s,MS3.7,baz=182,slow=34						
QSPA	South Pole Qui	28.09	180	⇓iP	P	17 37 46.0	+1.6
	9.2nm,1.0s,mb4.4						
CFAA	Coronel Fontan	31.38	342	LR	LR	17 50 34.1	
	comp=Z,18nm,19.8s,MS2.7,baz=37,slow=36						
CPUP	Villa Florida	35.80	360	LR	LR	17 51 40.9	
	comp=Z,56nm,21.7s,MS3.3,baz=141,slow=33						
LVC	Limon Verde	40.31	343	P	P	17 39 31.4	+1.1
	1.9nm,0.6s,mb4.0,baz=248,slow=9.5,SNR=2.9						
LVC				LR	LR	17 57 06.0	
	comp=Z,195nm,20.2s,MS4.0,baz=110,slow=38						
MAW	Mawson	43.51	151	P	P	17 39 56.6	+0.9
	3.1nm,0.8s,mb4.1,baz=225,slow=7.6,SNR=7.5						
MAW				LR	LR	17 57 36.4	
	comp=Z,292nm,19.7s,MS4.2,baz=245,slow=36						
SIV	San Ignacio	46.17	355	P	P	17 40 16.8	-1.0
	1.8nm,0.6s,mb4.2,baz=164,slow=7.9,SNR=13						
LPAZ	La Paz	46.45	345	LR	LR	17 59 01.4	
	comp=Z,123nm,19.4s,MS3.9,baz=77,slow=35						
BDFB	Brasilia	46.88	12	LR	LR	17 57 39.4	
	comp=Z,99nm,19.4s,MS3.8,baz=115,slow=33						
SUR	Sutherland	56.39	97	P	P	17 41 34.2	-0.6
	2.7nm,0.5s,mb4.5,baz=204,slow=10.0,SNR=4.4						
ROSC	El Rosal	68.10	341	LR	LR	18 16 52.3	
	comp=Z,84nm,18.1s,MS4.0,baz=179,slow=40						
LSZ	Lusaka	74.45	93	eP	P	17 43 29.2	-2.0
	2.5nm,0.8s,mb4.2						
ILAR	Eielson Array	142.81	315	PKhKP		17 51 21.7	
	0.8nm,0.6s,baz=150,slow=1.4,SNR=7.6						
ARCES	ARCESS Array B	143.63	36	PKhKP		17 51 22.3	
	5.7nm,1.0s,baz=243,slow=2.7,SNR=7.6						
MKAR	Makanchi Array	152.45	105	PKPbc	PKPdf	17 51 46.5	+4.0
	0.7nm,0.8s,baz=236,slow=4.4,SNR=6.7						
MJAR	Matsushiro Arr	152.65	208	PKPbc	PKPdf	17 51 49.1	+6.1
	1.1nm,0.6s,baz=172,slow=5.0,SNR=4.1						
SONM	Songino Array	162.92	139	PKPab	PKPab	17 52 42.9	-0.9
	0.6nm,0.8s,baz=1.0,slow=0.6,SNR=4.2						

ATH ***20*** *17:41:20.6, 40.73N×23.34E, h15km±1km, MD3.3/4*
THE ***20*** *17:41:20.2, 40.72N×23.34E, h9km, ML3.1*
NEIC ***20*** *17:41:20.0, 40.73N×23.34E, h14km, MD3.3(ATH), After ATH.*
CSEM ***20*** *17:41:20.7±0.1, 40.72N×23.36E, h12km, ML3.1, Error ellipse: s-maj=1.3km s-min=1.1km az=99.0*
SOF ***20*** *17:41:23.1, 40.94N×23.40E, h16km, MD2.8*
ISC 20 17:41:20.1±0.3**, 40.71N**±0.02×**23.33E**±0.03**, h10**km**, n32,** σ1^{s}16/48**, 1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOH	Sokhos	0.11	11	ePg	Pg	17 41 23.3	+0.4
SOH				eSg	Sg	17 41 25.2	+0.3
THE	Thessaloniki	0.28	254	ePg	Pg	17 41 26.4	+0.4
THE				eSg	Sg	17 41 30.8	+0.8
PLG	Polygyros	0.35	165	ePB	Pb	17 41 27.5	-0.3
PLG				eSB	Sb	17 41 32.7	-0.4
SRS	Serrai	0.45	26	ePg	Pg	17 41 29.0	-0.3
KNT	Kendrikon	0.56	324	ePg	Pg	17 41 31.4	+0.1
KNT				eSg	Sg	17 41 38.9	+0.1
OUR	Ouranopolis	0.62	127	ePg	Pg	17 41 32.5	-0.2
GRG	Griva	0.74	290	ePg	Pg	17 41 35.2	+0.2
GRG				eSg	Sg	17 41 45.9	+0.9
GRG	Griva	0.74	290	ePg	Pg	17 41 35.2	+0.2
GRG				eSg	Sg	17 41 45.9	+0.9
NVR	Nevrokopi	0.76	32	ePN	Pn	17 41 34.7	-1.9
PAIG	Paliouri	0.83	161	ePg	Pg	17 41 35.6	-1.1
PAIG				eSg	Sg	17 41 47.4	-0.3
LIT	Litokhoron	0.88	227	ePg	Pg	17 41 38.0	+0.2
LIT				eSg	Sg	17 41 49.9	+0.3
MMB	Musomiste	0.93	19	i P	Pb	17 41 37.0	-0.8
KKB	Krupnik	1.17	351	Pg	Pg	17 41 41.8	-1.7
KZN	Kozani	1.25	252	ePN	Pn	17 41 44.5	+0.9
KZN				eSN	Sn	17 42 02.6	+2.0
XOR	Xorichti	1.35	184	ePg	Pg	17 41 45.5	-1.5
XOR				eSg	Sg	17 42 03.5	-1.4
XOR	Xorichti	1.35	184	ePg	Pg	17 41 45.5	-1.5
XOR				eSg	Sg	17 42 03.5	-1.5
NEO	Neokhori	1.40	183	ePN	Pn	17 41 47.0	+1.2
RZN	Rozhen	1.43	47	P	Pn	17 41 47.0	+0.8
FNA	Florina	1.48	274	ePg	Pg	17 41 48.0	-1.8
FNA				eSg	Sg	17 42 07.4	-2.2
LOS	Limnos	1.55	119	ePg	Pg	17 41 47.3	-3.7
AOS	Alonnisos	1.59	164	ePg	Pg	17 41 48.3	-3.7
LIA	Limnos Island	1.64	119	ePN	Pn	17 41 51.0	+1.9
RDO	Rodhopi	1.73	75	ePN	Pn	17 41 52.1	+1.6
PLD	Plovdiv	1.74	36	P	Pn	17 41 54.5	+3.9
KDZ	Kurdzhali	1.84	59	P	Pn	17 41 52.5	+0.5
AGG	Agios Georgios	1.85	205	ePb	Pb	17 41 53.1	-0.5
AGG				eSb	Sb	17 42 17.6	+0.8
VTS	Vitosha	1.88	357	P	Pn	17 41 53.3	+0.7
SKO	Skopje	1.90	312	ePn	Pn	17 41 55.0	+2.1
PGB	Panagyurishte	1.94	19	P	Pn	17 41 53.0	-0.5
PGB				Pg	Pg	17 41 56.0	-2.9
ALN	Alexandroupoli	2.07	84	ePn	Pn	17 41 55.5	+0.1
ALN				eSn	Sn	17 42 23.0	+1.5
DIM	Dimitrovgrad	2.13	50	P	Pn	17 42 00.0	+3.8
BARS	Barje	2.39	332	⇓iPn	Pn	17 42 04.5	+4.6
BARS				Sn	Sn	17 42 28.3	-1.3

NEIC ***20*** *17:52:44.3, 38.29S×176.10E, h171km, MG4.0(WEL), After WEL.*
WEL 20 17:52:45.9±0.2**, 38.32S×176.13E, h156**km±2km**, ML3.8**/17**, Error ellipse: s-maj=2.2km s-min=2.0km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.78	86	PN	P	17 53 09.4	-0.5
URZ				SN	S	17 53 27.3	-1.0
URZ	Urewera	0.78	86	P	P	17 53 09.4	-0.4
KRVZ	Karewarewa	0.86	206	PN	P	17 53 10.3	-0.1
BKZ	Black Stump Fm	0.89	162	PN	P	17 53 10.7	+0.1
BKZ				SN	S	17 53 28.9	-0.7
BKZ				SN	S	17 53 29.0	-0.6
BKZ	Black Stump Fm	0.89	162	P	P	17 53 10.7	+0.1
WTVZ	West Tongariro	0.90	208	PN	P	17 53 10.6	-0.1
WTVZ	West Tongariro	0.90	208	P	P	17 53 10.6	0.0
OTVZ	Oturere	0.92	203	PN	P	17 53 11.1	+0.3
OTVZ				SN	S	17 53 30.2	+0.3
TWVZ	Taurewa	0.93	215	PN	P	17 53 10.7	-0.1
TWVZ	Taurewa	0.93	215	P	P	17 53 10.7	-0.1
NGZ	Ngauruhoe	0.95	206	PN	P	17 53 10.8	-0.2
NGZ	Ngauruhoe	0.95	206	P	P	17 53 10.8	-0.2
CNZ	Chateau	0.99	207	PN	P	17 53 11.3	0.0
CNZ	Chateau	0.99	207	P	P	17 53 11.3	0.0
WPVZ	Whakapapa	0.99	207	PN	P	17 53 11.4	0.0
WPVZ	Whakapapa	0.99	207	P	P	17 53 11.4	+0.1
TUVZ	Tukino	1.02	201	PN	P	17 53 11.7	+0.2
TUVZ	Tukino	1.02	201	P	P	17 53 11.7	+0.2
FWVZ	Far West T-bar	1.04	206	PN	P	17 53 11.9	+0.2
FWVZ	Far West T-bar	1.04	206	P	P	17 53 11.9	+0.2
TRVZ	Turoa	1.08	205	PN	P	17 53 12.1	+0.1
WNVZ	Wahianoa	1.09	202	PN	P	17 53 12.1	0.0
WNVZ	Wahianoa	1.09	202	P	P	17 53 12.1	-0.1
MWZ	Matawai	1.10	91	PN	P	17 53 12.4	+0.1
MWZ				SN	S	17 53 32.0	-0.7
MWZ	Matawai	1.10	91	P	P	17 53 12.4	+0.1
MOVZ	Moawhango	1.13	195	PN	P	17 53 12.1	-0.5
MOVZ				SN	S	17 53 31.9	-1.1
MOVZ	Moawhango	1.13	195	P	P	17 53 12.1	-0.4
PKVZ	Pokaka	1.15	212	PN	P	17 53 12.3	-0.4
PKVZ				SN	S	17 53 33.2	-0.2
MTVZ	Mangateitei	1.18	206	PN	P	17 53 12.7	-0.3
VRZ	Vera Road	1.34	233	PN	P	17 53 14.1	-0.5
VRZ	Vera Road	1.34	233	P	P	17 53 14.1	-0.5
RAEZ	Rainy Point	1.67	234	PN	P	17 53 17.8	-0.2
RAEZ	Rainy Point	1.67	234	P	P	17 53 17.8	-0.2
WAZ	Wanganui	1.69	211	PN	P	17 53 17.4	-0.8
WAZ	Wanganui	1.69	211	P	P	17 53 17.4	-0.8
PUZ	Puketiti	1.69	82	PN	P	17 53 17.8	-0.5
PUZ				SN	S	17 53 42.0	-1.3
PUZ	Puketiti	1.69	82	eP	P	17 53 17.8	-0.5
TSZ	Takapari Road	1.74	184	PN	P	17 53 18.0	-0.8
TSZ				SN	S	17 53 42.1	-2.1
TSZ	Takapari Road	1.74	184	P	P	17 53 18.0	-0.8
PXZ	Pawanui	1.80	162	PN	P	17 53 19.2	-0.3
PXZ				SN	S	17 53 44.0	-1.4
NEZ	North Egmont	1.85	238	PN	P	17 53 19.7	-0.2
NEZ	North Egmont	1.85	238	P	P	17 53 19.7	-0.3
MXZ	Matakaoa Point	1.88	67	PN	P	17 53 20.1	-0.2
MXZ	Matakaoa Point	1.88	67	eP	P	17 53 20.1	-0.2
PKE	Pukeiti	1.89	242	PN	P	17 53 19.7	-0.7
PKE	Pukeiti	1.89	242	P	P	17 53 19.7	-0.7
BFZ	Birch Farm	2.36	178	PN	P	17 53 24.5	-1.7
BFZ	Birch Farm	2.36	178	eP	P	17 53 24.5	-1.6
MRZ	Mangatainoka R	2.38	190	PN	P	17 53 24.3	-2.1
MRZ	Mangatainoka R	2.38	190	P	P	17 53 24.3	-2.0
KIW	Kapiti Island	2.71	200	PN	P	17 53 27.6	-2.9
KIW	Kapiti Island	2.71	200	P	P	17 53 27.6	-2.9
MTW	Mount Morrison	2.88	189	PN	P	17 53 29.5	-3.1
MTW	Mount Morrison	2.88	189	P	P	17 53 29.5	-3.1
CAW	Cannon Point	2.90	196	PN	P	17 53 29.9	-3.1
CAW	Cannon Point	2.90	196	P	P	17 53 29.9	-3.0
DUWZ	D'Urville Isla	3.01	214	PN	P	17 53 30.9	-3.4
TRWZ	Traveller	3.10	186	PN	P	17 53 32.4	-3.0
PAWZ	Paruwai Farm	3.11	190	PN	P	17 53 32.2	-3.3
MRW	Makara Radio	3.11	200	PN	P	17 53 32.1	-3.5
MRW	Makara Radio	3.11	200	P	P	17 53 32.1	-3.5
WEL	Wellington	3.14	199	PN	P	17 53 32.5	-3.5
WEL	Wellington	3.14	199	P	P	17 53 32.5	-3.5
MSWZ	Moikau Station	3.17	192	PN	P	17 53 32.8	-3.4
MSWZ				SN	S	17 54 09.6	-5.3
MSWZ	Moikau Station	3.17	192	P	P	17 53 32.8	-3.5
MSWZ				S	S	17 54 09.6	-5.3
TCW	Tory Channel	3.22	206	PN	P	17 53 33.5	-3.5
TCW	Tory Channel	3.22	206	P	P	17 53 33.5	-3.5
TUWZ	Tuamarina	3.53	208	PN	P	17 53 36.9	-4.1
NNZ	Nelson	3.59	215	PN	P	17 53 37.4	-4.4

NNZ	**Nelson**	**3.59**	**215**	eP	P	17 53 37.4	-4.3
QRZ	**Quartz Range**	**3.74**	**227**	PN	P	17 53 38.8	-5.0
QRZ	**Quartz Range**	**3.74**	**227**	P	P	17 53 38.8	-5.0
BSWZ	**Blackbirch Sta**	**3.81**	**206**	PN	P	17 53 40.7	-3.8
BSWZ	**Blackbirch Sta**	**3.81**	**206**	P	P	17 53 40.7	-3.9
THZ	**Tophouse**	**4.24**	**215**	PN	P	17 53 45.3	-4.9
THZ	**Tophouse**	**4.24**	**215**	eP	P	17 53 45.3	-4.9
KHZ	**Kahutara**	**4.55**	**205**	PN	P	17 53 49.8	-4.4
KHZ	**Kahutara**	**4.55**	**205**	eP	P	17 53 49.8	-4.5
WVZ	**Waitaha Valley**	**6.27**	**219**	PN	P	17 54 10.0	-7.1

DHMR 20 17:54:22.5±2.7**, 12.63N×40.54E, h5**^{km}±327^{km}**, ML3.8, 2D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.59**	**68**	i S	Sn	17 56 07.9	+4.6
UDYN				AML	AML	17 56 23.8	
	comp=E,416nm,0.6s						
DHBB	**Dhamar BB**	**4.21**	**62**	⇓eP	Pn	17 55 29.9	+1.2
DHBB				i S	Sn	17 56 22.6	+3.6
HAJJ	**Hajjah**	**4.25**	**44**	i S	Sn	17 56 23.4	+3.2
LBOS		**4.75**	**74**	⇓eP	Pn	17 55 34.9	-1.5
LBOS				i S	Sn	17 56 31.5	-1.0
BDHA	**Al Bayda'**	**5.07**	**74**	i S	Sn	17 56 39.4	-1.3

*CSEM **20** 17:55:05.8, 37.76N×25.41W, h5^{km}, ML2.9, After PDA*
*PDA **20** 17:55:05.8±0.6, 37.76N×25.41W, h5^{km}±1^{km}, ML2.9, Error ellipse: s-maj=1.1km s-min=1.0km az=143.0*
SVSA 20 17:55:05.8±0.6**, 37.76N×25.41W, h5**^{km}±1^{km}**, ML2.9, Error ellipse: s-maj=1.1km s-min=1.0km az=143.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**46**	i P	Pg	17 55 07.0	+0.3
PCNG				eS	Sg	17 55 08.3	+1.0
PCNG	**Congro**	**0.01**	**46**	eS	Sg	17 55 08.3	+1.0
VIF	**Vila Franca**	**0.03**	**243**	i P	Pg	17 55 07.2	+0.4
VIF				eS	Sg	17 55 08.6	+1.2
	5μm,0.2s						
VIF	**Vila Franca**	**0.03**	**243**	eS	Sg	17 55 08.6	+1.2
FRA1	**Furnas**	**0.04**	**109**	eP	Pg	17 55 07.6	+0.6
MESC	**Monte Escuro**	**0.05**	**321**	i P	Pg	17 55 07.4	+0.4
MESC				eS	Sg	17 55 09.2	+1.3
MESC	**Monte Escuro**	**0.05**	**321**	eS	Sg	17 55 09.2	+1.3
LFA	**Lagoa do Fogo**	**0.06**	**285**	i P	Pg	17 55 07.8	+0.5
PRCH	**Ribeira Ch**	**0.06**	**243**	i P	Pg	17 55 07.6	+0.3
PRCH				eS	Sg	17 55 09.0	+0.7
	6μm,0.2s						
PRCH	**Ribeira Ch**	**0.06**	**243**	eS	Sg	17 55 09.0	+0.7
PMAT	**Coroa da Mata**	**0.08**	**320**	eP	Pg	17 55 07.8	+0.3
PMAT				eS	Sg	17 55 09.7	+1.0
PFAD	**Fenais da Ajud**	**0.11**	**40**	i P	Pg	17 55 08.5	+0.4
PFAD				eS	Sg	17 55 10.9	+1.3
MIRA	**Miradouro**	**0.11**	**75**	i P	Pg	17 55 08.7	+0.6
MIRA				eS	Sg	17 55 10.7	+1.1
CML	**Cha da Macela**	**0.11**	**277**	eP	Pg	17 55 09.8	+1.7
FAC	**Faja de Cima**	**0.19**	**275**	eP	Pg	17 55 12.0	+2.3
PSAN	**Santo Antonio**	**0.27**	**291**	eP	Pg	17 55 10.6	-0.6
PFET	**Feteiras**	**0.31**	**281**	eP	Pg	17 55 13.4	+1.4
SET2	**Ginetes**	**0.33**	**285**	eP	Pg	17 55 13.9	+1.5
SET4	**Mosteiros**	**0.33**	**291**	eP	Pg	17 55 14.1	+1.7
PSMN	**Pico do Norte,**	**0.80**	**160**	eP	Pg	17 55 19.5	-2.3
PSMN				eS	Sg	17 55 29.6	-2.9

*NEIC **20** 17:57:22.4±3.4, 7.14S×124.53E, h522^{km}±51^{km}, mb3.9/2, Error ellipse: s-maj=48.7km s-min=26.1km az=207.0*
*IDC **20** 17:57:22.8±5.5, 7.13S×124.61E, h526^{km}±78^{km}, mb2.9/2, mb1 3.1/4, mb1mx2.9/13, mbtmp3.9/4, Error ellipse: s-maj=101.8km s-min=27.0km az=52.0*
ISC 20 17:57:19.8±3.4**, 7.0S**±0.2**×124.4E**±0.2**, h498**^{km}±49^{km}**, n6, σ1ˢ10**/8**, mb3.4**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.09**	**174**	P	**P**	**17 59 50.8**	**+0.8**
	1.2nm,0.3s,baz=0.9,slow=9.5,SNR=12						
FITZ				S	**S**	**18 01 49.5**	**-0.6**
	0.1nm,0.3s,baz=190,slow=21,SNR=3.5						
MBWA	**Marble Bar**	**14.76**	**197**	eP	**P**	**18 00 28.4**	**+0.3**
	1.4nm,0.4s						
WRAB	**Tennant Creek**	**16.08**	**144**	eP	**P**	**18 00 41.1**	**-0.1**
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**16.09**	**144**	P	**P**	**18 00 41.1**	**-0.2**
	0.5nm,0.3s,baz=329,slow=9.2,SNR=51						
WRA				S	**S**	**18 03 25.2**	**+1.1**
	0.0nm,0.3s,baz=319,slow=16,SNR=4.6						
STKA	**Stephens Creek**	**29.50**	**149**	P	**P**	**18 02 42.8**	**-1.6**
	1.6nm,0.8s,mb3.5,baz=333,slow=14,SNR=5.7						
MKAR	**Makanchi Array**	**65.29**	**330**	P	**P**	**18 07 13.8**	**+0.3**
	0.5nm,0.5s,mb3.4,baz=125,slow=6.8,SNR=9.8						

WEL 20 18:00:55.4±0.6**, 37.26S×179.85E, h5**^{km}**, ML3.5**/10**, Error ellipse: s-maj=5.6km s-min=4.5km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.27**	**256**	P*	Pb	18 01 18.6	-0.8
MXZ				S*	Sb	18 01 35.2	-0.7
PUZ	**Puketiti**	**1.50**	**237**	PN	Pn	18 01 22.3	-0.8
PUZ				SN	Sn	18 01 42.1	-1.2
MWZ	**Matawai**	**2.13**	**239**	PN	Pn	18 01 30.9	-1.2
MWZ				SN	Sn	18 01 56.4	-2.8
URZ	**Urewera**	**2.39**	**245**	PN	Pn	18 01 35.0	-0.8
URZ				SN	Sn	18 02 04.3	-1.6
KNZ	**Kokohu**	**2.46**	**224**	PN	Pn	18 01 35.1	-1.7
BKZ	**Black Stump Fm**	**3.26**	**233**	PN	Pn	18 01 46.1	-2.1
BKZ				SN	Sn	18 02 24.0	-3.8
KUZ	**Kuaotunu**	**3.35**	**278**	PN	Pn	18 01 47.6	-1.9
CNZ	**Chateau**	**3.90**	**239**	PN	Pn	18 01 55.2	-2.1
WCZ	**Waipu Caves**	**4.63**	**285**	PN	Pn	18 02 06.8	-0.8
MRZ	**Mangatainoka R**	**4.76**	**223**	PN	Pn	18 02 05.2	-4.2

*CSEM **20** 18:04:54.1±1.3, 33.50N×26.24E, h2^{km}, MD3.7, Error ellipse: s-maj=30.8km s-min=6.3km az=130.0*
*NEIC **20** 18:05:12.0, 34.51N×25.48E, h10^{km}, MD3.7(ATH), After ATH.*
ATH 20 18:05:12.0, 34.51N×25.48E, h10^{km}**, MD3.7**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.41**	**26**	ePB	Pb	18 05 20.0	-0.8
NPS	**Neapolis**	**0.76**	**8**	ePB	Pb	18 05 26.2	-0.6
GVD	**Gavdhos**	**1.19**	**286**	eP	Pb	18 05 32.7	-1.5
GVD	**Gavdhos**	**1.19**	**286**	eP	Pb	18 05 32.7	-1.6
VAM	**Vamos**	**1.38**	**311**	ePB	Pb	18 05 38.2	+0.7
SANT	**Santorini**	**1.86**	**359**	ePn	Pn	18 05 44.4	+0.1
SANT				ePg	Pg	18 05 48.8	-0.3
SANT	**Santorini**	**1.86**	**359**	ePn	Pn	18 05 44.4	+0.2
SANT	**Santorini**	**1.86**	**359**	ePg	Pg	18 05 48.8	-0.3

*CSEM **20** 18:08:31.5±0.1, 37.78N×25.37W, h8^{km}, ML2.6, Error ellipse: s-maj=6.8km s-min=3.8km az=1.0*
*PDA **20** 18:08:31.1±0.5, 37.77N×25.43W, h5^{km}±1^{km}, MD1.6, ML2.6, Error ellipse: s-maj=1.3km s-min=1.2km az=88.0*
SVSA 20 18:08:31.1±0.5**, 37.77N×25.43W, h5**^{km}±1^{km}**, MD1.6, ML2.6, Error ellipse: s-maj=1.3km s-min=1.2km az=88.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**205**	eP	Pg	18 08 32.7	+0.5
VIF				eS	Sg	18 08 33.9	+1.0
	5μm,0.2s						
PCNG	**Congro**	**0.03**	**88**	i P	Pg	18 08 32.5	+0.3
PCNG				i S	Sg	18 08 34.0	+1.1
	1μm,0.1s						
MESC	**Monte Escuro**	**0.03**	**331**	i P	Pg	18 08 32.7	+0.5
MESC				i S	Sg	18 08 34.0	+1.0
LFA	**Lagoa do Fogo**	**0.04**	**278**	i P	Pg	18 08 33.1	+0.7
PRCH	**Ribeira Ch**	**0.06**	**228**	eP	Pg	18 08 33.0	+0.4
PRCH				eS	Sg	18 08 34.3	+0.7
	2μm,0.2s						
FRA1	**Furnas**	**0.06**	**112**	eP	Pg	18 08 33.5	+0.9
FRA1				eS	Sg	18 08 34.9	+1.2
PMAT	**Coroa da Mata**	**0.06**	**325**	eP	Pg	18 08 33.1	+0.4
PMAT				eS	Sg	18 08 34.6	+0.9
CML	**Cha da Macela**	**0.09**	**273**	eP	Pg	18 08 35.1	+1.9
CML				eS	Sg	18 08 37.0	+2.4
PFAD	**Fenais da Ajud**	**0.11**	**49**	i P	Pg	18 08 34.0	+0.5
PFAD				i S	Sg	18 08 35.9	+0.8
MIRA	**Miradouro**	**0.12**	**81**	eP	Pg	18 08 34.6	+0.9
MIRA				eS	Sg	18 08 36.9	+1.5
FAC	**Faja de Cima**	**0.18**	**272**	eP	Pg	18 08 37.5	+2.7
PDA	**Ponta Delgada**	**0.19**	**264**	eP	Pg	18 08 35.9	+0.9
PDA				eS	Sg	18 08 38.7	+1.1
PSAN	**Santo Antonio**	**0.25**	**290**	eP	Pg	18 08 38.9	+2.7
PFET	**Feteiras**	**0.29**	**280**	eP	Pg	18 08 38.8	+1.8
SET2	**Ginetes**	**0.31**	**285**	eP	Pg	18 08 39.5	+2.1
SET4	**Mosteiros**	**0.31**	**290**	eP	Pg	18 08 39.9	+2.5

*MOS **20** 18:19:04.2±1.1, 20.90S×175.84W, h33^{km}, mb5.0/6, Error ellipse: s-maj=15.9km s-min=11.0km az=143.2*
*BJI **20** 18:19:16.1, 20.59S×175.67W, h135^{km}, mB5.1, mb4.7*
*NEIC **20** 18:19:17.6±0.2, 20.97S×175.92W, mb5.1/20, Error ellipse: s-maj=7.6km s-min=4.5km az=125.0*
*HRVD **20** 18:19:17.6±0.4, 21.14S×175.54W, h158^{km}±2^{km}, MW5.0/63, Centroid moment Tensor Solution. LP body waves: s28,c37;Mantle waves: s63,c106; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.90±.17; $M_{\theta\theta}$2.24±.21; $M_{\phi\phi}$1.66±.20; $M_{r\theta}$1.09±.18; $M_{\theta\phi}$2.75±.17; $M_{\phi r}$-1.05±.17; Best double couple: $M_0$4.617×10^{16} NP1: ϕ_s27°, δ48°, λ-120°. NP2:ϕ_s249°, δ50°, λ-60°. Principal axes: T 4.717, Plg1°, Azm318°; N -.2, Plg22°, Azm49°; P -4.517, Plg68°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **20** 18:19:17.9±0.6, 20.80S×175.97W, h139^{km}±5^{km}, mb4.5/17, mb1 4.6/17, mb1mx4.6/21, mbtmp4.9/17, MS3.6/2, Ms1 3.6/2, ms1mx3.2/17 Error ellipse: s-maj=18.6km s-min=11.3km az=146.0*
ISC 20 18:19:16.4±0.3**, 21.04S**±0.05**×175.97W**±0.07**, h140**^{km}**, h140**^{km}±1.6^{km}**:pP-P, n207, σ1ˢ02**/95**, mb4.8**/38**, 9C-16D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.14**	**30**	P	**P**	**18 21 02.8**	**-10**
	2.9nm,0.3s,baz=232,slow=18,SNR=4.5						
AFI				S	**S**	**18 22 24.2**	**-19**
	33nm,0.3s,baz=119,slow=22,SNR=7.5						
RAO	**Raoul Island**	**8.36**	**192**	S	**S**	**18 22 47.8**	**-1.0**
	141nm,0.3s,baz=50,slow=23,SNR=9.7						
DZM	**Mont Dzumac**	**16.40**	**263**	eP	**P**	**18 23 05.8**	**+6.1**
DZM	**Mont Dzumac**	**16.40**	**263**	P	**P**	**18 23 05.9**	**+6.2**
	2.2nm,0.3s,baz=83,slow=16,SNR=65						
DZM	**Mont Dzumac**	**16.40**	**263**	eP	**P**	**18 23 05.8**	**+6.1**
NOUC	**Port Laguerre**	**16.53**	**263**	eP	**P**	**18 23 06.9**	**+5.5**
NOUC	**Port Laguerre**	**16.53**	**263**	eP	**P**	**18 23 06.9**	**+5.5**
MWZ	**Matawai**	**18.13**	**197**	PN	**P**	**18 23 20.1**	**-0.1**
MWZ	**Matawai**	**18.13**	**197**	eP	**P**	**18 23 19.6**	**-0.7**
URZ	**Urewera**	**18.17**	**198**	P	**P**	**18 23 19.3**	**-1.4**
	10nm,0.3s,baz=10,slow=4.6,SNR=32						
URZ				S	**S**	**18 26 30.0**	**-5.7**
	8.1nm,0.3s,baz=76,slow=19,SNR=14						
URZ				LR	LR	18 29 07.6	
	comp=Z,107nm,19.4s,baz=38,slow=32						
URZ	**Urewera**	**18.17**	**198**	PN	**P**	**18 23 19.6**	**-1.1**
URZ	**Urewera**	**18.17**	**198**	eP	**P**	**18 23 19.7**	**-1.0**
BKZ	**Black Stump Fm**	**19.19**	**198**	PN	**P**	**18 23 29.5**	**-2.1**
BKZ	**Black Stump Fm**	**19.19**	**198**	eP	**P**	**18 23 29.4**	**-2.2**
CNZ	**Chateau**	**19.51**	**200**	PN	**P**	**18 23 34.0**	**-0.9**
QRZ	**Quartz Range**	**22.01**	**204**	PN	**P**	**18 24 00.0**	**+0.1**
QRZ	**Quartz Range**	**22.01**	**204**	eP	**P**	**18 23 59.9**	**-0.1**
NNZ	**Nelson**	**22.05**	**202**	PN	**P**	**18 23 58.7**	**-1.6**
NNZ	**Nelson**	**22.05**	**202**	eP	**P**	**18 23 58.5**	**-1.8**
THZ	**Tophouse**	**22.70**	**202**	PN	**P**	**18 24 05.3**	**-1.3**
THZ	**Tophouse**	**22.70**	**202**	eP	**P**	**18 24 04.8**	**-1.8**
DSZ	**Denniston Nort**	**23.08**	**204**	PN	**P**	**18 24 10.6**	**+0.3**
DSZ	**Denniston Nort**	**23.08**	**204**	eP	**P**	**18 24 12.1**	**+1.8**
LTZ	**Lake Taylor**	**23.82**	**202**	PN	**P**	**18 24 18.8**	**+1.4**
LTZ	**Lake Taylor**	**23.82**	**202**	eP	**P**	**18 24 19.0**	**+1.6**
TBI	**Tubuai**	**24.64**	**100**	eLR	LR	18 30 42.9	
	616nm,39.8s						
RPZ	**Rata Peaks**	**25.06**	**203**	P	**P**	**18 24 30.8**	**+1.6**
	104nm,0.5s,mb5.6,baz=326,slow=1.6,SNR=60						
RPZ	**Rata Peaks**	**25.06**	**203**	PN	**P**	**18 24 30.2**	**+1.0**
RPZ	**Rata Peaks**	**25.06**	**203**	eP	**P**	**18 24 30.2**	**+1.0**
PPT	**Papeete**	**25.13**	**87**	eLR	LR	18 30 56.9	
	212nm,25.0s						
FOZ	**Fox Glacier**	**25.45**	**205**	PN	**P**	**18 24 32.5**	**-0.3**
FOZ	**Fox Glacier**	**25.45**	**205**	eP	**P**	**18 24 32.5**	**-0.3**
HNR	**Honiara**	**25.91**	**293**	P	**P**	**18 24 35.1**	**-2.2**
	30nm,0.7s,mb5.0,baz=184,slow=13,SNR=2.5						
HNR	**Honiara**	**25.91**	**293**	eP	**P**	**18 24 35.7**	**-1.6**
	49nm,1.0s,mb5.1						
JCZ	**Jackson Bay**	**26.24**	**205**	PN	**P**	**18 24 40.1**	**-0.1**
JCZ	**Jackson Bay**	**26.24**	**205**	eP	**P**	**18 24 40.2**	**+0.1**
ARMA	**Armidale**	**30.56**	**246**	eP	**P**	**18 25 20.7**	**+1.6**
CNB	**Canberra Magne**	**33.52**	**237**	eP	**P**	**18 25 45.6**	**+1.0**
	54nm,1.0s,mb5.2						
CTA	**Charters Tower**	**35.33**	**265**	⇓iP	**P**	**18 26 01.3**	**+1.2**
	27nm,1.0s,mb4.8						
CTA				ePCP	PcP	18 28 28.2	+0.5
CTAO	**Charters Tower**	**35.33**	**265**	⇓iP	**P**	**18 26 01.1**	**+1.0**
	24nm,0.6s,mb5.0						
CTAO				ePcP	PcP	18 28 28.2	+0.5
TOO	**Toolangi**	**37.13**	**235**	⇓iP	**P**	**18 26 15.9**	**+0.8**
	25nm,0.5s,mb5.1						
PMG	**Port Moresby**	**37.32**	**282**	P	**P**	**18 26 17.1**	**+0.2**
	98nm,1.0s,mb5.4,baz=72,slow=5.7,SNR=11						
PMG	**Port Moresby**	**37.32**	**282**	⇓iP	**P**	**18 26 17.7**	**+0.8**
	113nm,1.0s,mb5.5						
TAU	**Tasmania Unive**	**37.60**	**226**	eP	**P**	**18 26 19.7**	**+0.7**
	18nm,0.5s,mb5.0						
RKT	**Rikitea**	**37.96**	**101**	eLR	LR	18 36 53.1	
	193nm,27.0s						
STKA	**Stephens Creek**	**39.28**	**245**	⇓iP	**P**	**18 26 34.0**	**+1.0**
	22nm,0.6s,mb5.0						
STKA				ePCP	PcP	18 28 40.6	+1.0
STKA	**Stephens Creek**	**39.28**	**245**	P	**P**	**18 26 34.0**	**+1.0**
	27nm,0.6s,mb5.1,baz=91,slow=9.1,SNR=91						
STKA				PcP	PcP	18 28 40.3	+0.7
	5.6nm,0.8s,baz=108,slow=4.3,SNR=3.4						
STKA				LR	LR	18 41 10.8	
	comp=Z,133nm,19.1s,baz=31,slow=33						
ASPA	**Alice Springs**	**46.25**	**257**	⇓iP	**P**	**18 27 29.6**	**0.0**
ASPA				ePCP	PcP	18 29 03.1	-0.1
WB2	**Warramunga Arr**	**46.40**	**262**	eP	**P**	**18 27 30.2**	**-0.6**
WB2				ePCP	PcP	18 29 03.7	-0.1
WRAB	**Tennant Creek**	**46.40**	**262**	⇓iP	**P**	**18 27 30.3**	**-0.5**
	87nm,1.0s,mb5.3						
WRAB				ePcP	PcP	18 29 03.6	-0.1
WRA	**Warramunga Arr**	**46.41**	**262**	P	**P**	**18 27 30.3**	**-0.5**
	33nm,0.9s,mb5.0,baz=96,slow=7.8,SNR=240						
WRA				pP	pP	18 28 04.1	+1.5
	8.6nm,0.9s,baz=97,slow=7.5,SNR=3.0						
WRA				PcP	PcP	18 29 03.3	-0.5
	12nm,0.6s,baz=96,slow=3.4,SNR=18						
KAKA	**Kakadu**	**49.89**	**271**	eP	**P**	**18 28 16.0**	**+18**
	58nm,1.3s,mb5.0						
FORT	**Forrest**	**50.83**	**247**	eP	**P**	**18 28 03.9**	**-0.9**
	44nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**54.84**	**262**	eP	**P**	**18 28 34.0**	**-0.6**
	24nm,1.3s,mb4.8						
KLBR	**Kellerberrin**	**59.55**	**245**	eP	**P**	**18 29 06.5**	**-1.1**
	38nm,1.0s,mb5.2						
MBWA	**Marble Bar**	**59.59**	**257**	⇓iP	**P**	**18 29 06.7**	**-1.3**
	16nm,0.6s,mb5.0						
MBWA				ePcP	PcP	18 29 53.4	-0.1
NWAO	**Narrogin (SRO)**	**59.83**	**243**	P	**P**	**18 29 08.8**	**-0.7**
	19nm,0.8s,mb5.0,baz=163,slow=2.1,SNR=4.7						
QSPA	**South Pole Qui**	**69.03**	**180**	⇓iP	**P**	**18 30 09.8**	**+1.5**
	26nm,0.7s,mb5.1						
MIR	**Mirnyy**	**71.31**	**205**	d iP	**P**	**18 30 24.0**	**+1.8**
MIR				pmax	pmax		
	comp=Z,77nm,1.8s,mb5.1						
MJAR	**Matsushiro Arr**	**71.78**	**323**	P	**P**	**18 30 23.9**	**-1.6**
	comp=Z,3.0nm,0.7s,mb4.1,baz=164,slow=5.5,SNR=11						
MTUM	**Tungsten Hills**	**79.32**	**43**	eP	**P**	**18 31 08.0**	**-0.1**
MTUM				epP	pP	18 31 41.9	-1.2
YBH	**Yreka Blue Hor**	**79.54**	**38**	P	**P**	**18 31 08.7**	**-0.5**
	comp=Z,5.1nm,0.7s,mb4.2,baz=165,slow=4.3,SNR=6.0						
NEN	**Nelson**	**80.78**	**46**	eP	**P**	**18 31 15.7**	**-0.3**
MAW	**Mawson**	**81.69**	**199**	⇓iP	**P**	**18 31 21.5**	**+1.4**
	comp=Z,8.2nm,0.6s,mb4.5						
MAW	**Mawson**	**81.69**	**199**	P	**P**	**18 31 21.6**	**+1.5**
	comp=Z,12nm,0.7s,mb4.6,baz=131,slow=6.8,SNR=39						
MDJ	**Mudanjiang**	**82.06**	**324**	P	**P**	**18 31 22.9**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,41nm,4.8s						
MDJ	**Mudanjiang**	**82.06**	**324**	eP	**P**	**18 31 22.9**	**+0.5**
	comp=Z,6.6nm,0.8s,mb4.3						
ARUT	**Antelope Range**	**82.90**	**45**	eP	**P**	**18 31 26.9**	**0.0**
ELK	**Elko**	**83.40**	**42**	P	**P**	**18 31 28.8**	**-0.5**
	comp=Z,6.4nm,1.0s,mb4.3,baz=224,slow=4.5,SNR=17						
ELK				pP	pP	18 32 04.5	-0.2
	comp=Z,3.2nm,0.9s,baz=243,slow=5.8,SNR=4.1						
CN2	**Changchun**	**83.90**	**322**	eP	**P**	**18 31 32.4**	**+0.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
TTA	**Tatalina**	**85.16**	**9**	eP	**P**	**18 31 37.0**	**-0.6**
	comp=Z,49nm,1.5s,mb5.0						
TMUT	**Trail Mountain**	**85.19**	**45**	eP	**P**	**18 31 39.0**	**+0.7**
TMUT				epP	pP	18 32 14.4	+0.6
HVU	**Hansel Valley**	**85.52**	**42**	eP	**P**	**18 31 39.6**	**-0.2**
	comp=Z,15nm,1.3s,mb4.5						
SRU	**San Rafael**	**85.54**	**45**	eP	**P**	**18 31 40.0**	**0.0**
	comp=Z,9.7nm,0.8s,mb4.6						
SRU				epP	pP	18 32 16.4	+0.8
TXAR	**Lajitas Array**	**85.75**	**57**	P	**P**	**18 31 41.6**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.2,baz=225,slow=7.1,SNR=20						
TCUT	**Toone Canyon**	**86.02**	**43**	eP	**P**	**18 31 42.6**	**+0.3**
ANMO	**Albuquerque**	**86.27**	**50**	P	**P**	**18 31 43.1**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.0,baz=248,slow=6.3,SNR=6.5						
ANMO				pP	pP	18 32 18.4	-0.9
	comp=Z,3.2nm,1.0s,baz=228,slow=6.8,SNR=3.0						
SYO	**Syowa Base**	**86.61**	**192**	⇑P	**P**	**18 31 43.6**	**-0.9**
SYO	**Syowa Base**	**86.61**	**192**	⇑P	**P**	**18 31 51.2**	**+6.7**
SNAA	**Sanae**	**87.41**	**178**	e	**P**	**18 31 57.4**	**+9.1**
SNAA	**Sanae**	**87.41**	**178**	⇓iP	**P**	**18 31 48.7**	**+0.4**
SNAA				e		18 31 57.4	
VNA3	**Neumayer Olymp**	**87.47**	**176**	e	**P**	**18 31 57.1**	**+8.5**
VNA3	**Neumayer Olymp**	**87.47**	**176**	⇓iP	**P**	**18 31 49.2**	**+0.6**
VNA3				e		18 31 57.1	
PLCA	**Paso Flores**	**87.52**	**133**	P	**P**	**18 31 50.9**	**+1.4**
	comp=Z,3.8nm,1.0s,mb4.2,baz=272,slow=6.7,SNR=6.2						
DLBC	**Dease Lake**	**87.82**	**22**	P	**P**	**18 31 50.9**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.0,baz=180,slow=20,SNR=3.4						
ENH	**Enshi**	**87.92**	**303**	eP	**P**	**18 31 52.6**	**+0.8**
	comp=Z,50nm,1.4s,mb5.2						
VNA2	**Neumayer--Watz**	**87.93**	**176**	e	**P**	**18 31 59.3**	**+8.5**
VNA2	**Neumayer--Watz**	**87.93**	**176**	⇓iP	**P**	**18 31 52.0**	**+1.2**
VNA2				e		18 31 59.3	
PDAR	**Pinedale Array**	**88.06**	**42**	P	**P**	**18 31 51.2**	**-0.9**
	comp=Z,1.4nm,0.7s,mb3.9,baz=217,slow=1.7,SNR=5.5						
PDAR				pP	pP	18 32 26.1	-1.8
	comp=Z,0.9nm,0.7s,baz=153,slow=3.3,SNR=3.6						
VNA1	**Neumayer--Stat**	**88.15**	**176**	e	**P**	**18 32 01.4**	**+10**
VNA1	**Neumayer--Stat**	**88.15**	**176**	⇓iP	**P**	**18 31 53.1**	**+1.2**
VNA1				e		18 32 01.4	
ILAR	**Eielson Array**	**88.43**	**12**	P	**P**	**18 31 51.9**	**-1.4**
	comp=Z,4.5nm,1.1s,mb4.2,baz=221,slow=5.0,SNR=20						
ILAR				pP	pP	18 32 27.3	-1.8
	comp=Z,2.9nm,1.1s,baz=234,slow=6.1,SNR=3.8						
XAN	**Xi'an**	**89.98**	**307**	P	**P**	**18 32 02.3**	**+1.0**
XAN				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
HHC	**Hu-ho-hao-te**	**91.10**	**314**	⇑P	**P**	**18 32 07.5**	**+1.1**
HHC				AMB	AMB		
	comp=Z,12nm,0.8s,mb5.0						
HHC				AMB	AMB		
	comp=Z,76nm,4.3s						
KMI	**Kunming**	**91.29**	**296**	P	**P**	**18 32 09.3**	**+1.6**
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
INK	**Inuvik**	**94.31**	**15**	P	**P**	**18 32 18.5**	**-1.9**
	comp=Z,1.9nm,0.6s,mb4.4,baz=160,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**112.95**	**313**	PKiKP		18 37 37.2	
	comp=Z,1.4nm,0.6s,baz=145,slow=0.9,SNR=30						
MKAR	**Makanchi Array**	**112.95**	**313**	i PKIKP	PKPdf	18 37 37.1	+0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VOSK	**Vostochnaya**	**120.39**	**320**	PKIKP	PKPdf	18 37 50.6	-0.4
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVA0	**Borovoye Array**	**120.72**	**320**	i PKIKP	PKPdf	18 37 52.0	+0.4
KKAR	**Karatay Array**	**121.07**	**308**	i PKIKP	PKPdf	18 37 52.7	+0.1
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARU	**Arti**	**126.72**	**326**	ePKPdf	PKPdf	18 38 03.5	+0.5
ARU	**Arti**	**126.72**	**326**	ePKIKP	PKPdf	18 38 03.8	+0.8
AB31	**Akbulak array**	**127.79**	**317**	i PKIKP	PKPdf	18 38 05.9	+0.6
AB31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**129.78**	**350**	PKP	PKPdf	18 38 09.1	+0.5
	comp=Z,5.7nm,0.7s,SNR=10						
FINES	**FINESS Array B**	**136.81**	**345**	PKP	PKPdf	18 38 22.7	+0.9
	comp=Z,2.4nm,0.7s,baz=117,slow=4.3,SNR=6.2						
OBN	**Obninsk**	**138.13**	**332**	ePKIKP	PKPdf	18 38 25.3	+0.8
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NB2	**NORSAR Subarra**	**139.72**	**355**	PKPabc	PKPdf	18 38 29.5	+2.3
	comp=Z,3.5nm,0.9s,baz=12,slow=4.1						
NOA	**NORSAR Array B**	**139.72**	**355**	PKP	PKPdf	18 38 27.5	+0.3
	comp=Z,0.9nm,0.6s,baz=14,slow=4.2,SNR=3.9						
MARD	**Mardin**	**144.32**	**305**	i P	PKPbc	18 38 34.4	-1.2
AKASG	**Malin Array Be**	**144.39**	**332**	PKhKP		18 38 34.2	
	comp=Z,12nm,0.6s,baz=42,slow=4.4,SNR=80						
AKASG				pPKP		18 39 12.1	
	comp=Z,4.3nm,0.8s,baz=40,slow=4.2,SNR=2.6						
AKASG	**Malin Array Be**	**144.39**	**332**	PKP	PKPdf	18 38 34.2	-1.5
AKASG				pPKP		18 39 12.1	
KELT	**Kelkit**	**144.51**	**310**	i P	PKPbc	18 38 36.8	+0.8
ELZG	**Elazig**	**145.29**	**308**	i P	PKPdf	18 38 39.5	+1.9
MALT	**Malatya**	**145.77**	**308**	PKPdf	PKPdf	18 38 40.1	+1.7
MALT				i PKPab	PKPab	18 38 41.6	-0.4
SVST	**Sivas**	**146.28**	**311**	i P	PKPdf	18 38 43.5	+4.3
GZT	**Gaziantep**	**146.74**	**307**	i P	PKPdf	18 38 43.0	+3.0
BSEG	**Bad Segeberg**	**146.81**	**353**	ePKPbc	PKPbc	18 38 42.9	+1.6
BOYT	**Boyabat**	**146.96**	**315**	i P	PKPdf	18 38 43.6	+3.4
CTKT	**Corum**	**147.41**	**314**	i P	PKPdf	18 38 44.8	+3.7
COBT	**Iskenderun**	**148.01**	**306**	i P	PKPdf	18 38 46.7	+4.5
CDAG	**Cicekdag**	**148.15**	**312**	i P	PKPdf	18 38 46.0	+3.7
AVNT	**Avonos**	**148.18**	**311**	i P	PKPdf	18 38 47.1	+4.7
OJC	**Ojcow**	**148.33**	**341**	ePKP	PKPdf	18 38 47.1	+4.8
ELDT	**Eldivan**	**148.39**	**314**	i P	PKPdf	18 38 47.1	+4.4
STHS	**Stebnicka Huta**	**148.55**	**338**	ePKP	PKPdf	18 38 48.0	+5.4
STHS				e		18 38 50.5	
KOLS	**Kolonicke sedl**	**148.58**	**337**	ePKP	PKPdf	18 38 47.9	+5.2
BRTR	**Keskin Array B**	**148.61**	**313**	PKPbc	PKPdf	18 38 48.0	+4.9
	comp=Z,8.2nm,0.9s,baz=180,slow=2.5,SNR=3.5						
ASF	**Jabal al Asfar**	**148.71**	**298**	PKPbc	PKPdf	18 38 49.7	+6.3
	comp=Z,20nm,0.9s,baz=341,slow=2.1,SNR=21						
KSP	**Ksiaz**	**148.74**	**345**	ePKP	PKPdf	18 38 48.6	+5.7
NIE	**Niedzica**	**148.86**	**339**	ePKP	PKPdf	18 38 49.6	+6.5
CLZ	**Clausthal**	**148.87**	**352**	ePKPbc	PKPdf	18 38 48.4	+5.3
CLL	**Collm**	**148.99**	**349**	⇑iPKIKP	PKPdf	18 38 44.8	+1.5
	comp=Z,logA/T=0.9						
CLL				i PKP1	PKPdf	18 38 48.8	+5.5
CLL				i PKP2	PKPab	18 38 52.7	-1.6
CLL				e*PPKP		18 39 26.0	
CLL				i *PPKP2		18 39 31.3	
CLL	**Collm**	**148.99**	**349**	⇑iPKP	PKPdf	18 38 44.8	+1.5
CLL				⇓iPKP	PKPdf	18 38 48.8	+5.5
CLL				⇑iPKP	PKPab	18 38 52.7	-1.6
CLL				i pPKP		18 39 31.3	
CLL	**Collm**	**148.99**	**349**	⇑iPKIKP	PKPdf	18 38 44.8	+1.5
CLL				i		18 38 52.7	
CLL				pmax	pmax		
	comp=Z,28nm,0.8s						
ANTO	**Ankara**	**149.11**	**314**	ePKPbc	PKPdf	18 38 50.1	+6.3
UPC	**Upice**	**149.12**	**345**	ePKPdf	PKPdf	18 38 45.0	+1.5
UPC				ePKPbc	PKPdf	18 38 49.4	+5.9
OKC	**Ostrava-Krasne**	**149.16**	**342**	ePKPdf	PKPdf	18 38 43.6	0.0
OKC				ePKPbc	PKPdf	18 38 49.4	+5.8
DPC	**Dobruska-Polom**	**149.18**	**345**	ePKPdf	PKPdf	18 38 44.2	+0.6
DPC				ePKPbc	PKPdf	18 38 49.9	+6.3
DPC				epPKP		18 39 28.6	
BRG	**Berggiesshubel**	**149.23**	**348**	i PKP	PKPdf	18 38 45.5	+1.8
BRG				i		18 38 49.5	
BRG				e		18 38 55.7	
BRG				e		18 39 29.3	
BRG	**Berggiesshubel**	**149.23**	**348**	i PKIKP	PKPdf	18 38 45.5	+1.9
BRG				e		18 38 55.7	
BRG				pmax	pmax		
	comp=Z,23nm,0.9s						
SGKT	**Sivrigoynuk**	**149.25**	**316**	i P	PKPdf	18 38 47.4	+3.4

MORC	**Moravsky Berou**	**149.39**	**343**	*e*PKPdf	PKPdf	18 38 45.4	+1.5
MORC				*e*PKPbc	PKPdf	18 38 50.2	+6.3
PVCC	**Panska Ves**	**149.42**	**347**	*e*PKPdf	PKPdf	18 38 45.4	+1.4
PVCC				*e*PKPbc	PKPdf	18 38 50.2	+6.2
KSDI	**Kefar Szold**	**149.48**	**300**	P	PKPdf	18 38 51.5	+6.9
MEST	**Erdemli**	**149.57**	**307**	*i* P	PKPdf	18 38 47.8	+3.2
LIKS	**Likavka**	**149.57**	**340**	*e*PKP	PKPdf	18 38 51.2	+7.0
KECS	**Kecovo**	**149.60**	**338**	*e*PKP	PKPdf	18 38 50.9	+6.6
KECS				*e*		18 38 56.5	
KECS				*e*		18 39 29.1	
MOX	**Moxa**	**149.86**	**350**	*e*PKP2	PKPab	18 38 50.9	-7.0
MOX				pmax	pmax		
	comp=Z,39nm,1.4s						
HENT	**Hendek**	**149.87**	**317**	*i* P	PKPdf	18 38 49.4	+4.5
MMLI	**Mount Malkishu**	**149.87**	**299**	P	PKPdf	18 38 52.6	+7.4
MKRJ	**Makawir**	**149.89**	**297**	P	PKPdf	18 38 52.5	+7.2
HNTI	**Hanita**	**149.90**	**300**	P	PKPdf	18 38 51.9	+6.6
PRU	**Pruhonice**	**149.94**	**346**	*e*PKPbc	PKPdf	18 38 51.2	+6.5
PRU				*e*pPKP		18 39 29.2	
VRAC	**Vranov**	**150.07**	**343**	*e*PKP	PKPdf	18 38 46.5	+1.5
VRAC				*e*		18 38 51.7	
HAF	**Haifa**	**150.10**	**300**	P	PKPdf	18 38 52.5	+6.9
VYHS	**Vyhne**	**150.15**	**340**	*e*PKP	PKPdf	18 38 51.9	+6.8
VYHS				*e*		18 38 58.5	
VYHS				*e*		18 39 30.9	
MZDA	**Masada**	**150.18**	**297**	P	PKPdf	18 38 53.0	+7.3
OFRI	**'Ofer**	**150.18**	**299**	P	PKPdf	18 38 52.6	+6.9
KOLL	**Kolacno**	**150.21**	**341**	*e*PKP	PKPdf	18 38 52.2	+7.0
KDHN	**Kadinhani**	**150.21**	**312**	*i* P	PKPdf	18 38 54.5	+9.0
SLTI	**Sal'it**	**150.23**	**298**	P	PKPdf	18 38 53.2	+7.4
PSZ	**Piszkesteto**	**150.29**	**338**	*e*PKPbc	PKPdf	18 38 52.1	+6.8
PSZ				*e*PKPab	PKPab	18 38 58.7	-1.0
TREC	**Trest**	**150.37**	**345**	*e*PKPdf	PKPdf	18 38 47.4	+2.0
TREC				*e*PKPbc	PKPdf	18 38 52.3	+6.9
ERMK	**Ermenek**	**150.46**	**308**	*i* P	PKPdf	18 38 52.0	+6.1
ZFRI	**Zfri**	**150.49**	**295**	P	PKPdf	18 38 53.9	+7.7
SMOL	**Smolenice**	**150.56**	**342**	*e*PKP	PKPdf	18 38 53.9	+8.2
ESKT	**Eskisehir**	**150.59**	**315**	*i* P	PKPdf	18 38 52.0	+6.0
PRNI	**Paran**	**150.67**	**295**	P	PKPdf	18 38 54.3	+7.8
TNS	**Taunus Mts**	**150.67**	**354**	*e*PKPbc	PKPdf	18 38 53.1	+7.3
TNS				*e*pPKPbc		18 39 32.6	
CSS	**Prodhromos**	**150.78**	**305**	*e*PKPbc	PKPdf	18 38 53.8	+7.3
EIL	**Elat**	**150.84**	**293**	P	PKPdf	18 38 54.6	+7.8
GRA1	**Grafenberg Arr**	**150.85**	**350**	*e*PKPbc	PKPdf	18 38 53.7	+7.6
GRA1				*e*PKPab	PKPab	18 39 00.9	-1.1
GRF	**Grafenberg Arr**	**150.85**	**350**	*e*PKP	PKPdf	18 38 53.7	+7.6
GRF				*e*PKP	PKPdf	18 39 00.9	+15
GRF	**Grafenberg Arr**	**150.85**	**350**	*e*PKIKP	PKPdf	18 39 00.9	+15
MBH	**Mount Berech**	**150.85**	**294**	P	PKPdf	18 38 54.7	+7.9
KHC	**Kasperske Hory**	**150.96**	**347**	*e*PKPdf	PKPdf	18 38 47.5	+1.2
KHC				*e*PKPbc	PKPdf	18 38 53.0	+6.7
KHC				*e*pPKP		18 39 30.0	
GIVF	**Givet**	**151.00**	**359**	*e*PKP1	PKPdf	18 38 53.5	+7.2
	comp=Z,50nm,0.9s						
BAIF	**Baives**	**151.04**	**360**	*e*PKP1	PKPdf	18 38 53.8	+7.4
	comp=Z,40nm,1.0s						
KZIT	**Kziot**	**151.07**	**296**	P	PKPdf	18 38 55.0	+7.9
WET	**Wettzell**	**151.09**	**348**	*e*PKPbc	PKPdf	18 38 54.3	+7.8
GEC2	**GERESS Array S**	**151.20**	**347**	*e*PKPbc	PKPdf	18 38 54.3	+7.6
GERES	**GERESS Array B**	**151.20**	**347**	PKP	PKPdf	18 38 47.6	+0.9
	comp=Z,0.9nm,0.9s,baz=315,slow=1.9,SNR=7.2						
GERES				PKPbc	PKPdf	18 38 54.2	+7.6
	comp=Z,10nm,1.0s,baz=27,slow=2.1,SNR=37						
GERES				pPKP		18 39 23.9	
	comp=Z,0.2nm,0.4s,baz=282,slow=37,SNR=1.5						
GERES				pPKPbc		18 39 31.9	
	comp=Z,1.9nm,0.9s,slow=1.3,SNR=2.4						
ULDT	**Uludag**	**151.36**	**317**	*i* P	PKPdf	18 38 53.9	+6.7
WLF	**Walferdange**	**151.39**	**357**	*e*PKPbc	PKPdf	18 38 54.9	+8.0
WLF				*e*PKPab	PKPab	18 39 03.0	-1.3
TKTP	**Tekketepe**	**151.68**	**313**	*i* P	PKPdf	18 38 54.7	+6.9
FLN	**La Foliniere**	**152.11**	**6**	*e*PKP1	PKPdf	18 38 55.6	+7.6
	comp=Z,38nm,1.0s						
ROSF	**Rostrenen**	**152.14**	**10**	*e*PKP1	PKPdf	18 38 56.2	+8.1
LDF	**La Druitiere**	**152.31**	**6**	*e*PKP1	PKPdf	18 38 55.9	+7.6
SGMF	**Saint Gilles**	**152.34**	**10**	*e*PKP1	PKPdf	18 38 55.9	+7.5
	comp=Z,26nm,1.0s						
GRR	**Gorron**	**152.44**	**7**	*e*PKP1	PKPdf	18 38 56.5	+8.0
	comp=Z,18nm,0.7s						
BFO	**Black Forest**	**152.56**	**354**	*e*PKPbc	PKPdf	18 38 56.9	+8.2
BFO				*e*PKPab	PKPab	18 39 07.9	-1.3
BFO	**Black Forest**	**152.56**	**354**	*e*PKIKP	PKPab	18 39 07.9	-1.3
CDF	**Champ du Feu**	**152.57**	**355**	*e*PKP1	PKPdf	18 38 57.1	+8.4
MEZF	**Maizieres J'vi**	**152.59**	**359**	*e*PKP1	PKPdf	18 38 57.3	+8.6
HAU	**Haudompre**	**153.04**	**357**	*e*PKP1	PKPdf	18 38 58.0	+8.6
	comp=Z,12nm,0.8s						
MOTA	**Moosalm**	**153.14**	**349⇑**	*i*P	PKPdf	18 38 51.1	+1.6
HINF	**Hinteralfeld**	**153.19**	**356**	*e*PKP1	PKPdf	18 38 58.2	+8.6
	comp=Z,6.2nm,0.7s						
DAVA	**Damuels**	**153.39**	**351⇑**	*i*P	PKPdf	18 38 59.7	+10
LOR	**Lormes**	**153.84**	**0**	*e*PKP1	PKPdf	18 38 59.9	+9.4
SSF	**Saint Saulge**	**154.04**	**1**	*e*PKP1	PKPdf	18 39 00.3	+10
	comp=Z,24nm,1.1s						
MFF	**Saint Martin d**	**154.28**	**7**	*e*PKP1	PKPdf	18 39 00.5	+9.4
AVF	**Avril sur Loir**	**154.31**	**1**	*e*PKP1	PKPdf	18 39 01.5	+10
CABF	**La Chapelle**	**154.44**	**357**	*e*PKP1	PKPdf	18 39 00.7	+9.4
	comp=Z,17nm,1.0s						
SMF	**Signal de Mont**	**154.46**	**0**	*e*PKP1	PKPdf	18 39 02.1	+11
TCF	**Toulx Ste Croi**	**154.78**	**3**	*e*PKP1	PKPdf	18 39 01.5	+10
	comp=Z,19nm,1.2s						
ESDC	**Sonseca Array**	**160.21**	**18**	PKP	PKPdf	18 39 00.7	+1.9
	comp=Z,0.2nm,0.4s,baz=18,slow=4.7,SNR=4.3						
ESDC				PKPab	PKPab	18 39 41.2	-1.0
	comp=Z,0.8nm,0.5s,baz=314,slow=3.2,SNR=6.5						

SVSA 20 18:26:06.9±0.7, 37.76N×25.41W, h4km±1km, MD3.7, ML2.4, Error ellipse: s-maj=1.1km s-min=1.1km az=178.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**44**	*i* P	Pg	18 26 08.2	+0.5
PCNG				*i* S	Sg	18 26 09.6	+1.3
	3µm,0.2s						
VIF	**Vila Franca**	**0.03**	**244**	*e*P	Pg	18 26 08.3	+0.4
VIF				*e*S	Sg	18 26 09.7	+1.2
	3µm,0.2s						
FRA1	**Furnas**	**0.04**	**109**	*i* P	Pg	18 26 08.7	+0.6
FRA1				*i* S	Sg	18 26 09.9	+1.1
MESC	**Monte Escuro**	**0.05**	**320**	*i* P	Pg	18 26 08.6	+0.5
MESC				*i* S	Sg	18 26 10.3	+1.4
LFA	**Lagoa do Fogo**	**0.06**	**285**	*i* P	Pg	18 26 08.9	+0.5
PRCH	**Ribeira Ch**	**0.06**	**243**	*e*P	Pg	18 26 08.6	+0.2
PRCH				*i* S	Sg	18 26 10.2	+0.8
	3µm,0.3s						
PMAT	**Coroa da Mata**	**0.08**	**320**	*e*P	Pg	18 26 09.0	+0.4
PMAT				*i* S	Sg	18 26 10.5	+0.7
MIRA	**Miradouro**	**0.11**	**74**	*i* P	Pg	18 26 09.8	+0.6
MIRA				*e*S	Sg	18 26 12.2	+1.5
PFAD	**Fenais da Ajud**	**0.11**	**39**	*i* P	Pg	18 26 09.6	+0.5
PFAD				*i* S	Sg	18 26 11.8	+1.1
CML	**Cha da Macela**	**0.11**	**277**	*e*P	Pg	18 26 10.9	+1.7
FAC	**Faja de Cima**	**0.19**	**275**	*e*P	Pg	18 26 12.4	+1.6
PDA	**Ponta Delgada**	**0.20**	**267**	*e*P	Pg	18 26 11.5	+0.5
PDA				*e*S	Sg	18 26 14.9	+1.1
PSAN	**Santo Antonio**	**0.27**	**291**	*e*P	Pg	18 26 14.2	+1.9
PFET	**Feteiras**	**0.31**	**281**	*e*P	Pg	18 26 14.8	+1.7
SET2	**Ginetes**	**0.33**	**285**	*e*P	Pg	18 26 15.0	+1.5
SET4	**Mosteiros**	**0.33**	**291**	*e*P	Pg	18 26 15.9	+2.3
PSMN	**Pico do Norte,**	**0.80**	**160**	*e*P	Pg	18 26 20.3	-2.6
PSMN				*e*S	Sg	18 26 30.8	-2.8

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*DHMR **20** 18:38:15.6±0.4, 12.56N×40.62E, h11km±45km, ML4.1*
*CSEM **20** 18:38:22.5±0.3, 12.40N×40.96E, h2km, mb4.5/7, Error ellipse: s-maj=11.0km s-min=3.0km az=165.0*
*IDC **20** 18:38:26.5±6.1, 12.52N×40.48E, mb3.9/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.9/7, ML3.5/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/16, Error ellipse: s-maj=124.8km s-min=36.2km az=22.0*
*NEIC **20** 18:38:28.1±1.2, 12.57N×40.60E, h10km, mb4.4/8, Error ellipse: s-maj=24.1km s-min=12.7km az=170.0*
ISC 20 18:38:26.0±1.1, 12.7N±0.1×40.89E±0.04, h10km, n32, σ1ˢ05/35, mb4.2/14, MS3.6/2, 5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.26**	**66⇓**	*e*P	**Pn**	**18 39 13.7**	**-4.5**
UDYN				*i* S	**Sn**	**18 39 58.6**	**+1.1**
UDYN				AML	AML	18 40 30.1	
	comp=Z,897nm,0.7s						
DHBB	**Dhamar BB**	**3.89**	**61⇓**	*e*P	**Pn**	**18 39 22.0**	**-5.2**
DHBB				*i* S	**Sn**	**18 40 13.6**	**+0.2**
HAJJ	**Hajjah**	**3.99**	**41⇓**	*e*P	**Pn**	**18 39 22.6**	**-6.0**
HAJJ				*i* S	**Sn**	**18 40 15.2**	**-0.8**
LBOS		**4.41**	**74⇓**	*e*P	**Pn**	**18 39 28.8**	**-5.7**
LBOS				*i* S	**Sn**	**18 40 26.0**	**-0.6**
BDHA	**Al Bayda'**	**4.73**	**74⇓**	*e*P	**Pn**	**18 39 33.0**	**-6.1**
BDHA				*i* S	**Sn**	**18 40 33.5**	**-1.2**
ASF	**Jabal al Asfar**	**19.75**	**350**	P	**P**	**18 42 58.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=208,slow=16,SNR=2.6						
MALT	**Malatya**	**25.63**	**356**	P	**P**	**18 43 54.9**	**-2.4**
	comp=Z,6.0nm,1.1s,mb4.0						
GNI	**Garni**	**27.58**	**6**	LR	LR	18 55 37.9	
	comp=Z,92nm,19.7s,MS3.4,baz=333,slow=37						
BRTR	**Keskin Array B**	**27.70**	**348**	P	**P**	**18 44 17.1**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.4,baz=281,slow=18,SNR=2.8						
BRTR	**Keskin Array B**	**27.70**	**348**	P	**P**	**18 44 17.0**	**+0.7**
AKASG	**Malin Array Be**	**39.10**	**348**	P	**P**	**18 45 56.0**	**+1.0**
	comp=Z,1.6nm,0.8s,mb3.8,baz=170,slow=6.9,SNR=6.8						
AKASG	**Malin Array Be**	**39.10**	**348**	P	**P**	**18 45 56.0**	**+0.9**
PGF	**Pioggiola**	**40.60**	**323**	*e*P	**P**	**18 46 07.3**	**-0.3**
GERES	**GERESS Array B**	**42.51**	**333**	P	**P**	**18 46 23.3**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=143,slow=6.7,SNR=11						
MBDF	**Montbardon**	**43.21**	**324**	*e*P	**P**	**18 46 29.5**	**+0.6**
	comp=Z,9.6nm,0.8s,mb4.3						
LPG	**La Plagne**	**43.69**	**325**	*e*P	**P**	**18 46 33.4**	**+0.6**
LPL	**La Plagne**	**43.71**	**325**	*e*P	**P**	**18 46 33.7**	**+0.7**
ORIF	**Oris-en-Rattie**	**43.83**	**324**	*e*P	**P**	**18 46 34.6**	**+0.6**
	comp=Z,15nm,1.0s,mb4.4						
CABF	**La Chapelle**	**44.73**	**326**	*e*P	**P**	**18 46 40.6**	**-0.7**
	comp=Z,24nm,1.1s,mb4.6						
MTLF	**Montolieu**	**45.17**	**320**	*e*P	**P**	**18 46 44.5**	**-0.3**
CDF	**Champ du Feu**	**45.24**	**329**	*e*P	**P**	**18 46 45.2**	**-0.1**
DBIC	**Dimbokro**	**45.44**	**267**	*e*P	**P**	**18 46 45.0**	**-2.3**
	comp=Z,5.4nm,0.9s,mb4.4						
DBIC	**Dimbokro**	**45.44**	**267**	*e*P	**P**	**18 46 45.0**	**-2.3**
	comp=Z,5.4nm,0.9s,mb4.4						
LOR	**Lormes**	**46.35**	**325**	*e*P	**P**	**18 46 53.8**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.1						
SSF	**Saint Saulge**	**46.43**	**325**	*e*P	**P**	**18 46 54.2**	**-0.5**
BVAR	**Borovoye Array**	**46.62**	**24**	P	**P**	**18 46 59.6**	**+3.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=250,slow=43,SNR=5.0						
ETSF	**Etsaut**	**46.73**	**318**	*e*P	**P**	**18 46 56.9**	**-0.2**
	comp=Z,58nm,1.7s,mb4.9						
MKAR	**Makanchi Array**	**48.59**	**37**	P	**P**	**18 47 13.9**	**+2.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=239,slow=7.1,SNR=11						
KURK	**Kurchatov**	**48.78**	**31**	*e*P	**P**	**18 47 13.1**	**+0.1**
	comp=Z,4.4nm,1.1s,mb4.4						
KURK	**Kurchatov**	**48.78**	**31**	*e*P	**P**	**18 47 13.1**	**+0.1**
	comp=Z,4.4nm,1.1s,mb4.4						
ZAL	**Zalesovo**	**53.73**	**31**	LR	LR	19 14 43.3	
	comp=Z,71nm,18.0s,MS3.8,baz=142,slow=40						
SONM	**Songino Array**	**64.30**	**43**	P	**P**	**18 49 06.4**	**+2.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=261,slow=5.3,SNR=9.5						

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*SSNC **20** 18:42:52.9±0.3, 20.13N×70.25W, h5km, MD3.8, ML2.3*
*RSPR **20** 18:42:57.7, 19.28N×68.81W, h136km±7km, MD4.3/11, MD4.3/11*
*NEIC **20** 18:42:57.7, 19.28N×68.81W, h136km, MD4.3(RSPR), After RSPR.*
ISC 20 18:42:55.3±0.8, 19.4N±0.1×68.92W±0.06, h129km±17km, n13, σ0ˢ73/24, 11C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.92**	**117⇑**	*e*P	**P**	**18 43 29.6**	**+0.9**
AGPR				*e*S	**S**	**18 43 53.8**	**-0.3**
MPR	**Mayaguez**	**2.03**	**124⇑**	*e*P	**P**	**18 43 30.1**	**0.0**
MPR				*e*S	**S**	**18 43 57.1**	**+0.7**
LSP	**Las Mesas**	**2.09**	**124⇑**	*e*P	**P**	**18 43 31.0**	**+0.1**
MGP	**Maguayo**	**2.19**	**127⇑**	*e*P	**P**	**18 43 32.5**	**+0.4**
MGP				*e*S	**S**	**18 44 00.3**	**+0.3**
SJG	**San Juan**	**2.90**	**115⇑**	*e*P	**P**	**18 43 41.5**	**0.0**
SJG				*e*S	**S**	**18 44 15.7**	**-0.7**
SJG	**San Juan**	**2.90**	**115⇑**	*e*P	**P**	**18 43 42.1**	**+0.6**
SJG				*e*S	**S**	**18 44 16.2**	**-0.3**
CBYP	**Canovanas**	**3.09**	**110⇑**	*e*P	**P**	**18 43 44.9**	**+0.9**
CBYP				*e*S	**S**	**18 44 19.9**	**-1.1**
CPD	**Cerro la Pandu**	**3.13**	**114⇑**	*e*P	**P**	**18 43 44.5**	**0.0**
CPD				*e*S	**S**	**18 44 21.5**	**-0.4**
HUMP	**Col San Antoni**	**3.15**	**112⇑**	*e*P	**P**	**18 43 45.5**	**+0.8**
HUMP				*e*S	**S**	**18 44 22.0**	**-0.3**
MTP	**Monte Pirata**	**3.42**	**111⇑**	*e*P	**P**	**18 43 48.6**	**+0.3**
MTP				*e*S	**S**	**18 44 28.1**	**-0.7**
TBVI	**Tortola**	**4.19**	**102⇑**	*e*P	**P**	**18 44 00.3**	**+1.7**
TBVI				*e*S	**S**	**18 44 45.5**	**-1.6**
MASC	**Masc**	**5.07**	**280**	*e*PG	**P**	**18 44 10.2**	**-0.2**
	baz=90						
MASC				*e*SG	**S**	**18 45 07.4**	**-0.9**
	comp=N,2.6nm,1.3s						
	comp=E,4.1nm,0.1s						
SDV	**Santo Domingo**	**10.53**	**189**	*e*P	**P**	**18 45 23.5**	**-0.3**

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*BJI **20** 19:01:08.2, 6.50S×153.80E, h74km, mb4.8*
*NEIC **20** 19:01:08.3±1.4, 6.51S×153.76E, h75km±13km, mb4.3/5, Error ellipse: s-maj=13.3km s-min=9.3km az=170.0*
*IDC **20** 19:01:08.5±3.0, 6.55S×153.72E, h76km±28km, mb4.1/9, mb1 4.2/13, mb1mx4.1/17, mbtmp4.4/13, MS3.1/1, Ms1 3.1/1, ms1mx2.7/18, Error ellipse: s-maj=23.0km s-min=17.2km az=172.0*
ISC 20 19:01:06.5±1.8, 6.49S±0.10×153.85E±0.07, h73km±17km, n28, σ1ˢ04/31, mb4.1/13, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.71**	**116**	P	**P**	**19 02 44.1**	**-0.3**
	3.1nm,0.3s,baz=236,slow=3.6,SNR=3.4						
HNR				S	**S**	**19 04 08.1**	**+8.0**
	3.9nm,0.3s,baz=176,slow=13,SNR=2.6						
HNR	**Honiara**	**6.71**	**116**	*e*Pn	**P**	**19 02 44.3**	**-0.1**
	58nm,0.9s						
HNR				*e*S	**S**	**19 04 06.3**	**+6.2**
PMG	**Port Moresby**	**7.23**	**246**	P	**P**	**19 02 51.6**	**0.0**
	14nm,0.3s,baz=54,slow=9.1,SNR=54						
PMG				S	**S**	**19 04 15.7**	**+2.7**
	2.8nm,0.3s,baz=280,slow=16,SNR=2.7						
PMG				LR	LR	19 05 41.4	
	comp=Z,125nm,18.6s,baz=245,slow=38						
PMG	**Port Moresby**	**7.23**	**246**	*e*Pn	**P**	**19 02 50.3**	**-1.4**
PMG				*e*S	**S**	**19 04 15.5**	**+2.5**
CTA	**Charters Tower**	**15.40**	**208**	*e*P	**P**	**19 04 41.8**	**+0.9**
	4.8nm,0.7s						
CTA	**Charters Tower**	**15.40**	**208**	P	**P**	**19 04 41.1**	**+0.2**
	0.4nm,0.3s,baz=41,slow=13,SNR=8.7						
CTAO	**Charters Tower**	**15.40**	**208**	*e*P	**P**	**19 04 41.5**	**+0.6**
CTAO				*i*		19 04 45.1	
DZM	**Mont Dzumac**	**19.70**	**143**	P	**P**	**19 05 32.2**	**-0.4**
	0.5nm,0.3s,baz=309,slow=8.6,SNR=3.6						
KAKA	**Kakadu**	**21.99**	**252**	*e*P	Px	19 06 15.7	
	8.7nm,0.6s						
WRAB	**Tennant Creek**	**23.18**	**233**	*e*P	**P**	**19 06 07.8**	**+0.2**
	7.7nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**23.18**	**233⇑**	*i*P	**P**	**19 06 07.9**	**+0.3**
WRA	**Warramunga Arr**	**23.19**	**233**	P	**P**	**19 06 07.4**	**-0.3**
	5.8nm,0.8s,mb4.0,baz=58,slow=9.8,SNR=35						
WRA				PcP	PcP	19 09 54.5	-1.1
	0.4nm,0.8s,baz=45,slow=2.4,SNR=4.8						
STKA	**Stephens Creek**	**27.74**	**203**	P	**P**	**19 06 47.9**	**-2.5**
	1.3nm,0.5s,mb3.7,baz=338,slow=4.9,SNR=3.7						
STKA	**Stephens Creek**	**27.74**	**203**	P	**P**	**19 06 47.9**	**-2.5**
FITZ	**Fitzroy Crossi**	**29.83**	**245**	*e*P	**P**	**19 07 07.9**	**-1.3**
	18nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**29.83**	**245**	P	**P**	**19 07 07.7**	**-1.5**
	32nm,0.8s,mb5.0,baz=93,slow=3.5,SNR=38						
AFI	**Afiamalu**	**34.59**	**105**	P	**P**	**19 07 51.7**	**+1.0**
	14nm,0.8s,mb4.8,baz=293,slow=13,SNR=2.2						
WHN	**Wuhan**	**52.79**	**316**	*e*P	**P**	**19 10 16.5**	**-0.2**
XAN	**Xi'an**	**58.55**	**317**	P	**P**	**19 10 57.5**	**-0.6**
GTA	**Gaotai**	**67.59**	**317**	*e*P	**P**	**19 11 58.5**	**+0.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**68.30**	**328**	P	**P**	**19 12 00.1**	**-1.8**
	comp=Z,0.7nm,0.5s,mb3.8,baz=143,slow=6.4,SNR=4.4						
MKAR	**Makanchi Array**	**82.27**	**319**	P	**P**	**19 13 21.7**	**+0.2**
	comp=Z,1.9nm,1.0s,mb3.9,baz=100,slow=7.4,SNR=9.8						
MKAR	**Makanchi Array**	**82.27**	**319**	P	**P**	**19 13 21.7**	**+0.2**
ZAL	**Zalesovo**	**83.13**	**326**	P	**P**	**19 13 25.7**	**0.0**
	comp=Z,0.9nm,0.3s,mb4.1,baz=331,slow=8.2,SNR=3.4						
ILAR	**Eielson Array**	**83.32**	**22**	P	**P**	**19 13 29.0**	**+2.6**
	comp=Z,1.3nm,0.8s,mb3.8,baz=232,slow=4.6,SNR=6.3						
QSPA	**South Pole Qui**	**83.49**	**180**	*e*P	**P**	**19 13 27.3**	**+0.3**
	comp=Z,4.4nm,0.7s,mb4.4						
MAW	**Mawson**	**84.43**	**203**	P	**P**	**19 13 32.5**	**+0.6**
	comp=Z,1.7nm,0.7s,mb4.0,baz=97,slow=9.5,SNR=5.8						
KURK	**Kurchatov**	**85.73**	**322**	*e*P	**P**	**19 13 38.6**	**-0.1**
	comp=Z,2.9nm,1.2s,mb4.1						

IDC 20 19:08:45.4±18.0, 18.23S×178.30W, h501km±170km, mb3.3/4, mb1 3.5/4, mb1mx3.1/14, mbtmp4.3/4, Error ellipse: s-maj=119.1km s-min=78.2km az=102.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.50**	**261**	*e*P	P	19 14 43.4	-0.4
	3.6nm,0.7s						
CTA	**Charters Tower**	**33.50**	**261**	P	P	19 14 42.9	-0.9
	3.1nm,0.5s,baz=80,slow=11,SNR=7.9						
STKA	**Stephens Creek**	**38.56**	**242**	P	P	19 15 24.7	-0.9
	1.2nm,0.3s,baz=85,slow=11,SNR=10						
WB2	**Warramunga Arr**	**44.66**	**260**	*e*P	P	19 16 12.5	-1.9
WRA	**Warramunga Arr**	**44.67**	**260**	P	P	19 16 12.6	-1.9
	0.8nm,0.4s,baz=97,slow=6.5,SNR=48						
WRA				PcP	PcP	19 17 44.8	-2.1
	0.2nm,0.3s,baz=90,slow=3.8,SNR=5.5						
ASPA	**Alice Springs**	**44.81**	**255**	*e*P	P	19 16 14.4	-1.1
KAKA	**Kakadu**	**47.68**	**269**	*e*P	P	19 16 55.8	+18
	5.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.08**	**261**	P	P	19 17 16.0	-1.4
	3.1nm,0.8s,baz=175,slow=11,SNR=6.7						
GERES	**GERESS Array B**	**147.95**	**345**	PKPbc	PKPdf	19 27 33.5	+4.1
	0.4nm,0.6s,slow=2.7,SNR=5.6						

CASC 20 19:16:01.3±2.9, 12.34N×87.76W, h35km±22km, MD3.6, ML3.5, 5C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.78**	**63⇑**	*e*P	P	19 16 16.5	+0.7
CRIN				*e*S	S	19 16 28.1	+1.5
TEL3	**Telica 3**	**0.93**	**75⇑**	*e*P	P	19 16 17.6	-0.3
CNCH	**Conchagua**	**0.94**	**356⇓**	*e*P	P	19 16 28.4	+10
CNCH				*e*S	S	19 16 42.8	+12
TELN	**Telica**	**0.95**	**74⇑**	*e*P	P	19 16 18.1	-0.1
TELN				*e*S	S	19 16 31.9	+1.2
MIRN	**Miramar**	**1.03**	**84⇑**	*e*P	P	19 16 19.3	-0.2
MIRN				*e*S	S	19 16 32.3	-0.6
CNGN	**Cerro Negro**	**1.05**	**81⇓**	*e*P	P	19 16 19.4	-0.3
CNGN				*e*S	S	19 16 34.1	+0.7
COPN	**Copaltepe**	**1.15**	**98⇓**	*e*P	P	19 16 21.0	-0.2
COPN				*e*S	S	19 16 35.7	-0.3
BLLM	**Bellamira**	**1.19**	**337⇑**	*e*P	P	19 16 32.3	+11
BLLM				*e*S	S	19 16 50.5	+14
MOMJ	**Momotombo**	**1.20**	**87⇓**	*e*P	P	19 16 21.5	-0.3
MOMJ				*e*S	S	19 16 36.9	-0.2
MGAN	**Managua**	**1.49**	**97**	*e*P	P	19 16 25.7	-0.3
MGAN				*e*S	S	19 16 44.7	+0.1
MGAN				*i*		19 16 45.5	
	comp=E,640nm,0.3s						
WILN	**Americas 2**	**1.55**	**96**	*e*S	S	19 16 46.3	+0.4
SNVI	**San Vicente**	**1.65**	**320**	*e*P	P	19 16 37.8	+10
SNVI				*e*S	S	19 16 57.3	+8.8
PYTN	**Playitas**	**1.68**	**83**	*e*P	P	19 16 28.0	-0.7
LCBS	**La Ceiba**	**1.77**	**318⇓**	*e*P	P	19 16 39.6	+10
LCBS				*e*S	S	19 16 59.9	+8.5
LFRS	**El Faro**	**1.80**	**315⇓**	*e*P	P	19 16 39.8	+9.4
LFRS				*e*S	S	19 17 00.7	+8.4
BOQS	**Boqueron**	**2.03**	**313**	*e*P	P	19 16 44.2	+10
BOQS				*e*S	S	19 17 07.6	+9.5

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*CSEM **20** 19:32:03.9, 37.76N×25.42W, h3km, ML3.0, After PDA*
*PDA **20** 19:32:03.9±0.7, 37.76N×25.42W, h3km, MD3.0, ML3.0, Error ellipse: s-maj=1.2km s-min=1.0km az=64.0*
SVSA 20 19:32:03.9±0.7, 37.76N×25.42W, h3km, MD3.0, ML3.0, Error ellipse: s-maj=1.2km s-min=1.0km az=64.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**79**	*i* P	Pg	19 32 05.1	+0.5
PCNG				*e*S	Sg	19 32 05.7	+0.6
PCNG	**Congro**	**0.02**	**79**	*e*S	Sg	19 32 05.7	+0.6
VIF	**Vila Franca**	**0.03**	**224**	*i* P	Pg	19 32 05.3	+0.6
VIF				*e*S	Sg	19 32 06.4	+1.1
VIF	**Vila Franca**	**0.03**	**224**	*e*S	Sg	19 32 06.4	+1.1
MESC	**Monte Escuro**	**0.04**	**321**	*e*P	Pg	19 32 05.5	+0.6
MESC				*e*S	Sg	19 32 06.4	+0.9
FRA1	**Furnas**	**0.05**	**114**	*i* P	Pg	19 32 05.8	+0.7
LFA	**Lagoa do Fogo**	**0.05**	**279**	*i* P	Pg	19 32 05.8	+0.7
PRCH	**Ribeira Ch**	**0.06**	**235**	*i* P	Pg	19 32 05.7	+0.4
PRCH				*e*S	Sg	19 32 07.1	+0.9
PRCH	**Ribeira Ch**	**0.06**	**235**	*e*S	Sg	19 32 07.1	+0.9
PMAT	**Coroa da Mata**	**0.07**	**320**	*e*P	Pg	19 32 05.9	+0.5
PMAT				*e*S	Sg	19 32 07.2	+0.8
CMLA	**Cha da Macela**	**0.09**	**270**	*e*P	Pg	19 32 05.8	+0.1
CMLA				*e*S	Sg	19 32 07.6	+0.7
CML	**Cha da Macela**	**0.10**	**274**	*i* P	Pg	19 32 08.0	+2.0
PFAD	**Fenais da Ajud**	**0.10**	**45**	*i* P	Pg	19 32 06.8	+0.7
MIRA	**Miradouro**	**0.11**	**79**	*i* P	Pg	19 32 07.0	+0.8
FAC	**Faja de Cima**	**0.19**	**273**	*e*P	Pg	19 32 09.9	+2.2
PDA	**Ponta Delgada**	**0.20**	**265**	*e*P	Pg	19 32 08.2	+0.3
PDA				*e*S	Sg	19 32 11.2	+0.7
PSET	**Sete Cidades**	**0.25**	**284**	*e*P	Pg	19 32 09.1	+0.2
PSET				*e*S	Sg	19 32 13.2	+1.0
	2µm,0.3s						
PSAN	**Santo Antonio**	**0.26**	**290**	*e*P	Pg	19 32 11.1	+2.0
PFET	**Feteiras**	**0.30**	**280**	*e*P	Pg	19 32 11.8	+1.9
SET2	**Ginetes**	**0.32**	**285**	*e*P	Pg	19 32 12.1	+1.8
SET4	**Mosteiros**	**0.32**	**290**	*e*P	Pg	19 32 12.0	+1.6
PSMN	**Pico do Norte,**	**0.81**	**160**	*e*P	Pg	19 32 17.7	-2.4
PSMN				*e*S	Sg	19 32 27.9	-3.0
PSCM	**Serra do Cume**	**1.63**	**305**	*e*P	Pn	19 32 29.5	-4.2
PSCM				*e*S	Sb	19 32 48.5	-6.7
	53nm,0.4s						
PICO	**Pico**	**2.48**	**288**	*e*P	Pn	19 32 42.0	-3.9
PICO				*e*S	Sn	19 33 10.7	-6.4
CALA	**Caldeira**	**2.71**	**288**	*e*rx		19 32 43.6	

MEX 20 19:36:41.5±1.0, 14.04N×93.28W, h83km±589km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.49**	**26**	*i* P	P	19 37 20.0	-0.8
CCIG				*i* S	S	19 37 47.8	-2.4
SCX	**San Cristobal**	**2.75**	**13**	*i* P	P	19 37 21.8	-2.7
SCX				*i* S	S	19 37 56.0	-0.8
CMIG	**Matias Romero**	**3.41**	**333**	*e*P	P	19 37 30.9	-2.7
CMIG				*i* S	S	19 38 10.7	-2.4

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*CSEM **20** 20:36:45.2, 37.75N×25.42W, h5km, ML3.0, After PDA*
*PDA **20** 20:36:45.2±0.8, 37.75N×25.42W, h5km±1km, MD3.0, ML3.0, Error ellipse: s-maj=1.9km s-min=1.5km az=45.0*
SVSA 20 20:36:45.2±0.8, 37.75N×25.42W, h5km±1km, MD3.0, ML3.0, Error ellipse: s-maj=1.9km s-min=1.5km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.01**	**269**	*i* P	Pg	20 36 46.8	+0.7
PCNG	**Congro**	**0.03**	**42**	*i* P	Pg	20 36 46.8	+0.6
PRCH	**Ribeira Ch**	**0.05**	**250**	*e*P	Pg	20 36 47.1	+0.6
PRCH				*e*S	Sg	20 36 48.1	+0.7
FRA1	**Furnas**	**0.05**	**92**	*e*P	Pg	20 36 47.2	+0.7
MESC	**Monte Escuro**	**0.05**	**338**	*i* P	Pg	20 36 47.1	+0.6
LFA	**Lagoa do Fogo**	**0.06**	**299**	*e*P	Pg	20 36 47.3	+0.7
PMAT	**Coroa da Mata**	**0.08**	**331**	*e*P	Pg	20 36 47.4	+0.4
PMAT				*e*S	Sg	20 36 48.8	+0.6
CMLA	**Cha da Macela**	**0.08**	**283**	*e*P	Pg	20 36 46.8	-0.3
CMLA				*e*S	Sg	20 36 48.7	+0.4
CML	**Cha da Macela**	**0.10**	**285**	*e*P	Pg	20 36 49.0	+1.6
MIRA	**Miradouro**	**0.12**	**70**	*e*P	Pg	20 36 48.4	+0.7
PFAD	**Fenais da Ajud**	**0.12**	**40**	*i* P	Pg	20 36 48.5	+0.7
FAC	**Faja de Cima**	**0.18**	**279**	*e*P	Pg	20 36 50.9	+1.9
PDA	**Ponta Delgada**	**0.19**	**271**	*e*P	Pg	20 36 49.3	+0.2
PDA				*e*S	Sg	20 36 52.4	+0.7
PSET	**Sete Cidades**	**0.25**	**288**	*i* P	Pg	20 36 50.3	0.0
PSET				*e*S	Sg	20 36 54.3	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3µm,0.3s						
PSET	Sete Cidades	0.25	288	eS	Sg	20 36 54.3	+0.7
PSAN	Santo Antonio	0.26	294	eP	Pg	20 36 52.3	+1.8
PFET	Feteiras	0.30	284	eP	Pg	20 36 52.8	+1.6
SET2	Ginetes	0.32	288	eP	Pg	20 36 53.2	+1.5
PSMN	Pico do Norte,	0.79	159	eP	Pg	20 36 58.5	-2.6
PSMN				eS	Sg	20 37 08.4	-3.2
PFAV	Pico das Favas	1.63	307	eP	Pn	20 37 10.6	-4.1
PFAV				eS	Sb	20 37 29.6	-6.5
	12nm,0.3s						
PSCM	Serra do Cume	1.64	306	eP	Pn	20 37 10.6	-4.3
PSCM				eS	Sb	20 37 29.7	-6.9
	79nm,0.3s						
PICO	Pico	2.49	289	eP	Pn	20 37 23.4	-3.6
PICO				eS	Sn	20 37 51.6	-6.6
HOR	Horta	2.65	288	erx		20 37 24.4	
HOR	Horta	2.65	288	e-		20 37 24.4	
CALA	Caldeira	2.72	289	eP	Pn	20 37 25.6	-4.7
CALA				erx		20 37 55.6	

*CSEM **20** 20:40:53.2±0.8, 37.75N×25.41W, h5km±1km, ML3.1, Error ellipse: s-maj=2.0km s-min=1.8km az=86.0, After PDA*
*PDA **20** 20:40:53.2±0.8, 37.75N×25.41W, h5km±1km, MD2.7, ML3.1, Error ellipse: s-maj=2.0km s-min=1.8km az=86.0*
SVSA 20 20:40:53.2±0.8, 37.75N×25.41W, h5km±1km, MD2.7, ML3.1, Error ellipse: s-maj=2.0km s-min=1.8km az=86.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	269	i P	Pg	20 40 54.8	+0.6
VIF				eS	Sg	20 40 55.9	+1.0
VIF	Vila Franca	0.02	269	eS	Sg	20 40 55.9	+1.0
PCNG	Congro	0.03	30	i P	Pg	20 40 54.7	+0.4
PCNG				eS	Sg	20 40 56.0	+1.0
PCNG	Congro	0.03	30	eS	Sg	20 40 56.0	+1.0
FRA1	Furnas	0.04	93	eP	Pg	20 40 55.1	+0.6
MESC	Monte Escuro	0.06	331	i P	Pg	20 40 55.2	+0.6
MESC				eS	Sg	20 40 56.6	+1.0
MESC	Monte Escuro	0.06	331	eS	Sg	20 40 56.6	+1.0
PRCH	Ribeira Ch	0.06	253	eP	Pg	20 40 55.4	+0.7
PRCH				eS	Sg	20 40 56.6	+1.0
	6µm,0.3s						
LFA	Lagoa do Fogo	0.06	296	eP	Pg	20 40 55.5	+0.7
PMAT	Coroa da Mata	0.09	327	eP	Pg	20 40 55.6	+0.5
PMAT				eS	Sg	20 40 57.4	+1.0
	11nm,0.2s						
CMLA	Cha da Macela	0.09	282	eP	Pg	20 40 55.9	+0.7
CMLA				eS	Sg	20 40 57.5	+0.9
CML	Cha da Macela	0.11	284	eP	Pg	20 40 57.1	+1.5
PFAD	Fenais da Ajud	0.12	37	eP	Pg	20 40 56.5	+0.8
PDA	Ponta Delgada	0.20	271	eP	Pg	20 40 57.5	+0.2
PDA				eS	Sg	20 41 00.6	+0.6
PSAN	Santo Antonio	0.27	293	eP	Pg	20 41 00.5	+1.8
PFET	Feteiras	0.31	284	eP	Pg	20 41 01.0	+1.6
SET2	Ginetes	0.33	288	eP	Pg	20 41 01.4	+1.6
PSMN	Pico do Norte,	0.79	159	eS	Sg	20 41 16.2	-3.4
PICO	Pico	2.49	289	eP	Pn	20 41 31.6	-3.5
CALA	Caldeira	2.72	289	eP	Pn	20 41 34.0	-4.4

*CSEM **20** 21:00:22.3±1.1, 38.80N×27.78W, ML1.6, Error ellipse: s-maj=3.1km s-min=2.2km az=2.0, After PDA*
*PDA **20** 21:00:22.3±1.1, 38.80N×27.78W, MD3.3, ML1.6, Error ellipse: s-maj=3.1km s-min=2.2km az=2.0*
SVSA 20 21:00:22.3±1.1, 38.80N×27.78W, MD3.3, ML1.6, Error ellipse: s-maj=3.1km s-min=2.2km az=2.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGRA	Graciosa	0.28	327	eP	Pg	21 00 27.6	-0.3
PGRA				eS	Sg	21 00 31.5	-0.1
	174nm,0.2s						
PMAN	Manadas	0.29	236	eS	Sg	21 00 31.8	-0.1
	345nm,0.1s						
PAMA	Santo Amaro	0.33	250	eS	Sg	21 00 33.5	+0.2
STGR	Santa Cruz	0.33	329	eP	Pg	21 00 29.3	+0.4
STGR				i S	Sg	21 00 35.4	+2.0
	59nm,0.1s						
PSBA	Serra de Santa	0.36	94	eS	Sg	21 00 33.3	-1.0
	9.9nm,0.1s						
ASBA	Santa Barbara	0.37	102	eS	Sg	21 00 34.3	-0.2
	7.6nm,0.2s						
PPAD	Pico dos Padre	0.40	104	eS	Sg	21 00 35.4	-0.2
RIB2	Ribeirinha	0.49	104	eS	Sg	21 00 38.1	-0.6
PFAV	Pico das Favas	0.55	98	eS	Sg	21 00 40.9	+0.2
PICO	Pico	0.58	240	eP	Pg	21 00 32.9	-1.0
PICO				eS	Sg	21 00 40.6	-1.1
PICO	Pico	0.58	240	eS	Sg	21 00 40.6	-1.1
CALA	Caldeira	0.75	254	eP	Pg	21 00 35.0	-2.3
CALA				eS	Sg	21 00 44.8	-2.5

*CSEM **20** 21:01:51.3±0.8, 37.75N×25.42W, h6km±2km, ML2.5, Error ellipse: s-maj=1.8km s-min=1.7km az=123.0, After PDA*
*PDA **20** 21:01:51.3±0.8, 37.75N×25.42W, h6km±2km, MD3.5, ML2.5, Error ellipse: s-maj=1.8km s-min=1.7km az=123.0*
SVSA 20 21:01:51.3±0.8, 37.75N×25.42W, h6km±2km, MD3.5, ML2.5, Error ellipse: s-maj=1.8km s-min=1.7km az=123.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	266	eP	Pg	21 01 52.7	+0.3
VIF				eS	Sg	21 01 54.1	+1.0
	1µm,0.2s						
PCNG	Congro	0.03	37	i P	Pg	21 01 52.8	+0.4
PCNG				eS	Sg	21 01 54.2	+1.0
PCNG	Congro	0.03	37	eS	Sg	21 01 54.2	+1.0
FRA1	Furnas	0.05	94	i P	Pg	21 01 53.3	+0.6
MESC	Monte Escuro	0.05	333	eP	Pg	21 01 53.0	+0.3
MESC				eS	Sg	21 01 54.7	+1.0
PRCH	Ribeira Ch	0.05	251	eP	Pg	21 01 53.3	+0.5
PRCH				eS	Sg	21 01 54.5	+0.8
	690nm,0.2s						
LFA	Lagoa do Fogo	0.06	297	eP	Pg	21 01 53.4	+0.6
PMAT	Coroa da Mata	0.08	328	eP	Pg	21 01 53.6	+0.4
PMAT				eS	Sg	21 01 55.2	+0.7
CML	Cha da Macela	0.11	284	eP	Pg	21 01 55.0	+1.4
MIRA	Miradouro	0.12	70	eP	Pg	21 01 54.5	+0.7
PFAD	Fenais da Ajud	0.12	38	i P	Pg	21 01 54.6	+0.7
PFAD				eS	Sg	21 01 56.5	+0.9
PFAD	Fenais da Ajud	0.12	38	eS	Sg	21 01 56.5	+0.9
FAC	Faja de Cima	0.19	278	eP	Pg	21 01 57.6	+2.4
PDA	Ponta Delgada	0.20	270	eP	Pg	21 01 55.8	+0.5
PDA				eS	Sg	21 01 58.6	+0.6
PSAN	Santo Antonio	0.27	293	eP	Pg	21 01 58.6	+1.9
PFET	Feteiras	0.30	284	eP	Pg	21 01 58.9	+1.5
SET2	Ginetes	0.32	288	eP	Pg	21 01 58.8	+0.9
SET4	Mosteiros	0.33	293	eP	Pg	21 01 59.3	+1.4
PSMN	Pico do Norte,	0.79	159	eS	Sg	21 02 14.3	-3.4
PSMN				eS	Sg	21 02 15.6	-2.1

*BJI **20** 21:16:41.8, 1.32N×99.65E, h128km, mB5.1, mb4.7*
*IDC **20** 21:16:42.2±1.7, 1.26N×99.38E, h112km±14km, mb4.3/24, mb1 4.4/24, mb1mx4.3/27, mbtmp4.7/24, Error ellipse: s-maj=15.4km s-min=10.2km az=60.0*
*NEIC **20** 21:16:44.1±1.1, 1.28N×99.42E, h131km±10km, mb4.6/15, Error ellipse: s-maj=9.8km s-min=4.6km az=59.0*
ISC 20 21:16:42.2±1.2, 1.19N±0.05×99.30E±0.08, h127km±11km, n84, σ0s97/79, mb4.7/51, 5C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	3.78	27	P	P	21 17 40.2	+0.2
KGM	Kluang	4.11	78	P	P	21 17 45.5	+1.2
KULM	Kulim	4.29	18	⇑iP	P	21 17 46.6	-0.1
KULM				eS	S	21 18 36.1	-0.1
SNG	Songkhla	6.09	12	P	P	21 18 10.0	-0.9
	822nm,0.9s						
NST	Nakhon Sawan	14.41	3	P	P	21 20 02.0	+0.7
CHG	Chiang Mai	17.51	359	P	P	21 20 39.0	-1.0
	25nm,0.9s						
NANT	Nan	17.55	4	P	P	21 20 43.0	+2.6
	50nm,0.9s						
KMI	Kunming	24.02	8	P	P	21 21 48.5	+2.0
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb3.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	Lhasa	29.39	345	P	P	21 22 36.3	+0.5
LSA	Lhasa	29.39	345	⇑iP	P	21 22 35.9	+0.1
	comp=Z,29nm,0.6s,mb5.1						
LSA				eS	S	21 27 20.2	+1.4
PKI	Pulchoki	29.41	334	eP	P	21 22 36.1	+0.1
	comp=Z,9.7nm,0.5s,mb4.7						
DMN	Daman	29.58	334	eP	P	21 22 36.9	-0.6
	comp=Z,14nm,0.7s,mb4.7						
KKN	Kakani	29.66	334	eP	P	21 22 37.2	-1.0
	comp=Z,20nm,0.6s,mb4.9						
GKN	Gorkha	30.12	334	eP	P	21 22 41.5	-0.8
	comp=Z,9.1nm,0.3s,mb4.9						
KOLN	Koldanda	30.40	332	eP	P	21 22 43.8	-1.0
	comp=Z,35nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	32.25	128	eP	P	21 22 58.3	-2.6
	comp=Z,4.6nm,0.7s,mb4.3						
FITZ	Fitzroy Crossi	32.25	128	P	P	21 22 58.2	-2.8
	comp=Z,6.5nm,0.7s,mb4.5,baz=271,slow=2.0,SNR=4.6						
FITZ				ScP		21 29 19.2	
	comp=Z,9.7nm,1.1s,baz=220,slow=2.7,SNR=4.7						
XAN	Xi'an	33.90	14	P	P	21 23 13.5	-1.5
XAN				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.7						
KLBR	Kellerberrin	37.01	153	eP	P	21 23 42.2	+0.9
	comp=Z,34nm,1.4s,mb5.1						
NWAO	Narrogin (SRO)	37.93	155	P	P	21 23 49.6	+0.6
	comp=Z,7.7nm,0.7s,mb4.7,baz=309,slow=9.7,SNR=5.4						
GTA	Gaotai	38.04	1	eP	P	21 23 49.8	0.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
WRA	Warramunga Arr	40.27	123	P	P	21 24 07.6	-0.8
	comp=Z,26nm,0.8s,mb5.1,baz=303,slow=9.0,SNR=124						
WRA				PcP	PcP	21 26 10.2	-0.2
	comp=Z,2.1nm,0.7s,baz=311,slow=2.8,SNR=5.6						
WRA				ScP		21 29 48.1	
	comp=Z,1.6nm,0.8s,baz=315,slow=3.0,SNR=9.5						
WRAB	Tennant Creek	40.27	123	eP	P	21 24 07.5	-0.9
	comp=Z,34nm,0.8s,mb5.2						
WRAB				i		21 24 11.2	
WB2	Warramunga Arr	40.28	123	eP	P	21 24 07.8	-0.7
WB2				i		21 24 11.5	
HHC	Hu-ho-hao-te	41.01	14	eP	P	21 24 16.1	+1.8
HHC				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
ASPA	Alice Springs	41.73	129	eP	P	21 24 19.6	-0.9
FORT	Forrest	41.95	142	eP	P	21 24 22.2	0.0
	comp=Z,20nm,0.6s,mb5.0						
WMQ	Urumqi	43.68	348	⇑iP	P	21 24 36.8	+0.7
WMQ				AMB	AMB		
	comp=Z,34nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,149nm,4.3s						
UCH	Uchtor	46.52	335	P	P	21 24 59.7	+1.1
	SNR=14						
TKM2	Tokmak 2	46.64	336	P	P	21 25 00.2	+0.6
	SNR=23						
KBK	Karagaybulak	46.69	335	P	P	21 25 01.1	+1.1
	SNR=21						
AML	Almayashu	46.80	334	P	P	21 25 01.8	+1.0
	SNR=40						
AAK	Ala-Archa	46.86	335	P	P	21 25 02.4	+1.0
	SNR=7.6						
AAK	Ala-Archa	46.86	335	eP	P	21 25 01.1	-0.2
	comp=Z,4.5nm,0.6s,mb4.4						
AAK				eScP		21 30 15.3	
SONM	Songino Array	46.86	7	P	P	21 25 01.4	+0.1
	comp=Z,14nm,0.6s,mb4.9,baz=190,slow=9.4,SNR=93						
SONM				PcP	PcP	21 26 32.6	+0.1
	comp=Z,3.1nm,0.5s,baz=188,slow=3.6,SNR=10						
SONM				ScP		21 30 14.4	
	comp=Z,3.2nm,0.9s,baz=189,slow=3.4,SNR=11						
CHMS	Chumysh	47.05	335	P	P	21 25 02.9	+0.1
	SNR=8.1						
EKS2	Erkin-Say	47.19	334	P	P	21 25 04.7	+0.8
	SNR=27						
USP	Ospenovka	47.38	335	P	P	21 25 05.6	+0.3
	SNR=10						
MKAR	Makanchi Array	47.78	344	P	P	21 25 08.2	-0.3
	comp=Z,16nm,0.5s,mb5.1,baz=157,slow=8.9,SNR=352						
MKAR				ScP		21 30 19.1	
	comp=Z,0.9nm,0.8s,baz=146,slow=8.7,SNR=3.7						
STKA	Stephens Creek	51.81	133	eP	P	21 25 38.4	-1.0
	comp=Z,4.7nm,0.8s,mb4.6						
STKA	Stephens Creek	51.81	133	P	P	21 25 38.4	-1.1
	comp=Z,5.5nm,0.7s,mb4.7,baz=319,slow=9.5,SNR=9.1						
KURK	Kurchatov	52.36	344	⇑iP	P	21 25 42.4	-0.9
	comp=Z,8.7nm,0.7s,mb4.9						
ZAL	Zalesovo	53.91	349	P	P	21 25 53.7	-0.9
	comp=Z,18nm,0.4s,mb5.5,baz=317,slow=4.3,SNR=95						
ZAL				ScP		21 30 44.8	
	comp=Z,1.0nm,0.8s,baz=350,slow=2.9,SNR=4.8						
OPO	Ambohidratompo	54.84	246	P	P	21 26 02.5	+0.7
	comp=Z,3.9nm,1.0s,mb4.4,baz=111,slow=18,SNR=4.5						
KBD	Kabd	56.42	305	eP	P	21 26 12.0	-1.1
KBD				AMb	AMB	21 26 12.7	
	comp=Z,67nm,0.4s,mb6.0						
RDF	Al-Radifah	56.45	304	eP	P	21 26 12.1	-1.3
RDF				AMb	AMB	21 26 12.9	
	comp=Z,28nm,0.6s,mb5.5						
UMR	Umm Al-Rimmam	56.53	305	eP	P	21 26 12.7	-1.2
UMR				AMb	AMB	21 26 14.2	
	comp=Z,18nm,0.7s,mb5.2						
NAY	Al-Naaiem	56.81	305	eP	P	21 26 14.5	-1.4
NAY				AMb	AMB	21 26 15.3	
	comp=Z,18nm,0.3s,mb5.6						
MIB	Mutribah	56.92	305	eP	P	21 26 15.5	-1.2
MIB				AMb	AMB	21 26 17.1	
	comp=Z,47nm,1.0s,mb5.5						
BVAR	Borovoye Array	56.96	340	P	P	21 26 14.8	-1.8
	baz=130,slow=7.3						
BVAR				ScP		21 30 58.8	
	comp=Z,0.8nm,0.8s,baz=135,slow=6.3,SNR=3.7						
KMBO	Kilima Mbogo	62.08	268	P	P	21 26 51.5	-0.8
	comp=Z,3.5nm,0.8s,mb4.4,baz=64,slow=10,SNR=9.5						
KMBO	Kilima Mbogo	62.08	268	P	P	21 26 51.5	-0.8
GNI	Garni	62.76	315	P	P	21 26 56.1	-0.3
	comp=Z,4.3nm,0.6s,mb4.5,baz=14,slow=17,SNR=2.6						
ASF	Jabal al Asfar	66.18	305	P	P	21 27 19.0	+0.2
	comp=Z,6.6nm,1.1s,mb4.4,baz=31,slow=4.2,SNR=6.6						
MALT	Malatya	66.69	312	eP	P	21 27 21.7	-0.1
	comp=Z,5.5nm,1.1s,mb4.3						
BR131	Keskin Array S	70.67	312	eP	P	21 27 45.0	-1.2
	comp=Z,1.6nm,0.5s,mb4.1						
BRTR	Keskin Array B	70.67	312	P	P	21 27 45.2	-1.0
	comp=Z,3.9nm,0.6s,mb4.4,baz=132,slow=7.1,SNR=20						
LSZ	Lusaka	72.12	254	eP	P	21 27 55.7	+0.5
	comp=Z,24nm,1.5s,mb4.8						
MATP	Matopo	72.47	248	P	P	21 27 58.2	+1.0
	comp=Z,14nm,0.8s,mb4.9,baz=82,slow=6.1,SNR=35						
MAW	Mawson	73.19	194	P	P	21 28 02.0	+1.5
	comp=Z,2.7nm,0.5s,mb4.3,baz=31,slow=5.7,SNR=9.8						
LBTB	Lobatse	75.76	244	P	P	21 28 16.6	+0.4
	comp=Z,7.1nm,0.8s,mb4.5,baz=101,slow=7.5,SNR=13						
AKASG	Malin Array Be	76.54	322	P	P	21 28 19.1	-1.0
	comp=Z,1.5nm,0.5s,mb4.0,baz=90,slow=4.7,SNR=9.8						
IDI	Anoyia	76.60	306	P	P	21 28 20.7	0.0
	comp=Z,6.1nm,0.7s,mb4.5,baz=114,slow=6.3,SNR=7.9						
MLR	Muntele Rosu	77.51	316	P	P	21 28 26.1	+0.5
	comp=Z,8.6nm,0.9s,mb4.5,baz=135,slow=8.0,SNR=5.7						
JOF	Joensuu	79.05	334	ep	P	21 28 32.7	-0.8
	comp=Z,1.6nm,0.5s,mb4.1						
FINES	FINESS Array B	80.97	332	P	P	21 28 44.0	+0.1
	comp=Z,2.7nm,0.6s,mb4.3,baz=104,slow=5.8,SNR=29						
KAF	Kangasniemi	81.04	333	ep	P	21 28 43.4	-0.8
	comp=Z,5.1nm,0.6s,mb4.5,baz=100,slow=4.8						
TSUM	Tsumeb	82.56	251	P	P	21 28 54.7	+1.7
	comp=Z,10nm,1.0s,mb4.6,baz=96,slow=4.5,SNR=10						
KEV	Kevo	82.80	340	ep	P	21 28 53.8	+0.6
ARCES	ARCESS Array B	83.25	340	P	P	21 28 56.0	+0.5
	comp=Z,2.8nm,0.4s,mb4.4,baz=101,slow=4.3,SNR=38						
ARCES	ARCESS Array B	83.25	340	P	P	21 28 56.0	+0.5
GERES	GERESS Array B	86.20	319	P	P	21 29 10.7	+0.2
	comp=Z,1.5nm,0.8s,mb4.0,baz=124,slow=4.8,SNR=8.8						
KHC	Kasperske Hory	86.29	319	eP	P	21 29 10.0	-0.9
HFS	Hagfors	86.77	330	P	P	21 29 13.8	+0.9
	comp=Z,2.7nm,0.5s,mb4.4,baz=90,slow=5.8,SNR=7.1						
NOA	NORSAR Array B	88.03	331	P	P	21 29 20.0	+1.0
	comp=Z,0.9nm,0.7s,mb3.9,baz=94,slow=5.0,SNR=3.3						
LPG	La Plagne	90.94	315	⇑iP	P	21 29 34.2	+1.1
	comp=Z,13nm,0.9s,mb4.8						
QSPA	South Pole Qui	91.14	180	eP	P	21 29 35.2	+2.0
	comp=Z,3.4nm,0.8s,mb4.5						
PDAR	Pinedale Array	129.11	27	PKP	PKPdf	21 35 38.0	+2.3
	comp=Z,0.5nm,0.7s,baz=288,slow=4.7,SNR=4.4						
NATX	Nacogdoches	144.66	21	ePKPdf	PKPdf	21 36 05.1	+0.8
BAO	Brasilia Array	144.69	244	P	PKPbc	21 36 07.0	+2.2
BDFB	Brasilia	144.71	244	PKP	PKPdf	21 36 06.6	+1.8
	comp=Z,10nm,0.7s,baz=141,slow=2.8,SNR=13						
GOGA	Godfrey	145.48	4	ePKPdf	PKPdf	21 36 07.7	+2.0
CPUP	Villa Florida	146.38	220	PKPbc	PKPbc	21 36 10.9	+2.1
	comp=Z,7.8nm,0.8s,baz=130,slow=3.3,SNR=16						
LPAZ	La Paz	160.54	219	PKP	PKPdf	21 36 30.8	+3.4
	comp=Z,0.8nm,0.6s,baz=164,slow=2.8,SNR=4.6						

*CSEM **20** 21:23:33.8±0.1, 12.31N×40.50E, h15km, mb5.2/24, Ms5.0, Mw5.4, Error ellipse: s-maj=5.5km s-min=1.7km az=179.0*
*DHMR **20** 21:23:34.2±2.0, 12.64N×40.55E, h12km±72km, mb5.3, ML5.3*
*BJI **20** 21:23:35.8, 12.50N×40.12E, h28km, mB5.3, mb4.9, Ms5.4, Msz5.0*
*STR **20** 21:23:36.7±0.0, 13.34N×41.30E, Mb5.3, Ms5.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*IDC **20** 21:23:36.6±0.5, 12.73N×40.49E, mb4.7/27, mb1 4.8/29, mb1mx4.8/31, mbtmp4.7/29, ML3.2/2, MS4.9/25, Ms1 4.9/25, ms1mx4.9/28, Error ellipse: s-maj=18.1km s-min=11.1km az=95.0*
*MOS **20** 21:23:36.0±0.9, 12.72N×40.42E, h10km, mb5.4/90, MS5.0/34, Error ellipse: s-maj=7.2km s-min=2.9km az=111.0*
*NEIC **20** 21:23:37.6±0.2, 12.71N×40.53E, h10km, mb5.2/135, MS5.0/47, MW5.4, Error ellipse: s-maj=4.2km s-min=3.3km az=200.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.52; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$0.76; $M_{r\theta}$0.09; $M_{\theta\phi}$1.54; $M_{\phi r}$0.16; Best double couple: $M_0$1.6×10^{17} NP1: ϕ_s81°, δ86°, λ2°. NP2: ϕ_s351°, δ88°, λ176°. Principal axes: T 1.89, Plg4°, Azm306°; N -.53, Plg85°, Azm146°; P -1.36, Plg2°, Azm36°;*
*HRVD **20** 21:23:37.6±0.2, 12.76N×40.47E, h12km, MW5.4/67, Centroid moment Tensor Solution. LP body waves: s56,c100;Mantle waves: s67,c150; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.83±.03; $M_{\theta\theta}$-0.62±.03; $M_{\phi\phi}$1.45±.03; $M_{r\theta}$0.14±.08; $M_{\theta\phi}$1.43±.03; $M_{\phi r}$-0.12±.08; Best double couple: $M_0$1.794×10^{17} NP1: ϕ_s251°, δ77°, λ-12°. NP2: ϕ_s343°, δ79°, λ-167°. Principal axes: T 2.18, Plg1°, Azm117°; N -.776, Plg73°, Azm24°; P -1.407, Plg17°, Azm207°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CRAAG **20** 21:23:39.6, 12.78N×40.47E, Mb5.3*
ISC 20 21:23:34.1±0.8, 12.56N±0.03×40.47E±0.02, h2km±5km, h13km±1.8km:pP-P, n646, σ1s05/657, mb5.1/210, MS5.0/96, 143C-35D, Ethiopia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.69	67	⇓eP	Pn	21 24 32.2	-1.1
UDYN				i S	Sn	21 25 18.0	+0.1
UDYN				AML	AML	21 25 48.8	
	comp=E,12µm,0.7s						
UDYN	Al 'Udayn	3.69	67	⇑iP	Pn	21 24 31.9	-1.4
UDYN				i S	Sn	21 25 25.4	+7.5
DHBB	Dhamar BB	4.31	62	eP	Pn	21 24 40.9	-1.2
DHBB				i S	Sn	21 25 32.6	-1.0
DHBB	Dhamar BB	4.31	62	⇓iP	Pn	21 24 41.0	-1.2
DHBB				i S	Sn	21 25 40.0	+6.4
DHBB	Dhamar BB	4.31	62	⇓iP	Pn	21 24 41.0	-1.1
DHBB				i S	Sn	21 25 32.6	-1.1
HAJJ	Hajjah	4.36	44	⇑eP	Pn	21 24 41.0	-1.8
HAJJ				i S	Sn	21 25 33.3	-1.6
HAJJ	Hajjah	4.36	44	⇓iP	Pn	21 24 40.4	-2.4
HAJJ				i S	Sn	21 25 38.2	+3.3
HAJJ	Hajjah	4.36	44	⇓iP	Pn	21 24 40.4	-2.4
HAJJ				i S	Sn	21 25 38.2	+3.3
ADEN	Aden	4.42	87	eP	Pn	21 24 42.0	-1.7
ADEN				i S	Sn	21 25 35.0	-1.3
ADEN				AML	AML	21 25 55.5	
	comp=N,18µm,0.8s						
ADEN	Aden	4.42	87	⇑iP	Pn	21 24 41.8	-1.8
ADEN				i S	Sn	21 25 43.4	+7.0
ADEN	Aden	4.42	87	⇑iP	Pn	21 24 41.8	-1.8
ADEN				i S	Sn	21 25 35.0	-1.3
	comp=N,9µm,0.8s						
SANA	San'a	4.59	52	⇓eP	Pn	21 24 44.6	-1.5
LBOS		4.84	74	⇓eP	Pn	21 24 45.9	-3.7
LBOS				i S	Sn	21 25 41.5	-5.5
LBOS		4.84	74	i P	Pn	21 24 47.6	-2.0
LBOS				i S	Sn	21 25 53.7	+6.7
BDHA	Al Bayda'	5.16	74	eP	Pn	21 24 50.1	-4.1
BDHA				AMP		21 24 52.0	
	comp=Z,310nm,1.7s						
BDHA				i S	Sn	21 25 49.7	-5.5
BDHA	Al Bayda'	5.16	74	⇓iP	Pn	21 24 52.1	-2.1
BDHA				eS	Sn	21 26 01.0	+5.8
BLJS	Baljurashi	7.36	8	P	Pn	21 25 25.1	-0.1
LTHS	Al Lith	7.67	360	P	Pn	21 25 27.3	-2.2
MUKL	Al Mukalla	8.55	76	eP	P	21 25 36.2	-5.5
MUKL				i S	Sn	21 27 12.7	-7.3
MUKL	Al Mukalla	8.55	76	i P	P	21 25 37.8	-4.0
MUKL				i S	Sn	21 27 21.5	+1.6
KAMS	Al Khamasin	8.66	27	P	P	21 25 43.2	0.0
AFFS	'Afif	11.56	12	P	P	21 26 23.4	+0.2
YNBS	Yanbu' al Bahr	11.95	349	P	P	21 26 28.8	+0.2
MZLS	Mizel	12.26	21	P	P	21 26 33.8	+1.0
KBRS	Khaybar	13.21	355	P	P	21 26 48.9	+3.5
ABTO	Aybut	13.28	67	⇑P	P	21 26 52.5	+6.2
WHFO	Wadi Hawf	13.90	66	⇑P	P	21 26 58.4	+3.9
	SNR=7.1						
KMBO	Kilima Mbogo	13.96	193	Pn	P	21 26 59.6	+4.1
	comp=Z,0.0nm,0.3s,baz=13,slow=14,SNR=9.6						
KMBO				LR	LR	21 31 50.1	
	comp=Z,7µm,21.8s,baz=4.7,slow=35						
KMBO	Kilima Mbogo	13.96	193	Pn	P	21 26 59.6	+4.1
KMBO				LR	LR	21 31 50.1	
KMBO	Kilima Mbogo	13.96	193	P	P	21 26 59.7	+4.2
RBK	Rabkut	14.15	68	⇑P	P	21 27 01.4	+3.5
HILS	Ha'il	14.80	5	P	P	21 27 09.9	+3.6
HASS	Wahat al Ahsa'	15.29	33	P	P	21 27 13.4	+0.6
SHAO	Shalim	15.60	68	⇑P	P	21 27 20.8	+4.0
TBKS	Tabuk	16.01	347	P	P	21 27 26.7	+4.6
MBAR	Mbarara	16.25	217	P	P	21 27 26.2	+1.0
MBAR	Mbarara	16.25	217	eP	P	21 27 24.1	-1.2
BDAS	Al Bad'	16.57	343	P	P	21 27 32.1	+2.9
TAYS	Tayyib Ism	16.75	343	P	P	21 27 35.1	+3.7
HAQS	Haql	17.20	343	P	P	21 27 39.5	+2.3
JMOS	Jabal al Moall	17.26	344	P	P	21 27 40.8	+2.8
RDF	Al-Radifah	17.57	21	eP	P	21 27 42.9	+1.1
RDF				AMb	AMB	21 27 52.3	
	comp=Z,396nm,1.5s						
NAY	Al-Naaiem	17.76	20	eP	P	21 27 45.4	+1.2
NAY				AMb	AMB	21 27 56.5	
	comp=Z,354nm,1.4s						
EIL	Elat	17.78	344	P	P	21 27 46.0	+1.6
KBD	Kabd	17.85	21	eP	P	21 27 45.4	+0.2
KBD				AMb	AMB	21 27 56.2	
	comp=Z,2µm,1.7s						
MBH	Mount Berech	17.91	344	P	P	21 27 49.7	+3.7
UMR	Umm Al-Rimmam	18.20	21	eP	P	21 27 50.0	+0.3
UMR				AMb	AMB	21 28 06.5	
	comp=Z,396nm,1.3s						
MIB	Mutribah	18.31	19	eP	P	21 27 50.8	-0.2
MIB				AMb	AMB	21 28 03.3	
	comp=Z,385nm,1.2s						
PRNI	Paran	18.41	345	P	P	21 27 52.9	+0.6
ZFRI	Zfri	18.56	346	P	P	21 27 54.8	+0.6
ARQ	Araqi	18.64	53	⇓P	P	21 27 54.7	-0.5
	SNR=49						
BSY	Bisya	18.87	55	⇑P	P	21 27 57.3	-0.7
	SNR=62						
BSYO	Bisya	18.90	55	P	P	21 27 57.3	-1.0
	SNR=62						
ASHO	Ashiyiah	19.05	49	⇓P	P	21 27 59.5	-0.5
	SNR=48						
KZIT	Kziot	19.10	344	P	P	21 28 01.1	+0.5
HOQ	Hoqain	19.39	53	⇓P	P	21 28 03.0	-1.0
	SNR=31						
MKRJ	Makawir	19.42	348	P	P	21 28 06.1	+1.7
JMDO	Jabal Madar	19.43	57	⇓P	P	21 28 03.5	-1.1
	SNR=37						
SMDO	Samad	19.71	56	⇓P	P	21 28 06.6	-1.2
	SNR=24						
ASF	Jabal al Asfar	19.80	351	P	P	21 28 08.8	+0.1
	comp=Z,0.2nm,0.3s,baz=45,slow=4.9,SNR=17						
ASF				LR	LR	21 34 50.1	
	comp=Z,5µm,18.8s,baz=42,slow=34						
BANOM	Banah	19.98	46	⇓P	P	21 28 10.1	-0.5
	SNR=11						

BIDO Bidbid 20.00 55 ⇓P P 21 28 09.8 -1.2
SNR=33
SLTI Sal'it 20.21 347 P P 21 28 13.2 +0.1
WBK Wadi Bani Khal 20.25 58 ⇑P P 21 28 12.3 -1.4
SNR=39
MMLI Mount Malkishu 20.32 348 P P 21 28 14.8 +0.5
SALA Sala 20.35 351 ⇓*i*P P 21 28 16.0 +1.4
TCHB Talchebab 20.44 349 ⇓*i*P P 21 28 17.1 +1.6
OFRI 'Ofer 20.59 347 P P 21 28 17.7 +0.6
BHD Baghdad 20.92 9 *ex* x 21 28 20.0
BHD *ex* x 21 32 16.0
HNTI Hanita 21.00 348 P P 21 28 21.4 +0.2
KSDI Kefar Szold 21.00 349 P P 21 28 21.9 +0.6
TOTH TOTAH 21.03 351 ⇓*i*P P 21 28 23.2 +1.6
BRBR Barbar 21.16 349 ⇓*i*P P 21 28 25.0 +2.1
ROOS tl_alroos 21.71 353 ⇓*i*P P 21 28 30.2 +1.8
RABH Abou Rabah 21.98 353 ⇓*i*P P 21 28 34.1 +2.9
MSEY Mahe Island 22.71 138 *e*P P 21 28 38.8 +0.1
comp=Z,1μm,1.7s,mb6.1
BSHR Al Beshri 23.02 359 ⇓*i*P P 21 28 42.9 +1.4
PHNC Paralimni 23.09 346 P P 21 28 45.4 +3.2
CSS Prodhromos 23.22 345 P P 21 28 44.7 +1.2
comp=Z,0.9nm,1.2s
PPCY Paphos 23.41 343 P P 21 28 50.1 +4.7
MAMC Mammari 23.45 345 P P 21 28 48.1 +2.4
BTCH Batrach 23.65 352 ⇓*i*P P 21 28 50.4 +2.7
SLMH Al Salmeh 23.66 355 ⇓*i*P P 21 28 50.5 +2.8
MSL Mosul 23.75 5 *ex* x 21 29 10.0
MSL *ex* x 21 33 30.5
MSL *ex* x 21 36 18.5
MSL *ex* x 21 37 02.5
COBT Iskenderun 24.16 352 *i*P P 21 28 56.1 +3.6
MARD Mardin 24.65 1 *i*P P 21 28 58.4 +1.0
GZT Gaziantep 24.83 354 *i*P P 21 29 00.0 +0.9
ERMK Ermenek 24.92 345 *i*P P 21 29 01.3 +1.4
HAKT HAKKARI 25.06 6 *i*P P 21 29 02.6 +1.3
KAHT Ahir Dag 25.17 353 *i*P P 21 29 04.6 +2.2
BEST Besiri 25.24 1 *i*P P 21 29 06.6 +3.6
AKAS Kas 25.52 339 *i*P P 21 29 05.8 +0.1
MALT Malatya 25.71 356⇓*e*P P 21 29 08.9 +1.5
comp=Z,39nm,1.3s,mb4.8
MALT Malatya 25.71 356⇑*e*P P 21 29 08.9 +1.5
comp=Z,39nm,1.3s,mb4.8
MALT Malatya 25.71 356⇑*e*P P 21 29 08.9 +1.5
MALT pmax pmax
comp=Z,39nm,1.3s,mb4.8
ELZG Elazig 25.87 357 *i*P P 21 29 10.3 +1.5
TVAN Van 26.00 5 *i*P P 21 29 12.4 +2.4
ARG Arkhangelos 26.05 337 P P 21 29 10.1 -0.4
BNGL BINGOL 26.29 1 *i*P P 21 29 15.4 +2.6
GOLH Golhisar 26.45 340 *i*P P 21 29 13.7 -0.5
IDI Anoyia 26.66 331 P P 21 29 16.8 +0.5
comp=Z,61nm,1.1s,mb5.0,baz=163,slow=13,SNR=12
IDI LR LR 21 39 42.4
comp=Z,5μm,19.9s,MS5.0,baz=146,slow=36
GVD Gavdhos 26.70 329 *e*P P 21 29 13.1 -3.4
comp=Z,60nm,1.1s,mb5.0
ISP Isparta 26.70 342 *e*P P 21 29 16.2 -0.4
comp=Z,12nm,0.7s,mb4.5
ISP Isparta 26.70 342 *e*P P 21 29 16.2 -0.4
ISP pmax pmax
comp=Z,12nm,0.7s,mb4.5
KDHN Kadinhani 26.90 345 *i*P P 21 29 21.2 +2.8
DNZL Cakiroluk 27.03 340 *i*P P 21 29 22.7 +3.1
BDRM Kayabasi 27.05 337 *i*P P 21 29 18.9 -0.9
ERZM Erzurum 27.25 2 *i*P P 21 29 23.0 +1.5
SANT Santorini 27.29 333 *e*P P 21 29 19.5 -2.4
comp=Z,85nm,1.2s,mb5.2
SANT Santorini 27.29 333 *e*P P 21 29 19.5 -2.4
comp=Z,85nm,1.2s,mb5.2
CDAG Cicekdag 27.49 350 *i*P P 21 29 23.5 -0.2
KELT Kelkit 27.50 358 *i*P P 21 29 25.2 +1.3
BR131 Keskin Array S 27.72 349⇑*e*P P 21 29 26.3 +0.5
comp=Z,42nm,1.3s,mb4.9
BR131 Keskin Array S 27.72 349⇑*e*P P 21 29 26.3 +0.4
comp=Z,42nm,1.3s,mb4.9
BRTR Keskin Array B 27.72 349 P P 21 29 26.1 +0.2
comp=Z,6.4nm,0.8s,mb4.3,baz=174,slow=11,SNR=19
GNI Garni 27.74 7 P P 21 29 25.1 -0.9
comp=Z,10nm,0.9s,mb4.4,baz=182,slow=14,SNR=3.4
GNI LR LR 21 40 57.2
comp=Z,3μm,21.8s,MS4.9,baz=22,slow=38
APE Apeiranthos 27.84 334 *i*P P 21 29 27.3 +0.3
APE Apeiranthos 27.84 334 *i*P P 21 29 27.2 +0.2
ANTO Ankara 28.03 347⇑*i*P P 21 29 29.2 +0.5
comp=Z,69nm,1.3s,mb5.1
ANTO Ankara 28.03 347⇑*i*P P 21 29 29.2 +0.5
comp=Z,69nm,1.3s,mb5.1
ANTO Ankara 28.03 347⇑*i*P P 21 29 29.2 +0.5
ANTO pmax pmax
comp=Z,69nm,1.3s,mb5.1
ESKT Eskisehir 28.17 344 *i*P P 21 29 29.3 -0.6
MACK Trabzon 28.28 359 *i*P P 21 29 32.4 +1.5
KDAG Bornova 28.29 338 *i*P P 21 29 29.9 -1.1
GRSN GIRESUNGRSN 28.32 356 *i*P P 21 29 31.2 0.0
CTKT Corum 28.40 351 *i*P P 21 29 32.8 +0.8
ELDI Eldivan 28.50 349 *i*P P 21 29 31.9 -1.0
URLA Izmir 28.51 337 *i*P P 21 29 32.3 -0.7
ARTV Artvin 28.55 2 *i*P P 21 29 34.1 +0.9
SGKT Sivrigoynuk 28.87 347 *i*P P 21 29 35.7 -0.5
BOYT Boyabat 29.16 351 *i*P P 21 29 38.4 -0.4
ULDT Uludag 29.23 342 *i*P P 21 29 36.2 -3.3
BTOK Tokmak 29.24 340 *i*P P 21 29 40.5 +0.9
MTA Mtatsminda 29.27 7 P P 21 29 41.5 +1.7
TBLG Delisi 29.30 7 P P 21 29 36.5 -3.6
TI2 Plekhanov 29.30 7⇑*i*P P 21 29 38.8 -1.3
comp=Z,50nm,0.8s,mb5.3
TI2 Plekhanov 29.30 7⇑*i*P P 21 29 38.8 -1.3
TI2 *i* 21 29 44.8
TI2 *e*S **S 21 34 38.8 +6.1**
TI2 pmax pmax
comp=Z,50nm,0.8s,mb5.3
TI2 pmax pmax
comp=Z,100nm,0.8s,mb5.6
TI2 MLR MLR
comp=E,3μm,13.0s
TI2 MLR MLR
comp=Z,11μm,13.0s,MS5.7
HENT Hendek 29.38 345 *i*P P 21 29 39.5 -1.3
BALT Daday 29.52 349 *i*P P 21 29 41.0 -1.0
ONI Oni 30.02 4 P P 21 29 47.9 +1.4
LSZ Lusaka 30.21 204 *e*P P 21 29 50.5 +2.0
comp=Z,16nm,1.5s,mb4.5
LSZ LR LR
comp=Z,5μm,21.0s,MS5.2
LSZ Lusaka 30.21 204 *e*P P 21 29 50.5 +2.1
LSZ pmax pmax
comp=Z,16nm,1.5s,mb4.5
LSZ MLR MLR
comp=Z,5μm,21.0s,MS5.2
ZEI Tsey 30.25 5 *e*P P 21 29 47.1 -1.4
ZEI *i* *PP pP 21 29 54.7 +5.5
ZEI *i* 21 30 47.4
ZEI pmax pmax
comp=Z,31nm,1.3s,mb4.9
MAK Makhachkala 30.90 10 P P 21 29 56.5 +2.2
MAK *i* 21 31 02.0
MAK *e*PPP PPP 21 31 16.0 +5.5
MAK *e*S **S 21 35 02.0 +4.0**
MAK smax
comp=N,1μm,10.0s
MAK smax
comp=E,600nm,10.0s
MAK MLR MLR
comp=Z,5μm,13.0s,MS5.4
MAK MLR MLR
comp=N,5μm,16.0s,MS5.7
MAK MLR MLR
comp=E,11μm,13.0s,MS5.7
SOC Sochi 30.92 359 *e*P P 21 29 59.3 +4.9
SOC *e*PPP PPP 21 31 00.7 -10
SOC *e*S **S 21 34 59.4 +1.1**
SOC pmax pmax
comp=Z,39nm,1.3s,mb5.1
SOC pmax pmax
comp=N,28nm,1.1s
SOC pmax pmax
comp=E,13nm,1.1s
SOC MLR MLR
comp=Z,3μm,13.0s,MS5.1
SOC MLR MLR
comp=N,5μm,14.0s,MS5.4
SOC MLR MLR
comp=E,1μm,13.0s,MS5.4

RDO Rodhopi 31.34 338 P P 21 29 58.2 +0.1
KIV Kislovodsk 31.34 3 *e*P P 21 29 58.9 +0.8
comp=E,126nm,1.3s,mb5.6
KIV LR LR
comp=Z,691nm,22.0s,MS4.3
KIV Kislovodsk 31.34 3 *e*P P 21 29 59.1 +0.9
KIV *e* 21 31 00.4
KIV *e*S **S 21 35 07.1 +2.2**
KIV pmax pmax
comp=Z,78nm,1.0s,mb5.5
KIV MLR MLR
comp=N,4μm,17.0s,MS5.2
KIV MLR MLR
comp=Z,4μm,17.0s,MS5.2
KIV MLR MLR
comp=E,2μm,15.0s,MS5.2
OPO Ambohidratompo 31.63 168 P P 21 30 01.9 +1.0
comp=E,8.3nm,1.2s,mb4.4,baz=9.3,slow=6.7,SNR=5.5
ANN Anapa 32.23 356 *e*P P 21 30 01.9 -4.1
ANN *e* 21 31 16.7
ANN *e*PPP PPP 21 31 29.6 +1.4
ANN *e*S **S 21 35 12.8 -6.0**
ANN pmax pmax
comp=Z,43nm,1.3s,mb5.1
SIM Simferopol' 32.73 352 *e*P P 21 30 05.0 -5.3
SIM *e*S **S 21 35 31.0 +4.4**
SIM pmax pmax
comp=Z,51nm,1.2s,mb5.3
VTS Vitosha 33.46 337 P P 21 30 17.4 +0.7
SKO Skopje 33.67 334 *i*P P 21 30 17.0 -1.5
SKO *i* 21 30 27.5
TIP Timpagrande 33.82 326 *e*P P 21 30 19.4 -0.5
VAE Valguarnera 34.03 321 LR LR 21 45 19.1
comp=Z,5μm,18.2s,MS5.2,baz=333,slow=38
MATP Matopo 34.83 200 P P 21 30 30.7 +2.0
comp=Z,9.0nm,1.1s,mb4.6,baz=9.5,slow=12,SNR=5.7
MATP Matopo 34.83 200 P P 21 30 30.7 +2.0
MLR Muntele Rosu 35.07 342 P P 21 30 31.6 +1.1
comp=Z,15nm,0.7s,mb5.0,baz=165,slow=5.6,SNR=7.9
MLR Muntele Rosu 35.07 342 P P 21 30 32.2 +1.7
VRI Vrincioaia 35.19 343 P P 21 30 33.2 +1.7
GRUS Gruza 35.54 335 P P 21 30 34.4 -0.2
KIS Kishinev 35.70 346 *e*P P 21 30 34.0 -1.9
KIS *e* 21 30 42.0
KIS *e* 21 31 48.0
KIS *e* 21 36 16.0
KIS MLR MLR
comp=E,2μm,15.0s
KIS MLR MLR
comp=Z,1μm,15.0s,MS4.8
KIS MLR MLR
comp=Z,1μm,16.0s
DIVS Divcibare 36.02 335⇓*i*P P 21 30 38.1 -0.4
CII Carovilli 36.94 327⇓*e*P P 21 30 46.6 +0.3
comp=Z,131nm,1.4s,mb5.6
HYB Hyderabad 37.06 78 *i*P P 21 30 49.5 +1.9
HYB Hyderabad 37.06 78 *e*P P 21 30 49.5 +1.9
DRGR 37.26 340 P P 21 30 48.9 -0.1
DGAR Diego Garcia 37.48 120 PFAKE 21 31 00.0 +8.9
DGAR LR LR
comp=Z,784nm,20.0s,MS4.5
AQU L'Aquila 37.86 327⇓*e*P P 21 30 54.9 +0.8
comp=Z,120nm,1.3s,mb5.5
AQU *e* 21 31 01.9
AQU L'Aquila 37.86 327⇓*e*P P 21 30 54.9 +0.8
AQU *e* 21 31 01.9
AQU pmax pmax
comp=Z,120nm,1.3s,mb5.5
CGMA Guelma 38.04 314 P P 21 30 58.0 +2.4
PKSM Moragy 38.29 335 P P 21 30 57.6 0.0
PKSM Moragy 38.29 335 *e*P P 21 30 57.7 +0.1
VORD Divnogorie 38.31 359 *e*P P 21 30 57.7 -0.1
VORD pmax pmax
comp=Z,30nm,1.3s,mb4.9
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD MLR MLR
comp=Z,1μm,14.0s,MS4.9
VORD MLR MLR
comp=E,600nm,19.0s
RHK1 Bakonya 38.43 335⇑*e*P P 21 30 59.2 +0.4
VRHR Novokhopersk 38.44 1 *e*P P 21 31 00.1 +1.2
VRHR *e**PP pP 21 31 05.7 +6.1
VRHR *e*S **S 21 36 57.5 +3.1**
VRHR pmax pmax
comp=Z,60nm,1.3s,mb5.2
VRHR pmax pmax
comp=N,120nm,1.4s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR smax
comp=N,810nm,4.9s
VRHR smax
comp=Z,710nm,5.3s
VRHR smax
comp=E,350nm,3.6s
VRHR MLR MLR
comp=Z,2μm,14.0s,MS5.0
VRHR MLR MLR
comp=N,1μm,16.0s,MS5.0
VRHR MLR MLR
comp=E,910nm,15.0s,MS5.0
CKFL Kef-Lekhel 38.49 314 P P 21 31 03.0 +3.5
VRSR Storozhevoye 38.56 359 *e*P P 21 30 59.2 -0.7
VRSR *e**PP pP 21 31 04.4 +3.8
VRSR *e*S **S 21 36 57.3 +1.0**
VRSR pmax pmax
comp=Z,20nm,1.4s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR smax
comp=N,30nm,0.8s
VRSR smax
comp=Z,10.0nm,1.5s
VRSR smax
comp=E,6.0nm,0.8s
VRSR MLR MLR
comp=Z,2μm,14.0s,MS5.0
VRSR MLR MLR
comp=N,1μm,15.0s,MS5.0
VRSR MLR MLR
comp=E,930nm,13.0s,MS5.0
CASM Ain Smara 38.59 314 P P 21 31 02.0 +1.7
CAEH 'Ain El Ouahch 38.59 315 P P 21 31 10.0 +10
CMER Merouana 38.71 312 P P 21 31 02.0 +0.7
PKS7 Kunszentmiklos 38.77 337⇓*e*P P 21 31 01.6 0.0
TSUM Tsumeb 38.79 216 P P 21 31 05.9 +3.8
comp=E,6.6nm,1.0s,mb4.3,baz=19,slow=9.4,SNR=5.5
TSUM Tsumeb 38.79 216 *e*P P 21 31 04.8 +2.7
comp=E,15nm,1.1s,mb4.6
TSUM LR LR
comp=Z,4μm,19.0s,MS5.2
PKS8 Sarbogard 38.82 336⇑*e*P P 21 31 02.3 +0.2
VOR Voronezh 39.08 359 *e*P P 21 31 05.0 +0.8
VOR 21 32 29.5
VOR pmax pmax
comp=Z,130nm,1.7s,mb5.4
VOR pmax pmax
comp=N,80nm,1.5s
VOR pmax pmax
comp=E,20nm,1.7s
VOR pmax pmax
comp=Z,60nm,2.0s,mb5.0
AKASG Malin Array Be 39.13 349 P P 21 31 03.5 -1.1
comp=Z,8.0nm,0.7s,mb4.5,baz=172,slow=7.3,SNR=25
AKASG PcP PcP 21 33 16.6 +1.7
comp=Z,3.4nm,0.8s,baz=167,slow=3.1,SNR=6.1
CKHR Kef el Ahmar 39.17 313 P P 21 31 06.0 +0.9
PSZ Piszkesteto 39.22 338⇑*e*P P 21 31 05.5 +0.1
PSZ Piszkesteto 39.22 338 *e*P P 21 31 05.3 0.0
comp=Z,77nm,1.2s,mb5.3
PSZ Piszkesteto 39.22 338 *e*P P 21 31 05.3 -0.1
PSZ pmax pmax
comp=Z,77nm,1.2s,mb5.3
KOLS Kolonicke sedl 39.28 341 *e*P P 21 31 06.0 +0.1
KOLS *e* 21 31 14.3
SET Setif 39.34 313 P P 21 31 07.0 +0.5
CRES Cresnjev 39.36 332 *e*P P 21 31 07.0 +0.4
CRES *e*PP PP 21 32 45.6 +4.8
CRES *e*S **S 21 37 14.1 +5.7**
KECS Kecovo 39.48 339 *e*P P 21 31 08.0 +0.4
KECS *e* 21 31 17.1
LEGS Legarje 39.52 332 *e*P P 21 31 06.0 -1.9
SRO1 Iza 39.71 336 *e*P P 21 31 10.6 +1.1
KWP Kalwaria 39.76 342 *e*P P 21 31 10.9 +1.0
KWP MLR MLR 21 50 49.1
comp=Z,2μm,18.0s,MS5.0
CEY Cerknica 39.77 331 P P 21 31 11.6 +1.6
AB31 Akbulak array 39.97 20 *i*P P 21 31 11.6 0.0
AB31 Akbulak array 39.97 20 *i*P P 21 31 11.5 -0.1
AB31 pmax pmax
comp=Z,57nm,1.2s,mb5.2
KKAR Karatay Array 39.99 35 *i*P P 21 31 13.2 +1.3
KKAR Karatay Array 39.99 35 *i*P P 21 31 13.1 +1.2
KKAR pmax pmax
comp=Z,18nm,1.0s,mb4.8
STHS Stebnicka Huta 40.03 340 *e*P P 21 31 12.2 +0.1
LBTB Lobatse 40.06 201 P P 21 31 15.6 +3.0
comp=Z,2.1nm,0.8s,baz=38,slow=5.4,SNR=2.3
LBTB Lobatse 40.06 201 P P 21 31 16.4 +3.8
comp=Z,5.5nm,0.9s,mb4.3
LBTB Lobatse 40.06 201 P P 21 31 16.4 +3.8
LBTB pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
VYHS Vyhne 40.09 338 *i*P P 21 31 12.7 +0.1
CORF Corte 40.20 323 *e*P P 21 31 13.6 0.0
VOY Vojsko 40.24 331 *e*P P 21 31 13.7 -0.1
VOY *e* 21 31 19.0
VOY *e* 21 31 28.3
VOY *e* 21 31 47.4
VOJS Vojsko 40.24 331 *i*P P 21 31 14.2 +0.3
OBKA Obir 40.29 332⇑*i*P P 21 31 15.0 +0.7
comp=Z,103nm,1.4s,mb5.4
SOP Sopron 40.32 335 P P 21 31 14.2 -0.3
NIE Niedzica 40.34 340 *e*P P 21 31 15.1 +0.5
AKTO Aktyubinsk 40.41 17 P P 21 31 15.3 +0.1
AKTO pmax pmax
comp=Z,23nm,1.4s,mb4.7
ARSA Arzberg 40.42 334⇑*i*P P 21 31 15.9 +0.6
comp=Z,60nm,1.4s,mb5.1
ARSA Arzberg 40.42 334 *i*P P 21 31 15.9 +0.5
comp=Z,60nm,1.4s,mb5.1,SNR=13
PGF Pioggiola 40.45 324 *e*P P 21 31 15.7 +0.1
comp=Z,108nm,1.5s,mb5.1
PGF Pioggiola 40.45 324 *e*P P 21 31 15.7 +0.1
PGF pmax pmax
comp=Z,54nm,1.5s,mb5.1
ZST Bratislava 40.51 336 *e*P P 21 31 15.5 -0.6
ZST *e* 21 31 24.5
SMOL Smolenice 40.64 336 *e*P P 21 31 16.9 -0.2
JAVC Velka Javorina 40.83 337 P P 21 31 19.1 +0.5
OJC Ojcow 41.20 340 *e*P P 21 31 21.2 -0.5
OJC *e*S **S 21 37 28.3 -7.5**
OJC MLR MLR 21 51 07.3
comp=Z,2μm,22.0s,MS4.9
AML Almayashu 41.24 38 P P 21 31 23.2 +1.1
SNR=57
KSH Kashi 41.26 43 *e*P P 21 31 23.8 +1.5
KSH *e*AP pP 21 31 26.9 +3.9
KSH *e*XP sP 21 31 30.4 +7.1
KSH PP PP 21 33 01.3 +0.6
KSH PCP PcP 21 33 23.6 +1.8
KSH PPP PPP 21 33 32.3 +2.0
KSH SCP 21 37 09.9
KSH PCS 21 37 12.0
KSH S **S 21 37 35.8 -1.0**
KSH SS SS 21 40 34.1 -0.6
KSH SCS ScS 21 41 25.0 -0.6
KSH LR LR
comp=N,8μm,11.2s,MS5.9
KSH LR LR
comp=E,8μm,15.1s,MS5.9
MOA Molln 41.43 333⇑*i*P P 21 31 23.8 +0.2
comp=E,84nm,1.4s,mb5.2
OKC Ostrava-Krasne 41.45 338 *e*P P 21 31 23.3 -0.5
KRUC Moravsky 41.49 336 P P 21 31 23.9 -0.1
EKS2 Erkin-Say 41.60 38 P P 21 31 26.1 +1.0
SNR=17
VRAC Vranov 41.61 336 P P 21 31 25.0 0.0
comp=E,15nm,1.0s,mb4.6,baz=144,slow=7.0,SNR=16
VRAC LR LR 21 48 04.6
comp=E,292nm,21.6s,MS4.1,baz=310,slow=35
VRAC Vranov 41.61 336 *e*P P 21 31 24.6 -0.4
UCH Uchtor 41.80 39 P P 21 31 28.3 +1.6
SNR=31
AAK Ala-Archa 42.02 38 P P 21 31 30.4 +1.9
SNR=12
AAK Ala-Archa 42.02 38 *e*P P 21 31 28.8 +0.3
comp=E,28nm,1.1s,mb4.8
AAK *e*PP PP 21 33 01.1 -8.0
AAK LR LR
comp=Z,1μm,19.0s,MS4.7
AAK Ala-Archa 42.02 38 *e*P P 21 31 28.8 +0.3
AAK pmax pmax
comp=Z,29nm,1.1s,mb4.8
AAK MLR MLR
comp=Z,1μm,19.0s,MS4.7
TREC Trest 42.03 336 *e*P P 21 31 28.1 -0.4
TREC MLR MLR
comp=Z,2μm,14.1s,MS5.2
SBF Sospel 42.16 324⇑*i*P P 21 31 29.4 -0.3
comp=Z,52nm,1.0s,mb4.8
KZA Kyzart 42.16 39 P P 21 31 32.0 +2.3
SNR=6.0
SAOF Saorge 42.16 324 *e*P P 21 31 29.6 -0.1
WTTA Wattenberg 42.20 331⇑*i*P P 21 31 30.2 +0.2
comp=Z,93nm,1.3s,mb5.3
WTTA Wattenberg 42.20 331⇑*i*P P 21 31 30.2 +0.2
WTTA pmax pmax
comp=Z,93nm,1.3s,mb5.2
FRU Bishkek 42.21 38 *e*P P 21 31 30.5 +0.4
FRU *e* 21 33 31.5
FRU pmax pmax
comp=Z,90nm,1.9s,mb5.1
FRU pmax pmax
comp=Z,4μm,18.0s
AUTN L'Aution 42.24 324 *e*P P 21 31 29.0 -1.4
WATA Walderalm 42.28 331⇑*i*P P 21 31 30.4 -0.2
comp=Z,52nm,1.2s,mb5.0
WATA Walderalm 42.28 331⇑*i*P P 21 31 30.4 -0.2
WATA pmax pmax
comp=Z,53nm,1.2s,mb5.0
KBK Karagaybulak 42.30 38 P P 21 31 31.9 +1.1
SNR=21
SQTA Sankt Quirin 42.38 330⇑*i*P P 21 31 31.3 -0.1
comp=Z,58nm,1.4s,mb5.0
SQTA Sankt Quirin 42.38 330⇑*i*P P 21 31 31.3 -0.1
SQTA pmax pmax
comp=Z,58nm,1.4s,mb5.0
LMR La Mourre 42.38 323 *e*P P 21 31 31.4 -0.1
comp=Z,100nm,1.7s,mb4.9
LMR La Mourre 42.38 323 *e*P P 21 31 31.4 -0.1
LMR pmax pmax
comp=Z,50nm,1.7s,mb4.9
CHMS Chumysh 42.38 38 P P 21 31 32.0 +0.5
SNR=13
USP Ospenovka 42.39 37 P P 21 31 32.2 +0.6
SNR=16
GEC2 GERESS Array S 42.43 334 *e*P P 21 31 31.3 -0.5
comp=Z,54nm,1.3s,mb5.0
GEC2 GERESS Array S 42.43 334 *e*P P 21 31 31.3 -0.5
GEC2 pmax pmax
comp=Z,54nm,1.3s,mb5.0
GERES GERESS Array B 42.43 334 P P 21 31 30.7 -1.1
comp=Z,7.6nm,0.8s,mb4.4,baz=135,slow=7.5,SNR=47
GERES LR LR 21 51 52.3
comp=Z,1μm,19.2s,MS4.9,baz=32,slow=40
FRF La Foret Royal 42.43 323 *e*P P 21 31 31.7 -0.2
comp=Z,88nm,1.4s,mb4.9
FRF La Foret Royal 42.43 323 *e*P P 21 31 31.7 -0.2
FRF pmax pmax
comp=Z,44nm,1.4s,mb4.9
MOTA Moosalm 42.52 330⇓*i*P P 21 31 32.1 -0.4
comp=Z,27nm,1.1s,mb4.9
MOTA Moosalm 42.52 330⇓*i*P P 21 31 32.1 -0.4
MOTA pmax pmax
comp=Z,27nm,1.1s,mb4.9
DPC Dobruska-Polom 42.55 337 *e*P P 21 31 32.4 -0.4
OBN Obninsk 42.56 357 *e*P P 21 31 32.8 0.0
comp=Z,194nm,1.5s,mb5.6
OBN LR LR
comp=Z,316nm,19.0s,MS4.2
OBN Obninsk 42.56 357⇓*i*P P 21 31 33.2 +0.4
OBN *e* 21 33 12.8
OBN pmax pmax
comp=Z,162nm,1.8s,mb5.5

OBN MLR MLR
comp=Z,2µm,20.0s,MS4.9
KHC Kasperske Hory 42.70 334 *e*P **P** **21 31 32.9 -1.1**
KHC pP pP 21 31 37.5 +2.8
KHC AMS AMS 21 50 30.0
comp=Z,2µm,19.0s
KHC Kasperske Hory 42.70 334 *e*P **P** **21 31 32.9 -1.1**
KHC *e* 21 31 37.5
KHC MLR MLR
comp=Z,2µm,19.0s,MS4.9
DAVOX Davos 42.73 329 P **P** **21 31 33.7 -0.6**
comp=Z,4.8nm,0.6s,mb4.4,baz=146,slow=6.2,SNR=5.5
DAVOX LR LR 21 51 08.0
comp=Z,2µm,20.8s,MS5.0,baz=129,slow=39
TUE Stuetta 42.79 328 P **P** **21 31 37.7 +2.9**
UPC Upice 42.79 337 *e*P **P** **21 31 34.2 -0.6**
ETOS Mallorca 42.82 316 ⇑P **P** **21 31 35.6 +0.5**
comp=Z,49nm,1.1s,mb5.2
TKM2 Tokmak 2 42.85 38 P **P** **21 31 36.6 +1.3**
SNR=9.7
SURF Saint Ours 42.89 324 *e*P **P** **21 31 36.4 +0.8**
PRU Pruhonice 42.96 336 *e*P **P** **21 31 35.1 -1.0**
PRU AMS AMS 21 53 50.0
comp=Z,2µm,15.4s
KSP Ksiaz 42.96 338 *e*P **P** **21 31 36.3 +0.2**
KSP MLR MLR 21 49 33.6
comp=Z,3µm,24.2s,MS5.0
KSP Ksiaz 42.96 338⇑ *e*P **P** **21 31 35.8 -0.3**
KSP *e*PP PP 21 33 18.0 -0.3
KSP *e*S **S** **21 38 02.0 +0.2**
KSP *e*SS SS 21 41 12.0 +5.2
KSP LR LR
comp=Z,3µm,24.2s,MS5.1
KSP Ksiaz 42.96 338⇑ *e*P **P** **21 31 35.8 -0.3**
KSP *e*S **S** **21 38 02.0 +0.2**
KSP Ksiaz 42.96 338⇑ *e*P **P** **21 31 35.8 -0.3**
KSP *e* 21 33 18.0
KSP *e*S **S** **21 38 02.0 +0.2**
KSP MLR MLR
comp=Z,3µm,24.2s,MS5.1
KOLN Koldanda 42.99 63 *e*P **P** **21 31 37.6 +0.9**
comp=Z,192nm,1.2s,mb5.7
WET Wettzell 43.01 334 *e*P **P** **21 31 35.1 -1.5**
comp=Z,27nm,1.2s,mb4.8
WET Wettzell 43.01 334 *e*P **P** **21 31 35.1 -1.5**
WET pmax pmax
comp=Z,27nm,1.2s,mb4.8
FUR Furstenfeldbru 43.02 331 *e*P **P** **21 31 35.7 -0.9**
comp=Z,63nm,1.2s,mb5.2
FUR Furstenfeldbru 43.02 331 *e*P **P** **21 31 35.7 -0.9**
FUR pmax pmax
comp=Z,63nm,1.2s,mb5.2
MBDF Montbardon 43.06 325⇑ *i*P **P** **21 31 37.6 +0.6**
comp=Z,143nm,0.9s,mb5.4
MBDF Montbardon 43.06 325⇑ *i*P **P** **21 31 37.6 +0.6**
MBDF pmax pmax
comp=Z,71nm,0.9s,mb5.4
DAVA Damuels 43.07 330⇑ *i*P **P** **21 31 36.6 -0.5**
comp=Z,81nm,1.4s,mb5.3
MOS Moscow 43.14 358 *e*P **P** **21 31 37.7 +0.2**
MOS *i* 21 33 22.9
MOS pmax pmax
comp=Z,400nm,1.8s,mb5.8
MOS pmax pmax
comp=Z,239nm,1.5s,mb5.7
MOS MLR MLR
comp=Z,1µm,17.0s,MS4.9
LLS Linth-Limmern 43.21 328 ⇑P **P** **21 31 37.8 -0.4**
UBR Uberruh 43.23 330 *e*P **P** **21 31 37.7 -0.7**
UBR Uberruh 43.23 330 P **P** **21 31 38.0 -0.4**
MMK Mattmark 43.24 327 ⇓P **P** **21 31 38.5 +0.1**
SMRF Simiane la Rot 43.31 323 *e*P **P** **21 31 39.2 +0.2**
comp=Z,143nm,1.7s,mb5.1
BNI Bardonecchia 43.31 325 *e*P **P** **21 31 38.1 -1.0**
comp=Z,40nm,1.3s,mb5.0
BNI Bardonecchia 43.31 325 *e*P **P** **21 31 38.1 -1.0**
BNI pmax pmax
comp=Z,40nm,1.3s,mb5.0
PVCC Panska Ves 43.37 336 *e*P **P** **21 31 39.0 -0.5**
PVCC AMS AMS 21 54 10.0
comp=Z,2µm,15.5s
MUO Muotathal 43.48 328 ⇑P **P** **21 31 40.0 -0.4**
EIBI Ibiza 43.49 314 ⇑P **P** **21 31 41.0 +0.4**
comp=Z,102nm,1.5s,mb5.3
LPG La Plagne 43.55 325⇑ *i*P **P** **21 31 40.0 -1.0**
comp=Z,112nm,1.3s,mb5.1
LPG La Plagne 43.55 325⇑ *i*P **P** **21 31 40.0 -1.0**
LPG pmax pmax
comp=Z,56nm,1.3s,mb5.1
DIX Grande Dixence 43.55 327 ⇑P **P** **21 31 40.6 -0.4**
SUW Suwalki 43.56 345 *e*P **P** **21 31 41.3 +0.3**
SUW *e*PP PP 21 33 26.4 +2.1
SUW MLR MLR 21 53 48.3
comp=Z,2µm,18.8s,MS5.0
LPL La Plagne 43.57 325⇑ *i*P **P** **21 31 39.9 -1.2**
comp=Z,154nm,1.5s,mb5.2
LPL La Plagne 43.57 325⇑ *i*P **P** **21 31 39.9 -1.2**
LPL pmax pmax
comp=Z,77nm,1.5s,mb5.2
LKBD Leukerbad 43.63 327 ⇑P **P** **21 31 40.7 -0.9**
ORIF Oris-en-Rattie 43.68 324⇑ *i*P **P** **21 31 41.8 -0.3**
comp=Z,192nm,1.5s,mb5.3
ORIF *e*R
comp=Z,3µm,21.8s
PECR Pechory 43.75 3 *e*P **P** **21 31 42.6 +0.2**
PECR *e* 21 33 32.5
PECR pmax pmax
comp=Z,600nm,1.6s,mb6.1
PECR MLR MLR
comp=N,2µm,14.0s,MS5.3
PECR MLR MLR
comp=Z,2µm,14.0s,MS5.2
PECR MLR MLR
comp=N,2µm,16.0s
PECR MLR MLR
comp=Z,2µm,16.0s
PECR MLR MLR
comp=E,1µm,17.0s,MS5.3
ROTZ Rotzenmuhle 43.77 334 P **P** **21 31 41.4 -1.3**
EMV Vieux Emosson 43.82 326 ⇑P **P** **21 31 42.3 -0.8**
HDH Heidenheim 43.82 331 *e*P **P** **21 31 42.4 -0.7**
BRG Berggiesshubel 43.89 336 *i*P **P** **21 31 42.7 -1.0**
comp=E,19nm,1.1s,mb4.7
BRG *e* 21 31 50.9
BRG *e* 21 32 25.8
BRG PP PP 21 33 28.0 +0.4
BRG S **S** **21 38 17.0 +1.7**
BRG SS SS 21 41 30.0 +6.4
BRG LR LR
comp=Z,1µm,17.4s,MS4.9
BRG Berggiesshubel 43.89 336 *i*P **P** **21 31 42.7 -0.9**
BRG *e* 21 31 50.9
BRG 21 33 28.0
BRG S **S** **21 38 17.0 +1.7**
BRG pmax pmax
comp=Z,19nm,1.1s,mb4.7
BRG MLR MLR
comp=Z,1µm,17.4s,MS4.9
GKN Gorkha 43.93 63 *e*P **P** **21 31 44.1 -0.2**
comp=Z,193nm,1.5s,mb5.6
GRN Grenoble 43.95 325 *e*P **P** **21 31 44.6 +0.3**
GUT Gutenstein 43.99 330⇑ *e*P **P** **21 31 43.9 -0.6**
GUT Gutenstein 43.99 330 P **P** **21 31 44.5 0.0**
IDID Didziasalis 43.99 349 *e*P **P** **21 31 43.4 -1.0**
IDID AMb AMB 21 31 47.8
comp=Z,14nm,1.1s,mb4.6
IDID Didziasalis 43.99 349 *e*P **P** **21 31 43.4 -1.0**
comp=Z,14nm,1.1s,mb4.6,SNR=33
NKC Novy Kostel 44.01 334 *e*P **P** **21 31 43.8 -0.9**
SLE Schleitheim 44.09 329 ⇑P **P** **21 31 44.5 -0.8**
SULZ Sulz-Cheisache 44.12 329 ⇑P **P** **21 31 44.6 -1.0**
BUCH Bad Urach 44.13 330⇑ *e*P **P** **21 31 45.3 -0.3**
BUCH Bad Urach 44.13 330 P **P** **21 31 45.8 +0.2**
GRA1 Grafenberg Arr 44.15 333 *e*P **P** **21 31 44.2 -1.6**
comp=Z,46nm,1.2s,mb5.1
GRA1 *e*S **S** **21 38 25.6 +6.6**
GRA1 LR LR
comp=Z,2µm,19.9s,MS5.1
GRF Grafenberg Arr 44.15 333 *e*P **P** **21 31 44.2 -1.6**
comp=Z,46nm,1.2s,mb5.1
GRF *e*S **S** **21 38 25.6 +6.6**
GRF LR LR
comp=Z,2µm,19.9s,MS5.1
GRF Grafenberg Arr 44.15 333 *e*P **P** **21 31 44.2 -1.6**
GRF *e*S **S** **21 38 25.6 +6.6**
GRF pmax pmax
comp=Z,46nm,1.2s,mb5.1
GRF MLR MLR
comp=Z,2µm,19.9s,MS5.1
GRF Grafenberg Arr 44.15 333 *e*P **P** **21 31 44.2 -1.6**
GRF *e*S **S** **21 38 25.6 +6.6**
GRF pmax pmax
comp=Z,46nm,1.2s,mb5.1
GRF MLR MLR
comp=Z,2µm,19.9s,MS5.1
SPAK Spaichingen 44.17 330 *e*P **P** **21 31 45.6 -0.4**
SPAK Spaichingen 44.17 330 *e*P **P** **21 31 45.8 -0.2**
WERD Werda 44.23 334 P **P** **21 31 45.4 -1.1**
DMN Daman 44.27 63 *e*P **P** **21 31 46.8 -0.3**
comp=Z,138nm,1.1s,mb5.6
VIVF Saint-Julien-l 44.34 323 *e*P **P** **21 31 46.9 -0.5**
comp=Z,109nm,1.5s,mb5.1
VIVF Saint-Julien-l 44.34 323 *e*P **P** **21 31 46.9 -0.5**
VIVF pmax pmax
comp=Z,55nm,1.5s,mb5.1
ISAL Salakas 44.35 348 *e*P **P** **21 31 46.2 -1.1**
ISAL AMb AMB 21 31 50.8
comp=Z,11nm,1.1s,mb4.5
ISAL Salakas 44.35 348 *e*P **P** **21 31 46.2 -1.1**
comp=Z,11nm,1.1s,mb4.5,SNR=33
FILF Fillols 44.37 320 *e*P **P** **21 31 48.3 +0.6**
LASF Ste Croix 44.38 322 *e*P **P** **21 31 47.5 -0.3**
comp=Z,190nm,1.5s,mb5.3
BBS Basel-Blauen 44.39 328 *e*P **P** **21 31 46.8 -1.0**
BBS Basel-Blauen 44.39 328 P **P** **21 31 47.6 -0.2**
FELD Feldberg 44.41 329 *e*P **P** **21 31 47.3 -0.6**
STU Stuttgart 44.43 331 P **P** **21 31 47.9 -0.2**
KKN Kakani 44.45 63 *e*P **P** **21 31 48.3 -0.3**
comp=Z,188nm,1.3s,mb5.7
IZAR Zarasai 44.49 349 *e*P **P** **21 31 47.9 -0.6**
IZAR AMb AMB 21 31 51.9
comp=Z,16nm,1.1s,mb4.7
IZAR Zarasai 44.49 349 *e*P **P** **21 31 47.9 -0.6**
comp=Z,16nm,1.1s,mb4.7,SNR=29
KIZ Kirchzarten 44.50 329 *e*P **P** **21 31 48.0 -0.7**
KIZ Kirchzarten 44.50 329 P **P** **21 31 48.8 +0.1**
PKI Pulchoki 44.52 63 *e*P **P** **21 31 48.7 -0.4**
comp=Z,74nm,1.0s,mb5.5
BFO Black Forest 44.55 330 *e*P **P** **21 31 48.2 -0.9**
comp=Z,42nm,1.5s,mb5.0
BFO Black Forest 44.55 330 *e*P **P** **21 31 48.2 -0.9**
BFO pmax pmax
comp=Z,42nm,1.5s,mb5.0
LBG Lerchenberg 44.55 330 *e*P **P** **21 31 48.0 -1.0**
LBG Lerchenberg 44.55 330 P **P** **21 31 51.1 +2.1**
CART Cartagena 44.56 311⇑ *i*P **P** **21 31 49.7 +0.3**
comp=Z,40nm,1.1s,mb5.2
CABF La Chapelle 44.60 326⇑ *i*P **P** **21 31 48.3 -1.2**
comp=Z,79nm,1.0s,mb5.2
CABF La Chapelle 44.60 326⇑ *i*P **P** **21 31 48.3 -1.2**
CABF pmax pmax
comp=Z,39nm,1.0s,mb5.2
CLL Collm 44.60 336 ⇑P **P** **21 31 48.2 -1.2**
comp=Z,logA/T=1.3,mb4.9
CLL *i* *SP sP 21 31 55.8 +5.4
CLL *e* 21 32 03.0
CLL *e*S **S** **21 38 24.0 -1.6**
CLL *e*SS SS 21 41 43.0 +6.0
CLL *e* 21 42 08.0
CLL Collm 44.60 336⇑ *i*P **P** **21 31 48.2 -1.2**
comp=Z,26nm,1.3s,mb4.9
CLL *i* 21 31 55.8
CLL *e*S **S** **21 38 24.0 -1.6**
CLL Collm 44.60 336⇑ *i*P **P** **21 31 48.2 -1.2**
CLL *i* 21 31 55.8
CLL *e*S **S** **21 38 24.0 -1.6**
CLL pmax pmax
comp=Z,26nm,1.3s,mb4.9
GKP Gorka Klasztor 44.63 340 *e*P **P** **21 31 49.2 -0.4**
GKP *e*PP PP 21 33 32.8 -2.2
GKP MLR MLR 21 54 32.0
comp=Z,1µm,19.6s,MS4.9
SIND Sindeldorf 44.64 331 *e*P **P** **21 31 48.7 -1.0**
SIND Sindeldorf 44.64 331 P **P** **21 31 49.1 -0.6**
VALF Valcebollere 44.64 319 *e*P **P** **21 31 50.2 +0.3**
LOMF Lomont 44.67 328 *e*P **P** **21 31 49.8 -0.2**
MOX Moxa 44.68 334 *i*P **P** **21 31 49.0 -1.0**
comp=Z,logA/T=1.5,mb5.1
MOX S **S** **21 38 26.0 -0.7**
MOX SS SS 21 41 50.0 +12
MOX L 21 53 00.0
MOX Moxa 44.68 334 *e*P **P** **21 31 49.0 -1.0**
comp=Z,41nm,1.4s,mb5.1
MOX *e*S **S** **21 38 26.0 -0.7**
MOX *e*SS SS 21 41 50.0 +12
MOX LR LR
comp=Z,1µm,19.0s,MS4.8
MOX Moxa 44.68 334 *e*P **P** **21 31 49.0 -1.0**
MOX *e*S **S** **21 38 26.0 -0.7**
MOX *e*SS SS 21 41 50.0 +12
MOX pmax pmax
comp=Z,41nm,1.4s,mb5.1
MOX MLR MLR
comp=Z,1µm,19.0s,MS4.8
EMIR Miracle 44.72 318 ⇑P **P** **21 31 50.8 +0.3**
comp=Z,278nm,2.1s,mb5.7
EPOB Poblet 44.74 317 ⇑P **P** **21 31 51.0 +0.3**
comp=Z,114nm,1.5s,mb5.5
LIBD Limburg 44.79 329 *e*P **P** **21 31 50.9 -0.1**
MOF Molkenrain 44.84 328 *e*P **P** **21 31 50.9 -0.5**
EMUR La Murta 44.84 312 ⇑P **P** **21 31 52.4 +0.8**
comp=Z,230nm,1.9s,mb5.7
HINF Hinteralfeld 44.96 328⇑ *i*P **P** **21 31 51.5 -0.8**
comp=Z,49nm,1.0s,mb5.0
HINF Hinteralfeld 44.96 328⇑ *i*P **P** **21 31 51.5 -0.8**
HINF pmax pmax
comp=Z,24nm,1.0s,mb5.0
KIC Kosan Boka 44.97 266 *e*PKP1 **P** **21 31 52.8 -0.1**
comp=Z,303nm,1.2s,mb6.0
MTLF Montolieu 44.99 320 *e*P **P** **21 31 52.4 -0.3**
comp=Z,121nm,1.6s,mb5.2
MTLF Montolieu 44.99 320 *e*P **P** **21 31 52.4 -0.3**
MTLF pmax pmax
comp=Z,60nm,1.6s,mb5.2
DBIC Dimbokro 45.02 267 P **P** **21 31 53.7 +0.4**
comp=Z,28nm,0.8s,mb5.2,baz=65,slow=10,SNR=24
DBIC LR LR 21 52 52.3
comp=Z,2µm,18.7s,MS5.2,baz=64,slow=39
DBIC Dimbokro 45.02 267 *e*P **P** **21 31 52.0 -1.3**
comp=Z,32nm,1.0s,mb5.1
DBIC Dimbokro 45.02 267 *e*P **P** **21 31 52.0 -1.3**
DBIC pmax pmax
comp=Z,32nm,1.0s
ERTA Horta de San J 45.05 316 ⇑P **P** **21 31 54.0 +0.9**
comp=Z,164nm,1.9s,mb5.5
ECH Echery 45.06 329 *e*P **P** **21 31 52.3 -0.8**
WLS Welschbruch 45.09 329 *e*P **P** **21 31 52.7 -0.7**
CDF Champ du Feu 45.13 329⇑ *i*P **P** **21 31 52.9 -0.8**
comp=Z,74nm,1.3s,mb5.1
CDF Champ du Feu 45.13 329⇑ *i*P **P** **21 31 52.9 -0.8**
CDF pmax pmax
comp=Z,37nm,1.3s,mb5.0
SWS Schriesheim 45.16 331 *e*P **P** **21 31 53.1 -0.8**
TIC Toumodi 45.18 267 *e*PKP1 **P** **21 31 54.1 -0.5**
comp=Z,36nm,1.2s,mb5.1
TOD Tromm 45.19 331 *e*P **P** **21 31 53.3 -0.9**
TOD Tromm 45.19 331 *e*P **P** **21 31 53.2 -1.0**
RUE Ruedersdorf 45.21 337 *e*P **P** **21 31 52.6 -1.7**
comp=Z,49nm,0.8s,mb5.4
LANF Langenberg 45.24 330 *e*P **P** **21 31 53.7 -0.9**
LIC Lamto 45.27 266 *e*PKP1 **P** **21 31 53.7 -1.6**
comp=Z,153nm,1.3s,mb5.7
LIC Lamto 45.27 266⇑ *i*P **P** **21 31 55.2 -0.1**
comp=Z,74nm,1.3s,mb5.4
EMOS Mosqueruela 45.34 315 ⇑P **P** **21 31 56.6 +1.1**
comp=Z,36nm,1.2s,mb5.1
HAU Haudompre 45.34 328⇑ *i*P **P** **21 31 54.5 -0.9**
comp=Z,142nm,1.6s,mb5.2
HAU *e*R
comp=Z,1µm,21.8s
HAU Haudompre 45.34 328⇑ *i*P **P** **21 31 54.5 -0.9**
HAU pmax pmax
comp=Z,71nm,1.6s,mb5.2
HAU MLR MLR
comp=Z,1µm,21.8s,MS4.9
SALF Salau 45.35 319 *e*P **P** **21 31 55.8 +0.3**
ECHE Chera 45.35 314 ⇑P **P** **21 31 56.6 +1.0**
comp=Z,18nm,1.0s,mb4.9
ECHE Chera 45.35 314 ⇑P **P** **21 31 56.6 +1.0**
ECHE pmax pmax
comp=Z,18nm,1.0s,mb4.9
ETOB Tobarra 45.38 313 ⇑P **P** **21 31 56.2 +0.4**
comp=Z,104nm,2.0s,mb5.3
LBL Lubilhac 45.39 323 *e*P **P** **21 31 55.5 -0.3**
EALB Alboran 45.49 308 ⇑P **P** **21 31 57.7 +1.0**
comp=Z,282nm,1.6s,mb5.8
PLDF La Plantade 45.59 324 *e*P **P** **21 31 56.7 -0.7**
EGRA Graus 45.64 318 ⇑P **P** **21 31 57.9 +0.1**
comp=Z,21nm,1.0s,mb5.0
THEF They Montfort 45.67 328 *e*P **P** **21 31 57.2 -0.7**
MELF Melles 45.68 319 *e*P **P** **21 31 58.7 +0.6**
EBER Berja 45.71 310 ⇑P **P** **21 31 59.3 +0.9**
comp=Z,115nm,1.6s,mb5.6
TNS Taunus Mts 45.78 332 *e*P **P** **21 31 57.7 -1.1**
comp=Z,56nm,1.2s,mb5.4
TNS Taunus Mts 45.78 332 *e*P **P** **21 31 57.7 -1.1**
TNS pmax pmax
comp=Z,56nm,1.2s,mb5.4
PYM Petit Puy Mans 45.82 324 *e*P **P** **21 31 59.9 +0.7**
EHUE Huescar 45.82 311 ⇑P **P** **21 31 59.8 +0.5**
comp=Z,28nm,1.4s,mb5.0
EHUE Huescar 45.82 311 ⇑P **P** **21 31 59.8 +0.5**
EHUE pmax pmax
comp=Z,28nm,1.4s,mb5.0
SMF Signal de Mont 45.86 325 *e*P **P** **21 31 58.3 -1.2**
comp=Z,34nm,1.2s,mb4.9
SMF Signal de Mont 45.86 325 *e*P **P** **21 31 58.3 -1.2**
SMF pmax pmax
comp=Z,17nm,1.2s,mb4.8
AGO Saint Agoulin 45.92 324 *e*P **P** **21 31 59.5 -0.5**
RESF Ens 45.92 319 *e*P **P** **21 32 00.8 +0.8**
CAF Calviac 45.92 322 *e*P **P** **21 32 00.2 +0.2**
comp=Z,144nm,1.6s,mb5.4
CAF Calviac 45.92 322 *e*P **P** **21 32 00.2 +0.2**
CAF pmax pmax
comp=Z,72nm,1.6s,mb5.3
ESAC San Caprasio 45.94 317 ⇑P **P** **21 32 00.2 0.0**
comp=Z,189nm,2.0s,mb5.7
ARU Arti 45.95 14 *e*P **P** **21 32 00.4 +0.3**
comp=Z,176nm,1.8s,mb5.7
ARU LR LR
comp=Z,320nm,21.0s,MS4.2
ARU Arti 45.95 14⇑ *i*P **P** **21 32 00.0 -0.1**
ARU pmax pmax
comp=Z,73nm,1.5s,mb5.4
ABH Alteburg 45.98 331 *e*P **P** **21 31 59.1 -1.3**
EBIE Bielsa 45.99 318 ⇑P **P** **21 32 01.1 +0.6**
comp=Z,181nm,1.8s,mb5.7
EPF Esparros 46.02 319 *e*P **P** **21 32 00.8 -0.1**
comp=Z,40nm,1.2s,mb4.9
EPF Esparros 46.02 319 *e*P **P** **21 32 00.8 -0.1**
EPF pmax pmax
comp=Z,20nm,1.2s,mb4.9
EVIA Vianos 46.06 312 ⇑P **P** **21 32 01.6 +0.4**
comp=Z,10.0nm,0.8s,mb4.8
EVIA Vianos 46.06 312 ⇑P **P** **21 32 01.6 +0.4**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CLZ Clausthal 46.09 334 *e*P **P** **21 31 59.8 -1.4**
comp=Z,16nm,1.2s,mb4.8
CLZ Clausthal 46.09 334 *e*P **P** **21 31 59.8 -1.4**
CLZ pmax pmax
comp=Z,16nm,1.2s,mb4.8
VIEF Viey 46.16 319 *e*P **P** **21 32 02.4 +0.5**
EQES Quesada 46.17 311 ⇑P **P** **21 32 02.2 +0.2**
comp=Z,120nm,1.7s,mb5.5
EGUA Guajares 46.20 309 P **P** **21 32 03.3 +1.0**
LABF Labassere 46.20 319 *e*P **P** **21 32 02.7 +0.4**
LOR Lormes 46.21 326⇑ *i*P **P** **21 32 01.4 -0.9**
comp=Z,64nm,1.1s,mb5.2
LOR *e*R
comp=Z,962nm,20.8s
LOR Lormes 46.21 326⇑ *i*P **P** **21 32 01.4 -0.9**
LOR pmax pmax
comp=Z,32nm,1.1s,mb5.2
LOR MLR MLR
comp=Z,960nm,20.8s,MS4.7
AVF Avril sur Loir 46.21 325⇑ *i*P **P** **21 32 01.2 -1.1**
comp=Z,46nm,1.4s,mb4.9
AVF Avril sur Loir 46.21 325⇑ *i*P **P** **21 32 01.2 -1.1**
AVF pmax pmax
comp=Z,23nm,1.4s,mb4.9
SSF Saint Saulge 46.28 325⇑ *i*P **P** **21 32 01.7 -1.2**
comp=Z,34nm,1.0s,mb4.9
SSF Saint Saulge 46.28 325⇑ *i*P **P** **21 32 01.7 -1.2**
SSF pmax pmax
comp=Z,17nm,1.0s,mb4.9
MEZF Maizieres J'vi 46.32 328⇑ *i*P **P** **21 32 02.9 -0.2**
comp=Z,201nm,1.3s,mb5.6
ECOG Cogollos-Vega 46.35 310 P **P** **21 32 04.3 +0.8**
comp=Z,7.2nm,0.7s,mb4.7
ECOG Cogollos-Vega 46.35 310 P **P** **21 32 04.3 +0.8**
ECOG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BGF Bois d'Agland 46.37 324⇑ *i*P **P** **21 32 03.0 -0.5**
comp=Z,92nm,1.2s,mb5.3
BGF Bois d'Agland 46.37 324⇑ *i*P **P** **21 32 03.0 -0.5**
BGF pmax pmax
comp=Z,46nm,1.2s,mb5.3
ERON Agron 46.44 310 ⇑P **P** **21 32 05.4 +1.1**
comp=Z,21nm,0.8s,mb5.1
RJF Les Rejaudoux 46.45 322⇑ *i*P **P** **21 32 04.1 -0.1**
comp=Z,38nm,1.2s,mb4.9
RJF *e*R
comp=Z,2µm,19.0s
RJF Les Rejaudoux 46.45 322⇑ *i*P **P** **21 32 04.1 -0.1**
RJF pmax pmax
comp=Z,19nm,1.2s,mb4.9
RJF MLR MLR
comp=Z,2µm,19.0s,MS5.0
WLF Walferdange 46.51 330⇑ *e*P **P** **21 32 03.4 -1.2**
comp=Z,38nm,1.2s,mb5.2
WLF Walferdange 46.51 330⇑ *e*P **P** **21 32 03.4 -1.2**
WLF pmax pmax
comp=Z,38nm,1.2s,mb5.2
FDAF Les Forges d'A 46.51 318 *e*P **P** **21 32 05.3 +0.6**
REYF Montagne du Re 46.51 319 *e*P **P** **21 32 05.3 +0.6**
ETSF Etsaut 46.54 318⇑ *i*P **P** **21 32 05.6 +0.7**
comp=Z,279nm,1.3s,mb5.7
ETSF Etsaut 46.54 318⇑ *i*P **P** **21 32 05.6 +0.7**
ETSF pmax pmax
comp=Z,139nm,1.3s,mb5.7
TCF Toulx Ste Croi 46.58 324 *e*P **P** **21 32 05.0 -0.2**
comp=Z,68nm,1.7s,mb5.0
TCF Toulx Ste Croi 46.58 324 *e*P **P** **21 32 05.0 -0.2**
TCF pmax pmax
comp=Z,34nm,1.7s,mb5.0
NRDL Niedersach Rie 46.68 335 P **P** **21 32 04.7 -1.2**
LFF La Frestale 46.73 321⇑ *i*P **P** **21 32 06.6 +0.2**
comp=Z,126nm,1.2s,mb5.4
LFF La Frestale 46.73 321⇑ *i*P **P** **21 32 06.6 +0.2**
LFF pmax pmax
comp=Z,63nm,1.2s,mb5.4
ELOJ Sierra Loja 46.75 310 P **P** **21 32 07.0 +0.3**
comp=Z,233nm,1.8s,mb5.8
ELOJ Sierra Loja 46.75 310 P **P** **21 32 07.0 +0.4**
ELOJ pmax pmax
comp=Z,233nm,1.8s,mb5.8
EBAN Banos Encina 46.83 311 P **P** **21 32 06.2 -1.1**
BRVK Borovoye 46.88 24 *e*P **P** **21 32 07.0 -0.5**
comp=Z,29nm,1.6s,mb5.0
BRVK Borovoye 46.88 24 *e*P **P** **21 32 07.0 -0.4**
BRVK pmax pmax
comp=Z,29nm,1.6s,mb5.0
LARF Larrau 46.88 318 *e*P **P** **21 32 08.3 +0.7**
BVA0 Borovoye Array 46.89 24 *i*P **P** **21 32 07.1 -0.5**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BVAR Borovoye Array 46.89 24 P **P** **21 32 07.2 -0.4**
comp=Z,7.5nm,0.9s,mb4.6,baz=207,slow=6.6,SNR=21
VOSK Vostochnaya 46.91 25 *i*P **P** **21 32 07.2 -0.5**
BSD Bornholm Skovb 46.93 340 *i*P **P** **21 32 13.2 +5.4**
comp=Z,10nm,1.2s,mb4.6
BSD Bornholm Skovb 46.93 340 *e*P **P** **21 32 13.2 +5.4**
BSD pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
ELUQ Luque 46.97 310 ⇑P **P** **21 32 07.7 -0.7**
comp=Z,47nm,1.5s,mb5.2
ELUQ Luque 46.97 310 ⇑P **P** **21 32 07.7 -0.7**
ELUQ pmax pmax
comp=Z,47nm,1.5s,mb5.2
VSU Vasula 46.97 350 P **P** **21 32 12.1 +4.0**
EMIJ Mijas 47.02 309 P **P** **21 32 08.9 0.0**
comp=Z,30nm,1.0s,mb5.2
SJPF Ste Jean 47.07 318⇑ *i*P **P** **21 32 09.9 +0.8**
comp=Z,159nm,1.1s,mb5.6

SJPF	Ste Jean	47.07	318⇑	iP	P	21 32 09.9	+0.8
SJPF				pmax	pmax		
	comp=Z,79nm,1.1s,mb5.6						
OSSF	Osses	47.16	318	eP	P	21 32 09.3	-0.6
BUG	Bochum--Univer	47.17	332	P	P	21 32 09.0	-0.8
EALK	Alkurruntz	47.31	318	P	P	21 32 11.3	+0.4
	comp=Z,20nm,0.8s,mb5.1						
HGN	Heimansgroeve	47.34	331⇑	eP	P	21 32 10.6	-0.5
	comp=Z,31nm,1.7s,mb5.0						
HGN				ePP	PP	21 34 19.5	+18
HGN				eS	S	21 39 02.8	-1.9
EADA	Adamuz	47.41	311	⇑P	P	21 32 10.8	-1.1
	comp=Z,54nm,1.9s,mb5.2						
GIVF	Givet	47.45	329⇑	iP	P	21 32 11.1	-0.9
	comp=Z,69nm,1.0s,mb5.2						
GIVF	Givet	47.45	329⇑	iP	P	21 32 11.1	-0.9
GIVF				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.2						
ESDC	Sonseca Array	47.51	313	P	P	21 32 12.8	+0.2
	comp=Z,15nm,0.9s,mb5.0,baz=113,slow=7.6,SNR=37						
ESDC	Sonseca Array	47.51	313	P	P	21 32 12.7	+0.1
	comp=Z,18nm,1.0s,mb5.1						
EJIF	Jimena Fronter	47.52	308	⇓P	P	21 32 12.8	0.0
	comp=Z,32nm,1.3s,mb5.2						
EJIF	Jimena Fronter	47.52	308	⇓P	P	21 32 12.8	0.0
EJIF				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
BSEG	Bad Segeberg	47.66	336	eP	P	21 32 12.5	-1.2
BAIF	Baives	47.73	329⇑	iP	P	21 32 13.1	-1.1
	comp=Z,61nm,1.2s,mb5.2						
BAIF	Baives	47.73	329⇑	iP	P	21 32 13.1	-1.1
BAIF				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
ESPR	Espera	47.95	309	⇑P	P	21 32 15.7	-0.4
	comp=Z,187nm,1.8s,mb5.8						
MFF	Saint Martin d	48.12	323	eP	P	21 32 16.4	-0.9
	comp=Z,34nm,1.3s,mb4.9						
MFF	Saint Martin d	48.12	323	eP	P	21 32 16.4	-0.9
MFF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
AVE	Averroes	48.20	304	P	P	21 32 17.0	-1.1
WIT	Witteveen	48.38	333⇑	eP	P	21 32 19.2	0.0
	comp=Z,187nm,1.9s,mb5.8						
SOKR	Solikamsk	48.48	11⇓	iP	P	21 32 20.9	+1.0
SOKR				S	S	21 39 30.6	+10
SOKR				SSS	SSS	21 44 07.7	+4.2
SOKR				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.3						
SOKR				MLR	MLR		
	comp=Z,3µm,17.0s,MS5.3						
SUR	Sutherland	48.48	202	eP	P	21 32 24.7	+4.4
	comp=Z,18nm,0.9s,mb5.1						
SUR				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
ELAN	Lanestosa	48.57	317	⇑P	P	21 32 20.9	0.0
	comp=Z,83nm,1.4s,mb5.6						
EMIN	Mina Concepcio	48.84	310	⇑P	P	21 32 22.4	-0.7
	comp=Z,138nm,2.0s,mb5.6						
MKAR	Makanchi Array	48.94	37	P	P	21 32 23.1	-0.5
	comp=Z,15nm,1.0s,mb5.0,baz=233,slow=6.1,SNR=35						
MKAR				LR	LR	21 55 40.1	
	comp=Z,2µm,18.9s,MS5.0,baz=222,slow=39						
MENF	Mencas	49.08	328	eP	P	21 32 23.4	-1.2
KURK	Kurchatov	49.09	31	eP	P	21 32 25.0	+0.2
	comp=Z,41nm,1.3s,mb5.3						
KURK				LR	LR		
	comp=Z,543nm,21.0s,MS4.5						
KURK	Kurchatov	49.09	31	eP	P	21 32 25.0	+0.3
KURK				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.3						
KURK				MLR	MLR		
	comp=Z,543nm,21.0s,MS4.5						
LDF	La Druitiere	49.17	325⇑	iP	P	21 32 23.9	-1.5
	comp=Z,72nm,1.4s,mb5.2						
LDF	La Druitiere	49.17	325⇑	iP	P	21 32 23.9	-1.5
LDF				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.2						
EGRO	El Granado	49.39	309	⇑P	P	21 32 26.7	-0.5
	comp=Z,135nm,1.8s,mb5.7						
EBAD	Badajoz	49.41	311	⇑P	P	21 32 26.9	-0.5
	comp=Z,185nm,1.8s,mb5.8						
FLN	La Foliniere	49.46	325⇑	iP	P	21 32 26.2	-1.4
	comp=Z,83nm,1.0s,mb5.4						
FLN				eR			
	comp=Z,1µm,19.0s						
FLN	La Foliniere	49.46	325⇑	iP	P	21 32 26.2	-1.4
FLN				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.4						
FLN				MLR	MLR		
	comp=Z,1µm,19.0s,MS4.9						
GRR	Gorron	49.47	325⇑	iP	P	21 32 26.3	-1.4
	comp=Z,78nm,1.1s,mb5.3						
GRR	Gorron	49.47	325⇑	iP	P	21 32 26.3	-1.4
GRR				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.3						
EARI	Arriondas	49.78	317	P	P	21 32 29.8	-0.4
	comp=Z,88nm,2.0s,mb5.4						
PBEJ	Beja	49.82	309	eP	P	21 32 30.3	-0.3
	comp=Z,42nm,1.6s,mb5.2						
LSA	Lhasa	49.85	62	P	P	21 32 31.4	+0.5
LSA	Lhasa	49.85	62	eP	P	21 32 30.9	0.0
	comp=Z,34nm,1.1s,mb5.3						
LSA	Lhasa	49.85	62	eP	P	21 32 31.0	+0.1
LSA				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.3						
FINES	FINESS Array B	49.91	351	P	P	21 32 30.2	-0.7
	comp=Z,6.5nm,0.9s,mb4.7,baz=135,slow=14,SNR=11						
MUD	Monsted U'grnd	49.99	338	i P	P	21 32 31.7	+0.1
	comp=Z,32nm,1.4s,mb5.2						
MUD				i		21 33 03.1	
MUD				i S	S	21 39 48.8	+6.9
	comp=Z,970nm,18.0s						
MUD	Monsted U'grnd	49.99	338	i P	P	21 32 31.7	+0.1
MUD				i S	S	21 39 48.8	+6.9
MUD				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.2						
PCBR	Castelo Branco	50.10	312	eP	P	21 32 31.9	-0.8
	comp=Z,44nm,1.4s,mb5.3						
ECAL	Calabor	50.30	315	P	P	21 32 33.8	-0.3
	comp=Z,85nm,2.0s,mb5.4						
MTE	Manteigas	50.33	312	ePP	PP	21 34 34.7	+3.8
MTE				eS	S	21 39 47.5	+0.7
MTE				i -		21 43 52.6	
MTE				eLQ		21 46 35.4	
MTE				eLR	LR	21 48 24.2	
	comp=Z,2µm,20.0s						
MTE	Manteigas	50.33	312	eP	P	21 32 33.5	-1.0
	comp=Z,37nm,1.4s,mb5.2						
MTE	Manteigas	50.33	312	eP	P	21 32 33.9	-0.5
MTE				eS	S	21 39 47.5	+0.7
PTEO	Sao Teotonio	50.33	309	eP	P	21 32 34.5	0.0
	comp=Z,128nm,1.5s,mb5.7						
SGMF	Saint Gilles	50.37	324	eP	P	21 32 33.1	-1.5
	comp=Z,108nm,1.6s,mb5.3						
SGMF	Saint Gilles	50.37	324	eP	P	21 32 33.1	-1.5
SGMF				pmax	pmax		
	comp=Z,54nm,1.6s,mb5.3						
KAF	Kangasniemi	50.52	351	ep	P	21 32 35.2	-0.3
	comp=Z,18nm,1.3s,mb4.8						
KAF	Kangasniemi	50.52	351	eP	P	21 32 35.2	-0.3
KAF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
QUIF	Quistinic	50.56	323⇑	iP	P	21 32 34.7	-1.4
	comp=Z,67nm,1.2s,mb5.2						
QUIF	Quistinic	50.56	323⇑	iP	P	21 32 34.7	-1.4
QUIF				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
JOF	Joensuu	50.71	355	ep	P	21 32 35.4	-1.6
	comp=Z,28nm,1.3s,mb5.0						
PTOM	Tomar	50.71	311	eP	P	21 32 37.2	-0.1
	comp=Z,37nm,1.1s,mb5.2						
ERUA	La Rua	50.74	315	⇑P	P	21 32 37.5	-0.1
	comp=Z,34nm,1.2s,mb5.2						
ERUA	La Rua	50.74	315	⇑P	P	21 32 37.5	0.0
ERUA				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
PVRL	Vila Real	50.75	314	eP	P	21 32 37.7	+0.1
	comp=Z,65nm,1.6s,mb5.3						
ROSF	Rostrenen	50.83	323	eP	P	21 32 36.3	-1.8
	comp=Z,84nm,1.5s,mb5.2						
ROSF	Rostrenen	50.83	323	eP	P	21 32 36.3	-1.8
ROSF				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
WMQ	Urumqi	51.02	43⇓	iP	P	21 32 40.4	+0.8
WMQ				AP	pP	21 32 45.0	+4.6
WMQ				PCP	PcP	21 33 56.0	+0.1
WMQ				PCS		21 37 52.0	
WMQ				S	S	21 39 56.0	-0.3
WMQ				SCS	ScS	21 42 28.0	-0.3
WMQ				SS	SS	21 43 31.0	+2.0
WMQ				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,243nm,5.0s						
WMQ				LR	LR		
	comp=N,3µm,17.0s,MS5.5						
WMQ				LR	LR		
	comp=E,1µm,15.0s,MS5.5						
WMQ				LR	LR		
	comp=Z,1µm,21.6s						
EPON	Pontenova	51.09	316	P	P	21 32 39.9	-0.2
	comp=Z,103nm,1.6s,mb5.5						
ELOB	Lobios	51.20	314	P	P	21 32 40.9	-0.1
	comp=Z,67nm,2.1s,mb5.2						
HFS	Hagfors	51.44	343	P	P	21 32 40.2	-2.3
	comp=Z,6.2nm,0.8s,mb4.6,baz=135,slow=8.4,SNR=4.2						
EMAZ	Mazaricos	52.21	315	P	P	21 32 47.9	-0.8
	comp=Z,26nm,1.0s,mb5.1						
KONO	Kongsberg	52.28	341	PFAKE		21 33 00.0	+11
KONO				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
NAO01	NORSAR Array S	52.83	342	eP	P	21 32 50.8	-2.2
	comp=Z,24nm,1.1s,mb5.0						
NB2	NORSAR Subarra	52.89	343	P	P	21 32 51.3	-2.2
	comp=Z,19nm,1.0s,mb5.0,baz=141,slow=7.4						
NB2	NORSAR Subarra	52.89	343	P	P	21 32 51.3	-2.2
NB2				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
NOA	NORSAR Array B	52.89	343	P	P	21 32 52.1	-1.4
	comp=Z,8.8nm,0.9s,mb4.7,baz=141,slow=7.4,SNR=9.5						
NOA				LR	LR	21 58 35.2	
	comp=Z,688nm,18.2s,MS4.7,baz=145,slow=40						
CFTV	Fuerteventura	53.05	296	P	P	21 32 56.7	+1.6
	comp=Z,19nm,0.9s,mb5.0						
NVS	Novosibirsk	53.78	29	eP	P	21 32 58.7	-1.4
NVS				pmax	pmax		
	comp=N,32nm,1.6s						
NVS				pmax	pmax		
	comp=Z,49nm,1.6s,mb5.2						
NVS				pmax	pmax		
	comp=E,16nm,1.3s						
ZAL	Zalesovo	54.04	31	P	P	21 33 01.0	-1.0
	comp=E,8.1nm,1.1s,mb4.6,baz=235,slow=7.5,SNR=19						
ZAL				LR	LR	21 59 45.2	
	comp=E,2µm,20.3s,MS5.1,baz=247,slow=40						
ESK	Eskdalemuir	54.48	331	PFAKE		21 33 20.0	+15
ESK				LR	LR		
	comp=Z,210nm,20.0s,MS4.2						
DSB	Dublin	54.97	328	eP	P	21 33 08.7	-0.1
	comp=Z,30nm,1.1s,mb5.2						
DSB				e		21 33 15.2	
DLF	Lyons Farm	55.07	328	eP	P	21 33 04.1	-5.5
DLF	Lyons Farm	55.07	328	eP	P	21 33 14.3	+4.7
APA	Apatity	55.15	357⇑	iP	P	21 33 09.3	-0.7
APA				eS	S	21 41 07.0	+15
APA				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
APA				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.1						
DCN	Croghan	55.49	327	eP	P	21 33 16.0	+3.4
DCN	Croghan	55.49	327	eP	P	21 33 05.9	-6.7
DCN				eP		21 33 16.0	
EGOM	La Gomera	55.78	296	P	P	21 33 15.3	+0.2
ARCES	ARCESS Array B	57.72	354	P	P	21 33 28.1	-0.3
	comp=Z,12nm,0.9s,mb5.0,baz=169,slow=6.2,SNR=16						
KEV	Kevo	57.79	355	eP	P	21 33 26.3	-2.5
	comp=Z,60nm,1.0s,mb5.6						
KEV				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
KEV	Kevo	57.79	355	eP	P	21 33 26.3	-2.5
KEV				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.6						
KEV				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.2						
GTA	Gaotai	58.52	51	eP	P	21 33 33.9	-0.4
GTA				PP	PP	21 35 45.9	+0.3
GTA				PPP	PPP	21 37 06.4	-2.3
GTA				S	S	21 41 41.3	+4.3
GTA				XS		21 41 49.8	
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,180nm,7.3s						
GTA				LR	LR		
	comp=N,1µm,20.6s,MS5.2						
GTA				LR	LR		
	comp=E,1µm,19.9s,MS5.2						
GTA				LR	LR		
	comp=Z,1µm,24.1s,MS4.9						
KMI	Kunming	59.80	68	P	P	21 33 43.6	+0.2
KMI				PP	PP	21 35 57.5	+0.2
KMI				S	S	21 41 53.9	0.0
KMI				PS	PS	21 42 08.3	-0.2
KMI				SS	SS	21 45 51.1	+0.2
KMI				SSS	SSS	21 48 20.8	+0.2
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
KMI				LR	LR		
	comp=N,581nm,16.3s,MS5.0						
KMI				LR	LR		
	comp=E,670nm,17.2s,MS5.0						
KMI				LR	LR		
	comp=Z,652nm,17.2s,MS4.8						
CD2	Chengdu	60.82	62	P	P	21 33 50.9	+0.6
LZH	Lanzhou	61.24	56	eP	P	21 33 53.0	-0.1
LZH				PP	PP	21 36 09.5	-0.7
LZH				eS	S	21 42 10.0	-2.2
LZH				SS	SS	21 46 09.3	-4.4
LZH				AMB	AMB		
	comp=Z,24nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,145nm,4.4s						
LZH				LR	LR		
	comp=N,1µm,13.1s						
LZH				LR	LR		
	comp=Z,2µm,16.0s,MS5.3						
MOY	Mondy	62.08	38	eP	P	21 33 59.2	+0.6
MOY				pmax	pmax		
	comp=Z,44nm,1.8s,mb5.3						
ZAK	Zakamensk	63.16	40	eP	P	21 34 04.3	-1.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
GYA	Guiyang	63.32	67⇑	iP	P	21 34 06.3	-0.8
GYA				PP	PP	21 36 28.8	+0.8
GYA				S	S	21 42 40.1	+1.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,250nm,6.3s						
GYA				LR	LR		
	comp=N,390nm,18.2s,MS4.7						
GYA				LR	LR		
	comp=E,310nm,17.9s,MS4.7						
GYA				LR	LR		
	comp=Z,410nm,18.6s,MS4.6						
SONM	Songino Array	64.66	43	P	P	21 34 15.8	+0.2
	comp=Z,13nm,0.9s,mb5.0,baz=254,slow=6.7,SNR=36						
SONM				LR	LR	22 06 02.0	
	comp=Z,2µm,18.4s,MS5.3,baz=254,slow=40						
XAN	Xi'an	65.28	58	P	P	21 34 19.5	-0.4
XAN				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.8						
JMIC	Jan Mayen	65.54	344	LR	LR	22 06 12.4	
	comp=Z,547nm,19.3s,MS4.8,baz=268,slow=39						
ENH	Enshi	65.75	62	P	P	21 34 22.2	-0.7
	comp=Z,71nm,1.7s,mb5.4						
QIZ	Qiongzhong	66.71	75	P	P	21 34 29.6	+0.4
QIZ				S	S	21 43 22.5	+2.1
QIZ				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.1						
QIZ				AMB	AMB		
	comp=Z,228nm,8.4s						
QIZ				LR	LR		
	comp=E,477nm,17.0s						
QIZ				LR	LR		
	comp=Z,632nm,17.4s,MS4.9						
BORG	Borgarnes	66.85	336	P	P	21 34 30.4	+1.1
	comp=Z,33nm,1.0s,mb5.3,baz=166,slow=4.2,SNR=3.6						
BORG				LR	LR	22 04 56.5	
	comp=Z,534nm,19.3s,MS4.8,baz=139,slow=37						
BORG	Borgarnes	66.85	336	P	P	21 34 30.4	+1.1
BORG				LR	LR	22 04 56.5	
HHC	Hu-ho-hao-te	67.62	51	eP	P	21 34 36.4	+1.7
HHC				AP	pP	21 34 41.4	+6.0
HHC				XP	sP	21 34 43.3	+7.6
HHC				PCP	PcP	21 35 02.9	+1.2
HHC				PP	PP	21 37 07.8	+2.3
HHC				SCP		21 39 04.3	
HHC				PCS		21 39 06.8	
HHC				S	S	21 43 33.1	+2.1
HHC				SCS	ScS	21 44 30.8	+0.5
HHC				SS	SS	21 47 54.4	+1.3
HHC				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.3						
HHC				AMB	AMB		
	comp=Z,296nm,4.9s						
HHC				LR	LR		
	comp=N,600nm,14.3s,MS5.2						
HHC				LR	LR		
	comp=E,858nm,15.5s,MS5.2						
HHC				LR	LR		
	comp=Z,1µm,16.7s,MS5.2						
KBS	Kingsbay	67.80	354	PFAKE		21 34 50.0	+15
KBS				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
CIT	Chita	69.79	39	eP	P	21 34 47.4	-0.5
CIT				pmax	pmax		
	comp=Z,57nm,1.7s,mb5.2						
BOD	Bodaibo	70.70	33	eP	P	21 34 50.3	-3.0
BOD				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
TIA	Tai'an	71.98	56	⇑P	P	21 35 03.0	+1.6
TIA				AMB	AMB		
	comp=Z,49nm,1.7s,mb5.2						
HIA	Hailar	73.61	42	eP	P	21 35 10.8	+0.1
	comp=Z,22nm,1.1s,mb5.0						
HIA	Hailar	73.61	42	eP	P	21 35 10.8	+0.1
HIA				pmax	pmax		
	comp=Z,22nm,1.1s						
NJ2	Nanjing	73.68	60	eP	P	21 35 12.4	+0.9
NJ2				AP	pP	21 35 17.1	+4.8
NJ2				XP	sP	21 35 19.4	+6.9
NJ2				PP	PP	21 38 01.9	+4.3
NJ2				S	S	21 44 41.0	-0.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,2µm,6.7s						
NJ2				LR	LR		
	comp=N,600nm,29.5s						
NJ2				LR	LR		
	comp=E,500nm,15.6s						
NJ2				LR	LR		
	comp=Z,130nm,23.1s						
SUMG	Summit	74.78	342	eP	P	21 35 17.0	-0.1
	comp=Z,42nm,1.1s,mb5.3						
SSE	Sheshan	75.75	61	eP	P	21 35 22.8	-0.7
SSE				PCP	PcP	21 35 35.3	-1.2
SSE				S	S	21 45 05.1	+0.3
SSE				SCS	ScS	21 45 36.8	+1.8
SSE				SS	SS	21 49 56.9	-2.1
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,29nm,3.5s						
SSE				LR	LR		
	comp=N,652nm,23.3s,MS4.9						
SSE				LR	LR		
	comp=E,181nm,23.3s,MS4.9						
SSE				LR	LR		
	comp=Z,544nm,18.9s,MS4.9						
SNY	Shenyang	76.64	50	⇑P	P	21 35 28.5	+0.3
SNY				AP	pP	21 35 39.8	+11
SNY				XP	sP	21 35 42.6	+13
SNY				S	S	21 45 18.0	+3.7
SNY				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
SNY				AMB	AMB		
	comp=Z,230nm,6.3s						
SNY				LR	LR		
	comp=N,650nm,15.4s,MS5.3						
SNY				LR	LR		
	comp=E,980nm,17.1s,MS5.3						
SNY				LR	LR		
	comp=Z,900nm,18.1s,MS5.1						
TIXI	Tiksi	77.67	19⇑	iP	P	21 35 34.6	+1.3
TIXI				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
CN2	Changchun	77.83	48	eP	P	21 35 35.8	+1.0
CN2				eAP	pP	21 35 39.9	+4.4
CN2				eS	S	21 45 26.8	-0.3
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
CN2				AMB	AMB		
	comp=Z,230nm,6.0s						
CN2				LR	LR		
	comp=N,890nm,16.0s,MS5.3						
CN2				LR	LR		
	comp=E,950nm,16.0s,MS5.3						
CN2				LR	LR		
	comp=Z,2µm,18.0s,MS5.4						
RCBR	Riachuelo	78.04	261	eP	P	21 35 38.4	+1.8
	comp=Z,39nm,1.3s,mb5.2						
RCBR				LR	LR		
	comp=Z,900nm,19.0s,MS5.1						
YAK	Yakutsk	78.65	29	PFAKE		21 35 50.0	+11
YAK				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
SFJD	Kangerlussuaq	78.97	336	i P	P	21 35 42.4	+1.9
	comp=Z,9.7nm,0.7s,mb4.8						
SFJD				i S	S	21 45 41.9	+3.1
SFJD				i		21 46 25.4	
	comp=Z,460nm,19.0s						
SFJD	Kangerlussuaq	78.97	336	eP	P	21 35 42.4	+1.9
	comp=Z,9.7nm,0.7s,mb4.8						
SFJD				i S	S	21 45 41.9	+3.1
SFJD				i		21 46 25.4	
SFJD				LR	LR		
	comp=Z,470nm,19.0s,MS4.8						
SFJD	Kangerlussuaq	78.97	336	eP	P	21 35 42.4	+1.9
SFJD				i S	S	21 45 41.9	+3.1
SFJD				i		21 46 25.4	
SFJD				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
SFJD				MLR	MLR		
	comp=Z,470nm,19.0s,MS4.8						
MDJ	Mudanjiang	80.69	46	P	P	21 35 49.1	-1.1
MDJ				PP	PP	21 38 51.8	-4.3
MDJ				S	S	21 45 55.8	-1.4
MDJ				SS	SS	21 51 08.8	-4.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,104nm,6.8s						
MDJ				LR	LR		
	comp=N,422nm,13.5s,MS5.2						
MDJ				LR	LR		
	comp=E,797nm,16.4s,MS5.2						
MDJ				LR	LR		
	comp=Z,1µm,14.5s,MS5.4						
SYO	Syowa Base	81.36	180	⇑PcP	PcP	21 36 03.0	+3.1
KLR	Kul'dur	81.44	42	eP	P	21 35 51.8	-2.3
MAW	Mawson	81.58	172	P	P	21 35 56.6	+2.2
	comp=Z,10nm,1.2s,mb4.6,baz=312,slow=6.3,SNR=8.4						
MAW				LR	LR	22 09 55.9	
	comp=Z,833nm,19.4s,MS5.1,baz=338,slow=34						
MAW	Mawson	81.58	172	eP	P	21 35 55.8	+1.4
	comp=Z,29nm,1.4s,mb5.0						
MAW				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
MAW	Mawson	81.58	172	eP	P	21 35 55.8	+1.3
MAW				pmax	pmax		
	comp=Z,29nm,1.4s						
MAW				MLR	MLR		
	comp=Z,1µm,20.0s						
JOW	Kunigami	82.51	64	LR	LR	22 16 09.8	
	comp=Z,458nm,21.2s,MS4.8,baz=271,slow=38						
JNU	Nakatsue	83.59	58	P	P	21 36 08.0	+2.3
	comp=Z,11nm,1.2s,mb4.9,baz=286,slow=1.7,SNR=4.9						
JNU				LR	LR	22 20 10.3	
	comp=Z,457nm,18.7s,MS4.9,baz=105,slow=41						
MBWA	Marble Bar	84.71	113	PFAKE		21 36 20.0	+8.5
MBWA				LR	LR		
	comp=Z,484nm,22.0s,MS4.8						
NWAO	Narrogin (SRO)	85.92	125	eP	P	21 36 12.8	-4.6
	comp=Z,72nm,1.5s,mb5.7						
NWAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FRB	Frobisher Bay	87.02	335	LR	LR	22 18 04.8	
	comp=Z,679nm,19.8s,MS5.1,baz=79,slow=38						
MAJO	Matsushiro	88.73	53	PFAKE		21 36 40.0	+9.2
MAJO				LR	LR		
	comp=Z,463nm,20.0s,MS4.9						
MJAR	Matsushiro Arr	88.73	53	P	P	21 36 31.5	+0.7
	comp=Z,1.0nm,0.5s,mb4.4,baz=252,slow=3.8,SNR=3.7						
MJAR				LR	LR	22 22 27.8	
	comp=Z,350nm,18.4s,MS4.8,baz=255,slow=40						
SNAA	Sanae	88.86	193	e	P	21 36 34.2	+3.6
SNAA	Sanae	88.86	193	e	P	21 36 39.4	+8.8
SNAA	Sanae	88.86	193	e	P	21 36 44.5	+14
SNAA	Sanae	88.86	193	⇑iP	P	21 36 32.3	+1.7
SNAA				e	pP	21 36 34.2	+2.8
SNAA				e		21 36 39.4	
SNAA				e		21 36 44.5	
YSS	Yuzh-Sakhalins	89.14	42	PFAKE		21 36 40.0	+7.5
YSS				LR	LR		
	comp=Z,790nm,20.0s,MS5.1						
VNA2	Neumayer--Watz	89.35	194	e	P	21 36 38.5	+5.6
VNA2	Neumayer--Watz	89.35	194	e	P	21 36 42.4	+9.5
VNA2	Neumayer--Watz	89.35	194	e	P	21 36 44.2	+11
VNA2	Neumayer--Watz	89.35	194	⇑iP	P	21 36 36.7	+3.8
VNA2				e	pP	21 36 38.5	+4.8
VNA2				e		21 36 42.4	
VNA2				e		21 36 44.2	
VNA1	Neumayer--Stat	89.37	195	⇑iP	P	21 36 40.8	+7.8
VNA1	Neumayer--Stat	89.37	195	e	P	21 36 42.5	+9.5
VNA1	Neumayer--Stat	89.37	195	e	P	21 36 46.2	+13
VNA1	Neumayer--Stat	89.37	195	e	P	21 36 49.3	+16
SCHQ	Schefferville	89.53	326	P	P	21 36 36.8	+2.6
	comp=Z,11nm,1.1s,mb5.1,baz=111,slow=8.6,SNR=3.7						
SCHQ				LR	LR	22 12 20.1	
	comp=Z,411nm,21.5s,MS4.8,baz=69,slow=33						
ASAJ	Asahikawa	89.88	45	LR	LR	22 21 12.7	
	comp=Z,955nm,20.0s,MS5.2,baz=136,slow=38						
VNA3	Neumayer Olymp	90.11	194	e	P	21 36 40.0	+3.5
VNA3	Neumayer Olymp	90.11	194	e	P	21 36 42.8	+6.3
VNA3	Neumayer Olymp	90.11	194	e	P	21 36 45.8	+9.3
VNA3	Neumayer Olymp	90.11	194	⇑iP	P	21 36 38.4	+1.9
VNA3				e	pP	21 36 40.0	+2.7
VNA3				e		21 36 42.8	
VNA3				e		21 36 45.8	
BILL	Bilibino	90.84	18	PFAKE		21 36 50.0	+10
BILL				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
JHJ	Hachijo jima 2	90.87	56	LR	LR	22 24 17.3	
	comp=Z,669nm,18.4s,MS5.1,baz=243,slow=40						
BDFB	Brasilia	91.89	254	LR	LR	22 15 03.0	
	comp=Z,799nm,18.2s,MS5.2,baz=79,slow=34						
CASY	Casey	93.61	158	PFAKE		21 37 10.0	+17
CASY				LR	LR		
	comp=Z,850nm,19.0s,MS5.2						
CBIJ	Chichi jima	94.53	61	LR	LR	22 24 36.7	
	comp=Z,242nm,19.9s,MS4.7,baz=46,slow=39						
BBSR	BB Station	95.80	305	PFAKE		21 37 20.0	+16
BBSR				LR	LR		
	comp=Z,884nm,19.0s,MS5.3						
WRAB	Tennant Creek	97.78	109	PFAKE		21 37 20.0	+7.2
WRAB				LR	LR		
	comp=Z,411nm,21.0s,MS4.9						
SJG	San Juan	101.47	292	PFAKE		21 37 40.0	+11
SJG				LR	LR		
	comp=Z,597nm,20.0s,MS5.1						
QSPA	South Pole Qui	102.50	180	PFAKE		21 37 50.0	+17
QSPA				LR	LR		
	comp=Z,961nm,20.0s,MS5.3						
EFI	East Falkland	105.02	220	PFAKE		21 42 10.0	
EFI				LR	LR		
	comp=Z,301nm,20.0s,MS4.8						
SAML	Samuel	105.13	264	PFAKE		21 42 10.0	
SAML				LR	LR		
	comp=Z,989nm,20.0s,MS5.3						
PMR	Palmer	105.70	5	PFAKE		21 42 10.0	
PMR				LR	LR		
	comp=Z,530nm,20.0s,MS5.1						
PMSA	Palmer Station	107.46	206	PFAKE		21 42 20.0	
PMSA				LR	LR		
	comp=Z,978nm,19.0s,MS5.4						
SDV	Santo Domingo	108.31	284	PFAKE		21 42 20.0	
SDV				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
CTAO	Charters Tower	108.87	107	PFAKE		21 42 20.0	
CTAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
SBA	Scott Base	109.48	170	PFAKE		21 42 20.0	
SBA				LR	LR		
	comp=Z,666nm,20.0s,MS5.2						
UNV	Unalaska Valle	109.97	17	PFAKE		21 42 20.0	
UNV				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
PDAR	Pinedale Array	118.47	335	PKP	PKPdf	21 42 26.9	+1.1
	comp=Z,1.0nm,0.9s,slow=1.5,SNR=5.8						
NNA	Nana	118.87	263	PFAKE		21 42 40.0	+13
NNA				LR	LR		
	comp=Z,188nm,20.0s,MS4.7						
MSU	Marysvale	123.12	335	ePKPdf	PKPdf	21 42 34.9	+0.2
ANMO	Albuquerque	123.29	328	eP	Pdif	21 39 14.2	+8.9
MNTX	Cornudas Mount	125.15	324	ePKPdf	PKPdf	21 42 38.7	-0.4
NVAR	Mina Array Bea	125.53	340	PKP	PKPdf	21 42 40.5	+1.0
	comp=Z,2.9nm,0.9s,baz=50,slow=2.0,SNR=11						
TXAR	Lajitas Array	125.84	321	PKP	PKPdf	21 42 40.3	-0.2
	comp=Z,0.5nm,0.3s,baz=90,slow=2.5,SNR=6.9						
TBI	Tubuai	165.72	140	eLR	LR	22 40 41.1	
	comp=Z,1μm,31.5s						
RKT	Rikitea	168.64	202	eLR	LR	22 41 51.5	
	comp=Z,730nm,25.0s						
PPT	Papeete	169.10	118	eSS	SS	22 09 43.1	+2.6
PPT				eLR	LR	22 42 14.8	
	comp=Z,902nm,26.8s						

BJI 20 21:50:11.2, 24.69N×115.56E, h24km, ML4.1, 2D, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZH	Guangzhou	2.58	232	P	Pn	21 50 53.3	+0.8
GZH				S	Sn	21 51 21.0	-2.4
GZH				Smax			
	comp=N,1μm,0.6s						
GZH				Smax			
	comp=E,625nm,0.6s						
QZH	Quanzhou	2.77	84	⇓iP	Pn	21 50 53.4	-1.7
QZH				S	Sn	21 51 22.3	-5.8
QZH				Smax			
	comp=N,780nm,0.8s						
QZH				Smax			
	comp=E,710nm,0.9s						
GYA	Guiyang	8.22	284	⇓iP	P	21 52 12.5	+0.4

*CSEM **20** 22:02:05.1, 17.54S×177.78W, h33km, mb5.9*
*MOS **20** 22:02:56.7±2.9, 17.88S×178.81W, h463km, mb5.0/6, Error ellipse: s-maj=14.2km s-min=12.8km az=141.6*
*BJI **20** 22:03:00.9, 17.80S×178.50W, h533km, mb4.5*
*HRVD **20** 22:03:00.9±1.4, 17.91S×178.32W, h584km±5km, MW5.3/19, Centroid moment Tensor Solution. LP body waves: s19,c24; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.40±.08; $M_{\theta\theta}$0.28±.11; $M_{\phi\phi}$0.11±.09; $M_{r\theta}$0.11±.10; $M_{\theta\phi}$0.37±.14; $M_{\phi r}$-0.82±.12; Best double couple: M_0.956×10^{17} NP1:ϕ_s256°, δ28°, λ-25°. NP2:ϕ_s8°, δ78°, λ-116°. Principal axes: T .833, Plg28°, Azm119°; N .246, Plg26°, Azm14°; P -1.079, Plg50°, Azm249°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **20** 22:03:00.9±0.8, 17.82S×178.54W, h534km±8km, mb5.0/17 Error ellipse: s-maj=9.9km s-min=7.6km az=141.0*
*IDC **20** 22:03:03.3±1.7, 18.04S×178.54W, h566km±19km, mb4.2/11, mb1 4.3/12, mb1mx4.1/17, mbtmp5.1/12, Error ellipse: s-maj=13.4km s-min=11.4km az=133.0*
ISC 20 22:03:00.2±1.0, **17.84S**±0.08×**178.56W**±0.07, **h536**km±12km, **n175**, σ**1s15**/70, **mb4.8**/26, **12C-19D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.60	60	P	P	22 04 54.7	+0.3
	37nm,0.3s,baz=200,slow=2.8,SNR=46						
AFI	Afiamalu	7.60	60	⇓iPn	P	22 04 54.2	-0.2
	339nm,0.6s						
AFI	Afiamalu	7.60	60	⇓iP	P	22 04 54.2	-0.2
AFI				pmax	pmax		
	comp=Z,339nm,0.6s						
RAO	Raoul Island	11.38	177	P	P	22 05 33.5	+0.5
	comp=Z,150nm,0.3s,baz=91,slow=20,SNR=6.1						
RAO	Raoul Island	11.38	177	eP	P	22 05 33.5	+0.6
DZM	Mont Dzumac	14.72	251	P	P	22 06 09.0	+2.1
	comp=Z,3.3nm,0.3s,baz=86,slow=18,SNR=19						
NOUC	Port Laguerre	14.85	251	eP	P	22 06 10.1	+1.9
NOUC	Port Laguerre	14.85	251	eP	P	22 06 10.1	+1.9
URZ	Urewera	20.70	190	P	P	22 07 02.5	-1.7
	comp=Z,23nm,0.4s,baz=29,slow=2.4,SNR=25						
URZ				S	S	22 10 15.3	-5.2
	comp=Z,10nm,0.8s,baz=175,slow=21,SNR=4.1						
THZ	Tophouse	24.95	195	ePN	P	22 07 41.6	-1.0
THZ	Tophouse	24.95	195	eP	P	22 07 41.1	-1.5
RPZ	Rata Peaks	27.25	197	P	P	22 08 01.3	-1.7
	comp=Z,15nm,0.5s,mb4.9,baz=337,slow=1.4,SNR=9.0						
PPT	Papeete	27.60	94	P	P	22 08 04.2	-2.1
	comp=Z,38nm,0.5s,mb5.3,baz=349,slow=6.8,SNR=4.5						
JCZ	Jackson Bay	28.26	200	PN	P	22 08 11.1	-0.7
JCZ	Jackson Bay	28.26	200	P	P	22 08 11.1	-0.6
CTA	Charters Tower	33.32	260	⇑iP	P	22 08 55.4	+0.3
	comp=Z,26nm,0.8s,mb4.8						
CTA	Charters Tower	33.32	260	⇑iP	P	22 08 55.4	+0.3
CTA				pmax	pmax		
	comp=Z,26nm,0.8s						
CTAO	Charters Tower	33.32	260	⇓eP	P	22 08 54.9	-0.2
	comp=Z,22nm,0.5s,mb4.9						
CTAO	Charters Tower	33.32	260	⇓eP	P	22 08 54.9	-0.2
CTAO				pmax	pmax		
	comp=Z,22nm,0.5s,mb4.9						
CNB	Canberra Magne	33.36	232	eP	P	22 08 56.7	+1.4
	comp=Z,206nm,0.6s,mb5.8						
PMG	Port Moresby	34.31	280	P	P	22 09 03.8	+0.4
	comp=Z,68nm,0.8s,mb5.2,baz=72,slow=4.7,SNR=15						
PMG	Port Moresby	34.31	280	d iP	P	22 09 04.3	+0.9
MOO	Moorlands	38.05	223	⇑iP	P	22 09 35.1	+1.2
	comp=Z,77nm,1.0s,mb5.2						
TAU	Tasmania Unive	38.20	222	eP	P	22 09 35.6	+0.5
	comp=Z,44nm,0.8s,mb5.0						
TAU	Tasmania Unive	38.20	222	eP	P	22 09 35.6	+0.5
TAU				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.0						
STKA	Stephens Creek	38.54	241	eP	P	22 09 39.0	+1.0
	comp=Z,60nm,0.5s,mb5.4						
STKA	Stephens Creek	38.54	241	P	P	22 09 39.0	+1.0
	comp=Z,104nm,0.6s,mb5.6,baz=87,slow=8.9,SNR=294						
WB2	Warramunga Arr	44.50	259	⇓iP	P	22 10 24.2	-1.4
WB2				i PCP	PcP	22 11 56.8	-0.9
WB2				eS	S	22 16 17.1	-5.1
WB2				eSCS	ScS	22 19 23.0	+0.6
WRAB	Tennant Creek	44.50	259	eP	P	22 10 24.4	-1.2
	comp=Z,40nm,0.6s,mb5.1						
WRAB				ePcP	PcP	22 11 56.6	-1.1
WRAB	Tennant Creek	44.50	259	eP	P	22 10 24.4	-1.2
WRAB				e		22 11 56.6	
WRAB				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.1						
WRA	Warramunga Arr	44.51	259	P	P	22 10 24.4	-1.3
	comp=Z,37nm,0.8s,mb5.0,baz=91,slow=7.0,SNR=472						
WRA				PcP	PcP	22 11 56.8	-0.9
	comp=Z,8.7nm,0.7s,baz=90,slow=3.7,SNR=10.0						
WRA				S	S	22 16 18.1	-4.2
	comp=Z,0.8nm,0.7s,baz=90,slow=14,SNR=5.2						
ASPA	Alice Springs	44.68	254	⇓iP	P	22 10 26.5	-0.5
ASPA				ePCP	PcP	22 11 57.2	-1.1
ASPA				eS	S	22 16 20.6	-4.1
ASPA				eSCS	ScS	22 19 23.0	-0.6
KAKA	Kakadu	47.45	269	⇓iP	P	22 11 06.5	+18
	comp=Z,43nm,0.4s,mb5.3						
KAKA				eS	S	22 17 19.7	+17
FORT	Forrest	49.91	245	eP	P	22 11 05.4	-1.1
	comp=Z,84nm,0.5s,mb5.4						
FITZ	Fitzroy Crossi	52.90	261	eP	P	22 11 27.7	-0.7
	comp=Z,21nm,0.5s,mb4.7						
MBWA	Marble Bar	57.96	256	eP	P	22 12 02.1	-1.3
	comp=Z,22nm,0.6s,mb4.6						
KLBR	Kellerberrin	58.74	243	⇓iP	P	22 12 07.1	-1.4
	comp=Z,58nm,0.8s,mb4.9						
SBA	Scott Base	60.48	184	eP	P	22 12 20.7	+1.2
	comp=Z,8.9nm,0.6s,mb4.3						
VNDA	Vanda	60.51	185	eP	P	22 12 19.8	+0.1
	comp=Z,4.3nm,0.7s,mb3.9						
VNDA	Vanda	60.51	185	eP	P	22 12 19.8	+0.2
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CASY	Casey	66.14	205	eP	P	22 12 54.9	-0.8
	comp=Z,18nm,0.6s,mb4.8						
MJAR	Matsushiro Arr	67.77	323	P	P	22 13 04.9	-1.3
	comp=Z,2.9nm,0.7s,mb4.0,baz=154,slow=6.8,SNR=7.9						
QSPA	South Pole Qui	72.22	180	eP	P	22 13 32.3	+0.6
	comp=Z,24nm,0.6s,mb4.8						
KSM	Kuching	72.54	277	eP	P	22 13 34.7	-0.1
MIR	Mirnyy	73.18	205	c iP	P	22 13 37.8	+0.5
MIR				pmax	pmax		
	comp=Z,52nm,1.2s,mb4.8						
MTUM	Tungsten Hills	78.71	45	eP	P	22 14 09.3	+1.0
MAW	Mawson	83.88	200	⇓iP	P	22 14 34.3	+0.4
	comp=Z,9.9nm,0.4s,mb4.7						
MAW	Mawson	83.88	200	P	P	22 14 34.4	+0.5
	comp=Z,15nm,0.5s,mb4.8,baz=131,slow=5.5,SNR=64						
MAW	Mawson	83.88	200	⇓iP	P	22 14 34.3	+0.4
MAW				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ENH	Enshi	84.11	304	eP	P	22 14 36.4	+0.4
	comp=Z,42nm,1.3s,mb4.8						
ILAR	Eielson Array	85.85	13	P	P	22 14 42.0	-1.4
	comp=Z,1.7nm,0.9s,baz=236,slow=5.9,SNR=8.3						
TXAR	Lajitas Array	86.07	58	P	P	22 14 46.9	+1.5
	comp=Z,1.8nm,0.7s,mb3.8,baz=218,slow=6.1,SNR=10						
XAN	Xi'an	86.11	307	P	P	22 14 46.0	+0.5
XAN				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.7						
PDAR	Pinedale Array	87.39	43	P	P	22 14 51.5	+0.1
	comp=Z,1.0nm,0.7s,baz=246,slow=2.4,SNR=9.4						
KMI	Kunming	87.67	297	P	P	22 14 54.1	+1.1
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
SNAA	Sanae	90.67	179	e	P	22 15 07.7	+1.8
SNAA	Sanae	90.67	179	e	P	22 15 09.7	+3.8
SNAA	Sanae	90.67	179	⇓iP	P	22 15 05.4	-0.5
SNAA				e		22 15 07.7	
SNAA				e		22 15 09.7	
VNA3	Neumayer Olymp	90.82	176	e	P	22 15 09.0	+2.4
VNA3	Neumayer Olymp	90.82	176	⇓iP	P	22 15 06.4	-0.2
VNA3				e		22 15 09.0	
VNA2	Neumayer--Watz	91.26	177	e	P	22 15 11.5	+2.9
VNA2	Neumayer--Watz	91.26	177	⇓iP	P	22 15 08.7	+0.1
VNA2				e		22 15 11.5	
VNA1	Neumayer--Stat	91.49	177	e	P	22 15 12.7	+3.0
VNA1	Neumayer--Stat	91.49	177	e	P	22 15 13.8	+4.1
VNA1	Neumayer--Stat	91.49	177	⇑iP	P	22 15 10.2	+0.5
VNA1				e		22 15 12.7	
VNA1				e		22 15 13.8	
BVA0	Borovoye Array	116.70	321	i PKIKP	PKPdf	22 20 42.6	-0.5
BVAR	Borovoye Array	116.70	321	PKP	PKPdf	22 20 42.8	-0.4
	comp=Z,4.2nm,0.4s,baz=121,slow=2.5,SNR=24						
KKAR	Karatay Array	117.16	310	i PKIKP	PKPdf	22 20 43.9	-0.4
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	Arti	122.71	326	ePKPdf	PKPdf	22 20 54.6	-0.1
ARU	Arti	122.71	326	i PKIKP	PKPdf	22 20 53.4	-1.3
AB31	Akbulak array	123.78	318	i PKIKP	PKPdf	22 20 56.5	-0.4
ARCES	ARCESS Array B	126.22	350	PKP	PKPdf	22 21 01.3	+0.2
	comp=Z,5.1nm,0.7s,baz=10,slow=1.9,SNR=16						
FINES	FINESS Array B	133.08	344	PKP	PKPdf	22 21 15.2	+0.8
	comp=Z,3.2nm,0.8s,baz=71,slow=1.4,SNR=11						
FINES				PP	PP	22 23 51.7	+1.2
	comp=Z,3.9nm,0.9s,baz=117,slow=4.3,SNR=6.8						
KMBO	Kilima Mbogo	140.03	246	PKhKP		22 21 23.0	
	comp=Z,1.2nm,0.6s,baz=56,slow=15,SNR=5.5						
AKASG	Malin Array Be	140.43	332	PKhKP		22 21 21.2	
	comp=Z,1.2nm,0.4s,baz=44,slow=4.0,SNR=13						
MALT	Malatya	141.86	310	ePKPpre		22 21 28.4	
GZT	Gaziantep	142.85	309	i P	PKPdf	22 21 30.5	-2.0
BOYT	Boyabat	142.97	316	i P	PKPdf	22 21 31.3	-1.3
KAHT	Ahir Dag	143.26	310	i P	PKPbc	22 21 32.8	+0.7
CTKT	Corum	143.43	315	i P	PKPbc	22 21 32.7	+0.2
KWP	Kalwaria	143.95	336	ePKPdf	PKPdf	22 21 34.1	+0.1
COBT	Iskenderun	144.13	308	i P	PKPbc	22 21 35.0	+0.2
CDAG	Cicekdag	144.18	314	i P	PKPbc	22 21 35.2	+0.5
AVNT	Avonos	144.23	313	i P	PKPdf	22 21 35.6	+0.7
ELDT	Eldivan	144.40	316	i P	PKPdf	22 21 35.3	+0.2
BURAR	Bucovina Array	144.48	332	⇑P	PKPdf	22 21 37.1	+2.0
OJC	Ojcow	144.50	340	ePKP	PKPdf	22 21 34.4	-0.6
BR131	Keskin Array S	144.63	315	ePKP	PKPdf	22 21 36.8	+1.1
BRTR	Keskin Array B	144.63	315	PKP	PKPdf	22 21 36.5	+0.9
	comp=Z,11nm,0.8s,baz=116,slow=2.3,SNR=48						
STHS	Stebnicka Huta	144.67	338	ePKP	PKPdf	22 21 36.8	+1.5
KOLS	Kolonicke sedl	144.68	336	i PKP	PKPdf	22 21 36.9	+1.5
CFR	Carcaliu	144.80	327	⇑P	PKPdf	22 21 36.1	+0.4
KSP	Ksiaz	145.00	344	ePKP	PKPdf	22 21 37.8	+1.9
NIE	Niedzica	145.00	338	⇓iPKP	PKPdf	22 21 38.1	+2.2
ASF	Jabal al Asfar	145.02	301	PKPbc	PKPbc	22 21 38.4	+1.1
	comp=Z,10nm,0.8s,baz=336,slow=2.8,SNR=9.8						
HARR	Harsova	145.23	326	⇓P	PKPdf	22 21 37.6	+1.1
SGKT	Sivrigoynuk	145.25	317	i P	PKPdf	22 21 37.1	+0.4
CLZ	Clausthal	145.34	350	ePKPbc	PKPbc	22 21 38.6	+1.1
OKC	Ostrava-Krasne	145.36	341	ePKP	PKPdf	22 21 38.5	+2.0
CLL	Collm	145.36	347	⇓iPKP1	PKPbc	22 21 38.4	+0.8
CLL				i		22 21 47.7	
CLL				e		22 24 26.0	
UPC	Upice	145.38	344	ePKP	PKPdf	22 21 39.0	+2.4
DPC	Dobruska-Polom	145.44	343	ePKP	PKPdf	22 21 39.3	+2.6
BRG	Berggiesshubel	145.56	346	i PKP	PKPdf	22 21 38.2	+1.3
MLR	Muntele Rosu	145.70	329	PKPbc	PKPbc	22 21 40.3	+1.7
	comp=Z,3.2nm,0.4s,baz=305,slow=4.5,SNR=14						
MLR	Muntele Rosu	145.70	329	⇑P	PKPdf	22 21 40.0	+2.7
KECS	Kecovo	145.72	337	ePKP	PKPdf	22 21 39.5	+2.3
PVCC	Panska Ves	145.73	345	ePKP	PKPdf	22 21 39.9	+2.8
PRU	Pruhonice	146.24	345	ePKP	PKPdf	22 21 41.2	+3.2
MOX	Moxa	146.27	348	ePKP	PKPdf	22 21 40.9	+2.9
VRAC	Vranov	146.30	342	PKPbc	PKPbc	22 21 40.7	+0.8
	comp=Z,3.4nm,0.6s,baz=2.9,slow=3.5,SNR=4.4						
VRAC	Vranov	146.30	342	ePKHKP		22 21 41.1	
VYHS	Vyhne	146.30	339	ePKP	PKPdf	22 21 41.4	+3.3
NKC	Novy Kostel	146.49	347	ePKP	PKPdf	22 21 42.0	+3.6
ERMK	Ermenek	146.55	310	i P	PKPdf	22 21 41.2	+2.2
ESKT	Eskisehir	146.60	316	i P	PKPdf	22 21 39.8	+0.8
TREC	Trest	146.62	343	ePKP	PKPdf	22 21 42.1	+3.5
BORA	Eskisehir	146.66	317	i P	PKPdf	22 21 42.0	+3.0
SMOL	Smolenice	146.75	340	ePKP	PKPdf	22 21 42.8	+3.9
CSS	Prodhromos	146.93	307	ePKPdf	PKPdf	22 21 42.9	+3.3
SRO1	Iza	147.14	339	ePKP	PKPdf	22 21 42.9	+3.4
TNS	Taunus Mts	147.21	352	ePKPbc	PKPdf	22 21 43.7	+4.2
GRA1	Grafenberg Arr	147.26	348	ePKPbc	PKPdf	22 21 44.0	+4.4
GRF	Grafenberg Arr	147.26	348	ePKP	PKPdf	22 21 44.0	+4.4
KHC	Kasperske Hory	147.27	345	ePKP	PKPdf	22 21 44.1	+4.4
ULDT	Uludag	147.36	319	i P	PKPdf	22 21 43.5	+3.4
WET	Wettzell	147.43	346	ePKPbc	PKPdf	22 21 44.2	+4.3
GEC2	GERESS Array S	147.51	345	ePKPbc	PKPdf	22 21 44.5	+4.4
GERES	GERESS Array B	147.51	345	PKPbc	PKPdf	22 21 44.4	+4.4
	comp=Z,6.5nm,0.5s,SNR=38						
GIVF	Givet	147.70	356	ePKP1	PKPdf	22 21 44.8	+4.5
	comp=Z,30nm,0.8s						
TKTP	Tekketepe	147.72	314	i P	PKPdf	22 21 43.8	+3.0
BAIF	Baives	147.78	357	ePKP1	PKPdf	22 21 45.1	+4.7
	comp=Z,16nm,0.6s						
MOA	Molln	148.28	343	⇑iP	PKPdf	22 21 46.1	+4.8
FUR	Furstenfeldbru	148.70	347	ePKPbc	PKPdf	22 21 47.7	+5.7
DNZL	Cakiroluk	148.76	315	i P	PKPdf	22 21 48.2	+5.7
BFO	Black Forest	149.07	351	ePKPbc	PKPdf	22 21 48.1	+5.5
FLN	La Foliniere	149.11	2	ePKP1	PKPdf	22 21 48.0	+5.4
	comp=Z,17nm,0.5s						
CDF	Champ du Feu	149.13	352	ePKP1	PKPdf	22 21 48.5	+5.8
	comp=Z,14nm,0.5s						
PERS	Pernice	149.13	341	i PKPbc	PKPdf	22 21 47.9	+5.2
MEZF	Maizieres J'vi	149.27	355	ePKP1	PKPdf	22 21 48.9	+6.0
	comp=Z,11nm,0.5s						
LDF	La Druitiere	149.29	2	ePKP1	PKPdf	22 21 48.3	+5.4
	comp=Z,15nm,0.5s						
ROSF	Rostrenen	149.34	6	ePKP1	PKPdf	22 21 48.3	+5.3
	comp=Z,4.2nm,0.5s						
WATA	Walderalm	149.42	346	⇑iP	PKPdf	22 21 48.8	+5.6
GRR	Gorron	149.47	3	ePKP1	PKPdf	22 21 49.0	+5.8
	comp=Z,20nm,0.5s						
WTTA	Wattenberg	149.48	346	⇑iP	PKPdf	22 21 49.3	+6.0
SGMF	Saint Gilles	149.49	5	ePKP1	PKPdf	22 21 48.7	+5.4
	comp=Z,12nm,0.7s						
MOTA	Moosalm	149.52	347	⇓iP	PKPdf	22 21 49.1	+5.8
AYDN	Tasoluk	149.56	316	i P	PKPdf	22 21 50.1	+6.4
SQTA	Sankt Quirin	149.61	347	⇓iP	PKPdf	22 21 49.5	+6.0
HAU	Haudompre	149.64	353	ePKP1	PKPdf	22 21 49.5	+6.0
	comp=Z,16nm,0.6s						
CRES	Cresnjev	149.75	340	i PKPbc	PKPdf	22 21 50.0	+6.3
QUIF	Quistinic	149.76	6	ePKP1	PKPdf	22 21 49.1	+5.4
HINF	Hinteralfeld	149.77	353	ePKP1	PKPdf	22 21 49.7	+6.0
	comp=Z,6.1nm,0.5s						
DAVA	Damuels	149.82	349	⇑iP	PKPdf	22 21 50.7	+6.9
LJU	Ljubljana	149.85	342	i PKPbc	PKPdf	22 21 50.0	+6.1
JAVS	Javornik	150.12	342	i PKPbc	PKPdf	22 21 49.0	+4.7
DAVOS	Davos	150.27	348	PKIKP	PKPdf	22 21 51.6	+7.1
DAVOX	Davos	150.31	348	PKPbc	PKPdf	22 21 51.6	+7.0
	comp=Z,16nm,0.5s,baz=260,slow=2.3,SNR=38						
SKO	Skopje	150.50	329	i PKP	PKPdf	22 21 51.8	+6.8
LOR	Lormes	150.58	357	ePKP1	PKPdf	22 21 51.8	+6.8
	comp=Z,21nm,0.4s						
HYF	Humbligny	150.63	358	ePKP1	PKPdf	22 21 52.3	+7.2
	comp=Z,47nm,0.3s						
SSF	Saint Saulge	150.81	357	ePKP1	PKPdf	22 21 52.4	+7.1
	comp=Z,16nm,0.4s						
CABF	La Chapelle	151.05	353	ePKP1	PKPdf	22 21 53.4	+7.7
AVF	Avril sur Loir	151.08	357	ePKP1	PKPdf	22 21 52.6	+6.9
	comp=Z,5.9nm,0.6s						
SMF	Signal de Mont	151.20	357	ePKP1	PKPdf	22 21 53.1	+7.2
	comp=Z,2.2nm,0.3s						
MFF	Saint Martin d	151.28	2	ePKP1	PKPdf	22 21 53.2	+7.2
	comp=Z,14nm,0.6s						
BGF	Bois d'Agland	151.34	358	ePKP1	PKPdf	22 21 53.5	+7.4
	comp=Z,19nm,0.7s						
TCF	Toulx Ste Croi	151.62	359	ePKP1	PKPdf	22 21 53.9	+7.4
	comp=Z,6.5nm,0.6s						
LPL	La Plagne	152.05	352	ePKP1	PKPdf	22 21 56.0	+8.9
	comp=Z,4.5nm,0.7s						
LPG	La Plagne	152.06	352	ePKP1	PKPdf	22 21 56.0	+8.8
	comp=Z,4.9nm,0.7s						
RJF	Les Rejaudoux	152.61	360	ePKP1	PKPdf	22 21 56.2	+8.3
	comp=Z,3.8nm,0.5s						
ORIF	Oris-en-Rattie	152.74	353	ePKP1	PKPdf	22 21 56.9	+8.8
	comp=Z,3.2nm,0.5s						
MBDF	Montbardon	152.82	352	ePKP1	PKPdf	22 21 57.0	+8.8
	comp=Z,10nm,0.8s						
VIVF	Saint-Julien-l	152.92	355	ePKP1	PKPdf	22 21 57.3	+8.9
LFF	La Frestale	152.97	1	ePKP1	PKPdf	22 21 56.9	+8.5
CAF	Calviac	152.99	359	ePKP1	PKPdf	22 21 57.2	+8.7
	comp=Z,5.2nm,0.6s						

*NEIC **20** 22:03:01.6, 17.42N×94.74W, h123km, MD3.7(MEX), After MEX.*
MEX 20 22:03:01.6±0.3, **17.42N×94.74W, h123**km±4km, **MD3.7, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.35	203	i P	P	22 03 17.8	-1.4
CMIG				i S	S	22 03 30.5	-2.1
OXX	Oaxaca	1.92	260	i P	P	22 03 32.7	-2.0
OXX				i S	S	22 03 57.7	-2.0
VHO	Vista Hermosa	1.93	260	eP	P	22 03 33.4	-1.4
VHO				i S	S	22 03 58.1	-1.9
CCIG	Comitan	2.74	114	i P	P	22 03 43.6	-1.8
CCIG				i S	S	22 04 16.1	-2.4

IDC 20 22:14:12.7±1.3, **14.20N×119.35E, mb3.7**/5, **mb1 3.9**/5, **mb1mx3.6**/18, **mbtmp3.7**/5, **Error ellipse: s-maj=145.7km s-min=24.6km az=64.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	35.22	345	P	P	22 21 09.4	-1.4
	0.3nm,0.3s,baz=153,slow=6.4,SNR=3.3						
WRA	Warramunga Arr	36.99	156	P	P	22 21 24.3	-1.7
	0.5nm,0.5s,baz=336,slow=9.6,SNR=6.2						
MKAR	Makanchi Array	44.86	324	P	P	22 22 29.4	-1.2
	0.4nm,0.8s,baz=135,slow=10,SNR=3.7						
BVAR	Borovoye Array	54.63	326	P	P	22 23 42.6	-2.8
	0.5nm,0.4s,baz=113,slow=11,SNR=3.4						
ARCES	ARCESS Array B	78.15	339	P	P	22 26 13.0	-2.0
	3.3nm,0.9s,baz=72,slow=7.7,SNR=4.9						

*CSEM **20** 22:30:33.6±0.5, 37.77N×25.43W, h6km±2km, ML2.9, Error ellipse: s-maj=1.2km s-min=1.2km az=5.0, After PDA*
*PDA **20** 22:30:33.6±0.5, 37.77N×25.43W, h6km±2km, MD2.1, ML2.9, Error ellipse: s-maj=1.2km s-min=1.2km az=5.0*
SVSA 20 22:30:33.6±0.5, **37.77N×25.43W, h6**km±2km, **MD2.1, ML2.9, Error ellipse: s-maj=1.2km s-min=1.2km az=5.0,**

Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**197**	*e*P	Pg	22 30 35.1	+0.4
VIF				*i* S	Sg	22 30 36.5	+1.0
MESC	**Monte Escuro**	**0.03**	**335**	*e*P	Pg	22 30 35.1	+0.3
MESC				*e*S	Sg	22 30 36.7	+1.2
PCNG	**Congro**	**0.03**	**92**	*e*P	Pg	22 30 35.0	+0.2
PCNG				*e*S	Sg	22 30 36.6	+1.1
LFA	**Lagoa do Fogo**	**0.04**	**276**	*e*P	Pg	22 30 35.5	+0.6
PRCH	**Ribeira Ch**	**0.06**	**224**	*e*P	Pg	22 30 35.4	+0.3
PRCH				*e*S	Sg	22 30 37.0	+0.9
	4μm,0.2s						
PMAT	**Coroa da Mata**	**0.06**	**327**	*e*P	Pg	22 30 35.4	+0.3
PMAT				*e*S	Sg	22 30 37.0	+0.8
	6.2nm,0.1s						
FRA1	**Furnas**	**0.06**	**113**	*e*S	Sg	22 30 35.5	-0.8
CML	**Cha da Macela**	**0.09**	**272**	*e*S	Sg	22 30 37.9	+0.8
PFAD	**Fenais da Ajud**	**0.11**	**50**	*i* P	Pg	22 30 36.5	+0.5
MIRA	**Miradouro**	**0.12**	**82**	*e*P	Pg	22 30 36.5	+0.3
MIRA				*e*S	Sg	22 30 39.1	+1.1
PSET	**Sete Cidades**	**0.24**	**284**	*e*P	Pg	22 30 38.6	+0.2
PSAN	**Santo Antonio**	**0.25**	**290**	*e*S	Sg	22 30 40.2	-1.8
PFET	**Feteiras**	**0.29**	**280**	*e*S	Sg	22 30 40.9	-2.4

MAN 20 22:34:28.7, 10.07N×122.33E, h30km, mb3.7, ML2.5, MS2.0, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.61**	**25**	*e*P	Pb	22 34 41.4	+0.6
GUIM				*e*S	Sb	22 34 51.0	+1.8
SNPH	**Sibulan**	**1.15**	**129**	⇓*i*P	Pn	22 34 48.5	-0.5
SNPH				*i* S	Sn	22 35 04.0	+0.1
CUYO	**Cuyo Island**	**1.50**	**301**	*e*P	Pn	22 34 54.3	+0.3
CUYO				*e*S	Sn	22 35 12.4	-0.3
IPIL	**Ipil**	**2.28**	**174**	*e*P	Pn	22 35 04.0	-1.2
IPIL				*e*S	Sn	22 35 29.8	-2.9
OTRP	**Odiongan**	**2.29**	**353**	*e*P	Pn	22 35 05.7	+0.3
OTRP				*e*S	Sn	22 35 32.5	-0.3
PAGZ	**Pagadian**	**2.44**	**155**	*e*P	Pn	22 35 08.2	+0.7
PAGZ				*e*S	Sn	22 35 36.4	-0.3
BUSP	**Coron**	**2.83**	**313**	*e*P	Pn	22 35 12.7	-0.4
ENPP	**El Nido**	**3.07**	**292**	*e*P	Pn	22 35 15.8	-0.5
ENPP				*e*S	Sn	22 35 49.3	-3.1
BATP	**Bataraza**	**4.64**	**255**	*e*P	Sn	22 36 24.1	-8.2

SKHL 20 23:01:17.4±0.3, 54.21N×125.64E, h8km±1km, mb3.7/6, 2C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.81**	**73**	⇓*i*Pg	Pg	23 01 32.5	-1.2
KROS				AMB	AMB	23 01 33.7	
	52nm,0.5s						
KROS				*i* Sg	Sg	23 01 43.5	-1.0
KROS				A		23 01 44.9	
	186nm,0.5s						
KROS				A		23 01 44.9	
	182nm,0.5s						
ZEA	**Zeya**	**1.06**	**116**	⇑*i*Pg	Pg	23 01 37.2	-1.5
ZEA				AMB	AMB	23 01 37.3	
	50nm,0.3s						
ZEA				pPg		23 01 38.9	
ZEA				*e*Sg	Sg	23 01 51.2	-1.6
ZEA				A		23 01 52.0	
	240nm,0.5s						
ZEA				A		23 01 52.0	
	170nm,0.5s						
YASR	**Yasnyy**	**1.67**	**123**	*e*Pn	Pn	23 01 47.0	-0.1
YASR				*e*Pg	Pg	23 01 47.9	-2.8
YASR				AMB	AMB	23 01 48.7	
	16nm,0.4s						
YASR				pPg		23 01 50.9	
YASR				*e*Sg	Sg	23 02 09.7	-3.3
YASR				A		23 02 12.6	
	300nm,0.4s						
YASR				A		23 02 12.6	
	110nm,0.4s						
BMKR	**Bomnak**	**1.94**	**74**	*e*rx	rx	23 01 48.0	
BMKR				*e*Pn	Pn	23 01 50.4	-0.6
BMKR				⇑*i*Pg	Pg	23 01 52.0	-4.1
BMKR				AMB	AMB	23 01 53.0	
	13nm,0.4s						
BMKR				AMB	AMB	23 01 53.0	
	45nm,0.4s						
BMKR				pPg		23 01 55.0	
BMKR				*e*Sg	Sg	23 02 17.5	-4.4
BMKR				A		23 02 19.8	
	232nm,0.4s						
BMKR				A		23 02 19.8	
	198nm,0.4s						
TUP	**Tupik**	**3.34**	**276**	*e*Pn	Pn	23 02 11.7	+0.7
TUP				*e*Pg	Pg	23 02 19.1	-4.9
TUP				AMB	AMB	23 02 24.9	
	10.0nm,0.3s						
TUP				*e*rx	rx	23 02 50.0	
TUP				*e*Sg	Sg	23 03 02.8	-5.7
TUP				A		23 03 10.0	
	58nm,0.6s						
EKMR	**Ekimchan**	**4.50**	**102**	*e*Pn	Pn	23 02 25.4	-2.1
EKMR				pPn		23 02 28.5	
EKMR				*e*Pg	Pg	23 02 39.1	-8.1
EKMR				AMB	AMB	23 02 40.1	
	5.0nm,0.3s						
EKMR				*e*Sg	Sg	23 03 38.0	-9.2
EKMR				A		23 03 45.0	
	24nm,0.6s						
EKMR				A		23 03 45.0	
	20nm,0.6s						

SKHL 20 23:01:51.3±0.3, 54.20N×125.64E, h9km±1km, mb4.2/6, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.81**	**73**	⇓*i*Pg	Pg	23 02 06.3	-1.3
KROS				AMB	AMB	23 02 07.5	
	232nm,0.4s						
KROS				*e*Sg	Sg	23 02 16.8	-1.7
KROS				A		23 02 17.9	
	460nm,0.5s						
KROS				A		23 02 17.9	
	550nm,0.5s						
ZEA	**Zeya**	**1.06**	**115**	*i* Pg	Pg	23 02 10.8	-1.7
ZEA				AMB	AMB	23 02 12.7	
	240nm,0.5s						
ZEA				pPg		23 02 13.8	
ZEA				*e*Sg	Sg	23 02 24.5	-2.1
ZEA				A		23 02 26.0	
	1μm,1.0s						
ZEA				A		23 02 26.2	
	980nm,0.6s						
ZEA				A		23 02 26.2	
	400nm,0.6s						
YASR	**Yasnyy**	**1.66**	**122**	*e*Pg	Pg	23 02 21.2	-3.3
YASR				AMB	AMB	23 02 22.2	
	42nm,0.5s						
YASR				pPg		23 02 23.9	
YASR				*e*Sg	Sg	23 02 43.1	-3.6
YASR				A		23 02 44.3	
	200nm,0.5s						
YASR				A		23 02 44.3	
	350nm,0.5s						
BMKR	**Bomnak**	**1.94**	**73**	*e*Pg	Pg	23 02 26.0	-4.0
BMKR				AMB	AMB	23 02 27.0	
	140nm,0.5s						
BMKR				*e*Sg	Sg	23 02 51.5	-4.4
BMKR				A		23 02 52.3	
	177nm,0.6s						
BMKR				A		23 02 52.3	
	461nm,0.6s						
TUP	**Tupik**	**3.34**	**276**	*e*Pn	Pn	23 02 46.6	+1.8
TUP				*e*Pg	Pg	23 02 54.0	-4.0
TUP				AMB	AMB	23 02 55.4	
	35nm,0.4s						
TUP				*e*Sg	Sg	23 03 35.5	-7.0
TUP				A		23 03 41.6	
	424nm,0.8s						
EKMR	**Ekimchan**	**4.50**	**102**	*e*Pg	Pg	23 03 13.4	-7.7
EKMR				AMB	AMB	23 03 16.0	
	12nm,0.5s						
EKMR				*e*Sg	Sg	23 04 12.0	-9.0
EKMR				A		23 04 18.7	
	49nm,0.5s						
EKMR				A		23 04 18.7	
	73nm,0.5s						
CRS	**Chara**	**4.98**	**306**	*e*Sg	Sg	23 04 27.4	-10
CRS				A		23 04 34.3	
	230nm,1.1s						
GRNR	**Gornyy**	**7.42**	**113**	*e*Sg	Sg	23 05 42.6	-16
GRNR				A		23 05 48.7	
	20nm,1.0s						
NKL	**Nikolayevsk**	**8.99**	**91**	*e*Sg	Sg	23 06 32.0	-19

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*IDC **20** 23:13:26.5±0.8, 62.09S×57.24W, mb4.0/6, mb1 4.1/7, mb1mx4.0/16, mbtmp4.0/7, ML2.5/1, MS4.0/9, Ms1 4.0/9, ms1mx3.9/14, Error ellipse: s-maj=43.8km s-min=18.3km az=58.0*

*NEIC **20** 23:13:28.2±0.5, 61.95S×56.98W, h10km, mb4.7/4, Error ellipse: s-maj=16.1km s-min=9.9km az=53.0*

*BJI **20** 23:13:32.1, 62.00S×57.00W, h10km*

ISC 20 23:13:25.7±6.9, **61.94S**±0.09×**57.0W**±0.3, **h1**km±46km, **n39**, σ1ˢ**08**/26, **mb4.3**/9, **MS3.9**/8, **4C-1D, South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**4.28**	**225**	*e*Pn	**Pn**	**23 14 34.1**	**+0.8**
USHA	**Ushuaia**	**9.32**	**315**	Pn	**P**	**23 15 42.3**	**-1.8**
	0.1nm,0.3s,baz=147,slow=17,SNR=2.4						
USHA				LR	LR	23 18 48.7	
	comp=Z,1μm,19.3s,baz=100,slow=34						
USHA	**Ushuaia**	**9.32**	**315**	Pn	**P**	**23 15 42.3**	**-1.8**
USHA				LR	LR	23 18 48.7	
VNA3	**Neumayer Olymp**	**20.37**	**137**	*e*	**P**	**23 18 09.0**	**+3.1**
VNA3	**Neumayer Olymp**	**20.37**	**137**	*e*	**P**	**23 18 13.6**	**+7.7**
VNA3	**Neumayer Olymp**	**20.37**	**137**	⇑*i*P	**P**	**23 18 05.3**	**-0.6**
VNA3				*e*		23 18 09.0	
VNA3				*e*		23 18 13.6	
VNA1	**Neumayer--Stat**	**20.81**	**135**	*e*	**P**	**23 18 14.4**	**+3.9**
VNA1	**Neumayer--Stat**	**20.81**	**135**	*e*	**P**	**23 18 19.4**	**+8.9**
VNA1	**Neumayer--Stat**	**20.81**	**135**	⇑*i*P	**P**	**23 18 10.3**	**-0.2**
VNA1				*e*		23 18 14.4	
VNA1				*e*		23 18 19.4	
VNA2	**Neumayer--Watz**	**21.10**	**136**	*e*	**P**	**23 18 15.3**	**+1.8**
VNA2	**Neumayer--Watz**	**21.10**	**136**	*e*	**P**	**23 18 20.4**	**+6.9**
VNA2	**Neumayer--Watz**	**21.10**	**136**	⇑*i*P	**P**	**23 18 11.4**	**-2.1**
VNA2				*e*		23 18 15.3	
VNA2				*e*		23 18 20.4	
SNAA	**Sanae**	**22.55**	**138**	⇑*i*	**P**	**23 18 28.0**	**+0.2**
SNAA	**Sanae**	**22.55**	**138**	*e*	**P**	**23 18 31.8**	**+4.0**
SNAA	**Sanae**	**22.55**	**138**	*e*	**P**	**23 18 36.7**	**+8.9**
SNAA	**Sanae**	**22.55**	**138**	P	**P**	**23 18 27.7**	**-0.2**
	4.4nm,1.0s,mb3.9,baz=260,slow=9.2,SNR=24						
SNAA				LR	LR	23 25 52.7	
	comp=Z,136nm,18.5s,MS3.4,baz=207,slow=33						
SNAA	**Sanae**	**22.55**	**138**	⇓*e*P	**P**	**23 18 27.5**	**-0.3**
	28nm,1.3s,mb4.6						
PLCA	**Paso Flores**	**22.77**	**333**	P	**P**	**23 18 31.4**	**+1.1**
	1.4nm,1.1s,mb3.4,baz=248,slow=17,SNR=1.9						
PLCA				LR	LR	23 27 27.1	
	comp=Z,410nm,20.1s,MS3.9,baz=231,slow=37						
QSPA	**South Pole Qui**	**28.29**	**180**	*e*P	**P**	**23 19 22.7**	**+0.8**
	14nm,0.9s,mb4.8						
CPUP	**Villa Florida**	**35.60**	**359**	LR	LR	23 33 15.9	
	comp=Z,114nm,21.9s,MS3.6,baz=34,slow=33						
MAW	**Mawson**	**43.64**	**151**	P	**P**	**23 21 31.6**	**-1.0**
	5.3nm,1.0s,mb4.2,baz=226,slow=3.0,SNR=10						
MAW				PcP	PcP	23 23 20.8	+0.3
	1.6nm,0.6s,baz=182,slow=2.7,SNR=10						
MAW				LR	LR	23 39 13.9	
	comp=Z,443nm,20.9s,MS4.3,baz=237,slow=36						
SIV	**San Ignacio**	**45.98**	**354**	P	**P**	**23 21 53.2**	**+1.2**
	0.8nm,0.6s,mb4.0,baz=204,slow=12,SNR=4.6						
LPAZ	**La Paz**	**46.28**	**345**	LR	LR	23 42 27.6	
	comp=Z,131nm,20.5s,MS3.9,baz=273,slow=38						
BDFB	**Brasilia**	**46.67**	**12**	LR	LR	23 39 16.3	
	comp=Z,177nm,21.0s,MS4.0,baz=216,slow=33						
SUR	**Sutherland**	**56.34**	**96**	P	**P**	**23 23 09.6**	**-0.5**
	3.9nm,0.7s,mb4.5,baz=193,slow=14,SNR=3.7						
SUR				LR	LR	23 42 16.6	
	comp=Z,121nm,18.1s,MS4.0,baz=78,slow=31						
SUR	**Sutherland**	**56.34**	**96**	P	**P**	**23 23 09.6**	**-0.5**
SUR				LR	LR	23 42 16.6	
LSZ	**Lusaka**	**74.38**	**93**	*e*P	**P**	**23 25 07.1**	**+0.5**
	6.4nm,1.1s,mb4.6						
PPT	**Papeete**	**75.89**	**259**	LR	LR	23 51 44.5	
	comp=Z,164nm,20.0s,MS4.3,baz=195,slow=30						
WRA	**Warramunga Arr**	**97.91**	**191**	P	**P**	**23 27 02.7**	**-1.2**
	0.4nm,0.5s,mb4.4,baz=179,slow=4.1,SNR=6.4						
WRAB	**Tennant Creek**	**97.91**	**191**	*e*P	**P**	**23 27 03.8**	**-0.2**
	1.5nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**142.73**	**315**	PKP	PKPdf	23 32 57.1	-3.7
	0.6nm,0.9s,baz=147,slow=2.4,SNR=4.8						
ARCES	**ARCESS Array B**	**143.42**	**36**	PKhKP		23 33 03.9	
	5.5nm,1.0s,baz=233,slow=6.1,SNR=4.1						
AAK	**Ala-Archa**	**145.66**	**101**	*e*PKPdf	PKPdf	23 33 07.2	+0.6
ENH	**Enshi**	**147.11**	**158**	*e*PKPbc	PKPdf	23 33 10.8	+1.3
BVAR	**Borovoye Array**	**151.10**	**84**	PKPbc	PKPdf	23 33 19.1	+4.1
	2.4nm,0.9s,baz=225,slow=4.2,SNR=9.7						
MKAR	**Makanchi Array**	**152.42**	**104**	PKPbc	PKPdf	23 33 22.7	+5.5
	1.3nm,0.8s,baz=192,slow=1.1,SNR=8.3						
MJAR	**Matsushiro Arr**	**152.86**	**208**	PKPbc	PKPdf	23 33 22.9	+4.8
	0.7nm,0.4s,baz=180,slow=2.5,SNR=4.1						
GTA	**Gaotai**	**153.36**	**137**	*e*PKP	PKPdf	23 33 27.3	+8.6
SONM	**Songino Array**	**163.01**	**139**	PKPab	PKPab	23 34 19.6	-0.3
	1.9nm,1.0s,baz=216,slow=3.8,SNR=8.3						

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*DHMR **20** 23:27:03.2±0.4, 12.66N×40.57E, h4km±15km, mb4.0, ML4.3*

*BJI **20** 23:27:04.2, 12.80N×40.30E, h10km, mB5.0, mb4.7, Msz4.2*

*CSEM **20** 23:27:04.7±0.1, 12.82N×40.45E, h10km, mb4.5/25, Ms3.8, Error ellipse: s-maj=3.6km s-min=1.8km az=179.0*

*IDC **20** 23:27:05.4±0.9, 12.71N×40.37E, mb4.2/16, mb1 4.3/18, mb1mx4.2/24, mbtmp4.2/18, ML2.9/2, MS4.0/11, Ms1 4.0/11, ms1mx3.9/15, Error ellipse: s-maj=22.2km s-min=17.0km az=105.0*

*MOS **20** 23:27:05.5±0.9, 12.79N×40.25E, h10km, mb4.8/25, Error ellipse: s-maj=12.1km s-min=4.6km az=111.7*

*NEIC **20** 23:27:07.3±0.4, 12.78N×40.29E, h10km, mb4.6/31, MS3.9/1, Error ellipse: s-maj=8.9km s-min=7.1km az=104.0*

ISC 20 23:27:03.4±1.6, **12.74N**±0.05×**40.42E**±0.03, **h0**km±11km, **h22**km±5.1km**:pP-P, n166**, σ1ˢ**15**/169, **mb4.6**/56, **MS4.1**/14, **3C-21D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	**Al ‘Udayn**	**3.66**	**70**	⇓*e*P	**Pn**	**23 28 02.1**	**-0.3**
UDYN				AMb	AMB	23 28 02.6	
	comp=Z,7.9nm,0.4s						
UDYN				*i* S	**Sn**	**23 28 48.2**	**+1.3**
UDYN				AML	AML	23 29 16.5	
	comp=N,2μm,0.6s						
HAJJ	**Hajjah**	**4.26**	**46**	⇓*e*P	**Pn**	**23 28 10.7**	**-0.3**
HAJJ				*i* S	**Sn**	**23 29 03.6**	**+1.5**
DHBB	**Dhamar BB**	**4.26**	**64**	⇓*e*P	**Pn**	**23 28 10.3**	**-0.7**
DHBB				*i* S	**Sn**	**23 29 03.0**	**+0.8**
DHBB	**Dhamar BB**	**4.26**	**64**	⇓*e*P	**Pn**	**23 28 10.3**	**-0.8**
DHBB				*i* S	**Sn**	**23 29 03.0**	**+0.7**
ADEN	**Aden**	**4.45**	**89**	⇓*e*P	**Pn**	**23 28 11.8**	**-1.9**
ADEN				*i* S	**Sn**	**23 29 05.2**	**-1.7**
LBOS		**4.83**	**76**	⇓*e*P	**Pn**	**23 28 15.5**	**-3.6**
LBOS				*i* S	**Sn**	**23 29 11.7**	**-4.9**
BDHA	**Al Bayda’**	**5.15**	**76**	⇓*e*P	**Pn**	**23 28 20.0**	**-3.6**
BDHA				*i* S	**Sn**	**23 29 19.8**	**-4.9**
MUKL	**Al Mukalla**	**8.55**	**77**	*e*P	**P**	**23 29 06.4**	**-4.9**
MUKL				*i* S	**Sn**	**23 30 43.0**	**-6.7**
ABTO	**Aybut**	**13.25**	**68**	⇑P	**P**	**23 30 18.1**	**+2.5**
WHFO	**Wadi Hawf**	**13.86**	**67**	⇓P	**P**	**23 30 26.1**	**+2.4**
RBK	**Rabkut**	**14.12**	**69**	⇑P	**P**	**23 30 30.1**	**+3.0**
KMBO	**Kilima Mbogo**	**14.13**	**193**	Pn	**P**	**23 30 28.6**	**+1.3**
	comp=N,0.0nm,0.3s,baz=18,slow=12,SNR=6.4						
SHAO	**Shalim**	**15.57**	**68**	⇓P	**P**	**23 30 48.6**	**+2.6**
MBAR	**Mbarara**	**16.37**	**217**	*i* P	**P**	**23 31 01.2**	**+4.8**
ARQ	**Araqi**	**18.57**	**53**	⇓P	**P**	**23 31 23.8**	**-0.1**
BSY	**Bisya**	**18.80**	**56**	⇓P	**P**	**23 31 26.3**	**-0.4**
	SNR=17						
BSYO	**Bisya**	**18.83**	**56**	P	**P**	**23 31 26.3**	**-0.8**
	SNR=17						
ASHO	**Ashiyiah**	**18.96**	**49**	⇓P	**P**	**23 31 27.8**	**-0.8**
	SNR=11						
HOQ	**Hoqain**	**19.31**	**54**	⇓P	**P**	**23 31 31.8**	**-1.0**
JMDO	**Jabal Madar**	**19.37**	**58**	⇓P	**P**	**23 31 32.4**	**-1.0**
ASF	**Jabal al Asfar**	**19.61**	**351**	P	**P**	**23 31 37.7**	**+1.5**
	comp=N,0.1nm,0.3s,baz=199,slow=1.5,SNR=4.5						
ASF				LR	LR	23 38 07.9	
	comp=N,158nm,18.2s,baz=85,slow=34						
SMDO	**Samad**	**19.64**	**56**	⇓P	**P**	**23 31 35.2**	**-1.4**
	SNR=9.4						
BANOM	**Banah**	**19.88**	**46**	⇓P	**P**	**23 31 39.1**	**-0.2**
BIDO	**Bidbid**	**19.93**	**55**	⇓P	**P**	**23 31 38.9**	**-0.9**
WBK	**Wadi Bani Khal**	**20.19**	**58**	⇓P	**P**	**23 31 41.1**	**-1.5**
	SNR=7.1						
BHD	**Baghdad**	**20.75**	**9**	*e*x	x	23 31 47.0	
BHD				*e*x	x	23 35 59.0	
MSL	**Mosul**	**23.57**	**5**	*e*x	x	23 32 40.0	
MALT	**Malatya**	**25.53**	**356**	*e*P	**P**	**23 32 37.9**	**+2.5**
	comp=N,23nm,1.2s,mb4.7						
MALT				*e*		23 32 43.4	
MALT	**Malatya**	**25.53**	**356**	*e*P	**P**	**23 32 37.9**	**+2.5**
MALT				*e*		23 32 43.4	
MALT				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.7						
IDI	**Anoyia**	**26.48**	**331**	P	**P**	**23 32 46.0**	**+1.8**
	comp=Z,12nm,1.0s,mb4.5,baz=154,slow=7.2,SNR=4.3						
IDI				LR	LR	23 43 10.5	
	comp=Z,265nm,19.6s,MS3.8,baz=57,slow=36						
BRTR	**Keskin Array B**	**27.54**	**349**	P	**P**	**23 32 55.5**	**+1.7**
	comp=Z,4.2nm,1.1s,mb4.2,baz=174,slow=11,SNR=12						
GNI	**Garni**	**27.57**	**7**	P	**P**	**23 32 56.5**	**+2.4**
	comp=Z,10nm,0.9s,mb4.7,baz=205,slow=10.0,SNR=4.7						
GNI				LR	LR	23 44 06.3	
	comp=Z,333nm,18.1s,MS4.0,baz=65,slow=37						
TI2	**Plekhanov**	**29.13**	**7**	*i* P	**P**	**23 33 09.0**	**+0.8**
ZEI	**Tsey**	**30.07**	**5**	*e*P	**P**	**23 33 15.7**	**-0.9**
ZEI				*i* *PP	pP	23 33 21.5	+4.8
ZEI				*i*		23 34 10.5	
ZEI				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.6						
LSZ	**Lusaka**	**30.36**	**204**	P	**P**	**23 33 20.5**	**+1.1**
	comp=Z,8.2nm,1.6s,mb4.3						
LSZ	**Lusaka**	**30.36**	**204**	P	**P**	**23 33 20.5**	**+1.1**
	comp=Z,8.2nm,1.6s,mb4.3						
LSZ	**Lusaka**	**30.36**	**204**	P	**P**	**23 33 20.5**	**+1.1**
LSZ				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.3						
KIV	**Kislovodsk**	**31.17**	**3*c***	*i*P	**P**	**23 33 27.1**	**+0.8**
KIV				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
KIV				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.2						
ANN	**Anapa**	**32.05**	**356**	*e*P	**P**	**23 33 34.6**	**+0.6**
ANN				*e*S	**S**	**23 38 45.8**	**-0.1**
ANN				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
MLR	**Muntele Rosu**	**34.89**	**342**	P	**P**	**23 33 59.0**	**+0.4**
	comp=Z,6.9nm,1.2s,mb4.5,baz=175,slow=11,SNR=2.1						
MATP	**Matopo**	**34.98**	**200**	P	**P**	**23 33 59.5**	**-0.1**
	comp=Z,3.3nm,1.1s,mb4.2,baz=3.0,slow=12,SNR=3.7						
AKASG	**Malin Array Be**	**38.95**	**349**	P	**P**	**23 34 33.0**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.7,baz=171,slow=7.2,SNR=11						
KOLS	**Kolonicke sedl**	**39.09**	**341**	*e*pP	pP	23 34 38.6	+4.5
KECS	**Kecovo**	**39.30**	**339**	*e*pP	pP	23 34 39.3	+3.5
STHS	**Stebnicka Huta**	**39.85**	**340**	*e*P	**P**	**23 34 43.5**	**+3.2**
VYHS	**Vyhne**	**39.91**	**338**	*e*P	**P**	**23 34 42.0**	**+1.3**
PGF	**Pioggiola**	**40.28**	**323**	*e*P	**P**	**23 34 44.0**	**+0.1**
SMOL	**Smolenice**	**40.46**	**336**	*e*P	**P**	**23 34 46.2**	**+0.9**
OKC	**Ostrava-Krasne**	**41.27**	**338**	*e*P	**P**	**23 34 54.2**	**+2.3**
VRAC	**Vranov**	**41.42**	**336**	*e*P	**P**	**23 34 53.4**	**+0.2**
MORC	**Moravsky Berou**	**41.45**	**338**	*e*P	**P**	**23 34 52.9**	**-0.5**
	comp=Z,2.6nm,1.0s,mb3.9						
MORC	**Moravsky Berou**	**41.45**	**338**	*e*P	**P**	**23 34 52.9**	**-0.5**
	comp=Z,2.6nm,1.0s,mb3.9						
MORC	**Moravsky Berou**	**41.45**	**338**	*e*P	**P**	**23 34 52.9**	**-0.5**
MORC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
TREC	**Trest**	**41.85**	**336**	*e*P	**P**	**23 34 57.1**	**+0.4**
AAK	**Ala-Archa**	**41.90**	**38**	*e*P	**P**	**23 34 58.7**	**+1.5**
	comp=Z,7.4nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**41.90**	**38**	*e*P	**P**	**23 34 58.7**	**+1.5**
	comp=Z,7.4nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**41.90**	**38**	*e*P	**P**	**23 34 58.2**	**+1.0**
SBF	**Sospel**	**41.99**	**324**	*e*P	**P**	**23 34 57.7**	**-0.2**
	comp=Z,34nm,1.1s,mb4.7						
LMR	**La Mourre**	**42.21**	**323**	*e*P	**P**	**23 34 58.9**	**-0.9**
	comp=Z,36nm,1.4s,mb4.6						
LMR	**La Mourre**	**42.21**	**323**	*e*P	**P**	**23 34 58.9**	**-0.9**
LMR				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.6						
GERES	**GERESS Array B**	**42.25**	**334**	P	**P**	**23 34 58.5**	**-1.5**
	comp=Z,3.8nm,1.0s,mb4.1,baz=133,slow=6.2,SNR=14						
FRF	**La Foret Royal**	**42.27**	**323**	*e*P	**P**	**23 34 58.9**	**-1.3**
DPC	**Dobruska-Polom**	**42.37**	**337**	*e*P	**P**	**23 35 01.3**	**+0.3**
OBN	**Obninsk**	**42.38**	**357**	⇓*i*P	**P**	**23 35 01.6**	**+0.6**
OBN				*e*		23 36 37.3	
OBN				*e*		23 36 55.2	
OBN				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
KHC	**Kasperske Hory**	**42.52**	**334**	*e*P	**P**	**23 35 02.1**	**-0.1**
KHC	**Kasperske Hory**	**42.52**	**334**	⇓*i*P	**P**	**23 35 02.6**	**+0.4**
UPC	**Upice**	**42.61**	**337**	*e*P	**P**	**23 35 03.3**	**+0.3**
PRU	**Pruhonice**	**42.78**	**335**	*e*P	**P**	**23 35 04.1**	**-0.2**
MBDF	**Montbardon**	**42.89**	**325**	*e*P	**P**	**23 35 04.9**	**-0.4**
	comp=Z,27nm,1.0s,mb4.6						
MBDF	**Montbardon**	**42.89**	**325**	*e*P	**P**	**23 35 04.9**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
MOS	**Moscow**	**42.96**	**358**	*e*P	**P**	**23 35 05.7**	**0.0**
MOS				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.1						
PVCC	**Panska Ves**	**43.19**	**336**	*e*P	**P**	**23 35 10.7**	**+3.0**
LPG	**La Plagne**	**43.38**	**325**	*e*P	**P**	**23 35 08.9**	**-0.3**
	comp=Z,15nm,1.1s,mb4.3						
LPG	**La Plagne**	**43.38**	**325**	*e*P	**P**	**23 35 08.9**	**-0.3**
LPG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
LPL	**La Plagne**	**43.40**	**325**	*e*P	**P**	**23 35 09.0**	**-0.4**
	comp=Z,19nm,1.3s,mb4.3						
LPL	**La Plagne**	**43.40**	**325**	*e*P	**P**	**23 35 09.0**	**-0.4**
LPL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
ORIF	**Oris-en-Rattie**	**43.52**	**324**	*e*P	**P**	**23 35 08.9**	**-1.5**
	comp=Z,31nm,1.4s,mb4.6						
ORIF				*e*R			
	comp=Z,117nm,18.5s						
BRG	**Berggiesshubel**	**43.71**	**336**	*e*P	**P**	**23 35 11.3**	**-0.5**
	comp=Z,6.9nm,1.2s,mb4.3						
BRG	**Berggiesshubel**	**43.71**	**336**	*e*P	**P**	**23 35 11.3**	**-0.6**
	comp=Z,6.9nm,1.2s,mb4.3						
BRG	**Berggiesshubel**	**43.71**	**336**	*e*P	**P**	**23 35 11.3**	**-0.6**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
NKC	**Novy Kostel**	**43.84**	**334**	*e*P	**P**	**23 35 04.1**	**-8.8**
GRA1	**Grafenberg Arr**	**43.97**	**333**	*e*P	**P**	**23 35 13.2**	**-0.8**
	comp=Z,6.0nm,1.2s,mb4.2						
GRF	**Grafenberg Arr**	**43.97**	**333**	*e*P	**P**	**23 35 13.2**	**-0.8**
	comp=Z,6.0nm,1.2s,mb4.2						
GRF	**Grafenberg Arr**	**43.97**	**333**	*e*P	**P**	**23 35 13.2**	**-0.8**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
GRF	**Grafenberg Arr**	**43.97**	**333**	*e*P	**P**	**23 35 13.2**	**-0.8**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
VIVF	**Saint-Julien-l**	**44.17**	**323**	*e*P	**P**	**23 35 15.2**	**-0.5**
LASF	**Ste Croix**	**44.22**	**322**	*e*P	**P**	**23 35 15.5**	**-0.6**
CLL	**Collm**	**44.42**	**336**	*e*P	**P**	**23 35 18.0**	**+0.4**
CABF	**La Chapelle**	**44.43**	**326**	*e*P	**P**	**23 35 17.0**	**-0.8**
	comp=Z,47nm,1.4s,mb4.7						
CABF	**La Chapelle**	**44.43**	**326**	*e*P	**P**	**23 35 17.0**	**-0.8**
CABF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.7						
MOX	**Moxa**	**44.50**	**334**	*e*P	**P**	**23 35 16.0**	**-2.3**
HINF	**Hinteralfeld**	**44.78**	**328**	*e*P	**P**	**23 35 19.7**	**-0.9**
MTLF	**Montolieu**	**44.83**	**320**	*e*P	**P**	**23 35 20.5**	**-0.6**
CDF	**Champ du Feu**	**44.95**	**329**	*e*P	**P**	**23 35 21.1**	**-0.9**
DBIC	**Dimbokro**	**44.99**	**267**	P	**P**	**23 35 22.4**	**-0.4**
	comp=Z,9.9nm,0.9s,mb4.7,baz=78,slow=7.3,SNR=5.9						
DBIC	**Dimbokro**	**44.99**	**267**	*e*P	**P**	**23 35 22.6**	**-0.1**
	comp=Z,14nm,1.0s,mb4.9						
DBIC	**Dimbokro**	**44.99**	**267**	*e*P	**P**	**23 35 22.6**	**-0.1**
	comp=Z,14nm,1.0s,mb4.9						
DBIC	**Dimbokro**	**44.99**	**267**	*e*P	**P**	**23 35 22.6**	**-0.1**

DBIC				pmax	pmax		
	comp=Z,14nm,1.0s						
HAU	**Haudompre**	**45.16**	**328**	*e*P	**P**	**23 35 23.2**	**-0.5**
HAU				*e*R			
	comp=Z,114nm,23.0s						
EGRA	**Graus**	**45.48**	**318**	P	**P**	**23 35 29.6**	**+3.4**
	comp=Z,40nm,1.6s,mb5.1						
EBER	**Berja**	**45.57**	**310**	P	**P**	**23 35 27.3**	**+0.3**
EBER	**Berja**	**45.57**	**310**	P	**P**	**23 35 27.3**	**+0.3**
EHUE	**Huescar**	**45.67**	**311**	P	**P**	**23 35 29.0**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.9						
EHUE	**Huescar**	**45.67**	**311**	P	**P**	**23 35 29.0**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.9						
EHUE	**Huescar**	**45.67**	**311**	P	**P**	**23 35 29.0**	**+1.2**
EHUE				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
MDT	**Midelt**	**45.67**	**304**	P	**P**	**23 35 28.2**	**+0.3**
	comp=Z,2.5nm,1.0s,mb4.2,baz=111,slow=12,SNR=4.3						
SMF	**Signal de Mont**	**45.69**	**325**	*e*P	**P**	**23 35 27.5**	**-0.3**
CAF	**Calviac**	**45.76**	**322**	*e*P	**P**	**23 35 27.6**	**-0.8**
ARU	**Arti**	**45.79**	**14**	⇓*i*P	**P**	**23 35 29.4**	**+0.9**
ARU				*e*		23 37 14.3	
ARU				*e*PPP	PPP	23 37 53.5	-5.1
ARU				*e*S	**S**	**23 42 10.0**	**-2.5**
ARU				pmax	pmax		
	comp=Z,16nm,2.0s,mb4.7						
ARU				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,100nm,20.0s,MS3.8						
ARU				MLR	MLR		
	comp=E,50nm,20.0s,MS3.8						
EBIE	**Bielsa**	**45.83**	**318**	P	**P**	**23 35 31.9**	**+2.9**
	comp=E,54nm,1.9s,mb5.3						
EBIE	**Bielsa**	**45.83**	**318**	P	**P**	**23 35 31.9**	**+3.0**
	comp=E,54nm,1.9s,mb5.3						
EQES	**Quesada**	**46.02**	**311**	P	**P**	**23 35 30.9**	**+0.3**
	comp=E,31nm,2.1s,mb5.0						
EQES	**Quesada**	**46.02**	**311**	P	**P**	**23 35 30.9**	**+0.3**
	comp=E,31nm,2.1s,mb5.0						
LOR	**Lormes**	**46.04**	**326**	*e*P	**P**	**23 35 29.6**	**-1.0**
LOR				*e*R			
	comp=E,78nm,22.5s						
AVF	**Avril sur Loir**	**46.04**	**325**	*e*P	**P**	**23 35 29.4**	**-1.2**
	comp=E,10nm,1.1s,mb4.5						
AVF	**Avril sur Loir**	**46.04**	**325**	*e*P	**P**	**23 35 29.4**	**-1.2**
AVF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
SSF	**Saint Saulge**	**46.12**	**325**	*e*P	**P**	**23 35 30.0**	**-1.2**
MEZF	**Maizieres J'vi**	**46.15**	**328**	*e*P	**P**	**23 35 31.5**	**+0.1**
	comp=Z,45nm,1.3s,mb5.0						
BGF	**Bois d'Agland**	**46.20**	**324**	*e*P	**P**	**23 35 31.2**	**-0.6**
ERON	**Agron**	**46.30**	**309**	P	**P**	**23 35 34.9**	**+2.1**
	comp=Z,2.8nm,0.5s,mb4.5						
ERON	**Agron**	**46.30**	**309**	P	**P**	**23 35 34.8**	**+2.0**
	comp=Z,2.8nm,0.5s,mb4.5						
ETSF	**Etsaut**	**46.38**	**318**	*e*P	**P**	**23 35 32.8**	**-0.5**
	comp=Z,22nm,1.2s,mb4.8						
ETSF	**Etsaut**	**46.38**	**318**	*e*P	**P**	**23 35 32.8**	**-0.5**
ETSF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
TCF	**Toulx Ste Croi**	**46.41**	**324**	*e*P	**P**	**23 35 33.2**	**-0.3**
LFF	**La Frestale**	**46.56**	**321**	*e*P	**P**	**23 35 33.9**	**-0.9**
ELOJ	**Sierra Loja**	**46.60**	**309**	P	**P**	**23 35 36.2**	**+1.1**
	comp=Z,4.0nm,0.9s,mb4.5						
ELOJ	**Sierra Loja**	**46.60**	**309**	P	**P**	**23 35 36.2**	**+1.0**
	comp=Z,4.0nm,0.9s,mb4.5						
ELOJ	**Sierra Loja**	**46.60**	**309**	P	**P**	**23 35 36.2**	**+1.0**
ELOJ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**46.75**	**24**	P	**P**	**23 35 36.6**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.1,baz=225,slow=2.1,SNR=5.6						
SJPF	**Ste Jean**	**46.91**	**318**	*e*P	**P**	**23 35 37.0**	**-0.5**
	comp=Z,21nm,1.0s,mb4.9						
SJPF	**Ste Jean**	**46.91**	**318**	*e*P	**P**	**23 35 37.0**	**-0.5**
SJPF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
ESDC	**Sonseca Array**	**47.35**	**313**	P	**P**	**23 35 40.4**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.3,baz=118,slow=8.1,SNR=7.7						
ESDC	**Sonseca Array**	**47.35**	**313**	P	**P**	**23 35 41.4**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.3						
EJIF	**Jimena Fronter**	**47.38**	**308**	P	**P**	**23 35 42.5**	**+1.1**
EJIF	**Jimena Fronter**	**47.38**	**308**	P	**P**	**23 35 42.5**	**+1.2**
BAIF	**Baives**	**47.55**	**329**	*e*P	**P**	**23 35 41.2**	**-1.3**
ESPR	**Espera**	**47.80**	**309**	P	**P**	**23 35 47.9**	**+3.2**
	comp=Z,23nm,1.2s,mb5.2						
MKAR	**Makanchi Array**	**48.82**	**38**	P	**P**	**23 35 52.1**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=233,slow=6.1,SNR=12						
MKAR				LR	LR	23 59 08.4	
	comp=Z,334nm,18.2s,MS4.4,baz=182,slow=39						
MKAR	**Makanchi Array**	**48.82**	**38**	*i* P	**P**	**23 35 53.2**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**48.96**	**31**	*e*P	**P**	**23 35 53.7**	**+0.3**
	comp=Z,4.7nm,1.1s,mb4.4						
KURK	**Kurchatov**	**48.96**	**31**	*e*P	**P**	**23 35 53.7**	**+0.3**
	comp=Z,4.7nm,1.1s,mb4.4						
KURK	**Kurchatov**	**48.96**	**31**	*e*P	**P**	**23 35 51.3**	**-2.1**
LDF	**La Druitiere**	**49.00**	**325**	*e*P	**P**	**23 35 53.0**	**-0.7**
	comp=Z,53nm,1.6s,mb5.0						
LDF	**La Druitiere**	**49.00**	**325**	*e*P	**P**	**23 35 53.0**	**-0.7**
LDF				pmax	pmax		
	comp=Z,27nm,1.6s,mb5.0						
EBAD	**Badajoz**	**49.26**	**311**	P	**P**	**23 35 58.4**	**+2.5**
	comp=Z,28nm,1.5s,mb5.1						
EBAD	**Badajoz**	**49.26**	**311**	P	**P**	**23 35 58.4**	**+2.5**
	comp=Z,28nm,1.5s,mb5.1						
FLN	**La Foliniere**	**49.29**	**325**	*e*P	**P**	**23 35 55.4**	**-0.6**
FLN				*e*R			
	comp=Z,122nm,20.2s						
GRR	**Gorron**	**49.30**	**325**	*e*P	**P**	**23 35 54.7**	**-1.4**
EARI	**Arriondas**	**49.62**	**317**	P	**P**	**23 36 02.8**	**+4.1**
	comp=Z,76nm,1.8s,mb5.3						
SGMF	**Saint Gilles**	**50.21**	**324**	*e*P	**P**	**23 36 01.5**	**-1.5**
QUIF	**Quistinic**	**50.39**	**323**	*e*P	**P**	**23 36 03.2**	**-1.3**
ROSF	**Rostrenen**	**50.66**	**323**	*e*P	**P**	**23 36 05.6**	**-0.9**
NOA	**NORSAR Array B**	**52.71**	**343**	P	**P**	**23 36 20.9**	**-0.9**
	comp=Z,3.1nm,1.0s,mb4.2,baz=140,slow=7.5,SNR=3.1						
NOA				LR	LR	23 58 03.1	
	comp=Z,46nm,21.4s,MS3.5,baz=125,slow=35						
ZAL	**Zalesovo**	**53.91**	**31**	P	**P**	**23 36 30.8**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.9,baz=264,slow=6.0,SNR=5.6						
ZAL				LR	LR	00 03 13.1	
	comp=Z,220nm,18.1s,MS4.3,baz=72,slow=40						
ARCES	**ARCESS Array B**	**57.54**	**354**	LR	LR	00 03 49.2	
	comp=Z,135nm,18.4s,MS4.1,baz=194,slow=38						
GTA	**Gaotai**	**58.44**	**51**	*e*P	**P**	**23 37 03.6**	**+0.2**
GTA				AP	pP	23 37 08.6	+5.1
GTA				XP	sP	23 37 11.8	+8.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb4.1						
SONM	**Songino Array**	**64.56**	**43**	P	**P**	**23 37 44.8**	**+0.2**
	comp=Z,2.5nm,0.9s,mb4.4,baz=246,slow=5.9,SNR=14						
SONM				LR	LR	00 09 28.4	
	comp=Z,285nm,18.1s,MS4.5,baz=139,slow=39						
HHC	**Hu-ho-hao-te**	**67.54**	**51**	*e*P	**P**	**23 37 59.6**	**-4.2**
HHC				AP	pP	23 38 10.6	+6.7
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.3						
HHC				AMB	AMB		
	comp=Z,71nm,3.6s						
HHC				LR	LR		
	comp=Z,136nm,17.8s,MS4.2						
BOD	**Bodaibo**	**70.57**	**33**	*e*P	**P**	**23 38 18.4**	**-3.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.3						
NJ2	**Nanjing**	**73.63**	**60**	*e*P	**P**	**23 38 42.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
SSE	**Sheshan**	**75.70**	**61**	*e*P	**P**	**23 38 52.0**	**-0.9**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,57nm,6.4s						
MAW	**Mawson**	**81.77**	**171**	P	**P**	**23 39 25.7**	**+0.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=318,slow=10,SNR=3.6						
MAW				LR	LR	00 13 34.4	
	comp=Z,135nm,19.5s,MS4.3,baz=247,slow=34						
MAW	**Mawson**	**81.77**	**171**	P	**P**	**23 39 25.7**	**+0.6**
MAW				LR	LR	00 13 34.4	
MJAR	**Matsushiro Arr**	**88.66**	**53**	LR	LR	00 25 55.1	
	comp=Z,88nm,18.3s,MS4.2,baz=65,slow=40						
SCHQ	**Schefferville**	**89.36**	**326**	LR	LR	00 18 11.7	
	comp=Z,54nm,20.0s,MS4.0,baz=317,slow=34						
BILL	**Bilibino**	**90.68**	**18**	*e*P	**P**	**23 40 10.2**	**+1.3**
BILL				*e*		23 43 41.5	
BILL				*e*S	S	23 50 36.2	-27
BILL				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.3						

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*NIED **20** 23:59:00, 30.60N×142.10E, $h5^{km}$, Mw4.2 Best double couple: $M_0$2.23×10^{15} NP1:ϕ_s137°, δ70°, λ77°. NP2:ϕ_s351°, δ23°, λ122°.*
*JMA **20** 23:59:09.5±0.1, 30.63N×142.07E, $h47^{km}$, M4.0*
*MOS **20** 23:59:11.0±0.4, 30.48N×141.57E, $h33^{km}$, mb4.5/2, Error ellipse: s-maj=38.1km s-min=11.6km az=111.9*
*NEIC **20** 23:59:13.8±0.5, 30.50N×141.64E, mb4.4/2, Error ellipse: s-maj=18.8km s-min=7.3km az=75.0*
*IDC **20** 23:59:13.9±0.7, 30.52N×141.67E, $h39^{km}$±6^{km}, mb3.7/8, mb1 3.8/11, mb1mx3.7/21, mbtmp3.9/11, ML3.6/3, MS2.9/4, Ms1 2.9/4, ms1mx2.8/21, Error ellipse: s-maj=26.0km s-min=13.0km az=80.0*
ISC 20 23:59:09.9±1.7, **30.58N**±0.04×**141.8E**±0.1, **$h30^{km}$**±13^{km}, **$h38^{km}$**±1.6^{km}**:pP-P, n36,** $\sigma 0^{s}$**96**/45, **mb4.0**/10, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.05**	**326**	P	**Pn**	**23 59 58.0**	**+0.7**
JHJ2				*e*S	**Sn**	**00 00 32.7**	**-0.5**
JHJ	**Hachijo jima 2**	**3.07**	**326**	Pn	**Pn**	**23 59 57.5**	**-0.2**
	13nm,0.3s,baz=244,slow=22,SNR=11						
JHJ				Sn	**Sn**	**00 00 33.2**	**-0.6**
	23nm,0.3s,baz=77,slow=22,SNR=3.6						
JHJ				LR	LR	00 01 22.4	
	comp=Z,168nm,18.4s,baz=132,slow=42						
CBIJ	**Chichi jima**	**3.48**	**175**	Pn	**Pn**	**00 00 02.7**	**-0.8**
	6.0nm,0.3s,baz=290,slow=20,SNR=7.7						
CBIJ				Sn	**Sn**	**00 00 43.0**	**-1.3**
	27nm,0.3s,baz=305,slow=23,SNR=7.6						
CBIJ	**Chichi jima**	**3.48**	**175**	*e*S	**Sn**	**00 00 42.0**	**-2.2**
BSO1	**Boso 1**	**4.13**	**350**	P	**Pn**	**00 00 11.8**	**-0.8**
BSO1				*e*S	**Sn**	**00 00 57.8**	**-2.7**
BSO3	**Boso 3**	**4.36**	**346**	P	**Pn**	**00 00 15.3**	**-0.6**
BSO4	**Boso 4**	**4.57**	**344**	*e*S	**Sn**	**00 01 10.3**	**-1.5**
JOD2	**Odawara 2**	**5.21**	**334**	P	**Pn**	**00 00 27.3**	**-0.6**
JOD2				*e*S	**Sn**	**00 01 27.1**	**-0.6**
JHU	**Hanno**	**5.67**	**339**	P	**Pn**	**00 00 34.9**	**+0.4**
JHU				*e*S	**Sn**	**00 01 35.4**	**-4.0**
JIE	**Ise**	**5.76**	**313**	P	**Pn**	**00 00 37.5**	**+1.8**
JNY	**Yasuok**	**5.81**	**326**	P	**Pn**	**00 00 35.7**	**-0.8**
JRY	**Ryogami san**	**5.95**	**336**	P	**Pn**	**00 00 39.2**	**+0.8**
JRY				*e*S	**Sn**	**00 01 46.2**	**-0.1**
JWZ	**Kozaga**	**5.96**	**301**	P	**Pn**	**00 00 39.9**	**+1.3**
JAG	**Ashikaga**	**6.16**	**342**	P	**Pn**	**00 00 41.3**	**0.0**
JAG				*e*S	**Sn**	**00 01 47.8**	**-3.7**
MJAR	**Matsushiro Arr**	**6.67**	**334**	Pn	**Pn**	**00 00 48.7**	**+0.2**
	2.4nm,0.3s,baz=157,slow=10,SNR=21						
MJAR				Sn	**Sn**	**00 02 04.3**	**0.0**
	0.7nm,0.3s,baz=163,slow=16,SNR=4.2						
MJAR				LR	LR	00 03 25.4	
	comp=Z,139nm,19.4s,baz=215,slow=38						
MJAR	**Matsushiro Arr**	**6.67**	**334**	Pn	**Pn**	**00 00 48.7**	**+0.2**
MJAR				Sn	**Sn**	**00 02 04.3**	**0.0**
MJAR				LR	LR	00 03 25.4	
MAJO	**Matsushiro**	**6.67**	**334**	*e*Pn	**Pn**	**00 00 49.0**	**+0.4**
MAT	**Matsushiro**	**6.67**	**334**	P	**Pn**	**00 00 49.0**	**+0.4**
MAT				S	**Sn**	**00 02 05.0**	**+0.7**
MAT	**Matsushiro**	**6.67**	**334**	*e*P	**Pn**	**00 00 49.0**	**+0.4**
MAT				*e*S	**Sn**	**00 02 05.0**	**+0.7**
JNU	**Nakatsue**	**9.65**	**288**	LR	LR	00 04 42.9	
	comp=Z,57nm,19.3s,baz=43,slow=34						
GUMO	**Guam**	**17.14**	**170**	LR	LR	00 08 41.2	
	comp=Z,36nm,18.4s,baz=232,slow=33						
SONM	**Songino Array**	**32.06**	**313**	P	**P**	**00 05 36.0**	**-0.2**
	1.0nm,0.6s,mb3.8,baz=134,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**48.07**	**307**	P	**P**	**00 07 49.5**	**+1.0**
	1.4nm,0.6s,mb4.2,baz=85,slow=9.5,SNR=16						
KURK	**Kurchatov**	**50.37**	**313**	*e*P	**P**	**00 08 06.6**	**+0.4**
	1.1nm,0.6s,mb4.1						
KURK	**Kurchatov**	**50.37**	**313**	*e*P	**P**	**00 08 06.6**	**+0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WRAB	**Tennant Creek**	**50.73**	**189**	*e*P	**P**	**00 08 08.7**	**-0.7**
	comp=Z,7.4nm,0.8s,mb4.7						
WRAB				*e*pP	pP	00 08 19.8	+1.3
WRAB	**Tennant Creek**	**50.73**	**189**	*e*P	**P**	**00 08 08.7**	**-0.6**
WRAB				*e**PP	pP	00 08 19.8	+1.3
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**50.74**	**189**	*e*P	**P**	**00 08 08.5**	**-0.9**
WRA	**Warramunga Arr**	**50.74**	**189**	P	**P**	**00 08 08.8**	**-0.6**
	comp=Z,4.4nm,0.5s,mb4.6,baz=6.3,slow=7.6,SNR=48						
WRA				pP	pP	00 08 20.8	+2.2
	comp=Z,4.2nm,0.5s,baz=6.3,slow=7.7,SNR=15						
ILAR	**Eielson Array**	**54.84**	**30**	P	**P**	**00 08 41.3**	**+2.0**
	comp=Z,0.2nm,0.5s,mb3.4,baz=249,slow=7.7,SNR=3.3						
ILAR				pP	pP	00 08 51.2	+2.8
	comp=Z,0.5nm,0.7s,baz=268,slow=6.2,SNR=4.6						
BVAR	**Borovoye Array**	**55.30**	**316**	P	**P**	**00 08 43.6**	**+0.7**
	comp=Z,0.8nm,0.5s,mb4.0,baz=92,slow=7.3,SNR=6.8						
ARU	**Arti**	**61.51**	**321**	*e*P	**P**	**00 09 26.2**	**+0.1**
ARU				*e*		00 10 04.9	
STKA	**Stephens Creek**	**62.11**	**180**	P	**P**	**00 09 30.9**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.2,baz=7.3,slow=18,SNR=3.1						
STKA				pP	pP	00 09 43.3	+3.4
	comp=Z,1.7nm,0.7s,baz=6.9,slow=8.4,SNR=2.8						
FINES	**FINESS Array B**	**74.70**	**333**	P	**P**	**00 10 49.0**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=63,slow=4.3,SNR=6.6						
PDAR	**Pinedale Array**	**81.97**	**45**	pP	pP	00 11 41.0	+3.2
	comp=Z,0.7nm,0.8s,baz=263,slow=3.5,SNR=4.9						
TXAR	**Lajitas Array**	**93.76**	**53**	P	**P**	**00 12 27.3**	**+1.8**
	comp=Z,0.2nm,0.9s,mb3.6,baz=243,slow=6.0,SNR=3.0						
TXAR				pP	pP	00 12 40.4	+5.2
	comp=Z,0.6nm,0.7s,baz=326,slow=4.5,SNR=4.6						

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*DHMR **21** 00:01:39.6±2.3, 12.64N×40.59E, $h2^{km}$±10^{km}, ML4.4*
*IDC **21** 00:01:42.0±1.0, 12.84N×40.57E, mb4.0/13, mb1 4.1/15, mb1mx4.1/22, mbtmp4.0/15, ML3.3/1, MS3.9/11, Ms1 3.9/11, ms1mx3.7/17, Error ellipse: s-maj=25.2km s-min=20.7km az=66.0*
*CSEM **21** 00:01:42.9±0.1, 12.81N×40.48E, $h26^{km}$, mb4.5/14, Ms3.6, Error ellipse: s-maj=6.2km s-min=1.9km az=179.0*
*NEIC **21** 00:01:43.3±0.6, 12.82N×40.44E, $h10^{km}$, mb4.4/14, Error ellipse: s-maj=13.5km s-min=10.5km az=96.0*
ISC 21 00:01:40.1±2.5, **12.79N**±0.07×**40.51E**±0.04, **$h3^{km}$**±16^{km}, **n57,** $\sigma 1^{s}$**18**/58, **mb4.2**/26, **MS3.9**/9, **7D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.56**	**70**	⇓*i*P	**Pn**	**00 02 38.4**	**+1.1**
UDYN				*i* S	**Sn**	**00 03 24.1**	**+3.6**
UDYN				AML	AML	00 03 50.0	
	comp=E,2μm,0.7s						
HAJJ	**Hajjah**	**4.17**	**46**	⇓*e*P	**Pn**	**00 02 47.0**	**+1.1**
HAJJ				*i* S	**Sn**	**00 03 40.2**	**+4.4**
DHBB	**Dhamar BB**	**4.17**	**64**	⇓*e*P	**Pn**	**00 02 47.0**	**+1.0**
DHBB				*i* S	**Sn**	**00 03 39.6**	**+3.8**
ADEN	**Aden**	**4.36**	**90**	⇓*e*P	**Pn**	**00 02 48.1**	**-0.6**
ADEN				*i* S	**Sn**	**00 03 41.5**	**+0.7**
LBOS		**4.74**	**76**	⇓*e*P	**Pn**	**00 02 52.0**	**-2.0**
LBOS				*i* S	**Sn**	**00 03 48.4**	**-1.9**
BDHA	**Al Bayda'**	**5.06**	**76**	⇓*e*P	**Pn**	**00 02 56.0**	**-2.6**
BDHA				⇓*i*S	**Sn**	**00 03 55.6**	**-2.9**
KMBO	**Kilima Mbogo**	**14.20**	**193**	Pn	**P**	**00 05 05.3**	**+0.9**
	baz=25,slow=18,SNR=4.9						
KMBO				LR	LR	00 11 04.7	
	comp=E,296nm,18.5s,baz=1.6,slow=40						
ASF	**Jabal al Asfar**	**19.58**	**351**	P	**P**	**00 06 12.2**	**+0.1**
	comp=E,0.1nm,0.3s,baz=122,slow=8.8,SNR=3.2						
ASF				LR	LR	00 12 54.2	
	comp=E,213nm,18.5s,baz=226,slow=34						
CSS	**Prodhromos**	**23.02**	**345**	*e*P	**P**	**00 06 46.1**	**-1.2**
	comp=E,6.8nm,0.8s,mb4.1						
MSL	**Mosul**	**23.52**	**5**	*e*x	x	00 07 40.0	
IDI	**Anoyia**	**26.49**	**330**	P	**P**	**00 07 22.8**	**+2.4**
	comp=E,11nm,1.1s,mb4.3,baz=151,slow=13,SNR=4.5						
IDI				LR	LR	00 17 46.3	
	comp=E,209nm,19.7s,MS3.7,baz=75,slow=36						
GNI	**Garni**	**27.51**	**7**	LR	LR	00 18 41.2	
	comp=E,239nm,20.2s,MS3.8,baz=347,slow=37						
BR131	**Keskin Array S**	**27.51**	**348**	P	**P**	**00 07 29.3**	**-0.5**
	comp=E,15nm,1.8s,mb4.3						
BR131	**Keskin Array S**	**27.51**	**348**	P	**P**	**00 07 29.3**	**-0.5**
	comp=E,15nm,1.8s,mb4.3						
BRTR	**Keskin Array B**	**27.51**	**348**	P	**P**	**00 07 31.5**	**+1.7**
	comp=E,2.7nm,1.0s,mb3.8,baz=174,slow=11,SNR=10.0						
KIV	**Kislovodsk**	**31.12**	**3**	*e*P	**P**	**00 08 03.2**	**+1.2**
	comp=E,21nm,1.4s,mb4.8						
KIV	**Kislovodsk**	**31.12**	**3**	*e*P	**P**	**00 08 03.2**	**+1.2**
	comp=E,21nm,1.4s,mb4.8						
MLR	**Muntele Rosu**	**34.87**	**342**	P	**P**	**00 08 36.3**	**+1.6**
	comp=E,2.2nm,0.7s,mb4.2,baz=145,slow=18,SNR=2.5						
AKASG	**Malin Array Be**	**38.92**	**349**	P	**P**	**00 09 07.5**	**-1.2**
	comp=E,0.2nm,0.3s,mb3.4,baz=170,slow=7.0,SNR=8.5						
AKASG	**Malin Array Be**	**38.92**	**349**	P	**P**	**00 09 07.4**	**-1.3**
KOLS	**Kolonicke sedl**	**39.08**	**341**	*e*P	**P**	**00 09 11.6**	**+1.6**
KECS	**Kecovo**	**39.29**	**339**	*e*P	**P**	**00 09 12.1**	**+0.3**
STHS	**Stebnicka Huta**	**39.83**	**340**	*e*P	**P**	**00 09 19.1**	**+2.8**
VYHS	**Vyhne**	**39.90**	**337**	*e*P	**P**	**00 09 17.8**	**+1.0**
PGF	**Pioggiola**	**40.30**	**323**	*e*P	**P**	**00 09 20.2**	**0.0**
	comp=E,34nm,1.2s,mb4.7						
GERES	**GERESS Array B**	**42.25**	**334**	P	**P**	**00 09 36.6**	**+0.4**
	comp=E,2.4nm,0.9s,mb3.8,baz=135,slow=7.5,SNR=14						
GERES				LR	LR	00 27 53.4	
	comp=E,91nm,20.6s,MS3.6,baz=35,slow=37						
KHC	**Kasperske Hory**	**42.52**	**334**	*e*P	**P**	**00 09 37.5**	**-0.9**
MBDF	**Montbardon**	**42.91**	**324**	*e*P	**P**	**00 09 42.6**	**+1.0**
	comp=E,17nm,0.9s,mb4.5						
LPG	**La Plagne**	**43.39**	**325**	*e*P	**P**	**00 09 45.3**	**-0.2**
	comp=E,16nm,1.2s,mb4.3						
LPL	**La Plagne**	**43.41**	**325**	*e*P	**P**	**00 09 45.1**	**-0.6**
	comp=E,16nm,1.2s,mb4.3						
GRA1	**Grafenberg Arr**	**43.97**	**333**	*e*P	**P**	**00 09 49.3**	**-0.8**
	comp=E,4.0nm,0.9s,mb4.2						
GRA1				*e*pP	pP	00 09 57.3	+6.2
GRF	**Grafenberg Arr**	**43.97**	**333**	*e*P	**P**	**00 09 49.3**	**-0.8**
	comp=E,4.0nm,0.9s,mb4.2						
GRF				*e*pP	pP	00 09 57.3	+6.2
CLL	**Collm**	**44.42**	**336**	P	**P**	**00 09 52.0**	**-1.8**
	comp=E,logA/T=0.8,mb4.3						
CLL				*e**SP	sP	00 09 58.0	+2.8
CABF	**La Chapelle**	**44.44**	**326**	*e*P	**P**	**00 09 53.1**	**-0.9**
	comp=E,7.2nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**45.08**	**267**	LR	LR	00 30 56.3	
	comp=E,161nm,18.1s,MS4.0,baz=67,slow=39						
DBIC	**Dimbokro**	**45.08**	**267**	*e*P	**P**	**00 09 58.2**	**-1.3**
DBIC	**Dimbokro**	**45.08**	**267**	*e*P	**P**	**00 09 58.2**	**-1.4**
MDT	**Midelt**	**45.72**	**304**	P	**P**	**00 10 03.7**	**-0.7**
	comp=E,1.6nm,0.8s,mb4.0,baz=130,slow=8.9,SNR=4.6						
LOR	**Lormes**	**46.05**	**326**	*e*P	**P**	**00 10 06.2**	**-0.6**
	comp=E,5.8nm,0.7s,mb4.3						
LOR				*e*R			
	comp=E,101nm,21.8s						
SSF	**Saint Saulge**	**46.13**	**325**	*e*P	**P**	**00 10 06.9**	**-0.5**
ETSF	**Etsaut**	**46.40**	**318**	*e*P	**P**	**00 10 10.3**	**+0.6**
	comp=E,15nm,1.0s,mb4.6						
BRVK	**Borovoye**	**46.65**	**24**	*e*P	**P**	**00 10 11.2**	**-0.3**
	comp=E,8.6nm,1.9s,mb4.4						
BRVK	**Borovoye**	**46.65**	**24**	*e*P	**P**	**00 10 11.2**	**-0.3**
	comp=E,8.6nm,1.9s,mb4.4						
BVAR	**Borovoye Array**	**46.67**	**24**	P	**P**	**00 10 11.9**	**+0.2**
	comp=E,0.7nm,0.6s,mb3.8,baz=207,slow=6.6,SNR=5.9						
SJPF	**Ste Jean**	**46.94**	**318**	*e*P	**P**	**00 10 14.4**	**+0.5**
	comp=E,44nm,1.3s,mb4.9						
ESDC	**Sonseca Array**	**47.38**	**313**	P	**P**	**00 10 17.7**	**+0.2**
	comp=E,1.4nm,0.8s,mb3.9,baz=108,slow=7.8,SNR=5.8						
MKAR	**Makanchi Array**	**48.73**	**38**	P	**P**	**00 10 27.8**	**-0.1**
	comp=E,1.7nm,0.9s,mb4.1,baz=235,slow=6.7,SNR=9.1						
MKAR				PcP	PcP	00 11 52.3	-1.0
	comp=E,0.9nm,0.9s,baz=239,slow=8.4,SNR=2.4						
MKAR				LR	LR	00 33 43.2	
	comp=E,234nm,18.2s,MS4.2,baz=180,slow=40						
MKAR	**Makanchi Array**	**48.73**	**38**	PcP	PcP	00 11 52.3	-1.0
KURK	**Kurchatov**	**48.87**	**31**	*e*P	**P**	**00 10 29.1**	**+0.2**
KURK	**Kurchatov**	**48.87**	**31**	*e*P	**P**	**00 10 29.1**	**+0.2**
GRR	**Gorron**	**49.31**	**324**	*e*P	**P**	**00 10 31.2**	**-1.1**
SGMF	**Saint Gilles**	**50.22**	**324**	*e*P	**P**	**00 10 38.3**	**-1.0**
NOA	**NORSAR Array B**	**52.69**	**343**	P	**P**	**00 10 57.3**	**-0.5**
	comp=E,0.9nm,0.8s,mb3.8,baz=125,slow=15,SNR=2.7						
NOA				LR	LR	00 36 40.0	
	comp=E,37nm,18.6s,MS3.5,baz=35,slow=40						
ZAL	**Zalesovo**	**53.83**	**31**	P	**P**	**00 11 05.7**	**-0.6**
	comp=E,1.0nm,0.3s,mb4.2,baz=293,slow=6.7,SNR=6.2						
ZAL				LR	LR	00 37 48.8	
	comp=E,130nm,20.2s,MS4.0,baz=246,slow=40						
SONM	**Songino Array**	**64.47**	**43**	P	**P**	**00 12 19.7**	**-0.4**
	comp=E,1.6nm,0.8s,mb4.1,baz=263,slow=7.4,SNR=9.6						
SONM				LR	LR	00 44 14.0	
	comp=E,156nm,18.6s,MS4.2,baz=248,slow=40						
MAW	**Mawson**	**81.80**	**172**	P	**P**	**00 14 03.6**	**+2.2**
	comp=E,0.5nm,0.3s,mb4.0,baz=9.5,slow=12,SNR=3.2						
MJAR	**Matsushiro Arr**	**88.56**	**53**	LR	LR	00 59 33.2	
	comp=E,84nm,18.4s,MS4.2,baz=235,slow=39						

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*IDC **21** 00:09:03.8±0.7, 3.38S×78.02W, mb4.0/11, mb1 4.1/14, mb1mx4.1/22, mbtmp4.0/14, ML4.0/2, MS3.9/7, Ms1 3.9/7, ms1mx3.5/23, Error ellipse: s-maj=28.7km s-min=12.8km az=69.0*
*IGQ **21** 00:09:06.0, 3.28S×77.68W, $h26^{km}$±47^{km}, mb4.6, Error ellipse: s-maj=42.8km s-min=12.4km az=76.0*
*NEIC **21** 00:09:13.0±1.6, 3.20S×77.66W, $h76^{km}$±14^{km}, mb4.5/11, MD4.6(IGQ), Error ellipse: s-maj=14.8km s-min=7.5km az=73.0*
NEIC Felt in Morona, Ecuador.
ISC 21 00:09:08.2±0.7, **3.31S**±0.05×**77.67W**±0.08, **$h49^{km}$**±6^{km}, **n88,** $\sigma 1^{s}$**27**/81, **mb4.3**/17, **MS3.8**/6, **6C-7D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**1.99**	**338**	⇓P	**P**	**00 09 38.7**	**-1.5**
RETU	**Refugio**	**2.01**	**337**	P	**P**	**00 09 39.2**	**-1.1**
RETU				S	**S**	**00 10 05.1**	**+0.8**
CUSU	**Cusua**	**2.03**	**336**	⇓P	**P**	**00 09 39.0**	**-1.7**
RUN5	**Runtun**	**2.03**	**338**	⇓P	**P**	**00 09 39.1**	**-1.6**
JUIV	**Juive**	**2.04**	**337**	⇓P	**P**	**00 09 39.0**	**-1.7**
PISA	**Pisayambo**	**2.35**	**342**	⇓P	**P**	**00 09 45.3**	**0.0**
TAMB	**Tambo**	**2.69**	**345**	P	**P**	**00 09 50.5**	**+0.3**
CAMI	**Rancho Maria**	**2.75**	**342**	⇓P	**P**	**00 09 52.4**	**+1.5**
VC1	**Cotopaxi 1**	**2.75**	**345**	⇑P	**P**	**00 09 51.6**	**+0.6**
QIL1	**Quilotoa**	**2.76**	**333**	⇓P	**P**	**00 09 52.0**	**+0.9**
NAS1	**Nasa**	**2.78**	**343**	P	**P**	**00 09 52.7**	**+1.3**
ANTI	**Antisana**	**2.89**	**350**	⇑P	**P**	**00 09 51.9**	**-1.0**
ECOPE	**Copete-Rev Vol**	**3.19**	**1**	P	**P**	**00 09 55.5**	**-1.6**
LAV3	**Lava3-Reventad**	**3.20**	**1**	P	**P**	**00 09 56.1**	**-1.2**
JUA2	**San Juan 2**	**3.22**	**343**	P	**P**	**00 09 59.2**	**+1.7**
CONE	**Cono NE Rev Vo**	**3.22**	**1**	P	**P**	**00 09 56.3**	**-1.4**
GGP	**Refugio Guagua**	**3.25**	**343**	P	**P**	**00 09 59.4**	**+1.3**
TERV	**Terraza Guagua**	**3.25**	**343**	P	**P**	**00 10 00.3**	**+2.2**
PINO	**Pino**	**3.27**	**343**	P	**P**	**00 10 00.3**	**+2.0**
YANA	**Yana**	**3.30**	**344**	P	**P**	**00 09 59.7**	**+0.9**
CAYR	**Refugio Cayamb**	**3.32**	**354**	P	**P**	**00 09 59.3**	**+0.3**
CAYA	**Cayambe**	**3.38**	**355**	P	**P**	**00 10 00.6**	**+0.8**
JOR1	**San Jorge 1**	**3.43**	**344**	P	**P**	**00 09 58.6**	**-1.9**
COTA	**Cotacachi**	**3.69**	**350**	P	**P**	**00 10 08.8**	**+4.6**
MAG1	**Magdalena**	**3.84**	**327**	P	**P**	**00 10 05.3**	**-1.1**
JAMA	**Jama**	**3.95**	**320**	P	**P**	**00 10 03.5**	**-4.4**
JAMA				S	**S**	**00 10 49.2**	**-4.3**
ECEN	**Cerro Negro**	**4.12**	**356**	P	**P**	**00 10 12.1**	**+1.8**
LORE	**San Lorenzo**	**4.73**	**346**	P	**P**	**00 10 19.4**	**+0.6**
NNA	**Nana**	**8.66**	**175**	*e*P	**P**	**00 11 10.4**	**-3.1**
	38nm,0.8s						
NNA				*e*S	**S**	**00 12 43.4**	**-7.4**
ROSC	**El Rosal**	**8.78**	**22**	Pn	**P**	**00 11 16.8**	**+1.6**
	0.9nm,0.3s,baz=91,slow=17,SNR=2.7						
ROSC				Lg		00 13 50.8	
	5.5nm,0.3s,baz=279,slow=23,SNR=3.4						
SDV	**Santo Domingo**	**14.00**	**30**	Pn	**P**	**00 12 25.5**	**-0.3**
	1.9nm,0.3s,baz=270,slow=2.7,SNR=7.3						
SDV				Lg		00 16 09.0	
	0.7nm,0.3s,baz=301,slow=20,SNR=3.4						
SDV				LR	LR	00 18 32.8	
	comp=Z,834nm,19.2s,baz=235,slow=40						
SDV	**Santo Domingo**	**14.00**	**30**	*e*P	**P**	**00 12 26.7**	**+0.9**
SDV				Lg		00 16 09.0	
SDV				LR	LR	00 18 32.8	
SAML	**Samuel**	**15.45**	**112**	*e*P	**P**	**00 12 42.0**	**-2.6**
	0.8nm,1.0s						
SAML				*e*S	**S**	**00 15 23.2**	**-11**
LPAZ	**La Paz**	**15.94**	**145**	Pn	**P**	**00 12 50.3**	**-0.6**
	0.1nm,0.3s,baz=318,slow=14,SNR=6.8						
SIV	**San Ignacio**	**20.62**	**129**	P	**P**	**00 13 46.0**	**0.0**
	3.2nm,0.8s,baz=322,slow=9.7,SNR=16						
SIV				Lg		00 20 14.3	
	13nm,1.1s,baz=233,slow=20,SNR=3.8						
LVC	**Limon Verde**	**20.98**	**157**	P	**P**	**00 13 51.7**	**+2.0**
	19nm,1.1s,baz=321,slow=8.7,SNR=7.6						
LVC				LR	LR	00 23 22.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,190nm,20.3s,MS3.5,baz=113,slow=41						
SJG	San Juan	24.13	28	LR	LR	00 24 57.6	
	comp=Z,395nm,20.6s,MS3.9,baz=279,slow=39						
CFAA	Coronel Fontan	29.51	164	P	P	00 15 10.8	+0.5
	0.3nm,0.7s,mb3.2,baz=335,slow=6.4,SNR=5.5						
CPUP	Villa Florida	30.07	141	P	P	00 15 18.4	+3.2
	1.2nm,0.9s,mb3.6,baz=353,slow=19,SNR=2.2						
CPUP				LR	LR	00 30 11.9	
	comp=Z,122nm,18.1s,MS3.6,baz=166,slow=42						
BDFB	Brasilia	31.65	115	LR	LR	00 28 03.9	
	comp=Z,186nm,18.9s,MS3.8,baz=94,slow=36						
PLCA	Paso Flores	37.80	171	P	P	00 16 20.9	-0.6
	1.6nm,0.5s,mb4.0,baz=336,slow=10,SNR=13						
PLCA	Paso Flores	37.80	171	eP	P	00 16 22.3	+0.7
	4.6nm,1.0s,mb4.2						
TXAR	Lajitas Array	40.93	324	P	P	00 16 47.2	-0.4
	0.1nm,0.5s,baz=151,slow=9.3,SNR=3.7						
MNTX	Cornudas Mount	43.67	325	P	P	00 17 09.1	-1.1
	2.6nm,1.0s,mb3.9						
ANMO	Albuquerque	46.69	327	eP	P	00 17 33.9	-0.2
	3.8nm,1.0s,mb4.3						
SDCO	Great Sand Dun	48.33	330	eP	P	00 17 47.0	+0.1
	4.8nm,1.0s,mb4.5						
WUAZ	Wupatki	49.88	324	eP	P	00 17 58.6	-0.3
	7.8nm,1.0s,mb4.7						
PDAR	Pinedale Array	54.17	331	P	P	00 18 30.9	0.0
	5.2nm,0.7s,mb4.5,baz=117,slow=9.9,SNR=19						
ULM	Lac du Bonnet	55.61	346	P	P	00 18 42.5	+1.2
	2.7nm,0.7s,mb4.4,baz=158,slow=7.7,SNR=5.1						
ULM	Lac du Bonnet	55.61	346	eP	P	00 18 38.7	-2.6
	2.7nm,0.7s,mb4.4						
SCHQ	Schefferville	58.64	7	eP	P	00 19 01.4	-1.3
	6.7nm,1.0s,mb4.6						
YKA	Yellowknife Ar	71.36	343	P	P	00 20 23.2	-1.4
	0.6nm,0.5s,mb3.8,baz=141,slow=6.2,SNR=8.5						
DBIC	Dimbokro	73.36	82	P	P	00 20 39.2	+1.7
	5.2nm,1.0s,mb4.4,baz=76,slow=19,SNR=5.3						
DBIC				LR	LR	00 54 34.0	
	comp=Z,93nm,18.7s,MS4.1,baz=244,slow=37						
DBIC	Dimbokro	73.36	82	eP	P	00 20 38.9	+1.5
DBIC				LR	LR	00 54 34.0	
VNA3	Neumayer Olymp	79.90	162	e	P	00 21 17.6	+4.5
VNA3	Neumayer Olymp	79.90	162	e	P	00 21 23.0	+10
VNA3	Neumayer Olymp	79.90	162	⇑iP	P	00 21 14.2	+1.1
VNA3				e		00 21 17.6	
VNA3				e		00 21 23.0	
VNA1	Neumayer--Stat	80.14	162	e	P	00 21 19.3	+4.9
VNA1	Neumayer--Stat	80.14	162	e	P	00 21 24.7	+10
VNA1	Neumayer--Stat	80.14	162	⇑iP	P	00 21 16.7	+2.3
VNA1				e		00 21 19.3	
VNA1				e		00 21 24.7	
VNA2	Neumayer--Watz	80.50	162	e	P	00 21 20.7	+4.4
VNA2	Neumayer--Watz	80.50	162	e	P	00 21 26.6	+10
VNA2	Neumayer--Watz	80.50	162	⇑iP	P	00 21 17.5	+1.2
VNA2				e		00 21 20.7	
VNA2				e		00 21 26.6	
INK	Inuvik	81.08	342	P	P	00 21 19.5	+0.2
	1.9nm,0.6s,mb4.2,baz=129,slow=3.4,SNR=6.7						
INK	Inuvik	81.08	342	eP	P	00 21 19.5	+0.1
	5.1nm,1.1s,mb4.4						
SNAA	Sanae	82.12	162	e	P	00 21 29.0	+4.3
SNAA	Sanae	82.12	162	e	P	00 21 34.5	+10
SNAA	Sanae	82.12	162	⇑iP	P	00 21 25.6	+0.9
SNAA				e		00 21 29.0	
SNAA				e		00 21 34.5	
SJPF	Ste Jean	82.40	46	eP	P	00 21 24.9	-1.8
GRR	Gorron	83.74	41	eP	P	00 21 33.5	+0.1
MFF	Saint Martin d	83.85	43	eP	P	00 21 33.8	-0.2
	15nm,1.1s,mb4.7						
FLN	La Foliniere	84.06	40	eP	P	00 21 36.5	+1.5
LFF	La Frestale	84.14	44	eP	P	00 21 34.3	-1.2
LDF	La Druitiere	84.26	41	eP	P	00 21 37.2	+1.2
	10nm,0.9s,mb4.7						
ILAR	Eielson Array	84.26	336	P	P	00 21 36.1	+0.5
	0.8nm,0.6s,mb4.0,baz=160,slow=4.1,SNR=7.4						
RJF	Les Rejaudoux	84.75	44	eP	P	00 21 37.4	-1.1
BGF	Bois d'Agland	85.88	43	eP	P	00 21 43.2	-0.8
QSPA	South Pole Qui	86.76	180	eP	P	00 21 49.8	+2.1
	11nm,1.1s,mb5.0						
CABF	La Chapelle	88.10	43	eP	P	00 21 53.9	-0.9
NOA	NORSAR Array B	92.33	29	LR	LR	00 59 37.0	
	comp=Z,26nm,18.1s,MS3.7,baz=25,slow=33						
ZAL	Zalesovo	127.53	13	PKP	PKPdf	00 28 13.3	+5.2
	1.3nm,0.5s,baz=279,slow=2.2,SNR=5.8						
ZAL	Zalesovo	127.53	13	PKP	PKPdf	00 28 13.3	+5.2
MKAR	Makanchi Array	133.33	19	PKP	PKPdf	00 28 22.5	+3.2
	0.3nm,0.5s,baz=329,slow=2.6,SNR=7.6						
WRA	Warramunga Arr	140.98	232	PKP	PKPdf	00 28 34.2	+0.2
	0.5nm,0.7s,baz=124,slow=2.9,SNR=5.2						
GKN	Gorkha	150.21	33	eP	PKPdf	00 29 00.0	+11
KKN	Kakani	150.72	32	eP	PKPdf	00 29 01.5	+11
	17nm,0.7s						
DMN	Daman	150.77	33	eP	PKPdf	00 29 00.8	+11
PKI	Pulchoki	150.97	32	eP	PKPdf	00 29 01.6	+11
	14nm,0.9s						

*CSEM **21** 00:39:21.9±0.1, 36.99N×27.79E, h8km, MD3.0, Error ellipse: s-maj=3.4km s-min=1.2km az=8.0*
*ISK **21** 00:39:22.0, 36.96N×27.79E, h11km, MD3.0*
*ATH **21** 00:39:23.6, 36.95N×27.67E, h10km, MD2.9/3*
ISC 21 00:39:22.8±0.7**, 36.98N**±0.04×**27.82E**±0.05**, h9**km±8km**, n13, σ0.48/17, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	286	iP	Pg	00 39 29.2	0.0
BDRM				iS	Sg	00 39 34.5	+0.9
MLSB	Milas	0.32	353	PG	Pg	00 39 29.2	-0.1
YER	Yerkesik	0.40	67	iPG	Pg	00 39 30.9	0.0
BODT	Bodrum	0.42	281	iPG	Pg	00 39 30.2	-1.1
BODT				SG	Sg	00 39 36.7	-0.2
AYDN	Tasoluk	0.68	4	iP	Pb	00 39 36.1	-0.2
AYDN				iS	Sg	00 39 46.1	+0.5
DALT	Dalyan (Mudla)	0.69	108	ePG	Pg	00 39 36.2	-0.4
ARG	Arkhangelos	0.80	162	ePB	Pb	00 39 39.3	+0.9
SMG	Samos	1.07	313	ePB	Pb	00 39 42.8	-0.2
DNZL	Cakiroluk	1.21	54	iP	Pb	00 39 45.5	+0.2
DNZL				iS	Sb	00 40 05.8	+4.9
DENT	Denizli	1.23	51	ePN	Pn	00 39 46.4	+0.2
IZM	Izmir	1.48	343	ePN	Pn	00 39 49.5	-0.3
KARP	Karpathos	1.53	201	ePB	Pb	00 39 51.0	+0.1
ELL	Elmali	1.69	97	ePN	Pn	00 39 52.3	-0.4

*CSEM **21** 00:41:39.8±0.2, 37.75N×25.35W, h8km, ML1.9, Error ellipse: s-maj=6.3km s-min=4.0km az=9.0*
*PDA **21** 00:41:39.9±1.0, 37.76N×25.41W, h4km±1km, MD3.8, ML1.9, Error ellipse: s-maj=2.7km s-min=1.7km az=124.0*
SVSA 21 00:41:39.9±1.0**, 37.76N×25.41W, h4**km±1km**, MD3.8, ML1.9, Error ellipse: s-maj=2.7km s-min=1.7km az=124.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.01	74	iP	Pg	00 41 41.2	+0.4
PCNG				eS	Sg	00 41 42.2	+0.9
VIF	Vila Franca	0.03	228	eP	Pg	00 41 41.4	+0.5
VIF				eS	Sg	00 41 42.3	+0.8
MESC	Monte Escuro	0.04	320	iP	Pg	00 41 41.8	+0.8
MESC				eS	Sg	00 41 42.9	+1.1
FRA1	Furnas	0.05	114	eP	Pg	00 41 41.4	+0.2
FRA1				eS	Sg	00 41 43.0	+1.0
LFA	Lagoa do Fogo	0.06	280	eP	Pg	00 41 42.2	+0.9
PRCH	Ribeira Ch	0.06	236	eP	Pg	00 41 41.9	+0.5
PRCH				eS	Sg	00 41 43.3	+0.9
PMAT	Coroa da Mata	0.07	320	eP	Pg	00 41 42.2	+0.7
PMAT				eS	Sg	00 41 43.4	+0.8
PFAD	Fenais da Ajud	0.10	44	iP	Pg	00 41 42.8	+0.7
PFAD				eS	Sg	00 41 44.9	+1.3
CML	Cha da Macela	0.10	274	eP	Pg	00 41 43.8	+1.7
MIRA	Miradouro	0.11	78	eP	Pg	00 41 42.4	+0.2
MIRA				eS	Sg	00 41 44.0	+0.2
FAC	Faja de Cima	0.19	273	eP	Pg	00 41 46.0	+2.3
PDA	Ponta Delgada	0.20	265	eP	Pg	00 41 43.9	0.0
PDA				eS	Sg	00 41 47.8	+1.2
PSET	Sete Cidades	0.25	284	eP	Pg	00 41 45.0	0.0
PSET				eS	Sg	00 41 48.6	+0.3
	209nm,0.3s						
PSAN	Santo Antonio	0.26	290	eP	Pg	00 41 47.3	+2.1
PFET	Feteiras	0.30	280	eP	Pg	00 41 47.5	+1.5
SET2	Ginetes	0.32	285	eP	Pg	00 41 48.0	+1.6
PSCM	Serra do Cume	1.64	305	erx		00 42 05.1	

*CSEM **21** 00:58:44.6±0.2, 37.77N×25.43W, h5km, ML2.0, Error ellipse: s-maj=5.6km s-min=3.9km az=6.0, After PDA*
*PDA **21** 00:58:44.6±0.7, 37.77N×25.43W, h5km±1km, MD3.6, ML2.0, Error ellipse: s-maj=1.6km s-min=1.3km az=136.0*
SVSA 21 00:58:44.6±0.7**, 37.77N×25.43W, h5**km±1km**, MD3.6, ML2.0, Error ellipse: s-maj=1.6km s-min=1.3km az=136.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	85	iP	Pg	00 58 46.0	+0.4
PCNG				eS	Sg	00 58 47.3	+1.1
	703nm,0.3s						
PCNG	Congro	0.02	85	eS	Sg	00 58 54.4	+8.2
	910nm,0.4s						
VIF	Vila Franca	0.02	210	iP	Pg	00 58 46.0	+0.4
VIF				eS	Sg	00 58 47.3	+1.1
	1μm,0.2s						
VIF	Vila Franca	0.02	210	eS	Sg	00 58 54.1	+7.9
	894nm,0.2s						
VIF	Vila Franca	0.02	210	eS	Sg	00 58 47.3	+1.1
MESC	Monte Escuro	0.03	330	iP	Pg	00 58 46.3	+0.6
MESC				eS	Sg	00 58 47.5	+1.1
MESC	Monte Escuro	0.03	330	eS	Sg	00 58 54.3	+7.9
MESC	Monte Escuro	0.03	330	eS	Sg	00 58 47.5	+1.1
LFA	Lagoa do Fogo	0.05	279	eP	Pg	00 58 46.5	+0.6
PRCH	Ribeira Ch	0.06	230	eP	Pg	00 58 46.6	+0.6
PRCH				eS	Sg	00 58 47.8	+0.8
	833nm,0.3s						
PRCH	Ribeira Ch	0.06	230	eS	Sg	00 58 54.5	+7.5
	402nm,0.2s						
FRA1	Furnas	0.06	112	iP	Pg	00 58 46.5	+0.5
FRA1				eS	Sg	00 58 47.8	+0.8
FRA1	Furnas	0.06	112	eS	Sg	00 58 47.8	+0.8
PMAT	Coroa da Mata	0.06	324	eP	Pg	00 58 46.7	+0.6
PMAT				eS	Sg	00 58 48.1	+1.0
PMAT	Coroa da Mata	0.06	324	eS	Sg	00 58 54.5	+7.4
CMLA	Cha da Macela	0.08	269	eP	Pg	00 58 45.8	-0.6
CMLA				eS	Sg	00 58 47.7	+0.1
CML	Cha da Macela	0.10	273	iP	Pg	00 58 48.3	+1.6
CML				eS	Sg	00 58 49.9	+1.8
CML	Cha da Macela	0.10	273	erx	rx	00 58 54.0	
CML	Cha da Macela	0.10	273	eS	Sg	00 58 49.9	+1.8
PFAD	Fenais da Ajud	0.11	48	iP	Pg	00 58 47.8	+0.9
PFAD				eS	Sg	00 58 49.4	+0.9
PFAD	Fenais da Ajud	0.11	48	eS	Sg	00 58 49.4	+0.9
MIRA	Miradouro	0.12	80	iP	Pg	00 58 47.7	+0.6
MIRA				eS	Sg	00 58 50.2	+1.4
MIRA	Miradouro	0.12	80	eS	Sg	00 58 50.2	+1.4
FAC	Faja de Cima	0.18	273	eP	Pg	00 58 50.5	+2.2
PDA	Ponta Delgada	0.19	265	eP	Pg	00 58 48.8	+0.3
PDA				eS	Sg	00 58 51.9	+0.8
PSET	Sete Cidades	0.24	284	eP	Pg	00 58 49.6	+0.1
PSET				eS	Sg	00 58 53.4	+0.6
	64nm,0.3s						
PFET	Feteiras	0.29	280	eP	Pg	00 58 52.3	+1.8
SET2	Ginetes	0.31	285	eP	Pg	00 58 52.6	+1.7

*CSEM **21** 01:06:13.9±0.9, 37.77N×25.42W, h6km±3km, ML2.4, Error ellipse: s-maj=2.4km s-min=2.3km az=110.0, After PDA*
*PDA **21** 01:06:13.9±0.9, 37.77N×25.42W, h6km±3km, MD3.7, ML2.4, Error ellipse: s-maj=2.4km s-min=2.3km az=110.0*
SVSA 21 01:06:13.9±0.9**, 37.77N×25.42W, h6**km±3km**, MD3.7, ML2.4, Error ellipse: s-maj=2.4km s-min=2.3km az=110.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	90	iP	Pg	01 06 15.4	+0.4
PCNG				eS	Sg	01 06 16.8	+1.0
PCNG	Congro	0.02	90	eS	Sg	01 06 16.8	+1.0
VIF	Vila Franca	0.03	211	iP	Pg	01 06 15.5	+0.4
VIF				eS	Sg	01 06 16.9	+1.1
	4μm,0.2s						
VIF	Vila Franca	0.03	211	eS	Sg	01 06 16.9	+1.1
MESC	Monte Escuro	0.03	326	iP	Pg	01 06 15.5	+0.4
MESC				eS	Sg	01 06 17.0	+1.1
MESC	Monte Escuro	0.03	326	eS	Sg	01 06 17.0	+1.1
LFA	Lagoa do Fogo	0.05	277	iP	Pg	01 06 15.8	+0.5
FRA1	Furnas	0.06	115	eP	Pg	01 06 15.9	+0.4
PRCH	Ribeira Ch	0.06	229	eP	Pg	01 06 15.8	+0.3
PRCH				eS	Sg	01 06 17.2	+0.7
	3μm,0.2s						
PMAT	Coroa da Mata	0.06	322	eP	Pg	01 06 15.8	+0.3
PMAT				eS	Sg	01 06 17.4	+0.8
CMLA	Cha da Macela	0.08	268	eP	Pg	01 06 15.1	-0.7
CMLA				eS	Sg	01 06 17.4	+0.3
CML	Cha da Macela	0.10	272	eP	Pg	01 06 17.6	+1.5
PFAD	Fenais da Ajud	0.11	48	iP	Pg	01 06 17.0	+0.7
MIRA	Miradouro	0.12	81	eP	Pg	01 06 16.9	+0.5
FAC	Faja de Cima	0.18	272	eP	Pg	01 06 19.8	+2.2
PDA	Ponta Delgada	0.19	264	eP	Pg	01 06 17.7	-0.2
PDA				eS	Sg	01 06 21.4	+0.9
PSET	Sete Cidades	0.24	283	eP	Pg	01 06 18.7	-0.2
PSET				eS	Sg	01 06 22.6	+0.4
	355nm,0.4s						
PSAN	Santo Antonio	0.25	289	eP	Pg	01 06 20.9	+1.8
PFET	Feteiras	0.29	280	eP	Pg	01 06 21.3	+1.4
SET2	Ginetes	0.31	284	eP	Pg	01 06 21.6	+1.4

*PRU **21** 01:34:22.8, 47.36N×11.74E*
*NEIC **21** 01:34:22.6±0.3, 47.36N×11.80E, h10km, ML2.5(VIE), ML2.5(LDG), ML1.9(ROM), Error ellipse: s-maj=4.1km s-min=3.5km az=131.0*
NEIC Felt [IV] at Schwaz.
*ROM **21** 01:34:22.0±0.5, 47.28N×11.73E, h4km, Md2.4/6, Ml1.9/3, Error ellipse: s-maj=6.4km s-min=3.2km az=10.0*
*CSEM **21** 01:34:22.3±0.1, 47.33N×11.77E, h2km, ML2.6/9, Error ellipse: s-maj=1.3km s-min=1.0km az=153.0*
*VIE **21** 01:34:22.6±0.4, 47.37N×11.68E, h3km±3km, ML2.1/4, Error ellipse: s-maj=2.4km s-min=1.4km az=170.0*
*BGR **21** 01:34:23.0±0.2, 47.34N×11.81E, ML2.4/3, Error ellipse: s-maj=2.2km s-min=2.2km az=155.0*
*LDG **21** 01:34:26.5±0.3, 47.50N×11.63E, h10km, Ml2.5/7, Error ellipse: s-maj=6.6km s-min=4.7km az=41.0*
ISC 21 01:34:21.0±0.2**, 47.39N**±0.01×**11.78E**±0.02**, h10**km**, n72, σ1.15/131, 11C-3D, Austria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WATA	Walderalm	0.15	248	⇑iPG	Pg	01 34 25.1	+0.6
WATA				iSG	Sg	01 34 26.2	-0.6
	280nm,0.1s						
WATA	Walderalm	0.15	248	⇑ePg	Pg	01 34 25.1	+0.6
	comp=Z,105nm,0.1s,SNR=455						
WATA	Walderalm	0.15	248	Pg	Pg	01 34 25.1	+0.6
	105nm,0.1s,SNR=455						
WATA				Sg	Sg	01 34 26.2	-0.6
	280nm,0.1s						
WTTA	Wattenberg	0.16	218	⇑iPG	Pg	01 34 25.4	+0.7
WTTA				iSG	Sg	01 34 26.6	-0.5
	229nm,0.1s						
WTTA	Wattenberg	0.16	218	ePg	Pg	01 34 25.3	+0.6
	SNR=245						
WTTA				eSg	Sg	01 34 27.0	-0.1
	SNR=24						
WTTA	Wattenberg	0.16	218	ePg	Pg	01 34 25.4	+0.7
	comp=Z,232nm,0.1s,SNR=151						
WTTA	Wattenberg	0.16	218	Pg	Pg	01 34 25.3	+0.6
	SNR=245						
WTTA				Sg	Sg	01 34 26.6	-0.5
	229nm,0.1s						
SQTA	Sankt Quirin	0.43	247	⇑iPG	Pg	01 34 29.8	+0.1
SQTA				iSG	Sg	01 34 34.6	-0.9
	78nm,0.1s						
SQTA	Sankt Quirin	0.43	247	⇑ePg	Pg	01 34 29.8	+0.1
	comp=Z,69nm,0.1s,SNR=213						
SQTA	Sankt Quirin	0.43	247	Pg	Pg	01 34 29.8	+0.1
	69nm,0.1s,SNR=213						
SQTA				Sg	Sg	01 34 34.6	-0.9
	78nm,0.1s						
MOTA	Moosalm	0.46	264	⇓iPG	Pg	01 34 30.1	-0.3
MOTA				iSG	Sg	01 34 35.3	-1.4
	75nm,0.2s						
MOTA	Moosalm	0.46	264	⇓ePg	Pg	01 34 30.1	-0.3
	comp=Z,14nm,0.1s,SNR=12						
MOTA	Moosalm	0.46	264	Pg	Pg	01 34 30.1	-0.3
	14nm,0.1s,SNR=12						
MOTA				Sg	Sg	01 34 35.3	-1.4
	75nm,0.2s						
SEST	Monte Rota	0.71	155	Pg	Pg	01 34 36.1	+0.9
SEST				Sg	Sg	01 34 45.1	+0.4
	74nm,0.3s						
FUR	Furstenfeldbru	0.85	336	ePg	Pg	01 34 40.5	+2.6
	SNR=6.4						
FUR				eSg	Sg	01 34 52.3	+3.0
	SNR=23						
FUR	Furstenfeldbru	0.85	336	ePg	Pg	01 34 40.5	+2.5
FUR				eSg	Sg	01 34 52.3	+3.0
APPI	Appiano	0.99	203	Pg	Pg	01 34 40.5	-0.3
	29nm,0.2s						
FVI	Forni Avoltri	1.05	139	Pg	Pg	01 34 42.3	+0.3
CSMI	Casera Mimoias	1.06	146	⇑iPg	Pg	01 34 42.7	+0.4
CSMI				iSg	Sg	01 34 56.1	-0.4
DAVA	Damuels	1.30	266	⇑iPG	Pg	01 34 46.9	-0.1
DAVA				iSG	Sg	01 35 04.5	+0.2
	21nm,0.2s						
DAVA	Damuels	1.30	266	ePg	Pg	01 34 48.1	+1.2
	SNR=32						
DAVA				eSg	Sg	01 35 05.6	+1.3
	SNR=6.6						
DAVA	Damuels	1.30	266	⇑ePg	Pg	01 34 46.9	0.0
	comp=Z,13nm,0.1s,SNR=39						
BRMO	Bormio	1.33	227	Pg	Pg	01 34 46.7	-0.9
	13nm,0.6s						
CTI	Castel Tesino	1.35	184	Pg	Pg	01 34 47.3	-0.6
CTI				Sg	Sg	01 35 05.8	-0.1
	11nm,0.2s						
DAVOX	Davos	1.44	246	Pg	Pg	01 34 48.3	-1.4
PTCC	Patocco-Chiusa	1.46	132	Pg	Pg	01 34 50.0	-0.2
	7.0nm,0.6s						
NORI	Noerdlinger Ri	1.54	330	⇓iPn	Pn	01 34 50.5	+1.8
MOA	Molln	1.74	74	⇑iPG	Pg	01 34 55.6	-0.2
MOA				iSG	Sg	01 35 20.1	+1.1
	9.0nm,0.2s						
MOA	Molln	1.74	74	ePn	Pn	01 34 53.8	+2.3
	SNR=0.6						
MOA				ePg	Pg	01 34 55.6	-0.1
	SNR=9.6						
MOA				eSg	Sg	01 35 19.1	+0.1
	SNR=6.8						
MOA	Molln	1.74	74	⇑ePg	Pg	01 34 55.6	-0.1
	comp=Z,2.7nm,0.1s,SNR=14						
MOA	Molln	1.74	74	⇑iPg	Pg	01 34 55.6	-0.2
MOA				Sg	Sg	01 35 19.1	+0.1
	SNR=6.8						
WET	Wettzell	1.90	22	ePn	Pn	01 34 55.9	+2.1
	SNR=2.2						
WET				ePg	Pg	01 34 58.6	-0.4
	SNR=5.5						
WET				eSn	Sn	01 35 20.7	+2.7
	SNR=1.6						
WET				eSg	Sg	01 35 24.8	+0.5
	SNR=3.9						
WET	Wettzell	1.90	22	ePn	Pn	01 34 55.9	+2.1
WET				ePg	Pg	01 34 58.6	-0.3
WET				eSn	Sn	01 35 20.7	+2.7
WET				eSg	Sg	01 35 24.8	+0.5
GEC2	GERESS Array S	1.94	41	ePn	Pn	01 34 56.4	+2.0
	SNR=1.4						
GEC2				ePg	Pg	01 34 59.4	-0.3
	SNR=5.9						
GEC2				eSg	Sg	01 35 25.7	0.0
	SNR=5.0						
GEC2	GERESS Array S	1.94	41	ePn	Pn	01 34 56.4	+2.0
GEC2				ePg	Pg	01 34 59.4	-0.4
GEC2				eSg	Sg	01 35 25.7	0.0
GEC2	GERESS Array S	1.94	41	Pg	Pg	01 34 59.4	-0.4
	SNR=5.9						
GEC2				Sg	Sg	01 35 25.7	0.0
	SNR=5.0						
OBKA	Obir	2.09	114	ePg	Pg	01 35 01.5	-1.2
	SNR=1.9						
OBKA				eSg	Sg	01 35 28.9	-1.7
	SNR=1.4						
KHC	Kasperske Hory	2.11	34	ePG	Pg	01 35 02.8	-0.4
KHC				eSG	Sg	01 35 30.9	-0.5
	3.6nm,0.2s						
GRA1	Grafenberg Arr	2.33	351	ePg	Pg	01 35 07.6	0.0
GRA1				eSg	Sg	01 35 38.4	-0.3
GRA1	Grafenberg Arr	2.33	351	Pg	Pg	01 35 07.6	0.0
	SNR=2.9						
GRA1				Sg	Sg	01 35 38.4	-0.3
	SNR=4.7						
GRF	Grafenberg Arr	2.33	351	ePg	Pg	01 35 07.6	+0.1
	SNR=2.9						
GRF				eSg	Sg	01 35 38.4	-0.2
	SNR=4.7						
BFO	Black Forest	2.51	293	ePn	Pn	01 35 04.8	+2.2
	SNR=3.7						
BFO				ePg	Pg	01 35 10.4	-0.7
	SNR=1.0						
BFO				eSn	Sn	01 35 34.3	+0.9
	SNR=2.8						
BFO	Black Forest	2.51	293	ePn	Pn	01 35 04.8	+2.3
BFO				ePg	Pg	01 35 10.4	-0.7
BFO				eSn	Sn	01 35 34.3	+0.9
BFO	Black Forest	2.51	293	Pg	Pg	01 35 10.4	-0.7
	SNR=1.0						
BFO				Sn	Sn	01 35 34.3	+0.9
	SNR=2.8						
NKC	Novy Kostel	2.88	9	ePG	Pg	01 35 16.5	-1.9
NKC				eSG	Sg	01 35 57.0	+0.2
	6.8nm,0.4s						
TANN	Tannenbergstha	3.06	8	ePg	Pg	01 35 21.0	-1.1
	SNR=2.6						
TANN				eSg	Sg	01 36 01.2	-1.7
	SNR=3.3						
WERD	Werda	3.08	6	ePn	Pn	01 35 11.9	+1.3
	SNR=1.4						
WERD				ePg	Pg	01 35 21.2	-1.2
	SNR=1.9						
WERD				eSg	Sg	01 36 03.1	-0.4
	SNR=3.7						
PRU	Pruhonice	3.18	34	eSG	Sg	01 36 05.2	-1.6
CDF	Champ du Feu	3.20	290	ePn	Pn	01 35 13.5	+1.1
CDF				eSg	Sg	01 36 02.7	-4.8
	2.5nm,0.2s						
MOX	Moxa	3.26	358	ePg	Pg	01 35 24.9	-1.1
	SNR=2.0						
MOX				eSn	Sn	01 35 52.1	-0.3
	SNR=1.7						
MOX				eSg	Sg	01 36 07.2	-2.3
	SNR=1.8						
MOX	Moxa	3.26	358	S	Sn	01 35 52.0	-0.4
MOX				Sg	Sg	01 36 08.0	-1.5
MOX	Moxa	3.26	358	ePg	Pg	01 35 25.8	-0.2
MOX				eSn	Sn	01 35 52.5	+0.1
MOX				eSg	Sg	01 36 07.8	-1.7
HINF	Hinteralfeld	3.36	279	ePn	Pn	01 35 15.4	+0.7
HINF				eSn	Sn	01 35 51.8	-3.3
HINF				eSg	Sg	01 36 08.7	-4.3
	3.2nm,0.2s						
TNS	Taunus Mts	3.59	323	ePn	Pn	01 35 19.3	+1.4
	SNR=1.2						
TNS				eSn	Sn	01 36 00.0	-0.8
	SNR=3.6						
TNS	Taunus Mts	3.59	323	ePn	Pn	01 35 19.3	+1.4
TNS				eSn	Sn	01 36 00.0	-0.8
HAU	Haudompre	3.72	281	ePn	Pn	01 35 21.1	+1.3
HAU				eSg	Sg	01 36 19.7	-5.2
	3.0nm,0.2s						
LPG	La Plagne	3.96	243	ePn	Pn	01 35 25.6	+2.4
LPG				eSn	Sn	01 36 09.1	-1.1
	2.0nm,0.4s						
LPL	La Plagne	3.96	244	ePn	Pn	01 35 25.2	+2.0
LPL				eSn	Sn	01 36 08.5	-1.8
	1.5nm,0.3s						
CABF	La Chapelle	3.98	261	ePn	Pn	01 35 24.3	+0.9
CABF				eSg	Sg	01 36 28.5	-4.8
	2.1nm,0.3s						
DPC	Dobruska-Polom	4.21	44	eSG	Sg	01 36 37.6	-3.6
MBDF	Montbardon	4.39	234	ePn	Pn	01 35 33.3	+4.0
RFYF	Reffroy	4.41	289	ePn	Pn	01 35 29.8	+0.2
ORIF	Oris-en-Rattie	4.79	241	ePn	Pn	01 35 37.1	+2.1
SMF	Signal de Mont	5.48	265	ePn	Pn	01 35 44.4	-0.3
SMRF	Simiane la Rot	5.53	234	ePn	Pn	01 35 46.0	+0.6
VIVF	Saint-Julien-l	5.55	245	ePn	Pn	01 35 45.4	-0.3
AVF	Avril sur Loir	5.79	267	ePn	Pn	01 35 48.8	-0.2
BGF	Bois d'Agland	6.17	266	ePn	Pn	01 35 54.1	-0.4
LASF	Ste Croix	6.46	242	ePn	Pn	01 35 58.1	-0.4
TCF	Toulx Ste Croi	6.66	264	ePn	Pn	01 36 00.3	-1.0
CAF	Calviac	7.19	253	ePn	Pn	01 36 08.2	-0.5

MFF	**Saint Martin d**	**8.20**	**269**	*e*Pn	**P**		**01 36 21.5**	**-1.3**

BJI 21 01:52:24.4,27.27N×103.73E,h16km,ML3.4,Ms3.6, Msz3.3,1C,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KMI	**Kunming**	**2.31**	**203**	PG	Pn		01 53 03.5	+1.0
KMI				SG	Sn		01 53 30.6	-0.3
KMI				Smax				
	comp=N,47nm,1.0s							
KMI				Smax				
	comp=E,54nm,0.8s							
KMI				LR	LR			
	comp=N,236nm,6.6s							
KMI				LR	LR			
	comp=E,285nm,5.4s							
KMI				LR	LR			
	comp=Z,173nm,8.2s							
GYA	**Guiyang**	**2.74**	**106**	⇑*i*P		Pn	01 53 10.9	+2.3
GYA				PG		Pn	01 53 14.8	+6.2
GYA				S		Sn	01 53 44.5	+2.8
GYA				SG		Sn	01 53 49.8	+8.1
GYA				Smax				
	comp=N,260nm,0.8s							
GYA				Smax				
	comp=E,130nm,0.6s							
CD2	**Chengdu**	**3.63**	**0**	P		Pn	01 53 22.1	+0.9
CD2				PG		Pn	01 53 30.9	+10
CD2				SG		Sn	01 54 14.0	+10
CD2				Smax				
	comp=N,170nm,0.6s							
CD2				Smax				
	comp=E,190nm,0.7s							
XAN	**Xi'an**	**8.09**	**32**	P		P	01 54 21.8	-2.4
XAN				S		Sn	01 55 50.0	-6.2
XAN				Smax				
	comp=N,25nm,1.0s							
XAN				Smax				
	comp=E,21nm,1.2s							
XAN				LR	LR			
	comp=N,52nm,8.2s							
XAN				LR	LR			
	comp=E,88nm,10.7s							
XAN				LR	LR			
	comp=Z,133nm,8.2s							

NIED ***21*** *02:25:00,43.70N×146.30E,h98km,Mw6.0 Best double couple: M₀1.23×10¹⁸ NP1:φs232°,δ84°,λ-102°. NP2: φs114°,δ13°,λ-28°.*

CRAAG ***21*** *02:25:06.0,43.90N×146.14E,Mb6.1*

MOS ***21*** *02:25:06.1±0.9,43.85N×146.20E,h99km,mb6.1/103, MS5.4/31,Error ellipse: s-maj=6.9km s-min=3.3km az=106.5*

MOS Felt (IV-V) at Malokurilskoe; (IV) at Yuzhno-Kuril'sk; (III) at Kuril'sk.

BJI ***21*** *02:25:07.2,43.94N×146.11E,h103km,mB6.3,mb6.1*

BGS ***21*** *02:25:08.4,44.18N×147.49E,h103km,mb5.9*

NEIC ***21*** *02:25:08.1±0.1,43.89N×146.15E,h103km,mb6.0/189, ME5.9,MW6.1,Error ellipse: s-maj=2.9km s-min=2.2km az=165.0 Broadband fault plane solution: P waves. NP1: φs230°,δ85°,λ-85°. NP2:φs5°,δ7°,λ-135°. Principal axes: T Plg40°, Azm315°; N Plg0°, Azm0°; P Plg50°, Azm145°; Moment Tensor Solution. s32 Moment tensor: Scale 10¹⁸ Nm; Mrr0.16; Mθθ0.16; Mφφ-0.32; Mrθ1.16; Mθφ-0.04; Mφr1.02; Best double couple: M₀1.6×10¹⁸ NP1:φs152°,δ9°, λ15°. NP2:φs48°,δ88°,λ99°. Principal axes: T 1.6, Plg47°, Azm327°; N -.07, Plg9°, Azm227°; P -1.53, Plg42°, Azm129°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] on Shikotan; [IV] at Yuzhno-Kuril'sk, Kunashir; [III] at Kuril'sk, Iturup. Also felt at Kushiro, Hokkaido and Misawa, Honshu.

IDC ***21*** *02:25:08.5±0.3,43.93N×146.30E,h109km±2km,mb5.5/32, mb1 5.6/34,mb1mx5.6/36,mbtmp5.9/34,MS5.1/17, Ms1 5.0/17,ms1mx4.9/24 Error ellipse: s-maj=7.5km s-min=6.2km az=136.0*

HRVD ***21*** *02:25:08.1±0.1,43.90N×146.41E,h107km,MW6.0/74, Centroid moment Tensor Solution. LP body waves: s70,c175;Mantle waves: s74,c262; Half duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr-0.16±.01; Mθθ0.28±.01; Mφφ-0.11±.01; Mrθ0.95±.01; Mθφ0.34±.01; Mφr0.87±.01; Best double couple: M₀1.35×10¹⁸ NP1:φs97°, δ10°,λ-40°. NP2:φs226°,δ84°,λ-98°. Principal axes: T 1.468, Plg38°, Azm323°; N -.275, Plg8°, Azm227°; P -1.193, Plg51°, Azm127°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

JMA ***21*** *02:25:08.6±0.1,43.71N×146.40E,h103km±1km,M6.0*

JMA Felt IV J1.

SKHL ***21*** *02:25:08.1±1.2,43.95N×146.34E,h111km±15km, mb6.7/10,mbh6.6/5,Ms5.7/3,msh6.6/7*

SKHL Felt (IV-V) at Malokurilskoe, (IV) at Yushno-Kurilsk, (III) at Kurilsk.

ISC 21 02:25:06.8±0.1,43.88N±0.02×146.23E±0.02,h102km, h102km±.8km:pP-P,n1338,σ0▮91/1315,mb6.0/295, 433C-88D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.31**	**300**	⇓*i*P		**P**	**02 25 24.0**	**+2.2**
YUK				⇓*i*P			02 25 24.3	
YUK	**Yuzh-Kuril'sk**	**0.31**	**300**	⇓*i*PN		**P**	**02 25 24.0**	**+2.2**
YUK				*i* S		**S**	**02 25 36.3**	**+3.3**
NEM2	**Nemuro 2**	**0.63**	**215**	⇓P		**P**	**02 25 25.5**	**+1.6**
NEM2				S		**S**	**02 25 37.8**	**+1.0**
JRA	**Rausu**	**0.81**	**274**	⇓P		**P**	**02 25 28.9**	**+3.3**
JRA				*e*S		**S**	**02 25 44.5**	**+4.9**
JNK	**Nakash**	**1.14**	**255**	⇓P		**P**	**02 25 31.7**	**+2.5**
JNK				*e*S		**S**	**02 25 48.9**	**+2.8**
JAK	**Akkeshi**	**1.43**	**232**	⇓P		**P**	**02 25 34.2**	**+1.5**
JAK				*e*S		**S**	**02 25 52.9**	**+0.9**
JTKR	**Abashiri--Toko**	**1.68**	**274**	⇓P		**P**	**02 25 39.0**	**+3.2**
JTKR				*e*S		**S**	**02 26 01.1**	**+3.6**
KUR	**Kuril'sk**	**1.79**	**40**	⇓*i*P		**P**	**02 25 36.6**	**-0.5**
KUR				⇓*i*P			02 25 36.6	
KUR				⇓*i*P			02 25 36.6	
KUR				AMB	AMB		02 25 38.0	
	25μm,2.0s							
KUR				AMB	AMB		02 25 38.0	
	38μm,2.0s							
KUR				AMB	AMB		02 25 38.0	
	3μm,0.5s							
KUR				AMB	AMB		02 25 38.0	
	2μm,0.5s							
KUR				AMB	AMB		02 25 38.0	
	12μm,0.5s							
KUR				AMB	AMB		02 25 39.0	
	62μm,2.0s							
KUR				AMB	AMB		02 25 39.0	
	38μm,2.0s							
KUR				AMB	AMB		02 25 39.0	
	158μm,2.0s							
KUR				*e*S		**S**	**02 25 59.5**	**-0.2**
KUR				A			02 26 08.0	
	175μm,3.0s							
KUR				A			02 26 08.0	
	330μm,3.0s							
KUR				A			02 26 08.0	
	215μm,3.0s							
KUR	**Kuril'sk**	**1.79**	**40**	K *i*PN		**P**	**02 25 36.6**	**-0.5**
KUR				*e*S		**S**	**02 25 59.5**	**-0.2**
KUR				pmax	pmax			
	comp=N,3μm,0.5s							
KUR				pmax	pmax			
	comp=E,2μm,0.5s							
KUR				pmax	pmax			
	comp=Z,12μm,0.5s							
KUR				pmax	pmax			
	comp=N,62μm,2.0s							
KUR				pmax	pmax			
	comp=E,38μm,2.0s							
KUR				pmax	pmax			
	comp=Z,158μm,2.0s							
KUR				smax				
	comp=E,330μm,2.0s							
JAR	**Ashorobuto**	**1.88**	**253**	⇓P		**P**	**02 25 41.5**	**+3.1**
JAR				*e*S		**S**	**02 26 06.2**	**+4.3**
JOB	**Onbets**	**2.00**	**242**	⇓P		**P**	**02 25 42.4**	**+2.5**
JOB				*e*S		**S**	**02 26 07.3**	**+2.7**
JMP	**Maruseppu**	**2.08**	**274**	⇓P		**P**	**02 25 44.3**	**+3.3**
JMP				*e*S		**S**	**02 26 11.1**	**+4.7**
JCH	**Churui**	**2.45**	**240**	⇓P		**P**	**02 25 47.6**	**+1.5**
JCH				*e*S		**S**	**02 26 16.4**	**+0.9**
JKK2	**Kamakawa 2**	**2.52**	**271**	P		**P**	**02 25 50.3**	**+3.3**
JKK2				*e*S		**S**	**02 26 22.1**	**+5.0**
ASAJ	**Asahikawa**	**2.63**	**276**	P		**P**	**02 25 51.6**	**+3.1**
ASAJ	comp=E,1μm,0.3s,baz=98,slow=14,SNR=3804			S		**S**	**02 26 23.2**	**+3.3**
	comp=E,711nm,0.3s,baz=108,slow=32,SNR=5.1							
ASAJ	**Asahikawa**	**2.63**	**276**	⇓P		**P**	**02 25 52.2**	**+3.6**
ASAJ				*e*S		**S**	**02 26 24.9**	**+5.0**
YSS	**Yuzh-Sakhalins**	**3.93**	**323**	*i* P		**P**	**02 26 08.6**	**+2.4**
YSS				*i* P			02 26 08.6	
YSS				*i* P			02 26 08.6	
YSS				AMB	AMB		02 26 11.9	
	comp=E,2μm,1.1s							
YSS				AMB	AMB		02 26 13.0	
	comp=E,29μm,5.0s							
YSS				AMB	AMB		02 26 13.0	
	comp=E,27μm,5.0s							
YSS				AMB	AMB		02 26 13.0	
	comp=E,31μm,5.0s							
YSS				AMB	AMB		02 26 13.0	
	comp=E,41μm,5.0s							
YSS				*i* S		**S**	**02 26 55.0**	**+3.5**
YSS				A			02 27 03.0	
	comp=E,26μm,5.0s							
YSS				A			02 27 03.0	
	comp=E,76μm,5.0s							
YSS				AMS	AMS		02 28 09.0	
	comp=E,33μm,11.0s							
YSS				AMS	AMS		02 28 09.0	
	comp=E,26μm,6.0s							
YSS				AMS	AMS		02 28 09.0	
	comp=E,22μm,11.0s							
YSS				AMS	AMS		02 28 09.0	
	comp=E,30μm,8.0s							
YSS				AMS	AMS		02 28 09.0	
	comp=E,26μm,13.0s							
YSS	**Yuzh-Sakhalins**	**3.93**	**323**	⇑*i*P		**P**	**02 26 09.0**	**+2.8**
YSS	**Yuzh-Sakhalins**	**3.93**	**323**	α *i*PN		**P**	**02 26 08.6**	**+2.4**
YSS				*e*			02 26 46.8	
YSS				pmax	pmax			
	comp=Z,2μm,1.1s							
YSS				pmax	pmax			
	comp=N,29μm,5.0s							
YSS				pmax	pmax			
	comp=Z,27μm,5.0s							
YSS				smax				
	comp=N,81μm,4.0s							
YSS				smax				
	comp=E,76μm,6.0s							
YSS				MLR	MLR			
	comp=Z,22μm,11.0s							
YSS				MLR	MLR			
	comp=N,26μm,6.0s							
MIYJ	**Miyakonagasawa**	**5.42**	**219**	P		**P**	**02 26 24.3**	**-2.3**
UGL	**Uglegorsk**	**5.94**	**332**	*i* P		**P**	**02 26 36.8**	**+3.2**
UGL				*i* P			02 26 36.8	
UGL				AMB	AMB		02 26 39.0	
	comp=N,55μm,4.0s							
UGL				AMB	AMB		02 26 39.0	
	comp=N,34μm,4.0s							
UGL				AMB	AMB		02 26 39.0	
	comp=N,65μm,4.0s							
UGL				AMB	AMB		02 26 40.0	
	comp=N,3μm,1.0s							
UGL				AMB	AMB		02 26 40.0	
	comp=N,4μm,1.0s							
UGL				AMB	AMB		02 26 40.0	
	comp=N,8μm,1.0s							
UGL				AMB	AMB		02 26 40.0	
	comp=N,5μm,1.0s							
UGL				AMB	AMB		02 26 40.0	
	comp=N,12μm,1.0s							
UGL				A			02 27 54.0	
	comp=N,128μm,4.0s							
UGL				A			02 27 54.0	
	comp=N,89μm,4.0s							
UGL				A			02 27 54.0	
	comp=N,127μm,6.0s							
UGL				A			02 27 56.5	
	comp=N,2μm,1.1s							
UGL				A			02 27 56.5	
	comp=N,20μm,2.0s							
UGL	**Uglegorsk**	**5.94**	**332**	⇑*i*PN		**P**	**02 26 36.8**	**+3.2**
UGL				*i* S		**S**	**02 27 46.5**	**+5.6**
UGL				pmax	pmax			
	comp=N,55μm,4.0s							
UGL				pmax	pmax			
	comp=E,34μm,4.0s							
UGL				pmax	pmax			
	comp=E,65μm,4.0s							
UGL				pmax	pmax			
	comp=N,3μm,1.0s							
UGL				pmax	pmax			
	comp=E,4μm,1.0s							
UGL				pmax	pmax			
	comp=Z,8μm,1.0s							
UGL				smax				
	comp=N,128μm,4.0s							
UGL				smax				
	comp=E,89μm,4.0s							
UGL				smax				
	comp=Z,127μm,6.0s							
UGL				smax				
	comp=N,20μm,2.0s							
UGL				smax				
	comp=E,2μm,1.1s							
TEY	**Ternei**	**6.99**	**283**	*e*P		**P**	**02 26 47.0**	**-1.1**
TEY				AMB	AMB		02 26 48.5	
	comp=E,3μm,1.7s							
TEY				AMB	AMB		02 26 48.5	
	comp=E,640nm,1.4s							
TEY				AMB	AMB		02 26 51.0	
	comp=E,14μm,6.0s							
TEY				AMB	AMB		02 26 51.0	
	comp=E,6μm,5.0s							
TEY				AMB	AMB		02 26 51.0	
	comp=E,14μm,5.0s							
TYV	**Tymovskoe**	**7.39**	**342**	*i* P		**P**	**02 26 52.0**	**-1.6**
TYV				*i* P			02 26 52.0	
TYV				AMB	AMB		02 26 56.0	
	comp=E,45μm,5.0s							
TYV				AMB	AMB		02 26 56.0	
	comp=E,32μm,7.0s							
TYV				A			02 28 46.0	
	comp=E,36μm,8.0s							
TYV				A			02 28 46.0	
	comp=E,44μm,8.0s							
TYV				AMS	AMS		02 30 40.0	
	comp=E,27μm,16.0s							
JSD	**Sado**	**8.39**	**229**	P		**P**	**02 27 05.8**	**-1.4**
JSB	**Shiboa**	**8.42**	**217**	⇑P		**P**	**02 27 06.5**	**-1.0**
JHK	**Hiroka**	**8.60**	**222**	⇓P		**P**	**02 27 08.6**	**-1.4**
JKT	**Katashina**	**8.88**	**219**	P		**P**	**02 27 13.0**	**-0.8**
JAG	**Ashikaga**	**9.07**	**217**	P		**P**	**02 27 14.0**	**-2.3**
JHG	**Hegura jima**	**9.28**	**233**	P		**P**	**02 27 19.6**	**+0.6**
SKR	**Severo-Kuril's**	**9.55**	**41**	*e*PN		**P**	**02 27 19.0**	**-3.7**
SKR				pmax	pmax			
	comp=N,2μm,2.0s							
SKR				pmax	pmax			
	comp=Z,2μm,2.0s							
SKR				pmax	pmax			
	comp=Z,370nm,0.7s							
SKR				pmax	pmax			
	comp=N,120nm,0.5s							
SKR				pmax	pmax			
	comp=E,80nm,0.5s							
SKR				MLR	MLR			
	comp=N,6μm,16.0s							
SKR				MLR	MLR			
	comp=Z,8μm,16.0s							
MAJO	**Matsushiro**	**9.56**	**223**	⇓*i*P		**P**	**02 27 21.2**	**-1.6**
	comp=Z,322nm,0.6s							
MAJO	**Matsushiro**	**9.56**	**223**	⇓*i*PN		**P**	**02 27 21.2**	**-1.6**
MAJO				pmax	pmax			
	comp=Z,323nm,0.6s							
MAT	**Matsushiro**	**9.56**	**223**	P		**P**	**02 27 21.4**	**-1.4**
MAT				S		**S**	**02 29 05.5**	**-3.5**
MAT	**Matsushiro**	**9.56**	**223**	P		**P**	**02 27 21.5**	**-1.3**
MAT	**Matsushiro**	**9.56**	**223**	*e*P		**P**	**02 27 21.0**	**-1.8**
	comp=Z,180nm,1.0s							
MAT				*e*S		**S**	**02 29 06.0**	**-3.0**
MAT	**Matsushiro**	**9.56**	**223**	*e*PN		**P**	**02 27 21.0**	**-1.8**
MAT				*e*S		**S**	**02 29 06.0**	**-3.0**
MAT				pmax	pmax			
	comp=Z,180nm,1.0s							
MJAR	**Matsushiro Arr**	**9.56**	**223**	P		**P**	**02 27 21.6**	**-1.2**
	comp=Z,25nm,0.3s,baz=29,slow=13,SNR=237							
MJAR				S		**S**	**02 29 05.7**	**-3.4**
	comp=Z,14nm,0.3s,baz=24,slow=25,SNR=4.4							
MJAR				LR	LR		02 31 04.0	
	comp=Z,6μm,20.2s,baz=65,slow=37							
GRNR	**Gornyy**	**9.58**	**319**	*i* P		**P**	**02 27 20.0**	**-3.0**
GRNR				AMB	AMB		02 27 22.8	
	comp=Z,2μm,1.8s							
GRNR				AMB	AMB		02 27 22.8	
	comp=Z,2μm,1.8s							
GRNR				AMB	AMB		02 27 22.8	
	comp=Z,2μm,1.8s							
GRNR				A			02 29 36.8	
	comp=Z,4μm,2.0s							
JRY	**Ryogami san**	**9.66**	**218**	P		**P**	**02 27 21.9**	**-2.3**
JNG	**Nsakai**	**9.72**	**223**	⇓P		**P**	**02 27 23.7**	**-1.3**
OKH	**Okha**	**9.92**	**348**	⇑*i*P		**P**	**02 27 26.0**	**-1.6**
OKH				AMB	AMB		02 27 27.0	
	comp=Z,36μm,5.4s							
OKH				AMB	AMB		02 27 27.0	
	comp=Z,25μm,6.0s							
OKH				AMB	AMB		02 27 27.0	
	comp=Z,15μm,5.0s							
OKH				AMB	AMB		02 27 27.8	
	comp=Z,1μm,1.1s							
OKH				A			02 29 30.0	
	comp=Z,12μm,6.0s							
OKH				A			02 29 30.0	
	comp=Z,31μm,10.0s							
OKH	**Okha**	**9.92**	**348**	*i* PN		**P**	**02 27 26.0**	**-1.6**
OKH				*i* S		**S**	**02 29 22.2**	**+4.6**
OKH				pmax	pmax			
	comp=Z,36μm,5.4s							
OKH				smax				
	comp=N,12μm,8.0s							
OKH				smax				
	comp=E,31μm,8.0s							
OKH				MLR	MLR			
	comp=Z,17μm,18.0s							
NKL	**Nikolayevsk**	**9.97**	**340**	*i* P		**P**	**02 27 26.5**	**-1.9**
NKL				AMB	AMB		02 27 29.0	
	comp=Z,20μm,11.0s							
NKL				AMB	AMB		02 27 29.0	
	comp=Z,11μm,11.0s							
NKL				AMB	AMB		02 27 29.0	
	comp=Z,22μm,11.0s							
NKL				AMB	AMB		02 27 29.3	
	comp=Z,580nm,1.0s							
NKL				AMB	AMB		02 27 29.3	
	comp=Z,220nm,1.0s							
NKL				AMB	AMB		02 27 29.3	
	comp=Z,2μm,1.0s							
NKL				A			02 29 30.0	
	comp=Z,6μm,10.0s							
NKL				A			02 29 30.0	
	comp=Z,9μm,13.0s							
JGN	**Niukaw**	**10.25**	**225**	P		**P**	**02 27 31.1**	**-1.1**
VLA	**Vladivostok**	**10.45**	**271**	*d i*PN		**P**	**02 27 34.4**	**-0.4**
VLA				*i* S		**S**	**02 29 28.8**	**-1.6**
VLA				pmax	pmax			
	comp=Z,1μm,1.7s							
VLA				MLR	MLR			
	comp=Z,5μm,11.6s							
JGM	**Miyama**	**10.96**	**225**	P		**P**	**02 27 42.0**	**+0.3**
KLR	**Kul'dur**	**11.31**	**303**	*i* P		**P**	**02 27 45.5**	**-0.7**
KLR				*i* P			02 27 45.8	
KLR				AMB	AMB		02 27 47.0	
	comp=Z,1μm,2.2s							
KLR				AMB	AMB		02 27 52.0	
	comp=Z,5μm,8.0s							
KLR				AMB	AMB		02 27 52.0	
	comp=Z,14μm,8.0s							
KLR				AMB	AMB		02 27 52.0	
	comp=Z,17μm,8.0s							
KLR				AMS	AMS		02 32 30.5	
	comp=Z,21μm,11.0s							
KLR				AMS	AMS		02 32 30.5	
	comp=Z,26μm,11.0s							
JFM	**Mihama**	**11.48**	**227**	P		**P**	**02 27 49.0**	**+0.5**
JHJ	**Hachijo jima 2**	**11.87**	**207**	P		**P**	**02 27 51.6**	**-2.0**
	comp=Z,101nm,0.3s,baz=219,slow=6.4,SNR=18							
JHJ				S		**S**	**02 29 53.2**	**-11**
	comp=Z,420nm,0.3s,baz=246,slow=23,SNR=13							
JHJ				LR	LR		02 32 50.5	
	comp=Z,6μm,21.3s,baz=55,slow=39							
JKY	**Yasaka**	**11.88**	**230**	P		**P**	**02 27 54.3**	**+0.5**
MDJ	**Mudanjiang**	**11.96**	**279**	P		**P**	**02 27 55.3**	**+0.4**
MDJ				PCP	PcP		02 33 32.6	-1.0
MDJ				SCP			02 36 54.0	
MDJ				PCS			02 37 02.9	
MDJ				SCS	ScS		02 40 30.8	+0.4
MDJ				AMB	AMB			
	comp=Z,499nm,1.0s							
MDJ				AMB	AMB			
	comp=Z,5μm,9.8s							
MDJ				LR	LR			
	comp=N,16μm,14.1s							
MDJ				LR	LR			
	comp=E,4μm,9.4s							
MDJ				LR	LR			
	comp=Z,19μm,24.7s							
MDJ	**Mudanjiang**	**11.96**	**279**	*e*P		**P**	**02 27 55.1**	**+0.2**
	comp=Z,574nm,1.1s							
JWT	**Wachi**	**11.97**	**228**	P		**P**	**02 27 55.0**	**-0.1**
PET	**Petropavlovsk**	**12.30**	**38**	*e*P		**P**	**02 27 57.4**	**-1.9**
PET				⇑*i*P			02 27 57.4	
PET				AMB	AMB		02 28 02.9	
	comp=Z,110nm,1.1s							
PET				AMB	AMB		02 28 13.4	
	comp=Z,1μm,13.0s							
PET				*i* S		**S**	**02 30 08.5**	**-6.0**
PET				A			02 30 13.8	
	comp=Z,260nm,1.1s							
PET				AMS	AMS		02 32 44.4	
	comp=Z,6μm,13.0s							
PET				AMS	AMS		02 32 50.0	
	comp=Z,5μm,14.0s							
EKMR	**Ekimchan**	**12.71**	**321**	*i* P		**P**	**02 28 02.5**	**-2.3**
EKMR				AMB	AMB		02 28 05.0	
	comp=Z,410nm,1.0s							
EKMR				AMB	AMB		02 28 05.0	
	comp=Z,820nm,1.0s							
EKMR				AMB	AMB		02 28 05.0	
	comp=Z,660nm,1.0s							
JHS	**Saijyo**	**13.46**	**233**	P		**P**	**02 28 15.1**	**+0.6**
JAI	**Aioi**	**13.62**	**226**	P		**P**	**02 28 15.2**	**-1.3**
JJG	**Jouge**	**13.69**	**232**	P		**P**	**02 28 19.2**	**+1.7**
JGT	**Gotsu**	**13.89**	**235**	P		**P**	**02 28 28.2**	**+8.1**
JHIK	**Hikimi**	**14.48**	**235**	P		**P**	**02 28 28.2**	**+0.6**
JKU	**Kubokawa**	**14.73**	**229**	P		**P**	**02 28 30.1**	**-0.7**
CN2	**Changchun**	**15.00**	**277**	⇑P		**P**	**02 28 32.8**	**-1.5**
CN2				*e*XP			02 29 02.3	
CN2				*e*S		**S**	**02 31 14.8**	**-3.2**
CN2				AMB	AMB			
	comp=Z,370nm,1.2s							
CN2				AMB	AMB			
	comp=Z,3μm,3.0s							
CN2				LR	LR			
	comp=N,9μm,11.0s							
CN2				LR	LR			
	comp=E,11μm,11.0s							
CN2				LR	LR			
	comp=Z,12μm,16.0s							
YASR	**Yasnyy**	**15.27**	**314**	*i* P		**P**	**02 28 34.6**	**-3.0**
YASR				AMB	AMB		02 28 37.0	
	comp=Z,120nm,1.2s							
YASR				AMB	AMB		02 28 37.0	
	comp=Z,360nm,1.2s							
YASR				AMB	AMB		02 28 37.0	
	comp=Z,530nm,1.2s							
KS15	**Wonju Array Si**	**15.33**	**251**	⇑*e*P		**P**	**02 28 37.2**	**-1.3**
KS15				*e*S		**S**	**02 31 34.5**	**+9.1**
BMKR	**Bomnak**	**15.64**	**320**	*i* P		**P**	**02 28 38.9**	**-3.3**
BMKR				AMB	AMB		02 28 44.5	
	comp=Z,540nm,1.0s							
BMKR				AMB	AMB		02 28 44.5	
	comp=Z,180nm,1.0s							

BMKR AMB AMB 02 28 44.5
comp=Z,390nm,1.0s
ZEA Zeya 15.88 315 *i* P **P** **02 28 41.9 -3.3**
ZEA ⇑*i*P 02 28 41.9
ZEA AMB AMB 02 28 44.2
comp=Z,1μm,2.0s
ZEA AMB AMB 02 28 44.2
comp=Z,1μm,2.0s
ZEA AMB AMB 02 28 44.2
comp=Z,2μm,2.0s
ZEA AMB AMB 02 28 47.0
comp=Z,9μm,7.0s
ZEA AMB AMB 02 28 47.0
comp=Z,10μm,7.0s
ZEA AMB AMB 02 28 47.0
comp=Z,16μm,7.0s
ZEA A 02 31 44.0
comp=Z,7μm,7.0s
ZEA A 02 31 44.0
comp=Z,4μm,7.0s
ZEA AMS AMS 02 35 44.0
comp=Z,12μm,11.0s
ZEA AMS AMS 02 35 44.0
comp=Z,8μm,11.0s
ZEA AMS AMS 02 35 44.0
comp=Z,13μm,11.0s
MA2 Magadan 15.96 8⇑*i*P **P** **02 28 45.3 -0.9**
MA2 Magadan 15.96 8*c i*P **P** **02 28 45.2 -1.0**
MA2 *e*S **S** **02 31 31.9 -7.8**
MA2 pmax pmax
comp=N,500nm,1.8s
MA2 pmax pmax
comp=E,100nm,1.8s
MA2 pmax pmax
comp=Z,600nm,1.8s
JTU Tsushima 16.02 240 P **P** **02 28 49.2 +2.0**
JNU Nakatsue 16.09 233 LR LR 02 35 51.3
comp=Z,5μm,18.0s,baz=30,slow=40
INCN Inchon 16.17 253 P **P** **02 28 47.8 -1.2**
KROS Kirovskiy 16.38 317 *i* P **P** **02 28 48.8 -2.7**
SNY Shenyang 16.73 271⇑P **P** **02 28 55.0 -0.9**
SNY S **S** **02 31 56.6 -0.8**
SNY AMB AMB
comp=Z,600nm,0.8s
SNY AMB AMB
comp=Z,5μm,7.8s
SNY LR LR
comp=N,5μm,11.4s
SNY LR LR
comp=E,5μm,11.4s
SNY LR LR
comp=Z,6μm,11.2s
CBIJ Chichi jima 17.07 192 P **P** **02 29 00.3 +0.1**
comp=Z,28nm,0.3s,baz=14,slow=4.5,SNR=37
CBIJ S **S** **02 31 57.5 -7.6**
comp=Z,83nm,0.3s,baz=283,slow=23,SNR=7.2
CLNS Chul'man 18.70 321⇑*i*P **P** **02 29 16.0 -3.2**
CLNS pmax pmax
comp=Z,62nm,0.8s
CLNS pmax pmax
comp=N,68nm,1.0s
CLNS pmax pmax
comp=E,34nm,1.0s
HIA Hailar 18.94 296⇑*i*P **P** **02 29 19.1 -2.9**
comp=E,566nm,0.6s
HIA Hailar 18.94 296⇑*i*P **P** **02 29 19.1 -2.9**
HIA pmax pmax
comp=Z,566nm,0.6s
DL2 Dalian 19.09 263⇑*i*P **P** **02 29 23.5 -0.2**
DL2 AP 02 29 40.9
DL2 XP 02 29 53.8
DL2 S **S** **02 32 46.3 -3.0**
DL2 SCS ScS 02 40 47.6 -1.7
DL2 AMB AMB
comp=Z,370nm,1.1s
DL2 AMB AMB
comp=Z,3μm,4.4s
SEY Seymchan 19.42 8 *i* P **P** **02 29 23.8 -3.2**
SEY pmax pmax
comp=N,300nm,1.2s
SEY pmax pmax
comp=Z,600nm,1.2s
SEY pmax pmax
comp=E,160nm,1.4s
SEY MLR MLR
comp=Z,18μm,17.0s
SEY MLR MLR
comp=N,10μm,15.0s
SMY Shemya 20.43 55 *e*P **P** **02 29 38.1 +0.5**
SMY Shemya 20.43 55⇓*i*P **P** **02 29 37.9 +0.3**
SMY *e* 02 30 08.2
YAK Yakutsk 20.62 338⇑P **P** **02 29 35.3 -4.2**
YAK Yakutsk 20.62 338*c i*P **P** **02 29 34.6 -4.9**
YAK *i* *PP 02 30 01.0
YAK *e*S **S** **02 33 17.7 -1.3**
YAK *e**SS 02 34 01.2
YAK *i* 02 40 50.3
YAK pmax pmax
comp=Z,197nm,0.9s
YAK pmax pmax
comp=N,177nm,1.2s
YAK pmax pmax
comp=E,135nm,1.1s
YAK smax
comp=E,220nm,1.0s
YAK smax
comp=N,129nm,1.1s
YAK smax
comp=Z,124nm,1.1s
JTK Tokunoshima 21.25 227 P **P** **02 29 47.2 +1.2**
JTK S **S** **02 33 38.2 +7.3**
JOW Kunigami 22.37 226 P **P** **02 29 58.1 +1.1**
comp=Z,114nm,0.9s,mb5.2,baz=95,slow=27,SNR=23
JOW S **S** **02 33 55.0 +3.9**
comp=Z,8.7nm,0.4s,baz=102,slow=29,SNR=7.8
TIA Tai'an 23.48 261⇑P **P** **02 30 08.3 +0.7**
TIA AP 02 30 30.0
TIA XP 02 30 41.0
TIA S **S** **02 34 16.0 +5.7**
TIA XS 02 34 53.0
TIA AMB AMB
comp=Z,776nm,1.0s,mb6.0
TIA AMB AMB
comp=Z,5μm,4.0s
TIA LR LR
comp=N,12μm,10.0s
TIA LR LR
comp=E,14μm,10.0s
SSE Sheshan 23.52 246⇑P **P** **02 30 09.5 +1.5**
SSE AP 02 30 29.6
SSE XP 02 30 43.5
SSE S **S** **02 34 14.3 +3.3**
SSE XS 02 34 51.3
SSE SCS ScS 02 41 10.4 +5.3
SSE AMB AMB
comp=Z,412nm,1.1s,mb5.7
SSE AMB AMB
comp=Z,3μm,8.6s
SSE LR LR
comp=N,10μm,23.1s
SSE LR LR
comp=E,8μm,23.1s
SSE LR LR
comp=Z,3μm,18.3s
BOD Bodaibo 24.38 316⇓*i*P **P** **02 30 12.2 -3.9**
BOD *e* 02 30 46.4
BOD pmax pmax
comp=Z,120nm,1.2s,mb5.1
NJ2 Nanjing 24.49 250 *e*P **P** **02 30 18.5 +1.0**
NJ2 S **S** **02 34 27.0 -0.5**
NJ2 AMB AMB
comp=Z,270nm,0.6s,mb5.8
NJ2 AMB AMB
comp=Z,3μm,7.4s
NJ2 LR LR
comp=N,19μm,20.2s
NJ2 LR LR
comp=E,14μm,20.3s
NJ2 LR LR
comp=Z,3μm,13.4s
HHC Hu-ho-hao-te 25.68 275⇑*i*P **P** **02 30 29.3 +0.7**
HHC AP pP 02 30 50.5 -0.4
HHC XP sP 02 31 02.4 -0.8
HHC PP PP 02 31 12.6 +0.4
HHC PCP PcP 02 33 58.8 +1.7
HHC S **S** **02 34 49.3 +2.0**
HHC XS 02 35 24.9
HHC SS SS 02 35 58.6 -1.0
HHC SCP 02 37 27.8
HHC PCS 02 37 37.8
HHC AMB AMB
comp=Z,841nm,1.1s,mb6.1
HHC AMB AMB
comp=Z,10μm,4.3s
HHC LR LR
comp=N,3μm,13.9s
HHC LR LR
comp=E,3μm,14.9s
HHC LR LR
comp=Z,6μm,21.8s
TIY Taiyuan 26.20 268⇑P **P** **02 30 30.0 -3.4**
TIY S **S** **02 35 02.0 +6.2**
TIY AMB AMB
comp=Z,8μm,6.0s
TIY LR LR
comp=N,3μm,10.0s
TIY LR LR
comp=Z,2μm,6.2s
GSTR Great Sitkin T 26.29 58 *e*P **P** **02 30 33.1 -1.0**
BILL Bilibino 26.42 17⇑*i*P **P** **02 30 31.3 -3.9**
BILL Bilibino 26.42 17*c e*P **P** **02 30 31.2 -4.0**
BILL *e**PP pP 02 30 48.7 -8.8
BILL pmax pmax
comp=Z,106nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,3μm,15.0s
SONM Songino Array 27.81 292 P **P** **02 30 48.1 0.0**
comp=Z,837nm,1.0s,mb6.2,baz=83,slow=7.4,SNR=1114
SONM LR LR 02 42 48.1
comp=Z,8μm,18.2s,baz=87,slow=38
YHNB Yeheng 27.92 235 P **P** **02 30 47.5 -1.7**
NACB Ninganchiao 28.17 234 P **P** **02 30 48.7 -2.8**
IRK Irkutsk 28.91 302 *e*P **P** **02 30 55.2 -2.7**
IRK *e* pP 02 31 16.6 -4.0
IRK pmax pmax
comp=Z,212nm,3.0s
TIXI Tiksi 29.10 349⇑*i*P **P** **02 30 56.3 -3.0**
TIXI Tiksi 29.10 349⇑*i*P **P** **02 30 53.5 -5.8**
TIXI *e* 02 31 50.5
TIXI pmax pmax
comp=Z,12nm,0.7s
QZH Quanzhou 29.40 239⇑*i*P **P** **02 31 02.8 +0.3**
QZH AP pP 02 31 26.3 +1.0
QZH S **S** **02 35 46.9 -0.5**
QZH AMB AMB
comp=Z,910nm,1.4s,mb6.2
QZH LR LR
comp=N,3μm,14.0s
QZH LR LR
comp=E,9μm,17.9s
QZH LR LR
comp=Z,3μm,16.0s
ZAK Zakamensk 29.60 298⇑*e*P **P** **02 31 02.8 -1.2**
ZAK *e* pP 02 31 30.1 +3.2
ZAK *e* 02 34 03.1
ZAK *e* 02 41 28.1
ZAK pmax pmax
comp=Z,54nm,1.1s,mb5.1
GUMO Guam 30.21 183 LR LR 02 42 39.8
comp=Z,2μm,19.1s,baz=1.5,slow=35
XAN Xi'an 30.41 264 P **P** **02 31 10.5 -0.9**
XAN S **S** **02 35 59.5 -3.7**
XAN AMB AMB
comp=Z,243nm,1.0s,mb5.8
XAN AMB AMB
comp=Z,2μm,13.1s
XAN LR LR
comp=N,2μm,27.6s
XAN LR LR
comp=E,3μm,34.0s
XAN LR LR
comp=Z,6μm,36.9s
MOY Mondy 30.96 301 *e*P **P** **02 31 14.3 -1.7**
MOY pmax pmax
comp=Z,405nm,3.3s
ENH Enshi 32.04 257⇑*i*P **P** **02 31 24.6 -1.0**
comp=Z,250nm,0.9s,mb5.9
LZH Lanzhou 33.11 271⇑P **P** **02 31 35.8 +1.0**
LZH AP pP 02 31 57.1 -1.0
LZH XP sP 02 32 09.0 -1.3
LZH PP PP 02 32 48.5 -0.2
LZH PPP PPP 02 33 06.0 +0.4
LZH PCP PcP 02 34 17.5 +1.6
LZH S **S** **02 36 43.3 -2.0**
LZH XS 02 37 22.4
LZH SCP 02 37 52.0
LZH PCS 02 38 02.5
LZH SS SS 02 38 50.3 -2.4
LZH SCS ScS 02 41 50.8 +2.2
LZH AMB AMB
comp=Z,8μm,4.0s
LZH LR LR
comp=N,7μm,9.4s
LZH LR LR
comp=Z,4μm,12.8s
CVP Callao Caves 33.24 226 *e*P **P** **02 31 36.0 -0.1**
CVP Callao Caves 33.24 226 *e*P **P** **02 31 36.0 -0.1**
HKC Hong Kong 34.09 241⇑*i*P **P** **02 31 44.0 +0.6**
GTA Gaotai 34.62 279⇑P **P** **02 31 48.4 +0.7**
GTA AP pP 02 32 08.8 -2.4
GTA XP sP 02 32 19.0 -4.4
GTA PP PP 02 33 09.5 +2.1
GTA PCP PcP 02 34 20.8 +0.6
GTA S **S** **02 37 09.0 +0.4**
GTA XS 02 37 51.6
GTA SCP 02 37 55.0
GTA PCS 02 38 06.9
GTA SCS ScS 02 41 58.3 +1.8
GTA AMB AMB
comp=Z,170nm,1.5s,mb5.7
GTA AMB AMB
comp=Z,3μm,4.6s
GTA LR LR
comp=N,4μm,12.6s
GTA LR LR
comp=E,4μm,11.4s
GTA LR LR
comp=Z,3μm,12.2s
SDPT Sand Point 35.52 52 *e*P **P** **02 31 53.8 -1.4**
CD2 Chengdu 35.76 263⇑*i*P **P** **02 31 57.6 +0.1**
CD2 AP pP 02 32 20.8 -0.3
CD2 S **S** **02 37 23.9 -2.4**
CD2 XS 02 38 02.1
CD2 AMB AMB
comp=Z,210nm,0.7s,mb6.2
CD2 AMB AMB
comp=Z,1μm,4.4s
CD2 LR LR
comp=N,2μm,12.6s
CD2 LR LR
comp=Z,2μm,28.2s
GYA Guiyang 36.31 255⇑*i*P **P** **02 32 01.6 -0.6**
GYA AP pP 02 32 26.8 +1.0
GYA XP sP 02 32 39.8 +1.8
GYA PP PP 02 33 26.3 -1.8
GYA PCP PcP 02 34 27.3 +2.0
GYA S **S** **02 37 30.5 -4.3**
GYA SCP 02 38 01.9
GYA PCS 02 38 13.6
GYA SCS ScS 02 42 05.5 -0.4
GYA AMB AMB
comp=Z,240nm,1.0s,mb6.1
GYA AMB AMB
comp=Z,870nm,5.7s
GYA LR LR
comp=N,2μm,14.7s
GYA LR LR
comp=E,3μm,15.3s
GYA LR LR
comp=Z,2μm,16.0s
CHGN Chignik 36.62 50 *e*P **P** **02 32 02.8 -1.7**
TTA Tatalina 37.75 39 *e*P **P** **02 32 14.2 +0.4**
SVW2 Sparrevohn 37.91 42 *e*P **P** **02 32 16.1 +0.9**
SCPH Surigao 38.45 214⇓*e*P **P** **02 32 20.7 +0.5**
QIZ Qiongzhong 39.24 243 P **P** **02 32 27.6 +1.0**
QIZ AP pP 02 32 52.5 +2.1
QIZ XP sP 02 33 02.9 +0.4
QIZ S **S** **02 38 20.8 +1.6**
QIZ XS 02 39 01.8
QIZ AMB AMB
comp=Z,51nm,1.5s,mb5.1
QIZ AMB AMB
comp=Z,570nm,6.3s
QIZ LR LR
comp=N,2μm,15.1s
QIZ LR LR
comp=E,3μm,16.1s
QIZ LR LR
comp=Z,2μm,18.7s
QIZ Qiongzhong 39.24 243 *e*P **P** **02 32 27.8 +1.2**
comp=Z,55nm,1.0s,mb5.3
SPU Mount Spurr 39.62 42 *e*P **P** **02 32 30.1 +0.7**
KDAK Kodiak Island 39.65 47 P **P** **02 32 29.2 -0.4**
comp=Z,529nm,0.9s,mb6.4,baz=295,slow=4.2,SNR=190
KDAK S **S** **02 38 20.9 -4.1**
comp=Z,44nm,1.0s,baz=7.4,slow=23,SNR=9.9
KDAK Kodiak Island 39.65 47 *e*P **P** **02 32 29.5 -0.1**
KMI Kunming 39.90 257 P **P** **02 32 32.8 +0.7**
KMI AP pP 02 32 56.8 +0.9
KMI XP sP 02 33 08.6 +0.7
KMI PP PP 02 34 06.3 -2.8
KMI PPP PPP 02 34 36.8 +0.6
KMI S **S** **02 38 27.3 -1.7**
KMI XS 02 39 08.8
KMI SS SS 02 41 19.4 -4.4
KMI SSS SSS 02 41 58.3 -5.8
KMI SCS ScS 02 42 28.4 +2.0
KMI AMB AMB
comp=Z,360nm,1.2s,mb6.1
KMI AMB AMB
comp=Z,2μm,4.7s
KMI LR LR
comp=N,2μm,14.6s
KMI LR LR
comp=E,1μm,14.8s
KMI LR LR
comp=Z,2μm,15.3s
ZAL Zalesovo 40.40 307 P **P** **02 32 34.3 -1.6**
comp=Z,36nm,0.6s,mb5.4,baz=33,slow=8.8,SNR=108
ZAL PcP PcP 02 34 37.1 -0.6
comp=Z,42nm,0.7s,baz=18,slow=3.9,SNR=7.6
ZAL LR LR 02 49 39.1
comp=Z,4μm,21.9s,baz=31,slow=36
SLKM Skilak Lake 40.57 43 *e*P **P** **02 32 36.6 -0.6**
DAV Davao City (W) 40.89 212 *e*P **P** **02 32 40.0 -0.3**
PMR Palmer 40.99 41 *e*P **P** **02 32 40.0 -0.7**
PMR Palmer 40.99 41 P **P** **02 32 42.1 +1.4**
PMR pmax pmax
comp=Z,460nm,1.2s,mb6.2
NVS Novosibirsk 41.12 308 *i* P **P** **02 32 39.7 -2.0**
NVS *i* *PP pP 02 33 15.6 +10
NVS *i* 02 34 38.8
NVS *i* S **S** **02 38 45.4 -1.4**
NVS *i* SS SS 02 42 31.5 +43
NVS pmax pmax
comp=Z,414nm,1.5s,mb6.0
NVS pmax pmax
comp=N,90nm,1.1s
NVS pmax pmax
comp=E,305nm,1.1s
NVS smax
comp=N,191nm,2.0s
NVS smax
comp=E,147nm,1.7s
WMQ Urumqi 41.43 291⇑*i*P **P** **02 32 45.5 +1.1**
WMQ AP pP 02 33 09.0 +0.7
WMQ XP sP 02 33 21.0 +0.7
WMQ PCP PcP 02 34 43.0 +1.8
WMQ PPP PPP 02 34 59.0 +2.1
WMQ SCP 02 38 22.0
WMQ PCS 02 38 32.0
WMQ S **S** **02 38 53.0 +1.5**
WMQ XS 02 39 31.0
WMQ SCS ScS 02 42 37.0 +1.7
WMQ AMB AMB
comp=Z,1μm,1.2s,mb6.6
WMQ AMB AMB
comp=Z,7μm,4.0s
WMQ LR LR
comp=N,10μm,18.5s
WMQ LR LR
comp=E,6μm,12.9s
WMQ LR LR
comp=Z,10μm,25.4s
ILAR Eielson Array 41.77 36 P **P** **02 32 46.5 -0.4**
comp=Z,387nm,1.0s,mb6.1,baz=254,slow=5.8,SNR=618
ILAR S **S** **02 38 53.6 -2.6**
comp=Z,6.0nm,1.1s,baz=265,slow=11,SNR=4.3
ILAR LR LR 02 50 23.9
comp=Z,912nm,20.2s,baz=103,slow=36
MID Middleton Isla 42.65 44 *e*P **P** **02 32 55.6 +1.5**
MENT Mentasta 43.35 39 *e*P **P** **02 33 00.6 +0.8**
MKAR Makanchi Array 43.94 297 P **P** **02 33 04.8 +0.1**
comp=Z,457nm,0.8s,mb6.2,baz=78,slow=8.7,SNR=944
MKAR PcP PcP 02 34 48.0 -1.5
comp=Z,42nm,0.8s,baz=72,slow=4.6,SNR=2.5
MKAR S **S** **02 39 18.2 -10**
comp=Z,1.8nm,0.8s,baz=298,slow=23,SNR=2.2
MKAR Makanchi Array 43.94 297 P **P** **02 33 04.8 +0.1**
MKAR PcP PcP 02 34 48.0 -1.5
MKAR S **S** **02 39 18.2 -10**
KURK Kurchatov 44.91 304 *e*P **P** **02 33 09.9 -2.6**
comp=Z,643nm,1.3s,mb6.2
KURK Kurchatov 44.91 304 P **P** **02 33 11.2 -1.3**
KURK pmax pmax
comp=Z,431nm,1.3s,mb6.0
DAWY Dawson 45.09 37 *e*P **P** **02 33 13.3 -0.5**
CHRT Chiangrai 45.39 253⇑P **P** **02 33 12.5 -4.2**
comp=Z,2μm,1.1s,mb6.7
NANT Nan 45.48 251⇑P **P** **02 33 18.0 +0.5**
comp=Z,1μm,0.4s,mb7.0
LSA Lhasa 45.52 271 P **P** **02 33 19.0 +1.3**
LSA PP PP 02 35 06.9 +0.6
LSA S **S** **02 39 53.5 +2.4**
LSA AMB AMB
comp=Z,590nm,1.0s,mb6.3
LSA AMB AMB
comp=Z,2μm,11.9s
LSA LR LR
comp=N,2μm,22.4s
LSA LR LR
comp=Z,4μm,38.9s
LSA Lhasa 45.52 271⇑*i*P **P** **02 33 19.3 +1.6**
comp=Z,1μm,1.2s,mb6.5
LSA Lhasa 45.52 271⇑*i*P **P** **02 33 19.3 +1.6**
LSA pmax pmax
comp=Z,1μm,1.2s,mb6.5
KKTK Khon Kaen 45.78 247⇑P **P** **02 33 19.0 -0.8**
comp=Z,2μm,0.8s,mb6.9
IMP Imphal 46.38 263 *e*P **P** **02 33 23.0 -1.5**
INK Inuvik 46.62 30 P **P** **02 33 24.8 -1.1**
comp=Z,102nm,0.8s,mb5.6,baz=301,slow=6.7,SNR=229
INK S **S** **02 40 02.7 -3.5**
comp=Z,6.1nm,0.9s,baz=54,slow=32,SNR=8.7
INK LR LR 02 54 50.0
comp=Z,1μm,21.3s,baz=279,slow=38
INK Inuvik 46.62 30 *e*P **P** **02 33 24.5 -1.3**
comp=Z,368nm,1.3s,mb6.0
INK *e*S **S** **02 40 04.2 -2.0**
INK Inuvik 46.62 30 *e*P **P** **02 33 24.5 -1.3**
INK *e*S **S** **02 40 04.2 -2.0**
INK pmax pmax
comp=Z,367nm,1.3s
CHG Chiang Mai 46.69 253⇑P **P** **02 33 27.5 +0.5**
comp=Z,150nm,1.2s,mb5.6
TSM Tawau 46.69 221 P **P** **02 33 27.5 +0.4**
NST Nakhon Sawan 48.05 249⇓P **P** **02 33 38.3 +0.6**
comp=Z,140nm,1.2s,mb5.7
VOSK Vostochnaya 48.68 308 *i* P **P** **02 33 40.4 -1.6**
VOSK Vostochnaya 48.68 308 P **P** **02 33 40.3 -1.7**
VOSK pmax pmax
comp=Z,961nm,1.9s,mb6.4
SIT Sitka 48.88 45 *e*P **P** **02 33 44.6 +1.1**
BVA0 Borovoye Array 48.91 309 P **P** **02 33 42.3 -1.5**
BVA0 pmax pmax
comp=Z,199nm,2.1s,mb5.7
BVAR Borovoye Array 48.91 309 P **P** **02 33 42.4 -1.4**
comp=Z,32nm,0.4s,mb5.6,baz=79,slow=7.6,SNR=275
BVAR pP pP 02 34 08.0 -0.1
comp=Z,35nm,0.6s,baz=79,slow=4.9,SNR=3.8
BVAR PcP PcP 02 35 06.6 -0.3
comp=Z,20nm,0.4s,baz=91,slow=3.9,SNR=5.1
BVAR S **S** **02 40 36.2 -2.2**
comp=Z,9.0nm,1.0s,baz=90,slow=8.6,SNR=4.1
BVA2 Borovoye Array 48.91 309 P **P** **02 33 43.5 -0.3**

BVA2 pmax pmax
comp=Z,61nm,1.2s,mb5.4
BRVK Borovoye 48.95 309⇑ eP P 02 33 42.6 -1.5
comp=Z,396nm,1.4s,mb6.2
BRVK Borovoye 48.95 309⇑ eP P 02 33 42.6 -1.5
BRVK pmax pmax
comp=Z,396nm,1.4s,mb6.2
ULHL Ulahol 49.73 294 P **P 02 33 51.0 +0.7**
SNR=456
TKM2 Tokmak 2 49.85 295 P **P 02 33 51.9 +0.7**
SNR=1008
CHMS Chumysh 50.37 295 P **P 02 33 55.3 +0.1**
SNR=138
KBK Karagaybulak 50.40 295 P **P 02 33 55.9 +0.5**
SNR=377
USP Ospenovka 50.41 296 P **P 02 33 55.7 +0.3**
SNR=33
KZA Kyzart 50.46 294 P **P 02 33 57.4 +1.5**
SNR=561
FRU Bishkek 50.53 295⇑ *iP* **P 02 33 55.0 -1.4**
FRU *e* 02 34 32.0
FRU *eS* **S 02 41 02.0 +0.9**
FRU *e* 02 43 36.0
FRU pmax pmax
comp=Z,1μm,1.8s,mb6.7
FRU pmax pmax
comp=Z,6μm,4.0s
FRU smax
comp=E,3μm,6.0s
NNT Nongplab 50.54 247 P **P 02 33 56.0 -0.8**
CRAG Craig 50.60 47 *eP* **P 02 33 58.2 +1.5**
AAK Ala-Archa 50.70 295 P **P 02 33 58.0 +0.3**
SNR=434
AAK Ala-Archa 50.70 295⇑ *iP* **P 02 33 56.2 -1.4**
comp=E,758nm,1.1s,mb6.6
AAK Ala-Archa 50.70 295 P **P 02 33 57.9 +0.2**
AAK pmax pmax
comp=Z,1μm,1.4s,mb6.8
KKN Kakani 50.85 273⇑ *iP* **P 02 33 59.1 +0.1**
comp=Z,3μm,1.2s
KKN Kakani 50.85 273⇑ *iP* **P 02 33 59.1 +0.1**
KKN pmax pmax
comp=Z,1μm,1.2s,mb6.8
UCH Uchtor 50.88 295 P **P 02 33 59.9 +0.9**
SNR=262
PKI Pulchoki 50.88 273⇑ *iP* **P 02 33 59.2 0.0**
comp=Z,2μm,1.2s
KIP Kipapa 50.95 97⇑ *eP* **P 02 33 59.0 -0.8**
DLBC Dease Lake 51.03 42 *eP* **P 02 34 00.9 +1.0**
DMN Daman 51.08 273⇑ *iP* **P 02 34 00.9 +0.2**
comp=Z,3μm,1.3s
EKS2 Erkin-Say 51.16 295 P **P 02 34 01.4 +0.3**
SNR=60
GKN Gorkha 51.19 273⇑ *iP* **P 02 34 01.5 -0.1**
comp=Z,2μm,1.2s
KSH Kashi 51.20 291⇑ *iP* **P 02 34 02.8 +1.4**
KSH AP pP 02 34 26.1 +0.1
KSH XP sP 02 34 37.3 0.0
KSH PCP PcP 02 35 16.8 +1.3
KSH PP PP 02 35 59.4 -0.4
KSH PPP PPP 02 36 59.8 -3.0
KSH SCP 02 39 01.3
KSH PCS 02 39 14.8
KSH S **S 02 41 11.5 +1.2**
KSH SCS ScS 02 43 40.4 +2.1
KSH SS SS 02 44 41.6 -3.2
KSH AMB AMB
comp=Z,7μm,3.6s
KSH LR LR
comp=N,5μm,11.9s
KSH LR LR
comp=E,6μm,9.8s
AML Almayashu 51.46 295 P **P 02 34 04.4 +1.0**
SNR=473
CAL Calcutta 51.80 265 *eP* **P 02 34 05.8 -0.4**
CAL *ex* x 02 41 23.9
KOLN Koldanda 52.07 274⇑ *iP* **P 02 34 08.4 +0.2**
comp=E,3μm,1.4s
BOK Bokaro 52.78 268 *eP* **P 02 34 13.1 -0.5**
BOK AMb AMB 02 34 15.0
comp=Z,398nm,1.3s,mb6.3
KSM Kuching 52.91 227 *eP* **P 02 34 14.6 0.0**
PMG Port Moresby 53.04 179 P **P 02 34 13.9 -1.7**
comp=Z,52nm,0.8s,mb5.6,baz=52,slow=5.7,SNR=9.0
PMG Port Moresby 53.04 179 *dP* **P 02 34 14.7 -0.9**
KKAR Karatay Array 53.06 297 *i* P **P 02 34 14.7 -0.7**
SOKR Solikamsk 53.26 321 *c iP* **P 02 34 13.8 -2.8**
SOKR 02 36 19.4
SOKR SS SS 02 45 22.7 +4.2
SOKR pmax pmax
comp=Z,320nm,1.3s,mb6.2
SOKR MLR MLR
comp=Z,2μm,16.0s
PTH Pithoragarh 53.48 278 *eP* **P 02 34 18.0 -0.7**
PTH *ex* x 02 41 39.0
ARU Arti 53.80 317⇑ *iP* **P 02 34 18.3 -2.3**
comp=Z,155nm,0.6s,mb6.2
ARU Arti 53.80 317⇑ *iP* **P 02 34 18.6 -1.9**
ARU *e* 02 35 21.9
ARU *e* 02 36 18.5
ARU *e*PPP PPP 02 37 28.6 -6.7
ARU *e*S **S 02 41 42.2 -3.2**
ARU *e* 02 43 52.4
ARU *e*SSS SSS 02 47 30.9 +4.8
ARU pmax pmax
comp=Z,186nm,0.9s,mb6.1
ARU MLR MLR
comp=E,1μm,17.0s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU MLR MLR
comp=N,1μm,16.0s
SNG Songkhla 54.01 241 P **P 02 34 23.0 +0.3**
comp=N,400nm,0.9s,mb6.5
KAPI Kappang 54.21 213 P **P 02 34 21.1 -3.0**
HNR Honiara 54.50 163 P **P 02 34 26.0 -0.2**
comp=N,207nm,0.8s,mb6.2,baz=200,slow=4.4,SNR=6.3
HNR LR LR 02 56 16.0
comp=N,2μm,20.4s,baz=338,slow=34
KBS Kingsbay 54.54 350 *eP* **P 02 34 24.3 -1.5**
KBS *i* 02 37 53.6
KBS *eS* **S 02 41 57.1 +1.9**
KBS AMS AMS 02 48 07.0
comp=Z,654nm,20.9s
KBS Kingsbay 54.54 350 *eP* **P 02 34 24.3 -1.5**
KBS LR LR
comp=Z,654μm,20.9s
RES Resolute Bay 55.03 16 *eP* **P 02 34 27.3 -2.0**
comp=Z,1μm,1.4s,mb6.8
RES Resolute Bay 55.03 16 P **P 02 34 27.7 -1.6**
RES pmax pmax
comp=Z,1μm,1.3s,mb6.8
KULM Kulim 55.45 240⇑ *iP* **P 02 34 33.0 -0.2**
KULM *ep*P pP 02 34 56.1 -2.0
IPM Ipoh 55.76 239 P **P 02 34 35.6 +0.2**
YKW3 Yellowknife Ar 56.02 33⇑ *iP* **P 02 34 35.3 -1.3**
YKW3 *ep*P pP 02 34 59.7 -1.9
YKA Yellowknife Ar 56.06 34 P **P 02 34 35.9 -1.0**
comp=Z,89nm,0.8s,mb5.8,baz=300,slow=6.8,SNR=262
YKA pP pP 02 35 01.5 -0.3
comp=Z,78nm,0.9s,baz=296,slow=6.0,SNR=6.9
YKA S **S 02 42 12.9 -2.7**
comp=Z,0.3nm,0.6s,baz=46,slow=32,SNR=2.4
NDI New Delhi 56.13 279 *eP* **P 02 34 36.5 -1.3**
NDI *ex* x 02 42 14.0
KGM Kluang 56.40 235 P **P 02 34 41.0 +1.0**
AB31 Akbulak array 56.46 308 *i* P **P 02 34 38.6 -1.3**
AB31 pmax pmax
comp=Z,91nm,0.6s,mb6.0
BLSP Bilaspur 56.53 269 *eP* **P 02 34 38.8 -1.9**
BLSP AMb AMB 02 34 40.7
comp=Z,214nm,0.8s,mb6.2
BLSP *ex* x 02 34 40.8
LVZ Lovozero 57.40 335 *c iP* **P 02 34 46.6 +0.3**
LVZ *i* 02 37 00.0
LVZ *i* PPP PPP 02 38 19.7 +1.8
LVZ *i* S **S 02 42 35.0 +1.8**
LVZ *i* SS SS 02 46 28.0 +2.3
LVZ pmax pmax
comp=Z,49nm,1.1s,mb5.5
LVZ pmax pmax
comp=N,24nm,1.3s
LVZ pmax pmax
comp=E,30nm,1.2s
LVZ smax
comp=N,619nm,3.5s
LVZ smax
comp=Z,460nm,3.0s
LVZ smax
comp=E,846nm,4.8s
LVZ smax
comp=N,627nm,11.9s
LVZ smax
comp=Z,499nm,11.9s
LVZ smax
comp=E,1μm,14.4s
LVZ MLR MLR
comp=Z,815nm,14.0s
LVZ MLR MLR
comp=N,1μm,16.0s
LVZ MLR MLR
comp=E,1μm,20.0s
KAKA Kakadu 57.71 196⇓ *iP* **P 02 35 06.4 +17**
comp=E,397nm,1.2s,mb6.3
APA Apatity 57.98 335⇑ *iP* **P 02 34 47.6 -2.7**
APA *i* *PP pP 02 35 12.8 -2.7
APA *e* 02 38 20.0
APA *i* S **S 02 42 45.0 +4.3**
APA pmax pmax
comp=Z,220nm,1.2s,mb6.1
APA pmax pmax
comp=Z,2μm,3.0s
KEV Kevo 58.35 339 *ep* **P 02 34 50.1 -2.8**
comp=Z,77nm,0.7s,mb5.8
KEV Kevo 58.35 339 *eP* **P 02 34 50.1 -2.8**
KEV pmax pmax
comp=Z,77nm,0.7s,mb5.8
ARCES ARCESS Array B 58.89 339 P **P 02 34 54.1 -2.5**
comp=Z,25nm,0.4s,mb5.6,baz=41,slow=6.1,SNR=105
ARCES PcP PcP 02 35 44.4 -0.2
comp=Z,7.0nm,0.4s,baz=53,slow=4.5,SNR=2.8
ARCES LR LR 03 06 11.1
comp=Z,2μm,19.7s,baz=44,slow=42
ARE0 ARCESS Array S 58.89 339 *eP* **P 02 34 54.7 -1.9**
PGC Sidney 59.05 51 *eP* **P 02 34 56.8 -1.1**
comp=Z,421nm,1.1s,mb6.4
BHPL Bhopal 59.24 274 *eP* **P 02 34 58.2 -1.5**
BHPL AMb AMB 02 35 01.2
comp=Z,633nm,1.1s,mb6.6
DAG Danmarks Havn 59.24 356⇓ *iP* **P 02 34 55.7 -3.3**
comp=Z,297nm,1.5s,mb6.1
comp=Z,2μm,17.0s
DAG Danmarks Havn 59.24 356⇓ *eP* **P 02 34 55.7 -3.3**
comp=Z,297nm,1.5s,mb6.1
DAG LR LR
comp=Z,2μm,17.0s
DAG Danmarks Havn 59.24 356⇓ *eP* **P 02 34 55.7 -3.3**
DAG pmax pmax
comp=Z,297nm,1.5s,mb6.1
DAG MLR MLR
comp=Z,2μm,17.0s
AJM Ajmer 59.27 278 *i* P **P 02 34 59.0 -0.8**
KTK1 Kautokeino 59.84 340⇓ *iP* **P 02 35 01.2 -1.9**
KTK1 AMb AMB 02 35 06.2
comp=Z,185nm,2.3s,mb5.7
KTK1 Kautokeino 59.84 340⇓ *iP* **P 02 35 01.2 -1.9**
comp=Z,185nm,2.3s,mb5.7
TRO Tromso 60.42 341 *eP* **P 02 35 04.0 -3.1**
TRO *eS* **S 02 43 13.3 +1.0**
TRO AMS AMS 03 09 06.0
comp=Z,1μm,17.6s
TRO Tromso 60.42 341 *eP* **P 02 35 04.0 -3.1**
TRO LR LR
comp=Z,1281μm,17.6s
PECR Pechory 60.74 321⇓ *iP* **P 02 35 08.0 -1.4**
PECR *e* 02 35 41.6
PECR *e**PP PcP 02 35 52.0 -0.1
PECR *e*PPP PPP 02 38 57.0 +2.2
PECR *eS* **S 02 43 12.6 -3.9**
PECR *e**SS 02 44 44.0
PECR pmax pmax
comp=Z,4μm,6.4s
PECR pmax pmax
comp=N,2μm,6.0s
PECR pmax pmax
comp=E,2μm,6.0s
PECR smax
comp=N,2μm,9.0s
PECR smax
comp=E,1μm,10.0s
AKL Akola 61.12 272 *ex* **P 02 35 07.5 -5.0**
AKL *ex* **S 02 43 18.0 -3.8**
TWW Teanaway 61.33 51 P **P 02 35 14.1 +0.6**
TBM Table Mountain 61.46 51 P **P 02 35 14.2 -0.3**
JOF Joensuu 61.66 332 *ep* **P 02 35 13.3 -2.3**
JASL Jaisalmer 61.67 281 *eP* **P 02 35 15.7 -0.4**
JASL AMb AMB 02 35 16.7
KEBM Edson Butte 61.74 57 *eP* **P 02 35 15.5 -0.9**
EDM Edmonton 61.75 42 *eP* **P 02 35 15.6 -0.7**
EDM Edmonton 61.75 42 P **P 02 35 16.0 -0.3**
EPH Ephrata 61.92 50 P **P 02 35 16.8 -0.7**
HYB Hyderabad 62.12 268⇑ *iP* **P 02 35 17.0 -2.2**
comp=E,360nm,1.0s,mb6.4
HYB *ep*P pP 02 35 44.0 -0.7
HYB *es*P sP 02 35 56.0 -0.1
HYB *e*PcP PcP 02 35 58.0 -0.2
HYB *e*PP PP 02 37 40.0 +0.8
HYB *e* 02 38 12.0
HYB *eS* **S 02 43 32.0 -2.4**
HYB *es*S 02 44 20.0
HYB *e* 02 44 40.0
HYB *e*ScS ScS 02 44 58.0 +0.6
HYB *e*SS SS 02 47 50.0 +9.3
HYB Hyderabad 62.12 268⇑ *eP* **P 02 35 17.0 -2.2**
comp=E,360nm,1.0s,mb6.4
HYB *eS* **S 02 43 32.0 -2.4**
HYB Hyderabad 62.12 268⇑ *eP* **P 02 35 17.0 -2.2**
HYB *eS* **S 02 43 32.0 -2.4**
HYB pmax pmax
comp=Z,360nm,1.0s,mb6.4
KBO Bosley Butte 62.18 57 *eP* **P 02 35 19.8 +0.5**
OD2 Odessa Site #2 62.39 50 P **P 02 35 19.9 -0.7**
WRD Warden 62.49 51 P **P 02 35 20.5 -0.8**
BBOR Butler Butte 62.72 56 P **P 02 35 23.1 +0.2**
NEW Newport 62.74 48⇓ *iP* **P 02 35 22.4 -0.6**
comp=Z,390nm,1.2s,mb6.2
NEW Newport 62.74 48⇓ *iP* **P 02 35 22.4 -0.6**
NEW pmax pmax
comp=Z,389nm,1.2s
KRMB Red Mountain 62.77 58 *eP* **P 02 35 23.8 +0.5**
LOF Lofoten 62.82 342 *eP* **P 02 35 51.2 +2.4**
LOF AMb AMB 02 35 55.7
comp=Z,239nm,1.4s,mb6.0
LATR Latur 62.91 270 *eP* **P 02 35 23.8 -0.7**
KHMM Horse Mountain 63.26 58 *eP* **P 02 35 27.0 +0.4**
BUOR Burton Butte 63.34 56 P **P 02 35 27.1 +0.1**
CTA Charters Tower 63.65 180⇓ *iP* **P 02 35 27.6 -1.8**
comp=Z,44nm,0.8s,mb5.3
CTA Charters Tower 63.65 180 P **P 02 35 27.6 -1.8**
comp=Z,66nm,0.9s,mb5.5,baz=353,slow=8.5,SNR=41
CTA pP pP 02 35 53.5 -1.5
comp=Z,16nm,0.9s,baz=25,slow=13,SNR=2.3
CTA Charters Tower 63.65 180⇓ *iP* **P 02 35 27.6 -1.8**
CTA pmax pmax
comp=Z,44nm,0.8s
CTAO Charters Tower 63.65 180 P **P 02 35 27.5 -1.9**
VAN Vannovskaya 63.79 298⇑ *iP* **P 02 35 30.0 0.0**
VAN S **S 02 43 58.0 +3.0**
SUMG Summit 63.80 2⇑ *eP* **P 02 35 27.7 -1.8**
comp=Z,1μm,1.4s,mb6.6
SUMG *ep*P pP 02 35 51.4 -3.7
MELSS Ber_school_2 63.80 341 *eP* **P 02 35 28.2 -1.4**
KAF Kangasniemi 63.90 333 *ep* **P 02 35 28.1 -2.1**
comp=Z,2μm,2.6s,mb6.4,baz=40,slow=6.3
KAF Kangasniemi 63.90 333 *eP* **P 02 35 28.1 -2.1**
KAF pmax pmax
comp=Z,2μm,2.6s,mb6.4
MOS Moscow 63.95 323 *α iP* **P 02 35 29.0 -1.7**
MOS *eS* **S 02 43 52.9 -3.8**
MOS *e* 02 45 10.2
MOS *eSS* SS 02 48 07.2 -1.3
MOS pmax pmax
comp=Z,5μm,2.8s,mb6.8
MOS pmax pmax
comp=N,3μm,3.8s
MOS pmax pmax
comp=E,1μm,4.0s
MOS pmax pmax
comp=Z,1μm,2.2s,mb6.4
MOS smax
comp=N,3μm,5.0s
MOS smax
comp=E,500nm,3.8s
MOS MLR MLR
comp=Z,2μm,14.0s
KIPM Iron Peak 64.04 59 *eP* **P 02 35 31.7 +0.1**
KCPM Cahto Peak 64.05 59 *eP* **P 02 35 31.8 +0.1**
PUL Pulkovo 64.16 330⇑ *iP* **P 02 35 30.8 -1.2**
PUL Pulkovo 64.16 330 *c iP* **P 02 35 31.8 -0.2**
PUL *i* S **S 02 43 57.3 -1.9**
PUL *i* SS SS 02 48 12.0 +0.3
PUL pmax pmax
comp=Z,245nm,0.7s,mb6.1
PUL pmax pmax
comp=N,321nm,1.1s
PUL pmax pmax
comp=E,283nm,0.9s
PUL pmax pmax
comp=Z,2μm,2.2s,mb6.6
PUL pmax pmax
comp=N,1μm,1.9s
PUL pmax pmax
comp=E,2μm,2.3s
PUL smax
comp=N,357nm,7.1s
PUL smax
comp=Z,265nm,6.8s
PUL smax
comp=E,871nm,10.8s
PUL MLR MLR
comp=E,2μm,22.0s
MOR8 Moi Rana 64.19 340 *eP* **P 02 35 29.2 -2.8**
MOR8 AMb AMB 02 35 33.8
comp=Z,442nm,1.1s,mb6.2
MOR8 Moi Rana 64.19 340 *eP* **P 02 35 29.2 -2.8**
comp=Z,442nm,1.1s,mb6.2
STOK Stokkvaagen 64.40 341 *eP* **P 02 35 31.9 -1.5**
STOK AMb AMB 02 35 36.2
comp=Z,491nm,1.3s,mb6.2
STOK Stokkvaagen 64.40 341 *eP* **P 02 35 31.9 -1.5**
comp=Z,491nm,1.3s,mb6.2
WRAB Tennant Creek 64.43 192⇓ *eP* **P 02 35 32.2 -2.2**
comp=Z,398nm,1.0s,mb6.2
WRAB *ep*P pP 02 36 08.6 +8.6
WRAB Tennant Creek 64.43 192⇓ *eP* **P 02 35 32.2 -2.2**
WRAB *e**PP pP 02 36 08.6 +8.6
WRAB pmax pmax
comp=Z,398nm,1.0s,mb6.2
WB2 Warramunga Arr 64.44 192⇓ *iP* **P 02 35 32.3 -2.2**
WB2 *e* 02 36 09.1
WB2 *i* S **S 02 43 56.7 -6.6**
WB2 *i* 02 44 41.4
WRA Warramunga Arr 64.44 192 P **P 02 35 32.4 -2.1**
comp=Z,173nm,1.0s,mb5.8,baz=12,slow=6.8,SNR=352
WRA pP pP 02 35 59.3 -0.8
comp=Z,29nm,0.8s,baz=7.9,slow=6.8,SNR=2.3
WRA PKPPKP 03 04 20.9
comp=Z,2.2nm,1.1s,baz=196,slow=2.1,SNR=5.0
FINES FINESS Array B 64.45 333 P **P 02 35 31.8 -2.1**
comp=Z,66nm,0.5s,mb5.8,baz=44,slow=7.3,SNR=538
FINES pP pP 02 35 58.4 -1.1
comp=Z,30nm,0.7s,baz=45,slow=8.1,SNR=2.4
FINES LR LR 03 08 47.4
comp=Z,2μm,18.1s,baz=50,slow=41
FINES FINESS Array B 64.45 333 P **P 02 35 31.8 -2.1**
FINES pP pP 02 35 58.4 -1.1
FINES LR LR 03 08 47.4
FITZ Fitzroy Crossi 64.50 202⇓ *iP* **P 02 35 33.8 -1.1**
comp=Z,207nm,1.0s,mb5.9
FITZ *i* S **S 02 44 02.1 -2.0**
FITZ *i* 02 44 46.1
FITZ Fitzroy Crossi 64.50 202 P **P 02 35 33.9 -1.0**
comp=Z,317nm,1.0s,mb6.1,baz=8.6,slow=7.2,SNR=76
FITZ pP pP 02 36 00.8 +0.2
comp=Z,117nm,1.1s,baz=10,slow=11,SNR=3.1
POO Poona 64.80 272 *eP* **P 02 35 35.5 -1.3**
POO AMb AMB 02 35 37.3
comp=Z,346nm,1.0s,mb6.1
OBN Obninsk 64.81 323 *eP* **P 02 35 34.5 -1.8**
comp=Z,2μm,1.6s,mb6.7
OBN Obninsk 64.81 323 *c iP* **P 02 35 35.2 -1.1**
OBN *e**PP pP 02 36 05.3 +3.3
OBN *e* 02 38 02.6
OBN *i* S **S 02 44 00.8 -6.5**
OBN *eSS* SS 02 48 25.2 +2.9
OBN pmax pmax
comp=Z,1μm,2.0s,mb6.4
OBN MLR MLR
comp=Z,2μm,15.0s
BHUJ Bhuj 64.82 279 *eP* **P 02 35 36.7 -0.2**
BHUJ AMb AMB 02 35 38.3
comp=Z,513nm,1.4s,mb6.2
KAD Karad 65.35 271 *eP* **P 02 35 38.9 -1.4**
KAD AMb AMB 02 35 41.1
comp=E,149nm,1.0s
NSHM Saint Helena R 65.36 60 *eP* **P 02 35 39.8 -0.4**
WVOR Wild Horse Val 65.39 54 *eP* **P 02 35 39.9 -0.4**
comp=E,150nm,1.1s,mb5.7
WVOR Wild Horse Val 65.39 54 *eP* **P 02 35 39.9 -0.3**
WVOR pmax pmax
comp=Z,150nm,1.1s,mb5.7
OHCM Honcut 65.56 58 *eP* **P 02 35 40.5 -0.9**
SCO Scoresbysund 65.63 356 *i* P **P 02 35 39.6 -1.7**
comp=Z,39nm,1.0s,mb5.2
SCO *i* S S 02 44 16.8 -0.2
SCO Scoresbysund 65.63 356 *i* P **P 02 35 39.6 -1.7**
SCO *i* S S 02 44 16.8 -0.2
SCO pmax pmax
comp=Z,39nm,1.0s,mb5.2
CHMT Chamberlain Mo 65.64 48 *eP* **P 02 35 41.2 -0.6**
VOR Voronezh 65.85 319⇑ *iP* **P 02 35 42.4 -0.6**
VOR *eS* S 02 44 19.5 -0.5
VOR pmax pmax
comp=N,400nm,1.3s
VOR pmax pmax
comp=E,870nm,1.3s
VOR pmax pmax
comp=Z,1μm,1.3s,mb6.6
VOR smax
comp=N,150nm,1.5s
VOR smax
comp=E,120nm,1.3s
BEKR Beckwourth 65.92 57 *eP* **P 02 35 43.2 -0.5**
comp=E,230nm,1.0s,mb6.0
FFC Flin Flon 65.99 36 *eP* **P 02 35 43.0 -0.8**
comp=E,500nm,1.3s,mb6.2
FFC Flin Flon 65.99 36 P **P 02 35 43.2 -0.6**
FFC pmax pmax
comp=Z,500nm,1.2s,mb6.2
NSS Namsos 66.13 340 *eP* **P 02 35 42.2 -2.5**
NSS *eS* S 02 44 23.7 +0.4
NSS AMS AMS 03 11 07.2
comp=Z,2μm,29.6s
VRSR Storozhevoye 66.19 319 *eP* **P 02 35 44.3 -0.9**
VRSR *e* pP 02 36 11.5 +0.6
VRSR *e**PP pP 02 36 17.9 +7.0
VRSR *e* 02 38 15.1
VRSR *eS* S 02 44 24.4 +0.2
VRSR *e* 02 45 28.3
VRSR *eSS* SS 02 48 46.3 +3.0
VRSR pmax pmax
comp=Z,410nm,0.9s,mb6.3
VRSR pmax pmax
comp=N,600nm,1.0s
VRSR pmax pmax
comp=E,380nm,1.0s
VRSR smax
comp=N,610nm,5.4s
VRSR smax
comp=Z,440nm,4.0s
VRSR smax
comp=E,310nm,6.3s
SALM Salem 66.20 263 *eP* **P 02 35 43.0 -2.9**
FCC Fort Churchill 66.24 30 *eP* **P 02 35 43.9 -1.4**
comp=E,559nm,1.3s,mb6.2
FCC Fort Churchill 66.24 30 P **P 02 35 44.7 -0.7**
FCC pmax pmax
comp=Z,560nm,1.2s,mb6.3
VORD Divnogorie 66.30 319 *eP* **P 02 35 44.5 -1.4**
VORD pmax pmax
comp=Z,810nm,1.2s,mb6.4
VORD pmax pmax
comp=N,810nm,1.0s
VORD pmax pmax
comp=E,740nm,0.9s
VSU Vasula 66.39 330⇑ *iP* **P 02 35 45.4 -0.9**

HRY **Holter Researc 66.53 47** *eP* **P 02 35 47.3 -0.1**
HRY *e* pP 02 36 14.3 +1.1
PAHR Pah Rah Range 66.61 57 *eP* **P 02 35 47.9 -0.2**
comp=E,97nm,1.0s,mb5.6
DLMT Dillon 66.98 49 *eP* **P 02 35 49.8 -0.5**
MAK Makhachkala 67.14 308 *d iP* **P 02 35 51.0 -0.3**
MAK *i* *PP pP 02 36 14.0 -3.1
MAK *i* *SP sP 02 36 26.0 -2.2
MAK *i* 02 38 19.0
MAK *i* S S 02 44 38.3 +2.5
MAK *i* SP SP 02 45 02.0 +3.3
MAK *i* *SS 02 45 19.0
MAK *i* 02 45 38.3
MAK *eSS SS 02 49 03.0 +4.4
MAK pmax pmax
comp=Z,700nm,1.3s,mb6.3
MAK pmax pmax
comp=Z,6μm,7.0s
MAK smax
comp=N,4μm,10.0s
MAK smax
comp=E,2μm,10.0s
MAK MLR MLR
comp=E,4μm,12.0s
MAK MLR MLR
comp=Z,3μm,12.0s
MCMT McKenzie Canyo 67.18 49 *eP* **P 02 35 51.3 -0.2**
LRV Little Rabbit 67.64 61 *eP* **P 02 35 54.1 -0.4**
QLMT Earthquake Lak 67.95 49 *eP* **P 02 35 56.4 0.0**
MNV Mina 68.16 57 *eP* **P 02 35 57.5 -0.2**
comp=Z,169nm,1.1s,mb5.8
MNV Mina 68.16 57 P **P 02 35 57.7 0.0**
MNV pmax pmax
comp=Z,170nm,1.1s,mb5.8
ASPA Alice Springs 68.16 192 *eP* **P 02 35 57.0 -1.0**
NOUC Port Laguerre 68.19 160 *eP* **P 02 35 58.6 +0.4**
NOUC Port Laguerre 68.19 160 *eP* **P 02 35 58.6 +0.4**
DZM Mont Dzumac 68.20 160 *eP* **P 02 35 57.9 -0.3**
DZM Mont Dzumac 68.20 160 *eP* **P 02 35 57.9 -0.3**
GCMT Greycliff 68.27 47 *eP* **P 02 35 58.5 +0.3**
YMR Madison River 68.31 48 *eP* **P 02 35 59.0 +0.4**
comp=Z,310nm,1.3s,mb6.0
YNR Norris Junctio 68.43 48 *eP* **P 02 36 00.4 +1.1**
YFT Old Faithful 68.52 49 *eP* **P 02 36 01.5 +1.6**
IZAR Zarasai 68.57 328 *eP* **P 02 35 59.0 -0.9**
IZAR AMb AMB 02 36 03.6
comp=Z,145nm,1.6s,mb5.6
IZAR *e*sP sP 02 36 36.9 0.0
MTUM Tungsten Hills 68.59 58 *eP* **P 02 36 00.4 0.0**
PTRM Twissleman Ran 68.63 61 *eP* **P 02 36 01.0 +0.3**
LKWY Lake 68.68 48 *eP* **P 02 36 02.6 +1.8**
comp=Z,174nm,1.2s,mb5.8
LKWY Lake 68.68 48 *eP* **P 02 36 02.6 +1.8**
LKWY pmax pmax
comp=Z,174nm,1.2s,mb5.8
IDID Didziasalis 68.70 328 *eP* **P 02 36 00.0 -0.7**
IDID AMb AMB 02 36 02.2
comp=Z,193nm,1.0s,mb5.9
SFJD Kangerlussuaq 68.70 7⇑ *iP* **P 02 35 59.4 -1.2**
comp=Z,259nm,1.3s,mb5.9
SFJD *i* S S 02 44 49.9 -4.2
SFJD *i* 02 45 46.1
comp=Z,640nm,25.0s
SFJD Kangerlussuaq 68.70 7⇑ *iP* **P 02 35 59.4 -1.2**
SFJD *i* S S 02 44 49.9 -4.2
SFJD *i* 02 45 46.1
SFJD pmax pmax
comp=Z,259nm,1.3s,mb5.9
SFJD MLR MLR
comp=Z,640nm,25.0s
ISAL Salakas 68.75 328 *eP* **P 02 36 00.3 -0.7**
ISAL AMb AMB 02 36 02.5
comp=Z,224nm,1.0s,mb5.9
IMW Indian Meadow 68.83 49⇓ *iP* **P 02 36 02.5 +0.8**
comp=Z,314nm,1.2s,mb6.0
FLWY Flagg Ranch 68.83 49 *eP* **P 02 36 02.9 +1.1**
MOL Molde 68.86 341 *eP* **P 02 36 04.0 +2.4**
MOL AMb AMB 02 36 09.2
comp=Z,601nm,2.1s,mb6.0
MOL Molde 68.86 341 *eP* **P 02 36 04.0 +2.4**
comp=Z,601nm,2.1s,mb6.1
DOMB Dombas 68.94 340 *eP* **P 02 36 01.1 -1.0**
DOMB AMb AMB 02 36 05.9
comp=Z,611nm,1.8s,mb6.1
DOMB Dombas 68.94 340 *eP* **P 02 36 01.1 -1.0**
comp=Z,611nm,1.8s,mb6.1
RRI2 Red Ridge 68.98 50⇓ *iP* **P 02 36 03.4 +0.7**
comp=Z,303nm,1.9s,mb5.8
TPAW Teton Pass 69.09 49⇓ *iP* **P 02 36 04.4 +1.0**
comp=Z,495nm,1.3s,mb6.2
MBWA Marble Bar 69.14 206 P **P 02 36 03.1 -0.9**
KIV Kislovodsk 69.18 311⇑ *iP* **P 02 36 04.1 +0.2**
comp=Z,1μm,1.0s,mb6.7
KIV Kislovodsk 69.18 311 *c iP* **P 02 36 04.6 +0.7**
KIV *e* 02 38 36.6
KIV *e*PPP PPP 02 40 19.9 +1.1
KIV *i* S S 02 45 01.7 +1.6
KIV *e*SS SS 02 49 28.8 -1.3
KIV pmax pmax
comp=E,398nm,1.1s
KIV pmax pmax
comp=Z,1μm,1.1s,mb6.6
KIV smax
comp=N,2μm,4.7s
KIV smax
comp=E,1μm,4.7s
KIV MLR MLR
comp=N,2μm,20.0s
KIV MLR MLR
comp=E,2μm,20.0s
KIV MLR MLR
comp=Z,2μm,20.0s
HVU Hansel Valley 69.18 52⇓ *iP* **P 02 36 04.0 0.0**
comp=Z,150nm,1.1s,mb5.7
HVU Hansel Valley 69.18 52⇓ *iP* **P 02 36 04.0 0.0**
HVU pmax pmax
comp=Z,149nm,1.1s,mb5.7
LOHW Long Hollow 69.20 49 *eP* **P 02 36 04.6 +0.6**
comp=Z,322nm,1.4s,mb6.0
SNOW Snow King Moun 69.21 49 *eP* **P 02 36 04.8 +0.6**
comp=Z,221nm,1.1s,mb5.9
REDW Red Top Meadow 69.22 49 *eP* **P 02 36 04.6 +0.4**
comp=Z,412nm,1.3s,mb6.1
NB2 NORSAR Subarra 69.24 338 P **P 02 36 02.9 -1.1**
comp=Z,497nm,1.1s,mb6.2,baz=32,slow=6.2
NB2 NORSAR Subarra 69.24 338 P **P 02 36 02.9 -1.1**
baz=32,slow=6.5
NB2 NORSAR Subarra 69.24 338 P **P 02 36 02.9 -1.1**
NB2 pmax pmax
comp=Z,497nm,1.1s,mb6.2
NOA NORSAR Array B 69.24 338 P **P 02 36 02.5 -1.5**
comp=Z,118nm,0.7s,mb5.8,baz=33,slow=6.2,SNR=223
NOA PKPPKP 03 04 07.7
comp=Z,6.0nm,1.0s,baz=203,slow=3.3,SNR=3.4
NOA LR LR 03 11 58.8
comp=Z,1μm,18.6s,baz=30,slow=41
NOA NORSAR Array B 69.24 338 P **P 02 36 02.5 -1.5**
NOA P'P' 03 04 07.7
NOA LR LR 03 11 58.8
ZEI Tsey 69.29 310 *eP* **P 02 36 02.9 -1.7**
ZEI *i* *PP pP 02 36 30.5 -0.1
ZEI *i* 02 38 37.4
ZEI *eS S 02 44 56.0 -5.4
ZEI pmax pmax
comp=Z,424nm,1.2s,mb6.2
HFA0 Hagfors New Ar 69.31 337 P **P 02 36 02.4 -2.0**
DGRG David-gareji 69.32 308 P **P 02 36 04.3 -0.5**
DGRG S S 02 45 01.1 -0.7
AHID Auburn Hatcher 69.48 50 *eP* **P 02 36 05.8 0.0**
comp=Z,149nm,1.1s,mb5.7
SAMG Sameba 69.48 308 P **P 02 36 04.6 -1.1**
NAO01 NORSAR Array S 69.49 338 *eP* **P 02 36 04.4 -1.1**
comp=Z,449nm,1.3s,mb6.1
MTA Mtatsminda 69.49 308 P **P 02 36 06.1 +0.2**
TBLG Delisi 69.50 308 P **P 02 36 06.1 +0.2**
TBLG S S 02 45 06.9 +3.0
ONI Oni 69.67 310 P **P 02 36 08.0 +1.1**
SPUT South Promonto 69.68 52⇓ *iP* **P 02 36 07.1 +0.1**
GOR Gori 69.69 309 P **P 02 36 07.7 +0.6**
GOR S S 02 45 00.0 -6.1
ISA Isabella 69.72 60 *eP* **P 02 36 05.7 -1.6**
comp=Z,53nm,1.5s,mb5.2
ISA Isabella 69.72 60 *eP* **P 02 36 05.7 -1.7**
ISA pmax pmax
comp=Z,53nm,1.5s,mb5.2

HWUT Hardware Ranch 69.98 51 *eP* **P 02 36 08.9 0.0**
comp=Z,202nm,1.1s,mb5.9
NOQ North Oquirrh 70.29 52 *eP* **P 02 36 11.0 +0.2**
comp=Z,311nm,1.2s,mb6.0
OSL Oslo 70.30 338 *eP* **P 02 36 09.5 -0.9**
OSL AMb AMB 02 36 13.9
comp=Z,414nm,1.7s,mb6.0
OSL Oslo 70.30 338 *eP* **P 02 36 09.5 -0.9**
comp=Z,414nm,1.7s,mb6.0
PDAR Pinedale Array 70.33 49 P **P 02 36 10.8 -0.2**
comp=Z,75nm,0.8s,mb5.5,baz=270,slow=1.5,SNR=304
PDAR pP pP 02 36 38.2 +1.2
comp=Z,40nm,0.9s,baz=294,slow=1.4,SNR=4.1
PDAR S S 02 45 13.8 +0.3
comp=Z,0.3nm,0.6s,slow=0.9,SNR=3.7
TCUT Toone Canyon 70.39 52 *eP* **P 02 36 11.6 +0.2**
HYA Hoyanger 70.40 341⇓ *iP* **P 02 36 11.7 +0.7**
HYA AMb AMB 02 36 15.3
comp=Z,854nm,1.4s,mb6.4
HYA Hoyanger 70.40 341⇓ *iP* **P 02 36 11.7 +0.7**
comp=Z,854nm,1.4s,mb6.4
AKH Akhalkalaki 70.42 309 P **P 02 36 12.6 +1.1**
CTU Camp Tracy 70.48 52 *eP* **P 02 36 12.0 +0.2**
comp=Z,102nm,1.1s,mb5.6
TSOZ Tsokhamarg 70.51 308⇓ P **P 02 36 11.3 -0.7**
GNI Garni 70.54 307 P **P 02 36 13.4 +1.2**
comp=Z,58nm,0.6s,mb5.6,baz=304,slow=1.0,SNR=65
KAMZ Kamo 70.54 308 P **P 02 36 12.2 0.0**
SNCC San Nicolas Is 70.60 62 *eP* **P 02 36 12.1 -0.7**
comp=Z,31nm,0.6s,mb5.3
AMBZ Amberd 70.66 308 P **P 02 36 09.4 -3.5**
HARI Harich 70.66 308 P **P 02 36 12.7 -0.2**
LERZ Lernakert 70.71 308 P **P 02 36 14.0 +0.7**
NLU North Lily Min 70.78 53 *eP* **P 02 36 14.4 +0.8**
ARUZ Aruch 70.82 308 P **P 02 36 10.0 -3.9**
SUE Sulen 70.83 341 *eP* **P 02 36 13.2 -0.4**
SUE AMb AMB 02 36 17.7
comp=Z,632nm,1.7s,mb6.2
SUE Sulen 70.83 341 *eP* **P 02 36 13.2 -0.4**
comp=Z,632nm,1.7s,mb6.2
KONO Kongsberg 70.85 338 *eP* **P 02 36 13.0 -0.7**
KONO *eS* S 02 45 17.9 -1.2
KONO Kongsberg 70.85 338 *c iP* **P 02 36 12.9 -0.8**
MWC Mount Wilson 70.91 61 *eP* **P 02 36 14.0 -0.5**
DAU Daniels Canyon 70.95 52 *eP* **P 02 36 15.2 +0.5**
MPU Maple Canyon 70.99 53 *eP* **P 02 36 15.2 +0.3**
comp=Z,228nm,1.2s,mb5.9
SOC Sochi 71.03 313 *c iP* **P 02 36 14.0 -1.1**
SOC *i* 02 36 34.2
SOC *i* *PP pP 02 36 49.9 +8.7
SOC *e* 02 38 51.5
SOC *i* S S 02 45 18.4 -3.1
SOC *i* 02 46 04.5
SOC pmax pmax
comp=E,10.0nm,0.5s
SOC pmax pmax
comp=Z,216nm,0.5s,mb6.2
SOC pmax pmax
comp=N,18nm,0.4s
SOC pmax pmax
comp=Z,3μm,2.4s,mb6.6
SOC MLR MLR
comp=N,3μm,21.0s
SOC MLR MLR
comp=Z,3μm,21.0s
SOC MLR MLR
comp=E,3μm,22.0s
SUW Suwalki 71.04 328⇑ *iP* **P 02 36 14.2 -0.8**
comp=E,6μm,2.9s,mb6.9
SUW *e*PP PP 02 38 51.9 -4.0
SUW *eS* S 02 45 22.2 +0.7
SUW *e*SKS SKS 02 46 05.5 +2.1
SUW MLR MLR 03 04 42.8
comp=E,5μm,30.4s
AKASG Malin Array Be 71.08 323 P **P 02 36 13.7 -1.6**
comp=E,175nm,0.4s,mb6.2,baz=40,slow=6.4,SNR=665
AKASG S S 02 45 22.0 0.0
comp=E,4.6nm,1.0s,baz=38,slow=12,SNR=7.7
AKASG PKPPKP 03 03 58.9
comp=E,0.2nm,0.2s,baz=236,slow=4.3,SNR=4.9
AKASG Malin Array Be 71.08 323 P **P 02 36 13.7 -1.6**
AKASG S S 02 45 22.0 0.0
AKASG P'P' 03 03 58.9
DIGO Kars 71.14 308 *i* P **P 02 36 15.2 -0.7**
KARS Kars 71.17 308 P **P 02 36 17.4 +1.4**
ASK Askoy 71.23 341 *eP* **P 02 36 15.8 -0.2**
ASK AMb AMB 02 36 19.0
comp=Z,2μm,1.4s,mb6.7
ASK Askoy 71.23 341 *eP* **P 02 36 15.8 -0.2**
comp=Z,2μm,1.4s,mb6.7
RUND Rundenannen 71.26 341 *eP* pP 02 36 43.4 +1.1
RUND AMb AMB 02 36 47.7
comp=Z,2μm,1.5s,mb6.6
BORG Borgarnes 71.27 354 *eP* **P 02 36 16.9 +0.7**
comp=Z,3μm,2.0s,mb6.8
BER Bergen 71.29 341 *eP* **P 02 36 15.7 -0.7**
BER *eP* 02 36 16.3
BER AMb AMB 02 36 20.6
comp=Z,726nm,1.6s,mb6.3
BER *eS* S 02 45 26.0 +1.8
ANN Anapa 71.39 315 *eP* **P 02 36 15.0 -2.2**
ANN *e* 02 36 33.2
ANN *e**PP pP 02 36 52.8 +9.4
ANN *eS* S 02 45 21.0 -4.6
ANN *e* 02 46 01.0
ANN pmax pmax
comp=Z,681nm,1.2s,mb6.3
ANN pmax pmax
comp=Z,2μm,6.8s
ARUT Antelope Range 71.41 55 *eP* **P 02 36 17.5 0.0**
EGD Espegrend 71.42 341 *eP* **P 02 36 16.8 -0.3**
EGD AMb AMB 02 36 21.9
comp=Z,1μm,1.9s,mb6.5
EGD Espegrend 71.42 341 *eP* **P 02 36 16.8 -0.3**
comp=Z,1μm,1.9s,mb6.5
ARTV Artvin 71.44 310 *i* P **P 02 36 17.2 -0.4**
MSU Marysvale 71.68 54 *eP* **P 02 36 19.5 +0.4**
CLDR Caldiran 71.68 307 *i* P **P 02 36 19.2 +0.1**
TMUT Trail Mountain 71.72 53 *eP* **P 02 36 19.5 +0.2**
ULM Lac du Bonnet 71.79 37 P **P 02 36 18.8 -0.7**
comp=Z,70nm,1.0s,mb5.5,baz=318,slow=7.1,SNR=60
ULM pP pP 02 36 45.8 0.0
comp=Z,18nm,0.8s,baz=307,slow=6.8,SNR=3.5
ULM LR LR 03 09 16.7
comp=Z,555nm,19.6s,baz=144,slow=37
BLS5 Blasjo 71.86 340⇑ *iP* **P 02 36 20.6 +0.9**
NEN Nelson 71.97 58 *eP* **P 02 36 20.6 -0.3**
LDFC Landfair 72.19 58 *eP* **P 02 36 21.8 -0.4**
SRU San Rafael 72.24 53 *eP* **P 02 36 22.4 +0.1**
comp=Z,726nm,1.2s,mb6.4
SRU San Rafael 72.24 53 *eP* **P 02 36 22.4 0.0**
SRU pmax pmax
comp=Z,726nm,1.2s,mb6.4
PFO Pinyon Flat Ob 72.32 60 *eP* **P 02 36 22.1 -0.8**
comp=Z,91nm,1.1s,mb5.5
PFO Pinyon Flat Ob 72.32 60 P **P 02 36 22.2 -0.7**
PFO pmax pmax
comp=Z,91nm,1.1s,mb5.5
RWWY Rawlins 72.34 49⇓ *iP* **P 02 36 22.8 -0.2**
comp=Z,375nm,1.3s,mb6.1
VANB Van 72.35 307 *i* P **P 02 36 23.9 +0.8**
TVAN Van 72.39 307 *i* P **P 02 36 23.6 +0.4**
STAV Stavanger 72.47 340⇑ *iP* **P 02 36 23.2 -0.2**
STAV AMb AMB 02 36 27.7
comp=Z,749nm,1.7s,mb6.2
STAV Stavanger 72.47 340⇑ *iP* **P 02 36 23.2 -0.2**
comp=Z,749nm,1.7s,mb6.2
BANOM Banah 72.48 289⇑ P **P 02 36 24.2 +0.2**
SNR=102
SNART Snartemo 72.61 339⇑ *iP* **P 02 36 23.9 -0.2**
SNART AMb AMB 02 36 28.6
comp=Z,605nm,1.6s,mb6.2
SNART Snartemo 72.61 339⇑ *iP* **P 02 36 23.9 -0.2**
comp=Z,605nm,1.6s,mb6.2
ERZM Erzurum 72.62 309 *i* P **P 02 36 25.2 +0.6**
EZM Erzurum 72.62 309 P **P 02 36 25.9 +1.4**
BIDO Bidbid 72.78 286⇓ P **P 02 36 26.5 +0.7**
SNR=97
WBK Wadi Bani Khal 72.79 285⇓ P **P 02 36 26.7 +0.9**
SNR=56
MACK Trabzon 72.80 310 *i* P **P 02 36 25.3 -0.2**
HKR Hakkari 72.83 306 P **P 02 36 26.3 +0.5**
HAKT HAKKARI 72.86 306 *i* P **P 02 36 25.9 -0.2**
SIM Simferopol' 72.96 317 *c iP* **P 02 36 26.3 -0.1**
SIM *e**PP pP 02 36 52.3 -0.4
SIM *eS* S 02 45 39.4 -4.1
SIM pmax pmax
comp=Z,298nm,0.9s,mb6.1
SIM MLR MLR
comp=Z,2μm,14.0s
BSD Bornholm Skovb 73.08 333⇑ *iP* **P 02 36 26.2 -0.7**
comp=Z,621nm,0.6s,mb6.6
BSD Bornholm Skovb 73.08 333⇑ *iP* **P 02 36 26.2 -0.7**
BSD pmax pmax
comp=Z,621nm,0.6s,mb6.6
SMDO Samad 73.14 286⇓ P **P 02 36 28.2 +0.4**
SNR=28
WAR Warsaw 73.24 328⇑ *iP* **P 02 36 28.4 +0.5**
comp=Z,10μm,3.2s
WAR *e*pP pP 02 36 55.8 +1.6
WAR *eS* S 02 45 49.5 +3.1
WAR MLR MLR 03 05 43.4
comp=Z,5μm,31.2s
GUMT Gumushane 73.30 310 P **P 02 36 29.2 +0.8**
HOQ Hoqain 73.31 287⇓ P **P 02 36 28.9 +0.1**
SNR=81
COP Copenhagen 73.39 335⇑ *iP* **P 02 36 28.7 0.0**
comp=Z,191nm,0.5s,mb6.2
COP *i* 02 37 08.5
COP *e* 02 40 57.8
COP *i* S S 02 45 51.8 +3.8
COP *i* 02 46 30.6
comp=Z,770nm,18.0s
COP Copenhagen 73.39 335⇑ *iP* **P 02 36 28.7 0.0**
COP *i* 02 37 08.5
COP *e* 02 40 57.8
COP *i* S S 02 45 51.8 +3.8
COP *i* 02 46 30.6
COP pmax pmax
comp=Z,191nm,0.5s,mb6.2
COP MLR MLR
comp=Z,770nm,18.0s
BNGL BINGOL 73.40 308 *i* P **P 02 36 29.4 +0.4**
ASHO Ashiyiah 73.45 288⇑ P **P 02 36 29.8 +0.1**
SNR=23
JMDO Jabal Madar 73.55 285⇑ P **P 02 36 30.5 +0.3**
SNR=78
PHWY Pilot Hill 73.56 48 *eP* **P 02 36 29.9 0.0**
KELT Kelkit 73.63 310 *i* P **P 02 36 31.0 +0.5**
GRSN GIRESUNGRSN 73.64 311 *i* P **P 02 36 28.8 -1.6**
SIRT Sirnak 73.64 306 *eP* **P 02 36 30.1 -0.5**
MUD Monsted U'grnd 73.70 337⇑ *iP* **P 02 36 30.4 -0.1**
comp=Z,169nm,0.6s,mb6.0
MUD *i* 02 37 10.3
MUD *i* S S 02 45 55.3 +3.8
MUD *i* 02 46 32.4
comp=Z,1μm,17.0s
BTMT Batman 73.72 307 P **P 02 36 32.0 +1.0**
GKP Gorka Klasztor 73.80 331⇑ *iP* **P 02 36 31.2 0.0**
comp=Z,6μm,2.7s,mb6.9
GKP *eS* S 02 45 52.4 -0.2
GKP *e*SKS SKS 02 46 20.2 -3.4
GKP MLR MLR 03 05 06.4
comp=Z,4μm,33.4s
GKP Gorka Klasztor 73.80 331⇑ *iP* **P 02 36 31.2 +0.1**
comp=Z,6.4nm,2.7s
GKP *eS* S 02 45 52.4 -0.2
GKP *e*SKS SKS 02 46 20.2 -3.5
GKP LR LR
comp=Z,4μm,33.4s
BSY Bisya 73.93 286⇓ P **P 02 36 32.8 +0.3**
SNR=86
LVV L'vov 73.94 325 *c iP* **P 02 36 32.0 0.0**
LVV *i* S S 02 45 55.4 +1.2
LVV MLR MLR
comp=Z,1μm,16.6s
KIS Kishinev 74.00 321 *α iP* **P 02 36 31.0 -1.4**
KIS *i* pP 02 36 58.0 -0.8
KIS *i* *PP pP 02 37 09.0 +10
KIS *e* 02 39 16.0
KIS *e* 02 41 00.0
KIS *i* S S 02 45 52.0 -2.9
KIS *i* *SS 02 46 30.0
KIS *i* PS PS 02 46 48.0 +4.3
KIS pmax pmax
comp=Z,700nm,2.0s,mb6.0
KIS pmax pmax
comp=N,1μm,2.5s
KIS pmax pmax
comp=E,200nm,3.0s
KIS pmax pmax
comp=Z,5μm,6.0s
KIS pmax pmax
comp=N,2μm,4.0s
KIS pmax pmax
comp=E,2μm,4.0s
KIS MLR MLR
comp=Z,3μm,17.0s
KIS MLR MLR
comp=Z,2μm,18.0s
ARQ Araqi 74.01 287⇓ P **P 02 36 33.2 +0.2**
SNR=45
BEST Besiri 74.05 307 *i* P **P 02 36 34.1 +1.2**
RGN Rugen 74.06 334⇑ *iP* **P 02 36 32.8 +0.1**
comp=Z,2μm,1.5s,mb6.5
OWE Westray 74.08 344⇑ *eP* **P 02 36 32.1 -0.5**
MSL Mosul 74.09 305 *i* x x 02 36 53.0
MSL *ex* x 02 37 18.0
ARMA Armidale 74.11 175 *eP* **P 02 36 33.9 +0.5**
IAS Iasi 74.42 322⇓ P **P 02 36 35.3 +0.4**
PTK Pertek 74.43 309 P **P 02 36 35.1 0.0**
OHO Hoy 74.57 344⇑ *iP* **P 02 36 35.2 -0.3**
KWP Kalwaria 74.63 326⇑ *iP* **P 02 36 36.7 +0.7**
comp=Z,9μm,3.1s
KWP *e*PcP PcP 02 36 45.8 -4.3
KWP *eS* S 02 46 05.0 +3.1
KWP MLR MLR 03 05 47.1
comp=Z,5μm,38.6s
KWP Kalwaria 74.63 326⇑ *iP* **P 02 36 36.7 +0.7**
KWP *e* 02 36 45.8
KWP *eS* S 02 46 04.9 +3.0
DIY Diyarbakir 74.65 308 P **P 02 36 37.3 +1.0**
KVT Kavak 74.72 313 P **P 02 36 36.1 -0.6**
MARD Mardin 74.73 307 *i* P **P 02 36 37.3 +0.4**
OBR Brabster 74.76 344⇑ *iP* **P 02 36 36.1 -0.4**
ELZG Elazig 74.93 309 *i* P **P 02 36 38.7 +0.8**
ORE Reay 74.94 344⇑ *iP* **P 02 36 37.6 0.0**
TOKT Tokat 74.99 312 P **P 02 36 39.0 +0.7**
SVSK Karacayir 75.03 311 P **P 02 36 37.4 -1.1**
BOYT Boyabat 75.08 314 *i* P **P 02 36 38.6 -0.2**
OTO Tongue 75.11 345⇑ *iP* **P 02 36 38.4 -0.1**
BYBT Boyabat 75.12 314 P **P 02 36 39.9 +1.0**
BUBAR Bucovina Array 75.14 323⇓ P **P 02 36 39.7 +0.8**
SVST Sivas 75.16 311 *i* P **P 02 36 40.2 +1.0**
OJC Ojcow 75.32 328⇑ *iP* **P 02 36 40.4 +0.5**
OJC *eS* S 02 46 07.9 -1.6
OJC MLR MLR 03 11 39.5
comp=Z,2μm,21.2s
KOLS Kolonicke sedl 75.35 326 *i* P **P 02 36 40.5 +0.4**
KOLS *eS* S 02 46 11.5 +1.6
TLCR 75.35 320⇓ P **P 02 36 40.9 +0.7**
BHD Baghdad 75.36 302 *ex* x 02 36 37.0
BHD *ex* x 02 46 07.5
BHD *ex* x 02 46 35.0
BHD *ex* x 02 46 56.0
MYA Malataya 75.37 309 P **P 02 36 41.6 +1.2**
MALT Malatya 75.37 309 P **P 02 36 40.3 -0.2**
MALT Malatya 75.37 309⇑ *iP* **P 02 36 41.8 +1.3**
comp=Z,173nm,0.6s,mb6.0
MALT Malatya 75.37 309⇑ *iP* **P 02 36 41.8 +1.3**
MALT pmax pmax
comp=Z,173nm,0.6s,mb6.0
STHS Stebnicka Huta 75.39 326 *i* P **P 02 36 41.0 +0.7**
STHS *eS* S 02 46 12.5 +2.2
RSC Scourie 75.40 345⇑ *eP* **P 02 36 39.9 -0.3**
STKA Stephens Creek 75.51 184⇓ *iP* **P 02 36 40.7 -0.7**
comp=Z,28nm,0.8s,mb5.0
STKA *i* S S 02 46 09.8 -2.2
STKA Stephens Creek 75.51 184 P **P 02 36 41.0 -0.4**
comp=Z,32nm,0.7s,mb5.1,baz=348,slow=6.6,SNR=37
STKA pP pP 02 37 08.9 +1.0
comp=Z,23nm,0.9s,baz=330,slow=9.7,SNR=3.4
STKA LR LR 03 07 19.3
comp=Z,915nm,21.0s,baz=355,slow=34
BSEG Bad Segeberg 75.53 335 *eP* **P 02 36 41.1 +0.1**
BSEG *eS* S 02 46 13.2 +1.5
RTO Tolsta 75.56 345⇑ *eP* **P 02 36 40.6 -0.5**
UZH Uzhgorod 75.58 325 *i* P **P 02 36 38.5 -2.9**
UZH *eS* S 02 46 11.1 -1.3

MVH1 **Achvaich** 75.60 344⇑*iP* P 02 36 41.0 -0.3
REB **Eisghbrachaidh** 75.63 345⇑*eP* P 02 36 41.0 -0.5
RUE **Ruedersdorf** 75.64 332 *eP* P 02 36 41.8 +0.1
comp=Z,816nm,1.3s,mb6.3
CFR **Carcaliu** 75.67 320 ⇓P P 02 36 41.8 -0.2
CTKT **Corum** 75.71 313 *i* P P 02 36 42.1 -0.3
MCD **Coleburn Disti** 75.73 344⇑*iP* P 02 36 41.8 -0.3
NIE **Niedzica** 75.75 327⇑*iP* P 02 36 43.3 +0.9
URFA **Urfa** 75.76 308 P P 02 36 42.9 +0.2
UMR **Umm Al-Rimmam** 75.78 297 *eP* P 02 36 42.7 -0.3
BALT **Daday** 75.79 314 *iP* P 02 36 43.0 +0.2
VRI **Vrincioaia** 75.80 321 ⇑P P 02 36 43.0 +0.3
TOS **Tosya** 75.82 314 P P 02 36 43.9 +1.0
MIB **Mutribah** 75.85 298 *eP* P 02 36 43.3 -0.1
MIB AMb AMB 02 36 44.8
comp=Z,1µm,0.9s,mb6.6
BRD **Bordesti** 75.90 321 ⇑P P 02 36 44.2 +0.9
MME1 **Meikle Cairn** 75.92 343⇑*iP* P 02 36 42.8 -0.4
RRR **Rubha Reidh** 75.98 345⇑*eP* P 02 36 42.5 -1.0
SDCO **Great Sand Dun** 76.03 51 *eP* P 02 36 44.6 +0.4
comp=Z,91nm,1.1s,mb5.4
SDCO *epP* pP 02 37 10.3 -0.4
SDCO *esP* sP 02 37 20.3 -1.5
RAC **Raciborz** 76.04 328⇑*iP* P 02 36 44.8 +0.8
RAC *eS* S 02 46 19.2 +1.8
RAC MLR MLR 03 06 24.4
comp=Z,6µm,34.0s
ATAB **Bozova** 76.04 309 *iP* P 02 36 44.8 +0.5
KBD **Kabd** 76.05 297 *eP* P 02 36 44.4 -0.1
KBD AMb AMB 02 36 46.0
comp=Z,2µm,0.8s,mb7.0
TIRR **Tirgusor** 76.09 319 ⇓P P 02 36 45.1 +0.7
TIRR **Tirgusor** 76.09 319 *eP* P 02 36 44.4 0.0
MDO **Dochfour** 76.09 344⇑*iP* P 02 36 43.6 -0.5
CORM **Corum** 76.12 313 P P 02 36 43.9 -0.8
KSP **Ksiaz** 76.12 330⇑*iP* P 02 36 45.0 +0.5
comp=Z,5µm,2.8s,mb6.8
KSP *eS* S 02 46 20.3 +2.0
KSP *eSKS* SKS 02 46 44.5 +3.9
KSP MLR MLR 03 07 02.8
comp=Z,6µm,32.0s
KSP **Ksiaz** 76.12 330⇑*iP* P 02 36 44.6 +0.1
KSP *eS* S 02 46 15.5 -2.8
KSP *e* 02 55 38.0
KSP LR LR
comp=Z,7µm,32.0s
HARR **Harsova** 76.14 320 ⇑P P 02 36 44.4 -0.3
FORT **Forrest** 76.14 196 *eP* P 02 36 44.4 -0.6
comp=Z,101nm,0.7s,mb5.7
FORT *e* pP 02 37 13.0 +1.6
QRN **Al-Qurain** 76.19 297 *eP* P 02 36 45.2 -0.1
QRN AMb AMB 02 36 46.7
comp=Z,1µm,0.4s,mb7.0
EDR **Drumtochty** 76.20 343⇑*eP* P 02 36 44.4 -0.4
KAC **Achnashellach** 76.22 345⇑*iP* P 02 36 44.5 -0.4
OKC **Ostrava-Krasne** 76.26 328⇑*iP* P 02 36 45.6 +0.4
OKC *epP* pP 02 37 10.4 -1.3
OKC *esP* sP 02 37 22.8 0.0
OKC *ePP* PP 02 39 37.3 -1.8
OKC *eS* S 02 46 21.4 +1.6
OKC AMS AMS 03 07 20.0
comp=Z,4µm,26.2s
NAY **Al-Naaiem** 76.29 297 *eP* P 02 36 45.6 -0.3
NAY AMb AMB 02 36 47.1
comp=Z,536nm,1.0s,mb6.2
RDF **Al-Radifah** 76.31 297 *eP* P 02 36 45.9 -0.1
RDF AMb AMB 02 36 47.6
comp=Z,2µm,0.8s,mb6.8
CANT **Cankiri** 76.34 314 P P 02 36 46.5 +0.5
SAFT **Safranbolu** 76.36 315 P P 02 36 46.8 +0.8
BNN **Bunyan** 76.42 311 P P 02 36 46.9 +0.5
KECS **Kecovo** 76.43 326 *iP* P 02 36 46.7 +0.5
KECS *eS* S 02 46 24.1 +2.4
KPL **Plockton** 76.44 345⇑*iP* P 02 36 45.6 -0.5
MLR **Muntele Rosu** 76.44 321 P P 02 36 46.8 +0.4
comp=Z,110nm,0.5s,mb5.8,baz=352,slow=6.4,SNR=93
MLR **Muntele Rosu** 76.44 321 ⇓P P 02 36 47.3 +0.9
UPC **Upice** 76.50 330⇑*iP* P 02 36 47.0 +0.4
KSB **Sheil Bridge** 76.51 345⇑*iP* P 02 36 46.3 -0.2
KSK **Scoval** 76.51 345⇑*iP* P 02 36 46.4 -0.1
DPC **Dobruska-Polom** 76.52 330⇑*iP* P 02 36 47.5 +0.8
DPC *epP* pP 02 37 13.6 +0.4
DPC *esP* sP 02 37 24.5 +0.2
DPC *ePP* PP 02 39 37.5 -3.6
DPC *eS* S 02 46 24.1 +1.5
DPC AMS AMS 03 06 50.0
comp=Z,4µm,31.6s
ELDT **Eldivan** 76.53 314 *iP* P 02 36 46.9 -0.1
GZT **Gaziantep** 76.53 309 *iP* P 02 36 47.5 +0.4
MORC **Moravsky Berou** 76.53 329⇑*iP* P 02 36 47.0 +0.2
comp=Z,1µm,1.4s,mb6.4
MORC **Moravsky Berou** 76.53 329 P P 02 36 47.3 +0.5
MORC pmax pmax
comp=Z,630nm,1.5s,mb6.1
CDAG **Cicekdag** 76.66 313 *iP* P 02 36 47.3 -0.4
KAHT **Ahir Dag** 76.72 310 *iP* P 02 36 49.4 +1.3
PSN **Preselentsi** 76.78 319 P P 02 36 49.0 +0.7
DRGR 76.85 324 ⇓P P 02 36 48.0 -0.6
GAZ **Gaziantep** 76.86 309 P P 02 36 50.0 +1.1
KAR1 **Arisaig** 76.86 345⇑*iP* P 02 36 48.3 -0.2
VOIR 76.89 322 ⇓P P 02 36 50.1 +1.2
CLL **Collm** 76.89 332⇑*i* P 02 36 48.7 0.0
CLL *i* 02 36 50.8
CLL *i**PP pP 02 37 14.7 -0.5
CLL *e**SP sP 02 37 23.0 -3.4
CLL *e* 02 39 12.0
CLL *ePP PP 02 39 43.0 -1.1
CLL *e**SPP 02 40 17.0
CLL *e* 02 41 55.0
CLL *e* 02 42 07.0
CLL *eS S 02 46 23.0 -3.6
CLL *e* 02 46 50.0
CLL *eSP SP 02 47 07.0 +1.2
CLL *e* 02 47 38.0
CLL *e* 02 48 32.0
CLL *eSS SS 02 51 18.0 -10
CLL *e**SSS 02 52 12.0
CLL *e* 02 55 34.0
CLL *e* 02 56 13.0
CLL *e* 02 57 00.0
CLL **Collm** 76.89 332⇑*iP* P 02 36 48.7 0.0
comp=Z,548nm,1.3s,mb6.1
CLL *i* pP pP 02 37 14.7 -0.5
CLL **Collm** 76.89 332 *iP* P 02 36 50.0 +1.3
CLL *i**PP pP 02 37 14.7 -0.5
CLL *e* 02 46 50.0
CLL pmax pmax
comp=Z,770nm,1.5s,mb6.2
BRG **Berggiesshubel** 76.93 331⇑*iP* P 02 36 49.0 +0.1
comp=Z,282nm,1.5s,mb5.8
BRG *i* 02 36 51.1
BRG *e* pP 02 37 15.3 -0.1
BRG PP PP 02 39 41.0 -3.4
BRG S S 02 46 28.0 +0.9
BRG SS SS 02 52 11.0 +42
BRG LR LR
comp=Z,2µm,20.2s
BRG **Berggiesshubel** 76.93 331⇑*iP* P 02 36 49.0 0.0
BRG *e* pP 02 37 15.4 -0.1
BRG 02 39 41.0
BRG S S 02 46 28.0 +0.9
BRG pmax pmax
comp=Z,282nm,1.6s,mb5.8
BRG MLR MLR
comp=Z,2µm,20.2s
BRG MLR MLR
comp=N,1µm,15.3s
BRG MLR MLR
comp=E,2µm,15.3s
BR131 **Keskin Array S** 76.97 313 *eP* P 02 36 49.8 +0.4
comp=E,43nm,0.6s,mb5.3
BRTR **Keskin Array B** 76.97 313 P P 02 36 49.9 +0.4
comp=E,50nm,0.6s,mb5.4,baz=77,slow=2.5,SNR=156
PVCC **Panska Ves** 77.00 331⇑*iP* P 02 36 49.9 +0.5
PVCC *epP* pP 02 37 14.6 -1.3
PVCC *esP* sP 02 37 26.2 -0.8
PVCC *ePP* PP 02 39 44.7 -0.3
PVCC *eS* S 02 46 28.7 +0.8
PVCC AMS AMS 03 04 30.0
comp=E,6µm,46.5s
AVNT **Avonos** 77.01 312 *iP* P 02 36 50.0 +0.3
EBH **Black Hill** 77.03 343⇑*iP* P 02 36 49.4 0.0

VYHS **Vyhne** 77.08 327 *iP* P 02 36 50.6 +0.7
VYHS *eS* S 02 46 28.4 -0.3
PSZ **Piszkesteto** 77.12 326⇑*iP* P 02 36 51.0 +0.9
PSZ **Piszkesteto** 77.12 326⇑*iP* P 02 36 50.6 +0.5
comp=E,466nm,1.4s,mb6.0
PSZ **Piszkesteto** 77.12 326⇑*iP* P 02 36 50.6 +0.5
PSZ pmax pmax
comp=Z,466nm,1.4s,mb6.0
SGKT **Sivrigoynuk** 77.18 315 *iP* P 02 36 50.7 +0.1
KOLL **Kolacno** 77.18 327 *iP* P 02 36 51.1 +0.7
KAMT **Kaman** 77.19 313 *iP* P 02 36 51.0 +0.3
EAB **Aberfoyle** 77.25 344⇑*iP* P 02 36 50.6 0.0
EAB AMb AMB 02 36 54.5
comp=Z,767nm,1.6s,mb6.2
EDI **Edinburgh** 77.26 343⇑*iP* P 02 36 50.1 -0.6
EDI AMb AMB 02 36 54.3
comp=Z,369nm,2.1s,mb5.8
VRAC **Vranov** 77.27 329 *eP* P 02 36 51.6 +0.7
BUC1 **Bucharest** 77.28 321 ⇓P P 02 36 51.5 +0.4
CLZ **Clausthal** 77.30 334 *eP* P 02 36 51.3 +0.3
comp=Z,1µm,1.6s,mb6.4
CLZ *eS* S 02 46 32.1 +1.0
CLZ **Clausthal** 77.30 334 *eP* P 02 36 51.3 +0.3
CLZ *eS* S 02 46 32.1 +1.0
CLZ pmax pmax
comp=Z,1µm,1.6s,mb6.4
ANTO **Ankara** 77.31 314 P P 02 36 50.6 -0.7
LOD **Lodumlu** 77.31 314 P P 02 36 51.9 +0.6
EBL **Broad Law** 77.37 343⇑*iP* P 02 36 51.2 -0.1
EBL AMb AMB 02 36 55.2
comp=Z,602nm,2.0s,mb6.0
EAU **Auchinoon** 77.39 343⇑*iP* P 02 36 51.5 0.0
EAU AMb AMB 02 36 55.3
comp=Z,757nm,1.7s,mb6.2
KOZT **Kozan** 77.41 310 P P 02 36 52.1 +0.1
ANMO **Albuquerque** 77.45 53*d iP* P 02 36 52.8 +0.6
PRU **Pruhonice** 77.46 330⇑*iP* P 02 36 52.4 +0.5
PRU *epP* pP 02 37 17.1 -1.4
PRU *esP* sP 02 37 29.0 -0.6
PRU *ePP* PP 02 39 50.2 +1.1
PRU *eS* S 02 46 33.1 +0.3
PRU AMS AMS 03 03 10.0
comp=Z,5µm,48.2s
PRD **Provadia** 77.52 319 *eP* P 02 36 53.0 +0.6
HENT **Hendek** 77.58 315 *iP* P 02 36 51.4 -1.5
WIT **Witteveen** 77.59 336⇑*eP* P 02 36 53.4 +0.8
comp=Z,3µm,1.7s,mb6.7
SMOL **Smolenice** 77.61 328 *iP* P 02 36 54.0 +1.2
SMOL *epP* pP 02 37 21.7 +2.4
NIG **Nigde** 77.62 311 P P 02 36 54.3 +1.2
MDU **Mudurnu** 77.69 315 P P 02 36 54.0 +0.6
TREC **Trest** 77.69 329⇑*iP* P 02 36 53.7 +0.5
TREC *epP* pP 02 37 18.6 -1.2
TREC *esP* sP 02 37 30.4 -0.6
TREC *eS* S 02 46 36.5 +1.2
TREC AMS AMS 03 06 50.0
comp=Z,6µm,29.0s
SCHQ **Schefferville** 77.71 19 P P 02 36 53.1 -0.1
comp=Z,37nm,0.5s,mb5.4,baz=352,slow=5.8,SNR=144
SCHQ *pP* pP 02 37 19.9 +0.2
comp=Z,21nm,0.8s,baz=353,slow=7.4,SNR=2.7
SCHQ LR LR 03 14 52.1
comp=Z,988nm,19.1s,baz=339,slow=38
SCHQ **Schefferville** 77.71 19 *eP* P 02 36 52.1 -1.1
comp=Z,258nm,1.2s,mb5.8
SCHQ *epP* pP 02 37 18.3 -1.4
CEYT **Ceyhan** 77.79 310 P P 02 36 54.9 +0.9
BUD **Budapest** 77.82 326 *eP* P 02 36 54.6 +0.6
ESK **Eskdalemuir** 77.83 343⇑*iP* P 02 36 53.7 -0.1
ESK **Eskdalemuir** 77.83 343⇑*iP* P 02 36 53.8 0.0
comp=Z,134nm,0.8s,mb5.7
ESK *e* 02 37 29.7
ESK **Eskdalemuir** 77.83 343⇑*iP* P 02 36 53.8 0.0
ESK *e* 02 37 29.7
ESK pmax pmax
comp=Z,134nm,0.8s,mb5.7
SRO **Srobarova** 77.83 327 *eP* P 02 36 55.2 +1.2
SRO2 **Moca** 77.84 327 *eP* P 02 36 55.4 +1.3
COBT **Iskenderun** 77.86 309 *iP* P 02 36 54.6 +0.1
SRO1 **Iza** 77.91 327 *iP* P 02 36 55.4 +1.0
SRO1 *epP* pP 02 37 23.6 +2.6
MOX **Moxa** 77.92 332⇑*iP* P 02 36 54.3 -0.1
comp=Z,logA/T=2.6,mb6.1
MOX S S 02 46 38.0 +0.3
MOX PS PS 02 47 30.0 -3.1
MOX LR LR 02 52 15.0
MOX L 03 17 28.0
MOX **Moxa** 77.92 332⇑*iP* P 02 36 54.3 -0.1
comp=Z,788nm,2.1s,mb6.1
MOX *eS* S 02 46 38.0 +0.3
MOX *ePS* PS 02 47 30.0 -3.1
MOX *eLR* LR 02 52 15.0
MOX **Moxa** 77.92 332⇑*iP* P 02 36 54.3 -0.1
MOX *eS* S 02 46 38.0 +0.3
MOX *ePS* PS 02 47 30.0 -3.1
MOX pmax pmax
comp=Z,788nm,2.1s,mb6.1
ECK **Cauldkaine Hil** 77.94 343⇑*iP* P 02 36 54.2 -0.2
ECK AMb AMB 02 36 58.2
comp=Z,523nm,2.1s,mb5.9
NKC **Novy Kostel** 77.99 332⇑*iP* P 02 36 55.0 +0.2
NKC *epP* pP 02 37 20.5 -0.9
NKC *esP* sP 02 37 32.7 +0.1
NKC *ePP* PP 02 39 49.7 -4.1
NKC *eS* S 02 46 38.0 -0.4
NKC AMS AMS 03 06 30.0
comp=Z,3µm,28.0s
ZST **Bratislava** 77.99 328 *eP* P 02 36 55.9 +1.0
ZST *eS* S 02 46 41.0 +2.5
KARA **Karaisali** 78.00 310 P P 02 36 55.3 +0.1
ZIMR 78.12 320 ⇑P P 02 36 55.8 +0.1
SZH **Strazhica** 78.16 320 P P 02 36 56.0 +0.1
LWH **Whinny Nab** 78.16 341⇑*iP* P 02 36 55.8 +0.1
SHAO **Shalim** 78.16 284 ⇑P P 02 36 56.4 0.0
SNR=7.7
HRT **Hereke** 78.21 316 P P 02 36 56.9 +0.7
HTY **Hatay** 78.22 309 P P 02 36 57.1 +0.7
VKA **Vienna** 78.23 328⇑*iP* P 02 36 57.0 +0.8
comp=Z,2µm,2.5s,mb6.4
VKA **Vienna** 78.23 328⇑*iP* P 02 36 57.0 +0.8
VKA pmax pmax
comp=Z,2µm,2.5s,mb6.4
CRAR **CRAIOVA** 78.31 322 ⇑P P 02 36 57.5 +0.8
KRTS **Karatas** 78.31 310 P P 02 36 58.1 +1.1
JMB **Yambol** 78.47 319 P P 02 36 58.0 +0.4
PVL **Pavlikeni** 78.47 320 *eP* P 02 36 58.0 +0.4
CKE **Keswick** 78.48 342⇑*iP* P 02 36 57.8 +0.3
BORA **Eskisehir** 78.51 315 *iP* P 02 36 58.1 +0.1
KIZT **Kizilcal** 78.52 313 P P 02 36 58.0 0.0
KHC **Kasperske Hory** 78.52 330⇑*iP* P 02 36 58.3 +0.5
KHC *ePCP* PcP 02 37 08.0 +1.2
KHC *epP* pP 02 37 25.2 +0.9
KHC *esP* sP 02 37 35.8 +0.2
KHC *ePP* PP 02 39 58.4 +0.4
KHC *eS* S 02 46 45.2 +1.0
KHC AMS AMS 03 05 00.0
comp=Z,4µm,36.4s
YLV **Yalova** 78.55 316 P P 02 36 57.2 -0.9
MERS **Mersin** 78.57 311 P P 02 36 58.6 +0.3
CTT **Catalca** 78.58 317 P P 02 36 58.6 +0.4
ESKT **Eskisehir** 78.58 315 P P 02 36 58.4 +0.1
ESKT **Eskisehir** 78.58 315 *iP* P 02 36 57.2 -1.1
SOP **Sopron** 78.62 328⇑*iP* P 02 36 59.4 +1.0
DJES **Djerdap** 78.63 323 *iP* P 02 36 58.1 -0.3
XDE **Dent Fell** 78.64 343⇑*iP* P 02 36 58.4 +0.1
XDE AMb AMB 02 37 02.3
comp=Z,737nm,2.0s,mb6.2
KDHN **Kadinhani** 78.66 313 *iP* P 02 37 01.6 +2.8
GEC2 **GERESS Array S** 78.72 330 *eP* P 02 36 58.8 0.0
comp=Z,106nm,0.9s,mb5.7
GEC2 *eS* S 02 46 48.0 +1.7
GEC2 **GERESS Array S** 78.72 330 *eP* P 02 36 58.8 0.0
GEC2 *eS* S 02 46 48.0 +1.7
GEC2 pmax pmax
comp=Z,106nm,0.9s,mb5.7
GERES **GERESS Array B** 78.72 330 P P 02 36 58.9 0.0
comp=Z,31nm,0.5s,mb5.4,baz=39,slow=5.9,SNR=212
GERES PKKPbc 02 55 50.5
comp=Z,0.5nm,0.6s,baz=180,slow=2.7,SNR=5.1
GERES LR LR 03 18 22.2
comp=Z,1µm,19.3s,baz=30,slow=41
WET **Wettzell** 78.76 331 *eP* P 02 36 59.5 +0.4
comp=Z,363nm,1.3s,mb6.0
WET *eS* S 02 46 48.6 +1.9
WET **Wettzell** 78.76 331 *eP* P 02 36 59.5 +0.4
WET *eS* S 02 46 48.6 +1.9
WET pmax pmax
comp=Z,363nm,1.3s,mb6.0
EDRB **Edirne** 78.86 318 P P 02 36 59.8 0.0
GRA1 **Grafenberg Arr** 78.86 332 *eP* P 02 37 00.1 +0.5
comp=Z,936nm,1.5s,mb6.4
GRA1 *eS* S 02 46 49.5 +1.7
GRF **Grafenberg Arr** 78.86 332 *eP* P 02 37 00.1 +0.5
GRF *eS* S 02 46 49.5 +1.7
GRF pmax pmax
comp=Z,936nm,1.5s,mb6.4
CNB **Canberra Magne** 78.87 177 *eP* P 02 36 59.9 -0.1
comp=Z,23nm,1.0s,mb5.0
KONT **Konya--Tatoy** 78.95 313 P P 02 37 00.8 +0.4
MEST **Erdemli** 78.98 311 *iP* P 02 36 57.3 -3.3
ULDT **Uludag** 78.98 316 *iP* P 02 37 00.2 -0.3
AWI1 **Witton** 79.01 339⇑*eP* P 02 37 00.8 +0.4
ABA1 **Baconsthorpe** 79.04 339⇑*eP* P 02 37 00.7 +0.2
GIM **North Isle of** 79.05 343⇑*eP* P 02 37 00.5 -0.1
LHO **Holmfirth** 79.17 341⇑*iP* P 02 37 01.2 0.0
ORLT **Orhaneli** 79.18 316 P P 02 37 01.9 +0.4
WIM **Isle of Man** 79.23 343⇑*iP* P 02 37 01.5 0.0
WIM AMb AMB 02 37 05.4
comp=Z,522nm,2.0s,mb6.0
AEU **East Anglia Un** 79.26 339⇑*eP* P 02 37 01.9 +0.2
DIM **Dimitrovgrad** 79.28 319 *eP* P 02 37 02.5 +0.4
ALT **Altintas** 79.31 315 P P 02 37 02.6 +0.4
TNS **Taunus Mts** 79.32 334 *eP* P 02 37 02.1 0.0
comp=Z,149nm,1.0s,mb5.8
TNS *eS* S 02 46 53.0 +0.4
TNS **Taunus Mts** 79.32 334 *eP* P 02 37 02.1 0.0
TNS *eS* S 02 46 53.0 +0.4
TNS pmax pmax
comp=Z,149nm,1.0s,mb5.8
AWH **Whinburgh** 79.32 339⇑*iP* P 02 37 02.3 +0.2
MOA **Molln** 79.35 329⇑*iP* P 02 37 02.5 +0.2
comp=Z,2µm,3.5s
MOA **Molln** 79.35 329 *iP* P 02 37 02.5 +0.2
comp=Z,2µm,3.5s,SNR=40
KBI1 **Birley Grange** 79.36 341⇑*iP* P 02 37 02.5 +0.2
BEO **Belgrade** 79.38 324⇓*iP* P 02 37 02.4 -0.2
ARSA **Arzberg** 79.38 328⇑*iP* P 02 37 02.8 +0.3
comp=Z,2µm,3.1s
ARSA **Arzberg** 79.38 328 *iP* P 02 37 02.8 +0.4
comp=Z,2µm,3.1s,SNR=37
MRMT **Marmara Adasi** 79.40 317 P P 02 37 02.0 -0.7
MFT **Murefte** 79.42 317 P P 02 37 02.2 -0.6
BNT **Bandirma** 79.43 317 P P 02 37 03.6 +0.7
SVIS **Svilajnac** 79.47 323⇓*iP* P 02 37 02.6 -0.4
APAE **Packway** 79.48 339⇑*eP* P 02 37 03.1 +0.2
IKL **Isikli** 79.49 311 P P 02 37 03.0 -0.3
KLBR **Kellerberrin** 79.50 204 *eP* P 02 37 02.8 -0.7
comp=Z,50nm,1.0s,mb5.3
KLBR *e* pP 02 37 29.9 -0.2
RBK **Rabkut** 79.51 284 ⇑P P 02 37 03.8 0.0
SNR=19
PGB **Panagyurishte** 79.53 320 P P 02 37 03.5 +0.1
WHFO **Wadi Hawf** 79.53 285 ⇓P P 02 37 03.2 -0.7
SNR=9.8
SART **Tekirdag** 79.54 317 *iP* P 02 37 02.8 -0.7
GDZ **Gediz** 79.60 315 *iP* P 02 37 03.2 -0.7
HDMB **Hadim** 79.61 312 P P 02 37 02.3 -1.7
HGN **Heimansgroeve** 79.62 336⇑*iP* P 02 37 03.6 -0.1
comp=Z,420nm,1.7s,mb6.0
HGN *ex* x 02 39 21.8
HGN *ePP* PP 02 40 06.8 +0.2
HGN *ePPP* PPP 02 41 59.3 +1.1
HGN *eS* S 02 46 49.0 -6.8
ERMK **Ermenek** 79.62 311 *iP* P 02 37 02.9 -1.1
PLD **Plovdiv** 79.63 320 *eP* P 02 37 05.0 +1.0
KDZ **Kurdzhali** 79.65 319 P P 02 37 05.0 +0.9
KWE **Weaver Farm** 79.65 341⇑*iP* P 02 37 04.0 +0.2
SIND **Sindeldorf** 79.70 333⇑*eP* P 02 37 04.0 -0.2
TOD **Tromm** 79.74 333⇑*eP* P 02 37 04.6 +0.2
TOD **Tromm** 79.74 333⇑*eP* P 02 37 04.5 +0.1
KSU1 **Kansas State U** 79.80 45 *eP* P 02 37 03.9 -1.1
KSU1 pP pP 02 37 29.9 -1.7
BTOK **Tokmak** 79.83 316 *iP* P 02 37 05.3 +0.2
SWS **Schriesheim** 79.88 333⇑*eP* P 02 37 05.0 -0.1
WPM1 **Penmaenmawr** 79.90 342⇑*iP* P 02 37 05.2 0.0
WPM1 AMb AMB 02 37 09.1
comp=Z,537nm,1.8s,mb6.1
ABH **Alteburg** 79.90 334⇑*eP* P 02 37 05.2 0.0
ABH **Alteburg** 79.90 334⇑*eP* P 02 37 05.4 +0.2
WCB1 **Church Bay** 79.92 343⇑*iP* P 02 37 04.7 -0.6
WCB1 AMb AMB 02 37 08.8
comp=Z,233nm,2.3s,mb5.6
ALN **Alexandroupoli** 79.93 318 *eP* P 02 37 06.1 +0.5
VTS **Vitosha** 79.94 321 *iP* P 02 37 06.0 +0.4
RZN **Rozhen** 79.95 320 P P 02 37 06.0 +0.3
TKTP **Tekketepe** 79.96 314 *iP* P 02 37 04.6 -1.2
WLF1 **Llynfaes** 79.97 343⇑*eP* P 02 37 05.2 -0.4
RDO **Rodhopi** 79.98 319 *eP* P 02 37 06.5 +0.6
LPK **Lapseki** 79.99 318 P P 02 37 06.8 +0.9
BALB **Balikesir** 80.00 316 P P 02 37 05.6 -0.3
ISP **Isparta** 80.01 314 P P 02 37 05.2 -0.9
ISP **Isparta** 80.01 314⇑*iP* P 02 37 05.8 -0.3
comp=Z,103nm,0.6s,mb5.8
ISP **Isparta** 80.01 314⇑*iP* P 02 37 05.8 -0.3
ISP pmax pmax
comp=Z,103nm,0.6s,mb5.8
GRUS **Gruza** 80.01 323 *iP* P 02 37 05.6 -0.4
PERS **Pernice** 80.04 328⇑*iP* P 02 37 06.3 +0.2
PERS *epP* pP 02 37 34.2 +1.5
PERS *e* 02 37 51.7
PERS *eS* S 02 47 01.7 +1.4
PERS *e* 02 48 22.3
YRC **Rhoscolyn** 80.05 343⇑*iP* P 02 37 05.5 -0.4
YRC AMb AMB 02 37 09.6
comp=Z,196nm,2.4s,mb5.5
YLL **Llanberis** 80.06 342⇑*eP* P 02 37 06.1 0.0
SBD1 **Bryn Du** 80.08 342⇑*iP* P 02 37 06.6 +0.4
BHL **Bhannes** 80.09 308 *eP* P 02 37 07.1 +0.5
FUR **Furstenfeldbru** 80.15 331 *eP* P 02 37 06.9 +0.3
comp=Z,399nm,1.1s,mb6.2
FUR *eS* S 02 46 59.8 -1.6
FUR **Furstenfeldbru** 80.15 331 *eP* P 02 37 06.9 +0.3
FUR *eS* S 02 46 59.8 -1.6
FUR pmax pmax
comp=Z,399nm,1.1s,mb6.2
DIVS **Divcibare** 80.15 324⇓*iP* P 02 37 06.4 -0.4
HDH **Heidenheim** 80.16 332⇑*eP* P 02 37 06.5 -0.2
KHL **Karahalli** 80.16 315 *eP* P 02 37 05.1 -1.8
KTD **Kalmit** 80.22 334⇑*eP* P 02 37 06.9 -0.1
KTD **Kalmit** 80.22 334⇑*eP* P 02 37 07.0 0.0
ABTO **Aybut** 80.25 285 ⇑P P 02 37 08.1 +0.3
SNR=12
BCK **Bucak** 80.25 313 *eP* P 02 37 06.8 -0.6
YRE **Yr Eifl** 80.27 343⇑*eP* P 02 37 07.2 0.0
YRE AMb AMB 02 37 11.2
comp=Z,560nm,2.1s,mb6.0
KBA **Koelnbreinsper** 80.33 329⇑*iP* P 02 37 07.9 +0.3
comp=Z,2µm,3.2s
KBA **Koelnbreinsper** 80.33 329⇑*iP* P 02 37 07.9 +0.3
KBA pmax pmax
comp=Z,2µm,3.2s
STU **Stuttgart** 80.33 333 *eP* P 02 37 07.5 -0.1
comp=Z,163nm,0.8s,mb5.9
STU pP pP 02 37 33.9 -0.3
STU **Stuttgart** 80.33 333 *eP* P 02 37 07.5 -0.1
STU *PP pP 02 37 33.9 -0.3
STU pmax pmax
comp=Z,163nm,0.8s,mb5.9
HLM1 **Long Mynd** 80.35 341⇑*iP* P 02 37 07.7 +0.1
HLM1 AMb AMB 02 37 11.7
comp=Z,429nm,2.2s,mb5.9
OBKA **Obir** 80.36 328⇑*iP* P 02 37 07.7 -0.1
comp=Z,2µm,3.5s
BARS **Barje** 80.38 322⇓*iP* P 02 37 07.6 -0.4
MNTX **Cornudas Mount** 80.40 55 *eP* P 02 37 08.4 +0.1
comp=Z,152nm,1.1s,mb5.7
MNTX *epP* pP 02 37 36.6 +1.7
DLF **Lyons Farm** 80.41 344⇑*iP* P 02 37 08.0 +0.1
DSB **Dublin** 80.43 344 *eP* P 02 37 08.0 0.0
comp=Z,709nm,2.0s,mb6.2
MMB **Musomiste** 80.49 320 *iP* P 02 37 09.0 +0.4
SSP1 **Stoney Pound** 80.50 342⇑*iP* P 02 37 08.6 +0.2
DCN **Croghan** 80.52 344⇑*iP* P 02 37 08.6 +0.1
WLF **Walferdange** 80.52 335 *eP* P 02 37 08.4 -0.1
comp=Z,1µm,2.0s,mb6.3
WLF **Walferdange** 80.52 335 *eP* P 02 37 08.4 -0.2

WLF pmax pmax
comp=Z,1µm,2.0s,mb6.3
MANT Manisa 80.53 315 *i* P **P 02 37 09.4 +0.5**
GIVF Givet 80.53 336⇑ *i* P **P 02 37 08.3 -0.3**
comp=Z,265nm,1.1s,mb5.7
GIVF Givet 80.53 336⇑ *i* P **P 02 37 08.3 -0.3**
GIVF pmax pmax
comp=Z,133nm,1.1s,mb5.7
LBG Lerchenberg 80.56 333⇑ *e*P **P 02 37 08.8 0.0**
BUCH Bad Urach 80.56 333⇑ *e*P **P 02 37 09.1 +0.3**
KKB Krupnik 80.56 321 *i* P **P 02 37 08.5 -0.5**
CRES Cresnjev 80.59 328 *e*P **P 02 37 08.8 -0.2**
BBLS Bajina Basta - 80.59 324 *e*P **P 02 37 10.1 +1.1**
SKP1 Kophill 80.59 340⇑ *i* P **P 02 37 08.7 -0.2**
KSDI Kefar Szold 80.60 307 P **P 02 37 10.4 +1.0**
LANF Langenberg 80.61 334⇑ *e*P **P 02 37 09.3 +0.3**
AKS Akhisar 80.61 316 P **P 02 37 09.0 -0.3**
ASF Jabal al Asfar 80.62 306 P **P 02 37 10.3 +0.8**
comp=Z,145nm,0.9s,mb5.8,baz=274,slow=1.9,SNR=66
ASF pP pP 02 37 37.6 +1.4
comp=Z,41nm,0.9s,baz=356,slow=0.9,SNR=2.8
EZN Ezine 80.62 317 P **P 02 37 09.6 +0.3**
CSS Prodhromos 80.62 310⇑ *i* P **P 02 37 09.5 +0.1**
comp=Z,237nm,1.0s,mb6.0
BAIF Baives 80.75 336⇑ *i* P **P 02 37 09.6 -0.2**
comp=Z,69nm,0.6s,mb5.4
BAIF Baives 80.75 336⇑ *i* P **P 02 37 09.6 -0.2**
BAIF pmax pmax
comp=Z,34nm,0.6s,mb5.3
LEF Lefka 80.75 310 P **P 02 37 09.9 -0.2**
NVSS Nova Varos 2 80.75 324⇓ *i* P **P 02 37 10.4 +0.5**
WATA Walderalm 80.75 331⇑ *i* P **P 02 37 10.4 +0.6**
comp=Z,227nm,1.3s,mb5.8
WATA Walderalm 80.75 331 *i* P **P 02 37 10.4 +0.6**
comp=Z,227nm,1.3s,mb5.8,SNR=39
WATA Walderalm 80.75 331⇑ *i* P **P 02 37 10.4 +0.6**
WATA pmax pmax
comp=Z,227nm,1.3s,mb5.8
LJU Ljubljana 80.76 328⇑ *i* P **P 02 37 09.6 -0.4**
LJU *e*pP pP 02 37 37.4 +0.8
LJU *e* 02 40 17.5
LJU *e*S S 02 47 07.3 -0.5
LSR Lussari 80.78 329⇑ *i* P **P 02 37 09.0 -1.0**
WTTA Wattenberg 80.79 331⇑ *i* P **P 02 37 10.7 +0.6**
comp=Z,3µm,3.1s
WTTA Wattenberg 80.79 331 *i* P **P 02 37 10.7 +0.6**
comp=Z,3µm,3.1s,SNR=62
WTTA Wattenberg 80.79 331⇑ *i* P **P 02 37 10.7 +0.6**
WTTA pmax pmax
comp=Z,3µm,3.1s
AYVA Ayvalik 80.84 317 *i* P **P 02 37 09.9 -0.6**
DENT Denizli 80.84 314 P **P 02 37 11.0 +0.5**
HTR Trewern Hill 80.85 342⇑ *i* P **P 02 37 10.6 +0.3**
HTR AMb AMB 02 37 14.4
comp=Z,693nm,2.5s,mb6.0
MCH1 Michaelchurch 80.86 341⇑ *i* P **P 02 37 10.5 +0.2**
MMA0 Mount Meron ar 80.88 307 P **P 02 37 12.0 +1.2**
MENF Mencas 80.88 338⇑ *e*P **P 02 37 10.4 0.0**
DNZL Cakiroluk 80.88 314 *i* P **P 02 37 11.3 +0.5**
NWAO Narrogin (SRO) 80.90 204 P **P 02 37 10.3 -0.6**
comp=Z,62nm,0.8s,mb5.5,baz=32,slow=4.9,SNR=7.8
NWAO pP pP 02 37 38.3 +0.8
comp=Z,57nm,0.9s,baz=35,slow=5.6,SNR=4.6
PTCC Patocco-Chiusa 80.90 329 P **P 02 37 09.8 -0.8**
CADS Cadrg 80.91 329⇑ *i* P **P 02 37 09.5 -1.2**
ZOU Zoufplan 80.91 329⇓ *i* P **P 02 37 10.0 -0.7**
MOTA Moosalm 80.91 331⇑ *i* P **P 02 37 11.1 +0.4**
comp=Z,257nm,1.3s,mb5.9
MOTA Moosalm 80.91 331 *i* P **P 02 37 11.1 +0.4**
comp=Z,257nm,1.3s,mb5.9,SNR=42
MOTA Moosalm 80.91 331⇑ *i* P **P 02 37 11.1 +0.4**
MOTA pmax pmax
comp=Z,257nm,1.3s,mb5.9
SRS Serrai 80.92 320 *e*P **P 02 37 10.8 0.0**
QURS Qurayyt al Mil 80.93 305 P **P 02 37 12.4 +1.3**
FVI Forni Avoltri 80.95 330 P **P 02 37 10.0 -0.9**
GOLH Golhisar 80.96 314 *i* P **P 02 37 10.2 -0.9**
HNTI Hanita 80.96 308 P **P 02 37 12.1 +0.9**
STR Strasbourg 80.96 334⇑ *e*P **P 02 37 11.5 +0.6**
GUT Gutenstein 80.97 332⇑ *e*P **P 02 37 11.0 0.0**
UBR Uberruh 80.97 332⇑ *e*P **P 02 37 10.9 -0.1**
SQTA Sankt Quirin 80.98 331⇑ *i* P **P 02 37 11.6 +0.6**
comp=Z,221nm,1.3s,mb5.8
SQTA Sankt Quirin 80.98 331⇑ *i* P **P 02 37 11.6 +0.6**
SQTA pmax pmax
comp=Z,221nm,1.3s,mb5.8
DRE Drenchia 80.99 329⇓ *e*P **P 02 37 10.0 -1.1**
BFO Black Forest 81.00 333 *e*P **P 02 37 11.0 -0.1**
comp=Z,329nm,1.6s,mb5.9
BFO *e*S S 02 47 10.2 0.0
BFO Black Forest 81.00 333 *e*P **P 02 37 11.0 -0.1**
BFO *e*S S 02 47 10.2 0.0
BFO pmax pmax
comp=Z,329nm,1.6s,mb5.9
VOY Vojsko 81.01 329 *e*P **P 02 37 09.9 -1.3**
VOY *e* 02 37 28.4
SEST Monte Rota 81.03 330 P **P 02 37 11.0 -0.3**
PLE Pljevlja 81.03 324⇑ *i* P **P 02 37 12.2 +0.8**
SWN1 Swindon 81.03 340⇑ *i* P **P 02 37 11.8 +0.6**
HILS Ha'il 81.05 299 P **P 02 37 12.7 +0.9**
SPAK Spaichingen 81.05 333⇑ *e*P **P 02 37 11.6 +0.2**
SPAK Spaichingen 81.05 333 *e*P **P 02 37 11.4 0.0**
CEY Cerknica 81.06 328⇑ *i* P **P 02 37 11.0 -0.5**
BOO Bordano 81.06 329⇓ *i* P **P 02 37 11.0 -0.5**
TOO Toolangi 81.08 181⇓ *i* P **P 02 37 12.0 +0.2**
comp=Z,14nm,0.6s,mb5.0
TOO *e* pP 02 37 39.3 +0.9
TOO Toolangi 81.08 181⇓ *i* P **P 02 37 12.0 +0.2**
TOO *e* pP 02 37 39.3 +0.9
TOO pmax pmax
comp=Z,14nm,0.6s,mb5.0
BAD Bernadia 81.08 329⇓ *e*P **P 02 37 11.0 -0.6**
PRK Paraskevi 81.09 317 *e*P **P 02 37 12.0 +0.2**
COLI Coloredo 81.12 329⇓ *e*P **P 02 37 11.0 -0.8**
LOS Limnos 81.14 318 *e*P **P 02 37 12.2 +0.1**
BUA Buia 81.14 329⇓ *e*P **P 02 37 11.0 -0.9**
ELL Elmali 81.14 313 P **P 02 37 11.5 -0.7**
HGH Gray Hill 81.15 341⇑ *i* P **P 02 37 12.0 +0.1**
HGH AMb AMB 02 37 15.2
comp=Z,499nm,1.2s,mb6.2
MPRI Monte Prat 81.17 329⇑ *i* P **P 02 37 11.0 -1.1**
IVA Berane 81.18 323⇑ *i* P **P 02 37 12.7 +0.5**
MZLS Mizel 81.19 295 P **P 02 37 13.4 +0.8**
KNT Kendrikon 81.21 320 *e*P **P 02 37 12.8 +0.4**
SKO Skopje 81.23 322⇑ *i* P **P 02 37 13.3 +0.9**
comp=Z,0.3nm,1.1s
SKO Skopje 81.23 322⇑ *i* P **P 02 37 13.3 +0.9**
SKO pmax pmax
comp=Z,294nm,1.1s,mb6.0
WLS Welschbruch 81.25 334⇑ *e*P **P 02 37 12.6 +0.2**
KDAG Bornova 81.25 316 *i* P **P 02 37 11.6 -1.0**
IZM Izmir 81.25 316 P **P 02 37 12.2 -0.4**
SOH Sokhos 81.26 320 *e*P **P 02 37 12.1 -0.6**
HAF Haifa 81.27 307 P **P 02 37 13.5 +0.6**
CDF Champ du Feu 81.27 334⇑ *i* P **P 02 37 12.5 0.0**
comp=Z,537nm,1.1s,mb6.0
CDF Champ du Feu 81.27 334⇑ *i* P **P 02 37 12.5 0.0**
CDF pmax pmax
comp=Z,269nm,1.1s,mb6.0
MMLI Mount Malkishu 81.29 307 P **P 02 37 14.2 +1.2**
TRI Trieste 81.33 328 P **P 02 37 12.0 -0.9**
UPM Unac-Piva 81.34 324⇑ *i* P **P 02 37 12.8 -0.2**
OUR Ouranopolis 81.35 319 *e*P **P 02 37 13.3 +0.2**
HSA Swansea 81.36 342⇑ *i* P **P 02 37 13.1 +0.1**
PVY Plav 81.37 323⇑ *i* P **P 02 37 12.4 -0.8**
DAVA Damuels 81.39 332⇑ *i* P **P 02 37 13.6 +0.4**
comp=Z,2µm,3.1s
LIBD Limburg 81.40 333⇑ *e*P **P 02 37 13.5 +0.3**
LIBD Limburg 81.40 333⇑ *e*P **P 02 37 13.4 +0.2**
STEIN Stein am Rhein 81.40 332⇑ *i* P **P 02 37 13.1 -0.1**
OFRI 'Ofer 81.41 307 P **P 02 37 14.2 +0.6**
SLE Schleitheim 81.44 333⇑ *i* P **P 02 37 13.2 -0.2**
KIZ Kirchzarten 81.46 333⇑ *e*P **P 02 37 13.3 -0.2**
SWK Warminster 81.47 341⇑ *e*P **P 02 37 13.7 +0.2**
ECH Echery 81.48 334⇑ *e*P **P 02 37 13.7 +0.1**
WEIN Weingarten 81.48 332⇑ *i* P **P 02 37 13.5 -0.2**
AYDN Tasoluk 81.51 315 *i* P **P 02 37 15.0 +1.0**
FELD Feldberg 81.51 333⇑ *e*P **P 02 37 13.8 0.0**
LIENZ Alp Oberkamor 81.51 332⇑ *i* P **P 02 37 13.9 +0.1**
PLG Polygyros 81.57 320 *e*P **P 02 37 14.5 +0.2**
FLACH Flaach 81.58 333⇑ *i* P **P 02 37 14.1 -0.1**
THE Thessaloniki 81.59 320 *e*P **P 02 37 13.5 -0.9**
GRG Griva 81.60 321 *e*P **P 02 37 14.5 +0.1**

WILA Wila 81.61 332⇑ *i* P **P 02 37 14.2 -0.1**
APPI Appiano 81.61 330 P **P 02 37 13.3 -1.0**
URLA Izmir 81.62 316 *i* P **P 02 37 13.2 -1.3**
NKY Niksic 81.62 324⇑ *i* P **P 02 37 14.1 -0.4**
SLTI Sal'it 81.65 307 P **P 02 37 16.0 +1.1**
AKAS Kas 81.69 313 *i* P **P 02 37 13.6 -1.5**
YER Yerkesik 81.70 314 P **P 02 37 15.7 +0.7**
SIW Isle of Wight 81.70 340⇑ *e*P **P 02 37 14.4 -0.3**
BRY Bratogost 81.74 324⇑ *i* P **P 02 37 14.6 -0.5**
ZUR Zurich 81.76 332⇑ *i* P **P 02 37 15.0 -0.1**
PLONS Plons 81.77 332⇑ *i* P **P 02 37 15.2 +0.1**
KSL Kastellorizon 81.77 313 *e*P **P 02 37 14.5 -0.9**
SULZ Sulz-Cheisache 81.77 333⇑ *i* P **P 02 37 15.0 -0.2**
DALT Dalyan (Mudla) 81.80 314 P **P 02 37 14.7 -0.8**
MKRJ Makawir 81.80 306 P **P 02 37 17.0 +1.3**
MOF Molkenrain 81.81 334⇑ *e*P **P 02 37 15.4 +0.1**
PAIG Paliouri 81.81 319 *e*P **P 02 37 15.5 0.0**
TTG Podgorica 81.82 323⇑ *i* P **P 02 37 15.1 -0.4**
DAVOX Davos 81.83 331⇑ *i* P **P 02 37 15.9 +0.4**
CTI Castel Tesino 81.83 330 P **P 02 37 14.8 -0.7**
FUORN Ofenpass 81.83 331⇑ *i* P **P 02 37 16.2 +0.7**
MLSB Milas 81.84 315 P **P 02 37 15.9 +0.2**
THEF They Montfort 81.84 334⇑ *e*P **P 02 37 15.6 +0.1**
NVLJ Novalja 81.87 327 *i* P **P 02 37 13.6 -2.1**
MEZF Maizieres J'vi 81.89 335⇑ *i* P **P 02 37 15.9 +0.2**
comp=Z,576nm,1.3s,mb5.9
BRMO Bormio 81.92 331 P **P 02 37 16.5 +0.6**
HEX Exmoor 81.92 341⇑ *i* P **P 02 37 16.1 +0.3**
HAU Haudompre 81.93 334⇑ *i* P **P 02 37 15.7 -0.2**
comp=Z,188nm,0.9s,mb5.6
HAU *e*R
comp=Z,1µm,20.8s
HAU Haudompre 81.93 334⇑ *i* P **P 02 37 15.7 -0.2**
HAU pmax pmax
comp=Z,94nm,0.9s,mb5.6
HAU MLR MLR
comp=Z,1µm,20.8s
HINF Hinteralfeld 81.93 334⇑ *i* P **P 02 37 15.5 -0.5**
comp=Z,91nm,0.8s,mb5.4
HINF Hinteralfeld 81.93 334⇑ *i* P **P 02 37 15.5 -0.5**
HINF pmax pmax
comp=Z,45nm,0.8s,mb5.3
SMG Samos 82.00 316 *e*P **P 02 37 16.5 0.0**
BBS Basel-Blauen 82.03 333⇑ *e*P **P 02 37 16.6 +0.1**
BBS Basel-Blauen 82.03 333 *e*P **P 02 37 15.8 -0.7**
LLS Linth-Limmern 82.07 332⇑ *i* P **P 02 37 16.9 +0.2**
BUM Brajici-Budva 82.08 323⇑ *i* P **P 02 37 16.8 -0.1**
BALST Balsthal 82.08 333⇑ *i* P **P 02 37 16.8 0.0**
MUO Muotathal 82.09 332⇑ *i* P **P 02 37 16.9 +0.1**
BERNI Berninapass 82.09 331⇑ *i* P **P 02 37 17.4 +0.6**
HCY Herceg Novi 82.13 324⇑ *i* P **P 02 37 16.3 -0.8**
MZDA Masada 82.14 306 P **P 02 37 18.4 +1.0**
BOURR Bourrignon 82.18 333⇑ *i* P **P 02 37 17.3 0.0**
ULC Ulcinj 82.20 323⇑ *i* P **P 02 37 17.7 +0.2**
FNA Florina 82.20 321 *e*P **P 02 37 18.2 +0.6**
VDL Val di Lei 82.22 331⇑ *i* P **P 02 37 18.0 +0.5**
MABI Malga Bissina 82.23 331 P **P 02 37 17.2 -0.3**
LIT Litokhoron 82.24 320 *e*P **P 02 37 17.1 -0.6**
BODT Bodrum 82.25 315 P **P 02 37 16.9 -0.9**
TUE Stuetta 82.28 332 P **P 02 37 18.4 +0.6**
LOMF Lomont 82.35 333⇑ *e*P **P 02 37 18.5 +0.4**
KZN Kozani 82.41 320 *e*P **P 02 37 18.5 -0.1**
VAL Valentia 82.41 346 *e*P **P 02 37 15.3 -3.1**
VAL *i*S S 02 47 26.9 +2.4
TIR Tirane 82.43 322 *e*p **P 02 37 19.0 +0.3**
TIR Tirane 82.43 322 P **P 02 37 19.1 +0.4**
HASLI Hasliberg 82.44 332⇑ *i* P **P 02 37 18.7 +0.1**
XOR Xorichti 82.49 319 *e*P **P 02 37 18.8 -0.3**
FUSIO Fusio 82.53 332⇑ *i* P **P 02 37 19.4 +0.3**
SAL Salo 82.61 330 P **P 02 37 19.2 -0.3**
WIMIS Wimmis 82.69 333⇑ *i* P **P 02 37 19.8 -0.1**
AFFS 'Afif 82.70 296 P **P 02 37 21.7 +1.3**
MASH Mash'abbe Sade 82.71 306 P **P 02 37 21.1 +0.8**
TORNY Torny 82.81 333⇑ *i* P **P 02 37 20.6 +0.1**
BRANT Les Verrieres 82.83 334⇑ *i* P **P 02 37 20.9 +0.3**
CSA1 St Austell 82.83 342⇑ *i* P **P 02 37 20.7 +0.1**
MUGIO Muggio 82.86 331⇑ *i* P **P 02 37 20.2 -0.6**
LKBD Leukerbad 82.93 333⇑ *i* P **P 02 37 21.2 +0.1**
KZIT Kziot 83.00 307 P **P 02 37 22.8 +1.0**
VAI Varese 83.00 332 P **P 02 37 21.2 -0.3**
PRNI Paran 83.05 306 P **P 02 37 23.3 +1.2**
CCA1 Carnmenellis 83.06 342⇑ *i* P **P 02 37 21.8 +0.1**
SENIN Lac Senin 83.06 333⇑ *i* P **P 02 37 22.1 +0.3**
CRQ2 Rosemanowes 2 83.07 342⇑ *i* P **P 02 37 21.9 +0.2**
CRQ2 AMb AMB 02 37 25.8
comp=Z,486nm,1.7s,mb6.0
MMK Mattmark 83.11 332⇑ *i* P **P 02 37 22.7 +0.7**
LTX Lajitas 83.13 56 *e*P **P 02 37 22.6 +0.2**
comp=Z,183nm,1.1s,mb5.8
LTX *e*pP pP 02 37 48.7 -0.6
LTX Lajitas 83.13 56 *e*P **P 02 37 22.6 +0.1**
LTX *e**PP pP 02 37 48.7 -0.6
LTX pmax pmax
comp=Z,183nm,1.1s,mb5.8
TXAR Lajitas Array 83.13 56 P **P 02 37 22.8 +0.3**
comp=Z,65nm,0.8s,mb5.5,baz=294,slow=3.9,SNR=333
TXAR pP pP 02 37 48.7 -0.6
comp=Z,28nm,0.6s,baz=305,slow=4.4,SNR=5.9
TXAR PKKPbc 02 55 43.8
comp=Z,0.4nm,0.7s,baz=153,slow=5.6,SNR=4.2
TXAR Lajitas Array 83.13 56 P **P 02 37 22.8 +0.3**
TXAR pP pP 02 37 48.7 -0.6
TXAR PKKPbc 02 55 43.8
CMA1 Manaccan 83.14 342⇑ *i* P **P 02 37 22.1 0.0**
CGW Gweek 83.14 342⇑ *i* P **P 02 37 22.3 +0.2**
APE Apeiranthos 83.15 316 P **P 02 37 20.3 -2.1**
APE Apeiranthos 83.15 316 *e*P **P 02 37 21.7 -0.7**
AGG Agios Georgios 83.17 319 *e*P **P 02 37 21.6 -0.9**
CPZ Penzance 83.17 342⇑ *i* P **P 02 37 22.4 +0.1**
CPZ AMb AMB 02 37 26.2
comp=Z,361nm,1.7s,mb5.9
CGH1 Goonhilly 83.18 342⇑ *i* P **P 02 37 22.6 +0.3**
MCGN Macugnaga 83.19 332 P **P 02 37 22.8 +0.4**
AIGLE Aigle 83.20 333⇑ *i* P **P 02 37 22.4 -0.1**
GRYON Gryon 83.22 333⇑ *i* P **P 02 37 22.8 +0.2**
FLN La Foliniere 83.23 339⇑ *i* P **P 02 37 22.6 +0.1**
comp=Z,135nm,0.5s,mb5.7
FLN *e*R
comp=Z,1µm,18.0s
FLN La Foliniere 83.23 339⇑ *i* P **P 02 37 22.6 +0.1**
FLN pmax pmax
comp=Z,67nm,0.5s,mb5.7
FLN MLR MLR
comp=Z,1µm,18.0s
CABF La Chapelle 83.24 334⇑ *i* P **P 02 37 22.8 +0.1**
comp=Z,36nm,0.6s,mb5.1
CABF La Chapelle 83.24 334⇑ *i* P **P 02 37 22.8 +0.1**
CABF pmax pmax
comp=Z,18nm,0.6s,mb5.1
GIMEL Gimel 83.25 333⇑ *i* P **P 02 37 22.9 +0.2**
HRFI Mount Harif 83.26 306 P **P 02 37 24.2 +1.1**
DIX Grande Dixence 83.28 333⇑ *i* P **P 02 37 23.5 +0.7**
LDF La Druitiere 83.29 338⇑ *i* P **P 02 37 22.7 -0.1**
comp=Z,76nm,0.6s,mb5.4
LDF La Druitiere 83.29 338⇑ *i* P **P 02 37 22.7 -0.1**
LDF pmax pmax
comp=Z,38nm,0.6s,mb5.4
SLM Saint Louis 83.30 41 *e*P **P 02 37 23.1 -0.1**
comp=Z,284nm,1.2s,mb6.0
SLM *e*pP pP 02 37 48.5 -1.5
SLM *e*sP sP 02 37 57.8 -3.4
SLM Saint Louis 83.30 41 *e*P **P 02 37 23.1 0.0**
SLM *e**PP pP 02 37 48.5 -1.5
SLM *e**SP sP 02 37 57.8 -3.4
SLM pmax pmax
comp=Z,284nm,1.2s,mb6.0
RSM Repubblica di 83.34 328 P **P 02 37 24.1 +0.9**
JAN Janina 83.35 321 *e*P **P 02 37 24.0 +0.6**
LOR Lormes 83.35 335⇑ *i* P **P 02 37 23.2 0.0**
comp=Z,382nm,1.0s,mb5.9
LOR *e*R
comp=Z,2µm,20.0s
LOR Lormes 83.35 335⇑ *i* P **P 02 37 23.2 0.0**
LOR pmax pmax
comp=Z,191nm,1.0s,mb5.9
LOR MLR MLR
comp=Z,2µm,20.0s
SALAN Lac Salanfe 83.36 333⇑ *i* P **P 02 37 23.5 +0.2**
EMV Vieux Emosson 83.46 333⇑ *i* P **P 02 37 24.2 +0.4**
ORX Oropa 83.48 332 P **P 02 37 23.0 -0.8**
ORO Oropa 83.48 332 P **P 02 37 23.3 -0.6**
AQBJ Aqaba 83.48 305 P **P 02 37 25.5 +1.3**

EVR Evrytania 83.50 320 *e*P **P 02 37 24.0 -0.1**
KARP Karpathos 83.50 314 *e*P **P 02 37 23.0 -1.2**
NSAL Nisos Salamina 83.51 318 *e*P **P 02 37 23.5 -0.7**
MBH Mount Berech 83.51 305 P **P 02 37 25.7 +1.3**
CING Cingoli 83.52 328 P **P 02 37 24.4 +0.3**
MGER Gerania Oros 83.55 318 *e*P **P 02 37 23.5 -0.9**
EIL Elat 83.58 305 P **P 02 37 25.7 +1.0**
SFI Santa Sofia 83.58 329 P **P 02 37 24.7 +0.3**
NAIG Nisos Aigina 83.62 318 *e*P **P 02 37 23.5 -1.2**
FNVD Fontana Vidola 83.63 329 P **P 02 37 25.8 +1.2**
SEI Scarperia 83.64 329 P **P 02 37 26.2 +1.5**
SSF Saint Saulge 83.64 335⇑ *i* P **P 02 37 24.8 +0.2**
comp=Z,124nm,0.8s,mb5.5
SSF Saint Saulge 83.64 335⇑ *i* P **P 02 37 24.8 +0.2**
SSF pmax pmax
comp=Z,62nm,0.8s,mb5.5
VMG Vicchio 83.65 329 P **P 02 37 25.9 +1.2**
PGD Poggio Sodo 83.66 329 P **P 02 37 26.2 +1.4**
TRAV 83.66 332 P **P 02 37 24.4 -0.4**
GSCL Gusciola 83.67 330 P **P 02 37 25.9 +1.1**
GRR Gorron 83.67 339⇑ *i* P **P 02 37 25.1 +0.4**
comp=Z,197nm,0.7s,mb5.7
GRR Gorron 83.67 339⇑ *i* P **P 02 37 25.1 +0.4**
GRR pmax pmax
comp=Z,99nm,0.7s,mb5.8
ERBM Eremo 83.67 330 P **P 02 37 26.1 +1.3**
TBKS Tabuk 83.68 303 P **P 02 37 26.5 +1.3**
HYF Humbligny 83.72 336⇑ *i* P **P 02 37 25.5 +0.6**
BOB Bobbio (Coli) 83.72 331 P **P 02 37 25.6 +0.6**
FVM French Village 83.72 42 *e*P **P 02 37 25.1 -0.1**
comp=Z,170nm,1.3s,mb5.7
FVM French Village 83.72 42 P **P 02 37 25.4 +0.2**
FVM pmax pmax
comp=Z,170nm,1.2s,mb5.8
SANT Santorini 83.73 316⇑ *i* P **P 02 37 23.7 -1.6**
comp=Z,251nm,1.2s,mb5.9
GRAM 83.74 330 P **P 02 37 25.4 +0.2**
KBRS Khaybar 83.77 300 P **P 02 37 27.3 +1.5**
BADI Badiali 83.77 328 P **P 02 37 26.2 +0.9**
ALWS Ilw as Safayha 83.78 305 P **P 02 37 26.7 +1.0**
CRE Caprese Michel 83.79 328 P **P 02 37 26.1 +0.7**
VALM 83.80 330 P **P 02 37 25.8 +0.4**
PMOR Pomariorio Ree 83.80 117 *e*P **P 02 37 26.7 +0.6**
comp=Z,109nm,1.1s,mb5.6
FGMS Monte Sant'Ang 83.81 325 P **P 02 37 25.5 -0.1**
JMOS Jabal al Moall 83.86 305 P **P 02 37 27.3 +1.2**
MURB Monte Urbino 83.88 328 P **P 02 37 26.7 +0.9**
SARO Sassorosso 83.88 330 P **P 02 37 25.9 +0.1**
CODM 83.90 330 P **P 02 37 26.2 +0.2**
LSD Ceresole Reale 83.91 332 P **P 02 37 26.8 +0.9**
VLC Villacollemand 83.91 330⇑ *i* P **P 02 37 26.1 +0.1**
comp=Z,551nm,1.6s,mb6.1
BDI Bagni Di Lucca 83.91 330 P **P 02 37 25.9 -0.1**
SMF Signal de Mont 83.92 335⇑ *i* P **P 02 37 26.3 +0.3**
comp=Z,285nm,0.7s,mb5.9
SMF Signal de Mont 83.92 335⇑ *i* P **P 02 37 26.3 +0.3**
SMF pmax pmax
comp=Z,142nm,0.7s,mb5.9
BACM 83.92 330 P **P 02 37 26.2 +0.2**
AVF Avril sur Loir 83.93 335⇑ *i* P **P 02 37 26.4 +0.4**
comp=Z,337nm,1.0s,mb5.8
AVF *e*pP pP 02 37 53.4 +0.5
AVF Avril sur Loir 83.93 335⇑ *i* P **P 02 37 26.4 +0.4**
AVF *e**PP pP 02 37 53.4 +0.5
AVF pmax pmax
comp=Z,169nm,1.0s,mb5.8
BRT Bari-Castellan 83.97 324 P **P 02 37 26.5 +0.1**
LPL La Plagne 84.00 333⇑ *i* P **P 02 37 27.3 +0.9**
comp=Z,256nm,1.0s,mb5.7
LPL La Plagne 84.00 333⇑ *i* P **P 02 37 27.3 +0.9**
LPL pmax pmax
comp=Z,128nm,1.0s,mb5.7
TERO Teramo 84.00 327 P **P 02 37 27.0 +0.5**
LPG La Plagne 84.01 333⇑ *i* P **P 02 37 27.5 +1.1**
comp=Z,369nm,1.0s,mb5.9
LPG La Plagne 84.01 333⇑ *i* P **P 02 37 27.5 +1.1**
LPG pmax pmax
comp=Z,185nm,1.0s,mb5.9
VINC Vinca 84.01 330 P **P 02 37 25.8 -0.7**
HAQS Haql 84.05 305 P **P 02 37 28.1 +1.1**
MAIM 84.08 330 P **P 02 37 26.2 -0.7**
RSP Reno Superiore 84.14 332 P **P 02 37 26.3 -0.8**
CSNT Castellina Chi 84.16 329 P **P 02 37 26.9 -0.4**
KAMS Al Khamasin 84.19 292 P **P 02 37 29.5 +1.6**
SGMF Saint Gilles 84.23 340⇑ *i* P **P 02 37 28.2 +0.7**
PCP Pian Castagno 84.23 331 P **P 02 37 27.1 -0.5**
PII Pisa 84.23 329 P **P 02 37 26.8 -0.8**
MSNY Massena 84.25 28 *e*P **P 02 37 27.4 -0.3**
CIGN Sant'Elia a Pi 84.29 326 P **P 02 37 28.5 +0.5**
BGF Bois d'Agland 84.30 336⇑ *i* P **P 02 37 28.2 +0.3**
comp=Z,168nm,0.8s,mb5.6
BGF Bois d'Agland 84.30 336⇑ *i* P **P 02 37 28.2 +0.3**
BGF pmax pmax
comp=Z,84nm,0.8s,mb5.6
AQU L'Aquila 84.30 327 *e*P **P 02 37 28.1 0.0**
comp=Z,94nm,0.8s,mb5.7
AQU L'Aquila 84.30 327 P **P 02 37 28.7 +0.7**
AQU pmax pmax
comp=Z,94nm,0.9s,mb5.6
FENE Fenestrelle 84.31 332 P **P 02 37 28.3 +0.3**
ROSF Rostrenen 84.33 340⇑ *i* P **P 02 37 28.8 +0.8**
comp=Z,328nm,0.7s,mb6.0
ROSF *e*pP pP 02 37 55.8 +0.9
ROSF Rostrenen 84.33 340⇑ *i* P **P 02 37 28.8 +0.8**
ROSF *e**PP pP 02 37 55.8 +0.9
ROSF pmax pmax
comp=Z,164nm,0.6s,mb6.0
LTRZ Laterza 84.36 324 P **P 02 37 28.5 +0.2**
INTR Introdacqua 84.39 326 P **P 02 37 28.3 -0.2**
BDAS Al Bad' 84.40 304 P **P 02 37 30.0 +1.2**
BHB Bricherasio 84.41 332 P **P 02 37 26.9 -1.6**
BNI Bardonecchia 84.42 332 *e*P **P 02 37 29.1 +0.5**
comp=Z,145nm,1.2s,mb5.7
BNI Bardonecchia 84.42 332 *e*P **P 02 37 29.1 +0.6**
BNI pmax pmax
comp=Z,145nm,1.2s,mb5.7
TAYS Tayyib Ism 84.45 305 P **P 02 37 30.2 +1.1**
CII Carovilli 84.47 326 *e*P **P 02 37 29.0 +0.1**
comp=Z,801nm,2.0s,mb6.2
GDM Grand'Maison 84.48 333⇑ *e*P **P 02 37 29.8 +1.0**
FIAM Fiamignano 84.49 327 P **P 02 37 29.3 +0.4**
TAOE Nuku Hiva Isla 84.50 108 *e*LQ 03 00 16.2
TAOE Nuku Hiva Isla 84.50 108 *e*PP PP 02 40 39.1 -8.3
TAOE Nuku Hiva Isla 84.50 108 *e*LR LR 03 03 09.1
comp=Z,12µm,34.7s,baz=323
RRL Cesana Torines 84.50 332 P **P 02 37 29.7 +0.7**
NPS Neapolis 84.52 315 *e*P **P 02 37 29.0 -0.2**
SIUC Southern Illin 84.52 41 *e*P **P 02 37 29.7 +0.5**
comp=Z,195nm,1.2s,mb5.9
RNI2 Rionero Sannit 84.55 326 P **P 02 37 30.0 +0.7**
GRFL Gerfalco 84.56 329 P **P 02 37 29.0 -0.3**
GRN Grenoble 84.56 333⇑ *e*P **P 02 37 30.4 +1.2**
MIDA Miranda 84.56 326 P **P 02 37 29.8 +0.5**
PTQR Pietraquaria 84.58 327 P **P 02 37 29.8 +0.4**
BLO Bloomington 84.59 38 *e*P **P 02 37 29.9 +0.3**
comp=Z,405nm,1.7s,mb6.1
BLO Bloomington 84.59 38 P **P 02 37 30.1 +0.6**
BLO pmax pmax
comp=Z,410nm,1.7s,mb6.1
PLDF La Plantade 84.59 335⇑ *e*P **P 02 37 30.2 +0.9**
VVLD Villa Vallelon 84.62 326 P **P 02 37 29.5 -0.1**
FIN Finale Ligure 84.64 331 P **P 02 37 28.6 -1.0**
PPT Papeete 84.66 120 *e*S S 02 47 50.5 +2.9
PPT eLR LR 03 03 03.2
comp=Z,17µm,32.5s,baz=321
PPT Papeete 84.66 120 LR LR 03 12 04.7
comp=Z,2µm,18.3s,baz=327,slow=33
VLS Valsamata 84.66 320 *e*P **P 02 37 29.9 0.0**
AGO Saint Agoulin 84.67 335 *e*P **P 02 37 31.7 +2.0**
MBDF Montbardon 84.68 332⇑ *i* P **P 02 37 30.1 +0.3**
comp=Z,108nm,0.6s,mb5.7
MBDF Montbardon 84.68 332⇑ *i* P **P 02 37 30.1 +0.3**
MBDF pmax pmax
comp=Z,54nm,0.6s,mb5.7
ROB Roburent 84.69 331 P **P 02 37 29.2 -0.7**
PSB1 Pescosannita 84.69 325 P **P 02 37 29.5 -0.5**
QUIF Quistinic 84.70 340⇑ *i* P **P 02 37 30.3 +0.5**
comp=Z,140nm,0.6s,mb5.8
QUIF Quistinic 84.70 340⇑ *i* P **P 02 37 30.3 +0.5**
QUIF pmax pmax
comp=Z,70nm,0.6s,mb5.8
VLI Veliai 84.71 318 *e*P **P 02 37 28.5 -1.7**
DOI San Damiano 84.72 332 P **P 02 37 28.6 -1.4**

TCF Toulx Ste Croi 84.73 336 ⇑*iP* **P 02 37 30.6 +0.6**
comp=Z,102nm,0.7s,mb5.6
TCF Toulx Ste Croi 84.73 336 ⇑*iP* **P 02 37 30.6 +0.6**
TCF pmax pmax
comp=Z,51nm,0.7s,mb5.6
MRLC Muro Lucano 84.80 325 P **P 02 37 30.6 +0.1**
ORIF Oris-en-Rattie 84.81 333 ⇑*iP* **P 02 37 31.2 +0.7**
comp=Z,128nm,0.8s,mb5.6
ORIF *e*R
comp=Z,850nm,20.2s
CERT Cerreto 84.81 327 P **P 02 37 30.3 -0.3**
GUAR Guarcino 84.81 327 P **P 02 37 31.2 +0.6**
FRNY Flat Rock 84.82 27 *e*P **P 02 37 30.1 -0.5**
ITM Ithomi 84.83 319 *e*P **P 02 37 30.7 -0.1**
IDI Anoyia 84.86 315 P **P 02 37 30.3 -0.7**
comp=Z,269nm,0.4s,mb6.5,baz=28,slow=7.8,SNR=257
ERPA Erie 84.88 33 *e*P **P 02 37 31.4 +0.6**
comp=Z,365nm,1.4s,mb6.1
SURF Saint Ours 84.88 332⇑*e*P **P 02 37 31.7 +0.8**
ENR Entracque 84.90 332 P **P 02 37 29.3 -1.6**
CSSN Cassano Irpino 84.90 325 P **P 02 37 30.8 -0.2**
MONE Monesi 84.91 331 P **P 02 37 30.4 -0.6**
STV2 Anna di Valdie 84.92 332 P **P 02 37 29.2 -1.8**
STV Sta Anna Valdi 84.92 332 P **P 02 37 29.3 -1.7**
RFI Roccamonfina 84.96 326 P **P 02 37 32.2 +0.9**
ORI Oriolo Calabro 84.97 324 P **P 02 37 32.3 +0.9**
COLF Collangettes 84.97 335⇑*e*P **P 02 37 32.3 +1.0**
KYTH Kithira 85.01 317 *e*P **P 02 37 31.0 -0.7**
IMI Imperia 85.02 331 P **P 02 37 31.2 -0.3**
SGO Sicignano 85.04 325 P **P 02 37 31.6 -0.1**
SLCN Sala Consilina 85.04 324 P **P 02 37 32.0 +0.2**
SAOF Saorge 85.06 331⇑*e*P **P 02 37 31.7 -0.1**
MA9 Marino 85.09 327 P **P 02 37 31.7 -0.3**
TOLF Tolfa 85.10 328 P **P 02 37 31.8 -0.2**
AUTN L'Aution 85.10 332⇑*e*P **P 02 37 32.1 +0.2**
PARMO Parma 85.10 42 *e*P **P 02 37 33.0 +0.8**
PARMO epP pP 02 37 57.5 -1.6
MFF Saint Martin d 85.12 337⇑*iP* **P 02 37 32.7 +0.7**
comp=Z,208nm,0.6s,mb5.9
MFF epP pP 02 37 59.8 +0.9
MFF Saint Martin d 85.12 337⇑*iP* **P 02 37 32.7 +0.7**
MFF *e**PP pP 02 37 59.8 +0.9
MFF pmax pmax
comp=Z,104nm,0.6s,mb5.9
VERF Verneugheol 85.13 335⇑*e*P **P 02 37 32.7 +0.6**
NEGI Negi 85.13 331 P **P 02 37 31.6 -0.5**
GENY Geneseo 85.15 31 *e*P **P 02 37 31.8 -0.4**
TOUF Mont Tournerai 85.15 332⇑*e*P **P 02 37 32.5 +0.3**
LAV9 Lanuvio 85.15 327 P **P 02 37 31.8 -0.5**
MUKL Al Mukalla 85.19 285 *e*P **P 02 37 33.5 +0.5**
ALLY Alegheny Colle 85.21 33 *e*P **P 02 37 32.2 -0.4**
SBF Sospel 85.21 331⇑*iP* **P 02 37 32.3 -0.2**
comp=Z,231nm,0.8s,mb5.9
SBF Sospel 85.21 331⇑*iP* **P 02 37 32.3 -0.2**
SBF pmax pmax
comp=Z,115nm,0.8s,mb5.9
VIVF Saint-Julien-I 85.25 334⇑*iP* **P 02 37 33.4 +0.7**
MVIF Mont Vial 85.28 332⇑*e*P **P 02 37 32.9 +0.1**
MGR Morigerati 85.29 324 P **P 02 37 32.3 -0.7**
CUC Castrocucco 85.30 324 P **P 02 37 32.0 -1.0**
OCF Saint Nazaire 85.30 333⇑*e*P **P 02 37 34.2 +1.3**
OG26 St.-Nazaire-De 85.30 333⇑*e*P **P 02 37 34.2 +1.3**
REVF Revere 85.34 331⇑*e*P **P 02 37 33.1 -0.1**
TDS Terranova Siba 85.35 324 P **P 02 37 33.8 +0.5**
LBL Lubilhac 85.37 335 *e*P **P 02 37 34.1 +0.9**
NCB Newcomb 85.37 28 *e*P **P 02 37 32.9 -0.4**
comp=Z,206nm,1.3s,mb5.9
NCB epP pP 02 37 58.0 -2.3
FRNF Fournols 85.44 335⇑*e*P **P 02 37 34.9 +1.3**
CALN Calern 85.50 332⇑*e*P **P 02 37 34.2 +0.3**
MIV Mineville/With 85.52 28 *e*P **P 02 37 34.5 +0.5**
GNAR Gosnell 85.53 43 *e*P **P 02 37 34.9 +0.6**
comp=Z,659nm,1.2s,mb6.4
HBAR Harrisburg 85.54 43 *e*P **P 02 37 35.3 +1.0**
HBAR epP pP 02 38 00.7 -0.6
TIP Timpagrande 85.57 323 *e*P **P 02 37 34.4 0.0**
TIP epP pP 02 38 01.8 +0.5
YNBS Yanbu' al Bahr 85.61 300 P **P 02 37 36.2 +1.3**
STOF St-Etienne Org 85.61 332⇑*e*P **P 02 37 35.4 +0.9**
GVD Gavdhos 85.62 316 *e*P **P 02 37 34.7 0.0**
comp=Z,277nm,0.9s,mb6.2
GLAT Glass 85.64 42 *e*P **P 02 37 35.9 +1.1**
SMRF Simiane la Rot 85.74 333⇑*iP* **P 02 37 35.7 +0.6**
comp=Z,52nm,0.8s,mb5.2
FRF La Foret Royal 85.75 332⇑*iP* **P 02 37 35.0 -0.1**
UTMT University of 85.78 42 *e*P **P 02 37 36.1 +0.6**
comp=Z,560nm,1.1s,mb6.4
UTMT epP pP 02 38 02.1 -0.4
PGF Pioggiola 85.81 330⇑*iP* **P 02 37 35.3 -0.2**
comp=Z,86nm,0.7s,mb5.5
PGF Pioggiola 85.81 330⇑*iP* **P 02 37 35.3 -0.2**
PGF pmax pmax
comp=Z,43nm,0.7s,mb5.5
RJF Les Rejaudoux 85.83 336⇑*iP* **P 02 37 36.2 +0.7**
RJF *e*R
comp=Z,2µm,19.5s
RJF Les Rejaudoux 85.83 336⇑*iP* **P 02 37 36.2 +0.7**
RJF pmax pmax
comp=Z,64nm,0.8s,mb5.6
RJF MLR MLR
comp=Z,2µm,19.5s
MATF Mathat 85.86 337 *e*P **P 02 37 36.9 +1.3**
HALT Halls 85.90 42 *e*P **P 02 37 36.8 +0.7**
TAVF Tavernes 85.90 332 *e*P **P 02 37 36.7 +0.8**
LMR La Mourre 86.00 332⇑*iP* **P 02 37 36.5 +0.1**
comp=Z,220nm,0.7s,mb5.9
LMR epP pP 02 38 03.7 +0.3
LMR La Mourre 86.00 332⇑*iP* **P 02 37 36.5 +0.1**
LMR *e**PP pP 02 38 03.7 +0.3
LMR pmax pmax
comp=Z,110nm,0.7s,mb5.9
CAF Calviac 86.00 335⇑*iP* **P 02 37 37.6 +1.3**
comp=Z,572nm,1.1s,mb6.1
CAF epP pP 02 38 04.8 +1.4
CAF Calviac 86.00 335⇑*iP* **P 02 37 37.6 +1.3**
CAF *e**PP pP 02 38 04.8 +1.4
CAF pmax pmax
comp=Z,286nm,1.1s,mb6.1
PRAF Pradon 86.03 333⇑*e*P **P 02 37 37.7 +1.2**
ACCN Adirondack Com 86.08 28 *e*P **P 02 37 36.8 0.0**
PUYF Puyloubier 86.10 332⇑*e*P **P 02 37 37.7 +0.9**
LASF Ste Croix 86.21 334⇑*iP* **P 02 37 38.4 +1.0**
comp=Z,554nm,1.5s,mb6.0
MET Memphis--Engin 86.24 43 *e*P **P 02 37 38.0 +0.3**
HNH Hanover 86.26 27 *e*P **P 02 37 38.7 +1.1**
comp=Z,13nm,1.3s
BERF Bertagne 86.29 332 *e*P **P 02 37 38.9 +1.1**
WVL Waterville 86.31 25 *e*P **P 02 37 38.2 +0.4**
comp=Z,698nm,1.4s,mb6.4
GELF Grande-Etoile 86.32 333⇑*e*P **P 02 37 38.7 +0.8**
LFF La Frestale 86.39 336⇑*iP* **P 02 37 39.1 +0.9**
comp=Z,181nm,0.6s,mb5.9
LFF epP pP 02 38 06.5 +1.3
LFF La Frestale 86.39 336⇑*iP* **P 02 37 39.1 +0.9**
LFF *e**PP pP 02 38 06.5 +1.3
LFF pmax pmax
comp=Z,91nm,0.6s,mb5.9
NATX Nacogdoches 86.43 48 *e*P **P 02 37 39.9 +1.1**
comp=Z,355nm,1.2s,mb6.2
FFD Franklin Falls 86.67 27 *e*P **P 02 37 40.9 +1.3**
comp=Z,389nm,1.4s,mb6.1
FFD epP pP 02 38 09.2 +2.5
SOI Samo 86.79 323 P **P 02 37 40.3 -0.1**
EMMW East Machias 86.83 23 *e*P **P 02 37 42.0 +1.6**
comp=Z,700nm,1.3s,mb6.4
EMMW epP pP 02 38 09.2 +1.7
LTHS Al Lith 86.97 295 P **P 02 37 43.3 +1.7**
MTTG Motta San Giov 87.01 323 P **P 02 37 41.5 +0.1**
MTLF Montolieu 87.39 335⇑*iP* **P 02 37 44.2 +1.1**
comp=Z,92nm,0.7s,mb5.5
MTLF epP pP 02 38 11.5 +1.3
MTLF Montolieu 87.39 335⇑*iP* **P 02 37 44.2 +1.1**
MTLF *e**PP pP 02 38 11.5 +1.3
MTLF pmax pmax
comp=Z,46nm,0.7s,mb5.5
DGI Dorgali Grotta 87.52 328 P **P 02 37 43.9 +0.1**
LRDF Laroque-de-Fa 87.66 334 *e*P **P 02 37 45.7 +1.3**
WES Weston 87.75 27 *e*P **P 02 37 45.9 +1.0**
comp=Z,64nm,1.0s,mb5.6
WES Weston 87.75 27 *e*P **P 02 37 45.9 +1.0**
WES pmax pmax
comp=Z,64nm,1.0s,mb5.6

EJON La Jonquera 87.99 334 ⇑P **P 02 37 46.6 +0.6**
comp=Z,1µm,3.2s
SSY Sortino 87.99 323 P **P 02 37 46.1 -0.1**
FILF Fillols 87.99 334 *e*P **P 02 37 46.8 +0.8**
CARF Carcanieres 87.99 334 *e*P **P 02 37 47.8 +1.8**
VAE Valguarnera 88.00 324 P **P 02 37 48.3 +2.1**
comp=Z,17nm,0.9s,mb5.1,baz=272,slow=5.1,SNR=3.7
MLS Moulis 88.08 335 *e*P **P 02 37 47.3 +0.8**
SWET Sewanee 88.09 40 *e*P **P 02 37 45.4 -1.3**
SWET epP pP 02 38 11.8 -2.0
MVL Millersville 88.09 31 *e*P **P 02 37 47.2 +0.6**
MVL epP pP 02 38 08.2 -5.6
BRYW Bryant College 88.10 27 *e*P **P 02 37 48.5 +1.9**
comp=Z,236nm,1.4s,mb6.0
PAL Palisades 88.10 29 *e*P **P 02 37 47.3 +0.7**
comp=Z,235nm,1.4s,mb6.0
PAL Palisades 88.10 29 *e*P **P 02 37 47.3 +0.7**
PAL pmax pmax
comp=Z,235nm,1.4s,mb6.0
BRNJ Basking Ridge 88.15 30 *e*P **P 02 37 48.5 +1.7**
BRNJ epP pP 02 38 14.6 +0.6
SALF Salau 88.23 335 *e*P **P 02 37 46.9 -0.3**
LBOS 88.24 287⇑*e*P **P 02 37 48.8 +1.0**
EPF Esparros 88.25 336⇑*iP* **P 02 37 47.4 +0.2**
comp=Z,60nm,0.9s,mb5.3
EPF Esparros 88.25 336⇑*iP* **P 02 37 47.4 +0.2**
EPF pmax pmax
comp=Z,30nm,0.9s,mb5.3
MELF Melles 88.26 335 *e*P **P 02 37 47.1 -0.2**
CPNY Central Park 88.27 29 *e*P **P 02 37 48.0 +0.5**
VALF Valcebollere 88.30 334 *e*P **P 02 37 48.9 +1.4**
LABF Labassere 88.31 336 *e*P **P 02 37 46.9 -0.6**
VSL Villasalto 88.32 328 P **P 02 37 48.6 +0.9**
FWV Forest Hill 88.39 36 *e*P **P 02 37 48.3 +0.3**
REYF Montagne du Re 88.42 336 *e*P **P 02 37 48.3 +0.2**
LVI Isola Levanzo 88.44 325 P **P 02 37 48.2 -0.1**
VIEF Viey 88.47 336⇑*e*P **P 02 37 49.6 +1.3**
ATE Arette 88.50 336 *e*P **P 02 37 48.6 +0.2**
CPCT Cooper Cave 88.55 39 *e*P **P 02 37 48.9 0.0**
EALK Alkurruntz 88.61 337 ⇓P **P 02 37 48.8 -0.1**
comp=Z,772nm,3.2s
EBIE Bielsa 88.62 336 ⇑P **P 02 37 50.4 +1.4**
comp=Z,1µm,3.1s
SJPF Ste Jean 88.62 337⇑*iP* **P 02 37 49.7 +0.7**
LARF Larrau 88.63 337 *e*P **P 02 37 49.5 +0.5**
ETSF Etsaut 88.63 336⇑*iP* **P 02 37 50.0 +1.0**
comp=Z,71nm,0.7s,mb5.5
ETSF Etsaut 88.63 336⇑*iP* **P 02 37 50.0 +1.0**
ETSF pmax pmax
comp=Z,36nm,0.7s,mb5.5
FDAF Les Forges d'A 88.71 336 *e*P **P 02 37 49.7 +0.3**
ELN Prospectdale 88.72 36 *e*P **P 02 37 49.8 +0.2**
BLA Blacksburg 88.87 36 *e*P **P 02 37 50.6 +0.3**
comp=Z,170nm,1.3s,mb5.9
BLA epP pP 02 38 18.7 +1.2
BLA Blacksburg 88.87 36 *e*P **P 02 37 50.6 +0.3**
BLA *e**PP pP 02 38 18.7 +1.2
BLA pmax pmax
comp=Z,170nm,1.3s,mb5.9
EMIR Miracle 88.90 334 ⇑P **P 02 37 51.1 +0.8**
comp=Z,1µm,3.0s
EGRA Graus 89.02 335 ⇑P **P 02 37 52.1 +1.2**
comp=Z,110nm,1.4s,mb5.7
TBI Tubuai 89.09 124 *e*LR LR 03 05 10.8
comp=Z,7µm,35.0s,baz=321
ELAN Lanestosa 89.12 338 ⇑P **P 02 37 51.2 -0.1**
comp=Z,455nm,3.0s
EARI Arriondas 89.52 340 ⇑P **P 02 37 52.5 -0.7**
comp=Z,322nm,2.6s,mb6.0
EPOB Pobet 89.55 335 ⇑P **P 02 37 54.0 +0.6**
comp=Z,1µm,3.0s
ESAC San Caprasio 89.68 336 ⇑P **P 02 37 55.2 +1.2**
comp=Z,2µm,2.7s,mb6.7
EPON Pontenova 89.97 341 ⇑P **P 02 37 54.8 -0.5**
comp=Z,274nm,2.7s,mb5.9
ERTA Horta de San J 90.14 335 ⇑P **P 02 37 56.6 +0.4**
comp=Z,902nm,3.2s
ETOS Mallorca 90.43 333 ⇑P **P 02 37 58.2 +0.7**
comp=Z,856nm,2.8s,mb6.4
STS Santiago 90.71 342 P **P 02 37 57.6 -1.2**
EMAZ Mazaricos 90.75 342 P **P 02 37 58.0 -1.0**
comp=Z,482nm,3.0s
ERUA La Rua 90.85 341 P **P 02 37 57.7 -1.8**
EMOS Mosqueruela 90.93 335 ⇑P **P 02 38 00.8 +0.9**
comp=Z,730nm,3.0s
JSC Jenkinsville 90.99 38 *e*P **P 02 38 00.5 +0.2**
JSC epP pP 02 38 27.7 +0.1
ECAL Calabor 91.18 340 ⇑P **P 02 38 00.5 -0.5**
comp=Z,291nm,2.5s,mb6.0
PBRG Braganca 91.31 340 *e*P **P 02 38 00.9 -0.7**
comp=Z,57nm,1.6s,mb5.5
EZAM Zamans 91.45 342 P **P 02 38 01.5 -0.7**
comp=Z,18nm,1.0s,mb5.2
EZAM Zamans 91.45 342 P **P 02 38 01.5 -0.8**
EZAM pmax pmax
comp=Z,18nm,1.0s,mb5.2
ELOB Lobios 91.57 341 ⇑P **P 02 38 02.0 -0.8**
comp=Z,355nm,3.1s
EIBI Ibiza 91.58 333 ⇑P **P 02 38 03.6 +0.6**
comp=Z,742nm,3.0s
PCAB Cabril 91.71 341 *e*P **P 02 38 02.7 -0.8**
comp=Z,70nm,2.0s,mb5.5
PCAB Cabril 91.71 341 *e*PP PP 02 41 44.3 -1.2
CGMA Guelma 91.73 328 P **P 02 38 05.0 +1.3**
ECHE Chera 91.79 335 P **P 02 38 04.6 +0.7**
comp=Z,43nm,1.4s,mb5.5
ECHE Chera 91.79 335 P **P 02 38 04.6 +0.7**
ECHE pmax pmax
comp=Z,43nm,1.4s,mb5.5
CKFL Kef-Lekhel 92.04 328 P **P 02 38 05.0 -0.1**
PVRL Vila Real 92.05 341 *e*P **P 02 38 04.3 -0.7**
comp=Z,61nm,1.9s,mb5.5
DFRA Djebel Bou Aff 92.23 329 P **P 02 38 06.5 +0.5**
CASM Ain Smara 92.25 328 P **P 02 38 05.5 -0.6**
ESDC Sonseca Array 92.58 337 P **P 02 38 07.4 -0.2**
comp=Z,9.2nm,0.5s,mb5.4,baz=15,slow=3.9,SNR=79
ESDC pP pP 02 38 35.1 +0.3
comp=Z,13nm,0.8s,baz=21,slow=3.5,SNR=5.6
ESDC Sonseca Array 92.58 337 ⇑P **P 02 38 07.4 -0.2**
comp=Z,8.5nm,0.5s,mb5.3
SET Setif 92.71 329 P **P 02 38 08.0 -0.2**
CKHR Kef el Ahmar 92.83 329 P **P 02 38 09.5 +0.7**
ETOB Tobarra 92.83 335 ⇑P **P 02 38 09.4 +0.7**
comp=Z,704nm,2.9s,mb6.5
MTE Manteigas 92.83 340 *e*P **P 02 38 07.9 -0.8**
comp=Z,54nm,2.1s,mb5.5
MTE Manteigas 92.83 340 *e*PP PP 02 41 52.9 -1.6
MTE Manteigas 92.83 340 *e*PP PP 02 41 53.0 -1.5
MTE *e*SKSac 02 48 32.8
MTE *e*S S 02 49 02.9 +0.5
MTE Manteigas 92.83 340 *e*LR LR 03 09 39.6
comp=Z,1µm,20.8s
MTE Manteigas 92.83 340 *e*P **P 02 38 07.8 -0.8**
comp=Z,14nm,0.8s,mb5.4
CMER Merouana 93.04 329 P **P 02 38 10.0 +0.3**
EVIA Vianos 93.12 336 P **P 02 38 10.8 +0.8**
comp=Z,151nm,1.5s,mb6.1
EVIA Vianos 93.12 336 P **P 02 38 10.8 +0.8**
EVIA pmax pmax
comp=Z,151nm,1.5s,mb6.1
PCBR Castelo Branco 93.35 340 *e*P **P 02 38 10.3 -0.7**
comp=Z,42nm,1.6s,mb5.5
PCBR Castelo Branco 93.35 340 *e*PP PP 02 41 57.4 -1.2
EMUR La Murta 93.48 335 ⇑P **P 02 38 11.2 -0.5**
comp=Z,452nm,3.1s
CART Cartagena 93.64 334 *e*P **P 02 38 11.4 -1.0**
comp=Z,31nm,1.2s,mb5.5
PTOM Tomar 93.79 341 *e*P **P 02 38 11.7 -1.3**
comp=Z,33nm,1.7s,mb5.4
EHUE Huescar 93.91 336 ⇑P **P 02 38 13.8 +0.1**
comp=Z,193nm,2.2s,mb6.0
EHUE Huescar 93.91 336 ⇑P **P 02 38 13.8 +0.2**
EHUE pmax pmax
comp=Z,193nm,2.2s,mb6.0
EBAN Banos Encina 93.94 337 ⇑P **P 02 38 13.8 +0.1**
comp=Z,62nm,1.3s,mb5.8
EBAN Banos Encina 93.94 337 ⇑P **P 02 38 13.8 +0.1**
EBAN pmax pmax
comp=Z,62nm,1.3s,mb5.8
EQES Quesada 94.07 336 ⇑P **P 02 38 14.4 +0.1**
comp=Z,766nm,2.9s,mb6.5
EADA Adamuz 94.16 337 ⇑P **P 02 38 14.7 -0.1**
comp=Z,454nm,2.8s,mb6.3
EBAD Badajoz 94.26 339 ⇑P **P 02 38 14.2 -0.9**
comp=Z,330nm,3.0s

ENIJ Nijar 94.58 335 P **P 02 38 16.6 -0.1**
PLOU Loures 94.66 341 *e*P **P 02 38 17.1 +0.1**
comp=Z,48nm,1.7s,mb5.7
ECOG Cogollos-Vega 94.70 336 P **P 02 38 17.5 +0.3**
comp=Z,2.7nm,0.4s,mb5.0
ECOG Cogollos-Vega 94.70 336 P **P 02 38 17.5 +0.3**
ECOG pmax pmax
comp=Z,3.0nm,0.4s,mb5.1
EBER Berja 94.85 336 P **P 02 38 17.8 -0.2**
ELOJ Sierra Loja 94.99 337 ⇑P **P 02 38 18.3 -0.2**
comp=Z,44nm,1.6s,mb5.6
ELOJ Sierra Loja 94.99 337 ⇑P **P 02 38 18.3 -0.3**
ELOJ pmax pmax
comp=Z,44nm,1.6s,mb5.6
ERON Agron 95.01 336 P **P 02 38 17.6 -1.1**
comp=Z,2.6nm,0.3s,mb5.1
EMIN Mina Concepcio 95.10 339 ⇑P **P 02 38 18.6 -0.4**
comp=Z,371nm,2.7s,mb6.3
PBEJ Beja 95.16 340 *e*P **P 02 38 19.0 -0.3**
comp=Z,55nm,1.8s,mb5.7
EGRO El Granado 95.53 339 ⇑P **P 02 38 20.0 -1.0**
comp=Z,250nm,2.9s,mb6.1
EMIJ Mijas 95.71 337 ⇑P **P 02 38 20.5 -1.3**
comp=Z,219nm,2.6s,mb6.1
ESPR Espera 95.73 338 ⇑P **P 02 38 22.1 +0.2**
comp=Z,460nm,3.2s
EALB Alboran 95.78 335 ⇑P **P 02 38 21.0 -1.1**
comp=Z,545nm,2.9s,mb6.5
PTEO Sao Teotonio 95.83 340 *e*P **P 02 38 22.1 -0.2**
comp=Z,61nm,1.5s,mb5.8
EJIF Jimena Fronter 96.01 337 ⇑P **P 02 38 23.2 0.0**
comp=Z,63nm,1.5s,mb5.8
EJIF Jimena Fronter 96.01 337 ⇑P **P 02 38 23.2 0.0**
EJIF pmax pmax
comp=Z,63nm,1.5s,mb5.8
RKT Rikitea 98.06 114 *e*PP PP 02 42 29.7 -6.0
RKT Rikitea 98.06 114 *e*LR LR 03 09 26.8
comp=Z,6µm,36.2s,baz=311
KMBO Kilima Mbogo 104.40 283 Pdiff Pdif 02 39 01.3 0.0
comp=Z,6.5nm,1.1s,baz=31,slow=6.2,SNR=7.4
KMBO PKiKP 02 43 17.6
comp=Z,22nm,1.1s,baz=33,slow=10,SNR=6.4
DRV Dumont d'Urvil 110.32 183 PP PP 02 44 10.0 +3.6
DRV SKS SKS 02 50 03.0 +8.3
DRV SP SP 02 53 29.0 +9.2
DRV SS SS 02 59 32.0 +9.2
ROSC El Rosal 119.29 48 PKP PKPdf 02 43 46.5 +2.2
comp=Z,2.8nm,0.5s,baz=100,slow=20,SNR=4.0
VNDA Vanda 121.52 176 *e*PKPdf PKPdf 02 43 47.3 +0.1
VNDA epPKPdf 02 44 14.9
DBIC Dimbokro 123.30 325 PKP PKPdf 02 43 52.6 +0.6
comp=Z,8.2nm,0.5s,baz=355,slow=3.0,SNR=38
DBIC pPKP 02 44 20.9
comp=Z,21nm,0.7s,baz=325,slow=2.6,SNR=6.4
TIC Toumodi 123.39 325 *e*PKP1 PKPdf 02 43 52.6 +0.4
comp=Z,3.6nm,0.4s
KIC Kosan Boka 123.53 325 *e*PKP1 PKPdf 02 43 52.7 +0.2
comp=Z,123nm,1.2s
MATP Matopo 123.73 273 PKP PKPdf 02 43 53.5 +0.7
comp=Z,4.0nm,0.5s,baz=52,slow=1.9,SNR=19
MATP pPKP 02 44 21.6
comp=Z,7.7nm,0.8s,baz=14,slow=2.3,SNR=3.9
LIC Lamto 123.78 325 *e*PKIKP PKPdf 02 43 53.5 +0.5
comp=Z,11nm,0.5s
LIC Lamto 123.78 325 *e*PKP1 PKPdf 02 43 53.3 +0.3
comp=Z,83nm,1.5s
MAW Mawson 127.30 209 *e*P PKPdf 02 43 59.9 +1.6
comp=Z,11nm,1.6s
MAW *e* 02 44 29.1
MAW Mawson 127.30 209 PKP PKPdf 02 43 59.7 +1.4
comp=Z,14nm,1.1s,baz=31,slow=2.7,SNR=14
MAW pPKP 02 44 28.5
comp=Z,11nm,0.9s,baz=293,slow=1.7,SNR=5.4
MAW Mawson 127.30 209 PKIKP PKPdf 02 43 59.7 +1.4
MAW 02 44 28.5
MAW pmax pmax
comp=Z,14nm,1.1s
LBTB Lobatse 128.67 271 *e*PKPdf PKPdf 02 44 03.5 +1.4
LBTB epPKPdf 02 44 31.1
QSPA South Pole Qui 133.62 180 *e*P 02 43 59.1
SYO Syowa Base 135.97 210 ⇓PKPdf PKPdf 02 44 13.5 -1.1
SYO Syowa Base 135.97 210 ⇑PKiKP 02 44 17.8
LPAZ La Paz 139.97 57 PKhKP 02 44 16.5
comp=Z,1.7nm,0.6s,baz=329,slow=3.6,SNR=15
LPAZ PKP PKPdf 02 44 25.3 +2.0
comp=Z,12nm,1.2s,baz=353,slow=3.8,SNR=12
LPAZ pPKP 02 44 55.6
comp=Z,3.4nm,0.6s,baz=249,slow=9.5,SNR=2.8
LPAZ SKPbc 02 47 50.2
comp=Z,14nm,1.2s,baz=5.2,slow=4.5,SNR=4.2
LPAZ La Paz 139.97 57 *e*PKPpre 02 44 15.7
LPAZ PKP PKPdf 02 44 25.3 +2.0
LPAZ *e*PKPdf PKPdf 02 44 25.6 +2.3
LPAZ pPKP 02 44 55.6
LPAZ SKPbc 02 47 50.2
LPAZ La Paz 139.97 57 *e*PKHKP 02 44 15.7
LPAZ 02 44 25.3
LPAZ 02 44 55.6
NVL N'lazarevskaya 145.02 204 ⇓*i*PKIKP PKPdf 02 44 30.2 -0.3
NVL pmax pmax
comp=Z,14nm,1.2s
MAIT Maitri 145.05 204 *e*PKP PKPdf 02 44 31.9 +1.3
MAIT Maitri 145.05 204 *e*P PKPdf 02 44 31.5 +0.9
TLL Tololo Astrono 147.70 77 *e*P PKPdf 02 44 40.0 +3.7
SNAA Sanae 148.38 198 *e* 02 44 41.1
SNAA Sanae 148.38 198 *e* PKPab 02 44 42.6 -2.7
SNAA Sanae 148.38 198 *e* PKPdf 02 44 46.0 +10
SNAA Sanae 148.38 198 *e* PKPdf 02 45 03.2 +27
SNAA Sanae 148.38 198 *e* PKPdf 02 45 09.6 +34
SNAA Sanae 148.38 198 *e* PKPdf 02 45 12.2 +36
SNAA Sanae 148.38 198 *e* PKPdf 02 45 18.7 +43
SNAA Sanae 148.38 198 *e* PKPdf 02 45 21.2 +45
SNAA Sanae 148.38 198 *e* PP 02 48 12.1 -0.5
SNAA Sanae 148.38 198 *e* tx 02 48 38.8
SNAA Sanae 148.38 198 *e* tx 02 48 54.6
SNAA Sanae 148.38 198 PKPbc PKPdf 02 44 40.7 +4.7
comp=Z,8.8nm,0.6s,baz=145,slow=1.6,SNR=24
SNAA Sanae 148.38 198 ⇑*i*PKPdf PKPdf 02 44 37.2 +1.1
SNAA PKPbc PKPdf 02 44 40.7 +4.7
SNAA *e* 02 44 41.1
SNAA *e* 02 44 42.6
SNAA *e* 02 44 46.0
SNAA *e* 02 45 03.2
SNAA *e* 02 45 09.6
SNAA *e* 02 45 12.2
SNAA *e* 02 45 18.7
SNAA *e* 02 45 21.2
SNAA *e* 02 48 12.1
SNAA *e* 02 48 38.8
SNAA *e* 02 48 54.6
SNAA *e* 02 55 47.7
SNAA *e* 02 58 37.8
SNAA Sanae 148.38 198 ⇑*i*PKIKP PKPdf 02 44 37.2 +1.1
SNAA *e* 02 44 42.6
SNAA *e* 02 45 03.2
SNAA *e* 02 45 12.2
SNAA *e* 02 48 12.1
BDFB Brasilia 149.35 28 PKPbc PKPdf 02 44 45.5 +6.2
comp=Z,44nm,0.9s,baz=338,slow=4.4,SNR=7.0
BAO Brasilia Array 149.35 28 PKPdf PKPdf 02 44 36.0 -3.2
SCR San Cristobal 149.38 83 *e*P PKPdf 02 44 44.5 +5.7
CLCH Cerro Calan 149.65 82 ⇓*i*P PKPdf 02 44 45.3 +6.0
FCH Farellones 149.79 82 *e*P PKPdf 02 44 44.0 +4.6
VNA2 Neumayer--Watz 149.92 197 *e* 02 44 45.3
VNA2 Neumayer--Watz 149.92 197 *e* PKPdf 02 44 47.0 +8.5
VNA2 Neumayer--Watz 149.92 197 *e* PKPdf 02 44 51.2 +13
VNA2 Neumayer--Watz 149.92 197 *e* PKPdf 02 45 07.4 +29
VNA2 Neumayer--Watz 149.92 197 *e* PKPdf 02 45 13.5 +35
VNA2 Neumayer--Watz 149.92 197 *e* PKPdf 02 45 15.4 +37
VNA2 Neumayer--Watz 149.92 197 *e* PKPdf 02 45 24.4 +46
VNA2 Neumayer--Watz 149.92 197 *e* PKPdf 02 45 27.2 +49
VNA2 Neumayer--Watz 149.92 197 *e* PP 02 48 20.2 -1.1
VNA2 Neumayer--Watz 149.92 197 *e* tx 02 48 49.6
VNA2 Neumayer--Watz 149.92 197 ⇑*i*PKPdf PKPdf 02 44 40.4 +1.9
VNA2 *e* 02 44 45.3
VNA2 *e* 02 44 47.0
VNA2 *e* 02 44 51.2
VNA2 *e* 02 45 07.4
VNA2 *e* 02 45 13.5
VNA2 *e* 02 45 15.4
VNA2 *e* 02 45 24.4
VNA2 *e* 02 45 27.2
VNA2 *e* 02 48 20.2

VNA2				e		02 48 49.6	
VNA2				e		02 49 02.1	
VNA2				e		02 55 44.7	
VNA2				e		02 58 30.1	
ZON	**Zonda**	**149.98**	**78**	eP		02 44 46.3	
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PKPab	02 44 45.5	-7.0
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PKPdf	02 44 47.0	+8.1
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PKPdf	02 44 51.3	+12
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PKPdf	02 45 07.6	+29
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PKPdf	02 45 13.7	+35
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PKPdf	02 45 16.3	+37
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PKPdf	02 45 24.0	+45
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PKPdf	02 45 26.8	+48
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	PP	02 48 20.9	-1.6
VNA3	**Neumayer Olymp**	**150.13**	**195**	e	tx	02 48 48.2	
VNA3	**Neumayer Olymp**	**150.13**	**195**	⇑iPKPdf	PKPdf	02 44 40.3	+1.4
VNA3				e		02 44 45.5	
VNA3				e		02 44 47.0	
VNA3				e		02 44 51.3	
VNA3				e		02 45 07.6	
VNA3				e		02 45 13.7	
VNA3				e		02 45 16.3	
VNA3				e		02 45 24.0	
VNA3				e		02 45 26.8	
VNA3				e		02 48 20.9	
VNA3				e		02 48 48.2	
VNA3				e		02 49 02.8	
VNA3				e		02 55 43.4	
VNA3				e		02 58 30.2	
VNA1	**Neumayer--Stat**	**150.32**	**197**	e		02 44 46.4	
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	PKPab	02 44 48.4	-5.0
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	PKPdf	02 44 52.1	+13
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	PKPdf	02 45 07.8	+29
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	PKPdf	02 45 14.6	+35
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	PKPdf	02 45 16.5	+37
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	PKPdf	02 45 24.2	+45
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	PKPdf	02 45 26.2	+47
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	PP	02 48 23.3	-0.4
VNA1	**Neumayer--Stat**	**150.32**	**197**	e	tx	02 48 51.0	
VNA1	**Neumayer--Stat**	**150.32**	**197**	⇑iPKPdf	PKPdf	02 44 41.0	+1.8
VNA1				e		02 44 46.4	
VNA1				e		02 44 48.4	
VNA1				e		02 44 52.1	
VNA1				e		02 45 07.8	
VNA1				e		02 45 14.6	
VNA1				e		02 45 16.5	
VNA1				e		02 45 24.2	
VNA1				e		02 45 26.2	
VNA1				e		02 48 23.3	
VNA1				e		02 48 51.0	
VNA1				e		02 49 04.8	
VNA1				e		02 55 43.4	
VNA1				e		02 58 29.4	
PLCA	**Paso Flores**	**152.76**	**96**	PKP	PKPdf	02 44 44.7	+1.0
	comp=Z,10nm,1.1s,baz=275,slow=3.2,SNR=9.8						
PLCA				PKPbc	PKPdf	02 44 52.6	+9.0
	comp=Z,32nm,0.9s,baz=267,slow=3.6,SNR=32						
PLCA	**Paso Flores**	**152.76**	**96**	ePKPdf	PKPdf	02 44 44.8	+1.2
PLCA				ePKPbc	PKPdf	02 44 52.8	+9.1
CPUP	**Villa Florida**	**154.10**	**55**	PKP	PKPdf	02 44 47.6	+1.8
	comp=Z,4.2nm,1.1s,baz=31,slow=4.7,SNR=4.8						
CPUP				PKPbc	PKPdf	02 44 55.3	+9.5
	comp=Z,12nm,1.1s,baz=27,slow=5.3,SNR=9.1						
CPUP				PKPab	PKPab	02 45 09.5	-1.1
	comp=Z,35nm,1.1s,baz=340,slow=5.4,SNR=21						
CPUP	**Villa Florida**	**154.10**	**55**	ePKPdf	PKPdf	02 44 47.6	+1.7
CPUP				ePKPbc	PKPdf	02 44 55.8	+10

DHMR 21 02:28:47.2±2.6, 12.74N×40.58E, h2km±329km, ML3.8, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.52**	**69**	⇓eP	Pn	02 29 45.9	+1.9
UDYN				iS	Sn	02 30 31.1	+4.3
UDYN				AML	AML	02 30 50.6	
	comp=Z,422nm,0.6s						
HAJJ	**Hajjah**	**4.16**	**44**	⇓eP	Pn	02 29 54.0	+1.0
HAJJ				iS	Sn	02 30 46.4	+3.5
LBOS		**4.69**	**76**	⇓eP	Pn	02 29 59.1	-1.5
LBOS				iS	Sn	02 30 56.1	-0.2
BDHA	**Al Bayda'**	**5.01**	**75**	⇓eP	Pn	02 30 04.0	-1.2
BDHA				iS	Sn	02 31 03.2	-1.3

*IDC **21** 02:29:40.8±1.6, 28.87N×52.92E, mb4.1/8, mb1 4.3/10, mb1mx4.1/23, mbtmp4.1/10, ML3.9/2, Error ellipse: s-maj=37.4km s-min=26.3km az=85.0*
*MOS **21** 02:29:41.7±1.7, 28.61N×52.88E, h33km, mb4.1/4, Error ellipse: s-maj=29.3km s-min=12.5km az=129.8*
*NEIC **21** 02:29:43.2±0.8, 28.84N×52.65E, h10km, mb4.1/3, MN3.7(TEH), Error ellipse: s-maj=12.6km s-min=7.3km az=139.0*
*THR **21** 02:29:44.6±0.4, 28.87N×52.66E, h31km±5km, ML3.8*
*CSEM **21** 02:29:44.6±0.1, 28.88N×52.78E, h30km, mb4.3/2, Error ellipse: s-maj=3.1km s-min=1.9km az=61.0*
*TEH **21** 02:29:49.4, 29.19N×52.75E, h10km, Mn3.7*
*OMAN **21** 02:29:52.0±0.5, 28.11N×52.39E, h30km, Error ellipse: s-maj=19.2km s-min=12.8km az=17.0*
ISC 21 02:29:42.5±0.3, 28.87N±0.03×52.70E±0.03, h10km, n71, σ1§29/83, mb4.0/8, 3C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**0.18**	**5**	Pg	**Pg**	**02 29 47.8**	**+1.4**
ISRV	**Sarvestan**	**0.63**	**35**	Pg	**Pg**	**02 29 54.0**	**-1.1**
GHIR	**Ghir-Karzin**	**0.64**	**156**	ePG	**Pg**	**02 29 57.3**	**+2.0**
GHIR				eSG	**Sg**	**02 30 07.1**	**+3.3**
GHIR				AML	AML	02 30 18.4	
	comp=N,6μm,0.4s						
GHIR	**Ghir-Karzin**	**0.64**	**156**	ePg	**Pg**	**02 29 57.3**	**+2.0**
	SNR=108						
GHIR				eSg	**Sg**	**02 30 07.1**	**+3.3**
	comp=N,6μm,0.4s,SNR=108						
SHI	**Shiraz**	**0.79**	**348**	Pg	**Pg**	**02 29 58.3**	**0.0**
IPAR	**Pars**	**1.02**	**17**	Pg	**Pg**	**02 30 01.4**	**-1.4**
IMEH	**Mehriz**	**3.01**	**33**	Pn	**Pn**	**02 30 33.1**	**+1.9**
IGAR	**Garneh**	**3.39**	**353**	Pn	**Pn**	**02 30 39.4**	**+2.8**
BNDS	**Bandar-Abbas**	**3.40**	**115**	ePN	**Pn**	**02 30 38.5**	**+1.8**
BNDS				Sn	**Sn**	**02 31 17.3**	**-0.2**
BNDS				AML	AML	02 31 59.8	
	comp=N,186nm,0.6s						
ICHK	**Chekchek**	**3.67**	**23**	Pn	**Pn**	**02 30 42.1**	**+1.5**
IBAF	**Bafgh**	**3.68**	**42**	Pn	**Pn**	**02 30 41.5**	**+0.9**
KRBR	**Kerman**	**3.71**	**72**	ePN	**Pn**	**02 30 42.8**	**+1.6**
NASN	**Na'in**	**3.92**	**1**	ePN	**Pn**	**02 30 45.2**	**+1.1**
IZEF	**Zefreh**	**4.03**	**356**	Pn	**Pn**	**02 30 46.1**	**+0.5**
IPIR	**Pirpir**	**4.11**	**338**	Pn	**Pn**	**02 30 45.3**	**-1.5**
QRN	**Al-Qurain**	**4.20**	**269**	eP	**Pn**	**02 30 49.9**	**+1.9**
QRN				AML	AML	02 31 37.7	
	comp=Z,107nm,0.4s						
BANOM	**Banah**	**4.34**	**132**	⇑P	**Pn**	**02 30 51.1**	**+1.0**
	SNR=6.5						
BANOM				⇓S	**Sn**	**02 31 40.9**	**-0.5**
KBD	**Kabd**	**4.39**	**275**	eP	**Pn**	**02 30 52.6**	**+1.8**
KBD				AML	AML	02 31 42.3	
	comp=Z,242nm,0.4s						
KBD	**Kabd**	**4.39**	**275**	eP	**Pn**	**02 30 52.7**	**+1.9**
KBD				eS	**Sn**	**02 31 41.9**	**-0.8**
UMR	**Umm Al-Rimmam**	**4.41**	**280**	eP	**Pn**	**02 30 53.1**	**+2.0**
UMR				AML	AML	02 31 43.1	
	comp=Z,102nm,0.3s						
RDF	**Al-Radifah**	**4.51**	**272**	eP	**Pn**	**02 30 54.1**	**+1.5**
RDF	**Al-Radifah**	**4.51**	**272**	eP	**Pn**	**02 30 54.1**	**+1.5**
RDF				eS	**Sn**	**02 31 46.0**	**+0.2**
IKLH	**Kalahroud**	**4.54**	**348**	Pn	**Pn**	**02 30 52.3**	**-0.6**
MIB	**Mutribah**	**4.77**	**283**	eP	**Pn**	**02 30 57.7**	**+1.5**
MIB				AML	AML	02 31 52.9	
	comp=Z,101nm,0.4s						
MIB	**Mutribah**	**4.77**	**283**	eP	**Pn**	**02 30 57.7**	**+1.5**
MIB				eS	**Sn**	**02 31 51.3**	**-0.9**
NAY	**Al-Naaiem**	**4.79**	**276**	eP	**Pn**	**02 30 57.7**	**+1.3**
NAY				AML	AML	02 31 52.3	
	comp=Z,28nm,0.5s						
ASHO	**Ashiyiah**	**5.14**	**143**	⇓P	**Pn**	**02 31 02.4**	**+1.0**
	SNR=7.8						
ISFB	**Sefidab**	**5.48**	**356**	Pn	**Pn**	**02 31 03.7**	**-2.5**
ASAO	**Ashtian**	**6.10**	**339**	ePN	**Pn**	**02 31 15.2**	**+0.3**
IQOM	**Qom**	**6.11**	**347**	Pn	**Pn**	**02 31 14.6**	**-0.5**
IVRN	**Varamin**	**6.16**	**353**	Pn	**Pn**	**02 31 15.6**	**-0.3**
IVRN	**Varamin**	**6.16**	**353**	Sn	**Sn**	**02 32 19.0**	**-8.2**
IVRN	**Varamin**	**6.16**	**353**	Pn	**Pn**	**02 31 15.2**	**-0.7**
IVRN				Sn	**Sn**	**02 32 19.0**	**-8.2**
ARQ	**Araqi**	**6.49**	**147**	⇓P	**Pn**	**02 31 19.7**	**-0.8**
HOQ	**Hoqain**	**6.70**	**141**	⇓P	**Pn**	**02 31 23.3**	**-0.1**
IDMV	**Damavand**	**6.71**	**355**	Pn	**Pn**	**02 31 23.0**	**-0.6**
IFIR	**Firoozkooh**	**6.75**	**0**	Pn	**Pn**	**02 31 23.8**	**-0.3**
IFIR				Sn	**Sn**	**02 32 32.8**	**-9.1**
DAMV	**Damavand**	**6.77**	**355**	ePN	**Pn**	**02 31 24.5**	**+0.1**
IRAZ	**Razeghan**	**6.92**	**341**	Pn	**Pn**	**02 31 39.1**	**+13**
ZHSF	**Zahedan**	**7.10**	**82**	ePN	**Pn**	**02 31 29.6**	**+0.6**
ZHSF	**Zahedan**	**7.10**	**82**	ePn	**Pn**	**02 31 29.5**	**+0.5**
	SNR=54						
BIDO	**Bidbid**	**7.22**	**136**	⇓P	**Pn**	**02 31 30.0**	**-0.8**
BIDO				⇓S	**Sn**	**02 32 47.6**	**-6.1**
BSY	**Bisya**	**7.32**	**145**	⇓P	**Pn**	**02 31 30.8**	**-1.4**
	SNR=12						
BSY				⇓S	**Sn**	**02 32 49.0**	**-7.2**
BSYO	**Bisya**	**7.36**	**145**	P	**Pn**	**02 31 30.8**	**-1.8**
	SNR=12						
SMDO	**Samad**	**7.53**	**139**	⇑P	**Pn**	**02 31 34.4**	**-0.6**
	SNR=21						
JMDO	**Jabal Madar**	**8.10**	**142**	⇑P	**P**	**02 31 41.6**	**-1.5**
ABTO	**Aybut**	**11.48**	**177**	⇓S	**S**	**02 34 24.9**	**-14**
ASF	**Jabal al Asfar**	**14.01**	**288**	Pn	**P**	**02 33 01.2**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=308,slow=19,SNR=4.7						
ASF				Sn	**S**	**02 35 27.3**	**-13**
	comp=Z,0.3nm,0.3s,baz=308,slow=8.7,SNR=3.2						
MALT	**Malatya**	**15.15**	**312**	eP	**P**	**02 33 16.5**	**-1.8**
	comp=Z,2.4nm,0.6s						
MALT	**Malatya**	**15.15**	**312**	eP	**P**	**02 33 16.5**	**-1.8**
	comp=Z,2.3nm,0.6s						
MALT	**Malatya**	**15.15**	**312**	eP	**P**	**02 33 16.5**	**-1.8**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZEI	**Tsey**	**15.58**	**335**	eP	**P**	**02 33 26.5**	**+2.6**
BR131	**Keskin Array S**	**19.07**	**310**	eP	**P**	**02 34 03.5**	**-4.0**
	comp=Z,1.3nm,0.5s						
BRTR	**Keskin Array B**	**19.07**	**310**	P	**P**	**02 34 07.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=129,slow=13,SNR=11						
IDI	**Anoyia**	**24.37**	**292**	P	**P**	**02 35 02.4**	**+0.6**
	comp=Z,2.5nm,0.4s,mb4.0,baz=80,slow=12,SNR=7.2						
MLR	**Muntele Rosu**	**26.83**	**315**	P	**P**	**02 35 25.2**	**+0.4**
	comp=Z,1.2nm,0.5s,mb3.7,baz=126,slow=19,SNR=2.5						
MLR	**Muntele Rosu**	**26.83**	**315**	P	**P**	**02 35 25.2**	**+0.4**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**28.08**	**327**	P	**P**	**02 35 34.5**	**-1.6**
	comp=Z,0.8nm,0.4s,mb3.7,baz=115,slow=7.1,SNR=7.4						
AKASG	**Malin Array Be**	**28.08**	**327**	P	**P**	**02 35 34.5**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**35.81**	**315**	P	**P**	**02 36 42.5**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=108,slow=8.4,SNR=7.9						
GERES	**GERESS Array B**	**35.81**	**315**	P	**P**	**02 36 42.5**	**-1.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	**Kasperske Hory**	**35.99**	**315**	eP	**P**	**02 36 44.0**	**-1.4**
BNI	**Bardonecchia**	**39.60**	**307**	P	**P**	**02 37 15.3**	**-0.4**
MELI	**Melilla**	**47.06**	**293**	iP	**P**	**02 38 18.0**	**+1.8**
MATP	**Matopo**	**54.29**	**208**	P	**P**	**02 39 09.5**	**-1.8**
	comp=Z,2.4nm,0.9s,mb4.1,baz=21,slow=8.6,SNR=4.1						
DBIC	**Dimbokro**	**58.48**	**260**	P	**P**	**02 39 40.9**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.6,baz=8.7,slow=6.6,SNR=4.3						
DBIC	**Dimbokro**	**58.48**	**260**	eP	**P**	**02 39 40.1**	**-1.3**
	comp=Z,7.6nm,0.9s,mb4.7						
DBIC	**Dimbokro**	**58.48**	**260**	eP	**P**	**02 39 40.1**	**-1.3**
	comp=Z,7.6nm,0.9s,mb4.7						
ILAR	**Eielson Array**	**85.42**	**8**	P	**P**	**02 42 19.9**	**-1.0**
	comp=Z,0.8nm,0.7s,mb4.0,baz=325,slow=4.4,SNR=4.9						
YKA	**Yellowknife Ar**	**88.39**	**354**	P	**P**	**02 42 34.3**	**-1.0**
	comp=Z,1.3nm,0.8s,mb4.2,baz=358,slow=5.8,SNR=4.6						
YKA	**Yellowknife Ar**	**88.39**	**354**	P	**P**	**02 42 34.3**	**-1.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*CSEM **21** 02:29:45.5±0.1, 37.75N×25.41W, h5km, ML2.5, Error ellipse: s-maj=3.8km s-min=1.9km az=6.0, After PDA*
*PDA **21** 02:29:45.5±0.7, 37.75N×25.41W, h5km, MD3.9, ML2.5, Error ellipse: s-maj=1.8km s-min=1.5km az=85.0*
SVSA 21 02:29:45.5±0.7, 37.75N×25.41W, h5km, MD3.9, ML2.5, Error ellipse: s-maj=1.8km s-min=1.5km az=85.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**35**	iP	Pg	02 29 46.9	+0.4
PCNG				iS	Sg	02 29 48.2	+1.0
PCNG	**Congro**	**0.02**	**35**	iS	Sg	02 29 48.2	+1.0
VIF	**Vila Franca**	**0.02**	**259**	iP	Pg	02 29 46.9	+0.4
VIF				eS	Sg	02 29 48.3	+1.1
VIF	**Vila Franca**	**0.02**	**259**	eS	Sg	02 29 48.3	+1.1
FRA1	**Furnas**	**0.04**	**98**	eP	Pg	02 29 47.2	+0.4
MESC	**Monte Escuro**	**0.05**	**329**	iP	Pg	02 29 47.2	+0.3
MESC				eS	Sg	02 29 49.0	+1.2
MESC	**Monte Escuro**	**0.05**	**329**	eS	Sg	02 29 49.0	+1.2
PRCH	**Ribeira Ch**	**0.06**	**249**	eP	Pg	02 29 47.5	+0.5
PRCH				eS	Sg	02 29 48.8	+0.8
LFA	**Lagoa do Fogo**	**0.06**	**293**	iP	Pg	02 29 47.5	+0.5
PMAT	**Coroa da Mata**	**0.08**	**325**	eP	Pg	02 29 47.8	+0.4
PMAT				eS	Sg	02 29 49.4	+0.8
CMLA	**Cha da Macela**	**0.09**	**279**	eP	Pg	02 29 46.7	-0.8
CMLA				eS	Sg	02 29 48.6	-0.3
CML	**Cha da Macela**	**0.11**	**282**	eP	Pg	02 29 49.1	+1.3
MIRA	**Miradouro**	**0.11**	**71**	eP	Pg	02 29 48.5	+0.6
MIRA				eS	Sg	02 29 50.9	+1.4
PFAD	**Fenais da Ajud**	**0.11**	**38**	iP	Pg	02 29 48.6	+0.6
FAC	**Faja de Cima**	**0.19**	**277**	eP	Pg	02 29 51.1	+1.7
PDA	**Ponta Delgada**	**0.20**	**269**	eP	Pg	02 29 50.0	+0.4
PDA				eS	Sg	02 29 52.9	+0.6
PSET	**Sete Cidades**	**0.26**	**287**	eP	Pg	02 29 50.5	-0.2
PSET				eS	Sg	02 29 54.7	+0.6
	371nm,0.2s						
PSAN	**Santo Antonio**	**0.27**	**292**	eP	Pg	02 29 52.5	+1.6
PFET	**Feteiras**	**0.31**	**283**	eP	Pg	02 29 52.5	+0.8
SET2	**Ginetes**	**0.33**	**287**	eP	Pg	02 29 53.4	+1.3
SET4	**Mosteiros**	**0.33**	**292**	eP	Pg	02 29 53.1	+0.9
PSMN	**Pico do Norte,**	**0.79**	**160**	eS	Sg	02 30 08.7	-3.3
PSCM	**Serra do Cume**	**1.65**	**306**	eP	Pn	02 30 10.7	-4.6
PSCM				eS	Sb	02 30 30.4	-6.5
	14nm,0.2s						

*CSEM **21** 02:31:38.2±0.2, 37.77N×25.43W, h5km, ML2.5, Error ellipse: s-maj=7.4km s-min=1.7km az=168.0, After PDA*
*PDA **21** 02:31:38.2±0.8, 37.77N×25.43W, h5km±1km, MD2.3, ML2.5, Error ellipse: s-maj=1.8km s-min=1.5km az=136.0*
SVSA 21 02:31:38.2±0.8, 37.77N×25.43W, h5km±1km, MD2.3, ML2.5, Error ellipse: s-maj=1.8km s-min=1.5km az=136.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**192**	iP	Pg	02 31 39.7	+0.5
VIF				iS	Sg	02 31 41.0	+1.1
VIF	**Vila Franca**	**0.02**	**192**	iS	Sg	02 31 41.0	+1.1
MESC	**Monte Escuro**	**0.03**	**341**	iP	Pg	02 31 39.8	+0.5
MESC				eS	Sg	02 31 41.1	+1.1
MESC	**Monte Escuro**	**0.03**	**341**	eS	Sg	02 31 41.1	+1.1
PCNG	**Congro**	**0.03**	**88**	eP	Pg	02 31 39.9	+0.6
PCNG				eS	Sg	02 31 41.1	+1.0
LFA	**Lagoa do Fogo**	**0.04**	**280**	iP	Pg	02 31 40.0	+0.6
PRCH	**Ribeira Ch**	**0.05**	**224**	eP	Pg	02 31 40.0	+0.4
PRCH				iS	Sg	02 31 41.2	+0.7
PMAT	**Coroa da Mata**	**0.06**	**330**	eP	Pg	02 31 40.1	+0.4
PMAT				eS	Sg	02 31 41.3	+0.6
FRA1	**Furnas**	**0.07**	**111**	eP	Pg	02 31 40.1	+0.3
FRA1				eS	Sg	02 31 41.4	+0.5
CMLA	**Cha da Macela**	**0.07**	**268**	eP	Pg	02 31 39.1	-0.8
CMLA				eS	Sg	02 31 41.1	+0.1
CML	**Cha da Macela**	**0.09**	**273**	eP	Pg	02 31 41.6	+1.4
PFAD	**Fenais da Ajud**	**0.11**	**50**	iP	Pg	02 31 41.4	+0.7
PFAD				eS	Sg	02 31 43.1	+0.8
MIRA	**Miradouro**	**0.12**	**81**	eP	Pg	02 31 41.2	+0.3
MIRA				eS	Sg	02 31 43.2	+0.6
FAC	**Faja de Cima**	**0.17**	**272**	eP	Pg	02 31 43.2	+1.4
PDA	**Ponta Delgada**	**0.18**	**264**	eP	Pg	02 31 41.9	-0.1
PDA				eS	Sg	02 31 44.9	+0.4
PSET	**Sete Cidades**	**0.23**	**284**	eP	Pg	02 31 42.9	-0.1
PSET				eS	Sg	02 31 46.8	+0.6
	446nm,0.3s						
PSAN	**Santo Antonio**	**0.25**	**290**	eP	Pg	02 31 45.1	+1.9
PFET	**Feteiras**	**0.29**	**280**	eP	Pg	02 31 45.5	+1.5
SET2	**Ginetes**	**0.30**	**285**	eP	Pg	02 31 45.8	+1.4
SET4	**Mosteiros**	**0.31**	**291**	eP	Pg	02 31 45.5	+1.1
PSCM	**Serra do Cume**	**1.62**	**306**	eP	Pn	02 32 03.4	-4.2
PSCM				eS	Sb	02 32 22.4	-6.5
	20nm,0.4s						

DHMR 21 02:45:24.4±2.9, 12.62N×40.52E, h5km±525km, ML3.7, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.61**	**68**	iS	Sn	02 47 10.6	+4.7
UDYN				AML	AML	02 47 23.3	
	comp=N,299nm,0.5s						
HAJJ	**Hajjah**	**4.28**	**44**	iS	Sn	02 47 26.0	+3.3
LBOS		**4.77**	**74**	⇓iP	Pn	02 46 37.3	-1.4
LBOS				iS	Sn	02 47 34.2	-1.0
BDHA	**Al Bayda'**	**5.09**	**74**	⇓iP	Pn	02 46 41.7	-1.6
BDHA				iS	Sn	02 47 42.1	-1.2

*CSEM **21** 02:49:18.8±0.4, 37.75N×25.42W, h5km±3km, ML2.5, Error ellipse: s-maj=12.8km s-min=7.4km az=15.0, After PDA*
*PDA **21** 02:49:18.8±0.7, 37.75N×25.42W, h5km, ML2.5, Error ellipse: s-maj=1.6km s-min=1.4km az=85.0*
SVSA 21 02:49:18.8±0.7, 37.75N×25.42W, h5km, ML2.5, Error ellipse: s-maj=1.6km s-min=1.4km az=85.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**264**	iP	Pg	02 49 20.3	+0.6
VIF				iS	Sg	02 49 21.2	+0.8
VIF	**Vila Franca**	**0.02**	**264**	iS	Sg	02 49 21.2	+0.8
PCNG	**Congro**	**0.03**	**37**	iP	Pg	02 49 20.3	+0.5
PCNG				iS	Sg	02 49 21.4	+0.9
PCNG	**Congro**	**0.03**	**37**	iS	Sg	02 49 21.4	+0.9
FRA1	**Furnas**	**0.05**	**95**	iP	Pg	02 49 20.7	+0.6
MESC	**Monte Escuro**	**0.05**	**332**	iP	Pg	02 49 20.8	+0.7
MESC				iS	Sg	02 49 22.2	+1.1
MESC	**Monte Escuro**	**0.05**	**332**	iS	Sg	02 49 22.2	+1.1
PRCH	**Ribeira Ch**	**0.06**	**250**	eP	Pg	02 49 20.7	+0.5
PRCH				eS	Sg	02 49 22.1	+1.0
LFA	**Lagoa do Fogo**	**0.06**	**295**	iP	Pg	02 49 21.0	+0.7
PMAT	**Coroa da Mata**	**0.08**	**327**	eP	Pg	02 49 21.1	+0.5
PMAT				eS	Sg	02 49 22.7	+0.8
CMLA	**Cha da Macela**	**0.09**	**281**	eP	Pg	02 49 20.0	-0.8
CMLA				eS	Sg	02 49 22.2	+0.1
CML	**Cha da Macela**	**0.11**	**283**	eP	Pg	02 49 22.5	+1.4
CML				eS	Sg	02 49 24.7	+2.1
MIRA	**Miradouro**	**0.12**	**70**	eP	Pg	02 49 21.9	+0.7
MIRA				eS	Sg	02 49 24.0	+1.1
PFAD	**Fenais da Ajud**	**0.12**	**38**	iP	Pg	02 49 22.2	+0.9
FAC	**Faja de Cima**	**0.19**	**278**	eP	Pg	02 49 24.4	+1.7
PDA	**Ponta Delgada**	**0.20**	**270**	eP	Pg	02 49 22.9	+0.1
PDA				eS	Sg	02 49 26.3	+0.8
PSET	**Sete Cidades**	**0.25**	**288**	eP	Pg	02 49 23.8	-0.1
PSET				eS	Sg	02 49 27.9	+0.5
	423nm,0.4s						
PSAN	**Santo Antonio**	**0.27**	**293**	eP	Pg	02 49 26.0	+1.8
PFET	**Feteiras**	**0.30**	**283**	eP	Pg	02 49 26.4	+1.5
SET2	**Ginetes**	**0.33**	**287**	eP	Pg	02 49 26.8	+1.5
SET4	**Mosteiros**	**0.33**	**293**	eP	Pg	02 49 26.8	+1.4
PSMN	**Pico do Norte,**	**0.79**	**159**	eP	Pg	02 49 31.9	-2.8
PSMN				eS	Sg	02 49 42.1	-3.1
PSCM	**Serra do Cume**	**1.64**	**306**	eP	Pn	02 49 44.5	-4.1
PSCM				eS	Sb	02 50 03.5	-6.7
	14nm,0.3s						

*CSEM **21** 02:55:51.2±0.8, 37.76N×25.44W, h5km, ML2.5, Error ellipse: s-maj=21.0km s-min=11.9km az=55.0, After PDA*
*PDA **21** 02:55:51.2±0.6, 37.76N×25.44W, h5km, MD3.8, ML2.5, Error ellipse: s-maj=1.4km s-min=1.1km az=134.0*
SVSA 21 02:55:51.2±0.6, 37.76N×25.44W, h5km, MD3.8, ML2.5, Error ellipse: s-maj=1.4km s-min=1.1km az=134.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**184**	iP	Pg	02 55 52.7	+0.5
VIF				iS	Sg	02 55 53.7	+0.9
VIF	**Vila Franca**	**0.02**	**184**	iS	Sg	02 55 53.7	+0.9
MESC	**Monte Escuro**	**0.03**	**349**	iP	Pg	02 55 52.8	+0.5
MESC				iS	Sg	02 55 54.1	+1.1
MESC	**Monte Escuro**	**0.03**	**349**	iS	Sg	02 55 54.1	+1.1
PCNG	**Congro**	**0.03**	**83**	iP	Pg	02 55 52.8	+0.5
PCNG				iS	Sg	02 55 54.2	+1.1
PCNG	**Congro**	**0.03**	**83**	iS	Sg	02 55 54.2	+1.1
LFA	**Lagoa do Fogo**	**0.04**	**285**	iP	Pg	02 55 53.0	+0.6
PRCH	**Ribeira Ch**	**0.05**	**224**	eP	Pg	02 55 53.0	+0.5
PRCH				iS	Sg	02 55 54.2	+0.8
PMAT	**Coroa da Mata**	**0.06**	**334**	eP	Pg	02 55 53.1	+0.4
PMAT				iS	Sg	02 55 54.5	+0.8
FRA1	**Furnas**	**0.07**	**107**	iP	Pg	02 55 53.1	+0.3
CMLA	**Cha da Macela**	**0.07**	**271**	eP	Pg	02 55 52.1	-0.7
CMLA				eS	Sg	02 55 54.1	+0.2
CML	**Cha da Macela**	**0.09**	**275**	iP	Pg	02 55 54.6	+1.5
CML				iS	Sg	02 55 56.3	+1.9
CML	**Cha da Macela**	**0.09**	**275**	iS	Sg	02 55 56.3	+1.9
PFAD	**Fenais da Ajud**	**0.12**	**50**	iP	Pg	02 55 54.3	+0.6
PFAD				iS	Sg	02 55 56.4	+1.0
PFAD	**Fenais da Ajud**	**0.12**	**50**	iS	Sg	02 55 56.4	+1.0
MIRA	**Miradouro**	**0.13**	**80**	iP	Pg	02 55 54.3	+0.4
FAC	**Faja de Cima**	**0.17**	**274**	eP	Pg	02 55 56.5	+1.8
PDA	**Ponta Delgada**	**0.18**	**265**	eP	Pg	02 55 55.0	+0.1
PDA				eS	Sg	02 55 58.1	+0.7
PSET	**Sete Cidades**	**0.23**	**285**	eP	Pg	02 55 55.9	0.0
PSET				eS	Sg	02 55 59.6	+0.5
	753nm,0.4s						
PSAN	**Santo Antonio**	**0.24**	**291**	eP	Pg	02 55 58.0	+1.8
PFET	**Feteiras**	**0.28**	**281**	eP	Pg	02 55 58.5	+1.6
SET2	**Ginetes**	**0.30**	**286**	eP	Pg	02 55 58.8	+1.5
SET4	**Mosteiros**	**0.31**	**291**	eP	Pg	02 55 58.8	+1.4
PSMN	**Pico do Norte,**	**0.81**	**159**	eP	Pb	02 56 05.4	-2.0
PSMN				eS	Sg	02 56 14.3	-4.1
PSCM	**Serra do Cume**	**1.62**	**306**	eP	Pn	02 56 16.4	-4.2
PSCM				eS	Sb	02 56 35.5	-6.4
	7.7nm,0.2s						

*CSEM **21** 03:05:30.7±0.1, 37.77N×25.44W, h4km±1km, ML2.8, Error ellipse: s-maj=4.0km s-min=2.6km az=24.0, After PDA*
*PDA **21** 03:05:30.7±1.2, 37.77N×25.44W, h4km±1km, MD3.0, ML2.8, Error ellipse: s-maj=2.2km s-min=1.8km az=87.0*
SVSA 21 03:05:30.7±1.2, 37.77N×25.44W, h4km±1km, MD3.0, ML2.8, Error ellipse: s-maj=2.2km s-min=1.8km az=87.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**337**	iP	Pg	03 05 31.9	+0.4
MESC				iS	Sg	03 05 33.1	+1.0
MESC	**Monte Escuro**	**0.02**	**337**	iS	Sg	03 05 33.1	+1.0
VIF	**Vila Franca**	**0.03**	**188**	iP	Pg	03 05 31.9	+0.3
VIF				iS	Sg	03 05 33.0	+0.8
VIF	**Vila Franca**	**0.03**	**188**	iS	Sg	03 05 33.0	+0.8
PCNG	**Congro**	**0.03**	**101**	iP	Pg	03 05 31.6	0.0
LFA	**Lagoa do Fogo**	**0.04**	**269**	iP	Pg	03 05 32.4	+0.7
PMAT	**Coroa da Mata**	**0.05**	**326**	eP	Pg	03 05 32.5	+0.6
PMAT				iS	Sg	03 05 34.0	+1.2
PRCH	**Ribeira Ch**	**0.06**	**218**	eP	Pg	03 05 32.7	+0.7
PRCH				eS	Sg	03 05 34.3	+1.4
FRA1	**Furnas**	**0.07**	**116**	eP	Pg	03 05 32.3	+0.1
FRA1				iS	Sg	03 05 33.8	+0.5
CMLA	**Cha da Macela**	**0.07**	**263**	eP	Pg	03 05 31.9	-0.4
CMLA				eS	Sg	03 05 34.2	+0.9
CML	**Cha da Macela**	**0.09**	**269**	iP	Pg	03 05 34.2	+1.6
CML				iS	Sg	03 05 36.4	+2.5
PFAD	**Fenais da Ajud**	**0.11**	**53**	eP	Pg	03 05 33.7	+0.7
PFAD				iS	Sg	03 05 36.3	+1.7
MIRA	**Miradouro**	**0.12**	**84**	iP	Pg	03 05 33.6	+0.3
MIRA				iS	Sg	03 05 36.2	+1.2
FAC	**Faja de Cima**	**0.17**	**270**	eP	Pg	03 05 36.2	+2.0
FAC				eS	Sg	03 05 39.8	+3.3
PDA	**Ponta Delgada**	**0.18**	**262**	eP	Pg	03 05 34.6	+0.2
PDA				eS	Sg	03 05 37.8	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSET	Sete Cidades	0.23	283	eP	Pg	03 05 35.5	+0.1
PSET				eS	Sg	03 05 39.6	+1.1
	966nm,0.4s						
PSAN	Santo Antonio	0.24	289	eP	Pg	03 05 37.5	+1.9
PFET	Feteiras	0.28	279	eP	Pg	03 05 38.0	+1.6
SET2	Ginetes	0.30	284	eP	Pg	03 05 38.5	+1.7
SET4	Mosteiros	0.30	290	eP	Pg	03 05 38.4	+1.6
PSMN	Pico do Norte,	0.82	159	eP	Pg	03 05 44.7	-2.4
PSMN				eS	Sg	03 05 55.5	-2.6
PSCM	Serra do Cume	1.62	305	eP	Pn	03 05 56.0	-4.2
PSCM				eS	Sb	03 06 14.6	-6.9
	18nm,0.3s						
PICO	Pico	2.47	288	eP	Pn	03 06 08.6	-3.8
PICO				eS	Sn	03 06 36.2	-7.1
CALA	Caldeira	2.70	288	erx		03 07 00.1	

DHMR 21 03:37:09.0±0.3**, 12.67N**×**40.54E, h6**^{km}±54^{km}**, ML3.8, 3D, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.57	68	i S	Sn	03 38 54.0	+4.8
UDYN				AML	AML	03 39 12.8	
	comp=N,626nm,0.6s						
HAJJ	Hajjah	4.22	44	i S	Sn	03 39 09.1	+3.4
HAJJ				AML	AML	03 39 42.5	
	comp=N,219nm,0.7s						
HAJJ	Hajjah	4.22	44	i S	Sn	03 39 09.1	+3.4
	comp=N,109nm,0.7s						
LBOS		4.73	75	⇓eP	Pn	03 38 21.2	-1.4
LBOS				i S	Sn	03 39 17.8	-0.9
BDHA	Al Bayda'	5.06	75	⇓eP	Pn	03 38 25.7	-1.6
BDHA				i S	Sn	03 39 25.6	-1.2
BDHA				AML	AML	03 39 59.0	
	comp=N,663nm,0.6s						
BDHA	Al Bayda'	5.06	75	⇓eP	Pn	03 38 25.7	-1.6
BDHA				i S	Sn	03 39 25.6	-1.2
	comp=N,332nm,0.6s						

MEX 21 03:49:39.1±0.7**, 15.93N**×**99.85W, h22**^{km}±52^{km}**, MD3.5, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.94	356	i P	Pb	03 49 54.2	-2.3
ACX				i S	Sb	03 50 05.0	-3.5
PLIG	Platanillo	2.47	8	i P	Pn	03 50 17.1	-1.9
PLIG				i S	Sn	03 50 43.9	-5.0

*CSEM **21** 03:55:05.2±0.4, 37.72N×25.40W, h25^{km}, ML2.8, Error ellipse: s-maj=14.7km s-min=2.8km az=167.0, After PDA*
*PDA **21** 03:55:08.2±0.8, 37.77N×25.43W, h6^{km}±2^{km}, MD2.6, ML2.8, Error ellipse: s-maj=2.6km s-min=1.9km az=110.0*
SVSA 21 03:55:08.2±0.8**, 37.77N**×**25.43W, h6**^{km}±2^{km}**, MD2.6, ML2.8, Error ellipse: s-maj=2.6km s-min=1.9km az=110.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.03	92	i P	Pg	03 55 09.7	+0.4
VIF	Vila Franca	0.03	203	i P	Pg	03 55 09.8	+0.5
VIF				eS	Sg	03 55 11.1	+1.1
MESC	Monte Escuro	0.03	330	i P	Pg	03 55 09.9	+0.6
MESC				eS	Sg	03 55 11.2	+1.1
LFA	Lagoa do Fogo	0.04	276	i P	Pg	03 55 10.1	+0.6
PRCH	Ribeira Ch	0.06	226	eP	Pg	03 55 10.1	+0.4
PRCH				eS	Sg	03 55 11.5	+0.8
PMAT	Coroa da Mata	0.06	324	eP	Pg	03 55 10.2	+0.5
PMAT				eS	Sg	03 55 11.6	+0.8
FRA1	Furnas	0.06	114	i P	Pg	03 55 09.9	+0.1
CMLA	Cha da Macela	0.08	267	eP	Pg	03 55 09.5	-0.5
CMLA				eS	Sg	03 55 11.7	+0.4
CML	Cha da Macela	0.09	272	eP	Pg	03 55 11.7	+1.4
PFAD	Fenais da Ajud	0.11	49	i P	Pg	03 55 11.2	+0.6
MIRA	Miradouro	0.12	81	eP	Pg	03 55 11.2	+0.4
FAC	Faja de Cima	0.18	272	eP	Pg	03 55 14.4	+2.5
PDA	Ponta Delgada	0.19	264	eP	Pg	03 55 12.2	+0.1
PDA				eS	Sg	03 55 15.6	+0.9
PSET	Sete Cidades	0.24	283	eP	Pg	03 55 12.9	-0.2
PSET				eS	Sg	03 55 16.6	+0.3
	2μm,0.4s						
PSAN	Santo Antonio	0.25	289	eP	Pg	03 55 14.9	+1.6
PFET	Feteiras	0.29	280	eP	Pg	03 55 15.5	+1.4
SET2	Ginetes	0.31	284	eP	Pg	03 55 15.9	+1.4
SET4	Mosteiros	0.31	290	eP	Pg	03 55 15.8	+1.3
PSMN	Pico do Norte,	0.82	159	eS	Sg	03 55 22.2	-13
PSCM	Serra do Cume	1.62	305	eP	Pn	03 55 33.4	-4.2
PSCM				eS	Sb	03 55 52.5	-6.5
	14nm,0.3s						
PICO	Pico	2.48	288	eP	Pn	03 55 45.9	-3.9
PICO				eS	Sn	03 56 13.4	-7.3

*CSEM **21** 03:57:44.7±0.1, 37.76N×25.42W, h6^{km}, ML2.5, Error ellipse: s-maj=7.8km s-min=2.1km az=18.0, After PDA*
*PDA **21** 03:57:44.7±0.8, 37.76N×25.42W, h6^{km}±2^{km}, MD2.6, ML2.5, Error ellipse: s-maj=2.0km s-min=1.9km az=121.0*
SVSA 21 03:57:44.7±0.8**, 37.76N**×**25.42W, h6**^{km}±2^{km}**, MD2.6, ML2.5, Error ellipse: s-maj=2.0km s-min=1.9km az=121.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	81	i P	Pg	03 57 46.2	+0.4
PCNG				eS	Sg	03 57 47.6	+1.1
PCNG	Congro	0.02	81	eS	Sg	03 57 47.6	+1.1
VIF	Vila Franca	0.03	221	i P	Pg	03 57 46.3	+0.4
VIF				i S	Sg	03 57 47.6	+1.0
VIF	Vila Franca	0.03	221	i S	Sg	03 57 47.6	+1.0
MESC	Monte Escuro	0.04	324	i P	Pg	03 57 46.4	+0.4
MESC				i S	Sg	03 57 47.8	+1.0
MESC	Monte Escuro	0.04	324	i S	Sg	03 57 47.8	+1.0
LFA	Lagoa do Fogo	0.05	280	i P	Pg	03 57 46.7	+0.5
FRA1	Furnas	0.05	113	i P	Pg	03 57 46.5	+0.3
PRCH	Ribeira Ch	0.06	233	i P	Pg	03 57 46.6	+0.3
PRCH				eS	Sg	03 57 48.1	+0.7
PRCH	Ribeira Ch	0.06	233	eS	Sg	03 57 48.1	+0.7
PMAT	Coroa da Mata	0.07	322	eP	Pg	03 57 46.7	+0.3
PMAT				i S	Sg	03 57 48.2	+0.7
CMLA	Cha da Macela	0.08	270	eP	Pg	03 57 45.8	-0.9
CMLA				eS	Sg	03 57 47.9	-0.1
CML	Cha da Macela	0.10	274	i P	Pg	03 57 48.3	+1.3
CML				i S	Sg	03 57 50.4	+1.9
PFAD	Fenais da Ajud	0.11	45	i P	Pg	03 57 47.8	+0.7
MIRA	Miradouro	0.11	79	i P	Pg	03 57 47.7	+0.5
MIRA				eS	Sg	03 57 50.1	+1.2
FAC	Faja de Cima	0.18	273	eP	Pg	03 57 51.0	+2.5
FAC				eS	Sg	03 57 54.2	+3.1
PDA	Ponta Delgada	0.19	265	eP	Pg	03 57 48.7	0.0
PDA				eS	Sg	03 57 52.0	+0.6
PSET	Sete Cidades	0.25	284	i P	Pg	03 57 49.4	-0.3
PSET				eS	Sg	03 57 53.9	+0.8
	750nm,0.3s						
PSET	Sete Cidades	0.25	284	eS	Sg	03 57 53.9	+0.8
PSAN	Santo Antonio	0.26	290	eP	Pg	03 57 51.5	+1.5
PFET	Feteiras	0.30	280	eP	Pg	03 57 52.0	+1.3
SET2	Ginetes	0.32	285	eP	Pg	03 57 52.4	+1.3
SET4	Mosteiros	0.32	290	eP	Pg	03 57 52.4	+1.2
PSMN	Pico do Norte,	0.81	160	eP	Pb	03 57 58.8	-2.0
PSMN				eS	Sg	03 58 08.8	-2.9
PSCM	Serra do Cume	1.63	305	eP	Pn	03 58 10.2	-4.0
PSCM				eS	Sb	03 58 28.7	-6.9
	12nm,0.3s						

*CSEM **21** 03:59:31.5±0.1, 37.77N×25.43W, h6^{km}, ML2.6, Error ellipse: s-maj=5.6km s-min=3.0km az=11.0, After PDA*
*PDA **21** 03:59:31.5±0.9, 37.77N×25.43W, h6^{km}±2^{km}, MD3.8, ML2.6, Error ellipse: s-maj=2.2km s-min=2.2km az=43.0*
SVSA 21 03:59:31.5±0.9**, 37.77N**×**25.43W, h6**^{km}±2^{km}**, MD3.8, ML2.6, Error ellipse: s-maj=2.2km s-min=2.2km az=43.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESC	Monte Escuro	0.02	336	i P	Pg	03 59 33.1	+0.5
MESC				i S	Sg	03 59 34.5	+1.1
MESC	Monte Escuro	0.02	336	i S	Sg	03 59 34.5	+1.1
VIF	Vila Franca	0.03	189	i P	Pg	03 59 33.0	+0.3
VIF				i S	Sg	03 59 34.4	+0.9
VIF	Vila Franca	0.03	189	i S	Sg	03 59 34.4	+0.9
PCNG	Congro	0.03	99	i P	Pg	03 59 33.0	+0.3
PCNG				eS	Sg	03 59 34.5	+1.0
PCNG	Congro	0.03	99	eS	Sg	03 59 34.5	+1.0
LFA	Lagoa do Fogo	0.04	271	i P	Pg	03 59 33.3	+0.5
PMAT	Coroa da Mata	0.05	326	eP	Pg	03 59 33.4	+0.4
PMAT				eS	Sg	03 59 34.9	+0.9
PRCH	Ribeira Ch	0.06	220	eP	Pg	03 59 33.3	+0.3
PRCH				eS	Sg	03 59 35.2	+1.1
FRA1	Furnas	0.07	115	i P	Pg	03 59 33.3	+0.1
CMLA	Cha da Macela	0.07	263	eP	Pg	03 59 32.5	-0.8
CMLA				eS	Sg	03 59 34.0	-0.5
CML	Cha da Macela	0.09	269	eP	Pg	03 59 34.9	+1.3
PFAD	Fenais da Ajud	0.11	53	i P	Pg	03 59 34.5	+0.6
MIRA	Miradouro	0.12	84	eP	Pg	03 59 34.3	+0.1
FAC	Faja de Cima	0.17	270	eP	Pg	03 59 37.2	+2.1
PDA	Ponta Delgada	0.18	262	eP	Pg	03 59 35.3	0.0
PDA				eS	Sg	03 59 38.8	+0.9
PSET	Sete Cidades	0.23	283	eP	Pg	03 59 36.1	-0.2
PSET				eS	Sg	03 59 39.6	+0.2
	954nm,0.4s						
PSAN	Santo Antonio	0.24	289	eP	Pg	03 59 38.2	+1.7
PFET	Feteiras	0.28	279	eP	Pg	03 59 38.7	+1.4
SET2	Ginetes	0.30	284	eP	Pg	03 59 39.0	+1.4
SET4	Mosteiros	0.31	290	eP	Pg	03 59 39.0	+1.3
PSMN	Pico do Norte,	0.82	159	eP	Pb	03 59 44.6	-3.2
PSMN				eS	Sb	03 59 45.4	-14
PSCM	Serra do Cume	1.62	305	eP	Pn	03 59 56.6	-4.2
PSCM				eS	Sb	04 00 15.5	-6.5
	14nm,0.2s						

*CSEM **21** 04:12:09.0±0.1, 37.74N×25.43W, h4^{km}, ML2.5, Error ellipse: s-maj=3.4km s-min=2.4km az=156.0, After PDA*
*PDA **21** 04:12:09.0±0.6, 37.74N×25.43W, h4^{km}, MD2.6, ML2.5, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0*
SVSA 21 04:12:09.0±0.6**, 37.74N**×**25.43W, h4**^{km}**, MD2.6, ML2.5, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.01	275	i P	Pg	04 12 10.2	+0.5
VIF				i S	Sg	04 12 11.2	+1.0
VIF	Vila Franca	0.01	275	i S	Sg	04 12 11.2	+1.0
PCNG	Congro	0.04	49	i P	Pg	04 12 10.4	+0.4
PCNG				i S	Sg	04 12 11.6	+1.0
PCNG	Congro	0.04	49	i S	Sg	04 12 11.6	+1.0
PRCH	Ribeira Ch	0.04	248	i P	Pg	04 12 10.6	+0.5
PRCH				i S	Sg	04 12 11.8	+0.9
PRCH	Ribeira Ch	0.04	248	i S	Sg	04 12 11.8	+0.9
MESC	Monte Escuro	0.05	345	i P	Pg	04 12 10.8	+0.6
MESC				i S	Sg	04 12 12.1	+1.0
MESC	Monte Escuro	0.05	345	i S	Sg	04 12 12.1	+1.0
LFA	Lagoa do Fogo	0.05	304	i P	Pg	04 12 10.9	+0.7
FRA1	Furnas	0.06	91	i P	Pg	04 12 10.7	+0.4
CMLA	Cha da Macela	0.08	285	eP	Pg	04 12 10.5	-0.2
CMLA				eS	Sg	04 12 12.3	+0.5
PMAT	Coroa da Mata	0.08	335	eP	Pg	04 12 11.2	+0.5
PMAT				i S	Sg	04 12 13.0	+1.1
CML	Cha da Macela	0.10	286	i P	Pg	04 12 12.5	+1.5
CML				i S	Sg	04 12 14.2	+1.8
MIRA	Miradouro	0.13	71	i P	Pg	04 12 12.0	+0.4
MIRA				i S	Sg	04 12 14.6	+1.2
PFAD	Fenais da Ajud	0.13	42	i P	Pg	04 12 12.3	+0.7
FAC	Faja de Cima	0.18	279	eP	Pg	04 12 14.4	+1.8
FAC				i S	Sg	04 12 17.5	+2.5
PDA	Ponta Delgada	0.19	271	eP	Pg	04 12 13.1	+0.3
PDA				eS	Sg	04 12 16.1	+0.8
PSET	Sete Cidades	0.24	289	eP	Pg	04 12 13.8	-0.1
PSET				eS	Sg	04 12 18.1	+0.9
	296nm,0.2s						
PSAN	Santo Antonio	0.26	295	eP	Pg	04 12 15.8	+1.6
PFET	Feteiras	0.29	285	eP	Pg	04 12 16.4	+1.5
SET2	Ginetes	0.32	288	eP	Pg	04 12 16.7	+1.4
SET4	Mosteiros	0.32	294	eP	Pg	04 12 16.6	+1.2
PSMN	Pico do Norte,	0.79	159	eS	Sg	04 12 32.7	-2.8
PSCM	Serra do Cume	1.64	306	eP	Pn	04 12 34.7	-4.1
PSCM				eS	Sb	04 12 54.1	-6.3
	16nm,0.2s						

*SVSA **21** 04:15:45.1±0.7, 37.76N×25.40W, h7^{km}±4^{km}, ML2.5, Error ellipse: s-maj=2.5km s-min=2.2km az=37.0*
*PDA **21** 04:15:45.1±0.7, 37.76N×25.40W, h7^{km}±4^{km}, ML2.5, Error ellipse: s-maj=2.5km s-min=2.2km az=37.0*
*CSEM **21** 04:15:46.0±0.1, 37.76N×25.38W, h2^{km}, ML2.5, Error ellipse: s-maj=3.7km s-min=1.7km az=3.0*
ISC 21 04:15:46.2±1.0**, 37.75N**±0.05×**25.39W**±0.04**, h5**^{km}±6^{km}**, n14, σ0ˢ40**/21**, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.01	343	eP	Pg	04 15 46.8	-0.4
PCNG				eS	Sg	04 15 48.1	+0.3
	3μm,0.1s						
FRA1	Furnas	0.03	113	eP	Pg	04 15 46.9	-0.4
FRA1				eS	Sg	04 15 48.8	+0.7
VIF	Vila Franca	0.04	256	i P	Pg	04 15 46.9	-0.6
VIF				eS	Sg	04 15 48.4	+0.1
	1μm,0.1s						
MESC	Monte Escuro	0.06	312	i P	Pg	04 15 47.2	-0.5
MESC				eS	Sg	04 15 49.0	+0.3
LFA	Lagoa do Fogo	0.07	284	eP	Pg	04 15 47.6	-0.4
PRCH	Ribeira Ch	0.07	250	eP	Pg	04 15 47.4	-0.6
PRCH				eS	Sg	04 15 49.1	-0.1
	934nm,0.1s						
PMAT	Coroa da Mata	0.09	314	eS	Sg	04 15 49.3	-0.3
MIRA	Miradouro	0.09	71	eP	Pg	04 15 48.0	-0.3
MIRA				eS	Sg	04 15 50.1	+0.4
PFAD	Fenais da Ajud	0.10	33	eP	Pg	04 15 48.3	-0.1
PFAD				eS	Sg	04 15 49.8	-0.1
CML	Cha da Macela	0.12	278	eP	Pg	04 15 49.1	+0.2
FAC	Faja de Cima	0.21	275	eP	Pg	04 15 51.1	+0.6
PSAN	Santo Antonio	0.28	290	eP	Pg	04 15 52.5	+0.6
PFET	Feteiras	0.32	281	eP	Pg	04 15 53.0	+0.3
SET2	Ginetes	0.34	285	eP	Pg	04 15 53.4	+0.3

*IDC **21** 04:21:20.8±1.3, 12.70N×40.56E, mb4.0/9, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, ML3.8/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/17, Error ellipse: s-maj=29.7km s-min=25.9km az=36.0*
*DHMR **21** 04:21:21.3±0.3, 12.75N×40.53E, h2^{km}±35^{km}, ML4.0*
*NEIC **21** 04:21:22.1±0.8, 12.65N×40.53E, h10^{km}, mb4.4/3, Error ellipse: s-maj=17.5km s-min=16.1km az=56.0*
*CSEM **21** 04:21:22.0±0.3, 12.66N×40.40E, h20^{km}, mb4.3/3, Error ellipse: s-maj=13.0km s-min=6.8km az=178.0*
ISC 21 04:21:18.0±1.1**, 12.4N**±0.1×**40.45E**±0.05**, h10**^{km}**, n34, σ1ˢ00**/34**, mb4.0**/12**, MS3.9**/1**, 3C-7D, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.79	65	⇓eP	Pn	04 22 20.4	+2.7
UDYN				i S	Sn	04 23 06.6	+3.8
UDYN				AML	AML	04 23 25.9	
	comp=Z,664nm,0.7s						
DHBB	Dhamar BB	4.42	60	⇓eP	Pn	04 22 28.6	+1.8
DHBB				i S	Sn	04 23 21.0	+2.0
HAJJ	Hajjah	4.52	42	⇑eP	Pn	04 22 28.4	+0.3
HAJJ				i S	Sn	04 23 21.0	-0.3
LBOS		4.92	72	⇓eP	Pn	04 22 33.9	+0.2
LBOS				i S	Sn	04 23 30.5	-0.9
BSY	Bisya	19.00	55	⇓P	P	04 25 41.6	-0.8
	SNR=10						
BSYO	Bisya	19.03	55	P	P	04 25 41.6	-1.1
	SNR=10						
ASHO	Ashiyiah	19.20	48	⇑P	P	04 25 44.0	-0.7
	SNR=11						
HOQ	Hoqain	19.52	53	⇑P	P	04 25 48.7	+0.2
	SNR=6.0						
SMDO	Samad	19.84	55	⇓P	P	04 25 51.2	-0.8
ASF	Jabal al Asfar	19.99	351	P	P	04 25 53.6	-0.1
	comp=Z,0.3nm,0.3s,baz=329,slow=5.9,SNR=3.7						
BIDO	Bidbid	20.13	54	⇓P	P	04 25 54.3	-0.8
WBK	Wadi Bani Khal	20.38	57	⇓P	P	04 25 56.8	-1.0
BHD	Baghdad	21.13	9	ex	x	04 26 01.0	
BHD				ex	x	04 30 38.0	
MALT	Malatya	25.91	356	P	P	04 26 52.5	+0.5
	comp=Z,7.3nm,0.9s,mb4.2						
MALT	Malatya	25.91	356	P	P	04 26 52.5	+0.4
	comp=Z,7.3nm,0.9s,mb4.2						
BRTR	Keskin Array B	27.92	349	P	P	04 27 11.3	+0.9
	comp=Z,4.2nm,1.1s,mb4.0,baz=149,slow=7.2,SNR=10.0						
BR131	Keskin Array S	27.92	349	P	P	04 27 09.1	-1.3
KIV	Kislovodsk	31.55	3	eP	P	04 27 42.1	-0.6
KIV	Kislovodsk	31.55	3	eP	P	04 27 42.1	-0.6
AKASG	Malin Array Be	39.32	349	P	P	04 28 48.5	-0.5
	comp=Z,0.2nm,0.3s,mb3.4,baz=169,slow=7.4,SNR=9.3						
AAK	Ala-Archa	42.19	38	P	P	04 29 13.2	+0.5
	comp=Z,8.2nm,1.5s,mb4.1						
AAK	Ala-Archa	42.19	38	P	P	04 29 13.2	+0.5
	comp=Z,8.2nm,1.5s,mb4.1						
GERES	GERESS Array B	42.60	334	P	P	04 29 15.5	-0.5
	comp=Z,1.5nm,0.9s,mb3.7,baz=146,slow=9.6,SNR=8.5						
DBIC	Dimbokro	44.99	267	LR	LR	04 50 19.1	
	comp=Z,125nm,18.6s,MS3.9,baz=72,slow=38						
MDT	Midelt	45.90	304	P	P	04 29 44.3	+1.6
	comp=Z,2.1nm,1.0s,mb4.0,baz=117,slow=11,SNR=4.7						
ESDC	Sonseca Array	47.63	313	P	P	04 29 57.6	+1.3
	comp=Z,0.3nm,0.4s,mb3.7,baz=125,slow=7.6,SNR=5.5						
MKAR	Makanchi Array	49.11	37	P	P	04 30 07.7	0.0
	comp=Z,2.9nm,1.0s,mb4.3,baz=233,slow=6.1,SNR=18						
KURK	Kurchatov	49.27	31	eP	P	04 30 08.7	-0.2
	comp=Z,7.3nm,1.3s,mb4.5						
KURK	Kurchatov	49.27	31	eP	P	04 30 08.7	-0.2
	comp=Z,7.3nm,1.3s,mb4.5						
ZAL	Zalesovo	54.23	31	P	P	04 30 44.6	-1.4
	comp=Z,1.1nm,0.4s,mb4.1,baz=137,slow=6.9,SNR=7.1						
SONM	Songino Array	64.82	43	P	P	04 31 59.6	+0.3
	comp=Z,2.4nm,0.8s,mb4.3,baz=239,slow=5.9,SNR=11						
MAW	Mawson	81.39	171	P	P	04 33 41.2	+5.1
	comp=Z,2.4nm,1.0s,mb4.1,baz=352,slow=9.6,SNR=4.2						
MNTX	Cornudas Mount	125.31	324	PKPdf	PKPdf	04 40 22.5	-0.4
MNTX	Cornudas Mount	125.31	324	PKIKP	PKPdf	04 40 22.5	-0.4

*IDC **21** 04:29:30.9±0.6, 50.21S×139.76E, mb4.6/9, mb1 4.7/10, mb1mx4.6/14, mbtmp4.7/10, ML4.1/1, MS4.7/15, Ms1 4.7/15, ms1mx4.6/18, Error ellipse: s-maj=24.3km s-min=17.6km az=128.0*
*BJI **21** 04:29:32.0, 50.30S×139.30E, h10^{km}, mB5.3, mb4.9, Ms5.1, Msz4.8*
*NEIC **21** 04:29:32.0±0.3, 50.26S×139.27E, h10^{km}, mb4.8/13, MS4.7/37, Error ellipse: s-maj=11.6km s-min=6.9km az=99.0*
*HRVD **21** 04:29:32.0±0.2, 50.35S×139.42E, h14^{km}±1^{km}, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s44,c61;Mantle waves: s73,c131; Half duration: 1ˢ2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20±.04; $M_{\theta\theta}$0.03±.04; $M_{\phi\phi}$0.17±.04; $M_{r\theta}$-0.03±.08; $M_{\theta\phi}$-1.33±.04; $M_{\phi r}$0.09±.07; Best double couple: $M_0$1.335×10^{17} NP1: ϕ_s272°, δ86°, λ180°. NP2: ϕ_s2°, δ90°, λ4°. Principal axes: T 1.436, Plg3°, Azm227°; N -.202, Plg86°, Azm7°; P -1.234, Plg2°, Azm136°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 21 04:29:30.4±0.3**, 50.26S**±0.05×**139.5E**±0.1**, h10**^{km}**, (h14**^{km}±1.8^{km}**:pP-P), n178, σ1ˢ26**/62**, mb4.8**/27**, MS4.7**/52**, 6C-2D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAU	Tasmania Unive	9.11	39	eP	P	04 31 44.7	-0.3
	64nm,0.9s						
TOO	Toolangi	13.39	21	eP	P	04 32 42.8	-0.2
	12nm,0.9s						
CNB	Canberra Magne	16.57	29	eP	P	04 33 25.5	+1.2
	36nm,1.2s						
STKA	Stephens Creek	18.43	6	eP	P	04 33 47.6	0.0
	22nm,1.2s						
STKA	Stephens Creek	18.43	6	P	P	04 33 47.3	-0.3
	0.3nm,0.3s,baz=169,slow=11,SNR=11						
STKA				LR	LR	04 39 40.3	
	comp=Z,3μm,19.2s,baz=180,slow=33						
FORT	Forrest	21.27	332	eP	P	04 34 18.5	-0.5
	28nm,0.8s,mb4.6						
CASY	Casey	21.80	212	eP	P	04 34 23.1	-1.0
RPZ	Rata Peaks	22.38	85	P	P	04 34 31.7	+1.6
	34nm,1.0s,mb4.7,baz=104,slow=1.0,SNR=5.0						
RPZ				LR	LR	04 40 55.8	
	comp=Z,3μm,20.0s,MS4.6,baz=243,slow=31						
NWAO	Narrogin (SRO)	23.88	308	P	P	04 34 46.3	+1.6
	17nm,1.0s,mb4.4,baz=284,slow=2.5,SNR=3.6						
NWAO				LR	LR	04 41 50.4	
	comp=Z,4μm,21.1s,MS4.8,baz=322,slow=31						
ASPA	Alice Springs	26.90	349	eP	P	04 35 13.9	+0.6
VNDA	Vanda	28.65	170	eP	P	04 35 27.9	-0.8
	28nm,1.4s,mb4.8						
VNDA				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
URZ	Urewera	29.17	80	P	P	04 35 30.8	-2.9
	comp=Z,14nm,0.8s,mb4.8,baz=233,slow=5.4,SNR=7.9						
URZ				LR	LR	04 46 11.0	
	comp=Z,992nm,19.4s,MS4.4,baz=212,slow=34						
SBA	Scott Base	29.51	169	eP	P	04 35 35.7	-0.7
	comp=Z,26nm,1.3s,mb4.8						
SBA				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
WB2	Warramunga Arr	30.53	350	⇑i P	P	04 35 45.8	-0.2
WRA	Warramunga Arr	30.53	350	P	P	04 35 45.5	-0.5
	comp=Z,10nm,0.9s,mb4.6,baz=178,slow=7.8,SNR=53						
WRAB	Tennant Creek	30.54	350	eP	P	04 35 44.1	-2.0
	comp=Z,24nm,0.9s,mb5.0						
WRAB				LR	LR		
	comp=Z,492nm,20.0s,MS4.2						
CTA	Charters Tower	30.58	13	P	P	04 35 46.5	0.0
	comp=Z,4.4nm,0.8s,mb4.3,baz=190,slow=9.2,SNR=3.5						
CTA				LR	LR	04 48 45.2	
	comp=Z,2μm,19.4s,MS4.9,baz=187,slow=38						
CTA	Charters Tower	30.58	13	P	P	04 35 46.5	0.0
CTA				LR	LR	04 48 45.2	
CTAO	Charters Tower	30.58	13	PFAKE		04 36 00.0	+14
CTAO				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
MBWA	Marble Bar	32.97	325	P	P	04 36 05.6	-1.7
MBWA				LR	LR		
	comp=Z,3μm,21.0s,MS4.9						
FITZ	Fitzroy Crossi	33.95	336	eP	P	04 36 16.5	+0.6
	comp=Z,9.6nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	33.95	336	P	P	04 36 15.4	-0.6
	comp=Z,9.3nm,0.9s,mb4.7,baz=248,slow=8.8,SNR=3.1						
FITZ				LR	LR	04 48 35.2	
	comp=Z,2μm,20.8s,MS4.7,baz=156,slow=34						
DZM	Mont Dzumac	35.19	47	P	P	04 36 25.3	-1.3
	comp=Z,10.0nm,0.9s,mb4.8,baz=173,slow=11,SNR=5.9						
KAKA	Kakadu	37.89	349	eP	P	04 37 08.7	+19
	comp=Z,8.0nm,0.5s,mb4.7						
RAO	Raoul Island	38.21	73	LR	LR	04 50 26.8	
	comp=Z,1μm,19.0s,MS4.7,baz=56,slow=33						
QSPA	South Pole Qui	39.86	180	eP	P	04 37 07.4	+2.2
	comp=Z,28nm,1.0s,mb5.0						
MAW	Mawson	40.08	215	eP	P	04 37 07.2	+0.1
	comp=Z,9.5nm,1.2s,mb4.4						
MAW	Mawson	40.08	215	P	P	04 37 07.1	0.0
	comp=Z,9.1nm,1.0s,mb4.5,baz=94,slow=11,SNR=12						
MAW				LR	LR	04 51 08.4	
	comp=Z,3μm,21.6s,MS5.1,baz=92,slow=32						
PMG	Port Moresby	41.22	12	LR	LR	04 54 58.6	
	comp=Z,3μm,18.9s,MS5.1,baz=202,slow=37						
PMG	Port Moresby	41.22	12	PFAKE		04 37 30.0	+13
PMG				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
HNR	Honiara	44.09	30	LR	LR	04 55 50.7	
	comp=Z,537nm,18.1s,MS4.5,baz=154,slow=36						
HNR	Honiara	44.09	30	PFAKE		04 37 50.0	+10
HNR				LR	LR		
	comp=Z,446nm,20.0s,MS4.4						
SYO	Syowa Base	47.51	209	⇑P	P	04 38 06.4	-0.5
SYO	Syowa Base	47.51	209	⇓pP	pP	04 38 08.5	-1.4
SYO	Syowa Base	47.51	209	⇓sP	sP	04 38 11.5	+0.4
AFI	Afiamalu	53.53	65	LR	LR	04 56 42.6	
	comp=Z,745nm,21.6s,MS4.7,baz=226,slow=31						
SNAA	Sanae	55.48	194	e	P	04 39 12.1	+5.1
SNAA	Sanae	55.48	194	e	P	04 39 16.6	+10
SNAA	Sanae	55.48	194	e	Px	04 39 36.1	
SNAA	Sanae	55.48	194	⇑i P	P	04 39 05.7	-1.3
SNAA				e		04 39 12.1	
SNAA				e		04 39 16.6	
SNAA				e		04 39 36.1	
SNAA				e		04 40 13.0	
VNA2	Neumayer--Watz	56.81	192	e	P	04 39 20.7	+4.2
VNA2	Neumayer--Watz	56.81	192	e	P	04 39 26.5	+10

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNA2	**Neumayer--Watz**	**56.81**	**192**	*e*	Px	04 39 46.6	
VNA2	**Neumayer--Watz**	**56.81**	**192⇑**	*i*P	**P**	**04 39 15.2**	**-1.3**
VNA2				*e*		04 39 20.7	
VNA2				*e*		04 39 26.5	
VNA2				*e*		04 39 46.6	
VNA2				*e*		04 40 09.5	
VNA3	**Neumayer Olymp**	**56.82**	**191**	*e*	**P**	**04 39 20.4**	**+3.8**
VNA3	**Neumayer Olymp**	**56.82**	**191**	*e*	**P**	**04 39 25.4**	**+8.8**
VNA3	**Neumayer Olymp**	**56.82**	**191**	*e*	Px	04 39 43.3	
VNA3	**Neumayer Olymp**	**56.82**	**191⇑**	*i*P	**P**	**04 39 14.6**	**-2.0**
VNA3				*e*		04 39 20.4	
VNA3				*e*		04 39 25.4	
VNA3				*e*		04 39 43.3	
VNA3				*e*		04 40 06.5	
VNA1	**Neumayer--Stat**	**57.18**	**192**	*e*	**P**	**04 39 24.3**	**+5.1**
VNA1	**Neumayer--Stat**	**57.18**	**192**	*e*	**P**	**04 39 28.7**	**+10**
VNA1	**Neumayer--Stat**	**57.18**	**192**	*e*	Px	04 39 46.7	
VNA1	**Neumayer--Stat**	**57.18**	**192⇑**	*i*P	**P**	**04 39 18.3**	**-0.9**
VNA1				*e*		04 39 24.3	
VNA1				*e*		04 39 28.7	
VNA1				*e*		04 39 46.7	
VNA1				*e*		04 40 09.8	
KSM	**Kuching**	**57.28**	**325**	P	**P**	**04 39 16.9**	**-3.7**
KKM	**Kota Kinabalu**	**59.59**	**333**	*e*P	**P**	**04 39 34.2**	**-2.5**
TBI	**Tubuai**	**60.41**	**92**	*e*LQ		04 54 45.5	
TBI				*e*LR	LR	04 57 09.0	
	comp=Z,503nm,26.8s						
PMSA	**Palmer Station**	**63.85**	**169**	PFAKE		04 40 20.0	+15
PMSA				LR	LR		
	comp=Z,676nm,19.0s,MS4.8						
PPT	**Papeete**	**64.52**	**87**	*e*LQ		04 56 25.9	
PPT				*e*LR	LR	04 58 59.6	
	comp=Z,238nm,21.0s						
PPT	**Papeete**	**64.52**	**87**	LR	LR	05 02 35.0	
	comp=Z,243nm,19.7s,MS4.4,baz=257,slow=31						
DGAR	**Diego Garcia**	**69.72**	**283**	PFAKE		04 40 50.0	+7.4
DGAR				LR	LR		
	comp=Z,224nm,19.0s,MS4.4						
RKT	**Rikitea**	**69.79**	**102**	*e*LQ		04 58 23.4	
RKT				*e*LR	LR	05 01 32.8	
	comp=Z,553nm,30.0s						
USHA	**Ushuaia**	**72.70**	**164**	LR	LR	05 09 57.1	
	comp=Z,312nm,18.6s,MS4.6,baz=270,slow=33						
QIZ	**Qiongzhong**	**73.79**	**331**	*e*P	**P**	**04 41 05.8**	**-0.9**
QIZ				LR	LR		
	comp=N,297nm,19.6s						
QIZ				LR	LR		
	comp=Z,347nm,27.4s						
QIZ	**Qiongzhong**	**73.79**	**331**	PFAKE		04 41 20.0	+13
QIZ				LR	LR		
	comp=Z,391nm,20.0s,MS4.7						
TAOE	**Nuku Hiva Isla**	**77.08**	**88**	*e*LR	LR	05 05 10.5	
	comp=Z,555nm,21.1s						
OPO	**Ambohidratompo**	**77.40**	**256**	P	**P**	**04 41 30.8**	**+3.6**
	comp=Z,2.2nm,1.0s,mb4.0,baz=90,slow=6.1,SNR=3.3						
SUR	**Sutherland**	**81.49**	**229**	P	**P**	**04 41 53.0**	**+3.9**
	comp=Z,13nm,1.0s,mb4.8,baz=249,slow=3.2,SNR=4.2						
SUR	**Sutherland**	**81.49**	**229**	P	**P**	**04 41 53.0**	**+3.9**
SUR				LR	LR		
	comp=Z,260nm,20.0s,MS4.6						
KMI	**Kunming**	**81.81**	**327**	P	**P**	**04 41 51.5**	**+0.6**
KMI				XP	sP	04 41 57.4	+2.3
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,179nm,6.5s						
KMI				LR	LR		
	comp=N,470nm,17.9s,MS5.0						
KMI				LR	LR		
	comp=E,249nm,17.0s,MS5.0						
KMI				LR	LR		
	comp=Z,555nm,18.9s,MS4.9						
SSE	**Sheshan**	**82.61**	**344**	*e*P	**P**	**04 41 55.8**	**+0.9**
SSE				AP	pP	04 41 59.3	+1.2
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,37nm,4.6s						
SSE				LR	LR		
	comp=N,43nm,37.7s,MS4.1						
SSE				LR	LR		
	comp=E,164nm,37.7s,MS4.1						
SSE				LR	LR		
	comp=Z,122nm,23.7s						
NJ2	**Nanjing**	**83.97**	**342**	*e*P	**P**	**04 42 01.1**	**-0.7**
NJ2				XP	sP	04 42 08.5	+2.5
NJ2				S	S	04 52 22.0	-2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,90nm,7.6s						
NJ2				LR	LR		
	comp=N,360nm,22.0s,MS4.9						
NJ2				LR	LR		
	comp=E,410nm,25.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,140nm,19.5s						
ENH	**Enshi**	**84.48**	**334**	P	**P**	**04 42 02.0**	**-2.4**
ENH				LR	LR		
	comp=Z,235nm,22.0s,MS4.5						
LBTB	**Lobatse**	**85.04**	**236**	P	**P**	**04 42 05.8**	**-1.4**
	comp=Z,6.3nm,0.9s,mb4.8						
LBTB				LR	LR		
	comp=Z,579nm,22.0s,MS4.9						
MJAR	**Matsushiro Arr**	**86.43**	**359**	LR	LR	05 18 57.7	
	comp=Z,232nm,21.6s,MS4.5,baz=190,slow=34						
MAJO	**Matsushiro**	**86.44**	**359**	PFAKE		04 42 30.0	+16
MAJO				LR	LR		
	comp=Z,286nm,21.0s,MS4.7						
MAT	**Matsushiro**	**86.44**	**359**	S	S	04 52 52.0	+3.7
CD2	**Chengdu**	**86.80**	**330**	*e*P	**P**	**04 42 17.0**	**+1.1**
TRQA	**Tornquist**	**90.05**	**163**	PFAKE		04 42 40.0	+8.8
TRQA				LR	LR		
	comp=Z,371nm,19.0s,MS4.8						
LSA	**Lhasa**	**90.39**	**319**	P	**P**	**04 42 32.6**	**-0.4**
	comp=Z,10nm,0.8s,mb5.2						
LSA				LR	LR		
	comp=Z,307nm,21.0s,MS4.7						
PKI	**Pulchoki**	**91.08**	**314**	*e*P	**P**	**04 42 36.6**	**+0.4**
	comp=Z,21nm,1.0s,mb5.4						
DMN	**Daman**	**91.25**	**314**	*e*P	**P**	**04 42 37.7**	**+0.7**
KKN	**Kakani**	**91.33**	**314**	*e*P	**P**	**04 42 38.0**	**+0.7**
	comp=Z,25nm,1.0s,mb5.5						
LSZ	**Lusaka**	**91.39**	**244**	*e*P	**P**	**04 42 41.0**	**+3.1**
	comp=Z,16nm,1.2s,mb5.2						
LSZ				LR	LR		
	comp=Z,828nm,20.0s,MS5.2						
LZH	**Lanzhou**	**91.56**	**332**	*e*P	**P**	**04 42 38.5**	**+0.3**
LZH				AP	pP	04 42 44.5	+3.1
LZH				XP	sP	04 42 49.0	+6.6
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.4						
LZH				LR	LR		
	comp=N,460nm,16.3s						
LZH				LR	LR		
	comp=Z,740nm,22.0s						
GKN	**Gorkha**	**91.81**	**314**	*e*P	**P**	**04 42 39.7**	**+0.2**
KOLN	**Koldanda**	**92.09**	**313**	*e*P	**P**	**04 42 41.1**	**+0.3**
TSUM	**Tsumeb**	**94.01**	**234**	PFAKE		04 43 00.0	+10
TSUM				LR	LR		
	comp=Z,767nm,21.0s,MS5.1						
CN2	**Changchun**	**94.48**	**350**	*e*P	**P**	**04 42 53.4**	**+2.0**
MDJ	**Mudanjiang**	**94.89**	**353**	P	**P**	**04 42 55.1**	**+1.8**
MDJ				AP	pP	04 42 58.6	+2.1
MDJ				PP	PP	04 46 43.9	-0.6
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,52nm,4.9s						
MDJ				LR	LR		
	comp=N,61nm,31.2s,MS4.5						
MDJ				LR	LR		
	comp=E,230nm,29.9s,MS4.5						
MDJ				LR	LR		
	comp=Z,230nm,28.6s,MS4.5						
MDJ	**Mudanjiang**	**94.89**	**353**	PFAKE		04 43 00.0	+6.7
MDJ				LR	LR		
	comp=Z,203nm,20.0s,MS4.6						
GTA	**Gaotai**	**95.87**	**330**	*e*P	**P**	**04 43 03.1**	**+5.2**
GTA				AP	pP	04 43 08.5	+7.4
GTA				XP	sP	04 43 11.8	+10
GTA				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.6						
YSS	**Yuzh-Sakhalins**	**96.87**	**2**	PFAKE		04 43 10.0	+7.7
YSS				LR	LR		
	comp=Z,387nm,21.0s,MS4.9						
KMBO	**Kilima Mbogo**	**96.96**	**260**	LR	LR	05 17 24.8	
	comp=Z,294nm,20.1s,MS4.8,baz=282,slow=30						
HIA	**Hailar**	**100.58**	**347**	PFAKE		04 43 30.0	+11
HIA				LR	LR		
	comp=Z,347nm,20.0s,MS4.9						
CPUP	**Villa Florida**	**102.30**	**165**	PFAKE		04 43 40.0	+13
CPUP				LR	LR		
	comp=Z,488nm,19.0s,MS5.0						
AAK	**Ala-Archa**	**108.50**	**315**	PFAKE		04 48 10.0	
AAK				LR	LR		
	comp=Z,66nm,22.0s,MS4.2						
LPAZ	**La Paz**	**109.41**	**152**	PFAKE		04 48 20.0	
LPAZ				LR	LR		
	comp=Z,169nm,21.0s,MS4.6						
MA2	**Magadan**	**109.86**	**6**	PFAKE		04 48 10.0	
MA2				LR	LR		
	comp=Z,197nm,22.0s,MS4.6						
YAK	**Yakutsk**	**112.21**	**355**	PFAKE		04 48 20.0	+12
YAK				LR	LR		
	comp=Z,165nm,20.0s,MS4.6						
KURK	**Kurchatov**	**113.16**	**323**	PFAKE		04 48 20.0	+10
KURK				LR	LR		
	comp=Z,76nm,21.0s,MS4.3						
SAML	**Samuel**	**117.81**	**154**	PFAKE		04 48 30.0	+10
SAML				LR	LR		
	comp=Z,413nm,19.0s,MS5.1						
BRVK	**Borovoye**	**118.29**	**320**	PFAKE		04 48 30.0	+10
BRVK				LR	LR		
	comp=Z,44nm,21.0s,MS4.1						
BILL	**Bilibino**	**119.67**	**11**	PFAKE		04 48 30.0	+7.5
BILL				LR	LR		
	comp=Z,513nm,20.0s,MS5.2						
RCBR	**Riachuelo**	**124.00**	**186**	PFAKE		04 48 40.0	+7.7
RCBR				LR	LR		
	comp=Z,759nm,21.0s,MS5.3						
PMR	**Palmer**	**125.13**	**34**	PFAKE		04 48 40.0	+6.8
PMR				LR	LR		
	comp=Z,311nm,21.0s,MS5.0						
NVAR	**Mina Array Bea**	**125.53**	**71**	PKP	PKPdf	04 48 35.4	+0.8
	comp=Z,0.5nm,0.7s,baz=198,slow=2.9,SNR=4.9						
NVAR	**Mina Array Bea**	**125.53**	**71**	PKP	PKPdf	04 48 35.4	+0.8
ARU	**Arti**	**125.55**	**318**	PFAKE		04 48 40.0	+5.9
ARU				LR	LR		
	comp=Z,50nm,20.0s,MS4.2						
KIV	**Kislovodsk**	**125.83**	**298**	PFAKE		04 48 40.0	+5.0
KIV				LR	LR		
	comp=Z,78nm,19.0s,MS4.4						
DBIC	**Dimbokro**	**127.34**	**227**	PFAKE		04 48 50.0	+11
DBIC				LR	LR		
	comp=Z,366nm,21.0s,MS5.0						
COLA	**College**	**127.71**	**31**	PFAKE		04 48 50.0	+12
COLA				LR	LR		
	comp=Z,6.0nm,20.0s,MS3.3						
ILAR	**Eielson Array**	**127.97**	**31**	PKP	PKPdf	04 48 36.5	-2.1
	comp=Z,0.4nm,0.8s,baz=252,slow=2.9,SNR=4.2						
TXAR	**Lajitas Array**	**128.81**	**89**	PKP	PKPdf	04 48 41.4	+0.2
	comp=Z,0.3nm,0.8s,baz=180,slow=3.8,SNR=4.2						
MSU	**Marysvale**	**129.33**	**74**	*e*PKPdf	PKPdf	04 48 42.3	+0.4
SDV	**Santo Domingo**	**131.78**	**138**	PFAKE		04 49 00.0	+13
SDV				LR	LR		
	comp=Z,249nm,20.0s,MS4.9						
PDAR	**Pinedale Array**	**133.45**	**71**	PKP	PKPdf	04 48 51.0	+1.5
	comp=Z,0.3nm,0.7s,baz=117,slow=3.3,SNR=3.4						
INK	**Inuvik**	**134.37**	**31**	PKP	PKPdf	04 48 51.4	+0.8
	comp=Z,3.8nm,1.0s,baz=299,slow=1.8,SNR=4.6						
SJG	**San Juan**	**141.93**	**138**	PFAKE		04 49 20.0	+14
SJG				LR	LR		
	comp=Z,231nm,21.0s,MS4.9						
PLAL	**Pickwick Lake**	**142.49**	**96**	PKPdf	PKPdf	04 49 00.7	-5.3
SIUC	**Southern Illin**	**143.41**	**91**	*e*PKPdf	PKPdf	04 49 04.8	-2.7
SWET	**Sewanee**	**144.00**	**97**	*e*PKPdf	PKPdf	04 49 02.2	-6.4
ARCES	**ARCESS Array B**	**144.06**	**327**	PKhKP		04 49 03.6	
	comp=Z,6.9nm,1.0s,baz=90,slow=3.6,SNR=4.1						
GOGA	**Godfrey**	**144.40**	**102**	*e*PKPdf	PKPdf	04 49 05.2	-4.2
DPC	**Dobruska-Polom**	**144.47**	**293**	*e*PKP	PKPdf	04 49 05.9	-3.1
DPC				*e*pPKP		04 49 10.9	
DPC				*e*x	x	04 49 16.4	
UPC	**Upice**	**144.71**	**293**	*e*PKP	PKPdf	04 49 14.0	+4.6
UPC				*e*x	x	04 49 17.8	
UPC				*e*x	x	04 49 23.7	
ULM	**Lac du Bonnet**	**145.29**	**68**	PKPbc	PKPbc	04 49 07.0	-0.8
	comp=Z,4.8nm,1.0s,baz=281,slow=4.3,SNR=5.7						
PRU	**Pruhonice**	**145.39**	**291**	*e*PKP	PKPdf	04 49 14.7	+4.1
PRU				*e*x	x	04 49 19.2	
GERES	**GERESS Array B**	**145.46**	**289**	PKPbc	PKPbc	04 49 08.5	+0.2
	comp=Z,1.2nm,0.6s,baz=135,slow=3.8,SNR=8.7						
WCI	**Wyandotte Cave**	**145.59**	**93**	*e*PKPdf	PKPdf	04 49 09.2	-2.2
KHC	**Kasperske Hory**	**145.64**	**290**	*e*PKP	PKPdf	04 49 09.7	-1.3
KHC				*e*pPKP		04 49 15.6	
KHC				*e*x	x	04 49 19.7	
JSC	**Jenkinsville**	**146.36**	**103**	*e*PKPdf	PKPdf	04 49 12.7	-0.1
NKC	**Novy Kostel**	**146.74**	**291**	*e*PKP	PKPdf	04 49 18.7	+5.8
NKC				*e*x	x	04 49 25.8	
CLL	**Collm**	**146.78**	**293**	*e*PKP1	PKPbc	04 49 15.0	+3.7
CLL				*e*		04 49 23.0	
CLL				*i*		04 49 32.4	
DAVOX	**Davos**	**146.96**	**284**	PKPbc	PKPbc	04 49 15.4	+3.5
	comp=Z,1.5nm,0.4s,baz=339,slow=8.6,SNR=3.0						
GRA1	**Grafenberg Arr**	**147.28**	**289**	*e*PKP	PKPdf	04 49 15.5	+1.7
GRF	**Grafenberg Arr**	**147.28**	**289**	*e*PKP	PKPdf	04 49 15.5	+1.7
MOX	**Moxa**	**147.38**	**291**	*i* P	PKPdf	04 49 18.0	+4.1
MOX	**Moxa**	**147.38**	**291**	*e*PKP	PKPdf	04 49 18.0	+4.1
MBDF	**Montbardon**	**148.02**	**279**	*e*PKP1	PKPdf	04 49 17.4	+2.3
	comp=Z,21nm,1.0s						
MDT	**Midelt**	**148.37**	**250**	PKPbc	PKPdf	04 49 18.4	+2.3
	comp=Z,3.1nm,1.1s,baz=117,slow=2.6,SNR=4.4						
LPG	**La Plagne**	**148.38**	**280**	*e*PKP1	PKPdf	04 49 17.1	+1.4
	comp=Z,28nm,1.1s						
LPL	**La Plagne**	**148.40**	**280**	*e*PKP1	PKPdf	04 49 17.2	+1.5
	comp=Z,49nm,1.4s						
HFS	**Hagfors**	**148.41**	**309**	PKPbc	PKPdf	04 49 18.8	+3.6
	comp=Z,2.3nm,0.9s,baz=104,slow=5.9,SNR=4.0						
EIBI	**Ibiza**	**148.58**	**265**	PKP	PKPdf	04 49 24.2	+8.0
ORIF	**Oris-en-Rattie**	**148.67**	**278**	*e*PKP1	PKPdf	04 49 18.7	+2.5
	comp=Z,24nm,1.1s						
EMUR	**La Murta**	**149.53**	**261**	PKP	PKPdf	04 49 24.9	+7.2
LASF	**Ste Croix**	**149.58**	**276**	*e*PKP1	PKPdf	04 49 23.4	+5.7
	comp=Z,31nm,1.0s						
NOA	**NORSAR Array B**	**149.70**	**311**	PKPbc	PKPdf	04 49 19.1	+1.8
	comp=Z,1.1nm,0.7s,baz=123,slow=7.4,SNR=3.4						
EBER	**Berja**	**150.00**	**258**	PKP	PKPdf	04 49 24.4	+5.8
EPOB	**Poblet**	**150.02**	**269**	PKP	PKPdf	04 49 25.4	+7.0
ETOB	**Tobarra**	**150.20**	**262**	PKP	PKPdf	04 49 23.7	+4.9
MTLF	**Montolieu**	**150.28**	**273**	*e*PKP1	PKPdf	04 49 22.7	+3.9
	comp=Z,24nm,1.0s						
EHUE	**Huescar**	**150.37**	**260**	PKP	PKPdf	04 49 25.0	+5.9
ECHE	**Chera**	**150.37**	**264**	PKP	PKPdf	04 49 26.6	+7.6
EMOS	**Mosqueruela**	**150.48**	**266**	PKP	PKPdf	04 49 25.4	+6.2
ERON	**Agron**	**150.65**	**257**	PKP	PKPdf	04 49 25.9	+6.4
EQES	**Quesada**	**150.67**	**259**	PKP	PKPdf	04 49 24.7	+5.2
SMF	**Signal de Mont**	**150.70**	**280**	*e*PKP1	PKPdf	04 49 25.6	+6.3
	comp=Z,11nm,0.9s						
EVIA	**Vianos**	**150.80**	**261**	PKP	PKPdf	04 49 25.0	+5.3
LOR	**Lormes**	**150.93**	**281**	*e*PKP1	PKPdf	04 49 24.7	+5.1
ELOJ	**Sierra Loja**	**150.94**	**257**	PKP	PKPdf	04 49 25.7	+5.7
EMIJ	**Mijas**	**150.97**	**256**	PKP	PKPdf	04 49 26.8	+6.8
AVF	**Avril sur Loir**	**151.06**	**280**	*e*PKP1	PKPdf	04 49 24.9	+5.1
	comp=Z,16nm,1.1s						
SSF	**Saint Saulge**	**151.07**	**281**	*e*PKP1	PKPdf	04 49 24.4	+4.6
	comp=Z,32nm,1.2s						
ESAC	**San Caprasio**	**151.20**	**268**	PKP	PKPdf	04 49 28.3	+8.1
BGF	**Bois d'Agland**	**151.29**	**280**	*e*PKP1	PKPdf	04 49 25.4	+5.2
	comp=Z,73nm,1.3s						
EBAN	**Banos Encina**	**151.33**	**259**	PKP	PKPdf	04 49 26.4	+5.9
TCF	**Toulx Ste Croi**	**151.59**	**279**	*e*PKP1	PKPdf	04 49 25.8	+5.2
RJF	**Les Rejaudoux**	**151.62**	**276**	*e*PKP1	PKPdf	04 49 27.3	+6.6
BAIF	**Baives**	**151.68**	**287**	*e*PKP1	PKPdf	04 49 27.1	+6.5
	comp=Z,30nm,1.1s						
ESPR	**Espera**	**151.83**	**255**	PKP	PKPdf	04 49 26.4	+5.1
EADA	**Adamuz**	**151.84**	**258**	PKP	PKPdf	04 49 27.2	+5.9
ETSF	**Etsaut**	**151.85**	**270**	*e*PKP1	PKPdf	04 49 25.8	+4.7
	comp=Z,33nm,1.2s						
ESDC	**Sonseca Array**	**152.33**	**262**	PKPbc	PKPdf	04 49 28.0	+6.1
	comp=Z,0.6nm,0.5s,baz=98,slow=1.3,SNR=4.7						
ESDC				PKPab	PKPab	04 49 37.3	-0.8
	comp=Z,3.6nm,0.9s,baz=116,slow=2.5,SNR=12						
ESDC	**Sonseca Array**	**152.33**	**262**	PKP	PKPdf	04 49 30.1	+8.2
SJPF	**Ste Jean**	**152.38**	**270**	*e*PKP1	PKPdf	04 49 27.1	+5.2
	comp=Z,33nm,1.1s						
EALK	**Alkurruntz**	**152.61**	**270**	PKP	PKPdf	04 49 30.9	+8.7
EMIN	**Mina Concepcio**	**152.90**	**256**	PKP	PKPdf	04 49 28.8	+6.0
EGRO	**El Granado**	**153.26**	**254**	PKP	PKPdf	04 49 29.2	+6.0

IDC 21 04:37:46.1±2.8, 21.99N×143.95E, mb4.0/4, mb1 4.1/4, mb1mx3.7/20, mbtmp4.0/4, Error ellipse: s-maj=117.3km s-min=27.7km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.72**	**193**	P	P	04 45 45.1	-1.8
	0.3nm,0.3s,baz=16,slow=9.4,SNR=17						
MKAR	**Makanchi Array**	**55.02**	**312**	P	P	04 47 19.5	-2.2
	0.3nm,0.6s,baz=90,slow=7.2,SNR=3.6						
BVAR	**Borovoye Array**	**62.91**	**319**	P	P	04 48 13.8	-2.5
	1.8nm,0.3s,baz=100,slow=8.2,SNR=8.0						
ARCES	**ARCESS Array B**	**78.87**	**342**	P	P	04 49 51.1	-1.1
	4.8nm,0.9s,baz=63,slow=8.1,SNR=3.0						

IDC 21 04:54:35.2±4.4, 30.04S×177.85W, h70km±35km, mb3.9/2, mb1 4.1/2, mb1mx3.6/11, mbtmp4.2/2, Error ellipse: s-maj=74.3km s-min=53.5km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**355**	P	P	04 54 51.4	+0.1
	168nm,0.3s,baz=90,slow=20,SNR=12						
RAO				S	S	04 55 04.1	+0.8
	426nm,0.3s,baz=103,slow=21,SNR=8.1						
STKA	**Stephens Creek**	**34.69**	**256**	P	P	05 01 18.3	-1.8
	3.5nm,0.8s,baz=84,slow=9.6,SNR=5.2						
WRA	**Warramunga Arr**	**44.22**	**272**	P	P	05 02 37.5	-1.9
	1.4nm,0.5s,baz=110,slow=8.0,SNR=20						
FINES	**FINESS Array B**	**144.85**	**340**	PKP	PKPdf	05 14 03.0	-0.4
	2.0nm,0.8s,baz=27,slow=6.2,SNR=6.2						

DHMR 21 05:23:38.7±0.3, 12.68N×40.50E, h12km±25km, ML3.6, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.61**	**69**	*i* S	Sn	05 25 23.1	+4.6
UDYN				AML	AML	05 25 38.9	
	comp=N,225nm,0.6s						
DHBB	**Dhamar BB**	**4.22**	**63⇓**	*e*P	Pn	05 24 45.6	+1.2
DHBB				*i* S	Sn	05 25 37.6	+3.5
HAJJ	**Hajjah**	**4.25**	**45**	*e*P	Pn	05 24 45.7	+1.0
HAJJ				*i* S	Sn	05 25 38.0	+3.2
LBOS		**4.77**	**75**	*e*P	Pn	05 24 50.6	-1.5
LBOS				*i* S	Sn	05 25 47.0	-1.0

CASC 21 05:28:42.9±2.2, 10.38N×86.21W, MD3.7, ML2.8, 3C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.62**	**114⇓**	*e*P	Pg	05 28 56.2	+0.9
VCR				*e*S	Sg	05 29 06.5	+3.1
SSNN	**San Juan del S**	**0.97**	**21**	*e*P	Pg	05 29 02.2	-0.1
SSNN				*i*		05 29 23.2	
	comp=Z,225nm,0.6s						
LIM1	**Limonal**	**0.99**	**71⇑**	*e*P	Pb	05 29 02.3	-0.3
LIM1				*e*S	Sg	05 29 16.1	+0.2
JCR	**Jicaral**	**1.20**	**116⇑**	*e*P	Pb	05 29 04.6	-1.6
MADN	**Villa Maderas**	**1.22**	**33⇑**	*e*P	Pb	05 29 06.4	-0.2
CONN	**Concepcion**	**1.31**	**26**	*e*P	Pb	05 29 07.3	-0.8
FORC	**Fortuna**	**1.52**	**86⇓**	*e*P	Pn	05 29 10.8	-0.6
FORC				*e*S	Sb	05 29 33.0	+1.7
TICN	**Ticuantepe**	**1.65**	**359**	*e*P	Pn	05 29 12.2	-1.1
CGA2	**Cerro Gallo 2**	**1.75**	**102**	*e*P	Pn	05 29 16.3	+1.5
MGAN	**Managua**	**1.76**	**359⇓**	*e*P	Pn	05 29 14.0	-0.9
COPN	**Copaltepe**	**1.83**	**348**	*e*P	Pn	05 29 14.6	-1.3
COPN				*e*S	Sn	05 29 42.4	+2.2
MIRN	**Miramar**	**2.11**	**346**	*e*P	Pn	05 29 20.9	+1.1
LAJ	**Bijagual**	**2.12**	**104**	*e*P	Pn	05 29 14.8	-5.2
LEON	**Leon**	**2.14**	**342**	*e*P	Pn	05 29 18.6	-1.6
SJS	**Escuela Geolog**	**2.16**	**101**	*e*S	Sn	05 29 51.8	+3.2
TEL3	**Telica 3**	**2.27**	**344**	*e*P	Pn	05 29 20.9	-1.3
BUS	**Buena Vista**	**2.55**	**108**	*e*P	Pn	05 29 28.9	+2.8

*CSEM **21** 05:35:28.1±0.2, 37.75N×25.43W, h5km, ML2.7, After PDA*
*PDA **21** 05:35:28.1±0.8, 37.75N×25.43W, h5km±1km, MD2.7, ML2.7, Error ellipse: s-maj=2.1km s-min=1.5km az=139.0*
SVSA 21 05:35:28.1±0.8, 37.75N×25.43W, h5km±1km, MD2.7, ML2.7, Error ellipse: s-maj=2.1km s-min=1.5km az=139.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.01**	**221**	*i* P	Pg	05 35 29.7	+0.7
VIF				*e*S	Sg	05 35 30.4	+0.8
VIF	**Vila Franca**	**0.01**	**221**	*e*S	Sg	05 35 30.4	+0.8
PCNG	**Congro**	**0.03**	**61**	*i* P	Pg	05 35 29.8	+0.6
PCNG				*i* S	Sg	05 35 31.2	+1.2
PCNG	**Congro**	**0.03**	**61**	*i* S	Sg	05 35 31.2	+1.2
MESC	**Monte Escuro**	**0.04**	**347**	*i* P	Pg	05 35 29.8	+0.5
MESC				*i* S	Sg	05 35 31.3	+1.1
MESC	**Monte Escuro**	**0.04**	**347**	*i* S	Sg	05 35 31.3	+1.1
PRCH	**Ribeira Ch**	**0.04**	**238**	*i* P	Pg	05 35 30.0	+0.6
PRCH				*i* S	Sg	05 35 31.1	+0.9
PRCH	**Ribeira Ch**	**0.04**	**238**	*i* S	Sg	05 35 31.1	+0.9
LFA	**Lagoa do Fogo**	**0.04**	**299**	*i* P	Pg	05 35 29.9	+0.5
FRA1	**Furnas**	**0.06**	**98**	*e*P	Pg	05 35 30.3	+0.7
PMAT	**Coroa da Mata**	**0.07**	**335**	*e*P	Pg	05 35 30.1	+0.3
PMAT				*i* S	Sg	05 35 32.2	+1.3
CMLA	**Cha da Macela**	**0.07**	**280**	*e*S	Sg	05 35 29.0	-2.0
CML	**Cha da Macela**	**0.09**	**282**	*e*P	Pg	05 35 30.3	+0.2
CML				*i* S	Sg	05 35 32.3	+0.8
PFAD	**Fenais da Ajud**	**0.12**	**45**	*i* P	Pg	05 35 31.4	+0.7
PFAD				*e*S	Sg	05 35 33.4	+0.9
MIRA	**Miradouro**	**0.13**	**74**	*i* P	Pg	05 35 31.4	+0.6
MIRA				*e*S	Sg	05 35 34.0	+1.4
FAC	**Faja de Cima**	**0.17**	**277**	*e*P	Pg	05 35 32.5	+0.8
FAC				*e*S	Sg	05 35 35.5	+1.4
PDA	**Ponta Delgada**	**0.18**	**269**	*e*P	Pg	05 35 31.9	0.0
PDA				*e*S	Sg	05 35 34.9	+0.5
PSET	**Sete Cidades**	**0.24**	**288**	*e*P	Pg	05 35 32.8	-0.2
PSET				*e*S	Sg	05 35 37.3	+1.1
	694nm,0.3s						
PSAN	**Santo Antonio**	**0.25**	**293**	*e*P	Pg	05 35 34.0	+0.8
PFET	**Feteiras**	**0.29**	**283**	*e*P	Pg	05 35 34.5	+0.6
SET2	**Ginetes**	**0.31**	**287**	*e*P	Pg	05 35 34.9	+0.5
SET4	**Mosteiros**	**0.32**	**293**	*e*P	Pg	05 35 34.8	+0.3
PSCM	**Serra do Cume**	**1.63**	**306**	*e*P	Pn	05 35 53.6	-4.1
PSCM				*e*S	Sb	05 36 12.5	-6.6
	33nm,0.3s						

DHMR 21 05:43:02.4±2.6, 12.67N×40.53E, h6km±314km, ML4.0, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.59**	**69**	*e*P	Pn	05 44 01.6	+1.8
UDYN				*i* S	Sn	05 44 47.6	+4.6
UDYN				AML	AML	05 45 10.1	
	comp=E,658nm,0.7s						
DHBB	**Dhamar BB**	**4.20**	**63⇓**	*e*P	Pn	05 44 09.7	+1.1
DHBB				*i* S	Sn	05 45 02.4	+3.7
DHBB				AML	AML	05 45 37.5	
	comp=E,413nm,0.8s						
DHBB	**Dhamar BB**	**4.20**	**63⇓**	*e*P	Pn	05 44 09.7	+1.2
DHBB				*i* S	Sn	05 45 02.3	+3.7
	comp=E,206nm,0.8s						
HAJJ	**Hajjah**	**4.24**	**44**	*e*P	Pn	05 44 10.0	+1.0
HAJJ				*i* S	Sn	05 45 02.8	+3.3
LBOS		**4.75**	**75⇓**	*e*P	Pn	05 44 14.9	-1.4
LBOS				*i* S	Sn	05 45 11.5	-0.9

*CSEM **21** 05:46:08.5±0.2, 37.77N×25.42W, h1km, ML2.9, Error ellipse: s-maj=8.4km s-min=2.4km az=173.0, After PDA*
*PDA **21** 05:46:08.5±0.9, 37.77N×25.42W, h1km±1km, MD3.1, ML2.9, Error ellipse: s-maj=1.2km s-min=1.1km az=85.0*
SVSA 21 05:46:08.5±0.9, 37.77N×25.42W, h1km±1km, MD3.1, ML2.9, Error ellipse: s-maj=1.2km s-min=1.1km az=85.0, Azores Islands

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	110	iP	Pg	05 46 09.4	+0.5
PCNG				iS	Sg	05 46 10.3	+1.1
PCNG	Congro	0.02	110	iS	Sg	05 46 10.3	+1.1
MESC	Monte Escuro	0.03	313	iP	Pg	05 46 09.7	+0.6
VIF	Vila Franca	0.03	208	iP	Pg	05 46 09.8	+0.6
VIF				eS	Sg	05 46 11.2	+1.6
VIF	Vila Franca	0.03	208	eS	Sg	05 46 11.2	+1.6
LFA	Lagoa do Fogo	0.05	268	iP	Pg	05 46 10.3	+0.8
PMAT	Coroa da Mata	0.06	316	eP	Pg	05 46 10.4	+0.7
PMAT				eS	Sg	05 46 11.9	+1.4
FRA1	Furnas	0.06	122	iP	Pg	05 46 10.4	+0.7
PRCH	Ribeira Ch	0.07	226	eP	Pg	05 46 10.5	+0.7
PRCH				iS	Sg	05 46 12.2	+1.5
CMLA	Cha da Macela	0.08	263	eP	Pg	05 46 09.9	-0.3
CMLA				eS	Sg	05 46 12.0	+0.7
CML	Cha da Macela	0.10	268	iP	Pg	05 46 11.1	+0.6
PFAD	Fenais da Ajud	0.10	50	iP	Pg	05 46 11.5	+1.0
MIRA	Miradouro	0.11	84	eP	Pg	05 46 11.5	+0.7
FAC	Faja de Cima	0.18	270	eP	Pg	05 46 13.3	+1.1
PDA	Ponta Delgada	0.20	262	eP	Pg	05 46 12.9	+0.5
PDA				eS	Sg	05 46 16.3	+1.3
PSET	Sete Cidades	0.24	282	eP	Pg	05 46 13.7	+0.3
PSET				eS	Sg	05 46 18.2	+1.6
	2μm,0.3s						
PSAN	Santo Antonio	0.25	288	eP	Pg	05 46 14.4	+0.8
PFET	Feteiras	0.29	279	eP	Pg	05 46 15.1	+0.7
SET2	Ginetes	0.31	283	eP	Pg	05 46 15.3	+0.5
SET4	Mosteiros	0.32	289	eP	Pg	05 46 15.2	+0.4
PSMN	Pico do Norte,	0.82	160	eP	Pg	05 46 23.2	-1.7
PSMN				eS	Sg	05 46 33.8	-2.0
PSCM	Serra do Cume	1.63	305	eP	Pn	05 46 34.9	-3.5
PSCM				eS	Sb	05 46 54.5	-5.5
	25nm,0.3s						
PICO	Pico	2.48	288	eP	Pn	05 46 46.6	-4.1
PICO				eS	Sn	05 47 15.6	-6.4
HOR	Horta	2.64	288	erx	Sn	05 47 15.5	-11
CALA	Caldeira	2.71	288	erx	Sn	05 47 17.4	-10

CASC 21 05:53:43.8±1.4, 12.10N×88.94W, h36km±999km, MD3.7, ML2.9, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLLM	Bellamira	1.50	27	⇑eP	P	05 54 08.3	-0.3
BLLM				eS	S	05 54 27.4	+0.2
SNVI	San Vicente	1.51	4	eP	P	05 54 08.9	+0.2
SNVI				eS	S	05 54 29.2	+1.9
LFRS	El Faro	1.52	356	eP	P	05 54 08.6	-0.3
LCBS	La Ceiba	1.54	359	⇑eP	P	05 54 08.4	-0.9
CNCH	Conchagua	1.59	43	eP	P	05 54 09.3	-0.7
BOQS	Boqueron	1.66	349	eP	P	05 54 11.0	+0.1
BOQS				eS	S	05 54 30.9	-0.3
CRIN	San Cristobal	1.94	72	eP	P	05 54 14.7	-0.3
TEL3	Telica 3	2.10	77	eP	P	05 54 16.7	-0.5
TEL3				eS	S	05 54 42.3	-0.1
MIRN	Miramar	2.21	81	eP	P	05 54 17.9	-0.8
MIRN				eS	S	05 54 45.0	-0.1
COPN	Copaltepe	2.30	88	eP	P	05 54 19.9	-0.2
COPN				eS	S	05 54 46.5	-0.9
MGAN	Managua	2.63	89	eP	P	05 54 24.7	-0.2
MGAN				eS	S	05 54 54.8	-1.2
MGAN				i		05 54 56.2	
	comp=N,69nm,0.9s						

CSEM 21 05:59:22.7±0.0, 37.77N×25.43W, h2km, ML2.5, Error ellipse: s-maj=1.6km s-min=0.8km az=177.0, After PDA
PDA 21 05:59:22.7±0.9, 37.77N×25.43W, h2km±1km, MD3.9, ML2.5, Error ellipse: s-maj=1.7km s-min=1.2km az=85.0
SVSA 21 05:59:22.7±0.9, 37.77N×25.43W, h2km±1km, MD3.9, ML2.5, Error ellipse: s-maj=1.7km s-min=1.2km az=85.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESC	Monte Escuro	0.02	332	iP	Pg	05 59 24.0	+0.7
MESC				eS	Sg	05 59 24.7	+1.1
MESC	Monte Escuro	0.02	332	eS	Sg	05 59 24.7	+1.1
PCNG	Congro	0.03	102	iP	Pg	05 59 23.9	+0.5
PCNG				eS	Sg	05 59 25.2	+1.4
PCNG	Congro	0.03	102	eS	Sg	05 59 25.2	+1.4
VIF	Vila Franca	0.03	192	iP	Pg	05 59 24.0	+0.6
VIF				eS	Sg	05 59 25.0	+1.2
	3μm,0.1s						
VIF	Vila Franca	0.03	192	eS	Sg	05 59 25.0	+1.2
LFA	Lagoa do Fogo	0.04	269	iP	Pg	05 59 24.2	+0.6
PMAT	Coroa da Mata	0.05	324	eP	Pg	05 59 24.3	+0.5
PMAT				eS	Sg	05 59 25.5	+0.9
PRCH	Ribeira Ch	0.06	220	eP	Pg	05 59 24.3	+0.4
PRCH				eS	Sg	05 59 25.6	+0.9
	3μm,0.2s						
FRA1	Furnas	0.07	117	eP	Pg	05 59 24.4	+0.3
FRA1				eS	Sg	05 59 26.1	+1.1
CMLA	Cha da Macela	0.07	263	eP	Pg	05 59 23.4	-0.8
CMLA				eS	Sg	05 59 25.8	+0.6
CML	Cha da Macela	0.09	269	eP	Pg	05 59 25.0	+0.5
PFAD	Fenais da Ajud	0.11	53	eP	Pg	05 59 25.4	+0.5
MIRA	Miradouro	0.12	84	eP	Pg	05 59 25.4	+0.2
FAC	Faja de Cima	0.17	270	eP	Pg	05 59 27.3	+1.1
PDA	Ponta Delgada	0.18	262	eP	Pg	05 59 26.3	-0.1
PDA				eS	Sg	05 59 29.6	+0.7
PSAN	Santo Antonio	0.25	289	eP	Pg	05 59 28.5	+0.9
PFET	Feteiras	0.29	279	eP	Pg	05 59 29.1	+0.7
SET2	Ginetes	0.30	283	eP	Pg	05 59 29.3	+0.5
SET4	Mosteiros	0.31	289	eP	Pg	05 59 29.3	+0.4

IDC 21 06:04:32.1±3.5, 24.38S×179.61E, h479km±35km, mb3.5/3, mb1 3.8/3, mb1mx3.4/10, mbtmp4.3/3, Error ellipse: s-maj=114.3km s-min=25.7km az=160.0
NEIC 21 06:04:38.5±4.0, 24.74S×179.56E, h561km±38km, mb4.4/3, Error ellipse: s-maj=88.4km s-min=25.2km az=157.0
ISC 21 06:04:38.5±6.0, 24.9S±0.8×179.5E±0.4, h570km±64km, n11, σ0s33/10, mb4.2/6, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.30	280	P	P	06 07 20.3	0.0
	0.7nm,0.3s,baz=81,slow=15,SNR=5.6						
CTAO	Charters Tower	31.04	272	eP	P	06 10 12.6	+0.5
	14nm,0.6s,mb4.7						
STKA	Stephens Creek	33.94	249	P	P	06 10 36.5	+0.2
	1.6nm,0.4s,mb3.9,baz=100,slow=13,SNR=10.0						
STKA	Stephens Creek	33.94	249	eP	P	06 10 36.4	0.0
ASPA	Alice Springs	41.43	262	eP	P	06 11 37.5	+0.1
WB2	Warramunga Arr	41.88	267	⇓iP	P	06 11 40.7	-0.4
WRAB	Tennant Creek	41.88	267	eP	P	06 11 40.6	-0.5
	4.9nm,0.6s,mb4.2						
WRA	Warramunga Arr	41.89	267	P	P	06 11 40.9	-0.3
	3.3nm,0.3s,mb4.3,baz=104,slow=8.0,SNR=193						
WRA				ScP		06 16 29.5	
	0.9nm,0.8s,baz=106,slow=3.4,SNR=6.1						
FITZ	Fitzroy Crossi	50.30	267	eP	P	06 12 45.8	+0.5
	8.2nm,0.6s,mb4.3						
TXAR	Lajitas Array	91.34	58	P	P	06 16 45.1	0.0
	0.8nm,0.8s,mb3.7,baz=222,slow=6.4,SNR=11						
HFS	Hagfors	143.41	348	PKP	PKPdf	06 23 07.6	+0.1
	0.6nm,0.3s,baz=76,slow=5.9,SNR=5.3						

IDC 21 06:09:48.8±1.4, 39.52N×20.49E, mb3.9/9, mb1 4.1/11, mb1mx3.9/24, mbtmp3.9/11, ML3.6/2, Error ellipse: s-maj=27.4km s-min=19.1km az=37.0
ATH 21 06:09:49.6, 39.41N×20.45E, h5km±3km, MD3.9/13, ML4.0
MOS 21 06:09:49.0±1.7, 39.49N×20.29E, h10km, mb4.1/2, Error ellipse: s-maj=9.0km s-min=6.8km az=97.1
NEIC 21 06:09:49.0, 39.40N×20.48E, h5km, mb3.9/1, ML4.0(ATH), After ATH.
CSEM 21 06:09:51.6±0.1, 39.50N×20.17E, h40km±1km, ML4.0, Error ellipse: s-maj=3.1km s-min=1.9km az=42.0
ISC 21 06:09:49.7±0.7, 39.46N±0.02×20.30E±0.03, h11km±5km, n90, σ1s42/108, mb3.8/9, 6C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.47	303	ePb	Pb	06 10 01.2	+1.8
KEK				eSb	Sb	06 10 11.2	+5.2
JAN	Janina	0.47	65	ePG	Pg	06 09 57.0	-2.3
JAN				eSB	Sb	06 10 03.5	-2.6
JAN	Janina	0.47	65	ePg	Pg	06 09 57.0	-2.3
JAN				eSb	Sb	06 10 03.7	-2.4
SRN	Sarande	0.48	331	iPg	Pg	06 10 01.1	+1.6
SRN				iSg	Sg	06 10 12.1	+6.0
LSK	Leskovik	0.73	18	ePg	Pg	06 10 02.9	-1.5
LSK				iSg	Sg	06 10 18.6	+4.4
MEV	Metsovon	0.79	65	eP	Pb	06 10 02.7	-2.2
LKD	Levkas	0.80	160	eP	Pb	06 10 02.5	-2.6
EVR	Evrytania	1.29	114	ePB	Pb	06 10 11.9	-1.6
EVR				eSB	Sb	06 10 28.5	-1.4
VLS	Valsamata	1.30	170	⇑iPG	Pb	06 10 13.0	-0.7
VLS				eSB	Sb	06 10 30.9	+0.7
KZN	Kozani	1.41	53	ePB	Pb	06 10 15.7	+0.1
KZN				eSB	Sb	06 10 34.2	+0.7
FNA	Florina	1.56	32	eP	Pn	06 10 19.2	+1.7
AGG	Agios Georgios	1.63	105	eP	Pn	06 10 17.4	-1.2
RLS	Riolos of Patr	1.67	147	ePB	Pb	06 10 19.5	-0.5
LIT	Litokhoron	1.81	68	eP	Pn	06 10 21.9	+0.8
TIR	Tirane	1.92	350	ePn	Pg	06 10 26.6	-1.4
TIR				iSn	Sg	06 10 58.2	+4.6
GRG	Griva	2.20	46	eP	Pn	06 10 28.2	+1.5
XOR	Xorichti	2.24	91	eP	Pn	06 10 28.5	+1.2
LKR	Lokris	2.25	110	ePN	Pn	06 10 28.5	+1.1
NEO	Neokhori	2.27	93	ePN	Pn	06 10 29.2	+1.5
THE	Thessaloniki	2.36	59	eP	Pn	06 10 30.0	+1.1
PLG	Polygyros	2.58	68	ePN	Pn	06 10 32.7	+0.5
ITM	Ithomi	2.61	150	ePN	Pn	06 10 35.0	+2.4
KNT	Kendrikon	2.62	49	eP	Pn	06 10 33.9	+1.3
PAIG	Paliouri	2.65	79	eP	Pn	06 10 32.1	-1.0
SKO	Skopje	2.66	19	iPn	Pn	06 10 35.0	+1.7
SKO				i		06 10 43.0	
SKO				iSg	Sg	06 11 11.6	-6.6
SKO				Lg		06 11 32.5	
	comp=Z,0.2nm,1.0s						
SKO	Skopje	2.66	19	iPn	Pn	06 10 35.0	+1.7
SKO				iSg	Sg	06 11 11.6	-6.6
SOH	Sokhos	2.71	59	eP	Pn	06 10 34.3	+0.3
MGER	Gerania Oros	2.74	121	ePN	Pn	06 10 36.0	+1.5
TIP	Timpagrande	2.76	265	eP	Pn	06 10 35.8	+1.1
TIP	Timpagrande	2.76	265	eP	Pn	06 10 35.8	+1.0
NSAL	Nisos Salamina	2.92	121	ePN	Pn	06 10 38.5	+1.5
MPAR	Parnis Oros	2.98	115	ePB	Pn	06 10 38.0	+0.1
SRS	Serrai	3.01	56	eP	Pn	06 10 38.5	+0.2
NAIG	Nisos Aigina	3.02	123	ePb	Pn	06 10 38.5	+0.1
ATH	Athens Observa	3.06	118	ePN	Pn	06 10 40.0	+1.1
KKB	Krupnik	3.20	40	iP	Pn	06 10 42.0	+1.0
NVR	Nevrokopi	3.31	54	ePb	Pn	06 10 44.0	+1.4
MMB	Musomiste	3.37	50	iP	Pn	06 10 44.0	+0.6
TREB	Trebinje	3.58	336	ePn	Pn	06 10 46.8	+0.5
LOS	Limnos	3.72	81	eP	Pn	06 10 46.9	-1.4
VTS	Vitosha	3.83	34	iP	Pn	06 10 51.5	+1.6
KYTH	Kithira	3.84	145	ePN	Pn	06 10 51.0	+0.9
NVSS	Nova Varos 2	4.07	354	⇑iPn	Pn	06 10 55.4	+2.0
NVSS				Sn	Sn	06 11 41.5	-0.1
PGB	Panagyurishte	4.25	42	iP	Pn	06 10 57.0	+1.0
DIVS	Divcibare	4.64	357	⇓iPn	Pn	06 11 02.8	+1.4
DIVS				Sn	Sn	06 11 56.4	+0.4
SVIS	Svilajnac	4.88	8	⇑iPn	Pn	06 11 00.9	-3.9
SVIS				Sn	Sn	06 11 53.5	-8.6
SVIS	Svilajnac	4.88	8	Pn	Pn	06 11 00.9	-4.0
SVIS				Sn	Sn	06 11 53.5	-8.6
CII	Carovilli	5.09	298	eP	Pn	06 11 06.3	-1.6
	comp=Z,42nm,0.6s						
CII	Carovilli	5.09	298	eP	Pn	06 11 06.3	-1.6
	comp=Z,42nm,0.6s						
IDI	Anoyia	5.54	137	Pn	Pn	06 11 11.4	-2.7
	comp=Z,0.7nm,0.3s,baz=324,slow=14,SNR=4.1						
BLY	Banja Luka	5.77	337	P	Pn	06 11 18.1	+0.7
CRES	Cresnjev	7.30	332	iPn	Pn	06 11 37.7	-1.1
MLR	Muntele Rosu	7.33	33	Pn	Pn	06 11 41.6	+2.3
	comp=Z,0.4nm,0.3s,baz=299,slow=19,SNR=14						
PDKS	Podkum	7.67	331	ePn	Pn	06 11 43.1	-0.9
VOY	Vojsko	8.08	326	ePn	P	06 11 48.8	-1.1
VOY				eSn	Sn	06 13 18.3	-3.9
OBKA	Obir	8.21	331	⇑iPN	P	06 11 50.2	-1.4
OBKA				iSN	Sn	06 13 17.6	-7.8
KECS	Kecovo	9.02	1	e	P	06 12 10.8	+7.9
PGF	Pioggiola	9.09	293	eP	P	06 12 03.8	0.0
	comp=Z,26nm,1.1s						
PGF	Pioggiola	9.09	293	eP	P	06 12 03.8	0.0
PGF				pmax	pmax		
	comp=Z,13nm,1.1s						
MOA	Molln	9.46	334	⇑iPN	P	06 12 07.8	-1.1
MOA				iSN	Sn	06 13 49.4	-6.9
GERES	GERESS Array B	10.51	335	Pn	P	06 12 21.4	-1.9
	comp=Z,0.3nm,0.3s,baz=153,slow=15,SNR=12						
KHC	Kasperske Hory	10.80	336	eP	P	06 12 25.6	-1.7
KHC	Kasperske Hory	10.80	336	iP	P	06 12 25.9	-1.4
LMR	La Mourre	11.06	295	eP	P	06 12 32.1	+1.2
LPG	La Plagne	11.68	306	eP	P	06 12 35.6	-3.7
	comp=Z,5.5nm,0.6s						
LPG	La Plagne	11.68	306	eP	P	06 12 35.6	-3.7
LPG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPL	La Plagne	11.70	306	eP	P	06 12 35.5	-4.1
	comp=Z,6.9nm,0.7s						
LPL	La Plagne	11.70	306	eP	P	06 12 35.5	-4.1
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NKC	Novy Kostel	12.12	335	eP	P	06 12 38.9	-6.3
SMF	Signal de Mont	14.00	306	eP	P	06 13 10.6	+0.5
SSF	Saint Saulge	14.39	307	eP	P	06 13 16.9	+1.7
	comp=Z,9.9nm,0.9s						
SSF	Saint Saulge	14.39	307	eP	P	06 13 16.9	+1.7
SSF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MFF	Saint Martin d	16.54	302	eP	P	06 13 46.9	+3.8
KIV	Kislovodsk	17.29	68	eP	P	06 13 57.4	+4.8
KIV				pmax	pmax		
	comp=N,8.0nm,0.8s						
KIV				pmax	pmax		
	comp=E,6.0nm,0.8s						
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ZEI	Tsey	18.07	72	eP	P	06 14 04.4	+2.1
OBN	Obninsk	19.08	29	eP	P	06 14 11.5	-3.0
	comp=Z,100nm,15.0s						
OBN	Obninsk	19.08	29	⇑eP	P	06 14 11.5	-3.0
OBN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
HFS	Hagfors	21.11	351	P	P	06 14 34.7	-1.7
	comp=Z,2.6nm,0.8s,mb3.6,baz=180,slow=12,SNR=6.0						
MDT	Midelt	21.15	259	P	P	06 14 36.7	-0.3
	comp=Z,1.3nm,0.8s,mb3.3,baz=52,slow=11,SNR=4.7						
FINES	FINESS Array B	22.30	7	P	P	06 14 46.7	-1.7
	comp=Z,4.2nm,0.9s,mb3.9,baz=188,slow=9.8,SNR=4.4						
FINES	FINESS Array B	22.30	7	iP	P	06 14 47.6	-0.8
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NB2	NORSAR Subarra	22.33	348	P	P	06 14 48.9	+0.2
	comp=Z,2.8nm,0.6s,mb3.9,baz=154,slow=11						
NB2	NORSAR Subarra	22.33	348	P	P	06 14 48.9	+0.2
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
NOA	NORSAR Array B	22.33	348	P	P	06 14 47.8	-0.9
	comp=Z,3.5nm,0.7s,mb3.9,baz=165,slow=10,SNR=6.9						
ARU	Arti	30.23	43	eP	P	06 16 00.0	-2.3
ARU				e		06 16 53.6	
ARU				e		06 19 00.7	
ARCES	ARCESS Array B	30.27	4	P	P	06 16 00.4	-2.1
	comp=Z,1.9nm,0.8s,mb3.9,baz=193,slow=12,SNR=3.2						
MKAR	Makanchi Array	44.79	59	P	P	06 18 02.1	-2.8
	comp=Z,1.1nm,0.7s,mb3.8,baz=284,slow=6.8,SNR=12						
ZAL	Zalesovo	44.96	49	P	P	06 18 04.3	-2.0
	comp=Z,3.2nm,0.3s,mb4.6,baz=175,slow=4.1,SNR=8.8						
SONM	Songino Array	59.78	51	P	P	06 19 54.9	-2.0
	comp=Z,0.4nm,0.4s,mb3.8,baz=321,slow=9.5,SNR=3.8						
TXAR	Lajitas Array	93.97	313	P	P	06 23 10.0	+1.2
	comp=Z,0.3nm,0.8s,mb3.8,baz=50,slow=2.8,SNR=5.4						

DHMR 21 06:28:49.4±0.5, 12.63N×40.46E, h12km±59km, ML3.7, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.67	68	iS	Sn	06 30 35.0	+4.2
UDYN				AML	AML	06 30 53.6	
	comp=N,289nm,0.6s						
DHBB	Dhamar BB	4.28	63	⇓eP	Pn	06 29 56.9	+0.9
DHBB				iS	Sn	06 30 49.9	+3.4
HAJJ	Hajjah	4.31	45	eP	Pn	06 29 57.3	+0.9
HAJJ				iS	Sn	06 30 50.5	+3.3
LBOS		4.83	75	eP	Pn	06 30 02.3	-1.3
LBOS				iS	Sn	06 30 59.3	-0.9
BDHA	Al Bayda'	5.15	74	iS	Sn	06 31 07.0	-1.3

NNC 21 07:06:19.4±3.8, 39.02N×69.76E, h10km±11km, mpv3.1, 4C-4D, Error ellipse: s-maj=24.1km s-min=17.5km az=164.0, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.12	8	⇓Pn	Pn	07 07 24.9	+1.0
	0.8nm,0.3s,baz=172,slow=12,SNR=15						
KK31				⇑Sn	Sn	07 08 17.4	+4.6
	4.6nm,0.6s,baz=180,slow=20						
KK31				⇑Lg		07 08 31.0	
	1.8nm,0.3s,baz=191,slow=29						
AAK	Ala-Archa	5.10	43	⇑Pn	Pn	07 07 35.9	-1.8
	2.2nm,0.5s						
AAK				⇑Sn	Sn	07 08 39.6	+2.3
	4.7nm,0.9s						
AAK				⇓Lg		07 08 60.0	
	5.8nm,0.8s						
AB31	Akbulak array	12.42	329	⇓P	P	07 09 16.2	-2.8
	0.5nm,0.4s,baz=158,slow=11,SNR=30						
AB31				⇓S	S	07 11 34.9	-3.6
	0.3nm,0.5s,baz=155,slow=22,SNR=3.1						

DHMR 21 07:12:55.7±0.4, 12.65N×40.55E, h2km±14km, ML4.5
IDC 21 07:12:57.3±1.4, 12.51N×40.43E, mb4.1/13, mb1 4.2/14, mb1mx4.1/19, mbtmp4.1/14, MS4.0/13, Ms1 4.0/13, ms1mx3.9/18, Error ellipse: s-maj=32.9km s-min=21.6km az=158.0
CSEM 21 07:12:57.3±0.1, 12.49N×40.53E, h10km, mb4.4/5, Error ellipse: s-maj=6.9km s-min=2.7km az=171.0
NEIC 21 07:12:58.2±0.5, 12.39N×40.50E, h10km, mb4.4/6, Error ellipse: s-maj=11.7km s-min=10.9km az=164.0
ISC 21 07:12:56.3±0.5, 12.40N±0.07×40.55E±0.04, h10km, n58, σ1s15/58, mb4.3/20, MS4.0/11, 3C-9D, Ethiopia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.67	65	⇓eP	Pn	07 13 55.2	+0.9
UDYN				iS	Sn	07 14 41.2	+3.0
UDYN				AML	AML	07 15 01.5	
	comp=E,2μm,0.6s						
DHBB	Dhamar BB	4.31	60	eP	Pn	07 14 03.1	-0.3
DHBB				iS	Sn	07 14 56.2	+1.8
ADEN	Aden	4.34	85	eP	Pn	07 14 04.7	+0.8
ADEN				iS	Sn	07 14 58.6	+3.4
HAJJ	Hajjah	4.41	42	eP	Pn	07 14 03.6	-1.3
HAJJ				iS	Sn	07 14 56.9	-0.1
LBOS		4.80	72	⇓eP	Pn	07 14 08.4	-2.0
LBOS				iS	Sn	07 15 05.1	-1.7
BDHA	Al Bayda'	5.13	72	⇓eP	Pn	07 14 12.9	-2.1
BDHA				iS	Sn	07 15 12.9	-2.1
ABTO	Aybut	13.26	67	⇑P	P	07 16 17.5	+10
KMBO	Kilima Mbogo	13.84	194	Pn	P	07 16 14.4	-0.6
	baz=29,slow=19,SNR=2.6						
KMBO				LR	LR	07 21 11.7	
	comp=E,544nm,22.0s,baz=281,slow=36						
KMBO	Kilima Mbogo	13.84	194	Pn	P	07 16 14.4	-0.6
SHAO	Shalim	15.58	67	⇑P	P	07 16 44.2	+6.5
BSY	Bisya	18.89	55	⇓P	P	07 17 19.7	+0.3
	SNR=17						
BSYO	Bisya	18.92	55	P	P	07 17 19.7	+0.1
	SNR=17						
ASHO	Ashiyiah	19.09	48	⇓P	P	07 17 21.4	-0.3
	SNR=11						
HOQ	Hoqain	19.41	53	⇑P	P	07 17 25.0	-0.4
JMDO	Jabal Madar	19.44	57	⇓P	P	07 17 25.9	0.0
SMDO	Samad	19.73	55	⇓P	P	07 17 28.9	-0.2
	SNR=9.1						
ASF	Jabal al Asfar	19.96	351	P	P	07 17 33.6	+2.0
	comp=E,0.3nm,0.3s,baz=149,slow=5.9,SNR=6.2						
ASF				LR	LR	07 24 11.6	
	comp=E,442nm,19.2s,baz=216,slow=34						
BIDO	Bidbid	20.02	54	P	P	07 17 31.1	-1.1
	SNR=7.9						
BANOM	Banah	20.02	46	⇓P	P	07 17 30.8	-1.4
WBK	Wadi Bani Khal	20.26	57	⇓P	P	07 17 34.6	-0.3
	SNR=9.4						
BHD	Baghdad	21.06	9	ex	x	07 17 35.5	
MALT	Malatya	25.87	356	P	P	07 18 30.6	+0.7
	comp=E,3.8nm,0.4s,mb4.3						
MALT	Malatya	25.87	356	P	P	07 18 30.6	+0.7
	comp=E,3.8nm,0.4s,mb4.3						
IDI	Anoyia	26.84	331	LR	LR	07 31 34.3	
	comp=E,388nm,18.8s,MS4.0,baz=96,slow=42						
GNI	Garni	27.88	7	LR	LR	07 30 18.2	
	comp=E,267nm,21.4s,MS3.8,baz=16,slow=38						
BRTR	Keskin Array B	27.89	349	P	P	07 18 49.0	+0.7
	comp=E,7.7nm,1.2s,mb4.2,baz=164,slow=9.0,SNR=8.7						
BRTR	Keskin Array B	27.89	349	P	P	07 18 49.0	+0.6
MATP	Matopo	34.71	200	LR	LR	07 34 33.7	
	comp=E,457nm,18.5s,MS4.2,baz=28,slow=37						
AKASG	Malin Array Be	39.30	349	P	P	07 20 25.8	-1.2
	comp=E,0.3nm,0.3s,mb3.5,baz=166,slow=7.1,SNR=7.0						
AKASG	Malin Array Be	39.30	349	P	P	07 20 25.8	-1.2
GERES	GERESS Array B	42.60	334	P	P	07 20 53.3	-0.9
	comp=E,0.9nm,0.5s,mb3.7,baz=135,slow=9.4,SNR=7.5						
GERES				LR	LR	07 39 13.3	
	comp=E,137nm,21.6s,MS3.8,baz=150,slow=37						
KOLN	Koldanda	42.98	63	eP	P	07 20 58.7	+1.1
	comp=E,32nm,1.1s,mb5.0						
GKN	Gorkha	43.93	62	eP	P	07 21 06.2	+0.9
	comp=E,27nm,1.2s,mb4.8						
DMN	Daman	44.26	63	eP	P	07 21 09.4	+1.4
	comp=E,22nm,0.9s,mb4.9						
GRA1	Grafenberg Arr	44.32	333	eP	P	07 21 08.8	+0.6
	comp=E,5.0nm,1.0s,mb4.2						
GRF	Grafenberg Arr	44.32	333	eP	P	07 21 08.8	+0.6
	comp=E,5.0nm,1.0s,mb4.2						
KKN	Kakani	44.45	63	eP	P	07 21 10.5	+1.0
	comp=E,39nm,1.1s,mb5.0						
PKI	Pulchoki	44.52	63	eP	P	07 21 11.2	+1.1
DBIC	Dimbokro	45.10	267	P	P	07 21 15.2	+0.3
	comp=E,2.2nm,0.6s,mb4.2,baz=19,slow=17,SNR=4.6						
DBIC				LR	LR	07 42 15.3	
	comp=E,188nm,19.9s,MS4.0,baz=63,slow=39						
DBIC	Dimbokro	45.10	267	P	P	07 21 15.1	+0.2
MDT	Midelt	45.96	304	P	P	07 21 21.8	+0.3
	comp=E,2.1nm,0.9s,mb4.1,baz=104,slow=8.6,SNR=4.9						
BVAR	Borovoye Array	47.00	24	P	P	07 21 30.0	+0.6
	comp=E,2.3nm,0.8s,mb4.1,baz=217,slow=7.4,SNR=7.4						
ESDC	Sonseca Array	47.67	313	P	P	07 21 35.5	+0.5
	comp=E,0.3nm,0.3s,mb3.8,baz=118,slow=8.4,SNR=6.2						
MKAR	Makanchi Array	49.01	37	P	P	07 21 45.9	+0.8
	comp=E,3.9nm,0.9s,mb4.4,baz=243,slow=5.4,SNR=24						
MKAR				LR	LR	07 44 46.1	
	comp=E,138nm,18.4s,MS4.0,baz=207,slow=39						
KURK	Kurchatov	49.18	31	eP	P	07 21 44.7	-1.7
	comp=E,13nm,1.6s,mb4.7						
KURK	Kurchatov	49.18	31	eP	P	07 21 44.7	-1.7
	comp=E,13nm,1.6s,mb4.7						
FINES	FINESS Array B	50.08	351	P	P	07 21 52.0	-1.1
	comp=E,3.0nm,0.8s,mb4.3,baz=129,slow=12,SNR=4.5						
FINES	FINESS Array B	50.08	351	P	P	07 21 52.0	-1.2
NB2	NORSAR Subarra	53.06	343	P	P	07 22 14.5	-1.2
	comp=E,2.3nm,0.8s,mb4.2,baz=149,slow=7.4						
NOA	NORSAR Array B	53.06	343	P	P	07 22 13.8	-1.9
	comp=E,1.6nm,0.9s,mb4.0,baz=141,slow=7.4,SNR=3.6						
NOA				LR	LR	07 46 18.4	
	comp=E,34nm,19.3s,MS3.4,baz=155,slow=38						
NOA	NORSAR Array B	53.06	343	P	P	07 22 13.8	-1.9
NOA				LR	LR	07 46 18.4	
ZAL	Zalesovo	54.13	31	P	P	07 22 23.2	-0.4
	comp=E,1.5nm,0.4s,mb4.3,baz=240,slow=10,SNR=5.8						
ZAL				LR	LR	07 49 06.5	
	comp=E,166nm,19.5s,MS4.1,baz=74,slow=40						
ZAL	Zalesovo	54.13	31	P	P	07 22 23.2	-0.5
ZAL				LR	LR	07 49 06.5	
SONM	Songino Array	64.72	43	P	P	07 23 38.3	+1.4
	comp=E,3.4nm,0.8s,mb4.4,baz=259,slow=6.0,SNR=16						
SONM				LR	LR	07 57 13.5	
	comp=E,147nm,18.5s,MS4.2,baz=56,slow=41						
MAW	Mawson	81.42	172	LR	LR	07 58 39.6	
	comp=E,92nm,20.4s,MS4.1,baz=55,slow=34						
SCHQ	Schefferville	89.70	326	P	P	07 25 55.9	0.0
	comp=E,2.9nm,0.8s,mb4.7,baz=75,slow=12,SNR=2.7						
SCHQ	Schefferville	89.70	326	P	P	07 25 55.8	0.0
BDFB	Brasilia	91.93	255	LR	LR	08 06 04.9	

comp=E,87nm,20.4s,MS4.2,baz=107,slow=35

DHMR 21 07:17:31.6±2.5, 12.65N×40.48E, h11km±242km, ML4.3, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.64**	**69**	*i* S	Sn	07 19 17.1	+4.5
UDYN				AML	AML	07 19 54.9	
	comp=N,4μm,1.6s						
DHBB	**Dhamar BB**	**4.25**	**63**	⇓*e*P	Pn	07 18 39.1	+1.2
DHBB				*i* S	Sn	07 19 31.8	+3.6
HAJJ	**Hajjah**	**4.28**	**45**	*e*P	Pn	07 18 39.2	+0.9
HAJJ				*i* S	Sn	07 19 32.0	+3.2
HAJJ				AML	AML	07 20 11.7	
	comp=E,264nm,0.5s						
HAJJ	**Hajjah**	**4.28**	**45**	*e*P	Pn	07 18 39.2	+0.9
HAJJ				*i* S	Sn	07 19 32.0	+3.1
	comp=E,132nm,0.5s						
LBOS		**4.80**	**75**	*e*P	Pn	07 18 44.1	-1.5
LBOS				*i* S	Sn	07 19 40.9	-1.0
BDHA	**Al Bayda'**	**5.13**	**75**	⇓*e*P	Pn	07 18 48.6	-1.7
BDHA				*i* S	Sn	07 19 48.9	-1.3
BDHA	**Al Bayda'**	**5.13**	**75**	⇓*e*P	Pn	07 18 48.6	-1.6
BDHA				*i* S	Sn	07 19 48.8	-1.3

*KNET **21** 07:18:33.7±0.7, 41.50N×72.81E, ml2.4, Error ellipse: s-maj=6.1km s-min=3.8km az=139.0*
*NNC **21** 07:18:34.8±4.4, 41.53N×72.68E, mpv3.0, Error ellipse: s-maj=45.1km s-min=13.4km az=12.0*
ISC 21 07:18:34.4±1.5, 41.4N±0.1×72.67E±0.10, h10km, n9, σ1s06/16, 8C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.03**	**48**	⇑P	**Pb**	**07 18 51.7**	**-2.2**
	16nm,0.1s,SNR=19						
AML				⇑S	**Sb**	**07 19 06.7**	**-0.6**
	57nm,0.2s						
EKS2	**Erkin-Say**	**1.47**	**34**	⇓P	**Pn**	**07 18 59.7**	**-1.5**
	6.9nm,0.2s,SNR=7.1						
EKS2				⇓S	**Sb**	**07 19 19.7**	**-0.4**
	19nm,0.2s						
UCH	**Uchtor**	**1.58**	**60**	⇑P	**Pn**	**07 19 01.6**	**-1.2**
	13nm,0.2s,SNR=22						
UCH				⇓S	**Sb**	**07 19 24.1**	**+0.7**
	26nm,0.2s						
AAK	**Ala-Archa**	**1.81**	**48**	⇓P	**Pn**	**07 19 06.4**	**+0.5**
	14nm,0.3s,SNR=8.2						
AAK				⇑S	**Sn**	**07 19 30.2**	**+1.1**
	17nm,0.2s						
AAK	**Ala-Archa**	**1.81**	**48**	⇑P	**Pn**	**07 19 06.3**	**+0.4**
	3.8nm,0.3s						
AAK				⇓S	**Sn**	**07 19 30.0**	**+1.0**
	23nm,0.8s						
KZA	**Kyzart**	**2.03**	**71**	⇑P	**Pn**	**07 19 09.4**	**+0.2**
	23nm,0.3s,SNR=7.2						
CHMS	**Chumysh**	**2.19**	**44**	⇓P	**Pn**	**07 19 12.9**	**+1.4**
	8.2nm,0.2s						
CHMS				⇑S	**Sn**	**07 19 43.2**	**+4.3**
	35nm,0.5s						
USP	**Ospenovka**	**2.27**	**36**	⇓P	**Pn**	**07 19 13.6**	**+1.0**
	8.1nm,0.2s,SNR=19						
USP				⇑S	**Sn**	**07 19 45.2**	**+4.3**
	54nm,0.4s						
KK31	**Karatay Array**	**2.30**	**317**	⇓Pn	**Pn**	**07 19 13.4**	**+0.3**
	3.8nm,0.3s,baz=132,slow=15,SNR=92						
KK31				Lg		07 19 45.7	
	12nm,0.3s,baz=130,slow=28,SNR=20						

*NEIC **21** 07:21:14.4±1.4, 21.66S×177.87W, h330km±15km, mb4.2/5, Error ellipse: s-maj=13.6km s-min=9.9km az=145.0*
*IDC **21** 07:21:14.0±2.8, 21.76S×177.85W, h323km±28km, mb3.6/10, mb1 3.8/13, mb1mx3.8/17, mbtmp4.4/13, Error ellipse: s-maj=20.2km s-min=13.0km az=143.0*
ISC 21 07:21:12.5±1.6, 21.73S±0.08×177.91W±0.09, h320km±17km, n28, σ0s75/28, mb3.8/13, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.72**	**38**	P	**P**	**07 23 27.7**	**-0.4**
	3.3nm,0.3s,baz=38,slow=18,SNR=5.0						
AFI				S	**S**	**07 25 07.8**	**-7.3**
	6.8nm,0.3s,baz=259,slow=23,SNR=5.6						
DZM	**Mont Dzumac**	**14.53**	**266**	P	**P**	**07 24 26.4**	**+0.6**
	0.5nm,0.3s,baz=76,slow=16,SNR=6.1						
URZ	**Urewera**	**17.03**	**193**	P	**P**	**07 24 51.9**	**-0.8**
	1.0nm,0.3s,baz=347,slow=3.0,SNR=6.0						
URZ				S	**S**	**07 27 49.4**	**-0.3**
	0.7nm,0.3s,baz=58,slow=23,SNR=5.6						
CTAO	**Charters Tower**	**33.47**	**266**	*e*P	**P**	**07 27 24.9**	**+0.7**
PMG	**Port Moresby**	**35.71**	**285**	P	**P**	**07 27 44.0**	**+0.9**
	19nm,0.8s,mb4.4,baz=130,slow=7.9,SNR=3.8						
PMG	**Port Moresby**	**35.71**	**285**	P	**P**	**07 27 44.1**	**+0.9**
	30nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**37.34**	**246**	*e*P	**P**	**07 27 57.7**	**+1.1**
	3.1nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**37.34**	**246**	P	**P**	**07 27 57.6**	**+1.0**
	4.0nm,0.5s,mb3.9,baz=97,slow=10,SNR=20						
WB2	**Warramunga Arr**	**44.51**	**263**	⇓*i*P	**P**	**07 28 54.2**	**-0.8**
WRAB	**Tennant Creek**	**44.52**	**263**	*e*P	**P**	**07 28 53.7**	**-1.3**
WRA	**Warramunga Arr**	**44.52**	**263**	P	**P**	**07 28 54.0**	**-1.0**
	4.7nm,1.0s,mb3.6,baz=96,slow=8.0,SNR=78						
FITZ	**Fitzroy Crossi**	**52.95**	**263**	P	**P**	**07 29 58.6**	**-0.4**
	3.1nm,0.6s,mb3.8,baz=133,slow=3.4,SNR=9.7						
SBA	**Scott Base**	**56.66**	**184**	*e*P	**P**	**07 30 26.3**	**+1.7**
VNDA	**Vanda**	**56.70**	**185**	*e*P	**P**	**07 30 25.7**	**+0.9**
	1.0nm,0.8s,mb3.2						
QSPA	**South Pole Qui**	**68.35**	**180**	⇑*i*P	**P**	**07 31 41.6**	**+0.8**
	5.8nm,0.7s,mb4.4						
MAW	**Mawson**	**80.44**	**200**	P	**P**	**07 32 50.1**	**+0.2**
	2.8nm,0.6s,mb4.2,baz=147,slow=8.3,SNR=16						
YBH	**Yreka Blue Hor**	**81.19**	**38**	P	**P**	**07 32 54.9**	**+0.6**
	1.9nm,0.7s,mb4.0,baz=270,slow=4.0,SNR=3.1						
SNAA	**Sanae**	**86.79**	**178**	⇑*i*	**P**	**07 33 20.2**	**-1.3**
VNA3	**Neumayer Olymp**	**86.92**	**176**	⇑*i*	**P**	**07 33 21.7**	**-0.4**
VNA2	**Neumayer--Watz**	**87.36**	**177**	⇑*i*	**P**	**07 33 23.7**	**-0.5**
MNTX	**Cornudas Mount**	**87.39**	**54**	*e*P	**P**	**07 33 25.1**	**-0.2**
	2.2nm,0.8s,mb4.0						
VNA1	**Neumayer--Stat**	**87.59**	**177**		**P**	**07 33 25.0**	**-0.3**
TXAR	**Lajitas Array**	**87.65**	**57**	P	**P**	**07 33 26.9**	**+0.3**
	0.9nm,0.7s,mb3.7,baz=218,slow=7.0,SNR=15						
PLCA	**Paso Flores**	**88.38**	**133**	P	**P**	**07 33 30.1**	**+0.3**
	0.4nm,0.5s,mb3.5,baz=243,slow=4.8,SNR=3.1						
ILAR	**Eielson Array**	**89.48**	**13**	P	**P**	**07 33 34.2**	**-0.1**
	0.5nm,0.5s,mb3.6,baz=224,slow=5.8,SNR=11						
PDAR	**Pinedale Array**	**89.80**	**43**	P	**P**	**07 33 35.9**	**-0.4**
	0.7nm,0.8s,mb3.6,baz=225,slow=2.1,SNR=5.5						
ARCES	**ARCESS Array B**	**130.13**	**349**	PKP	PKPdf	07 39 43.0	-1.2
	3.8nm,1.0s,baz=45,slow=1.7,SNR=4.0						
AKASG	**Malin Array Be**	**144.12**	**330**	PKP	PKPdf	07 40 07.5	-2.4
	1.9nm,0.5s,baz=45,slow=4.3,SNR=11						

*BJI **21** 07:23:39.2, 1.46N×97.25E, h35km, mB4.7, mb4.6, Ms4.1, Msz3.9*
*IDC **21** 07:23:40.9±0.9, 1.59N×96.92E, h27km±4km, mb4.1/13, mb1 4.2/13, mb1mx4.0/18, mbtmp4.3/13, Error ellipse: s-maj=27.1km s-min=15.0km az=52.0*
*NEIC **21** 07:23:41.2±0.4, 1.61N×96.98E, mb4.6/4, Error ellipse: s-maj=11.3km s-min=7.6km az=48.0*
ISC 21 07:23:39.1±0.7, 1.6N±0.1×97.0E±0.1, h27km, h27km±.9km:pP-P, n30, σ0s74/28, mb4.4/21, MS4.0/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.16**	**45**	*e*P	**Pn**	**07 24 57.2**	**+0.6**
HYB	**Hyderabad**	**23.98**	**312**	*i* P	**P**	**07 28 47.5**	**-5.2**
PKI	**Pulchoki**	**28.09**	**338**	*e*P	**P**	**07 29 31.8**	**+0.9**
DMN	**Daman**	**28.24**	**337**	*e*P	**P**	**07 29 33.7**	**+1.4**
	35nm,1.2s,mb4.9						
KKN	**Kakani**	**28.34**	**338**	*e*P	**P**	**07 29 33.6**	**+0.5**
GKN	**Gorkha**	**28.78**	**337**	*e*P	**P**	**07 29 37.2**	**+0.1**
	17nm,0.8s,mb4.8						
KOLN	**Koldanda**	**29.00**	**335**	*e*P	**P**	**07 29 39.4**	**+0.4**
	24nm,1.1s,mb4.8						
ENH	**Enshi**	**30.87**	**21**	*e*P	**P**	**07 29 54.3**	**-1.3**
	8.1nm,0.7s,mb4.7						
ENH				*e*	pP	07 30 01.0	-2.6
XAN	**Xi'an**	**34.13**	**18**	P	**P**	**07 30 22.9**	**-1.2**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
GTA	**Gaotai**	**37.70**	**4**	*e*P	**P**	**07 30 54.8**	**+0.5**
GTA				AP	pP	07 31 01.4	-0.9
GTA				XP	sP	07 31 04.6	-1.1
GTA				PP	PP	07 32 26.4	+2.9
GTA				S	**S**	**07 36 46.1**	**+3.7**
GTA				XS		07 36 59.4	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,66nm,5.3s						
GTA				LR	LR		
	comp=N,143nm,17.9s,MS3.9						
GTA				LR	LR		
	comp=E,125nm,19.4s,MS3.9						
GTA				LR	LR		
	comp=Z,219nm,19.4s,MS4.0						
JOW	**Kunigami**	**39.11**	**47**	P	**P**	**07 31 06.9**	**+0.7**
	comp=Z,7.1nm,0.2s,mb5.0,baz=176,slow=16,SNR=5.8						
WRA	**Warramunga Arr**	**42.43**	**122**	P	**P**	**07 31 33.7**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=301,slow=9.2,SNR=9.8						
WRA				pP	pP	07 31 41.5	-0.2
	comp=Z,2.0nm,0.8s,baz=302,slow=9.2,SNR=7.0						
WRAB	**Tennant Creek**	**42.43**	**122**	*e*P	**P**	**07 31 34.1**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.3						
SONM	**Songino Array**	**46.75**	**9**	P	**P**	**07 32 08.4**	**+0.5**
	comp=Z,4.0nm,0.6s,mb4.5,baz=190,slow=9.1,SNR=20						
SONM				pP	pP	07 32 17.0	+0.9
	comp=Z,1.9nm,0.4s,baz=196,slow=8.3,SNR=9.9						
MKAR	**Makanchi Array**	**46.79**	**346**	P	**P**	**07 32 08.3**	**0.0**
	comp=Z,6.9nm,0.7s,mb4.7,baz=160,slow=7.6,SNR=69						
MKAR	**Makanchi Array**	**46.79**	**346**	P	**P**	**07 32 08.3**	**0.0**
KURK	**Kurchatov**	**51.34**	**345**	*e*P	**P**	**07 32 42.4**	**-1.0**
	comp=Z,7.6nm,1.1s,mb4.5						
KURK				*e*	pP	07 32 51.2	-0.4
MJAR	**Matsushiro Arr**	**51.52**	**43**	P	**P**	**07 32 44.5**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=214,slow=6.2,SNR=4.7						
MJAR				pP	pP	07 32 53.4	+0.2
	comp=Z,2.2nm,0.7s,baz=221,slow=6.4,SNR=3.9						
ZAL	**Zalesovo**	**53.11**	**351**	P	**P**	**07 32 55.9**	**-0.7**
	comp=Z,6.2nm,0.5s,mb4.8,baz=287,slow=5.4,SNR=21						
ZAL				pP	pP	07 33 04.8	-0.1
	comp=Z,5.8nm,0.6s,baz=327,slow=6.0,SNR=5.0						
STKA	**Stephens Creek**	**53.78**	**132**	P	**P**	**07 33 01.8**	**0.0**
	comp=Z,1.7nm,0.9s,mb4.0,baz=359,slow=5.7,SNR=2.6						
BVAR	**Borovoye Array**	**55.79**	**341**	P	**P**	**07 33 14.8**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=143,slow=10,SNR=10						
YAK	**Yakutsk**	**65.08**	**16**	*e*P	**P**	**07 34 18.8**	**-0.6**
AKASG	**Malin Array Be**	**74.81**	**322**	P	**P**	**07 35 17.9**	**-1.0**
	comp=Z,0.2nm,0.2s,mb3.6,baz=92,slow=5.0,SNR=5.5						
AKASG				pP	pP	07 35 26.5	-0.9
	comp=Z,0.3nm,0.2s,baz=90,slow=5.1,SNR=2.9						
FINES	**FINESS Array B**	**79.54**	**332**	P	**P**	**07 35 44.8**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=4.2,SNR=3.1						
ARCES	**ARCESS Array B**	**82.08**	**340**	P	**P**	**07 35 58.9**	**+0.7**
	comp=Z,8.0nm,1.1s,mb4.5,baz=108,slow=3.8,SNR=10						
ARCES				pP	pP	07 36 08.2	+1.3
	comp=Z,2.6nm,0.7s,baz=72,slow=3.8,SNR=1.9						
GERES	**GERESS Array B**	**84.37**	**319**	P	**P**	**07 36 10.5**	**+0.1**
	comp=Z,0.6nm,0.4s,mb4.1,baz=100,slow=8.1,SNR=6.4						
NOA	**NORSAR Array B**	**86.55**	**331**	P	**P**	**07 36 21.3**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.9,baz=95,slow=4.9,SNR=2.9						
TXAR	**Lajitas Array**	**143.42**	**31**	PKP	PKPdf	07 43 10.9	-5.8
	comp=Z,0.4nm,0.9s,baz=270,slow=2.5,SNR=3.7						
CPUP	**Villa Florida**	**145.17**	**223**	PKPbc	PKPbc	07 43 16.4	+1.0
	comp=Z,2.9nm,0.9s,baz=143,slow=5.1,SNR=6.8						
CPUP	**Villa Florida**	**145.17**	**223**	*e*PKPbc	PKPbc	07 43 17.1	+1.7

*CSEM **21** 07:23:42.7±0.6, 37.77N×25.42W, h6km, ML2.6, Error ellipse: s-maj=20.7km s-min=3.2km az=167.0, After PDA*
*PDA **21** 07:23:42.7±0.7, 37.77N×25.42W, h6km±2km, MD3.8, ML2.6, Error ellipse: s-maj=1.6km s-min=1.3km az=168.0*
SVSA 21 07:23:42.7±0.7, 37.77N×25.42W, h6km±2km, MD3.8, ML2.6, Error ellipse: s-maj=1.6km s-min=1.3km az=168.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**90**	*i* P	Pg	07 23 44.3	+0.4
PCNG				*i* S	Sg	07 23 45.9	+1.1
PCNG	**Congro**	**0.02**	**90**	*i* S	Sg	07 23 45.9	+1.1
VIF	**Vila Franca**	**0.03**	**211**	*i* P	Pg	07 23 44.5	+0.5
VIF				*i* S	Sg	07 23 45.8	+1.0
VIF	**Vila Franca**	**0.03**	**211**	*i* S	Sg	07 23 45.8	+1.0
MESC	**Monte Escuro**	**0.03**	**326**	*i* P	Pg	07 23 44.5	+0.5
MESC				*e*S	Sg	07 23 45.9	+1.0
MESC	**Monte Escuro**	**0.03**	**326**	*e*S	Sg	07 23 45.9	+1.0
LFA	**Lagoa do Fogo**	**0.05**	**277**	*i* P	Pg	07 23 44.8	+0.6
FRA1	**Furnas**	**0.06**	**115**	*e*P	Pg	07 23 44.8	+0.5
PRCH	**Ribeira Ch**	**0.06**	**229**	*i* P	Pg	07 23 44.7	+0.3
PRCH				*i* S	Sg	07 23 46.1	+0.6
	4μm,0.2s						
PRCH	**Ribeira Ch**	**0.06**	**229**	*i* S	Sg	07 23 46.1	+0.6
PMAT	**Coroa da Mata**	**0.06**	**322**	*e*S	Sg	07 23 46.2	+0.7
CMLA	**Cha da Macela**	**0.08**	**268**	*e*P	Pg	07 23 44.2	-0.5
CMLA				*e*S	Sg	07 23 46.2	+0.2
CML	**Cha da Macela**	**0.10**	**272**	*e*P	Pg	07 23 45.7	+0.7
CML				*i* S	Sg	07 23 48.0	+1.5
PFAD	**Fenais da Ajud**	**0.11**	**48**	*i* P	Pg	07 23 45.9	+0.8
PFAD	**Fenais da Ajud**	**0.11**	**48**	*e*P	Pg	07 23 45.9	+0.8
MIRA	**Miradouro**	**0.12**	**81**	*e*P	Pg	07 23 45.9	+0.6
MIRA				*e*S	Sg	07 23 47.9	+0.9
FAC	**Faja de Cima**	**0.18**	**272**	*e*P	Pg	07 23 47.9	+1.4
PDA	**Ponta Delgada**	**0.19**	**264**	*e*P	Pg	07 23 46.7	0.0
PDA				*e*S	Sg	07 23 50.0	+0.6
PSET	**Sete Cidades**	**0.24**	**283**	*e*P	Pg	07 23 47.7	0.0
PSET				*e*S	Sg	07 23 51.2	+0.2
	647nm,0.3s						
PSAN	**Santo Antonio**	**0.25**	**289**	*e*P	Pg	07 23 49.6	+1.7
PFET	**Feteiras**	**0.29**	**280**	*e*P	Pg	07 23 49.4	+0.7
SET4	**Mosteiros**	**0.32**	**290**	*e*P	Pg	07 23 49.5	+0.4
PSCM	**Serra do Cume**	**1.63**	**305**	*e*S	Sb	07 24 26.9	-6.5
	9.6nm,0.2s						

DHMR 21 07:59:33.2±2.9, 12.56N×40.51E, h13km±455km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.65**	**67**	*i* S	Sn	08 01 18.4	+4.5
UDYN				AML	AML	08 01 30.4	
	comp=N,293nm,0.5s						
DHBB	**Dhamar BB**	**4.27**	**62**	*i* P	Pn	08 00 40.7	+1.2
DHBB				*i* S	Sn	08 01 33.3	+3.5
LBOS		**4.80**	**74**	*i* P	Pn	08 00 45.4	-1.5
LBOS				*i* S	Sn	08 01 42.0	-1.0
BDHA	**Al Bayda'**	**5.12**	**74**	*i* S	Sn	08 01 50.0	-1.2

MAN 21 08:05:16.5, 9.71N×125.41E, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.11**	**45**	⇑*e*P	Pg	08 05 18.7	0.0
SCPH						08 25 23.8	
MSLP	**Maasin**	**0.69**	**308**	*e*P	Pg	08 05 29.9	-0.4
BUTP	**Butuan**	**0.76**	**164**	*e*P	Pg	08 05 31.1	-0.5
BUTP				*e*S	Sg	08 05 42.6	+0.7
CGP	**Cagayan de Oro**	**1.43**	**210**	*e*P	Pb	08 05 40.7	-3.1
CGP				*i* S	Sb	08 06 03.6	+1.2
PLP	**Palo**	**1.51**	**344**	*e*P	Pn	08 05 43.4	-1.6
PLP				*e*S	Sb	08 06 01.5	-3.3
BUKP	**Musuan**	**1.85**	**191**	*e*P	Pn	08 05 50.1	+0.4
BESP	**Borongan**	**1.88**	**1**	*e*P	Pn	08 05 50.8	+0.5

*IDC **21** 08:22:15.3±1.2, 1.04S×24.55W, mb4.0/3, mb1 4.2/3, mb1mx3.7/20, mbtmp4.0/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/22, Error ellipse: s-maj=70.3km s-min=28.6km az=166.0*
*NEIC **21** 08:22:17.1±0.8, 1.24S×24.60W, h10km, mb4.6/1, Error ellipse: s-maj=37.7km s-min=14.3km az=170.0*
ISC 21 08:22:16.0±0.9, 1.0S±0.3×24.5W±0.1, h10km, n9, σ0s61/6, mb4.1/4, MS3.1/2, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.34**	**247**	*e*P	**P**	**08 25 09.4**	**-5.4**
DBIC	**Dimbokro**	**21.04**	**69**	P	**P**	**08 27 02.9**	**+0.3**
	8.8nm,0.8s,mb4.1,baz=237,slow=11,SNR=7.1						
BDFB	**Brasilia**	**27.38**	**237**	LR	LR	08 37 49.1	
	comp=Z,89nm,20.5s,MS3.3,baz=117,slow=34						
CPUP	**Villa Florida**	**40.39**	**229**	LR	LR	08 44 28.0	
	comp=Z,14nm,19.4s,MS2.8,baz=136,slow=33						
TSUM	**Tsumeb**	**45.03**	**116**	*e*P	**P**	**08 30 33.9**	**-0.2**
LPAZ	**La Paz**	**45.58**	**248**	P	**P**	**08 30 38.6**	**+0.2**
	2.8nm,0.8s,mb4.2,baz=74,slow=7.4,SNR=16						
SDV	**Santo Domingo**	**46.98**	**283**	P	**P**	**08 30 50.0**	**+0.5**
	6.2nm,1.2s,mb4.4						
TXAR	**Lajitas Array**	**81.03**	**300**	P	**P**	**08 34 32.3**	**-0.7**
	0.6nm,0.9s,mb3.5,baz=124,slow=6.5,SNR=7.0						
WRA	**Warramunga Arr**	**150.63**	**136**	PKPbc	PKPdf	08 42 09.1	+2.4
	0.5nm,1.0s,baz=234,slow=2.1,SNR=3.4						

KRSC 21 08:37:15.2±0.7, 49.91N×155.56E, h132km±7km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.85**	**25**	*e*P	P	08 37 37.0	-0.1
SKR				*e*S	S	08 37 53.4	-0.4
ALID	**Alaid**	**0.96**	**360**	*e*P	P	08 37 38.9	+0.8
ALID				*e*S	S	08 37 56.4	+0.9
PAU	**Pauzhetka**	**1.75**	**27**	*i* P	P	08 37 48.5	+1.8
PAU				*i* S	S	08 38 13.2	+2.5
PAU				Smax			
	320nm,0.1s						
MIPR	**Malaya Ipel'ka**	**2.49**	**17**	*i* P	P	08 37 57.4	+1.4
GRL	**Gorelyy**	**3.08**	**30**	*e*P	P	08 38 05.8	+2.0
GRL				*e*S	S	08 38 42.1	+1.3
RUS	**Russkaya**	**3.14**	**35**	*e*P	P	08 38 05.7	+1.2
RUS				*e*S	S	08 38 42.1	0.0
APC	**Apacha**	**3.18**	**18**	*i* P	P	08 38 05.5	+0.4
APC				*i* S	S	08 38 41.9	-1.2
KRMR	**Karymshinskiy**	**3.34**	**28**	*e*S	S	08 38 47.5	+0.7
UGLR	**Uglovaya**	**3.88**	**30**	*i* P	P	08 38 16.8	+2.4
KOK	**Koryaka**	**3.89**	**28**	*e*P	P	08 38 16.6	+2.1
AVH	**Avacha**	**3.90**	**29**	*e*P	P	08 38 16.7	+2.0
AVH				*e*S	S	08 39 02.1	+1.9
SMAR	**Somma**	**3.92**	**30**	*i* P	P	08 38 17.5	+2.6
SDLR	**Sedlovina**	**3.96**	**30**	*i* P	P	08 38 17.4	+2.0
NLC	**Nalytchevo**	**4.03**	**34**	*e*P	P	08 38 16.6	+0.2
NLC				*e*S	S	08 39 02.9	-0.4
GNL	**Ganaly**	**4.07**	**20**	*e*P	P	08 38 17.7	+0.8
GNL				*e*S	S	08 39 03.2	-1.0
SPN	**Mys Shipunski**	**4.24**	**39**	*i* P	P	08 38 20.1	+0.9
SPN				*i* S	S	08 39 07.1	-1.2
MKZ	**Mys Kozlova**	**6.00**	**37**	*e*P	P	08 38 42.3	-0.4
MKZ				*e*S	S	08 39 45.6	-5.1
TUMR	**Tumrok**	**6.06**	**26**	*e*P	P	08 38 44.1	+0.5
KMNR	**Kamenistaya**	**6.50**	**24**	*e*P	P	08 38 48.8	-0.8
KMNR				*e*S	S	08 39 57.0	-5.9
KBTR	**Krutoberegovo**	**7.67**	**32**	*e*P	P	08 39 05.2	-0.2

*IDC **21** 08:40:02.5±3.0, 12.67N×40.54E, mb4.0/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, ML3.9/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/19, Error ellipse: s-maj=64.6km s-min=25.7km az=3.0*
*NEIC **21** 08:40:03.8±0.8, 12.60N×40.44E, h10km, mb4.3/5, Error ellipse: s-maj=16.5km s-min=14.2km az=118.0*
*DHMR **21** 08:40:06.6±2.4, 12.68N×40.58E, h2km±242km, ML4.0*
*CSEM **21** 08:40:06.3±0.1, 12.59N×40.25E, h40km, mb4.4/5, Error ellipse: s-maj=4.8km s-min=2.9km az=171.0*
ISC 21 08:39:59.8±0.9, 12.3N±0.1×40.36E±0.04, h10km, n56, σ1s61/56, mb4.1/15, MS4.0/7, 1C-8D, Ethiopia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.89**	**64**	*e*P	**Pn**	**08 41 05.2**	**+4.1**
UDYN				*i* S	**Sn**	**08 41 51.1**	**+3.8**
UDYN				AML	AML	08 42 09.7	
	comp=N,676nm,0.7s						
DHBB	**Dhamar BB**	**4.54**	**59**	⇓*e*P	**Pn**	**08 41 13.6**	**+3.5**
DHBB				*i* S	**Sn**	**08 42 06.5**	**+2.9**
HAJJ	**Hajjah**	**4.63**	**42**	*i* P	**Pn**	**08 41 13.9**	**+2.4**
HAJJ				*i* S	**Sn**	**08 42 06.5**	**+0.5**
LBOS		**5.02**	**71**	*i* P	**Pn**	**08 41 18.9**	**+1.9**
LBOS				*i* S	**Sn**	**08 42 14.9**	**-0.9**
BDHA	**Al Bayda'**	**5.34**	**71**	*i* P	**Pn**	**08 41 23.5**	**+1.9**
BDHA				*i* S	**Sn**	**08 42 23.0**	**-1.0**
BDHA				AML	AML	08 42 52.4	
	comp=N,11μm,1.1s						
BDHA	**Al Bayda'**	**5.34**	**71**	*i* P	**Pn**	**08 41 23.5**	**+1.9**
BDHA				*i* S	**Sn**	**08 42 23.0**	**-1.0**
	comp=N,6μm,1.1s						
BLJS	**Baljurashi**	**7.66**	**9**	P	**Pn**	**08 41 51.9**	**-2.2**
LTHS	**Al Lith**	**7.96**	**0**	P	**Pn**	**08 41 54.5**	**-3.8**
KAMS	**Al Khamasin**	**8.96**	**26**	P	**P**	**08 42 15.0**	**+2.8**
ABTO	**Aybut**	**13.48**	**66**	⇓P	**P**	**08 43 19.1**	**+5.3**
KMBO	**Kilima Mbogo**	**13.66**	**193**	LR	LR	08 48 16.6	
	comp=N,531nm,21.8s,baz=295,slow=35						
RBK	**Rabkut**	**14.35**	**67**	⇓P	**P**	**08 43 29.4**	**+4.1**
HASS	**Wahat al Ahsa'**	**15.58**	**33**	P	**P**	**08 43 42.4**	**+1.1**
TBKS	**Tabuk**	**16.27**	**348**	P	**P**	**08 43 54.8**	**+4.7**
BDAS	**Al Bad'**	**16.81**	**344**	P	**P**	**08 44 00.3**	**+3.3**
JMQS	**Jabal Moqyreh**	**17.05**	**346**	P	**P**	**08 44 03.3**	**+3.3**
HAQS	**Haql**	**17.45**	**344**	P	**P**	**08 44 07.0**	**+2.0**
BSY	**Bisya**	**19.12**	**55**	⇓P	**P**	**08 44 23.5**	**-2.0**
	SNR=15						
ASHO	**Ashiyiah**	**19.31**	**48**	⇓P	**P**	**08 44 25.2**	**-2.6**
	SNR=16						
JMDO	**Jabal Madar**	**19.67**	**57**	⇓P	**P**	**08 44 29.6**	**-2.4**
ASF	**Jabal al Asfar**	**20.06**	**351**	P	**P**	**08 44 34.0**	**-2.1**
	comp=N,0.3nm,0.3s,baz=186,slow=18,SNR=2.7						
BIDO	**Bidbid**	**20.25**	**54**	⇑P	**P**	**08 44 36.9**	**-1.2**
BANOM	**Banah**	**20.25**	**46**	⇓P	**P**	**08 44 37.1**	**-1.0**
WBK	**Wadi Bani Khal**	**20.49**	**57**	⇓P	**P**	**08 44 39.7**	**-1.0**
	SNR=7.9						
BHD	**Baghdad**	**21.22**	**9**	*e*x	x	08 44 43.0	
BHD				*e*x	x	08 49 20.0	
MSL	**Mosul**	**24.04**	**5**	*e*x	x	08 45 38.5	
MALT	**Malatya**	**25.99**	**357**	*e*P	**P**	**08 45 34.9**	**+0.4**
	comp=N,13nm,1.2s,mb4.3						
MALT	**Malatya**	**25.99**	**357**	*e*P	**P**	**08 45 34.9**	**+0.3**
	comp=N,13nm,1.2s,mb4.3						
IDI	**Anoyia**	**26.86**	**331**	LR	LR	08 56 33.3	
	comp=N,229nm,18.3s,MS3.8,baz=266,slow=37						
BR131	**Keskin Array S**	**27.98**	**349**	*e*P	**P**	**08 45 53.7**	**+1.0**
BR131	**Keskin Array S**	**27.98**	**349**	*e*P	**P**	**08 45 53.7**	**+0.9**
BRTR	**Keskin Array B**	**27.98**	**349**	P	**P**	**08 45 52.8**	**0.0**
	comp=N,4.3nm,1.1s,mb4.0,baz=170,slow=7.5,SNR=12						
LSZ	**Lusaka**	**29.91**	**204**	*e*P	**P**	**08 46 15.3**	**+5.0**
LSZ	**Lusaka**	**29.91**	**204**	*e*P	**P**	**08 46 15.3**	**+5.0**
KIV	**Kislovodsk**	**31.63**	**3**	*e*P	**P**	**08 46 25.1**	**-0.1**
KIV	**Kislovodsk**	**31.63**	**3**	*e*P	**P**	**08 46 25.1**	**-0.1**
AKASG	**Malin Array Be**	**39.39**	**349**	P	**P**	**08 47 30.8**	**-0.5**
	comp=N,0.7nm,0.5s,mb3.7,baz=170,slow=6.9,SNR=7.4						
PSZ	**Piszkesteto**	**39.44**	**338**	*e*P	**P**	**08 47 31.7**	**-0.1**
	comp=N,4.9nm,0.7s,mb4.3						
PSZ	**Piszkesteto**	**39.44**	**338**	*e*P	**P**	**08 47 31.7**	**-0.1**
	comp=N,4.9nm,0.7s,mb4.3						
MORC	**Moravsky Berou**	**41.85**	**338**	*e*P	**P**	**08 47 51.1**	**-0.4**
	comp=N,4.3nm,1.0s,mb4.0						
MORC	**Moravsky Berou**	**41.85**	**338**	*e*P	**P**	**08 47 51.2**	**-0.3**
	comp=N,4.3nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**42.30**	**38**	*e*P	**P**	**08 47 57.2**	**+1.8**
	comp=N,8.0nm,1.3s,mb4.2						
AAK	**Ala-Archa**	**42.30**	**38**	*e*P	**P**	**08 47 57.2**	**+1.8**
	comp=N,8.0nm,1.3s,mb4.2						
GERES	**GERESS Array B**	**42.64**	**334**	P	**P**	**08 47 57.8**	**-0.3**
	comp=N,2.5nm,0.8s,mb4.0,baz=127,slow=6.7,SNR=14						
GERES				LR	LR	09 05 16.9	
	comp=N,65nm,19.0s,MS3.5,baz=358,slow=36						
KHC	**Kasperske Hory**	**42.91**	**334**	*e*P	**P**	**08 47 59.5**	**-0.8**
DBIC	**Dimbokro**	**44.91**	**267**	LR	LR	09 09 17.7	
	comp=N,181nm,18.3s,MS4.0,baz=66,slow=39						
MDT	**Midelt**	**45.88**	**304**	P	**P**	**08 48 26.2**	**+1.9**
	comp=N,1.6nm,0.9s,mb4.0,baz=101,slow=11,SNR=5.4						
BVAR	**Borovoye Array**	**47.20**	**24**	P	**P**	**08 48 34.3**	**-0.1**
	comp=N,0.4nm,0.3s,mb3.9,baz=202,slow=8.0,SNR=3.8						
ESDC	**Sonseca Array**	**47.63**	**313**	P	**P**	**08 48 40.3**	**+2.2**
	comp=N,0.5nm,0.4s,mb3.9,baz=109,slow=6.9,SNR=6.4						
MKAR	**Makanchi Array**	**49.22**	**37**	P	**P**	**08 48 49.3**	**-1.0**
	comp=N,3.4nm,1.1s,mb4.3,baz=233,slow=6.1,SNR=14						
MKAR				LR	LR	09 12 04.6	
	comp=N,163nm,18.6s,MS4.0,baz=200,slow=39						
FINES	**FINESS Array B**	**50.18**	**351**	P	**P**	**08 48 55.5**	**-1.9**
	comp=N,4.8nm,0.9s,mb4.5,baz=149,slow=16,SNR=4.9						
NB2	**NORSAR Subarra**	**53.13**	**343**	P	**P**	**08 49 18.8**	**-0.9**
	comp=N,5.8nm,1.0s,mb4.5,baz=145,slow=7.4						
NOA	**NORSAR Array B**	**53.13**	**343**	P	**P**	**08 49 18.5**	**-1.2**

	comp=N,1.7nm,0.8s,mb4.0,baz=141,slow=7.4,SNR=3.4						
ZAL	**Zalesovo**	**54.34**	**31**	P	**P**	**08 49 27.2**	**-1.4**
	comp=N,0.9nm,0.4s,mb4.1,baz=230,slow=11,SNR=5.4						
ZAL				LR	LR	09 16 09.9	
	comp=N,156nm,19.1s,MS4.1,baz=251,slow=40						
SONM	**Songino Array**	**64.94**	**43**	P	**P**	**08 50 41.6**	**-0.2**
	comp=N,2.8nm,1.0s,mb4.2,baz=269,slow=7.0,SNR=13						
SONM				LR	LR	09 22 44.3	
	comp=N,106nm,18.3s,MS4.1,baz=83,slow=40						
MAW	**Mawson**	**81.32**	**171**	LR	LR	09 27 24.0	
	comp=N,76nm,18.1s,MS4.1,baz=238,slow=35						

MAN 21 08:53:23.2, 12.26N×122.23E, h9km, mb3.6, ML2.3, MS1.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.23**	**296**	eP	Pg	08 53 28.4	+0.3
RCP	**Roxas**	**0.86**	**144**	eP	Pb	08 53 40.4	+0.6
RCP				eS	Sb	08 53 53.5	+2.4
SJMP	**San Jose**	**1.11**	**280**	eP	Pb	08 53 43.8	-0.2
BOAC	**Boac**	**1.25**	**342**	eP	Pb	08 53 46.3	-0.2
BOAC				eS	Sb	08 54 03.6	+1.1

*CSEM **21** 08:53:25.5±0.6, 37.77N×25.44W, h6km±4km, ML2.6, Error ellipse: s-maj=15.4km s-min=9.7km az=21.0, After PDA*
*PDA **21** 08:53:25.5±0.7, 37.77N×25.44W, h6km±1km, MD2.5, ML2.6, Error ellipse: s-maj=1.4km s-min=1.2km az=73.0*
SVSA 21 08:53:25.5±0.7, 37.77N×25.44W, h6km±1km, MD2.5, ML2.6, Error ellipse: s-maj=1.4km s-min=1.2km az=73.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**181**	i P	Pg	08 53 27.1	+0.4
VIF				i S	Sg	08 53 28.5	+1.0
VIF	**Vila Franca**	**0.02**	**181**	i S	Sg	08 53 28.5	+1.0
MESC	**Monte Escuro**	**0.03**	**349**	i P	Pg	08 53 27.2	+0.5
MESC				i S	Sg	08 53 28.7	+1.2
MESC	**Monte Escuro**	**0.03**	**349**	i S	Sg	08 53 28.7	+1.2
PCNG	**Congro**	**0.03**	**90**	i P	Pg	08 53 27.1	+0.3
PCNG				i S	Sg	08 53 28.7	+1.1
PCNG	**Congro**	**0.03**	**90**	i S	Sg	08 53 28.7	+1.1
LFA	**Lagoa do Fogo**	**0.04**	**279**	i P	Pg	08 53 27.5	+0.7
PRCH	**Ribeira Ch**	**0.05**	**220**	eP	Pg	08 53 27.4	+0.4
PRCH				eS	Sg	08 53 28.6	+0.6
	4μm,0.2s						
PMAT	**Coroa da Mata**	**0.06**	**333**	eP	Pg	08 53 27.6	+0.5
PMAT				eS	Sg	08 53 28.8	+0.7
CMLA	**Cha da Macela**	**0.07**	**267**	eP	Pg	08 53 26.5	-0.7
CMLA				eS	Sg	08 53 28.6	+0.2
FRA1	**Furnas**	**0.07**	**110**	i P	Pg	08 53 27.6	+0.3
CML	**Cha da Macela**	**0.09**	**273**	eP	Pg	08 53 28.6	+1.1
CML				eS	Sg	08 53 30.7	+1.8
PFAD	**Fenais da Ajud**	**0.12**	**52**	i P	Pg	08 53 28.7	+0.6
MIRA	**Miradouro**	**0.13**	**82**	i P	Pg	08 53 28.7	+0.4
PDA	**Ponta Delgada**	**0.18**	**264**	eP	Pg	08 53 29.3	+0.1
PDA				eS	Sg	08 53 32.1	+0.4
PSET	**Sete Cidades**	**0.23**	**284**	eP	Pg	08 53 30.4	+0.2
PSET				eS	Sg	08 53 33.6	+0.2
	393nm,0.4s						
PSMN	**Pico do Norte,**	**0.82**	**159**	eP	Pb	08 53 39.4	-2.3
PSMN				eS	Sb	08 53 49.4	-3.4

*NNC **21** 08:54:09.5±8.8, 36.16N×69.72E, h204km±154km, mpv3.8, Error ellipse: s-maj=93.9km s-min=60.0km az=50.0*
ISC 21 08:54:06.3±2.5, 36.0N±0.1×69.7E±0.3, h161km±58km, n10, σ0s44/13, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.88**	**26**	P	**P**	**08 55 45.5**	**-0.2**
	SNR=43						
KK31	**Karatay Array**	**7.14**	**5**	⇑P	**P**	**08 55 48.6**	**-0.5**
	0.6nm,0.2s,baz=311,slow=41,SNR=31						
KK31				⇓S	**S**	**08 57 09.5**	**+0.3**
	3.3nm,0.5s						
UCH	**Uchtor**	**7.27**	**30**	P	**P**	**08 55 50.7**	**-0.1**
	SNR=8.0						
EKS2	**Erkin-Say**	**7.38**	**24**	P	**P**	**08 55 52.1**	**-0.2**
	SNR=11						
AAK	**Ala-Archa**	**7.61**	**28**	P	**P**	**08 55 55.0**	**-0.4**
	SNR=21						
AAK	**Ala-Archa**	**7.61**	**28**	⇑P	**P**	**08 55 55.3**	**0.0**
	8.8nm,0.5s						
AAK				⇑S	**S**	**08 57 20.7**	**+0.3**
	8.0nm,0.5s						
CHMS	**Chumysh**	**8.02**	**28**	P	**P**	**08 56 00.8**	**0.0**
	SNR=7.7						
USP	**Ospenovka**	**8.16**	**26**	P	**P**	**08 56 03.1**	**+0.4**
	SNR=14						
TKM2	**Tokmak 2**	**8.29**	**32**	P	**P**	**08 56 04.2**	**-0.2**
	SNR=5.4						
AB31	**Akbulak array**	**15.06**	**335**	P	**P**	**08 57 32.9**	**+1.1**
	1.8nm,0.3s,baz=156,slow=13,SNR=18						
AB31				S	**S**	**09 00 13.7**	**-0.6**

*CSEM **21** 08:55:12.7±0.1, 37.75N×25.42W, h5km, ML2.6, Error ellipse: s-maj=4.8km s-min=2.1km az=8.0, After PDA*
*PDA **21** 08:55:12.7±0.8, 37.75N×25.42W, h5km±1km, MD3.7, ML2.6, Error ellipse: s-maj=1.6km s-min=1.5km az=166.0*
SVSA 21 08:55:12.7±0.8, 37.75N×25.42W, h5km±1km, MD3.7, ML2.6, Error ellipse: s-maj=1.6km s-min=1.5km az=166.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**248**	i P	Pg	08 55 14.4	+0.7
VIF				eS	Sg	08 55 15.2	+0.8
VIF	**Vila Franca**	**0.02**	**248**	eS	Sg	08 55 15.2	+0.8
PCNG	**Congro**	**0.02**	**48**	i P	Pg	08 55 14.3	+0.5
PCNG				eS	Sg	08 55 15.6	+1.1
PCNG	**Congro**	**0.02**	**48**	eS	Sg	08 55 15.6	+1.1
MESC	**Monte Escuro**	**0.05**	**331**	i P	Pg	08 55 14.7	+0.7
MESC				eS	Sg	08 55 16.3	+1.4
MESC	**Monte Escuro**	**0.05**	**331**	eS	Sg	08 55 16.3	+1.4
FRA1	**Furnas**	**0.05**	**101**	eP	Pg	08 55 14.5	+0.4
PRCH	**Ribeira Ch**	**0.06**	**244**	eP	Pg	08 55 14.9	+0.7
PRCH				eS	Sg	08 55 16.0	+0.8
	6μm,0.3s						
LFA	**Lagoa do Fogo**	**0.06**	**291**	i P	Pg	08 55 15.0	+0.8
PMAT	**Coroa da Mata**	**0.08**	**326**	eP	Pg	08 55 15.1	+0.6
PMAT				eS	Sg	08 55 16.7	+1.0
CMLA	**Cha da Macela**	**0.09**	**278**	eP	Pg	08 55 14.1	-0.6
CMLA				eS	Sg	08 55 16.0	0.0
CML	**Cha da Macela**	**0.10**	**280**	i P	Pg	08 55 16.1	+1.1
CML				eS	Sg	08 55 17.7	+1.2
PFAD	**Fenais da Ajud**	**0.11**	**41**	i P	Pg	08 55 15.8	+0.6
PFAD				eS	Sg	08 55 17.6	+0.8
PFAD	**Fenais da Ajud**	**0.11**	**41**	eS	Sg	08 55 17.6	+0.8
MIRA	**Miradouro**	**0.12**	**73**	eP	Pg	08 55 15.6	+0.4
FAC	**Faja de Cima**	**0.19**	**277**	eP	Pg	08 55 18.4	+1.9
FAC				eS	Sg	08 55 21.5	+2.4
PDA	**Ponta Delgada**	**0.20**	**269**	eP	Pg	08 55 16.9	+0.2
PDA				eS	Sg	08 55 20.1	+0.7
PSET	**Sete Cidades**	**0.25**	**287**	eP	Pg	08 55 17.7	-0.1
PSET				eS	Sg	08 55 21.3	+0.1
	522nm,0.4s						
PSAN	**Santo Antonio**	**0.26**	**292**	eP	Pg	08 55 19.2	+1.1
PFET	**Feteiras**	**0.30**	**283**	eP	Pg	08 55 19.3	+0.5
SET2	**Ginetes**	**0.32**	**287**	eP	Pg	08 55 20.3	+1.1
SET4	**Mosteiros**	**0.33**	**292**	eP	Pg	08 55 20.2	+0.9
PSMN	**Pico do Norte,**	**0.80**	**159**	eP	Pb	08 55 26.1	-2.5
PSMN				eS	Sg	08 55 36.2	-3.1

*CSEM **21** 09:03:06.2±0.2, 37.76N×25.42W, h5km, ML2.5, Error ellipse: s-maj=9.9km s-min=3.2km az=177.0, After PDA*
*PDA **21** 09:03:06.2±0.8, 37.76N×25.42W, h5km±3km, MD3.8, ML2.5, Error ellipse: s-maj=1.4km s-min=1.3km az=154.0*
SVSA 21 09:03:06.2±0.8, 37.76N×25.42W, h5km±3km, MD3.8, ML2.5, Error ellipse: s-maj=1.4km s-min=1.3km az=154.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**78**	i P	Pg	09 03 07.1	-0.1
PCNG				i S	Sg	09 03 08.4	+0.5
PCNG	**Congro**	**0.02**	**78**	i S	Sg	09 03 08.4	+0.5
VIF	**Vila Franca**	**0.02**	**222**	i P	Pg	09 03 07.5	+0.2
VIF				eS	Sg	09 03 08.4	+0.4
VIF	**Vila Franca**	**0.02**	**222**	eS	Sg	09 03 08.4	+0.4
MESC	**Monte Escuro**	**0.04**	**325**	i P	Pg	09 03 07.7	+0.3
MESC				i S	Sg	09 03 08.7	+0.5
MESC	**Monte Escuro**	**0.04**	**325**	i S	Sg	09 03 08.7	+0.5
LFA	**Lagoa do Fogo**	**0.05**	**281**	i P	Pg	09 03 08.0	+0.4
FRA1	**Furnas**	**0.05**	**112**	i P	Pg	09 03 07.5	-0.1
PRCH	**Ribeira Ch**	**0.06**	**234**	i P	Pg	09 03 07.9	+0.2
PRCH				eS	Sg	09 03 09.0	+0.2
PRCH	**Ribeira Ch**	**0.06**	**234**	eS	Sg	09 03 09.0	+0.2
PMAT	**Coroa da Mata**	**0.07**	**322**	eP	Pg	09 03 08.1	+0.2
PMAT				eS	Sg	09 03 09.1	+0.1
CMLA	**Cha da Macela**	**0.08**	**271**	eP	Pg	09 03 07.1	-1.0
CMLA				eS	Sg	09 03 09.3	-0.1
CML	**Cha da Macela**	**0.10**	**274**	i P	Pg	09 03 09.2	+0.8
PFAD	**Fenais da Ajud**	**0.11**	**45**	i P	Pg	09 03 08.8	+0.2
PFAD				eS	Sg	09 03 10.3	+0.2
MIRA	**Miradouro**	**0.11**	**79**	i P	Pg	09 03 08.6	-0.1
MIRA				eS	Sg	09 03 11.0	+0.7
FAC	**Faja de Cima**	**0.18**	**273**	eP	Pg	09 03 11.7	+1.7
PDA	**Ponta Delgada**	**0.19**	**265**	eP	Pg	09 03 10.0	-0.2
PDA				eS	Sg	09 03 12.4	-0.5
PSET	**Sete Cidades**	**0.25**	**284**	i P	Pg	09 03 10.8	-0.4
PSET				eS	Sg	09 03 14.5	-0.1
	797nm,0.2s						
PSET	**Sete Cidades**	**0.25**	**284**	eS	Sg	09 03 14.5	-0.1
PSAN	**Santo Antonio**	**0.26**	**290**	eP	Pg	09 03 12.3	+0.8
PFET	**Feteiras**	**0.30**	**281**	eP	Pg	09 03 12.9	+0.7
SET2	**Ginetes**	**0.32**	**285**	eP	Pg	09 03 12.8	+0.2
SET4	**Mosteiros**	**0.32**	**290**	eP	Pg	09 03 12.8	+0.1
PSMN	**Pico do Norte,**	**0.81**	**160**	eP	Pb	09 03 19.4	-2.9
PSMN				eS	Sg	09 03 29.3	-3.9

DHMR 21 09:03:39.1±0.7, 12.61N×40.51E, h11km±82km, ML3.6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.62**	**68**	i S	Sn	09 05 23.9	+4.2
UDYN				AML	AML	09 05 38.8	
	comp=N,206nm,0.6s						
DHBB	**Dhamar BB**	**4.24**	**62**	i S	Sn	09 05 39.4	+4.0
HAJJ	**Hajjah**	**4.29**	**44**	eP	Pn	09 04 46.7	+0.8
HAJJ				i S	Sn	09 05 39.6	+3.1
LBOS		**4.78**	**74**	i P	Pn	09 04 51.5	-1.4
LBOS				i S	Sn	09 05 48.0	-1.0
BDHA	**Al Bayda'**	**5.11**	**74**	i S	Sn	09 05 55.8	-1.4

*CSEM **21** 09:14:05.0±0.7, 37.77N×25.43W, h5km, ML2.7, Error ellipse: s-maj=25.1km s-min=9.5km az=16.0, After PDA*
*PDA **21** 09:14:05.0±0.7, 37.77N×25.43W, h5km, MD2.6, ML2.7, Error ellipse: s-maj=1.2km s-min=1.2km az=8.0*
SVSA 21 09:14:05.0±0.7, 37.77N×25.43W, h5km, MD2.6, ML2.7, Error ellipse: s-maj=1.2km s-min=1.2km az=8.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**332**	i P	Pg	09 14 06.6	+0.6
MESC				eS	Sg	09 14 07.9	+1.2
MESC	**Monte Escuro**	**0.02**	**332**	eS	Sg	09 14 07.9	+1.2
PCNG	**Congro**	**0.03**	**103**	i P	Pg	09 14 06.5	+0.4
PCNG				eS	Sg	09 14 07.8	+0.9
	6μm,0.2s						
PCNG	**Congro**	**0.03**	**103**	eS	Sg	09 14 07.8	+0.9
VIF	**Vila Franca**	**0.03**	**190**	i P	Pg	09 14 06.6	+0.5
VIF				eS	Sg	09 14 08.0	+1.2
	4μm,0.2s						
VIF	**Vila Franca**	**0.03**	**190**	eS	Sg	09 14 08.0	+1.2
LFA	**Lagoa do Fogo**	**0.04**	**268**	i P	Pg	09 14 06.9	+0.7
PMAT	**Coroa da Mata**	**0.05**	**324**	eP	Pg	09 14 06.9	+0.5
PMAT				eS	Sg	09 14 08.4	+1.1
PRCH	**Ribeira Ch**	**0.06**	**219**	i P	Pg	09 14 06.9	+0.4
PRCH				eS	Sg	09 14 08.4	+0.9
	4μm,0.2s						
PRCH	**Ribeira Ch**	**0.06**	**219**	eS	Sg	09 14 08.4	+0.9
FRA1	**Furnas**	**0.07**	**117**	eP	Pg	09 14 07.0	+0.4
CMLA	**Cha da Macela**	**0.07**	**262**	eP	Pg	09 14 06.4	-0.3
CMLA				eS	Sg	09 14 08.2	+0.3
PFAD	**Fenais da Ajud**	**0.11**	**53**	i P	Pg	09 14 08.0	+0.6
PFAD				eS	Sg	09 14 09.8	+0.9
PFAD	**Fenais da Ajud**	**0.11**	**53**	eS	Sg	09 14 09.8	+0.9
MIRA	**Miradouro**	**0.12**	**85**	eP	Pg	09 14 08.0	+0.4
MIRA				eS	Sg	09 14 10.8	+1.4
PDA	**Ponta Delgada**	**0.18**	**262**	eP	Pg	09 14 09.2	+0.4
PDA				eS	Sg	09 14 11.9	+0.6
PSET	**Sete Cidades**	**0.23**	**282**	eP	Pg	09 14 09.9	+0.2
PSET				eS	Sg	09 14 13.3	+0.4
	373nm,0.3s						
PSMN	**Pico do Norte,**	**0.82**	**159**	eP	Pb	09 14 19.0	-2.4
PSMN				eS	Sg	09 14 29.4	-3.1

*IDC **21** 09:18:11.3±9.5, 11.70N×40.00E, mb3.7/5, mb1 3.8/5, mb1mx3.7/16, mbtmp3.7/5, MS3.1/2, Ms1 3.2/2, ms1mx3.0/13, Error ellipse: s-maj=203.6km s-min=43.0km az=21.0*
*DHMR **21** 09:18:20.8±2.5, 12.68N×40.56E, h4km±274km, ML3.9*
ISC 21 09:18:15.3±1.4, 12.3N±0.2×40.39E±0.06, h10km, n13, σ1s38/16, mb3.7/5, MS3.2/1, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.88**	**64**	i S	**Sn**	**09 20 05.8**	**+3.1**
UDYN				AML	AML	09 20 31.4	
	comp=E,498nm,0.7s						
DHBB	**Dhamar BB**	**4.53**	**59**	eP	**Pn**	**09 19 28.0**	**+2.4**
DHBB				i S	**Sn**	**09 20 20.0**	**+1.1**
HAJJ	**Hajjah**	**4.64**	**42**	i P	**Pn**	**09 19 28.1**	**+1.0**
HAJJ				i S	**Sn**	**09 20 20.9**	**-0.8**
LBOS		**5.01**	**71**	eP	**Pn**	**09 19 32.9**	**+0.6**
LBOS				i S	**Sn**	**09 20 29.5**	**-1.5**
BDHA	**Al Bayda'**	**5.33**	**71**	⇓iP	**Pn**	**09 19 36.5**	**-0.4**
BDHA				i S	**Sn**	**09 20 37.2**	**-1.9**
BDHA	**Al Bayda'**	**5.33**	**71**	⇓iP	**Pn**	**09 19 36.5**	**-0.4**
BDHA				i S	**Sn**	**09 20 37.2**	**-2.0**
KMBO	**Kilima Mbogo**	**13.65**	**193**	LR	LR	09 26 19.0	
	comp=E,76nm,21.7s,baz=90,slow=37						
BRTR	**Keskin Array B**	**28.01**	**349**	P	**P**	**09 24 10.0**	**+1.5**
	comp=E,3.9nm,1.2s,mb3.9,baz=153,slow=6.4,SNR=6.8						
AKASG	**Malin Array Be**	**39.41**	**349**	P	**P**	**09 25 45.4**	**-1.7**
	comp=E,0.2nm,0.3s,mb3.4,baz=166,slow=7.1,SNR=4.9						
GERES	**GERESS Array B**	**42.67**	**334**	P	**P**	**09 26 12.2**	**-1.7**
	comp=E,0.4nm,0.5s,mb3.4,baz=135,slow=5.7,SNR=4.0						
MKAR	**Makanchi Array**	**49.23**	**37**	P	**P**	**09 27 05.8**	**-0.1**
	comp=E,1.0nm,0.9s,mb3.9,baz=232,slow=5.7,SNR=7.3						
NOA	**NORSAR Array B**	**53.16**	**343**	LR	LR	09 55 12.9	
	comp=E,21nm,18.7s,MS3.2,baz=100,slow=42						
SONM	**Songino Array**	**64.94**	**43**	P	**P**	**09 28 58.0**	**+0.7**
	comp=E,0.9nm,0.7s,mb3.9,baz=253,slow=6.0,SNR=6.3						

*NIED **21** 09:37:00, 33.50N×142.40E, h8km, Mw4.1 Best double couple: M0 1.57×10^15 NP1:φs199°, δ58°, λ-88°. NP2:φs16°, δ32°, λ-92°.*
*JMA **21** 09:37:30.1±0.3, 33.49N×142.44E, h60km, M4.1*
*MOS **21** 09:37:30.4±1.2, 33.43N×142.41E, h36km, mb4.6/5, Error ellipse: s-maj=23.8km s-min=10.7km az=121.3*
*BJI **21** 09:37:32.7, 34.03N×143.19E, h66km, mB4.4, mb4.3, Ms4.3*
*NEIC **21** 09:37:33.2±0.4, 33.47N×142.38E, mb4.5/4, MW4.1(NIED), Error ellipse: s-maj=11.1km s-min=7.8km az=53.0*
*IDC **21** 09:37:33.1±0.7, 33.46N×142.39E, h37km±5km, mb3.8/11, mb1 4.0/14, mb1mx3.9/22, mbtmp4.0/14, ML3.8/3, MS2.7/1, Ms1 2.7/1, ms1mx2.5/20, Error ellipse: s-maj=16.8km s-min=14.8km az=140.0*
ISC 21 09:37:29.0±1.5, 33.48N±0.04×142.42E±0.04, h24km±11km, h38km±1.2km:pP-P, n54, σ1s16/71, mb4.1/17, MS3.8/1, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.67**	**315**	P	**Pn**	**09 37 57.9**	**+0.6**
BSO1				eS	**Sn**	**09 38 18.5**	**+0.3**
BSO2	**Boso 2**	**1.87**	**313**	eS	**Sn**	**09 38 24.6**	**+1.3**
BSO3	**Boso 3**	**2.06**	**310**	P	**Pn**	**09 38 03.8**	**+1.0**
JHJ2	**Mitsune**	**2.21**	**261**	P	**Pn**	**09 38 05.9**	**+0.9**
JHJ2				eS	**Sn**	**09 38 32.1**	**+0.2**
JHJ	**Hachijo jima 2**	**2.23**	**261**	Pn	**Pn**	**09 38 06.2**	**+0.8**
	61nm,0.3s,baz=61,slow=12,SNR=52						
JHJ				Sn	**Sn**	**09 38 31.3**	**-1.2**
	115nm,0.3s,baz=51,slow=22,SNR=7.9						
BSO4	**Boso 4**	**2.29**	**312**	P	**Pn**	**09 38 07.5**	**+1.4**
BSO4				eS	**Sn**	**09 38 35.8**	**+2.0**
KTR	**Katsuura**	**2.41**	**314**	eS	**Sn**	**09 38 34.8**	**-2.0**
CHOJ	**Chosi**	**2.56**	**330**	P	**Pn**	**09 38 09.2**	**-0.8**
CHOJ				eS	**Sn**	**09 38 38.9**	**-1.9**
JIM2	**Oshima 3**	**2.77**	**297**	P	**Pn**	**09 38 12.6**	**-0.4**
JIM2				eS	**Sn**	**09 38 45.9**	**-0.1**
JIZS	**Izushimoda**	**3.18**	**294**	P	**Pn**	**09 38 18.8**	**-0.1**
JIZS				eS	**Sn**	**09 38 54.4**	**-2.2**
JOD2	**Odawara 2**	**3.28**	**304**	P	**Pn**	**09 38 19.9**	**-0.3**
JOD2				eS	**Sn**	**09 38 59.1**	**+0.2**
JYN	**Shimob**	**3.78**	**303**	P	**Pn**	**09 38 27.5**	**+0.2**
JYN				S	**Sn**	**09 39 12.3**	**+0.7**
JAG	**Ashikaga**	**3.81**	**321**	P	**Pn**	**09 38 27.7**	**-0.1**
JAG				eS	**Sn**	**09 39 11.8**	**-0.7**
JRY	**Ryogami san**	**3.84**	**312**	P	**Pn**	**09 38 28.5**	**+0.2**
JRY				eS	**Sn**	**09 39 13.8**	**+0.6**
JMM	**Marumori**	**4.57**	**344**	P	**Pn**	**09 38 36.6**	**-2.0**
JMM				eS	**Sn**	**09 39 25.9**	**-5.7**
MJAR	**Matsushiro Arr**	**4.61**	**313**	Pn	**Pn**	**09 38 39.4**	**+0.3**
	8.4nm,0.3s,baz=148,slow=9.4,SNR=70						
MJAR				Sn	**Sn**	**09 39 30.8**	**-1.8**
	3.7nm,0.3s,baz=137,slow=12,SNR=4.2						
MAJO	**Matsushiro**	**4.61**	**313**	⇑eP	**Pn**	**09 38 39.4**	**+0.2**
MAT	**Matsushiro**	**4.61**	**313**	P	**Pn**	**09 38 39.7**	**+0.5**
MAT				S	**Sn**	**09 39 30.5**	**-2.2**
MAT	**Matsushiro**	**4.61**	**313**	P	**Pn**	**09 38 40.3**	**+1.1**
MAT				eS	**Sn**	**09 39 31.4**	**-1.3**
MAT	**Matsushiro**	**4.61**	**313**	eP	**Pn**	**09 38 40.0**	**+0.8**
MAT				eS	**Sn**	**09 39 31.0**	**-1.7**
JIE	**Ise**	**4.83**	**282**	P	**Pn**	**09 38 43.3**	**+1.0**
JIE				eS	**Sn**	**09 39 38.2**	**-0.1**
CBIJ	**Chichi jima**	**6.37**	**182**	Pn	**Pn**	**09 39 00.7**	**-3.3**
	40nm,0.3s,baz=299,slow=13,SNR=46						
CBIJ				Sn	**Sn**	**09 40 08.0**	**-8.8**
	12nm,0.3s,baz=294,slow=20,SNR=3.7						
JNU	**Nakatsue**	**9.66**	**271**	Pn	**P**	**09 39 50.0**	**+0.2**
	0.5nm,0.3s,baz=132,slow=16,SNR=5.0						
ASAJ	**Asahikawa**	**10.62**	**1**	Pn	**P**	**09 39 59.7**	**-3.2**
	1.2nm,0.3s,baz=211,slow=14,SNR=8.0						
ASAJ	**Asahikawa**	**10.62**	**1**	P	**P**	**09 39 59.7**	**-3.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**13.46**	**1**	eP	**P**	**09 40 48.2**	**+7.1**
GUMO	**Guam**	**19.93**	**173**	LR	LR	09 48 31.6	
	comp=Z,24nm,21.2s,baz=184,slow=33						
HIA	**Hailar**	**23.07**	**320**	P	**P**	**09 42 34.1**	**+0.4**
	comp=Z,5.8nm,0.7s,mb4.1						
HIA	**Hailar**	**23.07**	**320**	P	**P**	**09 42 34.1**	**+0.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**25.57**	**296**	eP	**P**	**09 43 01.6**	**+3.8**
HHC				PP	PP	09 43 41.1	+3.5
HHC				PCP	PcP	09 46 32.4	+3.0
HHC				S	**S**	**09 47 24.9**	**+3.2**
HHC				XS		09 47 46.8	
HHC				SS	SS	09 48 28.3	+2.9
HHC				PCS		09 50 12.4	
HHC				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,54nm,2.6s,mb4.6						
HHC				LR	LR		
	comp=N,123nm,10.9s,MS3.8						
HHC				LR	LR		
	comp=E,93nm,11.9s,MS3.8						
SONM	**Songino Array**	**30.55**	**309**	P	**P**	**09 43 43.8**	**+1.0**
	comp=E,1.8nm,0.6s,mb4.1,baz=114,slow=8.3,SNR=16						
BOD	**Bodaibo**	**30.99**	**330**	eP	**P**	**09 43 51.8**	**+5.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
ZAK	**Zakamensk**	**33.19**	**312**	eP	**P**	**09 44 08.4**	**+2.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
MKAR	**Makanchi Array**	**46.77**	**305**	P	**P**	**09 45 58.1**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=90,slow=5.8,SNR=10.0						
KURK	**Kurchatov**	**48.82**	**311**	eP	**P**	**09 46 14.5**	**+0.3**
	comp=Z,9.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**48.82**	**311**	eP	**P**	**09 46 14.5**	**+0.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ILAR	**Eielson Array**	**52.08**	**31**	P	**P**	**09 46 37.5**	**-1.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=265,slow=6.1,SNR=6.4						
ILAR				pP	pP	09 46 49.6	+3.5
	comp=Z,0.8nm,0.7s,baz=254,slow=5.8,SNR=5.3						
CTAO	**Charters Tower**	**53.40**	**176**	eP	**P**	**09 46 48.9**	**-0.4**
WRAB	**Tennant Creek**	**53.67**	**189**	eP	**P**	**09 46 50.0**	**-1.3**
	comp=Z,4.1nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**53.67**	**189**	eP	**P**	**09 46 50.0**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**53.68**	**189**	eP	**P**	**09 46 50.2**	**-1.2**
WRA	**Warramunga Arr**	**53.68**	**189**	P	**P**	**09 46 50.2**	**-1.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=9.5,slow=7.7,SNR=55						
WRA				pP	pP	09 47 02.0	+3.4
	comp=Z,1.9nm,0.6s,baz=7.9,slow=7.7,SNR=7.1						
INK	**Inuvik**	**57.19**	**26**	P	**P**	**09 47 15.2**	**-1.0**
	comp=Z,2.2nm,0.9s,mb4.2,baz=299,slow=4.9,SNR=7.1						
INK	**Inuvik**	**57.19**	**26**	eP	**P**	**09 47 15.2**	**-1.0**
	comp=Z,3.8nm,1.0s,mb4.4						
INK	**Inuvik**	**57.19**	**26**	eP	**P**	**09 47 15.2**	**-1.0**
INK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
STKA	**Stephens Creek**	**65.01**	**181**	P	**P**	**09 48 09.3**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=5.7,slow=5.0,SNR=4.8						
STKA	**Stephens Creek**	**65.01**	**181**	P	**P**	**09 48 09.3**	**-0.3**
YKA	**Yellowknife Ar**	**66.47**	**30**	P	**P**	**09 48 18.7**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=292,slow=7.3,SNR=3.9						
YKA	**Yellowknife Ar**	**66.47**	**30**	P	**P**	**09 48 18.8**	**+0.4**
NOA	**NORSAR Array B**	**77.78**	**338**	P	**P**	**09 49 26.2**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=38,slow=5.7,SNR=3.5						
PDAR	**Pinedale Array**	**79.57**	**45**	P	**P**	**09 49 37.1**	**+1.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=297,slow=3.3,SNR=3.9						
PDAR				pP	pP	09 49 48.7	+5.6
	comp=Z,0.5nm,0.7s,baz=315,slow=2.1,SNR=3.8						
BRTR	**Keskin Array B**	**81.83**	**312**	P	**P**	**09 49 50.5**	**+2.9**
	comp=Z,1.2nm,0.6s,mb4.0,baz=266,slow=16,SNR=3.9						
TXAR	**Lajitas Array**	**91.62**	**53**	P	**P**	**09 50 37.4**	**+1.8**
	comp=Z,0.5nm,0.6s,mb4.0,baz=307,slow=3.4,SNR=9.1						
TXAR				pP	pP	09 50 48.9	+5.7
	comp=Z,0.6nm,0.7s,baz=305,slow=4.2,SNR=7.0						
LPAZ	**La Paz**	**147.59**	**66**	PKPbc	PKPdf	09 57 15.1	+1.4
	comp=Z,1.8nm,0.9s,baz=26,slow=7.4,SNR=6.7						

*NNC **21** 09:38:45.0±5.2, 37.28N×70.97E, h222km±79km, mpv3.8, Error ellipse: s-maj=56.2km s-min=35.0km az=34.0*
ISC 21 09:38:36.7±2.7, 36.8N±0.2×71.3E±0.3, h263km±48km, n8, σ0s96/11, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.36**	**355**	P	**P**	**09 40 09.8**	**-0.4**
	5.3nm,0.4s,baz=181,slow=13,SNR=62						
KK31				⇑S	**S**	**09 41 19.2**	**-4.3**
	8.5nm,0.4s						
AAK	**Ala-Archa**	**6.37**	**22**	⇑P	**P**	**09 40 12.2**	**+1.9**
	3.5nm,0.5s						
AAK				⇓S	**S**	**09 41 23.0**	**-0.6**
	9.0nm,0.5s						
KOLN	**Koldanda**	**13.74**	**127**	eP	**P**	**09 41 40.9**	**-1.4**
	8.4nm,0.7s						
GKN	**Gorkha**	**14.26**	**124**	eP	**P**	**09 41 48.2**	**-0.6**
	11nm,0.3s						
KKN	**Kakani**	**14.83**	**123**	eP	**P**	**09 41 55.7**	**0.0**
	9.2nm,0.4s						
DMN	**Daman**	**14.83**	**124**	eP	**P**	**09 41 56.5**	**+0.8**
	7.7nm,0.3s						
AB31	**Akbulak array**	**14.97**	**330**	P	**P**	**09 42 01.5**	**+4.3**
	0.3nm,0.3s,baz=147,slow=13,SNR=23						
AB31				⇑S	**S**	**09 44 36.2**	**-0.1**
	0.5nm,0.5s,baz=148,slow=23,SNR=5.1						
PKI	**Pulchoki**	**15.06**	**123**	eP	**P**	**09 41 59.2**	**+0.8**
	3.9nm,0.2s						

DHMR 21 09:48:13.5±0.4, 12.70N×40.62E, h1km±5km, ML3.5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.50	69	iS	Sn	09 49 57.7	+4.9
UDYN				AML	AML	09 50 16.9	
	comp=E,214nm,1.2s						
DHBB	Dhamar BB	4.11	63	eP	Pn	09 49 20.0	+1.2
DHBB				iS	Sn	09 50 12.4	+4.0
LBOS		4.66	75	eP	Pn	09 49 25.3	-1.3
LBOS				iS	Sn	09 50 21.1	-1.0
BDHA	Al Bayda'	4.98	75	iS	Sn	09 50 29.0	-1.3

*DHMR **21** 10:14:07.7±0.5, 12.61N×40.47E, h12km±122km, ML3.9*
*IDC **21** 10:14:10.3±9.0, 12.97N×40.42E, mb3.8/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, MS3.5/2, Ms1 3.5/2, ms1mx3.2/15, Error ellipse: s-maj=196.2km s-min=41.6km az=19.0*
*NEIC **21** 10:14:15.7±1.9, 13.50N×40.49E, h10km, mb4.2/1, Error ellipse: s-maj=51.7km s-min=16.2km az=53.0*
*CSEM **21** 10:14:17.4±0.6, 13.58N×40.58E, h30km, ML3.9, Error ellipse: s-maj=27.7km s-min=12.8km az=41.0*
ISC 21 10:14:15.6±0.9**, 13.74N**±0.06×**40.70E**±0.06**, h10km, n14, σ0^{s}94**/16**, mb3.8**/5**, MS3.8**/1**, 1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	Arta Tunnel	3.03	136	P	Pn	10 15 03.9	-0.7
ATD				S	Sn	10 15 41.4	0.0
ATD	Arta Tunnel	3.03	136	P	Pn	10 15 03.9	-0.8
ATD				S	Sn	10 15 41.4	0.0
UDYN	Al 'Udayn	3.18	85	iS	Sn	10 15 53.2	+8.1
UDYN				AML	AML	10 16 16.2	
	comp=Z,496nm,0.7s						
HAJJ	Hajjah	3.42	55	iS	Sg	10 16 08.6	-0.9
LBOS		4.42	88	eP	Pn	10 15 20.3	-4.1
LBOS				iS	Sn	10 16 16.9	+0.4
BDHA	Al Bayda'	4.73	87	⇓eP	Pn	10 15 24.6	-4.2
BDHA				iS	Sn	10 16 25.3	+0.8
KMBO	Kilima Mbogo	15.16	193	LR	LR	10 23 31.8	
	comp=Z,118nm,20.5s,baz=95,slow=39						
BRTR	Keskin Array B	26.62	348	P	P	10 19 57.6	+1.3
	comp=Z,0.5nm,0.5s,mb3.3,baz=160,slow=17,SNR=2.2						
GERES	GERESS Array B	41.49	333	P	P	10 22 03.2	-1.2
	comp=Z,0.3nm,0.4s,mb3.2,baz=135,slow=8.3,SNR=3.0						
DBIC	Dimbokro	45.32	266	LR	LR	10 43 23.9	
	comp=Z,101nm,19.0s,MS3.8,baz=69,slow=39						
MKAR	Makanchi Array	47.87	38	P	P	10 22 55.3	-0.5
	comp=Z,1.6nm,0.9s,mb4.0,baz=239,slow=7.1,SNR=10						
KURK	Kurchatov	47.97	32	eP	P	10 22 58.0	+1.5
	comp=Z,2.6nm,1.1s,mb4.2						
KURK	Kurchatov	47.97	32	eP	P	10 22 58.0	+1.5
SONM	Songino Array	63.65	43	P	P	10 24 48.9	-0.4
	comp=Z,1.7nm,0.9s,mb4.1,baz=246,slow=6.3,SNR=9.1						

IDC 21 10:20:37.8±1.9**, 15.90S**×**175.68W, h292km**±50km**, mb3.1**/3**, mb1 3.4**/4**, mb1mx3.2**/13**, mbtmp3.8**/4**, Error ellipse: s-maj=164.2km s-min=23.4km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.26	63	P	P	10 21 48.1	+1.2
	7.0nm,0.3s,baz=90,slow=7.0,SNR=15						
AFI				S	S	10 22 41.2	+0.2
	5.7nm,0.3s,baz=24,slow=18,SNR=4.0						
STKA	Stephens Creek	41.89	240	P	P	10 28 00.1	-1.6
	1.3nm,0.7s,baz=79,slow=10,SNR=3.4						
WRA	Warramunga Arr	47.59	257	P	P	10 28 45.0	-1.8
	0.4nm,0.4s,baz=93,slow=7.2,SNR=31						
ILAR	Eielson Array	83.37	12	P	P	10 32 32.1	-1.1
	0.3nm,0.4s,baz=217,slow=5.4,SNR=14						

*IDC **21** 10:30:49.4±10.0, 12.11N×40.23E, mb3.7/4, mb1 3.8/4, mb1mx3.7/16, mbtmp3.7/4, MS3.3/3, Ms1 3.3/3, ms1mx3.1/17, Error ellipse: s-maj=219.4km s-min=46.8km az=19.0*
*CSEM **21** 10:30:50.5±0.3, 12.56N×40.36E, h2km, mb4.2/1*
*DHMR **21** 10:30:51.4±0.2, 12.69N×40.48E, h2km±1km, ML4.2*
*NEIC **21** 10:30:58.4±2.5, 13.19N×40.76E, h10km, mb4.2/1, Error ellipse: s-maj=48.3km s-min=13.7km az=197.0*
ISC 21 10:30:50.4±1.4**, 12.3N**±0.1×**40.45E**±0.07**, h10km, n20, σ1^{s}55**/28**, mb3.7**/5**, MS3.2**/2**, 5D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.81	64	eP	Pn	10 31 51.6	+1.1
UDYN				iS	Sn	10 32 38.4	+2.6
UDYN				AML	AML	10 32 57.7	
	comp=E,1μm,0.5s						
UDYN	Al 'Udayn	3.81	64	⇓iP	Pn	10 31 49.4	-1.1
UDYN				iS	Sn	10 32 42.4	+6.6
DHBB	Dhamar BB	4.45	59	eP	Pn	10 31 59.7	+0.1
DHBB				iS	Sn	10 32 53.0	+1.0
DHBB	Dhamar BB	4.45	59	iP	Pn	10 31 57.1	-2.5
DHBB				iS	Sn	10 32 56.8	+4.7
ADEN	Aden	4.46	83	iS	Sn	10 32 56.0	+3.8
HAJJ	Hajjah	4.56	42	⇓eP	Pn	10 31 59.8	-1.3
HAJJ				iS	Sn	10 32 53.1	-1.7
HAJJ	Hajjah	4.56	42	iP	Pn	10 31 55.6	-5.5
HAJJ				iS	Sn	10 32 55.4	+0.6
LBOS		4.93	71	eP	Pn	10 32 04.9	-1.5
LBOS				iS	Sn	10 33 02.2	-2.1
LBOS		4.93	71	⇓iP	Pn	10 32 04.5	-1.9
LBOS				iS	Sn	10 33 10.7	+6.5
BDHA	Al Bayda'	5.26	71	⇓eP	Pn	10 32 09.3	-1.7
BDHA				iS	Sn	10 33 10.1	-2.3
BDHA	Al Bayda'	5.26	71	⇓iP	Pn	10 32 09.2	-1.8
BDHA				iS	Sn	10 33 18.3	+5.9
KMBO	Kilima Mbogo	13.71	194	LR	LR	10 38 55.5	
	comp=E,150nm,21.1s,baz=76,slow=36						
MALT	Malatya	25.97	356	eP	P	10 36 26.8	+1.8
	comp=E,8.1nm,1.3s,mb4.1						
MALT	Malatya	25.97	356	eP	P	10 36 26.8	+1.8
	comp=E,8.1nm,1.3s,mb4.1						
BRTR	Keskin Array B	27.97	349	P	P	10 36 43.5	+0.3
	comp=E,1.0nm,0.8s,mb3.5,baz=170,slow=14,SNR=3.5						
BRTR	Keskin Array B	27.97	349	P	P	10 36 43.5	+0.2
GERES	GERESS Array B	42.65	334	P	P	10 38 48.2	-0.6
	comp=E,0.3nm,0.3s,mb3.5,baz=141,slow=6.3,SNR=4.6						
MKAR	Makanchi Array	49.15	37	P	P	10 39 40.8	+0.4
	comp=E,0.5nm,0.8s,mb3.6,baz=239,slow=7.1,SNR=5.6						
MKAR				LR	LR	11 04 44.0	
	comp=E,57nm,18.1s,MS3.6,slow=41						
NOA	NORSAR Array B	53.13	343	LR	LR	11 03 18.1	
	comp=E,9.3nm,19.2s,MS2.9,baz=315,slow=37						
SONM	Songino Array	64.86	43	P	P	10 41 32.7	+0.7
	comp=E,1.0nm,0.8s,mb3.9,baz=246,slow=6.3,SNR=5.7						

*CSEM **21** 10:30:58.9±0.1, 37.76N×25.44W, h5km, ML2.5, Error ellipse: s-maj=5.9km s-min=2.6km az=169.0, After PDA*
*PDA **21** 10:30:58.9±0.9, 37.76N×25.44W, h5km±1km, MD3.8, ML2.5, Error ellipse: s-maj=1.9km s-min=1.6km az=172.0*
SVSA 21 10:30:58.9±0.9**, 37.76N**×**25.44W, h5km**±1km**, MD3.8, ML2.5, Error ellipse: s-maj=1.9km s-min=1.6km az=172.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	184	eP	Pg	10 31 00.3	+0.5
VIF				eS	Sg	10 31 01.6	+1.2
	2μm,0.2s						
MESC	Monte Escuro	0.03	349	iP	Pg	10 31 00.4	+0.5
MESC				eS	Sg	10 31 01.7	+1.1
MESC	Monte Escuro	0.03	349	eS	Sg	10 31 01.7	+1.1
PCNG	Congro	0.03	83	eP	Pg	10 31 00.3	+0.3
PCNG				eS	Sg	10 31 01.7	+1.0
	7μm,0.3s						
LFA	Lagoa do Fogo	0.04	285	eP	Pg	10 31 00.6	+0.6
PRCH	Ribeira Ch	0.05	224	eP	Pg	10 31 00.6	+0.4
PRCH				eS	Sg	10 31 01.9	+0.9
	3μm,0.3s						
PMAT	Coroa da Mata	0.06	334	eP	Pg	10 31 00.8	+0.5
PMAT				eS	Sg	10 31 02.3	+1.0
	7.8nm,0.1s						
FRA1	Furnas	0.07	107	eP	Pg	10 31 00.8	+0.3
CMLA	Cha da Macela	0.07	271	eP	Pg	10 30 59.9	-0.6
CMLA				eS	Sg	10 31 01.9	+0.3
CML	Cha da Macela	0.09	275	eP	Pg	10 31 01.9	+1.1
CML				eS	Sg	10 31 02.6	+0.5
PFAD	Fenais da Ajud	0.12	50	eP	Pg	10 31 02.1	+0.7
MIRA	Miradouro	0.13	80	eP	Pg	10 31 02.1	+0.5
MIRA				eS	Sg	10 31 05.0	+1.6
PDA	Ponta Delgada	0.18	265	eP	Pg	10 31 02.9	+0.3
PDA				eS	Sg	10 31 05.9	+0.9
PSET	Sete Cidades	0.23	285	eP	Pg	10 31 03.6	0.0
PSET				eS	Sg	10 31 07.5	+0.8
	210nm,0.4s						

*IDC **21** 10:32:59.6±9.4, 12.27N×40.30E, mb3.9/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=202.5km s-min=43.7km az=19.0*
NEIC 21 10:33:01.6±6.9**, 12.36N**×**40.38E, h10km, mb4.4**/1**, Error ellipse: s-maj=146.0km s-min=31.8km az=197.0, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRTR	Keskin Array B	27.90	349	P	P	10 38 52.9	-0.9
	0.8nm,0.5s,baz=158,slow=6.7,SNR=5.1						
BRTR	Keskin Array B	27.90	349	P	P	10 38 52.9	-0.9
GERES	GERESS Array B	42.57	334	P	P	10 40 57.2	-2.1
	0.6nm,0.5s,baz=135,slow=9.4,SNR=5.0						
MKAR	Makanchi Array	49.15	37	P	P	10 41 49.8	-1.8
	1.4nm,1.0s,baz=233,slow=6.1,SNR=6.3						
KURK	Kurchatov	49.31	31	P	P	10 41 49.8	-2.9
	6.2nm,1.6s						
ZAL	Zalesovo	54.26	31	P	P	10 42 27.4	-2.5
	0.9nm,0.6s,baz=243,slow=10,SNR=3.6						
SONM	Songino Array	64.87	43	P	P	10 43 42.2	-1.1
	1.5nm,0.9s,baz=243,slow=6.6,SNR=7.5						

*IDC **21** 10:47:06.9±8.7, 11.97N×40.28E, mb3.9/5, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, MS3.4/2, Ms1 3.4/2, ms1mx3.1/16, Error ellipse: s-maj=191.9km s-min=40.4km az=18.0*
*DHMR **21** 10:47:10.3±0.8, 12.72N×40.56E, h2km±82km, ML3.9*
ISC 21 10:47:09.3±1.4**, 12.4N**±0.2×**40.58E**±0.07**, h10km, n11, σ0^{s}77**/13**, mb3.7**/5**, MS3.6**/1**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.65	64	eP	Pn	10 48 08.7	+1.5
UDYN				iS	Sn	10 48 55.2	+4.4
UDYN				AML	AML	10 49 19.2	
	comp=E,573nm,0.8s						
HAJJ	Hajjah	4.41	41	iP	Pn	10 48 17.7	-0.2
HAJJ				iS	Sn	10 49 10.1	+0.1
LBOS		4.78	71	eP	Pn	10 48 22.9	-0.2
LBOS				iS	Sn	10 49 19.1	-0.3
BDHA	Al Bayda'	5.11	71	eP	Pn	10 48 27.2	-0.5
BDHA				iS	Sn	10 49 26.9	-0.6
KMBO	Kilima Mbogo	13.82	194	LR	LR	10 55 12.2	
	comp=E,136nm,20.9s,baz=97,slow=36						
BRTR	Keskin Array B	27.92	349	P	P	10 53 02.5	+0.8
	comp=E,0.8nm,0.4s,mb3.7,baz=170,slow=7.5,SNR=6.8						
GERES	GERESS Array B	42.64	334	P	P	10 55 06.1	-1.5
	comp=E,0.3nm,0.3s,mb3.6,baz=141,slow=8.5,SNR=4.8						
DBIC	Dimbokro	45.12	267	LR	LR	11 16 25.7	
	comp=E,62nm,19.2s,MS3.6,baz=68,slow=39						
MKAR	Makanchi Array	49.01	37	P	P	10 55 58.5	+0.4
	comp=E,1.0nm,0.8s,mb3.9,baz=233,slow=6.1,SNR=8.9						
NOA	NORSAR Array B	53.09	343	P	P	10 56 28.6	-0.4
	comp=E,0.5nm,0.6s,mb3.6,baz=165,slow=4.1,SNR=2.4						
SONM	Songino Array	64.71	43	P	P	10 57 50.8	+0.9
	comp=E,1.0nm,0.7s,mb3.9,baz=264,slow=6.9,SNR=8.5						

*NEIC **21** 11:06:23.5±1.4, 6.86N×76.41W, h40km±12km, mb4.5/14, Error ellipse: s-maj=11.6km s-min=8.7km az=70.0*
*IDC **21** 11:06:25.4±2.7, 6.94N×76.25W, h59km±25km, mb3.7/15, mb1 4.0/17, mb1mx3.9/23, mbtmp4.0/17, ML3.5/2, MS3.6/4, Ms1 3.7/4, ms1mx3.2/28, Error ellipse: s-maj=19.6km s-min=13.4km az=80.0*
ISC 21 11:06:21.6±0.4**, 6.96N**±0.07×**76.34W**±0.06**, h33km, n48, σ0^{s}88**/49**, mb4.2**/26**, MS3.5**/3**, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.90	136	P	P	11 07 09.5	+3.1
	48nm,0.3s,baz=293,slow=6.2,SNR=45						
ROSC				S	S	11 07 47.5	+7.1
	115nm,0.3s,baz=91,slow=21,SNR=7.4						
SDV	Santo Domingo	5.97	71	P	P	11 07 49.7	-0.2
	5.1nm,0.3s,baz=282,slow=9.1,SNR=33						
SDV				S	S	11 08 56.6	-1.4
	14nm,0.3s,baz=302,slow=10,SNR=4.4						
SDV				LR	LR	11 10 30.3	
	comp=Z,666nm,18.5s,baz=244,slow=42						
SDV	Santo Domingo	5.97	71	⇑eP	P	11 07 49.0	-0.9
SDV				S	S	11 08 56.6	-1.4
SDV				LR	LR	11 10 30.3	
SAML	Samuel	20.54	140	eP	P	11 10 55.7	-4.3
	20nm,1.1s						
LPAZ	La Paz	24.49	161	P	P	11 11 40.4	+1.1
	1.5nm,0.8s,mb3.5,baz=6.6,slow=9.5,SNR=4.1						
LPAZ				LR	LR	11 21 56.2	
	comp=Z,197nm,19.4s,MS3.6,baz=166,slow=38						
LPAZ	La Paz	24.49	161	eP	P	11 11 39.5	+0.2
	6.5nm,1.1s,mb4.0						
LPAZ				LR	LR	11 21 56.2	
SIV	San Ignacio	27.36	147	P	P	11 12 04.1	-2.0
	0.9nm,0.5s,mb3.5,baz=348,slow=6.2,SNR=6.3						
TXAR	Lajitas Array	34.02	314	P	P	11 13 04.8	0.0
	0.7nm,1.0s,mb3.5,baz=90,slow=5.0,SNR=4.9						
TXAR	Lajitas Array	34.02	314	P	P	11 13 04.8	0.0
MNTX	Cornudas Mount	36.60	316	eP	P	11 13 25.5	-1.2
	2.1nm,1.0s,mb3.9						
CPUP	Villa Florida	37.89	152	LR	LR	11 30 17.0	
	comp=Z,80nm,20.5s,MS3.5,baz=151,slow=38						
CFAA	Coronel Fontan	39.12	169	P	P	11 13 47.0	-0.7
	0.5nm,0.7s,mb3.4,baz=340,slow=5.8,SNR=6.6						
ANMO	Albuquerque	39.28	319	P	P	11 13 49.6	+0.6
	0.7nm,0.6s,mb3.6,baz=144,slow=8.9,SNR=3.6						
ANMO	Albuquerque	39.28	319	eP	P	11 13 49.8	+0.8
	4.3nm,1.4s,mb4.0						
PDAR	Pinedale Array	46.13	326	P	P	11 14 44.5	-0.2
	0.5nm,0.9s,mb3.4,baz=121,slow=8.6,SNR=4.5						
ULM	Lac du Bonnet	46.13	343	P	P	11 14 43.9	-0.9
	0.9nm,0.4s,mb4.0,baz=151,slow=7.1,SNR=4.1						
PLCA	Paso Flores	47.76	174	P	P	11 14 56.4	-1.2
	1.5nm,0.8s,mb4.1,baz=339,slow=8.7,SNR=6.3						
YKA	Yellowknife Ar	62.06	341	P	P	11 16 39.6	-1.4
	3.2nm,0.6s,mb4.6,baz=132,slow=6.9,SNR=19						
YKA				LR	LR	11 44 41.2	
	comp=Z,33nm,18.3s,MS3.5,baz=250,slow=37						
YKA	Yellowknife Ar	62.06	341	P	P	11 16 39.6	-1.4
YKA				LR	LR	11 44 41.2	
ESDC	Sonseca Array	72.03	51	P	P	11 17 43.3	-0.9
	0.3nm,0.3s,mb3.7,baz=268,slow=5.5,SNR=8.7						
ROSF	Rostrenen	73.58	42	eP	P	11 17 53.3	0.0
SGMF	Saint Gilles	74.05	42	eP	P	11 17 55.3	-0.7
	5.9nm,0.7s,mb4.3						
SJPF	Ste Jean	74.41	47	eP	P	11 17 58.8	+0.6
	18nm,0.9s,mb4.7						
GRR	Gorron	75.19	42	eP	P	11 18 02.5	-0.1
	6.8nm,0.6s,mb4.5						
FLN	La Foliniere	75.48	42	eP	P	11 18 04.4	+0.1
MFF	Saint Martin d	75.49	44	eP	P	11 18 04.5	+0.1
	38nm,1.3s,mb4.9						
ILAR	Eielson Array	75.49	335	P	P	11 18 04.1	+0.1
	1.0nm,0.9s,mb3.8,baz=123,slow=4.5,SNR=8.9						
EPF	Esparros	75.55	47	eP	P	11 18 05.3	+0.5
LDF	La Druitiere	75.70	42	eP	P	11 18 05.5	0.0
	13nm,0.9s,mb4.6						
LFF	La Frestale	75.97	46	eP	P	11 18 08.5	+1.3
RJF	Les Rejaudoux	76.54	45	eP	P	11 18 10.3	-0.1
CAF	Calviac	76.91	46	eP	P	11 18 12.6	+0.1
	6.9nm,0.9s,mb4.3						
AVF	Avril sur Loir	77.90	44	eP	P	11 18 18.9	+0.9
SSF	Saint Saulge	78.02	43	eP	P	11 18 19.2	+0.6
SMF	Signal de Mont	78.23	44	eP	P	11 18 19.6	-0.2
	14nm,1.0s,mb4.6						
VIVF	Saint-Julien-l	78.76	46	eP	P	11 18 23.7	+1.0
GIVF	Givet	79.03	40	eP	P	11 18 24.1	0.0
ORIF	Oris-en-Rattie	79.62	46	eP	P	11 18 28.4	+1.0
	12nm,0.9s,mb4.5						
LPL	La Plagne	80.22	45	eP	P	11 18 31.7	+1.1
	6.1nm,0.8s,mb4.3						
LPG	La Plagne	80.24	45	eP	P	11 18 32.0	+1.3
	10nm,0.9s,mb4.5						
CDF	Champ du Feu	80.60	42	eP	P	11 18 32.5	0.0
NB2	NORSAR Subarra	82.77	29	P	P	11 18 44.4	+0.9
	1.4nm,0.7s,mb4.1,baz=271,slow=5.3						
NOA	NORSAR Array B	82.77	29	P	P	11 18 44.0	+0.5
	2.2nm,0.8s,mb4.2,baz=273,slow=5.3,SNR=5.6						
GERES	GERESS Array B	84.84	42	P	P	11 18 53.2	-1.1
	1.8nm,0.9s,mb4.2,baz=270,slow=4.0,SNR=9.2						
ARCES	ARCESS Array B	87.65	20	P	P	11 19 07.3	-0.2
	3.0nm,0.6s,mb4.7,baz=281,slow=6.2,SNR=11						
ARCES	ARCESS Array B	87.65	20	P	P	11 19 07.3	-0.2
FINES	FINESS Array B	89.83	28	P	P	11 19 18.3	+0.3
	2.4nm,0.8s,mb4.6,baz=180,slow=1.9,SNR=3.3						
WRA	Warramunga Arr	147.57	244	PKPbc	PKPdf	11 26 02.1	+1.3
	3.3nm,0.9s,baz=105,slow=3.0,SNR=20						

*IDC **21** 11:10:13.3±3.8, 5.58S×154.42E, h156km±34km, mb4.0/9, mb1 4.1/11, mb1mx4.0/16, mbtmp4.5/11, Error ellipse: s-maj=23.9km s-min=14.8km az=68.0*
*NEIC **21** 11:10:14.8±2.3, 5.58S×154.37E, h170km±20km, mb4.5/8, Error ellipse: s-maj=17.0km s-min=12.4km az=68.0*
ISC 21 11:10:14.5±2.9**, 5.6S**±0.1×**154.3E**±0.1**, h182km**±25km**, n20, σ0^{s}84**/21**, mb4.4**/13**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.05	242	P	P	11 12 09.4	+0.1
	1.8nm,0.3s,baz=346,slow=17,SNR=7.1						
PMG				S	S	11 13 38.9	0.0
	3.1nm,0.3s,baz=113,slow=16,SNR=6.8						
CTA	Charters Tower	16.39	208	eP	P	11 13 57.5	+1.7
	13nm,0.7s						
CTA	Charters Tower	16.39	208	P	P	11 13 57.0	+1.2
	1.1nm,0.3s,baz=40,slow=13,SNR=16						
CTAO	Charters Tower	16.39	208	eP	P	11 13 56.5	+0.7
DZM	Mont Dzumac	20.11	146	P	P	11 14 34.7	-1.3
	9.5nm,0.6s,baz=275,slow=3.7,SNR=15						
WRAB	Tennant Creek	24.09	232	eP	P	11 15 14.9	+0.2
	23nm,0.7s,mb4.8						
WRA	Warramunga Arr	24.10	232	P	P	11 15 15.3	+0.4
	16nm,0.7s,mb4.7,baz=57,slow=10.0,SNR=191						
STKA	Stephens Creek	28.71	203	eP	P	11 15 56.0	-1.0
	3.1nm,0.4s,mb4.4						
STKA	Stephens Creek	28.71	203	P	P	11 15 56.0	-0.9
	4.5nm,0.6s,mb4.4,baz=38,slow=14,SNR=18						
FITZ	Fitzroy Crossi	30.64	244	eP	P	11 16 12.5	-1.6
	7.0nm,0.8s,mb4.4						
FORT	Forrest	35.15	221	eP	P	11 16 52.3	-0.4
	8.9nm,0.5s,mb4.7						
RPZ	Rata Peaks	40.70	161	P	P	11 17 39.1	+0.5
	14nm,0.7s,mb4.7,baz=342,slow=9.4,SNR=7.0						
JOW	Kunigami	40.96	323	P	P	11 17 41.0	-0.1
	7.2nm,0.4s,mb4.6,baz=150,slow=21,SNR=6.4						
KLBR	Kellerberrin	42.88	228	eP	P	11 17 55.7	-1.0
	60nm,1.7s,mb5.0						
SONM	Songino Array	67.84	327	P	P	11 20 55.0	0.0
	1.4nm,0.4s,mb4.1,baz=146,slow=6.3,SNR=14						
SBA	Scott Base	72.48	177	eP	P	11 21 23.9	+1.3
	4.3nm,1.1s,mb4.1						
MKAR	Makanchi Array	81.95	319	P	P	11 22 16.1	+0.9
	0.9nm,0.7s,mb3.5,baz=104,slow=5.0,SNR=9.9						
ILAR	Eielson Array	82.35	22	P	P	11 22 16.5	-0.4
	1.1nm,0.6s,mb3.7,baz=249,slow=5.2,SNR=26						
MAW	Mawson	85.40	203	P	P	11 22 33.3	+1.2
	3.3nm,0.8s,mb4.1,baz=95,slow=7.8,SNR=16						
MAW	Mawson	85.40	203	eP	P	11 22 33.2	+1.1
	2.8nm,0.6s,mb4.2						

GUC 21 11:11:14.3±0.8**, 23.82S**×**66.93W, h176km**±21km**, ML4.0, 4C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.18	303	⇑iP	P	11 11 54.4	+0.8
LVC				iS	S	11 12 25.6	+1.9
CEN1	Los Morros	3.03	277	⇓iP	P	11 12 06.2	+2.5
CEN1				iS	S	11 12 45.3	+3.6
CEN1				AMP		11 12 49.5	
	comp=E,94nm,0.4s						
ANCH	Antofagasta	3.19	272	⇑iP	P	11 12 06.8	+1.1
ANCH				iS	S	11 12 45.8	+0.5
CPN1	Cerro Paranal	3.27	255	⇑iP	P	11 12 08.5	+1.8
CPN1				iS	S	11 12 49.6	+2.5
CPN1				AMP		11 12 51.1	
	comp=E,363nm,0.2s						
CRCH	Chaqaral	4.18	232	⇑iP	P	11 12 19.4	+1.1
CRCH				iS	S	11 13 09.6	+1.8

DHMR 21 11:44:34.1±2.5**, 12.70N**×**40.57E, h2km**±18km**, mb4.8, 3D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	3.54	69	iS	Sn	11 46 19.0	+4.8
DHBB	Dhamar BB	4.15	63	⇓eP	Pn	11 45 41.2	+1.3
DHBB				iS	Sn	11 46 33.6	+3.8
HAJJ	Hajjah	4.19	44	eP	Pn	11 45 41.5	+1.1
HAJJ				iS	Sn	11 46 34.0	+3.4
LBOS		4.70	75	iP	Pn	11 45 46.4	-1.4
LBOS				iS	Sn	11 46 42.7	-0.9
BDHA	Al Bayda'	5.02	75	⇓eP	Pn	11 45 50.6	-1.7
BDHA				AMb	AMB	11 45 51.4	
	comp=Z,50nm,1.0s						
BDHA				iS	Sn	11 46 50.6	-1.2
BDHA	Al Bayda'	5.02	75	⇓eP	Pn	11 45 50.6	-1.7
	comp=Z,25nm,1.0s						
BDHA				iS	Sn	11 46 50.6	-1.2

*CSEM **21** 11:44:45.0±0.4, 37.76N×25.41W, h4km, ML2.7, Error ellipse: s-maj=14.5km s-min=7.6km az=9.0, After PDA*
*PDA **21** 11:44:45.0±0.7, 37.76N×25.41W, h4km±1km, MD3.8, ML2.7, Error ellipse: s-maj=1.4km s-min=1.2km az=144.0*
SVSA 21 11:44:45.0±0.7**, 37.76N**×**25.41W, h4km**±1km**, MD3.8, ML2.7, Error ellipse: s-maj=1.4km s-min=1.2km az=144.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCNG	Congro	0.01	61	iP	Pg	11 44 46.1	+0.3
PCNG				eS	Sg	11 44 47.1	+0.8
	4μm,0.1s						
PCNG	Congro	0.01	61	eS	Sg	11 44 47.1	+0.8
VIF	Vila Franca	0.03	237	iP	Pg	11 44 46.5	+0.5
VIF				eS	Sg	11 44 48.0	+1.3
	3μm,0.3s						
VIF	Vila Franca	0.03	237	eS	Sg	11 44 48.0	+1.3
FRA1	Furnas	0.04	118	eP	Pg	11 44 46.6	+0.4
MESC	Monte Escuro	0.04	313	eP	Pg	11 44 46.8	+0.6
MESC				eS	Sg	11 44 48.3	+1.3
LFA	Lagoa do Fogo	0.06	279	iP	Pg	11 44 47.2	+0.7
PRCH	Ribeira Ch	0.07	240	eP	Pg	11 44 47.1	+0.5
PRCH				eS	Sg	11 44 48.5	+0.9
	3μm,0.3s						
PMAT	Coroa da Mata	0.07	315	eP	Pg	11 44 47.2	+0.5
PMAT				eS	Sg	11 44 48.9	+1.1
CMLA	Cha da Macela	0.10	270	eP	Pg	11 44 46.2	-0.8
CMLA				eS	Sg	11 44 48.5	+0.1
PFAD	Fenais da Ajud	0.10	41	iP	Pg	11 44 47.9	+0.8
PFAD				eS	Sg	11 44 49.9	+1.3
PFAD	Fenais da Ajud	0.10	41	eS	Sg	11 44 49.9	+1.3
MIRA	Miradouro	0.10	77	eP	Pg	11 44 47.8	+0.6
PDA	Ponta Delgada	0.20	266	eP	Pg	11 44 49.1	-0.1
PDA				eS	Sg	11 44 52.8	+0.8
PSET	Sete Cidades	0.26	284	eP	Pg	11 44 50.2	0.0
PSET				eS	Sg	11 44 54.3	+0.6
	197nm,0.3s						
PSMN	Pico do Norte,	0.81	160	eS	Sg	11 45 09.3	-2.5

*SKHL **21** 11:44:47.7±0.7, 52.46N×142.73E, h10km, mb4.5/7, Ms4.2/5, msh5.0/1*
SKHL Felt (III-IV) at Val, (II-III) at Nogliki, (II) at Sabo, Tungor, Okha.
*IDC **21** 11:44:53.2±0.7, 52.56N×142.79E, mb4.2/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.2/16, ML3.7/1, MS3.3/6, Ms1 3.3/6, ms1mx3.1/26, Error ellipse: s-maj=19.7km s-min=15.3km az=164.0*
*MOS **21** 11:44:54.2±1.2, 52.62N×142.79E, h19km, mb4.5/10, Error ellipse: s-maj=14.1km s-min=7.7km az=93.8*

MOS Felt (III-IV) at Val; (II-III) at Nogliki; (II) at Sabo, Tungor, Okha.
*BJI **21** 11:44:57.8, 52.81N×142.68E, h35^{km}, mB4.9, mb4.2, Ms4.4, Msz4.2*
*NEIC **21** 11:44:58.0±2.1, 52.52N×142.78E, h33^{km}±16^{km}, mb4.2/2, Error ellipse: s-maj=8.6km s-min=6.6km az=151.0*
NEIC Felt [IV] at Val, [III] at Nogliki and [II] at Okha, Sabo and Tungor.
ISC 21 11:44:52.2±0.3**, 52.43N**±0.02×**142.59E**±0.04**, h10^{km}, n69, σ1^{s}42**/83**, mb4.2**/24**, MS3.4**/6**, 2C-3D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKH	Okha	1.14	10	⇓iPg	Pn	11 45 11.3	-2.8
OKH				AMB	AMB	11 45 13.0	
	2μm,0.5s						
OKH				i Sg	Sb	11 45 27.0	-1.1
OKH				A		11 45 29.8	
	29μm,0.5s						
OKH				A		11 45 29.8	
	26μm,0.5s						
OKH	Okha	1.14	10	i PN	Pn	11 45 11.3	-2.8
OKH				i S	Sb	11 45 27.0	-1.1
OKH				pmax	pmax		
	comp=Z,2.0nm,0.5s						
OKH				smax			
	comp=N,29nm,0.5s						
NKL	Nikolayevsk	1.36	302	i Pg	Pg	11 45 16.0	-3.5
NKL				AMB	AMB	11 45 20.0	
	comp=N,4μm,2.0s						
NKL				AMB	AMB	11 45 20.0	
	comp=N,4μm,2.0s						
NKL				AMB	AMB	11 45 20.0	
	comp=N,2μm,1.5s						
NKL				AMB	AMB	11 45 20.0	
	comp=N,1μm,0.3s						
NKL				eSg	Sg	11 45 36.0	-1.8
NKL				A		11 45 37.0	
	comp=N,8μm,2.0s						
NKL				A		11 45 39.0	
	comp=N,7μm,0.8s						
NKL				AMS	AMS	11 46 44.0	
	comp=N,6μm,5.0s						
NKL				AMS	AMS	11 46 44.0	
	comp=N,8μm,5.5s						
NKL				AMS	AMS	11 46 44.0	
	comp=N,7μm,5.5s						
TYV	Tymovskoe	1.57	179	ePg	Pg	11 45 20.0	-3.7
TYV				AMB	AMB	11 45 22.4	
	comp=N,82nm,0.4s						
TYV				AMB	AMB	11 45 22.4	
	comp=N,72nm,0.4s						
TYV				AMB	AMB	11 45 22.4	
	comp=N,138nm,0.4s						
TYV				AMB	AMB	11 45 28.0	
	comp=N,500nm,5.0s						
TYV				eSn	Sn	11 45 33.5	-7.5
TYV				eSg	Sg	11 45 42.5	-2.2
TYV				A		11 45 46.0	
	comp=N,240nm,0.5s						
TYV				A		11 45 46.0	
	comp=N,549nm,0.5s						
TYV				A		11 45 55.0	
	comp=N,5μm,4.0s						
TYV				AMS	AMS	11 46 50.0	
	comp=N,6μm,6.0s						
TYV				AMS	AMS	11 46 50.0	
	comp=N,8μm,6.0s						
TYV				AMS	AMS	11 46 50.0	
	comp=N,5μm,6.0s						
UGL	Uglegorsk	3.38	186	ePg	Pg	11 46 00.5	+0.8
UGL				AMB	AMB	11 46 07.0	
	comp=N,69nm,0.5s						
UGL				eSg	Sg	11 46 43.0	-1.7
UGL				A		11 46 54.0	
	comp=N,1μm,2.0s						
UGL				A		11 46 54.0	
	comp=N,1μm,2.5s						
UGL				A		11 46 55.0	
	comp=N,230nm,0.7s						
UGL				A		11 46 55.0	
	comp=N,200nm,0.7s						
UGL				A		11 46 55.0	
	comp=N,110nm,0.7s						
UGL				AMS	AMS	11 47 36.0	
	comp=N,1μm,10.0s						
UGL				AMS	AMS	11 47 36.0	
	comp=N,1μm,6.0s						
UGL	Uglegorsk	3.38	186	PN	Pg	11 46 00.5	+0.8
UGL				pmax	pmax		
	comp=Z,69nm,0.5s						
UGL				MLR	MLR		
	comp=N,1μm,6.0s						
UGL				MLR	MLR		
	comp=Z,1μm,6.0s						
UGL				MLR	MLR		
	comp=E,1μm,10.0s						
GRNR	Gornyy	4.19	249	ePn	Pn	11 45 59.2	+1.5
GRNR				ePg	Pg	11 46 12.3	-3.6
GRNR				AMB	AMB	11 46 14.0	
	comp=E,36nm,0.8s						
GRNR				eSb	Sb	11 47 00.4	+3.5
GRNR				eSg	Sg	11 47 11.2	-0.6
GRNR				A		11 47 15.4	
	comp=E,609nm,1.0s						
GRNR				A		11 47 15.4	
	comp=E,483nm,1.0s						
YSS	Yuzh-Sakhalins	5.49	179	ePg	Pg	11 46 37.0	-4.8
YSS				AMB	AMB	11 46 42.4	
	comp=E,23nm,0.7s						
YSS				eSg	Sg	11 47 54.0	-0.9
YSS				A		11 48 05.0	
	comp=E,90nm,1.2s						
YSS				AMS	AMS	11 48 48.0	
	comp=E,500nm,12.0s						
YSS	Yuzh-Sakhalins	5.49	179	eP	Pn	11 46 18.2	+2.2
	comp=E,20nm,0.5s						
YSS	Yuzh-Sakhalins	5.49	179	ePN	Pn	11 46 18.2	+2.2
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
EKMR	Ekimchan	5.89	280	ePn	Pn	11 46 20.4	-1.3
EKMR				ePg	Pg	11 46 46.7	-3.1
EKMR				AMB	AMB	11 46 55.0	
	comp=Z,43nm,0.5s						
EKMR				eSb	Sb	11 47 39.5	-6.7
EKMR				eSg	Sg	11 48 07.8	-0.6
EKMR				A		11 48 16.4	
	comp=Z,370nm,0.9s						
EKMR				A		11 48 16.4	
	comp=Z,120nm,0.9s						
KLR	Kul'dur	7.58	249	ePN	Pn	11 46 50.7	+5.2
KLR				MLR	MLR		
	comp=E,1μm,7.0s						
KLR				MLR	MLR		
	comp=Z,2μm,7.0s						
ASAJ	Asahikawa	8.32	180	Pn	P	11 46 57.8	+1.9
	comp=Z,1.0nm,0.3s,baz=28,slow=29,SNR=8.6						
ASAJ				LR	LR	11 50 54.2	
	comp=Z,267nm,18.9s,baz=10,slow=43						
ASAJ	Asahikawa	8.32	180	PN	P	11 46 57.8	+1.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,267nm,18.9s						
TEY	Ternei	8.39	210	erx	rx	11 49 10.0	
MA2	Magadan	8.49	29	eP	P	11 46 57.1	-1.1
BMKR	Bomnak	8.50	291	eP	P	11 46 55.8	-2.5
BMKR				eS	Sn	11 48 43.2	+8.0
YASR	Yasnyy	8.89	281	eP	P	11 47 04.3	+0.6
YASR				eS	Sn	11 48 40.0	-4.9
ZEA	Zeya	9.33	284	eP	P	11 47 12.4	+2.6
ZEA				AMB	AMB	11 47 13.9	
	comp=Z,14nm,1.2s						
ZEA				AMS	AMS	11 51 05.0	
	comp=Z,600nm,7.0s						
ZEA				AMS	AMS	11 51 05.0	
	comp=Z,1μm,10.0s						
KROS	Kirovskiy	9.54	288	eP	P	11 47 16.0	+3.5
KROS				eS	Sn	11 49 00.7	-0.2
PET	Petropavlovsk	9.77	80	eP	P	11 47 14.1	-1.6
	comp=Z,35nm,0.7s						
PET	Petropavlovsk	9.77	80	⇑iPN	P	11 47 14.3	-1.4
PET				pmax	pmax		
	comp=Z,54nm,0.8s						
PET				pmax	pmax		
	comp=Z,100nm,14.1s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
VLA	Vladivostok	11.76	222	ePN	P	11 47 42.0	-1.0
VLA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
VLA				MLR	MLR		
	comp=Z,700nm,19.0s						
YAK	Yakutsk	11.87	329	ePN	P	11 47 42.6	-1.7
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,129nm,11.0s						
MJAR	Matsushiro Arr	16.19	193	LR	LR	11 55 15.7	
	comp=Z,68nm,18.2s,baz=105,slow=38						
BOD	Bodaibo	17.13	300	eP	P	11 48 53.7	+0.7
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BILL	Bilibino	19.35	27	eP	P	11 49 22.0	+1.8
BILL				pmax	pmax		
	comp=Z,27μm,2.5s						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s						
JHJ	Hachijo jima 2	19.41	187	LR	LR	11 57 25.1	
	comp=Z,101nm,20.5s,baz=23,slow=38						
TIXI	Tiksi	20.23	347	⇓iP	P	11 49 27.0	-2.8
TIXI				eS	S	11 53 13.2	+1.9
TIXI				pmax	pmax		
	comp=Z,14nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,57nm,12.0s,MS3.1						
JNU	Nakatsue	21.08	208	LR	LR	11 57 35.1	
	comp=Z,92nm,19.5s,MS3.2,baz=50,slow=36						
SONM	Songino Array	23.49	273	P	P	11 50 06.2	+3.6
	comp=Z,0.7nm,0.7s,mb3.2,baz=55,slow=8.9,SNR=6.4						
SONM				PcP	PcP	11 53 50.8	+0.8
	comp=Z,0.8nm,0.8s,baz=90,slow=1.5,SNR=4.8						
SONM				LR	LR	11 58 17.0	
	comp=Z,30nm,20.2s,MS2.8,baz=70,slow=34						
SONM	Songino Array	23.49	273	P	P	11 50 06.2	+3.6
SONM				PcP	PcP	11 53 50.8	+0.8
SONM				LR	LR	11 58 17.0	
ZAK	Zakamensk	24.40	281	⇑eP	P	11 50 15.0	+3.6
ZAK				e		11 53 46.6	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.2						
GTA	Gaotai	32.00	263	eP	P	11 51 23.8	+3.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.0						
GTA				AMB	AMB		
	comp=Z,82nm,4.2s						
GTA				LR	LR		
	comp=N,360nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=E,282nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,220nm,9.9s						
NVS	Novosibirsk	34.37	298	eP	P	11 51 43.0	+2.1
ILAR	Eielson Array	36.69	43	P	P	11 52 00.1	-0.5
	comp=Z,4.2nm,0.7s,mb4.4,baz=278,slow=6.6,SNR=46						
SML	Sawmill	36.90	48	eP	P	11 52 02.0	-0.4
MKAR	Makanchi Array	38.47	286	P	P	11 52 17.2	+1.5
	comp=Z,2.1nm,0.8s,mb3.9,baz=59,slow=7.1,SNR=21						
MKAR				PcP	PcP	11 54 29.9	+0.5
	comp=Z,0.7nm,0.8s,baz=49,slow=3.9,SNR=4.0						
KURK	Kurchatov	38.64	294	eP	P	11 52 18.4	+1.4
	comp=Z,4.9nm,0.9s,mb4.2						
KURK	Kurchatov	38.64	294	eP	P	11 52 18.4	+1.3
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
INK	Inuvik	40.69	35	P	P	11 52 33.9	0.0
	comp=Z,4.8nm,0.8s,mb4.2,baz=264,slow=5.3,SNR=7.8						
INK	Inuvik	40.69	35	eP	P	11 52 34.0	+0.1
INK	Inuvik	40.69	35	P	P	11 52 33.9	0.0
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR	Borovoye Array	42.00	301	P	P	11 52 46.3	+1.6
	comp=Z,1.5nm,0.7s,mb3.7,baz=68,slow=8.0,SNR=7.9						
BVAR				PcP	PcP	11 54 40.9	+0.4
	comp=Z,2.0nm,0.6s,baz=90,slow=2.9,SNR=8.7						
ARU	Arti	46.15	310	⇓iP	P	11 53 16.7	-1.4
ARU				e		11 55 02.4	
ARU				eS	S	12 00 04.1	+0.8
ARU				eSS	SS	12 03 27.0	+6.3
ARU				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.4						
ARU				MLR	MLR		
	comp=Z,50nm,15.0s,MS3.6						
ARCES	ARCESS Array B	50.05	336	P	P	11 53 47.4	-0.9
	comp=Z,2.5nm,0.8s,mb4.3,baz=34,slow=8.7,SNR=4.1						
YKA	Yellowknife Ar	50.41	36	P	P	11 53 49.2	-1.9
	comp=Z,1.6nm,0.8s,mb4.1,baz=310,slow=7.2,SNR=5.3						
YKA				LR	LR	12 16 40.6	
	comp=Z,52nm,18.5s,MS3.6,baz=270,slow=38						
YKA	Yellowknife Ar	50.41	36	P	P	11 53 49.2	-1.9
YKA				LR	LR	12 16 40.6	
YKA	Yellowknife Ar	50.41	36	i P	P	11 53 50.7	-0.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	55.80	329	P	P	11 54 30.6	-0.6
	comp=Z,2.5nm,0.7s,mb4.3,baz=76,slow=7.9,SNR=5.3						
FINES	FINESS Array B	55.80	329	i P	P	11 54 31.1	-0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN	Obninsk	56.63	319	eP	P	11 54 30.3	-6.9
OBN				e		11 56 39.7	
OBN				eS	S	12 02 27.0	-0.5
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
NB2	NORSAR Subarra	60.41	335	P	P	11 55 03.3	-0.2
	comp=Z,1.9nm,0.6s,mb4.3,baz=31,slow=6.5						
NOA	NORSAR Array B	60.41	335	P	P	11 55 03.7	+0.2
	comp=Z,2.4nm,0.7s,mb4.4,baz=32,slow=6.8,SNR=6.1						
KIV	Kislovodsk	61.91	306	eP	P	11 55 13.7	-0.2
KIV				eS	S	12 03 36.8	+0.7
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
AKASG	Malin Array Be	62.89	319	P	P	11 55 19.9	-0.4
	comp=Z,3.3nm,0.7s,mb4.6,baz=37,slow=7.5,SNR=13						
ULM	Lac du Bonnet	66.38	37	P	P	11 55 41.9	-1.0
	comp=Z,5.2nm,0.7s,mb4.7,baz=318,slow=6.2,SNR=8.7						
PDAR	Pinedale Array	66.63	50	P	P	11 55 44.6	0.0
	comp=Z,3.4nm,0.7s,mb4.5,baz=350,slow=2.7,SNR=31						
CLL	Collm	68.25	329	P	P	11 55 55.3	+0.7
	comp=Z,logA/T=1.1,mb4.9						
CLL				i *PP	pP	11 55 58.1	+0.3
BRTR	Keskin Array B	69.52	309	P	P	11 56 04.3	+1.7
	comp=Z,0.6nm,0.5s,mb3.8,baz=45,slow=3.5,SNR=5.2						
KHC	Kasperske Hory	69.94	327	eP	P	11 56 06.0	+0.9
GERES	GERESS Array B	70.14	327	P	P	11 56 07.0	+0.7
	comp=Z,0.4nm,0.3s,mb3.8,baz=56,slow=4.8,SNR=6.7						
WRA	Warramunga Arr	72.42	188	P	P	11 56 21.2	+0.7
	comp=Z,2.6nm,0.9s,mb4.2,baz=7.2,slow=6.3,SNR=14						
WRA	Warramunga Arr	72.42	188	i P	P	11 56 21.8	+1.3
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANMO	Albuquerque	74.27	53	eP	P	11 56 32.1	+1.1
MNTX	Cornudas Mount	77.42	54	eP	P	11 56 49.2	+0.3
	comp=Z,1.6nm,0.9s,mb4.0						
TXAR	Lajitas Array	80.20	54	P	P	11 57 05.3	+1.2
	comp=Z,1.1nm,0.7s,mb3.9,baz=297,slow=5.6,SNR=14						
CFAA	Coronel Fontan	149.42	59	PKPbc	PKPdf	12 04 42.0	+2.4
	comp=Z,0.3nm,0.5s,baz=207,slow=16,SNR=3.3						
CPUP	Villa Florida	149.93	38	PKPbc	PKPdf	12 04 44.4	+3.9
	comp=Z,2.0nm,0.8s,baz=270,slow=3.0,SNR=4.1						

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*IDC **21** 11:52:48.4±0.6, 16.63S×70.47W, mb4.2/9, mb1 4.3/12, mb1mx4.2/19, mbtmp4.1/12, ML5.3/1, MS3.8/10, Ms1 3.8/10, ms1mx3.7/19, Error ellipse: s-maj=24.6km s-min=15.0km az=66.0*
*NEIC **21** 11:52:49.5±1.5, 16.66S×70.54W, h7^{km}±9^{km}, mb4.8/8, Error ellipse: s-maj=9.0km s-min=6.4km az=54.0*
ISC 21 11:52:46.9±1.7**, 16.56S**±0.05×**70.44W**±0.06**, h1^{km}**±11^{km}**, h6^{km}**±.4^{km}**: pP-P, n56, σ0^{s}96**/42**, mb4.5**/17**, MS4.0**/7**, 7C, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	1.01	275	⇑iP	Pb	11 53 07.0	+0.2
LPAZ	La Paz	2.24	83	Pn	Pg	11 53 32.1	+0.6
	107nm,0.3s,baz=257,slow=15,SNR=1355						
LPAZ				Lg		11 54 02.2	
	36nm,0.3s,baz=96,slow=18,SNR=2.9						
LPAZ	La Paz	2.24	83	⇑iP	Pg	11 53 32.0	+0.4
LPAZ				Lg		11 54 02.2	
LVC	Limon Verde	6.20	167	Pn	Pn	11 54 21.7	-0.1
	6.5nm,0.3s,baz=328,slow=8.9,SNR=51						
LVC				Sn	Sn	11 55 36.3	+2.1
	4.4nm,0.3s,baz=186,slow=16,SNR=3.6						
LVC				LR	LR	11 57 05.3	
	comp=Z,539nm,18.5s,baz=329,slow=42						
LVC	Limon Verde	6.20	167	eP	Pn	11 54 21.6	-0.1
LVC				Sn	Sn	11 55 36.3	+2.1
LVC				eS	Sn	11 55 37.7	+3.5
LVC				LR	LR	11 57 05.3	
NNA	Nana	7.69	305	P	Pn	11 54 43.4	+0.7
SIV	San Ignacio	9.02	88	Pn	P	11 55 01.5	+0.3
	1.1nm,0.3s,baz=272,slow=12,SNR=29						
SIV				Lg		11 57 34.1	
	0.7nm,0.3s,baz=174,slow=23,SNR=5.6						
SAML	Samuel	10.36	44	eP	P	11 55 19.5	-0.3
	7.5nm,0.8s						
CFAA	Coronel Fontan	15.12	173	Pn	P	11 56 22.2	-1.2
	0.1nm,0.3s,baz=337,slow=11,SNR=7.4						
CFAA				LR	LR	12 02 47.5	
	comp=Z,38nm,21.1s,baz=336,slow=40						
CPUP	Villa Florida	15.60	131	LR	LR	12 03 54.7	
	comp=Z,329nm,18.7s,baz=148,slow=43						
BDFB	Brasilia	21.57	91	P	P	11 57 40.1	-0.1
	3.2nm,0.7s,mb3.9,baz=261,slow=4.8,SNR=4.3						
BDFB				LR	LR	12 06 02.0	
	comp=Z,292nm,21.6s,MS3.6,baz=16,slow=37						
TRQA	Tornquist	22.68	162	eP	P	11 57 48.5	-2.6
	46nm,0.6s,mb5.2						
PLCA	Paso Flores	24.09	180	P	P	11 58 04.6	-0.2
	7.2nm,0.9s,mb4.2,baz=359,slow=11,SNR=11						
PLCA				LR	LR	12 06 32.6	
	comp=Z,178nm,18.4s,MS3.6,baz=333,slow=34						
PLCA	Paso Flores	24.09	180	eP	P	11 58 04.1	-0.7
PLCA				LR	LR	12 06 32.6	
SDV	Santo Domingo	25.28	360	P	P	11 58 17.9	+1.4
	1.2nm,0.4s,mb4.0,baz=245,slow=14,SNR=3.2						
TXAR	Lajitas Array	55.77	325	P	P	12 02 27.9	0.0
	0.7nm,0.6s,mb3.9,baz=143,slow=8.9,SNR=12						
TXAR				LR	LR	12 25 03.1	
	comp=Z,76nm,22.0s,MS3.7,baz=75,slow=35						
CCM	Cathedral Cave	57.73	341	eP	P	12 02 39.6	-2.3
	18nm,1.4s,mb4.9						
MNTX	Cornudas Mount	58.53	325	P	P	12 02 45.7	-1.8
	6.2nm,1.4s,mb4.5						
RKT	Rikitea	60.64	252	eLR	LR	12 20 58.1	
	167nm,30.8s						
ANMO	Albuquerque	61.59	327	eP	P	12 03 08.5	0.0
	1.3nm,0.6s,mb4.3						
SDCO	Great Sand Dun	63.27	329	eP	P	12 03 19.9	+0.3
	3.8nm,0.7s,mb4.6						
VNA3	Neumayer Olymp	65.20	162	e	P	12 03 32.6	+0.9
VNA3	Neumayer Olymp	65.20	162	e	pP	12 03 41.5	+9.5
VNA3	Neumayer Olymp	65.20	162	⇑iP	P	12 03 30.7	-1.0
VNA3				e	pP	12 03 32.6	+0.6
VNA3				e		12 03 41.5	
VNA1	Neumayer--Stat	65.41	161	e	P	12 03 34.4	+1.4
VNA1	Neumayer--Stat	65.41	161	e	pP	12 03 43.0	+10
VNA1	Neumayer--Stat	65.41	161	⇑iP	P	12 03 32.2	-0.8
VNA1				e	pP	12 03 34.4	+1.0
VNA1				e		12 03 43.0	
VNA2	Neumayer--Watz	65.77	161	e	P	12 03 36.3	+0.9
VNA2	Neumayer--Watz	65.77	161	e	pP	12 03 43.3	+7.6
VNA2	Neumayer--Watz	65.77	161	⇑iP	P	12 03 34.6	-0.8
VNA2				e	pP	12 03 36.3	+0.6
VNA2				e		12 03 43.3	
MSU	Marysvale	67.30	326	eP	P	12 03 46.8	+1.1
SNAA	Sanae	67.40	162	e	P	12 03 46.1	+0.4
SNAA	Sanae	67.40	162	e	pP	12 03 52.4	+6.3
SNAA	Sanae	67.40	162	P	P	12 03 44.7	-1.1
	1.3nm,0.8s,mb4.2,baz=294,slow=5.4,SNR=12						
SNAA	Sanae	67.40	162	⇑iP	P	12 03 44.5	-1.2
SNAA				e	pP	12 03 46.1	0.0
SNAA				e		12 03 52.4	
ARUT	Antelope Range	67.48	324	P	P	12 03 47.7	+0.9
DAU	Daniels Canyon	68.20	327	eP	P	12 03 51.2	-0.1
DBIC	Dimbokro	68.83	76	LR	LR	12 32 03.0	
	comp=Z,261nm,21.3s,MS4.4,baz=270,slow=34						
PDAR	Pinedale Array	69.12	330	P	P	12 03 57.1	+0.2
	1.4nm,0.7s,mb4.3,baz=113,slow=6.8,SNR=11						
ULM	Lac du Bonnet	70.19	343	P	P	12 04 02.3	-0.9
	4.2nm,0.7s,mb4.7,baz=187,slow=4.7,SNR=6.8						
RRI2	Red Ridge	70.41	330	eP	P	12 04 05.2	+0.5
	10nm,0.9s,mb5.0						
MCMT	McKenzie Canyo	72.24	330	eP	P	12 04 15.6	-0.2
QSPA	South Pole Qui	73.61	180	⇑iP	P	12 04 23.6	+0.5
	14nm,1.4s,mb4.8						
TBI	Tubuai	73.77	250	eLR	LR	12 27 02.3	
	488nm,37.0s						
PPT	Papeete	75.08	256	eLR	LR	12 27 40.4	
	102nm,28.0s						
PPT	Papeete	75.08	256	LR	LR	12 31 20.1	
	comp=Z,86nm,20.0s,MS4.0,baz=150,slow=31						
SBA	Scott Base	80.40	190	eP	P	12 05 02.7	+1.6
	8.8nm,1.3s,mb4.5						
YKA	Yellowknife Ar	86.06	341	P	P	12 05 30.0	-0.2
	1.2nm,0.7s,mb4.2,baz=136,slow=4.7,SNR=7.4						
YKA				LR	LR	12 44 54.7	
	comp=Z,94nm,18.9s,MS4.2,baz=165,slow=36						
MAW	Mawson	89.46	164	P	P	12 05 46.4	-0.1
	8.4nm,1.2s,mb4.8,baz=201,slow=7.0,SNR=8.9						
MAW				LR	LR	12 43 41.9	
	comp=Z,78nm,20.7s,MS4.1,baz=48,slow=34						
WRA	Warramunga Arr	136.31	215	PKP	PKPdf	12 12 14.4	+1.3
	0.5nm,0.7s,baz=154,slow=1.6,SNR=4.6						
ZAL	Zalesovo	138.02	22	PKP	PKPdf	12 12 14.8	-0.7
	2.6nm,0.3s,baz=65,slow=1.4,SNR=4.8						
MKAR	Makanchi Array	142.32	31	PKP	PKPdf	12 12 23.8	+0.4
	1.1nm,1.0s,baz=297,slow=2.7,SNR=5.2						
MJAR	Matsushiro Arr	147.74	314	PKPbc	PKPdf	12 12 35.3	+2.4
	4.1nm,0.9s,baz=105,slow=1.6,SNR=10						
MAT	Matsushiro	147.74	314	PKP	PKPdf	12 12 34.8	+1.9
MAT	Matsushiro	147.74	314	ePKP	PKPdf	12 12 37.0	+4.1
SONM	Songino Array	148.70	4	PKPbc	PKPdf	12 12 37.7	+3.7
	2.1nm,0.6s,baz=323,slow=1.8,SNR=16						

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*IDC **21** 11:55:59.1±7.1, 51.53N×177.99E, mb3.7/4, mb1 4.2/5, mb1mx3.7/23, mbtmp3.9/5, ML4.9/1, Error ellipse: s-maj=137.6km s-min=60.1km az=85.0*
*NEIC **21** 11:56:30.3, 52.21N×179.50E, h202^{km}, MG3.4(AEIC), After AEIC.*
ISC 21 11:56:28.2±1.0**, 52.3N**±0.3×**179.5E**±0.1**, h206^{km}**±11^{km}**, n12, σ0^{s}46**/14**, mb3.4**/4**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.10	104	P	P	11 57 08.4	-0.1
ETKA	Kagalaska Isla	2.58	98	P	P	11 57 13.2	-0.5
GSCK	Great Sitkin C	2.70	94	P	P	11 57 15.5	+0.4
GSCK				S	S	11 57 51.1	-0.3
GSTR	Great Sitkin T	2.75	92	P	P	11 57 16.4	+0.7
SMY	Shemya	3.31	280	P	P	11 57 22.5	+0.1
SMY				S	S	11 58 04.0	-0.2
ATKA	Atka Island	3.89	89	P	P	11 57 29.8	+0.4
KDAK	Kodiak Island	16.85	60	P	P	12 00 12.4	-0.9
	4.1nm,0.3s,baz=288,slow=7.8,SNR=25						
ILAR	Eielson Array	21.22	41	P	P	12 00 58.0	-0.1
	0.9nm,0.7s,mb3.4,baz=246,slow=9.6,SNR=14						
INK	Inuvik	27.34	36	P	P	12 01 56.2	+0.8
	2.7nm,1.1s,mb3.8,baz=252,slow=6.4,SNR=4.4						
INK	Inuvik	27.34	36	P	P	12 01 56.2	+0.8
PDAR	Pinedale Array	47.04	72	P	P	12 04 40.0	-0.2
	0.7nm,0.8s,mb3.0,baz=315,slow=4.2,SNR=3.9						
TXAR	Lajitas Array	59.56	80	P	P	12 06 12.0	0.0
	0.5nm,0.5s,mb3.4,baz=299,slow=5.1,SNR=6.5						

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*IDC **21** 11:57:21.6±3.1, 12.41N×40.59E, mb4.1/9, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.9/21, Error ellipse: s-maj=68.6km s-min=25.9km az=4.0*
*DHMR **21** 11:57:21.9±0.9, 12.66N×40.55E, h5^{km}±49^{km}, ML4.0*
*NEIC **21** 11:57:22.8±0.7, 12.41N×40.42E, h10^{km}, mb4.6/5, Error ellipse: s-maj=15.1km s-min=8.2km az=187.0*
*CSEM **21** 11:57:22.0±0.1, 12.55N×40.45E, h10^{km}, mb4.6/4, Error ellipse: s-maj=6.5km s-min=2.2km az=3.0*
*BJI **21** 11:57:24.1, 13.16N×40.45E, h10^{km}, mB5.0, mb4.6, Ms4.7, Msz4.3*

ISC 21 11:57:21.4±2.3, 12.45N±0.09×40.42E±0.04, h11km±15km, n48, σ0°92/58, mb4.5/19, MS4.4/1, 2C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.77**	**66**	*eP*	**Pn**	**11 58 20.9**	**+0.1**
UDYN				*i* S	**Sn**	**11 59 06.6**	**+0.9**
UDYN				AML	AML	11 59 29.4	
	comp=E,700nm,0.7s						
UDYN	**Al 'Udayn**	**3.77**	**66**	*i* P	**Pn**	**11 58 22.4**	**+1.6**
UDYN				*i* S	**Sn**	**11 59 23.5**	**+18**
DHBB	**Dhamar BB**	**4.40**	**61**	*iP*	**Pn**	**11 58 29.0**	**-0.8**
DHBB				*i* S	**Sn**	**11 59 21.2**	**-0.5**
DHBB	**Dhamar BB**	**4.40**	**61**	*i* P	**Pn**	**11 58 30.9**	**+1.1**
DHBB				*i* S	**Sn**	**11 59 32.2**	**+10**
ADEN	**Aden**	**4.47**	**85**	*eP*	**Pn**	**11 58 30.4**	**-0.4**
ADEN				*i* S	**Sn**	**11 59 23.9**	**+0.6**
ADEN	**Aden**	**4.47**	**85**	*i* P	**Pn**	**11 58 31.1**	**+0.4**
ADEN	**Aden**	**4.47**	**85**	*i* P	**Pn**	**11 58 31.1**	**+0.4**
ADEN				*i* S	**Sn**	**11 59 24.0**	**+0.6**
HAJJ	**Hajjah**	**4.47**	**43**	*eP*	**Pn**	**11 58 28.9**	**-1.9**
HAJJ				*i* S	**Sn**	**11 59 22.5**	**-0.8**
HAJJ	**Hajjah**	**4.47**	**43**	*i* P	**Pn**	**11 58 29.4**	**-1.3**
HAJJ				*i* S	**Sn**	**11 59 29.9**	**+6.6**
HAJJ	**Hajjah**	**4.47**	**43**	*i* P	**Pn**	**11 58 29.4**	**-1.3**
HAJJ				*i* S	**Sn**	**11 59 22.5**	**-0.9**
LBOS		**4.92**	**73**	*eP*	**Pn**	**11 58 36.5**	**-0.6**
LBOS				*i* S	**Sn**	**11 59 34.5**	**-0.1**
LBOS		**4.92**	**73**	*i* P	**Pn**	**11 58 37.9**	**+0.8**
LBOS				*i* S	**Sn**	**11 59 45.1**	**+11**
BDHA	**Al Bayda'**	**5.24**	**73**	*eP*	**Pn**	**11 58 41.3**	**-0.3**
BDHA				*i* S	**Sn**	**11 59 42.2**	**-0.6**
BDHA	**Al Bayda'**	**5.24**	**73**	*i* P	**Pn**	**11 58 42.1**	**+0.5**
BDHA				*i* S	**Sn**	**11 59 53.4**	**+11**
KMBO	**Kilima Mbogo**	**13.85**	**193**	LR	LR	12 05 37.2	
	comp=E,96nm,21.8s,baz=321,slow=36						
ASF	**Jabal al Asfar**	**19.90**	**351**	P	**P**	**12 01 56.3**	**+0.4**
	comp=E,0.3nm,0.3s,baz=24,slow=2.6,SNR=5.9						
BHD	**Baghdad**	**21.04**	**9**	*ex*	x	12 02 03.0	
BHD				*ex*	x	12 06 41.0	
MSL	**Mosul**	**23.86**	**5**	*ex*	x	12 03 03.0	
MALT	**Malatya**	**25.82**	**356**	*eP*	**P**	**12 02 55.7**	**+1.3**
	comp=E,47nm,1.6s,mb4.8						
BRTR	**Keskin Array B**	**27.82**	**349**	P	**P**	**12 03 13.6**	**+0.8**
	comp=E,1.4nm,0.7s,mb3.7,baz=180,slow=8.6,SNR=8.9						
BR131	**Keskin Array S**	**27.82**	**349**	P	**P**	**12 03 11.0**	**-1.8**
BR131	**Keskin Array S**	**27.82**	**349**	P	**P**	**12 03 11.0**	**-1.8**
LSZ	**Lusaka**	**30.09**	**204**	P	**P**	**12 03 31.9**	**-1.5**
	comp=E,8.3nm,1.5s,mb4.2						
PSZ	**Piszkesteto**	**39.30**	**338**	*eP*	**P**	**12 04 52.5**	**+0.4**
PSZ	**Piszkesteto**	**39.30**	**338**	*eP*	**P**	**12 04 52.5**	**+0.5**
VRAC	**Vranov**	**41.69**	**337**	P	**P**	**12 05 12.0**	**+0.4**
	comp=E,2.9nm,0.4s,mb4.3,baz=338,slow=6.4,SNR=4.2						
MORC	**Moravsky Berou**	**41.71**	**338**	P	**P**	**12 05 11.9**	**0.0**
	comp=E,10nm,1.8s,mb4.2						
MORC	**Moravsky Berou**	**41.71**	**338**	P	**P**	**12 05 11.9**	**+0.1**
	comp=E,10nm,1.8s,mb4.2						
GERES	**GERESS Array B**	**42.51**	**334**	P	**P**	**12 05 18.4**	**0.0**
	comp=E,1.5nm,0.7s,mb3.8,baz=146,slow=9.6,SNR=8.6						
KOLN	**Koldanda**	**43.08**	**63**	*eP*	**P**	**12 05 23.6**	**+0.2**
	comp=E,52nm,1.3s,mb5.1						
GKN	**Gorkha**	**44.03**	**63**	*eP*	**P**	**12 05 30.9**	**-0.2**
	comp=E,76nm,1.4s,mb5.2						
GRA1	**Grafenberg Arr**	**44.22**	**333**	*eP*	**P**	**12 05 30.5**	**-1.8**
GRF	**Grafenberg Arr**	**44.22**	**333**	*eP*	**P**	**12 05 30.5**	**-1.8**
DMN	**Daman**	**44.36**	**63**	*eP*	**P**	**12 05 34.0**	**+0.2**
	comp=E,65nm,1.5s,mb5.1						
KKN	**Kakani**	**44.55**	**63**	*eP*	**P**	**12 05 35.4**	**+0.1**
	comp=E,66nm,1.3s,mb5.3						
PKI	**Pulchoki**	**44.62**	**63**	*eP*	**P**	**12 05 36.5**	**+0.6**
CLL	**Collm**	**44.68**	**336**	P	**P**	**12 05 36.0**	**-0.1**
MOX	**Moxa**	**44.75**	**334**	*eP*	**P**	**12 05 35.0**	**-1.6**
MDT	**Midelt**	**45.83**	**304**	P	**P**	**12 05 47.5**	**+2.1**
	comp=E,1.9nm,0.8s,mb4.1,baz=96,slow=8.6,SNR=6.8						
ESDC	**Sonseca Array**	**47.55**	**313**	P	**P**	**12 05 59.5**	**+0.6**
	comp=E,0.4nm,0.4s,mb3.8,baz=119,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**49.05**	**37**	P	**P**	**12 06 09.6**	**-0.9**
	comp=E,3.8nm,1.1s,mb4.3,baz=243,slow=5.4,SNR=17						
KURK	**Kurchatov**	**49.21**	**31**	*eP*	**P**	**12 06 11.6**	**-0.1**
	comp=E,7.9nm,1.4s,mb4.5						
KURK	**Kurchatov**	**49.21**	**31**	*eP*	**P**	**12 06 11.6**	**0.0**
	comp=E,7.9nm,1.4s,mb4.5						
NOA	**NORSAR Array B**	**52.98**	**343**	P	**P**	**12 06 42.2**	**+2.1**
	comp=E,2.1nm,0.9s,mb4.1,baz=152,slow=9.5,SNR=3.7						
ZAL	**Zalesovo**	**54.16**	**31**	P	**P**	**12 06 47.8**	**-1.1**
	comp=E,1.6nm,0.3s,mb4.4,baz=55,slow=4.0,SNR=6.7						
GTA	**Gaotai**	**58.62**	**51**	*eP*	**P**	**12 07 21.1**	**+0.1**
GTA				AP	pP	12 07 25.3	+0.8
GTA				XP	sP	12 07 28.3	+2.5
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**64.78**	**43**	P	**P**	**12 08 01.8**	**-0.4**
	comp=Z,2.9nm,1.0s,mb4.3,baz=253,slow=4.9,SNR=16						
HHC	**Hu-ho-hao-te**	**67.73**	**51**	*eP*	**P**	**12 08 21.6**	**+0.4**
HHC				AP	pP	12 08 26.3	+1.6
HHC				XP	sP	12 08 28.8	+2.8
HHC				PCP	PcP	12 08 48.6	+0.5
HHC				PP	PP	12 10 52.3	-0.2
HHC				SCP		12 12 50.0	
HHC				PCS		12 12 51.6	
HHC				S	S	12 17 17.6	+0.4
HHC				XS		12 17 26.0	
HHC				SS	SS	12 21 39.3	-0.6
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,74nm,4.1s						
HHC				LR	LR		
	comp=N,115nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=E,173nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=Z,152nm,17.8s,MS4.3						

*IDC **21** 12:02:14.3±2.3, 4.60S×154.17E, mb4.2/5, mb1 4.3/5, mb1mx4.0/13, mbtmp4.2/5, Error ellipse: s-maj=73.5km s-min=35.1km az=107.0*
*NEIC **21** 12:02:35.4±4.4, 4.66S×153.53E, h153km±30km, mb3.9/3, Error ellipse: s-maj=50.9km s-min=19.4km az=92.0*

ISC 21 12:02:35.4±6.1, 4.7S±0.2×153.5E±0.5, h164km±42km, n10, σ0°43/10, mb4.0/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.82**	**233**	*eP*	**P**	**12 04 27.2**	**-0.1**
	90nm,0.8s						
WRAB	**Tennant Creek**	**24.00**	**229**	*eP*	**P**	**12 07 36.6**	**+0.2**
	7.7nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**24.02**	**229**	P	**P**	**12 07 37.3**	**+0.8**
	4.6nm,0.6s,mb4.2,baz=54,slow=9.9,SNR=67						
STKA	**Stephens Creek**	**29.23**	**201**	*eP*	**P**	**12 08 24.2**	**0.0**
FITZ	**Fitzroy Crossi**	**30.30**	**242**	P	**P**	**12 08 32.9**	**-0.8**
	8.0nm,0.6s,mb4.6,baz=58,slow=4.8,SNR=11						
MKAR	**Makanchi Array**	**80.71**	**319**	P	**P**	**12 14 32.0**	**+0.2**
	0.3nm,0.4s,mb3.3,baz=89,slow=4.5,SNR=4.4						
KURK	**Kurchatov**	**84.12**	**322**	*eP*	**P**	**12 14 49.5**	**+0.3**
	1.5nm,0.8s,mb3.8						
MAW	**Mawson**	**85.91**	**203**	P	**P**	**12 14 57.3**	**-0.3**
	1.0nm,0.7s,mb3.7,baz=106,slow=9.7,SNR=5.6						
MAW	**Mawson**	**85.91**	**203**	*eP*	**P**	**12 14 57.3**	**-0.3**
	1.0nm,0.6s,mb3.7						
BVAR	**Borovoye Array**	**89.58**	**323**	P	**P**	**12 15 15.0**	**-0.4**
	0.7nm,0.8s,mb3.7,baz=104,slow=5.9,SNR=3.9						

*CSEM **21** 12:03:09.1±0.2, 37.76N×25.40W, h6km, ML2.7, Error ellipse: s-maj=5.4km s-min=3.5km az=2.0, After PDA*
*PDA **21** 12:03:09.1±1.2, 37.76N×25.40W, h6km±1km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.3km az=154.0*

SVSA 21 12:03:09.1±1.2, 37.76N×25.40W, h6km±1km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.3km az=154.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.01**	**42**	*i* P	Pg	12 03 10.4	+0.3
PCNG				*eS*	Sg	12 03 11.3	+0.5
PCNG	**Congro**	**0.01**	**42**	*eS*	Sg	12 03 11.3	+0.5
VIF	**Vila Franca**	**0.03**	**242**	*i* P	Pg	12 03 10.8	+0.5
VIF				*eS*	Sg	12 03 12.1	+1.0
VIF	**Vila Franca**	**0.03**	**242**	*eS*	Sg	12 03 12.1	+1.0
FRA1	**Furnas**	**0.04**	**114**	*i* P	Pg	12 03 10.7	+0.3
MESC	**Monte Escuro**	**0.05**	**315**	*i* P	Pg	12 03 11.1	+0.6
LFA	**Lagoa do Fogo**	**0.06**	**281**	*i* P	Pg	12 03 11.5	+0.8
PRCH	**Ribeira Ch**	**0.07**	**242**	*eP*	Pg	12 03 11.4	+0.6
PRCH				*eS*	Sg	12 03 12.9	+1.0
	3µm,0.2s						
PMAT	**Coroa da Mata**	**0.08**	**317**	*eP*	Pg	12 03 11.5	+0.6
PMAT				*eS*	Sg	12 03 13.2	+1.0
CMLA	**Cha da Macela**	**0.10**	**272**	*eP*	Pg	12 03 10.9	-0.4
CMLA				*eS*	Sg	12 03 13.1	+0.4
PFAD	**Fenais da Ajud**	**0.10**	**39**	*i* P	Pg	12 03 12.1	+0.7
PFAD				*eS*	Sg	12 03 13.7	+0.8
PFAD	**Fenais da Ajud**	**0.10**	**39**	*eS*	Sg	12 03 13.7	+0.8
MIRA	**Miradouro**	**0.10**	**76**	*eP*	Pg	12 03 11.9	+0.5
MIRA				*eS*	Sg	12 03 14.0	+1.1
CML	**Cha da Macela**	**0.11**	**276**	*i* P	Pg	12 03 12.7	+1.1
CML				*eS*	Sg	12 03 14.7	+1.5
CML	**Cha da Macela**	**0.11**	**276**	*eS*	Sg	12 03 14.7	+1.5
FAC	**Faja de Cima**	**0.20**	**274**	*eP*	Pg	12 03 14.2	+1.1
PDA	**Ponta Delgada**	**0.21**	**266**	*eP*	Pg	12 03 13.6	+0.3
PDA				*eS*	Sg	12 03 16.9	+0.7
PSET	**Sete Cidades**	**0.26**	**284**	*eP*	Pg	12 03 14.3	-0.1
PSET				*eS*	Sg	12 03 17.9	0.0
	687nm,0.3s						
PSAN	**Santo Antonio**	**0.27**	**290**	*eP*	Pg	12 03 15.5	+0.9
PFET	**Feteiras**	**0.31**	**281**	*eP*	Pg	12 03 16.4	+1.0
SET2	**Ginetes**	**0.33**	**285**	*eP*	Pg	12 03 16.6	+0.8
SET4	**Mosteiros**	**0.33**	**290**	*eP*	Pg	12 03 16.1	+0.3
PSMN	**Pico do Norte,**	**0.80**	**160**	*eP*	Pb	12 03 22.9	-2.2
PSMN				*eS*	Sg	12 03 33.1	-2.8
PSCM	**Serra do Cume**	**1.64**	**305**	*eP*	Pn	12 03 34.6	-4.2
PSCM				*eS*	Sb	12 03 53.5	-6.9
	26nm,0.3s						

*CSEM **21** 12:06:13.1±0.4, 54.32N×19.51E, h2km, ML2.8, Error ellipse: s-maj=9.1km s-min=2.5km az=175.0, Mining explosion.*
*IDC **21** 12:06:20.0±0.8, 54.68N×19.35E, mb1 3.5/6, mb1mx3.3/21, mbtmp3.4/6, ML3.6/6, Error ellipse: s-maj=11.4km s-min=7.5km az=62.0*
*HEL **21** 12:06:21.1±0.5, 54.57N×20.04E, ML2.0, Explosion*
*NAO **21** 12:06:21.0±4.2, 54.81N×19.20E, ML2.8*
*UPP **21** 12:06:32.6, 55.48N×18.18E, h0km, ML2.8, Suspected Mining explosion.*

ISC 21 12:06:15.5±0.6, 54.73N±0.04×19.64E±0.07, n30, σ1°69/43, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLEU	**Blekinge**	**2.69**	**307**	P	**Pn**	**12 07 00.9**	**+0.2**
BSD	**Bornholm Skovb**	**2.76**	**280**	*i* P	**Pn**	**12 07 00.9**	**-0.8**
BSD				*i*		12 07 04.9	
BSD				*eS*	**Sn**	**12 07 34.1**	**-2.1**
BSD	**Bornholm Skovb**	**2.76**	**280**	*eP*	**Pn**	**12 07 00.9**	**-0.8**
BSD				*eS*	**Sn**	**12 07 34.1**	**-2.1**
GOTU	**Gotland**	**3.02**	**349**	P	**Pn**	**12 07 09.8**	**+4.3**
OSKU	**Oskarshamn**	**3.17**	**323**	P	**Pn**	**12 07 09.1**	**+1.5**
ASPU	**Aespoe**	**3.19**	**329**	P	**Pn**	**12 07 10.0**	**+2.1**
VSTU	**Vaestervik**	**3.41**	**331**	P	**Pn**	**12 07 12.9**	**+1.9**
EKSU	**Eksjoe**	**3.74**	**321**	P	**Pn**	**12 07 17.3**	**+1.6**
LNKU	**Linkoeping**	**4.18**	**328**	P	**Pn**	**12 07 24.2**	**+2.2**
HFS	**Hagfors**	**6.29**	**332**	Pn	**Pn**	**12 07 52.5**	**+0.6**
	baz=159,slow=12						
HFS				Sn	**Sn**	**12 09 02.4**	**-3.0**
	baz=151,slow=37						
HFS				Lg		12 09 33.8	
	baz=139,slow=37						
HFS	**Hagfors**	**6.29**	**332**	Pn	**Pn**	**12 07 52.4**	**+0.6**
	0.2nm,0.3s,baz=145,slow=14,SNR=41						
HFS				Sn	**Sn**	**12 09 03.9**	**-1.6**
	0.2nm,0.3s,baz=139,slow=27,SNR=5.3						
HFS				Lg		12 09 36.5	
	0.5nm,0.3s,baz=145,slow=31,SNR=5.7						
PVF	**Pernaja**	**6.71**	**27**	*eP*	**Pn**	**12 08 00.8**	**+3.0**
GERES	**GERESS Array B**	**6.95**	**214**	Pn	**Pn**	**12 07 59.8**	**-1.2**
	0.4nm,0.3s,baz=22,slow=16,SNR=3.2						
AKASG	**Malin Array Be**	**7.08**	**121**	Pn	**Pn**	**12 08 03.0**	**+0.1**
	3.2nm,0.3s,baz=309,slow=12,SNR=8.2						
AKASG				Sn	**Sn**	**12 09 24.6**	**-0.5**
	1.4nm,0.3s,baz=310,slow=24,SNR=3.1						
AKASG				Lg		12 10 02.3	
	1.5nm,0.3s,baz=336,slow=28,SNR=4.1						
FIA0	**FINESS Array S**	**7.54**	**24**	Pn	**Pn**	**12 08 10.9**	**+1.5**
	baz=202,slow=12						
FIA0				Sn	**Sn**	**12 09 34.1**	**-2.5**
	baz=207,slow=22						
FIA0				Lg		12 10 19.6	
	baz=208,slow=28						
FIA0	**FINESS Array S**	**7.54**	**24**	*eP*	**Pn**	**12 08 11.7**	**+2.3**
FIA0				*eS*	**Sn**	**12 09 33.9**	**-2.8**
FINES	**FINESS Array B**	**7.54**	**24**	Pn	**Pn**	**12 08 11.4**	**+2.0**
	1.5nm,0.3s,baz=207,slow=13,SNR=36						
FINES				Sn	**Sn**	**12 09 34.4**	**-2.2**
	0.9nm,0.3s,baz=214,slow=20,SNR=3.4						
FINES				Lg		12 10 19.2	
	0.6nm,0.3s,baz=214,slow=25,SNR=2.8						
NB2	**NORSAR Subarra**	**7.75**	**328**	Pn	**Pn**	**12 08 09.7**	**-2.6**
	baz=144,slow=14						
NOA	**NORSAR Array B**	**7.75**	**328**	Pn	**Pn**	**12 08 10.5**	**-1.9**
	0.5nm,0.3s,baz=141,slow=11,SNR=2.9						
NOA				Sn	**Sn**	**12 09 32.5**	**-9.4**
	0.3nm,0.3s,baz=293,slow=12,SNR=2.1						
NOA				Lg		12 10 21.3	
	0.9nm,0.3s,baz=60,slow=16,SNR=3.5						
KEF	**Keuruu**	**7.94**	**18**	*eP*	**Pn**	**12 08 18.3**	**+3.3**
KEF				*eS*	**Sn**	**12 09 45.7**	**-1.0**
KEF	**Keuruu**	**7.94**	**18**	P	**Pn**	**12 08 18.2**	**+3.2**
KAF	**Kangasniemi**	**8.18**	**23**	*eP*	**P**	**12 08 19.9**	**+1.6**
KAF				*eS*	**Sn**	**12 09 50.7**	**-1.9**
KAF				MSG		12 11 07.3	
	comp=Z,0.4nm,0.1s						
VAF	**Ylistaro**	**8.48**	**9**	*eP*	**P**	**12 08 24.2**	**+1.7**
VAF				*eS*	**Sn**	**12 09 59.8**	**-0.3**
VAF	**Ylistaro**	**8.48**	**9**	P	**P**	**12 08 24.1**	**+1.6**
SUF	**Sumiainen**	**8.69**	**20**	*eP*	**P**	**12 08 27.4**	**+1.9**
SUF				MSG		12 11 00.3	
	comp=Z,0.6nm,0.1s						
SUF	**Sumiainen**	**8.69**	**20**	P	**P**	**12 08 27.3**	**+1.9**
	comp=Z,0.6nm,0.1s						
JOF	**Joensuu**	**10.18**	**32**	*eP*	**P**	**12 08 42.6**	**-3.1**
JOF				*eS*	**S**	**12 10 36.6**	**-5.3**
APA0	**Apatity Array**	**14.38**	**21**	Pn	**P**	**12 09 41.6**	**-0.4**
	baz=233,slow=14						
ARA0	**ARCESS Array S**	**15.10**	**8**	Pn	**P**	**12 09 49.2**	**-2.2**
	baz=182,slow=14						
ARCES	**ARCESS Array B**	**15.10**	**8**	Pn	**P**	**12 09 48.9**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=185,slow=13,SNR=9.3						

*CSEM **21** 12:06:40.5±0.3, 37.75N×25.40W, h2km±1km, ML2.8, Error ellipse: s-maj=6.1km s-min=3.0km az=162.0, After PDA*
*PDA **21** 12:06:40.5±1.7, 37.75N×25.40W, h2km±2km, MD3.1, ML2.8, Error ellipse: s-maj=4.3km s-min=3.4km az=45.0*

SVSA 21 12:06:40.6±0.7, 37.76N×25.41W, h1km±1km, Error ellipse: s-maj=2.6km s-min=1.2km az=129.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.01**	**42**	*i* P	Pg	12 06 41.5	+0.6
PCNG	**Congro**	**0.01**	**42**	*i* P	Pg	12 06 41.5	+0.6
VIF	**Vila Franca**	**0.03**	**243**	*eP*	Pg	12 06 42.0	+0.8
FRA1	**Furnas**	**0.04**	**113**	*i* P	Pg	12 06 41.9	+0.5
FRA1	**Furnas**	**0.04**	**113**	*i* P	Pg	12 06 41.9	+0.5
MESC	**Monte Escuro**	**0.05**	**317**	*eP*	Pg	12 06 42.3	+0.7
LFA	**Lagoa do Fogo**	**0.06**	**282**	*i* P	Pg	12 06 42.7	+0.8
LFA	**Lagoa do Fogo**	**0.06**	**282**	*i* P	Pg	12 06 42.7	+0.8
PRCH	**Ribeira Ch**	**0.07**	**243**	*eP*	Pg	12 06 42.6	+0.7
PRCH				*eS*	Sg	12 06 44.1	+1.2
PRCH	**Ribeira Ch**	**0.07**	**243**	*eP*	Pg	12 06 42.5	+0.6
PRCH	**Ribeira Ch**	**0.07**	**243**	*eP*	Pg	12 06 42.5	+0.6
PMAT	**Coroa da Mata**	**0.08**	**317**	*eP*	Pg	12 06 42.8	+0.6
PMAT				*eS*	Sg	12 06 44.7	+1.5
PVER	**Pico Vermelho**	**0.09**	**294**	*eP*	Pg	12 06 44.2	+1.7
CMLA	**Cha da Macela**	**0.10**	**273**	*eP*	Pg	12 06 42.2	-0.3
CMLA				*eS*	Sg	12 06 44.6	+0.8
PFAD	**Fenais da Ajud**	**0.10**	**39**	*eP*	Pg	12 06 43.3	+0.6
MIRA	**Miradouro**	**0.10**	**75**	*eP*	Pg	12 06 43.1	+0.4
CML	**Cha da Macela**	**0.11**	**276**	*eP*	Pg	12 06 43.9	+1.1
FAC	**Faja de Cima**	**0.20**	**274**	*eP*	Pg	12 06 45.8	+1.3
FAC	**Faja de Cima**	**0.20**	**274**	*eP*	Pg	12 06 46.2	+1.7
FAC	**Faja de Cima**	**0.20**	**274**	*eP*	Pg	12 06 46.2	+1.7
PDA	**Ponta Delgada**	**0.20**	**267**	*eP*	Pg	12 06 44.8	+0.1
PDA				*eS*	Sg	12 06 47.9	+0.5
PSET	**Sete Cidades**	**0.26**	**284**	*eP*	Pg	12 06 45.8	0.0
PSET				*eS*	Sg	12 06 50.3	+1.1
	3µm,0.3s						
PSAN	**Santo Antonio**	**0.27**	**290**	*eP*	Pg	12 06 46.8	+0.8
PSAN	**Santo Antonio**	**0.27**	**290**	*eP*	Pg	12 06 47.2	+1.2
PSAN	**Santo Antonio**	**0.27**	**290**	*eP*	Pg	12 06 47.2	+1.2
PFET	**Feteiras**	**0.31**	**281**	*eP*	Pg	12 06 47.0	+0.2
PFET	**Feteiras**	**0.31**	**281**	*eP*	Pg	12 06 46.8	0.0
PFET	**Feteiras**	**0.31**	**281**	*eP*	Pg	12 06 46.8	0.0
SET2	**Ginetes**	**0.33**	**285**	*eP*	Pg	12 06 47.9	+0.7
SET2	**Ginetes**	**0.33**	**285**	*eP*	Pg	12 06 48.2	+1.0
SET2	**Ginetes**	**0.33**	**285**	*eP*	Pg	12 06 48.2	+1.0
SET4	**Mosteiros**	**0.33**	**290**	*eP*	Pg	12 06 47.3	+0.1
SET4	**Mosteiros**	**0.33**	**290**	*eP*	Pg	12 06 48.3	+1.1
SET4	**Mosteiros**	**0.33**	**290**	*eP*	Pg	12 06 48.3	+1.1
PSMN	**Pico do Norte,**	**0.80**	**160**	*eP*	Pg	12 06 54.8	-1.8
PSMN				*eS*	Sg	12 07 05.3	-2.0
PSMN	**Pico do Norte,**	**0.80**	**160**	*eP*	Pg	12 06 54.8	-1.8
PSMN				*eS*	Sg	12 07 04.7	-2.6
PFAV	**Pico das Favas**	**1.63**	**306**	*eS*	Sb	12 07 26.1	-6.0
PFAV	**Pico das Favas**	**1.63**	**306**	*eS*	Sb	12 07 27.2	-4.9
	20nm,0.2s						
PFAV	**Pico das Favas**	**1.63**	**306**	*eS*	Sb	12 07 27.2	-4.9
PSCM	**Serra do Cume**	**1.64**	**305**	*eP*	Pn	12 07 06.4	-4.4
PSCM				*eS*	Sb	12 07 26.5	-6.1
	85nm,0.3s						
RIB2	**Ribeirinha**	**1.66**	**304**	*eS*	Sb	12 07 27.7	-5.5
ADH	**Angra Heroismo**	**1.70**	**302**	*eP*	Pn	12 07 06.4	-5.1
ADH				*eS*	Sb	12 07 27.5	-6.6
PVNV	**Vila Nova**	**1.70**	**307**	*eS*	Sb	12 07 27.8	-6.5
	15nm,0.2s						
PPAD	**Pico dos Padre**	**1.75**	**303**	*eS*	Sn	12 07 30.6	-5.1
	15nm,0.2s						
PBIS	**Biscoitos**	**1.77**	**305**	*eS*	Sn	12 07 31.1	-4.8
	9.4nm,0.1s						
ASBA	**Santa Barbara**	**1.79**	**303**	*eS*	Sn	12 07 30.8	-5.8
PSBA	**Serra de Santa**	**1.82**	**304**	*eP*	Pn	12 07 10.1	-3.2
PSBA				*eS*	Sn	12 07 31.1	-6.1
	104nm,0.4s						
PMAN	**Manadas**	**2.29**	**293**	*eS*	Sn	12 07 38.5	-11
PICO	**Pico**	**2.49**	**288**	*eP*	Pn	12 07 19.0	-4.0
PICO				*eS*	Sn	12 07 47.8	-6.7
HOR	**Horta**	**2.66**	**288**	*erx*		12 07 36.0	

*NEIC **21** 12:08:02.7±0.5, 3.06S×102.15E, mb4.7/8, Error ellipse: s-maj=17.8km s-min=9.4km az=56.0*
*IDC **21** 12:08:03.4±0.7, 2.98S×102.18E, h133km±5km, mb4.1/14, mb1 4.2/14, mb1mx4.1/18, mbtmp4.5/14, Error ellipse: s-maj=19.3km s-min=11.1km az=52.0*

ISC 21 12:08:01.4±0.5, 3.01S±0.10×102.2E±0.1, h132km, h132km±2.6km: pP-P, n41, σ0°91/35, mb4.4/24, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.39**	**349**	*eP*	**P**	**12 10 02.8**	**+1.6**
QIZ	**Qiongzhong**	**23.14**	**19**	*eP*	**P**	**12 13 00.9**	**+4.1**
	24nm,1.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.40**	**125**	P	**P**	**12 13 36.4**	**-0.4**
	7.9nm,0.8s,mb4.4,baz=297,slow=1.0,SNR=8.0						
FITZ				pP	pP	12 14 06.6	+1.9
	14nm,1.0s,baz=312,slow=4.2,SNR=4.0						
ENH	**Enshi**	**33.81**	**11**	P	**P**	**12 14 32.7**	**-0.2**
	31nm,2.0s,mb4.7						
DMN	**Daman**	**34.63**	**333**	*eP*	**P**	**12 14 40.4**	**+0.5**
	5.0nm,0.2s,mb4.7						
KKN	**Kakani**	**34.70**	**333**	*eP*	**P**	**12 14 41.2**	**+0.6**
	14nm,0.4s,mb5.0						
GKN	**Gorkha**	**35.18**	**332**	*eP*	**P**	**12 14 45.2**	**+0.6**
KOLN	**Koldanda**	**35.48**	**331**	*eP*	**P**	**12 14 47.0**	**

UDYN					AML	AML	12 12 37.4	
	comp=E,4µm,0.7s							
DHBB	**Dhamar BB**	**4.28**	**59**	*eP*	**Pn**		**12 11 38.1**	**+0.5**
DHBB				*i* S	**Sn**		**12 12 31.2**	**+3.0**
HAJJ	**Hajjah**	**4.39**	**41**	*eP*	**Pn**		**12 11 39.2**	**-0.1**
HAJJ				*i* S	**Sn**		**12 12 31.1**	**-0.1**
LBOS		**4.76**	**71**	*eP*	**Pn**		**12 11 43.3**	**-1.2**
LBOS				*i* S	**Sn**		**12 12 40.3**	**-0.1**
BDHA	**Al Bayda'**	**5.08**	**71**	*eP*	**Pn**		**12 11 48.3**	**-0.8**
BDHA				*i* S	**Sn**		**12 12 47.6**	**-1.0**
KMBO	**Kilima Mbogo**	**13.83**	**194**	LR	LR		12 19 41.1	
	comp=E,305nm,19.7s,baz=281,slow=37							
ASF	**Jabal al Asfar**	**19.99**	**351**	LR	LR		12 22 03.1	
	comp=E,188nm,18.1s,baz=48,slow=36							
BHD	**Baghdad**	**21.08**	**9**	*ex*	x		12 15 21.0	
BHD				*ex*	x		12 18 40.0	
MSL	**Mosul**	**23.91**	**5**	*ex*	x		12 16 10.0	
IDI	**Anoyia**	**26.88**	**331**	LR	LR		12 26 01.9	
	comp=E,206nm,20.6s,MS3.7,baz=259,slow=36							
BRTR	**Keskin Array B**	**27.92**	**348**	P	**P**		**12 16 22.5**	**-0.9**
	comp=E,1.4nm,0.8s,mb3.6,baz=173,slow=10.0,SNR=5.3							
MATP	**Matopo**	**34.71**	**200**	LR	LR		12 31 26.8	
	comp=E,363nm,19.6s,MS4.1,baz=32,slow=35							
AKASG	**Malin Array Be**	**39.33**	**349**	P	**P**		**12 18 00.1**	**-1.8**
	comp=E,0.2nm,0.3s,mb3.4,baz=172,slow=6.9,SNR=4.4							
GERES	**GERESS Array B**	**42.65**	**334**	P	**P**		**12 18 28.1**	**-1.2**
	comp=E,0.4nm,0.3s,mb3.6,baz=141,slow=8.5,SNR=5.9							
ESDC	**Sonseca Array**	**47.73**	**313**	P	**P**		**12 19 11.5**	**+1.5**
	comp=E,1.1nm,0.6s,mb4.0,baz=122,slow=8.2,SNR=4.1							
MKAR	**Makanchi Array**	**48.99**	**37**	P	**P**		**12 19 22.1**	**+2.4**
	comp=E,1.3nm,0.9s,mb4.0,baz=239,slow=7.1,SNR=4.3							
SONM	**Songino Array**	**64.70**	**43**	P	**P**		**12 21 13.5**	**+2.1**
	comp=E,2.1nm,1.0s,mb4.1,baz=266,slow=5.7,SNR=8.9							

*CSEM **21** 12:10:45.7±1.1,37.76N×25.42W,h4km±1km,ML2.8,Error ellipse: s-maj=36.3km s-min=3.8km az=57.0,After PDA*
*PDA **21** 12:10:45.7±0.5,37.76N×25.42W,h4km±1km,ML2.8,Error ellipse: s-maj=1.3km s-min=0.9km az=109.0*
SVSA 21 12:10:45.7±0.5,37.76N×25.42W,h4km±1km,ML2.8, Error ellipse: s-maj=1.3km s-min=0.9km az=109.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**81**	*i* P	Pg	12 10 46.9	+0.3
PCNG				*i* S	Sg	12 10 48.0	+0.8
PCNG	**Congro**	**0.02**	**81**	*i* S	Sg	12 10 48.0	+0.8
VIF	**Vila Franca**	**0.03**	**221**	*i* P	Pg	12 10 47.1	+0.5
VIF				*i* S	Sg	12 10 48.1	+0.8
VIF	**Vila Franca**	**0.03**	**221**	*i* S	Sg	12 10 48.1	+0.8
MESC	**Monte Escuro**	**0.04**	**324**	*i* P	Pg	12 10 47.4	+0.6
MESC				*i* S	Sg	12 10 48.6	+1.1
MESC	**Monte Escuro**	**0.04**	**324**	*i* S	Sg	12 10 48.6	+1.1
LFA	**Lagoa do Fogo**	**0.05**	**280**	*i* P	Pg	12 10 47.6	+0.6
FRA1	**Furnas**	**0.05**	**113**	*i* P	Pg	12 10 47.4	+0.4
PRCH	**Ribeira Ch**	**0.06**	**233**	*i* P	Pg	12 10 47.5	+0.4
PRCH				*i* S	Sg	12 10 49.0	+0.9
	6µm,0.3s						
PRCH	**Ribeira Ch**	**0.06**	**233**	*i* S	Sg	12 10 49.0	+0.9
PMAT	**Coroa da Mata**	**0.07**	**322**	*eP*	Pg	12 10 47.7	+0.5
PMAT				*i* S	Sg	12 10 49.0	+0.7
CML	**Cha da Macela**	**0.10**	**274**	*i* P	Pg	12 10 48.8	+0.9
CML				*eS*	Sg	12 10 50.9	+1.6
CML	**Cha da Macela**	**0.10**	**274**	*eS*	Sg	12 10 50.9	+1.6
PFAD	**Fenais da Ajud**	**0.11**	**45**	*i* P	Pg	12 10 48.7	+0.7
MIRA	**Miradouro**	**0.11**	**79**	*i* P	Pg	12 10 48.6	+0.5
MIRA				*i* S	Sg	12 10 50.8	+1.1
MIRA	**Miradouro**	**0.11**	**79**	*i* S	Sg	12 10 50.8	+1.1
FAC	**Faja de Cima**	**0.18**	**273**	*eP*	Pg	12 10 51.4	+1.9
PSAN	**Santo Antonio**	**0.26**	**290**	*eP*	Pg	12 10 52.1	+1.2
PFET	**Feteiras**	**0.30**	**280**	*eP*	Pg	12 10 52.6	+0.9
SET2	**Ginetes**	**0.32**	**285**	*eP*	Pg	12 10 53.2	+1.1
SET4	**Mosteiros**	**0.32**	**290**	*eP*	Pg	12 10 53.1	+1.0
PSMN	**Pico do Norte,**	**0.81**	**160**	*i* S	Sg	12 11 09.7	-3.0
PICO	**Pico**	**2.48**	**288**	*eP*	Pn	12 11 23.4	-4.1
PICO				*eS*	Sn	12 11 51.6	-7.0

*CSEM **21** 12:11:35.5±0.2,37.76N×25.39W,h5km,ML2.5,Error ellipse: s-maj=8.5km s-min=1.9km az=176.0,After PDA*
*PDA **21** 12:11:35.5±0.6,37.76N×25.39W,h5km±1km,MD1.4, ML2.5,Error ellipse: s-maj=1.7km s-min=1.3km az=165.0*
SVSA 21 12:11:35.5±0.6,37.76N×25.39W,h5km±1km,MD1.4, ML2.5,Error ellipse: s-maj=1.7km s-min=1.3km az=165.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**348**	*i* P	Pg	12 11 36.8	+0.4
PCNG				*eS*	Sg	12 11 37.9	+0.9
PCNG	**Congro**	**0.01**	**348**	*eS*	Sg	12 11 37.9	+0.9
FRA1	**Furnas**	**0.03**	**114**	*eP*	Pg	12 11 37.3	+0.7
VIF	**Vila Franca**	**0.04**	**253**	*i* P	Pg	12 11 37.3	+0.6
VIF				*eS*	Sg	12 11 38.5	+1.1
	2µm,0.2s						
VIF	**Vila Franca**	**0.04**	**253**	*eS*	Sg	12 11 38.5	+1.1
MESC	**Monte Escuro**	**0.06**	**312**	*i* P	Pg	12 11 37.5	+0.6
MESC				*eS*	Sg	12 11 39.2	+1.4
MESC	**Monte Escuro**	**0.06**	**312**	*eS*	Sg	12 11 39.2	+1.4
LFA	**Lagoa do Fogo**	**0.07**	**283**	*eP*	Pg	12 11 37.9	+0.7
PRCH	**Ribeira Ch**	**0.07**	**248**	*eS*	Sg	12 11 39.3	+0.9
	2µm,0.3s						
PMAT	**Coroa da Mata**	**0.09**	**314**	*eS*	Sg	12 11 39.7	+1.0
MIRA	**Miradouro**	**0.10**	**72**	*eP*	Pg	12 11 38.0	+0.4
PFAD	**Fenais da Ajud**	**0.10**	**34**	*eP*	Pg	12 11 38.6	+0.9
CMLA	**Cha da Macela**	**0.10**	**274**	*eP*	Pg	12 11 37.4	-0.4
CMLA				*eS*	Sg	12 11 39.4	+0.1
CML	**Cha da Macela**	**0.12**	**277**	*eP*	Pg	12 11 38.5	+0.4
FAC	**Faja de Cima**	**0.20**	**275**	*eP*	Pg	12 11 39.8	+0.1
PDA	**Ponta Delgada**	**0.21**	**268**	*eP*	Pg	12 11 41.4	+1.5
PDA				*eS*	Sg	12 11 43.6	+0.8
PSAN	**Santo Antonio**	**0.28**	**290**	*eP*	Pg	12 11 41.1	-0.1
PFET	**Feteiras**	**0.32**	**281**	*eP*	Pg	12 11 41.6	-0.3
SET2	**Ginetes**	**0.34**	**285**	*eP*	Pg	12 11 42.1	-0.2
SET4	**Mosteiros**	**0.34**	**290**	*eP*	Pg	12 11 42.0	-0.4

*SVSA **21** 12:12:14.0±1.5,37.75N×25.43W,h2km±2km,MD4.1, ML3.8,Error ellipse: s-maj=4.2km s-min=3.4km az=160.0*
*CSEM **21** 12:12:14.0±0.2,37.75N×25.43W,h2km,ML3.8,Error ellipse: s-maj=6.9km s-min=2.2km az=50.0,After PDA*
*PDA **21** 12:12:14.0±1.5,37.75N×25.43W,h2km±2km,MD4.1, ML3.8,Error ellipse: s-maj=4.2km s-min=3.4km az=160.0*
*IDC **21** 12:12:15.3±1.0,38.08N×25.77W,mb3.8/7,mb1 4.1/8, mb1mx3.8/24,mbtmp3.9/8,MS4.0/15,Ms1 4.0/15, ms1mx3.8/28,Error ellipse: s-maj=35.7km s-min=23.4km az=156.0*
ISC 21 12:12:12.7±0.5,37.92N±0.03×25.43W±0.04,h10km,n58, σ1ş29/58,mb3.9/7,MS4.0/15,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAT	**Coroa da Mata**	**0.10**	**197**	*eP*	**Pg**	**12 12 16.0**	**+0.6**
PFAD	**Fenais da Ajud**	**0.12**	**131**	*i* P	**Pg**	**12 12 16.9**	**+1.3**
MESC	**Monte Escuro**	**0.12**	**185**	*i* P	**Pg**	**12 12 15.6**	**-0.1**
LFA	**Lagoa do Fogo**	**0.15**	**195**	*i* P	**Pg**	**12 12 15.8**	**-0.4**
PCNG	**Congro**	**0.15**	**169**	*i* P	**Pg**	**12 12 15.2**	**-1.0**
CMLA	**Cha da Macela**	**0.17**	**205**	*eP*	**Pg**	**12 12 15.8**	**-0.7**
CMLA				*eS*	**Sg**	**12 12 17.4**	**-1.6**
CML	**Cha da Macela**	**0.17**	**212**	*eP*	**Pg**	**12 12 17.0**	**+0.5**
VIF	**Vila Franca**	**0.17**	**182**	*i* P	**Pg**	**12 12 15.3**	**-1.2**
MIRA	**Miradouro**	**0.18**	**137**	*i* P	**Pg**	**12 12 16.9**	**+0.2**
FRA1	**Furnas**	**0.18**	**161**	*i* P	**Pg**	**12 12 15.7**	**-1.1**
PRCH	**Ribeira Ch**	**0.19**	**191**	*i* P	**Pg**	**12 12 15.8**	**-1.1**
FAC	**Faja de Cima**	**0.22**	**230**	*eP*	**Pg**	**12 12 18.9**	**+1.4**
PSAN	**Santo Antonio**	**0.24**	**255**	*eP*	**Pg**	**12 12 20.5**	**+2.7**
PSET	**Sete Cidades**	**0.25**	**248**	*i* P	**Pg**	**12 12 18.8**	**+0.9**
PSET				*eS*	**Sg**	**12 12 23.1**	**+1.7**
PDA	**Ponta Delgada**	**0.25**	**227**	*eP*	**Pg**	**12 12 18.3**	**+0.3**
SET4	**Mosteiros**	**0.29**	**262**	*eP*	**Pg**	**12 12 21.3**	**+2.5**
PFET	**Feteiras**	**0.30**	**251**	*eP*	**Pg**	**12 12 20.8**	**+1.9**
SET2	**Ginetes**	**0.30**	**256**	*eP*	**Pg**	**12 12 21.2**	**+2.2**
PSMN	**Pico do Norte,**	**0.96**	**162**	*eP*	**Pb**	**12 12 28.1**	**-2.8**
PFAV	**Pico das Favas**	**1.52**	**302**	*eP*	**Pn**	**12 12 42.5**	**+2.4**
PFAV				*eS*	**Sb**	**12 12 01.3**	**+1.5**
PSCM	**Serra do Cume**	**1.54**	**301**	*eP*	**Pn**	**12 12 39.7**	**-0.7**
PSCM				*eS*	**Sb**	**12 12 59.4**	**-0.9**
	2µm,0.6s						
RIB2	**Ribeirinha**	**1.56**	**299**	*eP*	**Pn**	**12 12 40.8**	**+0.1**
RIB2				*eS*	**Sb**	**12 13 01.1**	**+0.1**
	365nm,0.3s						
PVNV	**Vila Nova**	**1.60**	**302**	*eP*	**Pn**	**12 12 41.3**	**+0.1**
PVNV				*eS*	**Sb**	**12 13 01.8**	**-0.2**
	218nm,0.3s						
ADH	**Angra Heroismo**	**1.60**	**298**	*eP*	**Pn**	**12 12 40.4**	**-0.8**
ADH				*eS*	**Sb**	**12 13 00.4**	**-1.6**
PPAD	**Pico dos Padre**	**1.66**	**299**	*eP*	**Pn**	**12 12 42.4**	**+0.4**
PPAD				*eS*	**Sn**	**12 13 02.6**	**-0.9**
	184nm,0.4s						
PBIS	**Biscoitos**	**1.66**	**301**	*eP*	**Pn**	**12 12 43.4**	**+1.3**
PBIS				*eS*	**Sn**	**12 13 03.6**	**0.0**
	136nm,0.4s						
ASBA	**Santa Barbara**	**1.69**	**299**	*eP*	**Pn**	**12 12 43.8**	**+1.3**
ASBA				*eS*	**Sn**	**12 13 05.1**	**+0.7**
	140nm,0.3s						
PSBA	**Serra de Santa**	**1.71**	**300**	*eP*	**Pn**	**12 12 43.0**	**+0.1**
PMAN	**Manadas**	**2.21**	**290**	*eP*	**Pn**	**12 12 48.6**	**-1.4**
PMAN				*eS*	**Sn**	**12 13 14.7**	**-2.9**
	141nm,0.3s						
PAMA	**Santo Amaro**	**2.29**	**290**	*eP*	**Pn**	**12 12 50.5**	**-0.6**
PBOI	**Pico dos Bois**	**2.38**	**284**	*eP*	**Pn**	**12 12 51.1**	**-1.3**
PICO	**Pico**	**2.43**	**285**	*eP*	**Pn**	**12 12 52.2**	**-0.9**
PICO				*eS*	**Sn**	**12 13 20.7**	**-2.4**
HOR	**Horta**	**2.59**	**285**	*eP*	**Pn**	**12 12 54.5**	**-0.9**
HOR				*eS*	**Sn**	**12 13 23.5**	**-3.8**
CALA	**Caldeira**	**2.66**	**285**	*eP*	**Pn**	**12 12 55.3**	**-1.1**
CALA				*eS*	**Sn**	**12 13 24.9**	**-4.1**
PTCA	**Ponta do Capel**	**2.73**	**285**	*eP*	**Pn**	**12 12 56.0**	**-1.4**
PLUZ	**Luz**	**2.99**	**293**	*eS*	Px	12 13 17.6	
ESDC	**Sonseca Array**	**16.83**	**77**	P	**P**	**12 16 09.1**	**-0.8**
	0.3nm,0.3s,baz=267,slow=12,SNR=3.8						
MDT	**Midelt**	**17.72**	**100**	P	**P**	**12 16 26.9**	**+5.8**
	0.1nm,0.3s,baz=286,slow=12,SNR=6.3						
BORG	**Borgarnes**	**26.98**	**4**	LR	LR	12 25 31.6	
	comp=Z,364nm,18.5s,MS4.0,baz=200,slow=30						
DAVOX	**Davos**	**27.37**	**60**	LR	LR	12 27 05.7	
	comp=Z,273nm,19.5s,MS3.8,baz=269,slow=32						
VAE	**Valguarnera**	**31.37**	**78**	LR	LR	12 28 16.4	
	comp=Z,133nm,21.1s,MS3.6,baz=125,slow=30						
NOA	**NORSAR Array B**	**32.50**	**33**	LR	LR	12 31 03.9	
	comp=Z,149nm,18.0s,MS3.7,baz=255,slow=35						
SCHQ	**Schefferville**	**32.61**	**315**	LR	LR	12 30 00.4	
	comp=Z,86nm,20.1s,MS3.4,baz=0.2,slow=33						
JMIC	**Jan Mayen**	**34.30**	**10**	LR	LR	12 29 43.6	
	comp=Z,165nm,18.3s,MS3.8,baz=276,slow=31						
FINES	**FINESS Array B**	**39.36**	**36**	LR	LR	12 34 36.5	
	comp=Z,112nm,20.2s,MS3.7,baz=225,slow=34						
ARCES	**ARCESS Array B**	**41.57**	**24**	LR	LR	12 35 41.8	
	comp=Z,173nm,19.8s,MS3.9,baz=76,slow=34						
SDV	**Santo Domingo**	**49.86**	**247**	P	**P**	**12 21 09.9**	**+1.6**
	2.0nm,0.4s,mb4.5,baz=71,slow=6.9,SNR=5.3						
ROSC	**El Rosal**	**55.28**	**246**	LR	LR	12 41 09.6	
	comp=Z,137nm,21.3s,MS4.0,baz=22,slow=32						
BDFB	**Brasília**	**57.34**	**206**	LR	LR	12 43 34.7	
	comp=Z,218nm,18.6s,MS4.3,baz=2.2,slow=33						
PDAR	**Pinedale Array**	**61.73**	**304**	P	**P**	**12 22 32.1**	**-1.3**
	0.6nm,0.8s,mb3.8,baz=63,slow=9.9,SNR=4.5						
TXAR	**Lajitas Array**	**63.95**	**288**	P	**P**	**12 22 48.3**	**-0.1**
	1.2nm,0.9s,mb3.9,baz=79,slow=6.4,SNR=8.4						
LPAZ	**La Paz**	**67.19**	**225**	P	**P**	**12 23 11.6**	**+2.3**
	0.4nm,0.3s,mb3.9,baz=22,slow=12,SNR=5.4						
LPAZ				LR	LR	12 47 42.0	
	comp=Z,102nm,19.6s,MS4.0,baz=235,slow=32						
ILAR	**Eielson Array**	**67.91**	**337**	P	**P**	**12 23 14.8**	**+1.7**
	0.6nm,0.9s,mb3.6,baz=37,slow=4.9,SNR=6.1						
CPUP	**Villa Florida**	**70.57**	**210**	LR	LR	12 53 33.4	
	comp=Z,150nm,19.6s,MS4.2,baz=302,slow=35						
ZAL	**Zalesovo**	**70.62**	**36**	LR	LR	12 55 44.9	
	comp=Z,184nm,18.4s,MS4.4,baz=341,slow=37						
MKAR	**Makanchi Array**	**73.79**	**43**	P	**P**	**12 23 50.8**	**+2.0**
	1.2nm,0.9s,mb3.6,baz=297,slow=5.4,SNR=6.3						
MKAR				LR	LR	12 55 47.2	
	comp=Z,109nm,21.2s,MS4.1,slow=35						
SONM	**Songino Array**	**84.44**	**30**	P	**P**	**12 24 51.0**	**+4.6**
	0.3nm,0.5s,mb3.7,baz=315,slow=2.0,SNR=3.6						
PLCA	**Paso Flores**	**88.49**	**213**	LR	LR	13 01 38.9	
	comp=Z,120nm,19.9s,MS4.3,baz=56,slow=34						

*CSEM **21** 12:13:23.0±0.7,37.75N×25.42W,h6km,ML3.3,Error ellipse: s-maj=23.0km s-min=11.2km az=173.0,After PDA*
*PDA **21** 12:13:23.0±0.5,37.75N×25.42W,h6km±2km,ML3.3,Error ellipse: s-maj=1.9km s-min=1.3km az=136.0*
SVSA 21 12:13:23.0±0.5,37.75N×25.42W,h6km±2km,ML3.3, Error ellipse: s-maj=1.9km s-min=1.3km az=136.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**258**	*eP*	Pg	12 13 24.6	+0.4
VIF				*eS*	Sg	12 13 26.0	+0.9
PCNG	**Congro**	**0.02**	**40**	*eS*	Sg	12 13 26.1	+1.0
MESC	**Monte Escuro**	**0.05**	**331**	*eP*	Pg	12 13 24.8	+0.3
MESC				*eS*	Sg	12 13 26.7	+1.1
PRCH	**Ribeira Ch**	**0.06**	**248**	*eS*	Sg	12 13 26.3	+0.6
PMAT	**Coroa da Mata**	**0.08**	**326**	*eS*	Sg	12 13 27.1	+0.8
CMLA	**Cha da Macela**	**0.09**	**280**	*eP*	Pg	12 13 26.1	+1.0
CMLA				*eS*	Sg	12 13 28.1	+1.6
MIRA	**Miradouro**	**0.11**	**71**	*eP*	Pg	12 13 27.0	+1.4
MIRA				*eS*	Sg	12 13 29.2	+1.9
PFAD	**Fenais da Ajud**	**0.12**	**39**	*eS*	Sg	12 13 28.1	+0.8
PDA	**Ponta Delgada**	**0.20**	**269**	*eP*	Pg	12 13 27.4	+0.3
PSET	**Sete Cidades**	**0.25**	**287**	*eS*	Sg	12 13 32.0	+0.3
	2µm,0.4s						

*CSEM **21** 12:13:54.5±0.6,37.76N×25.41W,h4km±2km,ML3.0,Error ellipse: s-maj=1.4km s-min=1.3km az=115.0,After PDA*
*PDA **21** 12:13:54.5±0.6,37.76N×25.41W,h4km±2km,ML3.0,Error ellipse: s-maj=1.4km s-min=1.3km az=115.0*
SVSA 21 12:13:54.5±0.6,37.76N×25.41W,h4km±2km,ML3.0, Error ellipse: s-maj=1.4km s-min=1.3km az=115.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**74**	*i* P	Pg	12 13 55.6	+0.3
PCNG				*eS*	Sg	12 13 56.7	+0.9
PCNG	**Congro**	**0.01**	**74**	*eS*	Sg	12 13 56.7	+0.9
VIF	**Vila Franca**	**0.03**	**228**	*eP*	Pg	12 13 56.0	+0.6
VIF				*eS*	Sg	12 13 57.1	+1.1
MESC	**Monte Escuro**	**0.04**	**320**	*eP*	Pg	12 13 56.0	+0.5
MESC				*eS*	Sg	12 13 57.6	+1.4
LFA	**Lagoa do Fogo**	**0.06**	**280**	*eP*	Pg	12 13 56.3	+0.5
PRCH	**Ribeira Ch**	**0.06**	**236**	*eS*	Sg	12 13 57.8	+0.9
	3µm,0.3s						
PMAT	**Coroa da Mata**	**0.07**	**320**	*eS*	Sg	12 13 58.0	+0.9
CMLA	**Cha da Macela**	**0.09**	**270**	*eP*	Pg	12 13 56.0	-0.4
CMLA				*eS*	Sg	12 13 57.7	+0.1
PFAD	**Fenais da Ajud**	**0.10**	**44**	*eP*	Pg	12 13 57.4	+0.7
CML	**Cha da Macela**	**0.10**	**274**	*eP*	Pg	12 13 57.4	+0.7
MIRA	**Miradouro**	**0.11**	**78**	*eP*	Pg	12 13 57.4	+0.6
MIRA				*eS*	Sg	12 13 59.5	+1.2

*CSEM **21** 12:14:22.5±1.2,37.78N×25.43W,h1km,ML2.7,Error ellipse: s-maj=33.9km s-min=11.5km az=48.0,After PDA*
*PDA **21** 12:14:22.5±0.9,37.78N×25.43W,h1km±1km,ML2.7,Error ellipse: s-maj=1.4km s-min=1.0km az=59.0*
SVSA 21 12:14:22.5±0.9,37.78N×25.43W,h1km±1km,ML2.7, Error ellipse: s-maj=1.4km s-min=1.0km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**312**	*eP*	Pg	12 14 23.4	+0.5
MESC				*eS*	Sg	12 14 24.7	+1.5
PCNG	**Congro**	**0.03**	**118**	*eP*	Pg	12 14 23.6	+0.5
PCNG				*eS*	Sg	12 14 24.9	+1.4
VIF	**Vila Franca**	**0.04**	**196**	*eP*	Pg	12 14 23.5	+0.2
VIF				*eS*	Sg	12 14 24.8	+1.0
PMAT	**Coroa da Mata**	**0.05**	**316**	*eS*	Sg	12 14 25.0	+0.8
PRCH	**Ribeira Ch**	**0.07**	**219**	*eS*	Sg	12 14 26.1	+1.3
CMLA	**Cha da Macela**	**0.08**	**258**	*eP*	Pg	12 14 25.3	+1.2
CMLA				*eS*	Sg	12 14 27.3	+2.2
PFAD	**Fenais da Ajud**	**0.10**	**54**	*eS*	Sg	12 14 27.2	+1.3
MIRA	**Miradouro**	**0.12**	**87**	*eP*	Pg	12 14 22.1	-2.8
MIRA				*eS*	Sg	12 14 24.7	-1.7
PDA	**Ponta Delgada**	**0.19**	**260**	*eP*	Pg	12 14 27.3	+1.0
PDA				*eS*	Sg	12 14 30.7	+1.9
PSET	**Sete Cidades**	**0.24**	**281**	*eP*	Pg	12 14 27.8	+0.6
PSET				*eS*	Sg	12 14 32.3	+1.9
	1µm,0.3s						

*CSEM **21** 12:14:58.1±0.1,37.76N×25.41W,h3km,ML3.0,Error ellipse: s-maj=6.6km s-min=1.8km az=170.0,After PDA*
*PDA **21** 12:14:58.1±0.8,37.76N×25.41W,h3km±1km,ML3.0,Error ellipse: s-maj=2.4km s-min=1.5km az=116.0*
SVSA 21 12:14:58.1±0.8,37.76N×25.41W,h3km±1km,ML3.0, Error ellipse: s-maj=2.4km s-min=1.5km az=116.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**36**	*i* P	Pg	12 14 59.0	+0.4
VIF	**Vila Franca**	**0.03**	**246**	*i* P	Pg	12 14 59.5	+0.6
VIF				*eS*	Sg	12 15 00.3	+0.9
VIF	**Vila Franca**	**0.03**	**246**	*eS*	Sg	12 15 00.3	+0.9
MESC	**Monte Escuro**	**0.05**	**318**	*i* P	Pg	12 14 59.8	+0.6
MESC				*eS*	Sg	12 15 01.0	+1.1
MESC	**Monte Escuro**	**0.05**	**318**	*eS*	Sg	12 15 01.0	+1.1
LFA	**Lagoa do Fogo**	**0.06**	**284**	*eP*	Pg	12 15 00.2	+0.7
PRCH	**Ribeira Ch**	**0.07**	**244**	*eP*	Pg	12 15 00.0	+0.5
PRCH				*eS*	Sg	12 15 01.6	+1.2
PMAT	**Coroa da Mata**	**0.08**	**318**	*eP*	Pg	12 15 00.5	+0.8
PMAT				*eS*	Sg	12 15 02.0	+1.2
CMLA	**Cha da Macela**	**0.10**	**274**	*eP*	Pg	12 14 59.7	-0.4
CMLA				*eS*	Sg	12 15 01.8	+0.4
MIRA	**Miradouro**	**0.10**	**74**	*eP*	Pg	12 15 00.6	+0.4
MIRA				*eS*	Sg	12 15 02.8	+1.1
PFAD	**Fenais da Ajud**	**0.10**	**38**	*i* P	Pg	12 15 00.8	+0.6
CML	**Cha da Macela**	**0.11**	**277**	*eP*	Pg	12 15 01.0	+0.6
FAC	**Faja de Cima**	**0.20**	**275**	*eP*	Pg	12 15 03.0	+1.0
PDA	**Ponta Delgada**	**0.20**	**267**	*eP*	Pg	12 15 02.6	+0.4
PDA				*eS*	Sg	12 15 05.6	+0.6
PSET	**Sete Cidades**	**0.26**	**285**	*eP*	Pg	12 15 03.1	-0.2
PSET				*eS*	Sg	12 15 07.8	+1.0
	1µm,0.3s						
PSAN	**Santo Antonio**	**0.27**	**290**	*eP*	Pg	12 15 04.2	+0.7
PFET	**Feteiras**	**0.31**	**281**	*eP*	Pg	12 15 04.7	+0.4
SET2	**Ginetes**	**0.33**	**285**	*eP*	Pg	12 15 05.3	+0.6
SET4	**Mosteiros**	**0.33**	**291**	*eP*	Pg	12 15 05.0	+0.2

*CSEM **21** 12:15:34.2±0.5,37.76N×25.41W,h4km,ML3.0,Error ellipse: s-maj=19.2km s-min=4.1km az=166.0,After PDA*
*PDA **21** 12:15:34.2±0.7,37.76N×25.41W,h4km±1km,ML3.0,Error ellipse: s-maj=2.1km s-min=1.5km az=119.0*
SVSA 21 12:15:34.2±0.7,37.76N×25.41W,h4km±1km,ML3.0, Error ellipse: s-maj=2.1km s-min=1.5km az=119.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**60**	*i* P	Pg	12 15 35.3	+0.4
PCNG				*eS*	Sg	12 15 36.2	+0.8
PCNG	**Congro**	**0.01**	**60**	*eS*	Sg	12 15 36.2	+0.8
VIF	**Vila Franca**	**0.03**	**236**	*i* P	Pg	12 15 35.7	+0.6
VIF				*eS*	Sg	12 15 36.7	+0.9
VIF	**Vila Franca**	**0.03**	**236**	*eS*	Sg	12 15 36.7	+0.9
MESC	**Monte Escuro**	**0.04**	**315**	*i* P	Pg	12 15 35.9	+0.6
MESC				*eS*	Sg	12 15 37.2	+1.1
MESC	**Monte Escuro**	**0.04**	**315**	*eS*	Sg	12 15 37.2	+1.1
LFA	**Lagoa do Fogo**	**0.06**	**280**	*eP*	Pg	12 15 36.4	+0.8
PRCH	**Ribeira Ch**	**0.07**	**240**	*eP*	Pg	12 15 36.2	+0.5
PRCH				*eS*	Sg	12 15 37.6	+0.9
PMAT	**Coroa da Mata**	**0.07**	**317**	*eP*	Pg	12 15 36.4	+0.6
PMAT				*eS*	Sg	12 15 38.0	+1.1
CMLA	**Cha da Macela**	**0.09**	**271**	*eP*	Pg	12 15 35.

	984nm,0.2s							
PSAN	**Santo Antonio**	**0.26**	**289**	*e*P		Pg	12 16 34.9	+0.7
PFET	**Feteiras**	**0.30**	**280**	*e*P		Pg	12 16 35.3	+0.3
SET2	**Ginetes**	**0.32**	**284**	*e*P		Pg	12 16 35.8	+0.4
SET4	**Mosteiros**	**0.32**	**290**	*e*P		Pg	12 16 35.5	0.0

*CSEM **21** 12:17:10.5±0.3, 37.77N×25.44W, h4km±2km, ML3.2, Error ellipse: s-maj=14.6km s-min=5.9km az=11.0, After PDA*
*PDA **21** 12:17:10.5±1.1, 37.77N×25.44W, h4km±2km, ML3.2, Error ellipse: s-maj=2.9km s-min=2.3km az=116.0*
SVSA 21 12:17:10.5±1.1, 37.77N×25.44W, h4km±2km, ML3.2, Error ellipse: s-maj=2.9km s-min=2.3km az=116.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
VIF	**Vila Franca**	**0.02**	**175**	*i* P		Pg	12 17 11.9	+0.6
VIF				*e*S		Sg	12 17 12.7	+0.8
VIF	**Vila Franca**	**0.02**	**175**	*e*S		Sg	12 17 12.7	+0.8
MESC	**Monte Escuro**	**0.03**	**354**	*i* P		Pg	12 17 11.9	+0.5
LFA	**Lagoa do Fogo**	**0.03**	**283**	*i* P		Pg	12 17 12.1	+0.6
PCNG	**Congro**	**0.04**	**87**	*i* P		Pg	12 17 12.1	+0.6
PCNG				*e*S		Sg	12 17 13.2	+1.0
PCNG	**Congro**	**0.04**	**87**	*e*S		Sg	12 17 13.2	+1.0
PRCH	**Ribeira Ch**	**0.05**	**219**	*i* P		Pg	12 17 12.3	+0.6
PRCH				*e*S		Sg	12 17 13.4	+0.9
PRCH	**Ribeira Ch**	**0.05**	**219**	*e*S		Sg	12 17 13.4	+0.9
PMAT	**Coroa da Mata**	**0.06**	**336**	*i* P		Pg	12 17 12.2	+0.4
PMAT				*e*S		Sg	12 17 13.6	+0.9
CMLA	**Cha da Macela**	**0.07**	**269**	*e*P		Pg	12 17 11.7	-0.3
CMLA				*e*S		Sg	12 17 13.6	+0.6
FRA1	**Furnas**	**0.07**	**108**	*e*P		Pg	12 17 12.8	+0.7
CML	**Cha da Macela**	**0.08**	**274**	*i* P		Pg	12 17 13.4	+1.1
PFAD	**Fenais da Ajud**	**0.12**	**52**	*i* P		Pg	12 17 13.8	+0.8
MIRA	**Miradouro**	**0.13**	**81**	*e*P		Pg	12 17 13.8	+0.6
MIRA				*e*S		Sg	12 17 16.5	+1.5
FAC	**Faja de Cima**	**0.17**	**273**	*e*P		Pg	12 17 15.4	+1.5
PDA	**Ponta Delgada**	**0.18**	**264**	*e*P		Pg	12 17 14.4	+0.3
PSET	**Sete Cidades**	**0.23**	**285**	*e*P		Pg	12 17 14.9	-0.2
PSET				*e*S		Sg	12 17 18.6	+0.4
	8µm,0.4s							
PSAN	**Santo Antonio**	**0.24**	**291**	*e*P		Pg	12 17 16.4	+1.0
PFET	**Feteiras**	**0.28**	**281**	*e*P		Pg	12 17 17.0	+0.9
SET2	**Ginetes**	**0.30**	**285**	*e*P		Pg	12 17 17.5	+1.0
SET4	**Mosteiros**	**0.30**	**291**	*e*P		Pg	12 17 18.4	+0.8
PSCM	**Serra do Cume**	**1.62**	**306**	*e*P		Pn	12 17 35.8	-4.2
PSCM				*e*S		Sb	12 17 54.8	-6.4
	177nm,0.4s							
ADH	**Angra Heroismo**	**1.67**	**303**	*e*P		Pn	12 17 36.4	-4.3
ADH				*e*S		Sb	12 17 56.2	-6.6
PMAN	**Manadas**	**2.26**	**293**	*e*S		Sn	12 18 09.5	-8.3
	10nm,0.2s							
PICO	**Pico**	**2.46**	**288**	*e*P		Pn	12 17 48.2	-3.9
PICO				*e*S		Sn	12 18 16.4	-6.6
HOR	**Horta**	**2.63**	**288**	*e*P		Pn	12 17 48.3	-6.1
CALA	**Caldeira**	**2.69**	**289**	*e*P		Pn	12 17 48.5	-6.9

*CSEM **21** 12:17:33.1±0.3, 37.77N×25.42W, h5km, ML3.3, Error ellipse: s-maj=10.3km s-min=7.7km az=158.0, After PDA*
*PDA **21** 12:17:33.1±0.8, 37.77N×25.42W, h5km±1km, ML3.3, Error ellipse: s-maj=2.9km s-min=2.1km az=109.0*
SVSA 21 12:17:33.1±0.8, 37.77N×25.42W, h5km±1km, ML3.3, Error ellipse: s-maj=2.9km s-min=2.1km az=109.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PCNG	**Congro**	**0.02**	**83**	*e*P		Pg	12 17 34.4	+0.3
PCNG				*e*S		Sg	12 17 35.6	+0.8
VIF	**Vila Franca**	**0.03**	**223**	*e*P		Pg	12 17 34.8	+0.6
VIF				*e*S		Sg	12 17 36.2	+1.2
MESC	**Monte Escuro**	**0.04**	**320**	*e*P		Pg	12 17 35.0	+0.7
MESC				*e*S		Sg	12 17 36.3	+1.2
PRCH	**Ribeira Ch**	**0.06**	**234**	*e*P		Pg	12 17 35.3	+0.6
PRCH				*e*S		Sg	12 17 36.8	+1.1
PMAT	**Coroa da Mata**	**0.07**	**319**	*e*P		Pg	12 17 35.1	+0.3
PMAT				*e*S		Sg	12 17 36.9	+1.0
CMLA	**Cha da Macela**	**0.09**	**269**	*e*P		Pg	12 17 35.2	+0.1
CMLA				*e*S		Sg	12 17 37.0	+0.6
PFAD	**Fenais da Ajud**	**0.10**	**45**	*e*P		Pg	12 17 36.0	+0.6
MIRA	**Miradouro**	**0.11**	**79**	*e*P		Pg	12 17 35.4	-0.1
MIRA				*e*S		Sg	12 17 37.6	+0.5
PDA	**Ponta Delgada**	**0.20**	**265**	*e*S		Sg	12 17 39.7	-0.1
PSET	**Sete Cidades**	**0.25**	**284**	*e*S		Sg	12 17 42.3	+0.8
	3µm,0.4s							

*CSEM **21** 12:18:02.1±0.1, 37.77N×25.44W, h4km, ML3.2, Error ellipse: s-maj=3.5km s-min=1.7km az=12.0, After PDA*
*PDA **21** 12:18:02.1±0.4, 37.77N×25.44W, h4km, MD3.8, ML3.2, Error ellipse: s-maj=1.0km s-min=0.8km az=95.0*
SVSA 21 12:18:02.1±0.4, 37.77N×25.44W, h4km, MD3.8, ML3.2, Error ellipse: s-maj=1.0km s-min=0.8km az=95.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MESC	**Monte Escuro**	**0.02**	**341**	*i* P		Pg	12 18 03.4	+0.4
MESC				*e*S		Sg	12 18 04.5	+1.0
MESC	**Monte Escuro**	**0.02**	**341**	*e*S		Sg	12 18 04.5	+1.0
VIF	**Vila Franca**	**0.03**	**186**	*i* P		Pg	12 18 03.5	+0.5
VIF				*e*S		Sg	12 18 04.6	+1.0
VIF	**Vila Franca**	**0.03**	**186**	*e*S		Sg	12 18 04.6	+1.0
PCNG	**Congro**	**0.03**	**97**	*i* P		Pg	12 18 03.5	+0.4
PCNG				*e*S		Sg	12 18 04.7	+1.0
PCNG	**Congro**	**0.03**	**97**	*e*S		Sg	12 18 04.7	+1.0
LFA	**Lagoa do Fogo**	**0.04**	**272**	*e*P		Pg	12 18 03.7	+0.6
PMAT	**Coroa da Mata**	**0.05**	**328**	*e*P		Pg	12 18 03.9	+0.5
PMAT				*e*S		Sg	12 18 05.2	+1.0
PRCH	**Ribeira Ch**	**0.06**	**219**	*e*P		Pg	12 18 04.0	+0.6
PRCH				*e*S		Sg	12 18 05.3	+1.0
FRA1	**Furnas**	**0.07**	**114**	*e*P		Pg	12 18 04.2	+0.6
CMLA	**Cha da Macela**	**0.07**	**264**	*e*P		Pg	12 18 03.3	-0.4
CMLA				*e*S		Sg	12 18 05.0	+0.3
CML	**Cha da Macela**	**0.09**	**270**	*e*P		Pg	12 18 05.1	+1.1
PFAD	**Fenais da Ajud**	**0.11**	**53**	*i* P		Pg	12 18 05.3	+0.8
MIRA	**Miradouro**	**0.12**	**83**	*e*P		Pg	12 18 05.3	+0.6
MIRA				*e*S		Sg	12 18 07.7	+1.3
FAC	**Faja de Cima**	**0.17**	**271**	*e*P		Pg	12 18 07.5	+1.9
PDA	**Ponta Delgada**	**0.18**	**262**	*e*P		Pg	12 18 06.0	+0.2
PDA				*e*S		Sg	12 18 09.2	+0.9
PSET	**Sete Cidades**	**0.23**	**283**	*e*P		Pg	12 18 07.0	+0.2
PSET				*e*S		Sg	12 18 10.9	+1.0
	3µm,0.4s							
PSAN	**Santo Antonio**	**0.24**	**289**	*e*P		Pg	12 18 08.2	+1.2
PFET	**Feteiras**	**0.28**	**280**	*e*P		Pg	12 18 08.8	+1.0
SET2	**Ginetes**	**0.30**	**284**	*e*P		Pg	12 18 09.5	+1.3
SET4	**Mosteiros**	**0.30**	**290**	*e*P		Pg	12 18 09.2	+1.0

DHMR 21 12:25:00.5±0.5, 12.68N×40.46E, h10km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.65**	**69**	*i* S		Sn	12 26 46.6	+4.7
UDYN				AML		AML	12 27 01.9	
	comp=N,290nm,0.6s							
DHBB	**Dhamar BB**	**4.26**	**63**	*e*P		Pn	12 26 08.3	+1.4
DHBB				*i* S		Sn	12 27 00.6	+3.3
LBOS		**4.81**	**75**	*e*P		Pn	12 26 13.1	-1.8
LBOS				*i* S		Sn	12 27 10.4	-1.0
BDHA	**Al Bayda'**	**5.14**	**75**	*i* S		Sn	12 27 18.1	-1.4

*CSEM **21** 12:30:46.7±1.5, 37.77N×25.41W, h4km, ML2.5, Error ellipse: s-maj=35.6km s-min=17.2km az=117.0, After PDA*
*PDA **21** 12:30:46.7±0.9, 37.77N×25.41W, h4km±1km, MD2.5, ML2.5, Error ellipse: s-maj=2.1km s-min=1.5km az=126.0*
SVSA 21 12:30:46.7±0.9, 37.77N×25.41W, h4km±1km, MD2.5, ML2.5, Error ellipse: s-maj=2.1km s-min=1.5km az=126.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PCNG	**Congro**	**0.01**	**122**	*i* P		Pg	12 30 47.6	+0.2
PCNG				*i* S		Sg	12 30 48.5	+0.7
PCNG	**Congro**	**0.01**	**122**	*i* S		Sg	12 30 48.5	+0.7
MESC	**Monte Escuro**	**0.04**	**304**	*i* P		Pg	12 30 48.4	+0.7
MESC				*i* S		Sg	12 30 49.4	+1.1
MESC	**Monte Escuro**	**0.04**	**304**	*i* S		Sg	12 30 49.4	+1.1
VIF	**Vila Franca**	**0.04**	**225**	*i* P		Pg	12 30 48.3	+0.6
VIF				*i* S		Sg	12 30 49.7	+1.4
	3µm,0.2s							
VIF	**Vila Franca**	**0.04**	**225**	*i* S		Sg	12 30 49.7	+1.4
FRA1	**Furnas**	**0.05**	**127**	*i* P		Pg	12 30 48.1	+0.2
LFA	**Lagoa do Fogo**	**0.06**	**271**	*i* P		Pg	12 30 48.9	+0.8
PMAT	**Coroa da Mata**	**0.07**	**310**	*e*P		Pg	12 30 48.9	+0.7
PMAT				*e*S		Sg	12 30 50.1	+0.9
PRCH	**Ribeira Ch**	**0.07**	**233**	*e*P		Pg	12 30 48.9	+0.6
PRCH				*i* S		Sg	12 30 50.4	+1.0
	3µm,0.3s							
CMLA	**Cha da Macela**	**0.09**	**265**	*e*P		Pg	12 30 48.4	-0.3
CMLA				*e*S		Sg	12 30 50.7	+0.7
PFAD	**Fenais da Ajud**	**0.09**	**45**	*i* P		Pg	12 30 49.4	+0.7
PFAD				*i* S		Sg	12 30 51.4	+1.4
PFAD	**Fenais da Ajud**	**0.09**	**45**	*i* S		Sg	12 30 51.4	+1.4
MIRA	**Miradouro**	**0.10**	**82**	*i* P		Pg	12 30 49.3	+0.5
MIRA				*e*S		Sg	12 30 51.4	+1.2
MIRA	**Miradouro**	**0.10**	**82**	*e*S		Sg	12 30 51.4	+1.2
CML	**Cha da Macela**	**0.11**	**269**	*i* P		Pg	12 30 50.1	+1.1
CML				*e*S		Sg	12 30 52.4	+1.9
CML	**Cha da Macela**	**0.11**	**269**	*e*S		Sg	12 30 52.4	+1.9
FAC	**Faja de Cima**	**0.19**	**270**	*e*P		Pg	12 30 52.2	+1.6
FAC				*e*S		Sg	12 30 55.2	+2.0
PDA	**Ponta Delgada**	**0.20**	**263**	*e*P		Pg	12 30 51.2	+0.3
PDA				*e*S		Sg	12 30 54.6	+1.0
PSET	**Sete Cidades**	**0.26**	**282**	*e*P		Pg	12 30 51.6	-0.2
PSET				*e*S		Sg	12 30 56.2	+1.0
	250nm,0.2s							
PSAN	**Santo Antonio**	**0.27**	**287**	*e*P		Pg	12 30 53.2	+1.2
PFET	**Feteiras**	**0.31**	**279**	*e*P		Pg	12 30 53.8	+0.9
SET2	**Ginetes**	**0.33**	**283**	*e*P		Pg	12 30 54.2	+1.0
SET4	**Mosteiros**	**0.33**	**288**	*e*P		Pg	12 30 54.7	+1.4
PSCM	**Serra do Cume**	**1.64**	**305**	*e*P		Pn	12 31 12.5	-4.0
PSCM				*e*S		Sb	12 31 31.6	-6.5
	20nm,0.3s							

*CSEM **21** 12:31:36.1±0.2, 37.78N×25.52W, h10km±2km, ML3.3, After PDA*
*PDA **21** 12:31:36.1±1.2, 37.78N×25.52W, h10km±7km, MD2.5, ML3.3, Error ellipse: s-maj=16.7km s-min=5.1km az=92.0*
SVSA 21 12:31:36.9±0.9, 37.78N×25.45W, MD2.9, ML3.5, Error ellipse: s-maj=1.4km s-min=1.0km az=64.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MESC	**Monte Escuro**	**0.02**	**1**	*i* P		Pg	12 31 37.9	+0.6
LFA	**Lagoa do Fogo**	**0.03**	**265**	*i* P		Pg	12 31 38.2	+0.7
LFA	**Lagoa do Fogo**	**0.03**	**265**	*i* P		Pg	12 31 38.2	+0.7
VIF	**Vila Franca**	**0.03**	**171**	*i* P		Pg	12 31 38.2	+0.7
VIF				*e*S		Sg	12 31 39.7	+1.8
VIF	**Vila Franca**	**0.03**	**171**	*i* P		Pg	12 31 38.2	+0.7
PCNG	**Congro**	**0.04**	**101**	*e*P		Pg	12 31 38.5	+0.8
PCNG				*e*S		Sg	12 31 39.8	+1.6
PMAT	**Coroa da Mata**	**0.04**	**334**	*e*P		Pg	12 31 38.3	+0.5
PMAT				*e*S		Sg	12 31 39.9	+1.5
PRCH	**Ribeira Ch**	**0.05**	**210**	*e*P		Pg	12 31 38.5	+0.5
PRCH				*e*S		Sg	12 31 40.1	+1.4
PRCH	**Ribeira Ch**	**0.05**	**210**	*e*P		Pg	12 31 38.5	+0.5
PRCH				*e*S		Sg	12 31 40.4	+1.7
	17µm,0.5s							
CMLA	**Cha da Macela**	**0.06**	**260**	*e*P		Pg	12 31 39.3	+1.1
CMLA				*e*S		Sg	12 31 41.6	+2.6
FRA1	**Furnas**	**0.08**	**114**	*e*P		Pg	12 31 39.5	+1.1
CML	**Cha da Macela**	**0.08**	**267**	*e*P		Pg	12 31 39.5	+1.0
CML				*e*S		Sg	12 31 41.1	+1.6
PFAD	**Fenais da Ajud**	**0.12**	**57**	*e*P		Pg	12 31 40.1	+0.9
MIRA	**Miradouro**	**0.13**	**85**	*e*P		Pg	12 31 41.0	+1.4
PDA	**Ponta Delgada**	**0.17**	**261**	*e*P		Pg	12 31 41.1	+0.7
PSET	**Sete Cidades**	**0.22**	**283**	*e*P		Pg	12 31 42.5	+1.1
PSET				*e*S		Sg	12 31 47.1	+2.8
	5µm,0.3s							
PSAN	**Santo Antonio**	**0.23**	**289**	*e*P		Pg	12 31 44.0	+2.4
PFET	**Feteiras**	**0.28**	**279**	*e*P		Pg	12 31 44.1	+1.7
PFET	**Feteiras**	**0.28**	**279**	*e*P		Pg	12 31 43.3	+0.9
PFET	**Feteiras**	**0.28**	**279**	*e*P		Pg	12 31 43.3	+0.9
SET2	**Ginetes**	**0.29**	**284**	*e*P		Pg	12 31 45.0	+2.2
SET2	**Ginetes**	**0.29**	**284**	*e*P		Pg	12 31 43.9	+1.1
SET2	**Ginetes**	**0.29**	**284**	*e*P		Pg	12 31 43.9	+1.1
SET4	**Mosteiros**	**0.30**	**290**	*e*P		Pg	12 31 45.1	+2.3
SET4	**Mosteiros**	**0.30**	**290**	*e*P		Pg	12 31 44.0	+1.2
SET4	**Mosteiros**	**0.30**	**290**	*e*P		Pg	12 31 44.0	+1.2
PSMN	**Pico do Norte,**	**0.83**	**158**	*e*P		Pg	12 31 52.2	-1.2
PSMN				*e*S		Sg	12 32 02.4	-2.1
PSCM	**Serra do Cume**	**1.61**	**306**	*e*P		Pn	12 32 02.9	-3.8
PSCM				*e*S		Sb	12 32 22.3	-5.7
	182nm,0.4s							
ADH	**Angra Heroismo**	**1.66**	**302**	*e*P		Pn	12 32 03.4	-4.0
ADH				*e*S		Sb	12 32 23.7	-5.8

*CSEM **21** 12:38:27.8±0.0, 37.76N×25.39W, h4km, ML3.0, Error ellipse: s-maj=1.6km s-min=0.9km az=10.0, After PDA*
*PDA **21** 12:38:27.8±0.3, 37.76N×25.39W, h4km±1km, ML3.0, Error ellipse: s-maj=1.1km s-min=0.9km az=102.0*
SVSA 21 12:38:27.8±0.3, 37.76N×25.39W, h4km±1km, ML3.0, Error ellipse: s-maj=1.1km s-min=0.9km az=102.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PCNG	**Congro**	**0.00**	**322**	*i* P		Pg	12 38 29.1	+0.5
FRA1	**Furnas**	**0.04**	**126**	*e*P		Pg	12 38 29.2	+0.3
VIF	**Vila Franca**	**0.04**	**243**	*e*P		Pg	12 38 29.5	+0.6
MESC	**Monte Escuro**	**0.05**	**305**	*i* P		Pg	12 38 29.7	+0.6
MESC				*i* S		Sg	12 38 31.2	+1.3
MESC	**Monte Escuro**	**0.05**	**305**	*i* S		Sg	12 38 31.2	+1.3
LFA	**Lagoa do Fogo**	**0.07**	**277**	*i* P		Pg	12 38 30.1	+0.7
PRCH	**Ribeira Ch**	**0.08**	**243**	*e*P		Pg	12 38 30.1	+0.6
PRCH				*e*S		Sg	12 38 31.6	+0.9
	5µm,0.3s							
PMAT	**Coroa da Mata**	**0.08**	**310**	*e*P		Pg	12 38 30.0	+0.4
PMAT				*e*S		Sg	12 38 31.8	+1.0
MIRA	**Miradouro**	**0.09**	**77**	*e*P		Pg	12 38 30.2	+0.4
PFAD	**Fenais da Ajud**	**0.09**	**37**	*i* P		Pg	12 38 30.3	+0.5
CMLA	**Cha da Macela**	**0.10**	**270**	*e*P		Pg	12 38 29.6	-0.4
CMLA				*e*S		Sg	12 38 31.9	+0.4
CML	**Cha da Macela**	**0.12**	**273**	*i* P		Pg	12 38 31.2	+0.9
FAC	**Faja de Cima**	**0.20**	**273**	*e*P		Pg	12 38 33.2	+1.2
PDA	**Ponta Delgada**	**0.21**	**265**	*e*P		Pg	12 38 32.3	+0.1
PDA				*e*S		Sg	12 38 35.8	+0.7
PSAN	**Santo Antonio**	**0.28**	**288**	*e*P		Pg	12 38 34.2	+0.8
PFET	**Feteiras**	**0.32**	**280**	*e*P		Pg	12 38 34.7	+0.5
SET2	**Ginetes**	**0.34**	**284**	*e*P		Pg	12 38 35.2	+0.6
SET4	**Mosteiros**	**0.34**	**289**	*e*P		Pg	12 38 34.9	+0.3
PSMN	**Pico do Norte,**	**0.80**	**161**	*e*P		Pg	12 38 41.4	-2.5
PSMN				*e*S		Sg	12 38 51.7	-2.9

DHMR 21 12:39:21.9±2.9, 12.66N×40.51E, h11km±342km, ML3.7, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.61**	**69**	*i* S		Sn	12 41 06.7	+4.6
UDYN				AML		AML	12 41 23.7	
	comp=N,271nm,0.5s							
DHBB	**Dhamar BB**	**4.23**	**63**	*e*P		Pn	12 40 28.9	+1.2
DHBB				*i* S		Sn	12 41 21.2	+3.5
LBOS		**4.77**	**75**	*e*P		Pn	12 40 34.0	-1.5
LBOS				*i* S		Sn	12 41 30.4	-1.0
BDHA	**Al Bayda'**	**5.10**	**75**	*i* S		Sn	12 41 38.4	-1.2

DHMR 21 12:44:06.2±2.4, 12.57N×40.50E, h10km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.65**	**67**	*i* S		Sn	12 45 52.3	+4.8
UDYN				AML		AML	12 46 08.6	
	comp=N,272nm,0.5s							
DHBB	**Dhamar BB**	**4.27**	**62**	*i* P		Pn	12 45 13.8	+1.0
DHBB				*i* S		Sn	12 46 06.7	+3.4
LBOS		**4.80**	**74**	*e*P		Pn	12 45 18.9	-1.4
LBOS				*i* S		Sn	12 46 15.3	-1.3
BDHA	**Al Bayda'**	**5.12**	**74**	*i* S		Sn	12 46 23.6	-1.2

CASC 21 12:50:28.4±2.3, 13.40N×89.10W, h71km±10km, MD3.6, ML3.4, 3C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LFRS	**El Faro**	**0.22**	**8**	⇓*i*P		P	12 50 39.3	+0.1
LFRS				*e*S		S	12 50 47.1	-0.2
LCBS	**La Ceiba**	**0.28**	**24**	⇓*i*P		P	12 50 39.9	+0.2
LCBS				*e*S		S	12 50 48.4	+0.4
SNET	**Serv Nac Est T**	**0.31**	**335**	*e*P		P	12 50 40.0	+0.1
SNET				*e*S		S	12 50 48.7	+0.3
SNET				*i*			12 50 49.7	
	comp=Z,2µm,0.2s							
SNVI	**San Vicente**	**0.33**	**50**	*e*P		P	12 50 40.4	+0.4
SNVI				*e*S		S	12 50 49.5	+1.0
LBRS	**Las Brisas**	**0.34**	**9**	⇓*e*P		P	12 50 41.0	+0.9
LBRS				*e*S		S	12 50 50.0	+1.3
LFU	**La Fuente**	**0.35**	**357**	⇓*e*P		P	12 50 40.7	+0.6
LFU				*e*S		S	12 50 49.9	+1.1
BOQS	**Boqueron**	**0.38**	**332**	⇓*e*P		P	12 50 40.7	+0.4
BOQS				*e*S		S	12 50 50.3	+1.1
SBLS	**San Blas**	**0.67**	**310**	*e*P		P	12 50 43.2	-0.1
SBLS				*e*S		S	12 50 55.2	+1.0
SNJE	**San Jose**	**0.68**	**313**	⇑*e*P		P	12 50 43.7	+0.5
SNJE				*e*S		S	12 50 55.2	+0.8
RTR	**El Retiro**	**0.73**	**313**	⇓*e*P		P	12 50 44.3	+0.5
RTR				*e*S		S	12 50 56.6	+1.2
BLLM	**Bellamira**	**0.83**	**87**	⇑*e*P		P	12 50 45.8	+0.7
MTO2	**Montecristo 2**	**1.03**	**345**	*e*P		P	12 50 49.3	+1.7
MTO2				*e*S		S	12 51 00.8	-1.0
CNCH	**Conchagua**	**1.23**	**96**	⇑*e*P		P	12 50 50.5	+0.2
CNCH				*e*S		S	12 51 08.2	+1.7
TEL3	**Telica 3**	**2.34**	**110**	*e*S		S	12 51 30.8	-2.4

*IDC **21** 12:52:12.8±3.1, 12.34N×40.52E, mb3.9/10, mb1 4.0/10, mb1mx4.0/19, mbtmp3.9/10, MS3.8/7, Ms1 3.8/7, ms1mx3.6/18, Error ellipse: s-maj=66.9km s-min=26.7km az=3.0*
*DHMR **21** 12:52:16.6±1.2, 12.68N×40.54E, h2km±122km, ML4.1*
ISC 21 12:52:12.2±1.1, 12.3N±0.1×40.42E±0.05, h10km, n23, σ1°9°04/21, mb4.0/9, MS3.9/7, 2C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.85**	**63**	*e*P		**Pn**	**12 53 16.0**	**+3.0**
UDYN				*i* S		**Sn**	**12 54 02.6**	**+3.8**
UDYN				AML		AML	12 54 20.9	
	comp=N,768nm,0.6s							
DHBB	**Dhamar BB**	**4.50**	**59**	⇑*e*P		**Pn**	**12 53 24.5**	**+2.4**
DHBB				*i* S		**Sn**	**12 54 16.0**	**+0.9**
HAJJ	**Hajjah**	**4.61**	**42**	*e*P		**Pn**	**12 53 24.2**	**+0.5**
HAJJ				*i* S		**Sn**	**12 54 17.7**	**-0.2**
LBOS		**4.98**	**71**	⇑*i*P		**Pn**	**12 53 28.6**	**-0.2**
LBOS				*i* S		**Sn**	**12 54 26.3**	**-0.8**
BDHA	**Al Bayda'**	**5.30**	**71**	*e*P		**Pn**	**12 53 34.2**	**+0.8**
BDHA				*i* S		**Sn**	**12 54 33.9**	**-1.5**
ASF	**Jabal al Asfar**	**20.08**	**351**	P		**P**	**12 56 49.1**	**+0.3**
	comp=N,2.1nm,0.3s,baz=356,slow=4.1,SNR=4.8							
BHD	**Baghdad**	**21.23**	**9**	*ex*		x	12 57 28.0	
BHD				*ex*		x	13 01 36.0	
MSL	**Mosul**	**24.05**	**5**	*ex*		x	12 57 37.0	
IDI	**Anoyia**	**26.90**	**331**	LR		LR	13 10 32.1	
	comp=N,154nm,18.1s,MS3.6,baz=268,slow=41							
BRTR	**Keskin Array B**	**28.00**	**349**	P		**P**	**12 58 05.4**	**-0.1**
	comp=N,8.2nm,1.2s,mb4.2,baz=170,slow=7.5,SNR=12							
AKASG	**Malin Array Be**	**39.41**	**349**	P		**P**	**12 59 42.7**	**-1.3**
	comp=N,2.0nm,0.9s,mb3.9,baz=172,slow=7.2,SNR=8.1							
GERES	**GERESS Array B**	**42.67**	**334**	P		**P**	**13 00 10.5**	**-0.3**
	comp=N,0.6nm,0.3s,mb3.8,baz=135,slow=5.7,SNR=11							
USTO	**Oran**	**43.68**	**309**	P		**P**	**13 00 12.0**	**-7.2**
DBIC	**Dimbokro**	**44.95**	**267**	LR		LR	13 18 40.8	
	comp=N,74nm,19.9s,MS3.6,baz=64,slow=35							
MDT	**Midelt**	**45.93**	**304**	P		**P**	**13 00 38.0**	**+0.8**
	comp=N,1.5nm,0.9s,mb3.9,baz=85,slow=12,SNR=4.4							
BVAR	**Borovoye Array**	**47.19**	**24**	P		**P**	**13 00 46.1**	**-

RUS				*i* S		S	13 17 50.6	-0.9
GRL	**Gorelyy**	**3.02**	**344**	*e*P		P	13 17 21.6	+0.7
GRL				*e*S		S	13 17 56.0	-0.2
MIPR	**Malaya Ipel'ka**	**3.12**	**328**	*e*P		P	13 17 22.9	+0.6
KRMR	**Karymshinskiy**	**3.28**	**346**	*e*P		P	13 17 25.5	+1.0
KRMR				*e*S		S	13 18 03.2	+0.4
PET	**Petropavlovsk**	**3.41**	**352**	*e*P		P	13 17 26.4	+0.1
PET				*e*S		S	13 18 04.9	-1.0
SPN	**Mys Shipunski**	**3.46**	**6**	*i* P		P	13 17 27.3	+0.2
SPN				*i* S		S	13 18 06.4	-1.0
NLC	**Nalytchevo**	**3.52**	**359**	*i* P		P	13 17 28.6	+0.7
NLC				*i* S		S	13 18 07.8	-1.0
APC	**Apacha**	**3.57**	**337**	*e*P		P	13 17 28.7	+0.1
APC				*e*S		S	13 18 07.9	-2.2
UGLR	**Uglovaya**	**3.58**	**354**	*e*P		P	13 17 28.7	0.0
SMAR	**Somma**	**3.63**	**354**	*i* P		P	13 17 30.6	+1.1
AVH	**Avacha**	**3.64**	**353**	*e*P		P	13 17 30.5	+0.9
AVH				*e*S		S	13 18 11.8	0.0
SDLR	**Sedlovina**	**3.64**	**355**	*i* P		P	13 17 29.7	+0.1
KOK	**Koryaka**	**3.67**	**352**	*e*P		P	13 17 30.6	+0.5
GNL	**Ganaly**	**4.15**	**348**	*i* P		P	13 17 38.0	+1.2
GNL				*i* S		S	13 18 24.0	-0.7
MKZ	**Mys Kozlova**	**5.10**	**15**	*i* P		P	13 17 49.6	-0.7
MKZ				*i* S		S	13 18 44.4	-4.4
KMNR	**Kamenistaya**	**6.13**	**4**	*e*P		P	13 18 05.9	+1.3
KBTR	**Krutoberegovo**	**6.87**	**16**	*e*P		P	13 18 15.1	0.0
KBTR				*e*S		S	13 19 28.6	-4.3

*CSEM **21** 13:21:30.8±0.7, 37.77N×25.42W, h5km, ML2.9, Error ellipse: s-maj=24.8km s-min=11.0km az=178.0, After PDA*
*PDA **21** 13:21:30.8±0.8, 37.77N×25.42W, h5km±1km, MD2.0, ML2.9, Error ellipse: s-maj=2.4km s-min=1.6km az=65.0*
SVSA 21 13:21:30.8±0.8, 37.77N×25.42W, h5km±1km, MD2.0, ML2.9, Error ellipse: s-maj=2.4km s-min=1.6km az=65.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**101**	*i* P	Pg	13 21 31.9	+0.2
PCNG				*i* S	Sg	13 21 33.2	+0.8
PCNG	**Congro**	**0.02**	**101**	*i* S	Sg	13 21 33.2	+0.8
MESC	**Monte Escuro**	**0.03**	**319**	*i* P	Pg	13 21 32.5	+0.7
MESC				*e*S	Sg	13 21 33.7	+1.2
MESC	**Monte Escuro**	**0.03**	**319**	*e*S	Sg	13 21 33.7	+1.2
VIF	**Vila Franca**	**0.03**	**210**	*i* P	Pg	13 21 32.3	+0.5
VIF				*i* S	Sg	13 21 33.6	+1.1
	8µm,0.3s						
VIF	**Vila Franca**	**0.03**	**210**	*i* S	Sg	13 21 33.6	+1.1
LFA	**Lagoa do Fogo**	**0.05**	**272**	*i* P	Pg	13 21 32.8	+0.7
FRA1	**Furnas**	**0.06**	**119**	*i* P	Pg	13 21 32.6	+0.4
PMAT	**Coroa da Mata**	**0.06**	**319**	*e*S	Sg	13 21 34.4	+1.2
PRCH	**Ribeira Ch**	**0.06**	**227**	*e*P	Pg	13 21 32.7	+0.4
PRCH				*e*S	Sg	13 21 34.4	+1.1
	6µm,0.3s						
CMLA	**Cha da Macela**	**0.08**	**265**	*e*P	Pg	13 21 32.3	-0.3
CMLA				*e*S	Sg	13 21 33.9	0.0
MIRA	**Miradouro**	**0.11**	**83**	*e*P	Pg	13 21 33.7	+0.5
PDA	**Ponta Delgada**	**0.19**	**263**	*e*P	Pg	13 21 35.0	+0.2
PDA				*e*S	Sg	13 21 37.8	+0.4
PSET	**Sete Cidades**	**0.24**	**282**	*i* P	Pg	13 21 35.7	0.0
PSET				*e*S	Sg	13 21 39.7	+0.7
	733nm,0.3s						
PSET	**Sete Cidades**	**0.24**	**282**	*e*S	Sg	13 21 39.7	+0.7
PSMN	**Pico do Norte,**	**0.82**	**160**	*e*S	Sg	13 21 55.2	-2.8
PSCM	**Serra do Cume**	**1.63**	**305**	*erx*		13 22 04.5	

*NEIC **21** 13:26:00.9±1.6, 37.01N×71.68E, h91km±16km, mb3.9/3, Error ellipse: s-maj=16.8km s-min=7.6km az=63.0*
*MOS **21** 13:26:00.7±1.5, 37.06N×71.63E, h101km, mb4.1/3, Error ellipse: s-maj=13.8km s-min=8.2km az=93.9*
*IDC **21** 13:26:01.3±5.3, 37.03N×71.72E, h94km±47km, mb3.6/9, mb1 3.8/12, mb1mx3.6/21, mbtmp3.9/12, Error ellipse: s-maj=24.5km s-min=20.3km az=3.0*
*BJI **21** 13:26:02.4, 37.32N×71.47E, h111km, mB4.8, mb4.6*
*NNC **21** 13:26:07.0±7.2, 38.01N×70.54E, mpv3.9, Error ellipse: s-maj=55.0km s-min=51.6km az=0.0*
ISC 21 13:26:02.4±0.5, 37.19N±0.03×71.69E±0.07, h118km±7km, n59, σ1§39/70, mb3.8/13, 6C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.36**	**177**	⇓P	**P**	**13 26 55.2**	**+0.8**
CEP				S	**S**	**13 27 35.0**	**+1.1**
CHCP	**Chirah Chowk**	**3.75**	**159**	⇓P	**P**	**13 27 01.8**	**+2.2**
KSH	**Kashi**	**4.09**	**54**	*e*P	**P**	**13 27 09.0**	**+4.7**
KSH				S	**S**	**13 27 56.3**	**+4.7**
KSH				Smax			
	comp=N,860nm,0.8s						
KSH				Smax			
	comp=E,750nm,0.7s						
THW	**Thamme Wali**	**4.38**	**179**	⇓P	**P**	**13 27 07.9**	**-0.2**
AML	**Almayashu**	**5.18**	**17**	P	**P**	**13 27 19.6**	**+0.7**
	SNR=36						
UCH	**Uchtor**	**5.49**	**23**	P	**P**	**13 27 24.1**	**+1.0**
	SNR=37						
DRP	**Derazinda**	**5.56**	**193**	⇓P	**P**	**13 27 23.9**	**-0.2**
EKS2	**Erkin-Say**	**5.70**	**16**	P	**P**	**13 27 26.8**	**+0.9**
	SNR=25						
AAK	**Ala-Archa**	**5.85**	**21**	P	**P**	**13 27 28.9**	**+1.0**
	SNR=23						
AAK	**Ala-Archa**	**5.85**	**21**	⇑Pn	**P**	**13 27 28.9**	**+0.9**
	comp=E,11nm,0.5s						
AAK				⇑Sn	**S**	**13 28 32.6**	**-1.8**
	comp=E,63nm,0.8s						
AAK	**Ala-Archa**	**5.85**	**21**	*e*P	**P**	**13 27 27.6**	**-0.4**
	comp=E,16nm,0.4s						
AAK	**Ala-Archa**	**5.85**	**21**	PN	**P**	**13 27 28.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KK31	**Karatay Array**	**5.98**	**352**	⇑Pn	**P**	**13 27 28.6**	**-1.1**
	comp=Z,2.9nm,0.3s,baz=177,slow=12,SNR=212						
KK31				⇓Pg	**P**	**13 27 35.0**	**+5.3**
	comp=Z,7.9nm,0.3s,baz=177,slow=13						
KK31				⇓Sn	**S**	**13 28 31.4**	**-6.1**
	comp=Z,7.3nm,0.3s,baz=190,slow=24						
KKAR	**Karatay Array**	**5.98**	**352**	PN	**P**	**13 27 28.5**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ULHL	**Ulahol**	**6.15**	**33**	P	**P**	**13 27 32.6**	**+0.6**
	SNR=8.8						
CHMS	**Chumysh**	**6.26**	**21**	P	**P**	**13 27 34.4**	**+0.8**
	SNR=9.8						
USP	**Ospenovka**	**6.44**	**19**	P	**P**	**13 27 36.7**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**6.46**	**26**	P	**P**	**13 27 37.2**	**+0.8**
	SNR=16						
PTH	**Pithoragarh**	**10.43**	**134**	*e*P	**P**	**13 28 31.0**	**+1.4**
PTH				*e*S	**S**	**13 30 12.0**	**-13**
AJM	**Ajmer**	**10.96**	**166**	*i* P	**P**	**13 28 35.0**	**-1.8**
AJM				*i* S	**S**	**13 30 30.0**	**-7.6**
MK31	**Makanchi Array**	**12.41**	**36**	⇑P	**P**	**13 28 55.8**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=226,slow=15,SNR=31						
MKAR	**Makanchi Array**	**12.41**	**36**	P	**P**	**13 28 55.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=225,slow=14,SNR=42						
KOLN	**Koldanda**	**13.74**	**130**	*e*P	**P**	**13 29 07.4**	**-5.8**
	comp=Z,53nm,0.5s						
GKN	**Gorkha**	**14.23**	**126**	*e*P	**P**	**13 29 17.4**	**-2.0**
	comp=Z,47nm,0.3s						
GKN				*e*S	**S**	**13 31 45.8**	**-8.8**
KURK	**Kurchatov**	**14.41**	**18**	*e*P	**P**	**13 29 25.0**	**+3.4**
	comp=Z,3.3nm,0.8s						
KURK	**Kurchatov**	**14.41**	**18**	*e*P	**P**	**13 29 25.0**	**+3.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AB31	**Akbulak array**	**14.77**	**328**	Pn	**P**	**13 29 22.8**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=138,slow=14,SNR=38						
AB31				Sn	**S**	**13 31 51.3**	**-16**
	comp=Z,4.2nm,0.7s,baz=152,slow=22,SNR=5.3						
KKN	**Kakani**	**14.79**	**125**	*e*P	**P**	**13 29 23.6**	**-3.0**
	comp=Z,46nm,0.5s						
DMN	**Daman**	**14.80**	**126**	*e*P	**P**	**13 29 24.7**	**-2.1**
	comp=Z,35nm,0.4s						
DMN				*e*S	**S**	**13 31 59.5**	**-8.4**
PKI	**Pulchoki**	**15.03**	**126**	*e*P	**P**	**13 29 27.3**	**-2.3**
	comp=Z,33nm,0.4s						
VOSK	**Vostochnaya**	**15.55**	**358**	⇓P	**P**	**13 29 33.8**	**-2.2**
	comp=Z,1.9nm,0.8s						
BVA0	**Borovoye Array**	**15.87**	**357**	⇓P	**P**	**13 29 37.8**	**-2.2**
	comp=Z,0.6nm,1.0s,baz=162,slow=8.7,SNR=7.8						
BVAR	**Borovoye Array**	**15.87**	**357**	P	**P**	**13 29 39.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=170,slow=17,SNR=8.8						
BRVK	**Borovoye**	**15.90**	**357**	*e*P	**P**	**13 29 40.7**	**+0.3**
	comp=Z,1.2nm,0.5s						
BRVK	**Borovoye**	**15.90**	**357**	*e*P	**P**	**13 29 40.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**16.48**	**328**	⇓Pn	**P**	**13 29 45.4**	**-2.1**
	comp=Z,0.9nm,0.6s						
AKTO				⇓Sn	**S**	**13 32 34.9**	**-11**
	comp=Z,1.6nm,1.4s						
BANOM	**Banah**	**17.24**	**234**	⇓P	**P**	**13 29 55.1**	**-2.0**
	SNR=16						
LSA	**Lhasa**	**17.86**	**109**	P	**P**	**13 30 07.0**	**+2.4**
LSA	**Lhasa**	**17.86**	**109**	*e*P	**P**	**13 30 06.8**	**+2.2**
	comp=Z,15nm,0.8s						
LSA	**Lhasa**	**17.86**	**109**	*e*P	**P**	**13 30 06.8**	**+2.2**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s						
WBK	**Wadi Bani Khal**	**18.21**	**221**	⇓P	**P**	**13 30 10.4**	**+1.7**
	SNR=9.2						
ASHO	**Ashiyiah**	**18.27**	**231**	⇑P	**P**	**13 30 08.6**	**-0.7**
	SNR=17						
ARQ	**Araqi**	**18.99**	**228**	⇑P	**P**	**13 30 17.3**	**+0.1**
ZAL	**Zalesovo**	**19.05**	**24**	P	**P**	**13 30 16.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=249,slow=7.2,SNR=10.0						
ZEI	**Tsey**	**21.96**	**293**	*e*P	**P**	**13 30 49.3**	**+2.1**
ZEI				*i* *PP		13 31 27.5	
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
GTA	**Gaotai**	**22.15**	**76**	*e*P	**P**	**13 30 53.1**	**+4.0**
GTA				AP		13 31 16.9	
GTA				XP		13 31 24.8	
GTA				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.4						
ZAK	**Zakamensk**	**26.13**	**50**	*e*P	**P**	**13 31 29.1**	**+2.3**
ZAK				*e*	pP	13 31 55.8	+3.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
SONM	**Songino Array**	**27.49**	**56**	P	**P**	**13 31 40.5**	**+1.2**
	comp=Z,0.9nm,0.7s,mb3.4,baz=249,slow=9.9,SNR=7.0						
BRTR	**Keskin Array B**	**29.76**	**287**	P	**P**	**13 32 00.1**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.3,baz=89,slow=7.9,SNR=3.7						
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**	**13 33 06.0**	**+2.4**
	comp=Z,2.9nm,0.9s,mb4.2,baz=117,slow=8.5,SNR=4.7						
ARCES	**ARCESS Array B**	**40.73**	**337**	P	**P**	**13 33 34.1**	**+1.6**
	comp=Z,3.4nm,0.9s,mb4.2,baz=121,slow=10,SNR=3.1						
NB2	**NORSAR Subarra**	**44.17**	**323**	P	**P**	**13 34 00.4**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.5nm,0.6s,mb3.9,baz=97,slow=7.9						
NB2	**NORSAR Subarra**	**44.17**	**323**	P	**P**	**13 34 00.4**	**-0.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	**13 34 00.6**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.4,baz=100,slow=8.4,SNR=2.8						
TIXI	**Tiksi**	**44.93**	**22**	*e*P	**P**	**13 34 06.2**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
MATP	**Matopo**	**70.28**	**223**	P	**P**	**13 37 03.8**	**-1.1**
	comp=Z,2.0nm,0.6s,mb4.2,baz=31,slow=7.2,SNR=8.2						
ILAR	**Eielson Array**	**73.97**	**16**	P	**P**	**13 37 26.1**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.5,baz=316,slow=5.1,SNR=8.5						
YKA	**Yellowknife Ar**	**80.54**	**3**	P	**P**	**13 38 03.4**	**+1.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=350,slow=4.9,SNR=5.4						
WRA	**Warramunga Arr**	**81.89**	**122**	P	**P**	**13 38 10.1**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.3,baz=326,slow=4.6,SNR=3.9						

*BJI **21** 13:32:58.6, 12.50N×40.50E, h10km, mB5.1, mb4.5*
*MOS **21** 13:32:59.7±0.9, 12.50N×40.53E, h10km, mb4.7/22, Error ellipse: s-maj=18.4km s-min=7.4km az=94.2*
*IDC **21** 13:33:00.5±1.2, 12.59N×40.51E, mb4.2/13, mb1 4.3/15, mb1mx4.2/20, mbtmp4.2/15, ML3.5/2, MS3.6/6, Ms1 3.6/6, ms1mx3.4/15, Error ellipse: s-maj=26.9km s-min=20.6km az=144.0*
*NEIC **21** 13:33:01.6±0.6, 12.51N×40.51E, h10km, mb4.6/7, Error ellipse: s-maj=13.3km s-min=9.9km az=109.0*
*DHMR **21** 13:33:02.6±2.6, 12.70N×40.58E, h2km, 310km, ML4.1*
*CSEM **21** 13:33:03.4±0.1, 12.44N×40.37E, h40km, mb4.6/12, Error ellipse: s-maj=3.9km s-min=3.1km az=156.0*
ISC 21 13:32:59.8±0.6, 12.48N±0.07×40.44E±0.04, h10km, (h20km±4.2km: pP-P), n80, σ1§06/83, mb4.4/30, MS3.8/6, 4C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.73**	**66**	*i* S	**Sn**	**13 34 47.1**	**+3.8**
UDYN				AML	AML	13 35 07.2	
	comp=Z,748nm,0.7s						
DHBB	**Dhamar BB**	**4.36**	**61**	*e*P	**Pn**	**13 34 09.3**	**+1.6**
DHBB				*i* S	**Sn**	**13 35 01.8**	**+2.6**
HAJJ	**Hajjah**	**4.43**	**43**	*i* S	**Sn**	**13 35 02.4**	**+1.6**
LBOS		**4.88**	**73**	*e*P	**Pn**	**13 34 14.7**	**-0.3**
LBOS				*i* S	**Sn**	**13 35 11.1**	**-1.2**
BDHA	**Al Bayda'**	**5.21**	**73**	*e*P	**Pn**	**13 34 19.3**	**-0.3**
BDHA				*i* S	**Sn**	**13 35 18.9**	**-1.5**
KMBO	**Kilima Mbogo**	**13.89**	**193**	Pn	**P**	**13 36 19.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=66,slow=19,SNR=2.2						
KMBO				Lg		13 40 25.8	
	comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=5.3						
KMBO				LR	LR	13 40 52.0	
	comp=Z,56nm,20.8s,baz=86,slow=34						
KMBO	**Kilima Mbogo**	**13.89**	**193**	Pn	**P**	**13 36 19.4**	**+0.2**
KMBO				Lg		13 40 25.8	
KMBO				LR	LR	13 40 52.0	
ASF	**Jabal al Asfar**	**19.87**	**351**	P	**P**	**13 37 33.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=294,slow=8.7,SNR=4.9						
ASF				LR	LR	13 44 15.7	
	comp=Z,132nm,19.7s,baz=237,slow=34						
BHD	**Baghdad**	**21.00**	**9**	*ex*	x	13 37 41.0	
MALT	**Malatya**	**25.79**	**356**	*e*P	**P**	**13 38 34.2**	**+1.6**
	comp=Z,20nm,1.4s,mb4.5						
MALT	**Matya**	**25.79**	**356**	*e*P	**P**	**13 38 34.2**	**+1.6**
	comp=Z,20nm,1.4s,mb4.5						
MALT	**Malatya**	**25.79**	**356**	*e*P	**P**	**13 38 34.2**	**+1.6**
MALT				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.5						
IDI	**Anoyia**	**26.72**	**331**	LR	LR	13 49 07.3	
	comp=Z,110nm,19.5s,MS3.4,baz=126,slow=36						
BRTR	**Keskin Array B**	**27.79**	**349**	P	**P**	**13 38 51.8**	**+0.8**
	comp=Z,1.9nm,0.3s,mb4.2,baz=172,slow=8.7,SNR=14						
BRTR	**Keskin Array B**	**27.79**	**349**	P	**P**	**13 38 51.8**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZEI	**Tsey**	**30.32**	**5**	*e*P	**P**	**13 39 13.5**	**-0.2**
	comp=Z,6.0nm,0.7s,mb4.4						
ZEI	**Tsey**	**30.32**	**5**	*e*P	**P**	**13 39 13.5**	**-0.2**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
KIV	**Kislovodsk**	**31.42**	**3**	*e*P	**P**	**13 39 23.9**	**+0.6**
KIV				*e*S	**S**	**13 44 27.7**	**-2.1**
KIV				pmax	pmax		
	comp=N,8.0nm,1.2s						
KIV				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.7						
KIV				pmax	pmax		
	comp=E,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=N,59nm,17.0s,MS3.4						
KIV				MLR	MLR		
	comp=E,44nm,17.0s,MS3.4						
KIV				MLR	MLR		
	comp=Z,75nm,17.0s,MS3.4						
SIM	**Simferopol'**	**32.80**	**352**	P	**P**	**13 39 38.4**	**+3.0**
SIM				*e*PPP	PPP	13 41 01.0	+0.1
SIM				S	**S**	**13 44 48.0**	**-3.3**
SIM				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
SIM				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.0						
AQU	**L'Aquila**	**37.91**	**327**	P	**P**	**13 40 20.2**	**+1.3**
AQU	**L'Aquila**	**37.91**	**327**	P	**P**	**13 40 20.2**	**+1.2**
AKASG	**Malin Array Be**	**39.20**	**349**	P	**P**	**13 40 29.3**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.6,baz=163,slow=6.9,SNR=11						
KWP	**Kalwaria**	**39.82**	**342**	*e*P	**P**	**13 40 34.9**	**+0.1**
	comp=Z,19nm,1.0s,mb4.8						
KWP	**Kalwaria**	**39.82**	**342**	*e*P	**P**	**13 40 34.9**	**0.0**
	comp=Z,19nm,1.0s,mb4.8						
KWP	**Kalwaria**	**39.82**	**342**	*e*P	**P**	**13 40 34.9**	**0.0**
KWP				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
VYHS	**Vyhne**	**40.15**	**338**	*e*P	**P**	**13 40 38.5**	**+0.9**
AAK	**Ala-Archa**	**42.09**	**38**	*e*P	**P**	**13 40 54.1**	**+0.5**
	comp=Z,6.5nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**42.09**	**38⇑**	*e*P	**P**	**13 40 52.9**	**-0.7**
GERES	**GERESS Array B**	**42.49**	**334**	P	**P**	**13 40 56.3**	**-0.5**
	comp=Z,1.9nm,0.7s,mb3.9,baz=143,slow=6.7,SNR=14						
GERES	**GERESS Array B**	**42.49**	**334**	P	**P**	**13 40 56.3**	**-0.5**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OBN	**Obninsk**	**42.64**	**357**	*e*P	**P**	**13 40 57.9**	**0.0**
	comp=Z,30nm,1.2s,mb4.9						
OBN	**Obninsk**	**42.64**	**357⇑**	*e*P	**P**	**13 40 57.9**	**0.0**
OBN				*e*		13 42 43.1	
OBN				*e*SS	SS	13 50 26.8	+2.1
OBN				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9						
KHC	**Kasperske Hory**	**42.76**	**334**	*e*P	**P**	**13 40 53.5**	**-5.5**
KHC				pP	pP	13 40 58.5	-3.5
KHC	**Kasperske Hory**	**42.76**	**334**	*e*P	**P**	**13 40 58.9**	**-0.1**
KHC	**Kasperske Hory**	**42.76**	**334⇑**	*e*P	**P**	**13 40 58.9**	**-0.1**
MOS	**Moscow**	**43.21**	**358**	*e*P	**P**	**13 41 02.6**	**0.0**
	comp=Z,54nm,0.7s,mb5.4						
MOS	**Moscow**	**43.21**	**358**	*e*P	**P**	**13 41 02.6**	**0.0**
MOS				pmax	pmax		
	comp=Z,54nm,0.7s,mb5.4						
BRG	**Berggiesshubel**	**43.95**	**336**	P	**P**	**13 41 08.4**	**-0.3**
	comp=Z,18nm,1.7s,mb4.5						
BRG	**Berggiesshubel**	**43.95**	**336**	P	**P**	**13 41 08.4**	**-0.2**
	comp=Z,18nm,1.7s,mb4.5						
BRG	**Berggiesshubel**	**43.95**	**336**	P	**P**	**13 41 08.4**	**-0.2**
BRG				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.5						
GRA1	**Grafenberg Arr**	**44.20**	**333**	*e*P	**P**	**13 41 10.0**	**-0.7**
	comp=Z,11nm,1.5s,mb4.4						
GRF	**Grafenberg Arr**	**44.20**	**333**	*e*P	**P**	**13 41 10.0**	**-0.7**
	comp=Z,11nm,1.5s,mb4.4						
GRF	**Grafenberg Arr**	**44.20**	**333**	*e*P	**P**	**13 41 10.0**	**-0.7**
GRF				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.4						
GRF	**Grafenberg Arr**	**44.20**	**333**	*e*P	**P**	**13 41 10.0**	**-0.7**
GRF				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.4						
CLL	**Collm**	**44.66**	**336**	P	**P**	**13 41 14.1**	**-0.3**
	comp=Z,logA/T=1.1,mb4.7						
CLL	**Collm**	**44.66**	**336**	*i* P	**P**	**13 41 14.1**	**-0.3**
	comp=Z,17nm,1.4s,mb4.7						
CLL	**Collm**	**44.66**	**336**	*i* P	**P**	**13 41 14.1**	**-0.3**
CLL				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.7						
MOX	**Moxa**	**44.73**	**334**	*e*P	**P**	**13 41 14.0**	**-1.0**
DBIC	**Dimbokro**	**44.99**	**267**	P	**P**	**13 41 19.3**	**+1.7**
	comp=Z,4.0nm,0.8s,mb4.3,baz=219,slow=5.7,SNR=4.2						
DBIC				LR	LR	14 00 01.4	
	comp=Z,60nm,19.6s,MS3.5,baz=78,slow=36						
DBIC	**Dimbokro**	**44.99**	**267**	P	**P**	**13 41 19.3**	**+1.7**
DBIC				LR	LR	14 00 01.4	
DBIC	**Dimbokro**	**44.99**	**267**	P	**P**	**13 41 19.3**	**+1.7**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DBIC				MLR	MLR		
	comp=Z,60nm,19.6s						
MDT	**Midelt**	**45.83**	**304**	P	**P**	**13 41 23.7**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=86,slow=11,SNR=6.2						
ARU	**Arti**	**46.03**	**14**	*i* P	**P**	**13 41 25.8**	**+0.6**
	comp=Z,9.0nm,1.2s,mb4.6						
ARU				*e*S	**S**	**13 48 08.9**	**-0.8**
ARU	**Arti**	**46.03**	**14**	⇓*i*P	**P**	**13 41 25.8**	**+0.6**
ARU				*e*		13 43 15.8	
ARU				*e*S	**S**	**13 48 08.9**	**-0.8**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
BVAR	**Borovoye Array**	**46.97**	**24**	P	**P**	**13 41 30.8**	**-1.9**
	comp=Z,3.1nm,0.9s,mb4.2,baz=252,slow=4.6,SNR=7.1						
BVAR	**Borovoye Array**	**46.97**	**24**	P	**P**	**13 41 30.8**	**-1.9**
BVAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ESDC	**Sonseca Array**	**47.54**	**313**	P	**P**	**13 41 38.3**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.9,baz=115,slow=8.0,SNR=9.4						
ESLA	**Sonseca Array**	**47.54**	**313**	*e*P	**P**	**13 41 37.4**	**0.0**
ESLA	**Sonseca Array**	**47.54**	**313**	*e*P	**P**	**13 41 37.4**	**0.0**
MKAR	**Makanchi Array**	**49.01**	**37**	P	**P**	**13 41 48.5**	**-0.1**
	comp=Z,3.7nm,1.1s,mb4.3,baz=231,slow=7.8,SNR=17						
MKAR	**Makanchi Array**	**49.01**	**37**	P	**P**	**13 41 48.5**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
FINES	**FINESS Array B**	**49.99**	**351**	P	**P**	**13 41 54.5**	**-1.5**
	comp=Z,5.8nm,1.1s,mb4.5,baz=124,slow=5.0,SNR=4.9						
FINES	**FINESS Array B**	**49.99**	**351**	P	**P**	**13 41 54.5**	**-1.5**
FINES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KONO	**Kongsberg**	**52.35**	**341**	*e*P	**P**	**13 42 07.4**	**-6.5**

PMAT eS Sg 13 35 08.9 +0.9
CMLA Cha da Macela 0.07 269 eP Pg 13 35 06.9 -0.4
CMLA eS Sg 13 35 08.8 +0.5
FRA1 Furnas 0.07 108 *i* P Pg 13 35 08.0 +0.6
CML Cha da Macela 0.08 274 eS Sg 13 35 08.6 -0.3
PFAD Fenais da Ajud 0.12 51 *i* P Pg 13 35 09.0 +0.7
PFAD eS Sg 13 35 11.3 +1.4
PFAD Fenais da Ajud 0.12 51 eS Sg 13 35 11.3 +1.4
MIRA Miradouro 0.13 81 *i* P Pg 13 35 09.1 +0.6
MIRA eS Sg 13 35 11.8 +1.5
MIRA Miradouro 0.13 81 eS Sg 13 35 11.8 +1.5
FAC Faja de Cima 0.17 273 eS Sg 13 35 12.3 +0.8
PDA Ponta Delgada 0.18 264 eP Pg 13 35 09.6 +0.2
PDA eS Sg 13 35 12.8 +0.9
PSET Sete Cidades 0.23 285 eP Pg 13 35 10.7 +0.3
PSET eS Sg 13 35 14.5 +0.9
2µm,0.4s
PSAN Santo Antonio 0.24 291 eP Pg 13 35 11.7 +1.0
PFET Feteiras 0.28 281 eP Pg 13 35 12.0 +0.5
SET2 Ginetes 0.30 285 eP Pg 13 35 12.1 +0.3
SET4 Mosteiros 0.30 291 eP Pg 13 35 11.7 -0.2
PSCM Serra do Cume 1.62 306 eP Pn 13 35 31.1 -4.2
PSCM eS Sb 13 35 51.3 -5.3
79nm,0.3s

IDC 21 13:41:34.0±3.9, 1.94N×96.67E, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=151.0km s-min=26.5km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.87**	**122**	P	P	13 49 34.4	-1.7
	1.2nm,0.7s,baz=300,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**46.40**	**346**	P	P	13 50 02.2	-1.9
	1.7nm,0.7s,baz=162,slow=8.0,SNR=14						
SONM	**Songino Array**	**46.48**	**9**	P	P	13 50 03.2	-1.6
	0.8nm,0.8s,baz=190,slow=9.6,SNR=8.4						
ZAL	**Zalesovo**	**52.74**	**351**	P	P	13 50 50.2	-2.6
	1.0nm,0.4s,baz=270,slow=8.0,SNR=5.7						

*DHMR **21** 13:54:57.8±2.6, 12.66N×40.53E, h11km±113km, ML4.4*
ISC 21 13:55:00.1±1.8, 12.5N±0.1×40.75E±0.07, h10km, n10, σ1§12/17, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.48**	**64**	eP	**Pn**	**13 55 56.6**	**+1.1**
UDYN				*i* S	**Sn**	**13 56 42.2**	**+5.0**
UDYN				AML	AML	13 57 03.4	
	comp=N,2µm,0.6s						
ADEN	**Aden**	**4.15**	**85**	eP	**Pn**	**13 56 06.1**	**+1.1**
ADEN				*i* S	**Sn**	**13 56 59.3**	**+5.2**
ADEN				AML	AML	13 57 26.1	
	comp=E,2µm,0.7s						
ADEN	**Aden**	**4.15**	**85**	eP	**Pn**	**13 56 06.1**	**+1.1**
ADEN				*i* S	**Sn**	**13 56 59.3**	**+5.2**
	comp=E,1µm,0.7s						
HAJJ	**Hajjah**	**4.25**	**40**	eP	**Pn**	**13 56 04.9**	**-1.6**
HAJJ				*i* S	**Sn**	**13 56 57.3**	**+0.6**
HAJJ				AML	AML	13 57 30.7	
	comp=E,544nm,0.7s						
HAJJ	**Hajjah**	**4.25**	**40**	eP	**Pn**	**13 56 04.9**	**-1.6**
HAJJ				*i* S	**Sn**	**13 56 57.3**	**+0.5**
	comp=E,272nm,0.7s						
BDHA	**Al Bayda'**	**4.93**	**72**	eP	**Pn**	**13 56 14.0**	**-2.1**
BDHA				*i* S	**Sn**	**13 57 13.8**	**-0.2**
BDHA				AML	AML	13 57 54.1	
	comp=N,1µm,0.8s						
BDHA	**Al Bayda'**	**4.93**	**72**	eP	**Pn**	**13 56 14.0**	**-2.1**
BDHA				*i* S	**Sn**	**13 57 13.8**	**-0.2**
	comp=N,735nm,0.8s						
TBKS	**Tabuk**	**16.18**	**347**	P	**P**	**13 58 50.4**	**+1.2**
BDAS	**Al Bad'**	**16.75**	**343**	P	**P**	**13 58 55.8**	**-0.7**
JMQS	**Jabal Moqyreh**	**16.97**	**345**	P	**P**	**13 58 59.3**	**0.0**

*IDC **21** 13:57:41.1±1.4, 17.31N×122.74E, mb4.0/3, mb1 4.2/4, mb1mx3.8/18, mbtmp4.2/4, ML4.1/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/24, Error ellipse: s-maj=74.8km s-min=23.1km az=79.0*
*MAN **21** 13:57:44.8, 17.38N×122.52E, h12km, mb4.5, ML3.4, MS3.3*
ISC 21 13:57:41.6±0.7, 17.43N±0.04×122.78E±0.05, h12km, n21, σ1§14/26, mb3.9/3, MS4.0/1, 4C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.95**	**287**	⇓*i*P	**Pb**	**13 57 58.0**	**-1.5**
CVP	**Callao Caves**	**0.95**	**287**	⇓*i*P	**Pb**	**13 57 58.0**	**-1.5**
CAUP	**Cauayan**	**1.03**	**242**	*e*P	**Pb**	**13 58 00.7**	**-0.2**
CAUP				*e*S	**Sb**	**13 58 14.3**	**+0.1**
SGCP	**Mt. Cagua**	**1.06**	**319**	*e*P	**Pb**	**13 58 02.9**	**+1.5**
ABRA	**Dolores**	**1.98**	**277**	*e*P	**Pn**	**13 58 14.9**	**-0.4**
ABRA				*e*S	**Sn**	**13 58 39.2**	**-1.0**
BALP	**Baler**	**2.04**	**215**	*e*P	**Pn**	**13 58 16.0**	**-0.2**
PCPH	**Palayan**	**2.46**	**221**	⇓*e*P	**Pn**	**13 58 23.0**	**+0.8**
PCPH				*e*S	**Sn**	**13 58 52.0**	**-0.5**
POLP	**Polilio Island**	**2.81**	**197**	*e*P	**Pn**	**13 58 28.0**	**+0.8**
SCZP	**Santa Cruz**	**3.20**	**239**	*e*P	**Pn**	**13 58 34.6**	**+1.8**
GQP	**Guinayangan**	**3.52**	**185**	⇑*e*P	**Pn**	**13 58 40.0**	**+0.6**
GQP				*e*S	**Sn**	**13 59 17.8**	**-1.5**
GQP	**Guinayangan**	**3.52**	**185**	⇑*e*P	**Pn**	**13 58 37.9**	**+0.6**
GQP				*e*S	**Sn**	**13 59 17.8**	**-1.5**
TGY	**Tagaytay City**	**3.75**	**208**	⇑*e*P	**Pn**	**13 58 43.0**	**+2.4**
TGY	**Tagaytay City**	**3.75**	**208**	⇑*e*P	**Pn**	**13 58 43.0**	**+2.4**
BOAC	**Boac**	**4.05**	**193**	*e*P	**Pn**	**13 58 45.8**	**+0.9**
LUBP	**Lubang**	**4.41**	**214**	*e*P	**Pn**	**13 58 48.7**	**-1.3**
SJMP	**San Jose**	**5.20**	**198**	*e*P	**Pn**	**13 59 03.1**	**+2.0**
BUSP	**Coron**	**5.95**	**205**	*e*P	**Pn**	**13 59 10.9**	**-0.8**
JOW	**Kunigami**	**10.65**	**28**	Pn	**P**	**14 00 16.7**	**-0.4**
	2.8nm,0.3s,baz=192,slow=17,SNR=9.9						
SONM	**Songino Array**	**33.16**	**340**	P	**P**	**14 04 20.4**	**+0.4**
	0.3nm,0.7s,mb3.3,baz=159,slow=7.6,SNR=2.9						
WRA	**Warramunga Arr**	**38.84**	**162**	P	**P**	**14 05 06.9**	**-1.6**
	3.8nm,0.7s,mb4.2,baz=342,slow=9.1,SNR=14						
STKA	**Stephens Creek**	**52.24**	**160**	P	**P**	**14 06 53.7**	**-1.3**
	2.0nm,0.7s,mb4.2,baz=324,slow=7.2,SNR=6.5						
STKA				LR	LR	14 31 15.5	
	comp=Z,139nm,21.3s,MS4.0,baz=206,slow=39						

*BJI **21** 14:01:50.5, 41.23N×78.57E, h15km, ML3.3*
*NNC **21** 14:01:51.2±3.6, 41.48N×78.84E, mpv2.9, Error ellipse: s-maj=36.2km s-min=12.8km az=152.0*
ISC 21 14:01:49.3±1.9, 41.5N±0.1×78.56E±0.09, h10km, n5, σ0§99/7, 5C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.24**	**292**	⇑Pn	**Pn**	**14 02 47.5**	**+6.2**
	1.9nm,0.5s						
AAK				⇑Pg	**Pg**	**14 02 53.4**	**-0.6**
	4.0nm,0.4s						
AAK				⇓Lg		14 03 39.9	
	20nm,0.6s						
MK31	**Makanchi Array**	**5.96**	**26**	⇓Pn	**Pn**	**14 03 20.0**	**+0.3**
	0.1nm,0.3s,baz=207,slow=13,SNR=6.2						
MK31				Sn	**Sn**	**14 04 29.2**	**+0.3**
MK31				⇑Lg		14 04 57.2	
	2.8nm,0.6s,baz=204,slow=29,SNR=3.6						
KK31	**Karatay Array**	**6.18**	**288**	⇓Pg	**Pg**	**14 03 47.1**	**-5.7**
	0.8nm,0.5s,baz=103,slow=15,SNR=14						
KK31				⇑Lg		14 05 10.6	
	2.2nm,0.6s,baz=98,slow=30,SNR=8.0						
WMQ	**Urumqi**	**7.13**	**68**	*e*P	**Pn**	**14 03 37.9**	**+1.5**
WMQ				S	**Sn**	**14 04 56.8**	**-1.5**
WMQ				Smax			
	comp=N,10.0nm,0.6s						
WMQ				Smax			
	comp=E,12nm,0.6s						
KURK	**Kurchatov**	**9.24**	**0**	⇑Lg		14 06 44.8	
	comp=E,3.9nm,0.9s						

IDC 21 14:27:30.1±2.3, 12.39N×40.49E, mb3.9/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=56.1km s-min=27.8km az=162.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**27.90**	**349**	P	P	14 33 22.8	-1.0
	1.4nm,0.8s,baz=172,slow=8.7,SNR=6.1						
GERES	**GERESS Array B**	**42.59**	**334**	P	P	14 35 27.5	-2.1
	0.8nm,0.5s,baz=153,slow=6.6,SNR=7.1						
DBIC	**Dimbokro**	**45.03**	**267**	P	P	14 35 48.1	-1.7
	3.4nm,0.8s,baz=66,slow=12,SNR=3.7						
ESDC	**Sonseca Array**	**47.64**	**313**	P	P	14 36 07.8	-2.2
	0.2nm,0.3s,baz=127,slow=6.4,SNR=5.8						
MKAR	**Makanchi Array**	**49.06**	**37**	P	P	14 36 18.7	-2.2
	0.6nm,0.7s,baz=239,slow=7.1,SNR=5.8						
SONM	**Songino Array**	**64.77**	**43**	P	P	14 38 10.8	-1.9
	0.6nm,0.7s,baz=257,slow=4.9,SNR=5.6						

*NEIC **21** 14:34:00.1±1.2, 17.88S×175.30W, h212km±17km, mb4.2/2, Error ellipse: s-maj=26.7km s-min=12.5km az=125.0*
*IDC **21** 14:34:00.1±2.3, 17.90S×175.30W, h212km±29km, mb3.6/5, mb1 3.8/7, mb1mx3.6/15, mbtmp4.2/7, Error ellipse: s-maj=35.8km s-min=17.3km az=119.0*
ISC 21 14:33:58.4±1.7, 17.8S±0.2×175.4W±0.2, h205km±23km, n11, σ0§76/12, mb3.9/8, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.19**	**43**	P	**P**	**14 35 17.5**	**+1.4**
	5.6nm,0.3s,baz=107,slow=14,SNR=10						
AFI				S	**S**	**14 36 13.6**	**-2.8**
	21nm,0.3s,baz=20,slow=21,SNR=14						
DZM	**Mont Dzumac**	**17.57**	**253**	P	**P**	**14 37 52.0**	**+0.1**
	0.2nm,0.3s,baz=95,slow=20,SNR=4.2						
URZ	**Urewera**	**21.45**	**196**	P	**P**	**14 38 31.2**	**0.0**
	4.8nm,0.6s,mb4.2,baz=45,slow=16,SNR=4.0						
STKA	**Stephens Creek**	**41.19**	**242**	P	**P**	**14 41 24.4**	**-0.2**
	4.5nm,0.9s,mb3.9,baz=92,slow=9.2,SNR=5.5						
WRAB	**Tennant Creek**	**47.44**	**259**	*e*P	**P**	**14 42 14.0**	**-0.4**
	6.1nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**47.45**	**259**	P	**P**	**14 42 14.0**	**-0.5**
	3.2nm,0.4s,mb4.0,baz=98,slow=6.3,SNR=150						
ASPA	**Alice Springs**	**47.56**	**254**	⇑*i*P	**P**	**14 42 15.4**	**0.0**
KAKA	**Kakadu**	**50.42**	**268**	⇑*i*P	**P**	**14 42 56.6**	**+19**
	8.1nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**55.85**	**260**	⇓*i*P	**P**	**14 43 16.8**	**-0.2**
	3.9nm,0.4s,mb4.3						
MJAR	**Matsushiro Arr**	**69.51**	**322**	P	**P**	**14 44 47.6**	**+0.8**
	0.7nm,0.6s,mb3.5,baz=152,slow=6.6,SNR=5.7						
ILAR	**Eielson Array**	**85.12**	**12**	P	**P**	**14 46 12.2**	**+0.1**
	0.3nm,0.5s,mb3.3,baz=226,slow=6.0,SNR=6.4						

*CSEM **21** 14:57:23.4±0.3, 12.36N×40.50E, h10km, mb4.7/18, Ms4.1, Mw5.0, Error ellipse: s-maj=10.8km s-min=2.6km az=178.0*
*BJI **21** 14:57:24.9, 12.42N×40.13E, h24km, mB4.8, mb4.7, Ms5.0, Msz4.5*
*MOS **21** 14:57:24.8±0.8, 12.54N×40.45E, h10km, mb4.9/35, MS4.4/24, Error ellipse: s-maj=10.7km s-min=4.3km az=110.5*
*IDC **21** 14:57:25.5±1.4, 12.55N×40.55E, mb4.2/14, mb1 4.3/16, mb1mx4.2/21, mbtmp4.2/16, ML3.4/2, MS4.5/18, Ms1 4.4/18, ms1mx4.4/21, Error ellipse: s-maj=30.0km s-min=20.5km az=160.0*
*DHMR **21** 14:57:25.0±0.5, 12.63N×40.52E, h8km±21km, ML4.8*
*NEIC **21** 14:57:26.5±0.5, 12.54N×40.47E, h10km, mb4.9/34, Error ellipse: s-maj=9.9km s-min=8.4km az=157.0*
*HRVD **21** 14:57:26.5±0.3, 12.74N×40.49E, h12km, MW5.0/63, Centroid moment Tensor Solution. LP body waves: s28,c41;Mantle waves: s63,c121; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.33±.16; Mθθ-1.50±.15; Mϕϕ3.84±.15; Mrθ0.23±.43; Mrϕ3.62±.12; Mθϕ-0.66±.41; Best double couple: Mo4.619×10¹⁶ NP1: ϕs250°, δ71°, λ-14°. NP2:ϕs345°, δ77°, λ-161°. Principal axes: T 5.698, Plg3°, Azm117°; N -2.147, Plg67°, Azm18°; P -3.54, Plg23°, Azm208°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 21 14:57:24.4±0.5, 12.50N±0.07×40.50E±0.03, h10km, (h24km±4.5km: pP-P), n190, σ0§99/191, mb4.8/59, MS4.5/31, 11C-10D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.67**	**66**	*e*P	**Pn**	**14 58 24.4**	**+1.8**
UDYN				*i* S	**Sn**	**14 59 10.3**	**+3.9**
UDYN				AML	AML	14 59 27.8	
	comp=E,4µm,0.6s						
DHBB	**Dhamar BB**	**4.30**	**61**	*i* P	**Pn**	**14 58 32.3**	**+0.7**
HAJJ	**Hajjah**	**4.37**	**43**	⇑*i*P	**Pn**	**14 58 32.6**	**+0.1**
HAJJ				*i* S	**Sn**	**14 59 25.9**	**+1.7**
ADEN	**Aden**	**4.38**	**86**	*e*P	**Pn**	**14 58 33.9**	**+1.3**
ADEN				*i* S	**Sn**	**14 59 27.4**	**+3.0**
BDHA	**Al Bayda'**	**5.14**	**73**	⇑*i*P	**Pn**	**14 58 41.9**	**-1.6**
BDHA				*i* S	**Sn**	**14 59 42.4**	**-1.2**
MUKL	**Al Mukalla**	**8.53**	**76**	*i* P	**P**	**14 59 28.3**	**-2.6**
MUKL				*i* S	**Sn**	**15 01 05.0**	**-3.3**
ABTO	**Aybut**	**13.27**	**67**	⇑P	**P**	**15 00 35.2**	**-0.4**
WHFO	**Wadi Hawf**	**13.89**	**66**	⇓P	**P**	**15 00 44.6**	**+0.7**
KMBO	**Kilima Mbogo**	**13.92**	**194**	Pn	**P**	**15 00 45.6**	**+1.3**
	comp=E,0.1nm,0.3s,baz=58,slow=19,SNR=2.1						
KMBO				LR	LR	15 06 50.7	
	comp=E,808nm,20.9s,baz=348,slow=40						
SHAO	**Shalim**	**15.59**	**68**	⇓P	**P**	**15 01 05.3**	**-0.8**
ARQ	**Araqi**	**18.65**	**52**	⇑P	**P**	**15 01 44.2**	**-0.3**
BSY	**Bisya**	**18.88**	**55**	⇑P	**P**	**15 01 46.7**	**-0.6**
	SNR=17						
BSYO	**Bisya**	**18.90**	**55**	P	**P**	**15 01 46.7**	**-0.9**
	SNR=17						
ASHO	**Ashiyiah**	**19.06**	**48**	⇓P	**P**	**15 01 49.1**	**-0.4**
	SNR=25						
HOQ	**Hoqain**	**19.39**	**53**	⇑P	**P**	**15 01 53.4**	**0.0**
	SNR=7.7						
JMDO	**Jabal Madar**	**19.43**	**57**	⇑P	**P**	**15 01 53.3**	**-0.6**
SMDO	**Samad**	**19.71**	**55**	⇓P	**P**	**15 01 56.4**	**-0.6**
	SNR=17						
ASF	**Jabal al Asfar**	**19.86**	**351**	P	**P**	**15 01 59.5**	**+0.9**
	comp=E,0.3nm,0.3s,baz=24,slow=7.4,SNR=9.6						
ASF				LR	LR	15 08 39.9	
	comp=E,1µm,18.6s,baz=216,slow=34						
BANOM	**Banah**	**19.99**	**46**	⇓P	**P**	**15 01 58.6**	**-1.5**
	SNR=15						
BIDO	**Bidbid**	**20.00**	**54**	⇑P	**P**	**15 02 00.5**	**+0.2**
WBK	**Wadi Bani Khal**	**20.25**	**58**	⇑P	**P**	**15 02 01.7**	**-1.2**
	SNR=11						
BHD	**Baghdad**	**20.98**	**9**	*ex*	x	15 02 07.5	
BHD				*ex*	x	15 06 07.0	
MSL	**Mosul**	**23.80**	**5**	*ex*	x	15 03 04.0	
MSL				*ex*	x	15 07 26.5	
MALT	**Malatya**	**25.77**	**356**	*e*P	**P**	**15 02 59.4**	**+2.3**
	comp=E,112nm,1.9s,mb5.1						
MALT	**Malatya**	**25.77**	**356**	*e*P	**P**	**15 02 59.4**	**+2.2**
	comp=E,112nm,1.9s,mb5.1						
MALT	**Malatya**	**25.77**	**356**	*e*P	**P**	**15 02 59.4**	**+2.2**
MALT				pmax	pmax		
	comp=Z,112nm,1.9s,mb5.1						
IDI	**Anoyia**	**26.73**	**331**	P	**P**	**15 03 07.8**	**+1.8**
	comp=Z,26nm,1.1s,mb4.7,baz=172,slow=3.5,SNR=3.9						
IDI				LR	LR	15 13 32.0	
	comp=Z,1µm,19.8s,MS4.4,baz=271,slow=36						
ISP	**Isparta**	**26.77**	**342**	*e*P	**P**	**15 03 11.8**	**+5.4**
BR131	**Keskin Array S**	**27.79**	**349**	*e*P	**P**	**15 03 17.5**	**+1.8**
	comp=Z,1.6nm,0.5s,mb3.9						
BR131	**Keskin Array S**	**27.79**	**349**	*e*P	**P**	**15 03 17.5**	**+1.9**
	comp=Z,1.6nm,0.5s,mb3.9						
BRTR	**Keskin Array B**	**27.79**	**349**	P	**P**	**15 03 17.3**	**+1.7**
	comp=Z,2.5nm,0.7s,mb3.9,baz=164,slow=9.0,SNR=15						
BRTR	**Keskin Array B**	**27.79**	**349**	P	**P**	**15 03 17.3**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZEI	**Tsey**	**30.30**	**5**	*e*P	**P**	**15 03 37.7**	**-0.5**
	comp=Z,15nm,1.3s,mb4.6						
ZEI	**Tsey**	**30.30**	**5**	*e*P	**P**	**15 03 37.7**	**-0.5**
ZEI				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.6						
SOC	**Sochi**	**30.98**	**359**	*e*P	**P**	**15 03 44.0**	**-0.1**
	comp=Z,7.0nm,0.9s,mb4.5						
SOC	**Sochi**	**30.98**	**359**	*e*P	**P**	**15 03 44.0**	**-0.1**
SOC				*e*		15 04 45.4	
SOC				*e*		15 06 36.9	
SOC				*i* SS	SS	15 10 27.1	-4.1
SOC				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
SOC				pmax	pmax		
	comp=N,7.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,17nm,1.1s						
SOC				MLR	MLR		
	comp=N,1µm,12.0s,MS4.8						
SOC				MLR	MLR		
	comp=E,235nm,12.0s,MS4.8						
SOC				MLR	MLR		
	comp=Z,594nm,12.0s,MS4.5						
KIV	**Kislovodsk**	**31.40**	**3**	*e*P	**P**	**15 03 49.1**	**+1.3**
KIV				*e*		15 04 54.3	
KIV				*e*		15 06 45.7	
KIV				pmax	pmax		
	comp=N,8.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,3.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=N,963nm,16.0s,MS4.7						
KIV				MLR	MLR		
	comp=E,650nm,16.0s,MS4.7						
KIV				MLR	MLR		
	comp=Z,1µm,16.0s,MS4.6						
ANN	**Anapa**	**32.30**	**356**	*e*P	**P**	**15 04 06.9**	**+11**
ANN				*e*S	**S**	**15 09 12.0**	**+3.9**
ANN				*e*SS	SS	15 11 32.2	+30
ANN				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.3						
MATP	**Matopo**	**34.78**	**200**	LR	LR	15 19 01.7	
	comp=Z,1µm,18.9s,MS4.8,baz=30,slow=37						
KIS	**Kishinev**	**35.77**	**346**	*e*P	**P**	**15 04 16.0**	**-10**
KIS				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.2						
PKSM	**Moragy**	**38.36**	**335**	*e*P	**P**	**15 04 47.8**	**+0.4**
VRSR	**Storozhevoye**	**38.62**	**359**	*e*P	**P**	**15 04 49.6**	**+0.1**
	comp=Z,10.0nm,0.9s,mb4.5						
VRSR	**Storozhevoye**	**38.62**	**359**	*e*P	**P**	**15 04 49.6**	**+0.1**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,3.0nm,1.0s						
TSUM	**Tsumeb**	**38.76**	**216**	LR	LR	15 21 41.6	
	comp=E,576nm,18.0s,MS4.4,baz=46,slow=38						
AKASG	**Malin Array Be**	**39.19**	**349**	P	**P**	**15 04 54.0**	**-0.4**
	comp=E,0.4nm,0.3s,baz=174,slow=7.6,SNR=8.9						
KOLS	**Kolonicke sedl**	**39.34**	**341**	*e*P	**P**	**15 04 56.4**	**+0.8**
KECS	**Kecovo**	**39.55**	**339**	*e*P	**P**	**15 04 58.1**	**+0.8**
LBTB	**Lobatse**	**40.02**	**201**	LR	LR	15 22 19.4	
	comp=E,1µm,18.3s,MS4.8,baz=41,slow=37						
VYHS	**Vyhne**	**40.15**	**338**	*e*P	**P**	**15 05 03.1**	**+0.8**
PGF	**Pioggiola**	**40.52**	**324**	*e*P	**P**	**15 05 05.5**	**+0.2**
	comp=E,24nm,1.1s,mb4.4						
PGF	**Pioggiola**	**40.52**	**324**	*e*P	**P**	**15 05 05.5**	**+0.2**
PGF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
OJC	**Ojcow**	**41.27**	**340**	*e*P	**P**	**15 05 11.5**	**+0.1**
OKC	**Ostrava-Krasne**	**41.52**	**338**	AMS	AMS	15 26 50.0	
	comp=Z,400nm,13.9s						
VRAC	**Vranov**	**41.67**	**336**	*e*P	**P**	**15 05 15.3**	**+0.6**
MORC	**Moravsky Berou**	**41.69**	**338**	*e*P	**P**	**15 05 15.4**	**+0.5**
AAK	**Ala-Archa**	**42.04**	**38**	*e*P	**P**	**15 05 19.2**	**+1.3**
	comp=Z,10nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**42.04**	**38**	*e*P	**P**	**15 05 19.2**	**+1.3**
	comp=Z,10nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**42.04**	**38**	*e*P	**P**	**15 05 19.2**	**+1.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
TREC	**Trest**	**42.10**	**336**	*e*P	**P**	**15 05 18.5**	**+0.2**
TREC				AMS	AMS	15 27 10.0	
	comp=Z,600nm,13.8s						
SBF	**Sospel**	**42.23**	**324**	*e*P	**P**	**15 05 19.5**	**+0.1**
FRU	**Bishkek**	**42.23**	**38**	*e*P	**P**	**15 05 22.0**	**+2.6**
FRU				*e*		15 05 30.0	
FRU				MLR	MLR		
	comp=Z,1µm,16.0s,MS4.8						
LMR	**La Mourre**	**42.45**	**323**	*e*P	**P**	**15 05 21.2**	**0.0**
GEC2	**GERESS Array S**	**42.50**	**334**	*e*P	**P**	**15 05 21.8**	**+0.3**
	comp=Z,31nm,1.8s,mb4.6						
GEC2	**GERESS Array S**	**42.50**	**334**	*e*P	**P**	**15 05 21.8**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,31nm,1.8s,mb4.6						
GERES	**GERESS Array B**	**42.50**	**334**	P	**P**	**15 05 21.7**	**+0.2**
	comp=Z,1.4nm,0.6s,mb3.8,baz=143,slow=6.7,SNR=13						
GERES				LR	LR	15 25 42.0	
	comp=Z,306nm,19.6s,MS4.2,baz=149,slow=40						
GERES	**GERESS Array B**	**42.50**	**334**	P	**P**	**15 05 21.7**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES				MLR	MLR		
	comp=Z,306nm,19.6s						
DPC	**Dobruska-Polom**	**42.62**	**337**	*e*P	**P**	**15 05 22.5**	**0.0**
DPC				*e*S	**S**	**15 11 50.3**	**+5.2**
DPC				AMS	AMS	15 25 50.0	
OBN	**Obninsk**	**42.62**	**357**	*e*P	**P**	**15 05 23.3**	**+0.8**
	comp=Z,57nm,1.7s,mb5.0						
OBN	**Obninsk**	**42.62**	**357**	⇓*e*P	**P**	**15 05 23.3**	**+0.8**
OBN				*e*		15 07 01.7	
OBN				*e*S	**S**	**15 11 49.0**	**+3.9**
OBN				*i* SS	SS	15 14 55.2	+6.1
OBN				pmax	pmax		
	comp=Z,57nm,1.7s,mb5.0						
OBN				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.3						
KHC	**Kasperske Hory**	**42.77**	**334**	*e*P	**P**	**15 05 22.6**	**-1.1**
KHC				*ex*	x	15 05 32.1	
KHC				*ex*	x	15 11 36.9	
KHC				AMS	AMS	15 23 10.0	
	comp=Z,500nm,24.9s						
KHC	**Kasperske Hory**	**42.77**	**334**	*e*P	**P**	**15 05 22.6**	**-1.1**
KHC				MLR	MLR		
	comp=Z,500nm,24.9s,MS4.3						
DAVOX	**Davos**	**42.80**	**329**	LR	LR	15 24 57.9	
	comp=Z,482nm,20.2s,MS4.4,baz=125,slow=39						
UPC	**Upice**	**42.86**	**337**	*e*P	**P**	**15 05 24.9**	**+0.4**
PRU	**Pruhonice**	**43.03**	**336**	*e*P	**P**	**15 05 26.2**	**+0.4**
PRU				*e*S

GRF					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.4								
GRF					MLR	MLR			
	comp=Z,600nm,19.6s,MS4.5								
VIVF	**Saint-Julien-l**	**44.41**	**323**	*eP*	**P**		**15 05 37.1**	**0.0**	
LASF	**Ste Croix**	**44.45**	**322**	*eP*	**P**		**15 05 37.6**	**+0.1**	
	comp=Z,17nm,1.0s,mb4.4								
BFO	**Black Forest**	**44.62**	**330**	*eP*	**P**		**15 05 37.3**	**-1.5**	
	comp=Z,4.0nm,0.8s,mb4.3								
BFO	**Black Forest**	**44.62**	**330**	*eP*	**P**		**15 05 37.3**	**-1.5**	
BFO					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.3								
CABF	**La Chapelle**	**44.67**	**326**	*eP*	**P**		**15 05 38.5**	**-0.7**	
CLL	**Collm**	**44.67**	**336**	⇓*iP*	**P**		**15 05 38.6**	**-0.5**	
	comp=Z,logA/T=1.4,mb5.0								
CLL				*i*			15 05 51.1		
CLL				*eS*	**S**		**15 12 22.0**	**+7.1**	
CLL				*eSS*	SS		15 15 44.0	+17	
CLL	**Collm**	**44.67**	**336**	⇓*iP*	**P**		**15 05 38.6**	**-0.5**	
CLL				*eS*	**S**		**15 12 22.0**	**+7.1**	
CLL				pmax	pmax				
	comp=Z,55nm,2.2s,mb5.0								
MOX	**Moxa**	**44.74**	**334**	*i* P	**P**		**15 05 39.4**	**-0.3**	
MOX				SS	SS		15 15 37.0	+8.8	
MOX				L			15 26 23.0		
MOX	**Moxa**	**44.74**	**334**	*eP*	**P**		**15 05 39.4**	**-0.3**	
MOX				*eSS*	SS		15 15 37.0	+8.8	
MOX				MLR	MLR				
	comp=Z,300nm,19.0s,MS4.2								
EPOB	**Poblet**	**44.80**	**317**	P	**P**		**15 05 40.0**	**-0.4**	
	comp=Z,77nm,1.7s,mb5.3								
EMUR	**La Murta**	**44.91**	**312**	P	**P**		**15 05 40.0**	**-1.2**	
	comp=Z,141nm,2.0s,mb5.5								
HINF	**Hinteralfeld**	**45.02**	**328**	*eP*	**P**		**15 05 41.6**	**-0.4**	
DBIC	**Dimbokro**	**45.05**	**267**	P	**P**		**15 05 44.0**	**+1.2**	
	comp=Z,6.7nm,0.8s,mb4.5,baz=51,slow=3.8,SNR=6.8								
DBIC					LR	LR	15 26 42.1		
	comp=Z,632nm,18.6s,MS4.6,baz=64,slow=39								
DBIC	**Dimbokro**	**45.05**	**267**	P	**P**		**15 05 44.0**	**+1.3**	
DBIC					pmax	pmax			
	comp=Z,7.0nm,0.8s								
DBIC					MLR	MLR			
	comp=Z,632nm,18.7s								
MTLF	**Montolieu**	**45.06**	**320**	*eP*	**P**		**15 05 42.7**	**+0.3**	
CDF	**Champ du Feu**	**45.20**	**329**	*eP*	**P**		**15 05 43.1**	**-0.3**	
HAU	**Haudompre**	**45.41**	**328**	*eP*	**P**		**15 05 44.6**	**-0.4**	
HAU				*eR*					
	comp=Z,341nm,21.8s								
EBER	**Berja**	**45.78**	**310**	P	**P**		**15 05 49.0**	**+0.9**	
	comp=Z,70nm,2.3s,mb5.2								
TNS	**Taunus Mts**	**45.85**	**332**	*eP*	**P**		**15 05 47.9**	**-0.6**	
	comp=Z,26nm,0.1s								
TNS	**Taunus Mts**	**45.85**	**332**	*eP*	**P**		**15 05 47.9**	**-0.6**	
TNS				pmax	pmax				
	comp=Z,26nm,0.1s								
MDT	**Midelt**	**45.87**	**304**	P	**P**		**15 05 50.0**	**+1.1**	
	comp=Z,7.0nm,1.1s,mb4.5,baz=88,slow=10,SNR=12								
MDT					LR	LR	15 26 20.0		
	comp=Z,885nm,19.5s,MS4.7,baz=98,slow=38								
SMF	**Signal de Mont**	**45.92**	**325**	*eP*	**P**		**15 05 48.5**	**-0.7**	
CAF	**Calviac**	**45.99**	**322**	*eP*	**P**		**15 05 50.6**	**+0.9**	
ARU	**Arti**	**46.00**	**14**	*eP*	**P**		**15 05 48.5**	**-1.2**	
	comp=Z,22nm,1.4s,mb4.9								
ARU	**Arti**	**46.00**	**14**	⇓*iP*	**P**		**15 05 49.8**	**+0.2**	
ARU				*e*			15 07 34.4		
ARU				*e*PPP	PPP		15 08 18.7	-2.5	
ARU				*e*SS	SS		15 15 42.9	-8.1	
ARU				pmax	pmax				
	comp=Z,15nm,1.3s,mb4.8								
ARU				MLR	MLR				
	comp=Z,200nm,16.0s,MS4.2								
ARU				MLR	MLR				
	comp=N,200nm,19.0s,MS4.3								
ARU				MLR	MLR				
	comp=E,200nm,16.0s,MS4.3								
EBIE	**Bielsa**	**46.05**	**318**	P	**P**		**15 05 50.3**	**0.0**	
	comp=E,112nm,2.5s,mb5.3								
EPF	**Esparros**	**46.09**	**319**	*eP*	**P**		**15 05 51.0**	**+0.5**	
EQES	**Quesada**	**46.23**	**311**	P	**P**		**15 05 48.7**	**-3.0**	
	comp=E,71nm,2.0s,mb5.2								
LOR	**Lormes**	**46.28**	**326**	*eP*	**P**		**15 05 51.5**	**-0.5**	
LOR				*eR*					
	comp=E,216nm,18.8s								
AVF	**Avril sur Loir**	**46.28**	**325**	*eP*	**P**		**15 05 51.3**	**-0.7**	
SSF	**Saint Saulge**	**46.35**	**325**	*eP*	**P**		**15 05 51.8**	**-0.7**	
MEZF	**Maizieres J'vi**	**46.39**	**328**	*eP*	**P**		**15 05 52.9**	**+0.1**	
BGF	**Bois d'Agland**	**46.43**	**324**	*eP*	**P**		**15 05 53.2**	**0.0**	
ERON	**Agron**	**46.51**	**310**	P	**P**		**15 05 55.3**	**+1.4**	
	comp=E,4.5nm,0.4s,mb4.8								
RJF	**Les Rejaudoux**	**46.52**	**322**	*eP*	**P**		**15 05 54.2**	**+0.3**	
RJF				*eR*					
	comp=E,470nm,19.8s								
ETSF	**Etsaut**	**46.61**	**318**	*eP*	**P**		**15 05 55.7**	**+1.1**	
	comp=E,84nm,1.4s,mb5.2								
ETSF	**Etsaut**	**46.61**	**318**	*eP*	**P**		**15 05 55.7**	**+1.1**	
ETSF				pmax	pmax				
	comp=Z,42nm,1.4s,mb5.2								
TCF	**Toulx Ste Croi**	**46.65**	**324**	*eP*	**P**		**15 05 55.5**	**+0.6**	
LFF	**La Frestale**	**46.80**	**321**	*eP*	**P**		**15 05 56.8**	**+0.7**	
ELOJ	**Sierra Loja**	**46.81**	**310**	P	**P**		**15 05 57.0**	**+0.7**	
	comp=Z,11nm,0.7s,mb4.9								
ELOJ	**Sierra Loja**	**46.81**	**310**	P	**P**		**15 05 57.0**	**+0.7**	
ELOJ				pmax	pmax				
	comp=Z,11nm,0.7s,mb4.9								
BVAR	**Borovoye Array**	**46.93**	**24**	P	**P**		**15 05 57.4**	**+0.4**	
	comp=Z,2.2nm,0.9s,mb4.1,baz=211,slow=8.6,SNR=9.2								
BVAR	**Borovoye Array**	**46.93**	**24**	P	**P**		**15 05 57.4**	**+0.4**	
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
EMIJ	**Mijas**	**47.09**	**309**	P	**P**		**15 05 57.4**	**-1.2**	
	comp=Z,8.8nm,0.9s,mb4.7								
SJPF	**Ste Jean**	**47.14**	**318**	*eP*	**P**		**15 06 00.1**	**+1.3**	
	comp=Z,38nm,1.0s,mb5.0								
SJPF	**Ste Jean**	**47.14**	**318**	*eP*	**P**		**15 06 00.1**	**+1.3**	
SJPF				pmax	pmax				
	comp=Z,19nm,1.0s,mb5.0								
GIVF	**Givet**	**47.52**	**329**	*eP*	**P**		**15 06 01.2**	**-0.5**	
ESDC	**Sonseca Array**	**47.57**	**313**	P	**P**		**15 06 02.8**	**+0.5**	
	comp=Z,2.5nm,0.8s,mb4.3,baz=115,slow=7.4,SNR=10								
ESDC	**Sonseca Array**	**47.57**	**313**	P	**P**		**15 06 02.3**	**0.0**	
	comp=Z,2.5nm,0.8s,mb4.3								
ESLA	**Sonseca Array**	**47.57**	**313**	*eP*	**P**		**15 06 00.3**	**-2.0**	
	comp=Z,11nm,1.4s,mb4.7								
BSEG	**Bad Segeberg**	**47.73**	**336**	*eP*	**P**		**15 06 04.0**	**+0.6**	
ECRI	**Cripan**	**47.76**	**317**	P	**P**		**15 06 04.0**	**+0.2**	
	comp=Z,38nm,1.3s,mb5.3								
ECRI	**Cripan**	**47.76**	**317**	P	**P**		**15 06 04.0**	**+0.3**	
ECRI				pmax	pmax				
	comp=Z,38nm,1.3s,mb5.3								
ESPR	**Espera**	**48.01**	**309**	P	**P**		**15 06 03.4**	**-2.4**	
	comp=Z,69nm,1.5s,mb5.5								
MKAR	**Makanchi Array**	**48.96**	**37**	P	**P**		**15 06 13.1**	**+0.2**	
	comp=Z,3.3nm,0.9s,mb4.4,baz=239,slow=7.1,SNR=24								
MKAR					LR	LR	15 29 29.6		
	comp=Z,446nm,19.1s,MS4.5,baz=182,slow=39								
MKAR	**Makanchi Array**	**48.96**	**37**	P	**P**		**15 06 13.1**	**+0.2**	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
MKAR				MLR	MLR				
	comp=Z,446nm,19.2s								
KURK	**Kurchatov**	**49.12**	**31**	*eP*	**P**		**15 06 13.7**	**-0.4**	
	comp=Z,18nm,1.5s,mb4.9								
KURK	**Kurchatov**	**49.12**	**31**	*eP*	**P**		**15 06 13.7**	**-0.4**	
KURK				pmax	pmax				
	comp=Z,18nm,1.5s,mb4.9								
LDF	**La Druitiere**	**49.24**	**325**	*eP*	**P**		**15 06 14.0**	**-1.1**	
EGRO	**El Granado**	**49.45**	**309**	P	**P**		**15 06 14.8**	**-2.1**	
	comp=Z,21nm,0.9s,mb5.2								
EBAD	**Badajoz**	**49.47**	**311**	P	**P**		**15 06 17.8**	**+0.8**	
	comp=Z,62nm,1.8s,mb5.3								
FLN	**La Foliniere**	**49.53**	**325**	*eP*	**P**		**15 06 16.3**	**-1.0**	
	comp=Z,15nm,0.9s,mb4.8								
FLN				*eR*					
	comp=Z,282nm,18.5s								
FLN	**La Foliniere**	**49.53**	**325**	*eP*	**P**		**15 06 16.3**	**-1.0**	
FLN				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
FLN				MLR	MLR				
	comp=Z,280nm,18.5s,MS4.3								
GRR	**Gorron**	**49.54**	**325**	*eP*	**P**		**15 06 16.5**	**-0.9**	
	comp=Z,10nm,0.7s,mb4.7								
GRR	**Gorron**	**49.54**	**325**	*eP*	**P**		**15 06 16.5**	**-0.9**	
GRR				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.7								
LSA	**Lhasa**	**49.85**	**62**	P	**P**		**15 06 21.8**	**+1.8**	
LSA	**Lhasa**	**49.85**	**62**	*eP*	**P**		**15 06 19.2**	**-0.8**	
	comp=Z,12nm,1.1s,mb4.8								
LSA	**Lhasa**	**49.85**	**62**	*eP*	**P**		**15 06 19.2**	**-0.8**	
LSA				pmax	pmax				
	comp=Z,12nm,1.1s,mb4.8								
FINES	**FINESS Array B**	**49.98**	**351**	P	**P**		**15 06 20.1**	**-0.5**	
	comp=Z,1.4nm,0.7s,mb4.1,baz=158,slow=31,SNR=4.9								
FINES	**FINESS Array B**	**49.98**	**351**	P	**P**		**15 06 20.1**	**-0.5**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
SGMF	**Saint Gilles**	**50.44**	**324**	*eP*	**P**		**15 06 23.2**	**-1.1**	
QUIF	**Quistinic**	**50.63**	**323**	*eP*	**P**		**15 06 24.7**	**-1.0**	
ROSF	**Rostrenen**	**50.90**	**323**	*eP*	**P**		**15 06 26.5**	**-1.2**	
NB2	**NORSAR Subarra**	**52.96**	**343**	P	**P**		**15 06 42.1**	**-1.0**	
	comp=Z,21nm,1.7s,mb4.8,baz=145,slow=7.4								
NB2	**NORSAR Subarra**	**52.96**	**343**	P	**P**		**15 06 42.1**	**-1.0**	
NB2				pmax	pmax				
	comp=Z,21nm,1.7s,mb4.8								
NOA	**NORSAR Array B**	**52.96**	**343**	P	**P**		**15 06 42.8**	**-0.3**	
	comp=Z,1.5nm,0.8s,mb4.0,baz=142,slow=7.4,SNR=4.7								
NOA				LR	LR		15 32 34.1		
	comp=Z,183nm,18.3s,MS4.2,baz=135,slow=40								
NOA	**NORSAR Array B**	**52.96**	**343**	P	**P**		**15 06 42.8**	**-0.3**	
NOA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
NOA				MLR	MLR				
	comp=Z,183nm,18.3s								
NVS	**Novosibirsk**	**53.82**	**29**	*eP*	**P**		**15 06 48.7**	**-0.8**	
NVS				pmax	pmax				
	comp=Z,12nm,1.5s,mb4.6								
NVS				pmax	pmax				
	comp=N,11nm,1.7s								
ZAL	**Zalesovo**	**54.07**	**31**	P	**P**		**15 06 50.4**	**-0.9**	
	comp=N,1.3nm,0.5s,mb4.2,baz=240,slow=7.7,SNR=9.9								
ZAL					LR	LR	15 33 34.1		
	comp=N,492nm,19.4s,MS4.6,baz=247,slow=40								
ZAL	**Zalesovo**	**54.07**	**31**	P	**P**		**15 06 50.4**	**-1.0**	
ZAL					LR	LR	15 33 34.1		
ZAL	**Zalesovo**	**54.07**	**31**	P	**P**		**15 06 50.4**	**-1.0**	
ZAL				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ZAL				MLR	MLR				
	comp=Z,492nm,19.4s								
ARCES	**ARCESS Array B**	**57.78**	**354**	P	**P**		**15 07 17.0**	**-1.0**	
	comp=Z,4.2nm,0.9s,mb4.5,baz=117,slow=5.4,SNR=7.8								
ARCES	**ARCESS Array B**	**57.78**	**354**	P	**P**		**15 07 17.0**	**-0.9**	
ARCES				pmax	pmax				
	comp=Z,4.0nm,0.9s								
GTA	**Gaotai**	**58.53**	**51**	*eP*	**P**		**15 07 23.6**	**+0.1**	
GTA				AP	pP		15 07 29.0	+2.4	
GTA				XP	sP		15 07 32.6	+4.8	
GTA				PP	PP		15 09 39.3	+4.5	
GTA				AMB	AMB				
	comp=Z,3.0nm,1.0s,mb4.3								
GTA				AMB	AMB				
	comp=Z,100nm,4.6s								
GTA				LR	LR				
	comp=N,351nm,22.8s,MS4.6								
GTA				LR	LR				
	comp=E,291nm,19.0s,MS4.6								
GTA				LR	LR				
	comp=Z,427nm,19.0s,MS4.6								
LZH	**Lanzhou**	**61.25**	**56**	*eP*	**P**		**15 07 44.5**	**+2.3**	
LZH				AP	pP		15 07 51.0	+5.6	
LZH				XP	sP		15 07 55.0	+8.5	
LZH				AMB	AMB				
	comp=Z,26nm,1.2s,mb5.2								
LZH				LR	LR				
	comp=N,500nm,15.0s								
LZH				LR	LR				
	comp=Z,500nm,18.0s,MS4.7								
SONM	**Songino Array**	**64.68**	**43**	P	**P**		**15 08 05.8**	**+1.0**	
	comp=Z,3.5nm,0.9s,mb4.4,baz=263,slow=6.8,SNR=27								
SONM					LR	LR	15 39 41.9		
	comp=Z,414nm,20.4s,MS4.6,baz=254,slow=39								
SONM	**Songino Array**	**64.68**	**43**	P	**P**		**15 08 05.8**	**+1.0**	
SONM				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SONM				MLR	MLR				
	comp=Z,414nm,20.4s								
BOD	**Bodaibo**	**70.72**	**33**	*eP*	**P**		**15 08 42.0**	**-0.5**	
BOD				pmax	pmax				
	comp=Z,8.0nm,1.6s,mb4.4								
NJ2	**Nanjing**	**73.68**	**60**	*eP*	**P**		**15 09 01.6**	**+1.0**	
NJ2				AP	pP		15 09 12.4	+8.7	
NJ2				XP	sP		15 09 14.9	+10	
NJ2				PP	PP		15 11 44.0	-2.8	
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.5s,mb5.0								
NJ2				AMB	AMB				
	comp=Z,80nm,9.5s								
NJ2				LR	LR				
	comp=N,1μm,28.0s,MS5.2								
NJ2				LR	LR				
	comp=E,1μm,32.0s,MS5.2								
NJ2				LR	LR				
	comp=Z,210nm,19.3s								
SSE	**Sheshan**	**75.75**	**61**	*eP*	**P**		**15 09 09.4**	**-3.1**	
SSE				PCP	PcP		15 09 23.6	-2.0	
SSE				AMB	AMB				
	comp=Z,42nm,0.7s,mb5.5								
SSE				AMB	AMB				
	comp=Z,17nm,3.5s								
SSE				LR	LR				
	comp=N,249nm,17.9s,MS4.6								
SSE				LR	LR				
	comp=E,145nm,17.9s,MS4.6								
SSE				LR	LR				
	comp=Z,175nm,24.1s								
TIXI	**Tiksi**	**77.71**	**19**	*eP*	**P**		**15 09 23.4**	**+0.7**	
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.7s,mb4.3								
CN2	**Changchun**	**77.84**	**48**	*eP*	**P**		**15 09 25.3**	**+1.4**	
YAK	**Yakutsk**	**78.68**	**29***c*	*iP*	**P**		**15 09 28.6**	**+0.5**	
YAK				pmax	pmax				
	comp=Z,7.0nm,1.7s,mb4.3								
MAW	**Mawson**	**81.52**	**172**	LR	LR		15 43 35.8		
	comp=Z,219nm,18.8s,MS4.5,baz=78,slow=34								
MJAR	**Matsushiro Arr**	**88.74**	**53**	LR	LR		15 56 17.2		
	comp=Z,168nm,19.1s,MS4.5,baz=275,slow=40								
SCHQ	**Schefferville**	**89.60**	**326**	LR	LR		15 54 13.3		
	comp=Z,92nm,19.5s,MS4.2,baz=309,slow=38								
BILL	**Bilibino**	**90.89**	**18**	*eP*	**P**		**15 10 20.4**	**-8.8**	
BILL				pmax	pmax				
	comp=Z,6.0nm,0.5s,mb5.2								
BDFB	**Brasilia**	**91.91**	**255**	LR	LR		15 48 53.0		
	comp=Z,192nm,19.5s,MS4.5,baz=344,slow=34								

*IDC **21** 16:15:06.7±1.3,**12.53N**×**40.58E**,**mb3.8/7**,**mb1 4.0/7**,*
mb1mx3.9**/17,**mbtmp3.8**/7,**Error ellipse: s-maj=35.6km
s-min=24.4km az=126.0**,**Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHD	**Baghdad**	**20.94**	**9**	*ex*	x	15 10 12.5	
BHD				*ex*	x	15 14 05.0	
MSL	**Mosul**	**23.77**	**5**	*ex*	x	15 11 02.0	
MSL				*ex*	x	15 15 19.0	
BRTR	**Keskin Array B**	**27.78**	**348**	P	P	15 12 07.4	-2.0
	1.1nm,0.4s,baz=172,slow=8.7,SNR=7.7						
TSUM	**Tsumeb**	**38.83**	**216**	P	P	15 13 43.7	-1.7
	2.6nm,1.0s,baz=135,slow=8.6,SNR=2.8						
GERES	**GERESS Array B**	**42.51**	**334**	P	P	15 14 13.5	-2.0
	1.1nm,0.8s,baz=158,slow=7.2,SNR=7.9						
ESDC	**Sonseca Array**	**47.61**	**313**	P	P	15 14 54.9	-1.5
	0.3nm,0.3s,baz=106,slow=8.2,SNR=6.1						
MKAR	**Makanchi Array**	**48.89**	**37**	P	P	15 15 03.4	-2.9
	0.7nm,0.7s,baz=256,slow=5.9,SNR=5.3						
ZAL	**Zalesovo**	**54.01**	**31**	P	P	15 15 43.8	-1.1
	0.7nm,0.4s,baz=168,slow=10,SNR=3.6						
SONM	**Songino Array**	**64.61**	**43**	P	P	15 16 56.3	-2.0
	0.7nm,0.8s,baz=249,slow=6.8,SNR=7.3						

*NNC **21** 16:22:46.4±8.5,38.02N×71.66E,h239km±113km,mpv3.7,*
Error ellipse: s-maj=99.5km s-min=56.4km az=27.0
ISC 21 16:22:41.4±2.8,37.6N±0.2×71.6E±0.2,h139km±65km,n9,
σ0^{s}47/12,3C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.79**	**19**	P	**P**		**16 23 53.0**	**+0.2**
	SNR=27							
UCH	**Uchtor**	**5.12**	**25**	P	**P**		**16 23 56.9**	**-0.2**
	SNR=24							
EKS2	**Erkin-Say**	**5.31**	**17**	P	**P**		**16 24 00.1**	**+0.4**
	SNR=7.6							
AAK	**Ala-Archa**	**5.48**	**23**	P	**P**		**16 24 02.0**	**+0.1**
	SNR=9.9							
AAK	**Ala-Archa**	**5.48**	**23**	⇑P	**P**		**16 24 01.7**	**-0.2**
	5.2nm,0.6s							
AAK				⇑S	**S**		**16 25 04.9**	**+0.6**
	5.4nm,0.6s							
KK31	**Karatay Array**	**5.56**	**351**	P	**P**		**16 24 03.6**	**+0.6**
	3.7nm,0.3s,baz=186,slow=16,SNR=207							
KK31				⇑S	**S**		**16 25 05.7**	**-0.6**
	2.7nm,0.3s,baz=173,slow=21,SNR=12							
CHMS	**Chumysh**	**5.89**	**23**	P	**P**		**16 24 07.2**	**-0.2**
	SNR=5.8							
TKM2	**Tokmak 2**	**6.11**	**28**	P	**P**		**16 24 09.6**	**-0.9**
	SNR=5.2							
AB31	**Akbulak array**	**14.39**	**328**	P	**P**		**16 25 59.5**	**+0.1**
	0.9nm,0.4s,baz=133,slow=14,SNR=37							
AB31				S	**S**		**16 28 27.7**	**-8.0**
	0.8nm,0.6s,baz=155,slow=22,SNR=3.8							

*IDC **21** 16:33:26.9±0.6,13.85N×144.97E,h129km±3km,mb3.8/7,*
mb1 4.1/7,mb1mx3.8/19,mbtmp4.2/7,Error ellipse:
s-maj=25.2km s-min=15.6km az=91.0
*NEIC **21** 16:33:28.4±0.7,13.76N×144.91E,h142km±6km,mb4.6/2,*
Error ellipse: s-maj=22.5km s-min=10.8km az=101.0
ISC 21 16:33:26.9±0.6,13.73N±0.08×144.8E±0.2,h137km±6km,
n16,σ0^{s}77/17,mb3.9/9,3C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.15**	**161**	P	**P**	**16 33 46.5**	**+0.6**
	550nm,0.3s,baz=133,slow=0.9,SNR=1430						
GUMO				S	**S**	**16 33 59.8**	**-0.5**
	1μm,0.3s,baz=63,slow=22,SNR=171						
SAPN	**Saipan**	**1.73**	**311**	⇑P	**P**	**16 33 58.9**	**+0.5**
SAPN				*e*S	**S**	**16 34 20.8**	**-1.9**
ANA2	**Anatahan**	**2.74**	**18**	⇑*eP*	**P**	**16 34 12.6**	**+1.5**
SARN	**Sarigan**	**3.09**	**17**	⇑*eP*	**P**	**16 34 16.8**	**+1.0**
WRA	**Warramunga Arr**	**35.01**	**197**	P	**P**	**16 40 07.9**	**-0.4**
	2.3nm,0.5s,mb4.0,baz=17,slow=9.3,SNR=35						
FITZ	**Fitzroy Crossi**	**36.85**	**211**	*eP*	**P**	**16 40 24.0**	**+0.2**
	2.3nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**36.85**	**211**	P	**P**	**16 40 24.1**	**+0.3**
	3.5nm,0.3s,mb4.5,baz=20,slow=9.4,SNR=25						
ASPA	**Alice Springs**	**38.67**	**196**	*eP*	**P**	**16 40 38.7**	**-0.2**
DZM	**Mont Dzumac**	**41.42**	**149**	P	**P**	**16 41 01.8**	**+0.2**
	8.6nm,0.6s,mb4.6,baz=342,slow=9.6,SNR=13						
SONM	**Songino Array**	**46.59**	**325**	P	**P**	**16 41 42.6**	**-0.1**
	0.2nm,0.5s,mb3.0,baz=112,slow=7.8,SNR=3.2						
FORT	**Forrest**	**47.10**	**200**	*eP*	**P**	**16 41 47.2**	**+0.2**
	14nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**61.36**	**316**	P	**P**	**16 43 29.7**	**-0.8**
	0.2nm,0.3s,mb3.4,baz=100,slow=8.8,SNR=4.0						
ILAR	**Eielson Array**	**68.46**	**25**	P	**P**	**16 44 11.9**	**-4.0**
	0.4nm,0.4s,mb3.5,baz=254,slow=5.6,SNR=10						
NVAR	**Mina Array Bea**	**86.87**	**51**	P	**P**	**16 45 57.5**	**+0.1**
	0.8nm,0.6s,mb3.7,baz=270,slow=6.3,SNR=6.9						
FINES	**FINESS Array B**	**91.02**	**335**	P	**P**	**16 46 16.2**	**-0.3**
	1.7nm,0.9s,mb4.0,baz=39,slow=8.9,SNR=2.9						
LPAZ	**La Paz**	**148.09**	**99**	PKPbc	PKPdf	16 52 58.9	+5.0
	1.4nm,0.5s,baz=232,slow=3.3,SNR=4.2						

IDC 21 16:45:25.5±2.2,12.61N×40.42E,mb3.9/9,mb1 4.0/9,
mb1mx3.9/17,mbtmp3.9/9,MS3.1/1,Ms1 3.1/1,
ms1mx2.7/20,Error ellipse: s-maj=50.8km
s-min=26.5km az=166.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**14.01**	**193**	LR	LR	16 54 36.8	
	comp=Z,83nm,20.7s,baz=85,slow=39						
BHD	**Baghdad**	**20.88**	**9**	*ex*	x	16 49 16.0	
BRTR	**Keskin Array B**	**27.66**	**349**	P	P	16 51 16.7	-0.4
	1.9nm,1.0s,baz=166,slow=10,SNR=6.9						
AKASG	**Malin Array Be**	**39.07**	**349**	P	P	16 52 53.5	-2.4
	0.8nm,0.9s,baz=170,slow=7.0,SNR=5.2						
GERES	**GERESS Array B**	**42.37**	**334**	P	P	16 53 21.5	-1.6
	1.4nm,0.7s,baz=153,slow=6.0,SNR=10						
DBIC	**Dimbokro**	**44.98**	**267**	P	P	16 53 42.9	-1.8
	2.4nm,0.5s,baz=76,slow=11,SNR=4.3						
BVAR	**Borovoye Array**	**46.86**	**24**	P	P	16 53 56.5	-2.6
	0.6nm,0.6s,baz=203,slow=11,SNR=3.9						
ESDC	**Sonseca Array**	**47.44**	**313**	P	P	16 54 02.0	-1.8
	0.2nm,0.3s,baz=117,slow=9.9,SNR=5.0						
MKAR	**Makanchi Array**	**48.92**	**37**	P	P	16 54 13.6	-1.7
	1.

SWS					Sg	Sg	16 54 19.2	-0.3
STB	**Steinbach**	**1.28**	**2**	*e*Pg	Pg	16 54 03.4	+0.6
STB				*e*Sg	Sg	16 54 19.7	-0.1
	105nm,0.4s							
LIBD	**Limburg**	**1.29**	**154**	P*	Pb	16 54 04.6	+2.7
LIBD				*e*Pg	Pg	16 54 04.7	+1.9
	SNR=4.7							
LIBD				*e*Sg	Sg	16 54 21.6	+1.7
	SNR=4.2							
LIBD	**Limburg**	**1.29**	**154**	Pg	Pg	16 54 04.5	+1.7
HAU	**Haudompre**	**1.34**	**192**	*e*Pn	Pn	16 54 04.1	+1.1
HAU				*e*Pg	Pg	16 54 05.3	+1.5
HAU				*e*Sg	Sg	16 54 22.8	+1.2
	227nm,0.3s							
TOD	**Tromm**	**1.36**	**77**	*e*Pn	Pn	16 54 03.3	-0.1
	SNR=2.2							
TOD				Pg	Pg	16 54 03.6	-0.6
TOD				Sg	Sg	16 54 22.5	+0.2
TOD	**Tromm**	**1.36**	**77**	PG	Pg	16 54 03.6	-0.6
TOD	**Tromm**	**1.36**	**77**	Pn	Pn	16 54 03.1	-0.2
TOD				Sg	Sg	16 54 22.8	+0.4
KLL	**Kalltalsperre**	**1.37**	**348**	*e*Pg	Pg	16 54 04.1	-0.3
KLL				*e*Sg	Sg	16 54 21.5	-1.1
MEZF	**Maizieres J'vi**	**1.39**	**235**	*e*Pn	Pn	16 54 04.8	+1.0
	baz=50							
MEZF				*e*Pg	Pg	16 54 06.1	+1.2
MEZF				*e*Sn	Sn	16 54 23.2	0.0
MEZF				*e*Sg	Sg	16 54 25.6	+2.1
	55nm,0.3s							
TNS	**Taunus Mts**	**1.42**	**49**	*e*Pn	Pn	16 54 04.7	+0.5
	SNR=4.4							
TNS				*e*Pg	Pg	16 54 06.2	+0.8
	SNR=5.2							
TNS				*e*Sg	Sg	16 54 24.2	-0.1
	SNR=4.3							
TNS	**Taunus Mts**	**1.42**	**49**	*e*Pn	Pn	16 54 04.7	+0.5
TNS				*e*Pg	Pg	16 54 06.2	+0.8
TNS				*e*Sg	Sg	16 54 24.2	-0.1
TNS	**Taunus Mts**	**1.42**	**49**	*e*Pg	Pg	16 54 06.2	+0.8
BFO	**Black Forest**	**1.42**	**133**	*e*Pn	Pn	16 54 05.3	+1.0
	SNR=3.1							
BFO				*e*Pg	Pg	16 54 06.9	+1.4
	SNR=6.5							
BFO				*e*Sg	Sg	16 54 25.2	+0.7
	SNR=10							
BFO	**Black Forest**	**1.42**	**133**	*e*Pn	Pn	16 54 05.3	+1.0
BFO				*e*Pg	Pg	16 54 06.9	+1.4
BFO				*e*Sg	Sg	16 54 25.2	+0.7
MOF	**Molkenrain**	**1.48**	**170**	Pg	Pg	16 54 07.9	+1.2
MOF				Sg	Sg	16 54 27.8	+1.4
MOF	**Molkenrain**	**1.48**	**170**	Pn	Pn	16 54 07.2	+2.1
MOF				Pg	Pg	16 54 08.1	+1.4
MOF				Sg	Sg	16 54 27.9	+1.5
MOF	**Molkenrain**	**1.48**	**170**	P	Pg	16 54 08.1	+1.4
MOF				S	Sg	16 54 27.9	+1.5
LBG	**Lerchenberg**	**1.48**	**115**	Pg	Pg	16 54 06.9	+0.2
LBG				Sn	Sn	16 54 23.8	-1.7
LBG				Sg	Sg	16 54 26.1	-0.3
LBG	**Lerchenberg**	**1.48**	**115**	Pg	Pg	16 54 06.9	+0.2
LBG				Sg	Sg	16 54 26.1	-0.3
GIVF	**Givet**	**1.49**	**303**	*e*Pn	Pn	16 54 05.8	+0.6
GIVF				*e*Pg	Pg	16 54 07.0	+0.1
GIVF				*e*Sg	Sg	16 54 26.3	-0.4
	88nm,0.4s							
HINF	**Hinteralfeld**	**1.50**	**178**	*e*Pn	Pn	16 54 06.0	+0.7
HINF				*e*Pg	Pg	16 54 07.7	+0.7
HINF				*e*Sn	Sn	16 54 25.1	-0.7
HINF				*e*Sg	Sg	16 54 27.2	+0.2
	234nm,0.3s							
HGN	**Heimansgroeve**	**1.55**	**340**	*e*Pn	Pn	16 54 07.4	+1.3
	2.5nm,0.1s,baz=160							
HGN				⇑*i*Pg	Pg	16 54 08.9	+0.9
	20nm,0.3s							
HGN				*i* Sg	Sg	16 54 27.1	-1.6
HGN	**Heimansgroeve**	**1.55**	**340**	*e*Pn	Pn	16 54 07.4	+1.4
	SNR=1.3							
HGN				*e*Pg	Pg	16 54 09.0	+0.9
	SNR=4.3							
HGN				*e*Sg	Sg	16 54 28.6	-0.2
	SNR=4.1							
HGN	**Heimansgroeve**	**1.55**	**340**	⇑*i*Pg	Pg	16 54 08.9	+0.8
	20nm,0.3s							
HGN				*i* Sg	Sg	16 54 27.1	-1.6
KIZ	**Kirchzarten**	**1.56**	**150**	Pg	Pg	16 54 08.8	+0.7
KIZ				Sg	Sg	16 54 29.0	+0.1
SFTF	**Sexfontaines**	**1.59**	**227**	*e*Pn	Pn	16 54 07.8	+1.1
	baz=47							
SFTF				*e*Pg	Pg	16 54 09.9	+1.0
	baz=46							
SFTF				*e*Sg	Sg	16 54 31.0	+0.8
	80nm,0.4s							
SFTF	**Sexfontaines**	**1.59**	**227**	*e*Pg	Pg	16 54 09.9	+1.0
SFTF				*e*Sg	Sg	16 54 31.0	+0.8
	40nm,0.4s							
FELD	**Feldberg**	**1.65**	**150**	*e*Pn	Pn	16 54 09.3	+1.8
	SNR=1.1							
FELD				Pg	Pg	16 54 10.9	+0.8
FELD				Sg	Sg	16 54 31.9	-0.3
FELD	**Feldberg**	**1.65**	**150**	P	Pg	16 54 10.9	+0.8
FELD				S	Sg	16 54 31.9	-0.3
STU	**Stuttgart**	**1.69**	**108**	P	Pn	16 54 10.5	+2.5
STU	**Stuttgart**	**1.69**	**108**	P	Pn	16 54 10.5	+2.5
TUBL	**Tuebingen Lnz**	**1.72**	**117**	Sg	Sg	16 54 33.5	-0.8
SPAK	**Spaichingen**	**1.80**	**131**	Pg	Pg	16 54 13.7	+0.6
BAIF	**Baives**	**1.82**	**295**	*e*Pn	Pn	16 54 10.3	+0.3
BAIF				*e*Pg	Pg	16 54 13.8	+0.3
BAIF				*e*Sg	Sg	16 54 37.9	+0.1
	41nm,0.4s							
SIND	**Sindeldorf**	**1.85**	**88**	Pn	Pn	16 54 09.9	-0.5
BUCH	**Bad Urach**	**1.91**	**116**	Pg	Pg	16 54 15.1	-0.2
BUCH				Sg	Sg	16 54 39.5	-1.2
BBS	**Basel-Blauen**	**1.91**	**165**	Pg	Pg	16 54 14.9	-0.4
LOMF	**Lomont**	**1.96**	**179**	Pn	Pn	16 54 12.8	+0.8
LOMF				Pg	Pg	16 54 16.8	+0.5
LOMF	**Lomont**	**1.96**	**179**	Pn	Pn	16 54 12.2	+0.2
LOMF				Pg	Pg	16 54 16.7	+0.4
GUT	**Gutenstein**	**1.99**	**128**	Pn	Pn	16 54 13.3	+1.0
GUT				Pg	Pg	16 54 16.9	+0.1
GUT				Sg	Sg	16 54 41.9	-1.4
GUT	**Gutenstein**	**1.99**	**128**	PG	Pg	16 54 16.9	+0.1
GUT				SG	Sg	16 54 41.9	-1.4
GUT	**Gutenstein**	**1.99**	**128**	P	Pn	16 54 13.3	+0.9
GUT				Pg	Pg	16 54 16.9	+0.1
GUT				Sg	Sg	16 54 41.9	-1.4
GUT	**Gutenstein**	**1.99**	**128**	Pg	Pg	16 54 16.9	+0.1
SISB	**Singen-Sch Ber**	**2.19**	**137**	P*	Pb	16 54 21.1	+3.9
SISB				S*	Sb	16 54 49.1	+4.1
SISB	**Singen-Sch Ber**	**2.19**	**137**	S	Sb	16 54 49.1	+4.1
HDH	**Heidenheim**	**2.38**	**107**	Sg	Sg	16 54 54.7	-1.7
CABF	**La Chapelle**	**2.74**	**190**	*e*Pn	Pn	16 54 23.7	+0.6
CABF				*e*Pg	Pg	16 54 32.5	+0.7
CABF				*e*Sg	Sg	16 55 07.0	-1.4
	43nm,0.5s							
UBR	**Uberruh**	**2.75**	**125**	Pn	Pn	16 54 25.6	+2.3
UBR				S*	Sb	16 55 07.1	+5.6
UBR	**Uberruh**	**2.75**	**125**	SG	Sg	16 55 07.1	-1.7
LOR	**Lormes**	**2.82**	**225**	*e*Pn	Pn	16 54 24.4	+0.1
	baz=45							
LOR				*e*Sn	Sn	16 54 57.9	-1.6
LOR				*e*Sg	Sg	16 55 09.4	-1.6
	46nm,0.4s							
DAVA	**Damuels**	**2.90**	**133**	⇑*i*PN	Pn	16 54 27.2	+1.8
DAVA				*i* SN	Sn	16 55 00.4	-1.1
DAVA				*i* SG	Sg	16 55 11.5	-2.2
	20nm,0.6s							
GRA1	**Grafenberg Arr**	**2.93**	**81**	*e*Pg	Pg	16 54 34.4	-1.1
GRF	**Grafenberg Arr**	**2.93**	**81**	*e*Pg	Pg	16 54 34.4	-1.1
	SNR=2.8							
SSF	**Saint Saulge**	**3.14**	**225**	*e*Pn	Pn	16 54 28.6	-0.2
SSF				*e*Pg	Pg	16 54 38.4	-1.3
SSF				*e*Sn	Sn	16 55 04.6	-2.9
SSF				*e*Sg	Sg	16 55 19.0	-2.5
	24nm,0.4s							
SMF	**Signal de Mont**	**3.31**	**218**	*e*Pn	Pn	16 54 30.8	-0.5
SMF				*e*Sn	Sn	16 55 09.0	-3.0
SMF				*e*Sg	Sg	16 55 24.9	-2.6
	18nm,0.3s							
MOX	**Moxa**	**3.40**	**65**	*e*Pg	Pg	16 54 41.8	-3.2
	SNR=2.2							
MOX				*e*Sg	Sg	16 55 25.5	-4.8
	SNR=1.7							
MOX	**Moxa**	**3.40**	**65**	*e*Pg	Pg	16 54 41.8	-3.2
MOX				*e*Sg	Sg	16 55 27.8	-2.5
AVF	**Avril sur Loir**	**3.41**	**224**	*e*Pn	Pn	16 54 32.0	-0.6
AVF				*e*Sn	Sn	16 55 10.9	-3.4
AVF				*e*Sg	Sg	16 55 27.5	-3.1
	17nm,0.5s							
HYF	**Humbligny**	**3.43**	**235**	*e*Pn	Pn	16 54 32.9	-0.1
HYF				*e*Sg	Sg	16 55 27.2	-4.2
MOTA	**Moosalm**	**3.50**	**123**	⇑*i*PN	Pn	16 54 35.0	+1.1
MOTA				*i* PG	Pg	16 54 45.4	-1.5
MOTA				*i* SG	Sg	16 55 29.4	-4.2
	14nm,0.3s							
MOTA	**Moosalm**	**3.50**	**123**	⇑*i*Sg	Sg	16 55 29.4	-4.2
	comp=Z,14nm,0.3s							
SQTA	**Sankt Quirin**	**3.63**	**124**	⇓*i*PN	Pn	16 54 36.8	+1.1
SQTA				*i* PG	Pg	16 54 47.8	-1.8
SQTA				*i* SN	Sn	16 55 17.4	-2.5
SQTA				*i* SG	Sg	16 55 33.8	-4.1
	6.3nm,0.3s							
WERD	**Werda**	**3.76**	**70**	*e*Pn	Pn	16 54 37.5	-0.1
	SNR=1.9							
NKC	**Novy Kostel**	**3.79**	**74**	*e*PN	Pn	16 54 38.9	+0.8
NKC				*e*SG	Sg	16 55 35.7	-7.7
	16nm,0.4s							
LPL	**La Plagne**	**3.80**	**180**	*e*Pn	Pn	16 54 37.4	-0.7
LPL				*e*Sg	Sg	16 55 39.9	-3.6
	10nm,0.6s							
BGF	**Bois d'Agland**	**3.81**	**225**	*e*Pn	Pn	16 54 37.0	-1.4
BGF				*e*Sn	Sn	16 55 21.5	-3.1
	54nm,0.4s							
LPG	**La Plagne**	**3.82**	**180**	*e*Pn	Pn	16 54 38.8	+0.4
LPG				*e*Pg	Pg	16 54 52.4	-0.9
LPG				*e*Sg	Sg	16 55 40.7	-3.5
	6.5nm,0.4s							
TANN	**Tannenbergstha**	**3.84**	**71**	*e*Pg	Pg	16 54 50.5	-3.3
	SNR=3.4							
WET	**Wettzell**	**4.01**	**90**	*e*Pn	Pn	16 54 40.8	-0.3
	SNR=4.6							
WET				*e*Sn	Sn	16 55 25.6	-3.9
	SNR=1.9							
WET				*e*Sg	Sg	16 55 44.8	-5.7
	SNR=1.4							
WET	**Wettzell**	**4.01**	**90**	*e*Pn	Pn	16 54 40.8	-0.3
WET				*e*Sn	Sn	16 55 25.6	-3.9
WET				*e*Sg	Sg	16 55 44.8	-5.7
TCF	**Toulx Ste Croi**	**4.31**	**227**	*e*Pn	Pn	16 54 47.4	-0.3
TCF				*e*Sn	Sn	16 55 33.4	-3.8
	12nm,0.6s							
ORIF	**Oris-en-Rattie**	**4.44**	**188**	*e*Pn	Pn	16 54 46.2	-1.0
ORIF				*e*Pg	Pg	16 55 03.0	-2.7
ORIF				*e*Sg	Sg	16 56 00.0	-4.8
	9.0nm,0.4s							
CLL	**Collm**	**4.47**	**61**	P	Pg	16 55 04.0	-2.3
CLL				*e*Sg	Sg	16 55 59.0	-6.8
KHC	**Kasperske Hory**	**4.47**	**90**	*e*PN	Pn	16 54 47.4	-0.2
KHC				*e*PG	Pg	16 55 05.4	-0.9
KHC				*e*SN	Sn	16 55 36.9	-4.2
KHC				*e*SG	Sg	16 55 58.8	-7.0
KHC	**Kasperske Hory**	**4.47**	**90**	Pn	Pn	16 54 47.4	-0.2
KHC				*e*Sn	Sn	16 55 36.9	-4.2
KHC				*e*Sg	Sg	16 55 58.8	-7.0
GEC2	**GERESS Array S**	**4.58**	**93**	*e*Pn	Pn	16 54 49.2	0.0
	SNR=12							
GEC2				*e*Sn	Sn	16 55 38.3	-5.7
	SNR=3.5							
GEC2				*e*Sg	Sg	16 56 05.1	-4.5
	SNR=1.2							
GEC2	**GERESS Array S**	**4.58**	**93**	*e*Pn	Pn	16 54 49.2	-0.1
GEC2				*e*Sn	Sn	16 55 38.3	-5.7
GEC2				*e*Sg	Sg	16 56 05.1	-4.5
MBDF	**Montbardon**	**4.59**	**180**	*e*Pn	Pn	16 54 48.4	-1.0
LDF	**La Druitiere**	**4.60**	**264**	*e*Pn	Pn	16 54 48.4	-1.1
LDF				*e*Pg	Pg	16 55 04.2	-4.7
LDF				*e*Sn	Sn	16 55 39.6	-4.9
LDF				*e*Sg	Sg	16 56 06.2	-4.0
	14nm,0.4s							
VIVF	**Saint-Julien-l**	**4.68**	**199**	*e*Pn	Pn	16 54 49.8	-0.9
VIVF				*e*Sn	Sn	16 55 42.1	-4.5
	3.6nm,0.3s							
VIVF				*e*Sg	Sg	16 56 07.3	-5.7
	8.7nm,0.6s							
FLN	**La Foliniere**	**4.80**	**266**	*e*Pn	Pn	16 54 52.1	-0.3
	baz=86							
FLN				*e*Sn	Sn	16 55 45.1	-4.5
	13nm,0.4s							
BRG	**Berggiesshubel**	**4.88**	**69**	Pg	Pg	16 55 09.4	-5.0
BRG				Sg	Sg	16 56 15.0	-4.4
KBA	**Koelnbreinsper**	**4.93**	**114**	⇑*i*PN	Pn	16 54 54.3	+0.1
KBA				*i* SN	Sn	16 55 48.8	-4.1
KBA				*i* SG	Sg	16 56 15.7	-5.6
	3.2nm,0.4s							
KBA	**Koelnbreinsper**	**4.93**	**114**	⇑*i*Pn	Pn	16 54 54.3	0.0
KBA	**Koelnbreinsper**	**4.93**	**114**	⇑*i*Sn	Sn	16 55 51.5	-1.4
KBA	**Koelnbreinsper**	**4.93**	**114**	⇓*i*Sg	Sg	16 56 20.8	-0.5
	comp=Z,3.2nm,0.4s							
PRU	**Pruhonice**	**5.09**	**79**	*e*SG	Sg	16 56 18.4	-8.3
GRR	**Gorron**	**5.12**	**262**	*e*Pn	Pn	16 54 55.5	-1.4
GRR				*e*Pg	Pg	16 55 16.0	-3.3
GRR				*e*Sn	Sn	16 55 51.1	-6.5
	12nm,0.5s							
MOA	**Molln**	**5.19**	**104**	⇑*i*PN	Pn	16 54 57.5	-0.3
MOA				*i* SG	Sg	16 56 23.4	-6.4
	1.8nm,0.4s							
MOA	**Molln**	**5.19**	**104**	⇑*i*Pn	Pn	16 54 57.5	-0.3
MOA	**Molln**	**5.19**	**104**	⇑*i*Sn	Sn	16 55 57.0	-2.3
	comp=Z,1.8nm,0.4s							
MOA	**Molln**	**5.19**	**104**	⇑*i*Pn	Pn	16 54 57.5	-0.3
	1.8nm,0.4s							
MOA				*i* Sg	Sg	16 56 23.4	-6.4
MFF	**Saint Martin d**	**5.38**	**242**	*e*Pn	Pn	16 54 59.4	-1.1
MFF				*e*Sn	Sn	16 55 56.2	-7.9
	4.5nm,0.4s							
CAF	**Calviac**	**5.44**	**218**	*e*Pn	Pn	16 55 00.1	-1.3
CAF				*e*Pg	Pg	16 55 21.3	-4.3
LASF	**Ste Croix**	**5.61**	**202**	*e*Pn	Pn	16 55 02.9	-0.9
LFF	**La Frestale**	**6.00**	**226**	*e*Sn	Sn	16 56 12.2	-7.6
	9.3nm,0.3s							
SGMF	**Saint Gilles**	**6.25**	**264**	*e*Pn	Pn	16 55 11.5	-1.4
DPC	**Dobruska-Polom**	**6.27**	**77**	*e*SG	Sg	16 56 55.0	-11
ROSF	**Rostrenen**	**6.70**	**265**	*e*Pn	Pn	16 55 17.4	-1.8
MTLF	**Montolieu**	**6.75**	**210**	*e*Pn	Pn	16 55 18.3	-1.6

*CSEM **21** 16:56:47.0±0.1, 12.50N×40.29E, h30km, ML4.4, Error ellipse: s-maj=4.1km s-min=1.7km az=149.0*
*IDC **21** 16:56:48.0±1.4, 11.99N×40.35E, mb3.8/8, mb1 3.9/8, mb1mx3.8/19, mbtmp3.9/8, MS3.7/11, Ms1 3.7/11, ms1mx3.6/21, Error ellipse: s-maj=40.3km s-min=26.9km az=106.0*
*DHMR **21** 16:56:48.1±2.2, 12.63N×40.55E, h11km±82km, ML4.4*
*NEIC **21** 16:56:49.6±1.0, 11.97N×40.24E, h10km, mb4.3/1, ML4.5(DHMR), Error ellipse: s-maj=18.7km s-min=14.0km az=177.0*

ISC 21 16:56:47.8±0.9, 12.0N±0.1×40.58E±0.06, h10km, n33, σ1§38/38, mb3.9/8, MS3.7/10, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.83**	**59**	*e*P	**Pn**	**16 57 47.8**	**-0.3**
UDYN				*i* S	**Sn**	**16 58 32.1**	**-1.6**
UDYN				AML	AML	16 59 02.1	
	comp=E,2µm,0.7s						
UDYN	**Al 'Udayn**	**3.83**	**59**	*i* P	**Pn**	**16 57 54.4**	**+6.3**
ADEN	**Aden**	**4.37**	**80**	*e*P	**Pn**	**16 58 36.4**	**+2.6**
ADEN				*i* S	**Sn**	**16 58 49.3**	**+1.9**
ADEN	**Aden**	**4.37**	**80**	*i* P	**Pn**	**16 58 02.4**	**+6.6**
ADEN				*i* S	**Sn**	**16 58 50.4**	**+3.1**
DHBB	**Dhamar BB**	**4.50**	**55**	*e*P	**Pn**	**16 57 54.9**	**-2.7**
DHBB				*i* S	**Sn**	**16 58 47.2**	**-3.4**
HAJJ	**Hajjah**	**4.69**	**38**	*i* P	**Pn**	**16 57 55.5**	**-4.9**
HAJJ				*i* S	**Sn**	**16 58 47.6**	**-8.0**
HAJJ	**Hajjah**	**4.69**	**38**	*i* P	**Pn**	**16 58 04.8**	**+4.4**
HAJJ				*i* S	**Sn**	**16 58 56.7**	**+1.1**
HAJJ	**Hajjah**	**4.69**	**38**	*i* P	**Pn**	**16 57 55.5**	**-4.9**
HAJJ				*i* S	**Sn**	**16 58 56.7**	**+1.1**
LBOS		**4.91**	**67**	*i* P	**Pn**	**16 57 59.3**	**-4.2**
LBOS				*i* S	**Sn**	**16 58 55.9**	**-5.2**
BDHA	**Al Bayda'**	**5.24**	**68**	*e*P	**Pn**	**16 58 04.2**	**-3.9**
BDHA				*i* S	**Sn**	**16 59 03.8**	**-5.5**
BDHA	**Al Bayda'**	**5.24**	**68**	*i* P	**Pn**	**16 58 10.1**	**+2.0**
BDHA				*i* S	**Sn**	**16 59 08.3**	**-1.0**
BDHA	**Al Bayda'**	**5.24**	**68**	*i* P	**Pn**	**16 58 10.1**	**+2.0**
BDHA				*i* S	**Sn**	**16 59 08.3**	**-1.0**

MUKL	**Al Mukalla**	**8.59**	**73**	*i* S	**Sn**	**17 00 27.1**	**-5.9**
KMBO	**Kilima Mbogo**	**13.47**	**194**	LR	LR	17 04 54.5	
	comp=E,308nm,20.4s,baz=74,slow=36						
ASF	**Jabal al Asfar**	**20.35**	**351**	P	**P**	**17 01 26.8**	**-0.4**
	comp=E,1.4nm,0.5s,baz=268,slow=18,SNR=2.9						
MALT	**Malatya**	**26.26**	**356**	*e*P	**P**	**17 02 26.4**	**+1.4**
	comp=E,7.6nm,1.2s,mb4.1						
MALT	**Malatya**	**26.26**	**356**	*e*P	**P**	**17 02 26.4**	**+1.3**
IDI	**Anoyia**	**27.19**	**331**	LR	LR	17 13 33.3	
	comp=E,203nm,18.0s,MS3.7,baz=263,slow=37						
BRTR	**Keskin Array B**	**28.28**	**349**	P	**P**	**17 02 43.0**	**-0.5**
	comp=E,1.2nm,0.9s,mb3.5,baz=153,slow=6.4,SNR=5.2						
VAE	**Valguarnera**	**34.53**	**322**	LR	LR	17 17 26.2	
	comp=E,200nm,18.6s,MS3.9,baz=313,slow=36						
GERES	**GERESS Array B**	**42.97**	**334**	P	**P**	**17 04 48.0**	**-0.7**
	comp=E,0.6nm,0.6s,mb3.5,baz=169,slow=5.0,SNR=3.8						
GERES				LR	LR	17 22 41.5	
	comp=E,54nm,19.0s,MS3.5,baz=336,slow=36						
GERES	**GERESS Array B**	**42.97**	**334**	P	**P**	**17 04 48.0**	**-0.7**
GERES				LR	LR	17 22 41.5	
DAVOX	**Davos**	**43.25**	**329**	LR	LR	17 23 27.6	
	comp=E,55nm,21.1s,MS3.4,baz=262,slow=37						
DBIC	**Dimbokro**	**45.11**	**267**	LR	LR	17 26 08.2	
	comp=E,70nm,19.0s,MS3.6,baz=67,slow=39						
MDT	**Midelt**	**46.20**	**304**	LR	LR	17 26 09.8	
	comp=E,137nm,19.1s,MS3.9,baz=114,slow=38						
BVAR	**Borovoye Array**	**47.34**	**24**	P	**P**	**17 05 23.5**	**-0.1**
	comp=E,0.7nm,0.8s,mb3.6,baz=207,slow=6.4,SNR=5.4						
SUR	**Sutherland**	**48.02**	**203**	P	**P**	**17 05 28.3**	**-0.9**
	comp=E,9.6nm,1.0s,mb4.8,baz=107,slow=11,SNR=3.6						
SUR				LR	LR	17 27 00.6	
	comp=E,165nm,18.1s,MS4.0,baz=39,slow=38						
MKAR	**Makanchi Array**	**49.30**	**37**	P	**P**	**17 05 40.0**	**+1.0**
	comp=E,1.1nm,0.8s,mb3.9,baz=233,slow=6.1,SNR=9.1						
MKAR				LR	LR	17 30 21.9	
	comp=E,66nm,19.3s,MS3.6,baz=180,slow=41						
MKAR	**Makanchi Array**	**49.30**	**37**	P	**P**	**17 05 40.0**	**+1.0**
MKAR				LR	LR	17 30 21.9	
NOA	**NORSAR Array B**	**53.44**	**343**	LR	LR	17 29 39.4	
	comp=E,10nm,19.4s,MS2.9,baz=35,slow=37						
ZAL	**Zalesovo**	**54.45**	**30**	P	**P**	**17 06 17.6**	**+0.1**
	comp=E,0.7nm,0.4s,mb4.0,baz=231,slow=9.6,SNR=5.1						
ZAL	**Zalesovo**	**54.45**	**30**	P	**P**	**17 06 17.6**	**+0.1**
SONM	**Songino Array**	**64.98**	**43**	P	**P**	**17 07 31.7**	**+1.5**
	comp=E,1.2nm,0.9s,mb3.9,baz=251,slow=7.1,SNR=8.9						
SONM				LR	LR	17 39 16.5	
	comp=E,100nm,18.4s,MS4.0,baz=128,slow=39						

IDC 21 17:08:23.3±11.0, 12.18N×40.32E, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/22, Error ellipse: s-maj=255.3km s-min=52.9km az=22.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**13.57**	**193**	LR	LR	17 17 04.8	
	comp=Z,44nm,20.6s,baz=97,slow=38						
BRTR	**Keskin Array B**	**28.06**	**349**	P	P	17 14 16.8	-1.8
	0.8nm,0.8s,baz=157,slow=9.4,SNR=4.0						
GERES	**GERESS Array B**	**42.70**	**334**	P	P	17 16 22.0	-1.7
	1.1nm,0.7s,baz=135,slow=7.5,SNR=6.4						
SONM	**Songino Array**	**65.03**	**43**	P	P	17 19 05.6	-2.0
	0.6nm,0.8s,baz=270,slow=5.9,SNR=4.9						

*STR **21** 17:11:14.7±0.1, 42.98N×0.24E, h6km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **21** 17:11:14.7, 42.98N×0.24E, h6km, ML2.8(LDG), ML2.5(STR), MN2.1(MDD), After STR.*
*CSEM **21** 17:11:14.9±0.0, 43.01N×0.24E, h10km, ML2.8/11, Error ellipse: s-maj=1.0km s-min=0.8km az=153.0*
*MDD **21** 17:11:15.6±0.2, 42.98N×0.23E, h6km±4km, mbLg2.2/17, Error ellipse: s-maj=2.0km s-min=1.6km az=15.0, PRXIMO*

LDG 21 17:11:14.8±0.1, 43.01N×0.24E, h8km, Md3.0/1, Ml2.8/12, 2C, Error ellipse: s-maj=1.2km s-min=0.8km az=166.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.08**	**73**	*e*Pg	Pg	17 11 17.8	+0.9
EPF				*e*Sg	Sg	17 11 19.5	+1.2
	1µm,0.2s						
LABF	**Labassere**	**0.13**	**289**	Pg	Pg	17 11 18.2	+0.5
LABF				Sg	Sg	17 11 20.6	+1.0
LABF	**Labassere**	**0.13**	**289**	P	Pg	17 11 18.3	+0.6
LABF				S	Sg	17 11 20.6	+1.0
VIEF	**Viey**	**0.20**	**232**	Pg	Pg	17 11 18.9	-0.1
VIEF				Sg	Sg	17 11 21.8	0.0
VIEF	**Viey**	**0.20**	**232**	P	Pg	17 11 19.0

1.2nm,0.0s,SNR=7.9

EMIR				Pg	Pg	17 11 43.8	0.0	
	2.9nm,0.0s,SNR=7.9							
EMIR				Lg		17 12 02.2		
	8.6nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**1.45**	**138**	Pn	Pn	17 11 41.8	+0.3	
EMIR	**Miracle**	**1.45**	**138**	Pg	Pg	17 11 43.8	0.0	
MTLF	**Montolieu**	**1.49**	**76**	*e*Pn	Pn	17 11 40.7	-1.3	
MTLF				*e*Pg	Pg	17 11 42.9	-1.6	
MTLF				*e*Sn	Sn	17 11 58.0	-3.8	
MTLF				*e*Sg	Sg	17 12 01.0	-3.4	
	16nm,0.2s							
EPOB	**Poblet**	**1.77**	**159**	Pg	Pg	17 11 47.5	-2.7	
	0.6nm,0.1s,SNR=7.9							
EPOB				Lg		17 12 10.1		
	5.3nm,0.2s,SNR=7.2							
EPOB	**Poblet**	**1.77**	**159**	Pg	Pg	17 11 47.5	-2.6	
LFF	**La Frestale**	**1.97**	**10**	*e*Pn	Pn	17 11 46.7	-2.2	
LFF				*e*Pg	Pg	17 11 51.3	-2.8	
LFF				*e*Sg	Sg	17 12 15.5	-4.8	
	23nm,0.3s							
EJON	**La Jonquera**	**2.03**	**105**	Pg	Pg	17 11 53.3	-2.1	
	0.5nm,0.1s,SNR=4.0							
EJON				Lg		17 12 21.5		
	2.5nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**2.03**	**105**	Pg	Pg	17 11 54.9	-0.5	
EJON				Lg		17 12 18.1		
EJON	**La Jonquera**	**2.03**	**105**	Pg	Pg	17 11 54.9	-0.5	
ERTA	**Horta de San J**	**2.05**	**178**	Pg	Pg	17 11 52.4	-3.4	
	0.6nm,0.1s,SNR=7.9							
ERTA				Lg		17 12 19.7		
	3.6nm,0.1s,SNR=6.7							
ERTA	**Horta de San J**	**2.05**	**178**	Pg	Pg	17 11 52.4	-3.4	
ERTA				Lg		17 12 18.1		
ERTA	**Horta de San J**	**2.05**	**178**	Pg	Pg	17 11 52.4	-3.4	
ECRI	**Cripan**	**2.06**	**260**	Pg	Pg	17 11 51.8	-4.2	
	3.6nm,0.2s,SNR=7.9							
ECRI				Lg		17 12 21.2		
	5.7nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.33**	**34**	*e*Pn	Pn	17 11 51.9	-2.1	
CAF				*e*Pg	Pg	17 11 58.0	-3.3	
CAF				*e*Sg	Sg	17 12 27.6	-4.7	
	5.6nm,0.2s							
RJF	**Les Rejaudoux**	**2.47**	**21**	*e*Pn	Pn	17 11 53.4	-2.7	
RJF				*e*Pg	Pg	17 12 00.7	-3.5	
RJF				*e*Sn	Sn	17 12 22.3	-4.6	
RJF				*e*Sg	Sg	17 12 32.6	-4.6	
	9.8nm,0.2s							
EMOS	**Mosqueruela**	**2.69**	**192**	Sn	Sn	17 12 31.0	-1.4	
	0.7nm,0.2s,SNR=4.0							
EMOS				Lg		17 12 40.8		
	1.1nm,0.1s,SNR=4.0							
ELAN	**Lanestosa**	**2.70**	**276**	Pg	Pg	17 12 05.7	-3.0	
	0.3nm,0.1s,SNR=4.0							
ELAN				Lg		17 12 41.1		
	1.2nm,0.2s,SNR=4.0							
ELAN	**Lanestosa**	**2.70**	**276**	Pg	Pg	17 12 05.7	-2.9	
LASF	**Ste Croix**	**2.84**	**67**	*e*Pn	Pn	17 11 58.9	-2.5	
LASF				*e*Pg	Pg	17 12 08.1	-3.4	
LASF				*e*Sg	Sg	17 12 44.4	-5.0	
	7.1nm,0.2s							
TCF	**Toulx Ste Croi**	**3.57**	**23**	*e*Sg	Sg	17 13 06.6	-7.1	
	3.9nm,0.3s							
MFF	**Saint Martin d**	**3.60**	**356**	*e*Pn	Pn	17 12 08.6	-3.6	
MFF				*e*Sg	Sg	17 13 07.7	-7.1	
	6.9nm,0.5s							
VIVF	**Saint-Julien-l**	**3.70**	**59**	*e*Pn	Pn	17 12 10.6	-3.0	
VIVF				*e*Pg	Pg	17 12 23.1	-5.6	
VIVF				*e*Sg	Sg	17 13 10.7	-7.3	
	4.6nm,0.4s							
SMRF	**Simiane la Rot**	**4.00**	**74**	*e*Pn	Pn	17 12 15.2	-2.7	
BGF	**Bois d'Agland**	**4.01**	**27**	*e*Sg	Sg	17 13 20.6	-7.6	
	22nm,0.4s							
AVF	**Avril sur Loir**	**4.38**	**29**	*e*Sg	Sg	17 13 32.1	-8.6	
	3.3nm,0.4s							

IDC 21 17:19:28.1±9.0, 12.48N×40.49E, mb3.9/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/15, Error ellipse: s-maj=193.6km s-min=39.7km az=19.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**26.74**	**331**	LR	LR	17 36 09.6	
	comp=Z,87nm,19.0s,baz=78,slow=38						
BRTR	**Keskin Array B**	**27.80**	**349**	P	P	17 25 20.1	-0.9
	2.1nm,1.0s,baz=157,slow=9.4,SNR=6.9						
GERES	**GERESS Array B**	**42.51**	**334**	P	P	17 27 24.9	-1.9
	0.8nm,0.8s,baz=140,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**48.98**	**37**	P	P	17 28 16.6	-1.8
	1.2nm,0.8s,baz=248,slow=6.5,SNR=11						
FINES	**FINESS Array B**	**49.99**	**351**	P	P	17 28 23.1	-2.8
	2.5nm,0.9s,baz=140,slow=11,SNR=1.9						
ZAL	**Zalesovo**	**54.10**	**31**	P	P	17 28 53.1	-3.7
	0.5nm,0.3s,baz=217,slow=15,SNR=4.0						
SONM	**Songino Array**	**64.70**	**43**	P	P	17 30 08.8	-1.5
	1.1nm,0.8s,baz=251,slow=5.9,SNR=12						

IDC 21 17:30:45.4±10.0, 11.59N×40.14E, mb3.6/4, mb1 3.7/4, mb1mx3.6/16, mbtmp3.6/4, MS3.4/4, Ms1 3.4/4, ms1mx3.2/12, Error ellipse: s-maj=221.8km s-min=48.1km az=20.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**12.96**	**193**	LR	LR	17 39 06.7	
	comp=Z,146nm,21.0s,baz=92,slow=39						
IDI	**Anoyia**	**27.35**	**332**	LR	LR	17 47 32.7	
	comp=Z,85nm,18.1s,baz=268,slow=37						
BRTR	**Keskin Array B**	**28.60**	**349**	P	P	17 36 44.2	-1.2
	0.6nm,0.7s,baz=180,slow=9.9,SNR=4.0						
GERES	**GERESS Array B**	**43.16**	**335**	P	P	17 38 47.3	-2.1
	0.5nm,0.8s,baz=143,slow=6.7,SNR=4.5						
GERES				LR	LR	17 56 44.6	
	comp=Z,30nm,21.3s,baz=144,slow=36						
DBIC	**Dimbokro**	**44.66**	**268**	LR	LR	17 58 00.5	
	comp=Z,66nm,18.8s,baz=73,slow=37						
MKAR	**Makanchi Array**	**49.89**	**37**	P	P	17 39 39.6	-3.0
	0.3nm,0.8s,baz=231,slow=9.2,SNR=3.6						
SONM	**Songino Array**	**65.58**	**43**	P	P	17 41 31.9	-1.3
	0.6nm,0.8s,baz=248,slow=5.3,SNR=5.3						

*CSEM **21** 17:33:08.7±0.1, 37.77N×25.42W, h5km, ML2.8, Error ellipse: s-maj=4.4km s-min=2.8km az=174.0, After PDA*
*PDA **21** 17:33:08.7±0.6, 37.77N×25.42W, h5km, ML2.8, Error ellipse: s-maj=1.2km s-min=1.0km az=20.0*
SVSA 21 17:33:08.7±0.6, 37.77N×25.42W, h5km, ML2.8, Error ellipse: s-maj=1.2km s-min=1.0km az=20.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**84**	*i* P	Pg	17 33 10.2	+0.5
PCNG				*i* S	Sg	17 33 11.4	+1.1
PCNG	**Congro**	**0.02**	**84**	*i* S	Sg	17 33 11.4	+1.1
VIF	**Vila Franca**	**0.03**	**216**	*i* P	Pg	17 33 10.2	+0.5
VIF				*e*S	Sg	17 33 11.4	+1.0
VIF	**Vila Franca**	**0.03**	**216**	*e*S	Sg	17 33 11.4	+1.0
MESC	**Monte Escuro**	**0.03**	**325**	*i* P	Pg	17 33 10.2	+0.4
MESC				*i* S	Sg	17 33 11.8	+1.2
MESC	**Monte Escuro**	**0.03**	**325**	*i* S	Sg	17 33 11.8	+1.2
LFA	**Lagoa do Fogo**	**0.05**	**279**	*i* P	Pg	17 33 10.5	+0.5
FRA1	**Furnas**	**0.06**	**113**	*i* P	Pg	17 33 10.6	+0.5
FRA1				*i* S	Sg	17 33 12.1	+1.0
PRCH	**Ribeira Ch**	**0.06**	**232**	*e*P	Pg	17 33 10.5	+0.3
PRCH				*e*S	Sg	17 33 12.1	+0.9
PMAT	**Coroa da Mata**	**0.07**	**322**	*e*P	Pg	17 33 10.5	+0.2
PMAT				*i* S	Sg	17 33 12.4	+1.1
CMLA	**Cha da Macela**	**0.08**	**269**	*e*P	Pg	17 33 10.0	-0.6
CMLA				*e*S	Sg	17 33 11.6	-0.2
CML	**Cha da Macela**	**0.10**	**273**	*e*P	Pg	17 33 11.8	+0.9
CML				*e*S	Sg	17 33 14.0	+1.7
PFAD	**Fenais da Ajud**	**0.11**	**46**	*i* P	Pg	17 33 11.7	+0.7
MIRA	**Miradouro**	**0.12**	**80**	*e*P	Pg	17 33 11.8	+0.6
MIRA				*e*S	Sg	17 33 13.9	+1.1
FAC	**Faja de Cima**	**0.18**	**273**	*e*P	Pg	17 33 14.2	+1.8
FAC				*e*S	Sg	17 33 17.3	+2.4
PDA	**Ponta Delgada**	**0.19**	**265**	*e*P	Pg	17 33 13.1	+0.5
PDA				*e*S	Sg	17 33 15.9	+0.6
PSET	**Sete Cidades**	**0.24**	**284**	*e*P	Pg	17 33 13.4	-0.3
PSET				*e*S	Sg	17 33 17.5	+0.5

827nm,0.4s

PSAN	**Santo Antonio**	**0.26**	**290**	*e*P	Pg	17 33 15.3	+1.4
PFET	**Feteiras**	**0.30**	**280**	*e*P	Pg	17 33 15.5	+0.8
SET2	**Ginetes**	**0.32**	**285**	*e*P	Pg	17 33 16.1	+1.0
SET4	**Mosteiros**	**0.32**	**290**	*e*P	Pg	17 33 16.2	+1.1
PSMN	**Pico do Norte,**	**0.81**	**159**	*e*P	Pb	17 33 22.5	-2.4
PSMN				*e*S	Sg	17 33 32.6	-3.2
PSCM	**Serra do Cume**	**1.63**	**305**	*erx*		17 33 49.0	

*MOS **21** 18:43:59.9±1.2, 12.46N×40.36E, h10km, mb4.5/27, Error ellipse: s-maj=16.4km s-min=6.3km az=108.5*
*IDC **21** 18:44:00.7±2.0, 12.57N×40.46E, mb4.1/14, mb1 4.2/15, mb1mx4.1/20, mbtmp4.1/15, ML3.8/1, MS4.0/14, Ms1 4.0/14, ms1mx3.9/19, Error ellipse: s-maj=41.8km s-min=22.3km az=168.0*
*NEIC **21** 18:44:01.5±1.0, 12.44N×40.39E, h10km, mb4.5/14, ML4.6(DHMR), Error ellipse: s-maj=20.4km s-min=7.0km az=182.0*
*DHMR **21** 18:44:01.9±0.4, 12.67N×40.57E, h11km±14km, ML4.5*
*CSEM **21** 18:44:03.0±0.2, 12.41N×40.52E, h40km, mb4.4/14, Ms3.7, Error ellipse: s-maj=9.3km s-min=2.8km az=174.0*
ISC 21 18:44:00.3±2.5, 12.5N±0.1×40.40E±0.03, h13km±16km, n105, σ1.9 07/109, mb4.3/31, MS4.0/16, 1C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.78**	**66**	*e*P	Pn	18 45 00.0	+0.4
UDYN				*i* S	Sn	18 45 45.1	+0.6
UDYN				AML	AML	18 46 03.2	
	comp=E,2μm,0.6s						
UDYN	**Al 'Udayn**	**3.78**	**66**	*i* P	Pn	18 45 01.4	+1.8
UDYN				*i* S	Sn	18 45 45.6	+1.1
DHBB	**Dhamar BB**	**4.41**	**61**	*e*P	Pn	18 45 08.1	-0.5
DHBB				*i* S	Sn	18 45 59.7	-0.7
DHBB	**Dhamar BB**	**4.41**	**61**	*i* P	Pn	18 45 10.3	+1.8
DHBB				*i* S	Sn	18 46 02.3	+1.9
HAJJ	**Hajjah**	**4.47**	**44**	*e*P	Pn	18 45 08.6	-0.8
HAJJ				*i* S	Sn	18 46 00.7	-1.2
HAJJ				AML	AML	18 46 37.5	
	comp=E,898nm,0.6s						
HAJJ	**Hajjah**	**4.47**	**44**	*i* P	Pn	18 45 11.1	+1.7
HAJJ				*i* S	Sn	18 46 05.1	+3.2
HAJJ	**Hajjah**	**4.47**	**44**	*e*P	Pn	18 45 08.6	-0.8
HAJJ				*i* S	Sn	18 46 00.6	-1.3
	comp=E,449nm,0.6s						
ADEN	**Aden**	**4.49**	**86**	*e*P	Pn	18 45 09.6	0.0
ADEN				*i* S	Sn	18 46 02.5	+0.2
ADEN				AML	AML	18 46 22.4	
	comp=N,4μm,0.6s						
ADEN	**Aden**	**4.49**	**86**	*i* P	Pn	18 45 10.1	+0.5
ADEN				*i* S	Sn	18 46 01.1	-1.2
ADEN	**Aden**	**4.49**	**86**	*e*P	Pn	18 45 09.6	-0.1
ADEN				*i* S	Sn	18 46 02.5	+0.2
	comp=N,2μm,0.6s						
BDHA	**Al Bayda'**	**5.25**	**73**	*e*P	Pn	18 45 17.6	-2.9
BDHA				*i* S	Sn	18 46 17.1	-4.5
BDHA	**Al Bayda'**	**5.25**	**73**	*i* P	Pn	18 45 18.0	-2.5
BDHA				*i* S	Sn	18 46 16.1	-5.5
MUKL	**Al Mukalla**	**8.64**	**76**	*e*P	P	18 46 03.8	-4.2
MUKL				*i* S	Sn	18 47 40.1	-6.1
KMBO	**Kilima Mbogo**	**13.86**	**193**	LR	LR	18 52 03.6	
	comp=N,551nm,21.2s,baz=298,slow=35						
ASF	**Jabal al Asfar**	**19.88**	**351**	P	P	18 48 34.7	+0.4
	comp=N,0.3nm,0.3s,baz=357,slow=1.3,SNR=9.9						
ASF				LR	LR	18 55 05.8	
	comp=N,502nm,21.1s,baz=215,slow=34						
BHD	**Baghdad**	**21.03**	**9**	*ex*	x	18 48 44.0	
MSL	**Mosul**	**23.84**	**5**	*ex*	x	18 49 34.0	
MALT	**Malatya**	**25.80**	**356**	*e*P	P	18 49 32.9	0.0
	comp=N,18nm,1.4s,mb4.4						
MALT	**Malatya**	**25.80**	**356**	*e*P	P	18 49 32.9	0.0
	comp=N,18nm,1.4s,mb4.4						
MALT	**Malatya**	**25.80**	**356**	*e*P	P	18 49 32.9	0.0
MALT				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.4						
IDI	**Anoyia**	**26.71**	**331**	LR	LR	19 00 07.6	
	comp=Z,435nm,20.6s,MS4.0,baz=1.6,slow=36						
BR131	**Keskin Array S**	**27.80**	**349**	*e*P	P	18 49 52.4	+1.2
BR131	**Keskin Array S**	**27.80**	**349**	*e*P	P	18 49 52.4	+1.2
BRTR	**Keskin Array B**	**27.80**	**349**	P	P	18 49 52.4	+1.2
	comp=Z,5.3nm,1.2s,mb4.1,baz=164,slow=9.0,SNR=11						
BRTR	**Keskin Array B**	**27.80**	**349**	P	P	18 49 52.4	+1.2
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ZEI	**Tsey**	**30.34**	**5**	*e*P	P	18 50 16.6	+2.6
ZEI				*i*		18 51 32.2	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
KIV	**Kislovodsk**	**31.44**	**3**	*e*P	P	18 50 24.7	+1.1
	comp=Z,17nm,1.3s,mb4.7						
KIV	**Kislovodsk**	**31.44**	**3**	*e*P	P	18 50 24.7	+1.1
	comp=Z,17nm,1.3s,mb4.7						
KIV	**Kislovodsk**	**31.44**	**3**	*e*P	P	18 50 26.3	+2.7
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.6						
KIV				MLR	MLR		
	comp=N,305nm,16.0s,MS4.2						
KIV				MLR	MLR		
	comp=E,203nm,16.0s,MS4.2						
KIV				MLR	MLR		
	comp=Z,351nm,16.0s,MS4.1						
MLR	**Muntele Rosu**	**35.14**	**342**	P	P	18 50 56.5	+0.8
	comp=Z,2.9nm,0.6s,mb4.4,baz=139,slow=20,SNR=2.6						
MLR	**Muntele Rosu**	**35.14**	**342**	P	P	18 50 56.5	+0.8
MLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**39.21**	**349**	P	P	18 51 29.0	-0.8
	comp=Z,0.5nm,0.4s,mb3.6,baz=170,slow=7.3,SNR=9.8						
AKASG	**Malin Array Be**	**39.21**	**349**	P	P	18 51 29.0	-0.8
AKASG	**Malin Array Be**	**39.21**	**349**	P	P	18 51 29.0	-0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TREC	**Trest**	**42.09**	**336**	*e*P	P	18 51 54.0	+0.4
GERES	**GERESS Array B**	**42.48**	**334**	P	P	18 51 55.8	-1.0
	comp=Z,2.0nm,0.8s,mb3.8,baz=135,slow=7.5,SNR=9.2						
GERES				LR	LR	19 10 17.2	
	comp=Z,145nm,22.0s,MS3.8,baz=345,slow=37						
GERES	**GERESS Array B**	**42.48**	**334**	P	P	18 51 55.8	-1.0
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				MLR	MLR		
	comp=Z,145nm,22.0s						
DPC	**Dobruska-Polom**	**42.61**	**337**	*e*P	P	18 52 01.4	+3.5
OBN	**Obninsk**	**42.65**	**357**	*e*P	P	18 52 00.5	+2.4
OBN				*e*		18 53 44.3	
OBN				*e*SS	SS	19 02 09.2	+44
OBN				pmax	pmax		
	comp=Z,30nm,1.7s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.8						
KHC	**Kasperske Hory**	**42.75**	**334**	*e*P	P	18 51 58.9	-0.1
KHC				AMS	AMS	19 09 40.0	
KHC	**Kasperske Hory**	**42.75**	**334**	*e*P	P	18 51 59.2	+0.1
DAVOX	**Davos**	**42.77**	**329**	LR	LR	19 11 32.9	
	comp=Z,163nm,21.3s,MS3.9,baz=90,slow=39						
UPC	**Upice**	**42.85**	**337**	*e*P	P	18 52 00.5	+0.7
PRU	**Pruhonice**	**43.02**	**336**	*e*P	P	18 52 07.0	+5.8
PRU				AMS	AMS	19 10 30.0	
MBDF	**Montbardon**	**43.10**	**325**	*e*P	P	18 52 02.9	+1.0
	comp=Z,12nm,0.8s,mb4.4						
MBDF	**Montbardon**	**43.10**	**325**	*e*P	P	18 52 02.9	+1.0
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
MOS	**Moscow**	**43.23**	**358**	*e*P	P	18 52 02.7	-0.1
ORIF	**Oris-en-Rattie**	**43.72**	**324**	*e*P	P	18 52 07.0	0.0
ORIF				*e*R			
	comp=Z,215nm,19.5s						
NKC	**Novy Kostel**	**44.07**	**334**	*e*P	P	18 52 08.5	-1.2
LASF	**Ste Croix**	**44.42**	**322**	*e*P	P	18 52 12.7	+0.1
CABF	**La Chapelle**	**44.64**	**326**	*e*P	P	18 52 14.7	+0.3
	comp=Z,13nm,0.9s,mb4.5						
CABF	**La Chapelle**	**44.64**	**326**	*e*P	P	18 52 14.7	+0.3
CABF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
CLL	**Collm**	**44.66**	**336**	P	P	18 52 13.0	-1.5
MOX	**Moxa**	**44.73**	**334**	*i* P	P	18 52 13.8	-1.3
	comp=Z,logA/T=0.6,mb4.2						
MOX	**Moxa**	**44.73**	**334**	P	P	18 52 13.8	-1.3
	comp=Z,6.0nm,1.6s,mb4.2						
MOX	**Moxa**	**44.73**	**334**	P	P	18 52 13.8	-1.3
MOX				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.2						

DBIC	**Dimbokro**	**44.95**	**267**	P	P	18 52 18.8	+1.4
	comp=Z,4.3nm,0.8s,mb4.3,baz=334,slow=4.0,SNR=4.6						
DBIC				LR	LR	19 13 17.3	
	comp=Z,203nm,18.4s,MS4.1,baz=64,slow=39						
DBIC	**Dimbokro**	**44.95**	**267**	P	P	18 52 18.8	+1.5
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,203nm,18.4s						
MTLF	**Montolieu**	**45.02**	**320**	*e*P	P	18 52 17.5	0.0
	comp=Z,8.1nm,1.1s,mb4.2						
MTLF	**Montolieu**	**45.02**	**320**	*e*P	P	18 52 17.5	0.0
MTLF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
CDF	**Champ du Feu**	**45.17**	**329**	*e*P	P	18 52 18.1	-0.5
	comp=Z,5.8nm,0.8s,mb4.1						
CDF	**Champ du Feu**	**45.17**	**329**	*e*P	P	18 52 18.1	-0.5
CDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
HAU	**Haudompre**	**45.38**	**328**	*e*P	P	18 52 19.7	-0.6
HAU				*e*R			
	comp=Z,133nm,20.8s						
MDT	**Midelt**	**45.80**	**304**	P	P	18 52 25.3	+1.5
	comp=Z,1.7nm,0.9s,mb4.0,baz=77,slow=14,SNR=4.1						
SMF	**Signal de Mont**	**45.89**	**325**	*e*P	P	18 52 23.9	-0.4
CAF	**Calviac**	**45.95**	**322**	*e*P	P	18 52 25.2	+0.4
	comp=Z,17nm,1.3s,mb4.5						
CAF	**Calviac**	**45.95**	**322**	*e*P	P	18 52 25.2	+0.4
CAF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
ARU	**Arti**	**46.06**	**14**	*i*P	P	18 52 25.7	+0.2
ARU				*e*		18 54 16.9	
ARU				*e*S	S	18 59 31.0	+21
ARU				*e*		19 02 14.0	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ARU				MLR	MLR		
	comp=N,50nm,15.0s						
ARU				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.9						
AVF	**Avril sur Loir**	**46.25**	**325**	*e*P	P	18 52 26.4	-0.8
	comp=Z,3.4nm,0.7s,mb4.1						
AVF	**Avril sur Loir**	**46.25**	**325**	*e*P	P	18 52 26.4	-0.8
AVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LOR	**Lormes**	**46.25**	**326**	*e*P	P	18 52 26.5	-0.7
LOR				*e*R			
	comp=Z,101nm,19.8s						
SSF	**Saint Saulge**	**46.32**	**325**	*e*P	P	18 52 27.0	-0.7
	comp=Z,3.7nm,1.0s,mb4.3						
SSF	**Saint Saulge**	**46.32**	**325**	*e*P	P	18 52 27.0	-0.7
SSF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
MEZF	**Maizieres J'vi**	**46.37**	**328**	*e*P	P	18 52 28.0	0.0
BGF	**Bois d'Agland**	**46.40**	**324**	*e*P	P	18 52 28.2	-0.2
ETSF	**Etsaut**	**46.57**	**318**	*e*P	P	18 52 30.9	+1.2
	comp=Z,13nm,1.0s,mb4.5						
ETSF	**Etsaut**	**46.57**	**318**	*e*P	P	18 52 30.9	+1.2
ETSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**47.01**	**24**	P	P	18 52 32.1	-0.9
	comp=Z,1.4nm,0.9s,mb3.9,baz=225,slow=8.4,SNR=8.4						
BVAR	**Borovoye Array**	**47.01**	**24**	P	P	18 52 32.1	-0.9
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SJPF	**Ste Jean**	**47.10**	**318**	*e*P	P	18 52 35.1	+1.2
	comp=Z,12nm,0.9s,mb4.5						
SJPF	**Ste Jean**	**47.10**	**318**	*e*P	P	18 52 35.1	+1.2
SJPF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ESDC	**Sonseca Array**	**47.52**	**313**	P	P	18 52 37.3	0.0
	comp=Z,1.5nm,0.8s,mb4.1,baz=116,slow=8.0,SNR=5.2						
MKAR	**Makanchi Array**	**49.05**	**37**	P	P	18 52 49.1	0.0
	comp=Z,1.1nm,0.8s,mb4.0,baz=238,slow=5.8,SNR=12						
MKAR				LR	LR	19 17 50.9	
	comp=Z,207nm,18.0s,MS4.2,baz=353,slow=42						
MKAR	**Makanchi Array**	**49.05**	**37**	P	P	18 52 49.1	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,207nm,18.0s						
GRR	**Gorron**	**49.51**	**325**	*e*P	P	18 52 51.4	-1.2
	comp=Z,18nm,1.0s,mb4.7						
GRR	**Gorron**	**49.51**	**325**	*e*P	P	18 52 51.4	-1.2
GRR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
FINES	**FINESS Array B**	**50.00**	**351**	P	P	18 52 56.0	-0.1
	comp=Z,4.2nm,1.0s,mb4.4,baz=180,slow=17,SNR=5.1						
FINES	**FINESS Array B**	**50.00**	**351**	P	P	18 52 56.0	-0.1
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NB2	**NORSAR Subarra**	**52.96**	**343**	P	P	18 53 16.7	-1.8
	comp=Z,1.3nm,0.8s,mb3.9,baz=145,slow=7.4						
NB2	**NORSAR Subarra**	**52.96**	**343**	P	P	18 53 16.7	-1.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NOA	**NORSAR Array B**	**52.96**	**343**	P	P	18 53 16.6	-1.9
	comp=Z,1.6nm,0.8s,mb4.0,baz=142,slow=7.4,SNR=3.6						
NOA				LR	LR	19 19 00.7	
	comp=Z,60nm,21.2s,MS3.6,baz=150,slow=40						

mb1mx3.5/23,mbtmp3.5/11,ML3.8/6,Error ellipse: s-maj=19.7km s-min=14.5km az=19.0
*MOS **21** 19:08:00.5±0.9,45.54N×37.36E,h30km,mb4.2/3,Error ellipse: s-maj=8.6km s-min=7.0km az=134.5*
*NEIC **21** 19:08:02.7±0.4,45.35N×37.33E,h35km,mb4.0/5,Error ellipse: s-maj=6.5km s-min=5.2km az=221.0*
*CSEM **21** 19:08:02.2±0.1,45.24N×37.35E,h79km±1km,mb3.6/3,Error ellipse: s-maj=2.7km s-min=1.3km az=14.0*

ISC 21 19:08:01.8±0.4,45.33N±0.04×37.36E±0.03,h60km±6km, n83,σ1§18/104,mb3.7/8,5C-7D,Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.54**	**174**	*i* S		**S**	**19 08 23.5**	**+0.2**
ANN	**Anapa**	**0.54**	**174**	⇑*i* P		**P**	**19 08 14.1**	**-0.1**
ANN				*i*			19 08 23.5	
ANN				pmax	pmax			
	comp=N,150nm,0.2s							
ANN				pmax	pmax			
	comp=Z,3μm,0.2s							
ANN				smax				
	comp=N,2μm,0.3s							
ANN				smax				
	comp=E,3μm,0.2s							
KERU	**Kerch**	**0.63**	**268**	*e*P		**P**	**19 08 18.6**	**+3.2**
KERU				*i* S		**S**	**19 08 31.5**	**+6.1**
FEO	**Feodosiya**	**1.43**	**258**	*e*P		**P**	**19 08 27.7**	**+1.6**
FEO				*i* SG		**S**	**19 08 46.8**	**+2.8**
FEO				pmax	pmax			
	comp=Z,80nm,0.6s							
SUDU	**Sudak**	**1.73**	**256**	⇑*i* P		**P**	**19 08 31.0**	**+0.8**
SUDU				*i* SG		**S**	**19 08 52.8**	**+1.7**
SUDU				pmax	pmax			
	comp=Z,870nm,0.2s							
ALU	**Alushta**	**2.19**	**254**	*e*P		**P**	**19 08 37.4**	**+0.7**
ALU				*e*SN		**S**	**19 09 08.2**	**-0.4**
ALU				pmax	pmax			
	comp=Z,30nm,0.7s							
SIM	**Simferopol'**	**2.33**	**262**	*e*P		**P**	**19 08 39.2**	**+0.6**
SIM				*e*SN		**S**	**19 09 05.5**	**-0.5**
SIM				pmax	pmax			
	comp=Z,60nm,0.4s							
YAL	**Yalta**	**2.43**	**251**	*e*P		**P**	**19 08 40.4**	**+0.3**
YAL				*e*SN		**S**	**19 09 08.2**	**-0.4**
YAL				pmax	pmax			
	comp=Z,20nm,0.9s							
SOC	**Sochi**	**2.43**	**135**	*e*P		**P**	**19 08 41.8**	**+1.7**
SOC				*e*S		**S**	**19 09 10.1**	**+1.4**
	comp=Z,109nm,13.0s							
SOC	**Sochi**	**2.43**	**135**	*e*P		**P**	**19 08 41.8**	**+1.7**
SOC				*e*			19 09 10.1	
SOC				pmax	pmax			
	comp=Z,9.0nm,0.4s							
SOC				pmax	pmax			
	comp=N,6.0nm,0.5s							
SOC				pmax	pmax			
	comp=E,6.0nm,0.5s							
SOC				smax				
	comp=E,52nm,0.5s							
SOC				MLR	MLR			
	comp=Z,115nm,16.0s							
SOC				MLR	MLR			
	comp=N,109nm,13.0s							
SOC				MLR	MLR			
	comp=E,134nm,14.0s							
SEV	**Sevastopol'**	**2.74**	**255**	*e*P		**P**	**19 08 44.8**	**+0.4**
	comp=E,30nm,0.2s							
SEV				*i* S		**S**	**19 09 16.2**	**-0.2**
SEV	**Sevastopol'**	**2.74**	**255**	*e*P		**P**	**19 08 44.8**	**+0.4**
SEV				*i* SN		**S**	**19 09 16.2**	**-0.2**
SEV				pmax	pmax			
	comp=Z,30nm,0.2s							
KIV	**Kislovodsk**	**4.04**	**108**	*e*P		**P**	**19 09 03.2**	**+0.4**
KIV				*i* S		**S**	**19 09 49.9**	**+0.6**
BEYR	**Belyy Ugol+**	**4.11**	**107**	*e*P		**P**	**19 09 03.8**	**0.0**
BEYR				*e*S		**S**	**19 09 50.5**	**-0.5**
SHAR	**Shatzhatmas**	**4.12**	**111**	*i* P		**P**	**19 09 04.8**	**+1.0**
SHAR				*e*S		**S**	**19 09 50.9**	**-0.2**
BYBT	**Boyabat**	**4.30**	**207**	PN		**P**	**19 09 07.3**	**+0.9**
BOYT	**Boyabat**	**4.30**	**205**	*i* P		**P**	**19 09 06.6**	**+0.2**
KVT	**Kavak**	**4.36**	**193**	PN		**P**	**19 09 06.5**	**-0.7**
GRSN	**GIRESUNGRSN**	**4.46**	**171**	*i* P		**P**	**19 09 06.9**	**-1.7**
KUBR	**Kubataba**	**4.59**	**107**	*e*P		**P**	**19 09 11.2**	**+0.8**
KUBR				*e*S		**S**	**19 10 02.7**	**-0.3**
BALT	**Daday**	**4.77**	**219**	*i* P		**P**	**19 09 12.9**	**-0.1**
TOS	**Tosya**	**4.94**	**211**	*e*PN		**P**	**19 09 14.3**	**-1.1**
TOS	**Tosya**	**4.94**	**211**	P		**P**	**19 09 12.8**	**-2.5**
TOKT	**Tokat**	**5.04**	**187**	*e*PN		**P**	**19 09 17.6**	**+0.8**
TOKT	**Tokat**	**5.04**	**187**	P		**P**	**19 09 14.4**	**-2.4**
TOKT	**Tokat**	**5.04**	**187**	*e*Pn		**P**	**19 09 17.7**	**+0.9**
CTKT	**Corum**	**5.07**	**203**	*i* P		**P**	**19 09 16.7**	**-0.5**
GUMT	**Gumushane**	**5.11**	**162**	PN		**P**	**19 09 17.3**	**-0.5**
GUMT	**Gumushane**	**5.11**	**162**	P		**P**	**19 09 15.4**	**-2.3**
GUMT	**Gumushane**	**5.11**	**162**	P		**P**	**19 09 15.4**	**-2.3**
GUMT	**Gumushane**	**5.11**	**162**	*e*Pn		**P**	**19 09 17.3**	**-0.4**
ARTV	**Artvin**	**5.32**	**140**	*i* P		**P**	**19 09 19.3**	**-1.3**
SAFT	**Safranbolu**	**5.32**	**221**	PN		**P**	**19 09 21.0**	**+0.4**
ZEI	**Tsey**	**5.36**	**116**	*e*P		**P**	**19 09 20.1**	**-1.1**
ZEI				*e*S		**S**	**19 10 21.6**	**-0.8**
	comp=Z,19nm,0.1s							
ZEI	**Tsey**	**5.36**	**116**	*e*P		**P**	**19 09 20.1**	**-1.1**
ZEI				*e*			19 10 21.6	
ZEI				pmax	pmax			
	comp=Z,8.0nm,0.1s							
ZEI				pmax	pmax			
	comp=Z,10.0nm,0.1s							
ZEI				smax				
	comp=N,28nm,0.2s							
ZEI				smax				
	comp=N,19nm,0.1s							
KELT	**Kelkit**	**5.37**	**164**	*i* P		**P**	**19 09 21.2**	**0.0**
SVSK	**Karacayir**	**5.42**	**183**	PN		**P**	**19 09 22.7**	**+0.8**
SVSK	**Karacayir**	**5.42**	**183**	P		**P**	**19 09 18.9**	**-3.0**
SVSK	**Karacayir**	**5.42**	**183**	P		**P**	**19 09 18.9**	**-3.0**
SVSK	**Karacayir**	**5.42**	**183**	*e*Pn		**P**	**19 09 22.7**	**+0.8**
CORM	**Corum**	**5.53**	**202**	*e*PN		**P**	**19 09 23.8**	**+0.3**
SVST	**Sivas**	**5.56**	**183**	*i* P		**P**	**19 09 25.2**	**+1.2**
ELDT	**Eldivan**	**5.63**	**212**	*i* P		**P**	**19 09 24.5**	**-0.5**
TLCR		**6.03**	**272**	⇓P		**P**	**19 09 30.3**	**-0.2**
BR131	**Keskin Array S**	**6.24**	**207**	*e*P		**P**	**19 09 33.2**	**-0.2**
	comp=N,2.7nm,0.3s							
BR131	**Keskin Array S**	**6.24**	**207**	*e*P		**P**	**19 09 33.2**	**-0.2**
	comp=N,2.7nm,0.3s							
BRTR	**Keskin Array B**	**6.24**	**207**	Pn		**P**	**19 09 33.4**	**0.0**
	comp=N,0.5nm,0.3s,baz=183,slow=3.2,SNR=16							
BRTR				Sn		**S**	**19 10 41.6**	**-2.5**
	comp=N,0.7nm,0.3s,baz=42,slow=20,SNR=7.3							
BRTR	**Keskin Array B**	**6.24**	**207**	P		**P**	**19 09 33.4**	**0.0**
BRTR				Sn		**S**	**19 10 41.7**	**-2.5**
TIRR	**Tirgusor**	**6.41**	**265**	⇑P		**P**	**19 09 33.6**	**-2.3**
CFR	**Carcaliu**	**6.51**	**272**	⇓P		**P**	**19 09 35.3**	**-1.9**
DIGO	**Kars**	**6.61**	**136**	*i* P		**P**	**19 09 29.6**	**-9.0**
PTK	**Pertek**	**6.61**	**166**	*e*P		**P**	**19 09 38.1**	**-0.5**
HARR	**Harsova**	**6.71**	**268**	⇑P		**P**	**19 09 36.9**	**-3.2**
MYA	**Malataya**	**7.05**	**173**	P		**P**	**19 09 40.9**	**-3.8**
VRI	**Vrincioaia**	**7.48**	**278**	⇓P		**P**	**19 09 50.5**	**-0.1**
AKASG	**Malin Array Be**	**7.65**	**317**	Pn		**P**	**19 09 49.8**	**-3.3**
	comp=N,7.5nm,0.3s,baz=124,slow=14,SNR=25							
AKASG				Sn		**S**	**19 11 11.4**	**-7.7**
	comp=N,6.4nm,0.3s,baz=130,slow=24,SNR=86							
AKASG				Lg			19 11 55.3	
	comp=N,10.0nm,0.3s,baz=128,slow=29,SNR=10							
AKASG	**Malin Array Be**	**7.65**	**317**	P		**P**	**19 09 49.8**	**-3.3**
AKASG				*e*			19 11 11.5	
MLR	**Muntele Rosu**	**8.03**	**275**	Pn		**P**	**19 09 57.0**	**-1.3**
	comp=N,0.9nm,0.3s,baz=208,slow=2.8,SNR=6.7							
MLR				Sn		**S**	**19 11 22.4**	**-6.2**
	comp=N,1.0nm,0.3s,baz=28,slow=15,SNR=3.3							
MLR	**Muntele Rosu**	**8.03**	**275**	⇓P		**P**	**19 09 58.3**	**0.0**
VOIR		**8.67**	**275**	⇑P		**P**	**19 10 06.1**	**-0.9**
OBN	**Obninsk**	**9.81**	**357**	⇓*e*P		**P**	**19 10 21.6**	**-0.9**
	comp=N,6.0nm,0.5s							
OBN				*i* S		**S**	**19 12 09.6**	**-2.5**
OBN	**Obninsk**	**9.81**	**357**	⇓*e*P		**P**	**19 10 21.6**	**-0.9**
	comp=N,6.0nm,0.5s							
OBN	**Obninsk**	**9.81**	**357**	⇓*e*P		**P**	**19 10 21.6**	**-0.9**
OBN				*i* S		**S**	**19 12 09.6**	**-2.5**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,100nm,14.0s							
GERES	**GERESS Array B**	**16.47**	**291**	Pn		**P**	**19 11 49.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=151,slow=33,SNR=3.5							
ARU	**Arti**	**17.31**	**42**	*e*P		**P**	**19 12 01.0**	**+0.4**
ARU				*e*S		**S**	**19 15 12.9**	**+3.7**
FINES	**FINESS Array B**	**17.44**	**342**	Pn		**P**	**19 11 55.9**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=4.6							
FINES	**FINESS Array B**	**17.44**	**342**	*i* P		**P**	**19 11 59.0**	**-3.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
DAVOX	**Davos**	**19.09**	**284**	P		**P**	**19 12 22.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=110,slow=14,SNR=8.6							
HFS	**Hagfors**	**20.44**	**325**	P		**P**	**19 12 34.8**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=135,slow=13,SNR=12							
LPG	**La Plagne**	**21.43**	**281**	*e*P		**P**	**19 12 47.3**	**+0.8**
	comp=Z,5.2nm,0.5s,mb3.8							
LPG	**La Plagne**	**21.43**	**281**	*e*P		**P**	**19 12 47.3**	**+0.8**
LPG				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb3.9							
LPL	**La Plagne**	**21.44**	**281**	*e*P		**P**	**19 12 47.4**	**+0.8**
	comp=Z,5.8nm,0.4s,mb4.0							
LPL	**La Plagne**	**21.44**	**281**	*e*P		**P**	**19 12 47.4**	**+0.8**
LPL				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.0							
MBDF	**Montbardon**	**21.57**	**279**	*e*P		**P**	**19 12 49.6**	**+1.7**
	comp=Z,12nm,0.8s,mb4.1							
MBDF	**Montbardon**	**21.57**	**279**	*e*P		**P**	**19 12 49.6**	**+1.7**
MBDF				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.1							
CABF	**La Chapelle**	**21.70**	**285**	*e*P		**P**	**19 12 49.1**	**-0.1**
NB2	**NORSAR Subarra**	**21.97**	**325**	P		**P**	**19 12 51.3**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.2,baz=123,slow=11							
NOA	**NORSAR Array B**	**21.97**	**325**	P		**P**	**19 12 51.8**	**+0.1**
	comp=Z,2.0nm,1.0s,mb3.5,baz=140,slow=12,SNR=3.0							
ORIF	**Oris-en-Rattie**	**22.15**	**280**	*e*P		**P**	**19 12 55.0**	**+1.4**
SMRF	**Simiane la Rot**	**22.58**	**278**	*e*P		**P**	**19 12 59.5**	**+1.7**
	comp=Z,8.0nm,0.8s,mb3.9							
BVAR	**Borovoye Array**	**22.76**	**58**	P		**P**	**19 13 05.8**	**+6.3**
	comp=Z,0.7nm,0.7s,mb3.2,baz=243,slow=9.9,SNR=4.1							
ARCES	**ARCESS Array B**	**25.00**	**350**	P		**P**	**19 13 24.0**	**+3.0**
	comp=Z,3.4nm,0.9s,mb3.9,baz=162,slow=11,SNR=5.2							
MKAR	**Makanchi Array**	**30.89**	**71**	P		**P**	**19 14 16.9**	**+2.3**
	comp=Z,0.1nm,0.4s,mb3.0,baz=282,slow=7.1,SNR=4.2							

*NEIC **21** 19:49:17.2±2.3,5.42S×146.92E,h149km±25km,mb4.6/2,Error ellipse: s-maj=34.5km s-min=17.0km az=122.0*
*IDC **21** 19:49:17.6±2.5,5.55S×146.77E,h154km±29km,mb3.6/5,mb1 3.9/7,mb1mx3.7/12,mbtmp4.1/7,Error ellipse: s-maj=40.3km s-min=13.7km az=115.0*

ISC 21 19:49:15.3±2.4,5.4S±0.1×146.9E±0.2,h145km±28km,n11, σ1§00/13,mb3.6/5,1C-1D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.95**	**176**	P		**P**	**19 50 16.9**	**+1.2**
	7.6nm,0.3s,baz=349,slow=10,SNR=36							
PMG				S		**S**	**19 51 01.1**	**-1.0**
	14nm,0.3s,baz=155,slow=20,SNR=19							
WRAB	**Tennant Creek**	**18.89**	**219**	*e*P		**P**	**19 53 27.0**	**-0.1**
	26nm,0.8s							
WB2	**Warramunga Arr**	**18.90**	**219**	⇓*i*P		**P**	**19 53 27.3**	**+0.1**
WRA	**Warramunga Arr**	**18.90**	**219**	P		**P**	**19 53 26.6**	**-0.7**
	2.1nm,0.3s,baz=40,slow=12,SNR=44							
WRA				S		**S**	**19 56 49.7**	**+0.2**
	0.0nm,0.3s,baz=34,slow=20,SNR=3.1							
ASPA	**Alice Springs**	**22.03**	**213**	⇑*i*P		**P**	**19 54 01.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**24.29**	**237**	*e*P		**P**	**19 54 21.4**	**+0.7**
	10nm,0.5s,mb4.6							
FITZ	**Fitzroy Crossi**	**24.29**	**237**	P		**P**	**19 54 20.5**	**-0.2**
	15nm,0.6s,mb4.7,baz=52,slow=5.0,SNR=22							
STKA	**Stephens Creek**	**26.77**	**190**	P		**P**	**19 54 42.6**	**-1.0**
	1.5nm,0.9s,mb3.6,baz=15,slow=9.4,SNR=3.6							
SONM	**Songino Array**	**63.87**	**331**	P		**P**	**19 59 34.1**	**-0.5**
	0.3nm,0.6s,mb3.3,baz=146,slow=5.3,SNR=4.9							
MKAR	**Makanchi Array**	**77.00**	**320**	P		**P**	**20 00 52.3**	**-1.4**
	0.3nm,0.8s,mb3.0,baz=121,slow=8.4,SNR=2.3							
ILAR	**Eielson Array**	**85.00**	**23**	P		**P**	**20 01 36.5**	**+1.2**
	0.8nm,0.6s,mb3.6,baz=263,slow=5.0,SNR=6.6							

*DHMR **21** 20:04:47.9±2.3,12.62N×40.52E,h2km±16km,ML4.0*
*CSEM **21** 20:04:48.3±0.2,12.43N×40.47E,h2km,mb4.7/49,Ms3.5*
*BJI **21** 20:04:50.0,12.45N×39.82E,h29km,mB4.9,mb4.7,Ms4.7,Msz4.2*
*IDC **21** 20:04:50.9±1.4,12.55N×40.60E,mb4.4/13,mb1 4.4/14,mb1mx4.3/19,mbtmp4.3/14,ML3.3/2,MS3.8/7,Ms1 3.8/7,ms1mx3.6/15,Error ellipse: s-maj=29.9km s-min=20.3km az=158.0*
*MOS **21** 20:04:50.4±0.9,12.57N×40.47E,h10km,mb4.8/59,Error ellipse: s-maj=9.8km s-min=4.1km az=111.0*
*NEIC **21** 20:04:52.3±0.4,12.55N×40.50E,h10km,mb4.8/74,Error ellipse: s-maj=7.8km s-min=4.6km az=185.0*

ISC 21 20:04:50.5±0.3,12.55N±0.05×40.51E±0.02,h10km, (h19km±4.4km:pP-P),n250,σ1§06/266,mb4.7/102, MS4.0/17,14C-10D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.65**	**67**	⇓*e*P		**Pn**	**20 05 47.7**	**-0.6**
UDYN				*i* S		**Sn**	**20 06 34.6**	**+2.8**
UDYN				AML	AML		20 06 52.2	
	comp=Z,698nm,0.6s							
UDYN	**Al 'Udayn**	**3.65**	**67**	*i* P		**Pn**	**20 05 49.2**	**+0.9**
UDYN				*i* S		**Sn**	**20 06 36.5**	**+4.7**
DHBB	**Dhamar BB**	**4.27**	**62**	⇓*e*P		**Pn**	**20 05 56.2**	**-0.9**
DHBB				*i* S		**Sn**	**20 06 49.5**	**+1.8**
DHBB	**Dhamar BB**	**4.27**	**62**	*i* P		**Pn**	**20 05 58.5**	**+1.3**
DHBB				*i* S		**Sn**	**20 06 52.4**	**+4.7**
DHBB	**Dhamar BB**	**4.27**	**62**	*i* P		**Pn**	**20 05 58.5**	**+1.3**
DHBB				*i* S		**Sn**	**20 06 49.5**	**+1.8**
HAJJ	**Hajjah**	**4.33**	**43**	⇓*i*P		**Pn**	**20 05 56.5**	**-1.5**
HAJJ				*i* S		**Sn**	**20 06 50.1**	**+0.9**
HAJJ	**Hajjah**	**4.33**	**43**	*i* P		**Pn**	**20 05 59.8**	**+1.8**
HAJJ				*i* S		**Sn**	**20 06 57.3**	**+8.2**
HAJJ	**Hajjah**	**4.33**	**43**	*i* P		**Pn**	**20 05 59.8**	**+1.8**
HAJJ				*i* S		**Sn**	**20 06 50.1**	**+0.9**
LBOS		**4.80**	**74**	*e*P		**Pn**	**20 06 01.6**	**-3.0**
LBOS				*i* S		**Sn**	**20 06 58.1**	**-2.8**
LBOS		**4.80**	**74**	*i* P		**Pn**	**20 06 04.2**	**-0.5**
LBOS				*i* S		**Sn**	**20 07 01.9**	**+1.0**
BDHA	**Al Bayda'**	**5.12**	**73**	*e*P		**Pn**	**20 06 05.3**	**-3.9**
BDHA				*i* S		**Sn**	**20 07 06.4**	**-2.7**
BDHA	**Al Bayda'**	**5.12**	**73**	*i* P		**Pn**	**20 06 08.0**	**-1.3**
BDHA				*i* S		**Sn**	**20 07 10.3**	**+1.2**
BDHA	**Al Bayda'**	**5.12**	**73**	*i* P		**Pn**	**20 06 07.9**	**-1.3**
BDHA				*i* S		**Sn**	**20 07 10.4**	**+1.3**
BLJS	**Baljurashi**	**7.36**	**8**	P		**Pn**	**20 06 41.3**	**+0.5**
LTHS	**Al Lith**	**7.68**	**359**	P		**Pn**	**20 06 43.7**	**-1.5**
MUKL	**Al Mukalla**	**8.51**	**76**	*i* S		**Sn**	**20 08 29.5**	**-4.4**
AFFS	**'Afif**	**11.56**	**11**	P		**P**	**20 07 41.5**	**+2.8**
YNBS	**Yanbu' al Bahr**	**11.96**	**349**	P		**P**	**20 07 43.9**	**-0.4**
RYDS	**Riyadh**	**12.95**	**26**	P		**P**	**20 08 06.9**	**+9.4**
WHFO	**Wadi Hawf**	**13.86**	**66**	⇑P		**P**	**20 08 07.6**	**-2.0**
KMBO	**Kilima Mbogo**	**13.97**	**194**	Pn		**P**	**20 08 11.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=51,slow=19,SNR=2.3							
KMBO				LR		LR	20 13 05.9	
	comp=Z,442nm,20.7s,baz=304,slow=35							
TBKS	**Tabuk**	**16.03**	**347**	P		**P**	**20 08 43.4**	**+5.6**
BDAS	**Al Bad'**	**16.59**	**343**	P		**P**	**20 08 48.8**	**+3.9**
HAQS	**Haql**	**17.22**	**343**	P		**P**	**20 08 58.4**	**+5.4**
JMOS	**Jabal al Moall**	**17.28**	**344**	P		**P**	**20 08 58.7**	**+5.1**
ARQ	**Araqi**	**18.61**	**53**	⇑P		**P**	**20 09 10.2**	**0.0**
BSY	**Bisya**	**18.84**	**55**	⇑P		**P**	**20 09 12.3**	**-0.7**
	SNR=28							
BSYO	**Bisya**	**18.86**	**55**	P		**P**	**20 09 12.3**	**-1.0**
	SNR=28							
ASHO	**Ashiyiah**	**19.02**	**48**	⇓P		**P**	**20 09 14.6**	**-0.6**
	SNR=23							
HOQ	**Hoqain**	**19.35**	**53**	⇓P		**P**	**20 09 18.9**	**-0.2**
	SNR=6.0							
JMDO	**Jabal Madar**	**19.40**	**57**	⇑P		**P**	**20 09 18.7**	**-0.9**
	SNR=9.1							
SMDO	**Samad**	**19.68**	**56**	⇓P		**P**	**20 09 22.6**	**-0.1**
	SNR=10							
ASF	**Jabal al Asfar**	**19.81**	**351**	P		**P**	**20 09 24.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=52,slow=2.2,SNR=7.4							
BANOM	**Banah**	**19.95**	**46**	⇓P		**P**	**20 09 24.1**	**-1.6**
	SNR=8.0							
BIDO	**Bidbid**	**19.96**	**54**	⇑P		**P**	**20 09 25.0**	**-0.9**
	SNR=9.1							
WBK	**Wadi Bani Khal**	**20.22**	**58**	P		**P**	**20 09 27.9**	**-0.7**
	SNR=11							
BHD	**Baghdad**	**20.92**	**9**	*ex*		x	20 09 32.0	
BHD				*ex*		x	20 13 41.0	
MSL	**Mosul**	**23.75**	**5**	*ex*		x	20 10 22.0	
MSL				*ex*		x	20 14 53.0	
MALT	**Malatya**	**25.72**	**356**	*e*P		**P**	**20 10 25.2**	**+2.4**
	comp=Z,28nm,1.5s,mb4.6							
MALT	**Malatya**	**25.72**	**356**	*e*P		**P**	**20 10 25.2**	**+2.4**
MALT				pmax	pmax			
	comp=Z,28nm,1.5s,mb4.6							
IDI	**Anoyia**	**26.69**	**331**	P		**P**	**20 10 34.1**	**+2.3**
	comp=Z,34nm,1.2s,mb4.8,baz=131,slow=13,SNR=3.8							
IDI				LR	LR		20 20 56.1	
	comp=Z,266nm,19.9s,MS3.8,baz=342,slow=36							
BR131	**Keskin Array S**	**27.74**	**349**	*e*P		**P**	**20 10 42.8**	**+1.5**
	comp=Z,11nm,1.2s,mb4.3							
BR131	**Keskin Array S**	**27.74**	**349**	*e*P		**P**	**20 10 42.8**	**+1.5**
	comp=Z,11nm,1.2s,mb4.3							
BRTR	**Keskin Array B**	**27.74**	**349**	P		**P**	**20 10 42.7**	**+1.4**
	comp=Z,6.7nm,1.1s,mb4.2,baz=162,slow=7.8,SNR=18							
BRTR	**Keskin Array B**	**27.74**	**349**	P		**P**	**20 10 42.7**	**+1.4**
BRTR				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ZEI	**Tsey**	**30.25**	**5**	*e*P		**P**	**20 11 02.0**	**-1.8**
	comp=Z,9.0nm,1.1s,mb4.4							
ZEI	**Tsey**	**30.25**	**5**	*e*P		**P**	**20 11 02.0**	**-1.8**
ZEI				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.4							
SOC	**Sochi**	**30.93**	**359**	*e*P		**P**	**20 11 07.4**	**-2.4**
SOC				*e*			20 12 08.7	
SOC				*e*			20 13 59.2	
SOC				*e*S		**S**	**20 16 11.2**	**-1.7**
SOC				*e*SS		SS	20 18 01.7	+5.5
SOC				pmax	pmax			
	comp=N,9.0nm,0.9s							
SOC				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5							
SOC				pmax	pmax			
	comp=E,9.0nm,1.0s							
SOC				MLR	MLR			
	comp=N,266nm,10.0s							
SOC				MLR	MLR			
	comp=Z,143nm,10.0s,MS3.9							
KIV	**Kislovodsk**	**31.35**	**3**	*e*P		**P**	**20 11 13.3**	**-0.2**
	comp=Z,22nm,1.4s,mb4.8							
KIV	**Kislovodsk**	**31.35**	**3**	*e*P		**P**	**20 11 13.3**	**-0.2**
	comp=Z,22nm,1.4s,mb4.8							
KIV	**Kislovodsk**	**31.35**	**3**	*e*P		**P**	**20 11 13.3**	**-0.2**
KIV				pmax	pmax			
	comp=Z,22nm,1.4s,mb4.8							
AKASG	**Malin Array Be**	**39.15**	**349**	P		**P**	**20 12 19.7**	**-0.3**
	comp=Z,21nm,0.6s,mb4.0,baz=168,slow=7.0,SNR=11							
AKASG	**Malin Array Be**	**39.15**	**349**	P		**P**	**20 12 19.7**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
PSZ	**Piszkesteto**	**39.24**	**338**	*e*P		**P**	**20 12 20.7**	**-0.1**
	comp=Z,10nm,1.0s,mb4.5							
PSZ	**Piszkesteto**	**39.24**	**338**	*e*P		**P**	**20 12 20.7**	**-0.1**
	comp=Z,10nm,1.0s,mb4.5							
PSZ	**Piszkesteto**	**39.24**	**338**	*e*P		**P**	**20 12 20.7**	**-0.1**
PSZ				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.5							
KOLS	**Kolonicke sedl**	**39.30**	**341**	*e*P		**P**	**20 12 25.0**	**+3.7**
KECS	**Kecovo**	**39.51**	**339**	*e*P		**P**	**20 12 24.2**	**+1.2**
KWP	**Kalwaria**	**39.78**	**342**	*e*P		**P**	**20 12 26.9**	**+1.7**
KWP	**Kalwaria**	**39.78**	**342**	*e*P		**P**	**20 12 26.9**	**+1.6**
STHS	**Stebnicka Huta**	**40.05**	**340**	*e*P		**P**	**20 12 28.7**	**+1.2**
LBTB	**Lobatse**	**40.07**	**201**	P		**P**	**20 12 27.9**	**-0.1**
LBTB	**Lobatse**	**40.07**	**201**	P		**P**	**20 12 27.9**	**-0.1**
VYHS	**Vyhne**	**40.11**	**338**	*e*P		**P**	**20 12 28.8**	**+0.8**
OBKA	**Obir**	**40.32**	**332**	⇑*i*P		**P**	**20 12 31.4**	**+1.6**
	comp=Z,24nm,1.6s,mb4.7							
ARSA	**Arzberg**	**40.45**	**334**	⇑*i*P		**P**	**20 12 31.8**	**+1.0**
	comp=Z,9.6nm,0.9s,mb4.5							
PGF	**Pioggiola**	**40.48**	**323**	*e*P		**P**	**20 12 30.6**	**-0.6**

LPG	**La Plagne**	**43.58**	**325**	*e*P		**P**	**20 12 55.5**	**-1.0**
	comp=Z,27nm,1.3s,mb4.5								
LPG	**La Plagne**	**43.58**	**325**	*e*P		**P**	**20 12 55.5**	**-1.0**
LPG					pmax	pmax			
	comp=Z,14nm,1.3s,mb4.5								
SUW	**Suwalki**	**43.58**	**345**	*e*P		**P**	**20 12 56.7**	**+0.4**
LPL	**La Plagne**	**43.60**	**325**	*e*P		**P**	**20 12 55.5**	**-1.2**
	comp=Z,40nm,1.5s,mb4.6								
LPL	**La Plagne**	**43.60**	**325**	*e*P		**P**	**20 12 55.5**	**-1.2**
LPL					pmax	pmax			
	comp=Z,20nm,1.5s,mb4.6								
ORIF	**Oris-en-Rattie**	**43.72**	**324**	*e*P		**P**	**20 12 57.3**	**-0.3**
	comp=Z,9.8nm,0.9s,mb4.3								
ORIF				*e*R					
	comp=Z,170nm,19.5s								
GKN	**Gorkha**	**43.90**	**63**	*e*P		**P**	**20 12 58.2**	**-1.1**
	comp=Z,61nm,1.3s,mb5.2								
GRA1	**Grafenberg Arr**	**44.17**	**333**	*e*P		**P**	**20 13 00.1**	**-1.1**
	comp=Z,6.0nm,0.8s,mb4.4								
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P		**P**	**20 13 00.1**	**-1.1**
	comp=Z,6.0nm,0.8s,mb4.4								
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P		**P**	**20 13 00.1**	**-1.1**
GRF					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.4								
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P		**P**	**20 13 00.1**	**-1.1**
GRF					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.4								
DMN	**Daman**	**44.23**	**63**	*e*P		**P**	**20 13 01.7**	**-0.3**
	comp=Z,100nm,1.6s,mb5.3								
VIVF	**Saint-Julien-l**	**44.38**	**323**	*e*P		**P**	**20 13 02.3**	**-0.7**
	comp=Z,28nm,1.4s,mb4.5								
VIVF	**Saint-Julien-l**	**44.38**	**323**	*e*P		**P**	**20 13 02.3**	**-0.7**
VIVF					pmax	pmax			
	comp=Z,14nm,1.4s,mb4.5								
KKN	**Kakani**	**44.41**	**63**	*e*P		**P**	**20 13 02.7**	**-0.8**
	comp=Z,82nm,1.4s,mb5.3								
LASF	**Ste Croix**	**44.42**	**322**	*e*P		**P**	**20 13 03.0**	**-0.3**
	comp=Z,40nm,1.4s,mb4.7								
PKI	**Pulchoki**	**44.49**	**63**	*e*P		**P**	**20 13 03.6**	**-0.5**
	comp=Z,66nm,1.3s,mb5.2								
CLL	**Collm**	**44.63**	**336**	P		**P**	**20 13 05.0**	**+0.1**
	comp=Z,logA/T=1.1,mb4.7								
CLL				*e*SS		SS	20 23 06.0	+14	
CLL	**Collm**	**44.63**	**336**	*e*P		**P**	**20 13 05.0**	**+0.1**
	comp=Z,21nm,1.7s,mb4.7								
CLL	**Collm**	**44.63**	**336**	*e*P		**P**	**20 13 05.0**	**+0.1**
CLL					pmax	pmax			
	comp=Z,21nm,1.7s,mb4.7								
CABF	**La Chapelle**	**44.63**	**326**	*e*P		**P**	**20 13 03.9**	**-1.1**
	comp=Z,15nm,0.8s,mb4.6								
CABF	**La Chapelle**	**44.63**	**326**	*e*P		**P**	**20 13 03.9**	**-1.1**
CABF					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.6								
MOX	**Moxa**	**44.70**	**334**	*i* P		**P**	**20 13 04.8**	**-0.7**
MOX	**Moxa**	**44.70**	**334**	*e*P		**P**	**20 13 04.8**	**-0.7**
EMIR	**Miracle**	**44.75**	**318**	P		**P**	**20 13 06.7**	**+0.6**
	comp=Z,45nm,1.3s,mb5.1								
EPOB	**Poblet**	**44.77**	**317**	P		**P**	**20 13 07.1**	**+0.8**
	comp=Z,63nm,1.5s,mb5.2								
EMUR	**La Murta**	**44.88**	**312**	P		**P**	**20 13 08.0**	**+0.9**
	comp=Z,30nm,1.0s,mb5.1								
HINF	**Hinteralfeld**	**44.99**	**328**	*e*P		**P**	**20 13 06.9**	**-0.9**
	comp=Z,12nm,0.8s,mb4.5								
HINF	**Hinteralfeld**	**44.99**	**328**	*e*P		**P**	**20 13 06.9**	**-0.9**
HINF					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5								
MTLF	**Montolieu**	**45.03**	**320**	*e*P		**P**	**20 13 07.8**	**-0.4**
	comp=Z,14nm,1.2s,mb4.4								
MTLF	**Montolieu**	**45.03**	**320**	*e*P		**P**	**20 13 07.8**	**-0.4**
MTLF					pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.4								
DBIC	**Dimbokro**	**45.06**	**267**	P		**P**	**20 13 09.6**	**+0.7**
	comp=Z,6.0nm,0.7s,mb4.5,baz=61,slow=9.6,SNR=11								
DBIC					LR	LR	20 31 17.4		
	comp=Z,118nm,21.1s,MS3.8,baz=65,slow=35								
DBIC	**Dimbokro**	**45.06**	**267**	*e*P		**P**	**20 13 08.8**	**-0.1**
ERTA	**Horta de San J**	**45.09**	**316**	P		**P**	**20 13 10.0**	**+1.2**
	comp=Z,23nm,0.8s,mb5.1								
CDF	**Champ du Feu**	**45.16**	**329**	*e*P		**P**	**20 13 08.3**	**-0.9**
	comp=Z,7.8nm,0.9s,mb4.2								
CDF	**Champ du Feu**	**45.16**	**329**	*e*P		**P**	**20 13 08.3**	**-0.9**
CDF					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.2								
HAU	**Haudompre**	**45.37**	**328**	*e*P		**P**	**20 13 10.0**	**-0.9**
HAU				*e*R					
	comp=Z,109nm,21.0s								
ETOB	**Tobarra**	**45.41**	**313**	P		**P**	**20 13 13.1**	**+1.7**
	comp=Z,23nm,1.4s,mb4.8								
EALB	**Alboran**	**45.53**	**308**	P		**P**	**20 13 14.2**	**+1.8**
	comp=Z,122nm,1.6s,mb5.6								
EGRA	**Graus**	**45.67**	**318**	P		**P**	**20 13 13.1**	**-0.3**
	comp=Z,14nm,1.1s,mb4.8								
EBER	**Berja**	**45.75**	**310**	P		**P**	**20 13 15.7**	**+1.6**
	comp=Z,38nm,1.2s,mb5.2								
TNS	**Taunus Mts**	**45.81**	**332**	*e*P		**P**	**20 13 14.1**	**-0.2**
	comp=Z,8.0nm,0.9s,mb4.7								
TNS	**Taunus Mts**	**45.81**	**332**	*e*P		**P**	**20 13 14.1**	**-0.2**
TNS					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
MDT	**Midelt**	**45.85**	**304**	P		**P**	**20 13 15.9**	**+1.0**
	baz=96,slow=11								
ARU	**Arti**	**45.95**	**14**	*e*P		**P**	**20 13 15.5**	**+0.2**
	comp=Z,11nm,1.1s,mb4.7								
ARU	**Arti**	**45.95**	**14**	⇧*i*P		**P**	**20 13 16.2**	**+0.9**
ARU				*e*			20 15 03.8		
ARU				*e*PPP		PPP	20 15 46.0	-0.6	
ARU				*e*S		**S**	**20 20 01.9**	**+2.6**
ARU				*e*SSS		SSS	20 24 24.6	+5.1	
ARU					pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7								
CAF	**Calviac**	**45.95**	**322**	*e*P		**P**	**20 13 15.6**	**+0.1**
	comp=Z,38nm,1.5s,mb4.8								
CAF	**Calviac**	**45.95**	**322**	*e*P		**P**	**20 13 15.6**	**+0.1**
CAF					pmax	pmax			
	comp=Z,19nm,1.5s,mb4.8								
ESAC	**San Caprasio**	**45.98**	**317**	P		**P**	**20 13 16.9**	**+1.1**
	comp=Z,81nm,1.6s,mb5.4								
EBIE	**Bielsa**	**46.02**	**318**	P		**P**	**20 13 16.8**	**+0.7**
	comp=Z,38nm,1.6s,mb5.1								
EPF	**Esparros**	**46.06**	**319**	*e*P		**P**	**20 13 16.1**	**-0.3**
	comp=Z,16nm,1.2s,mb4.5								
EPF	**Esparros**	**46.06**	**319**	*e*P		**P**	**20 13 16.1**	**-0.3**
EPF					pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.5								
EVIA	**Vianos**	**46.10**	**312**	P		**P**	**20 13 17.7**	**+0.9**
	comp=Z,4.9nm,0.7s,mb4.5								
EVIA	**Vianos**	**46.10**	**312**	P		**P**	**20 13 17.7**	**+0.9**
EVIA					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
CLZ	**Clausthal**	**46.11**	**334**	*e*P		**P**	**20 13 16.5**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.3								
CLZ	**Clausthal**	**46.11**	**334**	*e*P		**P**	**20 13 16.5**	**-0.2**
CLZ					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
EQES	**Quesada**	**46.21**	**311**	P		**P**	**20 13 18.2**	**+0.6**
	comp=Z,38nm,1.4s,mb5.1								
LOR	**Lormes**	**46.24**	**326**	*e*P		**P**	**20 13 16.8**	**-1.0**
	comp=Z,59nm,1.6s,mb5.0								
LOR				*e*R					
	comp=Z,34nm,21.5s								
LOR	**Lormes**	**46.24**	**326**	*e*P		**P**	**20 13 16.8**	**-1.0**
LOR					pmax	pmax			
	comp=Z,29nm,1.6s,mb5.0								
LOR					MLR	MLR			
	comp=Z,30nm,21.5s,MS3.2								
AVF	**Avril sur Loir**	**46.24**	**325**	*e*P		**P**	**20 13 16.6**	**-1.2**
	comp=Z,4.0nm,0.7s,mb4.2								
AVF	**Avril sur Loir**	**46.24**	**325**	*e*P		**P**	**20 13 16.6**	**-1.2**
AVF					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2								
SSF	**Saint Saulge**	**46.32**	**325**	*e*P		**P**	**20 13 17.2**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.1								
SSF	**Saint Saulge**	**46.32**	**325**	*e*P		**P**	**20 13 17.2**	**-1.2**
SSF					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2								
MEZF	**Maizieres J'vi**	**46.35**	**328**	*e*P		**P**	**20 13 18.3**	**-0.3**
	comp=Z,28nm,0.8s,mb4.9								
BGF	**Bois d'Agland**	**46.40**	**324**	*e*P		**P**	**20 13 18.5**	**-0.5**
	comp=Z,45nm,1.3s,mb4.9								
BGF	**Bois d'Agland**	**46.40**	**324**	*e*P		**P**	**20 13 18.5**	**-0.5**
BGF					pmax	pmax			
	comp=Z,22nm,1.3s,mb4.9								
ERON	**Agron**	**46.48**	**310**	P		**P**	**20 13 21.7**	**+1.9**
	comp=Z,7.2nm,0.6s,mb4.8								
RJF	**Les Rejaudoux**	**46.49**	**322**	*e*P		**P**	**20 13 19.7**	**0.0**
	comp=Z,44nm,1.6s,mb4.8								
RJF				*e*R					
	comp=Z,185nm,17.0s								
RJF	**Les Rejaudoux**	**46.49**	**322**	*e*P		**P**	**20 13 19.7**	**0.0**
RJF					pmax	pmax			
	comp=Z,22nm,1.6s,mb4.8								
RJF					MLR	MLR			
	comp=Z,190nm,17.0s,MS4.1								
ETSF	**Etsaut**	**46.58**	**318**	*e*P		**P**	**20 13 21.2**	**+0.7**
	comp=Z,61nm,1.2s,mb5.1								
ETSF	**Etsaut**	**46.58**	**318**	*e*P		**P**	**20 13 21.2**	**+0.7**
ETSF					pmax	pmax			
	comp=Z,31nm,1.2s,mb5.1								
TCF	**Toulx Ste Croi**	**46.61**	**324**	*e*P		**P**	**20 13 20.4**	**-0.3**
LFF	**La Frestale**	**46.76**	**321**	*e*P		**P**	**20 13 22.1**	**+0.2**
	comp=Z,14nm,0.7s,mb4.7								
LFF	**La Frestale**	**46.76**	**321**	*e*P		**P**	**20 13 22.1**	**+0.2**
LFF					pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
ELOJ	**Sierra Loja**	**46.78**	**310**	P		**P**	**20 13 24.0**	**+1.8**
	comp=Z,14nm,1.0s,mb4.8								
ELOJ	**Sierra Loja**	**46.78**	**310**	P		**P**	**20 13 24.0**	**+1.8**
ELOJ					pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8								
BRVK	**Borovoye**	**46.86**	**24**	P		**P**	**20 13 23.0**	**+0.4**
BVAR	**Borovoye Array**	**46.88**	**24**	P		**P**	**20 13 23.0**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=214,slow=11,SNR=7.5								
BVAR	**Borovoye Array**	**46.88**	**24**	P		**P**	**20 13 23.0**	**+0.3**
BVAR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
EMIJ	**Mijas**	**47.06**	**309**	P		**P**	**20 13 26.4**	**+2.0**
	comp=Z,8.0nm,1.0s,mb4.6								
SJPF	**Ste Jean**	**47.11**	**318**	*e*P		**P**	**20 13 25.3**	**+0.6**
	comp=Z,69nm,1.4s,mb5.1								
SJPF	**Ste Jean**	**47.11**	**318**	*e*P		**P**	**20 13 25.3**	**+0.6**
SJPF					pmax	pmax			
	comp=Z,35nm,1.4s,mb5.1								
EADA	**Adamuz**	**47.45**	**311**	P		**P**	**20 13 26.9**	**-0.6**
	comp=Z,19nm,1.4s,mb4.8								
GIVF	**Givet**	**47.48**	**329**	*e*P		**P**	**20 13 26.5**	**-1.0**
	comp=Z,11nm,0.6s,mb4.6								
GIVF	**Givet**	**47.48**	**329**	*e*P		**P**	**20 13 26.5**	**-1.0**
GIVF					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7								
ESDC	**Sonseca Array**	**47.54**	**313**	P		**P**	**20 13 28.2**	**0.0**
	comp=Z,3.4nm,0.8s,mb4.4,baz=114,slow=7.7,SNR=11								
ESDC	**Sonseca Array**	**47.54**	**313**	P		**P**	**20 13 28.5**	**+0.3**
	comp=Z,14nm,1.0s,mb4.9								
ESLA	**Sonseca Array**	**47.54**	**313**	*e*P		**P**	**20 13 26.9**	**-1.3**
	comp=Z,9.0nm,1.4s,mb4.6								
BSEG	**Bad Segeberg**	**47.69**	**336**	*e*P		**P**	**20 13 28.5**	**-0.6**
BAIF	**Baives**	**47.76**	**329**	*e*P		**P**	**20 13 28.5**	**-1.2**
	comp=Z,4.5nm,0.6s,mb4.3								
BAIF	**Baives**	**47.76**	**329**	*e*P		**P**	**20 13 28.5**	**-1.2**
BAIF					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
ESPR	**Espera**	**47.99**	**309**	P		**P**	**20 13 31.2**	**-0.5**
	comp=Z,52nm,1.4s,mb5.4								
MFF	**Saint Martin d**	**48.16**	**323**	*e*P		**P**	**20 13 31.8**	**-1.1**
MKAR	**Makanchi Array**	**48.91**	**37**	P		**P**	**20 13 38.1**	**-0.6**
	comp=Z,2.7nm,0.9s,mb4.3,baz=239,slow=7.1,SNR=16								
MKAR					LR	LR	20 36 53.3		
	comp=Z,124nm,18.3s,MS3.9,baz=185,slow=39								
MKAR	**Makanchi Array**	**48.91**	**37**	P		**P**	**20 13 38.1**	**-0.6**
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
MKAR					MLR	MLR			
	comp=Z,124nm,18.3s								
KURK	**Kurchatov**	**49.07**	**31**	P		**P**	**20 13 41.4**	**+1.5**
KURK	**Kurchatov**	**49.07**	**31**	*e*P		**P**	**20 13 40.6**	**+0.7**
LDF	**La Druitiere**	**49.20**	**325**	*e*P		**P**	**20 13 39.3**	**-1.6**
	comp=Z,38nm,1.3s,mb5.0								
LDF	**La Druitiere**	**49.20**	**325**	*e*P		**P**	**20 13 39.3**	**-1.6**
LDF					pmax	pmax			
	comp=Z,19nm,1.3s,mb5.0								
EGRO	**El Granado**	**49.43**	**309**	P		**P**	**20 13 42.2**	**-0.6**
	comp=Z,10nm,1.1s,mb4.8								
EBAD	**Badajoz**	**49.45**	**311**	P		**P**	**20 13 42.0**	**-0.9**
	comp=Z,44nm,1.6s,mb5.2								
FLN	**La Foliniere**	**49.49**	**325**	*e*P		**P**	**20 13 41.7**	**-1.4**
	comp=Z,15nm,0.8s,mb4.8								
FLN				*e*R					
	comp=Z,93nm,19.2s								
FLN	**La Foliniere**	**49.49**	**325**	*e*P		**P**	**20 13 41.7**	**-1.4**
FLN					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.8								
FLN					MLR	MLR			
	comp=Z,90nm,19.3s,MS3.8								
GRR	**Gorron**	**49.50**	**325**	*e*P		**P**	**20 13 41.7**	**-1.5**
	comp=Z,46nm,1.3s,mb5.0								
GRR	**Gorron**	**49.50**	**325**	*e*P		**P**	**20 13 41.7**	**-1.5**
GRR					pmax	pmax			
	comp=Z,23nm,1.3s,mb5.0								
LSA	**Lhasa**	**49.82**	**62**	P		**P**	**20 13 47.0**	**+1.1**
LSA	**Lhasa**	**49.82**	**62**	*e*P		**P**	**20 13 47.5**	**+1.6**
	comp=Z,13nm,1.1s,mb4.9								
LSA	**Lhasa**	**49.82**	**62**	*e*P		**P**	**20 13 47.5**	**+1.6**
LSA					pmax	pmax			
	comp=Z,13nm,1.1s,mb4.9								
FINES	**FINESS Array B**	**49.93**	**351**	P		**P**	**20 13 45.8**	**-0.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=146,slow=6.9,SNR=5.9								
FINES	**FINESS Array B**	**49.93**	**351**	P		**P**	**20 13 45.8**	**-0.5**
FINES					pmax	pmax			
	comp=Z,4.0nm,0.9s								
SGMF	**Saint Gilles**	**50.41**	**324**	*e*P		**P**	**20 13 48.5**	**-1.6**
	comp=Z,18nm,1.1s,mb4.7								
SGMF	**Saint Gilles**	**50.41**	**324**	*e*P		**P**	**20 13 48.5**	**-1.6**
SGMF					pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.7								
ROSF	**Rostrenen**	**50.86**	**323**	*e*P		**P**	**20 13 51.9**	**-1.7**
	comp=Z,12nm,1.0s,mb4.5								
ROSF	**Rostrenen**	**50.86**	**323**	*e*P		**P**	**20 13 51.9**	**-1.7**
ROSF					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
WMQ	**Urumqi**	**51.00**	**43**	*e*P		**P**	**20 13 57.5**	**+2.8**
WMQ					AP	pP	20 14 02.0	+4.3	
WMQ					XP	sP	20 14 05.0	+6.1	
WMQ					PCP	PcP	20 15 13.0	+1.9	
WMQ					PP	PP	20 15 55.0	+2.9	
WMQ					*e*S	**S**	**20 21 14.0**	**+3.7**	
WMQ					SCS	ScS	20 23 45.0	+2.5	
WMQ					AMB	AMB			
	comp=Z,6.0nm,1.3s,mb4.4								
WMQ					AMB	AMB			
	comp=Z,139nm,3.8s								
WMQ					LR	LR			
	comp=N,394nm,12.4s,MS4.7								
WMQ					LR	LR			
	comp=E,308nm,13.8s,MS4.7								
WMQ					LR	LR			
	comp=Z,232nm,19.6s								
NB2	**NORSAR Subarra**	**52.91**	**343**	P		**P**	**20 14 07.3**	**-1.6**
	comp=Z,14nm,1.2s,mb4.8,baz=142,slow=7.4								
NB2	**NORSAR Subarra**	**52.91**	**343**	P		**P**	**20 14 07.3**	**-1.6**
NB2					pmax	pmax			
	comp=Z,15nm,1.2s,mb4.8								
NOA	**NORSAR Array B**	**52.91**	**343**	P		**P**	**20 14 07.8**	**-1.1**
	comp=Z,4.5nm,1.0s,mb4.3,baz=142,slow=7.4,SNR=6.0								
NOA					LR	LR	20 39 03.4		
	comp=Z,27nm,21.6s,MS3.2,baz=135,slow=39								
NOA	**NORSAR Array B**	**52.91**	**343**	P		**P**	**20 14 07.8**	**-1.1**
NOA					pmax	pmax			
	comp=Z,5.0nm,1.0s								
NOA					MLR	MLR			
	comp=Z,27nm,21.6s								
NVS	**Novosibirsk**	**53.77**	**29**	*e*P		**P**	**20 14 14.3**	**-0.9**
NVS					pmax	pmax			
	comp=Z,15nm,1.9s,mb4.6								
NVS					pmax	pmax			
	comp=N,9.0nm,2.0s								
ZAL	**Zalesovo**	**54.02**	**31**	P		**P**	**20 14 15.7**	**-1.4**
	comp=N,1.1nm,0.3s,mb4.2,baz=230,slow=7.5,SNR=9.0								
ZAL					LR	LR	20 40 59.1		
	comp=N,119nm,20.5s,MS3.9,baz=249,slow=40								
ZAL	**Zalesovo**	**54.02**	**31**	P		**P**	**20 14 15.7**	**-1.4**
ZAL					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ZAL					MLR	MLR			
	comp=Z,119nm,20.5s								
ARCES	**ARCESS Array B**	**57.73**	**354**	P		**P**	**20 14 42.8**	**-0.9**
	comp=Z,12nm,1.1s,mb4.9,baz=180,slow=1.2,SNR=6.6								
ARCES	**ARCESS Array B**	**57.73**	**354**	P		**P**	**20 14 42.8**	**-0.9**
ARCES					pmax	pmax			
	comp=Z,13nm,1.1s								
GTA	**Gaotai**	**58.49**	**51**	*e*P		**P**	**20 14 48.9**	**-0.4**
GTA					PCP	PcP	20 15 39.3	-0.4	
GTA					PP	PP	20 17 02.8	+2.2	
GTA					S	**S**	**20 22 51.1**	**+0.1**	
GTA					SS	SS	20 26 44.9	-0.2	
GTA					AMB	AMB			
	comp=Z,3.0nm,1.2s,mb4.2								
GTA					AMB	AMB			
	comp=Z,88nm,4.9s								
GTA					LR	LR			
	comp=N,109nm,20.2s,MS4.1								
GTA					LR	LR			
	comp=E,105nm,17.5s,MS4.1								
GTA					LR	LR			
	comp=Z,157nm,17.5s,MS4.2								
KMI	**Kunming**	**59.76**	**68**	P		**P**	**20 15 00.0**	**+1.6**
KMI					PP	PP	20 17 13.6	+1.3	
KMI					S	**S**	**20 23 12.4**	**+4.7**	
KMI					SS	SS	20 27 06.1	+1.2	
KMI					AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.4								
KMI					AMB	AMB			
	comp=Z,33nm,3.7s								
KMI					LR	LR			
	comp=Z,48nm,21.5s,MS3.6								
CD2	**Chengdu**	**60.78**	**62**	P		**P**	**20 15 05.9**	**+0.6**
GYA	**Guiyang**	**63.28**	**67**	⇧*i*P		**P**	**20 15 24.0**	**+1.9**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.9s,mb5.0								
SONM	**Songino Array**	**64.64**	**43**	P		**P**	**20 15 30.7**	**0.0**
	comp=Z,3.1nm,0.9s,mb4.3,baz=254,slow=6.7,SNR=15								
SONM	**Songino Array**	**64.64**	**43**	P		**P**	**20 15 30.7**	**0.0**
SONM					pmax	pmax			
	comp=Z,3.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**67.59**	**51**	*e*P		**P**	**20 15 52.4**	**+2.7**
HHC					AP	pP	20 15 57.0	+4.2	
HHC					XP	sP	20 15 59.5	+5.6	
HHC					PCP	PcP	20 16 18.6	+1.8	
HHC					PP	PP	20 18 23.8	+3.2	
HHC					SCP		20 20 20.3		
HHC					S	S	20 24 49.0	+4.0	
HHC					SCS	ScS	20 25 47.3	+2.9	
HHC					SS	SS	20 29 10.8	+3.6	
HHC					AMB	AMB			
	comp=Z,13nm,0.6s,mb5.1								
HHC					AMB	AMB			
	comp=Z,110nm,4.5s								
HHC					LR	LR			
	comp=N,92nm,15.5s,MS4.5								
HHC					LR	LR			
	comp=E,208nm,13.1s,MS4.5								
HHC					LR	LR			
	comp=Z,127nm,16.6s,MS4.2								
BOD	**Bodaibo**	**70.68**	**33**	*e*P		**P**	**20 16 07.2**	**-1.2**
BOD					pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4								
NJ2	**Nanjing**	**73.64**	**60**	*e*P		**P**	**20 16 25.9**	**-0.6**
NJ2					AP	pP	20 16 35.3	+5.6	
NJ2					XP	sP	20 16 39.6	+8.8	
NJ2					PP	PP	20 19 12.1	-0.5	
NJ2					S	S	20 25 54.0	-1.6	
NJ2					XS		20 26 11.0		
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8								
NJ2					AMB	AMB			
	comp=Z,130nm,8.0s								
NJ2					LR	LR			
	comp=N,1μm,25.7s								
NJ2					LR	LR			
	comp=E,360nm,17.9s								
NJ2					LR	LR			
	comp=Z,250nm,29.0s,MS4.3								
SSE	**Sheshan**	**75.72**	**61**	*e*P		**P**	**20 16 38.1**	**-0.4**
SSE					AMB	AMB			
	comp=Z,36nm,0.6s,mb5.5								
SSE					AMB	AMB			
	comp=Z,46nm,4.4s								
CN2	**Changchun**	**77.80**	**48**	*e*P		**P**	**20 16 50.4**	**+0.6**
CN2				*e*S		S	20 26 41.3	+0.3	
CN2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8								
CN2					LR	LR			
	comp=Z,120nm,18.0s,MS4.3								
MDJ	**Mudanjiang**	**80.66**	**46**	P		**P**	**20 17 04.3**	**-1.0**
MDJ					AMB	AMB			
	comp=Z,3.0nm,0.6s,mb4.4								
MDJ					AMB	AMB			
	comp=Z,55nm,4.0s								
MBWA	**Marble Bar**	**84.66**	**113**	P		**P**	**20 17 26.9**	**+0.5**
BDFB	**Brasilia**	**91.93**	**255**	LR		LR	20 56 18.8		
	comp=Z,85nm,19.4s,MS4.2,baz=110,slow=34								
WRAB	**Tennant Creek**	**97.74**	**109**	P		**P**	**20 18 31.4**	**+3.6**

DHMR 21 20:20:08.9±0.9, 12.58N×40.44E, h7km±38km, ML4.4, 2C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

ASAJ					S	S	20 24 04.4	+3.8	
ASAJ					pmax	pmax			
	comp=Z,11nm,0.3s								
ASAJ					MLR	MLR			
	comp=Z,215nm,18.9s								
YUK	**Yuzh-Kuril'sk**	**4.10**	**35**	*e*P	**P**		**20 23 29.0**	**-2.0**	
YUK				*i* S	**S**		**20 24 13.1**	**-5.1**	
YUK				pmax	pmax				
	comp=Z,160nm,0.4s								
YUK				smax					
	comp=N,390nm,0.5s								
YUK				smax					
	comp=E,420nm,0.5s								
MAJO	**Matsushiro**	**5.41**	**221**	*e*P	**P**		**20 23 50.6**	**+1.4**	
	comp=E,33nm,0.6s								
MAJO	**Matsushiro**	**5.41**	**221**	*e*P	**P**		**20 23 50.6**	**+1.3**	
MAJO				pmax	pmax				
	comp=Z,33nm,0.6s								
MAT	**Matsushiro**	**5.41**	**221**	P	**P**		**20 23 50.2**	**+0.9**	
MAT	**Matsushiro**	**5.41**	**221**	*e*P	**P**		**20 23 50.0**	**+0.7**	
	comp=Z,23nm,0.7s								
MAT	**Matsushiro**	**5.41**	**221**	*e*P	**P**		**20 23 50.0**	**+0.7**	
MAT				pmax	pmax				
	comp=Z,23nm,0.7s								
MJAR	**Matsushiro Arr**	**5.41**	**221**	P	**P**		**20 23 50.6**	**+1.4**	
	comp=Z,2.4nm,0.3s,baz=34,slow=13,SNR=37								
MJAR				LR	LR		20 26 10.5		
	comp=Z,164nm,21.1s,baz=20,slow=41								
YSS	**Yuzh-Sakhalins**	**6.24**	**1**	P	**P**		**20 24 00.0**	**-0.9**	
JNU	**Nakatsue**	**12.06**	**235**	LR	LR		20 29 40.4		
	comp=Z,77nm,21.3s,baz=77,slow=36								
PET	**Petropavlovsk**	**16.44**	**36**	*e*P	**P**		**20 26 16.0**	**-1.6**	
PET				MLR	MLR				
	comp=Z,100nm,20.0s								
HIA	**Hailar**	**18.25**	**306**	*e*P	**P**		**20 26 37.9**	**-2.2**	
BOD	**Bodaibo**	**25.04**	**323**	*e*P	**P**		**20 27 48.8**	**-0.9**	
BOD				*e*	pP		20 28 01.6	-1.0	
BOD				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.0								
BOD				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.0								
SONM	**Songino Array**	**26.71**	**298**	P	**P**		**20 28 05.2**	**-0.1**	
	comp=Z,1.7nm,0.5s,mb3.8,baz=89,slow=8.8,SNR=16								
SONM				pP	pP		20 28 17.5	-0.9	
	comp=Z,1.0nm,0.6s,baz=87,slow=8.5,SNR=5.1								
ZAK	**Zakamensk**	**28.89**	**303**	*e*P	**P**		**20 28 23.6**	**-1.4**	
ZAK				pmax	pmax				
	comp=Z,1.0nm,0.9s,mb3.5								
GYA	**Guiyang**	**32.91**	**256**	⇓ *i*P	**P**		**20 29 00.0**	**-0.6**	
GYA				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb4.9								
ZAL	**Zalesovo**	**40.24**	**309**	P	**P**		**20 30 01.9**	**-0.2**	
	comp=Z,4.3nm,0.4s,mb4.5,baz=18,slow=7.3,SNR=15								
NVS	**Novosibirsk**	**41.07**	**311**	*e*P	**P**		**20 30 07.8**	**-1.1**	
LSA	**Lhasa**	**42.92**	**272**	*e*P	**P**		**20 30 26.6**	**+2.2**	
	comp=Z,2.4nm,0.4s,mb4.3								
LSA	**Lhasa**	**42.92**	**272**	*e*P	**P**		**20 30 26.6**	**+2.2**	
LSA				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.2								
MKAR	**Makanchi Array**	**43.06**	**299**	P	**P**		**20 30 25.4**	**+0.1**	
	comp=Z,2.4nm,0.4s,mb4.3,baz=84,slow=11,SNR=65								
KURK	**Kurchatov**	**44.49**	**305**	*e*P	**P**		**20 30 36.6**	**-0.2**	
	comp=Z,6.8nm,0.8s,mb4.4								
KURK	**Kurchatov**	**44.49**	**305**	*e*P	**P**		**20 30 36.6**	**-0.2**	
KURK				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.4								
ILAR	**Eielson Array**	**45.91**	**34**	P	**P**		**20 30 48.7**	**+0.8**	
	comp=Z,0.6nm,0.8s,mb3.6,baz=268,slow=6.2,SNR=6.0								
KKN	**Kakani**	**48.33**	**273**	*e*P	**P**		**20 31 08.1**	**+0.7**	
	comp=Z,25nm,0.6s,mb5.4								
KKN	**Kakani**	**48.33**	**273**	*e*P	**P**		**20 31 08.1**	**+0.7**	
KKN				pmax	pmax				
	comp=Z,13nm,0.6s,mb5.1								
DMN	**Daman**	**48.56**	**273**	*e*P	**P**		**20 31 09.8**	**+0.6**	
	comp=Z,14nm,0.7s,mb5.1								
GKN	**Gorkha**	**48.71**	**274**	*e*P	**P**		**20 31 09.9**	**-0.4**	
	comp=Z,19nm,0.4s,mb5.4								
BVA0	**Borovoye Array**	**48.86**	**310**	*i* P	**P**		**20 31 11.5**	**+0.4**	
KOLN	**Koldanda**	**49.62**	**274**	*e*P	**P**		**20 31 12.8**	**-4.5**	
INK	**Inuvik**	**50.70**	**29**	P	**P**		**20 31 24.4**	**-0.7**	
	comp=Z,2.5nm,1.1s,mb4.0,baz=326,slow=3.6,SNR=2.8								
INK	**Inuvik**	**50.70**	**29**	*e*P	**P**		**20 31 25.9**	**+0.8**	
INK	**Inuvik**	**50.70**	**29**	P	**P**		**20 31 24.4**	**-0.7**	
INK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
KKAR	**Karatay Array**	**52.16**	**298**	*i* P	**P**		**20 31 35.7**	**-0.7**	
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.9								
ARU	**Arti**	**54.27**	**317**	*e*P	**P**		**20 31 51.5**	**-0.3**	
AB31	**Akbulak array**	**56.33**	**309**	*i* P	**P**		**20 32 06.3**	**-0.5**	
KEV	**Kevo**	**60.35**	**339**	*e*P	**P**		**20 32 30.2**	**-4.4**	
WRAB	**Tennant Creek**	**60.82**	**189**	*e*P	**P**		**20 32 36.5**	**-2.0**	
WRA	**Warramunga Arr**	**60.83**	**189**	P	**P**		**20 32 37.5**	**-1.0**	
	comp=Z,1.0nm,0.8s,mb4.0,baz=6.2,slow=6.9,SNR=23								
ARCES	**ARCESS Array B**	**60.90**	**339**	P	**P**		**20 32 37.8**	**-0.5**	
	comp=Z,3.3nm,0.9s,mb4.5,baz=39,slow=7.8,SNR=4.0								
JOF	**Joensuu**	**63.17**	**331**	*e*p	**P**		**20 32 52.2**	**-1.5**	
	comp=Z,4.1nm,0.7s,mb4.7								
KAF	**Kangasniemi**	**65.48**	**332**	*e*p	**P**		**20 33 07.1**	**-1.4**	
	comp=Z,3.4nm,0.7s,mb4.5								
KAF	**Kangasniemi**	**65.48**	**332**	*e*P	**P**		**20 33 07.1**	**-1.4**	
KAF				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.4								
FINES	**FINESS Array B**	**66.01**	**332**	P	**P**		**20 33 11.6**	**-0.3**	
	comp=Z,2.6nm,0.5s,mb4.5,baz=44,slow=7.3,SNR=26								
FINES				pP	pP		20 33 25.5	-1.0	
	comp=Z,3.0nm,0.6s,baz=36,slow=7.3,SNR=4.6								
KIV	**Kislovodsk**	**69.22**	**310**	*e*P	**P**		**20 33 33.6**	**+1.3**	
KIV				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.6								
KIV				pmax	pmax				
	comp=N,9.0nm,1.2s								
KIV				pmax	pmax				
	comp=E,3.0nm,0.8s								
NB2	**NORSAR Subarra**	**71.16**	**337**	P	**P**		**20 33 43.6**	**-0.1**	
	comp=E,0.7nm,0.6s,mb3.8,baz=38,slow=5.8								
NB2	**NORSAR Subarra**	**71.16**	**337**	P	**P**		**20 33 43.6**	**-0.1**	
NB2				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.9								
NOA	**NORSAR Array B**	**71.16**	**337**	P	**P**		**20 33 44.0**	**+0.3**	
	comp=Z,1.5nm,0.7s,mb4.0,baz=36,slow=6.1,SNR=5.7								
NOA				pP	pP		20 33 58.6	+0.1	
	comp=Z,2.1nm,0.7s,baz=37,slow=6.2,SNR=4.9								
AKASG	**Malin Array Be**	**71.97**	**322**	P	**P**		**20 33 48.1**	**-0.6**	
	comp=Z,0.7nm,0.4s,mb4.0,baz=45,slow=5.8,SNR=7.9								
AKASG				pP	pP		20 34 03.2	-0.3	
	comp=Z,1.6nm,0.4s,baz=44,slow=6.0,SNR=8.4								
ULM	**Lac du Bonnet**	**75.93**	**34**	LR	LR		21 12 49.8		
	comp=Z,62nm,19.7s,MS3.9,baz=294,slow=40								
GERES	**GERESS Array B**	**80.08**	**329**	P	**P**		**20 34 35.3**	**+0.7**	
	comp=Z,0.6nm,0.7s,mb3.6,baz=14,slow=5.5,SNR=4.2								
GERES				pP	pP		20 34 50.5	+0.9	
	comp=Z,0.4nm,0.5s,baz=37,slow=6.7,SNR=3.1								
LOR	**Lormes**	**85.04**	**333**	*e*P	**P**		**20 35 00.8**	**+0.8**	
	comp=Z,7.4nm,0.8s,mb4.5								
LOR	**Lormes**	**85.04**	**333**	*e*P	**P**		**20 35 00.8**	**+0.8**	
LOR				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.6								
SSF	**Saint Saulge**	**85.34**	**333**	*e*P	**P**		**20 35 02.5**	**+1.1**	
LPL	**La Plagne**	**85.51**	**331**	*e*P	**P**		**20 35 04.0**	**+1.7**	
LPG	**La Plagne**	**85.52**	**331**	*e*P	**P**		**20 35 04.0**	**+1.6**	
SMF	**Signal de Mont**	**85.58**	**333**	*e*P	**P**		**20 35 03.1**	**+0.4**	
AVF	**Avril sur Loir**	**85.62**	**333**	*e*P	**P**		**20 35 04.1**	**+1.2**	
	comp=Z,7.8nm,0.8s,mb4.7								
AVF	**Avril sur Loir**	**85.62**	**333**	*e*P	**P**		**20 35 04.1**	**+1.2**	
AVF				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.7								
TCF	**Toulx Ste Croi**	**86.45**	**334**	*e*P	**P**		**20 35 07.3**	**+0.4**	

*CSEM **21** 21:02:57.7±0.1,37.77N×25.43W,h1km,ML3.2,Error ellipse: s-maj=3.3km s-min=2.1km az=13.0,After PDA*
*PDA **21** 21:02:57.7±1.1,37.77N×25.43W,h1km±1km,ML3.2,Error ellipse: s-maj=2.8km s-min=2.0km az=104.0*
SVSA 21 21:02:57.7±1.1,37.77N×25.43W,h1km±1km,ML3.2, Error ellipse: s-maj=2.8km s-min=2.0km az=104.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.03**	**334**	*i* P	Pg	21 02 58.9	+0.7
VIF	**Vila Franca**	**0.03**	**193**	*i* P	Pg	21 02 58.9	+0.6
VIF				*e*S	Sg	21 02 59.8	+1.2
VIF	**Vila Franca**	**0.03**	**193**	*e*S	Sg	21 02 59.8	+1.2
PCNG	**Congro**	**0.03**	**98**	*i* P	Pg	21 02 58.9	+0.6
LFA	**Lagoa do Fogo**	**0.04**	**272**	*i* P	Pg	21 02 59.2	+0.7
PMAT	**Coroa da Mata**	**0.06**	**325**	*i* P	Pg	21 02 59.3	+0.5
PRCH	**Ribeira Ch**	**0.06**	**222**	*i* P	Pg	21 02 59.2	+0.3
FRA1	**Furnas**	**0.07**	**115**	*i* P	Pg	21 02 59.4	+0.4
CMLA	**Cha da Macela**	**0.07**	**264**	*e*P	Pg	21 02 58.7	-0.5
CMLA				*e*S	Sg	21 03 00.5	+0.3
CML	**Cha da Macela**	**0.09**	**270**	*i* P	Pg	21 03 00.8	+1.3
PFAD	**Fenais da Ajud**	**0.11**	**52**	*i* P	Pg	21 03 00.5	+0.6
MIRA	**Miradouro**	**0.12**	**83**	*i* P	Pg	21 03 00.5	+0.4
FAC	**Faja de Cima**	**0.17**	**271**	*e*P	Pg	21 03 02.7	+1.5
PDA	**Ponta Delgada**	**0.18**	**263**	*e*P	Pg	21 03 01.0	-0.4
PSET	**Sete Cidades**	**0.23**	**283**	*i* P	Pg	21 03 01.9	-0.5
PSET				*e*S	Sg	21 03 06.0	+0.5
	8μm,0.4s						
PSET	**Sete Cidades**	**0.23**	**283**	*e*S	Sg	21 03 06.0	+0.5
PSAN	**Santo Antonio**	**0.25**	**289**	*i* P	Pg	21 03 04.0	+1.4
PFET	**Feteiras**	**0.29**	**279**	*i* P	Pg	21 03 04.5	+1.1
SET2	**Ginetes**	**0.30**	**284**	*i* P	Pg	21 03 05.0	+1.2
SET4	**Mosteiros**	**0.31**	**290**	*i* P	Pg	21 03 04.8	+0.9
PSMN	**Pico do Norte,**	**0.82**	**159**	*e*S	Sg	21 03 20.4	-4.6
PFAV	**Pico das Favas**	**1.60**	**306**	*e*P	Pn	21 03 24.7	-2.6
PFAV				*e*S	Sb	21 03 43.9	-4.6
	42nm,0.4s						
PSCM	**Serra do Cume**	**1.62**	**305**	*e*P	Pn	21 03 22.6	-5.0
PSCM				*e*S	Sb	21 03 42.1	-6.9
	174nm,0.3s						
RIB2	**Ribeirinha**	**1.64**	**304**	*e*P	Pn	21 03 24.1	-3.7
RIB2				*e*S	Sb	21 03 43.6	-6.0
	81nm,0.3s						
ADH	**Angra Heroismo**	**1.67**	**302**	*e*P	Pn	21 03 24.1	-4.2
ADH				*e*S	Sb	21 03 44.1	-6.4
PVNV	**Vila Nova**	**1.68**	**307**	*e*P	Pn	21 03 24.5	-3.9
PVNV				*e*S	Sb	21 03 44.5	-6.2
PPAD	**Pico dos Padre**	**1.73**	**303**	*e*P	Pn	21 03 25.6	-3.5
PPAD				*e*S	Sn	21 03 45.3	-6.9
	52nm,0.3s						
PBIS	**Biscoitos**	**1.74**	**305**	*e*S	Sn	21 03 46.1	-6.3
	16nm,0.3s						
ASBA	**Santa Barbara**	**1.77**	**303**	*e*P	Pn	21 03 25.7	-4.0
ASBA				*e*S	Sn	21 03 46.5	-6.6
	31nm,0.2s						
STGR	**Santa Cruz**	**2.41**	**304**	*e*S	Sn	21 04 03.7	-5.6
ROSA	**Rosais**	**2.41**	**294**	*e*P	Pn	21 03 34.4	-4.4
ROSA				*e*S	Sn	21 03 58.9	-10
PICO	**Pico**	**2.47**	**288**	*e*P	Pn	21 03 35.6	-4.1
PICO				*e*S	Sn	21 04 02.4	-8.6
HOR	**Horta**	**2.63**	**288**	*erx*		21 04 07.1	
HOR	**Horta**	**2.63**	**288**	*e-*		21 04 07.1	
CALA	**Caldeira**	**2.70**	**288**	*e*P	Pn	21 03 38.7	-4.3
CALA				*e*S	Sn	21 04 10.4	-6.4

*CSEM **21** 21:05:10.1±0.1,37.77N×25.44W,h4km,ML2.6,Error ellipse: s-maj=2.5km s-min=0.6km az=167.0,After PDA*
*PDA **21** 21:05:10.1±0.6,37.77N×25.44W,h4km±1km,ML2.6,Error ellipse: s-maj=1.5km s-min=1.3km az=101.0*
SVSA 21 21:05:10.1±0.6,37.77N×25.44W,h4km±1km,ML2.6, Error ellipse: s-maj=1.5km s-min=1.3km az=101.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**348**	*i* P	Pg	21 05 11.6	+0.6
VIF	**Vila Franca**	**0.03**	**179**	*i* P	Pg	21 05 11.5	+0.5
LFA	**Lagoa do Fogo**	**0.03**	**271**	*i* P	Pg	21 05 11.9	+0.8
PCNG	**Congro**	**0.04**	**98**	*i* P	Pg	21 05 11.5	+0.4
PCNG				*e*S	Sg	21 05 13.1	+1.3
PCNG	**Congro**	**0.04**	**98**	*e*S	Sg	21 05 13.1	+1.3
PMAT	**Coroa da Mata**	**0.05**	**331**	*e*P	Pg	21 05 11.9	+0.5
PMAT				*e*S	Sg	21 05 12.9	+0.7
PRCH	**Ribeira Ch**	**0.05**	**216**	*e*P	Pg	21 05 11.9	+0.5
PRCH				*e*S	Sg	21 05 13.1	+0.8
CMLA	**Cha da Macela**	**0.07**	**263**	*e*P	Pg	21 05 11.5	-0.1
CMLA				*e*S	Sg	21 05 13.3	+0.6
FRA1	**Furnas**	**0.07**	**114**	*e*P	Pg	21 05 12.0	+0.3
CML	**Cha da Macela**	**0.08**	**269**	*e*P	Pg	21 05 13.5	+1.6
PFAD	**Fenais da Ajud**	**0.11**	**54**	*e*P	Pg	21 05 13.1	+0.6
MIRA	**Miradouro**	**0.13**	**84**	*e*P	Pg	21 05 13.2	+0.4
FAC	**Faja de Cima**	**0.17**	**270**	*e*P	Pg	21 05 15.7	+2.2
PDA	**Ponta Delgada**	**0.18**	**262**	*e*P	Pg	21 05 14.0	+0.2
PDA				*e*S	Sg	21 05 17.1	+0.9
PSET	**Sete Cidades**	**0.23**	**283**	*e*P	Pg	21 05 15.0	+0.3
PSET				*e*S	Sg	21 05 18.9	+1.1
	1μm,0.4s						
PSAN	**Santo Antonio**	**0.24**	**289**	*e*P	Pg	21 05 17.3	+2.4
PFET	**Feteiras**	**0.28**	**279**	*e*P	Pg	21 05 17.5	+1.8
SET2	**Ginetes**	**0.30**	**284**	*e*P	Pg	21 05 17.9	+1.8
SET4	**Mosteiros**	**0.30**	**290**	*e*P	Pg	21 05 18.2	+2.0
PSMN	**Pico do Norte,**	**0.82**	**159**	*e*P	Pg	21 05 24.1	-2.5
PSMN				*e*S	Sg	21 05 34.6	-2.9
PSCM	**Serra do Cume**	**1.61**	**306**	*e*P	Pn	21 05 35.5	-4.0
PSCM				*e*S	Sb	21 05 54.0	-6.7
	39nm,0.4s						

*IDC **21** 21:05:48.5±2.2,12.69N×40.64E,mb3.8/7,mb1 3.9/7, mb1mx3.8/16,mbtmp3.8/7,MS3.6/5,Ms1 3.6/5, ms1mx3.4/17,Error ellipse: s-maj=51.2km s-min=27.9km az=160.0*
*DHMR **21** 21:05:48.0±0.9,12.69N×40.53E,h2km,4km,ML4.2*
*NEIC **21** 21:05:49.7±1.6,12.63N×40.66E,h10km,mb4.5/1,Error ellipse: s-maj=34.9km s-min=20.8km az=159.0*
*CSEM **21** 21:05:50.4±0.6,12.70N×40.47E,h20km,ML4.2,Error ellipse: s-maj=24.3km s-min=10.7km az=1.0*
ISC 21 21:05:47.1±1.1,12.5N±0.1×40.37E±0.06,h10km,n21, σ1°33/20,mb3.8/8,MS3.7/4,1D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.79**	**67**	⇓ *e*P	**Pn**	**21 06 47.7**	**+0.8**
UDYN				*i* S	**Sn**	**21 07 34.4**	**+2.4**
UDYN				AML	AML	21 07 52.3	
	comp=E,942nm,0.8s						
HAJJ	**Hajjah**	**4.45**	**44**	*e*P	**Pn**	**21 06 55.9**	**-0.4**
HAJJ				*i* S	**Sn**	**21 07 48.6**	**-0.2**
ADEN	**Aden**	**4.51**	**86**	*e*P	**Pn**	**21 06 57.6**	**+0.5**
ADEN				*i* S	**Sn**	**21 07 51.0**	**+0.6**
BDHA	**Al Bayda'**	**5.26**	**73**	*e*P	**Pn**	**21 07 04.8**	**-3.0**
BDHA				*i* S	**Sn**	**21 08 05.7**	**-3.6**
KMBO	**Kilima Mbogo**	**13.91**	**193**	LR	LR	21 15 12.7	
	comp=E,122nm,20.0s,baz=73,slow=40						
MSL	**Mosul**	**23.79**	**5**	*ex*	x	21 11 27.0	
MALT	**Malatya**	**25.75**	**356**	*e*P	**P**	**21 11 20.7**	**+1.1**
	comp=E,17nm,1.5s,mb4.3						
BRTR	**Keskin Array B**	**27.74**	**349**	P	**P**	**21 11 39.2**	**+1.3**
	comp=E,2.1nm,1.1s,mb3.7,baz=166,slow=15,SNR=6.3						
BRTR	**Keskin Array B**	**27.74**	**349**	P	**P**	**21 11 39.2**	**+1.3**
AKASG	**Malin Array Be**	**39.15**	**349**	P	**P**	**21 13 16.7**	**0.0**
	comp=E,0.2nm,0.3s,mb3.4,baz=173,slow=7.4,SNR=6.7						
AKASG	**Malin Array Be**	**39.15**	**349**	P	**P**	**21 13 16.7**	**0.0**
GERES	**GERESS Array B**	**42.42**	**334**	P	**P**	**21 13 43.5**	**-0.1**
	comp=E,0.7nm,0.7s,mb3.4,baz=180,slow=6.7,SNR=6.4						
GERES				LR	LR	21 34 04.5	
	comp=E,54nm,18.1s,MS3.5,baz=168,slow=40						
KHC	**Kasperske Hory**	**42.69**	**334**	*e*P	**P**	**21 13 41.5**	**-4.3**
KHC				pP	pP	21 13 50.5	+1.7
KHC	**Kasperske Hory**	**42.69**	**334**	*e*P	**P**	**21 13 41.5**	**-4.3**
KHC				*e*		21 13 50.5	
KHC	**Kasperske Hory**	**42.69**	**334**	pP	pP	21 13 50.5	+1.7
DBIC	**Dimbokro**	**44.92**	**267**	P	**P**	**21 14 07.8**	**+3.4**
	comp=E,6.0nm,1.0s,mb4.4,baz=75,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**49.02**	**37**	P	**P**	**21 14 34.5**	**-1.6**
	comp=E,0.9nm,0.9s,mb3.8,baz=243,slow=5.4,SNR=4.7						
NOA	**NORSAR Array B**	**52.90**	**343**	LR	LR	21 40 56.2	
	comp=E,30nm,18.3s,MS3.4,baz=310,slow=40						
ZAL	**Zalesovo**	**54.12**	**31**	P	**P**	**21 15 12.8**	**-1.6**
	comp=E,0.8nm,0.6s,mb3.8,baz=228,slow=5.8,SNR=3.4						
ZAL				LR	LR	21 39 27.9	
	comp=E,55nm,19.9s,MS3.6,baz=344,slow=38						
SONM	**Songino Array**	**64.75**	**43**	P	**P**	**21 16 27.2**	**-0.8**
	comp=E,0.9nm,0.9s,mb3.8,baz=253,slow=5.0,SNR=7.0						
FITZ	**Fitzroy Crossi**	**89.42**	**109**	LR	LR	21 50 57.1	
	comp=E,118nm,21.8s,MS4.3,baz=273,slow=30						

*PDA **21** 21:06:03.3±0.7,37.77N×25.43W,h4km±1km,MD2.4, ML2.6,Error ellipse: s-maj=1.7km s-min=1.3km az=102.0*
*CSEM **21** 21:06:03.3±0.1,37.77N×25.43W,h4km,ML2.6,Error ellipse: s-maj=5.4km s-min=3.3km az=12.0,After PDA*
SVSA 21 21:06:03.3±0.7,37.77N×25.43W,h4km±1km,MD2.4, ML2.6,Error ellipse: s-maj=1.7km s-min=1.3km az=102.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.03**	**334**	*i* P	Pg	21 06 04.9	+0.7
MESC				*i* S	Sg	21 06 06.0	+1.1
MESC	**Monte Escuro**	**0.03**	**334**	*i* S	Sg	21 06 06.0	+1.1
VIF	**Vila Franca**	**0.03**	**193**	*i* P	Pg	21 06 04.9	+0.6
VIF				*i* S	Sg	21 06 05.9	+1.0
VIF	**Vila Franca**	**0.03**	**193**	*i* S	Sg	21 06 05.9	+1.0
PCNG	**Congro**	**0.03**	**98**	*i* P	Pg	21 06 04.8	+0.5
PCNG				*i* S	Sg	21 06 05.9	+0.9
PCNG	**Congro**	**0.03**	**98**	*i* S	Sg	21 06 05.9	+0.9
LFA	**Lagoa do Fogo**	**0.04**	**272**	*i* P	Pg	21 06 05.1	+0.7
PMAT	**Coroa da Mata**	**0.06**	**325**	*e*P	Pg	21 06 05.3	+0.6
PMAT				*i* S	Sg	21 06 06.3	+0.7
PRCH	**Ribeira Ch**	**0.06**	**222**	*e*P	Pg	21 06 05.2	+0.5
PRCH				*e*S	Sg	21 06 06.3	+0.7
FRA1	**Furnas**	**0.07**	**115**	*e*P	Pg	21 06 05.3	+0.5
CMLA	**Cha da Macela**	**0.07**	**264**	*e*P	Pg	21 06 04.7	-0.3
CMLA				*e*S	Sg	21 06 06.6	+0.5
CML	**Cha da Macela**	**0.09**	**270**	*e*P	Pg	21 06 06.8	+1.5
PFAD	**Fenais da Ajud**	**0.11**	**52**	*e*P	Pg	21 06 06.5	+0.9
MIRA	**Miradouro**	**0.12**	**83**	*e*P	Pg	21 06 06.3	+0.4
MIRA				*e*S	Sg	21 06 08.8	+1.2
FAC	**Faja de Cima**	**0.17**	**271**	*e*P	Pg	21 06 09.1	+2.2
PDA	**Ponta Delgada**	**0.18**	**263**	*e*P	Pg	21 06 07.3	+0.2
PDA				*e*S	Sg	21 06 10.6	+1.0
PSET	**Sete Cidades**	**0.23**	**283**	*e*P	Pg	21 06 08.3	+0.2
PSET				*e*S	Sg	21 06 12.2	+1.0
	672nm,0.3s						
PSAN	**Santo Antonio**	**0.25**	**289**	*e*P	Pg	21 06 10.0	+1.7
PFET	**Feteiras**	**0.29**	**279**	*e*P	Pg	21 06 10.7	+1.6
SET2	**Ginetes**	**0.30**	**284**	*e*P	Pg	21 06 11.1	+1.6
SET4	**Mosteiros**	**0.31**	**290**	*e*P	Pg	21 06 10.8	+1.3
PSMN	**Pico do Norte,**	**0.82**	**159**	*e*S	Sg	21 06 27.9	-2.7
PSCM	**Serra do Cume**	**1.62**	**305**	*e*P	Pn	21 06 28.2	-4.6
PSCM				*e*S	Sb	21 06 47.4	-6.7
	26nm,0.4s						

*CSEM **21** 21:07:21.7±0.1,37.76N×25.42W,h4km,ML2.7,Error ellipse: s-maj=6.3km s-min=3.0km az=7.0,After PDA*
*PDA **21** 21:07:21.7±0.7,37.76N×25.42W,h4km±1km,MD2.3, ML2.7,Error ellipse: s-maj=1.8km s-min=1.3km az=132.0*
SVSA 21 21:07:21.7±0.7,37.76N×25.42W,h4km±1km,MD2.3, ML2.7,Error ellipse: s-maj=1.8km s-min=1.3km az=132.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**226**	*i* P	Pg	21 07 23.0	+0.4
VIF				*e*S	Sg	21 07 24.3	+1.2
VIF	**Vila Franca**	**0.02**	**226**	*e*S	Sg	21 07 24.3	+1.2
PCNG	**Congro**	**0.02**	**66**	*i* P	Pg	21 07 23.1	+0.5
PCNG				*e*S	Sg	21 07 24.3	+1.1
PCNG	**Congro**	**0.02**	**66**	*e*S	Sg	21 07 24.3	+1.1
MESC	**Monte Escuro**	**0.04**	**335**	*e*P	Pg	21 07 23.4	+0.6
MESC				*e*S	Sg	21 07 25.0	+1.4
LFA	**Lagoa do Fogo**	**0.05**	**288**	*i* P	Pg	21 07 23.7	+0.7
PRCH	**Ribeira Ch**	**0.05**	**237**	*e*S	Sg	21 07 24.7	+0.8
FRA1	**Furnas**	**0.06**	**105**	*i* P	Pg	21 07 23.5	+0.4
PMAT	**Coroa da Mata**	**0.07**	**328**	*e*P	Pg	21 07 23.9	+0.6
PMAT				*e*S	Sg	21 07 25.1	+0.7
CMLA	**Cha da Macela**	**0.08**	**275**	*e*P	Pg	21 07 23.0	-0.5

GTA				AMB	AMB			
	comp=Z,68nm,4.2s							
GTA				LR	LR			
	comp=N,111nm,17.1s,MS3.9							
GTA				LR	LR			
	comp=E,102nm,18.6s,MS3.9							
GTA				LR	LR			
	comp=Z,153nm,19.0s,MS3.9							
STKA	**Stephens Creek**	**41.55**	**157**	⇑*i*P	**P**		**21 18 16.3**	**+0.1**
	comp=Z,12nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**41.55**	**157**	P	**P**		**21 18 16.5**	**+0.3**
	comp=Z,15nm,0.8s,mb4.7,baz=331,slow=8.1,SNR=31							
PKI	**Pulchoki**	**42.21**	**305**	*e*P	**P**		**21 18 22.8**	**+1.1**
	comp=Z,8.9nm,0.7s,mb4.5							
KKN	**Kakani**	**42.41**	**305**	*e*P	**P**		**21 18 24.2**	**+0.9**
	comp=Z,24nm,1.0s,mb4.8							
DMN	**Daman**	**42.48**	**305**	*e*P	**P**		**21 18 24.8**	**+0.9**
	comp=Z,23nm,1.1s,mb4.7							
GKN	**Gorkha**	**43.01**	**305**	*e*P	**P**		**21 18 28.7**	**+0.4**
	comp=Z,13nm,1.0s,mb4.6							
KOLN	**Koldanda**	**43.77**	**304**	*e*P	**P**		**21 18 35.5**	**+1.0**
	comp=Z,18nm,0.9s,mb4.8							
SONM	**Songino Array**	**44.00**	**343**	P	**P**		**21 18 36.1**	**+0.2**
	comp=Z,6.0nm,1.0s,mb4.3,baz=160,slow=7.2,SNR=31							
SONM				PcP	PcP		21 20 19.9	-1.6
	comp=Z,1.1nm,0.8s,baz=158,slow=3.9,SNR=3.7							
WMQ	**Urumqi**	**49.02**	**325**	⇓*i*P	**P**		**21 19 17.3**	**+1.7**
WMQ				AMB	AMB			
	comp=Z,8.0nm,1.2s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,177nm,5.2s							
WMQ				LR	LR			
	comp=N,178nm,20.2s,MS4.1							
WMQ				LR	LR			
	comp=E,122nm,19.4s,MS4.1							
WMQ				LR	LR			
	comp=Z,195nm,20.6s,MS4.1							
DZM	**Mont Dzumac**	**50.29**	**125**	LR	LR		21 37 42.9	
	comp=Z,484nm,19.7s,MS4.5,baz=9.4,slow=32							
MKAR	**Makanchi Array**	**53.86**	**326**	P	**P**		**21 19 52.3**	**+0.3**
	comp=Z,9.6nm,0.8s,mb4.8,baz=128,slow=8.7,SNR=82							
AAK	**Ala-Archa**	**56.58**	**318**	*e*P	**P**		**21 20 11.5**	**-0.3**
	comp=Z,5.8nm,1.1s,mb4.5							
ZAL	**Zalesovo**	**57.04**	**334**	P	**P**		**21 20 14.0**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.1,baz=359,slow=11,SNR=8.8							
ZAL	**Zalesovo**	**57.04**	**334**	P	**P**		**21 20 14.0**	**-0.9**
KURK	**Kurchatov**	**58.08**	**328**	*e*P	**P**		**21 20 21.6**	**-0.6**
	comp=Z,24nm,1.1s,mb5.1							
BVAR	**Borovoye Array**	**63.65**	**327**	P	**P**		**21 20 59.2**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.3,baz=127,slow=7.4,SNR=16							
BRVK	**Borovoye**	**63.72**	**327**	*e*P	**P**		**21 20 59.8**	**-0.7**
	comp=Z,7.0nm,1.0s,mb4.7							
ARU	**Arti**	**71.28**	**328**	*e*P	**P**		**21 21 46.2**	**-1.5**
	comp=Z,5.2nm,0.6s,mb4.6							
ILAR	**Eielson Array**	**83.98**	**26**	P	**P**		**21 22 56.0**	**-1.7**
	comp=Z,3.6nm,0.7s,mb4.6,baz=237,slow=5.6,SNR=28							
THY	**Trims Highway**	**84.54**	**27**	*e*P	**P**		**21 22 59.9**	**-0.6**
MAW	**Mawson**	**85.22**	**200**	P	**P**		**21 23 04.5**	**+0.7**
	comp=Z,1.1nm,0.7s,mb4.1,baz=23,slow=13,SNR=3.0							
VNDA	**Vanda**	**86.34**	**172**	*e*P	**P**		**21 23 09.1**	**0.0**
KMBO	**Kilima Mbogo**	**86.83**	**269**	P	**P**		**21 23 14.8**	**+1.9**
	comp=Z,0.8nm,0.4s,mb4.3,baz=54,slow=19,SNR=4.4							
KMBO	**Kilima Mbogo**	**86.83**	**269**	P	**P**		**21 23 14.8**	**+1.8**
FINES	**FINESS Array B**	**88.25**	**332**	P	**P**		**21 23 18.2**	**-0.5**
	comp=Z,0.7nm,0.6s,mb4.1,baz=95,slow=4.4,SNR=9.1							
FINES				LR	LR		22 02 49.8	
	comp=Z,45nm,19.9s,MS3.9,baz=156,slow=35							
INK	**Inuvik**	**88.78**	**21**	*e*P	**P**		**21 23 19.3**	**-1.8**
NOA	**NORSAR Array B**	**95.24**	**333**	LR	LR		22 09 36.7	
	comp=Z,21nm,19.1s,MS3.6,baz=20,slow=37							

*NEIC **21** 21:29:43.1, 19.88N×101.05W, h5km, MD3.9(MEX), After MEX.*

MEX 21 21:29:43.3±1.5, 19.88N×101.08W, h11km±9km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**0.22**	**207**	*i* P	Pg	21 29 46.5	-1.7
MOIG				*i* S	Sg	21 29 52.2	+0.9
MOIG	**Morelia**	**0.22**	**207**	*i* P	Pg	21 29 46.5	-1.7
MOIG				*i* S	Sg	21 29 52.0	+0.7
SFJM	**Santa Fe**	**1.94**	**289**	*i* P	Pn	21 30 14.2	-2.4
SFJM				*i* S	Sn	21 30 39.3	-1.8
PLIG	**Platanillo**	**2.10**	**134**	*i* P	Pn	21 30 15.5	-3.4
PLIG				*i* S	Sn	21 30 41.7	-3.6
YAIG	**Yautepec**	**2.15**	**118**	*e*P	Pn	21 30 16.9	-2.8
YAIG				*e*S	Sn	21 30 42.8	-3.8
ZIIG	**Zihuatanejo**	**2.29**	**189**	*i* P	Pn	21 30 16.6	-5.0
ZIIG				*i* S	Sn	21 30 44.5	-5.4
PPM	**Popocatepetl**	**2.45**	**109**	*e*P	Pn	21 30 20.0	-4.0
PPM				*i* P		21 30 20.0	
PPM				*i* S	Sn	21 30 49.2	-4.9
CAIG	**El Cayaco**	**2.92**	**164**	*e*P	Pn	21 30 27.4	-3.2
CAIG				*i* S	Sn	21 31 00.0	-6.0
ACX	**Acapulco**	**3.19**	**160**	*e*P	Pn	21 30 30.5	-4.0
ACX				*i* S	Sn	21 31 08.3	-4.6
ZAIG	**Zacatecas**	**3.19**	**335**	*i* P	Pn	21 30 29.8	-4.7
ZAIG				*i* S	Sn	21 31 06.7	-6.3

*IDC **21** 21:35:12.0±1.9, 22.21S×170.51E, mb4.3/5, mb1 4.4/6, mb1mx4.3/11, mbtmp4.3/6, ML4.4/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/16, Error ellipse: s-maj=63.2km s-min=28.2km az=147.0*

*NEIC **21** 21:35:18.6±0.4, 22.29S×170.37E, h45km, mb4.4/2, Error ellipse: s-maj=14.9km s-min=13.1km az=174.0*

*LDG **21** 21:35:18.5±0.4, 20.42S×169.83E, h10km, Mb4.6/2, Ms3.9/5, Error ellipse: s-maj=41.2km s-min=6.9km az=142.0*

ISC 21 21:35:16.3±3.9, 22.2S±0.2×170.3E±0.2, h34km±29km, n66, σ0°91/22, mb4.2/7, MS3.5/4, 7C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.59**	**271**	*e*P	**P**		**21 36 11.2**	**+0.2**
DZM				*e*S	**S**		**21 36 52.2**	**-0.6**
DZM	**Mont Dzumac**	**3.59**	**271**	Pn	**P**		**21 36 11.5**	**+0.5**
	27nm,0.3s,baz=169,slow=18,SNR=429							
DZM				Sn	**S**		**21 36 53.0**	**+0.2**
	12nm,0.3s,baz=93,slow=14,SNR=3.8							
DZM	**Mont Dzumac**	**3.59**	**271**	*e*P	**P**		**21 36 11.2**	**+0.2**
DZM				*e*S	**S**		**21 36 52.2**	**-0.6**
RAO	**Raoul Island**	**12.71**	**126**	LR	LR		21 41 57.4	
	comp=Z,366nm,19.1s,baz=322,slow=32							
HNR	**Honiara**	**16.14**	**320**	LR	LR		21 43 29.0	
	comp=Z,102nm,20.0s,baz=140,slow=31							
URZ	**Urewera**	**17.03**	**161**	LR	LR		21 44 18.0	
	comp=Z,335nm,20.5s,baz=58,slow=32							
CTA	**Charters Tower**	**22.53**	**271**	LR	LR		21 47 26.7	
	comp=Z,60nm,20.4s,MS3.0,baz=59,slow=32							
PMG	**Port Moresby**	**25.61**	**296**	LR	LR		21 49 14.0	
	comp=Z,148nm,21.2s,MS3.5,baz=106,slow=33							
STKA	**Stephens Creek**	**27.26**	**243**	P	**P**		**21 41 00.1**	**+0.5**
	1.7nm,0.6s,mb3.7,baz=103,slow=13,SNR=8.0							
STKA				LR	LR		21 51 13.7	
	comp=Z,144nm,19.3s,MS3.5,baz=210,slow=35							
STKA	**Stephens Creek**	**27.26**	**243**	P	**P**		**21 41 00.1**	**+0.5**
STKA				LR	LR		21 51 13.7	
WRAB	**Tennant Creek**	**33.59**	**267**	*e*P	**P**		**21 41 55.6**	**-0.1**
	2.5nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**33.60**	**267**	P	**P**		**21 41 54.6**	**-1.1**
	0.9nm,0.6s,mb3.9,baz=99,slow=8.4,SNR=12							
FITZ	**Fitzroy Crossi**	**42.03**	**267**	P	**P**		**21 43 07.5**	**+1.0**
	5.1nm,0.8s,mb4.2,baz=76,slow=8.3,SNR=4.0							
MJAR	**Matsushiro Arr**	**65.83**	**332**	P	**P**		**21 45 59.6**	**-1.0**
	2.4nm,0.6s,mb4.4,baz=170,slow=7.4,SNR=6.5							
ENH	**Enshi**	**78.33**	**310**	*e*P	**P**		**21 47 15.3**	**+0.3**
	3.9nm,0.6s,mb4.5							
SNAA	**Sanae**	**86.25**	**182**	*e*	**P**		**21 47 58.7**	**+3.7**
SNAA	**Sanae**	**86.25**	**182**	⇑*i*P	**P**		**21 47 53.9**	**-1.1**
SNAA				*e*			21 47 58.7	
VNA3	**Neumayer Olymp**	**86.80**	**180**	*e*	**P**		**21 48 01.6**	**+3.9**
VNA3	**Neumayer Olymp**	**86.80**	**180**	⇑*i*P	**P**		**21 47 56.9**	**-0.8**
VNA3				*e*			21 48 01.6	
VNA2	**Neumayer--Watz**	**87.11**	**181**	*e*	**P**		**21 48 03.6**	**+4.4**
VNA2	**Neumayer--Watz**	**87.11**	**181**	⇑*i*P	**P**		**21 47 58.8**	**-0.4**
VNA2				*e*			21 48 03.6	
VNA1	**Neumayer--Stat**	**87.39**	**180**	*e*	**P**		**21 48 05.1**	**+4.5**
VNA1	**Neumayer--Stat**	**87.39**	**180**	⇑*i*P	**P**		**21 48 00.2**	**-0.4**
VNA1				*e*			21 48 05.1	
SONM	**Songino Array**	**90.18**	**323**	P	**P**		**21 48 15.4**	**+1.0**
	2.7nm,0.9s,mb4.5,baz=130,slow=5.0,SNR=15							
TXAR	**Lajitas Array**	**97.30**	**61**	LR	LR		22 24 15.7	
	comp=Z,68nm,21.3s,MS4.1,baz=230,slow=30							
ARCES	**ARCESS Array B**	**128.18**	**345**	PKP	PKPdf		21 54 19.0	+0.3
	3.3nm,0.8s,slow=1.2,SNR=10.0							
FINES	**FINESS Array B**	**133.70**	**337**	PKP	PKPdf		21 54 28.9	-0.5
	1.7nm,0.9s,baz=153,slow=4.3,SNR=3.4							
KOLS	**Kolonicke sedl**	**143.23**	**324**	*e*	PKPbc		21 55 00.8	+16
KECS	**Kecovo**	**144.45**	**325**	*e*PKP	PKPdf		21 54 50.4	+1.5
OKC	**Ostrava-Krasne**	**144.79**	**328**	*e*PKP	PKPdf		21 54 51.9	+2.4
BSEG	**Bad Segeberg**	**144.88**	**339**	*e*PKPab	PKPab		21 54 50.2	-0.4
PSZ	**Piszkesteto**	**145.10**	**325**	*e*PKPdf	PKPdf		21 54 51.6	+1.5
DPC	**Dobruska-Polom**	**145.30**	**330**	*e*PKP	PKPdf		21 54 52.4	+2.0
VYHS	**Vyhne**	**145.31**	**326**	*e*PKP	PKPdf		21 54 52.5	+2.1
UPC	**Upice**	**145.33**	**331**	*e*PKP	PKPdf		21 54 52.6	+2.2
PVCC	**Panska Ves**	**145.95**	**332**	*e*PKP	PKPdf		21 54 54.6	+3.1
BRG	**Berggiesshubel**	**145.96**	**333**	*i* P	PKPdf		21 54 54.0	+2.5
SMOL	**Smolenice**	**146.01**	**327**	*e*PKP	PKPdf		21 54 55.8	+4.2
CLL	**Collm**	**146.02**	**334**	*i* PKP1	PKPbc		21 54 54.3	+1.7
CLL				*e**PPKP			21 55 06.0	
CLL				*e*			21 55 10.0	
PRU	**Pruhonice**	**146.36**	**331**	*e*PKP	PKPdf		21 54 55.9	+3.7
CLZ	**Clausthal**	**146.60**	**337**	*e*PKPab	PKPab		21 54 55.9	-1.3
NKC	**Novy Kostel**	**147.07**	**334**	*e*PKP	PKPdf		21 54 57.9	+4.5
MOX	**Moxa**	**147.09**	**335**	*i* P	PKPdf		21 54 57.7	+4.3
MOX	**Moxa**	**147.09**	**335**	*e*PKP	PKPdf		21 54 57.7	+4.3
KHC	**Kasperske Hory**	**147.41**	**331**	*e*PKP	PKPdf		21 54 59.0	+5.0
GEC2	**GERESS Array S**	**147.57**	**331**	*e*PKPab	PKPab		21 54 59.1	-2.0
GERES	**GERESS Array B**	**147.57**	**331**	PKPbc	PKPdf		21 54 58.2	+4.0
	2.9nm,0.8s,baz=20,slow=2.1,SNR=15							
WET	**Wettzell**	**147.71**	**332**	*e*PKPab	PKPab		21 54 59.7	-2.0
GRA1	**Grafenberg Arr**	**147.99**	**334**	*e*PKPab	PKPab		21 55 03.1	+0.3
GRF	**Grafenberg Arr**	**147.99**	**334**	*e*PKP	PKPdf		21 55 03.1	+8.2
WTTA	**Wattenberg**	**149.67**	**331**	⇑*i*P	PKPdf		21 55 04.0	+6.4
MOTA	**Moosalm**	**149.85**	**331**	⇓*i*P	PKPdf		21 55 04.4	+6.5
SQTA	**Sankt Quirin**	**149.90**	**331**	⇑*i*	PKPdf		21 55 04.8	+6.8
GIVF	**Givet**	**149.91**	**341**	*e*PKP1	PKPdf		21 55 04.2	+6.3
BAIF	**Baives**	**150.13**	**342**	*e*PKP1	PKPdf		21 55 04.9	+6.6
BFO	**Black Forest**	**150.23**	**335**	*e*PKPab	PKPab		21 55 11.4	-0.6
DAVA	**Damuels**	**150.43**	**332**	⇑*i*P	PKPdf		21 55 06.5	+7.7
CDF	**Champ du Feu**	**150.55**	**337**	*e*PKP1	PKPdf		21 55 05.7	+6.7
	4.1nm,0.6s							
HINF	**Hinteralfeld**	**151.21**	**337**	*e*PKP1	PKPdf		21 55 07.1	+7.2
HAU	**Haudompre**	**151.23**	**337**	*e*PKP1	PKPdf		21 55 07.2	+7.2
HAU				*e*R				
	42nm,20.2s							
MEZF	**Maizieres J'vi**	**151.25**	**339**	*e*PKP1	PKPdf		21 55 07.7	+7.7
	21nm,1.0s							
SSF	**Saint Saulge**	**153.01**	**340**	*e*PKP1	PKPdf		21 55 12.2	+10
LPL	**La Plagne**	**153.16**	**334**	*e*PKP1	PKPdf		21 55 12.2	+9.4
LPG	**La Plagne**	**153.16**	**334**	*e*PKP1	PKPdf		21 55 12.4	+10
SMRF	**Simiane la Rot**	**154.89**	**333**	*e*PKP1	PKPdf		21 55 16.7	+11
LIC	**Lamto**	**163.48**	**197**	*e*PKIKP	PKPdf		21 55 23.9	+7.8
	47nm,1.3s							

*ISK **21** 21:35:42.4, 39.19N×27.71E, h14km, MD3.3*

*CSEM **21** 21:35:42.2±0.1, 39.19N×27.75E, h10km, MD3.3, Error ellipse: s-maj=2.1km s-min=1.4km az=92.0*

*ATH **21** 21:35:43.5, 39.18N×27.75E, h23km±2km, MD3.5/4*

ISC 21 21:35:42.8±0.5, 39.19N±0.02×27.76E±0.03, h8km±4km, n35, σ0°67/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.32**	**172**	*i* PG	**Pg**	21 35 49.2	**-0.1**
AKS				*i* SG	**Sg**	21 35 54.6	**+1.0**
BALB	**Balikesir**	**0.46**	**12**	PG	**Pg**	21 35 51.9	**-0.1**
BALB				SG	**Sg**	21 35 59.5	**+1.3**
BTOK	**Tokmak**	**0.61**	**20**	*i* P	**Pg**	21 35 54.9	**-0.1**
BTOK				*i* S	**Sg**	21 36 03.9	**+0.8**
DST	**Dursunbey**	**0.79**	**58**	PG	**Pg**	21 35 58.0	**-0.6**
AYVA	**Ayvalik**	**0.84**	**278**	*i* P	**Pb**	21 35 59.3	**+0.1**
AYVA				*i* S	**Sb**	21 36 11.3	**+0.9**
KDAG	**Bornova**	**0.88**	**206**	*i* P	**Pb**	21 35 58.6	**-1.2**
KDAG				*i* S	**Sb**	21 36 11.8	**+0.3**
IZM	**Izmir**	**0.88**	**206**	PG	**Pg**	21 35 59.5	**-1.0**
MANT	**Manisa**	**0.94**	**138**	*i* P	**Pb**	21 36 01.0	**+0.1**
MANT				*i* S	**Sb**	21 36 13.8	**+0.6**
EDC	**Edincik**	**1.16**	**4**	PN	**Pn**	21 36 04.8	**-0.4**
PRK	**Paraskevi**	**1.16**	**273**	*e*Pn	**Pn**	21 36 05.4	**+0.2**
PRK				*e*Sn	**Sn**	21 36 21.4	**+0.1**
BNT	**Bandirma**	**1.17**	**6**	PN	**Pn**	21 36 04.8	**-0.6**
ORLT	**Orhaneli**	**1.22**	**45**	PN	**Pn**	21 36 07.1	**+0.9**
URLA	**Izmir**	**1.23**	**228**	*i* P	**Pb**	21 36 05.1	**-0.9**
URLA				*i* S	**Sb**	21 36 22.6	**+0.8**
EZN	**Ezine**	**1.28**	**300**	PN	**Pn**	21 36 06.4	**-0.6**
MRMT	**Marmara Adasi**	**1.42**	**355**	*e*Pn	**Pn**	21 36 08.8	**-0.1**
ULDT	**Uludag**	**1.43**	**48**	*i* P	**Pn**	21 36 08.6	**-0.5**
ULDT				*i* S	**Sb**	21 36 28.0	**+0.6**
AYDN	**Tasoluk**	**1.53**	**176**	*i* P	**Pn**	21 36 10.4	**-0.2**
AYDN				*i* S	**Sb**	21 36 32.2	**+1.7**
SART	**Tekirdag**	**1.56**	**344**	*i* P	**Pn**	21 36 10.3	**-0.7**
SART				*i* S	**Sb**	21 36 31.4	**+0.1**
MFT	**Murefte**	**1.63**	**347**	*e*PN	**Pn**	21 36 11.9	**-0.2**
SMG	**Samos**	**1.65**	**206**	*e*Pn	**Pn**	21 36 13.3	**+1.0**
SMG				*e*SN	**Sn**	21 36 34.3	**+0.5**
DENT	**Denizli**	**1.75**	**145**	*e*Pn	**Pn**	21 36 13.9	**+0.2**
ALT	**Altintas**	**1.83**	**94**	*e*Pn	**Pn**	21 36 14.8	**-0.1**
YLV	**Yalova**	**1.85**	**42**	*e*Pn	**Pn**	21 36 14.8	**-0.4**
MLSB	**Milas**	**1.89**	**180**	*e*Pn	**Pn**	21 36 14.8	**-1.0**
CTT	**Catalca**	**2.02**	**15**	*e*Pn	**Pn**	21 36 17.6	**0.0**
YER	**Yerkesik**	**2.10**	**168**	PN	**Pn**	21 36 18.2	**-0.5**
BODT	**Bodrum**	**2.16**	**190**	PN	**Pn**	21 36 17.9	**-1.6**
HRT	**Hereke**	**2.19**	**41**	*e*Pn	**Pn**	21 36 19.6	**-0.4**
ESKT	**Eskisehir**	**2.42**	**81**	PN	**Pn**	21 36 23.3	**0.0**
ESKT	**Eskisehir**	**2.42**	**81**	*i* P	**Pn**	21 36 22.7	**-0.6**
ESKT				*i* S	**Sn**	21 36 59.8	**+6.4**
DALT	**Dalyan (Mudla)**	**2.52**	**164**	*e*PN	**Pn**	21 36 24.1	**-0.6**
RDO	**Rodhopi**	**2.59**	**320**	*e*PN	**Pn**	21 36 26.4	**+0.7**
MDU	**Mudurnu**	**2.95**	**63**	*e*PN	**Pn**	21 36 30.9	**0.0**
ARG	**Arkhangelos**	**2.98**	**174**	*e*PN	**Pn**	21 36 31.6	**+0.2**
KIZT	**Kizilcal**	**3.22**	**94**	PN	**Pn**	21 36 35.1	**+0.3**

*KNET **21** 21:55:42.4±0.8, 41.50N×74.98E, h17km±3km, ml1.9, Error ellipse: s-maj=4.5km s-min=3.2km az=163.0*

*NNC **21** 21:55:46.7±10.0, 42.55N×75.99E, mpv2.6, Error ellipse: s-maj=618.3km s-min=70.5km az=2.0*

ISC 21 21:55:41.7±1.5, 41.40N±0.07×75.00E±0.06, h10km, n12, σ0°74/23, 5C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.70**	**16**	⇓P	**Pb**	21 55 54.9	**-0.8**
	10nm,0.1s,SNR=9.2						
KZA				⇑S	**Sb**	21 56 04.1	**-1.0**
	72nm,0.1s						
UCH	**Uchtor**	**0.90**	**337**	P	**Pb**	21 55 58.4	**-0.6**
	32nm,0.2s,SNR=117						
UCH				⇓S	**Sb**	21 56 10.3	**-0.6**
	32nm,0.2s						
AML	**Almayashu**	**1.22**	**307**	⇓P	**Pb**	21 56 03.9	**-0.6**
	12nm,0.2s,SNR=44						
AML				⇓S	**Sb**	21 56 19.6	**-0.5**
	18nm,0.2s						
KBK	**Karagaybulak**	**1.26**	**358**	P	**Pb**	21 56 04.9	**-0.2**
	21nm,0.1s,SNR=94						
KBK				⇓S	**Sb**	21 56 21.3	**+0.1**
	42nm,0.1s						
ULHL	**Ulahol**	**1.26**	**47**	⇓P	**Pb**	21 56 04.7	**-0.4**
	4.1nm,0.1s,SNR=16						
ULHL				⇓S	**Sb**	21 56 21.0	**-0.2**
	12nm,0.1s						
AAK	**Ala-Archa**	**1.29**	**343**	P	**Pb**	21 56 05.3	**-0.4**
	12nm,0.3s,SNR=12						
AAK				⇓S	**Sb**	21 56 22.1	**0.0**
	10.0nm,0.2s						
AAK	**Ala-Archa**	**1.29**	**343**	⇓P	**Pb**	21 56 05.3	**-0.4**
	3.9nm,0.3s						
AAK				⇑S	**Sb**	21 56 21.7	**-0.4**
	5.2nm,0.5s						
EKS2	**Erkin-Say**	**1.56**	**325**	P	**Pn**	21 56 10.1	**+0.5**
	2.2nm,0.2s,SNR=13						
TKM2	**Tokmak 2**	**1.59**	**16**	⇓P	**Pn**	21 56 10.5	**+0.4**
	9.6nm,0.2s,SNR=19						
TKM2				⇓S	**Sb**	21 56 31.2	**+0.5**
	20nm,0.1s						
CHMS	**Chumysh**	**1.61**	**354**	⇓P	**Pn**	21 56 10.8	**+0.4**
	4.9nm,0.2s						
CHMS				⇑S	**Sn**	21 56 31.6	**+0.3**
	11nm,0.3s						
USP	**Ospenovka**	**1.90**	**349**	⇓P	**Pn**	21 56 16.3	**+1.7**
	8.1nm,0.1s,SNR=11						
USP				⇑S	**Sn**	21 56 40.9	**+2.0**
	34nm,0.4s						
KK31	**Karatay Array**	**3.74**	**299**	P	**Pg**	21 56 50.2	**-6.2**
	0.3nm,0.3s,baz=107,slow=17,SNR=11						
KK31				⇑S	**Sg**	21 57 37.5	**-8.8**
	0.5nm,0.3s,baz=120,slow=27						

IDC 21 22:07:42.1±2.0, 13.27N×40.75E, mb3.9/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=42.0km s-min=37.3km az=47.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**14.71**	**194**	Pn	P	22 11 12.9	-0.7
	0.1nm,0.3s,baz=229,slow=23,SNR=2.9						
BRTR	**Keskin Array B**	**27.09**	**348**	P	P	22 13 28.6	+0.1
	3.3nm,1.1s,baz=168,slow=11,SNR=8.5						
AKASG	**Malin Array Be**	**38.50**	**348**	P	P	22 15 05.8	-1.9
	0.3nm,0.3s,baz=167,slow=7.1,SNR=6.1						
GERES	**GERESS Array B**	**41.92**	**333**	P	P	22 15 33.0	-3.0
	2.2nm,1.1s,baz=143,slow=6.7,SNR=5.8						
BVAR	**Borovoye Array**	**46.14**	**24**	P	P	22 16 07.7	-2.3
	0.6nm,0.7s,baz=198,slow=4.7,SNR=5.6						
MKAR	**Makanchi Array**	**48.21**	**38**	P	P	22 16 25.1	-1.3
	1.6nm,1.0s,baz=233,slow=6.1,SNR=7.7						
SONM	**Songino Array**	**63.96**	**43**	P	P	22 18 16.9	-2.5
	1.4nm,0.9s,baz=245,slow=6.1,SNR=9.7						

*IDC **21** 22:25:57.5±1.9, 12.51N×40.41E, mb3.9/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML2.7/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/19, Error ellipse: s-maj=41.0km s-min=36.4km az=54.0*

*NEIC **21** 22:25:59.0±0.7, 12.47N×40.45E, h10km, mb4.0/2, ML4.4(DHMR), Error ellipse: s-maj=13.1km s-min=11.7km az=178.0*

*CSEM **21** 22:25:59.9±0.2, 12.49N×40.34E, h30km, ML4.4, Error ellipse: s-maj=7.9km s-min=2.8km az=9.0*

*DHMR **21** 22:26:00.1±0.6, 12.68N×40.58E, h7km±24km, ML4.4*

ISC 21 22:25:57.0±2.6, 12.45N±0.08×40.36E±0.06, h9km±18km, n25, σ1°910/33, mb3.8/8, MS3.8/3, 1C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.82**	**66**	⇑*i*P	**Pn**	22 26 58.8	**+1.5**
UDYN				*i* S	**Sn**	22 27 44.0	**+1.1**
UDYN				AML	AML	22 28 03.1	
	comp=N,2μm,0.6s						
UDYN	**Al 'Udayn**	**3.82**	**66**	⇓*i*P	**Pn**	22 26 57.6	**+0.3**
UDYN				*i* S	**Sn**	22 27 45.7	**+2.8**
HAJJ	**Hajjah**	**4.50**	**44**	*i* P	**Pn**	22 27 06.7	**-0.3**
HAJJ				*i* S	**Sn**	22 27 59.5	**-0.7**
HAJJ	**Hajjah**	**4.50**	**44**	*i* P	**Pn**	22 27 07.1	**0.0**
HAJJ				*i* S	**Sn**	22 28 02.7	**+2.4**
ADEN	**Aden**	**4.52**	**85**	*e*P	**Pn**	22 27 08.2	**+0.9**
ADEN				*i* S	**Sn**	22 28 01.4	**+0.6**
ADEN	**Aden**	**4.52**	**85**	*i* P	**Pn**	22 27 07.9	**+0.5**
ADEN				*i* S	**Sn**	22 28 00.4	**-0.3**
SANA	**San'a**	**4.74**	**52**	*i* P	**Pn**	22 27 10.2	**-0.1**
SANA				*i* S	**Sn**	22 28 05.1	**-1.0**
BDHA	**Al Bay

MRZ				S	S	22 33 28.0	-4.1	
KIW	**Kapiti Island**	**2.74**	**199**	⇑PN	P	22 33 00.9	-2.8	
KIW	**Kapiti Island**	**2.74**	**199**	⇑P	P	22 33 00.9	-2.7	
MTW	**Mount Morrison**	**2.91**	**189**	⇑PN	P	22 33 02.9	-2.9	
MTW	**Mount Morrison**	**2.91**	**189**	⇑P	P	22 33 02.9	-2.8	
CAW	**Cannon Point**	**2.94**	**195**	PN	P	22 33 03.1	-2.9	
CAW	**Cannon Point**	**2.94**	**195**	P	P	22 33 03.1	-2.9	
DUWZ	**D'Urville Isla**	**3.03**	**213**	PN	P	22 33 03.9	-3.3	
TRWZ	**Traveller**	**3.13**	**186**	PN	P	22 33 05.5	-2.9	
MRW	**Makara Radio**	**3.14**	**200**	PN	P	22 33 05.3	-3.2	
MRW	**Makara Radio**	**3.14**	**200**	P	P	22 33 05.3	-3.2	
PAWZ	**Paruwai Farm**	**3.14**	**189**	PN	P	22 33 05.4	-3.1	
WEL	**Wellington**	**3.17**	**199**	PN	P	22 33 05.7	-3.3	
WEL	**Wellington**	**3.17**	**199**	P	P	22 33 05.7	-3.3	
MSWZ	**Moikau Station**	**3.20**	**192**	⇑PN	P	22 33 06.0	-3.3	
MSWZ	**Moikau Station**	**3.20**	**192**	⇑P	P	22 33 06.0	-3.3	
TCW	**Tory Channel**	**3.25**	**205**	PN	P	22 33 06.6	-3.4	
TCW	**Tory Channel**	**3.25**	**205**	P	P	22 33 06.6	-3.3	
BHW	**Baring Head**	**3.27**	**197**	PN	P	22 33 06.7	-3.4	
BHW	**Baring Head**	**3.27**	**197**	P	P	22 33 06.7	-3.4	
THZ	**Tophouse**	**4.26**	**214**	PN	P	22 33 18.3	-4.5	
THZ	**Tophouse**	**4.26**	**214**	*eP*	P	22 33 18.3	-4.5	
KHZ	**Kahutara**	**4.58**	**205**	⇓PN	P	22 33 22.8	-4.0	
KHZ	**Kahutara**	**4.58**	**205**	⇑*eP*	P	22 33 22.8	-4.0	
LTZ	**Lake Taylor**	**5.36**	**212**	PN	P	22 33 31.6	-5.5	
LTZ	**Lake Taylor**	**5.36**	**212**	*eP*	P	22 33 31.6	-5.5	
MQZ	**McQueen's Vall**	**6.02**	**205**	PN	P	22 33 39.5	-6.2	
MQZ	**McQueen's Vall**	**6.02**	**205**	*eP*	P	22 33 39.5	-6.2	
ODZ	**Otahua Downs**	**7.90**	**209**	PN	P	22 34 04.8	-5.7	
ODZ	**Otahua Downs**	**7.90**	**209**	*eP*	P	22 34 04.8	-5.7	

*IDC **21** 22:46:39.2±0.6,30.07S×117.44E,mb4.3/9,mb1 4.4/11, mb1mx4.4/14,mbtmp4.4/11,ML4.2/1,MS3.5/5,Ms1 3.5/5, ms1mx3.2/19,Error ellipse: s-maj=21.1km s-min=14.8km az=120.0*
*AUST **21** 22:46:41.8,30.15S×117.16E,h2km,ML4.0*
*NEIC **21** 22:46:41.0,30.15S×117.17E,h2km,mb4.2/3, ML4.0(AUST),After AUST.*
NEIC Felt at Kalannie.

ISC 21 22:46:37.5±0.3,30.07S±0.03×117.37E±0.05,n48, σ1§29/50,mb4.7/14,MS3.5/4,7C-2D,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BLDU	**Ballidu**	**0.78**	**227**	⇓*iP*		**Pg**		**22 46 52.7**	**-0.4**
BLDU				*iS*		**Sg**		**22 47 00.8**	**-2.7**
	31μm,0.7s								
BLDU				*i*	RG			22 47 05.8	
MORW	**Morawa**	**1.53**	**311**	*eP*		**Pn**		**22 47 07.6**	**+1.4**
MORW				*iS*		**Sb**		**22 47 26.4**	**+0.1**
	1μm,0.2s								
MORW				*i*	RG			22 47 37.0	
KLBR	**Kellerberrin**	**1.55**	**168**	*eP*		**Pn**		**22 47 08.2**	**+1.8**
KLBR				*eS*		**Sb**		**22 47 28.7**	**+1.9**
	6μm,0.9s								
KLBR				*i*	RG			22 47 40.3	
NWAO	**Narrogin (SRO)**	**2.85**	**182**	*eP*		**Pn**		**22 47 25.3**	**+0.3**
NWAO				*i*				22 47 32.6	
NWAO				*eS*		**Sn**		**22 47 56.7**	**-3.8**
	1μm,0.3s								
NWAO				*iS*		**Sn**		**22 48 05.7**	**+5.2**
	13μm,0.8s								
NWAO	**Narrogin (SRO)**	**2.85**	**182**	Pn		**Pn**		**22 47 24.8**	**-0.2**
	112nm,0.3s,baz=0.2,slow=13,SNR=649								
NWAO				Pg		**Pg**		**22 47 31.9**	**-2.4**
	128nm,0.3s,baz=357,slow=15,SNR=56								
NWAO				Sn		**Sn**		**22 47 57.6**	**-2.9**
	41nm,0.3s,baz=268,slow=15,SNR=7.3								
NWAO				Lg				22 48 05.3	
	180nm,0.3s,baz=99,slow=23,SNR=34								
NWAO				Rg				22 48 20.0	
	7μm,1.2s,baz=84,slow=13,SNR=20								
MEEK	**Meekatharra**	**3.60**	**18**	*eP*		**Pn**		**22 47 38.1**	**+2.5**
MEEK				*eS*		**Sn**		**22 48 20.2**	**+0.8**
KMBL	**Kambalda**	**4.09**	**109**	*eP*		**Pn**		**22 47 44.3**	**+1.6**
KMBL				*eS*		Sx		22 48 30.8	
	2μm,0.4s								
RKGY	**Rocky Gully**	**4.53**	**184**	*eP*		**Pn**		**22 47 48.5**	**-0.5**
GIRL	**Giralia**	**7.66**	**347**	⇑*iP*		**Pn**		**22 48 36.3**	**+3.4**
MBWA	**Marble Bar**	**9.13**	**14**	*eP*		**P**		**22 48 52.1**	**-1.4**
MBWA				*eS*		Sx		22 50 28.3	
FORT	**Forrest**	**9.26**	**97**	*eP*		**P**		**22 48 55.9**	**+0.7**
FORT				*eS*		Sx		22 50 35.9	
	309nm,0.5s								
FORT	**Forrest**	**9.26**	**97**	*eP*		**P**		**22 48 55.9**	**+0.7**
	309nm,0.5s								
FORT				*eS*		Sx		22 50 35.9	
FITZ	**Fitzroy Crossi**	**14.10**	**34**	⇑*iP*		**P**		**22 49 59.1**	**-1.7**
	74nm,0.5s								
FITZ				*eS*		Sx		22 52 23.5	
FITZ	**Fitzroy Crossi**	**14.10**	**34**	Pn		**P**		**22 49 58.8**	**-2.1**
	18nm,0.3s,baz=200,slow=9.1,SNR=192								
FITZ				Sn		Sx		22 52 24.8	
	13nm,0.3s,baz=336,slow=19,SNR=11								
FITZ				Lg				22 54 05.4	
	2.2nm,0.3s,baz=346,slow=13,SNR=1.8								
FITZ				LR		LR		22 56 24.9	
	comp=Z,132nm,18.4s,baz=254,slow=42								
ASPA	**Alice Springs**	**16.07**	**71**	*eP*		**P**		**22 50 23.9**	**-2.5**
ASPA				*eS*		Sx		22 53 11.9	
WRA	**Warramunga Arr**	**18.37**	**61**	P		**P**		**22 50 52.9**	**-2.6**
	0.9nm,0.3s,baz=234,slow=13,SNR=39								
WRA				S		Sx		22 54 03.9	
	0.6nm,0.3s,baz=225,slow=21,SNR=10								
WRA				Lg				22 56 19.5	
	0.4nm,0.3s,baz=236,slow=26,SNR=3.1								
WB2	**Warramunga Arr**	**18.38**	**61**	⇓*iP*		**P**		**22 50 53.0**	**-2.6**
WB2				*eS*		Sx		22 54 05.2	
WRAB	**Tennant Creek**	**18.39**	**61**	*eP*		**P**		**22 50 51.5**	**-4.2**
	16nm,0.6s								
STKA	**Stephens Creek**	**20.84**	**101**	⇑*iP*		**P**		**22 51 24.2**	**+0.9**
	7.4nm,0.6s								
STKA				*eS*		Sx		22 54 59.9	
STKA	**Stephens Creek**	**20.84**	**101**	P		**P**		**22 51 22.6**	**-0.8**
	7.1nm,0.5s,baz=276,slow=12,SNR=18								
STKA				S		Sx		22 55 06.8	
	11nm,0.6s,baz=314,slow=3.8,SNR=6.2								
STKA				Lg				22 57 32.2	
	51nm,1.2s,baz=155,slow=18,SNR=2.8								
STKA				LR		LR		22 59 28.5	
	comp=Z,260nm,19.1s,MS3.6,baz=208,slow=37								
CTA	**Charters Tower**	**27.92**	**76**	P		**P**		**22 52 31.1**	**-0.4**
	7.8nm,1.0s,mb4.5,baz=265,slow=13,SNR=3.1								
CTA				LR		LR		23 04 43.3	
	comp=Z,101nm,21.9s,MS3.4,baz=226,slow=39								
PMG	**Port Moresby**	**34.59**	**60**	LR		LR		23 08 23.0	
	comp=Z,96nm,21.4s,MS3.5,baz=228,slow=38								
MAW	**Mawson**	**49.20**	**204**	P		**P**		**22 55 28.9**	**0.0**
	4.8nm,0.8s,mb4.6,baz=85,slow=9.5,SNR=12								
MAW				LR		LR		23 13 07.0	
	comp=Z,50nm,21.5s,MS3.5,baz=253,slow=32								
VNDA	**Vanda**	**51.60**	**169**	*eP*		**P**		**22 55 47.5**	**+0.3**
	1.3nm,0.7s,mb4.0								
OPO	**Ambohidratompo**	**64.11**	**263**	P		**P**		**22 57 16.2**	**+0.1**
	1.0nm,0.7s,mb4.2,baz=274,slow=3.8,SNR=5.5								
PKI	**Pulchoki**	**64.96**	**329**	*eP*		**P**		**22 57 21.2**	**-0.2**
	17nm,0.7s,mb5.4								
DMN	**Daman**	**65.12**	**329**	*eP*		**P**		**22 57 22.4**	**-0.1**
	13nm,0.8s,mb5.2								
KKN	**Kakani**	**65.20**	**329**	*eP*		**P**		**22 57 22.0**	**-1.0**
	15nm,0.8s,mb5.3								
GKN	**Gorkha**	**65.67**	**328**	*eP*		**P**		**22 57 25.9**	**-0.1**
	19nm,0.7s,mb5.4								
KOLN	**Koldanda**	**65.95**	**327**	*eP*		**P**		**22 57 27.7**	**-0.1**
	21nm,0.7s,mb5.5								
SNAA	**Sanae**	**70.43**	**197**	⇑*i*		**P**		**22 57 54.2**	**-0.8**
SNAA	**Sanae**	**70.43**	**197**	*e*		**P**		**22 57 58.6**	**+3.6**
SNAA	**Sanae**	**70.43**	**197**	P		**P**		**22 57 55.1**	**+0.1**
	3.4nm,0.8s,mb4.5,baz=131,slow=7.7,SNR=46								
VNA2	**Neumayer--Watz**	**72.04**	**196**	⇑*i*		**P**		**22 58 05.7**	**+1.0**
VNA2	**Neumayer--Watz**	**72.04**	**196**	*e*		**P**		**22 58 09.8**	**+5.1**
VNA3	**Neumayer Olymp**	**72.37**	**196**	⇑*i*		**P**		**22 58 07.4**	**+0.7**
VNA3	**Neumayer Olymp**	**72.37**	**196**	*e*		**P**		**22 58 12.2**	**+5.5**
VNA1	**Neumayer--Stat**	**72.44**	**197**	⇑*i*		**P**		**22 58 08.4**	**+1.3**
VNA1	**Neumayer--Stat**	**72.44**	**197**	*e*		**P**		**22 58 12.6**	**+5.5**
SONM	**Songino Array**	**78.17**	**352**	P		**P**		**22 58 40.3**	**+0.2**
	2.7nm,0.8s,mb4.4,baz=166,slow=6.5,SNR=5.2								
KMBO	**Kilima Mbogo**	**80.88**	**274**	P		**P**		**22 58 55.7**	**+0.3**
	2.5nm,0.7s,mb4.4,baz=22,slow=23,SNR=10								
MKAR	**Makanchi Array**	**82.81**	**337**	P		**P**		**22 59 05.3**	**+0.6**
	0.7nm,0.7s,mb4.0,baz=127,slow=7.0,SNR=6.6								
BVAR	**Borovoye Array**	**92.30**	**334**	P		**P**		**22 59 51.7**	**+1.2**
	1.3nm,0.8s,mb4.3,baz=146,slow=5.3,SNR=9.2								
ILAR	**Eielson Array**	**119.19**	**29**	PKP		PKPdf		23 05 29.0	-0.8
	0.5nm,0.5s,baz=269,slow=3.2,SNR=5.4								
INK	**Inuvik**	**124.64**	**25**	PKP		PKPdf		23 05 39.9	-0.3
	1.7nm,0.7s,baz=312,slow=4.1,SNR=3.2								
YKA	**Yellowknife Ar**	**133.59**	**30**	PKP		PKPdf		23 05 57.1	-0.1
	0.5nm,0.7s,baz=287,slow=2.6,SNR=4.6								
TXAR	**Lajitas Array**	**144.48**	**81**	PKP		PKPdf		23 06 17.6	-0.3
	4.0nm,0.7s,baz=217,slow=6.3,SNR=21								
ULM	**Lac du Bonnet**	**147.96**	**42**	PKPbc		PKPdf		23 06 25.9	+2.9
	6.7nm,0.7s,baz=354,slow=3.7,SNR=9.2								

*BJI **21** 22:49:27.4,0.40S×123.97E,h195km,mb4.7*
*IDC **21** 22:49:29.6±7.5,0.23N×123.40E,h160km±64km,mb4.2/14, mb1 4.3/14,mb1mx4.2/19,mbtmp4.6/14,MS3.1/2, Ms1 3.1/2,ms1mx2.9/22,Error ellipse: s-maj=22.6km s-min=18.3km az=127.0*
*NEIC **21** 22:49:33.6±1.7,0.25N×123.38E,h196km±13km,mb4.4/3, Error ellipse: s-maj=16.9km s-min=12.2km az=134.0*

ISC 21 22:49:31.6±1.9,0.2N±0.1×123.57E±0.10,h196km±15km, n42,σ1§08/31,mb4.3/20,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DAV	**Davao City (W)**	**7.16**	**16**	*eP*		**P**		**22 51 15.6**	**+0.9**
KKM	**Kota Kinabalu**	**9.39**	**309**	*eP*		**P**		**22 51 42.1**	**-1.8**
KSM	**Kuching**	**13.33**	**276**	P		**P**		**22 52 33.4**	**-0.9**
QIZ	**Qiongzhong**	**23.10**	**325**	P		**P**		**22 54 22.6**	**+1.2**
QIZ					AMB	AMB			
	comp=Z,18nm,0.9s,mb4.6								
SNG	**Songkhla**	**23.93**	**287**	P		**P**		**22 54 31.5**	**+2.2**
KKTK	**Khon Kaen**	**26.03**	**309**	P		**P**		**22 54 49.6**	**+0.8**
JOW	**Kunigami**	**26.91**	**9**	LR		LR		23 05 11.2	
	comp=Z,34nm,20.4s,baz=208,slow=35								
NANT	**Nan**	**29.11**	**311**	P		**P**		**22 55 18.0**	**+1.5**
CHG	**Chiang Mai**	**30.47**	**309**	P		**P**		**22 55 28.8**	**+0.3**
	comp=Z,14nm,0.8s,mb4.7								
CBIJ	**Chichi jima**	**32.22**	**32**	P		**P**		**22 55 42.5**	**-1.1**
	comp=Z,63nm,0.3s,mb5.6,baz=299,slow=18,SNR=10								
ENH	**Enshi**	**32.82**	**337**	*eP*		**P**		**22 55 49.6**	**+0.9**
	comp=Z,13nm,0.8s,mb4.5								
MJAR	**Matsushiro Arr**	**38.67**	**19**	P		**P**		**22 56 37.6**	**-0.4**
	comp=Z,5.3nm,0.6s,mb4.2,baz=189,slow=9.5,SNR=19								
MJAR					LR	LR		23 11 37.3	
	comp=Z,38nm,19.9s,baz=260,slow=34								
LSA	**Lhasa**	**42.63**	**316**	P		**P**		**22 57 13.0**	**+2.5**
LSA	**Lhasa**	**42.63**	**316**	*eP*		**P**		**22 57 09.4**	**-1.1**
	comp=Z,8.6nm,0.6s,mb4.4								
SONM	**Songino Array**	**49.79**	**345**	P		**P**		**22 58 06.0**	**-0.3**
	comp=Z,5.0nm,0.5s,mb4.1,baz=161,slow=8.9,SNR=17								
SONM					PcP	PcP		22 59 24.1	-0.3
	comp=Z,2.5nm,0.7s,baz=163,slow=3.6,SNR=4.3								
WMQ	**Urumqi**	**53.96**	**328**	*eP*		**P**		**22 58 38.5**	**+1.1**
MKAR	**Makanchi Array**	**58.79**	**328**	P		**P**		**22 59 10.6**	**-0.9**
	comp=Z,4.6nm,0.4s,mb4.5,baz=130,slow=9.5,SNR=15								
MKAR					PcP	PcP		22 59 58.1	-0.6
	comp=Z,2.2nm,0.5s,baz=156,slow=3.2,SNR=6.9								
MKAR	**Makanchi Array**	**58.79**	**328**		P	**P**		**22 59 10.6**	**-0.9**
MKAR					PcP	PcP		22 59 58.1	-0.6
ZAL	**Zalesovo**	**62.41**	**335**	P		**P**		**22 59 34.6**	**-1.2**
	comp=Z,4.5nm,0.5s,mb4.4,baz=352,slow=4.6,SNR=20								
BVAR	**Borovoye Array**	**68.65**	**329**	P		**P**		**23 00 14.4**	**-1.2**
	comp=Z,1.3nm,0.5s,mb3.8,baz=123,slow=10.0,SNR=12								
BRVK	**Borovoye**	**68.72**	**329**	*eP*		**P**		**23 00 14.2**	**-1.8**
OPO	**Ambohidratompo**	**77.14**	**251**	P		**P**		**23 01 05.5**	**-0.2**
	comp=Z,2.0nm,0.6s,mb3.9,baz=94,slow=7.8,SNR=11								
MAW	**Mawson**	**79.33**	**200**	P		**P**		**23 01 16.8**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.0,baz=33,slow=9.2,SNR=6.4								
VNDA	**Vanda**	**80.32**	**172**	*eP*		**P**		**23 01 22.2**	**+0.4**
	comp=Z,1.8nm,0.6s,mb3.9								
KMBO	**Kilima Mbogo**	**86.32**	**269**	P		**P**		**23 01 54.4**	**+0.8**
	comp=Z,0.6nm,0.3s,mb3.9,baz=49,slow=19,SNR=3.8								
KDAK	**Kodiak Island**	**86.58**	**32**	P		**P**		**23 01 55.5**	**+1.7**
	comp=Z,6.0nm,0.7s,mb4.5,baz=239,slow=4.9,SNR=5.6								
ILAR	**Eielson Array**	**89.67**	**25**	P		**P**		**23 02 08.1**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=250,slow=4.6,SNR=25								
ARCES	**ARCESS Array B**	**92.69**	**340**	P		**P**		**23 02 21.4**	**-0.7**
	comp=Z,4.3nm,0.8s,mb4.5,baz=86,slow=6.1,SNR=8.8								
FINES	**FINESS Array B**	**93.46**	**331**	P		**P**		**23 02 24.4**	**-1.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=3.8,SNR=7.8								
FINES	**FINESS Array B**	**93.46**	**331**	P		**P**		**23 02 24.4**	**-1.3**
INK	**Inuvik**	**94.62**	**21**	P		**P**		**23 02 31.1**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.5,baz=326,slow=3.9,SNR=7.5								
MATP	**Matopo**	**94.81**	**250**	P		**P**		**23 02 32.4**	**-0.5**
	comp=Z,3.9nm,0.4s,mb4.9,baz=100,slow=4.8,SNR=24								
ULM	**Lac du Bonnet**	**119.59**	**28**	PKP		PKPdf		23 07 59.0	+0.9
	comp=Z,1.5nm,0.4s,baz=319,slow=6.3,SNR=5.5								
ANMO	**Albuquerque**	**121.75**	**48**	PKP		PKPdf		23 08 07.1	+4.3
	comp=Z,0.7nm,0.5s,baz=180,slow=1.4,SNR=3.7								
ANMO	**Albuquerque**	**121.75**	**48**	PKP		PKPdf		23 08 07.1	+4.3
SCHQ	**Schefferville**	**124.54**	**7**	PKP		PKPdf		23 08 10.6	+2.9
	comp=Z,3.8nm,0.6s,baz=57,slow=2.4,SNR=12								
DBIC	**Dimbokro**	**128.10**	**279**	PKP		PKPdf		23 08 18.2	+2.6
	comp=Z,6.9nm,1.1s,baz=143,slow=6.1,SNR=2.9								
DBIC	**Dimbokro**	**128.10**	**279**	PKP		PKPdf		23 08 18.2	+2.6
PLCA	**Paso Flores**	**137.62**	**164**	PKP		PKPdf		23 08 36.4	+3.7
	comp=Z,1.4nm,0.7s,baz=360,slow=8.7,SNR=4.7								
CPUP	**Villa Florida**	**153.96**	**178**	PKPbc		PKPdf		23 09 11.5	+12
	comp=Z,1.4nm,0.5s,baz=194,slow=2.6,SNR=6.6								
CPUP	**Villa Florida**	**153.96**	**178**	PKPbc		PKPdf		23 09 11.5	+12
LPAZ	**La Paz**	**160.24**	**145**	PKPab		PKPab		23 09 54.2	+2.2
	comp=Z,1.8nm,0.7s,baz=31,slow=6.3,SNR=5.9								

*NEIC **21** 22:59:25.0,30.15S×117.17E,h1km,ML3.7(AUST),After AUST.*

AUST 21 22:59:25.3,30.15S×117.17E,h0km,ML3.7,3C,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BLDU	**Ballidu**	**0.61**	**221**	*eP*		Pg		22 59 36.6	-0.8
BLDU				*eS*		Sg		22 59 44.2	-1.3
	5μm,0.6s								
BLDU				*e*	RG			22 59 48.5	
MORW	**Morawa**	**1.46**	**317**	⇑*iP*		Pn		22 59 51.3	-1.7
MORW				*iS*		Sb		23 00 10.0	-2.0
	361nm,0.3s								
MORW				*i*	RG			23 00 18.7	
KLBR	**Kellerberrin**	**1.52**	**161**	⇑*iP*		Pn		22 59 51.9	-1.9
KLBR				*eS*		Sb		23 00 12.0	-1.9
	372nm,0.2s								
KLBR				*e*	RG			23 00 22.3	
NWAO	**Narrogin (SRO)**	**2.77**	**179**	⇑*iP*		Pn		23 00 08.8	-2.9
NWAO				*e*				23 00 16.1	
NWAO				*eS*		Sn		23 00 41.6	-4.7
	284nm,0.3s								
NWAO				*e*				23 00 48.6	
NWAO				*e*	RG			23 01 06.0	
MEEK	**Meekatharra**	**3.73**	**20**	*eP*		Pn		23 00 22.1	-3.2
MEEK				*eS*		Sn		23 01 04.1	-6.4
KMBL	**Kambalda**	**4.24**	**108**	*eP*		Pn		23 00 28.3	-4.2
KMBL				*eS*		Sn		23 01 14.2	-9.2
	498nm,0.4s								
RKGY	**Rocky Gully**	**4.45**	**182**	*eP*		Pn		23 00 32.2	-3.4
RKGY				*eS*		Sn		23 01 24.4	-4.4
	12nm,0.1s								
MBWA	**Marble Bar**	**9.25**	**15**	*eP*		P		23 01 34.3	-8.6
MBWA				*eS*		Sn		23 03 13.3	-16
FORT	**Forrest**	**9.42**	**97**	*eP*		P		23 01 39.5	-5.8
FORT				*eS*		Sn		23 03 19.5	-14
	66nm,0.5s								
FORT	**Forrest**	**9.42**	**97**	*eP*		P		23 01 39.5	-5.8
	66nm,0.5s								
FORT				*eS*		Sn		23 03 19.5	-14
FITZ	**Fitzroy Crossi**	**14.26**	**35**	*eP*		P		23 02 43.7	-7.1
	12nm,0.6s								
FITZ				*eS*		S		23 05 11.1	-20
WB2	**Warramunga Arr**	**18.57**	**61**	*eP*		P		23 03 39.3	-6.4
WB2				*eS*		S		23 06 50.3	-20

*GUC **21** 23:13:41.4±0.4,23.04S×66.44W,h255km±12km,ML3.5*
*IDC **21** 23:13:44.4±3.5,22.24S×65.85W,h272km±29km, mb1 3.1/3,mb1mx2.9/14,mbtmp3.7/3,Error ellipse: s-maj=66.1km s-min=21.4km az=47.0*

ISC 21 23:13:40.6±1.2,22.70S±0.08×66.4W±0.2,h285km±28km, n8,σ1§15/11,3C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LVC	**Limon Verde**	**2.32**	**272**	⇑*iP*		**P**		**23 14 29.5**	**+0.3**
LVC				*iS*		**S**		**23 15 06.3**	**-0.7**
LVC					AMP			23 15 08.8	
	comp=N,88nm,0.4s								
CEN1	**Los Morros**	**3.57**	**258**	⇑*iP*		**P**		**23 14 43.7**	**+1.9**
CEN1				*iS*		**S**		**23 15 31.2**	**+1.8**
ANCH	**Antofagasta**	**3.82**	**254**	⇑*iP*		**P**		**23 14 44.9**	**+0.4**
ANCH				*iS*		**S**		**23 15 32.7**	**-1.6**
CPN1	**Cerro Paranal**	**4.14**	**242**	*iS*		**S**		**23 15 39.7**	**-1.1**
LPAZ	**La Paz**	**6.58**	**345**	P		**P**		**23 15 17.3**	**0.0**
	comp=N,0.5nm,0.3s,baz=167,slow=14,SNR=13								
LPAZ				S		**S**		**23 16 32.9**	**-0.2**
	comp=N,0.2nm,0.3s,baz=270,slow=18,SNR=11								
CPUP	**Villa Florida**	**9.02**	**115**	P		**P**		**23 15 47.5**	**+0.1**
	comp=N,0.4nm,0.3s,baz=253,slow=20,SNR=7.5								
BDFB	**Brasilia**	**18.72**	**71**	P		**P**		**23 17 36.8**	**-3.7**
	comp=N,0.2nm,0.3s,baz=238,slow=9.5,SNR=3.1								
MKAR	**Makanchi Array**	**145.17**	**39**	PKP		PKPdf		23 32 47.8	+3.8
	comp=N,0.6nm,0.8s,baz=297,slow=3.2,SNR=4.2								

*NEIC **21** 23:36:21.5±0.7,11.98N×40.32E,h10km,mb4.4/17,Error ellipse: s-maj=14.4km s-min=8.9km az=170.0*
*DHMR **21** 23:36:22.7±0.3,12.65N×40.42E,h2km±2km,mb5.0*
*CSEM **21** 23:36:23.5±0.4,12.20N×40.48E,h30km,mb4.4/16,Error ellipse: s-maj=13.9km s-min=4.9km az=157.0*
*IDC **21** 23:36:28.6±1.2,13.14N×40.65E,mb4.1/10,mb1 4.2/11, mb1mx4.1/19,mbtmp4.0/11,ML3.6/1,MS3.7/5,Ms1 3.7/5, ms1mx3.4/28,Error ellipse: s-maj=29.5km s-min=22.2km az=126.0*

ISC 21 23:36:22.9±3.8,12.3N±0.1×40.43E±0.06,h17km±28km, n54,σ1§21/58,mb4.2/27,MS3.7/4,4D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
UDYN	**Al 'Udayn**	**3.83**	**64**	⇓*eP*		**Pn**		**23 37 23.7**	**+1.3**
UDYN				*iS*		**Sn**		**23 38 11.3**	**+3.9**
UDYN	**Al 'Udayn**	**3.83**	**64**	*iP*		**Pn**		**23 37 24.2**	**+1.8**
UDYN				*iS*		**Sn**		**23 38 05.1**	**-2.3**
HAJJ	**Hajjah**	**4.57**	**42**	⇓*eP*		**Pn**		**23 37 31.9**	**-1.0**
HAJJ				*iS*		**Sn**		**23 38 25.9**	**-0.4**
HAJJ	**Hajjah**	**4.57**	**42**	*iP*		**Pn**		**23 37 34.7**	**+1.8**
HAJJ				*iS*		**Sn**		**23 38 24.1**	**-2.2**
BDHA	**Al Bayda'**	**5.28**	**71**	⇓*eP*		**Pn**		**23 37 41.4**	**-1.5**
BDHA					AMb	AMB		23 37 43.9	
	comp=Z,86nm,1.1s								
BDHA				*iS*		**Sn**		**23 38 43.1**	**-1.0**
BDHA	**Al Bayda'**	**5.28**	**71**	*iP*		**Pn**		**23 37 42.2**	**-0.7**
BDHA				*iS*		**Sn**		**23 38 39.9**	**-4.1**
BDHA	**Al Bayda'**	**5.28**	**71**	⇓*eP*		**Pn**		**23 37 41.4**	**-1.5**
	comp=Z,43nm,1.1s								
BDHA				*iS*		**Sn**		**23 38 43.1**	**-0.9**
KMBO	**Kilima Mbogo**	**13.71**	**194**	LR		LR		23 46 12.4	
	comp=Z,108nm,18.1s,baz=74,slow=40								
ASF	**Jabal al Asfar**	**20.05**	**351**	P		**P**		**23 40 56.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=148,slow=7.6,SNR=3.3								

ADEN	**Aden**	**4.40**	**87**	⇓	*e*P		**Pn**	**23 50 19.1**	**+2.1**
ADEN					*i* S		**Sn**	**23 51 13.4**	**+4.5**
BDHA	**Al Bayda'**	**5.14**	**74**	*i*	P		**Pn**	**23 50 27.4**	**0.0**
BDHA					AMb		AMB	23 50 27.8	
	comp=Z,6.5nm,0.3s								
BDHA					*i* S		**Sn**	**23 51 28.4**	**+0.8**
BDHA	**Al Bayda'**	**5.14**	**74**	*i*	P		**Pn**	**23 50 27.4**	**0.0**
BDHA					*i* S		**Sn**	**23 51 32.6**	**+5.0**
BDHA	**Al Bayda'**	**5.14**	**74**	*i*	P		**Pn**	**23 50 27.4**	**0.0**
	comp=Z,3.2nm,0.3s								
BDHA					*i* S		**Sn**	**23 51 28.4**	**+0.9**
MUKL	**Al Mukalla**	**8.53**	**76**	*i*	P		**P**	**23 51 13.7**	**-1.3**
MUKL					*i* S		**Sn**	**23 52 51.5**	**-0.8**
MUKL	**Al Mukalla**	**8.53**	**76**	*i*	P		**P**	**23 51 13.7**	**-1.3**
MUKL					*i* S		**Sn**	**23 52 54.7**	**+2.4**
KMBO	**Kilima Mbogo**	**14.01**	**193**		Pn		**P**	**23 52 30.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=214,slow=23,SNR=2.3								
KMBO					Lg			23 56 26.5	
	comp=Z,0.1nm,0.3s,baz=93,slow=19,SNR=4.4								
KMBO					LR		LR	23 57 12.0	
	comp=Z,639nm,20.9s,baz=312,slow=34								
KMBO	**Kilima Mbogo**	**14.01**	**193**		Pn		**P**	**23 52 30.0**	**+0.4**
KMBO					Lg			23 56 26.5	
KMBO					LR		LR	23 57 12.0	
ARQ	**Araqi**	**18.61**	**53**	⇑	P		**P**	**23 53 26.6**	**-1.6**
BSY	**Bisya**	**18.84**	**55**	⇑	P		**P**	**23 53 29.8**	**-1.2**
	SNR=12								
BSYO	**Bisya**	**18.86**	**55**		P		**P**	**23 53 29.8**	**-1.5**
	SNR=12								
ASHO	**Ashiyiah**	**19.01**	**49**	⇑	P		**P**	**23 53 33.8**	**+0.8**
	SNR=8.2								
HOQ	**Hoqain**	**19.35**	**53**	⇑	P		**P**	**23 53 36.0**	**-1.0**
JMDO	**Jabal Madar**	**19.40**	**58**	⇑	P		**P**	**23 53 38.1**	**+0.6**
SMDO	**Samad**	**19.68**	**56**	⇑	P		**P**	**23 53 39.9**	**-0.8**
	SNR=8.5								
ASF	**Jabal al Asfar**	**19.75**	**351**		P		**P**	**23 53 43.6**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=184,slow=17,SNR=2.7								
ASF					LR		LR	00 00 23.2	
	comp=Z,521nm,19.1s,baz=43,slow=34								
BIDO	**Bidbid**	**19.96**	**55**	⇑	P		**P**	**23 53 44.0**	**+0.1**
WBK	**Wadi Bani Khal**	**20.22**	**58**	⇓	P		**P**	**23 53 45.5**	**-1.1**
	SNR=7.0								
BHD	**Baghdad**	**20.88**	**9**	*ex*			x	23 53 52.0	
MSL	**Mosul**	**23.70**	**5**	*ex*			x	23 54 45.0	
MALT	**Malatya**	**25.67**	**356**	*eP*			**P**	**23 54 43.1**	**+2.8**
	comp=Z,3.4nm,0.8s,mb3.9								
IDI	**Anoyia**	**26.63**	**331**		LR		LR	00 05 15.7	
	comp=Z,443nm,19.7s,MS4.0,baz=20,slow=36								
BRTR	**Keskin Array B**	**27.68**	**349**		P		**P**	**23 55 00.8**	**+2.1**
	comp=Z,0.7nm,0.7s,mb3.4,baz=38,slow=34,SNR=5.7								
KIV	**Kislovodsk**	**31.30**	**3**	*eP*			**P**	**23 55 31.9**	**+0.8**
KIV	**Kislovodsk**	**31.30**	**3**	*eP*			**P**	**23 55 31.9**	**+0.9**
AKASG	**Malin Array Be**	**39.09**	**349**		P		**P**	**23 56 37.0**	**-0.5**
	comp=Z,1.9nm,0.8s,mb3.9,baz=171,slow=7.0,SNR=9.3								
AKASG	**Malin Array Be**	**39.09**	**349**		P		**P**	**23 56 37.0**	**-0.5**
PSZ	**Piszkesteto**	**39.18**	**338**	*eP*			**P**	**23 56 39.1**	**+0.8**
	comp=Z,5.3nm,1.0s,mb4.2								
PSZ	**Piszkesteto**	**39.18**	**338**	*eP*			**P**	**23 56 39.1**	**+0.8**
	comp=Z,5.3nm,1.0s,mb4.2								
KWP	**Kalwaria**	**39.72**	**342**	*eP*			**P**	**23 56 42.7**	**-0.1**
KWP	**Kalwaria**	**39.72**	**342**	*eP*			**P**	**23 56 42.7**	**-0.1**
GERES	**GERESS Array B**	**42.40**	**334**		P		**P**	**23 57 04.8**	**0.0**
	comp=Z,1.6nm,0.7s,mb3.7,baz=127,slow=6.7,SNR=10								
KHC	**Kasperske Hory**	**42.67**	**334**	*eP*			**P**	**23 57 06.5**	**-0.5**
MBDF	**Montbardon**	**43.03**	**325**	*eP*			**P**	**23 57 10.9**	**+0.8**
	comp=Z,16nm,0.8s,mb4.5								
LPG	**La Plagne**	**43.52**	**325**	*eP*			**P**	**23 57 13.1**	**-0.9**
ORIF	**Oris-en-Rattie**	**43.66**	**324**	*eP*			**P**	**23 57 15.1**	**0.0**
	comp=Z,4.1nm,0.6s,mb4.0								
ORIF					*e*R				
	comp=Z,250nm,21.5s								
LASF	**Ste Croix**	**44.36**	**322**	*eP*			**P**	**23 57 20.8**	**0.0**
	comp=Z,8.2nm,1.0s,mb4.1								
CABF	**La Chapelle**	**44.57**	**326**	*eP*			**P**	**23 57 21.5**	**-1.0**
MOX	**Moxa**	**44.64**	**334**	*eP*			**P**	**23 57 20.0**	**-3.0**
HINF	**Hinteralfeld**	**44.93**	**328**	*eP*			**P**	**23 57 24.8**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.2								
DBIC	**Dimbokro**	**45.03**	**267**		P		**P**	**23 57 26.7**	**0.0**
	comp=Z,3.4nm,0.6s,mb4.3,baz=59,slow=10,SNR=7.9								
DBIC	**Dimbokro**	**45.03**	**267**		P		**P**	**23 57 26.7**	**0.0**
HAU	**Haudompre**	**45.31**	**328**	*eP*			**P**	**23 57 27.8**	**-0.6**
HAU					*e*R				
	comp=Z,133nm,21.5s								
MDT	**Midelt**	**45.79**	**304**		P		**P**	**23 57 33.6**	**+1.2**
	comp=Z,2.3nm,0.9s,mb4.1,baz=107,slow=13,SNR=5.4								
SMF	**Signal de Mont**	**45.83**	**325**	*eP*			**P**	**23 57 31.8**	**-0.7**
	comp=Z,12nm,1.0s,mb4.5								
ARU	**Arti**	**45.91**	**14**	*eP*			**P**	**23 57 33.5**	**+0.5**
ARU	**Arti**	**45.91**	**14**	*eP*			**P**	**23 57 33.5**	**+0.5**
BGF	**Bois d'Agland**	**46.34**	**324**	*eP*			**P**	**23 57 36.3**	**-0.2**
ETSF	**Etsaut**	**46.52**	**318**	*eP*			**P**	**23 57 38.9**	**+0.9**
	comp=Z,11nm,0.8s,mb4.5								
LFF	**La Frestale**	**46.70**	**321**	*eP*			**P**	**23 57 39.8**	**+0.4**
	comp=Z,15nm,0.9s,mb4.6								
BVAR	**Borovoye Array**	**46.85**	**24**		P		**P**	**23 57 40.6**	**+0.1**
	comp=Z,1.3nm,0.7s,mb3.9,baz=207,slow=6.6,SNR=12								
SJPF	**Ste Jean**	**47.05**	**318**	*eP*			**P**	**23 57 43.1**	**+0.9**
	comp=Z,16nm,1.1s,mb4.6								
ESDC	**Sonseca Array**	**47.48**	**313**		P		**P**	**23 57 43.4**	**-2.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=127,slow=6.1,SNR=5.4								
MKAR	**Makanchi Array**	**48.90**	**37**		P		**P**	**23 57 56.4**	**-0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=238,slow=6.2,SNR=14								
MKAR	**Makanchi Array**	**48.90**	**37**		P		**P**	**23 57 56.4**	**-0.1**
FLN	**La Foliniere**	**49.43**	**325**	*eP*			**P**	**23 58 00.2**	**-0.4**
FLN					*e*R				
	comp=Z,112nm,21.8s								
FINES	**FINESS Array B**	**49.87**	**351**		P		**P**	**23 58 04.1**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=297,slow=13,SNR=3.7								
NOA	**NORSAR Array B**	**52.85**	**343**		P		**P**	**23 58 25.7**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=151,slow=6.9,SNR=3.1								
ZAL	**Zalesovo**	**54.00**	**31**		P		**P**	**23 58 34.7**	**-0.2**
	comp=Z,1.2nm,0.3s,mb4.3,baz=276,slow=1.5,SNR=4.2								
ZAL	**Zalesovo**	**54.00**	**31**		P		**P**	**23 58 34.7**	**-0.2**
SONM	**Songino Array**	**64.62**	**43**		P		**P**	**23 59 48.8**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=250,slow=6.3,SNR=9.1								
JMIC	**Jan Mayen**	**65.50**	**344**		LR		LR	00 30 22.2	
	comp=Z,126nm,18.5s,MS4.2,baz=102,slow=38								

IDC 21 23:50:39.9±33.0, 1.34N×96.91E, mb3.9/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=657.5km s-min=124.7km az=169.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**47.03**	**346**	P		P	23 59 13.2	-1.8
	0.9nm,0.7s,baz=163,slow=8.7,SNR=9.8							
SONM	**Songino Array**	**47.03**	**9**	P		P	23 59 13.2	-1.8
	1.1nm,0.8s,baz=191,slow=9.7,SNR=7.4							
ZAL	**Zalesovo**	**53.36**	**351**	P		P	00 00 00.9	-2.4
	1.8nm,0.3s,baz=88,slow=1.9,SNR=3.4							
BVAR	**Borovoye Array**	**56.02**	**341**	P		P	00 00 20.2	-2.5
	0.5nm,0.5s,baz=136,slow=9.1,SNR=4.2							

IDC ***22*** *00:07:19.8±0.5, 16.76S×172.63W, mb4.8/19, mb1 4.9/19, mb1mx4.9/20, mbtmp4.8/19, ML5.8/1, MS5.4/20, Ms1 5.4/20, ms1mx5.3/25, Error ellipse: s-maj=19.7km s-min=13.7km az=140.0*

BJI ***22*** *00:07:21.3, 16.70S×172.70W, h18km, mB6.0, mb5.4, Ms5.7, Msz5.4*

NEIC ***22*** *00:07:21.3±0.1, 16.67S×172.66W, h10km, mb5.3/49, MS5.7/122, MW5.8, Error ellipse: s-maj=7.8km s-min=4.2km az=129.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^17 Nm; Mrr 0.84; Mθθ -0.04; Mφφ -0.80; Mrθ 1.41; Mrφ -0.33; Mθφ 6.65; Best double couple: Mw6.9×10^17 NP1:φs 211°, δ4°, λ 109°. NP2:φs 12°, δ86°, λ89°. Principal axes: T 6.83, Plg49°, Azm281°; N .06, Plg1°, Azm12°; P -6.89, Plg41°, Azm103°;*

HRVD ***22*** *00:07:21.3±0.1, 16.88S×172.14W, h14km, MW5.7/69, Centroid moment Tensor Solution. LP body waves: s65,c148; Mantle waves: s69,c231; Half duration: 1s8 Moment tensor: Scale 10^17 Nm; Mrr 3.87±.04; Mθθ 0.37±.04; Mφφ -4.24±.04; Mrθ 0.72±.10; Mrφ -0.14±.04; Mθφ 2.45±.09; Best double couple: Mw4.798×10^17 NP1:φs 173°, δ30°, λ75°. NP2:φs 10°, δ61°, λ98°. Principal axes: T 4.653, Plg72°, Azm300°; N .288, Plg7°, Azm186°; P -4.943, Plg16°, Azm94°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***22*** *00:07:22.1±2.4, 16.71S×172.93W, h10km, mb5.4/26,*

MS5.6/33 Error ellipse: s-maj=10.8km s-min=8.1km az=77.1

ISC 22 00:07:20.2±0.2, 16.77S±0.04×172.58W±0.04, h12km, h12km±2.0km: pP-P, n445, σ1s 21/197, mb5.2/78, MS5.6/152, 26C-4D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.94**	**15**	Pn		**Pn**	**00 08 02.3**	**-5.3**
	73nm,0.3s,baz=47,slow=3.4,SNR=25							
AFI				Sn		**Sn**	**00 08 35.1**	**-8.1**
	190nm,0.3s,baz=338,slow=18,SNR=8.8							
AFI				LR		LR	00 09 15.3	
	comp=Z,52μm,18.1s,baz=204,slow=39							
AFI	**Afiamalu**	**2.94**	**15**	*e*Pn		**Pn**	**00 08 02.0**	**-5.6**
RAO	**Raoul Island**	**13.36**	**201**	Pn		**P**	**00 10 31.1**	**-1.1**
	45nm,0.3s,baz=270,slow=20,SNR=2.5							
RAO				Sn		**S**	**00 12 48.8**	**-13**
	48nm,0.3s,baz=117,slow=23,SNR=4.1							
DZM	**Mont Dzumac**	**20.47**	**252**	*e*P		**P**	**00 11 55.7**	**-4.9**
DZM	**Mont Dzumac**	**20.47**	**252**	P		**P**	**00 11 57.5**	**-3.1**
	12nm,0.8s,baz=69,slow=19,SNR=6.4							
DZM				LR		LR	00 17 56.5	
	comp=Z,9μm,18.5s,MS5.2,baz=79,slow=31							
DZM	**Mont Dzumac**	**20.47**	**252**	*e*P		**P**	**00 11 55.6**	**-4.9**
PPT	**Papeete**	**21.99**	**95**	*e*LR		LR	00 17 06.2	
	23μm,27.5s,baz=258							
PPT	**Papeete**	**21.99**	**95**	P		**P**	**00 12 18.1**	**+2.1**
	60nm,0.9s,mb5.0,baz=337,slow=8.8,SNR=2.7							
PPT				LR		LR	00 19 29.6	
	comp=Z,12μm,19.5s,MS5.3,baz=295,slow=33							
OUZ	**Omahuta**	**22.14**	**211**	*e*P*		**P**	**00 12 18.3**	**+0.9**
OUZ	**Omahuta**	**22.14**	**211**	*e*P		**P**	**00 12 18.3**	**+0.9**
TVO	**Taravao**	**22.30**	**96**	*e*P		**P**	**00 12 18.3**	**-0.7**
	692nm,1.5s,mb5.9							
WCZ	**Waipu Caves**	**22.36**	**209**	*e*P*		**P**	**00 12 20.9**	**+1.4**
WCZ	**Waipu Caves**	**22.36**	**209**	*e*P		**P**	**00 12 20.9**	**+1.3**
KUZ	**Kuaotunu**	**22.44**	**205**	*e*P*		**P**	**00 12 20.8**	**+0.5**
KUZ	**Kuaotunu**	**22.44**	**205**	*e*P		**P**	**00 12 20.8**	**+0.4**
TBI	**Tubuai**	**22.66**	**111**	eLQ			00 16 48.4	
TBI	**Tubuai**	**22.66**	**111**	*e*P		**P**	**00 12 22.1**	**-0.6**
	1000nm,1.4s,mb6.0							
TBI				*e*LR		LR	00 17 30.4	
	24μm,29.0s,baz=283							
URZ	**Urewera**	**23.25**	**201**	P		**P**	**00 12 28.8**	**+0.4**
	81nm,0.6s,mb5.3,baz=323,slow=1.5,SNR=29							
URZ				S		**S**	**00 16 31.2**	**-4.8**
	4.9nm,0.6s,baz=167,slow=20,SNR=2.8							
PMOR	**Pomariorio Ree**	**23.80**	**89**	*e*P		**P**	**00 12 33.1**	**-0.8**
	318nm,1.4s,mb5.5							
HIZ	**Hauiti**	**24.31**	**204**	*e*P*		**P**	**00 12 41.5**	**+2.9**
HIZ	**Hauiti**	**24.31**	**204**	*e*P		**P**	**00 12 41.5**	**+2.9**
QRZ	**Quartz Range**	**27.22**	**205**	*e*P*		**P**	**00 13 06.8**	**+1.0**
QRZ	**Quartz Range**	**27.22**	**205**	*e*P		**P**	**00 13 06.8**	**+1.0**
HNR	**Honiara**	**27.71**	**282**	LR		LR	00 22 26.2	
	comp=Z,23μm,20.7s,MS5.8,baz=112,slow=33							
HNR	**Honiara**	**27.71**	**282**	PFAKE			00 13 20.0	+9.4
HNR				LR		LR		
	comp=Z,20μm,22.0s,MS5.7							
RPZ	**Rata Peaks**	**30.24**	**204**	P		**P**	**00 13 35.7**	**+2.7**
	comp=Z,11nm,0.4s,mb4.9,baz=359,slow=2.7,SNR=9.1							
RPZ				LR		LR	00 24 01.1	
	comp=Z,6μm,18.2s,MS5.3,baz=18,slow=33							
KWAJ	**Kwajalein Atol**	**32.08**	**321**	PFAKE			00 14 00.0	+11
KWAJ				LR		LR		
	comp=Z,2μm,19.0s,MS4.8							
TAOE	**Nuku Hiva Isla**	**32.55**	**80**	*e*LR		LR	00 21 53.2	
	comp=Z,34μm,27.9s,baz=256							
ARMA	**Armidale**	**35.34**	**241**	*e*P		**P**	**00 14 16.3**	**-1.2**
RKT	**Rikitea**	**35.84**	**106**	*e*P		**P**	**00 14 21.1**	**-0.7**
	comp=Z,339nm,1.3s,mb6.1							
RKT				eLQ			00 22 19.9	
RKT	**Rikitea**	**35.84**	**106**	*e*PP		PP	00 15 35.1	-7.9
RKT				*e*S		**S**	**00 19 57.5**	**-0.9**
RKT				*e*LR		LR	00 23 34.0	
	comp=Z,13μm,29.0s,baz=279							
CNB	**Canberra Magne**	**38.57**	**234**	*e*P		**P**	**00 14 43.9**	**-0.7**
	comp=Z,23nm,0.9s,mb4.9							
CTA	**Charters Tower**	**39.13**	**259**	*e*P		**P**	**00 14 49.3**	**-0.2**
	comp=Z,5.5nm,0.8s,mb4.3							
CTA				*i* S		**S**	**00 21 02.7**	**+14**
CTA	**Charters Tower**	**39.13**	**259**	P		**P**	**00 14 49.0**	**-0.4**
	comp=Z,5.1nm,0.6s,mb4.4,baz=97,slow=8.2,SNR=8.2							
CTA				LR		LR	00 28 32.4	
	comp=Z,5μm,21.3s,MS5.3,baz=88,slow=33							
CTA	**Charters Tower**	**39.13**	**259**	*e*P		**P**	**00 14 49.3**	**-0.2**
CTA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
CTAO	**Charters Tower**	**39.13**	**259**	*e*P		**P**	**00 14 48.3**	**-1.2**
	comp=Z,30nm,1.2s,mb4.9							
CTAO				LR		LR		
	comp=Z,5μm,21.0s,MS5.3							
CTAO	**Charters Tower**	**39.13**	**259**	*e*P		**P**	**00 14 48.3**	**-1.2**
CTAO				pmax		pmax		
	comp=Z,29nm,1.2s,mb4.9							
CTAO				MLR		MLR		
	comp=Z,5μm,21.0s,MS5.3							
PMG	**Port Moresby**	**39.84**	**275**	PFAKE			00 15 10.0	+15
PMG				LR		LR		
	comp=Z,3μm,21.0s,MS5.1							
POHA	**Pohakuloa**	**39.97**	**25**	PFAKE			00 15 10.0	+14
POHA				LR		LR		
	comp=Z,49μm,20.0s,MS6.3							
KIP	**Kipapa**	**40.55**	**21**	PFAKE			00 15 10.0	+8.8
KIP				LR		LR		
	comp=Z,4μm,19.0s,MS5.3							
KIP	**Kipapa**	**40.55**	**21**	*e*P		**P**	**00 15 04.0**	**+2.8**
TOO	**Toolangi**	**42.24**	**232**	*e*P		**P**	**00 15 15.6**	**+0.7**
	comp=Z,18nm,0.9s,mb4.7							
TOO	**Toolangi**	**42.24**	**232**	*e*P		**P**	**00 15 15.6**	**+0.7**
TOO				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.7							
TAU	**Tasmania Unive**	**42.87**	**224**	*e*P		**P**	**00 15 19.1**	**-0.9**
	comp=Z,73nm,1.4s,mb5.2							
TAU				LR		LR		
	comp=Z,5μm,19.0s,MS5.4							
TAU	**Tasmania Unive**	**42.87**	**224**	*e*P		**P**	**00 15 19.1**	**-0.9**
TAU				pmax		pmax		
	comp=Z,73nm,1.4s,mb5.2							
TAU				MLR		MLR		
	comp=Z,5μm,19.0s,MS5.4							
STKA	**Stephens Creek**	**44.06**	**241**	*e*P		**P**	**00 15 26.7**	**-3.1**
	comp=Z,26nm,1.5s,mb4.7							
STKA				*e*S		**S**	**00 22 00.0**	**-1.4**
STKA	**Stephens Creek**	**44.06**	**241**	P		**P**	**00 15 27.3**	**-2.5**
	comp=Z,20nm,1.1s,mb4.8,baz=81,slow=7.9,SNR=10							
STKA				LR		LR	00 32 27.8	
	comp=Z,7μm,18.2s,MS5.6,baz=77,slow=34							
MIDW	**Midway**	**44.95**	**354**	PFAKE			00 15 50.0	+13
MIDW				LR		LR		
	comp=Z,9μm,20.0s,MS5.7							
WB2	**Warramunga Arr**	**50.30**	**258**	*e*P		**P**	**00 16 16.3**	**-2.7**
WRAB	**Tennant Creek**	**50.31**	**258**	*e*P		**P**	**00 16 16.0**	**-3.0**
	comp=Z,63nm,1.4s,mb5.5							
WRAB				LR		LR		
	comp=Z,3μm,19.0s,MS5.3							
WRAB	**Tennant Creek**	**50.31**	**258**	*e*P		**P**	**00 16 16.0**	**-3.0**
WRAB				pmax		pmax		
	comp=Z,63nm,1.4s,mb5.5							
WRAB				MLR		MLR		
	comp=Z,3μm,19.0s,MS5.3							
WRA	**Warramunga Arr**	**50.32**	**258**	P		**P**	**00 16 15.4**	**-3.7**
	comp=Z,8.3nm,0.8s,mb4.8,baz=93,slow=7.1,SNR=26							
ASPA	**Alice Springs**	**50.46**	**253**	*e*P		**P**	**00 16 17.4**	**-2.7**
GUMO	**Guam**	**51.74**	**303**	LR		LR	00 37 31.0	
	comp=Z,2μm,19.1s,MS5.1,baz=309,slow=35							
GUMO	**Guam**	**51.74**	**303**	P		**P**	**00 16 27.1**	**-2.7**
KAKA	**Kakadu**	**53.19**	**266**	*e*P		**P**	**00 16 59.6**	**+19**
	comp=Z,7.8nm,0.8s,mb4.7							
FORT	**Forrest**	**55.52**	**244**	*e*P		**P**	**00 16 55.6**	**-2.0**
	comp=Z,32nm,0.6s,mb5.5							
DRV	**Dumont d'Urvil**	**58.59**	**200**	P		**P**	**00 17 18.0**	**-0.9**
DRV				S		**S**	**00 25 25.0**	**+4.2**
DRV				L			00 32 00.0	
FITZ	**Fitzroy Crossi**	**58.71**	**259**	*e*P		**P**	**00 17 19.4**	**-1.0**
	comp=Z,10nm,1.1s,mb4.8							
FITZ	**Fitzroy Crossi**	**58.71**	**259**	P		**P**	**00 17 19.8**	**-0.6**
	comp=Z,6.1nm,0.6s,mb4.8,baz=112,slow=0.9,SNR=7.0							
FITZ				LR		LR	00 41 03.8	
	comp=Z,3μm,18.2s,MS5.5,baz=97,slow=34							
SBA	**Scott Base**	**61.96**	**185**	⇑	*e*P	**P**	**00 17 42.1**	**+0.1**
	comp=Z,38nm,1.0s,mb5.5							
SBA				LR		LR		
	comp=Z,3μm,19.0s,MS5.5							
SBA	**Scott Base**	**61.96**	**185**	⇑	*e*P	**P**	**00 17 42.1**	**+0.2**
SBA				pmax		pmax		
	comp=Z,37nm,1.0s,mb5.5							
SBA				MLR		MLR		
	comp=Z,3μm,19.0s,MS5.5							
VNDA	**Vanda**	**62.11**	**186**	*e*P		**P**	**00 17 42.1**	**-0.8**
	comp=Z,24nm,1.1s,mb5.2							
VNDA				LR		LR		
	comp=Z,1μm,19.0s,MS5.1							
VNDA	**Vanda**	**62.11**	**186**	*e*P		**P**	**00 17 42.1**	**-0.8**
VNDA				pmax		pmax		
	comp=Z,24nm,1.1s							
VNDA				MLR		MLR		
	comp=Z,1μm,19.0s							
MBWA	**Marble Bar**	**63.75**	**254**	*e*P		**P**	**00 17 53.0**	**-1.5**
	comp=Z,48nm,1.4s,mb5.3							
MBWA				LR		LR		
	comp=Z,9μm,20.0s,MS5.9							
KLBR	**Kellerberrin**	**64.31**	**243**	*e*P		**P**	**00 17 56.0**	**-2.0**
	comp=Z,73nm,1.3s,mb5.5							
NWAO	**Narrogin (SRO)**	**64.65**	**241**	P		**P**	**00 18 00.1**	**-0.1**
	comp=Z,13nm,0.9s,mb5.0,baz=90,slow=9.2,SNR=5.2							
NWAO	**Narrogin (SRO)**	**64.65**	**241**	*e*P		**P**	**00 17 58.7**	**-1.5**
	comp=Z,86nm,1.5s,mb5.6							
NWAO				LR		LR		
	comp=Z,3μm,19.0s,MS5.5							
NWAO	**Narrogin (SRO)**	**64.65**	**241**	P		**P**	**00 18 00.1**	**-0.1**
NWAO				pmax		pmax		
	comp=Z,13nm,0.9s							
DAV	**Davao City (W)**	**65.57**	**286**	PFAKE			00 18 20.0	+14
DAV				LR		LR		
	comp=Z,957nm,20.0s,MS5.0							
CASY	**Casey**	**69.51**	**205**	*e*P		**P**	**00 18 30.6**	**+0.3**
CASY				*i* S		S	00 27 39.8	+3.6
SMY	**Shemya**	**70.16**	**351**	PFAKE			00 18 50.0	+16
SMY				LR		LR		
	comp=Z,13μm,20.0s,MS6.2							
MJAR	**Matsushiro Arr**	**70.48**	**320**	P		**P**	**00 18 36.2**	**-0.6**
	comp=Z,3.9nm,0.8s,mb4.4,baz=170,slow=5.1,SNR=5.7							
MJAR				LR		LR	00 45 32.7	
	comp=Z,1μm,19.9s,MS5.2,baz=145,slow=33							
MAJO	**Matsushiro**	**70.49**	**320**	⇑	*e*P	**P**	**00 18 35.6**	**-1.2**
	comp=Z,112nm,2.0s,mb5.5							
MAJO				LR		LR		
	comp=Z,2μm,20.0s,MS5.3							
MAJO	**Matsushiro**	**70.49**	**320**	⇑	*e*P	**P**	**00 18 35.6**	**-1.2**
MAJO				pmax		pmax		
	comp=Z,112nm,2.0s,mb5.5							
MAJO				MLR		MLR		
	comp=Z,2μm,20.0s,MS5.3							
MAT	**Matsushiro**	**70.49**	**320**	P		**P**	**00 18 36.9**	**+0.1**
MAT				*e*S		S	00 27 47.0	-1.3
MAT	**Matsushiro**	**70.49**	**320**	*e*P		**P**	**00 18 37.0**	**+0.2**
	comp=Z,147nm,2.1s,mb5.5							
MAT				*e*S		S	00 27 48.0	-0.3
MAT				LR		LR		
	comp=Z,2μm,21.0s,MS5.3							
MAT	**Matsushiro**	**70.49**	**320**	*e*P		**P**	**00 18 37.0**	**+0.2**
MAT				*e*S		S	00 27 48.0	-0.3
MAT				pmax		pmax		
	comp=Z,147nm,2.1s,mb5.5							
MAT				MLR		MLR		
	comp=Z,2μm,21.0s,MS5.3							
UNV	**Unalaska Valle**	**70.52**	**4**	PFAKE			00 18 50.0	+13
UNV				LR		LR		
	comp=Z,12μm,19.0s,MS6.2							
SNCC	**San Nicolas Is**	**70.97**	**45**	PFAKE			00 18 50.0	+10
SNCC				LR		LR		
	comp=Z,7μm,19.0s,MS5.9							
YUK	**Yuzh-Kuril'sk**	**71.43**	**330**	*e*P		**P**	**00 18 42.0**	**-0.4**
YUK				*e*			00 19 05.0	
YUK				*e*S		S	00 28 05.0	+5.9
YUK				*e*

TATO				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
MIR	Mirnyy	76.51	204	eP	P	00 19 12.0	+0.6
MIR				eS	S	00 28 59.0	+3.5
MIR				pmax	pmax		
	comp=E,400nm,4.0s						
MIR				smax			
	comp=N,2µm,14.0s						
MIR				MLR	MLR		
	comp=N,990nm,16.0s,MS5.3						
MIR				MLR	MLR		
	comp=E,690nm,16.0s,MS5.3						
MIR				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.6						
TUC	Tucson	76.65	50	PFAKE		00 19 20.0	+7.1
TUC				LR	LR		
	comp=Z,9µm,20.0s,MS6.1						
WVOR	Wild Horse Val	77.01	38	PFAKE		00 19 30.0	+15
WVOR				LR	LR		
	comp=Z,12µm,19.0s,MS6.2						
WUAZ	Wupatki	77.84	47	eP	P	00 19 19.7	+0.3
	comp=Z,69nm,1.6s,mb5.3						
WUAZ				LR	LR		
	comp=Z,5µm,19.0s,MS5.8						
KSM	Kuching	78.10	275	eP	P	00 19 22.4	+1.2
PGC	Sidney	78.39	31	eP	P	00 19 22.3	+0.2
	comp=Z,44nm,0.9s,mb5.4						
INCN	Inchon	78.57	315	PFAKE		00 19 30.0	+6.7
INCN				LR	LR		
	comp=Z,439nm,22.0s,MS4.8						
MSU	Marysvale	78.84	44	eP	P	00 19 25.5	+0.6
HAWA	Hanford	78.95	34	eP	P	00 19 24.5	-0.7
	comp=Z,4.0nm,1.6s,mb4.1						
HAWA				LR	LR		
	comp=Z,621nm,19.0s,MS5.0						
SLKM	Skilak Lake	79.09	11	P	P	00 19 26.1	+0.4
DUG	Dugway	79.33	42	eP	P	00 19 25.8	-1.6
	comp=Z,14nm,1.1s,mb4.8						
DUG				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
DUG	Dugway	79.33	42	eP	P	00 19 25.8	-1.6
DUG				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
DUG				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.7						
SPU	Mount Spurr	79.40	10	eP	P	00 19 27.3	-0.1
SPU				e		00 19 34.3	
SSE	Sheshan	79.41	307	P	P	00 19 28.5	+0.4
SSE				AP	pP	00 19 31.8	-0.2
SSE				PP	PP	00 22 27.3	-2.7
SSE				S	S	00 29 28.3	+0.9
SSE				XS		00 29 34.1	
SSE				SS	SS	00 34 34.8	-2.9
SSE				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,680nm,10.4s						
SSE				LR	LR		
	comp=N,772nm,21.3s,MS5.1						
SSE				LR	LR		
	comp=E,572nm,21.3s,MS5.1						
SSE				LR	LR		
	comp=Z,943nm,21.4s,MS5.1						
FIB	Fire Island	79.71	11	PFAKE		00 19 40.0	+11
FIB				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
SIT	Sitka	79.83	20	PFAKE		00 19 40.0	+10
SIT				LR	LR		
	comp=Z,6µm,19.0s,MS5.9						
TMUT	Trail Mountain	79.90	44	eP	P	00 19 31.4	+0.8
HVU	Hansel Valley	80.20	41	eP	P	00 19 31.8	-0.3
	comp=Z,15nm,1.0s,mb4.9						
HVU	Hansel Valley	80.20	41	eP	P	00 19 31.8	-0.3
HVU				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
CTU	Camp Tracy	80.28	42	P	P	00 19 29.5	-3.0
PMR	Palmer	80.30	11	eP	P	00 19 31.7	-0.5
	comp=Z,5.5nm,0.6s,mb4.7						
PMR				LR	LR		
	comp=Z,4µm,18.0s,MS5.8						
PMR	Palmer	80.30	11	eP	P	00 19 31.7	-0.5
PMR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
PMR				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.8						
MNTX	Cornudas Mount	80.41	53	PFAKE		00 19 40.0	+6.6
MNTX				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
DAU	Daniels Canyon	80.45	43	eP	P	00 19 35.6	+2.1
DIV	Divide	80.54	13	eP	P	00 19 31.8	-1.7
	comp=Z,108nm,1.0s,mb5.7						
DIV				LR	LR		
	comp=Z,11µm,20.0s,MS6.2						
MDJ	Mudanjiang	80.58	322	P	P	00 19 35.4	+1.3
MDJ				AP	pP	00 19 38.3	+0.3
MDJ				XP	sP	00 19 39.8	+0.5
MDJ				PP	PP	00 22 38.3	-1.4
MDJ				S	S	00 29 42.4	+3.1
MDJ				XS		00 29 48.8	
MDJ				SS	SS	00 34 58.4	+3.4
MDJ				AMB	AMB		
	comp=Z,26nm,1.6s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,903nm,8.0s						
MDJ				LR	LR		
	comp=N,759nm,16.4s,MS5.5						
MDJ				LR	LR		
	comp=E,2µm,17.4s,MS5.5						
MDJ				LR	LR		
	comp=Z,2µm,17.4s,MS5.6						
MDJ	Mudanjiang	80.58	322	eP	P	00 19 31.9	-2.2
	comp=Z,27nm,1.2s,mb5.0						
MDJ				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
SML	Sawmill	80.64	11	eP	P	00 19 31.6	-2.4
LTX	Lajitas	80.72	56	eP	P	00 19 36.9	+1.8
	comp=Z,67nm,1.6s,mb5.3						
LTX				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
LTX	Lajitas	80.72	56	eP	P	00 19 36.9	+1.8
LTX				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.3						
LTX				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.6						
TXAR	Lajitas Array	80.72	56	P	P	00 19 36.2	+1.1
	comp=Z,7.7nm,1.1s,mb4.5,baz=233,slow=6.3,SNR=29						
TXAR				LR	LR	00 49 26.7	
	comp=Z,2µm,18.9s,MS5.5,baz=205,slow=31						
TXAR	Lajitas Array	80.72	56	P	P	00 19 36.2	+1.1
TXAR				LR	LR	00 49 26.7	
TCUT	Toone Canyon	80.72	42	eP	P	00 19 34.5	-0.4
HWUT	Hardware Ranch	80.88	42	P	P	00 19 32.6	-3.1
	comp=Z,62nm,1.9s,mb5.2						
HWUT				LR	LR		
	comp=Z,6µm,19.0s,MS6.0						
PV10	Paradox Valley	80.89	45	eP	P	00 19 37.4	+1.5
ANMO	Albuquerque	81.08	49	eP	P	00 19 37.6	+0.8
	comp=Z,50nm,1.7s,mb5.2						
ANMO				LR	LR		
	comp=Z,527nm,19.0s,MS4.9						
ANMO	Albuquerque	81.08	49	eP	P	00 19 37.6	+0.7
ANMO				pmax	pmax		
	comp=Z,50nm,1.7s						
ANMO				MLR	MLR		
	comp=Z,527nm,19.0s						
PV01	Paradox Valley	81.09	46	eP	P	00 19 36.9	0.0
NEW	Newport	81.39	34	eP	P	00 19 36.8	-1.4
	comp=Z,24nm,1.5s,mb4.9						
NEW				LR	LR		
	comp=Z,7µm,19.0s,MS6.0						
NEW	Newport	81.39	34	eP	P	00 19 36.8	-1.4
NEW				pmax	pmax		
	comp=Z,23nm,1.5s						
NEW				MLR	MLR		
	comp=Z,7µm,19.0s						
NJ2	Nanjing	81.61	307	eP	P	00 19 42.9	+3.2
NJ2				PP	PP	00 22 52.0	+3.4
NJ2				AMB	AMB		
	comp=Z,380nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,910nm,8.3s						
NJ2				LR	LR		
	comp=N,2µm,14.4s						
NJ2				LR	LR		
	comp=E,3µm,29.3s						
NJ2				LR	LR		
	comp=Z,670nm,11.9s,MS5.2						
MA2	Magadan	81.70	342	PFAKE		00 19 50.0	+10
MA2				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
MA2	Magadan	81.70	342	eP	P	00 19 38.5	-1.1
MA2				e		00 29 51.2	
AHID	Auburn Hatcher	81.78	41	PFAKE		00 19 50.0	+10
AHID				LR	LR		
	comp=Z,5µm,19.0s,MS5.9						
MCMT	McKenzie Canyo	81.82	38	eP	P	00 19 40.7	+0.1
RRI2	Red Ridge	81.95	40	P	P	00 19 40.5	-0.8
	comp=Z,16nm,1.0s,mb4.9						
KLR	Kul'dur	82.09	327	d iP	P	00 19 40.0	-1.8
KLR				e		00 22 45.5	
KLR				eS	S	00 30 00.0	+5.2
KLR				eSS	SS	00 35 17.5	0.0
KLR				pmax	pmax		
	comp=Z,230nm,3.0s						
KLR				pmax	pmax		
	comp=Z,1µm,8.5s						
KLR				smax			
	comp=N,2µm,11.5s						
KLR				smax			
	comp=E,2µm,11.5s						
TNA	Tin City	82.15	2	PFAKE		00 19 50.0	+8.2
TNA				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
REDW	Red Top Meadow	82.25	40	eP	P	00 19 43.0	+0.2
	comp=Z,55nm,1.5s,mb5.3						
TPAW	Teton Pass	82.26	40	eP	P	00 19 43.0	+0.1
	comp=Z,18nm,1.0s,mb5.0						
DLMT	Dillon	82.27	38	eP	P	00 19 42.9	+0.1
SNOW	Snow King Moun	82.36	40	eP	P	00 19 43.6	+0.2
	comp=Z,26nm,1.1s,mb5.1						
PAYG	Puerto Ayora	82.42	88	PFAKE		00 20 00.0	+16
PAYG				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
IMW	Indian Meadow	82.48	40	eP	P	00 19 43.5	-0.5
	comp=Z,47nm,1.5s,mb5.2						
LOHW	Long Hollow	82.53	40	eP	P	00 19 44.3	+0.1
	comp=Z,49nm,1.6s,mb5.3						
THY	Trims Highway	82.61	12	eP	P	00 19 43.6	-0.7
PMSA	Palmer Station	82.61	156	eP	P	00 19 44.1	-0.1
	comp=Z,20nm,1.2s,mb5.0						
PMSA				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
CN2	Changchun	82.63	320	eP	P	00 19 45.8	+1.0
CN2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.3						
CN2				AMB	AMB		
	comp=Z,1µm,6.0s						
CN2				LR	LR		
	comp=N,860nm,18.0s,MS5.5						
CN2				LR	LR		
	comp=E,2µm,18.0s,MS5.5						
CN2				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
QLMT	Earthquake Lak	82.67	39	eP	P	00 19 45.4	+0.4
DLBC	Dease Lake	82.68	21	eP	P	00 19 43.8	-0.9
SMCO	Snowmass	82.69	46	eP	P	00 19 45.1	0.0
DL2	Dalian	82.69	314	⇑P	P	00 19 47.5	+2.3
DL2				AP	pP	00 19 56.6	+7.5
DL2				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
DL2				AMB	AMB		
	comp=Z,730nm,6.8s						
DL2				LR	LR		
	comp=N,500nm,16.8s,MS5.1						
DL2				LR	LR		
	comp=E,540nm,15.4s,MS5.1						
DL2				LR	LR		
	comp=Z,710nm,14.1s,MS5.2						
FLWY	Flagg Ranch	82.72	40	eP	P	00 19 45.6	+0.4
CHMT	Chamberlain Mo	82.74	36	eP	P	00 19 44.0	-1.3
PDAR	Pinedale Array	82.75	41	P	P	00 19 45.2	-0.2
	comp=Z,8.1nm,0.8s,mb4.8,baz=203,slow=3.6,SNR=38						
PDAR				PP	PP	00 22 52.6	-4.8
	comp=Z,0.5nm,0.9s,baz=241,slow=9.3,SNR=2.9						
PDAR				LR	LR	00 52 42.3	
	comp=Z,4µm,18.3s,MS5.8,baz=248,slow=33						
SNY	Shenyang	82.81	317	⇑P	P	00 19 47.1	+1.4
SNY				PP	PP	00 22 54.4	-3.6
SNY				SKS	SKS	00 30 07.9	-0.3
SNY				AMB	AMB		
	comp=Z,990nm,9.5s						
SNY				LR	LR		
	comp=N,230nm,12.5s						
SNY				LR	LR		
	comp=E,600nm,17.9s						
SNY				LR	LR		
	comp=Z,860nm,15.1s,MS5.2						
YMR	Madison River	82.87	39	eP	P	00 19 46.8	+0.8
	comp=Z,77nm,1.4s,mb5.5						
SDCO	Great Sand Dun	83.05	47	eP	P	00 19 46.9	-0.1
	comp=Z,38nm,1.6s,mb5.2						
SDCO				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
YNR	Norris Junctio	83.07	39	P	P	00 19 47.2	+0.2
LKWY	Lake	83.16	40	eP	P	00 19 48.8	+1.3
	comp=Z,49nm,1.3s,mb5.4						
LKWY				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
LKWY	Lake	83.16	40	eP	P	00 19 48.8	+1.3
LKWY				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.4						
LKWY				MLR	MLR		
	comp=Z,4µm,19.0s,MS5.8						
HRY	Holter Researc	83.45	37	eP	P	00 19 48.7	-0.2
ILAR	Eielson Array	83.63	11	P	P	00 19 48.2	-1.1
	comp=Z,8.4nm,0.8s,mb4.9,baz=237,slow=4.2,SNR=25						
RWWY	Rawlins	83.73	43	eP	P	00 19 49.7	-0.8
	comp=Z,52nm,1.2s,mb5.5						
ISCO	Idaho Springs	83.91	45	eP	P	00 19 49.9	-1.5
	comp=Z,30nm,1.6s,mb5.2						
ISCO				LR	LR		
	comp=Z,5µm,19.0s,MS5.9						
ISCO	Idaho Springs	83.91	45	eP	P	00 19 49.9	-1.6
ISCO				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.2						
ISCO				MLR	MLR		
	comp=Z,5µm,19.0s,MS5.9						
SEY	Seymchan	84.03	345	i P	P	00 19 51.7	+0.2
SEY				eS	S	00 30 13.1	-1.0
SEY				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
SEY				smax			
	comp=N,2µm,13.4s						
SEY				smax			
	comp=E,3µm,14.0s						
QIZ	Qiongzhong	84.14	292	P	P	00 19 54.4	+1.3
QIZ				XP	sP	00 19 58.4	+0.1
QIZ				S	S	00 30 15.5	-0.7
QIZ				AMB	AMB		
	comp=Z,25nm,3.0s						
QIZ				LR	LR		
	comp=N,570nm,19.3s,MS5.2						
QIZ				LR	LR		
	comp=E,909nm,20.3s,MS5.2						
QIZ				LR	LR		
	comp=Z,1µm,19.6s,MS5.4						
QIZ	Qiongzhong	84.14	292	PFAKE		00 20 00.0	+6.9
QIZ				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
WHN	Wuhan	84.51	304	eP	P	00 19 59.5	+4.8
TIA	Tai'an	84.69	310	⇑P	P	00 19 56.6	+1.2
TIA				S	S	00 30 22.1	+0.9
TIA				AMB	AMB		
	comp=Z,1µm,10.0s						
TIA				LR	LR		
	comp=N,362nm,14.0s,MS5.3						
TIA				LR	LR		
	comp=E,726nm,14.0s,MS5.3						
PHWY	Pilot Hill	84.71	44	P	P	00 19 56.2	+0.8
BILL	Bilibino	85.96	352	PFAKE		00 20 10.0	+9.0
BILL				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
BILL	Bilibino	85.96	352	⇑iP	P	00 20 03.4	+2.4
BILL				pmax	pmax		
	comp=Z,45nm,1.9s,mb5.4						
EDM	Edmonton	86.23	31	eP	P	00 20 02.0	-0.7
MAW	Mawson	86.76	198	eS	S	00 30 38.3	-2.2
MAW	Mawson	86.76	198	P	P	00 20 05.1	+0.1
	comp=Z,26nm,1.1s,mb5.4,baz=114,slow=5.6,SNR=26						
MAW				LR	LR	00 57 53.2	
	comp=Z,6µm,18.7s,MS6.0,baz=114,slow=35						
MAW	Mawson	86.76	198	eP	P	00 20 05.4	+0.5
	comp=Z,20nm,1.0s,mb5.3						
MAW				eS	S	00 30 38.3	-2.2
MAW	Mawson	86.76	198	eP	P	00 20 05.4	+0.5
MAW				eS	S	00 30 38.3	-2.2
MAW				pmax	pmax		
	comp=Z,20nm,1.0s						
CBKS	Cedar Bluff	87.60	48	PFAKE		00 20 20.0	+10
CBKS				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
PLCA	Paso Flores	88.02	132	P	P	00 20 11.8	+0.1
	comp=Z,9.0nm,0.9s,mb5.0,baz=241,slow=4.7,SNR=12						
PLCA				LR	LR	00 52 37.8	
	comp=Z,3µm,18.5s,MS5.7,baz=235,slow=31						
PLCA	Paso Flores	88.02	132	eP	P	00 20 12.1	+0.5
	comp=Z,13nm,1.0s,mb5.1						
PLCA				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
ENH	Enshi	88.31	302	eP	P	00 20 14.3	+1.0
	comp=Z,95nm,1.5s,mb5.8						
ENH				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
KULM	Kulim	88.43	276	eP	P	00 20 15.0	+0.8
TIY	Taiyuan	88.73	310	⇑P	P	00 20 14.0	-1.1
TIY				LR	LR		
	comp=N,732nm,16.0s						
HIA	Hailar	88.75	323	eP	P	00 20 14.4	-0.6
HIA				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
DGMT	Dagmar	88.80	38	eP	P	00 20 14.9	-0.3
	comp=Z,29nm,1.3s,mb5.4						
DGMT				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
SNG	Songkhla	89.00	278	P	P	00 20 19.0	+2.0
GYA	Guiyang	89.38	298	⇑iP	P	00 20 20.1	+1.6
GYA				AP	pP	00 20 29.4	+7.0
GYA				AMB	AMB		
	comp=Z,50nm,1.6s,mb5.6						
GYA				AMB	AMB		
	comp=Z,960nm,6.3s						
GYA				LR	LR		
	comp=N,960nm,17.0s,MS5.5						
GYA				LR	LR		
	comp=E,1µm,17.4s,MS5.5						
GYA				LR	LR		
	comp=Z,2µm,18.0s,MS5.5						
INK	Inuvik	89.40	14	P	P	00 20 16.6	-1.0
	comp=Z,8.8nm,1.1s,mb5.0,baz=208,slow=8.9,SNR=9.5						
INK	Inuvik	89.40	14	eP	P	00 20 15.9	-1.7
	comp=Z,35nm,1.4s,mb5.5						
INK	Inuvik	89.40	14	P	P	00 20 16.6	-1.0
INK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLNS	Chul'man	89.81	331	eP	P	00 20 20.4	+0.7
CLNS				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.4						
CLNS				pmax	pmax		
	comp=N,16nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
CLNS				MLR	MLR		
	comp=N,2µm,17.0s,MS5.6						
CLNS				MLR	MLR		
	comp=E,2µm,22.0s,MS5.6						
XAN	Xi'an	90.06	306	P	P	00 20 23.0	+1.5
XAN				SKS	SKS	00 30 55.4	-0.3
XAN				AMB	AMB		
	comp=Z,697nm,9.8s						
XAN				LR	LR		
	comp=N,250nm,16.9s,MS5.2						
XAN				LR	LR		
	comp=E,712nm,18.4s,MS5.2						
XAN				LR	LR		
	comp=Z,1µm,19.7s,MS5.3						
HHC	Hu-ho-hao-te	90.53	313	⇑P	P	00 20 25.3	+1.8
HHC				AP	pP	00 20 29.6	+2.1
HHC				XP	sP	00 20 32.1	+3.4
HHC				PP	PP	00 24 02.8	+2.0
HHC				SKS	SKS	00 30 54.3	-4.0
HHC				S	S	00 31 19.3	+3.2
HHC				XS		00 31 27.5	
HHC				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.4						
HHC				AMB	AMB		
	comp=Z,727nm,3.8s						
HHC				LR	LR		
	comp=N,276nm,14.3s,MS5.3						
HHC				LR	LR		
	comp=E,868nm,19.0s,MS5.3						
HHC				LR	LR		
	comp=Z,1µm,16.6s,MS5.3						
MIAR	Mount Ida	90.63	54	PFAKE		00 20 40.0	+16
MIAR				LR	LR		
	comp=Z,30nm,20.0s						
YAK	Yakutsk	90.67	337	PFAKE		00 20 30.0	+6.4
YAK				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
YAK	Yakutsk	90.67	337	eP	P	00 20 20.7	-2.9
YAK				eS	S	00 31 09.6	-7.2
YAK				pmax	pmax		
	comp=Z,125nm,9.1s						
YAK				pmax	pmax		
	comp=N,63nm,11.6s						
YAK				pmax	pmax		
	comp=E,37nm,11.3s						
YAK				smax			
	comp=N,455nm,12.1s						
YAK				smax			
	comp=Z,219nm,14.9s						
YAK				smax			
	comp=E,207nm,12.2s						
YKA	Yellowknife Ar	91.03	23	P	P	00 20 25.9	+0.7
	comp=E,4.0nm,0.9s,mb4.8,baz=233,slow=4.2,SNR=13						
YKA				LR	LR	00 56 40.5	
	comp=E,1µm,18.5s,MS5.4,baz=260,slow=32						
YKA	Yellowknife Ar	91.03	23	P	P	00 20 25.9	+0.7
YKA				LR	LR	00 56 40.5	
EFI	East Falkland	91.33	145	PFAKE		00 20 40.0	+13
EFI				LR	LR		
	comp=Z,594nm,19.0s,MS5.0						
SYO	Syowa Base	91.42	191	⇓P	P	00 20 25.2	-1.7
SYO	Syowa Base	91.42	191	⇓PcP	PcP	00 20 27.5	-0.7
VNA3	Neumayer Olymp	91.43	175	e	P	00 20 29.7	+2.8
VNA3	Neumayer Olymp	91.43	175	e	Px	00 21 05.3	
VNA3	Neumayer Olymp	91.43	175	e	Px	00 21 08.9	
VNA3	Neumayer Olymp	91.43	175	⇑iP	P	00 20 27.3	+0.4
VNA3				e	pP	00 20 29.7	-1.2
VNA3				e		00 21 05.3	
VNA3				e		00 21 08.9	
SNAA	Sanae	91.51	177	e	P	00 20 29.8	+2.5
SNAA	Sanae	91.51	177	e	Px	00 21 06.1	
SNAA	Sanae	91.51	177	⇑iP	P	00 20 27.5	+0.2
SNAA				e	pP	00 20 29.8	-1.4
SNAA				e		00 21 06.1	
VNA2	Neumayer--Watz	91.94	175	e	P	00 20 32.6	+3.3
VNA2	Neumayer--Watz	91.94	175	e	Px	00 21 09.0	
VNA2	Neumayer--Watz	91.94	175	e	Px	00 21 11.7	
VNA2	Neumayer--Watz	91.94	175	⇑iP	P	00 20 30.0	+0.7
VNA2				e	pP	00 20 32.6	-0.6
VNA2				e		00 21 09.0	
VNA2				e		00 21 11.7	
NNA	Nana	91.98	103	PFAKE		00 20 40.0	+9.3
NNA				LR	LR		
	comp=Z,385nm,19.0s,MS4.9						
VNA1	Neumayer--Stat	92.13	175	e	P	00 20 33.7	+3.5
VNA1	Neumayer--Stat	92.13	175	e	Px	00 21 09.7	
VNA1	Neumayer--Stat	92.13	175	⇑iP	P	00 20 31.2	+1.0
VNA1				e	pP	00 20 33.7	-0.4
VNA1				e		00 21 09.7	
KMI	Kunming	92.33	295	P	P	00 20 33.6	+1.5
KMI				AP	pP	00 20 37.3	+1.2
KMI				PP	PP	00 24 13.9	-1.6
KMI				PPP	PPP	00 26 18.6	+1.8
KMI				SKS	SKS	00 31 01.3	-7.7
KMI				S	S	00 31 33.5	+1.1
KMI				XS		00 31 46.8	
KMI				SSS	SSS	00 41 20.3	-4.7
KMI				AMB	AMB		
	comp=Z,28nm,2.0s,mb5.2						
KMI				AMB	AMB		
	comp=Z,684nm,4.0s						
KMI				LR	LR		
	comp=N,603nm,15.6s,MS5.5						
KMI				LR	LR		

comp=E,1µm,16.9s,MS5.5
KMI LR LR
comp=Z,2µm,18.2s,MS5.5
FFC Flin Flon 92.80 33 PFAKE 00 20 40.0 +6.4
FFC LR LR
comp=Z,1µm,19.0s,MS5.3
CD2 Chengdu 93.19 301 P **P** **00 20 37.8 +1.8**
CD2 AMB AMB
comp=Z,290nm,8.9s
CD2 LR LR
comp=N,620nm,15.0s
CD2 LR LR
comp=Z,550nm,16.8s,MS5.1
CCM Cathedral Cave 93.56 51 PFAKE 00 20 50.0 +13
CCM LR LR
comp=Z,5µm,20.0s,MS6.0
ULM Lac du Bonnet 94.49 39 P **P** **00 20 41.3 -0.2**
comp=Z,2.1nm,0.7s,mb4.7,baz=286,slow=9.7,SNR=3.4
ULM LR LR 00 59 40.8
comp=Z,5µm,18.7s,MS6.0,baz=256,slow=33
LZH Lanzhou 94.67 306 *eP* **P** **00 20 44.3 +1.7**
LZH AP pP 00 20 51.1 +4.5
LZH XP sP 00 20 56.0 +8.1
LZH SKS SKS 00 31 20.0 -1.7
LZH *eS* S 00 31 49.0 -3.3
LZH XS 00 32 02.0
LZH AMB AMB
comp=Z,240nm,1.6s
LZH AMB AMB
comp=Z,580nm,4.0s
LZH LR LR
comp=E,800nm,16.0s
LZH LR LR
comp=Z,2µm,18.2s
PLAL Pickwick Lake 95.06 55 PFAKE 00 21 00.0 +16
PLAL LR LR
comp=Z,3µm,19.0s,MS5.7
TRQA Tornquist 95.17 132 *eP* **P** **00 20 43.2 -1.7**
comp=Z,4.7nm,1.0s,mb4.9
TRQA LR LR
comp=Z,3µm,19.0s,MS5.8
WVT Waverly 95.58 54 PFAKE 00 21 00.0 +13
WVT LR LR
comp=Z,3µm,19.0s,MS5.8
LVC Limon Verde 95.71 116 PFAKE 00 21 00.0 +12
LVC LR LR
comp=Z,3µm,19.0s,MS5.8
SONM Songino Array 96.38 318 PP PP 00 24 41.8 -4.7
comp=Z,0.8nm,1.0s,baz=98,slow=10,SNR=4.0
SONM LR LR 01 06 27.4
comp=Z,1µm,18.4s,MS5.4,baz=110,slow=37
TIXI Tiksi 96.52 344 PFAKE 00 21 00.0 +10
TIXI LR LR
comp=Z,2µm,19.0s,MS5.5
TIXI Tiksi 96.52 344 *eP* **P** **00 20 51.6 +1.3**
TIXI *e* 00 32 08.5
TIXI *eSP* SP 00 33 29.4 -3.7
TIXI *e* 00 34 15.3
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
TIXI MLR MLR
comp=Z,1µm,17.0s,MS5.5
WCI Wyandotte Cave 97.34 52 PFAKE 00 21 10.0 +15
WCI LR LR
comp=Z,3µm,19.0s,MS5.8
GOGA Godfrey 98.32 58 PFAKE 00 21 10.0 +11
GOGA LR LR
comp=Z,1µm,19.0s,MS5.5
LPAZ La Paz 98.61 110 P **P** **00 21 02.4 +1.4**
comp=Z,1.0nm,0.8s,mb4.4,baz=224,slow=3.9,SNR=4.5
LPAZ PP PP 00 25 04.0 -0.3
comp=Z,2.1nm,1.2s,baz=218,slow=14,SNR=4.1
LPAZ LR LR 00 57 14.6
comp=Z,2µm,19.0s,MS5.5,baz=260,slow=30
GTA Gaotai 98.64 308 *eP* **P** **00 21 02.8 +2.2**
GTA AP pP 00 21 09.1 +4.5
GTA XP sP 00 21 12.1 +6.3
GTA PP PP 00 25 01.3 -2.8
GTA SKS SKS 00 31 34.8 -7.9
GTA XS 00 32 35.1
GTA AMB AMB
comp=Z,286nm,9.9s
GTA LR LR
comp=N,625nm,19.0s,MS5.4
GTA LR LR
comp=E,992nm,19.8s,MS5.4
GTA LR LR
comp=Z,1µm,19.4s,MS5.5
ROSC El Rosal 99.27 88 LR LR 00 57 09.8
comp=Z,682nm,19.7s,MS5.2,baz=174,slow=30
ACSO Alum Creek Sta 100.33 51 PFAKE 00 21 20.0 +12
ACSO LR LR
comp=Z,2µm,19.0s,MS5.7
BLA Blacksburg 101.62 55 PFAKE 00 21 30.0 +16
BLA LR LR
comp=Z,3µm,20.0s,MS5.8
ERPA Erie 102.93 50 PFAKE 00 21 30.0 +10
ERPA LR LR
comp=Z,6µm,19.0s,MS6.1
LSA Lhasa 103.44 297 PFAKE 00 21 30.0 +7.6
LSA LR LR
comp=Z,794nm,21.0s,MS5.2
SDV Santo Domingo 103.88 85 PFAKE 00 21 40.0 +15
SDV LR LR
comp=Z,1µm,19.0s,MS5.5
CPUP Villa Florida 103.90 123 PFAKE 00 21 40.0 +15
CPUP LR LR
comp=Z,3µm,19.0s,MS5.8
SAML Samuel 105.67 105 PFAKE 00 26 00.0
SAML LR LR
comp=Z,2µm,19.0s,MS5.7
NCB Newcomb 107.39 48 PFAKE 00 26 00.0
NCB LR LR
comp=Z,2µm,20.0s,MS5.7
MIV Mineville/With 107.89 48 *e*Pdif Pdif 00 21 46.8 +5.1
HRV Harvard--Oak R 109.17 50 PFAKE 00 26 00.0
HRV LR LR
comp=Z,5µm,19.0s,MS6.1
WES Weston 109.33 50 PFAKE 00 26 00.0
WES LR LR
comp=Z,6µm,20.0s,MS6.2
SJG San Juan 110.26 77 PFAKE 00 26 10.0 +14
SJG LR LR
comp=Z,2µm,19.0s,MS5.6
WVL Waterville 110.71 48 PFAKE 00 26 10.0 +14
WVL LR LR
comp=Z,12µm,22.0s,MS6.4
DGAR Diego Garcia 111.37 255 PFAKE 00 26 10.0 +12
DGAR LR LR
comp=Z,771nm,20.0s,MS5.3
EMMW East Machias 112.28 48 PFAKE 00 26 10.0 +11
EMMW LR LR
comp=Z,15µm,19.0s,MS6.6
MKAR Makanchi Array 112.34 314 PKiKP 00 25 56.9
comp=Z,1.5nm,0.8s,baz=90,slow=2.4,SNR=7.6
SCHQ Schefferville 112.59 37 PFAKE 00 26 10.0 +10
SCHQ LR LR
comp=Z,6µm,19.0s,MS6.2
BBSR BB Station 113.68 62 PFAKE 00 26 10.0 +7.7
BBSR LR LR
comp=Z,1µm,19.0s,MS5.5
KURK Kurchatov 114.68 319 *e*PKPdf PKPdf 00 26 00.6 -3.1
KURK LR LR
comp=Z,347nm,19.0s,MS5.0
KBS Kingsbay 117.77 359 PFAKE 00 26 20.0 +11
KBS LR LR
comp=Z,1µm,20.0s,MS5.6
AAK Ala-Archa 117.96 310 PFAKE 00 26 20.0 +10
AAK LR LR
comp=Z,272nm,21.0s,MS4.8
BVAR Borovoye Array 119.44 322 PKP PKPdf 00 26 09.8 -3.1
comp=Z,2.5nm,0.7s,baz=73,slow=1.3,SNR=15
BRVK Borovoye 119.50 322 *e*PKPdf PKPdf 00 26 11.5 -1.4
BRVK LR LR
comp=Z,366nm,20.0s,MS5.0
ARU Arti 124.91 328 *e*PKPdf PKPdf 00 26 21.7 -1.7
ARU LR LR
comp=Z,271nm,19.0s,MS4.9
ARU Arti 124.91 328 *e*PKIKP PKPdf 00 26 21.7 -1.7
ARU MLR MLR
comp=Z,271nm,19.0s,MS4.9
KEV Kevo 125.66 352 PFAKE 00 26 30.0 +5.5
KEV LR LR
comp=Z,2µm,20.0s,MS5.9
MSEY Mahe Island 127.95 250 PFAKE 00 26 40.0 +10
MSEY LR LR
comp=Z,398nm,20.0s,MS5.1
BORG Borgarnes 128.26 15 PFAKE 00 26 40.0 +10
BORG LR LR
comp=Z,651nm,21.0s,MS5.3
SUR Sutherland 129.48 195 PFAKE 00 26 40.0 +7.1
SUR LR LR
comp=Z,470nm,19.0s,MS5.2
RCBR Riachuelo 131.64 114 PFAKE 00 26 50.0 +13
RCBR LR LR
comp=Z,2µm,19.0s,MS5.8
FINES FINESS Array B 133.44 348 PKP PKPdf 00 26 37.9 -1.6
comp=Z,1.1nm,0.7s,baz=135,slow=3.9,SNR=3.9
LBTB Lobatse 134.85 204 PFAKE 00 26 50.0 +6.8
LBTB LR LR
comp=Z,2µm,19.0s,MS5.8
OBN Obninsk 135.67 336 PFAKE 00 26 50.0 +6.2
OBN LR LR
comp=Z,562nm,21.0s,MS5.3
KONO Kongsberg 137.15 358 PFAKE 00 27 00.0 +14
KONO LR LR
comp=Z,2µm,19.0s,MS5.8
KIV Kislovodsk 139.75 320 PFAKE 00 27 00.0 +8.4
KIV LR LR
comp=Z,266nm,19.0s,MS5.0
MUD Monsted U'grnd 140.36 358 *i* P PKPdf 00 26 47.4 -4.9
MUD *i* 00 30 17.0
MUD *i* 00 48 15.1
comp=Z,1µm,18.0s
MUD Monsted U'grnd 140.36 358 *e*P PKPdf 00 26 47.4 -4.9
MUD *i* 00 30 17.0
MUD *i* 00 48 15.1
MUD Monsted U'grnd 140.36 358 *e*PKIKP PKPdf 00 26 47.4 -4.9
MUD *i* 00 48 15.1
ESK Eskdalemuir 140.67 10 PFAKE 00 27 00.0 +7.1
ESK LR LR
comp=Z,522nm,20.0s,MS5.3
COP Copenhagen 140.97 355 *i* P PKPdf 00 27 01.5 +8.1
COP *i* 00 30 38.8
COP *i* 00 48 23.3
comp=Z,1µm,19.0s
COP Copenhagen 140.97 355 *e*P PKPdf 00 27 01.5 +8.1
COP *i* 00 30 38.8
COP *i* 00 48 23.3
COP LR LR
comp=Z,1µm,19.0s,MS5.6
COP Copenhagen 140.97 355 *e*PKIKP PKPdf 00 27 01.5 +8.1
COP *i* 00 48 23.3
COP MLR MLR
comp=Z,1µm,19.0s,MS5.6
SOC Sochi 141.76 321 *i* PKHKP 00 26 45.8
SOC *i* 00 29 55.2
SOC *e*SS SS 00 48 31.9 +2.7
SOC pmax pmax
comp=Z,9.0nm,1.1s
SOC pmax pmax
comp=N,6.0nm,0.9s
SOC pmax pmax
comp=E,10.0nm,0.8s
AKASG Malin Array Be 141.90 337 PKhKP 00 26 47.8
comp=E,0.3nm,0.3s,baz=35,slow=3.9,SNR=5.1
LSZ Lusaka 142.14 214 PFAKE 00 27 10.0 +13
LSZ LR LR
comp=Z,2µm,19.0s,MS5.9
ANN Anapa 142.37 324 *i* PKHKP 00 26 46.8
ANN pmax pmax
comp=Z,50nm,1.6s
TSUM Tsumeb 142.89 196 *e*PKPdf PKPdf 00 26 52.6 -5.2
TSUM LR LR
comp=Z,3µm,20.0s,MS6.0
MSL Mosul 142.92 309 *ex* x 00 27 12.0
BHD Baghdad 142.93 303 *ex* x 00 26 49.5
WIT Witteveen 144.03 1 *e*PKP PKPdf 00 26 54.2 -4.5
SIM Simferopol' 144.06 327 PKHKP 00 26 54.4
SIM pmax pmax
comp=Z,300nm,10.0s
CMLA Cha da Macela 144.29 48 PFAKE 00 27 10.0 +14
CMLA LR LR
comp=Z,2µm,20.0s,MS5.9
CLZ Clausthal 144.93 357 *e*PKPbc PKPbc 00 26 57.3 +0.1
KWP Kalwaria 144.96 343 *e*PKP PKPdf 00 26 57.3 -3.2
KIS Kishinev 145.04 334 *e*PKIKP PKPdf 00 26 58.0 -2.7
KIS *e* 00 30 14.0
KIS *e* 00 33 40.0
KIS MLR MLR
comp=Z,2µm,18.0s,MS5.9
KIS MLR MLR
comp=N,2µm,17.0s
OJC Ojcow 145.17 346 *e*PKP PKPdf 00 26 58.5 -2.3
CLL Collm 145.25 354 *e*PKIKP PKPdf 00 26 59.0 -2.0
comp=N,logA/T=1.3
CLL *e* 00 27 23.0
CLL *e*SS SS 00 48 58.0 -11
CLL *e*SSS SSS 00 54 48.0 +11
CLL Collm 145.25 354 *e*PKP2 PKPab 00 26 59.0 -0.5
CLL pmax pmax
comp=Z,25nm,1.2s
CLL MLR MLR
comp=Z,2µm,19.8s,MS5.8
KSP Ksiaz 145.27 350 *e*PKP PKPdf 00 26 59.2 -1.8
KSP Ksiaz 145.27 350 *e*PKP PKPdf 00 26 59.0 -2.0
KSP *e*SS SS 00 49 08.0 -0.7
KSP *e*SSS SSS 00 54 26.0 -11
KSP LR LR
comp=Z,3µm,19.4s,MS6.1
KSP Ksiaz 145.27 350 *e*PKP2 PKPab 00 26 59.0 -0.6
KSP *e*SS SS 00 49 08.0 -0.7
KSP MLR MLR
comp=Z,3µm,19.4s,MS6.1
MALT Malatya 145.38 314 *e*PKPdf PKPdf 00 27 01.0 -0.6
STHS Stebnicka Huta 145.55 344 *e*PKP PKPdf 00 27 00.7 -0.8
BRG Berggiesshubel 145.57 353 *e*PKP PKPdf 00 26 59.7 -1.8
BRG *e* 00 27 28.0
BRG *e* 00 30 14.9
BRG *e* 00 40 55.0
BRG SS SS 00 49 03.0 -9.1
BRG LR LR
comp=Z,1µm,16.1s,MS5.8
BRG Berggiesshubel 145.57 353 *e*PKP2 PKPab 00 26 59.7 -1.0
BRG MLR MLR
comp=Z,1µm,16.1s,MS5.8
KMBO Kilima Mbogo 145.62 242 PKPbc PKPbc 00 27 02.3 +2.1
comp=Z,32nm,1.1s,baz=101,slow=3.2,SNR=31
UPC Upice 145.64 350 *e*PKP PKPdf 00 27 00.1 -1.5
RAC Raciborz 145.65 348 *e*PKPdf PKPdf 00 27 01.4 -0.3
RAC MLR MLR 01 38 08.0
comp=Z,2µm,20.1s,MS5.8
KOLS Kolonicke sedl 145.71 343 *e*PKP PKPdf 00 27 00.4 -1.4
DPC Dobruska-Polom 145.74 350 *e*PKP PKPdf 00 27 00.6 -1.2
DPC AMS AMS 01 30 10.0
comp=Z,1µm,17.6s
NIE Niedzica 145.79 345⇑ *e*PKP PKPdf 00 27 00.1 -1.8
PVCC Panska Ves 145.83 352 *e*PKP PKPdf 00 27 00.8 -1.2
OKC Ostrava-Krasne 145.89 348 *e*PKP PKPdf 00 27 01.2 -0.9
OKC AMS AMS 01 31 30.0
comp=Z,1µm,20.1s
MENF Mencas 146.03 6 PKP PKPdf 00 27 03.7 +1.4
MOX Moxa 146.04 355 *i* P PKPbc 00 27 01.2 +1.1
MOX pPKP 00 27 31.0
MOX L 00 35 55.0
MOX Moxa 146.04 355 *e*PKP PKPdf 00 27 01.2 -1.1
MOX *e*pPKP 00 27 31.2
MOX LR LR
comp=Z,1µm,20.0s,MS5.7
MOX Moxa 146.04 355 *e*PKIKP PKPdf 00 27 01.2 -1.1
MOX MLR MLR
comp=Z,1µm,20.0s,MS5.7
HGN Heimansgroeve 146.06 2 *e*PKP PKPdf 00 27 01.7 -0.7
comp=Z,116nm,2.7s
HGN *e*pPKP 00 27 29.1
HGN *e*PP PP 00 31 00.7 +35
HGN *ex* x 00 37 43.2
MORC Moravsky Berou 146.07 348 *e*PKPdf PKPdf 00 27 01.7 -0.7
PRU Pruhonice 146.37 352 *e*PKP PKPdf 00 27 02.7 -0.2
PRU AMS AMS 01 36 10.0
comp=Z,2µm,18.7s
NKC Novy Kostel 146.37 354 *e*PKP PKPdf 00 27 02.5 -0.4
KECS Kecovo 146.61 344 *e*PKP PKPdf 00 27 03.8 +0.4
TNS Taunus Mts 146.62 359 *e*PKPbc PKPbc 00 27 02.9 +1.5
TNS *e*pPKPbc 00 27 31.6
GIVF Givet 146.68 3 *e*PKP1 PKPbc 00 27 03.7 +2.1
BAIF Baives 146.69 4 *e*PKP1 PKPbc 00 27 03.9 +2.3
VRAC Vranov 146.70 349 *e*PKP PKPdf 00 27 03.7 +0.2
TREC Trest 146.90 350 *e*PKP PKPdf 00 27 04.3 +0.5
TREC AMS AMS 01 36 10.0
comp=Z,3µm,17.9s
ABH Alteburg 146.97 360 PKP PKPdf 00 27 05.3 +1.4
VYHS Vyhne 147.01 346 *e*PKP PKPdf 00 27 04.8 +0.8
GRA1 Grafenberg Arr 147.01 355 *e*PKPbc PKPdf 00 27 04.5 +0.5
GRF Grafenberg Arr 147.01 355 *e*PKP PKPdf 00 27 04.5 +0.5
WLF Walferdange 147.17 2 *e*PKPdf PKPdf 00 27 03.5 -0.7
TOD Tromm 147.22 358 PKP PKPdf 00 27 05.0 +0.7
PSZ Piszkesteto 147.28 344⇑ *i*PKP/p PKPdf 00 27 05.2 +0.7
PSZ Piszkesteto 147.28 344 *e*PKIKP PKPdf 00 27 03.8 -0.7
SMOL Smolenice 147.29 348 *e*PKP PKPdf 00 27 05.4 +0.9
ROSF Rostrenen 147.32 13 *e*PKP1 PKPdf 00 27 05.2 +0.7
comp=Z,157nm,1.7s
KHC Kasperske Hory 147.33 353 *e*PKP PKPdf 00 27 04.9 +0.4
KHC x x 00 27 27.5
KHC AMS AMS 01 35 30.0
comp=Z,1µm,16.4s
KHC Kasperske Hory 147.33 353 *e*PKP PKPdf 00 27 04.9 +0.4
KHC *e* 00 27 27.5
KHC LR LR
comp=Z,1µm,16.4s,MS5.8
KHC Kasperske Hory 147.33 353 *e*PKIKP PKPdf 00 27 04.9 +0.4
KHC MLR MLR
comp=Z,1µm,16.4s,MS5.8
WET Wettzell 147.40 353 *e*PKPbc PKPdf 00 27 05.6 +1.0
FLN La Foliniere 147.44 10 *e*PKP1 PKPdf 00 27 05.5 +0.8
comp=Z,144nm,1.4s
FLN *e*R
comp=Z,2µm,19.5s
SGMF Saint Gilles 147.55 12 *e*PKP1 PKPdf 00 27 05.8 +0.9
comp=Z,130nm,1.4s
GEC2 GERESS Array S 147.60 352 *e*PKPbc PKPdf 00 27 06.1 +1.1
GERES GERESS Array B 147.60 352 PKPbc PKPdf 00 27 05.7 +0.8
comp=Z,3.6nm,0.8s,baz=15,slow=2.4,SNR=19
LDF La Druitiere 147.66 9 *e*PKP1 PKPdf 00 27 06.2 +1.1
comp=Z,180nm,1.6s
ZST Bratislava 147.66 348 *e*PKP PKPdf 00 27 06.4 +1.3
BR131 Keskin Array S 147.71 320 *e*PKPbc PKPdf 00 27 06.5 +1.1
BR131 LR LR
comp=Z,632nm,20.0s,MS5.4
BRTR Keskin Array B 147.71 320 PKPbc PKPdf 00 27 06.5 +1.1
comp=Z,12nm,0.8s,baz=123,slow=1.8,SNR=31
QUIF Quistinic 147.74 13 *e*PKP1 PKPdf 00 27 06.5 +1.3
comp=Z,190nm,1.7s
GRR Gorron 147.74 10 *e*PKP1 PKPdf 00 27 06.6 +1.4
comp=Z,167nm,1.5s
SRO Srobarova 147.77 346 *e*PKP PKPdf 00 27 08.0 +2.7
LANF Langenberg 147.87 360 PKP PKPdf 00 27 06.9 +1.5
STU Stuttgart 148.05 358 *e*PKPbc PKPdf 00 27 07.0 +1.3
ANTO Ankara 148.13 321 *e*PKPbc PKPdf 00 27 08.0 +1.8
ANTO LR LR
comp=Z,809nm,19.0s,MS5.5
SOP Sopron 148.26 348 *e*PKP/p PKPdf 00 27 08.5 +2.4
MEZF Maizieres J'vi 148.29 3 *e*PKP1 PKPdf 00 27 08.5 +2.4
WLS Welschbruch 148.44 0 PKP PKPdf 00 27 08.1 +1.8
CDF Champ du Feu 148.44 0 *e*PKP1 PKPdf 00 27 08.6 +2.3
MOA Molln 148.49 351⇑ *i*P PKPdf 00 27 08.9 +2.5
comp=Z,586nm,3.5s
BFO Black Forest 148.51 359 *e*PKPbc PKPdf 00 27 07.9 +1.5
BFO *ep*PKPbc 00 27 35.9
FUR Furstenfeldbru 148.53 355 *e*PKPbc PKPdf 00 27 08.0 +1.5
FUR *ep*PKPbc 00 27 36.3
THEF They Montfort 148.60 2 PKP PKPdf 00 27 11.1 +4.5
ECH Echery 148.63 0 PKP PKPdf 00 27 11.1 +4.5
HAU Haudompre 148.83 1 *e*PKP1 PKPdf 00 27 09.9 +2.9
HAU *e*R
comp=Z,2µm,18.0s
ARSA Arzberg 148.87 349⇑ *i*P PKPdf 00 27 09.6 +2.5
comp=Z,764nm,3.7s
FELD Feldberg 148.97 359 PKP PKPdf 00 27 12.3 +5.1
MOF Molkenrain 149.00 0 PKP PKPdf 00 27 12.5 +5.3
HINF Hinteralfeld 149.03 1 *e*PKP1 PKPdf 00 27 10.2 +2.9
ASF Jabal al Asfar 149.23 305 PKPbc PKPdf 00 27 11.6 +3.5
comp=Z,6.5nm,0.8s,baz=246,slow=1.3,SNR=8.8
WATA Walderalm 149.32 354⇑ *i*P PKPdf 00 27 10.7 +2.9
comp=Z,224nm,2.5s
HYF Humbligny 149.33 6 *e*PKP1 PKPdf 00 27 11.1 +3.3
MOTA Moosalm 149.36 355⇑ *i*P PKPdf 00 27 10.5 +2.7
comp=Z,244nm,2.2s
KBA Koelnbreinsper 149.38 352⇑ *i*P PKPdf 00 27 10.6 +2.7
comp=Z,474nm,4.9s
BBS Basel-Blauen 149.39 360 PKP PKPdf 00 27 13.0 +5.1
WTTA Wattenberg 149.39 354⇑ *i*P PKPdf 00 27 11.2 +3.3
comp=Z,742nm,3.6s
LOR Lormes 149.44 5 *e*PKP1 PKPdf 00 27 11.3 +3.3
comp=Z,100nm,1.4s
LOR *e*R
comp=Z,4µm,19.2s
BHL Bhannes 149.45 309 *eP* PKPdf 00 27 12.5 +4.1
SQTA Sankt Quirin 149.47 355⇑ *i*P PKPdf 00 27 11.1 +3.1
comp=Z,100nm,1.6s
DAVA Damuels 149.50 357⇑ *i*P PKPdf 00 27 11.5 +3.4
comp=Z,634nm,3.8s
LOMF Lomont 149.50 1 PKP PKPdf 00 27 09.7 +1.6
MFF Saint Martin d 149.59 10 *e*PKP1 PKPdf 00 27 11.4 +3.2
comp=Z,198nm,1.8s
SSF Saint Saulge 149.62 5 *e*PKP1 PKPdf 00 27 11.5 +3.2
comp=Z,197nm,1.7s
AVF Avril sur Loir 149.87 6 *e*PKP1 PKPdf 00 27 12.1 +3.4
comp=Z,97nm,1.6s
DOBS Dobrina 149.94 349 *e*PKPbc PKPdf 00 27 11.9 +3.1
DOBS *e* 00 27 39.0
BGF Bois d'Agland 150.05 6 *e*PKP1 PKPdf 00 27 12.9 +3.9
comp=Z,79nm,1.3s
SMF Signal de Mont 150.06 5 *e*PKP1 PKPdf 00 27 12.7 +3.7
comp=Z,127nm,1.5s
ROBS Robic 150.17 351 *e*PKPbc PKPdf 00 27 12.2 +3.1
SVIS Svilajnac 150.18 340⇑ *i*PKP PKPdf 00 27 04.6 -4.6
LJU Ljubljana 150.21 350 *e*PKPbc PKPdf 00 27 11.8 +2.6
CABF La Chapelle 150.22 2 *e*PKP1 PKPdf 00 27 13.9 +4.7
comp=Z,101nm,1.3s
TCF Toulx Ste Croi 150.25 7 *e*PKP1 PKPdf 00 27 13.0 +3.7
comp=Z,85nm,1.5s
CSS Prodhromos 150.61 313 *e*PKPbc PKPdf 00 27 14.6 +4.4
PLDF La Plantade 150.71 5 PKP PKPdf 00 27 17.0 +7.0
DIVS Divcibare 150.75 341⇓ *i*PKP PKPdf 00 27 11.1 +1.0
ISP Isparta 150.79 320 *e*PKPbc PKPdf 00 27 14.6 +4.2
PYM Petit Puy Mans 150.87 6 PKP PKPdf 00 27 14.9 +4.7
RJF Les Rejaudoux 151.12 9 *e*PKP1 PKPdf 00 27 15.1 +4.5
comp=Z,86nm,1.5s
RJF *e*R
comp=Z,2µm,18.8s
LPL La Plagne 151.33 1 *e*PKP1 PKPdf 00 27 16.9 +6.0
LPG La Plagne 151.35 1 *e*PKP1 PKPdf 00 27 17.1 +6.2
comp=Z,22nm,0.9s
LFF La Frestale 151.35 10 *e*PKP1 PKPdf 00 27 15.9 +4.9
comp=Z,52nm,1.3s
LBL Lubilhac 151.40 6 PKP PKPdf 00 27 17.0 +6.0
CAF Calviac 151.57 8 *e*PKP1 PKPdf 00 27 16.5 +5.2
comp=Z,43nm,1.4s
BNI Bardonecchia 151.79 1 *e*PKP PKPdf 00 27 12.4 +0.8
PCAB Cabril 151.81 25 *e*PKPbc PKPdf 00 27 15.8 +4.0
VIVF Saint-Julien-l 151.90 4 *e*PKP1 PKPdf 00 27 17.6 +5.8
comp=Z,47nm,1.3s
ORIF Oris-en-Rattie 151.90 2 *e*PKP1 PKPdf 00 27 17.7 +5.9
comp=Z,29nm,1.2s
ORIF *e*R
comp=Z,3µm,18.2s
MBDF Montbardon 152.12 1 *e*PKP1 PKPdf 00 27 18.0 +5.9
comp=Z,16nm,0.8s
SKO Skopje 152.15 337 *e*PKP PKPdf 00 27 18.0 +5.8
PBRG Braganca 152.24 23 *e*PKPbc PKPdf 00 27 18.2 +5.8
PVRL Vila Real 152.31 25 *e*PKPdf PKPdf 00 27 12.4 -0.1
SURF Saint Ours 152.37 1 PKP PKPab 00 27 30.4 +1.9
LASF Ste Croix 152.61 6 PKP1 PKPdf 00 27 19.3 +6.5
comp=Z,24nm,1.2s
SJPF Ste Jean 152.72 14 *e*PKP1 PKPdf 00 27 19.2 +6.2
STOF St-Etienne Org 152.82 2 PKP PKPdf 00 27 21.7 +8.6
SMRF Simiane la Rot 152.83 3 *e*PKP1 PKPdf 00 27 20.1 +7.0
comp=Z,29nm,1.0s
TOUF Mont Tournerai 152.84 0 PKP PKPdf 00 27 21.3 +8.2
SAOF Saorge 152.87 360 PKP PKPdf 00 27 21.1 +7.9
PRAF Pradon 152.98 4 PKP PKPdf 00 27 22.7 +9.4
SBF Sospel 152.99 360 *e*PKP1 PKPdf 00 27 19.2 +5.8
comp=Z,21nm,0.9s
ETSF Etsaut 153.08 13 *e*PKP1 PKPdf 00 27 19.6 +6.1
comp=Z,19nm,1.1s
MTE Manteigas 153.11 26 *e*PKPbc PKPdf 00 27 20.8 +7.2
MTE Manteigas 153.11 26 *e*LQ 01 25 09.4
MTE *e*LR LR 01 25 09.4
comp=Z,2µm,20.0s
MTE Manteigas 153.11 26 *e*PKP PKPdf 00 27 15.2 +1.6
EPF Esparros 153.13 12 *e*PKP1 PKPdf 00 27 19.8 +6.2
FRF La Foret Royal 153.28 1 *e*PKP1 PKPdf 00 27 20.1 +6.3
comp=Z,16nm,0.9s
PTOM Tomar 153.38 28 *e*PKPbc PKPdf 00 27 22.5 +8.5

BERF	**Bertagne**	**153.50**	**3**	PKP	PKPdf	00 27 23.4	+9.3
LMR	**La Mourre**	**153.51**	**1**	*e*PKP1	PKPdf	00 27 20.6	+6.5
PCBR	**Castelo Branco**	**153.61**	**26**	*e*PKPbc	PKPdf	00 27 21.6	+7.3
ESDC	**Sonseca Array**	**155.11**	**21**	PKPbc	PKPdf	00 27 23.4	+7.1
	comp=Z,0.6nm,0.7s,baz=297,slow=37,SNR=4.1						
ESLA	**Sonseca Array**	**155.11**	**21**	PFAKE		00 27 30.0	+14
ESLA				LR	LR		
	comp=Z,7μm,19.0s,MS6.5						
DBIC	**Dimbokro**	**164.35**	**128**	PFAKE		00 27 40.0	+12
DBIC				LR	LR		
	comp=Z,2μm,20.0s						

IDC ***22*** *00:11:59.9±0.7, 12.65N×122.98E, mb4.3/13, mb1 4.4/14, mb1mx4.2/22, mbtmp4.4/14, ML4.2/1, MS4.7/1, Ms1 4.7/1, ms1mx3.7/20, Error ellipse: s-maj=36.2km s-min=16.8km az=68.0*

BJI ***22*** *00:12:00.0, 12.87N×123.19E, h3km, mB4.7, mb4.6, Ms5.0, Msz4.5*

NEIC ***22*** *00:12:00.3±3.2, 12.68N×123.08E, h4km±19km, mb4.9/15, Error ellipse: s-maj=8.8km s-min=7.5km az=83.0*

NEIC Felt [II PIVS] on Burias Island and at Legaspi, Luzon.

HRVD ***22*** *00:12:00.3±1.2, 12.79N×123.09E, h30km±2km, MW4.8/28, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s28,c43; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.07±.42; Mθθ2.45±.25; Mϕϕ-1.39±.26; Mrθ-0.41±.29; Mθϕ0.88±.13; Mϕr0.03±.39; Best double couple: Mo2.145×10^16 NP1:ϕs213°,δ77°,λ-175°. NP2: ϕs122°,δ85°,λ-13°. Principal axes: T 2.683, Plg6°, Azm168°; N -1.086, Plg76°, Azm283°; P -1.607, Plg13°, Azm77°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MAN ***22*** *00:12:03.8, 12.82N×122.99E, h18km, mb5.1, ML4.1, MS4.3*

MAN INTENSITY II - BURIAS ISLAND INTENSITY II LEGASPI CITY.

ISC 22 00:12:03.6±0.9, 12.78N±0.03×123.05E±0.03, h30km±6km, h26km±1.3km:pP-P,n90,σ0≡99/94, mb4.6/35, MS4.7/4, 6C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.65**	**326**	*e*P	**Pb**	**00 12 15.9**	**-0.5**
OTRP	**Odiongan**	**1.08**	**247**	*e*P	**Pn**	**00 12 22.3**	**-0.7**
OTRP				*e*S	**Sn**	**00 12 37.6**	**+0.5**
RCP	**Roxas**	**1.25**	**194**↑	*e*P	**Pn**	**00 12 24.6**	**-0.8**
GQP	**Guinayangan**	**1.26**	**332**	*i*P	**Pn**	**00 12 25.6**	**+0.1**
GQP				*i* S	**Sn**	**00 12 43.1**	**+1.6**
KALP	**Kalibo**	**1.30**	**212**	*e*P	**Pn**	**00 12 28.1**	**+2.0**
KALP				*e*S	**Sn**	**00 12 42.5**	**-0.1**
PVCP	**Virac**	**1.35**	**53**	*e*P	**Pn**	**00 12 27.6**	**+0.8**
BOAC	**Boac**	**1.35**	**300**	*e*P	**Pn**	**00 12 26.4**	**-0.4**
BOAC				*e*S	**Sn**	**00 12 44.3**	**+0.5**
CNP	**Catarman**	**1.60**	**100**	*e*P	**Pn**	**00 12 31.6**	**+1.2**
SJMP	**San Jose**	**1.91**	**261**	*e*P	**Pn**	**00 12 34.6**	**-0.2**
PGP	**Puerto Galera**	**2.16**	**290**↑	*e*P	**Pn**	**00 12 40.0**	**+1.6**
GUIM	**Jordan**	**2.19**	**192**	*e*P	**Pn**	**00 12 41.0**	**+2.2**
POLP	**Polilio Island**	**2.21**	**331**	*e*P	**Pn**	**00 12 39.2**	**0.0**
LBPH	**Los Banos**	**2.27**	**307**	*e*P	**Pn**	**00 12 39.7**	**-0.3**
TGY	**Tagaytay City**	**2.44**	**303**↓	*e*P	**Pn**	**00 12 45.3**	**+3.0**
TGY				*i* S		00 12 56.1	
PLP	**Palo**	**2.48**	**130**	*i* P	**Pn**	**00 12 44.0**	**+1.0**
LLP	**Lapu-Lapu**	**2.61**	**160**	*e*P	**Pn**	**00 12 45.5**	**+0.6**
LLP				*e*S	**Sn**	**00 13 24.2**	**+8.3**
BESP	**Borongan**	**2.62**	**116**	*e*P	**Pn**	**00 12 46.0**	**+1.0**
QVPH	**Quezon City--P**	**2.68**	**314**	*e*P	**Pn**	**00 12 45.9**	**+0.1**
QVPH				*i* S	**Sn**	**00 13 18.3**	**+0.6**
CUYO	**Cuyo Island**	**2.76**	**226**	*e*P	**Pn**	**00 12 46.5**	**-0.6**
LUBP	**Lubang**	**2.89**	**289**	*e*P	**Pn**	**00 12 47.7**	**-1.1**
BUSP	**Coron**	**2.89**	**255**	*e*P	**Pn**	**00 12 48.3**	**-0.5**
TBP	**Tagbilaran**	**3.18**	**165**	*e*P	**Pn**	**00 12 50.6**	**-2.2**
TBP				*e*S	**Sn**	**00 13 24.8**	**-5.4**
NBP	**Mount Natib**	**3.21**	**308**	*e*P	**Pn**	**00 12 53.4**	**0.0**
BALP	**Baler**	**3.27**	**334**	*e*P	**Pn**	**00 12 54.3**	**+0.1**
PCPH	**Palayan**	**3.35**	**326**↑	*e*P	**Pn**	**00 12 54.5**	**-0.8**
SNPH	**Sibulan**	**3.42**	**177**	*e*P	**Pn**	**00 13 00.5**	**+4.1**
SNPH	**Sibulan**	**3.42**	**177**	*e*P	**Pn**	**00 13 00.5**	**+4.1**
SCPH	**Surigao**	**3.83**	**141**↓	*e*P		00 13 16.6	
ENPP	**El Nido**	**3.88**	**247**	*e*P	**Pn**	**00 13 01.9**	**-0.9**
BCPH	**Baguio City Da**	**4.30**	**327**↑	*i*P	**Pn**	**00 13 09.5**	**+0.6**
CAUP	**Cauayan**	**4.30**	**344**	*e*P	**Pn**	**00 13 08.7**	**-0.2**
YHNB	**Yeheng**	**11.93**	**353**	P	**P**	**00 14 53.4**	**-1.5**
JOW	**Kunigami**	**14.81**	**19**	Pn	**P**	**00 15 31.8**	**-1.2**
	2.2nm,0.3s,baz=119,slow=24,SNR=3.4						
NJ2	**Nanjing**	**19.56**	**349**	*e*P	**P**	**00 16 31.1**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
GYA	**Guiyang**	**20.54**	**314**↑	*i*P	**P**	**00 16 42.4**	**-0.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
ENH	**Enshi**	**21.46**	**326**	*e*P	**P**	**00 16 49.9**	**-1.9**
	comp=Z,25nm,0.8s,mb4.6						
NANT	**Nan**	**22.31**	**288**	P	**P**	**00 16 59.0**	**-1.4**
KMI	**Kunming**	**22.75**	**306**	P	**P**	**00 17 06.0**	**+1.1**
KMI				AP		00 17 13.9	
KMI				XP		00 17 18.1	
KMI				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.3						
KMI				AMB	AMB		
	comp=Z,127nm,3.1s						
KULM	**Kulim**	**23.32**	**253**	*e*P	**P**	**00 17 10.4**	**0.0**
TIA	**Tai'an**	**23.93**	**348**	↑↑P	**P**	**00 17 16.8**	**+0.6**
CHG	**Chiang Mai**	**23.94**	**288**	P	**P**	**00 17 25.7**	**+9.3**
XAN	**Xi'an**	**24.76**	**331**	P	**P**	**00 17 23.5**	**-0.7**
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
KS15	**Wonju Array Si**	**24.93**	**9**	P	**P**	**00 17 26.0**	**+0.1**
LZH	**Lanzhou**	**28.94**	**327**	*e*P	**P**	**00 18 03.0**	**+0.4**
LZH				AP	pP	00 18 11.5	+0.2
LZH				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.9						
LZH				LR	LR		
	comp=N,2μm,16.1s						
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS4.5						
MDJ	**Mudanjiang**	**32.21**	**9**	P	**P**	**00 18 31.5**	**0.0**
MDJ				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,42nm,3.7s						
MDJ	**Mudanjiang**	**32.21**	**9**	P	**P**	**00 18 30.1**	**-1.4**
	comp=Z,19nm,1.0s,mb4.9						
GTA	**Gaotai**	**33.54**	**326**	*e*P	**P**	**00 18 43.3**	**+0.2**
GTA				PP	PP	00 19 58.8	+3.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,67nm,5.4s						
GTA				LR	LR		
	comp=N,597nm,18.7s,MS4.8						
GTA				LR	LR		
	comp=E,1μm,13.8s,MS4.8						
GTA				LR	LR		
	comp=Z,694nm,18.0s,MS4.4						
LSA	**Lhasa**	**34.01**	**305**	P	**P**	**00 18 48.0**	**+0.8**
LSA	**Lhasa**	**34.01**	**305**	*e*P	**P**	**00 18 46.8**	**-0.4**
	comp=Z,14nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**34.37**	**161**	P	**P**	**00 18 47.0**	**-3.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=338,slow=9.0,SNR=4.1						
ASAJ	**Asahikawa**	**35.45**	**25**	P	**P**	**00 18 59.4**	**0.0**
	comp=Z,5.5nm,0.4s,mb4.8,baz=219,slow=14						
SONM	**Songino Array**	**37.61**	**342**	P	**P**	**00 19 17.2**	**-0.3**
	comp=Z,6.7nm,0.7s,mb4.5,baz=162,slow=10.0,SNR=54						
SONM				LR	LR	00 34 52.7	
	comp=Z,1μm,18.8s,MS4.6,baz=108,slow=36						
PKI	**Pulchoki**	**38.09**	**299**	*e*P	**P**	**00 19 21.3**	**-0.5**
KKN	**Kakani**	**38.26**	**299**	*e*P	**P**	**00 19 22.9**	**-0.3**
	comp=Z,15nm,0.6s,mb4.9						
DMN	**Daman**	**38.36**	**298**	*e*P	**P**	**00 19 23.6**	**-0.5**
GKN	**Gorkha**	**38.87**	**299**	*e*P	**P**	**00 19 27.7**	**-0.6**
	comp=Z,11nm,0.6s,mb4.8						
KOLN	**Koldanda**	**39.70**	**298**	*e*P	**P**	**00 19 31.7**	**-3.5**
WMQ	**Urumqi**	**43.31**	**322**	*e*P	**P**	**00 20 07.1**	**+2.4**
WMQ				AP	pP	00 20 14.5	+0.9
WMQ				XP	sP	00 20 18.0	+0.7
WMQ				PP	PP	00 21 45.0	-2.4
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,110nm,4.6s						
WMQ				LR	LR		
	comp=N,719nm,14.6s,MS4.9						
WMQ				LR	LR		
	comp=E,690nm,12.4s,MS4.9						
WMQ				LR	LR		
	comp=Z,636nm,18.8s						
STKA	**Stephens Creek**	**47.83**	**159**	P	**P**	**00 20 38.9**	**-2.0**
	comp=Z,2.6nm,0.9s,mb4.3,baz=351,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**48.13**	**323**	P	**P**	**00 20 43.0**	**0.0**
	comp=Z,9.2nm,0.7s,mb4.9,baz=124,slow=9.3,SNR=88						
ULHL	**Ulahol**	**49.98**	**315**	P	**P**	**00 20 58.6**	**+1.4**
	SNR=6.2						
TKM2	**Tokmak 2**	**50.67**	**316**	P	**P**	**00 21 03.6**	**+1.1**
	SNR=5.3						
ZAL	**Zalesovo**	**50.93**	**332**	P	**P**	**00 21 03.0**	**-1.3**
	comp=Z,4.7nm,0.9s,mb4.4,baz=358,slow=6.5,SNR=23						
KBK	**Karagaybulak**	**51.02**	**315**	P	**P**	**00 21 06.3**	**+1.2**
	SNR=7.3						
UCH	**Uchtor**	**51.17**	**314**	P	**P**	**00 21 08.0**	**+1.7**
	SNR=15						
AAK	**Ala-Archa**	**51.33**	**315**	*e*P	**P**	**00 21 06.7**	**-0.8**
	comp=Z,3.0nm,0.9s,mb4.2						
USP	**Ospenovka**	**51.55**	**316**	P	**P**	**00 21 09.5**	**+0.4**
	SNR=9.4						
AML	**Almayashu**	**51.71**	**314**	P	**P**	**00 21 12.0**	**+1.6**
	SNR=7.5						
EKS2	**Erkin-Say**	**51.83**	**315**	P	**P**	**00 21 12.2**	**+0.9**
	SNR=6.2						
KURK	**Kurchatov**	**52.22**	**326**	*e*P	**P**	**00 21 14.0**	**-0.1**
	comp=Z,47nm,0.8s,mb5.5						
BVAR	**Borovoye Array**	**57.81**	**325**	P	**P**	**00 21 53.4**	**-1.3**
	comp=Z,7.7nm,1.0s,mb4.7,baz=108,slow=9.4,SNR=33						
BRVK	**Borovoye**	**57.89**	**325**	*e*P	**P**	**00 21 54.7**	**-0.5**
	comp=Z,12nm,0.9s,mb4.9						
ARU	**Arti**	**65.40**	**327**	*e*P	**P**	**00 22 43.9**	**-1.8**
	comp=Z,9.0nm,0.8s,mb4.8						
ARU				*e*	pP	00 22 51.5	-3.4
KIV	**Kislovodsk**	**74.33**	**312**	*e*P	**P**	**00 23 40.8**	**+0.4**
	comp=Z,17nm,0.8s,mb5.0						
PMR	**Palmer**	**77.83**	**29**	P	**P**	**00 23 54.8**	**-4.9**
MALT	**Malatya**	**78.01**	**307**	*e*P	**P**	**00 24 02.0**	**+0.8**
	comp=Z,7.0nm,1.1s,mb4.5						
JOF	**Joensuu**	**79.52**	**332**	*e*p	**P**	**00 24 08.5**	**-0.4**
	comp=Z,2.7nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	**80.75**	**339**	P	**P**	**00 24 14.6**	**-0.7**
	comp=Z,4.8nm,0.9s,mb4.4,baz=72,slow=3.8,SNR=4.6						
KBS	**Kingsbay**	**81.50**	**349**	*e*P	**P**	**00 24 15.2**	**-4.0**
	comp=Z,40nm,1.0s,mb5.3						
BRTR	**Keskin Array B**	**81.50**	**309**	P	**P**	**00 24 19.9**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=294,slow=33,SNR=2.7						
KAF	**Kangasniemi**	**81.94**	**332**	*e*p	**P**	**00 24 21.2**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=74,slow=4.8						
FINES	**FINESS Array B**	**82.19**	**331**	P	**P**	**00 24 23.3**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=45,slow=6.0,SNR=13						
CSS	**Prodhromos**	**82.57**	**304**	P	**P**	**00 24 26.3**	**+0.8**
	comp=Z,13nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**82.63**	**320**	P	**P**	**00 24 25.2**	**-0.3**
	comp=Z,0.2nm,0.2s,mb3.7,baz=62,slow=4.6,SNR=6.5						
INK	**Inuvik**	**83.12**	**21**	P	**P**	**00 24 28.2**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.2,baz=7.1,slow=2.4,SNR=2.8						
KWP	**Kalwaria**	**86.95**	**320**	*e*P	**P**	**00 24 46.4**	**-0.9**
	comp=Z,10nm,1.0s,mb5.0						
HFS	**Hagfors**	**88.36**	**332**	P	**P**	**00 24 54.0**	**+0.3**
	comp=Z,3.3nm,0.6s,mb4.4,baz=154,slow=5.3,SNR=11						
NB2	**NORSAR Subarra**	**89.11**	**333**	P	**P**	**00 24 57.2**	**-0.1**
	comp=Z,3.8nm,1.2s,mb4.6,baz=69,slow=4.5						
TXAR	**Lajitas Array**	**118.48**	**46**	PKP	PKPdf	00 30 50.8	-3.5
	comp=Z,0.0nm,0.3s,baz=135,slow=12,SNR=2.6						
PLCA	**Paso Flores**	**149.71**	**159**	PKPbc	PKPdf	00 31 52.6	+1.5
	comp=Z,4.3nm,1.2s,baz=197,slow=0.3,SNR=3.0						

NEIC ***22*** *00:18:17.1±1.7, 6.42S×146.91E, h49km±15km, mb4.7/9, Error ellipse: s-maj=14.7km s-min=9.9km az=58.0*

IDC ***22*** *00:18:17.0±2.8, 6.35S×146.97E, h50km±27km, mb4.1/11, mb1 4.2/14, mb1mx4.2/18, mbtmp4.4/14, ML3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx3.5/16, Error ellipse: s-maj=27.9km s-min=15.5km az=60.0*

ISC 22 00:18:15.3±2.2, 6.36S±0.08×146.97E±0.10, h49km±20km, n48, σ1s11/42, mb4.6/20, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.03**	**176**	P	**P**	**00 19 02.1**	**0.0**
	54nm,0.3s,baz=338,slow=5.7,SNR=57						
PMG				S	**S**	**00 19 39.1**	**+1.6**
	61nm,0.3s,baz=38,slow=14,SNR=3.7						
PMG				LR	LR	00 20 32.4	
	comp=Z,878nm,20.5s,baz=165,slow=44						
PMG	**Port Moresby**	**3.03**	**176**	*e*Pn	**P**	**00 19 01.5**	**-0.6**
CTA	**Charters Tower**	**13.66**	**183**	P	**P**	**00 21 29.1**	**+0.6**
	0.5nm,0.3s,baz=1.8,slow=14,SNR=3.7						
CTAO	**Charters Tower**	**13.66**	**183**	*e*P	**P**	**00 21 27.2**	**-1.3**
	10nm,0.8s						
KAKA	**Kakadu**	**15.65**	**245**↑	*i*P	**P**	**00 22 13.8**	**+19**
	15nm,0.6s						
WRAB	**Tennant Creek**	**18.23**	**221**	*e*P	**P**	**00 22 23.0**	**-3.6**
	28nm,0.9s						
WB2	**Warramunga Arr**	**18.23**	**221**	*e*P	**P**	**00 22 25.6**	**-1.1**
WRA	**Warramunga Arr**	**18.24**	**221**	P	**P**	**00 22 25.5**	**-1.4**
	0.4nm,0.3s,baz=45,slow=12,SNR=20						
WRA				PcP	PcP	00 26 58.7	+0.6
	baz=33,slow=1.5,SNR=5.3						
ASPA	**Alice Springs**	**21.31**	**215**	*e*P	**P**	**00 23 01.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**23.85**	**239**	*e*P	**P**	**00 23 25.5**	**+0.2**
	8.7nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.85**	**239**	P	**P**	**00 23 25.6**	**+0.3**
	7.1nm,0.6s,mb4.2,baz=35,slow=6.9,SNR=12						
DZM	**Mont Dzumac**	**24.45**	**132**	P	**P**	**00 23 30.8**	**-0.3**
	10nm,0.9s,mb4.3,baz=301,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**25.88**	**191**	*e*P	**P**	**00 23 43.5**	**-1.0**
	4.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**25.88**	**191**	P	**P**	**00 23 43.3**	**-1.2**
	2.2nm,0.5s,mb3.9,baz=334,slow=14,SNR=4.7						
STKA	**Stephens Creek**	**25.88**	**191**	*e*P	**P**	**00 23 42.7**	**-1.8**
JOW	**Kunigami**	**37.64**	**332**	P	**P**	**00 25 28.4**	**+0.9**
	23nm,0.7s,mb5.0,baz=136,slow=15,SNR=7.1						
YHNB	**Yeheng**	**39.66**	**122**	P	**P**	**00 25 38.4**	**-5.9**
URZ	**Urewera**	**41.88**	**144**	P	**P**	**00 26 01.5**	**-1.2**
	2.0nm,0.4s,mb4.1,baz=300,slow=8.1,SNR=3.3						
RPZ	**Rata Peaks**	**42.80**	**154**	P	**P**	**00 26 10.7**	**+0.6**
	13nm,0.9s,mb4.7,baz=348,slow=9.6,SNR=3.5						
KS15	**Wonju Array Si**	**47.08**	**339**	*e*P	**P**	**00 26 38.5**	**-5.9**
KULM	**Kulim**	**47.66**	**283**	*e*P	**P**	**00 26 48.8**	**-0.5**
HIA	**Hailar**	**60.28**	**340**	*e*P	**P**	**00 28 20.3**	**-0.9**
	20nm,1.0s,mb5.1						
HIA				*e*	pP	00 28 29.0	-5.9
LSA	**Lhasa**	**64.43**	**307**	P	**P**	**00 28 50.9**	**+1.6**
	5.1nm,0.8s,mb4.6						
SONM	**Songino Array**	**64.70**	**331**	P	**P**	**00 28 50.5**	**-0.2**
	1.5nm,0.9s,mb4.0,baz=135,slow=4.2,SNR=8.6						
MA2	**Magadan**	**65.79**	**2**	P	**P**	**00 28 57.4**	**-0.1**
	81nm,1.6s,mb5.5						
PKI	**Pulchoki**	**68.31**	**303**	*e*P	**P**	**00 29 16.2**	**+2.3**
KKN	**Kakani**	**68.49**	**303**	*e*P	**P**	**00 29 17.0**	**+2.0**
	12nm,0.6s,mb5.1						
DMN	**Daman**	**68.58**	**303**	*e*P	**P**	**00 29 16.7**	**+1.2**
	14nm,0.6s,mb5.1						
GKN	**Gorkha**	**69.10**	**303**	*e*P	**P**	**00 29 19.6**	**+0.8**
	9.1nm,0.6s,mb4.8						
KOLN	**Koldanda**	**69.89**	**302**	*e*P	**P**	**00 29 22.6**	**-1.0**
VNDA	**Vanda**	**71.56**	**177**	*e*P	**P**	**00 29 33.0**	**+0.1**
	4.9nm,1.0s,mb4.4						
SBA	**Scott Base**	**72.20**	**176**	P	**P**	**00 29 37.8**	**+1.2**
DGAR	**Diego Garcia**	**73.90**	**264**	P	**P**	**00 29 46.1**	**-1.7**
	250nm,1.1s						
MKAR	**Makanchi Array**	**77.75**	**321**	P	**P**	**00 30 09.2**	**+0.2**
	1.1nm,0.7s,mb3.9,baz=102,slow=6.6,SNR=5.7						
ZAL	**Zalesovo**	**79.30**	**328**	P	**P**	**00 30 16.0**	**-1.3**
	1.6nm,0.5s,mb4.2,baz=349,slow=6.0,SNR=6.5						
ZAL	**Zalesovo**	**79.30**	**328**	P	**P**	**00 30 16.0**	**-1.3**
KURK	**Kurchatov**	**81.48**	**323**	P	**P**	**00 30 27.8**	**-1.2**
	4.9nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**81.57**	**315**	P	**P**	**00 30 30.7**	**+1.1**
QSPA	**South Pole Qui**	**83.61**	**180**	*e*P	**P**	**00 30 39.7**	**+0.4**
	8.5nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**85.82**	**23**	P	**P**	**00 30 50.4**	**-0.2**
	2.6nm,0.8s,mb4.5,baz=257,slow=5.2,SNR=16						
BVAR	**Borovoye Array**	**87.04**	**324**	P	**P**	**00 30 55.5**	**-1.3**
	0.8nm,0.6s,mb4.1,baz=135,slow=6.3,SNR=5.4						
PLCA	**Paso Flores**	**121.84**	**147**	PKP	PKPdf	00 37 07.4	+2.8
	0.8nm,0.7s,baz=254,slow=7.0,SNR=3.6						
GERES	**GERESS Array B**	**122.18**	**325**	PKP	PKPdf	00 37 07.1	+2.0
	0.6nm,0.6s,baz=45,slow=1.9,SNR=6.0						
LPAZ	**La Paz**	**138.62**	**123**	PKhKP		00 37 35.9	
	1.1nm,0.8s,baz=201,slow=14,SNR=3.6						
SDV	**Santo Domingo**	**142.66**	**84**	PKP	PKPdf	00 37 43.5	-0.8
	3.9nm,0.6s,baz=349,slow=20,SNR=7.8						
SAML	**Samuel**	**146.32**	**117**	P	PKPdf	00 37 52.7	+2.1
DBIC	**Dimbokro**	**152.00**	**272**	PKPbc	PKPdf	00 38 03.9	+4.3
	5.9nm,0.9s,baz=223,slow=1.9,SNR=3.8						
BDFB	**Brasilia**	**153.58**	**146**	PKPbc	PKPdf	00 38 11.9	+10
	5.3nm,0.6s,baz=194,slow=2.3,SNR=8.8						

CSEM ***22*** *00:34:16.5±0.9, 37.78N×25.44W, ML2.1, Error ellipse: s-maj=19.1km s-min=3.4km az=135.0, After PDA*

PDA ***22*** *00:34:16.5±0.9, 37.78N×25.44W, MD3.7, ML2.1, Error ellipse: s-maj=19.1km s-min=3.4km az=135.0*

SVSA 22 00:34:16.5±0.9, 37.78N×25.44W, MD3.7, ML2.1, Error ellipse: s-maj=19.1km s-min=3.4km az=135.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMLA	**Cha da Macela**	**0.07**	**259**	*e*P	Pg	00 34 18.7	+0.9
CMLA				*e*S	Sg	00 34 20.4	+1.7
PDA	**Ponta Delgada**	**0.18**	**261**	*e*P	Pg	00 34 21.5	+1.4
PDA				*e*S	Sg	00 34 24.6	+2.2
PSET	**Sete Cidades**	**0.23**	**282**	*e*P	Pg	00 34 22.2	+1.2
PSET				*e*S	Sg	00 34 26.7	+2.7
	233nm,0.2s						
PSCM	**Serra do Cume**	**1.61**	**305**	*e*P	Pn	00 34 42.2	-4.1
PSCM				*e*S	Sb	00 35 02.0	-5.6
	7.2nm,0.1s						
ROSA	**Rosais**	**2.40**	**294**	*e*rx	Pn	00 34 51.9	-5.7
PICO	**Pico**	**2.46**	**288**	*e*rx	Pn	00 34 52.4	-6.1

IDC 22 00:34:36.4±9.1, 11.47N×40.29E, mb3.9/5, mb1 3.9/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=196.0km s-min=41.6km az=21.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**28.76**	**349**	P	P	00 40 36.0	-1.8
	2.7nm,1.1s,baz=168,slow=11,SNR=8.2						
AKASG	**Malin Array Be**	**40.16**	**349**	P	P	00 42 12.9	-2.9
	0.3nm,0.2s,baz=168,slow=7.0,SNR=5.5						
GERES	**GERESS Array B**	**43.33**	**334**	P	P	00 42 40.9	-0.9
	1.1nm,1.0s,baz=104,slow=4.0,SNR=6.4						
MKAR	**Makanchi Array**	**49.91**	**37**	P	P	00 43 32.6	-1.1
	1.2nm,0.8s,baz=233,slow=6.1,SNR=6.7						
SONM	**Songino Array**	**65.58**	**43**	P	P	00 45 21.7	-2.5
	1.3nm,0.9s,baz=234,slow=7.2,SNR=7.3						

CSEM ***22*** *00:44:20.9±1.0, 37.80N×25.48W, h3km±6km, ML1.3, Error ellipse: s-maj=13.4km s-min=7.5km az=128.0, After PDA*

PDA ***22*** *00:44:20.9±1.0, 37.80N×25.48W, h3km±6km, MD3.7, ML1.3, Error ellipse: s-maj=13.4km s-min=7.5km az=128.0*

SVSA 22 00:44:20.9±1.0, 37.80N×25.48W, h3km±6km, MD3.7, ML1.3, Error ellipse: s-maj=13.4km s-min=7.5km az=128.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMLA	**Cha da Macela**	**0.05**	**224**	*e*P	Pg	00 44 22.5	+0.4
CMLA				*e*S	Sg	00 44 23.7	+0.9
PDA	**Ponta Delgada**	**0.15**	**250**	*e*P	Pg	00 44 24.7	+0.7
PDA				*e*S	Sg	00 44 27.7	+1.6
PSET	**Sete Cidades**	**0.19**	**277**	*e*P	Pg	00 44 25.6	+0.8
PSET				*e*S	Sg	00 44 28.4	+1.0
	110nm,0.4s						
ROSA	**Rosais**	**2.36**	**294**	*e*rx	Pn	00 44 57.5	-3.6
PICO	**Pico**	**2.42**	**288**	*e*rx	Pn	00 44 59.8	-2.2

CSEM ***22*** *00:58:55.9±0.8, 37.79N×25.44W, ML2.0, Error ellipse: s-maj=32.4km s-min=4.1km az=129.0, After PDA*

PDA ***22*** *00:58:55.9±0.8, 37.79N×25.44W, MD3.6, ML2.0, Error ellipse: s-maj=32.4km s-min=4.1km az=129.0*

SVSA 22 00:58:55.9±0.8, 37.79N×25.44W, MD3.6, ML2.0, Error ellipse: s-maj=32.4km s-min=4.1km az=129.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

SNET	**Serv Nac Est T**	**1.62**	**315**	*e*P	Pn	01 07 56.0	+0.9
SNET				*e*S	Sn	01 08 16.0	+1.1
	comp=Z,2µm,0.3s						
BOQS	**Boqueron**	**1.68**	**315**	*e*P	Pn	01 07 57.0	+0.9
BOQS				*e*S	Sn	01 08 16.8	+0.1
XAVN	**Gruta Xavier**	**1.74**	**103**	*e*P	Pn	01 07 55.1	-1.7
MGAN	**Managua**	**1.81**	**102**⇓	*e*P	Pn	01 07 56.2	-1.7
MGAN				*e*S	Sn	01 08 20.2	+0.2
	comp=N,520nm,0.4s						
TICN	**Ticuantepe**	**1.86**	**105**	*e*P	Pn	01 07 57.1	-1.4
TICN				*e*S	Sn	01 08 21.4	+0.4
WILN	**Americas 2**	**1.87**	**101**	*e*S	Sn	01 08 22.0	+0.6
SBLS	**San Blas**	**2.00**	**311**	*e*P	Pn	01 08 00.8	+0.2
SBLS				*e*S	Sn	01 08 23.5	-1.1
SNJE	**San Jose**	**2.00**	**312**	*e*P	Pn	01 08 01.7	+1.1
APON	**Apoyo**	**2.04**	**107**⇓	*e*P	Pn	01 08 02.5	+1.3
RTR	**El Retiro**	**2.05**	**311**	*e*P	Pn	01 08 02.3	+1.0
RTR				*e*S	Sn	01 08 25.6	-0.5
MTO2	**Montecristo 2**	**2.25**	**326**	*e*P	Pn	01 08 04.8	+0.8
JCR	**Jicaral**	**3.94**	**132**	*e*P	Pn	01 08 26.1	-2.0
JCR				*e*S	Sn	01 09 12.3	-1.4
CGA2	**Cerro Gallo 2**	**4.32**	**125**	*e*P	Pn	01 08 33.5	-0.1
LAJ	**Bijagual**	**4.69**	**124**	*e*P	Pn	01 08 34.5	-4.3
BUS	**Buena Vista**	**5.16**	**125**⇑	*e*P	Pn	01 08 44.6	-0.8

*CSEM **22** 01:09:05.3±0.6,37.79N×25.44W,h2km±8km,ML2.4, Error ellipse: s-maj=14.5km s-min=4.1km az=157.0, After PDA*
*PDA **22** 01:09:05.3±0.6,37.79N×25.44W,h2km±8km,MD3.8, ML2.4, Error ellipse: s-maj=14.5km s-min=4.1km az=157.0*
SVSA 22 01:09:05.3±0.6,37.79N×25.44W,h2km±8km,MD3.8, ML2.4,Error ellipse: s-maj=14.5km s-min=4.1km az=157.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**0.07**	**246**	*e*P	Pg	01 09 07.2	+0.4
CMLA				*e*S	Sg	01 09 09.0	+1.2
PDA	**Ponta Delgada**	**0.18**	**255**	*e*P	Pg	01 09 09.7	+0.7
PDA				*e*S	Sg	01 09 12.7	+1.3
PSET	**Sete Cidades**	**0.22**	**278**	*i* P	Pg	01 09 10.4	+0.6
PSET				*e*S	Sg	01 09 14.2	+1.4
	463nm,0.3s						
PSET	**Sete Cidades**	**0.22**	**278**	*e*S	Sg	01 09 14.2	+1.4
PSCM	**Serra do Cume**	**1.60**	**305**	*erx*		01 09 30.9	
PICO	**Pico**	**2.46**	**288**	*erx*		01 09 31.7	

*CSEM **22** 01:31:30.3±0.2, 12.68N×40.35E,h10km,mb4.6/42, Error ellipse: s-maj=7.7km s-min=2.5km az=6.0*
*IDC **22** 01:31:31.4±0.9, 12.81N×40.61E,mb4.3/12,mb1 4.3/14, mb1mx4.2/20,mbtmp4.2/14,ML3.2/2,MS5.0/1,Ms1 5.0/1, ms1mx3.9/24, Error ellipse: s-maj=24.8km s-min=18.2km az=119.0*
*DHMR **22** 01:31:31.9±2.2, 12.67N×40.57E,h3km±82km,ML4.7*
*NEIC **22** 01:31:32.6±0.3, 12.78N×40.45E,h10km,mb4.7/62, Error ellipse: s-maj=7.3km s-min=6.0km az=193.0*
ISC 22 01:31:31.1±0.4,12.79N±0.06×40.47E±0.03,h10km,n137, σ1℗13/138,mb4.6/73,MS5.0/1,6C-2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.60**	**71**	*i* P	**Pn**	**01 32 30.7**	**+2.5**
UDYN				AML	AML	01 33 38.3	
	comp=E,4µm,0.6s						
HAJJ	**Hajjah**	**4.19**	**46**	*i* P	**Pn**	**01 32 39.2**	**+2.6**
HAJJ				*i* S	**Sn**	**01 33 32.3**	**+6.1**
ADEN	**Aden**	**4.41**	**90**	*e*P	**Pn**	**01 32 40.5**	**+0.9**
ADEN				*i* S	**Sn**	**01 33 34.1**	**+2.5**
SANA	**San'a**	**4.45**	**54**	*i* S	**Sn**	**01 33 38.1**	**+5.3**
LBOS		**4.78**	**76**	*e*P	**Pn**	**01 32 44.6**	**-0.3**
LBOS				*i* S	**Sn**	**01 33 40.5**	**-0.5**
BDHA	**Al Bayda'**	**5.10**	**76**⇑	*i*P	**Pn**	**01 32 48.8**	**-0.7**
BDHA				*i* S	**Sn**	**01 33 48.6**	**-0.5**
MUKL	**Al Mukalla**	**8.50**	**78**	*e*P	**P**	**01 33 35.2**	**-1.9**
MUKL				*i* S	**Sn**	**01 35 11.6**	**-2.4**
ABTO	**Aybut**	**13.19**	**68**	⇑P	**P**	**01 34 55.1**	**+14**
KMBO	**Kilima Mbogo**	**14.19**	**193**	Pn	**P**	**01 34 55.1**	**+0.6**
	comp=E,0.0nm,0.3s,baz=37,slow=17,SNR=4.5						
ARQ	**Araqi**	**18.50**	**53**	⇑P	**P**	**01 35 50.4**	**+1.0**
ASHO	**Ashiyiah**	**18.90**	**49**	⇓P	**P**	**01 35 54.4**	**+0.3**
	SNR=28						
HOQ	**Hoqain**	**19.25**	**54**	⇑P	**P**	**01 35 59.1**	**+0.7**
JMDO	**Jabal Madar**	**19.31**	**58**	⇓P	**P**	**01 35 58.7**	**-0.4**
	SNR=8.9						
ASF	**Jabal al Asfar**	**19.57**	**351**	P	**P**	**01 36 02.4**	**+0.4**
	comp=E,0.2nm,0.3s,baz=38,slow=0.9,SNR=10.0						
SMDO	**Samad**	**19.58**	**56**	⇑P	**P**	**01 36 01.6**	**-0.5**
	SNR=7.1						
WBK	**Wadi Bani Khal**	**20.13**	**58**	⇑P	**P**	**01 36 07.4**	**-0.8**
BHD	**Baghdad**	**20.70**	**9**	*ex*	x	01 36 12.0	
CSS	**Prodhromos**	**23.00**	**345**	P	**P**	**01 36 31.5**	**-5.7**
	comp=E,25nm,1.2s,mb4.5						
MSL	**Mosul**	**23.52**	**5**	*ex*	x	01 37 07.5	
MALT	**Malatya**	**25.48**	**356**	*e*P	**P**	**01 37 04.4**	**+3.3**
	comp=E,19nm,1.1s,mb4.5						
GVD	**Gavdhos**	**26.50**	**329**	P	**P**	**01 37 09.7**	**-0.8**
	comp=E,47nm,0.9s,mb5.0						
GVD	**Gavdhos**	**26.50**	**329**	P	**P**	**01 37 09.7**	**-0.9**
	comp=E,47nm,0.9s,mb5.0						
BR131	**Keskin Array S**	**27.50**	**349**	*e*P	**P**	**01 37 21.8**	**+2.2**
	comp=E,16nm,1.2s,mb4.4						
BR131	**Keskin Array S**	**27.50**	**349**	*e*P	**P**	**01 37 21.8**	**+2.2**
	comp=E,16nm,1.2s,mb4.4						
BRTR	**Keskin Array B**	**27.50**	**349**	P	**P**	**01 37 21.1**	**+1.5**
	comp=E,8.3nm,1.1s,mb4.2,baz=173,slow=10.0,SNR=23						
BRTR				PcP	PcP	01 40 37.6	-0.7
	comp=E,0.7nm,0.7s,baz=180,slow=2.9,SNR=3.2						
ANTO	**Ankara**	**27.81**	**347**	*e*P	**P**	**01 37 23.5**	**+1.0**
	comp=E,21nm,1.1s,mb4.7						
KIV	**Kislovodsk**	**31.11**	**3**	*e*P	**P**	**01 37 53.7**	**+1.8**
	comp=E,5.1nm,0.4s,mb4.7						
KIV	**Kislovodsk**	**31.11**	**3**	*e*P	**P**	**01 37 53.7**	**+1.8**
	comp=E,5.1nm,0.4s,mb4.7						
TIP	**Timpagrande**	**33.63**	**326**	*e*P	**P**	**01 38 17.8**	**+3.8**
CII	**Carovilli**	**36.74**	**327**	*e*P	**P**	**01 38 38.8**	**-1.7**
	comp=E,20nm,1.0s,mb4.9						
CII	**Carovilli**	**36.74**	**327**	*e*P	**P**	**01 38 38.8**	**-1.7**
	comp=E,20nm,1.0s,mb4.9						
AQU	**L'Aquila**	**37.67**	**327**	P	**P**	**01 38 51.7**	**+3.5**
	comp=E,21nm,0.9s,mb4.9						
AKASG	**Malin Array Be**	**38.90**	**349**	P	**P**	**01 38 58.8**	**+0.2**
	comp=E,3.4nm,0.8s,mb4.1,baz=171,slow=6.9,SNR=14						
PSZ	**Piszkesteto**	**39.00**	**338**	*e*P	**P**	**01 39 00.2**	**+0.9**
	comp=E,6.2nm,0.9s,mb4.3						
PSZ	**Piszkesteto**	**39.00**	**338**	*e*P	**P**	**01 39 00.2**	**+0.8**
	comp=E,6.2nm,0.9s,mb4.3						
KOLS	**Kolonicke sedl**	**39.06**	**341**	*e*P	**P**	**01 39 00.0**	**+0.2**
KECS	**Kecovo**	**39.27**	**339**	*e*P	**P**	**01 39 01.5**	**-0.1**
KWP	**Kalwaria**	**39.54**	**342**	*e*P	**P**	**01 39 03.5**	**-0.3**
	comp=E,19nm,1.1s,mb4.8						
KWP	**Kalwaria**	**39.54**	**342**	*e*P	**P**	**01 39 03.5**	**-0.3**
	comp=E,19nm,1.1s,mb4.8						
STHS	**Stebnicka Huta**	**39.81**	**340**	*e*P	**P**	**01 39 07.8**	**+1.7**
VYHS	**Vyhne**	**39.87**	**338**	*e*P	**P**	**01 39 08.0**	**+1.4**
PGF	**Pioggiola**	**40.26**	**323**	*e*P	**P**	**01 39 09.9**	**0.0**
	comp=E,34nm,1.4s,mb4.6						
ZST	**Bratislava**	**40.30**	**336**	*e*P	**P**	**01 39 11.8**	**+1.7**
OJC	**Ojcow**	**40.98**	**340**	*e*P	**P**	**01 39 15.5**	**-0.2**
OKC	**Ostrava-Krasne**	**41.24**	**338**	*e*P	**P**	**01 39 18.1**	**+0.3**
MORC	**Moravsky Berou**	**41.41**	**338**	*e*P	**P**	**01 39 20.4**	**+1.2**
	comp=E,4.1nm,1.0s,mb4.0						
MORC	**Moravsky Berou**	**41.41**	**338**	*e*P	**P**	**01 39 20.4**	**+1.2**
	comp=E,4.1nm,1.0s,mb4.0						
TREC	**Trest**	**41.82**	**336**	*e*P	**P**	**01 39 23.3**	**+0.7**
AAK	**Ala-Archa**	**41.83**	**38**	*e*P	**P**	**01 39 23.8**	**+1.0**
	comp=E,6.7nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**41.83**	**38**	*e*P	**P**	**01 39 23.8**	**+1.0**
	comp=E,6.7nm,1.0s,mb4.2						
SBF	**Sospel**	**41.97**	**324**	*e*P	**P**	**01 39 23.7**	**-0.2**
LMR	**La Mourre**	**42.20**	**323**	*e*P	**P**	**01 39 26.0**	**+0.2**
	comp=E,16nm,1.2s,mb4.2						
GERES	**GERESS Array B**	**42.22**	**334**	P	**P**	**01 39 26.0**	**+0.1**
	comp=E,2.7nm,0.9s,mb3.9,baz=143,slow=6.7,SNR=15						
FRF	**La Foret Royal**	**42.25**	**323**	*e*P	**P**	**01 39 26.3**	**+0.1**
	comp=E,30nm,1.5s,mb4.4						
DPC	**Dobruska-Polom**	**42.34**	**337**	*e*P	**P**	**01 39 27.2**	**+0.4**
KHC	**Kasperske Hory**	**42.49**	**334**	*e*P	**P**	**01 39 27.2**	**-0.9**
UPC	**Upice**	**42.58**	**337**	*e*P	**P**	**01 39 30.1**	**+1.3**
PRU	**Pruhonice**	**42.75**	**335**	*e*P	**P**	**01 39 27.4**	**-2.8**
MBDF	**Montbardon**	**42.88**	**324**	*e*P	**P**	**01 39 32.1**	**+0.8**
	comp=E,27nm,0.8s,mb4.7						
KOLN	**Koldanda**	**42.88**	**63**	*e*P	**P**	**01 39 31.9**	**+0.3**
	comp=E,57nm,1.2s,mb5.2						
SMRF	**Simiane la Rot**	**43.12**	**323**	*e*P	**P**	**01 39 33.9**	**+0.6**
	comp=E,33nm,1.5s,mb4.5						
LPG	**La Plagne**	**43.36**	**325**	*e*P	**P**	**01 39 34.4**	**-0.8**
	comp=E,21nm,1.1s,mb4.5						
LPL	**La Plagne**	**43.38**	**325**	*e*P	**P**	**01 39 34.5**	**-0.9**
	comp=E,22nm,1.2s,mb4.5						
ORIF	**Oris-en-Rattie**	**43.50**	**324**	*e*P	**P**	**01 39 36.2**	**-0.1**
	comp=E,36nm,1.3s,mb4.6						
BRG	**Berggiesshubel**	**43.68**	**336**	*e*P	**P**	**01 39 38.3**	**+0.6**
	comp=E,10nm,1.4s,mb4.4						
BRG	**Berggiesshubel**	**43.68**	**336**	*e*P	**P**	**01 39 38.3**	**+0.6**
	comp=E,10nm,1.4s,mb4.4						
GKN	**Gorkha**	**43.83**	**63**	*e*P	**P**	**01 39 38.6**	**-0.7**
	comp=E,29nm,1.2s,mb4.9						
GRA1	**Grafenberg Arr**	**43.94**	**333**	*e*P	**P**	**01 39 39.3**	**-0.6**
	comp=E,8.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**43.94**	**333**	*e*P	**P**	**01 39 39.3**	**-0.6**
	comp=E,8.0nm,1.2s,mb4.3						
VIVF	**Saint-Julien-l**	**44.16**	**323**	*e*P	**P**	**01 39 41.7**	**0.0**
DMN	**Daman**	**44.16**	**64**	*e*P	**P**	**01 39 41.9**	**-0.1**
LASF	**Ste Croix**	**44.20**	**322**	*e*P	**P**	**01 39 41.9**	**-0.2**
	comp=E,66nm,1.6s,mb4.8						
KKN	**Kakani**	**44.35**	**63**	*e*P	**P**	**01 39 43.1**	**-0.4**
	comp=E,59nm,1.1s,mb5.2						
CLL	**Collm**	**44.39**	**336**	P	**P**	**01 39 41.0**	**-2.5**
CLL				*e**PP	pP	01 39 44.0	-2.5
CABF	**La Chapelle**	**44.41**	**326**	*e*P	**P**	**01 39 42.8**	**-0.9**
	comp=E,16nm,0.8s,mb4.5						
PKI	**Pulchoki**	**44.42**	**64**	*e*P	**P**	**01 39 43.3**	**-0.8**
	comp=E,31nm,1.2s,mb4.9						
MOX	**Moxa**	**44.47**	**334**	*e*P	**P**	**01 39 44.0**	**-0.2**
EMIR	**Miracle**	**44.54**	**318**	P	**P**	**01 39 48.3**	**+3.4**
	comp=E,34nm,1.7s,mb4.9						
EPOB	**Poblet**	**44.57**	**317**	P	**P**	**01 39 49.1**	**+4.0**
	comp=E,51nm,1.7s,mb5.1						
EMUR	**La Murta**	**44.69**	**311**	P	**P**	**01 39 49.7**	**+3.6**
	comp=E,21nm,1.6s,mb5.2						
HINF	**Hinteralfeld**	**44.76**	**328**	*e*P	**P**	**01 39 46.0**	**-0.6**
MTLF	**Montolieu**	**44.82**	**320**	*e*P	**P**	**01 39 46.7**	**-0.4**
	comp=E,3.7nm,0.8s,mb4.0						
ERTA	**Horta de San J**	**44.88**	**316**	P	**P**	**01 39 51.0**	**+3.3**
	comp=E,44nm,1.9s,mb5.0						
CDF	**Champ du Feu**	**44.93**	**329**	*e*P	**P**	**01 39 47.3**	**-0.6**
	comp=E,18nm,1.2s,mb4.5						
DBIC	**Dimbokro**	**45.03**	**267**	P	**P**	**01 39 50.4**	**+1.2**
	comp=E,3.4nm,0.7s,mb4.3,baz=47,slow=11,SNR=7.3						
DBIC	**Dimbokro**	**45.03**	**267**	*e*P	**P**	**01 39 47.1**	**-2.1**
	comp=E,30nm,1.5s,mb4.9						
DBIC	**Dimbokro**	**45.03**	**267**	*e*P	**P**	**01 39 47.1**	**-2.1**
	comp=E,30nm,1.5s,mb4.9						
HAU	**Haudompre**	**45.14**	**328**	*e*P	**P**	**01 39 49.0**	**-0.6**
LIC	**Lamto**	**45.29**	**266**	*e*P	**P**	**01 39 50.3**	**-0.9**
	comp=E,16nm,1.2s,mb4.7						
EGRA	**Graus**	**45.47**	**318**	P	**P**	**01 39 55.4**	**+3.1**
	comp=E,14nm,1.2s,mb4.7						
EBER	**Berja**	**45.56**	**310**	P	**P**	**01 39 57.4**	**+4.3**
	comp=E,130nm,2.9s,mb5.3						
SMF	**Signal de Mont**	**45.67**	**325**	*e*P	**P**	**01 39 52.8**	**-1.0**
MDT	**Midelt**	**45.68**	**304**	LR	LR	02 00 54.9	
	comp=E,2µm,19.0s,MS5.0,baz=145,slow=38						
CAF	**Calviac**	**45.74**	**322**	*e*P	**P**	**01 39 54.4**	**0.0**
	comp=E,20nm,1.2s,mb4.6						
EBIE	**Bielsa**	**45.81**	**318**	P	**P**	**01 39 59.3**	**+4.4**
	comp=E,22nm,1.1s,mb5.0						
EPF	**Esparros**	**45.85**	**319**	*e*P	**P**	**01 39 55.1**	**-0.2**
EVIA	**Vianos**	**45.91**	**312**	P	**P**	**01 39 59.4**	**+3.6**
	comp=E,12nm,1.6s,mb4.6						
EQES	**Quesada**	**46.02**	**311**	P	**P**	**01 39 59.3**	**+2.6**
	comp=E,24nm,1.9s,mb4.8						
LOR	**Lormes**	**46.02**	**326**	*e*P	**P**	**01 39 55.9**	**-0.6**
	comp=E,19nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	**46.02**	**325**	*e*P	**P**	**01 39 55.8**	**-0.8**
	comp=E,5.8nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**46.10**	**325**	*e*P	**P**	**01 39 56.2**	**-0.9**
	comp=E,6.6nm,1.0s,mb4.3						
MEZF	**Maizieres J'vi**	**46.13**	**328**	*e*P	**P**	**01 39 57.3**	**-0.1**
	comp=E,41nm,1.1s,mb5.0						
BGF	**Bois d'Agland**	**46.18**	**324**	*e*P	**P**	**01 39 57.3**	**-0.5**
	comp=E,18nm,1.0s,mb4.7						
RJF	**Les Rejaudoux**	**46.27**	**322**	*e*P	**P**	**01 39 58.6**	**+0.1**
	comp=E,21nm,1.4s,mb4.6						
ERON	**Agron**	**46.30**	**309**	P	**P**	**01 40 03.2**	**+4.4**
	comp=E,4.2nm,0.5s,mb4.6						
ETSF	**Etsaut**	**46.37**	**318**	*e*P	**P**	**01 40 00.0**	**+0.6**
	comp=E,48nm,1.3s,mb5.0						
TCF	**Toulx Ste Croi**	**46.39**	**324**	*e*P	**P**	**01 39 59.3**	**-0.2**
	comp=E,5.4nm,1.0s,mb4.1						
LFF	**La Frestale**	**46.55**	**321**	*e*P	**P**	**01 40 01.0**	**+0.2**
	comp=E,31nm,1.0s,mb4.9						
ELOJ	**Sierra Loja**	**46.60**	**309**	P	**P**	**01 40 05.0**	**+3.8**
	comp=E,4.6nm,1.0s,mb4.4						
BVAR	**Borovoye Array**	**46.68**	**24**	P	**P**	**01 40 01.9**	**+0.2**
	comp=E,1.5nm,0.7s,mb4.0,baz=211,slow=8.6,SNR=11						
BVAR				PcP	PcP	01 41 34.8	-1.0
	comp=E,0.5nm,0.5s,baz=198,slow=4.6,SNR=2.8						
BVAR	**Borovoye Array**	**46.68**	**24**	PcP	PcP	01 41 34.8	-1.0
EMIJ	**Mijas**	**46.88**	**308**	P	**P**	**01 40 07.0**	**+3.5**
	comp=E,4.9nm,0.7s,mb4.5						
SJPF	**Ste Jean**	**46.90**	**318**	*e*P	**P**	**01 40 03.9**	**+0.3**
	comp=E,40nm,1.3s,mb4.9						
GIVF	**Givet**	**47.25**	**329**	*e*P	**P**	**01 40 05.6**	**-0.6**
ESDC	**Sonseca Array**	**47.35**	**313**	P	**P**	**01 40 08.1**	**+0.9**
	comp=E,4.6nm,0.9s,mb4.4,baz=118,slow=7.5,SNR=14						
ESDC	**Sonseca Array**	**47.35**	**313**	P	**P**	**01 40 10.0**	**+2.8**
	comp=E,4.2nm,0.8s,mb4.4						
ESLA	**Sonseca Array**	**47.35**	**313**	*e*P	**P**	**01 40 07.4**	**+0.2**
	comp=E,2.1nm,1.0s,mb4.0						
BAIF	**Baives**	**47.53**	**329**	*e*P	**P**	**01 40 07.7**	**-0.8**
MFF	**Saint Martin d**	**47.94**	**323**	*e*P	**P**	**01 40 10.8**	**-0.9**
SUR	**Sutherland**	**48.69**	**202**	P	**P**	**01 40 18.6**	**+0.9**
	comp=E,6.3nm,1.0s,mb4.6,baz=40,slow=7.9,SNR=2.8						
MKAR	**Makanchi Array**	**48.75**	**38**	P	**P**	**01 40 16.9**	**-1.0**
	comp=E,3.2nm,0.8s,mb4.4,baz=236,slow=6.2,SNR=19						
MKAR	**Makanchi Array**	**48.75**	**38**	P	**P**	**01 40 16.9**	**-1.1**
KURK	**Kurchatov**	**48.89**	**31**	*e*P	**P**	**01 40 19.7**	**+0.7**
	comp=E,5.5nm,1.2s,mb4.5						
LDF	**La Druitiere**	**48.98**	**325**	*e*P	**P**	**01 40 18.2**	**-1.5**
	comp=E,32nm,1.4s,mb4.9						
EGRO	**El Granado**	**49.24**	**309**	P	**P**	**01 40 26.1**	**+4.2**
	comp=E,35nm,1.4s,mb5.2						
EBAD	**Badajoz**	**49.26**	**310**	P	**P**	**01 40 24.5**	**+2.5**
	comp=E,91nm,2.9s,mb5.3						
FLN	**La Foliniere**	**49.27**	**325**	*e*P	**P**	**01 40 20.6**	**-1.3**
	comp=E,22nm,1.2s,mb4.8						
GRR	**Gorron**	**49.28**	**324**	*e*P	**P**	**01 40 20.7**	**-1.3**
	comp=E,14nm,1.0s,mb4.6						
FINES	**FINESS Array B**	**49.69**	**351**	P	**P**	**01 40 24.3**	**-0.7**
	comp=E,3.2nm,0.9s,mb4.3,baz=153,slow=17,SNR=7.6						
LSA	**Lhasa**	**49.74**	**62**	*e*P	**P**	**01 40 26.7**	**+0.8**
	comp=E,12nm,1.1s,mb4.8						
SGMF	**Saint Gilles**	**50.19**	**324**	*e*P	**P**	**01 40 27.5**	**-1.5**
QUIF	**Quistinic**	**50.38**	**323**	*e*P	**P**	**01 40 28.9**	**-1.5**
ROSF	**Rostrenen**	**50.65**	**323**	*e*P	**P**	**01 40 31.0**	**-1.5**
NB2	**NORSAR Subarra**	**52.67**	**343**	P	**P**	**01 40 46.8**	**-0.8**
	comp=E,12nm,1.2s,mb4.7,baz=143,slow=7.4						
NOA	**NORSAR Array B**	**52.67**	**343**	P	**P**	**01 40 46.3**	**-1.3**
	comp=E,3.4nm,0.9s,mb4.3,baz=141,slow=7.3,SNR=4.8						
ZAL	**Zalesovo**	**53.84**	**31**	P	**P**	**01 40 55.0**	**-1.3**
	comp=E,1.8nm,0.8s,mb4.1,baz=234,slow=6.4,SNR=13						
SONM	**Songino Array**	**64.49**	**43**	P	**P**	**01 42 09.6**	**-0.6**
	comp=E,2.8nm,0.8s,mb4.3,baz=254,slow=6.3,SNR=16						

*MOS **22** 01:39:32.0±0.7, 12.12N×40.37E,h10km,mb4.5/15, Error ellipse: s-maj=22.3km s-min=8.6km az=93.0*
*NEIC **22** 01:39:34.1±1.1, 12.15N×40.46E,h10km,mb4.6/12, Error ellipse: s-maj=21.0km s-min=12.7km az=170.0*
*IDC **22** 01:39:34.5±3.9, 12.45N×40.49E,mb4.0/10,mb1 4.2/11, mb1mx4.1/18,mbtmp4.0/11,ML3.6/1,Error ellipse: s-maj=82.1km s-min=29.9km az=12.0*
*CSEM **22** 01:39:36.8±0.2, 12.30N×40.41E,h33km,mb4.5/17, Error ellipse: s-maj=8.6km s-min=5.9km az=165.0*
ISC 22 01:39:32.6±1.3,12.2N±0.2×40.5E±0.1,h10km,n61, σ0℗75/59,mb4.3/23,MS4.4/1,2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASF	**Jabal al Asfar**	**20.16**	**351**	P	**P**	**01 44 09.5**	**-0.4**
	0.2nm,0.3s,baz=197,slow=0.2,SNR=5.4						
BHD	**Baghdad**	**21.29**	**9**	*ex*	x	01 44 26.5	
MSL	**Mosul**	**24.12**	**5**	*ex*	x	01 45 10.5	
MALT	**Malatya**	**26.08**	**356**	*e*P	**P**	**01 45 09.4**	**+1.2**
	16nm,1.4s,mb4.4						
MALT	**Malatya**	**26.08**	**356**	*e*P	**P**	**01 45 09.4**	**+1.2**
MALT				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.4						
BR131	**Keskin Array S**	**28.08**	**349**	*e*P	**P**	**01 45 27.6**	**+1.1**
	comp=Z,5.7nm,1.1s,mb4.1						
BR131	**Keskin Array S**	**28.08**	**349**	*e*P	**P**	**01 45 27.6**	**+1.1**
	comp=Z,5.7nm,1.1s,mb4.1						
BRTR	**Keskin Array B**	**28.08**	**349**	P	**P**	**01 45 26.7**	**+0.2**
	comp=Z,5.4nm,1.2s,mb4.1,baz=170,slow=7.5,SNR=13						
BRTR	**Keskin Array B**	**28.08**	**349**	P	**P**	**01 45 26.7**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ZEI	**Tsey**	**30.62**	**5**	*e*P	**P**	**01 45 49.2**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.2						
ZEI	**Tsey**	**30.62**	**5**	*e*P	**P**	**01 45 49.2**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
KIV	**Kislovodsk**	**31.71**	**3**	*e*P	**P**	**01 45 58.9**	**+0.2**
	comp=Z,7.2nm,0.7s,mb4.6						
KIV	**Kislovodsk**	**31.71**	**3**	*e*P	**P**	**01 45 58.9**	**+0.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
AKASG	**Malin Array Be**	**39.49**	**349**	P	**P**	**01 47 03.6**	**-1.3**
	comp=Z,0.2nm,0.2s,mb3.4,baz=166,slow=7.1,SNR=7.0						
KWP	**Kalwaria**	**40.10**	**342**	*e*P	**P**	**01 47 10.3**	**+0.2**
	comp=Z,28nm,1.5s,mb4.8						
KWP	**Kalwaria**	**40.10**	**342**	*e*P	**P**	**01 47 10.3**	**+0.3**
	comp=Z,28nm,1.5s,mb4.8						
KWP	**Kalwaria**	**40.10**	**342**	*e*P	**P**	**01 47 10.3**	**+0.3**
KWP				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.8						
VRAC	**Vranov**	**41.94**	**337**	P	**P**	**01 47 25.3**	**+0.2**
	comp=Z,1.3nm,0.4s,mb3.9,baz=185,slow=7.7,SNR=3.4						
VRAC	**Vranov**	**41.94**	**337**	P	**P**	**01 47 25.3**	**+0.2**
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**42.31**	**38**	*e*P	**P**	**01 47 29.1**	**+0.8**
	comp=Z,2.3nm,1.0s,mb3.8						
AAK	**Ala-Archa**	**42.31**	**38**	*e*P	**P**	**01 47 29.1**	**+0.8**
	comp=Z,2.3nm,1.0s,mb3.8						
AAK	**Ala-Archa**	**42.31**	**38**	*e*P	**P**	**01 47 29.1**	**+0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
GERES	**GERESS Array B**	**42.76**	**334**	P	**P**	**01 47 31.2**	**-0.6**
	comp=Z,3.4nm,1.1s,mb4.0,baz=162,slow=8.4,SNR=10.0						
GERES	**GERESS Array B**	**42.76**	**334**	P	**P**	**01 47 31.2**	**-0.6**
GERES				pmax	pmax		
	comp=Z,3.0nm,1.2s						
OBN	**Obninsk**	**42.93**	**357**	*e*P	**P**	**01 47 34.1**	**+1.0**
	comp=Z,500nm,21.0s						
OBN	**Obninsk**	**42.93**	**357**⇓	*e*P	**P**	**01 47 34.1**	**+1.0**
OBN				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.5						
OBN				MLR	MLR		
	comp=Z,500nm,21.0s,MS4.4			

PKA				*e*S	Sn	01 53 03.5	-4.7
PKA				AML	AML	01 53 35.5	
	comp=Z,26nm,0.4s						
CVNA	**Calvinia**	**8.53**	**231**	*e*S	Sn	01 54 43.4	+16
CVNA				AML	AML	01 55 12.1	
	comp=Z,20nm,0.3s						

KISR **22** *01:54:39.9±1.0, 32.60N×49.86E, h43km±865km, ML2.9*
CSEM **22** *01:54:40.8±0.1, 32.70N×49.53E, h20km, ML3.1, Error ellipse: s-maj=2.4km s-min=1.4km az=119.0*
TEH **22** *01:54:44.5, 32.93N×49.49E, h10km, Mn3.1*
THR **22** *01:54:44.1±0.3, 32.88N×49.69E, h37km±3km, ML3.1*

ISC 22 01:54:41.4±2.3, 32.66N±0.03×49.56E±0.05, h19km±24km, n26, σ0§85/36, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAO	**Ashtian**	**1.93**	**12**	*e*PG	**Pn**	**01 55 14.7**	**+1.0**
ASAO				*e*SG	**Sn**	**01 55 37.0**	**-0.6**
ASAO				AML	AML	01 55 52.0	
	comp=N,211nm,0.6s						
IKOM	**Komasi**	**2.28**	**312**	Pn	**Pn**	**01 55 19.2**	**+0.4**
IQOM	**Qom**	**2.52**	**30**	Pn	**Pn**	**01 55 22.5**	**+0.4**
NASN	**Na'in**	**2.74**	**86**	*e*PN	**Pn**	**01 55 26.3**	**+1.0**
NASN				*e*SG	**Sn**	**01 56 04.8**	**+6.5**
ISFB	**Sefidab**	**2.81**	**52**	Pn	**Pn**	**01 55 27.3**	**+1.1**
IVIS	**Veys**	**2.93**	**310**	Pn	**Pn**	**01 55 27.7**	**-0.2**
IVRN	**Varamin**	**2.95**	**37**	Pn	**Pn**	**01 55 29.1**	**+0.8**
IGHG	**Ghaleghazi**	**3.00**	**305**	Pn	**Pn**	**01 55 30.0**	**+1.0**
SNGE	**Sanandaj**	**3.05**	**323**	*e*PN	**Pn**	**01 55 30.4**	**+0.7**
ILIN	**Laeen**	**3.12**	**317**	Pn	**Pn**	**01 55 29.9**	**-0.8**
IDHR	**Dehrash**	**3.34**	**308**	Pn	**Pn**	**01 55 33.1**	**-0.7**
MIB	**Mutribah**	**3.42**	**214**	*e*P	**Pn**	**01 55 35.1**	**+0.1**
MIB				*e*S	**Sn**	**01 56 16.4**	**+1.0**
THKV	**Tehran--Karaj**	**3.43**	**18**	*e*PN	**Pn**	**01 55 33.9**	**-1.2**
UMR	**Umm Al-Rimmam**	**3.48**	**207**	*e*P	**Pn**	**01 55 35.5**	**-0.2**
UMR				*e*S	**Sn**	**01 56 17.1**	**+0.3**
IDMV	**Damavand**	**3.56**	**35**	Pn	**Pn**	**01 55 37.1**	**+0.1**
DAMV	**Damavand**	**3.58**	**33**	*e*PN	**Pn**	**01 55 35.8**	**-1.4**
DAMV				*e*SG	**Sn**	**01 56 25.4**	**+6.0**
DAMV				AML	AML	01 56 45.9	
	comp=N,40nm,0.8s						
KBD	**Kabd**	**3.82**	**205**	*e*P	**Pn**	**01 55 40.2**	**-0.4**
KBD				*e*S	**Sn**	**01 56 25.2**	**-0.4**
NAY	**Al-Naaiem**	**3.94**	**211**	*e*P	**Pn**	**01 55 42.2**	**-0.1**
NAY				AML	AML	01 56 27.8	
	comp=Z,6.0nm,0.4s						
NAY				*e*S	**Sn**	**01 56 28.8**	**+0.3**
NAY	**Al-Naaiem**	**3.94**	**211**	*e*P	**Pn**	**01 55 42.2**	**-0.1**
NAY				*e*S	**Sn**	**01 56 28.8**	**+0.3**
IFIR	**Firoozkooh**	**3.98**	**41**	Pn	**Pn**	**01 55 42.7**	**-0.3**
IPAR	**Pars**	**4.10**	**132**	Pn	**Pn**	**01 55 46.8**	**+2.2**
RDF	**Al-Radifah**	**4.10**	**205**	*e*P	**Pn**	**01 55 44.3**	**-0.3**
RDF				*e*S	**Sn**	**01 56 33.4**	**+0.7**
RDF				AML	AML	01 56 33.7	
	comp=Z,23nm,0.3s						
QRN	**Al-Qurain**	**4.15**	**200**	*e*P	**Pn**	**01 55 44.6**	**-0.7**
QRN				AML	AML	01 56 31.4	
	comp=Z,19nm,0.3s						
QRN				*e*S	**Sn**	**01 56 32.6**	**-1.2**
ISRV	**Sarvestan**	**4.47**	**136**	Pn	**Pn**	**01 55 45.3**	**-4.6**
IMOK	**Mook**	**4.51**	**142**	Pn	**Pn**	**01 55 49.6**	**-0.8**
IBAF	**Bafgh**	**5.21**	**100**	Pn	**Pn**	**01 55 58.6**	**-1.7**

IDC 22 01:55:15.6±1.5, 20.32S×173.85W, mb3.8/5, mb1 4.2/6, mb1mx4.0/15, mbtmp3.8/6, Error ellipse: s-maj=78.2km s-min=28.6km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.68**	**18**	Pn	Pn	01 56 54.5	-2.9
	3.9nm,0.3s,baz=48,slow=24,SNR=3.2						
AFI				Sn	Sn	01 58 01.3	-14
	3.4nm,0.3s,baz=208,slow=21,SNR=2.8						
WRA	**Warramunga Arr**	**48.47**	**261**	P	P	02 03 59.9	-2.3
	1.0nm,0.7s,baz=94,slow=6.1,SNR=6.7						
NVAR	**Mina Array Bea**	**78.27**	**41**	P	P	02 07 18.1	-0.9
	1.8nm,0.9s,baz=215,slow=6.7,SNR=8.6						
TXAR	**Lajitas Array**	**83.71**	**56**	P	P	02 07 46.9	-1.2
	0.5nm,0.9s,baz=207,slow=8.4,SNR=6.2						
PDAR	**Pinedale Array**	**86.21**	**42**	P	P	02 07 58.0	-2.2
	0.1nm,0.3s,baz=95,slow=16,SNR=3.6						
ILAR	**Eielson Array**	**87.33**	**11**	P	P	02 08 04.2	-0.9
	0.4nm,0.7s,baz=230,slow=5.2,SNR=5.0						
BVAR	**Borovoye Array**	**121.44**	**320**	PKP	PKPdf	02 14 11.2	-1.6
	0.4nm,0.6s,baz=90,slow=4.3,SNR=3.1						
AKASG	**Malin Array Be**	**144.64**	**334**	PKP	PKPdf	02 14 51.7	-4.1
	0.8nm,0.4s,baz=39,slow=4.2,SNR=8.3						
BRTR	**Keskin Array B**	**149.53**	**315**	PKPbc	PKPdf	02 15 08.0	+3.7
	0.6nm,0.7s,baz=153,slow=2.8,SNR=3.5						

NEIC **22** *01:56:47.0±1.9, 12.50N×40.64E, h10km, mb4.5/6, Error ellipse: s-maj=36.5km s-min=20.3km az=184.0*
IDC **22** *01:56:46.0±3.2, 12.57N×40.67E, mb3.7/8, mb1 3.9/9, mb1mx3.8/18, mbtmp3.7/9, ML3.4/1, Error ellipse: s-maj=69.6km s-min=28.2km az=3.0*
CSEM **22** *01:56:47.0±0.4, 12.50N×40.64E, h10km, mb4.5/6, Error ellipse: s-maj=17.4km s-min=8.9km az=14.0, After NEIC*

ISC 22 01:56:45.2±2.2, 12.5N±0.3×40.7E±0.2, h10km, n18, σ0§87/18, mb4.1/14, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASF	**Jabal al Asfar**	**19.88**	**351**	P	**P**	**02 01 20.3**	**+0.6**
	0.1nm,0.3s,baz=171,slow=5.5,SNR=3.9						
CSS	**Prodhromos**	**23.33**	**345**	*e*P	**P**	**02 01 55.2**	**+0.7**
	18nm,1.1s,mb4.4						
MALT	**Malatya**	**25.78**	**356**	*e*P	**P**	**02 02 19.3**	**+1.3**
	10nm,1.2s,mb4.2						
BRTR	**Keskin Array B**	**27.82**	**348**	P	**P**	**02 02 37.3**	**+0.6**
	5.7nm,1.3s,mb4.0,baz=164,slow=9.0,SNR=6.8						
KIV	**Kislovodsk**	**31.39**	**3**	P	**P**	**02 03 07.6**	**-0.9**
	12nm,1.4s,mb4.5						
AKASG	**Malin Array Be**	**39.23**	**348**	P	**P**	**02 04 14.8**	**-0.5**
	0.2nm,0.3s,mb3.3,baz=172,slow=7.3,SNR=5.0						
PSZ	**Piszkesteto**	**39.35**	**338**	P	**P**	**02 04 15.4**	**-0.9**
	13nm,1.5s,mb4.4						
PSZ	**Piszkesteto**	**39.35**	**338**	P	**P**	**02 04 15.4**	**-1.0**
	13nm,1.5s,mb4.4						
KWP	**Kalwaria**	**39.88**	**342**	*e*P	**P**	**02 04 20.4**	**-0.3**
	8.9nm,1.1s,mb4.4						
KWP	**Kalwaria**	**39.88**	**342**	*e*P	**P**	**02 04 20.4**	**-0.3**
	8.9nm,1.1s,mb4.4						
GERES	**GERESS Array B**	**42.58**	**334**	P	**P**	**02 04 41.6**	**-1.3**
	0.6nm,0.6s,mb3.5,baz=131,slow=6.3,SNR=7.8						
SUW	**Suwalki**	**43.67**	**345**	*e*P	**P**	**02 04 51.2**	**-0.5**
	22nm,1.0s,mb4.8						
SUW	**Suwalki**	**43.67**	**345**	*e*P	**P**	**02 04 51.2**	**-0.5**
	22nm,1.0s,mb4.8						
MDT	**Midelt**	**46.02**	**304**	P	**P**	**02 05 12.2**	**+1.4**
	0.7nm,0.9s,mb3.6,baz=108,slow=11,SNR=4.5						
ESDC	**Sonseca Array**	**47.70**	**313**	P	**P**	**02 05 23.7**	**-0.3**
	0.2nm,0.3s,mb3.6,baz=122,slow=6.7,SNR=5.9						
MKAR	**Makanchi Array**	**48.85**	**37**	P	**P**	**02 05 33.5**	**+0.7**
	2.0nm,1.1s,mb4.1,baz=225,slow=3.4,SNR=4.3						
ZAL	**Zalesovo**	**53.98**	**31**	P	**P**	**02 06 10.2**	**-1.2**
	0.8nm,0.4s,mb4.0,baz=141,slow=6.5,SNR=1.9						
SONM	**Songino Array**	**64.56**	**43**	P	**P**	**02 07 25.4**	**+0.7**
	1.5nm,1.0s,mb4.0,baz=252,slow=4.7,SNR=8.4						

IDC **22** *02:02:19.2±11.0, 12.23N×39.63E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=245.7km s-min=48.9km az=12.0*
DHMR **22** *02:02:21.0±3.1, 12.61N×40.47E, h6km±149km, ML4.3*

ISC 22 02:02:23.6±1.6, 12.6N±0.2×40.41E±0.08, h10km, n9, σ0§89/12, mb3.7/5, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.73**	**68**	*e*P	**Pn**	**02 03 22.1**	**-0.3**
UDYN				*i* S	**Sn**	**02 04 08.3**	**+1.4**
UDYN				AML	AML	02 04 32.7	
	comp=N,1μm,0.7s						
HAJJ	**Hajjah**	**4.38**	**45**	*e*P	**Pn**	**02 03 29.8**	**-1.9**
HAJJ				*i* S	**Sn**	**02 04 23.4**	**0.0**
ADEN	**Aden**	**4.47**	**87**	*i* S	**Sn**	**02 04 25.2**	**-0.5**
BDHA	**Al Bayda'**	**5.21**	**74**	*e*P	**Pn**	**02 03 38.0**	**-5.5**
BDHA				*i* S	**Sn**	**02 04 39.9**	**-4.5**
GERES	**GERESS Array B**	**42.39**	**334**	P	**P**	**02 10 15.0**	**-4.7**
	comp=N,0.3nm,0.5s,mb3.1,baz=241,slow=30,SNR=2.4						
BVAR	**Borovoye Array**	**46.90**	**24**	P	**P**	**02 10 56.7**	**+0.8**
	comp=N,0.4nm,0.6s,mb3.5,baz=198,slow=4.6,SNR=3.6						
MKAR	**Makanchi Array**	**48.95**	**37**	P	**P**	**02 11 12.4**	**+0.4**
	comp=N,0.9nm,0.8s,mb3.9,baz=259,slow=6.2,SNR=8.0						
ZAL	**Zalesovo**	**54.05**	**31**	P	**P**	**02 11 50.0**	**-0.4**
	comp=N,1.1nm,0.4s,mb4.1,baz=200,slow=3.7,SNR=3.4						
SONM	**Songino Array**	**64.68**	**43**	P	**P**	**02 13 04.5**	**+0.6**
	comp=N,0.6nm,0.8s,mb3.7,baz=256,slow=6.1,SNR=3.6						

IDC **22** *02:26:30.1±8.2, 12.08N×40.23E, mb3.9/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, MS3.6/2, Ms1 3.6/2, ms1mx3.2/24, Error ellipse: s-maj=173.3km s-min=42.8km az=17.0*
DHMR **22** *02:26:33.7±2.6, 12.57N×40.66E, h12km±295km, ML4.0*

ISC 22 02:26:32.0±1.4, 12.3N±0.2×40.71E±0.07, h10km, n11, σ1§11/13, mb3.9/5, MS4.2/1, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.58**	**62**	*e*P	**Pn**	**02 27 31.1**	**+2.2**
UDYN				*i* S	**Sn**	**02 28 15.5**	**+3.8**
UDYN				AML	AML	02 28 35.8	
	comp=N,729nm,0.9s						
HAJJ	**Hajjah**	**4.39**	**39**	*e*P	**Pn**	**02 27 40.2**	**-0.2**
HAJJ				*i* S	**Sn**	**02 28 32.5**	**+0.3**
LBOS		**4.69**	**70**	*e*P	**Pn**	**02 27 44.0**	**-0.6**
LBOS				*i* S	**Sn**	**02 28 39.3**	**-0.5**
BDHA	**Al Bayda'**	**5.02**	**70**	*e*P	**Pn**	**02 27 48.6**	**-0.6**
BDHA				*i* S	**Sn**	**02 28 47.0**	**-1.0**
KMBO	**Kilima Mbogo**	**13.78**	**195**	LR	LR	02 34 21.2	
	comp=N,106nm,20.2s,baz=345,slow=35						
BRTR	**Keskin Array B**	**28.02**	**348**	P	**P**	**02 32 24.7**	**-0.6**
	comp=N,1.8nm,1.1s,mb3.6,baz=129,slow=9.2,SNR=4.4						
GERES	**GERESS Array B**	**42.76**	**334**	P	**P**	**02 34 29.0**	**-2.2**
	comp=N,1.3nm,0.8s,mb3.7,baz=121,slow=7.8,SNR=8.8						
BVAR	**Borovoye Array**	**47.03**	**24**	P	**P**	**02 35 06.3**	**+0.9**
	comp=N,1.1nm,0.9s,mb3.8,baz=191,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**49.00**	**37**	P	**P**	**02 35 21.6**	**+0.8**
	comp=N,2.4nm,1.1s,mb4.1,baz=239,slow=7.1,SNR=7.2						
SONM	**Songino Array**	**64.69**	**43**	P	**P**	**02 37 13.6**	**+1.2**
	comp=N,1.6nm,1.0s,mb4.0,baz=253,slow=5.5,SNR=7.9						
ASAJ	**Asahikawa**	**89.89**	**45**	LR	LR	03 22 35.9	
	comp=N,78nm,18.4s,MS4.2,baz=218,slow=37						

IDC **22** *02:40:24.9±1.4, 60.52N×147.28W, mb3.2/1, mb1 3.6/5, mb1mx3.4/23, mbtmp3.4/5, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/20, Error ellipse: s-maj=22.6km s-min=12.1km az=116.0*
NEIC **22** *02:40:26.3, 60.48N×147.41W, h4km, ML3.5(AEIC), After AEIC.*

ISC 22 02:40:26.2±0.5, 60.51N±0.04×147.40W±0.04, h29km±4km, n58, σ0§82/66, mb3.4/1, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLI	**Glacier Island**	**0.40**	**22**	P	**Pb**	**02 40 34.9**	**-0.1**
HIN	**Hinchinbrook I**	**0.46**	**104**	P	**Pb**	**02 40 36.5**	**+0.5**
FID	**Port Fidalgo**	**0.51**	**62**	P	**Pb**	**02 40 36.2**	**-0.6**
FID				S	**Sb**	**02 40 43.1**	**-0.9**
PWL	**Port Wells**	**0.58**	**307**	P	**Pb**	**02 40 37.8**	**0.0**
CFI	**College Fiord**	**0.70**	**345**	P	**Pb**	**02 40 39.3**	**-0.4**
VLZ	**Valdez**	**0.81**	**40**	P	**Pb**	**02 40 41.2**	**-0.4**
EYAK	**Cordova Ski Ar**	**0.82**	**87**	P	**Pb**	**02 40 41.8**	**0.0**
EYAK				S	**Sb**	**02 40 53.7**	**+1.3**
MPA	**Moose Pass**	**0.97**	**269**	P	**Pn**	**02 40 44.1**	**+0.1**
MPA				S	**Sb**	**02 40 57.5**	**+0.7**
DIV	**Divide**	**1.01**	**51**	P	**Pn**	**02 40 44.3**	**-0.3**
SGAM	**Sherman Glacie**	**1.08**	**90**	P	**Pn**	**02 40 45.9**	**+0.2**
SEW	**Seward**	**1.10**	**249**	P	**Pn**	**02 40 45.8**	**-0.1**
SEW				S	**Sn**	**02 41 00.7**	**+0.4**
KLU	**Klutina**	**1.22**	**36**	P	**Pn**	**02 40 47.8**	**+0.2**
RC01	**Rabbit Creek A**	**1.28**	**298**	P	**Pn**	**02 40 49.0**	**+0.5**
RC01				S	**Sn**	**02 41 06.1**	**+1.2**
SCM	**Sheep Creek Mo**	**1.33**	**1**	P	**Pn**	**02 40 50.0**	**+0.8**
RAGM	**Ragged Mountai**	**1.36**	**94**	P	**Pn**	**02 40 49.8**	**+0.2**
PMR	**Palmer**	**1.37**	**323**	*e*P	**Pn**	**02 40 50.2**	**+0.4**
SML	**Sawmill**	**1.38**	**341**	P	**Pn**	**02 40 50.9**	**+1.1**
SLKM	**Skilak Lake**	**1.40**	**271**	P	**Pn**	**02 40 50.5**	**+0.3**
BMRM	**Bremner River**	**1.45**	**70**	P	**Pn**	**02 40 51.0**	**+0.1**
GHO	**Glory Hole Cre**	**1.47**	**330**	P	**Pn**	**02 40 52.3**	**+1.2**
FIB	**Fire Island**	**1.51**	**297**	P	**Pn**	**02 40 52.5**	**+0.8**
KAIM	**Kayak Island**	**1.60**	**110**	P	**Pn**	**02 40 53.4**	**+0.4**
TZL	**Tazlina**	**1.81**	**31**	P	**Pn**	**02 40 57.4**	**+1.3**
GLB	**Gilahina Butte**	**1.98**	**60**	P	**Pn**	**02 40 58.9**	**+0.3**
NNL	**Ninilchik**	**2.00**	**258**	P	**Pn**	**02 41 00.2**	**+1.4**
WACK	**Wrangell Chich**	**2.10**	**44**	P	**Pn**	**02 41 01.1**	**+1.0**
CNPM	**China Poot**	**2.17**	**244**	P	**Pn**	**02 41 00.8**	**-0.3**
SDG	**Sourdough**	**2.21**	**23**	P	**Pn**	**02 41 02.8**	**+1.0**
SPU	**Mount Spurr**	**2.38**	**288**	*e*P	**Pn**	**02 41 03.4**	**-0.8**
STLK	**Strandline Lak**	**2.38**	**297**	P	**Pn**	**02 41 04.0**	**-0.1**
RDT	**Redoubt**	**2.48**	**274**	P	**Pn**	**02 41 04.9**	**-0.6**
CKL	**Chakachamna La**	**2.51**	**288**	P	**Pn**	**02 41 05.6**	**-0.5**
BALM	**Baldy**	**2.53**	**76**	P	**Pn**	**02 41 06.2**	**-0.2**
PAX	**Paxson**	**2.63**	**20**	P	**Pn**	**02 41 08.7**	**+0.9**
RSO	**Redoubt South**	**2.65**	**271**	P	**Pn**	**02 41 07.4**	**-0.6**
INE	**Iliamna NE**	**2.86**	**263**	P	**Pn**	**02 41 10.2**	**-0.9**
RND	**Reindeer**	**2.98**	**347**	P	**Pn**	**02 41 13.6**	**+0.8**
MENT	**Mentasta**	**3.00**	**34**	P	**Pn**	**02 41 13.9**	**+0.9**
CTGM	**Chitina Glacie**	**3.01**	**79**	P	**Pn**	**02 41 13.1**	**-0.1**
THY	**Trims Highway**	**3.02**	**14**	P	**Pn**	**02 41 13.9**	**+0.7**
AUL	**Augustine Lava**	**3.24**	**252**	P	**Pn**	**02 41 16.2**	**-0.3**
AGU	**Augustine-Summ**	**3.25**	**252**	P	**Pn**	**02 41 16.3**	**-0.3**
KTH	**Kantishna Hill**	**3.47**	**333**	P	**Pn**	**02 41 20.4**	**+0.6**
DOT	**Dot Lake**	**3.52**	**25**	P	**Pn**	**02 41 21.0**	**+0.6**
KDAK	**Kodiak Island**	**3.82**	**227**	Pn	**Pn**	**02 41 23.5**	**-1.2**
	4.5nm,0.3s,baz=46,slow=9.1,SNR=43						
KDAK				Sn	**Sn**	**02 42 04.2**	**-5.0**
	6.6nm,0.3s,baz=299,slow=21,SNR=11						
KDAK				Lg		02 42 27.4	
	0.5nm,0.3s,baz=302,slow=19,SNR=3.1						
KDAK				LR	LR	02 43 11.7	
	comp=Z,244nm,18.1s,baz=329,slow=43						
KDAK	**Kodiak Island**	**3.82**	**227**	P	**Pn**	**02 41 23.5**	**-1.2**
WRH	**Wood River Hil**	**3.99**	**356**	P	**Pn**	**02 41 26.9**	**-0.2**
CCB	**Clear Creek Bu**	**4.16**	**358**	P	**Pn**	**02 41 28.9**	**-0.5**
IL1	**Eielson Array**	**4.28**	**3**	P	**Pn**	**02 41 30.2**	**-1.1**
ILAR	**Eielson Array**	**4.28**	**3**	Pn	**Pn**	**02 41 30.2**	**-1.1**
	0.9nm,0.3s,baz=184,slow=13,SNR=38						
ILAR				Pg	**Pn**	**02 41 35.4**	**+4.1**
	3.7nm,0.3s,baz=181,slow=13,SNR=72						
ILAR				Sn	**Sn**	**02 42 17.3**	**-3.6**
	1.9nm,0.3s,baz=177,slow=15,SNR=4.9						
ILAR				Lg		02 42 43.2	
	4.7nm,0.3s,baz=178,slow=29,SNR=7.1						
MDM	**Murphy Dome**	**4.48**	**355**	P	**Pn**	**02 41 33.5**	**-0.6**
IM3	**Indian Mountai**	**6.19**	**335**	P	**Pn**	**02 41 56.8**	**-1.4**
COLD	**Coldfoot**	**6.85**	**351**	P	**Pn**	**02 42 06.1**	**-1.4**
BM3	**Burnt Mountain**	**7.04**	**9**	P	**Pn**	**02 42 08.1**	**-2.1**
INK	**Inuvik**	**9.83**	**31**	Pn	**P**	**02 42 47.0**	**-1.7**
	0.1nm,0.3s,baz=240,slow=16,SNR=3.3						
YKA	**Yellowknife Ar**	**15.68**	**69**	Pn	**P**	**02 44 05.0**	**-1.5**
	0.0nm,0.3s,baz=277,slow=13,SNR=3.3						
SONM	**Songino Array**	**56.69**	**309**	P	**P**	**02 50 08.5**	**-0.5**
	0.3nm,0.8s,mb3.4,baz=45,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**56.69**	**309**	P	**P**	**02 50 08.5**	**-0.5**

DHMR 22 02:40:50.6±2.8, 12.47N×40.55E, h2km±25km, ML4.0, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.65**	**66**	*i* S	Sn	02 42 38.0	+4.5
UDYN				AML	AML	02 43 00.9	
	comp=E,615nm,0.6s						
HAJJ	**Hajjah**	**4.37**	**42**	*e*P	Pn	02 41 59.8	+0.4
HAJJ				*i* S	Sn	02 42 55.1	+3.5
LBOS		**4.79**	**73**	*e*P	Pn	02 42 04.3	-1.1
LBOS				*i* S	Sn	02 43 01.0	-1.3
BDHA	**Al Bayda'**	**5.11**	**72**	*e*P	Pn	02 42 08.6	-1.4
BDHA				*i* S	Sn	02 43 09.4	-1.1

GUC 22 02:49:48.9±0.8, 22.41S×68.56W, h118km±6km, ML4.0, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.39**	**238**	*e*P	P	02 50 06.5	+0.4
LVC				*i* S	S	02 50 20.9	+1.7
LVC				AMP		02 50 22.0	
	comp=E,4μm,0.3s						
CEN1	**Los Morros**	**1.80**	**237**	*e*P	P	02 50 23.4	+3.1
CEN1				*i* S	S	02 50 49.2	+5.2
ANCH	**Antofagasta**	**2.13**	**233**	⇑*i*P	P	02 50 25.5	+1.1
ANCH				*i* S	S	02 50 52.3	+1.2
ANCH				AMP		02 50 54.8	
	comp=N,2μm,0.1s						
CPN1	**Cerro Paranal**	**2.78**	**217**	*e*P	P	02 50 34.5	+1.3
CPN1				*i* S	S	02 51 08.6	+2.0
CRCH	**Chaqaral**	**4.35**	**205**	*i* S	S	02 51 44.8	+0.5

NEIC **22** *02:54:56.1±2.4, 5.69S×154.32E, h149km±19km, mb4.2/1, Error ellipse: s-maj=23.1km s-min=15.2km az=216.0*
IDC **22** *02:54:56.9±4.5, 5.68S×154.36E, h159km±38km, mb3.7/5, mb1 3.9/6, mb1mx3.6/13, mbtmp4.3/6, MS3.0/1, Ms1 3.0/1, ms1mx2.8/22, Error ellipse: s-maj=32.4km s-min=23.7km az=46.0*

ISC 22 02:54:53.6±3.8, 5.6S±0.2×154.5E±0.1, h146km±31km, n13, σ0§89/14, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.64**	**126**	LR	LR	02 58 25.6	
	comp=Z,126nm,19.5s,baz=132,slow=31						
PMG	**Port Moresby**	**8.19**	**242**	P	**P**	**02 56 50.6**	**0.0**
	6.6nm,0.3s,baz=61,slow=7.7,SNR=25						
PMG				S	**S**	**02 58 22.9**	**+1.1**
	0.7nm,0.3s,baz=155,slow=17,SNR=3.0						
PMG	**Port Moresby**	**8.19**	**242**	*e*Pn	**P**	**02 56 49.7**	**-0.9**
PMG				S	**S**	**02 58 22.9**	**+1.1**
DZM	**Mont Dzumac**	**20.07**	**146**	P	**P**	**02 59 18.0**	**+0.4**
	5.3nm,0.5s,baz=277,slow=16,SNR=9.3						
WRAB	**Tennant Creek**	**24.22**	**232**	*e*P	**P**	**02 59 57.7**	**-0.5**
	6.5nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**24.23**	**232**	P	**P**	**02 59 57.3**	**-1.0**
	3.7nm,0.7s,mb4.0,baz=56,slow=9.7,SNR=30						
WRA				3P		03 00 27.2	
	1.2nm,0.8s,baz=58,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**28.80**	**203**	P	**P**	**03 00 38.6**	**-1.5**
	1.0nm,0.4s,mb3.9,baz=44,slow=8.6,SNR=5.3						
STKA	**Stephens Creek**	**28.80**	**203**	*e*P	**P**	**03 00 38.4**	**-1.7**
SONM	**Songino Array**	**67.88**	**327**	P	**P**	**03 05 38.5**	**+0.1**
	0.6nm,0.7s,mb3.4,baz=136,slow=6.3,SNR=5.8						
VNDA	**Vanda**	**72.00**	**178**	*e*P	**P**	**03 06 02.6**	**-0.2**
QSPA	**South Pole Qui**	**84.38**	**180**	*e*P	**P**	**03 07 11.4**	**+1.4**
MAW	**Mawson**	**85.49**	**203**	P	**P**	**03 07 16.8**	**+1.0**
	1.6nm,0.5s,mb4.0,baz=98,slow=5.0,SNR=3.7						
MAW	**Mawson**	**85.49**	**203**	*e*P	**P**	**03 07 16.2**	**+0.4**

DHMR 22 02:59:19.0±3.1, 12.66N×40.48E, h12km±494km, ML3.9, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.64**	**69**	*e*P	Pn	03 00 17.5	+1.1
UDYN				*i* S	Sn	03 01 03.2	+3.5
UDYN				AML	AML	03 01 23.0	
	comp=E,513nm,0.5s						
HAJJ	**Hajjah**	**4.28**	**45**	*i* S	Sn	03 01 18.8	+2.8
LBOS		**4.80**	**75**	*e*P	Pn	03 00 30.4	-2.5
LBOS				*i* S	Sn	03 01 28.1	-1.1
BDHA	**Al Bayda'**	**5.12**	**75**	*e*P	Pn	03 00 35.8	-1.7
BDHA				*i* S	Sn	03 01 35.9	-1.3

IDC 22 03:12:03.5±6.5, 11.73N×40.08E, mb3.6/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, MS4.3/1, Ms1 4.3/1, ms1mx3.9/24, Error ellipse: s-maj=143.1km s-min=52.3km az=29.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASF	**Jabal al Asfar**	**20.56**	**352**	P	P	03 16 44.1	-2.4
	0.9nm,0.4s,baz=192,slow=19,SNR=2.1						
**

comp=E,0.3nm,0.3s,baz=272,slow=24,SNR=4.9
KMBO LR LR 03 20 35.2
comp=E,3µm,21.2s,baz=6.0,slow=34
RBK Rabkut 14.14 68 ⇑P **P 03 15 50.1 -4.9**
HILS Ha'il 14.72 5 P **P 03 16 05.2 +2.7**
SHAO Shalim 15.59 68 ⇓P **P 03 16 09.3 -4.5**
TBKS Tabuk 15.93 347 P **P 03 16 25.4 +7.2**
BDAS Al Bad' 16.48 343 P **P 03 16 30.9 +5.6**
HAQS Haql 17.12 343 P **P 03 16 37.9 +4.6**
JMOS Jabal al Moall 17.18 344 P **P 03 16 38.4 +4.4**
ARQ Araqi 18.61 53 ⇑P **P 03 16 51.6 -0.3**
BSY Bisya 18.85 55 ⇓P **P 03 16 53.7 -1.1**
SNR=14
BSYO Bisya 18.87 56 P **P 03 16 53.7 -1.4**
SNR=14
QURS Qurayyt al Mil 18.88 352 P **P 03 16 57.3 +2.2**
ASHO Ashiyiah 19.02 49 ⇓P **P 03 16 56.0 -0.8**
SNR=15
HOQ Hoqain 19.36 53 ⇑P **P 03 16 59.3 -1.5**
JMDO Jabal Madar 19.41 58 ⇑P **P 03 16 59.7 -1.7**
SMDO Samad 19.68 56 ⇓P **P 03 17 05.5 +0.9**
SNR=8.5
ASF Jabal al Asfar 19.71 351 P **P 03 17 05.1 +0.3**
comp=E,0.5nm,0.3s,baz=359,slow=3.2,SNR=6.7
ASF S **S 03 20 45.3 +4.2**
comp=E,0.3nm,0.3s,baz=180,slow=15,SNR=2.2
ASF LR LR 03 23 47.0
comp=E,3µm,19.3s,baz=42,slow=34
BANOM **Banah 19.94 46** ⇓P **P 03 17 07.5 +0.2**
SNR=12
BIDO Bidbid 19.97 55 ⇑P **P 03 17 06.4 -1.3**
SNR=7.1
WBK Wadi Bani Khal 20.23 58 ⇑P **P 03 17 08.9 -1.6**
SNR=8.5
BHD Baghdad 20.85 9 *i* x x 03 17 15.5
BHD *ex* x 03 21 17.0
BHL Bhannes 21.61 349 *eP* **P 03 17 27.2 +2.7**
MSEY Mahe Island 22.79 138 *eP* **P 03 17 37.3 +0.9**
comp=E,232nm,1.1s,mb5.5
MSEY Mahe Island 22.79 138 *eP* **P 03 17 37.3 +0.9**
comp=E,232nm,1.1s,mb5.5
CSS Prodhromos 23.14 345 *eP* **P 03 17 42.2 +2.5**
comp=E,90nm,1.5s,mb5.0
MSL Mosul 23.67 5 *ex* x 03 18 11.0
MSL *ex* x 03 22 36.0
MSL *ex* x 03 25 05.0
MSL *ex* x 03 25 50.0
MALT Malatya 25.63 356 *eP* **P 03 18 05.6 +2.0**
comp=E,178nm,1.8s,mb5.3
MALT Malatya 25.63 356 *eP* **P 03 18 05.6 +1.9**
comp=E,178nm,1.8s,mb5.3
MALT Malatya 25.63 356 *eP* **P 03 18 05.6 +1.9**
MALT pmax pmax
comp=Z,178nm,1.8s,mb5.3
IDI Anoyia 26.58 331 P **P 03 18 14.1 +1.6**
comp=Z,12nm,0.9s,mb4.4,baz=163,slow=19,SNR=2.7
IDI LR LR 03 28 39.1
comp=Z,2µm,20.2s,MS4.7,baz=145,slow=36
BR131 Keskin Array S 27.64 349 *eP* **P 03 18 23.3 +1.2**
comp=E,25nm,1.1s,mb4.8
BR131 Keskin Array S 27.64 349 *eP* **P 03 18 23.3 +1.2**
comp=Z,25nm,1.1s,mb4.8
BRTR Keskin Array B 27.64 349 P **P 03 18 23.5 +1.4**
comp=Z,6.7nm,0.8s,mb4.3,baz=167,slow=10,SNR=24
BRTR PcP PcP 03 21 39.4 -0.4
comp=Z,2.2nm,0.9s,baz=157,slow=3.3,SNR=3.6
BRTR Keskin Array B 27.64 349 PcP PcP 03 21 39.3 -0.5
ANTO Ankara 27.95 347 *eP* **P 03 18 24.1 -0.9**
comp=Z,55nm,1.3s,mb5.0
ANTO Ankara 27.95 347 *eP* **P 03 18 24.0 -0.9**
comp=Z,55nm,1.3s,mb5.0
ANTO Ankara 27.95 347 *eP* **P 03 18 24.1 -0.8**
ANTO pmax pmax
comp=Z,55nm,1.3s,mb5.0
TI2 Plekhanov 29.23 7 *eP* **P 03 18 31.2 -5.2**
TI2 pmax pmax
comp=Z,30nm,1.0s,mb5.0
TI2 MLR MLR
comp=E,2µm,12.0s
TI2 MLR MLR
comp=Z,6µm,12.0s,MS5.5
ZEI Tsey 30.17 5 *eP* **P 03 18 44.2 -0.6**
comp=Z,14nm,1.0s,mb4.7
ZEI Tsey 30.17 5 *eP* **P 03 18 44.2 -0.6**
ZEI *i* *PP pP 03 18 53.1 +5.3
ZEI pmax pmax
comp=Z,14nm,1.0s,mb4.7
LSZ Lusaka 30.27 204 *eP* **P 03 18 47.4 +1.5**
comp=Z,7.2nm,1.2s,mb4.3
LSZ Lusaka 30.27 204 *eP* **P 03 18 47.4 +1.5**
comp=Z,7.2nm,1.2s,mb4.3
LSZ Lusaka 30.27 204 *eP* **P 03 18 47.4 +1.5**
LSZ pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
SOC Sochi 30.84 359 *i* P **P 03 18 51.1 +0.4**
comp=Z,21nm,1.3s,mb4.8
SOC Sochi 30.84 359 *i* P **P 03 18 51.1 +0.4**
SOC *i* 03 19 47.7
SOC *eS* **S 03 23 54.0 +0.8**
SOC *i* SS SS 03 25 40.9 +5.1
SOC *e* 03 29 20.4
SOC pmax pmax
comp=Z,26nm,1.5s,mb4.8
SOC pmax pmax
comp=N,21nm,1.3s
SOC pmax pmax
comp=E,11nm,1.2s
SOC MLR MLR
comp=N,2µm,11.0s,MS5.1
SOC MLR MLR
comp=E,524nm,11.0s,MS5.1
SOC MLR MLR
comp=Z,1µm,11.0s,MS4.8
KIV Kislovodsk 31.27 3 *eP* **P 03 18 54.9 +0.4**
comp=Z,29nm,1.0s,mb5.1
KIV Kislovodsk 31.27 3 *eP* **P 03 18 54.9 +0.5**
comp=Z,29nm,1.0s,mb5.1
KIV Kislovodsk 31.27 3 *eP* **P 03 18 55.4 +1.0**
KIV *e* 03 21 44.9
KIV *eS* **S 03 24 06.2 +6.4**
KIV pmax pmax
comp=Z,21nm,0.9s,mb5.0
KIV MLR MLR
comp=N,2µm,18.0s,MS4.9
KIV MLR MLR
comp=Z,2µm,18.0s,MS4.9
KIV MLR MLR
comp=E,1µm,15.0s,MS4.9
OPO Ambohidratompo 31.72 168 P **P 03 19 00.3 +1.6**
comp=E,2.6nm,0.8s,mb4.1,baz=88,slow=14,SNR=4.1
ANN Anapa 32.15 356 *eP* **P 03 19 07.5 +5.3**
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.1
ANN MLR MLR
comp=N,1µm,14.0s,MS4.8
ANN MLR MLR
comp=E,437nm,14.0s,MS4.8
ANN MLR MLR
comp=Z,922nm,14.0s,MS4.6
SIM Simferopol' 32.65 352 P **P 03 19 07.2 +0.7**
SIM pmax pmax
comp=Z,19nm,1.2s,mb4.9
SKO Skopje 33.59 334 *eP* **P 03 19 14.5 -0.2**
TIP Timpagrande 33.74 326 P **P 03 19 13.0 -3.1**
TIP Timpagrande 33.74 326 P **P 03 19 13.0 -3.1**
VAE Valguarnera 33.95 321 P **P 03 19 20.7 +2.8**
comp=Z,8.9nm,0.9s,mb4.7,baz=184,slow=18,SNR=2.7
VAE LR LR 03 33 57.8
comp=Z,2µm,18.7s,MS4.9,baz=336,slow=38
VAE Valguarnera 33.95 321 P **P 03 19 20.8 +2.8**
MATP Matopo 34.89 200 P **P 03 19 26.9 +0.8**
comp=Z,3.9nm,0.9s,mb4.3,baz=9.4,slow=9.1,SNR=5.9
MLR Muntele Rosu 34.99 342 P **P 03 19 28.3 +1.5**
comp=Z,6.0nm,0.6s,mb4.7,baz=206,slow=8.6,SNR=5.8
CII Carovilli 36.86 327 P **P 03 19 35.6 -7.0**
comp=Z,64nm,1.4s,mb5.3
CII Carovilli 36.86 327 P **P 03 19 35.6 -7.0**
comp=Z,64nm,1.4s,mb5.3
AQU L'Aquila 37.78 327 *eP* **P 03 19 49.0 -1.4**
comp=Z,32nm,1.1s,mb5.0
AQU L'Aquila 37.78 327 *eP* **P 03 19 49.0 -1.3**
comp=Z,32nm,1.1s,mb5.0
AQU L'Aquila 37.78 327 *eP* **P 03 19 49.0 -1.3**
AQU pmax pmax
comp=Z,32nm,1.1s,mb5.0
CKFL Kef-Lekhel 38.42 314 P **P 03 19 57.5 +1.7**

VRSR Storozhevoye 38.48 359 *eP* **P 03 19 55.9 -0.3**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,30nm,1.2s
VRSR pmax pmax
comp=E,5.0nm,1.0s
CASM Ain Smara 38.52 314 P **P 03 19 58.0 +1.4**
CAEH 'Ain El Ouahch 38.52 314 P **P 03 19 53.0 -3.6**
CMER Merouana 38.64 312 P **P 03 19 59.0 +1.4**
TSUM Tsumeb 38.84 216 P **P 03 20 01.1 +1.6**
comp=E,3.6nm,1.0s,mb4.0,baz=13,slow=6.2,SNR=4.3
TSUM Tsumeb 38.84 216 P **P 03 19 57.4 -2.0**
comp=E,14nm,1.3s,mb4.5
TSUM Tsumeb 38.84 216 P **P 03 19 57.4 -2.0**
comp=E,14nm,1.3s,mb4.5
VOR Voronezh 39.00 359 P **P**
VOR pmax pmax
comp=Z,80nm,1.9s,mb5.1
VOR pmax pmax
comp=N,90nm,2.0s
AKASG **Malin Array Be 39.05 349** P **P 03 20 00.4 -0.5**
comp=N,3.3nm,0.6s,mb4.2,baz=171,slow=7.2,SNR=19
AKASG PcP PcP 03 22 10.7 -0.8
comp=N,1.5nm,0.8s,baz=158,slow=3.0,SNR=4.5
AKASG **Malin Array Be 39.05 349** PcP PcP 03 22 10.7 -0.8
DFRA Djebel Bou Aff 39.09 314 P **P 03 20 02.0 +0.6**
PSZ Piszkesteto 39.13 338‖ *e* **P 03 20 01.2 -0.4**
PSZ Piszkesteto 39.13 338 *eP* **P 03 20 01.1 -0.6**
comp=N,26nm,1.2s,mb4.8
PSZ Piszkesteto 39.13 338 *eP* **P 03 20 01.1 -0.5**
PSZ pmax pmax
comp=Z,26nm,1.2s,mb4.8
KOLS Kolonicke sedl 39.19 341 *eP* **P 03 20 04.3 +2.2**
SET Setif 39.26 313 P **P 03 20 09.0 +6.1**
KECS Kecovo 39.40 339 *eP* **P 03 20 04.9 +1.1**
DOBS Dobrina 39.52 333 *eP* **P 03 20 05.6 +0.7**
KWP Kalwaria 39.67 342 *eP* **P 03 20 07.6 +1.5**
GROS Grobnik 39.74 333 *eP* **P 03 20 07.5 +0.8**
STHS Stebnicka Huta 39.95 340 *eP* **P 03 20 09.3 +0.9**
VYHS Vyhne 40.00 338 *eP* **P 03 20 09.9 +1.1**
PERS Pernice 40.05 333 *eP* **P 03 20 10.6 +1.3**
VOY Vojsko 40.16 331 *eP* **P 03 20 10.9 +0.8**
VOY *e* 03 20 17.9
VOY *e* 03 20 25.7
ARSA Arzberg 40.34 334⇓ *iP* **P 03 20 12.5 +0.9**
comp=Z,194nm,3.2s
PGF Pioggiola 40.37 323 *eP* **P 03 20 11.6 -0.3**
ZST Bratislava 40.43 336 *eP* **P 03 20 12.9 +0.6**
SMOL Smolenice 40.56 336 *eP* **P 03 20 14.0 +0.6**
OJC Ojcow 41.12 340 *eP* **P 03 20 17.7 -0.2**
OJC *eS* **S 03 26 25.3 -5.4**
OJC MLR MLR 03 39 41.2
comp=Z,800nm,21.9s,MS4.5
KBA Koelnbreinsper 41.19 332⇑ *iP* **P 03 20 18.3 -0.2**
comp=Z,118nm,3.3s
KBA Koelnbreinsper 41.19 332⇑ *iP* **P 03 20 18.3 -0.2**
KBA pmax pmax
comp=Z,118nm,3.3s
MOA Molln 41.35 333⇓ *iP* **P 03 20 20.6 +0.7**
comp=Z,170nm,3.6s
OKC Ostrava-Krasne 41.37 338 *eP* **P 03 20 20.1 +0.1**
VRAC Vranov 41.52 336 P **P 03 20 21.5 +0.2**
comp=Z,5.7nm,0.8s,mb4.3,baz=130,slow=7.4,SNR=9.0
VRAC Vranov 41.52 336 *eP* **P 03 20 22.0 +0.7**
MORC Moravsky Berou 41.54 338 *eP* **P 03 20 21.4 -0.1**
comp=Z,13nm,1.3s,mb4.4
MORC Moravsky Berou 41.54 338 *eP* **P 03 20 21.9 +0.4**
MORC Moravsky Berou 41.54 338 *eP* **P 03 20 21.4 -0.1**
MORC pmax pmax
comp=Z,13nm,1.3s,mb4.4
TREC Trest 41.95 336 *eP* **P 03 20 25.0 +0.2**
TREC AMS AMS 03 42 10.0
comp=Z,1µm,13.5s
AAK Ala-Archa 41.97 38 *eP* **P 03 20 24.8 -0.3**
comp=Z,40nm,1.6s,mb4.8
AAK *e* PP PP 03 22 00.7 -4.8
AAK Ala-Archa 41.97 38 *eP* **P 03 20 24.8 -0.3**
comp=Z,40nm,1.6s,mb4.8
AAK Ala-Archa 41.97 38 *e* PP PP 03 22 00.7 -4.8
AAK Ala-Archa 41.97 38 *eP* **P 03 20 24.8 -0.3**
AAK *e* 03 22 00.7
AAK pmax pmax
comp=Z,40nm,1.6s,mb4.8
SBF Sospel 42.08 324 *eP* **P 03 20 25.3 -0.7**
comp=Z,23nm,0.9s,mb4.5
SBF Sospel 42.08 324 *eP* **P 03 20 25.3 -0.7**
SBF pmax pmax
comp=Z,12nm,0.9s,mb4.5
WTTA Wattenberg 42.12 331⇓ *iP* **P 03 20 26.9 +0.7**
comp=Z,135nm,2.9s,mb5.1
WTTA Wattenberg 42.12 331⇓ *iP* **P 03 20 26.9 +0.7**
WTTA pmax pmax
comp=Z,135nm,2.9s,mb5.1
FRU Bishkek 42.16 38 *eP* **P 03 20 29.2 +2.6**
FRU *e* 03 22 10.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.0
AUTN L'Aution 42.17 324 *eP* **P 03 20 28.4 +1.7**
TOUF Mont Tournerai 42.28 324 *eP* **P 03 20 31.9 +4.3**
SQTA Sankt Quirin 42.30 330⇓ *iP* **P 03 20 28.1 +0.4**
comp=Z,20nm,1.3s,mb4.6
SQTA Sankt Quirin 42.30 330⇓ *iP* **P 03 20 28.1 +0.4**
SQTA pmax pmax
comp=Z,20nm,1.3s,mb4.6
LMR La Mourre 42.30 323 *eP* **P 03 20 26.8 -1.0**
GEC2 GERESS Array S 42.35 334 *eP* **P 03 20 28.1 0.0**
comp=Z,27nm,1.5s,mb4.7
GEC2 *e*PP PP 03 22 13.9 +4.7
GEC2 GERESS Array S 42.35 334 *eP* **P 03 20 28.1 0.0**
comp=Z,27nm,1.5s,mb4.7
GEC2 GERESS Array S 42.35 334 *e*PP PP 03 22 13.9 +4.7
GEC2 GERESS Array S 42.35 334 *eP* **P 03 20 28.1 0.0**
GEC2 *e* 03 22 13.9
GEC2 pmax pmax
comp=Z,27nm,1.5s,mb4.7
GERES GERESS Array B 42.35 334 P **P 03 20 28.4 +0.3**
comp=Z,3.1nm,0.6s,mb4.1,baz=134,slow=7.1,SNR=31
FRF La Foret Royal 42.36 323 *eP* **P 03 20 27.4 -0.8**
MOTA Moosalm 42.44 330⇑ *iP* **P 03 20 28.5 -0.3**
comp=Z,11nm,1.3s,mb4.3
MOTA Moosalm 42.44 330⇑ *iP* **P 03 20 28.5 -0.3**
MOTA pmax pmax
comp=Z,11nm,1.3s,mb4.3
DPC Dobruska-Polom 42.47 337 *eP* **P 03 20 29.1 +0.1**
OBN Obninsk 42.48 357 *eP* **P 03 20 28.9 -0.2**
comp=Z,158nm,1.8s,mb5.3
OBN Obninsk 42.48 357 *eP* **P 03 20 28.9 -0.2**
comp=Z,158nm,1.8s,mb5.3
OBN Obninsk 42.48 357⇓ *iP* **P 03 20 30.1 +1.0**
OBN pmax pmax
comp=Z,111nm,2.1s,mb5.1
OBN MLR MLR
comp=Z,700nm,18.0s,MS4.6
KHC Kasperske Hory 42.62 334 *eP* **P 03 20 30.1 -0.2**
KHC x x 03 20 38.5
KHC AMS AMS 03 38 20.0
comp=Z,800nm,21.4s
KHC Kasperske Hory 42.62 334 *eP* **P 03 20 30.1 -0.2**
KHC *e* 03 20 38.5
KHC MLR MLR
comp=Z,800nm,21.4s,MS4.6
DAVOX **Davos 42.65 329** P **P 03 20 30.9 +0.3**
comp=Z,2.7nm,0.6s,mb4.2,baz=116,slow=16,SNR=7.5
DAVOX LR LR 03 40 04.8
comp=Z,853nm,21.3s,MS4.6,baz=130,slow=39
UPC Upice 42.71 337 *eP* **P 03 20 31.4 +0.4**
TAVF Tavernes 42.74 323 *eP* **P 03 20 31.8 +0.5**
BERF Bertagne 42.78 322 *eP* **P 03 20 32.0 +0.3**
SURF Saint Ours 42.81 324 *eP* **P 03 20 32.6 +0.7**
KSP Ksiaz 42.88 338 *eP* **P 03 20 32.9 +0.5**
KSP *eS* **S 03 26 59.0 +2.4**
KSP *e*SS SS 03 30 30.0 +28
KSP LR LR
comp=Z,1µm,24.6s,MS4.8
PRU Pruhonice 42.88 336 *eP* **P 03 20 31.5 -0.9**
PRU AMS AMS 03 38 50.0
comp=Z,800nm,22.8s
PUYF Puyloubier 42.90 322 *eP* **P 03 20 33.2 +0.5**
WET Wettzell 42.93 334 *eP* **P 03 20 31.7 -1.1**
comp=Z,10.0nm,1.2s,mb4.4
WET Wettzell 42.93 334 *eP* **P 03 20 31.7 -1.1**
WET pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
KOLN Koldanda 42.97 63 *eP* **P 03 20 33.1 -0.4**

comp=Z,197nm,1.6s,mb5.6
GELF Grande-Etoile 42.98 322 *eP* **P 03 20 33.7 +0.4**
MBDF Montbardon 42.98 325 *eP* **P 03 20 33.5 +0.1**
comp=Z,58nm,0.9s,mb5.0
MBDF Montbardon 42.98 325 *eP* **P 03 20 33.5 +0.1**
MBDF pmax pmax
comp=Z,29nm,0.9s,mb5.0
DAVA Damuels 42.99 329⇑ *iP* **P 03 20 33.7 +0.3**
comp=Z,84nm,2.3s,mb5.1
STOF St-Etienne Org 43.05 323 *eP* **P 03 20 37.2 +3.3**
MOS Moscow 43.06 358 *eP* **P 03 20 34.7 +0.9**
MOS *e* 03 22 17.7
MOS *e*PPP PPP 03 22 54.8 +4.1
MOS pmax pmax
comp=Z,500nm,2.0s,mb5.9
MOS pmax pmax
comp=Z,141nm,1.3s,mb5.5
MOS MLR MLR
comp=Z,1µm,15.2s,MS4.9
SMRF Simiane la Rot 43.23 323 *eP* **P 03 20 35.2 -0.1**
BNI Bardonecchia 43.23 325 *eP* **P 03 20 32.2 -3.2**
comp=Z,57nm,1.6s,mb5.0
BNI Bardonecchia 43.23 325 *eP* **P 03 20 32.2 -3.2**
comp=Z,57nm,1.6s,mb5.0
BNI Bardonecchia 43.23 325 *eP* **P 03 20 32.2 -3.2**
BNI pmax pmax
comp=Z,57nm,1.6s,mb5.0
PVCC Panska Ves 43.29 336 *eP* **P 03 20 35.8 +0.1**
PRAF Pradon 43.37 322 *eP* **P 03 20 37.0 +0.5**
EIBI Ibiza 43.42 314 P **P 03 20 36.9 0.0**
comp=Z,69nm,1.6s,mb5.1
EIBI Ibiza 43.42 314 P **P 03 20 36.9 0.0**
comp=Z,69nm,1.6s,mb5.1
LPG La Plagne 43.47 325 *eP* **P 03 20 36.9 -0.4**
comp=Z,30nm,0.9s,mb4.7
LPG La Plagne 43.47 325 *eP* **P 03 20 36.9 -0.4**
LPG pmax pmax
comp=Z,15nm,0.9s,mb4.7
SUW Suwalki 43.48 345 *eP* **P 03 20 37.4 +0.2**
LPL La Plagne 43.49 325 *eP* **P 03 20 36.9 -0.5**
ORIF Oris-en-Rattie 43.61 324 *eP* **P 03 20 37.6 -0.8**
ORIF *e*R
comp=Z,1µm,22.0s
BRG Berggiesshubel 43.81 336 *i* P **P 03 20 39.7 -0.2**
comp=Z,33nm,1.8s,mb4.8
BRG *e* 03 20 48.1
BRG S **S 03 27 18.0 +7.9**
BRG SS SS 03 30 33.0 +15
BRG LR LR
comp=Z,590nm,13.9s,MS4.7
BRG Berggiesshubel 43.81 336 *i* P **P 03 20 39.7 -0.2**
BRG *e* 03 20 48.1
BRG S **S 03 27 18.0 +7.9**
BRG SS SS 03 30 33.0 +15
BRG pmax pmax
comp=Z,33nm,1.8s,mb4.8
BRG MLR MLR
comp=Z,590nm,13.9s,MS4.7
GKN Gorkha 43.92 63 *eP* **P 03 20 40.2 -1.0**
comp=Z,161nm,1.6s,mb5.5
EJON La Jonquera 44.03 320 P **P 03 20 41.5 -0.4**
comp=Z,26nm,1.5s,mb4.7
EJON La Jonquera 44.03 320 P **P 03 20 41.5 -0.4**
comp=Z,26nm,1.5s,mb4.7
GRA1 Grafenberg Arr 44.06 333 *eP* **P 03 20 40.6 -1.4**
comp=Z,14nm,1.3s,mb4.5
GRA1 *e*PP PP 03 22 30.9 +4.5
GRA1 *eS* **S 03 27 28.2 +14**
GRA1 LR LR
comp=Z,1µm,19.5s,MS4.8
GRF Grafenberg Arr 44.06 333 *eP* **P 03 20 40.6 -1.4**
comp=Z,14nm,1.3s,mb4.5
GRF *e*PP PP 03 22 30.9 +4.5
GRF *eS* **S 03 27 28.2 +14**
GRF LR LR
comp=Z,1µm,19.5s,MS4.8
GRF Grafenberg Arr 44.06 333 *eP* **P 03 20 40.6 -1.4**
comp=Z,14nm,1.3s,mb4.5
GRF Grafenberg Arr 44.06 333 *eP* **P 03 20 40.6 -1.4**
GRF *e* 03 22 30.9
GRF *eS* **S 03 27 28.2 +14**
GRF pmax pmax
comp=Z,14nm,1.3s,mb4.5
GRF MLR MLR
comp=Z,1µm,19.5s,MS4.8
GRF Grafenberg Arr 44.06 333 *eP* **P 03 20 40.6 -1.4**
GRF *e* 03 22 30.9
GRF *eS* **S 03 27 28.2 +14**
GRF pmax pmax
comp=Z,14nm,1.3s,mb4.5
GRF MLR MLR
comp=Z,1µm,19.5s,MS4.8
DMN Daman 44.25 63 *eP* **P 03 20 43.5 -0.4**
VIVF Saint-Julien-l 44.27 323 *eP* **P 03 20 42.8 -0.9**
LASF Ste Croix 44.31 322 *eP* **P 03 20 43.3 -0.8**
BBS Basel-Blauen 44.31 328 *eP* **P 03 20 44.2 +0.1**
FELD Feldberg 44.33 329 *eP* **P 03 20 44.5 +0.3**
KKN Kakani 44.44 63 *eP* **P 03 20 44.5 -0.9**
BFO Black Forest 44.47 330 *eP* **P 03 20 45.2 -0.1**
comp=Z,24nm,1.7s,mb4.7
BFO Black Forest 44.47 330 *eP* **P 03 20 45.2 -0.1**
BFO pmax pmax
comp=Z,24nm,1.7s,mb4.7
CART Cartagena 44.49 311 *eP* **P 03 20 45.5 -0.2**
comp=Z,18nm,1.0s,mb4.8
CART Cartagena 44.49 311 *eP* **P 03 20 45.5 -0.2**
comp=Z,18nm,1.0s,mb4.8
PKI Pulchoki 44.51 63 *eP* **P 03 20 45.2 -0.8**
CABF La Chapelle 44.52 326 *eP* **P 03 20 44.2 -1.6**
comp=Z,31nm,1.0s,mb4.8
CABF La Chapelle 44.52 326 *eP* **P 03 20 44.2 -1.6**
CABF pmax pmax
comp=Z,15nm,1.0s,mb4.8
CLL Collm 44.52 336⇑ *iP* **P 03 20 45.1 -0.6**
comp=Z,logA/T=1.0,mb4.6
CLL *eS* **S 03 27 21.0 +0.5**
CLL *e*SS SS 03 30 41.0 +9.3
CLL *e* 03 31 05.0
CLL *e*SSS SSS 03 31 25.0 -2.9
CLL Collm 44.52 336⇑ *iP* **P 03 20 45.1 -0.6**
CLL *eS* **S 03 27 21.0 +0.5**
CLL pmax pmax
comp=Z,13nm,1.3s,mb4.6
LOMF Lomont 44.59 328 *eP* **P 03 20 45.4 -0.9**
MOX Moxa 44.59 334 *i* P **P 03 20 45.8 -0.5**
comp=Z,logA/T=1.0,mb4.6
MOX PP PP 03 22 33.0 +1.3
MOX L 03 41 32.0
MOX Moxa 44.59 334 *eP* **P 03 20 45.8 -0.5**
comp=Z,14nm,1.4s,mb4.6
MOX *e*PP PP 03 22 33.3 +1.6
MOX LR LR
comp=Z,500nm,20.0s,MS4.4
MOX Moxa 44.59 334 *eP* **P 03 20 45.8 -0.5**
MOX *e* 03 22 33.3
MOX pmax pmax
comp=Z,14nm,1.4s,mb4.6
MOX MLR MLR
comp=Z,500nm,20.0s,MS4.4
EMIR Miracle 44.64 318 P **P 03 20 46.4 -0.5**
comp=Z,12nm,0.8s,mb4.8
EMIR Miracle 44.64 318 P **P 03 20 46.3 -0.5**
comp=Z,12nm,0.8s,mb4.8
EPOB Poblet 44.66 317 P **P 03 20 47.3 +0.2**
comp=Z,68nm,1.8s,mb5.2
EPOB Poblet 44.66 317 P **P 03 20 47.3 +0.3**
comp=Z,68nm,1.8s,mb5.2
MOF Molkenrain 44.76 328 *eP* **P 03 20 46.6 -1.1**
EMUR La Murta 44.77 312 P **P 03 20 48.7 +0.8**
comp=Z,91nm,1.5s,mb5.4
EMUR La Murta 44.77 312 P **P 03 20 48.7 +0.8**
comp=Z,91nm,1.5s,mb5.4
HINF Hinteralfeld 44.88 328 *eP* **P 03 20 47.1 -1.5**
comp=Z,17nm,0.8s,mb4.6
HINF Hinteralfeld 44.88 328 *eP* **P 03 20 47.1 -1.5**
HINF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
MTLF Montolieu 44.92 320 *eP* **P 03 20 48.4 -0.6**
KIC Kosan Boka 44.95 266 *eP* **P 03 20 48.9 -0.8**
comp=Z,142nm,1.4s,mb5.6
ERTA Horta de San J 44.98 316 P **P 03 20 48.9 -0.6**
comp=Z,53nm,2.3s,mb5.0
ERTA Horta de San J 44.98 316 P **P 03 20 48.9 -0.7**
comp=Z,53nm,2.3s,mb5.0
ECH Echery 44.98 329 *eP* **P 03 20 49.7 +0.2**

DBIC Dimbokro 45.00 267 P **P** **03 20 49.1 -1.0**
comp=Z,11nm,0.7s,mb4.8,baz=56,slow=8.6,SNR=22
DBIC LR LR 03 41 48.8
comp=Z,952nm,18.6s,MS4.8,baz=64,slow=39
DBIC Dimbokro 45.00 267 *e*P **P** **03 20 49.4 -0.6**
comp=Z,14nm,0.8s,mb4.9
DBIC *e* 03 20 55.2
DBIC Dimbokro 45.00 267 *e*P **P** **03 20 49.4 -0.7**
DBIC *e* 03 20 55.2
DBIC pmax pmax
comp=Z,14nm,0.8s
WLS Welschbruch 45.01 329 *e*P **P** **03 20 49.9 +0.2**
CDF Champ du Feu 45.05 329 *e*P **P** **03 20 48.7 -1.3**
comp=Z,17nm,0.9s,mb4.6
CDF Champ du Feu 45.05 329 *e*P **P** **03 20 48.7 -1.3**
CDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
TOD Tromm 45.11 331 *e*P **P** **03 20 49.8 -0.7**
TIC Toumodi 45.16 267 *e*P **P** **03 20 51.3 -0.1**
comp=Z,11nm,1.0s,mb4.6
LIC Lamto 45.25 266 *e*P **P** **03 20 51.0 -1.1**
comp=Z,105nm,1.5s,mb5.5
LIC Lamto 45.25 266 *e*P **P** **03 20 51.4 -0.7**
comp=Z,24nm,1.0s,mb5.0
HAU Haudompre 45.26 328 *e*P **P** **03 20 50.3 -1.4**
comp=Z,18nm,0.8s,mb4.6
HAU *e*R
comp=Z,653nm,22.0s
HAU Haudompre 45.26 328 *e*P **P** **03 20 50.3 -1.4**
HAU pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
HAU MLR MLR
comp=Z,650nm,22.0s,MS4.5
ECHE Chera 45.28 314 P **P** **03 20 53.1 +1.2**
comp=Z,24nm,1.4s,mb4.8
ECHE Chera 45.28 314 P **P** **03 20 53.1 +1.2**
ECHE pmax pmax
comp=Z,24nm,1.4s,mb4.8
ETOB Tobarra 45.30 313 P **P** **03 20 52.4 +0.2**
comp=Z,29nm,1.3s,mb5.0
ETOB Tobarra 45.30 313 P **P** **03 20 52.3 +0.1**
comp=Z,29nm,1.3s,mb5.0
LBL Lubilhac 45.31 323 *e*P **P** **03 20 52.4 +0.3**
EALB Alboran 45.42 308 P **P** **03 20 53.5 +0.4**
comp=Z,58nm,1.1s,mb5.3
EALB Alboran 45.42 308 P **P** **03 20 53.5 +0.3**
comp=Z,58nm,1.1s,mb5.3
EGRA Graus 45.56 318 P **P** **03 20 53.8 -0.4**
comp=Z,8.8nm,0.9s,mb4.7
THEF They Montfort 45.59 328 *e*P **P** **03 20 53.9 -0.3**
MELF Melles 45.60 319 *e*P **P** **03 20 55.3 +0.8**
EBER Berja 45.64 310 P **P** **03 20 55.3 +0.4**
comp=Z,52nm,1.4s,mb5.3
TNS Taunus Mts 45.70 332 *e*P **P** **03 20 54.1 -1.0**
comp=Z,11nm,0.8s,mb4.8
TNS Taunus Mts 45.70 332 *e*P **P** **03 20 54.1 -1.0**
TNS pmax pmax
comp=Z,11nm,0.8s,mb4.8
EHUE Huescar 45.75 311 P **P** **03 20 55.6 -0.1**
comp=Z,23nm,1.0s,mb4.4
EHUE Huescar 45.75 311 P **P** **03 20 55.6 -0.1**
comp=Z,5.3nm,1.0s,mb4.4
EHUE Huescar 45.75 311 P **P** **03 20 55.6 -0.1**
EHUE pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
SMF Signal de Mont 45.78 325 *e*P **P** **03 20 54.1 -1.7**
RESF Ens 45.84 319 *e*P **P** **03 20 56.8 +0.4**
CAF Calviac 45.84 322 *e*P **P** **03 20 55.9 -0.4**
comp=Z,120nm,1.9s,mb5.2
CAF Calviac 45.84 322 *e*P **P** **03 20 55.9 -0.4**
CAF pmax pmax
comp=Z,60nm,1.9s,mb5.2
ARU Arti 45.88 14 *e*P **P** **03 20 58.3 +1.8**
comp=Z,115nm,1.7s,mb5.5
ARU Arti 45.88 14 *e*P **P** **03 20 58.3 +1.8**
comp=Z,115nm,1.7s,mb5.5
ARU Arti 45.88 14 ⇓*i*P **P** **03 20 57.4 +0.9**
ARU *e* 03 22 44.3
ARU *e*PPP PPP 03 23 26.5 -0.9
ARU *e*S **S** **03 27 45.5 +5.5**
ARU pmax pmax
comp=Z,50nm,2.1s,mb5.1
ARU MLR MLR
comp=Z,400nm,16.0s,MS4.5
ARU MLR MLR
comp=N,300nm,17.0s,MS4.5
ARU MLR MLR
comp=E,400nm,16.0s,MS4.5
EBIE Bielsa 45.91 318 P **P** **03 20 57.5 +0.6**
comp=E,43nm,1.2s,mb5.3
EBIE Bielsa 45.91 318 P **P** **03 20 57.5 +0.6**
comp=E,43nm,1.2s,mb5.3
EPF Esparros 45.95 319 *e*P **P** **03 20 56.7 -0.5**
EVIA Vianos 45.99 312 P **P** **03 20 57.2 -0.4**
comp=E,2.5nm,0.9s,mb4.1
EVIA Vianos 45.99 312 P **P** **03 20 57.2 -0.4**
comp=E,2.5nm,0.9s,mb4.1
EVIA Vianos 45.99 312 P **P** **03 20 57.2 -0.4**
EVIA pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CLZ Clausthal 46.01 334 *e*P **P** **03 20 56.8 -0.7**
comp=Z,12nm,1.2s,mb4.7
CLZ Clausthal 46.01 334 *e*P **P** **03 20 56.8 -0.7**
CLZ pmax pmax
comp=Z,12nm,1.2s,mb4.7
VIEF Viey 46.08 319 *e*P **P** **03 20 58.9 +0.7**
EQES Quesada 46.10 311 P **P** **03 20 58.5 0.0**
comp=Z,46nm,1.3s,mb5.2
EQES Quesada 46.10 311 P **P** **03 20 58.5 +0.1**
comp=Z,46nm,1.3s,mb5.2
LABF Labassere 46.13 319 *e*P **P** **03 20 59.7 +1.1**
LOR Lormes 46.13 326 *e*P **P** **03 20 57.2 -1.4**
LOR *e*R
comp=Z,435nm,20.0s
AVF Avril sur Loir 46.13 325 *e*P **P** **03 20 57.1 -1.5**
comp=Z,18nm,1.1s,mb4.6
AVF Avril sur Loir 46.13 325 *e*P **P** **03 20 57.1 -1.5**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
SSF Saint Saulge 46.21 325 *e*P **P** **03 20 57.4 -1.8**
comp=Z,5.1nm,0.9s,mb4.5
SSF Saint Saulge 46.21 325 *e*P **P** **03 20 57.4 -1.8**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MEZF Maizieres J'vi 46.24 328 *e*P **P** **03 20 58.8 -0.6**
comp=Z,30nm,0.7s,mb5.0
ECOG Cogollos-Vega 46.28 310 P **P** **03 21 02.4 +2.5**
comp=Z,8.3nm,1.3s,mb4.5
ECOG Cogollos-Vega 46.28 310 P **P** **03 21 02.4 +2.5**
ECOG pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BGF Bois d'Agland 46.29 324 *e*P **P** **03 20 58.9 -0.9**
comp=Z,50nm,1.2s,mb5.0
BGF Bois d'Agland 46.29 324 *e*P **P** **03 20 58.9 -0.9**
BGF pmax pmax
comp=Z,25nm,1.3s,mb5.0
ERON Agron 46.37 310 P **P** **03 21 01.8 +1.1**
comp=Z,9.9nm,1.1s,mb4.7
ERON Agron 46.37 310 P **P** **03 21 01.8 +1.2**
comp=Z,9.9nm,1.1s,mb4.7
RJF Les Rejaudoux 46.38 322 *e*P **P** **03 20 59.9 -0.6**
comp=Z,38nm,1.4s,mb4.8
RJF *e*R
comp=Z,756nm,17.0s
RJF Les Rejaudoux 46.38 322 *e*P **P** **03 20 59.9 -0.6**
RJF pmax pmax
comp=Z,19nm,1.4s,mb4.8
RJF MLR MLR
comp=Z,760nm,17.0s,MS4.7
REYF Montagne du Re 46.44 319 *e*P **P** **03 21 01.8 +0.7**
ETSF Etsaut 46.47 318 *e*P **P** **03 21 01.3 0.0**
comp=Z,38nm,0.8s,mb5.0
ETSF Etsaut 46.47 318 *e*P **P** **03 21 01.3 0.0**
ETSF pmax pmax
comp=Z,19nm,0.8s,mb5.1
TCF Toulx Ste Croi 46.50 324 *e*P **P** **03 21 00.7 -0.8**
LFF La Frestale 46.65 321 *e*P **P** **03 21 02.5 -0.2**
comp=Z,42nm,0.9s,mb5.1
LFF La Frestale 46.65 321 *e*P **P** **03 21 02.5 -0.2**
LFF pmax pmax
comp=Z,21nm,0.9s,mb5.1
ELOJ Sierra Loja 46.68 310 P **P** **03 21 03.3 +0.2**
comp=Z,85nm,1.7s,mb5.4
ELOJ Sierra Loja 46.68 310 P **P** **03 21 03.3 +0.3**
comp=Z,85nm,1.7s,mb5.4
ELOJ Sierra Loja 46.68 310 P **P** **03 21 03.3 +0.3**
ELOJ pmax pmax
comp=Z,85nm,1.7s,mb5.4
BRVK Borovoye 46.81 24 *e*P **P** **03 21 03.9 +0.1**
comp=Z,18nm,1.6s,mb4.7
BRVK Borovoye 46.81 24 *e*P **P** **03 21 03.9 0.0**
comp=Z,18nm,1.6s,mb4.7
BRVK Borovoye 46.81 24 *e*P **P** **03 21 03.9 0.0**
BRVK pmax pmax
comp=Z,18nm,1.6s,mb4.8
BVAR Borovoye Array 46.83 24 P **P** **03 21 03.5 -0.6**
comp=Z,3.7nm,0.9s,mb4.3,baz=207,slow=6.6,SNR=8.4
EMIJ Mijas 46.96 309 P **P** **03 21 07.6 +2.4**
comp=Z,33nm,1.4s,mb5.1
SJPF Ste Jean 47.00 318 *e*P **P** **03 21 05.7 +0.2**
comp=Z,66nm,1.1s,mb5.2
SJPF Ste Jean 47.00 318 *e*P **P** **03 21 05.7 +0.2**
SJPF pmax pmax
comp=Z,33nm,1.1s,mb5.2
HGN Heimansgroeve 47.26 331⇑*e*P **P** **03 21 07.7 +0.3**
comp=Z,27nm,2.3s,mb4.8
HGN *e*PP PP 03 23 00.7 +2.7
HGN *e*S **S** **03 28 01.8 +2.2**
HGN *e*SS SS 03 31 29.5 +9.1
GIVF Givet 47.37 329 *e*P **P** **03 21 07.0 -1.3**
ESDC Sonseca Array 47.43 313 P **P** **03 21 09.0 0.0**
comp=Z,4.8nm,0.8s,mb4.5,baz=115,slow=8.1,SNR=19
ESDC Sonseca Array 47.43 313 P **P** **03 21 09.1 +0.1**
comp=Z,11nm,1.0s,mb4.7
ESDC Sonseca Array 47.43 313 P **P** **03 21 09.1 +0.1**
comp=Z,11nm,1.0s,mb4.7
ESLA Sonseca Array 47.43 313 *e*P **P** **03 21 08.6 -0.4**
comp=Z,12nm,1.4s,mb4.6
ESLA Sonseca Array 47.43 313 *e*P **P** **03 21 08.6 -0.4**
comp=Z,12nm,1.4s,mb4.6
BSEG Bad Segeberg 47.58 336 *e*P **P** **03 21 09.3 -0.7**
BAIF Baives 47.65 329 *e*P **P** **03 21 08.8 -1.7**
ESPR Espera 47.88 309 P **P** **03 21 12.7 +0.2**
comp=Z,211nm,2.7s,mb5.7
ESPR Espera 47.88 309 P **P** **03 21 12.7 +0.2**
comp=Z,211nm,2.7s,mb5.7
MFF Saint Martin d 48.04 323 *e*P **P** **03 21 12.3 -1.4**
WIT Witteveen 48.30 333 *e*P **P** **03 21 16.9 +1.4**
SOKR Solikamsk 48.40 11 *e*P **P** **03 21 12.5 -3.8**
SOKR S **S** **03 28 34.0 +18**
SOKR pmax pmax
comp=Z,50nm,1.7s,mb5.3
SOKR MLR MLR
comp=Z,1μm,17.0s,MS4.9
SUR Sutherland 48.54 202 *e*P **P** **03 21 19.9 +2.1**
comp=Z,13nm,0.9s,mb5.0
SUR Sutherland 48.54 202 *e*P **P** **03 21 19.9 +2.2**
comp=Z,13nm,0.9s,mb5.0
EMIN Mina Concepcio 48.77 309 P **P** **03 21 20.9 +1.5**
comp=Z,79nm,2.1s,mb5.4
MKAR Makanchi Array 48.89 37 P **P** **03 21 19.5 -0.7**
comp=Z,3.3nm,0.9s,mb4.4,baz=237,slow=6.1,SNR=17
MKAR LR LR 03 43 59.6
comp=Z,616nm,19.7s,MS4.6,baz=181,slow=39
MKAR Makanchi Array 48.89 37 P **P** **03 21 19.5 -0.7**
MKAR LR LR 03 43 59.6
KURK Kurchatov 49.04 31 *e*P **P** **03 21 21.4 +0.2**
comp=Z,43nm,1.6s,mb5.2
KURK Kurchatov 49.04 31 *e*P **P** **03 21 21.4 +0.1**
comp=Z,43nm,1.6s,mb5.2
KURK Kurchatov 49.04 31 *e*P **P** **03 21 21.4 +0.1**
KURK pmax pmax
comp=Z,43nm,1.6s,mb5.2
LDF La Druitiere 49.09 325 *e*P **P** **03 21 19.6 -2.1**
comp=Z,92nm,1.8s,mb5.2
LDF La Druitiere 49.09 325 *e*P **P** **03 21 19.6 -2.1**
LDF pmax pmax
comp=Z,46nm,1.8s,mb5.2
EGRO El Granado 49.32 309 P **P** **03 21 22.2 -1.4**
comp=Z,56nm,1.8s,mb5.3
EGRO El Granado 49.32 309 P **P** **03 21 22.2 -1.4**
comp=Z,56nm,1.8s,mb5.3
EBAD Badajoz 49.34 311 P **P** **03 21 23.0 -0.8**
comp=Z,32nm,1.2s,mb5.2
EBAD Badajoz 49.34 311 P **P** **03 21 23.0 -0.8**
comp=Z,32nm,1.2s,mb5.2
FLN La Foliniere 49.38 325 *e*P **P** **03 21 21.8 -2.2**
comp=Z,30nm,0.9s,mb5.0
FLN *e*R
comp=Z,561nm,22.0s
FLN La Foliniere 49.38 325 *e*P **P** **03 21 21.8 -2.2**
FLN pmax pmax
comp=Z,15nm,0.9s,mb5.0
FLN MLR MLR
comp=Z,560nm,22.0s,MS4.5
GRR Gorron 49.39 325 *e*P **P** **03 21 22.0 -2.0**
comp=Z,28nm,1.1s,mb4.9
GRR Gorron 49.39 325 *e*P **P** **03 21 22.0 -2.0**
GRR pmax pmax
comp=Z,14nm,1.0s,mb5.0
PBEJ Beja 49.75 309 *e*P **P** **03 21 26.3 -0.7**
comp=Z,10nm,1.2s,mb4.7
FINES FINESS Array B 49.83 351 P **P** **03 21 26.9 -0.4**
comp=Z,4.6nm,0.8s,mb4.5,baz=140,slow=15,SNR=11
LSA Lhasa 49.84 62 P **P** **03 21 29.0 +1.3**
LSA Lhasa 49.84 62 *e*P **P** **03 21 28.3 +0.5**
comp=Z,110nm,1.9s,mb5.6
LSA Lhasa 49.84 62 *e*P **P** **03 21 28.3 +0.6**
comp=Z,110nm,1.9s,mb5.6
LSA Lhasa 49.84 62 *e*P **P** **03 21 28.3 +0.6**
LSA pmax pmax
comp=Z,110nm,1.9s,mb5.6
PCBR Castelo Branco 50.03 312 *e*P **P** **03 21 28.5 -0.6**
comp=Z,17nm,1.3s,mb4.9
MTE Manteigas 50.26 312 *e*P **P** **03 21 30.8 0.0**
MTE *e*S **S** **03 28 45.6 +3.7**
MTE *e*LR LR 03 37 24.2
comp=Z,823nm,18.0s
SGMF Saint Gilles 50.30 324 *e*P **P** **03 21 28.8 -2.2**
comp=Z,17nm,0.9s,mb4.8
SGMF Saint Gilles 50.30 324 *e*P **P** **03 21 28.8 -2.2**
SGMF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KAF Kangasniemi 50.44 351 *e*p **P** **03 21 31.0 -0.8**
comp=Z,5.0nm,0.8s,mb4.6,baz=161,slow=7.7
KAF Kangasniemi 50.44 351 *e*P **P** **03 21 31.0 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
QUIF Quistinic 50.48 323 *e*P **P** **03 21 30.7 -1.7**
comp=Z,20nm,1.1s,mb4.7
QUIF Quistinic 50.48 323 *e*P **P** **03 21 30.7 -1.7**
QUIF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
JOF Joensuu 50.63 355 *e*p **P** **03 21 32.4 -0.9**
comp=Z,2.7nm,0.7s,mb4.3
ROSF Rostrenen 50.75 323 *e*P **P** **03 21 32.3 -2.1**
comp=Z,21nm,1.0s,mb4.7
ROSF Rostrenen 50.75 323 *e*P **P** **03 21 32.3 -2.1**
ROSF pmax pmax
comp=Z,11nm,1.0s,mb4.7
WMQ Urumqi 50.98 43 *e*P **P** **03 21 37.5 +1.3**
WMQ AP pP 03 21 42.0 +2.7
WMQ XP sP 03 21 45.0 +4.5
WMQ PCP PcP 03 22 53.0 +0.3
WMQ PP PP 03 23 35.0 +1.3
WMQ *e*S **S** **03 28 53.0 +1.2**
WMQ SCS ScS 03 31 25.0 +0.9
WMQ AMB AMB
comp=Z,19nm,1.3s,mb4.9
WMQ AMB AMB
comp=Z,101nm,5.7s
WMQ LR LR
comp=Z,1μm,21.2s,MS4.9
HFS Hagfors 51.36 343 P **P** **03 21 37.9 -1.0**
comp=Z,3.0nm,0.6s,mb4.4,baz=135,slow=6.3,SNR=11
NB2 NORSAR Subarra 52.81 343 P **P** **03 21 48.7 -1.1**
comp=Z,40nm,1.7s,mb5.1,baz=142,slow=7.4
NB2 NORSAR Subarra 52.81 343 P **P** **03 21 48.7 -1.1**
baz=142,slow=7.4
NB2 NORSAR Subarra 52.81 343 P **P** **03 21 48.7 -1.1**
NB2 pmax pmax
comp=Z,40nm,1.7s,mb5.1
NOA NORSAR Array B 52.81 343 P **P** **03 21 48.8 -1.0**
comp=Z,2.9nm,0.7s,mb4.3,baz=142,slow=7.4,SNR=11
NVS Novosibirsk 53.73 29 *e*P **P** **03 21 56.4 -0.2**
NVS pmax pmax
comp=Z,32nm,1.7s,mb5.0
NVS pmax pmax
comp=N,34nm,1.6s
ZAL Zalesovo 53.99 31 P **P** **03 21 57.0 -1.5**
comp=N,2.9nm,0.3s,mb4.7,baz=242,slow=7.3,SNR=8.5
ZAL LR LR 03 48 40.7
comp=N,813nm,18.6s,MS4.8,baz=247,slow=40
ARCES ARCESS Array B 57.64 354 P **P** **03 22 23.7 -1.0**
comp=N,5.3nm,0.8s,mb4.6,baz=162,slow=7.7,SNR=12
KEV Kevo 57.71 355 *e*p **P** **03 22 22.8 -2.4**
comp=N,8.2nm,0.8s,mb4.8
KEV Kevo 57.71 355 *e*P **P** **03 22 22.8 -2.4**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
GTA Gaotai 58.49 51 *e*P **P** **03 22 31.9 +0.9**
GTA AP pP 03 22 36.0 +1.9
GTA PP PP 03 24 43.3 +1.0
GTA S **S** **03 30 35.0 +2.4**
GTA SS SS 03 34 30.8 +4.0
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,98nm,4.9s
GTA LR LR
comp=N,658nm,20.2s,MS4.9
GTA LR LR
comp=E,494nm,18.6s,MS4.9
GTA LR LR
comp=Z,638nm,19.0s,MS4.8
KMI Kunming 59.80 68 P **P** **03 22 41.1 +0.8**
KMI AP pP 03 22 45.6 +2.2
KMI PP PP 03 24 52.5 -1.7
KMI PPP PPP 03 26 18.1 -1.8
KMI S **S** **03 30 55.1 +5.3**
KMI SS SS 03 34 51.4 +4.3
KMI SSS SSS 03 37 19.9 +2.9
KMI AMB AMB
comp=Z,9.0nm,1.3s,mb4.6
KMI AMB AMB
comp=Z,80nm,3.2s
KMI LR LR
comp=N,311nm,19.5s,MS4.6
KMI LR LR
comp=E,283nm,17.1s,MS4.6
KMI LR LR
comp=Z,326nm,17.9s,MS4.5
CD2 Chengdu 60.80 62 *e*P **P** **03 22 47.0 -0.1**
LZH Lanzhou 61.22 56 *e*P **P** **03 22 52.0 +2.2**
LZH AP pP 03 22 59.0 +6.0
LZH XP sP 03 23 02.5 +8.4
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.5
LZH LR LR
comp=Z,1μm,17.0s,MS5.0
ZAK Zakamensk 63.11 40 *e*P **P** **03 23 02.0 -0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.8s,mb4.0
GYA Guiyang 63.31 67⇑*i*P **P** **03 23 03.8 -0.1**
GYA PP PP 03 25 24.8 -0.1
GYA S **S** **03 31 34.3 -0.1**
GYA SS SS 03 35 42.8 -0.1
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,90nm,3.0s
GYA LR LR
comp=N,340nm,18.2s,MS4.7
GYA LR LR
comp=E,310nm,18.4s,MS4.7
GYA LR LR
comp=Z,270nm,17.9s,MS4.5
SONM Songino Array 64.62 43 P **P** **03 23 11.6 -0.6**
comp=Z,4.0nm,0.9s,mb4.5,baz=253,slow=4.9,SNR=30
SONM LR LR 03 54 57.6
comp=Z,687nm,18.6s,MS4.9,baz=254,slow=39
XAN Xi'an 65.26 58 P **P** **03 23 16.8 +0.2**
XAN AMB AMB
comp=Z,11nm,0.9s,mb4.9
HHC Hu-ho-hao-te 67.59 51 *e*P **P** **03 23 33.8 +2.4**
HHC AP pP 03 23 38.5 +4.0
HHC XP sP 03 23 40.8 +5.2
HHC PCP PcP 03 24 00.5 +2.0
HHC PP PP 03 26 04.3 +2.1
HHC SCP 03 28 01.9
HHC PCS 03 28 04.3
HHC S S 03 32 29.5 +2.9
HHC SCS ScS 03 33 27.8 +1.7
HHC SS SS 03 36 52.4 +3.5
HHC AMB AMB
comp=Z,27nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,174nm,3.9s
HHC LR LR
comp=N,432nm,15.5s,MS4.8
HHC LR LR
comp=E,299nm,16.6s,MS4.8
HHC LR LR
comp=Z,419nm,17.8s,MS4.7
BOD Bodaibo 70.64 33 *e*P **P** **03 23 48.6 -1.2**
BOD pmax pmax
comp=Z,20nm,1.7s,mb4.8
HIA Hailar 73.56 42 *e*P **P** **03 24 07.9 +0.6**
comp=Z,28nm,1.3s,mb5.0
HIA Hailar 73.56 42 *e*P **P** **03 24 07.9 +0.6**
HIA pmax pmax
comp=Z,28nm,1.3s
NJ2 Nanjing 73.66 60 *e*P **P** **03 24 10.6 +2.3**
NJ2 AP pP 03 24 15.1 +3.7
NJ2 XP sP 03 24 17.8 +5.3
NJ2 PCP PcP 03 24 21.9 -2.5
NJ2 S S 03 33 37.0 -0.5
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
NJ2 AMB AMB
comp=Z,320nm,4.7s
NJ2 LR LR
comp=Z,460nm,24.0s,MS4.7
SUMG Summit 74.70 342 *e*P **P** **03 24 13.1 -0.4**
comp=Z,19nm,1.1s,mb4.9
SSE Sheshan 75.74 61 P **P** **03 24 20.3 0.0**
SSE S S 03 34 00.5 -0.1
SSE SS SS 03 38 52.0 -3.0
SSE AMB AMB
comp=Z,30nm,1.0s,mb5.2
SSE AMB AMB
comp=Z,158nm,3.4s
SSE LR LR
comp=N,223nm,23.1s,MS4.5
SSE LR LR
comp=E,179nm,23.1s,MS4.5
SSE LR LR
comp=Z,129nm,20.4s,MS4.2
SNY Shenyang 76.61 50⇑P **P** **03 24 25.3 +0.4**
SNY S S 03 34 17.0 +7.1
SNY SS SS 03 39 07.1 -1.1
SNY LR LR
comp=N,590nm,20.2s
SNY LR LR
comp=Z,260nm,29.4s
CN2 Changchun 77.79 48 *e*P **P** **03 24 32.4 +1.0**
CN2 *e*AP pP 03 24 37.1 +2.5
CN2 *e*S S 03 34 23.3 +0.7
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
CN2 LR LR
comp=Z,630nm,21.0s,MS4.9
MDJ Mudanjiang 80.65 46 P **P** **03 24 47.0 +0.1**
MDJ PP PP 03 27 49.8 -2.9
MDJ S S 03 34 55.0 +2.2
MDJ SS SS 03 40 08.3 -0.4
MDJ AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
MDJ AMB AMB
comp=Z,54nm,4.3s
MDJ LR LR
comp=N,289nm,26.9s,MS4.5
MDJ LR LR
comp=E,78nm,24.2s,MS4.5
MDJ LR LR
comp=Z,87nm,26.9s,MS4.0
KLR Kul'dur 81.40 42 *e*P **P** **03 24 48.9 -1.8**
MAW Mawson 81.67 172 P **P** **03 24 52.7 +1.0**
comp=Z,5.2nm,0.9s,mb4.5,baz=334,slow=7.0,SNR=11
MAW LR LR 03 59 00.3
comp=Z,328nm,18.1s,MS4.7,baz=338,slow=34
MAW Mawson 81.67 172 *e*P **P** **03 24 52.1 +0.3**
comp=Z,4.1nm,0.8s,mb4.4
MAW Mawson 81.67 172 *e*P **P** **03 24 52.1 +0.4**
MAW pmax pmax
comp=Z,4.0nm,0.8s
NWAO Narrogin (SRO) 85.99 125 LR LR 03 59 42.9

comp=Z,750nm,18.2s,MS5.1,baz=290,slow=33
SNAA Sanae 88.93 193 *e* **P 03 25 30.8 +3.0**
SNAA Sanae 88.93 193 *e* **P 03 25 31.9 +4.1**
SNAA Sanae 88.93 193 LR LR 04 06 17.8
comp=Z,207nm,18.1s,MS4.6,baz=217,slow=36
SNAA Sanae 88.93 193⇑*i* **P 03 25 28.5 +0.7**
SNAA *e* pP 03 25 30.8 -0.2
SNAA *e* pP 03 25 31.9 +0.9
YSS Yuzh-Sakhalins 89.10 42 *eP* **P 03 25 21.5 -7.7**
FITZ Fitzroy Crossi 89.39 109 LR LR 04 03 09.8
comp=Z,449nm,18.2s,MS4.9,baz=273,slow=34
VNA2 Neumayer--Watz 89.42 194 *e* **P 03 25 36.1 +6.0**
VNA2 Neumayer--Watz 89.42 194 *e* **P 03 25 37.5 +7.4**
VNA2 Neumayer--Watz 89.42 194⇑*iP* **P 03 25 33.4 +3.3**
VNA2 *e* pP 03 25 36.1 +2.8
VNA2 *e* pP 03 25 37.5 +4.2
VNA1 Neumayer--Stat 89.44 195⇑*i* **P 03 25 36.3 +6.1**
VNA1 Neumayer--Stat 89.44 195 *e* **P 03 25 38.3 +8.1**
SCHQ Schefferville 89.45 326 LR LR 04 04 49.9
comp=Z,238nm,20.5s,MS4.6,baz=58,slow=35
VNA3 Neumayer Olymp 90.18 194 *e* **P 03 25 39.2 +5.5**
VNA3 Neumayer Olymp 90.18 194 *e* **P 03 25 40.7 +7.0**
VNA3 Neumayer Olymp 90.18 194⇑*iP* **P 03 25 35.4 +1.7**
VNA3 *e* pP 03 25 39.2 +2.3
VNA3 *e* 03 25 40.7
PDAR Pinedale Array 118.39 335 PKP PKPdf 03 31 21.3 -2.1
comp=Z,0.7nm,0.9s,baz=18,slow=4.7,SNR=4.5
TXAR Lajitas Array 125.77 321 PKP PKPdf 03 31 37.0 -1.1
comp=Z,0.7nm,0.8s,baz=108,slow=4.0,SNR=6.8

JMA ***22*** *03:22:42.7±0.5,33.12N×142.39E,M3.4*
NEIC ***22*** *03:22:46.4±1.1,33.08N×142.57E,h35km,mb4.6/4, Error ellipse: s-maj=30.2km s-min=16.8km az=59.0*
IDC ***22*** *03:22:46.8±7.3,32.96N×142.45E,h29km±54km,mb3.5/4, mb1 3.7/7,mb1mx3.5/21,mbtmp3.7/7,ML3.6/3, Error ellipse: s-maj=29.5km s-min=20.2km az=63.0*
ISC 22 03:22:43.6±1.9,33.04N±0.05×142.57E±0.08,h30km±15km, n25,σ1§09/34,mb4.0/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.08**	**321**	P		**Pn**	**03 22 17.4**	**+0.2**
BSO1				*e*S		**Sn**	**03 23 42.3**	**0.0**
BSO2	**Boso 2**	**2.27**	**319**	*e*S		**Sn**	**03 23 49.0**	**+1.7**
JHJ2	**Mitsune**	**2.31**	**272**	P		**Pn**	**03 23 21.0**	**+0.5**
JHJ	**Hachijo jima 2**	**2.34**	**273**	Pn		**Pn**	**03 23 20.6**	**-0.2**
	29nm,0.3s,baz=63,slow=11,SNR=9.1							
JHJ					Sn	**Sn**	**03 23 48.0**	**-0.9**
	19nm,0.3s,baz=56,slow=18,SNR=3.4							
BSO3	**Boso 3**	**2.45**	**316**	P		**Pn**	**03 23 22.8**	**+0.3**
BSO4	**Boso 4**	**2.68**	**317**	P		**Pn**	**03 23 26.7**	**+0.9**
BSO4				*e*S		**Sn**	**03 23 58.6**	**+1.0**
JOD2	**Odawara 2**	**3.64**	**308**	P		**Pn**	**03 23 38.7**	**-0.0**
JYN	**Shimob**	**4.13**	**307**	P		**Pn**	**03 23 47.3**	**+0.9**
JYN				*e*S		**Sn**	**03 24 35.5**	**+1.1**
JAG	**Ashikaga**	**4.24**	**324**	P		**Pn**	**03 23 47.7**	**-0.2**
JRY	**Ryogami san**	**4.24**	**315**	P		**Pn**	**03 23 48.3**	**+0.4**
JRY				*e*S		**Sn**	**03 24 36.2**	**-0.8**
MJAR	**Matsushiro Arr**	**5.00**	**315**	Pn		**Pn**	**03 23 58.7**	**0.0**
	1.3nm,0.3s,baz=147,slow=13,SNR=8.7							
MJAR					Sn	**Sn**	**03 24 54.7**	**-1.6**
	0.8nm,0.3s,baz=270,slow=22,SNR=4.5							
MAJO	**Matsushiro**	**5.00**	**315**	*e*P		**Pn**	**03 23 57.9**	**-0.8**
MAT	**Matsushiro**	**5.00**	**315**	P		**Pn**	**03 23 57.9**	**-0.8**
MAT				*e*S		**Sn**	**03 24 54.5**	**-1.8**
MAT	**Matsushiro**	**5.00**	**315**	P		**Pn**	**03 23 59.1**	**+0.4**
MAT				*e*S		**Sn**	**03 24 54.5**	**-1.8**
MAT	**Matsushiro**	**5.00**	**315**	P		**Pn**	**03 23 59.0**	**+0.3**
MAT				S		**Sn**	**03 24 55.0**	**-1.3**
JMM	**Marumori**	**5.03**	**344**	P		**Pn**	**03 23 56.9**	**-2.1**
CBIJ	**Chichi jima**	**5.94**	**183**	Pn		**Pn**	**03 24 11.5**	**-0.3**
	5.3nm,0.3s,baz=261,slow=13,SNR=3.1							
MDJ	**Mudanjiang**	**15.33**	**323**	*e*P		**P**	**03 26 26.0**	**+6.4**
	21nm,0.3s							
MDJ				*e*			03 26 33.6	
SONM	**Songino Array**	**30.92**	**309**	P		**P**	**03 29 01.8**	**+1.9**
	0.7nm,0.6s,mb3.6,baz=111,slow=8.3,SNR=4.6							
MKAR	**Makanchi Array**	**47.12**	**305**	P		**P**	**03 31 16.5**	**+1.7**
	0.8nm,0.6s,mb3.6,baz=88,slow=9.4,SNR=9.5							
ILAR	**Eielson Array**	**52.40**	**31**	P		**P**	**03 31 56.2**	**+1.2**
	0.3nm,0.7s,mb3.4,baz=262,slow=7.0,SNR=4.7							
WRAB	**Tennant Creek**	**53.26**	**190**	P		**P**	**03 32 01.8**	**-0.1**
	5.7nm,1.2s,mb4.4							
WRA	**Warramunga Arr**	**53.27**	**190**	P		**P**	**03 32 02.0**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=5.1,slow=7.6,SNR=13							
BRVK	**Borovoye**	**54.06**	**315**	*e*P		**P**	**03 32 04.2**	**-3.1**
	2.8nm,0.8s,mb4.2							
RES	**Resolute Bay**	**66.23**	**14**	*e*P		**P**	**03 33 28.4**	**-1.9**
	13nm,0.9s,mb5.0							

DHMR 22 03:50:52.7±0.6,12.65N×40.58E,h2km±75km,ML3.6,1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.55**	**68**	*i* S		Sn	03 52 37.8	+4.7
UDYN					AML	AML	03 52 58.9	
	comp=E,261nm,0.7s							
DHBB	**Dhamar BB**	**4.17**	**62**⇓	*e*P		Pn	03 51 59.8	+1.0
DHBB				*i* S		Sn	03 52 52.8	+4.0
LBOS		**4.71**	**75**	*i* P		Pn	03 52 05.3	-1.1
LBOS				*i* S		Sn	03 53 01.6	-0.8
BDHA	**Al Bayda'**	**5.03**	**74**	*i* S		Sn	03 53 09.3	-1.4

IDC ***22*** *03:52:58.2±0.8,30.13S×117.59E,mb4.0/5,mb1 4.2/7, mb1mx4.2/10,mbtmp4.1/7,ML4.2/1,MS4.4/1,Ms1 4.4/1, ms1mx3.4/20,Error ellipse: s-maj=38.2km s-min=16.8km az=103.0*
AUST ***22*** *03:52:59.8,30.13S×117.17E,h3km,ML4.1*
BJI ***22*** *03:52:59.0,30.10S×117.20E,h2km,mB4.8,mb4.6,Ms4.3, Msz4.1*
NEIC ***22*** *03:52:59.0,30.12S×117.20E,mb4.3/4,ML4.1(AUST), After AUST.*
NEIC Felt in the Kalannie area.
ISC 22 03:52:55.5±0.3,30.07S±0.03×117.42E±0.04,n52, σ1§59/53,mb4.5/11,MS4.3/2,7C-1D,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BLDU	**Ballidu**	**0.82**	**229**⇓	*i*P		**Pg**	**03 53 10.8**	**-1.1**
BLDU				*e*S		**Sg**	**03 53 19.1**	**-3.8**
	16μm,0.6s							
BLDU				*e*RG			03 53 23.2	
KLBR	**Kellerberrin**	**1.54**	**169**⇑	*i*P		**Pn**	**03 53 26.6**	**+2.2**
KLBR				*e*S		**Sb**	**03 53 46.7**	**+1.9**
	2μm,0.3s							
KLBR				*e*RG			03 53 57.4	
MORW	**Morawa**	**1.56**	**309**⇑	*i*P		**Pn**	**03 53 25.8**	**+1.1**
MORW				*e*S		**Sb**	**03 53 43.7**	**-1.7**
	2μm,0.5s							
NWAO	**Narrogin (SRO)**	**2.85**	**183**⇑	*i*P		**Pn**	**03 53 43.5**	**+0.3**
NWAO				*e*			03 53 50.6	
NWAO				*e*S		**Sn**	**03 54 16.4**	**-2.3**
	836nm,0.3s							
NWAO				*e*			03 54 23.8	
NWAO				*e*RG			03 54 43.7	
NWAO	**Narrogin (SRO)**	**2.85**	**183**	Pn		**Pn**	**03 53 43.5**	**+0.3**
	96nm,0.3s,baz=8.0,slow=12,SNR=544							
NWAO					Pg	**Pg**	**03 53 50.5**	**-2.0**
	187nm,0.3s,baz=5.1,slow=16,SNR=62							
NWAO					Lg		03 54 23.3	
	289nm,0.3s,baz=104,slow=22,SNR=34							
MEEK	**Meekatharra**	**3.58**	**17**	*e*P		**Pn**	**03 53 56.6**	**+3.2**
MEEK				*e*S		**Sn**	**03 54 37.1**	**+0.1**
	383nm,0.4s							
KMBL	**Kambalda**	**4.05**	**110**	*e*P		**Pn**	**03 54 02.4**	**+2.2**
KMBL				*e*S		**Sn**	**03 54 49.3**	**+0.3**
	1μm,0.4s							
RKGY	**Rocky Gully**	**4.54**	**185**	*e*P		**Pn**	**03 54 06.7**	**-0.5**
RKGY				*e*S		**Sn**	**03 54 59.3**	**-2.2**
	36nm,0.2s							
GIRL	**Giralia**	**7.66**	**347**	*e*P		**Pn**	**03 54 54.4**	**+3.3**
GIRL				*e*S		**Sn**	**03 56 16.1**	**-3.6**
	264nm,0.9s							
GIRL	**Giralia**	**7.66**	**347**	*e*P		**Pn**	**03 54 54.4**	**+3.3**
	264nm,0.9s							
GIRL				*e*S		**Sn**	**03 56 16.1**	**-3.6**
MBWA	**Marble Bar**	**9.11**	**14**	*e*P		**P**	**03 55 09.4**	**-1.9**
MBWA				*e*S		Sx	03 56 46.2	
FORT	**Forrest**	**9.21**	**97**	*e*P		**P**	**03 55 12.2**	**-0.5**
FORT				*e*S		Sx	03 56 52.6	
	269nm,0.6s							
FORT	**Forrest**	**9.21**	**97**	*e*P		**P**	**03 55 12.2**	**-0.5**
	269nm,0.6s							
FORT				*e*S		Sx	03 56 52.6	
FITZ	**Fitzroy Crossi**	**14.07**	**34**	*e*P		**P**	**03 56 17.0**	**-1.5**
	53nm,0.4s							
FITZ				*e*S		Sx	03 58 44.0	
FITZ	**Fitzroy Crossi**	**14.07**	**34**	Pn		**P**	**03 56 17.4**	**-1.1**
	18nm,0.3s,baz=200,slow=9.3,SNR=203							
FITZ					Sn	Sx	03 58 45.8	
	12nm,0.3s,baz=337,slow=19,SNR=13							
ASPA	**Alice Springs**	**16.02**	**70**	*e*P		**P**	**03 56 42.0**	**-1.9**
WRA	**Warramunga Arr**	**18.33**	**61**	P		**P**	**03 57 11.0**	**-2.0**
	0.7nm,0.3s,baz=234,slow=12,SNR=39							
WRA					S	Sx	04 00 23.9	
	1.5nm,0.3s,baz=236,slow=21,SNR=9.2							
WB2	**Warramunga Arr**	**18.34**	**61**	*e*P		**P**	**03 57 10.6**	**-2.5**
WB2					*e*S	Sx	04 00 25.2	
WRAB	**Tennant Creek**	**18.34**	**61**	*e*P		**P**	**03 57 10.7**	**-2.5**
	14nm,0.6s							
WRAB					*e*S	Sx	04 00 19.0	
STKA	**Stephens Creek**	**20.80**	**101**	*e*P		**P**	**03 57 43.9**	**+3.0**
	5.2nm,0.4s							
STKA					*e*S	Sx	04 01 26.2	
STKA	**Stephens Creek**	**20.80**	**101**	P		**P**	**03 57 42.4**	**+1.5**
	6.6nm,0.5s,baz=275,slow=10,SNR=14							
STKA					S	Sx	04 01 25.1	
	7.4nm,0.6s,baz=317,slow=12,SNR=6.4							
CTAO	**Charters Tower**	**27.87**	**76**	P		**P**	**03 58 49.0**	**-0.1**
	15nm,1.2s,mb4.7							
DZM	**Mont Dzumac**	**44.47**	**92**	LR		LR	04 20 39.5	
	comp=Z,536nm,21.2s,MS4.4,baz=21,slow=38							
MAW	**Mawson**	**49.22**	**204**	P		**P**	**04 01 47.4**	**+0.2**
	1.5nm,0.8s,mb4.0,baz=80,slow=11,SNR=5.3							
VNDA	**Vanda**	**51.59**	**169**	*e*P		**P**	**04 02 02.7**	**-2.5**
	0.6nm,0.5s,mb3.8							
PKI	**Pulchoki**	**64.98**	**329**	*e*P		**P**	**04 03 39.3**	**-0.3**
	11nm,0.5s,mb5.3							
DMN	**Daman**	**65.15**	**328**	*e*P		**P**	**04 03 40.8**	**+0.1**
KKN	**Kakani**	**65.22**	**329**	*e*P		**P**	**04 03 41.3**	**+0.1**
GKN	**Gorkha**	**65.70**	**328**	*e*P		**P**	**04 03 44.3**	**+0.1**
	9.2nm,0.6s,mb5.2							
KOLN	**Koldanda**	**65.98**	**327**	*e*P		**P**	**04 03 45.9**	**-0.1**
	12nm,0.8s,mb5.2							
SNAA	**Sanae**	**70.45**	**197**⇑	*i*		**P**	**04 04 13.6**	**+0.5**
SNAA	**Sanae**	**70.45**	**197**	*e*		**P**	**04 04 15.4**	**+2.2**
SNAA	**Sanae**	**70.45**	**197**	P		**P**	**04 04 14.0**	**+0.8**
	1.5nm,0.8s,mb4.2,baz=128,slow=7.2,SNR=16							
VNA2	**Neumayer--Watz**	**72.06**	**196**⇑	*i*		**P**	**04 04 23.9**	**+1.0**
VNA2	**Neumayer--Watz**	**72.06**	**196**	*e*		**P**	**04 04 25.1**	**+2.2**
VNA3	**Neumayer Olymp**	**72.39**	**196**⇑	*i*		**P**	**04 04 25.7**	**+0.9**
VNA3	**Neumayer Olymp**	**72.39**	**196**	*e*		**P**	**04 04 27.0**	**+2.2**
VNA1	**Neumayer--Stat**	**72.46**	**196**⇑	*i*		**P**	**04 04 25.9**	**+0.7**
VNA1	**Neumayer--Stat**	**72.46**	**196**	*e*		**P**	**04 04 27.0**	**+1.8**
MDJ	**Mudanjiang**	**75.15**	**9**	P		**P**	**04 04 45.3**	**+4.0**
MDJ					AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7							
MDJ					AMB	AMB		
	comp=Z,360nm,12.2s							
MDJ					LR	LR		
	comp=N,26nm,18.7s,MS4.0							
MDJ					LR	LR		
	comp=E,70nm,17.9s,MS4.0							
MDJ					LR	LR		
	comp=Z,98nm,18.7s,MS4.1							
SONM	**Songino Array**	**78.18**	**352**	P		**P**	**04 05 00.7**	**+2.5**
	comp=Z,1.2nm,0.7s,mb4.1,baz=169,slow=6.2,SNR=13							
WMQ	**Urumqi**	**78.41**	**339**	*e*P		**P**	**04 05 03.0**	**+3.5**
KMBO	**Kilima Mbogo**	**80.93**	**274**	P		**P**	**04 05 15.0**	**+1.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=63,slow=7.9,SNR=5.4							
TBI	**Tubuai**	**81.19**	**112**	*e*LR		LR	04 30 37.1	
	comp=Z,415nm,29.2s							
MKAR	**Makanchi Array**	**82.83**	**337**	P		**P**	**04 05 24.4**	**+1.5**
	comp=Z,0.3nm,0.5s,mb3.8,baz=132,slow=7.4,SNR=4.1							
PPT	**Papeete**	**83.90**	**107**	*e*LR		LR	04 31 52.5	
	comp=Z,394nm,27.0s							
RKT	**Rikitea**	**92.68**	**119**	*e*LR		LR	04 35 56.2	
	comp=Z,305nm,24.5s							
TAOE	**Nuku Hiva Isla**	**96.21**	**104**	*e*LR		LR	04 37 34.9	
	comp=Z,956nm,25.0s							
ILAR	**Eielson Array**	**119.16**	**29**	PKP		PKPdf	04 11 47.6	-0.2
	comp=Z,0.3nm,0.7s,baz=267,slow=2.6,SNR=5.1							
YKA	**Yellowknife Ar**	**133.56**	**30**	PKP		PKPdf	04 12 17.3	+2.1
	comp=Z,0.2nm,0.5s,baz=299,slow=1.8,SNR=5.1							
TXAR	**Lajitas Array**	**144.44**	**81**	PKP		PKPdf	04 12 36.7	+0.8
	comp=Z,1.6nm,0.7s,baz=214,slow=5.5,SNR=25							
ULM	**Lac du Bonnet**	**147.93**	**42**	PKPbc		PKPdf	04 12 44.3	+3.2
	comp=Z,2.0nm,0.7s,baz=2.9,slow=5.8,SNR=4.0							

IDC ***22*** *04:00:06.7±3.4,11.43N×40.15E,mb3.7/5,mb1 3.8/5, mb1mx3.6/17,mbtmp3.7/5,Error ellipse: s-maj=84.1km s-min=46.6km az=39.0*
ISC 22 04:00:06.8±3.2,11.5N±0.4×40.14E±0.09,h10km,n7, σ1§05/9,mb3.6/4,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBOS		**5.51**	**64**	*i* P		**Pn**	**04 01 29.6**	**-1.4**
LBOS				*i* S		**Sn**	**04 02 39.7**	**+4.6**
BDHA	**Al Bayda'**	**5.83**	**65**	*i* P		**Pn**	**04 01 28.7**	**-6.8**
BDHA				*i* S		**Sn**	**04 02 44.0**	**+0.8**
ASF	**Jabal al Asfar**	**20.79**	**352**	P		**P**	**04 04 49.6**	**-1.1**
	1.1nm,0.5s,baz=174,slow=2.3,SNR=4.4							
BRTR	**Keskin Array B**	**28.69**	**350**	P		**P**	**04 06 06.5**	**+0.3**
	0.6nm,0.4s,mb3.6,baz=170,slow=7.5,SNR=6.3							
BRTR					PcP	PcP	04 09 15.2	-1.7
	0.5nm,0.7s,baz=153,slow=3.2,SNR=3.9							
AKASG	**Malin Array Be**	**40.10**	**349**	P		**P**	**04 07 43.4**	**-0.8**
	0.4nm,0.5s,mb3.5,baz=173,slow=7.3,SNR=4.7							
GERES	**GERESS Array B**	**43.23**	**335**	P		**P**	**04 08 11.7**	**+1.8**
	0.2nm,0.3s,mb3.4,baz=131,slow=10,SNR=6.2							
SONM	**Songino Array**	**65.64**	**43**	P		**P**	**04 10 53.8**	**+0.4**
	0.9nm,1.0s,mb3.8,baz=241,slow=6.6,SNR=5.8							

NEIC ***22*** *04:00:41.5±0.5,50.78N×10.04E,h10km,ML3.2(LDG), ML2.9(VIE),ML2.7(STR),ML2.6(SZGRF),Error ellipse: s-maj=7.6km s-min=3.0km az=180.0*
PRU ***22*** *04:00:41.5,50.79N×9.96E,M3.2*
BGR ***22*** *04:00:42.5±0.2,50.74N×10.02E,h1km,ML2.7/6, Error ellipse: s-maj=2.2km s-min=1.1km az=172.0*
LDG ***22*** *04:00:42.9±0.1,50.77N×10.02E,h1km,Ml3.2/13, Error ellipse: s-maj=2.0km s-min=1.3km az=166.0,Suspected Mining induced.*
CSEM ***22*** *04:00:42.6±0.1,50.76N×10.04E,h2km,ML3.1/15, Error ellipse: s-maj=1.1km s-min=0.7km az=166.0*
WAR ***22*** *04:00:44.0,50.90N×10.20E,h10km*
BNS ***22*** *04:00:45.4±1.1,50.89N×10.00E,h1km,ML2.7*
ISC 22 04:00:39.5±0.2,50.71N±0.02×9.99E±0.02,n86,σ1§31/171, 11C-3D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MOX	**Moxa**	**1.03**	**93**	*e*Pg		**Pg**	**04 01 01.7**	**+1.6**
MOX	SNR=40							
				*e*Sg		**Sg**	**04 01 15.2**	**+1.3**
	SNR=7.7							
MOX	**Moxa**	**1.03**	**93**	Pg		**Pg**	**04 01 03.0**	**+2.9**
MOX				Sg		**Sg**	**04 01 17.0**	**+3.1**
MOX	**Moxa**	**1.03**	**93**	*e*Pg		**Pg**	**04 01 02.7**	**+2.6**
MOX				*e*Sg		**Sg**	**04 01 17.3**	**+3.4**
TNS	**Taunus Mts**	**1.10**	**244**	*e*Pg		**Pg**	**04 01 03.7**	**+2.3**
	SNR=25							
TNS				*e*Sg		**Sg**	**04 01 19.0**	**+2.9**
	SNR=3.7							
TNS	**Taunus Mts**	**1.10**	**244**	*e*Pg		**Pg**	**04 01 03.7**	**+2.3**
TNS				*e*Sg		**Sg**	**04 01 19.0**	**+2.9**
NEUB	**Neuenburg**	**1.23**	**65**	*e*Pg		**Pg**	**04 01 05.2**	**+1.2**
	SNR=31							
NEUB				*e*Sg		**Sg**	**04 01 20.1**	**-0.4**
	SNR=6.3							
GRA1	**Grafenberg Arr**	**1.29**	**142**	*e*Pn		**Pn**	**04 01 07.6**	**+2.9**
GRA1				*e*Sg		**Sg**	**04 01 26.9**	**+4.6**
GRA1	**Grafenberg Arr**	**1.29**	**142**	Pn		**Pn**	**04 01 07.6**	**+2.9**
GRA1				Sg		**Sg**	**04 01 26.9**	**+4.6**
GRF	**Grafenberg Arr**	**1.29**	**142**	*e*Pn		**Pn**	**04 01 07.6**	**+2.9**
GRF				*e*Sg		**Sg**	**04 01 26.9**	**+4.6**
GRF	**Grafenberg Arr**	**1.29**	**142**	*e*Pn		**Pn**	**04 01 07.6**	**+2.9**
GRF				*e*Sg		**Sg**	**04 01 26.9**	**+4.6**
TOD	**Tromm**	**1.34**	**215**	Pn		**Pn**	**04 01 06.6**	**+1.1**
WERD	**Werda**	**1.50**	**99**	*e*Pn		**Pn**	**04 01 09.3**	**+1.6**
	SNR=1.8							
WERD				*e*Sg		**Sg**	**04 01 29.9**	**+0.6**
	SNR=8.5							
TANN	**Tannenbergstha**	**1.60**	**100**	*e*Pn		**Pn**	**04 01 11.1**	**+1.9**
	SNR=5.5							
TANN				*e*Sg		**Sg**	**04 01 33.4**	**+0.6**
	SNR=7.3							
NKC	**Novy Kostel**	**1.64**	**106**	*e*PG		**Pg**	**04 01 12.0**	**-0.2**
NKC				*e*SG		**Sg**	**04 01 34.2**	**+0.2**
	98nm,0.3s							
BGG	**Burgeitz**	**1.77**	**255**	*e*Pg		**Pg**	**04 01 16.3**	**+1.5**
BGG				*e*Sg		**Sg**	**04 01 40.2**	**+1.8**
	37nm,0.4s							
ABH	**Alteburg**	**1.77**	**243**	Pn		**Pn**	**04 01 15.0**	**+3.4**
NRDL	**Niedersach Rie**	**1.79**	**2**	*e*Pn		**Pn**	**04 01 13.0**	**+1.2**
	SNR=2.7							
NRDL				*e*Pg		**Pg**	**04 01 15.1**	**-0.1**
	SNR=9.1							
NRDL				*e*Sg		**Sg**	**04 01 38.6**	**-0.5**
	SNR=2.0							
NRDL	**Niedersach Rie**	**1.79**	**2**	Pg		**Pg**	**04 01 15.1**	**-0.1**
	SNR=9.1							
NRDL				Sg		**Sg**	**04 01 38.6**	**-0.5**
	SNR=2.0							
BNS	**Bensberg**	**1.81**	**279**	*e*Pg		**Pg**	**04 01 16.5**	**+1.0**
KTD	**Kalmit**	**1.86**	**222**	Pn		**Pg**	**04 01 17.0**	**+0.5**
BUG	**Bochum--Univer**	**1.87**	**294**	*e*Pg		**Pg**	**04 01 17.7**	**+0.9**
	SNR=3.1							
BUG				*e*Sg		**Sg**	**04 01 41.8**	**+0.1**
	SNR=1.4							
CLL	**Collm**	**1.99**	**71**	*e*Pn		**Pn**	**04 01 16.0**	**+1.2**
	SNR=1.8							
CLL				*i* Pg		**Pg**	**04 01 18.6**	**-0.7**
CLL				*e*Sg		**Sg**	**04 01 44.1**	**-1.7**
	SNR=5.7							
CLL	**Collm**	**1.99**	**71**	*i* PN		**Pn**	**04 01 15.7**	**+0.9**
CLL				*i* Pg		**Pg**	**04 01 18.6**	**-0.7**
CLL				*i*			04 01 21.7	
CLL				*e*SG		**Sg**	**04 01 44.0**	**-1.8**
CLL				eL			04 02 02.0	
CLL	**Collm**	**1.99**	**71**	Pg		**Pg**	**04 01 18.6**	**-0.7**
CLL				Sg		**Sg**	**04 01 44.1**	**-1.7**
	SNR=5.7							
STU	**Stuttgart**	**2.01**	**195**	*e*Pn		**Pn**	**04 01 16.1**	**+1.1**
STU	**Stuttgart**	**2.01**	**195**	*e*Pn		**Pn**	**04 01 16.0**	**+1.1**
STU				Sg		**Sg**	**04 01 47.5**	**+1.3**
	SNR=2.2							
STB	**Steinbach**	**2.01**	**268**	*e*Pg		**Pg**	**04 01 20.2**	**+0.6**
STB				*e*Sg		**Sg**	**04 01 44.4**	**-2.0**
	97nm,0.7s							
LANF	**Langenberg**	**2.23**	**220**	Pn		**Pg**	**04 01 25.9**	**+1.8**
KLL	**Kallitalsperre**	**2.34**	**270**	*e*Pg		**Pg**	**04 01 22.9**	**-3.3**
WET	**Wettzell**	**2.43**	**129**	*e*Pg		**Pg**	**04 01 29.0**	**+0.9**
	SNR=14							
WET				*e*Sg		**Sg**	**04 01 59.1**	**-1.4**
	SNR=2.6							
BRG	**Berggiesshubel**	**2.51**	**85**	Pb		**Pb**	**04 01 24.4**	**-0.8**
BRG				Pg		**Pg**	**04 01 28.8**	**-0.9**
BRG				*i*			04 01 46.7	
BRG				Sg		**Sg**	**04 02 02.2**	**-0.8**
BRG	**Berggiesshubel**	**2.51**	**85**	Pg		**Pg**	**04 01 28.8**	**-0.8**
HGN	**Heimansgroeve**	**2.58**	**273**⇓	*e*Pg		**Pg**	**04 01 30.4**	**-0.6**
	15nm,0.8s,baz=90							
HGN				*e*Sg		**Sg**	**04 02 06.1**	**+0.7**
BFO	**Black Forest**	**2.62**	**205**	*e*Pn		**Pn**	**04 01 24.9**	**+1.2**
	SNR=4.1							
BFO				*e*Pg		**Pg**	**04 01 33.1**	**+1.4**
	SNR=5.3							
BFO				*e*Sg		**Sg**	**04 02 06.1**	**-0.4**
	SNR=3.4							
BFO	**Black Forest**	**2.62**	**205**	*e*Pn		**Pn**	**04 01 24.9**	**+1.2**
BFO				*e*Pg		**Pg**	**04 01 33.1**	**+1.4**
BFO				*e*Sg		**Sg**	**04 02 06.1**	**-0.4**
WLF	**Walferdange**	**2.68**	**249**	*e*Pn		**Pn**	**04 01 26.0**	**+1.4**
	SNR=1.3							
WLF				*e*Pg		**Pg**	**04 01 32.8**	**-0.2**
	SNR=4.9							
WLF	**Walferdange**	**2.68**	**249**	*e*Pn		**Pg**	**04 01 32.1**	**-0.9**
KHC	**Kasperske Hory**	**2.80**	**123**	*e*PG		**Pg**	**04 01 34.1**	**-1.3**
KHC				*e*SG		**Sg**	**04 02 12.6**	**-0.2**
	103nm,1.4s							
WLS	**Welschbruch**	**2.87**	**218**	Pn		**Pg**	**04 01 39.3**	**+2.6**
WLS				S		**Sg**	**04 02 19.4**	**+4.5**
CDF	**Champ du Feu**	**2.90**	**219**	*e*Pn		**Pn**	**04 01 28.8**	**+1.1**
CDF				*e*Pg		**Pg**	**04 01 37.7**	**+0.4**
CDF				*e*

SFTF	**Sexfontaines**	**4.09**	**234**	*e*Pg		**Pg**	**04 01 59.6**	**-1.5**
SFTF				*e*Sn		**Sn**	**04 02 31.4**	**-2.5**
	5.9nm,0.3s							
CABF	**La Chapelle**	**4.85**	**214**	*e*Pn		**Pn**	**04 01 55.7**	**+0.3**
CABF				*e*Pg		**Pg**	**04 02 13.3**	**-2.9**
CABF				*e*Sg		**Sg**	**04 03 16.7**	**-4.1**
	32nm,1.0s							
MORC	**Moravsky Berou**	**4.93**	**98**	*e*Pn		**Pn**	**04 01 55.4**	**-1.2**
MORC	**Moravsky Berou**	**4.93**	**98**	*e*Pn		**Pn**	**04 01 55.4**	**-1.2**
ARSA	**Arzberg**	**5.02**	**131**	⇑*i*PN		**Pn**	**04 01 57.7**	**-0.2**
ARSA				*i* SG		**Sg**	**04 03 24.6**	**-2.0**
	21nm,0.9s							
ARSA	**Arzberg**	**5.02**	**131**	⇑*i*Pn		**Pn**	**04 01 57.7**	**-0.2**
ARSA	**Arzberg**	**5.02**	**131**	⇓*i*Sg		**Sg**	**04 03 27.1**	**+0.4**
	comp=Z,21nm,0.9s							
ARSA	**Arzberg**	**5.02**	**131**	⇑*i*Pn		**Pn**	**04 01 57.7**	**-0.2**
	21nm,0.9s							
ARSA				*i* Sg		**Sg**	**04 03 24.6**	**-2.0**
ZST	**Bratislava**	**5.27**	**116**	*e*		**Sg**	**04 03 29.1**	**-5.9**
LOR	**Lormes**	**5.30**	**232**	*e*Pn		**Pn**	**04 02 01.3**	**-0.6**
	baz=53							
LOR				*e*Pg		**Pg**	**04 02 21.9**	**-3.5**
	baz=50							
LOR				*e*Sn		**Sn**	**04 03 00.0**	**-4.6**
LOR				*e*Sg		**Sg**	**04 03 31.1**	**-5.0**
	24nm,1.1s							
LOR	**Lormes**	**5.30**	**232**	*e*Pg		**Pg**	**04 02 21.9**	**-3.5**
LOR				*e*Sn		**Sn**	**04 03 00.0**	**-4.6**
LOR				*e*Sg		**Sg**	**04 03 31.1**	**-5.0**
	12nm,1.1s							
SSF	**Saint Saulge**	**5.62**	**232**	*e*Pn		**Pn**	**04 02 06.1**	**-0.2**
SSF				*e*Sn		**Sn**	**04 03 07.4**	**-5.2**
SSF				*e*Sg		**Sg**	**04 03 41.0**	**-5.6**
	6.9nm,1.0s							
LPL	**La Plagne**	**5.63**	**204**	*e*Pn		**Pn**	**04 02 06.3**	**-0.2**
LPL				*e*Pg		**Pg**	**04 02 27.5**	**-4.4**
LPG	**La Plagne**	**5.65**	**204**	*e*Pn		**Pn**	**04 02 06.6**	**-0.1**
LPG				*e*Pg		**Pg**	**04 02 29.1**	**-3.1**
SMF	**Signal de Mont**	**5.75**	**227**	*e*Pn		**Pn**	**04 02 07.2**	**-1.0**
AVF	**Avril sur Loir**	**5.88**	**231**	*e*Pn		**Pn**	**04 02 09.5**	**-0.5**
VYHS	**Vyhne**	**6.16**	**108**	*e*		**Sg**	**04 04 01.0**	**-3.6**
MBDF	**Montbardon**	**6.37**	**201**	*e*Pn		**Pn**	**04 02 15.6**	**-1.2**
MBDF				*e*Pg		**Pg**	**04 02 41.4**	**-5.1**
ORIF	**Oris-en-Rattie**	**6.42**	**207**	*e*Pg		**Pg**	**04 02 42.3**	**-5.3**
SMRF	**Simiane la Rot**	**7.37**	**206**	*e*Pn		**Pn**	**04 02 29.9**	**-1.1**

CSEM ***22*** *04:00:49.1±0.9, 37.76N×25.40W, ML2.6, Error ellipse: s-maj=15.9km s-min=5.6km az=127.0, After PDA*
PDA ***22*** *04:00:49.1±0.9, 37.76N×25.40W, MD3.2, ML2.6, Error ellipse: s-maj=15.9km s-min=5.6km az=127.0*
SVSA 22 04:00:49.1±0.9, 37.76N×25.40W, MD3.2, ML2.6, Error ellipse: s-maj=15.9km s-min=5.6km az=127.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**0.10**	**272**	*e*P	Pg	04 00 52.1	+1.0
CMLA				*e*S	Sg	04 00 54.4	+1.9
PDA	**Ponta Delgada**	**0.21**	**266**	*e*P	Pg	04 00 54.5	+1.2
PDA				*e*S	Sg	04 00 58.4	+2.2
PSET	**Sete Cidades**	**0.27**	**284**	*e*P	Pg	04 00 55.2	+0.8
PSET				*e*S	Sg	04 01 00.5	+2.6
	2µm,0.3s						
PSCM	**Serra do Cume**	**1.65**	**305**	*e*P	Pn	04 01 15.6	-3.9
PSCM				*e*S	Sb	04 01 35.5	-5.9
	19nm,0.3s						
ROSA	**Rosais**	**2.44**	**294**	*e*P	Pn	04 01 26.8	-4.0
ROSA				*e*S	Sn	04 01 52.8	-8.9
PICO	**Pico**	**2.50**	**288**	*e*P	Pn	04 01 28.1	-3.6
PICO				*e*S	Sn	04 01 55.5	-7.8
CALA	**Caldeira**	**2.73**	**288**	*e*rx		04 01 28.9	

JMA ***22*** *04:06:23.3±0.4, 33.14N×142.42E, M3.7*
IDC ***22*** *04:06:23.2±1.1, 32.98N×142.46E, mb3.7/5, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/24, Error ellipse: s-maj=26.8km s-min=21.4km az=27.0*
NEIC ***22*** *04:06:35.8±2.6, 33.41N×141.67E, h127km±23km, mb4.5/5, Error ellipse: s-maj=39.4km s-min=19.9km az=92.0*
ISC 22 04:06:24.0±1.9, 33.08N±0.05×142.58E±0.07, h27km±15km, n31, σ1§13/40, mb4.0/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.06**	**320**	P	**Pn**	**04 06 57.9**	**+0.4**
BSO1				*e*S	**Sn**	**04 07 22.9**	**+0.4**
BSO2	**Boso 2**	**2.25**	**318**	*e*S	**Sn**	**04 07 28.8**	**+1.3**
JHJ2	**Mitsune**	**2.32**	**271**	P	**Pn**	**04 07 01.8**	**+0.5**
JHJ	**Hachijo jima 2**	**2.34**	**272**	Pn	**Pn**	**04 07 01.0**	**-0.7**
	31nm,0.3s,baz=78,slow=21,SNR=12						
JHJ				Sn	**Sn**	**04 07 28.8**	**-1.2**
	57nm,0.3s,baz=222,slow=23,SNR=6.9						
BSO3	**Boso 3**	**2.43**	**316**	P	**Pn**	**04 07 03.4**	**+0.6**
BSO3				S	**Sn**	**04 07 32.6**	**+0.6**
BSO4	**Boso 4**	**2.66**	**316**	P	**Pn**	**04 07 07.4**	**+1.2**
JOD2	**Odawara 2**	**3.62**	**308**	P	**Pn**	**04 07 19.2**	**-0.6**
JYN	**Shimob**	**4.12**	**307**	P	**Pn**	**04 07 28.1**	**+1.2**
JYN				S	**Sn**	**04 08 15.9**	**+1.1**
JAG	**Ashikaga**	**4.21**	**323**	P	**Pn**	**04 07 28.2**	**0.0**
JRY	**Ryogami san**	**4.21**	**315**	*e*S	**Sn**	**04 08 16.8**	**-0.5**
MJAR	**Matsushiro Arr**	**4.98**	**315**	Pn	**Pn**	**04 07 39.3**	**+0.2**
	2.4nm,0.3s,baz=146,slow=13,SNR=13						
MJAR				Sn	**Sn**	**04 08 35.1**	**-1.5**
	2.2nm,0.3s,baz=178,slow=18,SNR=7.6						
MAJO	**Matsushiro**	**4.98**	**315**	*e*Pn	**Pn**	**04 07 36.1**	**-3.0**
MAT	**Matsushiro**	**4.98**	**315**	P	**Pn**	**04 07 38.9**	**-0.2**
MAT				*e*S	**Sn**	**04 08 34.7**	**-1.9**
MAT	**Matsushiro**	**4.98**	**315**	P	**Pn**	**04 07 40.5**	**+1.4**
MAT				*e*S	**Sn**	**04 08 35.2**	**-1.4**
MAT	**Matsushiro**	**4.98**	**315**	P	**Pn**	**04 07 40.0**	**+0.9**
MAT				S	**Sn**	**04 08 35.0**	**-1.6**
JMM	**Marumori**	**4.99**	**344**	P	**Pn**	**04 07 37.5**	**-1.7**
JMM				*e*S	**Sn**	**04 08 31.5**	**-5.3**
JMK	**Ichinoseki**	**5.96**	**350**	P	**Pn**	**04 07 51.6**	**-1.3**
JMK				*e*S	**Sn**	**04 08 54.7**	**-6.4**
CBIJ	**Chichi jima**	**5.98**	**183**	Sn	**Sn**	**04 08 55.5**	**-6.1**
	15nm,0.3s,baz=300,slow=20,SNR=4.3						
JOW	**Kunigami**	**13.87**	**247**	LR	LR	04 14 07.2	
	comp=Z,53nm,21.3s,baz=313,slow=34						
GUMO	**Guam**	**19.52**	**173**	P	**P**	**04 10 52.8**	**+0.4**
	125nm,1.1s						
SONM	**Songino Array**	**30.91**	**309**	P	**P**	**04 12 42.5**	**+1.9**
	0.9nm,0.7s,mb3.7,baz=111,slow=7.3,SNR=5.7						
MKAR	**Makanchi Array**	**47.10**	**305**	P	**P**	**04 14 56.9**	**+1.4**
	1.6nm,0.7s,mb4.0,baz=86,slow=9.7,SNR=8.7						
KURK	**Kurchatov**	**49.18**	**311**	P	**P**	**04 15 05.5**	**-6.0**
	6.9nm,1.1s,mb4.6						
KURK				*e*		04 15 20.4	
ILAR	**Eielson Array**	**52.36**	**31**	P	**P**	**04 15 36.6**	**+1.1**
	0.2nm,0.6s,mb3.2,baz=281,slow=6.5,SNR=4.0						
WRAB	**Tennant Creek**	**53.30**	**190**	P	**P**	**04 15 42.5**	**-0.6**
	3.7nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**53.31**	**190**	P	**P**	**04 15 42.9**	**-0.3**
	1.3nm,0.7s,mb4.0,baz=7.0,slow=7.7,SNR=15						
BRVK	**Borovoye**	**54.04**	**315**	P	**P**	**04 15 40.3**	**-7.8**
	1.3nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**64.62**	**181**	P	**P**	**04 17 01.6**	**+0.1**
NWAO	**Narrogin (SRO)**	**69.86**	**203**	P	**P**	**04 17 34.1**	**-0.5**
	18nm,1.1s,mb4.9						
FCC	**Fort Churchill**	**77.10**	**27**	*e*P	**P**	**04 18 13.3**	**-3.0**
FCC				*e*	pP	04 18 22.6	-2.0
TXAR	**Lajitas Array**	**91.75**	**53**	P	**P**	**04 19 34.2**	**+3.5**
	0.1nm,0.7s,mb3.3,baz=243,slow=4.0,SNR=2.6						

CSEM ***22*** *04:15:36.4±0.1, 12.69N×40.49E, h2km, ML4.5, Error ellipse: s-maj=6.3km s-min=2.8km az=167.0*
IDC ***22*** *04:15:38.6±2.4, 12.73N×40.30E, mb3.7/6, mb1 3.8/6, mb1mx3.7/17, mbtmp3.7/6, MS3.7/8, Ms1 3.7/8, ms1mx3.5/21, Error ellipse: s-maj=60.9km s-min=27.2km az=163.0*
DHMR ***22*** *04:15:38.5±0.3, 12.73N×40.57E, h18km±18km, ML4.5*
NEIC ***22*** *04:15:39.0±1.2, 12.66N×40.49E, h10km, ML4.5(DHMR), Error ellipse: s-maj=30.3km s-min=11.1km az=181.0*
ISC 22 04:15:36.8±0.9, 12.6N±0.1×40.51E±0.05, h10km, n25, σ1§38/30, mb3.6/6, MS3.7/7, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.65**	**67**	⇓*e*P	**Pn**	**04 16 35.5**	**+0.9**
UDYN				*i* S	**Sn**	**04 17 19.9**	**+1.7**
UDYN				AML	AML	04 17 48.1	
	comp=E,2µm,0.8s						
UDYN	**Al 'Udayn**	**3.65**	**67**	*i* P	**Pn**	**04 16 36.1**	**+1.5**
UDYN				*i* S	**Sn**	**04 17 20.9**	**+2.7**
HAJJ	**Hajjah**	**4.33**	**43**	*e*P	**Pn**	**04 16 43.7**	**-0.6**
HAJJ				*i* S	**Sn**	**04 17 34.7**	**-0.8**
HAJJ	**Hajjah**	**4.33**	**43**	*i* P	**Pn**	**04 16 43.3**	**-0.9**
HAJJ				*i* S	**Sn**	**04 17 37.8**	**+2.4**
ADEN	**Aden**	**4.37**	**87**	⇓*e*P	**Pn**	**04 16 45.3**	**+0.4**
ADEN				*i* S	**Sn**	**04 17 37.7**	**+1.1**
ADEN				AML	AML	04 18 04.0	
	comp=Z,1µm,0.5s						
ADEN	**Aden**	**4.37**	**87**	*i* P	**Pn**	**04 16 45.6**	**+0.7**
ADEN				*i* S	**Sn**	**04 17 37.8**	**+1.2**
ADEN	**Aden**	**4.37**	**87**	*i* P	**Pn**	**04 16 45.6**	**+0.7**
ADEN				*i* S	**Sn**	**04 17 37.8**	**+1.2**
LBOS		**4.80**	**74**	⇓*e*P	**Pn**	**04 16 48.8**	**-2.1**
LBOS				*i* S	**Sn**	**04 17 43.8**	**-3.5**
LBOS		**4.80**	**74**	*i* P	**Pn**	**04 16 49.9**	**-1.1**
LBOS				*i* S	**Sn**	**04 17 45.1**	**-2.2**
BDHA	**Al Bayda'**	**5.12**	**73**	⇓*e*P	**Pn**	**04 16 53.2**	**-2.3**
BDHA				*i* S	**Sn**	**04 17 51.8**	**-3.7**
BDHA	**Al Bayda'**	**5.12**	**73**	*i* P	**Pn**	**04 16 53.8**	**-1.7**
BDHA				*i* S	**Sn**	**04 17 53.4**	**-2.0**
BDHA	**Al Bayda'**	**5.12**	**73**	*i* P	**Pn**	**04 16 53.8**	**-1.7**
BDHA				*i* S	**Sn**	**04 17 53.4**	**-2.1**
KMBO	**Kilima Mbogo**	**13.97**	**194**	LR	LR	04 23 39.8	
	comp=Z,309nm,18.5s,baz=226,slow=34						
IDI	**Anoyia**	**26.68**	**331**	LR	LR	04 31 44.9	
	comp=Z,120nm,18.7s,MS3.5,baz=279,slow=37						
MATP	**Matopo**	**34.84**	**200**	LR	LR	04 36 43.3	
	comp=Z,180nm,18.8s,MS3.8,baz=29,slow=36						
TSUM	**Tsumeb**	**38.81**	**216**	LR	LR	04 39 55.4	
	comp=Z,100nm,19.4s,MS3.6,baz=149,slow=38						
AKASG	**Malin Array Be**	**39.14**	**349**	P	**P**	**04 23 05.6**	**-0.7**
	comp=Z,0.1nm,0.3s,mb3.1,baz=181,slow=7.7,SNR=4.2						
LBTB	**Lobatse**	**40.08**	**201**	LR	LR	04 39 41.9	
	comp=Z,111nm,21.0s,MS3.7,baz=39,slow=36						
GERES	**GERESS Array B**	**42.45**	**334**	P	**P**	**04 23 34.3**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.2,baz=130,slow=7.7,SNR=4.5						
DBIC	**Dimbokro**	**45.06**	**267**	P	**P**	**04 23 55.4**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.2,baz=96,slow=13,SNR=5.6						
MDT	**Midelt**	**45.84**	**304**	P	**P**	**04 23 59.8**	**-1.3**
	comp=Z,1.0nm,1.1s,mb3.7,baz=153,slow=4.5,SNR=2.9						
MDT				LR	LR	04 45 04.6	
	comp=Z,137nm,18.4s,MS3.9,baz=102,slow=39						
SUR	**Sutherland**	**48.49**	**202**	LR	LR	04 45 20.7	
	comp=Z,151nm,19.4s,MS4.0,baz=40,slow=37						
MKAR	**Makanchi Array**	**48.91**	**37**	P	**P**	**04 24 26.1**	**+1.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=243,slow=8.1,SNR=3.9						
NOA	**NORSAR Array B**	**52.90**	**343**	LR	LR	04 49 32.7	
	comp=Z,23nm,18.0s,MS3.3,baz=55,slow=39						
SONM	**Songino Array**	**64.64**	**43**	P	**P**	**04 26 18.4**	**+1.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=262,slow=5.3,SNR=7.8						

BJI ***22*** *04:28:16.9, 12.70N×40.05E, h23km, mB4.8, mb4.7, Ms4.6, Msz4.1*
IDC ***22*** *04:28:17.5±1.0, 12.72N×40.57E, mb4.1/13, mb1 4.1/15, mb1mx4.1/20, mbtmp4.0/15, MS3.5/3, Ms1 3.5/3, ms1mx3.2/14, Error ellipse: s-maj=23.9km s-min=21.2km az=127.0*
DHMR ***22*** *04:28:17.3±3.4, 12.69N×40.57E, h12km±637km, ML3.8*
NEIC ***22*** *04:28:18.9±0.4, 12.73N×40.51E, h10km, mb4.5/15, Error ellipse: s-maj=11.5km s-min=7.7km az=103.0*
CSEM ***22*** *04:28:23.0±0.1, 12.74N×40.54E, h60km, mb4.4/11, Error ellipse: s-maj=6.0km s-min=4.0km az=133.0*
ISC 22 04:28:18.7±2.4, 12.71N±0.06×40.42E±0.05, h20km±17km, n55, σ1§03/56, mb4.4/32, MS3.9/5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.68**	**70**	*i* P	**Pn**	**04 29 15.1**	**-0.7**
UDYN				*i* S	**Sn**	**04 30 00.1**	**+1.0**
UDYN				AML	AML	04 30 20.9	
	comp=E,385nm,0.7s						
HAJJ	**Hajjah**	**4.29**	**46**	*i* S	**Sn**	**04 30 15.3**	**+0.8**
BDHA	**Al Bayda'**	**5.17**	**75**	*i* S	**Sn**	**04 30 31.9**	**-4.9**
KMBO	**Kilima Mbogo**	**14.10**	**193**	Pn	**P**	**04 31 39.6**	**-0.2**
	baz=27,slow=16,SNR=3.1						
KMBO				LR	LR	04 37 03.3	
	comp=E,175nm,18.3s,baz=269,slow=37						
ASF	**Jabal al Asfar**	**19.64**	**351**	P	**P**	**04 32 48.5**	**-0.7**
	comp=E,0.5nm,0.3s,baz=343,slow=3.4,SNR=4.7						
MALT	**Malatya**	**25.56**	**356**	*e*P	**P**	**04 33 50.3**	**+2.2**
	comp=E,30nm,1.4s,mb4.6						
IDI	**Anoyia**	**26.51**	**331**	LR	LR	04 44 58.1	
	comp=E,124nm,18.1s,MS3.5,baz=351,slow=38						
BR131	**Keskin Array S**	**27.57**	**349**	*e*P	**P**	**04 34 07.5**	**+1.0**
	comp=E,7.4nm,1.0s,mb4.3						
BR131	**Keskin Array S**	**27.57**	**349**	*e*P	**P**	**04 34 07.5**	**+1.0**
	comp=E,7.4nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**27.57**	**349**	P	**P**	**04 34 07.6**	**+1.1**
	comp=E,8.8nm,1.2s,mb4.3,baz=164,slow=9.0,SNR=16						
BRTR				PcP	PcP	04 37 25.7	+1.2
	comp=E,0.8nm,0.8s,baz=207,slow=2.8,SNR=4.3						
GNI	**Garni**	**27.60**	**7**	LR	LR	04 46 22.8	
	comp=E,54nm,18.2s,MS3.2,baz=90,slow=39						
LSZ	**Lusaka**	**30.32**	**204**	*e*P	**P**	**04 34 32.2**	**+0.7**
KIV	**Kislovodsk**	**31.20**	**3**	*e*P	**P**	**04 34 38.4**	**-0.5**
	comp=E,21nm,1.1s,mb4.9						
KIV	**Kislovodsk**	**31.20**	**3**	*e*P	**P**	**04 34 38.4**	**-0.5**
	comp=E,21nm,1.1s,mb4.9						
AKASG	**Malin Array Be**	**38.97**	**349**	P	**P**	**04 35 44.9**	**-0.4**
	comp=E,0.4nm,0.3s,mb3.7,baz=165,slow=6.8,SNR=7.3						
PSZ	**Piszkesteto**	**39.06**	**338**	P	**P**	**04 35 44.4**	**-1.7**
	comp=E,16nm,1.3s,mb4.6						
PSZ	**Piszkesteto**	**39.06**	**338**	P	**P**	**04 35 44.4**	**-1.7**
	comp=E,16nm,1.3s,mb4.6						
MORC	**Moravsky Berou**	**41.47**	**338**	*e*P	**P**	**04 36 06.2**	**+0.3**
	comp=E,4.1nm,1.0s,mb4.0						
MORC	**Moravsky Berou**	**41.47**	**338**	*e*P	**P**	**04 36 06.2**	**+0.3**
	comp=E,4.1nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**41.93**	**38**	*e*P	**P**	**04 36 10.2**	**+0.4**
	comp=E,4.6nm,1.2s,mb4.0						
AAK	**Ala-Archa**	**41.93**	**38**	*e*P	**P**	**04 36 10.2**	**+0.4**
	comp=E,4.6nm,1.2s,mb4.0						
GERES	**GERESS Array B**	**42.27**	**334**	P	**P**	**04 36 12.6**	**+0.1**
	comp=E,1.0nm,0.7s,mb3.6,baz=135,slow=7.5,SNR=12						
KHC	**Kasperske Hory**	**42.54**	**334**	*e*P	**P**	**04 36 11.0**	**-3.7**
GRA1	**Grafenberg Arr**	**43.99**	**333**	*e*P	**P**	**04 36 25.6**	**-0.9**
	comp=E,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**43.99**	**333**	*e*P	**P**	**04 36 25.6**	**-0.9**
	comp=E,4.0nm,0.9s,mb4.2						
CLL	**Collm**	**44.45**	**336**	P	**P**	**04 36 30.0**	**-0.2**
CLL				*i* *PP	pP	04 36 33.0	-3.1
DBIC	**Dimbokro**	**44.98**	**267**	P	**P**	**04 36 35.0**	**0.0**
	comp=E,2.6nm,0.7s,mb4.2,baz=50,slow=9.1,SNR=5.1						
MDT	**Midelt**	**45.68**	**304**	P	**P**	**04 36 41.6**	**+1.4**
	comp=E,2.1nm,1.0s,mb4.0,baz=81,slow=10,SNR=5.0						
BRVK	**Borovoye**	**46.76**	**24**	P	**P**	**04 36 47.2**	**-1.3**
	comp=E,2.5nm,1.2s,mb4.0						
BRVK	**Borovoye**	**46.76**	**24**	P	**P**	**04 36 47.2**	**-1.3**
	comp=E,2.5nm,1.2s,mb4.0						
BVAR	**Borovoye Array**	**46.78**	**24**	P	**P**	**04 36 47.8**	**-0.8**
	comp=E,1.1nm,0.8s,mb3.8,baz=216,slow=13,SNR=5.0						
ESDC	**Sonseca Array**	**47.37**	**313**	P	**P**	**04 36 54.0**	**+0.5**
	comp=E,1.5nm,0.8s,mb4.0,baz=108,slow=9.4,SNR=6.7						
ESLA	**Sonseca Array**	**47.37**	**313**	*e*P	**P**	**04 36 53.9**	**+0.4**
	comp=E,11nm,1.6s,mb4.5						
ESLA	**Sonseca Array**	**47.37**	**313**	*e*P	**P**	**04 36 53.9**	**+0.4**
	comp=E,11nm,1.6s,mb4.5						
MKAR	**Makanchi Array**	**48.85**	**38**	P	**P**	**04 37 03.2**	**-1.7**
	comp=E,1.8nm,0.8s,mb4.1,baz=239,slow=7.1,SNR=10						
KURK	**Kurchatov**	**48.99**	**31**	*e*P	**P**	**04 37 05.9**	**0.0**
	comp=E,11nm,1.3s,mb4.7						
KURK	**Kurchatov**	**48.99**	**31**	*e*P	**P**	**04 37 05.9**	**0.0**
	comp=E,11nm,1.3s,mb4.7						
FINES	**FINESS Array B**	**49.76**	**351**	P	**P**	**04 37 12.3**	**+0.6**
	comp=E,4.2nm,1.0s,mb4.4,baz=164,slow=14,SNR=5.6						
WMQ	**Urumqi**	**50.95**	**43**	*e*P	**P**	**04 37 22.5**	**+1.5**
WMQ				AP	pP	04 37 27.0	0.0
WMQ				*e*S	**S**	**04 44 37.0**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,72nm,6.4s						
WMQ				LR	LR		
	comp=N,126nm,19.6s,MS4.1						
WMQ				LR	LR		
	comp=E,154nm,20.7s,MS4.1						
NOA	**NORSAR Array B**	**52.73**	**343**	P	**P**	**04 37 33.6**	**-0.7**
	comp=E,2.0nm,0.9s,mb4.1,baz=140,slow=7.5,SNR=3.5						
ZAL	**Zalesovo**	**53.94**	**31**	P	**P**	**04 37 41.9**	**-1.2**
	comp=E,1.7nm,0.3s,mb4.5,baz=70,slow=3.6,SNR=4.8						
ZAL	**Zalesovo**	**53.94**	**31**	P	**P**	**04 37 41.9**	**-1.3**
GTA	**Gaotai**	**58.46**	**51**	*e*P	**P**	**04 38 15.3**	**-0.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.2						
KMI	**Kunming**	**59.79**	**68**	P	**P**	**04 38 25.3**	**0.0**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
GYA	**Guiyang**	**63.31**	**67**	P	**P**	**04 38 47.1**	**-1.8**
GYA				S	**S**	**04 47 15.3**	**-3.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
GYA				AMB	AMB		
	comp=Z,70nm,3.4s						
GYA				LR	LR		
	comp=N,180nm,18.2s,MS4.5						
GYA				LR	LR		
	comp=E,210nm,18.4s,MS4.5						
GYA				LR	LR		
	comp=Z,140nm,18.8s,MS4.2						
SONM	**Songino Array**	**64.59**	**43**	P	**P**	**04 38 56.1**	**-0.9**
	comp=Z,1.8nm,0.9s,mb4.1,baz=256,slow=6.7,SNR=13						
HHC	**Hu-ho-hao-te**	**67.57**	**51**	*e*P	**P**	**04 39 19.3**	**+3.1**
HHC				PCP	PcP	04 39 45.5	+2.2
HHC				PP	PP	04 41 50.1	+3.1
HHC				PCS		04 43 49.0	
HHC				S	S	04 48 15.4	+5.1
HHC				SCS	ScS	04 49 13.5	+3.8
HHC				SS	SS	04 52 37.4	+4.8
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,85nm,4.5s						
HHC				LR	LR		
	comp=N,122nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=E,122nm,10.7s,MS4.5						
HHC				LR	LR		
	comp=Z,91nm,14.3s,MS4.1						
KBS	**Kingsbay**	**67.65**	**354**	P	**P**	**04 39 17.2**	**+1.1**
	comp=Z,24nm,0.9s,mb5.2						
HIA	**Hailar**	**73.53**	**42**	*e*P	**P**	**04 39 51.8**	**-0.3**
	comp=Z,9.1nm,1.4s,mb4.5						
NJ2	**Nanjing**	**73.65**	**60**	*e*P	**P**	**04 39 55.3**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
SSE	**Sheshan**	**75.72**	**61**	P	**P**	**04 40 05.1**	**0.0**
SSE				AMB	AMB		
	comp=Z,38nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,125nm,3.8s						
CN2	**Changchun**	**77.76**	**48**	*e*P	**P**	**04 40 16.3**	**+0.1**
MDJ	**Mudanjiang**	**80.62**	**46**	P	**P**	**04 40 31.8**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,41nm,3.9s						
MDJ				LR	LR		
	comp=N,40nm,29.2s						
MDJ				LR	LR		
	comp=E,8.0nm,18.0s						
MAW	**Mawson**	**81.74**	**171**	P	**P**	**04 40 37.8**	**+0.7**
	comp=E,1.1nm,0.3s,mb4.3,baz=5.7,slow=7.7,SNR=3.6						
MAW	**Mawson**	**81.74**	**171**	*e*P	**P**	**04 40 37.0**	**-0.1**
	comp=E,4.7nm,1.1s,mb4.3						

ATH ***22*** *04:33:19.0, 36.06N×26.12E, h123km±16km*
HLW ***22*** *04:33:23.4, 35.68N×26.08E, h22km, Mb3.4*
CSEM 22 04:33:17.8±0.4, 36.03N×26.08E, h139km±5km, ML3.4, 2C-1D, Error ellipse: s-maj=10.9km s-min=7.6km az=79.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.86**	**207**	*e*P	P	04 33 41.0	+0.4
KARP	**Karpathos**	**1.00**	**119**	*e*P	P	04 33 42.0	+0.3
KARP				*e*S	S	04 33 58.5	-1.6
APE	**Apeiranthos**	**1.12**	**337**	*e*P	P	04 33 43.2	+0.3
XRY	**Khrisi**	**1.20**	**195**	*e*P	P	04 33 44

comp=N,37nm,1.4s,mb5.0
MDT Midelt 45.87 304 P **P** **05 30 15.4 +3.7**
comp=N,1.8nm,0.9s,mb4.0,baz=85,slow=6.8,SNR=6.6
ESDC Sonseca Array 47.63 313 P **P** **05 30 25.9 +0.5**
comp=N,0.1nm,0.3s,mb3.4,baz=119,slow=8.1,SNR=5.7
ESLA Sonseca Array 47.63 313 *eP* **P** **05 30 28.1 +2.7**
comp=N,11nm,1.7s,mb4.6
ESLA Sonseca Array 47.63 313 *eP* **P** **05 30 28.1 +2.7**
comp=N,11nm,1.7s,mb4.6
MKAR Makanchi Array 49.27 37 P **P** **05 30 37.3 -0.8**
comp=N,2.6nm,1.1s,mb4.2,baz=233,slow=6.1,SNR=8.1
KURK Kurchatov 49.43 31 *eP* **P** **05 30 38.5 -0.7**
comp=N,7.9nm,1.4s,mb4.5
SONM Songino Array 64.99 43 P **P** **05 32 29.8 +0.3**
comp=N,2.0nm,1.1s,mb4.0,baz=252,slow=4.7,SNR=11
BDFB Brasilia 91.67 254 LR LR 06 10 56.5
comp=N,42nm,19.3s,MS3.9,baz=297,slow=32
WRAB Tennant Creek 97.81 109 P **P** **05 35 23.5 -1.2**
comp=N,21nm,1.4s

*NEIC **22** 05:33:39.2, 17.96N×99.21W, h70km, MD3.7(MEX), After MEX.*

MEX 22 05:33:38.8±1.5, 18.04N×99.20W, h74km±14km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.46**	**320**	*i* P	P	P	05 33 51.0	-0.7
PLIG				*i* S	S	S	05 33 59.4	-1.9
YAIG	**Yautepec**	**0.83**	**8**	*eP*	P	S	05 33 54.7	-1.0
YAIG				*eS*	S	S	05 34 06.0	-2.1
PPM	**Popocatepetl**	**1.16**	**28**	*i* P	P	S	05 33 58.3	-1.4
PPM				*i* S	S	S	05 34 12.5	-2.9
UNM	**Universidad Na**	**1.28**	**1**	*i* P	P	S	05 34 00.6	-0.9
UNM				*i* S	S	S	05 34 18.9	+0.5
UNM	**Universidad Na**	**1.28**	**1**	*eP*	P	S	05 34 02.0	+0.5
UNM				*eS*	S	S	05 34 18.9	+0.6
ACX	**Acapulco**	**1.35**	**211**	*i* P	P	P	05 33 59.7	-2.8
ACX				*i* S	S	S	05 34 14.7	-5.3
CAIG	**El Cayaco**	**1.42**	**226**	*i* P	P	S	05 34 02.6	-0.8
CAIG				*eS*	S	S	05 34 17.6	-3.9
VHO	**Vista Hermosa**	**2.54**	**112**	*i* P	P	S	05 34 14.9	-3.8
VHO				*i* S	S	S	05 34 47.1	-1.5
OXX	**Oaxaca**	**2.54**	**112**	*i* P	P	P	05 34 17.5	-1.3

IDC 22 05:35:11.1±1.6, 0.99N×126.88E, mb3.7/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=136.5km s-min=27.4km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.05**	**161**	P	P	P	05 40 07.6	-1.8
	0.7nm,0.5s,baz=339,slow=11,SNR=7.7							
SONM	**Songino Array**	**49.93**	**342**	P	P	P	05 44 05.8	-2.8
	0.5nm,0.6s,baz=156,slow=9.0,SNR=6.4							
MKAR	**Makanchi Array**	**59.89**	**326**	P	P	P	05 45 19.4	-1.7
	1.2nm,0.4s,baz=118,slow=8.8,SNR=15							

*IDC **22** 05:51:07.7±0.6, 13.57N×92.72E, mb4.6/18, mb1 4.7/18, mb1mx4.6/22, mbtmp4.6/18, MS4.0/4, Ms1 4.0/4, ms1mx3.5/22, Error ellipse: s-maj=21.7km s-min=15.2km az=43.0*
*BJI **22** 05:51:10.4, 13.28N×92.82E, h49km, mB4.7, mb4.6, Ms4.1, Msz3.8*
*MOS **22** 05:51:11.2±0.8, 13.60N×92.77E, h38km, mb4.9/56, Error ellipse: s-maj=14.5km s-min=5.0km az=120.2*
*NEIC **22** 05:51:12.1±0.2, 13.61N×92.73E, h30km, mb4.7/41, MS4.1/4, Error ellipse: s-maj=6.7km s-min=4.0km az=52.0*
ISC 22 05:51:12.0±0.7, 13.59N±0.04×92.72E±0.03, h44km±6km, h38km±3.0km; pP-P, n203, σ0.86/205, mb4.6/75, MS3.9/16, 5C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.92**	**179**	*eP*	**P**	**P**	**05 51 45.6**	**+2.7**
PBA				*ex*	x	x	05 51 56.6	
PBA				*i* S	**S**	**S**	**05 52 13.1**	**+7.3**
NNT	**Nongplab**	**6.90**	**97**	P	**P**	**P**	**05 52 53.5**	**+0.3**
NST	**Nakhon Sawan**	**7.46**	**73**	P	**P**	**P**	**05 52 56.0**	**-5.0**
CHG	**Chiang Mai**	**7.92**	**48**	⇑P	**P**	**P**	**05 53 08.3**	**+1.0**
	55nm,0.8s							
NANT	**Nan**	**9.25**	**55**	⇑P	**P**	**P**	**05 53 27.0**	**+1.3**
	81nm,1.0s							
VIS	**Vishakhapatnam**	**9.94**	**296**	*eP*	**P**	**P**	**05 53 32.1**	**-3.2**
VIS				*eS*	**S**	**S**	**05 55 14.6**	**-12**
KULM	**Kulim**	**11.36**	**136**	P	**P**	**P**	**05 53 52.6**	**-2.0**
SHL	**Shillong**	**11.95**	**356**	*ex*	**P**	**P**	**05 53 56.0**	**-6.4**
SHL				*ex*	x	x	05 55 59.9	
SHL				*eS*	**S**	**S**	**05 56 03.0**	**-12**
BOK	**Bokaro**	**12.04**	**328**	*eP*	**P**	**P**	**05 54 05.2**	**+1.5**
BOK				AMb	AMB	AMB	05 54 29.8	
	comp=Z,31nm,0.9s							
MDRS	**Chennai**	**12.15**	**269**	*ex*	x	x	05 56 47.0	
BLSP	**Bilaspur**	**13.18**	**312**	*eP*	**P**	**P**	**05 54 17.6**	**-1.3**
BLSP				AMb	AMB	AMB	05 54 44.5	
	comp=Z,27nm,1.5s							
BLSP				*eS*	**S**	**S**	**05 56 29.9**	**-15**
HYB	**Hyderabad**	**14.18**	**287**	*i* P	**P**	**P**	**05 54 32.5**	**+0.4**
HYB				*eS*	**S**	**S**	**05 57 10.0**	**+1.2**
KMI	**Kunming**	**14.86**	**38**	P	**P**	**P**	**05 54 42.4**	**+1.5**
KMI				AP			05 54 47.8	
KMI				PP	PP	PP	05 54 59.9	-0.2
KMI				S	**S**	**S**	**05 57 26.4**	**+1.6**
KMI				AMB	AMB			
	comp=Z,8.0nm,0.6s							
KMI				AMB	AMB			
	comp=Z,49nm,3.4s							
KMI				LR	LR			
	comp=N,260nm,17.8s							
KMI				LR	LR			
	comp=E,359nm,16.2s							
KMI				LR	LR			
	comp=Z,231nm,17.8s							
NGP	**Nagpur**	**15.06**	**302**	*eP*	**P**	**P**	**05 54 43.7**	**+0.1**
PKI	**Pulchoki**	**15.50**	**335**	*eP*	**P**	**P**	**05 54 47.7**	**-1.5**
	comp=Z,16nm,0.5s							
PKI				*eS*	**S**	**S**	**05 57 27.8**	**-12**
PKI	**Pulchoki**	**15.50**	**335**	*eP*	**P**	**P**	**05 54 47.7**	**-1.5**
PKI				pmax	pmax			
	comp=Z,8.0nm,0.5s							
GUN	**Gumba**	**15.62**	**337**	*eP*	**P**	**P**	**05 54 50.0**	**-0.7**
DMN	**Daman**	**15.66**	**334**	*eP*	**P**	**P**	**05 54 50.2**	**-1.1**
	comp=Z,5.7nm,0.2s							
KKN	**Kakani**	**15.75**	**335**	*eP*	**P**	**P**	**05 54 51.1**	**-1.3**
	comp=Z,4.9nm,0.3s							
LSA	**Lhasa**	**16.10**	**355**	P	**P**	**P**	**05 55 00.3**	**+3.4**
LSA	**Lhasa**	**16.10**	**355**	P	**P**	**P**	**05 54 58.2**	**+1.4**
	comp=Z,17nm,0.7s							
LSA				*eS*	**S**	**S**	**05 57 46.4**	**-7.3**
LSA	**Lhasa**	**16.10**	**355**	P	**P**	**P**	**05 54 58.3**	**+1.4**
LSA				*eS*	**S**	**S**	**05 57 46.4**	**-7.3**
LSA				pmax	pmax			
	comp=Z,17nm,0.7s							
GKN	**Gorkha**	**16.20**	**334**	*eP*	**P**	**P**	**05 54 57.3**	**-0.9**
	comp=Z,13nm,0.3s							
KOLN	**Koldanda**	**16.48**	**330**	*eP*	**P**	**P**	**05 55 00.0**	**-1.7**
	comp=Z,25nm,0.5s							
AKL	**Akola**	**16.59**	**297**	*ex*	x	x	05 57 49.0	
BHPL	**Bhopal**	**17.39**	**306**	*eP*	**P**	**P**	**05 55 15.0**	**+1.9**
BHPL				AMb	AMB	AMB	05 55 26.3	
	comp=Z,30nm,0.9s							
BHPL				*ex*	**S**	**S**	**05 58 14.2**	**-9.1**
GYA	**Guiyang**	**18.30**	**43**	⇑*i*P	**P**	**P**	**05 55 23.6**	**-0.8**
GYA				AP			05 55 32.8	
GYA				XP			05 55 36.9	
GYA				PP	PP	PP	05 55 40.3	+0.4
GYA				AMB	AMB	AMB		
	comp=Z,20nm,0.8s							
GYA				AMB	AMB	AMB		
	comp=Z,90nm,2.8s							
GYA				LR	LR	LR		
	comp=N,290nm,14.2s							
GYA				LR	LR	LR		
	comp=E,460nm,15.4s							
GYA				LR	LR	LR		
	comp=Z,370nm,15.0s							
CD2	**Chengdu**	**20.01**	**29**	*eP*	**P**	**P**	**05 55 43.5**	**-0.3**
CD2				*eS*	**S**	**S**	**05 59 21.6**	**+0.2**
CD2				LR	LR	LR		
	comp=E,160nm,16.8s							
CD2				LR	LR	LR		
	comp=Z,190nm,15.6s,MS3.5							
ENH	**Enshi 22.70 40**			*eP*	**P**	**P**	**05 56 10.1**	**-0.9**
	comp=Z,57nm,1.1s,mb4.9							
LZH	**Lanzhou 24.53 22**			*eP*	**P**	**P**	**05 56 29.8**	**+1.0**
LZH				AP			05 56 37.9	
LZH				PP	PP		05 57 05.0	-0.6
LZH				S	**S**		**06 00 42.0**	**-1.6**
LZH				AMB	AMB			
	comp=Z,130nm,1.3s,mb5.3							
LZH				AMB	AMB			
	comp=Z,180nm,4.0s							
LZH				LR	LR			
	comp=N,630nm,15.6s							
LZH				LR	LR			
	comp=Z,600nm,18.8s,MS4.1							
XAN	**Xi'an 25.11 33**			P	**P**		**05 56 33.6**	**-0.8**
XAN				AMB	AMB			
	comp=Z,28nm,0.9s,mb4.8							
GTA	**Gaotai 26.47 12**			P	**P**	**P**	**05 56 47.5**	**+0.5**
GTA				AP	pP		05 56 58.4	-0.2
GTA				XP	sP		05 57 01.9	-2.0
GTA				PP	PP		05 57 30.9	-0.3
GTA				PCP	PcP		06 00 13.3	+1.6
GTA				S	**S**		**06 01 17.5**	**+1.7**
GTA				SS	SS		06 02 27.1	-0.6
GTA				SCP			06 03 48.4	
GTA				PCS			06 03 53.8	
GTA				SCS	ScS		06 07 36.8	+1.3
GTA				AMB	AMB			
	comp=Z,14nm,1.1s,mb4.4							
GTA				AMB	AMB			
	comp=Z,69nm,4.9s							
GTA				LR	LR			
	comp=N,200nm,18.3s,MS3.8							
GTA				LR	LR			
	comp=E,134nm,17.9s,MS3.8							
GTA				LR	LR			
	comp=Z,153nm,16.4s,MS3.6							
NJ2	**Nanjing 30.16 48**			*eP*	**P**	**P**	**05 57 20.0**	**-0.3**
NJ2				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.9							
WMQ	**Urumqi 30.44 353**			*eP*	**P**	**P**	**05 57 21.4**	**-1.2**
WMQ				*eS*	**S**	**S**	**06 02 19.0**	**-0.2**
WMQ				AMB	AMB			
	comp=Z,8.0nm,0.6s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,53nm,5.0s							
WMQ				LR	LR			
	comp=N,264nm,22.5s,MS4.0							
WMQ				LR	LR			
	comp=E,301nm,20.2s,MS4.0							
WMQ				LR	LR			
	comp=Z,212nm,20.6s,MS3.8							
SSE	**Sheshan 31.43 52**			P	**P**	**P**	**05 57 31.3**	**-0.2**
SSE				XP	sP		05 57 43.8	-5.2
SSE				S	**S**		**06 02 34.9**	**0.0**
SSE				AMB	AMB			
	comp=Z,21nm,0.8s,mb5.0							
SSE				AMB	AMB			
	comp=Z,74nm,6.1s							
SSE				LR	LR			
	comp=N,82nm,21.3s,MS3.5							
SSE				LR	LR			
	comp=E,55nm,21.4s,MS3.5							
SSE				LR	LR			
	comp=Z,81nm,20.7s,MS3.4							
HHC	**Hu-ho-hao-te 31.77 28**			*eP*	**P**	**P**	**05 57 34.4**	**+0.1**
HHC				AP	pP		05 57 43.8	-2.4
HHC				XP	sP		05 57 48.1	-3.7
HHC				PP	PP		05 58 40.0	-0.4
HHC				PCP	PcP		06 00 23.5	-1.5
HHC				S	**S**		**06 02 40.3**	**+0.2**
HHC				PCS			06 04 08.3	
HHC				SS	SS		06 04 32.0	-0.5
HHC				SCS	ScS		06 08 00.3	+0.2
HHC				AMB	AMB			
	comp=Z,16nm,0.5s,mb5.1							
HHC				AMB	AMB			
	comp=Z,87nm,3.2s							
HHC				LR	LR			
	comp=N,154nm,10.7s,MS4.1							
HHC				LR	LR			
	comp=E,190nm,11.9s,MS4.1							
AAK	**Ala-Archa 32.96 335**			*eP*	**P**		**05 57 44.4**	**-0.3**
	comp=E,7.5nm,1.1s,mb4.5							
AAK	**Ala-Archa 32.96 335**			*eP*	**P**	**P**	**05 57 44.4**	**-0.3**
AAK				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5							
MKAR	**Makanchi Array 34.24 347**			P	**P**	**P**	**05 57 56.1**	**+0.4**
	comp=Z,12nm,0.8s,mb4.9,baz=162,slow=8.7,SNR=76							
MKAR				PcP	PcP		06 00 31.9	+0.1
	comp=Z,0.5nm,0.5s,baz=215,slow=3.1,SNR=4.1							
MKAR				LR	LR		06 15 20.5	
	comp=Z,100nm,18.7s,MS3.6,baz=360,slow=42							
MKAR	**Makanchi Array 34.24 347**			P	**P**		**05 57 56.1**	**+0.4**
MKAR				PcP	PcP		06 00 31.9	+0.1
MKAR				LR	LR		06 15 20.4	
MKAR	**Makanchi Array 34.24 347**			P	**P**		**05 57 56.1**	**+0.4**
MKAR							06 00 31.9	
MKAR				pmax	pmax			
	comp=Z,12nm,0.8s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR				MLR	MLR			
	comp=Z,100nm,18.7s							
JOW	**Kunigami 35.74 63**			P	**P**		**05 58 08.2**	**-0.5**
	comp=Z,7.0nm,0.2s,mb5.2,baz=145,slow=14,SNR=4.3							
SONM	**Songino Array 35.99 16**			P	**P**		**05 58 10.9**	**+0.2**
	comp=Z,8.1nm,1.0s,mb4.6,baz=194,slow=7.4,SNR=39							
SONM				PcP	PcP		06 00 37.4	+0.6
	comp=Z,2.1nm,0.7s,baz=200,slow=3.5,SNR=8.1							
SONM	**Songino Array 35.99 16**			P	**P**		**05 58 10.9**	**+0.2**
SONM							06 00 37.4	
SONM				pmax	pmax			
	comp=Z,8.0nm,1.0s							
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ZAK	**Zakamensk 37.69 11**			*eP*	**P**		**05 58 24.9**	**0.0**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb3.8							
KURK	**Kurchatov 38.77 346**			*eP*	**P**		**05 58 34.0**	**+0.2**
	comp=Z,32nm,1.1s,mb5.0							
KURK	**Kurchatov 38.77 346**			P	**P**		**05 58 33.9**	**+0.1**
KURK				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.6							
SNY	**Shenyang 38.83 38**			⇓P	**P**		**05 58 34.3**	**-0.2**
JNU	**Nakatsue 39.77 54**			P	**P**		**05 58 42.8**	**+0.4**
	comp=Z,5.9nm,0.4s,mb4.7,baz=243,slow=4.5,SNR=4.9							
ZAL	**Zalesovo 40.74 353**			P	**P**		**05 58 50.3**	**+0.2**
	comp=Z,8.9nm,0.6s,mb4.6,baz=298,slow=7.6,SNR=31							
ZAL	**Zalesovo 40.74 353**			P	**P**		**05 58 50.3**	**+0.2**
ZAL				pmax	pmax			
	comp=Z,9.0nm,0.6s							
CN2	**Changchun 41.12 37**			*eP*	**P**		**05 58 54.0**	**+0.6**
NVS	**Novosibirsk 41.83 352**			*i* P	**P**		**05 58 58.5**	**-0.5**
NVS				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.2							
NVS				pmax	pmax			
	comp=N,11nm,1.4s							
NVS				pmax	pmax			
	comp=E,7.0nm,1.7s							
VOSK	**Vostochnaya 42.72 341**			P	**P**	**P**	**05 59 06.4**	**0.0**
VOSK				pmax	pmax			
	comp=Z,20nm,1.2s,mb4.7							
BVA0	**Borovoye Array 43.17 340**			*i* P	**P**	**P**	**05 59 10.1**	**0.0**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.6							
BVAR	**Borovoye Array 43.17 340**			P	**P**		**05 59 10.0**	**-0.1**
	comp=Z,4.8nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=17							
BVAR	**Borovoye Array 43.17 340**			P	**P**		**05 59 10.0**	**-0.1**
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BRVK	**Borovoye 43.23 340**			*eP*	**P**		**05 59 09.4**	**-1.2**
	comp=Z,6.9nm,1.0s,mb4.3							
BRVK	**Borovoye 43.23 340**			*eP*	**P**		**05 59 09.4**	**-1.2**
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.3							
MDJ	**Mudanjiang 44.03 38**			P	**P**	**P**	**05 59 16.5**	**-0.7**
MDJ				AMB	AMB			
	comp=Z,4.0nm,0.6s,mb4.3							
MDJ				AMB	AMB			
	comp=Z,40nm,4.1s							
MDJ				LR	LR			
	comp=N,49nm,23.0s,MS3.4							
MDJ				LR	LR			
	comp=E,23nm,18.7s,MS3.4							
MDJ				LR	LR			
	comp=Z,42nm,19.6s,MS3.4							
AB31	**Akbulak array 44.60 330**			*i* P	**P**	**P**	**05 59 22.6**	**+0.9**
AB31				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.4							
FITZ	**Fitzroy Crossi 45.23 133**			P	**P**	**P**	**05 59 26.4**	**-0.7**
	comp=Z,12nm,1.0s,mb4.7,baz=357,slow=4.0,SNR=7.7							
AKTO	**Aktyubinsk 46.32 330**			P	**P**	**P**	**05 59 35.6**	**+0.3**
MJAR	**Matsushiro Arr 46.58 52**			P	**P**	**P**	**05 59 38.3**	**+0.8**
	comp=Z,0.8nm,0.3s,mb4.1,baz=270,slow=7.5,SNR=4.7							
MJAR	**Matsushiro Arr 46.58 52**			P	**P**	**P**	**05 59 38.3**	**+0.8**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BOD	**Bodaibo 46.99 15**			*eP*	**P**	**P**	**05 59 39.9**	**-0.6**
BOD				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4							
ARU	**Arti 50.13 336**			⇓*i*P	**P**	**P**	**06 00 04.4**	**-0.4**
ARU				*e*			06 01 58.6	
ARU				*e*PPP	PPP		06 02 52.3	-5.6
ARU				*eS*	**S**		**06 07 15.0**	**+3.1**
ARU				*eS*	SS		06 10 46.8	+4.6
ARU				pmax	pmax			
	comp=Z,13nm,1.3s,mb4.8							
ZEI	**Tsey 51.00 315**			*eP*	**P**		**06 00 09.5**	**-2.1**
ZEI				*i* *PP	pP		06 00 22.1	-1.9
ZEI				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
NWAO	**Narrogin (SRO) 51.84 154**			P	**P**		**06 00 11.3**	**-6.8**
	comp=Z,32nm,1.3s,mb5.1							
NWAO	**Narrogin (SRO) 51.84 154**			P	**P**		**06 00 11.3**	**-6.8**
NWAO				pmax	pmax			
	comp=Z,32nm,1.3s							
KIV	**Kislovodsk 52.23 316**			*eP*	**P**		**06 00 21.5**	**+0.7**
KIV				*eS*	**S**		**06 07 44.7**	**+3.7**
KIV				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
KIV				pmax	pmax			
	comp=N,14nm,0.8s							
KIV				pmax	pmax			
	comp=E,10.0nm,0.8s							
KIV				MLR	MLR			
	comp=N,146nm,15.0s,MS4.2							
KIV				MLR	MLR			
	comp=E,110nm,15.0s,MS4.2							
KIV				MLR	MLR			
	comp=Z,183nm,15.0s,MS4.2							
WRA	**Warramunga Arr 52.79 128**			P	**P**		**06 00 24.4**	**-0.9**
	comp=Z,6.3nm,0.6s,mb4.7,baz=307,slow=7.9,SNR=69							
WRA	**Warramunga Arr 52.79 128**			P	**P**		**06 00 24.4**	**-1.0**
WRA				pmax	pmax			
	comp=Z,6.0nm,0.6s							
WRAB	**Tennant Creek 52.79 128**			*eP*	**P**		**06 00 24.5**	**-0.9**
	comp=Z,13nm,0.8s,mb4.9							
WRAB	**Tennant Creek 52.79 128**			*eP*	**P**		**06 00 24.5**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9							
WB2	**Warramunga Arr 52.80 128**			*eP*	**P**		**06 00 24.5**	**-0.9**
SOKR	**Solikamsk 53.01 338**			⇑*i*P	**P**		**06 00 24.9**	**-1.6**
SOKR				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
SOC	**Sochi 54.16 314**			*eP*	**P**		**06 00 33.3**	**-1.9**
SOC				*eS*	**S**		**06 08 04.5**	**-2.7**
SOC				*e*			06 10 14.8	
SOC				*eSS*	SS		06 11 42.4	-6.3
SOC				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8							
SOC				pmax	pmax			
	comp=N,6.0nm,0.5s							
SOC				pmax	pmax			
	comp=E,8.0nm,0.7s							
BRTR	**Keskin Array B 57.73 309**			P	**P**		**06 01 00.7**	**-0.3**
	comp=E,4.2nm,0.9s,mb4.5,baz=127,slow=6.2,SNR=12							
BRTR	**Keskin Array B 57.73 309**			P	**P**		**06 01 00.7**	**-0.2**
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
OBN	**Obninsk 59.85 327**			⇓*i*P	**P**		**06 01 14.6**	**-0.8**
OBN				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.1							
AKASG	**Malin Array Be 62.87 320**			P	**P**		**06 01 34.7**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.4,baz=87,slow=5.0,SNR=11							
AKASG	**Malin Array Be 62.87 320**			P	**P**		**06 01 34.7**	**-1.1**
AKASG	**Malin Array Be 62.87 320**			P	**P**		**06 01 34.7**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
JOF	**Joensuu 65.13 334**			*ep*	**P**		**06 01 49.8**	**-0.5**
	comp=Z,8.6nm,0.7s,mb4.9							
KWP	**Kalwaria 66.83 318**			*eP*	**P**		**06 02 01.4**	**0.0**
FINES	**FINESS Array B 67.05 331**			P	**P**		**06 02 02.1**	**-0.4**
	comp=Z,5.0nm,0.7s,mb4.7,baz=104,slow=7.9,SNR=17							
FINES	**FINESS Array B 67.05 331**			P	**P**		**06 02 02.1**	**-0.4**
FINES				pmax	pmax			
	comp=Z,5.0nm,0.7s							
SUW	**Suwalki 67.11 323**			*eP*	**P**		**06 02 02.8**	**-0.2**
KAF	**Kangasniemi 67.11 332**			*ep*	**P**		**06 02 02.2**	**-0.7**
	comp=Z,8.1nm,0.9s,mb4.8,baz=103,slow=6.0							
KAF	**Kangasniemi 67.11 332**			*eP*	**P**		**06 02 02.2**	**-0.7**
KAF				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8							
OJC	**Ojcow 68.76 319**			*eP*	**P**		**06 02 13.5**	**+0.1**
ARCES	**ARCESS Array B 69.46 340**			P	**P**		**06 02 17.9**	**+0.5**
	comp=Z,8.7nm,0.7s,mb4.8,baz=93,slow=6.1,SNR=22							
ARCES	**ARCESS Array B 69.46 340**			P	**P**		**06 02 17.9**	**+0.5**
ARCES				pmax	pmax			
	comp=Z,9.0nm,0.7s							
VRAC	**Vranov 70.79 318**			LR	LR		06 36 21.4	
	comp=Z,101nm,19.1s,MS4.1,baz=136,slow=38							
DPC	**Dobruska-Polom 70.99 319**			*eP*	**P**		**06 02 28.3**	**+1.3**
PRU	**Pruhonice 72.13 318**			*eP*	**P**		**06 02 34.4**	**+0.6**
BRG	**Berggiesshubel 72.52 319**			⇓*i*P	**P**		**06 02 36.9**	**+0.9**
	comp=Z,8.7nm,0.8s,mb4.7							
BRG	**Berggiesshubel 72.52 319**			⇓*i*P	**P**		**06 02 36.9**	**+0.9**
BRG				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
GEC2	**GERESS Array S 72.69 317**			*eP*	**P**		**06 02 37.9**	**+0.8**
	comp=Z,9.0nm,0.8s,mb4.8							
GEC2	**GERESS Array S 72.69 317**			*eP*	**P**		**06 02 37.9**	**+0.8**
GEC2				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
GERES	**GERESS Array B 72.69 317**			P	**P**		**06 02 37.9**	**+0.8**
	comp=Z,6.9nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=40							
GERES				LR	LR		06 35 44.5	
	comp=Z,66nm,21.0s,MS3.9,baz=345,slow=37							
GERES	**GERESS Array B 72.69 317**			P	**P**		**06 02 37.9**	**+0.8**
GERES				pmax	pmax			
	comp=Z,7.0nm,0.8s							
GERES				MLR	MLR			
	comp=Z,67nm,21.0s							
KHC	**Kasperske Hory 72.77 318**			*eP*	**P**		**06 02 37.9**	**+0.3**
CLL	**Collm 73.11 320**			P	**P**		**06 02 39.

CLZ	**Clausthal**	**74.73**	**320**	*eP*		**P**		**06 02 49.8**	**+0.9**
CLZ					pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.8								
LBTB	**Lobatse**	**75.83**	**240**	P		**P**		**06 02 57.3**	**+1.5**
	comp=Z,16nm,1.3s,mb4.8								
LBTB	**Lobatse**	**75.83**	**240**	P		**P**		**06 02 57.3**	**+1.5**
LBTB					pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8								
TNS	**Taunus Mts**	**76.04**	**319**	*eP*		**P**		**06 02 57.3**	**+0.8**
	comp=Z,6.0nm,0.8s,mb4.6								
TNS	**Taunus Mts**	**76.04**	**319**	*eP*		**P**		**06 02 57.3**	**+0.8**
TNS					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
BFO	**Black Forest**	**76.28**	**317**	*eP*		**P**		**06 02 57.3**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.5								
BFO	**Black Forest**	**76.28**	**317**	*eP*		**P**		**06 02 57.3**	**-0.6**
BFO					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
PGF	**Pioggiola**	**76.36**	**311**	*eP*		**P**		**06 02 58.3**	**-0.2**
	comp=Z,7.8nm,0.8s,mb4.4								
PGF	**Pioggiola**	**76.36**	**311**	*eP*		**P**		**06 02 58.3**	**-0.2**
PGF					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
CDF	**Champ du Feu**	**76.97**	**317**	*eP*		**P**		**06 03 01.4**	**-0.4**
HINF	**Hinteralfeld**	**77.31**	**316**	*eP*		**P**		**06 03 03.4**	**-0.3**
SBF	**Sospel**	**77.35**	**312**	*eP*		**P**		**06 03 03.8**	**-0.2**
HAU	**Haudompre**	**77.63**	**317**	*eP*		**P**		**06 03 05.1**	**-0.3**
	comp=Z,11nm,0.6s,mb4.6								
HAU				*eR*					
	comp=Z,86nm,19.5s								
HAU	**Haudompre**	**77.63**	**317**	*eP*		**P**		**06 03 05.1**	**-0.3**
HAU					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7								
HAU					MLR	MLR			
	comp=Z,90nm,19.5s,MS4.1								
LPG	**La Plagne**	**77.64**	**314**	*eP*		**P**		**06 03 06.1**	**+0.5**
	comp=Z,22nm,0.7s,mb4.9								
LPG	**La Plagne**	**77.64**	**314**	*eP*		**P**		**06 03 06.1**	**+0.5**
LPG					pmax	pmax			
	comp=Z,11nm,0.7s,mb4.9								
LPL	**La Plagne**	**77.66**	**314**	*eP*		**P**		**06 03 06.1**	**+0.5**
	comp=Z,30nm,0.7s,mb5.1								
LPL	**La Plagne**	**77.66**	**314**	*eP*		**P**		**06 03 06.1**	**+0.5**
LPL					pmax	pmax			
	comp=Z,15nm,0.7s,mb5.0								
MBDF	**Montbardon**	**77.72**	**313**	*eP*		**P**		**06 03 05.5**	**-0.5**
	comp=Z,9.1nm,0.7s,mb4.5								
MBDF	**Montbardon**	**77.72**	**313**	*eP*		**P**		**06 03 05.5**	**-0.5**
MBDF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
BNI	**Bardonecchia**	**77.75**	**314**	*eP*		**P**		**06 03 05.9**	**-0.2**
	comp=Z,15nm,1.1s,mb4.8								
BNI	**Bardonecchia**	**77.75**	**314**	*eP*		**P**		**06 03 05.9**	**-0.3**
BNI					pmax	pmax			
	comp=Z,15nm,1.1s,mb4.8								
FRF	**La Foret Royal**	**77.96**	**312**	*eP*		**P**		**06 03 07.3**	**0.0**
CABF	**La Chapelle**	**77.97**	**315**	*eP*		**P**		**06 03 07.6**	**+0.3**
	comp=Z,6.8nm,0.6s,mb4.4								
CABF	**La Chapelle**	**77.97**	**315**	*eP*		**P**		**06 03 07.6**	**+0.3**
CABF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
LMR	**La Mourre**	**78.09**	**312**	*eP*		**P**		**06 03 07.9**	**-0.1**
	comp=Z,7.9nm,0.7s,mb4.5								
LMR	**La Mourre**	**78.09**	**312**	*eP*		**P**		**06 03 07.9**	**-0.1**
LMR					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
ORIF	**Oris-en-Rattie**	**78.33**	**314**	*eP*		**P**		**06 03 09.0**	**-0.3**
ORIF				*eR*					
	comp=Z,97nm,18.0s								
GIVF	**Givet**	**78.37**	**319**	*eP*		**P**		**06 03 09.5**	**0.0**
SMRF	**Simiane la Rot**	**78.67**	**313**	*eP*		**P**		**06 03 11.7**	**+0.4**
	comp=Z,23nm,1.1s,mb4.7								
BAIF	**Baives**	**78.77**	**319**	*eP*		**P**		**06 03 11.9**	**+0.2**
	comp=Z,20nm,1.0s,mb4.7								
BAIF	**Baives**	**78.77**	**319**	*eP*		**P**		**06 03 11.9**	**+0.2**
BAIF					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.7								
VIVF	**Saint-Julien-l**	**79.19**	**314**	*eP*		**P**		**06 03 14.1**	**0.0**
LOR	**Lormes**	**79.39**	**316**	*eP*		**P**		**06 03 14.8**	**-0.3**
	comp=Z,17nm,0.9s,mb4.7								
LOR				*eR*					
	comp=Z,78nm,19.5s								
LOR	**Lormes**	**79.39**	**316**	*eP*		**P**		**06 03 14.8**	**-0.3**
LOR					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
LOR					MLR	MLR			
	comp=Z,80nm,19.5s,MS4.1								
SMF	**Signal de Mont**	**79.50**	**316**	*eP*		**P**		**06 03 15.4**	**-0.3**
	comp=Z,10nm,0.7s,mb4.6								
SMF	**Signal de Mont**	**79.50**	**316**	*eP*		**P**		**06 03 15.4**	**-0.3**
SMF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
SSF	**Saint Saulge**	**79.66**	**316**	*eP*		**P**		**06 03 16.4**	**-0.2**
	comp=Z,13nm,0.9s,mb4.5								
SSF	**Saint Saulge**	**79.66**	**316**	*eP*		**P**		**06 03 16.4**	**-0.2**
SSF					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
AVF	**Avril sur Loir**	**79.81**	**316**	*eP*		**P**		**06 03 17.0**	**-0.4**
	comp=Z,9.3nm,0.7s,mb4.5								
AVF	**Avril sur Loir**	**79.81**	**316**	*eP*		**P**		**06 03 17.0**	**-0.4**
AVF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
LASF	**Ste Croix**	**79.88**	**313**	*eP*		**P**		**06 03 18.3**	**+0.5**
	comp=Z,7.1nm,0.9s,mb4.3								
TCF	**Toulx Ste Croi**	**80.67**	**315**	*eP*		**P**		**06 03 22.3**	**+0.3**
	comp=Z,15nm,1.0s,mb4.6								
TCF	**Toulx Ste Croi**	**80.67**	**315**	*eP*		**P**		**06 03 22.3**	**+0.3**
TCF					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6								
CAF	**Calviac**	**81.01**	**314**	*eP*		**P**		**06 03 24.3**	**+0.5**
MTLF	**Montolieu**	**81.18**	**312**	*eP*		**P**		**06 03 25.0**	**+0.3**
	comp=Z,10nm,0.8s,mb4.5								
MTLF	**Montolieu**	**81.18**	**312**	*eP*		**P**		**06 03 25.0**	**+0.3**
MTLF					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
RJF	**Les Rejaudoux**	**81.32**	**314**	*eP*		**P**		**06 03 26.0**	**+0.6**
	comp=Z,8.3nm,0.6s,mb4.5								
RJF				*eR*					
	comp=Z,88nm,19.0s								
RJF	**Les Rejaudoux**	**81.32**	**314**	*eP*		**P**		**06 03 26.0**	**+0.6**
RJF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
RJF					MLR	MLR			
	comp=Z,90nm,19.0s,MS4.2								
LDF	**La Druitiere**	**81.81**	**318**	*eP*		**P**		**06 03 27.9**	**0.0**
	comp=Z,13nm,0.8s,mb4.6								
LDF	**La Druitiere**	**81.81**	**318**	*eP*		**P**		**06 03 27.9**	**0.0**
LDF					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
LFF	**La Frestale**	**81.93**	**314**	*eP*		**P**		**06 03 29.1**	**+0.5**
FLN	**La Foliniere**	**82.01**	**318**	*eP*		**P**		**06 03 29.0**	**+0.1**
	comp=Z,20nm,0.8s,mb4.8								
FLN				*eR*					
	comp=Z,64nm,20.8s								
FLN	**La Foliniere**	**82.01**	**318**	*eP*		**P**		**06 03 29.0**	**+0.1**
FLN					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
FLN					MLR	MLR			
	comp=Z,60nm,20.8s,MS3.9								
MFF	**Saint Martin d**	**82.21**	**316**	*eP*		**P**		**06 03 30.1**	**+0.1**
	comp=Z,8.9nm,0.7s,mb4.5								
MFF	**Saint Martin d**	**82.21**	**316**	*eP*		**P**		**06 03 30.1**	**+0.1**
MFF					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
ETSF	**Etsaut**	**83.26**	**312**	*eP*		**P**		**06 03 36.2**	**+0.8**
SGMF	**Saint Gilles**	**83.46**	**318**	*eP*		**P**		**06 03 36.6**	**+0.3**
MAW	**Mawson**	**83.82**	**191**	*eP*		**P**		**06 03 37.4**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.5								
MAW	**Mawson**	**83.82**	**191**	*eP*		**P**		**06 03 37.4**	**-0.3**
MAW					pmax	pmax			
	comp=Z,4.0nm,0.9s								
ROSF	**Rostrenen**	**83.91**	**318**	*eP*		**P**		**06 03 39.1**	**+0.5**
QUIF	**Quistinic**	**83.94**	**318**	*eP*		**P**		**06 03 38.7**	**-0.1**
ESDC	**Sonseca Array**	**86.50**	**310**	P		**P**		**06 03 53.0**	**+1.4**
	comp=Z,0.5nm,0.5s,mb4.0,baz=70,slow=4.7,SNR=5.9								
ILAR	**Eielson Array**	**90.00**	**22**	P		**P**		**06 04 07.9**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.5,baz=304,slow=4.6,SNR=32								
ILAR	**Eielson Array**	**90.00**	**22**	P		**P**		**06 04 07.9**	**+0.2**
ILAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
RPZ	**Rata Peaks**	**91.04**	**135**	LR		LR		06 45 15.4	
	comp=Z,164nm,20.6s,MS4.5,baz=358,slow=36								
INK	**Inuvik**	**91.91**	**16**	P		**P**		**06 04 17.5**	**+1.0**
	comp=Z,1.1nm,0.4s,mb4.5,baz=341,slow=3.9,SNR=11								
INK	**Inuvik**	**91.91**	**16**	*eP*		**P**		**06 04 14.6**	**-2.0**
	comp=Z,11nm,1.3s,mb5.0								
INK	**Inuvik**	**91.91**	**16**	*eP*		**P**		**06 04 14.6**	**-2.0**
INK					pmax	pmax			
	comp=Z,11nm,1.3s								
KIP	**Kipapa**	**102.36**	**64**	*eP*		Pdif		06 05 03.2	-1.9
PDAR	**Pinedale Array**	**120.31**	**19**	PKP		PKPdf		06 10 01.0	+2.2
	comp=Z,0.7nm,0.6s,baz=14,slow=1.6,SNR=6.9								
NVAR	**Mina Array Bea**	**120.66**	**28**	PKP		PKPdf		06 10 02.3	+2.8
	comp=Z,0.9nm,0.5s,baz=352,slow=2.5,SNR=10								
ANMO	**Albuquerque**	**128.41**	**20**	⇑PKIKP		PKPdf		06 10 17.2	+2.5
TXAR	**Lajitas Array**	**134.49**	**20**	PKP		PKPdf		06 10 30.4	+4.1
	comp=Z,0.6nm,0.5s,baz=85,slow=0.2,SNR=12								
TXAR	**Lajitas Array**	**134.49**	**20**	PKIKP		PKPdf		06 10 30.4	+4.1
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
CPUP	**Villa Florida**	**149.22**	**241**	PKPbc		PKPdf		06 10 58.8	+6.7
	comp=Z,1.6nm,0.5s,baz=65,slow=5.7,SNR=5.7								
CPUP	**Villa Florida**	**149.22**	**241**	PKP2		PKPab		06 10 58.8	-4.4
CPUP					pmax	pmax			
	comp=Z,2.0nm,0.5s								
PLCA	**Paso Flores**	**149.25**	**205**	PKPbc		PKPdf		06 10 59.8	+8.0
	comp=Z,1.5nm,0.8s,baz=302,slow=5.1,SNR=3.9								
PLCA	**Paso Flores**	**149.25**	**205**	PKP2		PKPab		06 10 59.8	-3.0
PLCA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
SDV	**Santo Domingo**	**152.22**	**323**	*e*PKPdf		PKPdf		06 10 58.2	+1.2
SDV				*e*PKPbc		PKPdf		06 11 05.4	+8.4
LPAZ	**La Paz**	**161.31**	**259**	PKPab		PKPab		06 11 55.1	+0.4
	comp=Z,1.0nm,0.8s,baz=26,slow=5.9,SNR=4.5								
LPAZ	**La Paz**	**161.31**	**259**	PKP2		PKPab		06 11 55.1	+0.4
LPAZ					pmax	pmax			
	comp=Z,1.0nm,0.8s								

IDC ***22*** *06:05:11.4±2.8, 6.09N×92.52E, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=120.1km s-min=21.2km az=58.0*
NEIC ***22*** *06:05:17.2±1.1, 6.18N×92.71E, h30km, mb4.7/2, Error ellipse: s-maj=30.3km s-min=10.4km az=48.0*
ISC 22 06:05:14.1±5.7, 6.0N±0.2×92.5E±0.2, h30km±41km, n16, σ1§30/16, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.16**	**94**	*e*Pn			**P**	**06 07 12.2**	**-1.3**
HYB	**Hyderabad**	**17.74**	**311**	*i* P			**P**	**06 09 20.0**	**-0.8**
HYB				*e*S			**S**	**06 12 32.0**	**-3.0**
QIZ	**Qiongzhong**	**21.32**	**51**	*e*P			**P**	**06 09 57.2**	**-3.7**
	45nm,1.4s,mb4.6								
PKI	**Pulchoki**	**22.51**	**343**	*e*P			**P**	**06 10 15.6**	**+2.8**
DMN	**Daman**	**22.63**	**343**	*e*P			**P**	**06 10 16.1**	**+2.1**
GUN	**Gumba**	**22.70**	**345**	*e*P			**P**	**06 10 15.6**	**+0.9**
KKN	**Kakani**	**22.75**	**343**	*e*P			**P**	**06 10 16.4**	**+1.2**
GKN	**Gorkha**	**23.14**	**342**	*e*P			**P**	**06 10 19.6**	**+0.6**
KOLN	**Koldanda**	**23.26**	**340**	*e*P			**P**	**06 10 20.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**40.53**	**127**	P			**P**	**06 12 51.8**	**-0.7**
	2.4nm,0.7s,mb4.0,baz=339,slow=10,SNR=3.2								
MKAR	**Makanchi Array**	**41.61**	**349**	P			**P**	**06 12 59.7**	**-1.4**
	0.7nm,0.7s,mb3.4,baz=169,slow=7.3,SNR=3.5								
SONM	**Songino Array**	**43.38**	**14**	P			**P**	**06 13 14.8**	**-0.8**
	0.4nm,0.6s,mb3.3,baz=151,slow=10,SNR=3.6								
WRA	**Warramunga Arr**	**48.56**	**123**	P			**P**	**06 13 58.0**	**+1.0**
	1.9nm,0.7s,mb4.2,baz=301,slow=9.0,SNR=21								
WRAB	**Tennant Creek**	**48.56**	**123**	*e*P			**P**	**06 13 57.9**	**+0.8**
	4.7nm,0.6s,mb4.7								
BVAR	**Borovoye Array**	**50.28**	**343**	P			**P**	**06 14 08.8**	**-1.0**
	0.5nm,0.6s,mb3.7,baz=158,slow=7.8,SNR=3.6								
TXAR	**Lajitas Array**	**141.62**	**23**	PKP		PKPdf		06 24 47.2	-1.2
	0.1nm,0.6s,baz=137,slow=22,SNR=2.6								

IDC ***22*** *06:08:34.2±3.1, 12.31N×40.41E, mb3.8/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, MS3.9/8, Ms1 3.8/8, ms1mx3.6/21, Error ellipse: s-maj=67.3km s-min=29.6km az=3.0*
NEIC ***22*** *06:08:35.0±1.1, 12.27N×40.42E, h10km, mb4.4/8, ML4.8(DHMR), Error ellipse: s-maj=24.5km s-min=10.0km az=179.0*
DHMR ***22*** *06:08:35.6±1.0, 12.67N×40.55E, h12km±66km, ML4.8*
CSEM ***22*** *06:08:35.4±0.2, 12.57N×40.47E, h10km, mb4.5/7, Ms3.4*
ISC 22 06:08:34.3±2.5, 12.43N±0.10×40.47E±0.04, h9km±16km, n57, σ1§18/56, mb4.1/15, MS3.9/7, 9C-6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.73**	**65**	⇓*e*P			**Pn**	**06 09 33.5**	**+0.3**
UDYN				*i* S			**Sn**	**06 10 19.5**	**+1.7**
UDYN					AML	AML		06 10 44.4	
	comp=N,3μm,0.6s								
UDYN	**Al 'Udayn**	**3.73**	**65**	*i* P			**Pn**	**06 09 35.4**	**+2.2**
UDYN				*i* S			**Sn**	**06 10 28.0**	**+10**
ADEN	**Aden**	**4.42**	**85**	⇓*e*P			**Pn**	**06 09 44.1**	**+1.1**
ADEN				*i* S			**Sn**	**06 10 36.3**	**+1.1**
ADEN					AML	AML		06 10 54.8	
	comp=E,5μm,0.6s								
ADEN	**Aden**	**4.42**	**85**	*i* P			**Pn**	**06 09 43.4**	**+0.4**
ADEN				*i* S			**Sn**	**06 10 42.1**	**+6.9**
ADEN	**Aden**	**4.42**	**85**	⇓*e*P			**Pn**	**06 09 44.1**	**+1.1**
ADEN				*i* S			**Sn**	**06 10 36.3**	**+1.1**
	comp=E,2μm,0.6s								
HAJJ	**Hajjah**	**4.44**	**43**	⇓*i* P			**Pn**	**06 09 42.1**	**-1.3**
HAJJ				*i* S			**Sn**	**06 10 34.5**	**-1.4**
HAJJ	**Hajjah**	**4.44**	**43**	*i* P			**Pn**	**06 09 42.8**	**-0.6**
HAJJ				*e*				06 10 41.4	
HAJJ	**Hajjah**	**4.44**	**43**	*i* P			**Pn**	**06 09 42.8**	**-0.6**
HAJJ				*i* S			**Sn**	**06 10 34.5**	**-1.4**
BLJS	**Baljurashi**	**7.49**	**8**	P			**Pn**	**06 10 26.1**	**-0.2**
LTHS	**Al Lith**	**7.80**	**360**	P			**Pn**	**06 10 28.1**	**-2.6**
ABTO	**Aybut**	**13.32**	**67**	⇑P			**P**	**06 11 43.3**	**-2.9**
RBK	**Rabkut**	**14.19**	**68**	⇓P			**P**	**06 11 55.8**	**-1.9**
SHAO	**Shalim**	**15.64**	**67**	⇑P			**P**	**06 12 15.7**	**-0.9**
BDAS	**Al Bad'**	**16.69**	**343**	P			**P**	**06 12 34.9**	**+4.8**
TAYS	**Tayyib Ism**	**16.87**	**343**	P			**P**	**06 12 33.8**	**+1.5**
JMQS	**Jabal Moqyreh**	**16.92**	**346**	P			**P**	**06 12 37.7**	**+4.7**
HAQS	**Haql**	**17.33**	**343**	P			**P**	**06 12 40.2**	**+2.1**
JMOS	**Jabal al Moall**	**17.39**	**344**	P			**P**	**06 12 42.8**	**+4.0**
BSY	**Bisya**	**18.94**	**55**	⇑P			**P**	**06 12 58.1**	**+0.1**
	SNR=9.1								
BSYO	**Bisya**	**18.96**	**55**	P			**P**	**06 12 58.1**	**-0.2**
	SNR=9.1								
ASHO	**Ashiyiah**	**19.13**	**48**	⇑P			**P**	**06 13 00.4**	**+0.1**
	SNR=12								
HOQ	**Hoqain**	**19.45**	**53**	⇑P			**P**	**06 13 05.9**	**+1.8**
	SNR=6.2								
JMDO	**Jabal Madar**	**19.49**	**57**	⇑P			**P**	**06 13 05.3**	**+0.8**
SMDO	**Samad**	**19.77**	**55**	⇑P			**P**	**06 13 08.3**	**+0.6**
ASF	**Jabal al Asfar**	**19.92**	**351**	P			**P**	**06 13 10.4**	**+1.2**
	comp=E,1.4nm,0.4s,baz=103,slow=4.4,SNR=8.4								
ASF					LR	LR		06 19 48.9	
	comp=E,252nm,18.4s,baz=230,slow=34								
BANOM	**Banah**	**20.06**	**46**	⇑P			**P**	**06 13 09.8**	**-0.9**
BIDO	**Bidbid**	**20.07**	**54**	⇓P			**P**	**06 13 10.6**	**-0.2**
WBK	**Wadi Bani Khal**	**20.31**	**58**	⇑P			**P**	**06 13 12.9**	**-0.5**
BHD	**Baghdad**	**21.05**	**9**	*ex*			x	06 13 18.5	
MSL	**Mosul**	**23.87**	**5**	*ex*			x	06 14 10.0	
MALT	**Malatya**	**25.84**	**356**	*e*P			**P**	**06 14 08.5**	**+0.8**
	comp=E,9.2nm,1.3s,mb4.2								
MALT	**Malatya**	**25.84**	**356**	*e*P			**P**	**06 14 08.5**	**+0.8**
	comp=E,9.2nm,1.3s,mb4.2								
IDI	**Anoyia**	**26.77**	**331**	LR		LR		06 25 16.6	
	comp=E,256nm,18.0s,MS3.8,baz=259,slow=37								
BRTR	**Keskin Array B**	**27.85**	**349**	P			**P**	**06 14 27.1**	**+0.9**
	comp=E,1.3nm,0.7s,mb3.7,baz=180,slow=11,SNR=4.9								
BRTR	**Keskin Array B**	**27.85**	**349**	P			**P**	**06 14 27.0**	**+0.9**
AKASG	**Malin Array Be**	**39.26**	**349**	P			**P**	**06 16 04.7**	**-0.1**
	comp=E,0.3nm,0.3s,mb3.5,baz=174,slow=7.3,SNR=5.8								
GERES	**GERESS Array B**	**42.55**	**334**	P			**P**	**06 16 31.4**	**-0.5**
	comp=E,0.6nm,0.3s,mb3.7,baz=135,slow=6.9,SNR=6.5								
DAVOX	**Davos**	**42.84**	**329**	LR		LR		06 36 16.3	
	comp=E,73nm,18.9s,MS3.6,baz=353,slow=39								
MBDF	**Montbardon**	**43.17**	**325**	*e*P			**P**	**06 16 37.3**	**+0.3**
	comp=E,11nm,0.8s,mb4.4								
ORIF	**Oris-en-Rattie**	**43.79**	**324**	*e*P			**P**	**06 16 41.1**	**-1.0**
ORIF				*e*R					
	comp=E,97nm,18.0s								
CABF	**La Chapelle**	**44.71**	**326**	*e*P			**P**	**06 16 47.9**	**-1.6**
	comp=E,8.8nm,0.8s,mb4.3								
DBIC	**Dimbokro**	**45.02**	**267**	P			**P**	**06 16 49.4**	**-3.0**
MDT	**Midelt**	**45.88**	**304**	P			**P**	**06 16 59.4**	**+0.5**
	comp=E,1.4nm,0.7s,mb4.0,baz=90,slow=9.0,SNR=6.2								
ETSF	**Etsaut**	**46.64**	**318**	*e*P			**P**	**06 17 05.5**	**+0.7**
	comp=E,8.4nm,0.8s,mb4.4								
SJPF	**Ste Jean**	**47.17**	**318**	*e*P			**P**	**06 17 09.7**	**+0.6**
	comp=E,13nm,0.9s,mb4.5								
ESDC	**Sonseca Array**	**47.60**	**313**	P			**P**	**06 17 12.3**	**-0.2**
	comp=E,1.5nm,0.7s,mb4.1,baz=113,slow=8.6,SNR=5.1								
ESLA	**Sonseca Array**	**47.60**	**313**	P			**P**	**06 17 13.8**	**+1.3**
	comp=E,3.3nm,1.2s,mb4.2								
ESLA	**Sonseca Array**	**47.60**	**313**	P			**P**	**06 17 13.8**	**+1.3**
	comp=E,3.3nm,1.2s,mb4.2								
MKAR	**Makanchi Array**	**49.03**	**37**	P			**P**	**06 17 23.9**	**+0.4**
	comp=E,1.2nm,0.8s,mb4.0,baz=234,slow=5.7,SNR=7.7								
MKAR					LR	LR		06 42 16.6	
	comp=E,90nm,19.0s,MS3.8,slow=41								
SGMF	**Saint Gilles**	**50.48**	**324**	*e*P			**P**	**06 17 32.4**	**-2.1**
	comp=E,34nm,1.2s,mb5.0								
NB2	**NORSAR Subarra**	**53.01**	**343**	P			**P**	**06 17 51.5**	**-2.0**
	comp=E,3.1nm,1.1s,mb4.2,baz=150,slow=9.3								
NOA	**NORSAR Array B**	**53.01**	**343**	P			**P**	**06 17 52.5**	**-1.0**
	comp=E,1.1nm,0.8s,mb3.8,baz=140,slow=7.4,SNR=3.5								
SONM	**Songino Array**	**64.75**	**43**	P			**P**	**06 19 15.7**	**+0.5**
	comp=E,1.1nm,0.7s,mb4.0,baz=257,slow=6.8,SNR=9.9								
MAW	**Mawson**	**81.46**	**172**	LR		LR		06 52 07.3	
	comp=E,55nm,21.6s,MS3.9,baz=238,slow=32								
NWAO	**Narrogin (SRO)**	**85.84**	**125**	LR		LR		06 55 07.7	
	comp=E,163nm,18.1s,MS4.5,baz=96,slow=32								
SNAA	**Sanae**	**88.74**	**193**	LR		LR		07 00 14.7	
	comp=E,17nm,18.3s,MS3.5,baz=78,slow=35								
FITZ	**Fitzroy Crossi**	**89.30**	**109**	LR		LR		06 55 32.7	
	comp=E,114nm,20.1s,MS4.3,baz=274,slow=32								

NNC 22 06:30:19.8±4.0, 37.05N×71.10E, h164km±73km, mpv3.8, 1C-3D, Error ellipse: s-maj=50.4km s-min=25.9km az=37.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.07**	**356**	P			**P**	**06 31 47.6**	**-0.7**
	2.7nm,0.2s,baz=174,slow=12,SNR=136								
KK31				⇓S			S	06 32 57.1	-0.1
	1.5nm,0.3s								
AAK	**Ala-Archa**	**6.16**	**24**	⇑P			P	06 31 48.7	-0.9
	2.2nm,0.3s								
AAK				⇓S			S	06 33 00.1	+0.7
	3.3nm,0.7s								
AB31	**Akbulak array**	**14.65**	**330**	P			P	06 33 39.8	-0.3
	0.4nm,0.5s,baz=166,slow=9.2,SNR=14								
AB31				⇓S			S	06 36 20.8	+2.5
	0.6nm,0.7s								

BJI ***22*** *06:39:41.4, 18.00S×69.40W, h138km, mB4.5*
NEIC ***22*** *06:39:45.4±0.8, 17.98S×69.36W, h138km±11km, mb4.4/12, Error ellipse: s-maj=13.7km s-min=9.4km az=72.0*
IDC ***22*** *06:39:47.1±1.3, 18.04S×69.32W, h132km±11km, mb3.7/9, mb1 3.9/12, mb1mx3.7/19, mbtmp4.2/12, Error ellipse: s-maj=24.7km s-min=9.0km az=93.0*
ISC 22 06:39:44.4±0.6, 17.97S±0.04×69.26W±0.06, h124km±7km, h131km±6.4km: pP-P, n46, σ1§50/50, mb4.2/14, 5C-2D, Peru-Bolivia border region

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

HHC				LR	LR			
	comp=Z,133nm,13.1s							
SSE	**Sheshan**	**163.86**	**326**	PKP	PKPdf	06 59 29.3	-3.4	

*IDC **22** 06:42:33.3±0.5, 0.58N×25.78W, mb4.1/20, mb1 4.3/20, mb1mx4.2/27, mbtmp4.1/20, MS4.0/17, Ms1 4.0/17, ms1mx4.0/20, Error ellipse: s-maj=20.4km s-min=11.6km az=139.0*
*BJI **22** 06:42:34.4, 0.70N×25.80W, h10km, mB5.3, Ms4.8, Msz4.3*
*NEIC **22** 06:42:34.4±0.3, 0.66N×25.83W, h10km, mb4.7/21, Error ellipse: s-maj=10.4km s-min=7.5km az=136.0*

ISC 22 06:42:33.0±0.3, 0.61N±0.07×25.83W±0.06, h10km, (h12km±1.1km; pP-P), n82, σ1s 09/73, mb4.4/39, MS4.1/17, 4C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**11.92**	**237**	*e*P	**P**	**06 45 21.4**	**-4.7**
	14nm,0.6s						
RCBR				*e*S	**S**	**06 47 23.8**	**-17**
LIC	**Lamto**	**21.49**	**75**	*e*P	**P**	**06 47 24.9**	**+0.7**
	124nm,1.3s,mb5.1						
TIC	**Toumodi**	**21.60**	**73**	*e*P	**P**	**06 47 25.9**	**+0.6**
	18nm,1.1s,mb4.4						
DBIC	**Dimbokro**	**21.77**	**73**	P	**P**	**06 47 26.2**	**-0.8**
	22nm,0.9s,mb4.6,baz=244,slow=12,SNR=15						
DBIC				LR	LR	06 53 44.4	
	comp=Z,232nm,19.1s,MS3.6,baz=238,slow=31						
DBIC	**Dimbokro**	**21.77**	**73**	*e*P	**P**	**06 47 25.8**	**-1.2**
	44nm,1.0s,mb4.8						
KIC	**Kosan Boka**	**21.80**	**74**	*e*P	**P**	**06 47 27.4**	**+0.1**
	111nm,0.8s,mb5.3						
BDFB	**Brasilia**	**27.23**	**233**	P	**P**	**06 48 19.3**	**0.0**
	4.3nm,0.6s,mb4.2,baz=73,slow=8.2,SNR=11						
BDFB				LR	LR	06 57 47.8	
	comp=Z,861nm,20.1s,MS4.3,baz=78,slow=34						
MDT	**Midelt**	**37.75**	**30**	P	**P**	**06 49 51.5**	**+0.6**
	2.9nm,0.8s,mb4.0,baz=236,slow=4.8,SNR=9.0						
SAML	**Samuel**	**38.41**	**255**	*e*P	**P**	**06 49 56.8**	**+0.1**
	10nm,1.0s,mb4.5						
SIV	**San Ignacio**	**38.51**	**243**	P	**P**	**06 49 58.2**	**+0.7**
	4.2nm,0.8s,mb4.2,baz=88,slow=9.6,SNR=9.8						
CPUP	**Villa Florida**	**40.50**	**226**	P	**P**	**06 50 14.1**	**+0.1**
	3.4nm,1.0s,mb4.0,baz=58,slow=9.5,SNR=4.5						
CPUP				LR	LR	07 06 45.4	
	comp=Z,360nm,18.9s,MS4.2,baz=60,slow=36						
CPUP	**Villa Florida**	**40.50**	**226**	*e*P	**P**	**06 50 13.4**	**-0.5**
	6.9nm,1.3s,mb4.2						
ESDC	**Sonseca Array**	**43.70**	**25**	P	**P**	**06 50 40.5**	**+0.5**
	0.3nm,0.3s,mb3.5,baz=223,slow=8.9,SNR=6.5						
LPAZ	**La Paz**	**44.99**	**246**	P	**P**	**06 50 52.0**	**+1.2**
	9.9nm,0.8s,mb4.7,baz=78,slow=4.7,SNR=28						
LPAZ				LR	LR	07 08 50.7	
	comp=Z,183nm,19.2s,MS4.0,baz=262,slow=35						
LPAZ	**La Paz**	**44.99**	**246**	*e*P	**P**	**06 50 51.6**	**+0.8**
	12nm,0.9s,mb4.7						
SDV	**Santo Domingo**	**45.36**	**282**	P	**P**	**06 50 53.8**	**+0.1**
	1.5nm,0.7s,mb3.9,baz=56,slow=15,SNR=2.6						
SDV				LR	LR	07 08 13.7	
	comp=Z,64nm,18.5s,MS3.6,baz=274,slow=34						
TSUM	**Tsumeb**	**46.92**	**117**	P	**P**	**06 51 05.7**	**-0.3**
	5.3nm,0.8s,mb4.5,baz=266,slow=9.0,SNR=11						
TSUM	**Tsumeb**	**46.92**	**117**	*e*P	**P**	**06 51 05.6**	**-0.3**
	5.5nm,0.9s,mb4.5						
SJPF	**Ste Jean**	**47.70**	**24**	*e*P	**P**	**06 51 19.4**	**+7.6**
	7.0nm,0.7s,mb4.5						
ETSF	**Etsaut**	**47.80**	**25**	*e*P	**P**	**06 51 19.4**	**+6.8**
	8.9nm,0.9s,mb4.5						
LVC	**Limon Verde**	**47.88**	**238**	P	**P**	**06 51 13.2**	**-0.3**
	3.0nm,0.8s,mb4.4,baz=48,slow=6.4,SNR=3.7						
LVC	**Limon Verde**	**47.88**	**238**	P	**P**	**06 51 09.6**	**-3.9**
	13nm,1.3s,mb4.8						
ROSC	**El Rosal**	**48.62**	**276**	LR	LR	07 11 00.3	
	comp=Z,193nm,19.5s,MS4.1,baz=7.0,slow=35						
MTLF	**Montolieu**	**49.37**	**27**	*e*P	**P**	**06 51 26.4**	**+1.6**
	7.1nm,0.6s,mb4.6						
TRQA	**Tornquist**	**50.89**	**217**	*e*P	**P**	**06 51 36.2**	**-0.2**
	4.1nm,0.6s,mb4.5						
TRQA				*e*		06 51 45.7	
CFAA	**Coronel Fontan**	**51.36**	**227**	P	**P**	**06 51 39.1**	**-1.0**
	0.5nm,0.8s,mb3.5,baz=72,slow=7.2,SNR=10						
PLCA	**Paso Flores**	**57.79**	**219**	P	**P**	**06 52 26.7**	**-0.2**
	2.0nm,0.9s,mb4.1,baz=85,slow=2.9,SNR=3.7						
PLCA				LR	LR	07 17 56.9	
	comp=Z,139nm,18.1s,MS4.1,baz=43,slow=37						
PLCA	**Paso Flores**	**57.79**	**219**	*e*P	**P**	**06 52 26.6**	**-0.3**
	9.6nm,1.4s,mb4.6						
GERES	**GERESS Array B**	**58.84**	**29**	P	**P**	**06 52 32.9**	**-1.2**
	0.3nm,0.3s,mb3.9,baz=217,slow=6.7,SNR=3.6						
GERES				LR	LR	07 17 44.3	
	comp=Z,85nm,18.8s,MS3.9,baz=169,slow=36						
KMBO	**Kilima Mbogo**	**63.10**	**92**	LR	LR	07 17 24.2	
	comp=Z,208nm,19.1s,MS4.3,baz=86,slow=33						
SCHQ	**Schefferville**	**63.56**	**335**	LR	LR	07 17 56.8	
	comp=Z,94nm,18.0s,MS4.0,baz=230,slow=33						
SCHQ	**Schefferville**	**63.56**	**335**	P	**P**	**06 53 04.0**	**-2.0**
	46nm,1.6s,mb5.3						
ACSO	**Alum Creek Sta**	**65.04**	**315**	*e*P	**P**	**06 53 13.7**	**-2.2**
	3.8nm,0.7s,mb4.5						
SWET	**Sewanee**	**65.53**	**309**	*e*P	**P**	**06 53 18.1**	**-1.1**
BR131	**Keskin Array S**	**66.51**	**46**	P	**P**	**06 53 24.4**	**-0.9**
	5.3nm,1.1s,mb4.5						
BRTR	**Keskin Array B**	**66.51**	**46**	P	**P**	**06 53 24.6**	**-0.7**
	1.7nm,0.6s,mb4.3,baz=228,slow=6.3,SNR=5.9						
AKASG	**Malin Array Be**	**68.13**	**34**	P	**P**	**06 53 34.1**	**-1.2**
	5.9nm,0.7s,mb4.7,baz=242,slow=6.3,SNR=19						
MALT	**Malatya**	**69.62**	**49**	*e*P	**P**	**06 53 42.1**	**-2.7**
	208nm,0.8s						
PMSA	**Palmer Station**	**70.91**	**196**	P	**P**	**06 53 49.8**	**-2.3**
	2.9nm,0.8s,mb4.3						
JMIC	**Jan Mayen**	**71.16**	**6**	LR	LR	07 17 22.4	
	comp=Z,67nm,19.5s,MS3.9,baz=100,slow=29						
VNA1	**Neumayer--Stat**	**72.08**	**174**	*e*	**P**	**06 54 06.2**	**+7.1**
VNA1	**Neumayer--Stat**	**72.08**	**174**	*e*	**P**	**06 54 08.2**	**+9.1**
VNA1	**Neumayer--Stat**	**72.08**	**174**	*e*	**P**	**06 54 11.0**	**+12**
VNA1	**Neumayer--Stat**	**72.08**	**174**	⇑*i*P	**P**	**06 54 03.0**	**+3.9**
VNA1				*e*	pP	06 54 06.2	+4.0
VNA1				*e*		06 54 08.2	
VNA1				*e*		06 54 11.0	
FINES	**FINESS Array B**	**72.19**	**23**	P	**P**	**06 54 01.4**	**+1.5**
	1.0nm,0.8s,mb3.8,baz=243,slow=6.2,SNR=3.1						
FINES				LR	LR	07 24 00.3	
	comp=Z,72nm,18.4s,MS4.0,baz=181,slow=34						
FINES	**FINESS Array B**	**72.19**	**23**	P	**P**	**06 54 01.4**	**+1.5**
FINES				LR	LR	07 24 00.3	
VNA2	**Neumayer--Watz**	**72.43**	**174**	*e*	**P**	**06 54 06.2**	**+5.0**
VNA2	**Neumayer--Watz**	**72.43**	**174**	*e*	**P**	**06 54 08.1**	**+6.9**
VNA2	**Neumayer--Watz**	**72.43**	**174**	*e*	**P**	**06 54 12.9**	**+12**
VNA2	**Neumayer--Watz**	**72.43**	**174**	⇑*i*P	**P**	**06 54 02.4**	**+1.2**
VNA2				*e*	pP	06 54 06.2	+1.9
VNA2				*e*		06 54 08.1	
VNA2				*e*		06 54 12.9	
VNA3	**Neumayer Olymp**	**72.50**	**175**	*e*	**P**	**06 54 01.3**	**-0.2**
VNA3	**Neumayer Olymp**	**72.50**	**175**	*e*	**P**	**06 54 03.1**	**+1.6**
VNA3	**Neumayer Olymp**	**72.50**	**175**	*e*	**P**	**06 54 05.7**	**+4.2**
VNA3	**Neumayer Olymp**	**72.50**	**175**	⇑*i*P	**P**	**06 53 57.3**	**-4.2**
VNA3				*e*	pP	06 54 01.3	-3.4
VNA3				*e*		06 54 03.1	
VNA3				*e*		06 54 05.7	
SNAA	**Sanae**	**73.67**	**173**	*e*	**P**	**06 54 12.2**	**+3.8**
SNAA	**Sanae**	**73.67**	**173**	*e*	**P**	**06 54 13.9**	**+5.5**
SNAA	**Sanae**	**73.67**	**173**	*e*	**P**	**06 54 16.7**	**+8.3**
SNAA	**Sanae**	**73.67**	**173**	P	**P**	**06 54 09.4**	**+1.1**
	0.7nm,0.8s,mb3.6,baz=310,slow=8.1,SNR=6.8						
SNAA	**Sanae**	**73.67**	**173**	⇑*i*P	**P**	**06 54 09.3**	**+0.9**
SNAA				*e*	pP	06 54 12.2	+0.7
SNAA				*e*	pP	06 54 13.9	+2.4
SNAA				*e*		06 54 16.7	
KSU1	**Kansas State U**	**74.77**	**310**	*e*P	**P**	**06 54 14.7**	**-0.7**
ULM	**Lac du Bonnet**	**76.87**	**322**	LR	LR	07 22 25.1	
	comp=Z,92nm,18.1s,MS4.1,baz=0.9,slow=31						
TXAR	**Lajitas Array**	**79.10**	**300**	P	**P**	**06 54 40.5**	**+0.7**
	1.4nm,0.7s,mb4.0,baz=122,slow=5.8,SNR=17						
TXAR				LR	LR	07 25 01.2	
	comp=Z,80nm,21.0s,MS4.0,baz=105,slow=32						
SDCO	**Great Sand Dun**	**81.46**	**308**	*e*P	**P**	**06 54 52.3**	**+0.2**
	5.9nm,1.0s,mb4.5						
ANMO	**Albuquerque**	**81.97**	**305**	LR	LR	07 25 37.2	
	comp=Z,142nm,20.5s,MS4.3,baz=32						
ANMO	**Albuquerque**	**81.97**	**305**	*e*P	**P**	**06 54 55.7**	**+0.9**
	4.3nm,1.3s,mb4.2						
PDAR	**Pinedale Array**	**84.98**	**313**	P	**P**	**06 55 12.6**	**+2.5**
	1.2nm,0.9s,mb4.0,baz=90,slow=5.9,SNR=7.4						
PDAR				LR	LR	07 27 12.1	

	comp=Z,120nm,21.6s,MS4.2,baz=85,slow=32							
LOHW	**Long Hollow**	**85.79**	**314**	*e*P	**P**	**06 55 13.9**	**-0.2**	
	2.9nm,0.7s,mb4.6							
FLWY	**Flagg Ranch**	**85.89**	**314**	*e*P	**P**	**06 55 14.1**	**-0.5**	
SNOW	**Snow King Moun**	**85.89**	**313**	*e*P	**P**	**06 55 15.2**	**+0.6**	
	21nm,1.5s,mb5.2							
TPAW	**Teton Pass**	**86.04**	**313**	*e*P	**P**	**06 55 15.4**	**+0.1**	
	7.1nm,1.0s,mb4.8							
RRI2	**Red Ridge**	**86.30**	**313**	*e*P	**P**	**06 55 16.0**	**-0.6**	
	6.5nm,1.0s,mb4.8							
HWUT	**Hardware Ranch**	**86.40**	**311**	*e*P	**P**	**06 55 16.7**	**-0.5**	
	3.6nm,0.7s,mb4.7							
QLMT	**Earthquake Lak**	**86.45**	**315**	*e*P	**P**	**06 55 18.8**	**+1.5**	
MSU	**Marysvale**	**86.76**	**308**	*e*P	**P**	**06 55 17.5**	**-1.5**	
MCMT	**McKenzie Canyo**	**87.45**	**315**	*e*P	**P**	**06 55 23.2**	**+1.0**	
YKA	**Yellowknife Ar**	**88.89**	**332**	P	**P**	**06 55 30.2**	**+1.5**	
	0.4nm,0.8s,mb3.8,baz=90,slow=3.7,SNR=2.7							
YKA				LR	LR	07 30 26.2		
	comp=Z,118nm,19.6s,MS4.3,baz=85,slow=32							
YKA	**Yellowknife Ar**	**88.89**	**332**	P	**P**	**06 55 30.2**	**+1.5**	
YKA				LR	LR	07 30 26.2		
QSPA	**South Pole Qui**	**90.68**	**180**	*e*P	**P**	**06 55 38.1**	**+1.4**	
	5.0nm,0.9s,mb4.8							
MDJ	**Mudanjiang**	**129.94**	**23**	PKP	PKPdf	07 01 43.3	-3.2	
MDJ				PP	PP			
	comp=Z,57nm,5.5s							
NJ2	**Nanjing**	**133.41**	**43**	*e*PKP	PKPdf	07 01 47.3	-6.0	
STKA	**Stephens Creek**	**146.71**	**160**	PKPbc	PKPbc	07 02 19.1	+3.6	
	comp=Z,0.8nm,0.6s,baz=160,slow=12,SNR=2.2							
WRA	**Warramunga Arr**	**152.69**	**136**	PKPbc	PKPdf	07 02 31.1	+4.4	
	comp=Z,1.8nm,0.9s,baz=244,slow=2.0,SNR=8.5							

*NEIC **22** 06:43:44.7, 36.16S×177.68E, h196km, MG3.9(WEL), After WEL.*

WEL 22 06:43:44.8±0.8, 36.16S×177.69E, h198km±11km, ML3.6/8, Error ellipse: s-maj=17.8km s-min=11.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.48**	**161**	*e*PN	P	06 44 18.4	0.0
MXZ				SN	S	06 44 43.0	-1.4
MXZ	**Matakaoa Point**	**1.48**	**161**	*e*P	P	06 44 18.4	-0.1
MXZ				S	S	06 44 43.0	-1.4
PUZ	**Puketiti**	**1.96**	**167**	PN	P	06 44 22.8	-0.2
PUZ				SN	S	06 44 52.3	-0.1
PUZ	**Puketiti**	**1.96**	**167**	P	P	06 44 22.8	-0.2
PUZ				S	S	06 44 52.3	-0.2
URZ	**Urewera**	**2.14**	**192**	PN	P	06 44 25.2	+0.2
URZ				SN	S	06 44 56.0	0.0
URZ	**Urewera**	**2.14**	**192**	P	P	06 44 25.2	+0.2
MWZ	**Matawai**	**2.17**	**183**	PN	P	06 44 25.2	-0.1
MWZ	**Matawai**	**2.17**	**183**	P	P	06 44 25.2	-0.1
KNZ	**Kokohu**	**2.85**	**180**	*e*PN	P	06 44 32.1	-0.9
KNZ	**Kokohu**	**2.85**	**180**	*e*P	P	06 44 32.1	-0.9
BKZ	**Black Stump Fm**	**3.15**	**197**	*e*PN	P	06 44 34.1	-2.4
PXZ	**Pawanui**	**3.92**	**189**	PN	P	06 44 42.7	-3.3
TSZ	**Takapari Road**	**4.12**	**199**	*e*PN	P	06 44 46.6	-2.0
TSZ	**Takapari Road**	**4.12**	**199**	*e*P	P	06 44 46.6	-2.0
BFZ	**Birch Farm**	**4.65**	**194**	*e*PN	P	06 44 52.6	-2.7
BFZ				SN	S	06 45 45.5	-4.5
BFZ	**Birch Farm**	**4.65**	**194**	*e*P	P	06 44 52.6	-2.7
MRZ	**Mangatainoka R**	**4.79**	**200**	*e*PN	P	06 44 54.1	-3.0
MRZ				SN	S	06 45 48.3	-4.9
MRZ	**Mangatainoka R**	**4.79**	**200**	*e*P	P	06 44 54.1	-3.0

CASC 22 06:51:28.2±3.8, 13.63N×91.63W, h20km±20km, MD4.1, 6C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.12**	**43**	⇓*i*P	Pb	06 51 48.4	-0.3
PCG	**Pacaya**	**1.25**	**53**	*e*S	Sb	06 52 09.2	+2.6
IXG	**Ixpaco**	**1.27**	**65**	⇑*e*P	Pn	06 51 51.5	+0.5
IXG				*e*S	Sb	06 52 07.4	+0.3
RTR	**El Retiro**	**1.95**	**82**	⇑*e*P	Pn	06 52 15.1	+14
RTR				*e*S	Sn	06 52 40.2	+15
SNJE	**San Jose**	**1.98**	**83**	⇓*e*P	Pn	06 52 15.5	+14
SNJE				*e*S	Sn	06 52 42.3	+17
BOQS	**Boqueron**	**2.29**	**87**	⇑*e*P	Pn	06 52 20.1	+14
BOQS				*e*S	Sn	06 52 49.0	+16
SNET	**Serv Nac Est T**	**2.33**	**88**	*e*P	Pn	06 52 06.5	+0.2
SNET				*e*S	Sn	06 52 36.8	+2.2
MRL	**Marmol**	**2.36**	**53**	⇑*e*P	Pn	06 52 06.8	+0.2
MRL				*e*S	Sn	06 52 37.2	+1.8
LFRS	**El Faro**	**2.50**	**90**	⇑*e*P	Pn	06 52 23.3	+15
LFRS				*e*S	Sn	06 52 52.6	+14
LCBS	**La Ceiba**	**2.58**	**89**	⇑*e*P	Pn	06 52 24.6	+15
LCBS				*e*S	Sn	06 52 54.7	+14
SNVI	**San Vicente**	**2.72**	**90**	*e*P	Pn	06 52 27.5	+16
SNVI				*e*S	Sn	06 52 59.5	+15

*CSEM **22** 07:08:56.4±1.3, 12.64N×40.57E, h1km, ML4.2, Error ellipse: s-maj=38.1km s-min=18.0km az=57.0*

DHMR 22 07:08:56.4±0.9, 12.64N×40.57E, h2km±6km, ML4.2, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.56**	**68**	*e*P	Pn	07 09 55.8	+2.0
UDYN				*i* S	Sn	07 10 41.8	+4.7
UDYN				AML	AML	07 11 07.2	
	comp=E,953nm,0.5s						
DHBB	**Dhamar BB**	**4.18**	**62**	*i* S	Sn	07 10 56.4	+3.6
HAJJ	**Hajjah**	**4.22**	**44**	⇓*e*P	Pn	07 10 04.7	+1.4
HAJJ				*i* S	Sn	07 10 57.1	+3.1
LBOS		**4.71**	**74**	*e*P	Pn	07 10 08.4	-1.8
LBOS				*i* S	Sn	07 11 05.9	-0.4
BDHA	**Al Bayda'**	**5.04**	**74**	*e*P	Pn	07 10 13.0	-1.8
BDHA				*i* S	Sn	07 11 12.9	-1.6

*CSEM **22** 07:13:01.3±2.1, 12.53N×40.13E, h60km, ML4.1, Error ellipse: s-maj=49.4km s-min=42.4km az=165.0*
*NEIC **22** 07:13:03.6, 12.88N×40.37E, h4km, ML3.9(DHMR), After DHMR.*

DHMR 22 07:13:02.6±0.5, 12.63N×40.53E, h13km±27km, ML4.1, 6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.60**	**68**	⇓*e*P	Pn	07 14 01.5	+2.1
UDYN				*i* S	Sn	07 14 46.9	+4.7
UDYN				AML	AML	07 15 12.4	
	comp=E,896nm,0.7s						
UDYN	**Al 'Udayn**	**3.60**	**68**	*i* P	Pn	07 14 03.9	+4.5
UDYN				*i* S	Sn	07 14 50.8	+8.5
DHBB	**Dhamar BB**	**4.22**	**62**	⇓*e*P	Pn	07 14 09.3	+1.1
DHBB				*i* S	Sn	07 15 01.5	+3.6
HAJJ	**Hajjah**	**4.26**	**44**	⇓*i*P	Pn	07 14 09.9	+1.1
HAJJ				*i* S	Sn	07 15 02.2	+3.2
HAJJ	**Hajjah**	**4.26**	**44**	*i* P	Pn	07 14 10.3	+1.5
HAJJ				*i* S	Sn	07 15 03.8	+4.8
HAJJ	**Hajjah**	**4.26**	**44**	⇓*i*P	Pn	07 14 09.9	+1.1
HAJJ				*i* S	Sn	07 15 03.8	+4.8
ADEN	**Aden**	**4.35**	**88**	⇓*i*P	Pn	07 14 10.6	+0.6
ADEN				*i* S	Sn	07 15 03.9	+2.8
ADEN	**Aden**	**4.35**	**88**	*i* P	Pn	07 14 12.9	+2.9
ADEN				*i* S	Sn	07 15 06.2	+5.0
LBOS		**4.76**	**74**	⇓*i*P	Pn	07 14 16.4	+0.6
LBOS				*i* S	Sn	07 15 14.2	+2.7
LBOS		**4.76**	**74**	*i* P	Pn	07 14 17.7	+1.9
LBOS				*i* S	Sn	07 15 15.3	+3.8

DHMR 22 07:25:26.2±0.3, 12.65N×40.51E, h12km±41km, ML3.7, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.62**	**68**	*i* S	Sn	07 27 10.8	+4.5
UDYN				AML	AML	07 27 32.1	
	comp=E,278nm,0.7s						
DHBB	**Dhamar BB**	**4.23**	**63**	⇓*e*P	Pn	07 26 33.3	+1.2
DHBB				*i* S	Sn	07 27 25.4	+3.4
HAJJ	**Hajjah**	**4.26**	**44**	⇓*e*P	Pn	07 26 33.4	+0.9
HAJJ				*i* S	Sn	07 27 26.0	+3.2
LBOS		**4.78**	**75**	⇓*e*P	Pn	07 26 38.2	-1.6
LBOS				*i* S	Sn	07 27 34.7	-1.0

DHMR 22 07:30:23.4±0.5, 12.65N×40.50E, h10km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.62**	**68**	*i* S	Sn	07 32 08.6	+4.6
UDYN				AML	AML	07 32 24.6	
	comp=E,420nm,0.7s						
DHBB	**Dhamar BB**	**4.24**	**63**	*e*P	Pn	07 31 30.8	+1.3
DHBB				*i* S	Sn	07 32 22.8	+3.2
HAJJ	**Hajjah**	**4.27**	**44**	*e*P	Pn	07 31 31.1	+1.1
HAJJ				*i* S	Sn	07 32 23.7	+3.3
LBOS		**4.78**	**75**	*e*P	Pn	07 31 35.5	-1.8
LBOS				*i* S	Sn	07 32 32.6	-0.8
BDHA	**Al Bayda'**	**5.11**	**75**	*i* S	Sn	07 32 40.4	-1.2

BJI 22 07:30:59.6, 31.07N×110.45E, h18km, ML3.5, Ms3.8, Msz3.4, 1C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	**3.23**	**337**	P	Pn	07 31 50.9	+0.3
XAN				SG	Sn	07 32 38.1	+9.1
XAN				Smax			
	comp=N,406nm,0.9s						
XAN				Smax			
	comp=E,542nm,1.0s						
WHN	**Wuhan**	**3.40**	**98**	P	Pn	07 31 52.8	-0.2
WHN				PG	Pn	07 32 02.3	+9.3
WHN				S	Sn	07 32 34.1	+0.9
WHN				SG	Sn	07 32 46.0	+13
WHN				Smax			
	comp=N,680nm,1.0s						
WHN				Smax			
	comp=E,130nm,0.5s						
GYA	**Guiyang**	**5.67**	**217**	⇑*i*P	Pn	07 32 26.0	+0.8
GYA				S	Sn	07 33 27.6	-3.0
GYA				LR	LR		
	comp=N,720nm,8.7s						
GYA				LR	LR		
	comp=E,210nm,7.5s						
GYA				LR	LR		
	comp=Z,240nm,7.8s						

*IDC **22** 07:38:22.5±1.4, 34.29N×86.20E, mb3.5/5, mb1 3.9/7, mb1mx3.7/20, mbtmp3.6/7, ML3.4/2, MS3.4/1, Ms1 3.3/1, ms1mx2.8/14, Error ellipse: s-maj=41.4km s-min=23.4km az=59.0*
*NEIC **22** 07:38:26.0±0.5, 34.53N×86.37E, h10km, mb3.9/2, Error ellipse: s-maj=16.5km s-min=6.2km az=87.0*

ISC 22 07:38:26.9±1.6, 34.51N±0.06×86.3E±0.2, h36km±20km, n18, σ1s 83/18, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.32**	**138**	*e*Pn	**P**	**07 40 08.2**	**+8.1**
	7.7nm,0.5s						
GUN	**Gumba**	**6.58**	**183**	*e*P	**P**	**07 40 03.8**	**0.0**
GKN	**Gorkha**	**6.63**	**193**	*e*P	**P**	**07 40 04.1**	**-0.4**
	15nm,0.5s						
KKN	**Kakani**	**6.75**	**188**	*e*P	**P**	**07 40 06.7**	**+0.6**
	28nm,0.5s						
DMN	**Daman**	**6.95**	**189**	*e*P	**P**	**07 40 09.8**	**+0.9**
	21nm,0.4s						
PKI	**Pulchoki**	**6.95**	**186**	*e*P	**P**	**07 40 08.8**	**-0.2**
	34nm,0.4s						
KOLN	**Koldanda**	**7.10**	**200**	*e*P	**P**	**07 40 10.0**	**-1.0**
	28nm,0.7s						
AAK	**Ala-Archa**	**12.28**	**315**	P	**P**	**07 41 23.1**	**+1.0**
	2.3nm,0.9s						
MKAR	**Makanchi Array**	**12.64**	**347**	Pn	**P**	**07 41 25.6**	**-1.4**
	0.1nm,0.3s,baz=158,slow=16,SNR=21						
KURK	**Kurchatov**	**17.14**	**343**	*e*P	**P**	**07 42 25.9**	**+0.8**
	17nm,1.2s						
ZAL	**Zalesovo**	**19.45**	**357**	P	**P**	**07 42 53.2**	**+0.1**
	0.3nm,0.3s,baz=280,slow=13,SNR=3.7						
ZAL				LR	LR	07 51 57.9	
	comp=Z,92nm,18.3s,baz=268,slow=42						
SONM	**Songino Array**	**20.09**	**42**	P	**P**	**07 43 00.2**	**+0.2**
	3.9nm,0.8s,baz=233,slow=11,SNR=13						
BVAR	**Borovoye Array**	**21.69**	**333**	P	**P**	**07 43 15.0**	**-1.4**
	0.2nm,0.3s,mb3.0,baz=139,slow=13,SNR=2.7						
BRVK	**Borovoye**	**21.76**	**333**	*e*P	**P**	**07 43 17.2**	**+0.2**
	4.2nm,1.0s,mb3.8						
KULM	**Kulim**	**31.97**	**152**	P	**P**	**07 44 53.0**	**+1.0**
GERES	**GERESS Array B**	**54.08**	**309**	P	**P**	**07 47 50.2**	**+0.1**
	0.2nm,0.3s,mb3.5,baz=79,slow=6.8,SNR=4.6						
WRA	**Warramunga Arr**	**70.84**	**132**	P	**P**	**07 49 40.6**	**-1.6**
	0.9nm,0.7s,mb3.8,baz=326,slow=6.7,SNR=11						
ILAR	**Eielson Array**	**72

RC01	**Rabbit Creek A**	**2.20**	**41**	P	**P**	**08 00 32.6**	**+0.9**
PWL	**Port Wells**	**2.59**	**55**	P	**P**	**08 00 37.4**	**+0.3**
PMR	**Palmer**	**2.77**	**38**	P	**P**	**08 00 39.6**	**0.0**
GHO	**Glory Hole Cre**	**2.97**	**37**	P	**P**	**08 00 42.6**	**+0.2**
CFI	**College Fiord**	**3.00**	**53**	P	**P**	**08 00 42.3**	**-0.5**
GLI	**Glacier Island**	**3.14**	**61**	P	**P**	**08 00 43.6**	**-1.1**
SML	**Sawmill**	**3.19**	**40**	P	**P**	**08 00 45.4**	**0.0**
MID	**Middleton Isla**	**3.24**	**88**	*e*P	**P**	**08 00 46.6**	**+0.5**
HIN	**Hinchinbrook I**	**3.25**	**70**	P	**P**	**08 00 46.3**	**+0.1**
FID	**Port Fidalgo**	**3.37**	**65**	P	**P**	**08 00 46.5**	**-1.3**
SCM	**Sheep Creek Mo**	**3.56**	**46**	P	**P**	**08 00 50.4**	**0.0**
VLZ	**Valdez**	**3.58**	**59**	P	**P**	**08 00 50.3**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.65**	**70**	P	**P**	**08 00 50.9**	**-0.9**
TT01	**Tatalina**	**3.82**	**336**	P	**P**	**08 00 54.2**	**+0.1**
DIV	**Divide**	**3.83**	**61**	P	**P**	**08 00 54.0**	**-0.2**
SGAM	**Sherman Glacie**	**3.90**	**71**	P	**P**	**08 00 55.1**	**-0.1**
KLU	**Klutina**	**3.92**	**56**	P	**P**	**08 00 55.3**	**-0.2**
RAGM	**Ragged Mountai**	**4.14**	**74**	P	**P**	**08 00 58.6**	**+0.2**
KTH	**Kantishna Hill**	**4.20**	**11**	P	**P**	**08 00 59.0**	**-0.3**
KAIM	**Kayak Island**	**4.22**	**80**	P	**P**	**08 00 59.4**	**-0.1**
BMRM	**Bremner River**	**4.31**	**66**	P	**P**	**08 00 59.9**	**-0.9**
RND	**Reindeer**	**4.37**	**23**	P	**P**	**08 01 01.5**	**-0.2**
GLB	**Gilahina Butte**	**4.82**	**62**	P	**P**	**08 01 07.3**	**-0.6**
WACK	**Wrangell Chich**	**4.82**	**55**	P	**P**	**08 01 07.9**	**0.0**
PAX	**Paxson**	**4.96**	**42**	P	**P**	**08 01 09.6**	**-0.2**
THY	**Trims Highway**	**5.18**	**37**	P	**P**	**08 01 12.3**	**-0.5**
BALM	**Baldy**	**5.39**	**68**	P	**P**	**08 01 15.2**	**-0.4**
WRH	**Wood River Hil**	**5.48**	**21**	P	**P**	**08 01 16.4**	**-0.5**
MENT	**Mentasta**	**5.56**	**47**	*e*P	**P**	**08 01 19.7**	**+1.7**
YAH	**Yahtse**	**5.58**	**76**	P	**P**	**08 01 17.8**	**-0.4**
GCSA	**Galena City Sc**	**5.66**	**341**	P	**P**	**08 01 18.6**	**-0.8**
CCB	**Clear Creek Bu**	**5.69**	**22**	P	**P**	**08 01 18.9**	**-0.8**
COLA	**College**	**5.89**	**21**	P	**P**	**08 01 21.9**	**-0.5**
MDM	**Murphy Dome**	**5.90**	**19**	P	**P**	**08 01 22.0**	**-0.6**
IL1	**Eielson Array**	**5.99**	**25**	P	**P**	**08 01 22.9**	**-0.9**
ILAR	**Eielson Array**	**5.99**	**25**	P	**P**	**08 01 23.3**	**-0.4**
	3.3nm,0.3s,baz=208,slow=14,SNR=281						
ILAR				S	**S**	**08 02 28.6**	**-3.1**
	3.3nm,0.3s,baz=208,slow=25,SNR=9.6						
IM3	**Indian Mountai**	**6.57**	**356**	P	**P**	**08 01 31.1**	**-0.8**
PNL	**Peninsula**	**6.76**	**82**	P	**P**	**08 01 33.3**	**-1.2**
COLD	**Coldfoot**	**7.88**	**7**	P	**P**	**08 01 48.4**	**-1.5**
BM3	**Burnt Mountain**	**8.76**	**21**	P	**P**	**08 02 00.6**	**-1.3**
DLBC	**Dease Lake**	**11.73**	**85**	P	**P**	**08 02 42.8**	**+1.2**
	1.6nm,0.3s,baz=278,slow=13,SNR=28						
DLBC				S	**S**	**08 04 50.0**	**-1.1**
	0.2nm,0.3s,baz=292,slow=19,SNR=4.5						
DLBC	**Dease Lake**	**11.73**	**85**	*e*P	**P**	**08 02 42.5**	**+0.9**
INK	**Inuvik**	**12.19**	**35**	P	**P**	**08 02 47.4**	**-0.2**
	0.2nm,0.3s,baz=250,slow=13,SNR=5.3						
INK	**Inuvik**	**12.19**	**35**	P	**P**	**08 02 47.2**	**-0.4**
YKA	**Yellowknife Ar**	**18.54**	**64**	P	**P**	**08 04 09.3**	**+1.7**
	0.1nm,0.3s,baz=277,slow=9.9,SNR=6.5						
SONM	**Songino Array**	**55.24**	**306**	P	**P**	**08 09 21.4**	**-0.2**
	0.7nm,0.8s,mb3.7,baz=53,slow=6.4,SNR=6.0						

*IDC **22** 08:18:35.4±1.8,0.91N×97.50E,mb4.4/8,mb1 4.4/8, mb1mx4.2/18,mbtmp4.4/8,MS4.0/2,Ms1 4.0/2, ms1mx3.2/30,Error ellipse: s-maj=57.8km s-min=18.4km az=61.0*

*BJI **22** 08:18:36.6,0.90N×97.95E,h20km,mB4.7,mb4.8,Ms4.2, Msz4.0*

*NEIC **22** 08:18:38.9±0.6,0.81N×97.43E,h30km,mb4.5/7,Error ellipse: s-maj=15.0km s-min=10.0km az=65.0*

ISC 22 08:18:37.6±0.7,**0.84N**±0.08×**97.39E**±0.09,**h33**km,**n26,** σ1$**08**/24,**mb4.4**/17,**MS4.0**/3,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.20**	**44**	P	**P**	**08 19 55.7**	**+0.6**
KULM	**Kulim**	**5.50**	**36**	*e*Pn	**Pn**	**08 19 58.6**	**-0.8**
KGM	**Kluang**	**6.05**	**79**	P	**P**	**08 20 07.8**	**+0.9**
KKM	**Kota Kinabalu**	**19.49**	**74**	P	**P**	**08 23 04.6**	**-0.2**
KKM	**Kota Kinabalu**	**19.49**	**74**	*e*P	**P**	**08 23 05.1**	**+0.3**
QIZ	**Qiongzhong**	**21.82**	**33**	P	**P**	**08 23 32.1**	**+3.2**
	14nm,1.0s,mb4.4						
KMI	**Kunming**	**24.69**	**12**	P	**P**	**08 23 56.9**	**-0.2**
KMI				AP		08 24 00.1	
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.2						
KMI				AMB	AMB		
	comp=Z,141nm,4.7s						
KMI				LR	LR		
	comp=N,261nm,11.4s,MS4.1						
KMI				LR	LR		
	comp=E,180nm,10.9s,MS4.1						
KMI				LR	LR		
	comp=Z,265nm,12.6s,MS3.9						
LSA	**Lhasa**	**29.31**	**349**	*e*P	**P**	**08 24 40.6**	**+1.2**
	comp=Z,8.2nm,0.8s,mb4.5						
ENH	**Enshi**	**31.45**	**20**	*e*P	**P**	**08 24 56.7**	**-1.7**
	comp=Z,7.9nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.57**	**125**	P	**P**	**08 25 16.3**	**-0.6**
	comp=Z,5.5nm,0.8s,mb4.5,baz=322,slow=5.6,SNR=6.4						
GTA	**Gaotai**	**38.45**	**3**	*e*P	**P**	**08 25 58.8**	**+0.7**
GTA				AP	pP	08 26 03.0	-4.9
GTA				XP	sP	08 26 05.9	-6.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
JOW	**Kunigami**	**39.35**	**46**	P	**P**	**08 26 06.8**	**+1.2**
	comp=Z,18nm,0.8s,mb4.9,baz=260,slow=6.1,SNR=4.3						
WRA	**Warramunga Arr**	**41.69**	**122**	P	**P**	**08 26 25.4**	**+0.3**
	comp=Z,2.3nm,0.7s,mb3.9,baz=299,slow=9.0,SNR=21						
WRAB	**Tennant Creek**	**41.69**	**122**	*e*P	**P**	**08 26 24.7**	**-0.5**
	comp=Z,9.6nm,1.0s,mb4.4						
WB2	**Warramunga Arr**	**41.70**	**122**	*e*P	**P**	**08 26 25.2**	**0.0**
AAK	**Ala-Archa**	**46.40**	**337**	*e*P	**P**	**08 26 59.9**	**-3.0**
	comp=Z,0.9nm,0.6s,mb3.9						
SONM	**Songino Array**	**47.46**	**8**	P	**P**	**08 27 11.6**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.2,baz=192,slow=9.3,SNR=17						
SONM				LR	LR	08 49 31.4	
	comp=Z,78nm,20.3s,MS3.7,baz=354,slow=39						
MKAR	**Makanchi Array**	**47.64**	**346**	P	**P**	**08 27 13.1**	**+0.6**
	comp=Z,3.7nm,0.5s,mb4.7,baz=158,slow=7.9,SNR=42						
MJAR	**Matsushiro Arr**	**51.82**	**42**	P	**P**	**08 27 43.1**	**-1.7**
	comp=Z,1.9nm,0.8s,mb4.1,baz=211,slow=7.3,SNR=4.5						
KURK	**Kurchatov**	**52.19**	**345**	*e*P	**P**	**08 27 46.4**	**-0.8**
	comp=Z,4.6nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**52.98**	**132**	P	**P**	**08 27 54.7**	**+1.3**
	comp=Z,3.3nm,0.7s,mb4.4,baz=292,slow=6.8,SNR=7.4						
STKA	**Stephens Creek**	**52.98**	**132**	*e*P	**P**	**08 27 51.3**	**-2.1**
ZAL	**Zalesovo**	**53.94**	**351**	P	**P**	**08 27 59.8**	**-0.4**
	comp=Z,3.4nm,0.6s,mb4.5,baz=306,slow=6.7,SNR=9.5						
LBTB	**Lobatse**	**73.89**	**244**	P	**P**	**08 30 12.9**	**+1.3**
	comp=Z,12nm,1.4s,mb4.6						
RPZ	**Rata Peaks**	**78.82**	**135**	LR	LR	09 09 11.8	
	comp=Z,160nm,18.1s,MS4.4,baz=192,slow=38						
TXAR	**Lajitas Array**	**143.88**	**32**	PKP	PKPdf	08 38 11.5	+1.3
	comp=Z,0.4nm,0.9s,baz=270,slow=1.8,SNR=4.3						

*ATH **22** 08:23:19.6,40.09N×21.80E,h13km±3km,MD3.2/5*

*NEIC **22** 08:23:19.0,40.09N×21.82E,h5km,MD3.2(ATH), ML3.0(THE),After ATH.*

*THE **22** 08:23:20.1,40.10N×21.73E,h4km,ML3.0*

*CSEM **22** 08:23:20.1±0.1,40.11N×21.77E,h1km±1km,MD3.2,Error ellipse: s-maj=1.2km s-min=1.0km az=39.0*

ISC 22 08:23:19.5±0.4,**40.09N**±0.02×**21.80E**±0.03,**h10**km,**n24,** σ1$**29**/34,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.21**	**354**	*e*PG	**Pg**	**08 23 24.2**	**0.0**
KZN				*e*SG	**Sg**	**08 23 28.1**	**+0.8**
LIT	**Litokhoron**	**0.53**	**89**	*e*Pg	**Pg**	**08 23 30.3**	**+0.1**
LIT				*e*Sg	**Sg**	**08 23 40.2**	**+2.8**
MEV	**Metsovon**	**0.54**	**235**	*e*Pg	**Pg**	**08 23 28.6**	**-1.9**
MEV				*e*Sg	**Sg**	**08 23 37.1**	**-0.6**
MEV	**Metsovon**	**0.54**	**235**	*e*Pg	**Pg**	**08 23 28.5**	**-1.9**
MEV				*e*Sg	**Sg**	**08 23 37.1**	**-0.6**
FNA	**Florina**	**0.76**	**335**	*e*Pg	**Pg**	**08 23 33.7**	**-1.2**
FNA				*e*Sg	**Sg**	**08 23 44.0**	**-1.1**
JAN	**Janina**	**0.85**	**239**	*e*PG	**Pg**	**08 23 35.7**	**-0.9**
JAN				*e*SB	**Sb**	**08 23 46.8**	**-0.4**
KBN	**Korca**	**0.94**	**305**	*i* Sg	**Sg**	**08 23 52.5**	**+1.6**
GRG	**Griva**	**0.98**	**28**	*e*Pg	**Pg**	**08 23 38.3**	**-0.8**
GRG				*e*Sg	**Sg**	**08 23 54.1**	**+1.9**
THE	**Thessaloniki**	**1.04**	**58**	*e*Pg	**Pg**	**08 23 40.6**	**+0.2**
AGG	**Agios Georgios**	**1.15**	**159**	*e*Pg	**Pg**	**08 23 41.5**	**-1.0**
AGG				*e*Sg	**Sg**	**08 23 59.3**	**+1.5**
EVR	**Evrytania**	**1.18**	**180**	*e*PN	**Pn**	**08 23 41.2**	**-0.8**
EVR				*e*SB	**Sb**	**08 23 58.0**	**+1.4**
XOR	**Xorichti**	**1.29**	**124**	*e*Pg	**Pg**	**08 23 44.7**	**-0.8**
NEO	**Neokhori**	**1.35**	**125**	*e*PB	**Pb**	**08 23 45.2**	**+0.7**
KNT	**Kendrikon**	**1.35**	**38**	*e*Pg	**Pg**	**08 23 45.6**	**-1.1**
SOH	**Sokhos**	**1.39**	**58**	*e*Pg	**Pg**	**08 23 45.6**	**-1.7**
PAIG	**Paliouri**	**1.45**	**96**	*e*Pg	**Pg**	**08 23 46.5**	**-2.1**
PAIG				*e*Sg	**Sg**	**08 24 06.9**	**-1.1**
KEK	**Kerkira**	**1.59**	**257**	*e*PB	**Pb**	**08 23 50.0**	**+1.5**
KEK	**Kerkira**	**1.59**	**257**	*e*Pb	**Pb**	**08 23 50.5**	**+2.0**
LKD	**Levkas**	**1.65**	**213**	*e*Pb	**Pb**	**08 23 50.4**	**+0.9**
LKR	**Lokris**	**1.71**	**147**	*e*PN	**Pn**	**08 23 50.8**	**+1.1**
SKO	**Skopje**	**1.90**	**352**	*i* Pn	**Pn**	**08 23 55.0**	**+2.7**
RLS	**Riolos of Patr**	**2.05**	**187**	*e*PN	**Pn**	**08 23 55.8**	**+1.3**
VLS	**Valsamata**	**2.13**	**207**	*e*PG	**Pg**	**08 23 58.5**	**-3.7**
VLS	**Valsamata**	**2.13**	**207**	*e*Pg	**Pg**	**08 24 00.5**	**-1.7**

*STR **22** 08:32:53.2±0.1,43.08N×0.65W,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **22** 08:32:53.5±0.0,43.08N×0.64W,h7km,Md2.6/2,Ml2.3/2, Error ellipse: s-maj=1.0km s-min=0.7km az=17.0*

*MDD **22** 08:32:54.0±0.3,43.09N×0.64W,h1km±6km,mbLg1.7/13, Error ellipse: s-maj=3.1km s-min=1.4km az=19.0,PRXIMO*

ISC 22 08:32:52.6±0.4,**43.12N**±0.03×**0.63W**±0.03,**h10**km±3km, **n30**,σ0$**97**/48,**1D,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.18**	**107**	Pg	**Pg**	**08 32 57.6**	**+1.0**
REYF				Sg	**Sg**	**08 33 00.0**	**+0.8**
REYF	**Montagne du Re**	**0.18**	**107**	P	**Pg**	**08 32 57.5**	**+0.9**
REYF				S	**Sg**	**08 33 00.5**	**+1.2**
ETSF	**Etsaut**	**0.23**	**168**	*e*Pg	**Pg**	**08 32 57.6**	**+0.1**
ETSF				*e*Sg	**Sg**	**08 33 00.3**	**-0.5**
	158nm,0.2s						
ORDF	**Ordiarp**	**0.24**	**292**	Pg	**Pg**	**08 32 58.8**	**+1.0**
ORDF				Sg	**Sg**	**08 33 02.2**	**+0.9**
ORDF	**Ordiarp**	**0.24**	**292**	P	**Pg**	**08 32 58.8**	**+0.9**
ORDF				S	**Sg**	**08 33 02.8**	**+1.5**
LARF	**Larrau**	**0.28**	**253**	P	**Pg**	**08 32 58.9**	**+0.4**
LARF				S	**Sg**	**08 33 03.0**	**+0.6**
FDAF	**Les Forges d'A**	**0.31**	**172**	Pg	**Pg**	**08 32 58.9**	**-0.1**
FDAF				Sg	**Sg**	**08 33 02.7**	**-0.5**
FDAF	**Les Forges d'A**	**0.31**	**172**	P	**Pg**	**08 32 59.0**	**0.0**
FDAF				S	**Sg**	**08 33 02.8**	**-0.4**
SJPF	**Ste Jean**	**0.44**	**269**	*e*Pg	**Pg**	**08 33 01.8**	**+0.2**
SJPF				*e*Sg	**Sg**	**08 33 07.1**	**-0.5**
	33nm,0.3s						
OSSF	**Osses**	**0.48**	**286**	Pg	**Pg**	**08 33 02.2**	**-0.3**
OSSF	**Osses**	**0.48**	**286**	P	**Pg**	**08 33 02.6**	**+0.1**
OSSF				S	**Sg**	**08 33 08.9**	**-0.1**
LABF	**Labassere**	**0.52**	**98**	Pg	**Pg**	**08 33 03.3**	**+0.2**
LABF				Sg	**Sg**	**08 33 10.7**	**+0.6**
LABF	**Labassere**	**0.52**	**98**	P	**Pg**	**08 33 03.7**	**+0.6**
LABF				S	**Sg**	**08 33 11.0**	**+0.9**
VIEF	**Viey**	**0.53**	**116**	Pg	**Pg**	**08 33 03.5**	**+0.1**
VIEF				Sg	**Sg**	**08 33 10.7**	**+0.1**
VIEF	**Viey**	**0.53**	**116**	P	**Pg**	**08 33 03.6**	**+0.1**
VIEF				S	**Sg**	**08 33 10.7**	**0.0**
IPRE	**Itoiz**	**0.62**	**240**	Pg	**Pg**	**08 33 04.9**	**-0.3**
	0.5nm,0.0s,SNR=7.9						
IPRE				Lg		08 33 13.7	
	6.2nm,0.3s,SNR=4.0						
EALK	**Alkurruntz**	**0.65**	**279**	Pg	**Pg**	**08 33 05.4**	**-0.4**
	0.1nm,0.1s,SNR=7.9						
EALK				Lg		08 33 13.8	
	14nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.70**	**256**	Pg	**Pg**	**08 33 07.2**	**+0.5**
	2.0nm,0.4s,SNR=7.9						
IUSE				Lg		08 33 16.0	
	13nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**0.71**	**127**	⇓Pg	**Pg**	**08 33 06.7**	**-0.3**
	1.0nm,0.1s,SNR=17						
EBIE				Lg		08 33 15.7	
	8.3nm,0.1s,SNR=31						
MELF	**Melles**	**1.05**	**103**	S	**Sb**	**08 33 28.1**	**+2.1**
EGRA	**Graus**	**1.16**	**143**	Pg	**Pg**	**08 33 16.4**	**+0.5**
	0.9nm,0.2s,SNR=7.9						
EGRA				Lg		08 33 32.2	
	1.9nm,0.1s,SNR=7.9						
SALF	**Salau**	**1.38**	**105**	Pg	**Pg**	**08 33 19.4**	**-0.9**
SALF	**Salau**	**1.38**	**105**	P	**Pn**	**08 33 19.5**	**+1.4**
SALF				S	**Sb**	**08 33 37.7**	**+2.0**
ESAC	**San Caprasio**	**1.40**	**175**	Pg	**Pg**	**08 33 19.8**	**-0.9**
	1.8nm,0.1s,SNR=8.0						
ESAC				Lg		08 33 37.8	
	16nm,0.3s,SNR=4.7						
ECRI	**Cripan**	**1.48**	**250**	Pn	**Pn**	**08 33 19.7**	**+0.2**
	1.1nm,0.2s,SNR=7.9						
ECRI				Lg		08 33 40.0	
	5.1nm,0.6s,SNR=7.9						
LFF	**La Frestale**	**2.07**	**28**	*e*Sn	**Sn**	**08 33 52.5**	**-1.5**
LFF				*e*Sg	**Sg**	**08 34 00.0**	**-1.5**
	16nm,0.7s						
LFF	**La Frestale**	**2.07**	**28**	Lg		08 34 00.0	
	7.9nm,0.7s						
MTLF	**Montolieu**	**2.09**	**83**	*e*Sg	**Sg**	**08 33 59.6**	**-2.7**
	2.9nm,0.3s						
EPOB	**Poblet**	**2.17**	**144**	Pn	**Pn**	**08 33 29.4**	**-0.1**
	0.4nm,0.4s,SNR=7.9						
EPOB				Pg	**Pg**	**08 33 33.9**	**-2.2**
	2.8nm,0.4s,SNR=7.9						
EPOB				Sn	**Sn**	**08 33 56.8**	**+0.1**
	1.7nm,0.4s,SNR=7.9						
EPOB				Lg		08 34 01.7	
	2.4nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.28**	**161**	Pg	**Pg**	**08 33 36.2**	**-1.9**
	1.3nm,0.4s,SNR=7.9						
ERTA				Sn	**Sn**	**08 33 58.7**	**-0.6**
	0.6nm,0.2s,SNR=4.0						
ERTA				Lg		08 34 04.2	
	12nm,1.0s,SNR=4.0						

*NIED **22** 08:38:00,43.70N×147.20E,h50km,Mw3.9 Best double couple: M0 7.83×10^14 NP1:φs132°,δ74°,λ121°. NP2: φs247°,δ34°,λ29°.*

*IDC **22** 08:38:23.9±0.9,43.63N×147.73E,mb3.6/7,mb1 3.9/9, mb1mx3.8/22,mbtmp3.6/9,ML3.8/2,MS2.7/1,Ms1 2.7/1, ms1mx2.5/30,Error ellipse: s-maj=31.3km s-min=18.8km az=149.0*

*MOS **22** 08:38:27.2±1.2,43.64N×147.53E,h41km,mb4.0/3,Error ellipse: s-maj=27.0km s-min=22.7km az=154.1*

*JMA **22** 08:38:30.8±0.2,43.71N×147.20E,h33km±5km,M4.5*

*SKHL **22** 08:38:30.6±2.2,43.95N×147.31E,h33km,mb4.7/2*

ISC 22 08:38:28.8±0.9,**43.82N**±0.07×**147.35E**±0.08,**h49**km±10km, **n32**,σ1$**22**/44,**mb3.5**/7,**1C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.09**	**282**	*i* P	**P**	**08 38 48.4**	**+0.4**
YUK				AMB	AMB	08 38 48.9	
	180nm,0.4s						
YUK				AMB	AMB	08 38 48.9	
	350nm,0.4s						
YUK				AMB	AMB	08 38 48.9	
	2μm,0.4s						
YUK				*e*S	**S**	**08 39 00.5**	**-1.8**
YUK				A		08 39 03.8	
	4μm,1.0s						
YUK				A		08 39 05.6	
	4μm,0.3s						
YUK				A		08 39 05.6	
	3μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.09**	**282**	⇑*i* PN	**P**	**08 38 48.4**	**+0.4**
YUK				S	**S**	**08 39 00.5**	**-1.8**
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				pmax	pmax		
	comp=N,180nm,0.4s						
YUK				pmax	pmax		
	comp=E,350nm,0.4s						
YUK				smax			
	comp=N,4μm,1.0s						
YUK				smax			
	comp=E,4μm,1.0s						
YUK				smax			
	comp=N,4μm,0.4s						
YUK				smax			
	comp=E,3μm,0.3s						
NEM2	**Nemuro 2**	**1.25**	**249**	P	**P**	**08 38 50.5**	**+0.3**
NEM2				*e*S	**S**	**08 39 04.6**	**-1.6**
KUR	**Kuril'sk**	**1.46**	**15**	⇓*i* P	**P**	**08 38 51.7**	**-1.6**
KUR				AMB	AMB	08 38 52.2	
	comp=E,30nm,0.5s						
KUR				AMB	AMB	08 38 52.2	
	comp=E,20nm,0.5s						
KUR				AMB	AMB	08 38 52.2	
	comp=E,80nm,0.5s						
KUR				*i* S	**S**	**08 39 09.4**	**-2.1**
JRA	**Rausu**	**1.61**	**275**	P	**P**	**08 38 56.4**	**+1.0**
JRA				*e*S	**S**	**08 39 15.3**	**+0.1**
JNK	**Nakash**	**1.92**	**264**	P	**P**	**08 39 00.4**	**+0.7**
JNK				*e*S	**S**	**08 39 22.5**	**-0.2**
JAK	**Akkeshi**	**2.10**	**248**	P	**P**	**08 39 02.4**	**+0.1**
JAK				*e*S	**S**	**08 39 25.6**	**-1.6**
JTKR	**Abashiri--Toko**	**2.49**	**275**	P	**P**	**08 39 09.1**	**+1.3**
JTKR				*e*S	**S**	**08 39 37.1**	**-0.1**
JAR	**Ashorobuto**	**2.65**	**260**	P	**P**	**08 39 11.2**	**+1.0**
JAR				*e*S	**S**	**08 39 40.7**	**-0.6**
JOB	**Onbets**	**2.72**	**252**	P	**P**	**08 39 11.8**	**+0.7**
JOB				*e*S	**S**	**08 39 42.4**	**-0.6**
JMP	**Maruseppu**	**2.89**	**275**	P	**P**	**08 39 14.8**	**+1.3**
JCH	**Churui**	**3.15**	**249**	P	**P**	**08 39 17.3**	**+0.1**
JCH				*e*S	**S**	**08 39 51.7**	**-2.2**
JKK2	**Kamakawa 2**	**3.33**	**273**	P	**P**	**08 39 21.8**	**+2.1**
ASAJ	**Asahikawa**	**3.44**	**277**	Pn	**P**	**08 39 23.2**	**+1.9**
	comp=E,6.8nm,0.3s,baz=80,slow=13,SNR=41						
ASAJ				Sn	**S**	**08 40 10.4**	**+9.2**
	comp=E,6.2nm,0.3s,baz=201,slow=30,SNR=2.8						
ASAJ				LR	LR	08 40 50.4	
	comp=E,112nm,19.5s,baz=339,slow=39						
ASAJ	**Asahikawa**	**3.44**	**277**	P	**P**	**08 39 23.0**	**+1.7**
ASAJ	**Asahikawa**	**3.44**	**277**	PN	**P**	**08 39 23.3**	**+2.0**
ASAJ						08 40 10.5	
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,112nm,19.5s						
JFR	**Furan**	**3.52**	**261**	P	**P**	**08 39 24.3**	**+1.9**
JFR				*e*S	**S**	**08 40 03.0**	**-0.2**
JEM	**Erimo**	**3.57**	**241**	P	**P**	**08 39 24.3**	**+1.2**
JNBK	**Urakawa-nobuka**	**3.70**	**247**	P	**P**	**08 39 25.1**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.50**	**316**	*e*rx	rx	08 40 23.3	
MJAR	**Matsushiro Arr**	**10.08**	**227**	Pn	**P**	**08 40 51.5**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=5.0						
MJAR	**Matsushiro Arr**	**10.08**	**227**	PN	**P**	**08 40 51.5**	**-2.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**41.35**	**36**	P	**P**	**08 46 11.0**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.4,baz=265,slow=8.7,SNR=6.8						
ILAR	**Eielson Array**	**41.35**	**36**	P	**P**	**08 46 11.0**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.68**	**298**	P	**P**	**08 46 40.4**	**+2.1**
	comp=Z,0.2nm,0.5s,mb3.2,baz=84,slow=9.9,SNR=2.9						
YKA	**Yellowknife Ar**	**55.67**	**34**	P	**P**	**08 47 59.9**	**-1.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=298,slow=6.8,SNR=5.1						
YKA	**Yellowknife Ar**	**55.67**	**34**	P	**P**	**08 47 59.9**	**-1.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**64.56**	**194**	P	**P**	**08 49 01.6**	**-1.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=10,slow=6.8,SNR=9.1						
WRA	**Warramunga Arr**	**64.56**	**194**	P	**P**	**08 49 01.6**	**-1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**67.42**	**58**	P	**P**	**08 49 21.3**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=286,slow=7.8,SNR=6.8						
PDAR	**Pinedale Array**	**69.76**	**50**	P	**P**	**08 49 35.7**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.5,slow=1.5,SNR=4.0						
TXAR	**Lajitas Array**	**82.49**	**56**	P	**P**	**08 50 48.2**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.4,baz=293,slow=5.6,SNR=5.2						

*IDC **22** 08:49:01.2±2.1,5.86S×106.86W,mb3.8/10,mb1 4.0/10, mb1mx3.9/18,mbtmp3.8/10,MS4.2/13,Ms1 4.2/13, ms1mx4.0/24,Error ellipse: s-maj=66.1km s-min=16.7km az=55.0*

*NEIC **22** 08:49:03.4±0.9,5.84S×106.71W,h10km,mb4.4/6,Error ellipse: s-maj=24.3km s-min=9.8km az=58.0*

ISC 22 08:49:02.1±1.0,**5.8S**±0.1×**106.7W**±0.2,**h10**km,**n34,** σ1$**01**/23,**mb4.0**/15,**MS4.2**/13,**1D,Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**21.38**	**186**	LR	LR	08 59 31.7

*NEIC **22** 08:50:18.2±1.7, 6.57S×130.10E, h108km±17km, mb4.6/19, Error ellipse: s-maj=12.3km s-min=7.9km az=56.0*
ISC 22 08:50:17.4±1.3, 6.61S±0.05×130.08E±0.07, h113km±13km, n78, σ1ᵍ02/81, mb4.8/32, 8C-7D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.50**	**159**	⇑*i*P	P	08 52 12.7	+21
	123nm,0.2s						
KAKA				*e*S	**S**	**08 53 22.0**	**+17**
FITZ	**Fitzroy Crossi**	**12.22**	**200**	*e*P	**P**	**08 53 08.9**	**+0.2**
	30nm,0.3s						
FITZ				*e*S	**S**	**08 55 14.4**	**-8.4**
FITZ	**Fitzroy Crossi**	**12.22**	**200**	P	**P**	**08 53 09.0**	**+0.3**
	6.0nm,0.3s,baz=18,slow=9.9,SNR=59						
FITZ				S	**S**	**08 55 15.4**	**-7.4**
	34nm,0.3s,baz=14,slow=14,SNR=12						
WRAB	**Tennant Creek**	**13.88**	**163**	*e*P	**P**	**08 53 28.6**	**-1.8**
	43nm,0.4s						
WRAB				*e*S	**S**	**08 55 50.9**	**-11**
WRA	**Warramunga Arr**	**13.89**	**163**	P	**P**	**08 53 29.4**	**-1.0**
	2.3nm,0.3s,baz=340,slow=13,SNR=85						
WRA				S	**S**	**08 55 53.6**	**-8.5**
	20nm,0.3s,baz=343,slow=22,SNR=15						
WB2	**Warramunga Arr**	**13.89**	**163**	*e*P	**S**	**08 53 29.0**	**-1.4**
WB2				*e*S	**S**	**08 55 54.9**	**-7.3**
PMG	**Port Moresby**	**17.14**	**100**	P	**P**	**08 54 13.1**	**+1.8**
	2.4nm,0.3s,baz=289,slow=4.1,SNR=13						
PMG				LR	LR	09 01 28.8	
	comp=Z,87nm,18.0s,baz=232,slow=39						
PMG	**Port Moresby**	**17.14**	**100**	*e*P	**P**	**08 54 12.8**	**+1.4**
	76nm,0.9s						
ASPA	**Alice Springs**	**17.36**	**168**	*e*P	**P**	**08 54 15.3**	**+1.2**
ASPA				*e*S	**S**	**08 57 18.8**	**-2.6**
MBWA	**Marble Bar**	**17.60**	**214**	*e*P	**P**	**08 54 18.8**	**+1.8**
	13nm,0.6s						
MBWA				*e*S	**S**	**08 57 21.0**	**-5.8**
KKM	**Kota Kinabalu**	**18.69**	**312**	*e*P	**P**	**08 54 30.5**	**+1.0**
CTA	**Charters Tower**	**20.64**	**132**	*e*P	**P**	**08 54 51.2**	**+1.4**
	18nm,0.6s						
CTA	**Charters Tower**	**20.64**	**132**	P	**P**	**08 54 51.1**	**+1.3**
	33nm,0.8s,baz=320,slow=11,SNR=28						
CTAO	**Charters Tower**	**20.64**	**132**	*e*P	**P**	**08 54 51.2**	**+1.3**
	26nm,0.7s						
CTAO				*e*S	**S**	**08 58 30.4**	**+1.4**
KSM	**Kuching**	**21.31**	**291**	*e*P	**P**	**08 54 56.9**	**+0.4**
FORT	**Forrest**	**24.12**	**184**	*e*P	**P**	**08 55 26.3**	**+2.4**
	11nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**27.35**	**158**	⇓*i*P	**P**	**08 55 53.7**	**-0.2**
	3.9nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**27.35**	**158**	P	**P**	**08 55 53.8**	**-0.1**
	5.9nm,0.3s,mb4.5,baz=342,slow=7.6,SNR=10.0						
KLBR	**Kellerberrin**	**27.40**	**203**	⇑*i*P	**P**	**08 55 54.7**	**+0.3**
	7.1nm,0.6s,mb4.4						
NWAO	**Narrogin (SRO)**	**28.79**	**203**	P	**P**	**08 56 07.2**	**+0.3**
	4.9nm,0.4s,mb4.5,baz=14,slow=8.3,SNR=11						
NWAO	**Narrogin (SRO)**	**28.79**	**203**	*e*P	**P**	**08 56 07.0**	**+0.2**
	8.0nm,0.9s,mb4.3						
KULM	**Kulim**	**31.66**	**291**	*e*P	**P**	**08 56 30.6**	**-1.8**
JOW	**Kunigami**	**33.28**	**357**	P	**P**	**08 56 46.6**	**+0.3**
	6.1nm,0.5s,mb4.7,baz=114,slow=18,SNR=6.0						
DZM	**Mont Dzumac**	**38.30**	**117**	P	**P**	**08 57 29.0**	**+0.3**
	5.6nm,0.8s,mb4.4,baz=297,slow=14,SNR=9.2						
NANT	**Nan**	**38.42**	**312**	⇑P	**P**	**08 57 28.0**	**-1.7**
	94nm,0.6s,mb5.8						
CHG	**Chiang Mai**	**39.75**	**310**	P	**P**	**08 57 41.3**	**+0.6**
NJ2	**Nanjing**	**39.90**	**345**	*e*P	**P**	**08 57 42.8**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
KMI	**Kunming**	**41.26**	**321**	P	**P**	**08 57 54.5**	**+1.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						
ENH	**Enshi**	**41.65**	**333**	*e*P	**P**	**08 57 54.6**	**-1.7**
	comp=Z,8.2nm,0.7s,mb4.6						
MJAR	**Matsushiro Arr**	**43.59**	**10**	P	**P**	**08 58 10.7**	**-1.3**
	comp=Z,3.7nm,0.9s,mb4.1,baz=188,slow=9.1,SNR=5.5						
XAN	**Xi'an**	**45.12**	**335**	P	**P**	**08 58 23.5**	**-0.8**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
MDJ	**Mudanjiang**	**50.99**	**360**	P	**P**	**08 59 09.6**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,36nm,3.9s						
LSA	**Lhasa**	**51.97**	**316**	*e*P	**P**	**08 59 17.5**	**+0.3**
	comp=Z,14nm,0.7s,mb5.1						
GTA	**Gaotai**	**53.67**	**331**	P	**P**	**08 59 29.8**	**+0.1**
GTA				AP	pP	08 59 59.0	+2.2
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
GUN	**Gumba**	**54.76**	**311**	*e*P	**P**	**08 59 37.5**	**-0.3**
	comp=Z,84nm,0.7s,mb5.9						
PKI	**Pulchoki**	**54.93**	**310**	*e*P	**P**	**08 59 38.5**	**-0.6**
	comp=Z,24nm,0.7s,mb5.4						
KKN	**Kakani**	**55.14**	**310**	*e*P	**P**	**08 59 39.9**	**-0.7**
	comp=Z,36nm,0.7s,mb5.5						
DMN	**Daman**	**55.18**	**310**	*e*P	**P**	**08 59 40.5**	**-0.4**
	comp=Z,31nm,0.8s,mb5.4						
GKN	**Gorkha**	**55.74**	**310**	*e*P	**P**	**08 59 44.1**	**-0.8**
	comp=Z,56nm,0.6s,mb5.7						
KOLN	**Koldanda**	**56.41**	**310**	*e*P	**P**	**08 59 49.1**	**-0.6**
	comp=Z,45nm,0.8s,mb5.5						
SONM	**Songino Array**	**58.09**	**341**	P	**P**	**09 00 00.8**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.5,baz=158,slow=6.8,SNR=25						
WMQ	**Urumqi**	**63.11**	**327**	⇑*i*P	**P**	**09 00 35.4**	**+0.1**
WMQ				AP	pP	09 01 06.0	+2.8
WMQ				PPP	PPP	09 04 30.0	+1.3
WMQ				*e*S	**S**	**09 08 55.0**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,101nm,5.8s						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**09 01 06.2**	**+0.1**
	comp=Z,19nm,0.5s,mb5.2,baz=120,slow=8.0,SNR=143						
KZA	**Kyzart**	**69.53**	**319**	P	**P**	**09 01 17.9**	**+1.8**
	SNR=6.1						
TKM2	**Tokmak 2**	**69.73**	**320**	P	**P**	**09 01 17.9**	**+0.7**
	SNR=14						
UCH	**Uchtor**	**70.08**	**319**	P	**P**	**09 01 20.6**	**+1.2**
	SNR=11						
AAK	**Ala-Archa**	**70.29**	**320**	P	**P**	**09 01 21.6**	**+1.0**
	SNR=10						
AAK	**Ala-Archa**	**70.29**	**320**	*e*P	**P**	**09 01 20.1**	**-0.5**
	comp=Z,15nm,0.8s,mb4.9						
AML	**Almayashu**	**70.57**	**319**	P	**P**	**09 01 23.7**	**+1.4**
	SNR=6.6						
USP	**Ospenovka**	**70.60**	**320**	P	**P**	**09 01 23.0**	**+0.6**
	SNR=18						
EKS2	**Erkin-Say**	**70.77**	**319**	P	**P**	**09 01 24.6**	**+1.1**
	SNR=17						
ZAL	**Zalesovo**	**71.27**	**334**	P	**P**	**09 01 25.2**	**-1.0**
	comp=Z,3.0nm,0.4s,mb4.5,baz=337,slow=3.9,SNR=8.9						
KURK	**Kurchatov**	**72.22**	**329**	*e*P	**P**	**09 01 31.3**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.4						
VNDA	**Vanda**	**72.83**	**173**	*e*P	**P**	**09 01 34.6**	**-0.4**
WBK	**Wadi Bani Khal**	**75.31**	**295**	⇓P	**P**	**09 01 50.8**	**+0.3**
MAW	**Mawson**	**75.34**	**201**	P	**P**	**09 01 49.9**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.0,baz=74,slow=5.1,SNR=10						
MAW	**Mawson**	**75.34**	**201**	*e*P	**P**	**09 01 50.0**	**+0.4**
	comp=Z,1.8nm,0.7s,mb3.9						
JMDO	**Jabal Madar**	**76.04**	**295**	⇓P	**P**	**09 01 54.4**	**-0.2**
SMDO	**Samad**	**76.25**	**296**	⇑P	**P**	**09 01 56.0**	**+0.3**
	SNR=8.7						
BIDO	**Bidbid**	**76.28**	**296**	⇑P	**P**	**09 01 56.7**	**+0.9**
	SNR=7.8						
BSY	**Bisya**	**76.94**	**295**	⇓P	**P**	**09 01 59.5**	**0.0**
	SNR=5.2						
HOQ	**Hoqain**	**77.03**	**296**	⇑P	**P**	**09 02 00.2**	**+0.2**
BVAR	**Borovoye Array**	**77.77**	**328**	P	**P**	**09 02 03.3**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.2,baz=135,slow=6.3,SNR=12						
BRVK	**Borovoye**	**77.85**	**328**	*e*P	**P**	**09 02 01.5**	**-2.4**
	comp=Z,4.5nm,0.8s,mb4.2						
BANOM	**Banah**	**78.45**	**298**	⇓P	**P**	**09 02 09.0**	**+1.2**
RBK	**Rabkut**	**78.63**	**289**	⇓P	**P**	**09 02 07.9**	**-1.0**
WHFO	**Wadi Hawf**	**79.11**	**290**	⇓P	**P**	**09 02 11.0**	**-0.6**
	SNR=7.1						
ABTO	**Aybut**	**79.45**	**289**	⇑P	**P**	**09 02 13.9**	**+0.5**
QSPA	**South Pole Qui**	**83.37**	**180**	*e*P	**P**	**09 02 32.7**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.1						
TAOE	**Nuku Hiva Isla**	**88.77**	**99**	*e*LR	LR	09 03 51.3	
	comp=Z,2μm,26.2s						
PMR	**Palmer**	**91.39**	**28**	P	**P**	**09 03 09.8**	**-1.8**
SNAA	**Sanae**	**96.06**	**193**	P	**P**	**09 03 33.4**	**+0.8**
	comp=Z,0.4nm,0.8s,mb3.9,baz=73,slow=7.6,SNR=6.5						
SNAA	**Sanae**	**96.06**	**193**	*e*P	**P**	**09 03 32.5**	**-0.2**
	comp=Z,5.9nm,1.5s,mb4.8						
JTS	**JuntasAbangare**	**145.17**	**82**	PKPbc	PKPbc	09 09 45.0	+2.0
	comp=Z,6.4nm,0.7s,baz=158,slow=6.9,SNR=8.6						
LVC	**Limon Verde**	**145.52**	**148**	PKPbc	PKPbc	09 09 46.3	+2.6
	comp=Z,2.2nm,0.5s,baz=187,slow=5.5,SNR=4.6						
CPUP	**Villa Florida**	**146.48**	**168**	PKPbc	PKPbc	09 09 47.9	+1.9
	comp=Z,3.4nm,0.8s,baz=187,slow=11,SNR=7.2						
LPAZ	**La Paz**	**150.98**	**142**	PKPbc	PKPdf	09 10 00.8	+8.9
	comp=Z,1.6nm,0.4s,baz=26,slow=3.7,SNR=18						
LPAZ				PKPab	PKPab	09 10 08.9	+0.9
	comp=Z,1.5nm,0.5s,baz=38,slow=11,SNR=5.1						
SDV	**Santo Domingo**	**159.35**	**82**	PKPab	PKPab	09 10 43.4	-0.3
	comp=Z,1.0nm,0.6s,baz=286,slow=5.3,SNR=3.8						

*IDC **22** 08:51:09.9±1.8, 26.07N×140.80E, h401km±12km, mb3.4/12, mb1 3.6/16, mb1mx3.5/25, mbtmp4.3/16, Error ellipse: s-maj=31.5km s-min=15.9km az=178.0*
*NEIC **22** 08:51:12.4±2.5, 26.21N×140.69E, h422km±17km, mb4.2/7, Error ellipse: s-maj=32.8km s-min=13.8km az=162.0*
ISC 22 08:51:07.3±0.8, 25.96N±0.07×140.9E±0.1, h395km±6km, n35, σ1ᵍ09/40, mb3.8/17, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.65**	**46**	P	**P**	**08 52 03.4**	**+2.3**
	10nm,0.3s,baz=277,slow=8.9,SNR=7.8						
CBIJ				S	**S**	**08 52 42.2**	**-1.0**
	85nm,0.3s,baz=273,slow=22,SNR=9.2						
JHJ	**Hachijo jima 2**	**7.20**	**353**	P	**P**	**08 52 53.5**	**-0.3**
	21nm,0.3s,baz=324,slow=18,SNR=8.5						
JHJ				S	**S**	**08 54 16.4**	**-1.4**
	31nm,0.3s,baz=66,slow=19,SNR=3.8						
MJAR	**Matsushiro Arr**	**10.79**	**349**	P	**P**	**08 53 34.6**	**-1.1**
	1.2nm,0.3s,baz=165,slow=10,SNR=9.0						
MJAR				S	**S**	**08 55 34.1**	**+1.1**
	0.8nm,0.3s,baz=214,slow=28,SNR=5.1						
MAJO	**Matsushiro**	**10.79**	**349**	*e*P	**P**	**08 53 34.4**	**-1.3**
	9.9nm,0.7s						
MAJO				*e*S	**S**	**08 55 34.0**	**+1.0**
MAT	**Matsushiro**	**10.79**	**349**	P	**S**	**08 53 34.2**	**-1.5**
MAT				S	**S**	**08 55 33.9**	**+0.8**
MAT	**Matsushiro**	**10.79**	**349**	P	**S**	**08 53 35.0**	**-0.7**
	7.5nm,0.8s						
MAT				*e*S	**S**	**08 55 34.0**	**+0.9**
JNU	**Nakatsue**	**11.24**	**312**	P	**P**	**08 53 43.1**	**+2.4**
	0.5nm,0.3s,baz=126,slow=14,SNR=4.3						
JOW	**Kunigami**	**11.31**	**277**	P	**P**	**08 53 42.0**	**+0.4**
	4.5nm,0.3s,baz=104,slow=10,SNR=12						
KS15	**Wonju Array Si**	**15.88**	**319**	P	**P**	**08 54 31.9**	**+0.7**
YHNB	**Yeheng**	**17.66**	**270**	P	**P**	**08 54 43.3**	**-6.0**
ASAJ	**Asahikawa**	**18.18**	**4**	P	**P**	**08 54 55.9**	**+1.6**
	0.7nm,0.3s,baz=225,slow=8.8,SNR=4.3						
YSS	**Yuzh-Sakhalins**	**21.01**	**4**	P	**P**	**08 55 19.6**	**-2.3**
	7.9nm,0.8s,mb4.2						
MA2	**Magadan**	**34.31**	**9**	P	**P**	**08 57 20.3**	**+0.8**
SONM	**Songino Array**	**34.73**	**318**	P	**P**	**08 57 23.3**	**+0.1**
	0.7nm,0.5s,mb3.2,baz=118,slow=7.7,SNR=6.8						
MKAR	**Makanchi Array**	**50.29**	**310**	P	**P**	**08 59 26.9**	**-0.2**
	1.2nm,0.4s,mb3.6,baz=88,slow=9.3,SNR=14						
MKAR	**Makanchi Array**	**50.29**	**310**	P	**P**	**08 59 26.9**	**-0.2**
KURK	**Kurchatov**	**52.94**	**315**	*e*P	**P**	**08 59 42.6**	**-3.9**
	8.4nm,1.0s,mb3.9						
KDAK	**Kodiak Island**	**55.99**	**36**	P	**P**	**09 00 07.7**	**-0.5**
	2.4nm,0.5s,mb3.8,baz=293,slow=7.7,SNR=4.0						
BVAR	**Borovoye Array**	**58.08**	**318**	P	**P**	**09 00 22.2**	**-0.3**
	5.3nm,0.4s,mb4.3,baz=95,slow=7.7,SNR=26						
BRVK	**Borovoye**	**58.14**	**318**	*e*P	**P**	**09 00 22.0**	**-1.0**
	2.8nm,0.6s,mb3.8						
ILAR	**Eielson Array**	**59.28**	**28**	P	**P**	**09 00 30.0**	**-0.5**
	0.9nm,0.4s,mb3.5,baz=258,slow=5.3,SNR=22						
INK	**Inuvik**	**64.56**	**24**	*e*P	**P**	**09 01 05.0**	**+0.1**
	16nm,1.5s,mb4.4						
ARU	**Arti**	**64.59**	**322**	*e*P	**P**	**09 01 05.7**	**+0.4**
	10nm,0.6s,mb4.6						
YKA	**Yellowknife Ar**	**73.71**	**28**	P	**P**	**09 02 00.7**	**+0.5**
	1.3nm,0.7s,mb3.7,baz=300,slow=5.6,SNR=10						
ARCES	**ARCESS Array B**	**74.22**	**341**	P	**P**	**09 02 03.4**	**+0.4**
	8.3nm,1.1s,mb4.3,baz=67,slow=9.2,SNR=5.2						
JOF	**Joensuu**	**75.57**	**334**	*e*p	**P**	**09 02 09.7**	**-1.0**
KAF	**Kangasniemi**	**77.98**	**334**	*e*p	**P**	**09 02 22.5**	**-1.4**
FINES	**FINESS Array B**	**78.44**	**334**	P	**P**	**09 02 26.0**	**-0.3**
	1.0nm,0.3s,mb3.9,baz=69,slow=4.4,SNR=16						
FINES	**FINESS Array B**	**78.44**	**334**	P	**P**	**09 02 26.0**	**-0.3**
NEW	**Newport**	**78.55**	**42**	P	**P**	**09 02 28.6**	**+1.4**
	0.7nm,0.4s,mb3.7,baz=225,slow=6.0,SNR=3.7						
AKASG	**Malin Array Be**	**82.82**	**323**	P	**P**	**09 02 48.7**	**-0.7**
	0.5nm,0.3s,mb3.7,baz=54,slow=4.9,SNR=5.4						
AKASG	**Malin Array Be**	**82.82**	**323**	P	**P**	**09 02 48.7**	**-0.7**
NOA	**NORSAR Array B**	**84.22**	**338**	P	**P**	**09 02 55.6**	**-0.5**
	0.8nm,0.6s,mb3.6,baz=45,slow=4.4,SNR=2.8						
PDAR	**Pinedale Array**	**85.86**	**44**	P	**P**	**09 03 06.5**	**+2.0**
	0.3nm,0.6s,mb3.2,baz=297,slow=3.3,SNR=4.4						
RKT	**Rikitea**	**94.92**	**113**	*e*LR	LR	09 03 38.1	
	1μm,27.2s,baz=62						

*IDC **22** 09:01:19.7±1.5, 6.48S×107.61W, mb3.8/11, mb1 4.1/11, mb1mx4.0/17, mbtmp3.8/11, MS4.2/13, Ms1 4.2/13, ms1mx4.1/15, Error ellipse: s-maj=52.3km s-min=16.5km az=54.0*
*NEIC **22** 09:01:22.0±0.7, 6.35S×107.28W, h10km, mb4.5/14, Error ellipse: s-maj=26.4km s-min=8.8km az=57.0*
ISC 22 09:01:20.6±0.8, 6.3S±0.1×107.3W±0.2, h10km, n44, σ1ᵍ37/34, mb4.2/23, MS4.2/13, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**20.77**	**185**	LR	LR	09 12 02.9	
	comp=Z,661nm,18.0s,MS4.0,baz=351,slow=31						
JTS	**JuntasAbangare**	**27.71**	**54**	LR	LR	09 15 27.6	
	comp=Z,1μm,18.4s,MS4.5,baz=326,slow=30						
RKT	**Rikitea**	**31.44**	**235**	*e*S	**S**	**09 13 04.8**	**+14**
RKT				*e*LR	LR	09 15 47.9	
	1μm,27.5s,baz=51						
TAOE	**Nuku Hiva Isla**	**32.66**	**264**	*e*LR	LR	09 16 13.1	
	1μm,23.5s						
ROSC	**El Rosal**	**34.73**	**72**	LR	LR	09 19 58.1	
	comp=Z,244nm,18.0s,MS4.0,baz=213,slow=32						
LTX	**Lajitas**	**35.63**	**5**	P	**P**	**09 08 30.4**	**+10**
	3.2nm,0.7s,mb4.4						
TXAR	**Lajitas Array**	**35.63**	**5**	P	**P**	**09 08 21.1**	**+0.3**
	0.9nm,1.0s,mb3.7,baz=192,slow=12,SNR=7.1						
TXAR				LR	LR	09 20 26.9	
	comp=Z,190nm,18.4s,MS3.9,baz=200,slow=32						
SDV	**Santo Domingo**	**39.55**	**68**	P	**P**	**09 08 55.7**	**+1.9**
	2.0nm,0.7s,mb4.0,baz=274,slow=8.0,SNR=5.6						
SDV				LR	LR	09 22 17.0	
	comp=Z,387nm,21.6s,MS4.2,baz=259,slow=32						
LPAZ	**La Paz**	**39.58**	**108**	P	**P**	**09 08 55.6**	**+1.5**
	1.0nm,0.7s,mb3.6,baz=253,slow=12,SNR=3.9						
LPAZ	**La Paz**	**39.58**	**108**	*e*P	**P**	**09 08 55.1**	**+1.1**
	5.1nm,1.4s,mb4.1						
LVC	**Limon Verde**	**40.37**	**118**	P	**P**	**09 09 03.2**	**+2.7**
	2.7nm,0.8s,mb4.0,baz=292,slow=5.4,SNR=3.1						
LVC				LR	LR	09 19 41.0	
	comp=Z,158nm,19.6s,MS3.9,baz=99,slow=27						
LVC	**Limon Verde**	**40.37**	**118**	P	**P**	**09 08 59.9**	**-0.6**
	7.4nm,1.0s,mb4.4						
ANMO	**Albuquerque**	**41.07**	**1**	P	**P**	**09 09 11.2**	**+5.1**
	3.5nm,1.3s,mb3.8						
NEN	**Nelson**	**42.36**	**351**	P	**P**	**09 09 15.3**	**-1.5**
PPT	**Papeete**	**42.74**	**251**	*e*LQ		09 19 12.6	
PPT				*e*LR	LR	09 20 55.3	
	1μm,28.2s						
SAML	**Samuel**	**43.78**	**96**	*e*P	**P**	**09 09 26.3**	**-2.2**
	7.3nm,1.1s,mb4.3						
SDCO	**Great Sand Dun**	**43.88**	**2**	*e*P	**P**	**09 09 31.9**	**+2.8**
	5.2nm,1.1s,mb4.2						
TBI	**Tubuai**	**43.92**	**243**	*e*LR	LR	09 21 33.1	
	781nm,27.8s,baz=72						
ARUT	**Antelope Range**	**44.27**	**353**	*e*P	**P**	**09 09 32.1**	**-0.1**
CFAA	**Coronel Fontan**	**44.29**	**130**	P	**P**	**09 09 32.9**	**+0.3**
	0.1nm,0.3s,mb3.0,baz=225,slow=4.3,SNR=3.0						
MSU	**Marysvale**	**44.85**	**355**	P	**P**	**09 09 40.3**	**+3.3**
SIV	**San Ignacio**	**46.26**	**106**	P	**P**	**09 09 48.2**	**-0.1**
	0.9nm,0.8s,mb3.8,baz=301,slow=7.7,SNR=5.9						
PLCA	**Paso Flores**	**47.42**	**142**	P	**P**	**09 09 55.7**	**-1.6**
	1.1nm,0.9s,mb3.8,baz=291,slow=8.6,SNR=3.4						
PLCA				LR	LR	09 25 12.5	
	comp=Z,508nm,19.2s,MS4.5,baz=311,slow=30						
PLCA	**Paso Flores**	**47.42**	**142**	P	**P**	**09 09 55.7**	**-1.6**
HWUT	**Hardware Ranch**	**47.87**	**356**	*e*P	**P**	**09 10 02.1**	**+1.3**
	19nm,1.7s,mb4.8						
PDAR	**Pinedale Array**	**48.91**	**358**	P	**P**	**09 10 09.2**	**+0.4**
	0.9nm,0.8s,mb3.8,baz=153,slow=6.6,SNR=5.4						
PDAR				LR	LR	09 26 53.7	
	comp=Z,134nm,20.0s,MS3.9,baz=303,slow=31						
TPAW	**Teton Pass**	**49.70**	**357**	*e*P	**P**	**09 10 15.2**	**+0.3**
	5.5nm,1.1s,mb4.5						
IMW	**Indian Meadow**	**50.11**	**357**	*e*P	**P**	**09 10 17.8**	**-0.2**
	6.0nm,1.1s,mb4.5						
FLWY	**Flagg Ranch**	**50.28**	**357**	*e*P	**P**	**09 10 17.3**	**-2.0**
MCMT	**McKenzie Canyo**	**51.17**	**355**	*e*P	**P**	**09 10 25.6**	**-0.5**
CPUP	**Villa Florida**	**51.52**	**119**	LR	LR	09 28 37.7	
	comp=Z,233nm,19.1s,MS4.2,baz=154,slow=32						
CPUP	**Villa Florida**	**51.52**	**119**	*e*P	**P**	**09 10 27.7**	**-1.3**
	9.1nm,1.2s,mb4.6						
NEW	**Newport**	**55.05**	**352**	*e*P	**P**	**09 10 53.8**	**-1.1**
	6.1nm,1.2s,mb4.5						
ULM	**Lac du Bonnet**	**57.22**	**9**	LR	LR	09 33 33.6	
	comp=Z,160nm,18.9s,MS4.2,baz=268,slow=34						
BDFB	**Brasilia**	**58.76**	**104**	LR	LR	09 34 17.1	
	comp=Z,150nm,19.2s,MS4.1,baz=92,slow=34						
DLBC	**Dease Lake**	**67.11**	**347**	*e*P	**P**	**09 12 16.4**	**0.0**
YKA	**Yellowknife Ar**	**68.86**	**356**	P	**P**	**09 12 25.5**	**-1.8**
	2.7nm,0.9s,mb4.2,baz=165,slow=5.9,SNR=6.8						
YKA				LR	LR	09 39 32.7	
	comp=Z,254nm,21.2s,MS4.4,baz=170,slow=33						
DAWY	**Dawson**	**74.23**	**346**	P	**P**	**09 13 02.8**	**+3.6**
PMR	**Palmer**	**75.06**	**341**	*e*P	**P**	**09 13 09.2**	**+5.1**
	44nm,1.8s,mb5.1						
INK	**Inuvik**	**76.72**	**350**	P	**P**	**09 13 13.0**	**-0.4**
	1.9nm,0.9s,mb4.0,baz=156,slow=6.8,SNR=3.0						
ILAR	**Eielson Array**	**76.75**	**344**	P	**P**	**09 13 13.4**	**-0.2**
	1.5nm,0.9s,mb3.9,baz=163,slow=5.1,SNR=11						
ILAR				LR	LR	09 39 31.8	
	comp=Z,161nm,19.5s,MS4.3,baz=180,slow=30						
SBA	**Scott Base**	**82.99**	**192**	P	**P**	**09 13 54.1**	**+7.2**
	7.6nm,1.3s,mb4.6						
QSPA	**South Pole Qui**	**83.73**	**180**	*e*P	**P**	**09 13 52.5**	**+1.9**
	9.3nm,1.0s,mb4.9						
KSM	**Kuching**	**142.19**	**264**	*e*PKP	PKPdf	09 20 51.2	-6.3

IDC 22 09:38:04.4±6.5, 6.52S×107.57W, mb3.4/4, mb1 3.8/4, mb1mx3.7/12, mbtmp3.4/4, Error ellipse: s-maj=196.9km s-min=32.9km az=52.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.11**	**235**	*e*LR	LR	09 52 30.6	
	326nm,28.2s						
TAOE	**Nuku Hiva Isla**	**32.37**	**264**	*e*LR	LR	09 52 57.5	
	496nm,24.3s						
TXAR	**Lajitas Array**	**35.85**	**6**	P	**P**	**09 45 06.2**	**-1.8**
	0.2nm,0.7s,baz=187,slow=8.6,SNR=2.9						
LPAZ	**La Paz**	**39.78**	**108**	P	**P**	**09 45 40.2**	**-1.0**
	0.7nm,0.8s,baz=307,slow=6.9,SNR=4.8						
PPT	**Papeete**	**42.43**	**251**	*e*LQ		09 55 54.4	
PPT				*e*LR	LR	09 57 37.9	
	274nm,26.8s						
TBI	**Tubuai**	**43.59**	**243**	*e*LR	LR	09 58 14.9	
PDAR	**Pinedale Array**	**49.09**	**358**	P	**P**	**09 46 53.4**	**-2.2**
	0.4nm,0.8s,baz=158,slow=8.0,SNR=4.0						
YKA	**Yellowknife Ar**	**69.03**	**357**	P	**P**	**09 49 11.8**	**-2.0**
	0.6nm,0.7s,baz=162,slow=5.9,SNR=4.5						

**IDC 22 09:48:43.9±15.0, 6.33S×106.37W, mb3.6/4, mb1 4.1/4, mb1mx3.8/12, mbtmp3.6/4, MS

MSL	**Mosul**	**23.69**	**5**	*ex*	x		10 20 02.5		
MALT	**Malatya**	**25.67**	**356**	*e*P	**P**		**10 19 56.1**	**+2.1**	
	comp=N,21nm,1.4s,mb4.5								
MALT				*e*S	**S**		**10 24 39.6**	**+20**	
MALT	**Malatya**	**25.67**	**356**	*e*P	**P**		**10 19 56.1**	**+2.1**	
	comp=N,21nm,1.4s,mb4.5								
IDI	**Anoyia**	**26.66**	**331**	LR	LR		10 31 03.9		
	comp=N,484nm,18.2s,MS4.1,baz=12,slow=38								
SANT	**Santorini**	**27.28**	**333**	P	**P**		**10 20 10.3**	**+1.5**	
	comp=N,79nm,1.3s,mb5.1								
SANT	**Santorini**	**27.28**	**333**	P	**P**		**10 20 10.3**	**+1.4**	
	comp=N,79nm,1.3s,mb5.1								
BRTR	**Keskin Array B**	**27.69**	**348**	P	**P**		**10 20 12.9**	**+0.4**	
	comp=N,1.3nm,0.7s,mb3.7,baz=173,slow=10.0,SNR=6.5								
KIV	**Kislovodsk**	**31.29**	**3**	P	**P**		**10 20 45.9**	**+1.2**	
	comp=N,20nm,0.9s,mb4.9								
KIV	**Kislovodsk**	**31.29**	**3**	P	**P**		**10 20 45.9**	**+1.3**	
	comp=N,20nm,0.9s,mb4.9								
AKASG	**Malin Array Be**	**39.09**	**349**	P	**P**		**10 21 50.1**	**-1.2**	
	comp=N,1.5nm,0.7s,mb3.8,baz=170,slow=7.4,SNR=6.4								
GERES	**GERESS Array B**	**42.42**	**334**	P	**P**		**10 22 16.6**	**-2.1**	
	comp=N,0.7nm,0.6s,mb3.5,baz=126,slow=8.4,SNR=5.7								
GERES				LR	LR		10 42 38.7		
	comp=N,145nm,19.4s,MS3.9,baz=348,slow=40								
KHC	**Kasperske Hory**	**42.69**	**334**	*e*P	**P**		**10 22 20.5**	**-0.4**	
KHC				pP	pP		10 22 27.0	+3.1	
KHC	**Kasperske Hory**	**42.69**	**334**	*e*P	**P**		**10 22 20.5**	**-0.4**	
KHC				*e*			10 22 27.0		
DAVOX	**Davos**	**42.73**	**329**	LR	LR		10 41 54.1		
	comp=N,170nm,21.1s,MS3.9,baz=261,slow=39								
CLL	**Collm**	**44.59**	**336**	P	**P**		**10 22 35.0**	**-1.3**	
CART	**Cartagena**	**44.59**	**311**	P	**P**		**10 22 40.7**	**+4.1**	
	comp=N,21nm,1.0s,mb4.9								
MOX	**Moxa**	**44.67**	**334**	*e*P	**P**		**10 22 36.0**	**-0.9**	
DBIC	**Dimbokro**	**45.11**	**267**	P	**P**		**10 22 40.3**	**-0.6**	
	comp=N,2.2nm,0.6s,mb4.2,baz=70,slow=12,SNR=5.5								
DBIC				LR	LR		10 43 37.9		
	comp=N,166nm,18.2s,MS4.0,baz=65,slow=39								
DBIC	**Dimbokro**	**45.11**	**267**	*e*P	**P**		**10 22 40.2**	**-0.8**	
	comp=N,22nm,1.4s,mb4.8								
DBIC	**Dimbokro**	**45.11**	**267**	*e*P	**P**		**10 22 40.2**	**-0.7**	
	comp=N,22nm,1.4s,mb4.8								
MDT	**Midelt**	**45.85**	**304**	P	**P**		**10 22 46.0**	**-0.5**	
	comp=N,0.9nm,0.8s,mb3.8,baz=81,slow=9.5,SNR=3.4								
BVAR	**Borovoye Array**	**46.81**	**24**	P	**P**		**10 22 53.8**	**-0.1**	
	comp=N,1.0nm,0.7s,mb3.9,baz=207,slow=6.6,SNR=6.1								
ESDC	**Sonseca Array**	**47.53**	**313**	P	**P**		**10 22 59.0**	**-0.8**	
	comp=N,0.2nm,0.3s,mb3.6,baz=108,slow=8.1,SNR=4.2								
SUR	**Sutherland**	**48.56**	**202**	P	**P**		**10 23 13.9**	**+6.0**	
	comp=N,6.5nm,1.0s,mb4.6								
MKAR	**Makanchi Array**	**48.84**	**37**	P	**P**		**10 23 10.0**	**+0.2**	
	comp=N,1.1nm,0.6s,mb4.0,baz=235,slow=5.3,SNR=6.3								
MKAR				LR	LR		10 47 55.4		
	comp=N,115nm,19.9s,MS3.9,baz=188,slow=41								
MKAR	**Makanchi Array**	**48.84**	**37**	P	**P**		**10 23 10.0**	**+0.2**	
MKAR				LR	LR		10 47 55.4		
NOA	**NORSAR Array B**	**52.87**	**343**	LR	LR		10 49 30.7		
	comp=N,60nm,21.0s,MS3.6,baz=245,slow=40								
ARCES	**ARCESS Array B**	**57.68**	**354**	P	**P**		**10 24 15.4**	**+0.5**	
	comp=N,5.8nm,1.0s,mb4.6,baz=45,slow=10,SNR=3.6								
ARCES	**ARCESS Array B**	**57.68**	**354**	P	**P**		**10 24 15.4**	**+0.4**	
SONM	**Songino Array**	**64.56**	**43**	P	**P**		**10 25 02.4**	**+0.5**	
	comp=N,1.4nm,0.7s,mb4.1,baz=251,slow=6.2,SNR=11								
SONM				PP	PP		10 27 25.1	-0.8	
	comp=N,1.9nm,1.1s,baz=248,slow=6.4,SNR=6.8								
SONM				LR	LR		10 58 20.6		
	comp=N,160nm,18.2s,MS4.2,baz=143,slow=41								
ENH	**Enshi**	**65.65**	**62**	P	**P**		**10 25 07.5**	**-1.6**	
MAW	**Mawson**	**81.62**	**172**	P	**P**		**10 26 43.6**	**+2.1**	
	comp=N,2.1nm,0.9s,mb4.1,baz=321,slow=8.6,SNR=4.3								
MAW				LR	LR		10 58 14.5		
	comp=N,82nm,21.2s,MS4.1,baz=237,slow=32								
MAW	**Mawson**	**81.62**	**172**	*e*P	**P**		**10 26 42.6**	**+1.0**	
	comp=N,4.0nm,1.1s,mb4.3								
MJAR	**Matsushiro Arr**	**88.63**	**53**	LR	LR		11 09 54.5		
	comp=N,51nm,19.6s,MS4.0,baz=185,slow=38								
SCHQ	**Schefferville**	**89.53**	**326**	LR	LR		11 06 50.4		
	comp=N,86nm,18.0s,MS4.2,baz=260,slow=35								
BDFB	**Brasilia**	**91.98**	**255**	LR	LR		11 04 09.0		
	comp=N,107nm,20.1s,MS4.3,baz=208,slow=32								

*NEIC **22** 10:17:50.3,38.21S×176.22E,h160km,MG3.8(WEL), After WEL.*
WEL 22 10:17:50.4±0.3,38.20S×176.21E,h157km±2km,MLB3.7/15, 8C-1D,Error ellipse: s-maj=2.7km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.71**	**95**	⇑PN	P	10 18 13.7	-0.4
URZ				SN	S	10 18 31.5	-0.8
URZ	**Urewera**	**0.71**	**95**	⇑P	P	10 18 13.7	-0.4
BKZ	**Black Stump Fm**	**0.99**	**167**	⇑PN	P	10 18 16.1	+0.1
BKZ				SN	S	10 18 35.2	-0.4
BKZ	**Black Stump Fm**	**0.99**	**167**	⇓P	P	10 18 16.1	+0.2
BKZ				S	S	10 18 35.2	-0.4
KRVZ	**Karewarewa**	**1.00**	**206**	*e*PN	P	10 18 15.7	-0.2
MWZ	**Matawai**	**1.05**	**98**	⇑PN	P	10 18 16.5	+0.1
MWZ				SN	S	10 18 36.5	0.0
TWVZ	**Taurewa**	**1.06**	**214**	PN	P	10 18 16.6	0.0
TWVZ	**Taurewa**	**1.06**	**214**	P	P	10 18 16.6	+0.1
NGZ	**Ngauruhoe**	**1.09**	**206**	PN	P	10 18 16.8	+0.1
NGZ	**Ngauruhoe**	**1.09**	**206**	P	P	10 18 16.8	0.0
CNZ	**Chateau**	**1.12**	**207**	PN	P	10 18 16.9	-0.3
TUVZ	**Tukino**	**1.15**	**202**	PN	P	10 18 17.5	+0.1
TUVZ	**Tukino**	**1.15**	**202**	P	P	10 18 17.5	+0.1
FWVZ	**Far West T-bar**	**1.17**	**206**	*e*PN	P	10 18 17.5	-0.1
FWVZ	**Far West T-bar**	**1.17**	**206**	*e*P	P	10 18 17.5	-0.1
WNVZ	**Wahianoa**	**1.23**	**203**	⇑PN	P	10 18 18.0	-0.1
WNVZ	**Wahianoa**	**1.23**	**203**	⇑P	P	10 18 18.0	-0.1
MOVZ	**Moawhango**	**1.26**	**196**	⇑PN	P	10 18 17.8	-0.6
MOVZ	**Moawhango**	**1.26**	**196**	⇑P	P	10 18 17.8	-0.6
PKVZ	**Pokaka**	**1.28**	**211**	PN	P	10 18 18.4	-0.3
MTVZ	**Mangateitei**	**1.32**	**206**	PN	P	10 18 18.7	-0.3
KNZ	**Kokohu**	**1.41**	**126**	PN	P	10 18 20.0	0.0
KNZ	**Kokohu**	**1.41**	**126**	P	P	10 18 20.0	0.0
VRZ	**Vera Road**	**1.46**	**230**	*e*PN	P	10 18 20.3	-0.2
VRZ				*e*SN	S	10 18 43.6	-0.1
VRZ	**Vera Road**	**1.46**	**230**	*e*P	P	10 18 20.3	-0.2
VRZ				S	S	10 18 44.5	+0.8
PUZ	**Puketiti**	**1.62**	**86**	*e*PN	P	10 18 21.5	-0.7
PUZ				SN	S	10 18 44.6	-2.0
PUZ	**Puketiti**	**1.62**	**86**	*e*P	P	10 18 21.5	-0.6
PUZ				S	S	10 18 44.6	-2.0
MXZ	**Matakaoa Point**	**1.78**	**70**	PN	P	10 18 23.5	-0.3
TSZ	**Takapari Road**	**1.87**	**186**	PN	P	10 18 23.9	-0.9
TSZ				SN	S	10 18 49.2	-2.1
TSZ	**Takapari Road**	**1.87**	**186**	P	P	10 18 23.9	-0.9
TSZ				S	S	10 18 49.2	-2.1
PXZ	**Pawanui**	**1.90**	**165**	PN	P	10 18 24.6	-0.6
BFZ	**Birch Farm**	**2.48**	**179**	*e*PN	P	10 18 30.2	-2.0
BFZ				SN	S	10 19 00.8	-3.4
BFZ	**Birch Farm**	**2.48**	**179**	*e*P	P	10 18 30.2	-2.0
BFZ				S	S	10 19 00.8	-3.4
MRZ	**Mangatainoka R**	**2.51**	**191**	PN	P	10 18 30.2	-2.3
MRZ				SN	S	10 19 01.0	-3.8
MRZ	**Mangatainoka R**	**2.51**	**191**	P	P	10 18 30.2	-2.4
MRZ				S	S	10 19 01.0	-3.9
KIW	**Kapiti Island**	**2.84**	**200**	PN	P	10 18 33.7	-3.0
KIW	**Kapiti Island**	**2.84**	**200**	P	P	10 18 33.7	-3.1
MTW	**Mount Morrison**	**3.01**	**190**	PN	P	10 18 35.5	-3.3
CAW	**Cannon Point**	**3.04**	**196**	PN	P	10 18 35.9	-3.3
CAW	**Cannon Point**	**3.04**	**196**	P	P	10 18 35.9	-3.3
TRWZ	**Traveller**	**3.22**	**187**	PN	P	10 18 38.4	-3.2
PAWZ	**Paruwai Farm**	**3.24**	**190**	SN	S	10 19 15.9	-5.3
MSWZ	**Moikau Station**	**3.30**	**193**	PN	P	10 18 38.8	-3.8
MSWZ	**Moikau Station**	**3.30**	**193**	P	P	10 18 38.8	-3.8
TCW	**Tory Channel**	**3.36**	**206**	PN	P	10 18 41.2	-2.1
TCW	**Tory Channel**	**3.36**	**206**	P	P	10 18 41.2	-2.2
TUWZ	**Tuamarina**	**3.67**	**208**	*e*PN	P	10 18 43.8	-3.5

DHMR 22 10:45:52.2±2.7,12.69N×40.55E,h2km±23km,ML3.9,1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.56**	**69**	*i* S	Sn	10 47 37.8	+4.8
UDYN				AML	AML	10 47 57.0	
	comp=N,518nm,0.5s						
HAJJ	**Hajjah**	**4.21**	**44**	*e*P	Pn	10 46 60.0	+1.1
HAJJ				*i* S	Sn	10 47 52.8	+3.5
LBOS		**4.72**	**75**	*e*P	Pn	10 47 04.5	-1.7
LBOS				*i* S	Sn	10 48 01.4	-1.0
BDHA	**Al Bayda'**	**5.05**	**75**	⇓*e*P	Pn	10 47 09.6	-1.2
BDHA				*i* S	Sn	10 48 09.4	-1.2

NNC 22 11:14:23.9±6.6,38.48N×69.22E,h12km±25km,mpv3.2, 3C-3D,Error ellipse: s-maj=47.3km s-min=29.5km az=12.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.72**	**12**	Pn	Pn	11 15 37.3	+0.6
	1.2nm,0.6s,baz=200,slow=15,SNR=24						
KK31				⇑Pg	Pg	11 15 50.0	-8.2
	0.8nm,0.2s						
KK31				⇑Lg		11 16 56.3	
	6.9nm,0.5s,baz=192,slow=29,SNR=5.8						
AAK	**Ala-Archa**	**5.78**	**42**	⇓Pn	Pn	11 15 50.6	-0.9
	1.7nm,0.6s						
AAK				⇓Pg	Pg	11 16 08.9	-10
	5.5nm,0.8s						
AAK				⇑Lg		11 17 26.6	
	10.0nm,0.9s						
AB31	**Akbulak array**	**12.68**	**331**	⇓P	P	11 17 25.1	-1.6
	0.4nm,0.5s,baz=163,slow=11,SNR=7.0						

*TIF **22** 11:33:54.1,38.25N×46.15E,h14km±7km*
*THR **22** 11:34:00.9±0.9,38.88N×45.11E,h14km±13km,ML3.0*
*CSEM **22** 11:34:01.5±0.2,38.98N×45.11E,h35km,ML3.7/2,Error ellipse: s-maj=7.8km s-min=5.0km az=30.0*
ISC 22 11:33:59.9±0.8,38.92N±0.03×45.20E±0.07,h14km,n16, σ1℘31/27,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAKU	**Maku**	**0.59**	**317**	*e*PG	**Pg**	**11 34 12.3**	**+0.3**
MAKU				*e*SG	**Sg**	**11 34 20.9**	**+0.8**
CLDR	**Caldiran**	**1.03**	**283**	PN	**Pn**	**11 34 16.8**	**-3.0**
CLDR				SN	**Sn**	**11 34 33.0**	**-1.0**
TVAN	**Van**	**1.46**	**255**	*i* P	**Pn**	**11 34 25.6**	**-0.4**
TVAN				*i* S	**Sb**	**11 34 50.4**	**+5.8**
HKR	**Hakkari**	**1.77**	**221**	*e*PN	**Pn**	**11 34 30.6**	**+0.2**
HAKT	**HAKKARI**	**1.80**	**221**	*i* P	**Pn**	**11 34 26.5**	**-4.3**
HAKT				*i* S	**Sn**	**11 34 53.8**	**+0.2**
DIGO	**Kars**	**2.05**	**317**	*i* P	**Pn**	**11 34 37.4**	**+2.9**
DIGO				*i* S	**Sg**	**11 35 09.8**	**+1.4**
GRMI	**Germi**	**2.10**	**92**	*e*Pg	**Pn**	**11 34 39.8**	**+4.6**
GRMI				*e*Sg	**Sn**	**11 35 09.7**	**+8.4**
GRMI				AML	AML	11 35 12.4	
	comp=N,127nm,0.4s						
GRMI	**Germi**	**2.10**	**92**	*e*Pg	**Pn**	**11 34 39.8**	**+4.6**
	SNR=90						
GRMI				*e*Sg	**Sn**	**11 35 09.7**	**+8.4**
	comp=N,127nm,0.4s,SNR=90						
DGRG	**David-gareji**	**2.53**	**3**	P	**Pg**	**11 34 49.0**	**-1.4**
DGRG				S	**Sg**	**11 35 25.4**	**+1.2**
MTA	**Mtatsminda**	**2.79**	**354**	P	**Pg**	**11 34 53.5**	**-2.1**
MTA				S	**Sg**	**11 35 32.7**	**-0.1**
TBLG	**Delisi**	**2.83**	**353**	P	**Pg**	**11 34 55.3**	**-1.1**
TBLG				S	**Sg**	**11 35 34.2**	**0.0**
TBLG	**Delisi**	**2.83**	**353**	P	**Sg**	**11 35 34.3**	**+0.2**
MSL	**Mosul**	**3.12**	**213**	*ex*	x	11 35 16.0	
MSL				*ex*	x	11 35 49.5	
EZM	**Erzurum**	**3.13**	**289**	*e*PN	**Pn**	**11 34 46.2**	**-3.7**
SNGE	**Sanandaj**	**4.19**	**155**	*e*PN	**Pn**	**11 35 06.7**	**+1.8**
SNGE				*e*SG	**Sg**	**11 36 10.8**	**-8.6**
SNGE				AML	AML	11 36 21.2	
	comp=E,12nm,0.6s						
SNGE	**Sanandaj**	**4.19**	**155**	*e*Pn	**Pn**	**11 35 06.7**	**+1.8**
	SNR=52						
SNGE				*e*Sg	**Sg**	**11 36 10.9**	**-8.5**
	comp=E,12nm,0.6s,SNR=90						

DHMR 22 11:52:21.7±0.9,12.56N×40.48E,h13km±59km,ML4.7,3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.67**	**67**	⇓*e*P	Pn	11 53 21.8	+2.3
UDYN				*i* S	Sn	11 54 07.1	+4.0
UDYN				AML	AML	11 54 33.6	
	comp=E,3μm,0.8s						
HAJJ	**Hajjah**	**4.35**	**44**	*e*P	Pn	11 53 29.8	+0.7
HAJJ				*i* S	Sn	11 54 23.4	+3.2
ADEN	**Aden**	**4.40**	**87**	⇓*e*P	Pn	11 53 30.3	+0.5
ADEN				*i* S	Sn	11 54 24.2	+2.6
LBOS		**4.83**	**74**	*e*P	Pn	11 53 36.8	+0.9
LBOS				*i* S	Sn	11 54 35.0	+2.7
BDHA	**Al Bayda'**	**5.15**	**74**	⇓*e*P	Pn	11 53 40.5	0.0
BDHA				*i* S	Sn	11 54 43.0	+2.5

*IDC **22** 11:57:42.0±2.1, 12.58N×40.49E,mb4.0/9,mb1 4.0/10, mb1mx4.0/19,mbtmp3.9/10,ML3.3/1,Error ellipse: s-maj=48.0km s-min=24.8km az=164.0*
*NEIC **22** 11:57:43.2±1.5, 12.60N×40.52E,h10km,mb4.4/7,Error ellipse: s-maj=30.8km s-min=17.6km az=159.0*
*DHMR **22** 11:57:47.0±3.0, 12.68N×40.53E,h12km±395km,ML3.9*
*CSEM **22** 11:57:48.5±0.5, 12.67N×40.41E,h60km,mb4.4/5,Error ellipse: s-maj=18.8km s-min=7.0km az=175.0*
ISC 22 11:57:41.8±1.0,12.5N±0.1×40.30E±0.05,h10km,n29, σ1℘40/31,mb4.1/15,1C-1D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.85**	**68**	⇓*e*P	**Pn**	**11 58 44.4**	**+2.0**
UDYN				*i* S	**Sn**	**11 59 29.9**	**+1.6**
UDYN				AML	AML	11 59 43.3	
	comp=Z,508nm,0.7s						
HAJJ	**Hajjah**	**4.49**	**45**	⇑*e*P	**Pn**	**11 58 53.3**	**+1.7**
HAJJ				*i* S	**Sn**	**11 59 45.4**	**+0.9**
LBOS		**5.00**	**74**	*e*P	**Pn**	**11 58 58.4**	**-0.4**
LBOS				*i* S	**Sn**	**11 59 54.4**	**-3.0**
ASF	**Jabal al Asfar**	**19.80**	**351**	P	**P**	**12 02 14.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=134,slow=0.7,SNR=3.8						
CSS	**Prodhromos**	**23.21**	**345**	P	**P**	**12 02 57.2**	**+7.3**
MSL	**Mosul**	**23.79**	**6**	*ex*	x	12 03 15.0	
MALT	**Malatya**	**25.73**	**357**	*e*P	**P**	**12 03 15.2**	**+1.1**
	comp=Z,9.0nm,1.1s,mb4.2						
MALT	**Malatya**	**25.73**	**357**	*e*P	**P**	**12 03 15.2**	**+1.1**
	comp=Z,9.0nm,1.1s,mb4.2						
BRTR	**Keskin Array B**	**27.72**	**349**	P	**P**	**12 03 33.4**	**+1.0**
	comp=Z,1.4nm,0.8s,mb3.6,baz=180,slow=7.4,SNR=8.2						
BR131	**Keskin Array S**	**27.72**	**349**	P	**P**	**12 03 29.7**	**-2.7**
	comp=Z,7.6nm,1.3s,mb4.2						
PSZ	**Piszkesteto**	**39.18**	**338**	*e*P	**P**	**12 05 10.7**	**-0.9**
	comp=Z,8.5nm,1.0s,mb4.4						
PSZ	**Piszkesteto**	**39.18**	**338**	*e*P	**P**	**12 05 10.7**	**-0.9**
	comp=Z,8.5nm,1.0s,mb4.4						
KWP	**Kalwaria**	**39.73**	**342**	P	**P**	**12 05 16.4**	**+0.2**
	comp=Z,19nm,1.2s,mb4.7						
MORC	**Moravsky Berou**	**41.59**	**338**	P	**P**	**12 05 30.9**	**-0.5**
	comp=Z,3.5nm,1.0s,mb3.9						
MORC	**Moravsky Berou**	**41.59**	**338**	P	**P**	**12 05 30.9**	**-0.5**
	comp=Z,3.5nm,1.0s,mb3.9						
GERES	**GERESS Array B**	**42.38**	**334**	P	**P**	**12 05 38.5**	**+0.6**
	comp=Z,1.1nm,0.4s,mb3.8,baz=149,slow=7.8,SNR=8.8						
DBIC	**Dimbokro**	**44.85**	**267**	P	**P**	**12 06 00.1**	**+1.6**
	comp=Z,2.7nm,0.8s,mb4.1,baz=180,slow=16,SNR=4.6						
MDT	**Midelt**	**45.68**	**304**	P	**P**	**12 06 05.2**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=12,SNR=4.5						
ARU	**Arti**	**46.02**	**14**	P	**P**	**12 06 04.4**	**-2.7**
	comp=Z,6.8nm,1.0s,mb4.5						
ARU	**Arti**	**46.02**	**14**	P	**P**	**12 06 04.4**	**-2.7**
	comp=Z,6.8nm,1.0s,mb4.5						
BRVK	**Borovoye**	**46.97**	**24**	P	**P**	**12 06 18.7**	**+4.0**
	comp=Z,1.8nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**46.99**	**24**	P	**P**	**12 06 12.5**	**-2.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=214,slow=5.3,SNR=4.6						
ESDC	**Sonseca Array**	**47.40**	**313**	P	**P**	**12 06 19.3**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=110,slow=8.2,SNR=5.6						
ESLA	**Sonseca Array**	**47.40**	**313**	P	**P**	**12 06 19.2**	**+0.9**
ESLA	**Sonseca Array**	**47.40**	**313**	P	**P**	**12 06 19.2**	**+0.9**
MKAR	**Makanchi Array**	**49.06**	**37**	P	**P**	**12 06 29.1**	**-2.0**
	comp=Z,1.5nm,1.0s,mb4.0,baz=233,slow=6.1,SNR=4.0						
MKAR	**Makanchi Array**	**49.06**	**37**	P	**P**	**12 06 29.0**	**-2.1**
FINES	**FINESS Array B**	**49.92**	**351**	P	**P**	**12 06 36.0**	**-1.4**
	comp=Z,2.8nm,0.9s,mb4.3,baz=180,slow=7.6,SNR=4.4						
SONM	**Songino Array**	**64.80**	**43**	P	**P**	**12 08 22.6**	**-0.3**
	comp=Z,1.9nm,1.0s,mb4.1,baz=250,slow=6.6,SNR=9.2						

*IDC **22** 12:01:10.4±1.6,6.51S×75.70W,mb3.8/6,mb1 4.0/8, mb1mx3.9/19,mbtmp3.8/8,ML3.4/1,MS3.0/2,Ms1 3.1/2, ms1mx2.7/30,Error ellipse: s-maj=82.6km s-min=22.7km az=41.0*
*NEIC **22** 12:01:15.6±1.4,6.59S×75.62W,h40km±15km,mb3.9/2, Error ellipse: s-maj=13.4km s-min=12.6km az=203.0*
ISC 22 12:01:13.1±0.6,6.69S±0.06×75.73W±0.09,h33km,n16, σ1℘11/15,mb3.8/7,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**5.38**	**192**	*e*Pn	**Pn**	**12 02 35.0**	**+1.8**
	25nm,0.8s						
NNA				*e*Sn	**Sn**	**12 03 32.6**	**-2.1**
LPAZ	**La Paz**	**12.09**	**143**	Pn	**P**	**12 04 07.1**	**+1.0**
	0.1nm,0.3s,baz=332,slow=15,SNR=5.2						
LPAZ				LR	LR	12 09 42.0	
	comp=Z,91nm,20.4s,baz=257,slow=42						
LPAZ	**La Paz**	**12.09**	**143**	*e*P	**P**	**12 04 06.4**	**+0.3**
LPAZ				LR	LR	12 09 42.0	
SAML	**Samuel**	**12.63**	**101**	*e*P	**P**	**12 04 11.6**	**-1.7**
	2.9nm,0.6s						
SIV	**San Ignacio**	**17.07**	**124**	P	**P**	**12 05 11.2**	**+0.2**
	0.3nm,0.3s,baz=320,slow=10,SNR=14						
LVC	**Limon Verde**	**17.14**	**158**	LR	LR	12 12 18.8	
	comp=Z,45nm,19.2s,baz=23,slow=39						
LVC	**Limon Verde**	**17.14**	**158**	P	**P**	**12 05 06.3**	**-5.5**
	4.6nm,1.0s						
TXAR	**Lajitas Array**	**44.78**	**324**	P	**P**	**12 09 25.7**	**0.0**
	0.3nm,0.5s,mb3.4,baz=149,slow=8.5,SNR=4.5						
ANMO	**Albuquerque**	**50.55**	**327**	P	**P**	**12 10 10.1**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=147,slow=7.8,SNR=3.7						
ANMO	**Albuquerque**	**50.55**	**327**	P	**P**	**12 10 10.1**	**-0.6**
NVAR	**Mina Array Bea**	**59.81**	**322**	P	**P**	**12 11 17.2**	**-0.5**
	0.4nm,0.6s,mb3.6,baz=117,slow=6.0,SNR=4.0						
DBIC	**Dimbokro**	**71.94**	**81**	P	**P**	**12 12 36.4**	**+0.8**
	3.1nm,0.9s,mb4.2,baz=220,slow=5.8,SNR=5.7						
YKA	**Yellowknife Ar**	**75.14**	**342**	P	**P**	**12 12 52.6**	**-0.9**
	0.6nm,0.5s,mb3.8,baz=139,slow=6.2,SNR=7.7						
QSPA	**South Pole Qui**	**83.41**	**180**	*e*P	**P**	**12 13 39.4**	**+1.4**
	1.7nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**88.11**	**336**	P	**P**	**12 14 02.0**	**+0.7**
	0.3nm,0.8s,mb3.6,baz=106,slow=3.5,SNR=4.8						
WRA	**Warramunga Arr**	**140.31**	**228**	PKP	PKPdf	12 20 41.0	+1.3
	1.1nm,1.1s,baz=125,slow=2.0,SNR=5.4						

IDC 22 12:07:36.3±7.8,4.62N×96.12W,mb3.5/5,mb1 4.0/5, mb1mx3.8/18,mbtmp3.5/5,MS3.3/7,Ms1 3.3/7, ms1mx3.2/26,Error ellipse: s-maj=181.8km s-min=144.4km az=59.0,Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**12.42**	**62**	LR	LR	12 14 15.9	
	comp=Z,87nm,21.4s,baz=334,slow=32						
ROSC	**El Rosal**	**21.71**	**88**	LR	LR	12 19 23.8	
	comp=Z,14nm,18.8s,baz=359,slow=33						
TXAR	**Lajitas Array**	**25.60**	**345**	P	P	12 13 08.3	-0.7
	0.4nm,0.7s,baz=157,slow=9.5,SNR=5.3						
TXAR				LR	LR	12 23 27.4	
	comp=Z,73nm,18.4s,baz=110,slow=37						
SDV	**Santo Domingo**	**25.65**	**79**	LR	LR	12 22 19.4	
	comp=Z,18nm,19.4s,baz=224,slow=34						
LPAZ	**La Paz**	**34.61**	**127**	LR	LR	12 25 47.5	
	comp=Z,46nm,21.8s,baz=292,slow=32						
NVAR	**Mina Array Bea**	**39.24**	**332**	P	P	12 15 06.6	-1.8
	0.2nm,0.6s,baz=135,slow=6.4,SNR=3.2						
PDAR	**Pinedale Array**	**39.82**	**344**	P	P	12 15 10.5	-2.5
	0.6nm,0.9s,baz=143,slow=7.4,SNR=5.1						
PDAR				LR	LR	12

MTLF				*e*Sn		**Sn**	**12 12 40.6**	**-3.6**
	3.0nm,0.4s								
EPOB	**Poblet**	**8.00**	**115**	P		**Pn**	**12 11 13.7**	**-0.3**
EMIR	**Miracle**	**8.01**	**110**	P		**P**	**12 11 14.2**	**0.0**
BGF	**Bois d'Agland**	**8.08**	**76**	*e*Pn		**P**	**12 11 15.2**	**+0.1**
BGF				*e*Sn		**Sn**	**12 12 43.4**	**-4.1**
	5.4nm,0.4s								
ETOB	**Tobarra**	**8.35**	**139**	P		**P**	**12 11 18.6**	**-0.4**
AVF	**Avril sur Loir**	**8.45**	**75**	*e*Pn		**P**	**12 11 20.2**	**-0.1**
SSF	**Saint Saulge**	**8.59**	**76**	*e*Pn		**P**	**12 11 22.2**	**-0.1**
SMF	**Signal de Mont**	**8.77**	**76**	*e*Pn		**P**	**12 11 24.4**	**-0.3**
LOR	**Lormes**	**8.86**	**72**	*e*Pn		**P**	**12 11 26.1**	**+0.1**
LASF	**Ste Croix**	**8.92**	**93**	*e*Pn		**P**	**12 11 27.5**	**+0.6**
VIVF	**Saint-Julien-l**	**9.38**	**87**	*e*Pn		**P**	**12 11 33.4**	**+0.2**
LPG	**La Plagne**	**10.78**	**83**	*e*Pn		**P**	**12 11 52.9**	**+0.5**
PGF	**Pioggiola**	**12.94**	**96**	*e*Pn		**P**	**12 12 21.7**	**+0.2**

NEIC ***22*** *12:10:38.8, 12.05N×40.41E, h0km, ML4.2(DHMR), After DHMR.*
IDC ***22*** *12:10:44.3±4.0, 12.63N×40.48E, mb3.7/6, mb1 3.8/6, mb1mx3.7/17, mbtmp3.7/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=87.7km s-min=33.6km az=4.0*
CSEM ***22*** *12:10:44.1±0.5, 12.37N×40.24E, h20km, ML4.1, Error ellipse: s-maj=16.7km s-min=7.4km az=178.0*
DHMR ***22*** *12:10:46.9±0.7, 12.62N×40.49E, h10km, ML4.1*
ISC 22 12:10:43.5±4.5, 12.2N±0.2×40.42E±0.08, h27km±34km**, n15,σ1ᵍ18/22, mb3.6/6, MS3.5/1, 1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.90**	**62**	⇓*e*P		**Pn**	**12 11 46.7**	**+3.6**
UDYN				*i* S		**Sn**	**12 12 32.7**	**+4.1**
UDYN				AML		AML	12 12 47.5	
	comp=Z,771nm,0.7s							
UDYN	**Al 'Udayn**	**3.90**	**62**	*i* P		**Pn**	**12 11 44.1**	**+0.9**
UDYN				*i* S		**Sn**	**12 12 34.5**	**+5.9**
HAJJ	**Hajjah**	**4.68**	**41**	*e*P		**Pn**	**12 11 54.4**	**+0.1**
HAJJ				*i* S		**Sn**	**12 12 48.0**	**-0.4**
HAJJ	**Hajjah**	**4.68**	**41**	*i* P		**Pn**	**12 11 51.5**	**-2.9**
HAJJ				*i* S		**Sn**	**12 12 49.6**	**+1.2**
HAJJ	**Hajjah**	**4.68**	**41**	*e*P		**Pn**	**12 11 54.4**	**+0.1**
HAJJ				*i* S		**Sn**	**12 12 49.6**	**+1.1**
LBOS		**5.01**	**70**	*e*P		**Pn**	**12 11 59.5**	**+0.6**
LBOS				*i* S		**Sn**	**12 12 56.0**	**-0.5**
LBOS		**5.01**	**70**	*i* P		**Pn**	**12 11 56.4**	**-2.5**
LBOS				*i* S		**Sn**	**12 12 56.0**	**-0.5**
BRTR	**Keskin Array B**	**28.11**	**349**	P		**P**	**12 16 35.0**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.7,baz=153,slow=5.5,SNR=4.6							
AKASG	**Malin Array Be**	**39.52**	**349**	P		**P**	**12 18 11.8**	**-1.8**
	comp=Z,0.2nm,0.2s,mb3.4,baz=171,slow=7.3,SNR=5.3							
AKASG	**Malin Array Be**	**39.52**	**349**	P		**P**	**12 18 11.8**	**-1.8**
GERES	**GERESS Array B**	**42.77**	**334**	P		**P**	**12 18 40.6**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.5,baz=135,slow=7.5,SNR=5.4							
MDT	**Midelt**	**45.99**	**304**	P		**P**	**12 19 07.7**	**+1.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=146,slow=8.2,SNR=2.3							
MDT				LR		LR	12 38 54.8	
	comp=Z,58nm,20.4s,MS3.5,baz=279,slow=37							
MKAR	**Makanchi Array**	**49.28**	**37**	P		**P**	**12 19 31.1**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.8,baz=225,slow=3.4,SNR=4.6							
MKAR	**Makanchi Array**	**49.28**	**37**	P		**P**	**12 19 31.1**	**-0.9**
SONM	**Songino Array**	**64.99**	**43**	P		**P**	**12 21 24.2**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.9,baz=253,slow=5.8,SNR=6.6							

BJI ***22*** *12:30:06.1, 3.87N×95.82E, h63km, mB5.0, mb5.0, Ms4.7, Msz4.4*
MOS ***22*** *12:30:06.0±0.9, 4.19N×96.20E, h46km, mb5.4/70, MS4.4/16, Error ellipse: s-maj=12.3km s-min=4.8km az=121.7*
NEIC ***22*** *12:30:07.9±0.2, 3.98N×95.97E, mb5.2/68, MS4.4/33, Error ellipse: s-maj=6.3km s-min=4.0km az=32.0*
HRVD ***22*** *12:30:07.9±0.3, 3.74N×95.89E, h46km, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s40,c58;Mantle waves: s57,c106; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.52±.20; Mθθ-3.37±.13; Mφφ0.84±.16; Mrθ3.79±.10; Mφφ2.08±.12; Mφr0.36±.14; Best double couple: M₀5.239×10¹⁶ NP1: φs324°,δ30°,λ143°. NP2:φ87°,δ72°,λ65°. Principal axes: T 4.796, Plg56°, Azm325°; N .883, Plg24°, Azm95°; P -5.682, Plg23°, Azm196°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***22*** *12:30:07.7±0.4, 4.01N×95.97E, h47km±3km, mb4.3/19, mb1 4.4/19, mb1mx4.4/19, mbtmp4.6/19, MS4.1/12, Ms1 4.1/12, ms1mx4.1/15 Error ellipse: s-maj=14.7km s-min=10.1km az=53.0*
ISC 22 12:30:06.4±0.2, 3.99N±0.04×96.02E±0.03, h49km**, h49**km±.6km**: pP-P, n333,σ1ᵍ05/309, mb5.1**/123**, MS4.3**/61**, 29C-26D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PKT	**Phuket**	**4.60**	**28**	P		**P**	**12 31 14.3**	**-1.0**
KULM	**Kulim**	**4.79**	**74**	*e*Pn		**P**	**12 31 19.8**	**+1.8**
KULM				*e*Sn		**S**	**12 32 05.8**	**-7.1**
IPM	**Ipoh**	**5.03**	**83**	P		**P**	**12 31 22.7**	**+1.5**
SNG	**Songkhla**	**5.56**	**55**	P		**P**	**12 31 31.0**	**+2.3**
	740nm,1.0s							
KGM	**Kluang**	**7.55**	**105**	P		**P**	**12 31 59.6**	**+3.1**
NNT	**Nongplab**	**9.30**	**23**	P		**P**	**12 32 23.0**	**+2.4**
NST	**Nakhon Sawan**	**12.29**	**19**	P		**P**	**12 33 06.0**	**+4.6**
KSM	**Kuching**	**14.49**	**100**	P		**P**	**12 33 30.8**	**+0.4**
QIZ	**Qiongzhong**	**20.14**	**41**	P		**P**	**12 34 40.1**	**+0.8**
QIZ				PP		PP	12 35 00.1	+0.2
QIZ				*e*S		**S**	**12 38 20.6**	**+2.8**
QIZ				SS		SS	12 38 48.3	0.0
QIZ				AMB		AMB		
	comp=Z,16nm,1.1s							
QIZ				LR		LR		
	comp=N,941nm,16.1s,MS4.3							
QIZ				LR		LR		
	comp=E,814nm,17.5s,MS4.3							
QIZ				LR		LR		
	comp=Z,1μm,19.8s,MS4.2							
QIZ	**Qiongzhong**	**20.14**	**41**	*e*P		**P**	**12 34 40.1**	**+0.8**
	comp=Z,31nm,1.1s							
QIZ				*e*			12 34 53.5	
QIZ				LR		LR		
	comp=Z,1μm,20.0s,MS4.3							
KKM	**Kota Kinabalu**	**20.22**	**83**	P		**P**	**12 34 41.4**	**+1.2**
KKM	**Kota Kinabalu**	**20.22**	**83**	*e*P		**P**	**12 34 40.6**	**+0.5**
HYB	**Hyderabad**	**21.70**	**309**	*i* P		**P**	**12 34 55.0**	**-0.2**
HYB				*e*			12 35 09.5	
HYB				*e*			12 35 12.0	
HYB				*e*S		**S**	**12 38 49.5**	**+2.1**
HYB	**Hyderabad**	**21.70**	**309**	*e*P		**P**	**12 34 55.0**	**-0.2**
HYB				*e*S		**S**	**12 39 00.0**	**+13**
TSM	**Tawau**	**21.80**	**88**	P		**P**	**12 34 57.8**	**+1.6**
KMI	**Kunming**	**21.98**	**16**	P		**P**	**12 34 59.8**	**+1.9**
KMI				AP			12 35 12.5	
KMI				XP			12 35 17.9	
KMI				PP		PP	12 35 25.5	+0.9
KMI				PPP		PPP	12 35 36.4	+1.4
KMI				S		**S**	**12 38 52.1**	**-0.3**
KMI				AMB		AMB		
	comp=Z,27nm,1.6s,mb4.4							
KMI				AMB		AMB		
	comp=Z,223nm,3.7s							
KMI				LR		LR		
	comp=N,1μm,18.5s,MS4.4							
KMI				LR		LR		
	comp=E,796nm,17.4s,MS4.4							
KMI				LR		LR		
	comp=Z,1μm,25.6s							
GYA	**Guiyang**	**24.55**	**23**	⇑*i*P		**P**	**12 35 23.8**	**+0.7**
GYA				AP			12 35 35.8	
GYA				XP			12 35 41.6	
GYA				PP		PP	12 36 01.3	+1.1
GYA				S		**S**	**12 39 38.9**	**+1.2**
GYA				XS			12 39 58.3	
GYA				AMB		AMB		
	comp=Z,30nm,0.8s,mb4.9							
GYA				AMB		AMB		
	comp=Z,210nm,3.2s							
GYA				LR		LR		
	comp=N,710nm,14.2s,MS4.5							
GYA				LR		LR		
	comp=E,910nm,14.8s,MS4.5							
GYA				LR		LR		
	comp=Z,840nm,14.6s,MS4.4							
PKI	**Pulchoki**	**25.54**	**338**	*e*P		**P**	**12 35 31.8**	**-0.7**
	comp=Z,19nm,0.4s,mb4.9							
DMN	**Daman**	**25.69**	**337**	*e*P		**P**	**12 35 33.1**	**-0.8**
KKN	**Kakani**	**25.79**	**338**	*e*P		**P**	**12 35 33.9**	**-0.9**
	comp=Z,78nm,0.8s,mb5.3							
LSA	**Lhasa**	**25.98**	**350**	P		**P**	**12 35 36.3**	**-0.3**
LSA	**Lhasa**	**25.98**	**350**	*e*P		**P**	**12 35 35.3**	**-1.3**
	comp=Z,31nm,0.8s,mb4.9							
LSA				LR		LR		
	comp=Z,715nm,22.0s,MS4.2							
LSA	**Lhasa**	**25.98**	**350**	*e*P		**P**	**12 35 35.3**	**-1.3**
LSA				pmax		pmax		
	comp=Z,31nm,0.8s,mb4.9							
LSA				MLR		MLR		
	comp=Z,715nm,22.0s,MS4.2							
GKN	**Gorkha**	**26.23**	**337**	*e*P		**P**	**12 35 38.0**	**-0.8**
	comp=Z,70nm,0.4s,mb5.5							
KOLN	**Koldanda**	**26.45**	**335**	*e*P		**P**	**12 35 40.3**	**-0.6**
	comp=Z,97nm,0.8s,mb5.4							
CD2	**Chengdu**	**27.75**	**14**	P		**P**	**12 35 52.3**	**-0.5**
CD2				SS		SS	12 41 51.0	-1.6
CD2				AMB		AMB		
	comp=Z,30nm,0.4s,mb5.3							
CD2				LR		LR		
	comp=N,660nm,16.2s							
CD2				LR		LR		
	comp=Z,690nm,16.8s,MS4.3							
ENH	**Enshi**	**29.07**	**24**	*e*P		**P**	**12 36 02.4**	**-2.2**
	comp=Z,14nm,0.8s,mb4.7							
ENH				LR		LR		
	comp=Z,756nm,20.0s,MS4.3							
DAV	**Davao City (W)**	**29.58**	**83**	PFAKE			12 36 20.0	+11
DAV				LR		LR		
	comp=Z,132nm,22.0s,MS3.5							
WHN	**Wuhan**	**31.57**	**31**	*e*P		**P**	**12 36 27.0**	**+0.3**
XAN	**Xi'an**	**32.22**	**20**	P		**P**	**12 36 30.8**	**-1.5**
XAN				AMB		AMB		
	comp=Z,21nm,1.0s,mb4.9							
LZH	**Lanzhou**	**32.74**	**12**	P		**P**	**12 36 36.0**	**-0.9**
LZH				PCP		PcP	12 39 16.0	-5.5
LZH				PCS			12 43 01.0	
LZH				SS		SS	12 43 52.1	+2.9
LZH				AMB		AMB		
	comp=Z,90nm,1.2s,mb5.6							
LZH				AMB		AMB		
	comp=Z,110nm,4.9s							
LZH				LR		LR		
	comp=E,950nm,13.3s							
LZH				LR		LR		
	comp=Z,2μm,20.4s							
MBWA	**Marble Bar**	**34.13**	**138**	*e*P		**P**	**12 36 47.0**	**-2.0**
	comp=Z,35nm,1.3s,mb5.1							
MBWA				LR		LR		
	comp=Z,728nm,20.0s,MS4.4							
NJ2	**Nanjing**	**35.19**	**35**	*e*P		**P**	**12 36 58.6**	**+0.7**
NJ2				AP		pP	12 37 11.6	+0.7
NJ2				XP		sP	12 37 16.1	-1.0
NJ2				PP		PP	12 38 19.3	+1.4
NJ2				S		**S**	**12 42 28.0**	**+1.1**
NJ2				XS			12 42 52.0	
NJ2				AMB		AMB		
	comp=Z,30nm,1.0s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,380nm,4.4s							
NJ2				LR		LR		
	comp=N,930nm,21.0s,MS4.7							
NJ2				LR		LR		
	comp=E,970nm,23.0s,MS4.7							
NJ2				LR		LR		
	comp=Z,500nm,22.7s,MS4.2							
GTA	**Gaotai**	**35.42**	**5**	⇑P		**P**	**12 36 59.1**	**-0.8**
GTA				AP		pP	12 37 12.0	-0.8
GTA				XP		sP	12 37 17.3	-1.7
GTA				PP		PP	12 38 19.4	-1.3
GTA				PCP		PcP	12 39 29.3	+0.2
GTA				S		**S**	**12 42 29.3**	**-1.1**
GTA				SCP			12 43 11.1	
GTA				SS		SS	12 44 47.6	-3.0
GTA				SCS		ScS	12 47 12.9	+0.3
GTA				AMB		AMB		
	comp=Z,22nm,1.0s,mb5.0							
GTA				AMB		AMB		
	comp=Z,99nm,5.7s							
GTA				LR		LR		
	comp=N,423nm,17.5s,MS4.3							
GTA				LR		LR		
	comp=E,237nm,14.8s,MS4.3							
GTA				LR		LR		
	comp=Z,519nm,16.4s,MS4.4							
SSE	**Sheshan**	**35.90**	**38**	P		**P**	**12 37 06.4**	**+2.4**
SSE				XP		sP	12 37 25.5	+2.4
SSE				PP		PP	12 38 30.3	+3.9
SSE				S		**S**	**12 42 42.0**	**+4.2**
SSE				AMB		AMB		
	comp=Z,34nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,171nm,9.6s							
SSE				LR		LR		
	comp=N,268nm,28.1s,MS4.1							
SSE				LR		LR		
	comp=E,327nm,28.1s,MS4.1							
SSE				LR		LR		
	comp=Z,352nm,17.0s							
FITZ	**Fitzroy Crossi**	**36.53**	**128**	⇓*i*P		**P**	**12 37 07.5**	**-2.0**
	comp=Z,12nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**36.53**	**128**	P		**P**	**12 37 07.8**	**-1.7**
	comp=Z,10nm,0.6s,mb4.9,baz=332,slow=4.8,SNR=19							
TIA	**Tai'an**	**37.50**	**29**	⇓P		**P**	**12 37 17.5**	**+0.1**
JOW	**Kunigami**	**38.29**	**50**	P		**P**	**12 37 24.1**	**+0.1**
	comp=Z,8.3nm,0.5s,mb4.7,baz=235,slow=10.0,SNR=6.0							
HHC	**Hu-ho-hao-te**	**39.27**	**19**	*e*P		**P**	**12 37 33.0**	**+0.9**
HHC				AP		pP	12 37 45.1	0.0
HHC				XP		sP	12 37 50.3	-0.8
HHC				PP		PP	12 39 06.9	+0.3
HHC				PCP		PcP	12 39 40.9	0.0
HHC				SCP			12 43 25.3	
HHC				S		**S**	**12 43 29.9**	**+0.8**
HHC				SS		SS	12 46 16.4	-0.2
HHC				SCS		ScS	12 47 36.1	+1.8
HHC				AMB		AMB		
	comp=Z,25nm,0.8s,mb5.0							
HHC				AMB		AMB		
	comp=Z,163nm,3.6s							
HHC				LR		LR		
	comp=N,854nm,14.3s,MS4.8							
HHC				LR		LR		
	comp=E,394nm,14.3s,MS4.8							
HHC				LR		LR		
	comp=Z,822nm,14.3s,MS4.7							
WMQ	**Urumqi**	**40.34**	**351**	⇑*i*P		**P**	**12 37 40.8**	**-0.1**
WMQ				AP		pP	12 37 53.0	-1.0
WMQ				XP		sP	12 37 58.5	-1.4
WMQ				PP		PP	12 39 19.0	+1.3
WMQ				PCP		PcP	12 39 45.0	+0.8
WMQ				*e*S		**S**	**12 43 45.0**	**0.0**
WMQ				XS			12 44 09.0	
WMQ				SCS		ScS	12 47 40.0	-0.5
WMQ				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,109nm,5.0s							
WMQ				LR		LR		
	comp=N,633nm,17.8s,MS4.6							
WMQ				LR		LR		
	comp=E,513nm,16.7s,MS4.6							
WMQ				LR		LR		
	comp=Z,601nm,20.6s,MS4.4							
WBK	**Wadi Bani Khal**	**40.34**	**301**	⇑P		**P**	**12 37 42.6**	**+1.5**
KLBR	**Kellerberrin**	**41.00**	**151**	⇓*i*P		**P**	**12 37 46.2**	**-0.2**
	comp=Z,20nm,1.0s,mb4.7							
JMDO	**Jabal Madar**	**41.00**	**300**	⇑P		**P**	**12 37 47.9**	**+1.3**
SMDO	**Samad**	**41.30**	**301**	⇓P		**P**	**12 37 50.8**	**+1.8**
	SNR=6.8							
BIDO	**Bidbid**	**41.40**	**302**	⇓P		**P**	**12 37 51.8**	**+1.9**
	SNR=6.8							
DL2	**Dalian**	**41.83**	**30**	P		**P**	**12 37 54.4**	**+1.2**
DL2				AP		pP	12 38 07.3	+0.9
DL2				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8							
DL2				LR		LR		
	comp=N,170nm,14.8s,MS4.2							
DL2				LR		LR		
	comp=E,210nm,16.7s,MS4.2							
DL2				LR		LR		
	comp=Z,340nm,17.1s,MS4.3							
NWAO	**Narrogin (SRO)**	**41.86**	**153**	P		**P**	**12 37 53.4**	**-0.2**
	comp=Z,23nm,0.9s,mb4.8,baz=322,slow=8.6,SNR=8.2							
NWAO	**Narrogin (SRO)**	**41.86**	**153**	*e*P		**P**	**12 37 53.1**	**-0.5**
	comp=Z,46nm,1.1s,mb5.0							
NWAO				LR		LR		
	comp=Z,854nm,20.0s,MS4.6							
NWAO	**Narrogin (SRO)**	**41.86**	**153**	P		**P**	**12 37 53.4**	**-0.2**
NWAO				pmax		pmax		
	comp=Z,23nm,0.9s							
SHAO	**Shalim**	**41.91**	**293**	⇓P		**P**	**12 37 55.5**	**+1.3**
BSY	**Bisya**	**41.92**	**300**	⇓P		**P**	**12 37 55.8**	**+1.7**
	SNR=9.7							
HOQ	**Hoqain**	**42.12**	**301**	⇑P		**P**	**12 37 57.5**	**+1.6**
ARQ	**Araqi**	**42.71**	**300**	⇑P		**P**	**12 38 02.5**	**+1.8**
AAK	**Ala-Archa**	**42.98**	**337**	*e*P		**P**	**12 38 01.6**	**-1.0**
	comp=Z,50nm,1.1s,mb5.2							
AAK				*e*		pP	12 38 15.3	-0.5
AAK				LR		LR		
	comp=Z,154nm,22.0s,MS3.9							
AAK	**Ala-Archa**	**42.98**	**337**	*e*P		**P**	**12 38 01.6**	**-1.1**
AAK				*e*		pP	12 38 15.3	-0.5
AAK				pmax		pmax		
	comp=Z,50nm,1.1s,mb5.2							
AAK				MLR		MLR		
	comp=Z,154nm,22.0s,MS3.9							
FRU	**Bishkek**	**43.10**	**337**	P		**P**	**12 38 04.0**	**+0.3**
FRU				*e*		pP	12 38 15.0	-1.8
JNU	**Nakatsue**	**43.57**	**44**	P		**P**	**12 38 08.8**	**+1.3**
	comp=Z,2.4nm,0.5s,mb4.2,baz=198,slow=24,SNR=5.2							
WHFO	**Wadi Hawf**	**43.59**	**292**	P		**P**	**12 38 09.2**	**+1.2**
	SNR=7.1							
MKAR	**Makanchi Array**	**44.27**	**346**	P		**P**	**12 38 11.8**	**-1.1**
	comp=Z,9.1nm,0.4s,mb4.9,baz=152,slow=8.7,SNR=106							
MKAR				pP		pP	12 38 24.9	-1.3
	comp=Z,17nm,0.7s,baz=168,slow=8.3,SNR=14							
MKAR				LR		LR	12 59 09.7	
	comp=Z,261nm,21.9s,MS4.1,slow=39							
MKAR	**Makanchi Array**	**44.27**	**346**	P		**P**	**12 38 11.9**	**-1.1**
MKAR				*PP		pP	12 38 24.9	-1.3
MKAR				pmax		pmax		
	comp=Z,9.0nm,0.4s							
MKAR				pmax		pmax		
	comp=Z,17nm,0.7s							
MKAR				MLR		MLR		
	comp=Z,261nm,21.9s							
WRA	**Warramunga Arr**	**44.53**	**124**	P		**P**	**12 38 14.6**	**-0.9**
	comp=Z,7.2nm,0.5s,mb4.8,baz=302,slow=9.3,SNR=90							
WRA				pP		pP	12 38 27.9	-0.8
	comp=Z,28nm,0.7s,baz=302,slow=9.2,SNR=18							
WRA	**Warramunga Arr**	**44.53**	**124**	P		**P**	**12 38 14.6**	**-0.9**
WRA				*PP		pP	12 38 27.9	-0.8
WRA				pmax		pmax		
	comp=Z,7.0nm,0.5s							
WRA				pmax		pmax		
	comp=Z,28nm,0.7s							
WRAB	**Tennant Creek**	**44.54**	**124**	*e*P		**P**	**12 38 14.3**	**-1.2**
	comp=Z,51nm,0.8s,mb5.4							
WRAB				*e*		pP	12 38 27.5	-1.2
WRAB				LR		LR		
	comp=Z,232nm,19.0s,MS4.1							
WRAB	**Tennant Creek**	**44.54**	**124**	*e*P		**P**	**12 38 14.3**	**-1.2**
WRAB				*e*		pP	12 38 27.5	-1.2
WRAB				pmax		pmax		
	comp=Z,51nm,0.8s,mb5.4							
WRAB				MLR		MLR		
	comp=Z,232nm,19.0s,MS4.1							
WB2	**Warramunga Arr**	**44.54**	**124**	⇓*i*P		**P**	**12 38 14.6**	**-0.9**
SONM	**Songino Array**	**44.58**	**10**	P		**P**	**12 38 15.2**	**-0.3**
	comp=Z,16nm,0.5s,mb5.1,baz=189,slow=9.3,SNR=141							
SONM				pP		pP	12 38 26.9	-1.8
	comp=Z,13nm,0.8s,baz=190,slow=8.3,SNR=9.4							
SONM				PcP		PcP	12 39 58.1	-0.2
	comp=Z,3.9nm,0.6s,baz=201,slow=3.9,SNR=10							
SONM				pPcP			12 40 13.0	
	comp=Z,5.5nm,0.7s,baz=188,slow=4.4,SNR=4.0							
SONM				ScP			12 43 46.4	
	comp=Z,1.5nm,1.0s,baz=198,slow=4.7,SNR=5.1							
SONM				LR		LR	12 58 59.2	
	comp=Z,882nm,18.9s,MS4.7,baz=190,slow=39							
SONM	**Songino Array**	**44.58**	**10**	P		**P**	**12 38 15.2**	**-0.3**
SONM				*PP		pP	12 38 26.9	-1.8
SONM							12 39 58.1	
SONM				pmax		pmax		
	comp=Z,16nm,0.5s							
SONM				pmax		pmax		
	comp=Z,13nm,0.9s							
SONM				pmax		pmax		
	comp=Z,4.0nm,0.6s							
SONM				pmax		pmax		
	comp=Z,6.0nm,0.7s							
SONM				pmax		pmax		
	comp=N,2.0nm,1.0s							
SONM				MLR		MLR		
	comp=Z,882nm,18.9s							
SNY	**Shenyang**	**45.01**	**29**	⇑P		**P**	**12 38 18.8**	**-0.2**
SNY				S		**S**	**12 44 43.8**	**-10**
SNY				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.6							
SNY				AMB		AMB		
	comp=Z,130nm,4.7s							
SNY				LR		LR		
	comp=N,500nm,19.0s							
SNY				LR		LR		
	comp=Z,430nm,20.2s,MS4.4							
KKAR	**Karatay Array**	**45.05**	**334**	*i* P		**P**	**12 38 19.2**	**-0.1**
KKAR				pmax		pmax		
	comp=Z,54nm,1.1s,mb5.3							
ASPA	**Alice Springs**	**46.03**	**129**	⇓*i*P		**P**	**12 38 26.4**	**-0.9**
FORT	**Forrest**	**46.16**	**141**	⇓*i*P		**P**	**12 38 28.1**	**-0.2**
	comp=Z,43nm,0.8s,mb5.4							
ZAK	**Zakamensk**	**46.63**	**6**	*e*P		**P**	**12 38 29.2**	**-2.5**
ZAK				*e*			12 40 20.0	
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.2s,mb4.2							
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.1							
CN2	**Changchun**	**47.40**	**29**	*e*P		**P**	**12 38 37.5**	**-0.4**
CN2				*e*AP		pP	12 38 48.8	-2.3
CN2				*e*S		**S**	**12 45 28.8**	**+1.3**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CN2				LR		LR		
	comp=N,320nm,19.0s,MS4.5							
CN2				LR		LR		
	comp=E,360nm,19.0s,MS4.5							
CN2				LR		LR		
	comp=Z,380nm,19.0s,MS4.4							
IRK	**Irkutsk**	**48.58**	**7**	*e*P		**P**	**12 38 45.6**	**-1.3**
IRK				pmax		pmax		
	comp=Z,30nm,1.8s,mb5.0							
KURK	**Kurchatov**	**48.81**	**345**	*e*P		**P**	**12 38 47.5**	**-1.2**
	comp=Z,10nm,0.3s,mb5.3							
KURK				*e*		pP	12 39 00.6	-1.4
KURK				LR		LR		
	comp=Z,106nm,21.0s,MS3.8			

MAT Matsushiro 50.48 45 P **P** 12 39 03.1 +1.3
MAT eS **S** 12 46 28.0 +17
MAT Matsushiro 50.48 45 eP **P** 12 39 03.0 +1.2
MAT S S 12 46 38.0 +27
MAT LR LR
comp=Z,350nm,19.0s,MS4.4
MAT Matsushiro 50.48 45 eP **P** 12 39 03.0 +1.2
MAT MLR MLR
comp=Z,350nm,19.0s,MS4.4
MAJO Matsushiro 50.49 45 PFAKE 12 39 10.0 +8.2
MAJO LR LR
comp=Z,347nm,20.0s,MS4.4
MJAR Matsushiro Arr 50.49 45 P **P** 12 39 02.6 +0.8
comp=Z,1.5nm,0.6s,mb4.2,baz=244,slow=8.2,SNR=6.4
MJAR pP pP 12 39 16.2 +1.1
comp=Z,10nm,1.1s,baz=241,slow=8.4,SNR=12
MJAR PcP PcP 12 40 19.6 +0.1
comp=Z,1.9nm,0.7s,baz=246,slow=3.5,SNR=4.2
MJAR pPcP 12 40 33.7
comp=Z,3.0nm,0.8s,baz=237,slow=2.9,SNR=4.6
MJAR ScP 12 44 10.6
comp=Z,1.2nm,0.8s,baz=241,slow=5.3,SNR=4.8
MJAR LR LR 13 02 03.6
comp=Z,283nm,19.5s,MS4.3,baz=250,slow=38
MJAR Matsushiro Arr 50.49 45 P **P** 12 39 02.6 +0.8
MJAR *PP pP 12 39 16.2 +1.1
MJAR 12 40 19.6
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MJAR pmax pmax
comp=Z,10.0nm,1.1s
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR pmax pmax
comp=N,1.0nm,0.8s
MJAR MLR MLR
comp=Z,283nm,19.5s
ZAL Zalesovo 50.63 351 P **P** 12 39 00.9 -1.7
comp=Z,34nm,0.4s,mb5.7,baz=315,slow=5.1,SNR=42
ZAL Zalesovo 50.63 351 P **P** 12 39 01.0 -1.6
ZAL pmax pmax
comp=Z,34nm,0.4s
NVS Novosibirsk 51.74 351 eP **P** 12 39 08.1 -2.9
NVS e pP 12 39 21.6 -2.8
NVS eS **S** 12 46 28.0 +0.3
NVS pmax pmax
comp=Z,13nm,0.4s,mb5.2
NVS pmax pmax
comp=N,10.0nm,0.5s
NVS smax
comp=N,17nm,1.7s
KBD Kabd 52.15 304 eP **P** 12 39 14.1 -0.3
RDF Al-Radifah 52.19 304 eP **P** 12 39 14.5 -0.2
RDF AMb AMB 12 39 15.4
comp=Z,79nm,0.5s,mb5.9
UDYN Al 'Udayn 52.25 284 *i* S **S** 12 46 21.6 -14
NAY Al-Naaiem 52.55 304 eP **P** 12 39 17.0 -0.4
NAY AMb AMB 12 39 17.9
comp=Z,64nm,0.4s,mb5.9
PMG Port Moresby 52.67 105 eP **P** 12 39 17.5 -1.0
comp=Z,59nm,0.8s,mb5.6
PMG e pP 12 39 31.0 -0.9
PMG LR LR
comp=Z,272nm,19.0s,MS4.3
PMG Port Moresby 52.67 105 eP **P** 12 39 17.5 -1.0
PMG e pP 12 39 31.0 -0.9
PMG pmax pmax
comp=Z,59nm,0.8s
PMG MLR MLR
comp=Z,272nm,19.0s
VOSK Vostochnaya 52.80 341 P **P** 12 39 16.1 -2.8
VOSK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MZLS Mizel 52.82 297 P **P** 12 39 19.7 +0.2
OPO Ambohidratompo 53.05 243 P **P** 12 39 21.3 0.0
comp=Z,4.0nm,0.8s,mb4.4,baz=44,slow=7.4,SNR=6.8
BVA0 Borovoye Array 53.24 341 *i* P **P** 12 39 20.5 -1.8
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRVK Borovoye 53.30 341 eP **P** 12 39 20.8 -2.0
comp=Z,6.4nm,0.6s,mb4.7
BRVK e pP 12 39 33.8 -2.3
BRVK LR LR
comp=Z,50nm,20.0s,MS3.6
BRVK Borovoye 53.30 341 eP **P** 12 39 20.8 -1.9
BRVK e pP 12 39 33.8 -2.4
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK MLR MLR
comp=Z,50nm,20.0s,MS3.6
KLR Kul'dur 54.33 28 eP **P** 12 39 27.5 -2.8
KLR pmax pmax
comp=Z,34nm,1.6s,mb5.0
KLR MLR MLR
comp=Z,500nm,15.0s,MS4.7
AB31 Akbulak array 54.51 332 *i* P **P** 12 39 30.4 -1.2
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
AFFS 'Afif 54.76 296 P **P** 12 39 34.1 +0.4
CTA Charters Tower 54.82 118 LR LR 13 05 26.2
comp=Z,219nm,20.5s,MS4.2,baz=170,slow=39
CTAO Charters Tower 54.82 118 PFAKE 12 39 50.0 +16
CTAO LR LR
comp=Z,340nm,21.0s,MS4.4
BLJS Baljurashi 55.27 291 P **P** 12 39 38.2 +0.7
BOD Bodaibo 55.51 12 eP **P** 12 39 36.9 -1.9
BOD pmax pmax
comp=Z,16nm,1.5s,mb4.8
STKA Stephens Creek 56.10 133 ⇓*i*P **P** 12 39 42.1 -1.3
comp=Z,9.5nm,0.9s,mb4.8
STKA Stephens Creek 56.10 133 P **P** 12 39 42.2 -1.2
comp=Z,3.3nm,0.7s,mb4.5,baz=301,slow=8.0,SNR=12
STKA pP pP 12 39 56.3 -0.7
comp=Z,11nm,0.8s,baz=331,slow=8.9,SNR=10
STKA LR LR 13 07 21.4
comp=Z,306nm,20.3s,MS4.4,baz=266,slow=40
AKTO Aktyubinsk 56.23 332 P **P** 12 39 42.3 -1.7
AKTO pmax pmax
comp=Z,21nm,1.4s,mb5.0
LTHS Al Lith 56.44 292 P **P** 12 39 38.6 -7.3
HILS Ha'il 56.62 300 P **P** 12 39 47.7 +0.6
CLNS Chul'man 57.46 18 eP **P** 12 39 49.4 -3.3
CLNS pmax pmax
comp=Z,30nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
MSL Mosul 58.22 311 *ex* x 12 40 16.0
KBRS Khaybar 58.47 298 P **P** 12 39 56.0 -4.1
YSS Yuzh-Sakhalins 58.75 36 eP **P** 12 40 01.2 -0.6
comp=E,50nm,1.3s,mb5.4
YSS *e* pP 12 40 15.2 -0.3
YSS LR LR
comp=Z,309nm,21.0s,MS4.4
YSS Yuzh-Sakhalins 58.75 36 eP **P** 12 40 01.2 -0.6
YSS *e* pP 12 40 15.2 -0.3
YSS pmax pmax
comp=Z,50nm,1.3s,mb5.4
YSS MLR MLR
comp=Z,309nm,21.0s,MS4.4
KMBO Kilima Mbogo 58.95 266 P **P** 12 40 03.7 0.0
comp=Z,3.8nm,1.0s,mb4.4,baz=35,slow=8.2,SNR=7.0
KMBO LR LR 13 00 58.5
comp=Z,140nm,20.1s,MS4.1,baz=94,slow=31
KMBO Kilima Mbogo 58.95 266 P **P** 12 40 03.7 0.0
KMBO LR LR 13 00 58.5
KMBO Kilima Mbogo 58.95 266 *i* P **P** 12 40 05.3 +1.7
KMBO pmax pmax
comp=Z,4.0nm,1.0s
TI2 Plekhanov 59.13 317 ⇑*i*P **P** 12 40 04.4 -0.1
TI2 *i* 12 40 27.4
TI2 pmax pmax
comp=Z,20nm,0.6s,mb5.3
TI2 pmax pmax
comp=Z,50nm,0.8s,mb5.6
YNBS Yanbu' al Bahr 59.32 296 P **P** 12 40 01.5 -4.6
ZEI Tsey 60.14 318 eP **P** 12 40 07.8 -3.7
ZEI *i* *PP pP 12 40 23.7 -1.5
ZEI *i* 12 42 20.0
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 60.17 337 eP **P** 12 40 09.0 -2.5
comp=Z,21nm,0.9s,mb5.2
ARU *e* pP 12 40 22.2 -3.0
ARU LR LR
comp=Z,102nm,20.0s,MS4.0
ARU Arti 60.17 337 ⇑*i*P **P** 12 40 09.5 -2.0
ARU eS **S** 12 48 20.6 +1.0
ARU *e* 12 49 54.7
ARU eSS SS 12 52 14.9 -3.4
ARU pmax pmax
comp=Z,25nm,0.9s,mb5.2
TBKS Tabuk 61.33 300 P **P** 12 40 20.6 +0.8
KIV Kislovodsk 61.44 319 eP **P** 12 40 18.9 -1.3
comp=Z,64nm,1.3s,mb5.6
KIV *e* pP 12 40 32.2 -1.8
KIV LR LR
comp=Z,32nm,22.0s,MS3.4
KIV Kislovodsk 61.44 319 eP **P** 12 40 19.0 -1.3
KIV *e* pP 12 40 32.2 -1.8
KIV pmax pmax
comp=Z,64nm,1.3s,mb5.6
KIV MLR MLR
comp=Z,32nm,22.0s,MS3.4
DBAS Duba 61.63 299 P **P** 12 40 21.7 -0.1
JMQS Jabal Moqyreh 62.04 301 P **P** 12 40 24.9 +0.4
MALT Malatya 62.40 311 eP **P** 12 40 25.9 -0.9
comp=Z,15nm,1.1s,mb5.0
MALT *e* pP 12 40 39.8 -0.8
MALT Malatya 62.40 311 eP **P** 12 40 25.9 -0.9
MALT *e* pP 12 40 39.8 -0.7
MALT pmax pmax
comp=Z,15nm,1.1s,mb5.0
BDAS Al Bad' **62.62 300** P **P** 12 40 28.5 +0.1
TAYS Tayyib Ism 62.84 300 P **P** 12 40 29.8 -0.1
HAQS Haql 62.89 301 P **P** 12 40 30.5 +0.3
SOKR Solikamsk 63.07 339 ⇓*i*P **P** 12 40 29.6 -1.3
SOKR *e* pP 12 40 42.0 -2.7
SOKR pmax pmax
comp=Z,50nm,1.5s,mb5.4
SOKR MLR MLR
comp=Z,560nm,25.0s,MS4.6
YAK Yakutsk 63.10 17 eP **P** 12 40 29.4 -1.7
comp=Z,82nm,0.6s,mb6.0
YAK LR LR
comp=Z,506nm,21.0s,MS4.7
YAK Yakutsk 63.10 17 eP **P** 12 40 29.5 -1.6
YAK pmax pmax
comp=Z,82nm,0.6s,mb6.0
YAK MLR MLR
comp=Z,506nm,21.0s,MS4.7
SOC Sochi 63.27 317 *c i*P **P** 12 40 29.9 -2.6
SOC *e* 12 42 52.5
SOC ePPP PPP 12 44 28.2 +3.2
SOC eS **S** 12 49 00.8 +1.7
SOC eSS SS 12 53 03.2 -4.7
SOC pmax pmax
comp=Z,54nm,1.1s,mb5.6
SOC pmax pmax
comp=N,18nm,1.2s
SOC pmax pmax
comp=E,19nm,0.9s
ANN Anapa 65.24 318 eP **P** 12 40 46.4 +1.1
ANN pmax pmax
comp=Z,50nm,1.6s,mb5.3
BR131 Keskin Array S 66.38 312 eP **P** 12 40 51.0 -1.7
comp=Z,29nm,1.0s,mb5.3
BR131 *e* pP 12 41 04.9 -1.6
BRTR Keskin Array B 66.38 312 P **P** 12 40 51.4 -1.3
comp=Z,6.4nm,0.8s,mb4.7,baz=124,slow=7.2,SNR=28
BRTR pP pP 12 41 05.0 -1.5
comp=Z,16nm,0.9s,baz=127,slow=6.2,SNR=14
BRTR Keskin Array B 66.38 312 P **P** 12 40 51.4 -1.2
BRTR *PP pP 12 41 05.0 -1.5
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR pmax pmax
comp=Z,16nm,0.9s
SIM Simferopol' **67.52 317** eP **P** 12 40 53.7 -6.0
SIM pmax pmax
comp=Z,22nm,0.7s,mb5.3
MOS Moscow 69.35 329 eP pP 12 41 21.1 -3.7
MOS pmax pmax
comp=Z,400nm,1.7s,mb6.1
MOS pmax pmax
comp=Z,191nm,1.4s,mb5.8
MA2 Magadan 69.36 26 PFAKE 12 41 20.0 +9.2
MA2 LR LR
comp=Z,192nm,21.0s,MS4.3
MA2 Magadan 69.36 26 *c* eP **P** 12 41 10.3 -0.5
MA2 eS S 12 50 11.9 -0.7
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 pmax pmax
comp=N,5.0nm,0.9s
MA2 MLR MLR
comp=Z,400nm,21.0s,MS4.6
OBN Obninsk 69.64 328 eP **P** 12 41 10.0 -2.6
comp=Z,120nm,1.0s,mb5.8
OBN *e* pP 12 41 23.8 -2.8
OBN Obninsk 69.64 328 ⇓*i*P **P** 12 41 11.0 -1.6
OBN *i* pP 12 41 25.6 -1.0
OBN pmax pmax
comp=Z,50nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
LSZ Lusaka 69.81 252 PFAKE 12 41 30.0 +16
LSZ LR LR
comp=Z,374nm,19.0s,MS4.7
MIR Mirnyy 70.41 181 *c i*P **P** 12 41 17.4 +0.3
MIR pmax pmax
comp=Z,43nm,1.2s,mb5.2
TIXI Tiksi 70.67 10 eP **P** 12 41 13.5 -5.1
TIXI pmax pmax
comp=Z,33nm,1.1s,mb5.2
TIXI MLR MLR
comp=Z,179nm,16.0s,MS4.4
CASY Casey 70.89 174 PFAKE 12 41 30.0 +10
CASY LR LR
comp=Z,514nm,20.0s,MS4.8
TIRR Tirgusor 71.31 316 ⇓P pP 12 41 36.7 -0.3
KIS Kishinev 71.64 318 eP pP 12 41 36.0 -2.9
KIS *e* 12 44 08.0
CFR Carcaliu 71.67 316 ⇓P **P** 12 41 22.9 -2.1
IDI Anoyia 72.32 306 LR LR 13 13 55.0
comp=Z,16nm,19.2s,MS3.3,baz=258,slow=36
AKASG Malin Array Be 72.34 322 P **P** 12 41 27.3 -1.6
comp=Z,0.9nm,0.3s,mb4.2,baz=88,slow=5.2,SNR=7.6
AKASG pP pP 12 41 40.2 -2.8
comp=Z,5.9nm,0.7s,baz=88,slow=4.6,SNR=5.4
AKASG Malin Array Be 72.34 322 P **P** 12 41 27.3 -1.6
AKASG *PP pP 12 41 40.2 -2.8
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG pmax pmax
comp=Z,6.0nm,0.7s
VRI Vrincioaia 72.78 317 ⇓P pP 12 41 46.7 +1.0
MLR Muntele Rosu 73.24 316 ⇑P **P** 12 41 34.5 +0.1
LBTB Lobatse 74.08 243 eP **P** 12 41 39.2 -0.6
comp=Z,16nm,1.1s,mb4.8
LBTB LR LR
comp=Z,538nm,21.0s,MS4.8
LBTB Lobatse 74.08 243 eP **P** 12 41 39.2 -0.5
LBTB pmax pmax
comp=Z,16nm,1.1s,mb4.9
LBTB MLR MLR
comp=Z,538nm,21.0s,MS4.8
BURAR Bucovina Array 74.16 318 ⇓P **P** 12 41 40.2 +0.5
JOF Joensuu 75.13 335 *ep* **P** 12 41 41.4 -3.6
comp=Z,43nm,0.9s,mb5.4
MAW Mawson 75.16 193 ⇓*i*P **P** 12 41 45.4 +0.4
comp=Z,4.3nm,0.6s,mb4.6
MAW Mawson 75.16 193 P **P** 12 41 45.6 +0.6
comp=Z,7.1nm,0.8s,mb4.6,baz=7.8,slow=8.1,SNR=19
MAW LR LR 13 08 31.7
comp=Z,94nm,21.6s,MS4.0,baz=191,slow=31
SKO Skopje 75.88 312 eP **P** 12 41 48.4 -1.3
APA Apatity 76.11 339 ⇑*i*P pP 12 42 03.7 -0.9
APA *i* 12 42 13.6
APA pmax pmax
comp=Z,81nm,1.0s,mb5.6
KWP Kalwaria 76.18 320 eP **P** 12 41 51.4 +0.2
KWP *e* pP 12 42 05.6 +0.3
KOLS Kolonicke sedl 76.34 319 eP **P** 12 41 52.5 +0.4
KOLS epP pP 12 42 05.3 -1.0
SUW Suwalki 76.73 325 eP **P** 12 41 53.0 -1.3
comp=Z,158nm,1.4s,mb5.8
SUW *e* pP 12 42 05.8 -2.5
SUW Suwalki 76.73 325 eP **P** 12 41 53.0 -1.2
SUW *e* pP 12 42 05.8 -2.5
SUW pmax pmax
comp=Z,158nm,1.4s,mb5.8
FINES FINESS Array B 76.99 332 P **P** 12 41 54.8 -0.8
comp=Z,3.0nm,0.6s,mb4.4,baz=107,slow=5.7,SNR=9.6
FINES pP pP 12 42 08.8 -0.9
comp=Z,9.9nm,0.7s,baz=104,slow=7.9,SNR=13
FINES LR LR 13 20 34.3
comp=Z,101nm,18.2s,MS4.2,baz=359,slow=39
FINES FINESS Array B 76.99 332 P **P** 12 41 54.8 -0.8
FINES pP pP 12 42 08.8 -0.9
FINES LR LR 13 20 34.3
FINES FINESS Array B 76.99 332 P **P** 12 41 54.8 -0.8
FINES *PP pP 12 42 08.8 -0.9
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES MLR MLR
comp=Z,101nm,18.2s
KAF Kangasniemi 77.08 333 *ep* **P** 12 41 52.3 -3.7
comp=Z,34nm,1.1s,mb5.2,baz=104,slow=5.2
KAF Kangasniemi 77.08 333 eP **P** 12 41 52.3 -3.7
KAF pmax pmax
comp=Z,34nm,1.1s,mb5.2
STHS Stebnicka Huta 77.09 320 eP **P** 12 41 56.5 +0.2
STHS epP pP 12 42 11.5 +1.0
STHS *e* 12 42 27.5
KECS Kecovo 77.44 319 eP **P** 12 41 57.8 -0.5
KECS esP sP 12 42 12.6 -5.3
NIE Niedzica 77.69 320 eP **P** 12 42 00.6 +0.9
PSZ Piszkesteto 77.75 318 eP **P** 12 42 00.0 -0.1
PSZ epP pP 12 42 14.0 -0.2
PSZ Piszkesteto 77.75 318 eP **P** 12 41 59.1 -1.0
comp=Z,25nm,0.9s,mb5.1
PSZ *e* pP 12 42 14.2 0.0
PSZ Piszkesteto 77.75 318 eP **P** 12 41 59.1 -1.0
PSZ *e* pP 12 42 14.2 0.0
PSZ pmax pmax
comp=Z,25nm,0.9s,mb5.1
OJC Ojcow 78.13 320 eP **P** 12 42 01.7 -0.4
OJC ePcP PcP 12 42 14.2 +2.3
VYHS Vyhne 78.53 319 eP **P** 12 42 03.1 -1.2
VYHS epP pP 12 42 18.0 -0.5
BILL Bilibino 79.00 21 PFAKE 12 42 20.0 +14
BILL LR LR
comp=Z,674nm,19.0s,MS5.0
BILL Bilibino 79.00 21 ⇓eP **P** 12 42 05.9 -0.6
BILL pmax pmax
comp=Z,45nm,2.5s,mb5.0
OKC Ostrava-Krasne 79.14 320 eP **P** 12 42 08.3 +0.7
OKC epP pP 12 42 22.0 +0.2
TIP Timpagrande 79.16 309 eP **P** 12 42 05.6 -2.4
TIP *e* pP 12 42 22.7 +0.6
MORC Moravsky Berou 79.52 320 eP **P** 12 42 09.4 -0.2
comp=Z,80nm,2.0s,mb5.3
MORC *e* pP 12 42 23.8 -0.1
MORC Moravsky Berou 79.52 320 eP **P** 12 42 09.4 -0.3
MORC *e* pP 12 42 23.8 -0.1
MORC pmax pmax
comp=Z,80nm,2.0s,mb5.3
ARCES ARCESS Array B 79.53 340 P **P** 12 42 09.3 0.0
comp=Z,1.7nm,0.3s,mb4.5,baz=98,slow=6.6,SNR=20
ARCES pP pP 12 42 22.7 -0.8
comp=Z,30nm,0.9s,baz=108,slow=3.8,SNR=9.5
ARCES LR LR 13 20 06.8
comp=Z,325nm,19.9s,MS4.7,baz=99,slow=38
ARCES ARCESS Array B 79.53 340 P **P** 12 42 09.3 0.0
ARCES pP pP 12 42 22.7 -0.8
ARCES LR LR 13 20 06.8
ARCES ARCESS Array B 79.53 340 P **P** 12 42 09.3 0.0
ARCES *PP pP 12 42 22.7 -0.8
ARCES pmax pmax
comp=Z,2.0nm,0.3s
ARCES pmax pmax
comp=Z,30nm,0.9s
ARCES MLR MLR
comp=Z,325nm,19.9s
ZST Bratislava 79.65 318 eP **P** 12 42 10.9 +0.5
ZST epP pP 12 42 24.6 0.0
DPC Dobruska-Polom 80.36 320 eP **P** 12 42 14.5 +0.3
DPC epP pP 12 42 28.9 +0.5
TSUM Tsumeb 80.42 250 PFAKE 12 42 30.0 +15
TSUM LR LR
comp=Z,206nm,19.0s,MS4.5
KSP Ksiaz 80.43 321 eP **P** 12 42 14.7 +0.2
KSP ePP pP 12 42 28.6 -0.1
GOLS Golise 80.47 316 eP **P** 12 42 15.2 +0.4
UPC Upice 80.57 320 eP **P** 12 42 15.7 +0.4
UPC epP pP 12 42 29.8 +0.3
ARSA Arzberg 80.63 317 ⇓*i*P **P** 12 42 16.4 +0.7
comp=Z,9.0nm,1.1s,mb4.6
ARSA *i* pP 12 42 30.8 +0.9
comp=Z,20nm,1.2s
ARSA Arzberg 80.63 317 ⇓*i*P **P** 12 42 16.4 +0.8
comp=Z,9.0nm,1.1s,mb4.6
ARSA Arzberg 80.63 317 ⇑*i*X 12 42 30.8
comp=Z,20nm,1.2s
TREC Trest 80.81 319 eP **P** 12 42 15.4 -1.2
TREC epP pP 12 42 31.0 +0.2
PERS Pernice 80.86 316 eP **P** 12 42 17.1 +0.2
PERS epP pP 12 42 32.0 +0.9
LJU Ljubljana 81.23 316 eP **P** 12 42 19.3 +0.5
LJU epP pP 12 42 34.0 +0.9
PRU Pruhonice 81.47 320 eP **P** 12 42 20.0 0.0
PRU epP pP 12 42 34.5 +0.2
MOA Molln 81.52 318 ⇓*i*P **P** 12 42 20.6 +0.3
comp=Z,4.9nm,1.1s,mb4.3
MOA *i* pP 12 42 34.6 +0.1
comp=Z,11nm,1.1s
MOA Molln 81.52 318 ⇓*i*X 12 42 34.6
comp=Z,11nm,1.1s
VOJS Vojsko 81.68 316 eP **P** 12 42 20.8 -0.4
AQU L'Aquila 81.87 312 eP **P** 12 42 22.4 +0.1
comp=Z,40nm,0.9s,mb5.3
AQU *e* pP 12 42 37.1 +0.6
AQU *e* 12 42 49.8
AQU L'Aquila 81.87 312 eP **P** 12 42 22.4 +0.2
AQU *e* pP 12 42 37.1 +0.6
AQU pmax pmax
comp=Z,40nm,0.9s,mb5.3
BRG Berggiesshubel 81.92 321 eP **P** 12 42 22.3 0.0
comp=Z,30nm,1.7s,mb4.9
BRG *i* pP 12 42 37.2 +0.6
BRG Berggiesshubel 81.92 321 eP **P** 12 42 22.3 0.0
BRG *i* pP 12 42 37.2 +0.7
BRG pmax pmax
comp=Z,30nm,1.7s,mb5.0
GEC2 GERESS Array S 81.95 319 eP **P** 12 42 22.9 +0.4
comp=Z,31nm,1.1s,mb5.2
GEC2 GERESS Array S 81.95 319 eP **P** 12 42 22.9 +0.4
GEC2 pmax pmax
comp=Z,31nm,1.1s,mb5.2
GERES GERESS Array B 81.95 319 P **P** 12 42 23.0 +0.4
comp=Z,2.4nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=18
GERES pP pP 12 42 37.1 +0.4
comp=Z,12nm,0.9s,baz=90,slow=5.3,SNR=14
GERES LR LR 13 24 03.8
comp=Z,78nm,19.0s,MS4.1,baz=172,slow=40
GERES GERESS Array B 81.95 319 P **P** 12 42 23.0 +0.5
GERES *PP pP 12 42 37.1 +0.3
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,12nm,0.9s
KHC Kasperske Hory 82.05 319 eP **P** 12 42 22.1 -0.9
KHC epP pP 12 42 37.8 +0.5
KBA Koelnbreinsper 82.10 317 ⇑*i*P **P** 12 42 23.9 +0.6
comp=Z,5.4nm,0.9s,mb4.5
KBA *i* pP 12 42 38.4 +0.8
comp=Z,12nm,1.1s
KBA Koelnbreinsper 82.10 317 ⇑*i*P **P** 12 42 23.9 +0.6
comp=Z,5.4nm,0.9s,mb4.5
KBA Koelnbreinsper 82.10 317 ⇑*i*X pP 12 42 38.4 +0.8
comp=Z,12nm,1.1s
KBA Koelnbreinsper 82.10 317 ⇑*i*P **P** 12 42 23.9 +0.6
KBA *i* pP 12 42 38.4 +0.8
KBA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
RUE Ruedersdorf 82.12 322 P **P** 12 42 23.3 0.0
comp=Z,43nm,0.9s,mb5.4
WET Wettzell 82.51 319 eP **P** 12 42 25.5 +0.1
comp=Z,15nm,1.0s,mb5.0

WET	**Wettzell**	**82.51**	**319**	*e*P	**P**	**12 42 25.5**	**+0.1**
WET				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
CLL	**Collm**	**82.53**	**321**	⇑P	**P**	**12 42 25.0**	**-0.4**
CLL				*i* *PP	pP	12 42 39.5	-0.2
CLL				*i* *SP	sP	12 42 46.6	+1.5
CLL				*e*		12 42 58.0	
CLL	**Collm**	**82.53**	**321**	⇑*i*P	**P**	**12 42 25.0**	**-0.4**
CLL				*i* *PP	pP	12 42 39.5	-0.2
CLL				*i* *SP	sP	12 42 46.6	+1.5
WTTA	**Wattenberg**	**83.27**	**317**	⇑*i*P	**P**	**12 42 28.9**	**-0.4**
	comp=Z,10nm,0.9s,mb4.8						
WTTA				*i*	pP	12 42 42.9	-0.7
	comp=Z,27nm,1.2s						
WTTA	**Wattenberg**	**83.27**	**317**	⇓*i*P	**P**	**12 42 28.9**	**-0.3**
	comp=Z,10nm,0.9s,mb4.9						
WTTA	**Wattenberg**	**83.27**	**317**	⇓*i*X	pP	12 42 42.9	-0.7
	comp=Z,27nm,1.2s						
WTTA	**Wattenberg**	**83.27**	**317**	⇑*i*P	**P**	**12 42 28.9**	**-0.4**
WTTA				*i*	pP	12 42 42.9	-0.7
WTTA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MOX	**Moxa**	**83.38**	**320**	*i* P	**P**	**12 42 29.9**	**+0.1**
MOX	**Moxa**	**83.38**	**320**	*e*P	**P**	**12 42 29.9**	**+0.1**
GRA1	**Grafenberg Arr**	**83.61**	**319**	*e*P	**P**	**12 42 31.4**	**+0.4**
	comp=Z,21nm,0.8s,mb5.3						
GRA1				*e*pP	pP	12 42 46.3	+1.0
GRF	**Grafenberg Arr**	**83.61**	**319**	*e*P	**P**	**12 42 31.4**	**+0.4**
	comp=Z,21nm,0.8s,mb5.3						
GRF				*e*pP	pP	12 42 46.3	+1.0
GRF	**Grafenberg Arr**	**83.61**	**319**	*e*P	**P**	**12 42 31.4**	**+0.4**
GRF				*e**PP	pP	12 42 46.3	+1.0
GRF				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.3						
MOTA	**Moosalm**	**83.64**	**317**	⇑*i*P	**P**	**12 42 31.1**	**-0.1**
	comp=Z,9.1nm,1.2s,mb4.8						
MOTA				*i*	pP	12 42 45.1	-0.4
	comp=Z,17nm,1.1s						
MOTA	**Moosalm**	**83.64**	**317**	⇑*i*X	pP	12 42 45.1	-0.4
	comp=Z,17nm,1.1s						
MOTA	**Moosalm**	**83.64**	**317**	⇑*i*P	**P**	**12 42 31.1**	**-0.1**
MOTA				*i*	pP	12 42 45.1	-0.4
MOTA				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.8						
NB2	**NORSAR Subarra**	**84.01**	**331**	P	**P**	**12 42 32.0**	**-0.7**
	comp=Z,32nm,1.2s,mb5.3,baz=92,slow=5.6						
NB2	**NORSAR Subarra**	**84.01**	**331**	P	**P**	**12 42 32.0**	**-0.7**
	baz=92,slow=5.6						
NB2	**NORSAR Subarra**	**84.01**	**331**	P	**P**	**12 42 32.0**	**-0.7**
NB2				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.3						
NOA	**NORSAR Array B**	**84.01**	**331**	P	**P**	**12 42 32.1**	**-0.6**
	comp=Z,1.9nm,0.8s,mb4.3,baz=94,slow=5.0,SNR=4.3						
NOA				pP	pP	12 42 46.4	-0.6
	comp=Z,9.6nm,0.9s,baz=93,slow=5.2,SNR=12						
NOA				LR	LR	13 23 29.8	
	comp=Z,133nm,20.9s,MS4.3,baz=75,slow=38						
NOA	**NORSAR Array B**	**84.01**	**331**	P	**P**	**12 42 32.2**	**-0.5**
NOA				*PP	pP	12 42 46.4	-0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,133nm,20.9s						
CLZ	**Clausthal**	**84.19**	**322**	*e*P	**P**	**12 42 34.2**	**+0.4**
	comp=Z,18nm,0.8s,mb5.2						
CLZ	**Clausthal**	**84.19**	**322**	*e*P	**P**	**12 42 34.2**	**+0.4**
CLZ				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
BSEG	**Bad Segeberg**	**84.26**	**324**	*e*P	**P**	**12 42 34.7**	**+0.6**
DAVA	**Damuels**	**84.47**	**317**	⇓*i*P	**P**	**12 42 35.6**	**+0.2**
	comp=Z,9.2nm,1.0s,mb4.9						
DAVA				*i*	pP	12 42 49.7	0.0
	comp=Z,29nm,1.1s						
DAVA	**Damuels**	**84.47**	**317**	⇓*i*P	**P**	**12 42 35.6**	**+0.3**
	comp=Z,9.2nm,1.0s,mb4.9						
DAVA	**Damuels**	**84.47**	**317**	⇑*i*X	pP	12 42 49.7	0.0
	comp=Z,29nm,1.1s						
PGF	**Pioggiola**	**85.13**	**312**	*e*P	**P**	**12 42 40.3**	**+1.5**
	comp=Z,94nm,1.4s,mb5.4						
PGF	**Pioggiola**	**85.13**	**312**	*e*P	**P**	**12 42 40.3**	**+1.5**
PGF				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.4						
BFO	**Black Forest**	**85.51**	**318**	*e*P	**P**	**12 42 40.7**	**+0.2**
	comp=Z,16nm,0.9s,mb5.2						
BFO	**Black Forest**	**85.51**	**318**	*e*P	**P**	**12 42 40.7**	**+0.2**
BFO				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
CDF	**Champ du Feu**	**86.21**	**318**	*e*P	**P**	**12 42 43.8**	**-0.1**
SBF	**Sospel**	**86.24**	**314**	*e*P	**P**	**12 42 44.4**	**+0.2**
	comp=Z,54nm,0.9s,mb5.5						
SBF	**Sospel**	**86.24**	**314**	*e*P	**P**	**12 42 44.4**	**+0.2**
SBF				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.5						
HINF	**Hinteralfeld**	**86.51**	**318**	*e*P	**P**	**12 42 44.9**	**-0.5**
LPG	**La Plagne**	**86.67**	**315**	*e*P	**P**	**12 42 46.9**	**+0.7**
	comp=Z,32nm,0.9s,mb5.2						
LPG	**La Plagne**	**86.67**	**315**	*e*P	**P**	**12 42 46.9**	**+0.7**
LPG				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
LPL	**La Plagne**	**86.68**	**315**	*e*P	**P**	**12 42 46.9**	**+0.6**
	comp=Z,56nm,1.1s,mb5.4						
LPL	**La Plagne**	**86.68**	**315**	*e*P	**P**	**12 42 46.9**	**+0.6**
LPL				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.4						
MBDF	**Montbardon**	**86.68**	**314**	*e*P	**P**	**12 42 46.1**	**-0.2**
BNI	**Bardonecchia**	**86.74**	**315**	*e*P	**P**	**12 42 45.5**	**-1.1**
	comp=Z,15nm,1.0s,mb5.2						
BNI				*e*	pP	12 43 01.4	+0.4
BNI	**Bardonecchia**	**86.74**	**315**	*e*P	**P**	**12 42 45.5**	**-1.1**
BNI				*e*	pP	12 43 01.4	+0.4
BNI				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.2						
FRF	**La Foret Royal**	**86.82**	**313**	*e*P	**P**	**12 42 47.5**	**+0.5**
	comp=Z,84nm,1.4s,mb5.5						
FRF	**La Foret Royal**	**86.82**	**313**	*e*P	**P**	**12 42 47.5**	**+0.5**
FRF				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.5						
HAU	**Haudompre**	**86.84**	**318**	*e*P	**P**	**12 42 46.8**	**-0.2**
	comp=Z,33nm,0.8s,mb5.3						
HAU				*e*R			
	comp=Z,110nm,20.8s						
HAU	**Haudompre**	**86.84**	**318**	*e*P	**P**	**12 42 46.8**	**-0.2**
HAU				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.3						
HAU				MLR	MLR		
	comp=Z,110nm,20.8s,MS4.2						
LMR	**La Mourre**	**86.93**	**313**	*e*P	**P**	**12 42 47.9**	**+0.3**
	comp=Z,43nm,1.3s,mb5.2						
LMR	**La Mourre**	**86.93**	**313**	*e*P	**P**	**12 42 47.9**	**+0.3**
LMR				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.2						
CABF	**La Chapelle**	**87.08**	**316**	*e*P	**P**	**12 42 48.7**	**+0.5**
	comp=Z,36nm,1.1s,mb5.2						
CABF	**La Chapelle**	**87.08**	**316**	*e*P	**P**	**12 42 48.7**	**+0.5**
CABF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.2						
ORIF	**Oris-en-Rattie**	**87.31**	**315**	*e*P	**P**	**12 42 50.0**	**+0.6**
	comp=Z,12nm,0.7s,mb4.9						
ORIF				*e*R			
	comp=Z,81nm,23.0s						
SMRF	**Simiane la Rot**	**87.58**	**314**	*e*P	**P**	**12 42 51.6**	**+0.9**
	comp=Z,40nm,1.3s,mb5.2						
GIVF	**Givet**	**87.74**	**320**	*e*P	**P**	**12 42 52.5**	**+1.2**
BAIF	**Baives**	**88.13**	**320**	*e*P	**P**	**12 42 53.6**	**+0.4**
	comp=Z,28nm,0.9s,mb5.2						
BAIF	**Baives**	**88.13**	**320**	*e*P	**P**	**12 42 53.6**	**+0.4**
BAIF				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.2						
VIVF	**Saint-Julien-l**	**88.17**	**315**	*e*P	**P**	**12 42 53.9**	**+0.4**
	comp=Z,30nm,1.2s,mb5.1						
VIVF	**Saint-Julien-l**	**88.17**	**315**	*e*P	**P**	**12 42 53.9**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.1						
LOR	**Lormes**	**88.56**	**317**	*e*P	**P**	**12 42 55.5**	**+0.2**
	comp=Z,25nm,1.0s,mb5.2						
LOR				*e*R			
	comp=Z,86nm,22.2s						
LOR	**Lormes**	**88.56**	**317**	*e*P	**P**	**12 42 55.5**	**+0.2**
LOR				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.2						
LOR				MLR	MLR		
	comp=Z,90nm,22.3s,MS4.1						
SMF	**Signal de Mont**	**88.62**	**316**	*e*P	**P**	**12 42 55.7**	**+0.1**
	comp=Z,21nm,0.8s,mb5.2						
SMF	**Signal de Mont**	**88.62**	**316**	*e*P	**P**	**12 42 55.7**	**+0.1**
SMF				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.2						
VNDA	**Vanda**	**88.78**	**169**	PFAKE		12 43 10.0	+14
VNDA				LR	LR		
	comp=Z,198nm,20.0s,MS4.5						
LASF	**Ste Croix**	**88.81**	**314**	*e*P	**P**	**12 42 57.3**	**+0.8**
	comp=Z,50nm,1.5s,mb5.3						
SSF	**Saint Saulge**	**88.82**	**317**	*e*P	**P**	**12 42 57.1**	**+0.6**
	comp=Z,12nm,0.8s,mb5.0						
SSF	**Saint Saulge**	**88.82**	**317**	*e*P	**P**	**12 42 57.1**	**+0.6**
SSF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
AVF	**Avril sur Loir**	**88.95**	**317**	*e*P	**P**	**12 42 57.3**	**+0.2**
	comp=Z,24nm,1.1s,mb5.2						
AVF	**Avril sur Loir**	**88.95**	**317**	*e*P	**P**	**12 42 57.3**	**+0.2**
AVF				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.1						
BGF	**Bois d'Agland**	**89.31**	**316**	*e*P	**P**	**12 42 59.7**	**+0.8**
TCF	**Toulx Ste Croi**	**89.78**	**316**	*e*P	**P**	**12 43 01.9**	**+0.8**
SBA	**Scott Base**	**89.88**	**168**	PFAKE		12 43 10.0	+9.1
SBA				LR	LR		
	comp=Z,294nm,20.0s,MS4.7						
CAF	**Calviac**	**90.01**	**315**	*e*P	**P**	**12 43 03.2**	**+1.0**
MTLF	**Montolieu**	**90.06**	**313**	*e*P	**P**	**12 43 03.2**	**+0.8**
	comp=Z,37nm,1.2s,mb5.3						
MTLF	**Montolieu**	**90.06**	**313**	*e*P	**P**	**12 43 03.2**	**+0.8**
MTLF				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.3						
RJF	**Les Rejaudoux**	**90.36**	**315**	*e*P	**P**	**12 43 04.8**	**+1.0**
RJF				*e*R			
	comp=Z,137nm,22.8s						
LFF	**La Frestale**	**90.94**	**315**	*e*P	**P**	**12 43 07.9**	**+1.3**
LDF	**La Druitiere**	**91.10**	**319**	*e*P	**P**	**12 43 07.7**	**+0.5**
	comp=Z,47nm,1.1s,mb5.4						
LDF	**La Druitiere**	**91.10**	**319**	*e*P	**P**	**12 43 07.7**	**+0.5**
LDF				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.4						
FLN	**La Foliniere**	**91.31**	**319**	*e*P	**P**	**12 43 08.6**	**+0.4**
	comp=Z,82nm,1.2s,mb5.7						
FLN				*e*R			
	comp=Z,92nm,21.8s						
FLN	**La Foliniere**	**91.31**	**319**	*e*P	**P**	**12 43 08.6**	**+0.4**
FLN				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.6						
FLN				MLR	MLR		
	comp=Z,90nm,21.8s,MS4.2						
MFF	**Saint Martin d**	**91.36**	**317**	*e*P	**P**	**12 43 09.2**	**+0.7**
	comp=Z,38nm,1.2s,mb5.3						
MFF	**Saint Martin d**	**91.36**	**317**	*e*P	**P**	**12 43 09.2**	**+0.7**
MFF				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.3						
GRR	**Gorron**	**91.61**	**319**	*e*P	**P**	**12 43 10.3**	**+0.7**
	comp=Z,42nm,1.2s,mb5.3						
GRR	**Gorron**	**91.61**	**319**	*e*P	**P**	**12 43 10.3**	**+0.7**
GRR				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.3						
ETSF	**Etsaut**	**92.12**	**313**	*e*P	**P**	**12 43 14.2**	**+2.1**
	comp=Z,25nm,1.2s,mb5.1						
ETSF	**Etsaut**	**92.12**	**313**	*e*P	**P**	**12 43 14.2**	**+2.1**
ETSF				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.1						
SJPF	**Ste Jean**	**92.58**	**313**	*e*P	**P**	**12 43 15.5**	**+1.3**
	comp=Z,19nm,1.1s,mb5.2						
SJPF	**Ste Jean**	**92.58**	**313**	*e*P	**P**	**12 43 15.5**	**+1.3**
SJPF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.2						
SGMF	**Saint Gilles**	**92.75**	**319**	*e*P	**P**	**12 43 15.3**	**+0.5**
QSPA	**South Pole Qui**	**93.92**	**180**	PFAKE		12 43 30.0	+11
QSPA				LR	LR		
	comp=Z,394nm,20.0s,MS4.9						
ESDC	**Sonseca Array**	**95.13**	**310**	P	**P**	**12 43 26.0**	**+0.1**
	comp=Z,0.5nm,0.4s,mb4.3,baz=52,slow=4.1,SNR=4.4						
ESDC				pP	pP	12 43 41.1	+0.7
	comp=Z,1.2nm,0.7s,baz=65,slow=4.2,SNR=3.1						
ESLA	**Sonseca Array**	**95.13**	**310**	PFAKE		12 43 40.0	+14
ESLA				LR	LR		
	comp=Z,480nm,19.0s,MS5.0						
COLA	**College**	**97.18**	**23**	PFAKE		12 43 50.0	+15
COLA				LR	LR		
	comp=Z,12nm,22.0s,MS3.3						
ILAR	**Eielson Array**	**97.60**	**23**	pP	pP	12 43 54.4	+3.3
	comp=Z,0.7nm,0.8s,baz=289,slow=4.8,SNR=4.7						
PMR	**Palmer**	**98.03**	**26**	PFAKE		12 43 50.0	+12
PMR				LR	LR		
	comp=Z,187nm,20.0s,MS4.6						
DBIC	**Dimbokro**	**100.31**	**277**	PFAKE		12 44 00.0	+10
DBIC				LR	LR		
	comp=Z,3μm,22.0s						
TBI	**Tubuai**	**114.06**	**114**	*e*LR	LR	13 22 58.8	
PPT	**Papeete**	**114.45**	**107**	*e*LR	LR	13 23 09.6	
	comp=Z,205nm,28.0s						
MCMT	**McKenzie Canyo**	**124.97**	**25**	*e*PKPdf	PKPdf	12 49 07.9	+6.3
RKT	**Rikitea**	**127.23**	**116**	*e*LR	LR	13 29 04.9	
	comp=Z,228nm,34.0s						
PDAR	**Pinedale Array**	**128.01**	**24**	PKP	PKPdf	12 49 09.1	+1.5
	comp=Z,0.4nm,0.5s,baz=83,slow=2.8,SNR=8.0						
PDAR				pPKP		12 49 24.0	
	comp=Z,2.3nm,1.1s,baz=45,slow=2.1,SNR=6.5						
MSU	**Marysvale**	**130.31**	**29**	*e*PKPdf	PKPdf	12 49 15.4	+3.3
ANMO	**Albuquerque**	**135.87**	**27**	*i* PKIKP	PKPdf	12 49 24.8	+2.3
TXAR	**Lajitas Array**	**141.86**	**28**	PKP	PKPdf	12 49 36.0	+2.4
	comp=Z,1.2nm,0.5s,baz=270,slow=1.3,SNR=5.2						
TXAR	**Lajitas Array**	**141.86**	**28**	PKP	PKPdf	12 49 36.0	+2.4
TXAR	**Lajitas Array**	**141.86**	**28**	PKIKP	PKPdf	12 49 36.0	+2.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP	**Villa Florida**	**146.17**	**226**	*e*PKPdf	PKPdf	12 49 42.4	+1.4
CPUP				*e*		12 49 55.5	

INMG ***22*** *12:32:06.7±1.0, 46.42N×9.79W, h10km, ML2.9, Error ellipse: s-maj=28.8km s-min=14.6km az=99.0*
NEIC ***22*** *12:32:19.6±0.8, 45.15N×8.80W, h10km, ML3.1(LDG), Error ellipse: s-maj=10.0km s-min=3.5km az=114.0*
LDG ***22*** *12:32:21.8±0.3, 45.19N×8.96W, h20km, Ml3.1/8, Error ellipse: s-maj=6.1km s-min=3.4km az=77.0*
CSEM ***22*** *12:32:22.0±0.1, 45.06N×8.91W, h40km, ML3.1/8, Error ellipse: s-maj=4.3km s-min=1.6km az=118.0*

ISC 22 12:32:19.5±0.7, 45.14N±0.04×8.47W±0.07, h10km, n65, σ1^{9}07/75, 1C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPON	**Pontenova**	**2.05**	**152**	⇑P	**Pn**	**12 32 55.1**	**+0.6**
EMAZ	**Mazaricos**	**2.22**	**190**	P	**Pn**	**12 32 55.8**	**-1.2**
EMAZ	**Mazaricos**	**2.22**	**190**	P	**Pn**	**12 32 55.8**	**-1.2**
ERUA	**La Rua**	**2.91**	**160**	P	**Pn**	**12 33 06.7**	**-0.1**
ERUA	**La Rua**	**2.91**	**160**	P	**Pn**	**12 33 06.7**	**-0.1**
EARI	**Arriondas**	**2.98**	**127**	P	**Pn**	**12 33 09.5**	**+1.7**
EARI	**Arriondas**	**2.98**	**127**	P	**Pn**	**12 33 09.5**	**+1.7**
EZAM	**Zamans**	**3.00**	**183**	P	**Pn**	**12 33 06.9**	**-1.1**
EZAM	**Zamans**	**3.00**	**183**	P	**Pn**	**12 33 06.9**	**-1.2**
ELOB	**Lobios**	**3.29**	**175**	P	**Pn**	**12 33 11.9**	**-0.3**
ELOB	**Lobios**	**3.29**	**175**	P	**Pn**	**12 33 11.9**	**-0.3**
ECAL	**Calabor**	**3.44**	**158**	P	**Pn**	**12 33 15.2**	**+0.9**
ECAL	**Calabor**	**3.44**	**158**	P	**Pn**	**12 33 15.2**	**+0.9**
PCAB	**Cabril**	**3.45**	**175**	*e*Pn	**Pn**	**12 33 13.2**	**-1.2**
	19nm,0.1s						
PCAB	**Cabril**	**3.45**	**175**	*e*Pn	**Pn**	**12 33 13.2**	**-1.2**
	19nm,0.1s						
PBRG	**Braganca**	**3.56**	**159**	*e*Pn	**Pn**	**12 33 16.6**	**+0.5**
	13nm,0.4s						
PVRL	**Vila Real**	**3.90**	**172**	*e*Pn	**Pn**	**12 33 20.7**	**-0.2**
ELAN	**Lanestosa**	**4.09**	**116**	P	**Pn**	**12 33 25.0**	**+1.4**
ELAN	**Lanestosa**	**4.09**	**116**	P	**Pn**	**12 33 25.0**	**+1.4**
QUIF	**Quistinic**	**4.59**	**51**	*e*Pn	**Pn**	**12 33 31.8**	**+1.1**
QUIF				*e*Sn	**Sn**	**12 34 23.8**	**-0.9**
	8.1nm,0.4s						
MTE	**Manteigas**	**4.79**	**172**	*e*Pn	**Pn**	**12 33 32.6**	**-0.9**
MTE				*e*Sn	**Sn**	**12 34 37.0**	**+7.3**
	12nm,0.3s						
ROSF	**Rostrenen**	**4.79**	**46**	*e*Pn	**Pn**	**12 33 33.5**	**0.0**
ROSF				*e*Sn	**Sn**	**12 34 27.4**	**-2.3**
	2.5nm,0.3s						
ECRI	**Cripan**	**4.99**	**118**	P	**Pn**	**12 33 36.7**	**+0.3**
ECRI	**Cripan**	**4.99**	**118**	P	**Pn**	**12 33 36.7**	**+0.3**
SGMF	**Saint Gilles**	**5.12**	**50**	*e*Pn	**Pn**	**12 33 38.2**	**+0.1**
SGMF				*e*Sn	**Sn**	**12 34 36.2**	**-1.8**
	3.1nm,0.3s						
EALK	**Alkurruntz**	**5.36**	**109**	P	**Pn**	**12 33 41.7**	**+0.1**
EALK	**Alkurruntz**	**5.36**	**109**	P	**Pn**	**12 33 41.7**	**+0.1**
SJPF	**Ste Jean**	**5.59**	**109**	*e*Pn	**Pn**	**12 33 45.8**	**+1.0**
SJPF				*e*Sn	**Sn**	**12 34 49.8**	**-0.1**
	2.5nm,0.3s						
MFF	**Saint Martin d**	**5.99**	**73**	*e*Pn	**Pn**	**12 33 51.5**	**+1.1**
ETSF	**Etsaut**	**6.13**	**109**	*e*Pn	**Pn**	**12 33 54.6**	**+2.2**
ETSF				*e*Sn	**Sn**	**12 35 02.8**	**-0.5**
	3.6nm,0.4s						
GRR	**Gorron**	**6.15**	**55**	*e*Pn	**Pn**	**12 33 53.6**	**+0.9**
EBAD	**Badajoz**	**6.47**	**170**	P	**Pn**	**12 33 57.4**	**+0.2**
EBAD	**Badajoz**	**6.47**	**170**	P	**Pn**	**12 33 57.4**	**+0.1**
LFF	**La Frestale**	**6.53**	**89**	*e*Pn	**Pn**	**12 33 58.7**	**+0.7**
FLN	**La Foliniere**	**6.55**	**54**	*e*Pn	**Pn**	**12 33 58.5**	**+0.1**
	baz=238						
FLN				*e*Sn	**Sn**	**12 35 11.0**	**-3.0**
LDF	**La Druitiere**	**6.68**	**56**	*e*Pn	**Pn**	**12 34 00.5**	**+0.3**
LDF				*e*Sn	**Sn**	**12 35 14.1**	**-3.0**
	2.6nm,0.3s						
EPF	**Esparros**	**6.68**	**105**	*e*Pn	**Pn**	**12 34 01.7**	**+1.5**
EPF				*e*Sn	**Sn**	**12 35 15.5**	**-1.7**
	2.6nm,0.3s						
EBIE	**Bielsa**	**6.68**	**109**	P	**Pn**	**12 34 02.1**	**+1.9**
EBIE	**Bielsa**	**6.68**	**109**	P	**Pn**	**12 34 02.1**	**+1.9**
ESAC	**San Caprasio**	**6.75**	**118**	P	**Pn**	**12 34 00.5**	**-0.7**
ESAC	**San Caprasio**	**6.75**	**118**	P	**Pn**	**12 34 00.5**	**-0.7**
EGRA	**Graus**	**7.01**	**112**	P	**Pn**	**12 34 05.4**	**+0.6**
EGRA	**Graus**	**7.01**	**112**	P	**Pn**	**12 34 05.4**	**+0.5**
ECAB	**El Cabril**	**7.42**	**161**	P	**Pn**	**12 34 09.6**	**-0.9**
ECAB	**El Cabril**	**7.42**	**161**	P	**Pn**	**12 34 09.6**	**-1.0**
CAF	**Calviac**	**7.46**	**88**	*e*Pn	**Pn**	**12 34 12.5**	**+1.3**
EMIN	**Mina Concepcio**	**7.49**	**169**	P	**Pn**	**12 34 09.9**	**-1.7**
EMIN	**Mina Concepcio**	**7.49**	**169**	P	**Pn**	**12 34 09.9**	**-1.6**
EADA	**Adamuz**	**7.55**	**156**	P	**Pn**	**12 34 10.8**	**-1.6**
EADA	**Adamuz**	**7.55**	**156**	P	**Pn**	**12 34 10.8**	**-1.6**
TCF	**Toulx Ste Croi**	**7.56**	**78**	*e*Pn	**Pn**	**12 34 12.6**	**+0.1**
EMOS	**Mosqueruela**	**7.58**	**126**	P	**Pn**	**12 34 13.2**	**+0.5**
EMOS	**Mosqueruela**	**7.58**	**126**	P	**Pn**	**12 34 13.2**	**+0.5**
ERTA	**Horta de San J**	**7.68**	**120**	P	**Pn**	**12 34 13.8**	**-0.4**
ERTA	**Horta de San J**	**7.68**	**120**	P	**Pn**	**12 34 13.8**	**-0.4**
MTLF	**Montolieu**	**7.88**	**99**	*e*Pn	**Pn**	**12 34 17.6**	**+0.6**
MTLF				*e*Sn	**Sn**	**12 35 44.9**	**-2.2**
	1.7nm,0.3s						
BGF	**Bois d'Agland**	**8.02**	**76**	*e*Pn	**P**	**12 34 19.1**	**+0.1**
ETOB	**Tobarra**	**8.29**	**139**	P	**P**	**12 34 21.8**	**-0.9**
ETOB	**Tobarra**	**8.29**	**139**	P	**P**	**12 34 21.8**	**-0.9**
AVF	**Avril sur Loir**	**8.40**	**74**	*e*Pn	**P**	**12 34 24.4**	**+0.2**
SSF	**Saint Saulge**	**8.54**	**73**	*e*Pn	**P**	**12 34 26.1**	**0.0**
SMF	**Signal de Mont**	**8.71**	**76**	*e*Pn	**P**	**12 34 28.7**	**+0.1**
LASF	**Ste Croix**	**8.86**	**93**	*e*Pn	**P**	**12 34 31.6**	**+1.0**
VIVF	**Saint-Julien-l**	**9.31**	**87**	*e*Pn	**P**	**12 34 37.6**	**+0.7**
PGF	**Pioggiola**	**12.87**	**95**	*e*Pn	**P**	**12 35 25.8**	**+0.6**

OTT 22 12:34:52.7±0.6, 76.09N×88.60W, h18km, MN3.8/1, 155km west from Grise Fiord, Nu Eastern Arctic Background Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**2.13**	**232**	PN	Pn	12 35 29.1	+1.0
RES				SN	Sn	12 35 52.6	-1.6
RES				SG	Sn	12 35 60.0	+5.7
RES				Trac		12 36 01.2	
	comp=Z,123nm,0.1s						
PINU	**Pond Inlet**	**4.45**	**135**	PN	Pn	12 35 45.4	-16
PINU				SN	Sn	12 36 32.7	-20
PINU				Trac		12 37 08.1	
	comp=Z,16nm,0.2s						
TULEG	**Thule**	**4.71**	**75**	PN	Pn	12 36 03.0	-1.7
TULEG				SN	Sn	12 36 52.9	-6.7
TULEG				Trac		12 36 57.4	
	comp=Z,13nm,0.2s						
GIFN	**Gifford Fjord,**	**6.45**	**158**	PN	Pn	12 36 25.6	-3.6
GIFN				SN	Sn	12 37 31.2	-12
GIFN				LG		12 38 03.8	
GIFN				Trac		12 38 15.5	
	comp=Z,9.7nm,0.2s						
AP3N	**Apex site 3 Nu**	**6.78**	**168**	PN	Pn	12 36 30.2	-3.7
AP3N				SN	Sn	12 37 39.4	-12
AP3N				LG		12 38 13.6	
AP3N				Trac		12 38 24.6	
	comp=Z,14nm,0.3s						
ILON	**Igloolik, Nuna**	**7.04**	**160**	PN	Pn	12 36 33.8	-3.8
ILON	

DZM	**Mont Dzumac**	**9.05**	**184**	Pn	P	12 50 24.7	-1.8
	0.1nm,0.3s,baz=123,slow=20,SNR=1.7						
STKA	**Stephens Creek**	**30.04**	**227**	P	P	12 54 22.0	-2.6
	1.6nm,0.4s,baz=61,slow=11,SNR=9.0						
WRA	**Warramunga Arr**	**32.15**	**253**	P	P	12 54 41.0	-2.2
	0.6nm,0.5s,baz=86,slow=9.4,SNR=16						
FITZ	**Fitzroy Crossi**	**40.23**	**257**	LR	LR	13 10 04.2	
	comp=Z,164nm,21.4s,baz=265,slow=33						
SONM	**Songino Array**	**81.02**	**323**	P	P	13 00 29.3	-0.5
	0.3nm,0.5s,baz=137,slow=5.5,SNR=4.0						
ILAR	**Eielson Array**	**84.93**	**18**	P	P	13 00 47.5	-1.8
	0.5nm,0.7s,baz=243,slow=5.2,SNR=6.6						

NEIC ***22*** *12:57:19.6±0.5,38.85N×75.47E,h10km, Error ellipse: s-maj=14.3km s-min=5.9km az=63.0*
BJI ***22*** *12:57:22.3,38.90N×75.36E,h33km, ML4.1*
IDC ***22*** *12:57:23.1±6.9,38.84N×75.62E,h40km±59km, mb3.6/6, mb1 3.7/8,mb1mx3.5/20,mbtmp3.7/8,ML3.0/1, Error ellipse: s-maj=49.6km s-min=26.0km az=32.0*
NNC ***22*** *12:57:27.4±3.2,39.01N×74.51E,h14km±21km,mpv3.5, Error ellipse: s-maj=28.2km s-min=22.2km az=136.0*

ISC 22 12:57:16.4±1.5,38.70N±0.05×75.21E±0.09,h6km±10km, n27,σ1§29/31,mb3.7/6,4C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.01**	**36**	⇓*iP*	**Pb**	**12 57 38.6**	**+2.7**
KSH				SG	**Sg**	**12 57 50.4**	**+0.4**
KSH				Smax			
	comp=N,8μm,0.4s						
KSH				Smax			
	comp=E,7μm,0.4s						
UCH	**Uchtor**	**3.56**	**352**	P	**Pn**	**12 58 17.7**	**+4.3**
	SNR=20						
KBK	**Karagaybulak**	**3.95**	**357**	P	**Pg**	**12 58 32.2**	**-3.2**
	SNR=11						
AAK	**Ala-Archa**	**3.96**	**352**	P	**Pg**	**12 58 34.0**	**-1.6**
	SNR=7.4						
AAK	**Ala-Archa**	**3.96**	**352**	⇓Pn	**Pn**	**12 58 23.4**	**+4.2**
	comp=E,17nm,0.6s						
AAK				⇓Sn	**Sn**	**12 59 06.8**	**+0.3**
	comp=E,28nm,0.8s						
AAK				⇑Lg		12 59 21.9	
	comp=E,103nm,1.0s						
AAK	**Ala-Archa**	**3.96**	**352**	*e*Pn	**Pn**	**12 58 20.3**	**+1.2**
TKM2	**Tokmak 2**	**4.22**	**4**	P	**Pn**	**12 58 27.1**	**+4.2**
	SNR=6.1						
CHMS	**Chumysh**	**4.30**	**356**	P	**Pg**	**12 58 35.6**	**-6.8**
	SNR=8.8						
USP	**Ospenovka**	**4.59**	**353**	P	**Pg**	**12 58 40.5**	**-7.6**
	SNR=6.8						
KK31	**Karatay Array**	**5.66**	**322**	⇑Pn	**Pn**	**12 58 45.7**	**+2.6**
	comp=E,0.9nm,0.2s,baz=128,slow=11,SNR=85						
KK31				⇑Sn	**Sn**	**12 59 47.7**	**-1.5**
	comp=E,5.3nm,0.3s						
KK31				⇑Lg		13 00 10.8	
	comp=E,3.1nm,0.3s						
MKAR	**Makanchi Array**	**9.61**	**30**	P	**P**	**12 59 34.4**	**-3.9**
	comp=E,0.2nm,0.3s,baz=196,slow=13,SNR=2.8						
KOLN	**Koldanda**	**12.96**	**145**	*e*P	**P**	**13 00 24.0**	**+0.1**
	comp=E,9.0nm,0.5s						
KOLN				*e*S	**S**	**13 02 47.5**	**-2.0**
GKN	**Gorkha**	**13.25**	**141**	*e*P	**P**	**13 00 28.3**	**+0.5**
	comp=E,7.1nm,0.3s						
KKN	**Kakani**	**13.75**	**139**	*e*P	**P**	**13 00 34.9**	**+0.5**
DMN	**Daman**	**13.81**	**140**	*e*P	**P**	**13 00 35.7**	**+0.5**
	comp=E,7.4nm,0.5s						
PKI	**Pulchoki**	**14.00**	**139**	*e*P	**P**	**13 00 38.0**	**+0.4**
BVAR	**Borovoye Array**	**14.71**	**348**	P	**P**	**13 00 52.0**	**+5.3**
	comp=E,0.3nm,0.3s,baz=164,slow=11,SNR=5.0						
AB31	**Akbulak array**	**15.20**	**319**	Pn	**P**	**13 00 53.3**	**0.0**
	comp=E,1.9nm,0.8s,baz=127,slow=14,SNR=12						
AB31				⇓Lg		13 05 11.7	
	comp=E,0.4nm,0.5s						
ZAL	**Zalesovo**	**16.59**	**20**	P	**P**	**13 01 10.3**	**-0.7**
	comp=E,0.3nm,0.3s,baz=291,slow=8.6,SNR=3.9						
BRTR	**Keskin Array B**	**32.02**	**285**	P	**P**	**13 03 48.5**	**+2.8**
	comp=E,0.7nm,0.6s,mb3.6,baz=63,slow=9.7,SNR=2.4						
FINES	**FINESS Array B**	**37.62**	**323**	P	**P**	**13 04 33.9**	**+0.5**
	comp=E,0.4nm,0.3s,mb3.6,baz=101,slow=9.7,SNR=4.5						
ARCES	**ARCESS Array B**	**40.46**	**336**	P	**P**	**13 04 57.2**	**+0.2**
	comp=E,3.9nm,1.0s,mb4.1,baz=108,slow=7.7,SNR=6.3						
NOA	**NORSAR Array B**	**44.69**	**322**	P	**P**	**13 05 31.8**	**+0.3**
	comp=E,2.3nm,1.1s,mb3.9,baz=80,slow=10,SNR=3.5						
KSM	**Kuching**	**49.01**	**130**	P	**P**	**13 06 02.6**	**-3.6**
YKA	**Yellowknife Ar**	**78.84**	**5**	P	**P**	**13 09 20.7**	**-0.5**
	comp=E,0.8nm,0.7s,mb3.8,baz=346,slow=5.7,SNR=3.7						
WRA	**Warramunga Arr**	**80.41**	**125**	P	**P**	**13 09 29.5**	**-1.1**
	comp=E,0.2nm,0.4s,mb3.4,baz=320,slow=4.4,SNR=8.2						
PMG	**Port Moresby**	**82.06**	**109**	*e*P	**P**	**13 09 34.1**	**-5.2**

MOS 22 13:02:23.2±1.4,61.39N×179.16E,h10km,mb4.6/5,3C-1D, Error ellipse: s-maj=36.0km s-min=15.9km az=107.9, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**8.64**	**326**	*e*PN	P	13 04 31.7	+0.4
BILL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MA2	**Magadan**	**14.06**	**275**	*e*P	P	13 05 42.2	-2.1
MA2				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TIXI	**Tiksi**	**21.75**	**319**	*e*P	P	13 07 16.7	+0.4
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,117nm,15.0s						
YAK	**Yakutsk**	**23.01**	**294**	*e*P	P	13 07 31.0	+2.3
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**25.32**	**252**	*i* P	P	13 07 50.8	-0.3
YSS				pmax	pmax		
	comp=Z,18nm,1.8s						
ANMO	**Albuquerque**	**52.68**	**84**	*i* P	P	13 11 38.5	-1.0
ARU	**Arti**	**53.65**	**324**	⇓*iP*	P	13 11 46.5	+0.1
ARU				*e*		13 13 45.6	
ARU				*e*PPP	PPP	13 14 56.9	+0.1
ARU				*e*S	S	13 19 18.9	+0.4
ARU				*e*SS	SS	13 23 00.5	+2.0
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PUL	**Pulkovo**	**56.80**	**342**	*i* P	P	13 12 09.8	+0.5
OBN	**Obninsk**	**60.15**	**336**	⇑*e*P	P	13 12 31.7	-1.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KHC	**Kasperske Hory**	**69.23**	**350**	⇑eP	P	13 13 32.7	+1.1
KIV	**Kislovodsk**	**69.26**	**328**	*e*P	P	13 13 30.3	-1.5
KIV				pmax	pmax		
	comp=N,6.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,2.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PMG	**Port Moresby**	**74.90**	**213**	*i* P	P	13 14 08.3	+2.5
KMBO	**Kilima Mbogo**	**113.32**	**318**	⇑iPKIKP	PKPdf	13 21 00.8	-3.3
MBAR	**Mbarara**	**114.79**	**325**	*e*PKIKP	PKPdf	13 21 03.9	-3.0

BJI ***22*** *13:09:32.4,2.71S×99.93E,h34km,mB5.0,mb4.7,Ms4.0, Msz4.0*
NEIC ***22*** *13:09:40.0±0.3,1.77S×99.78E,mb4.7/18, Error ellipse: s-maj=9.9km s-min=6.4km az=65.0*
IDC ***22*** *13:09:40.6±0.8,1.75S×99.83E,h34km±5km,mb4.2/14, mb1 4.3/14,mb1mx4.2/17,mbtmp4.4/14,MS3.5/1, Ms1 3.5/1,ms1mx2.8/28, Error ellipse: s-maj=21.2km s-min=13.1km az=56.0*

ISC 22 13:09:38.4±0.3,1.78S±0.05×99.78E±0.07,h34km, h34km±.9km:pP-P,n55,σ1§06/55,mb4.6/38,MS3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**7.08**	**7**	*e*Pn	**P**	**13 11 22.3**	**0.0**
KKM	**Kota Kinabalu**	**18.16**	**65**	*e*P	**P**	**13 13 51.0**	**+1.1**
QIZ	**Qiongzhong**	**22.93**	**25**	*e*P	**P**	**13 14 42.1**	**+1.4**
QIZ				*e*S	**S**	**13 18 46.9**	**+2.9**
QIZ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.2						
QIZ				LR	LR		
	comp=E,238nm,11.0s						
QIZ				LR	LR		
	comp=Z,341nm,10.5s,MS4.1						
QIZ	**Qiongzhong**	**22.93**	**25**	*e*P	**P**	**13 14 41.8**	**+1.0**
	comp=Z,23nm,1.1s,mb4.5						
KMI	**Kunming**	**26.90**	**6**	P	**P**	**13 15 20.0**	**+1.5**
KMI				S	**S**	**13 19 55.9**	**+4.8**
KMI				AMB	AMB		
	comp=E,4.0nm,0.8s,mb4.0						
KMI				AMB	AMB		
	comp=E,116nm,5.0s						
KMI				LR	LR		
	comp=N,244nm,13.0s,MS4.0						
KMI				LR	LR		
	comp=E,235nm,15.4s,MS4.0						
KMI				LR	LR		
	comp=Z,197nm,15.4s,MS3.8						
MBWA	**Marble Bar**	**27.37**	**136**	P	**P**	**13 15 22.0**	**-0.8**
	comp=Z,30nm,1.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.11**	**124**	*e*P	**P**	**13 15 46.2**	**-1.2**
	comp=Z,14nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.11**	**124**	P	**P**	**13 15 46.3**	**-1.1**
	comp=Z,12nm,0.9s,mb4.6,baz=85,slow=0.4,SNR=5.6						
PKI	**Pulchoki**	**32.30**	**336**	*e*P	**P**	**13 16 06.8**	**+0.3**
	comp=Z,11nm,0.8s,mb4.8						
LSA	**Lhasa**	**32.38**	**346**	*e*P	**P**	**13 16 05.3**	**-1.9**
DMN	**Daman**	**32.46**	**335**	*e*P	**P**	**13 16 08.3**	**+0.4**
	comp=Z,12nm,0.9s,mb4.7						
KKN	**Kakani**	**32.54**	**336**	*e*P	**P**	**13 16 08.3**	**-0.4**
	comp=Z,9.9nm,0.5s,mb5.0						
GKN	**Gorkha**	**33.00**	**335**	*e*P	**P**	**13 16 10.4**	**-2.2**
	comp=Z,12nm,0.7s,mb4.9						
ENH	**Enshi**	**33.20**	**15**	*e*P	**P**	**13 16 13.5**	**-0.8**
KOLN	**Koldanda**	**33.25**	**333**	*e*P	**P**	**13 16 11.6**	**-3.2**
	comp=Z,18nm,0.8s,mb5.0						
NJ2	**Nanjing**	**38.20**	**27**	*e*P	**P**	**13 16 58.1**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**38.29**	**121**	P	**P**	**13 16 57.4**	**-0.2**
	comp=Z,4.1nm,0.5s,mb4.4,baz=303,slow=9.0,SNR=50						
WRA				pP	pP	13 17 07.4	-0.3
	comp=Z,12nm,0.4s,baz=304,slow=9.1,SNR=30						
WRA				PcP	PcP	13 19 11.9	+0.1
	comp=Z,1.1nm,0.5s,baz=314,slow=2.4,SNR=5.3						
WRA				pPcP		13 19 21.6	
	comp=Z,0.7nm,0.5s,baz=309,slow=2.6,SNR=5.0						
WRAB	**Tennant Creek**	**38.30**	**121**	*e*P	**P**	**13 16 56.9**	**-0.8**
	comp=Z,23nm,0.5s,mb5.2						
WRAB				*e*pP	pP	13 17 07.2	-0.5
WB2	**Warramunga Arr**	**38.30**	**121**	*e*P	**P**	**13 16 57.5**	**-0.2**
WB2				*i*	pP	13 17 08.1	+0.4
ASPA	**Alice Springs**	**39.55**	**126**	*e*P	**P**	**13 17 08.0**	**-0.1**
ASPA				*i*	pP	13 17 18.4	+0.3
JNU	**Nakatsue**	**45.46**	**37**	P	**P**	**13 17 56.0**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.1,baz=107,slow=19,SNR=2.7						
JNU				LR	LR	13 38 37.5	
	comp=Z,52nm,18.4s,MS3.5,baz=228,slow=38						
JNU	**Nakatsue**	**45.46**	**37**	P	**P**	**13 17 56.0**	**-0.2**
JNU				LR	LR	13 38 37.5	
WMQ	**Urumqi**	**46.68**	**348**	*e*P	**P**	**13 18 06.6**	**+0.9**
WMQ				AP	pP	13 18 17.0	+1.2
WMQ				XP	sP	13 18 21.0	+0.9
WMQ				S	**S**	**13 24 52.0**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,95nm,3.6s						
WMQ				LR	LR		
	comp=N,109nm,21.2s,MS3.9						
WMQ				LR	LR		
	comp=E,69nm,20.3s,MS3.9						
WMQ				LR	LR		
	comp=Z,120nm,22.4s,MS3.8						
CTAO	**Charters Tower**	**48.89**	**115**	P	**P**	**13 18 22.9**	**-0.3**
	comp=Z,6.9nm,0.9s,mb4.7						
CTAO				*e*pP	pP	13 18 32.4	-1.0
STKA	**Stephens Creek**	**49.46**	**132**	*e*P	**P**	**13 18 27.6**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.5						
STKA				*i*	pP	13 18 38.0	+0.3
STKA	**Stephens Creek**	**49.46**	**132**	P	**P**	**13 18 27.8**	**+0.3**
	comp=Z,3.3nm,0.7s,mb4.5,baz=308,slow=7.7,SNR=7.0						
STKA				pP	pP	13 18 38.2	+0.5
	comp=Z,5.5nm,0.5s,baz=314,slow=7.7,SNR=7.5						
STKA	**Stephens Creek**	**49.46**	**132**	*e*P	**P**	**13 18 26.8**	**-0.7**
STKA				*e*pP	pP	13 18 37.0	-0.6
SONM	**Songino Array**	**49.75**	**6**	P	**P**	**13 18 30.1**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.4,baz=185,slow=8.5,SNR=17						
SONM				PcP	PcP	13 19 50.5	0.0
	comp=Z,1.2nm,0.5s,baz=183,slow=4.9,SNR=5.2						
SONM				pPcP		13 20 00.7	
	comp=Z,1.7nm,0.7s,baz=181,slow=4.3,SNR=4.3						
AAK	**Ala-Archa**	**49.75**	**336**	*e*P	**P**	**13 18 29.7**	**+0.1**
MKAR	**Makanchi Array**	**50.76**	**345**	P	**P**	**13 18 37.4**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.7,baz=150,slow=8.1,SNR=38						
MKAR	**Makanchi Array**	**50.76**	**345**	P	**P**	**13 18 37.4**	**+0.1**
MDJ	**Mudanjiang**	**53.29**	**26**	P	**P**	**13 18 57.3**	**+1.0**
MDJ				AP	pP	13 19 06.5	-0.1
MDJ				XP	sP	13 19 10.6	-0.1
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,57nm,4.7s						
MDJ				LR	LR		
	comp=N,50nm,18.9s,MS3.6						
MDJ				LR	LR		
	comp=E,18nm,18.1s,MS3.6						
MDJ				LR	LR		
	comp=Z,67nm,14.6s,MS3.8						
OPO	**Ambohidratompo**	**54.14**	**248**	P	**P**	**13 19 03.1**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.2,baz=307,slow=16,SNR=4.5						
KURK	**Kurchatov**	**55.34**	**344**	*e*P	**P**	**13 19 10.0**	**-1.2**
	comp=Z,9.6nm,0.9s,mb4.8						
ZAL	**Zalesovo**	**56.91**	**349**	P	**P**	**13 19 21.6**	**-0.8**
	comp=Z,6.5nm,0.4s,mb5.0,baz=302,slow=4.9,SNR=18						
ZAL				pP	pP	13 19 32.2	-0.6
	comp=Z,12nm,0.7s,baz=299,slow=5.8,SNR=13						
TAU	**Tasmania Unive**	**58.89**	**141**	P	**P**	**13 19 37.0**	**+0.5**
	comp=Z,16nm,1.1s,mb5.0						
BRVK	**Borovoye**	**59.97**	**340**	*e*P	**P**	**13 19 42.3**	**-1.4**
	comp=Z,2.9nm,0.7s,mb4.4						
YSS	**Yuzh-Sakhalins**	**61.42**	**32**	P	**P**	**13 19 51.5**	**-2.2**
	comp=Z,10nm,1.0s,mb4.9						
KMBO	**Kilima Mbogo**	**62.51**	**270**	P	**P**	**13 20 02.4**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.5,baz=70,slow=9.6,SNR=9.5						
MAW	**Mawson**	**70.44**	**194**	P	**P**	**13 20 52.1**	**+1.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=24,slow=5.6,SNR=6.8						
MAW	**Mawson**	**70.44**	**194**	*e*P	**P**	**13 20 51.9**	**+0.9**
	comp=Z,5.1nm,1.0s,mb4.4						
MA2	**Magadan**	**72.93**	**24**	*e*P	**P**	**13 21 05.3**	**-0.6**
	comp=Z,5.8nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**73.01**	**312**	P	**P**	**13 21 05.8**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.2,baz=129,slow=7.9,SNR=6.4						
TSUM	**Tsumeb**	**82.05**	**251**	*e*P	**P**	**13 21 57.7**	**+0.4**
	comp=Z,4.5nm,1.0s,mb4.3						
VNDA	**Vanda**	**82.41**	**169**	*e*P	**P**	**13 21 55.8**	**-2.3**
	comp=Z,3.4nm,1.3s,mb4.1						
SBA	**Scott Base**	**83.51**	**169**	P	**P**	**13 22 04.2**	**+0.5**
	comp=Z,2.6nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**83.82**	**332**	P	**P**	**13 22 06.3**	**+0.8**
	comp=Z,3.0nm,0.6s,mb4.6,baz=106,slow=5.8,SNR=23						
KAF	**Kangasniemi**	**83.89**	**333**	ep	**P**	**13 22 05.0**	**-0.8**
	comp=Z,4.1nm,0.5s,mb4.8,baz=101,slow=4.6						
ARCES	**ARCESS Array B**	**86.20**	**340**	P	**P**	**13 22 18.1**	**+1.1**
	comp=Z,2.5nm,0.7s,mb4.5,baz=101,slow=6.2,SNR=6.6						
QSPA	**South Pole Qui**	**88.18**	**180**	*e*P	**P**	**13 22 28.1**	**+1.6**
	comp=Z,2.5nm,0.6s,mb4.6						
GERES	**GERESS Array B**	**88.74**	**319**	P	**P**	**13 22 31.2**	**+1.3**
	comp=Z,0.8nm,0.6s,mb4.2,baz=104,slow=5.5,SNR=5.7						
SNAA	**Sanae**	**92.28**	**198**	P	**P**	**13 22 47.3**	**+1.5**
	comp=Z,1.2nm,0.9s,mb4.2						
CPUP	**Villa Florida**	**144.36**	**217**	*e*PKPdf	PKPdf	13 29 12.0	+0.2
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	13 29 13.8	+1.6
	comp=Z,2.9nm,0.6s,baz=286,slow=1.8,SNR=14						
BLA	**Blacksburg**	**144.75**	**0**	*e*PKPdf	PKPdf	13 29 10.5	-1.7

DHMR 22 13:13:15.5±2.4,12.67N×40.52E,h10km,ML3.7,1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.60**	**69**	*e*P	Pn	13 14 14.2	+1.6
UDYN				*i* S	Sn	13 15 00.3	+4.7
UDYN				AML	AML	13 15 25.9	
	comp=N,313nm,0.6s						
LBOS		**4.76**	**75**	*e*P	Pn	13 14 27.6	-1.5
LBOS				*i* S	Sn	13 15 24.0	-1.1
BDHA	**Al Bayda'**	**5.09**	**75**	⇓*e*P	Pn	13 14 32.0	-1.6
BDHA				*i* S	Sn	13 15 31.9	-1.3

NEIC ***22*** *13:30:35.6±0.7,5.92N×127.13E,h15km,mb4.4/4, Error ellipse: s-maj=38.0km s-min=12.3km az=66.0*
IDC ***22*** *13:30:53.0±14.0,5.83N×127.26E,h170km±141km, mb3.6/9,mb1 3.8/9,mb1mx3.6/18,mbtmp4.1/9,MS3.2/1, Ms1 3.2/1,ms1mx2.6/28, Error ellipse: s-maj=63.6km s-min=18.6km az=62.0*

ISC 22 13:30:49.2±1.0,5.90N±0.10×127.1E±0.2,h147km±8km, n20,σ1§16/21,mb4.0/13,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.31**	**322**	*e*P	**P**	**13 31 17.3**	**+0.4**
MATI				*e*S	**S**	**13 31 37.4**	**-0.9**
BIPH	**Bislig**	**2.37**	**343**	⇓*i*P	**P**	**13 31 29.8**	**+0.6**
BIPH				*i* S	**S**	**13 31 57.9**	**-1.8**
BUKP	**Musuan**	**2.80**	**315**	*e*P	**P**	**13 31 35.8**	**+1.2**
BUTP	**Butuan**	**3.37**	**335**	*e*P	**P**	**13 31 44.6**	**+2.7**
FITZ	**Fitzroy Crossi**	**23.89**	**183**	P	**P**	**13 35 51.1**	**+0.5**
	3.1nm,0.6s,mb4.0,baz=220,slow=2.4,SNR=5.5						
WRAB	**Tennant Creek**	**26.66**	**165**	*e*P	**P**	**13 36 11.6**	**-4.7**
	13nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	**26.66**	**165**	P	**P**	**13 36 14.6**	**-1.8**
	0.8nm,0.4s,mb3.7,baz=343,slow=11,SNR=10						
CTAO	**Charters Tower**	**31.99**	**144**	P	**P**	**13 37 06.5**	**+2.7**
	4.2nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**40.04**	**161**	P	**P**	**13 38 10.4**	**-1.0**
	2.0nm,0.4s,mb4.1,baz=356,slow=7.6,SNR=9.2						
ASAJ	**Asahikawa**	**40.43**	**17**	LR	LR	13 55 37.3	
	comp=Z,29nm,18.2s,baz=182,slow=37						
SONM	**Songino Array**	**45.37**	**340**	P	**P**	**13 38 55.6**	**+1.1**
	0.9nm,0.6s,mb3.6,baz=156,slow=8.1,SNR=6.8						
MKAR	**Makanchi Array**	**55.99**	**324**	P	**P**	**13 40 14.6**	**0.0**
	0.7nm,0.3s,mb3.9,baz=114,slow=7.2,SNR=23						
MKAR	**Makanchi Array**	**55.99**	**324**	P	**P**	**13 40 14.6**	**0.0**
ZAL	**Zalesovo**	**58.83**	**332**	P	**P**	**13 40 33.5**	**-0.9**
	1.2nm,0.3s,mb4.2,baz=338,slow=2.4,SNR=3.1						
KURK	**Kurchatov**	**60.11**	**327**	*e*P	**P**	**13 40 42.0**	**-1.2**
	3.2nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**65.70**	**326**	P	**P**	**13 41 20.8**	**+0.7**
	1.9nm,0.5s,mb4.2,baz=132,slow=8.0,SNR=14						
BRVK	**Borovoye**	**65.77**	**326**	*e*P	**P**	**13 41 19.9**	**-0.6**
	0.7nm,0.6s,mb3.7						
ILAR	**Eielson Array**	**83.01**	**26**	P	**P**	**13 42 59.1**	**+0.2**
	0.5nm,0.9s,mb3.3,baz=242,slow=8.7,SNR=4.1						
ARCES	**ARCESS Array B**	**88.54**	**340**	P	**P**	**13 43 26.0**	**+0.2**
	7.7nm,1.0s,mb4.6,baz=68,slow=6.5,SNR=4.3						
ARCES	**ARCESS Array B**	**88.54**	**340**	P	**P**	**13 43 26.0**	**+0.2**

CSEM ***22*** *13:36:25.5±0.7,37.74N×25.45W,ML2.1, Error ellipse: s-maj=24.4km s-min=5.2km az=24.0, After PDA*
PDA ***22*** *13:36:25.5±0.7,37.74N×25.45W,MD3.7,ML2.1, Error ellipse: s-maj=24.4km s-min=5.2km az=24.0*

SVSA 22 13:36:25.5±0.7,37.74N×25.45W,MD3.7,ML2.1, Error ellipse: s-maj=24.4km s-min=5.2km az=24.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMLA	**Cha da Macela**	**0.07**	**291**	*e*P	Pg	13 36 27.5	+0.7
CMLA				*e*S	Sg	13 36 29.6	+1.9
PDA	**Ponta Delgada**	**0.17**	**272**	*e*P	Pg	13 36 33.0	+4.0
PDA				*e*S	Sg	13 36 36.2	+4.9
PSET	**Sete Cidades**	**0.23**	**291**	*e*P	Pg	13 36 31.4	+1.2
PSET				*e*S	Sg	13 36 35.8	+2.5
	317nm,0.3s						

IDC 22 13:45:27.5±6.2,21.59N×143.33E,h314km±63km,mb3.2/7, mb1 3.4/8,mb1mx3.2/20,mbtmp3.9/8,Error ellipse: s-maj=33.1km s-min=16.2km az=81.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.55**	**344**	P	P	13 48 50.1	-2.3
	0.7nm,0.3s,baz=161,slow=11,SNR=6.6						
SONM	**Songino Array**	**39.51**	**320**	P	P	13 52 29.1	-0.6
	0.2nm,0.4s,baz=136,slow=7.0,SNR=3.2						
WRA	**Warramunga Arr**	**42.20**	**193**	P	P	13 52 50.2	-1.9
	0.6nm,0.3s,baz=14,slow=9.5,SNR=15						
MKAR	**Makanchi Array**	**54.87**	**313**	P	P	13 54 26.1	-1.8
	0.5nm,0.5s,baz=91,slow=8.7,SNR=6.0						
ILAR	**Eielson Array**	**62.07**	**27**	P	P	13 55 14.7	-2.2
	0.4nm,0.6s,baz=258,slow=5.4,SNR=6.4						
BVAR	**Borovoye Array**	**62.84**	**320**	P	P	13 55 20.2	-1.8
	1.6nm,0.5s,baz=94,slow=6.1,SNR=11						
ARCES	**ARCESS Array B**	**79.07**	**342**	P	P	13 56 57.3	-0.8
	3.1nm,0.7s,baz=60,slow=9.8,SNR=5.4						
FINES	**FINESS Array B**	**84.34**	**335**	P	P	13 57 18.2	-2.2
	0.8nm,0.5s,baz=72,slow=6.0,SNR=4.4						
PLCA	**Paso Flores**	**145.58**	**131**	P

8C-8D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.69**	**65**⇑	*e*P	**Pn**	**13 59 39.7**	**+0.2**
UDYN				*i* S	**Sn**	**14 00 26.2**	**+2.6**
UDYN				AML	AML	14 00 56.2	
	comp=E,3μm,0.9s						
ADEN	**Aden**	**4.36**	**85**	*e*P	**Pn**	**13 59 49.4**	**+0.4**
HAJJ	**Hajjah**	**4.43**	**42**⇓	*e*P	**Pn**	**13 59 48.7**	**-1.3**
HAJJ				*i* S	**Sn**	**14 00 41.0**	**-1.3**
HAJJ				AML	AML	14 01 30.3	
	comp=E,1μm,0.8s						
LBOS		**4.82**	**72**⇓	*i* P	**Pn**	**13 59 53.1**	**-2.4**
LBOS				*i* S	**Sn**	**14 00 49.2**	**-3.0**
BDHA	**Al Bayda'**	**5.15**	**72**⇑	*i* P	**Pn**	**13 59 57.8**	**-2.3**
BDHA				*i* S	**Sn**	**14 00 57.1**	**-3.3**
MUKL	**Al Mukalla**	**8.53**	**75**	*i* S	**Sn**	**14 02 20.9**	**-4.0**
KMBO	**Kilima Mbogo**	**13.82**	**194**	Pn	**P**	**14 02 05.6**	**+5.9**
	comp=E,0.1nm,0.3s,baz=25,slow=14,SNR=9.3						
KMBO				Lg		14 06 08.2	
	comp=E,0.3nm,0.3s,baz=53,slow=12,SNR=8.8						
KMBO				LR	LR	14 07 18.9	
	comp=E,4μm,21.7s,baz=6.8,slow=36						
KMBO	**Kilima Mbogo**	**13.82**	**194**	Pn	**P**	**14 02 05.6**	**+5.9**
KMBO				Lg		14 06 08.2	
KMBO				LR	LR	14 07 18.9	
HILS	**Ha'il**	**14.96**	**4**	P	**P**	**14 02 17.7**	**+3.2**
HASS	**Wahat al Ahsa'**	**15.39**	**33**	P	**P**	**14 02 23.4**	**+3.3**
TBKS	**Tabuk**	**16.18**	**347**	P	**P**	**14 02 34.2**	**+3.9**
BDAS	**Al Bad'**	**16.74**	**343**	P	**P**	**14 02 40.6**	**+3.2**
TAYS	**Tayyib Ism**	**16.92**	**343**	P	**P**	**14 02 41.6**	**+1.9**
JMQS	**Jabal Moqyreh**	**16.97**	**346**	P	**P**	**14 02 43.8**	**+3.6**
HAQS	**Haql**	**17.38**	**343**	P	**P**	**14 02 48.6**	**+3.2**
JMOS	**Jabal al Moail**	**17.43**	**344**	P	**P**	**14 02 49.4**	**+3.3**
ALWS	**Ilw as Safayha**	**17.58**	**344**	P	**P**	**14 02 51.4**	**+3.5**
ARQ	**Araqi**	**18.69**	**52**	⇑P	**P**	**14 03 02.6**	**+0.8**
	SNR=7.0						
BSY	**Bisya**	**18.91**	**55**	⇑P	**P**	**14 03 03.8**	**-0.6**
	SNR=20						
BSYO	**Bisya**	**18.94**	**55**	P	**P**	**14 03 03.8**	**-0.9**
	SNR=20						
ASHO	**Ashiyiah**	**19.11**	**48**	⇑P	**P**	**14 03 05.7**	**-1.0**
	SNR=43						
HOQ	**Hoqain**	**19.43**	**53**	⇓P	**P**	**14 03 11.1**	**+0.6**
	SNR=7.0						
JMDO	**Jabal Madar**	**19.46**	**57**	⇑P	**P**	**14 03 10.8**	**-0.1**
	SNR=6.9						
SMDO	**Samad**	**19.75**	**55**	⇓P	**P**	**14 03 13.8**	**-0.3**
	SNR=17						
ASF	**Jabal al Asfar**	**19.96**	**351**	P	**P**	**14 03 14.5**	**-1.9**
	comp=E,0.2nm,0.3s,baz=136,slow=0.2,SNR=2.3						
ASF				LR	LR	14 09 41.0	
	comp=E,376nm,20.9s,baz=220,slow=34						
BIDO	**Bidbid**	**20.04**	**54**	⇓P	**P**	**14 03 18.1**	**+0.8**
	SNR=10						
WBK	**Wadi Bani Khal**	**20.28**	**57**	⇓P	**P**	**14 03 19.8**	**0.0**
	SNR=17						
BHD	**Baghdad**	**21.07**	**9**	*ex*	x	14 03 25.0	
BHD				*ex*	x	14 07 24.0	
BHL	**Bhannes**	**21.87**	**349**	*e*P	**P**	**14 03 37.7**	**+1.8**
CSS	**Prodhromos**	**23.39**	**345**	P	**P**	**14 03 52.1**	**+1.1**
	comp=E,32nm,1.1s,mb4.7						
MSL	**Mosul**	**23.90**	**5**	*ex*	x	14 04 17.0	
MSL				*ex*	x	14 08 22.5	
MSL				*ex*	x	14 11 11.0	
MSL				*ex*	x	14 11 51.0	
MALT	**Malatya**	**25.88**	**356**	*e*P	**P**	**14 04 15.6**	**+0.8**
	comp=E,56nm,1.6s,mb4.8						
MALT	**Malatya**	**25.88**	**356**	*e*P	**P**	**14 04 15.6**	**+0.8**
MALT				pmax	pmax		
	comp=Z,56nm,1.6s,mb4.8						
GNI	**Garni**	**27.89**	**7**	P	**P**	**14 04 34.9**	**+1.7**
	comp=Z,2.6nm,0.5s,mb4.2,baz=180,slow=16,SNR=2.9						
GNI				LR	LR	14 15 34.3	
	comp=Z,1μm,21.1s,MS4.4,baz=30,slow=37						
GNI	**Garni**	**27.89**	**7**	P	**P**	**14 04 34.9**	**+1.7**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GNI				MLR	MLR		
	comp=Z,1μm,21.1s						
BR131	**Keskin Array S**	**27.89**	**349**	*e*P	**P**	**14 04 33.0**	**-0.3**
	comp=Z,8.1nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**27.89**	**349**	P	**P**	**14 04 33.4**	**+0.1**
	comp=Z,9.5nm,1.2s,mb4.3,baz=173,slow=10.0,SNR=14						
BRTR	**Keskin Array B**	**27.89**	**349**	P	**P**	**14 04 33.4**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TI2	**Plekhanov**	**29.46**	**6**	*e*P	**P**	**14 04 49.4**	**+2.1**
SOC	**Sochi**	**31.08**	**359**	*d i*P	**P**	**14 05 03.9**	**+2.2**
SOC				*e*		14 06 18.1	
SOC				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
SOC				pmax	pmax		
	comp=N,16nm,0.9s						
SOC				pmax	pmax		
	comp=E,15nm,0.8s						
SOC				MLR	MLR		
	comp=N,975nm,14.0s,MS4.7						
SOC				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,652nm,17.0s,MS4.7						
KIV	**Kislovodsk**	**31.50**	**3**	P	**P**	**14 05 05.6**	**+0.2**
	comp=E,19nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**31.50**	**3**	*e*P	**P**	**14 05 08.2**	**+2.8**
KIV				*e*		14 06 18.0	
KIV				pmax	pmax		
	comp=N,9.0nm,1.1s						
KIV				pmax	pmax		
	comp=E,3.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.7						
KIV				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.7						
KIV				MLR	MLR		
	comp=N,958nm,15.0s,MS4.7						
KIV				MLR	MLR		
	comp=E,690nm,15.0s,MS4.7						
ANN	**Anapa**	**32.40**	**356**	*e*P	**P**	**14 05 13.2**	**0.0**
SKO	**Skopje**	**33.84**	**334**	*e*P	**P**	**14 05 25.5**	**-0.3**
MLR	**Muntele Rosu**	**35.24**	**342**	P	**P**	**14 05 36.6**	**-1.3**
	comp=E,1.8nm,0.6s,mb4.2,baz=144,slow=16,SNR=1.7						
MLR	**Muntele Rosu**	**35.24**	**342**	P	**P**	**14 05 36.6**	**-1.2**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AQU	**L'Aquila**	**38.03**	**327**	P	**P**	**14 05 59.4**	**-1.9**
	comp=Z,47nm,1.4s,mb5.0						
AQU	**L'Aquila**	**38.03**	**327**	P	**P**	**14 05 59.4**	**-1.9**
AQU				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.0						
VOR	**Voronezh**	**39.24**	**359**	P	**P**	**14 06 14.0**	**+2.6**
VOR				pmax	pmax		
	comp=Z,70nm,1.6s,mb5.1						
AKASG	**Malin Array Be**	**39.30**	**349**	P	**P**	**14 06 11.3**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.0,baz=168,slow=7.2,SNR=5.4						
AKASG	**Malin Array Be**	**39.30**	**349**	P	**P**	**14 06 11.3**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PSZ	**Piszkesteto**	**39.39**	**338**	P	**P**	**14 06 07.9**	**-4.7**
	comp=Z,28nm,1.7s,mb4.7						
PSZ	**Piszkesteto**	**39.39**	**338**	P	**P**	**14 06 07.9**	**-4.7**
PSZ				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.7						
KOLS	**Kolonicke sedl**	**39.45**	**341**	*e*P	**P**	**14 06 15.2**	**+2.1**
KECS	**Kecovo**	**39.66**	**339**	*e*P	**P**	**14 06 15.6**	**+0.8**
KWP	**Kalwaria**	**39.93**	**342**	P	**P**	**14 06 16.4**	**-0.7**
	comp=Z,21nm,1.1s,mb4.8						
KWP	**Kalwaria**	**39.93**	**342**	P	**P**	**14 06 16.4**	**-0.7**
KWP				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.8						
STHS	**Stebnicka Huta**	**40.20**	**340**	*e*P	**P**	**14 06 20.9**	**+1.6**
VYHS	**Vyhne**	**40.26**	**338**	*e*P	**P**	**14 06 19.9**	**+0.1**
VOY	**Vojsko**	**40.41**	**331**	*e*P	**P**	**14 06 21.7**	**+0.6**
VOY				*e*		14 06 28.5	
PGF	**Pioggiola**	**40.62**	**324**	*e*P	**P**	**14 06 22.2**	**-0.6**
	comp=Z,36nm,1.3s,mb4.5						
PGF	**Pioggiola**	**40.62**	**324**	*e*P	**P**	**14 06 22.2**	**-0.6**
PGF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
OJC	**Ojcow**	**41.37**	**340**	*e*P	**P**	**14 06 29.6**	**+0.7**
VRAC	**Vranov**	**41.78**	**337**	P	**P**	**14 06 31.5**	**-0.8**
	comp=Z,3.5nm,0.3s,mb4.4,baz=198,slow=7.9,SNR=4.0						
VRAC	**Vranov**	**41.78**	**337**	P	**P**	**14 06 31.5**	**-0.8**
VRAC				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MORC	**Moravsky Berou**	**41.80**	**338**	*e*P	**P**	**14 06 30.6**	**-1.8**
AAK	**Ala-Archa**	**42.10**	**38**	*e*P	**P**	**14 06 35.8**	**+0.7**
	comp=Z,13nm,1.2s,mb4.4						
AAK	**Ala-Archa**	**42.10**	**38**	*e*P	**P**	**14 06 35.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
FRU	**Bishkek**	**42.29**	**38**	P	**P**	**14 06 39.0**	**+2.4**
FRU				MLR	MLR		
	comp=E,3μm,18.0s						
FRU				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.1						
SBF	**Sospel**	**42.33**	**324**	*e*P	**P**	**14 06 35.8**	**-1.1**
	comp=Z,54nm,1.3s,mb4.7						
SBF	**Sospel**	**42.33**	**324**	*e*P	**P**	**14 06 35.8**	**-1.1**
SBF				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.7						
FRF	**La Foret Royal**	**42.60**	**323**	*e*P	**P**	**14 06 38.2**	**-0.9**
GERES	**GERESS Array B**	**42.60**	**334**	P	**P**	**14 06 38.6**	**-0.5**
	comp=Z,1.9nm,0.8s,mb3.9,baz=158,slow=7.2,SNR=13						
GERES				LR	LR	14 27 55.9	
	comp=Z,142nm,18.5s,MS3.9,baz=147,slow=42						
GERES	**GERESS Array B**	**42.60**	**334**	P	**P**	**14 06 38.6**	**-0.5**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				MLR	MLR		
	comp=Z,142nm,18.5s						
DPC	**Dobruska-Polom**	**42.72**	**337**	*e*P	**P**	**14 06 40.7**	**+0.7**
OBN	**Obninsk**	**42.73**	**357**	*i*P	**P**	**14 06 42.1**	**+2.1**
OBN				*e*SS	SS	14 16 37.1	+29
OBN				pmax	pmax		
	comp=Z,47nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.3						
KHC	**Kasperske Hory**	**42.87**	**334**	*e*P	**P**	**14 06 39.9**	**-1.4**
KHC				pP	pP	14 06 45.5	+1.4
KHC	**Kasperske Hory**	**42.87**	**334**	*e*P	**P**	**14 06 39.9**	**-1.4**
KHC				*e*		14 06 45.5	
UPC	**Upice**	**42.97**	**337**	*e*P	**P**	**14 06 42.0**	**0.0**
ETOS	**Mallorca**	**42.98**	**316**	P	**P**	**14 06 47.7**	**+5.4**
	comp=Z,20nm,1.3s,mb4.7						
KOLN	**Koldanda**	**43.00**	**63**	*e*P	**P**	**14 06 40.7**	**-1.9**
	comp=Z,75nm,1.3s,mb5.3						
PRU	**Pruhonice**	**43.13**	**336**	*e*P	**P**	**14 06 44.8**	**+1.5**
MBDF	**Montbardon**	**43.23**	**325**	*e*P	**P**	**14 06 44.3**	**+0.1**
	comp=Z,59nm,1.3s,mb4.8						
MBDF	**Montbardon**	**43.23**	**325**	*e*P	**P**	**14 06 44.3**	**+0.1**
MBDF				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.8						
MOS	**Moscow**	**43.30**	**358**	*e*P	**P**	**14 06 46.4**	**+1.8**
MOS				*e*		14 08 31.7	
MOS				pmax	pmax		
	comp=Z,114nm,1.5s,mb5.4						
SMRF	**Simiane la Rot**	**43.47**	**323**	*e*P	**P**	**14 06 45.9**	**-0.3**
	comp=Z,54nm,1.6s,mb4.7						
PVCC	**Panska Ves**	**43.54**	**336**	*e*P	**P**	**14 06 47.1**	**+0.4**
LPG	**La Plagne**	**43.72**	**326**	*e*P	**P**	**14 06 46.5**	**-1.6**
LPL	**La Plagne**	**43.74**	**326**	*e*P	**P**	**14 06 46.6**	**-1.7**
ORIF	**Oris-en-Rattie**	**43.85**	**324**	*e*P	**P**	**14 06 48.6**	**-0.7**
	comp=Z,29nm,1.3s,mb4.5						
ORIF				*e*R			
	comp=Z,254nm,17.0s						
GKN	**Gorkha**	**43.95**	**62**	*e*P	**P**	**14 06 49.2**	**-1.1**
BRG	**Berggiesshubel**	**44.06**	**336**	*e*P	**P**	**14 06 50.6**	**-0.3**
	comp=Z,18nm,1.7s,mb4.5						
BRG	**Berggiesshubel**	**44.06**	**336**	*e*P	**P**	**14 06 50.6**	**-0.3**
BRG				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.5						
NKC	**Novy Kostel**	**44.19**	**334**	*e*P	**P**	**14 06 52.6**	**+0.7**
EJON	**La Jonquera**	**44.27**	**320**	P	**P**	**14 06 53.3**	**+0.5**
	comp=Z,37nm,1.4s,mb4.9						
DMN	**Daman**	**44.28**	**63**	*e*P	**P**	**14 06 52.4**	**-0.6**
	comp=Z,170nm,1.8s,mb5.5						
GRA1	**Grafenberg Arr**	**44.32**	**333**	*e*P	**P**	**14 06 52.7**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**44.32**	**333**	*e*P	**P**	**14 06 52.7**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**44.32**	**333**	*e*P	**P**	**14 06 52.7**	**-0.3**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**44.32**	**333**	*e*P	**P**	**14 06 52.7**	**-0.3**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
KKN	**Kakani**	**44.47**	**63**	*e*P	**P**	**14 06 52.8**	**-1.7**
	comp=Z,137nm,1.7s,mb5.4						
VIVF	**Saint-Julien-l**	**44.51**	**324**	*e*P	**P**	**14 06 53.6**	**-1.0**
	comp=Z,34nm,1.3s,mb4.7						
VIVF	**Saint-Julien-l**	**44.51**	**324**	*e*P	**P**	**14 06 53.6**	**-1.0**
VIVF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.7						
PKI	**Pulchoki**	**44.54**	**63**	*e*P	**P**	**14 06 55.0**	**-0.1**
	comp=Z,173nm,2.0s,mb5.5						
LASF	**Ste Croix**	**44.55**	**322**	*e*P	**P**	**14 06 54.2**	**-0.7**
	comp=Z,39nm,1.4s,mb4.8						
CABF	**La Chapelle**	**44.77**	**326**	*e*P	**P**	**14 06 55.1**	**-1.6**
	comp=Z,43nm,1.4s,mb4.8						
CABF	**La Chapelle**	**44.77**	**326**	*e*P	**P**	**14 06 55.1**	**-1.6**
CABF				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.8						
CLL	**Collm**	**44.77**	**336**	P	**P**	**14 06 57.0**	**+0.3**
	comp=Z,logA/T=1.0,mb4.6						
CLL	**Collm**	**44.77**	**336**	*e*P	**P**	**14 06 57.0**	**+0.3**
CLL				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.6						
MOX	**Moxa**	**44.85**	**334**	*i*P	**P**	**14 06 56.6**	**-0.7**
MOX				L		14 38 42.0	
MOX	**Moxa**	**44.85**	**334**	*e*P	**P**	**14 06 56.6**	**-0.7**
MOX				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.3						
EMIR	**Miracle**	**44.88**	**318**	P	**P**	**14 06 58.1**	**+0.5**
	comp=Z,108nm,2.1s,mb5.3						
EPOB	**Poblet**	**44.90**	**317**	P	**P**	**14 06 57.7**	**-0.1**
	comp=Z,16nm,1.4s,mb4.7						
EMUR	**La Murta**	**44.99**	**312**	P	**P**	**14 06 59.4**	**+0.7**
	comp=Z,22nm,1.1s,mb4.9						
DBIC	**Dimbokro**	**45.08**	**267**	P	**P**	**14 07 00.2**	**+0.6**
	comp=Z,5.6nm,0.8s,mb4.4,baz=69,slow=8.9,SNR=6.0						
DBIC				LR	LR	14 24 38.2	
	comp=Z,570nm,18.8s,MS4.5,baz=66,slow=34						
HINF	**Hinteralfeld**	**45.13**	**328**	*e*P	**P**	**14 06 58.1**	**-1.4**
MTLF	**Montolieu**	**45.16**	**320**	*e*P	**P**	**14 06 59.0**	**-0.8**
ERTA	**Horta de San J**	**45.21**	**316**	P	**P**	**14 06 59.1**	**-1.2**
	comp=Z,44nm,1.6s,mb5.0						
CDF	**Champ du Feu**	**45.30**	**329**	*e*P	**P**	**14 06 59.5**	**-1.4**
LIC	**Lamto**	**45.33**	**267**	*e*P	**P**	**14 07 01.7**	**+0.1**
	comp=Z,37nm,1.6s,mb5.0						
EMOS	**Mosqueruela**	**45.49**	**315**	P	**P**	**14 07 05.6**	**+3.1**
	comp=Z,84nm,3.0s						
EGRA	**Graus**	**45.80**	**318**	P	**P**	**14 07 06.2**	**+1.3**
	comp=Z,5.2nm,0.7s,mb4.6						
EBER	**Berja**	**45.86**	**310**	P	**P**	**14 07 06.3**	**+0.8**
	comp=Z,20nm,1.3s,mb4.9						
MDT	**Midelt**	**45.95**	**304**	P	**P**	**14 07 07.3**	**+1.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=91,slow=8.1,SNR=6.9						
CAF	**Calviac**	**46.09**	**322**	*e*P	**P**	**14 07 06.7**	**-0.4**
	comp=Z,55nm,1.7s,mb4.9						
CAF	**Calviac**	**46.09**	**322**	*e*P	**P**	**14 07 06.7**	**-0.4**
CAF				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.9						
ARU	**Arti**	**46.09**	**14**	*e*P	**P**	**14 07 07.7**	**+0.7**
	comp=Z,38nm,1.5s,mb5.1						
ARU	**Arti**	**46.09**	**14**⇓	*i*P	**P**	**14 07 07.1**	**+0.1**
ARU				*e*		14 08 55.2	
ARU				*e*S	**S**	**14 14 00.7**	**+8.7**
ARU				pmax	pmax		
	comp=Z,21nm,2.1s,mb4.7						
ARU				MLR	MLR		
	comp=N,500nm,18.0s,MS4.6						
ARU				MLR	MLR		
	comp=Z,700nm,18.0s,MS4.7						
ARU				MLR	MLR		
	comp=E,400nm,19.0s,MS4.6						
EBIE	**Bielsa**	**46.15**	**319**	P	**P**	**14 07 07.2**	**-0.5**
	comp=E,99nm,2.0s,mb5.4						
EPF	**Esparros**	**46.19**	**319**	*e*P	**P**	**14 07 07.4**	**-0.6**
EQES	**Quesada**	**46.32**	**311**	P	**P**	**14 07 08.5**	**-0.6**
	comp=E,81nm,2.8s,mb5.2						
LOR	**Lormes**	**46.38**	**326**	*e*P	**P**	**14 07 08.1**	**-1.3**
	comp=E,59nm,1.7s,mb4.9						
LOR				*e*R			
	comp=E,250nm,18.2s						
LOR	**Lormes**	**46.38**	**326**	*e*P	**P**	**14 07 08.1**	**-1.3**
LOR				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.9						
LOR				MLR	MLR		
	comp=Z,250nm,18.3s,MS4.2						
AVF	**Avril sur Loir**	**46.38**	**325**	*e*P	**P**	**14 07 07.7**	**-1.7**
SSF	**Saint Saulge**	**46.45**	**325**	*e*P	**P**	**14 07 08.1**	**-1.9**
ERON	**Agron**	**46.59**	**310**	P	**P**	**14 07 14.5**	**+3.2**
RJF	**Les Rejaudoux**	**46.62**	**322**	*e*P	**P**	**14 07 10.7**	**-0.6**
RJF				*e*R			
	comp=Z,320nm,17.8s						
ETSF	**Etsaut**	**46.70**	**318**	*e*P	**P**	**14 07 12.2**	**+0.2**
	comp=Z,45nm,1.2s,mb5.0						
ETSF	**Etsaut**	**46.70**	**318**	*e*P	**P**	**14 07 12.2**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
LFF	**La Frestale**	**46.90**	**321**	*e*P	**P**	**14 07 13.0**	**-0.5**
ELOJ	**Sierra Loja**	**46.90**	**310**	P	**P**	**14 07 14.7**	**+1.0**
	comp=Z,12nm,0.9s,mb4.8						
ELOJ	**Sierra Loja**	**46.90**	**310**	P	**P**	**14 07 14.7**	**+1.0**
ELOJ				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
BVAR	**Borovoye Array**	**47.01**	**24**	P	**P**	**14 07 15.3**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=217,slow=7.2,SNR=8.7						
BVAR	**Borovoye Array**	**47.01**	**24**	P	**P**	**14 07 15.3**	**+1.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SJPF	**Ste Jean**	**47.24**	**318**	*e*P	**P**	**14 07 16.4**	**+0.1**
	comp=Z,64nm,1.4s,mb5.1						
SJPF	**Ste Jean**	**47.24**	**318**	*e*P	**P**	**14 07 16.4**	**+0.1**
SJPF				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.1						
ESDC	**Sonseca Array**	**47.66**	**313**	P	**P**	**14 07 20.8**	**+1.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=116,slow=7.8,SNR=9.6						
ESDC	**Sonseca Array**	**47.66**	**313**	P	**P**	**14 07 19.7**	**0.0**
	comp=Z,4.9nm,1.3s,mb4.4						
ESLA	**Sonseca Array**	**47.66**	**313**	*e*P	**P**	**14 07 20.3**	**+0.6**
	comp=Z,9.1nm,1.4s,mb4.6						
EJIF	**Jimena Fronter**	**47.67**	**308**	P	**P**	**14 07 17.8**	**-2.0**
	comp=Z,10nm,1.2s,mb4.7						
EJIF	**Jimena Fronter**	**47.67**	**308**	P	**P**	**14 07 17.8**	**-2.0**
EJIF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
ECRI	**Cripan**	**47.85**	**317**	P	**P**	**14 07 21.8**	**+0.7**
	comp=Z,4.7nm,0.5s,mb4.8						
ECRI	**Cripan**	**47.85**	**317**	P	**P**	**14 07 21.8**	**+0.7**
ECRI				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
ESPR	**Espera**	**48.10**	**309**	P	**P**	**14 07 22.8**	**-0.3**
	comp=Z,111nm,2.0s,mb5.5						
MFF	**Saint Martin d**	**48.29**	**323**	*e*P	**P**	**14 07 23.0**	**-1.4**
SUR	**Sutherland**	**48.36**	**202**	LR	LR	14 28 33.9	
	comp=Z,4μm,20.3s,MS5.3,baz=28,slow=37						
SUR	**Sutherland**	**48.36**	**202**	*e*P	**P**	**14 07 30.3**	**+5.1**
	comp=Z,9.8nm,1.0s,mb4.8						
EMIN	**Mina Concepcio**	**48.99**	**310**	P	**P**	**14 07 30.7**	**+0.7**
	comp=Z,11nm,1.3s,mb4.7						
MKAR	**Makanchi Array**	**49.02**	**37**	P	**P**	**14 07 30.6**	**+0.4**
	comp=Z,5.9nm,0.9s,mb4.6,baz=232,slow=4.8,SNR=26						
MKAR				LR	LR	14 30 48.6	
	comp=Z,1μm,18.9s,MS4.9,baz=185,slow=40						
MKAR	**Makanchi Array**	**49.02**	**37**	P	**P**	**14 07 30.6**	**+0.4**
MKAR				LR	LR	14 30 48.6	
MKAR	**Makanchi Array**	**49.02**	**37**	P	**P**	**14 07 30.6**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,1μm,18.9s						
KURK	**Kurchatov**	**49.19**	**31**	*e*P	**P**	**14 07 31.5**	**+0.1**
	comp=Z,27nm,1.6s,mb5.0						
KURK	**Kurchatov**	**49.19**	**31**	*e*P	**P**	**14 07 31.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,27nm,1.6s,mb5.0						
LDF	**La Druitiere**	**49.34**	**325**	*e*P	**P**	**14 07 30.4**	**-2.1**
EGRO	**El Granado**	**49.54**	**309**	P	**P**	**14 07 35.4**	**+1.2**
	comp=Z,35nm,1.3s,mb5.2						
EBAD	**Badajoz**	**49.56**	**311**	P	**P**	**14 07 36.0**	**+1.6**
	comp=Z,49nm,2.2s,mb5.2						
FLN	**La Foliniere**	**49.63**	**325**	*e*P	**P**	**14 07 32.8**	**-1.9**
FLN				*e*R			
	comp=Z,190nm,17.2s						
GRR	**Gorron**	**49.64**	**325**	*e*P	**P**	**14 07 32.9**	**-1.9**
LSA	**Lhasa**	**49.87**	**62**	P	**P**	**14 07 38.6**	**+1.7**
LSA				LR	LR		
	comp=E,450nm,18.2s						
LSA				LR	LR		
	comp=Z,750nm,16.5s,MS4.8						
LSA	**Lhasa**	**49.87**	**62**	*e*P	**P**	**14 07 36.8**	**-0.1**
	comp=Z,11nm,1.0s,mb4.8						
LSA	**Lhasa**	**49.87**	**62**	*e*P	**P**	**14 07 36.8**	**-0.1**
LSA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
EARI	**Arriondas**	**49.94**	**317**	P	**P**	**14 07 43.1**	**+5.9**
	comp=Z,33nm,1.8s,mb5.1						
FINES	**FINESS Array B**	**50.08**	**351**	P	**P**	**14 07 37.8**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.3,baz=158,slow=10,SNR=5.1						
FINES	**FINESS Array B**	**

LZH					AMB	AMB		
	comp=Z,45nm,1.6s,mb5.3							
ZAK	**Zakamensk**	**63.24**	**40**	*eP*	**P**	**14 09 08.4**	**-3.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.7s,mb3.7							
GYA	**Guiyang**	**63.33**	**67**	P	**P**	**14 09 14.1**	**+1.2**
GYA				AP	pP	14 09 18.6	+2.8
GYA				XP	sP	14 09 21.4	+4.5
GYA				PP	PP	14 11 34.8	+0.9
GYA				S	**S**	**14 17 43.5**	**-0.1**
GYA				SS	SS	14 21 51.3	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0							
GYA				AMB	AMB			
	comp=Z,80nm,3.6s							
GYA				LR	LR			
	comp=N,280nm,17.8s,MS4.6							
GYA				LR	LR			
	comp=E,260nm,18.0s,MS4.6							
GYA				LR	LR			
	comp=Z,210nm,17.6s,MS4.4							
SONM	**Songino Array**	**64.74**	**43**	P	**P**	**14 09 22.4**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.5,baz=254,slow=5.2,SNR=29							
SONM				LR	LR	14 41 08.0		
	comp=Z,2µm,19.5s,MS5.2,baz=268,slow=39							
SONM	**Songino Array**	**64.74**	**43**	P	**P**	**14 09 22.4**	**+0.5**
SONM				pmax	pmax			
	comp=Z,4.0nm,0.8s							
SONM				MLR	MLR			
	comp=Z,2µm,19.5s							
HHC	**Hu-ho-hao-te**	**67.67**	**51**	*eP*	**P**	**14 09 44.1**	**+3.3**
HHC				AP	pP	14 09 48.5	+4.8
HHC				XP	sP	14 09 51.4	+6.7
HHC				PCP	PcP	14 10 11.1	+3.4
HHC				PP	PP	14 12 06.5	-5.4
HHC				SCP		14 14 13.8		
HHC				S	S	14 18 40.3	+3.7
HHC				XS		14 18 48.0		
HHC				SCS	ScS	14 19 38.4	+2.7
HHC				SS	SS	14 23 01.8	+2.8
HHC				AMB	AMB			
	comp=Z,12nm,0.8s,mb5.0							
HHC				AMB	AMB			
	comp=Z,103nm,4.1s							
HHC				LR	LR			
	comp=Z,527nm,25.0s,MS4.7							
BOD	**Bodaibo**	**70.80**	**33**	*eP*	**P**	**14 09 59.8**	**+0.2**
BOD				pmax	pmax			
	comp=Z,7.0nm,1.5s,mb4.4							
NJ2	**Nanjing**	**73.71**	**60**	*eP*	**P**	**14 10 19.5**	**+2.1**
NJ2				AP	pP	14 10 24.3	+4.0
NJ2				XP	sP	14 10 26.9	+5.5
NJ2				PCP	PcP	14 10 33.9	+0.4
NJ2				S	S	14 19 47.0	+0.1
NJ2				XS		14 19 56.0		
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.9							
NJ2				AMB	AMB			
	comp=Z,530nm,4.9s							
NJ2				LR	LR			
	comp=Z,380nm,20.6s,MS4.7							
SSE	**Sheshan**	**75.78**	**61**	P	**P**	**14 10 31.3**	**+1.9**
SSE				AP	pP	14 10 34.4	+2.1
SSE				XP	sP	14 10 36.3	+3.0
SSE				PP	PP	14 13 17.9	-3.3
SSE				S	S	14 20 10.3	+0.3
SSE				SS	SS	14 24 59.9	-4.7
SSE				AMB	AMB			
	comp=Z,31nm,1.0s,mb5.2							
SSE				AMB	AMB			
	comp=Z,535nm,3.9s							
SSE				LR	LR			
	comp=N,262nm,24.0s,MS4.5							
SSE				LR	LR			
	comp=E,155nm,24.0s,MS4.5							
SSE				LR	LR			
	comp=Z,171nm,20.8s,MS4.3							
SNY	**Shenyang**	**76.70**	**50**	⇑P	**P**	**14 10 32.3**	**-2.0**
SNY				S	S	14 20 22.8	+3.0
SNY				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb5.0							
SNY				AMB	AMB			
	comp=Z,200nm,8.3s							
CN2	**Changchun**	**77.89**	**48**	*eP*	**P**	**14 10 42.5**	**+1.7**
CN2				*e*AP	pP	14 10 47.5	+3.7
CN2				*eS*	S	14 20 32.5	-0.1
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
MDJ	**Mudanjiang**	**80.75**	**46**	P	**P**	**14 10 56.8**	**+0.5**
MDJ				AP	pP	14 11 00.1	+0.8
MDJ				PP	PP	14 14 00.0	-2.5
MDJ				S	S	14 21 03.0	+0.2
MDJ				SS	SS	14 26 15.3	-3.8
MDJ				AMB	AMB			
	comp=Z,5.0nm,1.0s,mb4.4							
MDJ				AMB	AMB			
	comp=Z,44nm,3.2s							
MDJ				LR	LR			
	comp=Z,370nm,20.3s,MS4.7							
MAW	**Mawson**	**81.42**	**172**	P	**P**	**14 11 04.9**	**+5.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=288,slow=5.7,SNR=3.8							
MAW				LR	LR	14 43 52.6		
	comp=Z,333nm,19.9s,MS4.7,baz=152,slow=33							
MAW	**Mawson**	**81.42**	**172**	P	**P**	**14 11 04.4**	**+5.1**
	comp=Z,2.5nm,0.8s,mb4.2							
MAW	**Mawson**	**81.42**	**172**	P	**P**	**14 11 04.4**	**+5.1**
MAW				pmax	pmax			
	comp=Z,2.0nm,0.8s							
JOW	**Kunigami**	**82.52**	**64**	LR	LR	14 46 05.8		
	comp=Z,70nm,20.9s,MS4.0,baz=228,slow=34							
NWAO	**Narrogin (SRO)**	**85.78**	**125**	*eP*	**P**	**14 11 25.0**	**+2.7**
	comp=Z,87nm,1.7s,mb5.7							
NWAO	**Narrogin (SRO)**	**85.78**	**125**	*eP*	**P**	**14 11 25.0**	**+2.7**
NWAO				pmax	pmax			
	comp=Z,87nm,1.7s							
SNAA	**Sanae**	**88.72**	**193**	P	**P**	**14 11 40.9**	**+5.3**
	comp=Z,0.3nm,1.1s,mb3.5,baz=44,slow=11,SNR=4.0							
MJAR	**Matsushiro Arr**	**88.78**	**53**	LR	LR	14 57 17.5		
	comp=Z,285nm,18.9s,MS4.7,baz=285,slow=40							
BDFB	**Brasilia**	**91.91**	**255**	LR	LR	14 49 20.0		
	comp=Z,497nm,19.2s,MS5.0,baz=104,slow=33							

IDC 22 14:04:45.9±1.4, 12.70N×40.40E, mb3.7/3, mb1 3.7/3, mb1mx3.6/16, mbtmp3.7/3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**27.57**	**349**	P	P	14 10 36.8	+0.2
	2.0nm,0.7s,baz=146,slow=9.1,SNR=5.2						
MKAR	**Makanchi Array**	**48.87**	**38**	P	P	14 13 31.5	-3.8
	0.8nm,0.9s,baz=239,slow=7.2,SNR=4.6						
SONM	**Songino Array**	**64.60**	**43**	P	P	14 15 25.4	-2.0
	0.6nm,0.8s,baz=266,slow=6.5,SNR=5.0						

IDC 22 14:13:41.3±1.4, 1.54N×98.92E, mb3.9/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, MS3.6/1, Ms1 3.6/1, ms1mx2.9/17, Error ellipse: s-maj=71.0km s-min=20.0km az=54.0

NEIC 22 14:13:45.8±0.9, 1.66N×99.21E, h30km, mb4.3/1, Error ellipse: s-maj=29.0km s-min=13.7km az=63.0

ISC 22 14:13:43.7±0.9, 1.6N±0.1×99.1E±0.1, h30km, n12, σ0§82/11, mb3.9/8, MS3.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**3.50**	**33**	P	**Pn**	**14 14 38.1**	**+0.6**
KULM	**Kulim**	**3.95**	**23**	*e*Pn	**Pn**	**14 14 43.0**	**-1.0**
WRA	**Warramunga Arr**	**40.66**	**124**	P	**P**	**14 21 24.1**	**+0.9**
	1.2nm,0.7s,mb3.6,baz=302,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**40.66**	**124**	*e*P	**P**	**14 21 21.3**	**-1.9**
	7.6nm,1.2s,mb4.2						
JNU	**Nakatsue**	**43.24**	**40**	LR	LR	14 40 50.9		
	comp=Z,73nm,20.6s,MS3.6,baz=253,slow=38						
SONM	**Songino Array**	**46.46**	**7**	P	**P**	**14 22 10.5**	**+0.6**
	0.6nm,0.7s,mb3.7,baz=192,slow=9.7,SNR=5.7						
SONM				PcP	PcP	14 23 45.8	+1.2
	0.6nm,0.7s,baz=191,slow=3.1,SNR=5.9						
MKAR	**Makanchi Array**	**47.32**	**344**	P	**P**	**14 22 17.1**	**+0.4**
	1.6nm,0.7s,mb4.1,baz=150,slow=7.8,SNR=15						
STKA	**Stephens Creek**	**52.24**	**133**	P	**P**	**14 22 55.2**	**+0.7**
	1.8nm,0.9s,mb4.0,baz=299,slow=14,SNR=4.8						
ZAL	**Zalesovo**	**53.46**	**350**	P	**P**	**14 23 03.4**	**+0.1**
	1.5nm,0.5s,mb4.2,baz=0.4,slow=2.5,SNR=4.4						
ZAL	**Zalesovo**	**53.46**	**350**	P	**P**	**14 23 03.4**	**+0.1**
BVAR	**Borovoye Array**	**56.50**	**340**	P	**P**	**14 23 25.1**	**-0.3**
	0.6nm,0.4s,mb4.0,baz=142,slow=9.9,SNR=5.4						
BRTR	**Keskin Array B**	**70.25**	**312**	P	**P**	**14 24 55.8**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=90,slow=1.4,SNR=3.6						

NEIC 22 14:27:23.1, 15.02N×93.48W, h40km, MD4.1(MEX), After MEX.

MEX 22 14:27:23.1±1.0, 15.03N×93.50W, h40km±56km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.81**	**46**	*eP*	P	14 27 50.9	-1.5
CCIG				*i* S	S	14 28 10.8	-3.4
CCIG	**Comitan**	**1.81**	**46**	*eP*	P	14 27 50.9	-1.5
CCIG				*eS*	S	14 28 10.8	-3.4
SCX	**San Cristobal**	**1.89**	**26**	*i* P	P	14 27 51.5	-2.0
SCX				*i* S	S	14 28 14.7	-1.5
CMIG	**Matias Romero**	**2.45**	**327**	*eP*	P	14 27 58.8	-2.7
CMIG				*eS*	S	14 28 27.9	-2.5
OXX	**Oaxaca**	**3.71**	**304**	*eP*	P	14 28 17.0	-2.5

CSEM 22 14:48:07.9±0.4, 12.54N×40.24E, h20km, ML4.4, Error ellipse: s-maj=8.5km s-min=6.6km az=11.0

DHMR 22 14:48:09.8±2.5, 12.68N×40.55E, h2km±98km, ML4.4

IDC 22 14:48:13.0±9.1, 12.58N×40.70E, mb3.9/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, MS4.0/5, Ms1 4.0/5, ms1mx3.5/20, Error ellipse: s-maj=194.2km s-min=42.1km az=19.0

NEIC 22 14:48:17.8±2.8, 13.03N×40.75E, h10km, ML4.5(DHMR), Error ellipse: s-maj=52.5km s-min=14.5km az=196.0

ISC 22 14:48:12.0±1.5, 12.6N±0.2×40.53E±0.07, h10km, n18, σ1§39/22, mb3.8/5, MS4.1/4, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.63**	**67**	*eP*	**Pn**	**14 49 09.1**	**-0.4**
UDYN				*i* S	**Sn**	**14 49 55.1**	**+2.2**
UDYN				AML	AML	14 50 18.4	
	comp=E,2µm,0.7s						
UDYN	**Al 'Udayn**	**3.63**	**67**	*i* P	**Pn**	**14 49 10.9**	**+1.5**
UDYN				*i* S	**Sn**	**14 50 02.9**	**+10**
HAJJ	**Hajjah**	**4.32**	**43**	⇑P	**Pn**	**14 49 17.3**	**-2.0**
HAJJ				*i* S	**Sn**	**14 50 10.5**	**+0.2**
HAJJ	**Hajjah**	**4.32**	**43**	*i* P	**Pn**	**14 49 16.9**	**-2.3**
HAJJ				*i* S	**Sn**	**14 50 15.2**	**+4.9**
ADEN	**Aden**	**4.35**	**87**	*i* S	**Sn**	**14 50 12.6**	**+1.5**
LBOS		**4.78**	**74**	*eP*	**Pn**	**14 49 22.3**	**-3.5**
LBOS				*i* S	**Sn**	**14 50 19.2**	**-2.7**
LBOS		**4.78**	**74**	*i* P	**Pn**	**14 49 24.4**	**-1.4**
LBOS				*i* S	**Sn**	**14 50 27.2**	**+5.3**
BDHA	**Al Bayda'**	**5.10**	**73**	*eP*	**Pn**	**14 49 27.0**	**-3.4**
BDHA				*i* S	**Sn**	**14 50 26.7**	**-3.4**
BDHA	**Al Bayda'**	**5.10**	**73**	*i* P	**Pn**	**14 49 28.2**	**-2.2**
BDHA				*i* S	**Sn**	**14 50 35.2**	**+5.1**
KMBO	**Kilima Mbogo**	**13.98**	**194**	LR	LR	14 56 47.3	
	comp=E,442nm,20.5s,baz=329,slow=37						
BHD	**Baghdad**	**20.92**	**9**	*ex*	x	14 52 56.0	
BHD				*ex*	x	15 00 59.0	
BRTR	**Keskin Array B**	**27.74**	**349**	P	**P**	**14 54 03.2**	**+0.4**
	comp=E,1.1nm,0.8s,mb3.5,baz=150,slow=12,SNR=4.1						
GERES	**GERESS Array B**	**42.46**	**334**	P	**P**	**14 56 10.3**	**+1.6**
	comp=E,0.6nm,0.7s,mb3.4,baz=150,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**48.90**	**37**	P	**P**	**14 56 59.9**	**-0.2**
	comp=E,2.0nm,0.8s,mb4.2,baz=231,slow=6.2,SNR=13						
MKAR				LR	LR	15 20 17.5		
	comp=E,156nm,19.1s,MS4.0,baz=203,slow=39						
ZAL	**Zalesovo**	**54.01**	**31**	P	**P**	**14 57 38.5**	**0.0**
	comp=E,0.6nm,0.4s,mb3.9,baz=274,slow=2.5,SNR=3.7						
SONM	**Songino Array**	**64.62**	**43**	P	**P**	**14 58 51.5**	**-0.5**
	comp=E,1.4nm,0.8s,mb4.0,baz=247,slow=6.9,SNR=13						
SONM				LR	LR	15 31 34.2		
	comp=E,165nm,18.1s,MS4.3,baz=266,slow=40						
MJAR	**Matsushiro Arr**	**88.68**	**53**	LR	LR	15 46 03.9		
	comp=E,55nm,18.6s,MS4.0,baz=260,slow=39							
BDFB	**Brasilia**	**91.95**	**255**	LR	LR	15 38 48.5		
	comp=E,83nm,18.6s,MS4.2,baz=292,slow=33							

CSEM 22 14:52:58.3±1.4, 37.79N×25.46W, h3km±15km, ML2.9, Error ellipse: s-maj=20.8km s-min=13.8km az=168.0, After PDA

PDA 22 14:52:58.3±1.4, 37.79N×25.46W, h3km±15km, ML2.9, Error ellipse: s-maj=20.8km s-min=13.8km az=168.0

SVSA 22 14:52:58.3±1.4, 37.79N×25.46W, h3km±15km, ML2.9, Error ellipse: s-maj=20.8km s-min=13.8km az=168.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMLA	**Cha da Macela**	**0.05**	**242**	*eP*	Pg	14 52 59.6	+0.1
CMLA				*eS*	Sg	14 53 01.6	+1.2
PDA	**Ponta Delgada**	**0.16**	**255**	*eP*	Pg	14 53 02.0	+0.4
PSET	**Sete Cidades**	**0.21**	**280**	*eP*	Pg	14 53 03.6	+1.1
PSET				*eS*	Sg	14 53 06.3	+1.1
	1µm,0.5s						
PSCM	**Serra do Cume**	**1.59**	**305**	*eS*	Sb	14 53 41.9	-6.4
	49nm,0.3s						
ROSA	**Rosais**	**2.38**	**294**	*eP*	Pn	14 53 36.8	-1.9
PICO	**Pico**	**2.44**	**288**	*eP*	Pn	14 53 37.3	-2.3
PICO				*eS*	Sn	14 54 04.6	-5.8
CALA	**Caldeira**	**2.67**	**288**	*eP*	Pn	14 53 40.5	-2.4

IDC 22 15:41:58.6±1.4, 14.82N×104.67W, mb3.6/5, mb1 4.0/6, mb1mx3.9/20, mbtmp3.7/6, ML4.7/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/23, Error ellipse: s-maj=67.9km s-min=23.4km az=65.0

NEIC 22 15:42:08.9±0.8, 15.00N×104.44W, h80km, mb4.1/2, Error ellipse: s-maj=29.0km s-min=11.9km az=75.0

ISC 22 15:41:57.7±1.3, 14.7N±0.2×105.0W±0.3, h10km, n18, σ0§80/12, mb3.8/6, MS3.7/7, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTX	**Lajitas**	**14.66**	**4**	*eP*	**P**	**15 45 28.7**	**+1.6**
	20nm,1.5s						
TXAR	**Lajitas Array**	**14.66**	**4**	Pn	**P**	**15 45 26.6**	**-0.6**
	0.7nm,0.3s,baz=180,slow=12,SNR=8.3						
TXAR				LR	LR	15 51 47.0		
	comp=Z,88nm,20.8s,baz=180,slow=41						
ANMO	**Albuquerque**	**20.26**	**356**	P	**P**	**15 46 35.1**	**-1.0**
	1.1nm,0.6s,baz=166,slow=8.3,SNR=3.3						
ANMO				LR	LR	15 53 10.4		
	comp=Z,122nm,21.5s,MS3.2,baz=90,slow=33						
WUAZ	**Wupatki**	**21.56**	**346**	*eP*	**P**	**15 46 49.4**	**-0.1**
	8.5nm,0.9s,mb4.2						
SDCO	**Great Sand Dun**	**23.01**	**359**	*eP*	**P**	**15 47 03.4**	**-0.5**
	9.5nm,1.4s,mb4.0						
ARUT	**Antelope Range**	**24.24**	**343**	*eP*	**P**	**15 47 16.3**	**+0.5**
DAU	**Daniels Canyon**	**26.25**	**349**	P	**P**	**15 47 34.7**	**-0.1**
NVAR	**Mina Array Bea**	**26.46**	**336**	P	**P**	**15 47 38.0**	**+1.3**
	0.5nm,0.7s,mb3.2,baz=141,slow=9.3,SNR=6.7						
PDAR	**Pinedale Array**	**28.30**	**353**	P	**P**	**15 47 53.1**	**-0.3**
	0.5nm,0.9s,mb3.2,baz=164,slow=6.6,SNR=4.2						
ULM	**Lac du Bonnet**	**36.27**	**10**	LR	LR	16 03 24.5		
	comp=Z,106nm,19.1s,MS3.6,baz=250,slow=36						
DLBC	**Dease Lake**	**47.55**	**342**	*eP*	**P**	**15 50 35.5**	**+0.4**
DLBC				*e*		15 50 43.1		
LPAZ	**La Paz**	**47.63**	**129**	P	**P**	**15 50 36.5**	**+0.3**
	0.5nm,0.3s,mb4.0,baz=284,slow=4.2,SNR=2.1						
LPAZ				LR	LR	16 08 08.0		
	comp=Z,56nm,19.1s,MS3.5,baz=64,slow=33						
SCHQ	**Schefferville**	**49.80**	**28**	LR	LR	16 12 30.8		
	comp=Z,67nm,21.2s,MS3.6,baz=319,slow=37						
PPT	**Papeete**	**54.41**	**235**	LR	LR	16 08 01.4		
	comp=Z,134nm,20.8s,MS4.0,baz=141,slow=28						
ILAR	**Eielson Array**	**57.61**	**340**	P	**P**	**15 51 48.6**	**-1.4**
	1.8nm,1.0s,mb4.1,baz=158,slow=5.5,SNR=7.5						
ARCES	**ARCESS Array B**	**89.18**	**16**	LR	LR	16 33 37.4		
	comp=Z,68nm,18.5s,MS4.1,baz=199,slow=35						
NOA	**NORSAR Array B**	**89.33**	**26**	LR	LR	16 34 43.6		
	comp=Z,28nm,18.2s,MS3.7,baz=290,slow=36						
WRA	**Warramunga Arr**	**123.37**	**256**	PKP	PKPdf	16 00 59.3	+0.4
	0.5nm,0.8s,baz=77,slow=2.4,SNR=6.5						

DHMR 22 15:45:19.9±1.4, 12.65N×40.52E, h10km, ML3.7, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.60**	**68**	*i* S	Sn	15 47 07.0	+6.9
UDYN				AML	AML	15 47 21.9	
	comp=N,259nm,0.6s						
LBOS		**4.76**	**75**	⇓*eP*	Pn	15 46 34.2	+0.7
LBOS				*i* S	Sn	15 47 30.7	+1.2
BDHA	**Al Bayda'**	**5.09**	**74**	*i* S	Sn	15 47 38.6	+1.0

IDC 22 15:47:05.5±3.9, 0.32S×97.22E, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=148.5km s-min=31.7km az=59.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.23**	**121**	P	P	15 54 52.3	-1.7
	0.7nm,0.7s,baz=300,slow=9.0,SNR=6.5						
SONM	**Songino Array**	**48.62**	**8**	P	P	15 55 51.7	-1.3
	0.1nm,0.4s,baz=180,slow=5.8,SNR=2.5						
ZAL	**Zalesovo**	**55.05**	**351**	P	P	15 56 38.0	-3.2
	1.1nm,0.4s,baz=315,slow=6.5,SNR=3.2						
TXAR	**Lajitas Array**	**144.94**	**33**	PKP	PKPdf	16 06 45.2	-2.0
	0.9nm,0.6s,baz=297,slow=2.0,SNR=7.3						

DHMR 22 15:49:23.6±2.9, 12.64N×40.57E, h2km±25km, ML4.1, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.56**	**68**	*i* S	Sn	15 51 09.0	+4.8
UDYN				AML	AML	15 51 36.0	
	comp=E,754nm,0.7s						
HAJJ	**Hajjah**	**4.22**	**44**	*i* S	Sn	15 51 24.5	+3.4
LBOS		**4.71**	**74**	*i* P	Pn	15 50 35.9	-1.5
LBOS				*i* S	Sn	15 51 32.6	-0.9
BDHA	**Al Bayda'**	**5.04**	**74**	*eP*	Pn	15 50 41.0	-1.0
BDHA				*i* S	Sn	15 51 40.5	-1.2

IDC 22 15:58:37.0±4.6, 29.75S×178.17W, mb4.3/2, mb1 4.4/2, mb1mx4.0/10, mbtmp4.3/2, Error ellipse: s-maj=186.1km s-min=70.6km az=158.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.49**	**256**	P	P	16 05 26.6	-2.3
	4.1nm,0.7s,baz=86,slow=9.2,SNR=12						
WRA	**Warramunga Arr**	**43.33**	**272**	P	P	16 06 46.0	-1.6
	1.1nm,0.4s,baz=111,slow=8.0,SNR=42						
FINES	**FINESS Array B**	**144.49**	**340**	PKP	PKPdf	16 18 14.1	-2.3
	1.6nm,0.8s,baz=27,slow=4.3,SNR=6.3						

DHMR 22 15:59:28.3±0.5, 12.61N×40.52E, h10km±18km, ML4.4

CSEM 22 15:59:29.1±0.3, 12.36N×40.36E, h40km, ML4.4, Error ellipse: s-maj=8.0km s-min=4.9km az=8.0

NEIC 22 15:59:31.4, 12.69N×40.38E, h22km, ML4.5(DHMR), After DHMR.

ISC 22 15:59:28.9±2.3, 12.5N±0.1×40.4E±0.1, h10km, n14, σ1§13/27, 6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.54**	**112**	P	**Pn**	**16 00 11.0**	**+0.1**
ATD				S	**Sn**	**16 00 48.6**	**+6.3**
ATD	**Arta Tunnel**	**2.54**	**112**	P	**Pn**	**16 00 11.0**	**+0.1**
UDYN	**Al 'Udayn**	**3.73**	**66**	*i* P	**Pn**	**16 00 27.1**	**-0.8**
UDYN				*i* S	**Sn**	**16 01 13.4**	**+1.0**
UDYN				AML	AML	16 01 34.8	
	comp=N,2µm,0.7s						
UDYN	**Al 'Udayn**	**3.73**	**66**	*i* P	**Pn**	**16 00 30.9**	**+3.0**
UDYN				*i* S	**Sn**	**16 01 17.1**	**+4.7**
HAJJ	**Hajjah**	**4.42**	**43**	*i* P	**Pn**	**16 00 36.0**	**-1.7**
HAJJ				*i* S	**Sn**	**16 01 28.9**	**-1.0**
HAJJ	**Hajjah**	**4.42**	**43**	*i* P	**Pn**	**16 00 39.0**	**+1.3**
HAJJ				*i* S	**Sn**	**16 01 30.3**	**+0.4**
HAJJ	**Hajjah**	**4.42**	**43**	*i* P	**Pn**	**16 00 39.0**	**+1.3**
HAJJ				*i* S	**Sn**	**16 01 30.3**	**+0.4**
ADEN	**Aden**	**4.44**	**86**	⇓*eP*	**Pn**	**16 00 37.1**	**-0.9**
ADEN				*i* S	**Sn**	**16 01 30.1**	**-0.3**
ADEN	**Aden**	**4.44**	**86**	⇓*i*P	**Pn**	**16 00 39.8**	**+1.8**
ADEN				*i* S	**Sn**	**16 01 34.1**	**+3.7**
LBOS		**4.88**	**73**	⇓*eP*	**Pn**	**16 00 40.5**	**-3.7**
LBOS				*i* S	**Sn**	**16 01 37.2**	**-4.2**
LBOS		**4.88**	**73**	*i* P	**Pn**	**16 00 43.4**	**-0.8**
LBOS				*i* S	**Sn**	**16 01 40.8**	**-0.7**
BDHA	**Al Bayda'**	**5.21**	**73**	⇓*eP*	**Pn**	**16 00 44.8**	**-3.9**
BDHA				*i* S	**Sn**	**16 01 44.9**	**-4.8**
BDHA	**Al Bayda'**	**5.21**	**73**	⇓*i*P	**Pn**	**16 00 48.5**	**-0.3**
BDHA				*i* S	**Sn**	**16 01 49.3**	**-0.4**
BDHA	**Al Bayda'**	**5.21**	**73**	⇓*i*P	**Pn**	**16 00 48.5**	**-0.3**
BDHA				*i* S	**Sn**	**16 01 49.3**	**-0.3**

NEIC 22 16:08:08.5, 12.63N×40.40E, h22km, ML3.9(DHMR), After DHMR.

DHMR 22 16:08:06.9±2.6, 12.70N×40.57E, h2km±20km, ML3.8, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.54**	**69**	⇓*i*P	Pn	16 09 05.7	+1.7
UDYN				*i* S	Sn	16 09 51.8	+4.9
UDYN				AML	AML	16 10 08.2	
	comp=N,409nm,0.5s						
UDYN	**Al 'Udayn**	**3.54**	**69**	*eP*	Pn	16 09 07.8	+3.9
UDYN				*i* S	Sn	16 09 53.8	+6.9
HAJJ	**Hajjah**	**4.18**	**44**	⇓*eP*	Pn	16 09 14.3	+1.1
HAJJ				*i* S	Sn	16 10 06.7	+3.4
HAJJ	**Hajjah**	**4.18**	**44**	*i* P	Pn	16 09 15.9	+2.7
HAJJ				*i* S	Sn	16 10 08.6	+5.3
LBOS		**4.70**	**75**	⇓*eP*	Pn	16 09 19.2	-1.3
LBOS				*i* S	Sn	16 10 15.6	-0.9
LBOS		**4.70**	**75**	*i* P	Pn	16 09 21.5	+1.0
LBOS				*i* S	Sn	16 10 17.9	+1.5
BDHA	**Al Bayda'**	**5.02**	**75**	⇓*i*P	Pn	16 09 23.5	-1.6
BDHA				*i* S	Sn	16 10 23.3	-1.3
BDHA	**Al Bayda'**	**5.02**	**75**	*i* P	Pn	16 09 24.7	-0.4

KUZ	**Kuaotunu**	**1.41 287**	⇓P		Pn	16 08 49.8	-2.4
PATZ	**Paeroa**	**1.52 216**	P*		Pb	16 08 52.0	-2.3
PATZ	**Paeroa**	**1.52 216**	P		Pn	16 08 52.0	-1.8
TOZ	**Tahuroa Road**	**1.61 249**	P*		Pb	16 08 52.8	-3.2
TOZ	**Tahuroa Road**	**1.61 249**	P		Pn	16 08 52.8	-2.4
MKAZ	**Moumakai**	**1.79 271**	PN		Pn	16 08 55.6	-2.1
MKAZ	**Moumakai**	**1.79 271**	P		Pn	16 08 55.6	-2.0
KNZ	**Kokohu**	**1.87 173**	PN		Pn	16 08 57.8	-1.1
MTAZ	**Motutapu**	**2.03 280**	PN		Pn	16 08 59.0	-2.1
MTAZ	**Motutapu**	**2.03 280**	P		Pn	16 08 59.7	-1.4
BKZ	**Black Stump Fm**	**2.13 199**	P*		Pb	16 09 00.2	-4.6
BKZ	**Black Stump Fm**	**2.13 199**	P		Pn	16 09 00.2	-2.4
KAAZ	**Kauri Point**	**2.19 278**	PN		Pn	16 09 02.5	-0.9
KAAZ	**Kauri Point**	**2.19 278**	P		Pn	16 09 02.5	-0.9
WTAZ	**Waiatarua**	**2.27 275**	PN		Pn	16 09 03.2	-1.4
WTAZ	**Waiatarua**	**2.27 275**	P		Pn	16 09 03.2	-1.4
KRVZ	**Karewarewa**	**2.38 215**	P*		Pb	16 09 05.9	-3.2
WTVZ	**West Tongariro**	**2.42 216**	eP*		Pb	16 09 06.1	-3.6
OTVZ	**Oturere**	**2.42 214**	P*		Pb	16 09 05.3	-4.5
HIZ	**Hauiti**	**2.43 235**	PN		Pn	16 09 04.7	-2.1
TWVZ	**Taurewa**	**2.46 218**	P*		Pb	16 09 05.7	-4.7
NGZ	**Ngauruhoe**	**2.46 215**	eP*		Pb	16 09 06.5	-4.0
NGZ	**Ngauruhoe**	**2.46 215**	eP		Pn	16 09 06.5	-0.8
CNZ	**Chateau**	**2.50 215**	eP*		Pb	16 09 06.8	-4.4
TUVZ	**Tukino**	**2.52 213**	eP*		Pb	16 09 07.7	-3.6
FWVZ	**Far West T-bar**	**2.55 214**	eP*		Pb	16 09 07.6	-4.3
WNVZ	**Wahianoa**	**2.59 213**	eP*		Pb	16 09 08.0	-4.6
MOVZ	**Moawhango**	**2.59 210**	eP*		Pb	16 09 07.6	-5.1
PKVZ	**Pokaka**	**2.67 217**	eP*		Pb	16 09 09.0	-5.1
MTVZ	**Mangateitei**	**2.69 214**	eP*		Pb	16 09 10.0	-4.4
WCZ	**Waipu Caves**	**2.75 295**	⇓PN		Pn	16 09 09.6	-1.8
WCZ			SN		Sn	16 09 40.2	-4.6
WCZ	**Waipu Caves**	**2.75 295**	⇓P		Pn	16 09 09.6	-1.8
VRZ	**Vera Road**	**2.86 226**	P*		Pb	16 09 11.3	-6.0
VRZ	**Vera Road**	**2.86 226**	P		Pn	16 09 11.3	-1.7
PXZ	**Pawanui**	**2.90 188**	ePN		Pn	16 09 09.8	-3.8
TSZ	**Takapari Road**	**3.11 201**	ePN		Pn	16 09 14.1	-2.4
TSZ	**Takapari Road**	**3.11 201**	eP		Pn	16 09 14.1	-2.4
WAZ	**Wanganui**	**3.21 215**	PN		Pn	16 09 16.2	-1.8
WAZ	**Wanganui**	**3.21 215**	eP		Pn	16 09 18.3	+0.3
NEZ	**North Egmont**	**3.35 230**	PN		Pn	16 09 19.2	-0.7
NEZ	**North Egmont**	**3.35 230**	P		Pn	16 09 19.2	-0.8
PKE	**Pukeiti**	**3.37 232**	ePN		Pn	16 09 18.7	-1.6
NRZ	**Ngariki Road**	**3.49 230**	ePN		Pn	16 09 21.8	-0.1
NWEZ	**Newall Road**	**3.49 232**	ePN		Pn	16 09 20.7	-1.3
BFZ	**Birch Farm**	**3.63 194**	ePN		Pn	16 09 20.7	-3.2
BFZ			SN		Sn	16 10 01.5	-5.6
OUZ	**Omahuta**	**3.63 301**	PN		Pn	16 09 22.5	-1.5
OUZ	**Omahuta**	**3.63 301**	P		Pn	16 09 22.5	-1.5
MRZ	**Mangatainoka R**	**3.77 202**	ePN		Pn	16 09 21.7	-4.3
MRZ			SN		Sn	16 10 05.6	-5.2
KIW	**Kapiti Island**	**4.17 207**	ePN		Pn	16 09 28.1	-3.6
KIW	**Kapiti Island**	**4.17 207**	eP		Pn	16 09 28.1	-3.6
MTW	**Mount Morrison**	**4.26 200**	ePN		Pn	16 09 27.6	-5.2
CAW	**Cannon Point**	**4.34 204**	ePN		Pn	16 09 29.9	-4.1
MRW	**Makara Radio**	**4.57 206**	ePN		Pn	16 09 32.7	-4.6
TCW	**Tory Channel**	**4.72 210**	ePN		Pn	16 09 34.0	-5.4
TUWZ	**Tuamarina**	**5.04 211**	ePN		Pn	16 09 39.0	-4.9
QRZ	**Quartz Range**	**5.27 225**	ePN		Pn	16 09 44.5	-2.8
THZ	**Tophouse**	**5.76 216**	ePN		Pn	16 09 49.4	-4.8
KHZ	**Kahutara**	**6.03 208**	ePN		Pn	16 09 51.9	-6.1
LTZ	**Lake Taylor**	**6.86 213**	PN		Pn	16 10 02.3	-7.3
MQZ	**McQueen's Vall**	**7.47 207**	PN		Pn	16 10 09.6	-8.6

*BJI **22** 16:19:41.5, 40.59S×42.84E, h16km, mB5.7, mb5.4, Ms5.3, Msz5.1*
*IDC **22** 16:19:41.2±0.4, 40.78S×43.14E, mb4.8/20, mb1 4.9/21, mb1mx4.9/21, mbtmp4.8/21, ML4.4/1, MS4.7/12, Ms1 4.7/12, ms1mx4.7/13, Error ellipse: s-maj=12.0km s-min=8.4km az=67.0*
*MOS **22** 16:19:41.7±0.9, 40.81S×43.39E, h10km, mb5.4/48, MS4.7/25, Error ellipse: s-maj=17.9km s-min=6.3km az=103.3*
*NEIC **22** 16:19:42.9±0.1, 40.87S×43.26E, h10km, mb5.3/94, MS4.9/39, Error ellipse: s-maj=6.2km s-min=4.5km az=62.0*
*HRVD **22** 16:19:42.9±0.2, 40.80S×43.21E, h12km, MW5.3/64, Centroid moment Tensor Solution. LP body waves: s44,c79; Mantle waves: s64,c121; Half duration: 1s1 Moment tensor: Scale 10^16 Nm; Mrr0.30±.26; Mθθ0.18±.31; Mφφ-0.48±.28; Mrθ2.83±.64; Mrφ-9.01±.21; Mθφ3.14±.59; Best double couple: Mo9.823×10^16 NP1:φs271°, δ75°, λ-166°. NP2:φs177°, δ76°, λ-16°. Principal axes: T 8.869, Plg1°, Azm224°; N 1.907, Plg69°, Azm317°; P -10.777, Plg21°, Azm134°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 22 16:19:41.6±0.2, 40.84S±0.04×43.36E±0.05, h10km, (h14km±1.5km: pP-P), n374, cθ91/329, mb5.3/123, MS4.8/51, 49C-22D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**19.93 288**		P	**P**	**16 24 13.4**	**-3.0**
	1.4nm,0.3s,baz=127,slow=9.2,SNR=19						
SUR				S	**S**	**16 27 56.4**	**+1.5**
	1.7nm,0.3s,baz=21,slow=23,SNR=3.1						
SUR				LR	LR	16 30 28.9	
	comp=Z,2μm,18.7s,baz=121,slow=33						
SUR	**Sutherland**	**19.93 288**		eP	**P**	**16 24 12.9**	**-3.6**
	87nm,0.9s						
LBTB	**Lobatse**	**21.64 311**		P	**P**	**16 24 31.2**	**-2.9**
	68nm,1.0s,mb5.0,baz=152,slow=9.8,SNR=72						
LBTB				S	**S**	**16 28 30.6**	**+1.9**
	5.3nm,0.7s,baz=295,slow=16,SNR=4.9						
LBTB				LR	LR	16 31 32.4	
	comp=Z,4μm,21.4s,MS4.7,baz=169,slow=33						
LBTB	**Lobatse**	**21.64 311**		eP	**P**	**16 24 31.0**	**-3.1**
	123nm,1.1s,mb5.2						
LBTB				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
LBTB	**Lobatse**	**21.64 311**		P	**P**	**16 24 31.2**	**-2.9**
LBTB				S	**S**	**16 28 30.6**	**+1.9**
LBTB				pmax	pmax		
	comp=Z,68nm,1.0s,mb5.0						
LBTB				smax			
	comp=N,5.0nm,0.7s						
LBTB				MLR	MLR		
	comp=Z,4μm,21.4s,MS4.7						
OPO	**Ambohidratompo**	**22.44**	**10**	P	**P**	**16 24 42.4**	**+0.4**
	comp=Z,23nm,1.0s,mb4.5,baz=192,slow=8.3,SNR=19						
OPO				S	**S**	**16 28 52.1**	**+8.7**
	comp=Z,0.6nm,0.6s,baz=308,slow=22,SNR=1.6						
MATP	**Matopo**	**23.96 324**		P	**P**	**16 24 55.7**	**-1.2**
	comp=Z,59nm,0.8s,mb5.0,baz=155,slow=8.7,SNR=67						
MATP				S	**S**	**16 29 12.3**	**+2.0**
	comp=Z,4.1nm,1.0s,baz=130,slow=22,SNR=2.5						
MATP				LR	LR	16 33 04.0	
	comp=Z,3μm,20.1s,MS4.8,baz=148,slow=34						
MATP	**Matopo**	**23.96 324**		P	**P**	**16 24 55.7**	**-1.2**
MATP				S	**S**	**16 29 12.3**	**+2.0**
MATP				LR	LR	16 33 04.0	
SYO	**Syowa Base**	**28.30 183**		⇑P	**P**	**16 25 34.5**	**-2.4**
SYO	**Syowa Base**	**28.30 183**		⇓pP	pP	16 25 37.7	-2.1
SYO	**Syowa Base**	**28.30 183**		⇓sP	sP	16 25 40.1	-1.0
LSZ	**Lusaka**	**28.68 328**		P	**P**	**16 25 38.9**	**-1.9**
	comp=Z,23nm,0.7s,mb5.0,baz=158,slow=7.2,SNR=65						
LSZ				LR	LR	16 35 58.9	
	comp=Z,4μm,19.1s,MS5.0,baz=158,slow=34						
LSZ	**Lusaka**	**28.68 328**		eP	**P**	**16 25 39.0**	**-1.9**
	comp=Z,22nm,0.7s,mb5.0						
LSZ				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
LSZ	**Lusaka**	**28.68 328**		eP	**P**	**16 25 39.0**	**-1.8**
LSZ				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.0						
LSZ				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.0						
MAW	**Mawson**	**28.87 165**		P	**P**	**16 25 42.1**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.2,baz=342,slow=9.0,SNR=6.1						
MAW				S	**S**	**16 30 34.8**	**+4.1**
	comp=Z,0.9nm,0.7s,baz=265,slow=16,SNR=1.9						
MAW				LR	LR	16 34 04.7	
	comp=Z,832nm,19.6s,MS4.3,baz=332,slow=30						
MAW	**Mawson**	**28.87 165**		eP	**P**	**16 25 41.2**	**-0.8**
	comp=Z,11nm,1.1s,mb4.5						
MAW				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
MAW	**Mawson**	**28.87 165**		P	**P**	**16 25 42.1**	**+0.1**
MAW				S	**S**	**16 30 34.8**	**+4.1**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAW				smax			
	comp=N,1.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,832nm,19.6s						
TSUM	**Tsumeb**	**30.83 307**		*e*P	**P**	**16 25 57.2**	**-2.8**
	comp=Z,71nm,0.9s,mb5.5						
TSUM				*e*		16 26 03.1	
MIR	**Mirnyy**	**37.48 150**		*d*iP	**P**	**16 26 58.2**	**+1.5**
MIR				pmax	pmax		
	comp=Z,99nm,2.0s,mb5.3						
MIR				MLR	MLR		
	comp=N,500nm,16.0s,MS4.5						
MIR				MLR	MLR		
	comp=E,400nm,16.0s,MS4.5						
MIR				MLR	MLR		
	comp=Z,790nm,16.0s,MS4.6						
SNAA	**Sanae**	**38.36 202**		⇑*i*	**P**	**16 27 03.4**	**-0.7**
SNAA	**Sanae**	**38.36 202**		*e*	**P**	**16 27 06.6**	**+2.5**
SNAA	**Sanae**	**38.36 202**		*e*	**P**	**16 27 13.0**	**+8.9**
SNAA	**Sanae**	**38.36 202**		P	**P**	**16 27 03.9**	**-0.2**
	comp=Z,6.5nm,0.9s,mb4.4,baz=77,slow=7.0,SNR=73						
SNAA				PcP	PcP	16 29 16.5	-1.8
	comp=Z,2.7nm,1.1s,baz=58,slow=8.5,SNR=5.4						
SNAA				S	**S**	**16 32 59.6**	**+1.4**
	comp=Z,0.2nm,0.8s,baz=164,slow=16,SNR=2.7						
SNAA	**Sanae**	**38.36 202**		⇑*i*P	**P**	**16 27 03.4**	**-0.7**
SNAA				*e*	pP	16 27 06.6	-0.5
SNAA				*e*		16 27 13.0	
SNAA				*e*		16 29 16.6	
SNAA	**Sanae**	**38.36 202**		P	**P**	**16 27 03.9**	**-0.2**
SNAA						16 29 16.5	
SNAA				S	**S**	**16 32 59.6**	**+1.4**
SNAA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SNAA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
VNA1	**Neumayer--Stat**	**39.54 204**		*e*	**P**	**16 27 18.3**	**+4.4**
VNA1	**Neumayer--Stat**	**39.54 204**		*e*	**P**	**16 27 23.5**	**+10**
VNA1	**Neumayer--Stat**	**39.54 204**		⇑*i*P	**P**	**16 27 14.9**	**+1.0**
VNA1				*e*	pP	16 27 18.3	+1.4
VNA1				*e*		16 27 23.5	
VNA1				*e*		16 29 20.7	
KMBO	**Kilima Mbogo**	**39.91 350**		P	**P**	**16 27 18.1**	**+0.5**
	comp=Z,7.8nm,0.8s,mb4.5,baz=178,slow=7.8,SNR=14						
KMBO				LR	LR	16 42 35.9	
	comp=Z,1μm,18.0s,MS4.7,baz=279,slow=34						
KMBO	**Kilima Mbogo**	**39.91 350**		P	**P**	**16 27 18.1**	**+0.5**
KMBO				LR	LR	16 42 35.9	
KMBO	**Kilima Mbogo**	**39.91 350**		P	**P**	**16 27 18.1**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KMBO				MLR	MLR		
	comp=Z,1μm,18.0s						
VNA3	**Neumayer Olymp**	**40.18 204**		*e*	**P**	**16 27 21.0**	**+1.8**
VNA3	**Neumayer Olymp**	**40.18 204**		*e*	**P**	**16 27 27.1**	**+7.9**
VNA3	**Neumayer Olymp**	**40.18 204**		⇑*i*P	**P**	**16 27 18.2**	**-1.0**
VNA3				*e*	pP	16 27 21.0	-1.2
VNA3				*e*		16 27 27.1	
VNA3				*e*		16 29 22.1	
CASY	**Casey**	**44.38 148**		*e*P	**P**	**16 27 52.1**	**-1.2**
	comp=Z,39nm,1.5s,mb4.9						
CASY				LR	LR		
	comp=Z,791nm,21.0s,MS4.6						
QSPA	**South Pole Qui**	**49.37 180**		⇑*i*P	**P**	**16 28 32.3**	**-0.2**
	comp=Z,151nm,1.8s,mb5.7						
QSPA				LR	LR		
	comp=Z,888nm,19.0s,MS4.8						
DRV	**Dumont d'Urvil**	**55.77 151**		S	**S**	**16 37 10.0**	**+4.5**
DRV				R		16 46 00.0	
VNDA	**Vanda**	**56.15 167**		*e*P	**P**	**16 29 21.4**	**-1.6**
	comp=Z,8.7nm,1.1s,mb4.7						
VNDA				LR	LR		
	comp=Z,486nm,19.0s,MS4.6						
VNDA	**Vanda**	**56.15 167**		*e*P	**P**	**16 29 21.4**	**-1.6**
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
VNDA				MLR	MLR		
	comp=Z,486nm,19.0s						
SBA	**Scott Base**	**56.76 168**		*e*P	**P**	**16 29 26.6**	**-0.8**
	comp=Z,25nm,1.1s,mb5.2						
SBA				LR	LR		
	comp=Z,548nm,20.0s,MS4.7						
SBA	**Scott Base**	**56.76 168**		*e*P	**P**	**16 29 26.7**	**-0.7**
SBA				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
SBA				MLR	MLR		
	comp=Z,548nm,20.0s,MS4.7						
NWAO	**Narrogin (SRO)**	**58.02 108**		P	**P**	**16 29 35.2**	**-1.6**
	comp=Z,13nm,1.0s,mb4.9						
NWAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
NWAO	**Narrogin (SRO)**	**58.02 108**		P	**P**	**16 29 35.3**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,13nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,2μm,20.0s						
ABTO	**Aybut**	**58.62**	**11**	⇑P	**P**	**16 29 40.9**	**-0.4**
RBK	**Rabkut**	**58.91**	**12**	⇑P	**P**	**16 29 42.9**	**-0.3**
KLBR	**Kellerberrin**	**59.09**	**107**	*e*P	**P**	**16 29 44.5**	**+0.1**
	comp=Z,35nm,1.5s,mb5.2						
WHFO	**Wadi Hawf**	**59.25**	**12**	⇓P	**P**	**16 29 44.5**	**-1.1**
BLJS	**Baljurashi**	**60.43**	**358**	P	**P**	**16 29 55.1**	**+1.4**
PMSA	**Palmer Station**	**60.57**	**208**	*e*P	**P**	**16 29 53.4**	**-0.7**
	comp=Z,45nm,1.5s,mb5.4						
PMSA				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
KAMS	**Al Khamasin**	**60.84**	**1**	P	**P**	**16 29 56.5**	**0.0**
LTHS	**Al Lith**	**60.86**	**357**	P	**P**	**16 29 56.7**	**+0.1**
KIC	**Kosan Boka**	**64.41**	**305**	*e*P	**P**	**16 30 18.6**	**-1.8**
	comp=Z,196nm,1.6s,mb5.9						
AFFS	**'Afif**	**64.43**	**360**	P	**P**	**16 30 20.4**	**0.0**
LIC	**Lamto**	**64.48**	**305**	*e*P	**P**	**16 30 19.1**	**-1.8**
	comp=Z,65nm,1.4s,mb5.5						
LIC	**Lamto**	**64.48**	**305**	⇑*i*P	**P**	**16 30 21.1**	**+0.2**
	comp=Z,13nm,1.0s,mb4.9						
BSY	**Bisya**	**64.55**	**14**	⇓P	**P**	**16 30 20.3**	**-0.9**
	SNR=10						
MZLS	**Mizel**	**64.56**	**2**	P	**P**	**16 30 21.0**	**-0.1**
DBIC	**Dimbokro**	**64.72**	**305**	P	**P**	**16 30 20.8**	**-1.6**
	comp=Z,10nm,0.9s,mb4.9,baz=139,slow=7.3,SNR=8.1						
DBIC				S	**S**	**16 39 02.2**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=57,slow=17,SNR=1.9						
DBIC				LR	LR	16 58 46.4	
	comp=Z,590nm,18.2s,MS4.8,baz=108,slow=36						
DBIC	**Dimbokro**	**64.72**	**305**	*e*P	**P**	**16 30 20.0**	**-2.4**
	comp=Z,76nm,1.6s,mb5.5						
DBIC				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
DBIC	**Dimbokro**	**64.72**	**305**	P	**P**	**16 30 20.8**	**-1.6**
DBIC				S	**S**	**16 39 02.2**	**+1.1**
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DBIC				smax			
	comp=N,2.0nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,590nm,18.2s						
WBK	**Wadi Bani Khal**	**64.77**	**16**	⇓P	**P**	**16 30 21.7**	**-0.9**
TIC	**Toumodi**	**64.80**	**305**	*e*P	**P**	**16 30 21.3**	**-1.6**
	comp=Z,22nm,1.2s,mb5.1						
ARQ	**Araqi**	**65.01**	**13**	⇑P	**P**	**16 30 22.8**	**-1.3**
SMDO	**Samad**	**65.02**	**15**	⇓P	**P**	**16 30 22.9**	**-1.3**
	SNR=5.7						
HOQ	**Hoqain**	**65.39**	**14**	⇑P	**P**	**16 30 25.4**	**-1.2**
EFI	**East Falkland**	**65.41**	**222**	PFAKE		16 30 40.0	+14
EFI				LR	LR		
	comp=Z,254nm,22.0s,MS4.4						
BIDO	**Bidbid**	**65.49**	**15**	⇓P	**P**	**16 30 26.2**	**-1.0**
HASS	**Wahat al Ahsa'**	**65.95**	**6**	P	**P**	**16 30 29.6**	**-0.5**
ASHO	**Ashiyiah**	**66.25**	**13**	⇑P	**P**	**16 30 31.1**	**-0.9**
	SNR=9.7						
MBWA	**Marble Bar**	**66.38**	**98**	*e*P	**P**	**16 30 32.3**	**-0.7**
	comp=Z,31nm,1.1s,mb5.2						
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
KBRS	**Khaybar**	**66.40**	**356**	P	**P**	**16 30 32.8**	**-0.2**
HYB	**Hyderabad**	**66.54**	**37**	*i*P	**P**	**16 30 33.5**	**-0.5**
FORT	**Forrest**	**66.92**	**111**	⇓*i*P	**P**	**16 30 37.1**	**+0.9**
	comp=Z,26nm,0.8s,mb5.3						
BANOM	**Banah**	**67.50**	**13**	⇑P	**P**	**16 30 37.7**	**-2.3**
HILS	**Ha'il**	**67.89**	**358**	P	**P**	**16 30 42.4**	**0.0**
TBKS	**Tabuk**	**69.00**	**354**	P	**P**	**16 30 49.4**	**+0.1**
AYUS	**'Aynunah**	**69.09**	**352**	P	**P**	**16 30 49.4**	**-0.4**
BDAS	**Al Bad'**	**69.34**	**352**	P	**P**	**16 30 51.0**	**-0.4**
TAYS	**Tayyib Ism**	**69.48**	**352**	P	**P**	**16 30 51.8**	**-0.4**
RDF	**Al-Radifah**	**69.52**	**4**	*e*P	**P**	**16 30 51.7**	**-0.7**
RDF				AMb	AMB	16 30 53.2	
	comp=Z,61nm,0.9s,mb5.5						
KULM	**Kulim**	**69.60**	**63**	*e*P	**P**	**16 30 53.3**	**+0.1**
JMQS	**Jabal Moqyreh**	**69.72**	**353**	P	**P**	**16 30 53.6**	**-0.1**
KBD	**Kabd**	**69.78**	**4**	*e*P	**P**	**16 30 53.3**	**-0.7**
KBD				AMb	AMB	16 30 56.3	
	comp=Z,135nm,1.2s,mb5.8						
NAY	**Al-Naaiem**	**69.83**	**4**	*e*P	**P**	**16 30 53.5**	**-0.8**
NAY				AMb	AMB	16 30 55.0	
	comp=Z,61nm,0.7s,mb5.7						
HAQS	**Haql**	**69.98**	**352**	P	**P**	**16 30 55.1**	**-0.2**
JMOS	**Jabal al Moall**	**70.07**	**352**	P	**P**	**16 30 55.8**	**0.0**
UMR	**Umm Al-Rimmam**	**70.15**	**4**	*e*P	**P**	**16 30 55.8**	**-0.5**
UMR				AMb	AMB	16 30 56.9	
	comp=Z,146nm,0.6s,mb6.1						
MIB	**Mutribah**	**70.38**	**4**	*e*P	**P**	**16 30 56.9**	**-0.8**
MIB				AMb	AMB	16 30 58.4	
	comp=Z,90nm,0.7s,mb5.8						
FITZ	**Fitzroy Crossi**	**72.66**	**99**	⇑*i*P	**P**	**16 31 12.4**	**+0.9**
	comp=Z,22nm,1.0s,mb5.0						
KSM	**Kuching**	**73.72**	**73**	*e*P	**P**	**16 31 18.2**	**+0.4**
BHD	**Baghdad**	**73.75**	**1**	*ex*	x	16 31 13.0	
BHD				*ex*	x	16 40 49.0	
NNT	**Nongplab**	**74.39**	**58**	P	**P**	**16 31 21.8**	**+0.1**
TOO	**Toolangi**	**74.41**	**126**	*e*P	**P**	**16 31 22.8**	**+1.5**
	comp=Z,6.4nm,0.9s,mb4.5						
TOO	**Toolangi**	**74.41**	**126**	eP	**P**	**16 31 22.8**	**+1.5**
TOO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ASPA	**Alice Springs**	**75.32**	**109**	⇑*i*P	**P**	**16 31 27.3**	**+0.4**
STKA	**Stephens Creek**	**75.53**	**120**	⇑*i*P	**P**	**16 31 28.5**	**+0.6**
	comp=Z,26nm,0.7s,mb5.3						
STKA	**Stephens Creek**	**75.53**	**120**	P	**P**	**16 31 28.6**	**+0.7**
	comp=Z,30nm,0.7s,mb5.3,baz=236,slow=4.1,SNR=98						
TRQA	**Tornquist**	**76.03**	**232**	*e*P	**P**	**16 31 29.7**	**-0.9**
	comp=Z,30nm,1.2s,mb5.1						
TRQA				LR	LR		
	comp=Z,274nm,19.0s,MS4.6						
NST	**Nakhon Sawan**	**76.96**	**56**	⇓P	**P**	**16 31 37.0**	**+0.7**
	comp=Z,42nm,0.9s,mb5.4						
KOLN	**Koldanda**	**77.80**	**36**	*e*P	**P**	**16 31 40.5**	**-0.2**
	comp=Z,279nm,1.4s,mb6.0						
WRA	**Warramunga Arr**	**77.96**	**106**	P	**P**	**16 31 41.1**	**-0.5**
	comp=Z,31nm,0.7s,mb5.3,baz=225,slow=4.6,SNR=239						
WRA	**Warramunga Arr**	**77.96**	**106**	P	**P**	**16 31 41.2**	**-0.5**
WB2	**Warramunga Arr**	**77.97**	**106**	⇑P	**P**	**16 31 42.4**	**+0.7**
WRAB	**Tennant Creek**	**77.97**	**106**	*e*P	**P**	**16 31 42.3**	**+0.6**
	comp=Z,67nm,0.8s,mb5.6						
WRAB				*e*		16 31 55.7	
WRAB				LR	LR		
	comp=Z,243nm,20.0s,MS4.5						
WRAB	**Tennant Creek**	**77.97**	**106**	*e*P	**P**	**16 31 42.3**	**+0.6**
WRAB				*e*		16 31 55.7	
WRAB				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.6						
WRAB				MLR	MLR		
	comp=Z,243nm,20.0s,MS4.5						
RCBR	**Riachuelo**	**78.09**	**273**	*e*P	**P**	**16 31 40.1**	**-2.4**
	comp=Z,24nm,1.3s,mb5.0						
DMN	**Daman**	**78.34**	**37**	*e*P	**P**	**16 31 43.5**	**-0.2**
	comp=Z,212nm,1.4s,mb5.9						
PKI	**Pulchoki**	**78.45**	**37**	*e*P	**P**	**16 31 44.0**	**-0.3**
	comp=Z,146nm,1.4s,mb5.7						
GKN	**Gorkha**	**78.47**	**37**	*e*P	**P**	**16 31 44.0**	**-0.3**
	comp=Z,112nm,1.0s,mb5.8						
KKN	**Kakani**	**78.58**	**37**	*e*P	**P**	**16 31 44.9**	**-0.1**
CHG	**Chiang Mai**	**78.62**	**53**	⇑P	**P**	**16 31 45.4**	**+0.1**
	comp=Z,28nm,0.8s,mb5.2						
MALT	**Malatya**	**78.90**	**356**	*e*P	**P**	**16 31 46.4**	**-0.1**
	comp=Z,22nm,1.3s,mb4.9						
MALT	**Malatya**	**78.90**	**356**	*e*P	**P**	**16 31 46.4**	**-0.1**
MALT				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
PLCA	**Paso Flores**	**79.06**	**225**	P	**P**	**16 31 47.6**	**+0.3**
	comp=Z,13nm,1.1s,mb4.8,baz=131,slow=4.9,SNR=16						
PLCA				LR	LR	17 02 54.5	
	comp=Z,178nm,18.7s,MS4.4,baz=143,slow=33						
PLCA	**Paso Flores**	**79.06**	**225**	*e*P	**P**	**16 31 47.0**	**-0.4**
	comp=Z,42nm,1.4s,mb5.2						
PLCA				LR	LR		
	comp=Z,786nm,22.0s,MS5.0						
PLCA	**Paso Flores**	**79.06**	**225**	P	**P**	**16 31 47.7**	**+0.4**
PLCA				pmax	pmax		
	comp=Z,13nm

KIV MLR MLR
comp=Z,200nm,22.0s,MS4.5
SKO Skopje 84.79 344 *i* P **P 16 32 17.0 -0.1**
KSH Kashi 85.32 25 *e*P **P 16 32 19.5 -0.3**
KSH AP pP 16 32 25.0 +2.0
KSH *e*XP sP 16 32 26.5 +2.5
KSH *e*PP PP 16 35 37.9 -1.5
KSH *e*PPP PPP 16 37 33.3 -2.4
KSH *e*SKS SKS 16 42 40.6 -5.8
KSH *e*S S 16 42 46.1 -2.8
KSH *e*SS SS 16 48 22.8 -4.0
KSH AMB AMB
comp=Z,580nm,3.7s
ANN Anapa 85.42 356 *e*P **P 16 32 19.8 -0.4**
ANN *e*S S 16 42 41.7 -8.0
ANN pmax pmax
comp=Z,22nm,0.8s,mb5.3
QIZ Qiongzhong 85.68 60 P **P 16 32 23.1 +1.0**
QIZ XP sP 16 32 30.3 +4.0
QIZ S S 16 42 53.8 +0.9
QIZ AMB AMB
comp=Z,30nm,1.7s,mb5.2
QIZ LR LR
comp=Z,262nm,9.9s
KMI Kunming 85.69 51 P **P 16 32 22.9 +1.0**
KMI AP pP 16 32 30.3 +5.1
KMI XP sP 16 32 35.5 +9.3
KMI PP PP 16 35 40.8 -1.8
KMI PPP PPP 16 37 34.0 -5.3
KMI SKS SKS 16 42 42.8 -6.3
KMI S S 16 42 54.0 +1.2
KMI XS 16 43 09.8
KMI AMB AMB
comp=Z,18nm,1.9s,mb5.0
KMI AMB AMB
comp=Z,273nm,3.3s
KMI LR LR
comp=N,477nm,18.9s,MS5.0
KMI LR LR
comp=E,390nm,20.1s,MS5.0
KMI LR LR
comp=Z,539nm,21.3s,MS4.9
CII Carovilli 86.30 339 *e*P **P 16 32 25.3 +0.7**
comp=Z,69nm,1.3s,mb5.7
CTA Charters Tower 86.37 113⇑ *i*P **P 16 32 26.2 +0.7**
comp=Z,9.9nm,0.8s,mb5.1
CTA Charters Tower 86.37 113⇑ *i*P **P 16 32 26.2 +0.7**
CTA pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 86.37 113 *e*P **P 16 32 25.6 +0.2**
comp=Z,16nm,0.9s,mb5.2
CTAO LR LR
comp=Z,694nm,19.0s,MS5.1
CTAO Charters Tower 86.37 113 *e*P **P 16 32 25.6 +0.1**
CTAO pmax pmax
comp=Z,16nm,0.9s,mb5.2
CTAO MLR MLR
comp=Z,694nm,19.0s,MS5.1
CFR Carcaliu 86.71 349⇓ P **P 16 32 25.5 -1.0**
ISR Istrita 86.89 348⇓ P **P 16 32 25.6 -1.8**
DIVS Divcibare 87.13 343⇑ *i*P **P 16 32 27.9 -0.7**
AQU L'Aquila 87.13 338 P **P 16 32 27.6 -1.0**
comp=Z,44nm,1.1s,mb5.6
AQU L'Aquila 87.13 338 P **P 16 32 27.6 -1.0**
AQU pmax pmax
comp=Z,44nm,1.1s,mb5.6
VOIR 87.44 347⇓ P **P 16 32 29.7 -0.4**
VRI Vrincioaia 87.59 348⇑ P **P 16 32 30.6 -0.2**
AAK Ala-Archa 87.73 22 *e*P **P 16 32 30.6 -0.9**
comp=Z,4.6nm,0.8s,mb4.8
AAK Ala-Archa 87.73 22 *e*P **P 16 32 31.0 -0.5**
FRU Bishkek 87.95 22 P **P 16 32 34.0 +1.5**
EBER Berja 88.21 325 P **P 16 32 33.9 0.0**
comp=Z,68nm,1.4s,mb5.7
EMUR La Murta 88.29 326 P **P 16 32 34.6 +0.3**
comp=Z,28nm,0.9s,mb5.5
ETOS Mallorca 88.32 330 P **P 16 32 35.6 +1.2**
comp=Z,38nm,1.2s,mb5.5
PGF Pioggiola 88.63 335 *e*P **P 16 32 36.2 +0.4**
ERON Agron 88.72 324 P **P 16 32 37.2 +0.8**
comp=Z,4.4nm,0.3s,mb5.3
DAV Davao City (W) 88.72 80 PFAKE 16 32 50.0 +13
DAV LR LR
comp=Z,450nm,20.0s,MS4.9
EMIJ Mijas 88.78 323 P **P 16 32 35.2 -1.5**
comp=Z,18nm,1.1s,mb5.3
EJIF Jimena Fronter 89.00 323 P **P 16 32 37.8 0.0**
comp=Z,28nm,1.5s,mb5.4
EJIF Jimena Fronter 89.00 323 P **P 16 32 37.8 0.0**
EJIF pmax pmax
comp=Z,28nm,1.5s,mb5.4
GYA Guiyang 89.03 53⇑ *i*P **P 16 32 39.3 +1.2**
GYA AP pP 16 32 43.6 +2.2
GYA XP sP 16 32 46.8 +4.4
GYA PP PP 16 36 13.3 +2.9
GYA SKS SKS 16 43 07.0 -3.7
GYA S S 16 43 26.8 +2.4
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,90nm,3.4s
GYA LR LR
comp=N,370nm,18.4s,MS5.0
GYA LR LR
comp=E,340nm,18.9s,MS5.0
GYA LR LR
comp=Z,290nm,18.5s,MS4.7
EQES Quesada 89.05 325 P **P 16 32 37.8 -0.2**
comp=Z,16nm,1.2s,mb5.2
SFS San Fernando 89.36 322 *e*P **P 16 32 35.9 -3.6**
comp=Z,189nm,0.9s
SFS San Fernando 89.36 322 *e*P **P 16 32 35.9 -3.5**
SFS pmax pmax
comp=Z,189nm,0.9s
ESPR Espera 89.52 323 P **P 16 32 39.5 -0.7**
comp=Z,12nm,1.0s,mb5.2
BURAR Bucovina Array 89.53 348⇓ P **P 16 32 41.2 +1.2**
CEY Cerknica 90.00 340 *e*P **P 16 32 42.9 +0.7**
EADA Adamuz 90.01 324 P **P 16 32 40.8 -1.6**
comp=Z,12nm,0.6s,mb5.4
EMOS Mosqueruela 90.11 328 P **P 16 32 42.6 -0.2**
comp=Z,26nm,1.0s,mb5.5
LMR La Mourre 90.14 334 *e*P **P 16 32 44.0 +1.1**
comp=Z,15nm,0.7s,mb5.1
LMR La Mourre 90.14 334 *e*P **P 16 32 44.0 +1.1**
LMR pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
PDKS Podkum 90.15 341 *e*P **P 16 32 43.2 +0.3**
SIV San Ignacio 90.20 249 P **P 16 32 43.1 -0.7**
comp=Z,4.2nm,0.9s,mb4.8,baz=129,slow=6.1,SNR=18
FRF La Foret Royal 90.30 334 *e*P **P 16 32 44.7 +1.1**
ERTA Horta de San J 90.30 329 P **P 16 32 43.8 +0.1**
comp=Z,52nm,1.5s,mb5.6
SBF Sospel 90.31 335 *e*P **P 16 32 44.2 +0.5**
ECAB El Cabril 90.31 324 P **P 16 32 42.9 -1.0**
comp=Z,32nm,1.5s,mb5.4
EPOB Poblet 90.35 330 P **P 16 32 43.3 -0.6**
comp=Z,50nm,1.6s,mb5.6
SAOF Saorge 90.38 335 *e*P **P 16 32 44.9 +0.9**
CALN Calern 90.39 334 *e*P **P 16 32 44.9 +0.8**
BERF Bertagne 90.39 334 *e*P **P 16 32 45.4 +1.3**
GROS Grobnik 90.40 341 *e*P **P 16 32 44.8 +0.8**
AUTN L'Autien 90.43 335 *e*P **P 16 32 45.2 +1.0**
MVIF Mont Vial 90.43 335 *e*P **P 16 32 45.4 +1.2**
TOUF Mont Tournerai 90.50 335 *e*P **P 16 32 45.5 +0.9**
TAVF Tavernes 90.54 334 *e*P **P 16 32 46.0 +1.2**
GELF Grande-Etoile 90.55 333 *e*P **P 16 32 45.6 +0.8**
PUYF Puyloubier 90.58 334 *e*P **P 16 32 45.8 +0.8**
EJON La Jonquera 90.62 331 P **P 16 32 45.0 -0.2**
comp=Z,56nm,1.8s,mb5.6
CD2 Chengdu 90.62 48 P **P 16 32 46.0 +0.5**
EMIN Mina Concepcio 90.63 323 P **P 16 32 44.7 -0.6**
comp=Z,11nm,0.8s,mb5.2
PERS Pernice 90.66 341 *e*P **P 16 32 45.8 +0.5**
OBKA Obir 90.68 341⇑ *i*P **P 16 32 46.0 +0.7**
comp=Z,94nm,1.9s,mb5.6
EGRO El Granado 90.82 322 P **P 16 32 45.4 -0.8**
comp=Z,55nm,2.0s,mb5.5
VILF Villemus 90.86 334 *e*P **P 16 32 47.7 +1.5**
STOF St-Etienne Org 90.93 334 *e*P **P 16 32 48.4 +1.9**
LVC Limon Verde 90.95 239 *e*P **P 16 32 43.5 -3.6**
comp=Z,38nm,0.5s,mb6.0
ESDC Sonseca Array 90.99 325 P **P 16 32 46.4 -0.6**
comp=Z,5.5nm,0.8s,mb5.0,baz=145,slow=4.2,SNR=22
ESDC Sonseca Array 90.99 325 P **P 16 32 46.2 -0.7**
comp=Z,5.5nm,0.6s,mb5.1
ESLA Sonseca Array 90.99 325 *e*P **P 16 32 47.4 +0.5**
comp=Z,1.5nm,1.0s,mb4.3
ESLA LR LR
comp=Z,4μm,19.0s,MS5.9
PRAF Pradon 91.00 333 *e*P **P 16 32 48.0 +1.1**
SMRF Simiane la Rot 91.02 334⇑ *i*P **P 16 32 47.3 +0.3**
comp=Z,38nm,1.1s,mb5.3
SURF Saint Ours 91.06 335 *e*P **P 16 32 48.8 +1.7**
ARSA Arzberg 91.13 341⇑ *i*P **P 16 32 47.7 +0.3**
comp=Z,110nm,2.1s,mb5.8
KECS Kecovo 91.21 345 *e*P **P 16 32 46.9 -0.8**
KECS *e* 16 32 57.9
MBDF Montbardon 91.29 335 *e*P **P 16 32 49.6 +1.4**
comp=Z,49nm,1.0s,mb5.5
MBDF Montbardon 91.29 335 *e*P **P 16 32 49.6 +1.4**
MBDF pmax pmax
comp=Z,24nm,1.0s,mb5.5
KOLS Kolonicke sedl 91.31 346 *e*P **P 16 32 49.0 +0.8**
KOLS *e* 16 33 01.5
EGRA Graus 91.37 330 P **P 16 32 48.6 0.0**
comp=Z,5.6nm,0.6s,mb5.1
KBA Koelnbreinsper 91.52 340⇑ *i*P **P 16 32 49.4 +0.2**
comp=Z,90nm,3.0s
KBA Koelnbreinsper 91.52 340⇑ *i*P **P 16 32 49.4 +0.2**
KBA pmax pmax
comp=Z,90nm,3.0s
VYHS Vyhne 91.56 344 *e*P **P 16 32 48.1 -1.2**
EBAD Badajoz 91.59 323 P **P 16 32 49.5 -0.2**
comp=Z,14nm,0.8s,mb5.4
BNI Bardonecchia 91.61 335 *e*P **P 16 32 50.5 +0.9**
comp=Z,39nm,1.0s,mb5.7
BNI Bardonecchia 91.61 335 *e*P **P 16 32 50.5 +0.8**
BNI pmax pmax
comp=Z,39nm,1.0s,mb5.7
MTLF Montolieu 91.64 331 *e*P **P 16 32 50.0 +0.2**
comp=Z,19nm,1.1s,mb5.0
MTLF Montolieu 91.64 331 *e*P **P 16 32 50.0 +0.2**
MTLF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
OCF Saint Nazaire 91.64 334 *e*P **P 16 32 51.1 +1.3**
OG26 St.-Nazaire-De 91.64 334 *e*P **P 16 32 51.1 +1.3**
ZST Bratislava 91.65 343 *e*P **P 16 32 49.1 -0.7**
LASF Ste Croix 91.70 333 *e*P **P 16 32 50.9 +0.8**
comp=Z,56nm,1.3s,mb5.4
ORIF Oris-en-Rattie 91.75 334⇑ *i*P **P 16 32 51.1 +0.8**
comp=Z,24nm,0.9s,mb5.2
ORIF *e*R
comp=Z,731nm,20.5s
EBIE Bielsa 91.85 330 P **P 16 32 50.7 -0.1**
comp=Z,15nm,0.9s,mb5.3
KWP Kalwaria 91.91 347 P **P 16 32 51.2 +0.4**
comp=Z,61nm,1.8s,mb5.6
KWP Kalwaria 91.91 347 P **P 16 32 51.3 +0.4**
KWP pmax pmax
comp=Z,61nm,1.8s,mb5.6
STHS Stebnicka Huta 91.96 346 *e*P **P 16 32 51.0 -0.1**
LPG La Plagne 91.99 335 *e*P **P 16 32 52.0 +0.6**
comp=Z,20nm,0.9s,mb5.2
LPG La Plagne 91.99 335 *e*P **P 16 32 52.0 +0.6**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
AKASG Malin Array Be 92.00 351 P **P 16 32 50.8 -0.5**
comp=Z,4.5nm,0.8s,mb4.9,baz=173,slow=4.7,SNR=14
AKASG Malin Array Be 92.00 351 P **P 16 32 50.8 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
MOA Molln 92.00 341⇑ *i*P **P 16 32 51.8 +0.4**
comp=Z,158nm,2.7s,mb5.9
LPL La Plagne 92.01 335⇑ *i*P **P 16 32 52.0 +0.5**
comp=Z,30nm,0.9s,mb5.3
LPL La Plagne 92.01 335⇑ *i*P **P 16 32 52.0 +0.5**
LPL pmax pmax
comp=Z,15nm,0.9s,mb5.3
EPF Esparros 92.07 330 *e*P **P 16 32 52.3 +0.5**
comp=Z,21nm,1.0s,mb5.1
EPF Esparros 92.07 330 *e*P **P 16 32 52.3 +0.5**
EPF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
VIVF Saint-Julien-l 92.10 334 *e*P **P 16 32 52.5 +0.6**
comp=Z,18nm,0.9s,mb5.1
VIVF Saint-Julien-l 92.10 334 *e*P **P 16 32 52.5 +0.6**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
WTTA Wattenberg 92.14 339⇑ *i*P **P 16 32 51.3 -0.7**
comp=Z,101nm,2.3s,mb5.7
WTTA Wattenberg 92.14 339⇑ *i*P **P 16 32 51.3 -0.7**
WTTA pmax pmax
comp=Z,101nm,2.3s,mb5.7
SQTA Sankt Quirin 92.22 339⇓ *i*P **P 16 32 52.7 +0.3**
comp=Z,14nm,1.2s,mb5.2
SQTA Sankt Quirin 92.22 339⇓ *i*P **P 16 32 52.7 +0.3**
SQTA pmax pmax
comp=Z,14nm,1.2s,mb5.2
ETSF Etsaut 92.30 329⇑ *i*P **P 16 32 53.5 +0.6**
comp=Z,24nm,0.9s,mb5.2
ETSF Etsaut 92.30 329⇑ *i*P **P 16 32 53.5 +0.6**
ETSF pmax pmax
comp=Z,12nm,0.9s,mb5.2
MOTA Moosalm 92.36 339⇓ *i*P **P 16 32 53.3 +0.3**
comp=Z,38nm,1.9s,mb5.4
MOTA Moosalm 92.36 339⇓ *i*P **P 16 32 53.3 +0.3**
MOTA pmax pmax
comp=Z,38nm,1.9s,mb5.4
DAVA Damuels 92.65 338⇑ *i*P **P 16 32 54.2 -0.2**
comp=Z,42nm,2.2s,mb5.5
SJPF Ste Jean 92.74 329 *e*P **P 16 32 55.7 +0.8**
comp=Z,26nm,1.2s,mb5.2
SJPF Ste Jean 92.74 329 *e*P **P 16 32 55.7 +0.8**
SJPF pmax pmax
comp=Z,13nm,1.2s,mb5.2
VRAC Vranov 92.81 343 *e*P **P 16 32 55.5 +0.4**
LBL Lubilhac 92.92 333 *e*P **P 16 32 56.9 +1.3**
GEC2 GERESS Array S 93.06 341 *e*P **P 16 32 55.5 -0.7**
comp=Z,12nm,1.5s,mb5.1
GEC2 GERESS Array S 93.06 341 *e*P **P 16 32 55.5 -0.7**
GEC2 pmax pmax
comp=Z,12nm,1.5s,mb5.1
GERES GERESS Array B 93.06 341 P **P 16 32 55.7 -0.5**
comp=Z,1.3nm,0.7s,mb4.4,baz=162,slow=4.2,SNR=9.1
GERES LR LR 17 20 09.5
comp=Z,231nm,18.5s,MS4.7,baz=312,slow=39
GERES GERESS Array B 93.06 341 P **P 16 32 55.7 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,231nm,18.5s
MTE Manteigas 93.16 324 *e*LR LR 17 04 26.1
comp=Z,797nm,20.0s
CABF La Chapelle 93.19 335⇑ *i*P **P 16 32 57.4 +0.5**
comp=Z,48nm,1.1s,mb5.5
CABF La Chapelle 93.19 335⇑ *i*P **P 16 32 57.4 +0.5**
CABF pmax pmax
comp=Z,24nm,1.1s,mb5.5
WMQ Urumqi 93.25 30 *e*P **P 16 32 57.5 +0.3**
WMQ AP pP 16 33 02.0 +1.6
WMQ XP sP 16 33 04.0 +2.6
WMQ PP PP 16 36 44.0 +0.3
WMQ SKS SKS 16 43 30.0 -4.8
WMQ *e*S S 16 44 02.0 +0.5
WMQ AMB AMB
comp=Z,11nm,1.4s,mb5.1
WMQ AMB AMB
comp=Z,153nm,3.7s
WMQ LR LR
comp=N,644nm,26.6s,MS5.1
WMQ LR LR
comp=E,474nm,23.4s,MS5.1
WMQ LR LR
comp=Z,718nm,26.4s,MS5.0
KHC Kasperske Hory 93.36 341 *e*P **P 16 32 57.0 -0.6**
KHC AMS AMS 17 21 50.0
comp=Z,500nm,20.1s
KHC Kasperske Hory 93.36 341⇓ *i*P **P 16 32 57.1 -0.5**
PLDF La Plantade 93.43 333 *e*P **P 16 32 58.1 +0.1**
ENH Enshi 93.50 52 *e*P **P 16 32 57.8 -0.9**
comp=Z,12nm,1.0s,mb5.3
ENH LR LR
comp=Z,780nm,20.0s,MS5.2
BBS Basel-Blauen 93.51 337 *e*P **P 16 32 59.0 +0.7**
WET Wettzell 93.55 341 *e*P **P 16 32 58.6 +0.2**
comp=Z,10.0nm,1.3s,mb5.1
WET Wettzell 93.55 341 *e*P **P 16 32 58.6 +0.2**
WET pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
LFF La Frestale 93.56 331 *e*P **P 16 32 58.8 +0.2**
RJF Les Rejaudoux 93.59 332 *e*P **P 16 32 59.4 +0.7**
RJF *e*R
comp=Z,952nm,18.5s
LOMF Lomont 93.62 336 *e*P **P 16 32 59.0 +0.2**
ELAN Lanestosa 93.72 328 P **P 16 32 59.6 +0.2**
comp=Z,16nm,0.7s,mb5.6
FELD Feldberg 93.73 337 *e*P **P 16 32 59.0 -0.3**
DPC Dobruska-Polom 93.86 343 *e*P **P 16 32 59.5 -0.3**
PRU Pruhonice 93.92 342 *e*P **P 16 33 00.0 -0.2**
SMF Signal de Mont 93.95 334⇑ *i*P **P 16 33 00.4 0.0**
comp=Z,29nm,0.9s,mb5.4
SMF Signal de Mont 93.95 334⇑ *i*P **P 16 33 00.4 0.0**
SMF pmax pmax
comp=Z,15nm,0.9s,mb5.4
HINF Hinteralfeld 94.02 336 *e*P **P 16 33 00.4 -0.3**
BFO Black Forest 94.04 337 *e*P **P 16 33 00.9 +0.2**
comp=Z,4.0nm,1.1s,mb4.8
BFO Black Forest 94.04 337 *e*P **P 16 33 00.9 +0.2**
BFO pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
UPC Upice 94.07 343 *e*P **P 16 33 01.2 +0.4**
PMG Port Moresby 94.18 106 PFAKE 16 33 10.0 +7.8
PMG LR LR
comp=Z,1μm,20.0s,MS5.3
TCF Toulx Ste Croi 94.19 333 *e*P **P 16 33 01.9 +0.4**
AVF Avril sur Loir 94.24 334⇑ *i*P **P 16 33 01.9 +0.2**
comp=Z,40nm,1.1s,mb5.5
AVF Avril sur Loir 94.24 334⇑ *i*P **P 16 33 01.9 +0.2**
AVF pmax pmax
comp=Z,20nm,1.1s,mb5.5
HAU Haudompre 94.35 336 *e*P **P 16 33 02.0 -0.2**
HAU *e*R
comp=Z,413nm,19.2s
SSF Saint Saulge 94.43 334 *e*P **P 16 33 02.4 -0.1**
comp=Z,16nm,1.0s,mb5.1
SSF Saint Saulge 94.43 334 *e*P **P 16 33 02.4 -0.1**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
CDF Champ du Feu 94.43 337 *e*P **P 16 33 02.2 -0.3**
comp=Z,9.2nm,0.8s,mb4.9
CDF Champ du Feu 94.43 337 *e*P **P 16 33 02.2 -0.3**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
GRA1 Grafenberg Arr 94.48 340 *e*P **P 16 33 03.3 +0.6**
comp=Z,15nm,1.2s,mb5.3
GRA1 LR LR
comp=Z,400nm,20.5s,MS4.9
GRF Grafenberg Arr 94.48 340 *e*P **P 16 33 03.3 +0.6**
comp=Z,15nm,1.2s,mb5.3
GRF LR LR
comp=Z,400nm,20.5s,MS4.9
GRF Grafenberg Arr 94.48 340 *e*P **P 16 33 03.3 +0.6**
GRF pmax pmax
comp=Z,15nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,400nm,20.5s,MS4.9
GRF Grafenberg Arr 94.48 340 *e*P **P 16 33 03.3 +0.6**
GRF pmax pmax
comp=Z,15nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,400nm,20.5s,MS4.9
LOR Lormes 94.49 334⇑ *i*P **P 16 33 03.0 +0.2**
comp=Z,37nm,1.0s,mb5.5
LOR *e*R
comp=Z,694nm,23.0s
LOR Lormes 94.49 334⇑ *i*P **P 16 33 03.0 +0.2**
LOR pmax pmax
comp=Z,18nm,1.0s,mb5.5
LOR MLR MLR
comp=Z,690nm,23.0s,MS5.1
ELOB Lobios 94.57 324 P **P 16 33 04.0 +0.6**
comp=Z,18nm,1.2s,mb5.4
NKC Novy Kostel 94.66 341 *e*P **P 16 33 03.6 +0.1**
NKC AMS AMS 17 22 20.0
comp=Z,600nm,16.5s
LPAZ La Paz 94.90 244 P **P 16 33 06.8 +1.4**
comp=Z,2.3nm,1.1s,mb4.5,baz=131,slow=5.6,SNR=7.7
LPAZ LR LR 17 12 05.5
comp=Z,449nm,18.0s,MS5.0,baz=143,slow=33
LPAZ La Paz 94.90 244 *e*P **P 16 33 06.9 +1.5**
comp=Z,15nm,1.6s,mb5.2
LPAZ LR LR
comp=Z,572nm,20.0s,MS5.0
LPAZ La Paz 94.90 244 P **P 16 33 06.8 +1.4**
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
LPAZ MLR MLR
comp=Z,449nm,18.0s
GTA Gaotai 95.00 40 *e*P **P 16 33 05.8 +0.4**
GTA AP pP 16 33 09.4 +0.8
GTA XP sP 16 33 12.3 +2.7
GTA PP PP 16 36 53.3 -3.5
GTA SKS SKS 16 43 39.8 -4.7
GTA S S 16 44 14.8 -1.8
GTA SS SS 16 50 42.3 -3.6
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,67nm,5.3s
GTA LR LR
comp=N,160nm,18.3s,MS4.7
GTA LR LR
comp=E,194nm,17.1s,MS4.7
GTA LR LR
comp=Z,154nm,17.5s,MS4.5
MEZF Maizieres J'vi 95.19 336 *e*P **P 16 33 06.5 +0.5**
MOX Moxa 95.25 340 *i* P **P 16 33 07.1 +0.9**
MOX L 17 20 21.0
MOX Moxa 95.25 340 *e*P **P 16 33 07.1 +0.9**
MOX MLR MLR
comp=Z,300nm,21.0s,MS4.7
CLL Collm 95.52 341 P **P 16 33 09.0 +1.6**
CLL *e* 16 33 16.0
CLL *e*S S 16 44 30.0 +9.3
CLL *e*SS SS 16 50 42.0 -11
CLL Collm 95.52 341 *e*P **P 16 33 09.0 +1.6**
CLL *e* 16 33 16.0
CLL *e*S S 16 44 30.0 +9.3
OBN Obninsk 95.76 356⇓ *i*P **P 16 33 07.1 -1.4**
OBN LR LR
comp=Z,100nm,15.0s,MS4.4
OBN Obninsk 95.76 356⇓ *e*P **P 16 33 07.1 -1.4**
OBN pmax pmax
comp=Z,5.0nm,0.5s,mb5.2
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.4
KURK Kurchatov 96.26 22 *e*P **P 16 33 10.5 -0.3**
comp=Z,1.7nm,0.8s,mb4.5
KURK LR LR
comp=Z,73nm,21.0s,MS4.1
KURK Kurchatov 96.26 22 *e*P **P 16 33 10.5 -0.3**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
KURK MLR MLR
comp=Z,73nm,21.0s,MS4.1
BRVK Borovoye 96.38 16 *e*P **P 16 33 10.0 -1.3**
comp=Z,3.6nm,0.9s,mb4.8
BRVK Borovoye 96.38 16 *e*P **P 16 33 10.0 -1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SAML Samuel 96.47 252 P **P 16 33 12.7 0.0**
comp=Z,3.3nm,1.1s,mb4.7
SAML LR LR
comp=Z,641nm,20.0s,MS5.1
BAIF Baives 96.82 336 *e*P **P 16 33 13.4 0.0**
ARU Arti 97.75 8 *e*P **P 16 33 14.7 -2.7**
ROSF Rostrenen 97.91 331 *e*P **P 16 33 18.2 -0.1**
BSEG Bad Segeberg 98.58 341 *e*P **P 16 33 22.9 +1.7**
NJ2 Nanjing 100.53 57 *e*P P 16 33 31.3 +0.7
NJ2 AP 16 33 35.9
NJ2 XP 16 33 38.6
NJ2 PP PP 16 37 43.0 +2.8
NJ2 S S 16 44 59.0 -4.4
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
NJ2 AMB AMB
comp=Z,450nm,3.7s
NJ2 LR LR
comp=Z,1μm,28.8s,MS5.2
ZAL Zalesovo 100.90 23 P P 16 33 30.8 -0.9
comp=Z,0.8nm,0.3s,baz=302,slow=8.9,SNR=3.4
ZAL Zalesovo 100.90 23 P P 16 33 30.8 -0.9
ZAL pmax pmax
comp=Z,1.0nm,0.3s
SSE Sheshan 101.39 59 P P 16 33 35.8 +1.2

SSE					AMB	AMB			
	comp=Z,31nm,0.7s								
SSE					AMB	AMB			
	comp=Z,385nm,4.8s								
HNR	**Honiara**	**103.24**	**115**		PFAKE		16 33 50.0	+6.9	
HNR					LR	LR			
	comp=Z,372nm,19.0s,MS4.9								
NNA	**Nana**	**103.83**	**241**		PFAKE		16 34 00.0	+14	
NNA					LR	LR			
	comp=Z,100nm,20.0s,MS4.3								
SONM	**Songino Array**	**104.45**	**38**		Pdiff	Pdif	16 33 50.1	+2.4	
	comp=Z,0.5nm,0.7s,baz=236,slow=5.2,SNR=4.3								
SONM					PP	PP	16 38 09.1	-0.1	
	comp=Z,0.3nm,0.5s,baz=210,slow=5.1,SNR=3.8								
SONM	**Songino Array**	**104.45**	**38**		P	Pdif	16 33 50.1	+2.4	
SONM							16 38 09.1		
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
CN2	**Changchun**	**111.94**	**51**		PDIF	Pdif	16 34 19.5	-1.3	
CN2					eS		16 46 36.0		
CN2					LR	LR			
	comp=N,420nm,19.0s,MS5.2								
CN2					LR	LR			
	comp=E,370nm,19.0s,MS5.2								
CN2					LR	LR			
	comp=Z,390nm,18.0s,MS5.0								
HIA	**Hailar**	**112.04**	**43**		PFAKE		16 38 30.0	+11	
HIA					LR	LR			
	comp=Z,464nm,20.0s,MS5.1								
SDV	**Santo Domingo**	**113.88**	**261**		PFAKE		16 38 30.0	+5.9	
SDV					LR	LR			
	comp=Z,260nm,21.0s,MS4.8								
BOD	**Bodaibo**	**114.56**	**34**	*e*	PKIKP	PKPdf	16 38 18.9	-5.4	
RAR	**Rarotonga**	**114.63**	**156**		PFAKE		16 38 40.0	+15	
RAR					LR	LR			
	comp=Z,1.0nm,21.0s								
MDJ	**Mudanjiang**	**114.86**	**52**		PKP	PKPdf	16 38 23.4	-1.8	
MDJ					PP	PP	16 39 23.3	-2.4	
MDJ					PKS	PKS	16 42 00.4	+2.6	
MDJ					SKS	SKS	16 45 35.5	+21	
MDJ					PP	PP			
	comp=Z,54nm,5.2s								
MDJ					LR	LR			
	comp=N,539nm,18.0s,MS5.2								
MDJ					LR	LR			
	comp=E,377nm,20.6s,MS5.2								
MDJ					LR	LR			
	comp=Z,512nm,18.9s,MS5.2								
MDJ	**Mudanjiang**	**114.86**	**52**		PFAKE		16 38 40.0	+15	
MDJ					LR	LR			
	comp=Z,352nm,20.0s,MS5.0								
TBI	**Tubuai**	**115.04**	**167**	*e*	LR	LR	17 12 57.3		
	comp=Z,347nm,23.5s								
MAJO	**Matsushiro**	**115.97**	**63**		PFAKE		16 38 40.0	+12	
MAJO					LR	LR			
	comp=Z,292nm,21.0s,MS4.9								
SJG	**San Juan**	**116.25**	**272**		PFAKE		16 38 40.0	+11	
SJG					LR	LR			
	comp=Z,209nm,21.0s,MS4.7								
RKT	**Rikitea**	**116.35**	**182**	*e*	LR	LR	17 13 31.9		
	comp=Z,504nm,38.5s								
PPT	**Papeete**	**120.66**	**166**	*e*	LR	LR	17 15 33.9		
	comp=Z,463nm,22.5s								
BBSR	**BB Station**	**123.10**	**286**		PFAKE		16 38 50.0	+8.5	
BBSR					LR	LR			
	comp=Z,511nm,19.0s,MS5.2								
YAK	**Yakutsk**	**123.47**	**34**	*i*	PKPr		16 38 38.3		
YSS	**Yuzh-Sakhalins**	**124.02**	**55**	*e*	PKP	PKPdf	16 38 39.3	-3.7	
YSS	**Yuzh-Sakhalins**	**124.02**	**55**	*e*	PKIKP	PKPdf	16 38 40.3	-2.7	
JTS	**JuntasAbangare**	**125.34**	**251**		PFAKE		16 39 00.0	+14	
JTS					LR	LR			
	comp=Z,1μm,21.0s,MS5.5								
TIXI	**Tiksi**	**126.80**	**23**	*i*	PKPr		16 38 43.1		
BILL	**Bilibino**	**139.34**	**29**	*e*	PKP	PKPdf	16 39 11.5	+0.3	
BILL	**Bilibino**	**139.34**	**29**	*i*	PKIKP	PKPdf	16 39 11.4	+0.2	
BILL					pmax	pmax			
	comp=Z,12nm,1.0s								
FVM	**French Village**	**144.50**	**281**	*e*	PKPdf	PKPdf	16 39 16.9	-4.1	
CCM	**Cathedral Cave**	**145.13**	**281**	*e*	PKPdf	PKPdf	16 39 18.9	-3.1	
NATX	**Nacogdoches**	**145.25**	**268**	*e*	PKPdf	PKPdf	16 39 19.9	-2.6	
ULM	**Lac du Bonnet**	**150.27**	**302**		PKPbc	PKPdf	16 39 32.6	+2.6	
	comp=Z,26nm,0.8s,baz=80,slow=2.7,SNR=31								
LTX	**Lajitas**	**150.84**	**257**	*e*	PKPdf	PKPdf	16 39 30.5	-1.1	
LTX				*e*	PKPbc	PKPdf	16 39 35.3	+3.7	
TXAR	**Lajitas Array**	**150.84**	**257**		PKP	PKPdf	16 39 29.8	-1.8	
	comp=Z,1.4nm,0.5s,slow=1.3,SNR=17								
TXAR					PKPbc	PKPdf	16 39 35.0	+3.5	
	comp=Z,8.2nm,0.7s,baz=135,slow=1.8,SNR=17								
TXAR					PKPab	PKPab	16 39 41.5	-2.2	
	comp=Z,11nm,0.8s,baz=124,slow=4.5,SNR=10								
TXAR	**Lajitas Array**	**150.84**	**257**		PKIKP	PKPdf	16 39 29.8	-1.8	
TXAR							16 39 35.1		
TXAR							16 39 41.5		
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
TXAR					pmax	pmax			
	comp=Z,8.0nm,0.7s								
TXAR					pmax	pmax			
	comp=Z,11nm,0.8s								
INK	**Inuvik**	**152.42**	**357**	*e*	PKPbc	PKPdf	16 39 37.1	+4.4	
MNTX	**Cornudas Mount**	**153.31**	**260**	*e*	PKPdf	PKPdf	16 39 33.1	-2.0	
MNTX				*e*	PP	PP	16 43 25.0	-3.9	
YKA	**Yellowknife Ar**	**154.62**	**336**		PKP	PKPdf	16 39 32.4	-3.5	
	comp=Z,1.4nm,0.7s,baz=29,slow=1.8,SNR=5.7								
YKA					PKPbc	PKPdf	16 39 42.4	+6.5	
	comp=Z,1.2nm,0.7s,baz=84,slow=26,SNR=4.6								
YKA					PKPab	PKPab	16 39 57.1	-1.4	
	comp=Z,9.1nm,0.8s,baz=40,slow=4.6,SNR=22								
YKA	**Yellowknife Ar**	**154.62**	**336**		PKIKP	PKPdf	16 39 32.4	-3.4	
YKA							16 39 57.1		
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
YKA					pmax	pmax			
	comp=Z,9.0nm,0.8s								
ILAR	**Eielson Array**	**155.31**	**11**		PKP	PKPdf	16 39 33.9	-2.8	
	comp=Z,1.3nm,1.1s,baz=271,slow=2.0,SNR=6.2								
ILAR					PKPbc	PKPdf	16 39 43.5	+6.8	
	comp=Z,1.8nm,0.8s,baz=324,slow=3.2,SNR=11								
ILAR					PKPab	PKPab	16 39 59.5	-1.9	
	comp=Z,3.2nm,0.7s,baz=316,slow=3.9,SNR=9.1								
ILAR	**Eielson Array**	**155.31**	**11**		PKIKP	PKPdf	16 39 33.9	-2.8	
ILAR							16 39 59.5		
ILAR					pmax	pmax			
	comp=Z,1.0nm,1.1s								
ILAR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ILAR					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ANMO	**Albuquerque**	**155.54**	**266**	⇑*i*	PKIKP	PKPdf	16 39 37.1	-0.8	
ANMO				*i*			16 39 37.2		
SDCO	**Great Sand Dun**	**155.77**	**273**	*e*	PKPdf	PKPdf	16 39 37.6	-0.6	
SDCO				*e*	PKPab	PKPab	16 40 04.7	+0.4	
PDAR	**Pinedale Array**	**159.75**	**284**		PKP	PKPdf	16 39 40.2	-2.8	
	comp=Z,1.4nm,1.0s,baz=117,slow=3.3,SNR=7.5								
SRU	**San Rafael**	**159.93**	**274**	*e*	PKPdf	PKPdf	16 39 42.1	-1.2	
TPAW	**Teton Pass**	**160.79**	**286**	*e*	PKPdf	PKPdf	16 39 41.2	-2.8	
MSU	**Marysvale**	**161.04**	**271**	*e*	PKPdf	PKPdf	16 39 43.8	-0.7	
HWUT	**Hardware Ranch**	**161.13**	**281**	*e*	PKPdf	PKPdf	16 39 39.5	-4.9	
CHMT	**Chamberlain Mo**	**162.11**	**298**	*e*	PKPdf	PKPdf	16 39 41.6	-3.6	
WVOR	**Wild Horse Val**	**166.44**	**283**	*e*	PKPdf	PKPdf	16 39 47.8	-1.7	

IDC 22 16:32:00.1±1.3, 24.08S×66.80W, h182km±20km, mb1 2.8/4, mb1mx2.8/14, mbtmp3.1/4, Error ellipse: s-maj=26.4km s-min=14.2km az=77.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**307**	P		P	16 32 43.7	+1.1
	14nm,0.3s,baz=123,slow=8.8,SNR=120							
LVC				S		S	16 33 15.4	+0.1
	5.6nm,0.3s,baz=119,slow=22,SNR=9.3							
CFAA	**Coronel Fontan**	**7.60**	**189**	P		P	16 33 49.5	+0.5
	0.0nm,0.3s,baz=15,slow=17,SNR=4.3							
CFAA				S		S	16 35 11.7	-2.3
	0.2nm,0.3s,baz=144,slow=20,SNR=12							
LPAZ	**La Paz**	**7.85**	**351**	P		P	16 33 52.9	+0.6
	0.1nm,0.3s,baz=214,slow=18,SNR=2.7							
LPAZ				S		S	16 35 18.8	-1.2
	0.1nm,0.3s,baz=268,slow=24,SNR=3.5							
CPUP	**Villa Florida**	**8.87**	**107**	P		P	16 34 04.6	-1.0
	0.1nm,0.3s,baz=287,slow=14,SNR=2.4							
WRA	**Warramunga Arr**	**131.64**	**207**	PKP		PKPdf	16 50 51.5	-0.5
	0.5nm,0.9s,baz=153,slow=2.0,SNR=5.6							

BJI ***22*** *16:37:44.7, 9.28S×158.38E, h16km, mB5.3, mb5.2, Ms5.1, Ms2.4.7*

IDC ***22*** *16:37:45.0±0.5, 9.31S×158.09E, mb4.9/13, mb1 5.1/16, mb1mx5.1/17, mbtmp4.9/16, ML4.2/2, MS4.7/18, Ms1 4.7/18, ms1mx4.6/21, Error ellipse: s-maj=13.8km s-min=11.1km az=97.0*

NEIC ***22*** *16:37:46.5±0.2, 9.32S×158.10E, h10km, mb5.3/34, MS4.9/4, Error ellipse: s-maj=6.3km s-min=5.2km az=98.0*

MOS ***22*** *16:37:46.4±1.1, 9.23S×157.79E, h10km, mb5.3/34, MS4.6/16, Error ellipse: s-maj=10.5km s-min=7.9km az=90.4*

HRVD ***22*** *16:37:46.5±0.2, 9.43S×158.09E, h15km±1km, MW5.3/64, Centroid moment Tensor Solution. LP body waves: s47,c93; Mantle waves: s64,c124; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21±.02; $M_{\theta\theta}$-0.37±.02; $M_{\phi\phi}$0.15±.02; $M_{r\theta}$-0.03±.04; $M_{\theta\phi}$1.01±.02; $M_{\phi r}$0.00±.04; Best double couple: $M_0$1.044×10^{17} NP1: ϕ_s173°,δ88°,λ180°. NP2:ϕ_s263°,δ90°,λ2°. Principal axes: T .939, Plg1°, Azm128°; N .211, Plg88°, Azm265°; P -1.15, Plg1°, Azm38°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CRAAG ***22*** *16:37:48.7, 9.30S×158.20E, Mb5.3*

ISC 22 16:37:48.5±0.2, 9.32S±0.04×158.11E±0.04, h33km, (h20km±6.2km: pP-P), n251, σ1s19/169, mb5.2/69, MS4.7/32, 13C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**94**	Pn		**Pn**	**16 38 16.0**	**-2.1**
	468nm,0.3s,baz=230,slow=4.8,SNR=252							
HNR				Sn		**Sn**	**16 38 38.0**	**-2.3**
	3μm,0.3s,baz=174,slow=23,SNR=41							
HNR				LR		LR	16 38 54.9	
	comp=Z,10μm,20.5s,baz=270,slow=38							
HNR	**Honiara**	**1.82**	**94**	*e*Pn		**Pn**	**16 38 16.1**	**-2.0**
PMG	**Port Moresby**	**10.80**	**269**	Pn		**P**	**16 40 21.1**	**-2.9**
	baz=181,slow=13,SNR=2.6							
PMG				Sn		**S**	**16 42 25.6**	**+0.8**
	0.2nm,0.3s,baz=168,slow=19,SNR=1.8							
PMG				LR		LR	16 44 21.5	
	comp=Z,8μm,19.0s,baz=267,slow=37							
DZM	**Mont Dzumac**	**15.00**	**149**	*e*P		**P**	**16 41 19.6**	**-0.4**
DZM	**Mont Dzumac**	**15.00**	**149**	Pn		**P**	**16 41 19.7**	**-0.2**
	0.2nm,0.3s,baz=319,slow=9.8,SNR=8.5							
DZM				Sn		**S**	**16 44 08.1**	**+2.4**
	0.1nm,0.3s,baz=317,slow=23,SNR=1.7							
DZM				LR		LR	16 46 19.9	
	comp=Z,5μm,18.8s,baz=337,slow=34							
DZM	**Mont Dzumac**	**15.00**	**149**	*e*P		**P**	**16 41 19.6**	**-0.4**
CTA	**Charters Tower**	**15.67**	**226**	*e*P		**P**	**16 41 25.8**	**-2.9**
	109nm,0.9s							
CTA	**Charters Tower**	**15.67**	**226**	Pn		**P**	**16 41 25.6**	**-3.1**
	2.0nm,0.3s,baz=51,slow=14,SNR=60							
CTA				Sn		**S**	**16 44 25.2**	**+3.9**
	0.6nm,0.3s,baz=141,slow=18,SNR=2.9							
CTA				LR		LR	16 46 53.3	
	comp=Z,4μm,18.5s,baz=49,slow=35							
CTA	**Charters Tower**	**15.67**	**226**	P		**P**	**16 41 25.6**	**-3.1**
CTA							16 44 25.3	
CTA				pmax		pmax		
	comp=Z,2.0nm,0.3s							
CTA				smax				
	comp=N,1.0nm,0.3s							
CTA				MLR		MLR		
	comp=Z,4μm,18.5s							
CTAO	**Charters Tower**	**15.67**	**226**	*e*P		**P**	**16 41 26.1**	**-2.6**
	comp=Z,236nm,1.1s							
CTAO	**Charters Tower**	**15.67**	**226**	*e*P		**P**	**16 41 26.1**	**-2.6**
CTAO				pmax		pmax		
	comp=Z,236nm,1.1s							
WRAB	**Tennant Creek**	**25.26**	**243**	*e*P		**P**	**16 43 13.2**	**-0.3**
	comp=Z,189nm,0.8s,mb5.7							
WRAB	**Tennant Creek**	**25.26**	**243**	*e*P		**P**	**16 43 13.2**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,189nm,0.8s,mb5.7							
WB2	**Warramunga Arr**	**25.26**	**243**	⇓*i*P		**P**	**16 43 13.4**	**-0.1**
WB2				*e*S		**S**	**16 47 50.1**	**+16**
WRA	**Warramunga Arr**	**25.27**	**243**	P		**P**	**16 43 13.2**	**-0.5**
	comp=Z,60nm,0.7s,mb5.2,baz=68,slow=9.6,SNR=160							
WRA				S		**S**	**16 47 42.6**	**+8.0**
	comp=Z,3.5nm,1.2s,baz=72,slow=17,SNR=3.2							
WRA	**Warramunga Arr**	**25.27**	**243**	P		**P**	**16 43 13.2**	**-0.4**
WRA				S		**S**	**16 47 42.6**	**+8.0**
WRA				pmax		pmax		
	comp=Z,60nm,0.7s							
WRA				smax				
	comp=N,4.0nm,1.2s							
KAKA	**Kakadu**	**25.41**	**260**	⇓*i*P		**P**	**16 43 34.0**	**+19**
	comp=N,64nm,0.6s,mb5.3							
GUMO	**Guam**	**26.28**	**330**	P		**P**	**16 43 22.5**	**-0.6**
	comp=N,98nm,1.0s,mb5.3,baz=239,slow=5.1,SNR=4.7							
GUMO				S		**S**	**16 47 58.2**	**+6.9**
	comp=N,51nm,1.0s,baz=196,slow=12,SNR=1.9							
GUMO				LR		LR	16 52 03.7	
	comp=N,930nm,19.8s,MS4.3,baz=349,slow=33							
GUMO	**Guam**	**26.28**	**330**	*e*P		**P**	**16 43 22.9**	**-0.2**
	comp=N,172nm,1.1s,mb5.5							
GUMO	**Guam**	**26.28**	**330**	P		**P**	**16 43 22.5**	**-0.6**
GUMO				S		**S**	**16 47 58.2**	**+6.9**
GUMO				pmax		pmax		
	comp=Z,98nm,1.0s,mb5.3							
GUMO				smax				
	comp=N,51nm,1.0s							
GUMO				MLR		MLR		
	comp=Z,930nm,19.8s,MS4.3							
CNB	**Canberra Magne**	**27.08**	**196**	*e*P		**P**	**16 43 30.3**	**0.0**
	comp=Z,49nm,0.8s,mb5.1							
STKA	**Stephens Creek**	**27.18**	**212**	*e*P		**P**	**16 43 30.1**	**-1.1**
	comp=Z,70nm,0.8s,mb5.2							
STKA	**Stephens Creek**	**27.18**	**212**	P		**P**	**16 43 30.3**	**-0.9**
	comp=Z,79nm,0.7s,mb5.4,baz=28,slow=9.4,SNR=49							
STKA				S		**S**	**16 48 09.4**	**+3.6**
	comp=Z,1.4nm,0.7s,baz=312,slow=14,SNR=2.1							
STKA				LR		LR	16 53 35.2	
	comp=Z,3μm,20.1s,MS4.9,baz=30,slow=35							
ASPA	**Alice Springs**	**27.18**	**235**	*e*P		**P**	**16 43 29.8**	**-1.5**
AFI	**Afiamalu**	**29.84**	**102**	LR		LR	16 53 45.7	
	comp=Z,1μm,20.6s,MS4.6,baz=289,slow=32							
RAO	**Raoul Island**	**29.97**	**135**	LR		LR	16 53 28.9	
	comp=Z,851nm,20.6s,MS4.4,baz=249,slow=32							
RAO	**Raoul Island**	**29.97**	**135**	*e*P		**P**	**16 43 53.2**	**-3.0**
TOO	**Toolangi**	**30.35**	**200**	⇑*i*P		**P**	**16 43 59.4**	**-0.1**
	comp=Z,15nm,0.7s,mb4.8							
TOO	**Toolangi**	**30.35**	**200**	⇑*i*P		**P**	**16 43 59.4**	**-0.1**
TOO				pmax		pmax		
	comp=Z,15nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**32.68**	**251**	⇓*i*P		**P**	**16 44 18.7**	**-1.5**
	comp=Z,26nm,0.9s,mb5.2							
URZ	**Urewera**	**33.51**	**152**	P		**P**	**16 44 27.2**	**0.0**
	comp=Z,8.1nm,0.8s,mb4.7,baz=286,slow=4.0,SNR=3.4							
URZ				LR		LR	16 53 54.0	
	comp=Z,526nm,21.6s,MS4.2,baz=342,slow=29							
TAU	**Tasmania Unive**	**34.77**	**194**	*e*P		**P**	**16 44 37.9**	**-0.1**
	comp=Z,72nm,1.5s,mb5.4							
TAU	**Tasmania Unive**	**34.77**	**194**	*e*P		**P**	**16 44 37.9**	**-0.1**
TAU				pmax		pmax		
	comp=Z,72nm,1.5s,mb5.4							
FORT	**Forrest**	**35.19**	**228**	⇑*i*P		**P**	**16 44 41.0**	**-0.7**
	comp=Z,32nm,0.8s,mb5.3							
RPZ	**Rata Peaks**	**36.08**	**164**	P		**P**	**16 44 48.6**	**-0.5**
	comp=Z,5.1nm,0.5s,mb4.7,baz=37,slow=17,SNR=7.4							
MBWA	**Marble Bar**	**38.74**	**248**	*e*P		**P**	**16 45 10.5**	**-1.1**
	comp=Z,64nm,1.3s,mb5.2							
TSM	**Tawau**	**42.32**	**287**	P		**P**	**16 45 41.8**	**+0.4**
KLBR	**Kellerberrin**	**43.47**	**233**	*e*P		**P**	**16 45 52.0**	**+1.4**
	comp=Z,33nm,1.2s,mb4.9							
NWAO	**Narrogin (SRO)**	**44.38**	**232**	*e*P		**P**	**16 45 57.8**	**-0.1**
	comp=Z,34nm,1.0s,mb5.0							
NWAO	**Narrogin (SRO)**	**44.38**	**232**	*e*P		**P**	**16 45 57.8**	**-0.1**
NWAO				pmax		pmax		
	comp=Z,33nm,1.0s							
KKM	**Kota Kinabalu**	**44.45**	**289**	P		**P**	**16 45 59.3**	**+0.6**
NACB	**Ninganchiao**	**48.77**	**314**	*e*P		**P**	**16 46 32.4**	**-0.2**
YHNB	**Yeheng**	**49.24**	**314**	*e*P		**P**	**16 46 35.8**	**-0.4**
MJAR	**Matsushiro Arr**	**49.30**	**339**	P		**P**	**16 46 35.0**	**-1.6**
	comp=Z,11nm,0.8s,mb4.9,baz=167,slow=8.9,SNR=24							
MJAR				S		**S**	**16 53 42.1**	**+2.7**
	comp=Z,0.5nm,0.4s,baz=30,slow=33,SNR=2.8							
MJAR	**Matsushiro Arr**	**49.30**	**339**	P		**P**	**16 46 35.0**	**-1.5**
MJAR				S		**S**	**16 53 42.1**	**+2.7**
MJAR				pmax		pmax		
	comp=Z,11nm,0.8s							
MJAR				smax				
	comp=N,1.0nm,0.4s							
MAJO	**Matsushiro**	**49.30**	**339**	*e*P		**P**	**16 46 34.7**	**-1.9**
	comp=N,17nm,0.7s,mb5.2							
MAJO	**Matsushiro**	**49.30**	**339**	*e*P		**P**	**16 46 34.7**	**-1.8**
MAJO				pmax		pmax		
	comp=Z,17nm,0.7s,mb5.2							
MAT	**Matsushiro**	**49.30**	**339**	P		**P**	**16 46 35.0**	**-1.5**
MAT				S		**S**	**16 53 38.0**	**-1.4**
MAT	**Matsushiro**	**49.30**	**339**	*e*P		**P**	**16 46 35.0**	**-1.5**
	comp=Z,15nm,1.0s,mb5.0							
MAT				*e*S		**S**	**16 53 39.0**	**-0.4**
MAT	**Matsushiro**	**49.30**	**339**	*e*P		**P**	**16 46 35.0**	**-1.5**
MAT				*e*S		**S**	**16 53 39.0**	**-0.4**
MAT				pmax		pmax		
	comp=Z,15nm,1.0s,mb5.0							
PPT	**Papeete**	**51.41**	**105**	*e*S		**S**	**16 54 09.4**	**+0.7**
PPT				*e*LQ			16 59 19.7	
PPT				*e*LR		LR	17 01 23.4	
	comp=Z,1μm,23.8s,baz=274							
PPT	**Papeete**	**51.41**	**105**	LR		LR	17 03 17.9	
	comp=Z,724nm,21.2s,MS4.7,baz=268,slow=30							
TBI	**Tubuai**	**51.94**	**112**	*e*S		**S**	**16 54 15.4**	**-0.7**
TBI				*e*LR		LR	17 01 35.0	
	comp=Z,1μm,30.5s,baz=296							
SSE	**Sheshan**	**53.54**	**320**	P		**P**	**16 47 10.3**	**+1.7**
SSE				S		**S**	**16 54 40.8**	**+3.1**
SSE				SS		SS	16 58 20.6	+3.1
SSE				AMB		AMB		
	comp=Z,33nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,158nm,5.2s							
SSE				LR		LR		
	comp=N,210nm,21.3s,MS4.3							
SSE				LR		LR		
	comp=E,209nm,21.3s,MS4.3							
SSE				LR		LR		
	comp=Z,307nm,23.5s,MS4.3							
KS15	**Wonju Array Si**	**54.45**	**331**	*e*P		**P**	**16 47 15.7**	**+0.6**
ASAJ	**Asahikawa**	**55.01**	**346**	LR		LR	17 09 58.6	
	comp=Z,874nm,18.8s,MS4.9,baz=198,slow=35							
QIZ	**Qiongzhong**	**55.29**	**301**	P		**P**	**16 47 21.6**	**+0.1**
QIZ				XP		sP	16 47 34.1	-1.4
QIZ				S		**S**	**16 55 02.1**	**+0.8**
QIZ				AMB		AMB		
	comp=Z,38nm,1.0s,mb5.4							
QIZ				LR		LR		
	comp=N,440nm,19.9s,MS4.6							
QIZ				LR		LR		
	comp=E,405nm,24.6s,MS4.6							
QIZ				LR		LR		
	comp=Z,826nm,24.6s,MS4.7							
QIZ	**Qiongzhong**	**55.29**	**301**	*e*P		**P**	**16 47 22.0**	**+0.5**
	comp=Z,43nm,1.0s,mb5.4							
NJ2	**Nanjing**	**55.66**	**319**	*e*P		**P**	**16 47 26.3**	**+2.3**
NJ2				PCP		PcP	16 48 24.4	+1.3
NJ2				S		**S**	**16 55 09.0**	**+2.8**
NJ2				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,420nm,7.6s							
NJ2				LR		LR		
	comp=N,1μm,16.7s,MS5.1							
NJ2				LR		LR		
	comp=E,970nm,16.8s,MS5.1							
NJ2				LR		LR		
	comp=Z,770nm,26.5s							
KGM	**Kluang**	**55.73**	**279**	P		**P**	**16 47 24.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**57.67**	**348**	*e*P		**P**	**16 47 35.3**	**-2.8**
	comp=Z,22nm,1.0s,mb5.1							
YSS	**Yuzh-Sakhalins**	**57.67**	**348**	*e*P		**P**	**16 47 37.7**	**-0.4**
YSS				S		**S**	**16 55 36.0**	**+3.5**
YSS				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.3							
YSS				MLR		MLR		
	comp=Z,400nm,16.0s,MS4.6							
YSS				MLR		MLR		
	comp=N,500nm,17.0s							
IPM	**Ipoh**	**58.54**	**281**	P		**P**	**16 47 43.6**	**-1.1**
MDJ	**Mudanjiang**	**59.55**	**337**	P		**P**	**16 47 50.9**	**-0.4**
MDJ				AP		pP	16 47 54.3	-7.1
MDJ				XP		sP	16 47 55.8	-9.5
MDJ				PCP		PcP	16 48 37.3	-0.9
MDJ				PP		PP	16 50 02.8	-1.8
MDJ				SCP			16 52 37.9	
MDJ				PCS			16 52 39.9	
MDJ				S		**S**	**16 56 03.8**	**+6.7**
MDJ				XS			16 56 08.1	
MDJ				SCS		ScS	16 57 41.3	+6.2
MDJ				AMB		AMB		
	comp=Z,31nm,1.3s,mb5.2							
MDJ				AMB		AMB		
	comp=Z,180nm,4.4s							
MDJ				LR		LR		
	comp=N,527nm,17.8s,MS4.8							
MDJ				LR		LR		
	comp=E,409nm,17.8s,MS4.8							
MDJ				LR		LR		
	comp=Z,512nm,19.6s,MS4.7							
MDJ	**Mudanjiang**	**59.55**	**337**	*e*P		**P**	**16 47 50.4**	**-0.9**
	comp=Z,67nm,1.3s,mb5.5							
SNY

KMI LR LR
comp=Z,712nm,27.1s
CHRT Chiangrai 64.31 297 ⇑P **P 16 48 21.0 -2.5**
comp=Z,105nm,1.0s,mb5.8
CHG Chiang Mai 64.68 296 ⇑P **P 16 48 25.7 -0.2**
comp=Z,30nm,1.0s,mb5.3
RKT Rikitea 65.23 111 *e*LR LR 17 07 46.7
comp=Z,1μm,30.5s,baz=298
CASY Casey 65.39 199 *e*P **P 16 48 28.6 -1.1**
CD2 Chengdu 65.65 310 P **P 16 48 32.0 0.0**
CD2 S S 16 57 10.3 -3.6
CD2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
CD2 LR LR
comp=Z,460nm,19.8s,MS4.7
HHC Hu-ho-hao-te 65.78 323 *e*P **P 16 48 32.4 -0.3**
HHC AP pP 16 48 36.9 -6.1
HHC XP sP 16 48 39.4 -7.3
HHC PCP PcP 16 49 04.3 +0.7
HHC PP PP 16 50 57.3 -2.5
HHC SCP 16 53 04.5
HHC PCS 16 53 06.1
HHC S S 16 57 15.4 +0.1
HHC SCS ScS 16 58 23.3 +1.1
HHC SS SS 17 01 30.4 -1.1
HHC AMB AMB
comp=Z,15nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,202nm,5.7s
HHC LR LR
comp=N,273nm,15.5s,MS4.7
HHC LR LR
comp=E,292nm,16.7s,MS4.7
HHC LR LR
comp=Z,397nm,21.4s,MS4.6
HIA Hailar 67.33 334 *e*P **P 16 48 42.3 0.0**
comp=Z,26nm,1.1s,mb5.2
HIA Hailar 67.33 334 *e*P **P 16 48 42.3 0.0**
HIA pmax pmax
comp=Z,26nm,1.1s
LZH Lanzhou 68.12 315 *e*P **P 16 48 48.1 +0.6**
LZH AP pP 16 48 57.5 -0.3
LZH XP sP 16 49 00.1 -1.4
LZH PP PP 16 51 24.0 +4.1
LZH S S 16 57 47.1 +3.5
LZH SS SS 17 02 15.0 +7.2
LZH AMB AMB
comp=Z,100nm,1.3s,mb5.7
LZH AMB AMB
comp=Z,370nm,4.0s
LZH LR LR
comp=N,790nm,14.5s
LZH LR LR
comp=Z,1μm,20.0s
VNDA Vanda 68.21 179 *e*P **P 16 48 47.2 -0.2**
comp=Z,5.6nm,0.9s,mb4.6
VNDA Vanda 68.21 179 *e*P **P 16 48 47.2 -0.2**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
SBA Scott Base 68.66 178 *e*P **P 16 48 52.3 +2.1**
comp=Z,45nm,1.6s,mb5.2
SBA Scott Base 68.66 178 *e*P **P 16 48 52.3 +2.1**
SBA pmax pmax
comp=Z,45nm,1.6s,mb5.2
MA2 Magadan 68.92 356 *e*P **P 16 48 51.2 -0.8**
comp=Z,42nm,1.2s,mb5.2
MA2 Magadan 68.92 356*c e*P **P 16 48 51.3 -0.7**
MA2 *e*S S 16 57 52.3 -0.3
MA2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MA2 MLR MLR
comp=Z,600nm,21.0s,MS4.8
CLNS Chul'man 71.37 341 *e*P **P 16 49 07.8 +0.8**
CLNS *e* 16 49 27.0
CLNS *e* 16 51 44.2
CLNS *e*PPP PPP 16 53 25.5 -3.3
CLNS *e*S S 16 58 25.7 +4.3
CLNS pmax pmax
comp=Z,92nm,0.9s,mb5.7
CLNS pmax pmax
comp=N,44nm,1.1s
CLNS pmax pmax
comp=E,22nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS smax
comp=N,157nm,12.6s
CLNS smax
comp=Z,39nm,13.4s
CLNS smax
comp=E,133nm,11.7s
CLNS pmax pmax
comp=Z,200nm,15.0s
CLNS pmax pmax
comp=E,200nm,15.1s
CLNS MLR MLR
comp=Z,200nm,14.0s,MS4.5
CLNS MLR MLR
comp=N,100nm,16.0s,MS4.6
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.6
MIR Mirnyy 71.71 202*c i*P **P 16 49 09.8 +1.0**
MIR pmax pmax
comp=Z,90nm,2.0s,mb5.3
SEY Seymchan 72.17 357 *e*P **P 16 49 11.7 +0.1**
SEY *e* 16 53 36.2
SEY pmax pmax
comp=N,20nm,1.4s
SEY pmax pmax
comp=Z,20nm,1.4s,mb4.8
SEY pmax pmax
comp=E,5.0nm,0.9s
SONM Songino Array 72.95 326 P **P 16 49 17.3 +0.7**
comp=E,27nm,0.9s,mb5.2,baz=130,slow=5.0,SNR=141
SONM LR LR 17 19 32.9
comp=E,466nm,19.4s,MS4.8,baz=161,slow=34
SONM Songino Array 72.95 326 P **P 16 49 17.2 +0.7**
SONM LR LR 17 19 32.9
SONM Songino Array 72.95 326 P **P 16 49 17.3 +0.7**
SONM pmax pmax
comp=Z,27nm,0.9s
SONM MLR MLR
comp=Z,466nm,19.4s
YAK Yakutsk 74.49 347 *e*P **P 16 49 25.0 -0.2**
comp=Z,75nm,0.8s,mb5.7
YAK Yakutsk 74.49 347*c i*P **P 16 49 25.2 0.0**
YAK *e**PP pP 16 49 33.1 -2.4
YAK *e* 16 49 39.7
YAK *e* 16 52 08.0
YAK *e*S S 16 59 00.9 +4.2
YAK *e* 16 59 32.7
YAK pmax pmax
comp=Z,36nm,0.9s,mb5.3
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK smax
comp=E,3.0nm,1.2s
YAK smax
comp=N,3.0nm,1.6s
YAK MLR MLR
comp=N,150nm,17.0s,MS4.4
YAK MLR MLR
comp=Z,146nm,17.0s,MS4.3
YAK MLR MLR
comp=E,141nm,21.0s,MS4.4
LSA Lhasa 75.12 304 *e*P **P 16 49 30.6 +1.1**
comp=E,31nm,1.3s,mb5.1
LSA Lhasa 75.12 304 *e*P **P 16 49 30.6 +1.1**
LSA pmax pmax
comp=Z,31nm,1.3s,mb5.1
BOD Bodaibo 75.91 337 *e*P **P 16 49 32.8 -0.6**
BOD pmax pmax
comp=Z,33nm,1.2s,mb5.1
ZAK Zakamensk 76.09 327⇑ *e*P **P 16 49 34.3 -0.3**
ZAK pmax pmax
comp=Z,20nm,1.0s,mb5.0

IRK Irkutsk 76.63 329 *e*P **P 16 49 37.0 -0.6**
IRK pmax pmax
comp=Z,43nm,2.1s,mb5.0
BILL Bilibino 77.38 3 *e*P **P 16 49 42.6 +1.0**
comp=Z,39nm,1.1s,mb5.2
BILL Bilibino 77.38 3 *e*P **P 16 49 42.6 +1.0**
BILL pmax pmax
comp=Z,39nm,1.1s,mb5.2
KDAK Kodiak Island 77.94 25 LR LR 17 18 16.0
comp=Z,433nm,20.5s,MS4.8,baz=148,slow=31
MOY Mondy 78.00 328 *e*P **P 16 49 45.6 +0.3**
MOY pmax pmax
comp=Z,48nm,2.9s,mb4.9
PKI Pulchoki 79.25 300 *e*P **P 16 49 52.9 +0.3**
KKN Kakani 79.42 301 *e*P **P 16 49 53.6 0.0**
DMN Daman 79.52 300 *e*P **P 16 49 54.5 +0.4**
comp=Z,121nm,1.1s,mb5.7
GKN Gorkha 80.03 301 *e*P **P 16 49 56.8 0.0**
comp=Z,146nm,1.1s,mb5.8
QSPA South Pole Qui 80.67 180⇑ *i*P **P 16 50 02.0 +2.7**
comp=Z,37nm,1.4s,mb5.1
KOLN Koldanda 80.84 300 *e*P **P 16 50 01.1 -0.1**
comp=Z,70nm,1.0s,mb5.6
SML Sawmill 82.13 23 *e*P **P 16 50 08.2 +1.0**
WMQ Urumqi 82.61 317⇑ *i*P **P 16 50 10.8 +0.8**
WMQ AP pP 16 50 23.0 +2.6
WMQ PP PP 16 53 22.0 +0.3
WMQ S S 17 00 24.0 +0.5
WMQ XS 17 00 43.0
WMQ AMB AMB
WMQ comp=Z,45nm,1.5s,mb5.3
WMQ AMB AMB
WMQ comp=Z,222nm,4.6s
WMQ LR LR
WMQ comp=N,742nm,23.4s,MS5.1
WMQ LR LR
WMQ comp=E,584nm,26.6s,MS5.1
WMQ LR LR
WMQ comp=Z,690nm,28.2s,MS4.9
HYB Hyderabad 82.93 289 *i*P **P 16 50 12.0 -0.1**
TIXI Tiksi 83.09 351 *e*P **P 16 50 10.9 -1.0**
TIXI *e*S S 17 00 26.4 -1.3
TIXI pmax pmax
comp=Z,19nm,1.2s,mb5.0
MAW Mawson 83.45 203 *e*P **P 16 50 14.2 +0.4**
comp=Z,5.1nm,1.0s,mb4.5
MAW Mawson 83.45 203 P **P 16 50 13.9 +0.1**
comp=Z,4.0nm,1.0s,mb4.4,baz=77,slow=6.9,SNR=7.2
MAW LR LR 17 25 03.2
comp=Z,309nm,18.5s,MS4.7,baz=82,slow=34
MAW Mawson 83.45 203 *e*P **P 16 50 14.2 +0.4**
MAW pmax pmax
comp=Z,5.0nm,1.0s
THY Trims Highway 84.05 22 *e*P **P 16 50 17.4 +0.6**
ILAR Eielson Array 84.42 21 P **P 16 50 18.8 +0.1**
comp=Z,6.6nm,0.9s,mb4.8,baz=261,slow=4.5,SNR=30
ILAR LR LR 17 25 39.4
comp=Z,241nm,20.3s,MS4.6,baz=89,slow=34
ILAR Eielson Array 84.42 21 P **P 16 50 18.8 +0.1**
ILAR pmax pmax
comp=Z,7.0nm,0.9s
ILAR MLR MLR
comp=Z,241nm,20.3s
ZAL Zalesovo 87.83 325 P **P 16 50 34.3 -1.3**
comp=Z,3.3nm,0.8s,mb4.6,baz=6.8,slow=5.2,SNR=16
ZAL LR LR 17 28 45.9
comp=Z,327nm,20.3s,MS4.7,baz=289,slow=35
ZAL Zalesovo 87.83 325 P **P 16 50 34.3 -1.3**
ZAL LR LR 17 28 45.9
ZAL Zalesovo 87.83 325 P **P 16 50 34.3 -1.3**
ZAL pmax pmax
comp=Z,3.0nm,0.8s
ZAL MLR MLR
comp=Z,327nm,20.3s
DLBC Dease Lake 88.58 30 LR LR 17 22 56.9
comp=Z,644nm,21.0s,MS5.0,baz=267,slow=31
NVS Novosibirsk 88.98 326 *i*P **P 16 50 39.3 -1.8**
NVS *e* 17 01 08.0
NVS pmax pmax
comp=Z,23nm,1.4s,mb5.3
NVS pmax pmax
comp=N,15nm,1.9s
NVS pmax pmax
comp=E,16nm,1.5s
BEKR Beckwourth 89.48 50 *e*P **P 16 50 46.9 +3.0**
comp=E,1.7nm,0.1s,mb5.3
KSH Kashi 89.85 310 *e*P **P 16 50 47.4 +1.8**
KSH *e*AP pP 16 50 52.4 -3.8
KSH *e*XP sP 16 50 54.9 -4.7
KSH *e*PP PP 16 54 24.3 +3.6
KSH *e*PPP PPP 16 56 24.3 +4.6
KSH *e*SKS SKS 17 01 16.6 +4.9
KSH S S 17 01 39.0 +5.8
KSH *e*XS 17 01 47.8
KSH *e*SS SS 17 07 41.6 +6.9
KSH AMB AMB
comp=Z,260nm,2.2s,mb6.2
KSH LR LR
comp=N,360nm,5.2s
KSH LR LR
comp=E,350nm,4.8s
MTUM Tungsten Hills 90.33 52 *e*P **P 16 50 50.8 +2.9**
KURK Kurchatov 90.55 321 *e*P **P 16 50 47.9 -0.7**
comp=E,31nm,1.5s,mb5.4
KURK Kurchatov 90.55 321 *e*P **P 16 50 47.9 -0.7**
KURK pmax pmax
comp=Z,31nm,1.5s,mb5.4
NVAR Mina Array Bea 90.75 51 P **P 16 50 51.8 +2.0**
comp=Z,9.2nm,1.1s,mb5.0,baz=244,slow=1.8,SNR=15
INK Inuvik 90.81 20 LR LR 17 28 51.7
comp=Z,416nm,19.8s,MS4.9,baz=234,slow=34
TKM2 Tokmak 2 90.84 313 P **P 16 50 50.7 +0.5**
SNR=6.1
KZA Kyzart 90.92 312 P **P 16 50 52.8 +2.2**
SNR=14
CHMS Chumysh 91.46 313 P **P 16 50 53.8 +0.7**
SNR=6.2
UCH Uchtor 91.48 312 P **P 16 50 54.6 +1.5**
SNR=16
FRU Bishkek 91.53 313 P **P 16 50 53.0 -0.3**
AAK Ala-Archa 91.58 313 *e*P **P 16 50 52.5 -1.1**
comp=Z,18nm,1.4s,mb5.2
AAK Ala-Archa 91.58 313 *e*P **P 16 50 52.5 -1.1**
AAK pmax pmax
comp=Z,18nm,1.4s,mb5.2
USP Ospenovka 91.69 313 P **P 16 50 54.9 +0.8**
SNR=6.1
AML Almayashu 92.06 312 P **P 16 50 56.9 +1.1**
SNR=10
EKS2 Erkin-Say 92.10 313 P **P 16 50 57.1 +1.1**
SNR=9.4
BRVK Borovoye 96.06 323 P **P 16 51 11.3 -2.4**
comp=Z,6.4nm,1.0s,mb5.0
BRVK Borovoye 96.06 323 P **P 16 51 11.4 -2.3**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
YKA Yellowknife Ar 96.94 28 P **P 16 51 18.7 +1.2**
comp=Z,3.4nm,1.0s,mb4.7,baz=264,slow=4.7,SNR=6.0
YKA Yellowknife Ar 96.94 28 P **P 16 51 18.7 +1.2**
YKA Yellowknife Ar 96.94 28 P **P 16 51 18.7 +1.2**
YKA pmax pmax
comp=Z,3.0nm,1.0s
PDAR Pinedale Array 97.96 48 P **P 16 51 24.2 +1.6**
comp=Z,0.6nm,0.9s,mb4.1,baz=270,slow=3.0,SNR=3.7
PDAR LR LR 17 28 13.4
comp=Z,347nm,20.9s,MS4.8,baz=351,slow=31
SNAA Sanae 98.20 186 P **P 16 51 24.7 +1.7**
comp=Z,5.5nm,1.5s,mb4.9
SNAA Sanae 98.20 186 P **P 16 51 24.7 +1.7**
SNAA pmax pmax
comp=Z,5.0nm,1.5s
FINES FINESS Array B 117.30 336 PKP PKPdf 16 56 32.3 +1.9
comp=Z,1.5nm,0.7s,baz=330,slow=11,SNR=2.6
FINES FINESS Array B 117.30 336 PKIKP PKPdf 16 56 32.3 +1.9
FINES pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 121.20 325 PKhKP 16 56 36.3
comp=Z,0.7nm,0.3s,baz=63,slow=2.1,SNR=8.5
AKASG Malin Array Be 121.20 325 PKIKP PKPdf 16 56 36.3 -2.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 122.22 311 PKP PKPdf 16 56 40.9 +0.3
comp=Z,0.7nm,0.6s,SNR=4.4
BRTR Keskin Array B 122.22 311 PKIKP PKPdf 16 56 40.9 +0.4
BRTR pmax pmax
comp=Z,1.0nm,0.6s

LBTB Lobatse 122.51 232 PKPdf PKPdf 16 56 43.8 +2.4
NB2 NORSAR Subarra122.88 342 PKPdf PKPdf 16 56 42.0 +0.7
comp=Z,15nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra122.88 342 PKPd 16 56 42.0
baz=31,slow=1.9
NOA NORSAR Array B122.88 342 PKP PKPdf 16 56 42.0 +0.7
comp=Z,1.9nm,0.8s,baz=41,slow=1.8,SNR=4.2
NOA NORSAR Array B122.88 342 PKP PKPdf 16 56 42.0 +0.7
NOA NORSAR Array B122.88 342 PKIKP PKPdf 16 56 42.0 +0.7
NOA pmax pmax
comp=Z,2.0nm,0.8s
LSZ Lusaka 124.69 244 *e*PKPdf PKPdf 16 56 54.6 +8.7
KOLS Kolonicke sedl 126.00 325 *e*PKP PKPdf 16 56 50.5 +2.9
LPAZ La Paz 127.65 119 PKP PKPdf 16 56 54.9 +3.3
comp=Z,9.0nm,1.3s,baz=325,slow=2.2,SNR=12
LPAZ La Paz 127.65 119 *e*PKIKP PKPdf 16 56 54.7 +3.1
BRG Berggiesshubel 129.15 331 *i*PKP PKPdf 16 56 55.9 +2.3
ZST Bratislava 129.25 327 *e*PKP PKPdf 16 56 57.1 +3.2
CLL Collm 129.30 332 *i*PKIKP PKPdf 16 56 56.0 +2.1
comp=Z,logA/T=1.1
CLL Collm 129.30 332 *i*PKIKP PKPdf 16 56 56.0 +2.1
CLL pmax pmax
comp=Z,17nm,1.4s
CLL MLR MLR
comp=Z,300nm,17.7s,MS5.0
MOX Moxa 130.39 333 *i*P PKPdf 16 56 58.8 +2.8
MOX Moxa 130.39 333 *e*PKIKP PKPdf 16 56 58.8 +2.8
KHC Kasperske Hory 130.49 330 *e*PKPdf PKPdf 16 56 58.0 +1.8
GERES GERESS Array B 130.61 330 PKP PKPdf 16 56 57.4 +0.9
comp=Z,1.4nm,0.7s,baz=90,slow=1.3,SNR=14
GERES GERESS Array B 130.61 330 PKP PKPdf 16 56 57.4 +0.9
GERES GERESS Array B 130.61 330 PKIKP PKPdf 16 56 57.4 +1.0
GERES pmax pmax
comp=Z,1.0nm,0.7s
GRA1 Grafenberg Arr 131.24 332 *e*PKP PKPdf 16 56 59.9 +2.3
GRF Grafenberg Arr 131.24 332 *e*PKP PKPdf 16 56 59.9 +2.3
SDV Santo Domingo 131.90 86 *e*PKPdf PKPdf 16 57 02.0 +2.2
SDV *e* 16 57 09.2
GIVF Givet 133.69 336 *e*PKP1 PKPdf 16 57 04.3 +2.0
CDF Champ du Feu 133.96 333 *e*PKP1 PKPdf 16 57 04.5 +1.7
BAIF Baives 133.97 337 *e*PKP1 PKPdf 16 57 04.7 +1.9
HINF Hinteralfeld 134.59 333 *e*PKP1 PKPdf 16 57 05.8 +1.8
HAU Haudompre 134.67 333 *e*PKP1 PKPdf 16 57 06.0 +1.9
HAU *e*R
comp=Z,288nm,21.2s
CABF La Chapelle 135.84 332 *e*PKP1 PKPdf 16 57 08.1 +1.9
comp=Z,21nm,1.1s
LOR Lormes 136.32 335 *e*PKP1 PKPdf 16 57 08.5 +1.4
LOR *e*R
comp=Z,144nm,20.0s
LPL La Plagne 136.34 331 *e*PKP1 PKPdf 16 57 08.7 +1.5
comp=Z,20nm,1.3s
LPG La Plagne 136.35 331 *e*PKP1 PKPdf 16 57 08.9 +1.7
comp=Z,10nm,1.1s
SSF Saint Saulge 136.63 335 *e*PKP1 PKPdf 16 57 08.9 +1.2
comp=Z,16nm,1.2s
FLN La Foliniere 136.77 339 *e*PKP1 PKPdf 16 57 10.2 +2.3
comp=Z,25nm,1.3s
FLN *e*R
comp=Z,274nm,21.0s
LDF La Druitiere 136.79 339 *e*PKP1 PKPdf 16 57 10.4 +2.4
SMF Signal de Mont 136.81 334 *e*PKP1 PKPdf 16 57 10.6 +2.5
comp=Z,22nm,1.2s
MBDF Montbardon 136.90 330 *e*PKP1 PKPdf 16 57 10.8 +2.5
AVF Avril sur Loir 136.91 335 *e*PKP1 PKPdf 16 57 09.4 +1.1
SBF Sospel 137.18 329 *e*PKP1 PKPdf 16 57 09.7 +0.9
ORIF Oris-en-Rattie 137.19 331 *e*PKP1 PKPdf 16 57 10.0 +1.2
comp=Z,5.9nm,0.8s
ORIF *e*R
comp=Z,443nm,21.5s
PGF Pioggiola 137.24 326 *e*PKP1 PKPdf 16 57 11.4 +2.4
comp=Z,23nm,1.0s
TCF Toulx Ste Croi 137.79 335 *e*PKP1 PKPdf 16 57 11.3 +1.4
comp=Z,22nm,1.1s
FRF La Foret Royal 137.79 329 *e*PKP1 PKPdf 16 57 11.1 +1.1
comp=Z,45nm,1.6s
VIVF Saint-Julien-l 137.81 332 *e*PKP1 PKPdf 16 57 11.4 +1.5
SGMF Saint Gilles 137.91 341 *e*PKP1 PKPdf 16 57 11.3 +1.3
LMR La Mourre 138.03 329 *e*PKP1 PKPdf 16 57 11.7 +1.3
comp=Z,15nm,1.1s
SMRF Simiane la Rot 138.03 330 *e*PKP1 PKPdf 16 57 12.2 +1.8
comp=Z,64nm,1.8s
LASF Ste Croix 138.78 332 *e*PKP1 PKPdf 16 57 13.4 +1.7
comp=Z,26nm,1.2s
RJF Les Rejaudoux 138.87 335 *e*PKP1 PKPdf 16 57 13.5 +1.7
comp=Z,34nm,1.5s
RJF *e*R
comp=Z,228nm,21.2s
MTLF Montolieu 140.11 332 *e*PKP1 PKPdf 16 57 16.2 +2.1
comp=Z,13nm,1.1s
ETSF Etsaut 141.69 334 *e*PKP1 PKPdf 16 57 18.0 +1.0
BDFB Brasilia 144.16 134 PKP PKPdf 16 57 22.3 +0.4
comp=Z,11nm,0.9s,baz=216,slow=3.7,SNR=10.0
BDFB Brasilia 144.16 134 PKIKP PKPdf 16 57 22.3 +0.4
BDFB pmax pmax
comp=Z,11nm,0.9s
BAO Brasilia Array 144.18 134 PKPdf PKPdf 16 57 21.8 -0.2
ECHE Chera 144.53 332 P PKPbc 16 57 21.9 +0.2
ECAL Calabor 144.87 340 P PKPdf 16 57 23.2 +0.7
EMHD Djebel Mahouad 144.98 324 P PKPdf 16 57 25.0 +2.1
PBRG Braganca 144.99 340 *e*PKPdf PKPdf 16 57 24.4 +1.7
EZAM Zamans 145.30 343 P PKPdf 16 57 26.7 +3.5
ELOB Lobios 145.36 342 P PKPdf 16 57 24.4 +1.0
ETOB Tobarra 145.56 331 P PKPdf 16 57 24.6 +0.8
EBNR Beni Rached 145.74 325 P PKPdf 16 57 26.0 +1.8
PVRL Vila Real 145.79 341 *e*PKPdf PKPdf 16 57 27.8 +3.7
ESDC Sonseca Array 145.79 335 PKPbc PKPbc 16 57 26.8 +1.8
comp=Z,9.4nm,1.1s,baz=19,slow=3.6,SNR=23
ESDC Sonseca Array 145.79 335 P PKPdf 16 57 25.1 +1.0
ESLA Sonseca Array 145.79 335 *e*PKPdf PKPdf 16 57 24.9 +0.8
ECHA Ech Chlef 145.93 325 P PKPdf 16 57 27.0 +2.5
ECHF Ech Chlef 145.94 325 P PKPdf 16 57 27.0 +2.5
EVIA Vianos 146.01 332 P PKPdf 16 57 24.5 0.0
EANR 'Ain N'Sour 146.22 325 P PKPdf 16 57 29.5 +4.5
ETRT Tiaret 146.51 324 P PKPdf 16 57 30.0 +4.5
MTE Manteigas 146.52 340 *e*PKPdf PKPdf 16 57 28.9 +3.5
MTE Manteigas 146.52 340 *e*PKPdf PKPdf 16 57 28.8 +3.4
EHUE Huescar 146.71 332 P PKPdf 16 57 28.1 +2.4
EQES Quesada 146.95 332 P PKPdf 16 57 29.3 +3.1
EBAN Banos Encina 146.97 333 P PKPdf 16 57 29.7 +3.5
EADA Adamuz 147.32 334 P PKPdf 16 57 30.5 +3.8
PTOM Tomar 147.51 340 *e*PKPdf PKPdf 16 57 32.7 +5.7
EBER Berja 147.59 331 P PKPdf 16 57 31.0 +3.8
ECAB El Cabril 147.75 335 P PKPdf 16 57 32.4 +4.9
EBAD Badajoz 147.79 338 P PKPdf 16 57 32.5 +5.0
ERON Agron 147.92 332 P PKPdf 16 57 32.3 +4.6
ELOJ Sierra Loja 147.98 333 P PKPdf 16 57 31.8 +3.9
EALB Alboran 148.42 330 P PKPdf 16 57 33.6 +5.0
EMIN Mina Concepcio 148.52 337 P PKPdf 16 57 34.7 +6.0
EMIJ Mijas 148.74 333 P PKPdf 16 57 34.2 +5.1
PBEJ Beja 148.75 338 *e*PKPdf PKPdf 16 57 35.6 +6.6
ESPR Espera 148.96 335 P PKPdf 16 57 36.1 +6.7
EGRO El Granado 149.04 337 P PKPdf 16 57 36.1 +6.6
EJIF Jimena Fronter 149.14 334 P PKPdf 16 57 36.6 +6.9
PTEO Sao Teotonio 149.48 339 *e*PKPdf PKPdf 16 57 34.0 +3.8
DBIC Dimbokro 162.92 262 PKPab PKPab 16 58 39.2 -0.6
comp=Z,2.5nm,0.7s,baz=148,slow=5.2,SNR=3.3

MOS **22** *17:09:45.7±0.8,44.37N×148.93E,h46km,mb4.5/5,Error ellipse: s-maj=20.6km s-min=13.4km az=124.3*
IDC **22** *17:09:47.3±2.2,44.39N×148.99E,h43km±6km,mb3.8/8, mb1 3.9/9,mb1mx3.7/20,mbtmp4.0/9,ML3.0/1,Error ellipse: s-maj=61.4km s-min=21.8km az=177.0*

ISC 22 17:09:45.0±2.5,44.4N±0.2×149.1E±0.2,h41km±17km, h44km±4.1km:pP-P,n25,σ0s90/26,mb3.9/9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.20**	**315**	*e*PN	**P**	**17 10 06.0**	**+0.5**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.34**	**262**	*e*PN	**P**	**17 10 20.1**	**-1.8**
YUK				*e*S	**S**	**17 10 51.0**	**+1.4**
YUK				smax			
	comp=N,350nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,3μm,1.0s						
YUK				smax			
	comp=E,1μm,1.0s						

ASAJ Asahikawa 4.66 269 P **P** 17 10 55.0 +0.2
comp=E,0.6nm,0.3s,baz=101,slow=16,SNR=9.0
ASAJ Asahikawa 4.66 269 PN **P** 17 10 55.1 +0.2
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
YAK Yakutsk 20.99 334 *eP* **P** 17 14 25.9 -0.9
YAK pmax pmax
comp=Z,7.0nm,0.9s
BOD Bodaibo 25.45 314 *eP* **P** 17 15 06.7 -3.7
SONM Songino Array 29.51 292 P **P** 17 15 47.5 +0.2
comp=Z,2.0nm,0.7s,mb3.9,baz=81,slow=8.1,SNR=20
SONM Songino Array 29.51 292 P **P** 17 15 47.5 +0.2
SONM pmax pmax
comp=Z,2.0nm,0.7s
ZAK Zakamensk 31.18 298 *eP* **P** 17 16 01.0 -1.1
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.6
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb3.5
ILAR Eielson Array 40.14 37 P **P** 17 17 19.9 +1.7
comp=Z,0.4nm,0.7s,mb3.2,baz=294,slow=8.5,SNR=4.9
ARCES ARCESS Array B 59.12 340 P **P** 17 19 43.0 -0.2
comp=Z,6.6nm,0.9s,mb4.7,baz=21,slow=7.7,SNR=3.1
ARCES ARCESS Array B 59.12 340 P **P** 17 19 43.0 -0.2
ARCES pmax pmax
comp=Z,7.0nm,0.9s
JOF Joensuu 62.16 333 *ep* **P** 17 20 03.9 0.0
KAF Kangasniemi 64.35 334 *ep* **P** 17 20 17.5 -0.7
FINES FINESS Array B 64.92 334 P **P** 17 20 21.9 0.0
comp=Z,4.8nm,0.7s,mb4.6,baz=45,slow=5.4,SNR=12
FINES pP pP 17 20 33.9 -0.1
comp=Z,3.6nm,0.7s,baz=45,slow=8.1,SNR=5.5
FINES FINESS Array B 64.92 334 P **P** 17 20 21.9 0.0
FINES *PP pP 17 20 33.9 -0.1
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES pmax pmax
comp=Z,4.0nm,0.7s
NB2 NORSAR Subarra 69.49 340 P **P** 17 20 50.8 +0.2
comp=Z,0.8nm,0.6s,mb3.8,baz=29,slow=6.2
NOA NORSAR Array B 69.49 340 P **P** 17 20 51.1 +0.5
comp=Z,2.6nm,0.8s,mb4.2,baz=33,slow=6.0,SNR=5.6
NOA pP pP 17 21 02.6 -0.1
comp=Z,3.5nm,0.8s,baz=32,slow=6.0,SNR=6.2
NOA NORSAR Array B 69.49 340 P **P** 17 20 51.2 +0.6
NOA *PP pP 17 21 02.6 -0.2
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 71.87 325 P **P** 17 21 04.8 -0.3
comp=Z,0.4nm,0.2s,mb4.0,baz=37,slow=5.8,SNR=4.9
AKASG pP pP 17 21 17.1 -0.2
comp=Z,0.2nm,0.2s,baz=37,slow=5.8,SNR=2.3
KHC Kasperske Hory 79.05 332 *eP* **P** 17 21 47.0 +0.9
GERES GERESS Array B 79.26 332 P **P** 17 21 47.6 +0.4
comp=Z,0.3nm,0.4s,mb3.5,baz=45,slow=5.6,SNR=3.3
GERES pP pP 17 22 01.0 +1.5
comp=Z,0.6nm,0.6s,baz=14,slow=5.5,SNR=3.8
GERES GERESS Array B 79.26 332 P **P** 17 21 47.6 +0.4
GERES *PP pP 17 22 01.0 +1.5
GERES pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 81.13 58 P **P** 17 21 57.1 -0.5
comp=Z,0.4nm,0.7s,mb3.5,baz=288,slow=2.8,SNR=6.1
TXAR pP pP 17 22 13.1 +3.1
comp=Z,0.8nm,0.7s,baz=287,slow=3.3,SNR=6.3
TXAR Lajitas Array 81.13 58 P **P** 17 21 57.2 -0.4
TXAR *PP pP 17 22 13.1 +3.2
TXAR pmax pmax
comp=Z,1.0nm,0.7s

*CSEM **22** 17:45:12.9±0.6,38.87N×28.95W,h9km±12km,ML2.0, Error ellipse: s-maj=13.0km s-min=4.2km az=57.0,After PDA*
*PDA **22** 17:45:12.9±0.6,38.87N×28.95W,h9km±12km,MD3.2, ML2.0,Error ellipse: s-maj=13.0km s-min=4.2km az=57.0*
SVSA 22 17:45:12.9±0.6,38.87N×28.95W,h9km±12km,MD3.2, ML2.0,Error ellipse: s-maj=13.0km s-min=4.2km az=57.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.35**	**146**	*eP*	Pg	17 45 19.0	-1.0
CALA				*eS*	Sg	17 45 23.4	-1.4
HOR	**Horta**	**0.42**	**144**	*eS*	Sg	17 45 25.8	-1.5
PICO	**Pico**	**0.55**	**132**	*eP*	Pg	17 45 22.2	-1.8
PICO				*eS*	Sg	17 45 29.1	-2.3
ROSA	**Rosais**	**0.57**	**105**	*eP*	Pg	17 45 22.3	-2.1
ROSA				*eS*	Sg	17 45 29.5	-2.6
PMAN	**Manadas**	**0.71**	**109**	*eP*	Pb	17 45 24.4	-2.6
PMAN				*eS*	Sb	17 45 32.7	-4.0

*NIED **22** 17:47:00,33.90N×140.30E,h68km,Mw3.7 Best double couple: M0 3.55×10^14 NP1:φs180°,δ79°,λ68°. NP2:φb64°,δ24°,λ152°.*
*NEIC **22** 17:47:18.7±2.0,33.83N×140.78E,h75km±17km,mb4.7/4, MW3.6(NIED),Error ellipse: s-maj=27.1km s-min=15.0km az=90.0*
*JMA **22** 17:47:21.5±0.1,33.92N×140.31E,h73km±2km,M3.7*
JMA Felt I J1.
*IDC **22** 17:47:21.5±2.5,33.80N×140.36E,h85km±15km,mb3.6/3, mb1 3.7/5,mb1mx3.4/20,mbtmp3.8/5,Error ellipse: s-maj=55.0km s-min=9.9km az=77.0*
ISC 22 17:47:20.2±0.5,33.86N±0.03×140.34E±0.06,h86km±4km, n30,σ0°95/42,mb4.1/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.72**	**287**	P	**P**	**17 47 36.6**	**-0.3**
JMY				S	**S**	**17 47 47.7**	**-1.5**
JHJ2	**Mitsune**	**0.87**	**211**	P	**P**	**17 47 39.2**	**+0.8**
JHJ2				S	**S**	**17 47 52.5**	**+0.6**
JHJ	**Hachijo jima 2**	**0.87**	**213**	P	**P**	**17 47 39.2**	**+0.8**
	401nm,0.3s,baz=82,slow=1.8,SNR=72						
JHJ				S	**S**	**17 47 52.5**	**+0.4**
	1μm,0.3s,baz=269,slow=24,SNR=53						
BSO1	**Boso 1**	**0.95**	**33**	P	**P**	**17 47 39.0**	**-0.3**
BSO3	**Boso 3**	**0.95**	**8**	P	**P**	**17 47 39.3**	**0.0**
BSO2	**Boso 2**	**0.95**	**21**	S	**S**	**17 47 54.3**	**+0.6**
NJJJ	**Nii jima 2**	**1.03**	**302**	P	**P**	**17 47 40.3**	**0.0**
JKO	**Kozu shima**	**1.05**	**288**	P	**P**	**17 47 40.6**	**+0.1**
JKO				S	**S**	**17 47 55.0**	**-0.8**
BSO4	**Boso 4**	**1.13**	**360**	P	**P**	**17 47 41.8**	**+0.3**
JIM2	**Oshima 3**	**1.14**	**319**	P	**P**	**17 47 41.2**	**-0.5**
JIM2				S	**S**	**17 47 55.7**	**-2.0**
JIZS	**Izushimoda**	**1.48**	**306**	P	**P**	**17 47 46.2**	**+0.1**
JIZS				S	**S**	**17 48 04.5**	**-0.7**
KTJJ	**Kamata 2**	**1.50**	**316**	P	**P**	**17 47 46.1**	**-0.2**
KTJJ				S	**S**	**17 48 04.2**	**-1.3**
JOD2	**Odawara 2**	**1.74**	**324**	P	**P**	**17 47 49.3**	**-0.1**
JOD2				S	**S**	**17 48 10.2**	**-0.7**
TK04	**Tokai 4**	**2.11**	**285**	P	**P**	**17 47 55.6**	**+1.2**
SHZ3	**Shizuoka 3**	**2.13**	**305**	P	**P**	**17 47 55.8**	**+1.1**
JYN	**Shimob**	**2.21**	**318**	P	**P**	**17 47 56.8**	**+1.1**
MJAR	**Matsushiro Arr**	**3.20**	**327**	P	**P**	**17 48 10.0**	**+0.5**
	8.2nm,0.3s,baz=163,slow=12,SNR=64						
MJAR				S	**S**	**17 48 48.4**	**+1.8**
	4.6nm,0.3s,baz=152,slow=21,SNR=7.8						
MAJO	**Matsushiro**	**3.20**	**327**	*ePn*	**P**	**17 48 10.1**	**+0.6**
MAT	**Matsushiro**	**3.20**	**327**	P	**P**	**17 48 10.2**	**+0.7**
MAT				S	**S**	**17 48 46.5**	**-0.2**
MAT	**Matsushiro**	**3.20**	**327**	*eP*	**P**	**17 48 10.0**	**+0.5**
MAT				*eS*	**S**	**17 48 49.0**	**+2.3**
CBIJ	**Chichi jima**	**6.92**	**166**	S	**S**	**17 50 17.9**	**-0.9**
	37nm,0.3s,baz=278,slow=22,SNR=3.6						
JNU	**Nakatsue**	**7.94**	**267**	P	**P**	**17 49 15.7**	**+0.9**
	0.7nm,0.3s,baz=117,slow=28,SNR=8.3						
ASAJ	**Asahikawa**	**10.39**	**9**	P	**P**	**17 49 44.5**	**-3.5**
	0.5nm,0.3s,baz=254,slow=30,SNR=6.8						
ASAJ				S	**S**	**17 51 31.6**	**-12**
	0.2nm,0.3s,baz=298,slow=29,SNR=2.4						
MA2	**Magadan**	**26.63**	**12**	P	**P**	**17 52 53.6**	**+1.3**
	16nm,0.9s,mb4.5						
PMG	**Port Moresby**	**43.51**	**170**	P	**P**	**17 55 13.0**	**-4.1**
	24nm,1.0s,mb4.9						
KURK	**Kurchatov**	**47.26**	**310**	*eP*	**P**	**17 55 46.3**	**0.0**
	1.9nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**53.80**	**187**	P	**P**	**17 56 35.8**	**-0.7**
	0.5nm,0.3s,mb4.0,baz=6.3,slow=8.2,SNR=25						
FINES	**FINESS Array B**	**71.22**	**332**	P	**P**	**17 58 30.7**	**-0.6**
	1.6nm,0.9s,mb3.9,baz=164,slow=28,SNR=3.1						
FINES				pP	pP	17 58 51.0	-2.9
	0.5nm,0.4s,baz=34,slow=6.9,SNR=1.7						
AKASG	**Malin Array Be**	**76.27**	**322**	P	**P**	**17 59 00.3**	**-0.5**
	0.1nm,0.3s,mb3.1,baz=51,slow=6.1,SNR=4.1						
HWUT	**Hardware Ranch**	**80.03**	**46**	*eP*	**P**	**17 59 18.6**	**-3.2**
	16nm,1.2s,mb4.7						

*CASC **22** 17:49:52.5±2.5,12.03N×88.11W,h22km±11km,MD4.6, ML4.2,mb4.8(NEIC)*
*IDC **22** 17:49:53.5±0.7,12.38N×87.77W,h24km±4km,mb4.4/17, mb1 4.5/19,mb1mx4.4/24,mbtmp4.5/19,ML3.5/2,MS4.2/17, Ms1 4.2/17,ms1mx4.1/25,Error ellipse: s-maj=24.1km s-min=9.7km az=56.0*
*BJI **22** 17:49:57.4,12.20N×87.80W,h69km,mB5.1,Ms5.2, Msz4.6*
*NEIC **22** 17:49:57.5±1.2,12.23N×87.84W,h69km±11km,mb4.8/41, Error ellipse: s-maj=10.6km s-min=4.6km az=52.0*
ISC 22 17:49:54.1±0.5,12.11N±0.04×88.04W±0.04,h56km±4km, n156,σ1°07/126,mb4.8/51,MS4.3/17,22C-11D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.13**	**58**	*eP*	**P**	**17 50 14.8**	**+0.8**
LEON	**Leon**	**1.16**	**74**	*eP*	**P**	**17 50 14.2**	**-0.2**
LEON				*eP*		17 50 14.2	
CNCH	**Conchagua**	**1.18**	**10**	*eP*	Px	17 50 31.3	
CNCH				*eS*	Sx	17 50 51.4	
TEL3	**Telica 3**	**1.25**	**68**	*eP*	**P**	**17 50 15.7**	**0.0**
TELN	**Telica**	**1.28**	**67**	*eP*	**P**	**17 50 16.1**	**-0.1**
TELN				*eP*		17 50 16.1	
VSM	**San Miguel**	**1.33**	**350**	*eP*	Px	17 50 37.3	
VSM				*eS*	Sx	17 50 56.9	
MIRN	**Miramar**	**1.34**	**75**	*eP*	**P**	**17 50 17.2**	**+0.2**
BLLM	**Bellamira**	**1.34**	**352**	*eP*	Px	17 50 33.0	
BLLM				*eS*	Sx	17 50 53.6	
CNGN	**Cerro Negro**	**1.36**	**73**	*eP*	**P**	**17 50 17.3**	**-0.2**
COPN	**Copaltepe**	**1.42**	**87**	*eP*	**P**	**17 50 17.8**	**-0.3**
MOMJ	**Momotombo**	**1.49**	**78**	*eP*	**P**	**17 50 19.0**	**-0.2**
CAHU	**Cacacuatique**	**1.66**	**354**	*eP*	Px	17 50 38.5	
CAHU				*eS*	Sx	17 51 00.7	
XAVN	**Gruta Xavier**	**1.67**	**88**	*eP*	**P**	**17 50 21.8**	**+0.1**
SNVI	**San Vicente**	**1.69**	**333**	*eP*	Px	17 50 37.3	
SNVI				*eS*	Sx	17 51 00.6	
MGAN	**Managua**	**1.75**	**88**	*eP*	**P**	**17 50 22.8**	**+0.1**
MGAN				*eP*		17 50 22.9	
MGAN				*eS*	**S**	**17 50 45.2**	**+1.3**
MGAN				*i*		17 50 57.0	
	comp=N,6μm,0.5s						
TICN	**Ticuantepe**	**1.77**	**92**	*eP*	**P**	**17 50 22.6**	**-0.4**
LCBS	**La Ceiba**	**1.79**	**329**	*eP*	Px	17 50 38.2	
LCBS				*eS*	Sx	17 51 02.9	
LFRS	**El Faro**	**1.81**	**327**	*eP*	Px	17 50 38.2	
LFRS				*eS*	Sx	17 50 59.9	
WILN	**Americas 2**	**1.81**	**88**	*eP*	**P**	**17 50 23.7**	**+0.2**
WILN				*eS*	**S**	**17 50 47.0**	**+1.6**
LBRS	**Las Brisas**	**1.90**	**329**	*eP*	Px	17 50 40.2	
LBRS				*eS*	Sx	17 51 07.2	
SOMN	**Somoto**	**1.91**	**47**	*eP*	**P**	**17 50 27.5**	**+2.6**
APON	**Apoyo**	**1.94**	**95**	*eP*	**P**	**17 50 25.0**	**-0.3**
LFU	**La Fuente**	**1.94**	**327**	*eP*	Px	17 50 41.0	
LFU				*eS*	Sx	17 51 05.1	
PYTN	**Playitas**	**1.98**	**77**	*eP*	**P**	**17 50 25.8**	**-0.1**
BOQS	**Boqueron**	**2.02**	**323**	*eP*	Px	17 50 41.8	
BOQS				*eS*	Sx	17 51 10.0	
SSNN	**San Juan del S**	**2.29**	**111**	*eP*	**P**	**17 50 30.2**	**-0.1**
SBLS	**San Blas**	**2.31**	**318**	*eP*	Px	17 50 45.9	
SBLS				*eS*	Sx	17 51 15.4	
SNJE	**San Jose**	**2.33**	**319**	*eP*	Px	17 50 46.1	
SNJE				*eS*	Sx	17 51 13.5	
RTR	**El Retiro**	**2.37**	**319**	*eP*	Px	17 50 46.8	
RTR				*eS*	Sx	17 51 17.2	
CONN	**Concepcion**	**2.42**	**103**	*eP*	**P**	**17 50 31.2**	**-1.0**
CONN				*eS*	**S**	**17 51 01.0**	**+0.3**
MADN	**Villa Maderas**	**2.55**	**106**	*eP*	**P**	**17 50 33.5**	**-0.5**
MADN				*eS*	**S**	**17 51 03.9**	**0.0**
MADN				*i*		17 51 05.0	
	comp=Z,1μm,0.7s						
MTO2	**Montecristo 2**	**2.62**	**331**	*eP*	Px	17 50 50.8	
MTO2				*eS*	Sx	17 51 23.4	
LIM1	**Limonal**	**3.07**	**117**	*i P*	**P**	**17 50 41.8**	**+0.4**
VCR	**Vista de Mar**	**3.07**	**130**	*eP*	**P**	**17 50 40.3**	**-1.1**
IXG	**Ixpaco**	**3.13**	**311**	*eP*	**P**	**17 50 40.1**	**-2.0**
IXG				*eS*	**S**	**17 51 18.5**	**-0.1**
MRL	**Marmol**	**3.35**	**332**	*eP*	**P**	**17 50 45.1**	**-0.2**
MRL				*eS*	**S**	**17 51 25.6**	**+1.3**
JTS	**JuntasAbangare**	**3.52**	**120**	Pn	**P**	**17 50 47.7**	**0.0**
	comp=Z,3.9nm,0.3s,baz=302,slow=20,SNR=16						
JTS				Sn	**S**	**17 51 28.3**	**-0.2**
	comp=Z,23nm,0.3s,baz=284,slow=19,SNR=4.4						
JTS				Lg		17 51 44.1	
	comp=Z,26nm,0.3s,baz=287,slow=19,SNR=4.4						
JTS				LR	LR	17 52 25.9	
	comp=Z,3μm,20.3s,baz=300,slow=44						
JTS	**JuntasAbangare**	**3.52**	**120**	*ePn*	**P**	**17 50 47.2**	**-0.5**
JCR	**Jicaral**	**3.64**	**128**	*eP*	**P**	**17 50 49.4**	**-0.1**
TP2	**Tecpan 2**	**3.94**	**313**	*eP*	**P**	**17 50 53.4**	**-0.2**
TP2				*eS*	**S**	**17 51 37.8**	**-1.2**
CGA2	**Cerro Gallo 2**	**4.08**	**120**	*eP*	**P**	**17 50 54.3**	**-1.2**
VPS2	**Volcan Poas 2**	**4.19**	**117**	*eP*	**P**	**17 50 55.5**	**-1.7**
LAJ	**Bijagual**	**4.44**	**120**	*eP*	**P**	**17 50 56.5**	**-4.2**
SJS	**Escuela Geolog**	**4.46**	**118**	*eP*	**P**	**17 50 59.3**	**-1.7**
SJS				*eS*	**S**	**17 51 54.7**	**+2.5**
BUS	**Buena Vista**	**4.91**	**121**	*eP*	**P**	**17 51 07.5**	**+0.3**
BUS				*eS*	**S**	**17 52 04.6**	**+1.3**
ROSC	**El Rosal**	**15.34**	**117**	Pn	**P**	**17 53 31.9**	**+3.1**
	comp=Z,1.0nm,0.3s,baz=100,slow=22,SNR=4.3						
ROSC				LR	LR	18 00 00.7	
	comp=Z,407nm,19.1s,baz=1.7,slow=40						
SDV	**Santo Domingo**	**17.41**	**99**	P	**P**	**17 53 54.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=304,slow=9.3,SNR=8.5						
SDV				pScP		18 02 15.0	
	comp=Z,0.2nm,0.3s,baz=262,slow=2.5,SNR=6.0						
SDV	**Santo Domingo**	**17.41**	**99**	*eP*	**P**	**17 53 54.5**	**-0.3**
	comp=Z,12nm,0.8s						
NATX	**Nacogdoches**	**20.49**	**344**	*eP*	**P**	**17 54 29.9**	**0.0**
	comp=Z,78nm,1.0s						
LRAL	**Lakeview Retre**	**20.85**	**2**	*eP*	**P**	**17 54 34.0**	**+0.4**
	comp=Z,43nm,1.0s						
GOGA	**Godfrey**	**21.61**	**10**	*eP*	**P**	**17 54 41.2**	**-0.1**
	comp=Z,65nm,1.1s,mb5.0						
SJG	**San Juan**	**21.95**	**72**	P	**P**	**17 54 43.2**	**-1.4**
	comp=Z,7.1nm,0.5s,mb4.4,baz=309,slow=18,SNR=2.7						
SJG				PcP	PcP	17 58 44.2	+1.4
	comp=Z,6.6nm,0.2s,baz=241,slow=4.3,SNR=4.4						
TXAR	**Lajitas Array**	**22.48**	**322**	P	**P**	**17 54 51.8**	**+1.9**
	comp=Z,42nm,0.8s,mb4.9,baz=135,slow=8.8,SNR=44						
TXAR				PcP	PcP	17 58 47.2	+3.4
	comp=Z,0.9nm,0.3s,baz=135,slow=3.5,SNR=4.5						
TXAR				pScP		18 02 27.4	
	comp=Z,0.5nm,0.3s,baz=146,slow=6.5,SNR=3.9						
TXAR				LR	LR	18 06 43.5	
	comp=Z,275nm,18.9s,MS3.7,baz=30,slow=45						
TXAR	**Lajitas Array**	**22.48**	**322**	P	**P**	**17 54 51.8**	**+1.9**
TXAR				PcP	PcP	17 58 47.2	+3.4
TXAR				pScP		18 02 27.4	
TXAR				LR	LR	18 06 43.5	
LTX	**Lajitas**	**22.48**	**322**	*eP*	**P**	**17 54 50.9**	**+1.0**
	comp=Z,42nm,0.8s,mb4.9						
PLAL	**Pickwick Lake**	**22.77**	**360**	*eP*	**P**	**17 54 51.9**	**-0.8**
	comp=Z,18nm,1.1s,mb4.4						
UALR	**University of**	**22.90**	**351**	*eP*	**P**	**17 54 55.0**	**+1.0**
	comp=Z,41nm,0.8s,mb4.9						
JSC	**Jenkinsville**	**22.92**	**15**	*eP*	**P**	**17 54 55.8**	**+1.6**
SWET	**Sewanee**	**23.09**	**4**	*eP*	**P**	**17 54 55.8**	**0.0**
CPCT	**Cooper Cave**	**23.46**	**7**	*eP*	**P**	**17 55 00.7**	**+1.3**
WVT	**Waverly**	**23.92**	**0**	*eP*	**P**	**17 55 03.5**	**-0.3**
	comp=Z,6.6nm,0.8s,mb4.1						
MNTX	**Cornudas Mount**	**25.21**	**323**	*eP*	**P**	**17 55 15.6**	**-0.8**
	comp=Z,35nm,1.1s,mb4.8						
SIUC	**Southern Illin**	**25.52**	**358**	*eP*	**P**	**17 55 17.2**	**-2.0**
	comp=Z,44nm,0.8s,mb5.0						
ELN	**Prospectdale**	**25.86**	**13**	*eP*	**P**	**17 55 22.3**	**0.0**
CCM	**Cathedral Cave**	**26.00**	**354**	*eP*	**P**	**17 55 22.1**	**-1.6**
	comp=Z,14nm,0.6s,mb4.7						
WCI	**Wyandotte Cave**	**26.06**	**3**	*eP*	**P**	**17 55 22.6**	**-1.7**
	comp=Z,12nm,0.6s,mb4.6						
KSU1	**Kansas State U**	**27.94**	**346**	*eP*	**P**	**17 55 39.6**	**-1.9**
ANMO	**Albuquerque**	**28.23**	**327**	P	**P**	**17 55 45.9**	**+1.8**
	comp=Z,2.3nm,0.7s,mb3.9,baz=146,slow=14,SNR=6.6						
ANMO	**Albuquerque**	**28.23**	**327**	*eP*	**P**	**17 55 45.1**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.2						
TUC	**Tucson**	**29.00**	**318**	P	**P**	**17 55 53.8**	**+2.8**
	comp=Z,10nm,0.9s,mb4.5						
SDCO	**Great Sand Dun**	**29.93**	**332**	*eP*	**P**	**17 56 00.1**	**+0.9**
	comp=Z,26nm,1.1s,mb4.9						
WUAZ	**Wupatki**	**31.45**	**322**	*eP*	**P**	**17 56 13.6**	**+1.0**
	comp=Z,12nm,0.9s,mb4.7						
ISCO	**Idaho Springs**	**31.66**	**334**	*eP*	**P**	**17 56 15.2**	**+0.8**
	comp=Z,9.6nm,0.9s,mb4.6						
SMCO	**Snowmass**	**31.77**	**331**	*eP*	**P**	**17 56 16.5**	**+1.1**
SAML	**Samuel**	**32.37**	**129**	*eP*	**P**	**17 56 19.1**	**-1.7**
	comp=Z,9.9nm,0.7s,mb4.8						
PHWY	**Pilot Hill**	**32.85**	**335**	*eP*	**P**	**17 56 25.0**	**+0.2**
SADO	**Sadowa**	**33.43**	**12**	P	**P**	**17 56 28.1**	**-1.6**
	comp=Z,17nm,0.7s,mb5.1,baz=207,slow=9.3,SNR=9.1						
SRU	**San Rafael**	**33.49**	**327**	*eP*	**P**	**17 56 30.3**	**0.0**
	comp=Z,23nm,1.4s,mb4.9						
NEN	**Nelson**	**33.71**	**319**	*eP*	**P**	**17 56 33.1**	**+0.9**
RWWY	**Rawlins**	**33.90**	**334**	*eP*	**P**	**17 56 33.9**	**+0.1**
	comp=Z,31nm,1.1s,mb5.2						
ARUT	**Antelope Range**	**34.20**	**323**	*eP*	**P**	**17 56 37.9**	**+1.5**
LPAZ	**La Paz**	**34.40**	**145**	P	**P**	**17 56 39.9**	**+1.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=325,slow=16,SNR=2.7						
LPAZ				PcP	PcP	17 59 16.4	+3.2
	comp=Z,0.7nm,0.3s,baz=322,slow=3.8,SNR=3.6						
LPAZ				LR	LR	18 11 27.6	
	comp=Z,308nm,18.3s,MS4.1,baz=72,slow=38						
DAU	**Daniels Canyon**	**34.83**	**328**	*eP*	**P**	**17 56 42.8**	**+1.1**
TCUT	**Toone Canyon**	**35.43**	**329**	P	**P**	**17 56 45.8**	**-1.1**
PDAR	**Pinedale Array**	**35.81**	**332**	P	**P**	**17 56 50.1**	**0.0**
	comp=Z,8.3nm,1.0s,mb4.6,baz=123,slow=8.6,SNR=15						
PDAR				PcP	PcP	17 59 18.4	+1.3
	comp=Z,2.9nm,0.8s,baz=125,slow=3.7,SNR=8.2						
HWUT	**Hardware Ranch**	**35.87**	**329**	*eP*	**P**	**17 56 50.3**	**-0.3**
	comp=Z,15nm,1.0s,mb4.9						
AHID	**Auburn Hatcher**	**36.52**	**331**	*eP*	**P**	**17 56 56.8**	**+0.7**
	comp=Z,22nm,0.8s,mb5.0						
HVU	**Hansalley**	**36.61**	**328**	*eP*	**P**	**17 56 56.6**	**-0.3**
	comp=Z,8.1nm,0.9s,mb4.5						
REDW	**Red Top Meadow**	**36.86**	**332**	*eP*	**P**	**17 56 59.4**	**+0.4**
	comp=Z,51nm,0.8s,mb5.4						
SNOW	**Snow King Moun**	**36.90**	**332**	*eP*	**P**	**17 57 00.4**	**+1.2**
	comp=Z,84nm,1.0s,mb5.5						
LOHW	**Long Hollow**	**36.94**	**332**	*eP*	**P**	**17 57 00.4**	**+0.7**
	comp=Z,41nm,1.3s,mb5.1						
TPAW	**Teton Pass**	**37.01**	**332**	*eP*	**P**	**17 57 01.6**	**+1.4**
	comp=Z,64nm,1.1s,mb5.4						
RRI2	**Red Ridge**	**37.07**	**331**	*eP*	**P**	**17 57 01.1**	**+0.5**
	comp=Z,32nm,1.1s,mb5.1						
IMW	**Indian Meadow**	**37.32**	**332**	*eP*	**P**	**17 57 02.0**	**-0.7**
	comp=Z,18nm,1.0s,mb4.9						
FLWY	**Flagg Ranch**	**37.35**	**333**	*eP*	**P**	**17 57 03.1**	**+0.1**
YFT	**Old Faithful**	**37.70**	**333**	*eP*	**P**	**17 57 08.5**	**+2.5**
YNR	**Norris Junctio**	**37.84**	**333**	*eP*	**P**	**17 57 08.2**	**+1.0**
YMR	**Madison River**	**37.93**	**333**	*eP*	**P**	**17 57 08.9**	**+1.0**
	comp=Z,38nm,0.9s,mb5.1						
QLMT	**Earthquake Lak**	**38.27**	**333**	*eP*	**P**	**17 57 11.7**	**+1.1**
ULM	**Lac du Bonnet**	**38.58**	**352**	P	**P**	**17 57 11.5**	**-1.6**
	comp=Z,38nm,0.8s,mb5.2,baz=167,slow=8.8,SNR=36						
ULM				LR	LR	18 14 14.9	
	comp=Z,292nm,20.3s,MS4.1,baz=188,slow=38						
ULM	**Lac du Bonnet**	**38.58**	**352**	P	**P**	**17 57 11.5**	**-1.6**
ULM				LR	LR	18 14 14.9	
SIV	**San Ignacio**	**38.61**	**136**	P	**P**	**17 57 14.8**	**+1.0**
	comp=Z,11nm,0.7s,mb4.7,baz=317,slow=9.5,SNR=54						
SIV				PcP	PcP	17 59 29.5	+3.7
	comp=Z,3.6nm,0.7s,baz=289,slow=1.9,SNR=4.4						
DGMT	**Dagmar**	**38.67**	**343**	*eP*	**P**	**17 57 13.1**	**-0.9**
	comp=Z,111nm,1.0s,mb5.5						
MCMT	**McKenzie Canyo**	**38.91**	**332**	*eP*	**P**	**17 57 17.8**	**+1.8**
DLMT	**Dillon**	**39.20**	**332**	*eP*	**P**	**17 57 18.0**	**-0.4**
LVC	**Limon Verde**	**39.27**	**151**	pP	pP	17 57 29.1	-4.5
	comp=Z,2.9nm,0.9s,baz=269,slow=7.4,SNR=3.7						
HRY	**Holter Researc**	**39.91**	**334**	*eP*	**P**	**17 57 24.8**	**+0.5**
WVOR	**Wild Horse Val**	**40.24**	**324**	*eP*	**P**	**17 57 27.8**	**+0.7**
	comp=Z,17nm,1.4s,mb4.6						
CHMT	**Chamberlain Mo**	**40.68**	**333**	*eP*	**P**	**17 57 30.7**	**0.0**
NEW	**Newport**	**43.44**	**332**	P	**P**	**17 57 52.2**	**-1.0**
	comp=Z,0.0nm,0.8s,mb4.4						
FFC	**Flin Flon**	**43.91**	**348**	*eP*	**P**	**17 57 56.3**	**-0.8**
	comp=Z,54nm,1.4s,mb5.1						
EDM	**Edmonton**	**45.72**	**339**	*eP*	**P**	**17 58 10.9**	**-0.6**
EDM				*e*		17 58 18.7	
SCHQ	**Schefferville**	**45.77**	**17**	P	**P**	**17 58 10.1**	**-1.8**
	comp=Z,19nm,0.8s,mb5.1,baz=202,slow=6.8,SNR=16						
SCHQ				LR	LR	18 18 53.5	
	comp=Z,656nm,18.1s,MS4.6,baz=18,slow=38						
SCHQ	**Schefferville**	**45

SONM				pPKP		18 08 48.4		
	comp=Z,0.7nm,0.7s,baz=233,slow=0.5,SNR=4.2							
WMQ	**Urumqi**	**124.21**	**4**	*e*PKP	PKPdf	18 08 49.5	+2.5	
WMQ				XPKP		18 09 18.0		
WMQ				PP	PP	18 10 39.0	+1.9	
WMQ				PKS	PKS	18 12 25.0	+2.2	
WMQ				SKS	SKS	18 15 53.0	+9.5	
WMQ				SKKS		18 17 25.0		
WMQ				PP	PP			
	comp=Z,100nm,6.2s							
WMQ				LR	LR			
	comp=N,263nm,26.4s							
WMQ				LR	LR			
	comp=E,404nm,31.6s							
WMQ				LR	LR			
	comp=Z,227nm,28.0s,MS4.7							
GTA	**Gaotai**	**128.23**	**352**	*e*PKP	PKPdf	18 08 58.4	+3.5	
NJ2	**Nanjing**	**129.10**	**330**	*e*PKP	PKPdf	18 08 57.1	+0.4	
LZH	**Lanzhou**	**130.77**	**347**	*e*PKP	PKPdf	18 09 03.5	+3.7	
XAN	**Xi'an**	**131.36**	**341**	PKP	PKPdf	18 09 04.6	+3.6	
ENH	**Enshi**	**134.62**	**339**	*e*PKPdf	PKPdf	18 09 10.1	+2.9	
WRA	**Warramunga Arr**	**138.62**	**254**	PKhKP		18 09 14.3		
	comp=Z,2.7nm,1.1s,baz=70,slow=0.8,SNR=4.3							
WRA				PKP	PKPdf	18 09 18.5	+3.8	
	comp=Z,1.8nm,1.0s,baz=90,slow=2.3,SNR=11							
WRA				pPKP		18 09 27.5		
	comp=Z,1.0nm,0.6s,baz=89,slow=2.0,SNR=9.9							
GYA	**Guiyang**	**139.09**	**340**	PKP	PKPdf	18 09 21.3	+5.9	
GKN	**Gorkha**	**139.50**	**10**	*e*P	PKPdf	18 09 18.7	+2.6	
	comp=Z,7.2nm,0.5s							
KOLN	**Koldanda**	**139.54**	**11**	*e*P	PKPdf	18 09 17.8	+1.6	
	comp=Z,11nm,1.1s							
KKN	**Kakani**	**139.82**	**9**	*e*P	PKPdf	18 09 19.6	+2.9	
DMN	**Daman**	**139.97**	**9**	*e*P	PKPdf	18 09 20.1	+3.1	
PKI	**Pulchoki**	**140.05**	**9**	*e*P	PKPdf	18 09 21.4	+4.3	
	comp=Z,10nm,0.7s							
KMI	**Kunming**	**141.53**	**344**	PKP	PKPdf	18 09 23.0	+3.1	
KMI				LR	LR			
	comp=Z,92nm,25.7s,MS4.4							
NANT	**Nan**	**148.10**	**344**	P	PKPdf	18 09 35.0	+3.8	
KKTK	**Khon Kaen**	**149.77**	**339**	P	PKPdf	18 09 37.0	+3.1	
	comp=Z,309nm,0.7s							

NEIC ***22*** *17:53:26.3, 12.51N×40.33E, h14km, ML3.9(DHMR), After DHMR.*

DHMR 22 17:53:28.3±2.4, 12.68N×40.47E, h12km±235km, ML3.8, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.64**	**69**	⇓*e*P	Pn	17 54 27.2	+1.5
UDYN				*i* S	Sn	17 55 13.5	+4.5
UDYN				AML	AML	17 55 39.1	
	comp=E,422nm,0.7s						
UDYN	**Al 'Udayn**	**3.64**	**69**	*i* P	Pn	17 54 27.4	+1.7
UDYN				*i* S	Sn	17 55 15.8	+6.8
DHBB	**Dhamar BB**	**4.25**	**63**	⇓*i*P	Pn	17 54 35.7	+1.3
DHBB				*i* S	Sn	17 55 28.0	+3.5
DHBB	**Dhamar BB**	**4.25**	**63**	*i* P	Pn	17 54 36.3	+1.9
DHBB				*i* S	Sn	17 55 29.8	+5.3
HAJJ	**Hajjah**	**4.27**	**45**	*e*P	Pn	17 54 35.9	+1.2
HAJJ				*i* S	Sn	17 55 28.2	+3.1
HAJJ	**Hajjah**	**4.27**	**45**	*i* P	Pn	17 54 36.2	+1.6
LBOS		**4.80**	**75**	*i* P	Pn	17 54 41.0	-1.3
LBOS				*i* S	Sn	17 55 37.6	-0.8
LBOS		**4.80**	**75**	*i* P	Pn	17 54 41.0	-1.3
LBOS				*i* S	Sn	17 55 39.4	+1.0
BDHA	**Al Bayda'**	**5.13**	**75**	⇓*i*P	Pn	17 54 44.9	-1.9
BDHA				*i* S	Sn	17 55 45.4	-1.2
BDHA	**Al Bayda'**	**5.13**	**75**	⇓*i*P	Pn	17 54 44.9	-1.9
BDHA				*i* S	Sn	17 55 47.1	+0.4

IDC ***22*** *18:08:47.2±6.7, 11.76N×40.09E, mb3.7/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, MS3.5/2, Ms1 3.5/2, ms1mx3.3/19, Error ellipse: s-maj=148.2km s-min=48.7km az=28.0*

DHMR ***22*** *18:08:50.4±1.2, 12.73N×40.37E, h2km±60km, ML4.4*

NEIC ***22*** *18:08:53.4±1.9, 12.47N×40.34E, h10km, ML4.5(DHMR), Error ellipse: s-maj=32.3km s-min=13.9km az=203.0*

CSEM ***22*** *18:08:53.0±1.1, 12.53N×40.44E, h21km±9km, ML4.4, Error ellipse: s-maj=13.9km s-min=7.7km az=9.0*

ISC 22 18:08:51.8±1.1, 12.5N±0.1×40.41E±0.06, h10km, n26, σ1§24/41, mb3.6/4, MS3.5/1, 6C-6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.55**	**111**	P	**Pn**	**18 09 34.3**	**+0.4**
ATD				*i* S	**Sn**	**18 10 10.8**	**+5.5**
ATD	**Arta Tunnel**	**2.55**	**111**	P	**Pn**	**18 09 34.3**	**+0.3**
UDYN	**Al 'Udayn**	**3.78**	**66**	⇑*i*P	**Pn**	**18 09 51.8**	**+0.4**
UDYN				*i* S	**Sn**	**18 10 38.7**	**+2.3**
UDYN				AML	AML	18 10 59.0	
	comp=E,2µm,0.6s						
UDYN	**Al 'Udayn**	**3.78**	**66**	*i* P	**Pn**	**18 09 53.5**	**+2.1**
UDYN				*i* S	**Sn**	**18 10 45.5**	**+9.1**
DHBB	**Dhamar BB**	**4.41**	**61**	⇓*i*P	**Pn**	**18 09 59.2**	**-1.1**
DHBB				*i* S	**Sn**	**18 10 53.7**	**+1.3**
DHBB	**Dhamar BB**	**4.41**	**61**	⇓*i*P	**Pn**	**18 10 00.2**	**-0.2**
DHBB				*i* S	**Sn**	**18 11 00.2**	**+7.9**
DHBB	**Dhamar BB**	**4.41**	**61**	⇓*i*P	**Pn**	**18 10 00.2**	**-0.1**
DHBB				*i* S	**Sn**	**18 10 53.7**	**+1.3**
HAJJ	**Hajjah**	**4.47**	**43**	⇑*i*P	**Pn**	**18 09 59.4**	**-1.9**
HAJJ				*i* S	**Sn**	**18 10 53.5**	**-0.5**
HAJJ	**Hajjah**	**4.47**	**43**	⇑*i*P	**Pn**	**18 10 00.1**	**-1.2**
HAJJ				*i* S	**Sn**	**18 10 59.4**	**+5.4**
HAJJ	**Hajjah**	**4.47**	**43**	⇑*i*P	**Pn**	**18 10 00.1**	**-1.2**
HAJJ				*i* S	**Sn**	**18 10 53.5**	**-0.5**
ADEN	**Aden**	**4.47**	**85**	⇓*i*P	**Pn**	**18 09 59.8**	**-1.5**
ADEN				*i* S	**Sn**	**18 10 54.2**	**+0.2**
ADEN	**Aden**	**4.47**	**85**	⇓*i*P	**Pn**	**18 10 03.2**	**+1.9**
ADEN				*i* S	**Sn**	**18 11 02.3**	**+8.3**
ADEN	**Aden**	**4.47**	**85**	⇓*i*P	**Pn**	**18 09 59.8**	**-1.5**
ADEN				*i* S	**Sn**	**18 10 54.2**	**+0.1**
LBOS		**4.92**	**73**	⇑*i*P	**Pn**	**18 10 04.5**	**-3.1**
LBOS				*i* S	**Sn**	**18 11 03.3**	**-1.9**
LBOS		**4.92**	**73**	*i* P	**Pn**	**18 10 08.5**	**+0.9**
LBOS				*i* S	**Sn**	**18 11 13.4**	**+8.1**
BDHA	**Al Bayda'**	**5.24**	**73**	⇑*i*P	**Pn**	**18 10 09.3**	**-2.8**
BDHA				*i* S	**Sn**	**18 11 10.6**	**-2.9**
BDHA	**Al Bayda'**	**5.24**	**73**	*i* P	**Pn**	**18 10 13.0**	**+0.8**
BDHA				*i* S	**Sn**	**18 11 21.5**	**+8.1**
BDHA	**Al Bayda'**	**5.24**	**73**	*i* P	**Pn**	**18 10 13.0**	**+0.8**
BDHA				*i* S	**Sn**	**18 11 10.6**	**-2.9**
MUKL	**Al Mukalla**	**8.63**	**76**	*i* S	**Sn**	**18 12 34.4**	**-3.6**
KMBO	**Kilima Mbogo**	**13.85**	**193**	LR	LR	18 16 56.5	
	comp=E,151nm,19.8s,baz=89,slow=37						
ASF	**Jabal al Asfar**	**19.89**	**351**	P	**P**	**18 13 27.6**	**+1.2**
	comp=E,1.2nm,0.5s,baz=12,slow=0.4,SNR=3.9						
IDI	**Anoyia**	**26.73**	**331**	LR	LR	18 27 40.7	
	comp=E,118nm,18.2s,MS3.5,baz=87,slow=42						
BRTR	**Keskin Array B**	**27.82**	**349**	P	**P**	**18 14 44.3**	**+1.0**
	comp=E,1.1nm,0.8s,mb3.5,baz=172,slow=8.7,SNR=4.5						
AKASG	**Malin Array Be**	**39.23**	**349**	P	**P**	**18 16 21.0**	**-1.0**
	comp=E,0.2nm,0.2s,mb3.5,baz=150,slow=6.5,SNR=4.3						
GERES	**GERESS Array B**	**42.51**	**334**	P	**P**	**18 16 48.4**	**-0.6**
	comp=E,0.8nm,0.7s,mb3.5,baz=127,slow=6.7,SNR=6.3						
SONM	**Songino Array**	**64.78**	**43**	P	**P**	**18 19 32.6**	**-0.2**
	comp=E,1.2nm,1.0s,mb3.9,baz=247,slow=8.2,SNR=5.8						

MEX 22 18:13:57.1±1.2, 18.29N×103.46W, h16km±22km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**1.92**	**309**	*e*P	Pn	18 14 25.1	-4.5
CJM				*e*S	Sn	18 14 48.1	-5.5
SFJM	**Santa Fe**	**2.22**	**10**	*i* P	Pn	18 14 31.3	-2.6
SFJM				*i* S	Sn	18 14 54.5	-6.7
MOIG	**Morelia**	**2.56**	**57**	*i* P	Pn	18 14 35.0	-3.7
MOIG				*e*S	Sn	18 15 03.7	-5.9

NEIC ***22*** *18:34:34.0, 30.14S×117.16E, h5km, ML3.9(AUST), After AUST.*

NEIC Felt in the Kalannie area.

AUST 22 18:34:34.3, 30.14S×117.16E, h4km, ML3.9, 3C-1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLDU	**Ballidu**	**0.61**	**220**	*e*P	Pg	18 34 45.2	-1.3
BLDU				*i* S	Sg	18 34 53.1	-1.5
	3µm,0.7s						
BLDU				*i* RG		18 34 58.2	
MORW	**Morawa**	**1.45**	**317**	⇑*i*P	Pn	18 34 59.6	-1.7
MORW				*i* S	Sb	18 35 18.2	-1.9
	378nm,0.2s						
KLBR	**Kellerberrin**	**1.53**	**161**	⇓*i*P	Pn	18 35 00.7	-1.8
	138nm,0.2s						
KLBR				*i* S	Sb	18 35 21.1	-1.4
	1µm,0.2s						
NWAO	**Narrogin (SRO)**	**2.78**	**179**	⇑*i*P	Pn	18 35 17.4	-2.9
NWAO				*i*		18 35 24.8	
NWAO				*e*S	Sn	18 35 50.4	-4.3
	207nm,0.2s						
MEEK	**Meekatharra**	**3.72**	**21**	*e*P	Pn	18 35 30.8	-2.9
MEEK				*e*S	Sn	18 36 10.8	-7.7
KMBL	**Kambalda**	**4.25**	**108**	*e*P	Pn	18 35 36.9	-4.3
KMBL				*e*S	Sn	18 36 22.7	-9.1
	378nm,0.3s						
RKGY	**Rocky Gully**	**4.46**	**182**	*e*P	Pn	18 35 40.6	-3.6
GIRL	**Giralia**	**7.68**	**349**	⇑*i*P	Pn	18 36 28.3	-1.3
MBWA	**Marble Bar**	**9.24**	**15**	*e*P	P	18 36 44.4	-6.9
MBWA				*e*S	Sn	18 38 20.3	-17
FORT	**Forrest**	**9.43**	**97**	*e*P	P	18 36 48.0	-5.9
FORT				*e*S	Sn	18 38 27.5	-14
	26nm,0.3s						
FORT	**Forrest**	**9.43**	**97**	*e*P	P	18 36 48.0	-5.9
	26nm,0.3s						
FORT				*e*S	Sn	18 38 27.5	-14
FITZ	**Fitzroy Crossi**	**14.26**	**35**	*e*P	P	18 37 51.3	-7.9
	10nm,0.6s						
FITZ				*e*S	S	18 40 17.2	-22
ASPA	**Alice Springs**	**16.26**	**71**	*e*P	P	18 38 16.1	-9.1
ASPA				*e*S	S	18 41 03.9	-22
WB2	**Warramunga Arr**	**18.57**	**61**	*e*P	P	18 38 46.3	-7.9
WB2				*e*S	S	18 41 57.6	-21
STKA	**Stephens Creek**	**21.01**	**101**	*e*P	P	18 39 17.3	-3.9

WEL 22 18:39:33.6±0.3, 38.44S×175.88E, h147km±2km, ML3.5/13, 2C-1D, Error ellipse: s-maj=2.3km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.72**	**209**	PN	P	18 39 55.8	-0.6
NGZ	**Ngauruhoe**	**0.77**	**196**	PN	P	18 39 56.4	-0.2
CNZ	**Chateau**	**0.80**	**199**	PN	P	18 39 56.7	-0.2
WPVZ	**Whakapapa**	**0.81**	**199**	PN	P	18 39 56.6	-0.3
TUVZ	**Tukino**	**0.84**	**192**	PN	P	18 39 57.1	0.0
FWVZ	**Far West T-bar**	**0.85**	**197**	PN	P	18 39 56.8	-0.4
BKZ	**Black Stump Fm**	**0.87**	**147**	⇑PN	P	18 39 57.2	-0.1
BKZ				SN	S	18 40 15.5	0.0
WNVZ	**Wahianoa**	**0.91**	**194**	PN	P	18 39 57.6	0.0
PKVZ	**Pokaka**	**0.94**	**206**	PN	P	18 39 57.6	-0.2
PKVZ				SN	S	18 40 17.3	+0.8
MOVZ	**Moawhango**	**0.97**	**186**	PN	P	18 39 57.6	-0.4
MOVZ				SN	S	18 40 15.9	-0.9
URZ	**Urewera**	**0.98**	**80**	⇓PN	P	18 39 57.6	-0.6
URZ				SN	S	18 40 16.5	-0.5
MTVZ	**Mangateitei**	**1.00**	**199**	PN	P	18 39 58.1	-0.2
MWZ	**Matawai**	**1.30**	**86**	PN	P	18 40 01.4	+0.1
MWZ				SN	S	18 40 21.7	-0.8
KNZ	**Kokohu**	**1.52**	**113**	PN	P	18 40 03.6	+0.1
KNZ				SN	S	18 40 23.2	-3.4
TSZ	**Takapari Road**	**1.62**	**178**	⇑PN	P	18 40 03.8	-0.8
TSZ				SN	S	18 40 26.4	-2.0
PXZ	**Pawanui**	**1.76**	**155**	PN	P	18 40 05.8	-0.4
PXZ				SN	S	18 40 29.8	-1.4
PUZ	**Puketiti**	**1.91**	**80**	PN	P	18 40 07.0	-0.8
PUZ				SN	S	18 40 32.7	-1.5
MRZ	**Mangatainoka R**	**2.23**	**186**	PN	P	18 40 09.8	-2.0
MRZ				SN	S	18 40 37.8	-3.2
BFZ	**Birch Farm**	**2.25**	**173**	PN	P	18 40 10.6	-1.5
KIW	**Kapiti Island**	**2.53**	**197**	PN	P	18 40 12.6	-3.0
KIW				SN	S	18 40 43.4	-4.3
MTW	**Mount Morrison**	**2.73**	**186**	PN	P	18 40 15.0	-3.2
MTW				SN	S	18 40 47.0	-5.2
CAW	**Cannon Point**	**2.74**	**193**	PN	P	18 40 15.0	-3.2
CAW				SN	S	18 40 47.0	-5.3
PAWZ	**Paruwai Farm**	**2.96**	**187**	SN	S	18 40 51.5	-5.8
TRWZ	**Traveller**	**2.96**	**183**	PN	P	18 40 18.1	-3.0
TRWZ				SN	S	18 40 51.5	-5.8
MSWZ	**Moikau Station**	**3.01**	**189**	PN	P	18 40 18.1	-3.6
MSWZ				SN	S	18 40 51.8	-6.7
TCW	**Tory Channel**	**3.03**	**204**	PN	P	18 40 18.4	-3.6
TCW				SN	S	18 40 52.3	-6.7
TUWZ	**Tuamarina**	**3.34**	**206**	PN	P	18 40 22.2	-3.8
NNZ	**Nelson**	**3.38**	**214**	SN	S	18 41 02.0	-5.0
QRZ	**Quartz Range**	**3.52**	**226**	PN	P	18 40 23.0	-5.3
QRZ				SN	S	18 41 04.8	-5.4
THZ	**Tophouse**	**4.03**	**214**	PN	P	18 40 30.9	-4.1
KHZ	**Kahutara**	**4.35**	**203**	PN	P	18 40 34.5	-4.8
KHZ				SN	S	18 41 22.7	-7.2
MQZ	**McQueen's Vall**	**5.80**	**204**	SN	S	18 41 52.8	-12

IDC 22 18:45:54.6±4.5, 5.64S×154.45E, h154km±38km, mb3.5/5, mb1 3.7/6, mb1mx3.5/12, mbtmp4.1/6, Error ellipse: s-maj=32.6km s-min=24.1km az=48.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.14**	**242**	P	P	18 47 49.7	-1.1
	6.5nm,0.3s,baz=63,slow=7.1,SNR=24						
PMG				S	S	18 49 22.7	+1.3
	1.3nm,0.3s,baz=325,slow=18,SNR=4.0						
DZM	**Mont Dzumac**	**20.04**	**146**	P	P	18 50 16.0	-1.6
	9.0nm,1.1s,baz=308,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**24.18**	**232**	P	P	18 50 56.9	-1.2
	2.4nm,0.7s,baz=55,slow=9.6,SNR=24						
STKA	**Stephens Creek**	**28.74**	**203**	P	P	18 51 36.7	-3.2
	1.3nm,0.8s,baz=39,slow=13,SNR=2.3						
SONM	**Songino Array**	**67.91**	**327**	P	P	18 56 36.7	-1.9
	0.3nm,0.5s,baz=144,slow=5.3,SNR=5.3						
MAW	**Mawson**	**85.43**	**203**	P	P	18 58 15.2	-0.4
	2.0nm,0.9s,baz=76,slow=4.5,SNR=7.0						

DHMR 22 19:06:04.9±0.3, 12.65N×40.52E, h10km±8km, ML3.7, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.60**	**68**	*i* S	Sn	19 07 47.2	+2.1
UDYN				AML	AML	19 08 13.1	
	comp=E,316nm,1.0s						
DHBB	**Dhamar BB**	**4.22**	**63**	⇓*e*P	Pn	19 07 09.5	-1.2
DHBB				*i* S	Sn	19 08 02.0	+1.3
DHBB	**Dhamar BB**	**4.22**	**63**	⇓*e*P	Pn	19 07 09.5	-1.3
DHBB				*i* S	Sn	19 08 02.0	+1.3
BDHA	**Al Bayda'**	**5.09**	**74**	*i* P	Pn	19 07 19.2	-3.9
BDHA				*i* S	Sn	19 08 18.6	-4.0

BJI ***22*** *19:18:04.2, 54.17S×1.92E, h10km, mB5.4, Ms5.5, Msz5.3*

IDC ***22*** *19:18:05.0±0.7, 54.19S×1.86E, mb4.3/11, mb1 4.4/12, mb1mx4.3/17, mbtmp4.3/12, ML4.4/1, MS4.5/16, Ms1 4.4/16, ms1mx4.4/21, Error ellipse: s-maj=21.1km s-min=17.4km az=157.0*

NEIC ***22*** *19:18:06.4±0.3, 54.21S×1.95E, h10km, mb4.9/12, Error ellipse: s-maj=10.3km s-min=7.6km az=99.0*

HRVD ***22*** *19:18:06.4±0.2, 54.32S×2.43E, h17km±1km, MW5.3/70, Centroid moment Tensor Solution. LP body waves: s47,c82;Mantle waves: s70,c130; Half duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr-0.12±.02; Mθθ 0.98±.03; Mϕϕ-0.86±.02; Mrθ-0.15±.06; Mθϕ-0.02±.02; Mϕr 0.29±.06; Best double couple: M0.989×10^17 NP1: ϕs227°,δ70°,λ-172°. NP2:ϕs134°,δ83°,λ-20°. Principal axes: T 1.007, Plg8°, Azm182°; N -.036, Plg69°, Azm294°; P -.971, Plg19°, Azm89°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 19:18:03.1±4.5, 54.19S×0.06×2.0E±0.1, h1km±28km, n66, σ1§10/53, mb4.7/16, MS4.6/16, 4C-2D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.13**	**192**	*e*	**P**	**19 22 08.5**	**+3.5**
VNA1	**Neumayer--Stat**	**17.13**	**192**	*e*	**P**	**19 22 10.6**	**+5.6**
VNA1	**Neumayer--Stat**	**17.13**	**192**	*e*	**P**	**19 22 12.4**	**+7.4**
VNA1	**Neumayer--Stat**	**17.13**	**192**	*e*	**P**	**19 22 16.4**	**+11**
VNA1	**Neumayer--Stat**	**17.13**	**192**	*e*	**P**	**19 22 19.0**	**+14**
VNA1	**Neumayer--Stat**	**17.13**	**192**	*e*	**P**	**19 22 21.5**	**+17**
VNA1	**Neumayer--Stat**	**17.13**	**192**	⇑*i*P	**P**	**19 22 06.8**	**+1.8**
VNA1				*e*		19 22 08.5	
VNA1				*e*		19 22 10.6	
VNA1				*e*		19 22 12.4	
VNA1				*e*		19 22 16.4	
VNA1				*e*		19 22 19.0	
VNA1				*e*		19 22 21.5	
VNA1				*e*		19 25 00.2	
VNA1				*e*		19 25 05.4	
MAIT	**Maitri**	**17.20**	**169**	*e*P	**P**	**19 22 02.6**	**-3.3**
MAIT				*e*S	**S**	**19 25 16.7**	**0.0**
SNAA	**Sanae**	**17.67**	**185**	⇑*i*	**P**	**19 22 10.5**	**-1.2**
SNAA	**Sanae**	**17.67**	**185**	*e*	**P**	**19 22 13.3**	**+1.6**
SNAA	**Sanae**	**17.67**	**185**	*e*	**P**	**19 22 15.3**	**+3.6**
SNAA	**Sanae**	**17.67**	**185**	*e*	**P**	**19 22 16.9**	**+5.2**
SNAA	**Sanae**	**17.67**	**185**	*e*	**P**	**19 22 22.9**	**+11**
SNAA	**Sanae**	**17.67**	**185**	P	**P**	**19 22 10.7**	**-1.0**
	1.1nm,0.3s,baz=8.5,slow=12,SNR=150						
SNAA				S	**S**	**19 25 11.2**	**-16**
	0.1nm,0.3s,baz=171,slow=15,SNR=4.1						
SNAA				LR	LR	19 27 21.1	
	comp=Z,690nm,20.3s,baz=24,slow=32						
SNAA	**Sanae**	**17.67**	**185**	⇑*i*P	**P**	**19 22 10.5**	**-1.2**
SNAA				*e*		19 22 13.3	
SNAA				*e*		19 22 15.3	
SNAA				*e*		19 22 16.9	
SNAA				*e*		19 22 22.9	
SNAA				*e*		19 25 13.1	
SNAA				*e*		19 25 18.6	
VNA3	**Neumayer Olymp**	**17.86**	**192**	*e*	**P**	**19 22 15.2**	**+1.2**
VNA3	**Neumayer Olymp**	**17.86**	**192**	*e*	**P**	**19 22 16.9**	**+2.9**
VNA3	**Neumayer Olymp**	**17.86**	**192**	*e*	**P**	**19 22 18.1**	**+4.1**
VNA3	**Neumayer Olymp**	**17.86**	**192**	*e*	**P**	**19 22 24.1**	**+10**
VNA3	**Neumayer Olymp**	**17.86**	**192**	*e*	**P**	**19 22 26.5**	**+12**
VNA3	**Neumayer Olymp**	**17.86**	**192**	*e*	**P**	**19 22 28.6**	**+15**
VNA3	**Neumayer Olymp**	**17.86**	**192**	⇑*i*P	**P**	**19 22 13.2**	**-0.8**
VNA3				*e*		19 22 15.2	
VNA3				*e*		19 22 16.9	
VNA3				*e*		19 22 18.1	
VNA3				*e*		19 22 24.1	
VNA3				*e*		19 22 26.5	
VNA3				*e*		19 22 28.6	
VNA3				*e*		19 25 15.9	
VNA3				*e*		19 25 19.7	
SYO	**Syowa Base**	**22.72**	**145**	⇓P	**P**	**19 23 05.8**	**-1.2**
MAW	**Mawson**	**31.04**	**139**	P	**P**	**19 24 23.9**	**-0.2**
	2.5nm,0.8s,mb4.2,baz=277,slow=9.3,SNR=5.7						
MAW				LR	LR	19 34 48.2	
	comp=Z,479nm,20.3s,MS4.2,baz=273,slow=32						
MAW	**Mawson**	**31.04**	**139**	*e*P	**P**	**19 24 24.1**	**0.0**
	5.1nm,1.0s,mb4.4						
LBTB	**Lobatse**	**34.04**	**41**	P	**P**	**19 24 51.0**	**+0.3**
	4.1nm,0.9s,mb4.4,baz=193,slow=14,SNR=3.8						
LBTB				LR	LR	19 35 15.8	
	comp=Z,433nm,21.5s,MS4.2,baz=215,slow=30						
QSPA	**South Pole Qui**	**36.05**	**180**	⇓*i*P	**P**	**19 25 07.7**	**+0.4**
	56nm,1.7s,mb5.1						
TSUM	**Tsumeb**	**36.93**	**25**	P	**P**	**19 25 15.5**	**+0.2**
	5.5nm,0.9s,mb4.3,baz=185,slow=7.8,SNR=8.4						
TSUM	**Tsumeb**	**36.93**	**25**	*e*P	**P**	**19 25 15.8**	**+0.5**
	14nm,1.2s,mb4.6						
MATP	**Matopo**	**39.31**	**41**	P	**P**	**19 25 34.5**	**-0.8**
	4.1nm,0.8s,mb4.1,baz=220,slow=10,SNR=6.3						
MATP	**Matopo**	**39.31**	**41**	P	**P**	**19 25 34.5**	**-0.8**
LSZ	**Lusaka**	**43.90**	**38**	P	**P**	**19 26 14.0**	**+1.0**
SBA	**Scott Base**	**47.88**	**176**	*e*P	**P**	**19 26 44.3**	**+0.5**
	19nm,1.0s,mb5.2						
SBA				*e*PP	PP	19 28 35.6	+0.4
VNDA	**Vanda**	**47.96**	**174**	*e*P	**P**	**19 26 44.7**	**+0.3**
	12nm,0.9s,mb5.0						
PLCA	**Paso Flores**	**48.68**	**255**	P	**P**	**19 26 50.2**	**-0.3**
	1.2nm,0.8s,mb4.0,baz=201,slow=2.5,SNR=3.9						
PLCA				LR	LR	19 44 39.6	
	comp=Z,296nm,19.9s,MS4.3,baz=132,slow=33						
PLCA	**Paso Flores**	**48.68**	**255**	*e*P	**P**	**19 26 50.4**	**-0.1**
	3.2nm,1.0s,mb4.3						
CPUP	**Villa Florida**	**51.22**	**278**	P	**P**	**19 27 08.6**	**-1.4**
	6.0nm,1.0s,mb4.5,baz=138,slow=9.3,SNR=8.3						
CPUP				LR	LR	19 44 39.0	
	comp=Z,327nm,21.0s,MS4.3,baz=167,slow=31						
CPUP	**Villa Florida**	**51.22**	**278**	*e*P	**P**	**19 27 09.9**	**-0.1**
	9.7nm,1.2s,mb4.6						
CFAA	**Coronel Fontan**	**53.70**	**265**	P	**P**	**19 27 27.4**	**-1.2**
	0.4nm,0.6s,baz=143,slow=6.1,SNR=8.6						
BAO	**Brasilia Array**	**54.47**	**295**	P	**P**	**19 27 34.2**	**-0.2**
BDFB	**Brasilia**	**54.48**	**295**	P	**P**	**19 27 33.7**	**-0.8**
	5.2nm,0.7s,mb4.7,baz=139,slow=4.1,SNR=7.4						
BDFB		

WEL 22 19:37:31.2±0.2, 39.38S×175.04E, h146km±1km, ML3.5/11, 5C, Error ellipse: s-maj=2.3km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.25**	**70**	⇑P	N		P	19 37 50.9	-0.7
PKVZ				S	N		S	19 38 05.9	-1.2
MTVZ	**Mangateitei**	**0.33**	**92**	⇑P	N		P	19 37 51.3	-0.6
MTVZ				S	N		S	19 38 06.4	-1.2
VRZ	**Vera Road**	**0.33**	**319**	P	N		P	19 37 50.7	-1.1
VRZ				S	N		S	19 38 06.6	-1.0
WAZ	**Wanganui**	**0.38**	**187**	⇑P	N		P	19 37 51.9	-0.1
WAZ				S	N		S	19 38 06.7	-1.2
FWVZ	**Far West T-bar**	**0.41**	**73**	P	N		P	19 37 51.7	-0.5
FWVZ				S	N		S	19 38 06.8	-1.4
WPVZ	**Whakapapa**	**0.43**	**67**	P	N		P	19 37 51.6	-0.6
WPVZ				S	N		S	19 38 06.8	-1.4
CNZ	**Chateau**	**0.43**	**66**	P	N		P	19 37 51.6	-0.6
TWVZ	**Taurewa**	**0.43**	**46**	⇑P	N		P	19 37 51.3	-0.9
TWVZ				S	N		S	19 38 06.5	-1.8
WNVZ	**Wahianoa**	**0.43**	**84**	P	N		P	19 37 51.8	-0.4
WNVZ				S	N		S	19 38 06.9	-1.4
NGZ	**Ngauruhoe**	**0.48**	**66**	P	N		P	19 37 51.8	-0.6
TUVZ	**Tukino**	**0.49**	**78**	P	N		P	19 37 52.1	-0.3
WTVZ	**West Tongariro**	**0.50**	**59**	P	N		P	19 37 51.9	-0.7
WTVZ				S	N		S	19 38 07.2	-1.7
OTVZ	**Oturere**	**0.53**	**67**	P	N		P	19 37 52.1	-0.6
KRVZ	**Karewarewa**	**0.54**	**59**	P	N		P	19 37 52.1	-0.7
MOVZ	**Moawhango**	**0.55**	**94**	⇑P	N		P	19 37 52.1	-0.7
MOVZ				S	N		S	19 38 06.8	-2.5
KATZ	**Kakaramea**	**0.65**	**52**	P	N		P	19 37 52.8	-0.5
TSZ	**Takapari Road**	**0.98**	**134**	P	N		P	19 37 55.8	+0.2
BKZ	**Black Stump Fm**	**1.15**	**80**	P	N		P	19 37 56.4	-0.7
MRZ	**Mangatainoka R**	**1.35**	**162**	P	N		P	19 37 58.8	-0.4
MRZ				S	N		S	19 38 18.8	-1.9
KIW	**Kapiti Island**	**1.49**	**184**	P	N		P	19 38 00.0	-0.6
PXZ	**Pawanui**	**1.55**	**116**	P	N		P	19 38 01.1	-0.2
BFZ	**Birch Farm**	**1.60**	**145**	P	N		P	19 38 01.2	-0.6
DUWZ	**D'Urville Isla**	**1.67**	**211**	P	N		P	19 38 01.7	-0.9
CAW	**Cannon Point**	**1.73**	**179**	P	N		P	19 38 02.7	-0.5
MTW	**Mount Morrison**	**1.82**	**169**	P	N		P	19 38 03.4	-0.8
MRW	**Makara Radio**	**1.87**	**188**	P	N		P	19 38 04.1	-0.8
TCW	**Tory Channel**	**1.93**	**197**	P	N		P	19 38 04.7	-0.8
PAWZ	**Paruwai Farm**	**2.02**	**172**	P	N		P	19 38 05.8	-0.9
MSWZ	**Moikau Station**	**2.04**	**176**	P	N		P	19 38 06.0	-0.9
TUWZ	**Tuamarina**	**2.22**	**202**	P	N		P	19 38 07.7	-1.4
QRZ	**Quartz Range**	**2.41**	**232**	P	N		P	19 38 08.5	-3.1
THZ	**Tophouse**	**2.89**	**214**	P	N		P	19 38 15.9	-1.7
KHZ	**Kahutara**	**3.25**	**200**	P	N		P	19 38 20.4	-1.9

*STR **22** 19:43:58.4±0.2, 49.37N×6.87E, h1km±1km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **22** 19:43:58.4, 49.37N×6.87E, h1km, ML4.0(LDG), ML3.7(STR), ML3.4(VIE), After STR.*
*LDG **22** 19:43:58.8±0.1, 49.35N×6.88E, h1km, Md3.9/2, Ml4.0/41, Error ellipse: s-maj=1.3km s-min=1.0km az=158.0, Suspected Mining induced.*
*LEDBW **22** 19:43:58.8±0.2, 49.38N×6.90E, h1km, ML3.3, Error ellipse: s-maj=6.0km s-min=2.0km az=110.0*
*CSEM **22** 19:43:58.7±0.0, 49.36N×6.89E, h2km, ML4.1/28, Error ellipse: s-maj=0.8km s-min=0.7km az=176.0*
*IPEC **22** 19:43:58.9±0.1, 49.39N×6.87E, h9km±1km, ML3.1/2, Error ellipse: s-maj=0.9km s-min=0.7km az=70.0*
*PRU **22** 19:43:58.9, 49.46N×6.96E*
*BNS **22** 19:43:59.5±1.1, 49.39N×6.92E, h1km, ML3.4, GESPUERT INTENSITAET IV IN HUETTERSDORF, SCHMELZ*

BGR 22 19:43:58.8±0.2, 49.38N×6.86E, h1km, ML3.3/6, 18C-18D, Error ellipse: s-maj=2.2km s-min=1.1km az=94.0, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.54**	**302**	*e*Pg			Pg	19 44 09.8	+0.2
	SNR=102								
WLF				*e*Sg			Sg	19 44 16.2	-0.7
	SNR=4.0								
WLF	**Walferdange**	**0.54**	**302**	*e*Pg			Pg	19 44 09.7	+0.1
ABH	**Alteburg**	**0.68**	**41**	*e*Pg			Pg	19 44 10.9	-1.3
ABH				*e*Sg			Sg	19 44 20.9	-0.4
	SNR=4.4								
ABH	**Alteburg**	**0.68**	**41**	⇓P			Pg	19 44 10.9	-1.4
LANF	**Langenberg**	**0.74**	**122**	Pg			Pg	19 44 12.0	-1.5
LANF	**Langenberg**	**0.74**	**122**	*e*Pg			Pg	19 44 12.1	-1.3
LANF	**Langenberg**	**0.74**	**122**	⇓P			Pg	19 44 12.2	-1.3
KTD	**Kalmit**	**0.80**	**94**	*e*Pg			Pg	19 44 13.2	-1.6
KTD	**Kalmit**	**0.80**	**94**	P			Pg	19 44 13.3	-1.5
BGG	**Burgeitz**	**0.89**	**20**	*e*Pg			Pg	19 44 15.7	-0.7
BGG				*e*Sg			Sg	19 44 27.5	-0.8
	479nm,1.0s								
STR	**Strasbourg**	**0.99**	**143**	Pg			Pg	19 44 17.0	-1.6
STR	**Strasbourg**	**0.99**	**143**	*e*Pg			Pg	19 44 18.2	-0.4
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg			Pg	19 44 17.1	-1.7
CDF				*e*Pn			Pn	19 44 18.1	-1.7
CDF				*e*Sg			Sg	19 44 29.8	-2.4
	495nm,0.2s								
WLS	**Welschbruch**	**1.02**	**161**	Pg			Pg	19 44 17.6	-1.5
WLS				Sg			Sg	19 44 32.0	-0.6
WLS	**Welschbruch**	**1.02**	**161**	*e*Pg			Pg	19 44 17.4	-1.6
WLS				PmP				19 44 18.6	
WLS	**Welschbruch**	**1.02**	**161**	⇓P			Pb	19 44 17.6	-1.3
WLS				P				19 44 18.6	
WLS	**Welschbruch**	**1.02**	**161**	Pg			Pg	19 44 17.4	-1.7
WLS				Sg			Sg	19 44 32.0	-0.6
ECH	**Echery**	**1.18**	**170**	*e*Pg			Pg	19 44 20.6	-1.7
ECH				*e*Sg			Sg	19 44 36.0	-2.0
	SNR=8.1								
ECH	**Echery**	**1.18**	**170**	⇓P			Pb	19 44 20.5	-1.1
ECH	**Echery**	**1.18**	**170**	Pg			Pg	19 44 20.4	-1.9
ECH				Sg			Sg	19 44 36.2	-1.8
RFYF	**Reffroy**	**1.18**	**231**	*e*Pn			Pn	19 44 21.7	-0.6
	baz=40								
RFYF				*e*Sg			Sg	19 44 36.3	-1.7
	1μm,0.2s								
SWS	**Schriesheim**	**1.21**	**84**	⇓*e*P			Pn	19 44 20.3	-2.4
SWS				Sg			Sg	19 44 37.2	-1.8
SWS	**Schriesheim**	**1.21**	**84**	⇓*e*P			Pb	19 44 20.3	-1.8
SWS				Sg			Sg	19 44 37.2	-1.8
STB	**Steinbach**	**1.22**	**359**	*e*Pg			Pg	19 44 22.0	-1.1
STB				*e*Sg			Sg	19 44 38.6	-0.8
	678nm,0.7s								
THEF	**They Montfort**	**1.29**	**207**	*e*Pg			Pg	19 44 22.9	-1.6
THEF				*e*Sg			Sg	19 44 39.4	-2.2
	SNR=6.0								
THEF	**They Montfort**	**1.29**	**207**	⇓P			Pb	19 44 22.6	-0.9
THEF	**They Montfort**	**1.29**	**207**	Pg			Pg	19 44 22.8	-1.6
THEF				Sg			Sg	19 44 39.8	-1.8
TOD	**Tromm**	**1.29**	**79**	*e*Pn			Pn	19 44 21.5	-2.4
	SNR=155								
TOD				Pg			Pg	19 44 22.6	-2.0
TOD				*e*Sg			Sg	19 44 39.8	-1.9
	SNR=4.7								
TOD	**Tromm**	**1.29**	**79**	⇓P			Pb	19 44 21.5	-2.0
TOD				P				19 44 22.6	
TOD	**Tromm**	**1.29**	**79**	PG			Pg	19 44 22.6	-1.9
TOD	**Tromm**	**1.29**	**79**	⇓P			Pb	19 44 21.5	-2.0
TOD				Pg			Pg	19 44 22.6	-1.9
TOD	**Tromm**	**1.29**	**79**	Pg			Pg	19 44 22.2	-2.3
TOD				Sg			Sg	19 44 40.4	-1.3
KLL	**Kalltalsperre**	**1.32**	**345**	*e*Pg			Pg	19 44 22.6	-2.5
KLL				*e*Sg			Sg	19 44 40.5	-2.2
	238nm,0.9s								
LIBD	**Limburg**	**1.32**	**158**	*e*Pg			Pg	19 44 23.4	-1.8
LIBD				P*			Pb	19 44 24.2	+0.2
LIBD				*e*Sg			Sg	19 44 40.9	-1.9
	SNR=3.9								
LIBD	**Limburg**	**1.32**	**158**	Pg			Pg	19 44 24.0	-1.1
LIBD				Sg			Sg	19 44 40.9	-1.9
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg			Pg	19 44 23.8	-1.5
TNS				*e*Sg			Sg	19 44 41.7	-1.5
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg			Pg	19 44 23.8	-1.6
TNS				*e*Sg			Sg	19 44 41.7	-1.5
HAU	**Haudompre**	**1.41**	**194**	*e*Pn			Pn	19 44 24.0	-1.6
HAU				*e*Pg			Pg	19 44 25.2	-1.7
HAU				*e*Sn			Sn	19 44 41.8	-3.3
HAU				*e*Sg			Sg	19 44 42.9	-2.9
	665nm,0.2s								
BFO	**Black Forest**	**1.43**	**137**	*e*Pn			Pn	19 44 23.8	-2.0
	SNR=130								
BFO				*e*Pg			Pg	19 44 25.8	-1.5
BFO				*e*Sg			Sg	19 44 43.9	-2.4
	SNR=7.0								
BFO	**Black Forest**	**1.43**	**137**	⇓P			Pn	19 44 23.8	-2.1
BFO				P				19 44 25.6	
BFO				S			Sb	19 44 44.0	-0.5
BFO	**Black Forest**	**1.43**	**137**	*e*Pn			Pn	19 44 23.8	-2.1
BFO				*e*Pg			Pg	19 44 25.8	-1.5
BFO				*e*Sg			Sg	19 44 43.9	-2.4
BFO	**Black Forest**	**1.43**	**137**	*e*Pg			Pg	19 44 24.0	-3.3
BFO				*e*Sg			Sg	19 44 43.2	-3.1
LBG	**Lerchenberg**	**1.46**	**118**	⇓Pn			Pn	19 44 24.1	-2.2
LBG				Pg			Pg	19 44 26.0	-1.9
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pn			Pn	19 44 25.3	-1.3
	baz=54								
MEZF				*e*Sn			Sn	19 44 43.3	-3.5
MEZF				*e*Sg			Sg	19 44 45.3	-2.6
	467nm,0.4s								
GIVF	**Givet**	**1.51**	**300**	*e*Pn			Pn	19 44 26.1	-0.9
GIVF				*e*Pg			Pg	19 44 27.9	-0.9
GIVF				*e*Sn			Sn	19 44 44.5	-3.0
GIVF				*e*Sg			Sg	19 44 46.8	-2.1
	1μm,0.7s								
HGN	**Heimansgroeve**	**1.51**	**337**	*e*Pn			Pn	19 44 25.7	-1.3
	baz=150								
HGN				⇑*e*Pg			Pg	19 44 27.8	-1.1
	191nm,0.6s								
HGN				*e*Sg			Sg	19 44 45.5	-3.5
HGN				*e*Rg				19 45 05.4	
HGN	**Heimansgroeve**	**1.51**	**337**	*e*Pn			Pn	19 44 25.7	-1.3
	SNR=33								
HGN				*e*Sg			Sg	19 44 47.1	-2.0
	SNR=3.9								
HGN	**Heimansgroeve**	**1.51**	**337**	⇑*e*Pg			Pg	19 44 27.8	-1.1
	191nm,0.6s								
HGN				*e*Sg			Sg	19 44 45.5	-3.6
FBB	**Freiburg**	**1.53**	**154**	P*			Pb	19 44 27.4	-0.1
FBB				S*			Sb	19 44 47.4	+0.1
FBB	**Freiburg**	**1.53**	**154**	⇑*e*P			Pn	19 44 27.5	+0.3
FBB				*e*S			Sb	19 44 47.3	0.0
FBB				S			Sb	19 44 47.4	+0.1
MOF	**Molkenrain**	**1.54**	**173**	Pg			Pg	19 44 27.5	-1.9
MOF				Sg			Sg	19 44 47.8	-2.1
MOF	**Molkenrain**	**1.54**	**173**	Pn			Pn	19 44 24.8	-2.6
MOF				*e*Pg			Pg	19 44 27.7	-1.7
MOF				*e*Sg			Sg	19 44 47.9	-2.0
	SNR=11								
MOF	**Molkenrain**	**1.54**	**173**	P			Pn	19 44 24.8	-2.6
MOF				P				19 44 27.6	
MOF				S			Sb	19 44 47.9	+0.3
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pn			Pn	19 44 25.6	-2.2
HINF				*e*Pg			Pg	19 44 27.9	-2.0
HINF				*e*Sn			Sn	19 44 45.1	-3.8
HINF				*e*Sg			Sg	19 44 47.5	-3.2
	2μm,0.2s								
KIZ	**Kirchzarten**	**1.59**	**153**	Pn			Pn	19 44 25.5	-2.6
KIZ				Pg			Pg	19 44 28.1	-2.3
KIZ				Sn			Sn	19 44 45.6	-3.9
KIZ				Sg			Sg	19 44 48.6	-3.0
KIZ	**Kirchzarten**	**1.59**	**153**	P			Pn	19 44 25.5	-2.6
KIZ				P				19 44 28.1	
KIZ				S			Sb	19 44 48.6	-0.5
KIZ	**Kirchzarten**	**1.59**	**153**	PG			Pg	19 44 28.1	-2.3
KIZ				SG			Sg	19 44 48.6	-2.9
KIZ	**Kirchzarten**	**1.59**	**153**	P			Pn	19 44 25.5	-2.6
KIZ				Pg			Pg	19 44 28.1	-2.3
KIZ				Sg			Sg	19 44 48.6	-2.9
BNS	**Bensberg**	**1.60**	**7**	*e*Pg			Pg	19 44 27.1	-3.6
BNS				*e*Sg			Sg	19 44 48.2	-3.9
	517nm,1.0s								
STU	**Stuttgart**	**1.65**	**111**	*e*Pn			Pn	19 44 27.2	-1.9
	SNR=4.3								
STU				*e*Sg			Sg	19 44 52.3	-1.5
	SNR=1.5								
STU	**Stuttgart**	**1.65**	**111**	*e*Pn			Pn	19 44 27.2	-1.9
STU				*e*Sg			Sg	19 44 52.3	-1.4
STU	**Stuttgart**	**1.65**	**111**	*e*Pn			Pn	19 44 26.9	-2.2
SFTF	**Sexfontaines**	**1.68**	**226**	*e*Pn			Pn	19 44 27.9	-1.6
	baz=52								
SFTF				*e*Sn			Sn	19 44 47.9	-4.0
SFTF				*e*Sg			Sg	19 44 51.6	-3.1
	404nm,0.3s								
FELD	**Feldberg**	**1.68**	**153**	*e*Pn			Pn	19 44 27.6	-1.9
	SNR=2.1								
FELD				*e*Pg			Pg	19 44 30.2	-2.1
FELD				*e*Sg			Sg	19 44 51.6	-3.1
	SNR=8.0								
FELD	**Feldberg**	**1.68**	**153**	P			Pn	19 44 27.4	-2.1
FELD				*e*P				19 44 30.3	
FELD				*e*S			Sb	19 44 51.7	-0.2
FELD	**Feldberg**	**1.68**	**153**	P			Pn	19 44 27.4	-2.1
FELD				Sg			Sg	19 44 51.8	-3.0
FELD	**Feldberg**	**1.68**	**153**	Pg			Pg	19 44 30.1	-2.2
FELD				Sg			Sg	19 44 51.8	-3.0
TUBL	**Tuebingen Lnz**	**1.70**	**119**	Pn			Pn	19 44 27.8	-1.9
TUBL				Pg			Pg	19 44 30.5	-2.2
SIND	**Sindeldorf**	**1.80**	**90**	⇓Pn			Pn	19 44 28.6	-2.6
SPAK	**Spaichingen**	**1.81**	**134**	*e*Pg			Pg	19 44 32.4	-2.4
SPAK				*e*Sg			Sg	19 44 58.4	-0.4
	SNR=1.0								
SPAK	**Spaichingen**	**1.81**	**134**	Pg			Pg	19 44 32.5	-2.3
BAIF	**Baives**	**1.85**	**293**	*e*Pn			Pn	19 44 30.9	-1.0
BAIF				*e*Pg			Pg	19 44 33.7	-2.0
BAIF				*e*Sn			Sn	19 44 52.7	-3.6
BAIF				*e*Sg			Sg	19 44 57.5	-2.9
	379nm,0.7s								
BUCH	**Bad Urach**	**1.89**	**118**	⇓Pn			Pn	19 44 30.4	-2.1
BBS	**Basel-Blauen**	**1.96**	**167**	*e*Pn			Pn	19 44 32.0	-1.5
	SNR=2.6								
BBS				*e*Pg			Pg	19 44 35.9	-2.0
BBS				*e*Sg			Sg	19 45 01.5	-2.6
	SNR=3.2								
BBS	**Basel-Blauen**	**1.96**	**167**	P			Pn	19 44 31.5	-2.0
BBS				Pg			Pg	19 44 35.5	-2.4
GUT	**Gutenstein**	**1.99**	**130**	⇓Pn			Pn	19 44 31.6	-2.2
GUT				Pg			Pg	19 44 35.6	-2.7
GUT				Sg			Sg	19 45 01.9	-3.0
GUT	**Gutenstein**	**1.99**	**130**	PG			Pg	19 44 35.7	-2.7
GUT				SG			Sg	19 45 01.9	-3.0
GUT	**Gutenstein**	**1.99**	**130**	⇓P			Pn	19 44 31.7	-2.1
GUT				Pg			Pg	19 44 35.7	-2.7
GUT				Sg			Sg	19 45 01.9	-3.0
GUT	**Gutenstein**	**1.99**	**130**	Pg			Pg	19 44 35.7	-2.7
BOURR	**Bourrignon**	**2.00**	**173**	*e*Pn			Pn	19 44 32.1	-1.9
BOURR				*e*Sg			Sg	19 45 01.5	-3.8
LOMF	**Lomont**	**2.03**	**181**	Pg			Pg	19 44 36.5	-2.7
LOMF				Sg			Sg	19 45 04.1	-2.1
LOMF	**Lomont**	**2.03**	**181**	*e*Pn			Pn	19 44 32.6	-1.8
	SNR=6.4								
LOMF				*e*Pg			Pg	19 44 36.8	-2.4
LOMF				*e*Sg			Sg	19 45 03.0	-3.2
	SNR=4.3								
LOMF	**Lomont**	**2.03**	**181**	P			Pn	19 44 32.7	-1.8
LOMF				S			Sn	19 45 03.4	+2.6
BUG	**Bochum--Univer**	**2.08**	**7**	*e*Pn			Pn	19 44 34.3	-1.0
	SNR=2.1								
BUG				*e*Pg			Pg	19 44 37.6	-2.8
BUG				*e*Sg			Sg	19 45 04.5	-3.6
	SNR=3.3								
BUG	**Bochum--Univer**	**2.08**	**7**	*e*Pn			Pn	19 44 34.3	-0.9
BUG				*e*Pg			Pg	19 44 37.6	-2.8
BUG				*e*Sg			Sg	19 45 04.5	-3.6
SISB	**Singen-Sch Ber**	**2.20**	**140**	Pn			Pn	19 44 34.9	-1.9
SISB				P*			Pb	19 44 39.8	+0.8
SISB				S*			Sb	19 45 09.1	+2.3
HDH	**Heidenheim**	**2.34**	**108**	Pn			Pn	19 44 36.7	-2.3
WTSB	**Winterswijk**	**2.59**	**359**	*e*Pg			Pg	19 44 42.2	-8.3
	10nm,0.4s								
WTSB				*e*Pn			Pn	19 44 46.6	+4.0
WTSB				*e*Pg			Pg	19 44 49.6	-1.0
	91nm,0.8s								
WTSB				*e*Sn			Sn	19 45 18.6	+3.4
WTSB				*e*Sg			Sg	19 45 21.4	-3.7
WTSB	**Winterswijk**	**2.59**	**359**	*e*Pg			Pg	19 44 49.6	-0.9
	91nm,0.8s								
WTSB				*e*Sg			Sg	19 45 21.4	-3.7
UBR	**Uberruh**	**2.75**	**127**	Pn			Pn	19 44 43.4	-1.3
UBR				P*			Pb	19 44 51.7	+3.3
UBR	**Uberruh**	**2.75**	**127**	Pg			Pg	19 44 51.7	-1.9
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn			Pn	19 44 43.1	-2.6
CABF				*e*Pg			Pg	19 44 51.3	-3.6
CABF				*e*Sg			Sg	19 45 26.9	-5.6
	302nm,0.7s								
GRA1	**Grafenberg Arr**	**2.86**	**82**	*e*Pn			Pn	19 44 46.4	0.0
GRA1				*e*Sg			Sg	19 45 29.1	-4.9
GRF	**Grafenberg Arr**	**2.86**	**82**	*e*Pn			Pn	19 44 46.4	0.0
GRF				*e*Sg			Sg	19 45 29.1	-4.9
DAVA	**Damuels**	**2.91**	**135**	⇑*i*PN			Pn	19 44 45.8	-1.2
DAVA				*i* PG			Pg	19 44 54.2	-2.5
DAVA				*i* SG			Sg	19 45 31.1	-4.4
	138nm,0.7s								
DAVA	**Damuels**	**2.91**	**135**	⇑*e*Pn			Pn	19 44 45.8	-1.2
	SNR=6.3								
DAVA	**Damuels**	**2.91**	**135**	⇑*i*Sg			Sg	19 45 31.1	-4.4
	comp=Z,138nm,0.7s								
LOR	**Lormes**	**2.91**	**225**	*e*Pn			Pn	19 44 44.3	-2.7
	baz=46								
LOR				*e*Sn			Sn	19 45 18.8	-4.3
LOR				*e*Sg			Sg	19 45 30.0	-5.5
	138nm,0.2s								
SENIN	**Lac Senin**	**3.03**	**174**	*e*Pn			Pn	19 44 47.1	-1.7
SENIN				*e*Sg			Sg	19 45 34.8	-4.8
FUR	**Furstenfeldbru**	**3.16**	**111**	*e*Pn			Pn	19 44 49.9	-0.7
	SNR=1.9								
FUR				*e*Pg			Pg	19 44 58.7	-3.2
FUR	**Furstenfeldbru**	**3.16**	**111**	*e*Pn			Pn	19 44 49.9	-0.8
FUR				*e*Pg			Pg	19 44 58.7	-3.2
SSF	**Saint Saulge**	**3.22**	**225**	*e*Pn			Pn	19 44 48.5	-3.0
SSF				*e*Sn			Sn	19 45 25.5	-5.6
SSF				*e*Sg			Sg	19 45 38.0	-8.0
	49nm,0.3s								
MOX	**Moxa**	**3.32**	**66**	*e*Pn			Pn	19 44 50.8	-2.1
	SNR=8.8								
MOX				*e*Pg			Pg	19 44 59.4	-5.7
MOX				*e*Sn			Sn	19 45 28.5	-5.1
	SNR=1.8								
MOX				*e*Sg			Sg	19 45 43.6	-5.7
MOX	**Moxa**	**3.32**	**66**	*i* P			Pn	19 44 50.8	-2.1
MOX				Pg			Pg	19 45 00.0	-5.1
MOX				S			Sn	19 45 28.0	-5.6
MOX	**Moxa**	**3.32**	**66**	*e*Pn			Pn	19 44 50.8	-2.1
MOX				*e*Pg			Pg	19 44 59.1	-6.0
MOX				*e*Pg			Pg	19 44 59.8	-5.3
MOX				*e*Sn			Sn	19 45 28.5	-5.1
MOX				*e*Sg			Sg	19 45 43.6	-5.7
MOX	**Moxa**	**3.32**	**66**	*e*Pg			Pg	19 44 59.1	-6.0
MOX				*e*Sg			Sg	19 45 43.6	-5.7
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn			Pn	19 44 50.8	-3.2
SMF				*e*Pg			Pg	19 45 01.7	-4.9
SMF				*e*Sn			Sn	19 45 28.4	-7.2
SMF				*e*Sg			Sg	19 45 45.1	-6.9
	122nm,0.3s								
WIT	**Witteveen**	**3.44**	**358**	*e*Sg			Sg	19 45 48.6	-4.8
	SNR=1.8								
MOTA	**Moosalm**	**3.48**	**124**	⇑*i*PN			Pn	19 44 53.6	-1.6
MOTA				*i* PG			Pg	19 45 04.1	-4.2
MOTA				*i* SG			Sg	19 45 48.8	-6.0
	25nm,0.4s								
MOTA	**Moosalm**	**3.48**	**124**	⇑*i*Sg			Sg	19 45 48.8	-6.0
	comp=Z,25nm,0.4s								
AVF	**Avril sur Loir**	**3.49**	**224**	*e*Pn			Pn	19 44 51.9	-3.5
AVF				*e*Sn			Sn	19 45 32.1	-5.9
AVF				*e*Sg			Sg	19 45 47.8	-7.3
	84nm,0.4s								
HYF	**Humbligny**	**3.52**	**235**	*e*Pn			Pn	19 44 52.7	-3.0
HYF				*e*Pg			Pg	19 45 02.9	-6.1
HYF				*e*Sn			Sn	19 45 31.9	-6.6
HYF				*e*Sg			Sg	19 45 49.3	-6.5
FUORN	**Ofenpass**	**3.58**	**139**	*e*Pn			Pn	19 44 56.4	-0.2
SQTA	**Sankt Quirin**	**3.62**	**125**	⇑*i*PN			Pn	19 44 55.4	-1.7
SQTA				*i* PG			Pg	19 45 06.7	-4.3
SQTA				*i* SN			Sn	19 45 35.9	-5.2
SQTA				*i* SG			Sg	19 45 53.4	-5.8
	17nm,0.3s								
SQTA	**Sankt Quirin**	**3.62**	**125**	⇑*i*Sn			Sn	19 45 35.9	-5.2
SQTA	**Sankt Quirin**	**3.62**	**125**	⇓*i*Sg			Sg	19 45 54.1	-5.1
	comp=Z,17nm,0.3s								
NEUB	**Neuenburg**	**3.65**	**58**	*e*Pg			Pg	19 45 05.7	-5.9
NEUB				*e*Sg			Sg	19 45 54.8	-5.4
	SNR=2.3								
WERD	**Werda**	**3.68**	**71**	*e*Pn			Pn	19 44 55.8	-2.2
	SNR=3.4								
WERD				*e*Pg			Pg	19 45 07.0	-5.3
WERD				*e*Sg			Sg	19 45 54.8	-6.5
	SNR=3.3								
NKC	**Novy Kostel**	**3.72**	**75**	*e

GEC2					*e*Sg		Sg	19 46 23.1 -6.4
	SNR=1.4							
GEC2	**GERESS Array S**	**4.53**	**94**		*e*Pn		Pn	19 45 07.7 -2.3
GEC2					*e*Sn		Sn	19 45 57.7 -6.4
GEC2					*e*Sg		Sg	19 46 23.1 -6.4
MBDF	**Montbardon**	**4.65**	**181**		*e*Pn		Pn	19 45 09.8 -2.0
MBDF					*e*Sn		Sn	19 45 59.5 -7.8
MBDF					*e*Sg		Sg	19 46 24.2 -9.4
	22nm,0.5s							
LDF	**La Druitiere**	**4.66**	**263**		*e*Pn		Pn	19 45 08.6 -3.4
LDF					*e*Pg		Pg	19 45 24.5 -7.3
LDF					*e*Sn		Sn	19 45 59.6 -7.9
LDF					*e*Sg		Sg	19 46 24.8 -9.2
	101nm,0.6s							
VIVF	**Saint-Julien-l**	**4.76**	**199**		*e*Pn		Pn	19 45 09.9 -3.5
VIVF					*e*Pg		Pg	19 45 26.5 -7.3
VIVF					*e*Sg		Sg	19 46 26.0 -11
	64nm,0.5s							
BRG	**Berggiesshubel**	**4.80**	**69**		Pn		Pn	19 45 11.7 -2.2
BRG					Pg		Pg	19 45 26.9 -7.7
BRG					Sg		Sg	19 46 28.2 -10
FLN	**La Foliniere**	**4.86**	**266**		*e*Pn		Pn	19 45 11.9 -2.9
	baz=87							
FLN					*e*Pg		Pg	19 45 29.5 -6.3
	baz=84							
FLN					*e*Sn		Sn	19 46 04.3 -8.3
FLN					*e*Sg		Sg	19 46 31.0 -10
	48nm,0.3s							
FLN	**La Foliniere**	**4.86**	**266**		*e*Pg		Pg	19 45 29.5 -6.3
FLN					*e*Sn		Sn	19 46 04.3 -8.3
FLN					*e*Sg		Sg	19 46 31.0 -10
	24nm,0.3s							
KBA	**Koelnbreinsper**	**4.91**	**115**	⇑	*i*PN		Pn	19 45 14.4 -1.0
KBA					*i* SN		Sn	19 46 11.4 -2.3
PRU	**Pruhonice**	**5.03**	**80**		*e*PN		Pn	19 45 14.3 -2.8
PRU					*e*PG		Pg	19 45 28.5 -11
PRU					*e*SG		Sg	19 46 36.3 -10
	80nm,1.3s							
PRU	**Pruhonice**	**5.03**	**80**		*e*Pn		Pn	19 45 14.3 -2.8
	80nm,1.3s							
PRU					*e*Pg		Pg	19 45 28.5 -11
PRU					*e*Sg		Sg	19 46 36.3 -10
PVCC	**Panska Ves**	**5.11**	**74**		*e*PN		Pn	19 45 15.0 -3.3
MOA	**Molln**	**5.15**	**104**	⇓	*i*PN		Pn	19 45 16.4 -2.4
MOA					*i* SN		Sn	19 46 12.8 -6.9
MOA	**Molln**	**5.15**	**104**	⇓	*i*Pn		Pn	19 45 16.4 -2.4
	SNR=14							
GRR	**Gorron**	**5.19**	**262**		*e*Pn		Pn	19 45 16.4 -3.0
GRR					*e*Pg		Pg	19 45 34.2 -8.1
GRR					*e*Sn		Sn	19 46 12.1 -8.6
GRR					*e*Sg		Sg	19 46 42.0 -9.4
	78nm,0.7s							
RJF	**Les Rejaudoux**	**5.46**	**224**		*e*Pn		Pn	19 45 19.4 -3.8
RJF					*e*Sn		Sn	19 46 18.4 -9.1
RJF					*e*Sg		Sg	19 46 48.9 -11
	33nm,0.5s							
MFF	**Saint Martin d**	**5.46**	**242**		*e*Sg		Sg	19 46 49.9 -11
	69nm,0.7s							
MFF	**Saint Martin d**	**5.46**	**242**		*e*Pn		Pn	19 45 19.4 -3.8
MFF					*e*Sn		Sn	19 46 17.6 -10
MFF					*e*Sg		Sg	19 46 49.9 -11
SMRF	**Simiane la Rot**	**5.47**	**190**		*e*Pn		Pn	19 45 19.1 -4.3
SMRF					*e*Pg		Pg	19 45 39.6 -8.4
SMRF					*e*Sn		Sn	19 46 18.5 -9.4
SMRF					*e*Sg		Sg	19 46 49.6 -11
	9.8nm,0.5s							
CAF	**Calviac**	**5.52**	**218**		*e*Pn		Pn	19 45 19.5 -4.6
CAF					*e*Pg		Pg	19 45 40.0 -9.0
CAF					*e*Sn		Sn	19 46 19.7 -9.5
CAF					*e*Sg		Sg	19 46 51.7 -11
	43nm,0.5s							
SBF	**Sospel**	**5.53**	**176**		*e*Pn		Pn	19 45 19.7 -4.5
SBF					*e*Sn		Sn	19 46 20.2 -9.1
	43nm,0.7s							
CADS	**Cadrg**	**5.60**	**122**		*e*Pn		Pn	19 45 24.4 -0.8
LASF	**Ste Croix**	**5.69**	**202**		*e*Pn		Pn	19 45 22.0 -4.4
LASF					*e*Pg		Pg	19 45 43.2 -9.1
LASF					*e*Sg		Sg	19 46 55.2 -13
	47nm,0.5s							
FRF	**La Foret Royal**	**5.82**	**182**		*e*Pn		Pn	19 45 24.4 -3.9
FRF					*e*Sn		Sn	19 46 27.1 -10
	19nm,0.8s							
LMR	**La Mourre**	**6.05**	**182**		*e*Sn		Sn	19 46 32.3 -10
	20nm,0.8s							
LFF	**La Frestale**	**6.09**	**226**		*e*Pn		Pn	19 45 26.1 -6.0
LFF					*e*Sn		Sn	19 46 33.7 -10
LFF					*e*Sg		Sg	19 47 08.3 -13
	95nm,0.5s							
ARSA	**Arzberg**	**6.16**	**107**	⇑	*i*PN		Pn	19 45 30.4 -2.7
ARSA					*i* SG		Sg	19 47 16.9 -6.9
	7.3nm,0.6s							
ARSA	**Arzberg**	**6.16**	**107**	⇑	*i*Pn		Pn	19 45 30.4 -2.6
	SNR=8.8							
ARSA	**Arzberg**	**6.16**	**107**	⇑	*i*Pn		Pn	19 45 30.4 -2.7
	7.3nm,0.6s							
ARSA					*i* Sg		Sg	19 47 16.9 -6.9
DPC	**Dobruska-Polom**	**6.20**	**77**		*e*Pn		Pn	19 45 30.8 -2.8
DPC					*e*Sg		Sg	19 47 15.2 -10
DPC	**Dobruska-Polom**	**6.20**	**77**		Pn		Pn	19 45 30.8 -2.8
DPC					Sg		Sg	19 47 15.2 -10
KSP	**Ksiaz**	**6.25**	**73**		*e*Pg		Pg	19 45 55.1 -8.3
KSP					*e*Sg		Sg	19 47 14.8 -12
SGMF	**Saint Gilles**	**6.32**	**263**		*e*Pn		Pn	19 45 31.2 -4.1
SGMF					*e*Sn		Sn	19 46 39.1 -10
SGMF					*e*Sg		Sg	19 47 16.5 -13
	70nm,0.7s							
VRAC	**Vranov**	**6.36**	**87**		*e*Pn		Pn	19 45 32.2 -3.8
VRAC					*e*Sg		Sg	19 47 18.6 -12
PDKS	**Podkum**	**6.42**	**118**		*i* Pn		Pn	19 45 34.1 -2.6
ROSF	**Rostrenen**	**6.77**	**265**		*e*Pn		Pn	19 45 37.2 -4.4
ROSF					*e*Sn		Sn	19 46 49.9 -10
ROSF					*e*Sg		Sg	19 47 28.6 -15
	43nm,0.7s							
QUIF	**Quistinic**	**6.80**	**261**		*e*Pn		Pn	19 45 37.3 -4.8
QUIF					*e*Sn		Sn	19 46 50.7 -10
QUIF					*e*Sg		Sg	19 47 31.0 -14
	78nm,0.9s							
MTLF	**Montolieu**	**6.83**	**210**		*e*Pn		Pn	19 45 37.7 -4.9
MTLF					*e*Pg		Pg	19 46 04.2 -11
MTLF					*e*Sn		Sn	19 46 51.7 -10
MTLF					*e*Sg		Sg	19 47 33.9 -12
	21nm,0.6s							
ZST	**Bratislava**	**6.87**	**96**		*e*PN		Pn	19 45 39.8 -3.3
ZST					*e*			19 47 38.2
MORC	**Moravsky Berou**	**6.96**	**83**		*e*Pn		Pn	19 45 39.3 -5.1
	4.5nm,0.7s							
MORC	**Moravsky Berou**	**6.96**	**83**		*e*Pn		Pn	19 45 40.3 -4.1
EPF	**Esparros**	**7.79**	**218**		*e*Pn		Pn	19 45 50.4 -5.6
EPF					*e*Sn		Sn	19 47 14.2 -12
EPF					*e*Sg		Sg	19 48 03.3 -15
	21nm,0.7s							
VYHS	**Vyhne**	**7.94**	**92**		*e*PN		Pn	19 45 54.2 -3.9
EBIE	**Bielsa**	**8.16**	**217**		Pn		P	19 45 58.8 -2.3
EBIE					Sn		Sn	19 47 30.3 -4.8
EBIE					Lg			19 48 25.5
ETSF	**Etsaut**	**8.27**	**221**		*e*Pn		P	19 45 57.5 -5.2
ETSF					*e*Sn		Sn	19 47 23.7 -14
ETSF					*e*Sg		Sg	19 48 17.6 -17
	20nm,0.7s							
SJPF	**Ste Jean**	**8.40**	**225**		*e*Pn		P	19 45 58.8 -5.7
SJPF					*e*Sn		Sn	19 47 27.7 -13
SJPF					*e*Sg		Sg	19 48 20.7 -18
	23nm,0.8s							
EGRA	**Graus**	**8.51**	**215**		Pn		P	19 46 03.5 -2.5
EGRA					Sn		Sn	19 47 37.6 -6.2
KECS	**Kecovo**	**9.02**	**91**		*e*PN		P	19 46 08.5 -4.6
ESAC	**San Caprasio**	**9.21**	**217**		Pn		P	19 46 13.1 -2.7
STHS	**Stebnicka Huta**	**9.38**	**84**		*e*PN		P	19 46 11.1 -7.1
ELAN	**Lanestosa**	**9.40**	**233**		Pn		P	19 46 15.9 -4.5
ELAN					Sn		Sn	19 47 55.1 -11
EARI	**Arriondas**	**10.31**	**238**		Pn		P	19 46 25.2 -5.7
	1.6nm,0.3s							
EARI					Sn		S	19 48 13.5 -15
EMOS	**Mosqueruela**	**10.40**	**213**		Pn		P	19 46 29.8 -2.2
	0.2nm,0.2s							
EPON	**Pontenova**	**11.41**	**243**		Pn		P	19 46 39.9 -5.9
	1.5nm,0.3s							
EPON					Sn		S	19 48 42.7 -12
ECAL	**Calabor**	**12.06**	**237**		Pn		P	19 46 53.8 -0.9
	1.4nm,0.3s							

MOS ***22*** *19:45:11.1±2.1, 47.62N× 154.92E, h33km, mb4.0/2, Error ellipse: s-maj=37.2km s-min=25.7km az=156.0*

IDC ***22*** *19:45:41.2±3.9, 47.48N× 151.89E, h242km±39km, mb3.2/6, mb1 3.5/7, mb1mx3.2/20, mbtmp3.8/7, Error ellipse: s-maj=28.6km s-min=25.3km az=57.0*

ISC 22 19:45:14.9±5.3, 47.5N±0.2× 154.6E±0.5, h60km±35km, n18, σ0§86/17, mb4.3/7, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
KUR	**Kuril'sk**	**5.19**	**247**	*e*PN		**P**	**19 46 30.4**	**-1.5**
KUR				*e*S		**S**	**19 47 43.6**	**+12**
KUR				smax				
	comp=N,140nm,0.9s							
KUR				smax				
	comp=E,60nm,0.9s							
YSS	**Yuzh-Sakhalins**	**8.10**	**271**	⇑ *i*PN		**P**	**19 47 14.0**	**+1.8**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
ASAJ	**Asahikawa**	**9.05**	**253**	P		**P**	**19 47 25.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=115,slow=5.3,SNR=7.0							
ASAJ	**Asahikawa**	**9.05**	**253**	PN		**P**	**19 47 25.4**	**+0.1**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**51.19**	**310**	P		**P**	**19 54 09.8**	**-3.9**
	comp=Z,0.4nm,0.3s,mb3.8,baz=54,slow=7.2,SNR=4.7							
KKN	**Kakani**	**56.44**	**276**	*e*P		**P**	**19 54 52.7**	**+0.1**
	comp=Z,3.0nm,0.2s,mb4.9							
PKI	**Pulchoki**	**56.50**	**276**	*e*P		**P**	**19 54 52.1**	**-0.9**
DMN	**Daman**	**56.68**	**276**	*e*P		**P**	**19 54 54.2**	**-0.1**
	comp=Z,13nm,0.8s,mb5.0							
GKN	**Gorkha**	**56.74**	**276**	*e*P		**P**	**19 54 54.6**	**-0.2**
	comp=Z,5.1nm,0.4s,mb4.9							
KOLN	**Koldanda**	**57.59**	**277**	*e*P		**P**	**19 55 01.2**	**+0.4**
PDAR	**Pinedale Array**	**63.48**	**55**	P		pP	19 55 55.9	-1.1
	comp=Z,0.6nm,0.8s,baz=270,slow=1.5,SNR=4.3							
FINES	**FINESS Array B**	**63.81**	**335**	P		**P**	**19 55 41.8**	**-0.5**
	comp=Z,1.4nm,0.9s,mb4.0,baz=36,slow=7.6,SNR=9.1							
FINES	**FINESS Array B**	**63.81**	**335**	*e*P		**P**	**19 55 42.9**	**+0.6**
WRA	**Warramunga Arr**	**69.56**	**200**	P		**P**	**19 56 20.2**	**+0.9**
	comp=Z,0.7nm,1.1s,mb3.5,baz=15,slow=6.6,SNR=4.6							
WRA	**Warramunga Arr**	**69.56**	**200**	P		**P**	**19 56 20.2**	**+0.9**
WRA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
TXAR	**Lajitas Array**	**76.23**	**62**	P		pP	19 57 12.2	-3.1
	comp=Z,0.6nm,0.2s,baz=297,slow=5.6,SNR=4.6							
GERES	**GERESS Array B**	**78.24**	**335**	P		**P**	**19 57 08.9**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=27,slow=6.0,SNR=7.7							
GERES	**GERESS Array B**	**78.24**	**335**	P		**P**	**19 57 08.9**	**-0.2**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							

BJI ***22*** *19:51:50.2, 11.93N× 39.97E, h35km, mB5.2, mb4.7, Ms4.8, Msz4.5*

MOS ***22*** *19:51:50.9±1.0, 12.45N× 40.40E, h10km, mb4.9/55, MS4.2/13, Error ellipse: s-maj=10.8km s-min=3.9km az=113.3*

CRAAG ***22*** *19:51:51.6, 11.99N× 40.49E, Mb4.8*

CSEM ***22*** *19:51:51.1±0.1, 12.44N× 40.47E, h8km, mb4.8/58, Ms4.3, Mw5.1, Error ellipse: s-maj=4.7km s-min=1.9km az=9.0*

IDC ***22*** *19:51:51.2±0.7, 12.38N× 40.52E, mb4.2/17, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, ML3.2/1, MS4.4/13, Ms1 4.4/13, ms1mx4.2/20, Error ellipse: s-maj=24.1km s-min=14.7km az=93.0*

STR ***22*** *19:51:52.4±0.0, 14.07N× 42.80E, Mb4.9, Ms4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

DHMR ***22*** *19:51:52.1±2.2, 12.66N× 40.59E, h2km±9km, ML4.8*

NEIC ***22*** *19:51:52.5±0.3, 12.40N× 40.44E, h10km, mb4.8/92, MS4.3/7, Error ellipse: s-maj=8.1km s-min=5.3km az=200.0*

HRVD ***22*** *19:51:52.6±0.4, 12.81N× 40.41E, h12km, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s21,c23;Mantle waves: s50,c84; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=-3.36±.19; Mθθ 1.25±.19; Mφφ 2.11±.18; Mrθ 1.74±.68; Mrφ=-2.13±.15; Mθφ 2.84±.56; Best double couple: M0 4.778×10^16 NP1:ϕs 296°, δ 42°, λ=-138°. NP2:ϕs 173°, δ 63°, λ=-56°. Principal axes: T 4.081, Plg 12°, Azm 239°; N 1.394, Plg 30°, Azm 336°; P -5.475, Plg 57°, Azm 130°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 19:51:49.9±1.2, 12.42N±0.04× 40.45E±0.02, h3km±7km, n319, σ1§10/326, mb4.7/108, MS4.4/25, 16C-11D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
ATD	**Arta Tunnel**	**2.50**	**111**	P		**Pn**	**19 52 32.4**	**+0.3**
ATD				S		**Sn**	**19 53 10.9**	**+7.3**
ATD	**Arta Tunnel**	**2.50**	**111**	P		**Pn**	**19 52 32.4**	**+0.2**
UDYN	**Al 'Udayn**	**3.75**	**65**	⇓ *e*P		**Pn**	**19 52 50.4**	**+0.5**
UDYN				*i* S		**Sn**	**19 53 37.0**	**+1.8**
UDYN				AML	AML		19 54 00.7	
	comp=E,4μm,0.7s							
DHBB	**Dhamar BB**	**4.38**	**60**	*e*P		**Pn**	**19 52 59.3**	**+0.4**
DHBB				*i* S		**Sn**	**19 53 51.8**	**+0.6**
ADEN	**Aden**	**4.43**	**85**	*e*P		**Pn**	**19 53 00.7**	**+1.1**
ADEN				*i* S		**Sn**	**19 53 53.9**	**+1.3**
HAJJ	**Hajjah**	**4.46**	**43**	*e*P		**Pn**	**19 52 59.4**	**-0.7**
HAJJ				*i* S		**Sn**	**19 53 52.7**	**-0.5**
HAJJ	**Hajjah**	**4.46**	**43**	*e*P		**Pn**	**19 52 59.3**	**-0.8**
HAJJ				*i* S		**Sn**	**19 53 52.7**	**-0.5**
SANA	**San'a**	**4.69**	**51**	*i* S		**Sn**	**19 53 57.8**	**-1.0**
LBOS		**4.89**	**72**	⇓ *i*P		**Pn**	**19 53 04.3**	**-1.8**
LBOS				*i* S		**Sn**	**19 54 00.3**	**-3.7**
BDHA	**Al Bayda'**	**5.21**	**72**	⇑ *i*P		**Pn**	**19 53 09.1**	**-1.6**
BLJS	**Baljurashi**	**7.50**	**8**	P		**Pn**	**19 53 42.7**	**-0.1**
LTHS	**Al Lith**	**7.81**	**360**	P		**Pn**	**19 53 45.2**	**-2.0**
MUKL	**Al Mukalla**	**8.59**	**75**	*i* S		**Sn**	**19 55 31.6**	**-5.1**
KAMS	**Al Khamasin**	**8.78**	**26**	P		**P**	**19 54 05.2**	**+4.5**
AFFS	**'Afif**	**11.69**	**12**	P		**P**	**19 54 41.6**	**+0.8**
MZLS	**Mizel**	**12.39**	**21**	P		**P**	**19 54 51.9**	**+1.7**
KBRS	**Khaybar**	**13.34**	**355**	P		**P**	**19 55 03.4**	**+0.5**
KMBO	**Kilima Mbogo**	**13.83**	**194**	Pn		**P**	**19 55 15.0**	**+5.5**
	comp=E,0.0nm,0.3s,baz=44,slow=21,SNR=7.7							
KMBO				Lg			19 59 12.1	
	comp=E,0.1nm,0.3s,baz=78,slow=20,SNR=3.9							
KMBO				LR		LR	20 00 29.3	
	comp=E,2μm,21.6s,baz=94,slow=38							
HILS	**Ha'il**	**14.94**	**5**	P		**P**	**19 55 31.6**	**+7.8**
HASS	**Wahat al Ahsa'**	**15.41**	**33**	P		**P**	**19 55 37.2**	**+7.1**
TBKS	**Tabuk**	**16.14**	**348**	P		**P**	**19 55 45.2**	**+5.8**
AYUS	**'Ayunuah**	**16.42**	**344**	P		**P**	**19 55 47.7**	**+4.7**
BDAS	**Al Bad'**	**16.69**	**343**	P		**P**	**19 55 51.0**	**+4.4**
TAYS	**Tayyib Ism**	**16.87**	**343**	P		**P**	**19 55 53.0**	**+4.2**
HAQS	**Haql**	**17.33**	**344**	P		**P**	**19 55 59.3**	**+4.7**
JMOS	**Jabal al Moall**	**17.39**	**344**	P		**P**	**19 56 00.1**	**+4.9**
ALWS	**Ilw as Safayha**	**17.54**	**344**	P		**P**	**19 56 02.3**	**+5.2**
ARQ	**Araqi**	**18.73**	**52**	⇑ P		**P**	**19 56 12.8**	**+0.8**
	SNR=7.9							
BSY	**Bisya**	**18.96**	**55**	⇓ P		**P**	**19 56 14.5**	**-0.2**
	SNR=24							
BSYO	**Bisya**	**18.98**	**55**	P		**P**	**19 56 14.5**	**-0.5**
	SNR=24							
ASHO	**Ashiyiah**	**19.15**	**48**	⇑ P		**P**	**19 56 17.1**	**+0.1**
	SNR=24							
HOQ	**Hoqain**	**19.48**	**53**	⇑ P		**P**	**19 56 20.0**	**-0.8**
JMDO	**Jabal Madar**	**19.51**	**57**	⇓ P		**P**	**19 56 20.5**	**-0.8**
SMDO	**Samad**	**19.80**	**55**	⇓ P		**P**	**19 56 23.5**	**-0.9**
	SNR=7.3							
ASF	**Jabal al Asfar**	**19.93**	**351**	P		**P**	**19 56 26.3**	**+0.5**
	comp=E,0.1nm,0.3s,baz=43,slow=5.9,SNR=12							
ASF				LR		LR	20 02 51.9	
	comp=E,241nm,19.8s,baz=240,slow=33							
BANOM	**Banah**	**20.08**	**46**	⇑ P		**P**	**19 56 27.5**	**0.0**
BIDO	**Bisbid**	**20.09**	**54**	⇓ P		**P**	**19 56 26.8**	**-0.7**
	SNR=7.1							
WBK	**Wadi Bani Khal**	**20.34**	**58**	⇓ P		**P**	**19 56 29.5**	**-0.7**
	SNR=7.6							
BHD	**Baghdad**	**21.06**	**9**	*ex*		x	19 56 34.0	
BHD				*ex*		x	20 00 33.0	
BHL	**Bhannes**	**21.83**	**349**	*e*P		**P**	**19 56 46.7**	**+1.4**
CSS	**Prodhromos**	**23.35**	**345**	P		**P**	**19 57 02.5**	**+2.1**
	comp=E,46nm,1.5s,mb4.7							
CSS	**Prodhromos**	**23.35**	**345**	P		**P**	**19 57 02.5**	**+2.0**
	comp=E,46nm,1.5s,mb4.7							
MSL	**Mosul**	**23.88**	**5**	*ex*		x	19 57 25.0	
MSL				*ex*		x	20 01 44.5	
MALT	**Malatya**	**25.85**	**356**	*e*P		**P**	**19 57 26.1**	**+1.7**
	comp=E,80nm,1.8s,mb5.0							
MALT	**Malatya**	**25.85**	**356**	*e*P		**P**	**19 57 26.1**	**+1.7**
	comp=E,80nm,1.8s,mb5.0							
MALT	**Malatya**	**25.85**	**356**	*e*P		**P**	**19 57 26.1**	**+1.7**
MALT				pmax	pmax			
	comp=Z,80nm,1.8s,mb5.0							
BR131	**Keskin Array S**	**27.85**	**349**	*e*P		**P**	**19 57 43.9**	**+1.2**
	comp=Z,11nm,1.1s,mb4.4							
BR131	**Keskin Array S**	**27.85**	**349**	*e*P		**P**	**19 57 43.9**	**+1.1**
	comp=Z,11nm,1.1s,mb4.4							
BRTR	**Keskin Array B**	**27.85**	**349**	P		**P**	**19 57 43.7**	**+0.9**
	comp=Z,6.0nm,1.0s,mb4.2,baz=180,slow=11,SNR=19							
BRTR				PcP	PcP		20 00 57.4	-1.7
	comp=Z,1.2nm,0.8s,baz=161,slow=5.8,SNR=4.0							
BRTR	**Keskin Array B**	**27.85**	**349**	PcP	PcP		20 00 57.3	-1.8
BRTR	**Keskin Array B**	**27.85**	**349**	P	P		**19 57 43.7**	**+0.9**
BRTR							20 00 57.4	
BRTR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GNI	**Garni**	**27.88**	**7**	P		**P**	**19 57 45.0**	**+2.1**
	comp=Z,1.9nm,0.5s,mb4.0,baz=336,slow=11,SNR=3.6							
GNI				LR	LR		20 09 04.2	
	comp=Z,623nm,18.1s,MS4.2,baz=16,slow=37							
GNI	**Garni**	**27.88**	**7**	P		**P**	**19 57 45.0**	**+2.1**
GNI				pmax	pmax			
	comp=Z,2.0nm,0.5s							
GNI				MLR	MLR			
	comp=Z,623nm,18.1s							
TBLG	**Delisi**	**29.44**	**7**	*e*P		**P**	**19 57 58.4**	**+1.4**
TI2	**Plekhanov**	**29.44**	**7**	*e*P		**P**	**19 57 58.4**	**+1.4**
LSZ	**Lusaka**	**30.08**	**204**	LR	LR		20 11 14.6	
	comp=Z,827nm,19.4s,MS4.4,baz=36,slow=39							
ZEI	**Tsey**	**30.38**	**5**	*e*P		**P**	**19 58 03.9**	**-1.5**
ZEI				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.6							
SOC	**Sochi**	**31.05**	**359**	⇑ *i*P		**P**	**19 58 10.1**	**-1.2**
	comp=Z,10.0nm,0.9s,mb4.7							
SOC				*e*			19 59 08.9	
SOC				*e*S		**S**	**20 03 13.0**	**-3.0**
SOC				*e*SSS		SSS	20 05 21.6	-0.2
SOC				LR	LR			
	comp=Z,480nm,14.0s,MS4.3							
SOC	**Sochi**	**31.05**	**359**	⇑ *i*P		**P**	**19 58 10.1**	**-1.2**
SOC	**Sochi**	**31.05**	**359**	*c i*P		**P**	**19 58 10.1**	**-1.2**
SOC				*e*			19 59 08.9	
SOC				*e*S		**S**	**20 03 13.0**	**-3.0**
SOC				*e*SSS		SSS	20 05 21.6	-0.2
SOC				pmax	pmax			
	comp=N,8.0nm,0.9s							
SOC				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.7							
SOC				pmax	pmax			
	comp=E,5.0nm,0.6s							
SOC				MLR	MLR			
	comp=N,535nm,14.0s,MS4.4							
SOC				MLR	MLR			
	comp=E,251nm,14.0s,MS4.4							
SOC				MLR	MLR			
	comp=Z,475nm,14.0s,MS4.3							
KIV	**Kislovodsk**	**31.48**	**3**	*e*P		**P**	**19 58 15.6**	**+0.5**
	comp=Z,15nm,1.1s,mb4.7							
KIV				*e*S		**S**	**20 03 24.7**	**+2.1**
KIV				LR	LR			
	comp=Z,640nm,16.0s,MS4.4							
KIV	**Kislovodsk**	**31.48**	**3**	*e*P		**P**	**19 58 15.6**	**+0.5**
KIV				*e*S		**S**	**20 03 24.7**	**+2.1**
KIV				pmax	pmax			
	comp=N,11nm,1.1s							
KIV				pmax	pmax			
	comp=E,5.0nm,1.1s							
KIV				pmax	pmax			
	comp=Z,15nm,1.1s,mb4.7							
KIV				MLR	MLR			
	comp=N,521nm,16.0s,MS4.4							
KIV				MLR	MLR			
	comp=E,455nm,16.0s,MS4.4							
KIV				MLR	MLR			
	comp=Z,643nm,16.0s,MS4.4							
OPO	**Ambohidratompo**	**31.50**	**168**	P		**P**	**19 58 13.8**	**-1.7**
	comp=Z,1.5nm,0.8s,mb3.9,baz=292,slow=23,SNR=3.8							
ANN	**Anapa**	**32.37**	**356**	*e*P		**P**	**19 58 23.9**	**+1.1**
	comp=Z,88nm,1.7s,mb5.3							
ANN				LR	LR			
	comp=Z,610nm,21.0s,MS4.3							
ANN	**Anapa**	**32.37**	**356**	*e*P		**P**	**19 58 23.9**	**+1.1**
ANN				pmax	pmax			
	comp=Z,88nm,1.7s,mb5.3							
ANN				MLR	MLR			
	comp=N,953nm,21.0s,MS4.5							
ANN				MLR	MLR			
	comp=E,616nm,21.0s,MS4.5							
ANN				MLR	MLR			
	comp=Z,608nm,21.0s,MS4.3							
SIM	**Simferopol'**	**32.87**	**352**	*e*P		**P**	**19 58 27.9**	**+0.8**
	comp=Z,17nm,1.1s,mb4.9							
SIM				LR

AAK **Ala-Archa** 42.13 38 eP P 19 59 44.1 -1.0
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
TREC **Trest** 42.15 336 eP P 19 59 45.5 +0.3
SBF **Sospel** 42.26 324 eP P 19 59 45.2 -1.0
LMR **La Mourre** 42.48 323 eP P 19 59 47.0 -1.0
comp=Z,28nm,1.6s,mb4.3
LMR **La Mourre** 42.48 323 eP P 19 59 47.0 -1.0
LMR pmax pmax
comp=Z,14nm,1.6s,mb4.3
FRF **La Foret Royal** 42.54 323 eP P 19 59 47.6 -0.9
comp=Z,25nm,1.4s,mb4.5
FRF **La Foret Royal** 42.54 323 eP P 19 59 47.6 -0.9
FRF pmax pmax
comp=Z,13nm,1.4s,mb4.5
GERES **GERESS Array B** 42.55 334 P P 19 59 48.7 +0.3
comp=Z,3.6nm,0.9s,mb4.1,baz=143,slow=6.7,SNR=22
GERES **GERESS Array B** 42.55 334 P P 19 59 48.7 +0.2
GERES pmax pmax
comp=Z,4.0nm,0.9s
DPC **Dobruska-Polom** 42.67 337 eP P 19 59 49.1 -0.4
OBN **Obninsk** 42.70 357⇓iP P 19 59 49.7 +0.1
comp=Z,38nm,1.6s,mb4.9
OBN LR LR
comp=Z,200nm,16.0s,MS4.1
OBN **Obninsk** 42.70 357⇓iP P 19 59 49.7 +0.1
comp=Z,38nm,1.6s,mb4.9
OBN **Obninsk** 42.70 357⇓iP P 19 59 49.7 +0.1
OBN pmax pmax
comp=Z,38nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.1
OBN MLR MLR
comp=Z,100nm,17.0s
KHC **Kasperske Hory** 42.82 334 eP P 19 59 50.5 -0.2
ETOS **Mallorca** 42.91 316 P P 19 59 53.2 +1.6
comp=Z,14nm,0.9s,mb4.7
ETOS **Mallorca** 42.91 316 P P 19 59 53.2 +1.6
comp=Z,14nm,0.9s,mb4.7
UPC **Upice** 42.91 337 eP P 19 59 51.1 -0.4
KOLN **Koldanda** 43.06 63 eP P 19 59 53.7 +0.7
comp=Z,75nm,1.3s,mb5.3
PRU **Pruhonice** 43.08 336 eP P 19 59 52.2 -0.6
KSP **Ksiaz** 43.08 338 eP P 19 59 54.2 +1.4
MBDF **Montbardon** 43.17 325 eP P 19 59 53.8 +0.2
comp=Z,124nm,1.7s,mb5.1
MBDF **Montbardon** 43.17 325 eP P 19 59 53.8 +0.2
MBDF pmax pmax
comp=Z,62nm,1.7s,mb5.1
DAVA **Damuels** 43.18 330⇓iP P 19 59 54.2 +0.5
comp=Z,11nm,1.1s,mb4.5
MOS **Moscow** 43.27 358 eP P 19 59 52.1 -2.2
comp=Z,88nm,1.6s,mb5.2
MOS **Moscow** 43.27 358 eP P 19 59 52.1 -2.2
MOS pmax pmax
comp=Z,88nm,1.6s,mb5.2
SMRF **Simiane la Rot** 43.41 323 eP P 19 59 55.4 -0.2
comp=Z,57nm,1.7s,mb4.7
BNI **Bardonecchia** 43.42 325 P P 19 59 54.2 -1.5
comp=Z,15nm,1.4s,mb4.5
BNI **Bardonecchia** 43.42 325 P P 19 59 54.2 -1.4
comp=Z,15nm,1.4s,mb4.5
BNI **Bardonecchia** 43.42 325 P P 19 59 54.2 -1.4
BNI pmax pmax
comp=Z,15nm,1.4s,mb4.5
PVCC **Panska Ves** 43.49 336 eP P 19 59 55.2 -0.9
LPG **La Plagne** 43.65 326 eP P 19 59 56.0 -1.5
comp=Z,47nm,1.6s,mb4.7
LPG **La Plagne** 43.65 326 eP P 19 59 56.0 -1.5
LPG pmax pmax
comp=Z,24nm,1.6s,mb4.7
LPL **La Plagne** 43.67 326 eP P 19 59 55.5 -2.2
comp=Z,73nm,1.8s,mb4.8
LPL **La Plagne** 43.67 326 eP P 19 59 55.5 -2.2
LPL pmax pmax
comp=Z,37nm,1.8s,mb4.8
SUW **Suwalki** 43.69 345 eP P 19 59 57.8 +0.1
ORIF **Oris-en-Rattie** 43.79 324 eP P 19 59 57.9 -0.7
comp=Z,90nm,1.9s,mb4.9
ORIF **Oris-en-Rattie** 43.79 324 eP P 19 59 57.9 -0.7
ORIF pmax pmax
comp=Z,45nm,1.9s,mb4.9
GKN **Gorkha** 44.01 63 eP P 20 00 00.6 0.0
comp=Z,68nm,1.3s,mb5.2
BRG **Berggiesshubel** 44.01 336 iP P 20 00 00.4 0.0
comp=Z,36nm,2.1s,mb4.7
BRG **Berggiesshubel** 44.01 336 iP P 20 00 00.4 +0.1
comp=Z,36nm,2.1s,mb4.7
BRG **Berggiesshubel** 44.01 336 iP P 20 00 00.4 +0.1
BRG pmax pmax
comp=Z,36nm,2.1s,mb4.7
EJON **La Jonquera** 44.20 320 P P 20 00 01.8 -0.2
comp=Z,14nm,0.7s,mb4.8
GRA1 **Grafenberg Arr** 44.26 333 eP P 20 00 02.0 -0.4
comp=Z,8.0nm,1.0s,mb4.4
GRA1 LR LR
comp=Z,200nm,19.7s,MS4.0
GRF **Grafenberg Arr** 44.26 333 eP P 20 00 02.0 -0.4
comp=Z,8.0nm,1.0s,mb4.4
GRF LR LR
comp=Z,200nm,19.7s,MS4.0
GRF **Grafenberg Arr** 44.26 333 eP P 20 00 02.0 -0.4
comp=Z,8.0nm,1.0s,mb4.4
GRF **Grafenberg Arr** 44.26 333 eP P 20 00 02.0 -0.4
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GRF MLR MLR
comp=Z,200nm,19.7s,MS4.0
GRF **Grafenberg Arr** 44.26 333 eP P 20 00 02.0 -0.4
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GRF MLR MLR
comp=Z,200nm,19.7s,MS4.0
DMN **Daman** 44.34 63 eP P 20 00 03.7 +0.4
comp=Z,48nm,1.2s,mb5.1
VIVF **Saint-Julien-l** 44.45 324 eP P 20 00 03.0 -1.0
comp=Z,49nm,1.6s,mb4.7
VIVF **Saint-Julien-l** 44.45 324 eP P 20 00 03.0 -1.0
VIVF pmax pmax
comp=Z,24nm,1.6s,mb4.7
LASF **Ste Croix** 44.48 322 eP P 20 00 03.7 -0.6
comp=Z,72nm,1.7s,mb4.8
BBS **Basel-Blauen** 44.50 328 eP P 20 00 03.7 -0.7
FELD **Feldberg** 44.52 329 eP P 20 00 04.8 +0.3
KKN **Kakani** 44.52 63 eP P 20 00 05.2 +0.4
PKI **Pulchoki** 44.59 63 eP P 20 00 05.7 +0.3
CART **Cartagena** 44.65 312 P P 20 00 03.5 -2.2
comp=Z,11nm,0.8s,mb4.7
CART **Cartagena** 44.65 312 P P 20 00 03.5 -2.2
comp=Z,11nm,0.8s,mb4.7
CABF **La Chapelle** 44.71 326 eP P 20 00 04.5 -1.5
comp=Z,16nm,1.0s,mb4.5
CABF **La Chapelle** 44.71 326 eP P 20 00 04.5 -1.5
CABF pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
CLL **Collm** 44.72 336⇑P P 20 00 05.7 -0.4
comp=Z,logA/T=1.1,mb4.7
CLL **Collm** 44.72 336⇑iP P 20 00 05.7 -0.4
CLL pmax pmax
comp=Z,18nm,1.5s,mb4.7
LOMF **Lomont** 44.78 328 eP P 20 00 07.2 +0.6
MOX **Moxa** 44.79 334 iP P 20 00 06.6 -0.1
comp=Z,logA/T=1.0,mb4.6
MOX **Moxa** 44.79 334 eP P 20 00 06.6 -0.1
comp=Z,16nm,1.6s,mb4.6
MOX **Moxa** 44.79 334 eP P 20 00 06.6 -0.1
MOX pmax pmax
comp=Z,16nm,1.6s,mb4.6
EMIR **Miracle** 44.81 318 P P 20 00 08.4 +1.5
comp=Z,14nm,0.9s,mb4.8
EPOB **Poblet** 44.83 317 P P 20 00 07.8 +0.6
comp=Z,25nm,1.2s,mb4.9
EPOB **Poblet** 44.83 317 P P 20 00 07.8 +0.7
comp=Z,25nm,1.2s,mb4.9
EMUR **La Murta** 44.92 312 P P 20 00 08.9 +1.0
comp=Z,17nm,0.7s,mb5.0
DBIC **Dimbokro** 45.00 267 P P 20 00 09.5 +0.6
comp=Z,5.9nm,0.8s,mb4.5,baz=75,slow=5.7,SNR=9.5
DBIC LR LR 20 18 18.7
comp=Z,311nm,18.6s,MS4.3,baz=66,slow=35
DBIC **Dimbokro** 45.00 267 eP P 20 00 09.8 +1.0
comp=Z,11nm,1.0s,mb4.6
DBIC **Dimbokro** 45.00 267 eP P 20 00 09.8 +0.9
comp=Z,11nm,1.0s,mb4.6
DBIC **Dimbokro** 45.00 267 P P 20 00 09.5 +0.6
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC MLR MLR
comp=Z,311nm,18.7s
HINF **Hinteralfeld** 45.07 328 eP P 20 00 07.6 -1.3
MTLF **Montolieu** 45.09 320 eP P 20 00 08.6 -0.6
ERTA **Horta de San J** 45.14 316 P P 20 00 10.0 +0.4
comp=Z,24nm,1.3s,mb4.9
ERTA **Horta de San J** 45.14 316 P P 20 00 10.0 +0.4
comp=Z,24nm,1.3s,mb4.9
ECH **Echery** 45.17 329 eP P 20 00 09.8 +0.1
CDF **Champ du Feu** 45.24 329 eP P 20 00 09.0 -1.3
comp=Z,12nm,1.1s,mb4.3
CDF **Champ du Feu** 45.24 329 eP P 20 00 09.0 -1.3
CDF pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
LIC **Lamto** 45.25 266 eP P 20 00 12.0 +1.1
comp=Z,28nm,1.1s,mb4.7
TOD **Tromm** 45.30 331 eP P 20 00 09.8 -1.0
HAU **Haudompre** 45.45 328 eP P 20 00 10.6 -1.3
LBL **Lubilhac** 45.49 323 eP P 20 00 12.9 +0.6
PLDF **La Plantade** 45.69 324 eP P 20 00 14.2 +0.3
MELF **Melles** 45.77 319 eP P 20 00 17.2 +2.6
THEF **They Montfort** 45.77 328 eP P 20 00 14.6 +0.1
EHUE **Huescar** 45.90 311 P P 20 00 16.5 +0.8
comp=Z,7.8nm,1.2s,mb4.5
EHUE **Huescar** 45.90 311 P P 20 00 16.5 +0.8
comp=Z,7.8nm,1.2s,mb4.5
EHUE **Huescar** 45.90 311 P P 20 00 16.5 +0.8
EHUE pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
PYM **Petit Puy Mans** 45.92 324 eP P 20 00 16.4 +0.7
SMF **Signal de Mont** 45.96 325 eP P 20 00 14.6 -1.4
comp=Z,4.6nm,0.8s,mb4.2
SMF **Signal de Mont** 45.96 325 eP P 20 00 14.6 -1.4
SMF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
RESF **Ens** 46.01 319 eP P 20 00 18.0 +1.5
AGO **Saint Agoulin** 46.02 324 eP P 20 00 17.1 +0.6
CAF **Calviac** 46.02 322 eP P 20 00 16.5 0.0
ESAC **San Caprasio** 46.03 317 P P 20 00 17.6 +1.0
comp=Z,38nm,1.1s,mb5.2
ESAC **San Caprasio** 46.03 317 P P 20 00 17.6 +1.0
comp=Z,38nm,1.1s,mb5.2
EBIE **Bielsa** 46.08 319 P P 20 00 18.2 +1.2
comp=Z,28nm,1.1s,mb5.1
EBIE **Bielsa** 46.08 319 P P 20 00 18.2 +1.2
comp=Z,28nm,1.1s,mb5.1
ARU **Arti** 46.09 14⇑iP P 20 00 17.6 +0.7
comp=Z,26nm,1.7s,mb4.9
ARU LR LR
comp=Z,400nm,19.0s,MS4.4
ARU **Arti** 46.09 14⇑iP P 20 00 17.6 +0.7
ARU pmax pmax
comp=Z,26nm,1.7s,mb4.9
ARU MLR MLR
comp=Z,400nm,19.0s,MS4.4
EPF **Esparros** 46.12 319 eP P 20 00 16.8 -0.5
comp=Z,33nm,1.6s,mb4.7
EPF **Esparros** 46.12 319 eP P 20 00 16.8 -0.5
EPF pmax pmax
comp=Z,16nm,1.6s,mb4.7
EVIA **Vianos** 46.15 312 P P 20 00 18.6 +1.0
comp=Z,5.6nm,0.8s,mb4.5
EVIA **Vianos** 46.15 312 P P 20 00 18.6 +1.0
comp=Z,5.6nm,0.8s,mb4.5
EVIA **Vianos** 46.15 312 P P 20 00 18.6 +1.0
EVIA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
EQES **Quesada** 46.25 311 P P 20 00 18.6 +0.2
comp=Z,17nm,1.0s,mb4.9
EQES **Quesada** 46.25 311 P P 20 00 18.6 +0.2
comp=Z,17nm,1.0s,mb4.9
LABF **Labassere** 46.30 319 eP P 20 00 19.7 +1.0
LOR **Lormes** 46.32 326 eP P 20 00 17.5 -1.3
comp=Z,74nm,1.8s,mb5.0
LOR **Lormes** 46.32 326 eP P 20 00 17.5 -1.3
LOR pmax pmax
comp=Z,37nm,1.8s,mb5.0
AVF **Avril sur Loir** 46.32 325 eP P 20 00 17.3 -1.5
comp=Z,6.6nm,1.0s,mb4.2
AVF **Avril sur Loir** 46.32 325 eP P 20 00 17.3 -1.5
AVF pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
SSF **Saint Saulge** 46.39 325 eP P 20 00 17.8 -1.6
MEZF **Maizieres J'vi** 46.43 328 eP P 20 00 18.9 -0.8
BGF **Bois d'Agland** 46.47 324 eP P 20 00 19.2 -0.8
comp=Z,36nm,1.4s,mb4.8
BGF **Bois d'Agland** 46.47 324 eP P 20 00 19.2 -0.8
BGF pmax pmax
comp=Z,18nm,1.4s,mb4.8
ERON **Agron** 46.52 310 P P 20 00 22.1 +1.5
comp=Z,7.4nm,0.8s,mb4.7
ERON **Agron** 46.52 310 P P 20 00 22.1 +1.5
comp=Z,7.4nm,0.8s,mb4.7
RJF **Les Rejaudoux** 46.55 322 eP P 20 00 20.2 -0.5
REYF **Montagne du Re** 46.61 319 eP P 20 00 22.6 +1.4
WLF **Walferdange** 46.62 330 P P 20 00 21.0 -0.2
comp=Z,14nm,1.1s,mb4.8
WLF **Walferdange** 46.62 330 P P 20 00 21.0 -0.2
comp=Z,14nm,1.1s,mb4.8
WLF **Walferdange** 46.62 330 P P 20 00 21.0 -0.2
WLF pmax pmax
comp=Z,14nm,1.1s,mb4.8
ETSF **Etsaut** 46.64 318 eP P 20 00 21.7 +0.3
comp=Z,48nm,1.3s,mb5.0
ETSF **Etsaut** 46.64 318 eP P 20 00 21.7 +0.3
ETSF pmax pmax
comp=Z,24nm,1.3s,mb5.0
TCF **Toulx Ste Croi** 46.68 324 eP P 20 00 21.1 -0.6
comp=Z,18nm,1.3s,mb4.5
TCF **Toulx Ste Croi** 46.68 324 eP P 20 00 21.1 -0.6
TCF pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
ELOJ **Sierra Loja** 46.82 310 P P 20 00 24.8 +1.8
comp=Z,9.2nm,0.8s,mb4.8
ELOJ **Sierra Loja** 46.82 310 P P 20 00 24.8 +1.8
comp=Z,9.2nm,0.8s,mb4.8
ELOJ **Sierra Loja** 46.82 310 P P 20 00 24.8 +1.8
ELOJ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LFF **La Frestale** 46.83 322 eP P 20 00 22.7 -0.2
BRVK **Borovoye** 47.00 24 eP P 20 00 19.5 -4.7
comp=Z,2.0nm,0.9s,mb4.0
BRVK **Borovoye** 47.00 24 eP P 20 00 19.5 -4.7
BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR **Borovoye Array** 47.02 24 P P 20 00 24.8 +0.5
comp=Z,3.1nm,0.8s,mb4.3,baz=211,slow=8.6,SNR=14
BVAR **Borovoye Array** 47.02 24 P P 20 00 24.8 +0.5
BVAR pmax pmax
comp=Z,3.0nm,0.8s
EMIJ **Mijas** 47.10 309 P P 20 00 25.4 +0.2
comp=Z,13nm,0.8s,mb4.9
SJPF **Ste Jean** 47.17 318 eP P 20 00 25.9 +0.3
comp=Z,45nm,1.2s,mb5.0
SJPF **Ste Jean** 47.17 318 eP P 20 00 25.9 +0.3
SJPF pmax pmax
comp=Z,23nm,1.2s,mb5.0
EALK **Alkurruntz** 47.40 318 P P 20 00 26.6 -0.8
comp=Z,22nm,0.9s,mb5.1
EALK **Alkurruntz** 47.40 318 P P 20 00 26.6 -0.8
comp=Z,22nm,0.9s,mb5.1
GIVF **Givet** 47.56 329 eP P 20 00 27.1 -1.5
ESDC **Sonseca Array** 47.59 313 P P 20 00 29.9 +0.9
comp=Z,3.1nm,0.8s,mb4.4,baz=115,slow=7.8,SNR=10
ESDC **Sonseca Array** 47.59 313 P P 20 00 29.5 +0.5
comp=Z,7.9nm,1.1s,mb4.7
ESDC **Sonseca Array** 47.59 313 P P 20 00 29.5 +0.5
comp=Z,7.9nm,1.1s,mb4.7
ESLA **Sonseca Array** 47.59 313 eP P 20 00 29.9 +0.9
comp=Z,6.3nm,1.3s,mb4.5
BAIF **Baives** 47.84 329 eP P 20 00 29.1 -1.7
ESPR **Espera** 48.02 309 P P 20 00 32.8 +0.4
comp=Z,34nm,1.3s,mb5.2
MFF **Saint Martin d** 48.22 323 eP P 20 00 32.6 -1.2
comp=Z,39nm,1.6s,mb4.9
MFF **Saint Martin d** 48.22 323 eP P 20 00 32.6 -1.2
MFF pmax pmax
comp=Z,20nm,1.5s,mb4.9
SUR **Sutherland** 48.35 202 LR LR 20 20 30.2
comp=Z,704nm,18.0s,MS4.7,baz=228,slow=36
ELAN **Lanestosa** 48.67 318 P P 20 00 37.6 +0.3
comp=Z,40nm,1.3s,mb5.3
ELAN **Lanestosa** 48.67 318 P P 20 00 37.6 +0.3
comp=Z,40nm,1.3s,mb5.3
KURK **Kurchatov** 49.21 31 eP P 20 00 41.2 -0.2
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
LDF **La Druitiere** 49.27 325 eP P 20 00 40.0 -1.9
comp=Z,68nm,1.7s,mb5.1
LDF **La Druitiere** 49.27 325 eP P 20 00 40.0 -1.9
LDF pmax pmax
comp=Z,34nm,1.7s,mb5.1
EGRO **El Granado** 49.46 309 P P 20 00 42.5 -1.0
comp=Z,55nm,1.4s,mb5.4
EGRO **El Granado** 49.46 309 P P 20 00 42.5 -1.0
comp=Z,55nm,1.4s,mb5.4
EBAD **Badajoz** 49.49 311 P P 20 00 43.2 -0.5
comp=Z,23nm,1.1s,mb5.1
FLN **La Foliniere** 49.57 325 eP P 20 00 42.3 -1.8
comp=Z,81nm,1.5s,mb5.2
FLN **La Foliniere** 49.57 325 eP P 20 00 42.3 -1.8
FLN pmax pmax
comp=Z,40nm,1.5s,mb5.2
GRR **Gorron** 49.58 325 eP P 20 00 42.4 -1.8
comp=Z,40nm,1.4s,mb5.0
GRR **Gorron** 49.58 325 eP P 20 00 42.4 -1.8
GRR pmax pmax
comp=Z,20nm,1.4s,mb5.0
LSA **Lhasa** 49.93 62 eP P 20 00 48.5 +1.3
comp=Z,24nm,1.4s,mb5.0
LSA **Lhasa** 49.93 62 eP P 20 00 48.5 +1.3
comp=Z,24nm,1.4s,mb5.0
LSA **Lhasa** 49.93 62 eP P 20 00 48.5 +1.3
LSA pmax pmax
comp=Z,24nm,1.4s,mb5.0
FINES **FINESS Array B** 50.05 351 P P 20 00 47.4 -0.3
comp=Z,3.4nm,0.8s,mb4.4,baz=143,slow=19,SNR=7.5
FINES **FINESS Array B** 50.05 351 P P 20 00 47.4 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.9s
EVO **Evora** 50.16 310 eP P 20 00 49.9 +1.0
comp=Z,111nm,1.7s,mb5.3
EVO eR
comp=Z,267nm,17.0s
SGMF **Saint Gilles** 50.48 324 eP P 20 00 49.1 -2.0
comp=Z,75nm,1.7s,mb5.2
SGMF **Saint Gilles** 50.48 324 eP P 20 00 49.1 -2.0
SGMF pmax pmax
comp=Z,37nm,1.7s,mb5.1
ROSF **Rostrenen** 50.93 324 eP P 20 00 52.2 -2.4
comp=Z,51nm,1.4s,mb5.0
ROSF **Rostrenen** 50.93 324 eP P 20 00 52.2 -2.4
ROSF pmax pmax
comp=Z,26nm,1.4s,mb5.0
WMQ **Urumqi** 51.13 43 eP P 20 00 57.0 +0.9
WMQ PCP PcP 20 02 13.0 +1.0
WMQ PP PP 20 02 54.0 +0.3
WMQ S **S** **20 08 12.0 -1.4**
WMQ SCS ScS 20 10 44.0 -0.7
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
WMQ AMB AMB
comp=Z,144nm,4.6s
WMQ LR LR
comp=Z,666nm,28.6s,MS4.5
WMQ **Urumqi** 51.13 43 eP P 20 00 57.0 +0.9
comp=Z,6.0nm,0.7s,mb4.6
WMQ PcP PcP 20 02 13.0 +1.0
WMQ PP PP 20 02 54.0 +0.3
WMQ S **S** **20 08 12.0 -1.4**
WMQ ScS ScS 20 10 44.0 -0.7
WMQ LR LR
comp=Z,670nm,28.6s,MS4.5
WMQ **Urumqi** 51.13 43 eP P 20 00 57.0 +0.9
comp=Z,6.0nm,0.7s,mb4.6
WMQ ScS ScS 20 10 44.0 -0.7
EPON **Pontenova** 51.19 316 P P 20 00 57.7 +1.1
comp=Z,46nm,1.2s,mb5.3
EPON **Pontenova** 51.19 316 P P 20 00 57.7 +1.1
comp=Z,46nm,1.2s,mb5.3
NB2 **NORSAR Subarra** 53.02 343 P P 20 01 08.9 -1.2
comp=Z,9.7nm,1.1s,mb4.7,baz=145,slow=7.4
NB2 **NORSAR Subarra** 53.02 343 P P 20 01 08.9 -1.2
NB2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
NOA **NORSAR Array B** 53.02 343 P P 20 01 09.2 -0.9
comp=Z,2.2nm,0.8s,mb4.1,baz=140,slow=7.4,SNR=5.1
NOA LR LR 20 26 18.7
comp=Z,63nm,20.4s,MS3.6,baz=200,slow=39
NOA **NORSAR Array B** 53.02 343 P P 20 01 09.2 -0.9
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,63nm,20.4s
ZAL **Zalesovo** 54.16 31 P P 20 01 17.4 -1.2
comp=Z,1.8nm,0.8s,mb4.1,baz=247,slow=8.2,SNR=12
ZAL LR LR 20 27 17.8
comp=Z,449nm,19.0s,MS4.5,baz=234,slow=39
ZAL **Zalesovo** 54.16 31 P P 20 01 17.5 -1.1
ZAL pmax pmax
comp=Z,2.0nm,0.8s
ZAL MLR MLR
comp=Z,449nm,19.0s
ARCES **ARCESS Array B** 57.86 354 P P 20 01 43.3 -1.7
comp=Z,5.1nm,1.0s,mb4.5,baz=329,slow=7.1,SNR=3.8
ARCES **ARCESS Array B** 57.86 354 P P 20 01 43.3 -1.7
ARCES pmax pmax
comp=Z,5.0nm,1.0s
GTA **Gaotai** 58.61 51 eP P 20 01 51.6 +0.9
GTA PP PP 20 04 04.3 +2.2
GTA S **S** **20 09 56.3 +2.5**
GTA SS SS 20 13 49.0 +0.9
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,121nm,5.3s
GTA LR LR
comp=N,354nm,19.0s
GTA LR LR
comp=E,304nm,24.7s
GTA LR LR
comp=Z,597nm,26.2s
GTA **Gaotai** 58.61 51 eP P 20 01 51.6 +0.9
comp=Z,8.0nm,0.9s,mb4.8
GTA PP PP 20 04 04.3 +2.2
GTA S **S** **20 09 56.3 +2.5**
GTA SS SS 20 13 49.0 +0.9
GTA LR LR
comp=Z,600nm,26.2s,MS4.6
KMI **Kunming** 59.86 68 P P 20 01 59.6 +0.1
KMI PP PP 20 04 12.8 -0.8
KMI AMB AMB
comp=Z,4.0nm,1.1s,mb4.4
KMI AMB AMB
comp=Z,100nm,4.7s
KMI LR LR
comp=N,319nm,15.1s
KMI LR LR
comp=E,205nm,23.1s
KMI LR LR
comp=Z,236nm,21.1s
KMI **Kunming** 59.86 68 P P 20 01 59.6 +0.1
comp=Z,4.0nm,1.1s,mb4.4
KMI PP PP 20 04 12.8 -0.8
KMI S **S** **20 10 10.3 +0.1**
KMI SS SS 20 14 05.9 -1.6
KMI LR LR
comp=Z,240nm,21.1s,MS4.3
LZH **Lanzhou** 61.33 56 eP P 20 02 09.5 +0.1
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.0
LZH LR LR
comp=Z,710nm,16.0s,MS4.9
LZH **Lanzhou** 61.33 56 eP P 20 02 09.5 +0.1
comp=Z,20nm,1.5s,mb5.0
LZH LR LR
comp=Z,710nm,16.0s,MS4.9
GYA **Guiyang** 63.39 67⇑iP P 20 02 23.8 +0.6
GYA AMB AMB
comp=Z,10.0nm,1.3s,mb4.8
GYA **Guiyang** 63.39 67⇑iP P 20 02 23.8 +0.6
comp=Z,10.0nm,1.3s,mb4.8
SONM **Songino Array** 64.77 43 P P 20 02 32.2 +0.2
comp=Z,4.5nm,0.9s,mb4.5,baz=257,slow=6.6,SNR=44
SONM LR LR 20 34 17.9
comp=Z,855nm,20.0s,MS4.9,baz=254,slow=39
SONM **Songino Array** 64.77 43 P P 20 02 32.2 +0.2
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM MLR MLR
comp=Z,855nm,20.0s
HHC **Hu-ho-hao-te** 67.72 51 eP P 20 02 52.9 +2.0

HHC				AP	pP	20 02 57.6	+5.6
HHC				PP	PP	20 05 24.5	+2.4
HHC				PCS		20 07 23.0	
HHC				S	S	20 11 48.9	+1.2
HHC				SCS	ScS	20 12 47.0	+0.4
HHC				SS	SS	20 16 11.3	+1.2
HHC				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.0						
HHC				AMB	AMB		
	comp=Z,99nm,5.6s						
HHC				LR	LR		
	comp=N,236nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=E,237nm,11.9s,MS4.8						
HHC				LR	LR		
	comp=Z,304nm,21.4s						
HHC	**Hu-ho-hao-te**	**67.72**	**51**	*e*P	**P**	**20 02 52.9**	**+2.0**
	comp=Z,13nm,0.8s,mb5.0						
HHC				pP	pP	20 02 57.6	+5.6
HHC				PP	PP	20 05 24.5	+2.4
HHC				PcS		20 07 23.0	
HHC				S	S	20 11 48.9	+1.2
HHC				ScS	ScS	20 12 47.0	+0.4
HHC				SS	SS	20 16 11.3	+1.2
HHC				LR	LR		
	comp=Z,300nm,21.4s,MS4.5						
NJ2	**Nanjing**	**73.76**	**60**	*e*P	**P**	**20 03 26.0**	**-1.6**
NJ2				AP	pP	20 03 37.1	+8.4
NJ2				XP	sP	20 03 41.1	+12
NJ2				S	S	20 12 56.0	-2.2
NJ2				XS		20 13 12.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,300nm,10.6s						
NJ2	**Nanjing**	**73.76**	**60**	*e*P	**P**	**20 03 26.0**	**-1.6**
	comp=Z,10.0nm,1.1s,mb4.7						
NJ2				pP	pP	20 03 37.1	+8.4
NJ2				sP	sP	20 03 41.1	+12
NJ2				S	S	20 12 56.0	-2.2
NJ2				sS		20 13 12.0	
NJ2	**Nanjing**	**73.76**	**60**	*e*P	**P**	**20 03 26.0**	**-1.6**
	comp=Z,10.0nm,1.1s,mb4.7						
NJ2				S	S	20 12 56.0	-2.2
SUMG	**Summit**	**74.90**	**342**	*e*P	**P**	**20 03 32.2**	**-1.3**
	comp=Z,10nm,1.0s,mb4.7						
SUMG	**Summit**	**74.90**	**342**	*e*P	**P**	**20 03 32.2**	**-1.3**
	comp=Z,10nm,1.0s,mb4.7						
SSE	**Sheshan**	**75.83**	**61**	P	**P**	**20 03 37.6**	**-2.0**
SSE				AP	pP	20 03 47.4	+6.8
SSE				XP	sP	20 03 50.8	+10
SSE				S	S	20 13 17.4	-3.8
SSE				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.1						
SSE				AMB	AMB		
	comp=Z,382nm,3.9s						
SSE				LR	LR		
	comp=N,80nm,24.5s,MS4.1						
SSE				LR	LR		
	comp=E,94nm,24.5s,MS4.1						
SSE				LR	LR		
	comp=Z,92nm,25.8s,MS4.0						
SSE	**Sheshan**	**75.83**	**61**	P	**P**	**20 03 37.6**	**-2.0**
	comp=Z,25nm,1.1s,mb5.1						
SSE				pP	pP	20 03 47.4	+6.8
SSE				sP	sP	20 03 50.8	+10
SSE				S	S	20 13 17.4	-3.8
SSE				LR	LR		
	comp=Z,90nm,25.8s,MS4.0						
CN2	**Changchun**	**77.93**	**48**	*e*P	**P**	**20 03 52.6**	**+1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2	**Changchun**	**77.93**	**48**	*e*P	**P**	**20 03 52.6**	**+1.6**
	comp=Z,10.0nm,0.8s,mb4.8						
MDJ	**Mudanjiang**	**80.79**	**46**	P	**P**	**20 04 05.5**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,59nm,4.8s						
MDJ				LR	LR		
	comp=Z,164nm,26.3s,MS4.3						
MDJ	**Mudanjiang**	**80.79**	**46**	P	**P**	**20 04 05.5**	**-0.9**
	comp=Z,6.0nm,1.5s,mb4.3						
MDJ				LR	LR		
	comp=Z,160nm,26.3s,MS4.2						
MAW	**Mawson**	**81.45**	**172**	P	**P**	**20 04 09.4**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=345,slow=12,SNR=3.6						
MAW				LR	LR	20 36 51.6	
	comp=Z,191nm,18.7s,MS4.5,baz=56,slow=33						
MAW	**Mawson**	**81.45**	**172**	*e*P	**P**	**20 04 08.9**	**-0.6**
	comp=Z,6.0nm,1.0s,mb4.5						
MAW	**Mawson**	**81.45**	**172**	P	**P**	**20 04 09.4**	**-0.1**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAW				MLR	MLR		
	comp=Z,191nm,18.7s						
SNAA	**Sanae**	**88.73**	**193**	P	**P**	**20 04 47.4**	**+1.7**
	comp=Z,0.7nm,1.1s,mb3.9,baz=93,slow=6.0,SNR=3.8						
SNAA	**Sanae**	**88.73**	**193**	P	**P**	**20 04 47.4**	**+1.7**
SNAA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MJAR	**Matsushiro Arr**	**88.82**	**53**	LR	LR	20 50 27.4	
	comp=Z,167nm,19.4s,MS4.5,baz=250,slow=40						
BILL	**Bilibino**	**90.97**	**18**	*e*P	**P**	**20 04 54.4**	**-1.8**
	comp=Z,18nm,1.7s,mb5.1						
BILL	**Bilibino**	**90.97**	**18**	*e*P	**P**	**20 04 54.4**	**-1.8**
BILL				pmax	pmax		
	comp=Z,18nm,1.7s,mb5.1						
BDFB	**Brasilia**	**91.84**	**254**	LR	LR	20 41 59.8	
	comp=Z,256nm,18.6s,MS4.7,baz=108,slow=33						
NVAR	**Mina Array Bea**	**125.65**	**340**	PKP	PKPdf	20 10 56.6	+0.9
	comp=Z,0.5nm,0.7s,baz=56,slow=1.5,SNR=6.7						

NEIC ***22*** *19:55:14.6, 34.30S×72.37W, h6km, ML3.1(GUC), After GUC.*

GUC 22 19:55:14.6±0.7, 34.30S×72.37W, h6km±9km, MD3.5, ML3.1, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.87**	**67**	⇓*i*P	Pb	19 55 31.5	-0.2
LNV				*i* S	Sb	19 55 43.8	+0.4
LCCH	**Las Cruces**	**1.06**	**39**	⇓*i*P	Pb	19 55 34.5	-0.4
LCCH				*i* S	Sb	19 55 49.0	+0.1
SFDO	**San Fernando**	**1.17**	**106**	⇑*i*P	Pb	19 55 36.2	-0.6
SFDO				*i* S	Sb	19 55 52.4	+0.4
NICH	**Los Niches**	**1.18**	**127**	⇓*i*P	Pb	19 55 36.4	-0.6
NICH				*i* S	Sb	19 55 52.2	-0.1
TACH	**Talagante**	**1.35**	**62**	⇑*i*P	Pb	19 55 38.8	-1.3
TACH				*i* S	Sb	19 55 57.3	-0.2
CHCH	**Chadas Angostu**	**1.47**	**76**	⇓*i*P	Pn	19 55 40.8	-1.0
CHCH				*i* S	Sb	19 56 01.1	+0.2
CACH	**El Canelo**	**1.48**	**84**	⇑*i*P	Pn	19 55 41.5	-0.5
CACH				*i* S	Sb	19 56 02.4	+1.2
RCDM	**Rinconada Maip**	**1.53**	**59**	AMP		19 56 08.7	
	comp=N,376nm,0.4s						
CICH	**Cipreses**	**1.62**	**91**	⇑*i*P	Pn	19 55 43.1	-0.8
CICH				*i* S	Sb	19 56 05.2	+0.1
ANTU	**Antumapu**	**1.62**	**64**	AMP		19 56 10.7	
	comp=N,372nm,0.3s						
PCH	**Pirque**	**1.69**	**67**	⇑*i*P	Pn	19 55 44.2	-0.7
PCH				*i* S	Sn	19 56 07.4	+0.4
CLCH	**Cerro Calan**	**1.77**	**60**	⇑*i*P	Pn	19 55 45.4	-0.7
CLCH				*i* S	Sn	19 56 09.3	0.0
CLCH				AMP		19 56 20.0	
	comp=N,431nm,0.6s						
FCH	**Farellones**	**1.98**	**61**	AMP		19 56 21.3	
	comp=E,358nm,0.4s						

BJI ***22*** *20:01:10.4, 3.96N×93.17E, h30km, mb5.0, Ms4.5, Msz4.1*
NEIC ***22*** *20:01:10.4±0.4, 3.84N×93.13E, h30km, mb4.8/10, Error ellipse: s-maj=13.5km s-min=7.2km az=223.0*
IDC ***22*** *20:01:11.4±0.8, 3.94N×93.16E, h36km±4km, mb4.1/11, mb1 4.3/11, mb1mx4.1/19, mbtmp4.3/11, Error ellipse: s-maj=35.9km s-min=13.3km az=52.0*

ISC 22 20:01:09.7±0.5, 3.87N±0.08×93.23E±0.07, h35km, h35km±1.0km: pP-P, n40, σ1§05/38, mb4.6/24, MS3.7/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.53**	**79**	*e*Pn	**P**	**20 02 58.9**	**-0.9**
KULM				*e*Sn	**S**	**20 04 15.4**	**-9.4**
KSM	**Kuching**	**17.22**	**97**	P	**P**	**20 05 10.4**	**+1.1**
KKM	**Kota Kinabalu**	**23.00**	**84**	*e*P	**P**	**20 06 16.1**	**+3.5**
KMI	**Kunming**	**23.03**	**23**	P	**P**	**20 06 14.5**	**+1.6**
KMI				AP		20 06 24.0	
KMI				LR	LR		
	comp=N,326nm,21.2s						
KMI				LR	LR		
	comp=E,314nm,15.7s						
KMI				LR	LR		
	comp=Z,284nm,19.6s,MS3.7						
PKI	**Pulchoki**	**24.73**	**343**	*e*P	**P**	**20 06 31.0**	**+1.6**
DMN	**Daman**	**24.85**	**343**	*e*P	**P**	**20 06 31.7**	**+1.1**
	comp=Z,11nm,0.8s,mb4.4						
KKN	**Kakani**	**24.97**	**343**	*e*P	**P**	**20 06 32.3**	**+0.6**
GKN	**Gorkha**	**25.36**	**342**	*e*P	**P**	**20 06 35.4**	**0.0**
	comp=Z,53nm,1.2s,mb5.0						
KOLN	**Koldanda**	**25.48**	**340**	*e*P	**P**	**20 06 36.8**	**+0.2**
LSA	**Lhasa**	**25.77**	**356**	*e*P	**P**	**20 06 40.6**	**+1.4**
	comp=Z,20nm,0.6s,mb4.8						
LSA				*e*	pP	20 06 51.4	+2.5
ENH	**Enshi**	**30.43**	**29**	P	**P**	**20 07 19.4**	**-1.9**
	comp=Z,8.2nm,0.8s,mb4.5						
MBWA	**Marble Bar**	**35.96**	**135**	P	**P**	**20 08 07.4**	**-1.9**
	comp=Z,27nm,1.3s,mb5.0						
FITZ	**Fitzroy Crossi**	**38.69**	**125**	P	**P**	**20 08 32.4**	**+0.2**
	comp=Z,7.8nm,0.7s,mb4.5,baz=333,slow=5.3,SNR=12						
AAK	**Ala-Archa**	**42.06**	**339**	*e*P	**P**	**20 08 58.1**	**-1.7**
	comp=Z,3.6nm,0.9s,mb4.0						
SONM	**Songino Array**	**45.24**	**12**	P	**P**	**20 09 24.1**	**-1.5**
	comp=Z,1.0nm,0.9s,mb3.6,baz=192,slow=8.9,SNR=8.2						
SONM				pP	pP	20 09 34.6	-1.2
	comp=Z,1.0nm,0.7s,baz=193,slow=8.6,SNR=6.3						
SONM				PcP	PcP	20 11 05.3	-0.3
	comp=Z,1.5nm,0.7s,baz=203,slow=2.7,SNR=10						
SONM				pPcP		20 11 16.3	
	comp=Z,0.7nm,0.5s,baz=185,slow=4.5,SNR=7.0						
WRA	**Warramunga Arr**	**46.80**	**122**	P	**P**	**20 09 38.9**	**+0.8**
	comp=Z,5.1nm,0.8s,mb4.5,baz=298,slow=9.0,SNR=28						
WRA				pP	pP	20 09 49.3	+0.9
	comp=Z,3.2nm,1.1s,baz=301,slow=8.9,SNR=5.7						
WRA				PcP	PcP	20 11 10.9	-0.5
	comp=Z,1.0nm,0.7s,baz=298,slow=3.4,SNR=4.8						
WRAB	**Tennant Creek**	**46.80**	**122**	*e*P	**P**	**20 09 38.7**	**+0.5**
	comp=Z,5.7nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**46.81**	**122**	*e*P	**P**	**20 09 38.9**	**+0.7**
KURK	**Kurchatov**	**48.28**	**348**	*e*P	**P**	**20 09 49.2**	**-0.2**
	comp=Z,5.1nm,0.7s,mb4.7						
KURK				*e*	pP	20 09 59.4	-0.3
RDF	**Al-Radifah**	**49.96**	**305**	*e*P	**P**	**20 10 03.4**	**+0.8**
RDF				AMb	AMB	20 10 04.6	
	comp=Z,37nm,0.7s,mb5.5						
UMR	**Umm Al-Rimmam**	**50.06**	**306**	*e*P	**P**	**20 10 03.9**	**+0.5**
NAY	**Al-Naaiem**	**50.33**	**305**	*e*P	**P**	**20 10 05.8**	**+0.3**
NAY				AMb	AMB	20 10 07.1	
	comp=Z,16nm,0.6s,mb5.3						
ZAL	**Zalesovo**	**50.39**	**354**	P	**P**	**20 10 05.0**	**-0.5**
	comp=Z,9.1nm,0.4s,mb5.1,baz=308,slow=4.9,SNR=33						
ZAL				pP	pP	20 10 14.9	-1.0
	comp=Z,4.2nm,0.5s,baz=300,slow=5.3,SNR=7.4						
MIB	**Mutribah**	**50.45**	**306**	*e*P	**P**	**20 10 07.1**	**+0.7**
MIB				AMb	AMB	20 10 07.7	
	comp=Z,54nm,0.5s						
HIA	**Hailar**	**50.54**	**22**	*e*P	**P**	**20 10 06.3**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.3						
HIA				*e*	pP	20 10 15.6	-1.6
BVAR	**Borovoye Array**	**52.50**	**343**	P	**P**	**20 10 20.6**	**-0.8**
	comp=Z,4.9nm,0.8s,mb4.5,baz=145,slow=8.9,SNR=19						
BVAR				pP	pP	20 10 31.3	-0.5
	comp=Z,2.4nm,0.6s,baz=140,slow=9.9,SNR=8.2						
STKA	**Stephens Creek**	**58.07**	**131**	P	**P**	**20 11 02.3**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=81,slow=18,SNR=3.3						
ANTO	**Ankara**	**65.06**	**312**	*e*PG	**P**	**20 11 48.7**	**-0.4**
ANTO	**Ankara**	**65.06**	**312**	P	**P**	**20 11 48.9**	**-0.2**
	comp=Z,23nm,1.0s,mb5.2						
AKASG	**Malin Array Be**	**70.75**	**323**	P	**P**	**20 12 21.9**	**-2.4**
	comp=Z,2.8nm,0.7s,mb4.3,baz=95,slow=4.7,SNR=8.4						
MLR	**Muntele Rosu**	**71.42**	**317**	P	**P**	**20 12 28.0**	**-0.5**
	comp=Z,2.4nm,0.5s,mb4.3,baz=163,slow=1.9,SNR=4.7						
LBTB	**Lobatse**	**71.56**	**242**	P	**P**	**20 12 28.9**	**-0.7**
FINES	**FINESS Array B**	**75.83**	**333**	P	**P**	**20 12 51.5**	**-2.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=108,slow=6.0,SNR=5.7						
ARCES	**ARCESS Array B**	**78.72**	**341**	P	**P**	**20 13 09.6**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.3,baz=60,slow=9.8,SNR=4.8						
GERES	**GERESS Array B**	**80.21**	**319**	P	**P**	**20 13 18.8**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.3,baz=103,slow=5.1,SNR=32						
GERES				pP	pP	20 13 29.5	+0.4
	comp=Z,2.4nm,0.7s,baz=108,slow=4.2,SNR=12						
KHC	**Kasperske Hory**	**80.32**	**319**	*e*P	**P**	**20 13 19.5**	**+0.6**
LPG	**La Plagne**	**84.80**	**315**	*e*P	**P**	**20 13 42.8**	**+0.8**
	comp=Z,5.5nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	**128.79**	**32**	PKP	PKPdf	20 20 16.7	+2.5
	comp=Z,0.4nm,0.6s,baz=284,slow=4.8,SNR=3.8						
CPUP	**Villa Florida**	**144.03**	**229**	PKP	PKPdf	20 20 42.7	+0.3
	comp=Z,2.7nm,0.8s,baz=55,slow=1.4,SNR=5.6						
CPUP				pPKP		20 20 54.0	
	comp=Z,3.5nm,0.8s,baz=165,slow=4.6,SNR=4.6						
CPUP	**Villa Florida**	**144.03**	**229**	PKP	PKPdf	20 20 42.7	+0.3
CPUP				pPKP		20 20 54.0	

CASC 22 20:04:13.0±2.7, 12.51N×88.40W, h38km±999km, MD3.7, 7C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.92**	**8**	*e*P	P	20 04 45.8	+16
VSM				*e*S	S	20 04 57.8	+16
BLLM	**Bellamira**	**0.94**	**10**	*e*P	P	20 04 45.9	+16
BLLM				*e*S	S	20 04 57.8	+15
CNCH	**Conchagua**	**0.94**	**36**	⇑*e*P	P	20 04 45.6	+16
CNCH				*e*S	S	20 04 59.1	+17
LCBS	**La Ceiba**	**1.27**	**334**	⇑*e*P	P	20 04 50.0	+15
LCBS				*e*S	S	20 05 05.6	+15
LFRS	**El Faro**	**1.28**	**330**	⇑*e*P	P	20 04 50.1	+15
LFRS				*e*S	S	20 05 10.2	+19
CRIN	**San Cristobal**	**1.33**	**82**	⇓*e*P	P	20 04 35.7	+0.2
CRIN				*e*S	S	20 04 53.6	+1.3
LBRS	**Las Brisas**	**1.37**	**333**	*e*P	P	20 04 51.6	+15
LBRS				*e*S	S	20 05 09.3	+16
LFU	**La Fuente**	**1.41**	**331**	⇑*e*P	P	20 04 52.4	+16
LFU				*e*S	S	20 05 09.4	+15
LEON	**Leon**	**1.48**	**93**	⇓*e*P	P	20 04 36.8	-0.7
LEON				*e*S	S	20 04 54.6	-1.3
BOQS	**Boqueron**	**1.49**	**325**	⇓*e*P	P	20 04 53.6	+16
BOQS				*e*S	S	20 05 11.5	+15
TEL3	**Telica 3**	**1.52**	**87**	⇓*e*P	P	20 04 37.9	-0.3
TELN	**Telica**	**1.54**	**86**	⇓*e*P	P	20 04 38.4	0.0
MIRN	**Miramar**	**1.65**	**92**	⇑*e*P	P	20 04 39.6	-0.4
CNGN	**Cerro Negro**	**1.67**	**90**	*e*P	P	20 04 39.6	-0.6
CNGN				*e*S	S	20 05 01.0	+0.5
COPN	**Copaltepe**	**1.80**	**100**	⇓*e*P	P	20 04 41.5	-0.6
MOMJ	**Momotombo**	**1.82**	**93**	⇓*e*P	P	20 04 41.9	-0.6
RTR	**El Retiro**	**1.83**	**319**	⇓*e*P	P	20 04 58.9	+16
RTR				*e*S	S	20 05 21.8	+17
XAVN	**Gruta Xavier**	**2.06**	**100**	⇓*e*P	P	20 04 45.5	-0.4
MGAN	**Managua**	**2.14**	**99**	*e*P	P	20 04 46.3	-0.7
MGAN				*e*S	S	20 05 11.8	-0.7
TICN	**Ticuantepe**	**2.17**	**102**	⇓*e*P	P	20 04 46.9	-0.6
WILN	**Americas 2**	**2.19**	**99**	*e*S	S	20 05 13.7	-0.2
JCR	**Jicaral**	**4.17**	**129**	⇑*e*P	P	20 05 15.4	-0.5
JCR				*e*S	S	20 06 02.4	-1.8
LAJ	**Bijagual**	**4.96**	**122**	*e*P	P	20 05 23.4	-3.5

BJI ***22*** *20:24:45.6, 34.90N×119.41W, h7km, mB4.8, mb4.6, Ms4.8, Msz4.7*
IDC ***22*** *20:24:46.7±0.7, 34.98N×119.01W, mb4.3/14, mb1 4.4/20, mb1mx4.3/27, mbtmp4.2/20, ML4.1/5, MS4.0/17, Ms1 4.0/17, ms1mx3.9/33, Error ellipse: s-maj=13.1km s-min=11.3km az=72.0*
NEIC ***22*** *20:24:48.6, 35.04N×119.01W, h11km, mb4.8/18, MS4.3/1, MW4.5(BRK), MW4.7(PAS), After PAS.*
NEIC Felt [IV] at Bakersfield. Felt throughout the southern Central Valley and the Los Angeles Basin as far north as Fresno, as far east as Ridgecrest, as far south as Oceanside and as far west as Goleta.

ISC 22 20:24:47.8±0.4, 35.12N±0.04×118.98W±0.04, h11km, n134, σ1§38/125, mb4.5/32, MS4.2/15, 1D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	**Isabella**	**0.68**	**37**	⇓*e*P	**Pb**	**20 25 02.3**	**+1.1**
PTRM	**Twissleman Ran**	**1.14**	**298**	*e*P	**Pb**	**20 25 08.5**	**-0.5**
MWC	**Mount Wilson**	**1.18**	**139**	*e*P	**Pb**	**20 25 08.8**	**-0.9**
GSC	**Goldstone**	**1.79**	**84**	*e*P	**Pn**	**20 25 18.7**	**-0.3**
LRV	**Little Rabbit**	**2.10**	**309**	*e*P	**Pn**	**20 25 23.5**	**0.0**
MTUM	**Tungsten Hills**	**2.25**	**9**	*e*Pn	**Pn**	**20 25 26.2**	**+0.6**
PFO	**Pinyon Flat Ob**	**2.58**	**125**	*e*Pn	**Pn**	**20 25 29.2**	**-1.1**
SAO	**San Andreas Ge**	**2.59**	**310**	*e*Pn	**Pn**	**20 25 29.2**	**-1.1**
CMB	**Columbia Colle**	**3.12**	**339**	*e*Pn	**Pn**	**20 25 37.5**	**-0.5**
LDFC	**Landfair**	**3.18**	**90**	*e*Pn	**Pn**	**20 25 36.1**	**-2.7**
NVAR	**Mina Array Bea**	**3.35**	**9**	LR	LR	20 26 47.5	
	comp=Z,1μm,20.2s,baz=170,slow=35						
MNV	**Mina**	**3.37**	**11**	Pn	**Pn**	**20 25 41.6**	**+0.1**
NEN	**Nelson**	**3.42**	**80**	*e*Pn	**Pn**	**20 25 40.9**	**-1.3**
SAC	**San Andreas**	**3.70**	**313**	*e*Pn	**Pn**	**20 25 44.9**	**-1.3**
NSHM	**Saint Helena R**	**4.47**	**320**	*e*Pn	**Pn**	**20 25 56.1**	**-1.0**
PAHR	**Pah Rah Range**	**4.59**	**356**	Pn	**Pn**	**20 25 58.4**	**-0.5**
OHCM	**Honcut**	**4.66**	**335**	*e*Pn	**Pn**	**20 25 58.9**	**-0.9**
BEKR	**Beckwourth**	**4.86**	**347**	Pn	**Pn**	**20 26 02.4**	**-0.2**
HOPS	**Hopland**	**5.06**	**321**	*e*Pn	**Pn**	**20 26 04.2**	**-1.3**
ARUT	**Antelope Range**	**5.20**	**58**	Pn	**Pn**	**20 26 07.3**	**-0.1**
KCPM	**Cahto Peak**	**5.84**	**323**	Pn	**Pn**	**20 26 15.6**	**-0.9**
KIPM	**Iron Peak**	**5.89**	**324**	*e*Pn	**Pn**	**20 26 16.3**	**-0.9**
WDC	**Whiskeytown Da**	**6.13**	**334**	*e*Pn	**Pn**	**20 26 19.4**	**-1.2**
WUAZ	**Wupatki**	**6.23**	**84**	Pn	**Pn**	**20 26 18.6**	**-3.4**
ELK	**Elko**	**6.35**	**27**	Pn	**Pn**	**20 26 24.6**	**+1.0**
	3.2nm,0.3s,baz=218,slow=9.9,SNR=27						
ELK				Lg		20 28 09.1	
	11nm,0.3s,baz=189,slow=13,SNR=3.9						
ELK				LR	LR	20 29 23.1	
	comp=Z,2μm,18.8s,baz=199,slow=43						
MSU	**Marysvale**	**6.42**	**56**	Pn	**Pn**	**20 26 24.0**	**-0.7**
MOD	**Modoc**	**6.85**	**352**	Pn	**Pn**	**20 26 30.5**	**-0.2**
KHMM	**Horse Mountain**	**6.86**	**328**	*e*Pn	**Pn**	**20 26 30.4**	**-0.5**
DUG	**Dugway**	**7.04**	**42**	Pn	**Pn**	**20 26 32.4**	**-1.1**
YBH	**Yreka Blue Hor**	**7.22**	**337**	Pn	**Pn**	**20 26 36.8**	**+0.9**
	1.2nm,0.3s,baz=140,slow=6.7,SNR=15						
YBH				Lg		20 28 24.2	
	0.2nm,0.3s,baz=114,slow=14,SNR=2.8						
YBH				LR	LR	20 29 20.4	
	comp=Z,826nm,19.4s,baz=165,slow=37						
YBH	**Yreka Blue Hor**	**7.22**	**337**	*e*Pn	**Pn**	**20 26 35.0**	**-0.9**
NLU	**North Lily Min**	**7.31**	**47**	Pn	**Pn**	**20 26 37.6**	**+0.5**
WVOR	**Wild Horse Val**	**7.31**	**2**	Pn	**Pn**	**20 26 36.8**	**-0.3**
TUC	**Tucson**	**7.38**	**110**	*e*Pn	**Pn**	**20 26 33.6**	**-4.6**
BGU	**Big Grassy Mou**	**7.46**	**37**	Pn	**Pn**	**20 26 37.9**	**-1.4**
KRMB	**Red Mountain**	**7.47**	**330**	Pn	**Pn**	**20 26 38.5**	**-0.9**
TMUT	**Trail Mountain**	**7.47**	**54**	Pn	**Pn**	**20 26 37.3**	**-2.1**
MPU	**Maple Canyon**	**7.61**	**48**	Pn	**Pn**	**20 26 41.7**	**+0.4**
SRU	**San Rafael**	**7.84**	**57**	*e*Pn	**Pn**	**20 26 40.3**	**-4.3**
CTU	**Camp Tracy**	**7.97**	**44**	Pn	**Pn**	**20 26 49.4**	**+3.0**
SPUT	**South Promonto**	**8.04**	**38**	*e*Pn	**P**	**20 26 45.5**	**-1.8**
DAU	**Daniels Canyon**	**8.08**	**47**	*e*Pn	**P**	**20 26 45.8**	**-2.1**
HUMO	**Hull Mountain**	**8.09**	**339**	Pn	**P**	**20 26 48.6**	**+0.5**
HVU	**Hansel Valley**	**8.24**	**34**	Pn	**P**	**20 26 47.9**	**-2.3**
TCUT	**Toone Canyon**	**8.45**	**43**	Pn	**P**	**20 26 52.2**	**-0.9**
HWUT	**Hardware Ranch**	**8.71**	**40**	Pn	**P**	**20 26 54.1**	**-2.6**
KEBM	**Edson Butte**	**8.79**	**333**	Pn	**P**	**20 26 57.4**	**-0.3**
COR	**Corvallis**	**10.02**	**342**	Pn	**P**	**20 27 18.9**	**+4.2**
RRI2	**Red Ridge**	**10.13**	**34**	Pn	**P**	**20 27 16.4**	**+0.1**
ANMO	**Albuquerque**	**10.27**	**87**	Pn	**P**	**20 27 15.8**	**-2.4**
	baz=221,slow=20,SNR=2.2						
ANMO				Pg	P	20 27 56.1	+38
	baz=251,slow=9.7,SNR=5.1						
ANMO				Lg		20 30 10.1	
	baz=84,slow=3.1,SNR=3.8						
ANMO	**Albuquerque**	**10.27**	**87**	*e*Pn	**P**	**20 27 16.0**	**-2.2**
REDW	**Red Top Meadow**	**10.36**	**35**	Pn	**P**	**20 27 17.5**	**-2.0**
TPAW	**Teton Pass**	**10.41**	**34**	Pn	**P**	**20 27 21.0**	**+0.9**
SNOW	**Snow King Moun**	**10.48**	**35**	Pn	**P**	**20 27 23.5**	**+2.4**
PDAR	**Pinedale Array**	**10.59**	**41**	Pn	**P**	**20 27 25.7**	**+3.2**
	0.1nm,0.3s,baz=231,slow=12,SNR=8.5						
PDAR				Lg		20 30 22.3	
	0.1nm,0.3s,baz=217,slow=27,SNR=3.9						
PDAR	**Pinedale Array**	**10.59**	**41**	Pn	**P**	**20 27 25.7**	**+3.2**
PDAR				Lg		20 30 22.3	
LOHW	**Long Hollow**	**10.67**	**35**	Pn	**P**	**20 27 22.0**	**-1.6**
IMW	**Indian Meadow**	**10.74**	**33**	Pn	**P**	**20 27 23.5**	**-1.1**
FLWY	**Flagg Ranch**	**10.99**	**33**	Pn	**P**	**20 27 28.7**	**+0.7**
YFT	**Old Faithful**	**11.22**	**31**	Pn	**P**	**20 27 34.1**	**+2.9**
HAWA	**Haford**	**11.27**	**358**	Pn	**P**	**20 27 34.3**	**+2

FINES				LR	LR	21 11 44.6		
	comp=Z,64nm,21.4s,MS3.9,baz=162,slow=35							
EZAM	**Zamans**	**80.12**	**45**	P	**P**	**20 36 56.9**	**-2.3**	
	comp=Z,3.3nm,0.2s,mb4.9							
BAIF	**Baives**	**81.45**	**33**	*e*P	**P**	**20 37 08.1**	**+2.1**	
MFF	**Saint Martin d**	**81.83**	**38**	*e*P	**P**	**20 37 09.3**	**+1.3**	
	comp=Z,32nm,1.6s,mb4.7							
CN2	**Changchun**	**82.02**	**319**	*e*P	**P**	**20 37 07.8**	**-1.3**	
CN2				*e*AP	pP	20 37 12.5	-0.1	
CN2				*e*S	S	20 47 19.0	-2.9	
CN2				LR	LR			
	comp=Z,470nm,18.0s,MS4.9							
EVO	**Evora**	**82.81**	**48**	*e*P	**P**	**20 37 14.5**	**+1.2**	
	comp=Z,24nm,1.1s,mb4.8							
EVO				*e*R				
	comp=Z,148nm,19.2s							
SSF	**Saint Saulge**	**83.29**	**35**	*e*P	**P**	**20 37 17.7**	**+2.1**	
	comp=Z,12nm,1.1s,mb4.5							
LOR	**Lormes**	**83.30**	**35**	*e*P	**P**	**20 37 17.9**	**+2.2**	
	comp=Z,17nm,1.1s,mb4.7							
LOR				*e*R				
	comp=Z,106nm,23.0s							
AVF	**Avril sur Loir**	**83.41**	**36**	*e*P	**P**	**20 37 18.0**	**+1.8**	
	comp=Z,18nm,1.3s,mb4.7							
LFF	**La Frestale**	**83.43**	**38**	*e*P	**P**	**20 37 17.7**	**+1.3**	
RJF	**Les Rejaudoux**	**83.56**	**38**	*e*P	**P**	**20 37 19.0**	**+2.0**	
RJF				*e*R				
	comp=Z,148nm,21.8s							
SMF	**Signal de Mont**	**83.75**	**36**	*e*P	**P**	**20 37 19.3**	**+1.4**	
HAU	**Haudompre**	**83.92**	**33**	*e*P	**P**	**20 37 20.4**	**+1.7**	
HAU				*e*R				
	comp=Z,108nm,17.8s							
CAF	**Calviac**	**84.10**	**38**	*e*P	**P**	**20 37 21.9**	**+2.1**	
EMIN	**Mina Concepcio**	**84.11**	**47**	P	**P**	**20 37 21.4**	**+1.4**	
	comp=Z,13nm,0.8s,mb5.1							
MOX	**Moxa**	**84.15**	**29**	*e*P	**P**	**20 37 27.0**	**+7.2**	
MOX				L		21 15 27.0		
ETSF	**Etsaut**	**84.16**	**41**	*e*P	**P**	**20 37 20.8**	**+0.7**	
	comp=Z,29nm,1.5s,mb4.9							
ESDC	**Sonseca Array**	**84.46**	**45**	P	**P**	**20 37 22.3**	**+0.6**	
	comp=Z,2.7nm,0.9s,mb4.4,baz=314,slow=6.9,SNR=5.0							
ESDC	**Sonseca Array**	**84.46**	**45**	P	**P**	**20 37 23.1**	**+1.4**	
	comp=Z,2.5nm,0.6s,mb4.5							
EPF	**Esparros**	**84.55**	**40**	*e*P	**P**	**20 37 23.5**	**+1.5**	
EBIE	**Bielsa**	**84.68**	**40**	P	**P**	**20 37 26.2**	**+3.5**	
	comp=Z,8.8nm,1.0s,mb4.8							
GRA1	**Grafenberg Arr**	**84.73**	**30**	*e*P	**P**	**20 37 28.8**	**+6.0**	
	comp=Z,8.0nm,1.2s,mb4.7							
BRG	**Berggiesshubel**	**84.87**	**28**	*e*P	**P**	**20 37 27.7**	**+4.3**	
	comp=Z,25nm,1.9s,mb5.0							
EADA	**Adamuz**	**85.10**	**46**	P	**P**	**20 37 26.9**	**+2.0**	
	comp=Z,2.4nm,0.5s,mb4.6							
EGRA	**Graus**	**85.12**	**41**	P	**P**	**20 37 28.0**	**+3.1**	
	comp=Z,1.9nm,0.7s,mb4.3							
MTLF	**Montolieu**	**85.31**	**39**	*e*P	**P**	**20 37 28.3**	**+2.5**	
	comp=Z,18nm,1.4s,mb4.7							
LASF	**Ste Croix**	**85.61**	**37**	*e*P	**P**	**20 37 29.3**	**+2.0**	
	comp=Z,14nm,1.2s,mb4.8							
GERES	**GERESS Array B**	**86.40**	**29**	P	**P**	**20 37 31.4**	**+0.3**	
	comp=Z,0.4nm,0.7s,mb3.8,baz=278,slow=6.9,SNR=3.0							
GERES				LR	LR	21 16 44.0		
	comp=Z,185nm,20.6s,MS4.5,baz=92,slow=36							
PLCA	**Paso Flores**	**87.65**	**145**	P	**P**	**20 37 36.5**	**-0.9**	
	comp=Z,5.0nm,0.9s,mb4.8,baz=304,slow=6.6,SNR=11							
SONM	**Songino Array**	**87.98**	**331**	P	**P**	**20 37 39.7**	**+0.9**	
	comp=Z,4.2nm,1.1s,mb4.6,baz=30,slow=3.2,SNR=14							
ZAL	**Zalesovo**	**88.95**	**346**	P	**P**	**20 37 43.9**	**+0.6**	
	comp=Z,1.2nm,0.8s,mb4.3,baz=104,slow=6.1,SNR=7.1							
ZAL				LR	LR	21 22 54.3		
	comp=Z,105nm,18.2s,MS4.3,baz=182,slow=39							
ZAL	**Zalesovo**	**88.95**	**346**	P	**P**	**20 37 43.9**	**+0.6**	
ZAL				LR	LR	21 22 54.3		
SSE	**Sheshan**	**93.18**	**312**	P	**P**	**20 38 02.3**	**-1.1**	
NJ2	**Nanjing**	**93.91**	**314**	*e*P	**P**	**20 38 06.0**	**-0.7**	
WMQ	**Urumqi**	**97.76**	**341**	*e*P	**P**	**20 38 24.5**	**+0.5**	
WMQ				LR	LR			
	comp=Z,182nm,26.2s,MS4.5							
WRA	**Warramunga Arr**	**114.55**	**262**	PKP	PKPdf	20 43 28.1	-3.4	
	comp=Z,0.7nm,0.8s,baz=58,slow=2.2,SNR=4.9							

NEIC 22 20:30:52.4, 35.05N×119.01W, h11km, ML3.9(PAS), After PAS., Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISA	**Isabella**	**0.76**	**35**	*e*P	Pb	20 31 05.9	-1.2
PTRM	**Twissleman Ran**	**1.16**	**302**	*e*P	Pb	20 31 12.3	-1.6
LRV	**Little Rabbit**	**2.14**	**311**	Pn	Pn	20 31 28.0	-0.5
MTUM	**Tungsten Hills**	**2.33**	**9**	Pn	Pn	20 31 30.9	-0.4
SAO	**San Andreas Ge**	**2.62**	**312**	Pn	Pn	20 31 34.5	-0.9
CMB	**Columbia Colle**	**3.18**	**340**	Pn	Pn	20 31 43.1	-0.3
NEN	**Nelson**	**3.46**	**79**	Pn	Pn	20 31 45.5	-1.9

NEIC 22 20:39:45.8, 17.71N×95.05W, h133km, mb4.6/1, MD4.3(MEX), After MEX.
MEX 22 20:39:45.5±1.4, 17.68N×95.07W, h139km±9km, MD4.3
IDC 22 20:39:48.5±4.7, 17.84N×94.71W, h156km±47km, mb3.8/4, mb1 3.8/6, mb1mx3.5/22, mbtmp4.1/6, Error ellipse: s-maj=61.5km s-min=25.9km az=42.0
ISC 22 20:39:43.3±0.4, 17.70N±0.05×95.09W±0.03, h139km, n27, σ1§26/40, mb4.1/5, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.63**	**161**	⇓*i*P	**P**	**20 40 05.1**	**+0.4**
CMIG				*i* S	**S**	**20 40 19.0**	**-2.0**
TUIG	**Tuzandepetl**	**0.72**	**62**	*i* P	**P**	**20 40 06.0**	**+0.8**
TUIG				*i* S	**S**	**20 40 21.6**	**-0.4**
OXX	**Oaxaca**	**1.67**	**249**	*i* P	**P**	**20 40 15.6**	**+1.3**
OXX				*i* S	**S**	**20 40 37.7**	**-0.3**
VHO	**Vista Hermosa**	**1.68**	**249**	*i* P	**P**	**20 40 16.4**	**+1.9**
VHO				*i* S	**S**	**20 40 40.3**	**+2.0**
HUIG	**Huatulco**	**2.15**	**207**	*i* P	**P**	**20 40 19.5**	**-0.5**
HUIG				*i* S	**S**	**20 40 46.8**	**-1.2**
LVIG	**Laguna Verde**	**2.38**	**328**	*i* P	**P**	**20 40 23.3**	**+0.4**
LVIG				*i* S	**S**	**20 40 51.5**	**-1.6**
SCX	**San Cristobal**	**2.54**	**112**	*i* P	**P**	**20 40 24.7**	**-0.3**
CCIG	**Comitan**	**3.16**	**116**	*i* P	**P**	**20 40 33.2**	**+0.1**
CCIG				*i* S	**S**	**20 41 11.2**	**+0.1**
PNIG	**Pinotepa**	**3.18**	**246**	*i* P	**P**	**20 40 31.9**	**-1.4**
PNIG				*i* S	**S**	**20 41 10.8**	**-0.7**
PNIG	**Pinotepa**	**3.18**	**246**	*i* P	**P**	**20 40 31.8**	**-1.6**
PNIG				*i* S	**S**	**20 41 10.8**	**-0.7**
PPM	**Popocatepetl**	**3.62**	**293**	*i* P	**P**	**20 40 42.3**	**+3.1**
SCIG		**3.92**	**71**	*i* P	**P**	**20 40 42.8**	**-0.4**
SCIG				*i* S	**S**	**20 41 27.5**	**-1.6**
YAIG	**Yautepec**	**3.95**	**288**	*i* P	**P**	**20 40 44.6**	**+1.1**
YAIG				*i* S	**S**	**20 41 29.3**	**-0.4**
UNM	**Universidad Na**	**4.20**	**293**	*e*P	**P**	**20 40 50.5**	**+3.6**
PLIG	**Platanillo**	**4.25**	**280**	*i* P	**P**	**20 40 49.3**	**+1.8**
PLIG				*i* S	**S**	**20 41 36.1**	**-0.7**
ACX	**Acapulco**	**4.68**	**261**	*i* P	**P**	**20 40 51.2**	**-2.1**
CAIG	**El Cayaco**	**4.98**	**263**	*i* S	**S**	**20 41 51.8**	**-2.5**
SFJM	**Santa Fe**	**8.01**	**292**	*i* P	**P**	**20 41 41.7**	**+3.7**
JTS	**JuntasAbangare**	**12.29**	**125**	P	**P**	**20 42 35.3**	**+0.8**
	1.4nm,0.3s,baz=306,slow=19,SNR=3.5						
JTS				S	**S**	**20 44 58.4**	**+10**
	0.5nm,0.3s,baz=180,slow=20,SNR=1.9						
JTS	**JuntasAbangare**	**12.29**	**125**	*e*P	**P**	**20 42 35.1**	**+0.6**
JTS				S	**S**	**20 44 58.4**	**+10**
TXAR	**Lajitas Array**	**13.99**	**327**	P	**P**	**20 43 01.6**	**+5.0**
	0.3nm,0.3s,baz=163,slow=12,SNR=2.4						
SDV	**Santo Domingo**	**25.34**	**107**	P	**P**	**20 44 58.5**	**-0.7**
	3.9nm,0.7s,mb4.1,baz=326,slow=5.1,SNR=7.2						
SCHQ	**Schefferville**	**42.93**	**24**	P	**P**	**20 47 23.9**	**-5.9**
	16nm,1.1s,mb4.6						
LPAZ	**La Paz**	**42.96**	**140**	P	**P**	**20 47 31.9**	**+1.3**
	1.7nm,0.6s,mb3.8,baz=328,slow=6.5,SNR=10						
SIV	**San Ignacio**	**47.38**	**133**	P	**P**	**20 48 06.0**	**+0.5**
	2.3nm,0.7s,mb3.9,baz=312,slow=9.1,SNR=13						
PLCA	**Paso Flores**	**62.44**	**159**	P	**P**	**20 49 55.1**	**+1.0**
	2.9nm,0.9s,mb4.1,baz=346,slow=8.6,SNR=5.3						
WRA	**Warramunga Arr**	**133.29**	**259**	PKP	PKPdf	20 58 46.6	+2.9
	0.4nm,0.6s,baz=73,slow=2.1,SNR=8.7						

DHMR 22 20:42:56.5±0.3, 12.65N×40.52E, h10km±26km, ML4.1, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.60**	**68**	⇓*e*P	Pn	20 44 04.3	+11
UDYN				*i* S	Sn	20 44 50.1	+13
UDYN				AML	AML	20 45 27.9	
	comp=N,627nm,0.6s						
DHBB	**Dhamar BB**	**4.22**	**63**	⇓*e*P	Pn	20 44 12.6	+10
DHBB				*i* S	Sn	20 45 05.3	+13
HAJJ	**Hajjah**	**4.25**	**44**	⇓*e*P	Pn	20 44 13.0	+10
HAJJ				*i* S	Sn	20 45 05.7	+13
LBOS		**4.76**	**75**	*i* P	Pn	20 44 17.4	+7.3
LBOS				*i* S	Sn	20 45 14.0	+7.9
BDHA	**Al Bayda'**	**5.09**	**74**	⇓*e*P	Pn	20 44 21.9	+7.2
BDHA				*i* S	Sn	20 45 21.8	+7.6
	comp=N,314nm,0.6s						

DHMR 22 20:48:03.5±0.3, 12.65N×40.51E, h12km±20km, ML4.2, 6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.61**	**68**	⇓*e*P	Pn	20 49 02.1	+1.6
UDYN				*i* S	Sn	20 49 47.9	+4.5
UDYN				AML	AML	20 50 09.5	
	comp=N,928nm,0.6s						
DHBB	**Dhamar BB**	**4.22**	**63**	⇓*e*P	Pn	20 49 10.4	+1.2
DHBB				*i* S	Sn	20 50 02.5	+3.5
HAJJ	**Hajjah**	**4.26**	**44**	⇓*e*P	Pn	20 49 10.8	+1.1
HAJJ				*i* S	Sn	20 50 03.0	+3.1
LBOS		**4.77**	**75**	⇓*e*P	Pn	20 49 15.4	-1.6
LBOS				*i* S	Sn	20 50 11.8	-0.9
BDHA	**Al Bayda'**	**5.09**	**74**	⇓*e*P	Pn	20 49 19.8	-1.7
BDHA				*i* S	Sn	20 50 19.6	-1.3
BDHA	**Al Bayda'**	**5.09**	**74**	⇓*e*P	Pn	20 49 19.8	-1.7
BDHA				*i* S	Sn	20 50 19.6	-1.3

KRSC 22 21:12:13.7±0.6, 49.83N×156.29E, ML4.6
SKHL 22 21:12:14.3±2.0, 49.81N×155.20E, h33km, mb4.4/2
MOS 22 21:12:19.4±1.1, 49.65N×157.34E, h49km, mb4.2/1, Error ellipse: s-maj=66.1km s-min=13.0km az=78.9
ISC 22 21:12:15.2±1.2, 49.75N±0.06×156.44E±0.10, h10km, n30, σ1§02/51, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.96**	**348**	*e*P	**Pb**	**21 12 31.0**	**-2.5**
SKR				AMB	AMB	21 12 31.5	
	110nm,0.2s						
SKR				AMB	AMB	21 12 31.5	
	190nm,0.2s						
SKR				sP		21 12 32.6	
SKR				sP		21 12 35.0	
SKR				⇑*i*S	**Sb**	**21 12 43.5**	**-2.4**
SKR				A		21 12 46.5	
	4μm,2.0s						
SKR				A		21 12 46.5	
	4μm,2.0s						
SKR				A		21 12 46.5	
	4μm,0.3s						
SKR				A		21 12 46.5	
	6μm,0.3s						
SKR				A		21 12 46.5	
	820nm,0.3s						
SKR	**Severo-Kuril's**	**0.96**	**348**	*e*P	**Pb**	**21 12 31.0**	**-2.5**
SKR				*i* S	**Sb**	**21 12 43.5**	**-2.4**
ALID	**Alaid**	**1.26**	**333**	*e*P	**Pb**	**21 12 37.5**	**-1.1**
ALID				*e*S	**Sb**	**21 12 55.7**	**+1.0**
PAU	**Pauzhetka**	**1.73**	**8**	*i* P	**Pn**	**21 12 46.0**	**+0.3**
PAU				*i* S	**Sn**	**21 13 09.3**	**+1.2**
PAU				Smax			
	2μm,0.3s						
MIPR	**Malaya Ipel'ka**	**2.54**	**4**	*i* P	**Pn**	**21 12 56.9**	**-0.3**
MIPR				*e*S	**Sn**	**21 13 28.5**	**0.0**
GRL	**Gorelyy**	**2.99**	**20**	*e*P	**Pn**	**21 13 04.4**	**+0.8**
GRL				*e*S	**Sn**	**21 13 41.2**	**+1.3**
RUS	**Russkaya**	**2.99**	**25**	P	**Pn**	**21 13 03.8**	**+0.2**
RUS				S	**Sn**	**21 13 39.4**	**-0.5**
RUS	**Russkaya**	**2.99**	**25**	*e*P	**Pn**	**21 13 03.8**	**+0.2**
RUS				*e*S	**Sn**	**21 13 40.1**	**+0.2**
APC	**Apacha**	**3.21**	**8**	*e*P	**Pn**	**21 13 07.4**	**+0.6**
APC				*e*S	**Sn**	**21 13 46.5**	**+1.0**
APC				Smax			
	70nm,1.4s						
KRMR	**Karymshinskiy**	**3.26**	**18**	*e*P	**Pn**	**21 13 07.7**	**+0.2**
KRMR				*e*S	**Sn**	**21 13 47.2**	**+0.4**
PET	**Petropavlovsk**	**3.56**	**22**	P	**Pn**	**21 13 12.1**	**+0.3**
PET				S	**Sn**	**21 13 53.6**	**-0.8**
PET	**Petropavlovsk**	**3.56**	**22**	*e*P	**Pn**	**21 13 13.4**	**+1.6**
PET				AMB	AMB	21 13 22.0	
	50nm,0.8s						
PET				*e*S	**Sn**	**21 13 54.5**	**+0.1**
PET				A		21 14 00.6	
	190nm,0.5s						
PET				A		21 14 00.6	
	230nm,0.5s						
PET	**Petropavlovsk**	**3.56**	**22**	*e*P	**Pn**	**21 13 11.4**	**-0.4**
PET				*e*S	**Sn**	**21 13 53.6**	**-0.8**
PET	**Petropavlovsk**	**3.56**	**22**	*e*PN	**Pn**	**21 13 13.4**	**+1.6**
PET				*e*S	**Sn**	**21 13 54.5**	**+0.1**
PET				pmax	pmax		
	comp=Z,47nm,0.8s						
PET				smax			
	comp=N,187nm,0.5s						
PET				smax			
	comp=E,231nm,0.4s						
AVH	**Avacha**	**3.80**	**21**	*e*P	**Pn**	**21 13 15.7**	**+0.5**
AVH				*e*S	**Sn**	**21 14 00.5**	**0.0**
KOK	**Koryaka**	**3.80**	**20**	*e*P	**Pn**	**21 13 16.3**	**+1.1**
SMAR	**Somma**	**3.81**	**22**	*e*P	**Pn**	**21 13 16.5**	**+1.1**
SDLR	**Sedlovina**	**3.85**	**22**	*e*P	**Pn**	**21 13 16.5**	**+0.6**
NLC	**Nalytchevo**	**3.88**	**27**	P	**Pn**	**21 13 14.7**	**-1.6**
NLC				S	**Sn**	**21 13 59.5**	**-2.9**
NLC	**Nalytchevo**	**3.88**	**27**	*e*P	**Pn**	**21 13 15.1**	**-1.2**
NLC				*e*S	**Sn**	**21 14 01.1**	**-1.3**
SPN	**Mys Shipunski**	**4.03**	**32**	P	**Pn**	**21 13 18.5**	**0.0**
SPN				S	**Sn**	**21 14 05.0**	**-1.4**
SPN	**Mys Shipunski**	**4.03**	**32**	*i* P	**Pn**	**21 13 18.5**	**0.0**
SPN				*i* S	**Sn**	**21 14 05.7**	**-0.7**
GNL	**Ganaly**	**4.06**	**13**	*e*P	**Pn**	**21 13 19.3**	**+0.4**
MKZ	**Mys Kozlova**	**5.81**	**32**	P	**Pn**	**21 13 41.6**	**-2.0**
MKZ				S	**Sn**	**21 14 47.5**	**-3.6**
MKZ	**Mys Kozlova**	**5.81**	**32**	*e*P	**Pn**	**21 13 41.8**	**-1.8**
MKZ				*e*S	**Sn**	**21 14 46.8**	**-4.3**
TUMR	**Tumrok**	**5.99**	**21**	*e*P	**Pn**	**21 13 45.9**	**-0.2**
KBTR	**Krutoberegovo**	**7.53**	**28**	P	**Pn**	**21 14 07.3**	**-0.5**
KBTR	**Krutoberegovo**	**7.53**	**28**	*e*P	**Pn**	**21 14 07.6**	**-0.2**
YAK	**Yakutsk**	**19.22**	**320**	*e*P	**P**	**21 16 32.5**	**-9.2**
YAK	**Yakutsk**	**19.22**	**320**	*e*P	**P**	**21 16 46.7**	**+5.0**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						

NIED 22 21:21:00,26.40N×129.70E, h11km, Mw4.5 Best double couple: M0 6.6×10^15 NP1:φs 7°, δ80°, λ-121°. NP2:φs 261°, δ32°, λ-19°.
JMA 22 21:21:30.9±0.1, 26.38N×129.75E, h46km, M4.7
JMA Felt I J1.
MOS 22 21:21:30.9±0.9, 26.36N×129.59E, h23km, mb5.1/22, Error ellipse: s-maj=13.7km s-min=6.6km az=118.3
BJI 22 21:21:32.8, 26.35N×129.57E, h37km, mB4.8, mb4.6, Ms4.2, Msz4.1
NEIC 22 21:21:34.2±0.2, 26.37N×129.62E, mb4.8/29, MW4.5(NIED), Error ellipse: s-maj=6.2km s-min=4.9km az=70.0
NEIC Recorded [1 JMA] on Okinawa-jima.
IDC 22 21:21:34.2±2.9, 26.35N×129.52E, h36km±23km, mb4.4/16, mb1 4.4/18, mb1mx4.4/23, mbtmp4.5/18, ML4.0/2, MS3.8/8, Ms1 3.8/8, ms1mx3.6/21, Error ellipse: s-maj=21.2km s-min=12.4km az=60.0
ISC 22 21:21:33.1±0.3, 26.37N±0.03×129.57E±0.03, h40km, h40km±2.4km: pP-P, n152, σ1§17/177, mb4.8/56, MS4.1/13, 11C-6D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**1.25**	**292**	Pn	**P**	**21 21 54.9**	**+0.4**
	1μm,0.3s,baz=118,slow=23,SNR=9278						
JOW				Sn	**S**	**21 22 10.4**	**+0.1**
	5μm,0.3s,baz=121,slow=25,SNR=75						
JOW				LR	LR	21 22 32.7	
	comp=Z,4μm,18.0s,baz=143,slow=49						
JOW	**Kunigami**	**1.25**	**292**	P	**P**	**21 21 54.7**	**+0.3**
JOW				S	**S**	**21 22 10.4**	**+0.1**
JTK	**Tokunoshima**	**1.52**	**339**	P	**P**	**21 21 57.3**	**-1.0**
JTK				S	**S**	**21 22 15.5**	**-1.5**
JIH	**Iheya**	**1.58**	**295**	P	**P**	**21 21 59.4**	**+0.2**
JIH				S	**S**	**21 22 19.0**	**+0.4**
JMZ	**Minamidaito 2**	**1.58**	**110**	P	**P**	**21 21 55.1**	**-4.1**
JMZ				S	**S**	**21 22 11.9**	**-6.7**
JJT2	**Tamagusuku 2**	**1.65**	**262**	P	**P**	**21 22 00.7**	**+0.5**
JJT2				S	**S**	**21 22 21.6**	**+1.2**
NAH1	**Naha**	**1.70**	**265**	P	**P**	**21 22 01.2**	**+0.4**
NAH1				S	**S**	**21 22 22.8**	**+1.3**
JZK	**Kikaishima**	**1.97**	**10**	P	**S**	**21 22 02.5**	**-2.2**
JZK				S	**S**	**21 22 26.3**	**-2.1**
JAM	**Amami Oshima**	**2.04**	**1**	P	**P**	**21 22 03.5**	**-2.1**
JAM				S	**S**	**21 22 26.2**	**-3.8**
JAGN	**Aguni-jima**	**2.10**	**277**	P	**P**	**21 22 06.7**	**+0.1**
JAGN				S	**S**	**21 22 32.3**	**+0.7**
JKE	**Kume jima 2**	**2.50**	**270**	P	**P**	**21 22 11.5**	**-0.8**
JKE				*e*S	**S**	**21 22 41.1**	**-0.7**
JNN	**Nakanoshima**	**3.47**	**4**	P	**P**	**21 22 23.3**	**-2.8**
JNN				S	**S**	**21 23 01.1**	**-5.3**
JOGS	**Gusukube**	**4.09**	**248**	P	**P**	**21 22 34.0**	**-0.8**
JOGS				S	**S**	**21 23 20.6**	**-1.5**
JMJ	**Miyako jima 2**	**4.16**	**249**	P	**P**	**21 22 34.5**	**-1.4**
JMJ				S	**S**	**21 23 21.3**	**-2.6**
JTJ	**Tarama**	**4.72**	**250**	P	**P**	**21 22 41.6**	**-2.2**
JTJ				S	**S**	**21 23 33.7**	**-4.4**
JIJ	**Ishigaki jima**	**5.30**	**249**	P	**P**	**21 22 48.7**	**-3.2**
JIJ				*e*S	**S**	**21 23 47.4**	**-5.2**
IRIF	**Iriomote-Funau**	**5.66**	**250**	P	**P**	**21 22 53.9**	**-3.0**
IRIF				*e*S	**S**	**21 23 54.6**	**-7.0**
YOJ	**Yonaguni jima**	**6.23**	**254**	P	**P**	**21 23 01.5**	**-3.4**
JNU	**Nakatsue**	**6.83**	**9**	Pn	**P**	**21 23 10.2**	**-3.2**
	6.2nm,0.3s,baz=205,slow=6.4,SNR=46						
JNU				Sn	**S**	**21 24 20.6**	**-10**
	baz=264,slow=39,SNR=2.4						
JNU				LR	LR	21 26 17.5	
	comp=Z,230nm,19.5s,baz=6.3,slow=41						
YHNB	**Yeheng**	**7.59**	**259**	*e*P	**P**	**21 23 23.1**	**-1.0**
SSE	**Sheshan**	**8.74**	**305**	P	**P**	**21 23 38.6**	**-1.3**
SSE				S	**S**	**21 25 16.4**	**-1.8**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s						
SSE				AMB	AMB		
	comp=Z,248nm,4.7s						
SSE				LR	LR		
	comp=N,274nm,16.2s						
SSE				LR	LR		
	comp=E,172nm,16.2s						
SSE				LR	LR		
	comp=Z,407nm,17.3s						
NJ2	**Nanjing**	**10.94**	**304**	*e*P	**P**	**21 24 10.8**	**+0.7**
NJ2				AP		21 24 18.1	
NJ2				PP	PP	21 24 19.1	+0.9
NJ2				XP		21 24 21.1	
NJ2				PPP	PPP	21 24 28.0	+1.7
NJ2				S	**S**	**21 26 15.0**	**+2.8**
NJ2				XS		21 26 28.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,450nm,4.3s						
NJ2				LR	LR		
	comp=N,1μm,15.8s						
NJ2				LR	LR		
	comp=E,2μm,21.4s						
NJ2				LR	LR		
	comp=Z,670nm,12.4s						
JHJ	**Hachijo jima 2**	**11.13**	**50**	LR	LR	21 27 41.1	
	comp=Z,319nm,21.8s,baz=260,slow=33						
MJAR	**Matsushiro Arr**	**12.53**	**34**	Pn	**P**	**21 24 31.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=230,slow=19,SNR=2.7						
TIA	**Tai'an**	**14.46**	**316**	*e*P	**P**	**21 24 59.0**	**+2.0**
SNY	**Shenyang**	**16.19**	**344**	⇑P	**P**	**21 25 19.8**	**+0.5**
SNY				XP		21 25 30.6	
SNY				S	**S**	**21 28 14.3**	**-2.9**
SNY				AMB	AMB		
	comp=Z,20nm,1.2s						
SNY				AMB	AMB		
	comp=Z,190nm,4.7s						
SNY				LR	LR		
	comp=N,510nm,15.9s						
SNY				LR	LR		
	comp=E,220nm,10.8s						
SNY				LR	LR		
	comp=Z,550nm,14.5s						
CN2	**Changchun**	**17.71**	**350**	*e*P	**P**	**21 25 42.8**	**+4.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,530nm,15.0s						
CN2				LR	LR		
	comp=E,310nm,15.0s						
ENH	**Enshi**	**18.10**	**287**	*e*P	**P**	**21 25 43.1**	**-0.2**
	comp=E,33nm,0.8s						
MDJ	**Mudanjiang**	**18.21**	**0**	P	**P**	**21 25 45.3**	**+0.8**
MDJ				AP		21 25 53.0	
MDJ				XP		21 25 56.8	
MDJ				S	**S**	**21 29 07.5**	**+4.4**
MDJ				PCP	PcP	21 30 15.8	-0.9
MDJ				SCP		21 33 48.1	
MDJ				PCS		21 33 52.1	
MDJ				SCS	ScS	21 37 29.4	+2.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,98nm,4.2s						
MDJ				LR	LR		
	comp=N,70nm,14.6s						
MDJ				LR	LR		
	comp=E,24nm,18.4s						
MDJ				LR	LR		
	comp=Z,78nm,16.4s						
GUMO	**Guam**	**19.17**	**129**	LR	LR	21 31 41.9	
	comp=

HHC LR LR
comp=Z,522nm,16.9s,MS4.0
KLR Kul'dur 22.89 4 *eP* **P 21 26 30.0 -4.1**
YSS Yuzh-Sakhalins 23.05 24 *eP* **P 21 26 35.9 +0.2**
YSS *e* 21 26 47.7
CD2 Chengdu 23.08 287 P **P 21 26 35.1 -1.1**
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
LZH Lanzhou 23.98 300 *eP* **P 21 26 45.0 +0.2**
LZH AP 21 26 52.3
LZH PP PP 21 27 24.0 +4.4
LZH AMB AMB
comp=Z,40nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,180nm,4.2s
LZH LR LR
comp=E,1μm,15.8s
LZH LR LR
comp=Z,900nm,16.8s,MS4.3
KMI Kunming 24.19 273 P **P 21 26 49.8 +2.8**
KMI AP 21 26 57.4
KMI XP 21 27 00.3
KMI PP PP 21 27 23.5 +1.1
KMI PPP PPP 21 27 34.4 +1.6
KMI S **S 21 31 00.0 +0.4**
KMI AMB AMB
comp=Z,35nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,53nm,3.1s
KMI LR LR
comp=N,530nm,10.5s,MS4.3
KMI LR LR
comp=E,422nm,13.9s,MS4.3
KMI LR LR
comp=Z,402nm,13.5s,MS4.1
NANT Nan 27.66 260 P **P 21 27 18.0 -1.5**
GTA Gaotai 28.03 305 P **P 21 27 21.3 -1.4**
GTA AP *pP* 21 27 33.4 -0.1
GTA XP *sP* 21 27 37.9 -0.6
GTA PP PP 21 28 13.8 +0.5
GTA S **S 21 32 03.9 +1.1**
GTA XS 21 32 20.8
GTA SS SS 21 33 30.3 +3.9
GTA AMB AMB
comp=Z,29nm,0.7s,mb5.0
GTA AMB AMB
comp=Z,87nm,6.1s
GTA LR LR
comp=N,337nm,14.8s,MS4.2
GTA LR LR
comp=E,363nm,16.7s,MS4.2
GTA LR LR
comp=Z,570nm,16.7s,MS4.2
SONM Songino Array 28.10 326 P **P 21 27 22.4 -0.8**
comp=Z,3.9nm,1.0s,mb4.0,baz=142,slow=10.0,SNR=16
SONM LR LR 21 39 52.2
comp=Z,143nm,18.2s,MS3.6,baz=197,slow=39
CHRT Chiangrai 28.11 263 ⇑P **P 21 27 23.0 -0.6**
comp=Z,105nm,0.7s,mb5.6
CHG Chiang Mai 29.21 261 P **P 21 27 34.1 +0.7**
comp=Z,12nm,0.9s,mb4.6
ZAK Zakamensk 31.32 327 *eP* **P 21 27 49.6 -2.2**
BOD Bodaibo 33.31 345 *eP* **P 21 28 05.4 -3.7**
LSA Lhasa 33.97 285 P **P 21 28 16.3 +1.2**
LSA Lhasa 33.97 285 *eP* **P 21 28 16.4 +1.4**
comp=Z,5.8nm,0.6s,mb4.7
LSA Lhasa 33.97 285 *eP* **P 21 28 16.4 +1.3**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
YAK Yakutsk 35.66 0 *eP* **P 21 28 28.1 -1.0**
comp=Z,23nm,0.8s,mb5.2
YAK Yakutsk 35.66 0 *eP* **P 21 28 28.1 -1.0**
YAK pmax pmax
comp=Z,23nm,0.8s,mb5.2
WMQ Urumqi 37.97 308 *eP* **P 21 28 49.6 +0.8**
WMQ AP *pP* 21 28 59.0 -1.0
WMQ XP *sP* 21 28 59.0 -2.0
WMQ PCP PcP 21 31 05.0 +0.5
WMQ *e*S **S 21 34 39.0 +1.4**
WMQ XS 21 34 55.0
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,154nm,3.9s
WMQ LR LR
comp=N,309nm,15.8s,MS4.4
WMQ LR LR
comp=E,221nm,12.2s,MS4.4
WMQ LR LR
comp=Z,270nm,18.3s
PKI Pulchoki 39.22 282 *eP* **P 21 28 59.9 +0.6**
comp=Z,62nm,0.5s,mb5.6
PKI Pulchoki 39.22 282 *eP* **P 21 28 59.9 +0.6**
PKI pmax pmax
comp=Z,31nm,0.5s,mb5.3
KKN Kakani 39.30 282 *eP* **P 21 29 01.0 +1.0**
comp=Z,50nm,0.7s,mb5.4
DMN Daman 39.48 282 *eP* **P 21 29 02.7 +1.2**
GKN Gorkha 39.84 283 *eP* **P 21 29 05.0 +0.6**
comp=Z,103nm,0.7s,mb5.6
KOLN Koldanda 40.78 283 *eP* **P 21 29 12.9 +0.7**
comp=Z,65nm,0.8s,mb5.3
ZAL Zalesovo 42.88 322 P **P 21 29 27.8 -1.4**
comp=Z,2.7nm,0.4s,mb4.3,baz=5.2,slow=7.0,SNR=14
ZAL LR LR 21 49 48.2
comp=Z,113nm,18.9s,MS3.8,baz=177,slow=40
ZAL Zalesovo 42.88 322 P **P 21 29 27.8 -1.4**
ZAL LR LR 21 49 48.2
FITZ Fitzroy Crossi 44.37 185 *eP* **P 21 29 40.9 -0.8**
comp=Z,8.1nm,1.0s,mb4.4
KURK Kurchatov 45.55 316 *eP* **P 21 29 50.0 -0.8**
comp=Z,11nm,0.9s,mb4.8
KURK Kurchatov 45.55 316 *eP* **P 21 29 50.0 -0.7**
KURK pmax pmax
comp=Z,11nm,0.9s,mb4.8
WRAB Tennant Creek 46.26 174 *eP* **P 21 29 55.6 -1.1**
comp=Z,15nm,0.8s,mb5.0
WRAB *ep*P pP 21 30 06.2 -1.9
WRAB Tennant Creek 46.26 174 *eP* **P 21 29 55.6 -1.1**
WRAB *e**PP pP 21 30 06.2 -1.9
WRAB pmax pmax
comp=Z,15nm,0.8s,mb5.0
WRA Warramunga Arr 46.27 174 P **P 21 29 55.6 -1.1**
comp=Z,9.8nm,0.7s,mb4.8,baz=354,slow=8.4,SNR=95
WB2 Warramunga Arr 46.27 174 ⇑*iP* **P 21 29 55.5 -1.3**
WB2 *i* pP 21 30 07.8 -0.3
BILL Bilibino 47.17 18 *eP* **P 21 30 02.7 -0.5**
BILL pmax pmax
comp=Z,27nm,1.6s,mb4.9
AAK Ala-Archa 47.38 305 *eP* **P 21 30 04.7 -0.6**
comp=Z,3.0nm,0.7s,mb4.3
AAK Ala-Archa 47.38 305 *eP* **P 21 30 04.7 -0.6**
AAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MBWA Marble Bar 48.20 192 *eP* **P 21 30 12.7 +0.8**
comp=Z,4.1nm,0.7s,mb4.6
MBWA *ep*P pP 21 30 22.4 -0.9
CTA Charters Tower 48.94 159 *eP* **P 21 30 16.7 -0.9**
comp=Z,10nm,0.9s,mb4.8
CTA Charters Tower 48.94 159 P **P 21 30 17.2 -0.4**
comp=Z,7.8nm,0.8s,mb4.8,baz=7.5,slow=11,SNR=5.0
CTA Charters Tower 48.94 159 P **P 21 30 17.2 -0.4**
CTA pmax pmax
comp=Z,8.0nm,0.8s
CTAO Charters Tower 48.94 159 *eP* **P 21 30 17.0 -0.6**
comp=Z,50nm,1.4s,mb5.3
CTAO *ep*P pP 21 30 27.7 -1.3
CTAO Charters Tower 48.94 159 *eP* **P 21 30 17.0 -0.6**
CTAO *e**PP pP 21 30 27.7 -1.3
CTAO pmax pmax
comp=Z,50nm,1.4s,mb5.3
KKAR Karatay Array 50.31 305 *i* P **P 21 30 27.6 -0.3**
KKAR pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
BVA0 Borovoye Array 50.97 318 *i* P **P 21 30 32.4 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BVAR Borovoye Array 50.97 318 P **P 21 30 32.8 0.0**
comp=Z,6.7nm,0.5s,mb4.8,baz=90,slow=8.9,SNR=50
BVAR PcP PcP 21 31 47.9 -0.9
comp=Z,2.6nm,0.7s,baz=90,slow=3.0,SNR=4.0
BRVK Borovoye 51.04 318 *eP* **P 21 30 33.0 -0.2**
comp=Z,16nm,0.8s,mb5.0
BRVK Borovoye 51.04 318 *eP* **P 21 30 33.0 -0.3**
BRVK pmax pmax
comp=Z,16nm,0.8s,mb5.0
AB31 Akbulak array 57.43 313 *i* P **P 21 31 19.4 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ARU Arti 58.03 322 *eP* **P 21 31 22.6 -1.6**
comp=Z,29nm,1.1s,mb5.2
ARU Arti 58.03 322 ⇓*iP* **P 21 31 23.1 -1.1**
ARU *e*S **S 21 39 22.5 +2.3**
ARU *e*SS SS 21 43 14.5 +1.3
ARU pmax pmax
comp=Z,21nm,1.1s,mb5.1
STKA Stephens Creek 59.04 168 *eP* **P 21 31 30.1 -1.5**
comp=Z,2.7nm,0.6s,mb4.5
STKA *e* pP 21 31 42.0 -1.3
STKA Stephens Creek 59.04 168 P **P 21 31 30.4 -1.3**
comp=Z,3.1nm,0.5s,mb4.6,baz=336,slow=5.3,SNR=20
DZM Mont Dzumac 59.95 140 P **P 21 31 37.5 -0.5**
comp=Z,11nm,0.6s,mb5.0,baz=329,slow=6.2,SNR=9.0
ZEI Tsey 69.59 308 *eP* **P 21 32 39.8 -0.3**
ZEI pmax pmax
comp=Z,22nm,0.8s,mb5.1
KEV Kevo 69.75 339 *ep* **P 21 32 39.5 -1.1**
comp=Z,47nm,1.5s,mb5.2
KEV Kevo 69.75 339 *eP* **P 21 32 39.5 -1.1**
KEV pmax pmax
comp=Z,47nm,1.5s,mb5.2
KIV Kislovodsk 70.08 310 *eP* **P 21 32 43.9 +0.9**
comp=Z,34nm,1.2s,mb5.2
KIV Kislovodsk 70.08 310 *d iP* **P 21 32 43.7 +0.7**
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.1
ARCES ARCESS Array B 70.32 339 P **P 21 32 43.6 -0.4**
comp=Z,5.9nm,0.8s,mb4.6,baz=56,slow=4.4,SNR=7.5
ARCES LR LR 22 10 50.0
comp=Z,104nm,18.8s,MS4.1,baz=255,slow=42
OBN Obninsk 70.45 322 ⇓*iP* **P 21 32 44.6 -0.5**
OBN pmax pmax
comp=Z,43nm,2.5s,mb4.9
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
JOF Joensuu 70.50 331 *ep* **P 21 32 44.5 -0.8**
comp=Z,14nm,0.9s,mb4.9
KAF Kangasniemi 72.96 331 *ep* **P 21 32 58.9 -1.0**
comp=Z,8.2nm,0.7s,mb4.8,baz=65,slow=5.5
KAF Kangasniemi 72.96 331 *eP* **P 21 32 58.9 -1.0**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
FINES FINESS Array B 73.33 331 P **P 21 33 01.9 -0.2**
comp=Z,8.6nm,0.6s,mb4.9,baz=69,slow=5.8,SNR=94
FINES LR LR 22 09 16.0
comp=Z,112nm,21.3s,MS4.1,baz=159,slow=39
MALT Malatya 75.01 305 *eP* **P 21 33 13.9 +1.6**
comp=Z,144nm,0.6s,mb6.1
MALT Malatya 75.01 305 *eP* **P 21 33 13.9 +1.6**
MALT pmax pmax
comp=Z,144nm,0.6s,mb6.1
SIM Simferopol' 75.50 313 *eP* **P 21 33 15.3 +0.4**
SIM pmax pmax
comp=Z,13nm,0.8s,mb4.9
AKASG Malin Array Be 76.20 320 P **P 21 33 18.6 -0.2**
comp=Z,10.0nm,0.6s,mb5.0,baz=57,slow=6.5,SNR=32
BR131 Keskin Array S 77.90 308 *eP* **P 21 33 29.4 +0.8**
comp=Z,12nm,1.0s,mb4.8
BRTR Keskin Array B 77.90 308 P **P 21 33 29.1 +0.6**
comp=Z,9.3nm,0.9s,mb4.7,baz=104,slow=5.1,SNR=24
SUW Suwalki 78.04 325 *eP* **P 21 33 29.0 0.0**
CFR Carcaliu 79.25 315 ⇑P **P 21 33 34.8 -1.1**
NB2 NORSAR Subarra 79.72 334 P **P 21 33 37.4 -0.6**
comp=Z,21nm,0.6s,mb4.2,baz=51,slow=5.3
NB2 NORSAR Subarra 79.72 334 P **P 21 33 37.4 -0.6**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 79.72 334 P **P 21 33 37.7 -0.3**
comp=Z,4.4nm,0.8s,mb4.5,baz=51,slow=5.5,SNR=9.4
NOA LR LR 22 11 56.4
comp=Z,56nm,18.4s,MS3.9,baz=345,slow=38
VRI Vrincioaia 79.83 316 ⇑P **P 21 33 40.8 +1.9**
BURAR Bucovina Array 79.93 318 ⇓P **P 21 33 40.2 +0.7**
KWP Kalwaria 80.42 321 *eP* **P 21 33 43.1 +1.1**
MLR Muntele Rosu 80.48 316 ⇑P **P 21 33 43.8 +1.3**
SUMG Summit 80.98 356 *eP* **P 21 33 44.8 +0.2**
comp=Z,3.3nm,0.6s,mb4.4
KOLS Kolonicke sedl 81.02 320 *eP* **P 21 33 45.5 +0.3**
STHS Stebnicka Huta 81.36 321 *eP* **P 21 33 47.4 +0.4**
OJC Ojcow 81.75 322 *eP* **P 21 33 49.8 +0.8**
KECS Kecovo 82.26 321 *eP* **P 21 33 51.9 +0.2**
VYHS Vyhne 83.19 321 *eP* **P 21 33 57.2 +0.8**
MORC Moravsky Berou 83.21 323 P **P 21 33 56.0 -0.4**
comp=Z,4.5nm,1.2s,mb4.4
MORC Moravsky Berou 83.21 323 P **P 21 33 56.0 -0.5**
MORC pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
KSP Ksiaz 83.29 324 *eP* **P 21 33 57.9 +1.0**
KSP Ksiaz 83.29 324 *eP* **P 21 33 57.5 +0.7**
DPC Dobruska-Polom 83.55 324 *eP* **P 21 33 59.6 +1.4**
UPC Upice 83.63 324 *eP* **P 21 33 59.7 +1.2**
VRAC Vranov 83.99 323 *eP* **P 21 34 02.1 +1.7**
PVCC Panska Ves 84.37 324 *eP* **P 21 34 03.7 +1.4**
BRG Berggiesshubel 84.50 325 *iP* **P 21 34 03.8 +0.9**
comp=Z,7.2nm,1.0s,mb4.8
BRG Berggiesshubel 84.50 325 *iP* **P 21 34 03.8 +0.9**
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
TREC Trest 84.59 323 *eP* **P 21 34 04.5 +1.1**
PRU Pruhonice 84.70 324 *eP* **P 21 34 05.2 +1.3**
CLL Collm 84.72 326 ⇓P **P 21 34 05.0 +1.0**
comp=Z,logA/T=1.1,mb5.0
CLL *i* *SP sP 21 34 19.4 -1.1
CLL Collm 84.72 326 ⇓*iP* **P 21 34 05.0 +1.0**
CLL *i* pP 21 34 19.4 +3.2
CLL pmax pmax
comp=Z,16nm,1.2s,mb5.0
CLL MLR MLR
comp=Z,300nm,17.3s,MS4.7
SKO Skopje 85.06 315 *eP* **P 21 34 07.0 +1.1**
KHC Kasperske Hory 85.71 324 *eP* **P 21 34 10.4 +1.4**
KHC x x 21 34 15.0
KHC Kasperske Hory 85.71 324 *eP* **P 21 34 10.4 +1.4**
KHC *e* 21 34 15.0
ARSA Arzberg 85.74 321 ⇑*iP* **P 21 34 10.8 +1.7**
comp=Z,6.6nm,1.1s,mb4.8
GERES GERESS Array B 85.81 323 P **P 21 34 10.4 +1.0**
comp=Z,2.0nm,0.6s,mb4.5,baz=48,slow=4.8,SNR=22
MOA Molln 86.09 322 ⇑*iP* **P 21 34 12.9 +2.1**
comp=Z,7.0nm,1.0s,mb4.8
GRA1 Grafenberg Arr 86.60 325 *eP* **P 21 34 14.6 +1.3**
comp=Z,6.0nm,1.1s,mb4.7
GRF Grafenberg Arr 86.60 325 *eP* **P 21 34 14.6 +1.3**
comp=Z,6.0nm,1.1s,mb4.7
GRF Grafenberg Arr 86.60 325 *eP* **P 21 34 14.6 +1.3**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
GRF Grafenberg Arr 86.60 325 *eP* **P 21 34 14.6 +1.3**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
KBA Koelnbreinsper 87.05 322 ⇑*iP* **P 21 34 16.7 +1.1**
comp=Z,5.5nm,0.9s,mb4.8
KBA Koelnbreinsper 87.05 322 ⇑*iP* **P 21 34 16.7 +1.1**
KBA pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
HWUT Hardware Ranch 91.87 41 P **P 21 34 39.6 +1.1**
comp=Z,6.8nm,1.2s,mb4.8
PDAR Pinedale Array 92.30 39 P **P 21 34 41.0 +0.6**
comp=Z,0.6nm,0.8s,mb4.0,baz=27,slow=3.3,SNR=4.8
KMBO Kilima Mbogo 92.57 270 P **P 21 34 42.5 +0.2**
comp=Z,0.9nm,0.7s,mb4.3,baz=50,slow=20,SNR=4.1
ELN Prospectdale 110.61 26 *eP* Pdif 21 36 02.0 -0.5

NIED ***22*** *21:45:00,36.50N×140.50E,h71km,Mw3.6 Best double couple: M₀2.59×10¹⁴ NP1:φ₅139°,δ56°,λ49°. NP2:φ₅16°, δ52°,λ134°.*

JMA ***22*** *21:45:08.6±0.1,36.47N×140.51E,h58km±1km,M3.2 Broadband fault plane solution: P waves. NP1:φ₅45°,δ12°, λ118°. NP2:φ₅196°,δ79°,λ84°. Principal axes: T Plg55°, Azm99°; N Plg6°, Azm197°; P Plg34°, Azm291°;*

JMA Felt I J1.

ISC 22 21:45:08.2±1.3,36.47N±0.06×140.54E±0.07,h57km±9km, n11,σ0°45/22,5C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.14**	**8**	⇑P	**P**	**21 45 17.5**	**+0.5**
JHO				*e*S	**S**	**21 45 23.7**	**+0.2**
JYT	**Yasato**	**0.37**	**229**	⇑P	**P**	**21 45 19.0**	**+0.3**
JYT				S	**S**	**21 45 26.3**	**-0.1**
JAG	**Ashikaga**	**0.88**	**267**	⇑P	**P**	**21 45 24.9**	**+0.2**
JAG				*e*S	**S**	**21 45 36.4**	**-0.6**
JFK	**Kawauchi**	**0.93**	**16**	P	**P**	**21 45 25.2**	**-0.2**
JFK				*e*S	**S**	**21 45 37.4**	**-0.8**
JFT	**Otama**	**1.06**	**351**	⇑P	**P**	**21 45 27.4**	**+0.2**
JFT				*e*S	**S**	**21 45 41.1**	**-0.1**
JKT	**Katashina**	**1.08**	**286**	P	**P**	**21 45 27.8**	**+0.3**
JKT				*e*S	**S**	**21 45 41.7**	**-0.1**
JFY	**Yanaizu**	**1.15**	**325**	P	**P**	**21 45 29.0**	**+0.6**
JFY				*e*S	**S**	**21 45 43.6**	**+0.2**
JRY	**Ryogami san**	**1.40**	**252**	⇑P	**P**	**21 45 31.8**	**-0.2**
JRY				*e*S	**S**	**21 45 48.4**	**-1.3**
JMM	**Marumori**	**1.41**	**8**	P	**P**	**21 45 32.0**	**-0.1**
JMM				*e*S	**S**	**21 45 49.4**	**-0.4**
JHK	**Hiroka**	**1.45**	**303**	P	**P**	**21 45 32.8**	**+0.1**
JHK				*e*S	**S**	**21 45 51.1**	**+0.3**
MAT	**Matsushiro**	**1.88**	**273**	P	**P**	**21 45 38.8**	**+0.2**
MAT				*e*S	**S**	**21 46 01.8**	**+0.6**

DHMR 22 21:58:57.0±2.3,12.69N×40.55E,h2km±16km,ML4.2, 1C-4D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.57**	**69**	⇓*eP*	Pn	21 59 56.4	+1.9
UDYN				*i* S	Sn	22 00 42.6	+4.8
UDYN				AML	AML	22 01 02.5	
	comp=N,1μm,0.6s						
DHBB	**Dhamar BB**	**4.18**	**63**	⇑*eP*	Pn	22 00 04.5	+1.3
DHBB				*i* S	Sn	22 00 57.1	+3.6
HAJJ	**Hajjah**	**4.21**	**44**	⇓*eP*	Pn	22 00 04.7	+1.0
HAJJ				*i* S	Sn	22 00 57.6	+3.4
LBOS		**4.73**	**75**	⇓*eP*	Pn	22 00 09.5	-1.5
LBOS				*i* S	Sn	22 01 06.3	-0.9
BDHA	**Al Bayda'**	**5.05**	**75**	⇓*eP*	Pn	22 00 14.0	-1.6
BDHA				*i* S	Sn	22 01 14.2	-1.2

DHMR ***22*** *22:22:46.8±0.5,12.67N×40.53E,h10km±52km,ML4.2*
IDC ***22*** *22:22:48.3±1.0,12.50N×40.52E,mb3.9/9,mb1 3.9/12, mb1mx3.9/20,mbtmp3.8/12,ML3.1/2,MS3.9/4,Ms1 3.9/4, ms1mx3.4/19,Error ellipse: s-maj=22.5km s-min=14.6km az=32.0*
CSEM ***22*** *22:22:48.8±0.1,12.86N×40.47E,h2km,mb4.5/7,Error ellipse: s-maj=3.0km s-min=2.4km az=7.0*
NEIC ***22*** *22:22:50.3±0.5,12.52N×40.49E,h10km,mb4.4/9,Error ellipse: s-maj=13.0km s-min=10.2km az=62.0*

ISC 22 22:22:47.8±0.6,12.47N±0.08×40.64E±0.04,h10km,n29, σ1°§15/33,mb4.2/18,MS4.0/3,2C-2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.36**	**113**	Pn	**Pn**	**22 23 31.1**	**+4.0**
ATD				Lg		22 24 05.9	
UDYN	**Al 'Udayn**	**3.56**	**65**	⇑*eP*	**Pn**	**22 23 45.6**	**+1.3**
UDYN				*i* S	**Sn**	**22 24 31.1**	**+4.1**
UDYN				AML	AML	22 24 59.0	
	comp=N,1μm,0.7s						
DHBB	**Dhamar BB**	**4.20**	**60**	*eP*	**Pn**	**22 23 53.6**	**+0.2**
DHBB				*i* S	**Sn**	**22 24 45.7**	**+2.6**
HAJJ	**Hajjah**	**4.30**	**42**	⇑*eP*	**Pn**	**22 23 53.6**	**-1.2**
HAJJ				*i* S	**Sn**	**22 24 46.4**	**+0.7**
LBOS		**4.70**	**72**	⇓*eP*	**Pn**	**22 23 58.4**	**-2.1**
LBOS				*i* S	**Sn**	**22 24 55.1**	**-0.7**
BDHA	**Al Bayda'**	**5.03**	**72**	⇓*eP*	**Pn**	**22 24 03.4**	**-1.7**
BDHA				*i* S	**Sn**	**22 25 02.8**	**-1.1**
KMBO	**Kilima Mbogo**	**13.92**	**194**	Pn	**P**	**22 26 09.2**	**+1.5**
	comp=N,0.0nm,0.3s,baz=28,slow=16,SNR=3.4						
KMBO				Lg		22 30 10.3	
	baz=86,slow=21,SNR=3.1						
KMBO				LR	LR	22 31 24.4	
	comp=N,283nm,18.1s,baz=262,slow=37						
ASF	**Jabal al Asfar**	**19.91**	**351**	P	**P**	**22 27 22.8**	**+0.3**
	comp=N,0.2nm,0.3s,baz=37,slow=10,SNR=3.8						
MALT	**Malatya**	**25.81**	**356**	*eP*	**P**	**22 28 23.1**	**+2.2**
	comp=N,9.8nm,1.2s,mb4.2						
BRTR	**Keskin Array B**	**27.84**	**348**	P	**P**	**22 28 39.8**	**+0.4**
	comp=N,1.8nm,0.8s,mb3.7,baz=180,slow=11,SNR=6.4						
AKASG	**Malin Array Be**	**39.24**	**349**	P	**P**	**22 30 18.8**	**+0.7**
	comp=N,2.0nm,0.8s,mb3.9,baz=170,slow=7.1,SNR=7.4						
GERES	**GERESS Array B**	**42.58**	**334**	P	**P**	**22 30 44.5**	**-1.1**
	comp=N,1.9nm,0.9s,mb3.8,baz=127,slow=6.7,SNR=13						
MBDF	**Montbardon**	**43.23**	**325**	*eP*	**P**	**22 30 51.7**	**+0.8**
	comp=N,23nm,1.0s,mb4.5						
LPG	**La Plagne**	**43.71**	**325**	*eP*	**P**	**22 30 54.7**	**-0.1**
	comp=N,13nm,1.2s,mb4.2						
LPL	**La Plagne**	**43.73**	**325**	*eP*	**P**	**22 30 54.3**	**-0.7**
DBIC	**Dimbokro**	**45.18**	**267**	P	**P**	**22 31 06.2**	**-0.9**
	comp=N,3.7nm,1.1s,mb4.1,baz=57,slow=13,SNR=4.8						
DBIC				LR	LR	22 49 14.6	
	comp=N,102nm,20.6s,MS3.7,baz=80,slow=35						
DBIC	**Dimbokro**	**45.18**	**267**	*eP*	**P**	**22 31 05.3**	**-1.8**
	comp=N,2.4nm,0.9s,mb4.0						
DBIC				LR	LR	22 49 14.6	
MDT	**Midelt**	**45.99**	**304**	P	**P**	**22 31 12.7**	**-0.5**
	comp=N,1.2nm,1.0s,mb3.8,baz=135,slow=10.0,SNR=3.9						
SMF	**Signal de Mont**	**46.02**	**325**	*eP*	**P**	**22 31 12.2**	**-1.1**
	comp=N,6.1nm,0.9s,mb4.2						
LOR	**Lormes**	**46.38**	**326**	*eP*	**P**	**22 31 15.3**	**-0.8**
	comp=N,6.4nm,0.9s,mb4.3						
MEZF	**Maizieres J'vi**	**46.48**	**328**	*eP*	**P**	**22 31 17.1**	**+0.2**
	comp=N,8.2nm,0.7s,mb4.5						
ETSF	**Etsaut**	**46.72**	**318**	*eP*	**P**	**22 31 19.7**	**+0.9**
	comp=N,14nm,1.1s,mb4.5						
BVAR	**Borovoye Array**	**46.90**	**24**	P	**P**	**22 31 20.6**	**+0.4**
	comp=N,0.7nm,0.7s,mb3.7,baz=202,slow=8.0,SNR=5.7						
SJPF	**Ste Jean**	**47.25**	**318**	*eP*	**P**	**22 31 23.8**	**+0.7**
	comp=N,19nm,1.3s,mb4.6						
EVO	**Evora**	**50.27**	**310**	*eP*	**P**	**22 31 46.9**	**+0.4**
	comp=N,38nm,1.5s,mb4.9						
NOA	**NORSAR Array B**	**53.02**	**343**	P	**P**	**22 32 04.8**	**-2.2**
	comp=N,1.8nm,0.8s,mb4.0,baz=142,slow=7.3,SNR=3.4						
ZAL	**Zalesovo**	**54.03**	**31**	P	**P**	**22 32 14.8**	**+0.4**
	comp=N,0.7nm,0.4s,mb3.9,baz=233,slow=6.6,SNR=4.2						
SONM	**Songino Array**	**64.61**	**43**	P	**P**	**22 33 28.0**	**+0.2**
	comp=N,0.7nm,0.8s,mb3.8,baz=245,slow=7.3,SNR=5.8						
SONM				LR	LR	23 05 31.8	
	comp=N,128nm,18.2s,MS4.2,baz=255,slow=40						
BDFB	**Brasilia**	**92.03**	**255**	LR	LR	23 12 55.8	
	comp=N,84nm,18.7s,MS4.2,baz=116,slow=33						

MOS 22 22:51:39.7±1.1,54.87N×111.27E,h18km,mb4.1/1,1C-1D, Error ellipse: s-maj=17.4km s-min=9.7km az=79.2,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.06**	**276**	⇓*iPG*	Pb	22 51 43.7	+0.6
YLYR				*e*		22 51 45.1	
YLYR				pmax	pmax		
	comp=Z,2μm,0.1s						
YLYR				smax			
	comp=N,4μm,0.1s						
KMO	**Kumora**	**1.02**	**358**	⇑*iPG*	Pb	22 51 57.7	-0.8
KMO				*e*		22 52 11.1	
KMO				pmax	pmax		
	comp=Z,420nm,0.3s						
KMO				smax			
	comp=E,1μm,0.4s						
YOA	**Uoyan**	**1.29**	**11**	*ePG*	Pn	22 52 04.1	+1.1
YOA				*i*		22 52 20.3	
YOA				pmax	pmax		
	comp=Z,425nm,0.2s						
YOA				smax			
	comp=E,4μm,0.5s						
NIZ	**Nizh Angarsk**	**1.34**	**313**	*ePG*	Pn	22 52 03.6	-0.1
NIZ				*e*		22 52 21.4	
NIZ				pmax	pmax		
	comp=Z,78nm,0.6s						
NIZ				smax			
	comp=N,302nm,0.4s						
SYVR	**Suvo**	**1.43**	**212**	*ePN*	Pn	22 52 05.8	+0.9
SYVR				*e*		22 52 25.0	
SYVR				pmax	pmax		
	comp=Z,42nm,0.1s						
SYVR				smax			
	comp=N,254nm,0.3s						
SVKR	**Severomuysk**	**1.81**	**45**	*ePN*	Pn	22 52 11.2	+0.8
SVKR				*e*		22 52 12.1	
SVKR				*e*		22 52 36.2	

SVKR					pmax	pmax		
	comp=Z,242nm,0.3s							
SVKR					smax			
	comp=N,820nm,0.4s							
CIT	**Chita**	**3.16**	**154**	*e*PN	Pn	22 52 37.9	+8.1	
CIT				*e*		22 53 17.1		
CIT				pmax	pmax			
	comp=Z,44nm,0.4s							
CIT				smax				
	comp=E,152nm,0.7s							
CRS	**Chara**	**4.43**	**60**	*e*PN	Pn	22 53 00.1	+12	
CRS				*e*		22 53 57.5		
CRS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
CRS				smax				
	comp=E,80nm,1.2s							
TUP	**Tupik**	**5.06**	**92**	*e*PN	Pn	22 52 54.8	-1.9	
TUP				*e*		22 53 08.8		
TUP				*e*S	Sn	22 53 52.2	-3.3	
TUP				*e*		22 54 15.3		
TUP				pmax	pmax			
	comp=Z,7.0nm,0.4s							
TUP				smax				
	comp=N,92nm,0.8s							
KPC	**Khapcheranga**	**5.22**	**172**	*e*PN	Pn	22 52 59.1	+0.2	
KPC				*e*		22 53 14.7		
KPC				*e*		22 54 23.6		
TLY	**Talaya**	**5.58**	**238**	*e*PN	Pn	22 53 02.8	-1.2	
TLY				*e*		22 53 19.0		
TLY				*e*		22 54 30.7		
TLY				pmax	pmax			
	comp=Z,8.0nm,1.0s							
TLY				smax				
	comp=E,27nm,1.3s							
MOY	**Mondy**	**6.95**	**247**	*e*PN	Pn	22 53 22.8	-0.5	
MOY				*e*		22 53 44.0		
ORL	**Orlik**	**7.19**	**256**	*e*PN	Pn	22 53 25.1	-1.6	
ORL				*e*		22 53 48.1		
ORL				*e*		22 55 20.5		
ORL				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ORL				smax				
	comp=N,19nm,1.1s							

ATH ***22*** *22:55:21.3, 37.20N×26.76E, h5km, MD3.2/5*
NEIC ***22*** *22:55:21.0, 37.21N×26.76E, h5km, MD3.2(ATH), After ATH.*
ISK ***22*** *22:55:22.6, 37.21N×26.64E, h23km, MD3.2*
CSEM ***22*** *22:55:23.1±0.1, 37.28N×26.70E, h20km, MD3.2, Error ellipse: s-maj=2.7km s-min=2.4km az=13.0*

ISC 22 22:55:23.4±0.5,**37.28N**±0.03×**26.63E**±0.04,**h23**km±7km, **n20,σ1§02/31,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMG	**Samos**	**0.45**	**21**	*e*Pb		**Pb**	**22 55 31.4**	**-1.3**
SMG				*e*Sb		**Sb**	**22 55 37.6**	**-1.4**
BODT	**Bodrum**	**0.58**	**112**	PG		**Pb**	**22 55 34.7**	**-0.2**
BODT				SG		**Sb**	**22 55 42.7**	**0.0**
BDRM	**Kayabasi**	**0.68**	**108**	*i* P		**Pb**	**22 55 36.7**	**+0.2**
BDRM				*i* S		**Sb**	**22 55 46.0**	**+0.4**
APE	**Apeiranthos**	**0.91**	**257**	PG		**Pb**	**22 55 39.6**	**-0.7**
APE				SG		**Sb**	**22 55 53.2**	**+1.2**
APE	**Apeiranthos**	**0.91**	**257**	*e*Pb		**Pb**	**22 55 40.3**	**0.0**
APE				*e*Sb		**Sb**	**22 55 53.9**	**+1.9**
APE	**Apeiranthos**	**0.91**	**257**	*e*Pb		**Pb**	**22 55 40.3**	**0.0**
APE				*e*Sg		**Sb**	**22 55 53.2**	**+1.2**
APE				*e*Sb		**Sb**	**22 55 53.9**	**+1.9**
MLSB	**Milas**	**0.91**	**89**	*e*PG		**Pb**	**22 55 40.4**	**0.0**
MLSB				*e*SG		**Sb**	**22 55 53.4**	**+1.3**
AYDN	**Tasoluk**	**1.06**	**69**	*i* P		**Pb**	**22 55 42.4**	**-0.5**
AYDN				*i* S		**Sb**	**22 55 57.7**	**+1.3**
URLA	**Izmir**	**1.07**	**358**	*i* P		**Pb**	**22 55 42.0**	**-1.2**
URLA				*i* S		**Sb**	**22 55 57.9**	**+1.1**
BLCB	**Balcova**	**1.15**	**16**	PN		**Pn**	**22 55 44.7**	**+0.5**
IZM	**Izmir**	**1.22**	**24**	PN		**Pn**	**22 55 45.8**	**+0.6**
KDAG	**Bornova**	**1.22**	**24**	*i* P		**Pn**	**22 55 43.9**	**-1.4**
KDAG				*i* S		**Sb**	**22 56 02.2**	**+1.1**
SANT	**Santorini**	**1.31**	**226**	*e*Pn		**Pn**	**22 55 46.0**	**-0.6**
SANT	**Santorini**	**1.31**	**226**	*e*Pn		**Pn**	**22 55 46.0**	**-0.6**
YER	**Yerkesik**	**1.32**	**96**	*e*PN		**Pn**	**22 55 46.2**	**-0.6**
KARP	**Karpathos**	**1.79**	**166**	*e*PB		**Pn**	**22 55 53.0**	**-2.2**
AKS	**Akhisar**	**1.84**	**30**	*e*PN		**Pn**	**22 55 54.4**	**+0.2**
DENT	**Denizli**	**1.96**	**75**	*e*PN		**Pn**	**22 55 55.2**	**-0.7**
PRK	**Paraskevi**	**1.98**	**352**	*e*PG		**Pn**	**22 56 00.0**	**+3.9**
NPS	**Neapolis**	**2.18**	**203**	*e*PN		**Pn**	**22 56 00.5**	**+1.5**

WEL 22 23:01:10.6±0.2,**38.16S**×**176.32E,h151**km±2km,**ML3.6**/12, **1C-1D,Error ellipse: s-maj=3.5km s-min=3.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**0.63**	**100**	⇓PN		P	23 01 32.8	-0.5
URZ				SN		S	23 01 49.5	-1.1
MWZ	**Matawai**	**0.96**	**101**	PN		P	23 01 35.6	+0.2
MWZ				SN		S	23 01 54.1	-0.4
BKZ	**Black Stump Fm**	**1.02**	**173**	PN		P	23 01 35.8	0.0
BKZ				SN		S	23 01 54.7	-0.5
WNVZ	**Wahianoa**	**1.30**	**206**	PN		P	23 01 38.4	-0.1
MTVZ	**Mangateitei**	**1.40**	**208**	PN		P	23 01 39.3	-0.3
PUZ	**Puketiti**	**1.53**	**87**	*e*PN		P	23 01 40.3	-0.6
PUZ				SN		S	23 02 03.1	-1.1
MXZ	**Matakaoa Point**	**1.68**	**70**	PN		P	23 01 42.2	-0.3
WAZ	**Wanganui**	**1.91**	**213**	PN		P	23 01 44.4	-0.7
PXZ	**Pawanui**	**1.92**	**168**	PN		P	23 01 44.7	-0.4
PXZ				SN		S	23 02 10.7	-1.1
TSZ	**Takapari Road**	**1.92**	**188**	PN		P	23 01 44.2	-1.0
BFZ	**Birch Farm**	**2.52**	**181**	PN		P	23 01 50.8	-1.9
MRZ	**Mangatainoka R**	**2.57**	**193**	⇑PN		P	23 01 50.9	-2.3
KIW	**Kapiti Island**	**2.91**	**202**	PN		P	23 01 54.6	-3.0
MTW	**Mount Morrison**	**3.06**	**192**	PN		P	23 01 56.2	-3.3
CAW	**Cannon Point**	**3.10**	**198**	PN		P	23 01 56.9	-3.1
TRWZ	**Traveller**	**3.27**	**188**	PN		P	23 01 59.1	-3.2
PAWZ	**Paruwai Farm**	**3.29**	**192**	PN		P	23 01 59.0	-3.5
MSWZ	**Moikau Station**	**3.36**	**194**	PN		P	23 01 59.7	-3.7
TCW	**Tory Channel**	**3.44**	**207**	PN		P	23 02 00.7	-3.7
THZ	**Tophouse**	**4.46**	**215**	*e*PN		P	23 02 13.4	-4.4
MQZ	**McQueen's Vall**	**6.20**	**205**	*e*SN		S	23 03 39.2	-12

MAN 22 23:03:42.7,17.41N×122.54E,h9km,mb4.4,ML3.3,MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CVP	**Callao Caves**	**0.75**	**293**	*e*P		Pb	23 03 57.0	-0.4
CAUP	**Cauayan**	**0.83**	**236**	*e*P		Pb	23 03 59.3	+0.5
SGCP	**Mt. Cagua**	**0.95**	**330**	*e*P		Pb	23 04 01.1	+0.2
SGCP				*e*S		Sb	23 04 15.5	+2.1
ABRA	**Dolores**	**1.76**	**278**	*e*P		Pn	23 04 14.3	+0.6
BALP	**Baler**	**1.90**	**209**	*e*P		Pn	23 04 14.2	-1.5
PCPH	**Palayan**	**2.30**	**217**	*e*P		Pn	23 04 21.3	-0.1
PCPH				*e*S		Sn	23 04 50.2	+0.1

DHMR 22 23:04:38.4±0.3,**12.65N**×**40.51E,h12**km±38km,**ML3.9,2D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UDYN	**Al 'Udayn**	**3.61**	**68**	*i* S		Sn	23 06 23.1	+4.6
UDYN				AML		AML	23 06 48.5	
	comp=N,455nm,0.5s							
DHBB	**Dhamar BB**	**4.23**	**63**	⇓*e*P		Pn	23 05 45.4	+1.2
DHBB				*i* S		Sn	23 06 37.5	+3.4
HAJJ	**Hajjah**	**4.26**	**44**	*i* S		Sn	23 06 38.2	+3.3
LBOS		**4.77**	**75**	⇓*e*P		Pn	23 05 50.4	-1.5
LBOS				*i* S		Sn	23 06 46.8	-1.0
BDHA	**Al Bayda'**	**5.10**	**74**	*i* S		Sn	23 06 54.8	-1.2

MOS ***22*** *23:22:14.9±0.9, 13.85N×120.78E, h141km, mb4.9/28, Error ellipse: s-maj=13.4km s-min=6.5km az=119.9*
BJI ***22*** *23:22:16.2, 13.74N×120.96E, h162km, mB5.1, mb5.0*
NEIC ***22*** *23:22:16.7±0.2, 13.78N×120.78E, mb4.9/28, Error ellipse: s-maj=6.5km s-min=4.3km az=69.0*
HRVD ***22*** *23:22:16.7±0.5, 13.99N×120.64E, h148km±5km, MW4.9/46, Centroid moment Tensor Solution. LP body waves: s11,c11;Mantle waves: s46,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.87±.12; $M_{\theta\theta}$0.22±.15; $M_{\phi\phi}$-2.09±.15; $M_{r\theta}$1.08±.09; $M_{\theta\phi}$0.11±.13; $M_{\phi r}$-1.00±.13; Best double couple: $M_0$2.471×10^{16} NP1:ϕ_s18°,δ35°,λ129°. NP2:ϕ_s154°,δ63°,λ66°. Principal axes: T 2.561, Plg64°, Azm24°; N -.182, Plg21°, Azm165°; P -2.382, Plg15°, Azm261°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***22*** *23:22:17.7±0.7, 13.80N×120.79E, h155km±6km, mb4.2/28, mb1 4.3/29, mb1mx4.3/30, mbtmp4.7/29, MS3.4/3, Ms1 3.4/3, ms1mx3.0/29 Error ellipse: s-maj=13.7km s-min=7.8km az=70.0*
MAN ***22*** *23:22:18.6, 13.82N×120.53E, h134km, mb5.0, ML3.9, MS4.0*

ISC 22 23:22:16.5±0.2,**13.81N**±0.03×**120.76E**±0.04,**h149**km, **h149**km±1.9km:**pP-P,n187,σ1§16**/204,**mb4.8**/72,**10C-10D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TGY	**Tagaytay City**	**0.34**	**31**	⇓*i*P		**P**	**23 22 39.8**	**+2.3**
TGY				*i* S		**S**	**23 22 48.1**	**-5.4**
PGP	**Puerto Galera**	**0.36**	**148**	*e*P		**P**	**23 22 39.1**	**+1.5**
PGP				*e*S		**S**	**23 22 39.7**	**-14**
LUBP	**Lubang**	**0.50**	**261**	*e*P		**P**	**23 22 38.6**	**+0.4**
QVPH	**Quezon City--P**	**0.89**	**19**	*e*P		**P**	**23 22 42.6**	**+2.2**
QVPH				*e*S		**S**	**23 23 00.6**	**+1.7**
NBP	**Mount Natib**	**0.98**	**340**	⇓*e*P		**P**	**23 22 41.8**	**+0.7**
NBP				*e*S		**S**	**23 22 59.1**	**-1.0**
NZB	**Bigte**	**1.10**	**18**	⇓*e*P		**P**	**23 22 43.8**	**+1.6**
BOAC	**Boac**	**1.11**	**108**	*e*P		**P**	**23 22 46.1**	**+3.7**
BOAC				*e*S		**S**	**23 23 08.2**	**+5.9**
SJMP	**San Jose**	**1.39**	**165**	*e*P		**P**	**23 22 47.2**	**+2.0**
SJMP				*e*S		**S**	**23 23 08.8**	**+1.6**
POLP	**Polilio Island**	**1.47**	**51**	*e*P		**P**	**23 22 49.8**	**+3.8**
PCPH	**Palayan**	**1.77**	**11**	*e*P		**P**	**23 22 50.4**	**+1.2**
PCPH				*e*S		**S**	**23 23 14.7**	**+0.2**
BUSP	**Coron**	**1.88**	**197**	*e*P		**P**	**23 22 51.5**	**+1.0**
OTRP	**Odiongan**	**1.90**	**139**	*e*P		**P**	**23 22 53.3**	**+2.7**
AUQP	**San Andres**	**1.93**	**104**	*e*P		**P**	**23 22 56.7**	**+5.7**
BALP	**Baler**	**2.08**	**22**	*e*P		**P**	**23 22 55.4**	**+2.6**
SCZP	**Santa Cruz**	**2.12**	**337**	*e*P		**P**	**23 22 53.8**	**+0.5**
BCPH	**Baguio City Da**	**2.56**	**356**	⇑*i*P		**P**	**23 23 02.9**	**+4.1**
BCPH				*i* S		**S**	**23 23 31.1**	**-0.2**
KALP	**Kalibo**	**2.62**	**144**	*e*P		**P**	**23 23 09.4**	**+10**
BOLP	**Bolinao**	**2.68**	**342**	*e*P		**P**	**23 23 01.2**	**+0.8**
CUYO	**Cuyo Island**	**2.96**	**175**	*e*P		**P**	**23 23 05.9**	**+2.0**
RCP	**Roxas**	**2.96**	**139**			**P**	**23 23 08.4**	**+4.4**
CAUP	**Cauayan**	**3.28**	**18**	*e*P		**P**	**23 23 10.7**	**+2.5**
PVCP	**Virac**	**3.31**	**93**	*e*P		**P**	**23 23 12.9**	**+4.4**
GUIM	**Jordan**	**3.64**	**150**	*e*P		**P**	**23 23 17.1**	**+4.3**
CVP	**Callao Caves**	**4.00**	**15**	*e*P		**P**	**23 23 19.0**	**+1.4**
	40μm,1.0s							
CNP	**Catarman**	**4.02**	**108**	*e*P		**P**	**23 23 22.8**	**+5.0**
YHNB	**Yeheng**	**10.82**	**3**	P		**P**	**23 24 54.3**	**+6.2**
QIZ	**Qiongzhong**	**11.68**	**298**	P		**P**	**23 25 00.8**	**+1.3**
QIZ				S		**S**	**23 27 14.6**	**+7.3**
QIZ				AMB	AMB			
	comp=Z,15nm,1.5s							
JOW	**Kunigami**	**14.74**	**27**	P		**P**	**23 25 39.4**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=133,slow=24,SNR=4.5							
KSM	**Kuching**	**16.03**	**221**	*e*P		**P**	**23 25 56.9**	**+1.9**
SSE	**Sheshan**	**17.21**	**1**	P		**P**	**23 26 05.3**	**-3.9**
SSE				S		**S**	**23 29 11.8**	**-2.1**
SSE				AMB	AMB			
	comp=Z,44nm,0.7s							
SSE				AMB	AMB			
	comp=Z,296nm,4.1s							
SSE				LR	LR			
	comp=N,35nm,23.1s							
SSE				LR	LR			
	comp=E,61nm,23.0s							
SSE				LR	LR			
	comp=Z,42nm,16.8s							
KKTK	**Khon Kaen**	**17.50**	**281**	P		**P**	**23 26 14.0**	**+1.2**
	comp=Z,432nm,0.7s							
GYA	**Guiyang**	**18.24**	**316**	⇑*i*P		**P**	**23 26 21.8**	**+0.8**
GYA				S		**S**	**23 29 42.9**	**+6.6**
GYA				AMB	AMB			
	comp=Z,20nm,1.2s							
GYA				AMB	AMB			
	comp=Z,380nm,5.1s							
GYA				LR	LR			
	comp=N,340nm,15.0s							
GYA				LR	LR			
	comp=E,410nm,14.8s							
GYA				LR	LR			
	comp=Z,380nm,15.2s							
NJ2	**Nanjing**	**18.24**	**355**	*e*P		**P**	**23 26 21.8**	**+0.8**
NJ2				XP			23 27 01.9	
NJ2				S		**S**	**23 29 37.0**	**+0.7**
NJ2				PCP	PcP		23 30 47.0	+0.4
NJ2				SCP			23 34 06.0	
NJ2				PCS			23 34 23.0	
NJ2				AMB	AMB			
	comp=Z,30nm,1.0s							
NJ2				AMB	AMB			
	comp=Z,560nm,4.3s							
NJ2				LR	LR			
	comp=N,1μm,23.6s							
NJ2				LR	LR			
	comp=E,890nm,22.4s							
NJ2				LR	LR			
	comp=Z,280nm,16.9s							
ENH	**Enshi**	**19.40**	**329**	*e*P		**P**	**23 26 33.0**	**-0.3**
	comp=Z,25nm,0.7s							
NANT	**Nan**	**19.87**	**287**	⇓P		**P**	**23 26 36.5**	**-1.6**
	comp=Z,178nm,0.7s							
KMI	**Kunming**	**20.35**	**306**	P		**P**	**23 26 44.3**	**+1.4**
KMI				AMB	AMB			
	comp=Z,17nm,0.8s							
KMI				LR	LR			
	comp=N,535nm,9.8s							
KMI				LR	LR			
	comp=E,419nm,9.1s							
KMI				LR	LR			
	comp=Z,169nm,10.6s							
JNU	**Nakatsue**	**21.32**	**24**	P		**P**	**23 26 52.5**	**0.0**
	comp=Z,11nm,0.9s,mb4.2,baz=180,slow=18,SNR=6.3							
JNU				LR	LR		23 35 09.7	
	comp=Z,75nm,19.9s,baz=252,slow=36							
CHG	**Chiang Mai**	**21.51**	**286**	P		**P**	**23 26 55.9**	**+1.4**
	comp=Z,10nm,1.0s,mb4.2							
TIA	**Tai'an**	**22.54**	**352**	*e*P		**P**	**23 27 04.8**	**+0.3**
XAN	**Xi'an**	**22.82**	**334**	P		**P**	**23 27 07.6**	**+0.4**
XAN				AMB	AMB			
	comp=Z,71nm,1.0s,mb5.0							
CD2	**Chengdu**	**23.11**	**320**	P		**P**	**23 27 11.6**	**+1.5**
CD2				*e*S		**S**	**23 31 04.9**	**-1.6**
CD2				AMB	AMB			
	comp=Z,40nm,1.0s,mb4.8							
GUMO	**Guam**	**23.43**	**88**	P		**P**	**23 27 13.9**	**+0.7**
	comp=Z,30nm,0.3s,mb5.3,baz=192,slow=23,SNR=4.5							
GUMO	**Guam**	**23.43**	**88**	P		**P**	**23 27 13.9**	**+0.7**
GUMO				*e*P			23 27 17.3	
KS15	**Wonju Array Si**	**24.38**	**14**	*e*P		**P**	**23 27 22.5**	**+0.4**
JHJ	**Hachijo jima 2**	**25.88**	**39**	LR		LR	23 35 54.3	
	comp=Z,88nm,19.7s,baz=255,slow=32							
LZH	**Lanzhou**	**26.88**	**329**	⇓P		**P**	**23 27 46.3**	**+1.0**
LZH				PCP	PcP		23 30 57.0	-7.1
LZH				S		**S**	**23 32 10.3**	**+1.2**
LZH				PCS			23 34 39.0	
LZH				AMB	AMB			
	comp=Z,290nm,1.1s,mb5.8							
LZH				AMB	AMB			
	comp=Z,300nm,4.4s							
LZH				LR	LR			
	comp=E,460nm,13.4s							
LZH				LR	LR			
	comp=Z,480nm,18.1s							
MJAR	**Matsushiro Arr**	**27.51**	**32**	P		**P**	**23 27 48.1**	**-2.9**
	comp=Z,2.8nm,0.9s,mb4.0,baz=214,slow=8.2,SNR=6.6							
MJAR				LR	LR		23 37 26.3	
	comp=Z,101nm,21.1s,baz=230,slow=33							
HHC	**Hu-ho-hao-te**	**28.11**	**345**	⇑*e*P		**P**	**23 27 56.0**	**-0.4**
HHC				PP	PP		23 28 55.5	+3.0
HHC				S		**S**	**23 32 22.3**	**-6.6**
HHC				SS	SS		23 34 02.4	-2.2
HHC				SCP			23 34 26.6	
HHC				PCS			23 34 47.3	
HHC				SCS	ScS		23 38 17.8	-6.1
HHC				AMB	AMB			
	comp=Z,21nm,0.6s,mb5.0							
HHC				AMB	AMB			
	comp=Z,110nm,3.9s							
GTA	**Gaotai**	**31.47**	**328**	⇑P		**P**	**23 28 26.4**	**+0.2**
GTA				PP	PP		23 29 42.0	+6.5
GTA				S		**S**	**23 33 22.1**	**+0.3**
GTA				AMB	AMB			
	comp=Z,67nm,0.9s,mb5.4							
GTA				AMB	AMB			
	comp=Z,169nm,4.9s							
GTA				LR	LR			
	comp=N,105nm,14.1s							
GTA				LR	LR			
	comp=E,102nm,14.1s							
GTA				LR	LR			
	comp=Z,110nm,17.9s							
LSA	**Lhasa**	**31.59**	**305**	*e*P		**P**	**23 28 27.8**	**+0.4**
	comp=Z,10nm,0.6s,mb4.7							
LSA	**Lhasa**	**31.59**	**305**	*e*P		**P**	**23 28 27.8**	**+0.5**
LSA				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.7							
MDJ	**Mudanjiang**	**31.61**	**12**	P		**P**	**23 28 26.9**	**-0.5**
MDJ				PP	PP		23 29 42.0	+4.8
MDJ				PCP	PcP		23 31 13.8	-2.2
MDJ				S		**S**	**23 33 24.3**	**+0.3**
MDJ				SCP			23 34 37.8	
MDJ				PCS			23 34 58.8	
MDJ				SCS	ScS		23 38 32.6	-8.1
MDJ				AMB	AMB			
	comp=Z,14nm,0.8s,mb4.7							
MDJ				AMB	AMB			
	comp=Z,59nm,5.4s							
MDJ				LR	LR			
	comp=N,41nm,23.2s							
MDJ				LR	LR			
	comp=E,55nm,29.6s							
MDJ				LR	LR			
	comp=Z,48nm,25.4s							
MDJ	**Mudanjiang**	**31.61**	**12**	*e*P		**P**	**23 28 26.6**	**-0.8**
	comp=Z,8.5nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**32.07**	**171**	*e*P		**P**	**23 28 30.5**	**-1.1**
	comp=Z,7.4nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**32.07**	**171**	P		**P**	**23 28 30.2**	**-1.5**
	comp=Z,8.8nm,0.8s,mb4.5,baz=50,slow=2.1,SNR=10.0							
FITZ				pP	pP		23 29 02.8	-0.8
	comp=Z,5.8nm,1.0s,baz=14,slow=3.2,SNR=1.7							
MBWA	**Marble Bar**	**34.77**	**182**	*e*P		**P**	**23 28 53.1**	**-1.5**
	comp=Z,61nm,1.3s,mb5.1							
PMG	**Port Moresby**	**34.91**	**130**	P		**P**	**23 28 54.7**	**-1.1**
	comp=Z,11nm,0.7s,mb4.6,baz=227,slow=10,SNR=3.1							
PMG	**Port Moresby**	**34.91**	**130**	P		**P**	**23 28 54.8**	**-1.1**
HIA	**Hailar**	**35.36**	**359**	*e*P		**P**	**23 28 58.3**	**-1.0**
	comp=Z,5.7nm,0.4s,mb4.5							
HIA	**Hailar**	**35.36**	**359**	*e*P		**P**	**23 28 58.3**	**-1.0**
HIA				pmax	pmax			
	comp=Z,6.0nm,0.4s							
ASAJ	**Asahikawa**	**35.51**	**27**	P		**P**	**23 28 59.0**	**-1.6**
	comp=Z,14nm,0.9s,mb4.6,baz=228,slow=10,SNR=4.1							
PKI	**Pulchoki**	**35.65**	**298**	*e*P		**P**	**23 29 01.6**	**-0.4**
	comp=Z,26nm,0.5s,mb5.1							
PKI	**Pulchoki**	**35.65**	**298**	*e*P		**P**	**23 29 01.6**	**-0.4**
PKI				pmax	pmax			
	comp=Z,13nm,0.5s,mb4.8							
KKN	**Kakani**	**35.81**	**299**	*e*P		**P**	**23 29 02.9**	**-0.5**
	comp=Z,62nm,1.0s,mb5.2							
DMN	**Daman**	**35.92**	**298**	*e*P		**P**	**23 29 04.1**	**-0.1**
	comp=Z,66nm,1.0s,mb5.2							
SONM	**Songino Array**	**35.97**	**343**	P		**P**	**23 29 04.2**	**-0.3**
	comp=Z,18nm,0.6s,mb4.9,baz=163,slow=10,SNR=96							
SONM				pP	pP		23 29 35.5	-1.6
	comp=Z,4.1nm,0.9s,baz=158,slow=9.2,SNR=2.9							
SONM				ScP			23 34 58.7	
	comp=Z,0.4nm,0.6s,baz=135,slow=4.1,SNR=3.4							
WRAB	**Tennant Creek**	**36.10**	**158**	*e*P		**P**	**23 29 04.0**	**-1.8**
	comp=Z,14nm,0.9s,mb4.6							
WRAB	**Tennant Creek**	**36.10**	**158**	*e*P		**P**	**23 29 04.0**	**-1.8**
WRAB				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.6							
WRA	**Warramunga Arr**	**36.11**	**158**	P		**P**	**23 29 04.3**	**-1.6**
	comp=Z,3.2nm,0.6s,mb4.1,baz=324,slow=11,SNR=39							
WRA				pP	pP		23 29 37.5	-1.0
	comp=Z,3.9nm,0.8s,baz=335,slow=9.6,SNR=4.3							
WRA				S		**S**	**23 34 27.8**	**-5.8**
	comp=Z,1.5nm,1.1s,baz=340,slow=14,SNR=3.2							
WRA				ScP			23 34 57.4	
	comp=Z,1.0nm,0.9s,baz=345,slow=4.2,SNR=4.9							
WRA	**Warramunga Arr**	**36.11**	**158**	P		**P**	**23 29 04.3**	**-1.6**
WRA				pP	pP		23 29 37.5	-1.0
WRA				S		**S**	**23 34 27.8**	**-5.8**
WRA				ScP			23 34 57.4	
WB2	**Warramunga Arr**	**36.11**	**158**	*e*P		**P**	**23 29 04.3**	**-1.6**
GKN	**Gorkha**	**36.42**	**299**	*e*P		**P**	**23 29 07.6**	**-0.9**
	comp=Z,61nm,1.1s,mb5.1							
KLR	**Kul'dur**	**36.46**	**12**	*e*P		**P**	**23 29 05.6**	**-3.0**
KOLN	**Koldanda**	**37.25**	**298**	*e*P		**P**	**23 29 15.1**	**-0.3**
WMQ	**Urumqi**	**41.15**	**323**	*e*P		**P**	**23 29 48.0**	**+0.5**
WMQ				PP	PP		23 31 30.0	+2.8
WMQ				*e*S		**S**	**23 35 46.0**	**-3.1**
WMQ				AMB	AMB			
	comp=Z,29nm,0.8s,mb5.0							
WMQ				AMB	AMB			
	comp=Z,149nm,4.0s							
WMQ				LR	LR			
	comp=N,225nm,21.8s							
WMQ				LR	LR			
	comp=E,148nm,18.3s							
WMQ				LR	LR			
	comp=Z,135nm,20.6s							
CTA	**Charters Tower**	**42.00**	**143**	*e*P		**P**	**23 29 55.9**	**+1.1**
	comp=Z,10nm,0.8s,mb4.5							
CTA	**Charters Tower**	**42.00**	**143**	P		**P**	**23 29 54.8**	**0.0**
	comp=Z,9.7nm,0.7s,mb4.5,baz=328,slow=11,SNR=10							
CTA	**Charters Tower**	**42.00**	**143**	*e*P		**P**	**23 29 55.9**	**+1.1**
CTA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CTAO	**Charters Tower**	**42.00**	**143**	*e*P		**P**	**23 29 53.4**	**-1.5**
	comp=Z,14nm,0.8s,mb4.6							
CTAO	**Charters Tower**	**42.00**	**143**	*e*P

SNR=10
STKA Stephens Creek 49.63 157 P P 23 30 54.1 -0.7
comp=Z,1.3nm,0.5s,mb3.9,baz=354,slow=7.5,SNR=5.0
STKA Stephens Creek 49.63 157 eP P 23 30 53.0 -1.8
KURK Kurchatov 50.13 326 eP P 23 30 58.0 -0.3
comp=Z,172nm,0.7s,mb5.8
KURK Kurchatov 50.13 326 eP P 23 30 58.0 -0.3
KURK pmax pmax
comp=Z,172nm,0.7s,mb5.8
NVS Novosibirsk 50.27 333⇑iP P 23 30 57.7 -1.6
NVS pmax pmax
comp=Z,50nm,1.2s,mb5.0
NVS pmax pmax
comp=N,37nm,1.5s
NVS pmax pmax
comp=E,46nm,1.3s
MA2 Magadan 50.78 19 P P 23 31 01.9 -1.2
comp=E,22nm,0.9s,mb4.8
MA2 Magadan 50.78 19 P P 23 31 01.9 -1.3
MA2 pmax pmax
comp=Z,22nm,0.9s,mb4.8
KKAR Karatay Array 51.94 314 i P P 23 31 11.7 -0.4
KKAR pmax pmax
comp=Z,8.0nm,0.5s,mb4.6
BVA0 Borovoye Array 55.71 326 eP P 23 31 38.3 -1.3
BVA0 pmax pmax
comp=Z,17nm,1.6s,mb4.6
BVAR Borovoye Array 55.71 326 P P 23 31 38.5 -1.1
comp=Z,17nm,0.8s,mb4.9,baz=117,slow=9.9,SNR=20
BRVK Borovoye 55.78 326 eP P 23 31 39.1 -1.0
comp=Z,45nm,1.0s,mb5.3
BRVK Borovoye 55.78 326 eP P 23 31 39.1 -1.0
BRVK pmax pmax
comp=Z,45nm,1.0s,mb5.2
TIXI Tiksi 58.02 3 eP P 23 31 51.3 -4.3
TIXI pmax pmax
comp=Z,48nm,0.9s,mb5.3
AB31 Akbulak array 60.69 319 i P P 23 32 13.0 -1.2
AB31 pmax pmax
comp=Z,16nm,0.7s,mb5.0
BILL Bilibino 61.59 18 eP P 23 32 18.4 -1.6
comp=Z,16nm,0.4s,mb5.2
BILL Bilibino 61.59 18d iP P 23 32 19.6 -0.4
BILL pmax pmax
comp=Z,39nm,0.8s,mb5.3
ARU Arti 63.32 327 eP P 23 32 29.8 -1.9
comp=Z,26nm,0.7s,mb5.2
ARU Arti 63.32 327⇑iP P 23 32 30.0 -1.6
ARU e 23 34 49.7
ARU eS S 23 40 52.2 +2.2
ARU eSS SS 23 45 00.6 -0.4
ARU pmax pmax
comp=Z,23nm,0.7s,mb5.1
SOKR Solikamsk 65.09 330⇓iP P 23 32 41.4 -1.6
SOKR pmax pmax
comp=Z,20nm,1.1s,mb4.9
RDF Al-Radifah 68.89 296 eP P 23 33 06.4 -1.0
RDF AMb AMB 23 33 07.2
comp=Z,64nm,1.1s,mb5.3
MIB Mutribah 69.00 297 eP P 23 33 07.0 -1.1
MIB AMb AMB 23 33 07.8
comp=Z,60nm,0.8s,mb5.4
NAY Al-Naaiem 69.13 296 eP P 23 33 07.7 -1.2
NAY AMb AMB 23 33 08.5
comp=Z,24nm,0.7s,mb5.0
ZEI Tsey 71.15 311 eP P 23 33 19.9 -0.9
ZEI pmax pmax
comp=Z,19nm,0.9s,mb4.8
MZLS Mizel 71.47 291 P P 23 33 23.0 0.0
KIV Kislovodsk 71.99 312 eP P 23 33 25.0 -0.7
comp=Z,36nm,0.8s,mb5.2
KIV Kislovodsk 71.99 312c iP P 23 33 25.1 -0.6
KIV i *PP pP 23 34 02.1 -0.1
KIV pmax pmax
comp=Z,40nm,1.0s,mb5.1
KAMS Al Khamasin 72.56 287 P P 23 33 28.6 -0.9
AFFS 'Afif 73.49 291 P P 23 33 35.2 +0.2
HILS Ha'il 74.10 295 P P 23 33 39.3 +0.8
OBN Obninsk 75.48 324 eP P 23 33 44.4 -1.3
comp=Z,37nm,1.3s,mb4.8
OBN Obninsk 75.48 324⇓iP P 23 33 44.5 -1.2
OBN pmax pmax
comp=Z,29nm,1.1s,mb4.8
MALT Malatya 75.61 306 eP P 23 33 47.4 +0.6
comp=Z,13nm,0.9s,mb4.5
MALT Malatya 75.61 306 eP P 23 33 47.4 +0.6
MALT pmax pmax
comp=Z,13nm,0.9s,mb4.6
LTHS Al Lith 76.43 288 P P 23 33 52.5 +0.8
QURS Qurayyt al Mil 77.41 299 P P 23 33 57.5 +0.5
JOF Joensuu 77.57 332 ep P 23 33 56.2 -1.0
ASF Jabal al Asfar 77.65 300 P P 23 33 59.1 +0.8
comp=Z,12nm,0.8s,mb4.6,baz=302,slow=2.8,SNR=19
SIM Simferopol' 78.03 314 eP P 23 33 59.1 -0.9
SIM pmax pmax
comp=Z,24nm,1.0s,mb4.8
KEV Kevo 78.45 339 ep P 23 34 01.1 -0.7
TBKS Tabuk 78.57 296 P P 23 34 04.6 +1.2
ILAR Eielson Array 78.63 26 P P 23 34 03.1 +0.2
comp=Z,2.1nm,0.8s,mb3.8,baz=245,slow=5.4,SNR=11
ARCES ARCESS Array B 79.00 339 P P 23 34 03.7 -1.1
comp=Z,5.1nm,0.5s,mb4.4,baz=73,slow=6.7,SNR=38
BRTR Keskin Array B 79.12 308 P P 23 34 05.5 -0.6
comp=Z,3.7nm,0.8s,mb4.1,baz=117,slow=5.5,SNR=8.4
OPO Ambohidratompo 79.31 248 P P 23 34 07.8 +0.4
baz=65,slow=8.7
JMOS Jabal al Moall 79.66 298 P P 23 34 10.3 +1.1
ALWS Ilw as Safayha 79.67 298 P P 23 34 10.4 +1.1
AYUS 'Aynunah 79.69 297 P P 23 34 10.3 +0.9
HAQS Haql 79.83 297 P P 23 34 11.6 +1.4
KAF Kangasniemi 79.98 332 ep P 23 34 08.0 -2.3
FINES FINESS Array B 80.22 331 P P 23 34 10.2 -1.3
comp=Z,2.3nm,0.6s,mb4.0,baz=54,slow=6.0,SNR=17
AKASG Malin Array Be 80.41 320 P P 23 34 11.2 -1.5
comp=Z,1.9nm,0.7s,mb3.9,baz=66,slow=5.1,SNR=16
TIRR Tirgusor 82.12 314 ⇑P P 23 34 21.6 -0.2
MIR Mirnyy 82.72 191 eP P 23 34 25.0 +0.5
MIR pmax pmax
comp=Z,39nm,1.2s,mb5.0
INK Inuvik 82.97 21 P P 23 34 25.2 -0.5
comp=Z,11nm,0.9s,mb4.6,baz=299,slow=6.9,SNR=10
INK Inuvik 82.97 21 eP P 23 34 25.6 -0.1
comp=Z,16nm,1.0s,mb4.7
INK Inuvik 82.97 21 eP P 23 34 25.6 -0.1
INK pmax pmax
comp=Z,16nm,1.0s
VRI Vrincioaia 82.99 315 ⇓P P 23 34 27.5 +1.3
SUW Suwalki 83.34 324 eP P 23 34 27.2 -0.7
MLR Muntele Rosu 83.61 315 P P 23 34 28.8 -0.6
comp=Z,6.8nm,0.9s,mb4.4,baz=141,slow=6.6,SNR=7.4
MLR Muntele Rosu 83.61 315 ⇑P P 23 34 29.7 +0.3
BURAR Bucovina Array 83.61 317 ⇓P P 23 34 29.9 +0.6
KMBO Kilima Mbogo 83.96 267 P P 23 34 32.8 +0.9
comp=Z,3.7nm,0.8s,mb4.2,baz=54,slow=7.6,SNR=16
KMBO pP pP 23 35 09.9 +0.5
comp=Z,0.8nm,0.8s,baz=60,slow=16,SNR=1.7
KWP Kalwaria 84.73 320 eP P 23 34 35.0 +0.1
KOLS Kolonicke sedl 85.19 319 eP P 23 34 37.3 +0.1
STHS Stebnicka Huta 85.71 320 eP P 23 34 40.0 +0.3
NIE Niedzica 86.29 320 eP P 23 34 43.6 +1.1
OJC Ojcow 86.38 321 eP P 23 34 42.8 -0.1
HFS Hagfors 86.41 331 P P 23 34 41.6 -1.2
comp=Z,2.8nm,0.5s,mb4.2,baz=135,slow=4.2,SNR=10
KECS Kecovo 86.45 319 eP P 23 34 42.9 -0.4
NB2 NORSAR Subarra 87.19 333 P P 23 34 45.2 -1.3
comp=Z,8.6nm,0.8s,mb4.6,baz=68,slow=4.5
NB2 NORSAR Subarra 87.19 333 P P 23 34 45.2 -1.3
baz=68,slow=4.4
NB2 NORSAR Subarra 87.19 333 P P 23 34 45.2 -1.3
NB2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
NOA NORSAR Array B 87.19 333 P P 23 34 45.7 -0.9
comp=Z,5.1nm,0.7s,mb4.5,baz=68,slow=4.5,SNR=16
VRAC Vranov 88.64 321 P P 23 34 54.1 +0.4
comp=Z,2.6nm,0.7s,mb4.3,baz=29,slow=1.7,SNR=3.7
BRG Berggiesshubel 89.69 323 eP P 23 34 58.9 +0.3
comp=Z,9.2nm,1.4s,mb4.5
BRG Berggiesshubel 89.69 323 eP P 23 34 58.9 +0.3
BRG pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
CLL Collm 90.07 323 P P 23 35 00.0 -0.4
KHC Kasperske Hory 90.55 321c iP P 23 35 02.3 -0.4
GERES GERESS Array B 90.58 321 P P 23 35 02.6 -0.2
comp=Z,0.8nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=10
MAW Mawson 91.22 199 P P 23 35 03.4 -2.0
comp=Z,1.5nm,0.8s,mb4.1,baz=16,slow=4.6,SNR=3.7
GRA1 Grafenberg Arr 91.75 322 eP P 23 35 08.3 0.0
comp=Z,5.0nm,1.0s,mb4.5
GRF Grafenberg Arr 91.75 322 eP P 23 35 08.3 0.0
comp=Z,5.0nm,1.0s,mb4.5
GRF Grafenberg Arr 91.75 322 eP P 23 35 08.3 0.0
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
GRF Grafenberg Arr 91.75 322 eP P 23 35 08.3 0.0
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
YKA Yellowknife Ar 92.65 22 P P 23 35 11.6 -0.5
comp=Z,5.1nm,1.0s,mb4.6,baz=304,slow=4.0,SNR=4.6
YKA Yellowknife Ar 92.65 22 P P 23 35 11.7 -0.4
SUMG Summit 92.72 354 eP P 23 35 11.8 -0.4
comp=Z,9.8nm,1.1s,mb4.8
TXAR Lajitas Array 119.35 45 PKP PKPdf 23 40 50.0 +1.4
comp=Z,0.4nm,0.2s,baz=270,slow=2.5,SNR=4.7
PLCA Paso Flores 151.41 162 PKPbc PKPdf 23 41 54.9 +8.5
comp=Z,3.5nm,0.6s,baz=348,slow=0.7,SNR=13
SDV Santo Domingo 154.78 27 PKPbc PKPdf 23 42 00.7 +8.9
comp=Z,3.4nm,0.5s,baz=280,slow=4.0,SNR=5.6
LPAZ La Paz 171.07 107 PKPab PKPab 23 43 31.1 +1.7
comp=Z,2.8nm,0.7s,baz=255,slow=2.1,SNR=9.4

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*MOS **22** 23:23:28.2±2.0, 50.91N×89.42E, h15km, mb4.2/1, Error ellipse: s-maj=18.6km s-min=12.6km az=89.2*
*NNC **22** 23:23:30.3±1.2, 44.76N×82.50E, mpv3.6, Error ellipse: s-maj=13.8km s-min=5.0km az=99.0*
ISC 22 23:23:27.3±1.4**, 50.80N**±0.09×**89.2E**±0.1**, h10km, n10, σ0.79**/17**, 3C-3D, Tuva-Buryatia-Mongolia border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AKAR Aktash 1.13 246 ePG Pg 23 23 49.9 -0.1
AKAR eS Sg 23 24 06.3 +1.2
ARTR Artybash 1.58 310 ePN Pn 23 23 54.7 -0.9
TASR Tashtagol 2.14 337 ePN Pn 23 24 03.2 -0.4
TASR eS Sn 23 24 30.7 +0.3
CERR Cheremushki 2.47 32 i PN Pn 23 24 08.2 -0.1
CERR eS Sn 23 24 39.5 +0.8
UKR Ust'-Kan 2.83 275 i PN Pn 23 24 19.3 +5.9
UKR i S Sn 23 24 56.8 +8.9
ELT Yel'tsovka 3.08 324 ePN Pn 23 24 17.6 +0.6
ELT e 23 24 22.0
ELT eS Sn 23 25 00.8 +6.4
NVS Novosibirsk 5.44 320 ePN Pn 23 25 03.7 +13
NVS e 23 26 11.5
KURK Kurchatov 6.73 273 ⇑Pn Pn 23 25 07.3 -1.4
6.8nm,0.7s
KURK ⇓Lg 23 26 56.8
52nm,0.8s
VOSK Vostochnaya 11.47 287 ⇓Pn P 23 26 09.1 -5.0
1.1nm,0.3s
VOSK ⇓Sn S 23 28 14.5 -8.9
3.4nm,0.8s
VOSK ⇑Lg 23 29 20.9
13nm,1.0s
BVA0 Borovoye Array 11.85 288 Pn P 23 26 14.8 -4.4
0.4nm,0.6s,baz=91,slow=15,SNR=26
BVA0 ⇑Sn S 23 28 24.6 -7.9
1.2nm,0.7s,baz=93,slow=25,SNR=4.6

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*NEIC **22** 23:25:19.7±0.7, 22.76S×66.12W, h232km±13km, Error ellipse: s-maj=20.1km s-min=9.9km az=118.0*
*IDC **22** 23:25:19.9±1.1, 22.68S×66.21W, h238km±19km, mb3.2/3, mb1 3.4/7, mb1mx3.3/16, mbtmp3.9/7, Error ellipse: s-maj=28.4km s-min=13.7km az=113.0*
*GUC **22** 23:25:23.6±0.4, 23.12S×66.48W, h211km±20km, MD3.9*
ISC 22 23:25:18.5±0.8**, 22.87S**±0.06×**66.1W**±0.1**, h235km**±14km**, n14, σ1.43**/19**, mb3.4**/3**, 2D, Jujuy Province**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LVC Limon Verde 2.58 275 P P 23 26 07.5 +1.6
28nm,0.3s,baz=93,slow=5.9,SNR=278
LVC S S 23 26 43.8 +1.1
32nm,0.3s,baz=245,slow=19,SNR=31
LVC Limon Verde 2.58 275 i P P 23 26 07.9 +2.0
CEN1 Los Morros 3.78 261⇓iP P 23 26 22.9 +3.4
CEN1 i S S 23 27 07.6 +0.7
ANCH Antofagasta 4.02 258 eP P 23 26 23.7 +1.3
CPN1 Cerro Paranal 4.29 245⇓iP P 23 26 27.3 +1.6
CPN1 i S S 23 27 16.1 -1.7
CRCH Chaqaral 5.36 229 i S S 23 27 39.3 -2.1
CDCH Caldera 5.97 225 i S S 23 27 53.8 -1.7
LPAZ La Paz 6.81 344 P P 23 26 56.6 -0.6
0.8nm,0.3s,baz=133,slow=9.0,SNR=19
LPAZ S S 23 28 11.6 -2.9
0.2nm,0.3s,baz=32,slow=22,SNR=6.6
SIV San Ignacio 8.34 36 P P 23 27 15.7 -1.1
0.8nm,0.3s,baz=226,slow=8.3,SNR=29
CFAA Coronel Fontan 8.90 192 P P 23 27 25.0 +1.0
0.1nm,0.3s,baz=31,slow=9.1,SNR=20
CFAA S S 23 29 00.5 -1.9
0.3nm,0.3s,baz=253,slow=15,SNR=13
BDFB Brasilia 18.54 70 P P 23 29 20.1 +0.2
0.5nm,0.3s,baz=251,slow=11,SNR=9.8
SNAA Sanae 60.15 161 P P 23 35 03.5 +0.5
0.3nm,0.7s,mb3.0,baz=264,slow=6.7,SNR=12
MAW Mawson 82.28 163 P P 23 37 15.2 +0.9
1.3nm,0.8s,mb3.6,baz=263,slow=12,SNR=3.7
ESDC Sonseca Array 85.03 43 P P 23 37 28.7 -0.1
0.6nm,0.6s,mb3.5,baz=227,slow=5.4,SNR=4.6

DHMR 22 23:27:50.0±2.9**, 12.71N**×**40.58E, h2km**±39km**, ML3.8, 2D, Ethiopia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
UDYN Al 'Udayn 3.53 69 i S Sn 23 29 34.8 +4.8
UDYN AML AML 23 29 57.9
comp=E,368nm,0.7s
DHBB Dhamar BB 4.15 63⇓eP Pn 23 28 57.0 +1.3
DHBB i S Sn 23 29 49.3 +3.8
LBOS 4.70 75⇓eP Pn 23 29 02.2 -1.4
LBOS i S Sn 23 29 58.4 -1.0
BDHA Al Bayda' 5.02 75 i S Sn 23 30 06.5 -1.1

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*BJI **22** 23:30:29.1, 7.80N×92.37E, h51km, mB4.9, mb4.6, Ms4.2, Msz3.9*
*NEIC **22** 23:30:29.6±6.2, 8.18N×92.43E, h29km±43km, mb4.6/10, Error ellipse: s-maj=32.9km s-min=9.3km az=48.0*
*IDC **22** 23:30:29.8±0.7, 8.07N×92.06E, h34km±3km, mb3.8/14, mb1 4.0/14, mb1mx3.9/19, mbtmp4.0/14, MS3.8/10, Ms1 3.8/10, ms1mx3.7/20, Error ellipse: s-maj=31.3km s-min=13.4km az=50.0*
ISC 22 23:30:28.0±1.6**, 8.02N**±0.07×**92.21E**±0.07**, h35km**±14km**, h34km**±.6km**:pP-P, n59, σ1.09**/52**, mb4.3**/27**, MS3.9**/13**, 2C, Nicobar Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KULM Kulim 8.81 107 P P 23 32 31.2 -4.7
CHG Chiang Mai 12.57 31 ⇑P P 23 33 34.3 +7.0
12nm,1.0s
CHRT Chiangrai 13.88 31 ⇑P P 23 33 44.0 -0.7
105nm,0.8s
HYB Hyderabad 16.26 306 i P P 23 34 19.0 +3.5
KMI Kunming 19.76 29 P P 23 35 00.1 +2.2
KMI AMB AMB
comp=Z,9.0nm,0.9s
KMI LR LR
comp=N,412nm,16.0s
KMI LR LR
comp=E,248nm,17.8s
KMI LR LR
comp=Z,320nm,15.1s
QIZ Qiongzhong 20.32 56 eP P 23 35 01.5 -2.4
QIZ eS S 23 38 37.4 -7.3
QIZ LR LR
comp=N,426nm,12.0s
QIZ LR LR
comp=Z,389nm,11.7s,MS4.0
QIZ Qiongzhong 20.32 56 eP P 23 35 03.0 -0.9
comp=Z,44nm,1.3s
PKI Pulchoki 20.49 343 eP P 23 35 04.9 -0.7
DMN Daman 20.61 342 eP P 23 35 06.8 -0.2
KKN Kakani 20.73 342 eP P 23 35 08.2 0.0
GKN Gorkha 21.13 341 eP P 23 35 12.2 0.0
comp=Z,29nm,0.8s,mb4.7
KOLN Koldanda 21.27 339 eP P 23 35 13.8 +0.2
comp=Z,43nm,0.8s,mb4.8
LSA Lhasa 21.59 357 P P 23 35 18.5 +1.7
LSA Lhasa 21.59 357 eP P 23 35 18.3 +1.4
comp=Z,54nm,0.7s,mb5.1
GYA Guiyang 22.91 35 P P 23 35 32.8 +2.8
GYA AP 23 35 41.8
GYA XP 23 35 45.6
GYA PP PP 23 36 01.4 +1.4
GYA S S 23 39 34.8 +1.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,210nm,5.9s
GYA LR LR
comp=N,410nm,16.0s,MS4.1
GYA LR LR
comp=E,310nm,15.8s,MS4.1
GYA LR LR
comp=Z,340nm,15.6s,MS3.9
KKM Kota Kinabalu 23.90 93 P P 23 35 38.0 -1.8
CD2 Chengdu 25.20 24 P P 23 35 53.0 +0.8
ENH Enshi 27.43 34 eP P 23 36 11.3 -1.5
comp=Z,12nm,0.5s,mb4.7
GTA Gaotai 31.99 11 eP P 23 36 54.0 +0.7
GTA AP pP 23 37 03.8 +0.4
GTA PP PP 23 37 59.6 -0.4
GTA S S 23 42 03.8 +2.5
GTA SS SS 23 43 58.0 +3.2
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,42nm,5.0s
GTA LR LR
comp=N,67nm,13.0s,MS3.7
GTA LR LR
comp=E,93nm,13.8s,MS3.7
GTA LR LR
comp=Z,119nm,10.7s,MS3.8
NJ2 Nanjing 34.42 42 eP P 23 37 12.8 -1.6
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
WMQ Urumqi 35.88 354 eP P 23 37 27.6 +0.9
WMQ AP pP 23 37 37.0 +0.1
WMQ PP PP 23 38 49.0 +0.4
WMQ eS S 23 43 02.0 +0.5
WMQ AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,111nm,4.4s
WMQ LR LR
comp=N,155nm,17.0s
WMQ LR LR
comp=E,197nm,23.0s
WMQ LR LR
comp=Z,180nm,22.4s
AAK Ala-Archa 37.84 339 eP P 23 37 44.1 +0.9
comp=Z,5.2nm,0.9s,mb4.3
JOW Kunigami 38.96 57 LR LR 23 54 02.9
comp=Z,129nm,22.0s,MS3.7,baz=164,slow=36
SONM Songino Array 41.47 14 P P 23 38 13.9 +0.7
comp=Z,1.7nm,0.5s,mb3.9,baz=197,slow=8.4,SNR=23
SONM pP pP 23 38 23.6 +0.1
comp=Z,9.7nm,0.7s,baz=196,slow=8.4,SNR=29
SONM LR LR 23 58 00.8
comp=Z,119nm,20.4s,MS3.8,baz=194,slow=40
FITZ Fitzroy Crossi 41.98 128 P P 23 38 19.3 +1.4
comp=Z,8.3nm,0.8s,mb4.4,baz=354,slow=16,SNR=5.7
KURK Kurchatov 44.03 348 eP P 23 38 34.5 +0.4
comp=Z,20nm,1.5s,mb4.6
ZAL Zalesovo 46.18 354 P P 23 38 50.0 -1.2
comp=Z,1.6nm,0.7s,mb4.0,baz=295,slow=8.9,SNR=8.8
ZAL pP pP 23 39 00.8 -0.6
comp=Z,2.4nm,0.8s,baz=292,slow=7.7,SNR=5.0
BVAR Borovoye Array 48.26 342 P P 23 39 06.6 -0.9
comp=Z,0.8nm,0.6s,mb4.0,baz=153,slow=6.6,SNR=6.7
BVAR pP pP 23 39 17.2 -0.6
comp=Z,1.0nm,0.6s,baz=153,slow=6.6,SNR=5.4
ATD Arta Tunnel 48.73 278 LR LR 23 56 22.7
comp=Z,38nm,18.2s,MS3.4,baz=91,slow=32
MDJ Mudanjiang 48.77 35 P P 23 39 10.3 -1.3
MDJ PCP PcP 23 40 35.9 -0.6
MDJ PP PP 23 41 02.5 -2.2
MDJ SCP 23 44 28.3
MDJ PCS 23 44 32.1
MDJ S S 23 46 09.5 -1.5
MDJ SCS ScS 23 49 00.5 +2.3
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.4
MDJ AMB AMB
comp=Z,76nm,5.2s
MDJ LR LR
comp=N,20nm,18.1s
MDJ LR LR
comp=E,50nm,26.4s
MDJ LR LR
comp=Z,45nm,24.8s
WRA Warramunga Arr 49.91 124 P P 23 39 21.2 +0.5
comp=Z,2.5nm,0.8s,mb4.3,baz=303,slow=8.6,SNR=19
WRA pP pP 23 39 31.9 +1.0
comp=Z,2.1nm,0.6s,baz=308,slow=8.3,SNR=7.8
WRAB Tennant Creek 49.91 124 eP P 23 39 21.4 +0.7
comp=Z,19nm,1.3s,mb5.0
WB2 Warramunga Arr 49.92 124 eP P 23 39 21.0 +0.3
MJAR Matsushiro Arr 50.49 49 LR LR 00 01 10.2
comp=Z,128nm,19.8s,MS3.9,baz=260,slow=36
KMBO Kilima Mbogo 55.54 263 LR LR 23 59 01.7
comp=Z,121nm,21.5s,MS4.0,baz=223,slow=31
BR131 Keskin Array S 60.89 311 eP pP 23 40 48.4 -1.9
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 60.89 311 P P 23 40 39.0 -0.7
comp=Z,1.0nm,0.7s,mb4.1,baz=117,slow=8.3,SNR=3.9
BRTR pP pP 23 40 48.8 -1.6
comp=Z,2.4nm,0.7s,baz=122,slow=7.3,SNR=9.7
STKA Stephens Creek 61.59 133 P P 23 40 45.5 +0.9
comp=Z,2.4nm,0.9s,mb4.3,baz=337,slow=8.7,SNR=4.9
STKA LR LR 00 11 31.8
comp=Z,93nm,19.3s,MS4.0,baz=25,slow=40
STKA Stephens Creek 61.59 133 eP P 23 40 45.6 +1.1
AKASG Malin Array Be 66.86 322 P P 23 41 17.6 -1.0
comp=Z,0.1nm,0.3s,mb3.4,baz=177,slow=20,SNR=3.3
AKASG pP pP 23 41 27.7 -1.7
comp=Z,1.3nm,0.6s,baz=90,slow=5.1,SNR=4.0
JOF Joensuu 69.90 335 ep P 23 41 44.1 +6.9
FINES FINESS Array B 71.70 332 P P 23 41 47.4 -0.7
comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=5.7,SNR=4.1
FINES pP pP 23 41 57.8 -1.1
comp=Z,1.9nm,0.6s,baz=113,slow=7.5,SNR=3.8
FINES LR LR 00 19 28.5
comp=Z,54nm,18.8s,MS3.8,baz=103,slow=41
FINES FINESS Array B 71.70 332 P P 23 41 47.4 -0.7
FINES pP pP 23 41 57.8 -1.1
FINES LR LR 00 19 28.5
KAF Kangasniemi 71.80 333 ep pP 23 41 57.1 -2.3
KEV Kevo 74.07 341 ep P 23 42 08.4 +6.5
ARCES ARCESS Array B 74.49 340 P P 23 42 04.3 0.0
comp=Z,3.1nm,0.9s,mb4.2,baz=124,slow=3.3,SNR=3.6
ARCES pP pP 23 42 15.2 +0.1
comp=Z,3.9nm,0.7s,baz=108,slow=3.8,SNR=3.3
ARCES ARCESS Array B 74.49 340 P P 23 42 04.3 0.0
ARCES pP pP 23 42 15.2 +0.1
GERES GERESS Array B 76.45 318 P P 23 42 16.2 +0.2
comp=Z,0.6nm,0.6s,mb3.7,baz=90,slow=4.0,SNR=6.6
GERES pP pP 23 42 26.7 -0.1
comp=Z,2.1nm,0.7s,baz=63,slow=3.0,SNR=13
KHC Kasperske Hory 76.55 319 eP P 23 42 16.5 0.0
CLL Collm 77.04 321 e*PP pP 23 42 29.0 -1.1
HFS Hagfors 77.37 330 P P 23 42 19.9 -1.0
comp=Z,0.4nm,0.3s,mb3.8,baz=178,slow=40,SNR=3.5
HFS pP pP 23 42 31.3 -0.4
comp=Z,2.0nm,0.5s,baz=104,slow=6.1,SNR=3.4
MAW Mawson 78.30 191 P pP 23 42 37.8 +1.1
NB2 NORSAR Subarra 78.67 331 P pP 23 42 37.4 -1.5
comp=Z,1.7nm,0.8s,baz=93,slow=5.8
NOA NORSAR Array B 78.67 331 P P 23 42 27.2 -0.8
comp=Z,0.8nm,1.0s,mb3.6,baz=84,slow=7.9,SNR=2.6
NOA pP pP 23 42 38.0 -0.8
comp=Z,1.2nm,0.7s,baz=93,slow=5.9,SNR=3.0
NOA LR LR 00 23 57.8
comp=Z,32nm,18.2s,MS3.7,baz=280,slow=41
LPG La Plagne 81.16 315 eP P 23 42 47.5 +5.8
comp=Z,6.5nm,0.7s,mb4.3
ILAR Eielson Array 95.33 22 P P 23 43 49.0 -0.4
comp=Z,0.3nm,0.5s,mb3.9,baz=314,slow=4.8,SNR=4.5
ILAR LR LR 00 32 19.6

comp=Z,56nm,18.0s,MS4.1,baz=311,slow=39
DBIC Dimbokro 96.03 278 LR LR 00 26 04.3
comp=Z,49nm,20.1s,MS4.0,baz=63,slow=35
PDAR Pinedale Array 125.70 20 PKP PKPdf 23 49 27.6 +1.2
comp=Z,0.5nm,1.0s,baz=45,slow=5.1,SNR=3.2
PDAR pPKP 23 49 39.5
comp=Z,0.5nm,0.6s,baz=119,slow=1.1,SNR=3.9
TXAR Lajitas Array 139.84 22 PKP PKPdf 23 49 55.2 +2.0
comp=Z,0.1nm,0.3s,baz=315,slow=2.5,SNR=1.8

DHMR 22 23:40:20.5±1.3, 12.64N×40.52E, h2km±139km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.61**	**68**	*i* P	Pn	23 41 20.3	+1.7
UDYN				*i* S	Sn	23 42 07.4	+5.0
UDYN				AML	AML	23 42 30.8	
	comp=E,272nm,0.7s						
DHBB	**Dhamar BB**	**4.23**	**63**	*i* P	Pn	23 41 28.2	+0.8
DHBB				*i* S	Sn	23 42 21.1	+3.1
HAJJ	**Hajjah**	**4.26**	**44**	*i* P	Pn	23 41 28.6	+0.7
HAJJ				*i* S	Sn	23 42 22.6	+3.7
LBOS		**4.77**	**75**	*i* P	Pn	23 41 34.3	-0.8
LBOS				*i* S	Sn	23 42 30.1	-1.6
BDHA	**Al Bayda'**	**5.09**	**74**	*i* S	Sn	23 42 39.1	-0.8

IDC ***23*** *00:04:44.2±1.2, 8.13N×91.84E, mb3.8/7, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, MS3.5/1, Ms1 3.5/1, ms1mx2.9/22, Error ellipse: s-maj=36.2km s-min=27.8km az=42.0*
BJI ***23*** *00:04:48.3, 8.07N×91.61E, h28km, mB4.9, mb4.1, Ms4.3, Msz3.9*
NEIC ***23*** *00:04:48.7±1.0, 8.01N×91.82E, h30km, mb4.2/1, Error ellipse: s-maj=26.8km s-min=22.1km az=66.0*

ISC 23 00:04:44.5±3.9, 7.9N±0.1×91.7E±0.1, h15km±25km, n15, σ1§08/15, mb4.1/11, MS3.8/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**20.13**	**30**	P	**P**	**00 09 21.9**	**+0.9**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.3s						
LSA	**Lhasa**	**21.69**	**359**	P	**P**	**00 09 40.0**	**+3.0**
LSA	**Lhasa**	**21.69**	**359**	*e*P	**P**	**00 09 38.4**	**+1.4**
	comp=Z,9.4nm,0.9s,mb4.2						
GYA	**Guiyang**	**23.32**	**36**	P	**P**	**00 09 53.9**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
CD2	**Chengdu**	**25.54**	**25**	P	**P**	**00 10 14.0**	**-0.4**
GTA	**Gaotai**	**32.22**	**12**	*e*P	**P**	**00 11 14.1**	**-0.3**
GTA				AP	pP	00 11 22.8	+4.0
GTA				XP	sP	00 11 26.5	+5.7
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
HHC	**Hu-ho-hao-te**	**37.29**	**25**	*e*P	**P**	**00 11 58.1**	**+0.2**
HHC				AP	pP	00 12 07.9	+5.6
HHC				XP	sP	00 12 11.4	+7.2
HHC				PP	PP	00 13 27.9	+2.5
HHC				PCP	PcP	00 14 14.3	-3.4
HHC				S	**S**	**00 17 44.8**	**+0.6**
HHC				XS		00 17 59.6	
HHC				SS	SS	00 20 15.8	+0.1
HHC				SCS	ScS	00 22 07.6	-2.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,97nm,4.6s						
HHC				LR	LR		
	comp=N,165nm,11.9s,MS4.2						
HHC				LR	LR		
	comp=E,129nm,11.9s,MS4.2						
HHC				LR	LR		
	comp=Z,105nm,10.7s,MS3.9						
SONM	**Songino Array**	**41.72**	**15**	P	**P**	**00 12 33.6**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.6,baz=198,slow=7.7,SNR=8.1						
BVAR	**Borovoye Array**	**48.21**	**343**	P	**P**	**00 13 24.9**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=90,slow=5.8,SNR=5.6						
WRA	**Warramunga Arr**	**50.29**	**124**	P	**P**	**00 13 42.4**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.9,baz=301,slow=9.1,SNR=6.1						
KMBO	**Kilima Mbogo**	**54.99**	**263**	P	**P**	**00 14 20.6**	**+2.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=54,slow=12,SNR=4.2						
KMBO				LR	LR	00 34 01.6	
	comp=Z,44nm,18.7s,MS3.6,baz=273,slow=32						
BRTR	**Keskin Array B**	**60.56**	**311**	P	**P**	**00 14 55.9**	**-1.0**
	comp=Z,1.1nm,0.7s,mb4.1,baz=108,slow=8.0,SNR=5.9						
FINES	**FINESS Array B**	**71.55**	**333**	P	**P**	**00 16 05.8**	**-1.0**
	comp=Z,2.5nm,0.8s,mb4.2,baz=104,slow=5.7,SNR=4.1						
GERES	**GERESS Array B**	**76.17**	**318**	P	**P**	**00 16 34.3**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=104,slow=5.5,SNR=7.8						
TBI	**Tubuai**	**119.57**	**112**	*e*LR	LR	00 20 29.3	
	comp=Z,397nm,29.2s						

IDC ***23*** *00:09:16.6±1.2, 27.22S×176.71W, mb4.3/6, mb1 4.5/7, mb1mx4.3/12, mbtmp4.3/7, MS3.9/10, Ms1 3.9/10, ms1mx3.7/19, Error ellipse: s-maj=40.8km s-min=21.5km az=115.0*
NEIC ***23*** *00:09:22.1±2.3, 27.25S×176.77W, h36km±18km, mb4.4/5, Error ellipse: s-maj=19.2km s-min=12.1km az=64.0*

ISC 23 00:09:22.0±3.3, 27.3S±0.1×176.8W±0.2, h51km±24km, n35, σ0§77/21, mb4.3/11, MS4.0/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.22**	**206**	Pn	**P**	**00 09 56.8**	**-0.3**
	354nm,0.3s,baz=311,slow=8.4,SNR=11						
RAO				Sn	**S**	**00 10 24.5**	**+1.2**
	418nm,0.3s,baz=72,slow=22,SNR=7.9						
RAO				LR	LR	00 10 46.3	
	comp=Z,590nm,21.2s,baz=42,slow=39						
RAO	**Raoul Island**	**2.22**	**206**	*e*Pn	**P**	**00 09 56.5**	**-0.6**
RAO				*e*Sn	**S**	**00 10 23.4**	**+0.1**
URZ	**Urewera**	**12.11**	**203**	Pn	**P**	**00 12 07.6**	**-6.6**
	0.4nm,0.3s,baz=192,slow=9.3,SNR=2.9						
URZ				Sn	**S**	**00 14 15.1**	**-13**
	1.2nm,0.3s,baz=255,slow=21,SNR=8.3						
DZM	**Mont Dzumac**	**16.07**	**285**	LR	LR	00 17 59.0	
	comp=Z,574nm,21.9s,baz=172,slow=32						
PPT	**Papeete**	**26.91**	**75**	LR	LR	00 22 44.3	
	comp=Z,44nm,20.5s,MS3.0,baz=150,slow=30						
HNR	**Honiara**	**28.20**	**305**	LR	LR	00 25 03.8	
	comp=Z,262nm,18.1s,MS3.9,baz=144,slow=34						
STKA	**Stephens Creek**	**36.31**	**253**	P	**P**	**00 16 23.8**	**+1.1**
	1.4nm,0.6s,mb4.1,baz=93,slow=13,SNR=4.6						
STKA				LR	LR	00 29 44.1	
	comp=Z,291nm,18.3s,MS4.1,baz=151,slow=34						
WRAB	**Tennant Creek**	**45.12**	**268**	*e*P	**P**	**00 17 35.2**	**-0.1**
	3.7nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**45.12**	**268**	P	**P**	**00 17 35.2**	**-0.2**
	2.1nm,0.7s,mb4.1,baz=106,slow=7.9,SNR=12						
SBA	**Scott Base**	**51.24**	**184**	*e*P	**P**	**00 18 22.4**	**+0.2**
	6.2nm,1.1s,mb4.5						
VNDA	**Vanda**	**51.32**	**186**	*e*P	**P**	**00 18 22.1**	**-0.7**
	1.5nm,1.2s,mb3.8						
FITZ	**Fitzroy Crossi**	**53.49**	**267**	P	**P**	**00 18 39.2**	**-0.5**
	4.1nm,0.9s,mb4.4,baz=164,slow=4.8,SNR=3.4						
FITZ				LR	LR	00 41 42.6	
	comp=Z,182nm,19.5s,MS4.1,baz=96,slow=36						
CASY	**Casey**	**58.41**	**207**	*e*P	**P**	**00 19 12.9**	**-1.4**
	4.3nm,0.8s,mb4.5						
MAW	**Mawson**	**75.61**	**200**	P	**P**	**00 21 02.6**	**-0.1**
	3.1nm,0.9s,mb4.2,baz=145,slow=5.7,SNR=5.9						
MAW				LR	LR	00 53 34.7	
	comp=Z,83nm,21.0s,MS4.0,baz=121,slow=35						
MJAR	**Matsushiro Arr**	**76.28**	**324**	P	**P**	**00 21 07.1**	**-0.1**
	4.8nm,0.8s,mb4.5,baz=161,slow=5.7,SNR=10						
MJAR	**Matsushiro Arr**	**76.28**	**324**	P	**P**	**00 21 07.1**	**-0.1**
SNAA	**Sanae**	**81.26**	**178**		**P**	**00 21 32.6**	**-1.0**
SNAA	**Sanae**	**81.26**	**178**		pP	00 21 44.4	-3.8
SNAA	**Sanae**	**81.26**	**178**	*e*P	**P**	**00 21 32.6**	**-1.0**
	4.1nm,1.0s,mb4.3						
VNA3	**Neumayer Olymp**	**81.36**	**176**		**P**	**00 21 34.6**	**+0.5**
VNA3	**Neumayer Olymp**	**81.36**	**176**		pP	00 21 46.2	-2.6
VNA1	**Neumayer--Stat**	**82.03**	**176**		**P**	**00 21 39.2**	**+1.6**
VNA1	**Neumayer--Stat**	**82.03**	**176**		pP	00 21 50.2	-2.1
PLCA	**Paso Flores**	**83.88**	**133**	LR	LR	00 49 17.9	
	comp=Z,94nm,19.4s,MS4.2,baz=121,slow=29						
TXAR	**Lajitas Array**	**89.81**	**57**	LR	LR	00 53 17.8	
	comp=Z,150nm,18.8s,MS4.4,baz=55,slow=29						
PDAR	**Pinedale Array**	**93.13**	**43**	LR	LR	00 57 11.8	
	comp=Z,135nm,19.2s,MS4.4,baz=156,slow=31						
ILAR	**Eielson Array**	**94.64**	**12**	P	**P**	**00 22 38.6**	**+0.6**
	0.9nm,1.0s,mb4.2,baz=234,slow=6.6,SNR=5.1						
FINES	**FINESS Array B**	**142.52**	**342**	PKP	PKPdf	00 28 50.7	+2.1
	1.3nm,0.8s,baz=117,slow=4.3,SNR=3.4						
FINES	**FINESS Array B**	**142.52**	**342**	PKP	PKPdf	00 28 50.7	+2.1
NB2	**NORSAR Subarra**	**145.78**	**353**	PKPabc	PKPdf	00 28 56.4	+2.1
	1.2nm,0.7s,baz=13,slow=3.3						
NOA	**NORSAR Array B**	**145.78**	**353**	PKPbc	PKPbc	00 28 56.7	+1.6
	1.5nm,0.8s,baz=16,slow=2.4,SNR=6.1						
NOA	**NORSAR Array B**	**145.78**	**353**	PKPbc	PKPbc	00 28 56.7	+1.6
MALT	**Malatya**	**148.56**	**300**	*e*PKPbc	PKPdf	00 29 05.4	+5.9
AKASG	**Malin Array Be**	**149.34**	**327**	PKPbc	PKPdf	00 29 06.4	+6.0
	0.6nm,0.4s,baz=29,slow=2.2,SNR=8.9						
BRTR	**Keskin Array B**	**151.86**	**304**	PKPbc	PKPdf	00 29 13.9	+9.3
	0.7nm,0.6s,baz=180,slow=2.5,SNR=4.7						
BRTR				PKPab	PKPab	00 29 23.1	+0.4
	2.5nm,0.9s,baz=90,slow=3.7,SNR=7.9						

NEIC 23 00:09:32.7, 35.04N×119.02W, h12km, ML3.7(PAS), After PAS., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**1.14**	**136**	*e*P	Pb	00 09 53.0	-0.9
MWC				*e*S	Sb	00 10 07.8	-0.6
PTRM	**Twissleman Ran**	**1.15**	**302**	*e*P	Pb	00 09 52.6	-1.4
GSC	**Goldstone**	**1.83**	**81**	*e*P	Pn	00 10 02.9	-1.5
LRV	**Little Rabbit**	**2.13**	**311**	*e*Pn	Pn	00 10 06.9	-1.8
MTUM	**Tungsten Hills**	**2.33**	**9**	*e*Pn	Pn	00 10 10.2	-1.3
PFO	**Pinyon Flat Ob**	**2.56**	**123**	*e*Pn	Pn	00 10 12.7	-2.0
SAO	**San Andreas Ge**	**2.61**	**312**	*e*Pn	Pn	00 10 13.9	-1.6
CMB	**Columbia Colle**	**3.18**	**340**	*e*Pn	Pn	00 10 22.0	-1.6
LDFC	**Landfair**	**3.21**	**88**	*e*Pn	Pn	00 10 22.6	-1.4
MNV	**Mina**	**3.45**	**11**	*e*Pn	Pn	00 10 25.5	-2.0
NEN	**Nelson**	**3.47**	**79**	*e*Pn	Pn	00 10 24.8	-2.8
GLA	**Glamis**	**4.01**	**119**	*e*Pn	Pn	00 10 31.7	-3.6
OHCM	**Honcut**	**4.71**	**336**	*e*Pn	Pn	00 10 43.1	-2.3
BEKR	**Beckwourth**	**4.93**	**348**	*e*Pn	Pn	00 10 45.0	-3.5
ARUT	**Antelope Range**	**5.27**	**57**	*e*Pn	Pn	00 10 50.9	-2.3
WUAZ	**Wupatki**	**6.27**	**83**	Pn	Pn	00 11 02.9	-4.5
MSU	**Marysvale**	**6.49**	**56**	Pn	Pn	00 11 09.9	-0.6
MOD	**Modoc**	**6.92**	**352**	Pn	Pn	00 11 12.4	-4.1
DUG	**Dugway**	**7.12**	**42**	*e*Pn	Pn	00 11 14.8	-4.4

DHMR 23 00:34:04.4±0.4, 12.63N×40.54E, h5km±49km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.59**	**68**	*i* S	Sn	00 35 49.9	+4.7
UDYN				AML	AML	00 36 19.4	
	comp=N,374nm,0.7s						
DHBB	**Dhamar BB**	**4.21**	**62**	*e*P	Pn	00 35 11.9	+1.2
DHBB				*i* S	Sn	00 36 04.6	+3.7
LBOS		**4.75**	**74**	*e*P	Pn	00 35 16.9	-1.5
LBOS				*i* S	Sn	00 36 13.7	-0.8
BDHA	**Al Bayda'**	**5.07**	**74**	*i* S	Sn	00 36 21.3	-1.4

MEX 23 00:41:00.4±1.0, 17.44N×100.73W, h30km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.59**	**131**	*i* P	Pb	00 41 09.7	-2.5
CAIG				*i* S	Sb	00 41 18.6	-1.6
ZIIG	**Zihuatanejo**	**0.72**	**284**	*i* P	Pb	00 41 11.2	-3.2
ZIIG				*i* S	Sb	00 41 21.9	-2.2
ACX	**Acapulco**	**0.96**	**126**	*e*P	Pn	00 41 17.5	-0.5

WEL 23 00:48:50.4±0.0, 39.31S×175.03E, h30km, ML3.5/17, 7C-8D, Error ellipse: s-maj=0.5km s-min=0.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.24**	**85**	⇓P*	Pb	00 48 57.0	-0.2
PKVZ				S*	Sb	00 49 02.0	+0.4
PKVZ				S*	Sb	00 49 02.2	+0.5
VRZ	**Vera Road**	**0.28**	**311**	P*	Pb	00 48 57.1	-0.5
VRZ				S*	Sb	00 49 02.8	+0.3
VRZ				S*	Sb	00 49 02.9	+0.3
MTVZ	**Mangateitei**	**0.35**	**103**	⇑P*	Pb	00 48 58.4	-0.2
MTVZ				S*	Sb	00 49 04.4	+0.3
TWVZ	**Taurewa**	**0.40**	**53**	⇓P*	Pb	00 48 58.8	-0.4
TWVZ				S*	Sb	00 49 05.1	-0.1
TRVZ	**Turoa**	**0.40**	**89**	P*	Pb	00 48 59.3	0.0
TRVZ				S*	Sb	00 49 05.4	+0.1
FWVZ	**Far West T-bar**	**0.41**	**82**	P*	Pb	00 48 59.3	-0.1
FWVZ				S*	Sb	00 49 05.4	-0.1
WPVZ	**Whakapapa**	**0.41**	**75**	⇓P*	Pb	00 48 59.3	-0.1
WPVZ				S*	Sb	00 49 05.8	+0.2
DRZ	**Dome Shelter**	**0.41**	**85**	P*	Pb	00 48 59.4	-0.1
DRZ				S*	Sb	00 49 05.8	+0.1
CNZ	**Chateau**	**0.42**	**75**	⇑P*	Pb	00 48 59.4	-0.2
WNVZ	**Wahianoa**	**0.44**	**92**	⇑P*	Pb	00 48 59.9	0.0
WNVZ				S*	Sb	00 49 06.2	-0.2
WAZ	**Wanganui**	**0.45**	**185**	⇑P*	Pb	00 48 59.6	-0.4
WAZ				S*	Sb	00 49 06.8	+0.3
NGZ	**Ngauruhoe**	**0.46**	**73**	⇓P*	Pb	00 49 00.1	-0.2
NGZ				S*	Sb	00 49 07.1	+0.2
WTVZ	**West Tongariro**	**0.47**	**66**	⇓P*	Pb	00 49 00.2	-0.2
WTVZ				S*	Sb	00 49 07.6	+0.3
TUVZ	**Tukino**	**0.48**	**85**	P*	Pb	00 49 00.6	+0.1
TUVZ				S*	Sb	00 49 08.2	+0.7
RAEZ	**Rainy Point**	**0.50**	**272**	⇑P*	Pb	00 49 00.5	-0.2
RAEZ				S*	Sb	00 49 08.7	+0.9
OTVZ	**Oturere**	**0.51**	**74**	⇓P*	Pb	00 49 01.0	-0.1
OTVZ				S*	Sb	00 49 08.3	0.0
KRVZ	**Karewarewa**	**0.52**	**66**	⇓P*	Pb	00 49 00.9	-0.3
KRVZ				S*	Sb	00 49 07.9	-0.6
MOVZ	**Moawhango**	**0.57**	**100**	⇑P*	Pb	00 49 01.5	-0.3
MOVZ				S*	Sb	00 49 09.3	-0.5
KATZ	**Kakaramea**	**0.61**	**57**	⇓P*	Pb	00 49 02.4	-0.3
KATZ				S*	Sb	00 49 11.2	+0.1
DFE	**Dawson Falls**	**0.72**	**268**	PN	Pn	00 49 03.9	-0.6
RATZ	**Rangitukua**	**0.73**	**53**	PN	Pn	00 49 04.2	-0.4
NEZ	**North Egmont**	**0.73**	**273**	PN	Pn	00 49 03.7	-0.9
HIZ	**Hauiti**	**0.81**	**350**	⇑PN	Pn	00 49 05.1	-0.7
HIZ				SN	Sn	00 49 16.9	0.0
WATZ	**Wairara**	**0.81**	**42**	PN	Pn	00 49 05.3	-0.6
WATZ				SN	Sn	00 49 16.4	-0.9
PKE	**Pukeiti**	**0.82**	**278**	PN	Pn	00 49 05.4	-0.6
PKE				SN	Sn	00 49 17.0	-0.2
NRZ	**Ngariki Road**	**0.85**	**268**	PN	Pn	00 49 05.9	-0.5
NWEZ	**Newall Road**	**0.91**	**272**	PN	Pn	00 49 06.8	-0.4
TSZ	**Takapari Road**	**1.04**	**137**	PN	Pn	00 49 08.5	-0.6
BKZ	**Black Stump Fm**	**1.14**	**83**	PN	Pn	00 49 10.3	-0.3
MRZ	**Mangatainoka R**	**1.41**	**163**	PN	Pn	00 49 14.5	0.0
KIW	**Kapiti Island**	**1.55**	**183**	PN	Pn	00 49 15.8	-0.7
BFZ	**Birch Farm**	**1.66**	**146**	PN	Pn	00 49 18.2	+0.2
DUWZ	**D'Urville Isla**	**1.72**	**209**	PN	Pn	00 49 18.2	-0.7
CAW	**Cannon Point**	**1.79**	**179**	PN	Pn	00 49 18.6	-1.4
MTW	**Mount Morrison**	**1.88**	**169**	PN	Pn	00 49 21.0	-0.2
MRW	**Makara Radio**	**1.93**	**187**	PN	Pn	00 49 20.7	-1.2
TCW	**Tory Channel**	**1.99**	**197**	PN	Pn	00 49 21.8	-0.9
MSWZ	**Moikau Station**	**2.11**	**176**	PN	Pn	00 49 24.3	-0.1
TUWZ	**Tuamarina**	**2.27**	**201**	PN	Pn	00 49 26.6	-0.3
NNZ	**Nelson**	**2.29**	**213**	PN	Pn	00 49 26.0	-1.0
QRZ	**Quartz Range**	**2.45**	**231**	PN	Pn	00 49 27.4	-1.9
THZ	**Tophouse**	**2.94**	**213**	PN	Pn	00 49 34.0	-2.3
DSZ	**Denniston Nort**	**3.46**	**224**	PN	Pn	00 49 41.6	-2.1

CSEM ***23*** *00:55:44.1±0.2, 12.57N×40.42E, h2km, mb4.4/5, Error ellipse: s-maj=8.9km s-min=2.6km az=176.0*
NEIC ***23*** *00:55:45.7±2.2, 12.28N×40.48E, h10km, mb4.3/6, ML4.2(DHMR), Error ellipse: s-maj=47.3km s-min=10.0km az=2.0*
DHMR ***23*** *00:55:45.9±2.3, 12.64N×40.52E, h12km±170km, ML4.2*
IDC ***23*** *00:55:46.4±8.7, 12.46N×40.40E, mb4.0/6, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, MS3.5/2, Ms1 3.4/2, ms1mx3.0/17, Error ellipse: s-maj=185.6km s-min=38.2km az=19.0*

ISC 23 00:55:43.1±1.1, 12.2N±0.1×40.54E±0.04, h10km, n32, σ1§26/41, mb4.1/13, MS3.4/1, 1C-7D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.78**	**62**	*i* P	**Pn**	**00 56 44.1**	**+1.3**
UDYN				*i* S	**Sn**	**00 57 33.4**	**+2.7**
UDYN				AML	AML	00 57 54.5	
	comp=E,928nm,0.8s						
UDYN	**Al 'Udayn**	**3.78**	**62**	*i* P	**Pn**	**00 56 44.1**	**+1.3**
UDYN				*i* S	**Sn**	**00 57 33.3**	**+5.6**
DHBB	**Dhamar BB**	**4.43**	**57**	⇓*e*P	**Pn**	**00 56 52.9**	**+0.8**
DHBB				*i* S	**Sn**	**00 57 45.0**	**+0.7**
DHBB	**Dhamar BB**	**4.43**	**57**	*i* P	**Pn**	**00 56 53.4**	**+1.4**
DHBB				*i* S	**Sn**	**00 57 48.2**	**+3.8**
DHBB	**Dhamar BB**	**4.43**	**57**	⇓*e*P	**Pn**	**00 56 52.8**	**+0.8**
DHBB				*i* S	**Sn**	**00 57 45.0**	**+0.7**
HAJJ	**Hajjah**	**4.58**	**40**	⇑*e*P	**Pn**	**00 56 53.2**	**-1.0**
HAJJ				*i* S	**Sn**	**00 57 45.7**	**-2.4**
HAJJ	**Hajjah**	**4.58**	**40**	⇓*i*P	**Pn**	**00 56 53.4**	**-0.8**
HAJJ				*i* S	**Sn**	**00 57 47.9**	**-0.2**
LBOS		**4.88**	**69**	⇓*i*P	**Pn**	**00 56 57.9**	**-0.5**
LBOS				*i* S	**Sn**	**00 57 54.4**	**-1.3**
LBOS		**4.88**	**69**	⇓*i*P	**Pn**	**00 56 57.9**	**-0.5**
LBOS				*i* S	**Sn**	**00 57 56.4**	**+0.7**
BDHA	**Al Bayda'**	**5.21**	**69**	⇓*e*P	**Pn**	**00 57 02.3**	**-0.7**
BDHA				*i* S	**Sn**	**00 58 02.1**	**-1.8**
BDHA	**Al Bayda'**	**5.21**	**69**	⇓*i*P	**Pn**	**00 57 02.3**	**-0.7**
BDHA				*i* S	**Sn**	**00 58 04.4**	**+0.5**
MUKL	**Al Mukalla**	**8.57**	**74**	*i* S	**Sn**	**00 59 25.3**	**-2.8**
KMBO	**Kilima Mbogo**	**13.62**	**194**	LR	LR	01 04 22.5	
	comp=E,178nm,19.3s,baz=307,slow=37						
MALT	**Malatya**	**26.09**	**356**	*e*P	**P**	**01 01 20.9**	**+2.1**
	comp=E,8.2nm,1.3s,mb4.1						
MALT	**Malatya**	**26.09**	**356**	*e*P	**P**	**01 01 20.9**	**+2.1**
	comp=E,8.2nm,1.3s,mb4.1						
BRTR	**Keskin Array B**	**28.10**	**349**	P	**P**	**01 01 38.2**	**+1.0**
	comp=E,2.3nm,1.1s,mb3.7,baz=174,slow=12,SNR=7.8						
AKASG	**Malin Array Be**	**39.51**	**349**	P	**P**	**01 03 16.3**	**+0.6**
	comp=E,0.2nm,0.3s,mb3.4,baz=171,slow=7.2,SNR=4.8						
AKASG	**Malin Array Be**	**39.51**	**349**	P	**P**	**01 03 16.3**	**+0.6**
GERES	**GERESS Array B**	**42.80**	**334**	P	**P**	**01 03 43.0**	**+0.3**
	comp=E,1.6nm,0.9s,mb3.7,baz=141,slow=8.5,SNR=8.1						
MBDF	**Montbardon**	**43.41**	**325**	*e*P	**P**	**01 03 47.7**	**0.0**
	comp=E,9.1nm,0.9s,mb4.2						
LPG	**La Plagne**	**43.90**	**326**	*e*P	**P**	**01 03 50.3**	**-1.4**
	comp=E,12nm,1.2s,mb4.2						
VIVF	**Saint-Julien-l**	**44.69**	**324**	*e*P	**P**	**01 03 57.0**	**-1.1**
LASF	**Ste Croix**	**44.72**	**322**	*e*P	**P**	**01 03 57.7**	**-0.7**
	comp=E,15nm,1.3s,mb4.3						
DBIC	**Dimbokro**	**45.08**	**267**	LR	LR	01 21 51.2	
	comp=E,48nm,19.3s,MS3.4,baz=79,slow=35						
MTLF	**Montolieu**	**45.33**	**320**	*e*P	**P**	**01 04 02.6**	**-0.6**
SMF	**Signal de Mont**	**46.20**	**325**	*e*P	**P**	**01 04 08.7**	**-1.4**
	comp=E,7.1nm,0.9s,mb4.3						
LOR	**Lormes**	**46.56**	**326**	*e*P	**P**	**01 04 11.2**	**-1.7**
ETSF	**Etsaut**	**46.87**	**319**	*e*P	**P**	**01 04 15.8**	**+0.4**
	comp=E,9.9nm,1.2s,mb4.3						
SJPF	**Ste Jean**	**47.40**	**318**	*e*P	**P**	**01 04 20.6**	**+1.0**
	comp=E,27nm,1.4s,mb4.7						
MKAR	**Makanchi Array**	**49.19**	**37**	P	**P**	**01 04 35.6**	**+2.2**
	comp=E,1.7nm,0.9s,mb4.1,baz=248,slow=6.5,SNR=8.5						
ZAL	**Zalesovo**	**54.32**	**31**	P	**P**	**01 05 11.7**	**-0.2**
	comp=E,1.4nm,0.3s,mb4.4,baz=296,slow=2.5,SNR=4.6						
SONM	**Songino Array**	**64.88**	**43**	P	**P**	**01 06 27.7**	**+2.8**
	comp=E,1.3nm,0.8s,mb4.0,baz=262,slow=6.5,SNR=8.8						

CSEM ***23*** *01:01:03.9±0.1, 36.67N×31.15E, h80km, MD3.5, Error ellipse: s-maj=2.5km s-min=1.9km az=92.0*
ISK ***23*** *01:01:06.8, 36.76N×31.09E, h69km, MD3.5*
NEIC ***23*** *01:01:06.0, 36.75N×31.14E, h72km, mb3.8/1, MD3.5(ISK), After ISK.*
IDC ***23*** *01:01:08.7±7.9, 36.58N×31.96E, h109km±53km, mb3.4/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.5/4, Error ellipse: s-maj=76.1km s-min=63.0km az=114.0*
HLW ***23*** *01:01:09.4, 36.30N×31.01E, h19km, Mb3.9*
ATH ***23*** *01:01:21.7, 36.51N×29.65E, h31km, MD3.2/3*

ISC 23 01:01:05.6±0.3, 36.61N±0.03×31.13E±0.03, h95km±6km, n55, σ1§09/68, mb3.9/3, 7C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.48**	**307**	*i* PG	**P**	**01 01 18.6**	**-2.3**
ANTB				*i* SG	**S**	**01 01 27.6**	**-4.7**
BCK	**Bucak**	**0.96**	**333**	*e*P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**186**	*i* P	Pg	01 17 30.8	+0.6
MESC	**Monte Escuro**	**0.03**	**347**	*i* P	Pg	01 17 30.8	+0.5
PCNG	**Congro**	**0.03**	**85**	*i* P	Pg	01 17 30.8	+0.5
PCNG				*e*S	Sg	01 17 31.7	+0.7
PCNG	**Congro**	**0.03**	**85**	*e*S	Sg	01 17 31.7	+0.7
LFA	**Lagoa do Fogo**	**0.04**	**283**	*i* P	Pg	01 17 31.1	+0.7
PRCH	**Ribeira Ch**	**0.05**	**223**	*e*P	Pg	01 17 31.1	+0.6
PRCH				*e*S	Sg	01 17 32.3	+0.9
PMAT	**Coroa da Mata**	**0.06**	**333**	*e*P	Pg	01 17 31.1	+0.4
FRA1	**Furnas**	**0.07**	**108**	*e*P	Pg	01 17 31.0	+0.2
CMLA	**Cha da Macela**	**0.07**	**270**	*e*P	Pg	01 17 29.6	-1.2
CMLA				*e*S	Sg	01 17 31.5	-0.4
CML	**Cha da Macela**	**0.09**	**275**	*e*P	Pg	01 17 31.9	+0.8
PFAD	**Fenais da Ajud**	**0.12**	**50**	*e*P	Pg	01 17 32.3	+0.6
MIRA	**Miradouro**	**0.13**	**80**	*e*P	Pg	01 17 32.0	+0.1
MIRA				*e*S	Sg	01 17 34.8	+1.1
FAC	**Faja de Cima**	**0.17**	**273**	*e*P	Pg	01 17 34.0	+1.3
PDA	**Ponta Delgada**	**0.18**	**265**	*e*P	Pg	01 17 33.1	+0.2
PDA				*e*S	Sg	01 17 35.7	+0.3
PSET	**Sete Cidades**	**0.23**	**285**	*e*P	Pg	01 17 33.6	-0.3
PSET				*e*S	Sg	01 17 37.8	+0.7
	2μm,0.4s						
PSAN	**Santo Antonio**	**0.24**	**291**	*e*P	Pg	01 17 35.3	+1.1
PFET	**Feteiras**	**0.28**	**281**	*e*P	Pg	01 17 35.7	+0.8
PFET				*e*S	Sg	01 17 39.1	+0.3
SET2	**Ginetes**	**0.30**	**285**	*e*P	Pg	01 17 36.1	+0.8
SET4	**Mosteiros**	**0.31**	**291**	*e*P	Pg	01 17 36.1	+0.7
SET4				*e*S	Sg	01 17 40.5	+1.0
PSCM	**Serra do Cume**	**1.62**	**306**	*e*P	Pn	01 17 54.2	-4.4
PSCM				*e*S	Sb	01 18 13.4	-6.5
	50nm,0.4s						
RIB2	**Ribeirinha**	**1.64**	**304**	*e*P	Pn	01 17 55.7	-3.2
RIB2				*e*S	Sb	01 18 15.4	-5.1
PVNV	**Vila Nova**	**1.68**	**307**	*e*P	Pn	01 17 56.3	-3.2
PVNV				*e*S	Sn	01 18 16.0	-5.6
PPAD	**Pico dos Padre**	**1.73**	**303**	*e*P	Pn	01 17 57.1	-3.1
PPAD				*e*S	Sn	01 18 16.9	-6.0
PBIS	**Biscoitos**	**1.74**	**305**	*e*S	Sn	01 18 16.9	-6.3
ASBA	**Santa Barbara**	**1.77**	**303**	*e*P	Pn	01 17 56.5	-4.2
ASBA				*e*S	Sn	01 18 16.7	-7.1
ROSA	**Rosais**	**2.41**	**294**	*e*P	Pn	01 18 06.0	-3.9
ROSA				*e*S	Sn	01 18 32.9	-7.2
PICO	**Pico**	**2.47**	**288**	*e*P	Pn	01 18 07.0	-3.8
PICO				*e*S	Sn	01 18 34.8	-6.9
CALA	**Caldeira**	**2.70**	**289**	*e*P	Pn	01 18 09.9	-4.2
CALA				*e*S	Sn	01 18 40.7	-6.8

DHMR 23 01:21:53.6±0.2, 12.67N×40.55E, h12km±20km, ML3.7, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.57**	**68**	*e*P	Pn	01 22 51.7	+1.8
UDYN				*i* S	Sn	01 23 37.1	+4.6
UDYN				AML	AML	01 23 57.7	
	comp=N,429nm,0.7s						
DHBB	**Dhamar BB**	**4.18**	**63**	*e*P	Pn	01 22 59.9	+1.2
DHBB				*i* S	Sn	01 23 51.7	+3.6
HAJJ	**Hajjah**	**4.22**	**44**	*e*P	Pn	01 23 00.3	+1.0
HAJJ				*i* S	Sn	01 23 52.3	+3.2
HAJJ				AML	AML	01 24 25.6	
	comp=E,153nm,0.6s						
LBOS		**4.73**	**75**	*e*P	Pn	01 23 04.9	-1.5
LBOS				*i* S	Sn	01 24 00.8	-1.0
BDHA	**Al Bayda'**	**5.05**	**75**	*i* S	Sn	01 24 08.8	-1.2

NIED ***23*** *01:31:00, 27.90N×142.80E, h5km, Mw4.9 Best double couple: M₀2.48×10¹⁶ NP1:φs161°, δ67°, λ89°. NP2:φs344°, δ23°, λ93°.*
IDC ***23*** *01:31:04.7±0.6, 28.07N×142.61E, mb4.4/15, mb1 4.6/16, mb1mx4.5/20, mbtmp4.4/16, ML4.4/1, MS3.9/13, Ms1 3.9/13, ms1mx3.7/26, Error ellipse: s-maj=21.4km s-min=12.9km az=93.0*
MOS ***23*** *01:31:07.5±0.9, 28.14N×142.46E, h24km, mb5.0/24, Error ellipse: s-maj=15.2km s-min=6.3km az=113.3*
BJI ***23*** *01:31:08.2, 28.02N×142.74E, h45km, mB4.9, mb4.8, Ms4.4, Msz4.1*
JMA ***23*** *01:31:09.0±0.3, 27.92N×142.85E, h20km, M4.4*
NEIC ***23*** *01:31:10.1±2.4, 28.05N×142.55E, h33km±16km, mb4.7/32, MW4.9(NIED), Error ellipse: s-maj=7.4km s-min=6.4km az=137.0*

ISC 23 01:31:07.1±0.9, 28.14N±0.03×142.52E±0.04, h20km±6km, n157, σ0°99/164, mb4.7/66, MS4.1/18, 9C-6D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.08**	**196**	Pn	**Pn**	**01 31 27.6**	**+0.4**
	210nm,0.3s,baz=20,slow=11,SNR=18						
CBIJ				Sn	**Sn**	**01 31 41.9**	**+0.2**
	849nm,0.3s,baz=287,slow=20,SNR=18						
CBIJ	**Chichi jima**	**1.08**	**196**	P	**Pb**	**01 31 27.7**	**+0.8**
CBIJ				*e*S	**Sb**	**01 31 40.8**	**+0.2**
JHHJ	**Haha-jima-NKT**	**1.53**	**191**	P	**Pn**	**01 31 34.0**	**+0.3**
JHJ	**Hachijo jima 2**	**5.50**	**335**	LR	LR	01 34 31.2	
	comp=Z,883nm,19.7s,baz=98,slow=37						
BSO3	**Boso 3**	**6.86**	**346**	*e*S	**Sn**	**01 34 05.4**	**-2.1**
JOD2	**Odawara 2**	**7.68**	**339**	P	**Pn**	**01 33 01.1**	**+0.4**
JOD2				*e*S	**Sn**	**01 34 29.4**	**+1.4**
JRY	**Ryogami san**	**8.43**	**340**	P	**P**	**01 33 10.6**	**-0.6**
JRY				*e*S	**Sn**	**01 34 44.7**	**-2.1**
MJAR	**Matsushiro Arr**	**9.14**	**338**	Pn	**P**	**01 33 19.6**	**-1.4**
	3.7nm,0.3s,baz=160,slow=11,SNR=19						
MJAR				LR	LR	01 36 33.0	
	comp=Z,307nm,19.6s,baz=175,slow=36						
MAJO	**Matsushiro**	**9.14**	**338**	*e*Pn	**P**	**01 33 20.6**	**-0.4**
	28nm,0.8s						
MAJO	**Matsushiro**	**9.14**	**338**	*e*P	**P**	**01 33 20.6**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,28nm,0.8s						
MAT	**Matsushiro**	**9.14**	**338**	P	**P**	**01 33 20.2**	**-0.8**
MAT				S	**Sn**	**01 35 06.2**	**+1.9**
MAT	**Matsushiro**	**9.14**	**338**	P	**P**	**01 33 20.8**	**-0.2**
MAT	**Matsushiro**	**9.14**	**338**	*e*P	**P**	**01 33 20.0**	**-1.0**
	comp=Z,14nm,0.6s						
MAT				*e*S	**Sn**	**01 35 06.0**	**+1.7**
MAT	**Matsushiro**	**9.14**	**338**	*e*P	**P**	**01 33 20.0**	**-1.0**
MAT				*e*S	**Sn**	**01 35 06.0**	**+1.7**
MAT				pmax	pmax		
	comp=Z,14nm,0.6s						
JNU	**Nakatsue**	**11.19**	**299**	Pn	**P**	**01 33 51.0**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=135,slow=13,SNR=2.0						
JNU				LR	LR	01 37 57.7	
	comp=Z,494nm,18.6s,baz=284,slow=37						
JOW	**Kunigami**	**12.71**	**267**	Pn	**P**	**01 34 14.4**	**+4.8**
	comp=Z,1.5nm,0.3s,baz=130,slow=14,SNR=4.4						
JOW				LR	LR	01 38 35.7	
	comp=Z,641nm,19.3s,baz=112,slow=35						
ASAJ	**Asahikawa**	**15.95**	**0**	Pn	**P**	**01 34 55.5**	**+3.6**
	comp=Z,1.0nm,0.3s,baz=310,slow=13,SNR=2.7						
ASAJ				LR	LR	01 42 14.3	
	comp=Z,261nm,18.0s,baz=174,slow=42						
ASAJ	**Asahikawa**	**15.95**	**0**	P	**P**	**01 34 55.6**	**+3.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,261nm,18.0s						
SSE	**Sheshan**	**18.78**	**284**	P	**P**	**01 35 27.1**	**-0.3**
SSE				S	**S**	**01 38 53.5**	**+0.6**
SSE				AMB	AMB		
	comp=Z,39nm,0.8s						
SSE				AMB	AMB		
	comp=Z,295nm,3.7s						
SSE				LR	LR		
	comp=N,81nm,18.0s						
SSE				LR	LR		
	comp=E,93nm,18.0s						
SSE				LR	LR		
	comp=Z,150nm,18.1s						
YSS	**Yuzh-Sakhalins**	**18.79**	**1**	*e*P	**P**	**01 35 27.1**	**-0.3**
YSS				*e*		01 39 00.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS				MLR	MLR		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,400nm,14.0s						
YHNB	**Yeheng**	**19.25**	**265**	*e*P	**P**	**01 35 33.2**	**+0.1**
MDJ	**Mudanjiang**	**19.42**	**331**	P	**P**	**01 35 34.8**	**-0.1**
MDJ				AP		01 35 40.6	
MDJ				S	**S**	**01 39 11.6**	**+4.3**
MDJ				XS		01 39 22.3	
MDJ				PCP	PcP	01 39 55.8	+0.1
MDJ				PCS		01 43 32.4	
MDJ				AMB	AMB		
	comp=Z,23nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,128nm,5.5s						
MDJ				LR	LR		
	comp=N,200nm,10.4s						
MDJ				LR	LR		
	comp=E,250nm,15.0s						
MDJ				LR	LR		
	comp=Z,329nm,16.3s						
MDJ	**Mudanjiang**	**19.42**	**331**	*e*P	**P**	**01 35 34.4**	**-0.5**
	comp=Z,29nm,1.0s						
CN2	**Changchun**	**20.80**	**323**	*e*P	**P**	**01 35 51.0**	**+1.4**
CN2				*e*S	**S**	**01 39 39.0**	**+3.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,600nm,17.0s,MS4.2						
CN2				LR	LR		
	comp=E,680nm,17.0s,MS4.0						
CN2				LR	LR		
	comp=E,660nm,18.0s,MS4.0						
NJ2	**Nanjing**	**20.83**	**287**	*e*P	**P**	**01 35 50.5**	**+0.5**
NJ2				PP	PP	01 36 13.4	+1.0
NJ2				S	**S**	**01 39 36.0**	**-0.6**
NJ2				XS		01 39 53.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,580nm,4.4s						
NJ2				LR	LR		
	comp=N,4μm,18.8s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,19.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,340nm,13.2s						
KLR	**Kul'dur**	**22.63**	**341**	*e*P	**P**	**01 36 06.4**	**-1.5**
KLR				*e*S	**S**	**01 40 18.0**	**+8.1**
WHN	**Wuhan**	**24.65**	**282**	P	**P**	**01 36 28.5**	**+0.7**
HIA	**Hailar**	**27.40**	**327**	*e*P	**P**	**01 36 53.1**	**+0.1**
	comp=Z,54nm,1.4s,mb4.9						
HIA	**Hailar**	**27.40**	**327**	*e*P	**P**	**01 36 53.1**	**0.0**
HIA				pmax	pmax		
	comp=Z,54nm,1.4s						
PET	**Petropavlovsk**	**27.59**	**21**	*e*P	**P**	**01 36 58.5**	**+3.7**
PET				*e*S	**S**	**01 41 33.0**	**-0.4**
PET				*e*		01 42 46.8	
PET				smax			
	comp=E,100nm,21.2s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.4						
HHC	**Hu-ho-hao-te**	**28.34**	**305**	*e*P	**P**	**01 37 04.0**	**+2.3**
HHC				AP	pP	01 37 13.0	+5.4
HHC				XP	sP	01 37 17.3	+7.0
HHC				PP	PP	01 37 54.6	+1.6
HHC				PCP	PcP	01 40 15.6	+1.0
HHC				S	**S**	**01 41 47.1**	**+1.5**
HHC				XS		01 42 03.3	
HHC				SS	SS	01 43 11.0	+0.9
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,76nm,4.3s						
HHC				LR	LR		
	comp=N,227nm,10.1s,MS4.4						
HHC				LR	LR		
	comp=E,563nm,14.9s,MS4.4						
HHC				LR	LR		
	comp=Z,677nm,16.3s,MS4.3						
ENH	**Enshi**	**28.86**	**282**	*e*P	**P**	**01 37 05.3**	**-1.2**
	comp=Z,39nm,0.9s,mb5.1						
GYA	**Guiyang**	**31.84**	**275**	*i*P	**P**	**01 37 32.6**	**-0.3**
GYA				AP	pP	01 37 39.8	+0.8
GYA				PP	PP	01 38 37.9	-0.8
GYA				S	**S**	**01 42 39.8**	**-1.4**
GYA				SCS	ScS	01 48 01.4	-0.2
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,90nm,3.2s						
GYA				LR	LR		
	comp=N,290nm,16.4s,MS4.2						
GYA				LR	LR		
	comp=E,270nm,16.5s,MS4.2						
GYA				LR	LR		
	comp=Z,280nm,16.0s,MS4.0						
CD2	**Chengdu**	**33.73**	**284**	P	**P**	**01 37 48.4**	**-1.0**
CD2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.5						
SONM	**Songino Array**	**34.18**	**315**	P	**P**	**01 37 52.4**	**-0.7**
	comp=Z,6.1nm,0.9s,mb4.5,baz=113,slow=7.8,SNR=22						
SONM				LR	LR	01 52 34.9	
	comp=Z,208nm,19.5s,MS3.9,baz=298,slow=38						
YAK	**Yakutsk**	**34.95**	**349**	*e*P	**P**	**01 37 59.0**	**-0.5**
YAK				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
KMI	**Kunming**	**35.58**	**275**	P	**P**	**01 38 05.4**	**+0.1**
KMI				PP	PP	01 39 24.8	-1.0
KMI				S	**S**	**01 43 39.3**	**0.0**
KMI				SS	SS	01 45 56.8	-2.1
KMI				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,222nm,4.3s						
KMI				LR	LR		
	comp=N,227nm,16.7s,MS4.3						
KMI				LR	LR		
	comp=E,352nm,16.2s,MS4.3						
KMI				LR	LR		
	comp=Z,275nm,17.7s,MS4.1						
BOD	**Bodaibo**	**35.75**	**334**	*e*P	**P**	**01 38 05.2**	**-1.2**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GTA	**Gaotai**	**36.93**	**299**	*e*P	**P**	**01 38 16.0**	**-0.5**
GTA				PP	PP	01 39 41.0	-1.7
GTA				S	**S**	**01 43 57.6**	**-2.2**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,38nm,3.8s						
GTA				LR	LR		
	comp=N,193nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=E,301nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,295nm,15.2s,MS4.2						
ZAK	**Zakamensk**	**37.03**	**318**	*e*P	**P**	**01 38 17.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
PMG	**Port Moresby**	**37.59**	**172**	LR	LR	01 53 01.1	
	comp=Z,92nm,18.8s,MS3.6,baz=73,slow=35						
HNR	**Honiara**	**40.98**	**153**	LR	LR	01 54 44.9	
	comp=Z,106nm,18.1s,MS3.8,baz=79,slow=35						
TIXI	**Tiksi**	**44.21**	**354**	*e*P	**P**	**01 39 14.1**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
KULM	**Kulim**	**45.75**	**248**	*e*P	**P**	**01 39 29.5**	**+0.3**
WMQ	**Urumqi**	**46.22**	**305**	*i*P	**P**	**01 39 33.0**	**+0.5**
WMQ				PCP	PcP	01 41 09.0	+0.4
WMQ				PPP	PPP	01 42 06.0	+0.6
WMQ				S	**S**	**01 46 19.0**	**+1.9**
WMQ				XS		01 46 35.0	
WMQ				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,107nm,5.2s						
WMQ				LR	LR		
	comp=N,196nm,22.8s,MS4.2						
WMQ				LR	LR		
	comp=E,257nm,24.9s,MS4.2						
WMQ				LR	LR		
	comp=Z,232nm,20.0s,MS4.1						
CTA	**Charters Tower**	**48.08**	**175**	LR	LR	01 57 11.6	
	comp=Z,119nm,19.6s,MS3.9,baz=227,slow=33						
WRAB	**Tennant Creek**	**48.44**	**190**	*e*P	**P**	**01 39 48.4**	**-1.8**
	comp=Z,24nm,0.6s,mb5.4						
WRAB	**Tennant Creek**	**48.44**	**190**	*e*P	**P**	**01 39 48.4**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.4						
WB2	**Warramunga Arr**	**48.45**	**190**	*e*P	**P**	**01 39 48.1**	**-2.2**
WB2				*e*S	**S**	**01 46 45.1**	**-3.9**
WRA	**Warramunga Arr**	**48.45**	**190**	P	**P**	**01 39 48.2**	**-2.1**
	comp=Z,20nm,0.8s,mb5.2,baz=12,slow=8.5,SNR=68						
WRA				S	**S**	**01 46 45.2**	**-3.8**
	comp=Z,6.0nm,1.1s,baz=11,slow=14,SNR=11						
FITZ	**Fitzroy Crossi**	**48.78**	**202**	*i*P	**P**	**01 39 51.1**	**-1.8**
	comp=Z,18nm,0.9s,mb5.1						
ZAL	**Zalesovo**	**48.91**	**318**	P	**P**	**01 39 53.5**	**0.0**
	comp=Z,7.0nm,0.8s,mb4.7,baz=12,slow=8.0,SNR=37						
ZAL				LR	LR	02 01 49.7	
	comp=Z,269nm,18.4s,MS4.3,baz=166,slow=38						
NVS	**Novosibirsk**	**49.94**	**319**	*e*P	**P**	**01 40 01.3**	**-0.1**
NVS				pmax	pmax		
	comp=Z,57nm,1.9s,mb5.3						
NVS				pmax	pmax		
	comp=E,31nm,1.5s						
MKAR	**Makanchi Array**	**50.05**	**309**	P	**P**	**01 40 02.0**	**-0.3**
	comp=E,7.4nm,0.8s,mb4.8,baz=90,slow=9.7,SNR=35						
PKI	**Pulchoki**	**50.08**	**284**	*e*P	**P**	**01 40 02.9**	**+0.1**
	comp=E,22nm,0.9s,mb5.2						
PKI	**Pulchoki**	**50.08**	**284**	*e*P	**P**	**01 40 02.9**	**+0.1**
PKI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
KKN	**Kakani**	**50.14**	**284**	*e*P	**P**	**01 40 03.6**	**+0.4**
	comp=Z,41nm,0.9s,mb5.5						
DMN	**Daman**	**50.33**	**284**	*e*P	**P**	**01 40 05.0**	**+0.3**
GKN	**Gorkha**	**50.63**	**284**	*e*P	**P**	**01 40 07.1**	**+0.1**
	comp=Z,46nm,1.1s,mb5.3						
KOLN	**Koldanda**	**51.58**	**284**	*e*P	**P**	**01 40 13.7**	**-0.5**
	comp=Z,42nm,1.0s,mb5.3						
KURK	**Kurchatov**	**52.47**	**314**	*e*P	**P**	**01 40 20.2**	**-0.5**
	comp=Z,45nm,1.0s,mb5.4						
KURK	**Kurchatov**	**52.47**	**314**	*e*P	**P**	**01 40 20.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.3						
AAK	**Ala-Archa**	**55.91**	**304**	*e*P	**P**	**01 40 44.7**	**-1.2**
	comp=Z,4.2nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**55.91**	**304**	*e*P	**P**	**01 40 44.7**	**-1.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**56.66**	**29**	P	**P**	**01 40 49.0**	**-2.0**
	comp=Z,2.1nm,0.9s,mb4.1,baz=253,slow=6.0,SNR=11						
BVA0	**Borovoye Array**	**57.48**	**317**	*i*P	**P**	**01 40 56.3**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
BRVK	**Borovoye**	**57.54**	**317**	*e*P	**P**	**01 40 57.3**	**-0.1**
	comp=Z,12nm,0.9s,mb4.9						
BRVK	**Borovoye**	**57.54**	**317**	*e*P	**P**	**01 40 57.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KKAR	**Karatay Array**	**58.72**	**305**	P	**P**	**01 41 05.1**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**59.69**	**181**	P	**P**	**01 41 09.7**	**-3.0**
	comp=Z,2.8nm,0.7s,mb4.4,baz=356,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**59.69**	**181**	*e*P	**P**	**01 41 09.5**	**-3.2**
ARU	**Arti**	**63.79**	**322**	*e*P	**P**	**01 41 39.3**	**-0.4**
	comp=Z,48nm,1.2s,mb5.4						
ARU	**Arti**	**63.79**	**322**	*i*P	**P**	**01 41 39.1**	**-0.7**
ARU				*e*		01 42 14.8	
ARU				*e*		01 43 55.1	
ARU				*e*S	**S**	**01 50 01.3**	**-11**
ARU				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
SOKR	**Solikamsk**	**64.07**	**326**	*i*P	**P**	**01 41 41.4**	**-0.2**
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
SOKR				MLR	MLR		
	comp=Z,260nm,20.0s,MS4.4						
AB31	**Akbulak array**	**64.59**	**314**	P	**P**	**01 41 44.3**	**-0.8**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ARCES	**ARCESS Array B**	**72.66**	**341**	P	**P**	**01 42 35.2**	**+0.5**
	comp=Z,9.0nm,0.9s,mb4.7,baz=45,slow=8.6,SNR=6.9						
ARCES				LR	LR	02 16 21.7	
	comp=Z,106nm,18.9s,MS4.1,baz=243,slow=37						
ARCES	**ARCESS Array B**	**72.66**	**341**	P	**P**	**01 42 35.2**	**+0.5**
ARCES				LR	LR	02 16 21.7	
WBK	**Wadi Bani Khal**	**74.28**	**287**	⇑P	**P**	**01 42 45.8**	**+0.8**
	SNR=6.1						
JOF	**Joensuu**	**74.28**	**334**	*e*p	**P**	**01 42 45.1**	**+0.8**
BIDO	**Bidbid**	**74.61**	**289**	⇑P	**P**	**01 42 47.8**	**+0.8**
SMDO	**Samad**	**74.87**	**288**	⇑P	**P**	**01 42 48.9**	**+0.4**
JMDO	**Jabal Madar**	**75.10**	**288**	⇑P	**P**	**01 42 49.9**	**+0.1**
BANOM	**Banah**	**75.14**	**292**	⇑P	**P**	**01 42 50.6**	**+0.6**
HOQ	**Hoqain**	**75.27**	**289**	⇑P	**P**	**01 42 50.8**	**0.0**
	SNR=12						
BSY	**Bisya**	**75.71**	**288**	⇑P	**P**	**01 42 53.3**	**0.0**
	SNR=11						
OBN	**Obninsk**	**75.85**	**325**	*e*P	**P**	**01 42 53.7**	**+0.3**
OBN				*e*		01 43 05.0	
OBN				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5						
ASHO	**Ashiyiah**	**75.85**	**291**	⇓P	**P**	**01 42 54.9**	**+0.8**
NEW	**Newport**	**75.94**	**43**	*e*P	**P**	**01 42 47.8**	**-6.3**
	comp=Z,7.1nm,1.0s,mb4.5						
NEW	**Newport**	**75.94**	**43**	*e*P	**P**	**01 42 47.8**	**-6.3**
NEW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARQ	**Araqi**	**76.03**	**289**	⇑P	**P**	**01 42 55.8**	**+0.7**
	SNR=10						
KAF	**Kangasniemi**	**76.67**	**334**	*e*p	**P**	**01 42 54.8**	**-3.1**
MOD	**Modoc**	**76.72**	**50**	*e*P	**P**	**01 43 00.1**	**+1.5**
	comp=Z,3.1nm,0.9s,mb4.2						
FINES	**FINESS Array B**	**77.15**	**334**	P	**P**	**01 43 00.2**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=77,slow=4.8,SNR=15						
KIV	**Kislovodsk**	**77.55**	**313**	*e*P	**P**	**01 43 04.3**	**+1.1**
	comp=Z,19nm,0.9s,mb5.0						
KIV	**Kislovodsk**	**77.55**	**313**	*e*P	**P**	**01 43 04.3**	**+1.1**
KIV				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
BEKR	**Beckwourth**	**77.57**	**51**	*e*P	**P**	**01 43 03.4**	**0.0**
	comp=Z,3.6nm,0.9s,mb4.3						
WVOR	**Wild Horse Val**	**77.59**	**49**	*e*P	**P**	**01 43 03.6**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.2						
WVOR	**Wild Horse Val**	**77.59**	**49**	*e*P	**P**	**01 43 03.6**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CMB	**Columbia Colle**	**78.36**	**53**	*e*P	**P**	**01 43 08.9**	**+1.2**
	comp=Z,3.7nm,0.8s,mb4.4						
CMB	**Columbia Colle**	**78.36**	**53**	*e*P	**P**	**01 43 09.0**	**+1.3**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.

HWUT	**Hardware Ranch**	**82.61**	**47**	*e*P		**P**		**01 43 28.8**	**-1.4**
	comp=Z,4.4nm,0.8s,mb4.5								
NB2	**NORSAR Subarra**	**82.76**	**338**	P		**P**		**01 43 30.1**	**-0.5**
	comp=Z,12nm,1.4s,mb4.7,baz=40,slow=5.0								
NB2	**NORSAR Subarra**	**82.76**	**338**	P		**P**		**01 43 30.1**	**-0.5**
NB2				pmax		pmax			
	comp=Z,12nm,1.4s,mb4.7								
NOA	**NORSAR Array B**	**82.76**	**338**	P		**P**		**01 43 30.5**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=42,slow=5.3,SNR=5.0								
NOA				LR		LR		02 27 45.9	
	comp=Z,38nm,19.0s,MS3.8,baz=55,slow=41								
SUW	**Suwalki**	**82.92**	**329**	*e*P		**P**		**01 43 31.6**	**+0.1**
MALT	**Malatya**	**83.08**	**310**	*e*P		**P**		**01 43 34.4**	**+1.6**
	comp=Z,16nm,1.1s,mb5.0								
MALT	**Malatya**	**83.08**	**310**	*e*P		**P**		**01 43 34.4**	**+1.7**
MALT				pmax		pmax			
	comp=Z,16nm,1.1s,mb5.0								
PDAR	**Pinedale Array**	**83.27**	**45**	P		**P**		**01 43 33.3**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=315,slow=2.1,SNR=4.7								
DAU	**Daniels Canyon**	**83.42**	**48**	*e*P		**P**		**01 43 35.1**	**+0.6**
SRU	**San Rafael**	**84.59**	**48**	*e*P		**P**		**01 43 40.7**	**+0.4**
	comp=Z,5.5nm,0.8s,mb4.7								
SRU	**San Rafael**	**84.59**	**48**	*e*P		**P**		**01 43 40.7**	**+0.4**
SRU				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.8								
RWWY	**Rawlins**	**85.32**	**45**	*e*P		**P**		**01 43 40.7**	**-3.3**
	comp=Z,16nm,1.2s,mb5.0								
BR131	**Keskin Array S**	**85.51**	**313**	*e*P		**P**		**01 43 45.6**	**+0.7**
	comp=Z,4.3nm,0.7s,mb4.8								
BRTR	**Keskin Array B**	**85.51**	**313**	P		**P**		**01 43 45.8**	**+0.8**
	comp=Z,2.8nm,0.6s,mb4.6,baz=104,slow=3.3,SNR=15								
KWP	**Kalwaria**	**85.93**	**326**	*e*P		**P**		**01 43 47.7**	**+0.9**
KOLS	**Kolonicke sedl**	**86.60**	**325**	*e*P		**P**		**01 43 49.2**	**-0.9**
STHS	**Stebnicka Huta**	**86.80**	**326**	*e*P		**P**		**01 43 51.2**	**+0.1**
SMCO	**Snowmass**	**86.87**	**47**	*e*P		**P**		**01 43 54.5**	**+2.9**
OJC	**Ojcow**	**86.97**	**327**	*e*P		**P**		**01 43 52.2**	**+0.3**
PSZ	**Piszkesteto**	**88.46**	**325**	*e*P		**P**		**01 43 59.7**	**+0.6**
	comp=Z,4.4nm,0.9s,mb4.7								
PSZ	**Piszkesteto**	**88.46**	**325**	*e*P		**P**		**01 43 59.7**	**+0.6**
PSZ				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.7								
SMOL	**Smolenice**	**89.27**	**327**	*e*P		**P**		**01 44 02.1**	**-0.8**
ANMO	**Albuquerque**	**89.58**	**50**	*e*P		**P**		**01 44 05.7**	**+1.0**
KHC	**Kasperske Hory**	**90.62**	**329**	*e*P		**P**		**01 44 08.5**	**-0.7**
GERES	**GERESS Array B**	**90.78**	**329**	P		**P**		**01 44 09.0**	**-0.9**
	comp=Z,1.5nm,0.9s,mb4.3,baz=34,slow=4.8,SNR=12								
GERES				LR		LR		02 29 23.2	
	comp=Z,120nm,18.2s,MS4.4,baz=26,slow=38								
GRA1	**Grafenberg Arr**	**91.25**	**331**	*e*P		**P**		**01 44 12.2**	**+0.1**
	comp=Z,5.0nm,1.2s,mb4.7								
GRF	**Grafenberg Arr**	**91.25**	**331**	*e*P		**P**		**01 44 12.2**	**+0.1**
GRF				pmax		pmax			
	comp=Z,5.0nm,1.2s,mb4.7								
MNTX	**Cornudas Mount**	**92.17**	**52**	*e*P		**P**		**01 44 17.5**	**+0.8**
	comp=Z,6.7nm,1.5s,mb4.8								
TXAR	**Lajitas Array**	**94.75**	**53**	P		**P**		**01 44 29.5**	**+0.8**
	comp=Z,0.5nm,0.8s,mb4.0,baz=282,slow=2.8,SNR=6.5								
SNAA	**Sanae**	**132.45**	**194**	P		PKPdf		01 50 33.9	+10
SNAA	**Sanae**	**132.45**	**194**			PKPdf		01 50 45.0	+21
VNA3	**Neumayer Olymp**	**134.15**	**192**	P		PKPdf		01 50 27.5	+0.6
VNA3	**Neumayer Olymp**	**134.15**	**192**			PKPdf		01 50 35.4	+8.5
LPAZ	**La Paz**	**149.36**	**74**	PKPbc		PKPdf		01 50 57.0	+2.0
	comp=Z,2.1nm,0.9s,baz=355,slow=4.9,SNR=7.8								
LPAZ	**La Paz**	**149.36**	**74**	*e*PKPbc		PKPdf		01 50 57.5	+2.5
LPAZ	**La Paz**	**149.36**	**74**	PKP2		PKPab		01 50 57.0	-5.1
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.9s								
PLCA	**Paso Flores**	**150.15**	**124**	PKPbc		PKPdf		01 50 57.7	+2.2
	comp=Z,3.7nm,1.1s,baz=257,slow=5.1,SNR=3.3								
PLCA	**Paso Flores**	**150.15**	**124**	*e*PKIKP		PKPdf		01 50 57.5	+2.0
LVC	**Limon Verde**	**151.12**	**86**	*e*PKPab		PKPab		01 51 09.3	0.0

CSEM ***23*** *01:41:33.9±0.1, 37.77N×25.39W, h5km, ML2.6, Error ellipse: s-maj=5.3km s-min=2.8km az=165.0, After PDA*
PDA ***23*** *01:41:33.9±1.2, 37.77N×25.39W, h5km±2km, MD2.3, ML2.6, Error ellipse: s-maj=5.1km s-min=3.2km az=89.0*

SVSA 23 01:41:33.9±1.2, 37.77N×25.39W, h5km±2km, MD2.3, ML2.6, Error ellipse: s-maj=5.1km s-min=3.2km az=89.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**212**	*e*P	Pg	01 41 35.1	+0.2
FRA1	**Furnas**	**0.04**	**136**	*e*P	Pg	01 41 35.8	+0.7
FRA1				*e*S	Sg	01 41 36.9	+0.9
MESC	**Monte Escuro**	**0.05**	**296**	*i* P	Pg	01 41 35.8	+0.6
MESC				*e*S	Sg	01 41 37.2	+1.1
MESC	**Monte Escuro**	**0.05**	**296**	*e*S	Sg	01 41 37.2	+1.1
VIF	**Vila Franca**	**0.05**	**234**	*e*P	Pg	01 41 35.9	+0.7
VIF				*e*S	Sg	01 41 37.3	+1.2
LFA	**Lagoa do Fogo**	**0.07**	**271**	*i* P	Pg	01 41 36.4	+0.8
PMAT	**Coroa da Mata**	**0.08**	**305**	*e*P	Pg	01 41 36.3	+0.6
PMAT				*e*S	Sg	01 41 38.2	+1.3
PRCH	**Ribeira Ch**	**0.08**	**238**	*e*P	Pg	01 41 36.7	+0.9
PRCH				*e*S	Sg	01 41 38.2	+1.1
	3μm,0.2s						
PFAD	**Fenais da Ajud**	**0.09**	**39**	*e*P	Pg	01 41 37.3	+1.4
MIRA	**Miradouro**	**0.09**	**81**	*e*P	Pg	01 41 37.0	+1.1
MIRA				*e*S	Sg	01 41 38.8	+1.5
CMLA	**Cha da Macela**	**0.10**	**266**	*e*P	Pg	01 41 35.1	-1.1
CMLA				*e*S	Sg	01 41 37.0	-0.7
CML	**Cha da Macela**	**0.12**	**269**	*e*P	Pg	01 41 37.4	+0.9
FAC	**Faja de Cima**	**0.20**	**270**	*e*P	Pg	01 41 39.4	+1.3
PDA	**Ponta Delgada**	**0.22**	**263**	*e*P	Pg	01 41 38.3	0.0
PDA				*e*S	Sg	01 41 41.1	-0.2
PSET	**Sete Cidades**	**0.27**	**281**	*e*P	Pg	01 41 39.0	-0.3
PSET				*e*S	Sg	01 41 43.0	+0.1
	405nm,0.3s						
PFET	**Feteiras**	**0.32**	**278**	*e*P	Pg	01 41 41.2	+0.9
SET2	**Ginetes**	**0.34**	**282**	*e*P	Pg	01 41 41.6	+0.9
SET4	**Mosteiros**	**0.34**	**288**	*e*P	Pg	01 41 41.5	+0.8
PSCM	**Serra do Cume**	**1.65**	**305**	*e*P	Pn	01 41 59.6	-4.0

IDC ***23*** *01:48:56.1±1.0, 0.79N×126.25E, mb4.1/6, mb1 4.3/7, mb1mx4.0/16, mbtmp4.2/7, ML4.4/1, Error ellipse: s-maj=93.7km s-min=17.2km az=69.0*
NEIC ***23*** *01:49:02.0±3.4, 0.84N×126.48E, h45km±32km, mb4.1/7, Error ellipse: s-maj=28.4km s-min=9.4km az=67.0*

ISC 23 01:48:57.3±4.1, 0.9N±0.1×126.5E±0.3, h22km±28km, n17, σ0²43/18, mb4.2/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.89**	**182**	*e*P	**P**	**01 53 18.8**	**0.0**
	4.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.89**	**182**	P	**P**	**01 53 18.1**	**-0.8**
	1.0nm,0.3s,baz=7.6,slow=9.7,SNR=6.1						
WRAB	**Tennant Creek**	**22.09**	**160**	*e*P	**P**	**01 53 52.8**	**0.0**
	18nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**22.10**	**160**	P	**P**	**01 53 52.9**	**0.0**
	8.2nm,0.5s,mb4.4,baz=337,slow=11,SNR=23						
WRA				S	**S**	**01 57 49.7**	**-0.5**
	1.6nm,0.9s,baz=333,slow=21,SNR=4.8						
WB2	**Warramunga Arr**	**22.10**	**160**	*e*P	**P**	**01 53 52.9**	**0.0**
WB2				*e*S	**S**	**01 57 50.9**	**+0.6**
MBWA	**Marble Bar**	**22.87**	**196**	*e*P	**P**	**01 54 01.1**	**+0.5**
	4.7nm,0.6s,mb4.1						
ASPA	**Alice Springs**	**25.46**	**164**	*e*P	**P**	**01 54 26.1**	**+0.6**
STKA	**Stephens Creek**	**35.60**	**158**	*e*P	**P**	**01 55 55.2**	**-0.3**
	1.3nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**35.60**	**158**	P	**P**	**01 55 55.0**	**-0.5**
	1.5nm,0.5s,mb4.2,baz=340,slow=8.4,SNR=8.3						
SONM	**Songino Array**	**49.90**	**342**	P	**P**	**01 57 51.9**	**+0.7**
	0.4nm,0.6s,mb3.6,baz=164,slow=8.2,SNR=4.7						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**01 59 02.3**	**-0.5**
	1.2nm,0.5s,mb4.2,baz=117,slow=8.5,SNR=8.5						
ZAL	**Zalesovo**	**62.99**	**334**	P	**P**	**01 59 24.5**	**-0.2**
	1.8nm,0.3s,mb4.7,baz=115,slow=2.2,SNR=4.3						
KURK	**Kurchatov**	**63.99**	**328**	*e*P	**P**	**01 59 30.7**	**-0.6**
	1.6nm,0.4s,mb4.4						
BVAR	**Borovoye Array**	**69.55**	**328**	P	**P**	**02 00 06.8**	**+0.3**
	2.2nm,0.9s,mb4.1,baz=135,slow=10,SNR=6.7						
BRVK	**Borovoye**	**69.62**	**328**	P	**P**	**02 00 07.2**	**+0.3**
	1.3nm,0.5s,mb4.1						
VNDA	**Vanda**	**80.66**	**173**	*e*P	**P**	**02 01 09.2**	**-0.3**
	1.0nm,0.6s,mb3.9						
CFAA	**Coronel Fontan**	**146.44**	**157**	PKPbc	PKPbc	02 08 38.9	+1.7
	0.1nm,0.3s,baz=208,slow=3.4,SNR=5.8						

IDC ***23*** *02:24:53.4±0.6, 11.28S×166.33E, mb4.6/12, mb1 4.7/12, mb1mx4.7/14, mbtmp4.6/12, MS4.1/14, Ms1 4.1/14, ms1mx4.1/18, Error ellipse: s-maj=25.7km s-min=17.4km az=118.0*
BJI ***23*** *02:25:03.9, 11.40S×166.57E, h98km, mB5.1, mb4.9*
NEIC ***23*** *02:25:04.4±1.4, 11.44S×166.19E, h83km±12km, mb4.7/18, Error ellipse: s-maj=9.5km s-min=9.0km az=147.0*

ISC 23 02:25:01.1±1.5, 11.55S±0.06×166.13E±0.06, h62km±13km, h73km±5.3km:pP-P, n94, σ0²95/65, mb4.8/43, 5C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.43**	**289**	Pn	**P**	**02 26 34.0**	**-1.5**
	72nm,0.3s,baz=195,slow=3.2,SNR=10.0						
HNR				Sn	**S**	**02 27 47.7**	**-0.6**
	35nm,0.3s,baz=270,slow=20,SNR=2.9						
HNR	**Honiara**	**6.43**	**289**	*e*Pn	**P**	**02 26 36.4**	**+1.0**
	757nm,0.8s						
DZM	**Mont Dzumac**	**10.47**	**178**	Pn	**P**	**02 27 31.8**	**+0.9**
	1.5nm,0.3s,baz=6.8,slow=21,SNR=12						
DZM				Sn	**S**	**02 29 24.0**	**-3.6**
	1.7nm,0.3s,baz=309,slow=22,SNR=3.1						
CTA	**Charters Tower**	**20.91**	**244**	*i*P	**P**	**02 29 42.8**	**+2.0**
	8.4nm,0.6s						
CTA	**Charters Tower**	**20.91**	**244**	P	**P**	**02 29 42.5**	**+1.8**
	11nm,0.7s,baz=81,slow=9.2,SNR=10						
CTA				LR	LR	02 37 02.1	
	comp=Z,767nm,19.0s,baz=44,slow=34						
CTAO	**Charters Tower**	**20.91**	**244**	*e*P	**P**	**02 29 42.7**	**+1.9**
	9.7nm,0.6s						
CTAO				*e*		02 29 56.5	
AFI	**Afiamalu**	**21.68**	**99**	LR	LR	02 36 28.1	
	comp=Z,483nm,20.4s,baz=259,slow=32						
RAO	**Raoul Island**	**23.05**	**142**	LR	LR	02 37 21.1	
	comp=Z,276nm,19.9s,baz=29,slow=32						
URZ	**Urewera**	**28.35**	**162**	LR	LR	02 40 17.1	
	comp=Z,582nm,21.4s,baz=4.0,slow=32						
STKA	**Stephens Creek**	**30.34**	**224**	*i*P	**P**	**02 31 10.1**	**+0.8**
	5.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**30.34**	**224**	P	**P**	**02 31 10.2**	**+0.9**
	6.7nm,0.7s,mb4.5,baz=32,slow=7.8,SNR=18						
STKA				PcP	PcP	02 34 07.4	-0.9
	2.3nm,0.7s,baz=54,slow=7.1,SNR=3.0						
STKA				ScP		02 37 51.8	
	2.0nm,0.6s,baz=63,slow=6.9,SNR=6.3						
STKA				LR	LR	02 42 32.7	
	comp=Z,750nm,21.2s,baz=35,slow=34						
WB2	**Warramunga Arr**	**31.66**	**251**	*i*P	**P**	**02 31 20.7**	**-0.3**
WRAB	**Tennant Creek**	**31.66**	**251**	*e*P	**P**	**02 31 20.3**	**-0.7**
	62nm,1.5s,mb5.2						
WRA	**Warramunga Arr**	**31.67**	**251**	P	**P**	**02 31 20.8**	**-0.3**
	9.2nm,0.9s,mb4.6,baz=82,slow=9.1,SNR=31						
WRA				PcP	PcP	02 34 10.9	-1.0
	2.9nm,0.9s,baz=81,slow=3.2,SNR=6.9						
WRA				ScP		02 37 57.3	
	0.9nm,0.8s,baz=74,slow=3.5,SNR=6.9						
RPZ	**Rata Peaks**	**32.33**	**173**	P	**P**	**02 31 26.3**	**-0.3**
	15nm,0.6s,mb5.0,baz=296,slow=20,SNR=11						
GUMO	**Guam**	**32.69**	**319**	LR	LR	02 43 05.6	
	comp=Z,94nm,18.8s,baz=129,slow=34						
KAKA	**Kakadu**	**32.95**	**264**	*i*P	**P**	**02 31 51.3**	**+19**
	17nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**39.62**	**256**	*i*P	**P**	**02 32 28.9**	**+0.3**
	13nm,0.7s,mb4.8						
PPT	**Papeete**	**43.21**	**103**	*e*LQ		02 43 07.1	
PPT				*e*LR	LR	02 45 01.2	
	921nm,29.0s						
PPT	**Papeete**	**43.21**	**103**	LR	LR	02 47 14.6	
	comp=Z,300nm,19.4s,baz=274,slow=31						
TBI	**Tubuai**	**43.79**	**112**	*e*LQ		02 43 35.4	
TBI				*e*LR	LR	02 45 23.5	
	1μm,32.0s,baz=281						
MBWA	**Marble Bar**	**45.40**	**252**	*e*P	**P**	**02 33 16.6**	**+0.9**
	8.4nm,0.7s,mb4.7						
KLBR	**Kellerberrin**	**48.76**	**238**	*i*P	**P**	**02 33 41.7**	**-0.2**
	9.6nm,0.4s,mb5.2						
KKM	**Kota Kinabalu**	**52.64**	**287**	*e*P	**P**	**02 34 11.1**	**-0.6**
KKM				*e*	pP	02 34 27.6	-0.2
MJAR	**Matsushiro Arr**	**54.59**	**332**	P	**P**	**02 34 22.5**	**-3.2**
	3.3nm,0.6s,mb4.5,baz=163,slow=8.3,SNR=8.0						
MJAR				LR	LR	02 55 06.2	
	comp=Z,136nm,18.2s,baz=195,slow=33						
KSM	**Kuching**	**56.96**	**279**	*e*P	**P**	**02 34 43.5**	**+0.4**
RKT	**Rikitea**	**57.06**	**110**	*e*LQ		02 49 06.4	
RKT				*e*LR	LR	02 51 29.9	
	832nm,27.8s,baz=276						
SSE	**Sheshan**	**60.47**	**316**	P	**P**	**02 35 08.8**	**+1.6**
SSE				AP	pP	02 35 27.1	+3.4
SSE				S	**S**	**02 43 17.8**	**+1.7**
SSE				SS	SS	02 47 17.3	+1.2
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,196nm,5.1s						
SSE				LR	LR		
	comp=N,75nm,27.7s						
SSE				LR	LR		
	comp=E,72nm,27.7s						
SSE				LR	LR		
	comp=Z,126nm,25.5s						
NJ2	**Nanjing**	**62.64**	**315**	*e*P	**P**	**02 35 22.4**	**+0.7**
NJ2				AP	pP	02 35 41.9	+3.5
NJ2				P	PP	02 37 42.9	+1.0
NJ2				S	**S**	**02 43 42.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,510nm,4.1s						
NJ2				LR	LR		
	comp=N,510nm,16.7s						
NJ2				LR	LR		
	comp=E,520nm,20.4s						
NJ2				LR	LR		
	comp=Z,650nm,14.4s						
MDJ	**Mudanjiang**	**64.97**	**332**	P	**P**	**02 35 39.3**	**+2.5**
MDJ				PCP	PcP	02 36 11.3	+2.0
MDJ				PP	PP	02 38 03.1	+0.8
MDJ				S	**S**	**02 44 18.3**	**+6.1**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,42nm,4.5s						
MDJ				LR	LR		
	comp=N,96nm,28.4s						
MDJ				LR	LR		
	comp=E,56nm,33.8s						
MDJ				LR	LR		
	comp=Z,144nm,30.4s						
VNDA	**Vanda**	**66.00**	**181**	*e*P	**P**	**02 35 41.9**	**-1.0**
	comp=Z,12nm,1.3s,mb4.8						
CASY	**Casey**	**66.05**	**201**	*e*P	**P**	**02 35 41.9**	**-1.5**
	comp=Z,12nm,1.2s,mb4.8						
CN2	**Changchun**	**66.36**	**329**	*e*P	**P**	**02 35 44.6**	**-1.1**
CN2				*e*S	S	02 44 29.6	+0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=Z,260nm,23.0s						
ENH	**Enshi**	**68.51**	**309**	*e*P	**P**	**02 35 58.0**	**-1.3**
	comp=Z,22nm,1.3s,mb4.9						
GYA	**Guiyang**	**69.01**	**304**	P	**P**	**02 36 03.0**	**+0.4**
GYA				PP	PP	02 38 39.0	+1.0
GYA				S	S	02 45 01.8	+0.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,3.0s						
GYA				LR	LR		
	comp=N,240nm,18.4s						
GYA				LR	LR		
	comp=E,260nm,18.9s						
GYA				LR	LR		
	comp=Z,310nm,18.6s						
XAN	**Xi'an**	**70.74**	**312**	P	**P**	**02 36 12.9**	**0.0**
XAN				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.9						
KMI	**Kunming**	**71.70**	**301**	P	**P**	**02 36 19.4**	**+0.5**
KMI				PP	PP	02 38 58.9	-1.6
KMI				PPP	PPP	02 40 40.1	-2.2
KMI				S	S	02 45 34.4	+1.8
KMI				SS	SS	02 50 15.3	+4.2
KMI				SSS	SSS	02 53 31.8	+12
KMI				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.6						
KMI				AMB	AMB		
	comp=Z,118nm,3.8s						
KMI				LR	LR		
	comp=N,230nm,15.8s						
KMI				LR	LR		
	comp=E,228nm,23.1s						
KMI				LR	LR		
	comp=Z,276nm,21.9s						
HHC	**Hu-ho-hao-te**	**72.46**	**320**	*e*P	**P**	**02 36 22.8**	**-0.2**
HHC				PCP	PcP	02 36 40.4	-0.4
HHC				AP	pP	02 36 46.9	+6.8
HHC				XP	sP	02 36 58.4	+12
HHC				PP	PP	02 39 06.8	+0.1
HHC				S	S	02 45 36.8	-4.2
HHC				SKS	SKS	02 46 13.6	-4.1
HHC				SCS	ScS	02 46 16.8	-4.1
HHC				XS		02 46 20.4	
HHC				SS	SS	02 50 18.9	-3.7
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,68nm,3.3s						
HHC				LR	LR		
	comp=N,144nm,13.1s						
HHC				LR	LR		
	comp=E,188nm,21.4s						
HHC				LR	LR		
	comp=Z,250nm,20.2s						
CD2	**Chengdu**	**73.21**	**307**	*e*P	**P**	**02 36 28.0**	**+0.3**
LZH	**Lanzhou**	**75.37**	**312**	*e*P	**P**	**02 36 40.5**	**+0.4**
LZH				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.3						
QSPA	**South Pole Qui**	**78.46**	**180**	*e*P	**P**	**02 36 56.0**	**-0.5**
	comp=Z,15nm,0.9s,mb4.9						
SONM	**Songino Array**	**79.29**	**324**	P	**P**	**02 37 01.1**	**-0.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=132,slow=6.0,SNR=26						
SONM				LR	LR	03 08 54.6	
	comp=Z,114nm,19.9s,baz=158,slow=33						
GTA	**Gaotai**	**79.68**	**314**	*e*P	**P**	**02 37 04.8**	**+0.9**
GTA				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**83.87**	**18**	P	**P**	**02 37 22.6**	**-2.4**
	comp=Z,2.4nm,0.6s,mb4.5,baz=265,slow=6.1,SNR=25						
YBH	**Yreka Blue Hor**	**83.97**	**45**	P	**P**	**02 37 27.2**	**+1.0**
	comp=Z,3.4nm,1.0s,mb4.4,baz=267,slow=6.6,SNR=4.7						
MAW	**Mawson**	**84.40**	**202**	P	**P**	**02 37 28.5**	**+0.8**
	comp=Z,0.8nm,0.3s,mb4.3,baz=65,slow=9.3,SNR=3.9						
MAW				LR	LR	03 08 36.8	
	comp=Z,143nm,20.2s,baz=322,slow=31						
NVAR	**Mina Array Bea**	**86.06**	**50**	P	**P**	**02 37 35.6**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.5,baz=237,slow=9.6,SNR=17						
WVOR	**Wild Horse Val**	**87.06**	**46**	*e*P	**P**	**02 37 42.2**	**+0.8**
	comp=Z,8.3nm,1.3s,mb4.8						
PKI	**Pulchoki**	**87.21**	**299**	*e*P	**P**	**02 37 42.3**	**-0.2**
	comp=Z,38nm,1.1s,mb5.5						
KKN	**Kakani**	**87.38**	**299**	*e*P	**P**	**02 37 43.1**	**-0.2**
DMN	**Daman**	**87.48**	**299**	*e*P	**P**	**02 37 44.4**	**+0.6**
	comp=Z,59nm,1.1s,mb5.7						
GKN	**Gorkha**	**87.98**	**299**	*e*P	**P**	**02 37 45.6**	**-0.6**
	comp=Z,30nm,0.9s,mb5.5						
KOLN	**Koldanda**	**88.81**	**299**	*e*P	**P**	**02 37 49.5**	**-0.6**
	comp=Z,21nm,1.0s,mb5.4						
WMQ	**Urumqi**	**89.72**	**315**	*i*P	**P**	**02 37 54.5**	**+0.5**
WMQ				PP	PP	02 41 30.0	+1.1
WMQ				SKS	SKS	02 48 17.0	0.0
WMQ				*e*S	S	02 48 39.0	+0.7
WMQ				AMB	AMB		
	comp=Z,11nm,0.9s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,87nm,5.5s						
WMQ				LR	LR		
	comp=N,140nm,23.0s						
WMQ				LR	LR		
	comp=E,278nm,27.7s						
WMQ				LR	LR		
	comp=Z,272nm,25.4s						
NEW	**Newport**	**89.88**	**41**	*e*P	**P**	**02 37 55.0**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.5						
TUC	**Tucson**	**90.34**	**57**	*e*P	**P**	**02 37 56.9**	**-0.2**
	comp=Z,1.1nm,0.7s,mb4.3						
DUG	**Dugway**	**90.64**	**49**	*e*P	**P**	**02 37 57.2**	**-1.2**
	comp=Z,1.5nm,0.6s,mb4.5						
MSU	**Marysvale**	**90.70**	**51**	*e*P	**P**	**02 37 59.0**	**+0.2**
MCMT	**McKenzie Canyo**	**91.77**	**45**	*e*P	**P**	**02 38 03.4**	**-0.1**
RRI2	**Red Ridge**	**92.48**	**46**	*e*P	**P**	**02 38 07.0**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.6						
TPAW	**Teton Pass**	**92.78**	**46**	*e*P	**P**	**02 38 08.7**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.6						
PDAR	**Pinedale Array**	**93.61**	**47**	P	**P**	**02 38 14.0**	**+2.0**
	comp=Z,0.6nm,0.6s,mb4.2,baz=234,slow=3.1,SNR=5.4						
PDAR				LR	LR	03 13 11.5	
	comp=Z,98nm,18.5s,baz=80,slow=31						
MKAR	**Makanchi Array**	**94.14**	**317**	P	**P**	**02 38 13.8**	**-0.5**
	comp=Z,4.9nm,0.5s,mb5.2,baz=87,slow=5.4,SNR=54						
MKAR	**Makanchi Array**	**94.14**	**317**	P	**P**	**02 38 13.8**	**-0.5**
ZAL	**Zalesovo**	**94.19**	**324**	P	**P**	**02 38 13.2**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.8,baz=351,slow=5.8,SNR=9.4						
ZA

ellipse: s-maj=1.5km s-min=1.1km az=9.0
*VIE **23** 02:32:48.0±0.2,46.27N×13.70E,h8km,mb1.6/1,ML1.8/3, Error ellipse: s-maj=1.9km s-min=1.5km az=22.0*

ISC 23 02:32:48.1±0.4,46.28N±0.02×13.71E±0.02,h10km±5km, n43,σ0§70/77,14C-4D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.06**	**160**	*i*Pg	**Pg**	**02 32 50.0**	**-0.2**
CADS				*i* Sg	**Sg**	**02 32 51.0**	**-0.7**
	comp=Z,1μm,0.1s						
CADS	**Cadrg**	**0.06**	**160**	*i*Pg	**Pg**	**02 32 50.0**	**-0.2**
CADS				*i* Sg	**Sg**	**02 32 51.0**	**-0.7**
	comp=Z,1μm,0.1s						
DRE	**Drenchia**	**0.12**	**203**	*i*Pg	**Pg**	**02 32 50.7**	**-0.3**
DRE				*i* Sg	**Sg**	**02 32 52.4**	**-0.6**
ROBS	**Robic**	**0.14**	**255**	*i* Pg	**Pg**	**02 32 51.3**	**-0.2**
ROBS				*i* Sg	**Sg**	**02 32 53.3**	**-0.5**
	comp=Z,74nm,0.1s						
ROBS	**Robic**	**0.14**	**255**	*i* Pg	**Pg**	**02 32 51.3**	**-0.2**
ROBS				*i* Sg	**Sg**	**02 32 53.3**	**-0.4**
	comp=Z,74nm,0.1s						
GORS	**Gorjuse**	**0.20**	**80**	*i* Pg	**Pg**	**02 32 52.9**	**+0.4**
GORS				*i* Sg	**Sg**	**02 32 56.5**	**+1.0**
	comp=Z,44nm,0.1s						
GORS	**Gorjuse**	**0.20**	**80**	*i* Pg	**Pg**	**02 32 52.9**	**+0.4**
GORS				*i* Sg	**Sg**	**02 32 56.5**	**+1.1**
	comp=Z,44nm,0.1s						
LSR	**Lussari**	**0.23**	**327**	⇓*i*Pg	**Pg**	**02 32 53.3**	**+0.3**
LSR				*i* Sg	**Sg**	**02 32 57.4**	**+1.0**
COLI	**Coloredo**	**0.27**	**237**	⇑*i*Pg	**Pg**	**02 32 53.7**	**-0.2**
COLI				*i* Sg	**Sg**	**02 32 57.7**	**+0.1**
VOJS	**Vojsko**	**0.28**	**154**	⇓*i*Pg	**Pg**	**02 32 53.8**	**-0.1**
VOJS				*i* Sg	**Sg**	**02 32 58.5**	**+0.7**
BAD	**Bernadia**	**0.33**	**262**	⇑*i*Pg	**Pg**	**02 32 54.5**	**-0.3**
BAD				*i* Sg	**Sg**	**02 32 59.9**	**+0.5**
BAD	**Bernadia**	**0.33**	**262**	*i* Pg	**Pg**	**02 32 54.5**	**-0.3**
BAD				*i* Sg	**Sg**	**02 32 59.8**	**+0.5**
BOO	**Bordano**	**0.42**	**275**	⇓*e*Pg	**Pg**	**02 32 56.0**	**-0.7**
BOO				*e*Sg	**Sg**	**02 33 02.5**	**0.0**
JAVS	**Javornik**	**0.46**	**147**	*i* Pg	**Pg**	**02 32 56.9**	**-0.6**
JAVS				*i* Sg	**Sg**	**02 33 04.3**	**+0.7**
	comp=Z,7.0nm,0.1s						
JAVS	**Javornik**	**0.46**	**147**	*i* Pg	**Pg**	**02 32 56.9**	**-0.5**
JAVS				*i* Sg	**Sg**	**02 33 04.3**	**+0.6**
	comp=Z,7.0nm,0.1s						
PLRO	**Paularo**	**0.47**	**305**	⇑*i*Pg	**Pg**	**02 32 57.5**	**-0.2**
PLRO				*i* Sg	**Sg**	**02 33 05.2**	**+1.2**
ZOU	**Zoufplan**	**0.58**	**299**	⇑*e*Pg	**Pg**	**02 32 59.6**	**-0.1**
ZOU				*e*Sg	**Sg**	**02 33 08.4**	**+0.8**
LJU	**Ljubljana**	**0.62**	**112**	*i* Pg	**Pg**	**02 33 00.3**	**-0.2**
LJU				*i* Sg	**Sg**	**02 33 09.8**	**+0.9**
	comp=Z,16nm,0.1s						
LJU	**Ljubljana**	**0.62**	**112**	*i* Pg	**Pg**	**02 33 00.3**	**-0.2**
LJU				*i* Sg	**Sg**	**02 33 09.8**	**+1.0**
	comp=Z,16nm,0.1s						
OBKA	**Obir**	**0.62**	**68**	⇑*i*PG	**Pg**	**02 33 00.6**	**-0.1**
OBKA				*i* SG	**Sg**	**02 33 09.6**	**+0.5**
	comp=Z,8.4nm,0.1s						
OBKA	**Obir**	**0.62**	**68**	⇑*i*Pg	**Pg**	**02 33 00.6**	**-0.1**
CEY	**Cerknica**	**0.74**	**137**	*i* Pg	**Pg**	**02 33 01.9**	**-1.0**
CEY				*i* Sg	**Sg**	**02 33 13.9**	**+1.1**
	comp=Z,3.0nm,0.1s						
CEY	**Cerknica**	**0.74**	**137**	*i* Pg	**Pg**	**02 33 01.9**	**-1.0**
CEY				*i* Sg	**Sg**	**02 33 13.9**	**+1.1**
	comp=Z,3.0nm,0.1s						
KBA	**Koelnbreinsper**	**0.84**	**343**	⇓*i*	**Pb**	**02 33 05.1**	**+0.9**
KBA	**Koelnbreinsper**	**0.84**	**343**	⇑*i*	**Sg**	**02 33 16.5**	**+0.5**
VISS	**Visnje**	**0.92**	**121**	*i* Pg	**Pg**	**02 33 06.2**	**-0.3**
VISS				*i* Sg	**Sg**	**02 33 20.8**	**+1.9**
VISS	**Visnje**	**0.92**	**121**	*i* Pg	**Pg**	**02 33 06.2**	**-0.3**
PDKS	**Podkum**	**0.92**	**103**	*i* Pg	**Pg**	**02 33 06.3**	**-0.3**
PDKS				*i* Sg	**Sg**	**02 33 19.3**	**+0.4**
	comp=Z,8.0nm,0.1s						
PDKS	**Podkum**	**0.92**	**103**	*i* Pg	**Pg**	**02 33 06.3**	**-0.3**
PDKS				*i* Sg	**Sg**	**02 33 19.3**	**+0.4**
	comp=Z,8.0nm,0.1s						
PERS	**Pernice**	**1.04**	**69**	*i* Pg	**Pg**	**02 33 08.1**	**-0.7**
PERS				*e*Sg	**Sg**	**02 33 22.2**	**-0.5**
LEGS	**Legarje**	**1.17**	**106**	*i* Pg	**Pg**	**02 33 10.9**	**-0.6**
LEGS				*i* Sg	**Sg**	**02 33 28.0**	**+0.9**
	comp=Z,4.0nm,0.1s						
LEGS	**Legarje**	**1.17**	**106**	*i* Pg	**Pg**	**02 33 10.9**	**-0.5**
LEGS				*i* Sg	**Sg**	**02 33 28.0**	**+0.9**
	comp=Z,4.0nm,0.1s						
DOBS	**Dobrina**	**1.23**	**96**	*i* Pg	**Pg**	**02 33 12.0**	**-0.7**
	comp=Z,3.0nm,0.1s						
DOBS	**Dobrina**	**1.23**	**96**	*i* Pg	**Pg**	**02 33 12.0**	**-0.7**
	comp=Z,3.0nm,0.1s						
GROS	**Grobnik**	**1.25**	**81**	*i* Pg	**Pg**	**02 33 12.2**	**-1.0**
GROS				*i* Sg	**Sg**	**02 33 29.7**	**-0.2**
CRES	**Cresnjev**	**1.30**	**110**	*i* Pg	**Pg**	**02 33 13.5**	**-0.5**
CRES				*i* Sg	**Sg**	**02 33 31.6**	**+0.2**
GOLS	**Golise**	**1.36**	**101**	*i* Pg	**Pg**	**02 33 14.6**	**-0.7**
GOLS				*e*Sg	**Sg**	**02 33 34.5**	**+1.1**
	comp=Z,3.0nm,0.1s						
GOLS	**Golise**	**1.36**	**101**	*i* Pg	**Pg**	**02 33 14.6**	**-0.7**
GOLS				*e*Sg	**Sg**	**02 33 34.5**	**+1.1**
	comp=Z,3.0nm,0.1s						
GCIS	**Gornji Cirnik**	**1.40**	**107**	*e*Pg	**Pg**	**02 33 15.4**	**-0.7**
ARSA	**Arzberg**	**1.58**	**51**	⇑*i*PG	**Pg**	**02 33 18.8**	**-0.8**
ARSA				*i* SG	**Sg**	**02 33 38.9**	**-1.8**
	comp=Z,2.7nm,0.2s						
ARSA	**Arzberg**	**1.58**	**51**	⇑*i*Pg	**Pg**	**02 33 18.8**	**-0.9**
MOA	**Molln**	**1.61**	**13**	⇑*i*PG	**Pg**	**02 33 19.7**	**-0.6**
MOA				*i* SG	**Sg**	**02 33 42.2**	**+0.3**
	comp=Z,1.0nm,0.2s						
MOA	**Molln**	**1.61**	**13**	⇑*i*Pg	**Pg**	**02 33 19.7**	**-0.7**

*IDC **23** 02:38:58.2±1.1,47.49N×154.31E,mb3.8/8,mb1 4.0/8, mb1mx3.8/19,mbtmp3.8/8,Error ellipse: s-maj=31.9km s-min=27.9km az=7.0*
*MOS **23** 02:39:03.1±1.4,47.66N×154.40E,h46km,mb4.3/1,Error ellipse: s-maj=29.7km s-min=17.6km az=83.8*
*NEIC **23** 02:39:05.4±0.7,47.50N×154.25E,mb4.1/1,Error ellipse: s-maj=20.7km s-min=16.8km az=190.0*

ISC 23 02:39:03.4±1.8,47.8N±0.1×154.4E±0.2,h37km±13km,n14, σ0§87/15,mb3.8/9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.08**	**21**	*e*PN	**P**	**02 39 51.8**	**+0.9**
SKR				*e*S	**S**	**02 40 26.0**	**-0.9**
SKR				pmax	pmax		
	comp=N,70nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,140nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.18**	**242**	*e*PN	**P**	**02 40 20.5**	**0.0**
KUR				*e*S	**S**	**02 41 20.0**	**+0.1**
KUR				smax			
	comp=E,180nm,0.9s						
MKAR	**Makanchi Array**	**47.20**	**297**	P	**P**	**02 47 33.1**	**-1.0**
	comp=E,0.8nm,0.7s,mb3.8,baz=70,slow=7.9,SNR=7.3						
KURK	**Kurchatov**	**47.48**	**303**	*e*P	**P**	**02 47 35.1**	**-1.0**
	comp=E,1.4nm,0.6s,mb4.1						
KURK	**Kurchatov**	**47.48**	**303**	*e*P	**P**	**02 47 35.2**	**-1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NVAR	**Mina Array Bea**	**61.19**	**64**	pP	pP	02 49 31.4	+3.8
	comp=Z,0.4nm,0.6s,baz=285,slow=9.1,SNR=3.4						
FINES	**FINESS Array B**	**63.42**	**335**	P	**P**	**02 49 31.0**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.2,baz=48,slow=8.1,SNR=9.0						
FINES				pP	pP	02 49 44.2	+2.0
	comp=Z,2.5nm,1.0s,baz=34,slow=6.9,SNR=1.8						
PDAR	**Pinedale Array**	**63.43**	**55**	P	**P**	**02 49 31.4**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.6,baz=297,slow=4.0,SNR=3.3						
PDAR				pP	pP	02 49 46.9	+4.3
	comp=Z,0.5nm,0.6s,baz=333,slow=3.3,SNR=4.0						
NOA	**NORSAR Array B**	**67.48**	**342**	P	**P**	**02 49 57.4**	**+0.5**
	comp=Z,1.1nm,0.9s,mb3.9,baz=27,slow=3.0,SNR=2.9						
WRA	**Warramunga Arr**	**69.81**	**200**	P	**P**	**02 50 08.4**	**-3.6**
	comp=Z,0.6nm,1.1s,mb3.4,baz=14,slow=6.7,SNR=5.1						
TXAR	**Lajitas Array**	**76.23**	**62**	P	**P**	**02 50 49.3**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.4,baz=314,slow=5.4,SNR=5.8						
KHC	**Kasperske Hory**	**77.63**	**335**	*e*P	**P**	**02 50 58.5**	**+1.4**
GERES	**GERESS Array B**	**77.85**	**335**	P	**P**	**02 50 59.0**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=34,slow=4.8,SNR=7.7						
BRTR	**Keskin Array B**	**78.18**	**317**	P	**P**	**02 51 00.8**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=90,slow=4.6,SNR=4.0						

*CSEM **23** 02:41:25.7±0.9,38.76N×27.91W,ML2.3,Error ellipse: s-maj=9.4km s-min=4.7km az=107.0,After PDA*
*PDA **23** 02:41:25.7±0.9,38.76N×27.91W,MD3.0,ML2.3,Error ellipse: s-maj=9.4km s-min=4.7km az=107.0*

SVSA 23 02:41:25.7±0.9,38.76N×27.91W,MD3.0,ML2.3,Error ellipse: s-maj=9.4km s-min=4.7km az=107.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAN	**Manadas**	**0.19**	**227**	*e*P	Pg	02 41 29.5	0.0
PMAN				*e*S	Sg	02 41 34.0	+1.9
	384nm,0.2s						
ROSA	**Rosais**	**0.26**	**260**	*e*P	Pg	02 41 30.6	-0.3
ROSA				*e*S	Sg	02 41 34.5	+0.1
STGR	**Santa Cruz**	**0.32**	**347**	*e*S	Sg	02 41 36.5	0.0
PICO	**Pico**	**0.48**	**237**	*i* P	Pg	02 41 34.5	-0.8
PICO				*e*S	Sg	02 41 41.7	0.0
PICO	**Pico**	**0.48**	**237**	*e*S	Sg	02 41 41.7	0.0
CALA	**Caldeira**	**0.65**	**254**	*e*rx		02 41 42.1	
PLUZ	**Luz**	**0.87**	**287**	*e*P	Pg	02 41 30.4	-13
PLUZ				*e*S	Sg	02 41 34.4	-20

*IPEC **23** 02:54:17.9±0.3,51.52N×16.16E,ML1.6/3,Error ellipse: s-maj=2.2km s-min=1.5km az=31.0*
*CSEM **23** 02:54:18.5±0.4,51.50N×16.07E,h0km,ML2.7/3,Error ellipse: s-maj=7.2km s-min=3.3km az=15.0*
*PRU **23** 02:54:19.1,51.46N×16.06E*
*VIE **23** 02:54:21.6±0.3,51.25N×16.24E,mb1.7/1,ML2.2/3,Error ellipse: s-maj=2.2km s-min=1.9km az=82.0,Suspected Mining induced.*
*NEIC **23** 02:54:22.3±1.4,51.28N×15.85E,h5km,ML2.5(VIE),Error ellipse: s-maj=17.2km s-min=6.0km az=201.0*

WAR 23 02:54:19.3,51.49N×16.06E,h1km,ML2.3,2C,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**167**	*e*PG	Pg	02 54 31.0	-1.6
KSP				*e*SG	Sg	02 54 40.0	-1.5
UPC	**Upice**	**0.98**	**182**	*e*PG	Pg	02 54 37.5	-1.5
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	Pg	02 54 40.2	-2.2
DPC				*e*SG	Sg	02 54 55.1	-2.6
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*Pg	Pg	02 54 40.2	-2.2
DPC				*e*Sg	Sg	02 54 55.2	-2.5
PVCC	**Panska Ves**	**1.35**	**225**	*e*Pg	Pg	02 54 44.3	-1.9
PVCC				*e*Sg	Sg	02 55 02.1	-2.0
BRG	**Berggiesshubel**	**1.47**	**246**	Pg	Pg	02 54 46.6	-2.0
BRG				Sg	Sg	02 55 06.5	-1.7
BRG	**Berggiesshubel**	**1.47**	**246**	Pg	Pg	02 54 46.6	-2.0
BRG				Sg	Sg	02 55 06.4	-1.8
PRU	**Pruhonice**	**1.79**	**213**	*e*PG	Pg	02 54 51.4	-3.6
PRU				*e*SG	Sg	02 55 14.6	-4.2
CLL	**Collm**	**1.92**	**266**	*i* PG	Pg	02 54 54.0	-3.7
CLL				*e*SG	Sg	02 55 19.0	-4.3
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	Pn	02 54 54.7	+0.7
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	Pn	02 54 52.2	-1.8
MORC				*e*Sg	Sg	02 55 19.4	-5.1
	6.2nm,0.2s						
OKC	**Ostrava-Krasne**	**2.12**	**140**	*e*PG	Pg	02 54 58.6	-3.1
OKC				*e*SG	Sg	02 55 25.6	-4.4
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	Pn	02 54 56.2	-1.4
VRAC				*e*Sg	Sg	02 55 28.0	-5.0
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	Pn	02 54 56.1	-1.5
VRAC				*e*Sg	Sg	02 55 28.0	-5.0
KRUC	**Moravsky**	**2.44**	**175**	*e*SG	Sg	02 55 35.2	-5.4
	2.2nm,0.2s						
NKC	**Novy Kostel**	**2.61**	**243**	*e*SG	Sg	02 55 42.6	-3.6
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	Pn	02 55 04.7	-2.0
KHC				*e*PG	Pg	02 55 11.1	-5.0
KHC				*e*SN	Sn	02 55 38.5	-3.6
KHC				*e*SG	Sg	02 55 48.5	-5.6
MOX	**Moxa**	**2.93**	**255**	*e*Pg	Pg	02 55 13.6	-4.1
MOX				*e*Sg	Sg	02 55 53.5	-3.3
MOA	**Molln**	**3.83**	**198**	⇑*i*Pn	Pn	02 55 19.1	-1.6
MOA				⇑*i*Sg	Sg	02 56 22.0	-4.7
	comp=Z,1.5nm,0.3s						

IDC 23 03:02:53.1±2.1,8.60N×94.08E,mb3.9/5,mb1 4.0/5, mb1mx3.7/18,mbtmp3.9/5,Error ellipse: s-maj=97.7km s-min=37.6km az=93.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.37**	**347**	P	P	03 10 24.2	-1.9
	3.5nm,0.7s,baz=165,slow=7.9,SNR=26						
SONM	**Songino Array**	**40.47**	**13**	P	P	03 10 33.5	-1.7
	0.6nm,0.8s,baz=188,slow=7.7,SNR=4.4						
ZAL	**Zalesovo**	**45.83**	**352**	P	P	03 11 17.0	-1.5
	1.5nm,0.5s,baz=350,slow=6.3,SNR=4.2						
BVAR	**Borovoye Array**	**48.29**	**341**	P	P	03 11 35.6	-2.4
	0.6nm,0.5s,baz=135,slow=6.3,SNR=4.6						
FINES	**FINESS Array B**	**72.05**	**332**	P	P	03 14 19.0	-1.8
	0.9nm,0.7s,baz=80,slow=8.5,SNR=5.0						
CFAA	**Coronel Fontan**	**151.81**	**213**	PKPbc	PKPdf	03 22 50.4	+4.7
	0.1nm,0.4s,baz=206,slow=1.7,SNR=6.5						

*IDC **23** 04:13:11.3±0.8,12.35N×143.95E,mb4.1/7,mb1 4.3/7, mb1mx4.1/19,mbtmp4.1/7,MS3.3/3,Ms1 3.3/3, ms1mx3.1/19,Error ellipse: s-maj=30.1km s-min=17.5km az=112.0*
*NEIC **23** 04:13:13.5±8.6,12.31N×143.96E,h15km±53km,mb4.4/2, Error ellipse: s-maj=30.6km s-min=15.0km az=102.0*

ISC 23 04:13:13.1±5.8,12.3N±0.1×143.9E±0.2,h25km±43km,n16, σ0§98/13,mb4.2/9,MS3.2/3,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.61**	**35**	Pn	**Pn**	**04 13 40.3**	**0.0**
	116nm,0.3s,baz=188,slow=8.7,SNR=33						
GUMO				Sn	**Sn**	**04 14 00.4**	**0.0**
	81nm,0.3s,baz=216,slow=23,SNR=7.6						
GUMO	**Guam**	**1.61**	**35**	*e*Pn	**Pn**	**04 13 40.3**	**0.0**
GUMO				*e*Sn	**Sn**	**04 14 00.7**	**+0.3**
JHJ	**Hachijo jima 2**	**21.09**	**350**	LR	LR	04 24 47.9	
	comp=Z,65nm,18.5s,MS3.0,baz=356,slow=33						
PMG	**Port Moresby**	**21.77**	**171**	LR	LR	04 25 51.5	
	comp=Z,79nm,19.0s,MS3.1,baz=184,slow=35						
MJAR	**Matsushiro Arr**	**24.71**	**349**	LR	LR	04 27 28.1	
	comp=Z,90nm,18.8s,MS3.3,baz=155,slow=35						
WRAB	**Tennant Creek**	**33.36**	**197**	P	**P**	**04 19 52.0**	**+0.2**
	2.4nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**33.37**	**197**	P	**P**	**04 19 52.8**	**+0.9**
	1.4nm,0.6s,mb4.1,baz=20,slow=9.7,SNR=9.9						
STKA	**Stephens Creek**	**43.95**	**183**	P	**P**	**04 21 18.8**	**-1.3**
	1.9nm,0.9s,mb3.8,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**61.80**	**317**	P	**P**	**04 23 33.0**	**+0.7**
	0.7nm,0.6s,mb4.0,baz=93,slow=7.2,SNR=6.6						
KURK	**Kurchatov**	**65.00**	**320**	*e*P	**P**	**04 23 53.3**	**0.0**
	2.7nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**70.15**	**25**	P	**P**	**04 24 23.5**	**-1.9**
	0.7nm,0.5s,mb3.8,baz=254,slow=5.6,SNR=14						
BVAR	**Borovoye Array**	**70.39**	**322**	P	**P**	**04 24 26.8**	**-0.2**
	2.0nm,0.4s,mb4.4,baz=104,slow=7.5,SNR=13						
NVAR	**Mina Array Bea**	**88.47**	**51**	P	**P**	**04 26 07.1**	**+2.1**
	1.7nm,0.7s,mb4.4,baz=261,slow=7.4,SNR=16						
FINES	**FINESS Array B**	**91.96**	**335**	P	**P**	**04 26 20.1**	**-0.5**
	0.8nm,0.5s,mb4.3,baz=63,slow=4.3,SNR=5.5						
DBIC	**Dimbokro**	**143.70**	**300**	PKP	PKPdf	04 32 47.2	-4.4
	0.8nm,0.4s,baz=34,slow=4.7,SNR=6.3						
LPAZ	**La Paz**	**148.71**	**101**	PKPbc	PKPdf	04 33 03.4	+3.4
	1.8nm,0.9s,baz=8.6,slow=1.3,SNR=8.5						

*CSEM **23** 04:19:07.6±0.1,36.44N×27.54E,h107km±2km,MD3.2, Error ellipse: s-maj=3.6km s-min=2.8km az=60.0*
*ATH **23** 04:19:09.5,36.36N×27.61E,h102km±8km*
*ISK **23** 04:19:10.2,36.34N×27.49E,h79km,MD3.2*
*HLW **23** 04:19:11.9,36.11N×27.62E,h19km,Mb3.3*

ISC 23 04:19:09.6±0.5,36.31N±0.04×27.53E±0.05,h93km±9km, n28,σ0§92/42,2C-5D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.49**	**101**	*e*P	**P**	**04 19 26.0**	**+1.3**
BDRM	**Kayabasi**	**0.76**	**355**	*i* P	**P**	**04 19 27.6**	**+0.4**
BDRM				*i* S	**S**	**04 19 37.6**	**-2.5**
BODT	**Bodrum**	**0.77**	**347**	PG	**P**	**04 19 26.7**	**-0.6**
BODT				SG	**S**	**04 19 39.0**	**-1.4**
KARP	**Karpathos**	**0.82**	**202**	*e*P	**P**	**04 19 29.4**	**+1.7**
DALT	**Dalyan (Mudla)**	**1.00**	**62**	PG	**P**	**04 19 30.4**	**+0.7**
DALT				SG	**S**	**04 19 44.4**	**-0.5**
MLSB	**Milas**	**1.00**	**11**	PG	**P**	**04 19 30.0**	**+0.2**
MLSB				SG	**S**	**04 19 44.1**	**-0.8**
YER	**Yerkesik**	**1.02**	**36**	PG	**P**	**04 19 30.6**	**+0.6**
AYDN	**Tasoluk**	**1.38**	**12**	*i* P	**P**	**04 19 35.2**	**+0.8**
AYDN				*i* S	**S**	**04 19 46.8**	**-6.0**
SMG	**Samos**	**1.50**	**339**	*e*P	**P**	**04 19 36.5**	**+0.5**
KSL	**Kastellorizon**	**1.67**	**95**	*e*P	**P**	**04 19 38.0**	**0.0**
AKAS	**Kas**	**1.68**	**92**	*i* P	**P**	**04 19 38.9**	**+0.7**
AKAS				*i* S	**S**	**04 19 58.3**	**-0.9**
DNZL	**Cakiroluk**	**1.84**	**41**	*i* P	**P**	**04 19 41.2**	**+0.9**
DNZL				*i* S	**S**	**04 20 03.6**	**+0.7**
GOLH	**Golhisar**	**1.88**	**60**	*i* P	**P**	**04 19 41.2**	**+0.4**
GOLH				*i* S	**S**	**04 20 04.0**	**+0.3**
DENT	**Denizli**	**1.88**	**39**	*e*PN	**P**	**04 19 41.7**	**+0.9**
ELL	**Elmali**	**1.96**	**76**	*e*PN	**P**	**04 19 42.8**	**+0.9**
XRY	**Khrisi**	**2.07**	**227**	*e*P	**P**	**04 19 45.5**	**+2.1**
IZM	**Izmir**	**2.10**	**354**	*e*PN	**P**	**04 19 43.6**	**-0.1**
MANT	**Manisa**	**2.33**	**20**	*i* P	**P**	**04 19 47.3**	**+0.4**
MANT				*i* S	**S**	**04 20 11.7**	**-2.9**
AKS	**Akhisar**	**2.58**	**5**	*e*PN	**P**	**04 19 50.3**	**-0.1**
TKTP	**Tekketepe**	**2.82**	**51**	*i* P	**P**	**04 19 53.3**	**-0.4**
TKTP				*i* S	**S**	**04 20 14.7**	**-12**
SLUM		**5.18**	**203**	⇓P	**P**	**04 20 25.9**	**-0.2**
SLUM				S	**S**	**04 21 19.1**	**-5.9**
HMAT	**Matruh**	**5.21**	**184**	⇓*e*P	**P**	**04 20 25.8**	**-0.7**
HMAT				S	**S**	**04 21 19.3**	**-6.6**
SWA1		**7.19**	**193**	⇓*e*P	**P**	**04 20 53.3**	**-0.6**
SWA1				S	**S**	**04 22 07.6**	**-6.9**
SWA2		**7.26**	**195**	⇓P	**P**	**04 20 54.2**	**-0.6**
SWA2				S	**S**	**04 22 09.0**	**-7.2**
AMAG	**Maghara**	**7.38**	**138**	⇑P	**P**	**04 20 55.3**	**-1.0**
HRSH	**Kfar Ka'horesh**	**7.42**	**134**	⇑P	**P**	**04 20 56.1**	**-0.8**
RSH		**7.42**	**134**	P	**P**	**04 20 56.2**	**-0.8**
GLL	**Jalalah**	**7.57**	**151**	⇓P	**P**	**04 20 58.4**	**-0.6**

DHMR 23 04:25:58.4±2.9,12.69N×40.52E,h12km±341km,ML3.9, 2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.59**	**69**	*i* S	Sn	04 27 42.7	+4.7
UDYN				AML	AML	04 28 04.8	
	comp=N,487nm,0.6s						
DHBB	**Dhamar BB**	**4.21**	**63**	⇓*e*P	Pn	04 27 05.2	+1.3
DHBB				*i* S	Sn	04 27 57.1	+3.6
LBOS		**4.75**	**75**	⇓*e*P	Pn	04 27 10.2	-1.5
LBOS				*i* S	Sn	04 28 06.5	-0.9
BDHA	**Al Bayda'**	**5.08**	**75**	*i* S	Sn	04 28 14.3	-1.3

*IDC **23** 04:57:49.4±1.3,12.38N×40.51E,mb4.3/8,mb1 4.4/10, mb1mx4.3/19,mbtmp4.4/10,ML4.3/2,MS4.5/9,Ms1 4.5/9, ms1mx4.3/18,Error ellipse: s-maj=33.8km s-min=15.0km az=28.0*
*DHMR **23** 04:57:49.3±0.4,12.65N×40.51E,h11km±19km,ML4.7*
*CSEM **23** 04:57:49.8±0.2,12.53N×40.48E,h10km,mb4.8/28,Ms4.2, Error ellipse: s-maj=9.4km s-min=2.3km az=2.0*
*NEIC **23** 04:57:51.1±0.4,12.55N×40.60E,h10km,mb4.8/29, ML4.8(DHMR),Error ellipse: s-maj=8.9km s-min=5.1km az=14.0*

ISC 23 04:57:49.3±0.5,12.49N±0.07×40.51E±0.03,h10km,n119, σ1§03/127,mb4.6/37,MS4.7/6,9C-18D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.48**	**112**	Pn	**Pn**	**04 58 30.8**	**+0.3**
	287nm,0.3s,baz=75,slow=13,SNR=86						
ATD				Lg		04 59 06.8	
	149nm,0.3s,baz=126,slow=20,SNR=7.1						
ATD				Rg		04 59 25.7	
	2μm,0.8s,baz=261,slow=24,SNR=3.6						
ATD				LR	LR	04 59 34.1	
	comp=Z,7μm,18.9s,baz=114,slow=43						
ATD	**Arta Tunnel**	**2.48**	**112**	Pn	**Pn**	**04 58 30.8**	**+0.3**
ATD				Lg		04 59 06.8	
ATD				Rg		04 59

comp=E,21nm,1.0s,mb4.6,baz=145,slow=6.0,SNR=3.1
CDAG Cicekdag 27.56 350 *i* P **P 05 03 39.0 +0.5**
KELT Kelkit 27.57 358 *i* P **P 05 03 30.8 -7.8**
BRTR Keskin Array B 27.80 349 P **P 05 03 41.5 +0.9**
comp=E,5.5nm,1.0s,mb4.2,baz=159,slow=11,SNR=22
BRTR Keskin Array B 27.80 349 P **P 05 03 41.5 +0.9**
BR131 Keskin Array S 27.80 349 *eP* **P 05 03 41.6 +1.0**
comp=E,12nm,1.0s,mb4.5
BR131 Keskin Array S 27.80 349 *eP* **P 05 03 41.6 +1.0**
comp=E,12nm,1.0s,mb4.5
DIGO Kars 27.93 5 *i* P **P 05 03 45.3 +3.5**
ELDT Eldivan 28.58 349 *i* P **P 05 03 46.2 -1.4**
BOYT Boyabat 29.23 351 *i* P **P 05 03 48.9 -4.7**
TI2 Plekhanov 29.37 6 *eP* **P 05 03 53.2 -1.5**
AKASG Malin Array Be 39.20 349 P **P 05 05 19.3 +0.1**
comp=E,3.4nm,0.8s,mb4.1,baz=171,slow=7.0,SNR=11
PSZ Piszkesteto 39.29 338 *eP* **P 05 05 20.3 +0.3**
comp=E,8.0nm,1.0s,mb4.4
PSZ Piszkesteto 39.29 338 *eP* **P 05 05 20.3 +0.2**
comp=E,8.0nm,1.0s,mb4.4
KECS Kecovo 39.56 339 *eP* **P 05 05 23.3 +1.0**
STHS Stebnicka Huta 40.11 340 *eP* **P 05 05 27.6 +0.8**
VYHS Vyhne 40.16 338 *eP* **P 05 05 27.2 -0.1**
PGF Pioggiola 40.53 324 *eP* **P 05 05 30.2 -0.1**
comp=E,40nm,1.2s,mb4.6
OJC Ojcow 41.28 340 *eP* **P 05 05 31.5 -4.8**
MORC Moravsky Berou 41.70 338 *eP* **P 05 05 40.4 +0.5**
comp=E,6.6nm,1.1s,mb4.2
MORC Moravsky Berou 41.70 338 *eP* **P 05 05 40.4 +0.5**
comp=E,6.6nm,1.1s,mb4.2
SBF Sospel 42.24 324 *eP* **P 05 05 44.2 -0.1**
LMR La Mourre 42.46 323 *eP* **P 05 05 46.2 0.0**
GERES GERESS Array B 42.51 334 P **P 05 05 46.5 0.0**
comp=E,1.5nm,0.7s,mb3.9,baz=146,slow=4.8,SNR=17
FRF La Foret Royal 42.51 323 *eP* **P 05 05 46.7 +0.1**
DPC Dobruska-Polom 42.63 337 *eP* **P 05 05 46.2 -1.3**
KHC Kasperske Hory 42.78 334 *eP* **P 05 05 47.3 -1.4**
UPC Upice 42.87 337 *eP* **P 05 05 49.2 -0.2**
PRU Pruhonice 43.04 336 *eP* **P 05 05 50.9 +0.1**
MBDF Montbardon 43.14 325 *eP* **P 05 05 52.4 +0.7**
comp=E,37nm,1.1s,mb4.7
SMRF Simiane la Rot 43.39 323 *eP* **P 05 05 54.3 +0.6**
BNI Bardonecchia 43.39 325 *eP* **P 05 05 54.5 +0.8**
comp=E,11nm,1.4s,mb4.4
BNI Bardonecchia 43.39 325 *eP* **P 05 05 54.5 +0.8**
comp=E,11nm,1.4s,mb4.4
LPG La Plagne 43.63 325 *eP* **P 05 05 54.7 -0.9**
LPL La Plagne 43.65 326 *eP* **P 05 05 54.8 -1.0**
comp=E,88nm,1.8s,mb4.9
ORIF Oris-en-Rattie 43.76 324 *eP* **P 05 05 56.6 -0.2**
comp=E,60nm,1.7s,mb4.8
ORIF *eR*
comp=E,528nm,21.2s
BRG Berggiesshubel 43.97 336 *eP* **P 05 05 58.1 -0.2**
comp=E,10nm,1.3s,mb4.4
BRG Berggiesshubel 43.97 336 *eP* **P 05 05 58.1 -0.2**
comp=E,10nm,1.3s,mb4.4
GRA1 Grafenberg Arr 44.23 333 *eP* **P 05 05 55.0 -5.4**
comp=E,9.0nm,1.2s,mb4.4
VIVF Saint-Julien-l 44.42 323 *eP* **P 05 06 01.9 -0.2**
comp=E,40nm,1.5s,mb4.6
LASF Ste Croix 44.46 322 *eP* **P 05 06 02.4 -0.1**
comp=E,36nm,1.3s,mb4.7
CABF La Chapelle 44.68 326 *eP* **P 05 06 03.2 -1.0**
comp=E,39nm,1.2s,mb4.8
CLL Collm 44.68 336 ⇑P **P 05 06 02.7 -1.4**
comp=E,logA/T=0.9,mb4.5
CLL *i* *PP pP 05 06 09.1 +2.0
CLL *e* 05 06 16.0
CLL Collm 44.68 336 ⇑*i*P **P 05 06 02.7 -1.4**
comp=E,11nm,1.4s,mb4.5
CLL *i* 05 06 09.1
MOX Moxa 44.76 334 *i* P **P 05 06 03.9 -0.8**
MOX Moxa 44.76 334 *eP* **P 05 06 03.9 -0.8**
HINF Hinderalfeld 45.04 328 *eP* **P 05 06 06.4 -0.6**
DBIC Dimbokro 45.06 267 P **P 05 06 07.5 -0.1**
comp=E,3.8nm,0.8s,mb4.3,baz=61,slow=10,SNR=7.0
DBIC LR LR 05 24 16.0
comp=E,428nm,18.5s,MS4.4,baz=66,slow=35
DBIC Dimbokro 45.06 267 *eP* **P 05 06 08.6 +1.0**
comp=E,4.1nm,0.7s,mb4.4
DBIC Dimbokro 45.06 267 *eP* **P 05 06 08.6 +1.0**
comp=E,4.1nm,0.7s,mb4.4
MTLF Montolieu 45.07 320 *eP* **P 05 06 07.4 +0.1**
comp=E,32nm,1.5s,mb4.6
CDF Champ du Feu 45.21 329 *eP* **P 05 06 07.8 -0.5**
LIC Lamto 45.31 266 *eP* **P 05 06 09.8 +0.2**
comp=E,12nm,1.2s,mb4.6
HAU Haudompre 45.42 328 *eP* **P 05 06 09.5 -0.5**
HAU *eR*
comp=E,322nm,20.0s
CAF Calviac 46.00 322 *eP* **P 05 06 15.0 +0.3**
comp=E,40nm,1.4s,mb4.9
EPF Esparros 46.10 319 *eP* **P 05 06 15.6 +0.1**
comp=E,21nm,1.3s,mb4.4
LOR Lormes 46.29 326 *eP* **P 05 06 16.2 -0.7**
comp=E,33nm,1.3s,mb4.8
LOR *eR*
comp=E,328nm,19.5s
AVF Avril sur Loir 46.29 325 *eP* **P 05 06 16.0 -0.9**
comp=E,23nm,1.2s,mb4.7
SSF Saint Saulge 46.37 325 *eP* **P 05 06 16.7 -0.8**
comp=E,8.2nm,1.2s,mb4.5
MEZF Maizieres J'vi 46.40 328 *eP* **P 05 06 17.7 -0.1**
BGF Bois d'Agland 46.45 324 *eP* **P 05 06 17.9 -0.3**
RJF Les Rejaudoux 46.53 322 *eP* **P 05 06 18.9 0.0**
RJF *eR*
comp=E,292nm,17.0s
ETSF Etsaut 46.62 318 *eP* **P 05 06 20.4 +0.8**
comp=E,44nm,1.3s,mb4.9
TCF Toulx Ste Croi 46.66 324 *eP* **P 05 06 20.2 +0.4**
LFF La Frestale 46.81 321 *eP* **P 05 06 21.5 +0.5**
comp=E,53nm,1.3s,mb5.0
SJPF Ste Jean 47.15 318 *eP* **P 05 06 24.6 +0.8**
comp=E,59nm,1.3s,mb5.1
ESDC Sonseca Array 47.58 313 P **P 05 06 27.8 +0.6**
comp=E,1.6nm,0.7s,mb4.2,baz=115,slow=7.5,SNR=10
ESLA Sonseca Array 47.58 313 *eP* **P 05 06 28.0 +0.8**
comp=E,6.1nm,1.3s,mb4.5
ESLA Sonseca Array 47.58 313 *eP* **P 05 06 28.0 +0.7**
comp=E,6.1nm,1.3s,mb4.5
LDF La Druitiere 49.25 325 *eP* **P 05 06 38.8 -1.2**
comp=E,58nm,1.5s,mb5.1
FLN La Foliniere 49.54 325 *eP* **P 05 06 40.9 -1.4**
comp=E,50nm,1.3s,mb5.1
FLN *eR*
comp=E,348nm,18.8s
EVO Evora 50.16 310 *eP* **P 05 06 48.2 +1.0**
comp=E,70nm,1.5s,mb5.2
EVO *eR*
comp=E,480nm,17.0s
ROSF Rostrenen 50.91 323 *eP* **P 05 06 51.5 -1.2**
comp=E,10nm,1.7s,mb5.2
NOA NORSAR Array B 52.97 343 P **P 05 07 07.1 -1.0**
comp=E,2.4nm,0.9s,mb4.1,baz=142,slow=7.4,SNR=3.2
ZAL Zalesovo 54.08 31 LR LR 05 31 33.7
comp=E,779nm,21.9s,MS4.7,baz=239,slow=37
ARCES ARCESS Array B 57.80 354 P **P 05 07 43.7 +0.8**
comp=E,3.9nm,1.0s,mb4.4,baz=162,slow=5.7,SNR=4.2
ARCES ARCESS Array B 57.80 354 P **P 05 07 43.7 +0.8**
NANT Nan 58.08 76 ⇑P **P 05 07 44.0 -1.5**
SONM Songino Array 64.68 43 LR LR 05 40 25.2
comp=E,960nm,20.2s,MS5.0,baz=264,slow=40
MAW Mawson 81.51 172 LR LR 05 42 49.8
comp=E,234nm,19.5s,MS4.5,baz=145,slow=33
MJAR Matsushiro Arr 88.74 53 LR LR 05 56 15.4
comp=E,217nm,18.0s,MS4.6,baz=290,slow=40
BDFB Brasilia 91.91 255 LR LR 05 47 57.1
comp=E,315nm,19.4s,MS4.8,baz=105,slow=33

THR ***23*** *04:59:48.1±0.5,30.57N×50.22E,h16km,ML3.6*
CSEM ***23*** *04:59:50.4±0.1,30.67N×50.35E,h18km,ML3.8,Error ellipse: s-maj=2.0km s-min=1.2km az=136.0*
KISR ***23*** *04:59:51.3±1.2,30.44N×50.35E,h34km,ML3.8*
TEH ***23*** *04:59:52.6,30.69N×50.43E,h10km,Mn3.8*
ISC 23 04:59:49.7±0.3,30.66N±0.03×50.33E±0.03,h10km,n37,
σ1§02/46,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**2.07**	**13**	Pn	**Pn**	**05 00 26.3**	**+1.3**
IGAR	**Garneh**	**2.25**	**45**	Pn	**Pn**	**05 00 28.6**	**+1.1**
IPAR	**Pars**	**2.49**	**108**	Pn	**Pn**	**05 00 31.7**	**+0.7**
UMR	**Umm Al-Rimmam**	**2.52**	**245**	*eP*	**Pn**	**05 00 32.0**	**+0.6**
UMR				*eS*	**Sn**	**05 01 03.4**	**+1.0**
UMR					AML	AML	05 01 06.5	
	comp=Z,729nm,0.4s						
IMOK	**Mook**	**2.63**	**127**	Pn	**Pn**	**05 00 34.0**	**+1.1**
KBD	**Kabd**	**2.73**	**238**	*eP*	**Pn**	**05 00 34.5**	**+0.2**
KBD					AML	AML	05 01 12.0	
	comp=Z,1μm,0.4s						
KBD	**Kabd**	**2.73**	**238**	*eP*	**Pn**	**05 00 34.5**	**+0.2**
KBD				*eS*	**Sn**	**05 01 07.4**	**-0.3**
MIB	**Mutribah**	**2.73**	**252**	*eP*	**Pn**	**05 00 34.9**	**+0.5**
MIB				*eS*	**Sn**	**05 01 07.9**	**+0.3**
MIB	**Mutribah**	**2.73**	**252**	*eP*	**Pn**	**05 00 34.9**	**+0.6**
MIB				*eS*	**Sn**	**05 01 07.7**	**0.0**
ISRV	**Sarvestan**	**2.73**	**117**	Pn	**Pn**	**05 00 29.0**	**-5.4**
IZEF	**Zefreh**	**2.80**	**37**	Pn	**Pn**	**05 00 35.9**	**+0.4**
QRN	**Al-Qurain**	**2.84**	**228**	*eP*	**Pn**	**05 00 35.8**	**-0.2**
QRN				*eS*	**Sn**	**05 01 08.8**	**-1.8**
QRN					AML	AML	05 01 13.2	
	comp=Z,179nm,0.2s						
IKLH	**Kalahroud**	**2.85**	**22**	Pn	**Pn**	**05 00 36.9**	**+0.7**
RDF	**Al-Radifah**	**2.97**	**235**	*eP*	**Pn**	**05 00 38.2**	**+0.4**
RDF				*eS*	**Sn**	**05 01 12.1**	**-1.8**
RDF					AML	AML	05 01 19.7	
	comp=Z,320nm,0.4s						
NASN	**Na'in**	**3.00**	**44**	*ePN*	**Pn**	**05 00 39.0**	**+0.7**
NAY	**Al-Naaiem**	**3.02**	**243**	*eP*	**Pn**	**05 00 38.9**	**+0.2**
NAY					AML	AML	05 01 18.8	
	comp=Z,151nm,0.4s						
NAY	**Al-Naaiem**	**3.02**	**243**	*eP*	**Pn**	**05 00 38.8**	**+0.2**
NAY				*eS*	**Sn**	**05 01 16.2**	**+0.9**
GHIR	**Ghir-Karzin**	**3.31**	**135**	*ePN*	**Pn**	**05 00 41.7**	**-1.0**
GHIR					AML	AML	05 01 52.8	
	comp=N,97nm,0.6s						
IMEH	**Mehriz**	**3.75**	**78**	Pn	**Pn**	**05 00 49.4**	**+0.5**
ICHK	**Chekchek**	**3.83**	**65**	Pn	**Pn**	**05 00 50.5**	**+0.5**
ASAO	**Ashtian**	**3.88**	**356**	*ePN*	**Pn**	**05 00 50.8**	**0.0**
ASAO					AML	AML	05 01 43.3	
	comp=E,159nm,0.5s						
IQOM	**Qom**	**4.21**	**8**	Pn	**Pn**	**05 00 55.7**	**+0.2**
IQOM				Sn	**Sn**	**05 01 42.7**	**-2.7**
IKOM	**Komasi**	**4.24**	**327**	Pn	**Pn**	**05 00 57.6**	**+1.8**
IVRN	**Varamin**	**4.48**	**15**	Pn	**Pn**	**05 00 59.2**	**-0.1**
IVRN				Sn	**Sn**	**05 01 48.7**	**-3.4**
IBAF	**Bafgh**	**4.59**	**77**	Pn	**Pn**	**05 01 00.3**	**-0.5**
IRAZ	**Razeghan**	**4.74**	**356**	Pn	**Pn**	**05 01 06.5**	**+3.5**
IVIS	**Veys**	**4.84**	**324**	Pn	**Pn**	**05 01 05.1**	**+0.7**
IMHD	**Mahdasht**	**5.02**	**3**	Pn	**Pn**	**05 01 06.2**	**-0.7**
IMHD				Sn	**Sn**	**05 02 02.0**	**-3.7**
SNGE	**Sanandaj**	**5.08**	**331**	*ePN*	**Pn**	**05 01 06.4**	**-1.4**
ILIN	**Laeen**	**5.10**	**327**	Pn	**Pn**	**05 01 07.1**	**-1.0**
IDMV	**Damavand**	**5.11**	**16**	Pn	**Pn**	**05 01 08.0**	**-0.1**
DAMV	**Damavand**	**5.14**	**15**	*ePN*	**Pn**	**05 01 08.8**	**+0.2**
IFIR	**Firoozkooh**	**5.37**	**22**	Pn	**Pn**	**05 01 11.1**	**-0.7**
KRBR	**Kerman**	**5.60**	**95**	*ePN*	**Pn**	**05 01 14.7**	**-0.5**
KRBR					AML	AML	05 02 29.4	
	comp=N,20nm,0.8s						
KRBR	**Kerman**	**5.60**	**95**	*ePn*	**Pn**	**05 01 14.6**	**-0.5**
	SNR=52						
BHD	**Baghdad**	**5.68**	**299**	*ex*	x	05 01 43.0	
BHD				*ex*	x	05 05 40.0	
BNDS	**Bandar-Abbas**	**6.06**	**121**	*ePN*	**Pn**	**05 01 19.5**	**-2.1**

LDG ***23*** *05:00:52.4±0.1,41.74N×82.46E,h10km,Mb4.9/29, Ms3.8/1,Error ellipse: s-maj=8.2km s-min=5.1km az=65.0*
IDC ***23*** *05:00:53.3±0.5,41.88N×82.62E,mb4.5/23,mb1 4.6/27, mb1mx4.6/29,mbtmp4.5/27,ML4.0/4,MS4.2/11,Ms1 4.2/11, ms1mx4.1/21,Error ellipse: s-maj=14.0km s-min=10.9km az=85.0*
BJI ***23*** *05:00:54.5,41.80N×82.69E,h11km,mB5.1,mb4.7,ML5.4, Ms5.1,Msz4.8*
HRVD ***23*** *05:00:54.9±0.5,41.97N×82.46E,h12km,MW4.8/42, Centroid moment Tensor Solution. LP body waves: s18,c22;Mantle waves: s42,c73; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.78±.11; Mθθ-2.28±.09; Mφφ0.50±.11; Mrθ-0.73±.27; Mrφ0.08±.08; Mθφ-0.31±.41; Best double couple: M₀2.192×10¹⁶ NP1:φs105°,δ37°, λ111°. NP2:φs260°,δ56°,λ75°. Principal axes: T 1.976, Plg74°, Azm129°; N .435, Plg12°, Azm268°; P -2.408, Plg10°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *05:00:54.9±1.2,41.82N×82.54E,h10km±7km,mb4.9/54 Error ellipse: s-maj=4.1km s-min=2.7km az=54.0*
MOS ***23*** *05:00:55.9±0.8,41.91N×82.54E,h26km,mb5.0/50, MS4.5/13,Error ellipse: s-maj=8.1km s-min=4.3km az=123.8*
NNC ***23*** *05:01:00.3±2.3,41.97N×82.25E,h22km±11km,mpv4.7, Error ellipse: s-maj=16.2km s-min=7.7km az=156.0*
ISC 23 05:00:53.1±0.1,41.76N±0.02×82.51E±0.03,h10km,
(h22km±4.6km:pP-P),n288,σ1§02/284,mb4.8/88,MS4.5/29,
56C-17D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.34**	**60**	P	**Pn**	**05 02 02.8**	**+2.1**
WMQ				S	**Sn**	**05 02 54.5**	**+2.5**
WMQ				Smax			
	comp=N,6μm,1.1s						
WMQ				Smax			
	comp=E,6μm,0.9s						
WMQ				LR	LR		
	comp=N,12μm,5.2s						
WMQ				LR	LR		
	comp=E,13μm,4.8s						
ULHL	**Ulahol**	**4.69**	**278**	P	**Pn**	**05 02 07.5**	**+1.8**
	SNR=46						
MK02	**Makanchi Array**	**5.01**	**358**	⇑PN	**Pn**	**05 02 11.5**	**+1.2**
MK02						05 02 28.5	
MK31	**Makanchi Array**	**5.04**	**358**	⇑Pn	**Pn**	**05 02 11.5**	**+0.9**
	comp=E,20nm,0.3s,baz=183,slow=12						
MK31				⇓Pg	**Pg**	**05 02 28.5**	**-5.2**
	comp=E,785nm,0.9s,baz=180,slow=17						
MK31				⇓Lg		05 03 33.5	
	comp=E,501nm,0.6s,baz=180,slow=30						
MK31	**Makanchi Array**	**5.04**	**358**	⇑Pn	**Pn**	**05 02 11.5**	**+0.9**
MK31				⇓Pg	**Pg**	**05 02 28.5**	**-5.2**
MK31				Lg		05 03 33.5	
MKAR	**Makanchi Array**	**5.04**	**358**	Pn	**Pn**	**05 02 11.4**	**+0.9**
	comp=E,15nm,0.3s,baz=188,slow=13,SNR=137						
MKAR				Lg		05 03 29.6	
	comp=E,49nm,0.3s,baz=147,slow=33,SNR=4.1						
MKAR				LR	LR	05 04 24.3	
	comp=E,6μm,18.2s,baz=182,slow=43						
MKAR	**Makanchi Array**	**5.04**	**358**	PN	**Pn**	**05 02 11.5**	**+0.9**
MKAR				*i*		05 03 29.6	
TKM2	**Tokmak 2**	**5.25**	**285**	P	**Pn**	**05 02 15.6**	**+2.0**
	SNR=76						
KZA	**Kyzart**	**5.42**	**276**	P	**Pn**	**05 02 17.6**	**+1.6**
	SNR=19						
KSH	**Kashi**	**5.45**	**248**	*eP*	**Pn**	**05 02 20.0**	**+3.6**
KSH				S	**Sn**	**05 03 26.1**	**+6.2**
KSH				Smax			
	comp=N,3μm,1.2s						
KSH				Smax			
	comp=E,3μm,1.1s						
KBK	**Karagaybulak**	**5.69**	**282**	P	**Pn**	**05 02 21.5**	**+1.8**
	SNR=45						
CHMS	**Chumysh**	**5.88**	**285**	P	**Pn**	**05 02 23.2**	**+0.8**
	SNR=6.8						
FRU	**Bishkek**	**5.95**	**283**	*ePN*	**Pn**	**05 02 25.0**	**+1.6**
FRU				*i* S	**Sg**	**05 03 59.5**	**-12**
FRU				*i*		05 04 15.0	
FRU				pmax	pmax		
	comp=Z,520nm,1.8s						
FRU				pmax	pmax		
	comp=E,2μm,1.8s						
UCH	**Uchtor**	**5.97**	**277**	P	**Pn**	**05 02 26.0**	**+2.2**
	SNR=22						
AAK	**Ala-Archa**	**6.01**	**281**	P	**Pn**	**05 02 26.6**	**+2.2**
	SNR=9.0						
AAK	**Ala-Archa**	**6.01**	**281**	*ePn*	**Pn**	**05 02 24.4**	**+0.1**
	comp=E,137nm,0.8s						
AAK	**Ala-Archa**	**6.01**	**281**	PN	**Pn**	**05 02 26.2**	**+1.8**
AAK				pmax	pmax		
	comp=Z,73nm,0.7s						
USP	**Ospenovka**	**6.11**	**287**	P	**Pn**	**05 02 26.8**	**+1.2**
	SNR=11						
EKS2	**Erkin-Say**	**6.54**	**281**	P	**Pn**	**05 02 34.6**	**+2.8**
	SNR=7.4						
KK31	**Karatay Array**	**8.97**	**283**	⇓Pn	**P**	**05 03 05.6**	**-0.1**
	comp=Z,9.0nm,0.9s,baz=103,slow=12,SNR=18						
KK31				⇓Pg	P	05 03 39.0	+33
KK31				Lg		05 03 37.9	
	comp=Z,23nm,0.7s,baz=89,slow=16,SNR=5.1						
KK31				⇑Lg		05 05 37.9	
	comp=Z,341nm,1.6s,baz=97,slow=24,SNR=3.7						
KK31	**Karatay Array**	**8.97**	**283**	⇓Pn	**P**	**05 03 05.6**	**-0.1**
	comp=Z,9.0nm,0.9s						
KK31				⇓Pg	P	05 03 39.0	+33
KK31				Lg		05 05 37.9	
KKAR	**Karatay Array**	**8.97**	**283**	*i* P	**P**	**05 03 09.0**	**+3.2**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KURK	**Kurchatov**	**9.36**	**345**	⇑Pn	**P**	**05 03 07.9**	**-3.2**
	comp=Z,40nm,1.3s						
KURK				⇓Lg		05 05 49.6	
	comp=Z,423nm,1.7s						
KLP	**Kalpa**	**10.76**	**200**	*eP*	**P**	**05 03 30.7**	**+0.4**
KLP				AMb	AMB	05 03 39.1	
	comp=Z,50nm,0.0s						
CHCP	**Chirah Chowk**	**10.90**	**225**	P	**P**	**05 03 32.2**	**0.0**
CHCP				S	**S**	**05 05 49.0**	**+14**
CEP	**Cherat**	**11.52**	**230**	P	**P**	**05 03 38.9**	**-1.8**
CEP				S	**S**	**05 05 49.0**	**-1.5**
ZAL	**Zalesovo**	**12.28**	**6**	Pn	**P**	**05 03 48.2**	**-2.7**
	comp=Z,2.1nm,0.3s,baz=277,slow=13,SNR=26						
ZAL				Lg		05 07 21.4	
	comp=Z,1.7nm,0.3s,baz=190,slow=11,SNR=3.8						
THW	**Thamme Wali**	**12.38**	**227**	⇓P	**P**	**05 03 50.5**	**-1.8**
SARP	**Sargodha**	**12.57**	**222**	P	**P**	**05 03 52.4**	**-2.5**
KALG	**Kalgarh**	**12.60**	**195**	*eP*	**P**	**05 03 55.9**	**+0.7**
KALG				AMb	AMB	05 03 58.4	
	comp=Z,27nm,0.7s						
KKR	**Kurukshetra**	**12.63**	**203**	*eP*	**P**	**05 03 54.1**	**-1.6**
KKR				AMb	AMB	05 03 56.6	
	comp=Z,208nm,0.0s						
NVS	**Novosibirsk**	**13.10**	**2**	*eP*	**P**	**05 04 00.7**	**-1.1**
SBDP	**Sheikh Budin**	**13.27**	**228**	⇑P	**P**	**05 04 03.2**	**-0.9**
GTA	**Gaotai**	**13.37**	**94**	⇑P	**P**	**05 04 03.3**	**-2.1**
GTA				AP		05 04 07.3	
GTA				XP		05 04 09.8	
GTA				PP	PP	05 04 13.8	-2.2
GTA				S	**S**	**05 06 30.6**	**-4.4**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.4s						
GTA				AMB	AMB		
	comp=Z,242nm,4.6s						
GTA				LR	LR		
	comp=N,4μm,10.6s						
GTA				LR	LR		
	comp=E,3μm,8.7s						
GTA				LR	LR		
	comp=Z,4μm,8.4s						
VOSK	**Vostochnaya**	**13.46**	**329**	⇑Pn	**P**	**05 04 05.8**	**-0.7**
	comp=Z,11nm,0.7s						
VOSK				⇓Lg		05 07 59.0	
	comp=Z,179nm,1.5s						
VOSK	**Vostochnaya**	**13.46**	**329**	⇑Pn	**P**	**05 04 05.8**	**-0.7**
	comp=Z,11nm,0.6s						
VOSK				Lg		05 07 59.0	
NDI	**New Delhi**	**13.74**	**200**	*eP*	**P**	**05 04 09.4**	**-0.9**
NDI				*ex*	x	05 06 37.0	
BHGR	**Bahadurgarh**	**13.80**	**201**	*eP*	**P**	**05 04 11.3**	**+0.1**
GKN	**Gorkha**	**13.83**	**172**	*eP*	**P**	**05 04 10.8**	**-0.7**
	comp=Z,23nm,0.5s						
LSA	**Lhasa**	**13.92**	**147**	P	**P**	**05 04 13.0**	**+0.3**
LSA				LR	LR		
	comp=N,1μm,11.6s						
LSA				LR	LR		
	comp=E,1μm,14.0s						
LSA				LR	LR		
	comp=Z,2μm,11.0s						
LSA	**Lhasa**	**13.92**	**147**	*ePn*	**P**	**05 04 15.6**	**+2.9**
	comp=Z,42nm,0.8s						
LSA	**Lhasa**	**13.92**	**147**	*eP*	**P**	**05 04 15.6**	**+2.9**
LSA				pmax	pmax		
	comp=Z,42nm,0.8s						
BVA0	**Borovoye Array**	**13.92**	**328**	⇑Pn	**P**	**05 04 13.4**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=140,slow=13,SNR=41						
BVA0				⇑Lg		05 08 14.0	
	comp=Z,31nm,1.2s,baz=130,slow=28,SNR=5.8						
BVAR	**Borovoye Array**	**13.92**	**328**	Pn	**P**	**05 04 10.2**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=148,slow=14,SNR=5.1						
BVAR				Lg		05 08 15.0	
	comp=Z,0.7nm,0.3s,baz=122,slow=27,SNR=6.0						
BVAR	**Borovoye Array**	**13.92**	**328**	Pn	**P**	**05 04 10.2**	**-2.3**
BVAR				Lg		05 08 15.0	
AYAN	**Aya Nagar**	**13.95**	**200**	*eP*	**P**	**05 04 11.1**	**-2.0**
AYAN				AMb	AMB	05 04 16.7	
	comp=Z,23nm,0.6s						
KOLN	**Koldanda**	**13.98**	**176**	*eP*	**P**	**05 04 12.4**	**-1.1**
	comp=Z,31nm,0.5s						
BRVK	**Borovoye**	**13.99**	**328**	*ePn*	**P**	**05 04 12.8**	**-0.6**
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**13.99**	**328**	*eP*	**P**	**05 04 12.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
KKN	**Kakani**	**14.12**	**170**	*eP*	**P**	**05 04 15.4**	**+0.1**
	comp=Z,16nm,0.6s						
SONA	**Sohna**	**14.18**	**200**	*eP*	**P**	**05 04 17.2**	**+1.0**
SONA				AMb	AMB	05 04 32.4	
	comp=Z,28nm,0.3s						
DMN	**Daman**	**14.27**	**171**	*eP*	**P**	**05 04 17.2**	**-0.2**
PKI	**Pulchoki**	**14.35**	**170**	*eP*	**P**	**05 04 17.8**	**-0.6**
KHET	**Khetri**	**14.71**	**204**	*eP*	**P**	**05 04 21.1**	**-1.9**
KHET				AMb	AMB	05 04 28.5	
	comp=Z,38nm,1.0s						
MOY	**Mondy**	**16.05**	**46**	*eP*	**P**	**05 04 45.6**	**+5.3**
MOY				pmax	pmax		
	comp=Z,60nm,2.7s						
AJM	**Ajmer**	**16.56**	**205**	*eP*	**P**	**05 04 45.4**	**-1.5**
ZAK	**Zakamensk**	**16.76**	**52**	*eP*	**P**	**05 04 48.2**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH	**Lanzhou**	**17.53**	**102**	*eP*	**P**	**05 04 59.4**	**+0.3**
LZH				AP		05 05 03.8	
LZH				XP		05 05 07.5	
LZH				PP	PP	05 05 16.0	+2.3
LZH				AMB	AMB		
	comp=Z,150nm,1.6s						
LZH				AMB	AMB		
	comp=Z,240nm,4.0s						
LZH				LR	LR		
	comp=E,5μm,8.5s						
LZH				LR	LR		
	comp=Z,4μm,10.6s						
JASL	**Jaisalmer**	**17.60**	**216**	*eP*	**P**	**05 04 58.7**	**-1.3**
JASL				AMb	AMB	05 05 04.0	
SHL	**Shillong**	**17.91**	**151**	*ex*	x	05 04 03.0	
SHL				*ex*	x	05 07 27.0	
SONM	**Songino Array**	**17.98**	**62**	P	**P**	**05 05 03.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=254,slow=12,SNR=26						
SONM				LR	LR	05 12 29.6	
	comp=Z,605nm,19.0s,baz=260,slow=39						
BOK	**Bokaro**	**18.13**	**170**	*eP*	**P**	**05 05 08.8**	**+2.1**
BLSP	**Bilaspur**	**19.57**	**181**	*ex*	x	05 04 38.0	
CAL	**Calcutta**	**19.78**	**164**	*ex*	x	05 05 21.1	
CAL				*ex*	x	05 13 54.0	
CD2	**Chengdu**	**20.20**	**116**	⇑*i*P	**P**	**05 05 31.8**	**+1.0**
CD2				AMB	AMB		
	comp=Z,40nm,1.3s						
CD2				AMB	AMB		
	comp=Z,200nm,4.5s	

HHC S **S** **05 09 39.6 -3.6**
HHC PCP PcP 05 09 49.4 +1.6
HHC XS 05 09 52.9
HHC SS SS 05 10 16.1 -4.3
HHC SCP 05 13 24.3
HHC PCS 05 13 25.9
HHC AMB AMB
comp=Z,27nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,400nm,4.2s
HHC LR LR
comp=N,2µm,8.0s
HHC LR LR
comp=E,1µm,8.0s
HHC LR LR
comp=Z,1µm,10.7s,MS4.6
XAN Xi'an 22.16 102 P **P** **05 05 50.8 +0.1**
XAN S **S** **05 09 52.6 +2.8**
XAN AMB AMB
comp=Z,42nm,2.1s,mb4.5
XAN LR LR
comp=N,2µm,12.0s,MS4.7
XAN LR LR
comp=E,1µm,12.9s,MS4.7
XAN LR LR
comp=Z,2µm,12.9s,MS4.8
KMI Kunming 23.58 128 P **P** **05 06 06.5 +1.8**
KMI AP 05 06 12.5
KMI XP 05 06 15.9
KMI PP PP 05 06 39.6 +2.6
KMI PPP PPP 05 06 49.9 +2.9
KMI S **S** **05 10 18.5 +3.4**
KMI XS 05 10 29.6
KMI AMB AMB
comp=Z,21nm,1.5s,mb4.3
KMI AMB AMB
comp=Z,271nm,3.5s
KMI LR LR
comp=N,1µm,17.5s,MS4.7
KMI LR LR
comp=E,2µm,17.2s,MS4.7
KMI LR LR
comp=Z,709nm,12.3s,MS4.3
HYB Hyderabad 24.49 189 *i* P **P** **05 06 15.0 +1.4**
HYB Hyderabad 24.49 189 *e*P **P** **05 06 15.0 +1.4**
ENH Enshi 24.55 109 *e*P **P** **05 06 15.2 +1.2**
comp=Z,66nm,0.8s,mb5.2
GYA Guiyang 25.04 120⇑ *i*P **P** **05 06 20.5 +1.7**
GYA AP pP 05 06 29.8 +8.1
GYA XP sP 05 06 33.9 +11
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.3
GYA AMB AMB
comp=Z,440nm,5.4s
GYA LR LR
comp=N,850nm,14.1s,MS4.6
GYA LR LR
comp=E,1µm,11.4s,MS4.6
GYA LR LR
comp=Z,980nm,11.6s,MS4.5
BOD Bodaibo 25.59 40 *e*P **P** **05 06 22.7 -1.0**
BOD pmax pmax
comp=Z,17nm,1.7s,mb4.3
BOD pmax pmax
comp=Z,20nm,0.8s,mb4.7
TIA Tai'an 27.35 90 *e*P **P** **05 06 40.8 +0.7**
WHN Wuhan 27.89 103⇑P **P** **05 06 46.3 +1.2**
KIV Kislovodsk 29.08 288 *e*P **P** **05 06 55.5 -0.2**
KIV pmax pmax
comp=Z,12nm,1.3s,mb4.5
KIV MLR MLR
comp=Z,900nm,16.0s,MS4.5
NJ2 Nanjing 30.45 97 *e*P **P** **05 07 07.6 -0.4**
NJ2 AP pP 05 07 12.0 +1.1
NJ2 XP sP 05 07 14.6 +2.4
NJ2 PP PP 05 08 07.1 -0.5
NJ2 S **S** **05 12 06.0 -1.7**
NJ2 XS 05 12 13.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,300nm,4.1s
NJ2 LR LR
comp=N,3µm,14.2s
NJ2 LR LR
comp=E,2µm,20.1s
NJ2 LR LR
comp=Z,1µm,14.2s,MS4.6
CN2 Changchun 31.33 72 *e*P **P** **05 07 16.0 +0.4**
CN2 *e*XP sP 05 07 23.0 +3.1
CN2 *e*S **S** **05 12 20.5 -0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CN2 LR LR
comp=N,810nm,10.0s,MS5.0
CN2 LR LR
comp=E,2µm,10.0s,MS5.0
CN2 LR LR
comp=Z,2µm,12.0s,MS5.0
ANN Anapa 32.64 291 *e*P **P** **05 07 25.0 -2.1**
ANN *e*S **S** **05 12 40.9 -0.9**
ANN pmax pmax
comp=Z,59nm,1.2s,mb5.4
ANN MLR MLR
comp=Z,840nm,15.0s,MS4.6
ANN MLR MLR
comp=N,635nm,14.0s,MS4.8
ANN MLR MLR
comp=E,1µm,15.0s,MS4.8
SSE Sheshan 32.65 96 P **P** **05 07 26.5 -0.8**
SSE S **S** **05 12 40.5 -1.6**
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,208nm,4.6s
SSE LR LR
comp=N,427nm,15.4s,MS4.3
SSE LR LR
comp=E,247nm,15.4s,MS4.3
SSE LR LR
comp=Z,387nm,17.2s,MS4.2
OBN Obninsk 32.65 310⇑ *e*P **P** **05 07 26.7 -0.3**
OBN *e* 05 07 38.4
OBN pmax pmax
comp=Z,43nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,700nm,16.0s,MS4.5
MDJ Mudanjiang 34.08 69 P **P** **05 07 38.4 -1.2**
MDJ AP pP 05 07 47.3 +4.7
MDJ XP sP 05 07 51.1 +7.2
MDJ PP PP 05 08 56.0 +2.2
MDJ PCP PcP 05 10 16.3 -1.0
MDJ S **S** **05 13 01.8 -2.4**
MDJ XS 05 13 17.1
MDJ AMB AMB
comp=Z,9.0nm,1.7s,mb4.4
MDJ AMB AMB
comp=Z,94nm,5.8s
MDJ LR LR
comp=N,244nm,15.1s,MS4.5
MDJ LR LR
comp=E,552nm,14.7s,MS4.5
MDJ LR LR
comp=Z,737nm,15.1s,MS4.5
YAK Yakutsk 34.42 38 *e*P **P** **05 07 41.9 -0.5**
YAK *e**PP pP 05 07 50.6 +5.3
YAK *e* 05 08 58.3
YAK *e*PPP PPP 05 09 08.2 -7.8
YAK *e* 05 10 14.2
YAK *e*S **S** **05 13 07.4 -2.0**
YAK *e**SS 05 13 21.4
YAK *e*SS SS 05 15 15.5 -4.2
YAK *e* 05 18 01.2
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.9
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
YAK smax
comp=E,44nm,8.5s
YAK smax
comp=N,13nm,9.4s
YAK MLR MLR
comp=Z,1µm,13.0s,MS4.8
YAK MLR MLR
comp=N,478nm,12.0s,MS4.7
YAK MLR MLR
comp=E,729nm,12.0s,MS4.7
KLR Kul'dur 34.79 60 *e*P **P** **05 07 42.2 -3.5**
KLR *e*S **S** **05 13 14.5 -0.7**
KLR MLR MLR
comp=E,1µm,11.0s
KLR MLR MLR
comp=Z,2µm,11.0s,MS5.2
JOF Joensuu 36.44 323 *e*p **P** **05 07 58.2 -1.3**
BR131 Keskin Array S 36.69 284 *e*P **P** **05 08 02.7 +0.9**
comp=Z,5.1nm,0.6s,mb4.5
BRTR Keskin Array B 36.69 284 P **P** **05 08 03.0 +1.2**
comp=Z,11nm,0.8s,mb4.7,baz=96,slow=8.0,SNR=27
AKASG Malin Array Be 37.20 303 P **P** **05 08 05.7 -0.3**
comp=Z,3.7nm,0.6s,mb4.4,baz=75,slow=8.2,SNR=6.7
AKASG Malin Array Be 37.20 303 P **P** **05 08 05.7 -0.3**
TIXI Tiksi 37.55 22⇓ *i*P **P** **05 08 09.7 +1.0**
TIXI MLR MLR
comp=Z,800nm,15.0s,MS4.6
KIS Kishinev 38.10 297 *e*P **P** **05 08 14.0 +0.4**
KIS MLR MLR
comp=Z,400nm,13.0s,MS4.4
VSU Vasula 38.22 315⇑ *i*P **P** **05 08 14.8 +0.3**
KAF Kangasniemi 38.62 321 *e*p **P** **05 08 18.5 +0.6**
FINES FINESS Array B 38.68 320 P **P** **05 08 17.9 -0.5**
comp=Z,2.4nm,0.8s,mb4.0,baz=106,slow=10,SNR=4.5
FINES LR LR 05 25 16.0
comp=Z,547nm,20.0s,MS4.4,baz=111,slow=38
FINES FINESS Array B 38.68 320 *i* P **P** **05 08 21.9 +3.6**
FINES pmax pmax
comp=Z,1.0nm,0.4s
JNU Nakatsue 38.93 87 LR LR 05 25 20.0
comp=Z,86nm,20.7s,MS3.6,baz=202,slow=38
CFR Carcaliu 38.98 294⇓P **P** **05 08 21.2 +0.1**
VRI Vrincioaia 39.77 295⇑P **P** **05 08 28.6 +1.1**
ARCES ARCESS Array B 40.15 333 P **P** **05 08 30.4 0.0**
comp=Z,8.4nm,0.6s,mb4.6,baz=89,slow=8.8,SNR=29
ARCES LR LR 05 26 22.9
comp=Z,451nm,21.0s,MS4.3,baz=224,slow=38
ARCES ARCESS Array B 40.15 333 P **P** **05 08 30.4 0.0**
ARCES LR LR 05 26 22.9
BURAR Bucovina Array 40.35 298⇓P **P** **05 08 32.6 +0.3**
MLR Muntele Rosu 40.40 295⇑P **P** **05 08 35.2 +2.5**
KWP Kalwaria 41.51 302 *e*P **P** **05 08 42.2 +0.5**
STHS Stebnicka Huta 42.49 302 *e*P **P** **05 08 50.3 +0.5**
MJAR Matsushiro Arr 42.88 78 P **P** **05 08 52.7 -0.4**
comp=Z,1.6nm,0.6s,mb4.0,baz=290,slow=8.3,SNR=5.4
KECS Kecovo 43.21 301 *e*P **P** **05 08 55.2 -0.5**
OJC Ojcow 43.21 304 *e*P **P** **05 08 55.9 +0.3**
APE Apeiranthos 43.58 283 *c i*P **P** **05 08 58.9 0.0**
SANT Santorini 43.93 283 *e*P **P** **05 09 01.2 -0.4**
comp=Z,18nm,0.9s,mb4.8
VYHS Vyhne 44.26 301 *e*P **P** **05 09 04.9 +0.7**
MA2 Magadan 44.59 42 *e*P **P** **05 09 05.5 -1.3**
MA2 Magadan 44.59 42 *e*P **P** **05 09 06.3 -0.4**
MA2 pmax pmax
comp=Z,23nm,1.6s,mb4.8
MA2 MLR MLR
comp=Z,200nm,14.0s,MS4.2
MORC Moravsky Berou 44.73 303 *e*P **P** **05 09 08.3 +0.3**
comp=Z,8.3nm,0.9s,mb4.6
MORC Moravsky Berou 44.73 303 *e*P **P** **05 09 08.3 +0.3**
MORC pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
IDI Anoyia 44.81 281 P **P** **05 09 10.4 +1.6**
comp=Z,32nm,1.1s,mb5.1,baz=8.8,slow=9.0,SNR=4.4
DPC Dobruska-Polom 45.33 305 *e*P **P** **05 09 13.4 +0.6**
DPC AMS AMS 05 28 30.0
comp=Z,600nm,18.5s
VRAC Vranov 45.45 303 *e*P **P** **05 09 14.3 +0.6**
UPC Upice 45.48 305 *e*P **P** **05 09 14.6 +0.7**
GVD Gavdhos 45.60 281 *e*P **P** **05 09 14.8 -0.3**
comp=Z,30nm,0.9s,mb5.2
NB2 NORSAR Subarra 45.86 320 P **P** **05 09 15.9 -0.9**
comp=Z,5.7nm,0.7s,mb4.6,baz=80,slow=7.9
NB2 NORSAR Subarra 45.86 320 P **P** **05 09 15.9 -0.9**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
NOA NORSAR Array B 45.86 320 P **P** **05 09 16.2 -0.6**
comp=Z,3.7nm,0.5s,mb4.5,baz=81,slow=7.9,SNR=17
ATD Arta Tunnel 45.87 241 LR LR 05 31 27.4
comp=Z,130nm,18.6s,MS3.9,baz=332,slow=40
TREC Trest 46.15 303 AMS AMS 05 29 00.0
comp=Z,900nm,12.3s
KKM Kota Kinabalu 46.50 130 *e*P **P** **05 09 24.1 +1.6**
PRU Pruhonice 46.53 304 *e*P **P** **05 09 22.7 +0.5**
PRU AMS AMS 05 29 10.0
comp=Z,700nm,13.8s
BRG Berggiesshubel 46.64 306 *i* P **P** **05 09 27.3 +4.2**
comp=Z,21nm,1.7s,mb4.8
BRG Berggiesshubel 46.64 306 *i* P **P** **05 09 27.3 +4.2**
BRG pmax pmax
comp=Z,21nm,1.7s,mb4.8
CLL Collm 47.08 307⇑ **P** **05 09 26.3 -0.3**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 05 09 30.3 +0.7
CLL *i* *SP sP 05 09 32.7 +1.9
CLL *i* 05 09 41.0
CLL Collm 47.08 307⇑ *i*P **P** **05 09 26.3 -0.3**
comp=Z,10.0nm,0.8s,mb4.8
CLL *i* pP pP 05 09 30.3 +0.7
CLL Collm 47.08 307⇑ *i*P **P** **05 09 26.3 -0.3**
CLL *i* *PP pP 05 09 30.3 +0.7
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PERS Pernice 47.23 300 *e*P **P** **05 09 27.9 +0.1**
KHC Kasperske Hory 47.39 304 *e*P **P** **05 09 29.1 0.0**
KHC pP pP 05 09 33.5 +1.4
KHC AMS AMS 05 29 50.0
comp=Z,700nm,12.0s
KHC Kasperske Hory 47.39 304 *e*P **P** **05 09 29.1 0.0**
KHC *e* pP 05 09 33.5 +1.4
KHC MLR MLR
comp=Z,700nm,12.0s,MS4.8
GEC2 GERESS Array S 47.41 303 *e*P **P** **05 09 30.0 +0.8**
comp=Z,23nm,1.8s,mb4.8
GEC2 GERESS Array S 47.41 303 *e*P **P** **05 09 30.0 +0.8**
GEC2 pmax pmax
comp=Z,23nm,1.8s,mb4.8
GERES GERESS Array B 47.41 303 P **P** **05 09 29.5 +0.3**
comp=Z,1.2nm,0.5s,mb4.0,baz=59,slow=7.8,SNR=11
NKC Novy Kostel 47.74 305 AMS AMS 05 30 10.0
comp=Z,800nm,12.0s
WET Wettzell 47.82 304 *e*P **P** **05 09 32.9 +0.4**
comp=Z,9.0nm,1.1s,mb4.7
WET Wettzell 47.82 304 *e*P **P** **05 09 32.9 +0.4**
WET pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
CEY Cerknica 47.99 299 *e*P **P** **05 09 33.7 -0.1**
MOX Moxa 48.12 306 *i* P **P** **05 09 35.2 +0.5**
MOX L 05 31 17.0
MOX Moxa 48.12 306 *e*P **P** **05 09 35.2 +0.5**
MOX MLR MLR
comp=Z,400nm,17.0s,MS4.5
CLZ Clausthal 48.49 308 *e*P **P** **05 09 37.8 +0.2**
comp=Z,11nm,1.1s,mb4.8
CLZ Clausthal 48.49 308 *e*P **P** **05 09 37.8 +0.2**
CLZ pmax pmax
comp=Z,11nm,1.1s,mb4.8
GRA1 Grafenberg Arr 48.67 305 *e*P **P** **05 09 39.7 +0.7**
comp=Z,13nm,0.7s,mb5.1
GRA1 LR LR
comp=Z,300nm,19.7s,MS4.3
GRF Grafenberg Arr 48.67 305 *e*P **P** **05 09 39.7 +0.7**
GRF pmax pmax
comp=Z,13nm,0.7s,mb5.1
GRF MLR MLR
comp=Z,300nm,19.7s,MS4.3
TIP Timpagrande 48.98 290 *e*P **P** **05 09 41.9 +0.3**
WTTA Wattenberg 49.25 302⇑ *i*P **P** **05 09 43.6 +0.1**
comp=Z,23nm,1.1s,mb5.1
WTTA Wattenberg 49.25 302⇑ *i*P **P** **05 09 43.6 +0.1**
WTTA pmax pmax
comp=Z,23nm,1.1s,mb5.1
SQTA Sankt Quirin 49.53 302⇑ *i*P **P** **05 09 45.7 0.0**
comp=Z,13nm,1.3s,mb4.8
SQTA Sankt Quirin 49.53 302⇑ *i*P **P** **05 09 45.7 0.0**
SQTA pmax pmax
comp=Z,13nm,1.3s,mb4.8
MOTA Moosalm 49.56 302⇓ *i*P **P** **05 09 46.0 +0.1**
comp=Z,14nm,1.0s,mb5.0
MOTA Moosalm 49.56 302⇓ *i*P **P** **05 09 46.0 +0.1**
MOTA pmax pmax
comp=Z,14nm,1.0s,mb5.0
BFO Black Forest 50.93 304 *e*P **P** **05 09 56.2 -0.1**
comp=Z,13nm,1.2s,mb4.7
BFO Black Forest 50.93 304 *e*P **P** **05 09 56.2 -0.1**
BFO pmax pmax
comp=Z,13nm,1.2s,mb4.7
CDF Champ du Feu 51.55 305 *e*P **P** **05 10 00.7 -0.3**
comp=Z,30nm,1.2s,mb4.8
CDF Champ du Feu 51.55 305 *e*P **P** **05 10 00.7 -0.3**
CDF pmax pmax
comp=Z,15nm,1.2s,mb4.8
WLF Walferdange 51.76 306 *e*P **P** **05 09 59.7 -2.9**
comp=Z,3.9nm,0.3s,mb4.8
WLF Walferdange 51.76 306 *e*P **P** **05 09 59.7 -2.9**
WLF pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
HINF Hinteralfeld 52.04 304⇑ *i*P **P** **05 10 04.3 -0.5**
GIVF Givet 52.38 307 *e*P **P** **05 10 07.3 0.0**
BAIF Baives 52.77 308 *e*P **P** **05 10 10.0 -0.2**
PGF Pioggiola 52.84 297 *e*P **P** **05 10 09.7 -1.2**
comp=Z,24nm,1.0s,mb4.8
PGF Pioggiola 52.84 297 *e*P **P** **05 10 09.7 -1.2**
PGF pmax pmax
comp=Z,12nm,1.0s,mb4.8
MEZF Maizieres J'vi 52.88 305 *e*P **P** **05 10 11.0 0.0**
comp=Z,56nm,1.0s,mb5.2
LPG La Plagne 53.05 301⇑ *i*P **P** **05 10 12.6 +0.3**
comp=Z,38nm,0.8s,mb5.1
LPG La Plagne 53.05 301⇑ *i*P **P** **05 10 12.6 +0.3**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.1
LPL La Plagne 53.05 301⇑ *i*P **P** **05 10 12.7 +0.3**
comp=Z,39nm,0.7s,mb5.2
LPL La Plagne 53.05 301⇑ *i*P **P** **05 10 12.7 +0.3**
LPL pmax pmax
comp=Z,20nm,0.7s,mb5.2
BNI Bardonecchia 53.28 301 *e*P **P** **05 10 13.5 -0.5**
comp=Z,19nm,1.0s,mb5.0
BNI Bardonecchia 53.28 301 *e*P **P** **05 10 13.5 -0.6**
BNI pmax pmax
comp=Z,19nm,1.0s,mb5.0
SBF Sospel 53.30 299 *e*P **P** **05 10 13.8 -0.4**
comp=Z,12nm,0.6s,mb4.7
SBF Sospel 53.30 299 *e*P **P** **05 10 13.8 -0.4**
SBF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MBDF Montbardon 53.36 301 *e*P **P** **05 10 13.8 -0.9**
comp=Z,12nm,0.7s,mb4.6
MBDF Montbardon 53.36 301 *e*P **P** **05 10 13.8 -0.9**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ORIF Oris-en-Rattie 53.85 301⇑ *i*P **P** **05 10 17.5 -0.7**
comp=Z,13nm,0.7s,mb4.7
ORIF Oris-en-Rattie 53.85 301⇑ *i*P **P** **05 10 17.5 -0.7**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FRF La Foret Royal 53.95 299 *e*P **P** **05 10 18.6 -0.3**
LOR Lormes 54.12 305⇑ *i*P **P** **05 10 18.9 -1.2**
LMR La Mourre 54.14 299 *e*P **P** **05 10 19.8 -0.6**
SMF Signal de Mont 54.40 304⇑ *i*P **P** **05 10 21.3 -0.9**
comp=Z,15nm,0.8s,mb4.7
SMF Signal de Mont 54.40 304⇑ *i*P **P** **05 10 21.3 -0.9**
SMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SSF Saint Saulge 54.42 304 *e*P **P** **05 10 21.6 -0.8**
SMRF Simiane la Rot 54.46 300 *e*P **P** **05 10 22.2 -0.5**
AVF Avril sur Loir 54.63 304⇑ *i*P **P** **05 10 23.1 -0.8**
comp=Z,38nm,1.0s,mb5.1
AVF Avril sur Loir 54.63 304⇑ *i*P **P** **05 10 23.1 -0.8**
AVF pmax pmax
comp=Z,19nm,1.0s,mb5.1
VIVF Saint-Julien-l 54.65 302⇑ *i*P **P** **05 10 23.6 -0.5**
comp=Z,10.0nm,0.6s,mb4.7
VIVF Saint-Julien-l 54.65 302⇑ *i*P **P** **05 10 23.6 -0.5**
VIVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BGF Bois d'Agland 55.05 304 *e*P **P** **05 10 26.9 -0.1**
comp=Z,13nm,0.9s,mb4.7
BGF Bois d'Agland 55.05 304 *e*P **P** **05 10 26.9 -0.1**
BGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LASF Ste Croix 55.52 301⇑ *i*P **P** **05 10 30.2 -0.3**
comp=Z,25nm,1.0s,mb4.9
TCF Toulx Ste Croi 55.56 304⇑ *i*P **P** **05 10 30.2 -0.5**
comp=Z,23nm,0.8s,mb4.9
TCF Toulx Ste Croi 55.56 304⇑ *i*P **P** **05 10 30.2 -0.5**
TCF pmax pmax
comp=Z,11nm,0.8s,mb4.9
LDF La Druitiere 55.95 307 *e*P **P** **05 10 33.3 -0.2**
CAF Calviac 56.27 303 *e*P **P** **05 10 35.6 -0.3**
RJF Les Rejaudoux 56.44 303⇑ *i*P **P** **05 10 36.9 -0.2**
comp=Z,19nm,0.8s,mb4.9
RJF Les Rejaudoux 56.44 303⇑ *i*P **P** **05 10 36.9 -0.2**
RJF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
GRR Gorron 56.48 307 *e*P **P** **05 10 36.0 -1.3**
MFF Saint Martin d 56.87 305 *e*P **P** **05 10 39.9 -0.2**
comp=Z,19nm,1.0s,mb4.8
MFF Saint Martin d 56.87 305 *e*P **P** **05 10 39.9 -0.2**
MFF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MTLF Montolieu 56.92 301⇑ *i*P **P** **05 10 40.0 -0.5**
comp=Z,8.6nm,0.8s,mb4.5
MTLF Montolieu 56.92 301⇑ *i*P **P** **05 10 40.0 -0.5**
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
LFF La Frestale 57.10 303⇑ *i*P **P** **05 10 41.5 -0.3**
comp=Z,23nm,0.7s,mb5.0
LFF La Frestale 57.10 303⇑ *i*P **P** **05 10 41.5 -0.3**
LFF pmax pmax
comp=Z,11nm,0.7s,mb5.0
SGMF Saint Gilles 57.55 308 *e*P **P** **05 10 44.1 -0.8**
ROSF Rostrenen 57.93 308 *e*P **P** **05 10 46.6 -1.0**
QUIF Quistinic 58.07 308 *e*P **P** **05 10 48.5 0.0**
comp=Z,26nm,0.9s,mb5.0
QUIF Quistinic 58.07 308 *e*P **P** **05 10 48.5 0.0**
QUIF pmax pmax
comp=Z,13nm,0.9s,mb5.0
EPF Esparros 58.27 301 *e*P **P** **05 10 48.7 -1.3**
comp=Z,9.2nm,0.9s,mb4.5
EPF Esparros 58.27 301 *e*P **P** **05 10 48.7 -1.3**
EPF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ETSF Etsaut 58.91 302⇑ *i*P **P** **05 10 54.2 -0.3**
comp=Z,27nm,1.0s,mb4.9
ETSF Etsaut 58.91 302⇑ *i*P **P** **05 10 54.2 -0.3**
ETSF pmax pmax
comp=Z,13nm,1.0s,mb4.9
KMBO Kilima Mbogo 59.09 236 P **P** **05 10 56.3 +0.2**
comp=Z,1.3nm,0.8s,mb4.0,baz=65,slow=15,SNR=2.8
KMBO LR LR 05 38 43.2
comp=Z,178nm,18.2s,MS4.2,baz=201,slow=38
SJPF Ste Jean 59.23 302 *e*P **P** **05 10 56.6 -0.1**
comp=Z,12nm,0.9s,mb4.6
SJPF Ste Jean 59.23 302 *e*P **P** **05 10 56.6 -0.1**
SJPF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ESDC Sonseca Array 62.78 300 P **P** **05 11 20.2 -0.6**
comp=Z,1.1nm,0.4s,mb4.3,baz=53,slow=7.4,SNR=6.6
EVO Evora 66.03 301 *e*P **P** **05 11 42.7 +0.8**
comp=Z,11nm,0.9s,mb4.6
INK Inuvik 66.99 14 *e*P **P** **05 11 46.9 -0.7**
comp=Z,22nm,1.0s,mb5.1
INK Inuvik 66.99 14 *e*P **P** **05 11 46.9 -0.6**
INK pmax pmax
comp=Z,22nm,1.0s
ILAR Eielson Array 67.00 21 P **P** **05 11 46.5 -1.2**
comp=Z,7.6nm,0.8s,mb4.8,baz=314,slow=5.2,SNR=36
ILAR LR LR 05 44 57.7
comp=Z,225nm,19.0s,MS4.4,baz=335,slow=40
OPO Ambohidratompo 68.34 216 P **P** **05 11 57.8 +1.0**
comp=Z,3.0nm,0.8s,mb4.4,baz=42,slow=4.8,SNR=4.7
THY Trims Highway 68.38 21 *e*P **P** **05 11 55.0 -1.3**
SML Sawmill 68.93 23 *e*P **P** **05 11 59.6 -0.2**
DAWY Dawson 69.45 18 *e*P **P** **05 12 02.3 -0.7**
KAKA Kakadu 71.04 128⇓ *i*P **P** **05 12 32.9 +19**
comp=Z,5.7nm,0.8s,mb4.5
MBWA Marble Bar 71.46 143 *e*P **P** **05 12 16.3 +0.4**
comp=Z,11nm,1.0s,mb4.7
FITZ Fitzroy Crossi 71.67 137⇑ *i*P **P** **05 12 17.5 +0.3**
comp=Z,13nm,0.9s,mb4.8
FITZ Fitzroy Crossi 71.67 137 P **P** **05 12 17.9 +0.7**

comp=Z,16nm,0.8s,mb5.0,baz=315,slow=2.2
YKW3 Yellowknife Ar 75.12 8 *e*P **P 05 12 36.4 -0.1**
YKA Yellowknife Ar 75.19 8 P **P 05 12 35.9 -0.9**
comp=Z,4.6nm,0.8s,mb4.5,baz=348,slow=5.7,SNR=4.6
YKA LR LR 05 47 38.0
comp=Z,157nm,18.6s,MS4.3,baz=350,slow=37
YKA Yellowknife Ar 75.19 8 P **P 05 12 35.9 -0.9**
YKA LR LR 05 47 38.0
LSZ Lusaka 75.67 234 P **P 05 12 41.4 +0.9**
comp=Z,8.3nm,1.0s,mb4.6,baz=34,slow=7.0,SNR=9.3
LSZ Lusaka 75.67 234 *e*P **P 05 12 41.3 +0.8**
comp=Z,7.5nm,1.0s,mb4.6
LSZ Lusaka 75.67 234 *e*P **P 05 12 41.3 +0.8**
LSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
DLBC Dease Lake 76.56 17 *e*P **P 05 12 45.1 +0.5**
WRAB Tennant Creek 77.88 131 *e*P **P 05 12 53.4 +0.7**
comp=Z,20nm,0.8s,mb5.1
WRAB Tennant Creek 77.88 131 *e*P **P 05 12 53.4 +0.7**
WRAB pmax pmax
comp=Z,20nm,0.8s,mb5.1
WRA Warramunga Arr 77.88 131 P **P 05 12 53.5 +0.8**
comp=Z,14nm,0.8s,mb4.9,baz=331,slow=5.6,SNR=53
WB2 Warramunga Arr 77.88 131 ⇑*i*P **P 05 12 53.5 +0.7**
PMG Port Moresby 77.98 114 *e*P **P 05 12 54.1 +0.8**
comp=Z,17nm,0.8s,mb5.0
PMG Port Moresby 77.98 114 *e*P **P 05 12 54.1 +0.7**
PMG pmax pmax
comp=Z,17nm,0.8s
MATP Matopo 79.50 231 P **P 05 13 02.7 +1.1**
comp=Z,7.8nm,0.9s,mb4.6,baz=20,slow=7.5,SNR=6.4
DBIC Dimbokro 83.64 273 P **P 05 13 23.4 -0.1**
comp=Z,3.1nm,0.6s,mb4.6,baz=34,slow=5.1,SNR=9.3
DBIC Dimbokro 83.64 273 *e*P **P 05 13 23.2 -0.2**
comp=Z,3.9nm,0.7s,mb4.7
DBIC Dimbokro 83.64 273 P **P 05 13 23.4 0.0**
DBIC pmax pmax
comp=Z,3.0nm,0.6s
KIC Kosan Boka 83.76 273 *e*P **P 05 13 23.5 -0.5**
comp=Z,66nm,1.2s,mb5.7
TIC Toumodi 83.78 273 *e*P **P 05 13 24.0 -0.1**
comp=Z,42nm,1.9s,mb5.2
FFC Flin Flon 83.82 3 *e*P **P 05 13 23.0 -0.4**
comp=Z,10nm,0.8s,mb5.0
FFC Flin Flon 83.82 3 *e*P **P 05 13 23.0 -0.4**
FFC pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
LIC Lamto 84.06 273 *e*P **P 05 13 25.3 -0.3**
comp=Z,29nm,1.3s,mb5.2
LIC Lamto 84.06 273 ⇑*i*P **P 05 13 25.4 -0.2**
comp=Z,2.6nm,0.6s,mb4.5
EDM Edmonton 84.42 10 *e*P **P 05 13 25.8 -0.6**
LBTB Lobatse 84.74 230 P **P 05 13 29.6 +0.9**
comp=Z,1.6nm,0.6s,mb4.3,baz=249,slow=11,SNR=3.6
CTAO Charters Tower 85.15 122 *e*P **P 05 13 32.1 +1.2**
comp=Z,7.7nm,0.8s,mb4.9
CTAO Charters Tower 85.15 122 *e*P **P 05 13 32.1 +1.2**
CTAO pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
TSUM Tsumeb 85.25 239 P **P 05 13 32.1 +0.8**
comp=Z,5.2nm,0.9s,mb4.6,baz=16,slow=3.2,SNR=7.3
TSUM Tsumeb 85.25 239 *e*P **P 05 13 32.2 +0.9**
comp=Z,7.6nm,1.1s,mb4.7
ULM Lac du Bonnet 88.36 359 P **P 05 13 45.9 +0.1**
comp=Z,2.8nm,0.8s,mb4.5,baz=342,slow=9.6,SNR=3.5
ULM LR LR 05 58 19.9
comp=Z,128nm,19.2s,MS4.3,baz=77,slow=39
ULM Lac du Bonnet 88.36 359 P **P 05 13 45.9 +0.1**
ULM LR LR 05 58 19.9
NEW Newport 88.70 13 *e*P **P 05 13 48.2 +0.7**
comp=Z,2.0nm,0.7s,mb4.6
NEW Newport 88.70 13 *e*P **P 05 13 48.2 +0.7**
NEW pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 91.24 133 *e*P **P 05 13 59.8 0.0**
comp=Z,1.6nm,1.0s,mb4.3
STKA Stephens Creek 91.24 133 P **P 05 14 00.1 +0.3**
comp=Z,2.0nm,0.8s,mb4.5,baz=317,slow=4.4,SNR=5.2
DLMT Dillon 92.22 11 *e*P **P 05 14 04.5 +0.5**
MCMT McKenzie Canyo 92.71 11 *e*P **P 05 14 06.6 +0.4**
FLWY Flagg Ranch 93.73 9 *e*P **P 05 14 12.5 +1.6**
PDAR Pinedale Array 95.16 9 P **P 05 14 17.4 -0.1**
comp=Z,0.4nm,0.6s,mb4.0,baz=60,slow=3.2,SNR=4.2
PDAR LR LR 05 58 40.5
comp=Z,120nm,18.0s,MS4.4,baz=8.7,slow=36
HWUT Hardware Ranch 96.05 11 *e*P **P 05 14 22.4 +0.8**
comp=Z,4.9nm,1.0s,mb4.9
SNAA Sanae 127.60 203 P PKPdf 05 20 03.8 +3.2
SNAA Sanae 127.60 203 PKPdf 05 20 11.7 +11
VNDA Vanda 128.13 164 *e*PKPdf PKPdf 05 20 00.4 -1.2
VNA3 Neumayer Olymp 129.57 205 P PKPdf 05 20 03.8 -0.6
VNA3 Neumayer Olymp 129.57 205 PKPdf 05 20 12.7 +8.3
VNA3 Neumayer Olymp 129.57 205 PKPdf 05 20 15.0 +11
CPUP Villa Florida 143.69 282 PKP PKPdf 05 20 31.6 +0.2
comp=Z,1.6nm,0.7s,baz=94,slow=2.4,SNR=4.7
LPAZ La Paz 144.21 306 PKP PKPdf 05 20 31.8 -0.7
comp=Z,1.0nm,0.8s,baz=12,slow=9.6,SNR=4.6
LPAZ La Paz 144.21 306 *e*PKPdf PKPdf 05 20 32.3 -0.2
LPAZ La Paz 144.21 306 PKIKP PKPdf 05 20 31.8 -0.7
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
NNA Nana 145.28 323 *e*PKPbc PKPbc 05 20 32.9 +1.1
LVC Limon Verde 149.40 300 *e*PKPbc PKPdf 05 20 45.3 +4.3
PLCA Paso Flores 159.74 264 PKP PKPdf 05 20 54.7 +0.2
comp=Z,2.1nm,1.0s,baz=8.9,slow=3.2,SNR=4.3
PLCA Paso Flores 159.74 264 *e*PKPdf PKPdf 05 20 54.4 -0.1
PLCA Paso Flores 159.74 264 PKIKP PKPdf 05 20 54.7 +0.2
PLCA pmax pmax
comp=Z,2.0nm,1.0s

MOS ***23*** *05:06:29.2±0.8,38.16N×75.22E,h128km,mb4.7/53,Error ellipse: s-maj=12.2km s-min=4.1km az=131.1*
NEIC ***23*** *05:06:31.0±0.5,38.16N×75.27E,h132km±5km,mb4.8/94, Error ellipse: s-maj=5.6km s-min=3.2km az=55.0*
BJI ***23*** *05:06:32.6,38.52N×75.17E,h155km,mB5.1,mb4.7*
IDC ***23*** *05:06:34.0±0.9,38.26N×75.23E,h156km±7km,mb4.4/14, mb1 4.5/17,mb1mx4.4/21,mbtmp4.8/17,MS3.4/1, Ms1 3.4/1,ms1mx2.7/23,Error ellipse: s-maj=15.6km s-min=13.9km az=146.0*
NNC ***23*** *05:06:35.8±11.0,38.62N×74.39E,mpv4.8,Error ellipse: s-maj=92.8km s-min=73.8km az=160.0*

ISC 23 05:06:31.0±0.3,38.20N±0.02×75.22E±0.04,h144km±3km, h150km±8.4km;pP-P,n284,○0s88/293,mb4.7/117,98C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.44**	**24**	*i* P	**P**	**05 07 01.1**	**+1.4**
KSH				S	**S**	**05 07 22.4**	**+0.5**
KSH				Smax			
	comp=N,23μm,0.5s						
KSH				Smax			
	comp=E,30μm,0.5s						
KZA	**Kyzart**	**3.87**	**0**	P	**P**	**05 07 30.4**	**+0.2**
	SNR=138						
UCH	**Uchtor**	**4.05**	**353**	P	**P**	**05 07 33.1**	**+0.4**
	SNR=208						
AML	**Almayashu**	**4.09**	**344**	P	**P**	**05 07 33.1**	**0.0**
	SNR=140						
ULHL	**Ulahol**	**4.11**	**11**	P	**P**	**05 07 32.7**	**-0.7**
	SNR=5.4						
KBK	**Karagaybulak**	**4.45**	**357**	P	**P**	**05 07 38.4**	**+0.5**
	SNR=78						
AAK	**Ala-Archa**	**4.46**	**353**	P	**P**	**05 07 38.5**	**+0.5**
	SNR=51						
AAK	**Ala-Archa**	**4.46**	**353**	⇑P	**P**	**05 07 38.5**	**+0.5**
	comp=E,156nm,0.6s						
AAK				⇑S	**S**	**05 08 28.3**	**-1.3**
	comp=E,327nm,0.5s						
EKS2	**Erkin-Say**	**4.59**	**347**	P	**P**	**05 07 39.9**	**+0.2**
	SNR=63						
TKM2	**Tokmak 2**	**4.72**	**3**	P	**P**	**05 07 41.4**	**-0.1**
	SNR=14						
CHMS	**Chumysh**	**4.80**	**356**	P	**P**	**05 07 42.7**	**+0.1**
	SNR=41						
CHCP	**Chirah Chowk**	**4.80**	**200**	⇓P	**P**	**05 07 45.9**	**+3.3**
USP	**Ospenovka**	**5.09**	**354**	P	**P**	**05 07 46.0**	**-0.3**
	SNR=54						
CEP	**Cherat**	**5.13**	**212**	⇓P	**P**	**05 07 47.4**	**+0.5**
CEP				S	**S**	**05 08 38.0**	**-7.5**
KK31	**Karatay Array**	**6.06**	**325**	⇑P	**P**	**05 07 58.6**	**-0.8**
	comp=E,28nm,0.3s,baz=133,slow=12,SNR=250						
KK31				⇑S	**S**	**05 09 01.1**	**-6.9**
	comp=E,407nm,0.5s,baz=145,slow=23,SNR=9.6						
KK31	**Karatay Array**	**6.06**	**325**	⇑P	**P**	**05 07 58.5**	**-0.8**
	comp=E,28nm,0.3s						
KK31				S	**S**	**05 09 01.1**	**-6.9**
KKAR	**Karatay Array**	**6.06**	**325**	PN	**P**	**05 07 58.2**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.2s						
THW	**Thamme Wali**	**6.09**	**209**	⇓P	**P**	**05 07 59.8**	**0.0**
SARP	**Sargodha**	**6.61**	**199**	⇓P	**P**	**05 08 06.1**	**-0.6**
SBDP	**Sheikh Budin**	**6.91**	**213**	⇑P	**P**	**05 08 11.2**	**+0.4**
KLP	**Kalpa**	**7.11**	**159**	*e*P	**P**	**05 08 15.5**	**+2.1**
DRP	**Derazinda**	**7.64**	**214**	⇑P	**P**	**05 08 21.1**	**+0.4**
KKR	**Kurukshetra**	**8.33**	**170**	*e*P	**P**	**05 08 31.2**	**+1.4**
KALG	**Kalgarh**	**9.16**	**160**	*e*P	**P**	**05 08 40.8**	**0.0**
KALG				*e*S	**S**	**05 10 18.6**	**-3.8**
BHGR	**Bahadurgarh**	**9.60**	**171**	AML	AML	05 10 40.4	
	comp=Z,347nm,0.3s						
NDI	**New Delhi**	**9.64**	**169**	*e*P	**P**	**05 08 45.0**	**-2.2**
NDI				*e*S	**S**	**05 10 26.0**	**-7.8**
AYAN	**Aya Nagar**	**9.83**	**170**	*e*P	**P**	**05 08 48.7**	**-0.9**
AYAN				AML	AML	05 10 41.0	
	comp=Z,556nm,0.5s						
MKAR	**Makanchi Array**	**10.04**	**29**	P	**P**	**05 08 52.7**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=185,slow=16,SNR=4.4						
SONA	**Sohna**	**10.05**	**171**	*e*P	**P**	**05 08 52.2**	**-0.3**
SONA				*e*S	**S**	**05 10 35.6**	**-7.9**
SONA				AML	AML	05 10 46.5	
	comp=Z,432nm,0.5s						
SONA				AML	AML	05 10 46.7	
	comp=N,363nm,0.4s						
KHET	**Khetri**	**10.11**	**177**	*e*P	**P**	**05 08 52.0**	**-1.4**
KHET				*e*S	**S**	**05 10 37.7**	**-7.3**
WMQ	**Urumqi**	**10.97**	**55**	*e*P	**P**	**05 09 04.5**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,33nm,1.4s						
KOLN	**Koldanda**	**12.55**	**144**	*e*P	**P**	**05 09 24.0**	**-1.4**
	comp=Z,147nm,0.5s						
GKN	**Gorkha**	**12.87**	**139**	*e*P	**P**	**05 09 28.1**	**-1.4**
	comp=Z,124nm,0.3s						
KKN	**Kakani**	**13.38**	**138**	*e*P	**P**	**05 09 34.1**	**-1.9**
	comp=Z,106nm,0.5s						
DMN	**Daman**	**13.43**	**139**	*e*P	**P**	**05 09 35.1**	**-1.6**
	comp=Z,75nm,0.5s						
PKI	**Pulchoki**	**13.62**	**138**	*e*P	**P**	**05 09 37.6**	**-1.5**
	comp=Z,67nm,0.4s						
BHPL	**Bhopal**	**15.03**	**172**	*i* x	x	05 12 30.6	
BVAR	**Borovoye Array**	**15.20**	**349**	P	**P**	**05 10 00.4**	**+1.5**
	comp=Z,9.7nm,0.3s,baz=150,slow=9.9,SNR=23						
BRVK	**Borovoye**	**15.24**	**349**	*e*Pn	**P**	**05 10 02.0**	**+2.5**
AB31	**Akbulak array**	**15.58**	**320**	⇑P	**P**	**05 10 01.2**	**-2.5**
	comp=Z,17nm,0.6s,baz=125,slow=13,SNR=70						
AB31				⇑S	**S**	**05 12 44.6**	**-7.5**
	comp=Z,12nm,0.5s,baz=128,slow=25,SNR=8.9						
AB31	**Akbulak array**	**15.58**	**320**	⇑P	**P**	**05 10 01.2**	**-2.6**
AB31				S	**S**	**05 12 44.6**	**-7.5**
AB31				pmax	pmax		
	comp=Z,17nm,0.6s						
LSA	**Lhasa**	**15.69**	**118**	*e*Pn	**P**	**05 10 10.0**	**+4.8**
	comp=Z,8.8nm,0.4s						
ZAL	**Zalesovo**	**17.06**	**20**	P	**P**	**05 10 20.7**	**-1.2**
	comp=Z,4.6nm,0.3s,baz=318,slow=14,SNR=6.4						
ZAL				LR	LR	05 17 30.4	
	comp=Z,125nm,19.4s,baz=140,slow=39						
BLSP	**Bilaspur**	**17.09**	**158**	*e*P	**P**	**05 10 23.7**	**+1.2**
BLSP				*ex*	x	05 13 23.0	
AKTO	**Aktyubinsk**	**17.30**	**321**	P	**P**	**05 10 23.8**	**-1.0**
AKTO				S	**S**	**05 13 25.7**	**-4.9**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKTO				smax			
	comp=Z,8.0nm,1.1s						
SHL	**Shillong**	**18.91**	**127**	*ex*	x	05 09 45.0	
SHL				*ex*	x	05 13 00.0	
HYB	**Hyderabad**	**20.91**	**171**	*i* P	**P**	**05 11 05.5**	**+2.1**
HYB				*e*		05 11 38.5	
HYB				*e*S	**S**	**05 14 52.0**	**+8.9**
HYB	**Hyderabad**	**20.91**	**171**	*e*P	**P**	**05 11 05.5**	**+2.1**
HYB				*e*S	**S**	**05 14 52.0**	**+8.9**
ARU	**Arti**	**21.34**	**334**	*e*P	**P**	**05 11 07.8**	**+0.4**
	comp=Z,166nm,1.0s,mb5.3						
ARU	**Arti**	**21.34**	**334**	⇑*i*P	**P**	**05 11 07.6**	**+0.2**
ARU				*e*S	PcP	05 15 10.5	+3.4
ARU				*e*SS	SS	05 15 40.5	+2.5
ARU				pmax	pmax		
	comp=Z,107nm,0.8s,mb5.2						
DGRG	**David-gareji**	**23.09**	**288**	P	**P**	**05 11 26.9**	**+2.4**
UMR	**Umm Al-Rimmam**	**24.34**	**257**	*e*P	**P**	**05 11 38.1**	**+1.5**
UMR				AMb	AMB	05 11 40.9	
	comp=Z,193nm,0.7s,mb5.7						
SOKR	**Solikamsk**	**24.41**	**337**	⇓*i*P	**P**	**05 11 38.4**	**+1.4**
SOKR				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
ONI	**Oni**	**24.50**	**290**	P	**P**	**05 11 40.9**	**+2.8**
MIB	**Mutribah**	**24.51**	**258**	*e*P	**P**	**05 11 39.8**	**+1.6**
MIB				AMb	AMB	05 11 43.3	
	comp=Z,129nm,0.7s,mb5.6						
SONM	**Songino Array**	**24.60**	**57**	P	**P**	**05 11 43.2**	**+4.3**
	comp=Z,18nm,0.9s,mb4.6,baz=251,slow=12,SNR=12						
RDF	**Al-Radifah**	**24.77**	**256**	*e*P	**P**	**05 11 41.8**	**+1.2**
NAY	**Al-Naaiem**	**24.85**	**257**	*e*P	**P**	**05 11 42.4**	**+1.0**
NAY				AMb	AMB	05 11 44.9	
	comp=Z,45nm,0.6s,mb5.2						
KIV	**Kislovodsk**	**25.08**	**294**	P	**P**	**05 11 45.0**	**+1.6**
KIV				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.7						
KIV				MLR	MLR		
	comp=Z,700nm,17.0s						
KMI	**Kunming**	**26.70**	**111**	P	**P**	**05 12 00.4**	**+1.8**
KMI				PP	PP	05 12 50.0	+1.4
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,278nm,4.5s						
KMI				LR	LR		
	comp=N,430nm,7.5s						
KMI				LR	LR		
	comp=E,282nm,10.3s						
KMI				LR	LR		
	comp=Z,429nm,9.4s						
GYA	**Guiyang**	**28.90**	**105**	P	**P**	**05 12 19.6**	**+1.2**
GYA				PP	PP	05 13 17.8	+0.3
GYA				PCP	PcP	05 15 26.4	+2.3
GYA				S	**S**	**05 16 58.8**	**+1.9**
GYA				SCP		05 18 54.9	
GYA				SCS	ScS	05 22 47.3	+4.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,3.4s						
GYA				LR	LR		
	comp=N,290nm,15.9s						
GYA				LR	LR		
	comp=E,310nm,16.0s						
GYA				LR	LR		
	comp=Z,340nm,15.7s						
OBN	**Obninsk**	**30.95**	**316**	*c i*P	**P**	**05 12 35.7**	**-0.6**
OBN				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.3						
OBN				MLR	MLR		
	comp=Z,200nm,14.0s						
SIM	**Simferopol'**	**31.21**	**296**	*ce*P	**P**	**05 12 39.0**	**+0.3**
SIM				pmax	pmax		
	comp=Z,96nm,0.7s,mb5.6						
SIM				MLR	MLR		
	comp=Z,450nm,15.8s						
BR131	**Keskin Array S**	**32.16**	**286**	*e*P	**P**	**05 12 47.1**	**+0.2**
	comp=Z,18nm,0.8s,mb4.8						
BRTR	**Keskin Array B**	**32.16**	**286**	P	**P**	**05 12 47.5**	**+0.5**
	comp=Z,18nm,0.8s,mb4.9,baz=92,slow=7.9,SNR=35						
AKASG	**Malin Array Be**	**34.57**	**306**	P	**P**	**05 13 07.0**	**-0.5**
	comp=Z,23nm,0.5s,mb5.1,baz=76,slow=8.7,SNR=35						
KIS	**Kishinev**	**34.83**	**300**	*e*P	**P**	**05 13 09.0**	**-0.7**
CFR	**Carcaliu**	**35.43**	**297**	⇓P	**P**	**05 13 14.6**	**-0.2**
HARR	**Harsova**	**35.62**	**296**	⇓P	**P**	**05 13 16.5**	**+0.1**
NJ2	**Nanjing**	**35.96**	**86**	*e*P	**P**	**05 13 21.5**	**+2.1**
NJ2				AP	pP	05 13 49.5	-1.4
NJ2				PP	PP	05 14 47.5	+2.0
NJ2				S	**S**	**05 18 48.0**	**+1.5**
NJ2				XS		05 19 41.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,480nm,10.3s						
NJ2				LR	LR		
	comp=N,1μm,10.4s						
NJ2				LR	LR		
	comp=E,2μm,21.3s						
NJ2				LR	LR		
	comp=Z,910nm,13.2s						
JOF	**Joensuu**	**36.16**	**327**	*e*p	**P**	**05 13 19.9**	**-0.8**
PRD	**Provadia**	**36.20**	**293**	*e*P	**P**	**05 13 21.5**	**+0.2**
VRI	**Vrincioaia**	**36.35**	**298**	⇓P	**P**	**05 13 24.4**	**+1.9**
MLR	**Muntele Rosu**	**36.93**	**297**	⇑P	**P**	**05 13 30.2**	**+2.8**
VSU	**Vasula**	**37.02**	**319**	*d i*P	**P**	**05 13 27.4**	**-0.6**
BURAR	**Bucovina Array**	**37.23**	**301**	⇓P	**P**	**05 13 30.6**	**+0.7**
VOIR		**37.56**	**298**	⇓P	**P**	**05 13 34.1**	**+1.4**
CN2	**Changchun**	**37.84**	**65**	*e*P	**P**	**05 13 36.0**	**+0.9**
FINES	**FINESS Array B**	**38.02**	**324**	P	**P**	**05 13 36.5**	**+0.1**
	comp=Z,16nm,0.5s,mb4.9,baz=112,slow=10.0,SNR=77						
KAF	**Kangasniemi**	**38.09**	**325**	*e*p	**P**	**05 13 35.8**	**-1.1**
	comp=Z,6.3nm,0.6s,mb4.4,baz=105,slow=8.4						
KAF	**Kangasniemi**	**38.09**	**325**	*e*P	**P**	**05 13 35.8**	**-1.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
SSE	**Sheshan**	**38.17**	**87**	P	**P**	**05 13 38.3**	**+0.4**
SSE				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.8						
SSE				AMB	AMB		
	comp=Z,154nm,4.1s						
SUW	**Suwalki**	**38.44**	**312**	*e*P	**P**	**05 13 39.7**	**-0.2**
PGB	**Panagyurishte**	**38.65**	**293**	*e*P	**P**	**05 13 42.5**	**+0.7**
KWP	**Kalwaria**	**38.77**	**305**	*e*P	**P**	**05 13 43.6**	**+1.0**
DRGR		**39.02**	**300**	⇑P	**P**	**05 13 45.1**	**+0.3**
KOLS	**Kolonicke sedl**	**39.10**	**303**	*e*P	**P**	**05 13 44.1**	**-1.3**
MMB	**Musomiste**	**39.17**	**292**	*e*P	**P**	**05 13 46.0**	**-0.1**
SANT	**Santorini**	**39.25**	**283**	*e*P	**P**	**05 13 46.3**	**-0.5**
	comp=Z,13nm,0.5s,mb4.8						
VTS	**Vitosha**	**39.34**	**293**	*e*P	**P**	**05 13 48.0**	**+0.5**
KKB	**Krupnik**	**39.58**	**292**	*e*P	**P**	**05 13 49.5**	**0.0**
STHS	**Stebnicka Huta**	**39.73**	**304**	*e*P	**P**	**05 13 50.9**	**+0.3**
IDI	**Anoyia**	**40.03**	**282**	P	**P**	**05 13 53.1**	**-0.2**
	comp=Z,6.6nm,0.3s,mb4.7,baz=126,slow=1.3,SNR=10						
KECS	**Kecovo**	**40.32**	**303**	*e*P	**P**	**05 13 55.1**	**-0.4**
NIE	**Niedzica**	**40.34**	**304**	⇑*e*P	**P**	**05 13 57.2**	**+1.6**
KEV	**Kevo**	**40.52**	**336**	*e*p	**P**	**05 13 55.9**	**-1.0**
	comp=Z,14nm,0.8s,mb4.7						
KEV	**Kevo**	**40.52**	**336**	*e*P	**P**	**05 13 55.9**	**-1.0**
KEV				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
OJC	**Ojcow**	**40.60**	**306**	*e*P	**P**	**05 13 58.2**	**+0.4**
MDJ	**Mudanjiang**	**40.64**	**63**	P	**P**	**05 13 57.0**	**-1.1**
MDJ				SCP		05 19 33.3	
MDJ				PCS		05 19 47.8	
MDJ				S	**S**	**05 19 56.9**	**+0.1**
MDJ				SCS	ScS	05 23 48.6	+2.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,65nm,5.1s						
MDJ				LR	LR		
	comp=N,244nm,14.1s						
MDJ				LR	LR		
	comp=E,552nm,14.1s						
MDJ				LR	LR		
	comp=Z,737nm,15.1s						
GVD	**Gavdhos**	**40.80**	**281**	*e*P	**P**	**05 13 59.4**	**-0.2**
	comp=Z,26nm,0.5s,mb5.1						
ARCES	**ARCESS Array B**	**40.91**	**336**	P	**P**	**05 14 00.6**	**+0.5**
	comp=Z,23nm,0.6s,mb5.0,baz=112,slow=9.2,SNR=68						
VYHS	**Vyhne**	**41.41**	**303**	*e*P	**P**	**05 14 05.1**	**+0.7**
MORC	**Moravsky Berou**	**42.09**	**305**	*e*P	**P**	**05 14 10.3**	**+0.4**
	comp=Z,3.1nm,0.5s,mb4.2						
MORC	**Moravsky Berou**	**42.09**	**305**	*e*P	**P**	**05 14 10.3**	**+0.4**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
VRAC	**Vranov**	**42.77**	**305**	*e*P	**P**	**05 14 16.6**	**+1.2**
KSP	**Ksiaz**	**42.77**	**307**	*e*P	**P**	**05 14 16.1**	**+0.8**
DPC	**Dobruska-Polom**	**42.81**	**306**	*e*P	**P**	**05 14 16.5**	**+0.8**
UPC	**Upice**	**42.98**	**306**	*e*P	**P**	**05 14 18.0**	**+0.8**
PVCC	**Panska Ves**	**43.90**	**307**	*e*P	**P**	**05 14 25.0**	**+0.5**
GOLS	**Golise**	**43.98**	**300**	*i* P	**P**	**05 14 25.9**	**+0.7**
PRU	**Pruhonice**	**43.99**	**306**	*e*P	**P**	**05 14 24.8**	**-0.4**
PERS	**Pernice**	**44.20**	**301**	*i* P	**P**	**05 14 27.7**	**+0.7**
BRG	**Berggiesshubel**	**44.24**	**307**	⇑*i*P	**P**	**05 14 28.0**	**+0.8**
	comp=Z,20nm,0.6s,mb4.9						
BRG	**Berggiesshubel**	**44.24**	**307**	⇑*i*P	**P**	**05 14 28.0**	**+0.8**
BRG				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.9						
MOA	**Molln**	**44.53**	**303**	⇑*i*P	**P**	**05 14 29.7**	**+0.1**
	comp=Z,12nm,1.1s,mb4.4						
OBKA	**Obir**	**44.61**	**301**	⇑*i*P	**P**	**05 14 31.0**	**+0.8**
	comp=Z,34nm,1.4s,mb4.8						
GEC2	**GERESS Array S**	**44.72**	**304**	*e*P	**P**	**05 14 32.1**	**+1.0**
	comp=Z,24nm,1.3s,mb4.7						
GEC2	**GERESS Array S**	**44.72**	**304**	*e*P	**P**	**05 14 32.1**	**+1.0**
GEC2				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.7						
GERES	**GERESS Array B**	**44.72**	**304**	P	**P**	**05 14 31.6**	**+0.5**
	comp=Z,4.9nm,0.7s,mb4.3,baz=79,slow=6.8,SNR=21						
GERES				sP	sP	05 15 23.7	+3.7
	comp=Z,1.9nm,0.8s,baz=76,slow=5.5,SNR=2.5						
KHC	**Kasperske Hory**	**44.75**	**305**	*e*P	**P**	**05 14 31.9**	**+0.6**
CLL	**Collm**	**44.77**	**308**	⇑P	**P**	**05 14 31.5**	**+0.1**
	comp=Z,logA/T=1.4,mb4.8						
CLL				*e*PPP	PPP	05 17 01.0	-1.4
CLL	**Collm**	**44.77**	**308**	⇑*i*P	**P**	**05 14 31.5**	**+0.1**
	comp=Z,19nm,0.8s,mb4.8						
CLL	**Collm**	**44.77**	**308**	⇑*i*P	**P**	**05 14 31.5**	**+0.1**
CLL				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
TIP	**Timpagrande**	**44.94**	**290**	*e*P	**P**	**05 14 32.8**	**-0.2**
NB2	**NORSAR Subarra**	**45.08**	**322**	P	**P**	**05 14 33.2**	**-0.6**
	comp=Z,25nm,0.7s,mb5.0,baz=91,slow=7.9						
NB2	**NORSAR Subarra** baz=91,slow=7.9	**45.08**	**322**	P	**P**	**05 14 33.2**	**-0.6**
NB2	**NORSAR Subarra**	**45.08**	**322**	P	**P**	**05 14 33.2**	**-0.6**
NB2				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.0						
NOA	**NORSAR Array B**	**45.08**	**322**	P	**P**	**05 14 33.5**	**-0.3**
	comp=Z,18nm,0.6s,mb4.9,baz=92,slow=7.6,SNR=60						
NOA				pP	pP	05 15 07.4	+1.2
	comp=Z,3.5nm,0.7s,baz=91,slow=7.9,SNR=3.6

comp=Z,5.3nm,0.6s,mb4.0
CDF Champ du Feu 48.97 305⇑*iP* P 05 15 04.3 -0.1
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
WLF Walferdange 49.38 307 *eP* P 05 15 07.8 +0.3
comp=Z,7.4nm,0.8s,mb4.4
WLF Walferdange 49.38 307 *eP* P 05 15 07.8 +0.4
WLF pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
HINF Hinteralfeld 49.40 304⇑*iP* P 05 15 07.5 -0.1
comp=Z,9.2nm,0.5s,mb4.4
HINF Hinteralfeld 49.40 304⇑*iP* P 05 15 07.5 -0.1
HINF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
PGF Pioggiola 49.48 297⇑*iP* P 05 15 08.1 -0.2
comp=Z,13nm,0.7s,mb4.3
PGF Pioggiola 49.48 297⇑*iP* P 05 15 08.1 -0.2
PGF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
HAU Haudompre 49.68 305⇑*iP* P 05 15 09.6 -0.1
comp=Z,18nm,0.5s,mb4.6
HAU Haudompre 49.68 305⇑*iP* P 05 15 09.6 -0.1
HAU pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
GIVF Givet 50.10 308⇑*iP* P 05 15 13.3 +0.4
comp=Z,32nm,0.8s,mb4.7
GIVF Givet 50.10 308⇑*iP* P 05 15 13.3 +0.4
GIVF pmax pmax
comp=Z,16nm,0.8s,mb4.7
LPG La Plagne 50.12 302⇑*iP* P 05 15 13.8 +0.7
comp=Z,21nm,0.6s,mb4.7
LPG La Plagne 50.12 302⇑*iP* P 05 15 13.8 +0.7
LPG pmax pmax
comp=Z,11nm,0.6s,mb4.7
LPL La Plagne 50.12 302⇑*iP* P 05 15 13.5 +0.3
comp=Z,19nm,0.4s,mb4.8
LPL La Plagne 50.12 302⇑*iP* P 05 15 13.5 +0.3
LPL pmax pmax
comp=Z,10.0nm,0.4s,mb4.8
SBF Sospel 50.15 299⇑*iP* P 05 15 13.6 +0.2
comp=Z,38nm,0.6s,mb4.9
SBF Sospel 50.15 299⇑*iP* P 05 15 13.6 +0.2
SBF pmax pmax
comp=Z,19nm,0.6s,mb4.9
CABF La Chapelle 50.23 303⇑*iP* P 05 15 13.9 -0.1
comp=Z,18nm,0.7s,mb4.5
CABF La Chapelle 50.23 303⇑*iP* P 05 15 13.9 -0.1
CABF pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
BNI Bardonecchia 50.30 301 *eP* P 05 15 13.8 -0.8
MBDF Montbardon 50.34 301⇑*iP* P 05 15 14.4 -0.4
comp=Z,11nm,0.5s,mb4.4
MBDF Montbardon 50.34 301⇑*iP* P 05 15 14.4 -0.4
MBDF pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
MEZF Maizieres J'vi 50.38 306⇑*iP* P 05 15 15.3 +0.2
comp=Z,30nm,0.7s,mb4.8
BAIF Baives 50.49 308⇑*iP* P 05 15 16.3 +0.4
comp=Z,18nm,0.5s,mb4.7
BAIF Baives 50.49 308⇑*iP* P 05 15 16.3 +0.4
BAIF pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
FRF La Foret Royal 50.79 299⇑*iP* P 05 15 17.9 -0.4
comp=Z,15nm,0.7s,mb4.4
FRF La Foret Royal 50.79 299⇑*iP* P 05 15 17.9 -0.4
FRF pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
ORIF Oris-en-Rattie 50.88 301 *eP* P 05 15 18.6 -0.3
comp=Z,8.9nm,0.6s,mb4.3
ORIF Oris-en-Rattie 50.88 301 *eP* P 05 15 18.6 -0.3
ORIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
SMRF Simiane la Rot 51.39 300 *eP* P 05 15 22.9 +0.1
comp=Z,11nm,0.8s,mb4.2
LOR Lormes 51.50 304⇑*iP* P 05 15 22.7 -0.9
comp=Z,16nm,0.7s,mb4.5
LOR Lormes 51.50 304⇑*iP* P 05 15 22.7 -0.9
LOR pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
SMF Signal de Mont 51.70 304⇑*iP* P 05 15 24.5 -0.6
comp=Z,27nm,0.6s,mb4.7
SMF Signal de Mont 51.70 304⇑*iP* P 05 15 24.5 -0.6
SMF pmax pmax
comp=Z,13nm,0.6s,mb4.7
VIVF Saint-Julien-l 51.71 301⇑*iP* P 05 15 24.9 -0.3
comp=Z,9.1nm,0.5s,mb4.3
VIVF Saint-Julien-l 51.71 301⇑*iP* P 05 15 24.9 -0.3
VIVF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
SSF Saint Saulge 51.79 304⇑*iP* P 05 15 25.1 -0.7
comp=Z,12nm,0.5s,mb4.5
SSF Saint Saulge 51.79 304⇑*iP* P 05 15 25.1 -0.7
SSF pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
AVF Avril sur Loir 51.98 304⇑*iP* P 05 15 26.6 -0.6
comp=Z,41nm,0.5s,mb5.0
AVF Avril sur Loir 51.98 304⇑*iP* P 05 15 26.6 -0.6
AVF pmax pmax
comp=Z,21nm,0.5s,mb5.0
BGF Bois d'Agland 52.38 304⇑*iP* P 05 15 29.4 -0.8
comp=Z,19nm,0.8s,mb4.5
BGF Bois d'Agland 52.38 304⇑*iP* P 05 15 29.4 -0.8
BGF pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
KMBO Kilima Mbogo 52.48 231 P P 05 15 31.7 +0.3
comp=Z,5.0nm,0.7s,mb4.3,baz=33,slow=13,SNR=16
LASF Ste Croix 52.52 301⇑*iP* P 05 15 31.1 -0.2
comp=Z,23nm,0.8s,mb4.7
TCF Toulx Ste Croi 52.88 304⇑*iP* P 05 15 33.6 -0.3
comp=Z,19nm,0.7s,mb4.7
TCF Toulx Ste Croi 52.88 304⇑*iP* P 05 15 33.6 -0.3
TCF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
CAF Calviac 53.44 302⇑*iP* P 05 15 38.0 0.0
comp=Z,22nm,0.8s,mb4.6
CAF Calviac 53.44 302⇑*iP* P 05 15 38.0 0.0
CAF pmax pmax
comp=Z,11nm,0.8s,mb4.6
LDF La Druitiere 53.63 307⇑*iP* P 05 15 38.6 -0.8
comp=Z,45nm,0.5s,mb5.1
LDF La Druitiere 53.63 307⇑*iP* P 05 15 38.6 -0.8
LDF pmax pmax
comp=Z,23nm,0.5s,mb5.2
RJF Les Rejaudoux 53.67 303⇑*iP* P 05 15 39.7 0.0
comp=Z,20nm,0.8s,mb4.6
RJF Les Rejaudoux 53.67 303⇑*iP* P 05 15 39.7 0.0
RJF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
FLN La Foliniere 53.80 307⇑*iP* P 05 15 39.7 -0.9
MTLF Montolieu 53.90 300⇑*iP* P 05 15 41.0 -0.3
comp=Z,12nm,0.6s,mb4.5
MTLF Montolieu 53.90 300⇑*iP* P 05 15 41.0 -0.3
MTLF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
GRR Gorron 54.16 307⇑*iP* P 05 15 42.3 -0.9
comp=Z,63nm,0.6s,mb5.2
GRR Gorron 54.16 307⇑*iP* P 05 15 42.3 -0.9
GRR pmax pmax
comp=Z,32nm,0.6s,mb5.2
MFF Saint Martin d 54.31 305⇑*iP* P 05 15 43.3 -1.0
comp=Z,6.1nm,0.4s,mb4.3
MFF Saint Martin d 54.31 305⇑*iP* P 05 15 43.3 -1.0
MFF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
LFF La Frestale 54.31 303⇑*iP* P 05 15 44.2 -0.2
comp=Z,25nm,0.6s,mb4.8
LFF La Frestale 54.31 303⇑*iP* P 05 15 44.2 -0.2
LFF pmax pmax
comp=Z,13nm,0.6s,mb4.8
ETOS Mallorca 54.83 296 P P 05 15 47.4 -0.9
comp=Z,8.9nm,0.6s,mb4.7
EMIR Miracle 54.90 299 P P 05 15 48.0 -0.7
comp=Z,8.6nm,0.7s,mb4.6
SGMF Saint Gilles 55.27 307⇑*iP* P 05 15 50.6 -0.7
comp=Z,36nm,0.7s,mb4.9
SGMF Saint Gilles 55.27 307⇑*iP* P 05 15 50.6 -0.7
SGMF pmax pmax
comp=Z,18nm,0.6s,mb5.0
EPF Esparros 55.28 301⇑*iP* P 05 15 50.0 -1.5
comp=Z,4.7nm,0.4s,mb4.2
EPF Esparros 55.28 301⇑*iP* P 05 15 50.0 -1.5
EPF pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
EPOB Poblet 55.42 298 P P 05 15 51.0 -1.5
comp=Z,4.3nm,0.6s,mb4.4
EBIE Bielsa 55.55 300 P P 05 15 52.9 -0.5
comp=Z,5.4nm,0.8s,mb4.4
EGRA Graus 55.62 300 P P 05 15 53.5 -0.4
comp=Z,3.2nm,0.4s,mb4.5
ROSF Rostrenen 55.69 308⇑*iP* P 05 15 53.5 -0.8
comp=Z,32nm,0.6s,mb5.0
ROSF Rostrenen 55.69 308⇑*iP* P 05 15 53.5 -0.8
ROSF pmax pmax
comp=Z,16nm,0.6s,mb5.0
QUIF Quistinic 55.77 307⇑*iP* P 05 15 53.9 -1.0
comp=Z,42nm,0.7s,mb5.1
QUIF Quistinic 55.77 307⇑*iP* P 05 15 53.9 -1.0
QUIF pmax pmax
comp=Z,21nm,0.7s,mb5.1
ETSF Etsaut 55.95 301⇑*iP* P 05 15 55.9 -0.3
comp=Z,16nm,0.6s,mb4.7
ETSF Etsaut 55.95 301⇑*iP* P 05 15 55.9 -0.3
ETSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
ERTA Horta de San J 56.10 298 P P 05 15 56.9 -0.5
comp=Z,5.0nm,0.7s,mb4.5
SJPF Ste Jean 56.31 301⇑*iP* P 05 15 58.5 -0.3
comp=Z,9.4nm,0.8s,mb4.4
SJPF Ste Jean 56.31 301⇑*iP* P 05 15 58.5 -0.3
SJPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
EMOS Mosqueruela 56.90 298 P P 05 16 02.9 -0.1
comp=Z,5.4nm,0.8s,mb4.4
ELAN Lanestosa 57.75 302 P P 05 16 08.8 0.0
comp=Z,19nm,0.8s,mb5.0
ETOB Tobarra 58.38 296 P P 05 16 14.2 +0.9
comp=Z,8.7nm,0.7s,mb4.7
EARI Arriondas 58.90 303 P P 05 16 16.5 -0.4
comp=Z,4.0nm,0.6s,mb4.4
EHUE Huescar 59.48 296 P P 05 16 20.9 -0.1
comp=Z,2.4nm,0.6s,mb4.2
EHUE Huescar 59.48 296 P P 05 16 20.9 -0.1
EHUE pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ESDC Sonseca Array 59.62 299 P P 05 16 21.1 -0.8
comp=Z,3.9nm,0.5s,mb4.5,baz=55,slow=7.2,SNR=22
EQES Quesada 59.83 296 P P 05 16 22.9 -0.5
comp=Z,6.0nm,0.4s,mb4.8
EBER Berja 60.11 295 P P 05 16 26.1 +0.9
comp=Z,12nm,0.7s,mb4.8
EBAN Banos Encina 60.17 297 P P 05 16 25.4 -0.3
comp=Z,7.5nm,0.6s,mb4.7
EBAN Banos Encina 60.17 297 P P 05 16 25.4 -0.3
EBAN pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
EPON Pontenova 60.17 304 P P 05 16 25.2 -0.3
comp=Z,13nm,0.5s,mb5.0
ECAL Calabor 60.50 302 P P 05 16 27.0 -0.8
comp=Z,8.2nm,0.7s,mb4.7
SUMG Summit 60.53 342 *eP* P 05 16 27.5 -0.2
comp=Z,33nm,0.9s,mb5.2
PBRG Braganca 60.57 302 *eP* P 05 16 27.6 -0.7
ERON Agron 60.70 296 P P 05 16 27.7 -1.6
comp=Z,3.5nm,0.4s,mb4.5
EADA Adamuz 60.72 297 P P 05 16 28.4 -1.0
comp=Z,3.0nm,0.7s,mb4.2
ELUQ Luque 60.78 296 P P 05 16 29.0 -0.8
comp=Z,7.3nm,0.3s,mb5.0
ELUQ Luque 60.78 296 P P 05 16 29.0 -0.8
ELUQ pmax pmax
comp=Z,7.0nm,0.3s,mb5.0
ELOB Lobios 61.42 302 P P 05 16 34.0 -0.1
comp=Z,10nm,0.6s,mb4.8
PVRL Vila Real 61.46 302 *eP* P 05 16 33.9 -0.5
PCAB Cabril 61.47 302 *eP* P 05 16 33.4 -1.0
comp=Z,29nm,1.7s,mb4.8
EMIJ Mijas 61.60 296 P P 05 16 33.9 -1.5
comp=Z,7.0nm,0.8s,mb4.5
PCBR Castelo Branco 61.96 300 *eP* P 05 16 36.5 -1.2
EBAD Badajoz 62.14 299 P P 05 16 38.1 -0.9
comp=Z,11nm,0.8s,mb4.8
ESPR Espera 62.23 296 P P 05 16 38.4 -1.1
comp=Z,3.2nm,0.5s,mb4.4
EMIN Mina Concepcio 62.37 298 P P 05 16 39.7 -0.8
comp=Z,5.6nm,0.5s,mb4.7
EVO Evora 62.94 299 *eP* P 05 16 46.2 +2.0
comp=Z,7.0nm,0.7s,mb4.3
EGRO El Granado 63.05 298 P P 05 16 44.5 -0.5
comp=Z,9.3nm,0.9s,mb4.6
PBEJ Beja 63.08 298 *eP* P 05 16 45.1 -0.1
LSZ Lusaka 69.08 229 *eP* P 05 17 22.9 -0.5
comp=Z,3.4nm,0.7s,mb4.2
LSZ Lusaka 69.08 229 *eP* P 05 17 22.9 -0.6
LSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
INK Inuvik 71.65 11 P P 05 17 38.4 +0.3
comp=Z,8.2nm,0.8s,mb4.5,baz=11,slow=6.8,SNR=18
ILAR Eielson Array 72.19 18 P P 05 17 40.4 -0.9
comp=Z,2.4nm,0.9s,mb3.9,baz=342,slow=4.6,SNR=14
THY Trims Highway 73.60 18 *eP* P 05 17 49.3 -0.2
SML Sawmill 74.29 20 *eP* P 05 17 53.5 0.0
DBIC Dimbokro 78.11 269 P P 05 18 15.8 -0.1
comp=Z,9.7nm,0.5s,mb4.7,baz=28,slow=6.6,SNR=35
DBIC Dimbokro 78.11 269 *eP* P 05 18 15.6 -0.3
comp=Z,14nm,0.9s,mb4.6
DBIC Dimbokro 78.11 269 P P 05 18 15.8 0.0
DBIC pmax pmax
comp=Z,10.0nm,0.5s
KIC Kosan Boka 78.21 269⇑*iP* P 05 18 16.4 0.0
comp=Z,68nm,0.5s,mb5.5
TIC Toumodi 78.26 269⇑*iP* P 05 18 16.5 -0.1
comp=Z,5.1nm,0.3s,mb4.7
LIC Lamto 78.52 269⇑*iP* P 05 18 17.9 -0.1
comp=Z,20nm,0.4s,mb5.1
TSUM Tsumeb 78.62 235 *eP* P 05 18 18.7 +0.2
comp=Z,8.5nm,1.1s,mb4.3
YKA Yellowknife Ar 79.34 5 P P 05 18 21.7 +0.3
comp=Z,5.0nm,0.7s,mb4.3,baz=347,slow=5.4,SNR=12
YKA Yellowknife Ar 79.34 5 P P 05 18 21.7 +0.2
YKA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 80.12 125 P P 05 18 26.7 +0.1
comp=Z,0.3nm,0.4s,baz=228,slow=4.6,SNR=5.1
WRA pP pP 05 19 06.3 +3.7
comp=Z,1.0nm,0.7s,baz=328,slow=5.4,SNR=3.4
DLBC Dease Lake 81.43 13 *eP* P 05 18 33.6 +0.9
EDM Edmonton 88.64 5 *eP* P 05 19 09.1 +0.8
ULM Lac du Bonnet 91.58 354 P P 05 19 21.9 -0.2
comp=Z,1.6nm,0.7s,mb4.2,baz=11,slow=5.2,SNR=3.1
VNA3 Neumayer Olymp 124.06 203 P PKPdf 05 25 13.8 +2.4
VNA3 Neumayer Olymp 124.06 203 PKPdf 05 25 20.3 +8.9
CPUP Villa Florida 138.57 272 PKP PKPdf 05 25 41.1 +1.3
comp=Z,3.6nm,0.8s,baz=257,slow=0.9,SNR=7.9
LVC Limon Verde 145.62 286 *e*PKPbc PKPbc 05 25 55.2 +2.1
PLCA Paso Flores 153.55 254 PKPbc PKPdf 05 26 13.8 +10
comp=Z,1.6nm,0.7s,baz=103,slow=6.3,SNR=5.5

*IDC **23** 05:08:23.9±1.2,41.78N×82.66E,mb4.3/4,mb1 4.5/5, mb1mx4.1/19,mbtmp4.3/5,ML3.9/1,Error ellipse: s-maj=35.6km s-min=21.0km az=75.0*
*BJI **23** 05:08:26.5,41.86N×82.59E,h12km,ML4.7,Ms4.3, Msz4.4*
*NNC **23** 05:08:28.9±5.6,41.99N×81.31E,h23km±23km,mpv4.3, Error ellipse: s-maj=37.4km s-min=14.7km az=10.0*
ISC 23 05:08:24.3±1.1,41.8N±0.1×82.5E±0.1,h12km,n10,
σ0§82/9,mb4.3/4,5C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.34**	**60**	***e*P**	**Pn**	**05 09 32.4**	**+0.6**
WMQ				S	**Sn**	**05 10 23.0**	**+0.1**
WMQ				Smax			
	comp=N,524nm,1.2s						
WMQ				Smax			
	comp=E,731nm,0.8s						
WMQ				LR	LR		
	comp=N,2μm,3.5s						
WMQ				LR	LR		
	comp=E,2μm,3.1s						
MK31	**Makanchi Array**	**5.04**	**358**	⇑Pn	**Pn**	**05 09 40.5**	**-1.1**
	comp=E,3.3nm,0.2s,baz=189,slow=13						
MK31				⇑Pg	**Pg**	**05 09 57.5**	**-7.3**
	comp=E,152nm,0.8s,baz=186,slow=13						
MK31				⇑Lg		05 11 03.3	
	comp=E,187nm,0.8s,baz=189,slow=28						
MKAR	**Makanchi Array**	**5.04**	**358**	Pn	**Pn**	**05 09 42.6**	**+1.1**
	comp=E,4.4nm,0.3s,baz=186,slow=14,SNR=13						
MKAR				Lg		05 11 05.4	
	comp=E,17nm,0.3s,baz=165,slow=29,SNR=5.8						
KURK	**Kurchatov**	**9.35**	**345**	⇓Lg		05 13 12.4	
	comp=E,86nm,1.0s						
VOSK	**Vostochnaya**	**13.45**	**329**	⇑Lg		05 15 16.9	
	comp=E,46nm,1.2s						
BVA0	**Borovoye Array**	**13.91**	**328**	⇑Lg		05 15 29.7	
	comp=E,8.3nm,1.1s,baz=133,slow=30,SNR=4.4						
BRTR	**Keskin Array B**	**36.68**	**284**	P	**P**	**05 15 33.2**	**+0.6**
	comp=E,3.7nm,0.8s,mb4.2,baz=90,slow=9.4,SNR=4.9						
ARCES	**ARCESS Array B**	**40.14**	**333**	P	**P**	**05 16 01.6**	**+0.3**
	comp=E,3.7nm,0.6s,mb4.3,baz=96,slow=9.1,SNR=3.2						
ILAR	**Eielson Array**	**67.00**	**21**	P	**P**	**05 19 17.0**	**-1.6**
	comp=E,2.6nm,0.8s,mb4.3,baz=322,slow=5.2,SNR=7.8						
WRA	**Warramunga Arr**	**77.88**	**131**	P	**P**	**05 20 23.6**	**-0.1**
	comp=E,2.7nm,0.7s,mb4.3,baz=331,slow=5.6,SNR=7.8						

*IDC **23** 05:18:47.3±5.7,2.10N×97.94E,mb4.2/3,mb1 4.4/3, mb1mx4.0/17,mbtmp4.2/3,Error ellipse: s-maj=235.1km s-min=97.0km az=48.0*
*BJI **23** 05:18:52.7,1.10N×97.40E,h30km,mB4.9,mb4.6,Ms4.8, Msz4.4*
*NEIC **23** 05:18:52.8±1.0,1.08N×97.36E,h30km,mb4.2/2,Error ellipse: s-maj=22.1km s-min=14.7km az=73.0*
ISC 23 05:18:50.6±1.7,1.04N±0.1×97.3E±0.2,h30km,n12,
σ0§72/11,mb4.4/6,MS4.2/1,1C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.14**	**47**	P	**Pn**	**05 20 07.4**	**-0.2**
KULM	**Kulim**	**5.40**	**39**	*e*Pn	**Pn**	**05 20 10.3**	**-1.1**
KGM	**Kluang**	**6.12**	**81**	P	**Pn**	**05 20 22.7**	**+1.2**
KMI	**Kunming**	**24.52**	**12**	P	**P**	**05 24 09.9**	**+0.9**
KMI				AP		05 24 15.4	
KMI				XP		05 24 18.5	
KMI				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,93nm,3.1s						
KMI				LR	LR		
	comp=N,670nm,14.8s,MS4.4						
KMI				LR	LR		
	comp=E,687nm,18.0s,MS4.4						
KMI				LR	LR		
	comp=Z,431nm,17.0s,MS4.0						
FITZ	**Fitzroy Crossi**	**33.77**	**126**	P	**P**	**05 25 31.6**	**-0.7**
	comp=Z,2.8nm,0.8s,mb4.3,baz=181,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**41.89**	**122**	P	**P**	**05 26 39.8**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=26						
WRAB	**Tennant Creek**	**41.89**	**122**	*e*P	**P**	**05 26 40.2**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**41.90**	**122**	⇑*i*P	**P**	**05 26 40.5**	**+0.1**
FORT	**Forrest**	**43.11**	**140**	⇓*i*P	**P**	**05 26 58.8**	**+8.6**
	comp=Z,16nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**53.19**	**132**	*e*P	**P**	**05 28 09.0**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.3						
STKA				*i*		05 28 15.7	
STKA	**Stephens Creek**	**53.19**	**132**	P	**P**	**05 28 09.3**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.4,baz=295,slow=6.3,SNR=5.8						
TXAR	**Lajitas Array**	**143.77**	**32**	PKP	PKPdf	05 38 22.5	-6.1
	comp=Z,0.4nm,0.7s,baz=257,slow=0.8,SNR=5.4						

*LDG **23** 05:22:46.7±0.5,41.80N×82.59E,h10km,Mb5.0/35, Ms3.6/1,Error ellipse: s-maj=32.0km s-min=4.5km az=65.0*
*NEIC **23** 05:22:50.0±0.2,41.80N×82.57E,mb4.9/55,Error ellipse: s-maj=4.9km s-min=3.5km az=50.0*
*BJI **23** 05:22:50.0,41.77N×82.67E,h13km,mB5.0,mb4.6,ML5.2, Ms4.7,Msz4.4*
*IDC **23** 05:22:50.3±0.5,41.91N×82.62E,h12km±2km,mb4.4/17, mb1 4.6/21,mb1mx4.6/23,mbtmp4.5/21,ML4.1/4,MS4.1/4, Ms1 4.2/4,ms1mx3.6/24,Error ellipse: s-maj=13.6km s-min=10.7km az=47.0*
*MOS **23** 05:22:51.9±0.9,41.95N×82.53E,h33km,mb5.1/51,Error ellipse: s-maj=8.7km s-min=4.3km az=125.9*
*NNC **23** 05:22:54.2±4.0,41.95N×82.49E,h28km±21km,mpv4.7, Error ellipse: s-maj=30.8km s-min=11.9km az=143.0*
ISC 23 05:22:48.4±0.2,41.74N±0.03×82.51E±0.03,h14km,
h14km±1.1km:pP-P,n260,σ1§07/259,mb4.8/85,MS4.1/17,
21C-19D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.35**	**60**	⇓*i*P	**Pn**	**05 23 58.3**	**+2.6**
WMQ				AP		05 24 01.6	
WMQ				XP		05 24 03.5	
WMQ				S	**Sn**	**05 24 49.8**	**+3.1**
WMQ				LG1		05 25 09.0	
WMQ				Smax			
	comp=N,2μm,0.6s						
WMQ				Smax			
	comp=E,1μm,0.7s						
WMQ				LR	LR		
	comp=N,3μm,3.5s						
WMQ				LR	LR		
	comp=E,1μm,3.2s						
ULHL	**Ulahol**	**4.70**	**278**	P	**Pn**	**05 24 02.3**	**+1.6**
	SNR=19						
MK02	**Makanchi Array**	**5.03**	**358**	⇓PN	**Pn**	**05 24 06.6**	**+1.2**
MK02						05 24 22.0	
MK31	**Makanchi Array**	**5.06**	**358**	⇓Pn	**Pn**	**05 24 06.6**	**+0.9**
	comp=E,13nm,0.3s,baz=184,slow=12						
MK31				⇑Pg	**Pg**	**05 24 21.9**	**-7.4**
	comp=E,479nm,0.8s,baz=173,slow=16						
MK31				⇑Lg		05 25 28.4	
	comp=E,298nm,0.6s,baz=178,slow=25						
MK31	**Makanchi Array**	**5.06**	**358**	⇓Pn	**Pn**	**05 24 06.6**	**+0.9**
MK31				⇑Pg	**Pg**	**05 24 21.9**	**-7.4**
MK31				Lg		05 25 28.4	
MKAR	**Makanchi Array**	**5.06**	**358**	Pn	**Pn**	**05 24 06.2**	**+0.5**
	comp=E,17nm,0.3s,baz=180,slow=12,SNR=57						
MKAR				Pg	**Pg**	**05 24 21.3**	**-8.1**
	comp=E,54nm,0.3s,baz=176,slow=14,SNR=26						
MKAR				Lg		05 25 24.5	
	comp=E,82nm,0.3s,baz=170,slow=33,SNR=6.1						
MKAR	**Makanchi Array**	**5.06**	**358**	PN	**Pn**	**05 24 06.2**	**+0.5**
MKAR						05 24 21.3	
MKAR				*i*		05 25 24.5	
TKM2	**Tokmak 2**	**5.26**	**285**	P	**Pn**	**05 24 10.5**	**+1.9**
	SNR=35						
KZA	**Kyzart**	**5.43**	**276**	P	**Pn**	**05 24 13.4**	**+2.5**
	SNR=17						
KSH	**Kashi**	**5.45**	**248**	*e*P	**Pn**	**05 24 15.1**	**+3.9**
KSH				S	**Sn**	**05 25 20.8**	**+6.4**
KSH				Smax			
	comp=N,3μm,0.9s						
KSH				Smax			
	comp=E,3μm,0.8s						
KBK	**Karagaybulak**	**5.69**	**282**	P	**Pn**	**05 24 16.4**	**+1.7**
	SNR=42						
FRU	**Bishkek**	**5.96**	**283**	*e*PN	**Pn**	**05 24 21.0**	**+2.6**
FRU				*i*		05 24 43.5	
FRU				*i* S	Sn	05 25 53.0	+26
FRU				pmax	pmax		
	comp=Z,570nm,1.4s						
FRU				pmax	pmax		
	comp=E,3μm,1.9s						
UCH	**Uchtor**	**5.98**	**277**	P	**Pn**	**05 24 20.8**	**+2.0**
	SNR=14						
AAK	**Ala-Archa**	**6.02**	**281**	P	**Pn**	**05 24 20.6**	**+1.2**
	SNR=16						
AAK	**Ala-Archa**	**6.02**	**281**	⇓Pn	**Pn**	**05 24 21.9**	**+2.5**
	comp=E,36nm,0.8s						
AAK				⇓Pg	**Pg**	**05 24 44.9**	**-3.8**
	comp=E,273nm,1.1s						
AAK				⇑Lg		05 26 02.1	
	comp=E,1μm,1.5s						
AAK	**Ala-Archa**	**6.02**	**281**	⇓Pn	**Pn**	**05 24 21.9**	**+2.5**
	comp=E,36nm,0.8s						
AAK				⇓Pg	**Pg**	**05 24 44.9**	**-3.8**
AAK				Lg		05 26 02.1	
USP	**Ospenovka**	**6.12**	**287**	P	**Pn**	**05 24 21.7**	**+1.0**
	SNR=14						
KK31	**Karatay Array**	**8.98**	**283**	Pn	**P**	**05 25 00.2**	**-0.5**
	comp=E,18nm,1.2s,baz=99,slow=15,SNR=17						
KK31				Pn	**P**	**05 25 00.2**	**-0.5**
	comp=E,18nm,0.5s,baz=99,slow=15,SNR=17						
KK31				⇓Pg	P	05 25 36.5	+36
	comp=E,21nm,0.6s,baz=92,slow=17,SNR=2.9						
KK31				⇑Lg		05 27 37.5	
	comp=E,168nm,0.9s,baz=100,slow=27,SNR=6.3						
KK31	**Karatay Array**	**8.98**	**283**	Pn	**P**	**05 25 00.2**	**-0.5**
	comp=E,18nm,1.2s						
KK31				⇓Pg	P	05 25 36.5	+36
KK31				Lg		05 27 37.5	
KKAR	**Karatay Array**	**8.98**	**283**	*i*P	**P**	**05 25 00.2**	**-0.5**
KKAR				pmax	pmax		

comp=Z,9.0nm,0.5s
KURK Kurchatov 9.37 345 ⇑Pn **P** **05 25 03.4 -2.8**
comp=Z,30nm,1.1s
KURK ⇑Lg 05 27 43.9
comp=Z,549nm,1.9s
KURK Kurchatov 9.37 345 ⇑Pn **P** **05 25 03.4 -2.8**
KURK Lg 05 27 43.9
KLP Kalpa 10.74 200 *eP* **P** **05 25 25.3 +0.3**
KLP AMb AMB 05 26 05.3
comp=Z,57nm,1.1s
CHCP Chirak Chowk 10.89 225 ⇓P **P** **05 25 28.2 +1.3**
CEP Cherat 11.52 230 ⇓P **P** **05 25 33.6 -1.9**
CEP S **S** **05 27 41.0 -3.9**
ZAL Zalesovo 12.30 6 Pn **P** **05 25 42.4 -3.6**
comp=Z,1.8nm,0.3s,baz=277,slow=12,SNR=21
ZAL Lg 05 29 19.8
comp=Z,1.3nm,0.3s,baz=32,slow=20,SNR=3.3
THW Thamme Wali 12.37 227 P **P** **05 25 45.0 -2.0**
KALG Kalgarh 12.58 195 *eP* **P** **05 25 49.8 0.0**
KALG AMb AMB 05 25 53.1
comp=Z,47nm,0.8s
KALG *ex* x 05 28 06.2
NVS Novosibirsk 13.12 2 *eP* **P** **05 25 55.2 -1.7**
NVS *e* 05 28 19.8
SBDP Sheikh Budin 13.26 228 ⇑P **P** **05 25 58.6 -0.3**
GTA Gaotai 13.36 94 *eP* **P** **05 25 58.3 -1.9**
GTA AP 05 26 02.3
GTA XP 05 26 05.4
GTA S **S** **05 28 25.8 -3.7**
GTA LG1 05 29 37.3
GTA LG2 05 29 58.8
GTA AMB AMB
comp=Z,4.0nm,0.7s
GTA AMB AMB
comp=Z,250nm,4.2s
GTA LR LR
comp=N,1μm,11.4s
GTA LR LR
comp=E,1μm,9.9s
GTA LR LR
comp=Z,1μm,9.9s
VOSK Vostochnaya 13.47 329 ⇓Pn **P** **05 26 00.7 -0.9**
comp=Z,21nm,0.9s
VOSK ⇑Lg 05 29 58.4
comp=Z,268nm,1.5s
NDI New Delhi 13.72 200 *eP* **P** **05 26 05.0 +0.1**
NDI *ex* x 05 28 32.0
GKN Gorkha 13.81 172 *eP* **P** **05 26 05.9 -0.3**
comp=Z,50nm,0.8s
LSA Lhasa 13.90 147 *ePn* **P** **05 26 11.5 +4.2**
comp=Z,24nm,0.8s
LSA Lhasa 13.90 147 *eP* **P** **05 26 11.5 +4.2**
LSA pmax pmax
comp=Z,24nm,0.8s
AYAN Aya Nagar 13.94 200 *eP* **P** **05 26 07.0 -0.7**
AYAN AMb AMB 05 26 18.8
comp=Z,24nm,0.4s
AYAN *ex* x 05 28 35.5
BVA0 Borovoye Array 13.94 328 ⇑Pn **P** **05 26 06.7 -0.9**
comp=Z,2.8nm,0.8s,baz=134,slow=14,SNR=6.7
BVA0 ⇓Lg 05 30 09.0
comp=Z,44nm,1.4s,baz=128,slow=26,SNR=6.6
BVA0 Borovoye Array 13.94 328 ⇑Pn **P** **05 26 06.7 -0.9**
comp=Z,2.8nm,0.8s
BVA0 Lg 05 30 08.9
BVAR Borovoye Array 13.94 328 Pn **P** **05 26 05.7 -1.9**
comp=Z,0.6nm,0.3s,baz=126,slow=13,SNR=7.9
BVAR Lg 05 30 09.5
comp=Z,1.1nm,0.3s,baz=123,slow=25,SNR=4.2
KOLN Koldanda 13.96 176 *eP* **P** **05 26 06.5 -1.6**
comp=Z,81nm,1.0s
BRVK Borovoye 14.00 328 *ePn* **P** **05 26 07.2 -1.3**
comp=Z,13nm,0.8s
BRVK Borovoye 14.00 328 *eP* **P** **05 26 07.2 -1.3**
BRVK pmax pmax
comp=Z,13nm,0.8s
KKN Kakani 14.10 170 *eP* **P** **05 26 09.5 -0.4**
SONA Sohna 14.17 200 *eP* **P** **05 26 09.0 -1.8**
SONA AMb AMB 05 26 38.5
comp=Z,24nm,0.6s
DMN Daman 14.26 171 *eP* **P** **05 26 08.4 -3.6**
PKI Pulchoki 14.33 170 *eP* **P** **05 26 09.8 -3.2**
KHET Khetri 14.69 204 *eP* **P** **05 26 16.0 -1.7**
KHET AMb AMB 05 26 28.1
comp=Z,48nm,1.0s
KHET *ex* x 05 28 42.5
ZAK Zakamensk 16.77 52 *eP* **P** **05 26 42.9 -1.3**
ZAK pmax pmax
comp=Z,15nm,1.0s
AB31 Akbulak array 17.47 303 ⇑P **P** **05 26 51.4 -1.7**
comp=Z,47nm,1.4s
AB31 Akbulak array 17.47 303 ⇑P **P** **05 26 51.4 -1.7**
comp=Z,47nm,1.4s
AB31 Akbulak array 17.47 303 P **P** **05 26 53.8 +0.7**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
LZH Lanzhou 17.52 102 *eP* **P** **05 26 55.0 +1.2**
LZH AP 05 27 03.8
LZH XP 05 27 08.9
LZH PP PP 05 27 12.0 +3.5
LZH AMB AMB
comp=Z,60nm,1.0s
LZH AMB AMB
comp=Z,390nm,4.0s
LZH LR LR
comp=N,1μm,10.2s
LZH LR LR
comp=Z,2μm,10.9s
JASL Jaisalmer 17.59 216 *ex* x 05 26 50.4
SHL Shillong 17.90 151 *eP* **P** **05 26 57.0 -1.6**
SHL *ex* x 05 30 25.0
SONM Songino Array 17.98 62 P **P** **05 26 59.8 +0.3**
comp=Z,0.9nm,0.3s,baz=254,slow=10,SNR=25
SONM Lg 05 32 16.8
comp=Z,0.1nm,0.3s,baz=260,slow=32,SNR=4.8
AKTK Aktyubinsk 19.02 306 ⇑P **P** **05 27 11.8 -0.3**
AKTO Aktyubinsk 19.02 306 ⇑P **P** **05 27 11.8 -0.3**
comp=Z,5.8nm,1.2s
AKTO Aktyubinsk 19.02 306 P **P** **05 27 11.1 -1.0**
AKTO pmax pmax
comp=Z,4.0nm,1.1s
CD2 Chengdu 20.19 116 P **P** **05 27 27.1 +1.6**
CD2 LR LR
comp=N,500nm,12.6s
CD2 LR LR
comp=Z,490nm,12.6s,MS4.1
ARU Arti 21.34 322 *eP* **P** **05 27 36.5 -0.6**
comp=Z,62nm,0.9s,mb4.9
ARU Arti 21.34 322 *eP* **P** **05 27 36.5 -0.6**
ARU pmax pmax
comp=Z,62nm,0.9s,mb4.9
HHC Hu-ho-hao-te 21.81 83 *eP* **P** **05 27 41.6 -0.3**
HHC AP 05 27 45.8
HHC XP 05 27 48.6
HHC PP PP 05 28 05.8 -1.4
HHC S **S** **05 31 29.8 -7.7**
HHC PCP PcP 05 31 44.9 +2.4
HHC SCP 05 35 19.5
HHC PCS 05 35 21.4
HHC AMB AMB
comp=Z,18nm,0.6s,mb4.7
HHC AMB AMB
comp=Z,162nm,3.2s
HHC LR LR
comp=N,486nm,13.2s,MS4.3
HHC LR LR
comp=E,531nm,10.4s,MS4.3
HHC LR LR
comp=Z,583nm,12.2s,MS4.2
XAN Xi'an 22.16 102 P **P** **05 27 45.3 -0.2**
XAN AMB AMB
comp=Z,11nm,1.0s,mb4.2
KMI Kunming 23.56 128 P **P** **05 28 02.9 +3.6**
KMI AP 05 28 11.6
KMI AMB AMB
comp=Z,9.0nm,0.7s,mb4.3
KMI LR LR
comp=Z,271nm,19.8s,MS3.7
HYB Hyderabad 24.48 189 *i* P **P** **05 28 09.0 +0.8**
ENH Enshi 24.54 109 *eP* **P** **05 28 10.0 +1.3**
comp=Z,37nm,0.9s,mb4.9
GYA Guiyang 25.03 120 ⇑*i*P **P** **05 28 16.4 +2.9**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
BOD Bodaibo 25.61 40 *eP* **P** **05 28 18.6 0.0**
BOD pmax pmax
comp=Z,16nm,1.0s,mb4.5
KIV Kislovodsk 29.09 288 P **P** **05 28 55.2 +4.7**
KIV 05 29 39.3
KIV pmax pmax
comp=Z,13nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,200nm,14.0s,MS3.9
NJ2 Nanjing 30.44 97 *eP* **P** **05 29 07.8 +5.1**
NJ2 S **S** **05 34 07.0 +5.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,400nm,6.2s
NJ2 LR LR
comp=N,960nm,13.7s
NJ2 LR LR
comp=E,2μm,20.6s
NJ2 LR LR
comp=Z,650nm,18.0s,MS4.3
CN2 Changchun 31.33 72 *eP* **P** **05 29 11.3 +0.9**
MOS Moscow 32.13 311 *eP* **P** **05 29 19.0 +1.8**
MOS *e* 05 39 43.8
MOS MLR MLR
comp=Z,400nm,13.5s,MS4.3
SSE Sheshan 32.64 96 P **P** **05 29 26.1 +4.1**
SSE AP pP 05 29 34.8 +8.7
SSE S **S** **05 34 40.0 +3.6**
SSE SCS ScS 05 39 53.3 +4.6
SSE AMB AMB
comp=Z,41nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,110nm,3.8s
SSE LR LR
comp=N,246nm,22.2s,MS3.9
SSE LR LR
comp=E,145nm,22.2s,MS3.9
SSE LR LR
comp=Z,126nm,18.2s,MS3.6
ANN Anapa 32.65 291 *eP* **P** **05 29 26.1 +4.2**
ANN *eS* **S** **05 34 44.0 +7.7**
ANN pmax pmax
comp=Z,101nm,1.8s,mb5.5
ANN MLR MLR
comp=N,421nm,21.0s,MS4.2
ANN MLR MLR
comp=E,380nm,21.0s,MS4.2
ANN MLR MLR
comp=Z,641nm,21.0s,MS4.3
OBN Obninsk 32.66 310 ⇓P **P** **05 29 21.6 -0.3**
OBN *e* 05 36 26.4
OBN pmax pmax
comp=Z,27nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.6
MALT Malatya 33.66 279 *eP* **P** **05 29 31.0 +0.3**
comp=Z,8.7nm,1.0s,mb4.6
MALT Malatya 33.66 279 *eP* **P** **05 29 31.0 +0.3**
MALT pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MDJ Mudanjiang 34.09 69 P **P** **05 29 32.9 -1.5**
MDJ AP pP 05 29 41.6 +3.1
MDJ XP sP 05 29 45.5 +5.3
MDJ PP PP 05 30 49.5 +0.8
MDJ PCP PcP 05 32 10.3 -1.7
MDJ S **S** **05 34 56.6 -2.0**
MDJ XS 05 35 11.8
MDJ SCP 05 35 53.0
MDJ PCS 05 35 56.3
MDJ AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
MDJ AMB AMB
comp=Z,128nm,5.9s
MDJ LR LR
comp=N,636nm,16.0s,MS4.6
MDJ LR LR
comp=E,375nm,11.6s,MS4.6
MDJ LR LR
comp=Z,703nm,12.1s,MS4.6
YAK Yakutsk 34.44 38 *eP* **P** **05 29 39.4 +2.2**
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.8
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK MLR MLR
comp=N,129nm,13.0s,MS4.2
YAK MLR MLR
comp=Z,370nm,13.0s,MS4.3
YAK MLR MLR
comp=E,248nm,12.0s,MS4.2
YAK MLR MLR
comp=Z,1μm,28.0s
YAK MLR MLR
comp=N,946nm,24.0s
YAK MLR MLR
comp=E,249nm,15.0s
SIM Simferopol' **34.93 292** *eP* **P** **05 29 42.0 +0.4**
SIM pmax pmax
comp=Z,13nm,1.1s,mb4.8
SIM MLR MLR
comp=Z,110nm,13.7s,MS3.8
JOF Joensuu 36.45 323 *ep* **P** **05 29 53.9 -0.5**
BR131 Keskin Array S 36.69 284 *eP* **P** **05 29 57.5 +0.9**
comp=Z,11nm,0.8s,mb4.7
BRTR Keskin Array B 36.69 284 P **P** **05 29 57.6 +1.0**
comp=Z,12nm,0.8s,mb4.8,baz=95,slow=9.0,SNR=52
BRTR pP pP 05 30 01.5 +0.8
comp=Z,12nm,0.9s,baz=102,slow=6.4,SNR=16
BRTR Keskin Array B 36.69 284 P **P** **05 29 57.7 +1.1**
BRTR pmax pmax
comp=Z,12nm,0.8s
BRTR pmax pmax
comp=Z,12nm,0.9s
AKASG Malin Array Be 37.22 303 P **P** **05 30 00.6 -0.3**
comp=Z,7.0nm,0.8s,mb4.5,baz=69,slow=8.6,SNR=7.0
TIXI Tiksi 37.56 22 ⇑*i*P **P** **05 30 05.2 +1.6**
TIXI pmax pmax
comp=Z,42nm,1.9s,mb4.8
TIXI MLR MLR
comp=Z,300nm,14.0s,MS4.2
KAF Kangasniemi 38.64 321 *ep* **P** **05 30 18.0 +5.3**
FINES FINESS Array B 38.70 320 P **P** **05 30 12.9 -0.2**
comp=Z,2.4nm,0.8s,mb4.0,baz=109,slow=8.3,SNR=6.4
FINES FINESS Array B 38.70 320 *eP* **P** **05 30 19.5 +6.3**
KEV Kevo 39.71 333 *ep* **P** **05 30 20.9 -0.7**
VRI Vrincioaia 39.78 295 ⇓P **P** **05 30 23.4 +1.0**
ARCES ARCESS Array B 40.16 333 P **P** **05 30 25.2 -0.1**
comp=Z,7.8nm,0.6s,mb4.6,baz=91,slow=8.5,SNR=31
ARCES pP pP 05 30 28.8 -0.6
comp=Z,7.7nm,0.6s,baz=92,slow=7.5,SNR=7.9
ARCES LR LR 05 47 54.5
comp=Z,308nm,18.7s,MS4.2,baz=104,slow=38
ARE0 ARCESS Array S 40.16 333 *eP* **P** **05 30 25.3 0.0**
BURAR Bucovina Array 40.36 298 ⇑P **P** **05 30 27.7 +0.6**
MLR Muntele Rosu 40.41 295 ⇓P **P** **05 30 29.9 +2.4**
SUW Suwalki 40.47 309 *eP* **P** **05 30 28.4 +0.4**
KWP Kalwaria 41.53 302 *eP* **P** **05 30 37.8 +1.2**
KOLS Kolonicke sedl 41.96 301 *eP* **P** **05 30 36.4 -3.8**
DRGR 42.22 298 ⇓P **P** **05 30 42.7 +0.3**
STHS Stebnicka Huta 42.50 302 *eP* **P** **05 30 44.4 -0.2**
STHS *ep*P pP 05 30 48.5 -0.3
MJAR Matsushiro Arr 42.88 78 P **P** **05 30 47.4 -0.5**
comp=Z,1.0nm,0.4s,mb3.9,baz=303,slow=8.3,SNR=6.0
NIE Niedzica 43.09 302 *eP* **P** **05 30 54.9 +5.5**
KECS Kecovo 43.22 301 *eP* **P** **05 30 50.5 0.0**
KECS *ep*P pP 05 30 55.1 +0.5
OJC Ojcow 43.22 304 *eP* **P** **05 30 50.8 +0.3**
VYHS Vyhne 44.27 301 *eP* **P** **05 31 00.5 +1.4**
VYHS *ep*P pP 05 31 03.9 +0.7
MA2 Magadan 44.60 42 P **P** **05 30 59.3 -2.2**
comp=Z,4.1nm,0.3s,mb4.7
MA2 Magadan 44.60 42 P **P** **05 30 59.3 -2.2**
MA2 pmax pmax
comp=Z,4.0nm,0.3s,mb4.7
SKO Skopje 44.61 292 *eP* **P** **05 31 02.6 +0.7**
MORC Moravsky Berou 44.74 303 *eP* **P** **05 31 03.6 +0.8**
comp=Z,8.0nm,0.8s,mb4.6
MORC Moravsky Berou 44.74 303 *eP* **P** **05 31 03.6 +0.8**
MORC pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
HFS Hagfors 44.80 319 LR LR 05 50 21.1
comp=Z,354nm,20.0s,MS4.3,baz=83,slow=37
DIVS Divcibare 44.87 295 ⇓*i*P **P** **05 31 04.2 +0.3**
KSP Ksiaz 45.23 305 *eP* **P** **05 31 07.2 +0.5**
DPC Dobruska-Polom 45.34 305 *eP* **P** **05 31 08.0 +0.4**
UPC Upice 45.49 305 *eP* **P** **05 31 09.3 +0.5**
GVD Gavdhos 45.61 281 *eP* **P** **05 31 10.2 +0.2**
comp=Z,44nm,0.9s,mb5.4
NB2 NORSAR Subarra 45.88 320 P **P** **05 31 11.0 -0.6**
comp=Z,0.6nm,0.5s,mb3.8,baz=82,slow=7.9
NB2 NORSAR Subarra 45.88 320 P **P** **05 31 11.0 -0.6**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
NOA NORSAR Array B 45.88 320 P **P** **05 31 11.2 -0.4**
comp=Z,6.0nm,0.7s,mb4.7,baz=81,slow=7.8,SNR=15
NOA pP pP 05 31 14.8 -1.0
comp=Z,5.2nm,0.7s,baz=81,slow=7.8,SNR=12
NOA NORSAR Array B 45.88 320 P **P** **05 31 11.2 -0.4**
NOA pP pP 05 31 14.8 -1.0
NAO01 NORSAR Array S 46.07 320 *eP* **P** **05 31 11.8 -1.4**
comp=Z,5.8nm,0.7s,mb4.6
TREC Trest 46.16 303 *eP* **P** **05 31 19.1 +5.0**
PVCC Panska Ves 46.37 305 *eP* **P** **05 31 20.1 +4.4**
PRU Pruhonice 46.55 304 *eP* **P** **05 31 17.7 +0.6**
BRG Berggiesshubel 46.66 306 *i* P **P** **05 31 22.1 +4.2**
comp=Z,7.8nm,0.8s,mb4.7
BRG Berggiesshubel 46.66 306 *i* P **P** **05 31 22.1 +4.2**
BRG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CLL Collm 47.10 307 P **P** **05 31 21.0 -0.4**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 05 31 25.6 0.0
CLL *e*SP sP 05 31 28.0 +0.7
CLL Collm 47.10 307 *eP* **P** **05 31 21.0 -0.4**
comp=Z,18nm,1.3s,mb4.8
CLL *i* pP 05 31 25.6 0.0
CLL *e* 05 31 37.0
CLL Collm 47.10 307 *eP* **P** **05 31 21.0 -0.4**
CLL *e* 05 31 37.0
CLL pmax pmax
comp=Z,18nm,1.3s,mb4.8
KHC Kasperske Hory 47.41 304 *eP* **P** **05 31 24.0 +0.1**
KHC *ex* x 05 31 28.5
KHC Kasperske Hory 47.41 304 *eP* **P** **05 31 24.7 +0.8**
GEC2 GERESS Array S 47.42 303 *eP* **P** **05 31 24.7 +0.7**
comp=Z,10.0nm,1.3s,mb4.6
GEC2 GERESS Array S 47.42 303 *eP* **P** **05 31 24.7 +0.7**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
GERES GERESS Array B 47.42 303 P **P** **05 31 24.8 +0.8**
comp=Z,3.2nm,0.8s,mb4.3,baz=80,slow=8.1,SNR=12
GERES pP pP 05 31 28.4 +0.2
comp=Z,2.8nm,0.7s,baz=59,slow=7.8,SNR=8.9
GERES PcP PcP 05 32 55.1 +0.2
comp=Z,0.4nm,0.3s,baz=90,slow=2.0,SNR=2.6
GERES GERESS Array B 47.42 303 P **P** **05 31 24.8 +0.8**
GERES 05 32 55.1
WET Wettzell 47.84 304 *eP* **P** **05 31 27.7 +0.4**
comp=Z,12nm,1.0s,mb4.9
WET Wettzell 47.84 304 *eP* **P** **05 31 27.7 +0.4**
WET pmax pmax
comp=Z,12nm,1.0s,mb4.9
BSEG Bad Segeberg 47.92 311 *eP* **P** **05 31 29.5 +1.6**
MOX Moxa 48.13 306 *i* P **P** **05 31 29.5 -0.1**
comp=Z,logA/T=1.1,mb4.9
MOX Moxa 48.13 306 *eP* **P** **05 31 29.5 -0.1**
comp=Z,14nm,1.2s,mb4.9
MOX Moxa 48.13 306 *eP* **P** **05 31 29.5 -0.1**
MOX pmax pmax
comp=Z,14nm,1.2s,mb4.9
CLZ Clausthal 48.50 308 *eP* **P** **05 31 33.6 +1.2**
comp=Z,7.0nm,0.9s,mb4.7
CLZ Clausthal 48.50 308 *eP* **P** **05 31 33.6 +1.2**
CLZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
GRA1 Grafenberg Arr 48.68 305 *eP* **P** **05 31 34.5 +0.7**
comp=Z,32nm,1.1s,mb5.3
GRA1 *ep*P pP 05 31 38.8 +0.8
GRF Grafenberg Arr 48.68 305 *eP* **P** **05 31 34.5 +0.7**
GRF pmax pmax
comp=Z,32nm,1.1s,mb5.3
TIP Timpagrande 48.99 290 *eP* **P** **05 31 36.2 -0.1**
BFO Black Forest 50.94 304 *eP* **P** **05 31 51.2 +0.1**
comp=Z,15nm,1.3s,mb4.8
BFO Black Forest 50.94 304 *eP* **P** **05 31 51.2 +0.1**
BFO pmax pmax
comp=Z,15nm,1.3s,mb4.8
JMIC Jan Mayen 51.52 335 LR LR 05 55 05.3
comp=Z,127nm,19.7s,MS4.0,baz=245,slow=38
CDF Champ du Feu 51.56 305 *eP* **P** **05 31 55.5 -0.3**
comp=Z,15nm,0.8s,mb4.7
CDF Champ du Feu 51.56 305 *eP* **P** **05 31 55.5 -0.3**
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
HINF Hinteralfeld 52.05 304 *eP* **P** **05 31 59.1 -0.5**
comp=Z,15nm,0.8s,mb4.7
HINF Hinteralfeld 52.05 304 *eP* **P** **05 31 59.1 -0.5**
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
HAU Haudompre 52.29 304 *eP* **P** **05 32 00.9 -0.5**
comp=Z,8.1nm,0.6s,mb4.5
HAU Haudompre 52.29 304 *eP* **P** **05 32 00.9 -0.5**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GIVF Givet 52.40 307 *eP* **P** **05 32 02.1 0.0**
BAIF Baives 52.78 308 *eP* **P** **05 32 04.8 -0.2**
comp=Z,20nm,1.0s,mb4.7
BAIF Baives 52.78 308 *eP* **P** **05 32 04.8 -0.2**
BAIF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PGF Pioggiola 52.86 297 *eP* **P** **05 32 05.3 -0.4**
comp=Z,40nm,1.3s,mb4.9
PGF Pioggiola 52.86 297 *eP* **P** **05 32 05.3 -0.4**
PGF pmax pmax
comp=Z,20nm,1.3s,mb4.9
MEZF Maizieres J'vi 52.89 306 *eP* **P** **05 32 05.9 +0.1**
comp=Z,85nm,1.1s,mb5.3
LPG La Plagne 53.06 301 *eP* **P** **05 32 07.5 +0.3**
comp=Z,54nm,0.8s,mb5.2
LPG La Plagne 53.06 301 *eP* **P** **05 32 07.5 +0.3**
LPG pmax pmax
comp=Z,27nm,0.8s,mb5.2
LPL La Plagne 53.07 301 *eP* **P** **05 32 07.5 +0.3**
comp=Z,54nm,0.8s,mb5.2
LPL La Plagne 53.07 301 *eP* **P** **05 32 07.5 +0.3**
LPL pmax pmax
comp=Z,27nm,0.8s,mb5.2
BNI Bardonecchia 53.30 301 *eP* **P** **05 32 08.4 -0.5**
comp=Z,12nm,0.8s,mb4.9
BNI Bardonecchia 53.30 301 *eP* **P** **05 32 08.4 -0.5**
BNI pmax pmax
comp=Z,12nm,0.8s,mb4.9
SBF Sospel 53.32 299 *eP* **P** **05 32 08.8 -0.3**
comp=Z,39nm,0.9s,mb5.0
SBF Sospel 53.32 299 *eP* **P** **05 32 08.8 -0.3**
SBF pmax pmax
comp=Z,19nm,0.9s,mb5.0
MBDF Montbardon 53.38 301 *eP* **P** **05 32 08.7 -0.8**
comp=Z,16nm,0.8s,mb4.7
MBDF Montbardon 53.38 301 *eP* **P** **05 32 08.7 -0.8**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 53.87 301 *eP* **P** **05 32 12.2 -0.8**
comp=Z,24nm,0.8s,mb4.9
ORIF Oris-en-Rattie 53.87 301 *eP* **P** **05 32 12.2 -0.8**
ORIF pmax pmax
comp=Z,12nm,0.8s,mb4.9
FRF La Foret Royal 53.96 299 *eP* **P** **05 32 13.5 -0.3**
LOR Lormes 54.13 305 *eP* **P** **05 32 13.8 -1.1**
comp=Z,12nm,0.8s,mb4.6
LOR Lormes 54.13 305 *eP* **P** **05 32 13.8 -1.1**
LOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LMR La Mourre 54.15 299 *eP* **P** **05 32 14.5 -0.7**
SMF Signal de Mont 54.41 304 *eP* **P** **05 32 16.1 -0.9**
comp=Z,44nm,0.9s,mb5.1
SMF Signal de Mont 54.41 304 *eP* **P** **05 32 16.1 -0.9**
SMF pmax pmax
comp=Z,22nm,0.9s,mb5.1
SSF Saint Saulge 54.44 304 *eP* **P** **05 32 16.1 -1.1**
SMRF Simiane la Rot 54.48 300 *eP* **P** **05 32 17.2 -0.3**
comp=Z,13nm,1.0s,mb4.5
AVF Avril sur Loir 54.65 304 *eP* **P** **05 32 18.0 -0.8**
comp=Z,55nm,0.9s,mb5.3
AVF Avril sur Loir 54.65 304 *eP* **P** **05 32 18.0 -0.8**
AVF pmax pmax
comp=Z,28nm,0.9s,mb5.3
VIVF Saint-Julien-l 54.66 302 *eP* **P** **05 32 18.4 -0.5**
comp=Z,20nm,0.8s,mb4.9

VIVF	**Saint-Julien-l**	**54.66**	**302**	*e*P		**P**		**05 32 18.4**	**-0.5**
VIVF				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.9								
BGF	**Bois d'Agland**	**55.06**	**304**	*e*P		**P**		**05 32 21.0**	**-0.8**
	comp=Z,22nm,0.9s,mb4.9								
BGF	**Bois d'Agland**	**55.06**	**304**	*e*P		**P**		**05 32 21.0**	**-0.8**
BGF				pmax		pmax			
	comp=Z,11nm,0.9s,mb4.9								
LASF	**Ste Croix**	**55.54**	**301**	*e*P		**P**		**05 32 25.1**	**-0.2**
	comp=Z,23nm,0.9s,mb4.9								
TCF	**Toulx Ste Croi**	**55.58**	**304**	*e*P		**P**		**05 32 25.0**	**-0.6**
	comp=Z,35nm,0.8s,mb5.1								
TCF	**Toulx Ste Croi**	**55.58**	**304**	*e*P		**P**		**05 32 25.0**	**-0.6**
TCF				pmax		pmax			
	comp=Z,18nm,0.8s,mb5.2								
LDF	**La Druitiere**	**55.97**	**307**	*e*P		**P**		**05 32 27.2**	**-1.1**
	comp=Z,16nm,0.7s,mb4.8								
LDF	**La Druitiere**	**55.97**	**307**	*e*P		**P**		**05 32 27.2**	**-1.1**
LDF				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb4.9								
FLN	**La Foliniere**	**56.10**	**308**	*e*P		**P**		**05 32 27.9**	**-1.4**
CAF	**Calviac**	**56.29**	**303**	*e*P		**P**		**05 32 30.5**	**-0.2**
RJF	**Les Rejaudoux**	**56.46**	**303**	*e*P		**P**		**05 32 31.7**	**-0.2**
	comp=Z,42nm,0.9s,mb5.2								
RJF	**Les Rejaudoux**	**56.46**	**303**	*e*P		**P**		**05 32 31.7**	**-0.2**
RJF				pmax		pmax			
	comp=Z,21nm,0.9s,mb5.2								
GRR	**Gorron**	**56.49**	**307**	*e*P		**P**		**05 32 31.0**	**-1.1**
	comp=Z,25nm,0.8s,mb5.0								
GRR	**Gorron**	**56.49**	**307**	*e*P		**P**		**05 32 31.0**	**-1.1**
GRR				pmax		pmax			
	comp=Z,13nm,0.8s,mb5.0								
MFF	**Saint Martin d**	**56.88**	**305**	*e*P		**P**		**05 32 33.7**	**-1.2**
	comp=Z,42nm,1.2s,mb5.0								
MFF	**Saint Martin d**	**56.88**	**305**	*e*P		**P**		**05 32 33.7**	**-1.2**
MFF				pmax		pmax			
	comp=Z,21nm,1.2s,mb5.0								
MTLF	**Montolieu**	**56.93**	**301**	*e*P		**P**		**05 32 34.8**	**-0.5**
	comp=Z,17nm,1.1s,mb4.7								
MTLF	**Montolieu**	**56.93**	**301**	*e*P		**P**		**05 32 34.8**	**-0.5**
MTLF				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.7								
LFF	**La Frestale**	**57.11**	**303**	*e*P		**P**		**05 32 36.4**	**-0.2**
	comp=Z,42nm,0.8s,mb5.2								
LFF	**La Frestale**	**57.11**	**303**	*e*P		**P**		**05 32 36.4**	**-0.2**
LFF				pmax		pmax			
	comp=Z,21nm,0.8s,mb5.2								
SGMF	**Saint Gilles**	**57.56**	**308**	*e*P		**P**		**05 32 38.9**	**-0.8**
	comp=Z,36nm,1.0s,mb5.1								
SGMF	**Saint Gilles**	**57.56**	**308**	*e*P		**P**		**05 32 38.9**	**-0.8**
SGMF				pmax		pmax			
	comp=Z,18nm,1.0s,mb5.1								
ROSF	**Rostrenen**	**57.95**	**308**	*e*P		**P**		**05 32 41.6**	**-0.8**
QUIF	**Quistinic**	**58.08**	**308**	*e*P		**P**		**05 32 42.4**	**-0.9**
	comp=Z,51nm,1.1s,mb5.2								
QUIF	**Quistinic**	**58.08**	**308**	*e*P		**P**		**05 32 42.4**	**-0.9**
QUIF				pmax		pmax			
	comp=Z,25nm,1.0s,mb5.2								
EPF	**Esparros**	**58.28**	**301**	*e*P		**P**		**05 32 43.5**	**-1.3**
	comp=Z,10nm,0.9s,mb4.6								
EPF	**Esparros**	**58.28**	**301**	*e*P		**P**		**05 32 43.5**	**-1.3**
EPF				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.5								
ETSF	**Etsaut**	**58.92**	**302**	*e*P		**P**		**05 32 49.1**	**-0.2**
	comp=Z,30nm,1.1s,mb5.0								
ETSF	**Etsaut**	**58.92**	**302**	*e*P		**P**		**05 32 49.1**	**-0.2**
ETSF				pmax		pmax			
	comp=Z,15nm,1.1s,mb4.9								
KMBO	**Kilima Mbogo**	**59.09**	**236**	P		**P**		**05 32 51.4**	**+0.6**
	comp=Z,2.1nm,0.7s,mb4.3,baz=25,slow=11,SNR=5.5								
SJPF	**Ste Jean**	**59.24**	**302**	*e*P		**P**		**05 32 51.4**	**-0.1**
	comp=Z,19nm,0.9s,mb4.8								
SJPF	**Ste Jean**	**59.24**	**302**	*e*P		**P**		**05 32 51.4**	**-0.1**
SJPF				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.8								
ESDC	**Sonseca Array**	**62.79**	**300**	P		**P**		**05 33 14.9**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.4,baz=51,slow=6.4,SNR=6.0								
ESDC				pP		pP		05 33 19.1	-0.8
	comp=Z,3.7nm,0.7s,baz=52,slow=6.8,SNR=8.8								
ESLA	**Sonseca Array**	**62.79**	**300**	*e*P		**P**		**05 33 15.1**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.2								
ILAR	**Eielson Array**	**67.02**	**21**	P		**P**		**05 33 41.9**	**-0.6**
	comp=Z,7.2nm,0.8s,mb4.7,baz=321,slow=6.9,SNR=20								
ILAR				pP		pP		05 33 45.4	-1.4
	comp=Z,7.1nm,0.8s,baz=325,slow=6.7,SNR=38								
ILAR				LR		LR		06 07 20.2	
	comp=Z,133nm,19.1s,MS4.2,baz=358,slow=40								
THY	**Trims Highway**	**68.40**	**21**	*e*P		**P**		**05 33 49.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**71.66**	**137**	⇑*i*P		**P**		**05 34 12.4**	**+0.6**
	comp=Z,6.1nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**71.66**	**137**	P		**P**		**05 34 12.5**	**+0.7**
	comp=Z,7.4nm,0.5s,mb4.9,baz=345,slow=5.9,SNR=19								
YKA	**Yellowknife Ar**	**75.21**	**8**	P		**P**		**05 34 31.4**	**-0.3**
	comp=Z,7.9nm,0.9s,mb4.7,baz=342,slow=5.7,SNR=9.5								
YKA				pP		pP		05 34 34.9	-1.1
	comp=Z,8.1nm,0.9s,baz=340,slow=6.1,SNR=11								
YKA	**Yellowknife Ar**	**75.21**	**8**	P		**P**		**05 34 31.4**	**-0.2**
YKA				pP		pP		05 34 34.9	-1.1
LSZ	**Lusaka**	**75.66**	**234**	*e*P		**P**		**05 34 36.4**	**+1.2**
	comp=Z,9.2nm,1.0s,mb4.7								
LSZ	**Lusaka**	**75.66**	**234**	*e*P		**P**		**05 34 36.4**	**+1.2**
LSZ				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.7								
WRAB	**Tennant Creek**	**77.86**	**131**	*e*P		**P**		**05 34 48.3**	**+0.9**
	comp=Z,8.6nm,0.7s,mb4.8								
WRAB	**Tennant Creek**	**77.86**	**131**	*e*P		**P**		**05 34 48.3**	**+1.0**
WRAB				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.8								
WRA	**Warramunga Arr**	**77.86**	**131**	P		**P**		**05 34 48.3**	**+0.9**
	comp=Z,10.0nm,0.9s,mb4.8,baz=331,slow=5.5,SNR=46								
WRA				pP		pP		05 34 52.3	+0.6
	comp=Z,9.1nm,0.9s,baz=330,slow=5.2,SNR=18								
WB2	**Warramunga Arr**	**77.87**	**131**	⇑*i*P		**P**		**05 34 48.3**	**+0.9**
ASPA	**Alice Springs**	**80.59**	**133**	*e*P		**P**		**05 35 03.3**	**+1.2**
DBIC	**Dimbokro**	**83.64**	**273**	P		**P**		**05 35 18.2**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.6,baz=56,slow=7.1,SNR=8.0								
DBIC	**Dimbokro**	**83.64**	**273**	*e*P		**P**		**05 35 17.9**	**-0.3**
	comp=Z,4.5nm,0.8s,mb4.7								
DBIC	**Dimbokro**	**83.64**	**273**	P		**P**		**05 35 18.2**	**0.0**
DBIC				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KIC	**Kosan Boka**	**83.76**	**273**	*e*P		**P**		**05 35 18.8**	**0.0**
	comp=Z,80nm,1.3s,mb5.7								
TIC	**Toumodi**	**83.78**	**273**	*e*P		**P**		**05 35 18.4**	**-0.5**
	comp=Z,6.1nm,1.0s,mb4.7								
LIC	**Lamto**	**84.06**	**273**	*e*P		**P**		**05 35 20.1**	**-0.2**
	comp=Z,27nm,1.3s,mb5.2								
EDM	**Edmonton**	**84.43**	**10**	*e*P		**P**		**05 35 21.1**	**-0.1**
TSUM	**Tsumeb**	**85.24**	**239**	*e*P		**P**		**05 35 27.5**	**+1.4**
	comp=Z,8.0nm,1.0s,mb4.8								
ULM	**Lac du Bonnet**	**88.38**	**359**	P		**P**		**05 35 42.0**	**+1.4**
	comp=Z,2.7nm,0.7s,mb4.6,baz=343,slow=9.6,SNR=5.4								
CHMT	**Chamberlain Mo**	**90.63**	**11**	*e*P		**P**		**05 35 51.5**	**+0.2**
STKA	**Stephens Creek**	**91.23**	**133**	P		**P**		**05 35 55.0**	**+0.6**
	comp=Z,1.1nm,0.5s,mb4.5,baz=312,slow=4.4,SNR=5.6								
WVOR	**Wild Horse Val**	**94.06**	**16**	P		**P**		**05 36 08.0**	**+0.8**
	comp=Z,2.3nm,1.0s,mb4.6								
WVOR	**Wild Horse Val**	**94.06**	**16**	P		**P**		**05 36 08.0**	**+0.8**
WVOR				pmax		pmax			
	comp=Z,2.0nm,1.0s,mb4.5								
PDAR	**Pinedale Array**	**95.18**	**9**	P		**P**		**05 36 12.4**	**+0.1**
	comp=Z,0.7nm,0.8s,mb4.2,baz=45,slow=7.7,SNR=2.9								
PDAR				pP		pP		05 36 16.6	-0.1
	comp=Z,0.7nm,0.8s,baz=18,slow=4.7,SNR=5.3								
HWUT	**Hardware Ranch**	**96.07**	**11**	*e*P		**P**		**05 36 17.5**	**+1.1**
	comp=Z,8.6nm,1.4s,mb5.0								
NVAR	**Mina Array Bea**	**97.99**	**16**	pP		pP		05 36 29.9	+0.3
	comp=Z,0.5nm,0.7s,baz=358,slow=4.9,SNR=3.5								
SNAA	**Sanae**	**127.59**	**203**	P		PKPdf		05 41 54.5	-1.2
SNAA	**Sanae**	**127.59**	**203**			PKPdf		05 41 58.8	+3.1
SNAA	**Sanae**	**127.59**	**203**			PKPdf		05 42 05.4	+10
VNA3	**Neumayer Olymp**	**129.55**	**205**	P		PKPdf		05 41 58.3	-1.2
VNA3	**Neumayer Olymp**	**129.55**	**205**			PKPdf		05 42 02.8	+3.3
VNA3	**Neumayer Olymp**	**129.55**	**205**			PKPdf		05 42 06.2	+6.7
CPUP	**Villa Florida**	**143.70**	**282**	PKP		PKPdf		05 42 23.2	-3.3
	comp=Z,1.3nm,0.7s,baz=63,slow=8.8,SNR=3.3								
LPAZ	**La Paz**	**144.22**	**306**	PKP		PKPdf		05 42 25.6	-2.0
	comp=Z,1.3nm,0.8s,baz=74,slow=7.4,SNR=5.3								
LPAZ	**La Paz**	**144.22**	**306**	*e*PKPdf		PKPdf		05 42 27.3	-0.4
LPAZ	**La Paz**	**144.22**	**306**	PKIKP		PKPdf		05 42 25.6	-2.0
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ARE	**Arequipa**	**146.33**	**311**	*e*P		PKPbc		05 42 32.0	+3.0
LVC	**Limon Verde**	**149.41**	**300**	*e*PKPbc		PKPdf		05 42 39.9	+3.7

*NEIC **23** 05:31:17.6, 33.89S×70.18W, h121km, MD3.6(GUC), After GUC.*

GUC 23 05:31:17.6±0.8, 33.89S×70.18W, h121km±2km, MD3.6, ML3.7, 11C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJCH	**San Jose de Ma**	**0.29**	**331**	⇑*i*P	P	05 31 34.3	-0.4
SJCH				*i* S	S	05 31 47.6	-0.1
SJCH				AMP		05 31 49.2	
	comp=N,2μm,0.4s						
PCH	**Pirque**	**0.39**	**315**	⇓*i*P	P	05 31 35.5	+0.4
PCH				*i* S	S	05 31 48.8	+0.4
CHCH	**Chadas Angostu**	**0.39**	**264**	⇓*i*P	P	05 31 35.3	+0.2
CHCH				*i* S	S	05 31 48.7	+0.2
CACH	**El Canelo**	**0.41**	**237**	⇑*i*P	P	05 31 35.6	+0.4
CACH				*i* S	S	05 31 49.5	+0.9
CICH	**Cipreses**	**0.47**	**205**	⇑*i*P	P	05 31 35.9	+0.2
CICH				*i* S	S	05 31 49.8	+0.5
ANTU	**Antumapu**	**0.49**	**311**	⇑*i*P	P	05 31 35.9	+0.1
ANTU				*i* S	S	05 31 49.6	+0.1
ANTU				AMP		05 31 50.7	
	comp=N,4μm,0.5s						
FSR	**Penalolen**	**0.50**	**325**	⇓*i*P	P	05 31 36.2	+0.4
FSR				*i* S	S	05 31 50.2	+0.6
FSR				AMP		05 31 50.9	
	comp=N,5μm,0.4s						
FCH	**Farellones**	**0.57**	**351**	⇑*i*P	P	05 31 36.8	+0.6
FCH				*i* S	S	05 31 51.6	+1.2
FCH				AMP		05 31 54.8	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**0.58**	**329**	⇑*i*P	P	05 31 36.6	+0.4
CLCH				*i* S	S	05 31 51.1	+0.6
CLCH				AMP		05 31 52.1	
	comp=E,4μm,0.3s						
CLCH				AMP		05 31 52.7	
	comp=E,4μm,0.3s						
DSCH	**Colegio Aleman**	**0.59**	**327**	⇓*i*P	P	05 31 36.8	+0.4
DSCH				*i* S	S	05 31 51.2	+0.6
DSCH				AMP		05 31 52.0	
	comp=E,4μm,0.2s						
SAN	**Santiago**	**0.59**	**318**	⇑*i*P	P	05 31 36.5	+0.1
SAN				*i* S	S	05 31 50.7	0.0
SAN				AMP		05 31 52.1	
	comp=E,1μm,0.2s						
STL	**Santa Lucia**	**0.59**	**320**	⇑*i*P	P	05 31 35.7	-0.7
STL				*i* S	S	05 31 49.9	-0.9
STL				AMP		05 31 51.3	
	comp=N,808nm,0.2s						
RCDM	**Rinconada Maip**	**0.66**	**308**	*e*P	P	05 31 36.8	0.0
RCDM				*i* S	S	05 31 51.7	+0.2
RCDM				AMP		05 31 51.9	
	comp=N,5μm,0.2s						
TACH	**Talagante**	**0.67**	**291**	⇓*i*P	P	05 31 37.0	+0.1
TACH				*i* S	S	05 31 51.6	-0.1
PEL	**Peldehue**	**0.86**	**331**	⇓*i*P	P	05 31 38.9	+0.3
PEL				*i* S	S	05 31 55.1	+0.7
SFDO	**San Fernando**	**0.99**	**223**	⇓*i*P	P	05 31 40.1	+0.1
SFDO				*i* S	S	05 31 57.5	+0.8
LNV	**Longovilo**	**1.02**	**266**	⇑*i*P	P	05 31 39.8	-0.5
LNV				*i* S	S	05 31 56.8	-0.4
ROCH	**El Roble**	**1.15**	**323**	⇓*i*P	P	05 31 41.7	+0.1
LCCH	**Las Cruces**	**1.23**	**289**	⇓*i*P	P	05 31 42.3	-0.2
JACH	**Jahuel**	**1.26**	**344**	⇓*i*P	P	05 31 43.1	+0.3
JACH				*i* S	S	05 32 02.3	+0.7
IHA	**Instituto Hidr**	**1.49**	**305**	⇑*i*P	P	05 31 45.6	+0.1
IHA				*i* S	S	05 32 06.8	+0.1
CHNG	**Los Chungos**	**2.29**	**331**	*e*P	P	05 31 55.3	0.0
CHNG				*i* S	S	05 32 23.2	-0.7
CHNG				AMP		05 32 26.5	
	comp=N,160nm,0.5s						
ILCH	**Illapel**	**2.40**	**339**	⇑*i*P	P	05 31 56.5	-0.4
ILCH				*i* S	S	05 32 25.2	-1.3
ILCH				AMP		05 32 26.1	
	comp=E,504nm,0.2s						
ZON	**Zonda**	**2.66**	**29**	*e*P	P	05 32 03.2	+2.9
ZON				*e*S	S	05 32 37.3	+4.6
CMCH	**Combarbala**	**2.80**	**346**	⇓*i*P	P	05 32 00.7	-1.4
CMCH				*i* S	S	05 32 33.9	-2.0
CMCH				AMP		05 32 38.9	
	comp=E,621nm,0.6s						

*LDG **23** 05:38:41.8±3.4, 41.57N×82.54E, h10km, Mb4.4/7, Error ellipse: s-maj=171.8km s-min=7.7km az=158.0*
*IDC **23** 05:38:44.8±1.1, 41.93N×82.57E, mb4.0/8, mb1 4.1/11, mb1mx3.9/22, mbtmp3.9/11, ML3.4/2, Error ellipse: s-maj=22.5km s-min=19.9km az=88.0*
*BJI **23** 05:38:46.8, 41.75N×82.58E, h33km, mb4.8, ML4.2, Ms3.7, Msz3.7*
*MOS **23** 05:38:47.6±1.0, 41.95N×82.43E, h31km, mb4.6/8, Error ellipse: s-maj=15.4km s-min=7.2km az=121.7*
*NEIC **23** 05:38:49.8±3.0, 41.91N×82.47E, h35km±20km, mb4.4/9, Error ellipse: s-maj=14.7km s-min=8.4km az=175.0*
*NNC **23** 05:38:49.2±6.4, 41.91N×82.58E, h22km±32km, mpv3.9, Error ellipse: s-maj=48.4km s-min=26.6km az=140.0*

ISC 23 05:38:44.5±0.6, 41.90N±0.06×82.47E±0.07, h10km, n55, σ1$20/60, mb4.2/16, MS3.7/1, 11C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.29**	**62**	*e*P	**Pn**	**05 39 53.0**	**+1.5**
WMQ				S	**Sn**	**05 40 46.0**	**+3.8**
WMQ				Smax			
	comp=N,222nm,1.0s						
WMQ				Smax			
	comp=E,193nm,0.8s						
WMQ				LR	LR		
	comp=N,494nm,4.0s						
MK31	**Makanchi Array**	**4.89**	**359**	⇑Pn	**Pn**	**05 40 02.4**	**+2.5**
	comp=N,2.7nm,0.3s,baz=189,slow=13						
MK31				⇓Pg	**Pg**	**05 40 17.7**	**-4.5**
	comp=N,23nm,0.5s,baz=185,slow=16						
MK31				⇑Lg		05 41 25.6	
	comp=N,44nm,0.5s,baz=171,slow=25						
MKAR	**Makanchi Array**	**4.89**	**359**	Pn	**Pn**	**05 40 02.3**	**+2.4**
	comp=N,3.1nm,0.3s,baz=189,slow=12,SNR=50						
MKAR				Lg		05 41 22.4	
	comp=N,8.4nm,0.3s,baz=191,slow=26,SNR=3.7						
KSH	**Kashi**	**5.48**	**246**	*e*P	**Pn**	**05 40 03.3**	**-4.9**
KSH				S	**Sn**	**05 41 15.3**	**+3.2**
KSH				Smax			
	comp=N,400nm,0.9s						
KSH				Smax			
	comp=E,350nm,0.6s						
FRU	**Bishkek**	**5.89**	**282**	*e*PN	**Pb**	**05 40 33.0**	**+5.9**
FRU				*e*S	**Sb**	**05 41 42.0**	**+3.6**
FRU				pmax	pmax		
	comp=Z,37nm,1.8s						
FRU				pmax	pmax		
	comp=N,510nm,1.7s						
AAK	**Ala-Archa**	**5.96**	**280**	⇑Pn	**Pn**	**05 40 17.1**	**+2.1**
	comp=N,4.3nm,0.9s						
AAK				⇑Pg	**Pg**	**05 40 40.8**	**-2.7**
	comp=N,19nm,0.8s						
AAK				⇑Lg		05 41 59.6	
	comp=N,91nm,1.0s						
AAK	**Ala-Archa**	**5.96**	**280**	*e*Pn	**Pn**	**05 40 14.7**	**-0.3**
	comp=N,15nm,0.6s						
AAK	**Ala-Archa**	**5.96**	**280**	*e*PN	**Pn**	**05 40 14.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,15nm,0.6s						
KK31	**Karatay Array**	**8.91**	**282**	⇓Lg		05 43 35.9	
	comp=Z,9.9nm,0.6s,baz=89,slow=28,SNR=4.7						
KURK	**Kurchatov**	**9.21**	**345**	⇑Pn	**P**	**05 40 59.7**	**-0.7**
	comp=Z,4.0nm,0.6s						
KURK				⇑Sn	**Sn**	**05 42 44.9**	**-0.2**
	comp=Z,13nm,0.7s						
KURK				⇑Lg		05 43 42.2	
	comp=Z,35nm,1.0s						
KURK	**Kurchatov**	**9.21**	**345**	*e*Pn	**P**	**05 40 59.0**	**-1.4**
	comp=Z,10nm,0.7s						
KURK	**Kurchatov**	**9.21**	**345**	*e*P	**P**	**05 40 59.0**	**-1.4**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZAL	**Zalesovo**	**12.14**	**7**	Pn	**P**	**05 41 38.8**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=282,slow=14,SNR=7.0						
VOSK	**Vostochnaya**	**13.32**	**328**	⇓Pn	**P**	**05 41 56.0**	**-0.1**
	comp=Z,3.1nm,0.9s						
VOSK				⇓Lg		05 45 53.5	
	comp=Z,18nm,1.1s						
BVA0	**Borovoye Array**	**13.78**	**328**	⇑Lg		05 46 06.2	
	comp=Z,3.0nm,1.0s						
BVAR	**Borovoye Array**	**13.78**	**328**	Pn	**P**	**05 42 04.0**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=14,SNR=2.4						
BVAR				Lg		05 46 05.0	
	comp=Z,0.4nm,0.3s,baz=102,slow=29,SNR=5.3						
AB31	**Akbulak array**	**17.36**	**303**	⇑P	**P**	**05 42 50.9**	**+2.7**
	comp=Z,0.9nm,0.5s,baz=103,slow=8.2,SNR=9.4						
AB31	**Akbulak array**	**17.36**	**303**	*i* P	**P**	**05 42 46.5**	**-1.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**17.93**	**63**	P	**P**	**05 42 56.5**	**+1.0**
	baz=275,slow=10,SNR=2.9						
AKTO	**Aktyubinsk**	**18.89**	**305**	⇑P	**P**	**05 43 07.9**	**+0.7**
	comp=Z,2.8nm,2.6s						
AKTO	**Aktyubinsk**	**18.89**	**305**	P	**P**	**05 43 08.2**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ARU	**Arti**	**21.19**	**321**	P	**P**	**05 43 31.9**	**-0.3**
	comp=Z,5.8nm,0.3s,mb4.4						
ARU	**Arti**	**21.19**	**321**	P	**P**	**05 43 31.9**	**-0.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.4						
HHC	**Hu-ho-hao-te**	**21.82**	**83**	*e*P	**P**	**05 43 33.5**	**-5.2**
HHC				AP		05 43 42.5	
HHC				XP		05 43 46.9	
HHC				PP	PP	05 43 57.1	-6.8
HHC				S	**S**	**05 47 21.9**	**-13**
HHC				SCP		05 51 10.3	
HHC				PCS		05 51 14.8	
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb4.9						
HHC				LR	LR		
	comp=N,195nm,13.4s,MS3.9						
HHC				LR	LR		
	comp=E,200nm,12.5s,MS3.9						
HHC				LR	LR		
	comp=Z,126nm,11.6s,MS3.6						
BR131	**Keskin Array S**	**36.62**	**283**	*e*P	**P**	**05 45 54.0**	**+1.3**
	comp=Z,1.6nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**36.62**	**283**	P	**P**	**05 45 53.8**	**+1.1**
	comp=Z,2.3nm,0.7s,mb4.1,baz=96,slow=9.5,SNR=8.8						
AKASG	**Malin Array Be**	**37.10**	**302**	P	**P**	**05 45 56.4**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=76,slow=7.9,SNR=6.3						
ARCES	**ARCESS Array B**	**40.00**	**333**	P	**P**	**05 46 21.2**	**+0.5**
	comp=Z,4.6nm,0.8s,mb4.3,baz=82,slow=8.6,SNR=15						
HFS	**Hagfors**	**44.66**	**318**	P	**P**	**05 46 58.8**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.1,baz=97,slow=12,SNR=5.7						
NB2	**NORSAR Subarra**	**45.73**	**320**	P	**P**	**05 47 06.8**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=80,slow=7.9						
NB2	**NORSAR Subarra**	**45.73**	**320**	P	**P**	**05 47 06.8**	**-0.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**45.73**	**320**	P	**P**	**05 47 06.9**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=81,slow=7.8,SNR=8.0						
GERES	**GERESS Array B**	**47.30**	**303**	P	**P**	**05 47 21.2**	**+1.4**
	comp=Z,0.4nm,0.3s,mb3.9,baz=59,slow=7.8,SNR=4.5						
CDF	**Champ du Feu**	**51.44**	**305**	*e*P	**P**	**05 47 51.2**	**-0.4**
HINF	**Hinteralfeld**	**51.94**	**304**	*e*P	**P**	**05 47 55.1**	**-0.3**
LPG	**La Plagne**	**52.95**	**301**	*e*P	**P**	**05 48 03.3**	**+0.3**
	comp=Z,11nm,0.7s,mb4.6						
LPG	**La Plagne**	**52.95**	**301**	*e*P	**P**	**05 48 03.3**	**+0.3**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LPL	**La Plagne**	**52.95**	**301**	*e*P	**P**	**05 48 03.3**	**+0.2**
	comp=Z,9.6nm,0.6s,mb4.6						
LPL	**La Plagne**	**52.95**	**301**	*e*P	**P**	**05 48 03.3**	**+0.2**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MBDF	**Montbardon**	**53.26**	**300**	*e*P	**P**	**05 48 04.4**	**-1.0**
ORIF	**Oris-en-Rattie**	**53.75**	**301**	*e*P	**P**	**05 48 08.1**	**-0.8**
SMF	**Signal de Mont**	**54.29**	**304**	*e*P	**P**	**05 48 12.0**	**-0.8**
SMRF	**Simiane la Rot**	**54.37**	**300**	*e*P	**P**	**05 48 12.3**	**-1.1**
AVF	**Avril sur Loir**	**54.53**	**304**	*e*P	**P**	**05 48 13.8**	**-0.8**
	comp=Z,5.7nm,0.6s,mb4.5						
AVF	**Avril sur Loir**	**54.53**	**304**	*e*P	**P**	**05 48 13.8**	**-0.8**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.6s

*NEIC **23** 06:01:23.7±1.7,41.85N×82.48E,h40km±13km, Error ellipse: s-maj=18.5km s-min=11.2km az=166.0*
ISC 23 06:01:22.1±1.7,**41.78N**±0.10×**82.45E**±0.10,**h44**km±15km, **n22**,σ1ŝ**22**/23,**mb4.0**/7,**MS3.9**/1,**10C-2D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WMQ	**Urumqi**	**4.37**	**60**	*e*P		**P**	**06 02 30.5**	**+2.8**
WMQ				S		**S**	**06 03 24.0**	**+6.1**
WMQ				Smax				
	comp=N,137nm,0.6s							
WMQ				Smax				
	comp=E,152nm,0.6s							
MK31	**Makanchi Array**	**5.01**	**359**	⇓Pn		**P**	**06 02 36.2**	**-0.6**
	comp=E,1.7nm,0.3s,baz=183,slow=12							
MK31				⇑Pg		**P**	**06 02 50.5**	**+14**
	comp=E,12nm,0.5s,baz=185,slow=17							
MK31				⇑Lg			06 03 59.9	
	comp=E,74nm,0.9s,baz=199,slow=33,SNR=3.5							
MKAR	**Makanchi Array**	**5.01**	**359**	Pn		**P**	**06 02 36.1**	**-0.7**
	comp=E,2.3nm,0.3s,baz=190,slow=13,SNR=32							
MKAR				Pg		**P**	**06 02 50.3**	**+14**
	comp=E,5.6nm,0.3s,baz=171,slow=16,SNR=16							
MKAR				Lg			06 03 58.0	
	comp=E,9.5nm,0.3s,baz=162,slow=24,SNR=6.8							
AAK	**Ala-Archa**	**5.97**	**281**	⇑Pn		**P**	**06 02 50.5**	**+0.4**
	comp=E,1.6nm,0.5s							
AAK				⇑Pg		P	06 03 11.6	+21
	comp=E,8.6nm,0.6s							
AAK				⇑Lg			06 04 32.7	
	comp=E,58nm,1.4s							
AAK	**Ala-Archa**	**5.97**	**281**	*e*Pn		**P**	**06 02 49.4**	**-0.8**
	comp=E,9.9nm,0.6s							
KK31	**Karatay Array**	**8.93**	**283**	⇑Lg			06 06 05.9	
	comp=E,14nm,1.0s,baz=88,slow=29,SNR=3.7							
KURK	**Kurchatov**	**9.32**	**345**	⇓Pn		**P**	**06 03 35.4**	**-1.3**
	comp=E,2.1nm,0.8s							
KURK				⇑Sn		**S**	**06 05 22.6**	**+1.2**
	comp=E,8.9nm,0.9s							
KURK				⇑Lg			06 06 15.5	
	comp=E,16nm,0.9s							
KURK	**Kurchatov**	**9.32**	**345**	*e*Pn		**P**	**06 03 35.3**	**-1.4**
	comp=E,3.4nm,0.5s							
ZAL	**Zalesovo**	**12.27**	**7**	Pn		**P**	**06 04 13.6**	**-3.1**
	comp=E,0.9nm,0.3s,baz=274,slow=12,SNR=4.3							
ZAL				Lg			06 07 48.9	
	comp=E,1.2nm,0.3s,baz=178,slow=6.1,SNR=4.2							
VOSK	**Vostochnaya**	**13.42**	**329**	⇑Lg			06 08 27.1	
	comp=E,13nm,1.4s							
BVA0	**Borovoye Array**	**13.88**	**328**	⇑Lg			06 08 40.5	
	comp=E,1.8nm,1.2s,baz=126,slow=25,SNR=3.9							
BVAR	**Borovoye Array**	**13.88**	**328**	Lg			06 08 37.8	
	comp=E,0.2nm,0.3s,baz=133,slow=28,SNR=3.9							
AB31	**Akbulak array**	**17.41**	**303**	P		**P**	**06 05 23.3**	**+0.1**
	comp=E,1.3nm,0.8s,baz=100,slow=13,SNR=6.6							
SONM	**Songino Array**	**18.00**	**62**	P		**P**	**06 05 30.3**	**-0.2**
	comp=E,0.1nm,0.3s,baz=261,slow=11,SNR=4.1							
HHC	**Hu-ho-hao-te**	**21.85**	**83**	*e*P		**P**	**06 06 10.3**	**-2.1**
HHC				AP			06 06 20.3	
HHC				XP			06 06 22.9	
HHC				PP		PP	06 06 33.8	-4.7
HHC				S		**S**	**06 09 57.3**	**-8.9**
HHC				AMB		AMB		
	comp=Z,10.0nm,0.4s,mb4.6							
HHC				AMB		AMB		
	comp=Z,99nm,4.6s							
HHC				LR		LR		
	comp=N,124nm,10.7s,MS3.9							
HHC				LR		LR		
	comp=E,193nm,10.7s,MS3.9							
HHC				LR		LR		
	comp=Z,117nm,8.9s							
BRTR	**Keskin Array B**	**36.64**	**283**	P		**P**	**06 08 27.2**	**+1.2**
	comp=Z,1.7nm,0.7s,mb4.0,baz=93,slow=8.6,SNR=6.2							
ARCES	**ARCESS Array B**	**40.11**	**333**	P		**P**	**06 08 54.7**	**+0.1**
	comp=Z,2.0nm,0.8s,mb3.9,baz=104,slow=7.4,SNR=7.2							
ARCES	**ARCESS Array B**	**40.11**	**333**	P		**P**	**06 08 54.7**	**0.0**
NOA	**NORSAR Array B**	**45.82**	**320**	P		**P**	**06 09 40.1**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=81,slow=7.8,SNR=3.0							
ILAR	**Eielson Array**	**66.99**	**21**	P		**P**	**06 12 11.3**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.7,baz=317,slow=5.2,SNR=4.4							
WRA	**Warramunga Arr**	**77.92**	**131**	P		**P**	**06 13 17.7**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=329,slow=5.6,SNR=6.7							
PDAR	**Pinedale Array**	**95.14**	**9**	P		**P**	**06 14 42.8**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.9,baz=67,slow=42,SNR=3.2							

*IDC **23** 06:21:55.7±0.6,40.74S×43.22E,mb4.3/15,mb1 4.4/16, mb1mx4.3/22,mbtmp4.3/16,ML3.8/1,MS3.9/9,Ms1 3.9/9, ms1mx3.7/19, Error ellipse: s-maj=21.9km s-min=15.6km az=60.0*
*NEIC **23** 06:21:57.2±0.3,40.75S×43.22E,h10km,mb4.5/8, Error ellipse: s-maj=9.6km s-min=6.7km az=77.0*
ISC 23 06:21:55.7±0.4,**40.77S**±0.08×**43.2E**±0.1,**h10**km,**n55**, σ0ŝ**59**/**44**,**mb4.5**/21,**MS3.9**/8,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SUR	**Sutherland**	**19.76**	**288**	P		**P**	**06 26 28.2**	**-0.5**
	0.3nm,0.3s,baz=102,slow=14,SNR=4.0							
SUR				LR		LR	06 32 26.2	
	comp=Z,164nm,20.9s,baz=16,slow=32							
LBTB	**Lobatse**	**21.48**	**312**	P		**P**	**06 26 46.2**	**-0.3**
	7.9nm,0.9s,mb4.1,baz=145,slow=7.3,SNR=8.8							
LBTB				LR		LR	06 33 56.6	
	comp=Z,311nm,19.2s,MS3.7,baz=138,slow=34							
LBTB	**Lobatse**	**21.48**	**312**	*e*P		**P**	**06 26 46.0**	**-0.5**
	28nm,1.2s,mb4.5							
OPO	**Ambohidratompo**	**22.40**	**10**	P		**P**	**06 26 55.6**	**-0.2**
	4.3nm,0.8s,mb3.9,baz=203,slow=8.4,SNR=5.1							
MATP	**Matopo**	**23.82**	**324**	P		**P**	**06 27 10.1**	**+0.4**
	12nm,0.8s,mb4.4,baz=151,slow=9.1,SNR=26							
MATP				LR		LR	06 35 18.4	
	comp=Z,325nm,20.0s,MS3.8,baz=123,slow=34							
MATP	**Matopo**	**23.82**	**324**	P		**P**	**06 27 10.1**	**+0.4**
MATP				LR		LR	06 35 18.4	
LSZ	**Lusaka**	**28.54**	**329**	P		**P**	**06 27 53.8**	**+0.1**
	7.3nm,0.8s,mb4.5,baz=160,slow=9.2,SNR=12							
LSZ				LR		LR	06 38 13.7	
	comp=Z,380nm,19.8s,MS4.0,baz=160,slow=34							
LSZ	**Lusaka**	**28.54**	**329**	*e*P		**P**	**06 27 53.7**	**0.0**
	6.3nm,0.8s,mb4.4							
LSZ				LR		LR	06 38 13.7	
MAW	**Mawson**	**28.97**	**165**	LR		LR	06 36 31.3	
	comp=Z,136nm,20.9s,MS3.5,baz=297,slow=30							
TSUM	**Tsumeb**	**30.66**	**307**	P		**P**	**06 28 12.4**	**-0.2**
	8.7nm,0.9s,mb4.6,baz=128,slow=9.8,SNR=15							
TSUM				LR		LR	06 39 31.9	
	comp=Z,353nm,18.1s,MS4.1,baz=320,slow=34							
SNAA	**Sanae**	**38.36**	**202**			**P**	**06 29 18.0**	**-0.2**
SNAA	**Sanae**	**38.36**	**202**			**P**	**06 29 21.3**	**+3.1**
SNAA	**Sanae**	**38.36**	**202**			**P**	**06 29 31.4**	**+13**
SNAA	**Sanae**	**38.36**	**202**			Px	06 29 40.2	
SNAA	**Sanae**	**38.36**	**202**			Px	06 29 48.5	
SNAA	**Sanae**	**38.36**	**202**	P		**P**	**06 29 17.9**	**-0.3**
	1.6nm,0.8s,mb3.8,baz=81,slow=6.5,SNR=26							
SNAA	**Sanae**	**38.36**	**202**	*e*P		**P**	**06 29 17.9**	**-0.3**
	4.7nm,0.8s,mb4.3							
VNA1	**Neumayer--Stat**	**39.53**	**204**			**P**	**06 29 29.0**	**+1.0**
VNA1	**Neumayer--Stat**	**39.53**	**204**			**P**	**06 29 34.9**	**+6.9**
VNA1	**Neumayer--Stat**	**39.53**	**204**			**P**	**06 29 45.1**	**+17**
VNA1	**Neumayer--Stat**	**39.53**	**204**			Px	06 29 51.1	
KMBO	**Kilima Mbogo**	**39.82**	**351**	P		**P**	**06 29 29.9**	**-1.0**
	4.0nm,1.0s,mb4.1,baz=116,slow=0.4,SNR=6.4							
KMBO				LR		LR	06 43 19.1	
	comp=Z,152nm,19.6s,MS3.9,baz=279,slow=32							
KMBO	**Kilima Mbogo**	**39.82**	**351**	P		**P**	**06 29 29.9**	**-1.0**
KMBO				LR		LR	06 43 19.1	
VNA3	**Neumayer Olymp**	**40.18**	**204**			**P**	**06 29 33.6**	**+0.3**
VNA3	**Neumayer Olymp**	**40.18**	**204**			**P**	**06 29 37.5**	**+4.2**
VNA3	**Neumayer Olymp**	**40.18**	**204**			**P**	**06 29 39.7**	**+6.4**
VNA3	**Neumayer Olymp**	**40.18**	**204**			**P**	**06 29 49.9**	**+17**
VNA3	**Neumayer Olymp**	**40.18**	**204**			**P**	**06 29 53.4**	**+20**
VNA3	**Neumayer Olymp**	**40.18**	**204**			Px	06 29 59.8	
QSPA	**South Pole Qui**	**49.43**	**180**	*e*P		**P**	**06 30 46.0**	**-1.1**
	38nm,0.6s,mb5.6							
SBA	**Scott Base**	**56.86**	**168**	*e*P		**P**	**06 31 42.3**	**+0.1**
	5.0nm,1.1s,mb4.5							
DBIC	**Dimbokro**	**64.55**	**305**	LR		LR	06 56 42.7	
	comp=Z,89nm,20.8s,MS3.9,baz=80,slow=32							
STKA	**Stephens Creek**	**75.70**	**120**	P		**P**	**06 33 43.1**	**+0.1**
	3.8nm,0.8s,mb4.4,baz=242,slow=4.2,SNR=12							
KOLN	**Koldanda**	**77.84**	**36**	*e*P		**P**	**06 33 54.9**	**-0.2**
	61nm,1.3s,mb5.4							
WRA	**Warramunga Arr**	**78.13**	**106**	P		**P**	**06 33 56.7**	**-0.1**
	3.6nm,0.7s,mb4.4,baz=226,slow=4.5,SNR=20							
WB2	**Warramunga Arr**	**78.14**	**106**	*e*P		**P**	**06 33 56.0**	**-0.8**
WRAB	**Tennant Creek**	**78.14**	**106**	*e*P		**P**	**06 33 56.8**	**0.0**
	5.6nm,0.7s,mb4.6							
DMN	**Daman**	**78.39**	**37**	*e*P		**P**	**06 33 58.3**	**+0.3**
PKI	**Pulchoki**	**78.50**	**38**	*e*P		**P**	**06 33 58.4**	**-0.2**
GKN	**Gorkha**	**78.51**	**37**	*e*P		**P**	**06 33 58.4**	**-0.3**
	27nm,0.8s,mb5.2							
KKN	**Kakani**	**78.62**	**37**	*e*P		**P**	**06 33 59.3**	**0.0**
PLCA	**Paso Flores**	**78.99**	**225**	P		**P**	**06 34 01.9**	**+0.8**
	1.7nm,0.9s,mb4.0,baz=77,slow=9.7,SNR=5.0							
PLCA	**Paso Flores**	**78.99**	**225**	*e*P		**P**	**06 34 01.6**	**+0.5**
	2.8nm,0.8s,mb4.2							
BR131	**Keskin Array S**	**80.59**	**353**	*e*P		**P**	**06 34 09.7**	**+0.1**
	1.2nm,0.4s,mb4.2							
BRTR	**Keskin Array B**	**80.59**	**353**	P		**P**	**06 34 09.8**	**+0.2**
	3.2nm,0.9s,mb4.2,baz=180,slow=7.4,SNR=9.4							
LSA	**Lhasa**	**83.03**	**41**	*e*P		**P**	**06 34 23.8**	**+1.2**
	6.3nm,0.8s,mb4.7							
MDT	**Midelt**	**85.47**	**321**	LR		LR	07 13 05.4	
	comp=Z,207nm,18.7s,MS4.5,baz=62,slow=36							
ESDC	**Sonseca Array**	**90.84**	**326**	P		**P**	**06 35 01.5**	**+1.2**
	0.2nm,0.3s,mb3.9,baz=136,slow=4.7,SNR=4.5							
AKASG	**Malin Array Be**	**91.91**	**351**	P		**P**	**06 35 04.8**	**-0.2**
	1.1nm,0.6s,mb4.3,baz=172,slow=4.2,SNR=6.8							
MKAR	**Makanchi Array**	**93.90**	**26**	P		**P**	**06 35 14.1**	**-0.1**
	1.0nm,1.0s,mb4.2,baz=252,slow=4.6,SNR=4.1							
BVAR	**Borovoye Array**	**96.35**	**16**	P		**P**	**06 35 26.2**	**+0.9**
	0.8nm,0.6s,mb4.3,baz=135,slow=2.1,SNR=3.5							
ULM	**Lac du Bonnet**	**150.10**	**302**	PKPbc		PKPdf	06 41 47.1	+3.2
	3.7nm,0.6s,baz=119,slow=2.7,SNR=13							
TXAR	**Lajitas Array**	**150.70**	**258**	PKP		PKPdf	06 41 44.8	-0.7
	4.0nm,0.7s,baz=153,slow=2.8,SNR=4.2							
TXAR				PKPbc		PKPdf	06 41 50.0	+4.5
	4.1nm,0.7s,baz=133,slow=4.4,SNR=59							
INK	**Inuvik**	**152.35**	**357**	PKPbc		PKPdf	06 41 51.5	+4.8
	1.9nm,0.7s,baz=354,slow=11,SNR=4.3							
ILAR	**Eielson Array**	**155.27**	**10**	PKPbc		PKPdf	06 41 57.1	+6.4
	0.5nm,0.9s,baz=304,slow=3.3,SNR=4.1							

*BJI **23** 06:23:47.6,41.44N×82.99E,h24km,ML3.3*
NNC 23 06:23:50.9±27.0,**41.86N×82.52E,mpv2.8,2C-2D,Error ellipse: s-maj=271.0km s-min=160.3km az=153.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array**	**4.94**	**358**	⇑Pn		Pn	06 25 05.4	-2.7
	0.2nm,0.3s,baz=187,slow=12,SNR=19							
MK31				⇑Pg		Pg	06 25 22.0	-7.4
	1.2nm,0.5s,baz=177,slow=14,SNR=6.2							
MK31				⇓Lg			06 26 27.9	
	2.5nm,0.5s,baz=185,slow=26,SNR=4.7							
AAK	**Ala-Archa**	**6.01**	**280**	⇓Lg			06 27 06.0	
	3.3nm,0.8s							

*NIED **23** 06:23:00,23.00N×121.50E,h77km,Mw5.1 Best double couple: M₀4.97×10¹⁶ NP1:φs55°,δ88°,λ98°. NP2:φs156°, δ8°,λ11°.*
*BJI **23** 06:23:53.3,22.91N×121.63E,h18km,mB4.8,mb4.3, ML4.6,Ms4.7,Msz4.5*
*NEIC **23** 06:23:55.3±3.0,23.00N×121.80E,h21km±21km,mb4.5/7, ML4.9(TAP),Error ellipse: s-maj=13.5km s-min=8.0km az=65.0*
NEIC Recorded [4 TAP] in T'ai-tung and [1 TAP] in Chia-i, Hua-lien, Nan-t'ou and Yun-lin Counties.
*JMA **23** 06:23:58.6±0.4,22.99N×121.53E,h92km,M4.0*
*IDC **23** 06:23:58.6±4.6,22.98N×121.62E,h44km±46km,mb3.9/13, mb1 4.1/14,mb1mx4.0/22,mbtmp4.1/14,ML4.1/1,MS4.0/9, Ms1 4.0/9,ms1mx3.8/21,Error ellipse: s-maj=41.3km s-min=15.9km az=70.0*
ISC 23 06:23:56.0±1.4,**22.97N**±0.04×**121.43E**±0.03,**h28**km±10km, **n64**,σ1ŝ**24**/**78**,**mb4.2**/23,**MS4.2**/11,**1C-1D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
NACB	**Ninganchiao**	**1.21**	**7**	*e*Pn		**Pn**	**06 24 15.5**	**-1.9**
NACB				*e*Sn		**Sn**	**06 24 28.5**	**-4.5**
YHNB	**Yeheng**	**1.70**	**358**	*e*Pn		**Pn**	**06 24 23.9**	**-0.4**
TATO	**Taipei**	**2.00**	**1**	*e*Pn		**Pn**	**06 24 28.6**	**-0.1**
YOJ	**Yonaguni jima**	**2.08**	**44**	P		**Pn**	**06 24 31.5**	**+1.8**
YOJ				*e*S		**Sn**	**06 24 55.6**	**+0.7**
HATJ	**Hateruma jima**	**2.43**	**63**	P		**Pn**	**06 24 35.8**	**+1.0**
HATJ				*e*S		**Sn**	**06 25 04.4**	**+0.4**
IRIF	**Iriomote-Funau**	**2.51**	**57**	P		**Pn**	**06 24 37.1**	**+1.2**
IRIF				*e*S		**Sn**	**06 25 06.8**	**+0.9**
JKRS	**Kuro-shima**	**2.68**	**61**	P		**Pn**	**06 24 39.9**	**+1.5**
JKRS				*e*S		**Sn**	**06 25 10.9**	**+0.6**
JIJ	**Ishigaki jima**	**2.85**	**60**	P		**Pn**	**06 24 41.3**	**+0.6**
JIJ				S		**Sn**	**06 25 13.5**	**-1.0**
QZH	**Quanzhou**	**3.26**	**308**	P		**Pn**	**06 24 45.4**	**-1.2**
QZH				S		**Sn**	**06 25 22.3**	**-2.6**
QZH				Smax				
	comp=N,1μm,0.6s							
QZH				Smax				
	comp=E,2μm,0.9s							
JTJ	**Tarama**	**3.43**	**60**	P		**Pn**	**06 24 49.2**	**+0.2**
JTJ				*e*S		**Sn**	**06 25 29.0**	**-0.1**
JMJ	**Miyako jima 2**	**3.98**	**62**	P		**Pn**	**06 24 58.2**	**+1.3**
JMJ				*e*S		**Sn**	**06 25 42.6**	**-0.6**
CVP	**Callao Caves**	**5.25**	**176**	*e*P		**Pn**	**06 25 20.0**	**+5.2**
JKE	**Kume jima 2**	**5.91**	**54**	P		**Pn**	**06 25 22.9**	**-1.2**
JAGN	**Aguni-jima**	**6.39**	**54**	P		**Pn**	**06 25 29.5**	**-1.4**
JIH	**Iheya**	**7.18**	**54**	P		**Pn**	**06 25 40.9**	**-1.1**
JOW	**Kunigami**	**7.31**	**57**	P		**Pn**	**06 25 41.4**	**-2.3**
	comp=E,7.2nm,0.3s,baz=130,slow=25,SNR=7.7							
JOW	**Kunigami**	**7.31**	**57**	P		**Pn**	**06 25 42.8**	**-0.9**
NJ2	**Nanjing**	**9.34**	**346**	*e*P		**P**	**06 26 11.3**	**-0.6**
NJ2				AP			06 26 14.5	
NJ2				XP			06 26 17.3	
NJ2				S		**Sn**	**06 27 56.1**	**-1.0**
NJ2				AMB		AMB		
	comp=Z,20nm,0.7s							
NJ2				AMB		AMB		
	comp=Z,40nm,4.3s							
NJ2				LR		LR		
	comp=N,4μm,12.3s							
NJ2				LR		LR		
	comp=E,5μm,17.2s							
NJ2				LR		LR		
	comp=Z,720nm,12.2s							
WHN	**Wuhan**	**9.85**	**322**	P		**P**	**06 26 16.0**	**-3.0**
WHN				S		**Sn**	**06 28 04.0**	**-5.7**
WHN				LR		LR		
	comp=Z,9μm,11.4s							
QIZ	**Qiongzhong**	**11.51**	**252**	P		**P**	**06 26 41.5**	**-0.3**
QIZ				*e*S		**S**	**06 28 51.9**	**+1.5**
QIZ				LR		LR		
	comp=N,1μm,13.8s							
QIZ				LR		LR		
	comp=E,905nm,12.1s							
QIZ				LR		LR		
	comp=E,2μm,15.3s							
JNU	**Nakatsue**	**13.10**	**37**	LR		LR	06 32 03.3	
	comp=Z,476nm,21.8s,baz=216,slow=37							
GYA	**Guiyang**	**13.87**	**288**	*e*P		**P**	**06 27 14.3**	**+1.1**
GYA				S		**S**	**06 29 45.9**	**-1.2**
GYA				LR		LR		
	comp=N,1μm,10.8s							
GYA				LR		LR		
	comp=E,3μm,11.1s							
GYA				LR		LR		
	comp=Z,4μm,11.1s							
XAN	**Xi'an**	**15.56**	**318**	P		**P**	**06 27 40.3**	**+5.0**
XAN				AMB		AMB		
	comp=Z,13nm,1.9s							
XAN				LR		LR		
	comp=N,1μm,10.6s							
XAN				LR		LR		
	comp=E,2μm,12.1s							
XAN				LR		LR		
	comp=Z,3μm,12.2s							
KMI	**Kunming**	**17.21**	**281**	P		**P**	**06 28 00.3**	**+4.1**
KMI				S		**S**	**06 31 16.8**	**+12**
KMI				LR		LR		
	comp=N,799nm,10.7s							
KMI				LR		LR		
	comp=E,1μm,12.4s							
KMI				LR		LR		
	comp=Z,2μm,13.1s							
CD2	**Chengdu**	**17.62**	**300**	P		**P**	**06 28 03.4**	**+2.1**
CD2				PP		PP	06 28 19.4	+3.6
CD2				AMB		AMB		
	comp=Z,20nm,1.2s							
CD2				LR		LR		
	comp=N,960nm,7.5s							
CD2				LR		LR		
	comp=Z,1μm,11.7s							
JHJ	**Hachijo jima 2**	**19.07**	**54**	LR		LR	06 34 54.0	
	comp=Z,265nm,18.1s,baz=289,slow=35							
HHC	**Hu-ho-hao-te**	**19.68**	**337**	*e*P		**P**	**06 28 26.8**	**+0.9**
HHC				AP			06 28 31.8	
HHC				XP			06 28 35.4	
HHC				PP		PP	06 28 45.4	+1.3
HHC				S		**S**	**06 32 01.9**	**+1.3**
HHC				XS			06 32 08.9	
HHC				SS		SS	06 32 27.8	-0.1
HHC				PCP		PcP	06 32 47.4	+3.5
HHC				SCP			06 36 18.8	
HHC				PCS			06 36 22.3	
HHC				AMB		AMB		
	comp=Z,18nm,0.5s							
HHC				AMB		AMB		
	comp=Z,200nm,3.9s							
HHC				LR		LR		
	comp=N,1μm,9.8s							
HHC				LR		LR		
	comp=E,744nm,10.7s							
HHC				LR		LR		
	comp=Z,962nm,15.2s							
NANT	**Nan**	**19.81**	**262**	P		**P**	**06 28 27.0**	**-0.5**
MAT	**Matsushiro**	**19.84**	**43**	P		**P**	**06 28 30.2**	**+2.5**
MAT	**Matsushiro**	**19.84**	**43**	*e*P		**P**	**06 28 31.0**	**+3.3**
MJAR	**Matsushiro Arr**	**19.84**	**43**	P		**P**	**06 28 28.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=230,slow=10,SNR=2.6							
LZH	**Lanzhou**	**20.09**	**315**	*e*P		**P**	**06 28 31.4**	**+1.1**
LZH				AP			06 28 41.4	
LZH				XP			06 28 45.5	
LZH				PP		PP	06 28 53.0	+3.1
LZH				S		**S**	**06 32 13.3**	**+4.1**
LZH				XS			06 32 27.0	
LZH				SS		SS	06 32 45.0	+6.9
LZH				AMB		AMB		
	comp=Z,130nm,1.6s							
LZH				AMB		AMB		
	comp=Z,450nm,4.6s							
LZH				LR		LR		
	comp=E,2μm,10.4s							
LZH				LR		LR		
	comp=Z,3μm,11.0s,MS4.8							
CN2	**Changchun**	**21.05**	**8**	*e*P		**P**	**06 28 37.4**	**-2.7**
CHG	**Chiang Mai**	**21.41**	**263**	⇑P		**P**	**06 28 47.4**	**+3.4**
	comp=Z,14nm,1.0s,mb4.3							
MDJ	**Mudanjiang**	**22.61**	**15**	P		**P**	**06 28 51.9**	**-3.9**
MDJ				PCP		PcP	06 32 45.3	-4.2
MDJ				S		**S**	**06 32 59.5**	**+2.5**
MDJ				XS			06 33 04.3	
MDJ				SCP			06 36 22.8	
MDJ				PCS			06 36 24.3	
MDJ				SCS		ScS	06 40 08.3	+0.4
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.8s,mb3.9							
MDJ				AMB		AMB		
	comp=Z,44nm,4.7s							
MDJ				LR		LR		
	comp=N,274nm,16.3s,MS4.3							
MDJ				LR		LR		
	comp=E,883nm,17.5s,MS4.3							
MDJ				LR		LR		
	comp=Z,819nm,14.0s,MS4.3							
GTA	**Gaotai**	**24.62**	**317**	*e*P		**P**	**06 29 17.0**	**+1.6**
GTA				AP			06 29 22.5	
GTA				XP			06 29 25.9	
GTA				AMB		AMB		
	comp=Z,5.0nm,1.3s,mb3.9							
GTA				AMB		AMB		
	comp=Z,195nm,4.9s							
GTA				LR		LR		
	comp=N,766nm,12.2s,MS4.6							
GTA				LR		LR		
	comp=E,885nm,12.2s,MS4.6							
GTA				LR		LR		
	comp=Z,1μm,14.5s,MS4.5							
ASAJ	**Asahikawa**	**27.35**	**34**	LR		LR	06 41 16.1	
	comp=Z,336nm,20.0s,MS3.9,baz=210,slow=38							
SONM	**Songino Array**	**27.58**	**338**	P		**P**	**06 29 41.3**	**-1.4**
	comp=Z,1.3nm,0.7s,mb3.7,baz=155,slow=9.9,SNR=8.1							
SONM				LR		LR	06 42 06.7	
	comp=Z,555nm,21.2s,MS4.1,baz=153,slow=39							
LSA	**Lhasa**	**27.91**	**290**	P		**P**	**06 29 48.6**	**+2.7**
LSA				XP		sP	06 29 59.4	+1.7
LSA				AMB		AMB		
	comp=Z,10.0nm,1.6s,mb4.2							
LSA				AMB		AMB		
	comp=Z,120nm,6.5s							
LSA				LR		LR		
	comp=N,210nm,18.3s,MS4.2							
LSA				LR		LR		
	comp=E,560nm,17.5s,MS4.2							
LSA				LR		LR		
	comp=Z,940nm,18.3s,MS4.4							
LSA	**Lhasa**	**27.91**	**290**	*e*P		**P**	**06 29 48.2**	**+2.3**
	comp=Z,8.2nm,0.6s,mb4.5							
PKI	**Pulchoki**	**32.83**	**286**	*e*P		**P**	**06 30 30.6**	**+1.1**
KKN	**Kakani**	**32.94**	**286**	*e*P		**P**	**06 30 31.5**	**+1.0**
DMN	**Daman**	**33.09**	**286**	*e*P		**P**	**06 30 32.7**	**+0.9**
GKN	**Gorkha**	**33.51**	**286**	*e*P		**P**	**06 30 35.9**	**+0.5**
	comp=Z,32nm,1.1s,mb5.2							
KOLN	**Koldanda**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.12**	**167**	⇑PN	P	06 24 57.3	-0.4
DCZ				SN	S	06 25 07.9	-0.8
DCZ	**Deep Cove**	**0.12**	**167**	⇑P	P	06 24 57.3	-0.4
DCZ				S	S	06 25 07.4	-1.3
MLZ	**Mavora Lakes**	**0.75**	**89**	⇑PN	P	06 25 00.9	-0.5
MLZ				SN	S	06 25 14.1	-1.2
MLZ	**Mavora Lakes**	**0.75**	**89**	⇑P	P	06 25 00.9	-0.6
MLZ				S	S	06 25 13.9	-1.4
WHZ	**Wether Hill Ro**	**0.79**	**133**	⇓PN	P	06 25 01.6	-0.3
WHZ				SN	S	06 25 15.2	-0.9
WHZ	**Wether Hill Ro**	**0.79**	**133**	⇓P	P	06 25 01.6	-0.3
WHZ				S	S	06 25 15.2	-0.8
MSZ	**Milford Sound**	**0.90**	**40**	PN	P	06 25 02.6	-0.4
MSZ				SN	S	06 25 17.5	-0.5
MSZ	**Milford Sound**	**0.90**	**40**	P	P	06 25 02.6	-0.4
WKZ	**Wanaka**	**1.45**	**69**	PN	P	06 25 08.8	-0.5
WKZ				SN	S	06 25 27.6	-1.4
WKZ	**Wanaka**	**1.45**	**69**	P	P	06 25 08.8	-0.5
EAZ	**Earnscleugh**	**1.55**	**86**	⇓PN	P	06 25 09.8	-0.7
EAZ				SN	S	06 25 28.9	-2.3
EAZ	**Earnscleugh**	**1.55**	**86**	⇓P	P	06 25 09.8	-0.8
JCZ	**Jackson Bay**	**1.74**	**43**	⇑PN	P	06 25 12.0	-0.8
JCZ	**Jackson Bay**	**1.74**	**43**	⇑P	P	06 25 12.0	-0.9
TUZ	**Tuapeka**	**1.86**	**109**	PN	P	06 25 13.6	-0.8
TUZ	**Tuapeka**	**1.86**	**109**	P	P	06 25 13.6	-0.8
LBZ	**Lake Benmore**	**2.39**	**67**	PN	P	06 25 19.0	-2.5
LBZ	**Lake Benmore**	**2.39**	**67**	*e*P	P	06 25 18.9	-2.6
ODZ	**Otahua Downs**	**2.52**	**84**	⇓PN	P	06 25 20.8	-2.4
ODZ	**Otahua Downs**	**2.52**	**84**	⇑P	P	06 25 20.8	-2.4
FOZ	**Fox Glacier**	**2.58**	**47**	PN	P	06 25 22.3	-1.7
FOZ	**Fox Glacier**	**2.58**	**47**	*e*P	P	06 25 22.3	-1.7
RPZ	**Rata Peaks**	**3.26**	**61**	PN	P	06 25 29.9	-3.5
RPZ	**Rata Peaks**	**3.26**	**61**	*e*P	P	06 25 29.9	-3.5
WVZ	**Waitaha Valley**	**3.46**	**50**	PN	P	06 25 32.4	-3.7
LTZ	**Lake Taylor**	**4.52**	**57**	PN	P	06 25 46.1	-4.4
LTZ	**Lake Taylor**	**4.52**	**57**	*e*P	P	06 25 45.9	-4.6

*NEIC **23** 06:36:50.2,31.20S×68.78W,h150km,mb4.1/1, MD3.4(GUC), After GUC.*

GUC 23 06:36:50.2±0.8,31.20S×68.78W,h150km,MD3.4,ML3.4, 11C-2D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.36**	**166**	⇓*i*P	P	06 37 07.8	-3.6
ZON				*e*S	S	06 37 20.9	-6.7
CMCH	**Combarbala**	**1.91**	**270**	⇑*i*P	P	06 37 24.9	+0.3
CMCH				*i* S	S	06 37 50.8	-0.2
CMCH				AMP		06 37 52.2	
	comp=N,503nm,0.5s						
TLL	**Tololo Astrono**	**2.02**	**300**	*e*P	P	06 37 27.3	+1.4
TLL				*i* S	S	06 37 54.2	+0.8
TLL				AMP		06 37 57.0	
	comp=N,234nm,0.5s						
JACH	**Jahuel**	**2.14**	**226**	*e*P	P	06 37 27.7	+0.3
JACH				*i* S	S	06 37 56.8	+0.9
FCH	**Farellones**	**2.48**	**211**	⇓*i*P	P	06 37 32.3	+0.6
FCH				*i* S	S	06 38 04.8	+1.4
FCH				AMP		06 38 07.5	
	comp=N,66nm,0.2s						
ROCH	**El Roble**	**2.59**	**226**	⇑*i*P	P	06 37 33.6	+0.5
CLCH	**Cerro Calan**	**2.65**	**214**	*e*P	P	06 37 33.9	+0.1
CLCH				*i* S	S	06 38 07.0	-0.2
CLCH				AMP		06 38 09.9	
	comp=E,115nm,0.5s						
PCH	**Pirque**	**2.83**	**211**	⇑*i*P	P	06 37 36.7	+0.6
ANTU	**Antumapu**	**2.84**	**213**	⇑*i*P	P	06 37 36.3	+0.1
ANTU				*i* S	S	06 38 11.1	-0.3
ANTU				AMP		06 38 12.2	
	comp=N,93nm,0.5s						
RCDM	**Rinconada Maip**	**2.86**	**216**	⇑*i*P	P	06 37 36.3	-0.2
RCDM				*i* S	S	06 38 11.5	-0.3
RCDM				AMP		06 38 14.8	
	comp=N,126nm,0.1s						
TACH	**Talagante**	**3.06**	**216**	⇑*i*P	P	06 37 38.3	-0.6
TACH				*i* S	S	06 38 15.8	-0.5
CHCH	**Chadas Angostu**	**3.16**	**210**	⇑*i*P	P	06 37 40.0	-0.2
CHCH				*i* S	S	06 38 18.0	-0.6
CACH	**El Canelo**	**3.29**	**207**	⇑*i*P	P	06 37 42.3	+0.2
CICH	**Cipreses**	**3.41**	**204**	⇑*i*P	P	06 37 43.8	+0.2
LNV	**Longovilo**	**3.54**	**218**	⇑*i*P	P	06 37 43.1	-2.2
LNV				*i* S	S	06 38 25.4	-2.1
SFDO	**San Fernando**	**3.89**	**208**	⇑*i*P	P	06 37 48.5	-1.4
SFDO				*i* S	S	06 38 34.4	-1.4
LVC	**Limon Verde**	**8.55**	**359**	*e*Pn	P	06 38 50.8	-1.1
	comp=N,2.1nm,0.4s						

GUC 23 06:54:47.2±0.4,27.11S×69.24W,h39km±6km,MD3.5, ML3.5,2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.02**	**256**	⇓*i*P	P	06 55 05.4	+0.1
CPCH				*i* S	S	06 55 19.5	+0.8
CPCH				AMP		06 55 21.3	
	comp=E,13μm,0.1s						
CRCH	**Chaqaral**	**1.45**	**301**	*e*P	P	06 55 12.3	+0.9
CRCH				*i* S	S	06 55 31.5	+2.0
CRCH				AMP		06 55 34.0	
	comp=E,360nm,0.2s						
CPN1	**Cerro Paranal**	**2.69**	**337**	⇓*i*P	P	06 55 30.6	+1.6
CPN1				*i* S	S	06 56 03.1	+2.6
CPN1				AMP		06 56 04.9	
	comp=N,99nm,0.2s						
CEN1	**Los Morros**	**3.80**	**347**	*i* S	S	06 56 26.1	-2.9

*IDC **23** 07:06:06.8±1.3,12.42N×40.51E,mb3.9/9,mb1 4.0/10, mb1mx3.9/19,mbtmp4.0/10,ML4.4/1,MS3.9/7,Ms1 3.9/7, ms1mx3.6/18,Error ellipse: s-maj=31.2km s-min=14.6km az=22.0*
*DHMR **23** 07:06:06.1±0.4,12.66N×40.51E,h12km±21km,ML4.3*
*CSEM **23** 07:06:07.4±0.2,12.57N×40.49E,h10km,mb4.3/2,Error ellipse: s-maj=8.2km s-min=2.0km az=173.0*
*NEIC **23** 07:06:09.2±0.6,12.57N×40.59E,h10km,mb4.3/2, ML4.2(DHMR),Error ellipse: s-maj=12.0km s-min=9.2km az=0.0*

ISC 23 07:06:07.4±0.6,12.57N±0.08×40.51E±0.04,h10km,n30, σ1§07/37,mb3.9/10,MS4.0/6,5D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.51**	**114**	Pn	**Pn**	**07 06 48.6**	**-0.4**
	76nm,0.3s,baz=118,slow=23,SNR=125						
ATD				Lg		07 07 23.7	
	85nm,0.3s,baz=264,slow=21,SNR=9.7						
ATD				Rg		07 07 44.0	
	431nm,0.6s,baz=119,slow=22,SNR=2.8						
UDYN	**Al 'Udayn**	**3.65**	**67**	*i* P	**Pn**	**07 07 04.7**	**-0.5**
UDYN				*i* S	**Sn**	**07 07 50.5**	**+1.8**
UDYN				AML	AML	07 08 11.0	
	comp=N,1μm,0.6s						
UDYN	**Al 'Udayn**	**3.65**	**67**	*i* P	**Pn**	**07 07 04.7**	**-0.5**
UDYN				*i* S	**Sn**	**07 07 53.7**	**+5.0**
DHBB	**Dhamar BB**	**4.27**	**62**	⇓*e*P	**Pn**	**07 07 13.0**	**-1.0**
DHBB				*i* S	**Sn**	**07 08 05.4**	**+0.9**
DHBB	**Dhamar BB**	**4.27**	**62**	*i* P	**Pn**	**07 07 14.2**	**+0.2**
DHBB				*i* S	**Sn**	**07 08 07.7**	**+3.2**
DHBB	**Dhamar BB**	**4.27**	**62**	*i* P	**Pn**	**07 07 14.2**	**+0.2**
DHBB				*i* S	**Sn**	**07 08 05.4**	**+0.9**
ADEN	**Aden**	**4.37**	**87**	*i* S	**Sn**	**07 08 07.9**	**+0.8**
LBOS		**4.80**	**74**	⇓*i*P	**Pn**	**07 07 18.2**	**-3.3**
LBOS				*i* S	**Sn**	**07 08 14.5**	**-3.4**
LBOS		**4.80**	**74**	*i* P	**Pn**	**07 07 18.2**	**-3.3**
LBOS				*i* S	**Sn**	**07 08 16.7**	**-1.2**
BDHA	**Al Bayda'**	**5.12**	**74**	⇓*e*P	**Pn**	**07 07 22.6**	**-3.5**
BDHA				*i* S	**Sn**	**07 08 22.5**	**-3.6**
BDHA	**Al Bayda'**	**5.12**	**74**	⇓*i*P	**Pn**	**07 07 23.2**	**-2.9**
BDHA				*i* S	**Sn**	**07 08 25.9**	**-0.2**
BDHA	**Al Bayda'**	**5.12**	**74**	⇓*e*P	**Pn**	**07 07 22.5**	**-3.6**
BDHA				*i* S	**Sn**	**07 08 25.9**	**-0.1**
KMBO	**Kilima Mbogo**	**13.98**	**194**	Pn	**P**	**07 09 29.1**	**+1.0**
	comp=N,0.1nm,0.3s,baz=33,slow=14,SNR=4.7						
KMBO				Lg		07 13 25.6	
	comp=N,0.1nm,0.3s,baz=242,slow=23,SNR=3.9						
KMBO				LR	LR	07 14 43.8	
	comp=N,362nm,18.5s,baz=320,slow=37						
IDI	**Anoyia**	**26.68**	**331**	LR	LR	07 23 52.3	
	comp=N,105nm,18.1s,MS3.4,baz=83,slow=40						
BRTR	**Keskin Array B**	**27.73**	**349**	P	**P**	**07 11 59.5**	**+1.5**
	comp=N,1.2nm,0.6s,mb3.7,baz=180,slow=11,SNR=5.6						
BRTR	**Keskin Array B**	**27.73**	**349**	P	**P**	**07 11 59.5**	**+1.4**
AKASG	**Malin Array Be**	**39.13**	**349**	P	**P**	**07 13 36.0**	**-0.9**
	comp=N,0.3nm,0.4s,mb3.4,baz=173,slow=7.6,SNR=7.3						
GERES	**GERESS Array B**	**42.44**	**334**	P	**P**	**07 14 04.1**	**+0.1**
	comp=E,0.8nm,0.6s,mb3.5,baz=135,slow=7.5,SNR=6.9						
GRA1	**Grafenberg Arr**	**44.16**	**333**	*e*P	**P**	**07 14 18.1**	**+0.1**
DBIC	**Dimbokro**	**45.06**	**267**	P	**P**	**07 14 24.9**	**-0.8**
	comp=N,1.8nm,0.6s,mb4.1,baz=76,slow=13,SNR=8.0						
DBIC				LR	LR	07 32 33.8	
	comp=N,119nm,19.8s,MS3.8,baz=71,slow=35						
DBIC	**Dimbokro**	**45.06**	**267**	*e*P	**P**	**07 14 25.1**	**-0.7**
	comp=N,2.1nm,0.5s,mb4.2						
DBIC				LR	LR	07 32 33.8	
DBIC	**Dimbokro**	**45.06**	**267**	*e*P	**P**	**07 14 25.1**	**-0.7**
	comp=N,2.1nm,0.5s,mb4.2						
MDT	**Midelt**	**45.84**	**304**	P	**P**	**07 14 31.7**	**0.0**
	comp=N,0.9nm,0.7s,mb3.8,baz=82,slow=12,SNR=3.7						
BVAR	**Borovoye Array**	**46.87**	**24**	P	**P**	**07 14 40.2**	**+0.6**
	comp=N,0.9nm,0.7s,mb3.8,baz=211,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**48.91**	**37**	P	**P**	**07 14 55.6**	**+0.1**
	comp=N,1.2nm,0.7s,mb4.0,baz=233,slow=5.6,SNR=11						
MKAR				LR	LR	07 39 21.9	
	comp=N,215nm,20.9s,MS4.1,slow=41						
KURK	**Kurchatov**	**49.06**	**31**	*e*P	**P**	**07 14 57.9**	**+1.2**
	comp=N,3.1nm,1.0s,mb4.3						
ARCES	**ARCESS Array B**	**57.72**	**354**	P	**P**	**07 15 58.8**	**-1.7**
	comp=N,1.9nm,0.9s,mb4.1,baz=270,slow=1.2,SNR=5.2						
SONM	**Songino Array**	**64.63**	**43**	P	**P**	**07 16 47.8**	**+0.3**
	comp=N,1.3nm,0.8s,mb4.0,baz=257,slow=5.4,SNR=9.4						
SONM				LR	LR	07 48 41.7	
	comp=N,183nm,20.1s,MS4.3,baz=179,slow=40						
MJAR	**Matsushiro Arr**	**88.70**	**53**	LR	LR	08 02 24.1	
	comp=N,86nm,18.7s,MS4.2,baz=160,slow=38						
BDFB	**Brasilia**	**91.93**	**255**	LR	LR	07 58 16.0	
	comp=N,71nm,18.1s,MS4.2,baz=110,slow=34						

MEX 23 07:13:20.8±0.8,15.52N×96.07W,h5km,MD3.6,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.25**	**351**	*i* P	Pg	07 13 24.9	-1.0
HUIG				*i* S	Sg	07 13 29.1	-0.2
VHO	**Vista Hermosa**	**1.67**	**338**	*e*P	Pn	07 13 46.9	-4.1
VHO				*i* S	Sn	07 14 08.8	-4.2
OXX	**Oaxaca**	**1.68**	**338**	*e*P	Pn	07 13 50.2	-0.8
CMIG	**Matias Romero**	**1.93**	**36**	*i* P	Pn	07 13 51.5	-3.2
CMIG				*i* S	Sn	07 14 14.2	-5.4

*IDC **23** 07:19:31.9±1.7,41.79N×82.36E,mb3.7/3,mb1 3.8/5, mb1mx3.6/20,mbtmp3.5/5,ML3.3/1,Error ellipse: s-maj=45.0km s-min=19.7km az=75.0*
*BJI **23** 07:19:35.6,41.77N×82.44E,h36km,mB4.5,mb4.6,ML3.8, Ms3.6,Msz3.5*
*NEIC **23** 07:19:38.5±1.1,41.89N×82.64E,h35km,Error ellipse: s-maj=19.6km s-min=15.1km az=192.0*
*NNC **23** 07:19:38.6±4.3,41.98N×82.44E,h9km±19km,mpv3.6, Error ellipse: s-maj=33.7km s-min=18.1km az=133.0*

ISC 23 07:19:32.5±0.7,41.80N±0.06×82.57E±0.08,h10km,n18, σ1§18/22,mb3.9/4,3C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.28**	**60**	*e*P	**Pn**	**07 20 44.0**	**+4.8**
WMQ				S	**Sn**	**07 21 35.8**	**+6.1**
WMQ				Smax			
	comp=N,68nm,0.6s						
WMQ				Smax			
	comp=E,73nm,0.8s						
MK31	**Makanchi Array**	**5.00**	**358**	⇑Pn	**Pn**	**07 20 50.3**	**+0.9**
	comp=E,1.4nm,0.3s,baz=186,slow=12,SNR=111						
MK31				⇓Pg	**Pg**	**07 21 06.1**	**-6.2**
	comp=E,10nm,0.6s,baz=182,slow=15,SNR=6.9						
MK31				⇓Lg		07 22 12.7	
	comp=E,12nm,0.6s,baz=173,slow=25						
MKAR	**Makanchi Array**	**5.00**	**358**	Pn	**Pn**	**07 20 49.5**	**+0.2**
	comp=E,1.2nm,0.3s,baz=186,slow=12,SNR=31						
MKAR				Pg	**Pg**	**07 21 03.7**	**-8.5**
	comp=E,3.1nm,0.3s,baz=176,slow=14,SNR=17						
MKAR				Lg		07 22 08.8	
	comp=E,3.1nm,0.3s,baz=182,slow=35,SNR=4.0						
MKAR	**Makanchi Array**	**5.00**	**358**	Pn	**Pn**	**07 20 49.5**	**+0.2**
MKAR				Pg	**Pg**	**07 21 03.7**	**-8.5**
MKAR				Lg		07 22 08.8	
KSH	**Kashi**	**5.51**	**248**	*e*P	**Pn**	**07 20 54.4**	**-2.2**
KSH				S	**Sn**	**07 22 01.8**	**+1.0**
KSH				Smax			
	comp=N,90nm,0.8s						
KSH				Smax			
	comp=E,100nm,0.8s						
AAK	**Ala-Archa**	**6.05**	**281**	⇓Pn	**Pn**	**07 21 07.9**	**+3.6**
	comp=E,8.2nm,1.0s						
AAK				⇓Lg		07 22 47.4	
	comp=E,36nm,1.2s						
AAK	**Ala-Archa**	**6.05**	**281**	*e*Pn	**Pn**	**07 21 07.3**	**+3.0**
	comp=E,5.6nm,0.6s						
KK31	**Karatay Array**	**9.01**	**282**	⇓Lg		07 24 22.2	
	comp=E,1.7nm,0.5s,baz=93,slow=26,SNR=6.1						
KURK	**Kurchatov**	**9.32**	**344**	⇓Pn	**P**	**07 21 51.2**	**+1.2**
	comp=E,4.4nm,2.1s						
KURK				⇓Sn	**Sn**	**07 23 35.0**	**-1.0**
	comp=E,4.5nm,0.7s						
KURK				⇑Lg		07 24 30.1	
	comp=E,14nm,1.0s						
KURK	**Kurchatov**	**9.32**	**344**	Pn	**P**	**07 21 48.7**	**-1.3**
BVA0	**Borovoye Array**	**13.91**	**328**	Lg		07 26 52.9	
	comp=E,0.8nm,0.9s,baz=97,slow=30,SNR=3.6						
CHKZ	**Chkalovo**	**14.32**	**330**	⇑Lg		07 27 07.0	
	comp=E,7.5nm,1.5s						
AB31	**Akbulak array**	**17.48**	**303**	P	**P**	**07 23 37.9**	**+0.1**
	comp=E,0.5nm,0.7s,baz=99,slow=9.5,SNR=4.5						
SONM	**Songino Array**	**17.91**	**62**	P	**P**	**07 23 45.2**	**+2.1**
	comp=E,0.1nm,0.3s,baz=266,slow=10.0,SNR=3.0						
HHC	**Hu-ho-hao-te**	**21.75**	**83**	*e*P	**P**	**07 24 26.0**	**0.0**
HHC				AP		07 24 35.0	
HHC				XP		07 24 39.3	
HHC				PP	PP	07 24 51.3	+0.3
HHC				S	**S**	**07 28 19.3**	**-2.2**
HHC				XS		07 28 32.5	
HHC				SS	SS	07 28 56.8	-1.6
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,92nm,4.3s						
HHC				LR	LR		
	comp=N,161nm,9.7s						
HHC				LR	LR		
	comp=E,176nm,7.6s						
HHC				LR	LR		
	comp=Z,95nm,7.7s						
ARCES	**ARCESS Array B**	**40.13**	**333**	P	**P**	**07 27 09.2**	**-0.4**
	comp=Z,2.5nm,1.0s,mb3.9,baz=90,slow=7.3,SNR=5.4						
ILAR	**Eielson Array**	**66.94**	**21**	P	**P**	**07 30 26.5**	**-0.2**
	comp=Z,0.5nm,0.9s,mb3.6,baz=326,slow=7.2,SNR=4.9						
WRA	**Warramunga Arr**	**77.87**	**131**	P	**P**	**07 31 31.5**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=328,slow=5.5,SNR=5.9						

*BJI **23** 07:54:30.5,40.97N×78.19E,h15km,ML3.7*
*NNC **23** 07:54:39.1±2.8,41.56N×77.98E,mpv3.2,Error ellipse: s-maj=32.7km s-min=13.5km az=166.0*

ISC 23 07:54:30.5±1.1,40.80N±0.08×78.50E±0.10,h10km,n19, σ1§14/17,7C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.23**	**311**	P	**Pn**	**07 55 03.7**	**-4.3**
	SNR=25						
KSH	**Kashi**	**2.33**	**237**	⇑*i*P	**Pn**	**07 55 08.6**	**-0.8**
KSH				S	**Sn**	**07 55 38.3**	**0.0**
KSH				Smax			
	comp=N,420nm,0.6s						
KSH				Smax			
	comp=E,570nm,0.5s						
KZA	**Kyzart**	**2.76**	**299**	P	**Pn**	**07 55 13.1**	**-2.5**
	SNR=22						
TKM2	**Tokmak 2**	**3.03**	**315**	P	**Pn**	**07 55 18.7**	**-0.8**
	SNR=38						
KBK	**Karagaybulak**	**3.24**	**306**	P	**Pn**	**07 55 22.0**	**-0.5**
	SNR=14						
UCH	**Uchtor**	**3.32**	**297**	P	**Pn**	**07 55 22.8**	**-0.7**
	SNR=27						
AAK	**Ala-Archa**	**3.51**	**303**	P	**Pn**	**07 55 26.6**	**+0.2**
	SNR=24						
AAK	**Ala-Archa**	**3.51**	**303**	⇑Pn	**Pn**	**07 55 26.4**	**0.0**
	comp=E,8.3nm,0.3s						
AAK				⇑Lg		07 56 07.4	
	comp=E,34nm,0.5s						
CHMS	**Chumysh**	**3.56**	**309**	P	**Pn**	**07 55 27.6**	**+0.7**
	SNR=9.1						
AML	**Almayashu**	**3.85**	**292**	P	**Pn**	**07 55 32.3**	**+1.2**
	SNR=18						
USP	**Ospenovka**	**3.87**	**311**	P	**Pn**	**07 55 32.2**	**+0.8**
	SNR=11						
EKS2	**Erkin-Say**	**3.99**	**299**	P	**Pn**	**07 55 35.2**	**+2.0**
	SNR=21						
KK31	**Karatay Array**	**6.38**	**294**	Pg	**Pb**	**07 56 22.1**	**+0.5**
	comp=E,1.8nm,0.6s,baz=118,slow=17,SNR=16						
KK31				Lg		07 57 39.6	
	comp=E,7.0nm,0.7s,baz=114,slow=28,SNR=6.0						
MK31	**Makanchi Array**	**6.59**	**23**	⇑Pn	**Pn**	**07 56 08.2**	**-1.7**
	comp=E,0.4nm,0.3s,baz=210,slow=16,SNR=8.2						
MK31				⇑Pg	**Pg**	**07 56 32.1**	**-10**
	comp=E,1.1nm,0.5s,baz=195,slow=14,SNR=3.7						
MK31				⇑Lg		07 57 53.9	
	comp=E,10nm,0.9s,baz=197,slow=25,SNR=3.9						
WMQ	**Urumqi**	**7.45**	**63**	*e*P	**Pn**	**07 56 23.3**	**+1.3**
KURK	**Kurchatov**	**9.91**	**0**	⇑Lg		07 59 31.6	
	comp=E,2.8nm,0.7s						
VOSK	**Vostochnaya**	**12.98**	**339**	⇓Lg		08 01 05.2	
	comp=E,7.6nm,1.1s						
BVA0	**Borovoye Array**	**13.41**	**338**	⇓Lg		08 01 21.0	
	comp=E,0.9nm,1.2s,baz=231,slow=41,SNR=4.2						
CHKZ	**Chkalovo**	**13.94**	**340**	⇓Lg		08 01 35.4	
	comp=E,9.2nm,1.6s						

*TIF **23** 07:58:29.8,42.82N×43.52E,h11km±2km*
*MOS **23** 07:58:30.9±0.5,42.82N×43.62E,h13km,mb3.9/1,Error ellipse: s-maj=36.6km s-min=10.3km az=112.9*
*CSEM **23** 07:58:30.3±0.1,42.78N×43.49E,h2km,mb3.9,Error ellipse: s-maj=3.8km s-min=1.1km az=44.0*

ISC 23 07:58:30.8±0.5,42.81N±0.03×43.26E±0.10,h11km,n16, σ1§04/30,1D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.27**	**147**	P	**Pg**	**07 58 35.5**	**-0.9**
ONI				S	**Sg**	**07 58 39.3**	**-0.9**
ZEI	**Tsey**	**0.47**	**94**	*i* Pg	**Pg**	**07 58 36.6**	**-3.9**
	209nm,0.1s						
ZEI				*e*Sg	**Sg**	**07 58 40.4**	**-6.5**
	1μm,0.1s						
ZEI	**Tsey**	**0.47**	**94**	*i* PG	**Pg**	**07 58 36.6**	**-3.9**
ZEI				*e*		07 58 40.4	
ZEI				pmax	pmax		
	comp=Z,209nm,0.1s						
ZEI				smax			
	comp=N,1μm,0.1s						
KUBR	**Kubataba**	**1.00**	**6**	*e*Pg	**Pg**	**07 58 50.4**	**-0.4**
KUBR				*e*Sg	**Sg**	**07 59 04.4**	**+0.2**
SHAR	**Shatzhatmas**	**1.03**	**336**	*i* Pg	**Pg**	**07 58 51.8**	**+0.4**
SHAR				*e*Sg	**Sg**	**07 59 06.5**	**+1.3**
BKR	**Bakuriani**	**1.09**	**170**	P	**Pb**	**07 58 50.1**	**-1.1**
BKR				S	**Sb**	**07 59 06.4**	**+1.2**
KIV0	**Kislovodsk Arr**	**1.22**	**341**	*i* Pg	**Pg**	**07 58 54.8**	**-0.4**
KIV0				*e*Sg	**Sg**	**07 59 11.6**	**+0.1**
KIV	**Kislovodsk**	**1.22**	**340**	*i* Pg	**Pg**	**07 58 54.8**	**-0.4**
	comp=N,20nm,0.5s						
KIV				*i* Sg	**Sg**	**07 59 11.7**	**+0.1**
KIV	**Kislovodsk**	**1.22**	**340**	*d* PG	**Pg**	**07 58 54.8**	**-0.4**
KIV				*i*		07 59 11.7	
KIV				pmax	pmax		
	comp=Z,20nm,0.5s						
KIV				smax			
	comp=E,48nm,0.3s						
PYA	**Pyatigorsk**	**1.23**	**353**	*i* Pg	**Pg**	**07 58 54.8**	**-0.7**
PYA				*i* Sg	**Sg**	**07 59 10.8**	**-1.2**
BEYR	**Belyy Ugol+**	**1.25**	**345**	*i* PG	**Pg**	**07 58 55.1**	**-0.6**
BEYR				*e*S	**Sb**	**07 59 12.0**	**+2.2**
TBLG	**Delisi**	**1.54**	**134**	P	**Pn**	**07 58 57.6**	**-0.8**
TBLG				S	**Sb**	**07 59 19.6**	**+1.3**
TI2	**Plekhanov**	**1.54**	**134**	*i* P	**Pn**	**07 58 57.0**	**-1.5**
TI2				*i* S	**Sb**	**07 59 18.0**	**-0.4**
	comp=E,80nm,0.6s						
TI2	**Plekhanov**	**1.54**	**134**	*i* PG	**Pn**	**07 58 57.0**	**-1.5**
TI2				*i* S	**Sb**	**07 59 18.0**	**-0.4**
TI2				smax			
	comp=E,80nm,0.6s						
MTA	**Mtatsminda**	**1.59**	**134**	P	**Pn**	**07 58 59.9**	**+0.7**
MTA				S	**Sb**	**07 59 21.7**	**+1.8**
DGRG	**David-gareji**	**2.08**	**130**	P	**Pn**	**07 59 06.9**	**+0.8**
DGRG				S	**Sn**	**07 59 35.8**	**+3.5**

*KNET **23** 08:10:05.7±0.4,43.03N×74.90E,h14km±2km,ml1.9,Error ellipse: s-maj=3.0km s-min=2.0km az=177.0*
*NNC **23** 08:10:06.1±1.8,43.00N×74.99E,mpv2.5,Error ellipse: s-maj=31.9km s-min=9.4km az=130.0*

ISC 23 08:10:06.2±0.7,43.06N±0.04×74.92E±0.04,h6km±6km, n12,σ0§38/21,13C-7D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.14**	**243**	P	**Pg**	**08 10 09.0**	**-0.1**
	181nm,0.2s,SNR=240						
CHMS				⇑S	**Sg**	**08 10 10.8**	**-0.2**
	259nm,0.2s						
USP	**Ospenovka**	**0.37**	**304**	⇑P	**Pg**	**08 10 13.8**	**+0.2**
	77nm,0.2s,SNR=60						
USP				⇓S	**Sg**	**08 10 19.2**	**+0.6**

ARS					pmax	pmax		
	comp=Z,103nm,0.3s							
ARS					smax			
	comp=E,591nm,0.4s							
ZAK	**Zakamensk**	**2.99**	**96**	*e*PN	Pn	08 57 27.8	+0.4	
ZAK				*e*S	Sn	08 58 13.5	+10	
ZAK				pmax	pmax			
	comp=Z,80nm,0.4s							
ZAK				smax				
	comp=N,301nm,0.4s							
TLY	**Talaya**	**3.27**	**73**	*e*PN	Pn	08 57 29.9	-1.4	
TLY				*e*		08 57 37.6		
TLY				*e*		08 58 22.0		
TLY				pmax	pmax			
	comp=Z,16nm,0.4s							
TLY				smax				
	comp=E,202nm,1.2s							
IRK	**Irkutsk**	**3.80**	**66**	*e*PN	Pn	08 57 46.7	+7.8	
IRK				*e*		08 58 36.4		
IRK				pmax	pmax			
	comp=Z,140nm,0.2s							
IRK				smax				
	comp=N,683nm,0.5s							
LSTR	**Listvyanka**	**4.03**	**72**	*e*PN	Pn	08 57 52.6	+11	
LSTR				*e*		08 58 43.8		
LSTR				pmax	pmax			
	comp=Z,31nm,1.6s							
LSTR				smax				
	comp=N,132nm,0.8s							

IDC ***23*** *09:18:29.4±1.2, 12.45N×40.51E, mb4.1/11, mb1 4.2/13, mb1mx4.2/20, mbtmp4.1/13, ML4.9/1, MS4.0/7, Ms1 4.0/7, ms1mx3.6/17, Error ellipse: s-maj=29.7km s-min=14.0km az=23.0*
DHMR ***23*** *09:18:29.9±0.5, 12.66N×40.59E, h4km±24km, ML4.5*
CSEM ***23*** *09:18:29.3±0.2, 12.66N×40.49E, h2km, mb4.5/5, Error ellipse: s-maj=6.9km s-min=2.5km az=2.0*
NEIC ***23*** *09:18:31.9±0.6, 12.58N×40.55E, h10km, mb4.4/6, Error ellipse: s-maj=13.4km s-min=10.9km az=68.0*

ISC 23 09:18:30.2±0.6, 12.61N±0.07×40.60E±0.04, h10km, n48, σ1§04/49, mb4.1/15, MS4.2/5, 4C-9D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.44**	**116**	Pn	**Pn**	**09 19 11.3**	**+0.5**
	241nm,0.3s,baz=85,slow=11,SNR=32						
ATD				Lg		09 19 47.1	
	80nm,0.3s,baz=72,slow=23,SNR=10						
UDYN	**Al 'Udayn**	**3.54**	**67**	*e*P	**Pn**	**09 19 28.5**	**+2.1**
UDYN				*i* S	**Sn**	**09 20 14.2**	**+5.4**
UDYN				AML	AML	09 20 41.3	
	comp=E,2μm,0.8s						
DHBB	**Dhamar BB**	**4.17**	**62**	*e*P	**Pn**	**09 19 36.7**	**+1.4**
DHBB				*i* S	**Sn**	**09 20 29.1**	**+4.5**
ADEN	**Aden**	**4.28**	**87**	*e*P	**Pn**	**09 19 38.2**	**+1.3**
ADEN				*i* S	**Sn**	**09 20 31.5**	**+4.0**
LBOS		**4.69**	**74**	*e*P	**Pn**	**09 19 42.0**	**-0.7**
LBOS				*i* S	**Sn**	**09 20 38.2**	**+0.2**
BDHA	**Al Bayda'**	**5.02**	**74**	*e*P	**Pn**	**09 19 46.1**	**-1.3**
BDHA				*i* S	**Sn**	**09 20 46.0**	**-0.2**
MUKL	**Al Mukalla**	**8.41**	**76**	*i* S	**Sn**	**09 22 08.8**	**-2.2**
KMBO	**Kilima Mbogo**	**14.05**	**194**	Pn	**P**	**09 21 52.3**	**+0.6**
	comp=E,0.1nm,0.3s,baz=22,slow=15,SNR=2.4						
KMBO				Lg		09 25 46.4	
	comp=E,0.1nm,0.3s,baz=255,slow=21,SNR=5.1						
KMBO				LR	LR	09 27 05.1	
	comp=E,503nm,19.2s,baz=63,slow=37						
KMBO	**Kilima Mbogo**	**14.05**	**194**	Pn	**P**	**09 21 52.3**	**+0.6**
KMBO				Lg		09 25 46.4	
KMBO				LR	LR	09 27 05.1	
ARQ	**Araqi**	**18.50**	**53**	⇓P	**P**	**09 22 48.9**	**+0.4**
	SNR=12						
BSY	**Bisya**	**18.73**	**55**	⇓P	**P**	**09 22 51.1**	**-0.2**
	SNR=13						
BSYO	**Bisya**	**18.76**	**55**	P	**P**	**09 22 51.1**	**-0.6**
	SNR=13						
ASHO	**Ashiyiah**	**18.91**	**48**	⇑P	**P**	**09 22 53.9**	**+0.4**
	SNR=10						
HOQ	**Hoqain**	**19.25**	**53**	⇑P	**P**	**09 22 58.2**	**+0.7**
JMDO	**Jabal Madar**	**19.29**	**57**	⇓P	**P**	**09 22 56.9**	**-1.1**
SMDO	**Samad**	**19.57**	**56**	⇓P	**P**	**09 23 00.2**	**-1.0**
ASF	**Jabal al Asfar**	**19.77**	**351**	P	**P**	**09 23 04.3**	**+1.0**
	comp=E,0.1nm,0.3s,baz=24,slow=6.5,SNR=6.0						
ASF				LR	LR	09 29 44.1	
	comp=E,257nm,20.8s,baz=52,slow=34						
BANOM	**Banah**	**19.84**	**46**	⇑P	**P**	**09 23 03.1**	**-1.2**
BIDO	**Bidbid**	**19.86**	**54**	⇑P	**P**	**09 23 03.9**	**-0.5**
WBK	**Wadi Bani Khal**	**20.11**	**58**	⇓P	**P**	**09 23 06.5**	**-0.6**
BHD	**Baghdad**	**20.85**	**9**	*ex*	x	09 23 14.5	
MSL	**Mosul**	**23.68**	**5**	*ex*	x	09 24 37.0	
MSL				*ex*	x	09 30 08.0	
MALT	**Malatya**	**25.67**	**356**	*e*P	**P**	**09 24 03.5**	**+1.6**
	comp=E,9.4nm,1.0s,mb4.3						
MALT	**Malatya**	**25.67**	**356**	*e*P	**P**	**09 24 03.5**	**+1.6**
	comp=E,9.4nm,1.0s,mb4.3						
BR131	**Keskin Array S**	**27.70**	**348**	*e*P	**P**	**09 24 23.3**	**+2.8**
	comp=E,3.1nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**27.70**	**348**	P	**P**	**09 24 20.9**	**+0.3**
	comp=E,6.1nm,1.1s,mb4.2,baz=166,slow=10,SNR=15						
ANTO	**Ankara**	**28.01**	**347**	P	**P**	**09 24 24.0**	**+0.6**
	comp=E,10.0nm,0.6s,mb4.6						
ANTO	**Ankara**	**28.01**	**347**	P	**P**	**09 24 24.0**	**+0.6**
	comp=E,10.0nm,0.6s,mb4.6						
AKASG	**Malin Array Be**	**39.10**	**349**	P	**P**	**09 25 58.4**	**-1.0**
	comp=E,3.1nm,0.8s,mb4.1,baz=173,slow=7.4,SNR=12						
AKASG	**Malin Array Be**	**39.10**	**349**	P	**P**	**09 25 58.3**	**-1.0**
GERES	**GERESS Array B**	**42.44**	**334**	P	**P**	**09 26 25.6**	**-1.2**
	comp=E,2.5nm,0.9s,mb3.8,baz=143,slow=6.7,SNR=9.1						
KHC	**Kasperske Hory**	**42.71**	**334**	*e*P	**P**	**09 26 27.0**	**-2.0**
GRA1	**Grafenberg Arr**	**44.16**	**333**	*e*P	**P**	**09 26 41.4**	**+0.6**
	comp=E,5.0nm,0.8s,mb4.3						
MOX	**Moxa**	**44.69**	**334**	*e*P	**P**	**09 26 46.0**	**+1.0**
DBIC	**Dimbokro**	**45.16**	**267**	P	**P**	**09 26 47.6**	**-1.6**
	comp=E,2.6nm,0.7s,mb4.2,baz=70,slow=12,SNR=5.4						
DBIC				LR	LR	09 44 55.4	
	comp=E,112nm,19.4s,MS3.8,baz=67,slow=35						
DBIC	**Dimbokro**	**45.16**	**267**	*e*P	**P**	**09 26 48.4**	**-0.9**
	comp=E,3.0nm,0.8s,mb4.2						
DBIC				LR	LR	09 44 55.4	
DBIC	**Dimbokro**	**45.16**	**267**	*e*P	**P**	**09 26 48.4**	**-0.9**
	comp=E,3.0nm,0.8s,mb4.2						
MDT	**Midelt**	**45.89**	**304**	P	**P**	**09 26 54.0**	**-0.8**
	comp=E,1.9nm,0.8s,mb4.0,baz=82,slow=10,SNR=3.8						
BVAR	**Borovoye Array**	**46.79**	**24**	P	**P**	**09 27 03.1**	**+1.5**
	comp=E,1.3nm,0.8s,mb3.9,baz=207,slow=6.6,SNR=5.8						
ESDC	**Sonseca Array**	**47.57**	**313**	P	**P**	**09 27 07.3**	**-0.7**
	comp=E,0.3nm,0.3s,mb3.8,baz=121,slow=7.5,SNR=5.0						
MKAR	**Makanchi Array**	**48.81**	**37**	P	**P**	**09 27 17.9**	**+0.3**
	comp=E,0.3nm,0.3s,mb3.8,baz=144,slow=16,SNR=6.6						
MKAR				LR	LR	09 51 56.6	
	comp=E,271nm,21.7s,MS4.2,baz=220,slow=41						
KURK	**Kurchatov**	**48.98**	**31**	*e*P	**P**	**09 27 20.0**	**+1.3**
	comp=E,4.5nm,1.0s,mb4.5						
NOA	**NORSAR Array B**	**52.88**	**343**	P	**P**	**09 27 48.4**	**+0.1**
	comp=E,4.4nm,1.0s,mb4.3,baz=139,slow=7.7,SNR=3.8						
NOA	**NORSAR Array B**	**52.88**	**343**	P	**P**	**09 27 48.3**	**0.0**
ZAL	**Zalesovo**	**53.93**	**31**	P	**P**	**09 27 55.3**	**-0.7**
	comp=E,1.3nm,0.4s,mb4.2,baz=226,slow=7.5,SNR=7.0						
SONM	**Songino Array**	**64.53**	**43**	P	**P**	**09 29 09.6**	**0.0**
	comp=E,2.0nm,0.8s,mb4.2,baz=258,slow=5.3,SNR=12						
SONM				LR	LR	10 01 52.8	
	comp=E,232nm,18.7s,MS4.4,baz=259,slow=40						
MJAR	**Matsushiro Arr**	**88.59**	**53**	LR	LR	10 14 03.3	
	comp=E,79nm,19.1s,MS4.2,baz=315,slow=38						
BDFB	**Brasilia**	**92.03**	**255**	LR	LR	10 08 46.4	
	comp=E,84nm,18.0s,MS4.2,baz=107,slow=33						

BER ***23*** *09:47:53.3±2.4, 59.31N×27.22E, ML2.4(NAO), Suspected explosion*

HEL 23 09:47:53.1±0.2, 59.32N×27.27E, ML2.4(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.90**	**198**	*i* P	Pg	09 48 09.3	-1.8
VSU				*i* S	Sg	09 48 20.7	-2.4
FIA0	**FINESS Array S**	**2.21**	**345**	*e*P	Pn	09 48 30.8	-0.8
FIA0				*e*SB	Sb	09 48 59.9	-1.9
FIA0				*e*RG		09 49 21.2	
FIA0	**FINESS Array S**	**2.21**	**345**	Pn	Pn	09 48 30.9	-0.6
	baz=166,slow=18						
FIA0				Lg		09 49 02.0	
	baz=169,slow=28						
HFS	**Hagfors**	**6.91**	**283**	*e*P	Pn	09 49 34.2	-4.0
HFS				*e*SG		09 51 25.8	
HFS	**Hagfors**	**6.91**	**283**	Pn	Pn	09 49 34.2	-4.0
	baz=104,slow=12						
HFS				Lg		09 51 25.8	
	baz=85,slow=28						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	P	09 50 19.5	-5.3
	baz=172,slow=14						
ARA0				Sn	S	09 52 08.8	-13
	baz=175,slow=22						
ARA0	**ARCESS Array S**	**10.29**	**357**	*e*P	P	09 50 19.5	-5.3
ARA0				*e*S	S	09 52 08.8	-13

IDC ***23*** *09:49:45.4±6.1, 12.32N×40.38E, mb3.7/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.8/6, ML4.5/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/30, Error ellipse: s-maj=131.3km s-min=17.5km az=33.0*
DHMR ***23*** *09:49:45.9±2.6, 12.68N×40.55E, h6km±277km, ML4.0*
CSEM ***23*** *09:49:46.7±0.2, 12.71N×40.50E, h2km, ML4.0, Error ellipse: s-maj=6.1km s-min=2.7km az=25.0*
NEIC ***23*** *09:49:48.4±1.6, 12.51N×40.60E, h10km, ML4.0(DHMR), Error ellipse: s-maj=27.3km s-min=12.0km az=27.0*

ISC 23 09:49:45.6±1.2, 12.4N±0.1×40.50E±0.06, h10km, n21, σ1§17/26, mb3.6/5, MS3.5/4, 7D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.46**	**111**	Pn	**Pn**	**09 50 27.7**	**+1.2**
	106nm,0.3s,baz=84,slow=6.8,SNR=95						
ATD				Lg		09 51 05.9	
	36nm,0.3s,baz=102,slow=21,SNR=8.8						
UDYN	**Al 'Udayn**	**3.71**	**65**	⇓*e*P	**Pn**	**09 50 44.6**	**+0.3**
UDYN				*i* S	**Sn**	**09 51 30.7**	**+2.0**
UDYN				AML	AML	09 51 55.2	
	comp=N,596nm,0.6s						
UDYN	**Al 'Udayn**	**3.71**	**65**	*i* P	**Pn**	**09 50 44.4**	**0.0**
UDYN				*i* S	**Sn**	**09 51 32.3**	**+3.7**
DHBB	**Dhamar BB**	**4.35**	**60**	⇓*e*P	**Pn**	**09 50 53.0**	**-0.3**
DHBB				*i* S	**Sn**	**09 51 45.2**	**+0.4**
DHBB	**Dhamar BB**	**4.35**	**60**	*i* P	**Pn**	**09 50 53.1**	**-0.3**
DHBB				*i* S	**Sn**	**09 51 46.9**	**+2.1**
DHBB	**Dhamar BB**	**4.35**	**60**	*i* P	**Pn**	**09 50 53.1**	**-0.3**
DHBB				*i* S	**Sn**	**09 51 45.2**	**+0.4**
LBOS		**4.85**	**72**	⇓*e*P	**Pn**	**09 50 58.0**	**-2.4**
LBOS				*i* S	**Sn**	**09 51 54.3**	**-3.0**
LBOS		**4.85**	**72**	⇓*i*P	**Pn**	**09 50 58.8**	**-1.7**
LBOS				*i* S	**Sn**	**09 51 57.7**	**+0.4**
BDHA	**Al Bayda'**	**5.17**	**72**	⇓*e*P	**Pn**	**09 51 02.4**	**-2.6**
BDHA				*i* S	**Sn**	**09 52 02.4**	**-3.2**
BDHA	**Al Bayda'**	**5.17**	**72**	⇓*i*P	**Pn**	**09 51 03.1**	**-1.9**
BDHA				*i* S	**Sn**	**09 52 06.1**	**+0.6**
BDHA	**Al Bayda'**	**5.17**	**72**	⇓*e*P	**Pn**	**09 51 02.4**	**-2.6**
BDHA				*i* S	**Sn**	**09 52 06.1**	**+0.6**
KMBO	**Kilima Mbogo**	**13.83**	**194**	LR	LR	09 57 23.2	
	comp=N,31nm,21.8s,baz=85,slow=33						
ASF	**Jabal al Asfar**	**19.94**	**351**	LR	LR	10 01 05.2	
	comp=N,69nm,20.3s,baz=330,slow=34						
IDI	**Anoyia**	**26.80**	**331**	LR	LR	10 07 59.6	
	comp=N,61nm,18.2s,MS3.2,baz=261,slow=41						
BRTR	**Keskin Array B**	**27.87**	**349**	P	**P**	**09 55 37.5**	**-0.1**
	comp=N,1.1nm,0.9s,mb3.5,baz=162,slow=7.8,SNR=4.9						
AKASG	**Malin Array Be**	**39.28**	**349**	P	**P**	**09 57 16.1**	**-0.1**
	comp=N,0.3nm,0.3s,mb3.5,baz=172,slow=7.2,SNR=5.7						
DBIC	**Dimbokro**	**45.04**	**267**	LR	LR	10 15 42.1	
	comp=N,32nm,21.3s,MS3.2,baz=84,slow=35						
BVAR	**Borovoye Array**	**47.01**	**24**	P	**P**	**09 58 19.2**	**+0.3**
	comp=N,0.8nm,0.8s,mb3.7,baz=230,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**49.03**	**37**	P	**P**	**09 58 34.9**	**+0.2**
	comp=N,0.7nm,0.9s,mb3.7,baz=233,slow=6.1,SNR=4.8						
MKAR				LR	LR	10 23 12.5	
	comp=N,91nm,19.3s,MS3.8,baz=209,slow=41						
SONM	**Songino Array**	**64.75**	**43**	P	**P**	**10 00 27.2**	**+0.7**
	comp=N,0.8nm,0.8s,mb3.8,baz=287,slow=5.5,SNR=7.1						
BDFB	**Brasilia**	**91.88**	**254**	LR	LR	10 42 19.8	
	comp=N,47nm,18.2s,MS4.0,baz=116,slow=34						

BJI ***23*** *10:00:22.1,29.00N×52.50E, h10km, mB4.9, mb4.6, Ms4.2, Msz3.7*
IDC ***23*** *10:00:22.1±1.3, 28.87N×52.24E, mb4.2/15, mb1 4.3/17, mb1mx4.2/23, mbtmp4.2/17, ML4.1/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/25, Error ellipse: s-maj=30.2km s-min=17.9km az=171.0*
THR ***23*** *10:00:22.2±0.4, 28.81N×52.16E, h6km±6km, ML3.5*
CSEM ***23*** *10:00:25.1±0.1, 28.77N×52.27E, h40km, mb4.4/3, Error ellipse: s-maj=4.1km s-min=3.5km az=7.0*
TEH ***23*** *10:00:27.1, 28.96N×52.52E, h10km, Mn4.2*
NEIC ***23*** *10:00:27.1, 28.96N×52.52E, h10km, mb4.2/7, ML4.2(TEH), After TEH.*

ISC 23 10:00:22.4±0.3, 28.83N±0.03×52.21E±0.03, h10km, n80, σ1§28/80, mb4.3/24, MS3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMOK	**Mook**	**0.49**	**64**	Pg	**Pg**	**10 00 30.6**	**-1.7**
SHI	**Shiraz**	**0.85**	**18**	Pg	**Pg**	**10 00 39.1**	**-0.3**
GHIR	**Ghir-Karzin**	**0.87**	**129**	*e*PG	**Pg**	**10 00 39.7**	**-0.2**
GHIR				*e*SG	**Sg**	**10 00 52.5**	**+0.9**
GHIR				AML	AML	10 01 07.6	
	comp=N,2μm,0.5s						
ISRV	**Sarvestan**	**0.96**	**55**	Pg	**Pg**	**10 00 39.4**	**-2.2**
IPAR	**Pars**	**1.24**	**36**	Pg	**Pg**	**10 00 45.0**	**-2.3**
IMEH	**Mehriz**	**3.29**	**39**	Pn	**Pn**	**10 01 16.9**	**+1.8**
ISAD	**Sadrabad**	**3.32**	**22**	Pn	**Pn**	**10 01 17.5**	**+1.9**
IGAR	**Garneh**	**3.40**	**360**	Pn	**Pn**	**10 01 20.1**	**+3.5**
BNDS	**Bandar-Abbas**	**3.78**	**111**	*e*PN	**Pn**	**10 01 23.9**	**+1.9**
BNDS				AML	AML	10 02 30.0	
	comp=N,66nm,0.4s						
ICHK	**Chekchek**	**3.89**	**29**	Pn	**Pn**	**10 01 24.9**	**+1.3**
KBD	**Kabd**	**3.97**	**276**	*e*P	**Pn**	**10 01 27.4**	**+2.6**
KBD				AML	AML	10 02 15.6	
	comp=Z,384nm,0.4s						
NASN	**Na'in**	**3.99**	**7**	*e*PN	**Pn**	**10 01 26.8**	**+1.8**
IBAF	**Bafgh**	**4.00**	**46**	Pn	**Pn**	**10 01 25.8**	**+0.7**
UMR	**Umm Al-Rimmam**	**4.00**	**281**	*e*P	**Pn**	**10 01 27.6**	**+2.5**
UMR				*e*S	**Sn**	**10 02 17.4**	**+4.8**
UMR				AML	AML	10 02 17.8	
	comp=Z,172nm,0.3s						
UMR	**Umm Al-Rimmam**	**4.00**	**281**	*e*P	**Pn**	**10 01 27.6**	**+2.5**
UMR				*e*S	**Sn**	**10 02 16.7**	**+4.1**
IPIR	**Pirpir**	**4.00**	**344**	Pn	**Pn**	**10 01 25.0**	**-0.2**
IZEF	**Zefreh**	**4.05**	**1**	Pn	**Pn**	**10 01 27.2**	**+1.3**
RDF	**Al-Radifah**	**4.09**	**272**	*e*P	**Pn**	**10 01 29.0**	**+2.5**
RDF				AML	AML	10 02 18.9	
	comp=Z,184nm,0.4s						
KRBR	**Kerman**	**4.13**	**73**	*e*PN	**Pn**	**10 01 28.9**	**+1.9**
KRBR				AML	AML	10 02 37.4	
	comp=N,79nm,0.7s						
HASS	**Wahat al Ahsa'**	**4.27**	**212**	P	**Pn**	**10 01 31.6**	**+2.6**
MIB	**Mutribah**	**4.37**	**284**	*e*P	**Pn**	**10 01 32.0**	**+1.7**
MIB				AML	AML	10 02 24.6	
	comp=Z,110nm,0.6s						
NAY	**Al-Naaiem**	**4.37**	**277**	*e*P	**Pn**	**10 01 32.6**	**+2.1**
NAY				AML	AML	10 02 23.2	
	comp=Z,63nm,0.5s						
IKLH	**Kalahroud**	**4.50**	**353**	Pn	**Pn**	**10 01 32.6**	**+0.2**
ASAO	**Ashtian**	**6.00**	**342**	*e*PN	**Pn**	**10 01 54.0**	**+0.6**
IQOM	**Qom**	**6.07**	**351**	Pn	**Pn**	**10 01 54.1**	**-0.4**
IVRN	**Varamin**	**6.16**	**356**	Pn	**Pn**	**10 01 55.7**	**0.0**
IDMV	**Damavand**	**6.73**	**359**	Pn	**Pn**	**10 02 03.7**	**0.0**
DAMV	**Damavand**	**6.78**	**358**	*e*PN	**Pn**	**10 02 05.0**	**+0.6**
IFIR	**Firoozkooh**	**6.80**	**4**	Pn	**Pn**	**10 02 05.5**	**+0.7**
IRAZ	**Razeghan**	**6.83**	**344**	Pn	**Pn**	**10 02 17.1**	**+12**
THKV	**Tehran--Karaj**	**7.15**	**351**	*e*Pn	**Pn**	**10 02 09.7**	**0.0**
SNGE	**Sanandaj**	**7.48**	**328**	*e*PN	**Pn**	**10 02 14.4**	**+0.1**
ZHSF	**Zahedan**	**7.52**	**82**	*e*Pn	**Pn**	**10 02 15.5**	**+0.6**
MZLS	**Mizel**	**7.89**	**234**	P	**Pn**	**10 02 19.0**	**-1.1**
BHD	**Baghdad**	**8.04**	**305**	*ex*	x	10 03 10.0	
BHD				*ex*	x	10 05 02.0	
AFFS	**'Afif**	**9.60**	**242**	P	**P**	**10 02 42.2**	**-1.5**
MSL	**Mosul**	**10.70**	**316**	*ex*	x	10 03 17.0	
MSL				*ex*	x	10 05 12.5	
KAMS	**Al Khamasin**	**10.96**	**221**	P	**P**	**10 03 00.9**	**-1.6**
ASF	**Jabal al Asfar**	**13.62**	**288**	Pn	**P**	**10 03 36.8**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=307,slow=4.3,SNR=6.1						
ASF				Sn	**S**	**10 06 02.2**	**-8.3**
	comp=Z,0.6nm,0.3s,baz=213,slow=11,SNR=3.7						
MALT	**Malatya**	**14.87**	**313**	*e*Pn	**P**	**10 03 54.2**	**-0.2**
CSS	**Prodhromos**	**17.15**	**296**	P	**P**	**10 04 26.8**	**+3.1**
	comp=Z,7.9nm,0.4s						
CSS	**Prodhromos**	**17.15**	**296**	P	**P**	**10 04 26.8**	**+3.0**
	comp=Z,7.9nm,0.4s						
BRTR	**Keskin Array B**	**18.77**	**310**	P	**P**	**10 04 43.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=127,slow=12,SNR=12						
BRTR	**Keskin Array B**	**18.77**	**310**	P	**P**	**10 04 43.5**	**-0.3**
ATD	**Arta Tunnel**	**19.31**	**209**	LR	LR	10 11 35.2	
	comp=Z,30nm,21.0s,baz=21,slow=35						
IDI	**Anoyia**	**23.99**	**293**	P	**P**	**10 05 39.6**	**+1.6**
	comp=Z,14nm,0.7s,mb4.5,baz=93,slow=9.4,SNR=8.3						
BVAR	**Borovoye Array**	**27.64**	**24**	P	**P**	**10 06 10.9**	**-1.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=213,slow=7.2,SNR=6.8						
MKAR	**Makanchi Array**	**29.51**	**44**	P	**P**	**10 06 27.5**	**-1.5**
	comp=Z,0.9nm,0.6s,mb3.7,baz=233,slow=9.3,SNR=11						
KURK	**Kurchatov**	**29.55**	**35**	*e*P	**P**	**10 06 28.2**	**-1.0**
	comp=Z,3.6nm,0.9s,mb4.1						
KURK	**Kurchatov**	**29.55**	**35**	*e*P	**P**	**10 06 28.2**	**-1.1**
	comp=Z,3.6nm,0.9s,mb4.1						
KMBO	**Kilima Mbogo**	**33.06**	**208**	LR	LR	10 20 08.3	
	comp=Z,66nm,18.9s,MS3.4,baz=92,slow=36						
ZAL	**Zalesovo**	**34.51**	**34**	P	**P**	**10 07 10.7**	**-1.9**
	comp=Z,2.4nm,0.5s,mb4.4,baz=234,slow=8.3,SNR=7.9						
GERES	**GERESS Array B**	**35.54**	**315**	P	**P**	**10 07 20.1**	**-1.4**
	comp=Z,0.4nm,0.3s,mb3.9,baz=108,slow=8.4,SNR=4.8						
GERES				LR	LR	10 23 56.8	
	comp=Z,32nm,18.8s,MS3.1,baz=194,slow=40						
JOF	**Joensuu**	**36.70**	**344**	*e*p	**P**	**10 07 29.9**	**-1.3**
FINES	**FINESS Array B**	**36.94**	**339**	P	**P**	**10 07 32.4**	**-0.8**
	comp=Z,4.4nm,0.5s,mb4.5,baz=146,slow=8.9,SNR=21						
KAF	**Kangasniemi**	**37.39**	**340**	*e*p	**P**	**10 07 36.2**	**-0.7**
BNI	**Bardonecchia**	**39.28**	**307**	*e*P	**P**	**10 07 51.5**	**-1.5**
	comp=Z,3.7nm,0.7s,mb4.2						
BNI	**Bardonecchia**	**39.28**	**307**	*e*P	**P**	**10 07 51.5**	**-1.5**
	comp=Z,3.7nm,0.7s,mb4.2						
GTA	**Gaotai**	**40.39**	**62**	*e*P	**P**	**10 08 02.9**	**+0.7**
GTA				AP	pP	10 08 07.1	+1.9
GTA				XP	sP	10 08 09.8	+3.4
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
HFS	**Hagfors**	**40.63**	**331**	P	**P**	**10 08 03.1**	**-0.9**
	comp=Z,3.9nm,0.5s,mb4.3,baz=129,slow=9.5,SNR=8.6						
NB2	**NORSAR Subarra**	**42.15**	**332**	P	**P**	**10 08 14.9**	**-1.4**
	comp=Z,1.6nm,0.6s,mb3.8,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**42.15**	**332**	P	**P**	**10 08 15.1**	**-1.2**
	comp=Z,1.7nm,0.6s,mb3.8,baz=121,slow=8.2,SNR=7.2						
ARCES	**ARCESS Array B**	**43.55**	**347**	P	**P**	**10 08 27.4**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.0,baz=158,slow=6.5,SNR=7.5						
SONM	**Songino Array**	**45.53**	**50**	P	**P**	**10 08 44.4**	**+0.5**
	comp=Z,0.7nm,0.9s,mb3.6,baz=252,slow=9.4,SNR=4.1						
SONM				LR	LR	10 32 10.3	
	comp=Z,70nm,18.5s,MS3.6,baz=257,slow=42						
HHC	**Hu-ho-hao-te**	**49.31**	**59**	*e*P	**P**	**10 09 12.3**	**-1.3**
HHC				AP	pP	10 09 16.5	-0.1
HHC				XP	sP	10 09 19.3	+1.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,92nm,4.8s						
HHC				LR	LR		
	comp=N,146nm,15.5s,MS4.3						
HHC				LR	LR		
	comp=E,175nm,10.7s,MS4.3						
HHC				LR	LR		
	comp=E,84nm,14.3s,MS3.9						
LSZ	**Lusaka**	**49.62**	**211**	*e*P	**P**	**10 09 17.8**	**+1.5**
	comp=Z,3.3nm,1.0s,mb4.3						
DBIC	**Dimbokro**	**58.05**	**259**	P	**P**	**10 10 17.2**	**-1.2**
	comp=Z,4.4nm,0.7s,mb4.6,baz=38,slow=10,SNR=12						
DBIC	**Dimbokro**	**58.05**	**259**	*e*P	**P**	**10 10 17.1**	**-1.2**
	comp=Z,13nm,1.3s,mb4.8						
DBIC	**Dimbokro**	**58.05**	**259**	*e*P	**P**	**10 10 17.1**	**-1.3**
	comp=Z,13nm,1.3s,mb4.8						
KIC	**Kosan Boka**	**58.11**	**259**	*e*P	**P**	**10 10 17.5**	**-1.2**
	comp=Z,116nm,1.9s						
TIC	**Toumodi**	**58.21**	**259**	*e*P	**P**	**10 10 18.4**

IRIF				S		**Sn**	**10 35 32.8**	**+0.3**
JKRS	**Kuro-shima**	**2.71**	**60**	P		**Pn**	**10 35 04.9**	**+1.3**
JKRS				*e*S		**Sn**	**10 35 36.6**	**-0.2**
JIJ	**Ishigaki jima**	**2.88**	**59**	P		**Pn**	**10 35 07.2**	**+1.2**
JIJ				S		**Sn**	**10 35 39.7**	**-1.3**
QZH	**Quanzhou**	**3.31**	**309**	P		**Pn**	**10 35 11.3**	**-0.8**
QZH				S		**Sn**	**10 35 47.5**	**-4.4**
QZH				Smax				
	comp=N,680nm,0.7s							
QZH				Smax				
	comp=E,780nm,0.6s							
JTJ	**Tarama**	**3.46**	**59**	P		**Pn**	**10 35 15.4**	**+1.2**
JTJ				S		**Sn**	**10 35 54.4**	**-1.3**
JMJ	**Miyako jima 2**	**4.01**	**61**	*e*S		**Sn**	**10 36 09.3**	**-0.5**
JOGS	**Gusukube**	**4.08**	**62**	P		**Pn**	**10 35 24.5**	**+1.4**
JOGS				*e*S		**Sn**	**10 36 11.1**	**-0.3**
JKE	**Kume jima 2**	**5.95**	**54**	P		**Pn**	**10 35 48.9**	**-0.5**
JOW	**Kunigami**	**7.34**	**56**	Pn		**Pn**	**10 36 06.6**	**-2.5**
	comp=E,3.1nm,0.3s,baz=160,slow=23,SNR=24							
JOW				Sn		**Sn**	**10 37 26.4**	**-7.0**
	comp=E,1.6nm,0.3s,baz=94,slow=26,SNR=2.0							
JOW	**Kunigami**	**7.34**	**56**	P		**Pn**	**10 36 06.9**	**-2.2**
SSE	**Sheshan**	**8.17**	**358**	PG		Px	10 36 41.8	
SSE				AMB	AMB			
	comp=Z,53nm,0.8s							
SSE				AMB	AMB			
	comp=Z,271nm,3.9s							
SSE				LR	LR			
	comp=N,571nm,12.3s							
SSE				LR	LR			
	comp=E,673nm,12.3s							
SSE				LR	LR			
	comp=Z,790nm,11.1s							
NJ2	**Nanjing**	**9.40**	**346**	*e*P		**P**	**10 36 38.3**	**+0.5**
NJ2				AP			10 36 41.1	
NJ2				XP			10 36 44.3	
NJ2				S		**Sn**	**10 38 22.6**	**-2.1**
NJ2				XS			10 38 29.5	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
NJ2				AMB	AMB			
	comp=Z,40nm,4.2s							
NJ2				LR	LR			
	comp=N,2μm,12.3s							
NJ2				LR	LR			
	comp=E,3μm,20.2s							
NJ2				LR	LR			
	comp=Z,940nm,22.1s							
GYA	**Guiyang**	**13.89**	**288**	P		**P**	**10 37 39.8**	**+1.2**
GYA				S		**S**	**10 40 05.5**	**-8.3**
GYA				LR	LR			
	comp=N,790nm,9.9s							
GYA				LR	LR			
	comp=E,1μm,11.7s							
GYA				LR	LR			
	comp=Z,2μm,10.5s							
HHC	**Hu-ho-hao-te**	**19.74**	**337**	*e*P		**P**	**10 38 56.0**	**+4.0**
HHC				AP			10 39 00.0	
HHC				XP			10 39 02.9	
HHC				PP	PP		10 39 15.5	+5.1
HHC				AMB	AMB			
	comp=Z,22nm,0.5s							
HHC				AMB	AMB			
	comp=Z,199nm,4.3s							
HHC				LR	LR			
	comp=N,411nm,14.3s							
HHC				LR	LR			
	comp=E,723nm,12.5s							
HHC				LR	LR			
	comp=Z,397nm,15.2s							
MJAR	**Matsushiro Arr**	**19.89**	**43**	P		**P**	**10 38 52.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=225,slow=10,SNR=4.9							
LZH	**Lanzhou**	**20.14**	**315**	*e*P		**P**	**10 38 58.8**	**+2.5**
LZH				PP	PP		10 39 18.0	+2.0
LZH				AMB	AMB			
	comp=Z,80nm,1.4s							
LZH				AMB	AMB			
	comp=Z,200nm,4.0s							
LZH				LR	LR			
	comp=E,1μm,12.3s							
LZH				LR	LR			
	comp=Z,1μm,14.6s,MS4.3							
GTA	**Gaotai**	**24.67**	**317**	*e*P		**P**	**10 39 45.8**	**+4.4**
GTA				AMB	AMB			
	comp=Z,4.0nm,1.2s,mb3.8							
GTA				AMB	AMB			
	comp=Z,131nm,5.0s							
GTA				LR	LR			
	comp=N,303nm,13.4s,MS4.2							
GTA				LR	LR			
	comp=E,439nm,13.0s,MS4.2							
GTA				LR	LR			
	comp=Z,576nm,13.4s,MS4.2							
SONM	**Songino Array**	**27.64**	**338**	P		**P**	**10 40 07.7**	**-1.2**
	comp=Z,0.9nm,0.8s,mb3.4,baz=165,slow=7.6,SNR=4.1							
SONM				LR	LR		10 52 31.4	
	comp=Z,273nm,21.4s,MS3.8,baz=152,slow=40							
MKAR	**Makanchi Array**	**39.43**	**317**	P		**P**	**10 41 51.0**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.0,baz=113,slow=9.2,SNR=18							
MKAR	**Makanchi Array**	**39.43**	**317**	P		**P**	**10 41 51.0**	**0.0**
FITZ	**Fitzroy Crossi**	**40.95**	**174**	P		**P**	**10 42 04.0**	**+0.2**
	comp=Z,7.9nm,0.9s,mb4.3,baz=47,slow=4.1,SNR=3.9							
ZAL	**Zalesovo**	**41.46**	**328**	P		**P**	**10 42 06.3**	**-1.3**
	comp=Z,1.1nm,0.4s,mb3.9,baz=2.8,slow=12,SNR=4.9							
ZAL				LR		LR	10 59 01.4	
	comp=Z,55nm,20.7s,MS3.4,baz=141,slow=36							
KURK	**Kurchatov**	**43.23**	**321**	*e*P		**P**	**10 42 24.2**	**+2.1**
	comp=Z,2.1nm,0.8s,mb3.9							
WRAB	**Tennant Creek**	**44.39**	**163**	P		**P**	**10 42 31.2**	**-0.7**
	comp=Z,3.9nm,0.9s,mb4.1							
WRA	**Warramunga Arr**	**44.40**	**163**	P		**P**	**10 42 31.3**	**-0.8**
	comp=Z,1.9nm,0.9s,mb3.8,baz=344,slow=8.9,SNR=16							
BVAR	**Borovoye Array**	**48.82**	**321**	P		**P**	**10 43 06.8**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=90,slow=7.4,SNR=4.3							
STKA	**Stephens Creek**	**57.78**	**160**	P		**P**	**10 44 12.9**	**-0.1**
	comp=Z,3.2nm,1.0s,mb4.3,baz=301,slow=14,SNR=4.7							
ILAR	**Eielson Array**	**70.25**	**27**	P		**P**	**10 45 33.5**	**-0.6**
	comp=Z,0.2nm,0.8s,mb3.1,baz=281,slow=4.6,SNR=2.9							
ARCES	**ARCESS Array B**	**70.82**	**338**	LR		LR	11 19 47.7	
	comp=Z,84nm,18.5s,MS4.0,baz=154,slow=39							
FINES	**FINESS Array B**	**72.67**	**330**	P		**P**	**10 45 47.5**	**-1.2**
	comp=Z,2.3nm,0.9s,mb4.1,baz=18,slow=6.0,SNR=3.5							
FINES				LR		LR	11 21 54.0	
	comp=Z,64nm,20.8s,MS3.9,baz=342,slow=39							
BRTR	**Keskin Array B**	**74.12**	**307**	P		**P**	**10 45 58.5**	**+0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=127,slow=6.2,SNR=4.2							
NOA	**NORSAR Array B**	**79.47**	**332**	P		**P**	**10 46 25.7**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=58,slow=5.8,SNR=3.3							
NOA				LR		LR	11 21 05.7	
	comp=Z,25nm,20.8s,MS3.5,baz=65,slow=35							
GERES	**GERESS Array B**	**83.98**	**321**	P		**P**	**10 46 50.2**	**-0.7**
	comp=Z,0.5nm,0.3s,mb4.0,baz=56,slow=4.8,SNR=6.6							
SDV	**Santo Domingo**	**146.28**	**22**	PKPbc		PKPbc	10 54 01.7	+0.8
	comp=Z,3.4nm,0.7s,baz=56,slow=3.6,SNR=6.4							

*NNC **23** 10:47:35.6±4.8,41.91N×82.42E,mpv3.4,Error ellipse: s-maj=45.3km s-min=21.9km az=154.0*

BJI 23 10:47:34.5,41.92N×82.37E,h7km,ML3.8,Ms3.5,Msz3.4, 6C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.35**	**62**	*e*P		Pn	10 48 42.5	-0.1
WMQ				S		Sn	10 49 33.0	-1.2
WMQ				Smax				
	comp=N,69nm,1.0s							
WMQ				Smax				
	comp=E,70nm,0.9s							
MK31	**Makanchi Array**	**4.87**	**359**	⇑Pn		Pn	10 48 49.7	-0.3
	comp=E,0.5nm,0.2s,baz=185,slow=12,SNR=76							
MK31				⇑Pg		Pg	10 49 03.4	-8.4
	comp=E,3.4nm,0.4s,baz=173,slow=16,SNR=15							
MK31				⇑Lg			10 50 12.0	
	comp=E,18nm,0.7s,baz=179,slow=29,SNR=3.9							
AAK	**Ala-Archa**	**5.89**	**280**	⇓Pg		Pg	10 49 23.6	-8.4
	comp=E,3.8nm,0.5s							
AAK				⇑Lg			10 50 46.4	
	comp=E,14nm,1.2s							
KURK	**Kurchatov**	**9.17**	**345**	⇑Pn		P	10 49 51.3	+1.1
	comp=E,3.4nm,1.5s							
KURK				⇑Lg			10 52 30.2	
	comp=E,5.2nm,0.9s							

*NEIC **23** 10:58:22.3,20.12N×63.84W,h25km,MD3.8(RSPR),*

After RSPR.

RSPR 23 10:58:22.3,20.12N×63.84W,h25km×20km,MD3.8/4, MD3.8/4,2C-2D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CELP	**Cerrillos**	**3.30**	**232**	⇑*e*P		Pn	10 59 10.6	-3.1
ICM	**Isla Caja Muer**	**3.37**	**229**	⇑*e*P		Pn	10 59 12.3	-2.4
ICM				*e*S		Sn	10 59 50.6	-3.7
MGP	**Maguayo**	**3.73**	**236**	⇓*e*P		Pn	10 59 16.7	-3.0
CRPR	**Cabo Rojo, PR**	**3.74**	**236**	⇓*e*P		Pn	10 59 17.2	-2.8
CRPR				*e*S		Sn	11 00 00.0	-3.7

*IDC **23** 10:59:12.5±1.2,22.98N×121.34E,mb3.7/5,mb1 3.8/6, mb1mx3.7/20,mbtmp3.7/6,ML3.6/1,MS3.1/2,Ms1 3.1/2, ms1mx2.7/25,Error ellipse: s-maj=44.4km s-min=24.8km az=64.0*

*NEIC **23** 10:59:14.1±0.9,22.98N×121.36E,h10km,Error ellipse: s-maj=19.7km s-min=13.3km az=95.0*

*JMA **23** 10:59:17.4±0.3,22.99N×121.40E,h83km,M3.3*

ISC 23 10:59:16.8±1.4,23.0N±0.1×121.37E±0.06,h44km±13km, n20,σ0≤80/26,mb3.5/5,MS3.3/1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.21**	**10**	*e*Pg		**P**	**10 59 35.9**	**-1.8**
YHNB	**Yeheng**	**1.69**	**0**	*e*Pn		**P**	**10 59 44.6**	**+0.1**
TATO	**Taipei**	**2.00**	**3**	*e*Pn		**P**	**10 59 49.9**	**+1.1**
YOJ	**Yonaguni jima**	**2.12**	**45**	P		**P**	**10 59 51.0**	**+0.5**
YOJ				S		**S**	**11 00 16.5**	**+0.8**
HATJ	**Hateruma jima**	**2.49**	**64**	P		**P**	**10 59 56.0**	**+0.2**
HATJ				*e*S		**S**	**11 00 24.8**	**-0.3**
IRIF	**Iriomote-Funau**	**2.56**	**58**	P		**P**	**10 59 57.3**	**+0.5**
IRIF				*e*S		**S**	**11 00 27.4**	**+0.5**
JKRS	**Kuro-shima**	**2.73**	**62**	P		**P**	**10 59 59.9**	**+0.6**
JKRS				*e*S		**S**	**11 00 31.7**	**+0.3**
JIJ	**Ishigaki jima**	**2.90**	**61**	P		**P**	**11 00 01.4**	**-0.3**
JIJ				S		**S**	**11 00 34.3**	**-1.3**
JTJ	**Tarama**	**3.48**	**61**	P		**P**	**11 00 09.7**	**-0.2**
JTJ				*e*S		**S**	**11 00 50.2**	**-0.1**
JMJ	**Miyako jima 2**	**4.04**	**62**	P		**P**	**11 00 17.9**	**+0.1**
JOGS	**Gusukube**	**4.11**	**64**	P		**P**	**11 00 19.1**	**+0.4**
JOW	**Kunigami**	**7.36**	**57**	Pn		**P**	**11 01 01.6**	**-2.8**
	2.4nm,0.3s,baz=290,slow=8.7,SNR=8.9							
JOW				Sn		**S**	**11 02 22.6**	**-4.7**
	0.2nm,0.3s,baz=104,slow=10.0,SNR=1.8							
JNU	**Nakatsue**	**13.14**	**38**	LR		LR	11 07 58.5	
	comp=Z,61nm,21.0s,baz=285,slow=40							
SONM	**Songino Array**	**27.55**	**338**	P		**P**	**11 05 00.7**	**-0.8**
	0.3nm,0.7s,mb3.0,baz=166,slow=12,SNR=2.5							
MKAR	**Makanchi Array**	**39.33**	**317**	P		**P**	**11 06 42.8**	**-0.5**
	0.6nm,0.6s,mb3.5,baz=118,slow=10,SNR=4.2							
MKAR				LR		LR	11 23 05.9	
	comp=Z,40nm,18.9s,MS3.3,baz=1.3,slow=36							
WRA	**Warramunga Arr**	**44.49**	**162**	P		**P**	**11 07 25.9**	**-0.1**
	0.4nm,0.5s,mb3.4,baz=344,slow=9.2,SNR=10							
FINES	**FINESS Array B**	**72.57**	**330**	P		**P**	**11 10 41.6**	**+0.8**
	0.8nm,0.5s,mb3.9,baz=90,slow=9.5,SNR=3.7							
NB2	**NORSAR Subarra**	**79.37**	**332**	P		**P**	**11 11 20.3**	**+0.9**
	0.4nm,0.4s,mb3.7,baz=57,slow=5.3							
NOA	**NORSAR Array B**	**79.37**	**332**	P		**P**	**11 11 19.9**	**+0.5**
	0.4nm,0.4s,mb3.7,baz=56,slow=7.9,SNR=2.8							
NOA	**NORSAR Array B**	**79.37**	**332**	P		**P**	**11 11 19.9**	**+0.5**

*ATH **23** 11:01:44.7,35.29N×26.95E,h21km,MD3.8/4*

CSEM 23 11:01:42.2,35.04N×27.13E,h5km,MD3.8/4,After ATH, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.51**	**3**	*e*Pb		Pb	11 01 51.6	-1.6
KARP				*e*Sb		Sb	11 01 59.8	-0.8
XRY	**Khrisi**	**1.19**	**262**	*e*PN		Pn	11 02 05.5	0.0
XRY	**Khrisi**	**1.19**	**262**	*e*Pg		Pg	11 02 04.5	-1.5
NPS	**Neapolis**	**1.26**	**281**	*e*PN		Pn	11 02 05.8	-0.7
NPS	**Neapolis**	**1.26**	**281**	*e*Pb		Pb	11 02 06.8	+0.7
ARG	**Arkhangelos**	**1.43**	**34**	*e*PN		Pn	11 02 09.9	+1.1
ARG	**Arkhangelos**	**1.43**	**34**	*e*Pb		Pb	11 02 10.0	+1.1

MAN 23 11:15:22.7,9.38N×122.43E,h12km,mb4.4,ML3.3,MS3.1, 1C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.80**	**93**	⇓*i*P		Pb	11 15 38.0	0.0
SNPH				*i* S		Sb	11 15 49.0	+0.5
TBP	**Tagbilaran**	**1.45**	**78**	*e*P		Pn	11 15 47.4	-1.5
TBP				*e*S		Sb	11 16 06.1	-1.3
LLP	**Lapu-Lapu**	**1.78**	**58**	*e*P		Pn	11 15 52.7	-0.9
LLP				*i* S		Sn	11 16 14.9	-1.4
RCP	**Roxas**	**2.19**	**8**	⇑*e*P		Pn	11 16 28.4	+29
OTRP	**Odiongan**	**2.99**	**352**	*e*P		Pn	11 16 10.7	-0.2

*NNC **23** 11:19:20.5±4.8,41.61N×82.99E,mpv3.7,Error ellipse: s-maj=49.5km s-min=21.1km az=141.0*

*BJI **23** 11:19:24.1,41.75N×82.45E,h7km,ML4.0,Ms3.4,Msz3.5*

*IDC **23** 11:19:24.0±1.5,41.97N×83.16E,mb3.7/3,mb1 4.0/5, mb1mx3.7/19,mbtmp3.8/5,ML3.4/2,Error ellipse: s-maj=49.6km s-min=20.6km az=74.0*

*NEIC **23** 11:19:25.6±1.2,41.84N×82.85E,h10km,Error ellipse: s-maj=21.8km s-min=16.0km az=53.0*

ISC 23 11:19:23.1±0.9,41.78N±0.09×82.6E±0.1,h10km,n12, σ1≤24/15,mb3.7/3,4C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.27**	**60**	*e*P		**Pn**	**11 20 33.5**	**+3.9**
WMQ				S		**Sn**	**11 21 26.4**	**+6.3**
WMQ				Smax				
	comp=N,104nm,0.8s							
WMQ				Smax				
	comp=E,119nm,0.8s							
WMQ				LR		LR		
	comp=N,339nm,3.0s							
MK31	**Makanchi Array**	**5.02**	**358**	⇑Pn		**Pn**	**11 20 40.5**	**+0.2**
	comp=N,2.1nm,0.2s,baz=188,slow=12,SNR=83							
MK31				Pg		**Pg**	**11 20 55.1**	**-8.2**
	comp=N,9.4nm,0.6s,baz=172,slow=16,SNR=15							
MK31				⇑Lg			11 22 04.4	
	comp=N,21nm,0.5s,baz=170,slow=28,SNR=5.1							
MKAR	**Makanchi Array**	**5.02**	**358**	Pn		**Pn**	**11 20 39.7**	**-0.6**
	comp=N,2.8nm,0.3s,baz=179,slow=12,SNR=27							
MKAR				Pg		**Pg**	**11 20 56.0**	**-7.2**
	comp=N,6.8nm,0.3s,baz=174,slow=16,SNR=18							
MKAR				Lg			11 21 58.5	
	comp=N,4.4nm,0.3s,baz=178,slow=30,SNR=3.9							
KSH	**Kashi**	**5.53**	**248**	*e*P		**Pn**	**11 20 46.8**	**-0.7**
KSH				S		**Sn**	**11 21 51.8**	**0.0**
KSH				Smax				
	comp=N,120nm,0.6s							
KSH				Smax				
	comp=E,190nm,0.8s							
AAK	**Ala-Archa**	**6.08**	**281**	Pn		**Pn**	**11 20 55.0**	**-0.3**
	comp=E,2.0nm,0.7s							
AAK				⇓Pg		**Pg**	**11 21 19.1**	**-5.4**
	comp=E,12nm,1.1s							
AAK				⇑Lg			11 22 42.4	
	comp=E,15nm,0.8s							
KK31	**Karatay Array**	**9.04**	**282**	⇑Lg			11 24 17.3	
	comp=E,3.7nm,0.6s,baz=79,slow=29,SNR=4.4							
ZAL	**Zalesovo**	**12.25**		6	Pn	**P**	**11 22 18.6**	**-1.9**
	comp=E,0.5nm,0.3s,baz=299,slow=6.1,SNR=3.3							
ZAL				Lg			11 25 51.6	
	baz=220,slow=24,SNR=2.4							
BVAR	**Borovoye Array**	**13.94**	**328**	Lg			11 26 41.3	
	comp=E,0.1nm,0.3s,baz=128,slow=24,SNR=4.5							
SONM	**Songino Array**	**17.90**	**62**	P		**P**	**11 23 32.9**	**-0.7**
	comp=E,0.4nm,0.3s,baz=265,slow=9.7,SNR=4.7							
ARCES	**ARCESS Array B**	**40.16**	**333**	P		**P**	**11 27 02.3**	**+1.8**
	comp=E,1.3nm,0.7s,mb3.8,baz=90,slow=8.5,SNR=6.2							
NOA	**NORSAR Array B**	**45.89**	**320**	P		**P**	**11 27 48.8**	**+1.8**
	comp=E,0.6nm,0.6s,mb3.7,baz=81,slow=8.0,SNR=2.6							
WRA	**Warramunga Arr**	**77.84**	**131**	P		**P**	**11 31 22.1**	**-0.4**
	comp=E,0.4nm,0.7s,mb3.5,baz=327,slow=5.7,SNR=4.8							

*MOS **23** 11:22:48.4±2.4,43.42N×48.01E,h15km,mb4.2/1,Error ellipse: s-maj=23.7km s-min=10.7km az=47.0*

MOS Felt (II-III) at Makhachkala.

*CSEM **23** 11:22:52.1±0.7,43.22N×47.91E,mb4.2,Error ellipse: s-maj=13.9km s-min=7.9km az=149.0*

*NNC **23** 11:22:59.5±7.0,43.61N×47.89E,Error ellipse: s-maj=81.5km s-min=56.5km az=132.0*

ISC 23 11:22:52.0±0.6,43.20N±0.04×47.87E±0.05,h10km,n19, σ1≤41/30,6C-2D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.35**	**228**	*i* Pg		**Pg**	**11 22 57.6**	**-1.7**
BUJR	**Buynaksk**	**0.67**	**237**	*i* Pg		**Pg**	**11 23 05.0**	**-0.4**
BUJR				*i* Sg		**Sg**	**11 23 15.0**	**+0.6**
DBC	**Dubki**	**0.78**	**257**	*i* Pg		**Pg**	**11 23 04.0**	**-3.6**
	247nm,0.1s							
DBC	**Dubki**	**0.78**	**257**	⇓*i* PG		**Pg**	**11 23 04.0**	**-3.6**
DBC				pmax	pmax			
	comp=Z,247nm,0.1s							
DLMR	**Dylym**	**0.92**	**262**	*e*Pg		**Pg**	**11 23 10.8**	**+0.5**
	comp=Z,350nm,0.2s							
DLMR				*i* Sg		**Sg**	**11 23 25.0**	**+2.5**
DLMR	**Dylym**	**0.92**	**262**	*e*PG		**Pg**	**11 23 10.8**	**+0.5**
DLMR				*i* S		**Sg**	**11 23 25.0**	**+2.5**
DLMR				pmax	pmax			
	comp=Z,350nm,0.2s							
UNCR	**Uncukul**	**0.92**	**239**	*i* Pg		**Pg**	**11 23 05.7**	**-4.8**
	comp=Z,358nm,0.2s							
UNCR	**Uncukul**	**0.92**	**239**	⇑*i* PG		**Pg**	**11 23 05.7**	**-4.8**
UNCR				pmax	pmax			
	comp=Z,358nm,0.2s							
XNZR	**Khunzakh**	**1.08**	**233**	Pg		**Pg**	**11 23 11.0**	**-2.5**
XNZR				Sg		**Sg**	**11 23 28.0**	**+0.1**
KSMR	**Kasumkent**	**1.60**	**173**	*e*Pn		**Pn**	**11 23 23.0**	**+2.4**
KSMR				*e*Sg		**Sg**	**11 23 45.0**	**-0.5**
TI2	**Plekhanov**	**2.73**	**239**	⇑*i* P		**Pn**	**11 23 38.0**	**+1.3**
	comp=Z,30nm,0.4s							
TI2				*i* S		**Sn**	**11 24 15.0**	**+4.9**
	comp=Z,50nm,0.6s							
TI2	**Plekhanov**	**2.73**	**239**	⇑*i* PN		**Pn**	**11 23 38.0**	**+1.3**
TI2				*i* S		**Sn**	**11 24 15.0**	**+4.9**
TI2				pmax	pmax			
	comp=Z,30nm,0.4s							
TI2				smax				
	comp=E,50nm,0.6s							
ZEI	**Tsey**	**2.94**	**263**	*e*Pn		**Pn**	**11 23 38.4**	**-1.3**
	comp=E,7.0nm,0.1s							
ZEI				*e*Sn		**Sn**	**11 24 12.8**	**-2.7**
ZEI	**Tsey**	**2.94**	**263**	*e*PN		**Pn**	**11 23 38.4**	**-1.3**
ZEI				*e*			11 23 45.4	
ZEI				*e*			11 24 12.8	
ZEI				*e*			11 24 23.2	
ZEI				pmax	pmax			
	comp=Z,7.0nm,0.1s							
ZEI				pmax	pmax			
	comp=Z,13nm,0.1s							
ZEI				smax				
	comp=N,16nm,0.2s							
ZEI				smax				
	comp=N,45nm,0.1s							
KIV	**Kislovodsk**	**3.84**	**283**	Pn		**Pn**	**11 24 01.8**	**+9.4**
	comp=N,11nm,0.6s							
KIV	**Kislovodsk**	**3.84**	**283**	*e*Pg		**Pg**	**11 24 08.4**	**-0.2**
KIV	**Kislovodsk**	**3.84**	**283**	PN		**Pn**	**11 24 01.8**	**+9.4**
KIV				*e*			11 24 08.4	
KIV				S		**Sn**	**11 24 43.8**	**+5.6**
KIV				pmax	pmax			
	comp=Z,11nm,0.6s							
KIV				smax				
	comp=E,69nm,0.9s							
AKTO	**Aktyubinsk**	**10.03**	**40**	⇑P		**P**	**11 25 20.4**	**+1.3**
	comp=E,0.6nm,0.6s							
AKTO				⇑S		**S**	**11 27 11.8**	**-1.1**
	comp=E,1.5nm,1.6s							
AB31	**Akbulak array**	**10.32**	**50**	⇓P		**P**	**11 25 24.8**	**+1.7**
	comp=E,1.8nm,0.6s,baz=237,slow=13,SNR=12							
AB31				⇑S		**S**	**11 27 19.2**	**-0.8**
	comp=E,6.3nm,0.9s,baz=242,slow=24,SNR=7.2							

*NEIC **23** 11:25:18.0,63.18N×144.74W,h2km,ML2.8(AEIC),After AEIC.*

PGC 23 11:25:18.8,63.17N×144.74W,h1km,ML3.0/2, ML2.8/18(AEIC),235km southeast of Fairbanks, Ak Eastern Alaska.,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PAX	**Paxson**	**0.39**	**239**	P		Pg	11 25 25.6	-1.0
PAX				S		Sg	11 25 30.9	-0.7
PAX				Trac				
THY	**Trims Highway**	**0.52**	**299**	P		Pg	11 25 27.9	-1.2
THY				S		Sg	11 25 34.7	-1.3
THY				Trac				
MENT	**Mentasta**	**0.52**	**116**	*e*P		Pg	11 25 28.2	-1.0
DOT	**Dot Lake**	**0.57**	**32**	P		Pg	11 25 29.1	-1.1
DOT				S		Sg	11 25 36.5	-1.2
DOT				Trac				
SDG	**Sourdough**	**0.74**	**210**	P		Pg	11 25 32.4	-1.3
TZL	**Tazlina**	**1.17**	**196**	P		Pb	11 25 40.5	-1.1
WACK	**Wrangell Chich**	**1.21**	**171**	P		Pb	11 25 40.2	-1.8
WACK				S		Sb	11 25 56.7	-1.3
HDA	**Harding Lake**	**1.58**	**323**	P		Pn	11 25 47.2	-0.8
HDA				S		Sb	11 26 08.1	-0.9
HDA				Trac				
KLU	**Klutina**	**1.77**	**199**	P		Pn	11 25 49.7	-1.1
KLU				S		Sn	11 26 13.6	-0.7
GLB	**Gilahina Butte**	**1.79**	**166**	P		Pn	11 25 49.9	-1.1
GLB				S		Sn	11 26 13.6	-1.2
SCM	**Sheep Creek Mo**	**1.80**	**223**	P		Pn	11 25 50.1	-1.1
SCM				Trac				
IL1	**Eielson Array**	**1.86**	**330**	P		Pn	11 25 49.5	-2.7
IL1				Trac				
WRH	**Wood River Hil**	**1.98**	**313**	P		Pn	11 25 52.2	-1.5
WRH				Trac				
CCB	**Clear Creek Bu**	**2.01**	**319**	P		Pn	11 25 54.7	+0.6
CCB				S		Sn	11 26 20.6	+0.4
CCB				Trac				
DIV	**Divide**	**2.10**	**194**	P	

MORW					*e*S	Sb	11 44 00.2	-2.1
	109nm,0.2s							
MORW					*e*RG		11 44 09.2	
KLBR	**Kellerberrin**	**1.54**	**162**		*e*P	Pn	11 43 42.5	-1.8
KLBR					*e*S	Sb	11 44 02.9	-1.7
	75nm,0.2s							
KLBR					*e*RG		11 44 13.5	
NWAO	**Narrogin (SRO)**	**2.80**	**179**	⇑	*i*P	Pn	11 43 59.4	-2.9
NWAO					*e*		11 44 06.5	
NWAO					*e*S	Sn	11 44 35.2	-2.0
	152nm,0.4s							
NWAO					*e*RG		11 45 01.7	
MEEK	**Meekatharra**	**3.69**	**20**		*e*P	Pn	11 44 14.4	-0.6
MEEK					*e*S	Sn	11 44 53.0	-6.8
	26nm,0.2s							
RKGY	**Rocky Gully**	**4.48**	**182**		*e*P	Pn	11 44 23.5	-2.7
FITZ	**Fitzroy Crossi**	**14.22**	**35**		*e*P	P	11 46 34.2	-6.3
	2.7nm,0.4s							

TEH ***23*** *11:46:21.6,27.98N×52.93E,h4km,Mn3.7*
IDC ***23*** *11:46:21.4±2.2,28.17N×53.25E,mb4.0/7,mb1 4.0/8, mb1mx3.8/21,mbtmp4.0/8,ML3.7/1,MS2.9/2,Ms1 2.9/2, ms1mx2.7/23,Error ellipse: s-maj=53.9km s-min=22.2km az=161.0*
CSEM ***23*** *11:46:27.9±0.2,28.46N×52.96E,h35km,ML3.7,Error ellipse: s-maj=6.3km s-min=2.1km az=44.0*
NEIC ***23*** *11:46:28.2±0.9,28.36N×53.04E,h35km,mb3.8/1, ML3.5(THR),MN3.7(TEH),Error ellipse: s-maj=13.7km s-min=10.1km az=204.0*
THR ***23*** *11:46:29.0±0.9,28.74N×53.35E,h15km,ML3.5*

ISC 23 11:46:21.9±0.8,28.22N±0.07×53.03E±0.06,h10km,n36, σ1ᵍ46/44,mb3.9/8,MS3.0/1,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMOK	**Mook**	**0.87**	**342**	Pg	**Pg**	**11 46 41.0**	**+1.6**
IPAR	**Pars**	**1.62**	**1**	Pn	**Pn**	**11 46 46.7**	**-4.0**
BNDS	**Bandar-Abbas**	**2.90**	**106**	*e*Pn	**Pb**	**11 47 15.5**	**+2.1**
BNDS				*e*SG	**Sg**	**11 47 57.6**	**-1.0**
BNDS				AML	AML	11 48 10.0	
	comp=N,157nm,0.8s						
BNDS	**Bandar-Abbas**	**2.90**	**106**	Pn	**Pb**	**11 47 15.0**	**+1.6**
BNDS				Sg	**Sg**	**11 47 57.0**	**-1.6**
BNDS	**Bandar-Abbas**	**2.90**	**106**	*e*Pn	**Pb**	**11 47 15.5**	**+2.1**
	SNR=52						
BNDS				*e*Sg	**Sg**	**11 47 57.6**	**-1.0**
	comp=N,157nm,0.8s,SNR=90						
IMEH	**Mehriz**	**3.45**	**23**	Pn	**Pn**	**11 47 18.7**	**+1.8**
KRBR	**Kerman**	**3.71**	**61**	*e*PN	**Pn**	**11 47 21.8**	**+1.2**
KRBR				*e*SG	**Sn**	**11 48 09.7**	**+4.8**
KRBR				AML	AML	11 48 32.2	
	comp=N,101nm,0.6s						
KRBR	**Kerman**	**3.71**	**61**	Pn	**Pn**	**11 47 21.0**	**+0.4**
KRBR				Sg	**Sn**	**11 48 09.0**	**+4.2**
KRBR	**Kerman**	**3.71**	**61**	*e*Pn	**Pn**	**11 47 21.8**	**+1.2**
	SNR=52						
KRBR				*e*Sg	**Sn**	**11 48 09.7**	**+4.9**
	comp=N,101nm,0.6s,SNR=90						
ISAD	**Sadrabad**	**3.73**	**9**	Pn	**Pn**	**11 47 23.2**	**+2.4**
IBAF	**Bafgh**	**4.02**	**33**	Pn	**Pn**	**11 47 26.7**	**+1.7**
ICHK	**Chekchek**	**4.19**	**16**	Pn	**Pn**	**11 47 29.1**	**+1.7**
NASN	**Na'in**	**4.57**	**358**	*e*PN	**Pn**	**11 47 34.1**	**+1.3**
NASN				Sn	**Sn**	**11 48 20.0**	**-6.6**
NASN	**Na'in**	**4.57**	**358**	Pn	**Pn**	**11 47 34.0**	**+1.2**
NASN				Sn	**Sn**	**11 48 20.0**	**-6.6**
IZEF	**Zefreh**	**4.70**	**353**	Pn	**Pn**	**11 47 29.8**	**-4.8**
IPIR	**Pirpir**	**4.82**	**338**	Pn	**Pn**	**11 47 34.7**	**-1.6**
IKLH	**Kalahroud**	**5.24**	**347**	Pn	**Pn**	**11 47 38.3**	**-3.9**
ASAO	**Ashtian**	**6.81**	**339**	*e*Pn	**Pn**	**11 48 05.1**	**+0.7**
ASAO	**Ashtian**	**6.81**	**339**	Pn	**Pn**	**11 48 05.0**	**+0.6**
IQOM	**Qom**	**6.81**	**346**	Pn	**Pn**	**11 48 03.9**	**-0.5**
IVRN	**Varamin**	**6.85**	**351**	Pn	**Pn**	**11 48 04.7**	**-0.2**
IVRN				Sn	**Sn**	**11 49 21.2**	**-2.5**
IDMV	**Damavand**	**7.39**	**354**	Pn	**Pn**	**11 48 11.9**	**-0.6**
DAMV	**Damavand**	**7.44**	**353**	*e*Pn	**Pn**	**11 48 12.7**	**-0.6**
DAMV	**Damavand**	**7.44**	**353**	Pn	**Pn**	**11 48 12.0**	**-1.3**
ATD	**Arta Tunnel**	**19.14**	**212**	LR	LR	11 58 52.7	
	comp=N,31nm,20.1s,baz=1.3,slow=39						
BRTR	**Keskin Array B**	**19.71**	**311**	P	**P**	**11 50 54.0**	**-0.3**
	comp=N,0.2nm,0.3s,baz=120,slow=15,SNR=3.4						
IDI	**Anoyia**	**24.89**	**294**	P	**P**	**11 51 48.8**	**+2.6**
	comp=N,9.4nm,1.0s,mb4.3,baz=122,slow=15,SNR=3.0						
BVAR	**Borovoye Array**	**27.92**	**23**	P	**P**	**11 52 13.8**	**-0.3**
	comp=N,0.8nm,0.5s,mb3.6,baz=225,slow=8.2,SNR=3.6						
MKAR	**Makanchi Array**	**29.46**	**43**	P	**P**	**11 52 25.6**	**-2.4**
	comp=N,1.4nm,0.9s,mb3.7,baz=231,slow=9.6,SNR=7.4						
KURK	**Kurchatov**	**29.65**	**34**	P	**P**	**11 52 28.7**	**-1.0**
	comp=N,1.6nm,0.8s,mb3.8						
KURK	**Kurchatov**	**29.65**	**34**	P	**P**	**11 52 28.7**	**-1.0**
	comp=N,1.6nm,0.8s,mb3.8						
ZAL	**Zalesovo**	**34.62**	**33**	P	**P**	**11 53 11.0**	**-2.1**
	comp=N,2.1nm,0.3s,mb4.5,baz=236,slow=7.5,SNR=8.5						
ZAL				LR	LR	12 08 26.7	
	comp=N,24nm,18.3s,MS3.0,baz=93,slow=38						
FINES	**FINESS Array B**	**37.77**	**339**	P	**P**	**11 53 39.3**	**-0.3**
	comp=N,1.7nm,0.7s,mb3.9,baz=135,slow=11,SNR=7.8						
SONM	**Songino Array**	**45.39**	**49**	P	**P**	**11 54 41.0**	**-1.2**
	comp=N,0.4nm,0.8s,mb3.3,baz=270,slow=8.6,SNR=3.0						
DBIC	**Dimbokro**	**58.65**	**260**	P	**P**	**11 56 21.9**	**-0.1**
	comp=N,1.4nm,0.7s,mb4.1,baz=56,slow=6.4,SNR=3.9						
DBIC	**Dimbokro**	**58.65**	**260**	P	**P**	**11 56 21.9**	**-0.1**

NNC ***23*** *12:05:20.7±4.0,38.90N×70.13E,mpv3.7,Error ellipse: s-maj=31.2km s-min=24.3km az=175.0*

ISC 23 12:05:17.6±2.0,38.8N±0.1×69.9E±0.1,h10km,n12, σ0ᵍ98/15,3C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.36**	**6**	⇑Pn	**Pn**	**12 06 27.0**	**+1.5**
	1.1nm,0.2s,baz=179,slow=13,SNR=94						
KK31				⇑Pg	**Pg**	**12 06 37.0**	**-7.7**
	4.7nm,0.3s,baz=307,slow=2.4,SNR=12						
KK31				⇑Sn	**Sn**	**12 07 17.5**	**+0.5**
	6.6nm,0.3s						
KK31				Lg		12 07 32.6	
	43nm,0.6s,baz=178,slow=30,SNR=6.2						
AML	**Almayashu**	**4.42**	**39**	P	**Pn**	**12 06 25.6**	**-0.8**
	SNR=40						
EKS2	**Erkin-Say**	**4.87**	**36**	P	**Pn**	**12 06 33.2**	**+0.4**
	SNR=15						
UCH	**Uchtor**	**4.92**	**44**	P	**Pn**	**12 06 32.8**	**-0.7**
	SNR=16						
AAK	**Ala-Archa**	**5.20**	**40**	P	**Pn**	**12 06 37.8**	**+0.5**
	SNR=12						
AAK	**Ala-Archa**	**5.20**	**40**	⇓Pn	**Pn**	**12 06 37.1**	**-0.3**
	15nm,0.4s						
AAK				⇓Sn	**Sn**	**12 07 36.7**	**-1.4**
	18nm,0.6s						
AAK				⇓Lg		12 07 58.2	
	29nm,0.9s						
KZA	**Kyzart**	**5.24**	**49**	P	**Pn**	**12 06 37.1**	**-0.9**
	SNR=5.2						
CHMS	**Chumysh**	**5.59**	**39**	P	**Pn**	**12 06 43.7**	**+0.8**
	SNR=10.0						
USP	**Ospenovka**	**5.67**	**36**	P	**Pn**	**12 06 44.3**	**+0.3**
	SNR=12						
ULHL	**Ulahol**	**5.94**	**52**	P	**Pn**	**12 06 48.8**	**+1.0**
	SNR=8.6						
TKM2	**Tokmak 2**	**5.98**	**44**	P	**Pn**	**12 06 49.0**	**+0.6**
	SNR=24						
AB31	**Akbulak array**	**12.70**	**329**	P	**P**	**12 08 18.9**	**-2.2**
	3.7nm,0.5s,baz=145,slow=11,SNR=109						

NIED ***23*** *12:07:00,42.80N×145.60E,h32km,Mw3.6 Best double couple: M₀3.1×10¹⁴ NP1:φ₅67°,δ50°,λ114°. NP2:φ₅212°, δ45°,λ64°.*

JMA 23 12:07:54.1±0.1,42.84N×145.58E,h45km±1km,M3.7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.54**	**13**	P	P	12 08 05.4	-0.2
NEM2				*e*S	S	12 08 13.4	-0.4
JAK	**Akkeshi**	**0.67**	**284**	P	P	12 08 07.3	+0.1
JAK				*e*S	S	12 08 17.0	+0.1
JNK	**Nakash**	**0.97**	**320**	P	P	12 08 11.4	-0.1
JNK				*e*S	S	12 08 23.7	-0.8
JRA	**Rausu**	**1.15**	**343**	P	P	12 08 14.1	+0.2
JRA				*e*S	S	12 08 28.9	+0.2
JOB	**Onbets**	**1.28**	**273**	P	P	12 08 15.9	-0.1
JAR	**Ashorobuto**	**1.40**	**290**	P	P	12 08 17.5	-0.2
JCH	**Churui**	**1.65**	**263**	P	P	12 08 20.8	-0.4
JTKR	**Abashiri--Toko**	**1.66**	**313**	P	P	12 08 21.7	+0.4

IDC 23 12:13:43.9±4.8,22.47N×146.22E,mb3.7/4,mb1 3.9/4, mb1mx3.7/19,mbtmp3.7/4,MS2.6/1,Ms1 2.6/1, ms1mx2.3/32,Error ellipse: s-maj=188.5km s-min=28.6km az=78.0,North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**8.93**	**189**	LR	LR	12 19 14.7	
	comp=Z,38nm,18.7s,baz=284,slow=37						
SONM	**Songino Array**	**40.59**	**318**	P	P	12 21 25.9	-0.9
	1.1nm,0.8s,baz=127,slow=8.0,SNR=7.2						
WRA	**Warramunga Arr**	**43.72**	**196**	P	P	12 21 50.9	-1.9
	0.3nm,0.6s,baz=17,slow=8.3,SNR=8.9						
ZAL	**Zalesovo**	**55.38**	**321**	P	P	12 23 19.4	-2.6
	0.8nm,0.3s,baz=31,slow=2.4,SNR=3.5						
MKAR	**Makanchi Array**	**56.26**	**312**	P	P	12 23 25.6	-2.7
	0.3nm,0.6s,baz=88,slow=8.2,SNR=3.9						
MKAR				PcP	PcP	12 24 23.6	-2.3
	0.6nm,0.7s,baz=90,slow=5.8,SNR=5.4						

IGQ 23 12:38:53.9,2.28S×79.44W,h25km±4km,mb4.0,3C-6D, Error ellipse: s-maj=5.7km s-min=3.3km az=46.0,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARRY	**Arrayan**	**1.25**	**52**	⇓P	Pn	12 39 17.4	+1.5
ARRY				S	Sn	12 39 33.5	+1.4
CUSU	**Cusua**	**1.27**	**49**	P	Pn	12 39 18.3	+2.1
JUIV	**Juive**	**1.29**	**49**	⇓P	Pn	12 39 18.6	+2.0
JUIV				S	Sn	12 39 35.8	+2.6
QIL1	**Quilotoa**	**1.51**	**20**	⇓P	Pn	12 39 21.8	+2.1
QIL1				S	Sn	12 39 42.3	+3.6
PISA	**Pisayambo**	**1.61**	**41**	P	Pn	12 39 23.1	+2.1
CAMI	**Rancho Maria**	**1.85**	**30**	P	Pn	12 39 27.3	+2.8
TAMB	**Tambo**	**1.90**	**34**	P	Pn	12 39 27.4	+2.1
VC1	**Cotopaxi 1**	**1.93**	**33**	P	Pn	12 39 28.2	+2.5
JUA2	**San Juan 2**	**2.21**	**22**	⇑P	Pn	12 39 34.8	+5.0
MAG1	**Magdalena**	**2.22**	**351**	P	Pn	12 39 31.0	+1.2
ANTI	**Antisana**	**2.22**	**35**	⇑P	Pn	12 39 31.3	+1.4
TERV	**Terraza Guagua**	**2.25**	**22**	P	Pn	12 39 32.9	+2.6
GGP	**Refugio Guagua**	**2.25**	**22**	⇑P	Pn	12 39 33.0	+2.7
PINO	**Pino**	**2.27**	**22**	⇓P	Pn	12 39 32.8	+2.3
YANA	**Yana**	**2.31**	**22**	⇓P	Pn	12 39 33.2	+2.0
YANA				S	Sn	12 40 02.3	+3.1
JOR1	**San Jorge 1**	**2.40**	**19**	P	Pn	12 39 31.7	-0.7
CAYR	**Refugio Cayamb**	**2.69**	**32**	P	Pn	12 39 42.4	+5.8
ANGU	**Angureal**	**2.72**	**32**	⇓P	Pn	12 39 38.9	+2.0
COTA	**Cotacachi**	**2.82**	**23**	P	Pn	12 39 42.1	+3.7
ECEN	**Cerro Negro**	**3.41**	**25**	P	Pn	12 39 49.3	+2.4

DHMR 23 12:42:20.0±0.2,12.64N×40.49E,h10km,ML3.9,5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.64**	**68**	⇓*e*P	Pn	12 43 19.4	+1.8
UDYN				*i* S	Sn	12 44 05.6	+4.6
UDYN				AML	AML	12 44 31.2	
	comp=E,437nm,0.7s						
DHBB	**Dhamar BB**	**4.25**	**63**	⇓*e*P	Pn	12 43 27.6	+1.2
DHBB				*i* S	Sn	12 44 20.3	+3.6
LBOS		**4.80**	**75**	⇓*e*P	Pn	12 43 34.8	+0.7
LBOS				*i* S	Sn	12 44 33.2	+2.8
BDHA	**Al Bayda'**	**5.12**	**74**	⇓*e*P	Pn	12 43 39.1	+0.5
BDHA				⇓*i*S	Sn	12 44 40.7	+2.2

DHMR 23 12:54:38.5±0.4,12.67N×40.56E,h12km±49km,ML3.8,3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.56**	**68**	*e*P	Pn	12 55 36.4	+1.6
UDYN				AML	AML	12 55 50.2	
	comp=Z,346nm,0.6s						
UDYN				*i* S	Sn	12 56 21.6	+4.4
DHBB	**Dhamar BB**	**4.18**	**63**	⇓*e*P	Pn	12 55 44.8	+1.2
DHBB				*i* S	Sn	12 56 36.6	+3.7
LBOS		**4.72**	**75**	⇓*e*P	Pn	12 55 49.8	-1.5
LBOS				*i* S	Sn	12 56 45.6	-0.9
BDHA	**Al Bayda'**	**5.04**	**74**	⇓*e*P	Pn	12 55 54.2	-1.6

NEIC ***23*** *13:21:59.5,19.14N×69.47W,h4km,MD3.7(RSPR),After RSPR.*

RSPR 23 13:21:59.5,19.14N×69.47W,h4km±68km,MD3.7/5, MD3.7/5,5C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSP	**Las Mesas**	**2.46**	**113**	⇑*e*P	Pn	13 22 35.8	-5.2
CRPR	**Cabo Rojo, PR**	**2.51**	**116**	⇑*e*P	Pn	13 22 39.5	-2.2
CRPR				*e*S	Sn	13 23 08.7	-4.5
MGP	**Maguayo**	**2.53**	**116**	⇑*e*P	Pn	13 22 39.7	-2.3
MGP				*e*S	Sn	13 23 08.7	-5.0
CELP	**Cerrillos**	**2.94**	**111**	⇑*e*P	Pn	13 22 46.1	-1.8
CELP				*e*S	Sn	13 23 16.9	-7.2
ICM	**Isla Caja Muer**	**3.06**	**113**	⇑*e*P	Pn	13 22 48.2	-1.4
ICM				*e*S	Sn	13 23 23.5	-3.8

NEIC ***23*** *13:29:07.8±3.0,0.63N×126.59E,h52km±28km,mb4.5/6, Error ellipse: s-maj=25.2km s-min=8.2km az=58.0*
IDC ***23*** *13:29:07.3±5.5,0.55N×126.38E,h44km±54km,mb4.0/5, mb1 4.1/6,mb1mx3.9/15,mbtmp4.2/6,ML4.0/1,Error ellipse: s-maj=70.2km s-min=13.9km az=69.0*

ISC 23 13:29:06.9±5.5,0.6N±0.2×126.6E±0.2,h61km±50km,n15, σ0ᵍ84/16,mb4.4/9,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**16.27**	**273**	*e*P	**P**	**13 32 53.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.64**	**183**	*e*P	**P**	**13 33 20.6**	**-1.6**
	7.7nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.64**	**183**	P	**P**	**13 33 19.8**	**-2.4**
	0.4nm,0.3s,slow=8.1,SNR=5.7						
WRAB	**Tennant Creek**	**21.82**	**160**	*e*P	**P**	**13 33 55.8**	**+0.1**
	28nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**21.82**	**160**	P	**P**	**13 33 55.7**	**-0.1**
	14nm,0.7s,mb4.5,baz=338,slow=11,SNR=86						
WRA				S	**S**	**13 37 54.8**	**+6.7**
	1.3nm,1.0s,baz=335,slow=16,SNR=3.8						
WB2	**Warramunga Arr**	**21.83**	**160**	*e*P	**P**	**13 33 55.7**	**-0.1**
ASPA	**Alice Springs**	**25.18**	**164**	*e*P	**P**	**13 34 30.1**	**+1.6**
FORT	**Forrest**	**31.27**	**178**	*e*P	**P**	**13 35 22.7**	**-0.6**
	14nm,0.5s,mb5.1						
STKA	**Stephens Creek**	**35.33**	**158**	⇓*i*P	**P**	**13 35 58.8**	**+0.4**
	2.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**35.33**	**158**	P	**P**	**13 35 58.8**	**+0.4**
	1.9nm,0.3s,mb4.5,baz=327,slow=10.0,SNR=8.9						
SONM	**Songino Array**	**50.17**	**342**	P	**P**	**13 37 59.0**	**+0.6**
	0.7nm,0.6s,mb3.9,baz=161,slow=7.3,SNR=6.5						
MKAR	**Makanchi Array**	**60.00**	**326**	P	**P**	**13 39 08.7**	**-0.9**
	1.8nm,0.4s,mb4.4,baz=125,slow=8.5,SNR=27						
KURK	**Kurchatov**	**64.26**	**328**	*e*P	**P**	**13 39 37.2**	**-0.7**
	4.7nm,0.6s,mb4.7						
CASY	**Casey**	**67.74**	**187**	*e*P	**P**	**13 39 59.7**	**-0.1**
	2.2nm,0.7s,mb4.3						
MAW	**Mawson**	**80.81**	**200**	P	**P**	**13 41 15.9**	**+0.7**
	1.3nm,0.8s,mb3.9,baz=48,slow=6.5,SNR=7.5						

IDC ***23*** *13:38:09.0±1.1,7.35S×107.94W,mb4.2/17,mb1 4.4/17, mb1mx4.4/19,mbtmp4.2/17,MS5.0/5,Ms1 5.0/5, ms1mx4.6/24,Error ellipse: s-maj=36.6km s-min=13.8km az=54.0*
BJI ***23*** *13:38:11.9,7.10S×107.60W,h10km,mB5.6,Ms5.7, Msz5.5*
NEIC ***23*** *13:38:12.0±0.3,7.11S×107.58W,h10km,mb4.9/34,Error ellipse: s-maj=12.4km s-min=5.6km az=72.0*
HRVD ***23*** *13:38:12.0±0.3,7.19S×107.66W,h15km,MW5.4/48, Centroid moment Tensor Solution. LP body waves: s36,c65;Mantle waves: s48,c82; Half duration: 1ˢ2*

Moment tensor: Scale 10¹⁷Nm; Mrr0.11±.05; Mθθ-0.52±.05; Mφφ0.40±.06; Mrθ0.34±.13; Mθφ1.28±.04; Mφr0.05±.14; Best double couple: M₀1.403×10¹⁷ NP1: φₛ350°,δ76°,λ179°. NP2:φₛ80°,δ89°,λ14°. Principal axes: T 1.353, Plg11°, Azm306°; N .101, Plg76°, Azm86°; P -1.454, Plg9°, Azm214°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 23 13:38:10.6±0.4,7.06S±0.06×107.6W±0.1,h10km,n117, σ0ᵍ98/78,mb4.7/44,MS5.0/7,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**20.03**	**185**	LR	LR	13 48 23.3	
	comp=Z,3μm,19.0s,MS4.6,baz=187,slow=31						
NNA	**Nana**	**30.67**	**102**	*e*P	**P**	**13 44 27.8**	**-0.1**
	12nm,0.9s,mb4.7						
RKT	**Rikitea**	**30.82**	**236**	*e*LR	LR	13 52 14.8	
	3μm,27.8s,baz=60						
TAOE	**Nuku Hiva Isla**	**32.32**	**265**	*e*LR	LR	13 52 51.5	
	5μm,23.7s						
ROSC	**El Rosal**	**35.21**	**71**	P	**P**	**13 45 11.1**	**+3.7**
	4.1nm,0.4s,mb4.7,baz=266,slow=19,SNR=3.8						
LTX	**Lajitas**	**36.37**	**6**	*e*P	**P**	**13 45 18.2**	**+1.1**
	8.8nm,1.1s,mb4.6						
TXAR	**Lajitas Array**	**36.37**	**6**	P	**P**	**13 45 18.9**	**+1.8**
	0.6nm,0.4s,mb3.9,baz=180,slow=10.0,SNR=8.9						
TXAR	**Lajitas Array**	**36.37**	**6**	P	**P**	**13 45 18.9**	**+1.8**
MNTX	**Cornudas Mount**	**38.59**	**3**	*e*P	**P**	**13 45 36.1**	**+0.4**
	8.9nm,1.0s,mb4.5						
LPAZ	**La Paz**	**39.62**	**107**	P	**P**	**13 45 45.7**	**+1.3**
	4.3nm,1.0s,mb4.2,baz=288,slow=8.8,SNR=12						
LPAZ	**La Paz**	**39.62**	**107**	*e*P	**P**	**13 45 45.7**	**+1.3**
	13nm,1.3s,mb4.5						
SDV	**Santo Domingo**	**40.06**	**67**	P	**P**	**13 45 49.6**	**+1.5**
	5.7nm,0.9s,mb4.3,baz=266,slow=9.9,SNR=9.5						
SDV	**Santo Domingo**	**40.06**	**67**	*e*P	**P**	**13 45 47.9**	**-0.2**
	12nm,1.0s,mb4.6						
LVC	**Limon Verde**	**40.27**	**117**	P	**P**	**13 45 51.1**	**+1.3**
	5.8nm,0.9s,mb4.3,baz=287,slow=7.4,SNR=8.6						
LVC				LR	LR	13 58 06.1	
	comp=Z,3μm,19.9s,MS5.1,baz=316,slow=30						
LVC	**Limon Verde**	**40.27**	**117**	*e*P	**P**	**13 45 50.9**	**+1.1**
	56nm,1.7s,mb5.0						
ANMO	**Albuquerque**	**41.79**	**1**	*e*P	**P**	**13 46 04.3**	**+2.1**
	8.2nm,1.1s,mb4.3						
PPT	**Papeete**	**42.27**	**252**	*e*LQ		13 55 46.9	
PPT				*e*LR	LR	13 57 28.1	
	614nm,25.2s						
LDFC	**Landfair**	**42.51**	**351**	P	**P**	**13 46 08.3**	**+0.3**
NEN	**Nelson**	**43.03**	**351**	*e*P	**P**	**13 46 14.1**	**+1.9**
TBI	**Tubuai**	**43.36**	**243**	*e*LQ		13 56 16.3	
TBI				*e*LR	LR	13 58 00.4	
	905nm,31.0s,baz=69						
CFAA	**Coronel Fontan**	**44.04**	**129**	P	**P**	**13 46 19.9**	**-0.7**
	1.5nm,0.8s,mb3.8,baz=297,slow=6.0,SNR=8.2						
SDCO	**Great Sand Dun**	**44.61**	**2**	*e*P	**P**	**13 46 26.4**	**+1.3**
	45nm,1.8s,mb5.0						
ARUT	**Antelope Range**	**44.95**	**353**	*e*P	**P**	**13 46 28.4**	**+0.6**
MTUM	**Tungsten Hills**	**45.36**	**348**	*e*P	**P**	**13 46 31.1**	**+0.1**
MSU	**Marysvale**	**45.54**	**355**	P	**P**	**13 46 33.9**	**+1.4**
PLAL	**Pickwick Lake**	**45.68**	**23**	*e*P	**P**	**13 46 33.1**	**-0.5**
	36nm,1.4s,mb5.1						
SRU	**San Rafael**	**46.01**	**357**	*e*P	**P**	**13 46 36.0**	**-0.1**
CBKS	**Cedar Bluff**	**46.21**	**8**	*e*P	**P**	**13 46 38.7**	**+0.9**
	40nm,1.1s,mb5.3						
NVAR	**Mina Array Bea**	**46.34**	**348**	P	**P**	**13 46 39.1**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=187,slow=7.3,SNR=7.7						
CMB	**Columbia Colle**	**46.42**	**346**	*e*P	**P**	**13 46 38.5**	**-1.0**
	9.1nm,1.1s,mb4.6						
ISCO	**Idaho Springs**	**46.65**	**2**	*e*P	**P**	**13 46 40.7**	**-0.6**
	14nm,1.1s,mb4.8						
SWET	**Sewanee**	**46.73**	**24**	*e*P	**P**	**13 46 41.6**	**-0.4**
MPU	**Maple Canyon**	**46.99**	**356**	P	**P**	**13 46 46.0**	**+2.2**
PLCA	**Paso Flores**	**47.03**	**141**	P	**P**	**13 46 43.1**	**-1.0**
	1.1nm,0.5s,mb4.0,baz=300,slow=13,SNR=3.4						
PLCA				LR	LR	14 01 46.9	
	comp=Z,2μm,18.4s,MS5.2,baz=352,slow=30						
PLCA	**Paso Flores**	**47.03**	**141**	*e*P	**P**	**13 46 43.9**	**-0.3**
	40nm,1.9s,mb5.0						
KSU1	**Kansas State U**	**47.03**	**12**	*e*P	**P**	**13 46 45.4**	**+1.1**
CCM	**Cathedral Cave**	**47.38**	**18**	*e*P	**P**	**13 46 47.3**	**+0.2**
	19nm,1.0s,mb5.0						
CTU	**Camp Tracy**	**47.67**	**356**	P	**P**	**13 46 49.3**	**+0.1**
JSC	**Jenkinsville**	**48.06**	**30**	*e*P	**P**	**13 46 52.7**	**+0.3**
TCUT	**Torrey Canyon**	**48.07**	**356**	P	**P**	**13 46 51.2**	**-1.1**
PHWY	**Pilot Hill**	**48.16**	**2**	*e*P	**P**	**13 46 53.1**	**+0.1**
HWUT	**Hardware Ranch**	**48.56**	**356**	*e*P	**P**	**13 46 54.9**	**-1.3**
	10nm,0.9s,mb4.8						
HVU	**Hansel Valley**	**48.83**	**355**	*e*P	**P**	**13 46 56.2**	**-2.0**
WDC	**Whiskeytown Da**	**49.37**	**345**	*e*P	**P**	**13 47 02.5**	**+0.1**
	12nm,1.1s,mb4.8						
PDAR	**Pinedale Array**	**49.62**	**358**	P	**P**	**13 47 04.

comp=N,569nm,27.9s
MDJ LR LR
comp=E,1μm,21.9s
MDJ LR LR
comp=Z,1μm,17.9s
CN2 Changchun 121.11 318 *e*PKP PKPdf 13 57 01.5 -5.6
CN2 PP PP 13 58 34.8 -3.3
CN2 LR LR
comp=N,990nm,19.0s,MS5.5
CN2 LR LR
comp=E,560nm,19.0s,MS5.5
CN2 LR LR
comp=Z,1μm,19.0s,MS5.5
SSE Sheshan 128.62 304 PKP PKPdf 13 57 21.5 -0.5
SONM Songino Array 130.16 331 PKP PKPdf 13 57 21.3 -3.1
comp=Z,1.2nm,1.0s,baz=128,slow=1.0,SNR=7.0
NJ2 Nanjing 130.21 306 *e*PKP PKPdf 13 57 19.1 -5.9
ZAL Zalesovo 132.20 350 PKP PKPdf 13 57 24.9 -3.2
comp=Z,1.3nm,0.4s,baz=72,slow=3.0,SNR=5.1
BRTR Keskin Array B 132.39 41 PKP PKPdf 13 57 25.4 -3.6
comp=Z,0.7nm,0.4s,baz=63,slow=2.8,SNR=4.2
BRVK Borovoye 134.10 2 *e*PKPdf PKPdf 13 57 30.8 -0.8
KURK Kurchatov 136.18 354 *e*PKPdf PKPdf 13 57 33.3 -2.2
GTA Gaotai 139.46 327 *e*PKP PKPdf 13 57 41.0 -0.9
MKAR Makanchi Array 139.51 350 PKP PKPdf 13 57 38.6 -3.1
comp=Z,1.6nm,0.8s,slow=1.2,SNR=10
WMQ Urumqi 141.01 342 *e*PKP PKPdf 13 57 42.0 -2.6
WMQ PP PP 14 00 47.0 +0.5
WMQ PKS PKS 14 01 16.0 -0.2
WMQ SKS SKS 14 04 49.0 -4.9
WMQ PP PP
comp=Z,102nm,4.5s
WMQ LR LR
comp=N,192nm,23.5s,MS5.0
WMQ LR LR
comp=E,178nm,20.3s,MS5.0
WMQ LR LR
comp=Z,208nm,25.8s
YNBS Yanbu' al Bahr 142.80 59 P PKPdf 13 57 52.6 +4.4
USP Ospenovka 143.89 357 P PKPbc 13 57 46.5 +0.9
SNR=6.4
KMBO Kilima Mbogo 143.96 102 PKP PKPdf 13 57 47.6 -2.9
comp=Z,5.4nm,1.1s,baz=214,slow=2.2,SNR=16
TKM2 Tokmak 2 144.17 356 P PKPbc 13 57 47.4 +1.0
SNR=5.7
KBK Karagaybulak 144.48 357 P PKPbc 13 57 47.7 +0.5
SNR=6.0
EKS2 Erkin-Say 144.52 358 P PKPbc 13 57 47.8 +0.4
SNR=12
HILS Ha'il 144.60 51 P PKPbc 13 57 50.8 +2.8
UCH Uchtor 144.93 357 P PKPbc 13 57 50.2 +1.7
SNR=5.7
AML Almayashu 145.05 358 P PKPbc 13 57 50.7 +1.9
SNR=18
KMI Kunming 145.93 305 PKP PKPdf 13 57 52.1 -1.5
LTHS Al Lith 146.30 64 P PKPbc 13 57 58.6 +6.1
AFFS 'Afif 147.16 56 P PKPdf 13 57 57.0 +1.2
BLJS Baljurashi 147.48 64 P PKPdf 13 57 58.9 +2.6
KSH Kashi 147.53 355 *e*PKP PKPdf 13 57 56.0 +0.1
KSH LR LR
comp=N,440nm,4.9s
KSH LR LR
comp=E,470nm,4.8s
MZLS Mizel 148.91 54 P PKPdf 13 58 01.4 +2.8
KAMS Al Khamasin 149.96 61 P PKPdf 13 58 04.0 +3.7
RYDS Riyadh 149.97 53 P PKPdf 13 58 04.4 +4.2
NANT Nan 150.14 296 P PKPdf 13 58 02.0 +1.4
LSA Lhasa 151.41 324 *e*PKPbc PKPdf 13 58 07.2 +5.0
KULM Kulim 151.91 268 *e*PKPdf PKPdf 13 58 02.7 -0.8

NEIC ***23*** *13:48:30.5±0.1,16.13N×87.47W,h23km,mb5.9/204, ME6.2,MS5.4/116,MW5.9,MD5.5(CASC),ML5.9(SNET), Error ellipse: s-maj=2.7km s-min=2.3km az=24.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*70°,δ65°, λ-5°. NP2:*ϕ_s*162°,δ85°,λ-155°. Principal axes: T Plg14°, Azm293°; N Plg0°, Azm0°; P Plg21°, Azm29°; Moment Tensor Solution. s21 Moment tensor: Scale 10*^{17} *Nm; Mrr0.04; Mθθ-4.29; Mφφ4.25; Mrθ-1.18; Mθφ6.13; Mrφ3.35; Best double couple: Mw8.3×10*^{17} *NP1:*ϕ_s*72°,δ65°,λ0°. NP2:*ϕ_s*163°,δ90°,λ-155°. Principal axes: T 8.22, Plg17°, Azm295°; N .11, Plg65°, Azm163°; P -8.33, Plg18°, Azm30°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [VI] at Choloma and Utila; [V] at Sandy Bay and Villanueva; [IV] at French Harbor, La Ceiba and San Pedro Sula; [III] at Roatan; [II] at Tegucigalpa. Felt at Cofradia, Guaimaca, Jose Santos Guardiola, Jutiapa, La Lima, Nuevo Chamelecon, Olanchito, Puerto Cortes, and Valle de Angeles. Also felt [IV] at Belize and Dangriga; [III] at Belmopan, San Ignacio and San Pedro, Belize. Felt at Punta Gorda, Belize.

BGS ***23*** *13:48:31.4,16.75N×88.08W,h33km,mb5.9*

HRVD ***23*** *13:48:31.4±0.1,16.38N×87.67W,h28km,MW5.8/68, Centroid moment Tensor Solution. LP body waves: s63,c139;Mantle waves: s68,c220; Half duration: 2s1 Moment tensor: Scale 10*^{17}*Nm; Mrr-0.24±.07; Mθθ-4.28±.06; Mφφ4.52±.07; Mrθ-1.25±.13; Mθφ4.43±.06; Mφr3.86±.14; Best double couple: Mo7.44×10*^{17} *NP1:*ϕ_s*68°, δ57°,λ0°. NP2:*ϕ_s*158°,δ90°,λ-147°. Principal axes: T 7.65, Plg23°, Azm288°; N -.425, Plg57°, Azm158°; P -7.23, Plg23°, Azm28°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

CRAAG ***23*** *13:48:31.2,16.12N×87.54W,Mb5.8*

MOS ***23*** *13:48:31.7±0.9,16.33N×87.47W,h37km,mb6.1/96, MS5.4/43,Error ellipse: s-maj=5.7km s-min=3.7km az=69.8*

BJI ***23*** *13:48:31.4,16.10N×87.50W,h29km,mB6.0,Ms5.9, Msz5.6*

IDC ***23*** *13:48:32.2±4.5,16.22N×87.51W,h34km±35km,mb5.2/17, mb1 5.4/20,mb1mx5.4/21,mbtmp5.4/20,ML5.2/2,MS5.4/15, Ms1 5.4/15,ms1mx5.3/23,Error ellipse: s-maj=18.6km s-min=9.9km az=60.0*

CASC ***23*** *13:48:32.7±6.0,16.62N×88.59W,MD5.3,ML5.4, mb5.9(NEIC)*

ISC 23 13:48:30.2±1.0,16.22N±0.02×87.54W±0.02,h30km±7km, h29km±.6km:pP-P,n915,σ^s**92/778,mb5.8/238,MS5.3/134, 72C-321D,North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**2.37**	**241**	⇑	*e*P		**Pn**	**13 49 04.6**	**-3.2**
MRL					*e*S		**Sn**	**13 49 31.6**	**-4.6**
MRL					AML		AML	13 49 35.2	
comp=E,21μm,0.7s									
CAHU	**Cacacuatique**	**2.52**	**195**		*e*P		**Pn**	**13 49 13.2**	**+3.2**
CAHU					*e*S		**Sn**	**13 49 48.3**	**+8.4**
MTO2	**Montecristo 2**	**2.52**	**224**		*e*P		**Pn**	**13 49 08.4**	**-1.6**
BLLM	**Bellamira**	**2.84**	**194**		*e*P		**Pn**	**13 49 17.9**	**+3.3**
BLLM					*e*S		**Sn**	**13 49 56.2**	**+8.1**
LBRS	**Las Brisas**	**2.86**	**211**		*e*P		**Pn**	**13 49 17.0**	**+2.1**
SNVI	**San Vicente**	**2.88**	**206**		*e*P		**Pn**	**13 49 18.4**	**+3.3**
LCBS	**La Ceiba**	**2.90**	**209**		*e*P		**Pn**	**13 49 14.4**	**-1.0**
CNCH	**Conchagua**	**2.94**	**186**		*e*P		**Pn**	**13 49 19.4**	**+3.5**
RBDL	**Robledal**	**2.94**	**225**		*e*P		**Pn**	**13 49 14.3**	**-1.8**
LFRS	**El Faro**	**2.97**	**210**		*e*P		**Pn**	**13 49 15.5**	**-0.9**
BOQS	**Boqueron**	**2.99**	**215**		*e*P		**Pn**	**13 49 18.2**	**+1.6**
SNET	**Serv Nac Est T**	**3.00**	**213**		*e*P		**Pn**	**13 49 20.9**	**+4.1**
SNET					*e*S		**Sn**	**13 49 57.2**	**+5.0**
SNET					*e*S		**Sn**	**13 49 58.9**	**+6.7**
SNET					*i*			13 50 22.3	
comp=Z,27μm,1.2s									
SNJE	**San Jose**	**3.07**	**221**		*e*P		**Pn**	**13 49 16.2**	**-1.7**
RTR	**El Retiro**	**3.08**	**222**		*e*P		**Pn**	**13 49 16.6**	**-1.3**
SBLS	**San Blas**	**3.10**	**221**		*e*P		**Pn**	**13 49 18.6**	**+0.2**
GCG	**Guatemala City**	**3.31**	**241**	⇑	*e*P		**Pn**	**13 49 18.4**	**-2.9**
GCG					*e*P			13 49 18.5	
GCG					*e*S		**Sn**	**13 49 56.5**	**-3.5**
GCG					AML		AML	13 50 00.6	
comp=N,31μm,0.6s									
IXG	**Ixpaco**	**3.47**	**235**		*e*P		**Pn**	**13 49 20.3**	**-3.2**
PCG	**Pacaya**	**3.47**	**239**		*e*P		**Pn**	**13 49 20.8**	**-2.7**
PCG					*e*S		**Sn**	**13 49 57.6**	**-6.5**
CRIN	**San Cristobal**	**3.53**	**172**		*e*P		Px	13 49 38.6	
FUG	**Fuego 3**	**3.64**	**242**	⇑	*i*P		**Pn**	**13 49 22.9**	**-3.0**
TP2	**Tecpan 2**	**3.65**	**247**	⇑	*e*P		**Pn**	**13 49 23.5**	**-2.6**
TP2					*e*S		**Sn**	**13 50 02.0**	**-6.5**
TP2					*e*S		**Sn**	**13 50 05.3**	**-3.2**
TELN	**Telica**	**3.66**	**169**		*e*P		Px	13 49 39.8	
TEL3	**Telica 3**	**3.68**	**169**		*e*P		Px	13 49 40.5	
CNGN	**Cerro Negro**	**3.78**	**167**		*e*P		Px	13 49 41.9	
LEON	**Leon**	**3.83**	**170**		*e*P		Px	13 49 41.3	
MIRN	**Miramar**	**3.84**	**168**		*e*P		Px	13 49 42.6	
MOMJ	**Momotombo**	**3.91**	**166**		*e*P		Px	13 49 44.9	
PYTN	**Playitas**	**3.93**	**158**		*e*P		Px	13 49 44.8	
COPN	**Copaltepe**	**4.12**	**167**		*e*P		Px	13 49 47.9	
XAVN	**Gruta Xavier**	**4.21**	**164**		*e*P		Px	13 49 50.6	
MGAN	**Managua**	**4.24**	**163**		*e*P		Px	13 49 51.2	
MGAN					*i*			13 49 52.8	
baz=356,slow=5.9									
MGAN					*e*S		Sx	13 50 45.6	
MGAN					*i*			13 50 51.3	
comp=N,18μm,0.7s									
MGAN					*i*			13 50 51.5	
comp=E,13μm,0.8s									
MGAN	**Managua**	**4.24**	**163**		*e*P		Px	13 49 45.6	
MGAN					*e*S		Sx	13 50 39.8	
WILN	**Americas 2**	**4.24**	**162**		*e*P		Px	13 49 52.7	
TICN	**Ticuantepe**	**4.35**	**163**		*e*P		Px	13 49 52.5	
CCIG	**Comitan**	**4.42**	**271**		*e*P		**Pn**	**13 49 34.1**	**-2.9**
APON	**Apoyo**	**4.51**	**161**		*e*P		Px	13 49 55.4	
CONN	**Concepcion**	**4.98**	**158**		*e*P		Px	13 50 02.8	
SSNN	**San Juan del S**	**5.17**	**161**		*e*P		Px	13 49 56.2	
SSNN					*e*P			13 50 08.3	
VCR	**Vista de Mar**	**6.33**	**163**		*e*P		Px	13 50 19.1	
VCR	**Vista de Mar**	**6.33**	**163**		*e*P		Px	13 50 34.1	
FORC	**Fortuna**	**6.36**	**154**		*e*P		Px	13 50 30.3	
FORC	**Fortuna**	**6.36**	**154**		*e*P		Px	13 50 25.6	
JTS	**JuntasAbangare**	**6.41**	**157**		Pn		**Pn**	**13 50 06.8**	**+1.7**
comp=E,3.1nm,0.3s,baz=342,slow=4.7,SNR=9.0									
JTS					Lg			13 51 43.5	
comp=E,112nm,0.3s,baz=207,slow=18,SNR=4.8									
JTS	**JuntasAbangare**	**6.41**	**157**		*e*Pn		**Pn**	**13 50 03.0**	**-2.1**
comp=E,2μm,1.1s									
JTS					Lg			13 51 43.5	
JCR	**Jicaral**	**6.75**	**159**		*e*P		Px	13 50 21.5	
JCR	**Jicaral**	**6.75**	**159**		*e*P		Px	13 50 36.0	
VPS2	**Volcan Poas 2**	**6.80**	**151**		*e*P		Px	13 50 24.6	
VPS2	**Volcan Poas 2**	**6.80**	**151**		*e*P		Px	13 50 31.2	
TUIG	**Tuzandepetl**	**6.83**	**286**		*i*P		**Pn**	**13 50 08.2**	**-2.7**
CGA2	**Cerro Gallo 2**	**6.85**	**154**		*e*P		Px	13 50 24.5	
CGA2					*e*S		Sx	13 51 57.3	
CGA2	**Cerro Gallo 2**	**6.85**	**154**		*e*P		Px	13 50 34.0	
CMIG	**Matias Romero**	**7.09**	**278**		*e*P		**Pn**	**13 50 10.5**	**-4.2**
SJS	**Escuela Geolog**	**7.10**	**151**	⇑	*e*P		Px	13 50 28.2	
SJS					*e*S		Sx	13 52 05.7	
SJS	**Escuela Geolog**	**7.10**	**151**		*e*P		Px	13 50 35.6	
SJS					*e*S		Sx	13 52 01.1	
LAJ	**Bijagual**	**7.14**	**152**		*e*P		Px	13 50 25.4	
LAJ					*e*S		Sx	13 52 02.7	
LAJ	**Bijagual**	**7.14**	**152**		*e*P		Px	13 50 34.6	
ICR	**Volcan Irazu**	**7.17**	**149**		*e*P		Px	13 50 43.1	
ICR					*e*S		Sx	13 52 09.6	
ICR	**Volcan Irazu**	**7.17**	**149**		*e*P		Px	13 50 35.6	
URSC	**Urasca**	**7.33**	**150**		*e*P		Px	13 50 35.7	
URSC	**Urasca**	**7.33**	**150**		*e*P		Px	13 50 35.9	
LIO	**Limon**	**7.57**	**144**		*e*P		Px	13 50 38.6	
LIO					*e*S		Sx	13 52 21.5	
LIO	**Limon**	**7.57**	**144**		*e*P		Px	13 50 33.4	
BUS	**Buena Vista**	**7.58**	**150**		*e*P		Px	13 50 35.2	
BUS	**Buena Vista**	**7.58**	**150**		*e*P		Px	13 50 39.6	
HUIG	**Huatulco**	**8.25**	**268**		*i*P		**P**	**13 50 24.7**	**-6.2**
VHO	**Vista Hermosa**	**8.85**	**277**		*e*P		**P**	**13 50 34.7**	**-4.5**
PNIG	**Pinotepa**	**10.17**	**272**		*e*P		Px	13 50 43.0	
YAIG	**Yautepec**	**11.31**	**285**		*e*P		**P**	**13 51 07.1**	**-5.8**
CAIG	**El Cayaco**	**12.23**	**276**		*i*P		**P**	**13 51 19.8**	**-5.6**
DWPF	**Disney**	**13.11**	**24**		*e*Pn		**P**	**13 51 32.1**	**-5.0**
comp=E,1μm,1.1s									
MOIG	**Morelia**	**13.44**	**287**		*e*P		**P**	**13 51 35.2**	**-6.2**
NATX	**Nacogdoches**	**16.78**	**339**		*e*P		**P**	**13 52 22.5**	**-2.1**
comp=E,1μm,1.4s									
ROSC	**El Rosal**	**17.19**	**130**		P		**P**	**13 52 31.6**	**+1.7**
comp=E,1.0nm,0.3s,baz=328,slow=4.9,SNR=105									
ROSC						LR	LR	13 59 44.1	
comp=E,17μm,18.4s,baz=345,slow=39									
GOGA	**Godfrey**	**17.51**	**11**		*e*P		**P**	**13 52 31.5**	**-2.3**
comp=E,2μm,1.4s									
GOGA	**Godfrey**	**17.51**	**11**		*e*P		**P**	**13 52 31.5**	**-2.4**
GOGA						pmax	pmax		
comp=Z,2μm,1.4s									
RGRS	**Roger Stewart**	**17.90**	**20**		*e*P		**P**	**13 52 37.4**	**-1.3**
SDV	**Santo Domingo**	**18.03**	**112**		P		**P**	**13 52 38.3**	**-2.1**
comp=Z,1.8nm,0.3s,baz=323,slow=6.8,SNR=55									
SDV						S	**S**	**13 55 52.3**	**-5.3**
comp=Z,0.5nm,0.3s,baz=26,slow=12,SNR=2.5									
SDV						LR	LR	14 00 46.7	
comp=Z,13μm,18.1s,baz=313,slow=41									
SDV	**Santo Domingo**	**18.03**	**112**		*e*P		**P**	**13 52 38.8**	**-1.7**
comp=Z,454nm,1.1s									
PLAL	**Pickwick Lake**	**18.69**	**359**	⇓	*e*P		**P**	**13 52 46.7**	**-1.7**
comp=Z,744nm,1.4s									
JSC	**Jenkinsville**	**18.85**	**16**		*e*P		**P**	**13 52 48.3**	**-2.1**
MET	**Memphis--Engin**	**18.95**	**354**		*e*P		**P**	**13 52 50.3**	**-1.2**
SWET	**Sewanee**	**18.98**	**4**		*e*P		**P**	**13 52 49.4**	**-2.4**
UALR	**University of**	**18.98**	**348**	⇓	*e*P		**P**	**13 52 50.8**	**-1.0**
comp=Z,1μm,1.3s									
CPCT	**Cooper Cave**	**19.34**	**7**	⇓	*e*P		**P**	**13 52 55.2**	**-0.9**
HBAR	**Harrisburg**	**19.46**	**352**	⇓	*e*P		**P**	**13 52 56.9**	**-0.5**
HALT	**Halls**	**19.68**	**356**	⇓	*e*P		**P**	**13 52 58.8**	**-1.0**
LTX	**Lajitas**	**19.76**	**314**	⇑	*i*P		**P**	**13 53 00.1**	**-0.7**
comp=Z,942nm,1.3s									
LTX	**Lajitas**	**19.76**	**314**	⇑	*i*P		**P**	**13 53 00.1**	**-0.7**
LTX						pmax	pmax		
comp=Z,942nm,1.3s									
TXAR	**Lajitas Array**	**19.76**	**314**		P		**P**	**13 53 00.3**	**-0.5**
comp=Z,3.9nm,0.3s,baz=129,slow=10,SNR=285									
TXAR						S	**S**	**13 56 34.9**	**-1.3**
comp=Z,3.6nm,0.3s,baz=130,slow=9.8,SNR=4.8									
GNAR	**Gosnell**	**19.79**	**354**	⇓	*i*P		**P**	**13 53 00.9**	**-0.2**
comp=Z,7μm,1.3s									
GLAT	**Glass**	**20.03**	**356**	⇓	*i*P		**P**	**13 53 03.2**	**-0.4**
UTMT	**University of**	**20.08**	**357**		*e*P		**P**	**13 53 03.8**	**-0.3**
comp=Z,3μm,1.3s									
PVMO	**Portageville**	**20.21**	**355**		*e*P		**P**	**13 53 05.3**	**-0.1**
PARMO	**Parma**	**20.46**	**355**	⇓	*i*P		**P**	**13 53 08.5**	**+0.4**
SJG	**San Juan**	**20.52**	**82**		P		**P**	**13 53 07.6**	**-1.2**
comp=Z,107nm,0.8s,baz=276,slow=7.1,SNR=43									
SJG						S	**S**	**13 56 53.8**	**+2.0**
comp=Z,19nm,0.2s,baz=331,slow=20,SNR=3.3									
SJG						LR	LR	14 01 07.6	
comp=Z,8μm,18.7s,MS5.1,baz=107,slow=37									
SJG	**San Juan**	**20.52**	**82**	⇓	*e*P		**P**	**13 53 07.3**	**-1.5**
comp=Z,194nm,1.0s									
SJG						LR	LR		
comp=Z,8μm,20.0s,MS5.1									
SJG	**San Juan**	**20.52**	**82**		P		**P**	**13 53 07.6**	**-1.2**
SJG						S	**S**	**13 56 53.8**	**+2.0**
SJG						pmax	pmax		
comp=Z,107nm,0.8s									
SJG						smax			
comp=N,19nm,0.3s									
SJG						MLR	MLR		
comp=Z,8μm,18.7s									
SIUC	**Southern Illin**	**21.47**	**356**		*e*P		**P**	**13 53 19.0**	**+0.7**
comp=Z,2μm,1.2s,mb6.4									
ELN	**Prospectdale**	**21.77**	**15**	⇓	*e*P		**P**	**13 53 22.8**	**+1.4**
FVM	**French Village**	**21.83**	**354**	⇓	*i*P		**P**	**13 53 22.2**	**+0.2**
comp=Z,1μm,1.4s,mb6.2									
FVM	**French Village**	**21.83**	**354**		P		**P**	**13 53 21.0**	**-1.0**
FVM						pmax	pmax		
comp=Z,2μm,1.4s,mb6.2									
BLA	**Blacksburg**	**21.84**	**15**	⇓	*i*P		**P**	**13 53 23.0**	**+0.9**
comp=Z,2μm,1.1s,mb6.4									
BLA						LR	LR		
comp=Z,8μm,19.0s,MS5.2									
BLA	**Blacksburg**	**21.84**	**15**	⇓	*i*P		**P**	**13 53 23.0**	**+0.9**
BLA						pmax	pmax		
comp=Z,2μm,1.1s,mb6.4									
BLA						MLR	MLR		
comp=Z,8μm,19.0s,MS5.2									
WCI	**Wyandotte Cave**	**21.96**	**3**	⇓	*i*P		**P**	**13 53 23.9**	**+0.7**
comp=Z,3μm,1.4s,mb6.6									
WCI						LR	LR		
comp=Z,1μm,20.0s,MS4.4									
WCI	**Wyandotte Cave**	**21.96**	**3**	⇓	*i*P		**P**	**13 53 23.9**	**+0.7**
WCI						pmax	pmax		
comp=Z,3μm,1.4s,mb6.6									
WCI						MLR	MLR		
comp=Z,1μm,20.0s,MS4.4									
CCM	**Cathedral Cave**	**22.00**	**352**	⇓	*i*P		**P**	**13 53 24.1**	**+0.4**
comp=Z,1μm,1.3s,mb6.2									
CCM						LR	LR		
comp=Z,2μm,22.0s,MS4.5									
CCM	**Cathedral Cave**	**22.00**	**352**		P		**P**	**13 53 23.7**	**+0.1**
CCM						pmax	pmax		
comp=Z,1μm,1.3s,mb6.2									
FWV	**Forest Hill**	**22.10**	**14**	⇓	*e*P		**P**	**13 53 25.7**	**+1.1**
MNTX	**Cornudas Mount**	**22.39**	**317**	⇑	*i*P		**P**	**13 53 26.9**	**-0.7**
comp=Z,61nm,0.6s,mb5.2									
MNTX						LR	LR		
comp=Z,7μm,21.0s,MS5.1									
SLM	**Saint Louis**	**22.46**	**354**	⇓	*i*P		**P**	**13 53 29.6**	**+1.4**
comp=Z,4μm,1.6s,mb6.6									
SLM	**Saint Louis**	**22.46**	**354**		P		**P**	**13 53 29.3**	**+1.1**
SLM						pmax	pmax		
comp=Z,4μm,1.6s,mb6.6									
LPIG	**La Paz**	**22.75**	**294**		*i*P		**P**	**13 53 32.9**	**+1.7**
BLO	**Bloomington**	**22.89**	**2**	⇓	*i*P		**P**	**13 53 33.6**	**+1.2**
comp=Z,2μm,1.2s,mb6.4									
BLO	**Bloomington**	**22.89**	**2**		P		**P**	**13 53 33.6**	**+1.2**
BLO						pmax	pmax		
comp=Z,2μm,1.2s,mb6.4									
SKDB	**Saint Kitts 2**	**23.70**	**84**		*e*P		**P**	**13 53 43.5**	**+3.0**
SKI	**Saint Kitts**	**23.77**	**84**		*e*P		**P**	**13 53 43.9**	**+2.7**
SKTB	**Turtle Beach**	**23.89**	**84**		*e*P		**P**	**13 53 45.4**	**+3.1**
NVRH	**Round Hill, Ne**	**23.90**	**84**		*e*P		**P**	**13 53 45.0**	**+2.5**
KSU1	**Kansas State U**	**24.14**	**343**	⇓	*e*P		**P**	**13 53 44.9**	**+0.2**
ACSO	**Alum Creek Sta**	**24.25**	**9**	⇓	*i*P		**P**	**13 53 47.2**	**+1.5**
comp=Z,638nm,1.3s,mb5.9									
ACSO						LR	LR		
comp=Z,6μm,19.0s,MS5.1									
LZG	**Guadaloupe-1**	**24.74**	**87**		*e*P		**P**	**13 53 49.8**	**-0.9**
TBG	**Guadaloupe-3**	**24.89**	**87**		*e*P		**P**	**13 53 51.4**	**-0.6**
DOG	**Dongo Capester**	**24.90**	**87**		*e*P		**P**	**13 53 53.1**	**+1.0**
CBKS	**Cedar Bluff**	**24.93**	**337**		*e*P		**P**	**13 53 53.3**	**+1.1**
comp=Z,23μm,1.1s									
CBKS						LR	LR		
comp=Z,5μm,22.0s									
CBKS	**Cedar Bluff**	**24.93**	**337**		P		**P**	**13 53 53.6**	**+1.4**
CBKS						pmax	pmax		
comp=Z,390nm,1.2s,mb5.8									
BBL	**Barber's Block**	**25.08**	**88**		*e*P		**P**	**13 53 54.2**	**+0.3**
MDN	**Morne-Daniel**	**25.18**	**88**		*e*P		**P**	**13 53 56.5**	**+1.8**
MGG	**Marie-Galante**	**25.20**	**87**		*e*P		**P**	**13 53 54.9**	**-0.1**
ANMO	**Albuquerque**	**25.20**	**321**		P		**P**	**13 53 55.7**	**+0.9**
comp=Z,55nm,1.0s,mb5.0,baz=142,slow=10.0,SNR=38									
ANMO						S	**S**	**13 58 17.0**	**+1.6**
comp=Z,4.8nm,0.6s,baz=100,slow=7.9,SNR=2.5									
ANMO	**Albuquerque**	**25.20**	**321**		*e*P		**P**	**13 53 55.7**	**+0.8**
comp=Z,174nm,1.4s,mb5.4									
ANMO						LR	LR		
comp=Z,3μm,21.0s,MS4.8									
ANMO	**Albuquerque**	**25.20**	**321**		*e*P		**P**	**13 53 55.7**	**+0.9**
ANMO						pmax	pmax		
comp=Z,174nm,1.4s									
ANMO						MLR	MLR		
comp=Z,3μm,21.0s									
DSHT	**Scott's Head**	**25.20**	**89**		*e*P		**P**	**13 53 55.6**	**+0.6**
FDF	**Fort de France**	**25.47**	**90**	⇓	*e*P		**P**	**13 53 58.2**	**+0.7**
SVB	**Belmont**	**25.58**	**93**		*e*P		**P**	**13 54 00.8**	**+2.2**
SVB	**Belmont**	**25.58**	**93**		*e*P		**P**	**13 54 00.8**	**+2.2**
MVL	**Millersville**	**25.62**	**20**	⇓	*i*P		**P**	**13 54 00.3**	**+1.5**
SSV	**Crater Summit**	**25.63**	**93**		*e*P		**P**	**13 54 01.1**	**+2.0**
SSV	**Crater Summit**	**25.63**	**93**		*e*P		**P**	**13 54 01.2**	**+2.2**
MVM	**Montagne Vaucl**	**25.74**	**90**	⇓	*e*P		**P**	**13 54 01.1**	**+1.1**
TRN	**Trinidad (W)**	**26.00**	**99**		*e*P		**P**	**13 54 10.0**	**+7.5**
TPP	**Point-a-Pierr**	**26.05**	**100**		*e*P		**P**	**13 54 09.8**	**+6.9**
ALLY	**Alegheny Colle**	**26.13**	**13**	⇓	*i*P		**P**	**13 54 04.2**	**+0.7**
BBSR	**BB Station**	**26.22**	**48**	⇓	*e*P		**P**	**13 54 04.6**	**+0.2**
comp=Z,530nm,1.0s,mb6.0									
BBSR						LR	LR		
comp=Z,10μm,19.0s,MS5.4									
TBH	**Brigand Hill**	**26.36**	**99**		*e*P		**P**	**13 54 06.2**	**+0.4**
TUC	**Tucson**	**26.48**	**311**	⇑	*i*P		**P**	**13 54 06.3**	**-0.4**
comp=Z,100nm,1.4s,mb5.2									
TUC						LR	LR		
comp=Z,4μm,20.0s,MS5.0									
TUC	**Tucson**	**26.48**	**311**	⇑	*i*P		**P**	**13 54 06.3**	**-0.4**
TUC						pmax	pmax		
comp=Z,99nm,1.4s,mb5.2									
TUC						MLR	MLR		
comp=Z,4μm,20.0s,MS5.0									
ERPA	**Erie**	**26.62**	**13**	⇓	*i*P		**P**	**13 54 08.5**	**+0.6**
comp=Z,2μm,1.2s,mb6.5									
ERPA						LR	LR		
comp=Z,6μm,20.0s,MS5.1									
SDCO	**Great Sand Dun**	**26.66**	**327**	⇑	*e*P		**P**	**13 54 09.2**	**+0.8**
comp=Z,242nm,1.6s,mb5.5									
SDCO						LR	LR		
comp=Z,8μm,22.0s,MS5.2									
BRNJ	**Basking Ridge**	**26.85**	**22**	⇓	*i*P		**P**	**13 54 11.8**	**+1.7**

comp=Z,12µm,19.0s,MS5.6
LBNH Lisbon 30.91 22⇓ *i*P P 13 54 47.0 +0.6
LBNH pmax pmax
comp=Z,561nm,1.3s,mb6.2
LBNH MLR MLR
comp=Z,12µm,19.0s,MS5.6
TMUT Trail Mountain 30.93 323 *e*P P 13 54 47.0 +0.3
LDFC Landfair 30.99 312⇑ *i*P P 13 54 47.8 +0.6
MSU Marysvale 31.00 321⇓ *e*P P 13 54 48.6 +1.4
NEN Nelson 31.09 314 *e*P P 13 54 47.7 -0.4
PFO Pinyon Flat Ob 31.27 309 *e*P P 13 54 49.4 -0.3
comp=Z,38nm,0.9s,mb5.2
PFO LR LR
comp=Z,2µm,21.0s,MS4.8
PFO Pinyon Flat Ob 31.27 309 *e*P P 13 54 49.4 -0.3
PFO pmax pmax
comp=Z,37nm,0.9s,mb5.2
PFO MLR MLR
comp=Z,2µm,21.0s,MS4.8
ARUT Antelope Range 31.35 318 *e*P P 13 54 50.8 +0.5
ARUT Antelope Range 31.35 318 P P 13 54 51.1 +0.7
MPU Maple Canyon 31.65 323⇑ *e*P P 13 54 53.3 +0.3
comp=Z,40nm,1.0s,mb5.2
DAU Daniels Canyon 31.70 324 *e*P P 13 54 54.2 +0.8
NLU North Lily Mn 31.86 323⇑ *i*P P 13 54 55.7 +0.9
WVL Waterville 32.04 24⇓ *i*P P 13 54 57.4 +1.0
comp=Z,3µm,1.3s
WVL *e*PP PP 13 56 08.4 +5.2
WVL LR LR
comp=Z,39µm,19.0s
CTU Camp Tracy 32.17 324 *e*P P 13 54 58.1 +0.6
comp=Z,20nm,0.9s,mb5.0
TCUT Toone Canyon 32.26 325 *e*P P 13 54 59.1 +0.8
GSC Goldstone 32.31 312 *e*P P 13 54 58.3 -0.5
NOQ North Oquirrh 32.35 324 *e*P P 13 54 59.3 +0.2
comp=Z,159nm,1.4s,mb5.7
PDAR Pinedale Array 32.47 329 P P 13 54 59.5 -0.7
comp=Z,6.9nm,0.9s,baz=123,slow=10,SNR=23
HWUT Hardware Ranch 32.69 326⇑ *i*P P 13 55 01.8 -0.2
comp=Z,46nm,1.0s,mb5.4
HWUT LR LR
comp=Z,8µm,21.0s,MS5.4
MWC Mount Wilson 32.74 309 *e*P P 13 55 02.3 -0.3
MWC Mount Wilson 32.74 309 P P 13 55 03.2 +0.7
SPUT South Promonto 32.97 324⇑ *i*P P 13 55 04.8 +0.3
BGU Big Grassy Mou 33.05 323⇑ *e*P P 13 55 05.7 +0.5
EMMW East Machias 33.07 27⇓ *i*P P 13 55 06.3 +0.9
comp=Z,5µm,1.7s
EMMW LR LR
comp=Z,29µm,20.0s
AHID Auburn Hatcher 33.25 328 *e*P P 13 55 07.1 +0.1
comp=Z,65nm,1.1s,mb5.5
AHID LR LR
comp=Z,5µm,22.0s,MS5.2
SNCC San Nicolas Is 33.46 306 PFAKE 13 55 20.0 +11
SNCC LR LR
comp=Z,9µm,19.0s,MS5.5
HVU Hansel Valley 33.47 325⇑ *e*P P 13 55 08.7 -0.1
comp=Z,37nm,1.0s,mb5.3
HVU Hansel Valley 33.47 325⇑ *e*P P 13 55 08.7 -0.1
HVU pmax pmax
comp=Z,37nm,1.0s,mb5.3
REDW Red Top Meadow 33.55 329⇑ *i*P P 13 55 09.8 +0.3
comp=Z,299nm,1.2s,mb6.1
SNOW Snow King Moun 33.58 329⇑ *e*P P 13 55 10.4 +0.6
comp=Z,176nm,1.0s,mb6.0
LOHW Long Hollow 33.61 329⇑ *i*P P 13 55 10.0 0.0
comp=Z,75nm,1.0s,mb5.6
ISA Isabella 33.68 311⇑ *i*P P 13 55 10.7 0.0
ISA LR LR
comp=Z,2µm,19.0s,MS4.8
TPAW Teton Pass 33.70 329⇑ *e*P P 13 55 11.3 +0.5
comp=Z,245nm,1.3s,mb6.0
RRI2 Red Ridge 33.78 328⇑ *i*P P 13 55 12.0 +0.5
comp=Z,189nm,1.2s,mb5.9
IMW Indian Meadow 33.99 329 *e*P P 13 55 13.4 +0.1
comp=Z,149nm,1.3s,mb5.8
LAO LASA Array 34.12 337⇑ *i*P P 13 55 15.2 +0.7
comp=Z,458nm,1.6s,mb6.2
LAO LR LR
comp=Z,5µm,20.0s,MS5.2
LKWY Lake 34.22 330 *e*P P 13 55 16.9 +1.6
comp=Z,76nm,1.0s,mb5.6
LKWY LR LR
comp=Z,5µm,19.0s,MS5.3
LKWY Lake 34.22 330 *e*P P 13 55 16.9 +1.6
LKWY pmax pmax
comp=Z,76nm,1.0s,mb5.6
LKWY MLR MLR
comp=Z,5µm,19.0s,MS5.3
YFT Old Faithful 34.34 330 *e*P P 13 55 18.3 +1.9
PQI Presque Isle 34.43 24⇓ *i*P P 13 55 17.6 +0.5
comp=Z,3µm,1.5s
PQI *e*PcP PcP 13 57 51.8 -0.5
PQI LR LR
comp=Z,40µm,19.0s
YNR Norris Junctio 34.47 330 *e*P P 13 55 17.6 +0.2
MTUM Tungsten Hills 34.54 314 *e*P P 13 55 18.8 +0.6
YMR Madison River 34.57 330 *e*P P 13 55 19.7 +1.4
comp=Z,157nm,1.2s,mb5.8
ULM Lac du Bonnet 34.61 351 P P 13 55 16.6 -2.0
comp=Z,107nm,1.1s,mb5.7,baz=170,slow=8.4,SNR=58
ULM Lac du Bonnet 34.61 351⇓ *i*P P 13 55 16.3 -2.3
comp=Z,259nm,1.3s,mb6.0
ULM LR LR
comp=Z,5µm,22.0s,MS5.2
MNV Mina 34.80 316⇑ *i*P P 13 55 21.1 +0.8
comp=Z,274nm,1.8s,mb5.9
MNV LR LR
comp=Z,12µm,19.0s,MS5.7
MNV Mina 34.80 316⇑ *i*P P 13 55 21.1 +0.8
MNV pmax pmax
comp=Z,274nm,1.8s,mb5.9
MNV MLR MLR
comp=Z,12µm,19.0s,MS5.7
GCMT Greycliff 34.82 333 *e*P P 13 55 21.0 +0.6
NVAR Mina Array Bea 34.90 315 P P 13 55 21.8 +0.6
comp=Z,17nm,0.8s,mb5.0,baz=118,slow=10,SNR=67
QLMT Earthquake Lak 34.91 330 *e*P P 13 55 22.4 +1.2
DGMT Dagmar 34.95 341⇓ *e*P P 13 55 21.0 -0.5
comp=Z,148nm,1.1s,mb5.8
DGMT *e*PP PP 13 56 43.1 +3.2
DGMT LR LR
comp=Z,5µm,20.0s,MS5.2
PTRM Twissleman Ran 34.95 310 *e*P P 13 55 22.1 +0.4
MCMT McKenzie Canyo 35.61 328 *e*P P 13 55 29.3 +2.1
DLMT Dillon 35.87 329 *e*P P 13 55 30.4 +1.0
comp=Z,228nm,1.3s,mb5.9
ARE Arequipa 36.12 153 *e*P P 13 55 40.0 +8.2
CMB Columbia Colle 36.14 313⇑ *i*P P 13 55 31.4 -0.3
comp=Z,46nm,1.5s,mb5.2
CMB *e*PP PP 13 56 57.0 +2.7
CMB LR LR
comp=Z,4µm,20.0s,MS5.2
CMB Columbia Colle 36.14 313⇑ *i*P P 13 55 31.4 -0.3
CMB *e* 13 56 57.1
CMB pmax pmax
comp=Z,46nm,1.5s,mb5.2
CMB MLR MLR
comp=Z,4µm,20.0s,MS5.2
PAHR Pah Rah Range 36.28 317 *e*P P 13 55 32.5 -0.3
SAO San Andreas Ge 36.33 311 PFAKE 13 55 40.0 +6.7
SAO LR LR
comp=Z,6µm,19.0s,MS5.4
HRY Holter Researc 36.49 332 *e*P P 13 55 35.7 +1.2
BEKR Beckwourth 37.00 316⇑ *i*P P 13 55 39.5 +0.5
comp=Z,67nm,1.4s,mb5.3
WVOR Wild Horse Val 37.29 321⇑ *i*P P 13 55 41.5 +0.1
comp=Z,87nm,1.1s,mb5.5
WVOR LR LR
comp=Z,8µm,20.0s,MS5.5
WVOR Wild Horse Val 37.29 321⇑ *i*P P 13 55 41.5 +0.2
WVOR pmax pmax
comp=Z,87nm,1.1s,mb5.5
WVOR MLR MLR
comp=Z,8µm,20.0s,MS5.5
CHMT Chamberlain Mo 37.30 331 *e*P P 13 55 42.3 +0.9
OHCM Honcut 37.51 315 *e*P P 13 55 43.8 +0.6
LPAZ La Paz 37.55 148 P P 13 55 44.2 +0.5
comp=Z,1.2nm,0.9s,baz=247,slow=2.5,SNR=4.1
LPAZ LR LR 14 12 47.8
comp=Z,5µm,20.0s,baz=130,slow=39
LPAZ La Paz 37.55 148 *e*P P 13 55 42.5 -1.2
comp=Z,21nm,1.2s,mb4.7
LPAZ LR LR
comp=Z,5µm,20.0s,MS5.3
LPAZ La Paz 37.55 148 P P 13 55 44.3 +0.6
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ MLR MLR
comp=Z,5µm,20.0s
MOD Modoc 38.02 319⇑ *i*P P 13 55 47.1 -0.3
comp=Z,80nm,1.5s,mb5.2
MOD LR LR
comp=Z,8µm,22.0s,MS5.5
HOPS Hopland 38.45 313 PFAKE 13 56 00.0 +8.9
HOPS LR LR
comp=Z,5µm,19.0s,MS5.4
WDC Whiskeytown Da 38.81 316 PFAKE 13 56 00.0 +5.9
WDC LR LR
comp=Z,5µm,19.0s,MS5.4
KCPM Cahto Peak 39.11 314 *e*P P 13 55 57.3 +0.7
YBH Yreka Blue Hor 39.48 317 P P 13 55 58.3 -1.4
comp=Z,2.7nm,0.8s,baz=156,slow=5.5,SNR=4.8
YBH Yreka Blue Hor 39.48 317 *e*P P 13 55 57.8 -1.8
comp=Z,10.0nm,1.0s
YBH LR LR
comp=Z,7µm,19.0s
YBH Yreka Blue Hor 39.48 317 P P 13 55 58.3 -1.4
YBH pmax pmax
comp=Z,3.0nm,0.8s
HUMO Hull Mountain 40.07 318 *e*P P 13 56 04.7 +0.1
comp=Z,8.4nm,0.9s,mb4.5
HUMO LR LR
comp=Z,7µm,19.0s,MS5.5
NEW Newport 40.12 329⇑ *e*P P 13 56 04.8 0.0
comp=Z,118nm,1.5s,mb5.4
NEW LR LR
comp=Z,5µm,21.0s,MS5.3
NEW Newport 40.12 329⇑ *e*P P 13 56 04.9 +0.1
NEW pmax pmax
comp=Z,118nm,1.5s
NEW MLR MLR
comp=Z,5µm,21.0s
HAWA Hanford 40.16 325 *e*P P 13 56 05.0 -0.2
comp=Z,4.8nm,1.4s
HAWA LR LR
comp=Z,427nm,20.0s
OD2 Odessa Site #2 40.35 327 P P 13 56 07.7 +1.0
MXC Moxie City 40.69 325 P P 13 56 11.1 +1.5
TDH Tom, Dick, Har 40.79 323 P P 13 56 12.3 +1.9
KEBM Edson Butte 41.09 318 *e*P P 13 56 14.2 +1.4
TBM Table Mountain 41.21 326 P P 13 56 15.6 +1.7
COR Corvallis 41.31 321 PFAKE 13 56 30.0 +15
COR LR LR
comp=Z,802nm,22.0s,MS4.5
LON Longmire 41.63 324 P P 13 56 18.7 +1.4
SCHQ Schefferville 41.73 18 P P 13 56 17.6 -0.3
comp=Z,329nm,1.0s,mb5.9,baz=213,slow=6.9,SNR=116
SCHQ LR LR 14 14 46.4
comp=Z,5µm,19.0s,MS5.4,baz=216,slow=38
SCHQ Schefferville 41.73 18⇓ *i*P P 13 56 17.5 -0.5
comp=Z,458nm,1.1s,mb6.0
SCHQ LR LR
comp=Z,7µm,20.0s,MS5.5
EDM Edmonton 42.11 337⇓ *e*P P 13 56 20.9 -0.2
LVC Limon Verde 42.68 154 P P 13 56 27.4 +1.1
comp=Z,11nm,1.0s,baz=313,slow=5.8,SNR=11
LVC Limon Verde 42.68 154 *e*P P 13 56 27.2 +0.9
comp=Z,122nm,1.3s,mb5.5
LVC LR LR
comp=Z,5µm,20.0s,MS5.4
FCC Fort Churchill 42.75 355⇓ *i*P P 13 56 24.9 -1.5
comp=Z,112nm,1.1s,mb5.5
FCC Fort Churchill 42.75 355⇓ *i*P P 13 56 24.9 -1.4
FCC pmax pmax
comp=Z,112nm,1.1s,mb5.5
OSR Olympics--Salm 43.27 324 P P 13 56 32.5 +1.8
OSD Olympics--Snow 43.30 325 P P 13 56 32.8 +1.8
STW Striped Peak 43.47 325 P P 13 56 33.9 +1.6
OOW Octopus West 43.53 324 P P 13 56 34.8 +2.0
PGC Sidney 43.64 326 *e*P P 13 56 33.8 +0.2
comp=Z,134nm,1.0s,mb5.6
RPN Rapa Nui 48.00 206 PFAKE 13 57 20.0 +11
RPN LR LR
comp=Z,387nm,19.0s,MS4.4
TLL Tololo Astrono 48.85 161⇓ *i*P P 13 57 18.6 +3.4
YKA Yellowknife Ar 49.98 344 P P 13 57 22.5 -0.9
comp=Z,21nm,0.8s,mb5.2,baz=138,slow=8.0,SNR=56
YKW3 Yellowknife Ar 50.04 344⇓ *i*P P 13 57 22.7 -1.1
BDFB Brasilia 50.24 127 P P 13 57 24.5 -1.4
comp=Z,5.6nm,0.8s,mb4.6,baz=68,slow=5.3,SNR=6.0
BDFB LR LR 14 22 13.7
comp=Z,8µm,18.3s,MS5.8,baz=311,slow=40
BAO Brasilia Array 50.25 127 P P 13 57 25.0 -1.1
CFAA Coronel Fontan 51.03 159 P P 13 57 31.4 -0.4
comp=Z,0.6nm,0.6s,baz=319,slow=5.6,SNR=11
CPUP Villa Florida 51.49 145 P P 13 57 32.7 -2.6
comp=Z,2.2nm,0.7s,mb4.2,baz=340,slow=9.1,SNR=3.7
CPUP LR LR 14 19 23.6
comp=Z,2µm,21.1s,MS5.1,baz=340,slow=36
CPUP Villa Florida 51.49 145 *e*P P 13 57 32.3 -3.0
comp=Z,21nm,1.3s,mb4.9
CPUP LR LR
comp=Z,2µm,19.0s,MS5.2
CPUP Villa Florida 51.49 145 P P 13 57 32.7 -2.6
CPUP pmax pmax
comp=Z,2.0nm,0.7s
CPUP MLR MLR
comp=Z,2µm,21.1s
FCH Farellones 51.95 162 *e*P P 13 57 41.3 +2.6
DLBC Dease Lake 52.51 333 *e*P P 13 57 43.4 +0.8
SIT Sitka 54.19 330 PFAKE 13 58 00.0 +5.1
SIT LR LR
comp=Z,4µm,20.0s,MS5.5
RCBR Riachuelo 55.58 109⇓ *e*P P 13 58 05.3 -0.4
comp=Z,318nm,1.5s,mb6.1
RCBR *e* pP 13 58 14.1 -1.0
RCBR LR LR
comp=Z,5µm,20.0s,MS5.6
SFJD Kangerlussuaq 56.15 17⇓ *i*P P 13 58 07.0 -2.1
comp=Z,226nm,1.2s,mb6.1
SFJD *i* S **S** 14 05 39.4 -15
comp=Z,2µm,21.0s
SFJD Kangerlussuaq 56.15 17⇓ *i*P P 13 58 07.0 -2.1
SFJD pmax pmax
comp=Z,226nm,1.2s,mb6.1
SFJD MLR MLR
comp=Z,3µm,21.0s,MS5.4
TAOE Nuku Hiva Isla 57.72 248 *e*SS SS 14 10 15.9 +8.1
TAOE *e*LQ 14 12 56.5
TAOE *e*LR LR 14 15 26.6
comp=Z,12µm,26.7s,baz=64
CMLA Cha da Macela 58.23 55 PFAKE 13 58 30.0 +5.8
CMLA LR LR
comp=Z,5µm,22.0s,MS5.6
PTCN Pitcairn Islan 58.34 226 PFAKE 13 58 30.0 +4.8
PTCN LR LR
comp=Z,3µm,19.0s,MS5.4
RES Resolute Bay 58.62 358⇓ *i*P P 13 58 25.0 -1.4
comp=Z,226nm,1.2s,mb6.1
RES *e*pP pP 13 58 36.4 +0.6
RES Resolute Bay 58.62 358⇓ *i*P P 13 58 25.0 -1.4
RES *e**PP pP 13 58 36.4 +0.6
RES pmax pmax
comp=Z,226nm,1.2s,mb6.1
PLCA Paso Flores 58.81 165 P P 13 58 26.3 -2.0
comp=Z,7.9nm,0.8s,mb4.8,baz=336,slow=8.4,SNR=14
PLCA Paso Flores 58.81 165 *e*P P 13 58 28.1 -0.2
comp=Z,50nm,1.2s,mb5.4
PLCA LR LR
comp=Z,2µm,21.0s,MS5.1
PLCA Paso Flores 58.81 165 *e*P P 13 58 28.1 -0.1
PLCA pmax pmax
comp=Z,50nm,1.2s
PLCA MLR MLR
comp=Z,2µm,21.0s
DAWY Dawson 59.32 336 *e*P P 13 58 29.9 -1.6
DAWY *e*pP pP 13 58 39.7 -1.2
INK Inuvik 59.61 342⇓ *i*P P 13 58 32.0 -1.4
comp=Z,80nm,1.2s,mb5.6
INK *e*pP pP 13 58 43.1 +0.2
INK Inuvik 59.61 342⇓ *i*P P 13 58 32.0 -1.4
INK *e**PP pP 13 58 43.1 +0.3
INK pmax pmax
comp=Z,80nm,1.2s
RKT Rikitea 60.66 231 *e*LQ 14 14 08.4
RKT *e*LR LR 14 16 40.4
comp=Z,4µm,27.2s,baz=48
DIV Divide 60.78 332 *e*P P 13 58 41.8 +0.3
comp=Z,182nm,1.3s,mb6.0
DIV *e*pP pP 13 58 50.5 -0.4
DIV LR LR
comp=Z,12µm,22.0s,MS6.0
THY Trims Highway 61.60 334 *e*P P 13 58 47.1 +0.1
SML Sawmill 62.17 332 *e*P P 13 58 50.3 -0.5
PMR Palmer 62.46 332 *e*P P 13 58 51.8 -1.0
comp=Z,42nm,1.3s,mb5.4
PMR *e*pP pP 13 59 00.1 -2.2
PMR LR LR
comp=Z,4µm,20.0s,MS5.6
PMR Palmer 62.46 332 *e*P P 13 58 51.8 -1.0
PMR *e**PP pP 13 59 00.1 -2.1
PMR pmax pmax
comp=Z,42nm,1.3s,mb5.4
PMR MLR MLR
comp=Z,4µm,20.0s,MS5.6
ILAR Eielson Array 62.57 335 P P 13 58 52.5 -1.0
comp=Z,19nm,1.0s,mb5.2,baz=118,slow=3.8,SNR=82
ILAR LR LR 14 32 09.9
comp=Z,3µm,18.2s,MS5.5,baz=133,slow=42
SLKM Skilak Lake 62.66 330 *e*P P 13 58 54.0 0.0
SLKM *e*pP pP 13 59 02.9 -0.6
FIB Fire Island 62.82 331 PFAKE 13 59 00.0 +4.9
FIB LR LR
comp=Z,2µm,22.0s,MS5.1
SUMG Summit 62.99 15⇓ *i*P P 13 58 55.5 -0.6
comp=Z,608nm,1.2s,mb6.6
SUMG *e*PP PP 14 01 13.9 -2.3
KDAK Kodiak Island 63.16 327 *e*P P 13 58 57.0 -0.4
comp=Z,39nm,1.0s,mb5.5
KDAK *e*pP pP 13 59 06.2 -0.6
KDAK LR LR
comp=Z,669nm,22.0s,MS4.8
SPU Mount Spurr 63.70 331 *e*P P 13 59 01.2 +0.3
SPU *e*pP pP 13 59 10.2 -0.1
POHA Pohakuloa 64.39 284 PFAKE 13 59 20.0 +14
POHA LR LR
comp=Z,3µm,21.0s,MS5.4
BORG Borgarnes 65.36 26 *e*P P 13 59 11.8 +0.2
comp=Z,252nm,1.3s,mb6.1
BORG LR LR
comp=Z,738nm,21.0s,MS4.9
EGOM La Gomera 65.43 66 P P 13 59 12.9 +0.2
comp=Z,44nm,0.9s,mb5.5
CCAN Las Canadas 65.95 66 P P 13 59 16.4 +0.3
comp=Z,984nm,4.2s
KIP Kipapa 66.42 287 *i* P P 13 59 18.4 -0.8
CFTV Fuerteventura 68.14 65 P P 13 59 30.3 +0.4
comp=Z,21nm,0.8s,mb5.2
EFAM Famara 68.53 65 P P 13 59 34.1 +1.8
comp=Z,27nm,0.9s,mb5.2
DAG Danmarks Havn 69.53 13⇑ *i*P P 13 59 36.2 -1.5
comp=Z,103nm,1.0s,mb5.7
comp=Z,3µm,22.0s
DAG Danmarks Havn 69.53 13⇑ *i*P P 13 59 36.2 -1.5
DAG pmax pmax
comp=Z,103nm,1.0s,mb5.7
DAG MLR MLR
comp=Z,3µm,22.0s,MS5.5
PPT Papeete 69.73 244 *e*SS SS 14 13 23.1 +7.8
PPT *e*LQ 14 18 11.9
PPT *e*LR LR 14 20 50.0
comp=Z,5µm,26.2s,baz=59
PPT Papeete 69.73 244 LR LR 14 22 46.4
comp=Z,2µm,18.4s,MS5.3,baz=69,slow=30
UNV Unalaska Valle 70.58 322 *e*P P 13 59 44.7 +0.3
comp=Z,498nm,1.4s,mb6.2
UNV *e*pP pP 13 59 55.1 +1.3
UNV LR LR
comp=Z,6µm,19.0s,MS5.9
EMAZ Mazaricos 70.83 50 P P 13 59 45.5 -0.7
comp=Z,108nm,0.8s,mb5.8
PLOU Loures 71.07 54 *e*P P 13 59 47.9 +0.3
comp=Z,219nm,1.4s,mb5.9
EZAM Zamans 71.11 50 P P 13 59 48.1 +0.3
comp=Z,35nm,0.4s,mb5.6
EZAM Zamans 71.11 50 P P 13 59 48.1 +0.3
EZAM pmax pmax
comp=Z,35nm,0.4s,mb5.6
STS Santiago 71.15 50 P P 13 59 47.9 -0.2
comp=Z,194nm,1.0s,mb6.0
STS Santiago 71.15 50 P P 13 59 47.9 -0.2
STS pmax pmax
comp=Z,194nm,1.0s,mb6.0
JMIC Jan Mayen 71.21 20 *e*P P 13 59 47.9 -0.1
JMIC *e*S S 14 09 03.8 +2.1
JMIC *e* 14 13 59.4
DCN Croghan 71.36 39⇑ *i*P P 13 59 47.5 -1.7
TNA Tin City 71.39 334 PFAKE 14 00 00.0 +11
TNA LR LR
comp=Z,2µm,20.0s,MS5.4
PTEO Sao Teotonio 71.55 55 *e*P P 13 59 51.1 +0.6
comp=Z,368nm,1.6s,mb6.1
PTEO *e*pP pP 13 59 59.8 -0.2
PTOM Tomar 71.56 53 *e*P P 13 59 50.7 +0.1
comp=Z,390nm,1.3s,mb6.2
PTOM *e*pP pP 13 59 59.3 -0.8
ELOB Lobios 71.61 51 P P 13 59 50.6 -0.2
comp=Z,74nm,1.0s,mb5.6
PCAB Cabril 71.64 51 *e*P P 13 59 50.2 -0.8
comp=Z,200nm,1.6s,mb5.8
PCAB *e*pP pP 14 00 00.3 -0.2
DLF Lyons Farm 71.81 39⇑ *i*P P 13 59 50.0 -1.8
PVRL Vila Real 71.92 51 *i*P P 13 59 52.6 -0.1
comp=Z,127nm,1.0s,mb5.8
PVRL *e*pP pP 14 00 02.6 +0.4
RRR Rubha Reidh 72.04 34⇓ *e*P P 13 59 51.5 -1.6
EPON Pontenova 72.13 49 P P 13 59 53.7 -0.2
comp=Z,70nm,1.0s,mb5.5
MTE Manteigas 72.14 52 *i*P P 13 59 53.9 -0.1
comp=Z,396nm,1.4s,mb6.2
MTE *e*pP pP 14 00 02.8 -0.7
MTE *e*S S 14 09 15.8 +2.9
MTE *e*LQ 14 17 50.0
MTE *e*LR LR 14 22 18.6
comp=Z,3µm,22.0s
MTE Manteigas 72.14 52⇓ *i*P P 13 59 53.7 -0.4
comp=Z,300nm,1.2s,mb6.1
MTE *e*pP pP 14 00 03.7 +0.2
PBEJ Beja 72.17 55 *e*P P 13 59 54.4 +0.2
comp=Z,157nm,1.7s,mb5.7
PBEJ *e*pP pP 14 00 03.2 -0.5
TBI Tubuai 72.17 238 *e*LQ 14 19 02.3
TBI *e*LR LR 14 22 10.6
comp=Z,5µm,27.5s,baz=60
ERUA La Rua 72.23 50 P P 13 59 54.6 0.0
comp=Z,49nm,0.9s,mb5.4
ERUA La Rua 72.23 50 P P 13 59 54.6 +0.1
ERUA pmax pmax
comp=Z,49nm,0.9s,mb5.4
PCBR Castelo Branco 72.26 53 *e*P P 13 59 54.8 +0.1
comp=Z,371nm,1.3s,mb6.2
PCBR *e*pP pP 14 00 04.5 +0.3
EFI East Falkland 72.32 161 *e*P P 13 59 54.9 0.0
comp=Z,360nm,1.9s,mb6.0
EFI *e*pP pP 14 00 02.3 -2.1
EFI LR LR
comp=Z,653nm,21.0s,MS4.9
EFI East Falkland 72.32 161 *e*P P 13 59 54.9 0.0
EFI *e**PP pP 14 00 02.3 -2.1
EFI pmax pmax
comp=Z,360nm,1.9s,mb6.0
EFI MLR MLR
comp=Z,653nm,21.0s,MS4.9
RSC Scourie 72.36 33 *e*P P 13 59 53.0 -2.0
EGRO El Granado 72.53 55 P P 13 59 56.8 +0.4
comp=Z,85nm,0.9s,mb5.7
ECAL Calabor 72.58 51 P P 13 59 56.6 0.0
comp=Z,119nm,1.0s,mb5.8
PBRG Braganca 72.59 51 *e*P P 13 59 56.7 0.0
comp=Z,313nm,1.4s,mb6.0
PBRG *e*pP pP 14 00 05.9 -0.3
EBAD Badajoz 72.74 54 P P 13 59 57.5 -0.1
comp=Z,38nm,1.0s,mb5.3
MDO Dochfour 72.83 34⇓ *e*P P 13 59 56.0 -1.7
MVH1 Achvaich 72.90 34⇓ *e*P P 13 59 56.7 -1.5
EAB Aberfoyle 72.92 36⇓ *e*P P 13 59 56.8 -1.5
EAB AMb AMB 13 59 59.3
comp=Z,347nm,1.6s,mb6.0
EMIN Mina Concepcio 73.14 55 P P **14 00 00.1 +0.2**
comp=Z,52nm,1.0s,mb5.4
HSA Swansea 73.37 40⇓ *e*P P **14 00 00.1 -1.0**
EBH Black Hill 73.38 35 *e*P P 13 59 59.6 -1.4
MCD Coleburn Disti 73.42 34⇓ *e*P P 13 59 59.7 -1.5
EAU Auchinoon 73.44 36⇓ *e*P P 13 59 59.6 -1.7
EAU AMb AMB 14 00 03.4
comp=Z,358nm,1.8s,mb6.0

EARI Arriondas 73.54 49 P **P 14 00 02.2 -0.1**
comp=Z,79nm,1.0s,mb5.6

EDI Edinburgh 73.58 36⇓*eP* **P 14 00 00.1 -2.1**
EDI AMb AMB 14 00 03.4
comp=Z,305nm,1.8s,mb5.9

ESK Eskdalemuir 73.62 36⇓*iP* **P 14 00 01.0 -1.4**
comp=Z,319nm,1.4s,mb6.1
ESK *epP* pP 14 00 11.2 -0.7
ESK LR LR
comp=Z,516nm,19.0s,MS4.8

ESK Eskdalemuir 73.62 36⇓*iP* **P 14 00 01.0 -1.4**
ESK *e**PP pP 14 00 11.3 -0.6
ESK pmax pmax
comp=Z,319nm,1.4s,mb6.1
ESK MLR MLR
comp=Z,516nm,19.0s,MS4.8

HEX Exmoor 73.65 41⇓*eP* **P 14 00 01.4 -1.2**
EBL Broad Law 73.68 36⇓*eP* **P 14 00 00.6 -2.2**
EBL AMb AMB 14 00 03.9
comp=Z,313nm,1.7s,mb6.0

ECK Cauldkaine Hil 73.68 36⇓*eP* **P 14 00 00.8 -1.9**
ECK AMb AMB 14 00 03.9
comp=Z,388nm,1.7s,mb6.1

SFS San Fernando 73.69 56 *eP* **P 14 00 03.1 0.0**
comp=Z,326nm,1.1s,mb6.2

SFS San Fernando 73.69 56 *eP* **P 14 00 03.1 -0.1**
SFS pmax pmax
comp=Z,326nm,1.1s,mb6.2

ESPR Espera 73.90 56 P **P 14 00 05.2 +0.8**
comp=Z,114nm,1.1s,mb5.7

ECAB El Cabril 74.08 54 P **P 14 00 05.6 +0.2**
comp=Z,78nm,0.9s,mb5.6

EJIF Jimena Fronter 74.27 56 P **P 14 00 07.8 +1.3**
comp=Z,59nm,1.1s,mb5.4

EJIF Jimena Fronter 74.27 56 P **P 14 00 07.8 +1.2**
EJIF pmax pmax
comp=Z,59nm,1.1s,mb5.4

ROSF Rostrenen 74.29 44⇓*iP* **P 14 00 05.4 -1.0**
comp=Z,448nm,1.4s,mb5.9

ROSF Rostrenen 74.29 44⇓*iP* **P 14 00 05.4 -1.0**
ROSF pmax pmax
comp=Z,224nm,1.4s,mb5.9

QUIF Quistinic 74.41 44⇓*iP* **P 14 00 06.4 -0.7**
comp=Z,450nm,1.3s,mb6.0

QUIF Quistinic 74.41 44⇓*iP* **P 14 00 06.4 -0.7**
QUIF pmax pmax
comp=Z,225nm,1.3s,mb5.9

LHO Holmfirth 74.58 38 *eP* **P 14 00 06.6 -1.4**
LHO AMb AMB 14 00 09.5
comp=Z,299nm,1.6s,mb6.0

KWE Weaver Farm 74.65 39⇓*eP* **P 14 00 07.2 -1.2**
EADA Adamuz 74.72 54 P **P 14 00 09.3 +0.2**
comp=Z,57nm,0.9s,mb5.5

SGMF Saint Gilles 74.78 44⇓*iP* **P 14 00 07.8 -1.4**
comp=Z,353nm,1.6s,mb5.8

SGMF Saint Gilles 74.78 44⇓*iP* **P 14 00 07.8 -1.4**
SGMF pmax pmax
comp=Z,176nm,1.6s,mb5.7

EMIJ Mijas 74.81 56 P **P 14 00 10.2 +0.5**
comp=Z,98nm,1.0s,mb5.7

KBI1 Birley Grange 74.81 38⇓*eP* **P 14 00 07.8 -1.5**
ELAN Lanestosa 74.84 49 P **P 14 00 09.7 0.0**
comp=Z,58nm,1.0s,mb5.5

ESDC Sonseca Array 74.96 53 P **P 14 00 10.7 +0.2**
comp=Z,98nm,0.9s,mb5.7,baz=288,slow=5.7,SNR=214

ESLA Sonseca Array 74.96 53⇓*iP* **P 14 00 10.7 +0.2**
comp=Z,62nm,1.1s,mb5.5
ESLA *epP* pP 14 00 18.8 -1.3
ESLA LR LR
comp=Z,17μm,21.0s,MS6.3

ELUQ Luque 75.05 55 P **P 14 00 11.9 +0.8**
comp=Z,7.4nm,0.3s,mb5.1

ELUQ Luque 75.05 55 P **P 14 00 11.9 +0.8**
ELUQ pmax pmax
comp=Z,7.0nm,0.3s,mb5.1

LWH Whinny Nab 75.19 37 *eP* **P 14 00 10.9 -0.6**
ELOJ Sierra Loja 75.21 55 P **P 14 00 13.5 +1.5**
comp=Z,148nm,1.3s,mb5.8

ELOJ Sierra Loja 75.21 55 P **P 14 00 13.5 +1.5**
ELOJ pmax pmax
comp=Z,148nm,1.3s,mb5.8

EBAN Banos Encina 75.33 54 P **P 14 00 13.4 +0.7**
comp=Z,61nm,1.0s,mb5.5

EBAN Banos Encina 75.33 54 P **P 14 00 13.4 +0.7**
EBAN pmax pmax
comp=Z,61nm,1.0s,mb5.5

ERON Agron 75.50 55 P **P 14 00 14.7 +1.0**
comp=Z,42nm,0.8s,mb5.4

ECRI Cripan 75.60 49 P **P 14 00 14.2 +0.1**
comp=Z,1μm,4.3s

ECRI Cripan 75.60 49 P **P 14 00 14.2 +0.1**
ECRI pmax pmax
comp=Z,1μm,4.3s

ECOG Cogollos-Vega 75.65 55 P **P 14 00 15.6 +1.1**
comp=Z,51nm,0.6s,mb5.6

ECOG Cogollos-Vega 75.65 55 P **P 14 00 15.6 +1.1**
ECOG pmax pmax
comp=Z,51nm,0.6s,mb5.6

GRR Gorron 75.88 43⇓*iP* **P 14 00 14.6 -0.9**
comp=Z,474nm,1.3s,mb6.0

GRR Gorron 75.88 43⇓*iP* **P 14 00 14.6 -0.9**
GRR pmax pmax
comp=Z,237nm,1.3s,mb6.0

EQES Quesada 75.95 54 P **P 14 00 16.9 +0.7**
comp=Z,82nm,0.9s,mb5.7

KBS Kingsbay 76.01 11 *eP* **P 14 00 11.9 -3.8**
KBS *eS* S 14 09 58.0 +2.6
KBS *eSS* SS 14 14 51.7 +0.1
KBS AMS AMS 14 33 58.4
comp=Z,2μm,17.8s,MS5.4

KBS Kingsbay 76.01 11⇓*iP* **P 14 00 16.8 +1.0**
comp=Z,356nm,1.5s,mb6.1

KBS Kingsbay 76.01 11⇓*iP* **P 14 00 16.8 +1.0**
KBS pmax pmax
comp=Z,356nm,1.5s,mb6.1
KBS MLR MLR
comp=Z,1789μm,17.8s

FLN La Foliniere 76.07 43⇓*iP* **P 14 00 15.9 -0.7**
comp=Z,351nm,1.3s,mb5.8
FLN *eR*
comp=Z,5μm,21.0s

FLN La Foliniere 76.07 43⇓*iP* **P 14 00 15.9 -0.7**
FLN pmax pmax
comp=Z,176nm,1.3s,mb5.8
FLN MLR MLR
comp=Z,5μm,21.0s,MS5.8

EALK Alkurruntz 76.23 49 P **P 14 00 17.1 -0.5**
comp=Z,188nm,1.4s,mb5.8

EBER Berja 76.25 55 P **P 14 00 18.5 +0.7**
comp=Z,72nm,0.9s,mb5.6

EVIA Vianos 76.25 53 P **P 14 00 18.1 +0.3**
comp=Z,76nm,0.8s,mb5.7

EVIA Vianos 76.25 53 P **P 14 00 18.1 +0.3**
EVIA pmax pmax
comp=Z,76nm,0.8s,mb5.7

EALB Alboran 76.30 56 P **P 14 00 18.1 0.0**
comp=Z,80nm,1.0s,mb5.6

EHUE Huescar 76.32 54 P **P 14 00 19.1 +0.8**
comp=Z,110nm,1.1s,mb5.7

EHUE Huescar 76.32 54 P **P 14 00 19.1 +0.8**
EHUE pmax pmax
comp=Z,110nm,1.1s,mb5.7

LDF La Druitiere 76.33 43⇓*iP* **P 14 00 17.2 -0.9**
comp=Z,468nm,1.4s,mb5.9

LDF La Druitiere 76.33 43⇓*iP* **P 14 00 17.2 -0.9**
LDF pmax pmax
comp=Z,234nm,1.4s,mb5.9

OSSF Osses 76.40 49⇓*eP* **P 14 00 17.9 -0.7**
SJPF Ste Jean 76.45 49⇓*iP* **P 14 00 18.8 -0.1**
comp=Z,568nm,1.3s,mb6.0

SJPF Ste Jean 76.45 49⇓*iP* **P 14 00 18.8 -0.1**
SJPF pmax pmax
comp=Z,284nm,1.3s,mb6.0

MFF Saint Martin d 76.64 45⇓*iP* **P 14 00 19.0 -0.8**
comp=Z,252nm,1.2s,mb5.7

MFF Saint Martin d 76.64 45⇓*iP* **P 14 00 19.0 -0.8**
MFF pmax pmax
comp=Z,126nm,1.2s,mb5.7

LARF Larrau 76.64 49⇓*eP* **P 14 00 20.2 +0.3**
ENIJ Nijar 76.77 55 P **P 14 00 21.0 +0.2**
comp=Z,8.8nm,0.8s,mb4.7

ENIJ Nijar 76.77 55 P **P 14 00 21.0 +0.2**
ENIJ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8

ETSF Etsaut 76.97 49⇓*iP* **P 14 00 21.8 0.0**
comp=Z,406nm,1.4s,mb5.8

ETSF Etsaut 76.97 49⇓*iP* **P 14 00 21.8 0.0**
ETSF pmax pmax
comp=Z,203nm,1.4s,mb5.9

FDAF Les Forges d'A 76.98 49⇓*eP* **P 14 00 22.1 +0.3**
ETOB Tobarra 76.99 53 P **P 14 00 22.8 +0.8**
comp=Z,56nm,0.8s,mb5.5

REYF Montagne du Re 77.06 49⇓*eP* **P 14 00 22.4 +0.1**
HSP Hornsund 77.23 13 *eP* **P 14 00 23.8 +1.2**
ESAC San Caprasio 77.25 50 P **P 14 00 23.7 +0.4**
comp=Z,216nm,1.2s,mb6.0

ECHE Chera 77.26 52 P **P 14 00 24.1 +0.7**
comp=Z,50nm,0.9s,mb5.5

ECHE Chera 77.26 52 P **P 14 00 24.1 +0.7**
ECHE pmax pmax
comp=Z,50nm,0.9s,mb5.4

EMUR La Murta 77.37 54 P **P 14 00 24.3 +0.2**
comp=Z,66nm,1.0s,mb5.5

VIEF Viey 77.40 49⇓*eP* **P 14 00 24.2 +0.1**
LABF Labassere 77.40 49⇓*eP* **P 14 00 24.0 -0.1**
BER Bergen 77.47 31 *eP* **P 14 00 25.4 +1.3**
BER AMS AMS 14 30 56.2
comp=Z,3μm,19.7s,MS5.6

EMOS Mosqueruela 77.49 51 P **P 14 00 25.6 +1.0**
comp=Z,74nm,0.9s,mb5.6

EBIE Bielsa 77.52 49 P **P 14 00 25.1 +0.3**
comp=Z,51nm,1.0s,mb5.4

LFF La Frestale 77.53 47⇓*iP* **P 14 00 24.2 -0.6**
comp=Z,502nm,1.3s,mb6.0

LFF La Frestale 77.53 47⇓*iP* **P 14 00 24.2 -0.6**
LFF pmax pmax
comp=Z,251nm,1.3s,mb6.0

EPF Esparros 77.60 49⇓*iP* **P 14 00 24.9 -0.3**
comp=Z,558nm,1.5s,mb6.0

EPF Esparros 77.60 49⇓*iP* **P 14 00 24.9 -0.3**
EPF pmax pmax
comp=Z,279nm,1.5s,mb6.0

CART Cartagena 77.61 54 *eP* **P 14 00 25.0 -0.4**
comp=Z,49nm,0.9s,mb5.4
CART *epP* pP 14 00 34.0 -1.0

RESF Ens 77.64 49⇓*eP* **P 14 00 25.7 +0.3**
EGRA Graus 77.73 49 P **P 14 00 26.8 +0.8**
comp=Z,199nm,1.3s,mb5.9

MELF Melles 77.93 49⇓*eP* **P 14 00 26.8 -0.2**
ERTA Horta de San J 77.98 51 P **P 14 00 27.6 +0.3**
comp=Z,56nm,1.0s,mb5.4

RJF Les Rejaudoux 78.01 46⇓*iP* **P 14 00 26.6 -0.8**
comp=Z,660nm,1.7s,mb6.0
RJF *eR*
comp=Z,5μm,22.2s

RJF Les Rejaudoux 78.01 46⇓*iP* **P 14 00 26.6 -0.8**
RJF pmax pmax
comp=Z,330nm,1.7s,mb6.0
RJF MLR MLR
comp=Z,5μm,22.3s,MS5.8

MOL Molde 78.08 28 *eP* **P 14 00 29.1 +1.7**
MOL AMb AMB 14 00 30.7
comp=Z,279nm,1.2s,mb6.1

MOL Molde 78.08 28 *eP* **P 14 00 29.1 +1.7**
comp=Z,279nm,1.2s,mb6.1

MLS Moulis 78.16 49⇓*eP* **P 14 00 28.0 -0.3**
ODD1 Odda 78.20 31⇓*iP* **P 14 00 27.7 -0.5**
ODD1 AMb AMB 14 00 29.5
comp=Z,289nm,1.5s,mb6.0

ODD1 Odda 78.20 31⇓*iP* **P 14 00 27.7 -0.5**
comp=Z,289nm,1.5s,mb6.0

SALF Salau 78.26 49⇓*eP* **P 14 00 29.0 +0.1**
TCF Toulx Ste Croi 78.30 45⇓*iP* **P 14 00 27.9 -1.1**
comp=Z,228nm,1.3s,mb5.6

TCF Toulx Ste Croi 78.30 45⇓*iP* **P 14 00 27.9 -1.1**
TCF pmax pmax
comp=Z,114nm,1.3s,mb5.6

HYF Humbligny 78.39 44⇓*iP* **P 14 00 28.7 -0.8**
EPOB Poblet 78.46 50 P **P 14 00 28.9 -1.1**
comp=Z,44nm,1.6s,mb5.1

CAF Calviac 78.46 46⇓*iP* **P 14 00 29.1 -0.8**
comp=Z,320nm,1.4s,mb5.8

CAF Calviac 78.46 46⇓*iP* **P 14 00 29.1 -0.8**
CAF pmax pmax
comp=Z,160nm,1.4s,mb5.8

BGF Bois d'Agland 78.67 45⇓*iP* **P 14 00 30.0 -1.0**
comp=Z,279nm,1.2s,mb5.8

BGF Bois d'Agland 78.67 45⇓*iP* **P 14 00 30.0 -1.0**
BGF pmax pmax
comp=Z,139nm,1.2s,mb5.8

EMIR Miracle 78.67 50 P **P 14 00 31.2 +0.1**
comp=Z,51nm,1.0s,mb5.4

LPEF Le Peyrat 78.74 48⇓*eP* **P 14 00 31.1 -0.4**
BAIF Baives 78.85 41⇓*iP* **P 14 00 31.1 -0.9**
comp=Z,331nm,1.5s,mb5.7

BAIF Baives 78.85 41⇓*iP* **P 14 00 31.1 -0.9**
BAIF pmax pmax
comp=Z,166nm,1.5s,mb5.7

MTLF Montolieu 78.89 48⇓*iP* **P 14 00 31.7 -0.6**
comp=Z,502nm,1.5s,mb5.9

MTLF Montolieu 78.89 48⇓*iP* **P 14 00 31.7 -0.6**
MTLF pmax pmax
comp=Z,251nm,1.5s,mb5.9

VALF Valcebollere 78.93 49⇓*eP* **P 14 00 32.8 +0.2**
PYM Petit Puy Mans 78.95 46⇓*eP* **P 14 00 31.7 -0.9**
AVF Avril sur Loir 78.97 44⇓*iP* **P 14 00 31.3 -1.4**
comp=Z,186nm,1.4s,mb5.5

AVF Avril sur Loir 78.97 44⇓*iP* **P 14 00 31.3 -1.4**
AVF pmax pmax
comp=Z,93nm,1.4s,mb5.5

AGO Saint Agoulin 78.97 45⇓*eP* **P 14 00 31.7 -1.0**
SSF Saint Saulge 79.02 44⇓*iP* **P 14 00 31.6 -1.3**
comp=Z,264nm,1.4s,mb5.7

SSF Saint Saulge 79.02 44⇓*iP* **P 14 00 31.6 -1.3**
SSF pmax pmax
comp=Z,132nm,1.4s,mb5.7

EIBI Ibiza 79.13 52 P **P 14 00 34.1 +0.4**
comp=Z,72nm,0.9s,mb5.6

LRDF Laroque-de-Fa 79.20 48⇓*eP* **P 14 00 33.4 -0.6**
LOR Lormes 79.21 44⇓*iP* **P 14 00 32.8 -1.1**
comp=Z,324nm,1.2s,mb5.8

LOR Lormes 79.21 44⇓*iP* **P 14 00 32.8 -1.1**
LOR *eR*
comp=Z,2μm,19.2s

LOR Lormes 79.21 44⇓*iP* **P 14 00 32.8 -1.1**
LOR pmax pmax
comp=Z,162nm,1.2s,mb5.8

LBL Lubilhac 79.22 46⇓*eP* **P 14 00 33.1 -1.0**
GIVF Givet 79.23 41⇓*iP* **P 14 00 33.2 -0.8**
comp=Z,296nm,1.3s,mb5.8

GIVF Givet 79.23 41⇓*iP* **P 14 00 33.2 -0.8**
GIVF pmax pmax
comp=Z,148nm,1.3s,mb5.8

FILF Fillols 79.29 49⇓*eP* **P 14 00 33.4 -1.1**
PLDF La Plantade 79.32 45⇓*eP* **P 14 00 34.0 -0.6**
SMF Signal de Mont 79.33 44⇓*iP* **P 14 00 33.1 -1.5**
comp=Z,170nm,1.2s,mb5.5

SMF Signal de Mont 79.33 44⇓*iP* **P 14 00 33.1 -1.5**
SMF pmax pmax
comp=Z,85nm,1.2s,mb5.5

COLF Collangettes 79.47 46⇓*eP* **P 14 00 35.0 -0.4**
NSS Namsos 79.53 26 *eS* S 14 10 35.6 +2.1
NSS AMS AMS 14 43 02.6
comp=Z,1μm,18.3s,MS5.3

EJON La Jonquera 79.55 49 P **P 14 00 36.0 +0.1**
comp=Z,66nm,1.0s,mb5.5

EANR 'Ain N'Sour 79.59 56 P **P 14 00 37.0 +0.7**
KONO Kongsberg 79.72 31 *eP* **P 14 00 37.3 +0.8**
KONO Kongsberg 79.72 31*dP* **P 14 00 36.9 +0.5**
MEZF Maizieres J'vi 79.73 42⇓*iP* **P 14 00 35.9 -0.8**
comp=Z,632nm,1.6s,mb6.0

ECHF Ech Chlef 79.73 55 P **P 14 00 37.5 +0.5**
ECHA Ech Chlef 79.76 55 P **P 14 00 37.5 +0.3**
WIT Witteveen 79.76 38 *eP* **P 14 00 37.5 +0.7**
comp=Z,811nm,1.5s,mb6.4

HGN Heimansgroeve 79.78 40⇓*eP* **P 14 00 36.4 -0.6**
comp=Z,141nm,1.3s,mb5.7
HGN *ex* x 14 00 45.6
comp=Z,79nm,1.3s
HGN *eS* S 14 10 24.3 -12
HGN *eSS* SS 14 15 28.4 -20

EBNR Beni Rached 79.85 55 P **P 14 00 38.5 +0.8**
ETRT Tiaret 79.87 56 P **P 14 00 38.6 +0.8**
LASF Ste Croix 79.89 47⇓*iP* **P 14 00 37.5 -0.2**
comp=Z,492nm,1.7s,mb5.9

WTSB Winterswijk 80.03 39⇓*eP* **P 14 00 38.0 -0.3**
comp=Z,316nm,1.4s,mb6.1
WTSB *ex* x 14 00 47.3
comp=Z,239nm,1.4s

NAO01 NORSAR Array S 80.03 29⇓*iP* **P 14 00 38.6 +0.5**
comp=Z,242nm,1.1s,mb6.0
NAO01 *epP* pP 14 00 49.1 +1.4
NAO01 LR LR
comp=Z,4μm,21.0s,MS5.7

MOR8 Moi Rana 80.06 24⇓*iP* **P 14 00 39.0 +0.9**
MOR8 AMb AMB 14 00 42.5
comp=Z,223nm,1.8s,mb5.8

MOR8 Moi Rana 80.06 24⇓*iP* **P 14 00 39.0 +0.9**
comp=Z,223nm,1.8s,mb5.8

ETOS Mallorca 80.08 51 P **P 14 00 38.9 0.0**
comp=Z,48nm,1.0s,mb5.4

NB2 NORSAR Subarra 80.14 29 P **P 14 00 39.0 +0.3**
comp=Z,6.3nm,0.8s,mb4.6,baz=291,slow=5.6

NB2 NORSAR Subarra 80.14 29 P **P 14 00 39.0 +0.3**
baz=291,slow=5.6

NB2 NORSAR Subarra 80.14 29 P **P 14 00 39.0 +0.3**
NB2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6

NOA NORSAR Array B 80.14 29 P **P 14 00 39.4 +0.7**
comp=Z,108nm,1.0s,mb5.7,baz=284,slow=5.4,SNR=119
NOA LR LR 14 31 58.4
comp=Z,2μm,21.2s,MS5.5,baz=290,slow=32

WLF Walferdange 80.17 41⇓*iP* **P 14 00 38.6 -0.4**
comp=Z,237nm,1.5s,mb5.9
WLF *epP* pP 14 00 49.4 +0.7
WLF Walferdange 80.17 41⇓*iP* **P 14 00 38.6 -0.5**
WLF *e**PP pP 14 00 49.4 +0.7
WLF pmax pmax
comp=Z,237nm,1.5s,mb5.9

VIVF Saint-Julien-I 80.29 46⇓*iP* **P 14 00 39.7 -0.1**
comp=Z,442nm,1.3s,mb5.9

VIVF Saint-Julien-I 80.29 46⇓*iP* **P 14 00 39.7 -0.1**
VIVF pmax pmax
comp=Z,221nm,1.3s,mb5.9

MUD Monsted U'grnd 80.30 34⇓*iP* **P 14 00 40.3 +0.7**
comp=Z,167nm,1.1s,mb5.9
MUD *e* pP 14 00 49.2 0.0
MUD *i* S S 14 10 44.2 +2.6
MUD *i* 14 15 59.4
comp=Z,3μm,21.0s

MUD Monsted U'grnd 80.30 34⇓*iP* **P 14 00 40.3 +0.7**
MUD *e* pP 14 00 49.2 0.0
MUD *i* S S 14 10 44.2 +2.6
MUD pmax pmax
comp=Z,167nm,1.1s,mb5.9

THEF They Montfort 80.39 43⇓*eP* **P 14 00 39.8 -0.5**
TRO Tromso 80.53 20 *eP* **P 14 00 39.0 -1.6**
TRO *eS* S 14 10 46.0 +2.3
TRO *eSS* SS 14 15 59.3 -0.1
TRO AMS AMS 14 36 53.5
comp=Z,1μm,16.9s,MS5.4

TRO Tromso 80.53 20 *eP* **P 14 00 39.0 -1.6**
TRO MLR MLR
comp=Z,1359μm,16.9s

HAU Haudompre 80.68 43⇓*iP* **P 14 00 40.9 -0.9**
comp=Z,192nm,1.1s,mb5.6
HAU *eR*
comp=Z,3μm,22.0s

HAU Haudompre 80.68 43⇓*iP* **P 14 00 40.9 -0.9**
HAU pmax pmax
comp=Z,96nm,1.1s,mb5.6
HAU MLR MLR
comp=Z,3μm,22.0s,MS5.6

OCF Saint Nazaire 80.79 46⇓*eP* **P 14 00 42.7 +0.2**
OG26 St.-Nazaire-De 80.79 46⇓*eP* **P 14 00 42.7 +0.2**
CABF La Chapelle 80.84 44⇓*iP* **P 14 00 42.1 -0.6**
comp=Z,248nm,1.2s,mb5.7

CABF La Chapelle 80.84 44⇓*iP* **P 14 00 42.1 -0.6**
CABF pmax pmax
comp=Z,124nm,1.2s,mb5.7

PRAF Pradon 80.88 47⇓*eP* **P 14 00 43.3 +0.4**
ABA Alger-Bouzarea 80.92 54 P **P 14 00 44.0 +0.7**
GRN Grenoble 80.94 46⇓*eP* **P 14 00 42.8 -0.4**
GIMEL Gimel 80.98 44⇓*iP* **P 14 00 43.0 -0.4**
ABH Alteburg 80.99 41⇓*eP* **P 14 00 43.4 0.0**
ABH Alteburg 80.99 41⇓*eP* **P 14 00 43.3 -0.1**
EMHD Diebel Mahouad 81.00 55 P **P 14 00 44.0 +0.3**
BILL Bilibino 81.00 339 *eP* **P 14 00 43.2 +0.1**
comp=Z,125nm,1.5s,mb5.6

BILL Bilibino 81.00 339 *eP* **P 14 00 43.2 +0.1**
BILL pmax pmax
comp=Z,125nm,1.5s,mb5.6

TIC Toumodi 81.02 86 *eP* **P 14 00 43.5 -0.8**
comp=Z,145nm,1.2s,mb5.8

BRANT Les Verrieres 81.02 44⇓*iP* **P 14 00 43.4 -0.2**
HINF Hinteralfeld 81.06 43⇓*iP* **P 14 00 42.7 -1.1**
comp=Z,268nm,1.6s,mb5.6

HINF Hinteralfeld 81.06 43⇓*iP* **P 14 00 42.7 -1.1**
HINF pmax pmax
comp=Z,134nm,1.6s,mb5.6

ORIF Oris-en-Rattie 81.11 46⇓*iP* **P 14 00 43.9 -0.2**
comp=Z,229nm,1.7s,mb5.5
ORIF *eR*
comp=Z,4μm,23.0s

LIC Lamto 81.12 86 *eP* **P 14 00 44.1 -0.7**
comp=Z,674nm,1.2s,mb6.5

LIC Lamto 81.12 86⇓*iP* **P 14 00 44.6 -0.2**
comp=Z,351nm,1.5s,mb6.1

SMRF Simiane la Rot 81.12 47⇓*iP* **P 14 00 44.5 +0.3**
comp=Z,270nm,1.6s,mb5.6

LOMF Lomont 81.16 43⇓*eP* **P 14 00 43.8 -0.5**
ECH Echery 81.16 42⇓*eP* **P 14 00 43.8 -0.5**
GELF Grande-Etoile 81.16 47⇓*eP* **P 14 00 44.5 +0.1**
DBIC Dimbokro 81.17 86 P **P 14 00 44.9 -0.1**
comp=Z,51nm,0.9s,mb5.5,baz=272,slow=5.8,SNR=54
DBIC LR LR 14 30 08.8
comp=Z,1μm,20.9s,MS5.2,baz=267,slow=31

DBIC Dimbokro 81.17 86 P **P 14 00 44.9 -0.1**
DBIC LR LR 14 30 08.8

CDF Champ du Feu 81.19 42⇓*iP* **P 14 00 43.7 -0.8**
comp=Z,276nm,1.3s,mb5.7

CDF Champ du Feu 81.19 42⇓*iP* **P 14 00 43.7 -0.8**
CDF pmax pmax
comp=Z,138nm,1.3s,mb5.7

MOF Molkenrain 81.23 43⇓*eP* **P 14 00 44.0 -0.7**
WLS Welschbruch 81.24 42⇓*eP* **P 14 00 44.3 -0.4**
VILF Villemus 81.25 47⇓*eP* **P 14 00 45.4 +0.5**
PUYF Puyloubier 81.32 47⇓*eP* **P 14 00 45.2 0.0**
STOF St-Etienne Org 81.35 47⇓*eP* **P 14 00 45.7 +0.3**
KIC Kosan Boka 81.36 86 *eP* **P 14 00 45.5 -0.6**
comp=Z,884nm,1.1s,mb6.6

BERF Bertagne 81.36 47⇓*eP* **P 14 00 45.4 -0.1**
LANF Langenberg 81.38 42⇓*eP* **P 14 00 45.2 -0.3**
TORNY Torny 81.39 44⇓*iP* **P 14 00 45.3 -0.2**
BOURR Bourrignon 81.41 43⇓*iP* **P 14 00 45.0 -0.6**
STR Strasbourg 81.46 42⇓*eP* **P 14 00 46.1 +0.2**
LIBD Limburg 81.46 42 *eP* **P 14 00 45.8 -0.1**
TNS Taunus Mts 81.47 40 *eP* **P 14 00 45.8 -0.1**
comp=Z,236nm,1.4s,mb5.9

TNS Taunus Mts 81.47 40 *eP* **P 14 00 45.8 -0.1**
TNS pmax pmax
comp=Z,236nm,1.4s,mb5.9

KTD Kalmit 81.47 41 *eP* **P 14 00 45.6 -0.3**
KTD Kalmit 81.47 41⇓*eP* **P 14 00 45.6 -0.3**
AIGLE Aigle 81.49 44⇓*iP* **P 14 00 45.8 -0.3**
EMV Vieux Emosson 81.52 45⇓*iP* **P 14 00 46.3 0.0**
EMV Vieux Emosson 81.52 45 P **P 14 00 46.5 +0.2**
LPL La Plagne 81.55 45⇓*iP* **P 14 00 46.5 +0.1**
comp=Z,164nm,1.3s,mb5.5

LPL La Plagne 81.55 45⇓*iP* **P 14 00 46.5 +0.1**
LPL pmax pmax
comp=Z,82nm,1.3s,mb5.5

TAVF Tavernes 81.55 47⇓*eP* **P 14 00 46.6 +0.2**
SALAN Lac Salanfe 81.55 44⇓*iP* **P 14 00 46.3 -0.1**
LPG La Plagne 81.56 45⇓*iP* **P 14 00 46.8 +0.3**
comp=Z,269nm,1.4s,mb5.7

LPG La Plagne 81.56 45⇓*iP* **P 14 00 46.8 +0.3**
LPG pmax pmax
comp=Z,135nm,1.4s,mb5.7

BBS Basel-Blauen 81.58 43⇓*eP* **P 14 00 46.0 -0.5**
BBS Basel-Blauen 81.58 43⇓*eP* **P 14 00 46.1 -0.4**
BSEG Bad Segeberg 81.59 36 *eP* **P 14 00 46.8 +0.3**
BSEG *eP* PP 14 03 53.4 -1.9
GRYON Gryon 81.62 44⇓*iP* **P 14 00 46.8 +0.1**
GRYON Gryon 81.62 44⇓*iP* **P 14 00 46.7 0.0**
BNI Bardonecchia 81.62 46⇓*iP* **P 14 00 46.9 +0.1**
comp=Z,75nm,1.3s,mb5.5

BNI *epP* pP 14 00 56.8 +0.4
SENIN Lac Senin 81.72 44⇓*iP* **P 14 00 47.5 +0.3**
KIZ Kirchzarten 81.72 43⇓*eP* **P 14 00 46.8 -0.4**
RRL Cesana Torines 81.73 46 P **P 14 00 47.5 +0.2**
BALST Balsthal 81.73 43⇓*iP* **P 14 00 46.7 -0.6**
MBDF Montbardon 81.77 46⇓*iP* **P 14 00 47.4 -0.2**
comp=Z,94nm,1.2s,mb5.3

MBDF Montbardon 81.77 46⇓*iP* **P 14 00 47.4 -0.2**

MBDF pmax pmax
comp=Z,47nm,1.2s,mb5.3
FELD Feldberg 81.79 43⇓*e*P P 14 00 47.4 -0.2
SWS Schriesheim 81.82 41 *e*P P 14 00 47.2 -0.5
LSD Ceresole Reale 81.85 45 P P 14 00 47.7 -0.2
TOD Tromm 81.85 41⇓*e*P P 14 00 47.5 -0.4
WIMIS Wimmis 81.86 44⇓*i*P P 14 00 47.8 -0.2
SURF Saint Ours 81.86 46⇓*e*P P 14 00 48.5 +0.5
DIX Grande Dixence 81.86 44⇓*i*P P 14 00 48.5 +0.5
BFO Black Forest 81.89 42 *e*P P 14 00 47.4 -0.7
comp=Z,123nm,1.4s,mb5.6
BFO Black Forest 81.89 42 *e*P P 14 00 47.4 -0.7
BFO pmax pmax
comp=Z,123nm,1.4s,mb5.6
FENE Fenestrelle 81.89 46 P P 14 00 48.0 -0.2
LKBD Leukerbad 81.93 44⇓*i*P P 14 00 48.4 +0.1
LMR La Mourre 81.94 47⇓*i*P P 14 00 48.0 -0.5
comp=Z,258nm,1.4s,mb5.7
LMR La Mourre 81.94 47⇓*i*P P 14 00 48.0 -0.5
LMR pmax pmax
comp=Z,129nm,1.4s,mb5.7
SULZ Sulz-Cheisache 81.96 43⇓*i*P P 14 00 47.8 -0.7
FRF La Foret Royal 81.97 47⇓*i*P P 14 00 48.2 -0.5
comp=Z,451nm,1.6s,mb5.8
FRF La Foret Royal 81.97 47⇓*i*P P 14 00 48.2 -0.5
FRF pmax pmax
comp=Z,226nm,1.6s,mb5.8
RSP Reno Superiore 82.00 45 P P 14 00 48.5 -0.2
BHB Bricherasio 82.08 46 P P 14 00 48.3 -0.9
LBG Lerchenberg 82.10 42 *e*P P 14 00 48.7 -0.5
CALN Calern 82.10 47⇓*e*P P 14 00 49.6 +0.3
SLE Schleitheim 82.14 43⇓*i*P P 14 00 48.9 -0.5
KTK1 Kautokeino 82.18 20⇓*i*P P 14 00 50.9 +1.7
KTK1 AMb AMB 14 00 54.4
comp=Z,431nm,1.8s,mb6.1
KTK1 Kautokeino 82.18 20⇓*i*P P 14 00 50.9 +1.7
comp=Z,431nm,1.8s,mb6.1
HASLI Hasliberg 82.18 44⇓*i*P P 14 00 49.8 +0.1
CLZ Clausthal 82.21 38 *e*P P 14 00 50.1 +0.4
comp=Z,240nm,1.4s,mb5.9
CLZ *e*PP PP 14 03 59.5 -0.7
CLZ Clausthal 82.21 38 *e*P P 14 00 50.1 +0.4
CLZ *e* 14 03 59.5
CLZ pmax pmax
comp=Z,240nm,1.4s,mb5.9
SMY Shemya 82.22 323 PFAKE 14 01 00.0 +10
SMY LR LR
comp=Z,4μm,21.0s,MS5.7
TRAV 82.24 45 P P 14 00 49.2 -0.7
FLACH Flaach 82.24 43⇓*i*P P 14 00 49.5 -0.4
SPAK Spaichingen 82.24 42⇓*e*P P 14 00 49.6 -0.3
MMK Mattmark 82.24 44⇓*i*P P 14 00 50.8 +0.8
MMK Mattmark 82.24 44 P P 14 00 50.9 +0.9
MVIF Mont Vial 82.24 47⇓*e*P P 14 00 50.3 +0.3
COP Copenhagen 82.27 34⇓*i*P P 14 00 50.4 +0.5
comp=Z,62nm,1.0s,mb5.5
COP *i* 14 02 18.5
COP *i* 14 03 54.2
COP *i*S S 14 11 04.7 +2.7
COP *i* 14 16 31.6
comp=Z,1μm,21.0s
COP Copenhagen 82.27 34⇓*i*P P 14 00 50.4 +0.5
COP *i* 14 03 54.2
COP *i*S S 14 11 04.7 +2.7
COP pmax pmax
comp=Z,62nm,1.0s,mb5.5
COP MLR MLR
comp=Z,1μm,21.0s,MS5.2
STV Sta Anna Valdi 82.28 46 P P 14 00 49.0 -1.2
STV2 Anna di Valdie 82.28 46 P P 14 00 49.1 -1.1
TOUF Mont Tournerai 82.28 47⇓*e*P P 14 00 50.0 -0.2
ZUR Zurich 82.30 43⇓*i*P P 14 00 50.0 -0.3
STU Stuttgart 82.32 42⇓*i*P P 14 00 49.7 -0.7
comp=Z,83nm,1.2s,mb5.5
STU Stuttgart 82.32 42⇓*i*P P 14 00 49.7 -0.6
STU pmax pmax
comp=Z,83nm,1.2s,mb5.5
ENR Entracque 82.35 46 P P 14 00 48.6 -1.9
MIDW Midway 82.36 297 PFAKE 14 01 00.0 +9.0
MIDW LR LR
comp=Z,2μm,22.0s,MS5.4
ORX Oropa 82.36 45 P P 14 00 49.8 -0.8
AUTN L'Aution 82.41 46⇓*e*P P 14 00 51.4 +0.5
SIND Sindeldorf 82.43 41⇓*e*P P 14 00 50.5 -0.4
REVF Revere 82.44 47⇓*e*P P 14 00 51.0 0.0
MUO Muotathal 82.45 43⇓*i*P P 14 00 51.3 +0.3
MUO Muotathal 82.45 43⇓*i*P P 14 00 51.4 +0.4
SBF Sospel 82.45 47⇓*i*P P 14 00 50.6 -0.5
comp=Z,342nm,1.4s,mb5.8
SBF Sospel 82.45 47⇓*i*P P 14 00 50.6 -0.5
SBF pmax pmax
comp=Z,171nm,1.4s,mb5.8
GUT Gutenstein 82.46 42⇓*e*P P 14 00 50.6 -0.5
SAOF Saorge 82.50 46⇓*e*P P 14 00 51.3 -0.1
WILA Wila 82.50 43⇓*i*P P 14 00 51.1 -0.2
BUCH Bad Urach 82.51 42⇓*e*P P 14 00 51.3 0.0
WEIN Weingarten 82.53 43⇓*i*P P 14 00 50.9 -0.5
FUSIO Fusio 82.60 44⇓*i*P P 14 00 52.5 +0.6
MONE Monesi 82.62 46 P P 14 00 50.9 -1.1
ROB Roburent 82.64 46 P P 14 00 51.0 -1.1
NEGI Negi 82.64 47 P P 14 00 50.6 -1.5
ARCES ARCESS Array B 82.67 19 P P 14 00 52.3 +0.5
comp=Z,63nm,0.9s,mb5.7,baz=290,slow=3.7,SNR=122
ARCES LR LR 14 36 56.6
comp=Z,2μm,19.1s,MS5.5,baz=305,slow=35
ARE0 ARCESS Array S 82.67 19⇓*e*P P 14 00 52.4 +0.6
ARE0 *e*PP PP 14 04 00.9 -2.7
PMSA Palmer Station 82.71 170 PFAKE 14 01 00.0 +8.0
PMSA LR LR
comp=Z,1μm,19.0s,MS5.2
LLS Linth-Limmern 82.72 43⇓*i*P P 14 00 52.8 +0.3
IMI Imperia 82.75 46 P P 14 00 52.2 -0.5
FIN Finale Ligure 82.90 46 P P 14 00 53.0 -0.4
FIN Finale Ligure 82.90 46 P P 14 00 52.0 -1.4
PLONS Plons 82.92 43⇓*i*P P 14 00 53.5 0.0
SET Setif 82.92 54 P P 14 00 44.0 -10
LIENZ Alp Oberkamor 82.92 43⇓*i*P P 14 00 53.5 0.0
MUGIO Muggio 83.00 44⇓*i*P P 14 00 53.5 -0.4
HDH Heidenheim 83.02 42⇓*e*P P 14 00 53.9 -0.1
KEV Kevo 83.04 19 *e*p P 14 00 53.1 -0.5
PCP Pian Castagno 83.04 46 P P 14 00 53.3 -0.9
CKHR Kef el Ahmar 83.05 55 P P 14 00 56.0 +1.6
VDL Val di Lei 83.13 44⇓*i*P P 14 00 55.0 +0.4
DAVA Damuels 83.18 43⇑*i*P P 14 00 55.2 +0.4
comp=Z,351nm,1.8s,mb6.1
DAVA Damuels 83.18 43 *i*P P 14 00 55.2 +0.4
comp=Z,351nm,1.8s,mb6.1,SNR=32
DFRA Djebel Bou Aff 83.20 54 P P 14 00 56.0 +0.8
UBR Uberruh 83.21 42⇓*e*P P 14 00 54.9 -0.1
MOX Moxa 83.30 39 *i*P P 14 00 55.4 0.0
comp=Z,logA/T=2.0,mb5.8
MOX *i* pP 14 01 05.0 0.0
MOX PP PP 14 04 07.0 -2.0
MOX S S 14 11 15.0 +2.5
MOX L 14 38 57.0
MOX Moxa 83.30 39 *e*P P 14 00 55.4 0.0
comp=Z,163nm,1.6s,mb5.8
MOX Moxa 83.30 39 *e*P P 14 00 55.4 0.0
MOX pmax pmax
comp=Z,163nm,1.6s,mb5.8
DAVOX Davos 83.32 43⇓*i*P P 14 00 56.0 +0.5
DAVOX Davos 83.32 43 P P 14 00 56.2 +0.7
GRA1 Grafenberg Arr 83.34 40 *e*P P 14 00 55.9 +0.3
comp=Z,163nm,1.3s,mb5.9
GRA1 *e*pP pP 14 01 06.2 +0.9
GRA1 *e*PP PP 14 04 10.1 +0.8
GRA1 LR LR
comp=Z,3μm,21.3s,MS5.7
GRF Grafenberg Arr 83.34 40 *e*P P 14 00 55.9 +0.3
GRF *e**PP pP 14 01 06.2 +0.9
GRF *e* 14 04 10.1
GRF pmax pmax
comp=Z,163nm,1.3s,mb5.9
GRF MLR MLR
comp=Z,3μm,21.3s,MS5.7
CMER Merouana 83.46 55 P P 14 00 58.0 +1.5
BERNI Berninapass 83.52 44⇓*i*P P 14 00 57.2 +0.6
FUORN Ofenpass 83.62 43⇓*i*P P 14 00 57.6 +0.5
FUORN Ofenpass 83.62 43 P P 14 00 57.9 +0.8
CASM Ain Smara 83.75 54 P P 14 00 58.0 0.0
BSD Bornholm Skovb 83.79 34⇑*i*P P 14 00 58.2 +0.4
comp=Z,26nm,1.2s,mb5.2
BSD Bornholm Skovb 83.79 34⇑*i*P P 14 00 58.2 +0.4
BSD pmax pmax
comp=Z,26nm,1.2s,mb5.2
FUR Furstenfeldbru 83.82 42 *e*P P 14 00 58.1 0.0
comp=Z,128nm,1.4s,mb5.9
FUR Furstenfeldbru 83.82 42 *e*P P 14 00 58.1 0.0
FUR pmax pmax
comp=Z,128nm,1.4s,mb5.9
CKFL Kef-Lekhel 83.89 54 P P 14 00 59.0 +0.3
PGF Pioggiola 83.91 48⇓*i*P P 14 00 58.1 -0.6
comp=Z,625nm,1.9s,mb6.1
PGF Pioggiola 83.91 48⇓*i*P P 14 00 58.1 -0.6
PGF pmax pmax
comp=Z,313nm,1.9s,mb6.1
NKC Novy Kostel 83.93 39⇓*i*P P 14 00 59.0 +0.4
NKC *e*pP pP 14 01 07.0 -1.3
NKC *e*PP PP 14 04 13.4 -0.6
NKC AMS AMS 14 41 10.0
comp=Z,2μm,17.9s
CLL Collm 83.93 38 ⇓P P 14 00 58.6 0.0
comp=Z,logA/T=2.1,mb6.0
CLL *e*PCP PcP 14 01 04.0 +1.1
CLL *i**SP sP 14 01 08.4 -3.0
CLL *e* 14 01 19.0
CLL *e* 14 04 07.0
CLL *e*PP PP 14 04 12.0 -2.0
CLL *i**SPP 14 04 19.8
CLL *e* 14 05 32.0
CLL *e*S S 14 11 19.0 +0.2
CLL *e*PS PS 14 12 06.0 -11
CLL *e*SS SS 14 16 52.0 +2.2
CLL *e*SSS SSS 14 20 21.0 +4.3
CLL *e* 14 23 18.0
CLL Collm 83.93 38⇓*i*P P 14 00 58.6 0.0
comp=Z,170nm,1.4s,mb6.0
CLL *e*pP pP 14 01 04.0 -4.2
CLL *i*sP sP 14 01 08.4 -3.0
CLL *e*S S 14 11 19.0 +0.2
CLL LR LR
comp=Z,2μm,17.2s,MS5.6
CLL Collm 83.93 38⇓*i*P P 14 00 58.6 0.0
CLL *i**SP sP 14 01 08.4 -3.0
CLL *e*S S 14 11 19.0 +0.2
CLL pmax pmax
comp=Z,170nm,1.4s,mb6.0
CLL MLR MLR
comp=Z,2μm,17.2s,MS5.6
MOTA Moosalm 83.96 43⇑*i*P P 14 00 58.9 +0.1
comp=Z,182nm,1.4s,mb6.0
MOTA Moosalm 83.96 43 *i*P P 14 00 58.9 +0.2
comp=Z,182nm,1.4s,mb6.0,SNR=21
MOTA Moosalm 83.96 43⇑*i*P P 14 00 58.9 +0.1
MOTA pmax pmax
comp=Z,182nm,1.4s,mb6.0
CODM 83.98 46 P P 14 00 57.5 -1.5
RUE Ruedersdorf 84.02 37⇓*i*P P 14 00 58.8 -0.1
comp=Z,91nm,1.0s,mb5.9
SQTA Sankt Quirin 84.06 43⇑*i*P P 14 00 59.6 +0.3
comp=Z,146nm,1.4s,mb5.9
SQTA Sankt Quirin 84.06 43 *i*P P 14 00 59.6 +0.2
comp=Z,146nm,1.4s,mb5.9,SNR=15
SQTA Sankt Quirin 84.06 43⇑*i*P P 14 00 59.6 +0.3
SQTA pmax pmax
comp=Z,146nm,1.4s,mb5.9
GRAM 84.10 45 P P 14 00 58.7 -0.9
BACM 84.16 46 P P 14 00 58.2 -1.7
VINC Vinca 84.26 46 P P 14 00 58.2 -2.2
VALM 84.26 46 P P 14 00 59.5 -0.9
WATA Walderalm 84.27 42⇑*i*P P 14 01 00.4 +0.1
WTTA Wattenberg 84.33 43⇓*i*P P 14 01 00.8 +0.2
comp=Z,705nm,3.2s
WTTA Wattenberg 84.33 43⇓*i*P P 14 01 00.8 +0.2
WTTA pmax pmax
comp=Z,705nm,3.2s
VLC Villacollemand 84.42 46 P P 14 01 00.2 -1.0
SARO Sassorosso 84.42 46 P P 14 00 59.4 -1.8
WET Wettzell 84.53 40 *e*P P 14 01 02.3 +0.7
comp=Z,310nm,1.5s,mb6.2
WET *e*PP PP 14 04 18.8 -0.1
WET Wettzell 84.53 40 *e*P P 14 01 02.3 +0.7
WET *e* 14 04 18.8
WET pmax pmax
comp=Z,310nm,1.5s,mb6.2
MAIM 84.56 46 P P 14 00 59.2 -2.6
BRG Berggiesshubel 84.63 39⇓*i*P P 14 01 02.6 +0.5
comp=Z,302nm,1.6s,mb6.2
BRG *i*pP pP 14 01 11.7 -0.1
BRG PP PP 14 04 18.6 -1.1
BRG S S 14 11 27.0 +1.3
BRG SP SP 14 12 21.0 +0.5
BRG SS SS 14 17 10.0 +10
BRG LR LR
comp=Z,2μm,21.0s,MS5.5
BRG Berggiesshubel 84.63 39⇓*i*P P 14 01 02.6 +0.5
BRG *i**PP pP 14 01 11.7 -0.1
BRG *e* 14 04 18.6
BRG S S 14 11 27.0 +1.3
BRG SP SP 14 12 21.0 +0.5
BRG pmax pmax
comp=Z,302nm,1.6s,mb6.2
BRG MLR MLR
comp=Z,2μm,21.0s,MS5.5
KHC Kasperske Hory 84.97 40⇓*i*P P 14 01 04.2 +0.4
KHC *e*pP pP 14 01 12.3 -1.2
KHC *e*PP PP 14 04 22.1 -0.3
KHC *e*SKS SKS 14 11 23.1 -8.0
KHC AMS AMS 14 33 40.0
comp=Z,3μm,21.0s
VSL Villasalto 85.05 50 P P 14 01 04.8 +0.3
PVCC Panska Ves 85.12 39⇓*i*P P 14 01 04.9 +0.4
PVCC *e*pP pP 14 01 14.2 0.0
GEC2 GERESS Array S 85.14 41 *e*P P 14 01 05.2 +0.5
comp=Z,273nm,1.4s,mb6.2
GEC2 *e*PP PP 14 04 25.0 +1.2
GEC2 GERESS Array S 85.14 41 *e*P P 14 01 05.2 +0.5
GEC2 *e* 14 04 25.0
GEC2 pmax pmax
comp=Z,273nm,1.4s,mb6.2
GERES GERESS Array B 85.14 41 P P 14 01 05.0 +0.3
comp=Z,58nm,1.1s,mb5.6,baz=270,slow=2.7,SNR=172
GERES LR LR 14 34 22.6
comp=Z,3μm,21.0s,MS5.7,baz=291,slow=32
PRU Pruhonice 85.29 39⇓*i*P P 14 01 05.6 +0.2
PRU *e*pP pP 14 01 13.6 -1.5
PRU *e*PP PP 14 04 23.8 -1.1
PRU *e*SKS SKS 14 11 26.5 -6.7
PRU AMS AMS 14 41 20.0
comp=Z,2μm,18.0s
KBA Koelnbreinsper 85.49 42⇓*i*P P 14 01 06.7 +0.2
comp=Z,484nm,1.7s,mb6.3
KBA Koelnbreinsper 85.49 42⇓*i*P P 14 01 06.7 +0.2
KBA pmax pmax
comp=Z,484nm,1.7s,mb6.3
MOA Molln 85.83 41⇑*i*P P 14 01 08.2 +0.1
comp=Z,641nm,3.6s
MOA Molln 85.83 41 *i*P P 14 01 08.2 +0.1
comp=Z,641nm,3.6s,SNR=16
UPC Upice 86.00 38⇓*i*P P 14 01 09.3 +0.4
UPC *e*pP pP 14 01 17.5 -1.1
CADS Cadrg 86.02 43 *i*P P 14 01 09.2 0.0
CADS *e*S S 14 11 32.5 -7.0
KSP Ksiaz 86.04 38 *e*P P 14 01 09.9 +0.8
KSP Ksiaz 86.04 38⇓*i*P P 14 01 09.7 +0.6
KSP *e**PP pP 14 01 17.8 -1.0
KSP *e* 14 04 29.5
KSP *e* 14 11 33.0
KSP *e*SS SS 14 17 26.0 +4.6
KSP MLR MLR
comp=Z,4μm,20.3s,MS5.8
TREC Trest 86.10 40⇓*i*P P 14 01 09.6 +0.2
TREC *e*pP pP 14 01 18.0 -1.1
TREC AMS AMS 14 43 50.0
comp=Z,4μm,16.2s
APA Apatity 86.18 19⇓*i*P P 14 01 10.5 +1.1
APA *i* pP 14 01 21.0 +1.9
APA *i* 14 04 27.5
APA *i*S S 14 11 42.0 +1.6
APA pmax pmax
comp=Z,86nm,1.2s,mb5.9
APA MLR MLR
comp=Z,2μm,18.0s,MS5.6
APA MLR MLR
comp=Z,1μm,13.0s
VOY Vojsko 86.19 43 *e*P P 14 01 09.7 -0.3
VOY *e* pP 14 01 20.6 +0.9
VOY *e* 14 01 27.5
DPC Dobruska-Polom 86.24 39⇓*i*P P 14 01 10.6 +0.5
DPC *e*pP pP 14 01 19.1 -0.7
DPC AMS AMS 14 39 20.0
comp=Z,2μm,20.4s
LVZ Lovozero 86.38 19 *i*P P 14 01 11.2 +0.8
LVZ *i*S S 14 11 32.8 -9.5
LVZ *i*SS SS 14 17 23.7 -2.0
LVZ pmax pmax
comp=N,39nm,1.3s
LVZ pmax pmax
comp=Z,137nm,1.3s,mb6.0
LVZ pmax pmax
comp=E,53nm,1.5s
LVZ smax
comp=Z,402nm,17.0s
LVZ smax
comp=N,594nm,13.1s
LVZ smax
comp=E,2μm,18.2s
LVZ smax
comp=N,1μm,5.8s
LVZ smax
comp=E,1μm,4.5s
LVZ MLR MLR
comp=Z,2μm,22.0s,MS5.5
LVZ MLR MLR
comp=N,1μm,21.0s,MS5.5
LVZ MLR MLR
comp=E,1μm,21.0s,MS5.5
KAF Kangasniemi 86.43 26 *ep* P 14 01 10.5 -0.2
comp=E,16nm,0.8s,mb5.3,baz=294,slow=4.9
KAF Kangasniemi 86.43 26 *e*P P 14 01 10.5 -0.2
KAF pmax pmax
comp=Z,16nm,0.8s,mb5.3
OBKA Obir 86.46 43⇑*i*P P 14 01 11.1 -0.2
comp=Z,381nm,1.7s,mb6.3
LJU Ljubljana 86.60 43⇓*e*P P 14 01 12.1 +0.1
LJU *e*pP pP 14 01 23.1 +1.4
CEY Cerknica 86.64 43⇓*e*P P 14 01 12.7 +0.5
comp=Z,650nm,1.4s,mb6.7
FINES FINESS Array B 86.65 26 P P 14 01 11.9 +0.1
comp=Z,27nm,1.0s,mb5.5,baz=288,slow=6.0,SNR=41
FINES LR LR 14 42 13.1
comp=Z,1μm,18.2s,MS5.4,baz=285,slow=37
VRAC Vranov 86.77 39 *e*P P 14 01 13.1 +0.4
PERS Pernice 86.78 42⇓*i*P P 14 01 12.4 -0.4
ARSA Arzberg 86.83 42⇓*i*P P 14 01 13.0 -0.1
comp=Z,235nm,1.8s,mb6.1
VISS Visnje 86.89 43 *i*P P 14 01 13.7 +0.3
VKA Vienna 86.98 41⇓*i*P P 14 01 15.0 +1.3
comp=Z,522nm,2.0s,mb6.4
VKA Vienna 86.98 41⇓*i*P P 14 01 15.0 +1.3
VKA pmax pmax
comp=Z,522nm,2.0s,mb6.4
AQU L'Aquila 87.07 47 P P 14 01 14.2 -0.1
AQU L'Aquila 87.07 47 *e*P P 14 01 14.4 +0.1
AQU pmax pmax
comp=Z,172nm,1.4s,mb6.1
MORC Moravsky Berou 87.18 39⇓*i*P P 14 01 15.2 +0.5
comp=Z,136nm,1.4s,mb6.0
MORC *e*pP pP 14 01 24.8 +0.4
MORC Moravsky Berou 87.18 39⇓*i*P P 14 01 15.2 +0.5
MORC *e**PP pP 14 01 24.8 +0.4
MORC pmax pmax
comp=Z,136nm,1.4s,mb6.0
NVLJ Novalja 87.34 44 *i*P P 14 01 15.4 -0.2
SOP Sopron 87.34 41 ⇑PcP PcP 14 01 16.3 -1.5
SOP Sopron 87.34 41⇑*e*P P 14 01 16.3 +0.8
RAC Raciborz 87.45 38 *e*P P 14 01 17.2 +1.2
RAC MLR MLR 14 48 20.7
comp=Z,2μm,19.6s,MS5.6
ZST Bratislava 87.49 40 *i*P P 14 01 16.9 +0.7
ZST *e*sP sP 14 01 27.1 -2.0
OKC Ostrava-Krasne 87.52 39⇓*i*P P 14 01 16.8 +0.5
OKC *e*pP pP 14 01 25.6 -0.4
OKC AMS AMS 14 43 30.0
comp=Z,2μm,17.1s
SMOL Smolenice 87.58 40 *e*P P 14 01 18.2 +1.6
SMOL *e*sP sP 14 01 27.8 -1.7
CII Carovilli 87.91 47 *e*P P 14 01 19.4 +1.0
comp=Z,212nm,1.7s,mb6.1
CII *e*pP pP 14 01 29.1 +1.0
JOF Joensuu 88.02 24 *e*p P 14 01 17.3 -1.1
KOLL Kolacno 88.15 40 *e*P P 14 01 20.7 +1.3
KOLL *e*sP sP 14 01 30.7 -1.5
OJC Ojcow 88.35 38⇓*i*P P 14 01 20.7 +0.4
OJC *e*PP PP 14 04 48.2 -2.2
OJC *e*S S 14 11 54.9 -6.4
OJC MLR MLR 14 42 08.8
comp=Z,2μm,18.9s,MS5.6
VSU Vasula 88.37 29⇓*i*P P 14 01 19.7 -0.5
SRO Srobarova 88.39 40 *e*P P 14 01 21.5 +1.0
SRO *e*sP sP 14 01 31.1 -2.3
AFI Afiamalu 88.43 255 PFAKE 14 01 30.0 +8.5
AFI LR LR
comp=Z,2μm,22.0s,MS5.5
VYHS Vyhne 88.45 40 *i*P P 14 01 20.9 +0.1
VYHS *e*pP pP 14 01 29.2 -1.3
SEY Seymchan 88.48 337 *e*P P 14 01 20.1 -0.5
SEY 14 11 41.0
SEY *e*S S 14 12 00.3 -1.9
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.6
SEY pmax pmax
comp=N,10.0nm,1.2s
SEY pmax pmax
comp=E,20nm,1.2s
SEY smax
comp=N,2μm,26.2s
SEY smax
comp=E,1μm,23.7s
SUW Suwalki 88.66 34 *e*P P 14 01 21.2 -0.5
PKS9 Tamasi 88.83 42⇑*e*P P 14 01 23.0 +0.3
RHK1 Bakonya 88.89 42⇑*e*P P 14 01 23.3 +0.3
TIXI Tiksi 88.95 349 *e*P P 14 01 19.7 -3.0
comp=E,23nm,1.0s,mb5.5
TIXI *e*S S 14 11 46.3 -20
TIXI *e*SP SP 14 13 04.9 -7.9
TIXI *e*SS SS 14 17 55.8 -6.9
TIXI Tiksi 88.95 349 *e*P P 14 01 19.7 -3.0
TIXI *e*S S 14 11 46.3 -20
TIXI *e*SP SP 14 13 04.9 -7.9
TIXI *e*SS SS 14 17 55.8 -6.9
TIXI pmax pmax
comp=Z,23nm,1.0s,mb5.5
PKS8 Sarbogard 88.97 41⇓*e*P P 14 01 23.0 -0.4
NIE Niedzica 88.98 38 *e*P P 14 01 24.5 +1.2
PKSM Moragy 89.21 42⇓*i*P P 14 01 24.4 -0.1
PKSM Moragy 89.21 42 P P 14 01 24.7 +0.2
PSZ Piszkesteto 89.33 40⇓*e*P P 14 01 25.9 +0.9
PSZ Piszkesteto 89.33 40⇓*i*P P 14 01 26.1 +1.1
PSZ *e**PP pP 14 01 35.5 +0.8
PSZ *e* 14 04 56.3
PSZ pmax pmax
comp=Z,321nm,1.9s,mb6.3
KECS Kecovo 89.46 39 *i*P P 14 01 26.4 +0.8
KECS *e*sP sP 14 01 37.1 -1.4
STHS Stebnicka Huta 89.53 38 *e*P P 14 01 26.9 +1.0
STHS *e*sP sP 14 01 38.0 -0.8
STHS *e*PP PP 14 04 57.3 -2.6
KWP Kalwaria 90.31 38 *e*P P 14 01 30.8 +1.3
KOLS Kolonicke sedl 90.35 38 *e*P P 14 01 30.5 +0.8
KOLS *e*pP pP 14 01 38.4 -1.1
BRY Bratogost 90.42 45⇓*i*P P 14 01 30.3 +0.1
UZH Uzhgorod 90.49 39⇑*i*P P 14 01 30.0 -0.4
UPM Unac-Piva 90.55 45⇓*i*P P 14 01 31.3 +0.5
TIP Timpagrande 90.56 49⇓*i*P P 14 01 29.3 -1.7
HCY Herceg Novi 90.56 45⇓*i*P P 14 01 31.3 +0.4
PET Petropavlovsk 90.75 326 PFAKE 14 01 40.0 +8.5
PET LR LR
comp=Z,1μm,21.0s,MS5.3
PET Petropavlovsk 90.75 326 *e*P P 14 01 30.5 -1.0
PET *e* 14 05 13.2
PET *e*S S 14 12 22.7 -0.4
PET *e*PS PS 14 13 35.6 -2.8
PET *e*SS SS 14 18 23.3 -6.0
PET pmax pmax
comp=Z,26nm,1.8s,mb5.3
PET pmax pmax
comp=Z,100nm,20.1s
PET pmax pmax
comp=Z,100nm,12.8s
PET smax

comp=N,1μm,15.5s
PET smax
comp=E,900nm,12.8s
NKY Niksic 90.76 45 ⇓*i*P **P 14 01 32.1 +0.3**
PLE Pljevlja 90.83 44 ⇓*i*P **P 14 01 32.7 +0.7**
MNK Minsk 90.84 32 *e*P **P 14 01 30.0 -1.9**
BUM Brajici-Budva 90.89 45 ⇓*i*P **P 14 01 32.7 +0.3**
DIVS Divcibare 90.92 43 ⇑*i*P **P 14 01 32.1 -0.4**
BEO Belgrade 90.93 43 ⇓*i*P **P 14 01 33.0 +0.5**
NVSS Nova Varos 2 90.96 44 ⇓*i*P **P 14 01 33.9 +1.2**
LVV L'vov 90.99 37 ⇑*i*P **P 14 01 32.3 -0.4**
MA2 Magadan 91.03 334 *e*P **P 14 01 32.8 +0.2**
MA2 LR LR
comp=Z,1μm,21.0s,MS5.3
TTG Podgorica 91.09 45 ⇓*i*P **P 14 01 33.7 +0.4**
ULC Ulcinj 91.27 46 ⇓*i*P **P 14 01 34.7 +0.5**
IVA Berane 91.35 45 *e*P **P 14 01 35.1 +0.6**
PVY Plav 91.51 45 ⇓*i*P **P 14 01 35.4 +0.2**
DRGR 91.54 40 ⇑P **P 14 01 34.8 -0.5**
DRGR 91.54 40 P **P 14 01 34.9 -0.4**
SVIS Svilajnac 91.65 43 ⇓*i*P **P 14 01 36.2 +0.4**
BOLS Boljevac 92.32 43 ⇓*i*P **P 14 01 38.9 -0.1**
BARS Barje 92.66 44 ⇓*i*P **P 14 01 40.4 -0.1**
BURAR Bucovina Array 92.70 39 ⇓P **P 14 01 41.0 +0.4**
SKO Skopje 92.76 45 *i* P **P 14 01 41.2 +0.2**
SKO *i* pP 14 01 51.0 +0.3
AKASG Malin Array Be 93.49 35 P **P 14 01 43.3 -0.9**
comp=Z,1.2nm,0.5s,mb4.6,baz=294,slow=4.0,SNR=24
VOIR 93.60 41 ⇑P **P 14 01 45.4 +0.6**
VTS Vitosha 93.68 44 *e*P **P 14 01 45.0 -0.2**
VTS Vitosha 93.68 44 P **P 14 01 45.9 +0.7**
KKB Krupnik 93.91 44 *e*P **P 14 01 46.0 -0.3**
MLR Muntele Rosu 94.13 40 ⇑P **P 14 01 48.0 +0.8**
MMB Musomiste 94.47 45 *e*P **P 14 01 49.0 +0.1**
OBN Obninsk 94.72 29 *i* Pdr 14 01 49.5
comp=Z,177nm,1.4s
OBN *i* 14 01 58.3
OBN *e* 14 12 27.0
OBN *e* 14 13 01.1
OBN *e*PS PS 14 14 20.9 -2.4
OBN *e*SS SS 14 19 31.1 +5.3
OBN LR LR
comp=Z,2μm,20.0s,MS5.5
OBN Obninsk 94.72 29K *i*P **P 14 01 49.5 -0.2**
OBN *i* pP 14 01 58.3 -1.1
OBN *e* 14 12 27.0
OBN *e* 14 13 01.1
OBN *e*PS PS 14 14 20.9 -2.4
OBN *e*SS SS 14 19 31.1 +5.3
OBN pmax pmax
comp=Z,177nm,1.4s,mb6.3
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.5
MOS Moscow 94.82 28 *e*P **P 14 01 49.1 -1.0**
MOS *i* pP 14 01 59.5 -0.3
MOS *e* 14 05 37.7
MOS pmax pmax
comp=Z,176nm,1.4s,mb6.3
RZN Rozhen 95.08 44 *e*P **P 14 01 41.0 -11**
KIS Kishinev 95.14 38 *e*P **P 14 01 50.0 -1.8**
KIS *e* 14 12 16.0
KIS MLR MLR
comp=N,1μm,20.0s,MS5.5
KIS MLR MLR
comp=E,1μm,20.0s,MS5.5
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.5
KIS MLR MLR
comp=Z,1μm,20.0s
CFR Carcaliu 95.64 40 ⇑P **P 14 01 52.7 -1.4**
TIRR Tirgusor 96.16 40 ⇑P **P 14 01 55.7 -0.9**
YAK Yakutsk 96.66 343 ⇑*i*P **P 14 01 58.5 +0.1**
YAK LR LR
comp=Z,2μm,22.0s,MS5.5
VOR Voronezh 98.05 30 *e*P **P 14 02 04.8 -0.1**
VOR pmax pmax
comp=Z,70nm,1.6s,mb5.9
RAO Raoul Island 98.08 242 PFAKE 14 02 20.0 +14
RAO LR LR
comp=Z,2μm,22.0s,MS5.5
WAKE Wake Island 98.98 293 PFAKE 14 02 20.0 +10
WAKE LR LR
comp=Z,1μm,19.0s,MS5.4
SOKR Solikamsk 99.11 17 ⇑*i*P **P 14 02 10.0 +0.5**
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.7
SOKR MLR MLR
comp=Z,2μm,22.0s,MS5.5
ANTO Ankara 101.32 43 PFAKE 14 02 30.0 +10
ANTO LR LR
comp=Z,1μm,20.0s,MS5.4
KWAJ Kwajalein Atol 101.60 283 PFAKE 14 02 30.0 +8.2
KWAJ LR LR
comp=Z,565nm,20.0s,MS5.1
BR131 Keskin Array S 101.94 42 PFAKE 14 02 30.0 +7.2
BR131 LR LR
comp=Z,853nm,20.0s,MS5.3
BRTR Keskin Array B 101.94 42 P P 14 02 21.6 -1.1
comp=Z,0.7nm,0.4s,baz=270,slow=2.5,SNR=6.2
ARU Arti 102.25 18 ⇓*i*P Pdif 14 02 23.6 -0.1
comp=Z,14nm,1.3s
ARU *e* 14 06 35.8
ARU *e*S SKS 14 13 00.4 -7.8
ARU *e*SP SP 14 15 36.2 -2.3
ARU *e*PS PS 14 15 46.5 +4.3
ARU *e*SS SS 14 21 11.8 +0.6
ARU LR LR
comp=Z,1μm,20.0s,MS5.4
ARU Arti 102.25 18 ⇓*i*P Pdif 14 02 23.6 -0.1
ARU *e* 14 06 35.8
ARU *e*S SKS 14 13 00.4 -7.8
ARU *e*SP SP 14 15 36.2 -2.3
ARU *e*PS PS 14 15 46.5 +4.3
ARU *e*SS SS 14 21 11.8 +0.6
ARU pmax pmax
comp=Z,14nm,1.3s
ARU MLR MLR
comp=N,1μm,20.0s,MS5.5
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.4
ARU MLR MLR
comp=E,1μm,21.0s,MS5.5
YSS Yuzh-Sakhalins 102.61 327 PFAKE 14 02 40.0 +15
YSS LR LR
comp=Z,1μm,19.0s,MS5.5
SOC Sochi 103.41 36 *e*P Pdif 14 02 23.9 -5.2
SOC *i* 14 06 45.0
SOC *e*PS PS 14 15 45.4 -9.5
SOC *e*SS SS 14 21 26.9 -0.5
SOC MLR MLR
comp=N,691nm,21.0s,MS5.4
SOC MLR MLR
comp=Z,947nm,21.0s,MS5.3
SOC MLR MLR
comp=E,953nm,23.0s,MS5.4
BOD Bodaibo 104.11 348 *e*P Pdif 14 02 28.9 -2.9
KIV Kislovodsk 104.84 35 PFAKE 14 02 50.0 +15
KIV LR LR
comp=Z,240nm,22.0s,MS4.7
MALT Malatya 105.81 41 *e*PKP 14 06 53.4
BRVK Borovoye 108.40 14 PFAKE 14 07 10.0
BRVK LR LR
comp=Z,324nm,21.0s,MS4.9
SBA Scott Base 109.05 192 PFAKE 14 07 10.0
SBA LR LR
comp=Z,819nm,19.0s,MS5.3
TSUM Tsumeb 109.12 105 PFAKE 14 07 10.0
TSUM LR LR
comp=Z,2μm,20.0s,MS5.7
VNDA Vanda 110.15 193 PFAKE 14 07 10.0 +6.7
VNDA LR LR
comp=Z,819nm,21.0s,MS5.3
MDJ Mudanjiang 110.66 333 PDIF Pdif 14 03 00.3 -0.6
MDJ PKS PKS 14 10 37.8 +2.1
MDJ SKS SKS 14 14 10.8 +25
MDJ S 14 15 13.4
MDJ LR LR
comp=N,638nm,27.0s,MS5.4
MDJ LR LR
comp=E,1μm,25.5s,MS5.4
MDJ LR LR
comp=Z,1μm,20.4s
MAJO Matsushiro 112.05 322 PFAKE 14 07 10.0 +2.1
MAJO LR LR
comp=Z,1μm,20.0s,MS5.5
MJAR Matsushiro Arr 112.05 322 PKKPab 14 18 04.5
comp=Z,1.1nm,0.8s,baz=225,slow=3.5,SNR=4.2
KURK Kurchatov 112.26 9 PFAKE 14 07 10.0 +2.1
KURK LR LR
comp=Z,564nm,20.0s,MS5.2
SUR Sutherland 113.82 119 PFAKE 14 07 20.0 +8.5
SUR LR LR
comp=Z,472nm,22.0s,MS5.0
HNR Honiara 114.09 267 PFAKE 14 07 20.0 +7.6
HNR LR LR
comp=Z,1μm,19.0s,MS5.6
SONM Songino Array 115.03 350 PKP PKPdf 14 07 09.1 -4.4
comp=Z,0.5nm,0.8s,slow=4.3,SNR=2.6
SONM PKKPab 14 17 53.3
comp=Z,0.8nm,0.7s,baz=198,slow=3.2,SNR=6.1
MKAR Makanchi Array 116.62 8 PKP PKPdf 14 07 11.7 -4.9
comp=Z,1.5nm,1.1s,baz=323,slow=6.1,SNR=3.6
MKAR PKKPbc 14 17 46.2
comp=Z,0.6nm,0.4s,baz=124,slow=4.4,SNR=3.7
LBTB Lobatse 117.33 110 *e*PKPdf PKPdf 14 07 15.0 -3.5
LBTB LR LR
comp=Z,1μm,22.0s,MS5.5
INCN Inchon 117.66 330 PFAKE 14 07 30.0 +11
INCN LR LR
comp=Z,1μm,21.0s,MS5.5
LSZ Lusaka 118.37 99 *e*PKPdf PKPdf 14 07 18.7 -2.0
LSZ LR LR
comp=Z,885nm,20.0s,MS5.4
WMQ Urumqi 120.10 4 *e*PKP PKPdf 14 07 19.0 -4.4
WMQ XPKP 14 07 32.0
WMQ PP PP 14 08 49.0 +1.6
WMQ PKS PKS 14 10 53.0 -1.0
WMQ PPP PPP 14 11 21.0 +0.4
WMQ SKS SKS 14 14 27.0 +6.1
WMQ SKKS 14 15 40.0
WMQ PP PP
comp=Z,277nm,4.0s
WMQ LR LR
comp=N,2μm,23.8s,MS5.7
WMQ LR LR
comp=E,1μm,21.7s,MS5.7
WMQ LR LR
comp=Z,2μm,27.4s
GUMO Guam 120.34 297 PFAKE 14 07 30.0 +5.5
GUMO LR LR
comp=Z,974nm,20.0s,MS5.4
DRV Dumont d'Urvil 120.86 200 SP SP 14 18 41.0 +4.8
KMBO Kilima Mbogo 123.61 80 PKP PKPdf 14 07 28.0 -2.9
comp=Z,0.6nm,0.4s,baz=60,slow=9.7,SNR=5.4
GTA Gaotai 124.24 353 *e*PKP PKPdf 14 07 28.4 -3.2
GTA XPKP 14 07 41.0
GTA PP PP 14 09 14.8 -1.5
GTA PKS PKS 14 11 03.6 +1.4
GTA SKS SKS 14 14 38.8 +4.4
GTA SKKS 14 16 05.3
GTA SS SS 14 26 00.5 -1.7
GTA PP PP
comp=Z,148nm,5.3s
GTA LR LR
comp=N,504nm,22.4s,MS5.4
GTA LR LR
comp=E,778nm,21.3s,MS5.4
GTA LR LR
comp=Z,907nm,22.2s,MS5.4
MAW Mawson 125.20 167 *e*PKP PKPdf 14 07 29.4 -3.3
comp=Z,8.8nm,1.1s
MAW Mawson 125.20 167 PKP PKPdf 14 07 29.1 -3.6
comp=Z,3.3nm,0.9s,baz=238,slow=1.4,SNR=9.8
MAW Mawson 125.20 167 PKIKP PKPdf 14 07 29.1 -3.6
MAW pmax pmax
comp=Z,3.0nm,0.9s
SSE Sheshan 125.46 330 PKP PKPdf 14 07 31.9 -2.3
SSE PP PP 14 09 26.1 +1.8
SSE SS SS 14 26 21.6 +3.7
SSE PP PP
comp=Z,23nm,13.8s
SSE LR LR
comp=N,916nm,25.0s,MS5.6
SSE LR LR
comp=E,1μm,25.1s,MS5.6
SSE LR LR
comp=Z,707nm,22.4s,MS5.3
CNB Canberra Magne 126.07 238 *e*PKP PKPdf 14 07 32.1 -3.1
comp=Z,18nm,1.1s
PMG Port Moresby 126.36 270 PFAKE 14 07 40.0 +3.7
PMG LR LR
comp=Z,1μm,20.0s,MS5.5
TAU Tasmania Unive 126.48 228 PFAKE 14 07 40.0 +4.3
TAU LR LR
comp=Z,335nm,19.0s,MS5.0
LZH Lanzhou 126.88 348 *e*PKP PKPdf 14 07 33.3 -3.4
LZH XPKP 14 07 49.3
LZH PP PP 14 09 37.3 +4.0
LZH SKS SKS 14 14 40.0 -2.3
LZH SKKS 14 16 24.0
LZH SS SS 14 26 42.0 +6.3
LZH PP PP
comp=Z,550nm,5.7s
LZH LR LR
comp=E,3μm,20.0s
LZH LR LR
comp=Z,5μm,21.0s,MS6.1
XAN Xi'an 127.62 343 PKP PKPdf 14 07 34.1 -4.2
XAN LR LR
comp=N,522nm,16.6s,MS5.6
XAN LR LR
comp=E,960nm,20.5s,MS5.6
XAN LR LR
comp=Z,1μm,18.6s,MS5.7
CASY Casey 128.56 189 *e*PKP PKPdf 14 07 35.7 -3.5
TOO Toolangi 128.87 235 *e*PKP PKPdf 14 07 37.4 -3.2
comp=Z,7.8nm,0.9s
TOO *e*SKP 14 10 54.7
CTA Charters Tower 128.91 257 *e*PKP PKPdf 14 07 46.6 +5.5
comp=Z,13nm,1.2s
CTAO Charters Tower 128.91 257 *e*PKPdf PKPdf 14 07 37.3 -3.8
CTAO *e*pPKPdf 14 07 46.8
CTAO LR LR
comp=Z,1μm,20.0s,MS5.6
MIR Mirnyy 129.70 180 *e*PKIKP PKPdf 14 07 38.0 -3.3
MIR pmax pmax
comp=Z,45nm,2.0s
ENH Enshi 130.96 340 *e*PKPdf PKPdf 14 07 40.1 -4.6
CD2 Chengdu 131.90 347 *e*PKP PKPdf 14 07 38.8 -7.7
CD2 PP PP 14 10 03.4 -3.2
CD2 SKKS 14 16 50.5
CD2 LR LR
comp=N,1μm,19.2s
CD2 LR LR
comp=Z,1μm,20.4s,MS5.6
STKA Stephens Creek 132.89 241 *e*PKP PKPdf 14 07 44.8 -3.6
comp=Z,7.6nm,1.2s
STKA *e*SKP 14 11 11.0
STKA Stephens Creek 132.89 241 PKP PKPdf 14 07 44.6 -3.7
comp=Z,3.8nm,0.7s,baz=243,slow=3.4,SNR=5.1
NDI New Delhi 132.99 18 *ex* x 14 07 34.0
NDI *ex* x 14 11 12.0
LSA Lhasa 134.34 2 PKP PKPdf 14 07 48.3 -2.8
LSA Lhasa 134.34 2 *e*PKIKP PKPdf 14 07 48.2 -2.9
OPO Ambohidratompo 136.82 100 PKP PKPdf 14 07 52.8 -3.1
comp=Z,3.2nm,0.8s,baz=282,slow=5.7,SNR=3.8
KMI Kunming 137.71 346 PKP PKPdf 14 07 54.8 -2.6
BHPL Bhopal 138.12 21 *e*P PKPdf 14 07 54.6 -3.5
SHL Shillong 138.47 1 *e*P PKPdf 14 07 55.0 -3.8
BOK Bokaro 139.72 9 *e*P PKPdf 14 07 53.7 -7.4
DAV Davao City (W) 139.88 303 PFAKE 14 08 10.0 +8.4
DAV LR LR
comp=Z,393nm,21.0s,MS5.1
WB2 Warramunga Arr 140.08 258 *e*PKP PKPdf 14 07 50.2 -12
WRAB Tennant Creek 140.08 258 *e*PKPpre 14 07 50.3
WRAB *e*PKPdf PKPdf 14 07 58.5 -3.3
WRAB *e*pPKPdf 14 08 07.6
WRAB LR LR
comp=Z,340nm,20.0s,MS5.1
WRA Warramunga Arr 140.09 258 PKhKP 14 07 50.1
comp=Z,8.2nm,1.0s,baz=81,slow=3.3,SNR=27
WRA PKP PKPdf 14 07 57.8 -4.0
comp=Z,15nm,1.0s,baz=89,slow=2.3,SNR=13
ASPA Alice Springs 140.45 252 *e*PKP PKPdf 14 07 50.6 -12
BLSP Bilaspur 140.57 15 *e*P PKPdf 14 07 55.0 -7.8
BLSP AMb AMB 14 08 00.0
comp=Z,16nm,1.0s
BLSP *ex* x 14 10 30.9
NGP Nagpur 140.60 20 *e*P PKPdf 14 07 57.1 -5.7
POO Poona 140.91 29 *ex* x 14 08 07.7
QIZ Qiongzhong 141.02 333 *e*PKP PKPdf 14 07 58.8 -4.8
QIZ PP PP 14 11 04.8 +1.1
QIZ SS SS 14 29 28.5 +2.4
QIZ LR LR
comp=E,789nm,25.4s
CAL Calcutta 141.27 6 *ex* x 13 57 46.9
CAL *ex* x 14 01 11.9
MSEY Mahe Island 141.94 77 PFAKE 14 08 10.0 +4.6
MSEY LR LR
comp=Z,260nm,20.0s,MS5.0
KAD Karad 142.13 29 *e*P PKPdf 14 08 02.1 -3.4
KAD AMb AMB 14 08 08.8
comp=Z,32nm,1.6s
HYB Hyderabad 143.88 23 *i* PKP PKPdf 14 08 01.5 -7.0
HYB *e* 14 08 14.0
NANT Nan 144.27 347 P PKPbc 14 08 01.0 -2.5
FORT Forrest 144.45 240 ⇓*i*PKP PKPdf 14 08 03.4 -5.8
comp=Z,91nm,0.8s
CHG Chiang Mai 144.61 349 ⇑P PKPbc 14 08 04.1 -0.3
comp=Z,28nm,1.6s
VIS Vishakhapatnam 145.10 15 *ex* x 14 08 02.5
VIS *e*P 14 08 06.2
VIS AMb AMB 14 08 21.6
comp=Z,236nm,1.4s
NST Nakhon Sawan 147.42 346 P PKPdf 14 08 13.2 -1.4
FITZ Fitzroy Crossi 148.27 262 *e*PKP PKPdf 14 08 14.9 -1.0
comp=Z,82nm,0.8s
NNT Nongplab 150.49 345 P PKPdf 14 08 30.7 +11
NWAO Narrogin (SRO) 152.10 229 PKPbc PKPdf 14 08 24.2 +2.7
comp=Z,31nm,1.1s,baz=113,slow=2.1,SNR=5.4
NWAO Narrogin (SRO) 152.10 229 *e*PKPdf PKPdf 14 08 18.6 -2.9
NWAO PKPbc PKPdf 14 08 24.2 +2.7
NWAO *e*PKPbc PKPdf 14 08 24.9 +3.4
NWAO LR LR
comp=Z,974nm,21.0s,MS5.6
NWAO Narrogin (SRO) 152.10 229 *e*PKIKP PKPdf 14 08 18.6 -2.9
NWAO *e* 14 08 24.9
NWAO MLR MLR
comp=Z,974nm,21.0s
KLBR Kellerberrin 152.37 232 *e*PKP PKPdf 14 08 26.9 +5.0
comp=Z,48nm,1.0s
MBWA Marble Bar 153.72 255 *e*PKPdf PKPdf 14 08 20.9 -3.2
MBWA *e*PKPbc PKPdf 14 08 28.5 +4.5
MBWA LR LR
comp=Z,1μm,20.0s,MS5.8
KSM Kuching 155.11 313 *e*PKPab PKPab 14 08 47.9 -0.2
KULM Kulim 157.15 339 *e*PKPdf PKPdf 14 08 24.5 -4.3
KULM *e*PKPbc PKPdf 14 08 37.0 +8.1
DGAR Diego Garcia 158.57 68 PFAKE 14 08 40.0 +9.4
DGAR LR LR
comp=Z,322nm,22.0s,MS5.1

NEIC ***23*** *13:54:57.3±1.8, 7.44S×127.93E, h89km±16km, mb4.2/4, Error ellipse: s-maj=27.9km s-min=12.5km az=65.0*
IDC ***23*** *13:54:59.8±5.4, 7.65S×127.54E, h110km±51km, mb3.6/3, mb1 4.2/5, mb1mx3.9/12, mbtmp4.4/5, MS3.8/1, Ms1 3.7/1, ms1mx3.0/21, Error ellipse: s-maj=65.1km s-min=23.7km az=67.0*
ISC 23 13:54:57.0±2.4, 7.5S±0.1×127.9E±0.2, h101km±23km, n15, σ0s84/20, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.81**	**192**	*e*P		**P**	**13 57 29.3**	**-0.7**
	24nm,0.4s							
FITZ				*e*S		**S**	**13 59 22.6**	**-6.8**
FITZ	**Fitzroy Crossi**	**10.81**	**192**	P		**P**	**13 57 29.3**	**-0.7**
	13nm,0.3s,baz=16,slow=9.5,SNR=111							
FITZ				S		**S**	**13 59 23.0**	**-6.4**
	7.3nm,0.3s,baz=24,slow=15,SNR=7.4							
WRAB	**Tennant Creek**	**13.87**	**154**	*e*Pn		**P**	**13 58 10.3**	**-0.1**
	44nm,0.6s							
WRAB				*e*Sn		**S**	**14 00 33.1**	**-9.1**
WRA	**Warramunga Arr**	**13.88**	**154**	P		**P**	**13 58 10.4**	**0.0**
	5.5nm,0.3s,baz=324,slow=14,SNR=172							
WRA				S		**S**	**14 00 33.1**	**-9.2**
	3.0nm,0.3s,baz=326,slow=24,SNR=8.7							
WB2	**Warramunga Arr**	**13.88**	**154**	*e*P		**P**	**13 58 10.2**	**-0.3**
WB2				*e*S		**S**	**14 00 35.4**	**-7.0**
ASPA	**Alice Springs**	**17.10**	**161**	*e*P		**P**	**13 58 52.5**	**+1.4**
ASPA				*e*S		**S**	**14 01 54.9**	**-1.4**
FORT	**Forrest**	**23.20**	**180**	*e*P		**P**	**13 59 57.4**	**+1.8**
	9.0nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**27.43**	**154**	P		**P**	**14 00 35.4**	**0.0**
	2.3nm,0.5s,mb3.9,baz=342,slow=11,SNR=3.4							
STKA				pP		pP	14 01 01.6	+3.9
	1.7nm,0.4s,baz=310,slow=13,SNR=2.9							
STKA				LR		LR	14 10 40.5	
	comp=Z,202nm,20.9s,baz=197,slow=34							
STKA	**Stephens Creek**	**27.43**	**154**	*e*P		**P**	**14 00 35.4**	**0.0**
STKA				pP		pP	14 01 01.6	+3.9
STKA				LR		LR	14 10 40.5	
SONM	**Songino Array**	**58.25**	**343**	P		**P**	**14 04 43.3**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=169,slow=7.1,SNR=5.2							
MKAR	**Makanchi Array**	**67.50**	**328**	P		**P**	**14 05 43.5**	**-0.8**
	0.3nm,0.3s,mb3.5,baz=133,slow=8.8,SNR=4.2							
KURK	**Kurchatov**	**71.85**	**330**	*e*P		**P**	**14 06 10.0**	**-0.7**
	3.1nm,0.8s,mb4.2							
VNDA	**Vanda**	**72.25**	**173**	*e*P		**P**	**14 06 13.2**	**+0.6**
	0.4nm,0.5s,mb3.5							
QSPA	**South Pole Qui**	**82.52**	**180**	*e*P		**P**	**14 07 09.6**	**+0.3**
	3.0nm,0.8s,mb4.2							
CPUP	**Villa Florida**	**146.02**	**172**	PKPbc		PKPbc	14 14 26.6	+0.7
	1.0nm,0.4s,baz=230,slow=2.0,SNR=4.9							

IDC ***23*** *14:09:58.9±2.1, 20.14S×177.52W, h475km±25km, mb3.4/5, mb1 3.6/8, mb1mx3.4/16, mbtmp4.3/8, Error ellipse: s-maj=31.6km s-min=18.0km az=139.0*
BJI ***23*** *14:09:59.2, 20.00S×177.60W, h478km, mB4.4, mb4.1*
NEIC ***23*** *14:09:59.3±0.9, 20.05S×177.56W, h478km±10km, mb4.0/5, Error ellipse: s-maj=12.3km s-min=9.5km az=143.0*
ISC 23 14:09:57.9±1.1, 20.0S±0.1×177.6W±0.1, h476km±16km, n24, σ0s72/21, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.19**	**43**	P		**P**	**14 11 57.7**	**+0.7**
	9.8nm,0.3s,baz=10,slow=4.1,SNR=14							
AFI				S		**S**	**14 13 30.7**	**-0.8**
	4.2nm,0.3s,baz=329,slow=23,SNR=6.3							
AFI	**Afiamalu**	**8.19**	**43**	*e*Pn		**P**	**14 11 57.8**	**+0.8**
DZM	**Mont Dzumac**	**15.07**	**259**	P		**P**	**14 13 11.6**	**+1.6**
	0.3nm,0.3s,baz=87,slow=18,SNR=3.9							
URZ	**Urewera**	**18.80**	**193**	P		**P**	**14 13 46.3**	**-0.5**
	2.7nm,0.3s,baz=311,slow=3.7,SNR=14							
CTA	**Charters Tower**	**33.95**	**263**	P		**P**	**14 16 02.1**	**+0.4**
	7.6nm,0.5s,mb4.4,baz=92,slow=8.8,SNR=11							
CTAO	**Charters Tower**	**33.95**	**263**	*e*P		**P**	**14 16 02.3**	**+0.6**
	6.6nm,0.5s,mb4.3							
ASPA	**Alice Springs**	**45.04**	**256**	*e*P		**P**	**14 17 31.6**	**-0.1**
WB2	**Warramunga Arr**	**45.06**	**261**	*e*P		**P**	**14 17 31.1**	**-0.8**
WRAB	**Tennant Creek**	**45.06**	**261**	*e*P		**P**	**14 17 31.3**	**-0.7**
	1.5nm,0.3s,mb3.9							
WRA	**Warramunga Arr**	**45.07**	**261**	P		**P**	**14 17 31.2**	**-0.8**
	1.2nm,0.3s,mb3.8,baz=96,slow=7.7,SNR=128							
FITZ	**Fitzroy Crossi**	**53.50**	**262**	*e*P		**P**	**14 18 34.7**	**-0.2**
	4.1nm,0.5s,mb4.0							
CASY	**Casey**	**64.61**	**205**	*e*P		**P**	**14 19 47.8**	**-1.1**
	1.1nm,0.5s,mb3.7							
MJAR	**Matsushiro Arr**	**70.03**	**323**	P		**P**	**14 20 23.1**	**+0.7**
	2.0nm,0.7s,mb3.8,baz=149,slow=6.1,SNR=5.7							
QSPA	**South Pole Qui**	**70.09**	**180**	*e*P		**P**	**14 20 22.6**	**+0.5**
	1.9nm,0.4s,mb4.0							
MDJ	**Mudanjiang**	**80.32**	**325**	P		**P**	**14 21 18.9**	**-0.6**
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.9s,mb4.0							
MDJ				AMB		AMB		
	comp=Z,107nm,7.2s							
CN2	**Changchun**	**82.13**	**322**	*e*P		**P**	**14 21 28.3**	**-0.5**
ILAR	**Eielson Array**	**87.71**	**13**	P		**P**	**14 21 56.1**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=226,slow=5.6,SNR=10							
VNA3	**Neumayer Olymp**	**88.64**	**176**			**P**	**14 22 00.1**	**+0.3**
VNA2	**Neumayer--Watz**	**89.09**	**177**			**P**	**14 22 02.7**	**+0.8**
SONM	**Songino Array**	**95.62**	**319**	P		**P**	**14 22 32.6**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.6,baz=117,slow=3.2,SNR=2.1							
AKASG	**Malin Array Be**	**142.75**	**332**	PKhKP			14 28 33.8	
	comp=Z,0.9nm,0.3s,baz=43,slow=4.7,SNR=12							
BRTR	**Keskin Array B**	**146.78**	**313**	PKPbc		PKPbc	14 28 47.2	+2.1
	comp=Z,1.3nm,0.6s,baz=135,slow=5.2,SNR=5.8							
CLL	**Collm**	**147.64**	**348**	*e*PKP1		PKPdf	14 28 50.0	+6.0
GERES	**GERESS Array B**	**149.80**	**345**	PKPbc		PKPdf	14 28 55.0	+7.4

comp=Z,1.1nm,0.7s,baz=315,slow=1.9,SNR=7.7

IDC 23 14:23:43.6±4.5, 2.12N×96.90E, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=171.4km s-min=30.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.77**	**123**	P	P	14 31 43.2	-1.8
	1.0nm,0.8s,baz=301,slow=9.1,SNR=7.2						
SONM	**Songino Array**	**46.27**	**9**	P	P	14 32 11.2	-1.4
	0.3nm,0.5s,baz=188,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**46.28**	**346**	P	P	14 32 10.7	-2.1
	0.9nm,0.6s,baz=162,slow=7.7,SNR=6.1						

JMA 23 15:01:07.3±0.6, 24.70N×127.85E, h32km, M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.44**	**356**	P	Pn	15 01 32.2	+0.7
NAH1	**Naha**	**1.50**	**355**	P	Pn	15 01 32.6	+0.1
NAH1				eS	Sn	15 01 51.6	+0.5
JKE	**Kume jima 2**	**1.88**	**330**	P	Pn	15 01 38.3	+0.4
JAGN	**Aguni-jima**	**1.96**	**344**	P	Pn	15 01 39.5	+0.5
JOW	**Kunigami**	**2.16**	**10**	P	Pn	15 01 42.0	+0.2
JOGS	**Gusukube**	**2.22**	**272**	eS	Sn	15 02 09.4	0.0
JIH	**Iheya**	**2.33**	**3**	P	Pn	15 01 45.4	+1.1
JIH				eS	Sn	15 02 12.5	+0.4
JMJ	**Miyako jima 2**	**2.33**	**273**	eS	Sn	15 02 12.9	+0.8
JTJ	**Tarama**	**2.87**	**269**	P	Pn	15 01 52.9	+1.0
JTK	**Tokunoshima**	**3.23**	**18**	P	Pn	15 01 57.7	+0.6
JMZ	**Minamidaito 2**	**3.25**	**69**	P	Pn	15 01 56.6	-0.8
JMZ				eS	Sn	15 02 30.7	-4.7
JIJ	**Ishigaki jima**	**3.39**	**265**	P	Pn	15 01 59.9	+0.5
JIJ				eS	Sn	15 02 36.1	-2.9
JAM	**Amami Oshima**	**4.02**	**23**	P	Pn	15 02 08.9	+0.6
JAM				eS	Sn	15 02 51.2	-3.6

*OMAN **23** 15:08:48.0, 28.62N×53.21E, h30km, Error ellipse: s-maj=156.5km s-min=16.0km az=334.0*
*KISR **23** 15:09:00.9±0.8, 27.49N×53.67E, h33km, ML3.5*
*CSEM **23** 15:09:00.9±0.1, 27.55N×53.78E, h20km, ML3.4, Error ellipse: s-maj=3.5km s-min=1.8km az=60.0*
*IDC **23** 15:09:03.6±7.4, 27.95N×53.73E, mb3.8/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=145.1km s-min=37.1km az=2.0*
*TEH **23** 15:09:06.3, 27.82N×53.75E, h10km, Mn3.4*
ISC 23 15:08:59.7±0.3, 27.51N±0.04×53.68E±0.04, h10km, n36, σ1°22/40, mb3.7/5, 5C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.75**	**331**	Pg	**Pg**	**15 09 33.2**	**-1.6**
ISRV	**Sarvestan**	**1.93**	**345**	Pn	**Pn**	**15 09 35.5**	**+2.4**
IPAR	**Pars**	**2.39**	**347**	Pn	**Pn**	**15 09 41.0**	**+1.4**
BANOM	**Banah**	**2.82**	**123**	⇑P	**Pn**	**15 09 46.4**	**+0.7**
ASHO	**Ashiyiah**	**3.53**	**142**	⇓P	**Pn**	**15 09 57.1**	**+1.3**
	SNR=25						
IMEH	**Mehriz**	**3.95**	**12**	Pn	**Pn**	**15 10 01.6**	**-0.2**
ISAD	**Sadrabad**	**4.39**	**0**	Pn	**Pn**	**15 10 09.4**	**+1.3**
ICHK	**Chekchek**	**4.76**	**7**	Pn	**Pn**	**15 10 13.3**	**0.0**
ARQ	**Araqi**	**4.88**	**148**	⇑P	**Pn**	**15 10 15.7**	**+0.7**
	SNR=10						
IGAR	**Garneh**	**4.89**	**345**	Pn	**Pn**	**15 10 14.8**	**-0.4**
HOQ	**Hoqain**	**5.10**	**139**	⇓P	**Pn**	**15 10 19.7**	**+1.6**
IZEF	**Zefreh**	**5.50**	**348**	Pn	**Pn**	**15 10 20.2**	**-3.5**
RDF	**Al-Radifah**	**5.59**	**286**	*e*P	**Pn**	**15 10 26.2**	**+1.2**
RDF				eS	**Sn**	**15 11 30.2**	**+0.1**
RDF				AML	AML	15 11 33.5	
	comp=Z,17nm,0.4s						
RDF	**Al-Radifah**	**5.59**	**286**	*e*P	**Pn**	**15 10 26.2**	**+1.1**
UMR	**Umm Al-Rimmam**	**5.63**	**293**	*e*P	**Pn**	**15 10 26.7**	**+1.1**
UMR				eS	**Sn**	**15 11 31.4**	**+0.3**
UMR				AML	AML	15 11 34.3	
	comp=Z,26nm,0.3s						
BIDO	**Bidbid**	**5.64**	**134**	⇓P	**Pn**	**15 10 25.0**	**-0.8**
IPIR	**Pirpir**	**5.70**	**336**	Pn	**Pn**	**15 10 23.7**	**-2.8**
BSY	**Bisya**	**5.71**	**145**	⇓P	**Pn**	**15 10 27.1**	**+0.3**
BSYO	**Bisya**	**5.75**	**145**	P	**Pn**	**15 10 27.1**	**-0.1**
NAY	**Al-Naaiem**	**5.94**	**288**	*e*P	**Pn**	**15 10 30.7**	**+0.8**
NAY				eS	**Sn**	**15 11 37.9**	**-0.8**
NAY				AML	AML	15 11 38.9	
	comp=Z,11nm,0.6s						
SMDO	**Samad**	**5.94**	**137**	⇑P	**Pn**	**15 10 29.8**	**-0.1**
	SNR=12						
MIB	**Mutribah**	**6.03**	**294**	*e*P	**Pn**	**15 10 32.2**	**+1.0**
MIB				eS	**Sn**	**15 11 40.5**	**-0.5**
MIB				AML	AML	15 11 43.8	
	comp=Z,19nm,0.5s						
IKLH	**Kalahroud**	**6.07**	**343**	Pn	**Pn**	**15 10 28.4**	**-3.4**
WBK	**Wadi Bani Khal**	**6.84**	**134**	⇓P	**Pn**	**15 10 41.2**	**-1.4**
IQOM	**Qom**	**7.65**	**344**	Pn	**Pn**	**15 10 53.0**	**-0.9**
IVRN	**Varamin**	**7.65**	**348**	Pn	**Pn**	**15 10 52.9**	**-1.1**
IDMV	**Damavand**	**8.17**	**350**	Pn	**P**	**15 10 59.9**	**-1.3**
WHFO	**Wadi Hawf**	**9.54**	**180**	⇑P	**P**	**15 11 18.5**	**-1.9**
RBK	**Rabkut**	**9.97**	**177**	⇓P	**P**	**15 11 25.2**	**-1.0**
ABTO	**Aybut**	**10.11**	**182**	⇑P	**P**	**15 11 26.5**	**-1.7**
ASF	**Jabal al Asfar**	**15.29**	**292**	Pn	**P**	**15 12 39.6**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=321,slow=13,SNR=3.6						
BVAR	**Borovoye Array**	**28.36**	**21**	P	**P**	**15 14 56.3**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.4,baz=207,slow=6.4,SNR=4.4						
ZAL	**Zalesovo**	**34.90**	**32**	P	**P**	**15 15 52.1**	**-1.2**
	comp=Z,1.4nm,0.4s,mb4.3,baz=229,slow=2.8,SNR=4.5						
FINES	**FINESS Array B**	**38.64**	**339**	P	**P**	**15 16 23.8**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.7,baz=143,slow=9.5,SNR=6.3						
ARCES	**ARCESS Array B**	**45.13**	**346**	P	**P**	**15 17 19.3**	**+1.5**
	comp=Z,2.8nm,1.0s,mb4.0,baz=140,slow=9.5,SNR=5.6						
SONM	**Songino Array**	**45.41**	**49**	P	**P**	**15 17 21.7**	**+1.5**
	comp=Z,0.2nm,0.5s,mb3.2,baz=269,slow=8.2,SNR=2.6						

*NNC **23** 15:12:20.4±27.0, 41.78N×82.09E, mpv2.6, Error ellipse: s-maj=245.6km s-min=157.5km az=1.0*
BJI 23 15:12:23.2, 41.64N×82.57E, h32km, ML2.9, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.36**	**58**	*e*P	Pn	15 13 31.0	+2.0
MK31	**Makanchi Array**	**5.16**	**358**	Pn	Pn	15 13 36.8	-3.5
	0.2nm,0.3s,baz=198,slow=13,SNR=15						
MK31				⇓Pg	Pn	15 13 52.5	+12
	0.7nm,0.5s,baz=182,slow=14,SNR=6.1						
MK31				⇑Lg		15 14 59.4	
	2.5nm,0.6s,baz=179,slow=28,SNR=3.8						

MAN 23 15:18:33.9, 9.74N×122.19E, h1km, mb3.8, ML2.6, MS2.2, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUYO	**Cuyo Island**	**1.60**	**314**	*e*P	Pn	15 19 03.8	+0.3
RCP	**Roxas**	**1.88**	**17**	⇑*e*P	Sn	15 19 32.9	+0.6
IPIL	**Ipil**	**1.98**	**169**	*e*P	Pn	15 19 08.6	-0.3
IPIL				eS	Sn	15 19 31.7	-3.0
MSLP	**Maasin**	**2.65**	**81**	*e*P	Pn	15 19 18.7	+0.2
BUSP	**Coron**	**2.98**	**319**	*e*P	Pn	15 19 22.8	-0.4

*BJI **23** 15:49:10.5, 24.10S×67.10W, h152km, mB5.4*
*NEIC **23** 15:49:10.6±0.5, 24.10S×67.11W, h153km±4km, mb4.8/74, Error ellipse: s-maj=5.4km s-min=4.6km az=58.0*
*IDC **23** 15:49:10.3±0.9, 24.17S×67.13W, h155km±6km, mb4.3/12, mb1 4.5/17, mb1mx4.4/19, mbtmp4.8/17, MS3.4/2, Ms1 3.4/2, ms1mx2.9/19, Error ellipse: s-maj=13.5km s-min=10.0km az=50.0*
*GUC **23** 15:49:12.1±0.6, 24.33S×67.66W, h190km, ML5.2*
*LDG **23** 15:49:16.1, 23.30S×67.13W, h190km*
ISC 23 15:49:08.6±0.5, 24.19S±0.03×67.17W±0.04, h149km±5km, h185km±4.4km; pP-P, n175, σ1°03/160, mb4.7/84, 18C-24D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.25**	**314**	P	**P**	**15 49 50.1**	**+3.1**
	215nm,0.3s,baz=139,slow=7.0,SNR=1636						
LVC				S	**S**	**15 50 19.1**	**+2.5**
	868nm,0.3s,baz=7.7,slow=20,SNR=92						
LVC	**Limon Verde**	**2.25**	**314**	⇑*i*Pn	**P**	**15 49 50.2**	**+3.2**
LVC				*e*Sn	**S**	**15 50 18.9**	**+2.4**
CEN1	**Los Morros**	**2.89**	**285**	⇑*i*P	**P**	**15 49 57.9**	**+2.7**
CEN1				*i* S	**S**	**15 50 31.9**	**+1.0**
CEN1				AMP		15 50 34.7	
	comp=E,7μm,0.6s						
CPN1	**Cerro Paranal**	**2.98**	**261**	⇑*i*P	**P**	**15 49 57.7**	**+1.3**
CPN1				*i* S	**S**	**15 50 32.4**	**-0.6**
CPN1				AMP		15 50 34.2	
	comp=E,6μm,0.7s						
ANCH	**Antofagasta**	**3.01**	**279**	⇑*i*P	**P**	**15 49 58.1**	**+1.3**
ANCH				*i* S	**S**	**15 50 32.3**	**-1.3**
ANCH				AMP		15 50 35.9	
	comp=E,6μm,0.4s						
CRCH	**Chaqaral**	**3.79**	**235**	⇓*i*P	**P**	**15 50 06.9**	**-0.1**
CRCH				*i* S	**S**	**15 50 49.5**	**-2.3**
CPCH	**Copiapo**	**4.27**	**222**	⇓*i*P	**P**	**15 50 12.3**	**-0.9**
CPCH				*i* S	**S**	**15 51 01.1**	**-1.8**
CDCH	**Caldera**	**4.38**	**228**	⇓*i*P	**P**	**15 50 13.3**	**-1.4**
CDCH				*i* S	**S**	**15 51 01.3**	**-4.2**
CFAA	**Coronel Fontan**	**7.45**	**187**	P	**P**	**15 50 56.0**	**+0.4**
	comp=E,0.9nm,0.3s,baz=0.1,slow=11,SNR=84						
CFAA				S	**S**	**15 52 14.8**	**-4.2**
	comp=E,2.6nm,0.3s,baz=166,slow=23,SNR=12						
ZON	**Zonda**	**7.45**	**190**	*e*P	**P**	**15 50 59.4**	**+3.8**
ZON				*e*S	**S**	**15 52 20.9**	**+1.9**
LPAZ	**La Paz**	**7.91**	**353**	P	**P**	**15 51 03.2**	**+1.3**
	comp=E,10nm,0.3s,baz=165,slow=7.3,SNR=238						
LPAZ				S	**S**	**15 52 29.9**	**-0.2**
	comp=E,1.5nm,0.3s,baz=233,slow=24,SNR=3.3						
LPAZ	**La Paz**	**7.91**	**353**	⇓*e*Pn	**P**	**15 51 03.1**	**+1.2**
	comp=E,58nm,0.8s						
ARE	**Arequipa**	**8.69**	**331**	*e*P	**P**	**15 51 10.0**	**-2.2**
ARE				*e*S	**S**	**15 52 42.0**	**-6.7**
CPUP	**Villa Florida**	**9.15**	**106**	P	**P**	**15 51 18.7**	**+0.4**
	comp=E,1.2nm,0.3s,baz=303,slow=14,SNR=36						
CPUP				LR	LR	15 55 24.9	
	comp=E,182nm,21.4s,baz=81,slow=41						
CPUP	**Villa Florida**	**9.15**	**106**	*e*Pn	**P**	**15 51 18.5**	**+0.2**
	comp=E,43nm,0.8s						
SIV	**San Ignacio**	**9.96**	**36**	P	**P**	**15 51 28.1**	**-0.9**
	comp=E,25nm,0.3s,baz=220,slow=13,SNR=220						
SIV				S	**S**	**15 53 08.5**	**-10**
	baz=230,slow=17,SNR=4.9						
NNA	**Nana**	**15.22**	**321**	*e*P	**P**	**15 52 38.1**	**+1.2**
	comp=E,88nm,1.1s						
PLCA	**Paso Flores**	**16.74**	**189**	P	**P**	**15 52 55.0**	**-0.6**
	comp=E,1.7nm,0.3s,baz=7.6,slow=13,SNR=84						
PLCA				LR	LR	16 00 21.7	
	comp=E,177nm,19.0s,baz=135,slow=40						
PLCA				ScP		16 00 54.7	
	comp=E,0.1nm,0.3s,baz=292,slow=2.1,SNR=7.2						
PLCA	**Paso Flores**	**16.74**	**189**	*e*P	**P**	**15 52 55.2**	**-0.4**
	comp=E,30nm,0.7s						
BDFB	**Brasilia**	**19.90**	**68**	P	**P**	**15 53 30.0**	**-0.4**
	comp=E,47nm,0.3s,baz=248,slow=11,SNR=649						
BAO	**Brasilia Array**	**19.92**	**68**	P	**P**	**15 53 30.0**	**-0.7**
CAM4	**Nova Friburgo**	**22.67**	**90**	⇑*i*P	**P**	**15 53 58.3**	**+0.5**
CAM4				*i*		15 53 59.2	
CAM4				*i*		15 54 01.0	
USHA	**Ushuaia**	**30.62**	**181**	P	**P**	**15 55 08.9**	**-1.7**
	comp=E,10.0nm,0.8s,mb4.6,baz=344,slow=4.7,SNR=6.0						
SDV	**Santo Domingo**	**33.05**	**354**	*e*P	**P**	**15 55 30.0**	**-2.1**
	comp=E,12nm,0.7s,mb4.7						
RCBR	**Riachuelo**	**35.14**	**64**	*e*P	**P**	**15 55 47.7**	**-2.2**
	comp=E,89nm,0.9s,mb5.4						
SJG	**San Juan**	**42.06**	**1**	*e*P	**P**	**15 56 44.3**	**-3.0**
VNA3	**Neumayer Olymp**	**57.02**	**161**	⇓*i*P	**P**	**15 58 40.9**	**+0.3**
VNA1	**Neumayer--Stat**	**57.22**	**160**	⇓*i*P	**P**	**15 58 42.9**	**+0.9**
VNA2	**Neumayer--Watz**	**57.59**	**160**	⇓*i*P	**P**	**15 58 44.9**	**+0.3**
SNAA	**Sanae**	**59.22**	**161**	⇓*i*P	**P**	**15 58 55.8**	**-0.2**
MAIT	**Maitri**	**63.72**	**159**	*e*P	**P**	**15 59 26.4**	**+0.4**
TXAR	**Lajitas Array**	**63.74**	**325**	P	**P**	**15 59 25.3**	**-1.6**
	comp=E,1.6nm,0.4s,mb4.2,baz=153,slow=8.4,SNR=14						
TXAR	**Lajitas Array**	**63.74**	**325**	P	**P**	**15 59 25.3**	**-1.6**
LTX	**Lajitas**	**63.74**	**325**	*e*P	**P**	**15 59 25.7**	**-1.2**
	comp=E,5.8nm,0.8s,mb4.5						
FVM	**French Village**	**65.59**	**340**	*e*P	**P**	**15 59 34.8**	**-3.9**
	comp=E,8.2nm,0.7s,mb4.7						
CCM	**Cathedral Cave**	**65.92**	**339**	*e*P	**P**	**15 59 38.7**	**-2.0**
	comp=E,15nm,0.8s,mb4.9						
QSPA	**South Pole Qui**	**66.02**	**180**	⇓*i*P	**P**	**15 59 41.2**	**+0.5**
	comp=E,23nm,0.4s,mb5.4						
MNTX	**Cornudas Mount**	**66.51**	**325**	*e*P	**P**	**15 59 42.5**	**-2.1**
	comp=E,9.3nm,0.9s,mb4.6						
LIC	**Lamto**	**67.64**	**72**	*e*P	**P**	**15 59 49.8**	**-2.1**
	comp=E,23nm,0.8s,mb5.0						
TIC	**Toumodi**	**67.85**	**71**	*e*P	**P**	**15 59 51.3**	**-1.9**
	comp=E,5.3nm,0.6s,mb4.5						
KIC	**Kosan Boka**	**67.95**	**72**	*e*P	**P**	**15 59 52.0**	**-1.9**
	comp=E,57nm,0.6s,mb5.5						
DBIC	**Dimbokro**	**68.00**	**72**	P	**P**	**15 59 52.3**	**-1.9**
	comp=E,10.0nm,0.6s,mb4.8,baz=220,slow=7.6,SNR=24						
DBIC	**Dimbokro**	**68.00**	**72**	*e*P	**P**	**15 59 52.4**	**-1.8**
	comp=E,11nm,0.6s,mb4.8						
ANMO	**Albuquerque**	**69.62**	**326**	P	**P**	**16 00 03.4**	**-0.3**
	comp=E,12nm,0.8s,mb4.7,baz=135,slow=8.6						
ANMO	**Albuquerque**	**69.62**	**326**	⇓*e*P	**P**	**16 00 03.8**	**0.0**
	comp=E,14nm,0.9s,mb4.7						
CBKS	**Cedar Bluff**	**69.70**	**333**	⇓*i*P	**P**	**16 00 03.3**	**-0.8**
	comp=E,38nm,1.0s,mb5.1						
TUC	**Tucson**	**69.94**	**322**	*e*P	**P**	**16 00 05.6**	**-0.1**
	comp=E,13nm,1.2s,mb4.5						
EGOM	**La Gomera**	**70.88**	**46**	P	**P**	**16 00 09.4**	**-2.0**
	comp=E,70nm,0.8s,mb5.4						
SDCO	**Great Sand Dun**	**71.37**	**329**	⇓*e*P	**P**	**16 00 14.3**	**+0.2**
	comp=E,8.0nm,0.8s,mb4.5						
WUAZ	**Wupatki**	**72.64**	**323**	⇓*i*P	**P**	**16 00 22.1**	**+0.4**
	comp=E,25nm,1.0s,mb4.9						
ISCO	**Idaho Springs**	**73.07**	**330**	*e*P	**P**	**16 00 24.4**	**+0.3**
	comp=E,16nm,1.2s,mb4.6						
CFTV	**Fuerteventura**	**73.12**	**47**	P	**P**	**16 00 23.3**	**-1.4**
	comp=E,16nm,0.7s,mb4.9						
SMCO	**Snowmass**	**73.21**	**329**	⇓*e*P	**P**	**16 00 25.7**	**+0.8**
SYO	**Syowa Base**	**73.43**	**159**	⇓P	**P**	**16 00 24.5**	**-1.1**
SBA	**Scott Base**	**73.48**	**190**	⇓*e*P	**P**	**16 00 27.1**	**+1.2**
	comp=E,17nm,1.2s,mb4.6						
VNDA	**Vanda**	**74.49**	**190**	⇓*e*P	**P**	**16 00 32.8**	**+1.2**
	comp=E,7.0nm,1.0s,mb4.3						
NEN	**Nelson**	**74.67**	**321**	*e*P	**P**	**16 00 33.4**	**0.0**
NEN				*e*pP	pP	16 01 20.4	+10
SRU	**San Rafael**	**74.90**	**326**	⇓*i*P	**P**	**16 00 34.6**	**-0.1**
MSU	**Marysvale**	**75.30**	**325**	*e*P	**P**	**16 00 37.9**	**+1.0**
ARUT	**Antelope Range**	**75.44**	**324**	*e*P	**P**	**16 00 38.9**	**+1.2**
SUR	**Sutherland**	**75.85**	**119**	*e*P	**P**	**16 00 41.0**	**+0.8**
	comp=E,18nm,0.6s,mb4.9						
DAU	**Daniels Canyon**	**76.25**	**327**	*e*P	**P**	**16 00 42.7**	**+0.5**
PDAR	**Pinedale Array**	**77.23**	**329**	P	**P**	**16 00 47.6**	**-0.1**
	comp=E,2.2nm,0.5s,mb4.0,baz=132,slow=7.5,SNR=19						
HWUT	**Hardware Ranch**	**77.31**	**327**	⇓*e*P	**P**	**16 00 47.8**	**-0.3**
	comp=E,11nm,0.6s,mb4.7						
TSUM	**Tsumeb**	**77.75**	**106**	⇑*e*P	**P**	**16 00 50.6**	**-0.4**
	comp=E,16nm,0.7s,mb4.8						
AHID	**Auburn Hatcher**	**77.96**	**329**	⇓*e*P	**P**	**16 00 51.8**	**+0.1**
	comp=E,18nm,0.8s,mb4.7						
REDW	**Red Top Meadow**	**78.30**	**329**	⇓*i*P	**P**	**16 00 53.5**	**+0.1**
	comp=E,7.7nm,0.8s,mb4.4						
REDW				*e*PcP	PcP	16 01 01.2	-1.4
ULM	**Lac du Bonnet**	**78.36**	**342**	P	**P**	**16 00 52.3**	**-1.4**
	comp=E,1.4nm,0.3s,mb4.0,baz=157,slow=3.1,SNR=6.2						
LOHW	**Long Hollow**	**78.37**	**329**	⇓*e*P	**P**	**16 00 54.2**	**+0.3**
	comp=E,5.5nm,0.6s,mb4.4						
TPAW	**Teton Pass**	**78.44**	**329**	*e*P	**P**	**16 00 54.8**	**+0.5**
	comp=E,5.6nm,0.8s,mb4.2						
RRI2	**Red Ridge**	**78.50**	**329**	⇓*e*P	**P**	**16 00 55.0**	**+0.4**
	comp=E,38nm,1.5s,mb4.8						
RRI2				*e*pP	pP	16 01 39.0	+7.1
MNV	**Mina**	**78.51**	**321**	*e*P	**P**	**16 00 55.1**	**+0.3**
	comp=E,5.3nm,1.0s,mb4.1						
NVAR	**Mina Array Bea**	**78.59**	**321**	P	**P**	**16 00 55.8**	**+0.6**
	comp=E,3.3nm,0.7s,mb4.1,baz=150,slow=5.5,SNR=22						
SCHQ	**Schefferville**	**78.70**	**0**	P	**P**	**16 00 54.4**	**-1.0**
	comp=E,3.0nm,0.7s,mb4.0,baz=190,slow=18,SNR=2.5						
IMW	**Indian Meadow**	**78.75**	**329**	*e*P	**P**	**16 00 56.7**	**+0.8**
	comp=E,11nm,0.9s,mb4.5						
QLMT	**Earthquake Lak**	**79.69**	**330**	*e*P	**P**	**16 01 02.0**	**+1.0**
MCMT	**McKenzie Canyo**	**80.34**	**329**	*e*P	**P**	**16 01 05.4**	**+0.8**
MCMT				*e*pP	pP	16 01 49.7	+7.9
DLMT	**Dillon**	**80.63**	**329**	*e*P	**P**	**16 01 06.5**	**+0.5**
MAW	**Mawson**	**81.30**	**163**	*e*P	**P**	**16 01 09.9**	**+0.8**
	comp=E,4.3nm,0.6s,mb4.3						
MAW	**Mawson**	**81.30**	**163**	P	**P**	**16 01 09.7**	**+0.6**
	comp=E,2.9nm,0.5s,mb4.2,baz=206,slow=6.1,SNR=22						
WVOR	**Wild Horse Val**	**81.53**	**324**	*e*P	**P**	**16 01 10.3**	**-0.5**
	comp=E,4.9nm,1.1s,mb4.0						
MDT	**Midelt**	**82.26**	**49**	P	**P**	**16 01 15.3**	**+0.5**
	comp=E,12nm,0.8s,mb4.5,baz=239,slow=4.8,SNR=22						
LBTB	**Lobatse**	**82.45**	**114**	⇑*i*P	**P**	**16 01 15.9**	**0.0**
	comp=E,48nm,1.1s,mb5.0						
EGRO	**El Granado**	**83.15**	**44**	P	**P**	**16 01 21.1**	**+1.9**
	comp=E,7.8nm,0.6s,mb4.6						
PBEJ	**Beja**	**83.21**	**43**	*e*P	**P**	**16 01 20.4**	**+0.9**
ESPR	**Espera**	**83.79**	**45**	P	**P**	**16 01 23.0**	**+0.5**
	comp=E,5.8nm,0.5s,mb4.6						
EMIN	**Mina Concepcio**	**83.80**	**44**	P	**P**	**16 01 23.0**	**+0.5**
	comp=E,8.1nm,0.7s,mb4.6						
PTOM	**Tomar**	**83.85**	**42**	*e*P	**P**	**16 01 23.4**	**+0.7**
	comp=E,55nm,1.3s,mb5.1						
EBAD	**Badajoz**	**84.18**	**43**	P	**P**	**16 01 23.6**	**-0.7**
	comp=E,4.6nm,0.7s,mb4.3						
EMIJ	**Mijas**	**84.32**	**46**	P	**P**	**16 01 25.9**	**+0.8**
	comp=E,0.3nm,0.6s						
PCBR	**Castelo Branco**	**84.56**	**42**	*e*P	**P**	**16 01 27.0**	**+0.8**
	comp=E,22nm,1.5s,mb4.7						
ECAB	**El Cabril**	**84.78**	**44**	P	**P**	**16 01 28.7**	**+1.4**
	comp=E,2.0nm,0.6s,mb4.0						
MTE	**Manteigas**	**84.86**	**41**	*e*P	**P**	**16 01 27.7**	**0.0**
	comp=E,36nm,1.0s,mb5.1						
MTE	**Manteigas**	**84.86**	**41**	*e*P	**P**	**16 01 27.4**	**-0.2**
	comp=E,30nm,1.0s,mb5.0						
ELOJ	**Sierra Loja**	**85.06**	**46**	P	**P**	**16 01 29.8**	**+1.0**
	comp=E,5.1nm,0.5s,mb4.5						
ELUQ	**Luque**	**85.22**	**45**	P	**P**	**16 01 30.8**	**+1.2**
	comp=E,6.9nm,0.3s,mb4.9						
EADA	**Adamuz**	**85.37**	**45**	P	**P**	**16 01 30.8**	**+0.5**
	comp=E,8.4nm,0.7s,mb4.6						
ELOB	**Lobios**	**85.45**	**40**	P	**P**	**16 01 30.8**	**+0.2**
	comp=E,6.9nm,0.6s,mb4.6						
ECOG	**Cogollos-Vega**	**85.52**	**46**	P	**P**	**16 01 33.5**	**+2.5**
	comp=E,4.3nm,0.5s,mb4.4						
EBAN	**Banos Encina**	**85.88**	**45**	P	**P**	**16 01 33.6**	**+0.9**
	comp=E,19nm,0.8s,mb4.9						
EQES	**Quesada**	**86.14**	**46**	P	**P**	**16 01 34.0**	**0.0**
	comp=E,11nm,0.9s,mb4.6						
PBRG	**Braganca**	**86.19**	**41**	*e*P	**P**	**16 01 34.8**	**+0.6**
	comp=E,21nm,1.4s,mb4.7						
ECAL	**Calabor**	**86.28**	**41**	P	**P**	**16 01 33.7**	**-0.9**
	comp=E,7.3nm,2.4s,mb4.0						
EHUE	**Huescar**	**86.46**	**46**	P	**P**	**16 01 35.2**	**-0.4**
	comp=E,99nm,3.5s						
ESDC	**Sonseca Array**	**86.64**	**44**	P	**P**	**16 01 37.3**	**+0.9**
	comp=E,3.8nm,0.7s,mb4.3,baz=228,slow=5.2,SNR=22						
ESDC	**Sonseca Array**	**86.64**	**44**	P	**P**	**16 01 37.4**	**+1.0**
	comp=E,3.2nm,0.7s,mb4.3						
ESLA	**Sonseca Array**	**86.64**	**44**	*e*P	**P**	**16 01 37.3**	**+0.9**
	comp=E,12nm,1.4s,mb4.5						
EDM	**Edmonton**	**86.87**	**334**	*e*P	**P**	**16 01 35.8**	**-1.3**
EPON	**Pontenova**	**86.88**	**39**	P	**P**	**16 01 37.6**	**+0.2**
	comp=E,4.2nm,0.5s,mb4.5						
ETOB	**Tobarra**	**87.60**	**46**	P	**P**	**16 01 41.4**	**+0.3**
	comp=E,13nm,0.8s,mb4.8						
ECHE	**Chera**	**88.50**	**45**	P	**P**	**16 01 45.4**	**+0.1**
	comp=E,293nm,5.0s						
LSZ	**Lusaka**	**88.60**	**106**	⇑*i*P	**P**	**16 01 48.4**	**+2.1**
	comp=E,49nm,1.1s,mb5.3						
ELAN	**Lanestosa**	**89.01**	**41**	P	**P**	**16 01 49.6**	**+2.0**
	comp=E,5.1nm,0.8s,mb4.5						
CASY	**Casey**	**89.80**	**179**	⇓*i*P	**P**	**16 01 52.1**	**+1.4**
SJPF	**Ste Jean**	**90.28**	**42**

comp=E,6.6nm,0.8s,baz=96,slow=11,SNR=5.9
WMQ Urumqi 151.59 40 PKP PKPdf 16 08 40.0 +1.6
WMQ PKP2 PKPab 16 08 57.0 +0.7
WMQ APKP 16 09 23.0
WMQ XPKP 16 09 39.0
WMQ PKS PKS 16 12 13.0 +1.1
WMQ PP PP 16 12 30.0 +1.3
WMQ SKS SKS 16 15 30.0 +0.9
WMQ SKKS 16 19 01.0
WMQ PP PP
comp=Z,136nm,4.2s
MJAR Matsushiro Arr 154.97 305 PKPab PKPab 16 09 10.0 -0.8
comp=Z,5.5nm,0.9s,baz=89,slow=2.0,SNR=10
MAJO Matsushiro 154.97 305 *e*PKPab PKPab 16 09 09.9 -0.8
MDJ Mudanjiang 155.47 330 PKP PKPdf 16 08 45.6 +1.9
SONM Songino Array 155.85 11 PKPbc PKPdf 16 08 55.0 +11
comp=Z,0.5nm,0.6s,baz=337,slow=2.3,SNR=4.8
SONM PKPab PKPab 16 09 12.4 -1.8
comp=Z,0.8nm,0.5s,baz=335,slow=4.2,SNR=5.5
SONM PP PP 16 12 49.0 -3.7
comp=Z,0.2nm,0.4s,baz=354,slow=13,SNR=3.8
CN2 Changchun 157.87 335 *e*PKP PKPdf 16 08 48.0 +1.1
SSE Sheshan 169.90 315 PKP PKPdf 16 08 57.9 -0.2
SSE PP PP
comp=Z,286nm,6.4s
NJ2 Nanjing 170.54 327 *e*PKP PKPdf 16 08 59.3 +0.8

*HEL **23** 15:59:43.9±0.1, 67.09N×20.92E, ML1.7, ML2.2(UPP), Explosion*
*IDC **23** 15:59:44.5±1.0, 67.02N×21.44E, mb1 2.9/4, mb1mx2.9/21, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=21.0km s-min=9.1km az=110.0*
ISC 23 15:59:42.4±0.4,**67.04N**±0.03×**20.89E**±0.09,**n22**,**σ1§01**/29, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.15**	**303**	*i* P	**Pg**	**15 59 46.4**	**+1.0**
MASU	**Masugnsbyn**	**0.60**	**45**	*i* P	**Pg**	**15 59 54.0**	**-0.4**
PAJU	**Pajala**	**0.87**	**90**	*i* P	**Pg**	**15 59 59.0**	**-0.8**
KUA	**Kurravaara**	**0.94**	**347**	*e*P	**Pg**	**15 59 59.9**	**-1.3**
SALU	**Saltoluokta**	**0.99**	**291**	*e*P	**Pb**	**16 00 01.7**	**-0.3**
NIKU	**Nikkaluokta**	**1.10**	**320**	*e*P	**Pb**	**16 00 02.9**	**-1.0**
SJUU	**Sjulsmark**	**1.57**	**169**	*e*P	**Pn**	**16 00 12.6**	**+1.1**
LILU	**Lilltraesk**	**1.81**	**194**	*e*P	**Pn**	**16 00 16.6**	**+1.5**
KIF	**Kilpisjarvi**	**1.98**	**359**	*e*P	**Pn**	**16 00 18.6**	**+1.2**
KIF				*e*S	**Sn**	**16 00 43.7**	**+0.5**
KTK1	**Kautokeino**	**2.17**	**23**	*e*P	**Pn**	**16 00 22.2**	**+2.0**
SGF	**Sodankyl**	**2.23**	**77**	*e*P	**Pn**	**16 00 22.0**	**+1.0**
SGF				*e*S	**Sn**	**16 00 49.4**	**-0.3**
SGF				*e*SG	**Sg**	**16 00 51.5**	**-5.1**
SGF				MSG		16 00 54.6	
	comp=Z,3.8nm,0.2s						
TRO	**Tromso**	**2.71**	**345**	*e*	**Pn**	**16 00 26.8**	**-1.1**
MOR8	**Moi Rana**	**2.72**	**254**	*e*	**Pn**	**16 00 28.9**	**+0.8**
OUL	**Oulu**	**2.83**	**132**	*e*P	**Pn**	**16 00 31.2**	**+1.6**
ARCES	**ARCESS Array B**	**3.04**	**32**	Pn	**Pn**	**16 00 32.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=209,slow=14,SNR=50						
ARCES				Sn	**Sn**	**16 01 09.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=208,slow=21,SNR=6.4						
KU4	**Liikasenvaara**	**3.52**	**97**	*e*P	**Pn**	**16 00 40.0**	**+0.5**
KEV	**Kevo**	**3.54**	**37**	*e*P	**Pn**	**16 00 39.2**	**-0.6**
VAF	**Ylistaro**	**4.08**	**169**	*e*P	**Pn**	**16 00 47.8**	**+0.3**
VAF				*e*S	**Sn**	**16 01 35.2**	**-1.5**
KJN	**Kajaani**	**4.10**	**133**	*e*P	**Pn**	**16 00 48.7**	**+0.9**
KJN				*e*S	**Sn**	**16 01 36.0**	**-1.2**
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**16 01 15.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=346,slow=15,SNR=5.0						
FINES				Sn	**Sn**	**16 02 20.6**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=157,slow=25,SNR=2.7						
NOA	**NORSAR Array B**	**7.36**	**220**	Pn	**Pn**	**16 01 32.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=115,slow=12,SNR=2.8						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**16 01 36.4**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=31,slow=12,SNR=4.5						

*NIED **23** 16:49:00, 23.00N×121.40E, h80km, Mw5.2 Best double couple: M0 7.31×10^16 NP1:φs57°, δ86°, λ91°. NP2:φs226°, δ4°, λ79°.*
*IDC **23** 16:49:47.1±0.6, 22.96N×121.40E, mb4.3/15, mb1 4.5/16, mb1mx4.4/22, mbtmp4.3/16, ML4.2/1, MS4.1/14, Ms1 4.1/14, ms1mx3.9/29, Error ellipse: s-maj=23.2km s-min=13.7km az=70.0*
*NEIC **23** 16:49:48.8±0.3, 23.01N×121.53E, h10km, mb4.6/15, ML5.0(TAP), Error ellipse: s-maj=9.7km s-min=6.1km az=74.0*
NEIC Recorded [4 TAP] in T'ai-tung, [2 TAP] in Hua-lien and [1 TAP] in Chang-hua, Chia-i, Kao-hsiung, T'ai-nan and Yun-lin Counties.
*BJI **23** 16:49:49.6, 23.15N×121.44E, h9km, mB4.8, mb4.3, ML4.6, Ms4.8, Msz4.6*
*JMA **23** 16:49:51.0±0.2, 22.96N×121.39E, h71km, M4.6*
ISC 23 16:49:47.5±0.3,**22.91N**±0.03×**121.45E**±0.03,**h10**km,**n84**, **σ1§35**/102,**mb4.4**/30,**MS4.3**/14,**1C**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.27**	**6**	*e*Pn	**Pn**	**16 50 10.0**	**-1.4**
NACB				*e*Sn	**Sn**	**16 50 29.9**	**+1.4**
YHNB	**Yeheng**	**1.75**	**358**	*e*Pn	**Pn**	**16 50 18.5**	**+0.2**
TATO	**Taipei**	**2.06**	**1**	*e*Pn	**Pn**	**16 50 23.4**	**+0.8**
YOJ	**Yonaguni jima**	**2.11**	**42**	P	**Pn**	**16 50 24.8**	**+1.5**
YOJ				S	**Sn**	**16 50 50.3**	**+0.5**
HATJ	**Hateruma jima**	**2.45**	**62**	P	**Pn**	**16 50 29.8**	**+1.6**
HATJ				S	**Sn**	**16 50 59.2**	**+0.8**
IRIF	**Iriomote-Funau**	**2.53**	**55**	P	**Pn**	**16 50 31.2**	**+1.8**
IRIF				S	**Sn**	**16 51 01.5**	**+1.0**
JKRS	**Kuro-shima**	**2.70**	**60**	P	**Pn**	**16 50 33.5**	**+1.7**
JKRS				*e*S	**Sn**	**16 51 05.5**	**+0.7**
JIJ	**Ishigaki jima**	**2.86**	**59**	P	**Pn**	**16 50 35.2**	**+1.0**
JIJ				S	**Sn**	**16 51 08.5**	**-0.5**
QZH	**Quanzhou**	**3.31**	**308**	⇑*i*P	**Pn**	**16 50 39.8**	**-0.6**
QZH				S	**Sn**	**16 51 13.3**	**-6.9**
QZH				Smax			
	comp=N,2μm,0.6s						
QZH				Smax			
	comp=E,2μm,0.8s						
QZH				LR	LR		
	comp=N,11μm,12.2s						
QZH				LR	LR		
	comp=E,9μm,9.1s						
QZH				LR	LR		
	comp=Z,13μm,13.4s						
JTJ	**Tarama**	**3.44**	**59**	P	**Pn**	**16 50 43.8**	**+1.4**
JTJ				*e*S	**Sn**	**16 51 23.3**	**-0.4**
JMJ	**Miyako jima 2**	**4.00**	**61**	P	**Pn**	**16 50 51.9**	**+1.6**
JMJ				*e*S	**Sn**	**16 51 37.7**	**0.0**
JOGS	**Gusukube**	**4.07**	**62**	P	**Pn**	**16 50 53.0**	**+1.8**
JOGS				*e*S	**Sn**	**16 51 39.6**	**+0.2**
CVP	**Callao Caves**	**5.19**	**176**	*e*P	**Pn**	**16 51 12.5**	**+5.4**
JKE	**Kume jima 2**	**5.93**	**54**	P	**Pn**	**16 51 16.3**	**-1.3**
JKE				S	**Sn**	**16 52 21.8**	**-4.6**
JAGN	**Aguni-jima**	**6.42**	**54**	P	**Pn**	**16 51 23.3**	**-1.1**
JAGN				*e*S	**Sn**	**16 52 34.2**	**-4.3**
JIH	**Iheya**	**7.20**	**54**	P	**Pn**	**16 51 34.0**	**-1.5**
JIH				*e*S	**Sn**	**16 52 53.7**	**-4.5**
JOW	**Kunigami**	**7.33**	**56**	Pn	**Pn**	**16 51 34.9**	**-2.4**
	comp=Z,9.7nm,0.3s,baz=181,slow=13,SNR=24						
JOW				Sn	**Sn**	**16 52 59.0**	**-2.3**
	comp=Z,5.8nm,0.3s,baz=139,slow=29,SNR=3.9						
JOW	**Kunigami**	**7.33**	**56**	P	**Pn**	**16 51 34.8**	**-2.4**
JTK	**Tokunoshima**	**8.34**	**53**	P	**P**	**16 51 48.6**	**-2.8**
JMZ	**Minamidaito 2**	**9.37**	**70**	P	**P**	**16 52 02.0**	**-3.6**
JMZ				*e*S	**Sn**	**16 53 40.1**	**-12**
NJ2	**Nanjing**	**9.39**	**346**	*e*P	**P**	**16 52 06.4**	**+0.4**
NJ2				AP		16 52 09.6	
NJ2				XP		16 52 12.3	
NJ2				S	**Sn**	**16 53 51.0**	**-1.8**
NJ2				XS		16 53 57.8	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,40nm,3.5s						
NJ2				Smax			
	comp=N,240nm,1.0s						
NJ2				Smax			
	comp=E,440nm,1.0s						
NJ2				LR	LR		
	comp=N,6μm,11.2s						
NJ2				LR	LR		
	comp=E,8μm,20.2s						
NJ2				LR	LR		
	comp=Z,3μm,12.8s						
WHN	**Wuhan**	**9.90**	**322**	P	**P**	**16 52 11.0**	**-2.0**
WHN				S	**Sn**	**16 53 58.5**	**-6.8**
WHN				LR	LR		
	comp=Z,12μm,11.2s						
QIZ	**Qiongzhong**	**11.51**	**253**	P	**P**	**16 52 39.8**	**+4.8**
QIZ				S	**S**	**16 54 55.8**	**+11**
QIZ				LR	LR		
	comp=N,1μm,13.3s						
QIZ				LR	LR		
	comp=E,1μm,17.2s						
QIZ				LR	LR		
	comp=Z,2μm,15.9s						
JNU	**Nakatsue**	**13.14**	**37**	LR	LR	16 59 06.7	
	comp=Z,602nm,18.4s,baz=214,slow=43						
GYA	**Guiyang**	**13.90**	**288**	*e*P	**P**	**16 53 09.3**	**+2.3**
GYA				LR	LR		
	comp=N,2μm,10.5s						
GYA				LR	LR		
	comp=E,4μm,10.5s						
GYA				LR	LR		
	comp=Z,4μm,10.5s						
KMI	**Kunming**	**17.24**	**281**	P	**P**	**16 53 53.3**	**+3.3**
KMI				PP	PP	16 54 07.8	+3.3
KMI				PPP	PPP	16 54 16.0	+3.2
KMI				S	**S**	**16 57 05.8**	**+5.4**
KMI				SS	SS	16 57 27.6	+5.8
KMI				SSS	SSS	16 57 40.3	+5.3
KMI				LR	LR		
	comp=N,743nm,9.9s						
KMI				LR	LR		
	comp=E,2μm,12.1s						
KMI				LR	LR		
	comp=Z,2μm,12.7s						
CD2	**Chengdu**	**17.66**	**301**	P	**P**	**16 53 57.8**	**+2.5**
CD2				PP	PP	16 54 13.3	+3.3
CD2				S	**S**	**16 57 16.6**	**+6.5**
CD2				LR	LR		
	comp=N,1μm,12.6s						
CD2				LR	LR		
	comp=Z,2μm,11.4s						
JHJ	**Hachijo jima 2**	**19.09**	**54**	LR	LR	17 01 23.1	
	comp=Z,302nm,18.3s,baz=304,slow=36						
HHC	**Hu-ho-hao-te**	**19.73**	**337**	*e*P	**P**	**16 54 22.4**	**+2.2**
HHC				AP		16 54 26.4	
HHC				XP		16 54 29.1	
HHC				PP	PP	16 54 40.8	+2.2
HHC				S	**S**	**16 57 58.6**	**+1.9**
HHC				AMB	AMB		
	comp=Z,11nm,0.4s						
HHC				AMB	AMB		
	comp=Z,315nm,3.7s						
HHC				LR	LR		
	comp=N,1μm,14.3s						
HHC				LR	LR		
	comp=E,2μm,13.5s						
HHC				LR	LR		
	comp=Z,1μm,13.5s						
MAT	**Matsushiro**	**19.87**	**43**	P	**P**	**16 54 24.8**	**+3.0**
MAT	**Matsushiro**	**19.87**	**43**	*e*P	**P**	**16 54 25.0**	**+3.2**
MJAR	**Matsushiro Arr**	**19.87**	**43**	P	**P**	**16 54 23.5**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=228,slow=8.3,SNR=14						
MJAR	**Matsushiro Arr**	**19.87**	**43**	P	**P**	**16 54 23.5**	**+1.8**
LZH	**Lanzhou**	**20.14**	**315**	*e*P	**P**	**16 54 24.5**	**-0.1**
LZH				AP		16 54 32.1	
LZH				XP		16 54 36.5	
LZH				PP	PP	16 54 48.0	+3.7
LZH				S	**S**	**16 58 11.0**	**+5.7**
LZH				AMB	AMB		
	comp=Z,40nm,1.2s						
LZH				AMB	AMB		
	comp=Z,160nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,11.0s						
LZH				LR	LR		
	comp=Z,3μm,11.6s,MS4.9						
CN2	**Changchun**	**21.10**	**8**	*e*P	**P**	**16 54 34.4**	**-0.1**
MDJ	**Mudanjiang**	**22.66**	**15**	P	**P**	**16 54 48.9**	**-1.3**
MDJ				AP		16 54 51.4	
MDJ				PCP	PcP	16 58 43.8	-0.2
MDJ				S	**S**	**16 58 56.1**	**+2.7**
MDJ				XS		16 59 00.8	
MDJ				SCP		17 02 20.6	
MDJ				PCS		17 02 22.0	
MDJ				SCS	ScS	17 06 05.8	+1.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,70nm,6.8s						
MDJ				LR	LR		
	comp=N,888nm,13.6s,MS4.5						
MDJ				LR	LR		
	comp=E,530nm,11.3s,MS4.5						
MDJ				LR	LR		
	comp=Z,1μm,13.6s,MS4.5						
KSM	**Kuching**	**23.90**	**208**	*e*P	**P**	**16 55 04.8**	**+2.4**
GTA	**Gaotai**	**24.67**	**317**	*e*P	**P**	**16 55 10.8**	**+1.1**
GTA				AP		16 55 13.9	
GTA				XP		16 55 17.1	
GTA				PP	PP	16 55 51.1	+5.0
GTA				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb3.9						
GTA				AMB	AMB		
	comp=Z,172nm,3.8s						
GTA				LR	LR		
	comp=N,749nm,11.8s,MS4.7						
GTA				LR	LR		
	comp=E,1μm,12.2s,MS4.7						
GTA				LR	LR		
	comp=Z,1μm,13.8s,MS4.7						
ASAJ	**Asahikawa**	**27.39**	**34**	P	**P**	**16 55 35.2**	**+0.2**
	comp=Z,11nm,1.0s,mb4.3,baz=225,slow=13,SNR=5.0						
ASAJ				LR	LR	17 07 10.7	
	comp=Z,434nm,20.2s,MS4.0,baz=243,slow=38						
SONM	**Songino Array**	**27.64**	**338**	P	**P**	**16 55 35.7**	**-1.5**
	comp=Z,1.8nm,0.6s,mb3.9,baz=158,slow=10.0,SNR=14						
SONM				LR	LR	17 08 00.2	
	comp=Z,728nm,21.6s,MS4.2,baz=151,slow=40						
LSA	**Lhasa**	**27.94**	**290**	P	**P**	**16 55 42.1**	**+2.0**
LSA	**Lhasa**	**27.94**	**290**	*e*P	**P**	**16 55 41.4**	**+1.3**
	comp=Z,16nm,0.6s,mb4.8						
KKN	**Kakani**	**32.97**	**286**	*e*P	**P**	**16 56 25.2**	**+0.5**
	comp=Z,88nm,1.6s,mb5.4						
DMN	**Daman**	**33.12**	**286**	*e*P	**P**	**16 56 26.5**	**+0.4**
GKN	**Gorkha**	**33.54**	**286**	*e*P	**P**	**16 56 29.7**	**0.0**
KOLN	**Koldanda**	**34.46**	**286**	*e*P	**P**	**16 56 38.2**	**+0.6**
	comp=Z,24nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**39.43**	**317**	P	**P**	**16 57 19.4**	**+0.1**
	comp=Z,3.9nm,0.7s,mb4.2,baz=105,slow=9.7,SNR=25						
MKAR				PcP	PcP	16 59 27.0	-1.0
	comp=Z,0.9nm,0.7s,baz=90,slow=4.3,SNR=5.3						
MKAR	**Makanchi Array**	**39.43**	**317**	P	**P**	**16 57 19.4**	**+0.1**
MKAR				PcP	PcP	16 59 27.0	-1.0
FITZ	**Fitzroy Crossi**	**40.96**	**174**	*e*P	**P**	**16 57 31.3**	**-0.9**
	comp=Z,7.5nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**40.96**	**174**	P	**P**	**16 57 31.4**	**-0.9**
	comp=Z,6.3nm,0.7s,mb4.3,baz=2.5,slow=7.3,SNR=14						
ZAL	**Zalesovo**	**41.45**	**328**	P	**P**	**16 57 34.3**	**-1.6**
	comp=Z,5.8nm,0.6s,mb4.4,baz=358,slow=7.1,SNR=12						
ZAL				LR	LR	17 15 33.1	
	comp=Z,171nm,19.4s,MS3.9,baz=344,slow=37						
KURK	**Kurchatov**	**43.23**	**321**	*e*P	**P**	**16 57 49.9**	**-0.6**
	comp=Z,5.7nm,0.8s,mb4.3						
MBWA	**Marble Bar**	**43.83**	**182**	*e*P	**P**	**16 57 54.8**	**-0.9**
	comp=Z,6.3nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**44.40**	**163**	*e*P	**P**	**16 58 00.2**	**-0.2**
	comp=Z,2.7nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**44.41**	**163**	P	**P**	**16 57 59.9**	**-0.6**
	comp=Z,2.6nm,0.5s,mb4.2,baz=343,slow=8.9,SNR=38						
WRA				PcP	PcP	16 59 43.2	-1.6
	comp=Z,0.6nm,0.5s,baz=345,slow=3.5,SNR=5.3						
WB2	**Warramunga Arr**	**44.41**	**163**	*e*P	**P**	**16 57 59.7**	**-0.8**
ASPA	**Alice Springs**	**47.85**	**165**	*e*P	**P**	**16 58 28.4**	**+0.7**
BRVK	**Borovoye**	**48.89**	**321**	*e*P	**P**	**16 58 35.2**	**0.0**
	comp=Z,3.9nm,0.9s,mb4.4						
CTA	**Charters Tower**	**49.11**	**149**	*e*P	**P**	**16 58 39.0**	**+1.5**
	comp=Z,6.0nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**49.11**	**149**	*e*P	**P**	**16 58 38.0**	**+0.6**
	comp=Z,9.5nm,0.9s,mb4.8						
ARU	**Arti**	**56.27**	**324**	*e*P	**P**	**16 59 28.7**	**-1.7**
	comp=Z,7.5nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**57.79**	**160**	*e*P	**P**	**16 59 41.7**	**+0.3**
	comp=Z,2.6nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**57.79**	**160**	P	**P**	**16 59 41.5**	**0.0**
	comp=Z,2.8nm,0.4s,mb4.6,baz=339,slow=5.3,SNR=23						
KIV	**Kislovodsk**	**66.58**	**309**	*e*P	**P**	**17 00 40.4**	**+0.3**
	comp=Z,4.8nm,0.3s,mb5.0						
JOF	**Joensuu**	**69.93**	**331**	*e*p	**P**	**17 00 58.6**	**-2.0**
ILAR	**Eielson Array**	**70.23**	**27**	P	**P**	**17 01 01.3**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=280,slow=4.7,SNR=6.4						
KEV	**Kevo**	**70.25**	**338**	*e*p	**P**	**17 00 59.8**	**-2.6**
ARCES	**ARCESS Array B**	**70.81**	**338**	P	**P**	**17 01 04.0**	**-1.9**
	comp=Z,3.3nm,0.6s,mb4.4,baz=68,slow=9.1,SNR=18						
ARCES				LR	LR	17 31 39.3	
	comp=Z,131nm,20.8s,MS4.2,baz=158,slow=36						
ARCES	**ARCESS Array B**	**70.81**	**338**	P	**P**	**17 01 04.0**	**-1.9**
ARCES				LR	LR	17 31 39.2	
MALT	**Malatya**	**70.91**	**304**	*e*P	**P**	**17 01 07.6**	**+0.6**
	comp=Z,5.5nm,0.7s,mb4.6						
KAF	**Kangasniemi**	**72.38**	**331**	*e*p	**P**	**17 01 13.1**	**-2.3**
	comp=Z,2.1nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**72.67**	**330**	P	**P**	**17 01 15.9**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.3,baz=47,slow=6.2,SNR=28						
FINES				LR	LR	17 35 51.9	
	comp=Z,82nm,21.0s,MS4.0,baz=77,slow=38						
AKASG	**Malin Array Be**	**73.98**	**319**	P	**P**	**17 01 23.6**	**-1.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=58,slow=6.1,SNR=8.4						
BRTR	**Keskin Array B**	**74.12**	**307**	P	**P**	**17 01 26.0**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=90,slow=5.8,SNR=6.9						
HFS	**Hagfors**	**78.80**	**331**	LR	LR	17 37 25.8	
	comp=Z,99nm,18.1s,MS4.2,baz=234,slow=36						
NB2	**NORSAR Subarra**	**79.46**	**332**	P	**P**	**17 01 53.8**	**-1.6**
	comp=Z,2.5nm,0.5s,mb4.4,baz=56,slow=5.8						
NOA	**NORSAR Array B**	**79.46**	**332**	P	**P**	**17 01 53.9**	**-1.5**
	comp=Z,2.2nm,0.5s,mb4.4,baz=58,slow=5.6,SNR=12						
NOA				LR	LR	17 39 10.4	
	comp=Z,102nm,21.8s,MS4.1,baz=40,slow=37						
CLL	**Collm**	**83.22**	**323**	P	**P**	**17 02 15.0**	**-0.3**
	comp=Z,logA/T=0.8,mb4.6						
KHC	**Kasperske Hory**	**83.92**	**321**	*e*P	**P**	**17 02 18.5**	**-0.4**
GERES	**GERESS Array B**	**83.98**	**321**	P	**P**	**17 02 19.4**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.3,baz=56,slow=4.8,SNR=14						
GERES				LR	LR	17 43 43.4	
	comp=Z,109nm,18.4s,MS4.3,baz=145,slow=39						
YKA	**Yellowknife Ar**	**84.05**	**23**	P	**P**	**17 02 20.5**	**+1.3**
	comp=Z,1.2nm,0.8s,mb4.1,baz=319,slow=6.5,SNR=3.9						
YKA				LR	LR	17 44 30.6	
	comp=Z,71nm,18.0s,MS4.1,baz=145,slow=39						
MOX	**Moxa**	**84.30**	**323**	*i* P	**P**	**17 02 20.6**	**-0.2**
KMBO	**Kilima Mbogo**	**85.09**	**267**	LR	LR	17 42 02.4	
	comp=Z,95nm,18.3s,MS4.2,baz=93,slow=37						
DAVOX	**Davos**	**87.24**	**320**	LR	LR	17 47 21.2	
	comp=Z,155nm,18.1s,MS4.5,baz=256,slow=40						

TRN 23 16:51:34.0, 13.46N×60.24W, h35km, MD3.9, M3.9(FDF), **Md3.2**(FDF),**2C-1D**,**Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLB	**Belfond**	**0.86**	**295**	⇓*i*P	P	**16 51 51.3**	**+1.6**
SLB				*e*S	S	16 52 00.8	-0.4
BHS	**Barnard House**	**0.88**	**259**	*e*P	P	16 51 51.7	+1.8
BHS				*e*S	S	16 52 03.0	+1.4
SSV	**Crater Summit**	**0.93**	**262**	*e*P	P	16 51 52.2	+1.5
SSV				*e*S	S	16 52 05.9	+2.8
SVB	**Belmont**	**1.00**	**259**	*e*P	P	16 51 53.0	+1.3
SVB				*e*S	S	16 52 05.8	+1.0
FCV	**Fort Charlotte**	**1.02**	**253**	⇑*e*P	P	16 51 53.1	+1.1
FCV				*e*S	S	16 52 06.4	+1.1
MVM	**Montagne Vaucl**	**1.26**	**330**	*e*P	P	16 51 55.8	+0.4
CRM	**Caravelle**	**1.44**	**333**	*e*P	P	16 51 58.5	+0.5
CRM				*e*S	S	16 52 17.3	+1.2
FDF	**Fort de France**	**1.54**	**325**	⇑*e*P	P	16 52 00.1	+0.6
FDF				*e*S	S	16 52 19.9	+1.3
GRW	**Mount Saint Ca**	**1.89**	**227**	*e*P	P	16 52 04.6	+0.1
GRW				*e*S	S	16 52 28.8	+1.4
BBL	**Barber's Block**	**2.37**	**330**	*e*P	P	16 52 12.4	+1.0
TBG	**Guadaloupe-3**	**2.74**	**330**	*e*P	P	16 52 17.3	+0.7
DOG	**Dongo Capester**	**2.88**	**333**	*e*P	P	16 52 20.1	+1.4
DEG	**La Desirade**	**2.94**	**345**	*e*P	P	16 52 19.0	-0.6
DEG				*e*S	S	16 52 52.1	-2.0
LZG	**Guadaloupe-1**	**3.05**	**331**	*e*P	P	16 52 21.8	+0.7

*NNC **23** 17:53:02.8±5.1, 41.99N×82.48E, h20km±22km, mpv3.4, Error ellipse: s-maj=41.7km s-min=16.0km az=139.0*
BJI 23 17:52:56.7, 41.83N×82.35E, h10km,**ML3.6, 9C, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.41**	**61**	*e*P	Pn	**17 54 08.8**	**+3.6**
WMQ				S	Sn	**17 55 02.0**	**+4.8**
WMQ				Smax			
	comp=N,32nm,0.8s						
WMQ				Smax			
	comp=E,40nm,0.8s						
MK31	**Makanchi Array**	**4.96**	**360**	⇑Pn	Pn	17 54 13.3	+0.1
	comp=E,0.7nm,0.2s,baz=191,slow=12,SNR=119						
MK31				⇑Pg	Pg	17 54 30.2	-5.6
	comp=E,4.1nm,0.4s,baz=176,slow=17,SNR=15						
MK31				⇑Lg		17 55 36.3	
	comp=E,15nm,0.7s,baz=178,slow=28,SNR=5.4						
KSH	**Kashi**	**5.37**	**247**	*e*PG	Pg	17 54 27.3	-17
KSH				SG	Sg	17 55 38.3	-17
KSH				Smax			
	comp=N,60nm,0.4s						
KSH				Smax			
	comp=E,70nm,0.6s						
AAK	**Ala-Archa**	**5.89**	**280**	⇑Pg	Pg	17 54 51.9	-2.3
	comp=E,4.1nm,0.7s						
AAK				⇑Lg		17 56 10.8	
	comp=E,8.5nm,0.8s						
KK31	**Karatay Array**	**8.84**	**282**	⇑Lg		17 57 46.0	
	comp=E,1.5nm,0.5s,baz=87,slow=28,SNR=5.0						
KURK	**Kurchatov**	**9.25**	**345**	⇑Pn	P	17 55 14.9	+1.6
	comp=E,1.7nm,1.2s						
KURK				⇑Lg		17 57 53.2	
	comp=E,5.3nm,1.0s						
VOSK	**Vostochnaya**	**13.33**	**329**	⇑Lg		18

KMBO Kilima Mbogo 14.07 193 Pn P 18 04 47.4 +0.6
comp=N,0.1nm,0.3s,baz=13,slow=13,SNR=3.4
KMBO Lg 18 08 40.0
comp=N,0.1nm,0.3s,baz=35,slow=21,SNR=3.7
KMBO LR LR 18 10 00.8
comp=N,891nm,20.5s,baz=85,slow=37
RBK Rabkut 14.09 68 ⇑P P 18 04 49.7 +2.7
SHAO Shalim 15.54 68 ⇑P P 18 05 07.8 +1.9
ARQ Araqi 18.56 53 ⇑P P 18 05 44.3 +0.3
BSY Bisya 18.80 55 ⇓P P 18 05 46.4 -0.3
SNR=11
BSYO Bisya 18.82 56 P P 18 05 46.4 -0.7
SNR=11
ASHO Ashiyiah 18.96 49 ⇑P P 18 05 48.5 -0.3
SNR=7.1
HOQ Hoqain 19.30 53 ⇑P P 18 05 51.9 -0.9
SNR=7.2
JMDO Jabal Madar 19.36 58 ⇑P P 18 05 52.3 -1.0
SMDO Samad 19.63 56 ⇑P P 18 05 56.4 -0.2
BIDO Bidbid 19.92 55 ⇓P P 18 05 58.5 -1.2
WBK Wadi Bani Khal 20.18 58 ⇓P P 18 06 01.4 -1.1
BHD Baghdad 20.82 9 *ex* x 18 05 53.5
MALT Malatya 25.61 356 *eP* **P 18 06 58.6 +2.6**
comp=N,7.9nm,1.2s,mb4.1
BR131 Keskin Array S 27.63 349 *eP* **P 18 07 16.7 +2.3**
comp=N,3.2nm,1.0s,mb3.9
BRTR Keskin Array B 27.63 349 P **P 18 07 13.8 -0.7**
comp=N,1.9nm,0.8s,mb3.8,baz=174,slow=11,SNR=9.5
BRTR PcP PcP 18 10 32.0 -0.1
comp=N,0.7nm,0.7s,baz=146,slow=5.2,SNR=3.8
BRTR Keskin Array B 27.63 349 PcP PcP 18 10 32.0 -0.1
GNI Garni 27.64 7 LR LR 18 18 14.9
comp=N,267nm,20.4s,MS3.8,baz=14,slow=36
KIV Kislovodsk 31.24 3 P **P 18 07 47.7 +1.0**
comp=N,3.0nm,0.4s,mb4.5
KIV Kislovodsk 31.24 3 P **P 18 07 47.7 +1.0**
comp=N,3.0nm,0.4s,mb4.5
AKASG Malin Array Be 39.03 349 P **P 18 08 52.5 -0.7**
comp=N,0.6nm,0.5s,mb3.6,baz=168,slow=6.8,SNR=11
AKASG PcP PcP 18 11 03.0 -0.8
comp=N,0.1nm,0.2s,baz=151,slow=2.4,SNR=5.7
AKASG Malin Array Be 39.03 349 P **P 18 08 52.5 -0.7**
AKASG PcP PcP 18 11 03.0 -0.8
AKASG Malin Array Be 39.03 349 PcP PcP 18 11 03.0 -0.8
PGF Pioggiola 40.38 323 *eP* **P 18 09 03.6 -0.9**
LMR La Mourre 42.31 323 *eP* **P 18 09 20.8 +0.5**
GERES GERESS Array B 42.35 334 P **P 18 09 20.4 -0.1**
comp=N,1.0nm,0.7s,mb3.6,baz=135,slow=7.5,SNR=10
FRF La Foret Royal 42.37 323 *eP* **P 18 09 19.9 -0.9**
KHC Kasperske Hory 42.62 334 *eP* **P 18 09 30.5 +7.7**
KOLN Koldanda 42.92 63 *eP* **P 18 09 25.5 0.0**
comp=N,29nm,1.1s,mb4.9
MBDF Montbardon 42.99 325 *eP* **P 18 09 26.8 +0.9**
comp=N,11nm,0.8s,mb4.3
SMRF Simiane la Rot 43.24 323 *eP* **P 18 09 28.5 +0.6**
LPL La Plagne 43.50 325 *eP* **P 18 09 29.8 -0.2**
GKN Gorkha 43.87 63 *eP* **P 18 09 32.7 -0.5**
DMN Daman 44.20 63 *eP* **P 18 09 35.9 0.0**
comp=N,19nm,1.0s,mb4.8
VIVF Saint-Julien-I 44.27 323 *eP* **P 18 09 36.2 -0.1**
LASF Ste Croix 44.32 322 *eP* **P 18 09 36.8 +0.2**
KKN Kakani 44.38 63 *eP* **P 18 09 37.2 -0.2**
comp=N,27nm,1.0s,mb4.9
PKI Pulchoki 44.46 64 *eP* **P 18 09 37.7 -0.3**
CLL Collm 44.52 336 *eP* **P 18 09 35.0 -3.2**
CABF La Chapelle 44.53 326 *eP* **P 18 09 37.7 -0.6**
MOX Moxa 44.59 334 *i* P **P 18 09 39.0 +0.2**
MOX Moxa 44.59 334 *eP* **P 18 09 39.0 +0.2**
HINF Hinteralfeld 44.88 328 *eP* **P 18 09 40.9 -0.2**
MTLF Montolieu 44.93 320 *eP* **P 18 09 41.7 +0.1**
DBIC Dimbokro 45.05 267 P **P 18 09 42.4 -0.5**
comp=N,2.8nm,0.8s,mb4.2,baz=40,slow=6.2,SNR=5.5
DBIC LR LR 18 27 50.5
comp=N,243nm,19.0s,MS4.2,baz=67,slow=35
DBIC Dimbokro 45.05 267 *eP* **P 18 09 42.3 -0.6**
comp=N,2.9nm,0.7s,mb4.2
DBIC Dimbokro 45.05 267 *eP* **P 18 09 42.3 -0.6**
comp=N,2.9nm,0.7s,mb4.2
CDF Champ du Feu 45.05 329 *eP* **P 18 09 42.1 -0.4**
MDT Midelt 45.77 304 P **P 18 09 49.2 +0.8**
comp=N,1.1nm,0.7s,mb3.9,baz=97,slow=10,SNR=4.5
SMF Signal de Mont 45.79 325 *eP* **P 18 09 47.3 -1.0**
ARU Arti 45.85 14 *eP* **P 18 09 49.4 +0.8**
comp=N,4.5nm,1.0s,mb4.3
ARU Arti 45.85 14 *eP* **P 18 09 49.4 +0.7**
comp=N,4.4nm,1.0s,mb4.3
CAF Calviac 45.86 322 *eP* **P 18 09 49.2 +0.3**
EPF Esparros 45.96 319 *eP* **P 18 09 50.2 +0.4**
MEZF Maizieres J'vi 46.25 328 *eP* **P 18 09 52.1 +0.2**
BGF Bois d'Agland 46.30 324 *eP* **P 18 09 52.4 +0.1**
ETSF Etsaut 46.48 318 *eP* **P 18 09 53.9 +0.1**
comp=N,6.1nm,0.9s,mb4.2
TCF Toulx Ste Croi 46.51 324 *eP* **P 18 09 54.0 0.0**
BVAR Borovoye Array 46.79 24 P **P 18 09 56.2 +0.1**
comp=N,0.8nm,0.8s,mb3.7,baz=207,slow=6.6,SNR=8.3
SJPF Ste Jean 47.01 318 *eP* **P 18 09 59.1 +1.0**
comp=N,10nm,0.8s,mb4.5
GIVF Givet 47.37 329 *eP* **P 18 10 00.4 -0.4**
ESDC Sonseca Array 47.45 313 P **P 18 10 01.4 -0.2**
comp=N,1.3nm,0.8s,mb3.9,baz=114,slow=9.3,SNR=4.6
BAIF Baives 47.65 329 *eP* **P 18 10 01.9 -1.1**
MKAR Makanchi Array 48.84 37 P **P 18 10 11.5 -0.7**
comp=N,2.1nm,0.8s,mb4.2,baz=225,slow=6.9,SNR=16
MKAR LR LR 18 34 39.4
comp=N,412nm,20.8s,MS4.4,baz=181,slow=41
KURK Kurchatov 48.99 31 *eP* **P 18 10 13.8 +0.4**
comp=N,5.0nm,1.3s,mb4.4
KURK Kurchatov 48.99 31 *eP* **P 18 10 13.8 +0.5**
comp=N,5.0nm,1.3s,mb4.4
LSA Lhasa 49.78 62 P **P 18 10 21.0 +1.3**
comp=N,5.0nm,0.9s,mb4.5
LSA Lhasa 49.78 62 P **P 18 10 21.0 +1.2**
comp=N,5.0nm,0.9s,mb4.5
NOA NORSAR Array B 52.80 343 P **P 18 10 42.7 +0.5**
comp=N,2.0nm,1.1s,mb4.0,baz=161,slow=6.9,SNR=3.4
ZAL Zalesovo 53.94 31 P **P 18 10 50.0 -0.6**
comp=N,0.8nm,0.7s,mb3.8,baz=249,slow=13,SNR=5.7
ZAL Zalesovo 53.94 31 P **P 18 10 50.0 -0.6**
ARCES ARCESS Array B 57.62 354 P **P 18 11 15.4 -1.6**
comp=N,2.0nm,0.8s,mb4.2,baz=180,slow=7.2,SNR=4.2
SONM Songino Array 64.57 43 P **P 18 12 04.1 -0.2**
comp=N,2.6nm,0.9s,mb4.3,baz=254,slow=7.5,SNR=18
SONM LR LR 18 43 49.1
comp=N,407nm,19.4s,MS4.6,baz=270,slow=39
HHC Hu-ho-hao-te 67.54 51 *eP* **P 18 12 25.9 +2.5**
HHC AP pP 18 12 30.3 +1.5
HHC XP sP 18 12 33.3 +2.5
HHC PCP PcP 18 12 52.1 +1.4
HHC PP PP 18 14 57.0 +2.8
HHC S S 18 21 22.3 +4.7
HHC XS 18 21 31.8
HHC SS SS 18 25 36.8 -3.1
HHC AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
HHC AMB AMB
comp=Z,150nm,5.5s
HHC LR LR
comp=N,192nm,15.5s,MS4.6
HHC LR LR
comp=E,188nm,14.3s,MS4.6
HHC LR LR
comp=Z,217nm,19.0s,MS4.4
CN2 Changchun 77.74 48 *eP* **P 18 13 24.4 +0.9**
MDJ Mudanjiang 80.60 46 P **P 18 13 39.1 +0.1**
MDJ AP pP 18 13 42.4 -2.1
MDJ PP PP 18 16 42.3 -2.4
MDJ S S 18 23 47.1 +3.3
MDJ SS SS 18 29 01.1 +1.4
MDJ AMB AMB
comp=Z,4.0nm,1.1s,mb4.3
MDJ AMB AMB
comp=Z,74nm,6.1s
MDJ LR LR
comp=N,135nm,22.8s,MS4.3
MDJ LR LR
comp=E,46nm,22.8s,MS4.3
MDJ LR LR
comp=Z,97nm,20.0s,MS4.2
MAW Mawson 81.68 172 LR LR 18 47 01.5
comp=Z,80nm,18.1s,MS4.1,baz=242,slow=34
JOW Kunigami 82.44 64 LR LR 18 50 21.2
comp=Z,110nm,18.1s,MS4.3,baz=18,slow=36
ASAJ Asahikawa 89.79 45 LR LR 18 59 02.1
comp=Z,132nm,18.4s,MS4.4,baz=285,slow=38
BDFB Brasilia 91.94 255 LR LR 18 52 01.6
comp=Z,222nm,19.6s,MS4.6,baz=108,slow=33

IDC ***23*** *18:05:06.6±4.2, 12.35N×40.43E, mb3.9/5, mb1 4.0/7, mb1mx3.9/18, mbtmp4.0/7, ML4.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.3/26, Error ellipse: s-maj=95.8km s-min=16.0km az=32.0*
NEIC ***23*** *18:05:07.2±3.1, 12.20N×40.25E, h10km, mb4.3/1, Error ellipse: s-maj=72.1km s-min=13.7km az=38.0*
CSEM ***23*** *18:05:07.2±0.8, 12.20N×40.25E, h10km, mb4.2/1, Error ellipse: s-maj=44.5km s-min=8.0km az=35.0, After NEIC*
ISC 23 18:05:07.3±3.2, 12.5N±0.4×40.4E±0.4, h10km, n11, σ0$80/9, mb3.8/6, MS3.7/1, Ethiopia
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ATD Arta Tunnel 2.58 111 Pn **Pn 18 05 50.5 +0.7**
98nm,0.3s,baz=291,slow=9.9,SNR=18
ATD Lg 18 06 25.0
45nm,0.3s,baz=138,slow=22,SNR=6.3
KMBO Kilima Mbogo 13.85 193 Lg 18 12 26.0
0.1nm,0.3s,baz=70,slow=14,SNR=2.4
ASF Jabal al Asfar 19.88 351 P **P 18 09 42.0 +0.3**
0.1nm,0.3s,baz=206,slow=2.7,SNR=3.9
ASF LR LR 18 16 23.0
comp=Z,266nm,18.4s,baz=213,slow=34
MALT Malatya 25.81 356 *eP* **P 18 10 41.4 +1.1**
9.2nm,1.4s,mb4.1
MALT Malatya 25.81 356 *eP* **P 18 10 41.4 +1.0**
9.1nm,1.4s,mb4.1
IDI Anoyia 26.71 331 LR LR 18 21 14.0
comp=Z,221nm,19.4s,MS3.7,baz=124,slow=36
BRTR Keskin Array B 27.81 349 P **P 18 10 59.5 +0.8**
3.1nm,1.1s,mb3.9,baz=158,slow=6.7,SNR=7.5
AKASG Malin Array Be 39.21 349 P **P 18 12 37.4 +0.1**
0.2nm,0.3s,mb3.3,baz=168,slow=7.3,SNR=6.0
GERES GERESS Array B 42.49 334 P **P 18 13 03.6 -0.7**
1.1nm,0.8s,mb3.5,baz=158,slow=7.2,SNR=7.4
MKAR Makanchi Array 49.07 37 P **P 18 13 55.8 -0.8**
0.8nm,0.8s,mb3.8,baz=233,slow=7.2,SNR=5.1
SONM Songino Array 64.79 43 P **P 18 15 47.0 -1.4**
1.8nm,1.1s,mb4.0,baz=257,slow=7.1,SNR=7.0

NNC 23 18:16:05.3±6.0, 40.97N×68.94E, mpv2.8, 2C-1D, Error ellipse: s-maj=52.6km s-min=29.7km az=17.0, Southeastern Uzbekistan
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KK31 Karatay Array 2.43 28 ⇓Pn Pn 18 16 46.9 +0.1
0.6nm,0.2s,baz=213,slow=16,SNR=75
KK31 Lg 18 17 21.6
10nm,0.4s,baz=207,slow=28,SNR=19
AAK Ala-Archa 4.47 66 ⇑Pg Pg 18 17 28.0 -6.5
1.7nm,0.5s
AAK ⇑Lg 18 18 26.6
2.7nm,0.5s
AB31 Akbulak array 10.43 326 P P 18 18 33.0 -6.2
0.1nm,0.3s,baz=175,slow=13,SNR=3.0

IDC ***23*** *18:45:34.5±1.2, 22.94N×121.51E, mb3.7/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=33.7km s-min=22.7km az=65.0*
NEIC ***23*** *18:45:35.9±0.9, 23.06N×121.83E, h10km, mb4.2/1, Error ellipse: s-maj=36.0km s-min=12.3km az=75.0*
JMA ***23*** *18:45:38.7±0.2, 22.96N×121.43E, h72km, M3.3*
ISC 23 18:45:38.1±1.4, 22.99N±0.08×121.40E±0.06, h39km±15km, n16, σ1$11/22, mb3.7/5, Taiwan region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
NACB Ninganchiao 1.19 8 *e*Pn **P 18 45 56.8 -1.7**
NACB *e*Sn **S 18 46 12.7 -1.0**
YHNB Yeheng 1.67 359 *e*Pn **P 18 46 05.4 0.0**
TATO Taipei 1.98 2 *e*Pn **P 18 46 10.2 +0.5**
YOJ Yonaguni jima 2.08 45 P **P 18 46 12.2 +1.0**
YOJ *e*S **S 18 46 37.3 +1.3**
HATJ Hateruma jima 2.45 64 P **P 18 46 17.1 +0.6**
HATJ *e*S **S 18 46 46.3 +0.9**
IRIF Iriomote-Funau 2.52 57 P **P 18 46 18.1 +0.6**
IRIF *e*S **S 18 46 47.9 +0.7**
JKRS Kuro-shima 2.69 62 P **P 18 46 20.9 +0.9**
JIJ Ishigaki jima 2.86 61 P **P 18 46 22.8 +0.5**
JIJ *e*S **S 18 46 55.5 -0.4**
JTJ Tarama 3.44 61 P **P 18 46 30.8 +0.2**
JKE Kume jima 2 5.92 55 P **P 18 47 03.7 -1.8**
JOW Kunigami 7.32 57 Pn **P 18 47 22.9 -2.2**
1.3nm,0.3s,baz=116,slow=16,SNR=9.1
JOW Sn **S 18 48 45.9 -1.9**
0.6nm,0.3s,baz=146,slow=24,SNR=2.2
LSA Lhasa 27.87 290 *eP* **P 18 51 30.4 +4.0**
2.5nm,0.5s,mb4.1
MKAR Makanchi Array 39.34 317 P **P 18 53 06.7 +1.6**
0.5nm,0.6s,mb3.4,baz=109,slow=9.7,SNR=7.4
ZAL Zalesovo 41.36 328 P **P 18 53 22.1 +0.3**
1.0nm,0.3s,mb3.9,baz=11,slow=9.1,SNR=3.3
WRA Warramunga Ar 44.50 163 P **P 18 53 46.2 -1.5**
0.3nm,0.5s,mb3.2,baz=347,slow=8.4,SNR=9.8
STKA Stephens Creek 57.88 160 P **P 18 55 28.8 +0.2**
0.7nm,0.5s,mb3.9,baz=350,slow=6.1,SNR=3.5

IDC ***23*** *18:53:18.8±2.2, 32.65N×142.19E, mb3.4/3, mb1 3.5/5, mb1mx3.4/21, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=56.2km s-min=23.9km az=55.0*
JMA ***23*** *18:53:19.9±0.4, 33.10N×142.53E, h44km, M3.6*
ISC 23 18:53:19.8±1.9, 33.09N±0.10×142.5E±0.1, h40km±20km, n12, σ0$91/15, mb3.4/3, Off east coast of Honshu
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BSO1 Boso 1 2.01 321 P **P 18 53 52.5 +0.6**
JHJ2 Mitsune 2.25 271 P **P 18 53 56.1 +0.7**
JHJ2 *e*S **S 18 54 23.1 +1.0**
JHJ Hachijo jima 2 2.28 272 Pn **P 18 53 55.0 -0.7**
22nm,0.3s,baz=58,slow=16,SNR=7.7
JHJ Sn **S 18 54 21.8 -1.1**
29nm,0.3s,baz=263,slow=23,SNR=7.5
BSO3 Boso 3 2.38 317 P **P 18 53 58.0 +0.8**
JOD2 Odawara 2 3.56 308 P **P 18 54 14.4 +0.4**
JHO Hitachi 3.86 336 P **P 18 54 17.1 -1.1**
JAG Ashikaga 4.17 324 P **P 18 54 22.5 -0.1**
MJAR Matsushiro Arr 4.93 316 Pn **P 18 54 34.1 +0.7**
0.9nm,0.3s,baz=161,slow=12,SNR=11
MAT Matsushiro 4.93 316 P **P 18 54 33.0 -0.4**
MAT *e*S **S 18 55 28.8 -1.2**
SONM Songino Array 30.85 309 P **P 18 59 39.2 +5.0**
0.1nm,0.3s,mb3.1,baz=112,slow=7.8,SNR=3.1
MKAR Makanchi Array 47.05 305 P **P 19 01 50.7 +1.6**
0.4nm,0.8s,mb3.4,baz=90,slow=9.7,SNR=3.8
WRA Warramunga Arr 53.30 190 P **P 19 02 36.0 -1.2**
0.5nm,0.5s,mb3.7,baz=5.4,slow=7.6,SNR=13

TRN 23 18:58:42.2, 12.86N×59.91W, h13km, MD3.8, M3.0(FDF), 1C, Windward Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BBSP Saint Philip 0.50 61 *e*P Pb 18 58 54.5 +2.1
BBSP *e*S Sb 18 59 03.5 +4.2
SSV Crater Summit 1.33 290 *e*P Pb 18 59 07.4 +0.7
SSV *e*S Sb 18 59 27.2 +3.7
FCV Fort Charlotte 1.34 283 *e*P Pb 18 59 07.3 +0.6
FCV *e*S Sb 18 59 26.3 +2.8
SVV Soufriere Volc 1.35 290 *e*P Pn 18 59 08.0 +1.0
SLB Belfond 1.46 311 ⇑*e*P Pn 18 59 09.8 +1.3
SLB *e*S Sb 18 59 30.1 +2.9
GRW Mount Saint Ca 1.85 248 *e*P Pn 18 59 15.1 +1.1
GRW *e*S Sn 18 59 40.0 +2.5
MVM Montagne Vaucl 1.94 330 *e*P Pn 18 59 16.1 +0.7
MVM *e*S Sn 18 59 41.1 +1.4
CRM Caravelle 2.12 333 *e*P Pn 18 59 18.9 +1.0
CRM *e*S Sn 18 59 45.1 +0.8
FDF Fort de France 2.22 327 *e*P Pn 18 59 20.9 +1.6
FDF *e*S Sn 18 59 47.9 +1.0
BCG Bois Riant Cap 3.61 333 *e*P Pn 19 00 05.4 +26
BCG *e*S Sn 19 00 22.2 +0.1
DEG La Desirade 3.61 342 *e*P Pn 19 00 04.8 +26
DEG *e*S Sn 19 00 18.9 -3.1

JMA 23 19:13:58.5±0.1, 28.35N×128.09E, h129km±5km, M3.8, Ryukyu Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JTK Tokunoshima 0.95 126 P P 19 14 21.0 0.0
JTK S S 19 14 37.8 -0.3
JIH Iheya 1.31 185 P P 19 14 25.0 +0.1
JIH S S 19 14 44.4 -0.6
JAM Amami Oshima 1.34 87 P P 19 14 24.7 -0.4
JAM S S 19 14 45.2 -0.2
JOW Kunigami 1.52 174 P P 19 14 26.7 -0.5
JOW S S 19 14 47.6 -1.4
JZK Kikaishima 1.66 91 P P 19 14 29.1 +0.3
JZK S S 19 14 51.8 0.0
JAGN Aguni-jima 1.91 203 P P 19 14 31.7 0.0
JAGN S S 19 14 56.2 -0.8
JNN Nakanoshima 2.16 46 P P 19 14 35.1 +0.3
NAH1 Naha 2.17 190 S S 19 15 01.1 -1.6
JJT2 Tamagusuku 2 2.22 188 P P 19 14 35.7 0.0
JJT2 S S 19 15 03.0 -1.0
JKE Kume jima 2 2.33 210 P P 19 14 36.5 -0.6
JKE S S 19 15 05.4 -0.9
JKC Kuchinoerabu 2.79 41 P P 19 14 42.6 -0.6
JKC S S 19 15 16.3 -0.8
JTN Tanegashima 3 3.41 47 P P 19 14 50.0 -1.4
JTSR Tashiro 2 3.73 41 P P 19 14 54.7 -1.0
JTSR S S 19 15 35.1 -4.3
JSU Suzuyama 3.76 33 P P 19 14 55.6 -0.4

IDC 23 19:17:16.5±2.8, 28.27N×84.51E, mb3.7/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=159.7km s-min=30.5km az=61.0, Nepal
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MKAR Makanchi Array 18.58 355 P P 19 21 35.4 -1.4
0.1nm,0.3s,baz=177,slow=13,SNR=6.9
ARCES ARCESS Array B 53.07 338 P P 19 26 34.9 -2.5
3.4nm,1.0s,baz=101,slow=8.3,SNR=5.9
WRA Warramunga Arr 67.94 129 P P 19 28 17.4 -2.1
0.5nm,0.9s,baz=322,slow=6.4,SNR=5.4

NEIC ***23*** *19:23:14.8±0.5, 23.30S×66.33W, h213km±5km, mb4.1/6, Error ellipse: s-maj=8.4km s-min=7.4km az=76.0*
IDC ***23*** *19:23:15.0±0.9, 23.26S×66.32W, h213km±9km, mb3.5/6, mb1 3.7/12, mb1mx3.6/18, mbtmp4.0/12, Error ellipse: s-maj=14.6km s-min=12.0km az=61.0*
GUC ***23*** *19:23:15.8±0.5, 23.54S×66.71W, h230km, ML3.6*
ISC 23 19:23:14.0±0.6, 23.36S±0.05×66.36W±0.06, h222km±6km, n31, σ1$13/40, mb3.9/11, 3C-3D, Jujuy Province
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LVC Limon Verde 2.47 287 P **P 19 24 00.9 +1.5**
106nm,0.3s,baz=98,slow=6.2,SNR=341
LVC S **S 19 24 34.7 +0.1**
20nm,0.3s,baz=241,slow=23,SNR=8.0
LVC Limon Verde 2.47 287 ⇑*i*P **P 19 24 00.8 +1.4**
LVC *i* S **S 19 24 35.2 +0.6**
LVC AMP 19 24 37.2
comp=E,170nm,0.3s
LVC Limon Verde 2.47 287 ⇑*i*Pn **P 19 24 00.7 +1.2**
CEN1 Los Morros 3.53 269 ⇓*i*P **P 19 24 14.0 +2.5**
CEN1 *i* S **S 19 24 57.4 +1.3**
ANCH Antofagasta 3.74 264 ⇑*i*P **P 19 24 14.6 +0.7**
ANCH *i* S **S 19 24 58.6 -1.8**
CPN1 Cerro Paranal 3.91 250 ⇓*i*P **P 19 24 16.7 +0.6**
CPN1 *i* S **S 19 25 02.9 -1.3**
CRCH Chaqaral 4.88 232 ⇓*i*P **P 19 24 27.8 -0.3**
CRCH *i* S **S 19 25 22.8 -2.9**
LPAZ La Paz 7.24 346 P **P 19 24 59.8 +1.6**
comp=E,2.2nm,0.3s,baz=120,slow=5.3,SNR=22
LPAZ S **S 19 26 19.4 -0.1**
comp=E,0.5nm,0.3s,baz=253,slow=24,SNR=6.3
LPAZ La Paz 7.24 346 *e*Pn **P 19 24 59.4 +1.3**
comp=E,5.2nm,0.6s
LPAZ *e*S **S 19 26 18.4 -1.1**
CFAA Coronel Fontan 8.38 191 P **P 19 25 13.0 +0.2**
comp=E,0.2nm,0.3s,baz=34,slow=14,SNR=3.6
CFAA S **S 19 26 41.5 -4.3**
comp=E,0.4nm,0.3s,baz=158,slow=19,SNR=12
CFAA Coronel Fontan 8.38 191 P **P 19 25 13.0 +0.2**
CFAA S **S 19 26 41.5 -4.3**
ARE Arequipa 8.39 324 *eP* **P 19 25 11.0 -2.1**
ARE *e*S **S 19 26 42.0 -4.2**
CPUP Villa Florida 8.71 112 P **P 19 25 17.1 -0.1**
comp=E,0.1nm,0.3s,baz=314,slow=15,SNR=5.0
SIV San Ignacio 8.86 35 P **P 19 25 18.4 -0.7**
comp=E,0.6nm,0.3s,baz=226,slow=12,SNR=14
PLCA Paso Flores 17.68 191 P **P 19 27 07.5 +0.3**
comp=E,0.1nm,0.3s,baz=221,slow=9.6,SNR=1.7
BDFB Brasilia 18.91 69 P **P 19 27 19.3 -0.7**
comp=E,0.9nm,0.3s,baz=266,slow=15,SNR=4.5
SNAA Sanae 59.75 161 P **P 19 32 58.3 +1.1**
comp=E,0.3nm,0.7s,mb3.0,baz=291,slow=10,SNR=8.6
TXAR Lajitas Array 63.51 324 P **P 19 33 21.3 -1.5**
comp=E,1.5nm,0.2s,mb4.2,baz=148,slow=12,SNR=6.3
MNTX Cornudas Mount 66.28 324 *eP* **P 19 33 39.0 -1.5**
comp=E,2.9nm,0.9s,mb3.9
DBIC Dimbokro 67.04 71 P **P 19 33 44.3 -1.2**
comp=E,0.9nm,0.4s,mb3.7,baz=209,slow=9.9,SNR=5.2
ANMO Albuquerque 69.36 326 *eP* **P 19 33 59.5 0.0**
comp=E,2.6nm,0.8s,mb3.9
SDCO Great Sand Dun 71.06 328 *eP* **P 19 34 10.2 +0.5**
comp=E,3.1nm,0.7s,mb4.0
PDAR Pinedale Array 76.91 329 P **P 19 34 43.6 +0.4**
comp=E,1.4nm,0.6s,mb3.8,baz=124,slow=7.6,SNR=6.6
HWUT Hardware Ranch 77.02 327 *eP* **P 19 34 43.8 -0.1**
comp=E,3.3nm,0.6s,mb4.1
LOHW Long Hollow 78.05 329 *eP* **P 19 34 50.0 +0.6**
comp=E,3.1nm,0.6s,mb4.1
NVAR Mina Array Bea 78.42 321 P **P 19 34 52.6 +1.0**
comp=E,0.8nm,0.6s,mb3.6,baz=168,slow=8.3
MCMT McKenzie Canyo 80.03 328 *eP* **P 19 35 01.6 +1.5**
YKA Yellowknife Ar 93.73 340 P **P 19 36 06.1 0.0**
comp=E,0.8nm,0.5s,mb4.0,baz=127,slow=4.7,SNR=5.1
YKA Yellowknife Ar 93.73 340 P **P 19 36 06.1 0.0**
WRA Warramunga Arr 132.46 207 PKP PKPdf 19 42 04.2 +1.6
comp=E,0.5nm,0.5s,baz=154,slow=1.8,SNR=17
MKAR Makanchi Array 145.66 39 PKPbc PKPbc 19 42 28.2 +1.7
comp=E,2.4nm,0.7s,baz=316,slow=3.9,SNR=24

NEIC ***23*** *19:57:40.5, 31.62S×71.76W, h30km, ML2.8(GUC), After GUC.*
GUC 23 19:57:40.5±0.8, 31.62S×71.76W, h30km±3km, MD3.6, ML2.8, 2C-3D, Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CHNG Los Chungos 0.34 140 ⇓*i*P Pb 19 57 48.1 -0.5
CHNG *i* S Sb 19 57 54.2 +0.1
CHNG AMP 19 57 54.6
comp=N,542nm,0.3s
ILCH Illapel 0.50 92 ⇓*i*P Pb 19 57 51.0 0.0
ILCH *i* S Sb 19 57 59.0 +0.9
ILCH AMP 19 57 59.2
comp=N,2μm,0.2s
CMCH Combarbala 0.78 56 ⇑*i*P Pn 19 57 54.8 -0.7
CMCH *i* S Sb 19 58 06.1 +0.2
CMCH AMP 19 58 06.5
comp=E,2μm,0.2s
JACH Jahuel 1.45 137 ⇓*i*P Pn 19 58 06.7 +1.7
JACH *i* S Sn 19 58 26.1 +3.0
TLL Tololo Astrono 1.66 30 ⇑*i*P Pn 19 58 09.6 +1.5
TLL *i* S Sn 19 58 31.3 +2.8
TLL AMP 19 58 35.8
comp=N,308nm,0.3s
FCH Farellones 2.11 144 *eP* Pn 19 58 16.3 +1.9
FCH *i* S Sn 19 58 42.4 +2.5
FCH AMP 19 58 48.9
comp=E,84nm,0.2s
TACH Talagante 2.14 161 *eP* Pn 19 58 15.7 +0.7

IDC ***23*** *20:11:14.2±8.1, 51.26N×152.75E, mb3.8/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=200.4km s-min=36.4km az=168.0*
MOS ***23*** *20:11:17.1±1.8, 51.38N×152.37E, h33km, mb4.1/2, Error*

ellipse: s-maj=53.9km s-min=33.2km az=128.6
ISC 23 20:11:16.5±5.6,**51.6N**±0.3×**152.7E**±0.2,**h15**km±35km,**n8,**
σ0**§37/9,mb3.9/5,Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.36**	**112**	*e*PN	**Pn**	**20 11 55.5**	**0.0**
SKR				*e*S	**Sn**	**20 12 24.4**	**0.0**
SKR	comp=N,60nm,0.5s			pmax	pmax		
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	comp=N,240nm,0.2s			smax			
SKR	comp=E,120nm,0.2s			smax			
ILAR	**Eielson Array**	**33.05**	**43**	P	**P**	**20 17 52.9**	**-0.1**
MKAR	comp=E,0.3nm,0.7s,mb3.3,baz=270,slow=5.4,SNR=4.3 **Makanchi Array**	**44.61**	**293**	P	**P**	**20 19 29.2**	**-0.3**
MKAR	comp=E,0.8nm,0.7s,mb3.7,baz=66,slow=8.1,SNR=4.2 **Makanchi Array**	**44.61**	**293**	P	**P**	**20 19 29.3**	**-0.3**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
BVAR	**Borovoye Array**	**47.65**	**306**	P	**P**	**20 19 53.9**	**+0.3**
FINES	comp=Z,0.5nm,0.4s,mb3.9,baz=52,slow=6.0,SNR=4.0 **FINESS Array B**	**59.53**	**333**	P	**P**	**20 21 20.5**	**-0.6**
FINES	comp=Z,1.5nm,0.9s,mb4.0,baz=56,slow=6.9,SNR=4.1 **FINESS Array B**	**59.53**	**333**	P	**P**	**20 21 20.5**	**-0.5**
FINES	comp=Z,2.0nm,0.9s			pmax	pmax		
HFS	**Hagfors**	**63.81**	**339**	P	**P**	**20 21 50.3**	**+0.6**
	comp=Z,6.1nm,1.2s,mb4.5,baz=63,slow=6.4,SNR=5.0						

*NEIC **23** 20:15:05.8±1.2, 15.33S×173.94W, h75km±10km, mb4.3/1, Error ellipse: s-maj=16.4km s-min=8.6km az=129.0*
*IDC **23** 20:15:06.0±2.8, 15.40S×173.85W, h75km±25km, mb4.0/9, mb1 4.3/10, mb1mx4.1/15, mbtmp4.3/10, MS3.7/1, Ms1 3.7/1, ms1mx3.0/19, Error ellipse: s-maj=39.7km s-min=15.8km az=135.0*
ISC 23 20:15:03.3±2.0,**15.3S**±0.1×**174.0W**±0.1,**h64**km±18km,**n56,**
σ0**§79/19,mb4.2/10,1D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.50**	**58**	P	**P**	**20 15 44.8**	**+2.2**
AFI	215nm,0.3s,baz=107,slow=1.0,SNR=130			S	**S**	**20 16 10.5**	**-1.5**
AFI	578nm,0.3s,baz=286,slow=21,SNR=22 **Afiamalu**	**2.50**	**58**	⇓*i* P*n*	**P**	**20 15 44.6**	**+2.0**
AFI				*e*S*n*	**S**	**20 16 10.0**	**-1.9**
URZ	**Urewera**	**24.23**	**197**	P	**P**	**20 20 14.9**	**-0.2**
RPZ	9.4nm,0.7s,mb4.3,baz=343,slow=4.0,SNR=6.4 **Rata Peaks**	**31.11**	**201**	LR	LR	20 32 06.7	
STKA	comp=Z,120nm,18.8s,baz=197,slow=33 **Stephens Creek**	**43.64**	**240**	P	**P**	**20 23 03.7**	**+0.3**
WRAB	3.7nm,0.8s,mb4.1,baz=101,slow=8.9,SNR=7.3 **Tennant Creek**	**49.34**	**257**	*e*P	**P**	**20 23 47.5**	**-1.0**
WRA	1.6nm,0.5s,mb4.3 **Warramunga Arr**	**49.35**	**257**	P	**P**	**20 23 47.9**	**-0.6**
NVAR	2.9nm,0.7s,mb4.4,baz=91,slow=7.1,SNR=49 **Mina Array Bea**	**74.59**	**42**	P	**P**	**20 26 37.6**	**+0.2**
TXAR	3.0nm,0.8s,mb4.3,baz=224,slow=9.1,SNR=11 **Lajitas Array**	**80.98**	**56**	P	**P**	**20 27 12.5**	**-0.4**
TXAR	0.6nm,0.3s,mb4.0,baz=225,slow=7.1,SNR=6.3 **Lajitas Array**	**80.98**	**56**	P	**P**	**20 27 12.5**	**-0.4**
ILAR	**Eielson Array**	**82.42**	**11**	P	**P**	**20 27 19.6**	**+0.1**
PDAR	1.2nm,0.7s,mb4.0,baz=234,slow=7.1,SNR=12 **Pinedale Array**	**82.52**	**42**	P	**P**	**20 27 21.1**	**+0.5**
MAW	0.7nm,0.3s,mb4.1,baz=45,slow=2.6,SNR=3.7 **Mawson**	**87.75**	**199**	P	**P**	**20 27 45.9**	**0.0**
YKA	2.2nm,0.8s,mb4.5,baz=98,slow=6.3,SNR=6.9 **Yellowknife Ar**	**90.19**	**24**	P	**P**	**20 27 58.2**	**+0.7**
YKA	1.5nm,0.8s,mb4.3,baz=236,slow=4.3,SNR=5.5 **Yellowknife Ar**	**90.19**	**24**	P	**P**	**20 27 58.2**	**+0.7**
VNA3	**Neumayer Olymp**	**93.04**	**175**		**P**	**20 28 11.0**	**+0.5**
SNAA	**Sanae**	**93.07**	**177**		**P**	**20 28 10.0**	**-0.7**
VNA2	**Neumayer--Watz**	**93.53**	**176**		**P**	**20 28 13.1**	**+0.3**
ARCES	**ARCESS Array B**	**124.40**	**352**	PKP	PKPdf	20 33 55.3	+0.5
CLL	0.8nm,0.5s,baz=346,slow=5.0,SNR=8.6 **Collm**	**143.62**	**353**	*i* PKIKP	PKPdf	20 34 29.9	-0.7
CLL	logA/T=0.6 **Collm**	**143.62**	**353**	*i* P	PKPbc	20 34 29.9	+0.5
GIVF	**Givet**	**145.24**	**1**	*e*PKP1	PKPbc	20 34 34.3	+0.3
BAIF	**Baives**	**145.27**	**2**	*e*PKP1	PKPbc	20 34 34.7	+0.6
MLR	44nm,1.1s **Muntele Rosu**	**145.52**	**335**	PKPbc	PKPbc	20 34 36.8	+2.0
BR131	5.1nm,0.9s,baz=185,slow=9.6,SNR=5.5 **Keskin Array S**	**145.72**	**321**	*e*PKPbc	PKPbc	20 34 36.9	+1.3
BRTR	**Keskin Array B**	**145.72**	**321**	PKPbc	PKPbc	20 34 37.2	+1.7
ROSF	7.2nm,0.8s,baz=93,slow=3.0,SNR=30 **Rostrenen**	**146.14**	**11**	*e*PKP1	PKPbc	20 34 36.5	+0.2
FLN	**La Foliniere**	**146.17**	**8**	*e*PKP1	PKPbc	20 34 36.7	+0.4
GRR	25nm,0.9s **Gorron**	**146.48**	**8**	*e*PKP1	PKPbc	20 34 38.1	+1.0
CDF	12nm,0.8s **Champ du Feu**	**146.93**	**358**	*e*PKP1	PKPbc	20 34 39.6	+1.5
ASF	11nm,0.9s **Jabal al Asfar**	**147.28**	**306**	PKPbc	PKPdf	20 34 41.6	+4.0
HAU	0.7nm,0.3s,baz=239,slow=2.6,SNR=3.5 **Haudompre**	**147.35**	**360**	*e*PKP1	PKPdf	20 34 40.7	+3.5
HYF	17nm,0.8s **Humbligny**	**147.97**	**4**	*e*PKP1	PKPdf	20 34 42.7	+4.5
LOR	**Lormes**	**148.04**	**3**	*e*PKP1	PKPdf	20 34 42.7	+4.4
SSF	17nm,1.0s **Saint Saulge**	**148.23**	**3**	*e*PKP1	PKPdf	20 34 43.3	+4.7
MFF	16nm,0.9s **Saint Martin d**	**148.33**	**8**	*e*PKP1	PKPdf	20 34 43.0	+4.2
AVF	43nm,1.3s **Avril sur Loir**	**148.49**	**4**	*e*PKP1	PKPdf	20 34 43.5	+4.5
SMF	9.5nm,0.8s **Signal de Mont**	**148.66**	**3**	*e*PKP1	PKPdf	20 34 44.2	+4.9
BGF	7.0nm,0.8s **Bois d'Agland**	**148.69**	**4**	*e*PKP1	PKPdf	20 34 44.3	+4.9
CABF	30nm,1.1s **La Chapelle**	**148.75**	**360**	*e*PKP1	PKPdf	20 34 45.2	+5.8
CABF	26nm,0.9s **La Chapelle**	**148.75**	**360**	*e*PKP	PKPdf	20 34 45.2	+5.8
TCF	**Toulx Ste Croi**	**148.91**	**5**	*e*PKP1	PKPdf	20 34 44.6	+4.9
RJF	12nm,1.0s **Les Rejaudoux**	**149.81**	**6**	*e*PKP1	PKPdf	20 34 46.9	+5.7
LPL	46nm,1.5s **La Plagne**	**149.84**	**359**	*e*PKP1	PKPdf	20 34 48.1	+6.9
LPG	58nm,1.6s **La Plagne**	**149.86**	**359**	*e*PKP1	PKPdf	20 34 47.6	+6.3
LFF	42nm,1.5s **La Frestale**	**150.08**	**8**	*e*PKP1	PKPdf	20 34 47.7	+6.1
CAF	28nm,1.0s **Calviac**	**150.24**	**6**	*e*PKP1	PKPdf	20 34 48.3	+6.4
VIVF	**Saint-Julien-l**	**150.48**	**2**	*e*PKP1	PKPdf	20 34 49.2	+6.9
VIVF	**Saint-Julien-l**	**150.48**	**2**	*e*PKP	PKPdf	20 34 49.2	+6.9
LASF	**Ste Croix**	**151.22**	**3**	*e*PKP1	PKPdf	20 34 51.1	+7.7
LASF	28nm,1.4s **Ste Croix**	**151.22**	**3**	*e*PKP	PKPdf	20 34 51.1	+7.7
SMRF	**Simiane la Rot**	**151.38**	**1**	*e*PKP1	PKPdf	20 34 51.6	+8.0
SJPF	10nm,0.9s **Ste Jean**	**151.56**	**11**	*e*PKP1	PKPdf	20 34 51.0	+7.1
MTLF	32nm,1.4s **Montolieu**	**151.83**	**6**	*e*PKP1	PKPdf	20 34 52.0	+7.7
ETSF	7.6nm,0.9s **Etsaut**	**151.88**	**10**	*e*PKP1	PKPdf	20 34 52.4	+8.0
EPF	13nm,0.9s **Esparros**	**151.90**	**9**	*e*PKP1	PKPdf	20 34 52.4	+8.0
	6.7nm,0.8s						

*NEIC **23** 20:16:00.5±7.7, 36.39N×69.63E, h84km±54km, mb3.4/1, Error ellipse: s-maj=79.1km s-min=46.4km az=181.0*
*NNC **23** 20:16:09.8±15.0, 36.89N×69.97E, h118km±330km, mpv3.3, Error ellipse: s-maj=129.1km s-min=108.6km az=10.0*
*IDC **23** 20:16:18.3±18.0, 36.75N×70.88E, h291km±149km, mb3.2/3, mb1 3.1/6, mb1mx2.9/21, mbtmp3.8/6, Error ellipse: s-maj=185.2km s-min=73.3km az=172.0*
ISC 23 20:16:10.7±3.7,**36.9N**±0.2×**70.2E**±0.2,**h185**km±28km,**n11,**
σ1§**11/13,mb3.7/3,3C-1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.16**	**2**	P	**P**	**20 17 40.1**	**-0.6**
KK31	0.7nm,0.2s,baz=182,slow=12,SNR=114			⇑S	**S**	**20 18 50.4**	**-0.2**
AAK	5.3nm,0.3s,baz=190,slow=22,SNR=18 **Ala-Archa**	**6.57**	**29**	⇓P	**P**	**20 17 45.3**	**-0.7**
AAK	1.8nm,0.8s			⇑S	**S**	**20 18 59.9**	**-0.2**
	11nm,0.6s						
AAK	**Ala-Archa**	**6.57**	**29**	*e*Pn	**P**	**20 17 44.0**	**-2.0**
MKAR	**Makanchi Array**	**13.31**	**39**	P	**P**	**20 19 16.1**	**+2.7**
KURK	0.2nm,0.3s,baz=208,slow=12,SNR=5.5 **Kurchatov**	**15.03**	**21**	*e*P	**P**	**20 19 36.2**	**+1.4**
BVAR	2.1nm,0.9s **Borovoye Array**	**16.09**	**0**	P	**P**	**20 19 48.8**	**+1.0**
AKTO	baz=173,slow=9.2,SNR=3.5 **Aktyubinsk**	**16.10**	**331**	⇑P	**P**	**20 19 48.7**	**+0.7**
ZAL	2.5nm,2.5s **Zalesovo**	**19.77**	**26**	P	**P**	**20 20 26.1**	**-2.0**
FINES	1.3nm,0.3s,baz=256,slow=5.1,SNR=8.4 **FINESS Array B**	**36.78**	**326**	P	**P**	**20 23 01.8**	**-0.1**
ARCES	1.1nm,0.8s,mb3.5,baz=135,slow=9.8,SNR=4.3 **ARCESS Array B**	**40.51**	**338**	P	**P**	**20 23 32.6**	**0.0**
HFS	1.4nm,1.0s,mb3.5,baz=113,slow=6.9,SNR=4.8 **Hagfors**	**42.34**	**322**	P	**P**	**20 23 47.0**	**-0.6**
	4.7nm,1.1s,mb4.0,baz=90,slow=10,SNR=4.2						

*DHMR **23** 20:26:27.5±1.5, 12.56N×40.46E, h7km±249km, ML4.6*
*CSEM **23** 20:26:30.0±0.1, 12.74N×40.39E, h2km, mb4.8/18, Ms3.7, Error ellipse: s-maj=4.5km s-min=2.5km az=11.0*
*IDC **23** 20:26:31.4±0.8, 12.54N×40.54E, mb4.1/14, mb1 4.2/16, mb1mx4.2/21, mbtmp4.1/16, ML4.1/2, MS4.0/15, Ms1 4.0/15, ms1mx3.9/25, Error ellipse: s-maj=19.9km s-min=13.8km az=30.0*
*BJI **23** 20:26:32.3, 13.43N×39.99E, h5km, mB5.1, mb4.6, Ms4.9, Msz4.3*
*NEIC **23** 20:26:32.0±0.6, 12.58N×40.47E, h10km, mb4.8/25, ML4.6(DHMR), Error ellipse: s-maj=13.3km s-min=6.1km az=13.0*
ISC 23 20:26:30.8±0.4,**12.62N**±0.06×**40.45E**±0.03,**h10**km,
(h17km±1.8km**pP-P),n120,**σ1§**25/118,mb4.6/42,MS4.1/16,**
1C-6D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.59**	**114**	Pn	**Pn**	**20 27 12.7**	**-0.8**
ATD	230nm,0.3s,baz=276,slow=12,SNR=103			Lg		20 27 49.4	
UDYN	118nm,0.3s,baz=125,slow=22,SNR=9.6 **Al 'Udayn**	**3.68**	**68**	*i* P	**Pn**	**20 27 27.7**	**-1.4**
UDYN				*i* S	**Sn**	**20 28 15.7**	**+2.7**
UDYN	comp=Z,2µm,0.7s			AML	AML	20 28 38.5	
UDYN	**Al 'Udayn**	**3.68**	**68**	⇑*i* P	**Pn**	**20 27 27.7**	**-1.4**
UDYN				*i* S	**Sn**	**20 28 15.7**	**+2.7**
DHBB	**Dhamar BB**	**4.30**	**63**	⇓*i* P	**Pn**	**20 27 36.1**	**-1.8**
DHBB				*i* S	**Sn**	**20 28 29.3**	**+0.7**
DHBB	**Dhamar BB**	**4.30**	**63**	*i* S	**Pn**	**20 27 36.1**	**-1.8**
DHBB				*i* S	**Sn**	**20 28 29.3**	**+0.7**
ADEN	**Aden**	**4.43**	**87**	⇓*i* P	**Pn**	**20 27 36.7**	**-3.0**
ADEN				*i* S	**Sn**	**20 28 31.9**	**-0.1**
ADEN	comp=E,4µm,0.6s			AML	AML	20 28 56.1	
ADEN	**Aden**	**4.43**	**87**	⇓*i* P	**Pn**	**20 27 36.7**	**-3.0**
ADEN	comp=E,2µm,0.6s			*i* S	**Sn**	**20 28 31.9**	**-0.1**
LBOS		**4.84**	**75**	⇓*i* P	**Pn**	**20 27 43.6**	**-2.0**
LBOS				*i* S	**Sn**	**20 28 42.8**	**+0.5**
BDHA	**Al Bayda'**	**5.17**	**74**	⇓*i* P	**Pn**	**20 27 47.8**	**-2.3**
BDHA				*i* S	**Sn**	**20 28 49.2**	**-1.3**
MUKL	**Al Mukalla**	**8.56**	**77**	*i* S	**Sn**	**20 30 09.3**	**-5.9**
KMBO	**Kilima Mbogo**	**14.02**	**193**	Pn	**P**	**20 29 54.1**	**+2.1**
KMBO	comp=E,0.1nm,0.3s,baz=11,slow=17,SNR=5.5			Lg		20 33 48.7	
KMBO	comp=E,0.1nm,0.3s,baz=301,slow=22,SNR=3.0			LR	LR	20 35 07.9	
ASF	comp=E,834nm,19.1s,baz=109,slow=37 **Jabal al Asfar**	**19.73**	**351**	P	**P**	**20 31 05.9**	**+2.2**
ASF	comp=E,0.1nm,0.3s,baz=358,slow=5.2,SNR=8.0			LR	LR	20 37 09.2	
BHD	comp=E,97nm,20.1s,baz=200,slow=32 **Baghdad**	**20.87**	**9**	*ex*	x	20 31 13.0	
BHD				*ex*	x	20 35 22.0	
MSL	**Mosul**	**23.69**	**5**	*ex*	x	20 32 08.5	
MSL				*ex*	x	20 36 32.0	
MALT	**Malatya**	**25.65**	**356**	*e*P	**P**	**20 32 05.7**	**+3.3**
IDI	comp=E,70nm,1.8s,mb4.9 **Anoyia**	**26.60**	**331**	LR	LR	20 42 50.2	
BRTR	comp=E,135nm,19.3s,MS5.5,baz=28,slow=37 **Keskin Array B**	**27.66**	**349**	P	**P**	**20 32 23.4**	**+2.5**
BRTR	comp=E,1.6nm,0.8s,mb3.7,baz=177,slow=12,SNR=8.6			PcP	PcP	20 35 39.2	+0.8
BR131	comp=E,0.8nm,0.5s,baz=166,slow=5.9,SNR=2.6 **Keskin Array S**	**27.66**	**349**	P	**P**	**20 32 23.4**	**+2.5**
GNI	comp=E,1.5nm,0.6s,mb3.8 **Garni**	**27.68**	**7**	LR	LR	20 43 21.5	
LSZ	comp=E,204nm,20.0s,MS3.7,baz=20,slow=36 **Lusaka**	**30.25**	**204**	P	**P**	**20 32 44.6**	**+0.2**
LSZ	comp=E,0.4nm,0.3s,mb3.6,baz=41,slow=9.3,SNR=4.4			LR	LR	20 44 26.2	
LSZ	comp=E,675nm,20.9s,MS4.3,baz=359,slow=36 **Lusaka**	**30.25**	**204**	*e*P	**P**	**20 32 45.2**	**+0.8**
LSZ	comp=E,18nm,1.8s,mb4.5 **Lusaka**	**30.25**	**204**	*e*P	**P**	**20 32 45.2**	**+0.8**
MLR	comp=E,18nm,1.8s,mb4.5 **Muntele Rosu**	**35.01**	**342**	P	**P**	**20 33 28.9**	**+3.4**
CII	comp=E,5.7nm,0.9s,mb4.5,baz=172,slow=15,SNR=7.2 **Carovilli**	**36.88**	**327**	P	**P**	**20 33 40.6**	**-0.8**
CII	comp=E,75nm,1.9s,mb5.2 **Carovilli**	**36.88**	**327**	P	**P**	**20 33 40.6**	**-0.8**
AKASG	comp=E,75nm,1.9s,mb5.2 **Malin Array Be**	**39.07**	**349**	P	**P**	**20 34 00.1**	**+0.5**
AKASG	comp=E,5.4nm,0.9s,mb4.3,baz=173,slow=7.1,SNR=11			PcP	PcP	20 36 10.3	+0.2
PSZ	comp=E,0.5nm,0.4s,baz=171,slow=3.0,SNR=4.4 **Piszkesteto**	**39.15**	**338**	*e*P	**P**	**20 34 02.0**	**+1.6**
PSZ	comp=E,6.3nm,0.8s,mb4.4 **Piszkesteto**	**39.15**	**338**	*e*P	**P**	**20 34 02.0**	**+1.6**
KECS	comp=E,6.3nm,0.8s,mb4.4 **Kecovo**	**39.42**	**339**	*e*P	**P**	**20 33 59.1**	**-3.5**
STHS	**Stebnicka Huta**	**39.97**	**340**	*e*P	**P**	**20 34 05.6**	**-1.5**
STHS				*e*		20 34 31.0	
VYHS	**Vyhne**	**40.02**	**338**	*e*P	**P**	**20 34 09.2**	**+1.6**
VYHS				*e*		20 34 35.2	
ZST	**Bratislava**	**40.45**	**336**	*e*P	**P**	**20 34 12.3**	**+1.2**
OKC	**Ostrava-Krasne**	**41.39**	**338**	*e*P	**P**	**20 34 21.7**	**+2.9**
VRAC	**Vranov**	**41.54**	**336**	P	**P**	**20 34 20.8**	**+0.7**
TREC	comp=E,2.7nm,0.3s,mb4.3,baz=184,slow=6.1,SNR=5.8 **Trest**	**41.97**	**336**	*e*P	**P**	**20 34 24.4**	**+0.8**
SBF	**Sospel**	**42.10**	**324**	*e*P	**P**	**20 34 23.8**	**-0.9**
LMR	**La Mourre**	**42.32**	**323**	*e*P	**P**	**20 34 25.8**	**-0.7**
GERES	**GERESS Array B**	**42.37**	**334**	P	**P**	**20 34 27.9**	**+1.1**
FRF	comp=E,2.1nm,0.9s,mb3.8,baz=135,slow=5.7,SNR=15 **La Foret Royal**	**42.37**	**323**	*e*P	**P**	**20 34 26.0**	**-1.0**
DPC	comp=E,15nm,1.2s,mb4.2 **Dobruska-Polom**	**42.49**	**337**	*e*P	**P**	**20 34 28.8**	**+1.0**
KHC	**Kasperske Hory**	**42.64**	**334**	*e*P	**P**	**20 34 28.9**	**-0.1**
KHC				*e*		20 34 36.5	
KHC	**Kasperske Hory**	**42.64**	**334**	*e*P	**P**	**20 34 28.9**	**-0.1**
KHC				*e*		20 34 36.5	
DAVOX	**Davos**	**42.66**	**329**	LR	LR	20 56 33.0	
UPC	comp=E,77nm,18.2s,MS3.6,baz=292,slow=42 **Upice**	**42.73**	**337**	*e*P	**P**	**20 34 32.1**	**+2.3**
PRU	**Pruhonice**	**42.90**	**336**	*e*P	**P**	**20 34 31.0**	**-0.2**
KOLN	**Koldanda**	**42.98**	**63**	*e*P	**P**	**20 34 32.6**	**+0.5**
MBDF	comp=E,79nm,1.8s,mb5.2 **Montbardon**	**43.00**	**325**	*e*P	**P**	**20 34 32.1**	**0.0**
SMRF	comp=E,41nm,1.0s,mb4.8 **Simiane la Rot**	**43.25**	**323**	*e*P	**P**	**20 34 33.9**	**-0.2**
PVCC	**Panska Ves**	**43.31**	**336**	*e*P	**P**	**20 34 35.1**	**+0.6**
LPG	**La Plagne**	**43.49**	**325**	*e*P	**P**	**20 34 34.6**	**-1.4**
LPL	**La Plagne**	**43.51**	**325**	*e*P	**P**	**20 34 34.5**	**-1.7**
ORIF	**Oris-en-Rattie**	**43.62**	**324**	*e*P	**P**	**20 34 36.4**	**-0.7**
ORIF	comp=E,62nm,1.7s,mb4.8			*e*R			
GKN	comp=E,110nm,17.2s **Gorkha**	**43.92**	**63**	*e*P	**P**	**20 34 39.5**	**-0.3**
GRA1	comp=E,105nm,2.0s,mb5.2 **Grafenberg Arr**	**44.08**	**333**	*e*P	**P**	**20 34 41.3**	**+0.5**
DMN	comp=E,8.0nm,1.3s,mb4.3 **Daman**	**44.26**	**63**	*e*P	**P**	**20 34 43.6**	**+1.1**
VIVF	comp=E,24nm,1.0s,mb4.9 **Saint-Julien-l**	**44.28**	**323**	*e*P	**P**	**20 34 41.3**	**-1.2**
VIVF	**Saint-Julien-l**	**44.28**	**323**	*e*P	**P**	**20 34 41.3**	**-1.2**
LASF	**Ste Croix**	**44.32**	**322**	*e*P	**P**	**20 34 42.1**	**-0.7**
LASF	**Ste Croix**	**44.32**	**322**	*e*P	**P**	**20 34 42.1**	**-0.7**
KKN	**Kakani**	**44.44**	**63**	*e*P	**P**	**20 34 44.2**	**+0.2**
PKI	comp=E,52nm,1.3s,mb5.1 **Pulchoki**	**44.52**	**63**	*e*P	**P**	**20 34 45.0**	**+0.4**
CABF	**La Chapelle**	**44.54**	**326**	*e*P	**P**	**20 34 42.7**	**-1.8**
	comp=E,28nm,1.0s,mb4.8						
CABF	**La Chapelle**	**44.54**	**326**	*e*P	**P**	**20 34 42.7**	**-1.8**
	comp=E,14nm,1.0s,mb4.8						
CLL	**Collm**	**44.54**	**336**	P	**P**	**20 34 45.0**	**+0.5**
CLL	comp=E,logA/T=0.9,mb4.5			*e**PP	pP	20 34 49.0	+1.5
MOX	**Moxa**	**44.61**	**334**	*i* P	**P**	**20 34 47.2**	**+2.1**
MOX	comp=E,logA/T=1.2,mb4.8 **Moxa**	**44.61**	**334**	*e*P	**P**	**20 34 47.2**	**+2.1**
HINF	comp=E,29nm,2.0s,mb4.8 **Hinteralfeld**	**44.90**	**328**	*e*P	**P**	**20 34 46.0**	**-1.4**
DBIC	**Dimbokro**	**45.00**	**267**	P	**P**	**20 34 49.5**	**+0.8**
DBIC	comp=E,6.0nm,0.8s,mb4.5,baz=71,slow=7.4,SNR=11			LR	LR	20 52 36.4	
DBIC	comp=E,246nm,18.2s,MS4.2,baz=69,slow=35 **Dimbokro**	**45.00**	**267**	*e*P	**P**	**20 34 48.5**	**-0.2**
DBIC	comp=E,5.5nm,0.6s,mb4.6 **Dimbokro**	**45.00**	**267**	*e*P	**P**	**20 34 48.5**	**-0.2**
CDF	comp=E,5.5nm,0.6s,mb4.6 **Champ du Feu**	**45.07**	**329**	*e*P	**P**	**20 34 47.4**	**-1.3**
CDF	**Champ du Feu**	**45.07**	**329**	*e*P	**P**	**20 34 47.4**	**-1.3**
CDF	**Champ du Feu**	**45.07**	**329**	*e*P	**P**	**20 34 47.4**	**-1.3**
LIC	**Lamto**	**45.26**	**266**	*e*P	**P**	**20 34 51.1**	**+0.4**
HAU	comp=E,4.4nm,0.8s,mb4.4 **Haudompre**	**45.28**	**328**	*e*P	**P**	**20 34 49.0**	**-1.4**
HAU				*e*R			
HAU	comp=E,74nm,18.0s **Haudompre**	**45.28**	**328**	*e*P	**P**	**20 34 49.0**	**-1.4**
HAU				LR	LR		
HAU	comp=Z,70nm,18.0s,MS3.6 **Haudompre**	**45.28**	**328**	*e*P	**P**	**20 34 49.0**	**-1.4**
MDT	**Midelt**	**45.76**	**304**	LR	LR	20 53 43.8	
SMF	comp=Z,273nm,18.5s,MS4.2,baz=291,slow=36 **Signal de Mont**	**45.80**	**325**	*e*P	**P**	**20 34 52.9**	**-1.6**
SMF	**Signal de Mont**	**45.80**	**325**	*e*P	**P**	**20 34 52.9**	**-1.6**
SMF	**Signal de Mont**	**45.80**	**325**	*e*P	**P**	**20 34 52.9**	**-1.6**
CAF	**Calviac**	**45.86**	**322**	*e*P	**P**	**20 34 54.4**	**-0.7**
CAF	**Calviac**	**45.86**	**322**	*e*P	**P**	**20 34 54.4**	**-0.7**
CAF	**Calviac**	**45.86**	**322**	*e*P	**P**	**20 34 54.4**	**-0.7**
ARU	**Arti**	**45.90**	**14**	*e*P	**P**	**20 34 56.0**	**+0.8**
ARU	comp=E,26nm,1.6s,mb4.9 **Arti**	**45.90**	**14**	*e*P	**P**	**20 34 56.0**	**+0.8**
MEZF	comp=Z,26nm,1.6s,mb4.9 **Maizieres J'vi**	**46.26**	**328**	*e*P	**P**	**20 34 57.3**	**-0.9**
BGF	**Bois d'Agland**	**46.31**	**324**	*e*P	**P**	**20 34 57.4**	**-1.2**
ETSF	**Etsaut**	**46.48**	**318**	*e*P	**P**	**20 35 00.1**	**+0.1**
ETSF	comp=Z,36nm,1.3s,mb4.9 **Etsaut**	**46.48**	**318**	*e*P	**P**	**20 35 00.1**	**+0.1**
ETSF	comp=Z,6.3nm,0.9s,mb4.5 **Etsaut**	**46.48**	**318**	*e*P	**P**	**20 35 00.1**	**+0.1**
TCF	comp=Z,18nm,1.3s,mb4.8 **Toulx Ste Croi**	**46.52**	**324**	*e*P	**P**	**20 34 59.3**	**-0.9**
LFF	**La Frestale**	**46.67**	**321**	*e*P	**P**	**20 35 00.9**	**-0.6**
BRVK	**Borovoye**	**46.83**	**24**	*e*P	**P**	**20 35 03.1**	**+0.5**
BRVK	comp=Z,1.8nm,0.7s,mb4.1 **Borovoye**	**46.83**	**24**	*e*P	**P**	**20 35 03.1**	**+0.5**
BVAR	comp=Z,1.8nm,0.7s,mb4.1 **Borovoye Array**	**46.85**	**24**	P	**P**	**20 35 03.6**	**+0.8**
SJPF	comp=Z,1.5nm,0.8s,mb4.0,baz=225,slow=4.2,SNR=6.0 **Ste Jean**	**47.02**	**318**	*e*P	**P**	**20 35 04.4**	**+0.2**
ESDC	comp=Z,42nm,1.3s,mb4.9 **Sonseca Array**	**47.45**	**313**	P	**P**	**20 35 09.0**	**+1.3**
MKAR	comp=Z,3.0nm,0.9s,mb4.2,baz=105,slow=7.8,SNR=7.6 **Makanchi Array**	**48.90**	**37**	P	**P**	**20 35 19.6**	**+0.7**
MKAR	comp=Z,2.1nm,0.8s,mb4.2,baz=233,slow=5.2,SNR=16			LR	LR	20 59 46.3	
MKAR	comp=Z,446nm,21.0s,MS4.4,baz=237,slow=41 **Makanchi Array**	**48.90**	**37**	P	**P**	**20 35 19.5**	**+0.6**
KURK	**Kurchatov**	**49.05**	**31**	*e*P	**P**	**20 35 19.8**	**-0.1**
KURK	comp=Z,33nm,2.1s,mb5.0 **Kurchatov**	**49.05**	**31**	*e*P	**P**	**20 35 19.8**	**-0.2**
LDF	comp=Z,33nm,2.1s,mb5.0 **La Druitiere**	**49.11**	**325**	*e*P	**P**	**20 35 18.3**	**-2.1**
FLN	comp=Z,1.1nm,1.3s,mb5.0 **La Foliniere**	**49.40**	**325**	*e*P	**P**	**20 35 20.7**	**-2.0**
FLN	comp=Z,113nm,1.5s,mb5.4			*e*R			
LSA	comp=Z,64nm,18.8s **Lhasa**	**49.84**	**62**	*e*P	**P**	**20 35 28.3**	**+1.9**
FINES	comp=Z,33nm,1.8s,mb5.1 **FINESS Array B**	**49.85**	**351**	P	**P**	**20 35 26.5**	**+0.5**
NB2	comp=Z,2.6nm,0.8s,mb4.3,baz=162,slow=13,SNR=6.2 **NORSAR Subarra**	**52.83**	**343**	P	**P**	**20 35 47.4**	**-1.1**
**N

MATP	**Matopo**	**70.31**	**248**	P		**P**	**20 39 36.5**	**-0.8**
	1.6nm,0.8s,mb4.0,baz=85,slow=9.9,SNR=3.6							
MATP	**Matopo**	**70.31**	**248**	P		**P**	**20 39 36.5**	**-0.8**
FINES	**FINESS Array B**	**80.72**	**333**	P		**P**	**20 40 35.3**	**-0.4**
	1.7nm,0.9s,mb4.0,baz=90,slow=3.8,SNR=6.1							
ARCES	**ARCESS Array B**	**83.29**	**340**	P		**P**	**20 40 49.1**	**+0.2**
	2.8nm,1.0s,mb4.2,baz=104,slow=5.0,SNR=5.3							
GERES	**GERESS Array B**	**85.44**	**319**	P		**P**	**20 41 01.3**	**+1.0**
	0.1nm,0.3s,mb3.5,baz=76,slow=5.5,SNR=3.5							

CSEM ***23*** *20:35:06.5, 12.61N×40.61E, h2km, ML3.7*
DHMR 23 20:35:06.5±0.4, 12.61N×40.61E, h2km±218km, ML3.7, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.54**	**67**	*i*	S	**Sn**	20 36 51.5	**+4.8**
UDYN					AML	AML	20 37 14.5	
	comp=E,329nm,0.7s							
DHBB	**Dhamar BB**	**4.16**	**62**	⇓*e*	P	**Pn**	20 36 13.9	**+1.4**
DHBB				*i*	S	Sn	20 37 06.2	+3.7
LBOS		**4.69**	**74**	⇓*e*	P	**Pn**	20 36 20.7	**+0.7**
LBOS				*i*	S	Sn	20 37 18.9	+3.1
BDHA	**Al Bayda'**	**5.02**	**74**	*i*	S	Sn	20 37 26.3	+2.3

DHMR ***23*** *20:40:05.1±1.0, 12.13N×47.16E, h12km±16km, ML3.1*
IDC ***23*** *20:40:06.7±1.6, 13.31N×50.54E, mb3.7/4, mb1 4.0/5, mb1mx3.6/17, mbtmp3.9/5, ML4.3/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/21, Error ellipse: s-maj=40.8km s-min=35.5km az=26.0*
ISC 23 20:40:02.3±1.8, 11.8N±0.1×47.26E±0.10, h10km, n7, σ0s76/9, mb3.8/3, 2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BDHA	**Al Bayda'**	**2.70**	**323**	⇓*i*	P	**Pn**	**20 40 47.3**	**+0.6**
BDHA				*e*	S	**Sn**	**20 41 19.0**	**-0.8**
BDHA					AML	AML	20 41 20.5	
	comp=E,143nm,0.3s							
LBOS		**2.83**	**316**	⇓*i*	P	**Pn**	**20 40 48.6**	**+0.1**
LBOS				*i*	S	**Sn**	**20 41 23.6**	**+0.7**
DHBB	**Dhamar BB**	**3.91**	**315**	*i*	S	**Sn**	**20 41 50.1**	**-0.2**
ATD	**Arta Tunnel**	**4.33**	**267**	Pn		**Sn**	**20 42 00.8**	**-0.1**
	comp=E,4.8nm,0.3s,baz=281,slow=20,SNR=6.2							
ATD					LR	LR	20 44 48.8	
	comp=E,43nm,19.2s,baz=45,slow=36							
AKASG	**Malin Array Be**	**41.49**	**343**	P		**P**	**20 47 52.2**	**+1.1**
	comp=E,0.3nm,0.2s,mb3.5,baz=152,slow=7.3,SNR=5.3							
FINES	**FINESS Array B**	**51.89**	**347**	P		**P**	**20 49 11.6**	**-1.4**
	comp=E,1.0nm,0.7s,mb3.9,baz=146,slow=10.0,SNR=3.9							
WRA	**Warramunga Arr**	**91.27**	**110**	P		**P**	**20 53 03.0**	**-7.0**
	comp=E,0.9nm,0.8s,mb4.2,baz=305,slow=3.7,SNR=7.8							

NNC ***23*** *20:44:24.1±19.0, 41.77N×82.80E, h14km±99km, mpv3.2, Error ellipse: s-maj=164.4km s-min=70.2km az=150.0*
BJI 23 20:44:26.2, 41.97N×82.39E, h22km, ML3.2, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WMQ	**Urumqi**	**4.31**	**63**	*e*	P	**Pn**	20 45 35.3	**+3.0**
WMQ					S	Sn	20 46 28.4	+5.8
WMQ					Smax			
	comp=N,15nm,1.0s							
WMQ					Smax			
	comp=E,22nm,0.6s							
MK31	**Makanchi Array**	**4.82**	**359**	⇓Pn		Pn	20 45 39.3	-0.2
	comp=E,0.5nm,0.3s,baz=186,slow=13,SNR=40							
MK31				⇓Pg		Pn	20 45 56.8	+17
	comp=E,1.7nm,0.4s,baz=166,slow=14,SNR=5.0							
MK31				⇑Lg			20 47 02.6	
	comp=E,6.7nm,0.7s,baz=175,slow=27,SNR=8.1							
AAK	**Ala-Archa**	**5.89**	**279**	⇓Pg		Pn	20 46 16.9	+22
	comp=E,2.4nm,0.7s							
AAK				⇑Lg			20 47 43.4	
	comp=E,2.7nm,0.7s							

NIED ***23*** *21:04:00, 31.50N×131.90E, h23km, Mw3.8 Best double couple: M0 6.21×10^14 NP1:φs208°, δ49°, λ90°. NP2:φs28°, δ41°, λ90°.*
IDC ***23*** *21:04:11.2±11.0, 31.25N×132.14E, mb3.7/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=285.5km s-min=116.8km az=3.0*
JMA ***23*** *21:04:19.6±0.1, 31.55N×131.87E, h24km±1km, M3.7*
JMA Felt I J1.
ISC 23 21:04:18.0±1.8, 31.55N±0.06×131.96E±0.10, h30km±8km, n10, σ0s97/16, mb3.5/3, 5C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNAR	**Kushima--Naru**	**0.59**	**267**	⇓P		**Pb**	**21 04 29.7**	**-0.2**
JNAR				S		Sb	21 04 37.0	-1.1
JTSN	**Tsuno**	**0.79**	**331**	⇓P		**Pn**	**21 04 34.2**	**+1.0**
JTSN				S		Sb	21 04 44.6	+0.9
JTZ	**Takazaki**	**0.82**	**295**	⇑P		**Pn**	**21 04 33.7**	**+0.1**
JTZ				S		**Sb**	**21 04 43.8**	**-0.7**
JTN	**Tanegashima 3**	**1.23**	**223**	⇑P		**Pn**	**21 04 40.3**	**+0.9**
JTN				S		**Sn**	**21 04 56.0**	**+0.9**
JSU	**Suzuyama**	**1.29**	**268**	⇑P		**Pn**	**21 04 40.7**	**+0.4**
JSU				S		**Sn**	**21 04 56.6**	**0.0**
JZO	**Okuchi**	**1.30**	**297**	⇑P		**Pn**	**21 04 41.0**	**+0.6**
JZO				S		**Sn**	**21 04 56.9**	**0.0**
JIU2	**Izumi 2**	**1.39**	**316**	⇑P		**Pn**	**21 04 43.2**	**+1.5**
SONM	**Songino Array**	**25.36**	**317**	P		**P**	**21 09 42.9**	**-1.0**
	0.7nm,1.0s,mb3.1,baz=124,slow=8.9,SNR=4.0							
MKAR	**Makanchi Array**	**40.72**	**307**	P		**P**	**21 11 55.9**	**-1.6**
	0.5nm,0.6s,mb3.3,baz=90,slow=11,SNR=8.6							
FINES	**FINESS Array B**	**69.86**	**331**	P		**P**	**21 15 25.5**	**-2.0**
	1.6nm,0.8s,mb4.0,baz=78,slow=5.8,SNR=6.3							

ATH ***23*** *21:31:07.0, 37.94N×27.28E, h16km, MD3.5/3*
ISK ***23*** *21:31:08.7, 37.95N×27.12E, h5km, MD3.2*
CSEM ***23*** *21:31:09.4±0.1, 37.97N×27.17E, h2km, MD3.2, Error ellipse: s-maj=2.8km s-min=1.9km az=109.0*
ISC 23 21:31:09.1±0.4, 37.93N±0.02×27.10E±0.04, h2km, n26, σ0s79/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMG	**Samos**	**0.30**	**224**	*e*	Pb	**Pb**	**21 31 15.4**	**-1.4**
SMG				*e*	Sb	**Sb**	**21 31 21.6**	**-0.3**
SMG	**Samos**	**0.30**	**224**	*e*	Pb	**Pb**	**21 31 16.7**	**-0.1**
SMG				*e*	Sb	**Sb**	**21 31 21.6**	**-0.3**
BLCB	**Balcova**	**0.46**	**354**	*i*	PG	**Pg**	**21 31 18.2**	**-0.1**
BLCB				*i*	SG	**Sg**	**21 31 26.1**	**+1.7**
IZM	**Izmir**	**0.49**	**15**	*i*	PG	**Pg**	**21 31 18.8**	**0.0**
IZM				*i*	SG	**Sg**	**21 31 26.0**	**+0.7**
KDAG	**Bornova**	**0.49**	**15**	*i*	P	**Pg**	**21 31 17.6**	**-1.3**
KDAG				*i*	S	**Sg**	**21 31 24.6**	**-0.9**
URLA	**Izmir**	**0.59**	**318**	*i*	P	**Pg**	**21 31 20.0**	**-0.8**
URLA				*i*	S	**Sg**	**21 31 28.1**	**-0.5**
AYDN	**Tasoluk**	**0.67**	**113**	*i*	P	**Pg**	**21 31 22.8**	**+0.4**
AYDN				*i*	S	**Sg**	**21 31 31.4**	**0.0**
MLSB	**Milas**	**0.83**	**139**	*i*	PG	**Pg**	**21 31 26.1**	**+0.5**
BODT	**Bodrum**	**0.88**	**169**	*i*	PG	**Pg**	**21 31 26.9**	**+0.3**
AKS	**Akhisar**	**1.10**	**30**	*i*	PG	**Pg**	**21 31 29.9**	**-1.2**
YER	**Yerkesik**	**1.23**	**130**	PN		**Pn**	**21 31 33.0**	**-0.2**
MANT	**Manisa**	**1.28**	**63**	*i*	P	**Pb**	**21 31 33.2**	**-0.3**
MANT				*i*	S	**Sb**	**21 31 48.0**	**-2.3**
PRK	**Paraskevi**	**1.47**	**334**	*e*	PN	**Pn**	**21 31 35.7**	**-1.0**
PRK				*e*	SN	**Sn**	**21 31 56.6**	**-0.1**
PRK	**Paraskevi**	**1.47**	**334**	*e*	Pn	**Pn**	**21 31 35.5**	**-1.2**
PRK				*e*	Sn	**Sn**	**21 31 57.6**	**+0.9**
APE	**Apeiranthos**	**1.51**	**236**	PN		**Pn**	**21 31 38.3**	**+1.0**
APE	**Apeiranthos**	**1.51**	**236**	*e*	PN	**Pn**	**21 31 37.4**	**+0.1**
DENT	**Denizli**	**1.54**	**96**	PN		**Pn**	**21 31 38.4**	**+0.7**
BALB	**Balikesir**	**1.82**	**19**	PN		**Pn**	**21 31 42.6**	**+1.0**
EZN	**Ezine**	**1.99**	**343**	PN		**Pn**	**21 31 44.4**	**+0.2**
DST	**Dursunbey**	**2.06**	**35**	PN		**Pn**	**21 31 45.4**	**+0.3**
CANB	**Canakkale**	**2.09**	**359**	PN		**Pn**	**21 31 45.4**	**-0.1**
EDC	**Edincik**	**2.49**	**14**	*e*	PN	**Pn**	**21 31 52.3**	**+1.0**
BNT	**Bandirma**	**2.51**	**14**	*e*	PN	**Pn**	**21 31 52.1**	**+0.5**
MRMT	**Marmara Adasi**	**2.70**	**8**	*e*	PN	**Pn**	**21 31 54.6**	**+0.4**
YLV	**Yalova**	**3.17**	**33**	*e*	PN	**Pn**	**21 32 01.3**	**+0.3**
ESKT	**Eskisehir**	**3.34**	**60**	*e*	PN	**Pn**	**21 32 03.8**	**+0.5**

NEIC ***23*** *21:50:55.0, 18.41N×103.23W, h128km, MD4.3(MEX), After MEX.*
MEX 23 21:50:55.1±0.4, 18.41N×103.23W, h127km±10km, MD4.3, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.86**	**115**	*i*	P	P	21 51 25.9	-1.8
ZIIG				*i*	S	S	21 51 50.0	-2.3
CJM	**Chamela**	**2.03**	**303**	*i*	P	P	21 51 28.0	-1.7
CJM				*i*	S	S	21 51 53.7	-2.2
SFJM	**Santa Fe**	**2.08**	**5**	*i*	P	P	21 51 28.5	-1.8
SFJM				*i*	S	S	21 51 55.0	-2.0
MOIG	**Morelia**	**2.31**	**57**	*e*	P	P	21 51 32.4	-1.0
MOIG				*e*	S	S	21 52 00.4	-2.0
CAIG	**El Cayaco**	**3.13**	**115**	*i*	P	P	21 51 43.0	-1.2
CAIG				*i*	S	S	21 52 18.2	-3.5
PLIG	**Platanillo**	**3.54**	**90**	*e*	P	P	21 51 47.5	-2.2
PLIG				*i*	S	S	21 52 29.8	-1.6
ZAIG	**Zacatecas**	**4.38**	**8**	*i*	P	P	21 52 02.8	+1.8
ZAIG				*i*	S	S	21 52 49.3	-2.2
ZAIG	**Zacatecas**	**4.38**	**8**	*i*	P	P	21 52 02.8	+1.8
ZAIG				*i*	S	S	21 52 52.0	+0.5
LPIG	**La Paz**	**8.69**	**312**	*e*	S	S	21 54 34.0	-1.9

LDG ***23*** *21:52:16.3±0.9, 19.83S×171.62E, h10km, Mb4.3/2, Error ellipse: s-maj=115.2km s-min=5.9km az=144.0*
IDC ***23*** *21:52:37.0±4.0, 19.00S×169.17E, h138km±36km, mb3.9/6, mb1 4.1/7, mb1mx3.9/13, mbtmp4.4/7, MS2.7/1, Ms1 2.7/1, ms1mx2.6/17, Error ellipse: s-maj=35.3km s-min=25.1km az=10.0*
NEIC ***23*** *21:52:38.4±2.2, 19.00S×169.16E, h154km±17km, mb4.5/8, Error ellipse: s-maj=20.6km s-min=12.6km az=212.0*
ISC 23 21:52:38.9±2.8, 19.1S±0.2×169.0E±0.1, h164km±20km, n40, σ1s03/25, mb4.2/10, 5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.80**	**219**	*e*	P	**P**	**21 53 38.1**	**+0.5**
DZM				*e*	S	**S**	**21 54 22.5**	**-0.4**
DZM	**Mont Dzumac**	**3.80**	**219**	P		**P**	**21 53 38.2**	**+0.5**
	9.2nm,0.3s,baz=59,slow=18,SNR=202							
DZM				S		**S**	**21 54 22.5**	**-0.4**
	15nm,0.3s,baz=327,slow=18,SNR=15							
DZM					LR	LR	21 55 01.9	
	comp=Z,106nm,20.3s,baz=85,slow=36							
DZM	**Mont Dzumac**	**3.80**	**219**	*e*	P	**P**	**21 53 38.1**	**+0.5**
DZM				*e*	S	**S**	**21 54 22.5**	**-0.4**
CTA	**Charters Tower**	**21.46**	**264**	⇓*i*	P	**P**	**21 57 17.7**	**+2.6**
	8.2nm,0.5s,mb4.3							
CTA	**Charters Tower**	**21.46**	**264**	P		**P**	**21 57 17.8**	**+2.7**
	11nm,0.6s,mb4.3,baz=94,slow=12,SNR=23							
CTAO	**Charters Tower**	**21.46**	**264**	*e*	P	**P**	**21 57 17.6**	**+2.5**
	8.7nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**27.73**	**237**	⇓*i*	P	**P**	**21 58 14.7**	**+0.6**
	7.1nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**27.73**	**237**	P		**P**	**21 58 14.7**	**+0.7**
	8.1nm,0.7s,mb4.6,baz=69,slow=8.8,SNR=40							
WB2	**Warramunga Arr**	**32.64**	**263**	⇓*i*	P	**P**	**21 58 56.2**	**-1.2**
WRAB	**Tennant Creek**	**32.64**	**263**	*e*	P	**P**	**21 58 56.2**	**-1.2**
	7.7nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**32.65**	**263**	P		**P**	**21 58 56.4**	**-1.1**
	2.3nm,0.5s,mb4.2,baz=90,slow=8.3,SNR=48							
ASPA	**Alice Springs**	**32.95**	**256**	⇓*i*	P	**P**	**21 58 59.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.04**	**264**	⇓*i*	P	**P**	**22 00 08.5**	**+0.8**
	11nm,0.6s,mb4.7							
MBWA	**Marble Bar**	**46.16**	**259**	*e*	P	**P**	**22 00 49.3**	**+0.3**
	4.8nm,0.4s,mb4.5							
KLBR	**Kellerberrin**	**47.57**	**244**	*e*	P	**P**	**22 00 59.4**	**-0.4**
	44nm,1.4s,mb4.9							
VNDA	**Vanda**	**58.55**	**182**	*e*	P	**P**	**22 02 19.2**	**-0.7**
	0.4nm,0.6s,mb3.4							
SONM	**Songino Array**	**86.99**	**323**	P		**P**	**22 05 08.4**	**+1.8**
	0.7nm,0.6s,mb3.7,baz=150,slow=7.1,SNR=4.5							
SNAA	**Sanae**	**89.28**	**183**			**P**	**22 05 17.3**	**+0.5**
VNA3	**Neumayer Olymp**	**89.87**	**180**			**P**	**22 05 19.6**	**0.0**
VNA2	**Neumayer--Watz**	**90.16**	**181**			**P**	**22 05 22.0**	**+1.0**
ILAR	**Eielson Array**	**90.18**	**17**	P		**P**	**22 05 19.2**	**-2.0**
	0.7nm,0.6s,mb3.8,baz=237,slow=5.0,SNR=9.3							
ARCES	**ARCESS Array B**	**124.89**	**345**	PKP		PKPdf	22 11 18.9	+0.1
	0.9nm,0.5s,baz=315,slow=1.7,SNR=10							
GERES	**GERESS Array B**	**144.28**	**332**	PKP		PKPdf	22 11 55.1	+0.1
	1.3nm,0.6s,baz=34,slow=3.2,SNR=18							
CDF	**Champ du Feu**	**147.24**	**337**	*e*	PKP1	PKPdf	22 12 03.8	+3.8
DAVOX	**Davos**	**147.53**	**333**		PKPbc	PKPdf	22 12 04.9	+4.3
	4.4nm,0.5s,baz=234,slow=4.0,SNR=14							
HINF	**Hinteralfeld**	**147.90**	**337**	*e*	PKP1	PKPdf	22 12 05.0	+3.8
HAU	**Haudompre**	**147.92**	**338**	*e*	PKP1	PKPdf	22 12 05.3	+4.1
MEZF	**Maizieres J'vi**	**147.94**	**340**	*e*	PKP1	PKPdf	22 12 05.8	+4.6
LOR	**Lormes**	**149.41**	**340**	*e*	PKP1	PKPdf	22 12 09.1	+5.5
LPL	**La Plagne**	**149.85**	**335**	*e*	PKP1	PKPdf	22 12 11.0	+6.7
LPG	**La Plagne**	**149.86**	**335**	*e*	PKP1	PKPdf	22 12 10.9	+6.6
	5.4nm,0.8s							
BGF	**Bois d'Agland**	**150.36**	**341**	*e*	PKP1	PKPdf	22 12 12.4	+7.4
MBDF	**Montbardon**	**150.48**	**334**	*e*	PKP1	PKPdf	22 12 12.4	+7.1
	4.6nm,0.9s							
ORIF	**Oris-en-Rattie**	**150.69**	**335**	*e*	PKP1	PKPdf	22 12 12.3	+6.7
PGF	**Pioggiola**	**151.16**	**328**	*e*	PKP1	PKPdf	22 12 13.4	+7.1
	12nm,0.7s							
VIVF	**Saint-Julien-l**	**151.21**	**337**	*e*	PKP1	PKPdf	22 12 13.5	+7.2
FRF	**La Foret Royal**	**151.47**	**333**	*e*	PKP1	PKPdf	22 12 13.9	+7.1
SMRF	**Simiane la Rot**	**151.59**	**334**	*e*	PKP1	PKPdf	22 12 14.8	+7.9
	8.9nm,1.0s							
LMR	**La Mourre**	**151.71**	**332**	*e*	PKP1	PKPdf	22 12 14.3	+7.1
	7.2nm,0.8s							

INMG ***23*** *22:39:13.3±1.4, 37.84N×1.78W, h6km±3km, ML2.8, Error ellipse: s-maj=2.4km s-min=2.0km az=114.0*
NEIC ***23*** *22:39:13.5, 37.85N×1.78W, h2km, MN2.8(MDD), After MDD.*
NEIC Felt [IV] at La Paca, Las Terreras and Zarcilla de Ramos; [III] at Aviles; [II] at Coy.
MDD ***23*** *22:39:13.4±0.2, 37.85N×1.78W, h3km±3km, mbLg2.8/23, Error ellipse: s-maj=3.0km s-min=1.7km az=166.0, PRXIMO III-IV LAS TERRERAS ZARCILLA DE RAMOS III S II COY*
MDD EMS: IV LA PACA.
CSEM ***23*** *22:39:14.4±0.1, 37.80N×1.72W, h15km, ML3.5/4, Error ellipse: s-maj=1.8km s-min=1.2km az=160.0*
ISC 23 22:39:11.5±0.4, 38.00N±0.03×1.89W±0.03, h5km±3km, n89, σ1s55/158, 6C-2D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMUR	**La Murta**	**0.54**	**106**	⇑Pg		**Pg**	**22 39 21.4**	**-0.9**
	SNR=18							
EMUR				Lg			22 39 26.6	
	222nm,0.2s							
EMUR	**La Murta**	**0.54**	**106**	⇑Pg		**Pg**	**22 39 21.4**	**-0.8**
EMUR				Lg			22 39 26.6	
EHUE	**Huescar**	**0.58**	**252**	⇑Pg		**Pg**	**22 39 24.6**	**+1.4**
	24nm,0.2s,SNR=18							
EHUE				Lg			22 39 34.8	
	53nm,0.2s,SNR=25							
ETOB	**Tobarra**	**0.70**	**22**	Pg		**Pg**	**22 39 28.6**	**+3.0**
	77nm,0.2s,SNR=18							
ETOB				Pn		**Pn**	**22 39 30.7**	**+2.9**
	SNR=4.0							
ETOB				Lg			22 39 39.8	
	362nm,0.2s,SNR=20							
ETOB	**Tobarra**	**0.70**	**22**	Pg		**Pg**	**22 39 28.6**	**+3.0**
ETOB	**Tobarra**	**0.70**	**22**	Pn		**Pn**	**22 39 30.7**	**+3.0**
EVIA	**Vianos**	**0.80**	**323**	⇑Pg		**Pg**	**22 39 31.1**	**+3.5**
	66nm,0.4s,SNR=18							
EVIA				Lg			22 39 44.4	
	68nm,0.2s,SNR=7.1							
EVIA	**Vianos**	**0.80**	**323**	Pg		**Pg**	**22 39 31.1**	**+3.5**
EVIA				Lg			22 39 44.4	
CART	**Cartagena**	**0.81**	**120**	*e*	Pg	**Pg**	**22 39 26.0**	**-1.7**
CART				*e*	Sg	**Sg**	**22 39 34.7**	**-4.0**
CART	**Cartagena**	**0.81**	**120**	*e*	Pg	**Pg**	**22 39 26.0**	**-1.8**
CART				*e*	Sg	**Sg**	**22 39 34.7**	**-3.9**
EQES	**Quesada**	**0.95**	**259**	⇑Pg		**Pg**	**22 39 32.0**	**+1.4**
	35nm,0.3s,SNR=18							
EQES				Lg			22 39 46.0	
	111nm,0.2s,SNR=9.1							
EQES	**Quesada**	**0.95**	**259**	Pg		**Pg**	**22 39 32.3**	**+1.7**
EQES				Lg			22 39 46.0	
EQES	**Quesada**	**0.95**	**259**	Pg		**Pg**	**22 39 32.3**	**+1.7**
ENIJ	**Nijar**	**1.05**	**194**	⇓Pg		**Pg**	**22 39 30.6**	**-1.9**
	7.6nm,0.3s,SNR=18							
ENIJ				Lg			22 39 43.0	
	6.6nm,0.2s,SNR=5.0							
EBER	**Berja**	**1.35**	**216**	Pn		**Pn**	**22 39 36.6**	**-0.5**
	21nm,0.4s,SNR=20							
EBER				Lg			22 39 55.2	
	76nm,0.4s							
EBER	**Berja**	**1.35**	**216**	Pn		**Pn**	**22 39 36.6**	**-0.5**
EQUE	**Quentar**	**1.46**	**238**	Pg		**Pg**	**22 39 40.7**	**-0.1**
	30nm,0.4s,SNR=62							
EQUE				Lg			22 39 59.6	
	156nm,0.4s,SNR=14							
EBAN	**Banos Encina**	**1.51**	**277**	⇓Pn		**Pn**	**22 39 41.6**	**+2.4**
	22nm,0.3s,SNR=18							
EBAN					Sn	**Sn**	**22 40 02.5**	**+3.1**
	92nm,0.3s,SNR=33							
ECOG	**Cogollos-Vega**	**1.51**	**242**	Pg		**Pg**	**22 39 42.3**	**+0.6**
	23nm,0.3s,SNR=27							
ECOG				Lg			22 40 02.0	
	110nm,0.4s,SNR=15							
ECHE	**Chera**	**1.75**	**24**	Pn		**Pn**	**22 39 45.5**	**+2.8**
	SNR=7.9							
ECHE				Pg		**Pg**	**22 39 48.0**	**+1.5**
	7.5nm,0.3s,SNR=28							
ECHE					Sn	**Sn**	**22 40 08.1**	**+2.5**
	SNR=7.9							
ECHE				Lg			22 40 13.3	
	27nm,0.3s,SNR=11							
ECHE	**Chera**	**1.75**	**24**	Pn		**Pn**	**22 39 48.0**	**+1.6**
ERON	**Agron**	**1.81**	**238**	Pg		**Pg**	**22 39 46.7**	**-1.0**
	20nm,0.5s,SNR=14							
ERON					Sn	**Sn**	**22 40 06.8**	**-0.3**
	33nm,0.7s,SNR=16							
ERON				Lg			22 40 12.3	
	14nm,0.3s,SNR=5.7							
ELUQ	**Luque**	**1.93**	**258**	⇑Pn		**Pn**	**22 39 47.7**	**+2.3**
	9.7nm,0.3s,SNR=18							
ELUQ					Sn	**Sn**	**22 40 11.8**	**+1.5**
	31nm,0.4s							
ELOJ	**Sierra Loja**	**1.99**	**246**	Pn		**Pn**	**22 39 48.5**	**+2.4**
	4.8nm,0.3s,SNR=20							
ELOJ					Sn	**Sn**	**22 40 13.5**	**+1.9**
	18nm,0.4s,SNR=11							
EADA	**Adamuz**	**2.13**	**275**	Pn		**Pn**	**22 39 49.5**	**+1.4**
	3.7nm,0.3s,SNR=8.3							
EADA					Sn	**Sn**	**22 40 17.0**	**+1.8**
	25nm,0.5s,SNR=11							
EADA				Lg			22 40 23.9	
	31nm,0.1s,SNR=7.8							
EADA	**Adamuz**	**2.13**	**275**	Pn		**Pn**	**22 39 49.5**	**+1.4**
EADA					Sn	**Sn**	**22 40 17.0**	**+1.8**
ESDC	**Sonseca Array**	**2.33**	**317**	Pn		**Pn**	**22 39 53.1**	**+2.1**
	0.6nm,0.3s,baz=129,slow=13,SNR=15							
ESDC				Pg		**Pg**	**22 39 58.1**	**0.0**
	3.4nm,0.2s,baz=132,slow=17,SNR=39							
ESDC				Lg			22 40 30.8	
	12nm,0.4s,baz=136,slow=30,SNR=18							
ESDC	**Sonseca Array**	**2.33**	**317**	Pn		**Pn**	**22 39 53.1**	**+2.0**
ESDC	**Sonseca Array**	**2.33**	**317**	Pg		**Pg**	**22 39 58.1**	**0.0**
ESLA	**Sonseca Array**	**2.33**	**317**	*e*	Pn	**Pn**	**22 39 55.5**	**+4.5**
ESLA				*e*	Pg	**Pg**	**22 40 00.8**	**+2.8**
ESLA	**Sonseca Array**	**2.33**	**317**	*e*	Pn	**Pn**	**22 39 55.5**	**+4.4**
ESLA	**Sonseca Array**	**2.33**	**317**	*e*	Pg	**Pg**	**22 40 00.8**	**+2.7**
EMOS	**Mosqueruela**	**2.61**	**25**	Pn		**Pn**	**22 39 56.9**	**+1.9**
	3.1nm,0.6s,SNR=11							
EMOS				Pg		**Pg**	**22 40 04.1**	**+0.5**
	SNR=7.9							
EMOS					Sn	**Sn**	**22 40 28.6**	**+1.2**
	SNR=7.9							
EMOS				Lg			22 40 39.1	
	12nm,0.3s,SNR=5.0							
EMOS	**Mosqueruela**	**2.61**	**25**	Pn		**Pn**	**22 39 56.9**	**+1.9**
EMOS	**Mosqueruela**	**2.61**	**25**	Pg		**Pg**	**22 40 04.1**	**+0.5**
EMIJ	**Mijas**	**2.71**	**239**	Pn		**Pn**	**22 39 57.4**	**+1.0**
	SNR=7.9							
EMIJ				Pg		**Pg**	**22 40 02.2**	**-3.3**
	3.3nm,0.3s,SNR=8.5							
EMIJ					Sn	**Sn**	**22 40 29.7**	**-0.3**
	17nm,0.8s,SNR=5.1							
EIBI	**Ibiza**	**2.74**	**67**	Pn		**Pn**	**22 39 55.5**	**-1.4**
	9.2nm,0.9s,SNR=8.7							
EIBI				Pg		**Pg**	**22 40 03.8**	**-2.3**
	SNR=7.9							
EIBI					Sn	**Sn**	**22 40 28.2**

PBEJ	**Beja**	**4.72**	**272**	*e*Pn		**Pn**	**22 40 25.1**	**+0.1**
PBEJ				*e*Sn		**Sn**	**22 41 18.0**	**-2.9**
PBEJ				*e*Sg		**Sg**	**22 41 45.9**	**-2.8**
	9.8nm,0.8s							
PBEJ	**Beja**	**4.72**	**272**	*e*Pn		**Pn**	**22 40 25.1**	**+0.1**
PBEJ				*e*Sn		**Sn**	**22 41 18.0**	**-2.9**
PBEJ				*e*Sg		**Sg**	**22 41 45.9**	**-2.8**
	9.8nm,0.8s							
PCBR	**Castelo Branco**	**4.73**	**295**	*e*Pn		**Pn**	**22 40 25.5**	**+0.3**
PCBR				*e*Sn		**Sn**	**22 41 20.8**	**-0.4**
PCBR				*e*Sg		**Sg**	**22 41 45.2**	**-3.8**
	8.4nm,0.5s							
PCBR	**Castelo Branco**	**4.73**	**295**	*e*Pn		**Pn**	**22 40 25.5**	**+0.3**
PCBR				*e*Sn		**Sn**	**22 41 20.8**	**-0.4**
PCBR				*e*Sg		**Sg**	**22 41 45.2**	**-3.8**
	8.4nm,0.5s							
EBIE	**Bielsa**	**4.94**	**18**	Pn		**Pn**	**22 40 29.8**	**+1.7**
	0.8nm,0.3s,SNR=6.7							
EBIE				Sn		**Sn**	**22 41 24.0**	**-2.3**
	SNR=7.9							
EBIE	**Bielsa**	**4.94**	**18**	Pn		**Pn**	**22 40 29.8**	**+1.7**
MTE	**Manteigas**	**5.01**	**300**	*e*Sg		**Sg**	**22 41 52.8**	**-5.4**
	12nm,0.7s							
MTE	**Manteigas**	**5.01**	**300**	*e*Sg		**Sg**	**22 41 52.8**	**-5.4**
	12nm,0.7s							
EALK	**Alkurruntz**	**5.23**	**3**	Pn		**Pn**	**22 40 32.6**	**+0.4**
	SNR=7.9							
EALK				Sn		**Sn**	**22 41 32.9**	**-0.7**
	SNR=7.9							
PBRG	**Braganca**	**5.33**	**317**	*e*Pn		**Pn**	**22 40 34.7**	**+1.1**
PBRG				*e*Sn		**Sn**	**22 41 36.4**	**+0.2**
PBRG				*e*Sg		**Sg**	**22 42 04.3**	**-4.6**
	6.6nm,0.8s							
PBRG	**Braganca**	**5.33**	**317**	*e*Pn		**Pn**	**22 40 34.7**	**+1.1**
PBRG				*e*Sn		**Sn**	**22 41 36.4**	**+0.2**
PBRG				*e*Sg		**Sg**	**22 42 04.3**	**-4.6**
	6.6nm,0.8s							
PTOM	**Tomar**	**5.34**	**290**	*e*Pn		**Pn**	**22 40 33.9**	**0.0**
PTOM				*e*Sn		**Sn**	**22 41 34.7**	**-1.9**
PTOM				*e*Sg		**Sg**	**22 42 04.0**	**-5.5**
	18nm,0.5s							
PTOM	**Tomar**	**5.34**	**290**	*e*Pn		**Pn**	**22 40 33.9**	**0.0**
PTOM				*e*Sn		**Sn**	**22 41 34.7**	**-1.9**
PTOM				*e*Sg		**Sg**	**22 42 04.0**	**-5.5**
	18nm,0.5s							
ELAN	**Lanestosa**	**5.36**	**348**	Pn		**Pn**	**22 40 35.9**	**+1.8**
	SNR=7.9							
ELAN				Sn		**Sn**	**22 41 35.8**	**-1.2**
	SNR=7.9							
ELAN				Lg			22 42 08.2	
	5.6nm,0.7s,SNR=7.9							
ELAN	**Lanestosa**	**5.36**	**348**	Pn		**Pn**	**22 40 35.9**	**+1.8**
ELAN				Sn		**Sn**	**22 41 35.8**	**-1.2**
ECAL	**Calabor**	**5.42**	**318**	Pn		**Pn**	**22 40 35.8**	**+0.9**
	SNR=7.9							
ECAL				Sn		**Sn**	**22 41 37.0**	**-1.5**
	SNR=7.9							
ECAL				Lg			22 42 08.2	
	7.8nm,0.4s,SNR=7.9							
ECAL	**Calabor**	**5.42**	**318**	Pn		**Pn**	**22 40 35.8**	**+0.9**
PTEO	**Sao Teotonio**	**5.43**	**267**	*e*Pn		**Pn**	**22 40 34.6**	**-0.5**
PTEO				*e*Sn		**Sn**	**22 41 36.6**	**-2.2**
PTEO				*e*Sg		**Sg**	**22 42 08.8**	**-3.6**
	9.6nm,0.3s							
PTEO	**Sao Teotonio**	**5.43**	**267**	Pn		**Pn**	**22 40 34.6**	**-0.5**
PTEO				Sn		**Sn**	**22 41 36.6**	**-2.2**
PTEO				Lg			22 42 08.8	
	4.8nm,0.3s							
EARI	**Arriondas**	**5.87**	**336**	Pn		**Pn**	**22 40 43.3**	**+2.0**
	1.6nm,0.4s,SNR=9.2							
EARI				Sn		**Sn**	**22 41 46.8**	**-3.0**
	SNR=7.9							
EARI				Lg			22 42 24.4	
	8.0nm,0.7s							
EARI	**Arriondas**	**5.87**	**336**	Pn		**Pn**	**22 40 43.3**	**+2.0**
PCAB	**Cabril**	**6.00**	**310**	*e*Pn		**Pn**	**22 40 43.3**	**+0.1**
PCAB				*e*Sn		**Sn**	**22 41 52.1**	**-1.1**
PCAB				*e*Sg		**Sg**	**22 42 24.8**	**-6.6**
	6.5nm,0.5s							
ELOB	**Lobios**	**6.12**	**311**	Pn		**Pn**	**22 40 45.6**	**+0.9**
	SNR=7.9							
ELOB				Sn		**Sn**	**22 41 53.1**	**-3.0**
	SNR=7.9							
ELOB				Lg			22 42 30.8	
	4.6nm,0.5s,SNR=6.2							
ELOB	**Lobios**	**6.12**	**311**	Pn		**Pn**	**22 40 45.7**	**+0.9**
EPON	**Pontenova**	**6.66**	**325**	Pn		**Pn**	**22 40 52.3**	**-0.1**
	SNR=7.9							
EPON				Sn		**Sn**	**22 42 03.7**	**-5.9**
	SNR=7.9							
EPON				Lg			22 42 49.5	
	4.5nm,0.4s,SNR=4.8							
EPON	**Pontenova**	**6.66**	**325**	Pn		**Pn**	**22 40 52.3**	**-0.1**

*IPEC **23** 22:41:57.9±0.3,51.51N×16.20E, ML1.8/3, Error ellipse: s-maj=1.9km s-min=1.5km az=38.0*
*NEIC **23** 22:41:59.2±1.6,51.44N×16.11E, h5km, ML2.8(VIE), ML2.7(SZGRF), Error ellipse: s-maj=16.9km s-min=5.5km az=200.0*
*PRU **23** 22:42:00.0, 51.41N×16.11E*
*CSEM **23** 22:42:00.1±0.2,51.42N×16.12E, h1km, ML2.8/5, Error ellipse: s-maj=3.7km s-min=1.7km az=16.0*
*VIE **23** 22:42:01.5±0.5,51.29N×16.15E, mb2.1/2, ML2.5/3, Error ellipse: s-maj=3.6km s-min=3.1km az=80.0, Suspected Mining induced.*

WAR 23 22:41:59.5, 51.48N×16.11E, h1km, ML2.4, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**169**	*e*PG	Pg	22 42 11.0	-1.4
KSP				*e*SG	Sg	22 42 20.0	-1.0
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	Pg	22 42 11.3	-1.1
KSP				*e*Sg	Sg	22 42 19.7	-1.3
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	Pg	22 42 11.3	-1.1
KSP				*e*Sg	Sg	22 42 19.2	-1.8
UPC	**Upice**	**0.97**	**184**	*e*PG	Pg	22 42 17.2	-1.7
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	Pg	22 42 20.0	-2.2
DPC				*e*SG	Sg	22 42 34.7	-2.6
	7.7nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	Pg	22 42 24.6	-2.0
PVCC	**Panska Ves**	**1.36**	**226**	Pg	Pg	22 42 24.6	-2.0
PVCC				*e*Sg	Sg	22 42 42.8	-1.9
BRG	**Berggiesshubel**	**1.49**	**247**	Pg	Pg	22 42 27.1	-2.1
BRG				Sg	Sg	22 42 47.2	-1.9
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	Pg	22 42 32.2	-3.1
PRU				*e*SG	Sg	22 42 55.4	-3.7
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	Pn	22 42 31.8	-2.0
MORC				*e*Sn	Sn	22 42 55.8	-3.3
MORC				*e*Sg	Sg	22 43 00.0	-3.8
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	Pn	22 42 31.8	-2.0
MORC				*e*Sn	Sn	22 42 55.8	-3.3
MORC				*e*Sg	Sg	22 42 58.7	-5.1
	8.1nm,0.3s						
CLL	**Collm**	**1.95**	**266**	*e*SG	Sg	22 43 01.0	-3.5
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PG	Pg	22 42 38.2	-3.1
OKC				*e*SG	Sg	22 43 04.9	-4.3
VRAC	**Vranov**	**2.19**	**172**	*e*Pn	Pn	22 42 36.5	-1.1
VRAC				*e*Sg	Sg	22 43 07.2	-5.3
	4.8nm,0.2s						
KRUC	**Moravsky**	**2.42**	**176**	*e*Pn	Pn	22 42 39.4	-1.5
KRUC				*e*Sg	Sg	22 43 14.5	-5.7
	3.6nm,0.2s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	Pn	22 42 42.1	-1.7
NKC				*e*SG	Sg	22 43 22.6	-4.5
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	Pn	22 42 45.6	-1.4
KHC				*e*PG	Pg	22 42 50.7	-5.8
KHC				*e*SN	Sn	22 43 19.0	-3.5
KHC				*e*SG	Sg	22 43 28.3	-6.2
MOX	**Moxa**	**2.95**	**255**	*e*Pg	Pg	22 42 55.4	-3.1
MOX				*e*Sg	Sg	22 43 34.3	-3.5
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn	Pn	22 42 48.5	-1.4
MOA	**Molln**	**3.82**	**199**	⇑*i*Pn	Pn	22 42 59.2	-1.6
MOA				⇑*i*Sg	Sg	22 44 02.3	-4.4
	comp=Z,3.0nm,0.4s						

*ISK **23** 23:48:17.3, 38.84N×25.53E, h67km, MD3.4*
*ATH **23** 23:48:17.5, 38.86N×25.75E, h44km±5km, MD3.5/3*
*CSEM **23** 23:48:17.8±0.1, 38.85N×25.64E, h24km, MD3.5, Error ellipse: s-maj=3.5km s-min=2.0km az=82.0*

ISC 23 23:48:16.1±1.2, 38.80N±0.03×25.63E±0.06, h7km±8km, n24, σ0°80/33, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.67**	**48**	*e*P	**Pg**	**23 48 29.8**	**+0.2**
PRK				*e*S	**Sg**	**23 48 38.9**	**+0.3**
PRK	**Paraskevi**	**0.67**	**48**	*e*Pn	**Pg**	**23 48 29.8**	**+0.2**
PRK				*e*Sn	**Sn**	**23 48 37.8**	**-4.8**
URLA	**Izmir**	**0.88**	**120**	*i* P	**Pb**	**23 48 33.9**	**+0.6**
URLA				*i* S	**Sb**	**23 48 44.3**	**-0.8**
AYVA	**Ayvalik**	**0.97**	**58**	*i* P	**Pb**	**23 48 35.3**	**+0.4**
AYVA				*i* S	**Sb**	**23 48 47.9**	**+0.1**
LIA	**Limnos Island**	**1.15**	**343**	*e*P	**Pb**	**23 48 38.1**	**+0.1**
LIA				*e*S	**Sb**	**23 48 52.9**	**0.0**
EZN	**Ezine**	**1.16**	**28**	*i* PN	**Pn**	**23 48 38.3**	**-0.5**
EZN				*i* SN	**Sn**	**23 48 54.0**	**-1.0**
BLCB	**Balcova**	**1.19**	**110**	PN	**Pn**	**23 48 40.0**	**+0.9**
BLCB				SN	**Sn**	**23 48 56.7**	**+1.0**
IZM	**Izmir**	**1.34**	**107**	PN	**Pn**	**23 48 42.0**	**+0.6**
KDAG	**Bornova**	**1.35**	**107**	*i* P	**Pb**	**23 48 40.1**	**-1.3**
KDAG				*i* S	**Sb**	**23 48 57.2**	**-1.4**
SMG	**Samos**	**1.45**	**138**	*e*Pn	**Pn**	**23 48 43.3**	**+0.4**
CANB	**Canakkale**	**1.65**	**42**	PN	**Pn**	**23 48 45.8**	**0.0**
AKS	**Akhisar**	**1.71**	**87**	PN	**Pn**	**23 48 46.8**	**+0.1**
APE	**Apeiranthos**	**1.73**	**183**	PN	**Pn**	**23 48 47.1**	**+0.1**
APE	**Apeiranthos**	**1.73**	**183**	*e*Pn	**Pn**	**23 48 47.4**	**+0.4**
LPK	**Lapseki**	**1.80**	**29**	*e*PN	**Pn**	**23 48 47.1**	**-0.8**
BALB	**Balikesir**	**1.94**	**64**	*e*PN	**Pn**	**23 48 50.4**	**+0.4**
BODT	**Bodrum**	**2.19**	**142**	*e*PN	**Pn**	**23 48 53.3**	**-0.2**
SART	**Tekirdag**	**2.23**	**32**	*i* P	**Pn**	**23 48 55.9**	**+1.7**
SART				*i* S	**Sn**	**23 49 24.6**	**+2.3**
MLSB	**Milas**	**2.27**	**131**	*e*PN	**Pn**	**23 48 55.0**	**+0.4**
EDC	**Edincik**	**2.32**	**48**	*e*PN	**Pn**	**23 48 54.7**	**-0.7**
RDO	**Rodhopi**	**2.34**	**358**	*e*P	**Pn**	**23 48 54.7**	**-1.0**
MRMT	**Marmara Adasi**	**2.35**	**40**	*e*PN	**Pn**	**23 48 55.7**	**-0.2**
BNT	**Bandirma**	**2.36**	**48**	*e*PN	**Pn**	**23 48 55.4**	**-0.5**
MFT	**Murefte**	**2.36**	**32**	*e*PN	**Pn**	**23 48 55.0**	**-0.9**

*IDC **23** 23:59:23.6±4.5, 12.31N×40.39E, mb3.8/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, ML4.3/1, MS3.8/9, Ms1 3.7/9, ms1mx3.4/26, Error ellipse: s-maj=108.9km s-min=15.9km az=30.0*
*DHMR **23** 23:59:23.5±2.7, 12.69N×40.55E, h2km±288km, ML4.1*
*NEIC **23** 23:59:26.9±1.5, 12.59N×40.62E, h10km, ML4.2(DHMR), Error ellipse: s-maj=30.0km s-min=11.8km az=23.0*
*CSEM **23** 23:59:26.9±0.1, 12.59N×40.62E, h10km, ML4.2, Error ellipse: s-maj=5.7km s-min=2.5km az=23.0, After NEIC*

ISC 23 23:59:24.1±1.1, 12.5N±0.1×40.51E±0.05, h10km, n28, σ1°25/32, mb3.8/6, MS3.8/8, 2C-8D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.47**	**112**	Pn	**Pn**	**00 00 06.5**	**+1.4**
	58nm,0.3s,baz=306,slow=7.9,SNR=165						
ATD				Lg		00 00 43.5	
	44nm,0.3s,baz=270,slow=23,SNR=9.2						
ATD	**Arta Tunnel**	**2.47**	**112**	Pn	**Pn**	**00 00 06.5**	**+1.4**
ATD				Lg		00 00 43.5	
UDYN	**Al 'Udayn**	**3.68**	**66**	⇓*e*P	**Pn**	**00 00 22.4**	**0.0**
UDYN				*i* S	**Sn**	**00 01 08.2**	**+1.9**
UDYN				AML	AML	00 01 36.1	
	comp=N,850nm,0.7s						
UDYN	**Al 'Udayn**	**3.68**	**66**	⇑*i*P	**Pn**	**00 00 21.5**	**-0.8**
UDYN				*i* S	**Sn**	**00 01 10.0**	**+3.7**
DHBB	**Dhamar BB**	**4.31**	**61**	⇓*e*P	**Pn**	**00 00 31.0**	**-0.3**
DHBB				*i* S	**Sn**	**00 01 23.7**	**+1.4**
DHBB	**Dhamar BB**	**4.31**	**61**	⇓*i*P	**Pn**	**00 00 31.0**	**-0.3**
DHBB				*i* S	**Sn**	**00 01 22.8**	**+0.5**
DHBB	**Dhamar BB**	**4.31**	**61**	⇓*i*P	**Pn**	**00 00 31.0**	**-0.3**
DHBB				*i* S	**Sn**	**00 01 22.8**	**+0.5**
LBOS		**4.82**	**73**	⇓*e*P	**Pn**	**00 00 36.4**	**-2.1**
LBOS				*i* S	**Sn**	**00 01 32.5**	**-2.7**
LBOS		**4.82**	**73**	⇑*i*P	**Pn**	**00 00 36.8**	**-1.7**
LBOS				*i* S	**Sn**	**00 01 36.8**	**+1.7**
BDHA	**Al Bayda'**	**5.15**	**73**	⇓*e*P	**Pn**	**00 00 40.5**	**-2.6**
BDHA				*i* S	**Sn**	**00 01 40.7**	**-2.6**
BDHA	**Al Bayda'**	**5.15**	**73**	⇓*i*P	**Pn**	**00 00 40.6**	**-2.5**
BDHA				*i* S	**Sn**	**00 01 43.6**	**+0.3**
BDHA	**Al Bayda'**	**5.15**	**73**	⇓*i*P	**Pn**	**00 00 40.6**	**-2.5**
BDHA				*i* S	**Sn**	**00 01 43.6**	**+0.3**
KMBO	**Kilima Mbogo**	**13.89**	**194**	LR	LR	00 08 00.4	
	comp=N,243nm,19.2s,baz=344,slow=38						
BRTR	**Keskin Array B**	**27.82**	**349**	P	**P**	**00 05 16.9**	**+1.3**
	comp=N,2.0nm,0.9s,mb3.7,baz=174,slow=11,SNR=8.8						
BRTR	**Keskin Array B**	**27.82**	**349**	P	**P**	**00 05 17.0**	**+1.4**
LSZ	**Lusaka**	**30.14**	**204**	LR	LR	00 18 46.6	
	comp=N,140nm,18.6s,MS3.6,baz=40,slow=39						
AKASG	**Malin Array Be**	**39.23**	**349**	P	**P**	**00 06 53.2**	**-1.0**
	comp=N,0.2nm,0.2s,mb3.4,baz=170,slow=7.0,SNR=5.0						
AKASG	**Malin Array Be**	**39.23**	**349**	P	**P**	**00 06 53.2**	**-1.1**
GERES	**GERESS Array B**	**42.53**	**334**	P	**P**	**00 07 21.4**	**-0.1**
	comp=N,1.3nm,0.8s,mb3.7,baz=124,slow=4.8,SNR=11						
DAVOX	**Davos**	**42.83**	**329**	LR	LR	00 26 33.8	
	comp=N,49nm,19.2s,MS3.4,baz=76,slow=38						
MKAR	**Makanchi Array**	**48.98**	**37**	P	**P**	**00 08 13.4**	**+0.7**
	comp=N,1.1nm,0.9s,mb3.9,baz=239,slow=7.1,SNR=4.2						
MKAR				LR	LR	00 33 01.9	
	comp=N,147nm,21.5s,MS3.9,baz=224,slow=41						
MKAR	**Makanchi Array**	**48.98**	**37**	P	**P**	**00 08 13.4**	**+0.6**
NOA	**NORSAR Array B**	**52.99**	**343**	P	**P**	**00 08 43.0**	**-0.1**
	comp=N,2.1nm,0.9s,mb4.0,baz=141,slow=8.1,SNR=3.5						
NOA				LR	LR	00 32 48.1	
	comp=N,17nm,18.1s,MS3.1,baz=115,slow=38						
NOA	**NORSAR Array B**	**52.99**	**343**	P	**P**	**00 08 43.0**	**-0.1**
NOA				LR	LR	00 32 48.1	
SONM	**Songino Array**	**64.70**	**43**	P	**P**	**00 10 05.2**	**+0.6**
	comp=N,1.2nm,0.9s,mb3.9,baz=270,slow=5.9,SNR=6.0						
SONM				LR	LR	00 42 57.1	
	comp=N,110nm,18.1s,MS4.1,baz=42,slow=40						
MJAR	**Matsushiro Arr**	**88.75**	**53**	LR	LR	00 55 42.5	
	comp=N,80nm,18.6s,MS4.2,baz=215,slow=38						
FITZ	**Fitzroy Crossi**	**89.28**	**109**	LR	LR	00 42 21.4	
	comp=N,109nm,21.5s,MS4.2,baz=279,slow=29						
BDFB	**Brasilia**	**91.91**	**255**	LR	LR	00 46 05.6	
	comp=N,52nm,22.0s,MS3.9,baz=206,slow=30						

KRSC 24 00:19:25.3±3.8, 49.82N×155.14E, h183km±7km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.07**	**36**	*i* P	P	00 19 52.5	-1.5
SKR				*i* S	S	00 20 16.9	+0.7
ALID	**Alaid**	**1.08**	**14**	*i* P	P	00 19 55.4	+1.3
PAU	**Pauzhetka**	**1.96**	**32**	*i* P	P	00 20 04.5	+2.0
PAU				*i* S	S	00 20 31.0	-0.2
PAU				Smax			
	110nm,1.5s						
MIPR	**Malaya Ipel'ka**	**2.66**	**22**	*i* P	P	00 20 12.0	+1.4
MIPR				*e*S	S	00 20 45.2	-0.3
GRL	**Gorelyy**	**3.30**	**33**	*e*P	P	00 20 20.4	+2.0
APC	**Apacha**	**3.36**	**21**	*e*P	P	00 20 20.0	+0.9
RUS	**Russkaya**	**3.37**	**38**	*i* P	P	00 20 20.9	+1.6
RUS				*e*S	S	00 21 00.0	-0.9
KRMR	**Karymshinskiy**	**3.55**	**31**	*e*S	S	00 21 02.8	-2.0
AVH	**Avacha**	**4.12**	**32**	*i* P	P	00 20 31.8	+3.1
AVH				*e*S	S	00 21 18.3	+0.7
SMAR	**Somma**	**4.14**	**32**	*e*P	P	00 20 32.0	+3.1
GNL	**Ganaly**	**4.25**	**23**	*e*P	P	00 20 31.4	+1.0
NLC	**Nalytchevo**	**4.26**	**36**	*e*P	P	00 20 31.1	+0.6
NLC				*e*S	S	00 21 19.3	-1.6
SPN	**Mys Shipunski**	**4.48**	**41**	*i* P	P	00 20 34.6	+1.2
SPN				*i* S	S	00 21 23.7	-2.3
MKZ	**Mys Kozlova**	**6.24**	**38**	*e*P	P	00 20 55.8	-0.4
MKZ				*e*S	S	00 22 01.9	-5.1
KBTR	**Krutoberegovo**	**7.89**	**33**	*e*P	P	00 21 17.4	-0.6

*IDC **24** 00:38:25.1±2.3, 5.65S×147.28E, h212km±18km, mb3.4/3, mb1 3.8/6, mb1mx3.5/13, mbtmp4.2/6, MS3.7/2, Ms1 3.7/2, ms1mx3.0/23, Error ellipse: s-maj=27.2km s-min=15.4km az=141.0*

ISC 24 00:38:21.9±2.0, 5.5S±0.1×147.4E±0.2, h198km±16km, n13, σ0°77/16, mb4.1/4, 2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.93**	**183**	P	**P**	**00 39 24.8**	**+1.4**
	45nm,0.3s,baz=1.6,slow=5.3,SNR=89						
PMG				S	**S**	**00 40 09.9**	**-1.0**
	56nm,0.3s,baz=78,slow=23,SNR=10						
CTA	**Charters Tower**	**14.59**	**184**	P	**P**	**00 41 40.9**	**+0.6**
	0.3nm,0.3s,baz=26,slow=14,SNR=4.4						
KAKA	**Kakadu**	**16.40**	**243**	⇓*i*P	**P**	**00 42 20.2**	**+18**
	17nm,0.6s						
KAKA				*e*S	**S**	**00 45 14.6**	**+17**
WB2	**Warramunga Arr**	**19.17**	**220**	⇓*i*P	**P**	**00 42 31.8**	**-0.7**
WB2				*e*S	**S**	**00 45 55.2**	**+0.8**
WRA	**Warramunga Arr**	**19.18**	**220**	P	**P**	**00 42 32.0**	**-0.6**
	4.5nm,0.3s,baz=48,slow=12,SNR=69						
WRA				S	**S**	**00 45 54.4**	**-0.1**
	baz=40,slow=21,SNR=3.4						
ASPA	**Alice Springs**	**22.27**	**214**	*e*P	**P**	**00 43 04.5**	**+1.2**
ASPA				*e*S	**S**	**00 46 57.3**	**+7.1**
FITZ	**Fitzroy Crossi**	**24.66**	**238**	*e*P	**P**	**00 43 25.7**	**-0.5**
	35nm,0.4s,mb5.3						
FITZ	**Fitzroy Crossi**	**24.66**	**238**	P	**P**	**00 43 25.6**	**-0.5**
	45nm,0.5s,mb5.4,baz=26,slow=7.6,SNR=94						
DZM	**Mont Dzumac**	**24.77**	**134**	P	**P**	**00 43 27.3**	**+0.1**
	3.9nm,0.9s,mb4.0,baz=341,slow=12,SNR=2.5						
STKA	**Stephens Creek**	**26.84**	**191**	P	**P**	**00 43 45.2**	**-0.9**
	0.9nm,0.5s,mb3.7,baz=30,slow=11,SNR=4.6						
CBIJ	**Chichi jima**	**32.74**	**351**	LR	LR	00 55 36.5	
	comp=Z,123nm,19.6s,baz=118,slow=31						
RPZ	**Rata Peaks**	**43.45**	**155**	LR	LR	01 02 35.2	
	comp=Z,109nm,19.9s,baz=64,slow=34						
ILAR	**Eielson Array**	**84.84**	**23**	P	**P**	**00 50 35.0**	**-0.1**
	0.5nm,0.7s,mb3.4,baz=238,slow=4.9,SNR=6.5						

*NIED **24** 00:43:00, 43.20N×145.60E, h53km, Mw3.9 Best double couple: M0 7.29×10^14 NP1:φs31°, δ65°, λ78°. NP2:φs238°, δ28°, λ115°.*
*SKHL **24** 00:43:23.2±0.7, 43.09N×145.88E, h33km, mb4.6/2*
*NEIC **24** 00:43:24.4, 43.17N×145.58E, h51km, MG4.0(JMA), After JMA.*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*MOS **24** 00:43:24.1±1.8, 43.41N×145.66E, h66km, mb4.0/1, Error ellipse: s-maj=21.0km s-min=15.7km az=76.1*
*JMA **24** 00:43:24.3±0.1, 43.17N×145.58E, h51km±1km, M4.0*
JMA Felt I J1.
*IDC **24** 00:43:26.2±3.3, 43.72N×145.70E, h54km±33km, mb3.5/8, mb1 3.7/10, mb1mx3.5/22, mbtmp3.8/10, ML4.1/2, Error ellipse: s-maj=45.9km s-min=26.2km az=176.0*

ISC 24 00:43:22.8±0.7, 43.18N±0.06×145.66E±0.06, h59km±4km, n26, σ0°90/33, mb3.7/8, 4C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.19**	**18**	⇑P	**P**	**00 43 32.9**	**+0.9**
NEM2				*e*S	**S**	**00 43 38.9**	**0.0**
JAK	**Akkeshi**	**0.73**	**256**	⇓P	**P**	**00 43 37.6**	**+0.2**
JAK				*e*S	**S**	**00 43 47.4**	**-0.9**
JNK	**Nakash**	**0.80**	**301**	⇓P	**P**	**00 43 38.6**	**+0.3**
JNK				*e*S	**S**	**00 43 48.5**	**-1.3**
JRA	**Rausu**	**0.85**	**333**	⇓P	**P**	**00 43 40.0**	**+1.0**
JRA				*e*S	**S**	**00 43 51.3**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.87**	**10**	*e*P	**P**	**00 43 39.6**	**+0.4**
YUK				AMB	AMB	00 43 40.9	
	180nm,0.4s						
YUK				AMB	AMB	00 43 40.9	
	110nm,0.4s						
YUK				AMB	AMB	00 43 40.9	
	560nm,0.4s						
YUK				AMB	AMB	00 43 45.7	
	2μm,1.0s						
YUK				*i* S	**S**	**00 43 51.4**	**-0.1**
YUK				A		00 43 53.1	
	9μm,0.9s						
YUK				A		00 43 53.1	
	10μm,0.9s						
YUK				A		00 43 53.1	
	7μm,0.5s						
YUK				A		00 43 53.1	
	7μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.87**	**10**	*e*PN	**P**	**00 43 39.6**	**+0.4**
YUK				*i* S	**S**	**00 43 51.4**	**-0.1**
YUK				pmax	pmax		
	comp=N,180nm,0.4s						
YUK				pmax	pmax		
	comp=Z,560nm,0.4s						
YUK				pmax	pmax		
	comp=E,110nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax			
	comp=E,7μm,0.4s						
YUK				smax			
	comp=N,7μm,0.5s						
YUK				smax			
	comp=N,9μm,0.8s						
YUK				smax			
	comp=E,10μm,1.0s						
JOB	**Onbets**	**1.37**	**259**	⇓P	**P**	**00 43 46.2**	**0.0**
JOB				*e*S	**S**	**00 44 02.2**	**-1.4**
JAR	**Ashorobuto**	**1.39**	**275**	⇓P	**P**	**00 43 46.7**	**+0.2**
JAR				*e*S	**S**	**00 44 03.5**	**-0.5**
JTKR	**Abashiri--Toko**	**1.50**	**302**	⇓P	**P**	**00

*NEIC **24** 00:58:35.8±0.3,6.60S×105.84E,h10km,mb4.7/5,Error ellipse: s-maj=12.1km s-min=7.4km az=53.0*

ISC 24 00:58:37.6±0.4,6.53S±0.10×105.9E±0.1,h33km,n31, σ0$90/27,mb4.3/15,MS3.7/6,1C-4D,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.43**	**123**	*eP*		**P**	**01 03 35.9**	**+0.9**
	9.9nm,0.6s,mb4.4							
FITZ				*eS*		**S**	**01 07 37.3**	**+2.9**
FITZ	**Fitzroy Crossi**	**22.43**	**123**	P		**P**	**01 03 35.4**	**+0.4**
	11nm,0.7s,mb4.4,baz=328,slow=5.4,SNR=16							
FITZ				LR		LR	01 12 42.4	
	comp=Z,85nm,19.2s,MS3.2,baz=100,slow=38							
KAKA	**Kakadu**	**26.87**	**105**	*eP*		Px	01 04 39.8	
	17nm,0.9s							
NWAO	**Narrogin (SRO)**	**28.30**	**160**	LR		LR	01 14 30.3	
	comp=Z,240nm,21.0s,MS3.8,baz=145,slow=34							
WRA	**Warramunga Arr**	**30.66**	**119**	P		**P**	**01 04 50.4**	**-1.1**
	2.7nm,0.5s,mb4.4,baz=287,slow=13,SNR=29							
WRAB	**Tennant Creek**	**30.67**	**118**	*eP*		**P**	**01 04 50.8**	**-0.8**
	8.7nm,0.5s,mb4.8							
WB2	**Warramunga Arr**	**30.67**	**119**	*eP*		**P**	**01 04 50.9**	**-0.7**
ASPA	**Alice Springs**	**31.85**	**125**	*eP*		**P**	**01 05 02.8**	**+0.8**
PMG	**Port Moresby**	**40.95**	**97**	P		**P**	**01 06 19.6**	**+0.5**
	8.3nm,0.6s,mb4.6,baz=283,slow=18,SNR=3.4							
STKA	**Stephens Creek**	**41.77**	**132**	*eP*		**P**	**01 06 25.8**	**+0.1**
	4.9nm,0.4s,mb4.5							
STKA	**Stephens Creek**	**41.77**	**132**	P		**P**	**01 06 26.2**	**+0.4**
	6.2nm,0.3s,mb4.7,baz=317,slow=7.9,SNR=25							
STKA				LR		LR	01 25 13.1	
	comp=Z,99nm,18.5s,MS3.7,baz=311,slow=38							
SONM	**Songino Array**	**54.13**	**0**	P		**P**	**01 08 00.6**	**-1.2**
	0.5nm,0.6s,mb3.7,baz=177,slow=7.9,SNR=4.5							
SONM				PcP		PcP	01 09 05.4	-0.7
	0.8nm,0.4s,baz=176,slow=4.8,SNR=4.5							
SONM				LR		LR	01 32 28.6	
	comp=Z,117nm,20.9s,MS3.9,baz=27,slow=38							
SONM	**Songino Array**	**54.13**	**0**	P		**P**	**01 08 00.6**	**-1.2**
SONM				PcP		PcP	01 09 05.4	-0.7
SONM				LR		LR	01 32 28.6	
MKAR	**Makanchi Array**	**57.08**	**341**	P		**P**	**01 08 23.2**	**+0.1**
	0.7nm,0.7s,mb3.8,baz=150,slow=7.2,SNR=6.3							
MKAR	**Makanchi Array**	**57.08**	**341**	P		**P**	**01 08 23.2**	**+0.1**
CASY	**Casey**	**59.74**	**178**	*eP*		**P**	**01 08 38.7**	**-2.7**
	3.9nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**62.80**	**346**	P		**P**	**01 09 01.7**	**-0.5**
	1.2nm,0.3s,mb4.4,baz=85,slow=6.9,SNR=2.9							
ZAL	**Zalesovo**	**62.80**	**346**	P		**P**	**01 09 01.7**	**-0.5**
BVAR	**Borovoye Array**	**66.51**	**338**	P		**P**	**01 09 26.4**	**+0.2**
	1.4nm,0.5s,mb4.3,baz=138,slow=8.6,SNR=8.3							
MAW	**Mawson**	**67.50**	**196**	P		**P**	**01 09 30.9**	**-1.3**
	4.8nm,0.9s,mb4.5,baz=67,slow=16,SNR=9.1							
MAW				LR		LR	01 33 51.5	
	comp=Z,76nm,21.0s,MS3.9,baz=235,slow=31							
KMBO	**Kilima Mbogo**	**68.66**	**271**	LR		LR	01 33 45.5	
	comp=Z,62nm,19.1s,MS3.9,baz=97,slow=31							
BRTR	**Keskin Array B**	**80.70**	**312**	P		**P**	**01 10 49.6**	**+0.3**
	1.3nm,0.8s,mb3.9,baz=121,slow=7.2,SNR=6.0							
QSPA	**South Pole Qui**	**83.46**	**180**	⇑*iP*		**P**	**01 11 02.9**	**+0.2**
	5.3nm,0.9s,mb4.6							
SNAA	**Sanae**	**89.65**	**197**	⇓*iP*		**P**	**01 11 33.6**	**+0.6**
SNAA				*e*			01 11 51.5	
SNAA				*e*			01 11 56.4	
SNAA				*e*			01 14 38.2	
FINES	**FINESS Array B**	**90.84**	**332**	P		**P**	**01 11 39.3**	**+0.5**
	1.6nm,0.8s,mb4.4,baz=124,slow=5.0,SNR=3.3							
VNA2	**Neumayer--Watz**	**91.29**	**198**	⇓*iP*		**P**	**01 11 41.7**	**+1.0**
VNA2				*e*			01 11 59.4	
VNA2				*e*			01 12 04.7	
VNA2				*e*			01 12 14.3	
VNA2				*e*			01 14 41.5	
VNA1	**Neumayer--Stat**	**91.67**	**198**	⇓*iP*		**P**	**01 11 43.5**	**+1.1**
VNA1				*e*			01 12 01.3	
VNA1				*e*			01 12 05.1	
VNA1				*e*			01 14 40.5	
VNA3	**Neumayer Olymp**	**91.83**	**197**	⇓*iP*		**P**	**01 11 42.8**	**-0.4**
VNA3				*e*			01 12 00.4	
VNA3				*e*			01 12 04.8	
VNA3				*e*			01 12 16.0	
VNA3				*e*			01 14 39.2	
ARCES	**ARCESS Array B**	**92.72**	**340**	P		**P**	**01 11 48.1**	**+0.8**
	1.9nm,0.9s,mb4.5,baz=102,slow=5.8,SNR=6.3							
BDFB	**Brasilia**	**146.04**	**229**	PKPbc		PKPbc	01 18 17.2	+1.9
	2.0nm,0.6s,baz=175,slow=7.1,SNR=4.8							
LVC	**Limon Verde**	**150.60**	**190**	PKPbc		PKPdf	01 18 31.3	+10
	1.1nm,0.6s,baz=57,slow=7.3,SNR=2.7							

DHMR 24 01:00:30.0±0.8,12.64N×40.53E,h10km,ML3.8,2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.60**	**68**	*i* S		Sn	01 02 14.8	+4.6
UDYN				AML		AML	01 02 39.5	
	comp=E,383nm,0.6s							
DHBB	**Dhamar BB**	**4.22**	**62**	⇓*eP*		Pn	01 01 37.6	+1.7
DHBB				*i* S		Sn	01 02 29.1	+3.3
LBOS		**4.76**	**75**	⇓*iP*		Pn	01 01 41.5	-2.0
LBOS				*i* S		Sn	01 02 38.9	-0.6
BDHA	**Al Bayda'**	**5.08**	**74**	*i* S		Sn	01 02 46.3	-1.4

*ROM **24** 01:00:34.9±0.3,43.81N×13.39E,h10km,Md2.9/15, Ml2.4/8, Error ellipse: s-maj=3.7km s-min=2.0km az=36.0*
*NEIC **24** 01:00:34.9,43.81N×13.39E,h10km, MD2.9(ROM),After ROM.*
*CSEM **24** 01:00:35.5±0.1,43.75N×13.37E,h12km,MD2.9/15,Error ellipse: s-maj=2.2km s-min=1.2km az=101.0*
*PRU **24** 01:00:36.1,43.75N×13.53E*

ISC 24 01:00:35.1±0.5,43.82N±0.03×13.41E±0.04,h3km±6km, n47,σ1$02/68,14C-4D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.30**	**152**	Pg		**Pg**	**01 00 42.2**	**+1.1**
AOI				Sg		**Sg**	**01 00 47.7**	**+2.5**
	241nm,0.3s							
ARV	**Arcevia**	**0.47**	**227**	Pg		**Pg**	**01 00 44.1**	**-0.3**
	51nm,0.2s							
CING	**Cingoli**	**0.47**	**200**	Pg		**Pg**	**01 00 44.3**	**-0.1**
CING				Sg		**Sg**	**01 00 52.3**	**+1.6**
	144nm,0.3s							
FSSB	**Fossombrone**	**0.47**	**255**	Pg		**Pg**	**01 00 44.3**	**-0.3**
FSSB				Sg		**Sg**	**01 00 51.8**	**+0.9**
	112nm,0.2s							
SNTG	**Esanatoglia**	**0.66**	**211**	Pg		**Pg**	**01 00 47.6**	**-0.6**
SNTG				Sg		**Sg**	**01 00 58.8**	**+1.8**
	73nm,0.2s							
RSM	**Repubblica di**	**0.70**	**280**	Pg		**Pg**	**01 00 48.9**	**-0.2**
	26nm,0.3s							
MURB	**Monte Urbino**	**0.85**	**230**	Pg		**Pg**	**01 00 51.3**	**-0.7**
MURB				Sg		**Sg**	**01 01 05.3**	**+1.9**
	411nm,0.3s							
BADI	**Badiali**	**0.90**	**250**	Pg		**Pg**	**01 00 52.4**	**-0.7**
	113nm,0.3s							
NRCA	**Norcia**	**1.01**	**192**	Pg		**Pg**	**01 00 53.9**	**-1.3**
	26nm,0.4s							
CRE	**Caprese Michel**	**1.08**	**260**	Pg		**Pg**	**01 00 56.6**	**0.0**
	27nm,0.3s							
SFI	**Santa Sofia**	**1.13**	**275**	Pg		**Pg**	**01 00 57.7**	**0.0**
	23nm,0.4s							
TERO	**Teramo**	**1.20**	**173**	Pg		**Pg**	**01 00 58.3**	**-0.8**
	65nm,0.4s							
CAMP	**Campotosto**	**1.28**	**180**	Pg		**Pg**	**01 00 59.2**	**-1.5**
	90nm,0.6s							
NVLJ	**Novalja**	**1.29**	**54**	*i* Pg		**Pg**	**01 01 00.6**	**-0.2**
NVLJ				*i* Sg		**Sg**	**01 01 18.9**	**+0.9**
NVLJ	**Novalja**	**1.29**	**54**	*i* Pg		**Pg**	**01 01 00.5**	**-0.3**
NVLJ				*i* Sg		**Sg**	**01 01 18.9**	**+0.9**
SACS	**San Casciano d**	**1.46**	**229**	Pg		**Pg**	**01 01 03.2**	**-1.1**
	40nm,0.8s							
AQU	**L'Aquila**	**1.46**	**180**	*eP*		**Pn**	**01 01 02.4**	**0.0**
AQU	**L'Aquila**	**1.46**	**180**	*eP*		**Pn**	**01 01 02.4**	**0.0**
MNS	**Montasola**	**1.53**	**201**	Pg		**Pg**	**01 01 03.6**	**-2.0**
	29nm,0.4s							
FIAM	**Fiamignano**	**1.56**	**188**	Pg		**Pg**	**01 01 04.4**	**-1.9**
	84nm,1.1s							
CEY	**Cerknica**	**2.05**	**20**	*i* Pn		**Pn**	**01 01 11.4**	**+0.5**
CEY				*i* Sn		**Sn**	**01 01 38.5**	**+1.2**
CII	**Carovilli**	**2.19**	**162**	P		**Pn**	**01 01 12.2**	**-0.7**
VOY	**Vojsko**	**2.24**	**9**	*e*Pn		**Pn**	**01 01 14.5**	**+0.9**
VOY				*e*Sn		**Sn**	**01 01 41.7**	**-0.4**
CADS	**Cadrg**	**2.42**	**5**	*i* Pn		**Pn**	**01 01 16.1**	**-0.1**
CADS				*i* Sn		**Sn**	**01 01 46.0**	**-0.7**
CADS	**Cadrg**	**2.42**	**5**	*i* Pn		**Pn**	**01 01 16.0**	**-0.2**
CADS				*i* Sn		**Sn**	**01 01 46.0**	**-0.7**
CRES	**Cresnjev**	**2.48**	**35**	*i* Pn		**Pn**	**01 01 18.2**	**+1.2**
OBKA	**Obir**	**2.81**	**16**	⇑*i*PN		**Pn**	**01 01 22.5**	**+0.8**
OBKA				*i* SN		**Sn**	**01 01 56.4**	**-0.1**
OBKA	**Obir**	**2.81**	**16**	⇑*i*Sn		**Sn**	**01 01 56.4**	**-0.2**
	comp=Z,2.6nm,0.2s							
WTTA	**Wattenberg**	**3.67**	**341**	⇑*i*PN		**Pn**	**01 01 35.0**	**+1.1**
WTTA				*i* SN		**Sn**	**01 02 18.3**	**+0.1**
WTTA	**Wattenberg**	**3.67**	**341**	⇑*i*Pn		**Pn**	**01 01 35.0**	**+1.2**
WTTA	**Wattenberg**	**3.67**	**341**	⇑*i*Sn		**Sn**	**01 02 18.3**	**+0.1**
	comp=Z,1.5nm,0.2s							
SQTA	**Sankt Quirin**	**3.74**	**336**	⇑*i*PN		**Pn**	**01 01 35.8**	**+0.9**
SQTA				*i* SN		**Sn**	**01 02 20.0**	**0.0**
SQTA	**Sankt Quirin**	**3.74**	**336**	⇑*i*Pn		**Pn**	**01 01 35.8**	**+0.9**
SQTA	**Sankt Quirin**	**3.74**	**336**	⇓*i*Sn		**Sn**	**01 02 20.0**	**-0.1**
	comp=Z,2.4nm,0.2s							
ARSA	**Arzberg**	**3.74**	**23**	⇑*i*PN		**Pn**	**01 01 34.9**	**0.0**
ARSA				*i* SN		**Sn**	**01 02 19.8**	**-0.3**
ARSA	**Arzberg**	**3.74**	**23**	⇑*i*Sn		**Sn**	**01 02 19.8**	**-0.2**
	comp=Z,1.3nm,0.3s							
WATA	**Walderalm**	**3.75**	**341**	⇓*i*PN		**Pn**	**01 01 35.8**	**+0.8**
WATA				*i* SN		**Sn**	**01 02 20.4**	**+0.1**
WATA	**Walderalm**	**3.75**	**341**	⇓*i*Pn		**Pn**	**01 01 35.8**	**+0.8**
WATA	**Walderalm**	**3.75**	**341**	⇓*i*Sn		**Sn**	**01 02 20.4**	**+0.2**
	comp=Z,2.8nm,0.2s							
MOTA	**Moosalm**	**3.88**	**336**	⇑*i*PN		**Pn**	**01 01 38.1**	**+1.2**
MOTA				*i* SN		**Sn**	**01 02 24.3**	**+0.6**
MOTA	**Moosalm**	**3.88**	**336**	⇑*i*Pn		**Pn**	**01 01 38.1**	**+1.2**
MOTA	**Moosalm**	**3.88**	**336**	⇑*i*Sn		**Sn**	**01 02 24.3**	**+0.6**
	comp=Z,2.3nm,0.4s							
MOA	**Molln**	**4.08**	**8**	⇑*i*PN		**Pn**	**01 01 40.2**	**+0.5**
MOA				*i* SN		**Sn**	**01 02 27.4**	**-1.2**
MOA	**Molln**	**4.08**	**8**	⇑*i*Sn		**Sn**	**01 02 27.4**	**-1.2**
	comp=Z,1.3nm,0.3s							
GEC2	**GERESS Array S**	**5.03**	**2**	*e*Pn		**Pn**	**01 01 51.5**	**-1.8**
GEC2				*e*Sn		**Sn**	**01 02 48.5**	**-4.3**
KHC	**Kasperske Hory**	**5.32**	**1**	*e*PN		**Pn**	**01 01 55.9**	**-1.4**
KHC				*ex*		x	01 02 05.0	
KHC				*e*SN		**Sn**	**01 02 54.3**	**-5.6**
WET	**Wettzell**	**5.34**	**356**	*e*Pn		**Pn**	**01 01 55.8**	**-1.8**
WET				*e*Sn		**Sn**	**01 02 53.2**	**-7.3**

*IDC **24** 01:02:39.8±9.9,17.91S×178.76W,h594km±98km,mb3.5/5, mb1 3.6/6,mb1mx3.2/16,mbtmp4.5/6,Error ellipse: s-maj=72.0km s-min=48.9km az=84.0*

ISC 24 01:02:35.9±4.1,17.4S±0.7×178.5W±0.4,h600km,n13, σ0$48/10,mb4.1/5,3C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.94**	**249**	P		**P**	**01 05 44.0**	**+0.6**
	0.9nm,0.3s,baz=65,slow=14,SNR=11							
CTA	**Charters Tower**	**33.46**	**260**	P		**P**	**01 08 28.3**	**0.0**
	3.9nm,0.6s,mb4.2,baz=75,slow=14,SNR=5.0							
STKA	**Stephens Creek**	**38.83**	**241**	⇓*i*P		**P**	**01 09 12.2**	**-0.1**
	6.1nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**38.83**	**241**	P		**P**	**01 09 11.5**	**-0.8**
	7.8nm,0.5s,mb4.5,baz=91,slow=9.9,SNR=17							
WB2	**Warramunga Arr**	**44.64**	**259**	P		**P**	**01 09 58.0**	**-0.4**
WRA	**Warramunga Arr**	**44.66**	**259**	P		**P**	**01 09 58.0**	**-0.5**
	3.3nm,0.5s,mb4.1,baz=94,slow=7.0,SNR=22							
ASPA	**Alice Springs**	**44.87**	**254**	⇓*i*P		**P**	**01 10 00.0**	**-0.1**
KAKA	**Kakadu**	**47.51**	**268**	⇑*i*P		Px	01 10 40.4	
	7.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**53.04**	**260**	⇑*i*P		**P**	**01 11 01.6**	**+1.1**
	4.3nm,0.8s,mb3.8							
FITZ	**Fitzroy Crossi**	**53.04**	**260**	P		**P**	**01 11 00.9**	**+0.4**
	3.1nm,0.3s,mb4.1,baz=183,slow=14,SNR=10							
MAW	**Mawson**	**84.36**	**200**	P		**P**	**01 14 06.5**	**+0.1**
	0.9nm,0.4s,mb3.6,baz=148,slow=1.9,SNR=3.5							
BRTR	**Keskin Array B**	**144.33**	**315**	PKP		PKPdf	01 21 09.8	+5.2
	1.0nm,0.8s,baz=138,slow=3.7,SNR=5.9							
GERES	**GERESS Array B**	**147.06**	**345**	PKPbc		PKPdf	01 21 17.6	+8.8
	0.7nm,0.5s,baz=22,slow=3.1,SNR=8.5							

*IDC **24** 01:04:15.2±1.9,11.95N×39.98E,mb3.7/4,mb1 3.8/6, mb1mx3.7/18,mbtmp3.7/6,ML3.7/2,MS3.3/5,Ms1 3.3/5, ms1mx3.1/19,Error ellipse: s-maj=39.5km s-min=17.3km az=23.0*
*NEIC **24** 01:04:19.3±1.1,12.38N×40.42E,h10km,mb3.8/2, ML4.1(DHMR),Error ellipse: s-maj=21.4km s-min=15.7km az=186.0*
*CSEM **24** 01:04:19.3±0.2,12.38N×40.42E,h10km,mb3.8/2,Error ellipse: s-maj=7.0km s-min=5.3km az=172.0,After NEIC*
*DHMR **24** 01:04:20.1±2.3,12.58N×40.57E,h10km,ML4.5*

ISC 24 01:04:17.1±0.9,12.3N±0.1×40.30E±0.06,h10km,n25, σ1$38/33,mb3.7/5,MS3.3/3,1C-9D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.62**	**108**	Pn		**Pn**	**01 05 02.4**	**+2.1**
	74nm,0.3s,baz=264,slow=23,SNR=51							
ATD				Sn		**Sn**	**01 05 38.7**	**+6.3**
	36nm,0.3s,baz=275,slow=22,SNR=10							
ATD				Lg			01 05 45.4	
	39nm,0.3s,baz=262,slow=21,SNR=6.8							
ATD				LR		LR	01 06 21.2	
	comp=Z,512nm,21.5s,baz=148,slow=44							
ATD	**Arta Tunnel**	**2.62**	**108**	Pn		**Pn**	**01 05 02.4**	**+2.1**
ATD				Sn		**Sn**	**01 05 38.7**	**+6.3**
ATD				Lg			01 05 45.4	
ATD				LR		LR	01 06 21.2	
UDYN	**Al 'Udayn**	**3.92**	**65**	⇓*eP*		**Pn**	**01 05 18.9**	**+0.1**
UDYN				*i* S		**Sn**	**01 06 04.9**	**-0.6**
UDYN				AML		AML	01 06 27.8	
	comp=N,2μm,0.6s							
UDYN	**Al 'Udayn**	**3.92**	**65**	⇓*iP*		**Pn**	**01 05 16.4**	**-2.4**
UDYN				*i* S		**Sn**	**01 06 06.6**	**+1.2**
DHBB	**Dhamar BB**	**4.56**	**60**	⇓*eP*		**Pn**	**01 05 27.0**	**-0.8**
DHBB				*i* S		**Sn**	**01 06 19.3**	**-2.2**
DHBB	**Dhamar BB**	**4.56**	**60**	⇓*iP*		**Pn**	**01 05 25.4**	**-2.4**
DHBB				*i* S		**Sn**	**01 06 21.9**	**+0.4**
DHBB	**Dhamar BB**	**4.56**	**60**	⇓*iP*		**Pn**	**01 05 25.4**	**-2.4**
DHBB				*i* S		**Sn**	**01 06 21.9**	**+0.4**
LBOS		**5.06**	**72**	⇓*iP*		**Pn**	**01 05 32.2**	**-2.7**
LBOS		**5.06**	**72**	⇑*iP*		**Pn**	**01 05 32.7**	**-2.2**
LBOS				*i* S		**Sn**	**01 06 35.2**	**+1.0**
BDHA	**Al Bayda'**	**5.38**	**72**	⇓*eP*		**Pn**	**01 05 36.1**	**-3.4**
BDHA				*i* S		**Sn**	**01 06 35.9**	**-6.4**
BDHA	**Al Bayda'**	**5.38**	**72**	⇓*iP*		**Pn**	**01 05 36.3**	**-3.2**
BDHA				*i* S		**Sn**	**01 06 43.0**	**+0.7**
BDHA	**Al Bayda'**	**5.38**	**72**	⇓*iP*		**Pn**	**01 05 36.3**	**-3.2**
BDHA				*i* S		**Sn**	**01 06 43.0**	**+0.7**
KMBO	**Kilima Mbogo**	**13.71**	**193**	Pn		**P**	**01 07 25.1**	**-9.1**
	comp=N,0.1nm,0.3s,baz=17,slow=23,SNR=2.7							
KMBO				LR		LR	01 12 55.7	
	comp=N,82nm,20.4s,baz=252,slow=39							
IDI	**Anoyia**	**26.77**	**331**	LR		LR	01 20 27.9	
	comp=N,51nm,20.9s,MS3.1,baz=84,slow=36							
BR131	**Keskin Array S**	**27.91**	**349**	P		**P**	**01 10 10.0**	**+0.6**
	comp=N,0.7nm,0.6s,mb3.5							
BR131	**Keskin Array S**	**27.91**	**349**	P		**P**	**01 10 10.0**	**+0.6**
	comp=N,0.7nm,0.6s,mb3.5							
BRTR	**Keskin Array B**	**27.91**	**349**	P		**P**	**01 10 10.2**	**+0.9**
	comp=N,1.1nm,0.8s,mb3.5,baz=186,slow=11,SNR=9.5							
BRTR	**Keskin Array B**	**27.91**	**349**	P		**P**	**01 10 10.2**	**+0.8**
LSZ	**Lusaka**	**29.94**	**204**	*eP*		**P**	**01 10 27.2**	**-0.7**
	comp=N,2.0nm,0.8s,mb3.9							
LSZ	**Lusaka**	**29.94**	**204**	*eP*		**P**	**01 10 27.2**	**-0.7**
	comp=N,2.0nm,0.8s,mb3.9							
GERES	**GERESS Array B**	**42.56**	**334**	P		**P**	**01 12 14.9**	**+0.2**
	comp=N,0.4nm,0.6s,mb3.3,baz=135,slow=7.5,SNR=5.6							
DBIC	**Dimbokro**	**44.84**	**267**	LR		LR	01 31 18.2	
	comp=N,45nm,18.8s,MS3.4,baz=111,slow=36							
MDT	**Midelt**	**45.79**	**304**	LR		LR	01 31 33.7	
	comp=N,54nm,18.4s,MS3.5,baz=13,slow=36							
MKAR	**Makanchi Array**	**49.21**	**37**	P		**P**	**01 13 08.7**	**+1.2**
	comp=N,0.8nm,0.7s,mb3.9,baz=207,slow=5.4,SNR=4.4							
SONM	**Songino Array**	**64.94**	**43**	P		**P**	**01 14 59.8**	**+0.6**
	comp=N,1.0nm,0.8s,mb3.9,baz=246,slow=8.1,SNR=7.0							

TRN 24 01:13:12.0,17.35N×61.36W,h35km,MD3.6,1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.53**	**303**	⇑*iP*		P	01 13 24.5	+1.6
CPB				*e*S		S	01 13 32.7	+1.9
BPA	**Boggy Peak**	**0.56**	**238**	*e*P		P	01 13 24.6	+1.2
BPA				*e*S		S	01 13 33.5	+1.8
DEG	**La Desirade**	**1.07**	**164**	*e*P		P	01 13 30.1	-0.5
DEG				*e*S		S	01 13 44.3	-0.3
NVRH	**Round Hill, Ne**	**1.20**	**262**	*e*P		P	01 13 34.2	+1.8
NVRH				*e*S		S	01 13 50.4	+2.6
SKTB	**Turtle Beach**	**1.21**	**263**	*e*S		S	01 13 50.4	+2.3
LZG	**Guadaloupe-1**	**1.27**	**198**	*e*P		P	01 13 34.4	+0.9
LZG				*e*S		S	01 13 51.5	+2.0
BCG	**Bois Riant Cap**	**1.28**	**191**	*e*P		P	01 13 34.9	+1.3
SKI	**Saint Kitts**	**1.32**	**269**	*e*P		P	01 13 36.6	+2.3
SKI				*e*S		S	01 13 55.2	+4.3
DOG	**Dongo Capester**	**1.33**	**191**	*e*P		P	01 13 36.0	+1.5
SCG	**Saint Claude**	**1.35**	**193**	*e*P		P	01 13 36.2	+1.5
MGG	**Marie-Galante**	**1.43**	**178**	*e*P		P	01 13 36.4	+0.6
TBG	**Guadaloupe-3**	**1.52**	**190**	*e*P		P	01 13 38.5	+1.4

*BJI **24** 01:14:03.3,18.20N×96.80W,h70km,mB5.4,Ms4.9, Ms24.8*
*NEIC **24** 01:14:03.3±0.2,18.15N×96.84W,mb5.0/109, MD4.5(MEX),Error ellipse: s-maj=4.5km s-min=3.0km az=219.0*
NEIC Felt [III] at Oaxaca. Felt at Boca del Rio, Fortin de las Flores, Jalapa, Ojitlan, Orizaba and Tehuacan.
*HRVD **24** 01:14:03.3±0.4,18.20N×96.85W,h61km±2km,MW5.0/47, Centroid moment Tensor Solution. LP body waves: s36,c57;Mantle waves: s47,c80; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.48±.20; Mθθ3.12±.14; Mφφ-0.64±.19; Mrθ-0.47±.10; Mθφ-1.56±.16; Mφr-1.69±.12; Best double couple: M0 3.696×10^16 NP1:ϕ=80°, δ53°, λ-136°. NP2:ϕ=320°, δ56°, λ-46°. Principal axes: T 3.686, Plg1°, Azm20°; N .017, Plg35°, Azm111°; P -3.705, Plg55°, Azm288°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **24** 01:14:03.3±0.4,18.12N×96.86W,h73km±2km,mb4.4/27, mb1 4.5/30,mb1mx4.4/32,mbtmp4.7/30,MS3.7/19, Ms1 3.7/19,ms1mx3.6/27 Error ellipse: s-maj=15.7km s-min=7.1km az=55.0*
*MEX **24** 01:14:03.3±1.6,18.05N×96.99W,h80km±16km,MD4.7*

ISC 24 01:14:02.1±0.2,18.13N±0.02×96.92W±0.02,h74km, h74km±1.7km:pP-P,n284,σ1$22/268,mb4.8/121,1D, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**1.05**	**170**	*i* P		**P**	**01 14 21.1**	**-0.6**
OXX				*i* S		**S**	**01 14 35.7**	**-0.6**
VHO	**Vista Hermosa**	**1.06**	**171**	*i* P		**P**	**01 14 21.9**	**+0.1**
VHO				*e*S		**S**	**01 14 35.5**	**-0.9**
LVIG	**Laguna Verde**	**1.66**	**16**	*i* P		**P**	**01 14 30.2**	**+0.4**
LVIG				*i* S		**S**	**01 14 51.0**	**+0.8**
LVIG	**Laguna Verde**	**1.66**	**16**	*i* P		**P**	**01 14 30.2**	**+0.4**
LVIG				*i* S		**S**	**01 14 50.5**	**+0.3**
PPM	**Popocatepetl**	**1.87**	**300**	*i* P		**P**	**01 14 34.8**	**+2.1**
PPM				*i* S		**S**	**01 14 54.3**	**-0.9**
PNIG	**Pinotepa**	**2.08**	**214**	*i* P		**P**	**01 14 32.1**	**-3.4**
PNIG				*i* S		**S**	**01 14 56.8**	**-3.4**
YAIG	**Yautepec**	**2.17**	**290**	*i* P		**P**	**01 14 37.5**	**+0.7**
YAIG				*i* S		**S**	**01 15 01.5**	**-1.0**
CMIG	**Matias Romero**	**2.19**	**118**	*i* P		**P**	**01 14 37.5**	**+0.3**
CMIG				*i* S		**S**	**01 15 02.4**	**-0.7**
TUIG	**Tuzandepetl**	**2.37**	**92**	*eP*		**P**	**01 14 40.7**	**+1.0**
TUIG				*e*S		**S**	**01 15 08.5**	**+0.9**
UNM	**Universidad Na**	**2.46**	**300**	*eP*		**P**	**01 14 42.5**	**+1.7**
UNM				*i* S		**S**	**01 15 07.9**	**-1.8**
HUIG	**Huatulco**	**2.47**	**162**	*eP*		**P**	**01 14 40.1**	**-0.9**
HUIG				*i* S		**S**	**01 15 06.3**	**-3.7**

MPU Maple Canyon 25.25 333 *e*P **P 01 19 22.9 0.0**
77nm,1.0s,mb5.1
NLU North Lily Min 25.40 332 *e*P **P 01 19 25.3 +1.1**
NLU *e*pP pP 01 19 47.8 +6.6
DAU Daniels Canyon 25.42 334 *e*P **P 01 19 25.0 +0.6**
ROSC El Rosal 25.72 118 P **P 01 19 27.6 +0.1**
2.3nm,0.3s,mb4.0,baz=111,slow=16,SNR=2.4
CTU Camp Tracy 25.86 333 *e*P **P 01 19 28.5 0.0**
48nm,1.1s,mb4.8
ISA Isabella 25.88 317 *e*P **P 01 19 29.7 +1.0**
41nm,1.6s,mb4.6
NOQ North Oquirrh 25.99 333 P **P 01 19 29.7 0.0**
56nm,1.2s,mb4.9
TCUT Toone Canyon 26.07 335 *e*P **P 01 19 31.2 +0.7**
HWUT Hardware Ranch 26.55 335 *e*P **P 01 19 34.7 -0.2**
48nm,1.0s,mb5.0
PDAR Pinedale Array 26.81 339 P **P 01 19 36.7 -0.5**
13nm,0.8s,mb4.5,baz=135,slow=8.0,SNR=70
PDAR sP sP 01 20 02.7 -0.6
12nm,0.8s,baz=135,slow=10,SNR=5.8
MTUM Tungsten Hills 26.98 320 P **P 01 19 40.1 +1.2**
SDV Santo Domingo 27.12 106 P **P 01 19 40.4 0.0**
40nm,0.7s,mb5.0,baz=319,slow=4.4,SNR=82
SDV sP sP 01 20 06.2 -0.3
49nm,0.8s,baz=296,slow=4.9,SNR=5.3
SDV LR LR 01 31 39.8
comp=Z,132nm,20.8s,baz=200,slow=39
SDV Santo Domingo 27.12 106 *e*P **P 01 19 39.9 -0.5**
43nm,0.7s,mb5.1
HVU Hansel Valley 27.20 333 *e*P **P 01 19 39.5 -1.3**
91nm,1.0s,mb5.3
AHID Auburn Hatcher 27.36 337 *e*P **P 01 19 41.8 -0.5**
34nm,0.9s,mb4.9
MNV Mina 27.43 322 *e*P **P 01 19 43.3 +0.3**
138nm,1.1s,mb5.4
MNV *e*pP pP 01 20 06.6 +6.4
ALLY Alegheny Colle 27.49 28 P **P 01 19 40.6 -2.8**
ELK Elko 27.51 329 P **P 01 19 44.4 +0.8**
16nm,0.8s,mb4.6,baz=141,slow=7.2,SNR=57
ELK sP sP 01 20 10.3 +0.6
34nm,1.0s,baz=156,slow=7.4,SNR=15
ELK PcP PcP 01 22 59.9 -0.6
4.1nm,0.8s,baz=214,slow=2.5,SNR=4.9
ELK pPcP 01 23 21.3
4.5nm,0.8s,baz=73,slow=2.2,SNR=4.8
ELK LR LR 01 31 47.2
comp=Z,97nm,18.0s,baz=145,slow=39
ELK Elko 27.51 329 P **P 01 19 44.4 +0.8**
ELK sP sP 01 20 10.3 +0.6
ELK PcP PcP 01 22 59.9 -0.6
ELK pPcP 01 23 21.3
ELK LR LR 01 31 47.2
NVAR Mina Array Bea 27.52 322 P **P 01 19 45.0 +1.2**
33nm,0.8s,mb4.9,baz=134,slow=10,SNR=113
NVAR sP sP 01 20 10.2 +0.4
105nm,1.0s,baz=133,slow=5.0,SNR=15
NVAR Mina Array Bea 27.52 322 P **P 01 19 45.0 +1.2**
NVAR sP sP 01 20 10.2 +0.4
REDW Red Top Meadow 27.78 338 *e*P **P 01 19 45.8 -0.3**
135nm,1.1s,mb5.4
SNOW Snow King Moun 27.84 338 *e*P **P 01 19 46.4 -0.2**
151nm,1.0s,mb5.5
LOHW Long Hollow 27.91 338 *e*P **P 01 19 46.9 -0.4**
94nm,1.1s,mb5.2
TPAW Teton Pass 27.93 338 *e*P **P 01 19 47.2 -0.3**
123nm,1.1s,mb5.3
RRI2 Red Ridge 27.94 337 *e*P **P 01 19 47.0 -0.5**
94nm,1.2s,mb5.2
LRV Little Rabbit 28.00 315 P **P 01 19 48.3 +0.1**
IMW Indian Meadow 28.28 338 *e*P **P 01 19 50.2 -0.4**
42nm,1.1s,mb4.9
CMB Columbia Colle 28.53 319 *e*P **P 01 19 51.9 -1.0**
26nm,1.2s,mb4.7
LKWY Lake 28.68 340 P **P 01 19 53.6 -0.6**
YFT Old Faithful 28.73 339 *e*P **P 01 19 54.7 +0.2**
YMR Madison River 28.96 339 *e*P **P 01 19 56.4 -0.3**
10nm,0.4s,mb4.8
SJG San Juan 29.22 85 P **P 01 19 57.8 -1.5**
38nm,0.8s,mb5.1,baz=271,slow=4.8,SNR=26
SJG LR LR 01 31 01.9
comp=Z,75nm,21.4s,baz=270,slow=35
SJG San Juan 29.22 85 *e*P **P 01 19 57.3 -2.0**
32nm,0.8s,mb5.0
QLMT Earthquake Lak 29.27 339 *e*P **P 01 19 59.7 +0.3**
GENY Geneseo 29.43 29 *e*P **P 01 19 58.3 -2.5**
GENY *e*pP pP 01 20 17.9 -0.4
LAO LASA Array 29.50 347 *e*P **P 01 20 00.0 -1.4**
12nm,0.7s,mb4.7
GCMT Greyclift 29.55 342 *e*P **P 01 20 00.8 -1.1**
BEKR Beckwourth 29.66 322 *e*P **P 01 20 03.2 +0.2**
77nm,1.1s,mb5.2
BEKR *e*pP pP 01 20 22.5 +2.1
MCMT McKenzie Canyo 29.78 337 *e*P **P 01 20 04.4 +0.5**
OHCM Honcut 30.01 320 *e*P **P 01 20 06.2 +0.1**
OHCM *e*pP pP 01 20 25.2 +1.8
DLMT Dillon 30.14 338 *e*P **P 01 20 07.1 0.0**
DLMT *e*pP pP 01 20 25.2 +0.6
SADO Sadowa 30.45 25 P **P 01 20 07.1 -2.7**
8.4nm,0.6s,mb4.5,baz=214,slow=12,SNR=15
SADO LR LR 01 33 09.7
comp=Z,170nm,20.2s,baz=258,slow=38
WVOR Wild Horse Val 30.47 327 *e*P **P 01 20 09.6 -0.5**
132nm,1.1s,mb5.5
DGMT Dagmar 30.84 351 *e*P **P 01 20 12.5 -0.7**
36nm,0.6s,mb5.3
MOD Modoc 30.98 325 *e*P **P 01 20 13.3 -1.3**
9.5nm,0.8s,mb4.6
MOD *e*pP pP 01 20 36.6 +4.5
CHMT Chamberlain Mo 31.71 338 *e*P **P 01 20 19.8 -1.1**
ULM Lac du Bonnet 32.06 1 P **P 01 20 22.0 -1.9**
8.7nm,0.5s,mb4.8,baz=184,slow=9.1,SNR=15
ULM pP pP 01 20 40.8 -0.7
3.4nm,0.5s,baz=173,slow=10,SNR=2.7
ULM LR LR 01 35 05.6
comp=Z,65nm,19.2s,baz=87,slow=39
ULM Lac du Bonnet 32.06 1 *e*P **P 01 20 21.6 -2.3**
18nm,0.8s,mb4.8
YBH Yreka Blue Hor 32.23 322 P **P 01 20 24.5 -1.0**
3.9nm,0.6s,mb4.3,baz=111,slow=6.4,SNR=8.0
YBH pP pP 01 20 42.8 -0.4
5.3nm,0.8s,baz=141,slow=9.2,SNR=2.6
YBH sP sP 01 20 50.0 -2.1
16nm,0.8s,baz=112,slow=3.0,SNR=11
YBH LR LR 01 34 45.3
comp=Z,355nm,18.7s,baz=139,slow=38
YBH Yreka Blue Hor 32.23 322 *e*P **P 01 20 23.1 -2.4**
14nm,0.8s,mb4.8
YBH *e*pP pP 01 20 46.0 +2.8
KHMM Horse Mountain 32.31 320 *e*P **P 01 20 26.0 -0.2**
KHMM *e*pP pP 01 20 48.7 +4.8
MSNY Massena 32.51 30 P **P 01 20 24.7 -3.2**
FRNY Flat Rock 33.01 31 *e*P **P 01 20 29.8 -2.4**
KBO Bosley Butte 33.41 322 *e*P **P 01 20 35.8 +0.1**
LBNH Lisbon 33.43 33 P **P 01 20 34.3 -1.6**
HAWA Hanford 33.82 331 *e*P **P 01 20 37.5 -1.7**
0.2nm,0.6s
HAWA *e*pP pP 01 21 00.7 +3.7
KEBM Edson Butte 33.88 323 *e*P **P 01 20 40.1 +0.3**
NEW Newport 34.27 336 P **P 01 20 41.8 -1.3**
7.3nm,0.6s,mb4.7,baz=146,slow=8.4,SNR=18
NEW pP pP 01 21 00.6 -0.3
3.2nm,0.5s,baz=144,slow=8.7,SNR=3.0
NEW PcP PcP 01 23 17.1 -1.0
5.3nm,0.7s,baz=210,slow=2.4,SNR=3.9
NEW Newport 34.27 336 *e*P **P 01 20 41.4 -1.6**
6.7nm,0.6s,mb4.7
TBM Table Mountain 34.89 331 P **P 01 20 48.9 +0.6**
NNA Nana 35.88 145 P **P 01 20 57.3 +0.2**
RPW Rockport 36.25 332 P **P 01 20 59.3 -0.6**
OSR Olympics--Salm 36.72 329 P **P 01 21 04.6 +0.8**
FFC Flin Flon 36.74 355 *e*P **P 01 21 02.7 -1.2**
18nm,0.6s,mb5.2
OSD Olympics--Snow 36.81 330 P **P 01 21 05.4 +0.8**
EDM Edmonton 37.29 344 *e*P **P 01 21 07.7 -0.9**
ARE Arequipa 42.52 142 *e*P pP 01 22 12.0 +1.6
SCHQ Schefferville 43.26 25 P **P 01 21 56.5 -1.2**
31nm,0.5s,mb5.3,baz=226,slow=7.1,SNR=77
SCHQ PcP PcP 01 23 45.0 -1.2
10nm,0.9s,baz=276,slow=11,SNR=3.2
SCHQ LR LR 01 44 53.3
comp=Z,100nm,18.1s,baz=12,slow=43
SCHQ Schefferville 43.26 25 *e*P **P 01 21 56.1 -1.6**
68nm,0.9s,mb5.4
LPAZ La Paz 44.42 139 P **P 01 22 07.8 +0.2**
1.9nm,0.6s,mb4.0,baz=313,slow=13,SNR=11
LPAZ pP pP 01 22 25.9 +0.1
7.5nm,0.7s,baz=320,slow=10,SNR=8.0
LPAZ LR LR 01 39 34.9
comp=Z,106nm,21.1s,baz=94,slow=34
LPAZ La Paz 44.42 139 *e*P **P 01 22 07.1 -0.5**
6.5nm,0.7s,mb4.5
LPAZ *e*pP pP 01 22 25.9 +0.1
YKA Yellowknife Ar 46.01 349 P **P 01 22 18.2 -1.4**
2.5nm,0.4s,mb4.3,baz=154,slow=7.6,SNR=16
YKA pP pP 01 22 36.0 -1.9
3.5nm,0.6s,baz=153,slow=7.4,SNR=6.3
YKA PcP PcP 01 23 54.6 -1.0
2.6nm,0.8s,baz=151,slow=3.2,SNR=4.9
YKA pPcP 01 24 15.1
1.6nm,0.8s,baz=155,slow=7.3,SNR=3.4
YKA LR LR 01 42 57.9
comp=Z,128nm,18.5s,baz=115,slow=38
YKA Yellowknife Ar 46.01 349 P **P 01 22 18.2 -1.4**
YKA pP pP 01 22 36.0 -1.9
YKA PcP PcP 01 23 54.6 -1.0
YKA pPcP 01 24 15.2
YKA LR LR 01 42 57.9
YKW3 Yellowknife Ar 46.07 349 *e*P **P 01 22 18.3 -1.9**
RPN Rapa Nui 46.57 195 LR LR 01 38 22.6
comp=Z,41nm,18.8s,baz=273,slow=31
DLBC Dease Lake 47.00 337 *e*P **P 01 22 28.1 +0.6**
LVC Limon Verde 48.88 145 P **P 01 22 41.6 -1.0**
1.1nm,0.3s,mb4.3,baz=312,slow=7.2,SNR=8.5
LVC pP pP 01 23 00.7 -0.3
18nm,0.8s,baz=313,slow=7.8,SNR=12
LVC Limon Verde 48.88 145 *e*P **P 01 22 41.5 -1.1**
21nm,0.9s,mb5.1
DAWY Dawson 54.12 338 *e*P **P 01 23 19.9 -1.5**
INK Inuvik 55.19 344 P **P 01 23 28.0 -1.2**
8.6nm,0.8s,mb4.9,baz=136,slow=8.5,SNR=14
INK pP pP 01 23 46.8 -1.3
8.1nm,0.7s,baz=119,slow=6.0,SNR=4.3
INK sP sP 01 23 54.4 -2.1
21nm,0.8s,baz=155,slow=7.7,SNR=8.1
INK Inuvik 55.19 344 *e*P **P 01 23 27.2 -2.0**
29nm,0.9s,mb5.3
POHA Pohakuloa 55.23 282 P **P 01 23 29.6 -0.5**
2µm,0.8s
RKT Rikitea 55.34 224 *e*LR LR 01 39 24.8
KDAK Kodiak Island 56.74 328 P **P 01 23 39.6 -0.8**
8.0nm,0.9s,mb4.8,baz=118,slow=14,SNR=2.8
KDAK LR LR 01 46 29.0
comp=Z,104nm,19.3s,baz=99,slow=34
FCH Farellones 57.13 153 *j/*P pP 01 24 02.3 -0.3
ILAR Eielson Array 57.21 337 P **P 01 23 42.7 -1.0**
6.6nm,1.0s,mb4.6,baz=119,slow=5.2,SNR=36
ILAR pP pP 01 24 01.2 -1.5
5.4nm,0.6s,baz=147,slow=5.8,SNR=7.3
ILAR sP sP 01 24 09.4 -1.7
36nm,1.1s,baz=121,slow=5.3,SNR=11
ILAR LR LR 01 49 33.5
comp=Z,52nm,18.6s,baz=355,slow=37
SPU Mount Spurr 57.73 332 *e*P **P 01 23 46.7 -0.7**
CPUP Villa Florida 58.58 138 P **P 01 23 50.7 -3.1**
7.4nm,1.3s,mb4.6,baz=315,slow=4.3,SNR=3.2
CPUP pP pP 01 24 10.4 -2.4
11nm,1.1s,baz=316,slow=10.0,SNR=7.2
CPUP LR LR 01 48 28.8
comp=Z,68nm,19.4s,baz=78,slow=35
CPUP Villa Florida 58.58 138 *e*P **P 01 23 51.8 -2.0**
22nm,1.3s,mb5.0
CPUP *e*pP pP 01 24 09.5 -3.3
BDFB Brasilia 58.70 122 P **P 01 23 53.4 -1.3**
4.8nm,0.7s,mb4.7,baz=306,slow=8.4,SNR=7.0
BDFB pP pP 01 24 11.9 -1.9
4.8nm,0.7s,baz=337,slow=5.5,SNR=4.6
BDFB LR LR 01 49 16.0
comp=Z,70nm,20.4s,baz=154,slow=36
PPT Papeete 62.78 239 *e*LR LR 01 42 52.2
233nm,30.5s
PLCA Paso Flores 63.48 158 P **P 01 24 24.8 -1.9**
3.2nm,0.7s,mb4.3,baz=322,slow=7.0,SNR=9.8
PLCA pP pP 01 24 44.6 -1.4
16nm,1.0s,baz=330,slow=7.5,SNR=12
PLCA LR LR 01 45 39.7
comp=Z,107nm,20.7s,baz=338,slow=30
PLCA Paso Flores 63.48 158 *e*P **P 01 24 25.7 -1.0**
4.3nm,0.8s,mb4.4
PLCA *e*pP pP 01 24 44.6 -1.4
RCBR Riachuelo 64.70 106 P **P 01 24 32.3 -2.8**
RCBR *e*pP pP 01 24 51.2 -3.3
TBI Tubuai 65.82 233 *e*LR LR 01 44 16.3
DCN Croghan 75.46 38 *e*P **P 01 25 41.0 +1.3**
DLF Lyons Farm 75.91 38 *e*P **P 01 25 40.0 -2.3**
EMAZ Mazaricos 76.41 49 P **P 01 25 45.4 +0.1**
249nm,2.7s,mb5.5
STS Santiago 76.72 49 P **P 01 25 48.4 +1.3**
14nm,0.6s,mb4.9
EZAM Zamans 76.78 50 P **P 01 25 48.5 +1.1**
21nm,0.9s,mb4.9
ELOB Lobios 77.30 50 P **P 01 25 51.2 +0.9**
24nm,1.2s,mb4.8
PCAB Cabril 77.36 50 *e*P **P 01 25 51.0 +0.3**
PTOM Tomar 77.55 52 *e*P **P 01 25 52.5 +0.7**
39nm,0.7s,mb5.2
EPON Pontenova 77.63 48 P **P 01 25 52.5 +0.4**
68nm,1.1s,mb5.3
PVRL Vila Real 77.69 50 *e*P **P 01 25 53.9 +1.4**
PTEO Sao Teotonio 77.79 54 *e*P **P 01 25 55.0 +1.9**
57nm,1.6s,mb5.0
ERUA La Rua 77.85 49 P **P 01 25 54.1 +0.8**
9.4nm,0.5s,mb4.8
MTE Manteigas 78.02 51 *e*P **P 01 25 54.1 -0.2**
31nm,0.8s,mb5.1
MTE Manteigas 78.02 51 *e*P **P 01 25 53.3 -1.0**
20nm,0.7s,mb5.0
MTE *e*pP pP 01 26 12.4 -1.9
PCBR Castelo Branco 78.20 52 *e*P **P 01 25 56.6 +1.3**
22nm,0.9s,mb4.9
ECAL Calabor 78.25 50 P **P 01 25 57.2 +1.6**
17nm,0.7s,mb4.9
PBRG Braganca 78.28 50 *e*P **P 01 25 57.0 +1.3**
24nm,1.6s,mb4.7
PBEJ Beja 78.34 54 *e*P **P 01 25 55.5 -0.6**
17nm,1.4s,mb4.6
EGRO El Granado 78.75 54 P **P 01 26 00.2 +1.8**
6.4nm,0.6s,mb4.6
EARI Arriondas 79.01 48 P **P 01 26 01.4 +1.7**
15nm,0.7s,mb4.9
ROSF Rostrenen 79.05 43 *e*P **P 01 26 00.6 +0.8**
23nm,0.9s,mb4.7
QUIF Quistinic 79.22 43 *e*P **P 01 26 01.6 +0.8**
6.5nm,0.5s,mb4.5
EMIN Mina Concepcio 79.32 54 P **P 01 26 03.2 +1.7**
11nm,0.6s,mb4.9
ESPR Espera 80.18 54 P **P 01 26 08.5 +2.4**
15nm,0.9s,mb4.8
ELAN Lanestosa 80.28 48 P **P 01 26 08.5 +1.9**
14nm,0.7s,mb4.9
GRR Gorron 80.58 42 *e*P **P 01 26 08.2 +0.2**
10.0nm,0.5s,mb4.6
GRR *e*pP pP 01 26 26.0 -2.1
FLN La Foliniere 80.72 42 *e*P **P 01 26 09.1 +0.4**
27nm,0.8s,mb4.8
FLN *e*R
127nm,20.2s
EADA Adamuz 80.81 53 P **P 01 26 10.0 +0.5**
4.3nm,0.5s,mb4.5
ESDC Sonseca Array 80.86 51 P **P 01 26 10.3 +0.6**
1.9nm,0.5s,mb4.2,baz=302,slow=5.7,SNR=19
ESDC pP pP 01 26 29.0 -0.8
3.0nm,0.8s,baz=287,slow=5.4,SNR=8.4
ESDC sP sP 01 26 36.3 -1.6
3.3nm,0.8s,baz=302,slow=5.9,SNR=5.5
ESDC Sonseca Array 80.86 51 P **P 01 26 11.2 +1.5**
4.1nm,0.6s,mb4.4
LDF La Druitiere 80.99 42 *e*P **P 01 26 11.1 +0.9**
36nm,1.1s,mb4.8
EMIJ Mijas 81.10 55 P **P 01 26 13.1 +2.1**
7.5nm,0.7s,mb4.6
EBAN Banos Encina 81.41 53 P **P 01 26 14.0 +1.4**
3.9nm,0.5s,mb4.5
ELOJ Sierra Loja 81.41 54 P **P 01 26 15.6 +2.9**
3.7nm,0.6s,mb4.4
MFF Saint Martin d 81.57 44 *e*P **P 01 26 13.0 -0.2**
ERON Agron 81.72 54 P **P 01 26 16.0 +1.7**
11nm,0.5s,mb4.9
ECOG Cogollos-Vega 81.83 54 P **P 01 26 17.0 +2.2**
10nm,0.5s,mb4.9
SJPF Ste Jean 81.86 47 *e*P **P 01 26 15.7 +0.9**
8.4nm,0.7s,mb4.3
EQES Quesada 82.06 53 P **P 01 26 17.2 +1.2**
16nm,0.9s,mb4.8
EVIA Vianos 82.24 52 P **P 01 26 19.5 +2.6**
18nm,0.7s,mb5.0
MDT Midelt 82.26 58 P **P 01 26 18.3 +1.1**
3.7nm,0.8s,mb4.3,baz=300,slow=5.7,SNR=11
MDT pP pP 01 26 36.8 -0.4
5.2nm,0.9s,baz=308,slow=7.8,SNR=5.2
ETSF Etsaut 82.39 47 *e*P **P 01 26 18.0 +0.4**
17nm,0.7s,mb4.7
EHUE Huescar 82.41 53 P **P 01 26 19.8 +2.0**
4.8nm,0.7s,mb4.4
EBER Berja 82.45 54 P **P 01 26 18.5 +0.5**
16nm,0.5s,mb5.1
LFF La Frestale 82.66 45 *e*P **P 01 26 19.7 +0.8**
21nm,0.7s,mb4.8
NB2 NORSAR Subarra 82.76 28 P **P 01 26 20.7 +1.7**
2.9nm,0.8s,mb4.2,baz=296,slow=5.3
NOA NORSAR Array B 82.76 28 P **P 01 26 20.5 +1.4**
4.9nm,0.8s,mb4.4,baz=294,slow=5.3,SNR=12
NOA pP pP 01 26 39.2 +0.1
7.9nm,0.8s,baz=297,slow=5.4,SNR=9.8
NOA sP sP 01 26 47.5 +0.2
9.2nm,0.9s,baz=290,slow=5.2,SNR=7.8
NOA LR LR 02 03 15.1
comp=Z,30nm,18.7s,baz=320,slow=36
NOA NORSAR Array B 82.76 28 P **P 01 26 20.5 +1.5**
NOA pP pP 01 26 39.2 +0.1
NOA sP sP 01 26 47.5 +0.2
NOA LR LR 02 03 15.1
EBIE Bielsa 82.95 48 P **P 01 26 23.1 +2.7**
3.5nm,0.6s,mb4.4
ETOB Tobarra 82.95 52 P **P 01 26 24.1 +3.6**
4.8nm,0.5s,mb4.6
EPF Esparros 82.98 47 *e*P **P 01 26 20.8 +0.2**
RJF Les Rejaudoux 83.07 45 *e*P **P 01 26 21.0 +0.1**
50nm,1.3s,mb4.9
RJF *e*R
80nm,18.4s
ECHE Chera 83.10 51 P **P 01 26 23.7 +2.5**
7.6nm,0.8s,mb4.6
HYF Humbligny 83.17 43 *e*P **P 01 26 20.7 -0.7**
TCF Toulx Ste Croi 83.21 44 *e*P **P 01 26 21.7 +0.1**
TCF *e*pP pP 01 26 39.4 -2.4
BAIF Baives 83.21 40 *e*P **P 01 26 20.9 -0.7**
EGRA Graus 83.22 48 P **P 01 26 24.7 +2.9**
11nm,0.7s,mb4.8
EMOS Mosqueruela 83.23 50 P **P 01 26 25.2 +3.3**
19nm,0.7s,mb5.0
BGF Bois d'Agland 83.54 43 *e*P **P 01 26 23.1 -0.2**
7.6nm,0.5s,mb4.5
CAF Calviac 83.56 45 *e*P **P 01 26 24.2 +0.8**
GIVF Givet 83.57 39 *e*P **P 01 26 22.9 -0.5**
ARCES ARCESS Array B 83.68 17 P **P 01 26 24.1 +0.6**
12nm,0.8s,mb4.8,baz=317,slow=4.8,SNR=21
ARCES pP pP 01 26 43.2 -0.4
25nm,0.9s,baz=290,slow=4.5,SNR=9.1
ARCES sP sP 01 26 52.1 +0.4
19nm,0.7s,baz=304,slow=4.4,SNR=8.6
AVF Avril sur Loir 83.79 43 *e*P **P 01 26 24.2 -0.3**
9.0nm,0.7s,mb4.4
SSF Saint Saulge 83.80 43 *e*P **P 01 26 23.5 -1.1**
32nm,1.2s,mb4.7
LOR Lormes 83.95 42 *e*P **P 01 26 25.5 +0.2**
25nm,0.9s,mb4.7,baz=302
LOR *e*R
86nm,18.5s
KEV Kevo 83.97 17 *e*p **P 01 26 25.4 +0.5**
9.5nm,0.9s,mb4.6
SMF Signal de Mont 84.16 43 *e*P **P 01 26 26.2 -0.2**
EMIR Miracle 84.17 48 P **P 01 26 29.8 +3.2**
6.7nm,0.6s,mb4.7
MTLF Montolieu 84.18 46 *e*P **P 01 26 26.9 +0.3**
14nm,0.7s,mb4.6
HFS Hagfors 84.25 28 P **P 01 26 27.2 +0.7**
4.4nm,0.8s,mb4.4,baz=270,slow=1.5,SNR=5.2
HFS pP pP 01 26 47.0 +0.3
6.3nm,0.8s,baz=180,slow=1.5,SNR=5.7
HFS sP sP 01 26 54.4 -0.3
6.0nm,0.9s,baz=346,slow=6.1,SNR=4.1
HFS LR LR 02 05 11.8
comp=Z,39nm,18.2s,baz=116,slow=36
MEZF Maizieres J'vi 84.28 41 *e*P **P 01 26 27.6 +0.7**
22nm,1.0s,mb4.6,baz=307
MEZF *e*pP pP 01 26 45.3 -1.8
LASF Ste Croix 85.05 45 *e*P **P 01 26 32.0 +1.1**
41nm,1.2s,mb4.9
HAU Haudompre 85.26 41 *e*P **P 01 26 32.4 +0.5**
19nm,0.8s,mb4.8
HAU *e*R
106nm,18.8s
VIVF Saint-Julien-l 85.33 44 *e*P **P 01 26 32.2 -0.1**
17nm,1.1s,mb4.6
HINF Hinteralfeld 85.65 41 *e*P **P 01 26 34.3 +0.5**
CDF Champ du Feu 85.69 40 *e*P **P 01 26 33.5 -0.4**
ETOS Mallorca 85.81 50 P **P 01 26 35.5 +0.7**
9.9nm,0.9s,mb4.7
ORIF Oris-en-Rattie 86.10 44 *e*P **P 01 26 36.0 -0.1**
16nm,1.1s,mb4.5
ORIF *e*R
98nm,20.8s
SMRF Simiane la Rot 86.25 45 *e*P **P 01 26 38.2 +1.4**
16nm,1.1s,mb4.6
LPL La Plagne 86.44 43 *e*P **P 01 26 39.5 +1.8**
MBDF Montbardon 86.76 44 *e*P **P 01 26 40.2 +0.9**
7.2nm,0.8s,mb4.3
LMR La Mourre 87.11 45 *e*P **P 01 26 41.8 +0.7**
FRF La Foret Royal 87.12 45 *e*P **P 01 26 42.0 +0.9**
GRA1 Grafenberg Arr 87.54 38 *e*P **P 01 26 44.4 +1.4**
7.0nm,1.4s,mb4.5
GRA1 *e*pP pP 01 27 12.3 +9.0
KAF Kangasniemi 88.40 23 *e*p **P 01 26 45.3 -1.4**
2.9nm,0.7s,mb4.4,baz=302,slow=4.5
BRG Berggiesshubel 88.58 36 P **P 01 26 48.7 +0.9**
5.3nm,1.0s,mb4.5
FINES FINESS Array B 88.72 24 P **P 01 26 48.4 +0.1**
1.6nm,0.5s,mb4.3,baz=327,slow=4.0,SNR=15
FINES pP pP 01 27 07.6 -1.1
1.6nm,0.6s,baz=324,slow=3.2,SNR=2.9
FINES sP sP 01 27 16.4 0.0
9.2nm,0.9s,baz=342,slow=6.0,SNR=6.9
FINES LR LR 02 05 30.1
comp=Z,36nm,20.5s,baz=347,slow=35
FINES FINESS Array B 88.72 24 P **P 01 26 48.4 +0.1**
FINES pP pP 01 27 07.6 -1.1
FINES sP sP 01 27 16.4 0.0
FINES LR LR 02 05 30.1
KHC Kasperske Hory 89.17 38 *e*P **P 01 26 51.0 +0.3**
GERES GERESS Array B 89.37 38 P **P 01 26 52.1 +0.4**
1.7nm,0.9s,mb4.1,baz=304,slow=4.8,SNR=11
GERES pP pP 01 27 13.4 +1.3
1.2nm,0.9s,baz=342,slow=4.2,SNR=4.0
GERES PP PP 01 30 24.3 -1.3
0.1nm,0.3s,baz=326,slow=4.8,SNR=3.6
TIC Toumodi 89.75 83 *e*P **P 01 26 53.6 -0.7**
6.5nm,0.2s,mb5.4
LIC Lamto 89.88 84 *e*P **P 01 26 54.3 -0.5**
75nm,1.8s,mb5.5
DBIC Dimbokro 89.90 83 P **P 01 26 53.5 -1.4**
2.6nm,0.7s,mb4.5,baz=287,slow=4.4,SNR=5.3
KIC Kosan Boka 90.10 83 *e*P **P 01 26 55.6 -0.3**
42nm,0.9s,mb5.6
KECS Kecovo 93.46 36 *e* **P 01 27 20.5 +10**
KOLS Kolonicke sedl 94.21 35 *e*P **P 01 27 14.3 +0.4**
SONM Songino Array 111.10 343 PKKPbc 01 43 24.4
0.4nm,0.5s,baz=197,slow=3.1,SNR=4.0
MKAR Makanchi Array 115.38 1 PKP PKPdf 01 32 35.9 +0.4
0.5nm,0.6s,slow=2.4,SNR=3.6
HHC Hu-ho-hao-te 115.64 336 *e*PKP PKPdf 01 32 36.6 +0.6
HHC PP PP 01 33 47.5 +3.2
HHC PKS PKS 01 36 11.4 -0.4
HHC SKS SKS 01 39 38.3 +20
HHC SKKS 01 40 29.5
HHC SS SS 01 49 37.0 +2.5
HHC PP PP
comp=Z,113nm,4.8s
HHC LR LR
comp=N,118nm,13.1s
HHC LR LR
comp=E,120nm,13.1s
HHC LR LR
comp=Z,166nm,13.1s
WMQ Urumqi 118.22 356 *e*PKP PKPdf 01 32 42.0 +1.1
WMQ *e*PP PP 01 34 04.0 +1.8
WMQ PKS PKS 01 36 17.0 +0.2
WMQ SKS SKS 01 39 43.0 +15
WMQ PP PP
comp=Z,139nm,5.0s

WMQ				LR	LR			
	comp=N,100nm,27.4s							
WMQ				LR	LR			
	comp=E,76nm,26.2s							
WMQ				LR	LR			
	comp=Z,99nm,22.4s							
SSE	**Sheshan**	**118.89**	**323**	*e*PKP	PKPdf	01 32 42.8	+0.3	
SSE	**Sheshan**	**118.89**	**323**	*e*P	PKPdf	01 32 42.7	+0.2	
NJ2	**Nanjing**	**119.47**	**325**	*e*PKP	PKPdf	01 32 46.0	+2.4	
NJ2				PP	PP	01 34 16.0	+5.2	
NJ2				SKS	SKS	01 39 47.0	+15	
NJ2				SKKS		01 40 57.0		
NJ2				SS	SS	01 50 29.0	+4.7	
NJ2				LR	LR			
	comp=N,330nm,29.6s							
NJ2				LR	LR			
	comp=E,500nm,26.5s							
NJ2				LR	LR			
	comp=Z,470nm,34.0s							
CTA	**Charters Tower**	**120.60**	**257**	PKP	PKPdf	01 32 47.4	+1.3	
	comp=Z,1.7nm,0.5s,baz=63,slow=4.5,SNR=2.4							
STKA	**Stephens Creek**	**125.81**	**243**	PKP	PKPdf	01 32 56.7	+0.7	
	comp=Z,7.1nm,0.7s,baz=76,slow=1.6,SNR=18							
STKA	**Stephens Creek**	**125.81**	**243**	*e*PKP	PKPdf	01 32 56.5	+0.6	
MAW	**Mawson**	**128.87**	**170**	*e*P	PKPdf	01 33 02.2	+1.3	
	comp=Z,4.3nm,0.6s							
MAW	**Mawson**	**128.87**	**170**	PKP	PKPdf	01 33 01.6	+0.8	
	comp=Z,6.0nm,0.7s,baz=232,slow=4.1,SNR=21							
MAW				pPKP		01 33 23.0		
	comp=Z,1.8nm,0.7s,baz=220,slow=3.5,SNR=3.5							
WB2	**Warramunga Arr**	**131.65**	**259**	*e*P	PKPdf	01 33 09.0	+1.6	
WRA	**Warramunga Arr**	**131.67**	**259**	PKP	PKPdf	01 33 08.3	+0.8	
	comp=Z,4.2nm,0.6s,baz=82,slow=2.5,SNR=35							
WRA				pPKP		01 33 29.4		
	comp=Z,2.1nm,0.8s,baz=84,slow=1.9,SNR=5.4							
KMI	**Kunming**	**132.94**	**335**	PKP	PKPdf	01 33 11.1	+1.3	
KMI				PP	PP	01 35 40.3	+0.6	
KMI				SKKS		01 42 19.0		
KMI				LR	LR			
	comp=Z,42nm,33.0s							
KMI	**Kunming**	**132.94**	**335**	PKP	PKPdf	01 33 11.1	+1.3	
KMI				PP	PP	01 35 40.2	+0.5	
KMI				SKKS		01 42 19.0		
KMI				LR	LR			
	comp=Z,40nm,33.0s							
FITZ	**Fitzroy Crossi**	**139.62**	**263**	PKhKP		01 33 15.2		
	comp=Z,5.3nm,0.7s,baz=172,slow=7.4,SNR=6.2							
FITZ				PKP	PKPdf	01 33 23.8	+1.7	
	comp=Z,13nm,0.9s,baz=28,slow=1.8,SNR=5.5							
HYB	**Hyderabad**	**144.40**	**7**	*i* PKP	PKPdf	01 33 30.0	-0.6	
HYB				*ep*PKP		01 33 50.5		
HYB	**Hyderabad**	**144.40**	**7**	*e*P	PKPbc	01 33 30.0	-0.3	
MBWA	**Marble Bar**	**145.40**	**259**	*e*PKP	PKPdf	01 33 32.7	+0.5	
KLBR	**Kellerberrin**	**145.96**	**240**	*e*P	PKPdf	01 33 34.7	+1.8	
	comp=Z,40nm,1.5s							
KSM	**Kuching**	**146.88**	**303**	*e*PKPbc	PKPbc	01 33 38.4	+1.8	
KULM	**Kulim**	**150.99**	**322**	*e*PKPbc	PKPdf	01 33 48.6	+7.1	

*IDC **24** 01:28:24.9±15.0, 17.78S×178.19W, h545km±192km, mb3.3/5, mb1 3.5/5, mb1mx3.1/15, mbtmp4.2/5, Error ellipse: s-maj=101.9km s-min=55.5km az=166.0*

ISC 24 01:28:19.5±1.1, 18.3S±0.3×177.9W±0.2, h500km, n9, σ0§72/9, mb3.7/5, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.86**	**261**	P	**P**	**01 34 21.6**	**+0.6**
	1.7nm,0.3s,mb4.0,baz=85,slow=9.7,SNR=4.6						
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**01 35 03.2**	**+1.0**
	2.2nm,0.5s,mb3.9,baz=98,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**45.04**	**260**	P	**P**	**01 35 50.4**	**-1.1**
	1.3nm,0.3s,mb3.8,baz=92,slow=7.9,SNR=19						
ASPA	**Alice Springs**	**45.16**	**255**	⇑*i* P	**P**	**01 35 52.4**	**0.0**
FITZ	**Fitzroy Crossi**	**53.44**	**261**	P	**P**	**01 36 53.8**	**-0.4**
	2.3nm,0.6s,mb3.7,baz=86,slow=2.8,SNR=5.3						
TXAR	**Lajitas Array**	**85.80**	**57**	P	**P**	**01 40 06.9**	**+0.3**
	0.5nm,0.7s,mb3.2,baz=210,slow=7.1,SNR=6.1						
VNA3	**Neumayer Olymp**	**90.32**	**176**	⇓*i*	**P**	**01 40 25.9**	**-0.9**
VNA2	**Neumayer--Watz**	**90.77**	**177**	⇓*i*	**P**	**01 40 29.4**	**+0.5**
VNA1	**Neumayer--Stat**	**90.99**	**177**		**P**	**01 40 25.2**	**-4.7**

*CSEM **24** 01:37:16.7±0.1, 40.38N×37.39E, h5km, mb3.9/5, Error ellipse: s-maj=1.7km s-min=1.4km az=16.0*
*ISK **24** 01:37:17.5, 40.36N×37.38E, h8km, MD3.9, ML3.9*
*NEIC **24** 01:37:17.0, 40.36N×37.39E, h8km, mb4.0/4, ML4.0(ISK), After ISK.*
*MOS **24** 01:37:18.9±2.1, 40.48N×37.28E, h10km, mb4.0/4, Error ellipse: s-maj=12.0km s-min=8.3km az=107.5*
*IDC **24** 01:37:20.1±1.3, 40.53N×37.11E, mb3.7/6, mb1 3.9/11, mb1mx3.7/24, mbtmp3.8/11, ML4.1/5, Error ellipse: s-maj=18.6km s-min=17.2km az=103.0*

ISC 24 01:37:17.6±0.2, 40.39N±0.02×37.41E±0.02, h10km, n80, σ1§05/97, mb3.8/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVSK	**Karacayir**	**0.57**	**214**	*i* PG	**Pg**	**01 37 28.1**	**-1.0**
SVSK				*i* SG	**Sg**	**01 37 36.6**	**-0.1**
TOKT	**Tokat**	**0.67**	**265**	*i* PG	**Pg**	**01 37 29.9**	**-1.2**
GRSN	**GIRESUNGRSN**	**0.84**	**50**	*i* P	**Pb**	**01 37 33.1**	**-0.8**
GRSN				*i* S	**Sb**	**01 37 44.9**	**-0.1**
KVT	**Kavak**	**1.25**	**304**	*i* PN	**Pn**	**01 37 41.2**	**+0.1**
KVT				*i* SN	**Sn**	**01 38 00.1**	**+2.0**
GUMT	**Gumushane**	**1.58**	**87**	*i* PN	**Pn**	**01 37 47.4**	**+1.5**
GUMT				*i* SN	**Sn**	**01 38 08.1**	**+1.6**
BNN	**Bunyan**	**1.95**	**219**	*i* PN	**Pn**	**01 37 51.7**	**+0.5**
CTKT	**Corum**	**2.01**	**278**	*i* P	**Pn**	**01 37 52.4**	**+0.3**
CTKT				*i* S	**Sn**	**01 38 22.4**	**+4.9**
PTK	**Pertek**	**2.14**	**134**	*i* PN	**Pn**	**01 37 54.2**	**+0.3**
CORM	**Corum**	**2.14**	**265**	*i* PN	**Pn**	**01 37 54.4**	**+0.5**
BOYT	**Boyabat**	**2.16**	**299**	*i* P	**Pn**	**01 37 53.8**	**-0.4**
BOYT				*i* S	**Sn**	**01 38 27.9**	**+6.5**
MYA	**Malataya**	**2.20**	**159**	*i* PN	**Pn**	**01 37 55.0**	**+0.2**
MALT	**Malatya**	**2.22**	**159**	*e*P	**Pn**	**01 37 55.4**	**+0.4**
MALT	**Malatya**	**2.22**	**159**	*e*P	**Pn**	**01 37 55.4**	**+0.4**
ELZG	**Elazig**	**2.25**	**147**	*i* P	**Pn**	**01 37 55.9**	**+0.4**
ELZG				*i* S	**Sn**	**01 38 27.6**	**+4.1**
BYBT	**Boyabat**	**2.28**	**299**	*i* PN	**Pn**	**01 37 56.5**	**+0.6**
CDAG	**Cicekdag**	**2.46**	**253**	*i* P	**Pn**	**01 37 57.6**	**-0.9**
CDAG				*i* S	**Sn**	**01 38 33.4**	**+4.6**
TOS	**Tosya**	**2.66**	**285**	*i* PN	**Pn**	**01 38 02.3**	**+1.0**
CANT	**Cankiri**	**2.90**	**276**	PN	**Pn**	**01 38 04.6**	**-0.2**
BR131	**Keskin Array S**	**2.97**	**258**	*e*P	**Pn**	**01 38 05.6**	**-0.2**
BR131	**Keskin Array S**	**2.97**	**258**	*e*P	**Pn**	**01 38 05.6**	**-0.2**
BRTR	**Keskin Array B**	**2.97**	**258**	Pn	**Pn**	**01 38 05.8**	**0.0**
	20nm,0.3s,baz=76,slow=14,SNR=409						
BRTR				Pg	**Pg**	**01 38 11.2**	**-5.8**
	16nm,0.3s,baz=96,slow=16,SNR=32						
BRTR				Sn	**Sn**	**01 38 51.0**	**+9.1**
	4.6nm,0.3s,baz=102,slow=21,SNR=2.7						
BRTR	**Keskin Array B**	**2.97**	**258**	Pg	**Pg**	**01 38 11.2**	**-5.8**
BRTR	**Keskin Array B**	**2.97**	**258**	P	**Pn**	**01 38 05.8**	**0.0**
BRTR						01 38 51.0	
ERZM	**Erzurum**	**3.07**	**98**	*i* P	**Pg**	**01 38 13.9**	**-5.0**
ERZM				*i* S	**Sg**	**01 38 59.3**	**-0.6**
URFA	**Urfa**	**3.14**	**159**	PN	**Pn**	**01 38 08.4**	**+0.2**
NIG	**Nigde**	**3.15**	**225**	PN	**Pn**	**01 38 08.3**	**0.0**
KOZT	**Kozan**	**3.15**	**204**	PN	**Pn**	**01 38 08.3**	**-0.1**
GAZ	**Gaziantep**	**3.21**	**183**	PN	**Pn**	**01 38 09.8**	**+0.6**
BNGL	**BINGOL**	**3.22**	**115**	*i* P	**Pg**	**01 38 19.9**	**-2.1**
BNGL				*i* S	**Sg**	**01 39 04.7**	**-0.2**
BALT	**Daday**	**3.26**	**292**	*i* P	**Pn**	**01 38 08.3**	**-1.6**
BALT				*i* S	**Sg**	**01 39 00.7**	**-5.4**
ARTV	**Artvin**	**3.52**	**75**	*i* P	**Pb**	**01 38 16.9**	**-2.8**
ARTV				*i* S	**Sb**	**01 39 05.4**	**+2.7**
LOD	**Lodumlu**	**3.60**	**264**	PN	**Pn**	**01 38 14.7**	**0.0**
CEYT	**Ceyhan**	**3.62**	**202**	PN	**Pn**	**01 38 15.0**	**+0.1**
KARA	**Karaisali**	**3.62**	**211**	PN	**Pn**	**01 38 15.0**	**-0.1**
SOC	**Sochi**	**3.63**	**28**	*e*P	**Pn**	**01 38 16.5**	**+1.4**
	22nm,0.3s						
SOC				*i* S	**Sn**	**01 38 57.5**	**-0.9**
	318nm,0.7s						
SOC	**Sochi**	**3.63**	**28**	*e*P	**Pn**	**01 38 16.5**	**+1.4**
SOC				*i*		01 38 57.5	
SOC				pmax	pmax		
	comp=Z,22nm,0.3s						
SOC				pmax	pmax		
	comp=N,12nm,0.2s						
SOC				pmax	pmax		
	comp=E,11nm,0.2s						
SOC				smax			
	comp=N,318nm,0.7s						
SOC				MLR	MLR		
	comp=N,188nm,13.0s						
SOC				MLR	MLR		
	comp=E,136nm,13.0s						
SOC				MLR	MLR		
	comp=Z,137nm,13.0s						
SAFT	**Safranbolu**	**3.69**	**285**	PN	**Pn**	**01 38 15.8**	**-0.1**
BTMT	**Batman**	**3.85**	**123**	*e*PN	**Pn**	**01 38 17.4**	**-0.8**
MERS	**Mersin**	**4.18**	**214**	PN	**Pn**	**01 38 23.9**	**+0.9**
HTY	**Hatay**	**4.38**	**194**	*e*PN	**Pn**	**01 38 25.1**	**-0.7**
KIZT	**Kizilcal**	**4.53**	**252**	PN	**Pn**	**01 38 27.6**	**-0.3**
KONT	**Konya--Tatoy**	**4.62**	**240**	*e*PN	**Pn**	**01 38 29.1**	**-0.1**
MDU	**Mudurnu**	**4.73**	**273**	*e*PN	**Pn**	**01 38 30.6**	**-0.2**
IKL	**Isikli**	**5.07**	**216**	*e*PN	**Pn**	**01 38 35.8**	**+0.2**
ESKT	**Eskisehir**	**5.12**	**262**	*e*PN	**Pn**	**01 38 35.6**	**-0.6**
CLDR	**Caldiran**	**5.17**	**102**	*e*PN	**Pn**	**01 38 38.0**	**+1.1**
KIV	**Kislovodsk**	**5.30**	**46**	P	**Pn**	**01 38 39.2**	**+0.4**
	comp=Z,28nm,0.8s						
KIV	**Kislovodsk**	**5.30**	**46**	P	**Pn**	**01 38 39.2**	**+0.4**
	comp=Z,28nm,0.8s						
KIV	**Kislovodsk**	**5.30**	**46**	P	**Pn**	**01 38 39.2**	**+0.4**
KIV				pmax	pmax		
	comp=Z,28nm,0.8s						
TBLG	**Delisi**	**5.70**	**74**	P	**Pn**	**01 38 49.5**	**+5.0**
TBLG				S	**Sg**	**01 40 16.7**	**-11**
TI2	**Plekhanov**	**5.71**	**74**	*e*P	**Pb**	**01 38 56.0**	**-1.1**
MTA	**Mtatsminda**	**5.73**	**74**	P	**Pg**	**01 39 01.8**	**-10**
HRT	**Hereke**	**5.91**	**277**	*e*PN	**Pn**	**01 38 47.0**	**-0.4**
BCK	**Bucak**	**6.07**	**243**	*e*PN	**Pn**	**01 38 49.9**	**+0.2**
ASF	**Jabal al Asfar**	**8.21**	**183**	Pn	**P**	**01 39 20.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=7.1,slow=8.1,SNR=2.6						
ASF				Pg	P	01 39 55.4	+36
	comp=Z,0.3nm,0.3s,baz=28,slow=19,SNR=5.8						
ASF				Lg		01 41 45.8	
	comp=Z,0.1nm,0.3s,baz=49,slow=24,SNR=3.7						
MLR	**Muntele Rosu**	**9.83**	**305**	Pn	**P**	**01 39 39.4**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=278,slow=15,SNR=3.3						
MLR				Sn	**Sn**	**01 41 36.6**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=126,slow=17,SNR=2.4						
AKASG	**Malin Array Be**	**11.79**	**334**	Pn	**P**	**01 40 05.4**	**-3.5**
	comp=Z,1.1nm,0.3s,baz=140,slow=13,SNR=5.9						
OBN	**Obninsk**	**14.75**	**358**	*e*P	**P**	**01 40 51.1**	**+3.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VRAC	**Vranov**	**17.20**	**308**	Pn	**P**	**01 41 18.6**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=8.7,slow=19,SNR=4.5						
DAVOX	**Davos**	**20.88**	**297**	P	**P**	**01 42 01.9**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=178,slow=21,SNR=2.5						
ARU	**Arti**	**21.19**	**34**	*e*P	**P**	**01 42 03.7**	**-1.6**
	comp=Z,6.4nm,1.0s,mb3.9						
ARU	**Arti**	**21.19**	**34**	*e*P	**P**	**01 42 03.7**	**-1.6**
	comp=Z,6.4nm,1.0s,mb3.9						
ARU	**Arti**	**21.19**	**34**	*e*P	**P**	**01 42 03.7**	**-1.6**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb3.9						
FINES	**FINESS Array B**	**22.20**	**346**	P	**P**	**01 42 16.1**	**+0.7**
	comp=Z,2.0nm,0.7s,mb3.6,baz=143,slow=9.5,SNR=7.1						
JOF	**Joensuu**	**22.86**	**353**	*ep*	**P**	**01 42 20.6**	**-1.2**
	comp=Z,3.6nm,0.6s,mb4.0						
MBDF	**Montbardon**	**22.91**	**291**	*e*P	**P**	**01 42 23.7**	**+1.2**
	comp=Z,4.9nm,0.7s,mb3.7						
MBDF	**Montbardon**	**22.91**	**291**	*e*P	**P**	**01 42 23.7**	**+1.2**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
LPG	**La Plagne**	**22.94**	**293**	*e*P	**P**	**01 42 22.4**	**-0.4**
LPL	**La Plagne**	**22.95**	**293**	*e*P	**P**	**01 42 22.9**	**0.0**
CABF	**La Chapelle**	**23.46**	**296**	*e*P	**P**	**01 42 29.7**	**+1.9**
ORIF	**Oris-en-Rattie**	**23.55**	**292**	*e*P	**P**	**01 42 28.5**	**-0.2**
	comp=Z,8.4nm,1.0s,mb3.8						
ORIF	**Oris-en-Rattie**	**23.55**	**292**	*e*P	**P**	**01 42 28.5**	**-0.2**
ORIF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
HFS	**Hagfors**	**24.66**	**331**	P	**P**	**01 42 40.7**	**+1.3**
	comp=Z,1.5nm,0.6s,mb3.7,baz=113,slow=11,SNR=5.4						
LOR	**Lormes**	**25.02**	**297**	*e*P	**P**	**01 42 47.1**	**+4.1**
SSF	**Saint Saulge**	**25.25**	**297**	*e*P	**P**	**01 42 48.8**	**+3.6**
AVF	**Avril sur Loir**	**25.35**	**296**	*e*P	**P**	**01 42 44.6**	**-1.5**
	comp=Z,6.5nm,0.9s,mb3.9						
AVF	**Avril sur Loir**	**25.35**	**296**	*e*P	**P**	**01 42 44.6**	**-1.5**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
ARCES	**ARCESS Array B**	**29.88**	**352**	P	**P**	**01 43 25.8**	**-1.4**
	comp=Z,1.8nm,0.7s,mb3.9,baz=157,slow=9.2,SNR=8.8						
ESDC	**Sonseca Array**	**31.48**	**282**	P	**P**	**01 43 42.7**	**+1.1**
	comp=Z,1.0nm,0.6s,mb3.8,baz=67,slow=9.3,SNR=5.6						
MKAR	**Makanchi Array**	**32.77**	**64**	P	**P**	**01 43 56.4**	**+3.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=278,slow=10,SNR=3.7						

*CSEM **24** 01:38:38.9±0.1, 37.76N×25.41W, h2km, ML2.9, Error ellipse: s-maj=3.4km s-min=1.7km az=176.0, After PDA*
*PDA **24** 01:38:38.9±0.9, 37.76N×25.41W, h2km±1km, MD2.6, ML2.9, Error ellipse: s-maj=3.3km s-min=1.8km az=118.0*

SVSA 24 01:38:38.9±0.9, 37.76N×25.41W, h2km±1km, MD2.6, ML2.9, Error ellipse: s-maj=3.3km s-min=1.8km az=118.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.01**	**71**	*e*P	Pg	01 38 39.4	+0.2
PCNG				*e*S	Sg	01 38 40.3	+0.9
VIF	**Vila Franca**	**0.03**	**234**	*e*P	Pg	01 38 40.3	+0.7
VIF				*e*S	Sg	01 38 41.3	+1.2
	8µm,0.1s						
MESC	**Monte Escuro**	**0.04**	**314**	*e*P	Pg	01 38 40.4	+0.6
FRA1	**Furnas**	**0.04**	**118**	*i* P	Pg	01 38 40.0	+0.2
LFA	**Lagoa do Fogo**	**0.06**	**278**	*e*P	Pg	01 38 41.0	+0.9
PRCH	**Ribeira Ch**	**0.07**	**238**	*e*P	Pg	01 38 40.9	+0.6
PRCH				*e*S	Sg	01 38 42.4	+1.2
PMAT	**Coroa da Mata**	**0.07**	**316**	*e*P	Pg	01 38 40.9	+0.5
PMAT				*e*S	Sg	01 38 42.6	+1.2
PFAD	**Fenais da Ajud**	**0.10**	**42**	*e*P	Pg	01 38 41.8	+0.9
MIRA	**Miradouro**	**0.10**	**78**	*e*P	Pg	01 38 41.3	+0.3
CML	**Cha da Macela**	**0.11**	**274**	*e*P	Pg	01 38 41.9	+0.8
FAC	**Faja de Cima**	**0.19**	**273**	*e*P	Pg	01 38 44.0	+1.2
PDA	**Ponta Delgada**	**0.20**	**265**	*i* P	Pg	01 38 43.0	0.0
PDA				*e*S	Sg	01 38 47.0	+1.3
PDA	**Ponta Delgada**	**0.20**	**265**	*e*S	Sg	01 38 47.0	+1.3
PSAN	**Santo Antonio**	**0.27**	**289**	*e*P	Pg	01 38 45.0	+0.8
PFET	**Feteiras**	**0.31**	**280**	*e*P	Pg	01 38 45.7	+0.7
SET2	**Ginetes**	**0.33**	**284**	*e*P	Pg	01 38 46.1	+0.7
SET4	**Mosteiros**	**0.33**	**290**	*e*P	Pg	01 38 46.0	+0.5

*NEIC **24** 02:37:37.7±0.4, 51.62N×16.06E, h5km, ML3.4(VIE), ML3.3(SZGRF), ML3.2(FUR), Error ellipse: s-maj=5.2km s-min=3.3km az=197.0*
*BGR **24** 02:37:38.1±0.6, 51.54N×16.11E, h1km, ML3.3/11, Error ellipse: s-maj=6.7km s-min=4.4km az=141.0*
*IDC **24** 02:37:38.9±0.6, 51.55N×15.91E, mb1 3.4/8, mb1mx3.3/23, mbtmp3.3/8, ML3.2/8, Error ellipse: s-maj=10.8km s-min=6.2km az=101.0*
*WAR **24** 02:37:39.7, 51.54N×16.03E, h1km, ML3.2, Mining Induced*
*IPEC **24** 02:37:39.0±0.2, 51.56N×16.06E, h8km±1km, ML2.6/4, Error ellipse: s-maj=1.3km s-min=0.7km az=28.0*
*PRU **24** 02:37:39.1, 51.53N×16.06E*
*CSEM **24** 02:37:40.0±0.1, 51.49N×16.00E, ML3.5/12, Error ellipse: s-maj=1.7km s-min=1.1km az=8.0*
*LDG **24** 02:37:46.2±0.3, 50.92N×15.66E, h1km, Ml3.4/4, Error ellipse: s-maj=9.4km s-min=4.7km az=175.0, Suspected Mining induced.*

ISC 24 02:37:36.7±0.4, 51.49N±0.02×16.03E±0.02, n108, σ1§45/194, 24C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**166**	⇓*i* PG	**Pg**	**02 37 52.7**	**+2.7**
KSP				⇓*e* SG	**Sg**	**02 38 02.7**	**+3.8**
KSP	**Ksiaz**	**0.67**	**166**	*e*Pg	**Pg**	**02 37 52.8**	**+2.8**
KSP				*e*Sg	**Sg**	**02 38 02.3**	**+3.4**
KSP	**Ksiaz**	**0.67**	**166**	⇓*i* Pg	**Pg**	**02 37 52.7**	**+2.7**
KSP				*e*		02 37 54.5	
KSP				*e*Sg	**Sg**	**02 38 02.2**	**+3.3**
KSP	**Ksiaz**	**0.67**	**166**	*e*Pg	**Pg**	**02 37 52.6**	**+2.6**
KSP				*e*Sg	**Sg**	**02 38 02.0**	**+3.1**
UPC	**Upice**	**0.98**	**181**	*e*PG	**Pg**	**02 37 58.5**	**+2.2**
DPC	**Dobruska-Polom**	**1.15**	**171**	*e*PG	**Pg**	**02 38 01.3**	**+1.6**
DPC				*e*SG	**Sg**	**02 38 16.8**	**+1.7**
	243nm,0.6s						
DPC	**Dobruska-Polom**	**1.15**	**171**	*e*Pg	**Pg**	**02 38 01.3**	**+1.6**
DPC				*e*Sg	**Sg**	**02 38 16.7**	**+1.6**
PVCC	**Panska Ves**	**1.33**	**224**	*e*Pg	**Pg**	**02 38 04.7**	**+1.4**
PVCC				*e*Sg	**Sg**	**02 38 22.9**	**+1.8**
BRG	**Berggiesshubel**	**1.45**	**246**	*e*Pg	**Pg**	**02 38 06.8**	**+1.2**
BRG				*e*Sg	**Sg**	**02 38 26.9**	**+1.9**
BRG	**Berggiesshubel**	**1.45**	**246**	Pn	**Pn**	**02 38 05.5**	**+1.2**
BRG				Pg	**Pg**	**02 38 07.2**	**+1.5**
BRG				Sg	**Sg**	**02 38 27.0**	**+2.0**
BRG	**Berggiesshubel**	**1.45**	**246**	Pg	**Pg**	**02 38 06.8**	**+1.1**
BRG				*e*Sg	**Sg**	**02 38 26.0**	**+1.0**
RUE	**Ruedersdorf**	**1.71**	**306**	*e*Pg	**Pg**	**02 38 08.2**	**-2.6**
PRU	**Pruhonice**	**1.77**	**213**	*e*PN	**Pn**	**02 38 10.5**	**+1.6**
PRU				*e*PG	**Pg**	**02 38 12.4**	**+0.3**
PRU				*e*SG	**Sg**	**02 38 36.0**	**+0.2**
PRU	**Pruhonice**	**1.77**	**213**	*e*Pg	**Pg**	**02 38 12.4**	**+0.3**
PRU				*e*Sg	**Sg**	**02 38 36.0**	**+0.2**
FBE	**Freiberg**	**1.78**	**252**	Pn	**Pn**	**02 38 11.5**	**+2.6**
FBE				Sg	**Sg**	**02 38 36.3**	**+0.4**
CLL	**Collm**	**1.91**	**266**	*e*Pn	**Pn**	**02 38 11.4**	**+0.7**
CLL				*e*Sg	**Sg**	**02 38 40.2**	**+0.1**
CLL	**Collm**	**1.91**	**266**	*i* PN	**Pn**	**02 38 11.4**	**+0.6**
	logA/T=1.9						
CLL				*i* PG	**Pg**	**02 38 14.1**	**-0.7**
CLL				*i* SG	**Sg**	**02 38 40.1**	**-0.1**
CLL	**Collm**	**1.91**	**266**	*i* Pg	**Pg**	**02 38 14.1**	**-0.7**
CLL				Sg	**Sg**	**02 38 40.2**	**0.0**
MORC	**Moravsky Berou**	**1.96**	**150**	*e*P	**Pn**	**02 38 12.8**	**+1.3**
MORC	**Moravsky Berou**	**1.96**	**150**	*e*Pn	**Pn**	**02 38 13.0**	**+1.4**
MORC				*e*Sg	**Sg**	**02 38 41.2**	**-0.9**
	40nm,0.3s						
RAC	**Raciborz**	**1.96**	**135**	*e*P	**Pn**	**02 38 16.0**	**+4.4**
RAC				*e*S	**Sn**	**02 38 43.0**	**+5.7**
RAC	**Raciborz**	**1.96**	**135**	*e*Pg	**Pg**	**02 38 16.3**	**+0.4**
RAC				*e*Sg	**Sg**	**02 38 42.7**	**+0.6**
OKC	**Ostrava-Krasne**	**2.13**	**140**	*e*PN	**Pn**	**02 38 13.6**	**-0.4**
OKC				*e*PG	**Pg**	**02 38 18.3**	**-0.9**
OKC				*e*SG	**Sg**	**02 38 46.3**	**-1.4**
OKC	**Ostrava-Krasne**	**2.13**	**140**	Pg	**Pg**	**02 38 18.3**	**-0.9**
OKC				*e*Sg	**Sg**	**02 38 46.6**	**-1.1**
VRAC	**Vranov**	**2.21**	**170**	Pn	**Pn**	**02 38 16.6**	**+1.5**
	3.5nm,0.3s,baz=327,slow=15,SNR=26						
VRAC				Pg	**Pg**	**02 38 22.1**	**+1.2**
	7.9nm,0.3s,baz=340,slow=15,SNR=27						
VRAC				Sn	**Sn**	**02 38 49.7**	**+6.1**
	5.0nm,0.3s,baz=72,slow=20,SNR=8.5						
VRAC	**Vranov**	**2.21**	**170**	*e*Pn	**Pn**	**02 38 17.1**	**+2.0**
VRAC				*e*Sg	**Sg**	**02 38 51.4**	**+1.1**
VRAC	**Vranov**	**2.21**	**170**	*e*Pn	**Pn**	**02 38 17.0**	**+1.9**
VRAC				*e*Sg	**Sg**	**02 38 51.4**	**+1.1**
	41nm,0.3s						
TREC	**Trest**	**2.22**	**189**	*e*PN	**Pn**	**02 38 17.3**	**+2.0**
TREC				*e*PG	**Pg**	**02 38 20.5**	**-0.6**
KRUC	**Moravsky**	**2.44**	**174**	*e*Pn	**Pn**	**02 38 20.4**	**+2.0**
KRUC	**Moravsky**	**2.44**	**174**	*e*Pg	**Pg**	**02 38 24.6**	**-0.8**
KRUC				*e*Sg	**Sg**	**02 38 57.8**	**-0.1**
	21nm,0.4s						
TANN	**Tannenbergstha**	**2.50**	**246**	*e*Pn	**Pn**	**02 38 20.6**	**+1.3**
TANN				*e*Sg	**Sg**	**02 38 58.9**	**-1.1**
WERD	**Werda**	**2.58**	**248**	*e*Pn	**Pn**	**02 38 21.4**	**+1.1**
WERD				*e*Sg	**Sg**	**02 39 01.7**	**-0.7**
NKC	**Novy Kostel**	**2.59**	**242**	*e*PN	**Pn**	**02 38 22.1**	**+1.5**
NKC				*e*PG	**Pg**	**02 38 27.7**	**-0.8**
NKC				*e*SG	**Sg**	**02 39 01.5**	**-1.6**
	112nm,0.5s						
NKC	**

MOTA	**Moosalm**	**5.25**	**220**⇑	*i*Pn	**Pn**	**02**	**38**	**59.1**	**+0.8**
MOTA	**Moosalm**	**5.25**	**220**⇑	*i*Sg	**Sg**	**02**	**40**	**31.9**	**+0.5**
	comp=Z,9.3nm,0.5s								
MOTA	**Moosalm**	**5.25**	**220**⇑	*i*Pn	**Pn**	**02**	**38**	**59.1**	**+0.8**
	9.3nm,0.5s								
MOTA				*i* Sg	**Sg**	**02**	**40**	**29.5**	**-1.9**
	9.3nm,0.5s								
SQTA	**Sankt Quirin**	**5.31**	**218**⇑	*i*Pn	**Pn**	**02**	**39**	**00.4**	**+1.3**
SQTA	**Sankt Quirin**	**5.31**	**218**⇓	*i*Sg	**Sg**	**02**	**40**	**34.0**	**+0.6**
	comp=Z,5.1nm,0.4s								
SQTA	**Sankt Quirin**	**5.31**	**218**⇑	*i*Pn	**Pn**	**02**	**39**	**00.4**	**+1.3**
	5.1nm,0.4s								
SQTA				*i* Sg	**Sg**	**02**	**40**	**29.5**	**-3.9**
	5.1nm,0.4s								
GOLS	**Golise**	**5.49**	**183**	*i* Pn	**Pn**	**02**	**39**	**02.9**	**+1.3**
DAVA	**Damuels**	**5.81**	**226**⇑	*i*PN	**Pn**	**02**	**39**	**06.3**	**0.0**
DAVA				*i* SG	**Sg**	**02**	**40**	**48.9**	**-1.3**
	8.7nm,0.6s								
DAVA	**Damuels**	**5.81**	**226**⇑	*i*Pn	**Pn**	**02**	**39**	**06.3**	**+0.1**
DAVA	**Damuels**	**5.81**	**226**⇑	*i*Sg	**Sg**	**02**	**40**	**50.4**	**+0.2**
	comp=Z,8.7nm,0.6s								
DAVA	**Damuels**	**5.81**	**226**⇑	*i*Pn	**Pn**	**02**	**39**	**06.3**	**0.0**
	8.7nm,0.6s								
DAVA				*i* Sg	**Sg**	**02**	**40**	**48.9**	**-1.3**
DAVOX	**Davos**	**6.20**	**223**	Pn	**Pn**	**02**	**39**	**11.9**	**+0.2**
	0.4nm,0.3s,baz=3.4,slow=17,SNR=4.6								
DAVOX				Sn	**Sn**	**02**	**40**	**21.8**	**-2.6**
	0.4nm,0.3s,baz=343,slow=20,SNR=2.0								
DAVOX				Lg		02	41	00.3	
	0.8nm,0.3s,baz=159,slow=24,SNR=4.5								
DRGR		**6.42**	**134**	⇑P	**Pn**	**02**	**39**	**13.3**	**-1.6**
CDF	**Champ du Feu**	**6.43**	**245**	*e*Pn	**Pn**	**02**	**39**	**14.0**	**-1.0**
CDF				*e*Sg	**Sb**	**02**	**40**	**54.3**	**+6.4**
	16nm,0.8s								
WLF	**Walferdange**	**6.55**	**258**	P	**Pn**	**02**	**39**	**14.2**	**-2.5**
HINF	**Hinteralfeld**	**7.00**	**242**	*e*Pn	**Pn**	**02**	**39**	**21.4**	**-1.6**
HINF				*e*Sg	**Sb**	**02**	**41**	**09.3**	**+5.0**
	12nm,0.7s								
BURAR	**Bucovina Array**	**7.12**	**119**	⇑P	**Pn**	**02**	**39**	**24.3**	**-0.4**
HAU	**Haudompre**	**7.18**	**245**	*e*Pn	**Pn**	**02**	**39**	**24.1**	**-1.4**
HAU				*e*Sg	**Sb**	**02**	**41**	**16.5**	**+7.1**
	16nm,0.9s								
GIVF	**Givet**	**7.24**	**263**	*e*Pn	**Pn**	**02**	**39**	**24.0**	**-2.4**
SFTF	**Sexfontaines**	**7.83**	**249**	*e*Pn	**Pn**	**02**	**39**	**33.3**	**-1.3**
AKASG	**Malin Array Be**	**8.35**	**90**	Pn	**P**	**02**	**39**	**38.4**	**-3.4**
	1.5nm,0.3s,baz=278,slow=12,SNR=6.9								
AKASG				Sn	**Sn**	**02**	**41**	**10.4**	**-7.5**
	0.7nm,0.3s,baz=275,slow=23,SNR=3.5								
AKASG	**Malin Array Be**	**8.35**	**90**	Pn	**P**	**02**	**39**	**38.4**	**-3.4**
AKASG				Sn	**Sn**	**02**	**41**	**10.4**	**-7.5**
HFS	**Hagfors**	**8.77**	**352**	Pn	**P**	**02**	**39**	**43.7**	**-4.0**
	0.0nm,0.3s,baz=169,slow=15,SNR=7.8								
HFS				Sn	**Sn**	**02**	**41**	**17.5**	**-11**
	0.0nm,0.3s,baz=217,slow=29,SNR=2.8								
HFS	**Hagfors**	**8.77**	**352**	Sn	**Sn**	**02**	**41**	**17.5**	**-11**
LOR	**Lormes**	**8.99**	**247**	*e*Pn	**P**	**02**	**39**	**48.2**	**-2.6**
MBDF	**Montbardon**	**9.17**	**226**	*e*P	**P**	**02**	**39**	**54.0**	**+0.8**
SSF	**Saint Saulge**	**9.31**	**246**	*e*Pn	**P**	**02**	**39**	**52.2**	**-2.9**
SBF	**Sospel**	**9.57**	**221**	*e*P	**P**	**02**	**39**	**57.9**	**-0.9**
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	**P**	**02**	**39**	**58.5**	**-5.3**
	0.1nm,0.3s,baz=144,slow=20,SNR=2.7								
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	**P**	**02**	**39**	**58.5**	**-5.3**
FINES	**FINESS Array B**	**11.40**	**25**	Pn	**P**	**02**	**40**	**18.6**	**-5.2**
	0.4nm,0.3s,baz=220,slow=11,SNR=14								
FINES				Sn	**S**	**02**	**42**	**18.8**	**-14**
	0.2nm,0.3s,baz=205,slow=23,SNR=4.2								
ARCES	**ARCESS Array B**	**18.65**	**10**	Pn	**P**	**02**	**41**	**52.8**	**-4.9**
	0.1nm,0.3s,baz=191,slow=14,SNR=6.2								

*IDC **24** 03:01:56.6±2.4, 12.69N×40.60E, mb3.9/7, mb1 4.1/7, mb1mx3.9/16, mbtmp3.9/7, ML4.7/1, MS4.1/12, Ms1 4.1/12, ms1mx3.8/29, Error ellipse: s-maj=62.7km s-min=20.2km az=34.0*
*NEIC **24** 03:01:58.0±0.6, 12.68N×40.63E, h10km, mb4.3/6, Error ellipse: s-maj=16.5km s-min=10.6km az=48.0*
*CSEM **24** 03:01:58.0±0.1, 12.68N×40.63E, h10km, mb4.2/6, Error ellipse: s-maj=5.7km s-min=3.6km az=55.0, After NEIC*
ISC 24 03:01:56.7±0.7, 12.7N±0.1×40.51E±0.09, h10km, n30, σ1§00/18, mb4.0/13, MS4.2/10, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ATD	**Arta Tunnel**	**2.57**	**117**	Pn	**Pn**	**03**	**02**	**38.4**	**-0.7**
	145nm,0.3s,baz=287,slow=11,SNR=23								
ATD				Sn	**Sn**	**03**	**03**	**12.1**	**+1.4**
	100nm,0.3s,baz=163,slow=22,SNR=7.4								
KMBO	**Kilima Mbogo**	**14.12**	**193**	LR	LR	03	09	56.0	
	comp=Z,464nm,19.7s,baz=193,slow=34								
ASF	**Jabal al Asfar**	**19.66**	**351**	LR	LR	03	13	00.3	
	comp=Z,217nm,19.8s,baz=42,slow=34								
BHD	**Baghdad**	**20.77**	**9**	*e*	x	03	07	06.0	
MSL	**Mosul**	**23.59**	**5**	*e*	x	03	07	31.5	
MALT	**Malatya**	**25.57**	**356**	P	**P**	**03**	**07**	**26.0**	**-1.5**
	1.7nm,0.6s,mb3.8								
MALT	**Malatya**	**25.57**	**356**	P	**P**	**03**	**07**	**26.0**	**-1.5**
	1.7nm,0.6s,mb3.8								
IDI	**Anoyia**	**26.55**	**330**	LR	LR	03	18	46.9	
	comp=Z,159nm,18.6s,MS3.6,baz=122,slow=38								
BRTR	**Keskin Array B**	**27.59**	**349**	P	**P**	**03**	**07**	**46.9**	**+0.8**
	4.3nm,1.1s,mb4.0,baz=164,slow=9.0,SNR=11								
LSZ	**Lusaka**	**30.36**	**204**	LR	LR	03	19	47.9	
	comp=Z,441nm,18.0s,MS4.2,baz=32,slow=35								
LSZ	**Lusaka**	**30.36**	**204**	P	**P**	**03**	**08**	**10.1**	**-1.1**
	1.0nm,0.8s,mb3.6								
LSZ	**Lusaka**	**30.36**	**204**	P	**P**	**03**	**08**	**10.1**	**-1.1**
	1.0nm,0.8s,mb3.6								
MLR	**Muntele Rosu**	**34.94**	**342**	P	**P**	**03**	**08**	**51.9**	**+1.0**
	2.5nm,0.8s,mb4.2,baz=175,slow=16,SNR=3.4								
MATP	**Matopo**	**34.98**	**200**	LR	LR	03	23	56.8	
	comp=Z,581nm,18.7s,MS4.4,baz=26,slow=38								
TSUM	**Tsumeb**	**38.93**	**216**	LR	LR	03	24	40.6	
	comp=Z,369nm,19.2s,MS4.2,baz=21,slow=35								
AKASG	**Malin Array Be**	**38.99**	**349**	P	**P**	**03**	**09**	**23.9**	**-1.0**
	1.8nm,0.9s,mb3.8,baz=159,slow=7.1,SNR=7.5								
LBTB	**Lobatse**	**40.22**	**201**	LR	LR	03	26	47.5	
	comp=Z,296nm,19.7s,MS4.1,baz=41,slow=37								
LMR	**La Mourre**	**42.29**	**323**	*e*P	**P**	**03**	**09**	**52.5**	**+0.4**
	8.2nm,0.9s,mb4.1								
GERES	**GERESS Array B**	**42.31**	**334**	P	**P**	**03**	**09**	**53.0**	**+0.7**
	0.6nm,0.6s,mb3.4,baz=249,slow=37,SNR=10								
MBDF	**Montbardon**	**42.97**	**324**	*e*P	**P**	**03**	**10**	**01.7**	**+4.0**
	19nm,1.3s,mb4.4								
HAU	**Haudompre**	**45.23**	**328**	*e*P	**P**	**03**	**10**	**15.6**	**-0.3**
ETSF	**Etsaut**	**46.46**	**318**	*e*P	**P**	**03**	**10**	**26.8**	**+1.1**
	11nm,1.1s,mb4.4								
SJPF	**Ste Jean**	**46.99**	**318**	*e*P	**P**	**03**	**10**	**31.2**	**+1.3**
	21nm,1.1s,mb4.7								
ESDC	**Sonseca Array**	**47.44**	**313**	P	**P**	**03**	**10**	**33.2**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=114,slow=7.2,SNR=4.2								
SUR	**Sutherland**	**48.63**	**202**	LR	LR	03	31	45.7	
	comp=Z,544nm,20.0s,MS4.5,baz=30,slow=37								
MKAR	**Makanchi Array**	**48.79**	**37**	P	**P**	**03**	**10**	**42.8**	**-1.1**
	2.0nm,1.1s,mb4.1,baz=231,slow=7.8,SNR=5.8								
MKAR				LR	LR	03	35	31.6	
	comp=Z,387nm,19.3s,MS4.4,baz=186,slow=41								
MKAR	**Makanchi Array**	**48.79**	**37**	LR	LR	03	35	31.6	
NOA	**NORSAR Array B**	**52.76**	**343**	LR	LR	03	37	15.7	
	comp=Z,28nm,19.0s,MS3.3,baz=300,slow=40								
SONM	**Songino Array**	**64.52**	**43**	P	**P**	**03**	**12**	**35.3**	**-0.8**
	1.0nm,0.8s,mb3.9,baz=257,slow=6.5,SNR=6.0								
SONM				LR	LR	03	45	43.7	
	comp=Z,194nm,18.2s,MS4.3,baz=255,slow=41								
FITZ	**Fitzroy Crossi**	**89.35**	**109**	LR	LR	03	49	44.2	
	comp=Z,146nm,18.3s,MS4.4,baz=286,slow=32								

CASC 24 03:02:38.4±2.1, 10.37N×86.35W, h16km±7km, MD4.2, 8C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
VCR	**Vista de Mar**	**0.75**	**109**	*e*P	Pb	03	02	52.2	-0.3
SSNN	**San Juan del S**	**1.04**	**28**⇑	*e*P	Pb	03	02	57.1	-0.4
LIM1	**Limonal**	**1.12**	**73**	*i* P	Pb	03	02	58.3	-0.7
MADN	**Villa Maderas**	**1.31**	**38**⇑	*e*P	Pn	03	03	01.2	-0.8
CONN	**Concepcion**	**1.38**	**31**⇑	*e*P	Pn	03	03	02.3	-0.8
APON	**Apoyo**	**1.56**	**10**⇑	*e*P	Pn	03	03	06.1	+0.4
FORC	**Fortuna**	**1.66**	**86**⇓	*e*P	Pn	03	03	07.0	-0.1
FORC				*e*S	Sn	03	03	27.2	-0.8
TICN	**Ticuantepe**	**1.66**	**4**⇓	*e*P	Pn	03	03	06.5	-0.5
XAVN	**Gruta Xavier**	**1.77**	**1**	*e*P	Pn	03	03	08.3	-0.4
XAVN				⇓*e*P		03	03	08.3	
MGAN	**Managua**	**1.77**	**3**⇑	*e*P	Pn	03	03	07.8	-0.9
MGAN				*e*S	Sn	03	03	31.0	+0.1
COPN	**Copaltepe**	**1.82**	**352**⇑	*e*P	Pn	03	03	08.5	-0.8
CGA2	**Cerro Gallo 2**	**1.89**	**101**	*e*P	Pn	03	03	09.8	-0.6
CGA2				*e*S	Sn	03	03	32.3	-1.6
MOMJ	**Momotombo**	**2.04**	**355**	*e*P	Pn	03	03	11.6	-0.9
MIRN	**Miramar**	**2.09**	**350**⇑	*e*P	Pn	03	03	12.4	-0.8
LEON	**Leon**	**2.10**	**345**⇑	*e*P	Pn	03	03	12.3	-1.2
CNGN	**Cerro Negro**	**2.15**	**351**	*e*P	Pn	03	03	13.3	-0.8
TEL3	**Telica 3**	**2.24**	**348**⇓	*e*P	Pn	03	03	14.7	-0.8
LCR2	**La Lucha 2**	**2.39**	**105**	*e*P	Pn	03	03	16.3	-1.3
CRIN	**San Cristobal**	**2.42**	**344**	*e*P	Pn	03	03	17.2	-0.8
CRIN				*e*S	Sn	03	03	46.9	-0.5
URSC	**Urasca**	**2.59**	**102**	*e*P	Pn	03	03	20.8	+0.4
BUS	**Buena Vista**	**2.68**	**107**⇓	*e*P	Pn	03	03	22.1	+0.5

IDC 24 03:06:19.9±4.9, 12.42N×40.36E, mb3.6/4, mb1 3.8/5, mb1mx3.7/16, mbtmp3.7/5, ML4.3/1, Error ellipse: s-maj=118.3km s-min=24.5km az=35.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ATD	**Arta Tunnel**	**2.59**	**110**	Pn	Pn	03	07	03.5	-0.3
	54nm,0.3s,baz=275,slow=12,SNR=12								
ATD				Sn	Sn	03	07	38.1	+1.6
	40nm,0.3s,baz=106,slow=22,SNR=4.2								
BRTR	**Keskin Array B**	**27.84**	**349**	P	P	03	12	13.1	+0.1
	1.0nm,0.9s,baz=180,slow=7.4,SNR=3.7								
GERES	**GERESS Array B**	**42.51**	**334**	P	P	03	14	16.3	-2.3
	0.5nm,0.6s,baz=146,slow=4.8,SNR=4.6								
MKAR	**Makanchi Array**	**49.11**	**37**	P	P	03	15	08.3	-2.9
	0.8nm,0.8s,baz=233,slow=6.1,SNR=4.7								
SONM	**Songino Array**	**64.83**	**43**	P	P	03	17	00.7	-2.2
	0.6nm,0.8s,baz=255,slow=8.1,SNR=4.3								

*IDC **24** 03:09:29.7±3.0, 12.34N×40.37E, mb4.1/7, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, ML4.5/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/25, Error ellipse: s-maj=73.3km s-min=24.0km az=26.0*
*NEIC **24** 03:09:31.7±0.9, 12.39N×40.43E, h10km, mb4.4/6, Error ellipse: s-maj=25.7km s-min=9.3km az=205.0*
*CSEM **24** 03:09:31.4±0.2, 12.59N×40.35E, h10km, mb4.5/7, Ms3.6, Error ellipse: s-maj=15.2km s-min=4.4km az=31.0*
ISC 24 03:09:30.1±1.1, 12.4N±0.2×40.4E±0.1, h10km, n40, σ0§86/39, mb4.2/13, MS3.7/1, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ATD	**Arta Tunnel**	**2.55**	**109**	Pn	**Pn**	**03**	**10**	**12.6**	**+0.4**
	99nm,0.3s,baz=85,slow=20,SNR=11								
ATD				Sn	**Sn**	**03**	**10**	**51.9**	**+8.3**
	51nm,0.3s,baz=103,slow=23,SNR=12								
ASF	**Jabal al Asfar**	**19.95**	**351**	P	**P**	**03**	**14**	**07.0**	**+1.7**
	0.2nm,0.3s,baz=107,slow=5.1,SNR=3.9								
BHD	**Baghdad**	**21.11**	**9**	*e*	x	03	14	49.0	
MALT	**Malatya**	**25.88**	**356**	*e*P	**P**	**03**	**15**	**04.7**	**+0.9**
	8.1nm,1.1s,mb4.2								
MALT	**Malatya**	**25.88**	**356**	*e*P	**P**	**03**	**15**	**04.7**	**+0.9**
	8.1nm,1.1s,mb4.2								
BR131	**Keskin Array S**	**27.88**	**349**	*e*P	**P**	**03**	**15**	**22.6**	**+0.4**
	6.0nm,1.1s,mb4.1								
BR131	**Keskin Array S**	**27.88**	**349**	*e*P	**P**	**03**	**15**	**22.5**	**+0.4**
	6.0nm,1.1s,mb4.1								
BRTR	**Keskin Array B**	**27.88**	**349**	P	**P**	**03**	**15**	**22.2**	**+0.1**
	6.3nm,1.1s,mb4.1,baz=173,slow=10.0,SNR=15								
BRTR	**Keskin Array B**	**27.88**	**349**	P	**P**	**03**	**15**	**22.2**	**+0.1**
VAE	**Valguarnera**	**34.12**	**322**	LR	LR	03	31	15.9	
	comp=Z,148nm,19.1s,MS3.7,baz=312,slow=38								
VRAC	**Vranov**	**41.73**	**337**	P	**P**	**03**	**17**	**20.7**	**-0.2**
	1.4nm,0.5s,mb3.8,baz=152,slow=7.6,SNR=4.0								
MORC	**Moravsky Berou**	**41.76**	**338**	P	**P**	**03**	**17**	**20.6**	**-0.5**
MORC	**Moravsky Berou**	**41.76**	**338**	P	**P**	**03**	**17**	**20.6**	**-0.5**
GERES	**GERESS Array B**	**42.55**	**334**	P	**P**	**03**	**17**	**25.5**	**-2.1**
	1.7nm,0.9s,mb3.8,baz=135,slow=7.5,SNR=12								
KHC	**Kasperske Hory**	**42.82**	**334**	*e*P	**P**	**03**	**17**	**28.0**	**-1.9**
MBDF	**Montbardon**	**43.16**	**325**	*e*P	**P**	**03**	**17**	**33.9**	**+1.2**
	7.0nm,0.8s,mb4.2								
LPG	**La Plagne**	**43.65**	**326**	*e*P	**P**	**03**	**17**	**36.1**	**-0.5**
LPL	**La Plagne**	**43.67**	**326**	*e*P	**P**	**03**	**17**	**36.2**	**-0.6**
ORIF	**Oris-en-Rattie**	**43.78**	**324**	*e*P	**P**	**03**	**17**	**38.1**	**+0.4**
ORIF				*e*R					
	128nm,18.5s								
GRA1	**Grafenberg Arr**	**44.27**	**333**	*e*P	**P**	**03**	**17**	**40.1**	**-1.5**
VIVF	**Saint-Julien-l**	**44.44**	**324**	*e*P	**P**	**03**	**17**	**43.0**	**0.0**
	10.0nm,1.1s,mb4.2								
LASF	**Ste Croix**	**44.47**	**322**	*e*P	**P**	**03**	**17**	**43.8**	**+0.5**
	31nm,1.6s,mb4.5								
HINF	**Hinteralfeld**	**45.06**	**328**	*e*P	**P**	**03**	**17**	**47.7**	**-0.3**
CDF	**Champ du Feu**	**45.24**	**329**	*e*P	**P**	**03**	**17**	**49.2**	**-0.2**
HAU	**Haudompre**	**45.45**	**328**	*e*P	**P**	**03**	**17**	**50.7**	**-0.3**
HAU				*e*R					
	80nm,18.2s								
SMF	**Signal de Mont**	**45.95**	**325**	*e*P	**P**	**03**	**17**	**54.5**	**-0.6**
CAF	**Calviac**	**46.01**	**322**	*e*P	**P**	**03**	**17**	**56.5**	**+0.9**
AVF	**Avril sur Loir**	**46.31**	**325**	*e*P	**P**	**03**	**17**	**57.4**	**-0.5**
LOR	**Lormes**	**46.31**	**326**	*e*P	**P**	**03**	**17**	**57.6**	**-0.3**
LOR				*e*R					
	102nm,18.5s								
SSF	**Saint Saulge**	**46.38**	**325**	*e*P	**P**	**03**	**17**	**57.7**	**-0.8**
MEZF	**Maizieres J'vi**	**46.43**	**328**	*e*P	**P**	**03**	**17**	**59.1**	**+0.3**
BGF	**Bois d'Agland**	**46.46**	**325**	*e*P	**P**	**03**	**17**	**59.2**	**+0.1**
	28nm,1.3s,mb4.7								
ETSF	**Etsaut**	**46.62**	**318**	*e*P	**P**	**03**	**18**	**01.8**	**+1.4**
LFF	**La Frestale**	**46.82**	**322**	*e*P	**P**	**03**	**18**	**02.9**	**+1.0**
SJPF	**Ste Jean**	**47.15**	**318**	*e*P	**P**	**03**	**18**	**05.9**	**+1.3**
	38nm,1.4s,mb4.8								
GIVF	**Givet**	**47.56**	**329**	*e*P	**P**	**03**	**18**	**07.3**	**-0.4**
ESDC	**Sonseca Array**	**47.57**	**313**	P	**P**	**03**	**18**	**08.4**	**+0.5**
	1.2nm,0.9s,mb3.9,baz=117,slow=8.2,SNR=4.5								
MKAR	**Makanchi Array**	**49.12**	**37**	P	**P**	**03**	**18**	**20.2**	**+0.4**
	1.6nm,1.1s,mb4.0,baz=236,slow=8.7,SNR=4.5								
FINES	**FINESS Array B**	**50.07**	**351**	P	**P**	**03**	**18**	**27.1**	**+0.2**
	1.1nm,0.7s,mb4.0,baz=142,slow=31,SNR=2.2								
SONM	**Songino Array**	**64.84**	**43**	P	**P**	**03**	**20**	**10.4**	**-1.2**
	2.4nm,1.1s,mb4.1,baz=256,slow=6.1,SNR=8.3								

IDC 24 03:12:24.8±1.2, 12.00N×40.00E, mb3.7/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.9/5, ML4.7/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/24, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ATD	**Arta Tunnel**	**2.83**	**99**	Pn	Pn	03	13	11.0	-1.0
	126nm,0.3s,baz=284,slow=19,SNR=9.7								
ATD				Sn	Sn	03	13	46.0	-1.3
	56nm,0.3s,baz=92,slow=23,SNR=3.0								
ATD				LR	LR	03	14	28.9	
	comp=Z,1μm,18.7s,baz=98,slow=44								
BRTR	**Keskin Array B**	**28.18**	**350**	P	P	03	18	18.8	-2.4
	1.0nm,0.8s,baz=170,slow=14,SNR=5.3								
GERES	**GERESS Array B**	**42.73**	**334**	P	P	03	20	25.6	+0.2
	0.6nm,0.6s,baz=127,slow=6.7,SNR=6.2								
MKAR	**Makanchi Array**	**49.66**	**37**	P	P	03	21	16.8	-3.5
	0.5nm,0.7s,baz=243,slow=5.4,SNR=3.6								
SONM	**Songino Array**	**65.38**	**43**	P	P	03	23	09.4	-1.9
	0.4nm,0.4s,baz=256,slow=5.9,SNR=5.1								

IDC 24 03:16:01.2±5.2, 12.26N×40.38E, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=121.4km s-min=27.3km az=32.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ATD	**Arta Tunnel**	**2.52**	**106**	Pn	Pn	03	16	44.3	+0.2
	64nm,0.3s,baz=271,slow=23,SNR=6.4								
ATD				Sn	Sn	03	17	20.4	+4.4
	37nm,0.3s,baz=143,slow=18,SNR=2.7								
BRTR	**Keskin Array B**	**28.00**	**349**	P	P	03	21	55.2	-0.6
	1.6nm,0.9s,baz=164,slow=9.0,SNR=7.8								
AKASG	**Malin Array Be**	**39.40**	**349**	P	P	03	23	32.2	-2.1
	0.1nm,0.3s,baz=177,slow=7.5,SNR=4.1								
GERES	**GERESS Array B**	**42.66**	**334**	P	P	03	23	59.1	-2.0
	0.8nm,0.8s,baz=135,slow=3.8,SNR=6.9								
MKAR	**Makanchi Array**	**49.23**	**37**	P	P	03	24	51.0	-2.3
	2.2nm,1.0s,baz=225,slow=3.4,SNR=7.1								
SONM	**Songino Array**	**64.94**	**43**	P	P	03	26	42.5	-2.4
	1.7nm,1.1s,baz=270,slow=5.8,SNR=7.4								

IDC 24 03:19:53.2±4.0, 12.42N×40.35E, mb3.9/7, mb1 4.0/8, mb1mx3.9/17, mbtmp4.0/8, ML4.4/1, Error ellipse: s-maj=93.9km s-min=26.4km az=32.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ATD	**Arta Tunnel**	**2.60**	**110**	Pn	Pn	03	20	37.3	+0.1
	68nm,0.3s,baz=256,slow=21,SNR=6.7								
ATD				Sn	Sn	03	21	15.9	+5.9
	24nm,0.3s,baz=271,slow=23,SNR=6.0								
BRTR	**Keskin Array B**	**27.84**	**349**	P	P	03	25	45.0	-1.4
	2.4nm,1.0s,baz=173,slow=10.0,SNR=8.6								
GERES	**GERESS Array B**	**42.51**	**334**	P	P	03	27	50.6	-1.3
	1.0nm,0.8s,baz=143,slow=6.7,SNR=7.2								
BVAR	**Borovoye Array**	**47.07**	**24**	P	P	03	28	27.8	-0.6
	1.0nm,0.8s,baz=207,slow=9.9,SNR=5.2								
MKAR	**Makanchi Array**	**49.12**	**37**	P	P	03	28	41.3	-3.2
	1.6nm,0.9s,baz=243,slow=8.1,SNR=7.3								
FINES	**FINESS Array B**	**50.04**	**351**	P	P	03	28	49.7	-1.6
	2.6nm,0.8s,baz=174,slow=19,SNR=3.5								
NOA	**NORSAR Array B**	**52.99**	**343**	P	P	03	29	10.1	-3.6
	1.5nm,0.8s,baz=144,slow=7.4,SNR=3.5								
SONM	**Songino Array**	**64.85**	**43**	P	P	03	30	34.0	-2.2
	1.6nm,0.9s,baz=260,slow=6.9,SNR=8.9								

*BJI **24** 03:25:21.9, 12.15N×40.03E, h31km, mB5.1, mb4.9, Ms4.9, Msz4.6*
*IDC **24** 03:25:24.7±0.6, 12.83N×40.43E, mb4.3/19, mb1 4.4/20, mb1mx4.3/25, mbtmp4.3/20, ML3.6/1, MS4.3/12, Ms1 4.3/12, ms1mx4.1/24, Error ellipse: s-maj=21.2km s-min=12.6km az=93.0*
*MOS **24** 03:25:24.2±0.9, 12.77N×40.39E, h10km, mb4.9/36, Error ellipse: s-maj=12.2km s-min=4.4km az=109.9*
*CSEM **24** 03:25:24.9±0.1, 12.76N×40.44E, h13km, mb4.8/26, Ms3.8, Error ellipse: s-maj=2.9km s-min=2.1km az=20.0*
*NEIC **24** 03:25:25.8±0.2, 12.73N×40.43E, h10km, mb4.8/40, ML4.9(DHMR), Error ellipse: s-maj=6.2km s-min=4.5km az=217.0*
*DHMR **24** 03:25:26.7±0.8, 12.65N×40.69E, h12km±78km, ML4.8*
ISC 24 03:25:24.4±0.3, 12.77N±0.04×40.45E±0.03, h10km, (h14km±.8km:pP-P), n216, σ1§11/224, mb4.6/66, MS4.3/19, 14C-14D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ATD	**Arta Tunnel**	**2.65**	**117**	Pn	**Pn**	**03**	**26**	**05.9**	**-2.0**
	235nm,0.3s,baz=

comp=Z,562nm,19.2s,MS4.2,baz=180,slow=38
LSZ Lusaka 30.39 204 P **P** **03 31 38.6 -0.5**
LSZ P 03 31 38.9
LSZ LR LR 03 44 47.6
LSZ Lusaka 30.39 204 P **P** **03 31 38.9 -0.2**
SOC Sochi 30.71 359 *eP* **P** **03 31 46.5 +4.8**
SOC *e* 03 38 42.2
SOC MLR MLR
comp=Z,364nm,12.0s,MS4.2
SOC MLR MLR
comp=N,373nm,13.0s,MS4.3
SOC MLR MLR
comp=E,358nm,15.0s,MS4.3
KIV Kislovodsk 31.14 3 *eP* **P** **03 31 46.7 +1.2**
comp=E,21nm,1.0s,mb4.9
KIV Kislovodsk 31.14 3 *eP* **P** **03 31 46.7 +1.2**
comp=E,21nm,1.0s,mb4.9
KIV Kislovodsk 31.14 3 *e*PcP PcP 03 34 35.9 -4.8
comp=E,400nm,17.0s
KIV Kislovodsk 31.14 3⇓*iP* **P** **03 31 47.3 +1.8**
KIV *e* 03 32 52.8
KIV *e* 03 34 35.9
KIV *e*S **S** **03 36 56.1 +6.1**
KIV pmax pmax
comp=Z,15nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,400nm,17.0s,MS4.2
OPO Ambohidratompo 31.84 168 P **P** **03 31 52.8 +0.9**
comp=Z,2.8nm,0.8s,mb4.1,baz=51,slow=4.7,SNR=4.0
SIM Simferopol' 32.53 352 *eP* **P** **03 31 59.1 +1.5**
SIM pmax pmax
comp=Z,25nm,1.1s,mb5.1
TIP Timpagrande 33.64 326 P **P** **03 32 09.7 +2.3**
TIP Timpagrande 33.64 326 P **P** **03 32 09.7 +2.3**
VAE Valguarnera 33.86 321 LR LR 03 45 44.4
comp=Z,161nm,19.9s,MS3.8,baz=310,slow=36
CFR Carcaliu 33.97 344⇑P **P** **03 32 09.8 -0.3**
MLR Muntele Rosu 34.87 342⇓P **P** **03 32 20.1 +2.2**
MATP Matopo 35.01 200 P **P** **03 32 18.9 -0.5**
comp=Z,4.0nm,1.0s,mb4.3,baz=44,slow=12,SNR=5.8
MATP LR LR 03 46 28.2
comp=Z,847nm,19.8s,MS4.5,baz=26,slow=36
VOIR 35.10 341⇓P **P** **03 32 21.4 +1.5**
DRGR 37.06 340⇓P **P** **03 32 37.0 +0.6**
AKASG Malin Array Be 38.92 349 P **P** **03 32 51.3 -0.7**
comp=Z,6.5nm,0.9s,mb4.4,baz=169,slow=7.0,SNR=15
AKASG PcP PcP 03 35 00.5 -2.7
comp=Z,0.5nm,0.5s,baz=124,slow=1.8,SNR=4.1
AKASG Malin Array Be 38.92 349 PcP PcP 03 35 00.5 -2.7
TSUM Tsumeb 38.94 216 LR LR 03 48 12.6
comp=Z,670nm,21.4s,MS4.4,baz=25,slow=35
PSZ Piszkesteto 39.02 338 *eP* **P** **03 32 53.8 +1.0**
comp=Z,7.3nm,0.8s,mb4.5
PSZ Piszkesteto 39.02 338 *eP* **P** **03 32 53.8 +1.0**
comp=Z,7.2nm,0.8s,mb4.5
PSZ Piszkesteto 39.02 338 *eP* **P** **03 32 53.8 +1.0**
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
KOLS Kolonicke sedl 39.08 341 *eP* **P** **03 32 53.9 +0.6**
KECS Kecovo 39.28 339 *eP* **P** **03 32 54.0 -1.0**
KWP Kalwaria 39.56 342 *eP* **P** **03 32 58.6 +1.3**
comp=Z,18nm,1.0s,mb4.8
KWP Kalwaria 39.56 342 *eP* **P** **03 32 58.6 +1.3**
KWP pmax pmax
comp=Z,19nm,1.0s,mb4.8
STHS Stebnicka Huta 39.83 340 *eP* **P** **03 32 59.9 +0.4**
VYHS Vyhne 39.89 338 *eP* **P** **03 33 00.7 +0.6**
VOY Vojsko 40.05 331 *eP* **P** **03 33 02.7 +1.3**
LBTB Lobatse 40.25 201 P **P** **03 33 03.6 +0.4**
LBTB Lobatse 40.25 201 P **P** **03 33 03.6 +0.4**
LIKS Likavka 40.25 338 *eP* **P** **03 33 02.3 -0.7**
PGF Pioggiola 40.27 323 *eP* **P** **03 33 03.3 0.0**
comp=Z,8.5nm,0.9s,mb4.2
PGF Pioggiola 40.27 323 *eP* **P** **03 33 03.3 0.0**
PGF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ZST Bratislava 40.32 336 *eP* **P** **03 33 03.9 +0.3**
SMOL Smolenice 40.44 336 *eP* **P** **03 33 05.5 +0.9**
OJC Ojcow 41.00 340 *eP* **P** **03 33 09.6 +0.5**
OKC Ostrava-Krasne 41.26 338 *e*pP pP 03 33 15.5 +1.2
MORC Moravsky Berou 41.43 338 *eP* **P** **03 33 12.7 0.0**
comp=Z,6.3nm,1.0s,mb4.2
MORC Moravsky Berou 41.43 338 *eP* **P** **03 33 12.7 0.0**
comp=Z,6.3nm,1.0s,mb4.2
MORC Moravsky Berou 41.43 338 *eP* **P** **03 33 12.7 0.0**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
TREC Trest 41.84 336 *eP* **P** **03 33 16.5 +0.5**
AAK Ala-Archa 41.87 38 *eP* **P** **03 33 17.1 +0.7**
AAK Ala-Archa 41.87 38 *eP* **P** **03 33 17.1 +0.7**
AAK Ala-Archa 41.87 38⇑*iP* **P** **03 33 17.5 +1.1**
AAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
SBF Sospel 41.98 324 *eP* **P** **03 33 17.1 -0.2**
comp=Z,12nm,0.8s,mb4.3
SBF Sospel 41.98 324 *eP* **P** **03 33 17.1 -0.2**
SBF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
LMR La Mourre 42.21 323 *eP* **P** **03 33 18.6 -0.6**
GERES GERESS Array B 42.24 334 P **P** **03 33 18.9 -0.4**
comp=Z,3.6nm,0.9s,mb4.0,baz=143,slow=6.7,SNR=21
FRF La Foret Royal 42.26 323 *eP* **P** **03 33 19.3 -0.3**
DPC Dobruska-Polom 42.35 337 *eP* **P** **03 33 21.1 +0.8**
OBN Obninsk 42.36 357 *eP* **P** **03 33 20.9 +0.6**
comp=Z,10nm,0.4s,mb4.8
OBN Obninsk 42.36 357 *eP* **P** **03 33 20.9 +0.7**
comp=Z,10nm,0.4s,mb4.8
OBN Obninsk 42.36 357⇓*iP* **P** **03 33 20.9 +0.7**
OBN *e* 03 35 02.3
OBN pmax pmax
comp=Z,37nm,1.7s,mb4.7
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.7
KHC Kasperske Hory 42.51 334 *eP* **P** **03 33 20.4 -1.1**
KHC Kasperske Hory 42.51 334⇓*iP* **P** **03 33 21.2 -0.3**
DAVOX Davos 42.54 329 P **P** **03 33 21.6 -0.2**
comp=Z,1.5nm,0.6s,mb3.9,baz=157,slow=12,SNR=3.9
UPC Upice 42.60 337 *eP* **P** **03 33 23.2 +0.9**
PRU Pruhonice 42.77 335 *eP* **P** **03 33 23.5 -0.1**
MBDF Montbardon 42.89 324 *eP* **P** **03 33 25.3 +0.6**
comp=Z,18nm,0.8s,mb4.6
MBDF Montbardon 42.89 324 *eP* **P** **03 33 25.3 +0.6**
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MOS Moscow 42.93 358 *eP* **P** **03 33 24.7 -0.2**
MOS *e* 03 35 00.1
SMRF Simiane la Rot 43.13 323 *eP* **P** **03 33 26.9 +0.2**
PVCC Panska Ves 43.18 336 *eP* **P** **03 33 26.6 -0.4**
SUW Suwalki 43.36 345 *eP* **P** **03 33 28.3 -0.1**
comp=Z,43nm,1.0s,mb5.1
SUW Suwalki 43.36 345 *eP* **P** **03 33 28.3 -0.1**
comp=Z,43nm,1.0s,mb5.1
SUW Suwalki 43.36 345 *eP* **P** **03 33 28.3 -0.1**
SUW pmax pmax
comp=Z,43nm,1.0s,mb5.1
LPG La Plagne 43.37 325 *eP* **P** **03 33 27.6 -1.0**
LPL La Plagne 43.39 325 *eP* **P** **03 33 27.8 -1.0**
ORIF Oris-en-Rattie 43.51 324 *eP* **P** **03 33 29.5 -0.2**
comp=Z,22nm,1.1s,mb4.5
ORIF *e*R
comp=Z,132nm,23.0s
BRG Berggiesshubel 43.70 336 *eP* **P** **03 33 31.2 +0.1**
comp=Z,8.6nm,1.4s,mb4.3
BRG Berggiesshubel 43.70 336 *eP* **P** **03 33 31.2 0.0**
comp=Z,8.6nm,1.4s,mb4.3
BRG Berggiesshubel 43.70 336 *eP* **P** **03 33 31.2 0.0**
BRG pmax pmax
comp=Z,9.0nm,1.4s,mb4.3
NKC Novy Kostel 43.82 334 *eP* **P** **03 33 32.6 +0.4**
GRA1 Grafenberg Arr 43.96 333 *eP* **P** **03 33 32.9 -0.4**
comp=Z,9.0nm,1.1s,mb4.4
GRF Grafenberg Arr 43.96 333 *eP* **P** **03 33 32.9 -0.4**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
LASF Ste Croix 44.21 322 *eP* **P** **03 33 35.7 +0.2**
comp=Z,24nm,1.2s,mb4.5
CLL Collm 44.41 336⇑P **P** **03 33 36.8 -0.2**
comp=Z,logA/T=1.1,mb4.6
CLL Collm 44.41 336⇑*iP* **P** **03 33 36.8 -0.2**
comp=Z,15nm,1.2s,mb4.6
CLL Collm 44.41 336⇑*iP* **P** **03 33 36.8 -0.2**
CLL pmax pmax
comp=Z,15nm,1.2s,mb4.6
CABF La Chapelle 44.42 326 *eP* **P** **03 33 36.0 -1.1**
comp=Z,18nm,1.0s,mb4.5
CABF La Chapelle 44.42 326 *eP* **P** **03 33 36.0 -1.1**
CABF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MOX Moxa 44.48 334 *eP* **P** **03 33 36.0 -1.6**
HINF Hinteralfeld 44.77 328 *eP* **P** **03 33 39.2 -0.8**
comp=Z,10nm,0.9s,mb4.3
HINF Hinteralfeld 44.77 328 *eP* **P** **03 33 39.2 -0.8**
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
MTLF Montolieu 44.82 320 *eP* **P** **03 33 40.1 -0.3**
comp=Z,20nm,1.4s,mb4.5
MTLF Montolieu 44.82 320 *eP* **P** **03 33 40.1 -0.3**
MTLF pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
CDF Champ du Feu 44.94 329 *eP* **P** **03 33 40.6 -0.7**
comp=Z,34nm,1.4s,mb4.7
CDF Champ du Feu 44.94 329 *eP* **P** **03 33 40.6 -0.7**
CDF pmax pmax
comp=Z,17nm,1.4s,mb4.7
DBIC Dimbokro 45.02 267 P **P** **03 33 41.5 -0.9**
comp=Z,4.3nm,0.7s,mb4.4,baz=50,slow=8.9,SNR=8.1
DBIC LR LR 03 51 51.6
comp=Z,334nm,19.6s,MS4.3,baz=67,slow=35
DBIC Dimbokro 45.02 267 P **P** **03 33 38.6 -3.7**
comp=Z,16nm,1.2s,mb4.7
DBIC Dimbokro 45.02 267 P **P** **03 33 38.6 -3.7**
DBIC pmax pmax
comp=Z,16nm,1.2s
HAU Haudompre 45.16 328 *eP* **P** **03 33 42.1 -0.9**
HAU *e*R
comp=Z,104nm,17.2s
LIC Lamto 45.27 266 *eP* **P** **03 33 45.9 +1.5**
comp=Z,5.2nm,0.8s,mb4.4
MDT Midelt 45.68 304 P **P** **03 33 47.7 +0.3**
comp=Z,3.5nm,1.0s,mb4.2,baz=106,slow=8.2,SNR=6.7
MDT LR LR 03 55 50.1
comp=Z,513nm,20.4s,MS4.5,baz=276,slow=40
SMF Signal de Mont 45.68 325 *eP* **P** **03 33 46.2 -0.9**
CAF Calviac 45.75 322 *eP* **P** **03 33 47.8 +0.1**
comp=Z,40nm,1.6s,mb4.8
CAF Calviac 45.75 322 *eP* **P** **03 33 47.8 +0.1**
CAF pmax pmax
comp=Z,20nm,1.6s,mb4.8
ARU Arti 45.76 14 *eP* **P** **03 33 48.7 +1.1**
comp=Z,12nm,0.9s,mb4.8
ARU Arti 45.76 14 *eP* **P** **03 33 48.7 +1.1**
comp=Z,12nm,0.9s,mb4.8
ARU Arti 45.76 14⇑*iP* **P** **03 33 49.0 +1.4**
ARU *e* 03 35 38.1
ARU *e*PPP PPP 03 36 18.7 +0.7
ARU *e*S **S** **03 40 37.2 +6.9**
ARU pmax pmax
comp=Z,21nm,2.2s,mb4.7
ARU MLR MLR
comp=Z,200nm,17.0s,MS4.1
ARU MLR MLR
comp=N,100nm,18.0s,MS3.9
ARU MLR MLR
comp=E,60nm,14.0s,MS3.9
EPF Esparros 45.86 319 *eP* **P** **03 33 48.1 -0.5**
LOR Lormes 46.03 326 *eP* **P** **03 33 49.0 -0.9**
comp=E,28nm,1.2s,mb4.8
LOR *e*R
comp=E,142nm,17.5s
LOR Lormes 46.03 326 *eP* **P** **03 33 49.0 -0.9**
LOR pmax pmax
comp=Z,14nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,140nm,17.5s,MS4.0
AVF Avril sur Loir 46.04 325 *eP* **P** **03 33 48.8 -1.2**
comp=Z,14nm,1.1s,mb4.5
AVF Avril sur Loir 46.04 325 *eP* **P** **03 33 48.8 -1.2**
AVF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
SSF Saint Saulge 46.11 325 *eP* **P** **03 33 49.4 -1.1**
MEZF Maizieres J'vi 46.14 328 *eP* **P** **03 33 50.5 -0.3**
comp=Z,28nm,1.0s,mb4.8
BGF Bois d'Agland 46.19 324 *eP* **P** **03 33 50.5 -0.7**
RJF Les Rejaudoux 46.28 322 *eP* **P** **03 33 51.9 0.0**
RJF *e*R
comp=Z,141nm,19.5s
ETSF Etsaut 46.38 318 *eP* **P** **03 33 53.2 +0.5**
comp=Z,36nm,1.1s,mb4.9
ETSF Etsaut 46.38 318 *eP* **P** **03 33 53.2 +0.5**
ETSF pmax pmax
comp=Z,18nm,1.1s,mb4.9
LFF La Frestale 46.56 321 *eP* **P** **03 33 54.3 +0.2**
comp=Z,34nm,1.1s,mb4.9
LFF La Frestale 46.56 321 *eP* **P** **03 33 54.3 +0.2**
LFF pmax pmax
comp=Z,17nm,1.1s,mb4.9
BVAR Borovoye Array 46.71 24 P **P** **03 33 55.9 +0.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=225,slow=8.4,SNR=11
SJPF Ste Jean 46.91 318 *eP* **P** **03 33 57.4 +0.5**
comp=Z,27nm,1.0s,mb4.8
SJPF Ste Jean 46.91 318 *eP* **P** **03 33 57.4 +0.5**
SJPF pmax pmax
comp=Z,14nm,1.0s,mb4.8
ESDC Sonseca Array 47.35 313 P **P** **03 34 00.9 +0.4**
comp=Z,2.8nm,0.8s,mb4.2,baz=116,slow=7.7,SNR=10
BAIF Baives 47.54 329 *eP* **P** **03 34 00.7 -1.2**
SUR Sutherland 48.66 202 P **P** **03 34 13.2 +2.4**
comp=Z,8.7nm,0.9s,mb4.8,baz=352,slow=3.4,SNR=6.4
SUR Sutherland 48.66 202 *eP* **P** **03 34 10.3 -0.5**
comp=Z,9.5nm,0.9s,mb4.8
SUR Sutherland 48.66 202 *eP* **P** **03 34 10.3 -0.5**
comp=Z,9.5nm,0.9s,mb4.8
MKAR Makanchi Array 48.78 38 P **P** **03 34 11.2 -0.3**
comp=Z,5.4nm,0.8s,mb4.6,baz=233,slow=6.1,SNR=21
FLN La Foliniere 49.28 325 *eP* **P** **03 34 13.8 -1.5**
comp=Z,32nm,1.0s,mb5.0
FLN *e*R
comp=Z,130nm,22.3s
FLN La Foliniere 49.28 325 *eP* **P** **03 34 13.8 -1.5**
FLN pmax pmax
comp=Z,16nm,1.0s,mb5.0
FLN MLR MLR
comp=Z,130nm,22.3s,MS3.9
GRR Gorron 49.30 325 *eP* **P** **03 34 13.9 -1.5**
LSA Lhasa 49.77 62 *eP* **P** **03 34 19.6 +0.2**
comp=Z,6.1nm,0.6s,mb4.8
LSA Lhasa 49.77 62 *eP* **P** **03 34 19.6 +0.2**
comp=Z,6.1nm,0.6s,mb4.8
LSA Lhasa 49.77 62 *eP* **P** **03 34 19.6 +0.2**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
HFS Hagfors 51.24 343 P **P** **03 34 28.2 -1.9**
comp=Z,1.3nm,0.6s,mb4.1,baz=140,slow=12,SNR=5.4
NB2 NORSAR Subarra 52.69 343 P **P** **03 34 39.0 -2.0**
comp=Z,12nm,1.1s,mb4.7,baz=142,slow=7.4
NB2 NORSAR Subarra 52.69 343 P **P** **03 34 39.0 -2.0**
NB2 pmax pmax
comp=Z,12nm,1.1s,mb4.7
NOA NORSAR Array B 52.69 343 P **P** **03 34 39.6 -1.4**
comp=Z,3.7nm,0.8s,mb4.3,baz=141,slow=7.3,SNR=5.6
ARCES ARCESS Array B 57.52 354 P **P** **03 35 14.7 -1.3**
comp=Z,3.6nm,0.8s,mb4.4,baz=170,slow=7.4,SNR=7.1
GTA Gaotai 58.40 52 *eP* **P** **03 35 22.5 -0.1**
GTA AP pP 03 35 27.1 +1.4
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,107nm,4.2s
GTA LR LR
comp=N,318nm,17.2s
GTA LR LR
comp=E,337nm,22.9s
GTA LR LR
comp=Z,633nm,26.0s
KMI Kunming 59.74 68 P **P** **03 35 31.3 -0.8**
KMI S **S** **03 43 43.9 +2.6**
KMI SS SS 03 47 39.1 +0.7
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,349nm,4.0s
KMI LR LR
comp=Z,295nm,34.2s,MS4.2
KMI Kunming 59.74 68 P **P** **03 35 31.2 -0.9**
comp=Z,9.0nm,0.8s,mb4.8
KMI pP pP 03 35 35.1 -0.1
KMI sP sP 03 35 38.1 +1.8
KMI S **S** **03 43 43.9 +2.6**
KMI SS SS 03 47 39.1 +0.7
KMI LR LR
comp=Z,290nm,34.2s,MS4.2
KMI Kunming 59.74 68 P **P** **03 35 31.2 -0.9**
comp=Z,9.0nm,0.8s,mb4.8
KMI pP pP 03 35 35.1 -0.1
KMI S **S** **03 43 43.9 +2.6**
comp=Z,290nm,34.2s
KMI SS SS 03 47 39.1 +0.7
KMI Kunming 59.74 68 P **P** **03 35 31.2 -0.9**
KMI *PP pP 03 35 35.1 -0.1
KMI *SP sP 03 35 38.1 +1.8
KMI S **S** **03 43 43.9 +2.6**
KMI SS SS 03 47 39.1 +0.7
KMI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KMI MLR MLR
comp=Z,290nm,34.2s,MS4.2
ZAK Zakamensk 63.01 40 *eP* **P** **03 35 52.4 -1.3**
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.9
GYA Guiyang 63.26 67⇑*iP* **P** **03 35 54.6 -1.1**
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.2
SONM Songino Array 64.52 43 P **P** **03 36 03.1 -0.6**
comp=Z,6.3nm,0.9s,mb4.7,baz=253,slow=6.8,SNR=36
SONM LR LR 04 08 47.8
comp=Z,450nm,20.0s,MS4.7,baz=260,slow=40
HHC Hu-ho-hao-te 67.51 51 *eP* **P** **03 36 23.3 +0.3**
HHC AP pP 03 36 27.6 +1.5
HHC PCP PcP 03 36 49.8 -0.5
HHC PP PP 03 38 52.3 -1.3
HHC S S 03 45 15.3 -2.5
HHC SCS ScS 03 46 15.9 -1.7
HHC AMB AMB
comp=Z,14nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,255nm,3.9s
HHC LR LR
comp=N,249nm,19.0s,MS4.7
HHC LR LR
comp=E,235nm,14.3s,MS4.7
HHC LR LR
comp=Z,303nm,16.6s,MS4.6
BOD Bodaibo 70.53 33 *eP* **P** **03 36 40.3 -1.0**
BOD pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
NJ2 Nanjing 73.59 60 *eP* **P** **03 36 57.4 -2.6**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
SUMG Summit 74.58 342 *eP* **P** **03 37 05.3 +0.4**
comp=Z,104nm,2.1s,mb5.4
SSE Sheshan 75.67 61 *eP* **P** **03 37 07.8 -4.2**
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,121nm,8.5s
SSE Sheshan 75.67 61 *eP* **P** **03 37 07.7 -4.3**
comp=Z,32nm,0.7s,mb5.4
CN2 Changchun 77.70 48 *eP* **P** **03 37 25.5 +2.4**
CN2 LR LR
comp=N,400nm,14.0s,MS5.0
CN2 LR LR
comp=E,260nm,14.0s,MS5.0
CN2 LR LR
comp=Z,330nm,15.0s,MS4.8
MDJ Mudanjiang 80.56 46 P **P** **03 37 36.3 -2.2**
MDJ S S 03 47 40.3 -3.7
MDJ AMB AMB
comp=Z,4.0nm,0.6s,mb4.5
MDJ AMB AMB
comp=Z,93nm,3.4s
MDJ LR LR
comp=N,228nm,24.3s,MS4.5
MDJ LR LR
comp=E,80nm,22.2s,MS4.5
MDJ LR LR
comp=Z,126nm,20.1s,MS4.3
SYO Syowa Base 81.56 180⇑P **P** **03 37 45.8 +2.5**
MAW Mawson 81.79 172 P **P** **03 37 46.8 +2.2**
comp=Z,2.6nm,0.9s,mb4.2,baz=318,slow=5.6,SNR=7.4
SNAA Sanae 89.06 193⇑*i* **P** **03 38 21.1 +0.5**
VNA2 Neumayer--Watz 89.55 194⇑*i* **P** **03 38 26.5 +3.6**
VNA1 Neumayer--Stat 89.56 195⇑*i* **P** **03 38 23.3 +0.3**
VNA3 Neumayer Olymp 90.31 194⇑*i* **P** **03 38 30.1 +3.7**
BDFB Brasilia 91.93 255 LR LR 04 18 00.4
comp=Z,243nm,18.1s,MS4.7,baz=114,slow=34
YKA Yellowknife Ar 102.49 348 P Pdif 03 39 20.3 -1.8
comp=Z,0.7nm,0.5s,baz=353,slow=5.5,SNR=4.6
PDAR Pinedale Array 118.27 335 PKP PKPdf 03 44 12.6 -2.7
comp=Z,0.2nm,0.5s,baz=350,slow=5.5,SNR=3.1
TXAR Lajitas Array 125.67 321 PKP PKPdf 03 44 27.8 -2.3
comp=Z,0.4nm,0.8s,baz=117,slow=1.5,SNR=5.5

MOS ***24*** *03:27:12.8*$_S$*1.0,36.36N*$_K$*70.97E,h90*$_{km}$*,mb4.5/2,Error ellipse: s-maj=22.1km s-min=11.9km az=113.7*
IDC ***24*** *03:27:14.7*$_S$*4.8,37.53N*$_K$*70.23E,mb4.0/6,mb1 4.0/7, mb1mx3.7/19,mbtmp3.9/7,ML3.3/1,MS3.7/1,Ms1 3.7/1, ms1mx3.2/25,Error ellipse: s-maj=95.4km s-min=23.2km az=172.0*
NEIC ***24*** *03:27:15.6*$_S$*2.2,36.41N*$_K$*71.22E,h104*$_{km}$*,25*$_{km}$*, mb4.3/5, Error ellipse: s-maj=30.5km s-min=8.0km az=52.0*
NNC ***24*** *03:27:21.2*$_S$*5.1,36.84N*$_K$*71.10E,h106*$_{km}$*,86*$_{km}$*, mpv4.5, Error ellipse: s-maj=49.3km s-min=39.9km az=127.0*

ISC 24 03:27:16.1$_S$**±0.5,36.47N**$_L$**±0.03**$_K$**71.33E**$_L$**±0.08,h128**$_{km}$**,σ9km, n37,σ1§20/42,mb3.9/7,4C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.22**	**150**	P	**P**	**03 28 08.9**	**+2.5**
CHCP				S	**S**	**03 28 45.0**	**+0.2**
THW	**Thamme Wali**	**3.68**	**175**	P	**P**	**03 28 13.2**	**+0.6**
SBDP	**Sheikh Budin**	**4.18**	**186**	P	**P**	**03 28 20.3**	**+1.1**
SARP	**Sargodha**	**4.67**	**166**	P	**P**	**03 28 25.3**	**-0.5**
SARP				S	**S**	**03 29 17.0**	**-2.4**
DRP	**Derazinda**	**4.81**	**192**	P	**P**	**03 28 28.4**	**+0.8**
DRP				S	**S**	**03 29 20.0**	**-2.7**
AML	**Almayashu** SNR=107	**5.94**	**17**	P	**P**	**03 28 42.9**	**+0.1**
UCH	**Uchtor** SNR=19	**6.25**	**22**	P	**P**	**03 28 47.4**	**+0.2**
EKS2	**Erkin-Say** SNR=22	**6.46**	**16**	P	**P**	**03 28 50.0**	**0.0**
AAK	**Ala-Archa** SNR=37	**6.62**	**21**	P	**P**	**03 28 52.3**	**+0.2**
AAK	**Ala-Archa** 12nm,0.3s	**6.62**	**21**	⇑P	**P**	**03 28 52.2**	**+0.1**
AAK	52nm,0.5s			⇑S	**S**	**03 30 04.2**	**-2.4**
KK31	**Karatay Array** 21nm,0.5s,baz=180,slow=13,SNR=412	**6.65**	**355**	P	**P**	**03 28 51.6**	**-0.9**
KK31	18nm,0.5s,baz=188,slow=26,SNR=8.7			S	**S**	**03 30 02.1**	**-5.4**
KK31	**Karatay Array** 21nm,0.4s	**6.65**	**355**	P	**P**	**03 28 51.6**	**-0.9**
KK31				S	**S**	**03 30 02.1**	**-5.4**
KBK	**Karagaybulak** SNR=7.7	**6.78**	**23**	P	**P**	**03 28 55.4**	**+1.1**
ULHL	**Ulahol** SNR=7.8	**6.91**	**32**	P	**P**	**03 28 56.0**	**0.0**
CHMS	**Chumysh** SNR=8.4	**7.03**	**21**	P	**P**	**03 28 57.9**	**+0.3**
USP	**Ospenovka** SNR=9.3	**7.21**	**19**	P	**P**	**03 28 59.8**	**-0.3**
TKM2	**Tokmak 2** SNR=11	**7.23**	**26**	P	**P**	**03 29 00.4**	**0.0**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=225,slow=16,SNR=6.6	**13.16**	**35**	Pn	**P**	**03 30 18.7**	**-0.2**
KOLN	**Koldanda** 4.9nm,0.2s	**13.53**	**126**	*eP*	**P**	**03 30 21.3**	**-2.4**
GKN	**Gorkha** 18nm,0.3s	**14.06**	**123**	*eP*	**P**	**03 30 30.6**	**+0.1**
DMN	**Daman** 8.1nm,0.3s	**14.63**	**123**	*eP*	**P**	**03 30 37.6**	**-0.2**
KKN	**Kakani** 6.5nm,0.3s	**14.64**	**122**	*eP*	**P**	**03 30 39.5**	**+1.7**
PKI	**Pulchoki** 6.0nm,0.2s	**14.86**	**123**	*eP*	**P**	**03 30 41.0**	**+0.3**
AB31	**Akbulak array** 2.2nm,0.5s,baz=143,slow=14,SNR=95	**15.24**	**331**	⇓P	**P**	**03 30 43.4**	**-1.9**
AB31	**Akbulak array**	**15.24**	**331**	⇓P	**P**	**03 30 43.4**	**-1.9**
AB31	comp=Z,2.0nm,0.4s			pmax	pmax		
AKTK	**Aktyubinsk**	**16.94**	**330**	⇑P	**P**	**03 31 08.1**	**+1.7**
AKTO	**Aktyubinsk** comp=Z,0.6nm,0.7s	**16.94**	**330**	⇑P	**P**	**03 31 08.1**	**+1.7**

AKASG Malin Array Be 33.17 309 P **P** **03 33 40.3 -1.8**
comp=Z,0.8nm,0.4s,mb3.8,baz=77,slow=7.9,SNR=7.0
FINES FINESS Array B 37.66 326 P **P** **03 34 18.4 -1.6**
comp=Z,1.2nm,0.5s,mb3.8,baz=121,slow=7.7,SNR=11
KAF Kangasniemi 37.80 327 *eP* **P** **03 34 20.3 -0.8**
KAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
PSZ Piszkesteto 39.11 304 *eP* **P** **03 34 31.9 -0.2**
comp=Z,3.1nm,0.8s,mb4.0
PSZ Piszkesteto 39.11 304 *eP* **P** **03 34 31.9 -0.2**
PSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
ARCES ARCESS Array B 41.27 338 P **P** **03 34 51.0 +1.3**
comp=Z,0.9nm,0.4s,mb3.7,baz=113,slow=8.1,SNR=20
GERES GERESS Array B 43.16 305 LR LR 03 54 50.7
comp=Z,97nm,19.0s,baz=153,slow=40
HFS Hagfors 43.25 322 P **P** **03 35 07.3 +1.5**
comp=Z,1.8nm,0.4s,mb4.0,baz=98,slow=10,SNR=16
NB2 NORSAR Subarra 44.56 323 P **P** **03 35 17.2 +0.9**
comp=Z,1.2nm,0.4s,mb3.9,baz=97,slow=7.9
NOA NORSAR Array B 44.56 323 P **P** **03 35 16.8 +0.5**
comp=Z,1.4nm,0.4s,mb3.9,baz=96,slow=7.7,SNR=8.3

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*IDC **24** 03:34:21.8±4.5, 12.50N×40.40E, mb3.7/4, mb1 3.8/5, mb1mx3.7/16, mbtmp3.8/5, ML4.3/1, Error ellipse: s-maj=109.3km s-min=23.8km az=35.0*
*DHMR **24** 03:34:22.2±3.2, 12.55N×40.42E, h12km±999km, ML4.2*
*CSEM **24** 03:34:22.5±0.6, 12.74N×40.27E, h12km, ML4.2, Error ellipse: s-maj=21.8km s-min=13.1km az=20.0*
*NEIC **24** 03:34:23.2±2.9, 12.49N×40.42E, h10km, Error ellipse: s-maj=74.9km s-min=15.6km az=220.0*
ISC 24 03:34:20.1±3.3, 12.5N±0.1×40.28E±0.08, h2km±23km, n10, σ0§68/14, mb3.6/4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.69**	**110**	Pn	**Pn**	**03 35 05.0**	**-0.1**
	62nm,0.3s,baz=110,slow=20,SNR=7.7						
ATD				Sn	**Sn**	**03 35 38.9**	**+0.3**
	65nm,0.3s,baz=51,slow=23,SNR=12						
ATD	**Arta Tunnel**	**2.69**	**110**	Pn	**Pn**	**03 35 04.9**	**-0.1**
ATD				Sn	**Sn**	**03 35 38.9**	**+0.3**
UDYN	**Al 'Udayn**	**3.89**	**67**	*i* P	**Pn**	**03 35 23.0**	**+0.9**
UDYN				*i* S	**Sn**	**03 36 09.2**	**+0.2**
UDYN				AML	AML	03 36 32.8	
	comp=Z,904nm,0.7s						
DHBB	**Dhamar BB**	**4.51**	**62**	*i* P	**Pn**	**03 35 30.3**	**-0.7**
DHBB				*i* S	**Sn**	**03 36 24.6**	**-0.1**
BDHA	**Al Bayda'**	**5.36**	**73**	*i* S	**Sn**	**03 36 41.3**	**-5.0**
BRTR	**Keskin Array B**	**27.77**	**349**	P	**P**	**03 40 13.3**	**+1.1**
	comp=Z,1.3nm,1.0s,mb3.5,baz=172,slow=8.7,SNR=5.8						
GERES	**GERESS Array B**	**42.42**	**334**	P	**P**	**03 42 18.1**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.2,baz=146,slow=9.6,SNR=6.4						
MKAR	**Makanchi Array**	**49.11**	**37**	P	**P**	**03 43 09.8**	**-1.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=233,slow=6.1,SNR=5.1						
MKAR	**Makanchi Array**	**49.11**	**37**	P	**P**	**03 43 09.8**	**-1.2**
SONM	**Songino Array**	**64.85**	**43**	P	**P**	**03 45 02.2**	**-0.7**
	comp=Z,0.8nm,0.9s,mb3.8,baz=256,slow=6.1,SNR=6.2						

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*IDC **24** 03:38:20.8±1.1, 12.61N×40.56E, mb4.1/12, mb1 4.2/14, mb1mx4.2/19, mbtmp4.1/14, ML4.0/2, MS4.4/10, Ms1 4.4/10, ms1mx4.1/26, Error ellipse: s-maj=25.0km s-min=20.3km az=9.0*
*NEIC **24** 03:38:22.5±0.4, 12.64N×40.56E, h10km, mb4.5/10, Error ellipse: s-maj=8.6km s-min=6.0km az=203.0*
*CSEM **24** 03:38:22.9±0.1, 12.87N×40.55E, h15km, mb4.6/10, Ms3.7, Error ellipse: s-maj=4.6km s-min=3.2km az=40.0*
ISC 24 03:38:20.9±0.5, 12.62N±0.08×40.54E±0.06, h10km, n54, σ0§82/47, mb4.3/23, MS4.5/9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.50**	**115**	Pn	**Pn**	**03 39 02.5**	**+0.2**
	103nm,0.3s,baz=134,slow=20,SNR=17						
ATD				Sn	**Sn**	**03 39 39.9**	**+6.7**
	66nm,0.3s,baz=278,slow=22,SNR=7.6						
ATD	**Arta Tunnel**	**2.50**	**115**	Pn	**Pn**	**03 39 02.5**	**+0.1**
KMBO	**Kilima Mbogo**	**14.04**	**194**	Pn	**P**	**03 41 42.3**	**-0.1**
	0.2nm,0.3s,baz=82,slow=20,SNR=3.4						
KMBO				LR	LR	03 46 46.5	
	comp=Z,1μm,20.0s,baz=7.5,slow=36						
ASF	**Jabal al Asfar**	**19.74**	**351**	P	**P**	**03 42 55.7**	**+1.9**
	0.2nm,0.3s,baz=142,slow=4.7,SNR=2.5						
ASF				LR	LR	03 49 33.4	
	comp=Z,177nm,21.5s,baz=42,slow=34						
MALT	**Malatya**	**25.66**	**356**	*eP*	**P**	**03 43 51.9**	**-0.6**
	5.0nm,0.9s,mb4.0						
MALT	**Malatya**	**25.66**	**356**	*eP*	**P**	**03 43 51.9**	**-0.6**
	5.0nm,0.9s,mb4.0						
IDI	**Anoyia**	**26.64**	**331**	P	**P**	**03 44 04.2**	**+2.5**
	8.1nm,1.0s,mb4.2,baz=196,slow=18,SNR=3.2						
GNI	**Garni**	**27.67**	**7**	LR	LR	03 55 52.5	
	comp=Z,461nm,18.7s,MS4.1,baz=48,slow=38						
BR131	**Keskin Array S**	**27.68**	**348**	*eP*	**P**	**03 44 08.9**	**-2.2**
BR131	**Keskin Array S**	**27.68**	**348**	*eP*	**P**	**03 44 08.9**	**-2.2**
BRTR	**Keskin Array B**	**27.68**	**348**	P	**P**	**03 44 11.9**	**+0.9**
	2.8nm,0.9s,mb3.9,baz=174,slow=11,SNR=14						
BRTR				PcP	PcP	03 47 27.5	-1.0
	0.6nm,0.7s,baz=146,slow=4.5,SNR=4.0						
BRTR	**Keskin Array B**	**27.68**	**348**	P	**P**	**03 44 11.9**	**+0.8**
BRTR	**Keskin Array B**	**27.68**	**348**	PcP	PcP	03 47 27.5	-1.0
LSZ	**Lusaka**	**30.30**	**204**	LR	LR	03 57 43.0	
	comp=Z,677nm,19.4s,MS4.3,baz=168,slow=38						
MATP	**Matopo**	**34.91**	**200**	LR	LR	03 59 56.4	
	comp=Z,2μm,19.6s,MS4.8,baz=27,slow=37						
TSUM	**Tsumeb**	**38.88**	**216**	LR	LR	04 01 07.0	
	comp=Z,588nm,19.5s,MS4.4,baz=16,slow=35						
AKASG	**Malin Array Be**	**39.08**	**349**	P	**P**	**03 45 49.7**	**-0.1**
	1.9nm,0.7s,mb4.0,baz=173,slow=7.3,SNR=12						
AKASG	**Malin Array Be**	**39.08**	**349**	P	**P**	**03 45 49.7**	**-0.1**
LBTB	**Lobatse**	**40.15**	**201**	LR	LR	04 03 05.2	
	comp=Z,1μm,19.9s,MS4.7,baz=42,slow=37						
PGF	**Pioggiola**	**40.44**	**323**	*eP*	**P**	**03 46 01.6**	**+0.4**
	29nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**41.92**	**38**	*eP*	**P**	**03 46 12.7**	**-0.6**
	5.8nm,1.1s,mb4.1						
GERES	**GERESS Array B**	**42.41**	**334**	P	**P**	**03 46 17.2**	**0.0**
	1.6nm,0.8s,mb3.7,baz=127,slow=6.7,SNR=15						
KOLN	**Koldanda**	**42.89**	**63**	*eP*	**P**	**03 46 21.8**	**+0.3**
	110nm,1.6s,mb5.3						
MBDF	**Montbardon**	**43.05**	**325**	*eP*	**P**	**03 46 22.1**	**-0.5**
	17nm,0.9s,mb4.5						
ORIF	**Oris-en-Rattie**	**43.68**	**324**	*eP*	**P**	**03 46 29.1**	**+1.5**
GKN	**Gorkha**	**43.84**	**63**	*eP*	**P**	**03 46 29.5**	**+0.3**
GRA1	**Grafenberg Arr**	**44.12**	**333**	*eP*	**P**	**03 46 29.9**	**-1.3**
	7.0nm,1.3s,mb4.2						
DMN	**Daman**	**44.17**	**63**	*eP*	**P**	**03 46 32.4**	**+0.5**
VIVF	**Saint-Julien-l**	**44.34**	**323**	*eP*	**P**	**03 46 32.7**	**-0.3**
KKN	**Kakani**	**44.36**	**63**	*eP*	**P**	**03 46 33.7**	**+0.3**
LASF	**Ste Croix**	**44.38**	**322**	*eP*	**P**	**03 46 33.1**	**-0.2**
PKI	**Pulchoki**	**44.43**	**63**	*eP*	**P**	**03 46 33.5**	**-0.5**
HINF	**Hinteralfeld**	**44.94**	**328**	*eP*	**P**	**03 46 37.1**	**-0.7**
	9.2nm,1.0s,mb4.3						
MTLF	**Montolieu**	**44.99**	**320**	*eP*	**P**	**03 46 39.0**	**+0.7**
DBIC	**Dimbokro**	**45.10**	**267**	P	**P**	**03 46 39.5**	**+0.1**
	4.3nm,0.7s,mb4.4,baz=86,slow=7.3,SNR=7.6						
DBIC				LR	LR	04 04 25.7	
	comp=Z,275nm,19.7s,MS4.2,baz=188,slow=35						
DBIC	**Dimbokro**	**45.10**	**267**	P	**P**	**03 46 39.5**	**0.0**
CDF	**Champ du Feu**	**45.11**	**329**	*eP*	**P**	**03 46 39.5**	**+0.3**
MDT	**Midelt**	**45.83**	**304**	P	**P**	**03 46 44.8**	**-0.3**
	2.5nm,1.0s,mb4.1,baz=100,slow=11,SNR=3.4						
EPF	**Esparros**	**46.03**	**319**	*eP*	**P**	**03 46 48.0**	**+1.6**
LOR	**Lormes**	**46.20**	**326**	*eP*	**P**	**03 46 47.1**	**-0.7**
	15nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**46.28**	**325**	*eP*	**P**	**03 46 47.8**	**-0.6**
MEZF	**Maizieres J'vi**	**46.31**	**328**	*eP*	**P**	**03 46 48.6**	**0.0**
ETSF	**Etsaut**	**46.54**	**318**	*eP*	**P**	**03 46 50.8**	**+0.3**
BVAR	**Borovoye Array**	**46.81**	**24**	P	**P**	**03 46 52.9**	**+0.4**
	1.6nm,0.7s,mb4.1,baz=225,slow=6.3,SNR=9.8						
SJPF	**Ste Jean**	**47.08**	**318**	*eP*	**P**	**03 46 55.1**	**+0.3**
	21nm,1.1s,mb4.7						
ESDC	**Sonseca Array**	**47.52**	**313**	P	**P**	**03 46 57.8**	**-0.5**
	1.4nm,0.8s,mb4.0,baz=116,slow=7.6,SNR=5.2						
SUR	**Sutherland**	**48.57**	**202**	LR	LR	04 08 12.5	
	comp=Z,2μm,20.6s,MS5.0,baz=212,slow=37						
MKAR	**Makanchi Array**	**48.84**	**37**	P	**P**	**03 47 08.3**	**-0.2**
	2.4nm,0.8s,mb4.3,baz=226,slow=5.5,SNR=13						
FINES	**FINESS Array B**	**49.87**	**351**	P	**P**	**03 47 15.1**	**-1.0**
	2.3nm,0.8s,mb4.2,baz=169,slow=9.7,SNR=5.0						
NOA	**NORSAR Array B**	**52.85**	**343**	P	**P**	**03 47 38.2**	**-0.6**
	1.5nm,0.8s,mb4.0,baz=141,slow=7.2,SNR=3.5						
ARCES	**ARCESS Array B**	**57.67**	**354**	P	**P**	**03 48 12.0**	**-1.6**
	2.0nm,0.8s,mb4.2,baz=192,slow=11,SNR=4.7						
LZH	**Lanzhou**	**61.15**	**56**	*eP*	**P**	**03 48 39.0**	**+1.0**
	30nm,1.4s,mb5.2						
LZH				pP	pP	03 48 46.5	+5.4
LZH				sP	sP	03 48 50.0	+7.7
LZH				LR	LR		
	comp=Z,710nm,22.3s,MS4.8						
SONM	**Songino Array**	**64.57**	**43**	P	**P**	**03 48 59.6**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.3,baz=260,slow=5.1,SNR=16						
JHJ	**Hachijo jima 2**	**90.77**	**56**	LR	LR	04 33 24.7	
	comp=Z,313nm,18.9s,MS4.8,baz=358,slow=36						

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*IDC **24** 03:45:11.4±2.2, 12.84N×40.75E, mb3.9/7, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, ML4.7/1, Error ellipse: s-maj=58.6km s-min=23.4km az=34.0*
*NEIC **24** 03:45:13.2±1.2, 12.86N×40.76E, h10km, mb4.2/3, Error ellipse: s-maj=31.7km s-min=12.1km az=220.0*
*CSEM **24** 03:45:13.9±0.2, 12.33N×40.33E, h60km, mb4.0/3, Error ellipse: s-maj=7.3km s-min=3.7km az=13.0*
*DHMR **24** 03:45:14.3±1.2, 12.51N×40.58E, h9km±232km, ML4.0*
ISC 24 03:45:09.7±0.9, 12.42N±0.10×40.25E±0.05, h10km, n20, σ1§26/25, mb3.8/9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.69**	**109**	Pn	**Pn**	**03 45 53.5**	**-0.4**
	190nm,0.3s,baz=78,slow=19,SNR=18						
ATD				Sn	**Sn**	**03 46 27.1**	**+0.2**
	113nm,0.3s,baz=80,slow=22,SNR=5.2						
UDYN	**Al 'Udayn**	**3.93**	**67**	*i* P	**Pn**	**03 46 13.3**	**+1.8**
UDYN				*i* S	**Sn**	**03 46 59.1**	**+0.8**
UDYN				AML	AML	03 47 24.0	
	comp=N,629nm,0.7s						
DHBB	**Dhamar BB**	**4.56**	**62**	*i* P	**Pn**	**03 46 20.8**	**+0.4**
DHBB				*i* S	**Sn**	**03 47 14.7**	**+0.6**
ADEN	**Aden**	**4.63**	**85**	*i* P	**Pn**	**03 46 22.3**	**+0.8**
ADEN				*i* S	**Sn**	**03 47 15.0**	**-1.0**
BDHA	**Al Bayda'**	**5.40**	**73**	*i* P	**Pn**	**03 46 33.3**	**+1.0**
BDHA				*i* S	**Sn**	**03 47 33.7**	**-1.7**
ASF	**Jabal al Asfar**	**19.90**	**352**	P	**P**	**03 49 45.7**	**+1.3**
	comp=N,0.3nm,0.3s,baz=31,slow=17,SNR=3.0						
MALT	**Malatya**	**25.84**	**357**	P	**P**	**03 50 41.4**	**-1.7**
	comp=N,9.5nm,1.3s,mb4.2						
MALT	**Malatya**	**25.84**	**357**	P	**P**	**03 50 41.4**	**-1.6**
	comp=N,9.5nm,1.3s,mb4.2						
BR131	**Keskin Array S**	**27.82**	**349**	*eP*	**P**	**03 51 00.5**	**-0.6**
	comp=N,1.2nm,0.7s,mb3.6						
BR131	**Keskin Array S**	**27.82**	**349**	*eP*	**P**	**03 51 00.5**	**-0.7**
	comp=N,1.2nm,0.7s,mb3.6						
BRTR	**Keskin Array B**	**27.82**	**349**	P	**P**	**03 51 00.9**	**-0.2**
	comp=N,4.0nm,1.1s,mb4.0,baz=174,slow=11,SNR=14						
BRTR	**Keskin Array B**	**27.82**	**349**	P	**P**	**03 51 00.9**	**-0.3**
AKASG	**Malin Array Be**	**39.22**	**349**	P	**P**	**03 52 39.4**	**-0.4**
	comp=N,1.0nm,0.7s,mb3.6,baz=172,slow=7.6,SNR=5.5						
AAK	**Ala-Archa**	**42.25**	**38**	P	**P**	**03 53 00.8**	**-4.1**
GERES	**GERESS Array B**	**42.46**	**334**	P	**P**	**03 53 07.0**	**+0.5**
	comp=N,1.9nm,1.0s,mb3.7,baz=143,slow=6.7,SNR=11						
GRA1	**Grafenberg Arr**	**44.17**	**333**	*eP*	**P**	**03 53 20.8**	**+0.4**
	comp=N,5.0nm,1.2s,mb4.1						
ESDC	**Sonseca Array**	**47.44**	**313**	P	**P**	**03 53 48.7**	**+2.1**
	comp=N,0.3nm,0.5s,mb3.5,baz=116,slow=7.6,SNR=4.2						
MKAR	**Makanchi Array**	**49.17**	**37**	P	**P**	**03 53 57.2**	**-2.6**
	comp=N,1.4nm,0.9s,mb4.0,baz=217,slow=6.1,SNR=5.7						
NOA	**NORSAR Array B**	**52.96**	**343**	P	**P**	**03 54 25.9**	**-2.5**
	comp=N,0.7nm,0.8s,mb3.6,baz=230,slow=20,SNR=3.4						
SONM	**Songino Array**	**64.91**	**43**	P	**P**	**03 55 47.5**	**-4.1**
	comp=N,1.3nm,0.9s,mb4.0,baz=259,slow=7.6,SNR=8.3						

IDC 24 03:52:05.0±3.3, 0.34N×101.00E, mb3.8/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, MS4.4/2, Ms1 4.4/2, ms1mx3.8/24, Error ellipse: s-maj=143.5km s-min=23.9km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.38**	**124**	P	P	03 59 27.4	-2.6
	1.2nm,0.5s,baz=298,slow=9.5,SNR=9.6						
SONM	**Songino Array**	**47.54**	**5**	P	P	04 00 42.3	-1.8
	0.5nm,0.8s,baz=236,slow=5.2,SNR=4.1						
SONM				LR	LR	04 20 46.0	
	comp=Z,595nm,19.7s,baz=266,slow=36						
MKAR	**Makanchi Array**	**49.08**	**343**	P	P	04 00 53.8	-2.2
	0.7nm,1.0s,baz=152,slow=8.2,SNR=3.8						
STKA	**Stephens Creek**	**49.99**	**134**	P	P	04 01 02.1	-1.2
	1.7nm,0.4s,baz=297,slow=7.0,SNR=11						
STKA				LR	LR	04 24 07.9	
	comp=Z,272nm,19.0s,baz=206,slow=38						

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*IDC **24** 03:52:35.0±1.3, 12.00N×40.00E, mb3.7/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, ML4.5/1*
*NEIC **24** 03:52:38.8±2.8, 12.35N×40.23E, h10km, Error ellipse: s-maj=63.9km s-min=16.8km az=217.0*
ISC 24 03:52:37.4±3.3, 12.4N±0.4×40.2E±0.3, h10km, n6, σ0§39/7, mb3.6/3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.76**	**109**	Pn	**Pn**	**03 53 22.1**	**-0.6**
	78nm,0.3s,baz=254,slow=17,SNR=7.7						
ATD				Sn	**Sn**	**03 53 56.9**	**+0.5**
	20nm,0.3s,baz=82,slow=23,SNR=3.2						
AAK	**Ala-Archa**	**42.29**	**38**	P	**P**	**04 00 32.9**	**-0.1**
GERES	**GERESS Array B**	**42.42**	**334**	P	**P**	**04 00 34.4**	**+0.5**
	0.6nm,0.9s,mb3.2,baz=72,slow=4.2,SNR=5.5						
MKAR	**Makanchi Array**	**49.21**	**37**	P	**P**	**04 01 27.7**	**-0.2**
	0.8nm,0.8s,mb3.8,baz=233,slow=6.1,SNR=4.0						
MKAR	**Makanchi Array**	**49.21**	**37**	P	**P**	**04 01 27.7**	**-0.2**
SONM	**Songino Array**	**64.95**	**43**	P	**P**	**04 03 19.5**	**-0.1**
	1.4nm,1.0s,mb3.9,baz=260,slow=6.7,SNR=5.6						

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*BJI **24** 03:57:13.3, 12.57N×40.40E, h11km, mB5.2, mb4.8, Ms4.8, Msz4.4*
*IDC **24** 03:57:13.9±0.6, 12.65N×40.48E, mb4.2/15, mb1 4.2/17, mb1mx4.2/21, mbtmp4.2/17, ML4.2/2, MS4.3/16, Ms1 4.3/16, ms1mx4.1/35, Error ellipse: s-maj=19.2km s-min=14.1km az=70.0*
*MOS **24** 03:57:13.6±1.0, 12.60N×40.33E, h10km, mb4.9/25, Error ellipse: s-maj=12.0km s-min=5.7km az=110.2*
*NEIC **24** 03:57:15.1±0.3, 12.60N×40.40E, h10km, mb4.7/30, Error ellipse: s-maj=8.2km s-min=5.7km az=213.0*
*CSEM **24** 03:57:15.3±0.1, 12.68N×40.39E, h20km, mb4.7/24, Ms3.7, Error ellipse: s-maj=3.1km s-min=2.1km az=17.0*
*DHMR **24** 03:57:16.4±2.7, 12.56N×40.58E, h20km±56km, ML4.5*
ISC 24 03:57:13.0±2.2, 12.60N±0.05×40.37E±0.03, h6km±13km, h20km±3.7km: pP-P, n145, σ1§01/138, mb4.6/55, MS4.3/19, 6C-5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.65**	**113**	Pn	**Pn**	**03 57 55.5**	**-1.4**
	129nm,0.3s,baz=251,slow=22,SNR=19						
ATD				LR	LR	03 58 21.3	
	comp=Z,2μm,21.9s,baz=310,slow=26						
ATD				Sn	**Sn**	**03 58 30.6**	**+0.9**
	91nm,0.3s,baz=273,slow=23,SNR=11						
UDYN	**Al 'Udayn**	**3.76**	**68**	*i* P	**Pn**	**03 58 14.5**	**+1.7**
UDYN				*i* S	**Sn**	**03 58 59.1**	**+1.3**
UDYN				AML	AML	03 59 21.7	
	comp=Z,2μm,0.8s						
DHBB	**Dhamar BB**	**4.38**	**63**	*i* P	**Pn**	**03 58 22.4**	**+0.9**
DHBB				*i* S	**Sn**	**03 59 13.2**	**-0.3**
ADEN	**Aden**	**4.51**	**87**	*i* P	**Pn**	**03 58 23.1**	**-0.3**
ADEN				*i* S	**Sn**	**03 59 15.1**	**-1.8**
BDHA	**Al Bayda'**	**5.25**	**74**	*i* P	**Pn**	**03 58 30.6**	**-3.2**
BDHA				*i* S	**Sn**	**03 59 30.3**	**-5.0**
BLJS	**Baljurashi**	**7.34**	**9**	P	**Pn**	**03 59 04.0**	**+0.7**
LTHS	**Al Lith**	**7.63**	**0**	P	**Pn**	**03 59 07.1**	**-0.3**
KMBO	**Kilima Mbogo**	**13.98**	**193**	LR	LR	04 05 49.1	
	comp=Z,1μm,19.4s,baz=8.9,slow=37						
HILS	**Ha'il**	**14.77**	**5**	P	**P**	**04 00 49.7**	**+5.4**
HASS	**Wahat al Ahsa'**	**15.31**	**34**	P	**P**	**04 00 54.0**	**+2.6**
BDAS	**Al Bad'**	**16.50**	**343**	P	**P**	**04 01 13.3**	**+6.6**
BSY	**Bisya**	**18.93**	**55**	⇓P	**P**	**04 01 36.7**	**-0.3**
	SNR=8.3						
BSYO	**Bisya**	**18.96**	**56**	P	**P**	**04 01 36.7**	**-0.6**
	SNR=8.3						
ASHO	**Ashiyiah**	**19.10**	**49**	⇓P	**P**	**04 01 38.2**	**-0.8**
	SNR=12						
JMDO	**Jabal Madar**	**19.49**	**58**	⇓P	**P**	**04 01 44.3**	**+0.7**
ASF	**Jabal al Asfar**	**19.74**	**351**	P	**P**	**04 01 46.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=95,slow=11,SNR=2.5						
ASF				LR	LR	04 08 21.0	
	comp=Z,251nm,21.3s,baz=224,slow=34						
SMDO	**Samad**	**19.77**	**56**	⇑P	**P**	**04 01 45.1**	**-1.6**
	SNR=7.6						
BANOM	**Banah**	**20.02**	**46**	⇓P	**P**	**04 01 48.8**	**-0.6**
CSS	**Prodhromos**	**23.16**	**345**	P	**P**	**04 02 19.4**	**-1.8**
	comp=Z,16nm,1.2s,mb4.3						
CSS	**Prodhromos**	**23.16**	**345**	P	**P**	**04 02 19.4**	**-1.8**
	comp=Z,16nm,1.2s,mb4.3						
MALT	**Malatya**	**25.67**	**356**	*eP*	**P**	**04 02 46.4**	**+1.2**
	comp=Z,70nm,1.9s,mb4.9						
MALT	**Malatya**	**25.67**	**356**	*eP*	**P**	**04 02 46.4**	**+1.1**
	comp=Z,70nm,1.9s,mb4.9						
MALT	**Malatya**	**25.67**	**356**	*eP*	**P**	**04 02 46.4**	**+1.1**
MALT				pmax	pmax		
	comp=Z,70nm,1.9s,mb4.9						
IDI	**Anoyia**	**26.58**	**331**	LR	LR	04 12 45.3	
	comp=Z,250nm,20.8s,MS3.7,baz=10,slow=35						
BR131	**Keskin Array S**	**27.66**	**349**	*eP*	**P**	**04 03 03.9**	**+0.3**
	comp=Z,1.2nm,0.6s,mb3.7						
BR131	**Keskin Array S**	**27.66**	**349**	*eP*	**P**	**04 03 03.9**	**+0.3**
	comp=Z,1.2nm,0.6s,mb3.7						
BRTR	**Keskin Array B**	**27.66**	**349**	P	**P**	**04 03 03.8**	**+0.2**
	comp=Z,2.4nm,0.7s,mb3.9,baz=174,slow=11,SNR=9.5						
BRTR				PcP	PcP	04 06 19.9	-1.3
	comp=Z,1.5nm,0.8s,baz=146,slow=4.5,SNR=4.7						
BRTR	**Keskin Array B**	**27.66**	**349**	PcP	PcP	04 06 19.9	-1.3
GNI	**Garni**	**27.71**	**7**	P	**P**	**04 03 06.6**	**+2.6**
	comp=Z,1.6nm,0.3s,mb4.1,baz=217,slow=22,SNR=4.5						
GNI				LR	LR	04 13 53.6	
	comp=Z,367nm,19.1s,MS4.0,baz=316,slow=36						
LSZ	**Lusaka**	**30.20**	**204**	LR	LR	04 16 34.7	
	comp=Z,615nm,18.6s,MS4.3,baz=28,slow=38						
ZEI	**Tsey**	**30.22**	**5**	*eP*	**P**	**04 03 21.9**	**-4.6**
ZEI				*i* *PP	pP	04 03 30.4	+2.0
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
KIV	**Kislovodsk**	**31.31**	**3**	*eP*	**P**	**04 03 37.6**	**+1.5**
	comp=Z,22nm,1.2s,mb4.9						
KIV	**Kislovodsk**	**31.31**	**3**	*eP*	**P**	**04 03 37.6**	**+1.5**
	comp=Z,22nm,1.2s,mb4.9						
KIV	**Kislovodsk**	**31.31**	**3**	*eP*	**P**	**04 03 37.6**	**+1.5**
KIV				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.9						
OPO	**Ambohidratompo**	**31.69**	**168**	P	**P**	**04 03 41.0**	**+1.3**
	comp=Z,0.6nm,0.3s,mb3.9,slow=9.1,SNR=2.5						
OPO				PcP	PcP	04 06 31.0	-0.7
	comp=Z,0.9nm,0.7s,baz=136,slow=15,SNR=3.0						
OPO	**Ambohidratompo**	**31.69**	**168**	PcP	PcP	04 06 31.0	-0.6
MATP	**Matopo**	**34.83**	**200**	LR	LR	04 18 16.7	
	comp=Z,845nm,19.6s,MS4.5,baz=25,slow=36						
TSUM	**Tsumeb**	**38.76**	**216**	LR	LR	04 21 23.7	
	comp=Z,910nm,18.4s,MS4.6,baz=27,slow=37						
AKASG	**Malin Array Be**	**39.07**	**349**	P	**P**	**04 04 42.3**	**-0.1**
	comp=Z,1.6nm,0.6s,mb3.9,baz=174,slow=7.3,SNR=9.6						
AKASG				PcP	PcP	04 06 51.5	-1.4
	comp=Z,1.9nm,0.8s,baz=168,slow=3.1,SNR=4.2						
AKASG	**Malin Array Be**	**39.07**	**349**	PcP	PcP	04 06 51.5	-1.4
PSZ	**Piszkesteto**	**39.14**	**338**	*eP*	**P**	**04 04 43.5**	**+0.4**
	comp=Z,8.5nm,1.0s,mb4.4						
PSZ	**Piszkesteto**	**39.14**	**338**	*eP*	**P**	**04 04 43.5**	**+0.5**
	comp=Z,8.5nm,1.0s,mb4.4						
PSZ	**Piszkesteto**	**39.14**	**338**	*eP*	**P**	**04 04 43.5**	**+0.5**
PSZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
KWP	**Kalwaria**	**39.69**	**342**	*eP*	**P**	**04 04 49.0**	**+1.5**
	comp=Z,38nm,1.6s,mb4.9						
KWP	**Kalwaria**	**39.69**	**342**	*eP

DBIC Dimbokro 44.92 267 *eP* **P 04 05 30.9 +0.1**
comp=Z,16nm,1.2s,mb4.7
DBIC Dimbokro 44.92 267 *eP* **P 04 05 30.9 +0.1**
comp=Z,16nm,1.2s,mb4.7
DBIC Dimbokro 44.92 267 *eP* **P 04 05 30.9 +0.1**
DBIC pmax pmax
comp=Z,16nm,1.2s
HAU Haudompre 45.25 328 *eP* **P 04 05 32.1 -0.8**
HAU *eR*
comp=Z,115nm,18.0s
MDT Midelt 45.70 304 P **P 04 05 37.0 +0.3**
comp=Z,1.7nm,0.8s,mb4.0,baz=99,slow=8.4,SNR=5.2
MDT LR LR 04 27 37.7
comp=Z,660nm,21.8s,MS4.5,baz=107,slow=40
CAF Calviac 45.83 322 *eP* **P 04 05 37.6 +0.1**
EPF Esparros 45.93 319 *eP* **P 04 05 38.4 0.0**
ARU Arti 45.94 14 *eP* **P 04 05 39.4 +1.2**
comp=Z,5.7nm,0.6s,mb4.7
ARU Arti 45.94 14 *eP* **P 04 05 39.4 +1.2**
comp=Z,5.7nm,0.6s,mb4.7
ARU Arti 45.94 14 *eP* **P 04 05 39.8 +1.6**
LOR Lormes 46.12 326 *eP* **P 04 05 39.0 -0.8**
comp=Z,15nm,1.1s,mb4.5
LOR *eR*
comp=Z,78nm,18.0s
LOR Lormes 46.12 326 *eP* **P 04 05 39.0 -0.8**
LOR pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
LOR MLR MLR 04 27 04.7
comp=Z,80nm,18.0s,MS3.7
AVF Avril sur Loir 46.12 325 *eP* **P 04 05 38.7 -1.1**
SSF Saint Saulge 46.20 325 *eP* **P 04 05 39.4 -1.0**
MEZF Maizieres J'vi 46.24 328 *eP* **P 04 05 40.3 -0.4**
BGF Bois d'Agland 46.28 324 *eP* **P 04 05 40.6 -0.4**
ETSF Etsaut 46.45 318 *eP* **P 04 05 43.3 +0.9**
comp=Z,22nm,1.1s,mb4.7
ETSF Etsaut 46.45 318 *eP* **P 04 05 43.3 +0.9**
ETSF pmax pmax
comp=Z,11nm,1.1s,mb4.7
TCF Toulx Ste Croi 46.49 324 *eP* **P 04 05 42.5 -0.2**
BVAR Borovoye Array 46.90 24 P **P 04 05 45.5 -0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=222,slow=18,SNR=7.1
SJPF Ste Jean 46.98 318 *eP* **P 04 05 47.5 +0.9**
comp=Z,40nm,1.3s,mb4.9
SJPF Ste Jean 46.98 318 *eP* **P 04 05 47.5 +0.9**
SJPF pmax pmax
comp=Z,20nm,1.3s,mb4.9
ESDC Sonseca Array 47.41 313 P **P 04 05 49.9 -0.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=122,slow=6.9,SNR=7.2
ESLA Sonseca Array 47.41 313 *eP* **P 04 05 50.3 +0.2**
comp=Z,2.3nm,1.2s,mb4.0
BAIF Baives 47.64 329 *eP* **P 04 05 50.5 -1.3**
SUR Sutherland 48.48 202 P **P 04 05 59.3 +0.7**
comp=Z,6.2nm,0.9s,mb4.6,baz=70,slow=9.4,SNR=3.8
SUR LR LR 04 27 04.7
comp=Z,1μm,21.7s,MS4.8,baz=222,slow=37
MKAR Makanchi Array 48.97 37 P **P 04 06 00.6 -1.5**
comp=Z,3.1nm,0.8s,mb4.4,baz=240,slow=5.6,SNR=15
MKAR LR LR 04 30 28.7
comp=Z,620nm,20.9s,MS4.6,baz=183,slow=41
FINES FINESS Array B 49.86 351 P **P 04 06 08.6 -0.2**
comp=Z,3.1nm,0.9s,mb4.4,baz=180,slow=9.5,SNR=5.9
LSA Lhasa 49.92 62 *eP* **P 04 06 10.2 +0.5**
comp=Z,15nm,1.0s,mb5.0
LSA Lhasa 49.92 62 *eP* **P 04 06 10.2 +0.5**
LSA pmax pmax
comp=Z,15nm,1.0s,mb5.0
NAO01 NORSAR Array S 52.76 342 P **P 04 06 30.6 -0.1**
comp=Z,98nm,1.6s,mb5.5
NAO01 NORSAR Array S 52.76 342 P **P 04 06 30.6 -0.2**
comp=Z,98nm,1.6s,mb5.5
NB2 NORSAR Subarra 52.82 343 P **P 04 06 30.4 -0.8**
comp=Z,11nm,1.2s,mb4.7,baz=144,slow=7.4
NB2 NORSAR Subarra 52.82 343 P **P 04 06 30.4 -0.8**
NB2 pmax pmax
comp=Z,11nm,1.2s,mb4.7
NOA NORSAR Array B 52.82 343 P **P 04 06 31.4 +0.1**
comp=Z,2.2nm,0.8s,mb4.2,baz=140,slow=7.3,SNR=4.5
ARCES ARCESS Array B 57.67 354 P **P 04 07 06.0 -0.3**
comp=Z,2.2nm,0.8s,mb4.3,baz=143,slow=6.1,SNR=5.1
ARCES ARCESS Array B 57.67 354 P **P 04 07 05.9 -0.4**
GTA Gaotai 58.57 51 *eP* **P 04 07 13.3 +0.4**
GTA AP *pP* 04 07 18.3 +3.4
GTA XP *sP* 04 07 21.5 +5.9
GTA AMB AMB
comp=Z,6.0nm,0.7s,mb4.7
GTA AMB AMB
comp=Z,155nm,4.2s
GTA LR LR
comp=N,244nm,16.0s,MS4.6
GTA LR LR
comp=E,257nm,15.7s,MS4.6
GTA LR LR
comp=Z,251nm,16.8s,MS4.4
KMI Kunming 59.88 68 P **P 04 07 21.8 -0.4**
KMI XP *sP* 04 07 31.3 +6.4
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
KMI LR LR
comp=Z,116nm,37.5s,MS3.7
KMI Kunming 59.88 68 P **P 04 07 21.7 -0.5**
comp=Z,10.0nm,1.1s,mb4.8
KMI *sP* *sP* 04 07 31.2 +6.3
KMI LR LR
comp=Z,120nm,37.5s,MS3.8
KMI Kunming 59.88 68 P **P 04 07 21.7 -0.5**
KMI pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
KMI MLR MLR
comp=Z,120nm,37.5s,MS3.8
GYA Guiyang 63.40 67 ⇓ *iP* **P 04 07 45.3 -0.5**
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.2
SONM Songino Array 64.70 43 P **P 04 07 53.1 -1.0**
comp=Z,4.1nm,0.9s,mb4.5,baz=253,slow=6.6,SNR=25
SONM LR LR 04 39 38.7
comp=Z,527nm,19.9s,MS4.7,baz=261,slow=39
HHC Hu-ho-hao-te 67.67 51 *eP* **P 04 08 13.0 -0.2**
HHC AP *pP* 04 08 17.8 +2.6
HHC XP *sP* 04 08 20.0 +4.1
HHC PCP *PcP* 04 08 40.3 +0.1
HHC PP *PP* 04 10 42.8 -1.5
HHC S *S* 04 17 06.9 -2.5
HHC SCS *ScS* 04 18 05.3 -3.2
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,249nm,4.9s
HHC LR LR
comp=N,263nm,15.5s,MS4.8
HHC LR LR
comp=E,290nm,14.3s,MS4.8
HHC LR LR
comp=Z,240nm,19.0s,MS4.4
BOD Bodaibo 70.72 33 *eP* **P 04 08 31.2 -0.4**
BOD pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
SUMG Summit 74.71 342 *eP* **P 04 08 55.1 +0.3**
comp=Z,47nm,1.7s,mb5.1
CN2 Changchun 77.87 48 *eP* **P 04 09 14.1 +0.9**
CN2 *eXP* *sP* 04 09 23.3 +7.4
CN2 *eS* S 04 19 06.8 +1.5
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 LR LR
comp=N,330nm,15.0s,MS5.0
CN2 LR LR
comp=E,410nm,15.0s,MS5.0
CN2 LR LR
comp=Z,510nm,19.0s,MS4.9
MDJ Mudanjiang 80.73 46 P **P 04 09 29.5 +0.9**
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
MDJ AMB AMB
comp=Z,58nm,4.0s
MDJ LR LR
comp=N,146nm,19.8s,MS4.4
MDJ LR LR
comp=E,75nm,19.8s,MS4.4
MDJ LR LR
comp=Z,156nm,23.1s,MS4.3
MAW Mawson 81.64 171 P **P 04 09 33.7 +0.7**
comp=Z,1.5nm,0.8s,mb4.0,baz=314,slow=4.5,SNR=4.4
MAW Mawson 81.64 171 P **P 04 09 33.4 +0.5**
comp=Z,3.0nm,0.9s,mb4.2
MAW Mawson 81.64 171 P **P 04 09 33.4 +0.5**
MAW pmax pmax
comp=Z,3.0nm,0.9s
FRB Frobisher Bay 86.94 335 LR LR 04 48 59.4
comp=Z,84nm,20.2s,MS4.1,baz=154,slow=36
SNAA Sanae 88.88 193 ⇑ *i* **P 04 10 12.3 +3.4**
SNAA Sanae 88.88 193 P **P 04 10 09.5 +0.6**
comp=Z,14nm,1.7s,mb5.0
VNA2 Neumayer--Watz 89.36 194 ⇑ *i* **P 04 10 14.9 +3.7**
VNA1 Neumayer--Stat 89.39 194 ⇑ *i* **P 04 10 15.2 +3.9**
VNA3 Neumayer Olymp 90.13 194 ⇑ *i* **P 04 10 12.0 -2.8**
TXAR Lajitas Array 125.75 321 PKP PKPdf 04 16 18.8 -0.2
comp=Z,0.5nm,1.0s,baz=90,slow=1.3,SNR=4.8

IDC 24 04:03:28.9±4.0, 11.82N×40.09E, mb3.7/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML4.7/1, Error ellipse: s-maj=87.9km s-min=25.7km az=27.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.71**	**96**	Pn	Pn	04 04 14.4	0.0
	136nm,0.3s,baz=263,slow=16,SNR=9.0						
ATD				Sn	Sn	04 04 48.4	-0.1
	72nm,0.3s,baz=274,slow=22,SNR=5.1						
BRTR	**Keskin Array B**	**28.38**	**349**	P	P	04 09 25.2	-1.7
	1.5nm,1.0s,baz=162,slow=9.1,SNR=4.8						
GERES	**GERESS Array B**	**42.93**	**334**	P	P	04 11 29.6	-1.5
	0.3nm,0.6s,baz=135,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**49.74**	**37**	P	P	04 12 22.4	-2.6
	0.5nm,0.7s,baz=225,slow=6.1,SNR=2.9						
SONM	**Songino Array**	**65.45**	**43**	P	P	04 14 14.0	-1.9
	1.4nm,0.9s,baz=249,slow=7.2,SNR=6.1						

IDC ***24*** *04:07:55.1±2.3, 12.68N×40.47E, mb3.9/7, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, ML4.4/1, Error ellipse: s-maj=59.2km s-min=14.2km az=34.0*
NEIC ***24*** *04:07:56.2±1.4, 12.64N×40.47E, h10km, mb4.2/2, Error ellipse: s-maj=36.3km s-min=11.5km az=219.0*
CSEM ***24*** *04:07:57.6±0.4, 12.42N×40.27E, h47km±4km, mb4.1/2, Error ellipse: s-maj=12.4km s-min=8.3km az=149.0*
DHMR ***24*** *04:07:58.5±0.6, 12.36N×40.61E, h15km±215km, ML4.3*
ISC 24 04:07:53.2±1.0, 12.4N±0.1×40.21E±0.05, h10km, n16, σ1§13/20, mb4.0/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.73**	**109**	Pn	**Pn**	**04 08 37.9**	**+0.1**
	73nm,0.3s,baz=278,slow=11,SNR=18						
ATD				Sn	**Sn**	**04 09 11.4**	**+0.2**
	63nm,0.3s,baz=253,slow=20,SNR=8.0						
ATD				Lg		04 09 17.9	
	78nm,0.3s,baz=250,slow=21,SNR=7.3						
ATD	**Arta Tunnel**	**2.73**	**109**	Pn	**Pn**	**04 08 37.9**	**+0.1**
ATD				Sn	**Sn**	**04 09 11.4**	**+0.2**
ATD				Lg		04 09 17.9	
UDYN	**Al 'Udayn**	**3.97**	**67**	*i* P	**Pn**	**04 08 57.6**	**+2.1**
UDYN				*i* S	**Sn**	**04 09 43.1**	**+0.4**
UDYN				AML	AML	04 10 01.1	
	comp=N,1μm,0.7s						
DHBB	**Dhamar BB**	**4.60**	**62**	*i* P	**Pn**	**04 09 05.7**	**+1.3**
DHBB				*i* S	**Sn**	**04 09 58.7**	**+0.1**
ADEN	**Aden**	**4.67**	**85**	*i* S	**Sn**	**04 09 57.9**	**-2.5**
MALT	**Malatya**	**25.84**	**357**	*eP*	**P**	**04 13 26.2**	**-0.3**
	comp=N,22nm,1.4s,mb4.5						
MALT	**Malatya**	**25.84**	**357**	*eP*	**P**	**04 13 26.2**	**-0.4**
	comp=N,22nm,1.4s,mb4.5						
BR131	**Keskin Array S**	**27.82**	**349**	P	**P**	**04 13 44.0**	**-0.7**
	comp=N,0.9nm,0.6s,mb3.6						
BR131	**Keskin Array S**	**27.82**	**349**	P	**P**	**04 13 44.0**	**-0.6**
	comp=N,0.9nm,0.6s,mb3.6						
BRTR	**Keskin Array B**	**27.82**	**349**	P	**P**	**04 13 45.4**	**+0.8**
	comp=N,2.7nm,1.0s,mb3.8,baz=173,slow=10.0,SNR=7.9						
AKASG	**Malin Array Be**	**39.22**	**349**	P	**P**	**04 15 22.7**	**-0.6**
	comp=N,2.4nm,0.9s,mb3.9,baz=175,slow=7.1,SNR=8.3						
GERES	**GERESS Array B**	**42.45**	**334**	P	**P**	**04 15 50.3**	**+0.4**
	comp=N,1.5nm,1.0s,mb3.6,baz=135,slow=9.4,SNR=8.7						
ESDC	**Sonseca Array**	**47.42**	**313**	P	**P**	**04 16 32.0**	**+2.1**
	comp=N,1.6nm,0.9s,mb4.0,baz=116,slow=8.5,SNR=4.1						
MKAR	**Makanchi Array**	**49.20**	**37**	P	**P**	**04 16 42.3**	**-1.2**
	comp=N,1.8nm,0.8s,mb4.1,baz=243,slow=5.4,SNR=8.5						
FINES	**FINESS Array B**	**50.02**	**351**	P	**P**	**04 16 48.1**	**-1.5**
	comp=N,1.0nm,0.8s,mb3.9,baz=141,slow=12,SNR=3.8						
SONM	**Songino Array**	**64.94**	**43**	P	**P**	**04 18 34.6**	**-0.6**
	comp=N,1.7nm,0.9s,mb4.1,baz=297,slow=6.6,SNR=21						

DHMR ***24*** *04:11:51.9±2.6, 12.66N×40.51E, h12km±331km, ML4.6*
IDC ***24*** *04:11:52.6±0.7, 12.68N×40.49E, mb4.2/14, mb1 4.2/16, mb1mx4.2/20, mbtmp4.2/16, ML4.0/2, MS4.2/4, Ms1 4.2/4, ms1mx3.6/31, Error ellipse: s-maj=19.1km s-min=16.2km az=69.0*
CSEM ***24*** *04:11:52.5±0.1, 12.82N×40.46E, h10km, mb4.5/11, Error ellipse: s-maj=2.5km s-min=1.2km az=5.0*
NEIC ***24*** *04:11:53.5±0.3, 12.68N×40.46E, h10km, mb4.5/12, Error ellipse: s-maj=7.6km s-min=6.2km az=49.0*
ISC 24 04:11:51.9±0.3, 12.69N±0.05×40.44E±0.03, h10km, n92, σ0§98/93, mb4.4/27, MS4.4/2, 2C-8D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.62**	**116**	Pn	**Pn**	**04 12 33.7**	**-1.4**
	102nm,0.3s,baz=294,slow=12,SNR=20						
ATD				Sn	**Sn**	**04 13 08.8**	**+1.6**
	80nm,0.3s,baz=304,slow=23,SNR=8.8						
ATD				Lg		04 13 17.6	
	91nm,0.3s,baz=254,slow=24,SNR=6.4						
ATD	**Arta Tunnel**	**2.62**	**116**	Pn	**Pn**	**04 12 33.7**	**-1.4**
ATD				Sn	**Sn**	**04 13 08.8**	**+1.6**
ATD				Lg		04 13 17.6	
UDYN	**Al 'Udayn**	**3.66**	**69**	*i* P	**Pn**	**04 12 50.4**	**+0.5**
UDYN				*i* S	**Sn**	**04 13 36.7**	**+3.1**
UDYN				AML	AML	04 13 54.7	
	comp=N,3μm,0.7s						
DHBB	**Dhamar BB**	**4.28**	**64**	*i* P	**Pn**	**04 12 58.9**	**+0.3**
DHBB				*i* S	**Sn**	**04 13 50.9**	**+1.8**
ADEN	**Aden**	**4.44**	**88**	*eP*	**Pn**	**04 13 00.4**	**-0.5**
ADEN				*i* S	**Sn**	**04 13 53.6**	**+0.4**
BDHA	**Al Bayda'**	**5.16**	**75**	⇓ *i* P	**Pn**	**04 13 08.4**	**-2.7**
BDHA				*i* S	**Sn**	**04 14 08.2**	**-3.1**
ABTO	**Aybut**	**13.26**	**68**	⇓ P	**P**	**04 15 01.6**	**-1.3**
KMBO	**Kilima Mbogo**	**14.08**	**193**	Pn	**P**	**04 15 13.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=55,slow=18,SNR=2.8						
KMBO				Lg		04 19 15.6	
	comp=N,0.1nm,0.3s,baz=258,slow=23,SNR=4.9						
KMBO				LR	LR	04 20 28.0	
	comp=N,784nm,21.2s,baz=200,slow=37						
KMBO	**Kilima Mbogo**	**14.08**	**193**	Pn	**P**	**04 15 13.2**	**-0.7**
KMBO				Lg		04 19 15.6	
KMBO				LR	LR	04 20 28.0	
KMBO	**Kilima Mbogo**	**14.08**	**193**	Pn	**P**	**04 15 13.2**	**-0.7**
ARQ	**Araqi**	**18.59**	**53**	⇓ P	**P**	**04 16 12.7**	**+1.4**
BSY	**Bisya**	**18.82**	**56**	⇓ P	**P**	**04 16 13.8**	**-0.4**
	SNR=13						
BSYO	**Bisya**	**18.85**	**56**	P	**P**	**04 16 13.8**	**-0.7**
	SNR=13						
ASHO	**Ashiyiah**	**18.99**	**49**	P	**P**	**04 16 16.4**	**+0.3**
	SNR=7.1						
HOQ	**Hoqain**	**19.33**	**54**	⇓ P	**P**	**04 16 20.2**	**0.0**
JMDO	**Jabal Madar**	**19.39**	**58**	⇑ P	**P**	**04 16 19.7**	**-1.2**
SMDO	**Samad**	**19.66**	**56**	⇑ P	**P**	**04 16 23.4**	**-0.5**
	SNR=8.0						
ASF	**Jabal al Asfar**	**19.67**	**351**	LR	LR	04 23 32.2	
	comp=N,253nm,18.0s,baz=286,slow=36						
BANOM	**Banah**	**19.91**	**46**	⇓ P	**P**	**04 16 26.4**	**-0.3**
BIDO	**Bidbid**	**19.95**	**55**	⇓ P	**P**	**04 16 26.1**	**-1.0**
WBK	**Wadi Bani Khal**	**20.21**	**58**	⇓ P	**P**	**04 16 28.7**	**-1.2**
	SNR=6.4						
MSL	**Mosul**	**23.62**	**5**	*ex*	x	04 17 27.0	
MALT	**Malatya**	**25.59**	**356**	P	**P**	**04 17 23.5**	**+0.6**
	comp=N,22nm,1.4s,mb4.5						
MALT	**Malatya**	**25.59**	**356**	P	**P**	**04 17 23.5**	**+0.6**
	comp=N,22nm,1.4s,mb4.5						
BRTR	**Keskin Array B**	**27.59**	**349**	P	**P**	**04 17 42.1**	**+0.7**
	comp=N,1.7nm,0.6s,mb3.8,baz=166,slow=10,SNR=11						
BR131	**Keskin Array S**	**27.59**	**349**	*eP*	**P**	**04 17 42.0**	**+0.6**
	comp=N,1.5nm,0.6s,mb3.8						
BR131	**Keskin Array S**	**27.59**	**349**	*eP*	**P**	**04 17 42.0**	**+0.6**
	comp=N,1.5nm,0.6s,mb3.8						
GNI	**Garni**	**27.62**	**7**	P	**P**	**04 17 43.9**	**+2.3**
	comp=N,2.3nm,0.3s,mb4.3,baz=14,slow=16,SNR=2.1						
LSZ	**Lusaka**	**30.31**	**204**	P	**P**	**04 18 05.5**	**-0.5**
LSZ	**Lusaka**	**30.31**	**204**	P	**P**	**04 18 05.5**	**-0.5**
MATP	**Matopo**	**34.94**	**200**	LR	LR	04 33 36.5	
	comp=N,794nm,18.2s,MS4.5,baz=25,slow=37						
AKASG	**Malin Array Be**	**39.00**	**349**	P	**P**	**04 19 19.8**	**-0.4**
	comp=N,2.8nm,0.8s,mb4.0,baz=165,slow=7.1,SNR=10						
KECS	**Kecovo**	**39.36**	**339**	*eP*	**P**	**04 19 24.8**	**+1.6**
VYHS	**Vyhne**	**39.96**	**338**	*eP*	**P**	**04 19 30.0**	**+1.8**
LBTB	**Lobatse**	**40.17**	**201**	LR	LR	04 35 40.6	
	comp=N,378nm,18.0s,MS4.3,baz=40,slow=36						
PGF	**Pioggiola**	**40.33**	**323**	*eP*	**P**	**04 19 31.3**	**0.0**
	comp=N,11nm,0.9s,mb4.3						
ZST	**Bratislava**	**40.38**	**336**	*eP*	**P**	**04 19 31.7**	**0.0**
VRAC	**Vranov**	**41.48**	**336**	*eP*	**P**	**04 19 42.1**	**+1.5**
MORC	**Moravsky Berou**	**41.50**	**338**	*eP*	**P**	**04 19 42.0**	**+1.2**
AAK	**Ala-Archa**	**41.94**	**38**	*eP*	**P**	**04 19 46.0**	**+1.5**
	comp=N,6.6nm,1.1s,mb4.2						
AAK	**Ala-Archa**	**41.94**	**38**	*eP*	**P**	**04 19 46.0**	**+1.5**
	comp=N,6.6nm,1.1s,mb4.2						
GERES	**GERESS Array B**	**42.30**	**334**	P	**P**	**04 19 48.3**	**+0.9**
	comp=N,1.4nm,0.7s,mb3.7,baz=129,slow=6.8,SNR=13						
FRF	**La Foret Royal**	**42.32**	**323**	*eP*	**P**	**04 19 47.3**	**-0.3**
	comp=N,1.2nm,1.3s,mb4.3						
KHC	**Kasperske Hory**	**42.58**	**334**	*eP*	**P**	**04 19 49.5**	**-0.1**
KHC				x	x	04 19 58.0	
KHC	**Kasperske Hory**	**42.58**	**334**	*eP*	**P**	**04 19 49.5**	**-0.1**
KHC				*e*		04 19 58.0	
MBDF	**Montbardon**	**42.95**	**325**	*eP*	**P**	**04 19 53.4**	**+0.7**
	comp=N,35nm,1.2s,mb4.7						
KOLN	**Koldanda**	**42.95**	**63**	*eP*	**P**	**04 19 53.1**	**+0.1**
	comp=N,154nm,1.9s,mb5.4						
SMRF	**Simiane la Rot**	**43.19**	**323**	*eP*	**P**	**04 19 55.2**	**+0.5**
LPG	**La Plagne**	**43.43**	**325**	*eP*	**P**	**04 19 55.6**	**-1.0**
LPL	**La Plagne**	**43.45**	**325**	*eP*	**P**	**04 19 55.8**	**-1.0**
ORIF	**Oris-en-Rattie**	**43.57**	**324**	*eP*	**P**	**04 19 57.5**	**-0.3**
BRG	**Berggiesshubel**	**43.76**	**336**	P	**P**	**04 20 02.0**	**+2.8**
	comp=N,8.4nm,1.4s,mb4.3						
GKN	**Gorkha**	**43.90**	**63**	*eP*	**P**	**04 20 00.1**	**-0.6**
GRA1	**Grafenberg Arr**	**44.02**	**333**	*eP*	**P**	**04 20 00.2**	**-1.2**
VIVF	**Saint-Julien-l**	**44.23**	**323**	*eP*	**P**	**04 20 02.9**	**-0.2**
DMN	**Daman**	**44.23**	**63**	*eP*	**P**	**04 20 03.3**	**-0.1**
	comp=N,13nm,0.6s,mb4.8						
LASF	**Ste Croix**	**44.27**	**322**	*eP*	**P**	**04 20 03.3**	**-0.2**
KKN	**Kakani**	**44.42**	**63**	*eP*	**P**	**04 20 04.7**	**-0.2**
CLL	**Collm**	**44.48**	**336**	P	**P**	**04 20 06.0**	**+0.9**
CLL				*e**PP	pP	04 20 09.0	+0.9
CABF	**La Chapelle**	**44.48**	**326**	*eP*	**P**	**04 20 04.1**	**-1.0**
	comp=N,10nm,0.8s,mb4.3						
PKI	**Pulchoki**	**44.49**	**64**	*eP*	**P**	**04 20 05.0**	**-0.5**
	comp=N,24nm,0.9s,mb4.9						
HINF	**Hinteralfeld**	**44.84**	**328**	*eP*	**P**	**04 20 07.3**	**-0.7**
MTLF	**Montolieu**	**44.88**	**320**	*eP*	**P**	**04 20 08.3**	**-0.1**
DBIC	**Dimbokro**	**45.00**	**267**	P	**P**	**04 20 10.2**	**+0.5**
	comp=N,3.9nm,0.8s,mb4.3,baz=64,slow=7.8,SNR=9.7						
CDF	**Champ du Feu**	**45.01**	**329**	*eP*	**P**	**04 20 08.7**	**-0.7**
HAU	**Haudompre**	**45.22**	**328**	*eP*	**P**	**04 20 10.2**	**-0.8**
LIC	**Lamto**	**45.25**	**266**	*eP*	**P**	**04 20 12.2**	**+0.4**
	comp=N,9.4nm,1.0s,mb4.6						
MDT	**Midelt**	**45.71**	**304**	P	**P**	**04 20 16.8**	**+1.6**
	comp=N,2.9nm,1.0s,mb4.2,baz=92,slow=11,SNR=6.2						
SMF	**Signal de Mont**	**45.74**	**325**	*eP*	**P**	**04 20 14.0**	**-1.2**
CAF	**Calviac**	**45.81**	**322**	*eP*	**P**	**04 20 15.8**	**+0.1**
EPF	**Esparros**	**45.91**	**319**	*eP*	**P**	**04 20 16.6**	**0.0**
LOR	**Lormes**	**46.09**	**326**	*eP*	**P**	**04 20 17.1**	**-0.9**
AVF	**Avril sur Loir**	**46.09**	**325**	*eP*	**P**	**04 20 16.9**	**-1.1**
SSF	**Saint Saulge**	**46.17**	**325**	*eP*	**P**	**04 20 17.5**	**-1.0**
MEZF	**Maizieres J'vi**	**46.20**	**328**	*eP*	**P**	**04 20 18.6**	**-0.2**
RJF	**Les Rejaudoux**	**46.34**	**322**	*eP*	**P**	**04 20 19.7**	**-0.2**
ETSF	**Etsaut**	**46.43**	**318**	*eP*	**P**	**04 20 21.3**	**+0.6**
	comp=N,7.1nm,0.7s,mb4.4						
TCF	**Toulx Ste Croi**	**46.46**	**324**	*eP*	**P**	**04 20 20.8**	**-0.1**
SJPF	**Ste Jean**	**46.96**	**318**	*eP*	**P**	**04 20 25.6**	**+0.7**
	comp=N,24nm,1.1s,mb4.7						
GIVF	**Givet**	**47.33**	**329**	*eP*	**P**	**04 20 26.8**	**-0.9**
ESDC	**Sonseca Array**	**47.40**	**313**	P	**P**	**04 20 29.3**	**+0.8**
	comp=N,1.3nm,0.7s,mb4.0,baz=106,slow=8.6,SNR=6.4						
BAIF	**Baives**	**47.61**	**329**	*eP*	**P**	**04 20 28.7**	**-1.2**
SUR	**Sutherland**	**48.59**	**202**	P	**P**	**04 20 39.3**	**+1.6**
	comp=N,4.8nm,0.8s,mb4.6,baz=42,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**48.85**	**38**	P	**P**	**04 20 40.0**	**+0.5**
	comp=N,3.1nm,0.8s,mb4.4,baz=233,slow=5.3,SNR=17						
MKAR	**Makanchi Array**	**48.85**	**38**	P	**P**	**04 20 40.0**	**+0.4**
FINES	**FINESS Array B**	**49.79**	**351**	P	**P**	**04 20 45.5**	**-1.1**
	comp=N,2.7nm,0.8s,mb4.3,baz=180,slow=8.3,SNR=4.7						
FINES	**FINESS Array B**	**49.79**	**351**	P	**P**	**04 20 45.5**	**-1.1**
NOA	**NORSAR Array B**	**52.76**	**343**	P	**P**	**04 21 08.3**	**-0.9**
	comp=N,2.3nm,1.0s,mb4.1,baz=142,slow=7.4,SNR=3.3						
ARCES	**ARCESS Array B**	**57.59**	**354**	P	**P**	**04 21 43.8**	**-0.3**
	comp=N,2.2nm,0.7s,mb4.3,baz=194,slow=5.0,SNR=5.1						
SONM	**Songino Array**	**64.59**	**43**	P	**P**	**04 22 32.3**	**+0.6**
	comp=N,3.3nm,0.8s,mb4.4,baz=254,slow=6.9,SNR=25						
MAW	**Mawson**	**81.71**	**172**	P	**P**	**04 24 12.9**	**+1.2**
	comp=N,1.2nm,0.6s,mb4.0,baz=311,slow=7.8,SNR=4.0						
TXAR	**Lajitas Array**	**125.73**	**321**	PKP	PKPdf	04 30 55.8	-1.9
	comp=N,0.3nm,0.7s,baz=27,slow=2.8,SNR=4.2						

TRN ***24*** *04:14:23.3, 17.79N×61.59W, h30km, MD3.8, Md4.4(FDF)*
NEIC ***24*** *04:14:29.5, 18.26N×61.87W, h25km, MD4.3(RSPR), After RSPR.*
RSPR ***24*** *04:14:29.5, 18.26N×61.87W, h25km±29km*
ISC 24 04:14:23.1±1.2, 17.94N±0.06×61.57W±0.06, h31km±6km, n23, σ0§78/34, 6C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPB	**Codrington**	**0.39**	**219**	⇑ *iP*	**Pb**	**04 14 31.3**	**-0.6**
CPB				*eS*	**Sb**	**04 14 38.0**	**+0.2**
BPA	**Boggy Peak**	**0.93**	**197**	*eP*	**Pn**	**04 14 38.8**	**-1.4**
BPA				*eS*	**Sn**	**04 14 51.4**	**-1.2**
SKTB	**Turtle Beach**	**1.24**	**234**	*eP*	**Pn**	**04 14 45.1**	**+0.5**
SKTB				*eS*	**Sn**	**04 15 00.6**	**+0.2**
NVRH	**Round Hill, Ne**	**1.24**	**233**	*eP*	**Pn**	**04 14 45.1**	**+0.5**
NVRH				*eS*	**Sn**	**04 15 00.5**	**+0.2**
SKI	**Saint Kitts**	**1.27**	**242**	*eP*	**Pn**	**04 14 45.6**	**+0.6**
SKI				*eS*	**Sn**	**04 15 01.5**	**+0.4**
SKDB	**Saint Kitts 2**	**1.30**	**246**	*eP*	**Pn**	**04 14 45.9**	**+0.5**
SKDB				*eS*	**Sn**	**04 15 06.6**	**+4.7**
SABT	**Saba**	**1.63**	**259**	*eP*	**Pn**	**04 14 51.1**	**+0.9**
SABT				*eS*	**Sn**	**04 15 15.

*DHMR **24** 04:20:32.9±2.6, 12.67N×40.46E, h20km±53km, ML4.4*
*CSEM **24** 04:20:32.1±0.8, 12.57N×40.54E, h1km±5km, mb4.6/14, Ms4.0, Error ellipse: s-maj=9.1km s-min=2.8km az=8.0*
*IDC **24** 04:20:33.5±0.6, 12.68N×40.48E, mb4.2/19, mb1 4.2/21, mb1mx4.2/25, mbtmp4.2/21, ML4.0/2, MS4.5/15, Ms1 4.5/15, ms1mx4.3/23, Error ellipse: s-maj=14.3km s-min=11.6km az=69.0*
*BJI **24** 04:20:34.6, 13.33N×39.88E, h15km, mB5.3, mb4.6, Ms5.0, Msz4.8*
*NEIC **24** 04:20:35.2±0.3, 12.61N×40.57E, h10km, mb4.6/15, Error ellipse: s-maj=6.9km s-min=5.7km az=75.0*

ISC 24 04:20:34.0±0.3, 12.63N±0.04×40.52E±0.03, h10km, n102, σ1°§15/101, mb4.4/34, MS4.7/17, 8C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.53**	**115**	Pn		**Pn**	**04 21 15.3**	**-0.4**
	184nm,0.3s,baz=92,slow=21,SNR=24							
ATD				Sn		**Sn**	**04 21 49.3**	**+2.4**
	85nm,0.3s,baz=274,slow=23,SNR=11							
ATD				Lg			04 21 55.9	
	133nm,0.3s,baz=270,slow=20,SNR=10							
ATD	**Arta Tunnel**	**2.53**	**115**	Sn		**Sn**	**04 21 49.3**	**+2.4**
UDYN	**Al 'Udayn**	**3.61**	**68**	*i* P		**Pn**	**04 21 31.3**	**+0.2**
UDYN				*i* S		**Sn**	**04 22 17.3**	**+3.0**
UDYN				AML		AML	04 22 40.8	
	comp=Z,2μm,0.7s							
DHBB	**Dhamar BB**	**4.23**	**62**	*i* P		**Pn**	**04 21 39.7**	**-0.3**
DHBB				*i* S		**Sn**	**04 22 31.4**	**+1.4**
ADEN	**Aden**	**4.36**	**88**	*i* P		**Pn**	**04 21 41.3**	**-0.5**
ADEN				*i* S		**Sn**	**04 22 34.4**	**+1.1**
ADEN	**Aden**	**4.36**	**88**	*i* P		**Pn**	**04 21 41.3**	**-0.5**
ADEN				*i* S		**Sn**	**04 22 34.3**	**+1.0**
BDHA	**Al Bayda'**	**5.09**	**74**	*i* P		**Pn**	**04 21 48.9**	**-3.3**
BDHA				*i* S		**Sn**	**04 22 48.8**	**-2.9**
KMBO	**Kilima Mbogo**	**14.05**	**194**	Pn		**P**	**04 23 53.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=4.7							
KMBO				Lg			04 28 06.6	
	comp=Z,0.2nm,0.3s,baz=286,slow=22,SNR=9.7							
KMBO				LR		LR	04 29 08.3	
	comp=Z,2μm,20.1s,baz=9.4,slow=37							
KMBO	**Kilima Mbogo**	**14.05**	**194**	Pn		**P**	**04 23 53.9**	**-1.6**
KMBO				Lg			04 28 06.6	
KMBO				LR		LR	04 29 08.3	
ASHO	**Ashiyiah**	**18.96**	**49**	P		**P**	**04 24 57.5**	**-0.3**
	SNR=6.3							
HOQ	**Hoqain**	**19.30**	**53**	⇑P		**P**	**04 25 02.2**	**+0.3**
JMDO	**Jabal Madar**	**19.35**	**58**	⇑P		**P**	**04 25 05.6**	**+3.2**
	SNR=15							
SMDO	**Samad**	**19.62**	**56**	⇑P		**P**	**04 25 05.7**	**+0.1**
ASF	**Jabal al Asfar**	**19.73**	**351**	P		**P**	**04 25 06.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=143,slow=5.1,SNR=3.3							
ASF				LR		LR	04 32 14.4	
	comp=Z,556nm,18.8s,baz=41,slow=36							
BANOM	**Banah**	**19.89**	**46**	⇑P		**P**	**04 25 06.5**	**-2.0**
WBK	**Wadi Bani Khal**	**20.17**	**58**	⇑P		**P**	**04 25 10.8**	**-0.8**
MALT	**Malatya**	**25.64**	**356**	*e*P		**P**	**04 26 05.0**	**-0.5**
	comp=Z,10nm,1.0s,mb4.3							
IDI	**Anoyia**	**26.62**	**331**	P		**P**	**04 26 14.5**	**-0.1**
	comp=Z,9.2nm,1.0s,mb4.3,baz=169,slow=17,SNR=2.7							
GNI	**Garni**	**27.66**	**7**	P		**P**	**04 26 24.5**	**+0.5**
	comp=Z,2.2nm,0.3s,mb4.2,baz=348,slow=20,SNR=1.8							
GNI				LR		LR	04 37 23.8	
	comp=Z,705nm,18.5s,MS4.3,baz=40,slow=37							
GNI	**Garni**	**27.66**	**7**	P		**P**	**04 26 24.5**	**+0.5**
GNI				LR		LR	04 37 23.8	
BRTR	**Keskin Array B**	**27.66**	**349**	P		**P**	**04 26 23.1**	**-1.0**
	comp=Z,4.2nm,1.0s,mb4.0,baz=164,slow=9.0,SNR=13							
BRTR				PcP		PcP	04 29 40.5	-1.0
	comp=Z,0.3nm,0.4s,baz=18,slow=3.9,SNR=4.3							
BRTR	**Keskin Array B**	**27.66**	**349**	P		**P**	**04 26 23.0**	**-1.0**
BRTR	**Keskin Array B**	**27.66**	**349**	PcP		PcP	04 29 40.5	-1.1
BR131	**Keskin Array S**	**27.66**	**349**	P		**P**	**04 26 22.6**	**-1.5**
	comp=Z,1.0nm,0.6s,mb3.6							
BR131	**Keskin Array S**	**27.66**	**349**	P		**P**	**04 26 22.6**	**-1.4**
	comp=Z,1.0nm,0.6s,mb3.6							
LSZ	**Lusaka**	**30.30**	**204**	P		**P**	**04 26 48.1**	**+0.2**
	comp=Z,0.7nm,0.3s,mb3.8,baz=33,slow=9.9,SNR=4.7							
LSZ	**Lusaka**	**30.30**	**204**	*e*P		**P**	**04 26 46.5**	**-1.4**
	comp=Z,35nm,1.9s,mb4.8							
LSZ	**Lusaka**	**30.30**	**204**	*e*P		**P**	**04 26 46.5**	**-1.4**
	comp=Z,35nm,1.9s,mb4.8							
MATP	**Matopo**	**34.91**	**200**	P		**P**	**04 27 26.6**	**-1.5**
	comp=Z,4.1nm,1.1s,mb4.3,baz=2.5,slow=8.5,SNR=5.0							
AQU	**L'Aquila**	**37.83**	**327**	P		**P**	**04 27 51.2**	**-1.3**
	comp=Z,29nm,1.2s,mb4.9							
AQU	**L'Aquila**	**37.83**	**327**	P		**P**	**04 27 51.2**	**-1.3**
	comp=Z,29nm,1.2s,mb4.9							
TSUM	**Tsumeb**	**38.88**	**216**	P		**P**	**04 28 02.6**	**+1.0**
	comp=Z,1.7nm,1.0s,mb3.7,baz=22,slow=5.4,SNR=3.7							
TSUM				LR		LR	04 43 19.0	
	comp=Z,1μm,20.0s,MS4.7,baz=27,slow=35							
TSUM	**Tsumeb**	**38.88**	**216**	*e*P		**P**	**04 28 02.0**	**+0.5**
	comp=Z,11nm,1.5s,mb4.3							
TSUM	**Tsumeb**	**38.88**	**216**	*e*P		**P**	**04 28 02.0**	**+0.5**
	comp=Z,11nm,1.5s,mb4.3							
AKASG	**Malin Array Be**	**39.07**	**349**	P		**P**	**04 28 02.6**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.0,baz=166,slow=7.0,SNR=6.2							
KECS	**Kecovo**	**39.43**	**339**	*e*P		**P**	**04 28 06.1**	**+0.2**
STHS	**Stebnicka Huta**	**39.98**	**340**	*e*P		**P**	**04 28 12.1**	**+1.7**
VYHS	**Vyhne**	**40.04**	**338**	*e*P		**P**	**04 28 10.9**	**0.0**
PGF	**Pioggiola**	**40.42**	**323**	*e*P		**P**	**04 28 15.4**	**+1.3**
	comp=Z,25nm,1.2s,mb4.5							
ZST	**Bratislava**	**40.47**	**336**	*e*P		**P**	**04 28 14.1**	**-0.3**
AAK	**Ala-Archa**	**41.93**	**38**	*e*P		**P**	**04 28 26.6**	**+0.1**
	comp=Z,4.7nm,1.0s,mb4.1							
AAK	**Ala-Archa**	**41.93**	**38**	*e*P		**P**	**04 28 26.6**	**+0.1**
	comp=Z,4.7nm,1.0s,mb4.1							
GERES	**GERESS Array B**	**42.39**	**334**	P		**P**	**04 28 27.7**	**-2.4**
	comp=Z,2.3nm,0.9s,mb3.8,baz=124,slow=4.8,SNR=11							
FRF	**La Foret Royal**	**42.41**	**323**	*e*P		**P**	**04 28 31.3**	**+0.9**
KHC	**Kasperske Hory**	**42.66**	**334**	*e*P		**P**	**04 28 31.5**	**-0.9**
KOLN	**Koldanda**	**42.91**	**63**	*e*P		**P**	**04 28 34.2**	**-0.5**
	comp=Z,58nm,1.2s,mb5.2							
MBDF	**Montbardon**	**43.03**	**325**	*e*P		**P**	**04 28 37.3**	**+1.8**
	comp=Z,28nm,1.0s,mb4.6							
LPG	**La Plagne**	**43.52**	**325**	*e*P		**P**	**04 28 39.7**	**+0.3**
LPL	**La Plagne**	**43.54**	**325**	*e*P		**P**	**04 28 39.8**	**+0.2**
ORIF	**Oris-en-Rattie**	**43.66**	**324**	*e*P		**P**	**04 28 41.5**	**+1.0**
ORIF				*e*R				
	comp=Z,249nm,19.0s							
GKN	**Gorkha**	**43.85**	**63**	*e*P		**P**	**04 28 40.8**	**-1.6**
GRA1	**Grafenberg Arr**	**44.11**	**333**	*e*P		**P**	**04 28 43.1**	**-1.0**
	comp=Z,10.0nm,1.4s,mb4.3							
DMN	**Daman**	**44.19**	**63**	*e*P		**P**	**04 28 44.8**	**-0.3**
VIVF	**Saint-Julien-l**	**44.32**	**323**	*e*P		**P**	**04 28 46.6**	**+0.7**
LASF	**Ste Croix**	**44.36**	**322**	*e*P		**P**	**04 28 47.3**	**+1.0**
KKN	**Kakani**	**44.37**	**63**	*e*P		**P**	**04 28 45.4**	**-1.2**
PKI	**Pulchoki**	**44.44**	**63**	*e*P		**P**	**04 28 46.8**	**-0.4**
	comp=Z,39nm,1.1s,mb5.0							
CABF	**La Chapelle**	**44.57**	**326**	*e*P		**P**	**04 28 48.0**	**+0.1**
	comp=Z,24nm,1.2s,mb4.6							
HINF	**Hinteralfeld**	**44.92**	**328**	*e*P		**P**	**04 28 51.2**	**+0.4**
MTLF	**Montolieu**	**44.97**	**320**	*e*P		**P**	**04 28 52.5**	**+1.3**
DBIC	**Dimbokro**	**45.08**	**267**	P		**P**	**04 28 50.6**	**-1.8**
	comp=Z,2.9nm,0.7s,mb4.2,baz=76,slow=7.3,SNR=8.0							
DBIC				LR		LR	04 46 38.1	
	comp=Z,635nm,18.6s,MS4.6,baz=68,slow=35							
DBIC	**Dimbokro**	**45.08**	**267**	*e*P		**P**	**04 28 50.3**	**-2.1**
	comp=Z,51nm,1.9s,mb5.0							
CDF	**Champ du Feu**	**45.09**	**329**	*e*P		**P**	**04 28 52.5**	**+0.4**
HAU	**Haudompre**	**45.30**	**328**	*e*P		**P**	**04 28 54.4**	**+0.6**
HAU				*e*R				
	comp=Z,172nm,17.8s							
MDT	**Midelt**	**45.81**	**304**	P		**P**	**04 28 56.5**	**-1.4**
	comp=Z,2.4nm,0.9s,mb4.1,baz=103,slow=10,SNR=5.8							
EPF	**Esparros**	**46.01**	**319**	*e*P		**P**	**04 29 00.6**	**+1.2**
LOR	**Lormes**	**46.18**	**326**	*e*P		**P**	**04 29 01.2**	**+0.5**
LOR				*e*R				
	comp=Z,211nm,17.0s							
AVF	**Avril sur Loir**	**46.19**	**325**	*e*P		**P**	**04 29 00.9**	**+0.2**
	comp=Z,8.9nm,1.1s,mb4.3							
SSF	**Saint Saulge**	**46.26**	**325**	*e*P		**P**	**04 29 01.6**	**+0.3**
MEZF	**Maizieres J'vi**	**46.29**	**328**	*e*P		**P**	**04 29 02.6**	**+1.0**
ETSF	**Etsaut**	**46.52**	**318**	*e*P		**P**	**04 29 05.3**	**+1.8**
	comp=Z,25nm,1.1s,mb4.7							
BVAR	**Borovoye Array**	**46.81**	**24**	P		**P**	**04 29 05.4**	**-0.2**
	comp=Z,2.3nm,1.0s,mb4.1,baz=217,slow=7.4,SNR=6.1							
SJPF	**Ste Jean**	**47.05**	**318**	*e*P		**P**	**04 29 09.6**	**+1.9**
GIVF	**Givet**	**47.41**	**329**	*e*P		**P**	**04 29 10.7**	**+0.3**
ESDC	**Sonseca Array**	**47.49**	**313**	P		**P**	**04 29 09.7**	**-1.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=119,slow=7.7,SNR=8.6							
SUR	**Sutherland**	**48.57**	**202**	P		**P**	**04 29 19.9**	**+0.2**
	comp=Z,4.3nm,0.8s,mb4.5,baz=13,slow=9.0,SNR=3.8							
SUR	**Sutherland**	**48.57**	**202**	P		**P**	**04 29 19.9**	**+0.2**
MKAR	**Makanchi Array**	**48.85**	**37**	P		**P**	**04 29 20.6**	**-1.0**
	comp=Z,3.5nm,0.9s,mb4.4,baz=225,slow=5.1,SNR=10							
MKAR				LR		LR	04 53 48.4	
	comp=Z,1μm,21.4s,MS4.8,baz=180,slow=41							
LSA	**Lhasa**	**49.77**	**62**	*e*P		**P**	**04 29 29.8**	**+0.8**
LSA	**Lhasa**	**49.77**	**62**	*e*P		**P**	**04 29 29.8**	**+0.8**
FINES	**FINESS Array B**	**49.85**	**351**	P		**P**	**04 29 27.5**	**-1.6**
	comp=Z,3.0nm,1.0s,mb4.3,baz=243,slow=4.3,SNR=4.4							
FINES	**FINESS Array B**	**49.85**	**351**	P		**P**	**04 29 27.5**	**-1.6**
NOA	**NORSAR Array B**	**52.84**	**343**	P		**P**	**04 29 50.4**	**-1.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=140,slow=7.6,SNR=3.0							
NOA				LR		LR	04 55 09.1	
	comp=Z,99nm,20.0s,MS3.9,baz=115,slow=39							
ARCES	**ARCESS Array B**	**57.66**	**354**	P		**P**	**04 30 24.0**	**-2.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=158,slow=6.5,SNR=5.5							
ARCES	**ARCESS Array B**	**57.66**	**354**	P		**P**	**04 30 24.0**	**-2.5**
GTA	**Gaotai**	**58.43**	**51**	*e*P		**P**	**04 30 32.6**	**+0.2**
GTA				AP		pP	04 30 36.1	+0.6
GTA				XP		sP	04 30 39.8	+3.2
GTA				PP		PP	04 32 48.1	+4.6
GTA				AMB		AMB		
	comp=Z,6.0nm,2.2s,mb4.2							
GTA				AMB		AMB		
	comp=Z,179nm,4.6s							
GTA				LR		LR		
	comp=N,354nm,19.5s,MS4.7							
GTA				LR		LR		
	comp=E,575nm,22.6s,MS4.7							
GTA				LR		LR		
	comp=Z,1μm,27.5s,MS4.8							
KMI	**Kunming**	**59.73**	**68**	P		**P**	**04 30 46.3**	**+4.7**
KMI				XP		sP	04 30 52.0	+6.2
KMI				S		**S**	**04 38 58.8**	**+8.2**
KMI				SS		SS	04 42 48.6	+0.8
KMI				AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.6							
KMI				AMB		AMB		
	comp=Z,278nm,5.6s							
KMI				LR		LR		
	comp=N,392nm,21.2s,MS4.6							
KMI				LR		LR		
	comp=E,344nm,22.7s,MS4.6							
KMI				LR		LR		
	comp=Z,361nm,21.2s,MS4.5							
LZH	**Lanzhou**	**61.16**	**56**	*e*P		**P**	**04 30 51.0**	**-0.2**
LZH				AMB		AMB		
	comp=Z,58nm,1.6s,mb5.5							
LZH				LR		LR		
	comp=N,1μm,16.0s							
LZH				LR		LR		
	comp=Z,960nm,17.0s,MS5.0							
SONM	**Songino Array**	**64.57**	**43**	P		**P**	**04 31 12.2**	**-1.4**
	comp=Z,4.6nm,1.0s,mb4.5,baz=258,slow=6.5,SNR=14							
SONM				LR		LR	05 03 08.3	
	comp=Z,1μm,20.1s,MS5.0,baz=252,slow=40							
HHC	**Hu-ho-hao-te**	**67.53**	**51**	*e*P		**P**	**04 31 33.3**	**+0.6**
HHC				AP		pP	04 31 37.8	+1.9
HHC				XP		sP	04 31 40.3	+3.3
HHC				PCP		PcP	04 32 00.5	+0.5
HHC				PP		PP	04 34 03.0	-0.5
HHC				PCS			04 36 03.1	
HHC				S		S	04 40 27.3	-0.4
HHC				SCS		ScS	04 41 25.4	-2.0
HHC				SS		SS	04 44 47.6	-2.2
HHC				AMB		AMB		
	comp=Z,15nm,0.6s,mb5.2							
HHC				AMB		AMB		
	comp=Z,330nm,4.6s							
HHC				LR		LR		
	comp=N,463nm,16.7s,MS4.9							
HHC				LR		LR		
	comp=E,301nm,16.7s,MS4.9							
HHC				LR		LR		
	comp=Z,492nm,17.8s,MS4.8							
MAW	**Mawson**	**81.65**	**172**	P		**P**	**04 32 53.2**	**-0.2**
	comp=Z,3.2nm,1.0s,mb4.2,baz=353,slow=6.1,SNR=6.0							
MAW				LR		LR	05 05 30.8	
	comp=Z,147nm,21.2s,MS4.3,baz=151,slow=33							
JOW	**Kunigami**	**82.43**	**64**	LR		LR	05 10 41.7	
	comp=Z,199nm,18.4s,MS4.5,baz=108,slow=36							
JNU	**Nakatsue**	**83.51**	**58**	LR		LR	05 11 55.1	
	comp=Z,248nm,20.4s,MS4.6,baz=26,slow=37							
SNAA	**Sanae**	**88.94**	**193**	⇑*i*		**P**	**04 33 30.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**89.32**	**109**	LR		LR	05 08 58.1	
	comp=Z,541nm,19.7s,MS5.0,baz=273,slow=32							
VNA2	**Neumayer--Watz**	**89.43**	**194**	⇑*i*		**P**	**04 33 32.6**	**+0.7**
VNA1	**Neumayer--Stat**	**89.45**	**195**	⇑*i*		**P**	**04 33 35.1**	**+3.1**
SCHQ	**Schefferville**	**89.50**	**326**	LR		LR	05 16 53.4	
	comp=Z,122nm,18.5s,MS4.4,baz=63,slow=38							
VNA3	**Neumayer Olymp**	**90.20**	**194**	⇑*i*		**P**	**04 33 38.3**	**+2.8**
JHJ	**Hachijo jima 2**	**90.78**	**56**	LR		LR	05 16 31.1	
	comp=Z,466nm,18.1s,MS5.0,baz=309,slow=37							
BDFB	**Brasilia**	**91.96**	**255**	LR		LR	05 11 20.1	
	comp=Z,444nm,19.1s,MS4.9,baz=104,slow=33							
TXAR	**Lajitas Array**	**125.82**	**321**	PKP		PKPdf	04 39 37.8	-2.1
	comp=Z,0.4nm,0.8s,baz=90,slow=1.3,SNR=4.0							

*NEIC **24** 04:28:19.5, 37.87S×177.23E, h67km, ML3.9(WEL), After WEL.*

WEL 24 04:28:19.5±0.1, 37.87S×177.23E, h67km±1km, ML3.7/6, 2C-1D, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WIZ	**White Island**	**0.34**	**355**	P*		P	04 28 30.1	-0.6
WIZ	**White Island**	**0.34**	**355**	P		P	04 28 30.2	-0.5
URZ	**Urewera**	**0.40**	**194**	⇑P*		P	04 28 30.9	-0.3
URZ				*S**		S	04 28 39.5	-0.4
URZ	**Urewera**	**0.40**	**194**	⇑P		P	04 28 30.9	-0.3
MARZ	**Manawahe**	**0.45**	**255**	P*		P	04 28 31.6	0.0
MARZ	**Manawahe**	**0.45**	**255**	P		P	04 28 31.6	-0.1
EDRZ	**Edgecumbe**	**0.46**	**238**	P*		P	04 28 31.8	+0.1
EDRZ	**Edgecumbe**	**0.46**	**238**	P		P	04 28 31.8	+0.1
MWZ	**Matawai**	**0.52**	**153**	P*		P	04 28 32.1	-0.3
MWZ				S*		S	04 28 41.9	+0.2
MWZ	**Matawai**	**0.52**	**153**	P		P	04 28 32.1	-0.2
MWZ				S		S	04 28 41.9	+0.1
TAZ	**Tarawera**	**0.68**	**237**	P*		P	04 28 34.6	+0.6
TAZ	**Tarawera**	**0.68**	**237**	P		P	04 28 34.6	+0.6
LIRZ	**Lichensteins R**	**0.68**	**258**	P*		P	04 28 33.8	-0.3
LIRZ	**Lichensteins R**	**0.68**	**258**	P		P	04 28 33.8	-0.3
TGRZ	**Tauranga**	**0.78**	**280**	P*		P	04 28 35.0	-0.3
TGRZ	**Tauranga**	**0.78**	**280**	⇓P		P	04 28 35.0	-0.2
PUZ	**Puketiti**	**0.84**	**104**	PN		P	04 28 35.9	0.0
PUZ	**Puketiti**	**0.84**	**104**	*e*P		P	04 28 35.9	0.0
MXZ	**Matakaoa Point**	**0.91**	**71**	P*		P	04 28 36.8	0.0
MXZ	**Matakaoa Point**	**0.91**	**71**	P		P	04 28 36.8	0.0
PATZ	**Paeroa**	**0.92**	**236**	P*		P	04 28 38.2	+1.2
MYRZ	**Mayor Island**	**0.98**	**306**	P*		P	04 28 37.6	-0.2
KNZ	**Kokohu**	**1.20**	**163**	PN		P	04 28 39.9	-0.9
KNZ	**Kokohu**	**1.20**	**163**	*e*P		P	04 28 39.9	-0.8
BKZ	**Black Stump Fm**	**1.42**	**204**	P*		P	04 28 43.1	-0.7
BKZ	**Black Stump Fm**	**1.42**	**204**	*e*P		P	04 28 43.1	-0.7
KUZ	**Kuaotunu**	**1.65**	**313**	PN		P	04 28 45.8	-1.0
KUZ	**Kuaotunu**	**1.65**	**313**	P		P	04 28 45.8	-1.0
KRVZ	**Karewarewa**	**1.75**	**225**	P*		P	04 28 48.2	0.0
OTVZ	**Oturere**	**1.78**	**223**	P*		P	04 28 48.5	-0.2
WTVZ	**West Tongariro**	**1.79**	**225**	P*		P	04 28 48.8	0.0
WTVZ	**West Tongariro**	**1.79**	**225**	P		P	04 28 48.8	0.0
NGZ	**Ngauruhoe**	**1.83**	**224**	PN		P	04 28 49.2	-0.1
NGZ	**Ngauruhoe**	**1.83**	**224**	P		P	04 28 49.2	-0.1
TWVZ	**Taurewa**	**1.85**	**229**	PN		P	04 28 50.5	+0.9
TUVZ	**Tukino**	**1.86**	**221**	PN		P	04 28 49.6	-0.3
CNZ	**Chateau**	**1.87**	**224**	PN		P	04 28 49.9	-0.1
FWVZ	**Far West T-bar**	**1.91**	**223**	PN		P	04 28 50.4	0.0
FWVZ	**Far West T-bar**	**1.91**	**223**	*e*P		P	04 28 50.4	0.0
MOVZ	**Moawhango**	**1.92**	**217**	PN		P	04 28 49.8	-0.8
MOVZ	**Moawhango**	**1.92**	**217**	P		P	04 28 49.8	-0.8
WNVZ	**Wahianoa**	**1.94**	**221**	PN		P	04 28 50.6	-0.2
MTVZ	**Mangateitei**	**2.05**	**222**	PN		P	04 28 52.1	-0.3
PKVZ	**Pokaka**	**2.05**	**226**	PN		P	04 28 52.4	+0.1
PXZ	**Pawanui**	**2.18**	**187**	PN		P	04 28 51.5	-2.7
TSZ	**Takapari Road**	**2.40**	**204**	PN		P	04 28 55.5	-1.9
WAZ	**Wanganui**	**2.57**	**222**	PN		P	04 28 59.4	-0.4
BFZ	**Birch Farm**	**2.91**	**195**	PN		P	04 29 01.5	-3.0
MRZ	**Mangatainoka R**	**3.07**	**204**	PN		P	04 29 03.5	-3.2
KIW	**Kapiti Island**	**3.49**	**210**	PN		P	04 29 08.8	-3.8
MTW	**Mount Morrison**	**3.55**	**202**	PN		P	04 29 09.3	-4.1
CAW	**Cannon Point**	**3.64**	**207**	PN		P	04 29 10.6	-4.2
PAWZ	**Paruwai Farm**	**3.77**	**201**	PN		P	04 29 12.2	-4.5
MRW	**Makara Radio**	**3.88**	**209**	PN		P	04 29 14.5	-3.7

*NEIC **24** 04:28:60.0±0.5, 7.38N×123.77E, h596km±6km, mb4.6/13, Error ellipse: s-maj=12.2km s-min=6.0km az=71.0*
*IDC **24** 04:29:00.5±1.1, 7.32N×123.88E, h598km±12km, mb3.8/21, mb1 4.0/21, mb1mx4.0/23, mbtmp4.7/21, Error ellipse: s-maj=18.4km s-min=7.5km az=72.0*
*MAN **24** 04:29:01.1, 7.48N×123.73E, h583km, mb4.9, ML3.8, MS3.8*

ISC 24 04:28:59.2±0.3, 7.34N±0.06×123.93E±0.09, h604km±4km, n83, σ°§84/72, mb4.5/34, 5C-11D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KCP	**Kidapawan**	**1.20**	**106**	⇓*e*P		**P**	**04 30 12.9**	**+1.3**
IPIL	**Ipil**	**1.42**	**288**	*e*P		**P**	**04 30 11.9**	**-0.2**
GSPH	**General Santos**	**1.61**	**141**	*e*P		**P**	**04 30 13.9**	**+1.2**
DAV	**Davao City (W)**	**1.66**	**99**	*e*P		**P**	**04 30 13.3**	**+0.5**
SNPH	**Sibulan**	**2.10**	**341**	⇓*i*P		**P**	**04 30 18.5**	**+3.9**
TBP	**Tagbilaran**	**2.33**	**358**	⇓*e*P		**P**	**04 30 12.2**	**-3.4**
TBP				*e*S		**S**	**04 31 15.4**	**-1.0**
BIPH	**Bislig**	**2.55**	**71**	⇑*i*P		**P**	**04 30 16.5**	**-0.2**
BIPH				*i* S		**S**	**04 31 17.6**	**-0.7**
SCPH	**Surigao**	**2.87**	**32**	⇓*e*P		**P**	**04 30 18.6**	**+0.2**
LLP	**Lapu-Lapu**	**2.96**	**1**	⇓*e*P		**P**	**04 30 19.1**	**+0.2**
GUIM	**Jordan**	**3.52**	**338**	*e*P		**P**	**04 30 20.8**	**-1.5**
PLP	**Palo**	**3.94**	**15**	*e*P		**P**	**04 30 25.5**	**+0.4**
RCP	**Roxas**	**4.35**	**345**	⇓*e*P		**P**	**04 30 26.9**	**-1.0**
CUYO	**Cuyo Island**	**4.52**	**321**	*e*P		**P**	**04 30 29.6**	**+0.4**
OTRP	**Odiongan**	**5.33**	**340**	*e*P		**P**	**04 30 36.0**	**+0.5**
SJMP	**San Jose**	**5.79**	**332**	*e*P		**P**	**04 30 40.2**	**+0.9**
ENPP	**El Nido**	**5.87**	**311**	*e*P		**P**	**04 30 40.6**	**+0.6**
BUSP	**Coron**	**5.91**	**322**	*e*P		**P**	**04 30 40.8**	**+0.4**
PVCP	**Virac**	**6.22**	**2**	*e*P		**P**	**04 30 42.9**	**-0.1**
KKM	**Kota Kinabalu**	**7.77**	**261**	*e*P		**P**	**04 30 55.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**25.34**	**176**	P		**P**	**04 33 41.4**	**-0.7**
	17nm,0.5s,mb4.9,baz=5.6,slow=7.2,SNR=51							
FITZ				PcP		PcP	04 36 53.5	-0.3
	6.9nm,0.6s,baz=192,slow=2.1,SNR=5.6							
FITZ				ScP			04 39 36.4	
	6.0nm,0.8s,baz=207,slow=2.3,SNR=3.8							
WRAB	**Tennant Creek**	**28.98**	**159**	*e*P		**P**	**04 34 13.6**	**-0.1**
	43nm,0.6s,mb5.2							
WRA	**Warramunga Arr**	**28.98**	**159**	P		**P**	**04 34 13.3**	**-0.4**
	28nm,0.7s,mb5.0,baz=332,slow=10,SNR=179							
WRA				PcP		PcP	04 37 02.7	0.0
	4.3nm,0.7s,baz=340,slow=3.1,SNR=14							
WRA				S		**S**	**04 38 20.1**	**-4.7**
	5.7nm,0.7s,baz

SADO Sadowa 124.12 20 PKP PKPdf 04 46 52.3 +2.0
comp=Z,5.5nm,0.6s,baz=354,slow=4.0,SNR=5.5
KIC Kosan Boka 127.02 284 *e*PKIKP PKPdf 04 46 58.5 +1.8
comp=Z,24nm,0.8s
DBIC Dimbokro 127.05 284 PKP PKPdf 04 46 58.5 +1.7
comp=Z,2.9nm,0.6s,baz=20,slow=3.4,SNR=8.2
TIC Toumodi 127.22 284 *e*PKIKP PKPdf 04 46 58.7 +1.6
comp=Z,4.9nm,0.2s
LIC Lamto 127.33 284 *e*PKIKP PKPdf 04 46 58.8 +1.5
comp=Z,17nm,0.7s
PLCA Paso Flores 144.33 161 PKP PKPdf 04 47 30.6 +3.1
comp=Z,14nm,0.8s,baz=209,slow=3.1,SNR=37
PLCA SKPbc 04 50 13.2
comp=Z,0.7nm,0.7s,baz=246,slow=5.6,SNR=3.5
SDV Santo Domingo 158.31 42 PKP PKPdf 04 47 51.5 +2.7
comp=Z,3.5nm,0.8s,baz=254,slow=1.7,SNR=7.8
CPUP Villa Florida 161.08 177 PKP PKPdf 04 47 53.9 +2.4
comp=Z,1.5nm,0.8s,baz=135,slow=2.9,SNR=3.1
CPUP PKPab PKPab 04 48 41.4 +0.3
comp=Z,1.7nm,0.7s,baz=200,slow=5.1,SNR=3.6
LPAZ La Paz 165.23 128 PKP PKPdf 04 47 59.6 +3.9
comp=Z,2.0nm,1.0s,baz=4.7,slow=4.5,SNR=3.6
LPAZ PKPab PKPab 04 49 02.1 +2.7
comp=Z,1.2nm,0.6s,baz=296,slow=1.7,SNR=4.4
BDFB Brasilia 168.59 223 PKPab PKPab 04 49 15.8 +1.7
comp=Z,1.3nm,0.5s,baz=144,slow=8.7,SNR=3.0
SIV San Ignacio 170.11 151 PKP PKPdf 04 48 01.4 +2.5
comp=Z,1.5nm,0.9s,baz=140,slow=2.6,SNR=7.5
SIV PKPab PKPab 04 49 21.5 +0.7
comp=Z,1.1nm,0.7s,baz=232,slow=4.5,SNR=7.3

IDC 24 04:37:19.9±1.9, 8.79N×91.40E, mb3.6/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.6/3, MS4.5/1, Ms1 4.5/1, ms1mx3.5/30, Error ellipse: s-maj=71.1km s-min=33.2km az=52.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**40.94**	**15**	P	P	04 45 04.2	-1.5
	0.3nm,0.3s,baz=198,slow=6.8,SNR=3.7						
NWAO	**Narrogin (SRO)**	**48.23**	**151**	LR	LR	05 07 32.1	
	comp=Z,522nm,18.9s,baz=296,slow=38						
WRA	**Warramunga Arr**	**51.00**	**124**	P	P	04 46 23.8	-2.1
	0.4nm,0.5s,baz=304,slow=8.5,SNR=7.2						
GERES	**GERESS Array B**	**75.34**	**318**	P	P	04 49 05.4	-1.6
	0.6nm,0.7s,baz=135,slow=7.5,SNR=4.7						

*IDC **24** 04:40:16.9±0.4, 5.78S×105.45E, mb4.8/22, mb1 4.9/22, mb1mx4.8/25, mbtmp4.8/22, MS4.1/3, Ms1 4.1/3, ms1mx3.6/34, Error ellipse: s-maj=16.6km s-min=12.4km az=39.0*
*MOS **24** 04:40:23.7±1.4, 5.69S×105.59E, h59km, mb5.1/18, Error ellipse: s-maj=13.8km s-min=7.3km az=122.1*
*BJI **24** 04:40:24.7, 5.80S×105.50E, h57km, mB5.4, mb4.7, Ms4.9, Msz4.6*
*NEIC **24** 04:40:24.7±1.4, 5.85S×105.50E, h58km±12km, mb5.0/22, Error ellipse: s-maj=9.3km s-min=5.7km az=53.0*
*HRVD **24** 04:40:24.7±1.0, 6.03S×105.61E, h68km±5km, MW5.0/29, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s29,c37; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.64±.37; $M_{\theta\theta}$0.01±.34; $M_{\phi\phi}$3.63±.39; $M_{r\theta}$-0.63±.18; $M_{r\phi}$-1.07±.18; $M_{\theta\phi}$0.46±.35; Best double couple: M_o3.864×10^{16} NP1:ϕ_s353°,δ41°,λ-78°. NP2: ϕ_s157°,δ50°,λ-100°. Principal axes: T 3.972, Plg5°, Azm254°; N -.213, Plg8°, Azm164°; P -3.755, Plg81°, Azm14°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 04:40:23.2×1.3, **5.90S**×0.05×**105.55E**×0.05, **h60**km±11km, **h43**km±2.9km: **pP-P, n198,** σ1§**13**/162, **mb4.9**/62, **8C-17D, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGM	**Kluang**	**8.17**	**344**	P	**P**	**04 42 25.3**	**+3.8**
IPM	**Ipoh**	**11.35**	**336**	P	**P**	**04 43 05.7**	**+0.7**
KULM	**Kulim**	**12.14**	**336**	*e*P	**P**	**04 43 15.8**	**+0.2**
KKM	**Kota Kinabalu**	**15.94**	**42**	P	**P**	**04 44 12.3**	**+7.1**
KKM	**Kota Kinabalu**	**15.94**	**42**	*e*P	**P**	**04 44 08.0**	**+2.7**
NNT	**Nongplab**	**19.26**	**343**	P	**P**	**04 44 46.0**	**+0.4**
MBWA	**Marble Bar**	**20.47**	**139**	*e*P	**P**	**04 44 57.3**	**-1.2**
	62nm,1.2s						
NST	**Nakhon Sawan**	**22.09**	**346**	P	**P**	**04 45 18.0**	**+3.2**
KKTK	**Khon Kaen**	**22.26**	**353**	P	**P**	**04 45 18.0**	**+1.6**
	432nm,0.7s,mb6.0						
FITZ	**Fitzroy Crossi**	**23.06**	**123**	*e*P	**P**	**04 45 24.5**	**+0.2**
	47nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**23.06**	**123**	P	**P**	**04 45 25.0**	**+0.7**
	25nm,0.7s,mb4.8,baz=327,slow=6.8,SNR=42						
FITZ				PcP	PcP	04 49 13.4	-0.3
	4.6nm,0.7s,baz=243,slow=4.5,SNR=2.9						
FITZ				LR	LR	04 53 02.4	
	comp=Z,123nm,20.6s,baz=288,slow=33						
TBP	**Tagbilaran**	**23.93**	**50**	*e*P	**P**	**04 45 36.4**	**+3.6**
NANT	**Nan**	**25.00**	**349**	P	**P**	**04 45 47.0**	**+3.8**
	125nm,1.2s,mb5.3						
CHG	**Chiang Mai**	**25.41**	**345**	P	**P**	**04 45 50.7**	**+3.8**
	16nm,1.1s,mb4.5						
KAKA	**Kakadu**	**27.37**	**106**	⇓*i*P	**P**	**04 46 23.7**	**+19**
	46nm,0.7s,mb5.1						
KLBR	**Kellerberrin**	**28.00**	**157**	*e*P	**P**	**04 46 09.7**	**-1.0**
	15nm,0.6s,mb4.8						
KMI	**Kunming**	**30.96**	**355**	P	**P**	**04 46 38.9**	**+1.9**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
KMI	**Kunming**	**30.96**	**355**	P	**P**	**04 46 38.9**	**+1.9**
	comp=Z,8.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**31.26**	**119**	P	**P**	**04 46 39.7**	**0.0**
	comp=Z,19nm,0.5s,mb5.2,baz=294,slow=9.9,SNR=112						
WRA				PcP	PcP	04 49 33.3	+0.3
	comp=Z,1.7nm,0.5s,baz=309,slow=2.2,SNR=5.2						
WRAB	**Tennant Creek**	**31.27**	**119**	*e*P	**P**	**04 46 39.3**	**-0.5**
	comp=Z,34nm,0.6s,mb5.3						
WRAB	**Tennant Creek**	**31.27**	**119**	*d*/P	**P**	**04 46 39.1**	**-0.7**
WB2	**Warramunga Arr**	**31.27**	**119**	*e*P	**P**	**04 46 39.5**	**-0.3**
GYA	**Guiyang**	**32.18**	**2**	⇓*i*P	**P**	**04 46 48.8**	**+1.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
ASPA	**Alice Springs**	**32.49**	**126**	*e*P	**P**	**04 46 50.3**	**-0.2**
LSA	**Lhasa**	**38.00**	**339**	*e*P	**P**	**04 47 38.9**	**+1.7**
GUN	**Gumba**	**38.61**	**331**	*e*P	**P**	**04 47 40.7**	**-1.5**
KKN	**Kakani**	**38.79**	**331**	*e*P	**P**	**04 47 41.8**	**-2.0**
GKN	**Gorkha**	**39.29**	**330**	*e*P	**P**	**04 47 45.8**	**-2.1**
	comp=Z,51nm,1.2s,mb5.1						
KOLN	**Koldanda**	**39.62**	**329**	*e*P	**P**	**04 47 48.4**	**-2.3**
	comp=Z,83nm,1.6s,mb5.2						
SSE	**Sheshan**	**39.71**	**21**	*e*P	**P**	**04 47 49.8**	**-1.6**
SSE				PCP	PcP	04 49 56.4	-1.3
SSE				S	**S**	**04 53 52.3**	**+1.9**
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,246nm,4.2s						
SSE				LR	LR		
	comp=N,177nm,22.4s						
SSE				LR	LR		
	comp=E,83nm,22.4s						
SSE				LR	LR		
	comp=Z,169nm,22.3s						
SSE	**Sheshan**	**39.71**	**21**	*e*P	**P**	**04 47 49.8**	**-1.6**
	comp=Z,33nm,0.7s,mb5.2						
SSE				pP	pP	04 47 58.6	-8.2
SSE				sP	sP	04 48 02.7	-11
SSE				PcP	PcP	04 49 56.4	-1.3
SSE				S	**S**	**04 53 52.2**	**+1.8**
SSE				sS		04 54 10.2	
SSE				ScS	ScS	04 57 58.0	+6.8
SSE				LR	LR		
	comp=Z,170nm,22.3s						
NJ2	**Nanjing**	**39.81**	**18**	*e*P	**P**	**04 47 49.9**	**-2.3**
NJ2				PP	PP	04 49 25.6	-2.7
NJ2				S	**S**	**04 53 50.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,360nm,4.1s						
NJ2				LR	LR		
	comp=N,740nm,21.9s						
NJ2				LR	LR		
	comp=E,470nm,16.4s						
NJ2				LR	LR		
	comp=Z,580nm,24.4s						

XAN Xi'an 39.85 4 P **P** **04 47 52.9 +0.4**
XAN AP pP 04 48 03.6 -4.3
XAN AMB AMB
comp=Z,18nm,1.7s,mb4.5
PMG Port Moresby 41.37 97 P **P** **04 48 06.1 +0.9**
comp=Z,23nm,0.7s,mb4.9,baz=271,slow=7.7,SNR=7.4
CTA Charters Tower 41.96 114 ⇓*i*P **P** **04 48 11.1 +1.0**
comp=Z,14nm,0.8s,mb4.7
CTA Charters Tower 41.96 114 P **P** **04 48 11.2 +1.1**
comp=Z,16nm,0.8s,mb4.7,baz=276,slow=11,SNR=18
CTA Charters Tower 41.96 114 ⇓*i*P **P** **04 48 11.1 +1.0**
CTA pmax pmax
comp=Z,14nm,0.8s
CTAO Charters Tower 41.96 114 *e*P **P** **04 48 10.8 +0.7**
comp=Z,61nm,1.3s,mb5.1
CTAO Charters Tower 41.96 114 *e*P **P** **04 48 10.8 +0.7**
CTAO pmax pmax
comp=Z,61nm,1.3s,mb5.1
STKA Stephens Creek 42.44 132 ⇓*i*P **P** **04 48 14.5 +0.5**
comp=Z,40nm,0.6s,mb5.2
STKA Stephens Creek 42.44 132 P **P** **04 48 14.6 +0.7**
comp=Z,41nm,0.5s,mb5.3,baz=307,slow=7.3,SNR=167
GTA Gaotai 45.39 354 *e*P **P** **04 48 38.3 +0.6**
GTA AMB AMB
comp=Z,13nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,168nm,5.0s
GTA LR LR
comp=N,422nm,14.1s
GTA LR LR
comp=E,559nm,16.4s
GTA LR LR
comp=Z,461nm,15.3s
JNU Nakatsue 45.65 30 P **P** **04 48 39.6 -0.1**
comp=Z,30nm,1.2s,mb5.1,baz=55,slow=2.1,SNR=4.6
WMQ Urumqi 52.05 344 ⇑*i*P **P** **04 49 28.5 -0.5**
WMQ AP pP 04 49 44.0 -0.9
WMQ XP sP 04 49 52.0 +0.3
WMQ PCP PcP 04 50 42.0 +1.4
WMQ PP PP 04 51 30.0 +1.7
WMQ *e*S **S** **04 56 49.0 +2.3**
WMQ XS 04 57 17.0
WMQ AMB AMB
comp=Z,21nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,122nm,5.1s
WMQ LR LR
comp=N,331nm,25.6s
WMQ LR LR
comp=E,290nm,26.4s
WMQ LR LR
comp=Z,345nm,27.5s
MJAR Matsushiro Arr 52.12 33 P **P** **04 49 28.5 -1.2**
comp=Z,3.6nm,0.9s,mb4.3,baz=213,slow=9.3,SNR=6.4
CN2 Changchun 52.64 18 *e*P **P** **04 49 33.3 -0.1**
CN2 *e*XP sP 04 49 56.5 +0.4
CN2 *e*S **S** **04 56 55.9 +1.3**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,270nm,4.0s
CN2 LR LR
comp=N,510nm,16.0s
CN2 LR LR
comp=E,480nm,16.0s
CN2 LR LR
comp=Z,580nm,16.0s
SONM Songino Array 53.51 1 P **P** **04 49 39.7 -0.2**
comp=Z,7.9nm,1.0s,mb4.6,baz=179,slow=8.3,SNR=37
SONM PcP PcP 04 50 45.3 -0.6
comp=Z,2.5nm,0.8s,baz=181,slow=3.6,SNR=4.8
MDJ Mudanjiang 54.73 21 P **P** **04 49 49.0 +0.2**
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,161nm,8.2s
MDJ LR LR
comp=N,352nm,23.4s
MDJ LR LR
comp=E,163nm,21.6s
MDJ LR LR
comp=Z,260nm,19.0s
AAK Ala-Archa 55.94 333 *e*P **P** **04 49 54.5 -3.1**
AAK Ala-Archa 55.94 333 *e*P **P** **04 49 54.4 -3.2**
AAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.3
AAK MLR MLR
comp=Z,200nm,20.0s
ZAK Zakamensk 56.09 358 *e*P **P** **04 49 57.7 -0.8**
ZAK *e* 04 50 55.2
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb3.7
HIA Hailar 56.32 11 *e*P **P** **04 49 59.5 -0.7**
comp=Z,3.9nm,0.4s,mb4.8
HIA Hailar 56.32 11 *e*P **P** **04 49 59.5 -0.7**
HIA pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 56.38 341 P **P** **04 49 58.1 -2.6**
comp=Z,2.9nm,0.7s,mb4.4,baz=156,slow=7.4,SNR=17
MKAR PcP PcP 04 50 56.3 -0.7
comp=Z,1.6nm,0.7s,baz=135,slow=5.1,SNR=4.1
OPO Ambohidratompo 58.18 252 P **P** **04 50 13.6 -0.1**
comp=Z,4.8nm,0.8s,mb4.6,baz=82,slow=12,SNR=3.9
KLR Kul'dur 59.47 20 *e*P **P** **04 50 18.0 -4.2**
YSS Yuzh-Sakhalins 62.07 28 *e*P **P** **04 50 39.5 -0.4**
NVS Novosibirsk 63.32 346 *e*P **P** **04 50 44.7 -3.4**
NVS *e* 04 54 43.3
NVS pmax pmax
comp=N,10.0nm,1.6s
NVS pmax pmax
comp=E,11nm,1.6s
NVS pmax pmax
comp=Z,13nm,1.6s,mb4.8
BOD Bodaibo 63.87 5 *e*P **P** **04 50 50.1 -1.6**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MZLS Mizel 65.87 299 P **P** **04 51 04.2 -1.0**
BLJS Baljurashi 67.88 294 P **P** **04 51 18.9 +1.1**
MAW Mawson 68.00 196 ⇑*i*P **P** **04 51 18.1 +0.3**
comp=Z,5.8nm,0.6s,mb4.8
MAW Mawson 68.00 196 P **P** **04 51 18.1 +0.3**
comp=Z,7.5nm,0.7s,mb4.8,baz=45,slow=6.2,SNR=23
MAW Mawson 68.00 196 ⇑*i*P **P** **04 51 18.1 +0.3**
MAW pmax pmax
comp=Z,6.0nm,0.6s
RPZ Rata Peaks 68.32 135 LR LR 05 22 40.3
comp=Z,297nm,19.6s,baz=216,slow=37
LTHS Al Lith 69.06 294 P **P** **04 51 23.7 -1.4**
HILS Ha'il 69.85 302 P **P** **04 51 30.3 +0.4**
YAK Yakutsk 70.25 12 ⇑*i*P **P** **04 51 30.5 -1.2**
YAK Yakutsk 70.25 12 *e*P **P** **04 51 29.2 -2.5**
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.9
KBRS Khaybar 71.55 300 P **P** **04 51 40.9 +0.8**
URZ Urewera 71.90 128 LR LR 05 26 19.5
comp=Z,179nm,18.4s,baz=311,slow=38
GNI Garni 72.16 315 P **P** **04 51 43.1 -0.4**
comp=Z,3.0nm,0.4s,mb4.6,baz=31,slow=18,SNR=7.0
TI2 Plekhanov 72.81 317 ⇓*i*P **P** **04 51 45.6 -1.8**
TI2 pmax pmax
comp=Z,60nm,0.6s,mb5.7
ARU Arti 73.02 335 *e*P **P** **04 51 46.7 -1.5**
ARU Arti 73.02 335 ⇑*i*P **P** **04 51 46.8 -1.4**
ARU *e* 04 54 25.6
ARU *e*PPP PPP 04 56 08.6 -8.1
ARU *e*S S 05 01 11.4 +2.1
ARU *e*SS SS 05 05 50.7 -2.8
ARU pmax pmax
comp=Z,12nm,1.2s,mb4.7
ZEI Tsey 73.81 318 *e*P **P** **04 51 49.0 -4.2**
ZEI *i* *PP pP 04 52 00.6 -9.4
ZEI pmax pmax
comp=Z,13nm,1.0s,mb4.8
MA2 Magadan 74.41 22 *e*P **P** **04 52 02.6 +6.3**
KIV Kislovodsk 75.10 318 *i* P **P** **04 52 00.4 -0.2**
ASF Jabal al Asfar 75.34 305 P **P** **04 52 02.5 +0.3**
comp=Z,8.4nm,0.9s,mb4.7,baz=337,slow=5.3,SNR=8.6
AYUS 'Aynunah 75.62 301 P **P** **04 52 04.1 +0.2**
BDAS Al 'Bad' **75.83 301** P **P** **04 52 04.4 -0.7**
MATP Matopo 75.85 251 P **P** **04 52 05.2 -0.2**
comp=Z,8.5nm,0.9s,mb4.7,baz=94,slow=7.3
MALT Malatya 76.04 312 *e*P **P** **04 52 05.4 -0.7**
comp=Z,36nm,1.4s,mb5.1
MALT Malatya 76.04 312 *e*P **P** **04 52 05.4 -0.7**
MALT pmax pmax
comp=Z,36nm,1.4s,mb5.1
TAYS Tayyib Ism 76.05 301 P **P** **04 52 06.4 0.0**
LSZ Lusaka 76.30 256 P **P** **04 52 08.0 0.0**
comp=Z,4.7nm,0.6s,mb4.6,baz=89,slow=6.9,SNR=14
LSZ Lusaka 76.30 256 *e*P **P** **04 52 07.3 -0.7**
comp=Z,34nm,1.6s,mb5.0
LSZ Lusaka 76.30 256 *e*P **P** **04 52 07.3 -0.7**
LSZ pmax pmax
comp=Z,34nm,1.6s,mb5.0
SOC Sochi 76.95 317 *e*P **P** **04 52 05.8 -5.3**
SOC pmax pmax
comp=N,30nm,1.1s
SOC pmax pmax
comp=Z,28nm,1.1s,mb5.1
SOC pmax pmax
comp=E,9.0nm,0.5s
LBTB Lobatse 78.44 246 *e*P **P** **04 52 19.3 -0.4**
comp=E,12nm,1.0s,mb4.8
LBTB Lobatse 78.44 246 *e*P **P** **04 52 19.3 -0.4**
LBTB pmax pmax
comp=Z,12nm,1.0s,mb4.8
ANN Anapa 78.91 318 *e*P **P** **04 52 25.4 +3.5**
ANN pmax pmax
comp=Z,61nm,1.4s,mb5.3
CSS Prodhromos 78.97 307 *e*P **P** **04 52 22.1 -0.3**
comp=Z,132nm,1.7s,mb5.6
BR131 Keskin Array S 80.02 312 *e*P **P** **04 52 26.7 -1.4**
comp=Z,23nm,1.3s,mb4.9
BRTR Keskin Array B 80.02 312 P **P** **04 52 27.2 -0.8**
comp=Z,14nm,1.1s,mb4.8,baz=135,slow=7.0,SNR=30
SIM Simferopol' 81.20 317 *ce*P **P** **04 52 34.0 -0.1**
SIM pmax pmax
comp=Z,32nm,1.5s,mb5.0
MOS Moscow 82.69 328 *e*P **P** **04 52 39.3 -2.3**
MOS pmax pmax
comp=Z,111nm,1.3s,mb5.7
OBN Obninsk 83.03 327 *e*P **P** **04 52 43.0 -0.3**
comp=Z,135nm,1.5s,mb5.8
OBN Obninsk 83.03 327 ⇓*i*P **P** **04 52 43.2 -0.1**
OBN pmax pmax
comp=Z,101nm,1.5s,mb5.6
QSPA South Pole Qui 84.08 180 *e*P **P** **04 52 49.1 +1.0**
comp=Z,67nm,1.7s,mb5.5
BILL Bilibino 84.93 19 *e*P **P** **04 52 52.3 -0.3**
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
KIS Kishinev 85.31 318 *e*P **P** **04 52 54.0 -0.9**
KIS *e* 04 56 20.0
KIS *e* 05 04 10.0
IDI Anoyia 85.79 306 P **P** **04 52 57.9 +0.3**
comp=Z,3.7nm,0.6s,mb4.8,baz=92,slow=4.2,SNR=3.1
AKASG Malin Array Be 85.94 322 P **P** **04 52 57.5 -0.4**
comp=Z,5.2nm,0.8s,mb4.8,baz=86,slow=4.6,SNR=38
TSUM Tsumeb 86.17 251 P **P** **04 53 00.8 +1.0**
comp=Z,4.6nm,0.8s,mb4.8,baz=117,slow=6.1,SNR=8.1
TSUM Tsumeb 86.17 251 *e*P **P** **04 53 00.6 +0.8**
comp=Z,13nm,1.1s,mb5.1
VRI Vrincioaia 86.46 317 ⇓P **P** **04 53 01.5 +0.9**
VRI Vrincioaia 86.46 317 P **P** **04 53 01.9 +1.3**
MLR Muntele Rosu 86.92 316 P **P** **04 53 03.6 +0.8**
comp=Z,96nm,1.3s,mb5.9,baz=76,slow=2.4,SNR=32
MLR Muntele Rosu 86.92 316 ⇓P **P** **04 53 03.5 +0.6**
MLR Muntele Rosu 86.92 316 P **P** **04 53 04.1 +1.2**
MLR Muntele Rosu 86.92 316 P **P** **04 53 03.6 +0.7**
MLR pmax pmax
comp=Z,96nm,1.3s
MNK Minsk 87.68 325 *e*P **P** **04 53 03.0 -3.3**
BURAR Bucovina Array 87.83 318 ⇓P **P** **04 53 08.3 +1.1**
BURAR Bucovina Array 87.83 318 P **P** **04 53 08.8 +1.6**
JOF Joensuu 88.11 334 *e*p **P** **04 53 07.2 -1.0**
comp=Z,2.5nm,0.8s,mb4.5
VTS Vitosha 88.33 313 P **P** **04 53 10.5 +0.7**
VSU Vasula 89.17 329 *e*P **P** **04 53 13.6 +0.3**
DRGR 89.37 317 ⇑P **P** **04 53 14.0 -0.5**
DRGR 89.37 317 P **P** **04 53 14.8 +0.3**
KWP Kalwaria 89.83 320 *e*P **P** **04 53 17.4 +0.8**
KOLS Kolonicke sedl 90.00 319 *i* P **P** **04 53 18.6 +1.2**
KOLS *e* 04 53 25.1
SVIS Svilajnac 90.03 314 ⇑*i*P **P** **04 53 18.2 +0.5**
FINES FINESS Array B 90.13 332 P **P** **04 53 18.0 +0.3**
comp=Z,6.7nm,0.9s,mb5.0,baz=90,slow=3.8,SNR=13
SNAA Sanae 90.14 197 *e* **P** **04 53 23.1 +5.5**
SNAA Sanae 90.14 197 *e* **P** **04 53 29.7 +12**
SNAA Sanae 90.14 197 *e* **P** **04 53 32.5 +15**
SNAA Sanae 90.14 197 ⇓*i*P **P** **04 53 19.7 +2.1**
SNAA *e* 04 53 23.1
SNAA *e* 04 53 29.7
SNAA *e* pP 04 53 32.5 -2.3
SNAA *e* 04 58 02.3
SNAA Sanae 90.14 197 ⇓*i*P **P** **04 53 19.7 +2.1**
SNAA *e* pP 04 53 32.5 -2.3
KAF Kangasniemi 90.16 332 *ep* **P** **04 53 16.9 -0.9**
comp=Z,3.2nm,0.8s,mb4.7,baz=93,slow=4.3
KAF Kangasniemi 90.16 332 *e*P **P** **04 53 16.9 -0.9**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
SUW Suwalki 90.25 324 *e*P **P** **04 53 18.6 +0.1**
STHS Stebnicka Huta 90.74 319 *e*P **P** **04 53 22.0 +1.1**
DIVS Divcibare 90.88 314 ⇓*i*P **P** **04 53 21.4 -0.3**
KECS Kecovo 91.10 318 *e*P **P** **04 53 22.5 -0.1**
NIE Niedzica 91.34 319 *e*P **P** **04 53 24.7 +1.0**
OJC Ojcow 91.77 320 *e*P **P** **04 53 27.4 +1.8**
VNA2 Neumayer--Watz 91.78 198 *e* **P** **04 53 30.8 +5.6**
VNA2 Neumayer--Watz 91.78 198 *e* **P** **04 53 37.9 +13**
VNA2 Neumayer--Watz 91.78 198 *e* **P** **04 53 41.0 +16**
VNA2 Neumayer--Watz 91.78 198 ⇓*i*P **P** **04 53 27.4 +2.2**
VNA2 *e* 04 53 30.8
VNA2 *e* 04 53 37.9
VNA2 *e* pP 04 53 41.0 -1.5
VNA2 *e* 04 58 10.8
PKSM Moragy 92.08 316 P **P** **04 53 27.8 +0.7**
VNA1 Neumayer--Stat 92.16 198 *e* **P** **04 53 32.9 +6.0**
VNA1 Neumayer--Stat 92.16 198 *e* **P** **04 53 40.5 +14**
VNA1 Neumayer--Stat 92.16 198 *e* **P** **04 53 43.9 +17**
VNA1 Neumayer--Stat 92.16 198 ⇓*i*P **P** **04 53 29.5 +2.6**
VNA1 *e* 04 53 32.9
VNA1 *e* 04 53 40.5
VNA1 *e* pP 04 53 43.9 -0.4
VYHS Vyhne 92.19 318 *e*P **P** **04 53 28.5 +0.9**
VNA3 Neumayer Olymp 92.32 197 *e* **P** **04 53 33.1 +5.4**
VNA3 Neumayer Olymp 92.32 197 *e* **P** **04 53 40.6 +13**
VNA3 Neumayer Olymp 92.32 197 *e* **P** **04 53 43.8 +16**
VNA3 Neumayer Olymp 92.32 197 ⇓*i*P **P** **04 53 29.6 +1.9**
VNA3 *e* 04 53 33.1
VNA3 *e* 04 53 40.6
VNA3 *e* pP 04 53 43.8 -1.2
VNA3 *e* 04 58 14.5
ZST Bratislava 93.31 318 *e*P **P** **04 53 33.2 +0.4**
DPC Dobruska-Polom 94.00 320 *e*P **P** **04 53 36.9 +1.1**
UPC Upice 94.21 320 *e*P **P** **04 53 27.6 -9.1**
TREC Trest 94.47 319 *e*P **P** **04 53 38.2 +0.3**
GERES GERESS Array B 95.61 318 P **P** **04 53 43.3 +0.1**
comp=Z,0.8nm,0.9s,mb4.2,baz=104,slow=5.5,SNR=9.9
HFS Hagfors 96.00 330 P **P** **04 53 43.7 -0.9**
comp=Z,7.5nm,1.0s,mb5.1,baz=207,slow=3.3,SNR=5.4
GRA1 Grafenberg Arr 97.26 319 *e*P **P** **04 53 51.7 +1.0**
comp=Z,9.0nm,1.3s,mb5.0
GRF Grafenberg Arr 97.26 319 *e*P **P** **04 53 51.7 +1.0**
GRF pmax pmax
comp=Z,9.0nm,1.3s,mb5.0
YKA Yellowknife Ar 116.32 20 PKP PKPdf 04 59 01.4 +1.7
comp=Z,1.7nm,0.9s,baz=298,slow=3.0,SNR=4.5
YKA Yellowknife Ar 116.32 20 PKIKP PKPdf 04 59 01.4 +1.7
YKA pmax pmax
comp=Z,2.0nm,0.9s
EDM Edmonton 123.17 27 *e*PKP PKPdf 04 59 14.8 +1.6
HAWA Hanford 124.05 36 *e*PKP PKPdf 04 59 17.5 +2.4
MCMT McKenzie Canyo 128.79 35 *e*PKP PKPdf 04 59 27.4 +3.1
QLMT Earthquake Lak 129.58 34 *e*PKP PKPdf 04 59 29.1 +3.3
HVU Hansel Valley 130.65 38 *e*PKP PKPdf 04 59 31.3 +3.3
SCHQ Schefferville 130.82 354 PKP PKPdf 04 59 30.4 +2.6
comp=Z,7.2nm,1.1s,baz=54,slow=2.2,SNR=4.8
SCHQ Schefferville 130.82 354 PKP PKPdf 04 59 30.4 +2.6
REDW Red Top Meadow 130.83 35 *e*PKP PKPdf 04 59 31.5 +3.3
PDAR Pinedale Array 131.94 35 PKP PKPdf 04 59 32.8 +2.5
comp=Z,1.5nm,0.5s,baz=270,slow=1.5,SNR=8.8
ULM Lac du Bonnet 132.28 18 PKP PKPdf 04 59 33.0 +2.2
comp=Z,4.6nm,0.8s,slow=3.0,SNR=5.4
ULM Lac du Bonnet 132.28 18 PKP PKPdf 04 59 33.0 +2.2
NEN Nelson 132.56 46 *e*PKP PKPdf 04 59 35.0 +3.3

MSU	**Marysvale**	**132.89**	**41**	*e*PKP		PKPdf	04 59 36.3	+4.0
PLCA	**Paso Flores**	**133.46**	**184**	PKP		PKPdf	04 59 36.5	+3.2
	comp=Z,0.8nm,0.7s,baz=228,slow=1.5,SNR=4.2							
PV10	**Paradox Valley**	**134.97**	**39**	*e*PKP		PKPdf	04 59 39.1	+3.0
SMCO	**Snowmass**	**135.74**	**37**	PKP		PKPdf	04 59 41.3	+3.8
TXAR	**Lajitas Array**	**143.89**	**46**	PKP		PKPdf	04 59 53.5	+1.1
	comp=Z,2.6nm,0.6s,baz=254,slow=1.3,SNR=33							
CPUP	**Villa Florida**	**143.91**	**207**	PKP		PKPdf	04 59 53.4	+1.0
	comp=Z,2.0nm,0.7s,baz=63,slow=2.3,SNR=4.8							
ACSO	**Alum Creek Sta**	**144.97**	**11**	*e*PKP		PKPdf	04 59 54.6	+0.7
MVL	**Millersville**	**146.01**	**3**	*e*PKP		PKPdf	04 59 57.1	+1.5
WCI	**Wyandotte Cave**	**146.07**	**17**	*e*PKP		PKPdf	04 59 57.8	+2.0
BAO	**Brasilia Array**	**146.17**	**230**	PKPdf		PKPdf	05 00 01.0	+4.4
BDFB	**Brasilia**	**146.18**	**230**	PKPbc		PKPbc	05 00 00.6	+2.8
	comp=Z,7.8nm,0.8s,baz=170,slow=3.4,SNR=16							
PARMO	**Parma**	**146.33**	**23**	*e*PKP		PKPdf	04 59 58.9	+2.5
GNAR	**Gosnell**	**146.84**	**23**	PKPbc		PKPbc	05 00 01.5	+2.7
HALT	**Halls**	**147.15**	**23**	*e*PKPbc		PKPdf	05 00 01.6	+3.8
ELN	**Prospectdale**	**148.29**	**10**	*e*PKPbc		PKPdf	05 00 02.9	+3.3
BLA	**Blacksburg**	**148.36**	**9**	*e*PKPbc		PKPdf	05 00 03.8	+4.2
PLAL	**Pickwick Lake**	**148.44**	**22**	*e*PKPbc		PKPdf	05 00 04.2	+4.4
CPCT	**Cooper Cave**	**149.16**	**16**	*e*PKPbc		PKPdf	05 00 06.4	+5.4
LRAL	**Lakeview Retre**	**150.58**	**22**	*e*PKPbc		PKPdf	05 00 09.9	+6.6
JSC	**Jenkinsville**	**151.06**	**12**	*e*PKPbc		PKPdf	05 00 11.1	+7.1
LVC	**Limon Verde**	**151.15**	**191**	*e*PKPbc		PKPdf	05 00 13.8	+9.3
GOGA	**Godfrey**	**151.37**	**16**	*e*PKPbc		PKPdf	05 00 12.3	+7.8
RGRS	**Roger Stewart**	**152.60**	**11**	PKPbc		PKPdf	05 00 15.3	+9.1
LPAZ	**La Paz**	**157.09**	**196**	PKP		PKPdf	05 00 15.1	+2.4
	comp=Z,1.7nm,1.2s,baz=81,slow=3.8,SNR=4.3							
LPAZ						PKPab	PKPab	05 00 47.5	+1.6
	comp=Z,2.3nm,0.9s,baz=201,slow=2.5,SNR=7.9							
LPAZ	**La Paz**	**157.09**	**196**	PKIKP		PKPdf	05 00 14.8	+2.1

*IDC **24** 04:50:48.3±3.3, 12.16N×40.16E, mb3.8/8, mb1 4.0/9, mb1mx4.0/16, mbtmp3.9/9, ML4.4/1, MS3.5/1, Ms1 3.5/1, ms1mx3.1/22, Error ellipse: s-maj=79.7km s-min=21.3km az=25.0*

*NEIC **24** 04:50:49.7±1.8, 12.16N×40.17E, h10km, mb3.9/1, Error ellipse: s-maj=45.0km s-min=12.8km az=210.0*

*CSEM **24** 04:50:49.7±0.4, 12.16N×40.17E, h10km, mb3.9/1, Error ellipse: s-maj=22.2km s-min=5.8km az=33.0, After NEIC*

ISC 24 04:50:48.4±2.1, **12.2N**±0.3×**40.1E**±0.2, **h10**km, **n11,**
σ0**878**/11, **mb3.8**/9, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.77**	**104**	Pn	**Pn**	**04 51 33.3**	**-0.4**
	62nm,0.3s,baz=292,slow=12,SNR=17						
ATD				Sn	**Sn**	**04 52 08.0**	**+0.5**
	74nm,0.3s,baz=45,slow=22,SNR=9.7						
ATD				LR	LR	04 52 50.6	
	comp=Z,982nm,19.9s,baz=293,slow=45						
KMBO	**Kilima Mbogo**	**13.57**	**192**	Lg		04 58 09.2	
	0.1nm,0.3s,baz=93,slow=20,SNR=2.8						
MALT	**Malatya**	**26.02**	**357**	P	**P**	**04 56 23.5**	**0.0**
	2.0nm,0.7s,mb3.8						
BRTR	**Keskin Array B**	**27.98**	**349**	P	**P**	**04 56 42.4**	**+1.0**
	1.3nm,0.8s,mb3.6,baz=180,slow=9.9,SNR=5.8						
AKASG	**Malin Array Be**	**39.38**	**349**	P	**P**	**04 58 18.9**	**-1.0**
	1.1nm,0.7s,mb3.7,baz=166,slow=7.2,SNR=4.3						
GERES	**GERESS Array B**	**42.57**	**334**	P	**P**	**04 58 47.0**	**+0.9**
	2.2nm,1.1s,mb3.8,baz=135,slow=7.5,SNR=6.7						
ESDC	**Sonseca Array**	**47.48**	**313**	P	**P**	**04 59 25.8**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=106,slow=9.3,SNR=4.3						
MKAR	**Makanchi Array**	**49.41**	**37**	P	**P**	**04 59 40.1**	**-0.3**
	0.7nm,0.8s,mb3.8,baz=270,slow=5.8,SNR=3.6						
FINES	**FINESS Array B**	**50.19**	**351**	P	**P**	**04 59 47.1**	**+1.0**
	1.2nm,0.7s,mb4.0,baz=169,slow=19,SNR=3.3						
NOA	**NORSAR Array B**	**53.10**	**343**	P	**P**	**05 00 06.8**	**-1.4**
	1.6nm,0.9s,mb4.0,baz=57,slow=6.9,SNR=3.3						
SONM	**Songino Array**	**65.14**	**43**	P	**P**	**05 01 31.2**	**-0.6**
	1.2nm,0.9s,mb3.9,baz=255,slow=7.4,SNR=8.4						

*IDC **24** 04:56:42.9±3.4, 22.36N×143.83E, h112km±27km, mb3.5/6, mb1 3.7/8, mb1mx3.5/20, mbtmp4.0/8, MS4.3/2, Ms1 4.3/2, ms1mx3.2/26, Error ellipse: s-maj=35.7km s-min=21.2km az=86.0*

ISC 24 04:56:40.7±3.1, **22.3N**±0.1×**144.0E**±0.3, **h111**km±24km,
n11, σ0**959**/**9, mb3.8**/6, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.02**	**341**	P	**P**	**04 57 55.2**	**+0.2**
	24nm,0.3s,baz=295,slow=20,SNR=4.2						
CBIJ				S	**S**	**04 58 51.6**	**-0.8**
	26nm,0.3s,baz=271,slow=19,SNR=3.3						
MJAR	**Matsushiro Arr**	**15.03**	**342**	P	**P**	**05 00 09.4**	**+1.1**
	0.4nm,0.3s,baz=161,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**43.06**	**193**	P	**P**	**05 04 31.0**	**-0.3**
	0.5nm,0.7s,mb3.4,baz=13,slow=8.7,SNR=5.9						
MKAR	**Makanchi Array**	**54.82**	**312**	P	**P**	**05 06 01.7**	**+0.2**
	0.9nm,0.7s,mb3.9,baz=90,slow=8.5,SNR=6.0						
MKAR				PcP	PcP	05 07 01.8	-0.4
	0.3nm,0.4s,baz=105,slow=1.6,SNR=5.7						
AFI	**Afiamalu**	**56.36**	**126**	LR	LR	05 25 49.5	
	comp=Z,229nm,19.8s,baz=156,slow=31						
ILAR	**Eielson Array**	**61.14**	**27**	P	**P**	**05 06 45.1**	**-0.2**
	0.6nm,0.6s,mb3.8,baz=249,slow=5.3,SNR=10						
ARCES	**ARCESS Array B**	**78.56**	**342**	P	**P**	**05 08 31.7**	**+0.7**
	0.9nm,0.8s,mb3.6,baz=45,slow=8.6,SNR=4.0						
FINES	**FINESS Array B**	**82.93**	**335**	P	**P**	**05 08 53.9**	**-0.2**
	0.7nm,0.4s,mb3.9,baz=56,slow=5.1,SNR=13						
FINES				LR	LR	05 49 37.3	
	comp=Z,220nm,19.4s,baz=169,slow=38						
HFS	**Hagfors**	**88.43**	**338**	P	**P**	**05 09 20.3**	**-0.8**
	2.1nm,0.8s,mb4.2,baz=117,slow=3.3,SNR=5.7						
PLCA	**Paso Flores**	**145.60**	**130**	PKPbc	PKPbc	05 16 09.2	+2.5
	0.4nm,0.5s,baz=240,slow=2.9,SNR=3.9						
LPAZ	**La Paz**	**149.14**	**84**	PKPbc	PKPdf	05 16 20.4	+8.1
	0.6nm,0.4s,baz=284,slow=4.2,SNR=7.1						

*IDC **24** 04:57:30.4±2.5, 12.64N×40.47E, mb3.9/7, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, ML4.5/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/25, Error ellipse: s-maj=64.2km s-min=20.9km az=32.0*

*NEIC **24** 04:57:31.8±1.3, 12.64N×40.47E, h10km, mb4.1/1, Error ellipse: s-maj=35.6km s-min=11.3km az=219.0*

*CSEM **24** 04:57:31.8±0.2, 12.64N×40.47E, h10km, mb4.1/1, Error ellipse: s-maj=17.3km s-min=4.8km az=43.0, After NEIC*

ISC 24 04:57:30.8±1.6, **12.8N**±0.2×**40.4E**±0.2, **h10**km, **n16,**
σ0**961**/**13, mb3.9**/8, **MS4.0**/3, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.66**	**117**	Pn	**Pn**	**04 58 13.8**	**-0.6**
	93nm,0.3s,baz=283,slow=14,SNR=7.2						
ATD				Sn	**Sn**	**04 58 47.8**	**+0.7**
	20nm,0.3s,baz=258,slow=22,SNR=3.9						
ATD	**Arta Tunnel**	**2.66**	**117**	Pn	**Pn**	**04 58 13.8**	**-0.6**
ATD				Sn	**Sn**	**04 58 47.8**	**+0.7**
KMBO	**Kilima Mbogo**	**14.14**	**193**	LR	LR	05 05 53.9	
	comp=Z,433nm,20.2s,baz=85,slow=38						
ASF	**Jabal al Asfar**	**19.60**	**351**	LR	LR	05 09 02.8	
	comp=Z,117nm,19.9s,baz=227,slow=35						
MALT	**Malatya**	**25.52**	**356**	*e*P	**P**	**05 03 01.4**	**+0.2**
	3.7nm,0.9s,mb3.9						
BR131	**Keskin Array S**	**27.53**	**349**	*e*P	**P**	**05 03 19.7**	**0.0**
BRTR	**Keskin Array B**	**27.53**	**349**	P	**P**	**05 03 21.4**	**+1.8**
	2.4nm,0.9s,mb3.8,baz=164,slow=9.0,SNR=8.0						
LSZ	**Lusaka**	**30.37**	**204**	LR	LR	05 16 51.2	
	comp=Z,200nm,19.5s,MS3.8,baz=51,slow=38						
TSUM	**Tsumeb**	**38.92**	**216**	LR	LR	05 22 49.9	
	comp=Z,193nm,18.4s,MS4.0,baz=213,slow=39						
AKASG	**Malin Array Be**	**38.93**	**349**	P	**P**	**05 04 58.3**	**-0.2**
	0.5nm,0.5s,mb3.5,baz=171,slow=7.2,SNR=5.1						
LBTB	**Lobatse**	**40.23**	**201**	LR	LR	05 22 03.1	
	comp=Z,434nm,18.3s,MS4.3,baz=130,slow=37						
GERES	**GERESS Array B**	**42.24**	**334**	P	**P**	**05 05 26.0**	**+0.2**
	1.1nm,0.8s,mb3.5,baz=153,slow=9.0,SNR=6.6						
ESDC	**Sonseca Array**	**47.35**	**313**	P	**P**	**05 06 07.0**	**0.0**
	0.7nm,0.7s,mb3.7,baz=112,slow=7.2,SNR=5.2						
MKAR	**Makanchi Array**	**48.80**	**38**	P	**P**	**05 06 17.9**	**-0.2**
	1.8nm,1.0s,mb4.1,baz=239,slow=7.1,SNR=5.3						
FINES	**FINESS Array B**	**49.72**	**351**	P	**P**	**05 06 25.1**	**+0.1**
	5.8nm,1.0s,mb4.6,baz=175,slow=9.2,SNR=5.1						
SONM	**Songino Array**	**64.54**	**43**	P	**P**	**05 08 09.3**	**-1.1**
	1.7nm,0.9s,mb4.1,baz=256,slow=6.1,SNR=8.8						

*IDC **24** 05:08:01.6±9.2, 12.32N×40.18E, mb3.8/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, Error ellipse: s-maj=198.8km s-min=42.1km az=21.0*

*NEIC **24** 05:08:02.9±5.3, 12.30N×40.19E, h10km, mb4.1/1, Error ellipse: s-maj=111.0km s-min=30.1km az=203.0*

*CSEM **24** 05:08:03.2±0.2, 12.49N×40.30E, h15km, ML4.1, Error ellipse: s-maj=8.0km s-min=3.1km az=8.0*

*DHMR **24** 05:08:05.2±0.4, 12.62N×40.56E, h4km±135km, ML4.1*

ISC 24 05:08:02.3±1.6, **12.5N**±0.2×**40.28E**±0.06, **h10**km, **n14,**
σ0**59**/**17, mb3.6**/6, **2D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.90**	**67**	⇓*e*P	**Pn**	**05 09 04.2**	**+0.6**
UDYN				*i* S	**Sn**	**05 09 50.6**	**+0.7**
UDYN				AML	AML	05 10 09.6	
	comp=N,861nm,0.7s						
DHBB	**Dhamar BB**	**4.52**	**62**	*e*P	**Pn**	**05 09 12.8**	**+0.3**
DHBB				*i* S	**Sn**	**05 10 05.1**	**-0.7**
ADEN	**Aden**	**4.61**	**85**	⇓*e*P	**Pn**	**05 09 13.8**	**+0.2**
ADEN				*i* S	**Sn**	**05 10 07.3**	**-0.6**
MALT	**Malatya**	**25.81**	**357**	P	**P**	**05 13 35.8**	**+0.4**
	comp=N,4.1nm,1.0s,mb3.9						
MALT	**Malatya**	**25.81**	**357**	P	**P**	**05 13 35.8**	**+0.4**
BR131	**Keskin Array S**	**27.80**	**349**	P	**P**	**05 13 53.5**	**-0.1**
BR131	**Keskin Array S**	**27.80**	**349**	P	**P**	**05 13 53.5**	**0.0**
BRTR	**Keskin Array B**	**27.80**	**349**	P	**P**	**05 13 54.5**	**+1.0**
	comp=N,0.9nm,0.5s,mb3.6,baz=174,slow=11,SNR=5.9						
BRTR	**Keskin Array B**	**27.80**	**349**	P	**P**	**05 13 54.5**	**+1.0**
AKASG	**Malin Array Be**	**39.20**	**349**	P	**P**	**05 15 31.6**	**-0.6**
	comp=N,0.1nm,0.3s,mb3.1,baz=171,slow=7.5,SNR=4.7						
GERES	**GERESS Array B**	**42.45**	**334**	P	**P**	**05 15 58.5**	**-0.5**
	comp=N,0.4nm,0.5s,mb3.3,baz=143,slow=6.7,SNR=6.7						
MKAR	**Makanchi Array**	**49.14**	**37**	P	**P**	**05 16 51.2**	**-0.9**
	comp=N,0.7nm,0.7s,mb3.8,baz=233,slow=6.1,SNR=4.8						
MKAR	**Makanchi Array**	**49.14**	**37**	P	**P**	**05 16 51.2**	**-0.9**
SONM	**Songino Array**	**64.87**	**43**	P	**P**	**05 18 44.5**	**+0.6**
	comp=N,1.0nm,0.8s,mb3.9,baz=254,slow=6.5,SNR=6.5						

*BJI **24** 05:09:46.6, 3.98S×153.29E, h33km, mB5.3, mb4.9, Ms5.0, Ms2.4*

*IDC **24** 05:09:46.7±1.8, 4.34S×152.97E, h23km±10km, mb4.7/14, mb1 4.8/17, mb1mx4.8/18, mbtmp4.8/17, ML4.3/3, MS4.1/5, Ms1 4.1/5, ms1mx3.9/16, Error ellipse: s-maj=13.1km s-min=10.3km az=79.0*

*MOS **24** 05:09:47.6±0.9, 4.27S×152.94E, h33km, mb5.3/21, Error ellipse: s-maj=11.2km s-min=7.0km az=95.1*

*NEIC **24** 05:09:49.0±0.8, 4.31S×152.99E, h40km±7km, mb5.2/25, Error ellipse: s-maj=5.9km s-min=4.7km az=78.0*

*HRVD **24** 05:09:49.0±0.5, 4.48S×153.08E, h33km±1km, MW5.0/38, Centroid moment Tensor Solution. LP body waves: s28,c36;Mantle waves: s38,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.76±.28; $M_{\theta\theta}$0.49±.19; $M_{\phi\phi}$-4.25±.18; $M_{r\theta}$-0.89±.24; $M_{r\phi}$0.88±.15; $M_{\theta\phi}$-0.80±.22; Best double couple: $M_0$4.282×10^{16} NP1:$\phi_1$334°, δ43°, λ66°. NP2:$\phi_2$185°, δ52°, λ111°. Principal axes: T 4.108, Plg73°, Azm156°; N .352, Plg16°, Azm352°; P -4.457, Plg5°, Azm261°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 05:09:45.7±0.2, **4.30S**±0.03×**152.98E**±0.04, **h28**km,
h28km±1.7km**:pP-P, n222,** σ0**97**/112, **mb5.0**/54, **MS4.3**/6,
12C-12D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.69**	**228**	Pn	**Pn**	**05 11 39.1**	**+0.3**
	7.2nm,0.3s,baz=28,slow=9.8,SNR=13						
PMG				Sn	**Sn**	**05 13 05.7**	**-0.2**
	18nm,0.3s,baz=177,slow=20,SNR=8.2						
PMG				LR	LR	05 14 02.9	
	comp=Z,748nm,19.5s,baz=187,slow=33						
HNR	**Honiara**	**8.59**	**127**	Pn	**P**	**05 11 50.8**	**-0.5**
	26nm,0.3s,baz=203,slow=2.1,SNR=4.5						
HNR				Sn	**Sn**	**05 13 28.9**	**+0.7**
	50nm,0.3s,baz=314,slow=23,SNR=10						
CTA	**Charters Tower**	**17.01**	**202**	Pn	**P**	**05 13 44.9**	**+1.4**
	0.6nm,0.3s,baz=34,slow=11,SNR=15						
CTAO	**Charters Tower**	**17.01**	**202**	*e*P	**P**	**05 13 44.6**	**+1.1**
	29nm,1.0s						
CTAO	**Charters Tower**	**17.01**	**202**	*e*P	**P**	**05 13 44.6**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,29nm,1.0s						
GUMO	**Guam**	**19.51**	**336**	P	**P**	**05 14 15.9**	**+1.9**
	comp=Z,3.3nm,0.3s,baz=204,slow=6.1,SNR=7.4						
GUMO				LR	LR	05 21 38.0	
	comp=Z,241nm,18.2s,baz=32,slow=36						
NOUC	**Port Laguerre**	**21.91**	**145**	*e*P	**P**	**05 14 38.5**	**-0.2**
KAKA	**Kakadu**	**21.95**	**246**	⇑*i*P	**P**	**05 14 57.8**	**+19**
	comp=Z,105nm,0.5s,mb5.5						
DZM	**Mont Dzumac**	**21.96**	**145**	*e*P	**P**	**05 14 38.4**	**-0.9**
DZM	**Mont Dzumac**	**21.96**	**145**	P	**P**	**05 14 39.5**	**+0.2**
	comp=Z,21nm,0.5s,mb4.8,baz=353,slow=9.3,SNR=38						
DZM				S	**S**	**05 18 39.6**	**+4.5**
	comp=Z,9.0nm,0.9s,baz=314,slow=22,SNR=3.2						
WRAB	**Tennant Creek**	**23.90**	**228**	*e*P	**P**	**05 14 58.5**	**+0.1**
	comp=Z,157nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**23.90**	**228**	*e*P	**P**	**05 14 58.5**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,157nm,0.8s,mb5.5						
WB2	**Warramunga Arr**	**23.90**	**228**	*e*P	**P**	**05 14 58.8**	**+0.4**
WB2				*i* PCP	PcP	05 18 42.1	-0.1
WB2				*e*S	**S**	**05 19 10.9**	**+1.2**
WRA	**Warramunga Arr**	**23.91**	**228**	P	**P**	**05 14 58.8**	**+0.3**
	comp=Z,58nm,0.6s,mb5.2,baz=53,slow=9.6,SNR=201						
WRA				PcP	PcP	05 18 42.2	-0.1
	comp=Z,13nm,0.8s,baz=42,slow=1.7,SNR=9.3						
WRA				S	**S**	**05 19 13.0**	**+3.1**
	comp=Z,19nm,0.8s,baz=44,slow=16,SNR=11						
WRA				ScP		05 22 18.7	
	comp=Z,5.6nm,1.0s,baz=51,slow=3.1,SNR=6.8						
ASPA	**Alice Springs**	**26.64**	**222**	*e*P	**P**	**05 15 23.8**	**-0.4**
ASPA				*e*S	**S**	**05 19 54.1**	**-1.5**
STKA	**Stephens Creek**	**29.44**	**200**	⇓*i*P	**P**	**05 15 48.4**	**-1.1**
	comp=Z,13nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**29.44**	**200**	P	**P**	**05 15 48.4**	**-1.1**
	comp=Z,15nm,0.7s,mb4.8,baz=32,slow=12,SNR=23						
STKA				PcP	PcP	05 18 55.5	+0.6
	comp=Z,9.7nm,0.8s,baz=39,slow=4.7,SNR=5.2						
STKA				ScP		05 22 36.6	
	comp=Z,3.5nm,0.8s,baz=86,slow=1.5,SNR=6.1						
STKA				LR	LR	05 26 48.4	
	comp=Z,742nm,19.9s,MS4.3,baz=120,slow=35						
FITZ	**Fitzroy Crossi**	**30.06**	**241**	⇑*i*P	**P**	**05 15 53.5**	**-1.6**
	comp=Z,22nm,0.3s,mb5.4						
FITZ				*e*S	**S**	**05 20 47.2**	**-3.3**
FITZ	**Fitzroy Crossi**	**30.06**	**241**	P	**P**	**05 15 53.5**	**-1.6**
	comp=Z,36nm,0.3s,mb5.6,baz=37,slow=5.6,SNR=147						
FITZ				ScP		05 22 36.5	
	comp=Z,20nm,0.8s,baz=177,slow=4.5,SNR=3.4						
CNB	**Canberra Magne**	**31.04**	**186**	*e*P	**P**	**05 16 04.2**	**+0.6**
	comp=Z,30nm,1.3s,mb5.0						
TOO	**Toolangi**	**33.82**	**191**	⇓*i*P	**P**	**05 16 28.2**	**+0.4**
	0.6nm,0.3s,baz=4,slow=1.2,SNR=4.7						
TOO	**Toolangi**	**33.82**	**191**	⇓*i*P	**P**	**05 16 28.2**	**+0.4**
TOO				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
FORT	**Forrest**	**35.29**	**219**	⇓*i*P	**P**	**05 16 39.5**	**-1.0**
	comp=Z,60nm,0.6s,mb5.7						
MBWA	**Marble Bar**	**36.38**	**240**	*e*P	**P**	**05 16 48.0**	**-1.8**
	comp=Z,14nm,0.5s,mb5.2						
TAU	**Tasmania Unive**	**38.78**	**187**	*e*P	**P**	**05 17 09.4**	**-0.3**
	comp=Z,70nm,1.1s,mb5.3						
TAU	**Tasmania Unive**	**38.78**	**187**	*e*P	**P**	**05 17 09.4**	**-0.3**
TAU				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.3						
URZ	**Urewera**	**40.33**	**150**	P	**P**	**05 17 22.6**	**0.0**
	comp=Z,8.4nm,0.4s,mb4.8,baz=346,slow=8.2,SNR=7.5						
URZ				PcP	PcP	05 19 24.1	-2.3
	comp=Z,18nm,0.7s,baz=352,slow=1.6,SNR=5.8						
RPZ	**Rata Peaks**	**42.38**	**161**	P	**P**	**05 17 39.5**	**+0.1**
	comp=Z,158nm,0.7s,mb5.7,baz=331,slow=1.0,SNR=69						
KLBR	**Kellerberrin**	**42.78**	**226**	⇓*i*P	**P**	**05 17 41.4**	**-1.5**
	comp=Z,51nm,1.4s,mb5.1						
MJAR	**Matsushiro Arr**	**42.91**	**342**	P	**P**	**05 17 42.4**	**-1.5**
	comp=Z,1.4nm,0.4s,mb4.0,baz=170,slow=7.6,SNR=5.0						
MJAR				PcP	PcP	05 19 33.7	-1.2
	comp=Z,8.6nm,0.9s,baz=164,slow=3.1,SNR=11						
MJAR				LR	LR	05 32 59.7	
	comp=Z,252nm,21.2s,MS4.1,baz=205,slow=32						
NWAO	**Narrogin (SRO)**	**43.87**	**225**	LR	LR	05 36 28.2	
	comp=Z,628nm,20.1s,MS4.5,baz=221,slow=36						
SSE	**Sheshan**	**46.46**	**321**	*e*P	**P**	**05 18 10.0**	**-2.4**
SSE				PCP	PcP	05 19 42.9	-4.3
SSE				PP	PP	05 19 59.4	-2.1
SSE				S	**S**	**05 24 57.8**	**-0.1**
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,172nm,6.2s						
SSE				LR	LR		
	comp=N,112nm,24.7s,MS3.9						
SSE				LR	LR		
	comp=E,106nm,24.6s,MS3.9						
SSE				LR	LR		
	comp=Z,155nm,25.2s,MS3.9						
SSE	**Sheshan**	**46.46**	**321**	*e*P	**P**	**05 18 10.0**	**-2.4**
	comp=Z,40nm,0.8s,mb5.4						
SSE				pP	pP	05 18 19.0	-1.9
SSE				sP	sP	05 18 23.1	-1.2
SSE				PcP	PcP	05 19 42.9	-4.3
SSE				PP	PP	05 19 59.4	-2.1
SSE				S	**S**	**05 24 57.7**	**-0.2**
SSE				sS		05 25 16.0	
SSE				ScS	ScS	05 28 04.2	+1.3
SSE				LR	LR		
	comp=Z,160nm,25.2s,MS3.9						
NJ2	**Nanjing**	**48.58**	**321**	*e*P	**P**	**05 18 27.6**	**-1.3**
NJ2				PP	PP	05 20 19.6	-2.0
NJ2				S	**S**	**05 25 25.0**	**-2.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,150nm,8.8s						
NJ2				LR	LR		
	comp=N,770nm,19.2s,MS4.8						
NJ2				LR	LR		
	comp=E,540nm,19.3s,MS4.8						
NJ2				LR	LR		
	comp=Z,150nm,16.6s,MS4.1						
ASAJ	**Asahikawa**	**49.09**	**350**	P	**P**	**05 18 33.6**	**+0.8**
	comp=Z,8.2nm,0.8s,mb4.8,baz=207,slow=31,SNR=4.9						
ASAJ	**Asahikawa**	**49.09**	**350**	P	**P**	**05 18 33.6**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WHN	**Wuhan**	**50.62**	**316**	*e*P	**P**	**05 18 46.4**	**+1.7**
TIA	**Tai'an**	**52.42**	**323**	⇓P	**P**	**05 18 58.4**	**+0.2**
MDJ	**Mudanjiang**	**53.02**	**339**	P	**P**	**05 19 02.3**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,187nm,5.5s						
CN2	**Changchun**	**53.92**	**336**	*e*P	**P**	**05 19 08.3**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
ENH	**Enshi**	**53.95**	**313**	*e*P	**P**	**05 19 09.4**	**-0.1**
	comp=Z,18nm,0.9s,mb5.0						
KLR	**Kul'dur**	**56.42**	**343**	*e*P	**P**	**05 19 24.0**	**-3.2**
KLR				eS		05 27 39.5	
KLR				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.1						
CD2	**Chengdu**	**58.55**	**310**	P	**P**	**05 19 43.0**	**+0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
HHC	**Hu-ho-hao-te**	**58.75**	**324**	*e*P	**P**	**05 19 44.3**	**+0.5**
HHC				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,210nm,4.9s						
HHC				LR	LR		
	comp=N,150nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=E,317nm,14.3s,MS4.6						
HHC				LR	LR		
	comp=Z,295nm,22.6s						
HIA	**Hailar**	**60.65**	**336**	*e*P	**P**	**05 19 56.0**	**-0.7**
	comp=Z,7.3nm,0.8s,mb4.9						
HIA	**Hailar**	**60.65**	**336**	*e*P	**P**	**05 19 56.0**	**-0.7**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s				

comp=N,1μm,18.0s
WMQ LR LR
comp=E,1μm,27.3s
WMQ LR LR
comp=Z,1μm,25.8s
TTA Tatalina 77.24 21 *e*P **P 05 21 38.8 0.0**
comp=Z,88nm,1.9s,mb5.4
TTA Tatalina 77.24 21 *e*P **P 05 21 38.8 0.0**
TTA pmax pmax
comp=Z,88nm,1.9s,mb5.4
MKAR Makanchi Array 80.07 319 P **P 05 21 55.1 +0.5**
comp=Z,4.6nm,0.7s,mb4.5,baz=104,slow=5.0,SNR=25
MKAR PKKPbc 05 40 39.6
comp=Z,0.9nm,0.8s,slow=2.4,SNR=4.1
ILAR Eielson Array 81.63 22 P **P 05 22 01.4 -1.1**
comp=Z,9.0nm,0.8s,mb4.8,baz=254,slow=5.7,SNR=72
KURK Kurchatov 83.49 322 *e*P **P 05 22 11.2 -1.1**
comp=Z,21nm,1.1s,mb5.1
KURK Kurchatov 83.49 322 *e*P **P 05 22 11.2 -1.1**
KURK pmax pmax
comp=Z,21nm,1.1s,mb5.1
TKM2 Tokmak 2 83.72 314 P **P 05 22 15.0 +1.3**
SNR=11
DAWY Dawson 84.26 24 *e*P **P 05 22 16.1 +0.2**
CHMS Chumysh 84.34 314 P **P 05 22 18.0 +1.1**
SNR=7.1
UCH Uchtor 84.37 313 P **P 05 22 18.9 +1.9**
SNR=22
FRU Bishkek 84.41 314 *e*P **P 05 22 18.0 +0.8**
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.5
AAK Ala-Archa 84.46 313 P **P 05 22 19.0 +1.6**
SNR=8.7
AAK Ala-Archa 84.46 313 *e*P **P 05 22 17.1 -0.3**
comp=Z,8.4nm,0.8s,mb4.9
AAK Ala-Archa 84.46 313⇓ *e*P **P 05 22 17.8 +0.4**
AAK pmax pmax
comp=Z,20nm,1.4s,mb5.0
USP Ospenovka 84.57 314 P **P 05 22 19.0 +1.0**
SNR=13
AML Almayashu 84.95 313 P **P 05 22 21.8 +1.9**
SNR=14
EKS2 Erkin-Say 84.98 313 P **P 05 22 21.4 +1.4**
SNR=9.9
QSPA South Pole Qui 85.66 180 *e*P **P 05 22 23.3 +0.7**
comp=Z,52nm,0.9s,mb5.8
MAW Mawson 86.10 203 *e*P **P 05 22 25.1 +0.1**
comp=Z,7.8nm,0.6s,mb5.1
MAW Mawson 86.10 203 P **P 05 22 25.1 +0.1**
comp=Z,12nm,0.8s,mb5.2,baz=90,slow=6.2,SNR=31
MAW Mawson 86.10 203 *e*P **P 05 22 25.1 +0.1**
MAW pmax pmax
comp=Z,8.0nm,0.6s
INK Inuvik 87.92 21 *e*P **P 05 22 32.4 -1.5**
comp=Z,17nm,1.2s,mb5.2
INK *e* pP 05 22 39.8 -3.0
INK Inuvik 87.92 21 *e*P **P 05 22 32.4 -1.5**
INK *e* pP 05 22 39.8 -3.0
INK pmax pmax
comp=Z,17nm,1.2s
BRVK Borovoye 89.02 323 *e*P **P 05 22 38.3 -1.1**
comp=Z,9.8nm,0.8s,mb5.2
BRVK Borovoye 89.02 323 *e*P **P 05 22 38.3 -1.1**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
NVAR Mina Array Bea 91.63 52 P **P 05 22 51.6 -0.3**
comp=Z,1.4nm,0.8s,mb4.3,baz=258,slow=8.7,SNR=4.6
YKA Yellowknife Ar 94.90 28 P **P 05 23 06.8 +0.5**
comp=Z,1.5nm,0.8s,mb4.5,baz=271,slow=4.0,SNR=7.3
EDM Edmonton 95.61 37 *e*P **P 05 23 09.6 -0.3**
ARU Arti 96.00 326⇑ *i*P **P 05 23 09.9 -1.7**
ARU *e* 05 27 01.3
ARU *e*S SKS 05 33 43.1 -10
ARU *e*PS PS 05 35 45.0 -8.2
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
PDAR Pinedale Array 98.38 48 P **P 05 23 22.4 -0.2**
comp=Z,0.5nm,0.7s,mb4.2,baz=297,slow=3.3,SNR=4.0
SNAA Sanae 102.55 188⇑ *i*Pdif Pdif 05 23 41.0 +0.3
SNAA *e* 05 23 52.0
SNAA *e* 05 23 58.8
SNAA *e* 05 27 50.6
SNAA *e* 05 28 15.5
OPO Ambohidratompo 103.53 250 Pdiff Pdif 05 23 45.6 -0.6
comp=Z,1.0nm,0.3s,baz=42,slow=16,SNR=2.1
TXAR Lajitas Array 103.73 61 PKKPbc 05 39 39.2
comp=Z,0.4nm,0.8s,baz=108,slow=4.0,SNR=4.7
VNA3 Neumayer Olymp 103.74 186 Pdif Pdif 05 23 46.3 +0.4
VNA3 *e* 05 23 56.0
VNA3 *e* 05 24 02.8
VNA3 *e* 05 28 06.8
VNA3 *e* 05 28 33.6
VNA2 Neumayer--Watz 103.80 187 *e* Pdif 05 23 53.4 +7.2
VNA2 Neumayer--Watz 103.80 187 *e* Pdif 05 24 02.1 +16
VNA2 Neumayer--Watz 103.80 187 *e* 05 28 05.5
VNA2 Neumayer--Watz 103.80 187⇑ *i*Pdif Pdif 05 23 45.5 -0.7
VNA2 *e* 05 23 53.4
VNA2 *e* 05 24 02.1
VNA2 *e* 05 28 05.5
VNA2 *e* 05 28 32.5
VNA1 Neumayer--Stat 104.16 186 *e* Pdif 05 23 51.3 +3.5
VNA1 Neumayer--Stat 104.16 186 *e* 05 28 06.0
VNA1 Neumayer--Stat 104.16 186⇑ *i*Pdif Pdif 05 23 43.2 -4.6
VNA1 *e* 05 23 51.3
VNA1 *e* 05 28 06.0
VNA1 *e* 05 28 33.2
ARCES ARCESS Array B 106.45 343 PKiKP 05 28 09.1
comp=Z,3.0nm,0.7s,baz=84,slow=1.4,SNR=9.8
ARCES PKKPbc 05 39 30.0
comp=Z,2.9nm,0.9s,baz=297,slow=2.7,SNR=5.1
KAF Kangasniemi 110.23 336 *ep* Pdif 05 24 21.8 +7.1
comp=Z,6.9nm,1.0s
FINES FINESS Array B 110.67 336 Pdiff Pdif 05 24 16.2 -0.5
comp=Z,1.5nm,0.9s,baz=90,slow=3.8,SNR=3.7
FINES PKiKP 05 28 17.3
comp=Z,0.9nm,0.5s,baz=117,slow=4.5,SNR=6.6
FINES PKKPbc 05 39 15.9
comp=Z,3.5nm,0.9s,baz=270,slow=1.9,SNR=5.6
FINES FINESS Array B 110.67 336 Pdif Pdif 05 24 16.2 -0.5
FINES PKPdif PKPdf 05 28 17.3 -3.1
FINES PKKPbc 05 39 15.9
AKASG Malin Array Be 114.20 325 PKP PKPdf 05 28 23.7 -3.9
comp=Z,3.5nm,0.5s,baz=56,slow=2.6,SNR=12
AKASG PKKPbc 05 39 04.5
comp=Z,0.2nm,0.3s,baz=262,slow=4.1,SNR=5.9
ASF Jabal al Asfar 114.29 303 PKP PKPdf 05 28 24.1 -4.2
comp=Z,3.4nm,0.6s,baz=38,slow=2.8,SNR=4.3
BRTR Keskin Array B 115.11 312 PKP PKPdf 05 28 25.9 -3.7
comp=Z,1.3nm,0.6s,baz=139,slow=3.9,SNR=5.7
HFS Hagfors 116.28 339 PKP PKPdf 05 28 27.2 -4.3
comp=Z,2.0nm,0.7s,baz=90,slow=5.9,SNR=6.3
NB2 NORSAR Subarra 116.51 340 PKPdf PKPdf 05 28 26.8 -5.0
comp=Z,1.5nm,0.7s,baz=45,slow=1.9
NOA NORSAR Array B 116.51 340 PKP PKPdf 05 28 27.4 -4.4
comp=Z,4.2nm,0.8s,baz=46,slow=2.0,SNR=9.8
NOA PKKPbc 05 39 01.0
comp=Z,0.8nm,0.7s,baz=231,slow=6.5,SNR=3.7
MLR Muntele Rosu 118.39 320 PKP PKPdf 05 28 32.4 -3.5
comp=Z,2.9nm,0.8s,baz=214,slow=3.6,SNR=3.8
KOLS Kolonicke sedl 119.01 325 *e*PKP PKPdf 05 28 34.4 -2.6
KOLS *e* 05 28 42.8
STHS Stebnicka Huta 119.34 326 *e*PKP PKPdf 05 28 34.4 -3.2
STHS *e* 05 28 43.9
PLCA Paso Flores 120.07 143 PKP PKPdf 05 28 36.6 -2.6
comp=Z,6.5nm,0.7s,baz=213,slow=2.8,SNR=27
PLCA PKKPbc 05 38 44.5
comp=Z,0.9nm,0.7s,baz=173,slow=3.1,SNR=5.8
PLCA Paso Flores 120.07 143 PKP PKPdf 05 28 36.6 -2.6
PLCA PKKPbc 05 38 44.5
MATP Matopo 120.25 243 PKP PKPdf 05 28 36.5 -3.5
comp=Z,6.6nm,0.7s,baz=66,slow=1.9,SNR=27
SCHQ Schefferville 120.26 25 PKP PKPdf 05 28 35.6 -3.6
comp=Z,2.0nm,0.7s,baz=315,slow=1.4,SNR=3.5
VYHS Vyhne 121.17 326 *e*PKP PKPdf 05 28 36.9 -4.3
VYHS *e* 05 28 46.1
LBTB Lobatse 121.20 237 PKP PKPdf 05 28 38.2 -3.7
comp=Z,7.8nm,0.8s,baz=147,slow=3.1,SNR=10
DPC Dobruska-Polom 121.45 329 *e*PKPdf PKPdf 05 28 38.7 -3.0
DPC *ep*PKP 05 28 47.5
UPC Upice 121.52 329 *e*PKPdf PKPdf 05 28 38.9 -2.9
SUR Sutherland 121.79 228 PKP PKPdf 05 28 41.0 -1.8
comp=Z,8.0nm,1.0s,baz=95,slow=5.2,SNR=4.4
SUR Sutherland 121.79 228 PKP PKPdf 05 28 41.0 -1.8
VRAC Vranov 121.93 328 PKPdf PKPdf 05 28 39.6 -3.1
comp=Z,1.7nm,0.4s,baz=52,slow=3.2,SNR=4.0
VRAC Vranov 121.93 328 *e*PKP PKPdf 05 28 40.0 -2.6
VRAC Vranov 121.93 328 PKiKP PKPdf 05 28 39.6 -3.0
VRAC pmax pmax
comp=Z,2.0nm,0.4s
BSEG Bad Segeberg 121.93 335 *e*PKPdf PKPdf 05 28 39.6 -2.9
LSZ Lusaka 121.99 249 PKP PKPdf 05 28 40.7 -2.8
comp=Z,6.1nm,0.7s,baz=151,slow=2.0,SNR=13
PVCC Panska Ves 122.23 330 *e*PKPdf PKPdf 05 28 40.1 -3.1
ZST Bratislava 122.30 327 *e*PKP PKPdf 05 28 38.5 -4.9
ZST *e* 05 28 48.4
BRG Berggiesshubel 122.33 331⇑ *i*P PKPdf 05 28 40.0 -3.3
BRG *e* 05 28 49.0
CLL Collm 122.50 331⇓ *i*PKiKP PKPdf 05 28 40.4 -3.3
comp=Z,logA/T=1.2
CLL *i* *PPKP 05 28 48.7
TREC Trest 122.52 328 *e*PKPdf PKPdf 05 28 40.7 -3.0
TREC *ep*PKP 05 28 49.2
PRU Pruhonice 122.58 329 *e*PKPdf PKPdf 05 28 40.5 -3.3
PRU *ep*PKP 05 28 48.8
IDI Anoyia 123.10 310 PKP PKPdf 05 28 41.7 -3.5
comp=Z,6.5nm,0.7s,baz=173,slow=2.2,SNR=5.6
CLZ Clausthal 123.36 333 *e*PKPdf PKPdf 05 28 42.3 -3.0
NKC Novy Kostel 123.47 331 *e*PKPdf PKPdf 05 28 42.5 -3.1
MOX Moxa 123.60 331 *i* P PKPdf 05 28 42.3 -3.5
comp=Z,logA/T=1.0
MOX Moxa 123.60 331 *e*PKIKP PKPdf 05 28 42.3 -3.5
KHC Kasperske Hory 123.61 329 *e*PKPdf PKPdf 05 28 42.6 -3.3
KHC *ep*PKP 05 28 49.7
GEC2 GERESS Array S 123.72 329 *e*PKPdf PKPdf 05 28 42.8 -3.3
GERES GERESS Array B 123.72 329 PKP PKPdf 05 28 42.9 -3.2
comp=Z,3.8nm,0.5s,baz=71,slow=1.6,SNR=35
GERES PKKPbc 05 38 30.6
comp=Z,0.5nm,0.7s,baz=153,slow=3.0,SNR=5.0
WET Wettzell 123.96 329 *e*PKPdf PKPdf 05 28 43.3 -3.3
GRA1 Grafenberg Arr 124.42 331 *e*PKPdf PKPdf 05 28 44.1 -3.4
GRF Grafenberg Arr 124.42 331 *e*PKIKP PKPdf 05 28 44.1 -3.4
LJU Ljubljana 124.98 326 *e*P PKPdf 05 28 45.0 -3.7
TNS Tanlt Mts 125.37 333 *e*PKPdf PKPdf 05 28 46.4 -2.9
WATA Walderalm 125.78 328⇑ *i*P PKPdf 05 28 46.8 -3.3
comp=Z,30nm,1.6s
WTTA Wattenberg 125.80 328⇓ *i*P PKPdf 05 28 47.2 -3.0
comp=Z,29nm,1.0s
MOTA Moosalm 126.02 329⇓ *i*P PKPdf 05 28 47.0 -3.6
comp=Z,21nm,1.2s
STU Stuttgart 126.03 331 *e*PKP PKPdf 05 28 47.1 -3.5
SQTA Sankt Quirin 126.05 329⇑ *i*P PKPdf 05 28 47.1 -3.5
comp=Z,19nm,1.3s
DAVA Damuels 126.69 329⇑ *i*P PKPdf 05 28 48.5 -3.3
comp=Z,17nm,1.0s
BFO Black Forest 126.75 331 *e*PKPdf PKPdf 05 28 48.5 -3.4
DAVOX Davos 127.03 329 PKP PKPdf 05 28 49.7 -2.8
comp=Z,11nm,0.7s,baz=249,slow=1.7,SNR=11
GIVF Givet 127.05 335 *e*PKIKP PKPdf 05 28 49.2 -3.3
comp=Z,51nm,1.0s
CDF Champ du Feu 127.19 332 *e*PKIKP PKPdf 05 28 49.0 -3.8
comp=Z,17nm,0.9s
BAIF Baives 127.34 335 *e*PKIKP PKPdf 05 28 49.6 -3.5
comp=Z,46nm,1.2s
HINF Hinteralfeld 127.81 332 *e*PKIKP PKPdf 05 28 50.2 -3.9
comp=Z,52nm,1.2s
HAU Haudompre 127.92 332 *e*PKIKP PKPdf 05 28 50.5 -3.8
comp=Z,38nm,1.0s
MEZF Maizieres J'vi 128.15 333 *e*PKIKP PKPdf 05 28 51.6 -3.1
comp=Z,24nm,0.8s
CABF La Chapelle 129.04 331 *e*PKIKP PKPdf 05 28 53.4 -3.0
comp=Z,56nm,1.0s
LPL La Plagne 129.49 330 *e*PKIKP PKPdf 05 28 54.3 -3.0
LPG La Plagne 129.49 330 *e*PKIKP PKPdf 05 28 54.4 -2.9
comp=Z,12nm,0.7s
LOR Lormes 129.60 333 *e*PKIKP PKPdf 05 28 54.1 -3.4
comp=Z,35nm,1.1s
BNI Bardonecchia 129.84 329 *e*PKP PKPdf 05 28 54.7 -3.3
SSF Saint Saulge 129.91 333 *e*PKIKP PKPdf 05 28 54.7 -3.4
comp=Z,52nm,1.1s
MBDF Montbardon 130.02 329 *e*PKIKP PKPdf 05 28 54.8 -3.6
SMF Signal de Mont 130.07 332 *e*PKIKP PKPdf 05 28 55.0 -3.4
HYF Humbligny 130.14 334 *e*PKIKP PKPdf 05 28 55.6 -2.9
AVF Avril sur Loir 130.19 333 *e*PKIKP PKPdf 05 28 54.9 -3.7
comp=Z,19nm,1.1s
LDF La Druitiere 130.25 337 *e*PKIKP PKPdf 05 28 55.1 -3.6
FLN La Foliniere 130.25 337 *e*PKIKP PKPdf 05 28 55.1 -3.6
comp=Z,62nm,1.1s
SBF Sospel 130.26 328 *e*PKIKP PKPdf 05 28 55.1 -3.7
PGF Pioggiola 130.26 325 *e*PKIKP PKPdf 05 28 55.5 -3.4
comp=Z,19nm,0.6s
TSUM Tsumeb 130.29 240 PKP PKPdf 05 28 56.9 -2.7
comp=Z,5.3nm,0.7s,baz=90,slow=1.2,SNR=11
TSUM SKPbc 05 32 18.0
comp=Z,11nm,1.0s,baz=76,slow=4.2,SNR=9.8
ORIF Oris-en-Rattie 130.34 330 *e*PKIKP PKPdf 05 28 55.6 -3.4
comp=Z,16nm,0.9s
BGF Bois d'Agland 130.59 333 *e*PKIKP PKPdf 05 28 56.2 -3.2
GRR Gorron 130.70 337 *e*PKIKP PKPdf 05 28 56.2 -3.4
comp=Z,19nm,0.8s
FRF La Foret Royal 130.88 328 *e*PKIKP PKPdf 05 28 56.5 -3.5
comp=Z,8.5nm,0.5s
VIVF Saint-Julien-l 130.99 330 *e*PKIKP PKPdf 05 28 56.9 -3.3
comp=Z,3.3nm,0.9s
TCF Toux Ste Croi 131.08 333 *e*PKIKP PKPdf 05 28 57.1 -3.2
comp=Z,51nm,1.2s
LVC Limon Verde 131.11 125 *e*PKP PKPdf 05 28 58.4 -2.6
LMR La Mourre 131.11 328 *e*PKIKP PKPdf 05 28 56.9 -3.6
SMRF Simiane la Rot 131.16 329 *e*PKIKP PKPdf 05 28 57.6 -3.0
comp=Z,48nm,1.3s
SGMF Saint Gilles 131.46 338 *e*PKIKP PKPdf 05 28 56.9 -4.1
comp=Z,18nm,0.8s
MFF Saint Martin d 131.86 335 *e*PKIKP PKPdf 05 28 58.6 -3.2
comp=Z,10nm,0.7s
LASF Ste Croix 131.95 330 *e*PKIKP PKPdf 05 28 59.3 -2.8
comp=Z,13nm,0.9s
RJF Les Rejaudoux 132.15 333 *e*PKIKP PKPdf 05 28 59.3 -3.1
CAF Calviac 132.19 332 *e*PKIKP PKPdf 05 28 59.6 -2.9
ROSC El Rosal 132.84 87 PKP PKPdf 05 28 59.6 -5.0
comp=Z,2.4nm,0.4s,baz=219,slow=2.1,SNR=4.8
MTLF Montolieu 133.30 331 *e*PKIKP PKPdf 05 29 01.6 -3.0
comp=Z,10nm,0.9s
EPF Esparros 134.44 332 *e*PKIKP PKPdf 05 29 04.2 -2.5
LPAZ La Paz 134.49 118 PKhKP 05 28 55.9
comp=Z,0.6nm,0.6s,baz=86,slow=1.1,SNR=4.1
LPAZ PKP PKPdf 05 29 05.5 -2.0
comp=Z,3.6nm,0.8s,baz=14,slow=1.9,SNR=11
LPAZ SKPbc 05 32 34.5
comp=Z,4.2nm,0.8s,baz=241,slow=1.2,SNR=13
ETSF Etsaut 134.96 332 *e*PKIKP PKPdf 05 29 04.9 -2.8
comp=Z,19nm,0.9s
SJPF Ste Jean 135.09 333 *e*PKIKP PKPdf 05 29 05.0 -2.9
comp=Z,5.8nm,0.6s
SDV Santo Domingo 136.46 82 *e*PKP PKPdf 05 29 07.6 -3.6
CPUP Villa Florida 137.71 138 PKP PKPdf 05 29 10.2 -3.0
comp=Z,13nm,1.0s,baz=12,slow=1.5,SNR=14
ESDC Sonseca Array 139.07 333 PKP PKPdf 05 29 13.3 -2.0
comp=Z,0.7nm,0.5s,baz=21,slow=3.1,SNR=5.4
MTE Manteigas 140.00 337 *e*PKP PKPdf 05 29 13.9 -3.0
MDT Midelt 144.74 326 PKP PKPdf 05 29 21.5 -4.0
comp=Z,4.7nm,0.4s,baz=21,slow=2.8,SNR=49
CAM4 Nova Friburgo 149.45 151⇓ *i*P PKPdf 05 29 35.8 +2.2
CAM4 *i* 05 29 40.2
BDFB Brasilia 151.28 134 PKP PKPdf 05 29 34.5 -2.0
comp=Z,16nm,0.8s,baz=181,slow=1.5,SNR=22
BDFB PKPbc PKPdf 05 29 39.8 +3.3
comp=Z,48nm,0.7s,baz=228,slow=1.0,SNR=60
BAO Brasilia Array 151.30 134 P PKPdf 05 29 34.5 -2.0
KIC Kosan Boka 157.73 276 *e*PKP2 PKPdf 05 29 41.6 -3.8
comp=Z,72nm,1.3s
DBIC Dimbokro 157.82 277 PKP PKPdf 05 29 43.2 -2.3
comp=Z,3.5nm,0.9s,baz=197,slow=6.9,SNR=3.4
DBIC PKPab PKPab 05 30 15.1 -0.7
comp=Z,9.4nm,0.7s,baz=58,slow=5.2,SNR=10.0
TIC Toumodi 157.98 277 *e*PKP2 PKPdf 05 29 41.6 -4.2
comp=Z,72nm,1.2s
LIC Lamto 158.02 276 *e*PKP2 PKPdf 05 29 42.8 -3.0
comp=Z,66nm,1.7s

BJI ***24*** *05:15:32.2, 12.41N×40.32E, h22km, mB5.2, mb4.8, Ms4.9, Msz4.8*
DHMR ***24*** *05:15:32.1±2.7, 12.65N×40.53E, h9km±188km, ML4.7*
CSEM ***24*** *05:15:32.8±0.1, 12.66N×40.53E, h10km, mb5.0/56, Ms4.2, Mw5.2, Error ellipse: s-maj=3.0km s-min=2.2km az=1.0*
MOS ***24*** *05:15:32.2±1.3, 12.58N×40.32E, h10km, mb5.2/50, Error ellipse: s-maj=9.5km s-min=3.8km az=111.0*
NEIC ***24*** *05:15:33.9±0.3, 12.67N×40.52E, h10km, mb5.0/69, MS4.2/6, ML4.7(DHMR), Error ellipse: s-maj=7.5km s-min=5.7km az=208.0*

HRVD ***24*** *05:15:33.9±0.2, 12.76N×40.53E, h12km, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s43,c73;Mantle waves: s67,c141; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.76±.01; $M_{\theta\theta}$=0.09±.01; $M_{\phi\phi}$=0.67±.01; $M_{r\theta}$=0.11±.05; $M_{\theta\phi}$=-0.21±.01; $M_{r\phi}$=-0.01±.04; Best double couple: M_o=6.761×10^{17} NP1: ϕ_s170°,δ44°,λ-80°. NP2:ϕ_s335°,δ47°,λ-100°. Principal axes: T.744, Plg1°, Azm72°; N.034, Plg7°, Azm342°; P -.778, Plg83°, Azm174°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***24*** *05:15:33.0±0.6, 12.65N×40.46E, mb4.4/19, mb1 4.5/21, mb1mx4.5/25, mbtmp4.4/21, ML4.3/2, MS4.7/18, Ms1 4.7/18, ms1mx4.6/23 Error ellipse: s-maj=18.4km s-min=12.5km az=77.0*
CRAAG ***24*** *05:15:39.1, 12.91N×40.40E, Mb4.9*
ISC 24 05:15:31.3±1.8, 12.65N±0.04×40.46E±0.03, h1km±11km, h18km±4.2km:pP-P,n282,σ1§29/284, mb5.0/104, MS4.6/31, 4C-7D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.59**	**115**	Pn	**Pn**	**05 16 15.2**	**+0.2**
	453nm,0.3s,baz=240,slow=22,SNR=16						
ATD				Sn	**Sn**	**05 16 49.1**	**+1.6**
	148nm,0.3s,baz=250,slow=23,SNR=12						
UDYN	**Al 'Udayn**	**3.66**	**69**⇓	*e*P	**Pn**	**05 16 31.0**	**+0.8**
UDYN				*i* S	**Sn**	**05 17 17.0**	**+2.5**
UDYN				AML	AML	05 17 39.3	
	comp=N,4μm,0.8s						
UDYN	**Al 'Udayn**	**3.66**	**69**	*i* P	**Pn**	**05 16 28.9**	**-1.2**
UDYN				*i* S	**Sn**	**05 17 13.2**	**-1.3**
DHBB	**Dhamar BB**	**4.27**	**63**⇓	*e*P	**Pn**	**05 16 39.2**	**+0.3**
DHBB				*i* S	**Sn**	**05 17 31.5**	**+1.4**
DHBB	**Dhamar BB**	**4.27**	**63**	*i* P	**Pn**	**05 16 35.4**	**-3.5**
DHBB				*i* S	**Sn**	**05 17 28.4**	**-1.8**
DHBB	**Dhamar BB**	**4.27**	**63**⇓	*e*P	**Pn**	**05 16 39.2**	**+0.3**
DHBB				*i* S	**Sn**	**05 17 28.4**	**-1.7**
ADEN	**Aden**	**4.42**	**88**⇓	*e*P	**Pn**	**05 16 40.6**	**-0.4**
ADEN				*i* S	**Sn**	**05 17 34.1**	**+0.3**
ADEN	**Aden**	**4.42**	**88**	*i* P	**Pn**	**05 16 39.6**	**-1.4**
ADEN				*i* S	**Sn**	**05 17 33.6**	**-0.2**
ADEN	**Aden**	**4.42**	**88**⇓	*e*P	**Pn**	**05 16 40.6**	**-0.4**
ADEN				*i* S	**Sn**	**05 17 33.6**	**-0.2**
BLJS	**Baljurashi**	**7.27**	**9**	P	**Pn**	**05 17 20.7**	**-0.5**
LTHS	**Al Lith**	**7.58**	**360**	P	**Pn**	**05 17 24.7**	**-0.9**
MUKL	**Al Mukalla**	**8.53**	**77**	*i* S	**Sn**	**05 19 11.8**	**-5.1**
KMBO	**Kilima Mbogo**	**14.05**	**193**	Pn	**P**	**05 18 54.9**	**+0.9**
	comp=N,0.2nm,0.3s,baz=36,slow=21,SNR=3.3						
KMBO				Lg		05 22 46.0	
	comp=N,0.1nm,0.3s,baz=210,slow=20,SNR=4.0						
KMBO				LR	LR	05 24 08.2	
	comp=N,3μm,19.8s,baz=9.2,slow=37						
HASS	**Wahat al Ahsa'**	**15.22**	**34**	P	**P**	**05 19 14.4**	**+5.2**
TBKS	**Tabuk**	**15.92**	**347**	P	**P**	**05 19 21.8**	**+3.5**
AYUS	**'Aynunah**	**16.20**	**343**	P	**P**	**05 19 26.2**	**+4.3**
BDAS	**Al Bad'**	**16.48**	**343**	P	**P**	**05 19 29.8**	**+4.4**
HAQS	**Haql**	**17.11**	**343**	P	**P**	**05 19 38.1**	**+4.6**
JMOS	**Jabal al Moall**	**17.17**	**344**	P	**P**	**05 19 39.3**	**+5.2**
ASF	**Jabal al Asfar**	**19.70**	**351**	P	**P**	**05 20 06.5**	**+1.5**
	comp=N,0.4nm,0.3s,baz=51,slow=1.9,SNR=8.5						
ASF				LR	LR	05 27 24.2	
	comp=N,603nm,18.9s,baz=222,slow=36						
CSS	**Prodhromos**	**23.13**	**345**	*e*P	**P**	**05 20 41.4**	**+1.4**
	comp=N,128nm,1.7s,mb5.2						
CSS	**Prodhromos**	**23.13**	**345**	*e*P	**P**	**05 20 41.4**	**+1.4**
	comp=N,128nm,1.7s,mb5.2						
MSL	**Mosul**	**23.66**	**5**	*ex*	x	05 21 05.0	
MSL				*ex*	x	05 21 27.5	
MSL				*ex*	x	05 29 27.5	
MSL				*ex*	x	05 30 06.0	
MALT	**Malatya**	**25.62**	**356**	*e*P	**P**	**05 21 04.8**	**+0.9**
	comp=N,20nm,1.1s,mb4.7						
MALT	**Malatya**	**25.62**	**356**	*e*P	**P**	**05 21 04.8**	**+0.9**
	comp=N,20nm,1.1s,mb4.7						
MALT	**Malatya**	**25.62**	**356**	*e*P	**P**	**05 21 04.8**	**+0.9**
MALT				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.7						
IDI	**Anoyia**	**26.58**	**331**	P	**P**	**05 21 13.3**	**+0.5**
	comp=Z,9.3nm,1.0s,mb4.5,baz=19,slow=18,SNR=2.1						
IDI				LR	LR	05 31 52.5	
	comp=Z,611nm,20.9s,MS4.1,baz=7.0,slow=37						
BR131	**Keskin Array S**	**27.63**	**349**	*e*P	**P**	**05 21 21.6**	**-0.8**
	comp=Z,25nm,1.3s,mb4.9						
BR131	**Keskin Array S**	**27.63**	**349**	*e*P	**P**	**05 21 21.6**	**-0.8**
	comp=Z,25nm,1.3s,mb4.9						
BRTR	**Keskin Array B**	**27.63**	**349**	P	**P**	**05 21 23.1**	**+0.7**
	comp=Z,8.0nm,1.0s,mb4.5,baz=174,slow=11,SNR=25						
BRTR				PcP	PcP	05 24 40.1	-0.1
	comp=Z,1.9nm,0.9s,baz=166,slow=5.1,SNR=4.9						
BRTR	**Keskin Array B**	**27.63**	**349**	P	**P**	**05 21 23.1**	**+0.7**
BRTR	**Keskin Array B**	**27.63**	**349**	PcP	PcP	05 24 40.2	-0.1
GNI	**Garni**	**27.65**	**7**	P	**P**	**05 21 24.5**	**+2.0**
	comp=Z,4.2nm,0.4s,mb4.6,baz=162,slow=3.2,SNR=6.1						
GNI				LR	LR	05 32 54.7	
	comp=Z,460nm,20.2s,MS4.0,baz=61,slow=38						
TI2	**Plekhanov**	**29.21**	**7**	*i* P	**P**	**05 21 37.6**	**+0.9**
ZEI	**Tsey**	**30.16**	**5**	*e*P	**P**	**05 21 45.3**	**+0.2**
	comp=Z,11nm,1.1s,mb4.6						
ZEI	**Tsey**	**30.16**	**5**	*e*P	**P**	**05 21 45.3**	**+0.2**
ZEI				*i*		05 22 44.4	
ZEI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
LSZ	**Lusaka**	**30.29**	**204**	LR	LR	05 34 54.1	
	comp=Z,1μm,18.4s,MS4.6,baz=258,slow=38						
KIV	**Kislovodsk**	**31.25**	**3**	*i* P	**P**	**05 21 56.8**	**+2.1**
	comp=Z,29nm,1.0s,mb5.2						
KIV	**Kislovodsk**	**31.25**	**3**	*i* P	**P**	**05 21 56.8**	**+2.1**
KIV				*e*		05 23 05.6	
KIV				*e*SS	SS	05 29 14.0	+28
KIV				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
KIV				MLR	MLR		
	comp=Z,800nm,19.0s,MS4.4						
OPO	**Ambohidratompo**	**31.73**	**168**	P	**P**	**05 22 00.6**	**+1.5**
	comp=Z,3.3nm,0.9s,mb4.3,baz=338,slow=7.7,SNR=3.6						
SIM	**Simferopol'**	**32.64**	**352**	*e*P	**P**	**05 22 08.6**	**+1.7**
	comp=Z,21nm,1.2s,mb4.9						
SIM	**Simferopol'**	**32.64**	**352**	*e*P	**P**	**05 22 08.6**	**+1.7**
SIM				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
VAE	**Valguarnera**	**33.95**	**321**	LR	LR	05 37 10.5	
	comp=Z,884nm,18.1s,MS4.5,baz=326,slow=38						
CFR	**Carcaliu**	**34.08**	**344**	⇑P	**P**	**05 22 19.3**	**-0.1**
MATP	**Matopo**	**34.91**	**200**	P	**P**	**05 22 25.9**	**-0.9**
	comp=Z,4.1nm,1.0s,mb4.3,baz=8.0,slow=10,SNR=5.0						
MATP				LR	LR	05 37 17.4	
	comp=Z,3μm,18.5s,MS5.0,baz=25,slow=37						
MLR	**Muntele Rosu**	**34.98**	**342**	P	**P**	**05 22 28.7**	**+1.6**
	comp=Z,8.0nm,0.9s,mb4.6,baz=246,slow=5.6,SNR=4.2						
MLR	**Muntele Rosu**	**34.98**	**342**	⇑P	**P**	**05 22 31.1**	**+4.0**
VOIR		**35.21**	**341**	⇓P	**P**	**05 22 30.5**	**+1.4**
KIS	**Kishinev**	**35.61**	**346**	*e*P	**P**	**05 22 33.0**	**+0.5**
HYB	**Hyderabad**	**37.05**	**78**	*i* P	**P**	**05 22 45.5**	**+0.6**
HYB				*e*S	**S**	**05 28 38.0**	**+6.9**
DRGR		**37.17**	**340**	⇑P	**P**	**05 22 45.7**	**+0.1**
NDI	**New Delhi**	**37.72**	**59**	*ex*	x	05 22 50.4	
AQU	**L'Aquila**	**37.78**	**327**	*e*P	**P**	**05 22 50.4**	**-0.3**
	comp=Z,70nm,1.5s

PSZ Piszkesteto 39.13 338 *e*P **P 05 23 02.6 +0.6**
comp=Z,37nm,1.5s,mb4.8
PSZ Piszkesteto 39.13 338 *e*P **P 05 23 02.6 +0.6**
comp=Z,37nm,1.5s,mb4.8
PSZ Piszkesteto 39.13 338 *e*P **P 05 23 02.6 +0.6**
PSZ pmax pmax
comp=Z,37nm,1.5s,mb4.8
KOLS Kolonicke sedl 39.19 341 *e*P **P 05 23 05.0 +2.5**
KECS Kecovo 39.39 339 *e*P **P 05 23 04.8 +0.6**
VISS Visnje 39.54 332 *e*P **P 05 23 03.9 -1.6**
VISS Visnje 39.54 332 *e*P **P 05 23 03.8 -1.7**
KWP Kalwaria 39.67 342 *e*P **P 05 23 08.7 +2.2**
STHS Stebnicka Huta 39.94 340 *e*P **P 05 23 09.1 +0.4**
VYHS Vyhne 40.00 338 *e*P **P 05 23 09.9 +0.7**
LBTB Lobatse 40.15 201 LR LR 05 39 20.2
comp=Z,2µm,19.3s,MS4.9,baz=40,slow=36
LBTB Lobatse 40.15 201 P **P 05 23 09.1 -1.6**
LBTB Lobatse 40.15 201 P **P 05 23 09.1 -1.6**
PGF Pioggiola 40.37 323 *e*P **P 05 23 11.4 -1.0**
comp=Z,68nm,1.5s,mb4.7
PGF Pioggiola 40.37 323 *e*P **P 05 23 11.4 -1.0**
PGF pmax pmax
comp=Z,34nm,1.5s,mb4.8
ZST Bratislava 40.42 336 *e*P **P 05 23 14.8 +2.1**
ROBS Robic 40.49 331 *e*P **P 05 23 15.3 +2.0**
OJC Ojcow 41.11 340 *e*P **P 05 23 18.0 -0.3**
ABA Alger-Bouzarea 41.24 312 P **P 05 23 23.0 +3.4**
OKC Ostrava-Krasne 41.37 338 *e*P **P 05 23 19.6 -0.8**
VRAC Vranov 41.52 336 P **P 05 23 21.5 -0.2**
comp=Z,6.5nm,1.0s,mb4.3,baz=121,slow=12,SNR=8.9
VRAC Vranov 41.52 336 *e*P **P 05 23 23.2 +1.5**
VRAC Vranov 41.52 336 P **P 05 23 21.5 -0.2**
VRAC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 41.54 338 *e*P **P 05 23 22.9 +1.0**
AAK Ala-Archa 41.95 38 *e*P **P 05 23 26.1 +0.8**
comp=Z,4.2nm,0.8s,mb4.2
AAK Ala-Archa 41.95 38 *e*P **P 05 23 26.1 +0.8**
comp=Z,4.2nm,0.8s,mb4.2
AAK Ala-Archa 41.95 38 *i*P **P 05 23 27.3 +2.0**
AAK pmax pmax
comp=Z,19nm,1.9s,mb4.5
AAK MLR MLR
comp=Z,2µm,16.0s,MS5.1
TREC Trest 41.95 336 *e*P **P 05 23 25.0 -0.2**
SBF Sospel 42.08 324 *e*P **P 05 23 25.0 -1.4**
comp=Z,100nm,1.7s,mb5.0
SBF Sospel 42.08 324 *e*P **P 05 23 25.0 -1.4**
SBF pmax pmax
comp=Z,50nm,1.7s,mb5.0
LMR La Mourre 42.30 323 *e*P **P 05 23 26.8 -1.4**
comp=Z,93nm,1.7s,mb4.9
LMR La Mourre 42.30 323 *e*P **P 05 23 26.8 -1.4**
LMR pmax pmax
comp=Z,46nm,1.7s,mb4.9
GEC2 GERESS Array S 42.34 334 *e*P **P 05 23 29.3 +0.8**
comp=Z,43nm,1.6s,mb4.9
GEC2 GERESS Array S 42.34 334 *e*P **P 05 23 29.3 +0.8**
GEC2 pmax pmax
comp=Z,43nm,1.6s,mb4.9
GERES GERESS Array B 42.34 334 P **P 05 23 28.3 -0.2**
comp=Z,4.3nm,0.9s,mb4.2,baz=135,slow=7.5,SNR=22
GERES LR LR 05 44 46.6
comp=Z,218nm,18.5s,MS4.1,baz=0.8,slow=41
FRF La Foret Royal 42.36 323 *e*P **P 05 23 27.2 -1.5**
comp=Z,68nm,1.8s,mb4.8
FRF La Foret Royal 42.36 323 *e*P **P 05 23 27.2 -1.5**
FRF pmax pmax
comp=Z,34nm,1.8s,mb4.8
DPC Dobruska-Polom 42.46 337 *e*P **P 05 23 29.6 +0.2**
OBN Obninsk 42.47 357 *i*P **P 05 23 30.9 +1.4**
comp=Z,82nm,1.5s,mb5.2
OBN Obninsk 42.47 357 *i*P **P 05 23 30.9 +1.4**
OBN *e* 05 25 13.4
OBN *i* 05 25 21.8
OBN *e*SS SS 05 33 00.5 +5.5
OBN pmax pmax
comp=Z,82nm,1.5s,mb5.2
KHC Kasperske Hory 42.61 334 *e*P **P 05 23 30.1 -0.6**
KHC Kasperske Hory 42.61 334 *i*P **P 05 23 31.2 +0.5**
UPC Upice 42.71 337 *e*P **P 05 23 31.8 +0.4**
PRU Pruhonice 42.87 336 *e*P **P 05 23 32.9 +0.1**
WET Wettzell 42.93 333 *e*P **P 05 23 33.4 +0.1**
comp=Z,46nm,2.0s,mb4.9
WET Wettzell 42.93 333 *e*P **P 05 23 33.4 +0.1**
WET pmax pmax
comp=Z,46nm,2.0s,mb4.9
KOLN Koldanda 42.95 63 *e*P **P 05 23 33.3 -0.4**
comp=Z,151nm,1.6s,mb5.5
MBDF Montbardon 42.98 325 *e*P **P 05 23 33.4 -0.4**
comp=Z,77nm,1.2s,mb5.0
MBDF Montbardon 42.98 325 *e*P **P 05 23 33.4 -0.4**
MBDF pmax pmax
comp=Z,39nm,1.2s,mb5.0
MOS Moscow 43.05 358 *e*P **P 05 23 36.1 +2.0**
comp=Z,193nm,1.8s,mb5.5
MOS Moscow 43.05 358 *e*P **P 05 23 36.1 +2.0**
MOS *e* 05 25 18.5
MOS pmax pmax
comp=Z,193nm,1.8s,mb5.5
SMRF Simiane la Rot 43.23 323 *e*P **P 05 23 35.0 -0.8**
comp=Z,88nm,1.8s,mb4.9
BNI Bardonecchia 43.23 325 *e*P **P 05 23 34.2 -1.6**
comp=Z,28nm,1.6s,mb4.7
BNI Bardonecchia 43.23 325 *e*P **P 05 23 34.2 -1.6**
comp=Z,28nm,1.6s,mb4.7
BNI Bardonecchia 43.23 325 *e*P **P 05 23 34.2 -1.6**
BNI pmax pmax
comp=Z,28nm,1.6s,mb4.7
LPG La Plagne 43.47 325 *e*P **P 05 23 35.7 -2.0**
comp=Z,106nm,1.6s,mb5.0
LPG La Plagne 43.47 325 *e*P **P 05 23 35.7 -2.0**
LPG pmax pmax
comp=Z,53nm,1.6s,mb5.0
SUW Suwalki 43.47 345 *e*P **P 05 23 38.5 +0.9**
LPL La Plagne 43.49 325 *e*P **P 05 23 35.8 -2.1**
comp=Z,119nm,1.7s,mb5.0
LPL La Plagne 43.49 325 *e*P **P 05 23 35.8 -2.1**
LPL pmax pmax
comp=Z,60nm,1.7s,mb5.0
ORIF Oris-en-Rattie 43.61 324 *e*P **P 05 23 37.6 -1.2**
comp=Z,90nm,1.6s,mb5.0
ORIF *e*R
comp=Z,321nm,19.3s
BRG Berggiesshubel 43.80 336 *e*P **P 05 23 39.8 -0.5**
comp=Z,23nm,1.5s,mb4.7
BRG Berggiesshubel 43.80 336 *e*P **P 05 23 39.8 -0.5**
comp=Z,23nm,1.5s,mb4.7
BRG Berggiesshubel 43.80 336 *e*P **P 05 23 39.8 -0.5**
BRG pmax pmax
comp=Z,23nm,1.5s,mb4.7
GKN Gorkha 43.90 63 *e*P **P 05 23 40.5 -0.9**
NKC Novy Kostel 43.93 334 *e*P **P 05 23 41.2 -0.2**
EJON La Jonquera 44.03 320 P **P 05 23 43.0 +0.7**
comp=Z,56nm,2.0s,mb4.9
GRA1 Grafenberg Arr 44.06 333 *e*P **P 05 23 42.7 +0.3**
comp=Z,14nm,0.8s,mb4.7
GRF Grafenberg Arr 44.06 333 *e*P **P 05 23 42.7 +0.3**
GRF pmax pmax
comp=Z,14nm,0.8s,mb4.7
DMN Daman 44.23 63 *e*P **P 05 23 43.5 -0.6**
comp=Z,70nm,1.1s,mb5.3
VIVF Saint-Julien-l 44.27 323 *e*P **P 05 23 43.0 -1.2**
LASF Ste Croix 44.31 322 *e*P **P 05 23 43.3 -1.2**
comp=Z,120nm,1.8s,mb5.0
KKN Kakani 44.41 63 *e*P **P 05 23 45.4 -0.2**
comp=Z,50nm,0.9s,mb5.3
BFO Black Forest 44.47 330 *e*P **P 05 23 46.1 +0.3**
comp=Z,12nm,1.3s,mb4.5
BFO Black Forest 44.47 330 *e*P **P 05 23 46.1 +0.3**
BFO pmax pmax
comp=Z,12nm,1.3s,mb4.5
PKI Pulchoki 44.49 64 *e*P **P 05 23 45.4 -0.8**
comp=Z,41nm,1.0s,mb5.1
CLL Collm 44.52 336 P **P 05 23 46.2 +0.1**
comp=Z,logA/T=1.3,mb5.0
CLL *i* 05 24 18.7
CLL Collm 44.52 336 *i*P **P 05 23 46.2 +0.1**
comp=Z,32nm,1.6s,mb5.0
CLL *i* 05 24 18.7
CLL Collm 44.52 336 *i*P **P 05 23 46.2 +0.1**
CLL pmax pmax
comp=Z,32nm,1.6s,mb5.0
CABF La Chapelle 44.52 326 *e*P **P 05 23 44.1 -2.1**
comp=Z,65nm,1.5s,mb5.0
CABF La Chapelle 44.52 326 *e*P **P 05 23 44.1 -2.1**
CABF pmax pmax
comp=Z,32nm,1.5s,mb5.0
MOX Moxa 44.59 334 *i*P **P 05 23 46.7 0.0**
comp=Z,logA/T=1.5,mb5.2
MOX L 05 44 59.0
MOX Moxa 44.59 334 *e*P **P 05 23 46.7 0.0**
comp=Z,59nm,2.0s,mb5.2
MOX LR LR
comp=Z,200nm,22.0s,MS4.0
MOX Moxa 44.59 334 *e*P **P 05 23 46.7 0.0**
MOX pmax pmax
comp=Z,59nm,2.0s,mb5.2
MOX MLR MLR
comp=Z,200nm,22.0s,MS4.0
EMIR Miracle 44.64 318 P **P 05 23 48.6 +1.3**
comp=Z,40nm,1.2s,mb5.2
EMIR Miracle 44.64 318 P **P 05 23 48.6 +1.3**
comp=Z,40nm,1.2s,mb5.2
EPOB Poblet 44.67 317 P **P 05 23 48.8 +1.3**
comp=Z,64nm,1.9s,mb5.2
EPOB Poblet 44.67 317 P **P 05 23 48.8 +1.3**
comp=Z,64nm,1.9s,mb5.2
EMUR La Murta 44.77 312 P **P 05 23 50.1 +1.7**
comp=Z,57nm,1.3s,mb5.3
EMUR La Murta 44.77 312 P **P 05 23 50.1 +1.7**
comp=Z,57nm,1.3s,mb5.3
HINF Hinteralfeld 44.87 328 *e*P **P 05 23 47.4 -1.7**
comp=Z,61nm,1.6s,mb5.0
HINF Hinteralfeld 44.87 328 *e*P **P 05 23 47.4 -1.7**
HINF pmax pmax
comp=Z,31nm,1.6s,mb5.0
MTLF Montolieu 44.92 320 *e*P **P 05 23 48.3 -1.2**
comp=Z,16nm,1.2s,mb4.5
MTLF Montolieu 44.92 320 *e*P **P 05 23 48.3 -1.2**
MTLF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
ERTA Horta de San J 44.98 316 P **P 05 23 51.4 +1.4**
comp=Z,45nm,1.5s,mb5.2
ERTA Horta de San J 44.98 316 P **P 05 23 51.4 +1.4**
comp=Z,45nm,1.5s,mb5.2
DBIC Dimbokro 45.02 267 P **P 05 23 50.6 -0.1**
comp=Z,4.2nm,0.7s,mb4.5,baz=66,slow=10,SNR=7.3
DBIC LR LR 05 41 59.9
comp=Z,798nm,20.6s,MS4.6,baz=71,slow=35
DBIC Dimbokro 45.02 267 *e*P **P 05 23 48.5 -2.2**
DBIC P pP 05 23 50.6 -0.4
DBIC LR LR 05 41 59.9
CDF Champ du Feu 45.05 329 *e*P **P 05 23 48.6 -1.8**
comp=Z,34nm,1.4s,mb4.8
CDF Champ du Feu 45.05 329 *e*P **P 05 23 48.6 -1.8**
CDF pmax pmax
comp=Z,17nm,1.4s,mb4.8
HAU Haudompre 45.26 328 *e*P **P 05 23 50.3 -1.8**
HAU *e*R
comp=Z,206nm,18.0s
LIC Lamto 45.27 266 *e*P **P 05 23 53.9 +1.2**
ECHE Chera 45.28 314 P **P 05 23 53.8 +1.4**
comp=Z,6.1nm,0.8s,mb4.6
ECHE Chera 45.28 314 P **P 05 23 53.8 +1.4**
ECHE pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ETOB Tobarra 45.31 313 P **P 05 23 55.4 +2.8**
comp=Z,40nm,2.0s,mb5.0
ETOB Tobarra 45.31 313 P **P 05 23 55.4 +2.7**
comp=Z,40nm,2.0s,mb5.0
EGRA Graus 45.57 318 P **P 05 23 55.1 +0.4**
comp=Z,50nm,1.6s,mb5.3
EGRA Graus 45.57 318 P **P 05 23 55.1 +0.5**
comp=Z,50nm,1.6s,mb5.3
EBER Berja 45.65 310 P **P 05 23 58.6 +3.3**
comp=Z,18nm,1.2s,mb5.0
TNS Taunus Mts 45.70 332 *e*P **P 05 23 56.1 +0.5**
comp=Z,24nm,1.3s,mb5.1
TNS Taunus Mts 45.70 332 *e*P **P 05 23 56.1 +0.5**
TNS pmax pmax
comp=Z,24nm,1.3s,mb5.1
MDT Midelt 45.75 304 P **P 05 23 56.0 -0.3**
comp=Z,5.9nm,1.0s,mb4.6,baz=95,slow=9.4,SNR=9.9
MDT LR LR 05 45 56.9
comp=Z,1µm,20.9s,MS4.9,baz=108,slow=40
EHUE Huescar 45.76 311 P **P 05 23 57.4 +1.2**
comp=Z,5.7nm,1.0s,mb4.6
EHUE Huescar 45.76 311 P **P 05 23 57.4 +1.2**
comp=Z,5.7nm,1.0s,mb4.6
EHUE Huescar 45.76 311 P **P 05 23 57.4 +1.2**
EHUE pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CAF Calviac 45.85 322 *e*P **P 05 23 56.0 -0.8**
comp=Z,74nm,1.6s,mb5.2
CAF Calviac 45.85 322 *e*P **P 05 23 56.0 -0.8**
CAF pmax pmax
comp=Z,37nm,1.6s,mb5.2
ARU Arti 45.87 14 *e*P **P 05 23 57.1 +0.4**
comp=Z,10.0nm,0.8s,mb4.9
ARU Arti 45.87 14 *e*P **P 05 23 57.2 +0.4**
comp=Z,10.0nm,0.8s,mb4.9
ARU Arti 45.87 14⇓ *i*P **P 05 23 58.1 +1.3**
ARU *e* 05 25 45.7
ARU *e*S **S 05 30 44.3 +3.1**
ARU pmax pmax
comp=Z,33nm,2.3s,mb5.0
ARU MLR MLR
comp=N,400nm,18.0s,MS4.5
ARU MLR MLR
comp=Z,600nm,18.0s,MS4.6
ARU MLR MLR
comp=E,300nm,19.0s,MS4.5
ESAC San Caprasio 45.87 317 P **P 05 23 57.8 +0.8**
comp=E,53nm,1.4s,mb5.4
ESAC San Caprasio 45.87 317 P **P 05 23 57.8 +0.8**
comp=E,53nm,1.4s,mb5.4
EBIE Bielsa 45.91 318 P **P 05 23 59.0 +1.7**
comp=E,62nm,1.7s,mb5.4
EBIE Bielsa 45.91 318 P **P 05 23 59.0 +1.6**
comp=E,62nm,1.7s,mb5.4
EPF Esparros 45.95 319 *e*P **P 05 23 56.6 -1.1**
comp=E,38nm,1.4s,mb4.9
EPF Esparros 45.95 319 *e*P **P 05 23 56.6 -1.1**
EPF pmax pmax
comp=Z,19nm,1.4s,mb4.9
EVIA Vianos 46.00 312 P **P 05 23 59.0 +0.9**
comp=Z,9.3nm,0.9s,mb4.8
EVIA Vianos 46.00 312 P **P 05 23 59.0 +0.9**
comp=Z,9.3nm,0.9s,mb4.8
EVIA Vianos 46.00 312 P **P 05 23 59.0 +0.9**
EVIA pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
CLZ Clausthal 46.00 334 *e*P **P 05 23 58.9 +1.0**
comp=Z,24nm,1.6s,mb5.0
CLZ Clausthal 46.00 334 *e*P **P 05 23 58.9 +1.0**
CLZ pmax pmax
comp=Z,24nm,1.6s,mb5.0
EQES Quesada 46.10 311 P **P 05 24 00.1 +1.1**
comp=Z,37nm,1.3s,mb5.3
EQES Quesada 46.10 311 P **P 05 24 00.1 +1.2**
comp=Z,37nm,1.3s,mb5.3
LOR Lormes 46.13 326 *e*P **P 05 23 57.2 -1.8**
comp=Z,93nm,1.7s,mb5.2
LOR *e*R
comp=Z,177nm,19.5s
LOR Lormes 46.13 326 *e*P **P 05 23 57.2 -1.8**
LOR pmax pmax
comp=Z,47nm,1.7s,mb5.2
LOR MLR MLR
comp=Z,180nm,19.5s,MS4.0
AVF Avril sur Loir 46.13 325 *e*P **P 05 23 57.0 -2.1**
SSF Saint Saulge 46.21 325 *e*P **P 05 23 57.4 -2.2**
comp=Z,30nm,1.4s,mb4.8
MEZF Maizieres J'vi 46.24 328 *e*P **P 05 23 58.7 -1.2**
BGF Bois d'Agland 46.29 324 *e*P **P 05 23 58.9 -1.4**
comp=Z,73nm,1.4s,mb5.2
BGF Bois d'Agland 46.29 324 *e*P **P 05 23 58.9 -1.4**
BGF pmax pmax
comp=Z,36nm,1.4s,mb5.2
RJF Les Rejaudoux 46.38 322 *e*P **P 05 23 59.8 -1.2**
RJF *e*R
comp=Z,308nm,18.2s
ERON Agron 46.38 309 P **P 05 24 02.7 +1.6**
comp=Z,10nm,1.0s,mb4.8
ERON Agron 46.38 309 P **P 05 24 02.7 +1.6**
comp=Z,10nm,1.0s,mb4.8
ETSF Etsaut 46.47 318 *e*P **P 05 24 01.4 -0.4**
comp=Z,157nm,1.7s,mb5.5
ETSF Etsaut 46.47 318 *e*P **P 05 24 01.4 -0.4**
ETSF pmax pmax
comp=Z,78nm,1.7s,mb5.5
TCF Toulx Ste Croi 46.50 324 *e*P **P 05 24 00.8 -1.2**
LFF La Frestale 46.65 321 *e*P **P 05 24 02.4 -0.8**
comp=Z,132nm,1.6s,mb5.5
LFF La Frestale 46.65 321 *e*P **P 05 24 02.4 -0.8**
LFF pmax pmax
comp=Z,66nm,1.6s,mb5.5
ELOJ Sierra Loja 46.68 310 P **P 05 24 05.3 +1.7**
comp=Z,19nm,1.0s,mb5.2
ELOJ Sierra Loja 46.68 310 P **P 05 24 05.3 +1.8**
comp=Z,19nm,1.0s,mb5.2
ELOJ Sierra Loja 46.68 310 P **P 05 24 05.3 +1.8**
ELOJ pmax pmax
comp=Z,19nm,1.0s,mb5.2
BRVK Borovoye 46.79 24 P **P 05 24 03.9 -0.2**
BRVK Borovoye 46.79 24 P **P 05 24 03.9 -0.3**
EMIJ Mijas 46.96 309 P **P 05 24 07.8 +2.1**
comp=Z,52nm,1.8s,mb5.4
EMIJ Mijas 46.96 309 P **P 05 24 07.8 +2.1**
comp=Z,52nm,1.8s,mb5.4
SJPF Ste Jean 47.00 318 *e*P **P 05 24 05.6 -0.4**
comp=Z,132nm,1.4s,mb5.6
SJPF Ste Jean 47.00 318 *e*P **P 05 24 05.6 -0.4**
SJPF pmax pmax
comp=Z,66nm,1.4s,mb5.6
GIVF Givet 47.37 329 *e*P **P 05 24 06.8 -1.9**
ESDC Sonseca Array 47.44 313 P **P 05 24 09.4 0.0**
comp=Z,4.2nm,0.8s,mb4.6,baz=115,slow=8.1,SNR=12
ESDC Sonseca Array 47.44 313 P **P 05 24 10.5 +1.0**
comp=Z,22nm,1.3s,mb5.1
ESDC Sonseca Array 47.44 313 P **P 05 24 10.5 +1.0**
comp=Z,22nm,1.3s,mb5.1
ESLA Sonseca Array 47.44 313 *e*P **P 05 24 07.2 -2.3**
comp=Z,28nm,1.7s,mb5.1
BSEG Bad Segeberg 47.58 336 *e*P **P 05 24 11.1 +0.7**
BAIF Baives 47.65 329 *e*P **P 05 24 08.8 -2.2**
ESPR Espera 47.88 309 P **P 05 24 12.9 -0.1**
comp=Z,75nm,1.9s,mb5.5
ESPR Espera 47.88 309 P **P 05 24 12.9 -0.1**
comp=Z,75nm,1.9s,mb5.5
MFF Saint Martin d 48.04 323 *e*P **P 05 24 12.1 -2.0**
comp=Z,42nm,1.4s,mb5.1
MFF Saint Martin d 48.04 323 *e*P **P 05 24 12.1 -2.0**
MFF pmax pmax
comp=Z,21nm,1.4s,mb5.1
ELAN Lanestosa 48.50 317 P **P 05 24 18.6 +0.9**
comp=Z,39nm,1.8s,mb5.1
ELAN Lanestosa 48.50 317 P **P 05 24 18.6 +0.9**
comp=Z,39nm,1.8s,mb5.1
SUR Sutherland 48.56 202 P **P 05 24 18.6 +0.3**
comp=Z,5.0nm,0.8s,mb4.6,baz=75,slow=8.0,SNR=4.2
SUR LR LR 05 45 23.9
comp=Z,3µm,21.6s,MS5.2,baz=268,slow=37
MKAR Makanchi Array 48.87 37 P **P 05 24 20.4 0.0**
comp=Z,3.8nm,0.7s,mb4.5,baz=231,slow=7.8,SNR=10
MKAR LR LR 05 48 48.0
comp=Z,1µm,21.1s,MS5.0,baz=181,slow=41
LDF La Druitiere 49.09 325 *e*P **P 05 24 19.6 -2.6**
comp=Z,105nm,1.5s,mb5.3
LDF La Druitiere 49.09 325 *e*P **P 05 24 19.6 -2.6**
LDF pmax pmax
comp=Z,52nm,1.5s,mb5.3
EBAD Badajoz 49.34 311 P **P 05 24 24.7 +0.5**
comp=Z,52nm,1.9s,mb5.2
EBAD Badajoz 49.34 311 P **P 05 24 24.7 +0.4**
comp=Z,52nm,1.9s,mb5.2
FLN La Foliniere 49.38 325 *e*P **P 05 24 22.0 -2.4**
comp=Z,47nm,1.1s,mb5.1
FLN *e*R
comp=Z,302nm,17.0s
FLN La Foliniere 49.38 325 *e*P **P 05 24 22.0 -2.4**
FLN pmax pmax
comp=Z,23nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,300nm,17.0s,MS4.4
GRR Gorron 49.39 325 *e*P **P 05 24 22.0 -2.5**
PBEJ Beja 49.76 309 *e*P **P 05 24 27.6 +0.1**
LSA Lhasa 49.81 62 P **P 05 24 26.4 -1.6**
LSA AP pP 05 24 35.6 +7.2
LSA S **S 05 31 37.0 -0.3**
LSA SCS ScS 05 34 10.3 -7.5
LSA LR LR
comp=N,240nm,15.5s,MS4.7
LSA LR LR
comp=E,490nm,16.6s,MS4.7
LSA LR LR
comp=Z,830nm,17.4s,MS4.8
LSA Lhasa 49.81 62 *e*P **P 05 24 28.8 +0.8**
comp=Z,139nm,2.0s,mb5.5
LSA Lhasa 49.81 62 *e*P **P 05 24 28.8 +0.8**
LSA pmax pmax
comp=Z,139nm,2.0s,mb5.5
FINES FINESS Array B 49.82 351 P **P 05 24 26.6 -1.0**
comp=Z,6.8nm,1.0s,mb4.5,baz=149,slow=11,SNR=8.4
PCBR Castelo Branco 50.03 312 *e*P **P 05 24 28.7 -0.9**
SGMF Saint Gilles 50.30 324 *e*P **P 05 24 28.6 -2.8**
JOF Joensuu 50.61 355 *e*p **P 05 24 32.6 -1.0**
comp=Z,9.4nm,1.0s,mb4.7
HFS Hagfors 51.35 343 P **P 05 24 39.9 +0.7**
comp=Z,7.3nm,1.0s,mb4.5,baz=90,slow=3.0,SNR=4.1
HFS LR LR 05 46 41.6
comp=Z,163nm,20.4s,MS4.0,baz=141,slow=36
NB2 NORSAR Subarra 52.80 343 P **P 05 24 48.9 -1.3**
comp=Z,25nm,1.2s,mb5.0,baz=143,slow=7.4
NB2 NORSAR Subarra 52.80 343 P **P 05 24 48.9 -1.3**
NB2 pmax pmax
comp=Z,25nm,1.2s,mb5.0
NOA NORSAR Array B 52.80 343 P **P 05 24 49.2 -1.0**
comp=Z,5.1nm,1.0s,mb4.4,baz=142,slow=7.4,SNR=6.7
ARCES ARCESS Array B 57.63 354 P **P 05 25 24.0 -1.1**
comp=Z,3.1nm,0.9s,mb4.4,baz=350,slow=22,SNR=6.4
GTA Gaotai 58.46 51 *e*P **P 05 25 30.8 -0.5**
GTA AP pP 05 25 34.8 +3.1
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,129nm,3.8s
GTA LR LR
comp=N,461nm,22.2s,MS4.8
GTA LR LR
comp=E,688nm,25.6s,MS4.8
GTA LR LR
comp=Z,1µm,27.9s,MS4.9
KMI Kunming 59.77 68 P **P 05 25 42.3 +1.7**
KMI S **S 05 33 53.4 +2.4**
KMI AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
KMI LR LR
comp=Z,342nm,25.4s,MS4.4
KMI Kunming 59.77 68 P **P 05 25 42.2 +1.6**
comp=Z,10.0nm,1.2s,mb4.7
KMI S **S 05 33 53.4 +2.4**
KMI LR LR
comp=Z,340nm,25.4s,MS4.4
KMI Kunming 59.77 68 P **P 05 25 42.2 +1.6**
KMI S **S 05 33 53.4 +2.4**
KMI pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
KMI MLR MLR
comp=Z,340nm,25.4s,MS4.4
LZH Lanzhou 61.20 56 *e*P **P 05 25 48.3 -1.9**
LZH AP pP 05 25 54.3 +3.7
LZH XP sP 05 25 58.5 +7.8
LZH AMB AMB
comp=Z,70nm,1.3s,mb5.6
LZH Lanzhou 61.20 56 *e*P **P 05 25 48.2 -2.0**
comp=Z,70nm,1.3s,mb5.6
LZH pP pP 05 25 54.2 +3.6
LZH sP sP 05 25 58.5 +7.8
LZH LR LR
comp=Z,1µm,20.2s,MS5.1
LZH Lanzhou 61.20 56 *e*P **P 05 25 48.2 -2.0**
LZH P 05 25 54.2
LZH pmax pmax
comp=Z,70µm,1.3s
GYA Guiyang 63.29 67⇑ *i*P **P 05 26 03.5 -0.8**
GYA AMB AMB
comp=Z,20nm,1.2s,mb5.1
SONM Songino Array 64.60 43 P **P 05 26 12.2 -0.4**
comp=Z,6.4nm,1.0s,mb4.8,baz=256,slow=6.1,SNR=25
SONM LR LR 05 57 58.0
comp=Z,1µm,19.6s,MS5.1,baz=257,slow=39
HHC Hu-ho-hao-te 67.57 51 *e*P **P 05 26 32.8 +1.1**
HHC AP pP 05 26 37.3 +5.2
HHC XP sP 05 26 39.8 +7.5
HHC PCP PcP 05 27 00.1 +1.2
HHC PP PP 05 29 01.4 -1.0

HHC				PCS			05 31 03.3	
HHC				S	S		05 35 29.3	+1.4
HHC				XS			05 35 37.5	
HHC				SCS	ScS		05 36 26.3	-1.1
HHC				SS	SS		05 39 52.0	+2.3
HHC				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.5							
HHC				AMB	AMB			
	comp=Z,240nm,4.5s							
HHC				LR	LR			
	comp=Z,598nm,21.4s,MS4.8							
BOD	**Bodaibo**	**70.62**	**33**	*e*P	**P**		**05 26 47.7**	**-2.5**
BOD				pmax	pmax			
	comp=Z,12nm,1.9s,mb4.7							
NJ2	**Nanjing**	**73.64**	**60**	*e*P	**P**		**05 27 08.3**	**-0.4**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb5.0							
SSE	**Sheshan**	**75.71**	**61**	*e*P	**P**		**05 27 18.1**	**-2.5**
SSE				AP	pP		05 27 27.5	+6.5
SSE				PCP	PcP		05 27 30.1	-3.6
SSE				XP	sP		05 27 31.8	+11
SSE				S	S		05 36 59.6	-2.3
SSE				XS			05 37 17.3	
SSE				SCS	ScS		05 37 29.5	-2.7
SSE				AMB	AMB			
	comp=Z,33nm,0.8s,mb5.5							
SSE				AMB	AMB			
	comp=Z,208nm,6.5s							
SSE				LR	LR			
	comp=N,92nm,21.7s,MS4.5							
SSE				LR	LR			
	comp=E,222nm,21.7s,MS4.5							
SSE				LR	LR			
	comp=Z,190nm,21.7s,MS4.4							
SSE	**Sheshan**	**75.71**	**61**	*e*P	**P**		**05 27 18.1**	**-2.5**
	comp=Z,33nm,0.8s,mb5.5							
SSE				pP	pP		05 27 27.5	+6.5
SSE				PcP	PcP		05 27 30.1	-3.6
SSE				sP	sP		05 27 31.8	+11
SSE				S	S		05 36 59.6	-2.3
SSE				sS			05 37 17.2	
SSE				ScS	ScS		05 37 29.5	-2.7
SSE				LR	LR			
	comp=Z,190nm,21.7s,MS4.4							
TIXI	**Tiksi**	**77.58**	**19**	*e*P	**P**		**05 27 28.8**	**-1.5**
TIXI				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.9							
TIXI				MLR	MLR			
	comp=Z,242nm,17.0s,MS4.6							
CN2	**Changchun**	**77.77**	**48**	*e*P	**P**		**05 27 32.3**	**+0.5**
CN2				*e*XP	sP		05 27 42.3	+10
CN2				*e*S	S		05 37 22.8	-1.1
CN2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb5.0							
CN2				AMB	AMB			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=Z,420nm,13.0s,MS5.0							
MDJ	**Mudanjiang**	**80.62**	**46**	P	**P**		**05 27 47.6**	**+0.3**
MDJ				AMB	AMB			
	comp=Z,7.0nm,0.9s,mb4.7							
MDJ				AMB	AMB			
	comp=Z,83nm,6.0s							
MDJ				LR	LR			
	comp=N,409nm,24.0s,MS4.7							
MDJ				LR	LR			
	comp=E,111nm,23.2s,MS4.7							
MDJ				LR	LR			
	comp=Z,327nm,20.9s,MS4.7							
MAW	**Mawson**	**81.68**	**172**	P	**P**		**05 27 52.5**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.5,baz=295,slow=8.1,SNR=5.3							
MJAR	**Matsushiro Arr**	**88.68**	**53**	LR	LR		06 13 06.4	
	comp=Z,299nm,20.2s,MS4.7,baz=305,slow=39							
BDFB	**Brasilia**	**91.91**	**254**	LR	LR		06 06 10.8	
	comp=Z,528nm,19.7s,MS5.0,baz=107,slow=33							
PDAR	**Pindale Array**	**118.38**	**335**	PKP	PKPdf		05 34 22.6	-0.3
	comp=Z,0.5nm,0.8s,baz=90,slow=3.0,SNR=4.2							
NVAR	**Mina Array Bea**	**125.44**	**340**	PKP	PKPdf		05 34 37.1	+0.4
	comp=Z,0.9nm,0.7s,baz=306,slow=3.9,SNR=5.5							
TXAR	**Lajitas Array**	**125.77**	**321**	PKP	PKPdf		05 34 37.6	+0.1
	comp=Z,0.7nm,0.9s,baz=27,slow=2.8,SNR=5.4							

*IDC **24** 05:23:28.1±4.1, 12.23N×40.21E, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.9/5, MS4.0/1, Ms1 4.0/1, ms1mx3.4/23, Error ellipse: s-maj=88.3km s-min=25.6km az=36.0*

*DHMR **24** 05:23:33.6±0.3, 12.67N×40.56E, h5km±96km, ML4.3*

ISC 24 05:23:29.9±1.2, 12.5N±0.1×40.25E±0.07, h10km, n8, σ0§91/11, mb3.8/4, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ATD	**Arta Tunnel**	**2.71**	**110**	Pn	**Pn**		**05 24 14.0**	**-0.3**
	50nm,0.3s,baz=290,slow=10,SNR=13							
ATD				Sn	**Sn**		**05 24 48.1**	**+0.6**
	80nm,0.3s,baz=279,slow=23,SNR=9.5							
ATD				LR	LR		05 25 23.6	
	comp=Z,3µm,18.6s,baz=299,slow=43							
UDYN	**Al 'Udayn**	**3.91**	**67**	*e*P	**Pn**		**05 24 32.4**	**+1.1**
UDYN				*i* S	**Sn**		**05 25 18.3**	**+0.5**
UDYN				AML	AML		05 25 41.2	
	comp=N,1µm,0.8s							
DHBB	**Dhamar BB**	**4.53**	**62**	*e*P	**Pn**		**05 24 40.6**	**+0.5**
DHBB				*i* S	**Sn**		**05 25 32.9**	**-0.6**
ADEN	**Aden**	**4.63**	**86**	*i* S	**Sn**		**05 25 35.5**	**-0.5**
BRTR	**Keskin Array B**	**27.75**	**349**	P	**P**		**05 29 21.2**	**+0.4**
	comp=N,0.9nm,0.8s,mb3.5,baz=146,slow=4.5,SNR=3.8							
AKASG	**Malin Array Be**	**39.16**	**349**	P	**P**		**05 31 00.7**	**+1.2**
	comp=N,1.3nm,0.6s,mb3.8,baz=170,slow=6.9,SNR=4.4							
MKAR	**Makanchi Array**	**49.12**	**37**	P	**P**		**05 32 17.8**	**-1.8**
	comp=N,0.8nm,0.8s,mb3.8,baz=231,slow=7.8,SNR=4.4							
SONM	**Songino Array**	**64.86**	**43**	P	**P**		**05 34 10.2**	**-1.3**
	comp=N,1.2nm,0.9s,mb3.9,baz=248,slow=6.6,SNR=6.7							

*IDC **24** 05:36:10.3±0.9, 12.49N×40.47E, mb4.4/15, mb1 4.4/18, mb1mx4.4/23, mbtmp4.4/18, ML3.9/3, MS4.5/6, Ms1 4.5/6, ms1mx4.0/21, Error ellipse: s-maj=21.5km s-min=16.8km az=41.0*

*NEIC **24** 05:36:11.4±0.3, 12.50N×40.46E, h10km, mb4.8/28, Error ellipse: s-maj=6.8km s-min=4.8km az=74.0*

*DHMR **24** 05:36:11.0±0.3, 12.64N×40.53E, h8km±95km, ML4.5*

*CSEM **24** 05:36:14.5±0.2, 12.55N×40.48E, h46km±2km, mb4.7/29, Error ellipse: s-maj=4.3km s-min=3.3km az=100.0*

ISC 24 05:36:08.6±2.5, 12.52N±0.05×40.38E±0.03, h0km±16km, n97, σ0§68/98, mb4.6/42, MS4.5/6, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ATD	**Arta Tunnel**	**2.61**	**112**	Pn	**Pn**		**05 36 53.0**	**+0.3**
	133nm,0.3s,baz=291,slow=11,SNR=19							
ATD				Sn	**Sn**		**05 37 26.3**	**+0.8**
	84nm,0.3s,baz=272,slow=22,SNR=13							
UDYN	**Al 'Udayn**	**3.78**	**67**	*e*P	**Pn**		**05 37 10.0**	**+0.6**
UDYN				*i* S	**Sn**		**05 37 56.1**	**+1.0**
UDYN				AML	AML		05 38 17.2	
	comp=N,2µm,0.7s							
DHBB	**Dhamar BB**	**4.40**	**62**	*e*P	**Pn**		**05 37 18.3**	**+0.1**
DHBB				*i* S	**Sn**		**05 38 10.7**	**-0.2**
ADEN	**Aden**	**4.50**	**86**	*e*P	**Pn**		**05 37 19.6**	**0.0**
ADEN				*i* S	**Sn**		**05 38 13.1**	**-0.3**
KMBO	**Kilima Mbogo**	**13.90**	**193**	Pn	**P**		**05 39 27.9**	**-1.5**
	comp=N,0.2nm,0.3s,baz=45,slow=7.1,SNR=3.0							
KMBO				Lg			05 43 38.1	
	baz=79,slow=20,SNR=4.9							
KMBO	**Kilima Mbogo**	**13.90**	**193**	Pn	**P**		**05 39 27.9**	**-1.5**
KMBO				Lg			05 43 38.1	
ASF	**Jabal al Asfar**	**19.82**	**351**	P	**P**		**05 40 45.0**	**+1.3**
	comp=N,0.2nm,0.3s,baz=96,slow=2.9,SNR=6.7							
MALT	**Malatya**	**25.75**	**356**	*e*P	**P**		**05 41 43.0**	**+0.4**
	comp=N,32nm,1.4s,mb4.8							
MALT	**Malatya**	**25.75**	**356**	*e*P	**P**		**05 41 43.0**	**+0.5**
	comp=N,32nm,1.4s,mb4.8							
IDI	**Anoyia**	**26.65**	**331**	P	**P**		**05 41 53.0**	**+2.1**
	comp=N,9.8nm,0.9s,mb4.5,baz=148,slow=15,SNR=4.5							
BR131	**Keskin Array S**	**27.75**	**349**	*e*P	**P**		**05 42 00.3**	**-0.5**
	comp=N,12nm,1.1s,mb4.6							
BR131	**Keskin Array S**	**27.75**	**349**	*e*P	**P**		**05 42 00.3**	**-0.6**
	comp=N,12nm,1.1s,mb4.6							
BRTR	**Keskin Array B**	**27.75**	**349**	P	**P**		**05 42 01.8**	**+0.9**
	comp=N,9.9nm,1.1s,mb4.6,baz=173,slow=10.0,SNR=30							
GNI	**Garni**	**27.79**	**7**	P	**P**		**05 42 02.3**	**+1.0**
	comp=N,4.3nm,0.4s,mb4.6,baz=204,slow=12,SNR=5.6							
LSZ	**Lusaka**	**30.14**	**204**	LR	LR		05 55 07.7	
	comp=N,1µm,18.4s,MS4.5,baz=27,slow=38							
LSZ	**Lusaka**	**30.14**	**204**	P	**P**		**05 42 22.7**	**+0.1**
TIP	**Timpagrande**	**33.81**	**326**	*e*P	**P**		**05 42 55.0**	**+0.6**
TIP	**Timpagrande**	**33.81**	**326**	*e*P	**P**		**05 42 55.0**	**+0.5**
MATP	**Matopo**	**34.76**	**200**	LR	LR		05 57 56.1	
	comp=N,658nm,18.6s,MS4.4,baz=24,slow=38							
AKASG	**Malin Array Be**	**39.15**	**349**	P	**P**		**05 43 39.5**	**-0.1**
	comp=N,0.9nm,0.4s,mb3.8,baz=171,slow=7.2,SNR=15							
PSZ	**Piszkesteto**	**39.22**	**338**	*e*P	**P**		**05 43 40.1**	**-0.1**
	comp=N,18nm,1.2s,mb4.6							
PSZ	**Piszkesteto**	**39.22**	**338**	*e*P	**P**		**05 43 40.2**	**0.0**
	comp=N,18nm,1.2s,mb4.6							
KECS	**Kecovo**	**39.49**	**339**	*e*P	**P**		**05 43 41.8**	**-0.6**
LBTB	**Lobatse**	**39.99**	**201**	P	**P**		**05 43 47.2**	**+0.3**
LBTB	**Lobatse**	**39.99**	**201**	P	**P**		**05 43 47.2**	**+0.4**
STHS	**Stebnicka Huta**	**40.04**	**341**	*e*P	**P**		**05 43 46.8**	**-0.2**
VYHS	**Vyhne**	**40.09**	**338**	*i* P	**P**		**05 43 48.0**	**+0.6**
PGF	**Pioggiola**	**40.43**	**324**	*e*P	**P**		**05 43 50.8**	**+0.5**
	comp=N,30nm,1.2s,mb4.5							
MORC	**Moravsky Berou**	**41.63**	**338**	*e*P	**P**		**05 43 59.8**	**-0.3**
MORC	**Moravsky Berou**	**41.63**	**338**	*e*P	**P**		**05 43 59.8**	**-0.2**
TREC	**Trest**	**42.04**	**336**	*e*P	**P**		**05 44 03.1**	**-0.3**
AAK	**Ala-Archa**	**42.10**	**38**	*e*P	**P**		**05 44 02.6**	**-1.4**
	comp=N,5.6nm,1.1s,mb4.2							
AAK	**Ala-Archa**	**42.10**	**38**	*e*P	**P**		**05 44 02.6**	**-1.4**
	comp=N,5.6nm,1.1s,mb4.2							
SBF	**Sospel**	**42.14**	**324**	*e*P	**P**		**05 44 04.8**	**+0.5**
LMR	**La Mourre**	**42.36**	**323**	*e*P	**P**		**05 44 06.5**	**+0.4**
	comp=N,32nm,1.5s,mb4.5							
FRF	**La Foret Royal**	**42.42**	**323**	*e*P	**P**		**05 44 06.7**	**+0.1**
GERES	**GERESS Array B**	**42.43**	**334**	P	**P**		**05 44 06.3**	**-0.3**
	comp=N,4.1nm,0.9s,mb4.2,baz=143,slow=6.7,SNR=26							
DPC	**Dobruska-Polom**	**42.55**	**337**	*e*P	**P**		**05 44 07.5**	**-0.1**
KHC	**Kasperske Hory**	**42.70**	**334**	*e*P	**P**		**05 44 08.3**	**-0.5**
UPC	**Upice**	**42.80**	**337**	*e*P	**P**		**05 44 10.1**	**+0.5**
PRU	**Pruhonice**	**42.96**	**336**	*e*P	**P**		**05 44 10.7**	**-0.2**
MBDF	**Montbardon**	**43.05**	**325**	*e*P	**P**		**05 44 12.9**	**+1.2**
	comp=N,42nm,1.1s,mb4.8							
SMRF	**Simiane la Rot**	**43.29**	**323**	*e*P	**P**		**05 44 14.5**	**+0.8**
PVCC	**Panska Ves**	**43.37**	**336**	*e*P	**P**		**05 44 14.0**	**-0.3**
LPG	**La Plagne**	**43.53**	**326**	*e*P	**P**		**05 44 15.3**	**-0.3**
	comp=N,24nm,1.2s,mb4.5							
LPL	**La Plagne**	**43.55**	**326**	*e*P	**P**		**05 44 15.3**	**-0.5**
	comp=N,47nm,1.5s,mb4.7							
ORIF	**Oris-en-Rattie**	**43.67**	**324**	*e*P	**P**		**05 44 17.0**	**+0.3**
	comp=N,42nm,1.4s,mb4.7							
BRG	**Berggiesshubel**	**43.89**	**336**	*e*P	**P**		**05 44 18.1**	**-0.4**
	comp=N,16nm,1.4s,mb4.6							
BRG	**Berggiesshubel**	**43.89**	**336**	*e*P	**P**		**05 44 18.0**	**-0.5**
	comp=N,16nm,1.4s,mb4.6							
GRA1	**Grafenberg Arr**	**44.14**	**333**	*e*P	**P**		**05 44 19.6**	**-0.9**
	comp=N,11nm,1.2s,mb4.5							
VIVF	**Saint-Julien-l**	**44.33**	**324**	*e*P	**P**		**05 44 22.2**	**+0.1**
	comp=N,32nm,1.4s,mb4.5							
LASF	**Ste Croix**	**44.36**	**322**	*e*P	**P**		**05 44 22.8**	**+0.4**
	comp=N,47nm,1.3s,mb4.8							
CABF	**La Chapelle**	**44.59**	**326**	*e*P	**P**		**05 44 23.6**	**-0.6**
	comp=N,31nm,1.1s,mb4.8							
CLL	**Collm**	**44.60**	**336**	P	**P**		**05 44 24.0**	**-0.3**
	comp=N,logA/T=1.1,mb4.8							
CLL	**Collm**	**44.60**	**336**	*i* P	**P**		**05 44 24.0**	**-0.3**
	comp=N,15nm,1.3s,mb4.8							
DBIC	**Dimbokro**	**44.93**	**267**	P	**P**		**05 44 27.9**	**+0.6**
	comp=N,3.2nm,0.7s,mb4.3,baz=52,slow=8.4,SNR=4.9							
DBIC				LR	LR		06 02 14.5	
	comp=N,394nm,18.0s,MS4.4,baz=52,slow=35							
HINF	**Hinteralfeld**	**44.95**	**328**	*e*P	**P**		**05 44 26.8**	**-0.3**
MTLF	**Montolieu**	**44.97**	**320**	*e*P	**P**		**05 44 27.7**	**+0.4**
CDF	**Champ du Feu**	**45.12**	**329**	*e*P	**P**		**05 44 28.1**	**-0.3**
	comp=N,18nm,1.1s,mb4.6							
MDT	**Midelt**	**45.76**	**304**	P	**P**		**05 44 34.8**	**+1.1**
	comp=N,2.8nm,1.0s,mb4.3,baz=117,slow=11,SNR=5.9							
SMF	**Signal de Mont**	**45.84**	**325**	*e*P	**P**		**05 44 33.6**	**-0.5**
CAF	**Calviac**	**45.90**	**322**	*e*P	**P**		**05 44 35.5**	**+0.8**
	comp=N,35nm,1.4s,mb4.9							
EPF	**Esparros**	**46.00**	**319**	*e*P	**P**		**05 44 35.9**	**+0.4**
	comp=N,21nm,1.3s,mb4.7							
LOR	**Lormes**	**46.20**	**326**	*e*P	**P**		**05 44 36.6**	**-0.4**
	comp=N,40nm,1.4s,mb5.0							
AVF	**Avril sur Loir**	**46.20**	**325**	*e*P	**P**		**05 44 36.3**	**-0.7**
	comp=N,24nm,1.3s,mb4.8							
SSF	**Saint Saulge**	**46.27**	**325**	*e*P	**P**		**05 44 36.8**	**-0.7**
MEZF	**Maizieres l'vi**	**46.31**	**328**	*e*P	**P**		**05 44 38.1**	**+0.3**
	comp=N,47nm,1.1s,mb5.1							
BGF	**Bois d'Agland**	**46.35**	**324**	*e*P	**P**		**05 44 38.2**	**0.0**
	comp=N,40nm,1.3s,mb5.0							
RJF	**Les Rejaudoux**	**46.43**	**322**	*e*P	**P**		**05 44 39.2**	**+0.4**
ETSF	**Etsaut**	**46.52**	**318**	*e*P	**P**		**05 44 40.8**	**+1.3**
	comp=N,67nm,1.5s,mb5.2							
TCF	**Toulx Ste Croi**	**46.56**	**324**	*e*P	**P**		**05 44 40.3**	**+0.5**
LFF	**La Frestale**	**46.71**	**322**	*e*P	**P**		**05 44 41.8**	**+0.8**
BRVK	**Borovoye**	**46.95**	**24**	*e*P	**P**		**05 44 42.0**	**-0.8**
BRVK	**Borovoye**	**46.95**	**24**	*e*P	**P**		**05 44 42.0**	**-0.8**
SJPF	**Ste Jean**	**47.05**	**318**	*e*P	**P**		**05 44 44.9**	**+1.2**
	comp=N,62nm,1.2s,mb5.3							
GIVF	**Givet**	**47.44**	**329**	*e*P	**P**		**05 44 46.4**	**-0.4**
ESDC	**Sonseca Array**	**47.47**	**313**	P	**P**		**05 44 47.6**	**+0.5**
	comp=N,0.6nm,0.4s,mb4.1,baz=114,slow=7.9,SNR=12							
BAIF	**Baives**	**47.72**	**329**	*e*P	**P**		**05 44 48.2**	**-0.8**
MFF	**Saint Martin d**	**48.10**	**323**	*e*P	**P**		**05 44 51.6**	**-0.4**
SUR	**Sutherland**	**48.41**	**202**	LR	LR		06 05 54.7	
	comp=N,456nm,20.3s,MS4.5,baz=28,slow=37							
MKAR	**Makanchi Array**	**49.02**	**37**	P	**P**		**05 44 57.9**	**-1.1**
	comp=N,3.3nm,0.9s,mb4.3,baz=225,slow=6.9,SNR=14							
MKAR				LR	LR		06 09 24.5	
	comp=N,460nm,21.1s,MS4.4,baz=180,slow=41							
MKAR	**Makanchi Array**	**49.02**	**37**	P	**P**		**05 44 57.9**	**-1.2**
MKAR				LR	LR		06 09 24.5	
LDF	**La Druitiere**	**49.15**	**325**	*e*P	**P**		**05 44 59.2**	**-0.9**
KURK	**Kurchatov**	**49.17**	**31**	*e*P	**P**		**05 44 59.1**	**-1.1**
KURK	**Kurchatov**	**49.17**	**31**	*e*P	**P**		**05 44 59.1**	**-1.1**
FLN	**La Foliniere**	**49.45**	**325**	*e*P	**P**		**05 45 01.3**	**-1.0**
	comp=N,56nm,1.2s,mb5.2							
GRR	**Gorron**	**49.46**	**325**	*e*P	**P**		**05 45 01.5**	**-0.9**
	comp=N,42nm,1.3s,mb5.0							
FINES	**FINESS Array B**	**49.94**	**351**	P	**P**		**05 45 05.9**	**-0.1**
	comp=N,3.5nm,0.9s,mb4.3,baz=121,slow=8.1,SNR=5.8							
HFS	**Hagfors**	**51.45**	**343**	P	**P**		**05 45 17.0**	**-0.5**
	comp=N,5.6nm,0.9s,mb4.5,baz=141,slow=9.1,SNR=3.9							
NB2	**NORSAR Subarra**	**52.90**	**343**	P	**P**		**05 45 27.0**	**-1.4**
	comp=N,17nm,1.2s,mb4.8,baz=143,slow=7.4							
NOA	**NORSAR Array B**	**52.90**	**343**	P	**P**		**05 45 27.8**	**-0.6**
	comp=N,5.3nm,1.0s,mb4.4,baz=143,slow=7.4,SNR=4.4							
NOA	**NORSAR Array B**	**52.90**	**343**	P	**P**		**05 45 27.8**	**-0.6**
ARCES	**ARCESS Array B**	**57.76**	**354**	P	**P**		**05 46 02.9**	**-0.5**
	comp=N,11nm,1.2s,mb4.8,baz=45,slow=6.9,SNR=4.8							
SONM	**Songino Array**	**64.75**	**43**	P	**P**		**05 46 50.2**	**-0.8**
	comp=N,3.3nm,1.0s,mb4.5,baz=254,slow=6.9,SNR=18							
SONM				LR	LR		06 19 31.7	
	comp=N,332nm,19.1s,MS4.5,baz=264,slow=40							
MAW	**Mawson**	**81.56**	**171**	P	**P**		**05 48 29.6**	**+0.5**
	comp=N,1.9nm,0.9s,mb4.2,baz=326,slow=9.5,SNR=3.6							
SNAA	**Sanae**	**88.80**	**193**	*e*P	**P**		**05 49 05.2**	**+0.1**
	comp=N,24nm,2.0s,mb5.1							
SNAA	**Sanae**	**88.80**	**193**	*e*P	**P**		**05 49 05.2**	**0.0**
	comp=N,24nm,2.0s,mb5.1							

*NEIC **24** 05:38:12.5, 32.95S×72.20W, h14km, ML2.6(GUC), After GUC.*

GUC 24 05:38:12.5±0.7, 32.95S×72.20W, h14km±19km, MD3.5, ML2.6, 7C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LCCH	**Las Cruces**	**0.74**	**135**	⇑*i*P	Pb		05 38 25.7	-0.9
ROCH	**El Roble**	**1.00**	**92**	⇓*i*P	Pb		05 38 30.3	-0.7
ROCH				*i* S	Sb		05 38 44.2	+0.4
LNV	**Longovilo**	**1.20**	**147**	⇑*i*P	Pb		05 38 33.4	-1.1
TACH	**Talagante**	**1.27**	**124**	⇓*i*P	Pb		05 38 34.3	-1.3
TACH				*i* S	Sb		05 38 51.6	0.0
RCDM	**Rinconada Maip**	**1.28**	**115**	⇑*i*P	Pb		05 38 34.8	-1.1
RCDM				*e*S	Sb		05 38 51.4	-0.7
RCDM				AMP			05 38 56.1	
	comp=N,143nm,0.4s							
JACH	**Jahuel**	**1.38**	**79**	⇓*i*P	Pn		05 38 36.5	-0.9
JACH				*i* S	Sb		05 38 55.1	+0.3
DSCH	**Colegio Aleman**	**1.44**	**109**	*e*P	Pn		05 38 37.4	-0.8
DSCH				*i* S	Sb		05 38 56.1	-0.4
DSCH				AMP			05 39 02.4	
	comp=E,255nm,0.9s							
ANTU	**Antumapu**	**1.45**	**116**	⇓*i*P	Pn		05 38 37.7	-0.7
ANTU				*i* S	Sb		05 38 56.4	-0.4
ANTU				AMP			05 39 02.3	
	comp=E,141nm,0.4s							
CLCH	**Cerro Calan**	**1.46**	**108**	⇓*i*P	Pn		05 38 37.8	-0.8
CLCH				*i* S	Sb		05 38 56.9	-0.4
CLCH				AMP			05 39 02.5	
	comp=N,172nm,0.4s							
PCH	**Pirque**	**1.56**	**116**	⇓*i*P	Pn		05 38 39.6	-0.4
PCH				*i* S	Sn		05 38 59.5	-0.5
CHCH	**Chadas Angostu**	**1.62**	**128**	⇑*i*P	Pn		05 38 40.3	-0.6
FCH	**Farellones**	**1.64**	**104**	⇑*i*P	Pn		05 38 41.0	-0.2
FCH				*i* S	Sn		05 39 03.0	+0.8
FCH				AMP			05 39 08.7	
	comp=E,138nm,0.3s							
CACH	**El Canelo**	**1.77**	**131**	⇓*i*P	Pn		05 38 44.3	+1.4
CACH				*i* S	Sn		05 39 07.1	+1.7
SFDO	**San Fernando**	**1.93**	**150**	⇓*i*P	Pn		05 38 44.9	-0.4
CICH	**Cipreses**	**2.02**	**133**	⇑*i*P	Pn		05 38 47.1	+0.6
CMCH	**Combarbala**	**2.04**	**30**	⇑*i*P	Pn		05 38 46.6	-0.3

*DHMR **24** 05:45:59.4±0.3, 12.65N×40.51E, h10km±94km, ML4.4*

*IDC **24** 05:46:02.1±1.3, 12.56N×40.42E, mb4.0/9, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, ML4.6/1, MS3.9/3, Ms1 3.9/3, ms1mx3.5/19, Error ellipse: s-maj=32.8km s-min=19.8km az=42.0*

*CSEM **24** 05:46:02.8±0.1, 12.94N×40.46E, h2km, mb4.5/1, Error ellipse: s-maj=4.6km s-min=2.4km az=17.0*

*NEIC **24** 05:46:03.5±0.7, 12.57N×40.42E, h10km, mb4.5/1, Error ellipse: s-maj=17.9km s-min=9.5km az=223.0*

ISC 24 05:46:02.3±0.7, 12.70N±0.08×40.48E±0.05, h10km, n27, σ1§04/29, mb3.9/10, MS3.9/2, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ATD	**Arta Tunnel**	**2.59**	**116**	Pn	**Pn**		**05 46 45.7**	**+0.6**
	129nm,0.3s,baz=89,slow=22,SNR=10							
ATD				Sn	**Sn**		**05 47 19.3**	**+2.3**
	20nm,0.3s,baz=276,slow=22,SNR=4.7							
ATD	**Arta Tunnel**	**2.59**	**116**	Pn	**Pn**		**05 46 45.7**	**+0.6**
ATD				Sn	**Sn**		**05 47 19.3**	**+2.3**
UDYN	**Al 'Udayn**	**3.62**	**69**	*e*P	**Pn**		**05 46 58.4**	**-1.4**
UDYN				*i* S	**Sn**		**05 47 44.4**	**+1.3**
UDYN				AML	AML		05 48 05.1	
	comp=E,2µm,0.7s							
DHBB	**Dhamar BB**	**4.24**	**63**	*e*P	**Pn**		**05 47 06.6**	**-1.9**
DHBB				*i* S	**Sn**		**05 47 59.0**	**+0.4**
ADEN	**Aden**	**4.40**	**88**	*e*P	**Pn**		**05 47 08.1**	**-2.7**
ADEN				*i* S	**Sn**		**05 48 01.6**	**-1.1**
KMBO	**Kilima Mbogo**	**14.10**	**193**	LR	LR		05 54 27.7	
	comp=E,497nm,19.8s,baz=355,slow=36							
MALT	**Malatya**	**25.58**	**356**	P	**P**		**05 51 34.0**	**+0.8**
MALT	**Malatya**	**25.58**	**356**	P	**P**		**05 51 34.0**	**+0.7**
BRTR	**Keskin Array B**	**27.59**	**349**	P	**P**		**05 51 53.8**	**+2.0**
	comp=E,1.9nm,0.9s,mb3.7,baz=180,slow=14,SNR=7.1							
BR131	**Keskin Array S**	**27.59**	**349**	*e*P	**P**		**05 51 52.3**	**+0.5**
BR131	**Keskin Array S**	**27.59**	**349**	*e*P	**P**		**05 51 52.3**	**+0.5**
GNI	**Garni**	**27.60**	**7**	LR	LR		06 02 52.1	
	comp=E,234nm,18.3s,MS3.8,baz=50,slow=36							
AKASG	**Malin Array Be**	**39.00**	**349**	P	**P**		**05 53 30.3**	**-0.3**
	comp=E,2.5nm,0.8s,mb4.0,baz=173,slow=7.1,SNR=7.6							
MORC	**Moravsky Berou**	**41.50**	**338**	P	**P**		**05 53 51.0**	**-0.2**
MORC	**Moravsky Berou**	**41.50**	**338**	P	**P**		**05 53 51.0**	**-0.3**
AAK	**Ala-Archa**	**41.90**	**38**	*e*P	**P**		**05 53 55.3**	**+0.7**
GERES	**GERESS Array B**	**42.31**

KSL	**Kastellorizon**	**1.34**	**133**	*e*PG	**Pg**	**06 02 15.0**	**+0.8**
KSL				*e*SB	**Sb**	**06 02 35.0**	**+5.7**
SMG	**Samos**	**1.38**	**298**	*e*PB	**Pb**	**06 02 13.1**	**+0.1**
SMG				*e*SB	**Sb**	**06 02 30.6**	**-0.1**
SMG	**Samos**	**1.38**	**298**	*e*Pn	**Pb**	**06 02 13.1**	**+0.1**
SMG				*e*Sn	**Sn**	**06 02 32.0**	**+0.5**
MANT	**Manisa**	**1.42**	**6**	*i* P	**Pn**	**06 02 13.6**	**0.0**
MANT				*i* S	**Sb**	**06 02 32.7**	**+0.9**
KHL	**Karahalli**	**1.54**	**36**	*e*PN	**Pn**	**06 02 14.6**	**-0.7**
IZM	**Izmir**	**1.59**	**327**	*e*PN	**Pn**	**06 02 16.3**	**+0.3**
KDAG	**Bornova**	**1.59**	**327**	*i* P	**Pn**	**06 02 14.1**	**-1.9**
KDAG				*i* S	**Sb**	**06 02 40.6**	**+3.8**
KARP	**Karpathos**	**1.81**	**213**	*e*PB	**Pb**	**06 02 19.6**	**-0.8**
TKTP	**Tekketepe**	**1.82**	**57**	*i* P	**Pn**	**06 02 18.2**	**-1.1**
TKTP				*i* S	**Sn**	**06 02 49.5**	**+6.9**
URLA	**Izmir**	**1.91**	**313**	*i* P	**Pn**	**06 02 18.3**	**-2.3**
URLA				*i* S	**Sn**	**06 02 52.1**	**+7.2**
APE	**Apeiranthos**	**2.28**	**271**	*e*PN	**Pn**	**06 02 26.7**	**+0.9**

*IDC **24** 06:10:43.6±0.7, 12.62N×40.41E, mb4.2/15, mb1 4.3/17, mb1mx4.2/22, mbtmp4.2/17, ML4.0/2, Error ellipse: s-maj=17.8km s-min=15.0km az=98.0*
*NEIC **24** 06:10:45.0±0.3, 12.61N×40.40E, h10km, mb4.5/11, Error ellipse: s-maj=7.2km s-min=5.9km az=71.0*
*CSEM **24** 06:10:46.5±0.1, 12.69N×40.36E, h30km, mb4.5/10, Error ellipse: s-maj=5.1km s-min=3.8km az=34.0*
ISC 24 06:10:43.4±0.4, 12.60N±0.06×40.36E±0.05, h10km, n64, σ0s80/64, mb4.3/27, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ATD	**Arta Tunnel**	**2.66**	**113**	Pn		**Pn**	**06 11 26.6**	**-0.4**
	173nm,0.3s,baz=262,slow=15,SNR=28							
ATD				Sn		**Sn**	**06 11 59.6**	**+0.1**
	106nm,0.3s,baz=110,slow=23,SNR=7.5							
ATD	**Arta Tunnel**	**2.66**	**113**	Pn		**Pn**	**06 11 26.6**	**-0.4**
UDYN	**Al 'Udayn**	**3.76**	**68**	*i* P		**Pn**	**06 11 42.9**	**+0.1**
UDYN				*i* S		**Sn**	**06 12 39.5**	**+12**
ADEN	**Aden**	**4.51**	**87**	*e*P		**Pn**	**06 11 57.0**	**+3.5**
ADEN				*i* S		**Sn**	**06 12 52.9**	**+6.3**
KMBO	**Kilima Mbogo**	**13.98**	**193**	Pn		**P**	**06 14 03.8**	**-0.3**
	0.1nm,0.3s,baz=14,slow=15,SNR=2.9							
KMBO				Lg			06 18 09.8	
	0.1nm,0.3s,baz=260,slow=20,SNR=5.1							
ASF	**Jabal al Asfar**	**19.74**	**351**	P		**P**	**06 15 19.7**	**+3.5**
	0.3nm,0.3s,baz=197,slow=12,SNR=3.5							
MSL	**Mosul**	**23.71**	**5**	*e*		x	06 16 20.0	
MALT	**Malatya**	**25.66**	**356**	*e*P		**P**	**06 16 15.2**	**+0.1**
	14nm,1.1s,mb4.4							
MALT	**Malatya**	**25.66**	**356**	*e*P		**P**	**06 16 15.2**	**+0.1**
	14nm,1.1s,mb4.4							
IDI	**Anoyia**	**26.57**	**331**	P		**P**	**06 16 29.9**	**+6.4**
	12nm,1.1s,mb4.3,baz=132,slow=9.7,SNR=3.3							
BR131	**Keskin Array S**	**27.66**	**349**	*e*P		**P**	**06 16 33.6**	**+0.2**
BR131	**Keskin Array S**	**27.66**	**349**	*e*P		**P**	**06 16 33.6**	**+0.2**
BRTR	**Keskin Array B**	**27.66**	**349**	P		**P**	**06 16 34.5**	**+1.1**
	3.6nm,0.9s,mb4.0,baz=173,slow=10.0,SNR=14							
BRTR				PcP		PcP	06 19 51.0	0.0
	0.4nm,0.4s,baz=180,slow=1.4,SNR=2.6							
GNI	**Garni**	**27.71**	**7**	P		**P**	**06 16 36.9**	**+3.0**
	2.9nm,0.3s,mb4.3,baz=204,slow=22,SNR=3.3							
GNI	**Garni**	**27.71**	**7**	P		**P**	**06 16 36.9**	**+3.0**
MATP	**Matopo**	**34.83**	**200**	P		**P**	**06 17 37.5**	**+0.7**
	4.2nm,1.1s,mb4.3,baz=33,slow=10,SNR=4.2							
AKASG	**Malin Array Be**	**39.07**	**349**	P		**P**	**06 18 11.3**	**-0.9**
	3.4nm,0.8s,mb4.1,baz=172,slow=7.3,SNR=12							
AKASG	**Malin Array Be**	**39.07**	**349**	P		**P**	**06 18 11.3**	**-0.9**
VRAC	**Vranov**	**41.52**	**337**	*e*P		**P**	**06 18 34.8**	**+2.3**
AAK	**Ala-Archa**	**42.05**	**38**	*e*P		**P**	**06 18 37.6**	**+0.8**
	7.1nm,1.1s,mb4.2							
AAK	**Ala-Archa**	**42.05**	**38**	*e*P		**P**	**06 18 37.6**	**+0.8**
	7.1nm,1.1s,mb4.2							
GERES	**GERESS Array B**	**42.35**	**334**	P		**P**	**06 18 39.2**	**0.0**
	2.5nm,0.8s,mb3.9,baz=135,slow=7.5,SNR=16							
MBDF	**Montbardon**	**42.97**	**325**	*e*P		**P**	**06 18 45.3**	**+0.9**
	17nm,0.8s,mb4.5							
SMRF	**Simiane la Rot**	**43.21**	**323**	*e*P		**P**	**06 18 46.9**	**+0.6**
LPL	**La Plagne**	**43.48**	**326**	*e*P		**P**	**06 18 47.7**	**-0.8**
ORIF	**Oris-en-Rattie**	**43.59**	**324**	*e*P		**P**	**06 18 49.4**	**0.0**
BRG	**Berggiesshubel**	**43.81**	**336**	*e*P		pP	06 19 00.0	+6.0
	13nm,1.4s							
GRA1	**Grafenberg Arr**	**44.06**	**333**	*e*P		**P**	**06 18 52.6**	**-0.5**
	10.0nm,1.4s,mb4.3							
GRA1				*e*pP		pP	06 19 01.6	+5.5
LASF	**Ste Croix**	**44.29**	**322**	*e*P		**P**	**06 18 55.2**	**+0.1**
	20nm,1.3s,mb4.4							
CABF	**La Chapelle**	**44.51**	**326**	*e*P		**P**	**06 18 56.2**	**-0.6**
	8.4nm,0.7s,mb4.4							
CLL	**Collm**	**44.52**	**336**	*e**SP		sP	06 19 04.0	+2.9
HINF	**Hinteralfeld**	**44.87**	**328**	*e*P		**P**	**06 18 59.1**	**-0.6**
MTLF	**Montolieu**	**44.89**	**320**	*e*P		**P**	**06 19 00.1**	**+0.1**
DBIC	**Dimbokro**	**44.92**	**267**	P		**P**	**06 19 00.3**	**-0.3**
	5.2nm,0.8s,mb4.4,baz=64,slow=12,SNR=10							
CDF	**Champ du Feu**	**45.04**	**329**	*e*P		**P**	**06 19 00.5**	**-0.6**
HAU	**Haudompre**	**45.25**	**328**	*e*P		**P**	**06 19 02.1**	**-0.6**
MDT	**Midelt**	**45.70**	**304**	P		**P**	**06 19 06.8**	**+0.3**
	2.1nm,0.9s,mb4.1,baz=109,slow=11,SNR=5.4							
CAF	**Calviac**	**45.83**	**322**	*e*P		**P**	**06 19 08.0**	**+0.7**
EPF	**Esparros**	**45.92**	**319**	*e*P		**P**	**06 19 08.2**	**+0.1**
LOR	**Lormes**	**46.12**	**326**	*e*P		**P**	**06 19 09.1**	**-0.5**
AVF	**Avril sur Loir**	**46.12**	**325**	*e*P		**P**	**06 19 08.8**	**-0.8**
	7.8nm,1.0s,mb4.3							
SSF	**Saint Saulge**	**46.19**	**325**	*e*P		**P**	**06 19 09.4**	**-0.8**
MEZF	**Maizieres J'vi**	**46.23**	**328**	*e*P		**P**	**06 19 10.4**	**-0.1**
BGF	**Bois d'Agland**	**46.27**	**324**	*e*P		**P**	**06 19 10.8**	**0.0**
RJF	**Les Rejaudoux**	**46.36**	**322**	*e*P		**P**	**06 19 11.8**	**+0.3**
ETSF	**Etsaut**	**46.44**	**318**	*e*P		**P**	**06 19 13.2**	**+1.0**
	17nm,1.0s,mb4.6							
LFF	**La Frestale**	**46.63**	**321**	*e*P		**P**	**06 19 14.3**	**+0.6**
BRVK	**Borovoye**	**46.88**	**24**	*e*P		**P**	**06 19 15.1**	**-0.4**
BRVK	**Borovoye**	**46.88**	**24**	*e*P		**P**	**06 19 15.1**	**-0.4**
BVAR	**Borovoye Array**	**46.90**	**24**	P		**P**	**06 19 15.6**	**-0.1**
	1.3nm,0.8s,mb3.9,baz=211,slow=8.6,SNR=5.4							
SJPF	**Ste Jean**	**46.97**	**318**	*e*P		**P**	**06 19 17.5**	**+1.1**
	14nm,0.8s,mb4.6							
GIVF	**Givet**	**47.36**	**329**	*e*P		**P**	**06 19 18.7**	**-0.7**
ESDC	**Sonseca Array**	**47.40**	**313**	P		**P**	**06 19 21.0**	**+1.1**
	1.4nm,0.7s,mb4.0,baz=118,slow=8.2,SNR=7.5							
SUR	**Sutherland**	**48.48**	**202**	P		**P**	**06 19 28.4**	**0.0**
	4.7nm,0.8s,mb4.5,baz=5.2,slow=11,SNR=4.3							
MKAR	**Makanchi Array**	**48.96**	**37**	P		**P**	**06 19 31.4**	**-0.4**
	3.5nm,1.0s,mb4.4,baz=233,slow=6.1,SNR=12							
KURK	**Kurchatov**	**49.11**	**31**	*e*P		**P**	**06 19 32.4**	**-0.5**
	6.5nm,1.1s,mb4.6							
KURK	**Kurchatov**	**49.11**	**31**	*e*P		**P**	**06 19 32.4**	**-0.5**
	6.5nm,1.1s,mb4.6							
FINES	**FINESS Array B**	**49.86**	**351**	P		**P**	**06 19 38.4**	**-0.2**
	4.0nm,0.9s,mb4.5,baz=180,slow=11,SNR=5.0							
NB2	**NORSAR Subarra**	**52.82**	**343**	P		**P**	**06 20 00.2**	**-0.8**
	7.7nm,1.1s,mb4.5,baz=145,slow=7.4							
NOA	**NORSAR Array B**	**52.82**	**343**	P		**P**	**06 19 59.8**	**-1.2**
	2.3nm,0.8s,mb4.2,baz=139,slow=7.1,SNR=3.9							
ZAL	**Zalesovo**	**54.06**	**31**	P		**P**	**06 20 09.9**	**-0.3**
	1.4nm,0.4s,mb4.2,baz=226,slow=7.4,SNR=6.4							
ARCES	**ARCESS Array B**	**57.67**	**354**	P		**P**	**06 20 34.0**	**-2.0**
	2.3nm,0.8s,mb4.3,baz=321,slow=7.8,SNR=4.4							
SONM	**Songino Array**	**64.70**	**43**	P		**P**	**06 21 23.8**	**-0.1**
	2.8nm,0.9s,mb4.3,baz=250,slow=6.3,SNR=14							
SUMG	**Summit**	**74.71**	**342**	*e*P		**P**	**06 22 24.0**	**-0.6**

*ISK **24** 06:12:06.4, 37.08N×28.38E, h14km, MD3.2*
*NEIC **24** 06:12:06.0, 37.08N×28.38E, h14km, MD3.4(ATH), MD3.1(ISK), After ISK.*
*CSEM **24** 06:12:06.2±0.1, 37.10N×28.42E, h8km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.3km az=179.0*
*ATH **24** 06:12:07.6, 37.12N×28.30E, h23km±3km, MD3.4/5*
ISC 24 06:12:06.9±0.5, 37.10N±0.03×28.37E±0.03, h9km±3km, n27, σ1s03/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
YER	**Yerkesik**	**0.08**	**297**	*i* PG		**Pg**	**06 12 09.4**	**+0.2**
YER				*i* SG		**Sg**	**06 12 11.6**	**+0.9**
DALT	**Dalyan (Mudla)**	**0.39**	**147**	PG		**Pg**	**06 12 13.5**	**-1.4**
DALT				SG		**Sg**	**06 12 20.7**	**+0.5**
MLSB	**Milas**	**0.51**	**293**	PG		**Pg**	**06 12 17.6**	**+0.3**
AYDN	**Tasoluk**	**0.68**	**325**	*i* P		**Pb**	**06 12 20.7**	**+0.3**
AYDN				*i* S		**Sb**	**06 12 34.1**	**+4.4**
DENT	**Denizli**	**0.84**	**39**	PG		**Pg**	**06 12 24.0**	**+0.3**
BODT	**Bodrum**	**0.85**	**268**	PG		**Pg**	**06 12 23.2**	**-0.6**
BODT				SG		**Sg**	**06 12 36.1**	**+0.9**
GOLH	**Golhisar**	**0.96**	**81**	*i* P		**Pb**	**06 12 24.7**	**-0.5**
GOLH				*i* S		**Sb**	**06 12 40.1**	**+2.3**
NISR	**Nisiros**	**1.11**	**244**	*e*PN		**Pn**	**06 12 28.0**	**-0.5**
NISR	**Nisiros**	**1.11**	**244**	*e*Pn		**Pn**	**06 12 28.5**	**0.0**
ELL	**Elmali**	**1.28**	**105**	*e*PN		**Pn**	**06 12 29.7**	**-1.2**
AKAS	**Kas**	**1.31**	**131**	*i* P		**Pb**	**06 12 30.5**	**-0.8**
AKAS				*i* S		**Sb**	**06 12 49.6**	**+1.6**
KSL	**Kastellorizon**	**1.36**	**134**	*e*PN		**Pn**	**06 12 34.0**	**+2.0**
SMG	**Samos**	**1.36**	**297**	*e*PN		**Pn**	**06 12 32.6**	**+0.5**
SMG				*e*SN		**Sn**	**06 12 50.0**	**-0.4**
SMG	**Samos**	**1.36**	**297**	*e*Pb		**Pb**	**06 12 32.5**	**+0.4**
SMG				*e*Sn		**Sn**	**06 12 51.7**	**+1.3**
MANT	**Manisa**	**1.40**	**6**	*i* P		**Pn**	**06 12 30.5**	**-2.1**
MANT				*i* S		**Sb**	**06 12 50.6**	**+0.2**
KHL	**Karahalli**	**1.53**	**36**	*e*PN		**Pn**	**06 12 34.5**	**0.0**
IZM	**Izmir**	**1.57**	**326**	*e*PN		**Pn**	**06 12 35.1**	**+0.1**
KDAG	**Bornova**	**1.57**	**326**	*i* P		**Pn**	**06 12 30.5**	**-4.5**
KDAG				*i* S		**Sb**	**06 12 56.4**	**+1.0**
BLCB	**Balcova**	**1.66**	**321**	*e*PN		**Pn**	**06 12 36.6**	**+0.2**
BCK	**Bucak**	**1.81**	**78**	*e*PN		**Pn**	**06 12 37.6**	**-0.8**
TKTP	**Tekketepe**	**1.81**	**58**	*i* P		**Pn**	**06 12 35.3**	**-3.2**
TKTP				*i* S		**Sn**	**06 13 06.9**	**+5.2**
AKS	**Akhisar**	**1.83**	**346**	*e*PN		**Pn**	**06 12 39.3**	**+0.5**
KARP	**Karpathos**	**1.83**	**213**	*e*PB		**Pb**	**06 12 39.0**	**-1.1**
KARP				*e*SN		**Sn**	**06 13 03.3**	**+1.1**
KARP	**Karpathos**	**1.83**	**213**	*e*Pn		**Pn**	**06 12 38.9**	**+0.1**
URLA	**Izmir**	**1.89**	**312**	*i* P		**Pn**	**06 12 38.1**	**-1.4**
URLA				*i* S		**Sn**	**06 13 10.7**	**+7.0**
APE	**Apeiranthos**	**2.27**	**270**	*e*PN		**Pn**	**06 12 44.5**	**-0.6**
APE	**Apeiranthos**	**2.27**	**270**	*e*PB		**Pb**	**06 12 45.8**	**-1.8**

*IDC **24** 06:14:43.3±1.2, 12.21N×40.27E, mb4.0/12, mb1 4.1/12, mb1mx4.1/17, mbtmp4.0/12, ML4.9/1, MS4.3/20, Ms1 4.3/20, ms1mx4.2/27, Error ellipse: s-maj=29.3km s-min=19.0km az=43.0*
*NEIC **24** 06:14:45.6±0.5, 12.29N×40.45E, h10km, mb4.7/10, MS4.0/3, Error ellipse: s-maj=11.5km s-min=5.6km az=198.0*
*CSEM **24** 06:14:47.7±0.2, 12.37N×40.50E, h33km, mb4.6/11, Ms4.0, Error ellipse: s-maj=8.5km s-min=3.4km az=8.0*
ISC 24 06:14:44.9±0.5, 12.44N±0.09×40.49E±0.06, h10km, n78, σ0s93/71, mb4.3/28, MS4.4/18, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ATD	**Arta Tunnel**	**2.48**	**111**	Pn		**Pn**	**06 15 28.0**	**+2.0**
	203nm,0.3s,baz=251,slow=21,SNR=19							
ATD				Sn		**Sn**	**06 16 02.4**	**+5.8**
	90nm,0.3s,baz=100,slow=22,SNR=10							
UDYN	**Al 'Udayn**	**3.71**	**65**	*i* P		**Pn**	**06 15 48.6**	**+5.0**
UDYN				*i* S		**Sn**	**06 16 35.2**	**+7.3**
ADEN	**Aden**	**4.40**	**85**	*i* P		**Pn**	**06 16 01.2**	**+7.8**
ADEN				*i* S		**Sn**	**06 16 59.7**	**+14**
KMBO	**Kilima Mbogo**	**13.85**	**194**	Lg			06 22 08.2	
	0.1nm,0.3s,baz=105,slow=19,SNR=3.1							
KMBO				LR		LR	06 23 21.3	
	comp=Z,1μm,19.9s,baz=4.9,slow=38							
ASF	**Jabal al Asfar**	**19.92**	**351**	P		**P**	**06 19 23.6**	**+3.8**
	6.3nm,0.9s,baz=108,slow=5.1,SNR=4.4							
ASF				LR		LR	06 26 18.8	
	comp=Z,326nm,20.2s,baz=226,slow=35							
MALT	**Malatya**	**25.84**	**356**	*e*P		**P**	**06 20 18.8**	**+0.6**
MALT	**Malatya**	**25.84**	**356**	*e*P		**P**	**06 20 18.8**	**+0.5**
IDI	**Anoyia**	**26.78**	**331**	LR		LR	06 31 06.4	
	comp=Z,292nm,19.5s,MS3.8,baz=34,slow=37							
BRTR	**Keskin Array B**	**27.85**	**349**	P		**P**	**06 20 37.0**	**+0.4**
	3.5nm,0.9s,mb4.0,baz=166,slow=10,SNR=12							
BRTR	**Keskin Array B**	**27.85**	**349**	P		**P**	**06 20 37.0**	**+0.3**
BR131	**Keskin Array S**	**27.85**	**349**	*e*P		**P**	**06 20 36.7**	**+0.1**
BR131	**Keskin Array S**	**27.85**	**349**	*e*P		**P**	**06 20 36.7**	**0.0**
GNI	**Garni**	**27.86**	**7**	P		**P**	**06 20 38.2**	**+1.5**
	2.4nm,0.4s,mb4.2,baz=182,slow=20,SNR=2.3							
GNI				LR		LR	06 31 37.4	
	comp=Z,395nm,20.3s,MS4.0,baz=23,slow=36							
LSZ	**Lusaka**	**30.11**	**204**	LR		LR	06 34 07.2	
	comp=Z,804nm,18.4s,MS4.4,baz=253,slow=39							
VAE	**Valguarnera**	**34.14**	**321**	LR		LR	06 36 50.1	
	comp=Z,356nm,19.0s,MS4.1,baz=308,slow=39							
MATP	**Matopo**	**34.72**	**200**	P		**P**	**06 21 38.9**	**+1.5**
	2.3nm,1.0s,mb4.1,baz=25,slow=9.3,SNR=3.6							
MATP				LR		LR	06 36 21.3	
	comp=Z,1μm,21.2s,MS4.6,baz=26,slow=38							
TSUM	**Tsumeb**	**38.70**	**216**	LR		LR	06 38 55.8	
	comp=Z,1μm,18.0s,MS4.8,baz=21,slow=38							
AKASG	**Malin Array Be**	**39.25**	**349**	P		**P**	**06 22 15.1**	**-0.2**
	1.5nm,0.8s,mb3.8,baz=169,slow=7.3,SNR=8.1							
PSZ	**Piszkesteto**	**39.34**	**338**	P		**P**	**06 22 16.2**	**+0.1**
PSZ	**Piszkesteto**	**39.34**	**338**	P		**P**	**06 22 16.2**	**+0.1**
LBTB	**Lobatse**	**39.96**	**201**	LR		LR	06 38 33.5	
	comp=Z,827nm,19.7s,MS4.6,baz=39,slow=36							
PGF	**Pioggiola**	**40.56**	**324**	*e*P		**P**	**06 22 26.7**	**+0.5**
	18nm,1.0s,mb4.3							
MORC	**Moravsky Berou**	**41.75**	**338**	P		**P**	**06 22 36.0**	**+0.2**
MORC	**Moravsky Berou**	**41.75**	**338**	P		**P**	**06 22 36.0**	**+0.1**
AAK	**Ala-Archa**	**42.10**	**38**	*e*P		**P**	**06 22 39.8**	**+0.9**
	4.9nm,1.1s,mb4.0							
AAK	**Ala-Archa**	**42.10**	**38**	*e*P		**P**	**06 22 39.8**	**+1.0**
	4.9nm,1.1s,mb4.0							
GERES	**GERESS Array B**	**42.55**	**334**	P		**P**	**06 22 41.7**	**-0.8**
	0.6nm,0.5s,mb3.6,baz=166,slow=5.5,SNR=8.7							
GERES				LR		LR	06 43 06.5	
	comp=Z,138nm,19.1s,MS3.9,baz=152,slow=40							
DAVOX	**Davos**	**42.84**	**329**	LR		LR	06 41 10.5	
	comp=Z,98nm,18.8s,MS3.7,baz=356,slow=37							
KOLN	**Koldanda**	**43.02**	**63**	*e*P		**P**	**06 22 46.1**	**-0.5**
	90nm,1.4s,mb5.3							
MBDF	**Montbardon**	**43.18**	**325**	*e*P		**P**	**06 22 48.7**	**+1.1**
	25nm,1.1s,mb4.5							
SMRF	**Simiane la Rot**	**43.42**	**323**	*e*P		**P**	**06 22 50.2**	**+0.6**
ORIF	**Oris-en-Rattie**	**43.80**	**324**	*e*P		**P**	**06 22 52.9**	**+0.2**
ORIF				*e*R				
	222nm,20.5s							
GKN	**Gorkha**	**43.97**	**63**	*e*P		**P**	**06 22 52.0**	**-2.3**
GRA1	**Grafenberg Arr**	**44.27**	**333**	*e*P		**P**	**06 22 55.4**	**-1.0**
	5.0nm,1.1s,mb4.2							
DMN	**Daman**	**44.30**	**63**	*e*P		**P**	**06 22 56.8**	**-0.2**
	50nm,1.4s,mb5.0							
VIVF	**Saint-Julien-l**	**44.45**	**324**	*e*P		**P**	**06 22 58.1**	**+0.1**
KKN	**Kakani**	**44.49**	**63**	*e*P		**P**	**06 22 58.0**	**-0.5**
	38nm,0.9s,mb5.1							
LASF	**Ste Croix**	**44.49**	**322**	*e*P		**P**	**06 22 58.6**	**+0.3**
	18nm,1.1s,mb4.4							
PKI	**Pulchoki**	**44.56**	**63**	*e*P		**P**	**06 22 58.9**	**-0.2**
CABF	**La Chapelle**	**44.71**	**326**	*e*P		**P**	**06 22 59.3**	**-0.8**
	60nm,1.6s,mb4.9							
CLL	**Collm**	**44.72**	**336**	P		**P**	**06 23 02.0**	**+1.9**
CLL				*e**PP		pP	06 23 06.0	+2.9
GUN	**Gumba**	**45.03**	**63**	*e*P		**P**	**06 23 02.9**	**0.0**
DBIC	**Dimbokro**	**45.04**	**267**	P		**P**	**06 23 02.0**	**-1.0**
	2.2nm,0.6s,mb4.2,baz=72,slow=12,SNR=5.6							
DBIC				LR		LR	06 41 12.9	
	comp=Z,472nm,19.1s,MS4.4,baz=67,slow=36							
DBIC	**Dimbokro**	**45.04**	**267**	P		**P**	**06 23 02.0**	**-1.1**
HINF	**Hinteralfeld**	**45.07**	**328**	*e*P		**P**	**06 23 02.6**	**-0.3**
CDF	**Champ du Feu**	**45.25**	**329**	*e*P		**P**	**06 23 04.1**	**-0.2**
HAU	**Haudompre**	**45.45**	**328**	*e*P		**P**	**06 23 05.5**	**-0.4**
HAU				*e*R				
	140nm,20.0s							
MDT	**Midelt**	**45.89**	**304**	P		**P**	**06 23 10.8**	**+1.2**
	4.3nm,1.1s,mb4.3,baz=105,slow=9.5,SNR=5.5							
MDT				LR		LR	06 45 10.5	
	comp=Z,779nm,20.3s,MS4.6,baz=110,slow=40							
SMF	**Signal de Mont**	**45.97**	**325**	*e*P		**P**	**06 23 09.5**	**-0.5**
CAF	**Calviac**	**46.03**	**322**	*e*P		**P**	**06 23 11.1**	**+0.6**
LOR	**Lormes**	**46.33**	**326**	*e*P		**P**	**06 23 12.5**	**-0.3**
	26nm,1.3s,mb4.7							
LOR				*e*R				
	173nm,21.0s							
AVF	**Avril sur Loir**	**46.33**	**325**	*e*P		**P**	**06 23 12.2**	**-0.6**
SSF	**Saint Saulge**	**46.40**	**325**	*e*P		**P**	**06 23 12.8**	**-0.6**
MEZF	**Maizieres J'vi**	**46.44**	**328**	*e*P		**P**	**06 23 13.9**	**+0.2**
BGF	**Bois d'Agland**	**46.48**	**324**	*e*P		**P**	**06 23 14.1**	**+0.1**
RJF	**Les Rejaudoux**	**46.56**	**322**	*e*P		**P**	**06 23 15.2**	**+0.5**
RJF				*e*R				
	195nm,22.0s							
ETSF	**Etsaut**	**46.65**	**318**	*e*P		**P**	**06 23 16.6**	**+1.2**
	30nm,1.3s,mb4.8							
TCF	**Toulx Ste Croi**	**46.69**	**324**	*e*P		**P**	**06 23 15.9**	**+0.2**
LFF	**La Frestale**	**46.84**	**321**	*e*P		**P**	**06 23 17.8**	**+0.9**
BRVK	**Borovoye**	**46.98**	**24**	*e*P		**P**	**06 23 18.3**	**+0.4**
BRVK	**Borovoye**	**46.98**	**24**	*e*P		**P**	**06 23 18.3**	**+0.4**
BVAR	**Borovoye Array**	**47.00**	**24**	P		**P**	**06 23 18.8**	**+0.7**
	0.7nm,0.6s,mb3.7,baz=217,slow=7.4,SNR=4.6							
SJPF	**Ste Jean**	**47.18**	**318**	*e*P		**P**	**06 23 20.9**	**+1.2**
	44nm,1.3s,mb4.9							
GIVF	**Givet**	**47.56**	**329**	*e*P		**P**	**06 23 22.2**	**-0.4**
ESDC	**Sonseca Array**	**47.61**	**313**	P		**P**	**06 23 20.7**	**-2.4**
	0.1nm,0.2s,mb3.4,baz=198,slow=33,SNR=3.4							
BAIF	**Baives**	**47.85**	**329**	*e*P		**P**	**06 23 24.1**	**-0.7**
SUR	**Sutherland**	**48.38**	**202**	LR		LR	06 42 19.4	
	comp=Z,544nm,21.7s,MS4.5,baz=33,slow=34							
MKAR	**Makanchi Array**	**49.02**	**37**	P		**P**	**06 23 33.1**	**-0.8**
	1.8nm,0.7s,mb4.2,baz=234,slow=5.2,SNR=9.5							
MKAR				LR		LR	06 48 23.5	
	comp=Z,951nm,21.5s,MS4.8,baz=183,slow=41							
KURK	**Kurchatov**	**49.18**	**31**	*e*P		**P**	**06 23 34.9**	**-0.2**
	1.5nm,0.7s,mb4.1							
NOA	**NORSAR Array B**	**53.01**	**343**	P		**P**	**06 24 02.7**	**-1.4**
	1.3nm,0.8s,mb3.9,baz=142,slow=7.3,SNR=3.4							
NOA				LR		LR	06 49 11.3	
	comp=Z,79nm,19.6s,MS3.8,baz=125,slow=39							
NOA	**NORSAR Array B**	**53.01**	**343**	P		**P**	**06 24 02.7**	**-1.4**
NOA				LR		LR	06 49 11.3	
ZAL	**Zalesovo**	**54.13**	**31**	P		**P**	**06 24 11.2**	**-1.1**
	1.4nm,0.3s,mb4.3,baz=207,slow=2.9,SNR=5.1							
ARCES	**ARCESS Array B**	**57.85**	**354**	P		**P**	**06 24 38.0**	**-0.9**
	1.5nm,0.9s,mb4.0,baz=104,slow=5.0,SNR=4.5							
SONM	**Songino Array**	**64.73**	**43**	P		**P**	**06 25 25.3**	**-0.3**
	1.8nm,0.9s,mb4.1,baz=255,slow=6.6,SNR=9.4							
SONM				LR		LR	06 58 08.7	
	comp=Z,645nm,19.2s,MS4.8,baz=265,slow=40							
SUMG	**Summit**	**74.90**	**342**	P		**P**	**06 26 27.5**	**+0.2**
MAW	**Mawson**	**81.46**	**172**	P		**P**	**06 27 01.0**	**-2.4**
	1.1nm,0.7s,mb3.9,baz=155,slow=23,SNR=7.1							
MAW				LR		LR	06 59 45.5	
	comp=Z,121nm,18.2s,MS4.3,baz=153,slow=33							
MJAR	**Matsushiro Arr**	**88.79**	**53**	LR		LR	07 10 54.9	
	comp=Z,180nm,19.0s,MS4.5,baz=255,slow=38							
**

ARCES	**ARCESS Array B**	**57.59**	**354**	P		**P**	**06 37 51.1**	**-3.5**
	3.5nm,0.8s,mb4.5,baz=146,slow=4.4,SNR=5.7							
SONM	**Songino Array**	**64.58**	**43**	P		**P**	**06 38 41.9**	**-0.3**
	2.2nm,0.8s,mb4.2,baz=259,slow=5.6,SNR=17							
SUMG	**Summit**	**74.65**	**342**	*e*P		**P**	**06 39 43.8**	**+0.4**
	5.0nm,0.8s,mb4.5							
SUMG	**Summit**	**74.65**	**342**	*e*P		**P**	**06 39 43.8**	**+0.4**
	5.0nm,0.8s,mb4.5							
MAW	**Mawson**	**81.71**	**172**	P		**P**	**06 40 22.7**	**+0.5**
	2.1nm,0.8s,mb4.1,baz=312,slow=6.2,SNR=4.9							
TXAR	**Lajitas Array**	**125.73**	**321**	PKP		PKPdf	06 47 06.4	-2.0
	0.3nm,0.9s,baz=45,slow=1.8,SNR=3.8							

*IDC **24** 06:32:45.4±1.2, 12.71N×40.67E, mb4.0/10, mb1 4.2/12, mb1mx4.1/20, mbtmp4.1/12, ML3.9/2, MS4.1/5, Ms1 4.1/5, ms1mx3.7/28, Error ellipse: s-maj=28.6km s-min=18.3km az=46.0*
*NEIC **24** 06:32:46.6±0.5, 12.69N×40.64E, h10km, mb4.3/4, Error ellipse: s-maj=13.7km s-min=9.2km az=64.0*
*CSEM **24** 06:32:46.3±0.1, 12.94N×40.62E, h10km, mb4.3/3, Error ellipse: s-maj=6.6km s-min=2.8km az=95.0*

ISC 24 06:32:45.1±0.6, 12.68N±0.08×40.53E±0.08, h10km, n36, σ1§05/36, mb4.1/15, MS4.1/4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.54**	**116**	Pn		Pn	**Pn**	**06 33 27.1**	**+0.1**
	185nm,0.3s,baz=262,slow=21,SNR=17								
ATD				Sn		Sn	**Sn**	**06 33 59.1**	**+0.8**
	85nm,0.3s,baz=96,slow=23,SNR=14								
ATD	**Arta Tunnel**	**2.54**	**116**	Sn		Sn	**Sn**	**06 33 59.2**	**+0.9**
UDYN	**Al 'Udayn**	**3.59**	**69**	*i* P		Pn	**Pn**	**06 33 48.3**	**+6.3**
UDYN				*i* S		Sn	**Sn**	**06 34 34.6**	**+10**
DHBB	**Dhamar BB**	**4.20**	**63**	*i* S		Sn	**Sn**	**06 34 51.9**	**+11**
KMBO	**Kilima Mbogo**	**14.09**	**194**	Pn		P	**P**	**06 36 07.2**	**0.0**
	0.1nm,0.3s,baz=94,slow=18,SNR=2.1								
KMBO				Lg				06 40 14.6	
	baz=111,slow=17,SNR=3.5								
KMBO				LR		LR	LR	06 41 20.3	
	comp=Z,519nm,19.0s,baz=328,slow=36								
ASF	**Jabal al Asfar**	**19.69**	**351**	P		P	**P**	**06 37 19.9**	**+2.5**
	0.5nm,0.3s,baz=235,slow=2.1,SNR=4.4								
MALT	**Malatya**	**25.60**	**356**	*e*P		P	**P**	**06 38 17.1**	**+0.9**
	35nm,1.6s,mb4.6								
MALT	**Malatya**	**25.60**	**356**	*e*P		P	**P**	**06 38 17.1**	**+0.9**
	35nm,1.6s,mb4.6								
GNI	**Garni**	**27.62**	**7**	P		P	**P**	**06 38 36.6**	**+1.8**
	2.6nm,0.3s,mb4.3,baz=107,slow=14,SNR=2.1								
GNI				LR		LR	LR	06 48 55.6	
	comp=Z,128nm,19.4s,MS3.5,baz=359,slow=35								
BR131	**Keskin Array S**	**27.62**	**348**	*e*P		P	**P**	**06 38 34.0**	**-0.8**
BR131	**Keskin Array S**	**27.62**	**348**	*e*P		P	**P**	**06 38 34.0**	**-0.8**
BRTR	**Keskin Array B**	**27.62**	**348**	P		P	**P**	**06 38 35.5**	**+0.8**
	3.8nm,1.0s,mb4.0,baz=173,slow=10.0,SNR=12								
BRTR	**Keskin Array B**	**27.62**	**348**	P		P	**P**	**06 38 35.5**	**+0.7**
MATP	**Matopo**	**34.95**	**200**	LR		LR	LR	06 53 12.3	
	comp=Z,418nm,18.4s,MS4.2,baz=25,slow=35								
MLR	**Muntele Rosu**	**34.98**	**342**	P		P	**P**	**06 39 40.4**	**+0.9**
	2.8nm,0.8s,mb4.2,baz=142,slow=7.7,SNR=4.3								
AKASG	**Malin Array Be**	**39.03**	**349**	P		P	**P**	**06 40 13.1**	**-0.4**
	0.9nm,0.6s,mb3.7,baz=172,slow=7.2,SNR=9.1								
PSZ	**Piszkesteto**	**39.13**	**338**	*e*P		P	**P**	**06 40 15.0**	**+0.6**
	3.6nm,0.9s,mb4.1								
PSZ	**Piszkesteto**	**39.13**	**338**	*e*P		P	**P**	**06 40 15.0**	**+0.5**
	3.6nm,0.9s,mb4.1								
VRAC	**Vranov**	**41.52**	**336**	*e*P		P	**P**	**06 40 34.8**	**+0.7**
	2.5nm,0.6s,mb4.1,baz=118,slow=12,SNR=5.9								
VRAC	**Vranov**	**41.52**	**336**	*e*P		P	**P**	**06 40 35.5**	**+1.3**
MORC	**Moravsky Berou**	**41.54**	**338**	*e*P		P	**P**	**06 40 34.0**	**-0.3**
MORC	**Moravsky Berou**	**41.54**	**338**	*e*P		P	**P**	**06 40 34.0**	**-0.3**
AAK	**Ala-Archa**	**41.89**	**38**	*e*P		P	**P**	**06 40 36.6**	**-0.7**
	2.4nm,0.8s,mb3.9								
AAK	**Ala-Archa**	**41.89**	**38**	*e*P		P	**P**	**06 40 36.6**	**-0.6**
	2.4nm,0.8s,mb3.9								
GERES	**GERESS Array B**	**42.35**	**334**	P		P	**P**	**06 40 41.0**	**0.0**
	1.5nm,0.9s,mb3.6,baz=135,slow=5.7,SNR=10								
GRA1	**Grafenberg Arr**	**44.07**	**333**	*e*P		P	**P**	**06 40 52.8**	**-2.1**
CLL	**Collm**	**44.52**	**336**	P		P	**P**	**06 40 58.0**	**-0.6**
DBIC	**Dimbokro**	**45.09**	**267**	LR		LR	LR	06 59 11.9	
	comp=Z,265nm,18.3s,MS4.2,baz=238,slow=35								
ESDC	**Sonseca Array**	**47.47**	**313**	P		P	**P**	**06 41 22.4**	**+0.3**
	1.2nm,0.8s,mb3.9,baz=113,slow=7.6,SNR=5.7								
ESDC	**Sonseca Array**	**47.47**	**313**	P		P	**P**	**06 41 22.4**	**+0.3**
MKAR	**Makanchi Array**	**48.81**	**37**	P		P	**P**	**06 41 30.3**	**-2.1**
	1.2nm,0.7s,mb4.0,baz=232,slow=5.1,SNR=9.0								
MKAR				LR		LR	LR	07 01 37.9	
	comp=Z,459nm,20.7s,MS4.5,slow=36								
MKAR	**Makanchi Array**	**48.81**	**37**	P		P	**P**	**06 41 30.3**	**-2.1**
MKAR				LR		LR	LR	07 01 37.9	
ZAL	**Zalesovo**	**53.91**	**31**	P		P	**P**	**06 42 09.5**	**-1.3**
	1.2nm,0.3s,mb4.3,baz=199,slow=5.2,SNR=5.2								
ARCES	**ARCESS Array B**	**57.62**	**354**	P		P	**P**	**06 42 36.9**	**-0.5**
	3.0nm,0.9s,mb4.3,baz=257,slow=21,SNR=3.4								
SONM	**Songino Array**	**64.54**	**43**	P		P	**P**	**06 43 23.6**	**-0.9**
	1.2nm,0.8s,mb4.0,baz=264,slow=6.8,SNR=7.4								
SUMG	**Summit**	**74.69**	**342**	*e*P		P	**P**	**06 44 26.5**	**+0.2**
	4.5nm,0.9s,mb4.4								

*IDC **24** 06:38:17.2±3.5, 12.54N×40.55E, mb3.7/5, mb1 3.8/6, mb1mx3.7/17, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=85.4km s-min=22.4km az=37.0*
*NEIC **24** 06:38:18.5±1.8, 12.54N×40.59E, h10km, mb3.9/2, Error ellipse: s-maj=45.2km s-min=11.4km az=220.0*
*CSEM **24** 06:38:18.5±0.4, 12.54N×40.59E, h10km, mb3.9/2, Error ellipse: s-maj=23.0km s-min=5.2km az=41.0, After NEIC*

ISC 24 06:38:17.5±2.3, 12.7N±0.3×40.5E±0.3, h10km, n15, σ0§71/17, mb3.7/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.53**	**116**	Pn		Pn	**Pn**	**06 38 58.2**	**-1.1**
	107nm,0.3s,baz=298,slow=15,SNR=8.5								
ATD				Sn		Sn	**Sn**	**06 39 31.4**	**+1.0**
	10nm,0.3s,baz=246,slow=19,SNR=3.8								
ATD	**Arta Tunnel**	**2.53**	**116**	Pn		Pn	**Pn**	**06 38 58.2**	**-1.1**
ATD				Sn		Sn	**Sn**	**06 39 31.5**	**+1.0**
MALT	**Malatya**	**25.62**	**356**	P		P	**P**	**06 43 49.7**	**+0.8**
	2.1nm,0.5s,mb3.9								
MALT	**Malatya**	**25.62**	**356**	P		P	**P**	**06 43 49.7**	**+0.8**
	2.1nm,0.5s,mb3.9								
BR131	**Keskin Array S**	**27.64**	**348**	P		P	**P**	**06 44 07.5**	**+0.1**
BR131	**Keskin Array S**	**27.64**	**348**	P		P	**P**	**06 44 07.5**	**+0.1**
BRTR	**Keskin Array B**	**27.64**	**348**	P		P	**P**	**06 44 08.4**	**+1.0**
	1.9nm,1.0s,mb3.7,baz=173,slow=10.0,SNR=6.3								
BRTR	**Keskin Array B**	**27.64**	**348**	P		P	**P**	**06 44 08.4**	**+1.0**
AKASG	**Malin Array Be**	**39.05**	**349**	P		P	**P**	**06 45 45.8**	**-0.5**
	0.3nm,0.3s,mb3.5,baz=166,slow=6.9,SNR=4.6								
PSZ	**Piszkesteto**	**39.15**	**338**	P		P	**P**	**06 45 47.0**	**-0.1**
PSZ	**Piszkesteto**	**39.15**	**338**	P		P	**P**	**06 45 47.0**	**-0.1**
AAK	**Ala-Archa**	**41.90**	**38**	P		P	**P**	**06 46 08.8**	**-1.0**
	1.0nm,0.6s,mb3.6								
GERES	**GERESS Array B**	**42.37**	**334**	P		P	**P**	**06 46 14.2**	**+0.6**
	0.6nm,0.8s,mb3.3,baz=127,slow=6.7,SNR=5.3								
MKAR	**Makanchi Array**	**48.83**	**37**	P		P	**P**	**06 47 04.9**	**-0.1**
	0.7nm,0.6s,mb3.9,baz=227,slow=6.0,SNR=5.8								
SONM	**Songino Array**	**64.55**	**43**	P		P	**P**	**06 48 57.0**	**-0.1**
	1.0nm,0.9s,mb3.9,baz=251,slow=6.6,SNR=6.4								

*MOS **24** 06:39:32.8±2.1, 42.97N×47.04E, h17km, mb4.0/1, Error ellipse: s-maj=26.5km s-min=26.1km az=37.2*
*CSEM **24** 06:39:32.8±0.3, 42.97N×47.04E, h17km, mb4.0, Error ellipse: s-maj=10.4km s-min=6.8km az=15.0, After OBN*
*NNC **24** 06:40:29.0±42.0, 45.47N×51.53E, mpv2.6, Error ellipse: s-maj=1276.1km s-min=395.6km az=143.0*

ISC 24 06:39:32.9±1.1, 43.01N±0.07×46.94E±0.07, h27km±8km, n10, σ0§95/17, 2C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.08**	**276**	*i* Pg		**Pb**	**Pb**	**06 39 36.8**	**-0.9**
	494nm,0.1s								
DBC				*e*Sg		**Sb**	**Sb**	**06 39 40.8**	**-0.2**
DBC	**Dubki**	**0.08**	**276**	⇑ *i*PG		**Pb**	**Pb**	**06 39 36.8**	**-0.9**
DBC				*e*S		**Sb**	**Sb**	**06 39 40.8**	**-0.2**
DBC				pmax		pmax			
	comp=Z,494nm,0.1s								
BUJR	**Buynaksk**	**0.22**	**147**	*i* Pg		**Pb**	**Pb**	**06 39 41.5**	**+2.4**
BUJR				*i* Sg		**Sb**	**Sb**	**06 39 42.7**	**-0.6**
DLMR	**Dylym**	**0.24**	**284**	*e*Pg		**Pb**	**Pb**	**06 39 38.5**	**-0.7**
DLMR				*i* Sg		**Sb**	**Sb**	**06 39 44.6**	**+1.1**
UNCR	**Uncukul**	**0.32**	**200**	*i* Pg		**Pb**	**Pb**	**06 39 40.0**	**-0.3**
UNCR				*e*Sg		**Sb**	**Sb**	**06 39 45.2**	**-0.2**
UNCR	**Uncukul**	**0.32**	**200**	‖ *i*PG		**Pb**	**Pb**	**06 39 40.0**	**-0.3**
UNCR				*e*S		**Sb**	**Sb**	**06 39 45.2**	**-0.2**
MAK	**Makhachkala**	**0.42**	**97**	*i* Pg		**Pb**	**Pb**	**06 39 43.2**	**+1.3**
MAK				*i* Sg		**Sb**	**Sb**	**06 39 47.2**	**-0.7**
MAK	**Makhachkala**	**0.42**	**97**	*d i*PG		**Pb**	**Pb**	**06 39 43.2**	**+1.3**
MAK				*i* smax				06 39 47.2	
MAK									
	comp=E,8μm,0.5s								
TI2	**Plekhanov**	**2.07**	**233**	*e*Pn		**Pn**	**Pn**	**06 40 15.0**	**+8.4**
AB31	**Akbulak array**	**10.96**	**51**	⇑Pn		**P**	**P**	**06 42 10.8**	**-0.4**
	comp=E,0.2nm,0.5s,baz=229,slow=10.0,SNR=7.0								
AB31				‖ Lg				06 44 06.9	
	comp=E,1.6nm,0.7s,baz=242,slow=20,SNR=4.5								

*IDC **24** 06:45:16.5±6.6, 12.67N×40.67E, mb3.8/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=152.3km s-min=26.4km az=46.0*
*NEIC **24** 06:45:17.4±4.2, 12.60N×40.58E, h10km, mb4.0/1, Error ellipse: s-maj=105.0km s-min=14.8km az=48.0*
*CSEM **24** 06:45:17.4±1.4, 12.60N×40.58E, h10km±9km, mb3.9/1, Error ellipse: s-maj=95.7km s-min=20.3km az=31.0, After NEIC*

ISC 24 06:45:17.5±3.9, 12.8N±0.4×40.8E±0.5, h10km, n7, σ0§37/9, mb3.7/4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.39**	**122**	Pn		Pn	**Pn**	**06 45 57.7**	**+0.3**
	43nm,0.3s,baz=94,slow=20,SNR=4.6								
ATD				Sn		Sn	**Sn**	**06 46 26.8**	**-0.2**
	72nm,0.3s,baz=108,slow=18,SNR=5.7								
ATD	**Arta Tunnel**	**2.39**	**122**	Pn		Pn	**Pn**	**06 45 57.7**	**+0.3**
ATD				Sn		Sn	**Sn**	**06 46 26.8**	**-0.2**
MALT	**Malatya**	**25.48**	**356**	P		P	**P**	**06 50 48.0**	**+0.5**
	4.0nm,1.1s,mb3.9								
BRTR	**Keskin Array B**	**27.53**	**348**	P		P	**P**	**06 51 05.8**	**-0.6**
	0.5nm,0.4s,mb3.5,baz=162,slow=9.0,SNR=4.4								
MKAR	**Makanchi Array**	**48.54**	**37**	P		P	**P**	**06 54 02.9**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=225,slow=6.9,SNR=4.8								
MKAR	**Makanchi Array**	**48.54**	**37**	P		P	**P**	**06 54 02.9**	**+0.1**
SONM	**Songino Array**	**64.26**	**43**	P		P	**P**	**06 55 55.1**	**-0.1**
	0.9nm,0.9s,mb3.8,baz=257,slow=7.2,SNR=5.1								

*IDC **24** 06:54:38.2±5.0, 12.40N×40.31E, mb3.8/5, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, ML4.6/1, Error ellipse: s-maj=120.3km s-min=22.9km az=34.0*
*NEIC **24** 06:54:39.9±2.0, 12.41N×40.32E, h10km, mb4.2/1, Error ellipse: s-maj=47.3km s-min=12.7km az=217.0*
*CSEM **24** 06:54:39.9±0.2, 12.41N×40.32E, h10km, mb4.1/1, Error ellipse: s-maj=11.0km s-min=2.7km az=36.0, After NEIC*

ISC 24 06:54:39.7±5.7, 12.5N±0.3×40.3E±0.3, h15km±38km, n11, σ0§74/12, mb3.8/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.65**	**111**	Pn		Pn	**Pn**	**06 55 22.7**	**0.0**
	120nm,0.3s,baz=239,slow=19,SNR=15								
ATD				Sn		Sn	**Sn**	**06 55 55.1**	**+0.3**
	22nm,0.3s,baz=38,slow=19,SNR=4.1								
MALT	**Malatya**	**25.75**	**357**	*e*P		P	**P**	**07 00 13.3**	**+1.8**
	2.5nm,0.4s,mb4.1								
BR131	**Keskin Array S**	**27.74**	**349**	P		P	**P**	**07 00 29.4**	**-0.4**
BRTR	**Keskin Array B**	**27.74**	**349**	P		P	**P**	**07 00 31.2**	**+1.4**
	1.0nm,0.6s,mb3.6,baz=172,slow=8.7,SNR=6.0								
AKASG	**Malin Array Be**	**39.15**	**349**	P		P	**P**	**07 02 07.8**	**-0.7**
	0.9nm,0.4s,mb3.9,baz=158,slow=6.4,SNR=7.2								
AAK	**Ala-Archa**	**42.13**	**38**	P		P	**P**	**07 02 33.0**	**-0.1**
GERES	**GERESS Array B**	**42.41**	**334**	P		P	**P**	**07 02 34.8**	**-0.5**
	0.7nm,0.8s,mb3.3,baz=158,slow=5.3,SNR=4.3								
ARU	**Arti**	**46.03**	**14**	P		P	**P**	**07 03 04.1**	**-0.3**
MKAR	**Makanchi Array**	**49.05**	**37**	P		P	**P**	**07 03 27.4**	**-0.7**
	0.4nm,0.7s,mb3.6,baz=243,slow=5.4,SNR=4.8								
SONM	**Songino Array**	**64.78**	**43**	P		P	**P**	**07 05 19.5**	**-0.5**
	0.6nm,0.3s,mb4.1,baz=257,slow=6.6,SNR=5.1								
SUMG	**Summit**	**74.78**	**342**	P		P	**P**	**07 06 21.2**	**+0.5**

*NEIC **24** 06:57:07.5, 18.05N×61.63W, h55km, MD4.3(RSPR), After RSPR.*
*RSPR **24** 06:57:07.5, 18.05N×61.63W, h55km±50km*
*TRN **24** 06:57:08.2, 17.90N×61.68W, h22km, MD3.8, M3.8(FDF)*

ISC 24 06:57:03.3±1.0, 18.14N±0.05×61.48W±0.05, h10km, n23, σ1§32/34, 5C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.60**	**213**	*i* P		**Pg**	**Pb**	**06 57 15.9**	**+0.5**
CPB				*e*S		**Sg**	**Sb**	**06 57 22.7**	**-0.8**
BPA	**Boggy Peak**	**1.15**	**198**	*e*P		**Pb**	**Pb**	**06 57 23.2**	**-1.6**
BPA				*e*S		**Sb**	**Sb**	**06 57 35.6**	**-4.0**
SKTB	**Turtle Beach**	**1.43**	**230**	*e*P		**Pn**	**Pn**	**06 57 30.4**	**+1.0**
NVRH	**Round Hill, Ne**	**1.43**	**228**	*e*P		**Pn**	**Pn**	**06 57 30.4**	**+0.9**
SKI	**Saint Kitts**	**1.44**	**236**	*e*P		**Pn**	**Pn**	**06 57 31.1**	**+1.5**
SKI				*e*S		**Sb**	**Sb**	**06 57 49.8**	**+1.7**
SKDB	**Saint Kitts 2**	**1.47**	**240**	*e*P		**Pn**	**Pn**	**06 57 31.8**	**+1.9**
SKDB				*e*S		**Sb**	**Sb**	**06 57 47.5**	**-1.2**
STMA	**St. Maarten, A**	**1.55**	**267**	*e*P		**Pn**	**Pn**	**06 57 34.0**	**+2.9**
STMA				*e*S		**Sb**	**Sb**	**06 57 51.3**	**0.0**
SABT	**Saba**	**1.76**	**253**	*e*P		**Pn**	**Pn**	**06 57 35.4**	**+1.3**
SABT				*e*S		**Sn**	**Sn**	**06 58 01.8**	**+5.2**
DEG	**La Desirade**	**1.86**	**167**	*e*P		**Pn**	**Pn**	**06 57 34.8**	**-0.8**
LZG	**Guadaloupe-1**	**2.01**	**188**	*e*P		**Pn**	**Pn**	**06 57 36.6**	**-1.1**
LZG				*e*S		**Sn**	**Sn**	**06 58 03.1**	**0.0**
BCG	**Bois Riant Cap**	**2.05**	**184**	*e*P		**Pn**	**Pn**	**06 57 38.8**	**+0.5**
DOG	**Dongo Capester**	**2.10**	**184**	*e*P		**Pn**	**Pn**	**06 57 39.6**	**+0.6**
SCG	**Saint Claude**	**2.11**	**185**	*e*P		**Pn**	**Pn**	**06 57 41.0**	**+1.9**
TBG	**Guadaloupe-3**	**2.28**	**184**	*e*P		**Pn**	**Pn**	**06 57 41.1**	**-0.5**
DWS	**Wesley**	**2.57**	**176**	*e*P		**Pn**	**Pn**	**06 57 48.0**	**+2.3**
DWS				*e*S		**Sn**	**Sn**	**06 58 16.2**	**-1.1**
BBL	**Barber's Block**	**2.60**	**180**	*e*P		**Pn**	**Pn**	**06 57 45.4**	**-0.8**
MTP	**Monte Pirata**	**3.88**	**270**	⇑ *e*P		**Pn**	**Pn**	**06 58 03.0**	**-1.3**
MTP				*e*S		**Sn**	**Sn**	**06 58 45.4**	**-5.0**
CBYP	**Canovanas**	**4.16**	**272**	*e*P		**Pn**	**Pn**	**06 58 06.6**	**-1.8**
CBYP				*e*S		**Sn**	**Sn**	**06 58 52.4**	**-5.2**
CBYP	**Canovanas**	**4.16**	**272**	⇑ *e*P		**Pn**	**Pn**	**06 58 06.6**	**-1.8**
CBYP				*e*S		**Sn**	**Sn**	**06 58 52.4**	**-5.2**
CPD	**Cerro la Pandu**	**4.22**	**269**	⇑ *e*P		**Pn**	**Pn**	**06 58 09.2**	**0.0**
SJG	**San Juan**	**4.44**	**270**	*e*P		**Pn**	**Pn**	**06 58 11.0**	**-1.3**
ICM	**Isla Caja Muer**	**4.80**	**268**	⇑ *e*P		**Pn**	**Pn**	**06 58 14.8**	**-2.6**
SDV	**Santo Domingo**	**12.79**	**225**	P		P	**P**	**07 00 04.2**	**-4.0**

IDC 24 06:57:54.0±30.0, 19.77S×178.89E, h462km±356km, mb3.2/2, mb1 3.6/2, mb1mx3.1/12, mbtmp4.0/2, Error ellipse: s-maj=342.3km s-min=97.6km az=166.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.81**	**262**	P		P	P	07 05 02.1	-1.3
	1.6nm,0.3s,baz=96,slow=8.4,SNR=51								
TXAR	**Lajitas Array**	**89.14**	**58**	P		P	P	07 09 59.6	-0.9
	0.3nm,0.7s,baz=217,slow=6.3,SNR=5.4								
AKASG	**Malin Array Be**	**140.94**	**329**	PKP		PKPdf		07 16 30.2	0.0
	0.4nm,0.3s,baz=45,slow=3.9,SNR=4.3								

*BJI **24** 06:58:26.1, 12.45N×40.10E, h30km, mB5.6, mb5.0, Ms5.1, Msz5.0*
*DHMR **24** 06:58:26.1±0.3, 12.66N×40.57E, h4km±60km, ML4.8*
*MOS **24** 06:58:26.3±1.2, 12.58N×40.50E, h10km, mb5.3/59, MS4.5/11, Error ellipse: s-maj=7.9km s-min=3.4km az=110.5*
*IDC **24** 06:58:27.4±0.5, 12.76N×40.64E, mb4.6/26, mb1 4.6/28, mb1mx4.6/30, mbtmp4.5/28, ML4.1/2, MS4.7/19, Ms1 4.7/19, ms1mx4.6/30, Error ellipse: s-maj=16.2km s-min=10.3km az=83.0*
*STR **24** 06:58:28.3±0.0, 12.66N×40.60E, Mb5.2, Ms4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **24** 06:58:28.0±0.3, 12.57N×40.57E, h10km, mb5.2/88, MS4.4/9, ML4.9(DHMR), Error ellipse: s-maj=6.4km s-min=4.6km az=197.0*
*HRVD **24** 06:58:28.0±0.2, 12.81N×40.55E, h12km, MW5.3/70, Centroid moment Tensor Solution. LP body waves: s54,c95;Mantle waves: s70,c146; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.06±.03; $M_{\theta\theta}$0.07±.02; $M_{\phi\phi}$0.99±.03; $M_{r\theta}$0.37±.07; $M_{\theta\phi}$-0.40±.02; $M_{\phi r}$-0.20±.07; Best double couple: $M_0$1.182×10^{17} NP1: ϕ_s173°, δ39°, λ-68°. NP2:ϕ_s326°, δ55°, λ-107°. Principal axes: T 1.19, Plg8°, Azm68°; N -.017, Plg14°, Azm336°; P -1.173, Plg74°, Azm188°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **24** 06:58:30.3±0.1, 12.55N×40.61E, h40km, mb5.1/87, Ms4.4, Mw5.3 Error ellipse: s-maj=2.9km s-min=1.8km az=5.0*

ISC 24 06:58:26.9±1.3, 12.59N±0.04×40.48E±0.02, h10km±8km, h21km±3.8km: pP-P, n416, σ1§18/424, mb5.0/150, MS4.7/36, 11C-19D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.54**	**114**	Pn		Pn	**Pn**	**06 59 07.5**	**-1.4**
	241nm,0.3s,baz=254,slow=16,SNR=32								
ATD				Sn		Sn	**Sn**	**06 59 43.1**	**+2.9**
	184nm,0.3s,baz=255,slow=22,SNR=13								
UDYN	**Al 'Udayn**	**3.66**	**68**	‖ *e*P		Pn	**Pn**	**06 59 25.1**	**+0.3**
UDYN				*i* S		Sn	**Sn**	**07 00 11.3**	**+2.9**
UDYN				AML		AML		07 00 33.3	
	comp=Z,5μm,0.8s								
UDYN	**Al 'Udayn**	**3.66**	**68**	*i* P		Pn	**Pn**	**06 59 24.0**	**-0.7**
UDYN				*i* S		Sn	**Sn**	**07 00 12.6**	**+4.2**
DHBB	**Dhamar BB**	**4.28**	**62**	*e*P		Pn	**Pn**	**06 59 33.3**	**-0.3**
DHBB				*i* S		Sn	**Sn**	**07 00 25.7**	**+1.5**
DHBB	**Dhamar BB**	**4.28**	**62**	*i* P		Pn	**Pn**	**06 59 33.5**	**-0.1**
DHBB				*i* S		Sn	**Sn**	**07 00 27.9**	**+3.7**
DHBB	**Dhamar BB**	**4.28**	**62**	*i* P		Pn	**Pn**	**06 59 33.5**	**-0.1**
DHBB				*i* S		Sn	**Sn**	**07 00 25.7**	**+1.5**
ADEN	**Aden**	**4.39**	**87**	*e*P		Pn	**Pn**	**06 59 34.8**	**-0.5**
ADEN				*i* S		Sn	**Sn**	**07 00 28.2**	**+1.1**
ADEN	**Aden**	**4.39**	**87**	*i* P		Pn	**Pn**	**06 59 34.0**	**-1.3**
ADEN				*i* S		Sn	**Sn**	**07 00 27.7**	**+0.6**
BDHA	**Al Bayda'**	**5.14**	**74**	‖ *e*P		Pn	**Pn**	**06 59 44.8**	**-1.0**
BDHA				*i* S		Sn	**Sn**	**07 00 46.1**	**+0.3**
BDHA	**Al Bayda'**	**5.14**	**74**	*i* P		Pn	**Pn**	**06 59 44.4**	**-1.3**
BDHA				*i* S		Sn	**Sn**	**07 00 47.7**	**+1.9**
BLJS	**Baljurashi**	**7.33**	**8**	P		Pn	**Pn**	**07 00 18.5**	**+1.9**
MUKL	**Al Mukalla**	**8.53**	**76**	*i* S		Sn	**Sn**	**07 02 06.5**	**-4.0**
AFFS	**'Afif**	**11.52**	**12**	P		P	**P**	**07 01 17.7**	**+3.1**
KMBO	**Kilima Mbogo**	**14.00**	**193**	Pn		P	**P**	**07 01 48.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=8.9								
KMBO				Lg				07 05 59.8	
	comp=Z,0.2nm,0.3s,baz=89,slow=20,SNR=9.3								
KMBO				LR		LR	LR	07 07 02.4	
	comp=Z,4μm,19.7s,baz=203,slow=36								
HILS	**Ha'il**	**14.77**	**5**	P		P	**P**	**07 02 01.2**	**+3.5**
HASS	**Wahat al Ahsa'**	**15.25**	**33**	P		P	**P**	**07 02 11.2**	**+7.1**
AYUS	**'Aynunah**	**16.26**	**343**	P		P	**P**	**07 02 21.6**	**+4.5**
BDAS	**Al Bad'**	**16.54**	**343**	P		P	**P**	**07 02 25.7**	**+5.1**
TAYS	**Tayyib Ism**	**16.72**	**343**	P		P	**P**	**07 02 28.3**	**+5.3**
HAQS

comp=Z,19nm,0.3s,mb5.5,baz=20,slow=10,SNR=3.5
CFR Carcaliu 34.14 344 ⇓P **P 07 05 13.9 -0.2**
MATP Matopo 34.87 200 P **P 07 05 21.4 +0.8**
comp=Z,3.9nm,1.0s,mb4.3,baz=12,slow=8.5,SNR=6.5
MATP LR LR 07 20 02.2
comp=Z,3μm,20.6s,MS5.1,baz=25,slow=37
MATP Matopo 34.87 200 P **P 07 05 21.4 +0.8**
MATP LR LR 07 20 02.2
MLR Muntele Rosu 35.04 342 P **P 07 05 22.0 +0.1**
comp=Z,13nm,1.0s,mb4.8,baz=170,slow=4.3,SNR=13
VRI Vrincioaia 35.16 343 ⇓P **P 07 05 23.9 +1.0**
VOIR 35.27 341 ⇓P **P 07 05 24.5 +0.7**
GRUS Gruza 35.52 335 *e*P **P 07 05 25.2 -0.7**
DIVS Divcibare 35.99 335 ⇓*i*P **P 07 05 28.5 -1.4**
BHPL Bhopal 36.61 68 *e*P **P 07 05 36.1 +0.7**
BHPL AMb AMB 07 05 38.5
comp=Z,32nm,1.7s,mb4.9
KUDL Kundal 36.96 60 *e*P **P 07 05 37.8 -0.5**
KUDL AMb AMB 07 05 41.8
comp=Z,29nm,1.9s,mb4.8
HYB Hyderabad 37.04 78 *i*P **P 07 05 40.5 +1.5**
HYB *e*S **S 07 11 28.0 +3.9**
BURAR Bucovina Array 37.18 343 ⇓P **P 07 05 41.5 +1.6**
DRGR 37.23 340 ⇓P **P 07 05 39.9 -0.5**
BHGR Bahadurgarh 37.50 59 *e*P **P 07 05 44.3 +1.5**
AYAN Aya Nagar 37.60 59 *e*P **P 07 05 44.1 +0.5**
AYAN AMb AMB 07 05 47.4
comp=Z,27nm,1.5s,mb4.8
AYAN *ex* x 07 07 13.6
NDI New Delhi 37.73 59 *e*P **P 07 05 43.5 -1.2**
NDI *e*P pP 07 05 46.3 -1.5
NDI AMb AMB 07 05 49.6
comp=Z,65nm,1.8s,mb5.0
NDI *ex* x 07 07 15.5
NGP Nagpur 37.79 72 *e*P **P 07 05 45.8 +0.5**
AQU L'Aquila 37.84 327 *e*P **P 07 05 46.3 +0.8**
comp=Z,42nm,1.0s,mb5.1
AQU L'Aquila 37.84 327 *e*P **P 07 05 46.3 +0.8**
comp=Z,42nm,1.0s,mb5.1
AQU L'Aquila 37.84 327 *e*P **P 07 05 46.3 +0.8**
AQU pmax pmax
comp=Z,42nm,1.0s,mb5.1
PKSM Moragy 38.27 335⇑*i*P **P 07 05 49.9 +0.9**
VSL Villasalto 38.37 320 *e*P **P 07 05 50.6 +0.6**
comp=Z,18nm,1.1s,mb4.7
VSL Villasalto 38.37 320 *e*P **P 07 05 50.6 +0.6**
comp=Z,18nm,1.1s,mb4.7
TSUM Tsumeb 38.83 216 P **P 07 05 55.7 +1.7**
comp=Z,2.5nm,1.0s,baz=43,slow=4.9,SNR=4.3
TSUM LR LR 07 22 37.2
comp=Z,3μm,18.4s,MS5.2,baz=25,slow=37
VOR Voronezh 39.05 359 *e*P **P 07 05 56.0 +0.5**
VOR pmax pmax
comp=N,110nm,1.7s
VOR pmax pmax
comp=Z,130nm,1.7s,mb5.4
AKASG Malin Array Be 39.10 349 P **P 07 05 54.4 -1.6**
comp=Z,12nm,1.0s,mb4.6,baz=172,slow=7.3,SNR=40
AKASG PcP PcP 07 08 05.6 -0.7
comp=Z,0.3nm,0.3s,baz=166,slow=3.1,SNR=8.0
AKASG Malin Array Be 39.10 349 P **P 07 05 54.4 -1.6**
AKASG PcP PcP 07 08 05.6 -0.7
PSZ Piszkesteto 39.19 338 *e* **P 07 05 57.8 +1.0**
KOLS Kolonicke sedl 39.25 341 *e*P **P 07 05 58.7 +1.5**
SET Setif 39.33 313 P **P 07 06 00.0 +2.0**
KECS Kecovo 39.46 339 *e*P **P 07 05 59.5 +0.5**
KNDS Knezji Dol 39.61 331 *e*P **P 07 06 00.6 +0.2**
KWP Kalwaria 39.73 342 *e*P **P 07 06 02.4 +1.2**
CEY Cerknica 39.75 331 *e*P **P 07 06 02.0 +0.6**
STHS Stebnicka Huta 40.00 340 *e*P **P 07 06 04.3 +0.8**
VYHS Vyhne 40.06 338 *e*P **P 07 06 04.9 +0.9**
LBTB Lobatse 40.10 201 P **P 07 06 06.1 +1.6**
comp=Z,2.4nm,0.8s,mb4.0,baz=3.0,slow=7.3,SNR=4.5
LBTB LR LR 07 22 14.7
comp=Z,2μm,19.7s,MS5.0,baz=41,slow=35
LBTB Lobatse 40.10 201 *e*P **P 07 06 03.6 -0.9**
LBTB MLR MLR
comp=Z,4μm,20.0s,MS5.3
PERS Pernice 40.11 333 *e*P **P 07 06 05.5 +1.1**
VOY Vojsko 40.22 331 *e*P **P 07 06 06.0 +0.7**
VOY *e* 07 06 15.3
OBKA Obir 40.27 332⇑*i*P **P 07 06 07.5 +1.8**
comp=Z,47nm,1.5s,mb5.0
ARSA Arzberg 40.40 334⇑*i*P **P 07 06 08.0 +1.2**
comp=Z,34nm,1.5s,mb4.8
ARSA Arzberg 40.40 334 *i* P **P 07 06 08.0 +1.2**
comp=Z,34nm,1.5s,mb4.9,SNR=13
PGF Pioggiola 40.43 323 *e*P **P 07 06 06.1 -1.0**
comp=Z,126nm,1.6s,mb5.1
PGF Pioggiola 40.43 323 *e*P **P 07 06 06.1 -1.0**
PGF pmax pmax
comp=Z,63nm,1.6s,mb5.1
ZST Bratislava 40.49 336 *e*P **P 07 06 08.8 +1.3**
ROBS Robic 40.55 331 *e*P **P 07 06 08.2 +0.1**
ROBS Robic 40.55 331 *e*P **P 07 06 08.1 +0.1**
OJC Ojcow 41.17 340 *e*P **P 07 06 12.3 -0.8**
AML Almayashu 41.20 38 P **P 07 06 16.0 +2.6**
SNR=6.0
KSH Kashi 41.22 43 *e*P **P 07 06 15.3 +1.7**
KSH *e*AP pP 07 06 19.5 +2.8
KSH *e*XP sP 07 06 22.1 +4.2
KSH *e*PP PP 07 07 55.0 +3.1
KSH *e*PCP PcP 07 08 12.3 -0.9
KSH PPP PPP 07 08 25.0 +3.3
KSH *e*SCP 07 12 01.0
KSH *e*PCS 07 12 02.8
KSH *e*S **S 07 12 30.8 +3.8**
KSH *e*XS 07 12 38.8
KSH *e*SS SS 07 15 30.3 +5.0
KSH *e*SCS ScS 07 16 15.6 -0.5
KSH AMB AMB
comp=Z,440nm,2.6s,mb5.6
ABA Alger-Bouzarea 41.30 312 P **P 07 06 16.0 +1.8**
MOA Molln 41.41 333⇑*i*P **P 07 06 16.2 +1.2**
comp=Z,32nm,1.3s,mb4.8
OKC Ostrava-Krasne 41.43 338 *e*P **P 07 06 15.4 +0.2**
EKS2 Erkin-Say 41.56 38 P **P 07 06 18.4 +2.0**
SNR=7.2
VRAC Vranov 41.58 336 P **P 07 06 16.7 +0.2**
comp=Z,11nm,0.9s,mb4.5,baz=145,slow=7.1,SNR=16
VRAC Vranov 41.58 336 *e*P **P 07 06 17.2 +0.8**
VRAC Vranov 41.58 336 P **P 07 06 16.7 +0.3**
VRAC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 41.60 338 *e*P **P 07 06 15.6 -1.0**
comp=Z,72nm,1.9s,mb5.0
MORC Moravsky Berou 41.60 338 *e*P **P 07 06 15.6 -1.0**
comp=Z,72nm,1.9s,mb5.0
MORC Moravsky Berou 41.60 338 *e*P **P 07 06 15.6 -1.0**
MORC pmax pmax
comp=Z,72nm,1.9s,mb5.0
UCH Uchtor 41.76 39 P **P 07 06 20.6 +2.7**
SNR=17
AAK Ala-Archa 41.98 38 P **P 07 06 22.0 +2.2**
SNR=7.4
AAK Ala-Archa 41.98 38 *e*P **P 07 06 19.0 -0.8**
comp=Z,18nm,1.3s,mb4.5
AAK Ala-Archa 41.98 38 *e*P **P 07 06 19.0 -0.8**
comp=Z,18nm,1.3s,mb4.5
AAK Ala-Archa 41.98 38*d*i*P **P 07 06 19.3 -0.5**
AAK pmax pmax
comp=Z,28nm,1.6s,mb4.6
AAK MLR MLR
comp=Z,3μm,20.0s,MS5.2
TREC Trest 42.01 336 *e*P **P 07 06 20.1 +0.1**
SBF Sospel 42.14 324 *e*P **P 07 06 20.0 -1.1**
comp=Z,102nm,1.5s,mb4.9
SAOF Saorge 42.15 324 *e*P **P 07 06 21.9 +0.7**
FRU Bishkek 42.17 38 *e*P **P 07 06 22.0 +0.6**
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.0
WTTA Wattenberg 42.18 331⇑*i*P **P 07 06 22.6 +1.2**
comp=Z,44nm,1.5s,mb4.9
WTTA Wattenberg 42.18 331 *i* P **P 07 06 22.6 +1.2**
comp=Z,44nm,1.5s,mb4.8,SNR=9.8
WTTA Wattenberg 42.18 331⇑*i*P **P 07 06 22.6 +1.2**
WTTA pmax pmax
comp=Z,44nm,1.5s,mb4.9
AUTN L'Aution 42.23 324 *e*P **P 07 06 22.9 +1.1**
MVIF Mont Vial 42.32 324 *e*P **P 07 06 23.6 +1.0**
TOUF Mont Tournerai 42.34 324 *e*P **P 07 06 23.8 +1.0**
USP Ospenovka 42.35 37 P **P 07 06 24.4 +1.5**
SNR=6.5
LMR La Mourre 42.36 323 *e*P **P 07 06 21.7 -1.3**
comp=Z,122nm,1.8s,mb4.9
LMR La Mourre 42.36 323 *e*P **P 07 06 21.7 -1.3**
LMR pmax pmax
comp=Z,61nm,1.8s,mb4.9
CALN Calern 42.39 324 *e*P **P 07 06 24.0 +0.8**
GERES GERESS Array B 42.41 334 P **P 07 06 22.1 -1.1**
comp=Z,7.1nm,1.0s,mb4.3,baz=143,slow=6.7,SNR=43
GERES LR LR 07 26 46.2
comp=Z,350nm,19.7s,MS4.2,baz=150,slow=40
FRF La Foret Royal 42.42 323 *e*P **P 07 06 22.1 -1.3**
comp=Z,98nm,1.6s,mb4.9
FRF La Foret Royal 42.42 323 *e*P **P 07 06 22.1 -1.3**
FRF pmax pmax
comp=Z,49nm,1.6s,mb4.9
MOTA Moosalm 42.49 330⇓*i*P **P 07 06 24.1 +0.1**
comp=Z,20nm,1.3s,mb4.6
MOTA Moosalm 42.49 330⇓*i*P **P 07 06 24.1 +0.1**
MOTA pmax pmax
comp=Z,20nm,1.3s,mb4.6
OBN Obninsk 42.53 357 *e*P **P 07 06 23.6 -0.5**
comp=Z,170nm,1.5s,mb5.6
OBN LR LR
comp=Z,160nm,20.0s,MS3.9
OBN Obninsk 42.53 357 *e*P **P 07 06 23.6 -0.6**
comp=Z,170nm,1.5s,mb5.6
OBN Obninsk 42.53 357⇑*e*P **P 07 06 25.1 +0.9**
OBN *e* 07 08 05.3
OBN *e* 07 08 14.6
OBN pmax pmax
comp=Z,137nm,1.8s,mb5.4
OBN MLR MLR
comp=Z,500nm,23.0s,MS4.3
KHC Kasperske Hory 42.68 334 *e*P **P 07 06 25.1 -0.3**
KHC x x 07 06 34.0
KHC Kasperske Hory 42.68 334 *e*P **P 07 06 25.1 -0.3**
KHC *e* 07 06 34.0
DAVOX Davos 42.71 329 P **P 07 06 24.4 -1.4**
comp=Z,4.0nm,0.9s,mb4.1,baz=116,slow=18,SNR=6.9
DAVOX PcP PcP 07 08 18.1 0.0
comp=Z,7.2nm,0.9s,baz=123,slow=9.8,SNR=5.1
DAVOX LR LR 07 26 10.0
comp=Z,312nm,18.1s,MS4.2,baz=134,slow=39
UPC Upice 42.77 337 *e*P **P 07 06 26.2 0.0**
TAVF Tavernes 42.80 323 *e*P **P 07 06 27.4 +0.9**
TKM2 Tokmak 2 42.81 38 P **P 07 06 28.5 +1.9**
SNR=6.4
ULHL Ulahol 42.83 40 P **P 07 06 27.3 +0.5**
SNR=13
BERF Bertagne 42.84 322 *e*P **P 07 06 27.6 +0.8**
SURF Saint Ours 42.87 324 *e*P **P 07 06 29.2 +2.1**
KSP Ksiaz 42.93 338 *e*P **P 07 06 27.8 +0.2**
KSP Ksiaz 42.93 338 *e*P **P 07 06 27.7 +0.2**
KSP *e*S **S 07 13 01.0 +8.9**
PRU Pruhonice 42.94 336 *e*P **P 07 06 27.8 +0.3**
KOLN Koldanda 42.96 63 *e*P **P 07 06 26.6 -1.4**
comp=Z,403nm,1.8s,mb5.8
PUYF Puyloubier 42.96 322 *e*P **P 07 06 28.9 +1.1**
GELF Grande-Etoile 43.04 322 *e*P **P 07 06 29.4 +0.9**
MBDF Montbardon 43.05 325 *e*P **P 07 06 28.2 -0.3**
comp=Z,153nm,1.4s,mb5.2
MBDF Montbardon 43.05 325 *e*P **P 07 06 28.2 -0.3**
MBDF pmax pmax
comp=Z,77nm,1.4s,mb5.2
DAVA Damuels 43.05 329⇑*i*P **P 07 06 28.8 +0.3**
comp=Z,28nm,1.1s,mb4.9
DAVA Damuels 43.05 329 *i* P **P 07 06 28.8 +0.3**
comp=Z,28nm,1.1s,mb4.9,SNR=7.0
MOS Moscow 43.10 358⇓*i*P **P 07 06 30.2 +1.4**
STOF St-Etienne Org 43.11 323 *e*P **P 07 06 31.1 +2.1**
VILF Villemus 43.13 323 *e*P **P 07 06 30.7 +1.5**
SMRF Simiane la Rot 43.29 323 *e*P **P 07 06 29.7 -0.8**
comp=Z,120nm,1.7s,mb5.0
BNI Bardonecchia 43.30 325 *e*P **P 07 06 30.6 +0.1**
comp=Z,59nm,1.6s,mb5.1
BNI Bardonecchia 43.30 325 *e*P **P 07 06 30.6 +0.1**
comp=Z,59nm,1.6s,mb5.1
BNI Bardonecchia 43.30 325 *e*P **P 07 06 30.7 +0.2**
BNI pmax pmax
comp=Z,59nm,1.6s,mb5.1
PVCC Panska Ves 43.35 336 *e*P **P 07 06 30.7 -0.2**
PRAF Pradon 43.43 322 *e*P **P 07 06 32.8 +1.2**
LPG La Plagne 43.53 325 *e*P **P 07 06 30.6 -1.8**
comp=Z,186nm,1.7s,mb5.2
LPG La Plagne 43.53 325 *e*P **P 07 06 30.6 -1.8**
LPG pmax pmax
comp=Z,93nm,1.7s,mb5.2
SUW Suwalki 43.53 345 *e*P **P 07 06 33.1 +0.8**
LPL La Plagne 43.55 325 *e*P **P 07 06 30.6 -2.0**
comp=Z,132nm,1.6s,mb5.1
LPL La Plagne 43.55 325 *e*P **P 07 06 30.6 -2.0**
LPL pmax pmax
comp=Z,66nm,1.6s,mb5.1
ORIF Oris-en-Rattie 43.67 324 *e*P **P 07 06 32.3 -1.2**
comp=Z,146nm,1.6s,mb5.2
ORIF *e*R
comp=Z,546nm,18.2s
GDM Grand'Maison 43.70 325 *e*P **P 07 06 35.2 +1.4**
BRG Berggiesshubel 43.87 336⇑*i*P **P 07 06 34.7 -0.4**
comp=Z,31nm,1.3s,mb4.9
BRG *e* 07 06 43.2
BRG Berggiesshubel 43.87 336⇑*i*P **P 07 06 34.7 -0.4**
BRG *e* 07 06 43.2
BRG pmax pmax
comp=Z,31nm,1.3s,mb4.9
GKN Gorkha 43.90 63 *e*P **P 07 06 33.9 -1.8**
comp=Z,289nm,1.7s,mb5.7
GRN Grenoble 43.94 325 *e*P **P 07 06 36.2 +0.5**
NKC Novy Kostel 43.99 334 *e*P **P 07 06 35.5 -0.6**
EJON La Jonquera 44.09 320 P **P 07 06 35.8 -1.2**
comp=Z,58nm,1.6s,mb5.1
GRA1 Grafenberg Arr 44.12 333 *e*P **P 07 06 36.3 -0.9**
comp=Z,21nm,1.5s,mb4.7
GRA1 *e*PP PP 07 08 21.5 -0.1
GRF Grafenberg Arr 44.12 333 *e*P **P 07 06 36.3 -0.9**
GRF *e* 07 08 21.5
GRF pmax pmax
comp=Z,21nm,1.5s,mb4.7
DMN Daman 44.24 63 *e*P **P 07 06 37.1 -1.3**
comp=Z,69nm,1.0s,mb5.3
VIVF Saint-Julien-I 44.33 323 *e*P **P 07 06 37.5 -1.4**
comp=Z,158nm,1.9s,mb5.1
VIVF Saint-Julien-I 44.33 323 *e*P **P 07 06 37.5 -1.4**
VIVF pmax pmax
comp=Z,79nm,1.9s,mb5.1
LASF Ste Croix 44.37 322 *e*P **P 07 06 38.0 -1.2**
comp=Z,155nm,1.6s,mb5.2
BBS Basel-Blauen 44.37 328 *e*P **P 07 06 39.3 +0.1**
FELD Feldberg 44.39 329 *e*P **P 07 06 39.7 +0.3**
KKN Kakani 44.42 63 *e*P **P 07 06 38.4 -1.5**
comp=Z,436nm,1.9s,mb5.9
PKI Pulchoki 44.49 63 *e*P **P 07 06 38.4 -2.1**
comp=Z,69nm,1.1s,mb5.3
CLL Collm 44.58 336 ⇓P **P 07 06 40.1 -0.7**
comp=Z,logA/T=1.4,mb5.0
CLL *i* *SP sP 07 06 49.2 +4.0
CLL *e* 07 07 02.0
CLL *e* 07 07 23.0
CLL Collm 44.58 336⇓*i*P **P 07 06 40.1 -0.7**
comp=Z,41nm,1.5s,mb5.0
CLL *i* 07 06 49.2
CLL *e* 07 07 02.0
CLL Collm 44.58 336⇓*i*P **P 07 06 40.1 -0.7**
CLL *i* 07 06 49.2
CLL pmax pmax
comp=Z,41nm,1.5s,mb5.0
CABF La Chapelle 44.58 326 *e*P **P 07 06 38.9 -2.0**
comp=Z,110nm,1.4s,mb5.2
CABF La Chapelle 44.58 326 *e*P **P 07 06 38.9 -2.0**
CABF pmax pmax
comp=Z,55nm,1.4s,mb5.2
LOMF Lomont 44.65 328 *e*P **P 07 06 42.1 +0.6**
MOX Moxa 44.65 334⇓*i*P **P 07 06 41.4 -0.1**
comp=Z,logA/T=1.5,mb5.1
MOX L 07 27 37.0
MOX Moxa 44.65 334 *e*P **P 07 06 41.4 -0.1**
comp=Z,62nm,1.9s,mb5.1
MOX LR LR
comp=Z,300nm,22.0s,MS4.2
MOX Moxa 44.65 334 *e*P **P 07 06 41.4 -0.1**
MOX pmax pmax
comp=Z,62nm,1.9s,mb5.1
MOX MLR MLR
comp=Z,300nm,22.0s,MS4.2
EMIR Miracle 44.70 318 P **P 07 06 41.5 -0.4**
comp=Z,83nm,1.5s,mb5.3
EMIR Miracle 44.70 318 P **P 07 06 41.5 -0.5**
comp=Z,83nm,1.5s,mb5.3
EPOB Poblet 44.73 317 P **P 07 06 42.0 -0.2**
comp=Z,40nm,1.6s,mb5.0
EPOB Poblet 44.73 317 P **P 07 06 42.0 -0.2**
comp=Z,40nm,1.6s,mb5.0
MOF Molkenrain 44.81 328 *e*P **P 07 06 43.2 +0.4**
EMUR La Murta 44.83 312 P **P 07 06 43.5 +0.4**
comp=Z,120nm,1.7s,mb5.5
EMUR La Murta 44.83 312 P **P 07 06 43.5 +0.4**
comp=Z,120nm,1.7s,mb5.5
HINF Hinteralfeld 44.94 328 *e*P **P 07 06 42.1 -1.7**
comp=Z,190nm,1.8s,mb5.3
HINF Hinteralfeld 44.94 328 *e*P **P 07 06 42.1 -1.7**
HINF pmax pmax
comp=Z,95nm,1.8s,mb5.3
MTLF Montolieu 44.98 320 *e*P **P 07 06 43.1 -1.1**
KIC Kosan Boka 44.99 266 *e*P **P 07 06 43.7 -0.9**
comp=Z,258nm,1.8s,mb5.8
DBIC Dimbokro 45.04 267 P **P 07 06 43.8 -1.3**
comp=Z,6.7nm,0.7s,mb4.6,baz=60,slow=9.5,SNR=8.4
DBIC LR LR 07 24 53.9
comp=Z,1μm,20.0s,MS4.8,baz=71,slow=35
DBIC Dimbokro 45.04 267 *e*P **P 07 06 43.5 -1.6**
comp=Z,21nm,1.1s,mb4.9
DBIC LR LR
comp=Z,1μm,19.0s,MS4.9
DBIC Dimbokro 45.04 267 *e*P **P 07 06 43.5 -1.6**
comp=Z,21nm,1.1s,mb4.9
DBIC Dimbokro 45.04 267 *e*P **P 07 06 43.5 -1.6**
DBIC pmax pmax
comp=Z,21nm,1.1s
DBIC MLR MLR
comp=Z,1μm,19.0s
ECH Echery 45.04 329 *e*P **P 07 06 44.7 +0.1**
ERTA Horta de San J 45.04 316 P **P 07 06 44.5 -0.2**
comp=Z,66nm,2.0s,mb5.1
ERTA Horta de San J 45.04 316 P **P 07 06 44.5 -0.2**
comp=Z,66nm,2.0s,mb5.1
WLS Welschbruch 45.07 329 *e*P **P 07 06 45.1 +0.3**
CDF Champ du Feu 45.11 329 *e*P **P 07 06 43.6 -1.5**
comp=Z,61nm,1.4s,mb4.9
CDF Champ du Feu 45.11 329 *e*P **P 07 06 43.6 -1.5**
CDF pmax pmax
comp=Z,31nm,1.4s,mb5.0
TOD Tromm 45.17 331 *e*P **P 07 06 45.8 +0.2**
TIC Toumodi 45.20 267 *e*P **P 07 06 47.5 +1.1**
comp=Z,179nm,1.5s,mb5.7
LANF Langenberg 45.22 330 *e*P **P 07 06 46.4 +0.4**
LIC Lamto 45.29 266 *e*P **P 07 06 46.4 -0.7**
comp=Z,130nm,1.8s,mb5.5
HAU Haudompre 45.32 328 *e*P **P 07 06 45.1 -1.7**
comp=Z,180nm,1.7s,mb5.3
HAU *e*R
comp=Z,279nm,20.0s
HAU Haudompre 45.32 328 *e*P **P 07 06 45.1 -1.7**
HAU pmax pmax
comp=Z,90nm,1.7s,mb5.3
HAU MLR MLR
comp=Z,280nm,20.0s,MS4.2
SALF Salau 45.33 319 *e*P **P 07 06 48.3 +1.3**
ECHE Chera 45.34 314 P **P 07 06 48.6 +1.6**
comp=Z,6.0nm,0.8s,mb4.5
ECHE Chera 45.34 314 P **P 07 06 48.6 +1.5**
comp=Z,6.0nm,0.8s,mb4.5
ECHE Chera 45.34 314 P **P 07 06 48.6 +1.5**
ECHE pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
LBL Lubilhac 45.37 323 *e*P **P 07 06 48.4 +1.1**
EALB Alboran 45.49 308 P **P 07 06 48.4 +0.1**
comp=Z,181nm,1.6s,mb5.7
EALB Alboran 45.49 308 P **P 07 06 48.3 0.0**
comp=Z,181nm,1.6s,mb5.7
MLS Moulis 45.49 319 *e*P **P 07 06 49.1 +0.9**
PLDF La Plantade 45.57 324 *e*P **P 07 06 49.1 +0.3**
EGRA Graus 45.63 318 P **P 07 06 50.2 +0.9**
comp=Z,108nm,2.0s,mb5.4
EGRA Graus 45.63 318 P **P 07 06 50.2 +0.9**
comp=Z,108nm,2.0s,mb5.4
THEF They Montfort 45.65 328 *e*P **P 07 06 49.3 -0.1**
MELF Melles 45.66 319 *e*P **P 07 06 51.2 +1.6**
EBER Berja 45.70 310 P **P 07 06 50.6 +0.6**
comp=Z,55nm,1.7s,mb5.2
EBER Berja 45.70 310 P **P 07 06 50.6 +0.6**
comp=Z,55nm,1.7s,mb5.2
MDT Midelt 45.80 304 P **P 07 06 51.5 +0.7**
comp=Z,10nm,1.1s,mb4.7,baz=108,slow=9.1,SNR=15
MDT LR LR 07 28 51.1
comp=Z,2μm,21.5s,MS5.1,baz=105,slow=40
PYM Petit Puy Mans 45.80 324 *e*P **P 07 06 51.6 +1.0**
EHUE Huescar 45.81 311 P **P 07 06 51.6 +0.8**
comp=Z,7.2nm,1.0s,mb4.6
EHUE Huescar 45.81 311 P **P 07 06 51.6 +0.8**
comp=Z,7.2nm,1.0s,mb4.6
EHUE Huescar 45.81 311 P **P 07 06 51.6 +0.8**
EHUE pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SMF Signal de Mont 45.84 325 *e*P **P 07 06 49.0 -1.9**
AGO Saint Agoulin 45.90 324 *e*P **P 07 06 51.8 +0.4**
RESF Ens 45.90 319 *e*P **P 07 06 53.3 +1.8**
CAF Calviac 45.91 322 *e*P **P 07 06 50.8 -0.7**
comp=Z,170nm,1.8s,mb5.4
CAF Calviac 45.91 322 *e*P **P 07 06 50.8 -0.7**
CAF pmax pmax
comp=Z,85nm,1.8s,mb5.4
ARU Arti 45.92 14⇓*i*P **P 07 06 51.6 +0.2**
ARU *e* 07 08 25.1
ARU *e* 07 08 40.6
ARU *e*S **S 07 13 38.5 +3.4**
ARU pmax pmax
comp=Z,46nm,2.2s,mb5.0
ARU MLR MLR
comp=Z,900nm,18.0s,MS4.8
ARU MLR MLR
comp=N,600nm,17.0s,MS4.7
ARU MLR MLR
comp=E,500nm,19.0s,MS4.7
ESAC San Caprasio 45.92 317 P **P 07 06 51.7 0.0**
comp=E,86nm,1.4s,mb5.5
ESAC San Caprasio 45.92 317 P **P 07 06 51.7 0.0**
comp=E,86nm,1.4s,mb5.5
ABH Alteburg 45.95 331 *e*P **P 07 06 51.9 +0.1**
EBIE Bielsa 45.97 318 P **P 07 06 52.0 0.0**
comp=E,106nm,1.8s,mb5.5
EBIE Bielsa 45.97 318 P **P 07 06 52.0 0.0**
comp=E,106nm,1.8s,mb5.5
EPF Esparros 46.01 319 *e*P **P 07 06 51.3 -1.0**
EVIA Vianos 46.05 312 P **P 07 06 53.4 +0.7**
comp=E,10.0nm,0.8s,mb4.8
EVIA Vianos 46.05 312 P **P 07 06 53.4 +0.7**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VIEF Viey 46.14 319 *e*P **P 07 06 54.9 +1.5**
EQES Quesada 46.16 311 P **P 07 06 52.7 -0.9**
comp=Z,71nm,1.9s,mb5.3
EQES Quesada 46.16 311 P **P 07 06 52.7 -0.9**
comp=Z,71nm,1.9s,mb5.3
LOR Lormes 46.19 326 *e*P **P 07 06 51.8 -1.9**
comp=Z,166nm,1.7s,mb5.4
LOR *e*R
comp=Z,279nm,21.0s
LOR Lormes 46.19 326 *e*P **P 07 06 51.8 -1.9**
LOR pmax pmax
comp=Z,83nm,1.7s,mb5.4
LOR MLR MLR
comp=Z,280nm,21.0s,MS4.2
AVF Avril sur Loir 46.20 325 *e*P **P 07 06 51.8 -1.9**
comp=Z,46nm,1.4s,mb4.9
AVF Avril sur Loir 46.20 325 *e*P **P 07 06 51.8 -1.9**
AVF pmax pmax
comp=Z,23nm,1.4s,mb4.9
SSF Saint Saulge 46.27 325 *e*P **P 07 06 52.1 -2.2**
comp=Z,56nm,1.8s,mb5.2
SSF Saint Saulge 46.27 325 *e*P **P 07 06 52.1 -2.2**
SSF pmax pmax
comp=Z,56nm,1.8s,mb5.2
MEZF Maizieres J'vi 46.30 328 *e*P **P 07 06 53.4 -1.2**
comp=Z,296nm,1.6s,mb5.7
BGF Bois d'Agland 46.35 324 *e*P **P 07 06 53.7 -1.3**
comp=Z,96nm,1.4s,mb5.2
BGF Bois d'Agland 46.35 324 *e*P **P 07 06 53.7 -1.3**
BGF pmax pmax
comp=Z,48nm,1.4s,mb5.2
ERON Agron 46.43 310 P **P 07 06 57.6 +1.8**
comp=Z,3.6nm,0.4s,mb4.7
RJF Les Rejaudoux 46.44 322 *e*P **P 07 06 54.7 -1.0**
comp=Z,51nm,1.4s,mb5.0

RJF eR
comp=Z,527nm,18.5s
RJF Les Rejaudoux 46.44 322 eP **P 07 06 54.7 -1.0**
RJF pmax pmax
comp=Z,26nm,1.4s,mb5.0
RJF MLR MLR
comp=Z,530nm,18.5s,MS4.5
FDAF Les Forges d'A 46.49 318 eP **P 07 06 57.7 +1.5**
REYF Montagne du Re 46.50 319 eP **P 07 06 57.9 +1.7**
ETSF Etsaut 46.53 318 eP **P 07 06 56.1 -0.3**
comp=Z,119nm,1.4s,mb5.3
ETSF Etsaut 46.53 318 eP **P 07 06 56.1 -0.3**
ETSF pmax pmax
comp=Z,60nm,1.4s,mb5.3
TCF Toulx Ste Croi 46.56 324 eP **P 07 06 55.6 -1.0**
comp=Z,38nm,1.5s,mb4.8
TCF Toulx Ste Croi 46.56 324 eP **P 07 06 55.6 -1.0**
TCF pmax pmax
comp=Z,19nm,1.5s,mb4.8
LFF La Frestale 46.71 321 eP **P 07 06 57.2 -0.7**
comp=Z,118nm,1.4s,mb5.3
LFF La Frestale 46.71 321 eP **P 07 06 57.2 -0.7**
LFF pmax pmax
comp=Z,59nm,1.4s,mb5.3
ELOJ Sierra Loja 46.74 310 P **P 07 06 59.5 +1.4**
comp=Z,1.6nm,0.3s,mb4.4
ELOJ Sierra Loja 46.74 310 P **P 07 06 59.5 +1.3**
comp=Z,1.6nm,0.3s,mb4.4
ELOJ Sierra Loja 46.74 310 P **P 07 06 59.5 +1.3**
ELOJ pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
BRVK Borovoye 46.84 24 eP **P 07 06 57.8 -0.9**
comp=Z,28nm,1.8s,mb4.9
BRVK Borovoye 46.84 24 eP **P 07 06 57.8 -0.9**
comp=Z,28nm,1.8s,mb4.9
BRVK Borovoye 46.84 24 eP **P 07 06 57.8 -0.9**
BRVK pmax pmax
comp=Z,29nm,1.8s,mb4.9
BVAR Borovoye Array 46.86 24 P **P 07 06 57.3 -1.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=225,slow=8.4,SNR=18
LARF Larrau 46.87 318 eP **P 07 07 00.7 +1.6**
VSU Vasula 46.94 350 *i* P **P 07 07 00.1 +0.6**
ELUQ Luque 46.96 310 P **P 07 06 59.8 -0.1**
comp=Z,1.2nm,0.4s,mb4.2
ELUQ Luque 46.96 310 P **P 07 06 59.8 -0.1**
ELUQ pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
EMIJ Mijas 47.02 309 P **P 07 07 00.0 -0.4**
comp=Z,19nm,1.1s,mb4.9
EMIJ Mijas 47.02 309 P **P 07 07 00.0 -0.4**
comp=Z,19nm,1.1s,mb4.9
SJPF Ste Jean 47.06 318 eP **P 07 07 00.3 -0.3**
comp=Z,274nm,1.7s,mb5.6
SJPF Ste Jean 47.06 318 eP **P 07 07 00.3 -0.3**
SJPF pmax pmax
comp=Z,137nm,1.7s,mb5.6
EALK Alkurruntz 47.29 318 P **P 07 07 03.1 +0.7**
comp=Z,62nm,1.7s,mb5.3
EALK Alkurruntz 47.29 318 P **P 07 07 03.1 +0.6**
comp=Z,62nm,1.7s,mb5.3
HGN Heimansgroeve 47.31 331 eP **P 07 07 02.8 +0.2**
comp=Z,57nm,1.9s,mb5.2
HGN ePP PP 07 08 59.4 +6.2
HGN eSS 07 14 01.1
HGN eSS SS 07 17 39.3 +23
GIVF Givet 47.43 329 eP **P 07 07 01.6 -1.8**
ESDC Sonseca Array 47.49 313 P **P 07 07 04.5 +0.3**
comp=Z,7.0nm,1.0s,mb4.6,baz=115,slow=7.3,SNR=23
ESDC Sonseca Array 47.49 313 P **P 07 07 04.0 -0.1**
comp=Z,33nm,1.4s,mb5.1
ESDC Sonseca Array 47.49 313 P **P 07 07 04.0 -0.1**
comp=Z,33nm,1.4s,mb5.1
ESLA Sonseca Array 47.49 313 eP **P 07 07 04.2 +0.1**
comp=Z,38nm,1.7s,mb5.0
ESLA Sonseca Array 47.49 313 eP **P 07 07 04.2 +0.1**
comp=Z,38nm,1.7s,mb5.0
BAIF Baives 47.71 329 eP **P 07 07 03.7 -2.0**
comp=Z,35nm,1.3s,mb4.9
BAIF Baives 47.71 329 eP **P 07 07 03.7 -2.0**
BAIF pmax pmax
comp=Z,17nm,1.3s,mb4.9
WTSB Winterswijk 47.72 332 eP **P 07 07 05.3 -0.4**
comp=Z,63nm,1.3s,mb5.5
ESPR Espera 47.94 309 P **P 07 07 07.4 -0.3**
comp=Z,71nm,1.3s,mb5.5
ESPR Espera 47.94 309 P **P 07 07 07.4 -0.3**
comp=Z,71nm,1.3s,mb5.5
MFF Saint Martin d 48.10 323 eP **P 07 07 07.1 -1.7**
comp=Z,61nm,1.5s,mb5.1
MFF Saint Martin d 48.10 323 eP **P 07 07 07.1 -1.7**
MFF pmax pmax
comp=Z,31nm,1.5s,mb5.1
SOKR Solikamsk 48.44 11 ⇑ *i* P **P 07 07 12.4 +1.2**
SOKR pmax pmax
comp=Z,60nm,1.8s,mb5.3
SOKR MLR MLR
comp=Z,1μm,19.0s,MS4.8
SUR Sutherland 48.52 202 P **P 07 07 14.8 +2.6**
comp=Z,9.9nm,0.8s,mb4.9,baz=37,slow=4.6,SNR=7.9
ELAN Lanestosa 48.56 317 P **P 07 07 12.5 +0.2**
comp=Z,53nm,1.4s,mb5.4
ELAN Lanestosa 48.56 317 P **P 07 07 12.5 +0.1**
comp=Z,53nm,1.4s,mb5.4
EMIN Mina Concepcio 48.84 309 P **P 07 07 13.0 -1.5**
comp=Z,41nm,1.6s,mb5.2
EMIN Mina Concepcio 48.84 309 P **P 07 07 13.0 -1.6**
comp=Z,41nm,1.6s,mb5.2
MKAR Makanchi Array 48.90 37 P **P 07 07 13.6 -1.3**
comp=Z,6.9nm,0.9s,mb4.7,baz=233,slow=6.1,SNR=34
MKAR LR LR 07 31 42.3
comp=Z,2μm,21.1s,MS5.1,baz=180,slow=41
KURK Kurchatov 49.05 31 eP **P 07 07 14.7 -1.4**
comp=Z,28nm,1.3s,mb5.1
KURK Kurchatov 49.05 31 eP **P 07 07 14.7 -1.3**
comp=Z,28nm,1.3s,mb5.1
KURK Kurchatov 49.05 31 eP **P 07 07 14.7 -1.3**
KURK pmax pmax
comp=Z,28nm,1.3s,mb5.1
LDF La Druitiere 49.15 325 eP **P 07 07 14.4 -2.4**
comp=Z,243nm,1.8s,mb5.6
LDF La Druitiere 49.15 325 eP **P 07 07 14.4 -2.4**
LDF pmax pmax
comp=Z,122nm,1.8s,mb5.6
EGRO El Granado 49.38 309 P **P 07 07 18.2 -0.5**
comp=Z,52nm,1.4s,mb5.4
EGRO El Granado 49.38 309 P **P 07 07 18.2 -0.6**
comp=Z,52nm,1.4s,mb5.4
EBAD Badajoz 49.40 311 P **P 07 07 17.4 -1.5**
comp=Z,106nm,2.1s,mb5.5
EBAD Badajoz 49.40 311 P **P 07 07 17.4 -1.5**
comp=Z,106nm,2.1s,mb5.5
FLN La Foliniere 49.44 325 eP **P 07 07 16.7 -2.4**
comp=Z,87nm,1.2s,mb5.3
FLN eR
comp=Z,447nm,17.5s
FLN La Foliniere 49.44 325 eP **P 07 07 16.7 -2.4**
FLN pmax pmax
comp=Z,43nm,1.2s,mb5.3
FLN MLR MLR
comp=Z,450nm,17.5s,MS4.5
GRR Gorron 49.45 325 eP **P 07 07 16.8 -2.4**
comp=Z,102nm,1.5s,mb5.3
GRR Gorron 49.45 325 eP **P 07 07 16.8 -2.4**
GRR pmax pmax
comp=Z,51nm,1.5s,mb5.3
PBEJ Beja 49.81 309 eP **P 07 07 22.1 0.0**
comp=Z,36nm,1.7s,mb5.1
LSA Lhasa 49.82 62 P **P 07 07 21.3 -1.0**
LSA XP sP 07 07 39.0 +12
LSA PP PP 07 09 17.3 -0.6
LSA S **S 07 14 21.5 -9.1**
LSA LR LR
comp=N,390nm,15.7s,MS4.8
LSA LR LR
comp=E,780nm,17.0s,MS4.8
LSA LR LR
comp=Z,1μm,16.3s,MS5.0
LSA Lhasa 49.82 62 eP **P 07 07 21.6 -0.7**
comp=Z,88nm,1.6s,mb5.5
LSA Lhasa 49.82 62 eP **P 07 07 21.6 -0.7**
comp=Z,88nm,1.6s,mb5.5
LSA Lhasa 49.82 62 eP **P 07 07 21.6 -0.7**
LSA pmax pmax
comp=Z,88nm,1.6s,mb5.5
FINES FINESS Array B 49.88 351 P **P 07 07 20.9 -1.3**
comp=Z,7.1nm,0.9s,mb4.7,baz=157,slow=14,SNR=12
EVO Evora 50.08 310 eP **P 07 07 23.5 -0.6**
comp=Z,180nm,1.7s,mb5.5
EVO eR
comp=Z,1μm,19.5s
PCBR Castelo Branco 50.09 312 eP **P 07 07 24.4 +0.2**
comp=Z,31nm,1.9s,mb5.0
ECAL Calabor 50.29 315 P **P 07 07 24.2 -1.5**
comp=Z,52nm,1.9s,mb5.2
ECAL Calabor 50.29 315 P **P 07 07 24.2 -1.5**
comp=Z,52nm,1.9s,mb5.2
MTE Manteigas 50.32 312 eLR LR 07 23 52.8
comp=Z,1μm,14.3s
KAF Kangasniemi 50.49 351 ep **P 07 07 21.7 -5.2**
comp=Z,2.6nm,0.9s,mb4.3
KAF Kangasniemi 50.49 351 eP **P 07 07 21.7 -5.2**
KAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
JOF Joensuu 50.67 355 ep **P 07 07 26.8 -1.5**
comp=Z,3.2nm,0.8s,mb4.3
WMQ Urumqi 50.99 43 ⇓ *i* P **P 07 07 31.0 +0.1**
WMQ PCP PcP 07 08 47.5 +0.2
WMQ PP PP 07 09 28.0 -0.4
WMQ SCP 07 12 42.0
WMQ S **S 07 14 46.5 0.0**
WMQ SCS ScS 07 17 18.0 -0.7
WMQ AMB AMB
comp=Z,22nm,1.5s,mb4.9
WMQ AMB AMB
comp=Z,262nm,6.0s
WMQ LR LR
comp=Z,2μm,26.2s,MS5.0
HFS Hagfors 51.41 343 P **P 07 07 32.2 -1.7**
comp=Z,4.7nm,0.9s,mb4.4,baz=135,slow=2.1,SNR=4.0
HFS LR LR 07 30 01.1
comp=Z,323nm,19.1s,MS4.4,baz=277,slow=37
NB2 NORSAR Subarra 52.86 343 P **P 07 07 43.8 -1.1**
comp=Z,70nm,1.4s,mb5.4,baz=141,slow=7.4
NB2 NORSAR Subarra 52.86 343 P **P 07 07 43.8 -1.1**
baz=141,slow=7.4
NB2 NORSAR Subarra 52.86 343 P **P 07 07 43.8 -1.1**
NB2 pmax pmax
comp=Z,70nm,1.4s,mb5.4
NOA NORSAR Array B 52.86 343 P **P 07 07 43.2 -1.6**
comp=Z,7.0nm,1.0s,mb4.6,baz=142,slow=7.3,SNR=7.8
NOA LR LR 07 32 52.5
comp=Z,250nm,19.8s,MS4.3,baz=150,slow=39
NOA NORSAR Array B 52.86 343 P **P 07 07 43.2 -1.7**
NVS Novosibirsk 53.74 29 eP **P 07 07 49.9 -1.5**
NVS pmax pmax
comp=N,38nm,1.6s
NVS pmax pmax
comp=E,16nm,1.6s
NVS pmax pmax
comp=Z,41nm,1.6s,mb5.1
ZAL Zalesovo 54.00 31 P **P 07 07 51.5 -1.8**
comp=Z,3.6nm,0.5s,mb4.6,baz=234,slow=7.5,SNR=22
ARCES ARCESS Array B 57.69 354 P **P 07 08 16.9 -2.8**
comp=Z,6.3nm,0.9s,mb4.6,baz=153,slow=2.7,SNR=7.5
GTA Gaotai 58.48 51 eP **P 07 08 24.3 -1.4**
GTA AP pP 07 08 29.8 +1.0
GTA PP PP 07 10 41.4 +4.5
GTA XS 07 16 49.3
GTA AMB AMB
comp=Z,19nm,1.9s,mb4.8
GTA AMB AMB
comp=Z,382nm,5.0s
GTA LR LR
comp=N,702nm,20.6s
GTA LR LR
comp=E,1μm,29.0s
GTA LR LR
comp=Z,2μm,27.9s
KMI Kunming 59.77 68 P **P 07 08 34.1 -0.7**
KMI PCP PcP 07 09 20.3 -1.0
KMI PP PP 07 10 47.9 -0.8
KMI PPP PPP 07 12 13.3 -1.0
KMI S **S 07 16 43.3 -0.8**
KMI SS SS 07 20 40.6 -0.8
KMI AMB AMB
comp=Z,14nm,0.5s,mb5.2
KMI AMB AMB
comp=Z,473nm,5.6s
KMI LR LR
comp=Z,607nm,21.2s,MS4.7
KMI Kunming 59.77 68 P **P 07 08 34.1 -0.7**
comp=Z,14nm,0.5s,mb5.2
KMI sP sP 07 08 38.3 -0.8
KMI PcP PcP 07 09 20.3 -1.0
KMI PP PP 07 10 47.9 -0.8
KMI PPP PPP 07 12 13.2 -1.1
KMI S **S 07 16 43.3 -0.8**
KMI sS 07 16 48.4
KMI PS PS 07 16 58.6 -1.6
KMI SS SS 07 20 40.6 -0.8
KMI SSS SSS 07 23 10.2 -1.0
KMI LR LR
comp=Z,610nm,21.2s,MS4.7
KMI Kunming 59.77 68 P **P 07 08 34.1 -0.7**
KMI *SP sP 07 08 38.3 -0.8
KMI 07 09 20.3
KMI 07 10 47.9
KMI PPP PPP 07 12 13.2 -1.1
KMI S **S 07 16 43.3 -0.8**
KMI PS PS 07 16 58.6 -1.6
KMI SS SS 07 20 40.6 -0.8
KMI SSS SSS 07 23 10.2 -1.0
KMI pmax pmax
comp=Z,14nm,0.5s,mb5.2
KMI MLR MLR
comp=Z,610nm,21.2s,MS4.7
LZH Lanzhou 61.21 56 P **P 07 08 45.0 +0.6**
LZH AP pP 07 08 56.8 +9.2
LZH AMB AMB
comp=Z,120nm,1.4s,mb5.8
LZH AMB AMB
comp=Z,480nm,4.0s
LZH LR LR
comp=Z,2μm,17.5s,MS5.3
LZH Lanzhou 61.21 56 P **P 07 08 45.0 +0.6**
comp=Z,120nm,1.4s,mb5.8
LZH pP pP 07 08 56.8 +9.2
LZH sP sP 07 09 03.0 +14
LZH LR LR
comp=Z,2μm,17.5s,MS5.3
LZH Lanzhou 61.21 56 P **P 07 08 45.0 +0.6**
LZH pmax pmax
comp=Z,120nm,1.4s,mb5.8
LZH MLR MLR
comp=Z,2μm,17.5s,MS5.3
ZAK Zakamensk 63.12 40 eP **P 07 08 54.8 -2.2**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.1
IRK Irkutsk 64.15 38 eP **P 07 09 03.3 -0.5**
IRK pmax pmax
comp=Z,62nm,3.3s
SONM Songino Array 64.62 43 P **P 07 09 05.8 -1.2**
comp=Z,9.2nm,1.0s,mb4.8,baz=256,slow=5.2,SNR=45
SONM LR LR 07 41 02.5
comp=Z,2μm,20.1s,MS5.3,baz=262,slow=40
XAN Xi'an 65.25 58 P **P 07 09 10.8 -0.4**
XAN AP pP 07 09 18.9 +4.5
XAN AMB AMB
comp=Z,18nm,2.0s,mb4.8
HHC Hu-ho-hao-te 67.59 51 eP **P 07 09 26.9 +0.9**
HHC AP pP 07 09 31.3 +2.1
HHC XP sP 07 09 33.9 +3.6
HHC PCP PcP 07 09 53.0 -0.1
HHC PP PP 07 11 57.8 +0.9
HHC SCP 07 13 55.6
HHC S S 07 18 24.4 +3.2
HHC SCS ScS 07 19 21.5 +0.8
HHC SS SS 07 22 47.3 +3.9
HHC AMB AMB
comp=Z,30nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,279nm,5.2s
HHC LR LR
comp=N,560nm,17.8s,MS5.0
HHC LR LR
comp=E,710nm,17.8s,MS5.0
HHC LR LR
comp=Z,994nm,26.2s
WHN Wuhan 69.91 62 eP **P 07 09 41.5 +1.0**
BOD Bodaibo 70.66 33 eP **P 07 09 42.0 -2.6**
BOD pmax pmax
comp=Z,26nm,1.7s,mb4.9
NJ2 Nanjing 73.65 60 eP **P 07 09 59.8 -3.1**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
SUMG Summit 74.75 342 eP **P 07 10 06.8 -1.7**
comp=Z,16nm,1.0s,mb4.9
SSE Sheshan 75.72 61 eP **P 07 10 10.3 -4.5**
SSE AP pP 07 10 19.6 +1.5
SSE PCP PcP 07 10 22.4 -5.5
SSE XP sP 07 10 23.5 +4.3
SSE S S 07 19 49.9 -5.1
SSE SCS ScS 07 20 24.4 -1.0
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,292nm,4.6s
SSE LR LR
comp=N,308nm,24.7s,MS4.6
SSE LR LR
comp=E,182nm,24.8s,MS4.6
SSE LR LR
comp=Z,299nm,21.0s,MS4.6
SSE Sheshan 75.72 61 eP **P 07 10 10.2 -4.6**
comp=Z,26nm,0.7s,mb5.3
SSE pP pP 07 10 19.6 +1.5
SSE PcP PcP 07 10 22.4 -5.5
SSE sP sP 07 10 23.5 +4.3
SSE S S 07 19 49.9 -5.1
SSE sS 07 20 05.9
SSE ScS ScS 07 20 24.4 -1.0
SSE LR LR
comp=Z,300nm,21.0s,MS4.6
TIXI Tiksi 77.63 19 eP **P 07 10 22.5 -2.2**
TIXI pmax pmax
comp=Z,15nm,1.1s,mb4.8
CN2 Changchun 77.79 48 eP **P 07 10 25.9 -0.2**
CN2 eXP sP 07 10 34.6 +4.2
CN2 eS S 07 20 17.0 -0.3
CN2 SS SS 07 25 19.5 -1.0
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,550nm,4.0s
CN2 LR LR
comp=N,750nm,17.0s,MS5.3
CN2 LR LR
comp=E,1μm,17.0s,MS5.3
CN2 LR LR
comp=Z,1μm,17.0s,MS5.3
MDJ Mudanjiang 80.65 46 P **P 07 10 38.8 -2.7**
MDJ AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,156nm,7.1s
MDJ LR LR
comp=N,647nm,24.4s,MS4.9
MDJ LR LR
comp=E,177nm,22.6s,MS4.9
MDJ LR LR
comp=Z,498nm,20.0s,MS4.9
KLR Kul'dur 81.41 42 eP **P 07 10 40.9 -4.5**
MAW Mawson 81.62 172 P **P 07 10 47.7 +1.6**
comp=Z,3.5nm,0.8s,mb4.3,baz=339,slow=5.8,SNR=8.6
MAW LR LR 07 43 36.2
comp=Z,267nm,21.8s,MS4.6,baz=59,slow=33
MBWA Marble Bar 84.71 113 P **P 07 10 58.6 -4.4**
MJAR Matsushiro Arr 88.70 53 P **P 07 11 21.8 -0.4**
comp=Z,1.9nm,0.9s,mb4.4,baz=285,slow=5.8,SNR=4.0
MJAR LR LR 07 57 01.7
comp=Z,415nm,18.5s,MS4.9,baz=305,slow=40
SNAA Sanae 88.90 193 **P 07 11 31.3 +9.0**
SNAA Sanae 88.90 193 Px 07 11 50.0
SNAA Sanae 88.90 193 P **P 07 11 24.0 +1.7**
SNAA P 07 11 31.3
SNAA P 07 11 50.0
VNA2 Neumayer--Watz 89.39 194 **P 07 11 36.3 +12**
VNA2 Neumayer--Watz 89.39 194 Px 07 11 46.3
VNA2 Neumayer--Watz 89.39 194 P **P 07 11 28.1 +3.5**
VNA2 P 07 11 36.3
VNA2 P 07 11 46.3
VNA3 Neumayer Olymp 90.15 194 **P 07 11 39.8 +12**
VNA3 Neumayer Olymp 90.15 194 Px 07 11 56.8
VNA3 Neumayer Olymp 90.15 194 P **P 07 11 31.1 +2.9**
VNA3 P 07 11 39.8
VNA3 P 07 11 56.8
BILL Bilibino 90.80 18 eP **P 07 11 30.5 -0.8**
BILL pmax pmax
comp=Z,12nm,1.7s,mb5.0
BDFB Brasilia 91.91 255 LR LR 07 49 04.6
comp=Z,853nm,19.5s,MS5.2,baz=95,slow=33
WRA Warramunga Arr 97.77 109 P **P 07 12 05.2 +1.0**
comp=Z,1.1nm,1.0s,mb4.3,baz=295,slow=4.3,SNR=4.6
PDAR Pinedale Array 118.44 335 PKP PKPdf 07 17 17.1 -1.0
comp=Z,0.8nm,0.9s,baz=135,slow=2.1,SNR=6.0
TXAR Lajitas Array 125.83 321 PKP PKPdf 07 17 31.9 -0.9
comp=Z,0.9nm,0.9s,baz=117,slow=2.8,SNR=8.2
TBI Tubuai 165.73 140 eLR LR 08 14 58.5
RKT Rikitea 168.68 202 eLR LR 08 16 21.9
PPT Papeete 169.10 118 eLR LR 08 16 36.0
comp=Z,618nm,24.5s

*DHMR **24** 07:06:10.5±0.9, 12.62N×40.46E, h12km±119km, ML4.2*
*IDC **24** 07:06:14.0±1.5, 12.58N×40.54E, mb3.9/8, mb1 4.1/9, mb1mx3.9/18, mbtmp4.0/9, ML4.4/1, Error ellipse: s-maj=33.5km s-min=20.8km az=23.0*
*CSEM **24** 07:06:13.5±0.2, 12.72N×40.48E, h2km, mb3.9/2, Error ellipse: s-maj=6.7km s-min=2.3km az=168.0*
*NEIC **24** 07:06:15.1±0.7, 12.54N×40.54E, h10km, mb3.9/2, Error ellipse: s-maj=15.7km s-min=9.0km az=210.0*
ISC 24 07:06:13.9±0.8, 12.63N±0.09×40.48E±0.05, h10km, n27, σ0§96/90, mb3.8/10, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.56**	**115**	Pn	**Pn**	**Pn**	**07 06 55.3**	**-1.0**
	75nm,0.3s,baz=236,slow=20,SNR=15							
ATD				Sn	**Sn**	**Sn**	**07 07 29.7**	**+1.9**
	31nm,0.3s,baz=249,slow=22,SNR=5.7							
ATD	**Arta Tunnel**	**2.56**	**115**	Pn	**Pn**	**Pn**	**07 06 55.3**	**-1.0**
ATD				Sn	**Sn**	**Sn**	**07 07 29.7**	**+1.9**
UDYN	**Al 'Udayn**	**3.64**	**68**	*i* P	**Pn**	**Pn**	**07 07 10.1**	**-1.5**
UDYN				*i* S	**Sn**	**Sn**	**07 07 56.0**	**+0.8**
UDYN				AML	AML	AML	07 08 19.2	
	comp=N,1μm,0.7s							
DHBB	**Dhamar BB**	**4.26**	**63**	*i* P	**Pn**	**Pn**	**07 07 18.0**	**-2.4**
DHBB				*i* S	**Sn**	**Sn**	**07 08 11.6**	**+0.7**
BDHA	**Al Bayda'**	**5.13**	**74**	*i* P	**Pn**	**Pn**	**07 07 27.9**	**-4.8**
BDHA				*i* S	**Sn**	**Sn**	**07 08 28.4**	**-4.3**
BHD	**Baghdad**	**20.85**	**9**	*ex*	x	x	07 11 47.0	
MSL	**Mosul**	**23.67**	**5**	*ex*	x	x	07 11 28.0	
MALT	**Malatya**	**25.64**	**356**	*eP*	**P**	**P**	**07 11 46.5**	**+1.1**
MALT	**Malatya**	**25.64**	**356**	*eP*	**P**	**P**	**07 11 46.5**	**+1.1**
BR131	**Keskin Array S**	**27.65**	**349**	P	**P**	**P**	**07 12 03.8**	**-0.1**
BR131	**Keskin Array S**	**27.65**	**349**	P	**P**	**P**	**07 12 03.8**	**-0.1**
BRTR	**Keskin Array B**	**27.65**	**349**	P	**P**	**P**	**07 12 04.8**	**+0.8**
	comp=N,2.3nm,0.9s,mb3.8,baz=180,slow=8.6,SNR=7.4							
AKASG	**Malin Array Be**	**39.06**	**349**	P	**P**	**P**	**07 13 42.9**	**+0.1**
	comp=N,0.4nm,0.4s,mb3.5,baz=172,slow=7.3,SNR=5.9							
AKASG	**Malin Array Be**	**39.06**	**349**	P	**P**	**P**	**07 13 42.8**	**+0.1**
PSZ	**Piszkesteto**	**39.15**	**338**	*eP*	**P**	**P**	**07 13 43.6**	**+0.1**
PSZ	**Piszkesteto**	**39.15**	**338**	*eP*	**P**	**P**	**07 13 43.6**	**+0.1**
MORC	**Moravsky Berou**	**41.56**	**338**	*eP*	**P**	**P**	**07 14 03.8**	**+0.4**
MORC	**Moravsky Berou**	**41.56**	**338**	*eP*	**P**	**P**	**07 14 03.8**	**+0.5**
AAK	**Ala-Archa**	**41.95**	**38**	*eP*	**P**	**P**	**07 14 07.1**	**+0.5**
	comp=N,1.0nm,0.7s,mb3.5							
AAK	**Ala-Archa**	**41.95**	**38**	*eP*	**P**	**P**	**07 14 07.1**	**+0.5**
	comp=N,1.0nm,0.7s,mb3.5							
GERES	**GERESS Array B**	**42.37**	**334**	P	**P**	**P**	**07 14 10.4**	**+0.4**
	comp=N,0.7nm,0.6s,mb3.5,baz=143,slow=6.7,SNR=8.7							
GRA1	**Grafenberg Arr**	**44.09**	**333**	*eP*	**P**	**P**	**07 14 23.6**	**-0.3**
	comp=N,3.0nm,0.8s,mb4.1							
DBIC	**Dimbokro**	**45.04**	**267**	P	**P**	**P**	**07 14 32.4**	**+0.3**
	comp=N,4.5nm,1.1s,mb4.2,baz=106,slow=5.8,SNR=4.8							
BVAR	**Borovoye Array**	**46.82**	**24**	P	**P**	**P**	**07 14 46.1**	**+0.5**
	comp=N,0.2nm,0.4s,mb3.4,baz=230,slow=12,SNR=3.7							
MKAR	**Makanchi Array**	**48.87**	**37**	P	**P**	**P**	**07 15 01.9**	**+0.1**
	comp=N,1.4nm,0.8s,mb4.1,baz=239,slow=7.1,SNR=7.8							
ZAL	**Zalesovo**	**53.97**	**31**	P	**P**	**P**	**07 15 38.8**	**-1.4**
	comp=N,1.1nm,0.4s,mb4.2,baz=140,slow=18,SNR=4.9							
SONM	**Songino Array**	**64.60**	**43**	P	**P**	**P**	**07 16 53.2**	**-0.6**
	comp=N,1.7nm,0.9s,mb4.0,baz=262,slow=6.8,SNR=10							

MAN 24 07:10:23.9, 8.58N×126.92E, h1km, mb4.1, ML2.9, MS2.7, Mindanao

IDC 24 07:11:50.9±4.3, 12.56N×40.53E, mb3.6/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=97.5km s-min=26.1km az=39.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.48**	**114**	Pn	Pn	07 12 32.1	-1.1
	27nm,0.3s,baz=88,slow=23,SNR=9.6						
ATD				Sn	Sn	07 13 05.8	+1.1
	5.5nm,0.3s,baz=268,slow=22,SNR=4.6						
GERES	**GERESS Array B**	**42.46**	**334**	P	P	07 19 47.7	-1.5
	0.2nm,0.4s,baz=149,slow=7.8,SNR=3.5						
BVAR	**Borovoye Array**	**46.86**	**24**	P	P	07 20 21.8	-2.7
	0.5nm,0.8s,baz=231,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**48.90**	**37**	P	P	07 20 38.8	-1.6
	0.5nm,0.6s,baz=233,slow=6.1,SNR=4.8						
SONM	**Songino Array**	**64.61**	**43**	P	P	07 22 30.7	-1.7
	1.1nm,1.0s,baz=246,slow=7.2,SNR=6.5						

IDC 24 07:14:20.6±21.0, 5.53S×106.63E, h251km±180km, mb3.4/4, mb1 3.6/4, mb1mx3.2/15, mbtmp4.0/4, Error ellipse: s-maj=191.8km s-min=26.9km az=66.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.38**	**126**	P	P	07 18 57.7	-1.2
	4.1nm,0.8s,baz=329,slow=5.4,SNR=3.4						
WRA	**Warramunga Arr**	**30.52**	**121**	P	P	07 20 11.3	-1.6
	1.6nm,0.6s,baz=295,slow=10.0,SNR=13						
STKA	**Stephens Creek**	**41.90**	**133**	*e*P	P	07 21 46.8	-1.6
	3.5nm,0.5s						
STKA	**Stephens Creek**	**41.90**	**133**	P	P	07 21 46.8	-1.6
	3.4nm,0.5s,baz=291,slow=8.1,SNR=11						
SONM	**Songino Array**	**53.13**	**360**	P	P	07 23 12.8	-1.8
	0.6nm,1.0s,baz=169,slow=7.3,SNR=4.1						
TXAR	**Lajitas Array**	**142.86**	**47**	PKP	PKPdf	07 33 24.4	-0.3
	0.5nm,0.9s,baz=252,slow=4.0,SNR=4.2						

*NEIC **24** 07:23:23.8, 39.99N×21.14E, h5km, MD3.3(ATH), After ATH.*
*ATH **24** 07:23:27.1, 40.07N×21.42E, h14km±3km, MD3.3/3*
*CSEM **24** 07:23:29.0±0.1, 40.00N×21.57E, h2km, MD2.8, Error ellipse: s-maj=3.6km s-min=2.3km az=112.0*
*SOF **24** 07:23:33.3, 40.26N×21.82E, h7km, MD2.8*
ISC 24 07:23:27.6±0.8, 40.04N±0.04×21.42E±0.07, h2km, n22, σ1s11/26, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.29**	**210**	*e*P	**Sg**	**07 23 36.3**	**-1.0**
KZN	**Kozani**	**0.38**	**45**	*e*PB	**Pb**	**07 23 34.9**	**-1.8**
KZN				*e*SB	**Sb**	**07 23 39.7**	**-3.0**
KZN	**Kozani**	**0.38**	**45**	*e*Pb	**Pb**	**07 23 35.0**	**-1.7**
LIT	**Litokhoron**	**0.82**	**85**	*e*P	**Pg**	**07 23 42.2**	**-1.8**
AGG	**Agios Georgios**	**1.23**	**145**	*e*P	**Pg**	**07 23 51.9**	**-0.3**
THE	**Thessaloniki**	**1.32**	**63**	*e*P	**Pg**	**07 23 52.8**	**-1.2**
LKD	**Levkas**	**1.46**	**204**	*e*P	**Pn**	**07 23 59.7**	**+4.8**
XOR	**Xorichti**	**1.52**	**116**	*e*P	**Pn**	**07 23 55.7**	**-0.2**
NEO	**Neokhori**	**1.57**	**117**	*e*PG	**Pn**	**07 23 56.5**	**-0.1**
NEO				*e*SB	**Sb**	**07 24 18.8**	**+1.5**
PLG	**Polygyros**	**1.59**	**77**	*e*PG	**Pn**	**07 23 56.5**	**-0.3**
PLG				*e*SB	**Sb**	**07 24 17.5**	**-0.2**
PLG	**Polygyros**	**1.59**	**77**	*e*Pg	**Pn**	**07 23 57.3**	**+0.5**
KNT	**Kendrikon**	**1.59**	**45**	*e*P	**Pn**	**07 23 57.9**	**+1.0**
SOH	**Sokhos**	**1.67**	**61**	*e*P	**Pn**	**07 23 58.4**	**+0.3**
SRS	**Serrai**	**1.98**	**56**	*e*P	**Pn**	**07 24 02.5**	**+0.2**
SRS	**Serrai**	**1.98**	**56**	*e*P	**Pn**	**07 24 02.5**	**+0.1**
OUR	**Ouranopolis**	**1.98**	**81**	*e*P	**Pn**	**07 24 02.1**	**-0.4**
AOS	**Alonnisos**	**2.09**	**114**	*e*P	**Pn**	**07 24 05.4**	**+1.4**
KKB	**Krupnik**	**2.22**	**34**	*e*P	**Pn**	**07 24 07.0**	**+1.1**
MMB	**Musomiste**	**2.34**	**48**	*e*P	**Pn**	**07 24 09.0**	**+1.4**
VTS	**Vitosha**	**2.89**	**27**	*e*P	**Pn**	**07 24 17.0**	**+1.6**
RZN	**Rozhen**	**2.99**	**56**	*e*P	**Pn**	**07 24 18.0**	**+1.0**
RZN				*e*Pg	**Pg**	**07 24 26.0**	**-1.3**
RDO	**Rodhopi**	**3.33**	**69**	*e*PN	**Pn**	**07 24 21.6**	**-0.1**

*DHMR **24** 07:36:05.0±0.3, 12.66N×40.58E, h3km±47km, ML4.7*
*BJI **24** 07:36:06.1, 12.46N×40.15E, h25km, mB5.3, mb4.8, Ms5.4, Msz4.9*
*IDC **24** 07:36:07.4±0.9, 12.64N×40.52E, mb4.2/13, mb1 4.2/15, mb1mx4.2/21, mbtmp4.1/15, ML4.8/1, MS4.5/11, Ms1 4.5/11, ms1mx4.3/17, Error ellipse: s-maj=20.4km s-min=13.0km az=31.0*
*NEIC **24** 07:36:08.5±0.3, 12.62N×40.54E, h10km, mb5.0/22, ML4.8(DHMR), Error ellipse: s-maj=6.9km s-min=4.1km az=194.0*
*HRVD **24** 07:36:08.5±0.2, 12.82N×40.50E, h12km, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s40,c61;Mantle waves: s67,c126; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.81±.02; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$0.72±.02; $M_{r\theta}$0.26±.06; $M_{\theta\phi}$-0.35±.02; $M_{r\phi}$0.04±.05; Best double couple: M_o.889×10^{17} NP1: ϕ_s173°, δ45°, λ-65°. NP2:ϕ_s320°, δ50°, λ-113°. Principal axes: T.886, Plg2°, Azm66°; N.006, Plg17°, Azm335°; P -.892, Plg72°, Azm163°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **24** 07:36:08.8±0.1, 12.67N×40.62E, h23km, mb5.0/23, Ms4.0, Mw5.2 Error ellipse: s-maj=4.9km s-min=2.0km az=7.0*
ISC 24 07:36:07.1±0.4, 12.66N±0.06×40.50E±0.03, h10km, (h16km±3.5km:pP-P), n100, σ0s83/106, mb4.7/41, MS4.6/10, 6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.56**	**116**	Pn	**Pn**	**07 36 49.5**	**+0.2**
	217nm,0.3s,baz=68,slow=19,SNR=36						
ATD				Sn	**Sn**	**07 37 22.8**	**+1.9**
	baz=263,slow=22,SNR=3.6						
ATD				Lg		07 37 28.6	
	139nm,0.3s,baz=253,slow=22,SNR=9.8						
ATD	**Arta Tunnel**	**2.56**	**116**	Pn	**Pn**	**07 36 49.5**	**+0.2**
ATD				Sn	**Sn**	**07 37 22.8**	**+1.9**
ATD				Lg		07 37 28.6	
UDYN	**Al 'Udayn**	**3.62**	**69**	↓*e*P	**Pn**	**07 37 04.0**	**-0.4**
UDYN				*i* S	**Sn**	**07 37 49.9**	**+2.3**
UDYN				AML	AML	07 38 18.1	
	comp=E,4μm,1.0s						
UDYN	**Al 'Udayn**	**3.62**	**69**	*i* P	**Pn**	**07 37 05.1**	**+0.7**
UDYN				*i* S	**Sn**	**07 37 56.4**	**+8.7**
DHBB	**Dhamar BB**	**4.23**	**63**	↓*e*P	**Pn**	**07 37 12.2**	**-1.0**
DHBB				*i* S	**Sn**	**07 38 04.5**	**+1.3**
DHBB	**Dhamar BB**	**4.23**	**63**	↓*i*P	**Pn**	**07 37 14.4**	**+1.2**
DHBB				*i* S	**Sn**	**07 38 11.2**	**+8.0**
ADEN	**Aden**	**4.38**	**88**	↓*e*P	**Pn**	**07 37 13.6**	**-1.6**
ADEN				*i* S	**Sn**	**07 38 07.0**	**+0.1**
ADEN	**Aden**	**4.38**	**88**	↓*i*P	**Pn**	**07 37 13.7**	**-1.5**
ADEN				*i* S	**Sn**	**07 38 10.4**	**+3.5**
ADEN	**Aden**	**4.38**	**88**	↓*i*P	**Pn**	**07 37 13.7**	**-1.5**
ADEN				*i* S	**Sn**	**07 38 07.0**	**+0.1**
BDHA	**Al Bayda'**	**5.10**	**75**	*i* P	**Pn**	**07 37 23.6**	**-1.9**
BDHA				*i* S	**Sn**	**07 38 25.1**	**-0.2**
BDHA	**Al Bayda'**	**5.10**	**75**	*i* P	**Pn**	**07 37 24.4**	**-1.1**
BDHA				*i* S	**Sn**	**07 38 25.0**	**-0.2**
MUKL	**Al Mukalla**	**8.49**	**77**	*i* S	**Sn**	**07 39 45.3**	**-4.7**
KMBO	**Kilima Mbogo**	**14.07**	**193**	Pn	**P**	**07 39 28.7**	**-0.3**
	baz=37,slow=18,SNR=3.1						
KMBO				Lg		07 43 35.7	
	comp=E,0.2nm,0.3s,baz=107,slow=7.0,SNR=5.5						
KMBO				LR	LR	07 44 44.2	
	comp=E,3μm,20.3s,baz=208,slow=37						
KMBO	**Kilima Mbogo**	**14.07**	**193**	Pn	**P**	**07 39 28.7**	**-0.3**
KMBO				Lg		07 43 35.7	
KMBO				LR	LR	07 44 44.2	
ASF	**Jabal al Asfar**	**19.70**	**351**	P	**P**	**07 40 39.6**	**+0.1**
	baz=245,slow=0.9,SNR=6.1						
ASF				LR	LR	07 47 59.8	
	comp=E,530nm,19.1s,baz=47,slow=36						
MSL	**Mosul**	**23.64**	**5**	*ex*	x	07 41 44.0	
MSL				*ex*	x	07 42 01.5	
MSL				*ex*	x	07 42 17.0	
MSL				*ex*	x	07 51 57.0	
MSL				*ex*	x	07 52 12.0	
MALT	**Malatya**	**25.61**	**356**	*e*P	**P**	**07 41 40.3**	**+1.9**
	comp=E,16nm,1.1s,mb4.5						
IDI	**Anoyia**	**26.59**	**331**	LR	LR	07 54 04.6	
	comp=E,249nm,18.4s,MS3.8,baz=14,slow=40						
BR131	**Keskin Array S**	**27.63**	**349**	*e*P	**P**	**07 41 57.3**	**+0.5**
BR131	**Keskin Array S**	**27.63**	**349**	*e*P	**P**	**07 41 57.3**	**+0.4**
BRTR	**Keskin Array B**	**27.63**	**349**	P	**P**	**07 41 58.5**	**+1.6**
	comp=E,2.9nm,0.9s,mb3.9,baz=166,slow=10,SNR=12						
GNI	**Garni**	**27.63**	**7**	P	**P**	**07 41 59.0**	**+2.1**
	comp=E,3.8nm,0.4s,mb4.4,baz=153,slow=17,SNR=3.5						
GNI				LR	LR	07 53 00.7	
	comp=E,622nm,21.9s,MS4.2,baz=33,slow=37						
GNI	**Garni**	**27.63**	**7**	P	**P**	**07 41 59.0**	**+2.1**
GNI				LR	LR	07 53 00.7	
AQU	**L'Aquila**	**37.79**	**327**	P	**P**	**07 43 26.4**	**+1.1**
AKASG	**Malin Array Be**	**39.03**	**349**	P	**P**	**07 43 35.8**	**+0.1**
	comp=E,3.5nm,0.8s,mb4.1,baz=172,slow=7.3,SNR=9.8						
VOY	**Vojsko**	**40.16**	**331**	*e*(P)	**P**	**07 43 45.8**	**+0.7**
MORC	**Moravsky Berou**	**41.54**	**338**	*e*P	**P**	**07 43 56.8**	**+0.4**
AAK	**Ala-Archa**	**41.91**	**38**	*e*P	**P**	**07 44 00.2**	**+0.7**
	comp=E,28nm,1.7s,mb4.6						
AAK	**Ala-Archa**	**41.91**	**38**	*e*P	**P**	**07 44 00.2**	**+0.7**
	comp=E,28nm,1.7s,mb4.6						
SBF	**Sospel**	**42.09**	**324**	*e*P	**P**	**07 44 01.2**	**+0.2**
	comp=E,71nm,1.5s,mb4.8						
LMR	**La Mourre**	**42.32**	**323**	*e*P	**P**	**07 44 02.8**	**0.0**
	comp=E,54nm,1.5s,mb4.7						
GERES	**GERESS Array B**	**42.35**	**334**	P	**P**	**07 44 03.2**	**+0.2**
	comp=E,1.8nm,0.8s,mb3.8,baz=135,slow=7.5,SNR=13						
OBN	**Obninsk**	**42.46**	**357**	*e*P	**P**	**07 44 03.4**	**-0.4**
OBN	**Obninsk**	**42.46**	**357**	*e*P	**P**	**07 44 03.4**	**-0.4**
KHC	**Kasperske Hory**	**42.62**	**334**	*e*P	**P**	**07 44 05.0**	**-0.2**
KOLN	**Koldanda**	**42.91**	**63**	*e*P	**P**	**07 44 07.3**	**-0.6**
	comp=E,174nm,1.7s,mb5.5						
MBDF	**Montbardon**	**43.00**	**325**	*e*P	**P**	**07 44 09.4**	**+1.0**
	comp=E,40nm,1.1s,mb4.7						
LPG	**La Plagne**	**43.48**	**325**	*e*P	**P**	**07 44 11.6**	**-0.7**
LPL	**La Plagne**	**43.50**	**325**	*e*P	**P**	**07 44 11.8**	**-0.6**
ORIF	**Oris-en-Rattie**	**43.62**	**324**	*e*P	**P**	**07 44 13.6**	**+0.2**
	comp=E,100nm,1.8s,mb4.9						
ORIF				*e*R			
	comp=E,235nm,22.5s						
BRG	**Berggiesshubel**	**43.81**	**336**	*e*P	**P**	**07 44 15.4**	**+0.6**
	comp=E,33nm,1.8s,mb4.8						
BRG	**Berggiesshubel**	**43.81**	**336**	*e*P	**P**	**07 44 15.4**	**+0.6**
	comp=E,33nm,1.8s,mb4.8						
GKN	**Gorkha**	**43.86**	**63**	*e*P	**P**	**07 44 15.1**	**-0.4**
	comp=E,134nm,1.7s,mb5.4						
GRA1	**Grafenberg Arr**	**44.07**	**333**	*e*P	**P**	**07 44 15.9**	**-1.1**
	comp=E,12nm,1.5s,mb4.4						
DMN	**Daman**	**44.19**	**63**	*e*P	**P**	**07 44 16.9**	**-1.4**
VIVF	**Saint-Julien-l**	**44.28**	**323**	*e*P	**P**	**07 44 18.9**	**+0.1**
	comp=E,64nm,1.7s,mb4.8						
LASF	**Ste Croix**	**44.32**	**322**	*e*P	**P**	**07 44 19.2**	**+0.1**
	comp=E,70nm,1.6s,mb4.8						
KKN	**Kakani**	**44.38**	**63**	*e*P	**P**	**07 44 19.0**	**-0.8**
CLL	**Collm**	**44.52**	**336**	P	**P**	**07 44 20.0**	**-0.6**
	comp=E,logA/T=1.2,mb4.8						
CLL	**Collm**	**44.52**	**336**	*e*P	**P**	**07 44 20.0**	**-0.6**
	comp=E,30nm,1.8s,mb4.8						
CABF	**La Chapelle**	**44.53**	**326**	*e*P	**P**	**07 44 20.1**	**-0.7**
HINF	**Hinteralfeld**	**44.89**	**328**	*e*P	**P**	**07 44 23.3**	**-0.3**
MTLF	**Montolieu**	**44.94**	**320**	*e*P	**P**	**07 44 24.4**	**+0.3**
CDF	**Champ du Feu**	**45.06**	**329**	*e*P	**P**	**07 44 24.6**	**-0.4**
DBIC	**Dimbokro**	**45.06**	**267**	P	**P**	**07 44 25.3**	**-0.2**
	comp=E,4.9nm,0.8s,mb4.4,baz=60,slow=9.9,SNR=6.8						
DBIC				LR	LR	08 02 36.5	
	comp=E,695nm,20.3s,MS4.6,baz=68,slow=35						
DBIC	**Dimbokro**	**45.06**	**267**	P	**P**	**07 44 25.3**	**-0.2**
DBIC				LR	LR	08 02 36.5	
HAU	**Haudompre**	**45.27**	**328**	*e*P	**P**	**07 44 26.2**	**-0.4**
HAU				*e*R			
	comp=E,187nm,21.2s						
MDT	**Midelt**	**45.78**	**304**	P	**P**	**07 44 31.7**	**+0.8**
	comp=E,4.8nm,1.1s,mb4.3,baz=108,slow=6.2,SNR=8.3						
SMF	**Signal de Mont**	**45.79**	**325**	*e*P	**P**	**07 44 30.0**	**-0.8**
ARU	**Arti**	**45.85**	**14**	P	**P**	**07 44 30.7**	**-0.3**
	comp=E,8.8nm,0.6s,mb4.9						
ARU	**Arti**	**45.85**	**14**	P	**P**	**07 44 30.7**	**-0.4**
	comp=E,8.8nm,0.6s,mb4.9						
CAF	**Calviac**	**45.86**	**322**	*e*P	**P**	**07 44 31.9**	**+0.5**
EPF	**Esparros**	**45.97**	**319**	*e*P	**P**	**07 44 32.6**	**+0.4**
LOR	**Lormes**	**46.15**	**326**	*e*P	**P**	**07 44 33.0**	**-0.6**
	comp=E,144nm,1.9s,mb5.3						
LOR				*e*R			
	comp=E,203nm,20.2s						
AVF	**Avril sur Loir**	**46.15**	**325**	*e*P	**P**	**07 44 32.9**	**-0.7**
SSF	**Saint Saulge**	**46.22**	**325**	*e*P	**P**	**07 44 33.4**	**-0.8**
MEZF	**Maizieres J'vi**	**46.25**	**328**	*e*P	**P**	**07 44 34.7**	**+0.3**
BGF	**Bois d'Agland**	**46.30**	**324**	*e*P	**P**	**07 44 34.7**	**-0.1**
RJF	**Les Rejaudoux**	**46.39**	**322**	*e*P	**P**	**07 44 36.0**	**+0.5**
	comp=E,50nm,1.5s,mb4.9						
RJF				*e*R			
	comp=E,276nm,18.8s						
ETSF	**Etsaut**	**46.49**	**318**	*e*P	**P**	**07 44 37.3**	**+1.0**
	comp=E,58nm,1.4s,mb5.0						
TCF	**Toulx Ste Croi**	**46.52**	**324**	*e*P	**P**	**07 44 36.8**	**+0.3**
LFF	**La Frestale**	**46.67**	**321**	*e*P	**P**	**07 44 38.3**	**+0.5**
BRVK	**Borovoye**	**46.77**	**24**	*e*P	**P**	**07 44 38.4**	**0.0**
	comp=E,29nm,2.0s,mb4.9						
BRVK	**Borovoye**	**46.77**	**24**	*e*P	**P**	**07 44 38.4**	**0.0**
	comp=E,29nm,2.0s,mb4.9						
BVAR	**Borovoye Array**	**46.79**	**24**	P	**P**	**07 44 39.0**	**+0.5**
	comp=E,0.7nm,0.6s,mb3.8,baz=217,slow=7.4,SNR=5.7						
SJPF	**Ste Jean**	**47.02**	**318**	*e*P	**P**	**07 44 41.4**	**+0.9**
	comp=E,98nm,1.6s,mb5.2						
GIVF	**Givet**	**47.38**	**329**	*e*P	**P**	**07 44 42.9**	**-0.4**
ESDC	**Sonseca Array**	**47.46**	**313**	P	**P**	**07 44 46.6**	**+0.5**
	comp=E,2.6nm,0.9s,mb4.2,baz=112,slow=7.9,SNR=7.7						
BAIF	**Baives**	**47.66**	**329**	*e*P	**P**	**07 44 44.9**	**-0.6**
	comp=E,107nm,1.9s,mb5.2						
MKAR	**Makanchi Array**	**48.84**	**37**	P	**P**	**07 44 54.6**	**-0.1**
	comp=E,2.2nm,0.7s,mb4.3,baz=238,slow=6.5,SNR=13						
MKAR				LR	LR	08 09 24.2	
	comp=E,1μm,21.8s,MS4.9,baz=180,slow=41						
KURK	**Kurchatov**	**48.98**	**31**	*e*P	**P**	**07 44 56.0**	**+0.2**
	comp=E,42nm,2.0s,mb5.1						
KURK	**Kurchatov**	**48.98**	**31**	*e*P	**P**	**07 44 56.0**	**+0.2**
	comp=E,42nm,2.0s,mb5.1						
EVO	**Evora**	**50.04**	**310**	*e*P	**P**	**07 45 06.6**	**+2.5**
	comp=E,40nm,1.3s,mb5.0						
EVO				*e*R			
	comp=E,423nm,19.2s						
ROSF	**Rostrenen**	**50.77**	**323**	*e*P	**P**	**07 45 08.2**	**-1.2**
NOA	**RORSARray B**	**52.80**	**343**	P	**P**	**07 45 23.6**	**-1.1**
	comp=E,2.4nm,0.9s,mb4.1,baz=141,slow=7.5,SNR=3.4						
NOA				LR	LR	08 07 50.4	
	comp=E,126nm,18.1s,MS4.0,baz=340,slow=36						
ZAL	**Zalesovo**	**53.94**	**31**	P	**P**	**07 45 31.5**	**-1.5**
	comp=E,1.4nm,0.3s,mb4.4,baz=240,slow=6.9,SNR=3.9						
ARCES	**ARCESS Array B**	**57.62**	**354**	P	**P**	**07 45 57.8**	**-1.7**
	comp=E,4.8nm,0.9s,mb4.5,baz=352,slow=8.6,SNR=3.2						
GTA	**Gaotai**	**58.43**	**51**	*e*P	**P**	**07 46 05.8**	**+0.3**
GTA				AP	pP	07 46 09.5	+0.9
GTA				XP	sP	07 46 12.4	+2.7
GTA				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,215nm,5.7s						
GTA				LR	LR		
	comp=N,456nm,19.1s						
GTA				LR	LR		
	comp=E,711nm,24.8s						
GTA				LR	LR		
	comp=Z,1μm,27.9s						
LZH	**Lanzhou**	**61.16**	**56**	*e*P	**P**	**07 46 23.5**	**-0.8**
LZH				AP	pP	07 46 30.5	+3.1
LZH				XP	sP	07 46 33.0	+4.4
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.3						
LZH				LR	LR		
	comp=N,2μm,17.0s						
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS5.1						
LZH	**Lanzhou**	**61.16**	**56**	*e*P	**P**	**07 46 23.5**	**-0.8**
	comp=Z,42nm,1.5s,mb5.3						
LZH				pP	pP	07 46 30.5	+3.1
LZH				sP	sP	07 46 33.0	+4.4
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS5.1						
GYA	**Guiyang**	**63.25**	**67**	P	**P**	**07 46 37.8**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
SONM	**Songino Array**	**64.56**	**43**	P	**P**	**07 46 46.3**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.2,baz=252,slow=6.7,SNR=18						
SONM				LR	LR	08 19 31.4	
	comp=Z,982nm,19.3s,MS5.0,baz=200,slow=40						
HHC	**Hu-ho-hao-te**	**67.53**	**51**	*e*P	**P**	**07 47 07.0**	**+1.1**
HHC				AP	pP	07 47 11.5	+2.5
HHC				XP	sP	07 47 14.1	+4.0
HHC				PCP	PcP	07 47 34.3	+1.2
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.4						
HHC				AMB	AMB		
	comp=Z,224nm,3.9s						
SUMG	**Summit**	**74.69**	**342**	*e*P	**P**	**07 47 48.2**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.6						
SUMG	**Summit**	**74.69**	**342**	*e*P	**P**	**07 47 48.2**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.6						
MAW	**Mawson**	**81.68**	**172**	LR	LR	08 21 07.7	
	comp=Z,254nm,18.4s,MS4.6,baz=148,slow=33						
MJAR	**Matsushiro Arr**	**88.64**	**53**	LR	LR	08 32 04.3	
	comp=Z,431nm,18.8s,MS4.9,baz=310,slow=38						
SNAA	**Sanae**	**88.97**	**193**	*e*P	**P**	**07 49 03.4**	**+0.5**
	comp=Z,40nm,2.1s,mb5.4						
SNAA	**Sanae**	**88.97**	**193**	*e*P	**P**	**07 49 03.4**	**+0.5**
	comp=Z,40nm,2.1s,mb5.4						
BDFB	**Brasilia**	**91.95**	**255**	LR	LR	08 26 16.8	
	comp=Z,473nm,18.9s,MS5.0,baz=101,slow=33						

*LDG **24** 07:54:53.8±0.2, 64.86N×134.64W, h10km, Mb5.2/27, Ms4.4/7, Error ellipse: s-maj=11.3km s-min=3.1km az=20.0*
*IDC **24** 07:54:54.0±0.5, 64.66N×134.52W, mb4.6/17, mb1 4.8/23, mb1mx4.8/27, mbtmp4.7/23, ML4.8/7, MS4.3/16, Ms1 4.3/16, ms1mx4.2/31, Error ellipse: s-maj=9.6km s-min=7.5km az=45.0*
*MOS **24** 07:54:53.3±0.7, 64.59N×134.57W, h10km, mb5.2/79, MS4.5/15, Error ellipse: s-maj=11.9km s-min=3.8km az=89.4*
*PGC **24** 07:54:54.0, 64.51N×134.46W, h1km, ML5.6/3, Mw5.1/5, mb5.1/105(NEIC), MS4.6/12(NEIC)*
PGC 244km northeast of Dawson, Yt Wernecke Mountains, Yukon Territory Felt in Yukon Territory (undisclosed locations).
*BJI **24** 07:54:56.0, 64.50N×134.40W, h10km, mB5.1, mb4.8, Ms5.1, Msz4.7*
*HRVD **24** 07:54:56.0±0.3, 64.64N×134.38W, h22km±1km, MW5.1/54, Centroid moment Tensor Solution. LP body waves: s29,c44;Mantle waves: s54,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.25±.22; $M_{\theta\theta}$-3.22±.18; $M_{\phi\phi}$4.47±.19; $M_{r\theta}$-0.92±.31; $M_{\theta\phi}$3.48±.17; $M_{r\phi}$-0.26±.30; Best double couple: M_o5.293×10^{16} NP1:ϕ_s157°, δ78°, λ-174°. NP2:ϕ_s65°, δ85°, λ-12°. Principal axes: T 5.857, Plg5°, Azm111°; N -1.127, Plg77°, Azm221°; P -4.73, Plg12°, Azm20°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CRAAG **24** 07:54:56.4, 64.64N×134.47W, Mb5.3*
*NEIC **24** 07:54:56.0, 64.47N×134.36W, h10km, mb5.1/105, MS4.6/12, MW5.1(PGC), After PGC.*
NEIC Felt in Yukon Territory.
ISC 24 07:54:52.1±0.1, 64.62N±0.02×134.62W±0.06, h1km, (h19km±2.4km:pP-P), n457, σ0s90/477, mb5.0/136, MS4.5/33, 21C-12D, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**3.73**	**6**	Pn	**Pn**	**07 55 52.4**	**+0.3**
	13nm,0.3s,baz=186,slow=14,SNR=277						
INK				Lg		07 56 50.0	
	483nm,0.3s,baz=269,slow=32,SNR=6.5						
INK				LR	LR	07 57 42.4	
	comp=Z,5μm,18.7s,baz=191,slow=46						
INK	**Inuvik**	**3.73**	**6**	Pn	**Pn**	**07 55 52.0**	**0.0**
INK				Pg	**Pg**	**07 56 04.6**	**-2.0**
INK				Sg	**Sg**	**07 56 50.7**	**-5.6**
INK				Trac		07 57 19.4	
	comp=Z,5μm,0.6s						
INK	**Inuvik**	**3.73**	**6**	Pn	**Pn**	**07 55 52.0**	**0.0**
INK				Pg	**Pg**	**07 56 04.6**	**-2.0**
INK				Sg	**Sg**	**07 56 50.7**	**-5.6**
INK				Trac		07 57 19.4	
	comp=Z,5μm,0.6s						
INK	**Inuvik**	**3.73**	**6**	*e*P	**Pn**	**07 55 52.1**	**+0.1**
WHY	**Whitehorse**	**3.98**	**182**	↓Pn	**Pn**	**07 55 53.8**	**-1.7**
WHY				Pg	**Pg**	**07 56 06.5**	**-4.9**
WHY				Sg	**Sg**	**07 56 52.8**	**-12**
WHY				Trac		07 56 56.9	
	comp=Z,3μm,0.3s						
WHY	**Whitehorse**	**3.98**	**182**	↓Pn	**Pn**	**07 55 53.8**	**-1.7**
WHY				Pg	**Pg**	**07 56 01.9**	**-10**
WHY				Sg	**Sg**	**07 56 51.2**	**-13**
WHY				Trac		07 56 56.9	
	comp=Z,3μm,0.3s						
HYT	**Haines Junctio**	**4.03**	**201**	↓Pn	**Pn**	**07 55 55.3**	**-1.0**
HYT				Pg	**Pg**	**07 56 07.3**	**-5.3**
HYT				Sg	**Sg**	**07 56 54.5**	**-12**
HYT				Trac		07 57 11.8	
	comp=Z,5μm,0.6s		

TTA Tatalina 9.61 270 eP P 07 57 14.5 +0.2
RUBB Prince Rupert 10.56 166 Pn P 07 57 25.6 -1.8
RUBB Sg Sx 08 00 20.7
RUBB Trac 08 00 42.2
comp=Z,710nm,1.2s
RUBB Prince Rupert 10.56 166 Pn P 07 57 25.6 -1.8
RUBB Sg Sx 08 00 20.7
RUBB Trac 08 00 42.2
comp=Z,710nm,1.2s
BMBC Bull Mountain 10.57 139 Pn P 07 57 24.3 -3.3
BMBC Pg Px 07 58 06.5
BMBC Sg Sx 08 00 16.3
BMBC Trac 08 00 38.6
comp=Z,681nm,1.1s
BMBC Bull Mountain 10.57 139 Pn P 07 57 24.3 -3.3
BMBC Pg Px 07 58 06.5
BMBC Sg Sx 08 00 16.3
BMBC Trac 08 00 38.6
comp=Z,681nm,1.1s
NDB Naden 10.73 175 Pn P 07 57 28.4 -1.4
NDB Sg Sx 08 00 29.4
NDB Trac 08 00 51.0
comp=Z,220nm,1.0s
NDB Naden 10.73 175 Pn P 07 57 28.4 -1.4
NDB Sg Sx 08 00 29.4
NDB Trac 08 00 51.0
comp=Z,220nm,1.0s
KDAK Kodiak Island 11.01 240 Pn P 07 57 32.7 -0.9
1.4nm,0.3s,baz=35,slow=12,SNR=6.2
KDAK LR LR 08 02 13.0
comp=Z,2µm,20.2s,baz=50,slow=40
BNAB Bonilla 11.34 168 Pn P 07 57 40.9 +2.8
BNAB Sg Sx 08 00 44.6
BNAB Trac 08 00 50.5
comp=Z,79nm,1.0s
BNAB Bonilla 11.34 168 Pn P 07 57 40.9 +2.8
BNAB Sg Sx 08 00 44.6
BNAB Trac 08 00 50.5
comp=Z,79nm,1.0s
VIB Van Inlet 11.45 174 Pn P 07 57 38.3 -1.3
VIB Sg Sx 08 00 46.8
VIB Trac 08 01 16.1
comp=Z,109nm,1.0s
VIB Van Inlet 11.45 174 Pn P 07 57 38.3 -1.3
VIB Sg Sx 08 00 46.8
VIB Trac 08 01 16.1
comp=Z,109nm,1.0s
MOBC Moresby Island 11.54 172 Pn P 07 57 40.6 -0.3
MOBC Sg Sx 08 00 46.7
MOBC Trac 08 01 11.0
comp=Z,220nm,1.4s
MOBC Moresby Island 11.54 172 Pn P 07 57 40.6 -0.3
MOBC Sg Sx 08 00 46.7
MOBC Trac 08 01 11.0
comp=Z,220nm,1.4s
BNB Barry Inlet 12.17 172 Pn P 07 57 51.3 +2.0
BNB Sn Sx 08 01 10.0
BNB Trac 08 01 19.7
comp=Z,5µm,1.3s
BNB Barry Inlet 12.17 172 Pn P 07 57 51.3 +2.0
BNB Trac 08 01 19.7
comp=Z,5µm,1.3s
BBB Bella Bella 12.92 162 Pn P 07 57 58.3 -1.0
0.4nm,0.3s,baz=338,slow=10,SNR=4.8
BBB Lg 08 01 39.2
0.7nm,0.3s,baz=74,slow=21,SNR=5.0
BBB Bella Bella 12.92 162 Pn P 07 58 00.8 +1.4
BBB Sn Sx 08 01 34.2
BBB Trac 08 01 45.6
comp=Z,191nm,1.4s
BBB Bella Bella 12.92 162 Pn P 07 58 00.8 +1.4
BBB Lg 08 01 39.2
BBB Trac 08 01 45.6
comp=Z,191nm,1.4s
HOLB Holberg 14.43 163 Pn P 07 58 23.7 +4.6
HOLB Sn Sx 08 02 19.3
HOLB Trac 08 02 28.7
comp=Z,833nm,1.5s
HOLB Holberg 14.43 163 Pn P 07 58 23.7 +4.6
HOLB Trac 08 02 28.7
comp=Z,833nm,1.5s
PHC Port Hardy 14.45 161 Pn P 07 58 23.1 +3.7
PHC Sn Sx 08 02 16.8
PHC Trac 08 02 27.9
comp=Z,170nm,1.5s
PHC Port Hardy 14.45 161 Pn P 07 58 23.1 +3.7
PHC Trac 08 02 27.9
comp=Z,170nm,1.5s
MAYB Maynard 14.79 161 Pn P 07 58 31.5 +7.6
MAYB Sn Sx 08 02 29.7
MAYB Trac 08 02 37.9
comp=Z,2µm,1.9s
MAYB Maynard 14.79 161 Pn P 07 58 31.5 +7.6
MAYB Trac 08 02 37.9
comp=Z,2µm,1.9s
BPBC Brooks Peninsu 14.95 163 Pn P 07 58 31.4 +5.5
BPBC Sn Sx 08 02 50.5
BPBC Trac 08 03 08.5
comp=Z,435nm,1.5s
BPBC Brooks Peninsu 14.95 163 Pn P 07 58 31.4 +5.5
BPBC Trac 08 03 08.5
comp=Z,435nm,1.5s
NCRB Newcastle Ridg 14.95 158 Pn P 07 58 33.4 +7.4
NCRB Sn Sx 08 02 36.5
NCRB Trac 08 02 51.2
comp=Z,1µm,1.8s
NCRB Newcastle Ridg 14.95 158 Pn P 07 58 33.4 +7.4
NCRB Trac 08 02 51.2
comp=Z,1µm,1.8s
MNB Mounoet Dainar 15.01 138 Pn P 07 58 25.9 -0.8
MNB Sn Sx 08 02 39.2
MNB Mounoet Dainar 15.01 138 Pn P 07 58 25.9 -0.8
WOSB Woss 15.11 160 Pn P 07 58 35.3 +7.2
WOSB Sn Sx 08 02 37.0
WOSB Trac 08 02 49.6
comp=Z,2µm,2.0s
WOSB Woss 15.11 160 Pn P 07 58 35.3 +7.2
WOSB Trac 08 02 49.6
comp=Z,2µm,2.0s
EDB Eliza Dome 15.31 161 Trac 08 03 12.8
comp=Z,96nm,1.1s
EDB Eliza Dome 15.31 161 Trac 08 03 12.8
comp=Z,96nm,1.1s
CBB Campbell River 15.43 157 ⇓Pn P 07 58 39.0 +6.8
CBB Sn Sx 08 02 50.8
CBB Trac 08 03 17.6
comp=Z,79nm,1.4s
CBB Campbell River 15.43 157 ⇓Pn P 07 58 39.0 +6.8
CBB Trac 08 03 17.6
comp=Z,79nm,1.4s
GDR Gold River 15.56 159 Pn P 07 58 40.3 +6.3
GDR Sn Sx 08 02 54.9
GDR Trac 08 03 15.0
comp=Z,645nm,1.4s
GDR Gold River 15.56 159 Pn P 07 58 40.3 +6.3
GDR Trac 08 03 15.0
comp=Z,645nm,1.4s
LLLB Lillooet 15.56 148 Pn P 07 58 34.9 +0.9
LLLB Sn Sx 08 02 57.2
LLLB Trac 08 03 27.2
comp=Z,101nm,1.8s
LLLB Lillooet 15.56 148 Pn P 07 58 34.9 +0.9
LLLB Trac 08 03 27.2
comp=Z,101nm,1.8s
EDM Edmonton 15.74 126 Pn P 07 58 33.0 -3.2
EDM Edmonton 15.74 126 Pn P 07 58 33.0 -3.2
EDM Edmonton 15.74 126 eP P 07 58 32.4 -3.9
WSLR Whistler 15.79 151 Pn P 07 58 38.1 +1.1
WSLR Sn Sx 08 03 07.0
WSLR Trac 08 03 16.1
comp=Z,61nm,1.7s
WSLR Whistler 15.79 151 Pn P 07 58 38.1 +1.1
WSLR Trac 08 03 16.1
comp=Z,61nm,1.7s
BTB Buttle Lake 15.95 158 Pn P 07 58 44.9 +5.9
BTB Sn Sx 08 03 03.4
BTB Trac 08 03 24.3
comp=Z,1µm,1.8s
BTB Buttle Lake 15.95 158 Pn P 07 58 44.9 +5.9
BTB Trac 08 03 24.3
comp=Z,1µm,1.8s
SLEB Sale Mountain 16.00 140 Pn P 07 58 38.9 -0.8
SLEB Sn Sx 08 03 10.7
SLEB Trac 08 04 03.2
comp=Z,143nm,1.5s
SLEB Sale Mountain 16.00 140 Pn P 07 58 38.9 -0.8
SLEB Trac 08 04 03.2
comp=Z,143nm,1.5s
SHB Sechelt 16.11 154 Trac 08 03 45.1
comp=Z,105nm,1.4s
SHB Sechelt 16.11 154 Trac 08 03 45.1
comp=Z,105nm,1.4s
WPB Watts Point 16.18 153 Pn P 07 58 43.2 +1.2
WPB Sn Sx 08 03 16.1
WPB Trac 08 03 32.9
comp=Z,766nm,1.7s
WPB Watts Point 16.18 153 Pn P 07 58 43.2 +1.2
WPB Trac 08 03 32.9
comp=Z,766nm,1.7s
ALB Alberni 16.25 157 Pn P 07 58 43.6 +0.7
ALB Trac 08 03 33.7
comp=Z,436nm,1.7s
ALB Alberni 16.25 157 Pn P 07 58 43.6 +0.7
ALB Trac 08 03 33.7
comp=Z,436nm,1.7s
BIB Bowen Island 16.40 153 Pn P 07 58 48.9 +4.1
BIB Sn Sx 08 03 23.3
BIB Trac 08 03 36.5
comp=Z,1µm,2.1s
BIB Bowen Island 16.40 153 Pn P 07 58 48.9 +4.1
BIB Trac 08 03 36.5
comp=Z,1µm,2.1s
NLLB Nanaimo Lost L 16.44 155 Trac 08 03 38.1
comp=Z,76nm,1.6s
NLLB Nanaimo Lost L 16.44 155 Trac 08 03 38.1
comp=Z,76nm,1.6s
OZB Mount Ozzard 16.44 158 Trac 08 03 37.4
comp=Z,102nm,1.6s
OZB Mount Ozzard 16.44 158 Trac 08 03 37.4
comp=Z,102nm,1.6s
MGB Mount Grey 16.54 156 Pn P 07 58 46.8 +0.3
MGB Trac 08 03 40.0
comp=Z,112nm,1.4s
MGB Mount Grey 16.54 156 Pn P 07 58 46.8 +0.3
MGB Trac 08 03 40.0
comp=Z,112nm,1.4s
RES Resolute Bay 16.66 36 ⇑Pn P 07 58 44.1 -3.8
RES Sn S 08 01 40.6 -13
RES Trac 08 04 12.0
comp=Z,219nm,0.9s
RES Resolute Bay 16.66 36 ⇑Pn P 07 58 44.1 -3.8
RES Sn S 08 01 40.6 -13
RES Trac 08 04 12.0
comp=Z,219nm,0.9s
RES Resolute Bay 16.66 36 eP P 07 58 43.9 -4.0
HNB Haney 16.67 152 Pn P 07 58 49.3 +1.1
HNB Sn Sx 08 03 35.9
HNB Trac 08 04 05.3
comp=Z,48nm,1.4s
HNB Haney 16.67 152 Pn P 07 58 49.3 +1.1
HNB Trac 08 04 05.3
comp=Z,48nm,1.4s
HOPB Hope 16.82 149 Pn P 07 58 50.1 +0.1
HOPB Sn Sx 08 03 47.9
HOPB Trac 08 03 58.3
comp=Z,92nm,1.4s
HOPB Hope 16.82 149 Pn P 07 58 50.1 +0.1
HOPB Trac 08 03 58.3
comp=Z,92nm,1.4s
PFB Port Renfrew 17.00 156 Pn P 07 58 55.5 +3.2
PFB Sn Sx 08 03 38.0
PFB Trac 08 04 05.1
comp=Z,62nm,2.4s
PFB Port Renfrew 17.00 156 Pn P 07 58 55.5 +3.2
PFB Trac 08 04 05.1
comp=Z,62nm,2.4s
VDB Vedder Mountai 17.01 151 Pn P 07 58 53.2 +0.7
VDB Sn Sx 08 03 45.7
VDB Trac 08 04 18.6
comp=Z,359nm,1.7s
VDB Vedder Mountai 17.01 151 Pn P 07 58 53.2 +0.7
VDB Trac 08 04 18.6
comp=Z,359nm,1.7s
VDB Vedder Mountai 17.01 151 P P 07 58 53.2 +0.8
SNB Saturna Island 17.03 153 Pn P 07 58 56.4 +3.6
SNB Sn Sx 08 03 45.5
SNB Trac 08 04 09.4
comp=Z,131nm,1.6s
SNB Saturna Island 17.03 153 Pn P 07 58 56.4 +3.6
SNB Trac 08 04 09.4
comp=Z,131nm,1.6s
LZB Mount Lazard 17.07 155 Pn P 07 58 57.0 +3.8
LZB Sn Sx 08 03 42.0
LZB Trac 08 04 03.2
comp=Z,27nm,1.8s
LZB Mount Lazard 17.07 155 Pn P 07 58 57.0 +3.8
LZB Trac 08 04 03.2
comp=Z,27nm,1.8s
PGC Sidney 17.10 154 Pn P 07 58 55.3 +1.7
PGC Sn Sx 08 03 43.9
PGC Trac 08 04 24.1
comp=Z,76nm,1.7s
PGC Sidney 17.10 154 Pn P 07 58 55.3 +1.7
PGC Trac 08 04 24.1
comp=Z,76nm,1.7s
PGC Sidney 17.10 154 eP P 07 58 52.7 -0.9
148nm,1.3s
PNT Penticton 17.30 145 Pn P 07 58 56.0 -0.1
PNT Trac 08 04 27.8
comp=Z,63nm,1.2s
PNT Penticton 17.30 145 Pn P 07 58 56.0 -0.1
PNT Trac 08 04 27.8
comp=Z,63nm,1.2s
VGZ Gonzales 17.35 154 Pn P 07 58 59.8 +3.1
VGZ Sn Sx 08 03 50.6
VGZ Trac 08 04 24.8
comp=Z,70nm,2.1s
VGZ Gonzales 17.35 154 Pn P 07 58 59.8 +3.1
VGZ Trac 08 04 24.8
comp=Z,70nm,2.1s
RPW Rockport 17.68 150 P P 07 59 01.6 +0.7
HDW Hoodsport 18.14 154 P P 07 59 08.6 +2.0
HTW Haystack Looko 18.24 151 P P 07 59 08.0 +0.1
RMW Rattlesnake Mo 18.56 152 P P 07 59 12.2 +0.4
WTV Waterville 18.74 148 P P 07 59 15.1 +1.1
GSM Grass Mountain 18.81 152 P P 07 59 15.7 +0.8
NEW Newport 18.91 142 P P 07 59 16.4 +0.3
0.5nm,0.3s,baz=343,slow=10,SNR=42
NEW Lg 08 04 42.6
0.2nm,0.3s,baz=280,slow=8.8,SNR=8.2
NEW LR LR 08 08 00.3
comp=Z,609nm,19.3s,baz=332,slow=42
NEW Newport 18.91 142 eP P 07 59 15.9 -0.2
62nm,1.0s
NEW Newport 18.91 142 eP P 07 59 15.9 -0.2
NEW pmax pmax
comp=Z,62nm,1.0s
TBM Table Mountain 19.09 150 P P 07 59 18.6 +0.3
WALA Waterton Lakes 19.12 135 Pn P 07 59 17.8 -0.8
WALA Sn Sx 08 04 52.4
WALA Trac 08 05 04.2
comp=Z,86nm,1.4s
WALA Waterton Lakes 19.12 135 Pn P 07 59 17.8 -0.8
WALA Trac 08 05 04.2
comp=Z,86nm,1.4s
OD2 Odessa Site #2 19.32 146 P P 07 59 20.8 -0.2
FCC Fort Churchill 19.81 88 Pn P 07 59 22.0 -4.4
FCC Sn S 08 02 44.9 -20
FCC Trac 08 04 15.6
comp=Z,113nm,0.8s
FCC Fort Churchill 19.81 88 Pn P 07 59 22.0 -4.4
FCC Sn S 08 02 44.9 -20
FCC Trac 08 04 15.6
comp=Z,113nm,0.8s
FCC Fort Churchill 19.81 88 eP P 07 59 22.1 -4.3
comp=Z,99nm,0.9s
FCC Fort Churchill 19.81 88 eP P 07 59 22.2 -4.2
FCC pmax pmax
comp=Z,99nm,0.9s
HAWA Hanford 20.06 148 eP P 07 59 27.6 -1.7
comp=Z,2.5nm,1.0s
CHMT Chamberlain Mo 21.24 136 eP P 07 59 40.6 -0.8
HBO Huckleberry Mo 21.94 156 P P 07 59 49.5 +0.9
DLMT Dillon 22.84 137 eP P 07 59 57.6 +0.3
DGMT Dagmar 22.95 120 eP P 07 59 58.9 +0.5
comp=Z,689nm,1.1s,mb6.1
HUMO Hull Mountain 23.04 158 eP P 07 59 58.9 -0.4
comp=Z,25nm,1.1s,mb4.7
BILL Bilibino 23.17 305⇓eP P 08 00 03.0 +2.7
BILL e 08 00 27.3
BILL eS S 08 04 15.0 +6.4
BILL pmax pmax
comp=Z,100nm,1.0s,mb5.3
BILL MLR MLR
comp=Z,2µm,20.0s,MS4.4
MCMT McKenzie Canyo 23.25 138 eP P 08 00 01.7 +0.4
QLMT Earthquake Lak 23.66 136 eP P 08 00 06.0 +0.6
LAO LASA Array 23.72 126 eP P 08 00 06.7 +0.8
comp=Z,73nm,1.0s,mb5.2
YBH Yreka Blue Hor 23.93 158 P P 08 00 08.8 +0.9
comp=Z,1.2nm,0.5s,baz=43,slow=0.6,SNR=3.5
YBH LR LR 08 09 37.7
comp=Z,2µm,18.9s,MS4.6,baz=345,slow=37
YMR Madison River 23.95 135 eP P 08 00 09.1 +1.0
comp=Z,73nm,0.5s,mb5.5
WVOR Wild Horse Val 24.03 150 eP P 08 00 09.9 +1.1
comp=Z,30nm,1.1s,mb4.7
WVOR Wild Horse Val 24.03 150 eP P 08 00 10.0 +1.1
WVOR pmax pmax
comp=Z,30nm,1.1s,mb4.7
YFT Old Faithful 24.19 135 P P 08 00 11.2 +0.8
MOD Modoc 24.20 153 eP P 08 00 11.0 +0.4
comp=Z,11nm,0.9s,mb4.4
LKWY Lake 24.22 134 P P 08 00 11.1 +0.3
IMW Indian Meadow 24.66 136 eP P 08 00 16.3 +1.2
comp=Z,47nm,1.0s,mb5.2
ULM Lac du Bonnet 24.82 107 P P 08 00 16.2 -0.3
comp=Z,13nm,0.9s,mb4.6,baz=315,slow=9.2,SNR=11
ULM LR LR 08 10 19.4
comp=Z,546nm,18.2s,MS4.1,baz=90,slow=37
ULM Lac du Bonnet 24.82 107 Pn P 08 00 16.5 0.0
ULM Sn S 08 04 46.6 +9.4
ULM Sg Sx 08 07 47.0
ULM Trac 08 08 06.0
comp=Z,51nm,1.1s
ULM Lac du Bonnet 24.82 107 Pn P 08 00 16.5 0.0
ULM Sn S 08 04 46.6 +9.4
ULM Trac 08 08 06.0
comp=Z,51nm,1.1s
ULM Lac du Bonnet 24.82 107 eP P 08 00 16.1 -0.4
comp=Z,680nm,1.3s,mb6.2
LOHW Long Hollow 25.02 136 eP P 08 00 19.2 +0.7
comp=Z,34nm,0.9s,mb5.1
TPAW Teton Pass 25.03 136 eP P 08 00 19.6 +1.0
comp=Z,59nm,1.1s,mb5.2
RRI2 Red Ridge 25.05 137 eP P 08 00 19.7 +1.0
comp=Z,64nm,0.9s,mb5.3
WDC Whiskeytown Da 25.08 158 eP P 08 00 19.5 +0.4
comp=Z,18nm,1.1s,mb4.7
WDC Whiskeytown Da 25.08 158 eP P 08 00 19.5 +0.4
WDC pmax pmax
comp=Z,18nm,1.1s,mb4.7
SNOW Snow King Moun 25.11 136 eP P 08 00 20.4 +1.1
comp=Z,76nm,1.1s,mb5.3
REDW Red Top Meadow 25.17 136 eP P 08 00 20.8 +0.9
comp=Z,103nm,1.3s,mb5.4
AHID Auburn Hatcher 25.64 137 P P 08 00 24.3 -0.1
comp=Z,35nm,1.2s,mb4.9
HVU Hansel Valley 26.08 141 eP P 08 00 28.0 -0.5
comp=Z,35nm,1.2s,mb4.9
HVU Hansel Valley 26.08 141 eP P 08 00 28.0 -0.5
HVU pmax pmax
comp=Z,35nm,1.2s,mb4.9
PDAR Pinedale Array 26.11 135 P P 08 00 29.4 +0.8
comp=Z,23nm,0.9s,mb4.8,baz=346,slow=5.2,SNR=145
PDAR LR LR 08 10 25.1
comp=Z,879nm,21.2s,MS4.3,baz=350,slow=36
BEKR Beckwourth 26.15 155 eP P 08 00 29.4 +0.2
comp=Z,11nm,0.8s,mb4.5
ELK Elko 26.42 145 P P 08 00 33.1 +1.5
comp=Z,8.9nm,0.9s,mb4.4,baz=339,slow=7.7,SNR=34
OHCM Honcut 26.47 157 eP P 08 00 31.5 -0.6
HWUT Hardware Ranch 26.58 139 eP P 08 00 32.9 -0.2
comp=Z,26nm,1.1s,mb4.9
TCUT Toone Canyon 27.08 139 eP P 08 00 37.6 -0.1
FRB Frobisher Bay 27.64 61 P P 08 00 42.6 +0.2
comp=Z,46nm,0.9s,mb5.3,baz=306,slow=9.4,SNR=8.7
FRB LR LR 08 10 29.8
comp=Z,805nm,18.6s,MS4.3,baz=298,slow=34
FRB Frobisher Bay 27.64 61 P P 08 00 42.6 +0.2
FRB LR LR 08 10 29.8
DAU Daniels Canyon 27.77 139 eP P 08 00 42.5 -1.5
MNV Mina 27.97 152 eP P 08 00 46.1 +0.3
comp=Z,22nm,1.1s,mb4.9
MNV Mina 27.97 152 eP P 08 00 46.1 +0.3
MNV pmax pmax
comp=Z,22nm,1.1s,mb4.9
EYMN Ely 28.42 105 eP P 08 00 49.0 -0.8
comp=Z,52nm,1.0s,mb5.3
MTUM Tungsten Hills 28.93 153 eP P 08 00 53.8 -0.7
SRU San Rafael 29.19 139 eP P 08 00 56.6 -0.1
comp=Z,16nm,0.7s,mb5.0
SRU San Rafael 29.19 139 eP P 08 00 56.7 -0.1
SRU pmax pmax
comp=Z,16nm,0.7s,mb5.0
MSU Marysvale 29.30 142 eP P 08 00 57.6 -0.2
ARUT Antelope Range 29.66 145 eP P 08 01 00.8 -0.3
PTRM Twissleman Ran 30.28 156 eP P 08 01 06.8 +0.3
ISA Isabella 30.59 154 eP P 08 01 08.7 -0.6
comp=Z,4.4nm,1.3s,mb4.2
ISA Isabella 30.59 154 eP P 08 01 08.7 -0.5
ISA pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
PV01 Paradox Valley 30.66 137 eP P 08 01 09.4 -0.4
SEY Seymchan 30.68 301 eP P 08 01 10.2 +0.4
SEY e 08 11 50.0
SEY pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
SEY pmax pmax
comp=N,10.0nm,0.5s
NEN Nelson 31.36 148 eP P 08 01 15.7 -0.4
SDCO Great Sand Dun 31.95 133 eP P 08 01 21.4 +0.2
comp=N,3.6nm,0.8s,mb4.3
SDCO LR LR
comp=Z,2µm,20.0s,MS4.8
MWC Mount Wilson 32.06 154 eP P 08 01 22.4 +0.1
SFJD Kangerlussuaq 32.07 47 iP P 08 01 24.8 +2.8
comp=Z,20nm,0.8s,mb5.1
comp=Z,430nm,18.0s
SFJD Kangerlussuaq 32.07 47 iP P 08 01 24.8 +2.8
SFJD pmax pmax
comp=Z,20nm,0.8s,mb5.1
SFJD MLR MLR
comp=Z,440nm,18.0s,MS4.2
SUMG Summit 32.17 34 eP P 08 01 23.6 +0.7
comp=Z,22nm,0.8s,mb5.2
WUAZ Wupatki 32.34 143 eP P 08 01 24.7 +0.1
comp=Z,18nm,0.8s,mb5.0
TIXI Tiksi 32.82 325 eP P 08 01 29.1 +0.7
TIXI pmax pmax
comp=Z,21nm,0.9s,mb5.1
PFO Pinyon Flat Ob 32.98 151 eP P 08 01 29.9 -0.3
comp=Z,14nm,0.9s,mb4.9
PFO Pinyon Flat Ob 32.98 151 eP P 08 01 29.9 -0.3
PFO pmax pmax
comp=Z,14nm,0.9s,mb4.9
MA2 Magadan 33.39 297 eP P 08 01 33.8 +0.3
comp=Z,30nm,0.9s,mb5.2
MA2 Magadan 33.39 297 eP P 08 01 33.8 +0.3
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
DAG Danmarks Havn 33.42 22⇑iP P 08 01 33.6 -0.1
comp=Z,18nm,0.9s,mb5.0
DAG Danmarks Havn 33.42 22⇑eP P 08 01 33.6 -0.1
comp=Z,18nm,0.9s,mb5.0
DAG Danmarks Havn 33.42 22⇑eP P 08 01 33.6 -0.1
DAG pmax pmax
comp=Z,18nm,0.9s,mb5.0
KSU1 Kansas State U 33.80 121 eP P 08 01 36.0 -1.3
SCHQ Schefferville 33.88 74 P P 08 01 38.0 +0.2
comp=Z,8.8nm,1.0s,mb4.7,baz=335,slow=7.6,SNR=4.0
SCHQ LR LR 08 13 44.7
comp=Z,345nm,21.8s,MS4.0,baz=66,slow=33
SCHQ Schefferville 33.88 74 P P 08 01 38.0 +0.2
SCHQ LR LR 08 13 44.7
ANMO Albuquerque 34.24 136 eP P 08 01 41.4 +0.3
comp=Z,31nm,1.0s,mb5.2
ANMO LR LR
comp=Z,656nm,19.0s,MS4.4
ANMO Albuquerque 34.24 136 eP P 08 01 41.4 +0.3
ANMO pmax pmax
comp=Z,31nm,1.0s
ANMO MLR MLR
comp=Z,656nm,19.0s
KBS Kingsbay 35.34 11 eP P 08 01 51.1 +1.0

comp=Z,32nm,0.9s,mb5.2
KBS Kingsbay 35.34 11 *e*P **P 08 01 51.1 +0.9**
KBS pmax pmax
comp=Z,32nm,0.9s,mb5.2
TUC Tucson 35.53 144 *e*P **P 08 01 52.5 +0.3**
comp=Z,8.7nm,0.9s,mb4.6
TUC Tucson 35.53 144 *e*P **P 08 01 52.6 +0.4**
TUC pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
CCM Cathedral Cave 36.75 115 *e*P **P 08 02 00.5 -2.0**
comp=Z,25nm,0.9s,mb4.9
CCM Cathedral Cave 36.75 115 *e*P **P 08 02 00.5 -2.0**
CCM pmax pmax
comp=Z,25nm,0.9s,mb4.9
FVM French Village 37.14 114 *e*P **P 08 02 04.2 -1.5**
comp=Z,30nm,1.0s,mb5.0
FVM French Village 37.14 114 *e*P **P 08 02 04.2 -1.5**
FVM pmax pmax
comp=Z,30nm,1.0s,mb5.0
MNTX Cornudas Mount 37.59 137 *e*P **P 08 02 09.5 -0.1**
comp=Z,12nm,1.1s,mb4.6
BLO Bloomington 37.68 109 *e*P **P 08 02 09.2 -1.1**
comp=Z,24nm,1.0s,mb4.9
BLO Bloomington 37.68 109 *e*P **P 08 02 09.2 -1.1**
BLO pmax pmax
comp=Z,24nm,1.0s,mb4.9
ACSO Alum Creek Sta 38.25 104 *e*P **P 08 02 14.1 -0.9**
comp=Z,13nm,1.0s,mb4.6
ACSO LR LR
comp=Z,505nm,19.0s,MS4.3
ALLY Alegheny Colle 38.27 100 *e*P **P 08 02 14.6 -0.7**
WCI Wyandotte Cave 38.58 109 *e*P **P 08 02 16.3 -1.6**
comp=Z,16nm,0.9s,mb4.6
WCI Wyandotte Cave 38.58 109 *e*P **P 08 02 16.3 -1.6**
WCI pmax pmax
comp=Z,15nm,0.9s,mb4.6
MIV Mineville/With 39.13 91 *e*P **P 08 02 21.8 -0.6**
YAK Yakutsk 39.14 312 *e*P **P 08 02 22.7 +0.4**
YAK *e*S ScS 08 12 28.2 -2.6
YAK pmax pmax
comp=Z,12nm,0.8s,mb4.6
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK smax
comp=E,5.0nm,1.2s
LTX Lajitas 40.31 136 *e*P **P 08 02 32.6 +0.3**
comp=E,36nm,1.3s,mb4.8
LTX Lajitas 40.31 136 *e*P **P 08 02 32.6 +0.3**
LTX pmax pmax
comp=Z,37nm,1.3s,mb4.8
TXAR Lajitas Array 40.31 136 P **P 08 02 32.8 +0.5**
comp=Z,8.5nm,0.7s,mb4.5,baz=357,slow=7.6,SNR=125
TXAR LR LR 08 19 43.3
comp=Z,1μm,18.6s,MS4.7,baz=280,slow=37
PLAL Pickwick Lake 40.68 114 *e*P **P 08 02 34.1 -1.1**
comp=Z,22nm,0.9s,mb4.9
MVL Millersville 41.25 98 P **P 08 02 39.0 -1.0**
ELN Prospectdale 41.72 104 *e*P **P 08 02 42.5 -1.2**
BLA Blacksburg 41.87 104 *e*P **P 08 02 44.0 -0.9**
BLA LR LR
comp=Z,556nm,19.0s,MS4.5
LRAL Lakeview Retre 42.81 114 *e*P **P 08 02 51.8 -0.9**
comp=Z,68nm,1.1s,mb5.3
GOGA Godfrey 43.89 110 *e*P **P 08 03 00.8 -0.7**
comp=Z,18nm,1.0s,mb4.8
GOGA Godfrey 43.89 110 *e*P **P 08 03 00.8 -0.6**
GOGA pmax pmax
comp=Z,18nm,1.0s,mb4.8
JSC Jenkinsville 44.04 107 *e*P **P 08 03 01.6 -1.0**
CLNS Chul'man 44.70 310 *e*P **P 08 03 08.2 +0.5**
CLNS *e**PP pP 08 03 15.2 +7.2
CLNS *e* 08 04 48.3
CLNS *e* 08 04 53.0
CLNS *e*S **S 08 09 41.8 -2.9**
CLNS pmax pmax
comp=Z,21nm,0.6s,mb5.2
CLNS pmax pmax
comp=N,16nm,0.7s
CLNS pmax pmax
comp=E,19nm,0.8s
CLNS pmax pmax
comp=Z,15nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax
comp=E,139nm,12.9s
CLNS smax
comp=Z,91nm,13.1s
CLNS smax
comp=N,116nm,16.7s
CLNS MLR MLR
comp=Z,800nm,17.0s,MS4.7
CLNS MLR MLR
comp=N,600nm,14.0s,MS4.8
CLNS MLR MLR
comp=E,700nm,16.0s,MS4.8
KEV Kevo 45.29 9 *e*p **P 08 03 09.8 -2.4**
comp=E,23nm,1.0s,mb5.0
KEV Kevo 45.29 9 *e*P **P 08 03 09.8 -2.4**
KEV pmax pmax
comp=Z,23nm,1.0s,mb5.1
ARCES ARCESS Array B 45.40 10 P **P 08 03 11.5 -1.6**
comp=Z,12nm,1.0s,mb4.8,baz=346,slow=5.0,SNR=11
ARCES LR LR 08 23 17.0
comp=Z,172nm,18.3s,MS4.0,baz=171,slow=38
ARE0 ARCESS Array S 45.40 10 P **P 08 03 13.0 -0.1**
KTK1 Kautokeino 45.74 11 *e*P **P 08 03 16.7 +0.9**
YSS Yuzh-Sakhalins 45.95 289 *e*P **P 08 03 18.5 +0.7**
comp=Z,42nm,0.7s,mb5.6
YSS Yuzh-Sakhalins 45.95 289 *e*P **P 08 03 18.5 +0.8**
YSS pmax pmax
comp=Z,42nm,0.7s,mb5.6
BOD Bodaibo 47.30 317⇑ *i*P **P 08 03 27.3 -0.9**
BOD pmax pmax
comp=Z,48nm,0.9s,mb5.6
LVZ Lovozero 47.55 5 *i*P **P 08 03 29.8 -0.3**
LVZ *i*S **S 08 10 23.1 -2.1**
LVZ smax
comp=N,58nm,6.1s
LVZ MLR MLR
comp=Z,513nm,20.0s,MS4.5
LVZ MLR MLR
comp=N,342nm,21.0s
MOR8 Moi Rana 47.60 16 *e*P **P 08 03 29.6 -1.0**
MOR8 AMb AMB 08 03 44.8
comp=Z,32nm,1.5s,mb5.2
MOR8 Moi Rana 47.60 16 *e*P **P 08 03 29.6 -1.0**
comp=Z,32nm,1.5s,mb5.2
APA Apatity 47.82 6⇓ *i*P **P 08 03 31.9 -0.4**
APA pmax pmax
comp=Z,13nm,0.7s,mb5.2
KLR Kul'dur 48.43 299 *e*P **P 08 03 34.2 -3.0**
NB2 NORSAR Subarra 52.07 20 P **P 08 04 04.2 -0.7**
comp=Z,5.1nm,0.6s,mb4.6,baz=343,slow=7.4
NB2 NORSAR Subarra 52.07 20 P **P 08 04 04.2 -0.7**
baz=343,slow=7.9
NB2 NORSAR Subarra 52.07 20 P **P 08 04 04.2 -0.7**
NB2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
NOA NORSAR Array B 52.07 20 P **P 08 04 04.5 -0.3**
comp=Z,6.3nm,0.6s,mb4.7,baz=343,slow=7.6,SNR=32
NOA LR LR 08 25 32.6
comp=Z,141nm,18.4s,MS4.0,baz=325,slow=35
JOF Joensuu 52.34 8 *e*p **P 08 04 03.0 -3.9**
comp=Z,5.1nm,0.6s,mb4.6
HIA Hailar 52.72 308 *e*P **P 08 04 10.1 +0.1**
comp=Z,21nm,0.8s,mb5.1
HIA Hailar 52.72 308 *e*P **P 08 04 10.1 +0.2**
HIA pmax pmax
comp=Z,21nm,0.8s
KAF Kangasniemi 52.78 11 *e*p **P 08 04 07.5 -2.7**
comp=Z,3.6nm,0.7s,mb4.4
KAF Kangasniemi 52.78 11 *e*P **P 08 04 07.5 -2.7**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MDJ Mudanjiang 53.09 297 P **P 08 04 12.6 -0.1**
MDJ AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,86nm,5.3s
MDJ LR LR
comp=N,359nm,21.4s,MS4.4
MDJ LR LR
comp=E,172nm,23.0s,MS4.4
MDJ LR LR
comp=Z,414nm,17.6s
FINES FINESS Array B 53.42 11 P **P 08 04 14.1 -0.9**
comp=Z,6.5nm,0.6s,mb4.8,baz=4.9,slow=9.2,SNR=54
FINES LR LR 08 28 57.0
comp=Z,145nm,18.8s,MS4.1,baz=357,slow=38
FINES FINESS Array B 53.42 11 P **P 08 04 14.1 -0.9**
FINES LR LR 08 28 57.0
ESK Eskdalemuir 54.73 32 *e*P **P 08 04 23.9 -0.7**
comp=Z,22nm,0.8s,mb5.2
ESK Eskdalemuir 54.73 32 *e*P **P 08 04 23.9 -0.7**
ESK pmax pmax
comp=Z,22nm,0.8s,mb5.2
CN2 Changchun 55.35 300 *e*P **P 08 04 29.3 0.0**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 LR LR
comp=N,360nm,16.0s,MS4.8
CN2 LR LR
comp=E,540nm,16.0s,MS4.8
CN2 LR LR
comp=Z,650nm,21.0s,MS4.7
DCN Croghan 55.57 35 *e*P **P 08 04 30.0 -0.8**
DLF Lyons Farm 55.80 35 *e*P **P 08 04 32.0 -0.4**
SOKR Solikamsk 55.83 353⇑ *i*P **P 08 04 36.2 +3.7**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
VSU Vasula 56.43 12⇑ *e*P **P 08 04 36.2 -0.6**
MAJO Matsushiro 56.49 285 *e*P **P 08 04 37.2 -0.4**
comp=Z,56nm,1.4s,mb5.4
MAJO LR LR
comp=Z,465nm,19.0s,MS4.6
MAJO Matsushiro 56.49 285 *e*P **P 08 04 37.2 -0.4**
MAJO pmax pmax
comp=Z,56nm,1.4s,mb5.4
MAJO MLR MLR
comp=Z,465nm,19.0s,MS4.6
MAT Matsushiro 56.49 285 P **P 08 04 37.5 -0.1**
MAT Matsushiro 56.49 285 *e*P **P 08 04 38.0 +0.4**
comp=Z,7.5nm,0.8s,mb4.8
MAT Matsushiro 56.49 285 *e*P **P 08 04 38.0 +0.4**
MAT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MJAR Matsushiro Arr 56.49 285 P **P 08 04 37.9 +0.3**
comp=Z,7.5nm,0.9s,mb4.7,baz=18,slow=6.4,SNR=12
ZAK Zakamensk 56.87 320 *e*P **P 08 04 40.0 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ZAL Zalesovo 57.94 334 LR LR 08 31 34.2
comp=Z,324nm,21.4s,MS4.4,baz=94,slow=38
SONM Songino Array 58.26 316 P **P 08 04 50.7 +0.8**
comp=Z,7.6nm,0.8s,mb4.8,baz=18,slow=4.7,SNR=16
BSEG Bad Segeberg 58.73 23 *e*P **P 08 04 53.5 +0.4**
ARU Arti 58.86 351 *e*P **P 08 04 53.3 -0.7**
comp=Z,64nm,1.0s,mb5.6
ARU Arti 58.86 351⇓ *i*P **P 08 04 53.7 -0.3**
ARU *e* 08 05 40.2
ARU *e* 08 07 05.3
ARU *e*S **S 08 12 59.2 +0.3**
ARU *e*SS SS 08 16 52.0 -1.8
ARU pmax pmax
comp=Z,52nm,1.3s,mb5.4
OBN Obninsk 60.41 6⇑ *e*P **P 08 05 04.1 -0.6**
OBN *e*SS SS 08 17 14.5 -3.1
OBN pmax pmax
comp=Z,12nm,0.9s,mb4.9
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3
SUW Suwalki 60.47 15 *e*P **P 08 05 04.2 -0.9**
CLZ Clausthal 60.75 24 *e*P **P 08 05 07.5 +0.5**
comp=Z,49nm,1.3s,mb5.5
CLZ Clausthal 60.75 24 *e*P **P 08 05 07.5 +0.5**
CLZ pmax pmax
comp=Z,49nm,1.3s,mb5.5
BRVK Borovoye 61.09 343 *e*P **P 08 05 08.8 -0.5**
comp=Z,10nm,0.8s,mb5.0
BRVK Borovoye 61.09 343 *e*P **P 08 05 08.8 -0.5**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb5.0
ROSF Rostrenen 61.18 35 *e*P **P 08 05 09.5 -0.5**
BAIF Baives 61.26 29 *e*P **P 08 05 10.2 -0.4**
comp=Z,18nm,0.8s,mb5.0
BAIF Baives 61.26 29 *e*P **P 08 05 10.2 -0.4**
BAIF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
GIVF Givet 61.35 28 *e*P **P 08 05 10.7 -0.5**
comp=Z,51nm,1.2s,mb5.2
GIVF Givet 61.35 28 *e*P **P 08 05 10.7 -0.5**
GIVF pmax pmax
comp=Z,26nm,1.2s,mb5.2
FLN La Foliniere 61.45 33 *e*P **P 08 05 11.1 -0.7**
comp=Z,128nm,1.3s,mb5.6
FLN *e*R
comp=Z,449nm,19.0s
FLN La Foliniere 61.45 33 *e*P **P 08 05 11.1 -0.7**
FLN pmax pmax
comp=Z,64nm,1.3s,mb5.6
FLN MLR MLR
comp=Z,450nm,19.0s,MS4.6
LDF La Druitiere 61.69 33 *e*P **P 08 05 12.7 -0.8**
comp=Z,39nm,1.1s,mb5.3
LDF La Druitiere 61.69 33 *e*P **P 08 05 12.7 -0.8**
LDF pmax pmax
comp=Z,20nm,1.1s,mb5.3
CLL Collm 61.71 22⇓ *i*P **P 08 05 13.0 -0.6**
comp=Z,logA/T=1.1,mb5.1
CLL *i* 08 05 28.6
CLL Collm 61.71 22⇓ *i*P **P 08 05 13.0 -0.6**
comp=Z,15nm,1.2s,mb5.1
CLL *i* 08 05 28.6
CLL Collm 61.71 22⇓ *i*P **P 08 05 13.0 -0.6**
CLL pmax pmax
comp=Z,15nm,1.2s,mb5.1
GRR Gorron 61.71 33 *e*P **P 08 05 13.1 -0.5**
TNS Taunus Mts 61.95 26 *e*P **P 08 05 15.4 +0.2**
comp=Z,8.0nm,0.8s,mb5.0
TNS Taunus Mts 61.95 26 *e*P **P 08 05 15.4 +0.2**
TNS pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
MOX Moxa 62.12 24 *i*P **P 08 05 16.2 -0.1**
comp=Z,logA/T=1.4,mb5.4
MOX Moxa 62.12 24 *e*P **P 08 05 16.2 -0.1**
comp=Z,25nm,1.1s,mb5.4
MOX Moxa 62.12 24 *e*P **P 08 05 16.2 -0.1**
MOX pmax pmax
comp=Z,25nm,1.1s,mb5.4
KURK Kurchatov 62.14 337 *e*P **P 08 05 15.8 -0.7**
comp=Z,91nm,0.3s
KURK Kurchatov 62.14 337 *e*P **P 08 05 15.8 -0.7**
KURK pmax pmax
comp=Z,91nm,0.3s
BRG Berggiesshubel 62.28 22 *i*P **P 08 05 16.8 -0.7**
comp=Z,9.1nm,0.9s,mb5.0
BRG Berggiesshubel 62.28 22 *i*P **P 08 05 16.8 -0.7**
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
TOD Tromm 62.61 26 *e*P **P 08 05 19.4 -0.2**
NKC Novy Kostel 62.66 23 *e*P **P 08 05 19.9 0.0**
KSP Ksiaz 62.68 20 *e*P **P 08 05 19.7 -0.3**
KSP Ksiaz 62.68 20 *e*P **P 08 05 19.9 -0.2**
PVCC Panska Ves 62.72 22 *e*P **P 08 05 20.1 -0.2**
MEZF Maizieres J'vi 62.92 29 *e*P **P 08 05 21.4 -0.3**
UPC Upice 62.96 21 *e*P **P 08 05 21.7 -0.2**
GRA1 Grafenberg Arr 62.97 24 *e*P **P 08 05 22.3 +0.3**
comp=Z,14nm,0.8s,mb5.1
GRF Grafenberg Arr 62.97 24 *e*P **P 08 05 22.3 +0.3**
GRF pmax pmax
comp=Z,14nm,0.8s,mb5.1
DPC Dobruska-Polom 63.16 20 *e*P **P 08 05 23.6 +0.4**
PRU Pruhonice 63.24 22 *e*P **P 08 05 24.1 +0.4**
CDF Champ du Feu 63.45 27 *e*P **P 08 05 25.0 -0.2**
comp=Z,21nm,0.9s,mb5.0
CDF Champ du Feu 63.45 27 *e*P **P 08 05 25.0 -0.2**
CDF pmax pmax
comp=Z,11nm,0.9s,mb5.0
WLS Welschbruch 63.47 27 *e*P **P 08 05 25.7 +0.4**
MFF Saint Martin d 63.56 33 *e*P **P 08 05 25.6 -0.1**
comp=Z,16nm,0.7s,mb5.0
MFF Saint Martin d 63.56 33 *e*P **P 08 05 25.6 -0.1**
MFF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
HYF Humbligny 63.57 31 *e*P **P 08 05 25.9 +0.1**
ECH Echery 63.62 28 *e*P **P 08 05 26.5 +0.4**
HAU Haudompre 63.66 28 *e*P **P 08 05 26.1 -0.3**
HAU *e*R
comp=Z,418nm,20.0s
BFO Black Forest 63.74 27 *e*P **P 08 05 27.5 +0.6**
comp=Z,16nm,1.3s,mb5.1
BFO Black Forest 63.74 27 *e*P **P 08 05 27.5 +0.6**
BFO pmax pmax
comp=Z,16nm,1.3s,mb5.1
WET Wettzell 63.78 23 *e*P **P 08 05 27.9 +0.7**
comp=Z,12nm,0.9s,mb5.1
WET Wettzell 63.78 23 *e*P **P 08 05 27.9 +0.7**
WET pmax pmax
comp=Z,12nm,0.9s,mb5.1
OJC Ojcow 63.78 18 *e*P **P 08 05 26.9 -0.3**
LOR Lormes 63.84 30 *e*P **P 08 05 27.4 -0.2**
comp=Z,44nm,0.9s,mb5.4
LOR *e*R
comp=Z,387nm,18.0s
LOR Lormes 63.84 30 *e*P **P 08 05 27.4 -0.2**
LOR pmax pmax
comp=Z,22nm,0.9s,mb5.4
LOR MLR MLR
comp=Z,390nm,18.0s,MS4.6
MORC Moravsky Berou 63.90 20 *e*P **P 08 05 27.7 -0.3**
comp=Z,7.4nm,0.9s,mb4.9
MORC Moravsky Berou 63.90 20 *e*P **P 08 05 27.7 -0.3**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
KHC Kasperske Hory 63.91 23 *e*P **P 08 05 28.6 +0.6**
KHC pP pP 08 05 33.0 +4.6
KHC Kasperske Hory 63.91 23 *e*P **P 08 05 28.6 +0.6**
KHC *e* 08 05 33.0
OKC Ostrava-Krasne 63.93 19 *e*P **P 08 05 28.2 +0.1**
HINF Hinteralfeld 63.94 28 *e*P **P 08 05 28.0 -0.3**
comp=Z,14nm,0.8s,mb4.9
HINF Hinteralfeld 63.94 28 *e*P **P 08 05 28.0 -0.3**
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
SSF Saint Saulge 63.95 31 *e*P **P 08 05 28.3 -0.1**
comp=Z,62nm,1.0s,mb5.5
SSF Saint Saulge 63.95 31 *e*P **P 08 05 28.3 -0.1**
SSF pmax pmax
comp=Z,31nm,1.0s,mb5.5
MOF Molkenrain 63.96 28 *e*P **P 08 05 28.7 +0.3**
TREC Trest 64.06 21 *e*P **P 08 05 29.0 0.0**
AVF Avril sur Loir 64.18 31 *e*P **P 08 05 29.5 -0.3**
comp=Z,42nm,1.0s,mb5.3
AVF Avril sur Loir 64.18 31 *e*P **P 08 05 29.5 -0.3**
AVF pmax pmax
comp=Z,21nm,1.0s,mb5.3
GEC2 GERESS Array S 64.21 23 *e*P **P 08 05 30.0 0.0**
comp=Z,10.0nm,1.1s,mb5.0
GEC2 GERESS Array S 64.21 23 *e*P **P 08 05 30.0 0.0**
GEC2 pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
GERES GERESS Array B 64.21 23 P **P 08 05 30.4 +0.4**
comp=Z,3.8nm,0.8s,mb4.7,baz=342,slow=4.2,SNR=21
GERES LR LR 08 36 24.4
comp=Z,214nm,18.1s,MS4.4,baz=325,slow=39
VRAC Vranov 64.22 20 *e*P **P 08 05 30.5 +0.5**
BGF Bois d'Agland 64.29 31 *e*P **P 08 05 30.2 -0.3**
comp=Z,26nm,0.6s,mb5.3
BGF Bois d'Agland 64.29 31 *e*P **P 08 05 30.2 -0.3**
BGF pmax pmax
comp=Z,13nm,0.6s,mb5.3
AKASG Malin Array Be 64.33 11 P **P 08 05 30.1 -0.6**
comp=Z,6.8nm,0.6s,mb5.1,baz=352,slow=6.5,SNR=22
TCF Toulx Ste Croi 64.40 32 *e*P **P 08 05 30.9 -0.4**
comp=Z,53nm,1.1s,mb5.4
TCF Toulx Ste Croi 64.40 32 *e*P **P 08 05 30.9 -0.4**
TCF pmax pmax
comp=Z,26nm,1.1s,mb5.4
SMF Signal de Mont 64.42 30 *e*P **P 08 05 31.0 -0.4**
comp=Z,45nm,1.2s,mb5.3
SMF Signal de Mont 64.42 30 *e*P **P 08 05 31.0 -0.4**
SMF pmax pmax
comp=Z,23nm,1.2s,mb5.3
FUR Furstenfeldbru 64.45 25 *e*P **P 08 05 32.2 +0.6**
comp=Z,16nm,0.6s,mb5.4
FUR Furstenfeldbru 64.45 25 *e*P **P 08 05 32.2 +0.6**
FUR pmax pmax
comp=Z,16nm,0.6s,mb5.4
NIE Niedzica 64.64 18 *e*P **P 08 05 33.6 +0.8**
STHS Stebnicka Huta 64.76 17 *i*P **P 08 05 34.5 +0.9**
AGO Saint Agoulin 64.83 31 *e*P **P 08 05 34.9 +0.8**
CABF La Chapelle 64.93 29 *e*P **P 08 05 34.9 +0.2**
comp=Z,50nm,1.0s,mb5.4
CABF La Chapelle 64.93 29 *e*P **P 08 05 34.9 +0.2**
CABF pmax pmax
comp=Z,25nm,1.0s,mb5.4
PLDF La Plantade 65.02 31 *e*P **P 08 05 36.0 +0.7**
PYM Petit Puy Mans 65.09 31 *e*P **P 08 05 36.1 +0.4**
RJF Les Rejaudoux 65.17 33 *e*P **P 08 05 36.0 -0.3**
RJF *e*R
comp=Z,490nm,18.8s
MKAR Makanchi Array 65.24 333 P **P 08 05 35.9 -0.9**
comp=Z,3.7nm,0.7s,mb4.7,baz=37,slow=6.5,SNR=13
LFF La Frestale 65.33 33 *e*P **P 08 05 37.3 0.0**
VYHS Vyhne 65.34 19 *e*P **P 08 05 37.5 +0.2**
KOLS Kolonicke sedl 65.36 17 *e*P **P 08 05 38.0 +0.5**
ZST Bratislava 65.38 20 *e*P **P 08 05 37.8 +0.2**
WTTA Wattenberg 65.38 25⇑ *i*P **P 08 05 38.7 +1.1**
comp=Z,28nm,1.2s,mb5.4
WTTA Wattenberg 65.38 25⇑ *i*P **P 08 05 38.7 +1.1**
WTTA pmax pmax
comp=Z,28nm,1.2s,mb5.4
KECS Kecovo 65.58 18 *i*P **P 08 05 39.3 +0.5**
KECS *e* 08 05 48.3
LBL Lubilhac 65.63 31 *e*P **P 08 05 40.5 +1.2**
CAF Calviac 65.65 32 *e*P **P 08 05 39.1 -0.3**
KBA Koelnbreinsper 65.86 23⇑ *i*P **P 08 05 41.7 +1.0**
comp=Z,16nm,0.9s,mb5.3
KBA Koelnbreinsper 65.86 23 *i*P **P 08 05 41.7 +1.0**
comp=Z,16nm,0.9s,mb5.2,SNR=6.4
KBA Koelnbreinsper 65.86 23⇑ *i*P **P 08 05 41.7 +1.0**
KBA pmax pmax
comp=Z,16nm,0.9s,mb5.2
PSZ Piszkesteto 66.05 18⇑ *e* **P 08 05 42.9 +1.0**
ARSA Arzberg 66.05 22⇑ *i*P **P 08 05 42.3 +0.4**
comp=Z,7.7nm,0.8s,mb5.0
LPL La Plagne 66.11 29 *e*P **P 08 05 43.1 +0.8**
comp=Z,32nm,1.2s,mb5.2
LPL La Plagne 66.11 29 *e*P **P 08 05 43.1 +0.8**
LPL pmax pmax
comp=Z,16nm,1.2s,mb5.1
LPG La Plagne 66.13 29 *e*P **P 08 05 43.4 +0.9**
comp=Z,44nm,1.2s,mb5.3
LPG La Plagne 66.13 29 *e*P **P 08 05 43.4 +0.9**
LPG pmax pmax
comp=Z,22nm,1.2s,mb5.3
VIVF Saint-Julien-l 66.30 30 *e*P **P 08 05 43.5 -0.1**
PBRG Braganca 66.34 40 *e*P **P 08 05 48.1 +4.3**
ORIF Oris-en-Rattie 66.50 30 *e*P **P 08 05 44.8 0.0**
comp=Z,32nm,1.2s,mb5.1
ORIF *e*R
comp=Z,420nm,21.5s
BNI Bardonecchia 66.55 29 *e*P **P 08 05 46.2 +1.1**
comp=Z,14nm,1.0s,mb5.1
BNI Bardonecchia 66.55 29 *e*P **P 08 05 46.2 +1.1**
BNI pmax pmax
comp=Z,14nm,1.0s,mb5.2
SJPF Ste Jean 66.57 35 *e*P **P 08 05 44.8 -0.5**
PERS Pernice 66.59 22 *e*P **P 08 05 45.9 +0.6**
OBKA Obir 66.61 23⇑ *i*P **P 08 05 46.0 +0.5**
comp=Z,30nm,0.8s,mb5.6
OBKA Obir 66.61 23 *i*P **P 08 05 46.0 +0.5**
comp=Z,30nm,0.8s,mb5.6,SNR=11
LASF Ste Croix 66.87 31 *e*P **P 08 05 47.3 +0.1**
MBDF Montbardon 66.88 29 *e*P **P 08 05 47.7 +0.5**
comp=Z,54nm,1.1s,mb5.4
MBDF Montbardon 66.88 29 *e*P **P 08 05 47.7 +0.5**
MBDF pmax pmax
comp=Z,27nm,1.1s,mb5.4
WMQ Urumqi 66.93 328 *e*P **P 08 05 51.3 +3.7**
WMQ AP pP 08 05 56.0 +8.1
WMQ XP sP 08 05 58.0 +10
WMQ PCP PcP 08 06 19.0 +2.9
WMQ AMB AMB
comp=Z,27nm,1.0s,mb5.4
WMQ LR LR
comp=N,733nm,28.6s,MS5.0
WMQ LR LR
comp=E,1μm,30.2s,MS5.0
WMQ LR LR
comp=Z,656nm,27.4s,MS4.7

ETSF	**Etsaut**	**66.94**	**35**	*e*P	**P**	**08 05 48.3 +0.7**		
	comp=Z,14nm,0.8s,mb5.0							
ETSF	**Etsaut**	**66.94**	**35**	*e*P	**P**	**08 05 48.3 +0.7**		
ETSF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.9							
EPF	**Esparros**	**67.03**	**34**	*e*P	**P**	**08 05 47.7 -0.6**		
PDKS	**Podkum**	**67.12**	**22**	*e*P	**P**	**08 05 49.1 +0.3**		
MTLF	**Montolieu**	**67.19**	**33**	*e*P	**P**	**08 05 49.1 -0.1**		
	comp=Z,12nm,0.8s,mb4.9							
MTLF	**Montolieu**	**67.19**	**33**	*e*P	**P**	**08 05 49.1 -0.1**		
MTLF				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.9							
SMRF	**Simiane la Rot**	**67.34**	**30**	*e*P	**P**	**08 05 50.7 +0.5**		
VILF	**Villemus**	**67.49**	**30**	*e*P	**P**	**08 05 52.5 +1.4**		
AUTN	**L'Aution**	**67.71**	**29**	*e*P	**P**	**08 05 53.5 +1.0**		
SAOF	**Saorge**	**67.75**	**29**	*e*P	**P**	**08 05 52.8 +0.1**		
MVIF	**Mont Vial**	**67.75**	**29**	*e*P	**P**	**08 05 53.2 +0.4**		
TAVF	**Tavernes**	**67.78**	**30**	*e*P	**P**	**08 05 54.2 +1.2**		
SBF	**Sospel**	**67.84**	**29**	*e*P	**P**	**08 05 54.5 +1.2**		
	comp=Z,63nm,0.9s,mb5.6							
SBF	**Sospel**	**67.84**	**29**	*e*P	**P**	**08 05 54.5 +1.2**		
SBF				pmax	pmax			
	comp=Z,32nm,0.9s,mb5.5							
GTA	**Gaotai**	**67.89**	**317**	*e*P	**P**	**08 05 54.8 +1.1**		
GTA				AP	pP	08 06 00.3 +6.3		
GTA				XP	sP	08 06 03.6 +9.4		
GTA				AMB	AMB			
	comp=Z,7.0nm,1.2s,mb4.8							
GTA				AMB	AMB			
	comp=Z,96nm,4.6s							
GTA				LR	LR			
	comp=N,331nm,15.7s,MS4.8							
GTA				LR	LR			
	comp=E,411nm,19.9s,MS4.8							
GTA				LR	LR			
	comp=Z,266nm,23.3s,MS4.4							
PCBR	**Castelo Branco**	**67.95**	**41**	*e*P	**P**	**08 05 55.7 +1.6**		
FRF	**La Foret Royal**	**67.96**	**29**	*e*P	**P**	**08 05 54.1 0.0**		
	comp=Z,41nm,1.2s,mb5.2							
FRF	**La Foret Royal**	**67.96**	**29**	*e*P	**P**	**08 05 54.1 0.0**		
FRF				pmax	pmax			
	comp=Z,20nm,1.2s,mb5.2							
SSE	**Sheshan**	**68.09**	**296**	*e*P	**P**	**08 05 53.0 -2.1**		
	comp=Z,35nm,0.7s,mb5.7							
SSE				pP	pP	08 06 02.1 +6.6		
SSE				sP	sP	08 06 05.8 +10		
SSE				S	S	08 14 50.6 -3.8		
SSE				sS		08 15 06.0		
SSE				LR	LR			
	comp=Z,220nm,20.8s,MS4.4							
NJ2	**Nanjing**	**68.13**	**299**	*e*P	**P**	**08 05 59.9 +4.5**		
NJ2				AMB	AMB			
	comp=Z,30nm,1.0s,mb5.5							
NJ2				AMB	AMB			
	comp=Z,420nm,4.1s							
NJ2				LR	LR			
	comp=N,920nm,26.4s							
NJ2				LR	LR			
	comp=E,1μm,18.0s							
NJ2				LR	LR			
	comp=Z,440nm,19.8s							
LMR	**La Mourre**	**68.15**	**30**	*e*P	**P**	**08 05 55.3 0.0**		
	comp=Z,23nm,0.9s,mb5.1							
LMR	**La Mourre**	**68.15**	**30**	*e*P	**P**	**08 05 55.3 0.0**		
LMR				pmax	pmax			
	comp=Z,12nm,0.9s,mb5.1							
EVO	**Evora**	**69.01**	**42**	*e*P	**P**	**08 06 00.5 -0.2**		
	comp=Z,19nm,0.7s,mb5.1							
EVO				*e*R				
	comp=Z,608nm,20.5s							
ESDC	**Sonseca Array**	**69.08**	**39**	P	**P**	**08 06 01.3 +0.1**		
	comp=Z,3.2nm,0.6s,mb4.7,baz=336,slow=6.4,SNR=20							
ESLA	**Sonseca Array**	**69.08**	**39**	*e*P	**P**	**08 06 00.8 -0.3**		
	comp=Z,3.6nm,1.0s,mb4.6							
PGF	**Pioggiola**	**69.42**	**28**	*e*P	**P**	**08 06 03.0 -0.1**		
	comp=Z,29nm,1.0s,mb5.2							
PGF	**Pioggiola**	**69.42**	**28**	*e*P	**P**	**08 06 03.0 -0.1**		
PGF				pmax	pmax			
	comp=Z,15nm,1.0s,mb5.2							
PBEJ	**Beja**	**69.52**	**42**	*e*P	**P**	**08 06 05.8 +2.0**		
LZH	**Lanzhou**	**69.72**	**313**	*e*P	**P**	**08 06 06.0 +0.9**		
LZH				AP	pP	08 06 11.0 +5.6		
LZH				XP	sP	08 06 15.0 +9.5		
LZH				AMB	AMB			
	comp=Z,26nm,1.0s,mb5.3							
LZH	**Lanzhou**	**69.72**	**313**	*e*P	**P**	**08 06 06.0 +0.9**		
	comp=Z,26nm,1.0s,mb5.3							
LZH				pP	pP	08 06 11.0 +5.6		
LZH				sP	sP	08 06 15.0 +9.5		
LZH	**Lanzhou**	**69.72**	**313**	*e*P	**P**	**08 06 06.0 +0.9**		
LZH				*PP	pP	08 06 11.0 +5.6		
LZH				pmax	pmax			
	comp=Z,26nm,1.0s,mb5.3							
AAK	**Ala-Archa**	**70.67**	**338**	*e*P	**P**	**08 06 10.1 -0.6**		
	comp=Z,14nm,0.9s,mb5.1							
AAK	**Ala-Archa**	**70.67**	**338**	*e*P	**P**	**08 06 10.1 -0.6**		
AAK				pmax	pmax			
	comp=Z,14nm,0.9s,mb5.1							
SDV	**Santo Domingo**	**71.02**	**110**	*e*P	**P**	**08 06 12.7 -0.6**		
	comp=Z,6.1nm,0.8s,mb4.8							
KIV	**Kislovodsk**	**71.75**	**2**	*e*P	**P**	**08 06 17.6 +0.4**		
	comp=Z,29nm,0.9s,mb5.4							
KIV	**Kislovodsk**	**71.75**	**2⇑**	*e*P	**P**	**08 06 17.0 -0.2**		
KIV				pmax	pmax			
	comp=Z,24nm,1.2s,mb5.2							
KIV				MLR	MLR			
	comp=Z,600nm,15.0s,MS5.0							
SOC	**Sochi**	**72.05**	**4**	*e*P	**P**	**08 06 28.6 +10**		
SOC				*e*		08 08 57.4		
SOC				*e*S	S	08 15 35.0 -5.5		
SOC				pmax	pmax			
	comp=N,16nm,1.0s							
SOC				pmax	pmax			
	comp=Z,24nm,1.0s,mb5.3							
SOC				pmax	pmax			
	comp=E,6.0nm,0.5s							
SOC				MLR	MLR			
	comp=Z,491nm,10.0s,MS5.1							
SOC				MLR	MLR			
	comp=N,758nm,13.0s,MS5.2							
SOC				MLR	MLR			
	comp=E,143nm,12.0s,MS5.2							
ZEI	**Tsey**	**72.95**	**1**	*e*P	**P**	**08 06 23.1 -1.1**		
ZEI				*i* *PP	pP	08 06 35.9 +11		
ZEI				*i*		08 09 05.5		
ZEI				pmax	pmax			
	comp=Z,19nm,1.1s,mb5.1							
ENH	**Enshi**	**73.16**	**306**	*e*P	**P**	**08 06 26.4 +0.8**		
	comp=Z,30nm,1.3s,mb5.3							
ROSC	**El Rosal**	**73.22**	**115**	LR	LR	08 37 24.8		
	comp=Z,306nm,18.8s,MS4.6,baz=320,slow=35							
TI2	**Plekhanov**	**73.99**	**0⇑**	*i*P	**P**	**08 06 28.4 -1.9**		
TIP	**Timpagrande**	**74.12**	**23**	*e*P	**P**	**08 06 31.9 +0.8**		
BR131	**Keskin Array S**	**75.59**	**9**	*e*P	**P**	**08 06 39.6 +0.1**		
	comp=Z,2.9nm,0.7s,mb4.5							
BRTR	**Keskin Array B**	**75.59**	**9**	P	**P**	**08 06 39.6 +0.1**		
	comp=Z,3.5nm,0.8s,mb4.5,baz=333,slow=2.8,SNR=11							
MALT	**Malatya**	**77.26**	**6**	*e*P	**P**	**08 06 50.5 +1.5**		
	comp=Z,16nm,1.1s,mb5.1							
MALT	**Malatya**	**77.26**	**6**	*e*P	**P**	**08 06 50.5 +1.5**		
MALT				pmax	pmax			
	comp=Z,16nm,1.1s,mb5.1							
GYA	**Guiyang**	**77.63**	**306**	P	**P**	**08 06 51.3 +0.1**		
GYA				S	S	08 16 39.0 -3.6		
GYA				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.2							
GYA				AMB	AMB			
	comp=Z,120nm,3.6s							
GYA				LR	LR			
	comp=N,410nm,18.4s,MS4.9							
GYA				LR	LR			
	comp=E,270nm,18.6s,MS4.9							
GYA				LR	LR			
	comp=Z,340nm,18.0s,MS4.7							
KMI	**Kunming**	**80.20**	**309**	P	**P**	**08 07 09.4 +4.2**		
KMI				S	S	08 17 11.3 +1.4		
KMI				AMB	AMB			
	comp=Z,11nm,1.1s,mb4.7							
KMI				LR	LR			
	comp=N,744nm,17.4s,MS5.3							
KMI				LR	LR			
	comp=E,768nm,16.2s,MS5.3							
KMI				LR	LR			
	comp=Z,366nm,21.9s							
KMI	**Kunming**	**80.20**	**309**	P	**P**	**08 07 09.4 +4.2**		
	comp=Z,11nm,1.1s,mb4.7							
KMI				S	S	08 17 11.2 +1.3		
KMI				LR	LR			
	comp=Z,370nm,21.9s,MS4.7							
KMI	**Kunming**	**80.20**	**309**	P	**P**	**08 07 09.4 +4.2**		
KMI				S	S	08 17 11.2 +1.3		
KMI				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
KMI				MLR	MLR			
	comp=Z,370nm,21.9s,MS4.7							
LPAZ	**La Paz**	**94.96**	**118**	P	**P**	**08 08 16.6 -0.5**		
	comp=Z,0.6nm,0.7s,mb4.2,baz=207,slow=2.8,SNR=4.6							
VNA3	**Neumayer Olymp**	**159.02**	**132**	P	PKPab	08 15 29.2 +0.8		
VNA3	**Neumayer Olymp**	**159.02**	**132**			08 15 35.9		
VNA1	**Neumayer--Stat**	**159.38**	**130**	P	PKPab	08 15 34.2 +4.3		
VNA2	**Neumayer--Watz**	**159.71**	**131**	⇑P	PKPdf	08 14 54.6 +2.4		
VNA2	**Neumayer--Watz**	**159.71**	**131**	⇑	PKPab	08 15 31.3 0.0		
VNA2	**Neumayer--Watz**	**159.71**	**131**	⇑		08 15 37.5		
SNAA	**Sanae**	**161.24**	**133**	P	PKPab	08 15 36.6 -1.3		
SNAA	**Sanae**	**161.24**	**133**			08 15 43.2		

KRSC 24 08:03:21.1±0.4,55.67N×162.42E,h48km±7km,ML3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.58**	**22**	*i* P	P		08 03 33.8	+0.5
KBTR				*i* S	S		08 03 43.1	+0.9
ZLN	**Zelenaya**	**0.98**	**292**	*e*P	P		08 03 39.1	+0.5
ZLN				*e*S	S		08 03 52.3	+0.7
CIRR	**Tsirk**	**1.04**	**296**	*i* P	P		08 03 39.3	-0.3
CIRR				*i* S	S		08 03 52.7	-0.6
LGNR	**Loginova**	**1.06**	**294**	*i* P	P		08 03 40.4	+0.6
KRSR	**Krestovskiy**	**1.18**	**298**	*i* P	P		08 03 41.4	0.0
KRSR				*e*S	S		08 03 56.7	+0.1
KLY	**Klyuchi**	**1.18**	**304**	*i* P	P		08 03 40.4	-1.1
KLY				*i* S	S		08 03 54.7	-2.1
MKZ	**Mys Kozlova**	**1.19**	**200**	*e*P	P		08 03 41.8	+0.3
MKZ				*e*S	S		08 03 56.7	-0.1
KMNR	**Kamenistaya**	**1.24**	**275**	*i* P	P		08 03 43.5	+1.2
KMNR				*e*S	S		08 04 00.0	+1.8
KPT	**Kopyto**	**1.28**	**284**	*i* P	P		08 03 43.6	+0.7
KPT				*e*S	S		08 04 00.1	+1.0
TUMR	**Tumrok**	**1.35**	**254**	*i* P	P		08 03 45.1	+1.1
TUMR				*e*S	S		08 04 02.4	+1.3
KOZ	**Kozyrevsk**	**1.49**	**286**	*i* P	P		08 03 47.2	+1.3
KOZ				*e*S	S		08 04 06.4	+2.0
SRDR	**Sredinnyy**	**1.65**	**294**	*e*P	P		08 03 48.3	+0.1
SRDR				*e*S	S		08 04 08.3	-0.1
BKI	**Bering**	**2.08**	**102**	*e*P	P		08 03 53.9	-0.3
BKI				*e*S	S		08 04 17.9	-1.0
BKI				Smax				
	90nm,0.3s							
ESO	**Esso**	**2.12**	**278**	*e*P	P		08 03 54.9	+0.1
ESO				*e*S	S		08 04 19.2	-0.7
ESO				Smax				
	70nm,0.9s							
KII	**Karymskiy**	**2.37**	**228**	*e*P	P		08 03 59.1	+0.6
KII				*e*S	S		08 04 26.7	+0.2
SPN	**Mys Shipunski**	**2.93**	**210**	*e*P	P		08 04 06.2	-0.2
SPN				*e*S	S		08 04 39.0	-1.7
NLC	**Nalytchevo**	**3.08**	**217**	*e*P	P		08 04 08.9	+0.4
NLC				*e*S	S		08 04 43.3	-1.1
SDLR	**Sedlovina**	**3.16**	**222**	*e*P	P		08 04 10.4	+0.7
SMAR	**Somma**	**3.21**	**223**	*e*P	P		08 04 11.6	+1.3
AVH	**Avacha**	**3.23**	**223**	*e*P	P		08 04 11.0	+0.4
AVH				*e*S	S		08 04 47.0	-1.2
UGLR	**Uglovaya**	**3.24**	**222**	*e*P	P		08 04 12.1	+1.4
GNL	**Ganaly**	**3.27**	**235**	*i* P	P		08 04 11.9	+0.8
PET	**Petropavlovsk**	**3.45**	**221**	*e*P	P		08 04 14.6	+0.9
PET				*e*S	S		08 04 53.2	-0.5
KRMR	**Karymshinskiy**	**3.80**	**223**	*e*S	S		08 05 02.0	-0.6
RUS	**Russkaya**	**3.98**	**217**	*e*P	P		08 04 21.0	-0.2
RUS				*e*S	S		08 05 04.3	-2.8
APC	**Apacha**	**4.13**	**230**	*e*P	P		08 04 23.7	+0.4

NEIC 24 08:10:11.6±3.5, 12.26N×40.42E,h10km,Error ellipse: s-maj=89.3km s-min=16.0km az=217.0

IDC 24 08:10:10.6±4.8,12.34N×40.48E,mb3.7/5,mb1 3.9/6, mb1mx3.7/17,mbtmp3.8/6,ML4.5/1,Error ellipse: s-maj=114.6km s-min=16.4km az=31.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.45**	**109**	Pn	Pn		08 10 52.3	-0.2
	95nm,0.3s,baz=288,slow=23,SNR=9.9							
ATD				Lg			08 11 28.4	
	67nm,0.3s,baz=264,slow=22,SNR=8.9							
KMBO	**Kilima Mbogo**	**13.75**	**194**	Lg			08 17 31.6	
	0.1nm,0.3s,baz=86,slow=13,SNR=2.5							
BRTR	**Keskin Array B**	**27.34**	**349**	P	P		08 16 04.3	-0.4
	0.9nm,0.6s,baz=150,slow=12,SNR=4.1							
AKASG	**Malin Array Be**	**39.35**	**349**	P	P		08 17 40.6	-2.7
	0.8nm,0.7s,baz=168,slow=7.0,SNR=4.9							
GERES	**GERESS Array B**	**42.63**	**334**	P	P		08 18 08.3	-2.1
	0.8nm,0.8s,baz=129,slow=8.5,SNR=5.4							
MKAR	**Makanchi Array**	**49.10**	**37**	P	P		08 18 59.4	-2.5
	0.5nm,0.6s,baz=252,slow=7.7,SNR=4.2							
SONM	**Songino Array**	**64.81**	**43**	P	P		08 20 51.9	-1.6
	1.3nm,1.0s,baz=256,slow=6.0,SNR=5.8							

IDC 24 08:11:50.1±2.7, 12.35N×40.52E,mb4.2/8,mb1 4.3/9, mb1mx4.1/19,mbtmp4.2/9,MS3.4/1,Ms1 3.4/1, ms1mx3.0/23,Error ellipse: s-maj=61.1km s-min=24.7km az=25.0

NEIC 24 08:11:52.0±0.8, 12.45N×40.55E,h10km,mb4.4/7,Error ellipse: s-maj=19.2km s-min=10.8km az=23.0

CSEM 24 08:11:52.0±0.1, 12.45N×40.55E,h10km,mb4.3/7,Error ellipse: s-maj=6.8km s-min=4.2km az=20.0,After NEIC

ISC 24 08:11:50.6±0.9,12.5N±0.1×40.53E±0.10,h10km,n25, σ0$80/25,mb4.2/14,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.46**	**113**	Pn	**Pn**		**08 12 30.9**	**-0.5**
	baz=297,slow=21,SNR=1.6							
ATD				LR	LR		08 12 53.9	
	comp=Z,668nm,18.3s,baz=250,slow=26							
ATD	**Arta Tunnel**	**2.46**	**113**	Pn	**Pn**		**08 12 30.9**	**-0.5**
ATD				LR	LR		08 12 53.9	
MALT	**Malatya**	**25.79**	**356**	*e*P	**P**		**08 17 24.0**	**+0.6**
	14nm,1.2s,mb4.4							
GNI	**Garni**	**27.80**	**7**	P	**P**		**08 17 43.3**	**+1.4**
	2.8nm,0.3s,mb4.3,baz=154,slow=20,SNR=3.5							
GNI	**Garni**	**27.80**	**7**	P	**P**		**08 17 43.3**	**+1.4**
BRTR	**Keskin Array B**	**27.80**	**349**	P	**P**		**08 17 42.7**	**+0.7**
	8.0nm,1.1s,mb4.2,baz=180,slow=11,SNR=12							
BR131	**Keskin Array S**	**27.80**	**349**	*e*P	**P**		**08 17 42.4**	**+0.5**
	1.1nm,0.5s,mb3.7							
AKASG	**Malin Array Be**	**39.21**	**349**	P	**P**		**08 19 20.8**	**+0.2**
	2.8nm,0.8s,mb4.0,baz=171,slow=7.3,SNR=8.5							
AKASG	**Malin Array Be**	**39.21**	**349**	P	**P**		**08 19 20.8**	**+0.1**
PSZ	**Piszkesteto**	**39.30**	**338**	*e*P	**P**		**08 19 19.8**	**-1.6**
	7.4nm,1.0s,mb4.4							
KECS	**Kecovo**	**39.57**	**339**	*e*P	**P**		**08 19 23.5**	**-0.1**
STHS	**Stebnicka Huta**	**40.11**	**340**	*e*P	**P**		**08 19 29.6**	**+1.5**
VYHS	**Vyhne**	**40.17**	**338**	*e*P	**P**		**08 19 28.5**	**-0.1**
AAK	**Ala-Archa**	**42.03**	**38**	*e*P	**P**		**08 19 43.6**	**-0.4**
	1.1nm,0.6s,mb3.7							
GERES	**GERESS Array B**	**42.52**	**334**	P	**P**		**08 19 47.6**	**-0.3**
	2.0nm,0.8s,mb3.9,baz=143,slow=6.7,SNR=9.7							
KHC	**Kasperske Hory**	**42.79**	**334**	*e*P	**P**		**08 19 49.5**	**-0.6**
GRA1	**Grafenberg Arr**	**44.24**	**333**	*e*P	**P**		**08 20 00.6**	**-1.2**
	6.0nm,1.1s,mb4.2							
CLL	**Collm**	**44.69**	**336**	P	**P**		**08 20 05.0**	**-0.5**
DBIC	**Dimbokro**	**45.08**	**267**	*e*P	**P**		**08 20 10.2**	**+1.2**
BVAR	**Borovoye Array**	**46.93**	**24**	P	**P**		**08 20 23.0**	**-0.2**
	0.6nm,0.6s,mb3.7,baz=225,slow=4.2,SNR=4.9							
ESDC	**Sonseca Array**	**47.60**	**313**	P	**P**		**08 20 28.9**	**+0.2**
	2.1nm,0.8s,mb4.2,baz=122,slow=8.3,SNR=5.3							
ESLA	**Sonseca Array**	**47.60**	**313**	*e*P	**P**		**08 20 28.0**	**-0.7**
	12nm,1.9s,mb4.6							
MKAR	**Makanchi Array**	**48.95**	**37**	P	**P**		**08 20 38.4**	**-0.7**
	3.3nm,1.0s,mb4.3,baz=231,slow=7.8,SNR=7.9							
LSA	**Lhasa**	**49.83**	**62**	*e*P	**P**		**08 20 47.2**	**+1.1**
	2.8nm,0.4s,mb4.7							
SONM	**Songino Array**	**64.67**	**43**	P	**P**		**08 22 31.2**	**+0.3**
	2.7nm,1.0s,mb4.2,baz=259,slow=7.3,SNR=11							

IDC 24 08:20:47.8±0.7, 12.53N×40.42E,mb4.2/15,mb1 4.2/18, mb1mx4.2/24,mbtmp4.2/18,ML4.0/3,MS4.5/17,Ms1 4.5/17, ms1mx4.4/24,Error ellipse: s-maj=14.9km s-min=12.9km az=43.0

CSEM 24 08:20:47.7±0.1, 12.61N×40.35E,h10km,mb5.0/10,Ms4.3, Mw5.1,Error ellipse: s-maj=3.8km s-min=2.7km az=55.0

NEIC 24 08:20:49.0±0.4, 12.54N×40.39E,h10km,mb4.9/12,Error ellipse: s-maj=9.1km s-min=7.2km az=71.0

HRVD 24 08:20:49.0±0.3, 12.84N×40.46E,h12km,MW5.1/54, Centroid moment Tensor Solution. LP body waves: s31,c42;Mantle waves: s54,c100; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.38±.23; Mθθ=0.43±.20; Mφφ=4.81±.20; Mrθ=2.02±.73; Mθφ=3.24±.20; Mφr1.08±.57; Best double couple: Mo6.061×10^16 NP1: φs307°,δ52°,λ-131° NP2:φs182°,δ53°,λ-50°. Principal axes: T 6.357, Plg1°, Azm245°; N -.595, Plg31°, Azm335°; P -5.764, Plg59°, Azm154°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 24 08:20:47.6±0.4,12.58N±0.06×40.33E±0.06,h10km,n76, σ0$89/65,mb4.5/25,MS4.6/15,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.67**	**113**	Pn	**Pn**		**08 21 29.2**	**-2.3**
	158nm,0.3s,baz=44,slow=13,SNR=28							
ATD				Sn	**Sn**		**08 22 05.4**	**+1.2**
	108nm,0.3s,baz=253,slow=22,SNR=11							
ATD				Lg			08 22 10.8	
	106nm,0.3s,baz=270,slow=23,SNR=12							
ATD	**Arta Tunnel**	**2.67**	**113**	Pn	**Pn**		**08 21 29.2**	**-2.3**
KMBO	**Kilima Mbogo**	**13.95**	**193**	Pn	**P**		**08 24 08.0**	**0.0**
	0.2nm,0.3s,baz=7.4,slow=17,SNR=2.3							
KMBO				Lg			08 28 06.0	
	0.0nm,0.3s,baz=98,slow=21,SNR=6.8							
KMBO				LR	LR		08 29 24.1	
	comp=Z,2μm,21.3s,baz=98,slow=37							
KMBO	**Kilima Mbogo**	**13.95**	**193**	Pn	**P**		**08 24 08.0**	**0.0**
KMBO				Lg			08 28 06.0	
KMBO				LR	LR		08 29 24.1	
ASF	**Jabal al Asfar**	**19.76**	**351**	P	**P**		**08 25 20.7**	**0.0**
	0.4nm,0.3s,baz=66,slow=6.1,SNR=4.3							
ASF				LR	LR		08 31 49.8	
	comp=Z,266nm,19.0s,baz=207,slow=33							
MSL	**Mosul**	**23.74**	**6**	*e*		x	08 26 20.0	
MALT	**Malatya**	**25.69**	**357**	*e*P	**P**		**08 26 22.3**	**+2.7**
	80nm,1.9s,mb4.9							
IDI	**Anoyia**	**26.58**	**331**	LR	LR		08 39 35.2	
	comp=Z,238nm,18.8s,MS3.8,baz=179,slow=42							
GVD	**Gavdhos**	**26.61**	**329**	*e*P	**P**		**08 26 27.0**	**-1.2**
	51nm,0.6s,mb5.2							
GVD	**Gavdhos**	**26.61**	**329**	*e*P	**P**		**08 26 27.0**	**-1.2**
	51nm,0.6s,mb5.2							
BRTR	**Keskin Array B**	**27.68**	**349**	P	**P**		**08 26 39.9**	**+2.0**
	3.7nm,0.9s,mb4.0,baz=180,slow=12,SNR=15							
BRTR	**Keskin Array B**	**27.68**	**349**	P	**P**		**08 26 39.8**	**+1.9**
BR131	**Keskin Array S**	**27.68**	**349**	*e*P	**P**		**08 26 37.9**	**0.0**
	8.4nm,1.2s,mb4.2							
GNI	**Garni**	**27.74**	**7**	P	**P**		**08 26 40.1**	**+1.7**
	4.3nm,0.5s,mb4.3,baz=172,slow=22,SNR=3.5							
GNI				LR	LR		08 37 39.2	
	comp=Z,708nm,21.0s,MS4.2,baz=42,slow=36							
LSZ	**Lusaka**	**30.17**	**204**	LR	LR		08 40 09.6	
	comp=Z,1μm,18.9s,MS4.6,baz=290,slow=38							
MATP	**Matopo**	**34.80**	**200**	P	**P**		**08 27 41.1**	**+0.3**
	2.3nm,0.9s,mb4.1,baz=18,slow=9.6,SNR=3.6							
MATP				LR	LR		08 42 23.3	
	comp=Z,2μm,20.0s,MS4.9,baz=26,slow=37							
TSUM	**Tsumeb**	**38.73**	**216**	P	**P**		**08 28 14.2**	**+0.2**
	1.0nm,0.4s,mb3.9,baz=45,slow=8.6,SNR=6.9							
TSUM				LR	LR		08 43 33.5	
	comp=Z,1μm,18.8s,MS4.8,baz=323,slow=35							
AKASG	**Malin Array Be**	**39.09**	**349**	P	**P**		**08 28 16.2**	**-0.4**
	4.5nm,0.9s,mb4.2,baz=172,slow=7.3,SNR=7.0							
KECS	**Kecovo**	**39.42**	**339**	*e*P	**P**		**08 28 21.7**	**+2.3**
VYHS	**Vyhne**	**40.02**	**338**	*e*P	**P**		**08 28 24.9**	**+0.5**
LBTB	**Lobatse**	**40.03**	**201**	LR	LR		08 45 21.9	
	comp=Z,2μm,18.4s,MS5.1,baz=41,slow=37							
PGF	**Pioggiola**	**40.36**	**324**	*e*P	**P**		**08 28 28.0**	**+0.8**
	40nm,1.3s,mb4.7							
MORC	**Moravsky Berou**	**41.56**	**338**	*e*P	**P**		**08 28 38.5**	**+1.5**
SBF	**Sospel**	**42.07**	**324**	*e*P	**P**		**08 28 41.5**	**+0.2**
LMR	**La Mourre**	**42.29**	**323**	*e*P	**P**		**08 28 43.0**	**-0.1**
FRF	**La Foret Royal**	**42.34**	**323**	*e*P	**P**		**08 28 43.6**	**+0.1**
GERES	**GERESS Array B**	**42.36**	**334**	P	**P**		**08 28 43.8**	**+0.3**
	2.4nm,0.9s,mb3.8,baz=146,slow=4.8,SNR=15							
MBDF	**Montbardon**	**42.97**	**325**	*e*P	**P**		**08 28 49.6**	**+0.9**
	22nm,0.9s,mb4.6							
SMRF	**Simiane la Rot**	**43.21**	**323**	*e*P	**P**		**08 28 51.2**	**+0.5**
LPL	**La Plagne**	**43.48**	**326**	*e*P	**P**		**08 28 52.0**	**-0.8**
ORIF	**Oris-en-Rattie**	**43.59**	**324**	*e*P	**P**		**08 28 53.7**	**0.0**
GRA1	**Grafenberg Arr**	**44.07**	**333**	*e*P	**P**		**08 28 57.7**	**+0.2**
	6.0nm,1.0s,mb4.3		

comp=Z,386nm,19.2s,MS4.9,baz=113,slow=33
LPAZ La Paz 110.93 257 *e*PKPdf PKPdf 08 39 22.5 -2.4
LPAZ La Paz 110.93 257 *e*PKIKP PKPdf 08 39 22.5 -2.4

*NEIC **24** 08:35:47.5, 34.885N×70.23W, h12km, ML2.8(GUC), After GUC.*
GUC 24 08:35:47.5±0.8, 34.88S×70.23W, h12km±3km, MD3.5, ML2.8, 10C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.58**	**344**	↓*iP*	Pb	08 35 58.3	-0.8
CICH				*i* S	Sb	08 36 06.8	-0.2
SFDO	**San Fernando**	**0.70**	**292**	↓*iP*	Pb	08 36 01.1	0.0
CACH	**El Canelo**	**0.82**	**338**	↑*iP*	Pb	08 36 02.5	-0.7
CACH				*i* S	Sb	08 36 14.3	+0.4
CHCH	**Chadas Angostu**	**1.01**	**339**	↓*iP*	Pb	08 36 06.1	-0.3
CHCH				*i* S	Sb	08 36 20.4	+1.0
PCH	**Pirque**	**1.28**	**349**	↑*iP*	Pb	08 36 10.8	-0.2
PCH				*i* S	Sb	08 36 28.9	+1.7
LNV	**Longovilo**	**1.35**	**313**	↑*iP*	Pn	08 36 11.8	-0.4
LNV				*i* S	Sb	08 36 30.2	+1.1
ANTU	**Antumapu**	**1.35**	**345**	↓*iP*	Pn	08 36 12.3	0.0
ANTU				*i* S	Sb	08 36 31.2	+1.8
ANTU				AMP		08 36 31.8	
	comp=E,265nm,0.1s						
TACH	**Talagante**	**1.36**	**334**	↑*iP*	Pn	08 36 12.2	-0.2
TACH				*i* S	Sb	08 36 31.3	+1.7
RCDM	**Rinconada Maip**	**1.47**	**341**	↑*iP*	Pn	08 36 14.0	+0.1
RCDM				*i* S	Sb	08 36 34.1	+1.4
RCDM				AMP		08 36 34.4	
	comp=E,276nm,0.1s						
SAN	**Santiago**	**1.47**	**346**	↑*iP*	Pn	08 36 14.4	+0.5
SAN				*i* S	Sb	08 36 34.5	+1.7
SAN				AMP		08 36 35.3	
	comp=E,197nm,0.2s						
CLCH	**Cerro Calan**	**1.50**	**350**	↑*iP*	Pn	08 36 14.7	+0.3
CLCH				*i* S	Sb	08 36 36.2	+2.4
CLCH				AMP		08 36 40.2	
	comp=E,298nm,0.7s						
DSCH	**Colegio Aleman**	**1.51**	**349**	*i* P	Pn	08 36 15.5	+1.0
DSCH				*i* S	Sb	08 36 35.7	+1.9
DSCH				AMP		08 36 38.1	
	comp=E,259nm,0.5s						
FCH	**Farellones**	**1.55**	**358**	↑*iP*	Pn	08 36 15.9	+0.8
FCH				*i* S	Sb	08 36 38.1	+3.0
FCH				AMP		08 36 39.9	
	comp=N,170nm,0.2s						
LCCH	**Las Cruces**	**1.79**	**321**	*eP*	Pn	08 36 19.4	+0.8
LCCH				*i* S	Sn	08 36 43.8	+2.5
ROCH	**El Roble**	**2.01**	**341**	↑*iP*	Pn	08 36 23.9	+2.2
ROCH				*i* S	Sn	08 36 51.9	+5.0
JACH	**Jahuel**	**2.22**	**352**	↑*iP*	Pn	08 36 27.2	+2.6
JACH				*i* S	Sn	08 36 56.9	+4.8

*IDC **24** 08:41:35.2±1.2, 12.59N×40.57E, mb4.1/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, ML4.3/1, MS3.7/5, Ms1 3.7/5, ms1mx3.5/29, Error ellipse: s-maj=29.0km s-min=14.0km az=24.0*
*NEIC **24** 08:41:36.5±0.5, 12.62N×40.57E, h10km, mb4.3/11, Error ellipse: s-maj=12.7km s-min=8.5km az=205.0*
*CSEM **24** 08:41:36.1±0.1, 12.83N×40.52E, h10km, mb4.2/10, Error ellipse: s-maj=5.5km s-min=3.2km az=21.0*
ISC 24 08:41:35.1±0.8, 12.7N±0.1×40.55E±0.08, h10km, n51, σ0s72/39, mb4.1/20, MS4.1/2, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.51**	**116**	Pn	**Pn**	**08 42 16.8**	**+0.1**
	63nm,0.3s,baz=52,slow=20,SNR=16						
ATD				LR	LR	08 42 48.4	
	comp=Z,427nm,20.3s,baz=165,slow=30						
ATD				Lg		08 42 53.0	
	53nm,0.3s,baz=259,slow=21,SNR=6.7						
ATD	**Arta Tunnel**	**2.51**	**116**	Pn	**Pn**	**08 42 16.8**	**+0.1**
ATD				LR	LR	08 42 48.4	
ATD				Lg		08 42 53.0	
KMBO	**Kilima Mbogo**	**14.08**	**194**	Lg		08 48 56.4	
	0.1nm,0.3s,baz=231,slow=22,SNR=3.6						
KMBO				LR	LR	08 50 40.8	
	comp=Z,252nm,19.8s,baz=282,slow=39						
ASF	**Jabal al Asfar**	**19.71**	**351**	LR	LR	08 54 00.1	
	comp=Z,172nm,21.0s,baz=214,slow=38						
BHD	**Baghdad**	**20.82**	**9**	*ex*	x	08 46 49.5	
MSL	**Mosul**	**23.64**	**5**	*ex*	x	08 47 12.0	
MALT	**Malatya**	**25.62**	**356**	*eP*	**P**	**08 47 08.2**	**+1.7**
	9.5nm,1.2s,mb4.2						
MALT	**Malatya**	**25.62**	**356**	*eP*	**P**	**08 47 08.2**	**+1.7**
	9.5nm,1.2s,mb4.2						
BR131	**Keskin Array S**	**27.65**	**348**	*eP*	**P**	**08 47 25.5**	**+0.5**
	1.3nm,0.7s,mb3.7						
BR131	**Keskin Array S**	**27.65**	**348**	*eP*	**P**	**08 47 25.5**	**+0.4**
	1.3nm,0.7s,mb3.7						
BRTR	**Keskin Array B**	**27.65**	**348**	P	**P**	**08 47 26.3**	**+1.2**
	1.2nm,0.6s,mb3.7,baz=186,slow=12,SNR=6.2						
BRTR				PcP	PcP	08 50 43.0	+0.3
	0.8nm,0.7s,baz=146,slow=4.5,SNR=4.1						
BRTR	**Keskin Array B**	**27.65**	**348**	PcP	PcP	08 50 43.0	+0.3
MATP	**Matopo**	**34.94**	**200**	LR	LR	09 03 26.9	
	comp=Z,378nm,18.4s,MS4.2,baz=22,slow=38						
VSL	**Villasalto**	**38.37**	**320**	*eP*	**P**	**08 48 58.4**	**+0.2**
	9.3nm,1.1s,mb4.4						
TSUM	**Tsumeb**	**38.91**	**216**	LR	LR	09 04 20.1	
	comp=Z,278nm,19.0s,MS4.1,baz=180,slow=35						
AKASG	**Malin Array Be**	**39.05**	**349**	P	**P**	**08 49 03.8**	**-0.1**
	0.9nm,0.6s,mb3.7,baz=170,slow=6.8,SNR=7.0						
AAK	**Ala-Archa**	**41.89**	**38**	*eP*	**P**	**08 49 27.6**	**+0.2**
	1.6nm,0.8s,mb3.7						
AAK	**Ala-Archa**	**41.89**	**38**	*eP*	**P**	**08 49 27.6**	**+0.3**
	1.6nm,0.8s,mb3.7						
GERES	**GERESS Array B**	**42.38**	**334**	P	**P**	**08 49 31.0**	**-0.2**
	1.0nm,0.7s,mb3.6,baz=135,slow=5.7,SNR=7.9						
FRF	**La Foret Royal**	**42.41**	**323**	*eP*	**P**	**08 49 31.2**	**-0.4**
	20nm,1.2s,mb4.3						
MBDF	**Montbardon**	**43.03**	**324**	*eP*	**P**	**08 49 37.4**	**+0.7**
	12nm,0.9s,mb4.3						
LPG	**La Plagne**	**43.51**	**325**	*eP*	**P**	**08 49 39.8**	**-0.7**
ORIF	**Oris-en-Rattie**	**43.66**	**324**	*eP*	**P**	**08 49 41.7**	**0.0**
LASF	**Ste Croix**	**44.36**	**322**	*eP*	**P**	**08 49 47.3**	**-0.1**
CLL	**Collm**	**44.55**	**336**	P	**P**	**08 49 50.0**	**+1.1**
CABF	**La Chapelle**	**44.56**	**326**	*eP*	**P**	**08 49 48.1**	**-1.0**
CDF	**Champ du Feu**	**45.09**	**329**	*eP*	**P**	**08 49 52.7**	**-0.5**
DBIC	**Dimbokro**	**45.11**	**267**	P	**P**	**08 49 54.1**	**+0.3**
	3.6nm,0.7s,mb4.3,baz=72,slow=7.4,SNR=6.1						
DBIC	**Dimbokro**	**45.11**	**267**	*eP*	**P**	**08 49 54.3**	**+0.5**
	4.0nm,0.7s,mb4.4						
DBIC	**Dimbokro**	**45.11**	**267**	*eP*	**P**	**08 49 54.3**	**+0.5**
	4.0nm,0.7s,mb4.4						
MDT	**Midelt**	**45.82**	**304**	P	**P**	**08 49 59.4**	**+0.2**
	1.6nm,0.8s,mb4.0,baz=129,slow=9.3,SNR=4.6						
CAF	**Calviac**	**45.90**	**322**	*eP*	**P**	**08 50 00.3**	**+0.6**
LOR	**Lormes**	**46.18**	**326**	*eP*	**P**	**08 50 01.1**	**-0.8**
SSF	**Saint Saulge**	**46.25**	**325**	*eP*	**P**	**08 50 01.4**	**-1.1**
BVAR	**Borovoye Array**	**46.77**	**24**	P	**P**	**08 50 06.8**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=219,slow=9.5,SNR=4.2						
SJPF	**Ste Jean**	**47.06**	**318**	*eP*	**P**	**08 50 09.5**	**+0.6**
	11nm,0.8s,mb4.5						
ESDC	**Sonseca Array**	**47.50**	**313**	P	**P**	**08 50 13.0**	**+0.6**
	1.9nm,0.8s,mb4.1,baz=107,slow=7.9,SNR=7.5						
ESLA	**Sonseca Array**	**47.50**	**313**	*eP*	**P**	**08 50 12.2**	**-0.2**
	0.5nm,0.8s,mb3.5						
MKAR	**Makanchi Array**	**48.81**	**37**	P	**P**	**08 50 22.8**	**+0.3**
	2.5nm,0.8s,mb4.3,baz=240,slow=5.3,SNR=15						
MKAR	**Makanchi Array**	**48.81**	**37**	P	**P**	**08 50 22.8**	**+0.3**
KURK	**Kurchatov**	**48.97**	**31**	P	**P**	**08 50 20.7**	**-2.9**
	4.2nm,1.1s,mb4.4						
FINES	**FINESS Array B**	**49.83**	**351**	P	**P**	**08 50 29.6**	**-0.6**
	4.1nm,1.1s,mb4.4,slow=7.6,SNR=4.3						
NB2	**NORSAR Subarra**	**52.82**	**343**	P	**P**	**08 50 51.7**	**-1.1**
	4.0nm,0.9s,mb4.3,baz=143,slow=7.4						
NOA	**NORSAR Array B**	**52.82**	**343**	P	**P**	**08 50 52.5**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=141,slow=7.3,SNR=4.1						
ZAL	**Zalesovo**	**53.92**	**31**	P	**P**	**08 51 00.8**	**-0.1**
	1.7nm,0.3s,mb4.4,baz=188,slow=4.2,SNR=7.1						
SONM	**Songino Array**	**64.54**	**43**	P	**P**	**08 52 14.8**	**+0.2**
	2.4nm,0.8s,mb4.2,baz=252,slow=6.1,SNR=17						
EFI	**East Falkland**	**105.15**	**220**	*e*PKPdf		09 00 00.7	
EFI	**East Falkland**	**105.15**	**220**	*e*PKIKP		09 00 00.7	
VNDA	**Vanda**	**108.83**	**169**	*e*PKPdf		09 00 05.3	
VNDA	**Vanda**	**108.83**	**169**	*e*PKIKP		09 00 05.3	
LVC	**Limon Verde**	**112.56**	**251**	*e*PKIKP	PKPdf	09 00 12.8	-2.6

*IDC **24** 08:43:33.6±3.8, 24.40S×179.88E, h521km±43km, mb3.4/5, mb1 3.5/7, mb1mx3.4/14, mbtmp4.3/7, Error ellipse: s-maj=29.1km s-min=24.2km az=43.0*
*NEIC **24** 08:43:34.7±2.1, 24.475×179.83E, h533km±20km, mb4.4/3, Error ellipse: s-maj=26.8km s-min=14.5km az=223.0*
ISC 24 08:43:34.3±2.8, 24.4S±0.1×179.8E±0.2, h540km±30km, n16, σ0s90/17, mb4.1/8, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.47**	**278**	P	**P**	**08 46 20.0**	**+1.9**
	0.5nm,0.3s,baz=96,slow=16,SNR=6.8						
URZ	**Urewera**	**14.03**	**189**	P	**P**	**08 46 32.4**	**-1.4**
	1.1nm,0.3s,baz=248,slow=12,SNR=8.3						
URZ				S	**S**	**08 48 59.3**	**+0.8**
	0.6nm,0.3s,baz=69,slow=14,SNR=7.1						
RPZ	**Rata Peaks**	**20.57**	**198**	P	**P**	**08 47 36.1**	**-0.9**
	4.5nm,0.6s,baz=253,slow=22,SNR=3.8						
CTA	**Charters Tower**	**31.28**	**271**	↓*iP*	**P**	**08 49 12.1**	**+0.5**
	10nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**34.36**	**249**	P	**P**	**08 49 38.0**	**+0.6**
	2.4nm,0.6s,mb3.9,baz=108,slow=13,SNR=9.0						
ASPA	**Alice Springs**	**41.76**	**261**	*eP*	**P**	**08 50 37.6**	**-0.2**
WB2	**Warramunga Arr**	**42.16**	**267**	↓*iP*	**P**	**08 50 40.3**	**-0.7**
WRAB	**Tennant Creek**	**42.16**	**267**	*eP*	**P**	**08 50 40.3**	**-0.8**
	4.4nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**42.17**	**267**	P	**P**	**08 50 40.5**	**-0.7**
	5.5nm,0.4s,mb4.4,baz=100,slow=8.3,SNR=181						
KAKA	**Kakadu**	**46.15**	**276**	*eP*	**P**	**08 51 29.7**	**+18**
	5.0nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.59**	**266**	*eP*	**P**	**08 51 44.8**	**-0.6**
	9.2nm,0.6s,mb4.3						
MAW	**Mawson**	**77.23**	**201**	P	**P**	**08 54 33.9**	**+0.5**
	0.4nm,0.4s,mb3.2,baz=141,slow=6.5,SNR=4.1						
SNAA	**Sanae**	**84.19**	**179**		**P**	**08 55 08.0**	**-1.0**
VNA3	**Neumayer Olymp**	**84.41**	**177**		**P**	**08 55 11.2**	**+1.1**
VNA2	**Neumayer--Watz**	**84.83**	**178**		**P**	**08 55 13.2**	**+1.1**
TXAR	**Lajitas Array**	**90.86**	**58**	P	**P**	**08 55 41.4**	**0.0**
	1.1nm,0.7s,mb3.9,baz=213,slow=6.9,SNR=15						

*IDC **24** 08:52:19.7±1.2, 12.66N×40.55E, mb4.0/13, mb1 4.1/15, mb1mx4.1/20, mbtmp4.0/15, ML4.1/2, MS4.0/5, Ms1 4.0/5, ms1mx3.6/28, Error ellipse: s-maj=29.3km s-min=13.9km az=27.0*
*NEIC **24** 08:52:21.3±0.7, 12.69N×40.52E, h10km, mb4.6/7, Error ellipse: s-maj=16.3km s-min=9.4km az=203.0*
*CSEM **24** 08:52:24.7±0.2, 12.73N×40.60E, h50km±4km, mb4.4/13, Error ellipse: s-maj=7.7km s-min=5.5km az=132.0*
ISC 24 08:52:20.0±0.8, 12.8N±0.1×40.53E±0.09, h10km, n49, σ0s84/45, mb4.2/26, MS4.0/4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.59**	**118**	Pn	**Pn**	**08 53 02.8**	**+0.2**
	104nm,0.3s,baz=280,slow=11,SNR=26						
ATD				Lg		08 53 38.3	
	148nm,0.3s,baz=257,slow=23,SNR=15						
KMBO	**Kilima Mbogo**	**14.19**	**193**	Lg		08 59 42.6	
	0.1nm,0.3s,baz=220,slow=23,SNR=3.6						
ASF	**Jabal al Asfar**	**19.59**	**351**	P	**P**	**08 56 52.2**	**+1.0**
	0.3nm,0.3s,baz=47,slow=3.2,SNR=3.1						
ASF				LR	LR	09 03 30.3	
	comp=Z,248nm,18.7s,baz=222,slow=34						
IDI	**Anoyia**	**26.50**	**330**	LR	LR	09 10 24.7	
	comp=Z,77nm,18.1s,MS3.3,baz=336,slow=41						
BRTR	**Keskin Array B**	**27.52**	**348**	P	**P**	**08 58 10.9**	**+2.2**
	4.5nm,1.1s,mb4.0,baz=172,slow=8.7,SNR=9.9						
BRTR	**Keskin Array B**	**27.52**	**348**	P	**P**	**08 58 10.9**	**+2.1**
AKASG	**Malin Array Be**	**38.93**	**349**	P	**P**	**08 59 47.4**	**-0.3**
	2.3nm,0.6s,mb4.0,baz=171,slow=7.2,SNR=7.6						
KOLS	**Kolonicke sedl**	**39.09**	**341**	*eP*	**P**	**08 59 52.8**	**+3.8**
STHS	**Stebnicka Huta**	**39.84**	**340**	*eP*	**P**	**08 59 55.2**	**-0.1**
VYHS	**Vyhne**	**39.91**	**337**	*eP*	**P**	**08 59 56.9**	**+1.1**
LBTB	**Lobatse**	**40.28**	**201**	LR	LR	09 16 56.8	
	comp=Z,365nm,19.0s,MS4.2,baz=41,slow=37						
PGF	**Pioggiola**	**40.31**	**323**	*eP*	**P**	**08 59 59.7**	**+0.5**
	21nm,1.1s,mb4.5						
GERES	**GERESS Array B**	**42.26**	**334**	P	**P**	**09 00 15.6**	**+0.5**
	4.0nm,0.9s,mb4.0,baz=135,slow=7.5,SNR=18						
KHC	**Kasperske Hory**	**42.53**	**354**	*eP*	**P**	**09 00 16.5**	**-0.8**
MBDF	**Montbardon**	**42.92**	**324**	*eP*	**P**	**09 00 21.6**	**+1.0**
	20nm,0.8s,mb4.6						
SMRF	**Simiane la Rot**	**43.17**	**323**	*eP*	**P**	**09 00 23.3**	**+0.7**
LPG	**La Plagne**	**43.40**	**325**	*eP*	**P**	**09 00 23.9**	**-0.6**
ORIF	**Oris-en-Rattie**	**43.54**	**324**	*eP*	**P**	**09 00 25.7**	**+0.1**
	3.4nm,0.7s,mb3.9						
GRA1	**Grafenberg Arr**	**43.98**	**333**	*eP*	**P**	**09 00 28.4**	**-0.7**
	5.0nm,0.9s,mb4.2						
VIVF	**Saint-Julien-l**	**44.20**	**323**	*eP*	**P**	**09 00 31.0**	**0.0**
LASF	**Ste Croix**	**44.25**	**322**	*eP*	**P**	**09 00 31.4**	**0.0**
	15nm,1.2s,mb4.3						
CLL	**Collm**	**44.43**	**336**	P	**P**	**09 00 31.0**	**-1.7**
CABF	**La Chapelle**	**44.45**	**326**	*eP*	**P**	**09 00 32.2**	**-0.8**
	14nm,0.9s,mb4.4						
HINF	**Hinteralfeld**	**44.80**	**328**	*eP*	**P**	**09 00 35.4**	**-0.4**
	5.8nm,0.7s,mb4.2						
CDF	**Champ du Feu**	**44.97**	**329**	*eP*	**P**	**09 00 36.8**	**-0.3**
	5.6nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**45.09**	**267**	P	**P**	**09 00 38.2**	**-0.3**
	1.5nm,0.6s,mb4.0,baz=24,slow=17,SNR=3.6						
DBIC	**Dimbokro**	**45.09**	**267**	P	**P**	**09 00 38.2**	**-0.3**
HAU	**Haudompre**	**45.19**	**328**	*eP*	**P**	**09 00 38.3**	**-0.5**
MDT	**Midelt**	**45.73**	**304**	P	**P**	**09 00 44.5**	**+1.1**
	1.3nm,0.6s,mb4.0,baz=39,slow=10,SNR=5.8						
EPF	**Esparros**	**45.90**	**319**	*eP*	**P**	**09 00 44.8**	**+0.3**
LOR	**Lormes**	**46.07**	**326**	*eP*	**P**	**09 00 45.2**	**-0.6**
	19nm,1.1s,mb4.6						
AVF	**Avril sur Loir**	**46.07**	**325**	*eP*	**P**	**09 00 45.0**	**-0.8**
	3.3nm,0.6s,mb4.2						
MEZF	**Maizieres J'vi**	**46.17**	**328**	*eP*	**P**	**09 00 46.7**	**+0.1**
	15nm,0.8s,mb4.8						
ETSF	**Etsaut**	**46.42**	**318**	*eP*	**P**	**09 00 49.6**	**+1.0**
	13nm,0.8s,mb4.6						
TCF	**Toulx Ste Croi**	**46.44**	**324**	*eP*	**P**	**09 00 49.3**	**+0.5**
BVAR	**Borovoye Array**	**46.67**	**24**	P	**P**	**09 00 51.0**	**+0.5**
	0.9nm,0.8s,mb3.8,baz=219,slow=9.5,SNR=3.5						
SJPF	**Ste Jean**	**46.95**	**318**	*eP*	**P**	**09 00 53.8**	**+1.0**
	18nm,1.0s,mb4.7						
ESDC	**Sonseca Array**	**47.40**	**313**	P	**P**	**09 00 56.5**	**0.0**
	1.3nm,0.7s,mb3.9,baz=106,slow=9.9,SNR=6.5						
SUR	**Sutherland**	**48.70**	**202**	LR	LR	09 19 57.4	
	comp=Z,290nm,18.9s,MS4.3,baz=187,slow=34						
MKAR	**Makanchi Array**	**48.73**	**38**	P	**P**	**09 01 07.2**	**+0.6**
	1.9nm,0.9s,mb4.1,baz=231,slow=7.8,SNR=8.6						
MKAR	**Makanchi Array**	**48.73**	**38**	P	**P**	**09 01 07.2**	**+0.5**
FINES	**FINESS Array B**	**49.71**	**351**	P	**P**	**09 01 12.6**	**-1.5**
	2.4nm,0.9s,mb4.2,baz=112,slow=10,SNR=4.4						
FINES	**FINESS Array B**	**49.71**	**351**	P	**P**	**09 01 12.6**	**-1.5**
EVO	**Evora**	**49.99**	**310**	*eP*	**P**	**09 01 16.5**	**0.0**
NOA	**NORSAR Array B**	**52.70**	**343**	P	**P**	**09 01 35.4**	**-1.3**
	1.2nm,0.8s,mb3.9,baz=150,slow=9.6,SNR=3.5						
ZAL	**Zalesovo**	**53.83**	**31**	P	**P**	**09 01 44.9**	**-0.2**
	1.0nm,0.5s,mb4.0,baz=237,slow=8.0,SNR=3.2						
ZAL	**Zalesovo**	**53.83**	**31**	P	**P**	**09 01 44.8**	**-0.3**
ARCES	**ARCESS Array B**	**57.51**	**354**	P	**P**	**09 02 09.4**	**-2.2**
	2.9nm,1.0s,mb4.3,baz=243,slow=5.4,SNR=4.0						
SONM	**Songino Array**	**64.46**	**43**	P	**P**	**09 02 59.2**	**+0.2**
	1.7nm,0.9s,mb4.1,baz=254,slow=5.7,SNR=10						
SONM				LR	LR	09 34 20.0	
	comp=Z,245nm,20.0s,MS4.4,baz=256,slow=39						

*NEIC **24** 09:03:57.5, 19.48N×64.66W, h49km, MD3.8(RSPR), After RSPR.*
RSPR 24 09:03:57.5, 19.48N×64.66W, h49km±22km, MD3.8/5, MD3.8/5, 8C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.62**	**212**	↑*eP*	P	09 04 22.7	-1.6
MTP				*eS*	S	09 04 42.0	-2.2
CBYP	**Canovanas**	**1.66**	**224**	↑*eP*	P	09 04 22.9	-1.9
CBYP				*eS*	S	09 04 43.9	-1.1
CDVI	**St. Croix**	**1.73**	**184**	↑*eP*	P	09 04 24.0	-1.8
CDVI				*eS*	S	09 04 45.5	-1.1
CPD	**Cerro la Pandu**	**1.87**	**220**	↑*eP*	P	09 04 25.8	-1.9
CPD				*eS*	S	09 04 48.8	-1.4
SJG	**San Juan**	**1.97**	**226**	↑*eP*	P	09 04 27.5	-1.6
SJG				*eS*	S	09 04 50.6	-2.0
ICM	**Isla Caja Muer**	**2.37**	**229**	↑*eP*	P	09 04 33.5	-1.4
ICM				*eS*	S	09 05 01.0	-1.9
LSP	**Las Mesas**	**2.64**	**241**	↑*eP*	P	09 04 37.4	-1.3
CRPR	**Cabo Rojo, PR**	**2.75**	**238**	↑*eP*	P	09 04 39.0	-1.3

IDC 24 09:12:19.5±4.5, 12.58N×40.45E, mb3.6/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=108.9km s-min=18.5km az=35.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.56**	**114**	Pn	Pn	09 13 02.5	-0.5
	21nm,0.3s,baz=234,slow=15,SNR=4.5						
ATD				Lg		09 13 40.7	
	20nm,0.3s,baz=264,slow=22,SNR=3.5						
GERES	**GERESS Array B**	**42.41**	**334**	P	P	09 20 15.6	-1.9
	0.5nm,0.8s,baz=149,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**48.93**	**37**	P	P	09 21 06.9	-2.5
	0.5nm,0.7s,baz=225,slow=6.9,SNR=4.1						
SONM	**Songino Array**	**64.66**	**43**	P	P	09 22 60.0	-1.4
	0.7nm,0.8s,baz=265,slow=6.1,SNR=4.9						

*CSEM **24** 09:15:33.2±0.1, 37.75N×25.41W, h6km, ML3.7, Error ellipse: s-maj=4.7km s-min=2.3km az=166.0, After PDA*
*PDA **24** 09:15:33.2±1.9, 37.75N×25.41W, h6km±6km, ML3.7, Error ellipse: s-maj=4.9km s-min=4.5km az=141.0*
SVSA 24 09:15:33.2±1.9, 37.75N×25.41W, h6km±6km, ML3.7, Error ellipse: s-maj=4.9km s-min=4.5km az=141.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.01**	**29**	*i* P	Pg	09 15 34.6	+0.4
PCNG				*e*S	Sg	09 15 35.8	+0.9
PCNG	**Congro**	**0.01**	**29**	*e*S	Sg	09 15 35.8	+0.9
VIF	**Vila Franca**	**0.03**	**252**	*i* P	Pg	09 15 34.9	+0.5
VIF				*e*S	Sg	09 15 36.1	+1.0
	7µm,0.2s						
VIF	**Vila Franca**	**0.03**	**252**	*e*S	Sg	09 15 36.1	+1.0
FRA1	**Furnas**	**0.04**	**106**	*i* P	Pg	09 15 34.8	+0.3
MESC	**Monte Escuro**	**0.05**	**321**	*eP*	Pg	09 15 35.1	+0.5
LFA	**Lagoa do Fogo**	**0.07**	**287**	*i* P	Pg	09 15 35.4	+0.6
PRCH	**Ribeira Ch**	**0.07**	**246**	*eP*	Pg	09 15 35.4	+0.6
PRCH				*e*S	Sg	09 15 36.9	+1.0
	5µm,0.2s						
PMAT	**Coroa da Mata**	**0.08**	**320**	*eP*	Pg	09 15 35.5	+0.4
PMAT				*e*S	Sg	09 15 37.1	+0.7
MIRA	**Miradouro**	**0.10**	**73**	*eP*	Pg	09 15 36.0	+0.5
PFAD	**Fenais da Ajud**	**0.11**	**37**	*eP*	Pg	09 15 36.4	+0.8
CML	**Cha da Macela**	**0.11**	**279**	*eP*	Pg	09 15 36.3	+0.6
FAC	**Faja de Cima**	**0.20**	**276**	*eP*	Pg	09 15 38.5	+1.3
PDA	**Ponta Delgada**	**0.20**	**268**	*eP*	Pg	09 15 37.0	-0.4
PDA				*e*S	Sg	09 15 41.0	+0.8
PSAN	**Santo Antonio**	**0.27**	**291**	*eP*	Pg	09 15 39.5	+0.8
PFET	**Feteiras**	**0.31**	**282**	*eP*	Pg	09 15 39.5	0.0
SET2	**Ginetes**	**0.33**	**286**	*eP*	Pg	09 15 40.5	+0.6
SET4	**Mosteiros**	**0.33**	**291**	*eP*	Pg	09 15 40.7	+0.8
PMAN	**Manadas**	**2.29**	**293**	*erx*		09 16 03.5	
PMAN	**Manadas**	**2.29**	**293**	*e-*		09 16 03.5	
PICO	**Pico**	**2.50**	**288**	*eP*	Pn	09 16 11.6	-3.5
PICO				*e*S	Sn	09 16 38.4	-7.8
HOR	**Horta**	**2.66**	**288**	*erx*		09 16 11.1	

*IDC **24** 09:17:13.7±1.0, 12.52N×40.54E, mb3.9/10, mb1 4.1/13, mb1mx4.0/22, mbtmp3.9/13, ML3.9/3, MS4.2/14, Ms1 4.2/14, ms1mx4.0/27, Error ellipse: s-maj=22.6km s-min=13.8km az=31.0*
*NEIC **24** 09:17:15.6±0.6, 12.51N×40.36E, h10km, mb4.8/4, ML4.7(DHMR), Error ellipse: s-maj=12.6km s-min=9.6km az=199.0*
*CSEM **24** 09:17:16.1±0.1, 12.76N×40.

comp=N,70nm,18.4s,MS3.7,baz=145,slow=39
KMI Kunming 59.95 68 P **P** **09 27 16.9 -6.2**
comp=N,15nm,1.5s,mb4.8
SONM Songino Array 64.79 43 P **P** **09 27 53.5 -1.5**
comp=N,1.8nm,1.0s,mb4.0,baz=243,slow=9.9,SNR=8.5
SONM LR LR 10 00 26.2
comp=N,407nm,18.2s,MS4.7,baz=257,slow=40
MJAR Matsushiro Arr 88.87 53 LR LR 10 13 30.7
comp=N,101nm,18.7s,MS4.3,baz=340,slow=38
FITZ Fitzroy Crossi 89.47 109 LR LR 10 05 39.6
comp=N,361nm,19.0s,MS4.8,baz=267,slow=33
BDFB Brasilia 91.73 254 LR LR 10 09 49.5
comp=N,205nm,18.0s,MS4.6,baz=110,slow=34

IDC 24 09:24:57.6±5.9, 0.02S×101.85E, mb3.5/2, mb1 3.7/2, mb1mx3.4/15, mbtmp3.5/2, Error ellipse: s-maj=318.0km s-min=32.1km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.47**	**124**	P	P	09 32 13.3	-1.6
	0.2nm,0.4s,baz=302,slow=9.1,SNR=6.1						
MKAR	**Makanchi Array**	**49.67**	**342**	P	P	09 33 51.3	-1.9
	0.3nm,0.3s,baz=155,slow=8.7,SNR=7.3						
TXAR	**Lajitas Array**	**142.02**	**38**	PKP	PKPdf	09 44 29.7	-4.5
	0.1nm,0.6s,baz=225,slow=1.3,SNR=3.6						

*NEIC **24** 09:25:22.2, 38.30S×176.26E, h155km, MG3.9(WEL), After WEL.*
WEL 24 09:25:21.9±0.2, 38.29S×176.28E, h156km±1km, ML3.9/16, 2C, Error ellipse: s-maj=1.9km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.66**	**88**	PN	P	09 25 44.6	-0.5
URZ				SN	S	09 26 01.6	-1.4
URZ	**Urewera**	**0.66**	**88**	P	P	09 25 44.6	-0.6
BKZ	**Black Stump Fm**	**0.90**	**169**	PN	P	09 25 46.8	+0.1
BKZ				SN	S	09 26 04.6	-1.0
BKZ	**Black Stump Fm**	**0.90**	**169**	P	P	09 25 46.8	+0.2
BKZ				S	S	09 26 04.6	-1.0
KRVZ	**Karewarewa**	**0.95**	**211**	PN	P	09 25 46.9	-0.1
KRVZ				SN	S	09 26 06.5	+0.3
MWZ	**Matawai**	**0.99**	**93**	PN	P	09 25 47.5	+0.3
MWZ				SN	S	09 26 06.5	-0.2
MWZ	**Matawai**	**0.99**	**93**	P	P	09 25 47.5	+0.2
OTVZ	**Oturere**	**1.00**	**208**	PN	P	09 25 47.8	+0.4
OTVZ				SN	S	09 26 06.9	0.0
TWVZ	**Taurewa**	**1.02**	**220**	PN	P	09 25 47.4	-0.1
TWVZ				SN	S	09 26 07.2	-0.1
TWVZ	**Taurewa**	**1.02**	**220**	P	P	09 25 47.4	-0.2
NGZ	**Ngauruhoe**	**1.03**	**210**	PN	P	09 25 48.0	+0.4
NGZ	**Ngauruhoe**	**1.03**	**210**	P	P	09 25 48.0	+0.3
CNZ	**Chateau**	**1.07**	**212**	PN	P	09 25 48.0	0.0
CNZ	**Chateau**	**1.07**	**212**	P	P	09 25 48.0	-0.1
WPVZ	**Whakapapa**	**1.08**	**212**	PN	P	09 25 48.1	0.0
WPVZ	**Whakapapa**	**1.08**	**212**	P	P	09 25 48.1	0.0
TUVZ	**Tukino**	**1.09**	**206**	PN	P	09 25 48.4	+0.1
TUVZ				SN	S	09 26 08.3	-0.2
TUVZ	**Tukino**	**1.09**	**206**	P	P	09 25 48.4	+0.2
FWVZ	**Far West T-bar**	**1.12**	**210**	PN	P	09 25 48.5	+0.1
FWVZ				SN	S	09 26 08.8	-0.2
FWVZ	**Far West T-bar**	**1.12**	**210**	P	P	09 25 48.5	0.0
HIZ	**Hauiti**	**1.14**	**258**	PN	P	09 25 48.1	-0.6
HIZ				SN	S	09 26 08.5	-0.7
HIZ	**Hauiti**	**1.14**	**258**	P	P	09 25 48.1	-0.6
HIZ				S	S	09 26 08.5	-0.8
TRVZ	**Turoa**	**1.16**	**209**	PN	P	09 25 49.0	+0.1
WNVZ	**Wahianoa**	**1.17**	**207**	PN	P	09 25 48.9	-0.1
WNVZ	**Wahianoa**	**1.17**	**207**	P	P	09 25 48.9	0.0
MOVZ	**Moawhango**	**1.19**	**200**	PN	P	09 25 48.7	-0.5
MOVZ	**Moawhango**	**1.19**	**200**	P	P	09 25 48.7	-0.5
MTVZ	**Mangateitei**	**1.27**	**210**	PN	P	09 25 49.6	-0.3
KNZ	**Kokohu**	**1.32**	**124**	PN	P	09 25 50.9	+0.5
VRZ	**Vera Road**	**1.45**	**234**	PN	P	09 25 51.4	-0.4
VRZ				SN	S	09 26 15.0	+0.2
VRZ	**Vera Road**	**1.45**	**234**	*eP*	P	09 25 51.4	-0.4
MXZ	**Matakaoa Point**	**1.76**	**66**	PN	P	09 25 55.0	0.0
MXZ	**Matakaoa Point**	**1.76**	**66**	*eP*	P	09 25 55.1	+0.1
WAZ	**Wanganui**	**1.78**	**214**	PN	P	09 25 54.6	-0.6
WAZ	**Wanganui**	**1.78**	**214**	P	P	09 25 54.6	-0.6
TSZ	**Takapari Road**	**1.79**	**188**	PN	P	09 25 54.7	-0.6
TSZ				SN	S	09 26 19.3	-1.8
TSZ	**Takapari Road**	**1.79**	**188**	P	P	09 25 54.7	-0.6
PXZ	**Pawanui**	**1.80**	**166**	PN	P	09 25 55.4	-0.1
NEZ	**North Egmont**	**1.97**	**239**	PN	P	09 25 57.3	0.0
NEZ	**North Egmont**	**1.97**	**239**	P	P	09 25 57.3	0.0
PKE	**Pukeiti**	**2.01**	**242**	PN	P	09 25 57.2	-0.6
PKE	**Pukeiti**	**2.01**	**242**	P	P	09 25 57.2	-0.6
NWEZ	**Newall Road**	**2.12**	**242**	PN	P	09 25 58.3	-0.9
NWEZ	**Newall Road**	**2.12**	**242**	P	P	09 25 58.3	-0.9
BFZ	**Birch Farm**	**2.39**	**181**	PN	P	09 26 01.2	-1.4
BFZ	**Birch Farm**	**2.39**	**181**	P	P	09 26 01.2	-1.3
MRZ	**Mangatainoka R**	**2.43**	**193**	⇑PN	P	09 26 01.2	-1.8
MRZ	**Mangatainoka R**	**2.43**	**193**	⇑P	P	09 26 01.2	-1.8
KIW	**Kapiti Island**	**2.78**	**202**	PN	P	09 26 04.7	-2.7
KIW	**Kapiti Island**	**2.78**	**202**	P	P	09 26 04.7	-2.7
MTW	**Mount Morrison**	**2.93**	**191**	PN	P	09 26 06.6	-2.7
MTW	**Mount Morrison**	**2.93**	**191**	P	P	09 26 06.6	-2.7
CAW	**Cannon Point**	**2.97**	**198**	PN	P	09 26 07.2	-2.6
CAW	**Cannon Point**	**2.97**	**198**	P	P	09 26 07.2	-2.6
DUWZ	**D'Urville Isla**	**3.10**	**215**	PN	P	09 26 08.4	-3.1
TRWZ	**Traveller**	**3.14**	**188**	PN	P	09 26 09.3	-2.7
PAWZ	**Paruwai Farm**	**3.16**	**192**	PN	P	09 26 09.3	-3.0
MRW	**Makara Radio**	**3.18**	**202**	PN	P	09 26 09.4	-3.1
MSWZ	**Moikau Station**	**3.22**	**194**	PN	P	09 26 09.9	-3.1
MSWZ	**Moikau Station**	**3.22**	**194**	P	P	09 26 09.9	-3.2
TCW	**Tory Channel**	**3.30**	**207**	PN	P	09 26 10.8	-3.3
TCW	**Tory Channel**	**3.30**	**207**	P	P	09 26 10.8	-3.3
TUWZ	**Tuamarina**	**3.62**	**209**	PN	P	09 26 14.5	-3.6
NNZ	**Nelson**	**3.68**	**216**	PN	P	09 26 15.1	-3.9
NNZ	**Nelson**	**3.68**	**216**	*eP*	P	09 26 15.1	-3.9
QRZ	**Quartz Range**	**3.85**	**228**	PN	P	09 26 16.7	-4.5
QRZ	**Quartz Range**	**3.85**	**228**	*eP*	P	09 26 16.7	-4.5
BSWZ	**Blackbirch Sta**	**3.89**	**208**	PN	P	09 26 18.0	-3.6
BSWZ	**Blackbirch Sta**	**3.89**	**208**	P	P	09 26 18.0	-3.7
THZ	**Tophouse**	**4.33**	**216**	PN	P	09 26 23.7	-3.7
THZ	**Tophouse**	**4.33**	**216**	*eP*	P	09 26 23.7	-3.8
KHZ	**Kahutara**	**4.62**	**206**	PN	P	09 26 27.2	-4.2
KHZ	**Kahutara**	**4.62**	**206**	P	P	09 26 27.2	-4.2
DSZ	**Denniston Nort**	**4.87**	**223**	PN	P	09 26 29.2	-5.4
LTZ	**Lake Taylor**	**5.43**	**213**	PN	P	09 26 37.3	-4.6
LTZ	**Lake Taylor**	**5.43**	**213**	*eP*	P	09 26 37.3	-4.6
MQZ	**McQueen's Vall**	**6.07**	**206**	PN	P	09 26 44.5	-5.9
MQZ	**McQueen's Vall**	**6.07**	**206**	*eP*	P	09 26 44.5	-5.9
FOZ	**Fox Glacier**	**7.25**	**221**	PN	P	09 26 58.5	-7.9
LBZ	**Lake Benmore**	**7.62**	**215**	PN	P	09 27 05.2	-6.1
ODZ	**Otahua Downs**	**7.96**	**210**	PN	P	09 27 10.2	-5.6
ODZ	**Otahua Downs**	**7.96**	**210**	*eP*	P	09 27 10.2	-5.5

IDC 24 09:29:51.9±5.4, 12.81N×40.77E, mb3.6/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=123.6km s-min=17.6km az=45.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.40**	**122**	Pn	Pn	09 30 31.6	-1.4
	46nm,0.3s,baz=90,slow=3.4,SNR=13						
ATD				Lg		09 31 08.8	
	29nm,0.3s,baz=263,slow=23,SNR=17						
KMBO	**Kilima Mbogo**	**14.28**	**194**	Lg		09 37 20.1	
	0.1nm,0.3s,baz=207,slow=18,SNR=3.7						
BRTR	**Keskin Array B**	**27.54**	**348**	P	P	09 35 41.1	-1.2
	0.8nm,0.5s,baz=170,slow=7.5,SNR=3.8						
MKAR	**Makanchi Array**	**48.56**	**37**	P	P	09 38 36.3	-2.6
	0.2nm,0.5s,baz=248,slow=7.8,SNR=3.1						
SONM	**Songino Array**	**64.28**	**43**	P	P	09 40 29.6	-1.7
	0.2nm,0.3s,baz=236,slow=5.2,SNR=3.9						

*NEIC **24** 09:34:19.5±2.6, 12.39N×40.40E, h10km, Error ellipse: s-maj=70.0km s-min=14.1km az=217.0*
IDC 24 09:34:18.2±4.3, 12.42N×40.47E, mb3.8/5, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=103.9km s-min=16.4km az=32.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.49**	**111**	Pn	Pn	09 35 01.1	+0.5
	28nm,0.3s,baz=272,slow=10,SNR=10						
ATD				Lg		09 35 36.6	
	16nm,0.3s,baz=124,slow=23,SNR=8.9						
BRTR	**Keskin Array B**	**27.86**	**349**	P	P	09 40 10.4	-1.2
	0.8nm,0.7s,baz=168,slow=11,SNR=4.5						
GERES	**GERESS Array B**	**42.56**	**334**	P	P	09 42 15.7	-1.7
	0.4nm,0.6s,baz=141,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**49.05**	**37**	P	P	09 43 07.3	-1.6
	1.2nm,0.7s,baz=241,slow=7.0,SNR=8.0						
MKAR	**Makanchi Array**	**49.05**	**37**	P	P	09 43 07.3	-1.6
NOA	**NORSAR Array B**	**53.03**	**343**	P	P	09 43 36.0	-3.0
	0.9nm,0.7s,baz=141,slow=7.3,SNR=3.3						
SONM	**Songino Array**	**64.76**	**43**	P	P	09 44 58.4	-2.4
	1.0nm,0.9s,baz=256,slow=6.1,SNR=4.4						

IDC 24 09:42:38.0±6.7, 11.78N×40.32E, mb3.7/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.8/5, MS3.8/1, Ms1 3.8/1, ms1mx3.0/23, Error ellipse: s-maj=140.8km s-min=43.4km az=26.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.49**	**95**	Lg		09 43 59.2	
ASF	**Jabal al Asfar**	**20.54**	**352**	P	P	09 47 18.1	-2.8
	1.0nm,0.3s,baz=22,slow=9.2,SNR=2.3						
BRTR	**Keskin Array B**	**28.46**	**349**	P	P	09 48 35.6	-1.2
	0.9nm,0.6s,baz=157,slow=9.4,SNR=4.8						
TSUM	**Tsumeb**	**38.08**	**216**	LR	LR	10 05 38.9	
	comp=Z,116nm,18.8s,baz=319,slow=36						
GERES	**GERESS Array B**	**43.07**	**334**	P	P	09 50 39.3	-2.1
	0.8nm,0.9s,baz=146,slow=4.8,SNR=3.7						
MKAR	**Makanchi Array**	**49.64**	**37**	P	P	09 51 31.0	-2.4
	0.8nm,0.6s,baz=239,slow=7.1,SNR=6.8						
SONM	**Songino Array**	**65.33**	**43**	P	P	09 53 22.5	-1.7
	1.6nm,1.0s,baz=260,slow=6.7,SNR=5.7						

*CSEM **24** 09:43:48.8±0.1, 38.22N×26.66W, h2km, ML2.5, Error ellipse: s-maj=11.0km s-min=2.3km az=34.0, After PDA*
*PDA **24** 09:43:48.8±0.8, 38.22N×26.66W, h2km±2km, MD2.9, ML2.5, Error ellipse: s-maj=9.8km s-min=1.0km az=45.0*
SVSA 24 09:43:48.8±0.8, 38.22N×26.66W, h2km±2km, MD2.9, ML2.5, Error ellipse: s-maj=9.8km s-min=1.0km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.59**	**326**	*eP*	Pg	09 43 59.3	-1.3
PFAV				*eS*	Sg	09 44 07.0	-1.5
	73nm,0.3s						
RIB2	**Ribeirinha**	**0.60**	**319**	*eP*	Pg	09 43 59.1	-1.7
RIB2				*eS*	Sg	09 44 07.3	-1.6
	91nm,0.1s						
ADH	**Angra Heroismo**	**0.62**	**314**	*eP*	Pg	09 43 58.7	-2.6
ADH				*eS*	Sg	09 44 06.9	-2.7
PVNV	**Vila Nova**	**0.67**	**325**	*eP*	Pg	09 43 59.8	-2.3
PVNV				*eS*	Sg	09 44 08.7	-2.2
	105nm,0.1s						
PPAD	**Pico dos Padre**	**0.69**	**315**	*eP*	Pg	09 44 00.3	-2.2
PPAD				*eS*	Sg	09 44 09.2	-2.4
PBIS	**Biscoitos**	**0.71**	**320**	*eP*	Pg	09 44 00.8	-2.2
PBIS				*eS*	Sg	09 44 10.0	-2.5
	33nm,0.2s						
ASBA	**Santa Barbara**	**0.72**	**314**	*eP*	Pg	09 44 00.9	-2.3
ASBA				*eS*	Sg	09 44 10.5	-2.3
PSBA	**Serra de Santa**	**0.75**	**317**	*eP*	Pg	09 44 00.5	-3.3
PSBA				*eS*	Sg	09 44 10.1	-3.8
	176nm,0.3s						
SET4	**Mosteiros**	**0.77**	**117**	*eP*	Pg	09 44 01.6	-2.5
SET4				*eS*	Sg	09 44 10.9	-3.4
SET2	**Ginetes**	**0.77**	**119**	*eP*	Pg	09 44 01.9	-2.4
SET2				*eS*	Sg	09 44 11.8	-2.8
PFET	**Feteiras**	**0.80**	**120**	*eP*	Pg	09 44 02.2	-2.6
PFET				*eS*	Sg	09 44 12.0	-3.4
PSAN	**Santo Antonio**	**0.83**	**116**	*eP*	Pg	09 44 02.5	-2.8
PSAN				*eS*	Sg	09 44 12.5	-3.8
FAC	**Faja de Cima**	**0.92**	**119**	*eP*	Pb	09 44 04.3	-2.8
FAC				*eS*	Sg	09 44 14.9	-4.4
CML	**Cha da Macela**	**0.99**	**117**	*eP*	Pb	09 44 05.0	-3.4
CML				*eS*	Sb	09 44 16.7	-5.0
PMAN	**Manadas**	**1.19**	**291**	*erx*		09 44 17.6	
ROSA	**Rosais**	**1.33**	**292**	*eP*	Pb	09 44 09.1	-5.1
ROSA				*eS*	Sb	09 44 24.9	-6.8
PICO	**Pico**	**1.41**	**282**	*eP*	Pb	09 44 10.2	-5.4
PICO				*eS*	Sb	09 44 26.7	-7.3
CALA	**Caldeira**	**1.64**	**283**	*eP*	Pn	09 44 13.3	-5.6
CALA				*eS*	Sb	09 44 31.9	-8.7

*IDC **24** 09:53:42.1±1.9, 12.36N×40.46E, mb4.0/9, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, ML4.2/1, MS4.0/10, Ms1 3.9/10, ms1mx3.7/21, Error ellipse: s-maj=45.5km s-min=14.4km az=26.0*
*NEIC **24** 09:53:43.6±0.6, 12.35N×40.45E, h10km, mb4.7/8, Error ellipse: s-maj=14.2km s-min=10.3km az=202.0*
*CSEM **24** 09:53:43.6±0.1, 12.35N×40.45E, h10km, mb4.6/8, Error ellipse: s-maj=4.4km s-min=2.8km az=25.0, After NEIC*
ISC 24 09:53:42.0±0.8, 12.4N±0.1×40.46E±0.09, h10km, n52, σ0≧87/43, mb4.2/17, MS4.0/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.49**	**110**	Pn	**Pn**	**09 54 25.8**	**+2.5**
	53nm,0.3s,baz=288,slow=7.4,SNR=17						
ATD				Lg		09 54 59.6	
	68nm,0.3s,baz=106,slow=22,SNR=16						
KMBO	**Kilima Mbogo**	**13.80**	**194**	Lg		10 01 00.7	
	0.2nm,0.3s,baz=87,slow=22,SNR=3.2						
KMBO				LR	LR	10 02 18.1	
	comp=Z,404nm,18.2s,baz=45,slow=38						
ASF	**Jabal al Asfar**	**19.96**	**351**	P	**P**	**09 58 17.9**	**+0.6**
	0.3nm,0.3s,baz=269,slow=2.7,SNR=4.4						
ASF				LR	LR	10 05 04.7	
	comp=Z,169nm,19.5s,baz=259,slow=34						
MALT	**Malatya**	**25.89**	**356**	*eP*	**P**	**09 59 16.7**	**+0.9**
	21nm,1.5s,mb4.5						
MALT	**Malatya**	**25.89**	**356**	*eP*	**P**	**09 59 16.7**	**+0.9**
	21nm,1.5s,mb4.5						
IDI	**Anoyia**	**26.81**	**331**	LR	LR	10 09 52.4	
	comp=Z,83nm,19.2s,MS3.3,baz=140,slow=36						
BR131	**Keskin Array S**	**27.89**	**349**	*eP*	**P**	**09 59 34.9**	**+0.7**
BR131	**Keskin Array S**	**27.89**	**349**	*eP*	**P**	**09 59 34.8**	**+0.7**
BRTR	**Keskin Array B**	**27.89**	**349**	P	**P**	**09 59 34.9**	**+0.7**
	2.5nm,0.9s,mb3.8,baz=173,slow=10.0,SNR=11						
BRTR	**Keskin Array B**	**27.89**	**349**	P	**P**	**09 59 34.8**	**+0.7**
GNI	**Garni**	**27.91**	**7**	LR	LR	10 10 32.9	
	comp=Z,106nm,19.3s,MS3.4,baz=179,slow=36						
LSZ	**Lusaka**	**30.05**	**204**	LR	LR	10 11 43.7	
	comp=Z,244nm,18.0s,MS3.9,baz=346,slow=36						
KIV	**Kislovodsk**	**31.52**	**3**	*eP*	**P**	**10 00 06.0**	**-0.4**
	6.9nm,0.4s,mb4.8						
KIV	**Kislovodsk**	**31.52**	**3**	*eP*	**P**	**10 00 06.0**	**-0.4**
	6.8nm,0.4s,mb4.8						
AQU	**L'Aquila**	**38.00**	**327**	*eP*	**P**	**10 01 03.0**	**+1.0**
	6.1nm,0.6s,mb4.5						
AQU	**L'Aquila**	**38.00**	**327**	*eP*	**P**	**10 01 03.0**	**+1.0**
	6.1nm,0.6s,mb4.5						
VSL	**Villasalto**	**38.51**	**320**	P	**P**	**10 01 06.6**	**+0.3**
VSL	**Villasalto**	**38.51**	**320**	P	**P**	**10 01 06.6**	**+0.3**
AKASG	**Malin Array Be**	**39.30**	**349**	P	**P**	**10 01 11.6**	**-1.1**
	0.6nm,0.5s,mb3.6,baz=175,slow=7.1,SNR=15						
VYHS	**Vyhne**	**40.24**	**338**	*eP*	**P**	**10 01 21.3**	**+0.7**
MORC	**Moravsky Berou**	**41.78**	**338**	*eP*	**P**	**10 01 33.1**	**0.0**
MORC				*ePP*	PP	10 03 08.4	-4.7
MORC	**Moravsky Berou**	**41.78**	**338**	*eP*	**P**	**10 01 33.1**	**-0.1**
MORC	**Moravsky Berou**	**41.78**	**338**	*ePP*	PP	10 03 08.4	-4.7
AAK	**Ala-Archa**	**42.16**	**38**	P	**P**	**10 01 35.5**	**-0.9**
	4.5nm,1.2s,mb4.0						
AAK	**Ala-Archa**	**42.16**	**38**	P	**P**	**10 01 35.5**	**-0.9**
	4.5nm,1.2s,mb4.0						
GERES	**GERESS Array B**	**42.58**	**334**	P	**P**	**10 01 39.5**	**-0.2**
	1.3nm,0.8s,mb3.7,baz=141,slow=8.5,SNR=9.5						
OBN	**Obninsk**	**42.74**	**357**	P	**P**	**10 01 40.3**	**-0.6**
OBN	**Obninsk**	**42.74**	**357**	P	**P**	**10 01 40.3**	**-0.6**
CLL	**Collm**	**44.76**	**336**	P	**P**	**10 01 58.0**	**+0.6**
	logA/T=1.1,mb4.7						
CLL	**Collm**	**44.76**	**336**	*eP*	**P**	**10 01 58.0**	**+0.6**
	22nm,1.7s,mb4.7						
MOX	**Moxa**	**44.83**	**334**	*eP*	**P**	**10 01 57.0**	**-1.0**
DBIC	**Dimbokro**	**45.01**	**267**	LR	LR	10 20 10.4	
	comp=Z,174nm,20.9s,MS4.0,baz=73,slow=35						
DBIC	**Dimbokro**	**45.01**	**267**	*eP*	**P**	**10 02 00.1**	**+0.2**
DBIC	**Dimbokro**	**45.01**	**267**	*eP*	**P**	**10 02 00.1**	**+0.2**
MDT	**Midelt**	**45.90**	**304**	P	**P**	**10 02 07.0**	**+0.4**
	2.6nm,1.1s,mb4.1,baz=89,slow=6.6,SNR=5.1						
BVAR	**Borovoye Array**	**47.05**	**24**	P	**P**	**10 02 15.4**	**-0.2**
	1.0nm,0.8s,mb3.8,baz=207,slow=9.9,SNR=5.6						
ESDC	**Sonseca Array**	**47.62**	**313**	P	**P**	**10 02 19.7**	**-0.5**
	1.0nm,0.8s,mb3.9,baz=116,slow=7.9,SNR=5.6						
ESLA	**Sonseca Array**	**47.62**	**313**	P	**P**	**10 02 19.5**	**-0.7**
	4.8nm,1.5s,mb4.3						
ESLA	**Sonseca Array**	**47.62**	**313**	P	**P**	**10 02 19.5**	**-0.7**
	4.8nm,1.5s,mb4.3						
SFS	**San Fernando**	**48.19**	**308**	P	**P**	**10 02 27.0**	**+2.3**
	102nm,1.0s						
SFS	**San Fernando**	**48.19**	**308**	P	**P**	**10 02 27.0**	**+2.3**
	102nm,1.0s						
MKAR	**Makanchi Array**	**49.08**	**37**	P	**P**	**10 02 31.1**	**-0.3**
	1.9nm,0.8s,mb4.2,baz=239,slow=7.1,SNR=9.7						
MKAR				LR	LR	10 26 46.8	
	comp=Z,251nm,19.9s,MS4.2,baz=180,slow=40						
MKAR	**Makanchi Array**	**49.08**	**37**	P	**P**	**10 02 31.0**	**-0.4**
MKAR	**Makanchi Array**	**49.08**	**37**	LR	LR	10 26 46.8	
NAO01	**NORSAR Array S**	**52.99**	**342**	*eP*	**P**	**10 02 59.8**	**-1.1**
	18nm,1.1s,mb4.9						
NAO01	**NORSAR Array S**	**52.99**	**342**	*eP*	**P**	**10 02 59.8**	**-1.1**
	18nm,1.1s,mb4.9						
ZAL	**Zalesovo**	**54.19**	**31**	P	**P**	**10 03 09.7**	**-0.1**
	1.2nm,0.3s,mb4.3,baz=195,slow=6.6,SNR=6.6						
SONM	**Songino Array**	**64.79**	**43**	P	**P**	**10 04 23.2**	**+0.1**
	1.5nm,0.8s,mb4.1,baz=258,slow=7.9,SNR=9.7						
SONM				LR	LR	10 37 04.8	
	comp=Z,238nm,18.8s,MS4.4,baz=259,slow=40						
SNAA	**Sanae**	**88.69**	**193**	*eP*	**P**	**10 06 35.0**	**-1.4**
	8.6nm,1.6s,mb4.8						
SNAA	**Sanae**	**88.69**	**193**	*eP*	**P**	**10 06 35.0**	**-1.4**
	8.6nm,1.6s,mb4.8						
MJAR	**Matsushiro Arr**	**88.84**	**53**	LR	LR	10 51 25.5	
	comp=Z,122nm,18.9s,MS4.3,baz=130,slow=39						
BDFB	**Brasilia**	**91.83**	**254**	LR	LR	10 43 50.1	
	comp=Z,146nm,18.9s,MS4.5,baz=175,slow=33						

IDC 24 10:20:20.1±4.8, 1.63N×97.37E, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=180.3km s-min=32.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.12**	**122**	P	P	10 28 14.3	-1.8
	0.3nm,0.6s,baz=302,slow=9.1,SNR=4.7						
SONM	**Songino Array**	**46.68**	**8**	P	P	10 28 50.8	-1.5
	0.5nm,0.6s,baz=192,slow=8.7,SNR=5.2						
MKAR	**Makanchi Array**	**46.87**	**346**	P	P	10 28 51.6	-2.2
	0.6nm,0.7s,baz=154,slow=9.5,SNR=4.0						

*IDC **24** 10:36:08.6±1.0, 57.44S×147.71W, mb3.9/7, mb1 4.1/7, mb1mx4.0/13, mbtmp3.9/7, MS4.1/9, Ms1 4.1/9, ms1mx3.9/16, Error ellipse: s-maj=49.1km s-min=25.0km az=6.0*
ISC 24 10:36:07.2±1.2, 56.5S±0.3×147.5W±0.3, h10km, n32, σ0≧95/19, mb3.9/7, MS4.1/9, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**29.02**	**278**	LR	LR	10 51 17.3	
	comp=Z,409nm,18.6s,MS4.1,baz=139,slow=31						
URZ	**Urewera**	**29.65**	**293**	LR	LR	10 50 27.3	
	comp=Z,269nm,19.5s,MS3.9,baz=360,slow=29						
TBI	**Tubuai**	**33.12**	**357**	*eLR*	LR	10 51 36.0	
	707nm,28.2s,baz=188						
RKT	**Rikitea**	**34.56**	**21**	*eLR*	LR	10 52 25.6	
	498nm,28.8s,baz=192						
PPT	**Papeete**	**38.87**	**357**	*eLR*	LR	10 54 13.5	
	793nm,25.8s,baz=182						
PPT	**Papeete**	**38.87**	**357**	LR	LR	10 55 20.1	
	comp=Z,412nm,20.6s,MS4.2,baz=153,slow=29						
TAOE	**Nuku Hiva Isla**	**47.85**	**10**	*eLR*	LR	10 58 33.2	
	966nm,26.0s						
VNA3	**Neumayer Olymp**	**49.14**	**163**		**P**	**10 44 52.4**	**-3.8**
VNA3	**Neumayer Olymp**	**49.14**	**163**		**P**	**10 44 56.6**	**+0.4**
VNA3	**Neumayer Olymp**	**49.14**	**163**		**P**	**10 45 01.0**	**+4.8**
SNAA	**Sanae**	**49.76**	**166**		**P**	**10 44 55.1**	**-5.9**
SNAA	**Sanae**	**49.76**	**166**

MENT	**Mentasta**	**4.35**	**139**	*e*P	**Pn**	**10 55 24.6**	**-2.5**
TT01	**Tatalina**	**4.35**	**220**	P	**Pn**	**10 55 26.0**	**-1.2**
SML	**Sawmill**	**4.63**	**171**	P	**Pn**	**10 55 30.7**	**-0.4**
SCM	**Sheep Creek Mo**	**4.69**	**165**	P	**Pn**	**10 55 33.3**	**+1.4**
SVW2	**Sparrevohn**	**5.86**	**208**	*e*P	**Pn**	**10 55 46.4**	**-2.0**
INK	**Inuvik**	**6.62**	**65**	Pn	**Pn**	**10 55 58.9**	**-0.4**
	2.0nm,0.3s,baz=232,slow=8.4,SNR=51						
INK				Lg		10 57 45.7	
	2.0nm,0.3s,baz=172,slow=33,SNR=4.3						
INK				LR	LR	10 58 39.9	
	comp=Z,126nm,18.1s,baz=268,slow=40						
INK	**Inuvik**	**6.62**	**65**	*e*P	**Pn**	**10 55 57.3**	**-1.9**
KDAK	**Kodiak Island**	**8.71**	**189**	Pn	**P**	**10 56 26.6**	**-1.7**
	0.4nm,0.3s,baz=15,slow=14,SNR=3.7						
DLBC	**Dease Lake**	**12.12**	**122**	Pn	**P**	**10 57 13.5**	**-1.4**
	0.2nm,0.3s,baz=313,slow=11,SNR=6.0						
DLBC				Lg		11 00 37.8	
	0.5nm,0.3s,baz=34,slow=26,SNR=8.3						
YKA	**Yellowknife Ar**	**15.58**	**88**	Pn	**P**	**10 57 56.5**	**-3.7**
	0.2nm,0.3s,baz=297,slow=13,SNR=3.2						
YKA				LR	LR	11 03 21.0	
	comp=Z,48nm,19.8s,slow=36						
YKA	**Yellowknife Ar**	**15.58**	**88**	Pn	**P**	**10 57 56.5**	**-3.7**
YKA				LR	LR	11 03 21.0	
PDAR	**Pinedale Array**	**32.29**	**117**	P	**P**	**11 00 53.1**	**+3.0**
	0.5nm,0.9s,mb3.4,baz=281,slow=7.6,SNR=3.8						
TXAR	**Lajitas Array**	**46.41**	**119**	P	**P**	**11 02 51.4**	**+3.9**
	0.9nm,0.7s,mb3.8,baz=333,slow=5.6,SNR=12						

CSEM ***24*** *12:08:52.6±0.1, 37.77N×25.41W, h2km, ML2.9, Error ellipse: s-maj=4.1km s-min=1.4km az=172.0, After PDA*
PDA ***24*** *12:08:52.6±0.7, 37.77N×25.41W, h2km±1km, ML2.9, Error ellipse: s-maj=2.4km s-min=1.4km az=102.0*
SVSA 24 12:08:52.6±0.7, 37.77N×25.41W, h2km±1km, ML2.9, Error ellipse: s-maj=2.4km s-min=1.4km az=102.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
PCNG	**Congro**	**0.01**	**95**	*i* P		Pg	12 08 53.2	+0.1
PCNG				*e*S		Sg	12 08 54.1	+0.7
	16μm,0.5s							
PCNG	**Congro**	**0.01**	**95**	*e*S		Sg	12 08 54.1	+0.7
VIF	**Vila Franca**	**0.03**	**223**	*i* P		Pg	12 08 53.6	+0.2
MESC	**Monte Escuro**	**0.04**	**313**	*i* P		Pg	12 08 53.8	+0.4
MESC				*e*S		Sg	12 08 54.9	+0.9
MESC	**Monte Escuro**	**0.04**	**313**	*e*S		Sg	12 08 54.9	+0.9
FRA1	**Furnas**	**0.05**	**120**	*i* P		Pg	12 08 53.0	-0.7
LFA	**Lagoa do Fogo**	**0.06**	**275**	*i* P		Pg	12 08 54.2	+0.4
PMAT	**Coroa da Mata**	**0.07**	**316**	*e*P		Pg	12 08 54.3	+0.3
PMAT				*e*S		Sg	12 08 55.6	+0.7
PRCH	**Ribeira Ch**	**0.07**	**233**	*e*P		Pg	12 08 54.1	+0.1
PRCH				*e*S		Sg	12 08 55.4	+0.5
	8μm,0.3s							
PFAD	**Fenais da Ajud**	**0.10**	**45**	*i* P		Pg	12 08 54.7	+0.1
CML	**Cha da Macela**	**0.11**	**272**	*i* P		Pg	12 08 55.0	+0.2
MIRA	**Miradouro**	**0.11**	**81**	*e*P		Pg	12 08 54.2	-0.6
MIRA				*e*S		Sg	12 08 56.1	-0.1
FAC	**Faja de Cima**	**0.19**	**272**	*e*P		Pg	12 08 57.3	+0.9
PDA	**Ponta Delgada**	**0.20**	**264**	*i* P		Pg	12 08 56.0	-0.6
PDA				*i* S		Sg	12 09 00.0	+0.7
PDA	**Ponta Delgada**	**0.20**	**264**	*i* S		Sg	12 09 00.0	+0.7
PSAN	**Santo Antonio**	**0.26**	**289**	*e*P		Pg	12 08 58.2	+0.4
PFET	**Feteiras**	**0.30**	**280**	*e*P		Pg	12 08 58.8	+0.1
SET2	**Ginetes**	**0.32**	**284**	*e*P		Pg	12 08 59.1	+0.1
SET4	**Mosteiros**	**0.32**	**289**	*e*P		Pg	12 08 59.4	+0.3

CSEM ***24*** *12:09:11.6±0.6, 37.75N×25.40W, h6km, ML2.5, Error ellipse: s-maj=26.6km s-min=15.8km az=178.0, After PDA*
PDA ***24*** *12:09:11.6±0.6, 37.75N×25.40W, h6km±3km, ML2.5, Error ellipse: s-maj=4.9km s-min=2.1km az=114.0*
SVSA 24 12:09:11.6±0.6, 37.75N×25.40W, h6km±3km, ML2.5, Error ellipse: s-maj=4.9km s-min=2.1km az=114.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
PCNG	**Congro**	**0.02**	**3**	*e*S		Sg	12 09 14.2	+0.8
	2μm,0.3s							
VIF	**Vila Franca**	**0.03**	**260**	*e*P		Pg	12 09 13.4	+0.6
VIF				*e*S		Sg	12 09 14.8	+1.1
	1μm,0.3s							
MESC	**Monte Escuro**	**0.06**	**318**	*e*P		Pg	12 09 13.7	+0.6
MESC				*e*S		Sg	12 09 15.3	+1.1
PRCH	**Ribeira Ch**	**0.07**	**251**	*e*S		Sg	12 09 15.0	+0.5
LFA	**Lagoa do Fogo**	**0.07**	**288**	*e*P		Pg	12 09 14.1	+0.7
MIRA	**Miradouro**	**0.10**	**70**	*e*P		Pg	12 09 14.0	+0.2
MIRA				*e*S		Sg	12 09 16.0	+0.7

NEIC ***24*** *12:12:05.5±2.1, 4.74S×153.15E, h85km±19km, mb4.7/4, Error ellipse: s-maj=17.7km s-min=11.3km az=75.0*
IDC ***24*** *12:12:05.1±3.8, 4.73S×153.14E, h80km±35km, mb4.0/9, mb1 4.1/11, mb1mx4.0/16, mbtmp4.4/11, MS3.4/4, Ms1 3.4/4, ms1mx3.2/15, Error ellipse: s-maj=23.9km s-min=16.3km az=70.0*
ISC 24 12:12:01.2±3.1, 4.72S±0.09×153.2E±0.1, h53km±26km, n26, σ1°11/25, mb4.4/13, MS3.5/2, 2C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
PMG	**Port Moresby**	**7.58**	**232**	P		**P**	**12 13 52.3**	**+0.7**
	1.4nm,0.3s,baz=31,slow=11,SNR=4.9							
PMG				S		**S**	**12 15 16.4**	**-0.6**
	1.0nm,0.3s,baz=32,slow=23,SNR=2.6							
CTA	**Charters Tower**	**16.70**	**203**	LR		LR	12 21 31.6	
	comp=Z,140nm,21.6s,baz=49,slow=34							
GUMO	**Guam**	**19.98**	**336**	P		**P**	**12 16 32.6**	**+0.6**
	2.0nm,0.3s,baz=31,slow=22,SNR=3.8							
GUMO				LR		LR	12 22 52.7	
	comp=Z,40nm,19.4s,baz=128,slow=32							
GUMO	**Guam**	**19.98**	**336**	P		**P**	**12 16 32.6**	**+0.6**
GUMO				LR		LR	12 22 52.7	
DZM	**Mont Dzumac**	**21.50**	**145**	P		**P**	**12 16 47.9**	**+0.3**
	14nm,0.6s,mb4.6,baz=215,slow=8.8,SNR=18							
DZM				LR		LR	12 23 50.1	
	comp=Z,104nm,19.8s,MS3.2,baz=202,slow=33							
KAKA	**Kakadu**	**21.98**	**247**	⇑ *i* P		**P**	**12 17 11.6**	**+19**
	26nm,0.5s,mb4.9							
WRAB	**Tennant Creek**	**23.77**	**229**	*e*P		**P**	**12 17 10.6**	**+0.7**
	4.7nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**23.79**	**229**	P		**P**	**12 17 10.2**	**+0.2**
	3.0nm,0.4s,mb4.1,baz=50,slow=9.9,SNR=35							
FITZ	**Fitzroy Crossi**	**30.04**	**242**	⇑ *i* P		**P**	**12 18 05.3**	**-2.3**
	10.0nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**30.04**	**242**	P		**P**	**12 18 05.6**	**-2.0**
	13nm,0.6s,mb4.8,baz=45,slow=5.6,SNR=20							
RPZ	**Rata Peaks**	**41.92**	**161**	P		**P**	**12 19 48.3**	**0.0**
	3.5nm,0.4s,mb4.3,baz=243,slow=6.8,SNR=5.0							
JNU	**Nakatsue**	**43.17**	**332**	P		**P**	**12 19 56.8**	**-1.9**
	baz=180,slow=2.0							
MJAR	**Matsushiro Arr**	**43.37**	**342**	LR		LR	12 35 24.1	
	comp=Z,106nm,18.6s,MS3.8,baz=220,slow=32							
SONM	**Songino Array**	**66.47**	**328**	P		**P**	**12 22 46.8**	**-0.5**
	1.0nm,0.5s,mb4.1,baz=140,slow=6.1,SNR=8.5							
MKAR	**Makanchi Array**	**80.52**	**319**	P		**P**	**12 24 09.2**	**-0.1**
	2.8nm,0.6s,mb4.3,baz=100,slow=7.0,SNR=20							
ZAL	**Zalesovo**	**81.31**	**326**	P		**P**	**12 24 12.3**	**-1.1**
	1.4nm,0.5s,mb4.2,baz=358,slow=2.7,SNR=3.9							
ILAR	**Eielson Array**	**81.94**	**22**	P		**P**	**12 24 13.9**	**-2.5**
	0.4nm,0.7s,mb3.5,baz=249,slow=4.8,SNR=4.1							
CHMS	**Chumysh**	**84.78**	**314**	P		**P**	**12 24 31.7**	**+0.4**
	SNR=6.8							
UCH	**Uchtor**	**84.80**	**313**	P		**P**	**12 24 33.4**	**+2.0**
	SNR=7.2							
AAK	**Ala-Archa**	**84.89**	**313**	P		**P**	**12 24 32.8**	**+0.9**
	SNR=6.8							
AAK	**Ala-Archa**	**84.89**	**313**	⇓ *i* P		**P**	**12 24 31.8**	**0.0**
	7.1nm,0.8s,mb4.8							
USP	**Ospenovka**	**85.01**	**314**	P		**P**	**12 24 33.4**	**+0.9**
	SNR=5.1							
AML	**Almayashu**	**85.38**	**313**	P		**P**	**12 24 36.1**	**+1.8**
	SNR=6.0							
EKS2	**Erkin-Say**	**85.42**	**313**	P		**P**	**12 24 35.6**	**+1.1**
	SNR=6.1							
MAW	**Mawson**	**85.79**	**203**	P		**P**	**12 24 35.2**	**-0.5**
	0.8nm,0.5s,mb4.2,baz=262,slow=12,SNR=3.6							
BRVK	**Borovoye**	**89.48**	**323**	*e*P		**P**	**12 24 52.8**	**-1.0**
	4.1nm,0.8s,mb4.8							
BRVK				*e*pP		pP	12 25 13.5	+4.2

NEIC ***24*** *12:30:30.3±6.5, 12.35N×40.58E, h10km, Error ellipse: s-maj=139.0km s-min=28.3km az=199.0*
IDC 24 12:30:28.9±9.1, 12.37N×40.60E, mb3.9/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, MS3.5/2, Ms1 3.4/2, ms1mx2.9/25, Error ellipse: s-maj=192.8km s-min=39.5km az=19.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
BRTR	**Keskin Array B**	**27.93**	**348**	P		P	12 36 21.6	-1.4
	2.7nm,1.1s,baz=174,slow=11,SNR=8.3							
AKASG	**Malin Array Be**	**39.34**	**349**	P		P	12 37 59.5	-2.0
	0.3nm,0.3s,baz=171,slow=7.7,SNR=5.1							
GERES	**GERESS Array B**	**42.66**	**334**	P		P	12 38 27.0	-1.9
	0.9nm,0.8s,baz=141,slow=8.5,SNR=6.3							
DBIC	**Dimbokro**	**45.14**	**267**	LR		LR	12 58 59.0	
	comp=Z,34nm,20.1s,baz=326,slow=38							
MKAR	**Makanchi Array**	**49.01**	**37**	P		P	12 39 16.6	-2.7
	1.1nm,0.8s,baz=239,slow=7.1,SNR=6.7							
ZAL	**Zalesovo**	**54.14**	**31**	P		P	12 39 56.2	-1.7
	0.7nm,0.3s,baz=222,slow=6.5,SNR=3.7							
SONM	**Songino Array**	**64.72**	**43**	P		P	12 41 09.5	-1.7
	1.1nm,1.0s,baz=248,slow=5.8,SNR=6.1							
SONM				LR		LR	13 13 31.0	
	comp=Z,49nm,18.2s,baz=55,slow=40							

NEIC ***24*** *13:17:29.7±1.6, 37.92S×176.41E, h231km±12km, MG3.8(WEL), Error ellipse: s-maj=23.7km s-min=10.5km az=146.0*
WEL ***24*** *13:17:33.8±0.2, 37.84S×176.32E, h179km±2km, ML3.7/14, Error ellipse: s-maj=3.5km s-min=3.1km az=90.0*
ISC 24 13:17:30.6±1.2, 37.96S±0.10×176.4E±0.1, h210km±11km, n46, σ1°07/54, North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
URZ	**Urewera**	**0.62**	**119**	PN		**P**	**13 17 60.0**	**+0.3**
URZ				SN		**S**	**13 18 19.8**	**-2.4**
URZ	**Urewera**	**0.62**	**119**	P		**P**	**13 18 00.0**	**+0.3**
MWZ	**Matawai**	**0.95**	**114**	PN		**P**	**13 18 02.3**	**+1.0**
MWZ				SN		**S**	**13 18 23.4**	**-1.7**
MWZ	**Matawai**	**0.95**	**114**	P		**P**	**13 18 02.3**	**+1.0**
MWZ				S		**S**	**13 18 23.4**	**-1.7**
BKZ	**Black Stump Fm**	**1.21**	**177**	PN		**P**	**13 18 04.4**	**+1.2**
BKZ				SN		**S**	**13 18 27.8**	**-0.6**
BKZ	**Black Stump Fm**	**1.21**	**177**	P		**P**	**13 18 04.4**	**+1.2**
BKZ				S		**S**	**13 18 27.8**	**-0.6**
CNZ	**Chateau**	**1.41**	**209**	PN		**P**	**13 18 05.9**	**+1.0**
CNZ	**Chateau**	**1.41**	**209**	P		**P**	**13 18 05.9**	**+1.0**
WPVZ	**Whakapapa**	**1.42**	**209**	PN		**P**	**13 18 06.1**	**+1.1**
WPVZ	**Whakapapa**	**1.42**	**209**	P		**P**	**13 18 06.1**	**+1.1**
TUVZ	**Tukino**	**1.44**	**205**	PN		**P**	**13 18 06.4**	**+1.3**
TUVZ	**Tukino**	**1.44**	**205**	P		**P**	**13 18 06.4**	**+1.3**
KNZ	**Kokohu**	**1.44**	**138**	PN		**P**	**13 18 06.9**	**+1.8**
KNZ				SN		**S**	**13 18 31.2**	**-0.6**
KNZ	**Kokohu**	**1.44**	**138**	P		**P**	**13 18 07.0**	**+1.8**
WNVZ	**Wahianoa**	**1.51**	**205**	PN		**P**	**13 18 06.9**	**+1.2**
WNVZ	**Wahianoa**	**1.51**	**205**	P		**P**	**13 18 07.0**	**+1.3**
MOVZ	**Moawhango**	**1.54**	**200**	PN		**P**	**13 18 06.7**	**+0.8**
MOVZ	**Moawhango**	**1.54**	**200**	P		**P**	**13 18 06.7**	**+0.7**
MXZ	**Matakaoa Point**	**1.54**	**76**	PN		**P**	**13 18 06.7**	**+0.7**
MXZ				SN		**S**	**13 18 31.6**	**-1.8**
MXZ	**Matakaoa Point**	**1.54**	**76**	P		**P**	**13 18 06.7**	**+0.7**
PXZ	**Pawanui**	**2.10**	**171**	PN		**P**	**13 18 12.8**	**+1.5**
PXZ				SN		**S**	**13 18 43.2**	**+0.6**
WAZ	**Wanganui**	**2.11**	**212**	PN		**P**	**13 18 12.6**	**+1.1**
WAZ	**Wanganui**	**2.11**	**212**	*e*P		**P**	**13 18 12.6**	**+1.1**
TSZ	**Takapari Road**	**2.13**	**190**	PN		**P**	**13 18 12.7**	**+1.1**
MRZ	**Mangatainoka R**	**2.77**	**193**	PN		**P**	**13 18 19.0**	**+0.3**
KIW	**Kapiti Island**	**3.12**	**202**	PN		**P**	**13 18 22.4**	**-0.4**
KIW	**Kapiti Island**	**3.12**	**202**	P		**P**	**13 18 21.8**	**-1.0**
MTW	**Mount Morrison**	**3.27**	**192**	PN		**P**	**13 18 24.5**	**0.0**
MTW	**Mount Morrison**	**3.27**	**192**	P		**P**	**13 18 24.5**	**0.0**
CAW	**Cannon Point**	**3.31**	**198**	PN		**P**	**13 18 24.7**	**-0.3**
CAW	**Cannon Point**	**3.31**	**198**	P		**P**	**13 18 24.7**	**-0.3**
MSWZ	**Moikau Station**	**3.57**	**194**	PN		**P**	**13 18 27.6**	**-0.5**
MSWZ	**Moikau Station**	**3.57**	**194**	P		**P**	**13 18 27.6**	**-0.5**
TCW	**Tory Channel**	**3.65**	**206**	PN		**P**	**13 18 28.4**	**-0.6**
TCW	**Tory Channel**	**3.65**	**206**	P		**P**	**13 18 28.5**	**-0.5**
TUWZ	**Tuamarina**	**3.96**	**208**	PN		**P**	**13 18 31.9**	**-1.0**
NNZ	**Nelson**	**4.01**	**215**	PN		**P**	**13 18 32.0**	**-1.5**
QRZ	**Quartz Range**	**4.16**	**225**	PN		**P**	**13 18 34.2**	**-1.1**
THZ	**Tophouse**	**4.66**	**214**	*e*PN		**P**	**13 18 41.3**	**-0.4**
THZ	**Tophouse**	**4.66**	**214**	*e*P		**P**	**13 18 41.3**	**-0.4**
KHZ	**Kahutara**	**4.97**	**205**	PN		**P**	**13 18 44.9**	**-0.7**
KHZ	**Kahutara**	**4.97**	**205**	*e*P		**P**	**13 18 44.9**	**-0.6**
DSZ	**Denniston Nort**	**5.19**	**222**	PN		**P**	**13 18 47.0**	**-1.3**
DSZ	**Denniston Nort**	**5.19**	**222**	*e*P		**P**	**13 18 47.8**	**-0.5**
ODZ	**Otahua Downs**	**8.30**	**210**	PN		**P**	**13 19 27.2**	**-1.3**
ODZ	**Otahua Downs**	**8.30**	**210**	*e*P		**P**	**13 19 27.2**	**-1.3**

NIED ***24*** *13:24:00,28.00N×128.00E, h5km, Mw3.7 Best double couple: M0 3.42×10¹⁴ NP1:φs3°, δ75°, λ-147°. NP2:φs263°, δ58°, λ-18°.*
JMA 24 13:24:37.4±0.2, 27.99N×128.02E, h7km±2km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
JTK	**Tokunoshima**	**0.85**	**104**	P		Pb	13 24 53.5	-0.5
JTK				S		Sb	13 25 05.1	-0.3
JIH	**Iheya**	**0.95**	**183**	P		Pb	13 24 55.4	-0.4
JIH				S		Sb	13 25 08.2	-0.2
JOW	**Kunigami**	**1.18**	**169**	P		Pb	13 24 59.3	-0.3
JOW				S		Sb	13 25 14.3	-0.6
JAM	**Amami Oshima**	**1.46**	**73**	P		Pn	13 25 04.0	-0.3
JAM				*e*S		Sb	13 25 22.2	-1.0
JAGN	**Aguni-jima**	**1.56**	**207**	P		Pn	13 25 05.4	-0.3
JZK	**Kikaishima**	**1.75**	**79**	P		Pn	13 25 08.9	+0.4
NAH1	**Naha**	**1.80**	**189**	P		Pn	13 25 09.8	+0.6
NAH1				*e*S		Sn	13 25 33.1	+0.5
JJT2	**Tamagusuku 2**	**1.86**	**188**	P		Pn	13 25 09.7	-0.3
JKE	**Kume jima 2**	**1.99**	**214**	P		Pn	13 25 11.6	-0.3

SKHL ***24*** *13:27:49.9±2.1, 43.58N×151.14E, h41km±11km, mb5.6/3, mbh6.3/1, Ms4.7/6, msh6.0/2*
NIED ***24*** *13:28:00, 44.30N×149.30E, h20km, Mw4.7 Best double couple: M0 1.16×10¹⁶ NP1:φs55°, δ71°, λ140°. NP2:φs160°, δ52°, λ24°.*
MOS ***24*** *13:28:09.8±1.1, 44.56N×149.07E, h22km, mb4.7/17, MS4.2/10, Error ellipse: s-maj=11.3km s-min=6.8km az=114.8*
IDC ***24*** *13:28:12.3±3.3, 43.94N×149.14E, h55km±30km, mb4.0/19, mb1 4.2/21, mb1mx4.1/27, mbtmp4.3/21, ML3.6/2, MS4.1/15, Ms1 4.1/15, ms1mx3.9/31, Error ellipse: s-maj=20.2km s-min=17.2km az=173.0*
BJI ***24*** *13:28:13.7, 44.32N×148.95E, h64km, mB5.1, mb4.6, Ms4.6, Msz4.4*
NEIC ***24*** *13:28:16.2±1.8, 44.39N×148.98E, h67km±13km, mb4.6/17, Error ellipse: s-maj=17.3km s-min=8.2km az=150.0*
ISC 24 13:28:12.9±0.4, 44.30N±0.06×149.01E±0.06, h54km, h54km±4.2km; pP-P, n141, σ1°21/143, mb4.5/51, MS4.3/27, 5C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
KUR	**Kuril'sk**	**1.24**	**319**	*i* P		**P**	**13 28 32.5**	**-1.8**
KUR				*i* P			13 28 32.5	
KUR				AMB	AMB		13 28 39.0	
	5μm,2.0s							
KUR				AMB	AMB		13 28 39.0	
	6μm,2.0s							
KUR				AMB	AMB		13 28 39.0	
	7μm,2.0s							
KUR				AMB	AMB		13 28 47.0	
	230nm,0.5s							
KUR				AMB	AMB		13 28 47.0	
	240nm,0.5s							
KUR				AMB	AMB		13 28 47.0	
	920nm,0.5s							
KUR				*i* S		**S**	**13 29 06.0**	**+16**
KUR				A			13 29 10.5	
	1μm,0.7s							
KUR				A			13 29 10.5	
	1μm,0.7s							
KUR				A			13 29 18.0	
	15μm,2.0s							
KUR				A			13 29 18.0	
	24μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**2.28**	**265**	*e*P		**P**	**13 28 46.8**	**-2.2**
YUK				AMB	AMB		13 28 47.8	
	180nm,0.5s							
YUK				AMB	AMB		13 28 47.8	
	190nm,0.5s							
YUK				*i* S		**S**	**13 29 27.9**	**+12**
YUK				A			13 29 46.8	
	2μm,0.5s							
YUK				A			13 29 46.8	
	770nm,0.5s							
YUK				A			13 29 49.3	
	7μm,2.0s							
YUK				A			13 29 49.3	
	8μm,2.0s							
YUK				AMS	AMS		13 30 28.5	
	11μm,13.0s							
YUK				AMS	AMS		13 30 28.5	
	16μm,13.0s							
YUK	**Yuzh-Kuril'sk**	**2.28**	**265**	*e*PN		**P**	**13 28 46.8**	**-2.2**
YUK				pmax	pmax			
	comp=N,190nm,0.5s							
YUK				pmax	pmax			
	comp=E,180nm,0.5s							
YUK				pmax	pmax			
	comp=Z,190nm,0.5s							
YUK				MLR	MLR			
	comp=N,11μm,14.0s							
YUK				MLR	MLR			
	comp=Z,11μm,14.0s							
YUK				MLR	MLR			
	comp=E,16μm,11.0s							
ASAJ	**Asahikawa**	**4.61**	**270**	P		**P**	**13 29 21.9**	**+0.1**
	comp=E,2.5nm,0.3s,baz=88,slow=14,SNR=15							
ASAJ	**Asahikawa**	**4.61**	**270**	PN		**P**	**13 29 22.0**	**+0.1**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**5.13**	**303**	*e*P		**P**	**13 29 29.0**	**-0.1**
YSS				AMS	AMS		13 32 02.0	
	comp=Z,2μm,16.0s							
YSS				AMS	AMS		13 32 02.0	
	comp=Z,2μm,16.0s							
YSS				AMS	AMS		13 32 02.0	
	comp=Z,2μm,16.0s							
YSS	**Yuzh-Sakhalins**	**5.13**	**303**	*e*Pn		**P**	**13 29 29.9**	**+0.8**
	comp=Z,20nm,0.6s							
YSS	**Yuzh-Sakhalins**	**5.13**	**303**	*e*PN		**P**	**13 29 29.0**	**-0.1**
YSS				*e*S		**S**	**13 30 30.0**	**+2.3**
YSS				smax				
	comp=E,40nm,0.8s							
YSS				smax				
	comp=N,30nm,1.0s							
YSS				MLR	MLR			
	comp=Z,2μm,16.0s							
YSS				MLR	MLR			
	comp=N,2μm,15.0s							
YSS				MLR	MLR			
	comp=E,2μm,16.0s							
UGL	**Uglegorsk**	**6.76**	**318**	*e*rx	rx		13 30 13.0	
UGL				AMS	AMS		13 33 12.0	
	comp=E,2μm,15.0s							
UGL				AMS	AMS		13 33 12.0	
	comp=E,3μm,15.0s							
UGL				AMS	AMS		13 33 12.0	
	comp=E,3μm,15.0s							
TYV	**Tymovskoe**	**7.85**	**329**	*e*P		**P**	**13 30 06.5**	**-0.4**
TYV				AMB	AMB		13 30 16.0	
	comp=E,400nm,6.0s							
TYV				AMB	AMB		13 30 24.5	
	comp=E,18nm,1.0s							
TYV				AMS	AMS		13 33 56.0	
	comp=E,1μm,14.0s							
TYV				AMS	AMS		13 33 56.0	
	comp=E,2μm,14.0s							
TYV				AMS	AMS		13 33 56.0	
	comp=E,3μm,14.0s							
SKR	**Severo-Kuril's**	**8.00**	**34**	*e*PN		**P**	**13 30 03.0**	**-6.0**
SKR				pmax	pmax			
	comp=Z,60nm,0.5s							
SKR				pmax	pmax			
	comp=N,70nm,0.2s							
SKR				MLR	MLR			
	comp=N,5μm,14.0s							
SKR				MLR	MLR			
	comp=E,3μm,14.0s							
TEY	**Ternei**	**8.87**	**279**	AMS	AMS		13 35 15.0	
	comp=E,1μm,13.0s							
TEY				AMS	AMS		13 35 15.0	
	comp=E,1μm,13.0s							
TEY				AMS	AMS		13 35 15.0	
	comp=E,2μm,13.0s							
NKL	**Nikolayevsk**	**10.42**	**331**	*e*P		**P**	**13 30 38.0**	**-4.2**
NKL				AMB	AMB		13 30 48.0	
	comp=E,400nm,8.0s							
NKL				AMS	AMS		13 35 20.0	
	comp=E,2μm,17.0s							
NKL				AMS	AMS		13 35 20.0	
	comp=E,1μm,19.0s							
NKL				AMS	AMS		13 35 20.0	
	comp=E,800nm,14.0s							
MJAR	**Matsushiro Arr**	**11.29**	**230**	P		**P**	**13 30 47.4**	**-6.6**
	comp=E,0.4nm,0.3s,baz=332,slow=30,SNR=6.5							
MJAR	**Matsushiro Arr**	**11.29**	**230**	P		**P**	**13 30 47.4**	**-6.6**
VLA	**Vladivostok**	**12.44**	**271**	*e*PN		**P**	**13 31 00.6**	**-8.9**
VLA				pmax	pmax			
	comp=Z,29nm,1.4s							
VLA				MLR	MLR			
	comp=Z,10μm,11.7s							
KLR	**Kul'dur**	**12.81**	**299**	*e*P		**P**	**13 31 12.7**	**-1.6**
KLR				AMS	AMS		13 37 02.0	
	comp=Z,800nm,15.0s							
KLR				AMS	AMS		13 37 02.0	
	comp=Z,1μm,15.0s							
KLR				AMS	AMS		13 37 02.0	
	comp=Z,2μm,15.0s							
EKMR	**Ekimchan**	**13.74**	**315**	*e*P		**P**	**13 31 25.6**	**-0.8**
EKMR				AMB	AMB		13 31

YAK **Yakutsk** **21.06 334** *d* iP **P** **13 32 52.2 -2.0**
YAK *e**PP 13 33 01.4
YAK *e* 13 33 11.1
YAK *e*S **S** **13 36 44.1 +3.6**
YAK *e*SS SS 13 37 04.5 -12
YAK *e*SSS SSS 13 37 17.5 -14
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.2
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.1
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=N,4.0nm,1.0s
YAK smax
comp=E,4.0nm,1.0s
YAK MLR MLR
comp=Z,435nm,18.0s,MS3.9
YAK MLR MLR
comp=N,203nm,16.0s,MS4.0
YAK MLR MLR
comp=E,425nm,17.0s,MS4.0
DL2 **Dalian** **21.12 265** P **P** **13 32 53.9 -1.2**
DL2 AMB AMB
comp=Z,20nm,1.1s,mb4.4
BILL **Bilibino** **25.47 15** *e*P **P** **13 33 34.3 -2.8**
BILL *e*S **S** **13 37 58.8 +0.9**
BILL pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
BILL MLR MLR
comp=Z,800nm,15.0s,MS4.4
BOD **Bodaibo** **25.49 314** *e*P **P** **13 33 34.5 -2.8**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb3.9
SSE **Sheshan** **25.52 248** *e*P **P** **13 33 35.3 -2.6**
SSE S **S** **13 38 01.9 +2.9**
SSE SCS ScS 13 44 31.8 +1.8
SSE AMB AMB
comp=Z,21nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,120nm,3.6s
SSE LR LR
comp=N,302nm,17.9s,MS3.9
SSE LR LR
comp=E,42nm,17.9s,MS3.9
SSE LR LR
comp=Z,259nm,17.9s,MS3.8
SSE **Sheshan** **25.52 248** *e*P **P** **13 33 35.3 -2.6**
comp=Z,21nm,0.7s,mb4.8
SSE pP pP 13 33 43.6 -7.6
SSE sP sP 13 33 47.6 -10
SSE S **S** **13 38 01.9 +2.9**
SSE sS 13 38 17.1
SSE ScS ScS 13 44 31.7 +1.7
SSE LR LR
comp=Z,260nm,17.9s,MS3.8
TIA **Tai'an** **25.52 263** *e*P **P** **13 33 37.3 -0.5**
NJ2 **Nanjing** **26.52 253** *e*P **P** **13 33 48.4 +1.2**
NJ2 AP pP 13 34 05.5 +4.9
NJ2 PP PP 13 34 33.1 +1.0
NJ2 S **S** **13 38 14.0 -1.4**
NJ2 XS 13 38 44.0
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
NJ2 AMB AMB
comp=Z,390nm,5.0s
NJ2 LR LR
comp=N,2µm,23.3s
NJ2 LR LR
comp=E,2µm,14.1s
NJ2 LR LR
comp=Z,740nm,19.4s,MS4.2
HHC **Hu-ho-hao-te** **27.63 276** *e*P **P** **13 33 59.3 +2.0**
HHC AP pP 13 34 16.3 +5.5
HHC PP PP 13 34 49.6 +2.6
HHC PCP PcP 13 37 15.9 +2.1
HHC S **S** **13 38 39.3 +5.8**
HHC XS 13 39 02.9
HHC SS SS 13 39 54.1 -1.3
HHC SCP 13 40 47.6
HHC PCS 13 40 57.1
HHC SCS ScS 13 44 39.8 +0.8
HHC AMB AMB
comp=Z,26nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,266nm,4.4s
HHC LR LR
comp=N,549nm,13.1s,MS4.4
HHC LR LR
comp=E,491nm,16.6s,MS4.4
HHC LR LR
comp=Z,685nm,16.7s,MS4.3
TIXI **Tiksi** **29.11 347** *e*P **P** **13 34 05.0 -5.2**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
TIXI MLR MLR
comp=Z,220nm,15.0s,MS3.9
SONM **Songino Array** **29.50 292** P **P** **13 34 13.7 -0.2**
comp=Z,3.7nm,0.6s,mb4.3,baz=81,slow=8.0,SNR=34
SONM LR LR 13 47 29.7
comp=Z,732nm,18.1s,MS4.3,baz=90,slow=39
TATO **Taipei** **29.52 238** P **P** **13 34 16.9 +2.6**
comp=Z,857nm,2.3s
GUMO **Guam** **30.81 188** LR LR 13 47 31.5
comp=Z,220nm,18.5s,MS3.9,baz=91,slow=38
ZAK **Zakamensk** **31.18 298**⇑ *i*P **P** **13 34 28.8 +0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.8
LZH **Lanzhou** **35.09 272** P **P** **13 35 02.8 +0.1**
LZH AP pP 13 35 14.5 -2.2
LZH AMB AMB
comp=Z,70nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,310nm,4.0s
LZH LR LR
comp=N,2µm,17.1s
LZH LR LR
comp=Z,960nm,18.9s,MS4.6
LZH **Lanzhou** **35.09 272** P **P** **13 35 02.7 0.0**
comp=Z,70nm,1.1s,mb5.5
LZH pP pP 13 35 14.5 -2.2
LZH sP sP 13 35 18.1 -5.4
LZH PP PP 13 36 33.0 +10
LZH *e*S **S** **13 40 49.3 +19**
LZH sS 13 41 09.0
LZH SS SS 13 43 25.0 +36
LZH LR LR
comp=Z,960nm,18.9s,MS4.6
LZH **Lanzhou** **35.09 272** P **P** **13 35 02.7 0.0**
LZH *PP pP 13 35 14.5 -2.2
LZH SS SS 13 43 25.0 +36
LZH pmax pmax
comp=Z,70nm,1.1s,mb5.5
LZH MLR MLR
comp=Z,960nm,18.9s,MS4.6
GTA **Gaotai** **36.52 280** *e*P **P** **13 35 15.3 +0.5**
GTA XS 13 41 19.5
GTA AMB AMB
comp=Z,12nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,136nm,5.7s
GTA LR LR
comp=N,535nm,12.2s,MS4.7
GTA LR LR
comp=E,474nm,12.6s,MS4.7
GTA LR LR
comp=Z,575nm,14.1s,MS4.5
CD2 **Chengdu** **37.79 265** P **P** **13 35 24.6 -0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
ILAR **Eielson Array** **40.25 37** P **P** **13 35 44.8 -0.8**
comp=Z,0.6nm,0.4s,mb3.6,baz=263,slow=7.7,SNR=6.8
ZAL **Zalesovo** **41.76 307** P **P** **13 35 57.9 -0.1**
comp=Z,1.2nm,0.3s,mb4.0,baz=39,slow=5.6,SNR=4.7
ZAL LR LR 13 54 21.7
comp=Z,201nm,18.8s,MS4.0,baz=30,slow=37
KMI **Kunming** **41.94 259** P **P** **13 36 00.5 +0.6**
KMI AP pP 13 36 21.3 +7.2
KMI PP PP 13 37 40.3 -0.3
KMI S **S** **13 42 15.3 +1.1**
KMI XS 13 42 45.8
KMI AMB AMB
comp=Z,11nm,2.0s,mb4.1
KMI AMB AMB
comp=Z,444nm,4.9s
KMI LR LR
comp=N,467nm,15.5s,MS4.6
KMI LR LR
comp=E,446nm,17.1s,MS4.6
KMI LR LR
comp=Z,451nm,18.0s,MS4.4
KMI **Kunming** **41.94 259** P **P** **13 36 00.5 +0.6**
comp=Z,11nm,2.0s,mb4.1
KMI pP pP 13 36 21.3 +7.2
KMI sP sP 13 36 30.3 +10
KMI PP PP 13 37 40.2 -0.4
KMI S **S** **13 42 15.2 +1.0**
KMI sS 13 42 45.8
KMI SS SS 13 45 25.9 +9.1
KMI LR LR
comp=Z,450nm,18.0s,MS4.4
KMI **Kunming** **41.94 259** P **P** **13 36 00.5 +0.6**
KMI 13 37 40.2
KMI S **S** **13 42 15.2 +1.0**
KMI SS SS 13 45 25.9 +9.1
KMI pmax pmax
comp=Z,11nm,2.0s,mb4.1
KMI MLR MLR
comp=Z,450nm,18.0s,MS4.4
WMQ **Urumqi** **43.14 292**⇑ P **P** **13 36 10.5 +1.0**
WMQ PP PP 13 37 53.0 +0.6
WMQ AMB AMB
comp=Z,23nm,0.9s,mb4.9
WMQ AMB AMB
comp=Z,261nm,4.1s
WMQ LR LR
comp=N,855nm,14.0s,MS4.9
WMQ LR LR
comp=E,858nm,15.4s,MS4.9
WMQ LR LR
comp=Z,504nm,17.4s,MS4.5
INK **Inuvik** **45.25 31** P **P** **13 36 25.8 -0.4**
comp=Z,1.9nm,0.5s,mb4.2,baz=296,slow=4.3,SNR=14
INK LR LR 13 56 24.7
comp=Z,130nm,20.0s,MS3.9,baz=86,slow=37
INK **Inuvik** **45.25 31** *e*P **P** **13 36 26.1 0.0**
INK **Inuvik** **45.25 31** P **P** **13 36 25.8 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK MLR MLR
comp=Z,130nm,20.0s
MKAR **Makanchi Array** **45.52 298** P **P** **13 36 28.9 +0.3**
comp=Z,7.8nm,0.7s,mb4.7,baz=78,slow=8.3,SNR=82
MKAR LR LR 13 57 08.2
comp=Z,479nm,19.5s,MS4.4,baz=180,slow=38
MKAR **Makanchi Array** **45.52 298** *i* P **P** **13 36 28.8 +0.3**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
KURK **Kurchatov** **46.33 304** *e*P **P** **13 36 34.2 -0.7**
comp=Z,11nm,0.9s,mb4.8
KURK **Kurchatov** **46.33 304** *e*P **P** **13 36 34.2 -0.7**
KURK pmax pmax
comp=Z,11nm,0.9s,mb4.8
BVAR **Borovoye Array** **50.19 310** P **P** **13 37 04.4 -0.4**
comp=Z,0.8nm,0.5s,mb4.0,baz=59,slow=8.6,SNR=8.4
BRVK **Borovoye** **50.24 310** *e*P **P** **13 37 05.3 +0.1**
comp=Z,2.7nm,0.9s,mb4.3
BRVK **Borovoye** **50.24 310** *e*P **P** **13 37 05.3 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TKM2 **Tokmak 2** **51.48 296** P **P** **13 37 16.0 +1.2**
SNR=7.5
USP **Ospenovka** **52.02 297** P **P** **13 37 19.3 +0.5**
SNR=11
KBK **Karagaybulak** **52.02 296** P **P** **13 37 19.5 +0.7**
SNR=6.7
KZA **Kyzart** **52.11 295** P **P** **13 37 21.1 +1.6**
SNR=7.9
AAK **Ala-Archa** **52.33 296** P **P** **13 37 21.6 +0.5**
SNR=5.3
AAK **Ala-Archa** **52.33 296** *e*P **P** **13 37 20.3 -0.8**
comp=Z,6.4nm,0.9s,mb4.5
AAK **Ala-Archa** **52.33 296** *e*P **P** **13 37 20.3 -0.8**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KKN **Kakani** **52.82 274** *e*P **P** **13 37 24.9 -0.1**
DMN **Daman** **53.05 274** *e*P **P** **13 37 25.7 -1.0**
GKN **Gorkha** **53.15 275** *e*P **P** **13 37 26.7 -0.8**
comp=Z,44nm,1.1s,mb5.3
KOLN **Koldanda** **54.03 275** *e*P **P** **13 37 32.6 -1.3**
comp=Z,48nm,1.5s,mb5.2
HNR **Honiara** **54.38 167** LR LR 13 59 24.8
comp=Z,191nm,18.6s,MS4.2,baz=171,slow=35
YKA **Yellowknife Ar** **54.60 34** LR LR 14 03 25.6
comp=Z,85nm,18.1s,MS3.9,baz=285,slow=38
ARU **Arti** **54.86 317**⇑ *i* P **P** **13 37 38.2 -1.4**
ARU *e* 13 39 36.7
ARU *e*S **S** **13 45 18.0 +3.0**
ARU *e*SS SS 13 49 00.3 +1.7
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ARU MLR MLR
comp=Z,600nm,17.0s,MS4.7
ARU MLR MLR
comp=N,200nm,20.0s,MS4.7
ARU MLR MLR
comp=E,500nm,17.0s,MS4.7
NDI **New Delhi** **58.03 280** *ex* x 13 38 12.6
ARCES **ARCESS Array B** **59.20 340** P **P** **13 38 08.1 -2.0**
comp=E,3.5nm,0.9s,mb4.4,baz=31,slow=7.1,SNR=6.7
ARCES LR LR 14 10 44.5
comp=E,168nm,18.3s,MS4.2,baz=282,slow=43
YBH **Yreka Blue Hor** **61.47 58** LR LR 14 04 25.3
comp=E,76nm,19.3s,MS3.9,baz=309,slow=35
JOF **Joensuu** **62.22 333** *ep* **P** **13 38 30.2 -0.5**
comp=E,7.6nm,0.6s,mb5.0
SUMG **Summit** **63.31 3** *e*P **P** **13 38 38.3 +0.3**
comp=E,28nm,1.2s,mb5.3
KAF **Kangasniemi** **64.42 334** *ep* **P** **13 38 43.9 -1.2**
comp=E,6.1nm,0.8s,mb4.7
KAF **Kangasniemi** **64.42 334** *e*P **P** **13 38 43.9 -1.2**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
FINES **FINESS Array B** **64.99 334** P **P** **13 38 46.9 -1.9**
comp=Z,5.8nm,0.5s,mb4.9,baz=41,slow=7.6,SNR=58
FINES LR LR 14 10 19.1
comp=Z,181nm,18.3s,MS4.3,baz=28,slow=39
WRA **Warramunga Arr** **65.32 195** P **P** **13 38 46.0 -5.6**
comp=Z,2.8nm,0.8s,mb4.3,baz=14,slow=6.8,SNR=18
WRA **Warramunga Arr** **65.32 195** P **P** **13 38 46.0 -5.6**
WRA pmax pmax
comp=Z,3.0nm,0.9s
OBN **Obninsk** **65.66 324**⇑ *e*P **P** **13 38 53.2 0.0**
OBN *e* 13 39 20.8
OBN pmax pmax
comp=Z,35nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.7
NVAR **Mina Array Bea** **66.15 59** P **P** **13 38 55.5 -1.1**
comp=Z,1.1nm,0.9s,mb3.9,baz=283,slow=7.8,SNR=4.4
HWUT **Hardware Ranch** **66.15 53** *e*P **P** **13 39 09.3 +0.2**
comp=Z,4.1nm,0.9s,mb4.5
DUG **Dugway** **68.34 55** *e*P **P** **13 39 06.5 -3.8**
comp=Z,3.3nm,1.0s,mb4.3
DUG **Dugway** **68.34 55** *e*P **P** **13 39 06.5 -3.8**
DUG pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
PDAR **Pinedale Array** **68.53 51** P **P** **13 39 10.2 -1.2**
comp=Z,0.6nm,0.8s,mb3.6,baz=270,slow=3.0,SNR=4.3
NB2 **NORSAR Subarra** **69.57 340** P **P** **13 39 17.0 -0.5**
comp=Z,5.4nm,0.5s,mb4.7,baz=30,slow=6.2
NB2 **NORSAR Subarra** **69.57 340** P **P** **13 39 17.0 -0.5**
NB2 pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
NOA **NORSAR Array B** **69.57 340** P **P** **13 39 17.2 -0.3**
comp=Z,5.8nm,0.8s,mb4.6,baz=31,slow=6.2,SNR=11
NOA LR LR 14 14 11.9
comp=Z,148nm,18.6s,MS4.3,baz=190,slow=40
NOA **NORSAR Array B** **69.57 340** P **P** **13 39 17.2 -0.3**
NOA LR LR 14 14 11.9
HFS **Hagfors** **69.70 338** P **P** **13 39 17.5 -0.8**
comp=Z,4.1nm,0.6s,mb4.6,baz=36,slow=5.1,SNR=25
KIV **Kislovodsk** **70.39 313**⇑ *e*P **P** **13 39 24.2 +1.4**
KIV *e* pP 13 39 39.7 +1.7
KIV pmax pmax
comp=Z,15nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,400nm,14.0s,MS4.8
TI2 **Plekhanov** **70.78 310** *e*P **P** **13 39 24.4 -0.8**
AKASG **Malin Array Be** **71.92 325** P **P** **13 39 31.5 -0.4**
comp=Z,2.1nm,0.5s,mb4.3,baz=35,slow=5.7,SNR=17
ANMO **Albuquerque** **75.59 55** *i* P **P** **13 40 03.4 +10**
KOLS **Kolonicke sedl** **76.12 327** *e*P **P** **13 39 54.1 -2.0**
KOLS *e* 13 55 40.6
STHS **Stebnicka Huta** **76.12 328** *e*P **P** **13 39 57.7 +1.5**
STHS *e* 13 55 40.1
SCHQ **Schefferville** **76.65 20** LR LR 14 16 48.4
comp=Z,109nm,19.5s,MS4.2,baz=123,slow=38
UPC **Upice** **77.12 331** *ep*P pP 13 40 19.9 +2.8
DPC **Dobruska-Polom** **77.14 331** *e*P **P** **13 40 02.8 +0.9**
DPC *e*PCP PcP 13 40 15.0 +2.1
KECS **Kecovo** **77.17 328** *e*P **P** **13 40 01.3 -0.8**
KECS *e* pP 13 40 15.6 -1.9
MLR **Muntele Rosu** **77.34 323** P **P** **13 40 05.0 +1.8**
comp=Z,3.3nm,0.6s,mb4.4,baz=219,slow=9.8,SNR=4.3
CLL **Collm** **77.44 333** P **P** **13 40 03.4 -0.1**
comp=Z,logA/T=0.9,mb4.6
CLL *i* pP 13 40 18.3 -0.6
CLL **Collm** **77.44 333** *i* P **P** **13 40 03.4 -0.1**
comp=Z,8.0nm,1.1s,mb4.6
CLL *i* pP 13 40 18.3 -0.6
CLL **Collm** **77.44 333** *i* P **P** **13 40 03.4 -0.1**
CLL *i* pP 13 40 18.3 -0.6
CLL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
VYHS **Vyhne** **77.79 329** *e*P **P** **13 40 05.8 +0.3**
VYHS *e* pP 13 40 20.6 -0.3
VRAC **Vranov** **77.93 330** P **P** **13 40 06.9 +0.7**
comp=Z,2.0nm,0.5s,mb4.3,baz=58,slow=9.7,SNR=5.5
VRAC **Vranov** **77.93 330** *e*P **P** **13 40 07.4 +1.2**
VRAC **Vranov** **77.93 330** P **P** **13 40 06.9 +0.7**
VRAC pmax pmax
comp=Z,2.0nm,0.5s
PRU **Pruhonice** **78.06 332** *e*P **P** **13 40 08.3 +1.3**
PRU *ex* x 13 40 19.8
BRTR **Keskin Array B** **78.13 315** P **P** **13 40 07.5 -0.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=3.7,SNR=5.8
TREC **Trest** **78.33 331** *e*P **P** **13 40 09.0 +0.6**
TREC *ep*P pP 13 40 24.5 +0.7
KHC **Kasperske Hory** **79.12 332** *e*P **P** **13 40 13.3 +0.5**
KHC *ex* x 13 40 25.5
GERES **GERESS Array B** **79.32 332** P **P** **13 40 13.5 -0.4**
comp=Z,0.8nm,0.5s,mb3.9,baz=37,slow=5.8,SNR=7.3
GRA1 **Grafenberg Arr** **79.41 334** *e*P **P** **13 40 15.6 +1.2**
comp=Z,11nm,1.3s,mb4.6
GRF **Grafenberg Arr** **79.41 334** *e*P **P** **13 40 15.6 +1.2**
GRF pmax pmax
comp=Z,11nm,1.3s,mb4.6
TXAR **Lajitas Array** **81.23 58** P **P** **13 40 23.8 -0.7**
comp=Z,0.5nm,0.3s,mb4.0,baz=304,slow=4.5,SNR=4.0
TXAR **Lajitas Array** **81.23 58** P **P** **13 40 23.8 -0.7**
TXAR pmax pmax
comp=Z,1.0nm,0.3s
CDF **Champ du Feu** **81.76 335** *e*P **P** **13 40 27.2 +0.4**
ASF **Jabal al Asfar** **81.98 307** LR LR 14 23 41.4
comp=Z,161nm,18.3s,MS4.4,baz=82,slow=40
DAVOX **Davos** **82.39 333** P **P** **13 40 30.8 +0.7**
comp=Z,2.1nm,0.5s,mb4.3,baz=168,slow=23,SNR=4.1
PPT **Papeete** **83.17 122** LR LR 14 14 32.8
comp=Z,223nm,18.8s,MS4.6,baz=311,slow=34
GRR **Gorron** **83.98 340** *e*P **P** **13 40 39.7 +1.6**
SMF **Signal de Mont** **84.36 337** *e*P **P** **13 40 41.0 +1.0**
AVF **Avril sur Loir** **84.36 337** *e*P **P** **13 40 39.8 +0.2**
LPL **La Plagne** **84.52 334** *e*P **P** **13 40 42.5 +1.7**
LPG **La Plagne** **84.53 334** *e*P **P** **13 40 42.7 +1.8**
comp=Z,16nm,1.1s,mb4.8
TCF **Toulx Ste Croi** **85.14 338** *e*P **P** **13 40 45.7 +1.8**
MBDF **Montbardon** **85.21 334** *e*P **P** **13 40 45.9 +1.6**
ORIF **Oris-en-Rattie** **85.32 335** *e*P **P** **13 40 47.7 +2.9**
SBF **Sospel** **85.78 333** *e*P **P** **13 40 48.3 +1.2**
LMR **La Mourre** **86.55 334** *e*P **P** **13 40 51.4 +0.5**
comp=Z,39nm,1.4s,mb5.1

*CSEM **24** 13:32:36.5±0.1,38.22N×26.64W,h1km,ML3.7,Error ellipse: s-maj=9.5km s-min=1.4km az=34.0,After PDA*
*PDA **24** 13:32:36.5±1.6,38.22N×26.64W,h1km±3km,MD3.3, ML3.7,Error ellipse: s-maj=8.0km s-min=2.6km az=39.0*
SVSA 24 13:32:36.5±1.6,38.22N×26.64W,h1km±3km,MD3.3, ML3.7,Error ellipse: s-maj=8.0km s-min=2.6km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFAV	**Pico das Favas**	**0.60**	**325**	*e*P	Pg	13 32 48.0	-0.5
PFAV				*e*S	Sg	13 32 56.3	-0.3
PSCM	**Serra do Cume**	**0.61**	**322**	*e*P	Pg	13 32 47.0	-1.7
PSCM				*e*S	Sg	13 32 55.1	-1.7
	3µm,0.1s						
RIB2	**Ribeirinha**	**0.62**	**317**	*e*P	Pg	13 32 48.0	-0.8
RIB2				*e*S	Sg	13 32 56.5	-0.5
ADH	**Angra Heroismo**	**0.64**	**313**	*i* P	Pg	13 32 47.7	-1.6
ADH				*i* S	Sg	13 32 56.1	-1.7
PVNV	**Vila Nova**	**0.68**	**323**	*e*P	Pg	13 32 48.9	-1.1
PVNV				*e*S	Sg	13 32 57.9	-1.1
PPAD	**Pico dos Padre**	**0.70**	**314**	*e*P	Pg	13 32 49.3	-1.2
PPAD				*e*S	Sg	13 32 58.5	-1.3
PBIS	**Biscoitos**	**0.72**	**319**	*e*P	Pg	13 32 49.7	-1.3
PBIS				*e*S	Sg	13 32 59.0	-1.6
ASBA	**Santa Barbara**	**0.73**	**313**	*e*P	Pg	13 32 49.9	-1.3
ASBA				*e*S	Sg	13 32 59.2	-1.8
SET4	**Mosteiros**	**0.75**	**117**	*e*P	Pg	13 32 50.6	-0.8
SET2	**Ginetes**	**0.76**	**119**	*e*P	Pg	13 32 50.8	-0.8
PSBA	**Serra de Santa**	**0.77**	**316**	*e*P	Pg	13 32 49.3	-2.5
PFET	**Feteiras**	**0.78**	**121**	*e*P	Pg	13 32 51.1	-1.0
PSAN	**Santo Antonio**	**0.81**	**117**	*e*P	Pg	13 32 51.4	-1.3
FAC	**Faja de Cima**	**0.90**	**119**	*e*P	Pg	13 32 53.1	-1.4
FAC				*e*S	Sg	13 33 04.4	-2.1
PDA	**Ponta Delgada**	**0.90**	**121**	*i* P	Pg	13 32 51.6	-3.0
PDA				*e*S	Sg	13 32 59.2	-4.1
CML	**Cha da Macela**	**0.97**	**117**	*e*P	Pb	13 32 53.8	-2.0
CML				*e*S	Sg	13 33 06.3	-2.6
PMAT	**Coroa da Mata**	**1.01**	**113**	*e*P	Pb	13 32 55.1	-1.3
PMAT				*e*S	Sb	13 33 07.1	-2.8
LFA	**Lagoa do Fogo**	**1.02**	**116**	*e*P	Pb	13 32 54.5	-2.1
MESC	**Monte Escuro**	**1.03**	**114**	*e*P	Pb	13 32 54.7	-2.2
MESC				*i* S	Sb	13 33 07.6	-3.2
PRCH	**Ribeira Ch**	**1.04**	**118**	*e*P	Pb	13 32 55.0	-1.9
PRCH				*e*S	Sb	13 33 07.9	-3.0
VIF	**Vila Franca**	**1.06**	**116**	*e*P	Pb	13 32 55.2	-2.1
VIF				*e*S	Sb	13 33 08.9	-2.6
PCNG	**Congro**	**1.08**	**114**	*e*P	Pb	13 32 55.3	-2.4
PCNG				*e*S	Sb	13 33 10.0	-2.1
PFAD	**Fenais da Ajud**	**1.11**	**110**	*e*P	Pb	13 32 55.2	-2.9
PFAD				*e*S	Sb	13 33 08.0	-4.8
FRA1	**Furnas**	**1.12**	**115**	*e*P	Pb	13 32 55.2	-3.1
MIRA	**Miradouro**	**1.16**	**112**	*e*P	Pb	13 32 55.5	-3.4
PMAN	**Manadas**	**1.21**	**290**	*e*P	Pb	13 32 55.5	-4.4
PMAN				*e*S	Sb	13 33 09.7	-6.2
	284nm,0.3s						
PAMA	**Santo Amaro**	**1.29**	**291**	*e*P	Pb	13 32 57.6	-3.7
PAMA				*e*S	Sb	13 33 13.8	-4.5
ROSA	**Rosais**	**1.35**	**292**	*e*P	Pb	13 32 57.6	-4.7
ROSA				*e*S	Sb	13 33 13.8	-6.2
STGR	**Santa Cruz**	**1.37**	**309**	*e*P	Pb	13 32 59.1	-3.5
PBOI	**Pico dos Bois**	**1.38**	**280**	*e*P	Pb	13 32 58.7	-4.1
PBOI				*e*S	Sb	13 33 15.0	-5.8
PICO	**Pico**	**1.43**	**282**	*e*P	Pn	13 32 59.1	-4.5
PICO				*e*S	Sb	13 33 15.8	-6.5
PCND	**Candelaria**	**1.46**	**280**	*e*P	Pn	13 33 00.9	-3.1
PCND				*e*S	Sb	13 33 17.5	-5.4
HOR	**Horta**	**1.59**	**282**	*e*P	Pn	13 33 00.9	-5.0
HOR				*e*S	Sb	13 33 19.3	-7.7
CALA	**Caldeira**	**1.66**	**283**	*e*P	Pn	13 33 02.0	-4.9
CALA				*e*S	Sb	13 33 20.8	-8.1
PTCA	**Ponta do Capel**	**1.73**	**283**	*e*P	Pn	13 33 03.9	-4.0
PTCA				*e*S	Sn	13 33 23.9	-7.1

*CSEM **24** 13:36:40.2±0.3,38.52N×26.76W,h75km,ML2.6,Error ellipse: s-maj=15.4km s-min=6.0km az=35.0,After PDA*
*PDA **24** 13:36:40.2±1.7,38.52N×26.76W,h75km±68km,ML2.6, Error ellipse: s-maj=173.4km s-min=32.0km az=165.0*
SVSA 24 13:36:40.2±1.7,38.52N×26.76W,h75km±68km,ML2.6, Error ellipse: s-maj=173.4km s-min=32.0km az=165.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.32**	**307**	*e*P	P	13 36 52.8	+0.6
PFAV				*e*S	S	13 37 00.4	-0.7
PSCM	**Serra do Cume**	**0.34**	**303**	*e*P	P	13 36 51.3	-1.0
PSCM				*e*S	S	13 36 59.3	-2.0
	147nm,0.2s						
RIB2	**Ribeirinha**	**0.36**	**296**	*e*P	P	13 36 52.4	0.0
RIB2				*e*S	S	13 37 00.6	-1.0
PVNV	**Vila Nova**	**0.40**	**308**	*e*P	P	13 36 53.3	+0.6
PVNV				*e*S	S	13 37 02.0	-0.1
ADH	**Angra Heroismo**	**0.40**	**291**	*e*S	S	13 37 00.2	-1.9
PPAD	**Pico dos Padre**	**0.46**	**294**	*e*P	P	13 36 53.8	+0.6
PPAD				*e*S	S	13 37 03.2	+0.3
PBIS	**Biscoitos**	**0.46**	**302**	*e*S	S	13 37 04.9	+2.0
ASBA	**Santa Barbara**	**0.49**	**295**	*e*S	S	13 37 04.6	+1.2
SET2	**Ginetes**	**1.00**	**132**	*e*P	P	13 36 55.4	-3.9
ROSA	**Rosais**	**1.18**	**280**	*e*P	P	13 37 02.3	+0.8
ROSA				*e*S	S	13 37 18.4	+0.9
PICO	**Pico**	**1.31**	**270**	*e*P	P	13 37 04.3	+0.9
PICO				*e*S	S	13 37 20.1	-0.4
HOR	**Horta**	**1.47**	**271**	*e*rx		13 37 25.4	
CALA	**Caldeira**	**1.53**	**273**	*e*rx		13 37 24.9	

*IDC **24** 13:39:49.2±4.2, 12.39N×40.40E, mb3.7/7, mb1 3.9/9, mb1mx3.8/19, mbtmp3.8/9, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx3.2/17, Error ellipse: s-maj=92.5km s-min=15.1km az=33.0*

*NEIC **24** 13:39:51.0±2.3, 12.39N×40.57E, h10km, Error ellipse: s-maj=54.5km s-min=12.5km az=221.0*

ISC 24 13:39:50.1±2.7, 12.6N±0.3×40.5E±0.3, h10km, n14, σ0§96/14, mb3.7/7, MS3.5/2, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.52**	**113**	Pn	**Pn**	**13 40 30.7**	**-1.3**
	24nm,0.3s,baz=286,slow=11,SNR=40						
ATD				Sn	**Sn**	**13 41 04.5**	**+1.5**
	13nm,0.3s,baz=314,slow=23,SNR=11						
ATD				Lg		13 41 12.9	
	20nm,0.3s,baz=232,slow=22,SNR=6.6						
ATD	**Arta Tunnel**	**2.52**	**113**	Pn	**Pn**	**13 40 30.7**	**-1.3**
ATD				Sn	**Sn**	**13 41 04.5**	**+1.5**
ATD				Lg		13 41 12.9	
KMBO	**Kilima Mbogo**	**13.96**	**194**	LR	LR	13 48 22.6	
	comp=Z,104nm,21.9s,baz=96,slow=37						
ASF	**Jabal al Asfar**	**19.80**	**351**	P	**P**	**13 44 24.4**	**+0.7**
	0.2nm,0.3s,baz=344,slow=6.1,SNR=3.0						
BRTR	**Keskin Array B**	**27.73**	**349**	P	**P**	**13 45 42.5**	**+1.6**
	1.7nm,0.9s,mb3.7,baz=180,slow=12,SNR=7.6						
AKASG	**Malin Array Be**	**39.14**	**349**	P	**P**	**13 47 19.2**	**-0.4**
	0.2nm,0.3s,mb3.4,baz=170,slow=7.4,SNR=5.1						
AKASG	**Malin Array Be**	**39.14**	**349**	P	**P**	**13 47 19.2**	**-0.4**
GERES	**GERESS Array B**	**42.44**	**334**	P	**P**	**13 47 47.4**	**+0.6**
	1.0nm,0.9s,mb3.4,baz=158,slow=7.2,SNR=5.0						
DBIC	**Dimbokro**	**45.04**	**267**	LR	LR	14 09 54.6	
	comp=Z,35nm,18.6s,MS3.3,baz=98,slow=40						
BVAR	**Borovoye Array**	**46.89**	**24**	P	**P**	**13 48 22.0**	**-0.5**
	0.4nm,0.6s,mb3.5,baz=233,slow=7.4,SNR=4.1						
MKAR	**Makanchi Array**	**48.93**	**37**	P	**P**	**13 48 37.5**	**-0.9**
	0.9nm,0.6s,mb4.0,baz=231,slow=7.8,SNR=7.6						
ZAL	**Zalesovo**	**54.04**	**31**	P	**P**	**13 49 16.6**	**-0.3**
	1.0nm,0.4s,mb4.1,baz=216,slow=7.1,SNR=4.7						
SONM	**Songino Array**	**64.65**	**43**	P	**P**	**13 50 29.4**	**-0.9**
	1.0nm,0.9s,mb3.8,baz=268,slow=7.4,SNR=5.4						
SONM				LR	LR	14 19 20.8	
	comp=Z,47nm,18.6s,MS3.7,baz=163,slow=37						
SONM	**Songino Array**	**64.65**	**43**	P	**P**	**13 50 29.4**	**-0.9**
SONM				LR	LR	14 19 20.8	

*NIED **24** 13:43:00, 44.70N×149.90E, h17km, Mw4.1 Best double couple: M0 1.55×10^15 NP1:φs24°, δ60°, λ80°. NP2:φs223°, δ31°, λ107°.*

*MOS **24** 13:43:55.2±1.0, 44.48N×149.59E, h60km, mb4.3/13, Error ellipse: s-maj=18.6km s-min=14.2km az=131.3*

*IDC **24** 13:43:57.6±4.1, 44.47N×149.62E, h66km±36km, mb3.7/14, mb1 3.9/15, mb1mx3.8/23, mbtmp4.0/15, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/32, Error ellipse: s-maj=23.5km s-min=19.1km az=164.0*

ISC 24 13:43:54.5±2.0, 44.5N±0.1×149.7E±0.1, h49km±17km, n43, σ0§88/45, mb4.1/19, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.76**	**262**	PN	**P**	**13 44 38.0**	**+0.6**
YUK				S	**S**	**13 45 14.5**	**+4.7**
YUK				*s*max			
	comp=N,510nm,0.5s						
YUK				*s*max			
	comp=E,380nm,0.5s						
YUK				*s*max			
	comp=N,3μm,2.0s						
YUK				*s*max			
	comp=E,2μm,1.0s						
ASAJ	**Asahikawa**	**5.08**	**268**	P	**P**	**13 45 10.7**	**+0.5**
	comp=E,1.5nm,0.3s,baz=80,slow=14,SNR=16						
ASAJ				LR	LR	13 47 17.7	
	comp=E,548nm,18.2s,baz=150,slow=40						
ASAJ	**Asahikawa**	**5.08**	**268**	PN	**P**	**13 45 10.7**	**+0.6**
ASAJ				*p*max	*p*max		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,548nm,18.2s						
YSS	**Yuzh-Sakhalins**	**5.44**	**300**	*e*PN	**P**	**13 45 14.5**	**-0.5**
YSS				*e*S	**S**	**13 46 17.0**	**-0.1**
YSS				*s*max			
	comp=E,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
SONM	**Songino Array**	**29.87**	**292**	P	**P**	**13 49 58.4**	**-0.9**
	comp=Z,0.8nm,0.8s,mb3.5,baz=80,slow=8.4,SNR=6.4						
SONM	**Songino Array**	**29.87**	**292**	P	**P**	**13 49 58.4**	**-0.9**
SONM				*p*max	*p*max		
	comp=Z,1.0nm,0.8s						
ZAK	**Zakamensk**	**31.51**	**298**	*e*P	**P**	**13 50 09.3**	**-4.4**
ZAK				*e*		13 51 28.5	
ZAK				*p*max	*p*max		
	comp=Z,1.0nm,1.0s,mb3.6						
ZAK				*p*max	*p*max		
	comp=Z,1.0nm,1.3s,mb3.5						
ILAR	**Eielson Array**	**39.84**	**37**	P	**P**	**13 51 23.2**	**-1.0**
	comp=Z,1.6nm,1.1s,mb3.6,baz=302,slow=7.6,SNR=6.1						
ILAR	**Eielson Array**	**39.84**	**37**	P	**P**	**13 51 23.3**	**-1.0**
ILAR				*p*max	*p*max		
	comp=Z,2.0nm,1.1s						
INK	**Inuvik**	**44.87**	**31**	P	**P**	**13 52 05.7**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.0,baz=303,slow=11,SNR=4.9						
INK	**Inuvik**	**44.87**	**31**	P	**P**	**13 52 05.7**	**+0.5**
INK				*p*max	*p*max		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**45.85**	**298**	P	**P**	**13 52 13.0**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=73,slow=8.1,SNR=27						
MKAR	**Makanchi Array**	**45.85**	**298**	P	**P**	**13 52 13.0**	**-0.3**
MKAR				*p*max	*p*max		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**50.44**	**310**	P	**P**	**13 52 49.2**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=68,slow=8.0,SNR=5.1						
BVAR	**Borovoye Array**	**50.44**	**310**	P	**P**	**13 52 49.2**	**+0.3**
BVAR				*p*max	*p*max		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.04**	**334**	P	**P**	**13 54 29.4**	**-1.9**
	comp=Z,1.1nm,0.6s,mb4.1,slow=3.8,SNR=5.2						
FINES	**FINESS Array B**	**65.04**	**334**	P	**P**	**13 54 29.4**	**-1.9**
FINES				*p*max	*p*max		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**65.61**	**196**	P	**P**	**13 54 34.2**	**-1.4**
	comp=Z,2.1nm,1.0s,mb4.1,baz=14,slow=7.0,SNR=9.7						
WRA	**Warramunga Arr**	**65.61**	**196**	P	**P**	**13 54 34.2**	**-1.4**
WRA				*p*max	*p*max		
	comp=Z,2.0nm,1.0s						
PDAR	**Pinedale Array**	**68.06**	**51**	P	**P**	**13 54 50.7**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.5,baz=350,slow=18,SNR=2.8						
NB2	**NORSAR Subarra**	**69.57**	**340**	P	**P**	**13 54 58.6**	**-1.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**69.57**	**340**	P	**P**	**13 54 58.8**	**-0.9**
	comp=Z,2.1nm,0.8s,mb4.1,baz=31,slow=6.2,SNR=5.6						
NOA	**NORSAR Array B**	**69.57**	**340**	P	**P**	**13 54 58.8**	**-0.9**
NOA				*p*max	*p*max		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**69.71**	**338**	P	**P**	**13 54 59.2**	**-1.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=50,slow=12,SNR=4.2						
HFS	**Hagfors**	**69.71**	**338**	P	**P**	**13 54 59.2**	**-1.3**
HFS				*p*max	*p*max		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**72.05**	**325**	P	**P**	**13 55 13.8**	**-0.9**
	comp=Z,4.1nm,0.7s,mb4.5,baz=36,slow=6.1,SNR=15						
AKASG	**Malin Array Be**	**72.05**	**325**	P	**P**	**13 55 13.9**	**-0.9**
AKASG				*p*max	*p*max		
	comp=Z,4.0nm,0.7s						
CLL	**Collm**	**77.49**	**334**	⇓P	**P**	**13 55 46.4**	**+0.4**
	comp=Z,logA/T=1.1,mb4.8						
CLL	**Collm**	**77.49**	**334**	⇓*i*P	**P**	**13 55 46.4**	**+0.4**
CLL				*p*max	*p*max		
	comp=Z,19nm,1.5s,mb4.8						
BRTR	**Keskin Array B**	**78.34**	**315**	P	**P**	**13 55 51.5**	**+0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=63,slow=2.8,SNR=4.5						
BRTR	**Keskin Array B**	**78.34**	**315**	P	**P**	**13 55 51.5**	**+0.6**
BRTR				*p*max	*p*max		
	comp=Z,1.0nm,0.4s						
KHC	**Kasperske Hory**	**79.19**	**332**	*e*P	**P**	**13 55 56.0**	**+0.7**
KHC				*e*	x	13 56 08.5	
KHC	**Kasperske Hory**	**79.19**	**332**	*e*P	**P**	**13 55 56.0**	**+0.7**
KHC				*e*	pP	13 56 08.5	-1.0
GERES	**GERESS Array B**	**79.39**	**332**	P	**P**	**13 55 56.2**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=37,slow=6.7,SNR=5.1						
TXAR	**Lajitas Array**	**80.74**	**58**	P	**P**	**13 56 04.7**	**+0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=301,slow=3.2,SNR=5.8						
TXAR	**Lajitas Array**	**80.74**	**58**	P	**P**	**13 56 04.7**	**+0.6**
TXAR				*p*max	*p*max		
	comp=Z,1.0nm,0.4s						
CDF	**Champ du Feu**	**81.79**	**336**	*e*P	**P**	**13 56 08.8**	**-0.4**
SMF	**Signal de Mont**	**84.38**	**337**	*e*P	**P**	**13 56 23.3**	**+1.0**
	comp=Z,5.9nm,0.8s,mb4.5						
LPL	**La Plagne**	**84.56**	**335**	*e*P	**P**	**13 56 24.7**	**+1.5**
	comp=Z,7.6nm,0.9s,mb4.5						
LPG	**La Plagne**	**84.57**	**335**	*e*P	**P**	**13 56 24.3**	**+1.0**
MBDF	**Montbardon**	**85.26**	**334**	*e*P	**P**	**13 56 27.0**	**+0.3**
ORIF	**Oris-en-Rattie**	**85.36**	**335**	*e*P	**P**	**13 56 29.0**	**+1.8**
LMR	**La Mourre**	**86.60**	**334**	*e*P	**P**	**13 56 33.1**	**-0.2**
	comp=Z,21nm,1.0s,mb5.0						

*MOS **24** 13:49:52.6±1.1, 47.41N×153.25E, h78km, mb4.2/1, Error ellipse: s-maj=26.4km s-min=14.0km az=58.6*

*IDC **24** 13:49:57.4±4.2, 47.31N×152.90E, h107km±38km, mb3.7/8, mb1 3.9/10, mb1mx3.6/23, mbtmp4.0/10, Error ellipse: s-maj=28.1km s-min=21.7km az=104.0*

*NEIC **24** 13:49:58.5±2.7, 47.36N×152.89E, h117km±24km, mb4.6/2, Error ellipse: s-maj=26.1km s-min=16.5km az=106.0*

ISC 24 13:49:50.3±1.3, 47.3N±0.1×152.9E±0.2, h60km±12km, n28, σ1§41/36, mb4.0/8, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.01**	**30**	*e*PN	**P**	**13 50 49.0**	**-1.8**
SKR				*e*S	**S**	**13 51 31.0**	**-6.0**
SKR				*p*max	*p*max		
	comp=N,40nm,0.3s						
SKR				*p*max	*p*max		
	comp=Z,90nm,0.3s						
SKR				*s*max			
	comp=N,140nm,0.5s						
SKR				*s*max			
	comp=E,150nm,0.5s						
SKR				*s*max			
	comp=Z,80nm,0.5s						
NEM2	**Nemuro 2**	**6.39**	**235**	P	**P**	**13 51 24.4**	**+0.4**
NEM2				*e*S	**S**	**13 52 35.0**	**-1.4**
JRA	**Rausu**	**6.41**	**242**	P	**P**	**13 51 27.7**	**+3.5**
JNK	**Nakash**	**6.85**	**240**	P	**P**	**13 51 33.0**	**+2.6**
YSS	**Yuzh-Sakhalins**	**6.95**	**271**	*e*Pn	**P**	**13 51 37.1**	**+5.3**
	comp=Z,58nm,1.2s						
YSS	**Yuzh-Sakhalins**	**6.95**	**271⇑**	*e*PN	**P**	**13 51 37.3**	**+5.5**
YSS				*e*S	**S**	**13 52 56.5**	**+6.3**
YSS				*p*max	*p*max		
	comp=Z,20nm,0.7s						
YSS				*s*max			
	comp=E,30nm,0.9s						
JAK	**Akkeshi**	**7.22**	**237**	P	**P**	**13 51 35.5**	**0.0**
JAK				*e*S	**S**	**13 52 54.5**	**-2.3**
JOB	**Onbets**	**7.77**	**239**	P	**P**	**13 51 42.3**	**-0.8**
JOB				*e*S	**S**	**13 53 08.4**	**-2.1**
ASAJ	**Asahikawa**	**7.89**	**250**	P	**P**	**13 51 49.8**	**+5.1**
	comp=E,1.1nm,0.3s,baz=68,slow=12,SNR=8.7						
ASAJ	**Asahikawa**	**7.89**	**250**	PN	**P**	**13 51 49.8**	**+5.1**
ASAJ				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.91**	**248**	P	**P**	**13 51 49.3**	**+4.3**
JCH	**Churui**	**8.22**	**239**	P	**P**	**13 51 50.2**	**+0.9**
JCH				*e*S	**S**	**13 53 20.2**	**-1.5**
JEM	**Erimo**	**8.72**	**237**	P	**P**	**13 51 56.5**	**+0.4**
JBT2	**Biratori 2**	**8.72**	**243**	P	**P**	**13 51 57.5**	**+1.3**
JNBK	**Urakawa-nobuka**	**8.79**	**239**	P	**P**	**13 51 57.0**	**0.0**
JNBK				*e*S	**S**	**13 53 33.2**	**-2.4**
JANG	**Nango**	**10.74**	**234**	P	**P**	**13 52 21.1**	**-2.5**
JANG				*e*S	**S**	**13 54 13.3**	**-10**
MAJO	**Matsushiro**	**15.30**	**231**	P	**P**	**13 53 28.8**	**+5.1**
	comp=Z,24nm,1.4s						
MAJO	**Matsushiro**	**15.30**	**231**	P	**P**	**13 53 28.8**	**+5.0**
MAJO				*p*max	*p*max		
	comp=Z,24nm,1.4s						
MJAR	**Matsushiro Arr**	**15.30**	**231**	P	**P**	**13 53 29.2**	**+5.5**
	comp=Z,0.6nm,0.3s,baz=35,slow=9.3,SNR=14						
INK	**Inuvik**	**41.28**	**33**	P	**P**	**13 57 30.3**	**-0.4**
	comp=Z,2.6nm,0.8s,mb3.9,baz=104,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**46.60**	**297**	P	**P**	**13 58 12.0**	**-1.7**
	comp=Z,0.8nm,1.0s,mb3.6,baz=61,slow=7.6,SNR=3.3						
MKAR				PcP	PcP	13 59 47.3	0.0
	comp=Z,0.7nm,0.6s,baz=72,slow=1.9,SNR=6.2						
FINES	**FINESS Array B**	**63.52**	**335**	P	**P**	**14 00 15.7**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=27,slow=7.9,SNR=11						
NOA	**NORSAR Array B**	**67.70**	**341**	P	**P**	**14 00 42.8**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=25,slow=6.4,SNR=3.7						
HFS	**Hagfors**	**67.93**	**339**	P	**P**	**14 00 44.1**	**+0.1**
	comp=Z,2.0nm,0.4s,mb4.5,baz=34,slow=5.3,SNR=13						
WRA	**Warramunga Arr**	**68.96**	**199**	P	**P**	**14 00 50.8**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=348,slow=8.0,SNR=8.9						
CLL	**Collm**	**75.95**	**335**	P	**P**	**14 01 32.0**	**+0.3**
TXAR	**Lajitas Array**	**77.35**	**61**	P	**P**	**14 01 40.6**	**+0.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=304,slow=5.3,SNR=5.4						
GERES	**GERESS Array B**	**77.94**	**334**	P	**P**	**14 01 43.9**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=45,slow=4.2,SNR=5.0						

*NIED **24** 13:52:00, 26.20N×129.60E, h5km, Mw3.8 Best double couple: M0 4.87×10^14 NP1:φs7°, δ61°, λ-113°. NP2:φs227°, δ37°, λ-56°.*

JMA 24 13:52:29.3±0.1, 26.17N×129.60E, h45km, M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.36**	**299**	P	P	13 52 52.5	+0.2
JOW				S	S	13 53 07.7	-1.7
JMZ	**Minamidaito 2**	**1.50**	**103**	P	P	13 52 54.4	+0.1
JMZ				S	S	13 53 11.4	-1.4
JJT2	**Tamagusuku 2**	**1.66**	**269**	P	P	13 52 57.0	+0.4
JJT2				S	S	13 53 16.5	-0.4
JIH	**Iheya**	**1.70**	**301**	P	P	13 52 57.4	+0.4
JIH				S	S	13 53 16.8	-0.9
JTK	**Tokunoshima**	**1.71**	**340**	P	P	13 52 57.8	+0.6
JTK				S	S	13 53 17.1	-0.9
NAH1	**Naha**	**1.72**	**272**	P	P	13 52 57.4	+0.1
NAH1				S	S	13 53 17.4	-0.7
JAGN	**Aguni-jima**	**2.16**	**282**	P	P	13 53 03.8	+0.3
JAGN				S	S	13 53 28.3	-0.9
JZK	**Kikaishima**	**2.16**	**9**	P	P	13 53 04.4	+0.8
JZK				S	S	13 53 30.1	+0.8
JAM	**Amami Oshima**	**2.23**	**0**	P	P	13 53 04.9	+0.3
JAM				S	S	13 53 29.5	-1.6
JKE	**Kume jima 2**	**2.53**	**274**	P	P	13 53 08.3	-0.6
JKE				S	S	13 53 35.9	-2.8

IDC 24 14:10:55.2±1.3, 13.27N×50.58E, mb3.8/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, ML4.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/33, Error ellipse: s-maj=40.0km s-min=26.1km az=161.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.74**	**258**	Pn	Pn	14 12 49.9	-2.0
	3.9nm,0.3s,baz=213,slow=22,SNR=3.2						
KMBO	**Kilima Mbogo**	**19.47**	**224**	LR	LR	14 22 15.0	
	comp=Z,22nm,20.1s,baz=97,slow=35						
AKASG	**Malin Array Be**	**41.18**	**339**	P	P	14 18 40.5	-2.5
	0.3nm,0.3s,baz=159,slow=7.5,SNR=4.9						
MKAR	**Makanchi Array**	**42.72**	**32**	P	P	14 18 54.1	-1.5
	0.5nm,0.5s,baz=225,slow=8.3,SNR=6.7						
DBIC	**Dimbokro**	**54.90**	**269**	P	P	14 20 28.4	-2.0
	1.3nm,0.7s,baz=106,slow=5.8,SNR=3.3						
SONM	**Songino Array**	**57.52**	**41**	P	P	14 20 47.1	-1.6
	0.6nm,0.8s,baz=246,slow=6.7,SNR=5.2						
WRA	**Warramunga Arr**	**88.73**	**111**	P	P	14 23 50.9	-1.7
	1.3nm,0.7s,baz=299,slow=3.9,SNR=14						

*CSEM **24** 14:35:03.6±1.8, 37.80N×25.40W, h5km, ML2.5, Error ellipse: s-maj=55.4km s-min=8.8km az=154.0, After PDA*
*PDA **24** 14:35:03.6±0.9, 37.80N×25.40W, h5km±2km, MD2.5, ML2.5, Error ellipse: s-maj=2.9km s-min=2.0km az=22.0*

SVSA 24 14:35:03.6±0.9, 37.80N×25.40W, h5km±2km, MD2.5, ML2.5, Error ellipse: s-maj=2.9km s-min=2.0km az=22.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congo**	**0.03**	**175**	*i* P	Pg	14 35 05.3	+0.6
PCNG				*e*S	Sg	14 35 06.8	+1.4
	4μm,0.3s						
PCNG	**Congo**	**0.03**	**175**	*e*S	Sg	14 35 06.8	+1.4
MESC	**Monte Escuro**	**0.04**	**258**	*i* P	Pg	14 35 05.3	+0.6
MESC				*e*S	Sg	14 35 06.5	+1.0
MESC	**Monte Escuro**	**0.04**	**258**	*e*S	Sg	14 35 06.5	+1.0
PMAT	**Coroa da Mata**	**0.06**	**285**	*e*S	Sg	14 35 07.1	+1.1
VIF	**Vila Franca**	**0.06**	**209**	*i* P	Pg	14 35 05.6	+0.5
VIF				*e*S	Sg	14 35 07.0	+0.8
	3μm,0.3s						
VIF	**Vila Franca**	**0.06**	**209**	*e*S	Sg	14 35 07.0	+0.8
FRA1	**Furnas**	**0.07**	**149**	*e*P	Pg	14 35 05.9	+0.7
LFA	**Lagoa do Fogo**	**0.07**	**247**	*i* P	Pg	14 35 05.9	+0.6
PFAD	**Fenais da Ajud**	**0.07**	**58**	*e*P	Pg	14 35 07.2	+1.9
MIRA	**Miradouro**	**0.10**	**99**	*e*P	Pg	14 35 06.2	+0.5
PRCH	**Ribeira Ch**	**0.10**	**221**	*e*P	Pg	14 35 06.1	+0.4
PRCH				*e*S	Sg	14 35 08.3	+1.2
	1μm,0.3s						
CML	**Cha da Macela**	**0.12**	**255**	*i* P	Pg	14 35 06.9	+0.8
PDA	**Ponta Delgada**	**0.22**	**256**	*e*P	Pg	14 35 09.0	+1.0
PDA				*e*S	Sg	14 35 11.5	+0.6

IDC 24 14:37:06.4±1.2, 1.84N×127.36E, mb4.1/4, mb1 4.3/5, mb1mx3.9/15, mbtmp4.1/5, ML4.2/1, MS4.3/2, Ms1 4.3/2, ms1mx3.5/16, 1C, Error ellipse: s-maj=93.8km s-min=18.7km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.89**	**185**	P	P	14 41 39.8	-2.7
	0.5nm,0.3s,baz=13,slow=8.0,SNR=6.1						
WRA	**Warramunga Arr**	**22.70**	**163**	P	P	14 42 10.6	-0.7
	9.5nm,0.7s,baz=342,slow=11,SNR=67						
WB2	**Warramunga Arr**	**22.71**	**163**	⇑*i*P	P	14 42 10.6	-0.7
CTA	**Charters Tower**	**28.61**	**141**	LR	LR	14 54 39.9	
	comp=Z,88nm,20.3s,baz=44,slow=37						
CBIJ	**Chichi jima**	**28.86**	**28**	LR	LR	14 53 30.8	
	comp=Z,4μm,19.9s,baz=349,slow=34						
STKA	**Stephens Creek**	**36.15**	**159**	*e*P	P	14 44 10.4	-2.1
	3.2nm,0.8s						
STKA	**Stephens Creek**	**36.15**	**159**	P	P	14 44 10.0	-2.5
	2.5nm,0.4s,baz=340,slow=11,SNR=12						
SONM	**Songino Array**	**49.28**	**341**	P	P	14 45 57.5	-1.5
	0.3nm,0.6s,baz=180,slow=7.4,SNR=2.9						
MKAR	**Makanchi Array**	**59.46**	**326**	P	P	14 47 10.9	-2.6
	2.0nm,0.7s,baz=117,slow=7.8,SNR=20						

*NEIC **24** 14:37:34.7, 46.76S×165.46E, h33km, ML4.3(WEL), After WEL.*

WEL 24 14:37:34.3±0.6, 46.78S×165.66E, h12km, ML4.2/9, Error ellipse: s-maj=6.6km s-min=5.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.67**	**39**	PN	Pn	14 38 01.0	-2.6
DCZ				SN	Sn	14 38 21.0	-3.2
DCZ	**Deep Cove**	**1.67**	**39**	P	Pn	14 38 00.8	-2.8
DCZ				S	Sn	14 38 21.6	-3.5
WHZ	**Wether Hill Ro**	**1.82**	**62**	PN	Pn	14 38 04.4	-1.4
WHZ				SN	Sn	14 38 25.7	-3.2
WHZ				SN	Sn	14 38 27.4	-1.5
WHZ	**Wether Hill Ro**	**1.82**	**62**	P	Pn	14 38 04.4	-1.4
WHZ				S	Sn	14 38 24.7	-4.2
MLZ	**Mavora Lakes**	**2.26**	**52**	PN	Pn	14 38 10.8	-1.4
MLZ				SN	Sn	14 38 38.6	-1.6
MLZ	**Mavora Lakes**	**2.26**	**52**	P	Pn	14 38 10.8	-1.4
MLZ				S	Sn	14 38 38.6	-1.6
MSZ	**Milford Sound**	**2.64**	**38**	PN	Pn	14 38 16.2	-1.3
MSZ				SN	Sn	14 38 49.4	-0.4
MSZ	**Milford Sound**	**2.64**	**38**	*e*P	Pn	14 38 15.9	-1.7
TUZ	**Tuapeka**	**2.87**	**75**	PN	Pn	14 38 19.0	-1.9
TUZ				SN	Sn	14 38 53.1	-2.6
TUZ	**Tuapeka**	**2.87**	**75**	P	Pn	14 38 19.0	-1.9
TUZ				S	Sn	14 38 53.1	-2.6
**

NGZ	**Ngauruhoe**	**1.33**	**321**	PN	Pn	14 44 49.9	-0.6
WPVZ	**Whakapapa**	**1.33**	**319**	PN	Pn	14 44 50.0	-0.5
CNZ	**Chateau**	**1.34**	**319**	PN	Pn	14 44 50.1	-0.5
KRVZ	**Karewarewa**	**1.38**	**324**	PN	Pn	14 44 50.7	-0.4
WAZ	**Wanganui**	**1.38**	**289**	PN	Pn	14 44 51.4	+0.2
PKVZ	**Pokaka**	**1.38**	**311**	PN	Pn	14 44 51.2	0.0
WTVZ	**West Tongariro**	**1.38**	**322**	PN	Pn	14 44 50.8	-0.5
TRWZ	**Traveller**	**1.40**	**212**	PN	Pn	14 44 50.0	-1.5
TWVZ	**Taurewa**	**1.49**	**320**	PN	Pn	14 44 52.7	-0.1
TWVZ				SN	Sn	14 45 12.4	+0.8
KIW	**Kapiti Island**	**1.50**	**244**	PN	Pn	14 44 52.0	-0.9
KIW				SN	Sn	14 45 12.2	+0.4
PAWZ	**Paruwai Farm**	**1.50**	**219**	PN	Pn	14 44 51.5	-1.5
PAWZ				SN	Sn	14 45 11.7	-0.4
CAW	**Cannon Point**	**1.52**	**233**	PN	Pn	14 44 51.9	-1.3
MSWZ	**Moikau Station**	**1.62**	**222**	PN	Pn	14 44 52.6	-2.0
MRW	**Makara Radio**	**1.81**	**235**	PN	Pn	14 44 55.7	-1.8
URZ	**Urewera**	**1.98**	**10**	PN	Pn	14 44 57.1	-2.7
MWZ	**Matawai**	**1.99**	**20**	PN	Pn	14 44 57.0	-3.0
TCW	**Tory Channel**	**2.08**	**241**	*e*PN	Pn	14 44 59.2	-2.0
DUWZ	**D'Urville Isla**	**2.18**	**253**	*e*PN	Pn	14 45 01.3	-1.4
HIZ	**Hauiti**	**2.21**	**320**	*e*PN	Pn	14 45 02.3	-0.8
NRZ	**Ngariki Road**	**2.29**	**292**	PN	Pn	14 45 05.0	+0.7
MQZ	**McQueen's Vall**	**4.60**	**219**	SN	Sn	14 46 22.2	-8.4

NEIC ***24*** *14:46:06.0, 19.57N×103.86W, h117km, MD3.8(MEX), After MEX.*

MEX 24 14:46:06.0±1.1, 19.57N×103.86W, h117km±37km, MD3.8, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.12**	**267**	*i* P	P	14 46 28.2	-1.2
CJM				*i* S	S	14 46 44.3	-2.6
SFJM	**Santa Fe**	**1.19**	**40**	*i* P	P	14 46 28.0	-2.2
SFJM				*i* S	S	14 46 47.0	-1.3
MOIG	**Morelia**	**2.52**	**87**	*i* P	P	14 46 46.1	-0.5
ZAIG	**Zacatecas**	**3.41**	**20**	*i* P	P	14 46 58.2	-0.3

NIED ***24*** *14:48:00, 34.30N×141.20E, h47km, Mw5.2 Best double couple: M0 6.39×10^16 NP1:φs 59°, δ74°, λ-148°. NP2: φs 319°, δ59°, λ-18°.*

CSEM ***24*** *14:48:43.3, 34.20N×140.95E, h40km, mb5.6*

JMA ***24*** *14:48:43.0±0.3, 34.28N×141.21E, h43km±2km, M5.2*

JMA Felt I J1.

MOS ***24*** *14:48:44.3±0.9, 34.30N×140.88E, h44km, mb5.7/83, MS4.5/19. Error ellipse: s-maj=9.8km s-min=3.9km az=116.2*

BJI ***24*** *14:48:45.0, 34.45N×140.74E, h50km, mB5.1, mb5.1, Ms4.7, Msz4.3*

NEIC ***24*** *14:48:48.3±0.6, 34.30N×140.82E, h66km±4km, mb5.3/103, MW5.1(NIED), Error ellipse: s-maj=4.6km s-min=4.2km az=113.0*

NEIC Recorded [1 JMA] in Chiba, Fukushima, Kanagawa, Nagano, Shizuoka and Tokyo Prefectures. Also recorded [1 JMA] on Hachijo-jima, Mikura-jima and Miyake-jima.

HRVD ***24*** *14:48:48.3±0.3, 34.29N×141.19E, h54km±2km, MW5.2/55, Centroid moment Tensor Solution. LP body waves: s36,c60;Mantle waves: s55,c97; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.24±.03; Mθθ 0.80±.02; Mϕϕ -0.56±.02; Mrθ 0.08±.03; Mθϕ -0.10±.02; Mϕr~0.22±.02; Best double couple: M0 .749×10^17 NP1: φs 52°, δ68°, λ-165°. NP2: φs 316°, δ76°, λ-23°. Principal axes: T .82, Plg5°, Azm5°; N -.141, Plg64°, Azm105°; P -.678, Plg26°, Azm272°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***24*** *14:48:50.0±1.0, 34.22N×140.78E, h82km±9km, mb4.6/27, mb1 4.7/29, mb1mx4.7/30, mbtmp4.9/29, MS4.4/13, Ms1 4.4/13, ms1mx4.2/23 Error ellipse: s-maj=13.5km s-min=8.8km az=94.0*

ISC 24 14:48:43.8±0.1, 34.25N±0.02×141.02E±0.02, h43km, (h58km±2.3km: pP-P), n566, σ1s 07/562, mb5.3/156, MS4.5/30, 35C-58D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.41**	**355**	⇑P	**P**	**14 48 52.8**	**-0.8**
BSO3	**Boso 3**	**0.70**	**323**	⇓P	**P**	**14 48 58.1**	**+0.7**
BSO4	**Boso 4**	**0.93**	**323**	⇓P	**P**	**14 49 01.8**	**+1.1**
KTR	**Katsuura**	**1.07**	**327**	P	**P**	**14 49 03.2**	**+0.6**
KTR				S	**S**	**14 49 17.9**	**+1.3**
TATJ	**Tateyama 2**	**1.22**	**310**	⇓P	**P**	**14 49 06.0**	**+1.3**
TATJ				S	**S**	**14 49 23.0**	**+2.7**
JMY	**Miyakejima3**	**1.27**	**263**	P	**P**	**14 49 07.1**	**+1.7**
JIM2	**Oshima 3**	**1.40**	**290**	⇓P	**P**	**14 49 08.0**	**+0.6**
NJJJ	**Nii jima 2**	**1.45**	**277**	⇓P	**P**	**14 49 09.5**	**+1.4**
JHJ2	**Mitsune**	**1.51**	**222**	P	**P**	**14 49 11.0**	**+2.0**
JHJ2				S	**S**	**14 49 31.9**	**+4.2**
JHJ	**Hachijo jima 2**	**1.53**	**223**	P	**P**	**14 49 11.6**	**+2.4**
	1μm,0.3s,baz=84,slow=2.0,SNR=63						
JHJ				S	**S**	**14 49 31.2**	**+3.2**
	4μm,0.3s,baz=99,slow=23,SNR=24						
JHJ				LR	LR	14 49 36.4	
	comp=Z,9μm,19.8s,baz=210,slow=34						
JKO	**Kozu shima**	**1.56**	**268**	P	**P**	**14 49 11.5**	**+1.8**
KTJJ	**Kamata 2**	**1.75**	**293**	⇓P	**P**	**14 49 12.6**	**+0.2**
JIZS	**Izushimoda**	**1.83**	**286**	⇓P	**P**	**14 49 14.3**	**+0.8**
JOD2	**Odawara 2**	**1.89**	**303**	⇓P	**P**	**14 49 14.4**	**+0.1**
JSG	**Sagara**	**2.38**	**281**	⇓P	**P**	**14 49 23.5**	**+2.2**
JHO	**Hitachi**	**2.39**	**351**	⇑P	**P**	**14 49 19.7**	**-1.7**
JYN	**Shimob**	**2.39**	**302**	⇓P	**P**	**14 49 22.1**	**+0.6**
JRY	**Ryogami san**	**2.48**	**316**	⇓P	**P**	**14 49 22.6**	**-0.1**
JAG	**Ashikaga**	**2.53**	**330**	P	**P**	**14 49 23.1**	**-0.3**
JNY	**Yasuok**	**2.83**	**294**	⇓P	**P**	**14 49 29.4**	**+1.7**
JNT	**Takato**	**2.87**	**305**	⇓P	**P**	**14 49 29.2**	**+0.9**
JNG	**Nsakai**	**3.22**	**313**	P	**P**	**14 49 33.8**	**+0.6**
MJAR	**Matsushiro Arr**	**3.25**	**316**	P	**P**	**14 49 34.0**	**+0.3**
	100nm,0.3s,baz=148,slow=19,SNR=798						
MJAR				S	**S**	**14 50 12.1**	**+0.7**
	182nm,0.3s,baz=271,slow=31,SNR=11						
MAJO	**Matsushiro**	**3.25**	**316**	*e*P	**P**	**14 49 34.0**	**+0.3**
MAJO				*e*S	**S**	**14 50 12.7**	**+1.2**
MAT	**Matsushiro**	**3.25**	**316**	P	**P**	**14 49 33.8**	**+0.2**
MAT				S	**S**	**14 50 12.6**	**+1.1**
MAT	**Matsushiro**	**3.25**	**316**	*e*P	**P**	**14 49 34.0**	**+0.4**
MAT				*e*S	**S**	**14 50 13.0**	**+1.5**
JGF	**Kuroka**	**3.30**	**295**	⇓P	**P**	**14 49 36.2**	**+1.8**
JFY	**Yanaizu**	**3.33**	**342**	⇑P	**P**	**14 49 33.9**	**-0.9**
JHK	**Hiroka**	**3.41**	**332**	P	**P**	**14 49 35.8**	**-0.2**
JMM	**Marumori**	**3.62**	**357**	⇑P	**P**	**14 49 36.3**	**-2.6**
JGN	**Niukaw**	**3.62**	**304**	P	**P**	**14 49 40.0**	**+1.1**
JGM	**Miyama**	**3.82**	**294**	P	**P**	**14 49 43.3**	**+1.6**
JTT	**Ttatey**	**3.83**	**309**	P	**P**	**14 49 43.3**	**+1.5**
JYS	**Shirataka**	**4.04**	**349**	P	**P**	**14 49 43.3**	**-1.6**
JFM	**Mihama**	**4.34**	**289**	P	**P**	**14 49 50.1**	**+1.1**
JJH	**Hakui**	**4.37**	**309**	P	**P**	**14 49 50.3**	**+0.8**
JSD	**Sado**	**4.40**	**330**	P	**P**	**14 49 49.1**	**-0.8**
JHE	**Heguri**	**4.43**	**277**	P	**P**	**14 49 51.4**	**+1.0**
JAW	**Awa shima**	**4.44**	**342**	P	**P**	**14 49 49.4**	**-1.1**
JMK	**Ichinoseki**	**4.70**	**2**	P	**P**	**14 49 50.7**	**-3.5**
JWM	**Minabe**	**4.72**	**267**	⇓P	**P**	**14 49 55.8**	**+1.3**
OFUJ	**Ofunato**	**4.85**	**6**	P	**P**	**14 49 52.2**	**-4.1**
JRG	**Rokugo**	**5.15**	**357**	⇑P	**P**	**14 49 58.3**	**-2.2**
JTH	**Tanohata**	**5.72**	**6**	P	**P**	**14 50 03.9**	**-4.6**
CBIJ	**Chichi jima**	**7.20**	**172**	P	**P**	**14 50 26.1**	**-3.1**
	448nm,0.3s,baz=347,slow=8.1,SNR=68						
CBIJ				S	**S**	**14 51 42.2**	**-8.2**
	96nm,0.3s,baz=273,slow=22,SNR=3.3						
JNU	**Nakatsue**	**8.53**	**265**	P	**P**	**14 50 48.7**	**+1.1**
	7.3nm,0.3s,baz=80,slow=15,SNR=63						
JZO	**Okuchi**	**8.99**	**259**	P	**P**	**14 50 55.9**	**+2.0**
ASAJ	**Asahikawa**	**9.93**	**7**	P	**P**	**14 51 00.6**	**-6.3**
	8.6nm,0.3s,baz=226,slow=15,SNR=99						
ASAJ				S	**S**	**14 52 42.6**	**-16**
	3.2nm,0.3s,baz=245,slow=21,SNR=2.6						
ASAJ				LR	LR	14 56 03.5	
	comp=Z,3μm,20.0s,baz=190,slow=43						
YUK	**Yuzh-Kuril'sk**	**10.47**	**20**	*e*P	**P**	**14 51 06.5**	**-7.8**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,140nm,0.5s						
YUK				MLR	MLR		
	comp=Z,3μm,15.0s						
YUK				MLR	MLR		
	comp=N,3μm,13.0s						
YUK				MLR	MLR		
	comp=E,3μm,17.0s						
KS15	**Wonju Array Si**	**11.13**	**290**	*e*P	**P**	**14 51 24.6**	**+1.3**
KS15				*e*S	**S**	**14 53 23.4**	**-3.9**
VLA	**Vladivostok**	**11.37**	**324**	⇑*i*P	**P**	**14 51 24.4**	**-2.1**
VLA	**Vladivostok**	**11.37**	**324**	*e*P	**P**	**14 51 23.7**	**-2.8**
VLA				*e*S	**S**	**14 53 33.8**	**+0.7**
VLA				pmax	pmax		
	comp=Z,76nm,1.0s						
VLA				MLR	MLR		
	comp=Z,700nm,11.7s						
INCN	**Inchon**	**12.11**	**290**	*e*P	**P**	**14 51 37.9**	**+1.4**
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**12.76**	**5**	*e*P	**P**	**14 51 38.5**	**-6.6**
	comp=Z,192nm,0.8s						
YSS	**Yuzh-Sakhalins**	**12.76**	**5**	*d i*P	**P**	**14 51 39.4**	**-5.8**
JOW	**Kunigami**	**13.23**	**239**	P	**P**	**14 51 52.1**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=53,slow=12,SNR=4.1						
JOW				LR	LR	14 56 42.1	
	comp=Z,2μm,19.3s,baz=163,slow=36						
MDJ	**Mudanjiang**	**13.60**	**323**	P	**P**	**14 51 54.3**	**-1.8**
MDJ				S	**S**	**14 54 23.5**	**-3.2**
MDJ				PCP	PcP	14 57 16.1	-4.0
MDJ				SCP		15 00 43.8	
MDJ				PCS		15 00 50.1	
MDJ				SCS	ScS	15 04 19.5	-4.9
MDJ				AMB	AMB		
	comp=Z,44nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,135nm,3.8s						
MDJ				LR	LR		
	comp=N,1μm,16.6s						
MDJ				LR	LR		
	comp=E,1μm,12.6s						
MDJ				LR	LR		
	comp=Z,2μm,16.1s						
MDJ	**Mudanjiang**	**13.60**	**323**	*e*P	**P**	**14 51 54.1**	**-2.0**
	comp=Z,111nm,1.3s						
UGL	**Uglegorsk**	**14.84**	**3**	*e*P	**P**	**14 52 11.0**	**-1.4**
UGL				pmax	pmax		
	comp=Z,150nm,0.9s						
UGL				pmax	pmax		
	comp=Z,400nm,1.2s						
UGL				MLR	MLR		
	comp=Z,3μm,20.0s						
UGL				MLR	MLR		
	comp=N,2μm,18.0s						
UGL				MLR	MLR		
	comp=E,4μm,20.0s						
CN2	**Changchun**	**15.39**	**313**	*e*P	**P**	**14 52 18.1**	**-1.4**
CN2				AMB	AMB		
	comp=Z,50nm,0.9s						
CN2				AMB	AMB		
	comp=Z,260nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,19.0s						
CN2				LR	LR		
	comp=E,1μm,19.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
SNY	**Shenyang**	**15.68**	**304**	⇓P	**P**	**14 52 22.1**	**-1.1**
SNY				S	**S**	**14 55 17.8**	**+2.2**
SNY				AMB	AMB		
	comp=Z,60nm,1.9s						
SNY				LR	LR		
	comp=N,1μm,14.7s						
SNY				LR	LR		
	comp=E,1μm,19.5s						
SNY				LR	LR		
	comp=Z,1μm,22.8s						
DL2	**Dalian**	**16.26**	**292**	P	**P**	**14 52 30.3**	**-0.3**
DL2				AP		14 52 36.9	
DL2				XP		14 52 41.4	
DL2				XS		14 55 42.8	
DL2				AMB	AMB		
	comp=Z,90nm,0.8s						
DL2				AMB	AMB		
	comp=Z,330nm,5.6s						
DL2				LR	LR		
	comp=N,720nm,15.0s						
DL2				LR	LR		
	comp=E,370nm,15.9s						
DL2				LR	LR		
	comp=Z,880nm,19.9s						
KLR	**Kul'dur**	**16.47**	**338**	*e*P	**P**	**14 52 25.2**	**-8.0**
KLR				*e*S	**S**	**14 55 41.0**	**+7.0**
KLR				MLR	MLR		
	comp=N,900nm,13.0s						
KLR				MLR	MLR		
	comp=E,800nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
SSE	**Sheshan**	**17.00**	**265**	*e*P	**P**	**14 52 38.1**	**-1.8**
SSE				AP		14 52 45.5	
SSE				XP		14 52 49.3	
SSE				S	**S**	**14 55 46.5**	**+0.4**
SSE				XS		14 55 58.3	
SSE				AMB	AMB		
	comp=Z,56nm,0.9s						
SSE				AMB	AMB		
	comp=Z,517nm,7.5s						
SSE				LR	LR		
	comp=N,2μm,19.0s						
SSE				LR	LR		
	comp=E,644nm,19.0s						
SSE				LR	LR		
	comp=Z,1μm,12.0s						
SSE	**Sheshan**	**17.00**	**265**	*e*P	**P**	**14 52 38.1**	**-1.8**
	comp=Z,56nm,0.9s						
SSE				pP		14 52 45.5	
SSE				sP		14 52 49.3	
SSE				S	**S**	**14 55 46.5**	**+0.4**
SSE				sS		14 55 58.2	
NJ2	**Nanjing**	**18.69**	**269**	*e*P	**P**	**14 52 59.1**	**-1.9**
NJ2				AP		14 53 08.5	
NJ2				XP		14 53 14.9	
NJ2				S	**S**	**14 56 22.0**	**-2.4**
NJ2				XS		14 56 36.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,350nm,4.4s						
NJ2				LR	LR		
	comp=N,3μm,24.8s						
NJ2				LR	LR		
	comp=E,2μm,16.3s						
NJ2				LR	LR		
	comp=Z,790nm,16.5s						
TIA	**Tai'an**	**19.61**	**283**	*e*P	**P**	**14 53 08.4**	**-2.9**
SKR	**Severo-Kuril's**	**19.78**	**29**	*e*P	**P**	**14 53 08.0**	**-5.0**
SKR				*e*		14 56 42.0	
SKR				pmax	pmax		
	comp=N,2μm,2.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=E,90nm,1.0s						
SKR				pmax	pmax		
	comp=Z,180nm,1.0s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s						
SKR				MLR	MLR		
	comp=E,2μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
GUMO	**Guam**	**20.86**	**169**	P	**P**	**14 53 25.6**	**+1.1**
	comp=Z,489nm,1.1s,baz=11,slow=5.2,SNR=6.0						
GUMO				LR	LR	14 59 44.2	
	comp=Z,982nm,20.5s,MS4.2,baz=12,slow=31						
GUMO	**Guam**	**20.86**	**169**	*e*P	**P**	**14 53 25.9**	**+1.4**
	comp=Z,1μm,1.4s						
GUMO	**Guam**	**20.86**	**169**	*e*P	**P**	**14 53 26.0**	**+1.5**
GUMO				pmax	pmax		
	comp=Z,1μm,1.4s						
HIA	**Hailar**	**21.74**	**320**	*e*P	**P**	**14 53 29.5**	**-3.6**
	comp=Z,23nm,0.7s,mb4.7						
HIA	**Hailar**	**21.74**	**320**	*e*P	**P**	**14 53 29.5**	**-3.7**
HIA				pmax	pmax		
	comp=Z,23nm,0.7s						
PET	**Petropavlovsk**	**22.59**	**28**	*i* P	**P**	**14 53 39.6**	**-1.9**
PET	**Petropavlovsk**	**22.59**	**28**	*e*P	**P**	**14 53 40.2**	**-1.3**
PET				*e*SP		14 53 55.3	
PET				*e*S	**S**	**14 57 43.6**	**+2.2**
PET				*e*SS		14 57 59.6	
PET				pmax	pmax		
	comp=Z,52nm,1.6s,mb4.7						
PET				pmax	pmax		
	comp=Z,100nm,12.7s						
PET				pmax	pmax		
	comp=Z,55nm,1.1s,mb4.9						
PET				smax			
	comp=E,400nm,11.0s						
PET				MLR	MLR		
	comp=Z,700nm,21.0s,MS4.1						
WHN	**Wuhan**	**22.80**	**268**	⇓P	**P**	**14 53 42.0**	**-1.8**
WHN				LR	LR		
	comp=Z,3μm,19.0s,MS4.7						
HHC	**Hu-ho-hao-te**	**24.20**	**294**	*e*P	**P**	**14 53 54.3**	**-3.0**
HHC				AP		14 54 08.5	
HHC				XP		14 54 15.5	
HHC				PP	PP	14 54 29.8	-3.1
HHC				PCP	PcP	14 57 36.5	-2.0
HHC				S	**S**	**14 58 04.3**	**-5.5**
HHC				XS		14 58 25.0	
HHC				SS	SS	14 58 54.9	-9.3
HHC				SCP		15 01 09.5	
HHC				PCS		15 01 15.5	
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,346nm,3.2s						
HHC				LR	LR		
	comp=N,504nm,15.9s,MS4.3						
HHC				LR	LR		
	comp=E,573nm,15.8s,MS4.3						
HHC				LR	LR		
	comp=Z,918nm,25.8s						
CLNS	**Chul'man**	**25.13**	**339**	*e*P	**P**	**14 54 06.0**	**-0.1**
MA2	**Magadan**	**26.14**	**11**	*e*P	**P**	**14 54 14.6**	**-0.9**
	comp=Z,88nm,1.0s,mb5.2						
MA2	**Magadan**	**26.14**	**11**	*c i*P	**P**	**14 54 15.0**	**-0.5**
MA2				pmax	pmax		
	comp=Z,25nm,0.6s,mb4.9						
MA2				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.2						
XAN	**Xi'an**	**26.52**	**279**	P	**P**	**14 54 16.6**	**-2.7**
XAN				AMB	AMB		
	comp=Z,54nm,1.3s,mb4.9						
ENH	**Enshi**	**26.91**	**270**	*e*P	**P**	**14 54 20.7**	**-2.1**
	comp=Z,49nm,0.8s,mb5.1						
ENH				*e*	pP	14 54 34.1	-0.1
YAK	**Yakutsk**	**28.73**	**349**	*e*P	**P**	**14 54 37.7**	**-1.3**
	comp=Z,80nm,0.8s,mb5.5						
YAK				*e*S	**S**	**14 59 19.2**	**-4.5**
YAK	**Yakutsk**	**28.73**	**349**	*e*P	**P**	**14 54 41.3**	**+2.3**
YAK				*e*PPP	PPP	14 55 34.3	-11
YAK				*e*S	**S**	**14 59 23.5**	**-0.3**
YAK				*e*SS	SS	15 00 46.5	-6.1
YAK				pmax	pmax		
	comp=N,17nm,1.0s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,20nm,1.0s						
YAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK				smax			
	comp=N,121nm,17.4s						
YAK				smax			
	comp=E,107nm,18.2s						
YAK				MLR	MLR		
	comp=Z,451nm,18.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,356nm,19.0s,MS4.1						
YAK				MLR	MLR		
	comp=E,315nm,17.0s,MS4.1						
SONM	**Songino Array**	**29.17**	**308**	P	**P**	**14 54 42.6**	**-0.5**
	comp=E,36nm,0.8s,mb5.1,baz=110,slow=9.1,SNR=136						
SEY	**Seymchan**	**29.58**	**11**	*e*P	**P**	**14 54 46.5**	**-0.1**
SEY				*e*		14 55 42.9	
SEY				*e*PPP	PPP	14 56 01.8	+4.5
SEY				*e*		14 57 46.1	
SEY				*e*S	**S**	**14 59 43.7**	**+6.3**
SEY				*e*SS	SS	15 01 35.3	+22
SEY				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.1						
SEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
SEY				pmax	pmax		
	comp=E,20nm,1.0s						
SEY				smax			
	comp=N,800nm,22.1s						
SEY				smax			
	comp=E,120nm,18.6s						
SEY				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.6						
SEY				MLR	MLR		
	comp=E,1μm,17.0s						
BOD	**Bodaibo**	**29.76**	**331**	*e*P	**P**	**14 54 46.7**	**-1.5**
BOD				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.1						
LZH	**Lanzhou**	**30.33**	**284**	*e*P	**P**	**14 54 50.9**	**-2.7**
LZH				PP	PP	14 55 51.0	-2.7
LZH				PCP	PcP	14 57 53.0	-0.1
LZH				*e*S	**S**	**14 59 36.0**	**-14**
LZH				SCP		15 01 25.0	
LZH				PCS		15 01 36.0	
LZH				SCS	ScS	15 05 18.0	-7.1
LZH				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,330nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,12.6s						
LZH				LR	LR		
	comp=Z,1μm,16.4s,MS4.6						
LZH	**Lanzhou**	**30.33**	**284**	*e*P	**P**	**14 54 50.9**	**-2.7**
	comp=Z,60nm,1.0s,mb5.3						
LZH				pP	pP	14 55 14.0	+8.9
LZH				sP	sP	14 55 28.5	+18
LZH				PP	PP	14 55 51.0	-2.7
LZH				PcP	PcP	14 57 53.0	-0.1
LZH				*e*S	**S**	**14 59 36.0**	**-14**
LZH				sS		15 00 18.0	
LZH				SS	SS	15 01 16.0	-15
LZH				ScP		15 01 25.0	
LZH				PcS		15 01 36.0	
LZH				ScS	ScS	15 05 18.0	-7.1
LZH				LR	LR		
	comp=Z,1μm,16.4s,MS4.6						
LZH	**Lanzhou**	**30.33**	**284**	*e*P	**P**	**14 54 50.9**	**-2.7**
LZH						14 55 51.0	
LZH						14 57 53.0	
LZH						15 01 25.0	
LZH						15 05 18.0	
LZH				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.3						
LZH				MLR	MLR		
	comp=Z,1μm,16.4s,MS4.6						
GYA	**Guiyang**	**30.54**	**265**	⇑*i*P	**P**	**14 54 53.0**	**-2.5**
GYA				AP	pP	14 55 07.8	+0.7
GYA				XP	sP	14 55 15.3	+2.8
GYA				PP	PP	14 55 53.0	-3.5
GYA				S	**S**	**14 59 45.4**	**-7.5**
GYA				XS		15 00 10.8	
GYA				SCP		15 01 29.8	
GYA				SCS	ScS	15 05 23.3	-2.9
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,210nm,4.2s						
GYA				LR	LR		
	comp=N,410nm,16.4s,MS4.3						
GYA				LR	LR		
	comp=E,370nm,16.0s,MS4.3						
GYA				LR	LR		
	comp=Z,400nm,16.8s,MS4.1						
IRK	**Irkutsk**	**31.80**	**316**	*e*P	**P**	**14 55 04.7**	**-1.6**
IRK				*e*		14 56 04.8	
IRK				pmax	pmax		
	comp=Z,69nm,2.8s,mb5.0						
ZAK	**Zakamensk**	**31.82**	**312**	*e*P	**P**	**14 55 05.7**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.0						
GTA	**Gaotai**	**33.18**	**291**	⇓P	**P**	**14 55 17.0**	**-1.4**

GTA PP PP 14 56 28.9 -1.4
GTA PCP PcP 14 58 01.3 +0.6
GTA S **S** **15 00 31.8 -2.2**
GTA SCP 15 01 41.1
GTA PCS 15 01 45.5
GTA SS SS 15 02 30.1 -6.8
GTA SCS ScS 15 05 38.9 -0.4
GTA AMB AMB
comp=Z,33nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,203nm,6.5s
GTA LR LR
comp=N,672nm,15.7s
GTA LR LR
comp=E,651nm,21.0s
GTA LR LR
comp=Z,830nm,24.8s
MOY Mondy 33.56 314 *e*P **P 14 55 21.0 -0.6**
MOY pmax pmax
comp=Z,65nm,5.0s
KMI Kunming 34.31 265 P **P** **14 55 28.6 +0.2**
KMI PCP PcP 14 58 02.0 -2.0
KMI S **S** **15 00 49.5 -2.2**
KMI LR LR
comp=N,626nm,5.0s
KMI LR LR
comp=E,582nm,5.2s
KMI LR LR
comp=Z,565nm,6.2s
KMI Kunming 34.31 265 P **P** **14 55 28.6 +0.2**
KMI pP pP 14 55 49.7 +10
KMI sP sP 14 56 00.8 +15
KMI PP PP 14 56 47.6 +3.2
KMI PPP PPP 14 57 07.0 +4.5
KMI PcP PcP 14 58 02.0 -2.0
KMI S **S** **15 00 49.5 -2.2**
KMI sS 15 01 26.1
KMI SS SS 15 03 06.0 +2.8
KMI SSS SSS 15 03 34.9 +4.8
KMI Kunming 34.31 265 P **P** **14 55 28.6 +0.2**
KMI *PP pP 14 55 49.7 +10
KMI 14 56 47.6
KMI PPP PPP 14 57 07.0 +4.5
KMI 14 58 02.0
KMI S **S** **15 00 49.5 -2.2**
KMI SS SS 15 03 06.0 +2.8
KMI SSS SSS 15 03 34.9 +4.8
BILL Bilibino 36.79 16 *e*P **P** **14 55 47.0 -1.9**
BILL *e* 14 58 09.3
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
BILL MLR MLR
comp=Z,500nm,17.0s,MS4.4
TIXI Tiksi 38.02 354 *i* P **P** **14 55 58.3 -0.9**
TIXI Tiksi 38.02 354 *e*P **P** **14 55 56.3 -2.9**
TIXI *e*S **S** **15 01 40.2 -7.9**
TIXI *e*SS SS 15 04 28.3 +1.5
TIXI pmax pmax
comp=Z,21nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,575nm,17.0s,MS4.5
CHG Chiang Mai 40.36 259 P **P** **14 56 18.7 -0.5**
comp=Z,20nm,0.8s,mb4.9
NST Nakhon Sawan 41.09 254 P **P** **14 56 25.0 -0.2**
WMQ Urumqi 41.88 300⇓ *i*P **P** **14 56 32.0 +0.6**
WMQ AP pP 14 56 48.0 +4.7
WMQ PP PP 14 58 13.0 +1.4
WMQ S **S** **15 02 45.0 -1.1**
WMQ SS SS 15 05 47.0 -1.1
WMQ AMB AMB
comp=Z,159nm,1.1s,mb5.6
WMQ AMB AMB
comp=Z,812nm,3.6s
WMQ LR LR
comp=N,797nm,24.0s,MS4.6
WMQ LR LR
comp=E,537nm,22.0s,MS4.6
WMQ LR LR
comp=Z,643nm,25.9s,MS4.4
LSA Lhasa 42.22 278 P **P** **14 56 34.0 -0.4**
LSA Lhasa 42.22 278 *e*P **P** **14 56 34.0 -0.4**
comp=Z,13nm,0.8s,mb4.6
LSA Lhasa 42.22 278 *e*P **P** **14 56 34.0 -0.4**
LSA pmax pmax
comp=Z,13nm,0.8s,mb4.6
NNT Nongplab 43.20 250 P **P** **14 56 40.8 -1.8**
KSM Kuching 43.43 228 *e*P **P** **14 56 43.2 -1.3**
ZAL Zalesovo 43.61 315 P **P** **14 56 45.6 +0.2**
comp=Z,29nm,0.9s,mb5.0,baz=12,slow=7.8,SNR=141
NVS Novosibirsk 44.58 316 *i* P **P** **14 56 51.9 -1.2**
NVS *e* 14 57 09.1
NVS *e*S **S** **15 03 20.4 -4.9**
NVS pmax pmax
comp=Z,122nm,1.6s,mb5.5
NVS pmax pmax
comp=N,28nm,1.4s
NVS pmax pmax
comp=E,107nm,1.0s
NVS smax
comp=N,43nm,2.0s
NVS smax
comp=E,51nm,2.3s
MKAR Makanchi Array 45.38 304 P **P** **14 56 59.4 -0.3**
comp=E,53nm,0.7s,mb5.5,baz=91,slow=9.9,SNR=395
MKAR LR LR 15 16 41.9
comp=E,535nm,21.7s,MS4.4,baz=1.7,slow=37
MKAR Makanchi Array 45.38 304 P **P** **14 56 59.4 -0.3**
MKAR LR LR 15 16 41.9
HNR Honiara 47.00 154 LR LR 15 13 57.7
comp=E,544nm,20.7s,MS4.5,baz=330,slow=32
KAKA Kakadu 47.40 191⇓ *i*P **P** **14 57 34.7 +19**
comp=E,78nm,1.1s,mb5.5
KURK Kurchatov 47.44 310 *e*P **P** **14 57 15.1 -0.8**
comp=E,153nm,1.0s,mb5.9
KURK *e* pP 14 57 29.9 +2.0
KURK Kurchatov 47.44 310 *e*P **P** **14 57 15.1 -0.8**
KURK *e* pP 14 57 29.9 +2.0
KURK pmax pmax
comp=Z,153nm,1.0s,mb5.9
PKI Pulchoki 47.69 278 *e*P **P** **14 57 16.4 -1.7**
comp=Z,101nm,1.0s,mb5.8
PKI Pulchoki 47.69 278 *e*P **P** **14 57 16.4 -1.7**
PKI pmax pmax
comp=Z,51nm,1.0s,mb5.5
KKN Kakani 47.71 278 *e*P **P** **14 57 16.9 -1.4**
comp=Z,116nm,0.9s,mb5.9
DMN Daman 47.92 278 *e*P **P** **14 57 18.3 -1.7**
comp=Z,66nm,0.9s,mb5.7
GKN Gorkha 48.16 279 *e*P **P** **14 57 20.4 -1.4**
comp=Z,538nm,1.4s,mb6.4
BOK Bokaro 48.82 273 *e*P **P** **14 57 24.9 -2.0**
BOK AMb AMB 14 57 27.2
comp=Z,27nm,0.7s,mb5.4
KOLN Koldanda 49.09 279 *e*P **P** **14 57 27.7 -1.3**
KDAK Kodiak Island 49.41 40 P **P** **14 57 32.8 +1.7**
comp=Z,16nm,0.8s,mb5.1,baz=311,slow=6.8,SNR=6.9
SPU Mount Spurr 49.66 36 *e*P **P** **14 57 32.5 -0.4**
SPU *e* 14 57 49.8
SPU *e*PcP PcP 14 58 52.1 -2.0
ULHL Ulahol 50.41 299 P **P** **14 57 39.4 +0.5**
SNR=6.2
TKM2 Tokmak 2 50.72 300 P **P** **14 57 41.7 +0.4**
SNR=82
KZA Kyzart 51.17 299 P **P** **14 57 45.9 +1.2**
SNR=42
KBK Karagaybulak 51.25 300 P **P** **14 57 45.4 +0.2**
SNR=6.6
KSH Kashi 51.30 296 *e*P **P** **14 57 46.8 +1.1**
KSH *e*AP pP 14 58 02.1 +4.3
KSH *e*PCP PcP 14 59 00.9 +0.5
KSH *e*PP PP 14 59 44.3 +0.8
KSH *e*PPP PPP 15 00 43.5 -1.5
KSH *e*SCP 15 02 50.6
KSH *e*PCS 15 02 58.3
KSH *e*S **S** **15 04 57.4 -2.7**
KSH *e*XS 15 05 24.3
KSH *e*SCS ScS 15 07 27.4 -1.8
KSH *e*SS SS 15 08 30.4 -3.4
KSH LR LR
comp=N,760nm,5.7s
KSH LR LR
comp=E,750nm,5.8s
CHMS Chumysh 51.30 301 P **P** **14 57 45.4 -0.3**
SNR=22

USP Ospenovka 51.42 301 P **P** **14 57 46.3 -0.2**
SNR=48
FRU Bishkek 51.44 300 *e*P **P** **14 57 46.0 -0.7**
FRU pmax pmax
comp=Z,160nm,1.4s,mb5.8
AAK Ala-Archa 51.58 300 P **P** **14 57 47.6 -0.2**
SNR=34
AAK Ala-Archa 51.58 300 *e*P **P** **14 57 45.9 -1.8**
comp=Z,30nm,0.8s,mb5.3
AAK *e*PcP PcP 14 59 00.4 -0.9
AAK Ala-Archa 51.58 300 *e*P **P** **14 57 45.9 -1.8**
AAK *e* 14 59 00.4
AAK pmax pmax
comp=Z,30nm,0.8s,mb5.3
UCH Uchtor 51.66 300 P **P** **14 57 49.1 +0.7**
SNR=43
ILAR Eielson Array 52.03 31 P **P** **14 57 50.5 -0.3**
comp=Z,6.9nm,0.8s,mb4.6,baz=265,slow=4.2,SNR=20
EKS2 Erkin-Say 52.08 300 P **P** **14 57 50.9 -0.6**
SNR=31
BVAR Borovoye Array 52.24 314 P **P** **14 57 51.7 -0.9**
comp=Z,18nm,0.8s,mb5.0,baz=90,slow=7.4,SNR=86
AML Almayashu 52.28 300 P **P** **14 57 53.6 +0.6**
SNR=117
BRVK Borovoye 52.30 314 *e*P **P** **14 57 51.9 -1.1**
comp=Z,38nm,0.9s,mb5.3
BRVK *e* 14 58 07.9
BRVK *e*PcP PcP 14 59 03.1 -0.8
BRVK Borovoye 52.30 314 *e*P **P** **14 57 51.9 -1.1**
BRVK *e* 14 58 07.9
BRVK *e* 14 59 03.1
BRVK pmax pmax
comp=Z,38nm,0.9s,mb5.3
BLSP Bilaspur 52.65 273 *e*P **P** **14 57 54.4 -1.7**
BLSP AMb AMB 14 57 56.3
comp=Z,80nm,1.3s,mb5.5
NDI New Delhi 53.93 283 *i* P **P** **14 58 03.0 -2.5**
FITZ Fitzroy Crossi 54.08 198 *e*P **P** **14 58 06.3 -0.4**
comp=Z,57nm,0.9s,mb5.5
FITZ Fitzroy Crossi 54.08 198 P **P** **14 58 05.7 -1.0**
comp=Z,84nm,0.9s,mb5.7,baz=11,slow=7.6,SNR=38
WRAB Tennant Creek 54.25 188 *e*P **P** **14 58 07.4 -0.5**
comp=Z,52nm,0.8s,mb5.5
WRAB Tennant Creek 54.25 188 *e*P **P** **14 58 07.4 -0.5**
WRAB pmax pmax
comp=Z,52nm,0.8s,mb5.5
CTA Charters Tower 54.26 174 *e*P **P** **14 58 11.6 +3.6**
comp=Z,7.7nm,0.9s,mb4.6
CTA Charters Tower 54.26 174 P **P** **14 58 08.4 +0.4**
comp=Z,6.4nm,0.7s,mb4.7,baz=7.6,slow=8.8,SNR=4.5
CTA Charters Tower 54.26 174 P **P** **14 58 08.4 +0.4**
CTA *e*P 14 58 11.6
WB2 Warramunga Arr 54.26 188 *e*P **P** **14 58 06.7 -1.3**
WB2 *e*S **S** **15 05 39.0 -1.7**
WRA Warramunga Arr 54.26 188 P **P** **14 58 07.0 -1.0**
comp=Z,11nm,0.4s,mb5.2,baz=3.0,slow=7.6,SNR=124
WRA S **S** **15 05 37.3 -3.4**
comp=Z,5.1nm,1.0s,baz=7.7,slow=14,SNR=4.7
BHPL Bhopal 56.04 277 *e*P **P** **14 58 18.5 -2.3**
BHPL AMb AMB 14 58 20.8
comp=Z,79nm,1.3s,mb5.6
AJM Ajmer 56.91 281 *i* P **P** **14 58 25.0 -2.1**
INK Inuvik 57.02 26 P **P** **14 58 27.1 -0.1**
comp=Z,8.6nm,0.7s,mb4.9,baz=304,slow=5.2,SNR=11
INK LR LR 15 24 53.9
comp=Z,267nm,20.9s,MS4.3,baz=136,slow=38
INK Inuvik 57.02 26 *e*P **P** **14 58 27.4 +0.1**
comp=Z,8.4nm,0.7s,mb4.9
INK *e*PP PP 15 00 32.9 -2.7
INK Inuvik 57.02 26 *e*P **P** **14 58 27.4 +0.2**
INK *e* 15 00 32.9
INK pmax pmax
comp=Z,8.0nm,0.7s
HYB Hyderabad 57.85 270 *i* P **P** **14 58 32.0 -1.7**
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 57.85 270 *e*P **P** **14 58 32.0 -1.7**
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 57.85 270 *e*P **P** **14 58 32.0 -1.7**
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.8
ASPA Alice Springs 57.99 188 *e*P **P** **14 58 34.2 -0.4**
ASPA *e*S **S** **15 06 31.3 +1.2**
ARU Arti 58.26 320 *e*P **P** **14 58 34.7 -1.4**
comp=Z,118nm,0.8s,mb6.0
ARU Arti 58.26 320⇓ *i*P **P** **14 58 34.9 -1.1**
ARU *e* 14 59 23.9
ARU *e* 15 00 41.2
ARU *e*S **S** **15 06 34.3 +1.2**
ARU *e*SS SS 15 10 23.9 -3.0
ARU pmax pmax
comp=Z,138nm,0.8s,mb6.0
SOKR Solikamsk 58.37 323⇓ *i*P **P** **14 58 35.1 -1.7**
SOKR pmax pmax
comp=Z,70nm,1.3s,mb5.5
SOKR MLR MLR
comp=Z,700nm,24.0s,MS4.7
MBWA Marble Bar 58.70 203 *e*P **P** **14 58 38.6 -1.1**
comp=Z,62nm,0.9s,mb5.6
DLBC Dease Lake 61.03 37 P **P** **14 58 57.5 +2.4**
comp=Z,5.0nm,0.9s,mb4.6,baz=304,slow=4.0,SNR=5.7
DLBC LR LR 15 21 26.2
comp=Z,143nm,20.9s,MS4.1,baz=298,slow=32
DLBC Dease Lake 61.03 37 P **P** **14 58 57.5 +2.4**
DLBC LR LR 15 21 26.2
POO Poona 61.20 274 *e*P **P** **14 58 54.8 -1.9**
POO AMb AMB 14 58 56.9
comp=Z,141nm,0.8s,mb6.2
KAD Karad 61.52 272 *e*P **P** **14 58 57.0 -1.9**
KAD AMb AMB 14 58 59.2
comp=Z,139nm,1.2s,mb6.0
APA Apatity 65.10 336⇑ *i*P **P** **14 59 20.3 -1.5**
APA *i* 14 59 41.0
APA pmax pmax
comp=Z,49nm,1.0s,mb5.5
RES Resolute Bay 65.38 14 *e*P **P** **14 59 23.1 -0.4**
STKA Stephens Creek 65.77 179 *e*P **P** **14 59 27.6 +0.9**
comp=Z,12nm,0.9s,mb4.9
STKA Stephens Creek 65.77 179 P **P** **14 59 25.8 -0.9**
comp=Z,3.7nm,0.5s,mb4.6,baz=6.7,slow=2.8,SNR=11
FORT Forrest 65.82 192 *e*P **P** **14 59 27.0 0.0**
comp=Z,75nm,0.7s,mb5.8
YKA Yellowknife Ar 66.38 29 P **P** **14 59 31.7 +1.8**
comp=Z,1.8nm,0.8s,baz=289,slow=6.3,SNR=4.8
YKA Yellowknife Ar 66.38 29 P **P** **14 59 31.8 +1.8**
ARCES ARCESS Array B 66.50 340 P **P** **14 59 29.6 -1.1**
comp=Z,17nm,0.8s,mb5.1,baz=45,slow=6.9,SNR=21
JOF Joensuu 68.28 332 *ep* **P** **14 59 40.0 -1.9**
comp=Z,25nm,0.7s,mb5.4
KLBR Kellerberrin 69.06 201 *e*P **P** **14 59 46.0 -1.3**
comp=Z,27nm,0.9s,mb5.2
MOS Moscow 69.31 324 *e*P **P** **14 59 47.2 -1.1**
MOS *e* pP 15 00 01.3 +0.3
MOS pmax pmax
comp=Z,168nm,1.2s,mb5.8
OBN Obninsk 70.14 324 *e*P **P** **14 59 52.8 -0.7**
comp=Z,145nm,1.3s,mb5.8
OBN *e* pP 15 00 07.8 +1.7
OBN Obninsk 70.14 324⇓ *e*P **P** **14 59 52.8 -0.7**
OBN *e* 15 00 14.6
OBN *e* 15 02 26.3
OBN *e*S S 15 09 05.3 +5.1
OBN pmax pmax
comp=Z,86nm,0.8s,mb5.7
OBN MLR MLR
comp=Z,600nm,21.0s,MS4.8
NWAO Narrogin (SRO) 70.46 201 *e*P **P** **14 59 54.6 -1.1**
comp=Z,20nm,0.8s,mb5.1
NWAO Narrogin (SRO) 70.46 201 *e*P **P** **14 59 54.7 -1.1**
NWAO pmax pmax
comp=Z,20nm,0.8s
KAF Kangasniemi 70.64 333 *ep* **P** **14 59 53.9 -2.5**
comp=Z,37nm,0.8s,mb5.4,baz=51,slow=5.8
KAF Kangasniemi 70.64 333 *e*P **P** **14 59 53.9 -2.5**
KAF pmax pmax
comp=Z,37nm,0.8s,mb5.4
VORD Divnogorie 70.89 319 *e*P **P** **14 59 56.9 -1.1**
VORD pmax pmax
comp=Z,60nm,0.9s,mb5.5
VORD pmax pmax
comp=E,70nm,1.1s
FINES FINESS Array B 71.14 333 P **P** **14 59 58.7 -0.7**
comp=E,38nm,0.8s,mb5.3,baz=72,slow=6.0,SNR=75
BIDO Bidbid 71.56 286⇓ **P** **P** **15 00 03.3 +0.8**
SNR=19
EDM Edmonton 71.74 38 *e*P **P** **15 00 02.7 -0.4**
BANOM Banah 71.81 289⇓ **P** **P** **15 00 04.1 +0.1**
SNR=6.8
SMDO Samad 71.85 286⇓ P **P** **15 00 04.4 +0.2**
SNR=14
JMDO Jabal Madar 72.15 285⇓ P **P** **15 00 06.2 +0.1**
SNR=13
HOQ Hoqain 72.18 287⇓ P **P** **15 00 06.4 +0.2**
SNR=19
YBH Yreka Blue Hor 72.31 51 P **P** **15 00 08.3 +1.6**
comp=E,1.0nm,0.5s,baz=232,slow=23,SNR=2.4
TI2 Plekhanov 72.32 309⇓ *i*P **P** **15 00 04.4 -2.3**
ZEI Tsey 72.34 310 *e*P **P** **15 00 04.6 -2.3**
ZEI pmax pmax
comp=Z,61nm,1.0s,mb5.5
NEW Newport 72.36 43 P **P** **15 00 06.4 -0.5**
comp=Z,1.9nm,0.8s,mb4.1,baz=256,slow=19,SNR=3.2
NEW Newport 72.36 43 *e*P **P** **15 00 07.1 +0.3**
comp=Z,13nm,1.0s,mb4.8
NEW Newport 72.36 43 *e*P **P** **15 00 07.1 +0.2**
NEW pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 72.50 311 *e*P **P** **15 00 08.0 +0.2**
comp=Z,189nm,0.9s,mb6.0
KIV Kislovodsk 72.50 311 *d i*P **P** **15 00 07.9 +0.2**
KIV *e* 15 02 48.6
KIV pmax pmax
comp=Z,325nm,1.3s,mb6.1
ASHO Ashiyiah 72.62 288⇓ P **P** **15 00 08.6 -0.3**
SNR=10
BSY Bisya 72.69 286⇑ P **P** **15 00 09.4 +0.1**
SNR=35
VSU Vasula 72.70 330 *i* Pr 15 00 08.3
ARQ Araqi 72.93 287⇑ P **P** **15 00 10.6 -0.1**
SNR=13
GNI Garni 73.13 307 LR LR 15 35 29.0
comp=Z,436nm,18.6s,MS4.8,baz=59,slow=38
SUMG Summit 73.47 360 *e*P **P** **15 00 13.4 +0.5**
comp=Z,12nm,0.7s,mb5.0
MOD Modoc 73.77 50 *e*P **P** **15 00 22.2 +6.9**
comp=Z,6.2nm,0.9s,mb4.5
SOC Sochi 74.53 312 *d i*P **P** **15 00 19.1 -0.5**
SOC *e*SSS SSS 15 17 48.8 -4.2
SOC pmax pmax
comp=Z,63nm,0.9s,mb5.5
SOC pmax pmax
comp=N,12nm,0.8s
SOC pmax pmax
comp=E,27nm,1.4s
SOC MLR MLR
comp=N,330nm,16.0s,MS4.8
SOC MLR MLR
comp=Z,371nm,16.0s,MS4.8
SOC MLR MLR
comp=E,166nm,15.0s,MS4.8
MNK Minsk 74.65 326 *e*P **P** **15 00 19.0 -1.1**
BEKR Beckwourth 74.81 52 P **P** **15 00 22.4 +1.1**
comp=E,6.5nm,0.8s,mb4.6
ANN Anapa 75.24 314 *e*P **P** **15 00 21.8 -1.9**
ANN *e*S S 15 09 57.9 -0.3
ANN pmax pmax
comp=Z,107nm,1.3s,mb5.6
ANN MLR MLR
comp=N,352nm,19.0s
ANN MLR MLR
comp=Z,420nm,19.0s,MS4.8
CHMT Chamberlain Mo 75.29 43 P **P** **15 00 23.8 -0.2**
ERZM Erzurum 75.46 308 *i* P **P** **15 00 25.3 +0.3**
CMB Columbia Colle 75.76 54 *e*P **P** **15 00 24.4 -2.4**
comp=Z,14nm,1.2s,mb4.8
CMB Columbia Colle 75.76 54 *e*P **P** **15 00 24.4 -2.4**
CMB pmax pmax
comp=Z,14nm,1.2s,mb4.8
MSL Mosul 76.25 305 *ex* x 15 00 49.0
AKASG Malin Array Be 76.31 323 P **P** **15 00 28.0 -1.6**
comp=Z,13nm,0.3s,mb5.3,baz=48,slow=6.0,SNR=237
AKASG Malin Array Be 76.31 323 *i* P **P** **15 00 29.1 -0.5**
AKASG pmax pmax
comp=Z,13nm,0.3s
SHAO Shalim 76.38 283⇑ P **P** **15 00 29.9 -0.8**
UMR Umm Al-Rimmam 76.51 297 *e*P **P** **15 00 30.5 -0.7**
UMR AMb AMB 15 00 32.4
comp=Z,81nm,1.2s,mb5.5
DLMT Dillon 76.55 44 *e*P **P** **15 00 31.3 +0.1**
NB2 NORSAR Subarra 76.63 337 P **P** **15 00 31.1 -0.2**
comp=Z,74nm,0.9s,mb5.6,baz=40,slow=5.6
NB2 NORSAR Subarra 76.63 337 P **P** **15 00 31.1 -0.2**
baz=40,slow=5.6
NB2 NORSAR Subarra 76.63 337 P **P** **15 00 31.1 -0.2**
NB2 pmax pmax
comp=Z,74nm,0.9s,mb5.6
NOA NORSAR Array B 76.63 337 P **P** **15 00 31.0 -0.2**
comp=Z,52nm,0.8s,mb5.5,baz=40,slow=5.7,SNR=121
NOA PP PP 15 03 24.6 -0.7
comp=Z,3.2nm,0.9s,baz=38,slow=7.4,SNR=3.4
NOA LR LR 15 38 27.0
comp=Z,372nm,19.6s,MS4.7,slow=39
NOA NORSAR Array B 76.63 337 P **P** **15 00 31.0 -0.2**
NOA PP PP 15 03 24.6 -0.7
NOA LR LR 15 38 27.0
MIB Mutribah 76.66 297 *e*P **P** **15 00 31.3 -0.8**
MIB AMb AMB 15 00 33.0
comp=Z,142nm,0.8s,mb5.9
KBD Kabd 76.73 296 *e*P **P** **15 00 32.0 -0.5**
GRSN GIRESUNGRSN 76.89 311 *i* P **P** **15 00 31.2 -1.9**
NVAR Mina Array Bea 76.93 52 P **P** **15 00 34.6 +1.2**
comp=Z,2.9nm,0.9s,baz=287,slow=4.0,SNR=11
BHD Baghdad 76.97 301 *ex* x 15 00 29.0
BHD Baghdad 76.97 301 *ex* x 15 10 50.0
RDF Al-Radifah 76.97 296 *e*P **P** **15 00 33.1 -0.7**
RDF AMb AMB 15 00 35.0
comp=Z,230nm,0.9s,mb6.1
MNV Mina 77.02 52 *e*P **P** **15 00 34.4 +0.4**
comp=Z,7.4nm,1.1s,mb4.5
MNV Mina 77.02 52 *e*P **P** **15 00 34.4 +0.4**
MNV pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
NAY Al-Naaiem 77.03 297 *e*P **P** **15 00 33.3 -0.9**
NAY AMb AMB 15 00 35.2
comp=Z,116nm,1.0s,mb5.8
SUW Suwalki 77.07 328 *e*P **P** **15 00 33.5 -0.4**
SIM Simferopol' 77.10 316 *ce*P **P** **15 00 34.5 +0.3**
SIM pmax pmax
comp=Z,70nm,0.8s,mb5.6
HASS Wahat al Ahsa' 77.31 292 P **P** **15 00 35.5 -0.3**
QLMT Earthquake Lak 77.53 44 P **P** **15 00 33.7 -3.0**
RBK Rabkut 77.80 283⇑ P **P** **15 00 37.8 -0.9**
SNR=14
WHFO Wadi Hawf 77.93 283⇓ P **P** **15 00 38.3 -1.0**
SNR=20
KONO Kongsberg 78.22 337 *i* P **P** **15 00 40.0 -0.1**
MALT Malatya 78.25 308 *e*P **P** **15 00 41.8 +1.1**
comp=Z,41nm,1.0s,mb5.3
MALT Malatya 78.25 308 *e*P **P** **15 00 41.8 +1.1**
MALT pmax pmax
comp=Z,41nm,1.0s,mb5.3
IMW Indian Meadow 78.37 45 *e*P **P** **15 00 42.9 +1.7**
comp=Z,14nm,1.0s,mb4.8
RRI2 Red Ridge 78.47 45 *e*P **P** **15 00 43.0 +1.1**
comp=Z,21nm,1.1s,mb5.0
TPAW Teton Pass 78.61 45 *e*P **P** **15 00 44.5 +2.0**
comp=Z,18nm,1.1s,mb4.9
ABTO Aybut 78.61 283⇑ P **P** **15 00 42.9 -0.2**
SNR=7.0
BOYT Boyabat 78.69 313 *i* P **P** **15 00 42.7 -0.3**
LOHW Long Hollow 78.73 45 *e*P **P** **15 00 44.7 +1.4**
comp=Z,4.4nm,0.9s,mb4.4
LOHW *e* 15 01 02.6
REDW Red Top Meadow 78.74 45 *e*P **P** **15 00 43.5 +0.2**
comp=Z,14nm,1.1s,mb4.8
ATAB Bozova 78.81 308 *i* P **P** **15 00 43.7 -0.1**
KIS Kishinev 78.81 320 *e*P **P** **15 00 42.0 -1.6**
LAO LASA Array 79.30 40 *e*P **P** **15 00 47.2 +0.9**
comp=Z,16nm,0.9s,mb5.0
LAO *e* 15 01 04.7
GZT Gaziantep 79.35 308 *i* P **P** **15 00 47.2 +0.4**
HWUT Hardware Ranch 79.36 47 *e*P **P** **15 00 48.2 +1.5**
comp=Z,140nm,1.5s,mb5.7
HWUT *e* 15 01 05.8
DUG Dugway 79.43 48 *e*P **P** **15 00 48.0 +0.9**
comp=Z,17nm,1.0s,mb4.9
DUG Dugway 79.43 48 *e*P **P** **15 00 48.1 +1.0**
DUG pmax pmax
comp=Z,17nm,1.0s,mb4.9
LVV L'vov 79.44 324 *d i*P **P** **15 00 46.9 -0.1**
LVV *e*S S 15 10 58.8 +15
BALT Daday 79.54 313 *i* P **P** **15 00 47.6 -0.1**
KAHT Ahir Dag 79.64 308 *i* P **P** **15 00 49.4 +1.1**

TCUT	**Toone Canyon**	**79.75**	**47**	*e*P		**P**		**15 00 50.4 +1.6**
TCUT				*e*				15 01 08.1
BSD	**Bornholm Skovb**	**79.75**	**332**⇑	*i*P		**P**		**15 00 48.2 -0.3**
	comp=Z,48nm,1.0s,mb5.4							
BSD				*i*				15 01 07.0
BSD	**Bornholm Skovb**	**79.75**	**332**⇑	*i*P		**P**		**15 00 48.2 -0.3**
BSD				*i*				15 01 07.0
BSD					pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4							
PDAR	**Pinedale Array**	**79.86**	**45**	P		**P**		**15 00 50.0 +0.7**
	comp=Z,1.0nm,0.7s,baz=304,slow=5.3,SNR=6.7							
CDAG	**Cicekdag**	**80.07**	**311**	*i* P		**P**		**15 00 50.2 -0.4**
KWP	**Kalwaria**	**80.21**	**324**	*e*P		**P**		**15 00 52.0 +0.9**
DAU	**Daniels Canyon**	**80.26**	**48**	*e*P		**P**		**15 00 53.4 +1.8**
MPU	**Maple Canyon**	**80.27**	**48**	P		**P**		**15 00 53.1 +1.5**
	comp=Z,23nm,1.1s,mb5.0							
COP	**Copenhagen**	**80.27**	**333**	*i* P		**P**		**15 00 51.4 +0.1**
COP				*i*		pP		15 01 02.6 -1.5
BURAR	**Bucovina Array**	**80.30**	**322**	⇓P		**P**		**15 00 52.2 +0.6**
BURAR	**Bucovina Array**	**80.30**	**322**	P		**P**		**15 00 52.1 +0.5**
CFR	**Carcaliu**	**80.32**	**319**	⇑P		**P**		**15 00 50.9 -0.9**
ARUT	**Antelope Range**	**80.45**	**51**	*e*P		**P**		**15 00 53.8 +1.2**
ARUT				*e*pP		pP		15 01 10.4 +5.0
ARUT				*e*sP		sP		15 01 19.6 +9.5
BR131	**Keskin Array S**	**80.46**	**312**	*e*P		**P**		**15 00 53.1 +0.4**
	comp=Z,23nm,0.9s,mb5.1							
BRTR	**Keskin Array B**	**80.46**	**312**	P		**P**		**15 00 53.0 +0.3**
	comp=Z,23nm,0.8s,mb5.1,baz=108,slow=3.9,SNR=63							
BRTR					PP	PP		15 03 49.5 -8.4
	comp=Z,1.6nm,0.9s,baz=63,slow=6.4,SNR=3.0							
TIRR	**Tirgusor**	**80.63**	**318**	⇑P		**P**		**15 00 53.3 -0.1**
VRI	**Vrincioaia**	**80.65**	**320**	⇓P		**P**		**15 00 54.1 +0.6**
NEN	**Nelson**	**80.78**	**53**	*e*P		**P**		**15 00 55.3 +0.9**
MSU	**Marysvale**	**80.82**	**50**	*e*P		**P**		**15 00 55.9 +1.3**
MSU				*e*				15 01 15.0
MUD	**Monsted U'grnd**	**80.85**	**335**	*i* P		**P**		**15 00 54.7 +0.4**
	comp=Z,42nm,1.0s,mb5.3							
MUD	**Monsted U'grnd**	**80.85**	**335**	*i* P		**P**		**15 00 54.7 +0.4**
MUD					pmax	pmax		
	comp=Z,42nm,1.0s,mb5.3							
KOLS	**Kolonicke sedl**	**80.89**	**324**	*i* P		**P**		**15 00 54.8 +0.1**
SGKT	**Sivrigoynuk**	**80.92**	**313**	*i* P		**P**		**15 00 54.6 -0.4**
STHS	**Stebnicka Huta**	**81.06**	**325**	*i* P		**P**		**15 00 56.6 +1.0**
UZH	**Uzhgorod**	**81.09**	**324***d*	*i* P		**P**		**15 00 56.0 +0.2**
OJC	**Ojcow**	**81.18**	**326**	*e*P		**P**		**15 00 56.4 +0.2**
PSN	**Preselentsi**	**81.25**	**317**	*e*P		**P**		**15 00 57.0 +0.3**
MZLS	**Mizel**	**81.37**	**293**	P		**P**		**15 00 58.0 +0.2**
NIE	**Niedzica**	**81.49**	**325**	*e*P		**P**		**15 00 58.8 +0.9**
SRU	**San Rafael**	**81.49**	**48**	*e*P		**P**		**15 00 59.1 +1.0**
	comp=Z,14nm,0.8s,mb4.9							
SRU				*e*				15 01 17.1
SRU	**San Rafael**	**81.49**	**48**	*e*P		**P**		**15 00 59.1 +1.0**
SRU				*e*				15 01 17.1
SRU					pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9							
VOIR		**81.82**	**320**	⇓P		**P**		**15 01 00.1 +0.5**
PRD	**Provadia**	**81.99**	**317**	*e*P		**P**		**15 01 01.2 +0.6**
ULM	**Lac du Bonnet**	**82.01**	**33**	P		**P**		**15 01 02.8 +2.3**
	comp=Z,4.4nm,0.9s,mb4.4,baz=272,slow=6.9,SNR=4.4							
KECS	**Kecovo**	**82.06**	**325**	*i* P		**P**		**15 01 01.4 +0.6**
HILS	**Ha'il**	**82.06**	**298**	P		**P**		**15 01 01.6 +0.4**
DRGR		**82.12**	**322**	⇓P		**P**		**15 01 00.7 -0.5**
DRGR		**82.12**	**322**	P		**P**		**15 01 01.0 -0.2**
OKC	**Ostrava-Krasne**	**82.20**	**327**	⇓*i*P		**P**		**15 01 01.8 +0.3**
KSP	**Ksiaz**	**82.30**	**328**	*e*P		**P**		**15 01 02.7 +0.7**
KSP	**Ksiaz**	**82.30**	**328**	*e*P		**P**		**15 01 02.4 +0.4**
BORA	**Eskisehir**	**82.31**	**313**	*i* P		**P**		**15 01 01.0 -1.3**
LIKS	**Likavka**	**82.32**	**326**	*e*P		**P**		**15 01 03.1 +1.0**
BSEG	**Bad Segeberg**	**82.40**	**333**	*e*P		**P**		**15 01 02.6 +0.2**
MORC	**Moravsky Berou**	**82.52**	**327**	*e*P		**P**		**15 01 03.6 +0.4**
	comp=Z,16nm,1.0s,mb5.0							
MORC				*e*				15 01 22.7
MORC	**Moravsky Berou**	**82.52**	**327**	*e*P		**P**		**15 01 03.6 +0.5**
MORC				*e*				15 01 22.7
MORC					pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0							
DPC	**Dobruska-Polom**	**82.65**	**328**⇓	*i*P		**P**		**15 01 04.5 +0.7**
DPC				*e*pP		pP		15 01 23.0 +6.4
DPC				*e*PP		PP		15 04 13.5 -2.1
UPC	**Upice**	**82.67**	**328**⇓	*i*P		**P**		**15 01 04.1 +0.2**
UPC				*e*pP		pP		15 01 24.0 +7.3
PSZ	**Piszkesteto**	**82.74**	**325**⇓	*e*P		**P**		**15 01 05.1 +0.8**
SZH	**Strazhica**	**82.77**	**318**	*e*P		**P**		**15 01 05.5 +1.0**
VYHS	**Vyhne**	**82.84**	**325**	*e*P		**P**		**15 01 05.2 +0.4**
PV10	**Paradox Valley**	**82.86**	**48**	*e*P		**P**		**15 01 06.9 +1.8**
JMB	**Yambol**	**82.92**	**317**	*e*P		**P**		**15 01 06.5 +1.1**
ULDT	**Uludag**	**82.94**	**314**	*i* P		**P**		**15 01 05.4 0.0**
QURS	**Qurayyt al Mil**	**82.96**	**303**	P		**P**		**15 01 07.5 +1.7**
AFFS	**'Afif**	**83.10**	**294**	P		**P**		**15 01 07.0 +0.3**
WUAZ	**Wupatki**	**83.13**	**52**	*e*P		**P**		**15 01 08.1 +1.5**
	comp=Z,28nm,1.4s,mb5.1							
PVCC	**Panska Ves**	**83.28**	**329**⇓	*i*P		**P**		**15 01 07.6 +0.6**
PVCC				*e*pP		pP		15 01 21.5 +1.6
VRAC	**Vranov**	**83.28**	**327**	*e*P		**P**		**15 01 07.9 +0.9**
BRG	**Berggiesshubel**	**83.29**	**329**⇓	*i*P		**P**		**15 01 07.3 +0.3**
	comp=Z,30nm,1.2s,mb5.2							
BRG				*i*	pP	pP		15 01 23.6 +3.7
BRG					PP	PP		15 04 18.7 -2.0
BRG	**Berggiesshubel**	**83.29**	**329**⇓	*i*P		**P**		**15 01 07.3 +0.3**
BRG				*i* *PP		pP		15 01 23.6 +3.7
BRG								15 04 18.7
BRG					pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2							
PV01	**Paradox Valley**	**83.30**	**48**	*e*P		**P**		**15 01 08.0 +0.6**
CLL	**Collm**	**83.35**	**330**	⇓P		**P**		**15 01 07.3 0.0**
	comp=Z,logA/T=1.8,mb5.6							
CLL				*i* *PP		pP		15 01 26.6 +6.4
CLL				*e*PP		PP		15 04 18.0 -3.2
CLL	**Collm**	**83.35**	**330**⇓	*i*P		**P**		**15 01 07.3 0.0**
	comp=Z,65nm,1.1s,mb5.6							
CLL				*i*				15 01 26.6
CLL	**Collm**	**83.35**	**330**⇓	*i*P		**P**		**15 01 07.3 0.0**
CLL				*i*				15 01 26.6
CLL					pmax	pmax		
	comp=Z,65nm,1.1s,mb5.6							
GDZ	**Gediz**	**83.40**	**313**	*i* P		**P**		**15 01 05.8 -2.0**
HNTI	**Hanita**	**83.43**	**306**	P		**P**		**15 01 08.7 +0.5**
SMOL	**Smolenice**	**83.48**	**326**	*e*P		**P**		**15 01 09.6 +1.6**
SRO	**Srobarova**	**83.57**	**325**	*e*P		**P**		**15 01 09.9 +1.4**
SRO1	**Iza**	**83.64**	**325**	*e*P		**P**		**15 01 09.7 +0.9**
MMLI	**Mount Malkishu**	**83.65**	**305**	P		**P**		**15 01 10.2 +0.9**
PPT	**Papeete**	**83.68**	**116**	eLR		LR		15 26 37.4
	comp=Z,281nm,23.5s,baz=320							
PPT	**Papeete**	**83.68**	**116**	LR		LR		15 31 29.0
	comp=Z,150nm,19.7s,MS4.4,baz=47,slow=30							
PRU	**Pruhonice**	**83.69**	**329**⇓	*i*P		**P**		**15 01 09.5 +0.5**
PRU				*e*pP		pP		15 01 28.5 +6.6
DIM	**Dimitrovgrad**	**83.79**	**317**	*e*P		**P**		**15 01 10.5 +0.8**
TREC	**Trest**	**83.79**	**328**⇓	*i*P		**P**		**15 01 10.1 +0.5**
PKSG		**83.83**	**325**⇑	*i*P		**P**		**15 01 10.8 +1.0**
OFRI	**'Ofer**	**83.84**	**305**	P		**P**		**15 01 10.5 +0.3**
ZST	**Bratislava**	**83.86**	**326**	*e*P		**P**		**15 01 11.1 +1.2**
KAMS	**Al Khamasin**	**83.92**	**290**	P		**P**		**15 01 11.2 +0.3**
CLZ	**Clausthal**	**84.00**	**332**	*e*P		**P**		**15 01 11.3 +0.7**
	comp=Z,80nm,1.2s,mb5.7							
CLZ	**Clausthal**	**84.00**	**332**	*e*P		**P**		**15 01 11.3 +0.7**
CLZ					pmax	pmax		
	comp=Z,80nm,1.2s,mb5.7							
MKRJ	**Makawir**	**84.03**	**304**	P		**P**		**15 01 12.1 +0.9**
PKS8	**Sarbogard**	**84.06**	**324**⇑	*i*P		**P**		**15 01 11.4 +0.4**
KDZ	**Kurdzhali**	**84.11**	**317**	*e*P		**P**		**15 01 12.0 +0.6**
VKA	**Vienna**	**84.17**	**326**	⇓*i*P		**P**		**15 01 12.7 +1.2**
MANT	**Manisa**	**84.33**	**313**	*i* P		**P**		**15 01 12.7 +0.1**
MOX	**Moxa**	**84.43**	**330**⇑	*i*P		**P**		**15 01 13.3 +0.6**
	comp=Z,logA/T=1.6,mb5.5							
MOX					pP	pP		15 01 32.0 +6.4
MOX	**Moxa**	**84.43**	**330**⇑	*i*P		**P**		**15 01 13.3 +0.6**
	comp=Z,51nm,1.4s,mb5.5							
MOX				*e*pP		pP		15 01 32.4 +6.8
MOX	**Moxa**	**84.43**	**330**⇑	*i*P		**P**		**15 01 13.3 +0.6**
MOX				*e**PP		pP		15 01 32.4 +6.8
MOX					pmax	pmax		
	comp=Z,51nm,1.4s,mb5.5							
PKS9	**Tamasi**	**84.46**	**324**⇑	*i*P		**P**		**15 01 13.6 +0.6**
RZN	**Rozhen**	**84.48**	**318**	*i* P		**P**		**15 01 14.0 +0.8**
SOP	**Sopron**	**84.48**	**326**	*i* PcPc				15 01 14.5
SOP	**Sopron**	**84.48**	**326**⇑	*i*P		**P**		**15 01 14.5 +1.4**
PKSM	**Moragy**	**84.55**	**324**⇓	*e*P		**P**		**15 01 13.5 0.0**
VTS	**Vitosha**	**84.71**	**319**	*i* P		**P**		**15 01 15.5 +1.2**
VTS	**Vitosha**	**84.71**	**319**	P		**P**		**15 01 15.4 +1.1**
KHC	**Kasperske Hory**	**84.75**	**328**⇓	*i*P		**P**		**15 01 14.8 +0.4**
KHC				*e*pP		pP		15 01 34.0 +6.7
KBRS	**Khaybar**	**84.83**	**298**	P		**P**		**15 01 16.2 +0.8**
GEC2	**GERESS Array S**	**84.91**	**328**	*e*P		**P**		**15 01 15.3 +0.1**
	comp=Z,30nm,1.0s,mb5.4							
GEC2	**GERESS Array S**	**84.91**	**328**	*e*P		**P**		**15 01 15.3 +0.1**
GEC2					pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4							
GERES	**GERESS Array B**	**84.91**	**328**	P		**P**		**15 01 15.5 +0.3**
	comp=Z,19nm,0.8s,mb5.3,baz=34,slow=4.8,SNR=91							
GERES					PP	PP		15 04 31.7 -2.0
	comp=Z,1.1nm,0.8s,baz=45,slow=5.7,SNR=3.8							
GERES					LR	LR		15 43 16.0
	comp=Z,366nm,18.6s,MS4.8,baz=157,slow=38							
RHK1	**Bakonya**	**84.91**	**324**⇓	*i*P		**P**		**15 01 15.8 +0.5**
ZFRI	**Zfri**	**84.94**	**304**	P		**P**		**15 01 16.2 +0.4**
WET	**Wettzell**	**85.04**	**329**	*e*P		**P**		**15 01 16.4 +0.6**
	comp=Z,26nm,1.1s,mb5.3							
WET	**Wettzell**	**85.04**	**329**	*e*P		**P**		**15 01 16.4 +0.6**
WET					pmax	pmax		
	comp=Z,26nm,1.1s,mb5.3							
MMB	**Musomiste**	**85.10**	**318**	*i* P		**P**		**15 01 17.0 +0.7**
PRNI	**Paran**	**85.18**	**304**	P		**P**		**15 01 17.4 +0.4**
WTSB	**Winterswijk**	**85.26**	**334**	*e*P		**P**		**15 01 17.2 +0.4**
	comp=Z,36nm,0.9s,mb5.5							
KZIT	**Kziot**	**85.27**	**304**	P		**P**		**15 01 17.5 +0.1**
KKB	**Krupnik**	**85.27**	**319**	*i* P		**P**		**15 01 18.5 +1.4**
AYDN	**Tasoluk**	**85.28**	**313**	*i* P		**P**		**15 01 18.7 +1.4**
ARSA	**Arzberg**	**85.28**	**326**⇑	*i*P		**P**		**15 01 18.1 +1.1**
	comp=Z,34nm,1.2s,mb5.4							
GRA1	**Grafenberg Arr**	**85.32**	**330**	*e*P		**P**		**15 01 18.1 +0.9**
	comp=Z,129nm,1.1s,mb6.0							
GRA1				*e*pP		pP		15 01 32.6 +2.5
GRA1				*e*sP		sP		15 01 37.4 +2.7
GRF	**Grafenberg Arr**	**85.32**	**330**	*e*P		**P**		**15 01 18.1 +0.9**
GRF				*e**PP		pP		15 01 32.6 +2.5
GRF				*e**SP		sP		15 01 37.4 +2.7
GRF					pmax	pmax		
	comp=Z,129nm,1.1s,mb6.0							
TBKS	**Tabuk**	**85.37**	**301**	P		**P**		**15 01 18.9 +1.0**
DIVS	**Divcibare**	**85.37**	**322**⇑	*i*P		**P**		**15 01 17.7 +0.1**
MOA	**Molln**	**85.41**	**327**⇑	*i*P		**P**		**15 01 18.1 +0.4**
	comp=Z,34nm,1.0s,mb5.4							
MOA	**Molln**	**85.41**	**327**	*i* P		**P**		**15 01 18.1 +0.4**
	comp=Z,34nm,1.0s,mb5.4,SNR=14							
URLA	**Izmir**	**85.59**	**314**	*i* P		**P**		**15 01 13.0 -5.8**
EIL	**Elat**	**85.63**	**303**	P		**P**		**15 01 19.1 -0.1**
TAOE	**Nuku Hiva Isla**	**85.82**	**104**	eLR		LR		15 27 38.2
	comp=Z,1μm,31.9s							
JMOS	**Jabal al Moall**	**85.82**	**303**	P		**P**		**15 01 21.6 +1.4**
PERS	**Pernice**	**85.92**	**326**	*e*P		**P**		**15 01 20.5 +0.3**
TNS	**Taunus Mts**	**86.03**	**332**	*e*P		**P**		**15 01 21.0 +0.4**
	comp=Z,41nm,1.1s,mb5.6							
TNS	**Taunus Mts**	**86.03**	**332**	*e*P		**P**		**15 01 21.0 +0.4**
TNS					pmax	pmax		
	comp=Z,41nm,1.1s,mb5.6							
SKO	**Skopje**	**86.09**	**319**	*i* P		**P**		**15 01 21.6 +0.5**
GOLS	**Golise**	**86.14**	**325**	*i* P		**P**		**15 01 21.7 +0.4**
BDAS	**Al Bad'**	**86.27**	**302**	P		**P**		**15 01 22.7 +0.4**
TOD	**Tromm**	**86.38**	**331**	*e*P		**P**		**15 01 23.0 +0.6**
KBA	**Koelnbreinsper**	**86.40**	**327**⇑	*i*P		**P**		**15 01 21.9 -0.6**
	comp=Z,14nm,0.9s,mb5.2							
KBA	**Koelnbreinsper**	**86.40**	**327**⇑	*i*P		**P**		**15 01 21.9 -0.6**
KBA					pmax	pmax		
	comp=Z,14nm,0.9s,mb5.2							
FUR	**Furstenfeldbru**	**86.48**	**329**	*e*P		**P**		**15 01 23.7 +0.8**
	comp=Z,64nm,1.0s,mb5.8							
FUR	**Furstenfeldbru**	**86.48**	**329**	*e*P		**P**		**15 01 23.7 +0.8**
FUR					pmax	pmax		
	comp=Z,64nm,1.0s,mb5.8							
HGN	**Heimansgroeve**	**86.56**	**333**	*e*P		**P**		**15 01 23.7 +0.5**
	comp=Z,51nm,0.9s,mb5.8							
ANMO	**Albuquerque**	**86.63**	**49**	*i* P		**P**		**15 01 30.2 +6.2**
LJU	**Ljubljana**	**86.63**	**326**	*e*P		**P**		**15 01 23.8 +0.1**
ABH	**Alteburg**	**86.65**	**332**	*e*P		**P**		**15 01 24.3 +0.6**
CADS	**Cadrg**	**86.86**	**326**	*e*P		**P**		**15 01 24.3 -0.5**
STU	**Stuttgart**	**86.87**	**330**	*e*P		**P**		**15 01 25.0 +0.1**
	comp=Z,27nm,0.9s,mb5.5							
STU	**Stuttgart**	**86.87**	**330**	*e*P		**P**		**15 01 25.0 +0.2**
STU					pmax	pmax		
	comp=Z,27nm,0.9s,mb5.5							
ROBS	**Robic**	**86.95**	**327**	*e*P		**P**		**15 01 24.1 -1.1**
WTTA	**Wattenberg**	**87.01**	**328**⇓	*i*P		**P**		**15 01 25.8 +0.3**
	comp=Z,18nm,1.7s,mb5.0							
WTTA	**Wattenberg**	**87.01**	**328**⇓	*i*P		**P**		**15 01 25.8 +0.3**
WTTA					pmax	pmax		
	comp=Z,18nm,1.7s,mb5.0							
MOTA	**Moosalm**	**87.18**	**329**⇑	*i*P		**P**		**15 01 26.7 +0.3**
	comp=Z,62nm,2.1s,mb5.5							
MOTA	**Moosalm**	**87.18**	**329**⇑	*i*P		**P**		**15 01 26.7 +0.3**
MOTA					pmax	pmax		
	comp=Z,62nm,2.1s,mb5.5							
LANF	**Langenberg**	**87.27**	**331**	*e*P		**P**		**15 01 27.5 +0.8**
WLF	**Walferdange**	**87.36**	**333**	*e*P		**P**		**15 01 27.8 +0.6**
	comp=Z,89nm,1.8s,mb5.7							
WLF				*e*		pP		15 01 43.0 +2.8
WLF	**Walferdange**	**87.36**	**333**	*e*P		**P**		**15 01 27.8 +0.6**
WLF				*e*		pP		15 01 43.0 +2.8
WLF					pmax	pmax		
	comp=Z,89nm,1.8s,mb5.7							
TBI	**Tubuai**	**87.38**	**120**	eLR		LR		15 28 19.6
GIVF	**Givet**	**87.51**	**334**	*e*P		**P**		**15 01 27.5 -0.4**
	comp=Z,58nm,1.1s,mb5.4							
GIVF	**Givet**	**87.51**	**334**	*e*P		**P**		**15 01 27.5 -0.4**
GIVF					pmax	pmax		
	comp=Z,29nm,1.1s,mb5.4							
BFO	**Black Forest**	**87.58**	**331**	*e*P		**P**		**15 01 28.4 +0.2**
	comp=Z,42nm,1.7s,mb5.4							
BFO	**Black Forest**	**87.58**	**331**	*e*P		**P**		**15 01 28.4 +0.2**
BFO					pmax	pmax		
	comp=Z,42nm,1.7s,mb5.4							
DAVA	**Damuels**	**87.75**	**329**⇑	*i*P		**P**		**15 01 29.0 -0.1**
	comp=Z,17nm,1.1s,mb5.2							
BAIF	**Baives**	**87.77**	**334**	*e*P		**P**		**15 01 28.9 -0.2**
	comp=Z,45nm,1.1s,mb5.3							
BAIF	**Baives**	**87.77**	**334**	*e*P		**P**		**15 01 28.9 -0.2**
BAIF					pmax	pmax		
	comp=Z,23nm,1.1s,mb5.3							
WLS	**Welschbruch**	**87.90**	**331**	*e*P		**P**		**15 01 30.4 +0.6**
CDF	**Champ du Feu**	**87.94**	**331**	*e*P		**P**		**15 01 29.7 -0.2**
	comp=Z,36nm,1.1s,mb5.2							
CDF	**Champ du Feu**	**87.94**	**331**	*e*P		**P**		**15 01 29.7 -0.2**
CDF					pmax	pmax		
	comp=Z,18nm,1.1s,mb5.2							
SCHQ	**Schefferville**	**88.10**	**16**	P		**P**		**15 01 31.2 +0.6**
	comp=Z,3.7nm,0.8s,mb4.7,baz=237,slow=13,SNR=3.4							
SCHQ					LR	LR		15 42 24.8
	comp=Z,211nm,19.5s,MS4.6,baz=9.1,slow=36							
ECH	**Echery**	**88.14**	**331**	*e*P		**P**		**15 01 31.0 +0.1**
MOF	**Molkenrain**	**88.44**	**331**	*e*P		**P**		**15 01 32.7 +0.3**
HINF	**Hinteralfeld**	**88.58**	**331**	*e*P		**P**		**15 01 32.4 -0.6**
	comp=Z,16nm,0.9s,mb5.0							
HINF	**Hinteralfeld**	**88.58**	**331**	*e*P		**P**		**15 01 32.4 -0.6**
HINF					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0							
HAU	**Haudompre**	**88.63**	**331**	*e*P		**P**		**15 01 32.7 -0.6**
	comp=Z,24nm,0.9s,mb5.2							
HAU					eR			
	comp=Z,364nm,21.2s							
HAU	**Haudompre**	**88.63**	**331**	*e*P		**P**		**15 01 32.7 -0.6**
HAU					pmax	pmax		
	comp=Z,12nm,0.9s,mb5.2							
HAU					MLR	MLR		
	comp=Z,360nm,21.3s,MS4.8							
MEZF	**Maizieres J'vi**	**88.73**	**332**	*e*P		**P**		**15 01 33.9 +0.2**
	comp=Z,102nm,1.4s,mb5.7							
GRAM		**89.85**	**327**	P		**P**		**15 01 38.5 -0.6**
CABF	**La Chapelle**	**89.86**	**331**	*e*P		**P**		**15 01 38.6 -0.5**
ORX	**Oropa**	**89.86**	**329**	P		**P**		**15 01 37.9 -1.3**
AQU	**L'Aquila**	**89.94**	**324**	*e*P		**P**		**15 01 40.3 +0.7**
	comp=Z,46nm,1.0s,mb5.8							
AQU				*e*PP		PP		15 05 11.4 -3.6
AQU	**L'Aquila**	**89.94**	**324**	*e*P		**P**		**15 01 40.3 +0.7**
AQU				*e*				15 05 11.4
AQU					pmax	pmax		
	comp=Z,46nm,1.0s,mb5.8							
SARO	**Sassorosso**	**89.94**	**327**	P		**P**		**15 01 38.5 -1.1**
BACM		**90.02**	**327**	P		**P**		**15 01 38.9 -1.0**
MAIM		**90.11**	**327**	P		**P**		**15 01 38.2 -2.2**
LOR	**Lormes**	**90.20**	**332**	*e*P		**P**		**15 01 40.3 -0.4**
	comp=Z,70nm,1.4s,mb5.5							
LOR					eR			
	comp=Z,253nm,21.5s							
LOR	**Lormes**	**90.20**	**332**	*e*P		**P**		**15 01 40.3 -0.4**
LOR					pmax	pmax		
	comp=Z,35nm,1.4s,mb5.5							
LOR					MLR	MLR		
	comp=Z,250nm,21.5s,MS4.6							
LSD	**Ceresole Reale**	**90.35**	**330**	P		**P**		**15 01 42.1 +0.6**
LPL	**La Plagne**	**90.48**	**330**	*e*P		**P**		**15 01 42.1 0.0**
	comp=Z,31nm,1.0s,mb5.3							
LPL	**La Plagne**	**90.48**	**330**	*e*P		**P**		**15 01 42.1 0.0**
LPL					pmax	pmax		
	comp=Z,15nm,1.0s,mb5.3							
PCP	**Pian Castagno**	**90.49**	**328**	P		**P**		**15 01 41.0 -1.1**
LPG	**La Plagne**	**90.49**	**330**	*e*P		**P**		**15 01 42.3 +0.2**
	comp=Z,46nm,1.0s,mb5.5							
LPG	**La Plagne**	**90.49**	**330**	*e*P		**P**		**15 01 42.3 +0.2**
LPG					pmax	pmax		
	comp=Z,23nm,1.0s,mb5.5							
SSF	**Saint Saulge**	**90.51**	**332**	*e*P		**P**		**15 01 41.9 -0.3**
	comp=Z,47nm,1.3s,mb5.4							
SSF	**Saint Saulge**	**90.51**	**332**	*e*P		**P**		**15 01 41.9 -0.3**
SSF					pmax	pmax		
	comp=Z,24nm,1.3s,mb5.4							
FLN	**La Foliniere**	**90.52**	**336**	*e*P		**P**		**15 01 41.8 -0.4**
	comp=Z,29nm,0.9s,mb5.3							
FLN					eR			
	comp=Z,591nm,22.8s							
FLN	**La Foliniere**	**90.52**	**336**	*e*P		**P**		**15 01 41.8 -0.4**
FLN					pmax	pmax		
	comp=Z,14nm,0.9s,mb5.3							
FLN					MLR	MLR		
	comp=Z,590nm,22.8s,MS5.0							
LDF	**La Druitiere**	**90.54**	**335**	*e*P		**P**		**15 01 41.8 -0.5**
	comp=Z,64nm,1.2s,mb5.5							
LDF	**La Druitiere**	**90.54**	**335**	*e*P		**P**		**15 01 41.8 -0.5**
LDF					pmax	pmax		
	comp=Z,32nm,1.2s,mb5.5							
RSP	**Reno Superiore**	**90.56**	**329**	P		**P**		**15 01 42.7 +0.3**
TIP	**Timpagrande**	**90.58**	**320**	*e*P		**P**		**15 01 42.8 +0.1**
TIP				*e*		pP		15 01 57.6 +1.9
HYF	**Humbligny**	**90.67**	**333**	*e*P		**P**		**15 01 43.1 +0.2**
SMF	**Signal de Mont**	**90.72**	**332**	*e*P		**P**		**15 01 42.7 -0.5**
	comp=Z,95nm,1.5s,mb5.6							
SMF	**Signal de Mont**	**90.72**	**332**	*e*P		**P**		**15 01 42.7 -0.5**
SMF					pmax	pmax		
	comp=Z,47nm,1.5s,mb5.6							
FENE	**Fenestrelle**	**90.73**	**329**	P		**P**		**15 01 41.9 -1.4**
AVF	**Avril sur Loir**	**90.79**	**332**	*e*P		**P**		**15 01 43.2 -0.3**
	comp=Z,64nm,1.2s,mb5.5							
AVF	**Avril sur Loir**	**90.79**	**332**	*e*P		**P**		**15 01 43.2 -0.3**
AVF					pmax	pmax		
	comp=Z,32nm,1.2s,mb5.5							
BNI	**Bardonecchia**	**90.88**	**330**	*e*P		**P**		**15 01 44.2 +0.3**
	comp=Z,11nm,0.9s,mb5.2							
BNI	**Bardonecchia**	**90.88**	**330**	*e*P		**P**		**15 01 44.2 +0.2**
BNI					pmax	pmax		
	comp=Z,11nm

comp=Z,57nm,1.1s,mb5.6
CAF Calviac 92.85 332 *e*P P 15 01 53.5 +0.5
CAF pmax pmax
comp=Z,29nm,1.1s,mb5.6
LFF La Frestale 93.34 333 *e*P P 15 01 55.6 +0.3
comp=Z,55nm,1.0s,mb5.7
LFF La Frestale 93.34 333 *e*P P 15 01 55.6 +0.3
LFF pmax pmax
comp=Z,27nm,1.0s,mb5.6
MTLF Montolieu 94.11 331 *e*P P 15 01 58.8 0.0
comp=Z,40nm,1.2s,mb5.4
MTLF Montolieu 94.11 331 *e*P P 15 01 58.8 0.0
MTLF pmax pmax
comp=Z,20nm,1.2s,mb5.4
EPF Esparros 95.11 332 *e*P P 15 02 03.0 -0.4
ETSF Etsaut 95.57 333 *e*P P 15 02 05.3 -0.1
comp=Z,5.6nm,0.8s,mb4.8
ETSF Etsaut 95.57 333 *e*P P 15 02 05.3 -0.1
ETSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
SJPF Ste Jean 95.64 333 *e*P P 15 02 06.1 +0.4
comp=Z,30nm,1.4s,mb5.2
SJPF Ste Jean 95.64 333 *e*P P 15 02 06.1 +0.4
SJPF pmax pmax
comp=Z,15nm,1.4s,mb5.2
RKT Rikitea 97.99 112 *e*LR LR 15 33 15.5
ESDC Sonseca Array 99.64 333 PP PP 15 06 24.9 -5.9
comp=Z,1.0nm,0.8s,baz=35,slow=8.1,SNR=3.3
KMBO Kilima Mbogo 102.01 277 P Pdif 15 02 31.9 -3.4
comp=Z,0.9nm,0.2s,baz=221,slow=19,SNR=2.5
MAW Mawson 116.89 205 PKP PKPdf 15 07 24.2 +1.1
comp=Z,1.3nm,0.7s,baz=269,slow=5.7,SNR=3.6
LBTB Lobatse 123.94 261 *e*PKPdf PKPdf 15 07 38.8 +1.0
QSPA South Pole Qui 123.99 180 ⇑*i*P PKPdf 15 07 38.1 +1.4
DBIC Dimbokro 128.07 315 PKP PKPdf 15 07 47.3 +1.2
comp=Z,1.8nm,0.5s,baz=220,slow=4.5,SNR=2.5
ROSC El Rosal 128.77 48 PKP PKPdf 15 07 50.3 +2.9
comp=Z,3.5nm,0.4s,baz=102,slow=22,SNR=3.7
SNAA Sanae 137.99 196 P PKPdf 15 07 54.3 -8.8
SNAA Sanae 137.99 196 PKPdf 15 08 06.4 +3.3
SNAA Sanae 137.99 196 PKPdf 15 08 19.3 +16
SNAA Sanae 137.99 196 PKPdf 15 08 28.4 +25
SNAA Sanae 137.99 196 *i* PKIKP PKPdf 15 08 04.4 +1.3
VNA2 Neumayer--Watz 139.55 195 P PKPdf 15 07 59.0 -6.9
VNA2 Neumayer--Watz 139.55 195 PKPdf 15 08 02.6 -3.3
VNA2 Neumayer--Watz 139.55 195 PKPdf 15 08 08.8 +2.9
VNA2 Neumayer--Watz 139.55 195 PKPdf 15 08 21.4 +15
VNA2 Neumayer--Watz 139.55 195 PKPdf 15 08 35.0 +29
VNA2 Neumayer--Watz 139.55 195 P PKPdf 15 08 02.6 -3.3
VNA3 Neumayer Olymp 139.79 194 P PKPdf 15 07 59.5 -6.9
VNA3 Neumayer Olymp 139.79 194 PKPdf 15 08 05.4 -1.0
VNA3 Neumayer Olymp 139.79 194 PKPdf 15 08 11.6 +5.2
VNA3 Neumayer Olymp 139.79 194 P PKPdf 15 08 05.4 -1.0
VNA1 Neumayer--Stat 139.95 195 P PKPdf 15 08 05.0 -1.7
VNA1 Neumayer--Stat 139.95 195 PKPdf 15 08 12.0 +5.3
VNA1 Neumayer--Stat 139.95 195 PKPdf 15 08 19.1 +12
LPAZ La Paz 148.31 63 PKP PKPdf 15 08 24.1 +1.7
comp=Z,13nm,1.0s,baz=297,slow=6.8,SNR=3.9
LPAZ PKPbc PKPdf 15 08 28.6 +6.3
comp=Z,12nm,0.8s,baz=11,slow=9.0,SNR=37
LPAZ La Paz 148.31 63 *e*PKIKP PKPdf 15 08 24.7 +2.3
LPAZ *e* 15 08 28.9
USHA Ushuaia 150.95 144 PKPbc PKPdf 15 08 34.3 +8.9
comp=Z,19nm,0.8s,baz=307,slow=4.0,SNR=5.7
PLCA Paso Flores 154.21 114 PKPbc PKPdf 15 08 41.4 +11
comp=Z,2.0nm,0.8s,baz=210,slow=4.4,SNR=5.3
PLCA Paso Flores 154.21 114 PKIKP PKPdf 15 08 41.4 +11
PLCA pmax pmax
comp=Z,2.0nm,0.8s

IGQ 24 14:55:55.7, 0.76N×79.48W, h14km±2km, mb4.0, 2C-10D, Error ellipse: s-maj=1.6km s-min=1.4km az=164.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LORE	**San Lorenzo**	**0.83**	**50**	⇓P	Pb	14 56 11.9	+0.5
MAG1	**Magdalena**	**0.87**	**200**	P	Pb	14 56 13.0	+0.9
JOR1	**San Jorge 1**	**1.13**	**132**	⇓P	Pb	14 56 19.6	+3.1
JOR1				S	Sb	14 56 37.6	+6.7
COTA	**Cotacachi**	**1.22**	**110**	⇓P	Pb	14 56 18.3	+0.3
COTA				S	Sb	14 56 36.2	+2.8
YANA	**Yana**	**1.26**	**134**	⇓P	Pb	14 56 19.6	+0.9
YANA				S	Sb	14 56 37.6	+3.0
PINO	**Pino**	**1.26**	**136**	⇓P	Pb	14 56 19.8	+1.0
PINO				S	Sb	14 56 37.4	+2.7
TERV	**Terraza Guagua**	**1.27**	**136**	⇓P	Pb	14 56 20.0	+1.0
TERV				S	Sb	14 56 37.5	+2.4
GGP	**Refugio Guagua**	**1.28**	**136**	⇓P	Pb	14 56 20.1	+1.0
JUA2	**San Juan 2**	**1.30**	**138**	⇓P	Pb	14 56 20.4	+0.9
ECEN	**Cerro Negro**	**1.51**	**87**	⇓P	Pn	14 56 22.2	-0.4
ANGU	**Angureal**	**1.63**	**116**	⇑P	Pn	14 56 26.1	+1.8
CAYA	**Cayambe**	**1.64**	**115**	P	Pn	14 56 25.9	+1.5
CAYA				S	Sn	14 56 49.0	+3.7
CAYR	**Refugio Cayamb**	**1.65**	**117**	P	Pn	14 56 26.9	+2.3
QIL1	**Quilotoa**	**1.68**	**161**	P	Pn	14 56 25.2	+0.2
CAMI	**Rancho Maria**	**1.73**	**146**	P	Pn	14 56 27.4	+1.8
VC1	**Cotopaxi 1**	**1.76**	**142**	P	Pn	14 56 29.0	+2.9
ANTI	**Antisana**	**1.78**	**132**	⇑P	Pn	14 56 28.8	+2.3
ANTI				S	Sn	14 56 53.9	+4.9
TAMB	**Tambo**	**1.82**	**142**	P	Pn	14 56 29.7	+2.7
PISA	**Pisayambo**	**2.11**	**149**	P	Pn	14 56 36.1	+5.0
ARRY	**Arrayan**	**2.47**	**155**	⇓P	Pn	14 56 41.1	+4.8
PATA	**Patacocha**	**2.48**	**155**	P	Pn	14 56 42.9	+6.5

*CSEM **24** 15:23:32.2±0.3, 38.14N×26.75W, h2km, ML2.3, Error ellipse: s-maj=8.8km s-min=4.9km az=32.0, After PDA*
*PDA **24** 15:23:32.2±1.2, 38.14N×26.75W, h2km±8km, MD2.9, ML2.3, Error ellipse: s-maj=15.6km s-min=5.1km az=59.0*
SVSA 24 15:23:32.2±1.2, 38.14N×26.75W, h2km±8km, MD2.9, ML2.3, Error ellipse: s-maj=15.6km s-min=5.1km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIB2	**Ribeirinha**	**0.62**	**328**	*e*S	Sg	15 23 51.0	-2.0
	40nm,0.1s						
PFAV	**Pico das Favas**	**0.63**	**335**	*e*P	Pg	15 23 42.9	-1.8
PFAV				*e*S	Sg	15 23 51.0	-2.0
PVNV	**Vila Nova**	**0.70**	**333**	*e*P	Pg	15 23 43.5	-2.6
PVNV				*e*S	Sg	15 23 52.5	-2.9
	65nm,0.2s						
PPAD	**Pico dos Padre**	**0.70**	**323**	*e*P	Pg	15 23 44.0	-2.2
PPAD				*e*S	Sg	15 23 53.2	-2.3
ASBA	**Santa Barbara**	**0.73**	**322**	*e*P	Pg	15 23 44.7	-2.1
ASBA				*e*S	Sg	15 23 54.4	-2.2
SET2	**Ginetes**	**0.80**	**112**	*e*P	Pg	15 23 45.5	-2.7
ROSA	**Rosais**	**1.31**	**297**	*e*P	Pb	15 23 52.7	-4.4
ROSA				*e*S	Sb	15 24 07.7	-6.5
PICO	**Pico**	**1.37**	**286**	*e*P	Pb	15 23 53.3	-4.9
PICO				*e*S	Sb	15 24 09.1	-6.9
CALA	**Caldeira**	**1.60**	**286**	*e*P	Pn	15 23 56.7	-4.9
CALA				*e*S	Sb	15 24 14.9	-7.8

*NEIC **24** 15:34:18.7, 49.39N×6.98E, h1km, ML2.5(LDG), After LDG.*
*LDG **24** 15:34:18.7±0.2, 49.39N×6.98E, h1km, Md2.3/2, Ml2.5/5, Error ellipse: s-maj=4.5km s-min=3.2km az=27.0, Suspected Mining induced.*
*BGR **24** 15:34:19.5±0.5, 49.35N×6.84E, h1km, ML2.0/1, Error ellipse: s-maj=7.8km s-min=4.4km az=34.0*
*CSEM **24** 15:34:19.7±0.1, 49.37N×6.90E, h5km, ML2.5/4, Error ellipse: s-maj=2.6km s-min=2.4km az=76.0*
ISC 24 15:34:18.0±0.6, 49.35N±0.03×6.89E±0.05, n8, σ0s72/15, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WLF	**Walferdange**	**0.57**	**303**	*e*Pg	**Pg**	**15 34 30.6**	**+1.1**
	SNR=1.7						
WLF				*e*Sg	**Sg**	**15 34 36.3**	**-0.8**
	SNR=3.2						
CDF	**Champ du Feu**	**0.98**	**165**	*e*Pn	**Pn**	**15 34 38.9**	**+0.1**
CDF				*e*Sg	**Sg**	**15 34 50.6**	**+0.1**
	5.2nm,0.2s						
RFYF	**Reffroy**	**1.18**	**233**	*e*Pg	**Pg**	**15 34 42.6**	**+1.0**
	baz=48						
RFYF				*e*Sg	**Sg**	**15 34 58.3**	**+0.9**
	13nm,0.3s,baz=57						
TNS	**Taunus Mts**	**1.33**	**49**	*e*Pg	**Pg**	**15 34 44.6**	**0.0**
	SNR=2.2						
TNS				*e*Sg	**Sg**	**15 35 02.8**	**+0.4**
	SNR=2.2						
BFO	**Black Forest**	**1.40**	**137**	*e*Pg	**Pg**	**15 34 46.2**	**+0.2**
	SNR=1.6						
BFO				*e*Sg	**Sg**	**15 35 04.5**	**-0.1**
	SNR=6.0						
HAU	**Haudompre**	**1.40**	**195**	*e*Pg	**Pg**	**15 34 45.9**	**0.0**
HAU				*e*Sg	**Sg**	**15 35 05.0**	**+0.5**
	8.1nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**181**	*e*Pg	**Pg**	**15 34 47.7**	**-1.1**
HINF				*e*Sg	**Sg**	**15 35 08.3**	**-1.0**
	12nm,0.2s						
BAIF	**Baives**	**1.88**	**293**	*e*Pg	**Pg**	**15 34 54.3**	**-1.3**

*IDC **24** 15:43:32.4±7.1, 4.69S×153.55E, h144km±53km, mb3.8/5, mb1 4.1/6, mb1mx3.9/13, mbtmp4.3/6, MS2.8/3, Ms1 2.8/3, ms1mx2.7/22, Error ellipse: s-maj=64.6km s-min=27.1km az=94.0*
ISC 24 15:43:30.0±5.1, 4.7S±0.2×153.7E±0.3, h140km±39km, n13, σ0s82/12, mb4.1/7, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.82**	**127**	LR	LR	15 48 08.7	
	comp=Z,63nm,18.8s,baz=233,slow=35						
PMG	**Port Moresby**	**7.97**	**234**	P	**P**	**15 45 24.4**	**+0.2**
	21nm,0.3s,baz=34,slow=4.7,SNR=74						
PMG				S	**S**	**15 46 53.0**	**-0.2**
	6.0nm,0.3s,baz=147,slow=15,SNR=3.7						
PMG				LR	LR	15 47 59.8	
	comp=Z,66nm,21.8s,baz=72,slow=34						
CTA	**Charters Tower**	**16.93**	**205**	LR	LR	15 52 49.9	
	comp=Z,48nm,21.9s,baz=231,slow=33						
KAKA	**Kakadu**	**22.42**	**248**	*e*P	**P**	**15 48 37.9**	**+20**
	20nm,1.5s,mb4.3						
WB2	**Warramunga Arr**	**24.16**	**229**	*e*P	**P**	**15 48 35.5**	**+0.9**
WRA	**Warramunga Ar**	**24.16**	**229**	P	**P**	**15 48 35.8**	**+1.1**
	12nm,0.7s,mb4.5,baz=54,slow=9.9,SNR=91						
ASPA	**Alice Springs**	**26.82**	**223**	⇑*i*P	**P**	**15 48 59.6**	**+0.3**
STKA	**Stephens Creek**	**29.32**	**201**	P	**P**	**15 49 20.8**	**-1.0**
	2.6nm,0.9s,mb4.0,baz=48,slow=16,SNR=5.6						
FITZ	**Fitzroy Crossi**	**30.47**	**242**	*e*P	**P**	**15 49 30.8**	**-1.3**
	8.2nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.47**	**242**	P	**P**	**15 49 30.0**	**-2.1**
	13nm,0.7s,mb4.8,baz=65,slow=4.0,SNR=15						
FORT	**Forrest**	**35.42**	**220**	*e*P	**P**	**15 50 14.8**	**+0.3**
	21nm,0.7s,mb4.9						
SONM	**Songino Array**	**66.68**	**327**	P	**P**	**15 54 07.4**	**-0.7**
	0.2nm,0.5s,mb3.2,baz=126,slow=4.9,SNR=5.6						
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**15 55 30.3**	**+0.7**
	0.6nm,0.8s,mb3.3,baz=92,slow=11,SNR=4.8						

*IDC **24** 15:57:45.2±1.8, 21.73S×169.76E, mb4.0/4, mb1 4.1/5, mb1mx4.0/11, mbtmp4.0/5, ML3.8/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/18, Error ellipse: s-maj=61.9km s-min=26.1km az=150.0*
*LDG **24** 15:57:48.8±0.3, 21.05S×169.65E, h10km, Mb4.4/2, Error ellipse: s-maj=27.8km s-min=4.9km az=151.0*
ISC 24 15:57:51.1±4.1, 21.6S±0.2×169.6E±0.2, h45km±31km, n43, σ1s18/15, mb3.9/5, MS3.5/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.97**	**260**	*e*P	**P**	**15 58 36.8**	**-0.1**
DZM				*e*S	**S**	**15 59 10.4**	**-1.1**
DZM	**Mont Dzumac**	**2.97**	**260**	Pn	**P**	**15 58 36.8**	**-0.1**
	12nm,0.3s,baz=81,slow=17,SNR=377						
DZM				Sn	**S**	**15 59 13.0**	**+1.4**
RAO	**Raoul Island**	**13.62**	**127**	LR	LR	16 05 15.0	
	comp=Z,215nm,18.2s,baz=221,slow=34						
HNR	**Honiara**	**15.23**	**321**	LR	LR	16 06 35.7	
	comp=Z,52nm,19.6s,baz=45,slow=34						
URZ	**Urewera**	**17.84**	**160**	LR	LR	16 07 32.8	
	comp=Z,179nm,18.9s,baz=43,slow=33						
CTA	**Charters Tower**	**21.86**	**270**	P	**P**	**16 02 43.9**	**+2.2**
	3.4nm,0.9s,mb3.8,baz=111,slow=20,SNR=2.7						
RPZ	**Rata Peaks**	**22.11**	**177**	LR	LR	16 10 13.8	
	comp=Z,152nm,20.9s,MS3.4,baz=351,slow=34						
STKA	**Stephens Creek**	**26.96**	**242**	P	**P**	**16 03 29.0**	**-1.5**
	2.0nm,0.8s,mb3.7,baz=84,slow=10,SNR=3.1						
STKA				LR	LR	16 13 52.5	
	comp=Z,163nm,21.9s,MS3.5,baz=23,slow=36						
WRA	**Warramunga Arr**	**32.97**	**266**	P	**P**	**16 04 23.0**	**-1.0**
	0.4nm,0.5s,mb3.6,baz=102,slow=8.4,SNR=13						
PPT	**Papeete**	**38.60**	**91**	LR	LR	16 18 17.7	
	comp=Z,96nm,20.8s,MS3.6,baz=287,slow=32						
MJAR	**Matsushiro Arr**	**64.97**	**332**	P	**P**	**16 08 27.7**	**-0.9**
	1.7nm,0.6s,mb4.2,baz=171,slow=5.8,SNR=4.9						
SNAA	**Sanae**	**86.85**	**182**		**P**	**16 10 30.8**	**-0.7**
SNAA	**Sanae**	**86.85**	**182**		**P**	**16 10 35.9**	**+4.4**
VNA3	**Neumayer Olymp**	**87.42**	**180**		**P**	**16 10 35.2**	**+0.9**
VNA3	**Neumayer Olymp**	**87.42**	**180**		**P**	**16 10 40.3**	**+6.0**
VNA2	**Neumayer--Watz**	**87.72**	**181**		**P**	**16 10 36.8**	**+1.1**
VNA2	**Neumayer--Watz**	**87.72**	**181**		**P**	**16 10 41.4**	**+5.7**
SONM	**Songino Array**	**89.28**	**323**	P	**P**	**16 10 44.4**	**+0.7**
	1.6nm,1.0s,mb4.3,baz=145,slow=3.8,SNR=7.7						
ARCES	**ARCESS Array B**	**127.41**	**345**	PKP	PKPdf	16 16 50.7	+0.1
	1.6nm,0.4s,baz=72,slow=1.6,SNR=19						
FINES	**FINESS Array B**	**132.87**	**337**	PKP	PKPdf	16 17 02.3	+1.1
	3.3nm,1.1s,slow=3.8,SNR=8.6						
PRU	**Pruhonice**	**145.49**	**331**	*e*P	PKPdf	16 17 25.9	+1.8
KHC	**Kasperske Hory**	**146.54**	**331**	*e*P	PKPdf	16 17 29.6	+3.7
GERES	**GERESS Array B**	**146.70**	**331**	PKPbc	PKPbc	16 17 29.7	+2.1
	2.5nm,0.6s,baz=26,slow=2.8,SNR=24						
GIVF	**Givet**	**149.10**	**341**	*e*PKP1	PKPdf	16 17 36.2	+6.2
BAIF	**Baives**	**149.33**	**341**	*e*PKP1	PKPdf	16 17 36.7	+6.3
CDF	**Champ du Feu**	**149.72**	**336**	*e*PKP1	PKPdf	16 17 37.5	+6.4
	13nm,1.1s						
HINF	**Hinteralfeld**	**150.37**	**336**	*e*PKP1	PKPdf	16 17 38.9	+6.8
	8.1nm,0.7s						
HAU	**Haudompre**	**150.40**	**337**	*e*PKP1	PKPdf	16 17 39.1	+7.0
	15nm,0.8s						
MEZF	**Maizieres J'vi**	**150.43**	**339**	*e*PKP1	PKPdf	16 17 39.7	+7.5
	19nm,0.7s						
CABF	**La Chapelle**	**151.66**	**336**	*e*PKP1	PKPdf	16 17 42.5	+8.4
	11nm,0.7s						
FLN	**La Foliniere**	**151.74**	**346**	*e*PKP1	PKPdf	16 17 41.8	+7.7
	16nm,0.6s						
LDF	**La Druitiere**	**151.82**	**345**	*e*PKP1	PKPdf	16 17 41.8	+7.6
	4.8nm,0.5s						
LOR	**Lormes**	**151.90**	**339**	*e*PKP1	PKPdf	16 17 42.5	+8.1
	7.1nm,0.7s						
GRR	**Gorron**	**152.18**	**346**	*e*PKP1	PKPdf	16 17 42.9	+8.1
SSF	**Saint Saulge**	**152.19**	**339**	*e*PKP1	PKPdf	16 17 43.2	+8.3
	4.5nm,0.6s						
LPL	**La Plagne**	**152.30**	**334**	*e*PKP1	PKPdf	16 17 44.0	+8.9
	9.0nm,1.0s						
LPG	**La Plagne**	**152.31**	**333**	*e*PKP1	PKPdf	16 17 44.2	+9.1
	11nm,0.9s						
SMF	**Signal de Mont**	**152.44**	**338**	*e*PKP1	PKPdf	16 17 43.6	+8.4
AVF	**Avril sur Loir**	**152.48**	**339**	*e*PKP1	PKPdf	16 17 43.5	+8.2
BGF	**Bois d'Agland**	**152.85**	**340**	*e*PKP1	PKPdf	16 17 44.5	+8.7
MBDF	**Montbardon**	**152.92**	**332**	*e*PKP1	PKPdf	16 17 46.4	+10
	6.5nm,0.9s						
ORIF	**Oris-en-Rattie**	**153.14**	**334**	*e*PKP1	PKPdf	16 17 45.5	+9.3
	5.7nm,0.6s						
TCF	**Toulx Ste Croi**	**153.29**	**340**	*e*PKP1	PKPdf	16 17 45.5	+9.1

*NEIC **24** 16:19:20.9±4.5, 4.63S×153.53E, h142km±29km, mb4.6/2, Error ellipse: s-maj=48.6km s-min=25.2km az=88.0*
*IDC **24** 16:19:20.1±8.9, 4.615S×153.59E, h137km±65km, mb3.8/4, mb1 4.0/5, mb1mx3.7/12, mbtmp4.4/5, MS2.6/1, Ms1 2.6/1, ms1mx2.5/19, Error ellipse: s-maj=76.1km s-min=36.8km az=87.0*
ISC 24 16:19:19.0±5.2, 4.6S±0.2×153.6E±0.3, h142km±39km, n10, σ0s60/11, mb4.1/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.98**	**233**	P	**P**	**16 21 13.2**	**0.0**
	22nm,0.3s,baz=38,slow=8.3,SNR=75						
PMG				S	**S**	**16 22 42.5**	**+0.2**
	14nm,0.3s,baz=142,slow=16,SNR=8.8						
PMG				LR	LR	16 23 12.9	
	comp=Z,51nm,22.0s,baz=254,slow=29						
KAKA	**Kakadu**	**22.41**	**248**	*e*P	**P**	**16 24 26.1**	**+20**
	6.3nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**24.16**	**229**	*e*P	**P**	**16 24 23.5**	**+0.1**
	17nm,0.8s,mb4.6						
WRAB				*e*pP		16 24 52.3	
WB2	**Warramunga Arr**	**24.16**	**229**	*e*P	**P**	**16 24 24.0**	**+0.5**
WRA	**Warramunga Ar**	**24.17**	**229**	P	**P**	**16 24 23.9**	**+0.3**
	11nm,0.7s,mb4.5,baz=54,slow=9.9,SNR=93						
STKA	**Stephens Creek**	**29.36**	**201**	P	**P**	**16 25 10.2**	**-0.6**
	1.3nm,0.7s,mb3.8,baz=20,slow=15,SNR=3.7						
FITZ	**Fitzroy Crossi**	**30.46**	**242**	*e*P	**P**	**16 25 19.4**	**-1.4**
	7.6nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**80.75**	**319**	P	**P**	**16 31 18.3**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=124,slow=5.2,SNR=3.7						
MKAR	**Makanchi Array**	**80.75**	**319**	P	**P**	**16 31 18.3**	**+0.2**
MAW	**Mawson**	**86.04**	**203**	P	**P**	**16 31 45.0**	**+0.7**
	1.1nm,0.7s,mb3.7,baz=96,slow=7.7,SNR=6.8						

*IDC **24** 16:22:24.1±2.0, 20.03S×168.53E, mb4.1/3, mb1 4.1/4, mb1mx4.0/12, mbtmp4.0/4, ML3.4/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/18, Error ellipse: s-maj=76.7km s-min=29.6km az=132.0*
*NEIC **24** 16:22:29.1±0.7, 20.25S×168.68E, h35km, mb4.4/1, Error ellipse: s-maj=22.4km s-min=17.9km az=136.0*
ISC 24 16:22:26.2±6.4, 20.3S±0.2×168.7E±0.2, h24km±44km, n36, σ1s19/20, mb4.0/5, MS3.5/2, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.73**	**230**	*e*P	**Pn**	**16 23 09.4**	**-0.1**
DZM				*e*S	**Sn**	**16 23 42.3**	**+0.3**
DZM	**Mont Dzumac**	**2.73**	**230**	Pn	**Pn**	**16 23 09.4**	**-0.1**
	5.5nm,0.3s,baz=59,slow=17,SNR=124						
DZM				Sn	**Sn**	**16 23 41.3**	**-0.7**
	34nm,0.3s,baz=76,slow=22,SNR=9.4						
DZM				LR	LR	16 23 49.2	
	comp=Z,607nm,19.7s,baz=206,slow=30						
DZM	**Mont Dzumac**	**2.73**	**230**	*e*P	**Pn**	**16 23 09.4**	**-0.1**
DZM				*e*S	**Sn**	**16 23 42.3**	**+0.3**
HNR	**Honiara**	**13.75**	**321**	LR	LR	16 29 36.1	
	comp=Z,146nm,19.1s,baz=294,slow=32						
RAO	**Raoul Island**	**15.03**	**129**	LR	LR	16 30 03.0	
	comp=Z,163nm,18.4s,baz=135,slow=30						
CTA	**Charters Tower**	**21.07**	**267**	P	**P**	**16 27 12.7**	**+1.5**
	4.1nm,0.6s,mb3.9,baz=79,slow=11,SNR=3.4						
CTA				LR	LR	16 34 02.9	
	comp=Z,125nm,20.2s,MS3.3,baz=301,slow=33						
STKA	**Stephens Creek**	**26.84**	**239**	P	**P**	**16 28 07.4**	**+0.5**
	3.1nm,1.0s,mb3.8,baz=71,slow=10,SNR=2.8						
STKA				LR	LR	16 38 41.9	
	comp=Z,197nm,19.8s,MS3.7,baz=23,slow=36						
WRA	**Warramunga Arr**	**32.23**	**265**	P	**P**	**16 28 53.0**	**-2.1**
	0.8nm,0.6s,mb3.8,baz=90,slow=8.4,SNR=18						
SBA	**Scott Base**	**57.57**	**180**	*e*P	**P**	**16 32 14.6**	**-1.3**
	4.4nm,1.1s,mb4.4						
SONM	**Songino Array**	**87.79**	**323**	P	**P**	**16 35 14.3**	**-0.3**
	1.8nm,0.9s,mb4.3,baz=140,slow=4.8,SNR=16						
SNAA	**Sanae**	**88.05**	**183**		**P**	**16 35 16.1**	**+0.9**
SNAA	**Sanae**	**88.05**	**183**		**P**	**16 35 21.1**	**+5.9**
SNAA	**Sanae**	**88.05**	**183**		**P**	**16 35 26.7**	**+11**
VNA3	**Neumayer Olymp**	**88.66**	**181**		**P**	**16 35 20.0**	**+1.8**
VNA3	**Neumayer Olymp**	**88.66**	**181**		**P**	**16 35 29.0**	**+11**
VNA3	**Neumayer Olymp**	**88.66**	**181**		**P**	**16 35 31.9**	**+14**
VNA2	**Neumayer--Watz**	**88.94**	**181**		**P**	**16 35 21.5**	**+2.0**
VNA2	**Neumayer--Watz**	**88.94**	**181**		**P**	**16 35 30.9**	**+11**
VNA2	**Neumayer--Watz**	**88.94**	**181**		**P**	**16 35 32.5**	**+13**
ARCES	**ARCESS Array B**	**125.99**	**345**	PKP	PKPdf	16 41 26.4	-4.1
	5.4nm,1.1s,baz=55,slow=2.4,SNR=8.1						
STHS	**Stebnicka Huta**	**141.10**	**326**	*e*	PKPdf	16 42 09.3	+10
LIKS	**Likavka**	**142.44**	**327**	*e*	PKPdf	16 42 08.8	+7.4
IDI	**Anoyia**	**144.92**	**303**	PKP	PKPdf	16 42 01.5	-4.7
	6.0nm,1.0s,baz=36,slow=8.7,SNR=2.6						
KHC	**Kasperske Hory**	**145.06**	**331**	*e*PKP	PKPdf	16 42 12.5	+6.5
GERES	**GERESS Array B**	**145.21**	**331**	PKP	PKPdf	16 42 02.1	-4.1
	0.7nm,0.6s,baz=63,slow=3.0,SNR=6.8						
GRA1	**Grafenberg Arr**	**145.66**	**334**	*e*PKP	PKPdf	16 42 04.1	-2.9
BAIF	**Baives**	**147.88**	**341**	*e*PKP1	PKPdf	16 42 10.6	-0.1
	8.9nm,0.9s						
CDF	**Champ du Feu**	**148.25**	**336**	*e*PKP1	PKPdf	16 42 11.6	+0.3
	11nm,1.0s						
DAVOX	**Davos**	**148.47**	**332**	PKPbc	PKPdf	16 42 11.7	0.0
	1.8nm,0.5s,baz=174,slow=2.0,SNR=3.5						
FLN	**La Foliniere**	**150.34**	**345**	*e*PKP1	PKPdf	16 42 16.0	+1.4
LDF	**La Druitiere**	**150.41**	**345**	*e*PKP1	PKPdf	16 42 15.9	+1.2
LOR	**Lormes**	**150.44**	**339**	*e*PKP1	PKPdf	16 42 16.3	+1.5
	16nm,1.2s						
SSF	**Saint Saulge**	**150.74**	**339**	*e*PKP1	PKPdf	16 42 17.1	+1.8
SMF	**Signal de Mont**	**150.99**	**338**	*e*PKP1	PKPdf	16 42 17.6	+1.9
AVF	**Avril sur Loir**	**151.03**	**339**	*e*PKP1	PKPdf	16 42 17.7	+2.0
TCF	**Toulx Ste Croi**	**151.85**	**340**	*e*PKP1	PKPdf	16 42 19.6	+2.6

*NEIC **24** 16:35:28.5±1.1, 12.48N×40.49E, h10km, Error ellipse: s-maj=30.1km s-min=11.9km az=210.0*
**IDC 24 16:35:27.1±1.8, 12

SNAA	**Sanae**	**48.75**	**166**		P	P	17 10 15.1	+23
SNAA	**Sanae**	**48.75**	**166**	P	P	P	17 09 50.0	-2.0
	1.2nm,0.8s,baz=217,slow=1.7,SNR=12							
VNA2	**Neumayer--Watz**	**48.79**	**164**		P	P	17 09 51.8	-0.5
VNA2	**Neumayer--Watz**	**48.79**	**164**		P	P	17 09 56.9	+4.6
VNA2	**Neumayer--Watz**	**48.79**	**164**		P	P	17 10 04.0	+12
VNA2	**Neumayer--Watz**	**48.79**	**164**		P	P	17 10 14.3	+22
VNA1	**Neumayer--Stat**	**48.90**	**163**		P	P	17 09 52.8	-0.3
VNA1	**Neumayer--Stat**	**48.90**	**163**		P	P	17 09 58.3	+5.2
VNA1	**Neumayer--Stat**	**48.90**	**163**		P	P	17 10 05.4	+12
VNA1	**Neumayer--Stat**	**48.90**	**163**		P	P	17 10 11.1	+18
TAOE	**Nuku Hiva Isla**	**48.93**	**10**	eLR	LR	LR	17 23 27.6	
	1µm,27.1s,baz=206							
PLCA	**Paso Flores**	**50.34**	**106**	LR	LR	LR	17 26 46.9	
	comp=Z,191nm,19.8s,baz=101,slow=31							
MAW	**Mawson**	**53.12**	**194**	LR	LR	LR	17 31 00.6	
	comp=Z,189nm,19.0s,baz=342,slow=34							
STKA	**Stephens Creek**	**53.52**	**267**	LR	LR	LR	17 30 02.3	
	comp=Z,310nm,19.7s,baz=296,slow=32							
CTA	**Charters Tower**	**60.42**	**279**	LR	LR	LR	17 33 53.2	
	comp=Z,206nm,18.9s,baz=141,slow=33							
HNR	**Honiara**	**62.46**	**298**	LR	LR	LR	17 35 03.3	
	comp=Z,68nm,18.9s,baz=123,slow=33							
WRA	**Warramunga Arr**	**66.94**	**269**	P	P	P	17 11 58.8	-1.8
	2.5nm,0.9s,baz=146,slow=5.6,SNR=9.0							
CPUP	**Villa Florida**	**68.41**	**105**	LR	LR	LR	17 35 45.7	
	comp=Z,98nm,19.4s,baz=106,slow=30							
PMG	**Port Moresby**	**68.85**	**286**	LR	LR	LR	17 38 15.8	
	comp=Z,231nm,18.7s,baz=55,slow=32							
LPAZ	**La Paz**	**70.85**	**90**	LR	LR	LR	17 35 16.8	
	comp=Z,130nm,21.6s,baz=23,slow=29							
FITZ	**Fitzroy Crossi**	**73.12**	**263**	LR	LR	LR	17 40 29.9	
	comp=Z,292nm,18.8s,baz=78,slow=32							
BDFB	**Brasilia**	**82.08**	**107**	LR	LR	LR	17 47 10.6	
	comp=Z,146nm,18.4s,baz=31,slow=34							
ROSC	**El Rosal**	**85.27**	**73**	LR	LR	LR	17 44 26.3	
	comp=Z,96nm,20.4s,baz=190,slow=30							
TXAR	**Lajitas Array**	**94.14**	**38**	LR	LR	LR	17 47 17.6	
	comp=Z,76nm,18.1s,baz=295,slow=30							
ILAR	**Eielson Array**	**122.00**	**0**	PKP	PKPdf	PKPdf	17 19 58.7	-2.8
	0.6nm,0.8s,baz=208,slow=3.3,SNR=5.0							
MDT	**Midelt**	**144.83**	**119**	PKP	PKPdf	PKPdf	17 20 42.5	-1.9
	2.3nm,0.8s,baz=204,slow=3.3,SNR=3.8							
MKAR	**Makanchi Array**	**148.20**	**272**	PKPbc	PKPdf	PKPdf	17 20 50.8	+1.1
	2.0nm,0.9s,baz=114,slow=3.9,SNR=11							
ESDC	**Sonseca Array**	**150.60**	**112**	PKPbc	PKPdf	PKPdf	17 20 57.6	+3.9
	1.8nm,0.8s,baz=233,slow=1.1,SNR=5.2							
ZAL	**Zalesovo**	**150.82**	**286**	PKPbc	PKPdf	PKPdf	17 20 56.2	+2.8
	0.6nm,0.3s,baz=207,slow=6.8,SNR=2.3							

*NEIC **24** 17:30:01.1±5.0,4.68S×153.75E,h134km±33km,mb4.3/1, Error ellipse: s-maj=55.5km s-min=24.4km az=90.0*
*IDC **24** 17:30:03.7±7.1,4.67S×153.50E,h149km±53km,mb3.7/5, mb1 3.9/6,mb1mx3.6/13,mbtmp4.2/6, Error ellipse: s-maj=61.8km s-min=29.5km az=91.0*
ISC 24 17:30:01.8±5.2, 4.7S±0.2×153.6E±0.3, h149km±40km, n9, σ0§86/10, mb3.9/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**7.92**	**233**	P		P	**P**	**17 31 55.4**	**+0.2**
	11nm,0.3s,baz=49,slow=7.7,SNR=42								
PMG				S		S	**S**	**17 33 23.2**	**-0.3**
	6.0nm,0.3s,baz=131,slow=17,SNR=7.6								
WB2	**Warramunga Arr**	**24.11**	**229**	*e*P		P	**P**	**17 35 06.4**	**+1.4**
WRA	**Warramunga Arr**	**24.12**	**229**	P		P	**P**	**17 35 06.1**	**+1.0**
	5.9nm,0.7s,mb4.2,baz=54,slow=10.0,SNR=65								
STKA	**Stephens Creek**	**29.31**	**201**	P		P	**P**	**17 35 51.2**	**-1.3**
	1.2nm,0.7s,mb3.8,baz=15,slow=11,SNR=3.6								
STKA	**Stephens Creek**	**29.31**	**201**	P		P	**P**	**17 35 51.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**30.41**	**242**	*e*P		P	**P**	**17 36 01.5**	**-0.9**
	3.1nm,0.5s,mb4.3								
FITZ	**Fitzroy Crossi**	**30.41**	**242**	P		P	**P**	**17 36 01.3**	**-1.1**
	4.0nm,0.5s,mb4.4,baz=43,slow=6.5,SNR=11								
SONM	**Songino Array**	**66.64**	**327**	P		P	**P**	**17 40 38.1**	**-0.3**
	0.2nm,0.4s,mb3.3,baz=140,slow=4.7,SNR=4.9								
MAW	**Mawson**	**85.99**	**203**	P		P	**P**	**17 42 26.4**	**+0.4**
	1.2nm,0.5s,mb3.9,baz=65,slow=8.0,SNR=4.2								

KRSC 24 17:58:48.5±0.4, 55.43N×163.16E, h5km±2km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KBTR	**Krutoberegovo**	**0.80**	**346**	*i* P		P	Pb	17 59 05.1	+0.5
KBTR				*e*S		S	Sg	17 59 17.1	+1.8
MKZ	**Mys Kozlova**	**1.20**	**224**	*e*P		P	Pb	17 59 11.8	+0.4
MKZ				*e*S		S	Sb	17 59 28.9	+1.8
ZLN	**Zelenaya**	**1.46**	**295**	*e*P		P	Pn	17 59 15.2	-0.4
ZLN				*e*S		S	Sb	17 59 34.8	+0.3
BKI	**Bering**	**1.62**	**97**	*i* P		P	Pn	17 59 17.4	-0.5
BKI				*i* S		S	Sb	17 59 38.3	-1.0
BKI				Smax					
	90nm,0.2s								
KRSR	**Krestovskiy**	**1.66**	**299**	*e*P		P	Pn	17 59 18.9	+0.4
KRSR				*e*S		S	Sb	17 59 41.1	+0.7
KLY	**Klyuchi**	**1.67**	**303**	*e*P		P	Pn	17 59 17.8	-0.8
KLY				*e*S		S	Sb	17 59 39.0	-1.6
KMNR	**Kamenistaya**	**1.69**	**282**	*i* P		P	Pn	17 59 20.1	+1.2
KMNR				*e*S		S	Sn	17 59 43.0	+1.8
TUMR	**Tumrok**	**1.73**	**266**	*e*P		P	Pn	17 59 20.5	+1.1
TUMR				*e*S		S	Sn	17 59 44.0	+1.9
KPT	**Kopyto**	**1.75**	**289**	*e*P		P	Pn	17 59 20.7	+1.0
KPT				*e*S		S	Sn	17 59 44.4	+1.8
KOZ	**Kozyrevsk**	**1.96**	**290**	*i* P		P	Pn	17 59 24.4	+1.6
KOZ				*i* S		S	Sn	17 59 51.0	+2.9
SRDR	**Sredinnyy**	**2.13**	**296**	*e*P		P	Pn	17 59 25.5	+0.2
SRDR				*e*S		S	Sn	17 59 52.9	+0.5
ESO	**Esso**	**2.57**	**283**	*e*P		P	Pn	17 59 32.8	+1.2
ESO				*e*S		S	Sn	18 00 04.9	+1.3
SPN	**Mys Shipunski**	**2.97**	**219**	*e*P		P	Pn	17 59 38.9	+1.6
SPN				*e*S		S	Sn	18 00 15.5	+1.7
NLC	**Nalytchevo**	**3.18**	**226**	*e*P		P	Pn	17 59 40.3	+0.1
NLC				*e*S		S	Sn	18 00 18.0	-1.0
SDLR	**Sedlovina**	**3.30**	**231**	*i* P		P	Pn	17 59 42.3	+0.4
SMAR	**Somma**	**3.35**	**231**	*e*P		P	Pn	17 59 43.6	+1.0
UGLR	**Uglovaya**	**3.38**	**231**	*e*P		P	Pn	17 59 43.8	+0.8
KOK	**Koryaka**	**3.41**	**233**	*e*P		P	Pn	17 59 44.4	+1.0
GNL	**Ganaly**	**3.50**	**242**	*e*P		P	Pn	17 59 45.8	+1.1
PET	**Petropavlovsk**	**3.58**	**230**	*e*P		P	Pn	17 59 46.3	+0.4
PET				*e*S		S	Sn	18 00 28.9	-0.2
KRMR	**Karymshinskiy**	**3.94**	**231**	*e*S		S	Sn	18 00 37.4	-0.9
RUS	**Russkaya**	**4.07**	**224**	*e*P		P	Pn	17 59 52.6	-0.2
RUS				*e*S		S	Sn	18 00 39.7	-1.8
GRL	**Gorelyy**	**4.16**	**228**	*e*P		P	Pn	17 59 54.0	-0.1

*CSEM **24** 17:59:14.3±0.1,38.11N×26.75W,h10km,ML2.2, Error ellipse: s-maj=21.7km s-min=1.4km az=36.0,After PDA*
*PDA **24** 17:59:14.3±0.8,38.11N×26.75W,h10km,MD2.7,ML2.2, Error ellipse: s-maj=10.0km s-min=1.3km az=47.0*
SVSA 24 17:59:14.3±0.8, 38.11N×26.75W, h10km, MD2.7, ML2.2, Error ellipse: s-maj=10.0km s-min=1.3km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RIB2	**Ribeirinha**	**0.65**	**329**	*e*P		P	Pb	17 59 25.1	-2.2
RIB2				*i* S		S	Sb	17 59 33.5	-2.6
	45nm,0.1s								
PFAV	**Pico das Favas**	**0.65**	**336**	*e*P		P	Pb	17 59 25.3	-2.0
PFAV				*i* S		S	Sb	17 59 33.4	-2.8
ADH	**Angra Heroismo**	**0.66**	**325**	*i* S		S	Sb	17 59 33.3	-3.2
PPAD	**Pico dos Padre**	**0.72**	**324**	*e*P		P	Pb	17 59 26.5	-2.0
PPAD				*e*S		S	Sb	17 59 35.7	-2.6
	45nm,0.3s								
PVNV	**Vila Nova**	**0.72**	**334**	*e*P		P	Pb	17 59 25.9	-2.6
PVNV				*e*S		S	Sb	17 59 35.0	-3.2
	70nm,0.1s								
ASBA	**Santa Barbara**	**0.76**	**323**	*e*S		S	Sb	17 59 36.6	-2.6
	47nm,0.2s								
PBIS	**Biscoitos**	**0.76**	**329**	*e*S		S	Sb	17 59 36.5	-2.8
SET4	**Mosteiros**	**0.79**	**107**	*e*P		P	Pb	17 59 27.6	-2.0
SET4				*e*S		S	Sb	17 59 37.3	-2.8
SET2	**Ginetes**	**0.79**	**110**	*e*P		P	Pb	17 59 27.4	-2.3
PFET	**Feteiras**	**0.81**	**111**	*e*P		P	Pb	17 59 27.9	-2.2
PSAN	**Santo Antonio**	**0.85**	**108**	*e*P		P	Pb	17 59 27.9	-2.8
FAC	**Faja de Cima**	**0.93**	**111**	*e*P		P	Pb	17 59 29.1	-3.0
CML	**Cha da Macela**	**1.01**	**109**	*e*P		P	Pb	17 59 30.5	-2.9
LFA	**Lagoa do Fogo**	**1.06**	**108**	*e*P		P	Pb	17 59 30.9	-3.3
MESC	**Monte Escuro**	**1.08**	**107**	*e*P		P	Pb	17 59 31.2	-3.4
MESC				*e*S		S	Sb	17 59 44.5	-4.0
VIF	**Vila Franca**	**1.10**	**109**	*e*P		P	Pb	17 59 31.7	-3.2
VIF				*e*S		S	Sb	17 59 45.0	-4.1
PCNG	**Congro**	**1.12**	**107**	*e*S		S	Sb	17 59 45.3	-4.5

*IDC **24** 17:59:57.9±3.4,12.14N×92.23E,mb3.8/4,mb1 3.9/4, mb1mx3.6/17,mbtmp3.8/4,Error ellipse: s-maj=128.4km s-min=26.0km az=64.0*
ISC 24 17:59:59.0±1.9, 11.9N±0.3×91.7E±0.2, h33km, n5, σ1§04/6, mb3.7/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PBA	**Port Blair**	**1.05**	**103**	*e*P		P	**P**	**18 00 17.9**	**+0.5**
PBA				*e*S		S	**S**	**18 00 31.1**	**0.0**
MKAR	**Makanchi Array**	**35.68**	**349**	P		P	**P**	**18 06 56.6**	**+0.4**
	0.9nm,0.8s,mb3.8,baz=160,slow=10.0,SNR=7.1								
SONM	**Songino Array**	**37.88**	**16**	P		P	**P**	**18 07 13.3**	**-1.4**
	0.5nm,0.5s,mb3.5,baz=200,slow=7.2,SNR=6.0								
ZAL	**Zalesovo**	**42.29**	**354**	P		P	**P**	**18 07 52.0**	**+0.9**
	0.9nm,0.4s,mb3.8,baz=281,slow=7.7,SNR=3.3								
WRA	**Warramunga Arr**	**52.56**	**127**	P		P	**P**	**18 09 11.5**	**-0.4**
	0.5nm,0.4s,mb3.8,baz=306,slow=8.3,SNR=21								

*IDC **24** 18:08:47.8±2.3, 12.49N×40.49E, mb3.9/9, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, ML4.3/1, MS3.9/3, Ms1 3.8/3, ms1mx3.4/19, Error ellipse: s-maj=53.8km s-min=14.7km az=30.0*
*DHMR **24** 18:08:47.8±2.2, 12.66N×40.51E, h11km±130km, ML4.3*
*NEIC **24** 18:08:49.1±1.2, 12.43N×40.46E, h10km, mb4.4/2, ML4.2(DHMR), Error ellipse: s-maj=23.9km s-min=8.0km az=199.0*
*CSEM **24** 18:08:52.6±0.1, 12.64N×40.61E, h40km, mb4.3/2, Error ellipse: s-maj=4.5km s-min=2.2km az=10.0*
ISC 24 18:08:48.6±1.0, 12.6N±0.1×40.58E±0.04, h10km, n32, σ1§06/42, mb3.9/11, MS3.9/3, 11D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ATD	**Arta Tunnel**	**2.47**	**116**	Pn		P	**Pn**	**18 09 29.8**	**+0.2**
	61nm,0.3s,baz=290,slow=10,SNR=53								
ATD				Lg				18 10 06.8	
	63nm,0.3s,baz=132,slow=22,SNR=12								
ATD	**Arta Tunnel**	**2.47**	**116**	Pn		P	**Pn**	**18 09 29.8**	**+0.2**
ATD				Lg				18 10 06.8	
TRBA	**At Turbah**	**3.50**	**80**	*e*P		P	**Pn**	**18 09 45.8**	**+1.6**
TRBA				*i* S		S	**Sn**	**18 10 31.0**	**+4.8**
TRBA				AML		AML		18 10 46.5	
	comp=N,2µm,0.8s								
TRBA	**At Turbah**	**3.50**	**80**	*i* P		P	**Pn**	**18 09 46.7**	**+2.5**
TRBA				*i* S		S	**Sn**	**18 10 26.6**	**+0.4**
TRBA	**At Turbah**	**3.50**	**80**	*i* P		P	**Pn**	**18 09 46.7**	**+2.5**
TRBA				*i* S		S	**Sn**	**18 10 26.6**	**+0.4**
UDYN	**Al 'Udayn**	**3.56**	**68**	*e*P		P	**Pn**	**18 09 46.6**	**+1.5**
UDYN				*i* S		S	**Sn**	**18 10 32.4**	**+4.7**
UDYN				AML		AML		18 10 54.5	
	comp=N,885nm,0.6s								
UDYN	**Al 'Udayn**	**3.56**	**68**	*i* P		P	**Pn**	**18 09 47.7**	**+2.6**
UDYN				*i* S		S	**Sn**	**18 10 28.4**	**+0.7**
DHBB	**Dhamar BB**	**4.18**	**62**	*e*P		P	**Pn**	**18 09 54.8**	**+0.9**
DHBB				*i* S		S	**Sn**	**18 10 47.1**	**+3.7**
DHBB	**Dhamar BB**	**4.18**	**62**	*i* P		P	**Pn**	**18 09 55.3**	**+1.3**
DHBB				*i* S		S	**Sn**	**18 10 43.6**	**+0.2**
LBOS		**4.71**	**74**	*e*P		P	**Pn**	**18 09 59.9**	**-1.6**
LBOS				*i* S		S	**Sn**	**18 10 56.2**	**-0.7**
LBOS		**4.71**	**74**	*i* P		P	**Pn**	**18 10 02.0**	**+0.5**
LBOS				*i* S		S	**Sn**	**18 10 55.7**	**-1.2**
BDHA	**Al Bayda'**	**5.04**	**74**	*e*P		P	**Pn**	**18 10 04.2**	**-1.8**
BDHA				*i* S		S	**Sn**	**18 11 04.2**	**-0.9**
BDHA	**Al Bayda'**	**5.04**	**74**	*i* P		P	**Pn**	**18 10 05.4**	**-0.7**
BDHA				*i* S		S	**Sn**	**18 11 02.0**	**-3.1**
BDHA	**Al Bayda'**	**5.04**	**74**	*i* P		P	**Pn**	**18 10 05.4**	**-0.7**
BDHA				*i* S		S	**Sn**	**18 11 04.2**	**-0.9**
MUKL	**Al Mukalla**	**8.43**	**76**	*i* S		S	**Sn**	**18 12 27.4**	**-2.5**
ASF	**Jabal al Asfar**	**19.75**	**351**	P		P	**P**	**18 13 22.1**	**+0.5**
	comp=N,0.4nm,0.3s,baz=19,slow=6.9,SNR=4.1								
MALT	**Malatya**	**25.66**	**356**	*e*P		P	**P**	**18 14 22.0**	**+1.8**
	comp=N,22nm,1.5s,mb4.5								
MALT	**Malatya**	**25.66**	**356**	*e*P		P	**P**	**18 14 22.0**	**+1.8**
	comp=N,22nm,1.5s,mb4.5								
BRTR	**Keskin Array B**	**27.68**	**348**	P		P	**P**	**18 14 37.9**	**-0.9**
	comp=N,1.4nm,0.8s,mb3.7,baz=172,slow=8.7,SNR=6.9								
AKASG	**Malin Array Be**	**39.09**	**349**	P		P	**P**	**18 16 17.6**	**0.0**
	comp=N,2.2nm,0.8s,mb3.9,baz=170,slow=7.2,SNR=7.5								
GERES	**GERESS Array B**	**42.42**	**334**	P		P	**P**	**18 16 44.2**	**-0.9**
	comp=N,1.0nm,0.8s,mb3.5,baz=127,slow=6.7,SNR=10								
GRA1	**Grafenberg Arr**	**44.14**	**333**	*e*P		P	**P**	**18 16 58.8**	**-0.2**
	comp=N,5.0nm,1.4s,mb4.0								
CLL	**Collm**	**44.59**	**336**	P		P	**P**	**18 17 02.0**	**-0.6**
DBIC	**Dimbokro**	**45.13**	**267**	LR		LR	LR	18 35 37.2	
	comp=N,96nm,19.7s,MS3.7,baz=79,slow=36								
BVAR	**Borovoye Array**	**46.79**	**24**	P		P	**P**	**18 17 20.0**	**0.0**
	comp=N,1.1nm,0.8s,mb3.9,baz=214,slow=11,SNR=6.0								
ESDC	**Sonseca Array**	**47.54**	**313**	P		P	**P**	**18 17 26.0**	**-0.2**
	comp=N,0.2nm,0.3s,mb3.6,baz=90,slow=3.8,SNR=3.4								
MKAR	**Makanchi Array**	**48.82**	**37**	P		P	**P**	**18 17 35.7**	**-0.3**
	comp=N,1.5nm,0.8s,mb4.1,baz=248,slow=6.5,SNR=9.1								
MKAR	**Makanchi Array**	**48.82**	**37**	P		P	**P**	**18 17 35.7**	**-0.3**
NOA	**NORSAR Array B**	**52.86**	**343**	P		P	**P**	**18 18 05.9**	**-0.6**
	comp=N,1.3nm,0.8s,mb3.9,baz=161,slow=7.1,SNR=3.6								
ZAL	**Zalesovo**	**53.93**	**31**	P		P	**P**	**18 18 15.2**	**+0.8**
	comp=N,1.6nm,0.6s,mb4.2,baz=239,slow=12,SNR=1.3								
SONM	**Songino Array**	**64.54**	**43**	P		P	**P**	**18 19 27.9**	**-0.2**
	comp=N,1.3nm,0.8s,mb4.0,baz=255,slow=5.9,SNR=13								
SONM				LR		LR	LR	18 52 38.1	
	comp=N,92nm,18.4s,MS4.0,baz=269,slow=41								
BDFB	**Brasilia**	**92.01**	**255**	LR		LR	LR	19 01 11.3	
	comp=N,57nm,18.2s,MS4.1,baz=213,slow=34								

DHMR 24 18:25:18.9±2.6, 12.55N×40.50E, h9km±196km, ML3.7, 1C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TRBA	**At Turbah**	**3.59**	**79**	*e*P		P	Pn	18 26 17.5	+1.5
TRBA				AML		AML		18 26 29.6	
	comp=Z,341nm,0.5s								
TRBA				*i* S		S	Sn	18 27 03.4	+4.3
UDYN	**Al 'Udayn**	**3.66**	**67**	*i* P		P	Pn	18 26 18.8	+1.8
UDYN				*i* S		S	Sn	18 27 05.3	+4.5
DHBB	**Dhamar BB**	**4.29**	**62**	*i* P		P	Pn	18 26 26.9	+1.0
DHBB				*i* S		S	Sn	18 27 20.3	+3.6
LBOS		**4.81**	**74**	*i* P		P	Pn	18 26 32.4	-0.9
LBOS				*i* S		S	Sn	18 27 28.9	-1.0

*IDC **24** 18:34:38.1±0.6, 15.92S×173.17W, mb4.6/13, mb1 4.8/13, mb1mx4.6/20, mbtmp4.6/13, MS3.7/10, Ms1 3.7/10, ms1mx3.5/33, Error ellipse: s-maj=38.0km s-min=14.8km az=137.0*
*NEIC **24** 18:34:39.9±0.2, 15.81S×173.24W, h10km, mb4.8/26, Error ellipse: s-maj=10.7km s-min=4.9km az=134.0*
ISC 24 18:34:41.6±0.3, 15.8S±0.1×173.32W±0.10, h33km, n152, σ0§55/67, mb4.6/36, MS3.8/8, 29C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**2.41**	**39**	Pn		P	**Pn**	**18 35 13.4**	**-6.3**
	69nm,0.3s,baz=89,slow=0.9,SNR=57								
AFI				Sn			**Sn**	**18 35 37.8**	**-10**
	237nm,0.3s,baz=74,slow=17,SNR=10								
AFI				LR		LR		18 35 59.2	
	comp=Z,1µm,18.4s,baz=99,slow=34								
AFI	**Afiamalu**	**2.41**	**39**	*e*Pn		P	**Pn**	**18 35 13.1**	**-6.5**
RAO	**Raoul Island**	**14.03**	**197**	LR		LR	LR	18 42 43.1	
	comp=Z,325nm,19.0s,baz=164,slow=35								
PPT	**Papeete**	**22.81**	**98**	LR		LR	LR	18 46 49.5	
	comp=Z,212nm,18.2s,MS3.6,baz=174,slow=32								
URZ	**Urewera**	**23.30**	**199**	P		P	**P**	**18 39 51.7**	**-1.6**
	7.5nm,0.4s,mb4.5,baz=261,slow=5.3,SNR=12								
CTA	**Charters Tower**	**38.63**	**258**	P		P	**P**	**18 42 03.7**	**-0.1**
	2.5nm,0.6s,mb4.1,baz=90,slow=8.1,SNR=4.5								
CTA				LR		LR	LR	18 53 30.0	
	comp=Z,86nm,21.1s,MS3.5,baz=12,slow=29								
CTA	**Charters Tower**	**38.63**	**258**	P		P	**P**	**18 42 03.7**	**-0.1**
CTA				LR		LR	LR	18 53 30.0	
PMG	**Port Moresby**	**39.04**	**275**	LR		LR	LR	18 54 08.6	
	comp=Z,85nm,20.6s,MS3.6,baz=58,slow=30								
STKA	**Stephens Creek**	**43.90**	**240**	*e*P		P	**P**	**18 42 46.9**	**-0.2**
	6.9nm,0.8s,mb4.4								
STKA	**Stephens Creek**	**43.90**	**240**	P		P	**P**	**18 42 47.0**	**-0.1**
	4.3nm,0.5s,mb4.4,baz=79,slow=9.6,SNR=13								
WB2	**Warramunga Arr**	**49.81**	**257**	*e*P		P	**P**	**18 43 34.0**	**+0.3**
WRAB	**Tennant Creek**	**49.82**	**257**	*e*P		P	**P**	**18 43 33.9**	**+0.2**
	11nm,1.0s,mb4.8								
WRA	**Warramunga Arr**	**49.83**	**257**	P		P	**P**	**18 43 33.4**	**-0.4**
	3.7nm,0.7s,mb4.5,baz=92,slow=6.9,SNR=43								
ASPA	**Alice Springs**	**50.06**	**252**	*e*P		P	**P**	**18 43 35.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**58.20**	**258**	*e*P		P	**P**	**18 44 36.0**	**+0.7**
	7.9nm,1.3s,mb4.6								
FITZ	**Fitzroy Crossi**	**58.20**	**258**	LR		LR	LR	19 06 28.4	
	comp=Z,74nm,18.9s,MS3.8,baz=93,slow=33								
SBA	**Scott Base**	**62.85**	**185**	*e*P		P	**P**	**18 45 06.5**	**+0.3**
	12nm,0.8s,mb5.1								
VNDA	**Vanda**	**62.98**	**186**	*e*P		P	**P**	**18 45 06.9**	**-0.2**
	4.4nm,0.9s,mb4.6								
MBWA	**Marble Bar**	**63.32**	**254**	*e*P		P	**P**	**18 45 10.2**	**+0.1**
CASY	**Casey**	**70.07**	**205**	*e*P		P	**P**	**18 45 51.3**	**-0.7**
JOW	**Kunigami**	**70.78**	**306**	LR		LR	LR	19 14 47.6	
	comp=Z,105nm,19.1s,MS4.1,baz=74,slow=34								
CMB	**Columbia Colle**	**73.02**	**41**	*e*P		P	**P**	**18 46 09.8**	**-0.5**
	12nm,0.9s,mb4.8								
MTUM	**Tungsten Hills**	**73.79**	**43**	*e*P		P	**P**	**18 46 14.9**	**+0.2**
YBH	**Yreka Blue Hor**	**73.88**	**37**	P		P	**P**	**18 46 15.5**	**+0.4**
	11nm,0.9s,mb4.8,baz=237,slow=0.7,SNR=17								
YBH	**Yreka Blue Hor**	**73.88**	**37**	*e*P		P	**P**	**18 46 15.6**	**+0.4**
	13nm,1.0s,mb4.8								
BEKR	**Beckwourth**	**74.13**	**40**	*e*P		P	**P**	**18 46 16.6**	**-0.1**
	11nm,0.8s,mb4.8								
HUMO	**Hull Mountain**	**74.29**	**36**	*e*P		P	**P**	**18 46 17.9**	**+0.4**
	16nm,1.2s,mb4.8								
NVAR	**Mina Array Bea**	**74.58**	**42**	P		P	**P**	**18 46 19.6**	**+0.3**
	8.6nm,0.7s,mb4.8,baz=224,slow=8.8,SNR=46								
MNV	**Mina**	**74.68**	**42**	*e*P		P	**P**	**18 46 19.6**	**-0.2**
	18nm,1.1s,mb4.9								
NEN	**Nelson**	**75.36**	**46**	*e*P		P	**P**	**18 46 23.1**	**-0.6**
MOD	**Modoc**	**75.39**	**38**	*e*P		P	**P**	**18 46 23.9**	**0.0**
	19nm,1.0s,mb5.0								
TUC	**Tucson**	**76.59**	**51**	*e*P		P	**P**	**18 46 30.4**	**-0.5**
	1.5nm,0.5s,mb4.2								
WVOR	**Wild Horse Val**	**76.70**	**38**	*e*P		P	**P**	**18 46 31.2**	**-0.1**
	16nm,1.0s,mb4.9								
HAWA	**Hanford**	**78.57**	**35**	*e*P		P	**P**	**18 46 41.5**	**0.0**
	1.4nm,1.0s,mb3.9								
MSU	**Marysvale**	**78.66**	**44**	*e*P		P	**P**	**18 46 43.0**	**+0.7**
DUG	**Dugway**	**79.11**	**43**	*e*P		P	**P**	**18 46 43.5**	**-1.2**
	12nm,1.1s,mb4.7								
TMUT	**Trail Mountain**	**79.71**	**44**	*e*P		P	**P**	**18 46 48.5**	**+0.6**
SRU	**San Rafael**	**80.18**	**45**	*e*P		P	**P

LDF	**La Druitiere**	**146.83**	**8**	*e*PKP1	PKPbc	18 54 21.8	+1.7
	8.0nm,0.6s							
GRR	**Gorron**	**146.92**	**9**	*e*PKP1	PKPbc	18 54 22.4	+2.1
	14nm,0.7s							
QUIF	**Quistinic**	**146.97**	**12**	*e*PKP1	PKPbc	18 54 23.5	+3.1
	31nm,1.0s							
MOA	**Molln**	**147.44**	**350**⇑	*i*P	PKPdf	18 54 24.8	+5.2
	16nm,1.3s							
CDF	**Champ du Feu**	**147.48**	**359**⇑	*i*PKP1	PKPdf	18 54 24.6	+4.9
	28nm,1.2s							
FUR	**Furstenfeldbru**	**147.51**	**354**	*e*PKPbc	PKPdf	18 54 24.8	+5.1
BFO	**Black Forest**	**147.54**	**358**	*e*PKPbc	PKPdf	18 54 24.5	+4.7
ARSA	**Arzberg**	**147.80**	**349**⇓	*i*P	PKPdf	18 54 25.8	+5.6
	9.5nm,1.0s							
HAU	**Haudompre**	**147.89**	**0**⇑	*i*PKP1	PKPdf	18 54 25.6	+5.3
	13nm,0.7s							
WATA	**Walderalm**	**148.30**	**354**⇑	*i*P	PKPdf	18 54 26.8	+5.8
	11nm,1.2s							
KBA	**Koelnbreinsper**	**148.33**	**351**⇓	*i*P	PKPdf	18 54 26.2	+5.1
	8.5nm,1.0s							
MOTA	**Moosalm**	**148.34**	**354**⇑	*i*P	PKPdf	18 54 26.7	+5.6
	9.9nm,1.1s							
WTTA	**Wattenberg**	**148.37**	**354**⇑	*i*P	PKPdf	18 54 27.2	+6.1
	17nm,1.0s							
SQTA	**Sankt Quirin**	**148.45**	**354**⇑	*i*P	PKPdf	18 54 28.0	+6.7
	3.3nm,0.9s							
DAVA	**Damuels**	**148.50**	**356**⇑	*i*P	PKPdf	18 54 27.5	+6.2
	18nm,1.0s							
DAVA	**Damuels**	**148.50**	**356**	*i* P	PKPdf	18 54 27.5	+6.2
	comp=Z,18nm,1.0s,SNR=6.6							
LOR	**Lormes**	**148.54**	**4**⇑	*i*PKP1	PKPdf	18 54 27.3	+5.9
	20nm,1.0s							
SSF	**Saint Saulge**	**148.73**	**4**⇑	*i*PKP1	PKPdf	18 54 27.9	+6.2
	27nm,1.1s							
MFF	**Saint Martin d**	**148.77**	**9**	*e*PKP1	PKPdf	18 54 27.5	+5.7
	23nm,1.1s							
AVF	**Avril sur Loir**	**148.99**	**4**⇑	*i*PKP1	PKPdf	18 54 28.2	+6.1
	8.3nm,0.8s							
SMF	**Signal de Mont**	**149.16**	**4**⇑	*i*PKP1	PKPdf	18 54 28.8	+6.4
	19nm,1.1s							
BGF	**Bois d'Agland**	**149.18**	**5**	*e*PKP1	PKPdf	18 54 28.9	+6.4
	13nm,0.8s							
CABF	**La Chapelle**	**149.28**	**1**⇑	*i*PKP1	PKPdf	18 54 30.0	+7.4
	29nm,0.9s							
TCF	**Toulx Ste Croi**	**149.38**	**6**	*e*PKP1	PKPdf	18 54 29.2	+6.4
	7.6nm,0.9s							
DIVS	**Divcibare**	**149.62**	**341**⇓	*i*PKP	PKPdf	18 54 28.4	+5.1
RJF	**Les Rejaudoux**	**150.28**	**7**	*e*PKP1	PKPdf	18 54 31.6	+7.4
LPL	**La Plagne**	**150.38**	**360**⇑	*i*PKP1	PKPdf	18 54 33.1	+8.7
	23nm,1.0s							
LPG	**La Plagne**	**150.40**	**360**⇑	*i*PKP1	PKPdf	18 54 33.2	+8.8
	23nm,1.0s							
LFF	**La Frestale**	**150.53**	**9**	*e*PKP1	PKPdf	18 54 32.1	+7.5
	22nm,0.8s							
CAF	**Calviac**	**150.71**	**7**	*e*PKP1	PKPdf	18 54 32.7	+7.8
BNI	**Bardonecchia**	**150.85**	**0**	*e*PKPbc	PKPdf	18 54 34.0	+8.9
ORIF	**Oris-en-Rattie**	**150.97**	**1**⇑	*i*PKP1	PKPdf	18 54 33.9	+8.6
	12nm,0.9s							
VIVF	**Saint-Julien-l**	**151.00**	**3**⇑	*i*PKP1	PKPdf	18 54 33.8	+8.5
	30nm,1.0s							
MBDF	**Montbardon**	**151.17**	**360**⇑	*i*PKP1	PKPdf	18 54 34.4	+8.8
	15nm,0.8s							
LASF	**Ste Croix**	**151.72**	**4**⇑	*i*PKP1	PKPdf	18 54 35.6	+9.2
	17nm,0.8s							
SMRF	**Simiane la Rot**	**151.91**	**2**	*e*PKP1	PKPdf	18 54 36.3	+10
	28nm,0.9s							
SJPF	**Ste Jean**	**151.96**	**12**	*e*PKP1	PKPdf	18 54 35.4	+8.6
SBF	**Sospel**	**152.03**	**359**	*e*PKP1	PKPdf	18 54 35.5	+8.6
	11nm,0.6s							
MTLF	**Montolieu**	**152.30**	**7**⇑	*i*PKP1	PKPdf	18 54 36.4	+9.1
	9.4nm,1.0s							
ETSF	**Etsaut**	**152.30**	**11**⇑	*i*PKP1	PKPdf	18 54 36.8	+9.5
	21nm,0.9s							
EPF	**Esparros**	**152.33**	**10**	*e*PKP1	PKPdf	18 54 36.0	+8.6
	4.0nm,0.7s							
FRF	**La Foret Royal**	**152.34**	**0**⇑	*i*PKP1	PKPdf	18 54 36.4	+9.0
	7.2nm,0.8s							
LMR	**La Mourre**	**152.57**	**0**⇑	*i*PKP1	PKPdf	18 54 36.9	+9.2
	12nm,1.0s							
PGF	**Pioggiola**	**153.28**	**356**⇑	*i*PKP1	PKPdf	18 54 39.3	+11
	10nm,0.9s							
EVO	**Evora**	**153.93**	**27**	*e*PKP1	PKPdf	18 54 39.6	+10
	17nm,1.2s							

DHMR 24 18:43:32.9±2.6, 12.59N×40.53E, h12km±173km, ML4.3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.55**	**79**	*i* P	Pn	18 44 30.4	+1.4
TRBA				*i* S	Sn	18 45 15.6	+4.1
TRBA				AML	AML	18 45 34.1	
	comp=N,1μm,0.5s						
UDYN	**Al 'Udayn**	**3.61**	**67**	*i* P	Pn	18 44 31.1	+1.2
UDYN				*i* S	Sn	18 45 17.4	+4.5
UDYN				AML	AML	18 45 34.8	
	comp=N,1μm,0.6s						
DHBB	**Dhamar BB**	**4.24**	**62**	*i* P	Pn	18 44 40.1	+1.3
LBOS		**4.77**	**74**	*i* P	Pn	18 44 45.0	-1.3
LBOS				*i* S	Sn	18 45 41.3	-0.8
BDHA	**Al Bayda'**	**5.09**	**74**	*i* P	Pn	18 44 49.8	-1.1
BDHA				*i* S	Sn	18 45 49.2	-1.1
BDHA				AML	AML	18 46 18.8	
	comp=N,814nm,0.5s						

*NEIC **24** 18:44:07.9±1.3, 15.06S×178.13W, h372km±17km, mb3.8/1, Error ellipse: s-maj=50.2km s-min=11.3km az=152.0*
*IDC **24** 18:44:08.9±1.6, 15.77S×177.69W, h408km±18km, mb3.5/10, mb1 3.7/12, mb1mx3.7/16, mbtmp4.3/12, Error ellipse: s-maj=24.3km s-min=12.0km az=140.0*
ISC 24 18:44:08.0±1.1, 15.5S±0.2×177.9W±0.1, h401km±15km, n62, σ0985/20, mb3.8/11, 19C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.15**	**76**	P	**P**	**18 45 42.6**	**-0.4**
	23nm,0.3s,baz=69,slow=2.5,SNR=24						
AFI				S	**S**	**18 46 57.8**	**+0.2**
	baz=107,slow=19,SNR=3.0						
AFI	**Afiamalu**	**6.15**	**76**	*e*P	**P**	**18 45 42.2**	**-0.8**
AFI				S	**S**	**18 46 57.8**	**+0.2**
DZM	**Mont Dzumac**	**16.18**	**244**	P	**P**	**18 47 36.7**	**+1.9**
	0.2nm,0.3s,baz=283,slow=19,SNR=2.2						
URZ	**Urewera**	**23.11**	**190**	P	**P**	**18 48 37.2**	**-4.8**
	6.7nm,0.4s,mb4.4,baz=2.8,slow=2.4,SNR=16						
STKA	**Stephens Creek**	**40.24**	**239**	P	**P**	**18 51 10.2**	**+0.9**
	1.3nm,0.4s,mb3.6,baz=82,slow=11,SNR=7.9						
RKT	**Rikitea**	**41.13**	**107**	*e*LR	LR	18 50 52.9	
	406nm,35.2s						
WB2	**Warramunga Arr**	**45.56**	**257**	*e*P	**P**	**18 51 51.2**	**-0.7**
WRAB	**Tennant Creek**	**45.56**	**257**	*e*P	**P**	**18 51 50.6**	**-1.2**
	2.9nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**45.57**	**257**	P	**P**	**18 51 51.3**	**-0.7**
	2.9nm,0.6s,mb3.8,baz=93,slow=6.7,SNR=64						
WRA				PcP	PcP	18 53 22.1	-0.9
	0.4nm,0.6s,baz=89,slow=3.6,SNR=4.8						
ASPA	**Alice Springs**	**45.94**	**252**	*e*P	**P**	**18 51 54.5**	**-0.2**
MJAR	**Matsushiro Arr**	**66.26**	**322**	P	**P**	**18 54 16.6**	**0.0**
	0.9nm,0.5s,mb3.7,baz=155,slow=7.8,SNR=4.7						
NVAR	**Mina Array Bea**	**77.36**	**44**	P	**P**	**18 55 21.4**	**0.0**
	1.6nm,0.8s,mb3.7,baz=242,slow=11,SNR=8.1						
NVAR	**Mina Array Bea**	**77.36**	**44**	P	**P**	**18 55 21.4**	**0.0**
SML	**Sawmill**	**80.52**	**14**	*e*P	**P**	**18 55 39.5**	**+1.9**
ILAR	**Eielson Array**	**83.43**	**13**	P	**P**	**18 55 51.8**	**-0.6**
	4.5nm,0.9s,mb4.2,baz=230,slow=6.2,SNR=26						
TXAR	**Lajitas Array**	**84.31**	**58**	P	**P**	**18 55 58.0**	**+0.4**
	1.1nm,0.8s,mb3.7,baz=225,slow=7.1,SNR=7.2						
PDAR	**Pinedale Array**	**85.28**	**43**	P	**P**	**18 56 01.6**	**-0.4**
	0.8nm,0.6s,mb3.6,baz=208,slow=2.8,SNR=6.3						
MAW	**Mawson**	**86.29**	**200**	P	**P**	**18 56 06.0**	**-0.3**
	2.0nm,0.7s,mb4.0,baz=87,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**92.02**	**319**	P	**P**	**18 56 33.4**	**-0.2**
	0.4nm,0.8s,mb3.4,baz=135,slow=6.2,SNR=3.5						
ARCES	**ARCESS Array B**	**124.02**	**350**	PKP	PKPdf	19 02 18.5	-0.5
	5.4nm,1.0s,baz=17,slow=2.1,SNR=6.3						
KOLS	**Kolonicke sedl**	**142.76**	**338**	*e*PKP	PKPdf	19 02 56.7	+2.6
DPC	**Dobruska-Polom**	**143.35**	**345**	*e*PKP	PKPdf	19 02 54.3	-0.8
BRTR	**Keskin Array B**	**143.36**	**317**	PKP	PKPdf	19 02 55.0	-0.5
	7.7nm,0.9s,baz=90,slow=1.2,SNR=26						
PVCC	**Panska Ves**	**143.61**	**347**	*e*PKP	PKPdf	19 02 55.1	-0.4
KECS	**Kecovo**	**143.77**	**339**	*i* PKP	PKPdf	19 02 55.7	-0.2
PRU	**Pruhonice**	**144.12**	**346**	*e*PKP	PKPdf	19 02 56.8	+0.4
VYHS	**Vyhne**	**144.31**	**341**	*e*PKP	PKPdf	19 02 57.7	+0.9
SMOL	**Smolenice**	**144.72**	**342**	*e*PKP	PKPdf	19 02 59.6	+2.1

GRA1	**Grafenberg Arr**	**145.07**	**350**	*e*PKPbc	PKPbc	19 03 00.4	+1.6
KHC	**Kasperske Hory**	**145.14**	**347**	*e*PKP	PKPdf	19 03 00.1	+1.9
GERES	**GERESS Array B**	**145.38**	**346**	PKPbc	PKPbc	19 03 00.5	+0.8
	1.9nm,0.7s,baz=23,slow=3.2,SNR=21							
GIVF	**Givet**	**145.40**	**357**	*e*PKP1	PKPbc	19 03 00.5	+0.9
BAIF	**Baives**	**145.47**	**358**⇑	*i*PKP1	PKPbc	19 03 00.8	+1.0
	9.3nm,0.8s							
FLN	**La Foliniere**	**146.74**	**3**⇑	*i*PKP1	PKPbc	19 03 03.9	+1.0
	9.8nm,0.6s							
CDF	**Champ du Feu**	**146.88**	**354**⇑	*i*PKP1	PKPbc	19 03 04.8	+1.6
	5.4nm,0.7s							
LDF	**La Druitiere**	**146.93**	**3**⇑	*i*PKP1	PKPbc	19 03 04.2	+0.9
	3.8nm,0.5s							
ROSF	**Rostrenen**	**146.94**	**7**	*e*PKP1	PKPbc	19 03 04.1	+0.8
GRR	**Gorron**	**147.09**	**4**⇑	*i*PKP1	PKPdf	19 03 05.0	+3.5
	9.4nm,0.6s							
SGMF	**Saint Gilles**	**147.09**	**6**⇑	*i*PKP1	PKPdf	19 03 04.8	+3.3
	17nm,0.8s							
HAU	**Haudompre**	**147.38**	**355**	*e*PKP1	PKPdf	19 03 06.0	+4.0
LOR	**Lormes**	**148.27**	**358**⇑	*i*PKP1	PKPdf	19 03 08.4	+5.0
	9.7nm,0.9s							
SSF	**Saint Saulge**	**148.49**	**358**⇑	*i*PKP1	PKPdf	19 03 09.0	+5.2
	16nm,1.0s							
AVF	**Avril sur Loir**	**148.76**	**358**⇑	*i*PKP1	PKPdf	19 03 09.3	+5.1
	6.4nm,0.7s							
CABF	**La Chapelle**	**148.78**	**355**⇑	*i*PKP1	PKPdf	19 03 10.4	+6.1
	12nm,0.9s							
MFF	**Saint Martin d**	**148.91**	**3**	*e*PKP1	PKPdf	19 03 09.6	+5.1
	6.3nm,0.8s							
BGF	**Bois d'Agland**	**149.01**	**359**⇑	*i*PKP1	PKPdf	19 03 10.2	+5.6
	6.0nm,0.6s							
TCF	**Toulx Ste Croi**	**149.28**	**360**	*e*PKP1	PKPdf	19 03 10.7	+5.6
	8.2nm,0.9s							
LPL	**La Plagne**	**149.80**	**353**⇑	*i*PKP1	PKPdf	19 03 13.1	+7.1
	13nm,0.9s							
LPG	**La Plagne**	**149.82**	**353**⇑	*i*PKP1	PKPdf	19 03 13.3	+7.3
	11nm,0.8s							
RJF	**Les Rejaudoux**	**150.26**	**1**⇑	*i*PKP1	PKPdf	19 03 13.2	+6.5
	2.9nm,0.6s							
ORIF	**Oris-en-Rattie**	**150.48**	**355**⇑	*i*PKP1	PKPdf	19 03 14.1	+7.1
	6.1nm,0.7s							
MBDF	**Montbardon**	**150.58**	**353**⇑	*i*PKP1	PKPdf	19 03 14.4	+7.2
	10nm,0.6s							
LFF	**La Frestale**	**150.61**	**2**	*e*PKP1	PKPdf	19 03 14.0	+6.8
VIVF	**Saint-Julien-l**	**150.63**	**356**⇑	*i*PKP1	PKPdf	19 03 14.5	+7.2
	6.0nm,0.7s							
CAF	**Calviac**	**150.65**	**0**⇑	*i*PKP1	PKPdf	19 03 14.3	+7.0
SBF	**Sospel**	**151.34**	**352**	*e*PKP1	PKPdf	19 03 15.4	+7.1
SMRF	**Simiane la Rot**	**151.44**	**355**	*e*PKP1	PKPdf	19 03 16.6	+8.2
	11nm,0.9s							
LASF	**Ste Croix**	**151.46**	**357**⇑	*i*PKP1	PKPdf	19 03 16.4	+7.9
	10nm,0.9s							
FRF	**La Foret Royal**	**151.74**	**353**	*e*PKP1	PKPdf	19 03 17.2	+8.3
LMR	**La Mourre**	**151.98**	**353**	*e*PKP1	PKPdf	19 03 17.2	+8.0
MTLF	**Montolieu**	**152.23**	**360**	*e*PKP1	PKPdf	19 03 17.7	+8.1
ETSF	**Etsaut**	**152.58**	**4**	*e*PKP1	PKPdf	19 03 18.5	+8.4

*IDC **24** 18:53:03.5±3.1, 50.92N×178.83E, mb3.6/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=84.9km s-min=25.7km az=172.0*
*NEIC **24** 18:53:10.3, 51.34N×178.58E, h20km, ML3.4(AEIC), After AEIC.*
ISC 24 18:53:10.4±2.4, 51.0N±0.5×178.8E±0.2, h65km±23km, n10, σ0877/11, mb3.6/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.58**	**72**	P	**P**	**18 53 50.7**	**-0.1**
ETKA	**Kagalaska Isla**	**3.11**	**73**	P	**P**	**18 53 58.2**	**0.0**
ETKA				S	**S**	**18 54 34.7**	**+0.4**
GSMY	**Great Sitkin M**	**3.36**	**70**	P	**P**	**18 54 01.9**	**+0.1**
ATKA	**Atka Island**	**4.51**	**72**	P	**P**	**18 54 17.4**	**-0.5**
ILAR	**Eielson Array**	**22.46**	**39**	P	**P**	**18 58 05.8**	**+1.1**
	0.3nm,0.5s,mb3.0,baz=237,slow=9.2,SNR=5.1						
INK	**Inuvik**	**28.61**	**35**	P	**P**	**18 59 01.1**	**-1.1**
	3.5nm,1.1s,mb4.0,baz=243,slow=2.3,SNR=2.9						
YKA	**Yellowknife Ar**	**36.56**	**46**	P	**P**	**19 00 10.9**	**-0.3**
	1.4nm,0.7s,mb3.9,baz=281,slow=8.5,SNR=3.1						
SONM	**Songino Array**	**45.45**	**296**	P	**P**	**19 01 25.8**	**+1.5**
	0.3nm,0.7s,mb3.2,baz=63,slow=9.7,SNR=2.9						
PDAR	**Pinedale Array**	**47.84**	**71**	P	**P**	**19 01 43.4**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=325,slow=4.6,SNR=4.7						
MKAR	**Makanchi Array**	**59.06**	**307**	P	**P**	**19 03 04.5**	**-1.2**
	0.2nm,0.4s,mb3.5,baz=60,slow=6.8,SNR=4.4						

DHMR 24 19:01:33.4±2.6, 12.49N×40.64E, h3km±169km, ML3.9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.47**	**77**	*i* P	Pn	19 02 31.4	+2.0
TRBA				*i* S	Sn	19 03 16.0	+4.4
TRBA				AML	AML	19 03 32.0	
	comp=N,538nm,0.7s						
UDYN	**Al 'Udayn**	**3.56**	**65**	*i* S	Sn	19 03 18.2	+4.4
DHBB	**Dhamar BB**	**4.20**	**60**	*i* P	Pn	19 02 40.6	+0.9
DHBB				*i* S	Sn	19 03 34.0	+4.0
LBOS		**4.70**	**72**	*i* P	Pn	19 02 45.3	-1.5
LBOS				*i* S	Sn	19 03 41.6	-1.0
BDHA	**Al Bayda'**	**5.02**	**72**	*i* S	Sn	19 03 49.6	-1.3

*IDC **24** 19:10:42.8±0.9, 33.86N×137.24E, h342km±8km, mb3.5/10, mb1 3.6/13, mb1mx3.4/26, mbtmp4.2/13, Error ellipse: s-maj=16.5km s-min=11.6km az=117.0*
*NEIC **24** 19:10:43.5±0.5, 33.86N×137.24E, h350km±4km, mb4.4/1, Error ellipse: s-maj=11.8km s-min=7.9km az=142.0*
*JMA **24** 19:10:43.3±0.2, 33.97N×137.21E, h360km±3km, M3.9*
ISC 24 19:10:42.9±0.5, 33.94N±0.07×137.27E±0.06, h357km±3km, n36, σ076/49, mb3.7/10, 10C-1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.40**	**89**	P	**P**	**19 11 29.1**	**+1.2**
JIE	**Ise**	**0.65**	**314**⇑	P	**P**	**19 11 29.2**	**+0.8**
JAA	**Atsumi**	**0.70**	**351**⇑	P	**P**	**19 11 29.5**	**+0.9**
JKN2	**Miekihoku**	**0.88**	**290**⇑	P	**P**	**19 11 29.6**	**+0.5**
JKN2				S	**S**	**19 12 05.4**	**0.0**
JWZ	**Kozaga**	**1.36**	**253**⇑	P	**P**	**19 11 31.2**	**-0.1**
JWZ				S	**S**	**19 12 08.6**	**-0.6**
JWY	**Kouya**	**1.42**	**282**⇑	P	**P**	**19 11 32.1**	**+0.5**
JWY				S	**S**	**19 12 09.5**	**-0.3**
JGM	**Miyama**	**1.82**	**346**⇑	P	**P**	**19 11 34.5**	**+0.6**
JYN	**Shimob**	**1.88**	**34**	P	**P**	**19 11 35.3**	**+1.0**
JOD2	**Odawara 2**	**2.00**	**48**	P	**P**	**19 11 35.6**	**+0.5**
JOD2				S	**S**	**19 12 16.6**	**+0.5**
JWT	**Wachi**	**2.04**	**312**⇑	P	**P**	**19 11 35.7**	**+0.2**
JWT				S	**S**	**19 12 15.9**	**-0.8**
JAI	**Aioi**	**2.35**	**267**⇑	P	**P**	**19 11 37.7**	**-0.1**
JAI				S	**S**	**19 12 20.5**	**-0.3**
JKG	**Kaga**	**2.46**	**342**	P	**P**	**19 11 38.8**	**+0.2**
JRY	**Ryogami san**	**2.47**	**32**⇓	P	**P**	**19 11 39.3**	**+0.6**
JRY				S	**S**	**19 12 23.2**	**+0.8**
MJAR	**Matsushiro Arr**	**2.71**	**16**	P	**P**	**19 11 40.8**	**+0.2**
	7.8nm,0.3s,baz=183,slow=9.7,SNR=141						
MJAR				S	**S**	**19 12 24.9**	**-1.0**
	baz=197,slow=18,SNR=4.6						
MAJO	**Matsushiro**	**2.71**	**16**	*e*Pn	**P**	**19 11 40.8**	**+0.2**
MAT	**Matsushiro**	**2.71**	**16**	P	**P**	**19 11 40.6**	**0.0**
MAT				S	**S**	**19 12 24.9**	**-1.0**
MAT	**Matsushiro**	**2.71**	**16**	P	**P**	**19 11 40.8**	**+0.2**
MAT				S	**S**	**19 12 25.7**	**-0.2**
MAT	**Matsushiro**	**2.71**	**16**	*e*P	**P**	**19 11 41.0**	**+0.4**
MAT				eS	**S**	**19 12 25.0**	**-0.9**
JMN	**Monobe**	**2.83**	**267**⇑	P	**P**	**19 11 41.6**	**-0.1**
BSO1	**Boso 1**	**3.15**	**76**	P	**P**	**19 11 43.2**	**-1.3**
BSO1				S	**S**	**19 12 31.3**	**-1.5**
JHS	**Saijyo**	**3.59**	**288**⇑	P	**P**	**19 11 49.0**	**+0.3**
JTO	**Tosashimizu**	**3.89**	**255**	P	**P**	**19 11 51.4**	**-0.2**
JNU	**Nakatsue**	**5.40**	**263**	P	**P**	**19 12 07.2**	**-0.6**
	1.2nm,0.3s,baz=124,slow=28,SNR=13						
KS15	**Wonju Array Si**	**8.40**	**297**	*e*Pn	**P**	**19 12 42.7**	**+0.1**
ASAJ	**Asahikawa**	**10.97**	**21**	P	**P**	**19 13 13.4**	**+0.1**
	0.8nm,0.3s,baz=248,slow=27,SNR=9.1						
ASAJ				S	**S**	**19 15 10.1**	**-2.4**
	0.4nm,0.3s,baz=66,slow=19,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**13.65**	**16**	*e*Pn	**P**	**19 13 45.0**	**+0.2**
	13nm,0.8s						
SONM	**Songino Array**	**26.95**	**310**	P	**P**	**19 15 54.7**	**+0.2**
	1.6nm,0.6s,mb3.4,baz=107,slow=7.0,SNR=15						

MKAR	**Makanchi Array**	**42.98**	**304**	P	**P**	**19 18 09.1**	**-0.2**
	1.6nm,0.4s,mb3.5,baz=86,slow=10.0,SNR=36							
KDAK	**Kodiak Island**	**51.65**	**40**	P	**P**	**19 19 15.8**	**0.0**
	3.9nm,0.3s,mb4.2,baz=166,slow=18,SNR=9.6							
FITZ	**Fitzroy Crossi**	**52.92**	**194**	P	**P**	**19 19 24.5**	**-1.1**
	3.1nm,0.7s,mb3.7,baz=14,slow=8.3,SNR=5.0							
WRA	**Warramunga Arr**	**53.65**	**183**	P	**P**	**19 19 29.1**	**-1.7**
	1.2nm,0.4s,mb3.6,baz=360,slow=7.6,SNR=39							
ILAR	**Eielson Array**	**53.90**	**31**	P	**P**	**19 19 32.1**	**0.0**
	0.6nm,0.5s,mb3.2,baz=254,slow=5.5,SNR=8.8							
INK	**Inuvik**	**58.66**	**26**	P	**P**	**19 20 05.4**	**+0.2**
	2.2nm,0.5s,mb3.9,baz=48,slow=14,SNR=12							
FINES	**FINESS Array B**	**69.95**	**332**	P	**P**	**19 21 16.8**	**-0.5**
	2.6nm,1.0s,mb3.9,baz=37,slow=9.5,SNR=5.6							
PDAR	**Pinedale Array**	**82.24**	**43**	P	**P**	**19 22 26.9**	**+1.0**
	0.9nm,0.8s,mb3.7,baz=315,slow=2.1,SNR=4.5							
TXAR	**Lajitas Array**	**94.69**	**50**	P	**P**	**19 23 27.1**	**+1.9**
	0.7nm,0.7s,mb3.8,baz=298,slow=3.4,SNR=6.6							

*MOS **24** 19:21:37.0±0.8, 36.50N×70.70E, h199km, mb4.4/32, Error ellipse: s-maj=6.6km s-min=4.5km az=116.0*
*BJI **24** 19:21:38.5, 36.67N×70.71E, h213km, mB5.0, mb4.9*
*NEIC **24** 19:21:39.0±0.2, 36.48N×70.78E, mb4.4/52, Error ellipse: s-maj=5.3km s-min=3.5km az=208.0*
*IDC **24** 19:21:39.3±0.7, 36.47N×70.74E, h208km±5km, mb4.1/25, mb1 4.3/27, mb1mx4.3/27, mbtmp4.7/27, Error ellipse: s-maj=9.9km s-min=8.8km az=153.0*
*NNC **24** 19:21:40.4±2.8, 36.78N×70.52E, h175km±20km, mpv5.6, Error ellipse: s-maj=25.1km s-min=21.7km az=88.0*
ISC 24 19:21:37.3±0.1, 36.45N±0.02×70.78E±0.03, h207km, h207km±1.0km: pP-P, n261, σ091/280, mb4.3/89, 57C-25D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.77**	**160**⇑	P	**P**	**19 22 25.3**	**+0.2**
CHCP	**Chirah Chowk**	**3.45**	**143**⇑	P	**P**	**19 22 33.4**	**+0.3**
THW	**Thamme Wali**	**3.73**	**167**⇑	P	**P**	**19 22 36.1**	**-0.4**
SBDP	**Sheikh Budin**	**4.14**	**180**⇑	P	**P**	**19 22 40.6**	**-1.0**
DRP	**Derazinda**	**4.71**	**186**⇓	P	**P**	**19 22 47.9**	**-1.0**
SARP	**Sargodha**	**4.78**	**160**	P	**P**	**19 22 48.6**	**-1.1**
SARP				S	**S**	**19 23 41.0**	**-4.9**
KSH	**Kashi**	**5.12**	**52**	*i* P	**P**	**19 22 55.4**	**+1.4**
KSH				S	**S**	**19 23 53.9**	**+0.2**
KSH				Smax			
	comp=N,3μm,0.5s						
KSH				Smax			
	comp=E,6μm,0.6s						
AML	**Almayashu**	**6.11**	**21**	P	**P**	**19 23 06.4**	**-0.3**
	SNR=1641						
UCH	**Uchtor**	**6.46**	**25**	P	**P**	**19 23 11.0**	**-0.2**
	SNR=1325						
KZA	**Kyzart**	**6.61**	**30**	P	**P**	**19 23 12.6**	**-0.6**
	SNR=142						
EKS2	**Erkin-Say**	**6.62**	**20**	P	**P**	**19 23 13.0**	**-0.4**
	SNR=300						
KK31	**Karatay Array**	**6.65**	**358**⇓	P	**P**	**19 23 12.6**	**-1.2**
	comp=E,229nm,0.4s,baz=190,slow=13,SNR=4826						
KK31				⇓S	**S**	**19 24 23.5**	**-5.5**
	comp=E,1μm,0.7s						
KK31	**Karatay Array**	**6.65**	**358**⇓	P	**P**

AB31 S **S** **19 27 37.5 -4.3**
AB31 pmax pmax
comp=Z,28nm,0.4s
PKI **Pulchoki** **15.23 121** *e*P **P** **19 25 03.7 +0.7**
comp=Z,199nm,0.7s
KURK **Kurchatov** **15.34 19** ⇑P **P** **19 25 02.2 -2.0**
comp=Z,19nm,0.7s
KURK **Kurchatov** **15.34 19** ⇑P **P** **19 25 02.2 -2.0**
KURK **Kurchatov** **15.34 19** ⇑*e*P **P** **19 25 02.5 -1.7**
VOSK **Vostochnaya** **16.28 0** ⇑P **P** **19 25 14.5 -1.1**
comp=Z,21nm,0.4s
VOSK ⇓S **S** **19 28 09.6 +0.3**
comp=Z,68nm,1.9s
BVA0 **Borovoye Array** **16.58 359** ⇑S **S** **19 28 20.4 +4.5**
comp=Z,13nm,1.6s,baz=171,slow=26,SNR=3.5
BVAR **Borovoye Array** **16.58 359** P **P** **19 25 18.6 -0.6**
comp=Z,25nm,0.3s,baz=158,slow=9.2,SNR=399
BVAR S **S** **19 28 16.6 +0.7**
comp=Z,0.7nm,0.3s,baz=172,slow=10,SNR=3.5
AKL **Akola** **16.61 159** ⇓*i*P **P** **19 25 17.2 -2.6**
AKL *i* x x 19 28 11.0
BRVK **Borovoye** **16.61 359** ⇓P **P** **19 25 19.3 -0.3**
comp=Z,18nm,0.5s
BRVK ⇑S **S** **19 28 20.9 +4.2**
comp=Z,44nm,1.8s
BRVK **Borovoye** **16.61 359** ⇓P **P** **19 25 19.3 -0.3**
comp=Z,18nm,0.5s
BRVK S **S** **19 28 20.9 +4.2**
BRVK **Borovoye** **16.61 359** ⇓P **P** **19 25 19.3 -0.3**
BRVK S **S** **19 28 20.9 +4.2**
BRVK pmax pmax
comp=E,18nm,0.5s
AKTK **Aktyubinsk** **16.74 331** ⇑P **P** **19 25 20.4 -0.7**
AKTO **Aktyubinsk** **16.74 331** ⇑P **P** **19 25 20.4 -0.7**
comp=Z,34nm,0.8s
BIDO **Bidbid** **16.89 224** ⇑P **P** **19 25 22.5 -0.5**
SNR=9.9
CHKZ **Chkalovo** **17.23 360** ⇑P **P** **19 25 25.4 -1.1**
comp=Z,27nm,0.4s
CHKZ ⇓S **S** **19 28 35.4 +5.5**
comp=Z,30nm,0.9s
ASHO **Ashiyiah** **17.24 231** ⇓P **P** **19 25 26.6 -0.3**
SNR=94
SMDO **Samad** **17.30 223** ⇓P **P** **19 25 27.6 +0.1**
SNR=12
BLSP **Bilaspur** **17.34 142** *e*P **P** **19 25 28.0 0.0**
BLSP *ex* x 19 28 31.0
JMDO **Jabal Madar** **17.83 222** ⇓P **P** **19 25 33.1 0.0**
SNR=11
ARQ **Araqi** **17.96 227** ⇑P **P** **19 25 34.4 -0.1**
SNR=15
BSY **Bisya** **18.02 224** ⇑P **P** **19 25 35.8 +0.6**
SNR=33
POO **Poona** **18.05 171** *e*P **P** **19 25 36.4 +0.8**
LSA **Lhasa** **18.33 106** P **P** **19 25 41.0 +2.7**
LSA **Lhasa** **18.33 106** *e*P **P** **19 25 41.3 +2.9**
comp=Z,30nm,0.9s
LSA **Lhasa** **18.33 106** *e*P **P** **19 25 41.3 +3.0**
LSA pmax pmax
comp=Z,30nm,0.9s
ZAL **Zalesovo** **20.02 25** P **P** **19 25 56.3 +0.9**
comp=Z,133nm,0.3s,baz=254,slow=7.6,SNR=404
ZAL S **S** **19 29 27.2 +3.3**
comp=Z,6.1nm,0.7s,baz=124,slow=12,SNR=6.8
HYB **Hyderabad** **20.16 158** *i* P **P** **19 25 58.5 +1.4**
comp=Z,100nm,1.0s
HYB *e* 19 26 31.0
HYB *e* 19 26 47.0
HYB *e*S **S** **19 29 31.0 +4.2**
HYB **Hyderabad** **20.16 158** *e*P **P** **19 25 58.5 +1.4**
comp=Z,100nm,1.0s
HYB *e*S **S** **19 29 31.0 +4.2**
HYB **Hyderabad** **20.16 158** *e*P **P** **19 25 58.5 +1.4**
HYB *e*S **S** **19 29 31.0 +4.2**
HYB pmax pmax
comp=Z,100nm,1.0s
NVS **Novosibirsk** **20.30 21** ⇑*i*P **P** **19 25 57.9 -0.3**
NVS *e* 19 26 23.0
NVS *e* 19 26 57.0
NVS *i* S **S** **19 29 33.4 +4.5**
NVS pmax pmax
comp=Z,159nm,1.3s
NVS pmax pmax
comp=N,174nm,1.7s
NVS pmax pmax
comp=E,31nm,1.1s
NVS smax
comp=N,34nm,1.2s
NVS smax
comp=E,96nm,1.4s
UMR **Umm Al-Rimmam** **20.50 257** *e*P **P** **19 26 01.2 +0.8**
UMR AMb AMB 19 26 06.7
comp=Z,113nm,0.4s
KBD **Kabd** **20.69 256** *e*P **P** **19 26 02.9 +0.6**
KBD AMb AMB 19 26 06.0
comp=Z,252nm,0.3s
MIB **Mutribah** **20.69 258** *e*P **P** **19 26 03.5 +1.2**
MIB AMb AMB 19 26 09.5
comp=Z,77nm,0.6s
QRN **Al-Qurain** **20.71 255** *e*P **P** **19 26 02.8 +0.4**
QRN AMb AMB 19 26 08.7
comp=Z,50nm,0.4s
GNI **Garni** **20.74 288** P **P** **19 26 06.0 +3.3**
comp=Z,9.9nm,0.6s,baz=284,slow=3.2,SNR=8.1
TI2 **Plekhanov** **20.85 293** ⇑*i*P **P** **19 26 03.2 -0.5**
RDF **Al-Radifah** **20.91 256** *e*P **P** **19 26 05.2 +0.8**
RDF AMb AMB 19 26 10.8
comp=Z,80nm,0.7s
NAY **Al-Naaiem** **21.01 257** *e*P **P** **19 26 06.1 +0.7**
NAY AMb AMB 19 26 12.3
comp=Z,18nm,0.4s,mb4.9
ZEI **Tsey** **21.60 295** *e*P **P** **19 26 12.3 +1.2**
ZEI *i* *PP 19 26 47.2
ARU **Arti** **21.63 341** *e*P **P** **19 26 12.3 +1.1**
comp=Z,70nm,0.8s,mb5.2
ARU **Arti** **21.63 341** ⇑*i*P **P** **19 26 12.5 +1.3**
ARU *e*PPP 19 26 44.1
ARU *e*S **S** **19 29 59.3 +6.6**
ARU pmax pmax
comp=Z,71nm,0.8s,mb5.2
KIV **Kislovodsk** **22.66 298** *e*P **P** **19 26 22.5 +1.2**
comp=Z,10.0nm,0.6s,mb4.5
KIV **Kislovodsk** **22.66 298** *i* P **P** **19 26 25.2 +3.9**
KIV *e**PP 19 26 58.1
KIV *e*S **S** **19 30 15.6 +5.1**
KIV pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
KIV MLR MLR
comp=Z,2μm,20.0s
IMP **Imphal** **23.01 114** *ex* x 19 35 21.0
GTA **Gaotai** **23.05 74** ⇑*i*P **P** **19 26 28.4 +3.2**
GTA AP 19 27 09.5
GTA XP 19 27 31.4
GTA AMB AMB
comp=Z,37nm,0.6s,mb5.1
GTA AMB AMB
comp=Z,242nm,3.8s
WHFO **Wadi Hawf** **23.80 224** ⇑P **P** **19 26 32.7 +0.3**
SNR=31
RBK **Rabkut** **23.90 222** ⇑P **P** **19 26 33.6 +0.3**
SNR=9.4
ABTO **Aybut** **24.52 224** ⇓P **P** **19 26 39.3 +0.1**
SNR=26
MOY **Mondy** **26.27 45** *e*P **P** **19 26 56.6 +1.6**
ZAK **Zakamensk** **27.16 49** *e*P **P** **19 27 03.7 +0.6**
ZAK *e* pP 19 27 44.1 -0.3
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
CD2 **Chengdu** **27.91 92** P **P** **19 27 12.0 +1.9**
CD2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
SONM **Songino Array** **28.51 55** P **P** **19 27 16.3 +1.0**
comp=Z,12nm,0.8s,mb4.6,baz=261,slow=9.7,SNR=128
SONM pP pP 19 27 58.7 +1.7
comp=Z,3.5nm,0.9s,baz=256,slow=8.4,SNR=3.4
BRTR **Keskin Array B** **29.28 288** P **P** **19 27 22.6 +0.4**
comp=Z,1.3nm,0.7s,mb3.6,baz=104,slow=10,SNR=4.7
BRTR pP pP 19 28 03.7 -0.5
comp=Z,2.8nm,1.0s,baz=104,slow=10,SNR=3.4
KMI **Kunming** **29.56 103** P **P** **19 27 26.3 +1.5**
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
KMI **Kunming** **29.56 103** P **P** **19 27 26.3 +1.5**
comp=Z,8.0nm,1.0s,mb4.3

MOS **Moscow** **29.59 321** *e*P **P** **19 27 23.7 -1.1**
MOS pmax pmax
comp=Z,125nm,1.1s
OBN **Obninsk** **29.86 320** *e*P **P** **19 27 27.0 -0.1**
comp=Z,37nm,0.6s,mb5.2
OBN **Obninsk** **29.86 320** *c* *i*P **P** **19 27 27.0 -0.2**
OBN *e**PP pP 19 28 11.0 +1.7
OBN *e* 19 28 36.1
OBN pmax pmax
comp=Z,52nm,0.7s,mb5.3
XAN **Xi'an** **31.11 83** P **P** **19 27 39.1 +0.8**
XAN AMB AMB
comp=Z,25nm,1.0s,mb4.8
HHC **Hu-ho-hao-te** **31.95 69** *e*P **P** **19 27 42.9 -2.6**
HHC PCP PcP 19 30 30.1 -0.5
HHC S **S** **19 32 34.3 -5.9**
HHC PCS 19 34 15.8
HHC AMB AMB
comp=Z,9.0nm,0.2s,mb5.0
HHC AMB AMB
comp=Z,183nm,4.9s
GYA **Guiyang** **32.03 98** P **P** **19 27 47.8 +1.4**
GYA PCP PcP 19 30 30.9 -0.1
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
ENH **Enshi** **32.75 89** *e*P **P** **19 27 53.9 +1.3**
comp=Z,30nm,1.0s,mb4.8
AKASG **Malin Array Be** **32.84 309** P **P** **19 27 52.8 -0.3**
comp=Z,10nm,0.5s,mb4.6,baz=80,slow=7.8,SNR=65
AKASG pP pP 19 28 35.0 -0.9
comp=Z,1.1nm,0.4s,baz=86,slow=7.0,SNR=3.2
MLR **Muntele Rosu** **34.65 299** P **P** **19 28 08.6 +0.1**
comp=Z,7.1nm,0.8s,mb4.2,baz=80,slow=3.6,SNR=8.5
MLR pP pP 19 28 52.6 +0.8
comp=Z,8.9nm,0.9s,baz=97,slow=1.8,SNR=3.3
BOD **Bodaibo** **35.50 39** *e*P **P** **19 28 16.1 +0.5**
BOD pmax pmax
comp=Z,17nm,0.9s,mb4.6
JOF **Joensuu** **35.83 330** *ep* **P** **19 28 17.0 -1.3**
comp=Z,31nm,0.6s,mb5.0
VSU **Vasula** **36.12 322** ⇓*e*P **P** **19 28 21.3 +0.6**
WHN **Wuhan** **36.57 86** *e*P **P** **19 28 26.5 +1.6**
IDI **Anoyia** **36.94 282** P **P** **19 28 27.6 -0.3**
comp=Z,3.3nm,0.4s,mb4.2,baz=125,slow=12,SNR=8.6
SUW **Suwalki** **37.03 314** *e*P **P** **19 28 28.6 +0.2**
KOLS **Kolonicke sedl** **37.16 305** *e*P **P** **19 28 30.4 +0.8**
FINES **FINESS Array B** **37.43 326** P **P** **19 28 32.1 +0.4**
comp=Z,22nm,0.6s,mb4.8,baz=116,slow=9.6,SNR=164
HIA **Hailar** **37.47 54** *e*P **P** **19 28 33.8 +1.7**
comp=Z,3.1nm,0.3s,mb4.3
HIA **Hailar** **37.47 54** *e*P **P** **19 28 33.8 +1.7**
HIA pmax pmax
comp=Z,3.0nm,0.3s
KAF **Kangasniemi** **37.58 327** *ep* **P** **19 28 32.6 -0.3**
comp=Z,16nm,0.8s,mb4.6,baz=112,slow=8.5
KAF **Kangasniemi** **37.58 327** *e*P **P** **19 28 32.6 -0.3**
KAF pmax pmax
comp=Z,16nm,0.8s,mb4.6
STHS **Stebnicka Huta** **37.85 306** *e*P **P** **19 28 35.7 +0.4**
KECS **Kecovo** **38.35 304** *e*P **P** **19 28 40.0 +0.5**
NJ2 **Nanjing** **39.66 82** *e*P **P** **19 28 50.5 0.0**
NJ2 S **S** **19 34 34.0 -3.8**
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.1
NJ2 AMB AMB
comp=Z,460nm,4.9s
NJ2 LR LR
comp=N,790nm,19.4s
NJ2 LR LR
comp=E,3μm,24.0s
NJ2 LR LR
comp=Z,390nm,19.4s
VRAC **Vranov** **40.89 306** P **P** **19 29 00.7 +0.3**
comp=Z,2.5nm,0.4s,mb4.0,baz=168,slow=17,SNR=5.9
ARCES **ARCESS Array B** **41.13 338** P **P** **19 29 02.9 +0.8**
comp=Z,32nm,0.8s,mb4.8,baz=111,slow=7.7,SNR=86
KTK1 **Kautokeino** **41.59 336** *e*P **P** **19 29 07.2 +1.4**
KTK1 AMb AMB 19 29 08.0
comp=Z,34nm,0.5s,mb5.0
KTK1 **Kautokeino** **41.59 336** *e*P **P** **19 29 07.1 +1.3**
SSE **Sheshan** **41.86 82** *e*P **P** **19 29 06.8 -1.6**
SSE AMB AMB
comp=Z,34nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,202nm,4.2s
SSE LR LR
comp=N,66nm,19.4s
SSE LR LR
comp=E,244nm,19.5s
SSE LR LR
comp=Z,176nm,30.4s
SSE **Sheshan** **41.86 82** *e*P **P** **19 29 06.8 -1.6**
comp=Z,34nm,0.7s,mb4.9
SSE LR LR
comp=Z,180nm,30.4s
BRG **Berggiesshubel** **42.52 308** *i* P **P** **19 29 14.2 +0.7**
comp=Z,7.3nm,0.6s,mb4.3
BRG *e* pP 19 29 58.1 +0.1
BRG **Berggiesshubel** **42.52 308** *i* P **P** **19 29 14.2 +0.7**
BRG *e* pP 19 29 58.1 +0.1
BRG pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
GERES **GERESS Array B** **42.82 305** P **P** **19 29 16.7 +0.7**
comp=Z,0.9nm,0.6s,mb3.4,baz=79,slow=6.8,SNR=12
GERES PP PP 19 30 58.1 -1.9
comp=Z,1.6nm,1.0s,baz=83,slow=11,SNR=4.2
KHC **Kasperske Hory** **42.87 306** *e*P **P** **19 29 17.0 +0.6**
HFS **Hagfors** **43.00 322** P **P** **19 29 17.5 +0.2**
baz=98,slow=10
CLL **Collm** **43.09 309** P **P** **19 29 17.7 -0.4**
CLL *e**SP sP 19 30 27.0 +0.3
CLL *e*PPP PPP 19 31 45.0 +0.6
TRO **Tromso** **43.25 336** *e*P **P** **19 29 17.6 -1.6**
MOR8 **Moi Rana** **43.78 331** *e*P **P** **19 29 23.2 -0.2**
MOR8 AMb AMB 19 29 24.0
comp=Z,82nm,0.6s,mb5.2
MOR8 **Moi Rana** **43.78 331** *e*P **P** **19 29 23.2 -0.2**
YAK **Yakutsk** **44.11 35** *e*P **P** **19 29 26.5 +0.3**
comp=Z,77nm,0.7s,mb5.1
YAK **Yakutsk** **44.11 35** *c* *i*P **P** **19 29 26.7 +0.5**
YAK pmax pmax
comp=Z,110nm,1.0s,mb5.1
NB2 **NORSAR Subarra** **44.32 323** P **P** **19 29 27.6 -0.2**
comp=Z,39nm,0.8s,mb4.8,baz=95,slow=7.4
NB2 **NORSAR Subarra** **44.32 323** P **P** **19 29 27.6 -0.2**
baz=95,slow=7.9
NB2 **NORSAR Subarra** **44.32 323** P **P** **19 29 27.6 -0.2**
NB2 pmax pmax
comp=Z,39nm,0.8s,mb4.8
NOA **NORSAR Array B** **44.32 323** P **P** **19 29 27.6 -0.2**
comp=Z,22nm,0.7s,mb4.6,baz=97,slow=7.8,SNR=84
GRA1 **Grafenberg Arr** **44.35 307** *e*P **P** **19 29 29.5 +1.3**
comp=Z,6.0nm,0.8s,mb4.0
GRF **Grafenberg Arr** **44.35 307** *e*P **P** **19 29 29.5 +1.3**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
NAO01 **NORSAR Array S** **44.46 323** *e*P **P** **19 29 28.6 -0.3**
comp=Z,26nm,0.9s,mb4.6
KONO **Kongsberg** **45.02 321** *i* P **P** **19 29 33.1 -0.2**
TIXI **Tiksi** **45.89 22** ⇑*i*P **P** **19 29 38.2 -1.9**
TIXI *e*S **S** **19 36 14.0 +6.4**
TIXI pmax pmax
comp=Z,57nm,0.8s,mb5.0
TIXI MLR MLR
comp=Z,144nm,12.0s
CDF **Champ du Feu** **47.10 306** *e*P **P** **19 29 50.0 +0.2**
comp=Z,7.7nm,0.9s,mb3.7
CDF **Champ du Feu** **47.10 306** *e*P **P** **19 29 50.0 +0.2**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb3.8
PGF **Pioggiola** **47.14 297** ⇑*i*P **P** **19 29 49.6 -0.6**
comp=Z,15nm,0.8s,mb4.1
PGF **Pioggiola** **47.14 297** ⇑*i*P **P** **19 29 49.6 -0.6**
PGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
HINF **Hinteralfeld** **47.48 305** ⇑*i*P **P** **19 29 52.4 -0.4**
comp=Z,8.3nm,0.7s,mb3.9
HINF *ep* pP 19 30 37.8 -0.4
HINF **Hinteralfeld** **47.48 305** ⇑*i*P **P** **19 29 52.4 -0.4**
HINF *e**PP pP 19 30 37.8 -0.4
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
HAU **Haudompre** **47.78 305** *e*P **P** **19 29 54.9 -0.2**
comp=Z,7.7nm,0.6s,mb3.9
HAU **Haudompre** **47.78 305** *e*P **P** **19 29 54.9 -0.2**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
SBF **Sospel** **47.93 299** *e*P **P** **19 29 56.3 0.0**
comp=Z,17nm,0.7s,mb4.2
SBF *ep* pP 19 30 42.9 +1.1
SBF **Sospel** **47.93 299** *e*P **P** **19 29 56.3 0.0**
SBF *e**PP pP 19 30 42.9 +1.1
SBF pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
LPG **La Plagne** **48.03 302** *e*P **P** **19 29 57.4 +0.4**
comp=Z,14nm,0.7s,mb4.1
LPG **La Plagne** **48.03 302** *e*P **P** **19 29 57.4 +0.4**
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
LPL **La Plagne** **48.03 302** ⇑*i*P **P** **19 29 57.3 +0.2**
comp=Z,9.9nm,0.7s,mb4.0
LPL **La Plagne** **48.03 302** ⇑*i*P **P** **19 29 57.3 +0.2**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
MBDF **Montbardon** **48.19 301** *e*P **P** **19 29 57.8 -0.5**
comp=Z,13nm,0.7s,mb4.1
MBDF **Montbardon** **48.19 301** *e*P **P** **19 29 57.8 -0.5**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
CABF **La Chapelle** **48.23 303** *e*P **P** **19 29 58.4 -0.2**
comp=Z,8.7nm,0.6s,mb4.0
CABF **La Chapelle** **48.23 303** *e*P **P** **19 29 58.4 -0.2**
CABF pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
MEZF **Maizieres J'vi** **48.54 306** ⇑*i*P **P** **19 30 01.1 +0.2**
comp=Z,9.4nm,0.6s,mb4.0
FRF **La Foret Royal** **48.56 299** ⇑*i*P **P** **19 30 00.6 -0.5**
comp=Z,6.5nm,0.8s,mb3.7
FRF **La Foret Royal** **48.56 299** ⇑*i*P **P** **19 30 00.6 -0.5**
FRF pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
KMBO **Kilima Mbogo** **48.66 227** P **P** **19 30 03.8 +1.4**
comp=Z,5.0nm,0.6s,mb4.0,baz=55,slow=18,SNR=4.3
ORIF **Oris-en-Rattie** **48.76 301** *e*P **P** **19 30 02.4 -0.2**
comp=Z,4.7nm,0.7s,mb3.6
ORIF **Oris-en-Rattie** **48.76 301** *e*P **P** **19 30 02.4 -0.2**
ORIF pmax pmax
comp=Z,2.0nm,0.7s,mb3.6
JNU **Nakatsue** **48.78 75** P **P** **19 30 03.8 +0.9**
comp=Z,5.9nm,0.8s,mb4.0,baz=296,slow=4.8,SNR=4.0
BAIF **Baives** **48.79 308** ⇑*i*P **P** **19 30 03.3 +0.5**
comp=Z,9.2nm,0.8s,mb3.9
BAIF **Baives** **48.79 308** ⇑*i*P **P** **19 30 03.3 +0.5**
BAIF pmax pmax
comp=Z,5.0nm,0.8s,mb3.9
SMRF **Simiane la Rot** **49.20 300** *e*P **P** **19 30 06.7 +0.7**
comp=Z,9.7nm,1.0s,mb3.8
LOR **Lormes** **49.58 305** *e*P **P** **19 30 08.1 -0.8**
VIVF **Saint-Julien-l** **49.61 301** ⇑*i*P **P** **19 30 08.9 -0.2**
comp=Z,11nm,0.7s,mb4.0
VIVF *ep* pP 19 30 54.7 -0.2
VIVF **Saint-Julien-l** **49.61 301** ⇑*i*P **P** **19 30 08.9 -0.2**
VIVF *e**PP pP 19 30 54.7 -0.2
VIVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
SMF **Signal de Mont** **49.74 304** ⇑*i*P **P** **19 30 09.7 -0.4**
comp=Z,11nm,0.6s,mb4.0
SMF **Signal de Mont** **49.74 304** ⇑*i*P **P** **19 30 09.7 -0.4**
SMF pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
SSF **Saint Saulge** **49.86 304** *e*P **P** **19 30 10.5 -0.5**
AVF **Avril sur Loir** **50.03 304** ⇑*i*P **P** **19 30 11.8 -0.5**
comp=Z,18nm,0.8s,mb4.2
AVF *ep* pP 19 30 57.6 -0.5
AVF **Avril sur Loir** **50.03 304** ⇑*i*P **P** **19 30 11.8 -0.5**
AVF *e**PP pP 19 30 57.6 -0.5
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
LASF **Ste Croix** **50.37 301** ⇑*i*P **P** **19 30 14.9 0.0**
comp=Z,16nm,1.0s,mb4.0
LASF *ep* pP 19 31 00.7 -0.1
HYF **Humbligny** **50.39 305** *e*P **P** **19 30 15.0 0.0**
BGF **Bois d'Agland** **50.42 304** *e*P **P** **19 30 15.4 +0.1**
TCF **Toulx Ste Croi** **50.92 304** ⇑*i*P **P** **19 30 18.8 -0.2**
comp=Z,6.0nm,0.7s,mb3.9
TCF *ep* pP 19 31 04.8 -0.2
TCF **Toulx Ste Croi** **50.92 304** ⇑*i*P **P** **19 30 18.8 -0.2**
TCF *e**PP pP 19 31 04.8 -0.2
TCF pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
CAF **Calviac** **51.38 302** ⇑*i*P **P** **19 30 22.5 +0.1**
comp=Z,6.4nm,0.6s,mb3.9
CAF *ep* pP 19 31 08.4 -0.1
CAF **Calviac** **51.38 302** ⇑*i*P **P** **19 30 22.5 +0.1**
CAF *e**PP pP 19 31 08.4 -0.1
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
RJF **Les Rejaudoux** **51.65 303** *e*P **P** **19 30 24.6 +0.2**
MTLF **Montolieu** **51.72 300** ⇑*i*P **P** **19 30 24.8 -0.2**
comp=Z,3.6nm,0.6s,mb3.7
MTLF **Montolieu** **51.72 300** ⇑*i*P **P** **19 30 24.8 -0.2**
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
LDF **La Druitiere** **51.87 307** *e*P **P** **19 30 25.2 -0.8**
comp=Z,12nm,0.9s,mb4.0
LDF **La Druitiere** **51.87 307** *e*P **P** **19 30 25.2 -0.8**
LDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
FLN **La Foliniere** **52.06 307** *e*P **P** **19 30 26.5 -0.9**
comp=Z,16nm,0.9s,mb4.2
FLN **La Foliniere** **52.06 307** *e*P **P** **19 30 26.5 -0.9**
FLN pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
LFF **La Frestale** **52.28 302** *e*P **P** **19 30 28.9 -0.2**
comp=Z,12nm,0.8s,mb4.1
LFF **La Frestale** **52.28 302** *e*P **P** **19 30 28.9 -0.2**
LFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
GRR **Gorron** **52.40 307** *e*P **P** **19 30 29.7 -0.2**
comp=Z,28nm,1.1s,mb4.3
GRR **Gorron** **52.40 307** *e*P **P** **19 30 29.7 -0.2**
GRR pmax pmax
comp=Z,14nm,1.1s,mb4.3
MFF **Saint Martin d** **52.41 305** *e*P **P** **19 30 30.0 0.0**
YSS **Yuzh-Sakhalins** **53.00 55** *d* *i*P **P** **19 30 35.2 +0.8**
YSS pmax pmax
comp=Z,12nm,0.6s,mb4.5
EPF **Esparros** **53.12 300** *e*P **P** **19 30 34.0 -1.4**
EPF *ep* pP 19 31 20.1 -1.7
MAJO **Matsushiro** **53.14 68** *e*P **P** **19 30 38.4 +2.8**
comp=Z,160nm,2.4s,mb5.0
MAJO **Matsushiro** **53.14 68** *e*P **P** **19 30 38.4 +2.8**
MAJO pmax pmax
comp=Z,160nm,2.4s,mb5.0
MJAR **Matsushiro Arr** **53.14 68** P **P** **19 30 36.7 +1.1**
comp=Z,1.3nm,0.6s,mb3.5,baz=290,slow=9.4,SNR=4.4
SGMF **Saint Gilles** **53.52 307** *e*P **P** **19 30 37.7 -0.5**
ETSF **Etsaut** **53.79 300** ⇑*i*P **P** **19 30 40.1 -0.1**
comp=Z,8.3nm,0.5s,mb4.2
ETSF **Etsaut** **53.79 300** ⇑*i*P **P** **19 30 40.1 -0.1**
ETSF pmax pmax
comp=Z,4.0nm,0.5s,mb4.2
ROSF **Rostrenen** **53.96 307** *e*P **P** **19 30 41.3 -0.1**
comp=Z,8.2nm,0.7s,mb4.1
ROSF **Rostrenen** **53.96 307** *e*P **P** **19 30 41.3 -0.1**
ROSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
SJPF **Ste Jean** **54.18 301** *e*P **P** **19 30 42.8 -0.3**
MA2 **Magadan** **54.52 38** *i* P **P** **19 30 44.9 -0.4**
MA2 pmax pmax
comp=Z,35nm,1.4s,mb4.7
SEY **Seymchan** **54.56 34** *e*P **P** **19 30 46.4 +0.9**
SEY *e* 19 38 13.7
SEY pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
ESDC **Sonseca Array** **57.33 298** P **P** **19 31 04.6 -0.9**
comp=Z,2.6nm,0.6s,mb4.0,baz=54,slow=7.7,SNR=17
ESDC pP pP 19 31 51.1 -1.6
comp=Z,1.5nm,0.7s,baz=56,slow=8.9,SNR=3.3
BILL **Bilibino** **58.73 26** *e*P **P** **19 31 15.8 +0.9**
comp=Z,8.0nm,0.4s,mb4.7
BILL **Bilibino** **58.73 26** *c* *i*P **P** **19 31 16.0 +1.1**
BILL *e* 19 33 27.1
BILL pmax pmax
comp=Z,31nm,0.8s,mb5.0
SKR **Severo-Kuril's** **60.13 47** *e*P **P** **19 31 20.9 -3.8**
SKR pmax pmax
comp=N,90nm,0.2s
SKR pmax pmax
comp=E,50nm,0.2s
SKR pmax pmax
comp=Z,90nm,0.2s

EVO	Evora	60.67	298	*eP*		P		19 31 28.7	+0.2
	comp=Z,16nm,1.1s,mb4.3									
SUMG	Summit	61.06	341	*eP*		P		19 31 31.6	+1.0
	comp=Z,32nm,1.1s,mb4.9									
LSZ	Lusaka	65.29	226	P		P		19 31 59.6	+0.5
	comp=Z,2.8nm,0.6s,mb4.0,baz=84,slow=6.7,SNR=6.8									
MATP	Matopo	69.25	222	P		P		19 32 24.6	+0.9
	comp=Z,7.2nm,0.7s,mb4.4,baz=33,slow=6.4,SNR=22									
INK	Inuvik	73.99	9	*eP*		P		19 32 52.0	+1.0
	comp=Z,23nm,0.6s,mb5.0									
INK	Inuvik	73.99	9	*eP*		P		19 32 52.0	+1.0
INK					pmax	pmax				
	comp=Z,23nm,0.6s									
DBIC	Dimbokro	74.52	267	P		P		19 32 53.8	-1.3
	comp=Z,14nm,1.0s,mb4.5,baz=71,slow=9.9,SNR=7.7									
LBTB	Lobatse	74.52	222	P		P		19 32 55.8	+0.8
	comp=Z,5.6nm,0.5s,mb4.4,baz=26,slow=5.4,SNR=18									
TSUM	Tsumeb	74.74	232	P		P		19 32 56.6	+0.3
	comp=Z,3.4nm,0.5s,mb4.2,baz=354,slow=7.6,SNR=17									
ILAR	Eielson Array	74.88	16	P		P		19 32 56.1	-0.1
	comp=Z,7.6nm,0.9s,mb4.3,baz=357,slow=4.3,SNR=37									
FITZ	Fitzroy Crossi	75.00	126	*eP*		P		19 32 58.1	+0.3
	comp=Z,4.9nm,0.6s,mb4.3									
MCK	McKinley	75.30	17	*eP*		P		19 32 59.5	+0.9
	comp=Z,3.4nm,0.5s,mb4.2									
MCK					*e*PcP		PcP	19 33 11.3	+0.1	
MCK	McKinley	75.30	17	*eP*		P		19 32 59.5	+0.9	
MCK					*e*			19 33 11.3		
MCK					pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.2									
KAKA	Kakadu	75.86	118	⇓*iP*		P		19 33 22.2	+20	
	comp=Z,8.9nm,0.5s,mb4.7									
THY	Trims Highway	76.31	16	*eP*		P		19 33 04.8	+0.6	
YKA	Yellowknife Ar	81.31	3	P		P		19 33 31.8	+0.7	
	comp=Z,6.0nm,0.5s,mb4.5,baz=351,slow=5.4,SNR=21									
YKA					pP		pP	19 34 22.0	+0.5	
	comp=Z,3.0nm,0.9s,baz=351,slow=5.6,SNR=3.0									
YKA	Yellowknife Ar	81.31	3	P		P		19 33 31.8	+0.7	
YKA				*PP		pP		19 34 22.1	+0.5	
SCHQ	Schefferville	82.08	337	P		P		19 33 35.1	-0.1	
	comp=Z,3.8nm,0.7s,mb4.1,baz=208,slow=16,SNR=5.6									
WRA	Warramunga Arr	82.11	122	P		P		19 33 35.8	-0.3	
	comp=Z,8.7nm,0.7s,mb4.5,baz=320,slow=5.1,SNR=135									
WRA					pP		pP	19 34 26.6	0.0	
	comp=Z,1.9nm,0.7s,baz=322,slow=5.0,SNR=3.9									
WRAB	Tennant Creek	82.11	122	*eP*		P		19 33 35.9	-0.2	
	comp=Z,14nm,0.8s,mb4.7									
WRAB	Tennant Creek	82.11	122	*eP*		P		19 33 35.9	-0.2	
WRAB					pmax	pmax				
	comp=Z,14nm,0.8s,mb4.6									
WB2	Warramunga Arr	82.12	122	⇑*iP*		P		19 33 35.8	-0.3	
ULM	Lac du Bonnet	92.88	351	P		P		19 34 27.1	-0.1	
	comp=Z,3.8nm,0.8s,mb4.5,baz=16,slow=4.4,SNR=4.0									
HNR	Honiara	94.86	98	*eP*		P		19 34 37.5	+0.5	
STKA	Stephens Creek	94.90	126	P		P		19 34 37.5	+0.6	
	comp=Z,1.2nm,0.6s,mb4.2,baz=267,slow=24,SNR=4.7									
STKA	Stephens Creek	94.90	126	P		P		19 34 37.5	+0.6	
VNA2	Neumayer--Watz	120.28	202	P		PKPdf		19 40 04.8	+2.0	
VNA2	Neumayer--Watz	120.28	202			PKPdf		19 40 06.6	+3.8	
VNA1	Neumayer--Stat	120.44	202	P		PKPdf		19 40 06.9	+3.8	
VNA1	Neumayer--Stat	120.44	202			PKPdf		19 40 09.4	+6.3	
VNA3	Neumayer Olymp	121.09	202	P		PKPdf		19 40 06.5	+2.2	
VNA3	Neumayer Olymp	121.09	202			PKPdf		19 40 08.0	+3.7	
QSPA	South Pole Qui	126.24	180	*e*PKPdf		PKPdf		19 40 15.3	+1.4	
CPUP	Villa Florida	135.03	268	PKP		PKPdf		19 40 32.5	+0.6	
	comp=Z,3.5nm,0.8s,baz=64,slow=2.0,SNR=8.9									
LPAZ	La Paz	138.46	288	PKP		PKPdf		19 40 40.1	+1.7	
	comp=Z,1.0nm,0.3s,baz=132,slow=3.7,SNR=3.8									
PLCA	Paso Flores	149.64	250	PKP		PKPdf		19 41 00.7	+3.8	
	comp=Z,8.5nm,0.9s,baz=132,slow=3.8,SNR=3.9									
PLCA				PKPbc		PKPdf		19 41 04.1	+7.2	
	comp=Z,8.5nm,0.9s,baz=151,slow=5.0,SNR=15									
PLCA	Paso Flores	149.64	250	*e*PKPbc		PKPdf		19 41 02.8	+5.9	
PLCA	Paso Flores	149.64	250	PKHKP				19 41 00.7		
PLCA					pmax	pmax				
	comp=Z,9.0nm,0.9s									
PLCA					pmax	pmax				
	comp=Z,9.0nm,0.9s									

CSEM ***24*** *19:23:57.7±0.1, 12.20N×40.57E, h2km, mb5.1/99, Ms4.9, Mw5.5, Error ellipse: s-maj=4.4km s-min=1.4km az=178.0*

DHMR ***24*** *19:23:58.6±1.9, 12.65N×40.53E, h8km±75km, ML5.5*

MOS ***24*** *19:24:00.8±0.9, 12.43N×40.46E, h10km, mb5.2/69, MS5.1/12, Error ellipse: s-maj=9.6km s-min=3.1km az=114.6*

BJI ***24*** *19:24:01.0, 12.29N×40.74E, h12km, mB5.5, mb5.0, Ms5.5, Msz5.3*

IDC ***24*** *19:24:01.2±0.5, 12.46N×40.57E, mb4.8/24, mb1 4.9/26, mb1mx4.8/29, mbtmp4.8/26, ML3.6/2, MS5.0/18, Ms1 5.0/18, ms1mx5.0/25, Error ellipse: s-maj=18.6km s-min=9.7km az=86.0*

STR ***24*** *19:24:02.3±0.0, 12.77N×40.90E, Mb5.0, Ms4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

NEIC ***24*** *19:24:02.7±0.2, 12.47N×40.63E, mb5.1/90, MS5.0/5, MW5.5, ML5.5(DHMR), Error ellipse: s-maj=5.6km s-min=4.0km az=205.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^17 Nm; Mrr=1.15; Mθθ=1.05; Mφφ=2.20; Mrθ=0.35; Mθφ=1.11; Mφr=0.23; Best double couple: Mo=2.1×10^17 NP1:φs124°, δ64°, λ=154°. NP2:φs21°, δ67°, λ=29°. Principal axes: T 2.55, Plg2°, Azm73°; N -.86, Plg53°, Azm165°; P -1.69, Plg36°, Azm342°;*

NEIC A 500-meter wide zone of tensional fissures and normal faults up to 3 km long was observed in the Dabbahu area. Displacement on some scarps was as much as 1 meter. Dabbahu Volcano began erupting, with the largest eruption occurring on September 26. An estimated 6,500 people were displaced, about 1,000 livestock were killed and roads and water facilities were damaged by the eruption.

HRVD ***24*** *19:24:02.7±0.2, 12.55N×40.68E, h12km, MW5.5/74, Centroid moment Tensor Solution. LP body waves: s51,c92;Mantle waves: s74,c150; Half duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr=0.88±.05; Mθθ=1.70±.04; Mφφ2.57±.05; Mrθ=0.53±.14; Mθφ=-1.21±.04; Mφr=0.58±.14; Best double couple: Mo2.633×10^17 NP1: φs122°, δ68°, λ=166°. NP2:φs27°, δ77°, λ=23°. Principal axes: T 2.938, Plg7°, Azm76°; N -.618, Plg64°, Azm180°; P -2.328, Plg25°, Azm343°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CRAAG ***24*** *19:24:04.0, 12.38N×40.52E, Mb5.1*

ISC 24 19:24:01.2±0.2, 12.39N±0.03×40.57E±0.02, h14km, h14km±1.6km:pP-P, n484, σ1s05/506, mb5.0/135, MS5.1/39, 39C-25D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.39**	**111**	Pn		**Pn**	**19 24 38.6**	**-1.9**
	441nm,0.3s,baz=287,slow=9.6,SNR=66							
ATD				Lg			19 25 11.3	
	573nm,0.3s,baz=239,slow=20,SNR=20							
ATD				LR		LR	19 25 49.1	
	comp=Z,60μm,19.2s,baz=99,slow=45							
ATD	**Arta Tunnel**	**2.39**	**111**	Pn		**Pn**	**19 24 38.6**	**-1.9**
ATD				Lg			19 25 11.3	
ATD				LR		LR	19 25 49.1	
TRBA	**At Turbah**	**3.56**	**76**	⇑*iP*		**Pn**	**19 24 56.6**	**-0.7**
TRBA				*i* S		**Sn**	**19 25 41.9**	**+2.3**
TRBA				AML		AML	19 25 59.6	
	comp=N,31μm,0.7s							
TRBA	**At Turbah**	**3.56**	**76**	*i* P		**Pn**	**19 24 56.6**	**-0.7**
TRBA				*i* S		**Sn**	**19 25 40.9**	**+1.3**
TRBA	**At Turbah**	**3.56**	**76**	⇑*iP*		**Pn**	**19 24 56.6**	**-0.7**
TRBA				*i* S		**Sn**	**19 25 40.9**	**+1.3**
UDYN	**Al 'Udayn**	**3.67**	**64**	⇓*eP*		**Pn**	**19 24 57.7**	**-1.1**
UDYN				*i* S		**Sn**	**19 25 43.5**	**+1.3**
UDYN				AML		AML	19 26 03.9	
	comp=E,26μm,0.7s							
UDYN	**Al 'Udayn**	**3.67**	**64**	*i* P		**Pn**	**19 24 58.5**	**-0.2**
UDYN				*i* S		**Sn**	**19 25 43.7**	**+1.5**
DHBB	**Dhamar BB**	**4.31**	**59**	⇓*eP*		**Pn**	**19 25 05.8**	**-2.1**
DHBB				*i* S		**Sn**	**19 25 58.1**	**-0.4**
DHBB	**Dhamar BB**	**4.31**	**59**	*i* P		**Pn**	**19 25 07.1**	**-0.8**
DHBB				*i* S		**Sn**	**19 26 00.1**	**+1.7**
DHBB	**Dhamar BB**	**4.31**	**59**	*i* P		**Pn**	**19 25 07.1**	**-0.8**
DHBB				*i* S		**Sn**	**19 26 00.1**	**+1.6**
ADEN	**Aden**	**4.33**	**84**	⇓*eP*		**Pn**	**19 25 07.2**	**-1.0**
ADEN				*i* S		**Sn**	**19 26 00.6**	**+1.6**
ADEN	**Aden**	**4.33**	**84**	*i* P		**Pn**	**19 25 06.1**	**-2.1**
ADEN				*i* S		**Sn**	**19 25 58.0**	**-1.1**
ADEN	**Aden**	**4.33**	**84**	*i* P		**Pn**	**19 25 06.1**	**-2.1**
ADEN				*i* S		**Sn**	**19 25 58.0**	**-1.0**
SANA	**San'a**	**4.62**	**49**	*eP*		**Pn**	**19 25 09.4**	**-2.9**
SANA				*i* S		**Sn**	**19 26 04.5**	**-2.0**
SANA	**San'a**	**4.62**	**49**	*i* P		**Pn**	**19 25 09.7**	**-2.6**
SANA				*i* S		**Sn**	**19 26 04.0**	**-2.4**
LBOS		**4.79**	**72**	⇓*eP*		**Pn**	**19 25 10.8**	**-4.0**
LBOS				*i* S		**Sn**	**19 26 07.2**	**-3.6**
LBOS		**4.79**	**72**	*i* P		**Pn**	**19 25 11.4**	**-3.4**
LBOS				*i* S		**Sn**	**19 26 06.1**	**-4.7**
BDHA	**Al Bayda'**	**5.12**	**71**	⇓*eP*		**Pn**	**19 25 15.1**	**-4.3**
BDHA				*i* S		**Sn**	**19 26 15.0**	**-4.0**
BDHA	**Al Bayda'**	**5.12**	**71**	*i* P		**Pn**	**19 25 16.1**	**-3.3**
BDHA				*i* S		**Sn**	**19 26 14.9**	**-4.1**
BDHA	**Al Bayda'**	**5.12**	**71**	*i* P		**Pn**	**19 25 16.0**	**-3.4**
BDHA				*i* S		**Sn**	**19 26 15.0**	**-4.0**
BLJS	**Baljurashi**	**7.52**	**7**	P		**Pn**	**19 25 54.0**	**+0.8**
MUKL	**Al Mukalla**	**8.50**	**75**	⇓*iP*		**P**	**19 26 01.3**	**-5.5**
MUKL				*i* S		**Sn**	**19 27 38.4**	**-5.1**
MUKL	**Al Mukalla**	**8.50**	**75**	*i* P		**P**	**19 26 01.3**	**-5.5**
MUKL				*i* S		**Sn**	**19 27 37.7**	**-5.7**
AFFS	**'Afif**	**11.71**	**11**	P		**P**	**19 26 53.3**	**+2.3**
YNBS	**Yanbu' al Bahr**	**12.14**	**349**	P		**P**	**19 26 56.7**	**0.0**
MZLS	**Mizel**	**12.39**	**20**	P		**P**	**19 27 01.7**	**+1.6**
ABTO	**Aybut**	**13.26**	**67**	⇓P		**P**	**19 27 15.2**	**+3.5**
KMBO	**Kilima Mbogo**	**13.82**	**194**	Pn		**P**	**19 27 20.3**	**+1.0**
	comp=E,0.1nm,0.3s,baz=14,slow=13,SNR=23							
WHFO	**Wadi Hawf**	**13.88**	**65**	⇓P		**P**	**19 27 21.6**	**+1.6**
RBK	**Rabkut**	**14.12**	**67**	⇓P		**P**	**19 27 26.7**	**+3.5**
HILS	**Ha'il**	**14.96**	**4**	P		**P**	**19 27 36.1**	**+2.0**
HASS	**Wahat al Ahsa'**	**15.38**	**33**	P		**P**	**19 27 43.9**	**+4.2**
TBKS	**Tabuk**	**16.20**	**347**	P		**P**	**19 27 51.3**	**+1.1**
NAY	**Al-Naaiem**	**17.89**	**19**	*eP*		**P**	**19 28 11.9**	**+0.6**
NAY					AMb	AMB	19 28 17.2	
	comp=Z,112nm,1.1s							
NAY	**Al-Naaiem**	**17.89**	**19**	*eP*		**P**	**19 28 11.9**	**+0.5**
EIL	**Elat**	**17.97**	**344**	P		**P**	**19 28 12.3**	**-0.1**
KBD	**Kabd**	**17.97**	**21**	*eP*		**P**	**19 28 12.8**	**+0.3**
KBD					AMb	AMB	19 28 27.6	
	comp=Z,473nm,1.5s							
MBH	**Mount Berech**	**18.10**	**344**	P		**P**	**19 28 13.5**	**-0.5**
UMR	**Umm Al-Rimmam**	**18.33**	**20**	*eP*		**P**	**19 28 17.6**	**+0.7**
MIB	**Mutribah**	**18.44**	**19**	*eP*		**P**	**19 28 19.4**	**+1.2**
MIB					AMb	AMB	19 28 23.2	
	comp=Z,140nm,1.0s							
PRNI	**Paran**	**18.60**	**345**	P		**P**	**19 28 20.8**	**+0.5**
ARQ	**Araqi**	**18.67**	**52**	⇑P		**P**	**19 28 19.7**	**-1.3**
	SNR=19							
ZFRI	**Zfri**	**18.75**	**345**	P		**P**	**19 28 22.6**	**+0.5**
BSY	**Bisya**	**18.89**	**55**	⇓P		**P**	**19 28 21.7**	**-2.0**
	SNR=30							
BSYO	**Bisya**	**18.91**	**55**	P		**P**	**19 28 21.7**	**-2.3**
	SNR=30							
ASHO	**Ashiyah**	**19.09**	**48**	⇓P		**P**	**19 28 25.7**	**-0.4**
	SNR=31							
MASH	**Mash'abbe Sade**	**19.27**	**345**	P		**P**	**19 28 28.9**	**+0.7**
KZIT	**Kziot**	**19.29**	**344**	P		**P**	**19 28 28.6**	**+0.2**
HOQ	**Hoqain**	**19.41**	**53**	⇓P		**P**	**19 28 29.7**	**-0.2**
	SNR=12							
MZDA	**Masada**	**19.43**	**347**	P		**P**	**19 28 31.1**	**+1.0**
JMDO	**Jabal Madar**	**19.44**	**57**	⇓P		**P**	**19 28 29.3**	**-0.9**
	SNR=15							
MKRJ	**Makawir**	**19.61**	**347**	P		**P**	**19 28 32.2**	**+0.2**
SMDO	**Samad**	**19.73**	**55**	⇑P		**P**	**19 28 30.6**	**-2.9**
	SNR=20							
SMDO	**Samad**	**19.73**	**55**	P		**P**	**19 28 30.5**	**-2.9**
	SNR=20							
ASF	**Jabal al Asfar**	**19.98**	**351**	P		**P**	**19 28 36.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=34,slow=4.5,SNR=42							
ASF					S	**S**	**19 32 27.4**	**+13**
	baz=287,slow=19,SNR=1.4							
ASF					LR	LR	19 35 22.1	
	comp=Z,4μm,19.9s,baz=212,slow=34							
BIDO	**Bidbid**	**20.02**	**54**	⇑P		**P**	**19 28 34.5**	**-2.1**
	SNR=10							
BANOM	**Banah**	**20.02**	**45**	⇓P		**P**	**19 28 35.2**	**-1.5**
	SNR=14							
MMLI	**Mount Malkishu**	**20.51**	**348**	P		**P**	**19 28 42.0**	**+0.3**
OFRI	**'Ofer**	**20.78**	**347**	P		**P**	**19 28 44.7**	**+0.2**
HAF	**Haifa**	**20.92**	**347**	P		**P**	**19 28 46.2**	**+0.3**
BHD	**Baghdad**	**21.08**	**9**	*ex*		x	19 28 43.0	
BHD				*ex*		x	19 35 18.0	
HNTI	**Hanita**	**21.18**	**347**	P		**P**	**19 28 49.2**	**+0.6**
KSDI	**Kefar Szold**	**21.19**	**349**	P		**P**	**19 28 49.7**	**+1.1**
BHL	**Bhannes**	**21.88**	**349**	*eP*		**P**	**19 28 56.7**	**+1.1**
MSEY	**Mahe Island**	**22.52**	**138**	*eP*		**P**	**19 29 04.0**	**+1.8**
	comp=Z,783nm,1.6s,mb5.9							
CSS	**Prodhromos**	**23.41**	**345**	*eP*		**P**	**19 29 11.7**	**+0.9**
	comp=Z,65nm,1.0s,mb5.0							
CSS	**Prodhromos**	**23.41**	**345**	*eP*		**P**	**19 29 11.6**	**+0.9**
	comp=Z,65nm,1.0s,mb5.0							
MALT	**Malatya**	**25.89**	**356**	*eP*		**P**	**19 29 36.1**	**+1.6**
	comp=Z,56nn,0.9s,mb5.1							
MALT	**Malatya**	**25.89**	**356**	*eP*		**P**	**19 29 36.1**	**+1.7**
	comp=Z,56nn,0.9s,mb5.1							
MALT	**Malatya**	**25.89**	**356**	*eP*		**P**	**19 29 36.1**	**+1.7**
MALT					pmax	pmax		
	comp=Z,56nn,0.9s,mb5.1							
IDI	**Anoyia**	**26.86**	**331**	P		**P**	**19 29 43.6**	**+0.2**
	comp=Z,12nn,0.8s,mb4.5,baz=142,slow=12,SNR=5.9							
IDI					S	**S**	**19 34 22.6**	**+5.0**
	comp=Z,9.2nm,0.5s,baz=114,slow=19,SNR=0.9							
IDI					LR	LR	19 42 10.2	
	comp=Z,2μm,20.1s,MS4.8,baz=309,slow=41							
IDI	**Anoyia**	**26.86**	**331**	P		**P**	**19 29 43.5**	**+0.1**
SANT	**Santorini**	**27.48**	**333**	*eP*		**P**	**19 29 48.0**	**-1.1**
	comp=Z,57nn,1.2s,mb5.0							
SANT	**Santorini**	**27.48**	**333**	*eP*		**P**	**19 29 48.0**	**-1.1**
	comp=Z,57nn,1.2s,mb5.0							
BR131	**Keskin Array S**	**27.91**	**349**	*eP*		**P**	**19 29 53.9**	**+1.0**
	comp=Z,34nn,0.9s,mb5.0							
BR131	**Keskin Array S**	**27.91**	**349**	*eP*		**P**	**19 29 53.9**	**+1.0**
	comp=Z,34nn,0.9s,mb5.0							
BRTR	**Keskin Array B**	**27.91**	**349**	P		**P**	**19 29 53.6**	**+0.7**
	comp=Z,38nn,1.0s,mb5.0,baz=174,slow=11,SNR=55							
KYTH	**Kithira**	**28.55**	**329**	*eP*		**P**	**19 30 00.0**	**+1.2**
NAIG	**Nisos Aigina**	**29.52**	**332**	*eP*		**P**	**19 30 08.0**	**+0.6**
ATH	**Athens Observa**	**29.59**	**332**	*eP*		**P**	**19 30 09.5**	**+1.4**
PRK	**Paraskevi**	**29.60**	**337**	*eP*		**P**	**19 30 10.0**	**+1.8**
NSAL	**Nisos Salamina**	**29.65**	**332**	*eP*		**P**	**19 30 09.0**	**+0.4**
MPAR	**Parnis Oros**	**29.73**	**333**	*eP*		**P**	**19 30 10.5**	**+1.2**
MGER	**Gerania Oros**	**29.81**	**332**	*eP*		**P**	**19 30 10.9**	**+0.9**
LSZ	**Lusaka**	**30.09**	**204**	P		**P**	**19 30 13.2**	**+0.4**
	comp=Z,2.9nm,1.0s,mb4.0,baz=30,slow=8.2,SNR=9.3							
LSZ					LR	LR	19 43 13.7	
	comp=Z,2μm,21.3s,MS4.8,baz=201,slow=38							
LSZ	**Lusaka**	**30.09**	**204**	*eP*		**P**	**19 30 13.5**	**+0.7**
	comp=Z,80nn,2.0s,mb5.1							
LSZ	**Lusaka**	**30.09**	**204**	*eP*		**P**	**19 30 13.5**	**+0.7**
LSZ					pmax	pmax		
	comp=Z,80nn,2.0s,mb5.1							
NEO	**Neokhori**	**30.90**	**333**	*eP*		**P**	**19 30 20.0**	**+0.3**
EVR	**Evrytania**	**31.23**	**331**	*eP*		**P**	**19 30 23.5**	**+0.9**
VLS	**Valsamata**	**31.25**	**329**	*eP*		**P**	**19 30 23.0**	**+0.2**
OPO	**Ambohidratompo**	**31.45**	**168**	P		**P**	**19 30 26.5**	**+1.9**
	comp=Z,10nn,1.0s,mb4.6,baz=330,slow=7.2,SNR=11							
RDO	**Rodhopi**	**31.53**	**338**	*eP*		**P**	**19 30 27.0**	**+1.8**
RZN	**Rozhen**	**32.31**	**337**	*eP*		**P**	**19 30 33.0**	**+1.0**
DIM	**Dimitrovgrad**	**32.33**	**339**	*eP*		**P**	**19 30 33.0**	**+0.9**
JMB	**Yambol**	**32.34**	**340**	*eP*		**P**	**19 30 32.0**	**-0.2**
MMB	**Musmiste**	**32.60**	**336**	*eP*		**P**	**19 30 34.0**	**-0.5**
PLD	**Plovdiv**	**32.67**	**338**	*eP*		**P**	**19 30 36.0**	**+0.9**
PRD	**Provadia**	**32.75**	**342**	*eP*		**P**	**19 30 36.0**	**+0.2**
SIM	**Simferopol'**	**32.91**	**352**	*eP*		**P**	**19 30 37.2**	**0.0**
	comp=Z,35nn,1.0s,mb5.2							
SIM	**Simferopol'**	**32.91**	**352**	*eP*		**P**	**19 30 37.2**	**0.0**
SIM					pmax	pmax		
	comp=Z,35nn,1.0s,mb5.2							
KKB	**Krupnik**	**33.09**	**336**	*eP*		**P**	**19 30 38.5**	**-0.3**
PGB	**Panagyurishte**	**33.26**	**338**	*eP*		**P**	**19 30 41.0**	**+0.8**
TIRR	**Tirgusor**	**33.62**	**344**	⇓P		**P**	**19 30 43.0**	**-0.3**
VTS	**Vitosha**	**33.66**	**337**	*eP*		**P**	**19 30 44.0**	**+0.3**
SKO	**Skopje**	**33.86**	**334**	*i* P		**P**	**19 30 45.5**	**0.0**
TIP	**Timpagrande**	**34.02**	**326**	*eP*		**P**	**19 30 46.7**	**-0.1**
TIP	**Timpagrande**	**34.02**	**326**	*eP*		**P**	**19 30 46.7**	**-0.1**
VAE	**Valgurnera**	**34.23**	**321**	P		**P**	**19 30 49.9**	**+1.3**
	comp=Z,36nn,1.0s,mb5.2,baz=73,slow=4.3,SNR=7.3							
VAE	**Valgurnera**	**34.23**	**321**	P		**P**	**19 30 50.0**	**+1.3**
CFR	**Carcaliu**	**34.36**	**344**	⇑P		**P**	**19 30 49.5**	**-0.2**
MATP	**Matopo**	**34.70**	**200**	P		**P**	**19 30 52.5**	**-0.4**
	comp=Z,15nn,1.1s,mb4.8,baz=15,slow=12,SNR=14							
MLR	**Muntele Rosu**	**35.26**	**342**	P		**P**	**19 30 58.7**	**+1.2**
	comp=Z,17nn,0.7s,mb5.1,baz=150,slow=5.2,SNR=12							
VRI	**Vrincioaia**	**35.38**	**343**	⇓P		**P**	**19 30 58.5**	**0.0**
VOIR		**35.49**	**341**	⇑P		**P**	**19 31 00.1**	**+0.7**
KIS	**Kishinev**	**35.89**	**346**	*eP*		**P**	**19 31 02.0**	**-0.8**
KIS				*i*			19 32 24.0	
DIVS	**Divcibare**	**36.21**	**335**	⇓*iP*		**P**	**19 31 03.5**	**-2.1**
HYB	**Hyderabad**	**37.01**	**78**	*i* P		**P**	**19 31 14.0**	**+1.6**
HYB				*eS*		**S**	**19 37 06.0**	**+9.1**
CII	**Carovilli**	**37.13**	**327**	*eP*		**P**	**19 31 13.7**	**+0.4**
	comp=Z,57nn,1.2s,mb5.3							
CII	**Carovilli**	**37.13**	**327**	*eP*		**P**	**19 31 13.7**	**+0.4**
	comp=Z,57nn,1.2s,mb5.3							
DRGR		**37.45**	**340**	⇑P		**P**	**19 31 14.9**	**-1.0**
AQU	**L'Aquila**	**38.06**	**327**	*eP*		**P**	**19 31 21.7**	**+0.6**
	comp=Z,28nn,0.9s,mb5.0							
AQU	**L'Aquila**	**38.06**	**327**	*eP*		**P**	**19 31 21.7**	**+0.7**
	comp=Z,28nn,0.9s,mb5.0							
AQU	**L'Aquila**	**38.06**	**327**	*eP*		**P**	**19 31 21.7**	**+0.7**
AQU					pmax	pmax		
	comp=Z,28nn,0.9s,mb5.0							
ABSA	**Djebel Ababsia**	**38.09**	**314**	P		**P**	**19 31 26.0**	**+4.6**
CMAH	**Djebel Manchou**	**38.31**	**315**	P		**P**	**19 31 24.0**	**+0.8**
PKSM	**Moragy**	**38.48**	**335**	⇓*iP*		**P**	**19 31 24.2**	**-0.4**
PKSM				*i*			19 33 27.4	
VSL	**Villasalto**	**38.58**	**320**	*eP*		**P**	**19 31 27.1**	**+1.6**
	comp=Z,30nn,1.0s,mb5.0							
VSL	**Villasalto**	**38.58**	**320**	*eP*		**P**	**19 31 27.1**	**+1.6**
	comp=Z,30nn,1.0s,mb5.0							
CKFL	**Kef-Lekhel**	**38.68**	**314**	P		**P**	**19 31 28.0**	**+1.6**
TSUM	**Tsumeb**	**38.71**	**216**	LR		LR	19 47 09.5	
	comp=Z,5μm,20.1s,MS5.4,baz=28,slow=36							
CASM	**Ain Smara**	**38.78**	**314**	P		**P**	**19 31 29.0**	**+1.8**
CAEH	**'Ain El Ouahch**	**38.78**	**315**	P		**P**	**19 31 28.0**	**+0.8**
AKASG	**Malin Array Be**	**39.31**	**349**	P		**P**	**19 31 30.6**	**-0.9**
	comp=Z,11nn,0.8s,mb4.7,baz=169,slow=6.8,SNR=20							
DFRA	**Djebel Bou Aff**	**39.35**	**314**	P		**P**	**19 31 34.0**	**+2.1**
PSZ	**Piszkesteto**	**39.41**	**338**	⇓*eP*		**P**	**19 31 32.1**	**-0.2**
PSZ				*e*PcP		x	19 33 22.7	
PSZ	**Piszkesteto**	**39.41**	**338**	*eP*		**P**	**19 31 32.3**	**0.0**
	comp=Z,33nn,1.0s,mb5.0							
PSZ	**Piszkesteto**	**39.41**	**338**	*eP*		**P**	**19 31 32.3**	**0.0**
PSZ					pmax	pmax		
	comp=Z,33nn,1.0s,mb5.0							
KOLS	**Kolonicke sedl**	**39.47**	**341**	*eP*		**P**	**19 31 34.0**	**+1.2**
SET	**Setif**	**39.52**	**313**	P		**P**	**19 31 38.0**	**+4.6**
CRES	**Cresnjev**	**39.56**	**332**	*eP*		**P**	**19 31 33.9**	**+0.4**
GOLS	**Golise**	**39.62**	**333**	*eP*		**P**	**19 31 34.8**	**+0.7**
KECS	**K

comp=Z,20nm,0.7s,mb5.0
MOTA Moosalm 42.71 330 ⇓ *i* P **P 19 31 58.7 -0.8**
MOTA pmax pmax
comp=Z,20nm,0.7s,mb5.0
OBN Obninsk 42.74 357 *e*P **P 19 31 59.9 +0.3**
comp=Z,81nm,1.4s,mb5.3
OBN Obninsk 42.74 357 *e*P **P 19 31 59.8 +0.2**
comp=Z,31nm,1.2s,mb4.9
OBN Obninsk 42.74 357 *e*P **P 19 31 59.8 +0.2**
OBN pmax pmax
comp=Z,31nm,1.2s,mb4.9
DPC Dobruska-Polom 42.74 337 *e*P **P 19 31 59.1 -0.6**
KHC Kasperske Hory 42.90 334 *e*P **P 19 31 59.9 -1.0**
DAVOX Davos 42.92 329 P **P 19 32 01.0 -0.2**
comp=Z,10nm,0.7s,mb4.7,baz=144,slow=7.2,SNR=12
DAVOX LR LR 19 53 04.8
comp=Z,1μm,19.6s,MS4.9,baz=124,slow=41
UPC Upice 42.99 337 *e*P **P 19 32 01.6 -0.1**
UPC *e*PP PP 19 33 48.1 +4.1
UPC Upice 42.99 337 *e*PcP PcP 19 33 48.1 -4.5
ETOS Mallorca 43.01 316 P **P 19 32 01.5 -0.5**
comp=Z,65nm,2.9s,mb4.8
ETOS Mallorca 43.01 316 P **P 19 32 01.5 -0.5**
comp=Z,65nm,2.9s,mb4.8
BERF Bertagne 43.05 322 *e*P **P 19 32 02.7 +0.4**
KSP Ksiaz 43.15 338 *e*P **P 19 32 02.4 -0.7**
KSP Ksiaz 43.15 338 *e*P **P 19 32 02.3 -0.7**
KSP *e*S **S 19 38 31.0 +2.4**
KSP Ksiaz 43.15 338 *e*P **P 19 32 02.3 -0.7**
KSP *e*S **S 19 38 31.0 +2.4**
KSP MLR MLR
comp=Z,4μm,27.1s,MS5.2
PRU Pruhonice 43.16 336 *e*P **P 19 32 02.3 -0.7**
PRU *e*S **S 19 38 32.9 +4.3**
PUYF Puyloubier 43.17 323 *e*P **P 19 32 03.7 +0.5**
WET Wettzell 43.21 334 *e*P **P 19 32 02.7 -0.8**
comp=Z,17nm,1.0s,mb4.7
WET Wettzell 43.21 334 *e*P **P 19 32 02.7 -0.8**
WET pmax pmax
comp=Z,17nm,1.0s,mb4.7
FUR Furstenfeldbru 43.21 331 *e*P **P 19 32 03.2 -0.3**
comp=Z,30nm,0.9s,mb5.0
FUR Furstenfeldbru 43.21 331 *e*P **P 19 32 03.2 -0.3**
FUR pmax pmax
comp=Z,30nm,0.9s,mb5.0
GELF Grande-Etoile 43.25 322 *e*P **P 19 32 04.0 +0.1**
MBDF Montbardon 43.26 325 *e*P **P 19 32 04.0 +0.1**
comp=Z,85nm,0.7s,mb5.3
MBDF Montbardon 43.26 325 *e*P **P 19 32 04.0 +0.1**
MBDF pmax pmax
comp=Z,42nm,0.7s,mb5.3
DAVA Damuels 43.27 330 ⇑ *i* P **P 19 32 03.7 -0.3**
comp=Z,50nm,0.8s,mb5.3
DAVA Damuels 43.27 330 *i* P **P 19 32 03.7 -0.3**
comp=Z,50nm,0.8s,mb5.3,SNR=25
MOS Moscow 43.31 358 *i* P **P 19 32 04.7 +0.5**
comp=Z,143nm,1.7s,mb5.4
MOS Moscow 43.31 358 ⇓ *i* P **P 19 32 04.7 +0.5**
MOS pmax pmax
comp=Z,143nm,1.7s,mb5.4
VILF Villemus 43.35 323 *e*P **P 19 32 05.3 +0.6**
UBR Uberruh 43.43 330 ⇑ *e*P **P 19 32 05.2 -0.1**
SMRF Simiane la Rot 43.50 323 *e*P **P 19 32 05.6 -0.3**
comp=Z,266nm,1.0s,mb4.6
BNI Bardonecchia 43.51 325 *e*P **P 19 32 05.0 -1.0**
comp=Z,12nm,0.8s,mb4.7
BNI Bardonecchia 43.51 325 *e*P **P 19 32 05.0 -1.0**
comp=Z,12nm,0.8s,mb4.7
BNI Bardonecchia 43.51 325 *e*P **P 19 32 05.0 -1.0**
BNI pmax pmax
comp=Z,12nm,0.8s,mb4.7
PVCC Panska Ves 43.57 336 *e*P **P 19 32 05.8 -0.5**
PVCC *e*S **S 19 38 37.6 +3.0**
PRAF Pradon 43.64 323 *e*P **P 19 32 07.6 +0.5**
LPG La Plagne 43.74 326 *e*P **P 19 32 06.3 -1.6**
comp=Z,38nm,0.9s,mb4.8
LPG La Plagne 43.74 326 *e*P **P 19 32 06.3 -1.6**
LPG pmax pmax
comp=Z,19nm,0.9s,mb4.8
SUW Suwalki 43.75 345 *e*P **P 19 32 08.1 +0.3**
SUW Suwalki 43.75 345 *e*P **P 19 32 08.1 +0.3**
SUW Suwalki 43.75 345 *e*P **P 19 32 08.0 +0.2**
comp=Z,85nm,0.9s,mb5.5
SUW Suwalki 43.75 345 *e*P **P 19 32 08.0 +0.2**
SUW pmax pmax
comp=Z,85nm,0.9s,mb5.5
LPL La Plagne 43.77 326 *e*P **P 19 32 06.4 -1.6**
comp=Z,25nm,0.9s,mb4.7
LPL La Plagne 43.77 326 *e*P **P 19 32 06.4 -1.6**
LPL pmax pmax
comp=Z,13nm,0.9s,mb4.7
ORIF Oris-en-Rattie 43.88 324 *e*P **P 19 32 08.1 -0.9**
comp=Z,83nm,1.3s,mb5.0
ORIF *e*R
comp=Z,2μm,20.0s
HDH Heidenheim 44.01 331 ⇑ *e*P **P 19 32 09.8 -0.2**
BRG Berggiesshubel 44.09 336 *i* P **P 19 32 09.5 -1.0**
comp=Z,19nm,0.9s,mb4.8
BRG Berggiesshubel 44.09 336 *i* P **P 19 32 09.5 -1.1**
comp=Z,19nm,0.9s,mb4.8
BRG Berggiesshubel 44.09 336 *i* P **P 19 32 09.5 -1.1**
BRG pmax pmax
comp=Z,19nm,0.9s,mb4.8
GUT Gutenstein 44.18 330 ⇑ *e*P **P 19 32 11.5 +0.1**
NKC Novy Kostel 44.21 334 *e*P **P 19 32 10.9 -0.7**
NKC *e*S **S 19 38 48.5 +4.6**
EJON La Jonquera 44.30 320 P **P 19 32 11.2 -1.2**
comp=Z,160nm,3.1s
EJON La Jonquera 44.30 320 P **P 19 32 11.2 -1.3**
comp=Z,160nm,3.1s
BUCH Bad Urach 44.33 330 ⇑ *e*P **P 19 32 12.7 +0.1**
GRA1 Grafenberg Arr 44.34 333 *e*P **P 19 32 12.0 -0.7**
comp=Z,21nm,1.0s,mb4.8
GRF Grafenberg Arr 44.34 333 *e*P **P 19 32 12.0 -0.7**
GRF pmax pmax
comp=Z,21nm,1.0s,mb4.8
VIVF Saint-Julien-l 44.54 324 *e*P **P 19 32 13.1 -1.2**
comp=Z,46nm,1.3s,mb4.8
VIVF Saint-Julien-l 44.54 324 *e*P **P 19 32 13.1 -1.2**
VIVF pmax pmax
comp=Z,23nm,1.3s,mb4.8
FILF Fillols 44.57 320 *e*P **P 19 32 16.0 +1.4**
LASF Ste Croix 44.58 322 *e*P **P 19 32 13.8 -0.9**
comp=Z,72nm,1.1s,mb5.1
BBS Basel-Blauen 44.59 328 ⇑ *e*P **P 19 32 14.5 -0.2**
BBS Basel-Blauen 44.59 328 *e*P **P 19 32 14.6 -0.1**
FELD Feldberg 44.60 329 ⇑ *e*P **P 19 32 14.6 -0.2**
KIZ Kirchzarten 44.70 329 ⇑ *e*P **P 19 32 15.3 -0.3**
BFO Black Forest 44.74 330 *e*P **P 19 32 15.7 -0.2**
comp=Z,17nm,1.3s,mb4.7
BFO Black Forest 44.74 330 *e*P **P 19 32 15.7 -0.2**
BFO pmax pmax
comp=Z,17nm,1.3s,mb4.7
LBG Lerchenberg 44.75 330 *e*P **P 19 32 15.9 0.0**
CABF La Chapelle 44.80 326 *e*P **P 19 32 14.7 -1.7**
comp=Z,88nm,1.0s,mb5.2
CABF La Chapelle 44.80 326 *e*P **P 19 32 14.7 -1.7**
CABF pmax pmax
comp=Z,44nm,1.0s,mb5.2
CLL Collm 44.80 336 ⇑ P **P 19 32 15.7 -0.6**
comp=Z,logA/T=1.3,mb4.9
CLL *e* 19 32 27.0
CLL Collm 44.80 336 ⇑ *i* P **P 19 32 15.7 -0.6**
comp=Z,29nm,1.3s,mb5.0
CLL *e* 19 32 27.0
CLL Collm 44.80 336 ⇑ *i* P **P 19 32 15.7 -0.6**
CLL *e*S **S 19 38 54.0 +1.6**
CLL Collm 44.80 336 ⇑ *i* P **P 19 32 15.7 -0.6**
CLL pmax pmax
comp=Z,29nm,1.3s,mb5.0
SIND Sindeldorf 44.83 331 ⇑ *e*P **P 19 32 16.2 -0.4**
VALF Valcebollere 44.83 319 *e*P **P 19 32 17.6 +0.9**
LOMF Lomont 44.87 328 *e*P **P 19 32 16.9 0.0**
MOX Moxa 44.87 334 *i* P **P 19 32 16.1 -0.8**
comp=Z,logA/T=1.5,mb5.1
MOX Moxa 44.87 334 *e*P **P 19 32 16.1 -0.8**
comp=Z,51nm,1.6s,mb5.1
MOX Moxa 44.87 334 *e*P **P 19 32 16.1 -0.8**
MOX pmax pmax
comp=Z,51nm,1.6s,mb5.1
EMIR Miracle 44.91 318 P **P 19 32 16.7 -0.7**
comp=Z,22nm,0.9s,mb5.0
EMIR Miracle 44.91 318 P **P 19 32 16.7 -0.6**
comp=Z,22nm,0.9s,mb5.0
EPOB Poblet 44.93 317 P **P 19 32 17.3 -0.2**
comp=Z,43nm,2.3s,mb4.9
EPOB Poblet 44.93 317 P **P 19 32 17.3 -0.2**
comp=Z,43nm,2.3s,mb4.9
LIBD Limburg 44.99 329 *e*P **P 19 32 18.0 +0.1**
EMUR La Murta 45.03 312 P **P 19 32 17.7 -0.6**
comp=Z,143nm,2.1s,mb5.4
EMUR La Murta 45.03 312 P **P 19 32 17.7 -0.6**
comp=Z,143nm,2.1s,mb5.4
MOF Molkenrain 45.03 328 *e*P **P 19 32 18.0 -0.2**
KIC Kosan Boka 45.05 267 *e*P **P 19 32 19.0 +0.1**
comp=Z,359nm,1.6s,mb5.9
DBIC Dimbokro 45.11 267 P **P 19 32 19.0 -0.3**
comp=Z,13nm,0.7s,mb4.9,baz=74,slow=9.2,SNR=24
DBIC LR LR 19 50 30.7
comp=Z,3μm,18.4s,MS5.3,baz=193,slow=35
DBIC Dimbokro 45.11 267 *e*P **P 19 32 18.5 -0.8**
comp=Z,42nm,1.2s,mb5.1
DBIC Dimbokro 45.11 267 *e*P **P 19 32 18.5 -0.8**
comp=Z,42nm,1.2s,mb5.1
DBIC Dimbokro 45.11 267 *e*P **P 19 32 18.5 -0.8**
DBIC pmax pmax
comp=Z,42nm,1.2s
HINF Hinteralfeld 45.15 328 *e*P **P 19 32 17.9 -1.3**
comp=Z,44nm,0.9s,mb5.0
HINF Hinteralfeld 45.15 328 *e*P **P 19 32 17.9 -1.3**
HINF pmax pmax
comp=Z,22nm,0.9s,mb5.0
MTLF Montolieu 45.19 320 *e*P **P 19 32 18.7 -0.8**
comp=Z,22nm,1.2s,mb4.5
MTLF Montolieu 45.19 320 *e*P **P 19 32 18.7 -0.8**
MTLF pmax pmax
comp=Z,11nm,1.2s,mb4.6
ERTA Horta de San J 45.24 316 P **P 19 32 19.0 -1.0**
comp=Z,265nm,3.8s
ERTA Horta de San J 45.24 316 P **P 19 32 19.0 -1.0**
comp=Z,265nm,3.8s
ECH Echery 45.26 329 *e*P **P 19 32 19.5 -0.5**
TIC Toumodi 45.27 267 *e*P **P 19 32 19.7 -0.9**
comp=Z,35nm,0.2s,mb5.8
WLS Welschbruch 45.29 329 *e*P **P 19 32 20.0 -0.2**
CDF Champ du Feu 45.33 329 *e*P **P 19 32 19.3 -1.2**
comp=Z,42nm,1.1s,mb4.9
CDF Champ du Feu 45.33 329 *e*P **P 19 32 19.3 -1.2**
CDF pmax pmax
comp=Z,21nm,1.1s,mb4.9
LIC Lamto 45.36 267 *e*P **P 19 32 21.4 +0.1**
comp=Z,74nm,1.0s,mb5.5
LIC Lamto 45.36 267 *e*P **P 19 32 21.6 +0.3**
comp=Z,27nm,1.0s,mb5.0
TOD Tromm 45.39 331 ⇑ *e*P **P 19 32 21.0 0.0**
TOD Tromm 45.39 331 *e*P **P 19 32 20.8 -0.2**
LANF Langenberg 45.44 330 *e*P **P 19 32 21.3 -0.1**
EMOS Mosqueruela 45.52 315 P **P 19 32 24.4 +2.1**
comp=Z,390nm,5.2s
HAU Haudompre 45.53 328 *e*P **P 19 32 20.8 -1.4**
comp=Z,43nm,0.9s,mb5.1
HAU *e*R
comp=Z,1μm,22.5s
HAU Haudompre 45.53 328 *e*P **P 19 32 20.8 -1.4**
HAU pmax pmax
comp=Z,21nm,0.9s,mb5.1
HAU MLR MLR
comp=Z,1μm,22.5s,MS4.8
ECHE Chera 45.54 314 P **P 19 32 23.6 +1.3**
comp=Z,13nm,0.8s,mb4.9
ECHE Chera 45.54 314 P **P 19 32 23.6 +1.2**
comp=Z,13nm,0.8s,mb4.9
ECHE Chera 45.54 314 P **P 19 32 23.6 +1.2**
ECHE pmax pmax
comp=Z,13nm,0.8s,mb4.9
SALF Salau 45.54 319 *e*P **P 19 32 23.8 +1.5**
ETOB Tobarra 45.56 313 P **P 19 32 24.0 +1.4**
comp=Z,198nm,3.4s
ETOB Tobarra 45.56 313 P **P 19 32 24.0 +1.4**
comp=Z,198nm,3.4s
LBL Lubilhac 45.58 323 *e*P **P 19 32 23.4 +0.8**
PLDF La Plantade 45.78 324 *e*P **P 19 32 24.1 -0.1**
EBER Berja 45.90 310 P **P 19 32 23.9 -1.4**
comp=Z,130nm,2.1s,mb5.5
EBER Berja 45.90 310 P **P 19 32 23.9 -1.3**
comp=Z,130nm,2.1s,mb5.5
TNS Taunus Mts 45.98 332 *e*P **P 19 32 25.3 -0.4**
comp=Z,25nm,0.9s,mb5.1
TNS Taunus Mts 45.98 332 *e*P **P 19 32 25.3 -0.4**
TNS pmax pmax
comp=Z,25nm,0.9s,mb5.1
EHUE Huescar 46.01 311 P **P 19 32 25.7 -0.4**
comp=Z,1.6nm,0.8s,mb4.0
EHUE Huescar 46.01 311 P **P 19 32 25.7 -0.4**
EHUE pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PYM Petit Puy Mans 46.01 324 *e*P **P 19 32 26.4 +0.4**
SMF Signal de Mont 46.05 325 *e*P **P 19 32 24.7 -1.6**
comp=Z,16nm,0.9s,mb4.7
SMF Signal de Mont 46.05 325 *e*P **P 19 32 24.7 -1.6**
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
RESF Ens 46.11 319 *e*P **P 19 32 28.2 +1.4**
AGO Saint Agoulin 46.11 324 *e*P **P 19 32 26.9 +0.1**
CAF Calviac 46.12 322 *e*P **P 19 32 26.3 -0.6**
EBIE Bielsa 46.18 318 P **P 19 32 27.0 -0.4**
comp=Z,65nm,2.0s,mb5.2
EPF Esparros 46.22 319 *e*P **P 19 32 27.1 -0.6**
comp=Z,26nm,1.3s,mb4.7
EPF Esparros 46.22 319 *e*P **P 19 32 27.1 -0.6**
EPF pmax pmax
comp=Z,13nm,1.3s,mb4.7
EVIA Vianos 46.25 312 P **P 19 32 26.7 -1.3**
comp=Z,13nm,0.8s,mb4.9
EVIA Vianos 46.25 312 P **P 19 32 26.7 -1.3**
comp=Z,13nm,0.8s,mb4.9
EVIA Vianos 46.25 312 P **P 19 32 26.7 -1.3**
EVIA pmax pmax
comp=Z,13nm,0.8s,mb4.9
VIEF Viey 46.35 319 *e*P **P 19 32 30.0 +1.3**
EQES Quesada 46.35 311 P **P 19 32 29.1 +0.2**
comp=Z,234nm,4.0s
EQES Quesada 46.35 311 P **P 19 32 29.0 +0.2**
comp=Z,234nm,4.0s
LOR Lormes 46.41 326 *e*P **P 19 32 27.6 -1.5**
comp=Z,55nm,1.0s,mb5.1
LOR *e*R
comp=Z,1μm,18.2s
LOR Lormes 46.41 326 *e*P **P 19 32 27.6 -1.5**
LOR pmax pmax
comp=Z,27nm,1.0s,mb5.1
LOR MLR MLR
comp=Z,1μm,18.3s,MS5.0
AVF Avril sur Loir 46.41 325 *e*P **P 19 32 27.5 -1.6**
comp=Z,25nm,0.9s,mb4.8
AVF Avril sur Loir 46.41 325 *e*P **P 19 32 27.5 -1.6**
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SSF Saint Saulge 46.48 325 *e*P **P 19 32 28.0 -1.7**
comp=Z,13nm,0.9s,mb4.8
SSF Saint Saulge 46.48 325 *e*P **P 19 32 28.0 -1.7**
SSF pmax pmax
comp=Z,13nm,0.9s,mb4.9
MEZF Maizieres J'vi 46.52 328 *e*P **P 19 32 29.1 -0.9**
comp=Z,138nm,0.9s,mb5.6
ECOG Cogollos-Vega 46.53 310 P **P 19 32 30.4 +0.1**
comp=Z,7.9nm,1.2s,mb4.5
ECOG Cogollos-Vega 46.53 310 P **P 19 32 30.4 +0.1**
ECOG pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BGF Bois d'Agland 46.56 324 *e*P **P 19 32 29.3 -1.0**
comp=Z,71nm,1.1s,mb5.2
BGF Bois d'Agland 46.56 324 *e*P **P 19 32 29.3 -1.0**
BGF pmax pmax
comp=Z,36nm,1.1s,mb5.2
ERON Agron 46.63 310 P **P 19 32 31.9 +0.9**
comp=Z,49nm,1.6s,mb5.2
ERON Agron 46.63 310 P **P 19 32 31.9 +0.9**
comp=Z,49nm,1.6s,mb5.2
RJF Les Rejaudoux 46.65 322 *e*P **P 19 32 30.4 -0.6**
comp=Z,44nm,1.3s,mb4.9
RJF *e*R
comp=Z,3μm,22.2s
RJF Les Rejaudoux 46.65 322 *e*P **P 19 32 30.4 -0.6**
RJF pmax pmax
comp=Z,22nm,1.3s,mb4.9
RJF MLR MLR
comp=Z,3μm,22.3s,MS5.1
WLF Walferdange 46.70 330 *e*P **P 19 32 31.0 -0.4**
comp=Z,20nm,1.1s,mb5.0
WLF Walferdange 46.70 330 *e*P **P 19 32 31.0 -0.4**
comp=Z,20nm,1.1s,mb5.0
WLF Walferdange 46.70 330 *e*P **P 19 32 31.0 -0.4**
WLF pmax pmax
comp=Z,20nm,1.1s,mb5.0
REYF Montagne du Re 46.71 319 *e*P **P 19 32 32.9 +1.4**
ETSF Etsaut 46.73 318 *e*P **P 19 32 31.8 0.0**
comp=Z,40nm,1.0s,mb5.0
ETSF Etsaut 46.73 318 *e*P **P 19 32 31.8 0.0**
ETSF pmax pmax
comp=Z,20nm,1.0s,mb5.0
TCF Toulx Ste Croi 46.77 324 *e*P **P 19 32 31.3 -0.7**
LFF La Frestale 46.92 321 *e*P **P 19 32 32.9 -0.3**
comp=Z,68nm,0.9s,mb5.3
LFF La Frestale 46.92 321 *e*P **P 19 32 32.9 -0.3**
LFF pmax pmax
comp=Z,34nm,0.9s,mb5.3
ELOJ Sierra Loja 46.93 310 P **P 19 32 33.9 +0.5**
comp=Z,8.3nm,0.6s,mb4.8
ELOJ Sierra Loja 46.93 310 P **P 19 32 33.9 +0.5**
comp=Z,8.3nm,0.6s,mb4.8
ELOJ Sierra Loja 46.93 310 P **P 19 32 33.9 +0.5**
ELOJ pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ELUQ Luque 47.16 310 P **P 19 32 35.4 +0.2**
comp=Z,4.0nm,0.6s,mb4.5
ELUQ Luque 47.16 310 P **P 19 32 35.4 +0.2**
comp=Z,4.0nm,0.6s,mb4.5
ELUQ Luque 47.16 310 P **P 19 32 35.4 +0.2**
ELUQ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SJPF Ste Jean 47.27 318 *e*P **P 19 32 36.1 +0.1**
comp=Z,67nm,1.0s,mb5.2
SJPF Ste Jean 47.27 318 *e*P **P 19 32 36.1 +0.1**
SJPF pmax pmax
comp=Z,34nm,1.0s,mb5.2
HGN Heimansgroeve 47.53 331 *e*P **P 19 32 33.0 -5.0**
comp=Z,36nm,4.7s
HGN *e*PP PP 19 34 05.1 -24
HGN *e*S **S 19 39 38.0 +6.5**
EADA Adamuz 47.60 311 P **P 19 32 35.7 -3.0**
comp=Z,456nm,4.8s
EADA Adamuz 47.60 311 P **P 19 32 35.7 -3.0**
comp=Z,456nm,4.8s
GIVF Givet 47.64 329 *e*P **P 19 32 37.3 -1.6**
comp=Z,45nm,0.9s,mb5.2
GIVF Givet 47.64 329 *e*P **P 19 32 37.3 -1.6**
GIVF pmax pmax
comp=Z,22nm,0.9s,mb5.2
ESDC Sonseca Array 47.69 313 P **P 19 32 39.0 -0.4**
comp=Z,7.3nm,0.8s,mb4.7,baz=117,slow=7.5,SNR=14
ESDC Sonseca Array 47.69 313 P **P 19 32 38.9 -0.5**
comp=Z,6.1nm,0.8s,mb4.7
ESDC Sonseca Array 47.69 313 P **P 19 32 38.9 -0.5**
comp=Z,6.1nm,0.8s,mb4.7
ESLA Sonseca Array 47.69 313 *e*P **P 19 32 39.6 +0.2**
comp=Z,9.2nm,1.3s,mb4.7
ESLA Sonseca Array 47.69 313 *e*P **P 19 32 39.6 +0.2**
comp=Z,9.2nm,1.3s,mb4.7
BSEG Bad Segeberg 47.86 336 *e*P **P 19 32 39.9 -0.6**
BAIF Baives 47.92 329 *e*P **P 19 32 39.3 -1.8**
comp=Z,26nm,1.0s,mb4.9
BAIF Baives 47.92 329 *e*P **P 19 32 39.3 -1.8**
BAIF pmax pmax
comp=Z,13nm,1.0s,mb4.9
WTSB Winterswijk 47.94 332 *e*P **P 19 32 40.7 -0.4**
comp=Z,74nm,2.6s,mb5.3
ESPR Espera 48.13 309 P **P 19 32 40.9 -2.0**
comp=Z,344nm,4.0s
ESPR Espera 48.13 309 P **P 19 32 40.9 -1.9**
comp=Z,344nm,4.0s
MFF Saint Martin d 48.32 323 *e*P **P 19 32 42.8 -1.3**
SUR Sutherland 48.36 202 P **P 19 32 46.7 +2.0**
comp=Z,8.4nm,0.8s,mb4.8,baz=22,slow=14,SNR=4.6
SOKR Solikamsk 48.62 11 *i* P **P 19 32 47.6 +1.3**
comp=Z,210nm,1.0s,mb6.1
SOKR Solikamsk 48.62 11 *c i* P **P 19 32 47.6 +1.3**
SOKR S **S 19 39 56.3 +10**
SOKR SSS SSS 19 44 30.0 -1.9
SOKR pmax pmax
comp=Z,210nm,1.0s,mb6.1
SOKR MLR MLR
comp=Z,2μm,19.0s,MS5.1
MKAR Makanchi Array 49.01 37 P **P 19 32 49.0 -0.4**
comp=Z,18nm,1.0s,mb5.1,baz=243,slow=5.4,SNR=14
MKAR LR LR 19 55 48.2
comp=Z,3μm,18.6s,MS5.3,baz=235,slow=39
EMIN Mina Concepcio 49.03 310 P **P 19 32 46.2 -3.5**
comp=Z,281nm,4.5s
LDF La Druitiere 49.37 325 *e*P **P 19 32 50.1 -2.1**
comp=Z,42nm,1.1s,mb5.1
LDF La Druitiere 49.37 325 *e*P **P 19 32 50.1 -2.1**
LDF pmax pmax
comp=Z,21nm,1.1s,mb5.1
EBAD Badajoz 49.59 311 P **P 19 32 51.9 -2.2**
comp=Z,498nm,6.2s
EBAD Badajoz 49.59 311 P **P 19 32 51.9 -2.2**
comp=Z,498nm,6.2s
FLN La Foliniere 49.66 325 *e*P **P 19 32 52.4 -2.0**
comp=Z,56nm,0.9s,mb5.3
FLN *e*R
comp=Z,1μm,21.0s
FLN La Foliniere 49.66 325 *e*P **P 19 32 52.4 -2.0**
FLN pmax pmax
comp=Z,28nm,0.9s,mb5.3
FLN MLR MLR
comp=Z,1μm,21.0s,MS4.9
GRR Gorron 49.67 325 *e*P **P 19 32 52.4 -2.1**
comp=Z,51nm,1.0s,mb5.2
GRR Gorron 49.67 325 *e*P **P 19 32 52.4 -2.1**
GRR pmax pmax
comp=Z,25nm,1.0s,mb5.2
LSA Lhasa 49.85 62 P **P 19 32 52.3 -3.9**
LSA AP pP 19 33 05.4 +5.0
LSA PP PP 19 34 52.9 +1.0
LSA S **S 19 39 55.3 -8.9**
LSA LR LR
comp=N,1μm,15.2s,MS5.2
LSA LR LR
comp=E,2μm,14.4s,MS5.2
LSA LR LR
comp=Z,2μm,14.9s,MS5.3
LSA Lhasa 49.85 62 *e*P **P 19 32 56.8 +0.6**
comp=Z,57nm,1.4s,mb5.4
LSA Lhasa 49.85 62 *e*P **P 19 32 56.8 +0.6**
comp=Z,57nm,1.4s,mb5.4
LSA Lhasa 49.85 62 *e*P **P 19 32 56.8 +0.6**
LSA pmax pmax
comp=Z,57nm,1.4s,mb5.4
FINES FINESS Array B 50.10 351 P **P 19 32 57.3 -0.3**
comp=Z,12nm,1.0s,mb4.9,baz=143,slow=9.5,SNR=9.7
FINES LR LR 19 57 20.8
comp=Z,970nm,18.8s,MS4.8,baz=336,slow=40
EVO Evora 50.27 310 *e*P **P 19 32 58.1 -1.2**
comp=Z,37nm,1.0s,mb5.1
EVO *e*R
comp=Z,3μm,18.0s
SGMF Saint Gilles 50.57 324 *e*P **P 19 32 59.3 -2.1**
KAF Kangasniemi 50.70 351 *ep* **P 19 33 01.5 -0.7**
comp=Z,7.4nm,0.7s,mb4.7,baz=161,slow=7.7
KAF Kangasniemi 50.70 351 *e*P **P 19 33 01.5 -0.7**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
QUIF Quistinic 50.76 323 *e*P **P 19 33 00.8 -2.0**
comp=Z,68nm,1.4s,mb5.1
QUIF Quistinic 50.76 323 *e*P **P 19 33 00.8 -2.0**
QUIF pmax pmax
comp=Z,34nm,1.4s,mb5.1
JOF Joensuu 50.88 355 *ep* **P 19 33 01.5 -2.1**
comp=Z,14nm,0.9s,mb4.9
ROSF Rostrenen 51.02 324 *e*P **P 19 33 02.6 -2.3**
comp=Z,21nm,0.9s,mb4.8
ROSF Rostrenen 51.02 324 *e*P **P 19 33 02.6 -2.3**
ROSF pmax pmax
comp=Z,11nm,0.9s,mb4.8
WMQ Urumqi 51.08 43 P **P 19 33 07.5 +2.1**
WMQ AP pP 19 33 12.0 +2.4
WMQ XP sP 19 33 15.0 +3.8
WMQ AMB AMB
comp=Z,26nm,1.3s,mb5.0
WMQ AMB AMB
comp=Z,202nm,3.9s
WMQ LR LR
comp=Z,5μm,26.0s,MS5.4
HFS Hagfors 51.63 343 P **P 19 33 07.4 -1.9**
comp=Z,11nm,0.7s,mb4.9,baz=143,slow=7.4,SNR=12
NB2 NORSAR Subarra 53.08 343 P **P 19 33 18.4 -1.8**
comp=Z,1.3nm,0.7s,mb4.0,baz=136,slow=7.9
NB2 NORSAR Subarra 53.08 343 P **P 19 33 18.4 -1.8**

NB2					pmax	pmax			
	comp=Z,1.0nm,0.7s								
NOA	**NORSAR Array B**	**53.08**	**343**		P	**P**	**19 33 18.8**	**-1.4**	
	comp=Z,12nm,0.7s,mb4.9,baz=142,slow=7.4,SNR=27								
NOA					LR	LR	19 58 46.3		
	comp=Z,548nm,20.5s,MS4.6,baz=155,slow=39								
NOA	**NORSAR Array B**	**53.08**	**343**		P	**P**	**19 33 18.8**	**-1.4**	
NOA					LR	LR	19 58 46.3		
NVS	**Novosibirsk**	**53.88**	**29**	*e*	P	**P**	**19 33 25.7**	**-0.4**	
	comp=Z,82nm,1.4s,mb5.5								
ZAL	**Zalesovo**	**54.14**	**31**		P	**P**	**19 33 27.4**	**-0.6**	
	comp=Z,8.1nm,0.7s,mb4.7,baz=233,slow=8.8,SNR=11								
APA	**Apatity**	**55.33**	**357**	*i*	P	**P**	**19 33 36.3**	**-0.3**	
	comp=Z,18nm,1.0s,mb5.1								
APA	**Apatity**	**55.33**	**357**	⇑*i*	P	**P**	**19 33 36.3**	**-0.3**	
APA				*i*			19 34 39.2		
APA				*e*			19 41 31.0		
APA					pmax	pmax			
	comp=Z,18nm,1.0s,mb5.1								
APA					MLR	MLR			
	comp=Z,2μm,16.0s,MS5.3								
ARCES	**ARCESS Array B**	**57.90**	**354**		P	**P**	**19 33 53.9**	**-1.0**	
	comp=Z,7.1nm,0.9s,mb4.7,baz=180,slow=4.9,SNR=5.8								
ARCES					LR	LR	20 01 43.6		
	comp=Z,915nm,18.3s,MS4.9,baz=163,slow=39								
ARCES	**ARCESS Array B**	**57.90**	**354**		P	**P**	**19 33 53.9**	**-1.0**	
ARCES					LR	LR	20 01 43.6		
GTA	**Gaotai**	**58.55**	**51**	*e*P		**P**	**19 33 59.8**	**0.0**	
GTA					AP	pP	19 34 04.0	-0.1	
GTA					XP	sP	19 34 06.3	+0.7	
GTA					AMB	AMB			
	comp=Z,18nm,1.1s,mb5.0								
GTA					AMB	AMB			
	comp=Z,375nm,5.4s								
GTA					LR	LR			
	comp=N,2μm,24.1s,MS5.2								
GTA					LR	LR			
	comp=E,2μm,27.1s,MS5.2								
GTA					LR	LR			
	comp=Z,4μm,27.1s,MS5.4								
KMI	**Kunming**	**59.77**	**68**		P	**P**	**19 34 09.8**	**+1.3**	
KMI					AP	pP	19 34 12.9	+0.1	
KMI					AMB	AMB			
	comp=Z,12nm,1.1s,mb4.8								
KMI					LR	LR			
	comp=N,829nm,21.8s,MS5.2								
KMI					LR	LR			
	comp=E,1μm,19.2s,MS5.2								
KMI					LR	LR			
	comp=Z,2μm,21.8s,MS5.1								
KMI	**Kunming**	**59.77**	**68**		P	**P**	**19 34 09.8**	**+1.3**	
	comp=Z,12nm,1.1s,mb4.8								
KMI					pP	pP	19 34 12.9	+0.1	
KMI					PP	PP	19 36 24.8	+2.4	
KMI					PPP	PPP	19 37 51.2	+3.2	
KMI					S	**S**	**19 42 22.1**	**+4.7**	
KMI					sS		19 42 27.5		
KMI					PS	PS	19 42 38.2	+4.1	
KMI					SS	SS	19 46 21.1	+6.3	
KMI					SSS	SSS	19 48 53.9	+9.2	
KMI					LR	LR			
	comp=Z,2μm,21.8s,MS5.1								
KMI	**Kunming**	**59.77**	**68**		P	**P**	**19 34 09.8**	**+1.3**	
KMI					*PP	pP	19 34 12.9	+0.1	
KMI							19 36 24.8		
KMI					PPP	PPP	19 37 51.2	+3.2	
KMI					S	**S**	**19 42 22.1**	**+4.7**	
KMI					*SS		19 42 27.5		
KMI					PS	PS	19 42 38.2	+4.1	
KMI					SS	SS	19 46 21.1	+6.3	
KMI					SSS	SSS	19 48 53.9	+9.2	
KMI					pmax	pmax			
	comp=Z,12nm,1.1s,mb4.8								
KMI					MLR	MLR			
	comp=Z,2μm,21.8s,MS5.1								
CD2	**Chengdu**	**60.81**	**61**		P	**P**	**19 34 15.8**	**+0.3**	
CD2					AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.8								
LZH	**Lanzhou**	**61.26**	**56**	*e*P		**P**	**19 34 18.8**	**+0.3**	
LZH					PP	PP	19 36 37.0	+1.4	
LZH					S	**S**	**19 42 38.0**	**+1.7**	
LZH					SS	SS	19 46 40.0	+1.8	
LZH					AMB	AMB			
	comp=Z,70nm,1.0s,mb5.8								
LZH					AMB	AMB			
	comp=Z,790nm,4.0s								
LZH					LR	LR			
	comp=N,3μm,14.2s								
LZH					LR	LR			
	comp=Z,4μm,20.0s								
LZH	**Lanzhou**	**61.26**	**56**	*e*P		**P**	**19 34 18.7**	**+0.2**	
	comp=Z,70nm,1.0s,mb5.8								
LZH					pP	pP	19 34 31.3	+8.5	
LZH					sP	sP	19 34 37.1	+13	
LZH					PP	PP	19 36 37.0	+1.4	
LZH					S	**S**	**19 42 38.0**	**+1.7**	
LZH					sS		19 42 58.5		
LZH					PS	PS	19 43 00.0	+6.3	
LZH					SS	SS	19 46 40.0	+1.8	
LZH					LR	LR			
	comp=Z,4μm,20.0s,MS5.5								
LZH	**Lanzhou**	**61.26**	**56**	*e*P		**P**	**19 34 18.7**	**+0.2**	
	comp=Z,70nm,1.0s,mb5.8								
LZH					S	**S**	**19 42 38.0**	**+1.7**	
LZH					SS	SS	19 46 40.0	+1.8	
LZH	**Lanzhou**	**61.26**	**56**	*e*P		**P**	**19 34 18.7**	**+0.2**	
LZH							19 36 37.0		
LZH					S	**S**	**19 42 38.0**	**+1.7**	
LZH					*SS		19 42 58.5		
LZH					PS	PS	19 43 00.0	+6.3	
LZH					SS	SS	19 46 40.0	+1.8	
LZH					pmax	pmax			
	comp=Z,70nm,1.0s,mb5.8								
LZH					MLR	MLR			
	comp=Z,4μm,20.0s,MS5.5								
GYA	**Guiyang**	**63.30**	**67**		P	**P**	**19 34 32.4**	**+0.2**	
GYA					AP	pP	19 34 36.8	+0.3	
GYA					XP	sP	19 34 39.6	+1.6	
GYA					AMB	AMB			
	comp=Z,40nm,1.0s,mb5.5								
GYA					AMB	AMB			
	comp=Z,120nm,4.2s								
GYA					LR	LR			
	comp=N,570nm,17.9s,MS5.0								
GYA					LR	LR			
	comp=E,610nm,18.0s,MS5.0								
GYA					LR	LR			
	comp=Z,600nm,18.4s,MS4.8								
SONM	**Songino Array**	**64.72**	**43**		P	**P**	**19 34 41.1**	**-0.1**	
	comp=Z,17nm,1.1s,mb5.0,baz=252,slow=6.2,SNR=36								
SONM					LR	LR	20 05 05.5		
	comp=Z,3μm,21.7s,MS5.5,baz=263,slow=38								
ULN	**Ulaanbaatar**	**65.16**	**43**	*e*P		**P**	**19 34 44.1**	**+0.1**	
	comp=Z,22nm,1.4s,mb5.0								
ULN	**Ulaanbaatar**	**65.16**	**43**	*e*P		**P**	**19 34 44.2**	**+0.1**	
ULN					pmax	pmax			
	comp=Z,22nm,1.4s,mb5.0								
XAN	**Xi'an**	**65.29**	**58**		P	**P**	**19 34 45.1**	**-0.1**	
XAN					AMB	AMB			
	comp=Z,16nm,1.2s,mb4.9								
HHC	**Hu-ho-hao-te**	**67.65**	**51**	⇑P		**P**	**19 35 01.5**	**+1.4**	
HHC					AP	pP	19 35 06.1	+1.7	
HHC					XP	sP	19 35 08.6	+2.7	
HHC					PCP	PcP	19 35 28.4	+1.3	
HHC					AMB	AMB			
	comp=Z,31nm,1.3s,mb5.2								
HHC					AMB	AMB			
	comp=Z,387nm,4.2s								
HHC					LR	LR			
	comp=N,2μm,19.0s,MS5.5								
HHC					LR	LR			
	comp=E,1μm,17.8s,MS5.5								
HHC					LR	LR			
	comp=Z,1μm,21.4s,MS5.2								
WHN	**Wuhan**	**69.93**	**62**		P	**P**	**19 35 16.0**	**+1.7**	
BOD	**Bodaibo**	**70.79**	**33**	*e*P		**P**	**19 35 18.0**	**-1.0**	
BOD					pmax	pmax			
	comp=Z,13nm,1.4s,mb4.7								
BOD					pmax	pmax			
	comp=Z,51nm,1.0s,mb5.4								
TIA	**Tai'an**	**72.00**	**56**	*e*P		**P**	**19 35 26.3**	**-0.4**	
TIA					AMB	AMB			
	comp=Z,16nm,1.0s,mb4.9								
HIA	**Hailar**	**73.67**	**42**	*e*P		**P**	**19 35 37.4**	**+1.1**	
	comp=Z,18nm,1.1s,mb4.9								
HIA	**Hailar**	**73.67**	**42**	*e*P		**P**	**19 35 37.4**	**+1.1**	
HIA					pmax	pmax			
	comp=Z,18nm,1.1s								
NJ2	**Nanjing**	**73.68**	**60**	*e*P		**P**	**19 35 32.1**	**-4.6**	
NJ2					AP	pP	19 35 42.4	+1.3	
NJ2					XP	sP	19 35 46.3	+3.7	
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
NJ2					AMB	AMB			
	comp=Z,610nm,5.2s								
NJ2					LR	LR			
	comp=N,840nm,23.5s,MS5.1								
NJ2					LR	LR			
	comp=E,830nm,22.3s,MS5.1								
NJ2					LR	LR			
	comp=Z,580nm,29.6s								
SUMG	**Summit**	**74.97**	**342**	*e*P		**P**	**19 35 43.6**	**+0.2**	
	comp=Z,34nm,1.2s,mb5.2								
DL2	**Dalian**	**75.42**	**53**		P	**P**	**19 35 47.8**	**+1.2**	
DL2					AMB	AMB			
	comp=Z,20nm,1.1s,mb5.0								
DL2					LR	LR			
	comp=N,1μm,18.1s,MS5.3								
DL2					LR	LR			
	comp=E,580nm,19.4s,MS5.3								
DL2					LR	LR			
	comp=Z,840nm,13.7s								
SSE	**Sheshan**	**75.75**	**61**	*e*P		**P**	**19 35 41.7**	**-7.0**	
	comp=Z,26nm,0.7s,mb5.3								
SSE					pP	pP	19 35 45.9	-7.1	
SSE					PcP	PcP	19 35 55.7	-6.0	
SSE					S	S	19 45 19.6	-9.0	
SSE					sS		19 45 27.2		
SSE					ScS	ScS	19 45 53.5	-5.5	
SSE					SS	SS	19 50 07.5	-16	
SSE					LR	LR			
	comp=Z,860nm,25.3s,MS5.0								
SNY	**Shenyang**	**76.68**	**50**	⇑P		**P**	**19 35 54.8**	**+1.2**	
TIXI	**Tiksi**	**77.80**	**19**	*e*P		**P**	**19 35 58.8**	**-0.5**	
TIXI				*e*S		S	19 45 49.7	-0.3	
TIXI				*e*SS		SS	19 50 54.9	+1.5	
TIXI					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6								
CN2	**Changchun**	**77.87**	**48**	*e*P		**P**	**19 36 01.1**	**+0.9**	
CN2					AMB	AMB			
	comp=Z,20nm,0.7s,mb5.2								
CN2					AMB	AMB			
	comp=Z,350nm,4.0s								
CN2					LR	LR			
	comp=N,330nm,16.0s,MS4.8								
CN2					LR	LR			
	comp=E,210nm,16.0s,MS4.8								
CN2					LR	LR			
	comp=Z,400nm,17.0s,MS4.8								
SFJD	**Kangerlussuaq**	**79.16**	**336**	*i* P		**P**	**19 36 06.2**	**-0.6**	
	comp=Z,16nm,0.7s,mb5.1								
SFJD	**Kangerlussuaq**	**79.16**	**336**	*i* S		S	19 46 10.5	+5.8	
	comp=Z,600nm,21.0s								
SFJD	**Kangerlussuaq**	**79.16**	**336**	*e*P		**P**	**19 36 06.2**	**-0.6**	
	comp=Z,16nm,0.7s,mb5.1								
SFJD				*i* S		S	19 46 10.5	+5.8	
SFJD					LR	LR			
	comp=Z,610nm,21.0s,MS4.9								
SFJD	**Kangerlussuaq**	**79.16**	**336**	*e*P		**P**	**19 36 06.2**	**-0.6**	
SFJD				*i* S		S	19 46 10.5	+5.8	
SFJD					pmax	pmax			
	comp=Z,16nm,0.7s,mb5.1								
SFJD					MLR	MLR			
	comp=Z,610nm,21.0s,MS4.9								
MDJ	**Mudanjiang**	**80.73**	**46**		P	**P**	**19 36 16.1**	**+0.4**	
MDJ					PP	PP	19 39 19.1	-2.7	
MDJ					S	S	19 46 24.3	+2.8	
MDJ					SS	SS	19 51 38.0	0.0	
MDJ					AMB	AMB			
	comp=Z,12nm,1.1s,mb4.7								
MDJ					AMB	AMB			
	comp=Z,171nm,5.8s								
MDJ					LR	LR			
	comp=N,3μm,22.1s,MS5.6								
MDJ					LR	LR			
	comp=E,1μm,22.1s,MS5.6								
MDJ					LR	LR			
	comp=Z,1μm,22.1s,MS5.2								
SYO	**Syowa Base**	**81.19**	**180**	⇓pP		pP	19 36 23.0	+1.0	
SYO	**Syowa Base**	**81.19**	**180**	⇓sP		sP	19 36 25.5	+2.1	
MAW	**Mawson**	**81.40**	**172**	P		**P**	**19 36 21.5**	**+2.8**	
	comp=Z,5.2nm,0.9s,mb4.5,baz=323,slow=5.8,SNR=8.2								
MAW					LR	LR	20 08 49.9		
	comp=Z,1μm,19.5s,MS5.2,baz=325,slow=33								
MAW	**Mawson**	**81.40**	**172**	*e*P		**P**	**19 36 21.8**	**+3.1**	
	comp=Z,27nm,1.4s,mb5.0								
MAW	**Mawson**	**81.40**	**172**	P		**P**	**19 36 21.5**	**+2.8**	
MAW					pmax	pmax			
	comp=Z,5.0nm,0.9s								
MAW					MLR	MLR			
	comp=Z,1μm,19.5s								
KLR	**Kul'dur**	**81.50**	**42**	*e*P		**P**	**19 36 17.5**	**-2.1**	
KLR				*e*S		S	19 46 28.5	-0.9	
KLR					MLR	MLR			
	comp=Z,2μm,16.5s,MS5.4								
MIR	**Mirnyy**	**87.54**	**161**	*e*P		**P**	**19 36 53.0**	**+3.4**	
MIR					pmax	pmax			
	comp=Z,36nm,2.0s,mb5.3								
MJAR	**Matsushiro Arr**	**89.76**	**53**		LR	LR	20 19 07.1		
	comp=Z,748nm,21.4s,MS5.1,baz=215,slow=37								
VNA2	**Neumayer--Watz**	**89.21**	**194**		P	**P**	**19 37 01.3**	**+3.8**	
VNA2	**Neumayer--Watz**	**89.21**	**194**			**P**	**19 37 08.7**	**+11**	
VNA1	**Neumayer--Stat**	**89.23**	**195**	⇑P		**P**	**19 37 03.3**	**+5.7**	
SCHQ	**Schefferville**	**89.72**	**326**		LR	LR	20 18 24.9		
	comp=Z,588nm,18.2s,MS5.0,baz=106,slow=36								
VNA3	**Neumayer Olymp**	**89.97**	**194**		P	**P**	**19 37 05.3**	**+4.3**	
VNA3	**Neumayer Olymp**	**89.97**	**194**			**P**	**19 37 09.8**	**+8.8**	
BDFB	**Brasilia**	**91.94**	**255**		LR	LR	20 16 25.6		
	comp=Z,1μm,18.6s,MS5.4,baz=85,slow=34								
WRA	**Warramunga Arr**	**97.63**	**109**		P	**P**	**19 37 37.3**	**0.0**	
	comp=Z,3.9nm,1.1s,mb4.8,baz=295,slow=3.2,SNR=6.4								
LRAL	**Lakeview Retre**	**112.62**	**314**	*e*PKPdf		PKPdf	19 42 43.5	+2.4	
MNTX	**Cornudas Mount**	**125.35**	**324**	*e*PKPdf		PKPdf	19 43 04.1	-1.9	
TXAR	**Lajitas Array**	**126.04**	**321**	PKP		PKPdf	19 43 05.1	-2.2	
	comp=Z,1.2nm,0.9s,baz=90,slow=2.5,SNR=7.2								
TBI	**Tubuai**	**165.52**	**140**	*e*SS		SS	20 09 32.4	+3.9	
TBI				*e*LR		LR	20 41 01.1		
	comp=Z,849nm,30.0s								
RKT	**Rikitea**	**168.51**	**201**	*e*SS		SS	20 10 06.8	+8.3	
RKT				*e*LR		LR	20 42 09.8		
	comp=Z,604nm,30.0s								
PPT	**Papeete**	**168.93**	**119**	*e*SS		SS	20 10 03.0	+0.2	
PPT				*e*LR		LR	20 42 25.9		
	comp=Z,874nm,22.8s								
TAOE	**Nuku Hiva Isla**	**176.42**	**11**	*e*LR		LR	20 45 44.5		
	comp=Z,2μm,23.5s								

THR ***24*** *19:28:02.7±0.5,39.41N×51.82E,h15km,ML4.3*
CSEM ***24*** *19:28:02.7±0.0,39.54N×52.06E,h36km,mb5.1/99,Ms4.3, Mw5.2,Error ellipse: s-maj=1.6km s-min=1.1km az=47.0*
BJI ***24*** *19:28:03.0,39.71N×51.93E,h41km,mB5.4,mb5.2,Ms5.5, Msz5.0*
MOS ***24*** *19:28:03.5±1.0,39.63N×52.12E,h42km,mb5.3/77, MS4.5/17,Error ellipse: s-maj=6.7km s-min=2.8km az=36.4*
UPP ***24*** *19:28:04.2,38.30N×53.62E,h35km*
BGS ***24*** *19:28:05.5±2.4,39.49N×52.04E,h43km,mb5.3*
NEIC ***24*** *19:28:05.4±0.5,39.49N×52.04E,h43km±4km, mb5.2/114, MS4.3/2,Error ellipse: s-maj=4.5km s-min=2.8km az=209.0*
HRVD ***24*** *19:28:05.4±0.5,39.72N×52.05E,h25km±1km, MW5.2/45, Centroid moment Tensor Solution. LP body waves: s33,c43;Mantle waves: s45,c80; Half duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr~0.64±.04; Mθθ0.64±.03; Mφφ0.00±.02; Mrθ0.44±.06; Mθφ-0.05±.02; Mφr~0.52±.07; Best double couple: M0.926×10¹⁷ NP1: φs76°,δ29°,λ-133°. NP2:φs303°,δ69°,λ-69°. Principal axes: T .837, Plg21°, Azm17°; N .177, Plg19°, Azm115°; P -1.014, Plg61°, Azm244°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***24*** *19:28:06.5±2.2,39.53N×52.04E,h52km±19km,mb4.7/28, mb1 4.8/32,mb1mx4.8/32,mbtmp4.9/32,ML3.7/4,MS4.4/3, Ms1 4.4/3,ms1mx4.0/26 Error ellipse: s-maj=10.5km s-min=9.3km az=145.0*
NNC ***24*** *19:28:09.6±2.0,40.12N×53.08E,Error ellipse: s-maj=25.5km s-min=16.0km az=113.0*
TEH ***24*** *19:28:16.5,38.52N×52.11E,h10km,Mn5.1*
TIF ***24*** *19:28:51.5,40.63N×47.19E,h13km±12km*
ISC 24 19:28:05.1±0.1,39.43N±0.02×52.01E±0.02,h59km, h59km±2.4km:pP-P,n680,σ1§06/695,mb5.1/175,MS4.6/17, 48C-39D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GRMI	**Germi**	**3.26**	**260**	*e*PN		P	**19 28 53.1**	**-1.9**
GRMI				AML		AML	19 29 31.4	
	comp=N,1μm,0.2s							
IAFJ	**Afjeh**	**3.58**	**184**	Pn		P	**19 28 59.4**	**-0.1**
IAFJ				Lg			19 29 40.1	
THKV	**Tehran--Karaj**	**3.62**	**195**	*e*PN		P	**19 28 59.5**	**-0.6**
DAMV	**Damavand**	**3.79**	**180**	*e*PN		P	**19 29 02.7**	**+0.2**
IFIR	**Firoozkooh**	**3.83**	**171**	Pn		P	**19 29 02.5**	**-0.6**
IDMV	**Damavand**	**3.85**	**180**	Pn		P	**19 29 03.1**	**-0.2**
IDMV				Lg			19 29 48.0	
IMHD	**Mahdasht**	**3.89**	**196**	Pn		P	**19 29 03.3**	**-0.6**
IRAZ	**Razeghan**	**4.34**	**203**	Pn		P	**19 29 18.9**	**+8.6**
IVRN	**Varamin**	**4.43**	**183**	Pn		P	**19 29 11.3**	**-0.2**
IQOM	**Qom**	**4.64**	**190**	Pn		P	**19 29 13.8**	**-0.6**
MAK	**Makhachkala**	**4.89**	**318**	*e*P		P	**19 29 16.0**	**-2.0**
	comp=N,600nm,1.8s							
MAK				*i* S		S	**19 30 09.6**	**-4.4**
	comp=N,10μm,8.0s							
MAK	**Makhachkala**	**4.89**	**318**	*e*P		P	**19 29 16.0**	**-2.0**
MAK				*i* S		S	**19 30 09.6**	**-4.4**
MAK				pmax		pmax		
	comp=Z,600nm,1.8s							
MAK				smax				
	comp=N,6μm,1.0s							
MAK				smax				
	comp=E,4μm,1.0s							
MAK				MLR		MLR		
	comp=E,8μm,7.0s							
MAK				MLR		MLR		
	comp=Z,10μm,7.0s							
MAK				MLR		MLR		
	comp=N,10μm,8.0s							
VAN	**Vannovskaya**	**5.00**	**105**	*i* P		P	**19 29 17.0**	**-2.5**
VAN				S		S	**19 30 10.5**	**-6.1**
VAN	**Vannovskaya**	**5.00**	**105**	⇓*i* P		P	**19 29 17.0**	**-2.5**
VAN				S		S	**19 30 10.5**	**-6.1**
ASAO	**Ashtian**	**5.12**	**199**	*e*PN		P	**19 29 20.8**	**-0.4**
DGRG	**David-gareji**	**5.45**	**294**	P		P	**19 29 22.7**	**-2.9**
GNI	**Garni**	**5.64**	**280**	P		P	**19 29 27.6**	**-0.7**
	comp=N,10nm,0.3s,baz=51,slow=1.9,SNR=36							
GNI				S		S	**19 30 34.3**	**+1.7**
	comp=N,13nm,0.3s,baz=296,slow=22,SNR=6.2							
MAKU	**Maku**	**5.67**	**272**	*e*PN		P	**19 29 27.0**	**-1.8**
MAKU				AML		AML	19 30 36.0	
	comp=N,124nm,0.6s							
SAMG	**Sameba**	**5.92**	**295**	P		P	**19 29 28.7**	**-3.5**
SAMG				S		S	**19 30 33.9**	**-5.7**
MTA	**Mtatsminda**	**5.94**	**295**	P		P	**19 29 29.5**	**-3.0**
MTA				S		S	**19 30 26.5**	**-14**
TI2	**Plekhanov**	**5.98**	**295**	*i* P		P	**19 29 30.3**	**-2.8**
TI2	**Plekhanov**	**5.98**	**295**	⇑*i* P		P	**19 29 26.4**	**-6.7**
TI2				*i* S		S	**19 30 33.4**	**-7.7**
TBLG	**Delisi**	**5.99**	**295**	P		P	**19 29 30.3**	**-2.9**
TBLG				S		S	**19 30 35.5**	**-5.8**
CLDR	**Caldiran**	**6.28**	**270**	P		P	**19 29 35.7**	**-1.6**
NASN	**Na'in**	**6.65**	**174**	*e*PN		P	**19 29 42.2**	**-0.2**
NASN	**Na'in**	**6.65**	**174**	*e*Pn		P	**19 29 42.2**	**-0.3**
	SNR=52							
AKH	**Akhalkalaki**	**6.79**	**290**	P		P	**19 29 42.9**	**-1.6**
BKR	**Bakuriani**	**6.87**	**292**	P		P	**19 29 47.1**	**+1.6**
ZEI	**Tsey**	**6.97**	**301**	*e*P		P	**19 29 43.7**	**-3.3**
	comp=N,5.0nm,0.1s							
ZEI				*e*S		S	**19 31 02.9**	**-2.7**
	comp=N,137nm,0.3s							
ZEI	**Tsey**	**6.97**	**301**	*e*P		P	**19 29 43.7**	**-3.3**
ZEI				*e*			19 31 02.9	
ZEI				pmax		pmax		
	comp=Z,5.0nm,0.1s							
ZEI				smax				
	comp=N,137nm,0.3s							
ONI	**Oni**	**7.19**	**299**	P		P	**19 29 47.8**	**-2.2**
MSL	**Mosul**	**7.72**	**249**	*ex*		x	19 29 38.5	
MSL				*ex*		x	19 36 37.0	
MSL	**Mosul**	**7.72**	**249**	*ex*		x	19 30 36.0	
MSL				*ex*		x	19 32 40.0	
EZM	**Erzurum**	**8.22**	**277**	P		P	**19 30 04.0**	**-0.2**
KIV	**Kislovodsk**	**8.31**	**306**	*e*Pn		P	**19 30 01.4**	**-4.0**
	comp=N,76nm,1.2s							
KIV	**Kislovodsk**	**8.31**	**306**	*e*Pn		P	**19 30 01.4**	**-4.0**
	comp=N,76nm,1.2s							
KIV	**Kislovodsk**	**8.31**	**306**	*e*P		P	**19 30 01.8**	**-3.6**
	comp=N,52nm,1.0s							
KIV	**Kislovodsk**	**8.31**	**306**	*ce*P		P	**19 30 01.8**	**-3.6**
KIV				*e*			19 31 32.3	
KIV				pmax		pmax		
	comp=Z,52nm,1.0s							
BHD	**Baghdad**	**8.69**	**227**	*ex*		x	19 29 48.0	
BHD				*ex*		x	19 31 40.0	
SOC	**Sochi**	**10.11**	**298**	*e*P		P	**19 30 28.3**	**-1.7**
	comp=Z,30nm,0.8s							
SOC	**Sochi**	**10.11**	**298**	*e*P		P	**19 30 28.3**	**-1.7**
SOC				*e*			19 32 17.6	
SOC				pmax		pmax		
	comp=Z,36nm,1.2s							
SOC				pmax		pmax		
	comp=N,30nm,0.8s							
SOC				pmax		pmax		
	comp=E,73nm,1.3s							
SOC				MLR		MLR		
	comp=E,2μm,22.0s							
SOC				MLR		MLR		
	comp=Z,3μm,22.0s							
SOC				MLR		MLR		
	comp=N,2μm,16.0s							
MIB	**Mutribah**	**10.34**	**203**	*e*P		P	**19 30 30.9**	**-2.3**
MIB				AMb		AMB	19 30 33.1	
	comp=Z,220nm,0.7s							
MALT	**Malatya**	**10.65**	**268**	*e*Pn		P	**19 30 36.2**	**-1.1**
	comp=Z,285nm,0.9s							
MALT	**Malatya**	**10.65**	**268**	*e*P		P	**19 30 36.2**	**-1.1**
	comp=Z,285nm,0.9s							
MALT				pmax		pmax		
	comp=Z,285nm,0.9s							
KBD	**Kabd**	**10.83**	**200**	*e*P		P	**19 30 38.0**	**-1.9**
KBD				AMb		AMB	19 30 43.0	
	comp=Z,431nm,0.9s							
NAY	**Al-Naaiem**	**10.89**	**203**	*e*P		P	**19 30 37.9**	**-2.8**
NAY				AMb		AMB	19 30 41.7	
	comp=Z,52nm,0.8s							
RDF	**Al-Radifah**	**11.11**	**201**	*e*P		P	**19 30 41.4**	**-2.1**
RDF				AMb		AMB	19 30 45.6	
	comp=Z,119nm,0.7s							
QRN	**Al-Qurain**	**11.18**	**199**	*e*P		P	**19 30 42.8**	**-1.8**
QRN				AMb		AMB	19 30 50.5	
	comp=Z,166nm,0

comp=Z,1µm,21.6s
SIM Simferopol' 14.35 298 P P 19 31 25.5 -0.9
SIM pmax pmax
comp=Z,49nm,1.0s
SIM MLR MLR
comp=Z,1µm,21.6s
VOR Voronezh 15.19 328 eP P 19 31 33.0 -4.2
VOR pmax pmax
comp=N,170nm,1.3s
VOR pmax pmax
comp=E,40nm,1.3s
VOR pmax pmax
comp=Z,120nm,1.3s
HOQ Hoqain 16.43 163 ⇓P P 19 31 55.0 +1.9
SMDO Samad 17.11 161 ⇑P P 19 32 06.5 +4.9
BSY Bisya 17.21 164 ⇑P P 19 32 03.5 +0.5
SNR=5.5
BSYO Bisya 17.23 163 P P 19 32 03.5 +0.3
SNR=5.5
AAK Ala-Archa 17.26 72 ⇑P P 19 31 58.1 -5.3
comp=Z,135nm,1.4s
AAK ⇑S S 19 35 04.2 -7.5
comp=Z,61nm,0.9s
AAK Ala-Archa 17.26 72 P P 19 31 57.0 -6.4
FRU Bishkek 17.36 71 eP P 19 32 00.0 -4.7
FRU pmax pmax
comp=Z,200nm,1.8s
ARU Arti 17.55 12 eP P 19 32 01.5 -5.5
ARU eS S 19 35 13.0 -5.1
PECR Pechory 17.69 345 eP P 19 32 02.6 -6.1
PECR e 19 35 11.6
TIRR Tirgusor 18.23 294 ePn P 19 32 14.0 -1.4
TIRR Tirgusor 18.23 294 ePn P 19 32 14.0 -1.4
KSH Kashi 18.50 82 P P 19 32 17.0 -1.7
KSH AMB AMB
comp=Z,550nm,1.5s
KSH LR LR
comp=N,14µm,13.6s
KSH LR LR
comp=E,10µm,14.4s
BRVK Borovoye 18.52 37 ⇑P P 19 32 14.5 -4.3
comp=E,73nm,1.0s
BRVK ⇓S S 19 35 30.1 -10
comp=E,46nm,1.0s
BVA0 Borovoye Array 18.54 37 ⇑P P 19 32 14.8 -4.3
comp=E,33nm,1.1s,baz=227,slow=16,SNR=250
BVA0 ⇑S S 19 35 31.8 -8.7
comp=E,31nm,1.0s,baz=227,slow=24,SNR=8.2
BVAR Borovoye Array 18.54 37 P P 19 32 15.2 -3.8
comp=E,4.1nm,0.3s,baz=227,slow=15,SNR=33
BVAR Borovoye Array 18.54 37 P P 19 32 15.2 -3.8
BVAR Pn P 19 32 21.0 +1.9
VOSK Vostochnaya 18.63 38 ⇑P P 19 32 15.8 -4.4
comp=E,98nm,0.9s
VOSK ⇓S S 19 35 31.6 -11
comp=E,64nm,0.8s
OBN Obninsk 18.80 332 eP P 19 32 17.6 -4.5
comp=E,201nm,0.9s
OBN eSn S 19 35 45.9 -0.1
OBN Obninsk 18.80 332 eP P 19 32 18.0 -4.0
comp=E,125nm,0.6s
OBN eSn S 19 35 45.9 -0.1
OBN Obninsk 18.80 332⇑eP P 19 32 18.0 -4.0
OBN e 19 35 45.6
OBN pmax pmax
comp=Z,125nm,0.6s
OBN MLR MLR
comp=Z,1µm,16.0s
CHKZ Chkalovo 19.07 36 ⇑P P 19 32 21.1 -4.1
comp=Z,113nm,1.2s
ARG Arkhangelos 19.12 268 eP P 19 32 24.4 -1.5
IAS Iasi 19.35 302 P P 19 32 26.3 -2.0
IAS Iasi 19.35 302 P P 19 32 26.3 -2.0
BRD Bordesti 19.37 297 P P 19 32 28.0 -0.5
BRD Bordesti 19.37 297 P P 19 32 28.0 -0.5
AKASG Malin Array Be 19.56 313 P P 19 32 27.5 -3.0
comp=Z,18nm,0.3s,baz=95,slow=8.4,SNR=51
AKASG S S 19 36 02.8 +0.1
baz=115,slow=22,SNR=7.4
SMG Samos 19.74 273 eP P 19 32 32.2 -0.4
ALN Alexandroupoli 19.88 283 eP P 19 32 33.6 -0.4
PRK Paraskevi 19.89 278 eP P 19 32 34.2 +0.1
KARP Karpathos 20.07 267 eP P 19 32 35.2 -0.9
MLR Muntele Rosu 20.11 296 P P 19 32 37.1 +0.7
comp=Z,33nm,0.7s,baz=216,slow=0.3,SNR=14
MLR S S 19 36 19.3 +5.2
comp=Z,5.9nm,0.7s,baz=189,slow=15,SNR=2.3
RDO Rodhopi 20.24 283 eP P 19 32 37.7 -0.1
SOKR Solikamsk 20.39 7 *i* P P 19 32 36.8 -2.4
comp=Z,160nm,1.1s
SOKR Solikamsk 20.39 7*c i* P P 19 32 36.8 -2.4
SOKR 19 36 13.0
SOKR pmax pmax
comp=Z,160nm,1.1s
SOKR smax
comp=N,300nm,1.6s
MTUR Matau 20.69 295 P P 19 32 42.7 +0.3
MTUR Matau 20.69 295 P P 19 32 42.7 +0.3
APE Apeiranthos 20.90 272 eP P 19 32 44.3 -0.3
APE Apeiranthos 20.90 272 P P 19 32 45.5 +0.9
BURAR Bucovina Array 21.00 302 ⇑P P 19 32 44.9 -0.7
BURAR Bucovina Array 21.00 302 P P 19 32 44.5 -1.1
BURAR Bucovina Array 21.00 302 P P 19 32 44.5 -1.1
NPS Neapolis 21.36 267 eP P 19 32 49.3 0.0
NVR Nevrokopi 21.49 284 eP P 19 32 50.8 +0.3
OUR Ouranopolis 21.49 281 eP P 19 32 50.6 +0.1
SHAO Shalim 21.56 171 ⇓P P 19 32 51.2 -0.2
SNR=42
SRS Serrai 21.71 284 eP P 19 32 51.9 -0.8
AOS Alonnisos 21.74 278 eP P 19 32 53.0 0.0
KURK Kurchatov 21.80 50 ⇑P P 19 32 51.5 -2.0
comp=N,59nm,0.8s,mb5.1
KURK Kurchatov 21.80 50 eP P 19 32 52.1 -1.4
KURK Kurchatov 21.80 50⇓eP P 19 32 52.1 -1.4
PLG Polygyros 21.89 282 eP P 19 32 55.9 +1.4
IDI Anoyia 21.91 268 P P 19 32 53.0 -1.7
comp=N,60nm,0.5s,mb5.3,baz=33,slow=8.1,SNR=58
IDI S S 19 36 56.5 +8.5
comp=N,14nm,0.9s,baz=11,slow=19,SNR=4.0
VTS Vitosha 21.91 288 P P 19 32 56.2 +1.5
VTS Vitosha 21.91 288 P P 19 32 56.2 +1.5
SOH Sokhos 21.91 283 eP P 19 32 55.3 +0.6
RBK Rabkut 21.93 174 ⇓P P 19 32 54.6 -0.4
SNR=14
ABTO Aybut 22.02 177 ⇓P P 19 32 55.5 -0.5
SNR=9.4
ATH Athens Observa 22.09 275 eP P 19 32 57.6 +1.1
MNK Minsk 22.18 321 eP P 19 32 52.0 -5.3
KNT Kendrikon 22.23 284 eP P 19 32 58.5 +0.7
THE Thessaloniki 22.23 282 eP P 19 32 58.1 +0.3
XOR Xorichti 22.23 279 eP P 19 32 57.7 -0.1
VAM Vamos 22.41 268 eP P 19 33 00.5 +0.9
LKR Lokris 22.50 277 eP P 19 33 00.6 +0.1
DRGR 22.52 299 P P 19 33 00.2 -0.4
DRGR 22.52 299 P P 19 33 00.2 -0.4
GRG Griva 22.62 283 eP P 19 33 02.5 +0.8
LIT Litokhoron 22.66 281 eP P 19 33 03.1 +1.1
GVD Gavdhos 22.68 267 eP P 19 33 01.0 -1.3
comp=N,139nm,0.9s,mb5.4
GVD Gavdhos 22.68 267 eP P 19 33 01.0 -1.3
comp=N,139nm,0.9s,mb5.4
BOLS Boljevac 22.82 291 ⇓*i* P P 19 33 04.5 +0.9
NE53 Naroch' 22.91 321 eP P 19 33 02.0 -2.3
BARS Barje 22.93 288 ⇓*i* P P 19 33 04.9 +0.3
AGG Agios Georgios 22.95 278 eP P 19 33 05.5 +0.6
VLI Veliai 23.00 272 eP P 19 33 03.1 -2.3
KWP Kalwaria 23.11 306 eP P 19 33 08.9 +2.7
IDID Didziasalis 23.16 322 eP P 19 33 06.4 -0.3
IDID AMb AMB 19 33 09.2
comp=Z,43nm,1.0s,mb4.8
IDID Didziasalis 23.16 322 eP P 19 33 06.4 -0.3
comp=Z,43nm,1.0s,mb4.8,SNR=28
KZN Kozani 23.17 282 eP P 19 33 09.3 +2.3
MKAR Makanchi Array 23.20 62 P P 19 33 07.5 +0.4
comp=Z,34nm,0.9s,mb4.8,baz=257,slow=9.0,SNR=41
MKAR S S 19 37 17.9 +7.0
comp=Z,3.4nm,0.7s,baz=270,slow=32,SNR=3.2
MKAR LR LR 19 43 25.3
comp=Z,784nm,20.7s,MS4.2,baz=190,slow=40
MKAR Makanchi Array 23.20 62 P P 19 33 07.5 +0.4
MKAR Pn P 19 33 12.0 +4.8
MKAR S S 19 37 17.9 +7.0
MKAR LR LR 19 43 25.3
KOLS Kolonicke sedl 23.21 304 eP P 19 33 09.2 +1.9
KOLS *es*P 19 33 23.7
SKO Skopje 23.25 286 *i* P P 19 33 10.2 +2.4
comp=Z,0.1nm,0.9s
SKO Skopje 23.25 286 *i* P P 19 33 10.2 +2.4
SKO pmax pmax
comp=Z,71nm,0.9s,mb5.1
SVIS Svilajnac 23.36 292 ⇓*i* P P 19 33 10.1 +1.4
EVR Evrytania 23.37 278 eP P 19 33 09.3 +0.4
FNA Florina 23.41 283 eP P 19 33 11.3 +2.0
ISAL Salakas 23.59 322 eP P 19 33 10.3 -0.5
ISAL AMb AMB 19 33 13.7
comp=Z,31nm,1.5s,mb4.5
ISAL *es*P 19 33 26.6
ISAL Salakas 23.59 322 eP P 19 33 10.3 -0.6
comp=Z,31nm,1.5s,mb4.5,SNR=28
ISAL *es*P 19 33 26.6
IZAR Zarasai 23.63 322 eP P 19 33 10.7 -0.5
IZAR AMb AMB 19 33 14.0
comp=Z,40nm,1.4s,mb4.7
IZAR Zarasai 23.63 322 eP P 19 33 10.7 -0.5
comp=Z,40nm,1.4s,mb4.7,SNR=28
ITM Ithomi 23.66 274 eP P 19 33 11.0 -0.7
MEV Metsovon 23.66 281 eP P 19 33 13.6 +1.9
RLS Riolos of Patr 23.81 276 eP P 19 33 13.4 +0.3
JAN Janina 23.97 281 eP P 19 33 16.4 +1.7
STHS Stebnicka Huta 23.98 305 eP P 19 33 15.3 +0.6
STHS *es*P 19 33 34.3
DIVS Divcibare 24.24 292 ⇑*i* P P 19 33 18.7 +1.4
KECS Kecovo 24.28 302 eP P 19 33 18.3 +0.6
KECS *es*P 19 33 34.4
LKD Levkas 24.30 278 eP P 19 33 18.2 +0.3
PVY Plav 24.30 288 ⇓*i* P P 19 33 19.7 +1.8
SUW Suwalki 24.34 316 eP P 19 33 18.5 +0.3
IVA Berane 24.34 289 ⇓*i* P P 19 33 20.3 +2.0
VLS Valsamata 24.45 277 eP P 19 33 19.2 -0.3
NVSS Nova Varos 2 24.46 290 ⇓*i* P P 19 33 22.6 +3.2
TIR Tirane 24.48 285 P P 19 33 21.3 +1.6
PUL Pulkovo 24.52 333 *i* P P 19 33 18.0 -1.9
comp=Z,387nm,1.1s,mb5.8
PUL *i* S S 19 37 34.8 +1.3
comp=Z,861nm,18.0s
PUL Pulkovo 24.52 333 *i* P P 19 33 18.0 -1.9
PUL *i* S S 19 37 34.8 +1.3
PUL pmax pmax
comp=Z,302nm,1.0s,mb5.8
PUL pmax pmax
comp=N,387nm,1.1s
PUL pmax pmax
comp=E,582nm,1.4s
PUL smax
comp=N,2µm,1.6s
PUL smax
comp=E,2µm,1.7s
PUL smax
comp=N,252nm,8.1s
PUL smax
comp=Z,174nm,6.4s
PUL smax
comp=E,243nm,7.5s
PUL MLR MLR
comp=Z,1µm,16.0s,MS4.5
PUL MLR MLR
comp=N,861nm,18.0s
PSZ Piszkesteto 24.58 301 eP P 19 33 22.4 +1.7
PSZ Piszkesteto 24.58 301 eP P 19 33 22.4 +1.8
PKS6 Bocsa 24.65 298⇑eP P 19 33 23.3 +2.0
PLE Pljevlja 24.69 290 ⇓*i* P P 19 33 23.6 +1.9
KEK Kerkira 24.76 281 eP P 19 33 23.2 +0.8
TTG Podgorica 24.84 288 ⇓*i* P P 19 33 23.6 +0.5
ULC Ulcinj 24.88 286 ⇓*i* P P 19 33 22.9 -0.6
PKS7 Kunszentmiklos 24.97 299⇑*i* P P 19 33 25.9 +1.5
NKY Niksic 25.00 288 ⇓*i* P P 19 33 25.4 +0.7
VSU Vasula 25.00 328 *i* P P 19 33 23.3 -1.3
VSU Vasula 25.00 328 *d i* P P 19 33 23.3 -1.3
UPM Unac-Piva 25.05 289 ⇓*i* P P 19 33 26.8 +1.7
OJC Ojcow 25.07 306 eP P 19 33 26.3 +1.0
OJC *es*S S 19 37 44.5 +1.7
OJC LR LR
comp=Z,1µm,20.0s,MS4.4
BUM Brajici-Budva 25.11 287 ⇓*i* P P 19 33 26.0 +0.3
PKSM Moragy 25.26 297 P P 19 33 28.4 +1.3
PKSM Moragy 25.26 297 P P 19 33 28.4 +1.3
BRY Bratogost 25.33 289 ⇓*i* P P 19 33 28.2 +0.4
VYHS Vyhne 25.37 302 eP P 19 33 29.3 +1.2
VYHS *es*P sP 19 33 45.1 -4.6
HCY Herceg Novi 25.40 288 ⇓*i* P P 19 33 28.5 +0.1
PKS9 Tamasi 25.54 297⇑*i* P P 19 33 31.0 +1.3
RHK1 Bakonya 25.65 296 ⇓*i* P P 19 33 31.8 +1.1
KOLL Kolacno 25.67 302 eP P 19 33 32.0 +1.1
KOLL *ep*P pP 19 33 46.5 +1.3
OKC Ostrava-Krasne 26.04 305 eP P 19 33 34.5 +0.2
OKC *ep*P pP 19 33 50.6 +1.9
SMOL Smolenice 26.30 302 eP P 19 33 37.4 +0.7
SMOL *ep*P pP 19 33 51.3 +0.2
MORC Moravsky Berou 26.41 304 eP P 19 33 37.6 -0.1
comp=Z,32nm,0.9s,mb4.9
MORC Moravsky Berou 26.41 304 eP P 19 33 37.7 -0.1
comp=Z,32nm,0.9s,mb4.9
MORC Moravsky Berou 26.41 304 eP P 19 33 37.7 -0.1
MORC pmax pmax
comp=Z,32nm,0.9s,mb4.8
ZAL Zalesovo 26.48 46 P P 19 33 39.2 +0.9
comp=Z,18nm,0.9s,mb4.6,baz=212,slow=9.6,SNR=6.6
ZAL LR LR 19 46 39.1
comp=Z,2µm,20.4s,MS4.5,baz=232,slow=42
ZST Bratislava 26.48 301 eP P 19 33 38.9 +0.5
ZST *es*P sP 19 33 54.7 -5.3
ZST *e*L 19 51 57.2
JOF Joensuu 26.61 339 *ep* P 19 33 37.6 -1.9
comp=Z,86nm,0.6s,mb5.5
SOP Sopron 26.79 300 P P 19 33 43.6 +2.3
WMQ Urumqi 26.90 69⇑*i* P P 19 33 45.8 +3.5
WMQ AMB AMB
comp=Z,53nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,355nm,4.0s
SG1 Sgolgore (BA) 26.94 284 eP P 19 33 42.0 -0.7
VRAC Vranov 26.95 303 P P 19 33 43.1 +0.4
comp=Z,4.4nm,0.6s,mb4.1,baz=122,slow=13,SNR=2.4
VKA Vienna 27.00 301 ⇓*i* P P 19 33 43.9 +0.7
TIP Timpagrande 27.17 281 eP P 19 33 44.1 -0.8
TIP *ep*P pP 19 33 55.1 -4.2
TIP Timpagrande 27.17 281 eP P 19 33 44.1 -0.8
TIP *ep*P pP 19 33 55.1 -4.3
FINES FINESS Array B 27.20 333 P P 19 33 43.6 -1.2
comp=Z,24nm,0.6s,mb4.9,baz=132,slow=9.1,SNR=117
FINES S S 19 38 28.2 +11
comp=Z,13nm,0.8s,baz=127,slow=19,SNR=4.0
FINES FINESS Array B 27.20 333 P P 19 33 43.6 -1.2
FINES S S 19 38 28.2 +11
CDT Castel del Mon 27.20 285 eP P 19 33 44.0 -1.1
DPC Dobruska-Polom 27.29 305 eP P 19 33 46.8 +1.0
DPC *ep*P pP 19 34 01.2 +0.9
DPC *e*S S 19 38 28.2 +9.1
KSP Ksiaz 27.39 306 eP pP 19 34 02.4 +1.2
KSP Ksiaz 27.39 306 eP P 19 33 47.6 +0.9
KSP *ep*P pP 19 34 00.4 -0.8
ARSA Arzberg 27.46 299⇑*i* P P 19 33 48.3 +0.9
comp=Z,32nm,1.1s,mb4.8
CRES Cresnjev 27.47 295 eP P 19 33 47.2 -0.2
CRES Cresnjev 27.47 295 eP P 19 33 47.2 -0.3
UPC Upice 27.51 306 eP P 19 33 48.2 +0.4
UPC *ep*P pP 19 34 04.6 +2.3
KAF Kangasniemi 27.57 334 *ep* P 19 33 46.2 -2.1
comp=Z,23nm,0.9s,mb4.8,baz=132,slow=9.2
KAF Kangasniemi 27.57 334 eP P 19 33 46.2 -2.1
KAF pmax pmax
comp=Z,23nm,0.9s,mb4.8
PERS Pernice 27.71 297 eP P 19 33 50.0 +0.3
LJU Ljubljana 28.11 296 eP P 19 33 53.1 -0.2
LJU *e* pP 19 34 11.0 +3.1
CEY Cerknica 28.19 295 P P 19 33 55.3 +1.3
GOTU Gotland 28.27 321 P P 19 33 54.2 -0.4
PRU Pruhonice 28.36 304 eP P 19 33 54.5 -1.0
PRU *ep*P pP 19 34 11.6 +1.5
PRU AMS AMS 19 51 30.0
comp=Z,2µm,25.4s
PVCC Panska Ves 28.42 305 eP P 19 33 56.8 +0.8
PVCC *ep*P pP 19 34 11.1 +0.5
PVCC Panska Ves 28.42 305 eP P 19 33 56.8 +0.8
CII Carovilli 28.58 287 eP P 19 33 58.4 +0.8
CII Carovilli 28.58 287 eP P 19 33 58.3 +0.8
KOLN Koldanda 28.63 104 eP P 19 33 58.4 +0.3
comp=Z,171nm,1.1s,mb5.7
GEC2 GERESS Array S 28.79 302 eP P 19 33 59.7 +0.4
comp=Z,15nm,1.1s,mb4.6
GEC2 GERESS Array S 28.79 302 eP P 19 33 59.7 +0.4
GEC2 pmax pmax
comp=Z,15nm,1.1s,mb4.6
GERES GERESS Array B 28.79 302 P P 19 33 59.6 +0.3
comp=Z,5.1nm,0.6s,mb4.4,baz=95,slow=8.0,SNR=23
GERES PcP PcP 19 37 07.7 -0.5
comp=Z,6.3nm,0.8s,baz=90,slow=2.7,SNR=7.0
GERES GERESS Array B 28.79 302 PcP PcP 19 37 07.7 -0.5
BRG Berggiesshubel 28.86 306 *i* P P 19 34 00.6 +0.7
comp=Z,32nm,1.3s,mb4.9
BRG *i* 19 34 06.1
BRG *e* pP 19 34 14.6 0.0
BRG *i* 19 34 33.2
BRG S S 19 38 48.0 +3.6
BRG LR LR
comp=Z,2µm,12.6s,MS4.9
BRG Berggiesshubel 28.86 306 *i* P P 19 34 00.6 +0.6
BRG S S 19 38 48.0 +3.6
BRG Berggiesshubel 28.86 306 *i* P P 19 34 00.6 +0.6
BRG *e* pP 19 34 14.6 0.0
BRG S S 19 38 48.0 +3.6
BRG pmax pmax
comp=Z,32nm,1.3s,mb4.9
BRG MLR MLR
comp=Z,2µm,12.6s,MS4.9
KHC Kasperske Hory 28.89 302 eP P 19 33 59.6 -0.6
KHC *ep*P pP 19 34 14.8 -0.1
KBA Koelnbreinsper 28.94 298⇑*i* P P 19 34 00.9 +0.2
comp=Z,33nm,1.3s,mb4.9
KBA Koelnbreinsper 28.94 298⇑*i* P P 19 34 00.9 +0.2
KBA pmax pmax
comp=Z,33nm,1.3s,mb4.9
AQU L'Aquila 29.16 288 eP P 19 34 02.6 -0.1
comp=Z,40nm,0.9s,mb5.1
AQU L'Aquila 29.16 288 eP P 19 34 02.6 -0.1
comp=Z,40nm,0.9s,mb5.1
AQU L'Aquila 29.16 288 eP P 19 34 02.6 -0.1
AQU pmax pmax
comp=Z,40nm,0.9s,mb5.2
BSD Bornholm Skovb 29.23 315 *i* P P 19 34 02.1 -1.0
comp=Z,54nm,0.5s,mb5.5
BSD *i* 19 34 06.0
BSD *e* pP 19 34 14.7 -3.1
BSD Bornholm Skovb 29.23 315 *i* P P 19 34 02.1 -1.0
comp=Z,54nm,0.5s,mb5.5
BSD *e* pP 19 34 14.7 -3.1
BSD Bornholm Skovb 29.23 315 *i* P P 19 34 02.1 -1.0
BSD *e* pP 19 34 14.7 -3.1
BSD pmax pmax
comp=Z,54nm,0.5s,mb5.5
RUE Ruedersdorf 29.24 309 eP P 19 34 01.5 -1.8
comp=Z,33nm,0.7s,mb5.2
GKN Gorkha 29.29 103 eP P 19 34 04.0 0.0
comp=Z,160nm,0.8s,mb5.8
VAE Valguarnera 29.37 278 P P 19 34 06.2 +1.6
comp=Z,10.0nm,0.8s,mb4.6,baz=202,slow=3.0,SNR=3.5
CLL Collm 29.51 307 P P 19 34 05.9 +0.2
comp=Z,logA/T=1.1,mb4.6
CLL *i* *SP sP 19 34 21.1 -6.5
CLL *i* 19 34 43.5
CLL *i* PP PP 19 35 01.7 -1.7
CLL *e*PPP PPP 19 35 09.0 -7.9
CLL *e* 19 35 27.0
CLL *e* 19 42 33.0
CLL Collm 29.51 307 *i* P P 19 34 05.9 +0.2
comp=Z,10.0nm,0.8s,mb4.6
CLL *i* sP sP 19 34 21.1 -6.5
CLL Collm 29.51 307 *i* P P 19 34 05.9 +0.2
CLL *i* *SP sP 19 34 21.1 -6.5
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
DMN Daman 29.85 103 eP P 19 34 09.6 +0.7
comp=Z,215nm,1.2s,mb5.8
KKN Kakani 29.88 103 eP P 19 34 09.2 -0.1
comp=Z,93nm,1.1s,mb5.4
LVZ Lovozero 30.09 347 *i* P P 19 34 07.2 -3.4
LVZ pmax pmax
comp=Z,34nm,0.9s,mb5.1
LVZ pmax pmax
comp=N,24nm,1.2s
LVZ pmax pmax
comp=E,18nm,1.2s
LVZ MLR MLR
comp=Z,1µm,18.0s,MS4.6
LVZ MLR MLR
comp=N,738nm,16.0s
PKI Pulchoki 30.09 103 eP P 19 34 11.4 +0.2
comp=N,96nm,0.9s,mb5.5
WTTA Wattenberg 30.11 298⇑*i* P P 19 34 11.2 +0.1
comp=N,74nm,1.3s,mb5.2
WTTA Wattenberg 30.11 298⇑*i* P P 19 34 11.2 +0.1
WTTA pmax pmax
comp=Z,74nm,1.3s,mb5.3
MOX Moxa 30.30 305 *i* P P 19 34 13.4 +0.7
MOX pP pP 19 34 28.0 +0.5
MOX SS S 19 38 55.0 -12
MOX *e* 19 42 15.0
MOX L 20 05 44.0
MOX Moxa 30.30 305 eP P 19 34 13.4 +0.7
MOX *i* pP pP 19 34 28.0 +0.5
MOX *e*SS S 19 38 55.0 -12
MOX *e* 19 42 15.0
MOX LR LR
comp=Z,800nm,17.0s,MS4.4
MOX Moxa 30.30 305 eP P 19 34 13.4 +0.7
MOX *i* *PP pP 19 34 28.0 +0.5
MOX MLR MLR
comp=Z,800nm,17.0s,MS4.4
FUR Furstenfeldbru 30.36 300 eP P 19 34 13.5 +0.2
comp=Z,21nm,1.0s,mb4.8
FUR Furstenfeldbru 30.36 300 eP P 19 34 13.5 +0.2
FUR pmax pmax
comp=Z,21nm,1.0s,mb4.8
SQTA Sankt Quirin 30.40 298⇑*i* P P 19 34 13.3 -0.4
comp=Z,28nm,1.1s,mb4.9
SQTA Sankt Quirin 30.40 298⇑*i* P P 19 34 13.3 -0.4
SQTA pmax pmax
comp=Z,28nm,1.1s,mb4.9
MOTA Moosalm 30.47 299⇑*i* P P 19 34 13.6 -0.7
comp=Z,15nm,0.7s,mb4.8
MOTA Moosalm 30.47 299⇑*i* P P 19 34 13.6 -0.7
MOTA pmax pmax
comp=Z,15nm,0.7s,mb4.8
GRA1 Grafenberg Arr 30.47 303 eP P 19 34 14.6 +0.3
comp=Z,15nm,1.1s,mb4.6
GRA1 *ep*P pP 19 34 31.7 +2.7
GRF Grafenberg Arr 30.47 303 eP P 19 34 14.6 +0.3
GRF e*PP pP 19 34 31.7 +2.7
GRF pmax pmax
comp=Z,15nm,1.1s,mb4.6
COP Copenhagen 30.75 315 *i* P P 19 34 17.5 +0.9
COP *i* pP 19 34 31.3 -0.1
COP *i* S S 19 39 52.1 +38
comp=Z,450nm,19.0s
COP Copenhagen 30.75 315 *i* P P 19 34 17.5 +0.9
COP *i* pP 19 34 31.3 -0.1
COP MLR MLR
comp=Z,450nm,19.0s,MS4.1
SARO Sassorosso 31.13 292 P P 19 34 19.6 -0.5
SARO Sassorosso 31.13 292 P P 19 34 19.6 -0.5
SARO Sassorosso 31.13 292 P P 19 34 19.6 -0.5
VLC Villacollemand 31.14 292 eP P 19 34 20.2 -0.1
comp=Z,32nm,0.8s,mb5.2
VLC Villacollemand 31.14 292 eP P 19 34 20.2 0.0
comp=Z,32nm,0.8s,mb5.2
CLZ Clausthal 31.21 307 eP P 19 34 21.7 +0.9
comp=Z,21nm,0.8s,mb5.0
CLZ Clausthal 31.21 307 eP P 19 34 21.7 +0.9
CLZ pmax pmax
comp=Z,21nm,0.8s,mb5.0
VALM 31.22 293 P P 19 34 21.6 +0.7
DAVA Damuels 31.30 298⇓*i* P P 19 34 21.0 -0.6
comp=Z,55nm,1.2s,mb5.3
DAVOX Davos 31.32 298 P P 19 34 21.4 -0.4
comp=Z,18nm,0.8s,mb5.0,baz=99,slow=6.2,SNR=14
GRAM 31.34 293 P P 19 34 21.4 -0.5
GRAM 31.34 293 P P 19 34 21.4 -0.5
BACM 31.35 293 P P 19 34 22.0 -0.1
BACM 31.35 293 P P 19 34 22.0 -0.1
CODM 31.50 293 P P 19 34 23.5 +0.1
CODM 31.50 293 P P 19 34 23.5 +0.1
BSEG Bad Segeberg 31.55 311 eP P 19 34 24.6 +0.9

HFS Hagfors 31.59 324 P **P** 19 34 23.1 -0.9
comp=Z,22nm,0.4s,mb5.3,baz=114,slow=10,SNR=151
HFS LR LR 19 48 05.4
comp=Z,660nm,21.5s,MS4.3,baz=313,slow=38
HFA0 Hagfors New Ar 31.60 324 P **P** 19 34 22.8 -1.2
SC2M Scurtabr 31.73 293 P **P** 19 34 24.8 -0.5
STU Stuttgart 31.76 301 *e*P **P** 19 34 25.3 -0.3
comp=Z,94nm,0.9s,mb5.6
STU *e*pP pP 19 34 33.9 -6.6
STU Stuttgart 31.76 301 *e*P **P** 19 34 25.3 -0.3
comp=Z,94nm,0.9s,mb5.6
STU *e*pP pP 19 34 33.9 -6.6
STU Stuttgart 31.76 301 *e*P **P** 19 34 25.3 -0.3
STU *e**PP pP 19 34 33.9 -6.6
STU pmax pmax
comp=Z,94nm,0.9s,mb5.6
HYB Hyderabad 31.83 126↓ *i*P **P** 19 34 26.5 0.0
comp=Z,100nm,1.0s,mb5.6
HYB Hyderabad 31.83 126↓ *e*P **P** 19 34 26.5 0.0
TNS Taunus Mts 32.29 304 *e*P **P** 19 34 31.4 +1.2
comp=Z,21nm,1.0s,mb4.9
TNS Taunus Mts 32.29 304 *e*P **P** 19 34 31.4 +1.2
TNS pmax pmax
comp=Z,21nm,1.0s,mb4.9
PGF Pioggiola 32.36 290 *e*P **P** 19 34 30.6 -0.3
comp=Z,52nm,1.0s,mb5.0
PGF Pioggiola 32.36 290 *e*P **P** 19 34 30.6 -0.3
PGF pmax pmax
comp=Z,26nm,1.0s,mb5.0
PCP Pian Castagno 32.41 293 P **P** 19 34 30.4 -0.9
PCP Pian Castagno 32.41 293 P **P** 19 34 30.5 -0.8
KTD Kalmit 32.50 302 *e*P **P** 19 34 33.0 +1.0
LANF Langenberg 32.68 302 *e*P **P** 19 34 34.1 +0.5
VSL Villasalto 32.68 284 *e*P **P** 19 34 33.4 -0.3
comp=Z,16nm,0.7s,mb5.1
VSL Villasalto 32.68 284 *e*P **P** 19 34 33.4 -0.4
comp=Z,16nm,0.7s,mb5.1
FIN Finale Ligure 32.69 293 P **P** 19 34 32.2 -1.5
FIN Finale Ligure 32.69 293 P **P** 19 34 32.2 -1.6
ORX Oropa 32.70 296 P **P** 19 34 31.8 -2.0
ORX Oropa 32.70 296 P **P** 19 34 31.8 -2.0
MUD Monsted U'grnd 32.70 316 *i* P **P** 19 34 34.1 +0.4
comp=Z,8.7nm,0.5s,mb4.9
MUD *i* 19 34 41.5
comp=Z,960nm,18.0s
TRAV 32.88 295 P **P** 19 34 33.0 -2.3
ROB Roburent 32.92 293 P **P** 19 34 34.5 -1.3
IMI Imperia 32.96 292 P **P** 19 34 35.7 -0.4
IMI Imperia 32.96 292 P **P** 19 34 35.7 -0.4
WLS Welschbruch 32.98 301 *e*P **P** 19 34 35.8 -0.5
CDF Champ du Feu 33.04 301 *e*P **P** 19 34 35.8 -0.9
comp=Z,45nm,1.0s,mb5.1
CDF Champ du Feu 33.04 301 *e*P **P** 19 34 35.8 -0.9
CDF pmax pmax
comp=Z,23nm,1.0s,mb5.1
NB2 NORSAR Subarra 33.07 324 P **P** 19 34 35.5 -1.4
comp=Z,32nm,1.0s,mb5.2,baz=115,slow=8.6
NB2 NORSAR Subarra 33.07 324 P **P** 19 34 35.5 -1.4
baz=115,slow=8.6
NB2 NORSAR Subarra 33.07 324 P **P** 19 34 35.5 -1.4
NB2 pmax pmax
comp=Z,32nm,1.0s,mb5.2
NOA NORSAR Array B 33.07 324 P **P** 19 34 35.6 -1.3
comp=Z,15nm,0.9s,mb4.9,baz=113,slow=8.2,SNR=15
NEGI Negi 33.10 292 P **P** 19 34 35.4 -1.9
NEGI Negi 33.10 292 P **P** 19 34 35.4 -1.9
ECH Echery 33.12 300 *e*P **P** 19 34 37.1 -0.3
KEV Kevo 33.14 344 *e*P **P** 19 34 36.2 -1.1
KEV Kevo 33.14 344 *e*P **P** 19 34 36.2 -1.2
MOF Molkenrain 33.15 300 *e*P **P** 19 34 38.0 +0.3
SAOF Saorge 33.19 293 *e*P **P** 19 34 38.4 +0.3
ENR Entracque 33.25 293 P **P** 19 34 38.1 -0.5
ENR Entracque 33.25 293 P **P** 19 34 38.2 -0.4
RSP Reno Superiore 33.26 295 P **P** 19 34 36.1 -2.5
AUTN L'Aution 33.28 293 *e*P **P** 19 34 39.5 +0.7
ARCES ARCESS Array B 33.29 343 P **P** 19 34 37.6 -1.0
comp=Z,11nm,0.9s,mb4.8,baz=144,slow=10,SNR=23
BHB Bricherasio 33.29 294 P **P** 19 34 37.1 -1.8
SBF Sospel 33.29 292 *e*P **P** 19 34 38.9 -0.1
comp=Z,83nm,0.8s,mb5.4
SBF Sospel 33.29 292 *e*P **P** 19 34 38.9 -0.1
SBF pmax pmax
comp=Z,41nm,0.8s,mb5.4
LSD Ceresole Reale 33.30 295 P **P** 19 34 37.9 -1.1
LSD Ceresole Reale 33.30 295 P **P** 19 34 37.9 -1.1
STV2 Anna di Valdie 33.32 293 P **P** 19 34 37.2 -2.0
STV2 Anna di Valdie 33.32 293 P **P** 19 34 37.2 -2.0
STV Sta Anna Valdi 33.32 293 P **P** 19 34 38.1 -1.0
STV Sta Anna Valdi 33.32 293 P **P** 19 34 38.2 -1.0
HINF Hinteralfeld 33.34 300 *e*P **P** 19 34 38.1 -1.2
comp=Z,24nm,1.1s,mb4.7
HINF Hinteralfeld 33.34 300 *e*P **P** 19 34 38.1 -1.2
HINF pmax pmax
comp=Z,12nm,1.1s,mb4.7
KONO Kongsberg 33.35 321 *e*P **P** 19 34 40.1 +0.8
KONO Kongsberg 33.35 321 *e*P **P** 19 34 39.1 -0.1
comp=Z,55nm,0.9s,mb5.5
KONO Kongsberg 33.35 321 *e*P **P** 19 34 39.2 -0.1
comp=Z,55nm,0.9s,mb5.5
KONO Kongsberg 33.35 321 *e*P **P** 19 34 39.2 -0.1
KONO pmax pmax
comp=Z,55nm,0.9s,mb5.5
TOUF Mont Tournerai 33.40 293 *e*P **P** 19 34 41.0 +1.1
FENE Fenestrelle 33.41 295 P **P** 19 34 37.2 -2.8
KTK1 Kautokeino 33.42 342 *e*P **P** 19 34 39.9 +0.1
KTK1 AMb AMB 19 34 43.5
comp=Z,71nm,1.7s,mb5.3
KTK1 Kautokeino 33.42 342 *e*P **P** 19 34 39.9 +0.1
comp=Z,71nm,1.7s,mb5.3,SNR=31
PZZ Prazzo 33.44 294 P **P** 19 34 38.9 -1.4
PZZ Prazzo 33.44 294 P **P** 19 34 38.9 -1.4
MVIF Mont Vial 33.49 292 *e*P **P** 19 34 41.5 +0.8
LPG La Plagne 33.58 295 *e*P **P** 19 34 41.1 -0.3
comp=Z,46nm,0.9s,mb5.1
LPG La Plagne 33.58 295 *e*P **P** 19 34 41.1 -0.3
LPG pmax pmax
comp=Z,23nm,0.9s,mb5.1
LPL La Plagne 33.59 295 *e*P **P** 19 34 41.2 -0.3
comp=Z,23nm,0.8s,mb4.9
LPL La Plagne 33.59 295 *e*P **P** 19 34 41.2 -0.3
LPL pmax pmax
comp=Z,12nm,0.8s,mb4.9
RRL Cesana Torines 33.62 294 P **P** 19 34 41.1 -0.6
RRL Cesana Torines 33.62 294 P **P** 19 34 41.2 -0.6
MBDF Montbardon 33.65 294 *e*P **P** 19 34 41.8 -0.2
comp=Z,109nm,0.7s,mb5.6
MBDF Montbardon 33.65 294 *e*P **P** 19 34 41.8 -0.2
MBDF pmax pmax
comp=Z,54nm,0.7s,mb5.6
HAU Haudompre 33.67 300 *e*P **P** 19 34 41.5 -0.7
comp=Z,137nm,1.0s,mb5.5
HAU Haudompre 33.67 300 *e*P **P** 19 34 41.5 -0.7
HAU pmax pmax
comp=Z,69nm,1.0s,mb5.5
BNI Bardonecchia 33.68 295 *e*P **P** 19 34 42.1 -0.1
BNI Bardonecchia 33.68 295 *e*P **P** 19 34 42.2 -0.1
CALN Calern 33.70 292 *e*P **P** 19 34 43.0 +0.5
FRF La Foret Royal 33.90 292 *e*P **P** 19 34 43.9 -0.3
comp=Z,115nm,0.9s,mb5.5
FRF La Foret Royal 33.90 292 *e*P **P** 19 34 43.9 -0.3
FRF pmax pmax
comp=Z,58nm,0.9s,mb5.5
THEF They Montfort 33.90 300 *e*P **P** 19 34 44.1 -0.1
CABF La Chapelle 33.93 297 *e*P **P** 19 34 44.3 -0.2
comp=Z,52nm,0.8s,mb5.2
CABF La Chapelle 33.93 297 *e*P **P** 19 34 44.3 -0.2
CABF pmax pmax
comp=Z,26nm,0.8s,mb5.2
LMR La Mourre 34.04 292 *e*P **P** 19 34 44.8 -0.6
comp=Z,37nm,1.1s,mb4.9
LMR La Mourre 34.04 292 *e*P **P** 19 34 44.8 -0.6
LMR pmax pmax
comp=Z,18nm,1.1s,mb4.9
MOR8 Moi Rana 34.16 334 *e*P **P** 19 34 45.0 -1.2
SNART Snartemo 34.18 319 *e*P **P** 19 34 47.5 +1.1
NSS Namsos 34.23 330 *e*P **P** 19 34 44.7 -2.1
ORIF Oris-en-Rattie 34.26 295 *e*P **P** 19 34 45.8 -1.4
comp=Z,25nm,0.9s,mb4.9
ORIF Oris-en-Rattie 34.26 295 *e*P **P** 19 34 45.8 -1.4
ORIF pmax pmax
comp=Z,13nm,0.9s,mb4.9
TAVF Tavernes 34.31 292 *e*P **P** 19 34 48.2 +0.5
STOF St-Etienne Org 34.36 293 *e*P **P** 19 34 49.3 +1.1
DOMB Dombas 34.40 325 *e*P **P** 19 34 49.2 +1.0
SNR=31
MEZF Maizieres J'vi 34.51 301 *e*P **P** 19 34 49.3 -0.1
comp=Z,34nm,0.8s,mb5.0
VILF Villemus 34.52 293 *e*P **P** 19 34 49.9 +0.4
PUYF Puyloubier 34.59 292 *e*P **P** 19 34 50.3 +0.2
SMRF Simiane la Rot 34.60 293 *e*P **P** 19 34 49.9 -0.3
comp=Z,39nm,0.8s,mb5.1
GIVF Givet 34.62 304 *e*P **P** 19 34 51.5 +1.2
comp=Z,47nm,0.8s,mb5.2
GIVF Givet 34.62 304 *e*P **P** 19 34 51.5 +1.2
GIVF pmax pmax
comp=Z,24nm,0.8s,mb5.2
STOK Stokkvaagen 34.74 334 *e*P **P** 19 34 50.7 -0.4
STOK *e*sP sP 19 35 05.0 -8.6
MELSS Ber_school_2 34.78 335 *e*P **P** 19 34 51.6 +0.1
MELSS *e*sP sP 19 35 05.6 -8.4
BLS5 Blasjo 34.82 320 *e*P **P** 19 34 53.6 +1.7
BLS5 AMb AMB 19 35 08.0
comp=Z,39nm,1.0s,mb5.3
BLS5 Blasjo 34.82 320 *e*P **P** 19 34 53.6 +1.7
comp=Z,39nm,1.0s,mb5.3
BLS5 Blasjo 34.82 320 *e*P **P** 19 34 53.6 +1.7
comp=Z,39nm,1.0s,mb5.3,SNR=31
PRAF Pradon 34.92 293 *e*P **P** 19 34 53.1 +0.2
TRO Tromso 34.94 341 *e*P **P** 19 34 49.7 -3.1
BAIF Baives 35.02 304 *e*P **P** 19 34 55.0 +1.3
comp=Z,57nm,0.8s,mb5.2
BAIF Baives 35.02 304 *e*P **P** 19 34 55.0 +1.3
BAIF pmax pmax
comp=Z,29nm,0.8s,mb5.3
VIVF Saint-Julien-l 35.11 295 *e*P **P** 19 34 53.9 -0.7
comp=Z,34nm,1.0s,mb4.9
VIVF Saint-Julien-l 35.11 295 *e*P **P** 19 34 53.9 -0.7
VIVF pmax pmax
comp=Z,17nm,1.0s,mb4.9
MOL Molde 35.25 326 *e*P **P** 19 34 57.3 +1.8
LOR Lormes 35.40 299 *e*P **P** 19 34 56.4 -0.6
comp=Z,41nm,0.8s,mb5.1
LOR Lormes 35.40 299 *e*P **P** 19 34 56.4 -0.6
LOR pmax pmax
comp=Z,20nm,0.8s,mb5.1
SMF Signal de Mont 35.47 298 *e*P **P** 19 34 57.3 -0.3
comp=Z,66nm,1.0s,mb5.2
SMF Signal de Mont 35.47 298 *e*P **P** 19 34 57.3 -0.3
SMF pmax pmax
comp=Z,33nm,1.0s,mb5.2
SSF Saint Saulge 35.66 299 *e*P **P** 19 34 58.8 -0.4
comp=Z,28nm,1.1s,mb5.1
SSF Saint Saulge 35.66 299 *e*P **P** 19 34 58.8 -0.4
SSF pmax pmax
comp=Z,28nm,1.1s,mb5.1
PLDF La Plantade 35.70 297 *e*P **P** 19 34 59.9 +0.3
AVF Avril sur Loir 35.79 298 *e*P **P** 19 35 00.2 -0.1
comp=Z,123nm,1.0s,mb5.5
AVF Avril sur Loir 35.79 298 *e*P **P** 19 35 00.2 -0.1
AVF pmax pmax
comp=Z,62nm,1.0s,mb5.5
LASF Ste Croix 35.81 293 *e*P **P** 19 35 00.4 -0.1
comp=Z,116nm,1.3s,mb5.3
AGO Saint Agoulin 36.03 297 *e*P **P** 19 35 02.9 +0.6
LBL Lubilhac 36.06 295 *e*P **P** 19 35 03.2 +0.6
PYM Petit Puy Mans 36.15 296 *e*P **P** 19 35 04.1 +0.7
BGF Bois d'Agland 36.16 298 *e*P **P** 19 35 04.3 +0.8
comp=Z,24nm,0.8s,mb4.9
BGF Bois d'Agland 36.16 298 *e*P **P** 19 35 04.3 +0.8
BGF pmax pmax
comp=Z,12nm,0.8s,mb4.9
HYF Humbligny 36.23 299 *e*P **P** 19 35 04.4 +0.4
GTA Gaotai 36.59 74 *e*P **P** 19 35 08.1 +1.0
GTA AP pP 19 35 21.9 -0.3
GTA XP sP 19 35 26.0 -3.5
GTA PCP PcP 19 37 30.1 +0.4
GTA AMB AMB
comp=Z,17nm,0.7s,mb5.0
TCF Toulx Ste Croi 36.63 297 *e*P **P** 19 35 07.8 +0.4
comp=Z,93nm,1.1s,mb5.2
TCF Toulx Ste Croi 36.63 297 *e*P **P** 19 35 07.8 +0.4
TCF pmax pmax
comp=Z,46nm,1.1s,mb5.2
EJON La Jonquera 36.81 291 P **P** 19 35 07.8 -1.1
comp=Z,6.3nm,0.6s,mb4.6
EJON La Jonquera 36.81 291 P **P** 19 35 07.8 -1.2
comp=Z,6.3nm,0.6s,mb4.6
CAF Calviac 36.94 295 *e*P **P** 19 35 10.4 +0.4
comp=Z,43nm,0.9s,mb5.0
CAF Calviac 36.94 295 *e*P **P** 19 35 10.4 +0.4
CAF pmax pmax
comp=Z,21nm,0.9s,mb5.0
MTLF Montolieu 37.11 293 *e*P **P** 19 35 11.4 -0.1
comp=Z,39nm,1.0s,mb4.9
MTLF Montolieu 37.11 293 *e*P **P** 19 35 11.4 -0.1
MTLF pmax pmax
comp=Z,20nm,1.0s,mb4.9
RJF Les Rejaudoux 37.26 296 *e*P **P** 19 35 13.5 +0.9
comp=Z,144nm,1.3s,mb5.3
RJF Les Rejaudoux 37.26 296 *e*P **P** 19 35 13.5 +0.9
RJF pmax pmax
comp=Z,72nm,1.3s,mb5.3
LPEF Le Peyrat 37.42 292 *e*P **P** 19 35 14.6 +0.6
VALF Valcebollere 37.45 291 *e*P **P** 19 35 14.8 +0.5
ETOS Mallorca 37.52 287 P **P** 19 35 14.8 -0.1
comp=Z,16nm,0.9s,mb4.8
ETOS Mallorca 37.52 287 P **P** 19 35 14.8 -0.1
comp=Z,16nm,0.9s,mb4.8
LFF La Frestale 37.86 295 *e*P **P** 19 35 18.3 +0.6
comp=Z,138nm,0.8s,mb5.4
LFF La Frestale 37.86 295 *e*P **P** 19 35 18.3 +0.6
LFF pmax pmax
comp=Z,69nm,0.8s,mb5.4
EMIR Miracle 37.92 290 P **P** 19 35 19.1 +0.9
comp=Z,74nm,0.7s,mb5.5
EMIR Miracle 37.92 290 P **P** 19 35 19.1 +0.9
comp=Z,74nm,0.7s,mb5.5
LDF La Druitiere 37.93 302 *e*P **P** 19 35 18.1 -0.1
comp=Z,40nm,0.8s,mb4.9
LDF La Druitiere 37.93 302 *e*P **P** 19 35 18.1 -0.1
LDF pmax pmax
comp=Z,20nm,0.8s,mb4.9
MLS Moulis 38.00 292 *e*P **P** 19 35 18.8 0.0
FLN La Foliniere 38.15 302 *e*P **P** 19 35 20.2 +0.1
comp=Z,64nm,1.0s,mb5.0
FLN La Foliniere 38.15 302 *e*P **P** 19 35 20.2 +0.1
FLN pmax pmax
comp=Z,32nm,1.0s,mb5.0
MFF Saint Martin d 38.20 298 *e*P **P** 19 35 20.4 -0.1
comp=Z,27nm,1.1s,mb5.1
MFF Saint Martin d 38.20 298 *e*P **P** 19 35 20.4 -0.1
MFF pmax pmax
comp=Z,43nm,1.1s,mb5.1
EPOB Poblet 38.38 290 P **P** 19 35 22.1 +0.1
comp=Z,34nm,0.7s,mb5.2
EPOB Poblet 38.38 290 P **P** 19 35 22.1 +0.1
comp=Z,34nm,0.7s,mb5.2
GRR Gorron 38.44 301 *e*P **P** 19 35 22.5 0.0
comp=Z,129nm,1.2s,mb5.2
GRR Gorron 38.44 301 *e*P **P** 19 35 22.5 0.0
GRR pmax pmax
comp=Z,65nm,1.2s,mb5.2
EPF Esparros 38.52 293 *e*P **P** 19 35 22.1 -1.1
comp=Z,18nm,1.0s,mb4.5
EPF Esparros 38.52 293 *e*P **P** 19 35 22.1 -1.1
EPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
EGRA Graus 38.73 291 P **P** 19 35 25.1 +0.2
comp=Z,8.0nm,0.7s,mb4.6
EGRA Graus 38.73 291 P **P** 19 35 25.1 +0.2
comp=Z,8.0nm,0.7s,mb4.6
EBIE Bielsa 38.74 292 P **P** 19 35 25.1 +0.1
comp=Z,406nm,3.4s
EBIE Bielsa 38.74 292 P **P** 19 35 25.1 +0.1
comp=Z,406nm,3.4s
EIBI Ibiza 38.82 286 P **P** 19 35 25.0 -0.7
comp=Z,478nm,5.0s
EIBI Ibiza 38.82 286 P **P** 19 35 25.0 -0.7
comp=Z,478nm,5.0s
ERTA Horta de San J 39.03 289 P **P** 19 35 27.4 0.0
comp=Z,47nm,2.6s,mb4.8
ERTA Horta de San J 39.03 289 P **P** 19 35 27.4 0.0
comp=Z,47nm,2.6s,mb4.8
ETSF Etsaut 39.20 293 *e*P **P** 19 35 28.9 +0.1
comp=Z,30nm,0.9s,mb4.7
ETSF Etsaut 39.20 293 *e*P **P** 19 35 28.9 +0.1
ETSF pmax pmax
comp=Z,15nm,0.9s,mb4.7
HAE Alders End 39.20 307↓ *e*P **P** 19 35 28.9 +0.1
HAE AMb AMB 19 35 30.1
comp=Z,90nm,0.7s,mb5.6
HLM1 Long Mynd 39.38 308 *e*P **P** 19 35 30.5 +0.3
HLM1 AMb AMB 19 35 31.8
comp=Z,49nm,1.0s,mb5.2
HGH Gray Hill 39.39 307↓ *e*P **P** 19 35 30.0 -0.3
HGH AMb AMB 19 35 31.2
comp=Z,100nm,1.5s,mb5.3
ESAC San Caprasio 39.41 291 P **P** 19 35 31.0 +0.4
comp=Z,96nm,1.9s,mb5.2
ESAC San Caprasio 39.41 291 P **P** 19 35 31.0 +0.4
comp=Z,96nm,1.9s,mb5.2
LARF Larrau 39.47 293 *e*P **P** 19 35 31.9 +0.8
MCH1 Michaelchurch 39.48 307 *e*P **P** 19 35 31.2 +0.1
ESK Eskdalemuir 39.50 312 *e*P **P** 19 35 31.1 -0.1
comp=Z,51nm,0.8s,mb5.3
ESK Eskdalemuir 39.50 312 *e*P **P** 19 35 31.0 -0.2
comp=Z,51nm,0.8s,mb5.3
ESK Eskdalemuir 39.50 312 *e*P **P** 19 35 31.1 -0.1
ESK pmax pmax
comp=Z,51nm,0.8s,mb5.3
SSP1 Stoney Pound 39.53 308↓ *e*P **P** 19 35 32.0 +0.6
SSP1 AMb AMB 19 35 32.9
comp=Z,148nm,0.8s,mb5.8
SONM Songino Array 39.53 59 P **P** 19 35 31.7 +0.2
comp=Z,3.8nm,0.7s,mb4.3,baz=282,slow=9.4,SNR=13
SONM PcP PcP 19 37 39.0 +0.2
comp=Z,5.1nm,0.7s,baz=273,slow=3.2,SNR=9.4
SONM PKKP PKKP 19 59 28.7 +6.1
comp=Z,0.4nm,0.7s,baz=99,slow=3.7,SNR=3.8
SGMF Saint Gilles 39.59 301 *e*P **P** 19 35 32.6 +0.6
comp=Z,142nm,0.8s,mb5.4
SGMF Saint Gilles 39.59 301 *e*P **P** 19 35 32.6 +0.6
SGMF pmax pmax
comp=Z,71nm,0.8s,mb5.5
SBD1 Bryn Du 39.59 309 *e*P **P** 19 35 32.6 +0.7
SJPF Ste Jean 39.62 293 *e*P **P** 19 35 32.5 +0.2
comp=Z,24nm,1.0s,mb4.6
SJPF Ste Jean 39.62 293 *e*P **P** 19 35 32.5 +0.2
SJPF pmax pmax
comp=Z,12nm,1.0s,mb4.6
HTR Trewern Hill 39.64 307↓ *e*P **P** 19 35 32.4 0.0
HTR AMb AMB 19 35 35.4
comp=Z,61nm,2.0s,mb5.0
EMOS Mosqueruela 39.78 289 P **P** 19 35 34.7 +1.0
comp=Z,166nm,3.0s
EMOS Mosqueruela 39.78 289 P **P** 19 35 34.7 +1.0
comp=Z,166nm,3.0s
QUIF Quistinic 40.04 301 *e*P **P** 19 35 36.1 +0.4
comp=Z,127nm,0.9s,mb5.3
QUIF Quistinic 40.04 301 *e*P **P** 19 35 36.1 +0.4
QUIF pmax pmax
comp=Z,63nm,0.9s,mb5.3
ROSF Rostrenen 40.05 302 *e*P **P** 19 35 36.4 +0.6
comp=Z,178nm,0.9s,mb5.5
ROSF Rostrenen 40.05 302 *e*P **P** 19 35 36.4 +0.6
ROSF pmax pmax
comp=Z,89nm,0.9s,mb5.5
ECHE Chera 40.37 288 P **P** 19 35 39.7 +1.2
comp=Z,0.6nm,0.8s
ETOB Tobarra 41.09 287 P **P** 19 35 45.7 +1.2
comp=Z,127nm,2.7s,mb5.1
ETOB Tobarra 41.09 287 P **P** 19 35 45.7 +1.2
comp=Z,127nm,2.7s,mb5.1
EMUR La Murta 41.12 285 P **P** 19 35 45.1 +0.3
comp=Z,73nm,2.4s,mb4.9
EMUR La Murta 41.12 285 P **P** 19 35 45.1 +0.4
comp=Z,73nm,2.4s,mb4.9
ELAN Lanestosa 41.16 294 P **P** 19 35 45.6 +0.6
comp=Z,234nm,3.4s
ELAN Lanestosa 41.16 294 P **P** 19 35 45.6 +0.6
comp=Z,234nm,3.4s
DLF Lyons Farm 41.53 309 *e*P **P** 19 35 48.0 +0.1
EVIA Vianos 41.80 287 P **P** 19 35 51.3 +1.1
comp=Z,25nm,0.8s,mb4.9
EVIA Vianos 41.80 287 P **P** 19 35 51.3 +1.0
comp=Z,25nm,0.8s,mb4.9
EVIA Vianos 41.80 287 P **P** 19 35 51.3 +1.0
EVIA pmax pmax
comp=Z,25nm,0.8s,mb4.9
DCN Croghan 41.97 310 *e*P **P** 19 35 49.0 -2.5
EHUE Huescar 42.14 286 P **P** 19 35 53.8 +0.8
comp=Z,56nm,1.3s,mb5.0
EHUE Huescar 42.14 286 P **P** 19 35 53.8 +0.7
comp=Z,56nm,1.3s,mb5.0
EHUE Huescar 42.14 286 P **P** 19 35 53.8 +0.7
EHUE pmax pmax
comp=Z,56nm,1.3s,mb5.0
ENIJ Nijar 42.14 284 P **P** 19 35 53.4 +0.3
comp=Z,4.8nm,1.1s
ENIJ Nijar 42.14 284 P **P** 19 35 53.4 +0.3
comp=Z,4.8nm,1.1s
ENIJ Nijar 42.14 284 P **P** 19 35 53.4 +0.3
ENIJ pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
EARI Arriondas 42.40 294 P **P** 19 35 56.0 +0.9
comp=Z,400nm,3.4s
EARI Arriondas 42.40 294 P **P** 19 35 56.0 +0.8
comp=Z,400nm,3.4s
EQES Quesada 42.50 286 P **P** 19 35 56.5 +0.5
comp=Z,94nm,1.1s,mb5.3
EQES Quesada 42.50 286 P **P** 19 35 56.5 +0.5
comp=Z,94nm,1.1s,mb5.3
ESDC Sonseca Array 42.54 289 P **P** 19 35 56.4 0.0
comp=Z,19nm,0.7s,mb5.0,baz=64,slow=8.5,SNR=81
ESDC Sonseca Array 42.54 289 P **P** 19 35 56.4 0.0
comp=Z,35nm,1.3s,mb4.9
ESLA Sonseca Array 42.54 289 *e*P **P** 19 35 56.3 -0.1
comp=Z,5.0nm,0.8s,mb4.3
ESLA Sonseca Array 42.54 289 *e*P **P** 19 35 56.3 -0.1
comp=Z,5.0nm,0.8s,mb4.3
KMBO Kilima Mbogo 42.57 202 P **P** 19 35 58.2 +1.3
comp=Z,20nm,1.0s,mb4.8,baz=12,slow=8.2,SNR=4.3
CD2 Chengdu 42.66 85↑ *i*P **P** 19 35 58.8 +1.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
KBS Kingsbay 42.67 349 *e*P **P** 19 35 57.2 +0.2
EBER Berja 42.67 285 P **P** 19 35 58.4 +0.9
comp=Z,41nm,1.0s,mb5.1
EBER Berja 42.67 285 P **P** 19 35 58.4 +0.9
comp=Z,41nm,1.0s,mb5.1
EBAN Banos Encina 42.90 287 P **P** 19 35 59.8 +0.4
comp=Z,40nm,0.8s,mb5.2
EBAN Banos Encina 42.90 287 P **P** 19 35 59.8 +0.4
comp=Z,40nm,0.8s,mb5.2
EBAN Banos Encina 42.90 287 P **P** 19 35 59.8 +0.4
EBAN pmax pmax
comp=Z,40nm,0.8s,mb5.2
ECOG Cogollos-Vega 43.05 285 P **P** 19 36 00.9 +0.3
comp=Z,5.0nm,1.1s,mb4.2
ECOG Cogollos-Vega 43.05 285 P **P** 19 36 00.9 +0.3
ECOG pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
EALB Alboran 43.13 283 P **P** 19 35 59.3 -1.9
comp=Z,351nm,3.8s
EALB Alboran 43.13 283 P **P** 19 35 59.3 -2.0
comp=Z,351nm,3.8s
ERON Agron 43.32 285 P **P** 19 36 02.6 -0.1
comp=Z,2.6nm,1.0s
ERON Agron 43.32 285 P **P** 19 36 02.6 -0.2
comp=Z,2.6nm,1.0s
ELUQ Luque 43.47 286 P **P** 19 36 03.6 -0.4
comp=Z,21nm,0.7s,mb5.0
ELUQ Luque 43.47 286 P **P** 19 36 03.6 -0.4
comp=Z,21nm,0.7s,mb5.0
ELUQ Luque 43.47 286 P **P** 19 36 03.6 -0.4
ELUQ pmax pmax
comp=Z,21nm,0.7s,mb5.0
EADA Adamuz 43.49 287 P **P** 19 36 04.3 +0.2
comp=Z,97nm,1.8s,mb5.2
ELOJ Sierra Loja 43.53 286 P **P** 19 36 03.6 -0.9
comp=Z,75nm,3.7s
ELOJ Sierra Loja 43.53 286 P **P** 19 36 03.6 -0.9
comp=Z,75nm,3.7s
ELOJ Sierra Loja 43.53 286 P **P** 19 36 03.6 -0.9
ELOJ pmax pmax
comp=Z,75nm,3.7s
EPON Pontenova 43.76 295 P **P** 19 36 06.8 +0.5
comp=Z,54nm,1.7s,mb5.0
EPON Pontenova 43.76 295 P **P** 19 36 06.8 +0.6
comp=Z,54nm,1.7s,mb5.0
ECAL Calabor 43.86 293 P **P** 19 36 07.5 +0.4
comp=Z,151nm,3.0s
ECAL Calabor 43.86 293 P **P** 19 36 07.5 +0.4
comp=Z,151nm,3.0s
PBRG Braganca 43.90 293 *e*P **P** 19 36 07.3 -0.1
comp=Z,14nm,1.1s,mb4.6

VAL	Valentia	43.94	308	*eP*	P	P	19 36 07.9	+0.3
ERUA	La Rua	44.02	294	P	P	P	19 36 08.8	+0.4
	comp=Z,24nm,1.1s,mb4.8							
ERUA	La Rua	44.02	294	P	P	P	19 36 08.8	+0.5
	comp=Z,24nm,1.1s,mb4.8							
ERUA	La Rua	44.02	294	P	P	P	19 36 08.8	+0.5
ERUA				pmax	pmax			
	comp=Z,24nm,1.1s,mb4.8							
EMIJ	Mijas	44.21	285	P	P	P	19 36 08.3	-1.6
	comp=Z,234nm,3.8s							
EMIJ	Mijas	44.21	285	P	P	P	19 36 08.3	-1.6
	comp=Z,234nm,3.8s							
LIJA	Lijar	44.55	286	*i* P	P	P	19 36 12.0	-0.7
KMI	Kunming	44.65	93	⇓P	P	P	19 36 14.5	+0.9
KMI				AP	pP	19 36 28.9	-0.1	
KMI				AMB	AMB			
	comp=Z,52nm,1.0s,mb5.3							
KMI				AMB	AMB			
	comp=Z,613nm,4.3s							
KMI				LR	LR			
	comp=N,1μm,15.4s,MS5.1							
KMI				LR	LR			
	comp=E,1μm,20.1s,MS5.1							
KMI				LR	LR			
	comp=Z,2μm,22.5s,MS4.9							
KMI	Kunming	44.65	93	⇓P	P	P	19 36 14.5	+0.9
	comp=Z,52nm,1.0s,mb5.3							
KMI				pP	pP	19 36 28.9	-0.1	
KMI				PP	PP	19 37 51.9	-7.7	
KMI				PPP	PPP	19 38 29.2	-11	
KMI				S	S	19 42 28.8	-16	
KMI				sS		19 42 53.5		
KMI				SS	SS	19 45 32.2	-25	
KMI				LR	LR			
	comp=Z,2μm,22.5s,MS4.9							
KMI	Kunming	44.65	93	PcP	PcP	19 37 51.9	-4.0	
PVRL	Vila Real	44.76	292	*eP*	P	19 36 14.9	+0.6	
	comp=Z,16nm,0.8s,mb4.9							
EJIF	Jimena Fronter	44.77	285	P	P	19 36 14.3	-0.2	
	comp=Z,230nm,2.3s,mb5.6							
EJIF	Jimena Fronter	44.77	285	P	P	19 36 14.3	-0.1	
	comp=Z,230nm,2.3s,mb5.6							
EJIF	Jimena Fronter	44.77	285	P	P	19 36 14.3	-0.1	
EJIF				pmax	pmax			
	comp=Z,230nm,2.3s,mb5.6							
HHC	Hu-ho-hao-te	44.78	68	*eP*	P	19 36 12.0	-2.5	
HHC				SCS	ScS	19 46 05.8	+2.0	
HHC				AMB	AMB			
	comp=Z,15nm,0.3s,mb5.3							
HHC				AMB	AMB			
	comp=Z,200nm,3.0s							
HHC				LR	LR			
	comp=N,2μm,19.0s,MS5.2							
HHC				LR	LR			
	comp=E,1μm,16.6s,MS5.2							
HHC				LR	LR			
	comp=Z,1μm,13.1s,MS5.0							
ELOB	Lobios	44.82	293	P	P	19 36 15.4	+0.6	
	comp=Z,154nm,2.0s,mb5.5							
STS	Santiago	44.87	295	P	P	19 36 16.2	+1.1	
	comp=Z,12nm,0.6s,mb4.9							
STS	Santiago	44.87	295	P	P	19 36 16.2	+1.1	
	comp=Z,12nm,0.6s,mb4.9							
STS	Santiago	44.87	295	P	P	19 36 16.2	+1.1	
STS				pmax	pmax			
	comp=Z,12nm,0.6s,mb4.9							
ESPR	Espera	44.90	286	P	P	19 36 15.1	-0.5	
	comp=Z,73nm,1.5s,mb5.3							
ESPR	Espera	44.90	286	P	P	19 36 15.1	-0.4	
	comp=Z,73nm,1.5s,mb5.3							
MTE	Manteigas	44.92	291	*eP*	P	19 36 17.2	+1.6	
	comp=Z,86nm,1.4s,mb5.4							
MTE	Manteigas	44.92	291	*e*LR	LR	19 51 14.9		
	comp=Z,3μm,13.9s							
MTE	Manteigas	44.92	291	*eP*	P	19 36 16.1	+0.6	
	comp=Z,63nm,1.0s,mb5.4							
GIBL	Gibalbin	45.00	286	*eP*	P	19 36 15.0	-1.3	
PCBR	Castelo Branco	45.05	290	*eP*	P	19 36 17.0	+0.3	
	comp=Z,59nm,1.4s,mb5.2							
EBAD	Badajoz	45.08	289	P	P	19 36 16.3	-0.6	
	comp=Z,84nm,1.6s,mb5.3							
EBAD	Badajoz	45.08	289	P	P	19 36 16.3	-0.6	
	comp=Z,84nm,1.6s,mb5.3							
EMAZ	Mazaricos	45.15	295	P	P	19 36 17.3	-0.1	
	comp=Z,252nm,2.7s,mb5.6							
EMAZ	Mazaricos	45.15	295	P	P	19 36 17.3	-0.1	
	comp=Z,252nm,2.7s,mb5.6							
EMIN	Mina Concepcio	45.18	287	P	P	19 36 16.9	-0.8	
	comp=Z,226nm,3.1s							
EMIN	Mina Concepcio	45.18	287	P	P	19 36 17.0	-0.7	
	comp=Z,226nm,3.1s							
EZAM	Zamans	45.19	294	P	P	19 36 17.5	-0.2	
	comp=Z,19nm,0.8s,mb5.0							
EZAM	Zamans	45.19	294	P	P	19 36 17.5	-0.2	
	comp=Z,19nm,0.8s,mb5.0							
EZAM	Zamans	45.19	294	P	P	19 36 17.5	-0.2	
EZAM				pmax	pmax			
	comp=Z,19nm,0.8s,mb5.0							
CHG	Chiang Mai	45.28	103	P	P	19 36 18.6	-0.1	
	comp=Z,24nm,1.0s,mb5.0							
XAN	Xi'an	45.29	78	P	P	19 36 18.6	0.0	
XAN				AP	pP	19 36 27.6	-6.4	
XAN				AMB	AMB			
	comp=Z,19nm,1.3s,mb4.8							
PTOM	Tomar	45.80	290	*eP*	P	19 36 23.3	+0.7	
	comp=Z,82nm,1.2s,mb5.5							
EGRO	El Granado	45.87	287	P	P	19 36 22.4	-0.8	
	comp=Z,156nm,3.2s							
EGRO	El Granado	45.87	287	P	P	19 36 22.4	-0.8	
	comp=Z,156nm,3.2s							
EVO	Evora	45.89	289	*eP*	P	19 36 24.1	+0.7	
	comp=Z,90nm,1.4s,mb5.2							
PBEJ	Beja	45.97	288	*eP*	P	19 36 24.3	+0.3	
	comp=Z,41nm,1.1s,mb5.3							
NANT	Nan	46.61	102	P	P	19 36 30.0	+0.7	
	comp=Z,100nm,1.0s,mb5.7							
GYA	Guiyang	47.01	89	P	P	19 36 32.5	+0.2	
GYA				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8							
DAG	Danmarks Havn	47.57	343	⇑*i*P	P	19 36 36.2	+0.1	
	comp=Z,11nm,0.5s,mb5.2							
DAG	Danmarks Havn	47.57	343	⇑*i*P	P	19 36 36.2	+0.1	
DAG				pmax	pmax			
	comp=Z,11nm,0.5s,mb5.1							
TIXI	Tiksi	49.02	24	*eP*	P	19 36 44.1	-3.3	
TIXI				*eS*	S	19 43 41.3	-5.0	
TIXI				pmax	pmax			
	comp=Z,27nm,1.0s,mb5.2							
TIXI				MLR	MLR			
	comp=Z,860nm,17.0s,MS4.8							
KKTK	Khon Kaen	49.71	103	P	P	19 36 53.0	-0.4	
	comp=Z,494nm,0.7s							
YAK	Yakutsk	50.52	37	*i* P	P	19 37 02.0	+3.0	
YAK				pmax	pmax			
	comp=Z,7.0nm,0.4s,mb4.9							
YAK				MLR	MLR			
	comp=Z,2μm,23.0s,MS5.0							
WHN	Wuhan	50.95	80	*eP*	P	19 37 01.8	-0.9	
DL2	Dalian	52.69	67	P	P	19 37 15.8	+0.2	
DL2				AMB	AMB			
	comp=Z,20nm,0.7s,mb5.2							
CN2	Changchun	53.41	60	*eP*	P	19 37 20.8	-0.1	
CN2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.2							
NJ2	Nanjing	53.66	76	*eP*	P	19 37 20.4	-2.5	
NJ2				AP	pP	19 37 36.1	-2.5	
NJ2				XP	sP	19 37 43.1	-2.3	
NJ2				PP	PP	19 39 22.8	-2.7	
NJ2				S	S	19 44 47.0	-3.4	
NJ2				XS		19 45 14.0		
NJ2				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
NJ2				AMB	AMB			
	comp=Z,240nm,4.5s							
NJ2				LR	LR			
	comp=N,830nm,21.6s,MS4.9							
NJ2				LR	LR			
	comp=E,680nm,20.9s,MS4.9							
NJ2				LR	LR			
	comp=Z,400nm,22.6s,MS4.4							
SSE	Sheshan	55.86	76	*eP*	P	19 37 33.0	-5.9	
	comp=Z,39nm,0.8s,mb5.5							
SSE				LR	LR			
	comp=Z,860nm,25.3s,MS4.7							
KS15	Wonju Array Si	57.77	66	*eP*	P	19 37 52.1	-0.3	
KS15	Wonju Array Si	57.77	66	*eP*	P	19 37 52.1	-0.3	
OPO	Ambohidratompo	57.87	185	P	P	19 37 54.3	+1.0	
	comp=Z,15nm,0.9s,mb5.0,baz=9.5,slow=5.1,SNR=12							
LSZ	Lusaka	58.79	207	P	P	19 38 00.4	+0.7	
	comp=Z,22nm,0.9s,mb5.2,baz=28,slow=5.9,SNR=41							
LSZ	Lusaka	58.79	207	⇓*eP*	P	19 38 00.1	+0.4	
	comp=Z,58nm,1.4s,mb5.4							
LSZ	Lusaka	58.79	207	⇓*eP*	P	19 38 00.1	+0.4	
	comp=Z,58nm,1.4s,mb5.4							
LSZ	Lusaka	58.79	207	P	P	19 38 00.4	+0.7	
LSZ				pmax	pmax			
	comp=Z,22nm,0.9s,mb5.2							
DBIC	Dimbokro	60.42	253	P	P	19 38 10.3	-0.7	
	comp=Z,27nm,0.8s,mb5.3,baz=36,slow=7.6,SNR=23							
DBIC	Dimbokro	60.42	253	*eP*	P	19 38 09.8	-1.2	
	comp=Z,46nm,1.0s,mb5.5							
DBIC	Dimbokro	60.42	253	*eP*	P	19 38 09.8	-1.2	
	comp=Z,46nm,1.0s,mb5.5							
DBIC	Dimbokro	60.42	253	*eP*	P	19 38 09.8	-1.2	
DBIC				pmax	pmax			
	comp=Z,46nm,1.0s							
KIC	Kosan Boka	60.55	253	*eP*	P	19 38 10.6	-1.2	
	comp=Z,371nm,1.1s							
TIC	Toumodi	60.56	253	*eP*	P	19 38 10.8	-1.2	
	comp=Z,87nm,0.2s							
LIC	Lamto	60.85	253	*eP*	P	19 38 12.5	-1.4	
	comp=Z,206nm,0.9s							
MA2	Magadan	61.02	35	*i* P	P	19 38 18.2	+3.8	
MA2				pmax	pmax			
	comp=Z,43nm,1.5s,mb5.4							
MA2				MLR	MLR			
	comp=Z,600nm,26.0s,MS4.6							
JNU	Nakatsue	62.00	69	P	P	19 38 19.6	-1.8	
	comp=Z,23nm,0.9s,mb5.3,baz=287,slow=3.4,SNR=7.3							
BILL	Bilibino	62.20	23	*eP*	P	19 38 20.6	-1.6	
	comp=Z,11nm,0.9s,mb5.0							
BILL	Bilibino	62.20	23	*eP*	P	19 38 20.6	-1.6	
BILL				*e**PP	pP	19 38 35.7	-2.6	
BILL				pmax	pmax			
	comp=Z,11nm,0.9s,mb5.0							
BILL				MLR	MLR			
	comp=Z,600nm,18.0s,MS4.8							
YSS	Yuzh-Sakhalins	63.01	50	*eP*	P	19 38 28.9	+0.9	
	comp=Z,71nm,1.4s,mb5.6							
YSS	Yuzh-Sakhalins	63.01	50	*i* P	P	19 38 28.5	+0.6	
	comp=Z,21nm,0.9s,mb5.3							
YSS	Yuzh-Sakhalins	63.01	50	*i* P	P	19 38 28.5	+0.6	
YSS				pmax	pmax			
	comp=Z,21nm,0.9s,mb5.3							
MATP	Matopo	63.47	205	P	P	19 38 31.5	+0.2	
	comp=Z,42nm,0.7s,mb5.7,baz=25,slow=6.8,SNR=89							
MJAR	Matsushiro Arr	65.40	62	P	P	19 38 43.1	-0.4	
	comp=Z,8.1nm,0.9s,mb4.7,baz=307,slow=7.4,SNR=12							
TSUM	Tsumeb	66.61	216	P	P	19 38 52.1	+0.6	
	comp=Z,22nm,0.9s,mb5.2,baz=359,slow=7.9,SNR=46							
TSUM	Tsumeb	66.61	216	*eP*	P	19 38 52.1	+0.5	
	comp=Z,28nm,1.0s,mb5.2							
TSUM	Tsumeb	66.61	216	*eP*	P	19 38 52.1	+0.6	
	comp=Z,28nm,1.0s,mb5.2							
LBTB	Lobatse	68.69	206	P	P	19 39 05.8	+1.4	
	comp=Z,75nm,0.7s,mb5.7,baz=28,slow=5.8,SNR=97							
LBTB	Lobatse	68.69	206	*eP*	P	19 39 05.7	+1.2	
	comp=Z,85nm,0.8s,mb5.7							
LBTB	Lobatse	68.69	206	*eP*	P	19 39 05.7	+1.2	
	comp=Z,85nm,0.8s,mb5.7							
LBTB	Lobatse	68.69	206	P	P	19 39 05.8	+1.3	
LBTB				pmax	pmax			
	comp=Z,75nm,0.7s,mb5.7							
INK	Inuvik	72.51	2	*eP*	P	19 39 27.2	+0.6	
	comp=Z,28nm,1.0s,mb5.2							
INK	Inuvik	72.51	2	*eP*	P	19 39 27.2	+0.6	
	comp=Z,28nm,1.0s,mb5.2							
INK	Inuvik	72.51	2	*eP*	P	19 39 27.2	+0.6	
INK				pmax	pmax			
	comp=Z,28nm,1.0s							
SCHQ	Schefferville	72.55	328	P	P	19 39 27.6	+0.4	
	comp=Z,7.3nm,0.6s,mb4.8,baz=19,slow=4.6,SNR=6.3							
SCHQ	Schefferville	72.55	328	P	P	19 39 27.5	+0.4	
ILAR	Eielson Array	75.08	8	P	P	19 39 42.2	+0.6	
	comp=Z,2.1nm,0.7s,mb4.2,baz=342,slow=4.1,SNR=8.9							
MCK	McKinley	75.84	9	*eP*	P	19 39 47.3	+1.4	
	comp=Z,10nm,0.9s,mb4.8							
MCK	McKinley	75.84	9	*eP*	P	19 39 47.3	+1.3	
	comp=Z,10nm,0.9s,mb4.8							
MCK	McKinley	75.84	9	*eP*	P	19 39 47.3	+1.3	
MCK				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8							
THY	Trims Highway	76.52	8	*eP*	P	19 39 50.0	+0.1	
THY	Trims Highway	76.52	8	*eP*	P	19 39 50.0	+0.1	
SUR	Sutherland	77.09	207	P	P	19 39 55.0	+1.3	
	comp=Z,26nm,0.8s,mb5.2,baz=20,slow=4.2,SNR=16							
YKA	Yellowknife Ar	77.85	354	P	P	19 39 57.6	+0.3	
	comp=Z,3.4nm,0.6s,mb4.5,baz=7.7,slow=5.3,SNR=14							
YKA	Yellowknife Ar	77.85	354	*eP*	P	19 39 57.5	+0.2	
YKA	Yellowknife Ar	77.85	354	⇑*eP*	P	19 39 57.5	+0.2	
PMR	Palmer	77.87	10	P	P	19 39 59.4	+2.0	
	comp=Z,22nm,0.8s,mb5.1							
PMR	Palmer	77.87	10	P	P	19 39 59.4	+2.0	
	comp=Z,22nm,0.8s,mb5.1							
PMR	Palmer	77.87	10	P	P	19 39 59.4	+2.0	
PMR				pmax	pmax			
	comp=Z,22nm,0.8s,mb5.1							
DIV	Divide	78.75	9	*eP*	P	19 40 03.8	+1.6	
	comp=Z,329nm,1.5s,mb6.0							
DIV	Divide	78.75	9	*eP*	P	19 40 03.8	+1.6	
	comp=Z,329nm,1.5s,mb6.0							
KDAK	Kodiak Island	80.97	13	*eP*	P	19 40 15.8	+1.6	
	comp=Z,84nm,1.2s,mb5.5							
KDAK	Kodiak Island	80.97	13	*eP*	P	19 40 15.8	+1.6	
	comp=Z,84nm,1.2s,mb5.5							
DLBC	Dease Lake	82.48	1	*eP*	P	19 40 23.7	+1.7	
DLBC	Dease Lake	82.48	1	*eP*	P	19 40 23.7	+1.7	
FFC	Flin Flon	83.60	345	*eP*	P	19 40 28.4	+0.7	
	comp=Z,18nm,0.7s,mb5.3							
FFC	Flin Flon	83.60	345	*eP*	P	19 40 28.4	+0.7	
	comp=Z,18nm,0.7s,mb5.3							
FFC	Flin Flon	83.60	345	*eP*	P	19 40 28.4	+0.7	
FFC				pmax	pmax			
	comp=Z,18nm,0.7s,mb5.3							
ULM	Lac du Bonnet	86.34	340	P	P	19 40 41.8	+0.4	
	comp=Z,4.0nm,0.7s,mb4.8,baz=51,slow=2.9,SNR=5.4							
EDM	Edmonton	86.86	351	*eP*	P	19 40 43.9	0.0	
EDM	Edmonton	86.86	351	*eP*	P	19 40 43.9	+0.1	
MBWA	Marble Bar	87.31	120	*eP*	P	19 40 46.8	0.0	
	comp=Z,64nm,1.3s,mb5.7							
FITZ	Fitzroy Crossi	89.30	114	⇑*i*P	P	19 40 57.0	+0.7	
	comp=Z,23nm,0.9s,mb5.5							
KAKA	Kakadu	90.73	106	*eP*	Px	19 41 23.3		
	comp=Z,36nm,1.0s							
NEW	Newport	92.16	353	*eP*	P	19 41 10.9	+2.0	
	comp=Z,14nm,1.1s,mb5.2							
NEW	Newport	92.16	353	*eP*	P	19 41 10.9	+2.0	
	comp=Z,14nm,1.1s,mb5.2							
NEW	Newport	92.16	353	*eP*	P	19 41 10.9	+2.0	
NEW				pmax	pmax			
	comp=Z,14nm,1.1s							
HRY	Holter Researc	93.03	349	*eP*	P	19 41 14.8	+1.8	
CHMT	Chamberlain Mo	93.03	350	*eP*	P	19 41 13.3	+0.3	
NWAO	Narrogin (SRO)	93.97	130	P	P	19 41 16.4	-1.2	
	comp=Z,18nm,1.1s,mb5.4,baz=281,slow=4.2,SNR=4.4							
DLMT	Dillon	94.46	349	*eP*	P	19 41 20.9	+1.4	
PDAR	Pinedale Array	96.50	346	PKKPbc		19 58 13.2		
	comp=Z,0.9nm,0.7s,baz=175,slow=2.4,SNR=8.3							
WRA	Warramunga Arr	96.73	110	P	P	19 41 30.3	-0.2	
	comp=Z,6.5nm,0.8s,mb5.1,baz=316,slow=4.2,SNR=54							
WRA				PKKPbc		19 58 14.7		
	comp=Z,0.8nm,0.6s,baz=125,slow=3.3,SNR=22							
WRAB	Tennant Creek	96.74	110	*i* P	P	19 41 30.9	+0.4	
WB2	Warramunga Arr	96.74	110	⇓*i* P	P	19 41 30.3	-0.2	
SIV	San Ignacio	1117.72	272	PKP	PKPdf	19 46 46.9	+2.0	
	comp=Z,2.0nm,0.7s,baz=99,slow=5.0,SNR=9.6							
VNA2	Neumayer--Watz	117.89	199	⇑P	PKPdf	19 46 47.1	+3.1	
VNA2	Neumayer--Watz	117.89	199	⇑	PKPdf	19 47 06.5	+22	
VNA2	Neumayer--Watz	117.89	199	⇑	PKPdf	19 47 18.5	+34	
VNA2	Neumayer--Watz	117.89	199	⇑	PKPdf	19 47 21.3	+37	
VNA1	Neumayer--Stat	117.93	199	⇑P	PKPdf	19 46 48.1	+4.0	
VNA1	Neumayer--Stat	117.93	199	⇑	PKPdf	19 47 07.0	+23	
VNA3	Neumayer Olymp	118.66	199	⇑P	PKPdf	19 46 48.3	+2.7	
VNA3	Neumayer Olymp	118.66	199	⇑	PKPdf	19 47 07.8	+22	
VNA3	Neumayer Olymp	118.66	199	⇑	PKPdf	19 47 19.7	+34	
VNA3	Neumayer Olymp	118.66	199	⇑	PKPdf	19 47 22.7	+37	
CPUP	Villa Florida	120.61	260	PKP	PKPdf	19 46 51.3	+0.8	
	comp=Z,4.6nm,0.7s,baz=53,slow=1.3,SNR=14							
LPAZ	La Paz	123.35	276	PKP	PKPdf	19 46 58.3	+2.4	
	comp=Z,2.0nm,0.6s,baz=324,slow=1.7,SNR=12							
LVC	Limon Verde	127.56	270	PKP	PKPdf	19 47 06.7	+2.8	
	comp=Z,4.3nm,0.9s,baz=358,slow=3.0,SNR=3.6							
QSPA	South Pole Qui	129.24	180	⇑*i*P	PKPdf	19 47 07.3	+1.6	
CFAA	Coronel Fontan	131.51	260	PKP	PKPdf	19 47 13.6	+2.3	
	comp=Z,0.3nm,0.7s,baz=323,slow=3.4,SNR=4.9							
CFAA	Coronel Fontan	131.51	260	PKP	PKPdf	19 47 13.6	+2.3	
PLCA	Paso Flores	136.71	249	PKP	PKPdf	19 47 23.6	+3.0	
	comp=Z,3.9nm,0.9s,baz=56,slow=2.7,SNR=7.1							

DHMR 24 19:35:10.7±2.5, 12.63N×40.58E, h2km±184km, ML4.0, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TRBA	**At Turbah**	**3.50**	**80**	*i* P		Pn	19 36 08.9	+1.6
TRBA				*i* S		Sn	19 36 54.3	+4.5
TRBA				AML		AML	19 37 09.4	
	comp=Z,783nm,0.5s							
UDYN	**Al 'Udayn**	**3.56**	**68**	*i* P		Pn	19 36 09.8	+1.7
UDYN				*i* S		Sn	19 36 56.0	+4.7
UDYN				AML		AML	19 37 15.8	
	comp=E,626nm,0.5s							
DHBB	**Dhamar BB**	**4.18**	**62**	*i* P		Pn	19 36 18.1	+1.2
DHBB				*i* S		Sn	19 37 10.7	+3.7
LBOS		**4.71**	**74**	⇓*i*P		Pn	19 36 23.0	-1.4
BDHA	**Al Bayda'**	**5.04**	**74**	⇓*i*P		Pn	19 36 27.5	-1.6
BDHA				*i* S		Sn	19 37 27.4	-1.3

CSEM 24 19:37:19.3±0.7, 39.41N×51.86E, h30km, ML3.3, Error ellipse: s-maj=19.1km s-min=5.5km az=40.0
THR 24 19:37:20.2±0.6, 39.38N×51.82E, h37km±32km, ML3.3
NEIC 24 19:37:21.9±1.1, 39.40N×51.77E, h45km±17km, Error ellipse: s-maj=14.5km s-min=9.3km az=53.0
TEH 24 19:37:29.1, 38.74N×52.00E, h10km, Mn3.7
IDC 24 19:37:29.5±5.2, 39.83N×51.54E, h95km±40km, mb3.7/4, mb1 3.6/7, mb1mx3.4/22, mbtmp4.0/7, Error ellipse: s-maj=70.0km s-min=28.4km az=149.0
NNC 24 19:37:32.0±9.8, 39.87N×52.88E, h700km, Error ellipse: s-maj=385.7km s-min=110.5km az=111.0

ISC 24 19:37:15.8±3.2, 39.64N±0.06×52.33E±0.08, h29km±29km, n27, σ1°02/36, mb4.0/4, 2C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GRMI	**Germi**	**3.55**	**258**	*e*Pn		**Pn**	**19 38 08.8**	**-1.6**
GRMI				AML		AML	19 38 47.8	
	comp=N,131nm,0.3s							
GRMI	**Germi**	**3.55**	**258**	*e*Pn		**Pn**	**19 38 08.0**	**-2.3**
IGZV	**Gazvin**	**3.66**	**208**	Pn		**Pn**	**19 38 10.3**	**-1.6**
IAFJ	**Afjeh**	**3.81**	**188**	Sn		**Sn**	**19 38 48.6**	**-10**
THKV	**Tehran--Karaj**	**3.90**	**198**	*e*PN		**Pn**	**19 38 15.0**	**-0.3**
IFIR	**Firoozkooh**	**4.01**	**175**	Pn		**Pn**	**19 38 18.1**	**+1.2**
DAMV	**Damavand**	**4.02**	**184**	*e*Pn		**Pn**	**19 38 17.9**	**+0.9**
DAMV				Sn		**Sn**	**19 38 59.7**	**-4.1**
DAMV	**Damavand**	**4.02**	**184**	*e*Pn		**Pn**	**19 38 17.0**	**0.0**
DAMV				*e*Sn		**Sn**	**19 38 59.0**	**-4.7**
IDMV	**Damavand**	**4.07**	**183**	Pn		**Pn**	**19 38 18.6**	**+0.9**
IMHD	**Mahdasht**	**4.17**	**199**	Pn		**Pn**	**19 38 19.1**	**0.0**
IMHD				Sn		**Sn**	**19 38 56.7**	**-11**
IRAZ	**Razeghan**	**4.64**	**205**	Pn		**Pn**	**19 39 34.6**	**+8.7**
IVRN	**Varamin**	**4.67**	**186**	Pn		**Pn**	**19 38 26.5**	**+0.3**
IVRN				Sn		**Sn**	**19 39 08.8**	**-11**
IQOM	**Qom**	**4.90**	**192**	Pn		**Pn**	**19 38 29.3**	**-0.2**
ASAO	**Ashtian**	**5.41**	**201**	*e*Pn		**Pn**	**19 38 35.1**	**-1.6**
ASAO				AML		AML	19 39 50.5	
	comp=N,14nm,0.5s							
ASAO	**Ashtian**	**5.41**	**201**	*e*Pn		**Pn**	**19 38 35.0**	**-1.7**
GNI	**Garni**	**5.86**	**277**	P		**Pn**	**19 38 45.1**	**+2.1**
	comp=N,0.7nm,0.3s,baz=143,slow=5.1,SNR=3.4							
GNI				S		**Sn**	**19 39 50.0**	**0.0**
	comp=N,1.0nm,0.3s,baz=347,slow=20,SNR=2.4							
GNI	**Garni**	**5.86**	**277**	P		**Pn**	**19 38 45.1**	**+2.1**
GNI				S		**Sn**	**19 39 50.0**	**0.0**
NASN	**Na'in**	**6.84**	**177**	*e*Pn		**Pn**	**19 38 57.0**	**+0.2**
KIV	**Kislovodsk**	**8.39**	**304**	*e*Pn		**P**	**19 39 18.1**	**-0.4**
KIV				*e*Sn		**Sn**	**19 40 47.1**	**-6.2**
AB31	**Akbulak array**	**11.03**	**27**	⇑P		**P**	**19 39 58.9**	**+4.2**
	comp=N,2.4nm,0.6s,baz=207,slow=13,SNR=9.3							
AB31				⇓S		**S**	**19 41 56.8**	**-1.4**
	comp=N,2.1nm,0.3s,baz=199,slow=23,SNR=7.0							
AKTO	**Aktyubinsk**	**11.51**	**19**	⇑P		**P**	**19 40 01.5**	**+0.3**
	comp=N,4.6nm,1.7s							
AKTO				⇓S		**S**	**19 42 06.3**	**-3.5**
	comp=N,2.0nm,0.6s							
BVAR	**Borovoye Array**	**18.22**	**37**	P		**P**	**19 41 37.7**	**+10**
	comp=N,0.8nm,0.3s,baz=229,slow=12,SNR=7.1							
AKASG	**Malin Array Be**	**19.60**	**312**	P		**P**	**19 41 44

ISRV	**Sarvestan**	**3.54**	**247**	Pn	**Pn**	**19 54 54.8**	**0.0**
NASN	**Na'in**	**3.98**	**301**	*e*PN	**Pn**	**19 55 01.8**	**+0.8**
IMOK	**Mook**	**4.00**	**245**	Pn	**Pn**	**19 55 00.9**	**-0.5**
IGAR	**Garneh**	**4.23**	**291**	Pn	**Pn**	**19 55 07.6**	**+3.0**
IZEF	**Zefreh**	**4.38**	**300**	Pn	**Pn**	**19 55 06.0**	**-0.7**
IKLH	**Kalahroud**	**5.13**	**301**	Pn	**Pn**	**19 55 16.7**	**-0.7**
IPIR	**Pirpir**	**5.41**	**292**	Pn	**Pn**	**19 55 20.5**	**-0.8**
IFIR	**Firoozkooh**	**5.92**	**326**	Pn	**Pn**	**19 55 28.9**	**+0.4**
IVRN	**Varamin**	**6.00**	**315**	Pn	**Pn**	**19 55 30.0**	**+0.4**
IDMV	**Damavand**	**6.24**	**321**	Pn	**Pn**	**19 55 32.8**	**-0.2**
IQOM	**Qom**	**6.32**	**311**	Pn	**Pn**	**19 55 33.2**	**-0.9**
ASAO	**Ashtian**	**6.86**	**305**	*e*Pn	**Pn**	**19 55 42.2**	**+0.5**
IMHD	**Mahdasht**	**7.11**	**315**	Pn	**Pn**	**19 55 44.6**	**-0.6**
IRAZ	**Razeghan**	**7.40**	**310**	Pn	**Pn**	**19 56 00.4**	**+11**
IGZV	**Gazvin**	**7.85**	**317**	Pn	**Pn**	**19 55 55.6**	**0.0**

DHMR 24 20:08:11.9±2.6, **12.67N**×**40.54E, h6**km±159km, **ML3.7, 1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.53**	**80**	⇓*e*P	Pn	20 09 10.2	+1.7
TRBA				*i* S	Sn	20 09 55.5	+4.4
TRBA				AML	AML	20 10 09.0	
	comp=N,350nm,0.7s						
UDYN	**Al 'Udayn**	**3.58**	**68**	*i* S	Sn	20 09 57.0	+4.7
DHBB	**Dhamar BB**	**4.19**	**63**	*e*P	Pn	20 09 19.1	+1.2
DHBB				*i* S	Sn	20 10 11.6	+3.7
LBOS		**4.74**	**75**	*e*P	Pn	20 09 24.2	-1.4
LBOS				*i* S	Sn	20 10 20.6	-1.0
BDHA	**Al Bayda'**	**5.06**	**75**	*i* S	Sn	20 10 28.7	-1.1

DHMR 24 20:20:53.1±2.4, **12.64N**×**40.55E, h7**km±135km, **ML3.8, 3D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.53**	**80**	⇓*e*P	Pn	20 21 51.0	+1.5
TRBA				*i* S	Sn	20 22 36.4	+4.5
TRBA				AML	AML	20 22 49.2	
	comp=N,445nm,0.6s						
UDYN	**Al 'Udayn**	**3.58**	**68**	⇓*e*P	Pn	20 21 52.1	+1.9
UDYN				*i* S	Sn	20 22 38.0	+4.7
UDYN				AML	AML	20 22 60.0	
	comp=Z,404nm,0.6s						
DHBB	**Dhamar BB**	**4.20**	**62**	*e*P	Pn	20 22 00.3	+1.3
DHBB				*i* S	Sn	20 22 52.6	+3.6
SANA	**San'a**	**4.48**	**52**	*i* S	Sn	20 22 59.1	+3.2
LBOS		**4.74**	**75**	⇓*e*P	Pn	20 22 05.3	-1.4
LBOS				*i* S	Sn	20 23 01.6	-1.0
BDHA	**Al Bayda'**	**5.06**	**74**	*i* S	Sn	20 23 09.6	-1.2

*IDC **24** 20:38:02.3±0.7, 11.64S×56.76W, mb4.3/10, mb1 4.4/14, mb1mx4.3/24, mbtmp4.3/14, ML4.7/3, MS3.6/1, Ms1 3.5/1, ms1mx3.1/33, Error ellipse: s-maj=17.3km s-min=13.6km az=120.0*

*NEIC **24** 20:38:04.0±0.4, 11.58S×56.76W, h10km, mb4.6/7, Error ellipse: s-maj=10.4km s-min=8.1km az=84.0*

ISC 24 20:38:02.1±3.3, **11.63S**±0.06×**56.80W**±0.07, **h8**km±21km, **n33,** σ**1§39/36, mb4.3**/17, **Brazil**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**6.00**	**223**	Pn	**Pn**	**20 39 33.4**	**+0.2**
	4.6nm,0.3s,baz=60,slow=12,SNR=63						
SIV				Pg	**Pg**	**20 39 52.0**	**-10**
	8.1nm,0.3s,baz=64,slow=16,SNR=25						
SIV				Sn	**Sn**	**20 40 42.3**	**-0.7**
	19nm,0.3s,baz=340,slow=17,SNR=4.9						
SIV				Lg		20 41 10.7	
	39nm,0.3s,baz=136,slow=22,SNR=7.0						
BDFB	**Brasilia**	**9.43**	**116**	Pn	**P**	**20 40 18.0**	**-3.2**
	11nm,0.3s,baz=286,slow=16,SNR=52						
BDFB				Sn	**Sn**	**20 41 58.8**	**-10**
	6.4nm,0.3s,baz=198,slow=25,SNR=4.2						
BDFB				Lg		20 42 58.4	
	8.1nm,0.3s,baz=259,slow=11,SNR=3.7						
BDFB				LR	LR	20 43 26.5	
	comp=Z,350nm,18.1s,baz=94,slow=35						
LPAZ	**La Paz**	**11.93**	**246**	Pn	**P**	**20 40 55.2**	**-0.3**
	2.0nm,0.3s,baz=65,slow=11,SNR=46						
LPAZ				Sn	**S**	**20 43 02.1**	**-7.8**
	2.0nm,0.3s,baz=289,slow=22,SNR=3.7						
LPAZ				Lg		20 44 14.5	
	3.1nm,0.3s,baz=153,slow=22,SNR=5.4						
LPAZ	**La Paz**	**11.93**	**246**	*e*Pn	**P**	**20 40 55.1**	**-0.4**
	0.4nm,0.6s						
LPAZ				*e*Sn	**S**	**20 43 08.9**	**-0.9**
CPUP	**Villa Florida**	**14.63**	**182**	Pn	**P**	**20 41 31.2**	**-0.2**
	0.2nm,0.3s,baz=28,slow=15,SNR=4.4						
CPUP				Sn	**S**	**20 44 09.8**	**-4.9**
	0.2nm,0.3s,baz=85,slow=18,SNR=2.5						
CPUP				Lg		20 45 54.7	
	0.6nm,0.3s,baz=99,slow=16,SNR=5.7						
CPUP	**Villa Florida**	**14.63**	**182**	Pn	**P**	**20 41 31.2**	**-0.2**
CPUP				Sn	**S**	**20 44 09.8**	**-4.9**
CPUP				Lg		20 45 54.7	
CFAA	**Coronel Fontan**	**22.51**	**206**	P	**P**	**20 43 05.3**	**+1.7**
	0.8nm,0.7s,mb3.3,baz=37,slow=8.5,SNR=12						
ROSC	**El Rosal**	**23.92**	**312**	P	**P**	**20 43 20.0**	**+2.3**
	7.9nm,0.5s,mb4.4,baz=100,slow=18,SNR=3.9						
SDV	**Santo Domingo**	**24.59**	**325**	P	**P**	**20 43 25.2**	**+1.1**
	7.8nm,0.7s,mb4.4,baz=170,slow=10,SNR=16						
SDV	**Santo Domingo**	**24.59**	**325**	*e*P	**P**	**20 43 25.6**	**+1.5**
	6.9nm,0.8s,mb4.2						
PLCA	**Paso Flores**	**31.41**	**200**	P	**P**	**20 44 25.1**	**-0.9**
	3.0nm,0.7s,mb4.2,baz=16,slow=9.4,SNR=9.8						
DBIC	**Dimbokro**	**54.78**	**73**	P	**P**	**20 47 32.7**	**-2.4**
	5.0nm,0.9s,mb4.5,baz=186,slow=10,SNR=3.3						
DBIC	**Dimbokro**	**54.78**	**73**	P	**P**	**20 47 32.7**	**-2.4**
PLAL	**Pickwick Lake**	**55.02**	**329**	*e*P	**P**	**20 47 34.6**	**-2.0**
	9.0nm,0.9s,mb4.8						
ACSO	**Alum Creek Sta**	**57.03**	**336**	*e*P	**P**	**20 47 50.0**	**-0.9**
	12nm,0.9s,mb4.9						
FVM	**French Village**	**58.54**	**329**	*e*P	**P**	**20 47 59.0**	**-2.6**
	14nm,0.7s,mb5.1						
TXAR	**Lajitas Array**	**60.84**	**313**	P	**P**	**20 48 17.2**	**-0.3**
	0.5nm,0.5s,mb4.0,baz=114,slow=8.9,SNR=2.9						
VNA3	**Neumayer Olymp**	**66.10**	**165**		**P**	**20 48 52.9**	**+1.4**
VNA1	**Neumayer--Stat**	**66.10**	**164**		**P**	**20 48 52.9**	**+1.4**
VNA2	**Neumayer--Watz**	**66.50**	**164**		**P**	**20 48 55.5**	**+1.4**
ULM	**Lac du Bonnet**	**70.44**	**335**	P	**P**	**20 49 17.3**	**-1.6**
	3.9nm,0.5s,mb4.6,baz=118,slow=5.7,SNR=8.3						
ESDC	**Sonseca Array**	**70.77**	**41**	P	**P**	**20 49 21.8**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=244,slow=6.0,SNR=10						
PDAR	**Pinedale Array**	**72.47**	**322**	P	**P**	**20 49 30.4**	**-0.9**
	1.7nm,0.6s,mb4.2,baz=121,slow=7.4,SNR=18						
LOHW	**Long Hollow**	**73.59**	**322**	*e*P	**P**	**20 49 37.8**	**+0.1**
	3.2nm,0.6s,mb4.4						
IMW	**Indian Meadow**	**73.95**	**322**	*e*P	**P**	**20 49 40.3**	**+0.4**
	2.3nm,0.7s,mb4.2						
QSPA	**South Pole Qui**	**78.51**	**180**	*e*P	**P**	**20 50 06.4**	**+1.6**
	7.4nm,1.2s,mb4.5						
GERES	**GERESS Array B**	**86.24**	**39**	P	**P**	**20 50 46.0**	**+0.5**
	1.0nm,0.8s,mb4.1,baz=225,slow=3.8,SNR=9.0						
CLL	**Collm**	**86.77**	**36**	P	**P**	**20 50 49.0**	**+1.0**
NOA	**NORSAR Array B**	**89.80**	**27**	P	**P**	**20 51 03.3**	**+1.0**
	1.1nm,0.9s,mb4.2,baz=214,slow=21,SNR=3.3						
SONM	**Songino Array**	**141.26**	**18**	PKP	PKPdf	20 57 35.3	-1.0
	0.3nm,0.7s,baz=303,slow=2.7,SNR=3.7						
LSA	**Lhasa**	**145.21**	**54**	*e*PKPbc	PKPbc	20 57 43.7	+2.4
WRA	**Warramunga Arr**	**146.76**	**199**	PKPbc	PKPbc	20 57 46.6	+1.3
	3.2nm,0.5s,baz=160,slow=3.3,SNR=42						
WRAB	**Tennant Creek**	**146.77**	**199**	*e*PKPbc	PKPbc	20 57 46.6	+1.3

*LDG **24** 20:38:41.6±0.2, 21.05S×169.69E, h10km, Mb4.5/2, Error ellipse: s-maj=23.4km s-min=3.9km az=151.0*

*IDC **24** 20:38:48.2±6.2, 21.74S×169.42E, h68km±45km, mb3.7/5, mb1 3.9/6, mb1mx3.8/11, mbtmp4.0/6, ML3.6/1, MS3.8/5, Ms1 3.8/5, ms1mx3.6/18, Error ellipse: s-maj=59.2km s-min=33.8km az=135.0*

*NEIC **24** 20:38:51.1±3.7, 21.05S×168.93E, h70km±29km, mb5.3/1, Error ellipse: s-maj=35.6km s-min=27.1km az=94.0*

ISC 24 20:38:46.0±3.5, **21.6S**±0.2×**169.5E**±0.2, **h63**km±29km, **n64,** σ**1§16/19, mb4.2/6, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.87**	**260**	*e*P	**P**	**20 39 30.1**	**-0.4**
DZM				*e*S	**S**	**20 40 05.0**	**+1.1**
DZM	**Mont Dzumac**	**2.87**	**260**	P	**P**	**20 39 30.3**	**-0.2**
	8.7nm,0.3s,baz=120,slow=23,SNR=176						
DZM				S	**S**	**20 40 03.9**	**0.0**
	20nm,0.3s,baz=89,slow=22,SNR=5.8						
DZM				LR	LR	20 40 18.4	
	comp=Z,780nm,18.3s,baz=186,slow=32						
DZM	**Mont Dzumac**	**2.87**	**260**	*e*P	**P**	**20 39 30.1**	**-0.4**
DZM				*e*S	**S**	**20 40 05.0**	**+1.1**
RAO	**Raoul Island**	**13.69**	**126**	LR	LR	20 45 55.7	
	comp=Z,536nm,19.8s,baz=147,slow=31						
AFI	**Afiamalu**	**19.40**	**70**	LR	LR	20 48 55.6	
	comp=Z,338nm,20.1s,baz=52,slow=31						
CTA	**Charters Tower**	**21.76**	**270**	LR	LR	20 50 38.6	
	comp=Z,346nm,21.9s,baz=207,slow=33						
STKA	**Stephens Creek**	**26.86**	**242**	P	**P**	**20 44 22.0**	**-0.9**
	1.2nm,0.8s,mb3.5,baz=105,slow=19,SNR=1.8						
STKA				LR	LR	20 54 03.7	
	comp=Z,250nm,18.5s,baz=19,slow=34						
WRA	**Warramunga Arr**	**32.87**	**266**	P	**P**	**20 45 13.5**	**-2.8**
	0.8nm,0.5s,mb3.9,baz=343,slow=10,SNR=15						
MJAR	**Matsushiro Arr**	**64.94**	**333**	P	**P**	**20 49 21.3**	**-0.1**
	4.0nm,1.0s,mb4.4,baz=164,slow=5.7,SNR=5.9						
NSHM	**Saint Helena R**	**87.27**	**47**	*e*P	**P**	**20 51 25.7**	**-1.4**
VNA3	**Neumayer Olymp**	**87.41**	**180**		**P**	**20 51 28.2**	**+1.2**
VNA3	**Neumayer Olymp**	**87.41**	**180**		**P**	**20 51 34.8**	**+7.8**
VNA3	**Neumayer Olymp**	**87.41**	**180**	P	**P**	**20 51 34.8**	**+7.8**
VNA2	**Neumayer--Watz**	**87.71**	**181**		**P**	**20 51 30.0**	**+1.6**
VNA2	**Neumayer--Watz**	**87.71**	**181**		**P**	**20 51 36.5**	**+8.1**
VNA2	**Neumayer--Watz**	**87.71**	**181**	P	**P**	**20 51 36.5**	**+8.1**
SONM	**Songino Array**	**89.23**	**323**	P	**P**	**20 51 37.6**	**+1.4**
	1.9nm,1.0s,mb4.4,baz=138,slow=4.1,SNR=12						
ILAR	**Eielson Array**	**92.40**	**17**	P	**P**	**20 51 50.1**	**-0.4**
	0.5nm,0.7s,mb4.0,baz=225,slow=5.1,SNR=3.8						
SRU	**San Rafael**	**95.97**	**50**	*e*P	**P**	**20 52 08.7**	**+1.3**
	4.3nm,0.4s,mb5.2						
ARCES	**ARCESS Array B**	**127.39**	**345**	PKP	PKPdf	20 57 44.5	+1.2
	3.6nm,0.9s,baz=45,slow=3.4,SNR=9.0						
FINES	**FINESS Array B**	**132.84**	**337**	PKP	PKPdf	20 57 55.6	+1.8
	2.9nm,1.0s,baz=27,slow=4.3,SNR=4.1						
DPC	**Dobruska-Polom**	**144.39**	**330**	*e*PKP	PKPdf	20 58 16.0	+1.2
UPC	**Upice**	**144.42**	**331**	*e*PKP	PKPdf	20 58 17.3	+2.4
PVCC	**Panska Ves**	**145.05**	**332**	*e*PKP	PKPdf	20 58 18.3	+2.3
BRG	**Berggiesshubel**	**145.07**	**333**	*i* P	PKPdf	20 58 18.1	+2.1
BRG				*e*		20 58 29.0	
CLL	**Collm**	**145.13**	**334**	*i* PKIKP	PKPdf	20 58 18.2	+2.1
	logA/T=1.1						
PRU	**Pruhonice**	**145.45**	**331**	*e*PKP	PKPdf	20 58 19.2	+2.5
CLZ	**Clausthal**	**145.73**	**337**	*e*PKPbc	PKPbc	20 58 20.6	+2.6
NKC	**Novy Kostel**	**146.18**	**333**	*e*PKP	PKPdf	20 58 21.9	+4.0
MOX	**Moxa**	**146.21**	**334**	*i* P	PKPdf	20 58 21.8	+3.8
MOX	**Moxa**	**146.21**	**334**	*e*PKP	PKPdf	20 58 21.8	+3.8
KHC	**Kasperske Hory**	**146.51**	**331**	*e*PKP	PKPdf	20 58 23.0	+4.5
GEC2	**GERESS Array S**	**146.66**	**330**	*e*PKPbc	PKPbc	20 58 23.2	+3.0
GERES	**GERESS Array B**	**146.66**	**330**	PKPbc	PKPbc	20 58 22.3	+2.0
	0.5nm,0.8s,baz=27,slow=3.0,SNR=43						
WET	**Wettzell**	**146.81**	**332**	*e*PKPbc	PKPbc	20 58 23.8	+3.2
GRA1	**Grafenberg Arr**	**147.10**	**334**	*e*PKPbc	PKPdf	20 58 24.4	+4.9
FUR	**Furstenfeldbru**	**148.25**	**332**	*e*PKPbc	PKPdf	20 58 27.9	+6.5
GIVF	**Givet**	**149.08**	**341**	*e*PKP1	PKPdf	20 58 28.9	+6.2
	47nm,1.1s						
BAIF	**Baives**	**149.31**	**341**	*e*PKP1	PKPdf	20 58 29.7	+6.7
	19nm,1.0s						
BFO	**Black Forest**	**149.35**	**335**	*e*PKPbc	PKPdf	20 58 30.0	+6.8
CDF	**Champ du Feu**	**149.69**	**336**	*e*PKP1	PKPdf	20 58 30.5	+6.8
	17nm,1.0s						
HINF	**Hinteralfeld**	**150.34**	**336**	*e*PKP1	PKPdf	20 58 31.9	+7.2
	18nm,0.9s						
HAU	**Haudompre**	**150.37**	**337**	*e*PKP1	PKPdf	20 58 32.1	+7.3
	24nm,0.9s						
MEZF	**Maizieres J'vi**	**150.40**	**339**	*e*PKP1	PKPdf	20 58 32.6	+7.8
	43nm,0.9s						
CABF	**La Chapelle**	**151.63**	**336**	*e*PKP1	PKPdf	20 58 35.5	+8.8
	19nm,1.0s						
FLN	**La Foliniere**	**151.73**	**346**	*e*PKP1	PKPdf	20 58 34.7	+7.9
	53nm,1.1s						
LDF	**La Druitiere**	**151.81**	**345**	*e*PKP1	PKPdf	20 58 34.9	+8.0
	24nm,1.1s						
LOR	**Lormes**	**151.87**	**339**	*e*PKP1	PKPdf	20 58 35.5	+8.5
	16nm,1.0s						
GRR	**Gorron**	**152.17**	**346**	*e*PKP1	PKPdf	20 58 35.9	+8.5
	27nm,1.0s						
SSF	**Saint Saulge**	**152.17**	**339**	*e*PKP1	PKPdf	20 58 36.2	+8.7
	16nm,1.0s						
LPL	**La Plagne**	**152.27**	**333**	*e*PKP1	PKPdf	20 58 37.0	+9.3
	8.1nm,0.8s						
LPG	**La Plagne**	**152.27**	**333**	*e*PKP1	PKPdf	20 58 37.1	+9.4
	9.9nm,0.7s						
SMF	**Signal de Mont**	**152.42**	**338**	*e*PKP1	PKPdf	20 58 36.6	+8.7
AVF	**Avril sur Loir**	**152.46**	**339**	*e*PKP1	PKPdf	20 58 35.6	+7.7
BNI	**Bardonecchia**	**152.66**	**333**	*e*PKPbc	PKPdf	20 58 38.0	+10
BGF	**Bois d'Agland**	**152.83**	**340**	*e*PKP1	PKPdf	20 58 37.5	+9.1
MBDF	**Montbardon**	**152.88**	**332**	*e*PKP1	PKPdf	20 58 37.9	+9.3
	7.1nm,0.9s						
ORIF	**Oris-en-Rattie**	**153.10**	**334**	*e*PKP1	PKPdf	20 58 38.4	+10
	9.7nm,0.7s						
SBF	**Sospel**	**153.26**	**330**	*e*PKP1	PKPdf	20 58 39.4	+10
TCF	**Toulx Ste Croi**	**153.27**	**340**	*e*PKP1	PKPdf	20 58 38.6	+10
PGF	**Pioggiola**	**153.48**	**326**	*e*PKP1	PKPdf	20 58 39.3	+10
	7.8nm,0.9s						
FRF	**La Foret Royal**	**153.86**	**331**	*e*PKP1	PKPdf	20 58 39.7	+10
	12nm,1.1s						
SMRF	**Simiane la Rot**	**154.00**	**333**	*e*PKP1	PKPdf	20 58 40.7	+11
LMR	**La Mourre**	**154.10**	**331**	*e*PKP1	PKPdf	20 58 40.3	+10
	6.5nm,0.9s						

DHMR 24 20:41:11.1±0.3, **12.64N**×**40.53E, h9**km±23km, **ML4.2, 2D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.54**	**80**	⇓*e*P	Pn	20 42 09.2	+1.7
TRBA				*i* S	Sn	20 42 54.4	+4.4
TRBA				AML	AML	20 43 11.4	
	comp=N,1μm,0.6s						
UDYN	**Al 'Udayn**	**3.59**	**68**	*i* P	Pn	20 42 10.0	+1.8
UDYN				*i* S	Sn	20 42 56.0	+4.7
UDYN				AML	AML	20 43 20.6	
	comp=N,1μm,0.7s						
LBOS		**4.75**	**75**	*i* P	Pn	20 42 23.3	-1.4
BDHA	**Al Bayda'**	**5.08**	**74**	⇓*e*P	Pn	20 42 27.6	-1.7
BDHA				*i* S	Sn	20 43 27.6	-1.2

DHMR 24 21:08:07.0±2.9, **12.61N**×**40.54E, h9**km±194km, **ML3.8, 1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.54**	**80**	⇓*i* P	Pn	21 09 04.9	+1.6
TRBA				*i* S	Sn	21 09 50.1	+4.4
TRBA				AML	AML	21 10 04.9	
	comp=N,448nm,0.6s						
UDYN	**Al 'Udayn**	**3.60**	**68**	*i* S	Sn	21 09 51.8	+4.6
UDYN				AML	AML	21 10 11.9	
	comp=Z,391nm,0.7s						
LBOS		**4.75**	**74**	*e*P	Pn	21 09 19.1	-1.5
LBOS				*i* S	Sn	21 10 15.5	-1.0
BDHA	**Al Bayda'**	**5.08**	**74**	*i* S	Sn	21 10 23.3	-1.3

*LDG **24** 21:16:37.2±0.2, 21.17S×169.76E, h10km, Mb4.8/2, Error ellipse: s-maj=22.3km s-min=3.7km az=154.0*

*IDC **24** 21:16:43.7±3.1, 21.30S×169.44E, h54km±26km, mb3.9/8, mb1 4.1/11, mb1mx4.1/15, mbtmp4.2/11, ML3.8/2, MS4.0/11, Ms1 4.0/11, ms1mx3.9/24, Error ellipse: s-maj=27.5km s-min=19.3km az=168.0*

*NEIC **24** 21:16:44.5±1.7, 21.35S×169.46E, h61km±14km, mb4.3/2, Error ellipse: s-maj=15.0km s-min=12.4km az=182.0*

ISC 24 21:16:42.1±2.0, **21.3S**±0.1×**169.46E**±0.08, **h53**km±18km, **n97,** σ**1§13/29, mb4.2**/9, **MS4.2**/6, **26C, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.91**	**254**	*e*P	**P**	**21 17 26.3**	**-0.9**
DZM				*e*S	**S**	**21 18 01.1**	**0.0**
DZM	**Mont Dzumac**	**2.91**	**254**	P	**P**	**21 17 26.4**	**-0.8**
	18nm,0.3s,baz=78,slow=17,SNR=299						
DZM				S	**S**	**21 18 01.2**	**0.0**
	52nm,0.3s,baz=44,slow=23,SNR=16						
DZM				LR	LR	21 18 17.1	
	comp=Z,882nm,20.8s,baz=58,slow=32						
DZM	**Mont Dzumac**	**2.91**	**254**	*e*P	**P**	**21 17 26.3**	**-0.9**
DZM				*e*S	**S**	**21 18 01.1**	**0.0**
RAO	**Raoul Island**	**13.89**	**127**	LR	LR	21 23 41.8	
	comp=Z,737nm,20.8s,baz=12,slow=30						
HNR	**Honiara**	**14.94**	**321**	LR	LR	21 24 46.0	
	comp=Z,242nm,20.0s,baz=133,slow=32						
URZ	**Urewera**	**18.15**	**160**	P	**P**	**21 20 52.6**	**+0.5**
	0.2nm,0.3s,baz=321,slow=10,SNR=3.3						
URZ				LR	LR	21 26 20.5	
	comp=Z,604nm,19.2s,baz=9.0,slow=32						
AFI	**Afiamalu**	**19.32**	**71**	P	**P**	**21 21 06.8**	**+1.0**
	1.0nm,0.3s,baz=251,slow=20,SNR=3.1						
AFI				LR	LR	21 26 49.9	
	comp=Z,548nm,18.6s,baz=205,slow=31						
AFI	**Afiamalu**	**19.32**	**71**	P	**P**	**21 21 06.8**	**+1.0**
AFI				LR	LR	21 26 49.9	
CTA	**Charters Tower**	**21.74**	**269**	*e*P	**P**	**21 21 40.2**	**+9.3**
	6.2nm,1.1s,mb4.0						
CTA	**Charters Tower**	**21.74**	**269**	P	**P**	**21 21 32.2**	**+1.3**
	2.5nm,0.8s,mb3.7,baz=109,slow=8.8,SNR=2.3						
CTA				LR	LR	21 29 24.0	
	comp=Z,450nm,19.7s,MS3.9,baz=88,slow=35						
STKA	**Stephens Creek**	**26.98**	**241**	*e*P	**P**	**21 22 22.0**	**+1.0**
	3.4nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**26.98**	**241**	P	**P**	**21 22 20.8**	**-0.2**
	2.3nm,0.7s,mb3.8,baz=106,slow=8.0,SNR=5.7						
STKA				LR	LR	21 31 50.0	
	comp=Z,664nm,21.4s,MS4.2,baz=14,slow=34						
WRA	**Warramunga Arr**	**32.86**	**266**	P	**P**	**21 23 13.3**	**0.0**
	0.9nm,0.9s,mb3.7,baz=95,slow=8.1,SNR=9.7						
PPT	**Papeete**	**38.73**	**92**	LR	LR	21 35 54.3	
	comp=Z,167nm,18.2s,MS3.9,baz=210,slow=30						
FITZ	**Fitzroy Crossi**	**41.29**	**267**	*e*P	**P**	**21 24 27.0**	**+2.8**
	8.4nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**64.66**	**332**	P	**P**	**21 27 15.3**	**-1.5**
	5.2nm,0.9s,mb4.5,baz=173,slow=6.6,SNR=7.6						
MAW	**Mawson**	**76.62**	**202**	P	**P**	**21 28 27.4**	**-1.0**
	1.5nm,0.7s,mb4.0,baz=96,slow=9.2,SNR=4.2						
MAW				LR	LR	21 57 50.4	
	comp=Z,132nm,21.9s,MS4.2,baz=234,slow=32						
VNA3	**Neumayer Olymp**	**87.71**	**180**		**P**	**21 29 24.1**	**-1.6**
VNA3	**Neumayer Olymp**	**87.71**	**180**		**P**	**21 29 30.7**	**+5.0**
VNA3	**Neumayer Olymp**	**87.71**	**180**		**P**	**21 29 43.8**	**+18**
VNA2	**Neumayer--Watz**	**88.00**	**181**		**P**	**21 29 25.7**	**-1.4**
VNA2	**Neumayer--Watz**	**88.00**	**181**		**P**	**21 29 31.4**	**+4.3**
VNA2	**Neumayer--Watz**	**88.00**	**181**		**P**	**21 29 44.2**	**+17**
VNA2	**Neumayer--Watz**	**88.00**	**181**	P	**P**	**21 29 31.4**	**+4.3**
VNA1	**Neumayer--Stat**	**88.29**	**181**		**P**	**21 29 27.3**	**-1.2**
VNA1	**Neumayer--Stat**	**88.29**	**181**		**P**	**21 29 35.3**	**+6.8**
SONM	**Songino Array**	**88.98**	**323**	P	**P**	**21 29 33.3**	**+0.9**
	3.8nm,1.0s,mb4.7,baz=129,slow=3.3,SNR=19						
SONM				LR	LR	22 09 03.7	
	comp=Z,151nm,19.2s,MS4.4,baz=96,slow=35						
NVAR	**Mina Array Bea**	**90.00**	**48**	P	**P**	**21 29 36.8**	**-0.6**
	1.0nm,0.8s,mb4.2,baz=239,slow=10,SNR=6.0						
ILAR	**Eielson Array**	**92.12**	**17**	P	**P**	**21 29 46.1**	**-0.4**
	0.8nm,0.9s,mb4.0,baz=241,slow=5.7,SNR=5.7						
TXAR	**Lajitas Array**	**97.56**	**62**	LR	LR	22 05 30.7	
	comp=Z,111nm,19.3s,MS4.4,baz=205,slow=30						
ARCES	**ARCESS Array B**	**127.10**	**345**	PKP	PKPdf	21 35 40.2	+0.1
	3.5nm,0.9s,baz=80,slow=2.7,SNR=7.0						
ARCES	**ARCESS Array B**	**127.10**	**345**	PKP	PKPdf	21 35 40.2	+0.1
FINES	**FINESS Array B**	**132.56**	**337**	PKP	PKPdf	21 35 51.4	+0.7
	1.5nm,0.9s,baz=90,slow=3.8,SNR=3.7						
AKASG	**Malin Array Be**	**137.27**	**323**	PKP	PKPdf	21 36 00.1	+0.4
	0.9nm,0.7s,baz=68,slow=2.1,SNR=5.0						
STHS	**Stebnicka Huta**	**142.29**	**326**	*e*PKP	PKPdf	21 36 10.6	+2.0
VYHS	**Vyhne**

20nm,1.1s
LMR La Mourre 153.82 331 ⇑*i*PKP1 PKPdf 21 36 36.4 +9.1
11nm,1.0s
LASF Ste Croix 154.33 336 *e*PKP1 PKPdf 21 36 37.7 +10
25nm,1.5s

IDC ***24*** *21:25:43.8±5.5, 11.25N×40.08E, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, ML4.3/1, MS3.9/6, Ms1 3.9/6, ms1mx3.6/23, Error ellipse: s-maj=111.8km s-min=25.0km az=20.0*
NEIC ***24*** *21:25:49.4±1.4, 11.80N×40.40E, h10km, mb4.3/8, ML4.4(DHMR), Error ellipse: s-maj=30.7km s-min=7.5km az=189.0*
DHMR ***24*** *21:25:50.9±2.3, 12.66N×40.55E, h6km±149km, ML4.3*
CSEM ***24*** *21:25:52.1±0.1, 12.38N×40.46E, h20km, mb4.2/8, Error ellipse: s-maj=5.7km s-min=2.0km az=10.0*

ISC 24 21:25:51.8±0.7, 12.5N±0.1×40.61E±0.04, h10km, n37, σ1§27/42, mb4.0/15, MS3.9/5, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.39**	**114**	Pn	**Pn**	**21 26 29.8**	**-1.9**
	52nm,0.3s,baz=280,slow=10,SNR=22						
ATD				Sn	**Sn**	**21 27 02.5**	**+1.2**
	37nm,0.3s,baz=114,slow=22,SNR=7.8						
ATD				LR	LR	21 27 39.3	
	comp=Z,2μm,18.2s,baz=283,slow=42						
ATD	**Arta Tunnel**	**2.39**	**114**	Pn	**Pn**	**21 26 29.8**	**-1.9**
ATD				Sn	**Sn**	**21 27 02.5**	**+1.2**
TRBA	**At Turbah**	**3.50**	**78**	*i* P	**Pn**	**21 26 49.0**	**+1.7**
TRBA				*i* S	**Sn**	**21 27 34.2**	**+5.0**
TRBA				AML	AML	21 27 49.5	
	comp=N,2μm,0.7s						
TRBA	**At Turbah**	**3.50**	**78**	*i* P	**Pn**	**21 26 48.9**	**+1.5**
TRBA	**At Turbah**	**3.50**	**78**	*i* P	**Pn**	**21 26 48.9**	**+1.5**
TRBA				*i* S	**Sn**	**21 27 34.2**	**+5.0**
	comp=N,923nm,0.7s						
UDYN	**Al 'Udayn**	**3.58**	**66**	⇓*e*P	**Pn**	**21 26 49.8**	**+1.2**
UDYN				*i* S	**Sn**	**21 27 35.8**	**+4.4**
UDYN				AML	AML	21 27 56.8	
	comp=E,926nm,0.7s						
UDYN	**Al 'Udayn**	**3.58**	**66**	*i* P	**Pn**	**21 26 51.4**	**+2.9**
LBOS		**4.72**	**73**	⇓*e*P	**Pn**	**21 27 02.9**	**-1.8**
LBOS				*i* S	**Sn**	**21 27 59.4**	**-0.8**
LBOS		**4.72**	**73**	*i* P	**Pn**	**21 27 05.7**	**+0.9**
BDHA	**Al Bayda'**	**5.04**	**73**	⇓*e*P	**Pn**	**21 27 07.4**	**-1.9**
BDHA				*i* S	**Sn**	**21 28 07.3**	**-1.1**
BDHA	**Al Bayda'**	**5.04**	**73**	*i* P	**Pn**	**21 27 10.5**	**+1.2**
BDHA	**Al Bayda'**	**5.04**	**73**	*i* P	**Pn**	**21 27 10.5**	**+1.2**
BDHA				*i* S	**Sn**	**21 28 07.3**	**-1.1**
MUKL	**Al Mukalla**	**8.43**	**76**	⇓*e*P	**P**	**21 27 53.8**	**-3.0**
MUKL				*i* S	**Sn**	**21 29 30.6**	**-2.5**
ASF	**Jabal al Asfar**	**19.87**	**351**	P	**P**	**21 30 29.9**	**+3.8**
	comp=E,3.5nm,0.7s,baz=60,slow=12,SNR=4.8						
BRTR	**Keskin Array B**	**27.81**	**348**	P	**P**	**21 31 44.8**	**+1.7**
	comp=E,2.3nm,1.0s,mb3.8,baz=180,slow=11,SNR=8.6						
TSUM	**Tsumeb**	**38.82**	**216**	LR	LR	21 48 32.6	
	comp=E,155nm,19.6s,MS3.8,baz=322,slow=36						
PGF	**Pioggiola**	**40.58**	**323**	*e*P	**P**	**21 33 32.6**	**-0.6**
	comp=E,7.3nm,0.9s,mb4.0						
GERES	**GERESS Array B**	**42.54**	**334**	P	**P**	**21 33 48.3**	**-0.9**
	comp=E,1.4nm,0.8s,mb3.7,baz=135,slow=5.7,SNR=12						
MBDF	**Montbardon**	**43.19**	**325**	*e*P	**P**	**21 33 55.4**	**+0.8**
	comp=E,12nm,0.8s,mb4.3						
LPG	**La Plagne**	**43.67**	**325**	*e*P	**P**	**21 33 57.8**	**-0.7**
	comp=E,4.8nm,1.0s,mb3.9						
LPL	**La Plagne**	**43.69**	**325**	*e*P	**P**	**21 33 58.0**	**-0.6**
ORIF	**Oris-en-Rattie**	**43.81**	**324**	*e*P	**P**	**21 33 59.6**	**0.0**
	comp=E,4.2nm,0.8s,mb3.9						
CABF	**La Chapelle**	**44.72**	**326**	*e*P	**P**	**21 34 06.2**	**-0.8**
	comp=E,13nm,1.1s,mb4.4						
DBIC	**Dimbokro**	**45.16**	**267**	LR	LR	21 53 39.6	
	comp=E,82nm,18.1s,MS3.7,baz=101,slow=38						
CDF	**Champ du Feu**	**45.25**	**329**	*e*P	**P**	**21 34 10.7**	**-0.4**
MDT	**Midelt**	**45.95**	**304**	LR	LR	21 56 01.5	
	comp=E,170nm,18.1s,MS4.0,baz=86,slow=39						
SMF	**Signal de Mont**	**45.98**	**325**	*e*P	**P**	**21 34 16.0**	**-0.9**
LOR	**Lormes**	**46.34**	**326**	*e*P	**P**	**21 34 19.0**	**-0.7**
	comp=E,4.6nm,0.9s,mb4.1						
SSF	**Saint Saulge**	**46.41**	**325**	*e*P	**P**	**21 34 19.4**	**-0.9**
MEZF	**Maizieres J'vi**	**46.45**	**328**	*e*P	**P**	**21 34 20.5**	**-0.1**
	comp=E,7.9nm,0.8s,mb4.4						
ETSF	**Etsaut**	**46.68**	**318**	*e*P	**P**	**21 34 23.0**	**+0.5**
	comp=E,6.1nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**46.89**	**24**	P	**P**	**21 34 27.2**	**+3.2**
	comp=E,0.6nm,0.7s,mb3.6,baz=225,slow=6.3,SNR=4.6						
MKAR	**Makanchi Array**	**48.90**	**37**	P	**P**	**21 34 40.1**	**+0.4**
	comp=E,1.5nm,0.9s,mb4.0,baz=239,slow=7.1,SNR=4.3						
MKAR				LR	LR	21 58 04.3	
	comp=E,138nm,20.2s,MS3.9,baz=226,slow=39						
EVO	**Evora**	**50.23**	**310**	*e*P	**P**	**21 34 52.1**	**+2.0**
	comp=E,11nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**54.02**	**31**	P	**P**	**21 35 18.3**	**0.0**
	comp=E,0.7nm,0.7s,mb3.7,baz=238,slow=10,SNR=4.3						
SONM	**Songino Array**	**64.61**	**43**	P	**P**	**21 36 32.0**	**+0.3**
	comp=E,1.4nm,1.1s,mb3.9,baz=251,slow=6.6,SNR=6.5						
BDFB	**Brasilia**	**92.01**	**255**	LR	LR	22 13 28.8	
	comp=E,71nm,21.1s,MS4.1,baz=339,slow=31						

NNC ***24*** *21:27:30.6±13.0, 42.12N×82.28E, mpv3.0, Error ellipse: s-maj=134.6km s-min=87.4km az=127.0*

BJI 24 21:27:29.6, 41.79N×82.41E, h14km, ML3.4, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.39**	**61**	*e*P	Pn	21 28 39.8	+2.4
WMQ				S	Sn	21 29 32.0	+3.1
WMQ				Smax			
	comp=N,25nm,1.0s						
WMQ				Smax			
	comp=E,33nm,0.8s						
MK31	**Makanchi Array**	**5.00**	**359**	⇓Pn	Pn	21 28 44.6	-1.5
	comp=E,0.4nm,0.3s,baz=200,slow=15,SNR=48						
MK31				⇑Pg	Pg	21 28 58.2	-11
	comp=E,2.7nm,0.6s,baz=179,slow=17,SNR=6.7						
MK31				⇑Sn	Sn	21 29 43.9	-0.5
MK31				⇓Lg		21 30 02.9	
	comp=E,4.4nm,0.6s						
AAK	**Ala-Archa**	**5.94**	**281**	⇑Lg		21 30 37.3	
	comp=E,5.8nm,1.0s						

IDC ***24*** *21:31:49.7±5.1, 12.20N×40.58E, mb3.6/4, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, ML4.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/21, Error ellipse: s-maj=120.0km s-min=27.9km az=33.0*
DHMR ***24*** *21:31:49.7±2.6, 12.68N×40.53E, h6km±168km, ML4.4*

ISC 24 21:31:51.7±1.2, 12.6N±0.1×40.65E±0.07, h10km, n10, σ1§44/14, mb3.5/4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.40**	**116**	Pn	**Pn**	**21 32 29.7**	**-1.9**
	99nm,0.3s,baz=262,slow=21,SNR=21						
ATD				Sn	**Sn**	**21 33 03.5**	**+2.2**
	30nm,0.3s,baz=230,slow=22,SNR=7.3						
UDYN	**Al 'Udayn**	**3.51**	**67**	*i* P	**Pn**	**21 32 49.0**	**+1.5**
UDYN				*i* S	**Sn**	**21 33 34.7**	**+5.2**
UDYN				AML	AML	21 33 58.7	
	comp=N,2μm,0.6s						
ADEN	**Aden**	**4.23**	**87**	*i* P	**Pn**	**21 32 58.2**	**+0.4**
ADEN				*i* S	**Sn**	**21 33 52.3**	**+4.4**
LBOS		**4.66**	**74**	*i* P	**Pn**	**21 33 02.3**	**-1.5**
LBOS				*i* S	**Sn**	**21 33 58.7**	**+0.1**
BDHA	**Al Bayda'**	**4.98**	**73**	*i* P	**Pn**	**21 33 06.2**	**-2.2**
BDHA				*i* S	**Sn**	**21 34 06.3**	**-0.4**
KMBO	**Kilima Mbogo**	**14.04**	**194**	LR	LR	21 40 05.6	
	comp=N,115nm,18.8s,baz=94,slow=36						
BRTR	**Keskin Array B**	**27.73**	**348**	P	**P**	**21 37 44.6**	**+2.3**
	comp=N,1.0nm,0.8s,mb3.5,baz=174,slow=11,SNR=6.1						
GERES	**GERESS Array B**	**42.48**	**334**	P	**P**	**21 39 48.6**	**-0.1**
	comp=N,0.4nm,0.7s,mb3.1,baz=135,slow=5.7,SNR=5.6						
MKAR	**Makanchi Array**	**48.80**	**37**	P	**P**	**21 40 38.7**	**-0.3**
	comp=N,0.6nm,0.9s,mb3.6,baz=243,slow=3.2,SNR=3.2						
SONM	**Songino Array**	**64.51**	**43**	P	**P**	**21 42 30.7**	**-0.3**
	comp=N,0.6nm,0.8s,mb3.7,baz=243,slow=6.6,SNR=6.2						

IDC 24 21:41:07.8±6.2, 13.91S×171.42E, h53km±56km, mb3.7/6, mb1 3.9/7, mb1mx3.8/14, mbtmp3.9/7, ML3.3/1, MS3.2/4, Ms1 3.2/4, ms1mx3.1/28, Error ellipse: s-maj=50.3km s-min=31.9km az=138.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.39**	**210**	P	P	21 43 20.8	-2.3
	0.3nm,0.3s,baz=147,slow=21,SNR=4.1						
DZM				LR	LR	21 45 55.6	
	comp=Z,77nm,18.4s,baz=220,slow=31						
HNR	**Honiara**	**12.08**	**290**	LR	LR	21 46 59.8	
	comp=Z,63nm,20.6s,baz=281,slow=29						
RAO	**Raoul Island**	**18.18**	**149**	LR	LR	21 50 36.3	
	comp=Z,198nm,18.3s,baz=123,slow=31						
PMG	**Port Moresby**	**24.17**	**278**	LR	LR	21 53 30.7	
	comp=Z,83nm,18.9s,baz=62,slow=31						
STKA	**Stephens Creek**	**32.62**	**232**	P	P	21 47 34.6	-2.2
	2.4nm,0.9s,baz=32,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**35.92**	**255**	P	P	21 48 03.0	-2.2
	0.5nm,0.7s,baz=85,slow=8.8,SNR=7.8						
MAW	**Mawson**	**84.12**	**201**	P	P	21 53 32.8	-1.3
	1.5nm,0.8s,baz=73,slow=6.4,SNR=4.3						
SONM	**Songino Array**	**84.28**	**322**	P	P	21 53 35.1	-0.1
	0.6nm,1.0s,baz=141,slow=5.5,SNR=5.1						
ILAR	**Eielson Array**	**84.56**	**17**	P	P	21 53 34.0	-2.2
	1.4nm,0.8s,baz=227,slow=5.9,SNR=10						
TXAR	**Lajitas Array**	**92.37**	**61**	P	P	21 54 13.9	-0.5
	0.3nm,0.2s,baz=180,slow=7.5,SNR=3.8						

DHMR 24 21:53:38.7±2.6, 12.65N×40.50E, h12km±161km, ML4.2, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.62**	**68**	⇓*e*P	Pn	21 54 37.6	+1.8
UDYN				*i* S	Sn	21 55 23.6	+4.6
UDYN				AML	AML	21 55 47.5	
	comp=E,1μm,0.7s						
ADEN	**Aden**	**4.38**	**88**	⇓*e*P	Pn	21 54 47.2	+0.7
ADEN				*i* S	Sn	21 55 40.7	+2.6
LBOS		**4.78**	**75**	⇓*e*P	Pn	21 54 50.9	-1.4
LBOS				*i* S	Sn	21 55 47.4	-0.9
BDHA	**Al Bayda'**	**5.11**	**74**	⇓*e*P	Pn	21 54 55.2	-1.7
BDHA				*i* S	Sn	21 55 55.2	-1.2

SKHL ***24*** *22:04:47.6±0.3, 47.49N×154.52E, h44km±14km, mb5.1/9, Ms4.3/6, msh5.6/2*
BJI ***24*** *22:04:48.8, 47.52N×154.51E, h59km, mB4.6, mb4.5, Ms3.9, Ms2.3/9*
MOS ***24*** *22:04:49.0±1.0, 47.66N×154.19E, h34km, mb4.9/42, Error ellipse: s-maj=9.8km s-min=5.5km az=98.4*
NEIC ***24*** *22:04:51.4±0.8, 47.58N×154.28E, h45km±6km, mb4.7/57, Error ellipse: s-maj=8.1km s-min=4.3km az=134.0*
IDC ***24*** *22:04:52.6±3.4, 47.66N×154.22E, h57km±30km, mb4.2/25, mb1 4.3/27, mb1mx4.3/32, mbtmp4.5/27, ML4.1/2, MS3.7/3, Ms1 3.6/3, ms1mx3.2/34, Error ellipse: s-maj=18.3km s-min=13.2km az=157.0*
CSEM ***24*** *22:04:57.5, 48.59N×151.99E, h33km, mb5.5*

ISC 24 22:04:47.0±1.6, 47.64N±0.04×154.24E±0.06, h21km±10km, n217, σ1§00/221, mb4.7/94, MS3.9/3, 47C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.29**	**21**	*e*P	**Pn**	**22 05 36.0**	**-2.5**
SKR				AMB	AMB	22 05 37.4	
	80nm,0.5s						
SKR				AMB	AMB	22 05 37.4	
	30nm,0.5s						
SKR				AMB	AMB	22 05 37.4	
	110nm,0.5s						
SKR				*e*rx	rx	22 05 38.5	
SKR				pP		22 05 43.9	
SKR				⇑*i*S	**Sn**	**22 06 12.5**	**-4.9**
SKR				A		22 06 26.8	
	2μm,2.0s						
SKR				A		22 06 31.0	
	620nm,0.6s						
SKR				A		22 06 31.0	
	960nm,0.6s						
SKR				A		22 06 31.0	
	180nm,0.6s						
SKR				AMS	AMS	22 07 10.0	
SKR				AMS	AMS	22 07 10.0	
	3μm,13.0s						
SKR				AMS	AMS	22 07 10.0	
	4μm,13.0s						
SKR	**Severo-Kuril's**	**3.29**	**21**	*e*PN	**Pn**	**22 05 36.0**	**-2.5**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				MLR	MLR		
	comp=N,3μm,12.0s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
SKR				MLR	MLR		
	comp=E,4μm,14.0s						
PAU	**Pauzhetka**	**4.18**	**23**	*i* P	**Pn**	**22 05 51.5**	**+0.2**
PAU				*i* S	**Sn**	**22 06 39.2**	**-0.9**
KUR	**Kuril'sk**	**5.02**	**244**	*e*P	**Pn**	**22 06 02.7**	**-0.4**
KUR				AMB	AMB	22 06 05.0	
	comp=E,80nm,0.6s						
KUR				AMB	AMB	22 06 05.0	
	comp=E,190nm,0.6s						
KUR				*e*S	**Sn**	**22 06 59.6**	**-1.7**
KUR				A		22 07 04.0	
	comp=E,3μm,2.0s						
KUR				A		22 07 24.5	
	comp=E,490nm,1.0s						
KUR				A		22 07 24.5	
	comp=E,410nm,1.0s						
PET	**Petropavlovsk**	**6.08**	**26**	*e*P	**Pn**	**22 06 15.4**	**-2.8**
PET				AMB	AMB	22 06 27.9	
	comp=E,90nm,0.4s						
PET				*e*S	**Sn**	**22 07 24.3**	**-3.6**
PET				A		22 07 24.9	
	comp=E,140nm,0.6s						
PET				AMS	AMS	22 07 52.6	
	comp=E,800nm,2.0s						
PET				AMS	AMS	22 07 52.6	
	comp=E,200nm,2.0s						
PET				AMS	AMS	22 08 40.9	
	comp=E,200nm,20.0s						
PET	**Petropavlovsk**	**6.08**	**26**	*e*Pn	**Pn**	**22 06 18.6**	**+0.4**
	comp=E,41nm,0.4s						
PET				*e*Sn	**Sn**	**22 07 28.6**	**+0.7**
PET	**Petropavlovsk**	**6.08**	**26**	*e*PN	**Pn**	**22 06 18.6**	**+0.4**
PET				pmax	pmax		
	comp=Z,41nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.87**	**241**	*e*P	**Pn**	**22 06 29.0**	**-0.3**
YUK				AMB	AMB	22 06 32.2	
	comp=Z,330nm,0.5s						
YUK				*e*S	**Sn**	**22 07 50.7**	**+3.1**
YUK				A		22 08 11.0	
	comp=E,350nm,0.6s						
YUK				A		22 08 11.0	
	comp=E,500nm,0.6s						
YUK				A		22 08 19.0	
	comp=Z,2μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**6.87**	**241**	*e*PN	**Pn**	**22 06 29.0**	**-0.3**
YUK				*e*S	**Sn**	**22 07 50.7**	**+3.1**
YUK				pmax	pmax		
	comp=Z,330nm,0.5s						
YUK				smax			
	comp=N,350nm,0.6s						
YUK				smax			
	comp=E,500nm,0.6s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.84**	**269**	*i* P	**Pn**	**22 06 45.3**	**+2.5**
YSS				*e*S	**Sn**	**22 08 12.5**	**+0.7**
YSS				AMS	AMS	22 09 48.0	
	comp=E,600nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.84**	**269**	*e*Pn	**Pn**	**22 06 45.7**	**+2.9**
	comp=E,35nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.84**	**269**	⇑*i*PN	**Pn**	**22 06 45.3**	**+2.5**
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS				MLR	MLR		
	comp=Z,600nm,17.0s						
TYV	**Tymovskoe**	**8.23**	**297**	*e*P	**P**	**22 06 48.5**	**+0.2**
TYV				AMB	AMB	22 06 52.0	
	comp=Z,12nm,0.8s						
TYV				*e*S	**Sn**	**22 08 20.0**	**-1.7**
TYV				A		22 08 27.0	
	comp=Z,31nm,1.0s						
TYV				AMS	AMS	22 10 43.0	
	comp=Z,500nm,14.0s						
TYV				AMS	AMS	22 10 43.0	
	comp=Z,700nm,14.0s						
UGL	**Uglegorsk**	**8.23**	**285**	*e*PN	**P**	**22 06 52.0**	**+3.7**
UGL				pmax	pmax		
	comp=Z,65nm,0.5s						
UGL				MLR	MLR		
	comp=N,600nm,14.0s						
UGL				MLR	MLR		
	comp=E,600nm,14.0s						
UGL				MLR	MLR		
	comp=Z,550nm,14.0s						
ASAJ	**Asahikawa**	**8.85**	**251**	P	**P**	**22 06 59.0**	**+2.1**
	comp=Z,2.7nm,0.3s,baz=81,slow=15,SNR=33						
ASAJ	**Asahikawa**	**8.85**	**251**	PN	**P**	**22 06 59.0**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
OKH	**Okha**	**9.30**	**314**	AMS	AMS	22 12 17.8	
	comp=Z,500nm,11.0s						
OKH				AMS	AMS	22 12 17.8	
	comp=Z,1μm,11.0s						
NKL	**Nikolayevsk**	**10.26**	**308**	*e*P	**P**	**22 07 16.0**	**-0.1**
NKL				AMB	AMB	22 07 18.0	
	comp=Z,40nm,1.0s						
NKL				AMB	AMB	22 07 18.0	
	comp=Z,40nm,1.1s						
NKL				AMS	AMS	22 11 45.0	
	comp=Z,500nm,17.0s						
GRNR	**Gornyy**	**12.06**	**292**	*e*P	**P**	**22 07 41.1**	**+0.4**
GRNR				AMB	AMB	22 07 42.4	
	comp=Z,42nm,1.0s						
MA2	**Magadan**	**12.13**	**352**	*e*Pn	**P**	**22 07 42.1**	**+0.5**
	comp=Z,9.4nm,0.5s						
MA2	**Magadan**	**12.13**	**352**	*e*PN	**P**	**22 07 42.1**	**+0.5**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
EKMR	**Ekimchan**	**14.61**	**300**	*e*P	**P**	**22 08 19.4**	**+5.2**
EKMR				AMB	AMB	22 08 22.5	
	comp=Z,7.0nm,0.7s						
KLR	**Kul'dur**	**15.00**	**284**	*e*rx	rx	22 08 19.8	
KLR				AMS	AMS	22 14 36.0	
	comp=Z,500nm,14.0s						
KLR				AMS	AMS	22 14 36.0	
	comp=Z,700nm,14.0s						
MAJO	**Matsushiro**	**16.23**	**233**	*e*Pn	**P**	**22 08 34.3**	**-1.1**
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**16.23**	**233**	*e*P	**P**	**22 08 34.3**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**16.23**	**233**	P	**P**	**22 08 34.4**	**-0.9**
MAT	**Matsushiro**	**16.23**	**233**	*e*P	**P**	**22 08 34.0**	**-1.3**
	comp=Z,11nm,0.8s						
MAT	**Matsushiro**	**16.23**	**233**	*e*P	**P**	**22 08 34.0**	**-1.3**
MAT				pmax	pmax		
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**16.23**	**233**	P	**P**	**22 08 36.6**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=24,slow=14,SNR=10						
MJAR				LR	LR	22 14 27.8	
	comp=Z,149nm,20.7s,baz=165,slow=36						
MDJ	**Mudanjiang**	**17.33**	**269**	P	**P**	**22 08 51.1**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,166nm,5.3s						
MDJ				LR	LR		
	comp=N,33nm,16.8s						
MDJ				LR	LR		
	comp=E,92nm,18.1s						
MDJ				LR	LR		
	comp=Z,113nm,20.7s						
BMKR	**Bomnak**	**17.36**	**303**	*e*P	**P**	**22 08 51.9**	**+2.5**
BMKR				AMB	AMB	22 08 52.6	
	comp=Z,10.0nm,0.6s						
YASR	**Yasnyy**	**17.59**	**298**	*e*P	**P**	**22 08 51.8**	**-0.5**
YASR				AMB	AMB	22 08 54.9	
	comp=Z,20nm,0.4s						
YASR				AMB	AMB	22 08 54.9	
	comp=Z,9.0nm,0.4s						
YASR				AMB	AMB	22 08 54.9	
	comp=Z,18nm,0.4s						
ZEA	**Zeya**	**18.09**	**300**	*e*P	**P**	**22 08 59.1**	**+0.5**
ZEA				AMB	AMB	22 09 04.0	
	comp=Z,16nm,0.9s						
ZEA				AMS	AMS	22 16 46.0	
	comp=Z,300nm,16.0s						
ZEA				AMS	AMS	22 16 46.0	
	comp=Z,500nm,16.0s						
YAK	**Yakutsk**	**20.01**	**325**	*e*P	**P**	**22 09 21.8**	**+0.9**
	comp=Z,15nm,0.6s						
YAK	**Yakutsk**	**20.01**	**325**	*e*P	**P**	**22 09 21.8**	**+0.9**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s						
BILL	**Bilibino**	**21.35**	**12**	*e*P	**P**	**22 09 34.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
KS15	**Wonju Array Si**	**21.83**	**252**	*e*P	**P**	**22 09 40.6**	**+0.8**
INCN	**Inchon**	**22.61**	**253**	*e*P	**P**	**22 09 47.4**	**-0.2**
	comp=Z,37nm,1.1s,mb4.7						
JNU	**Nakatsue**	**22.84**	**239**	P	**P**	**22 09 51.2**	**+1.5**
	comp=Z,17nm,1.0s,mb4.4,baz=66,slow=13,SNR=3.7						
BOD	**Bodaibo**	**26.03**	**308**	*e*P	**P**	**22 10 18.4**	**-1.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.8						
JOW	**Kunigami**	**29.07**	**234**	P	**P**	**22 10 49.0**	**+1.0**
	comp=Z,11nm,0.4s,mb4.9,baz=80,slow=10.0,SNR=4.1						
SSE	**Sheshan**	**30.14**	**249**	*e*P	**P**	**22 10 52.4**	**-5.2**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.2						
SSE	**Sheshan**	**30.14**	**249**	*e*P	**P**	**22 10 52.4**	**-5.2**
	comp=Z,35nm,0.7s,mb5.2						
NJ2	**Nanjing**	**30.99**	**253**	*e*P	**P**	**22 11 02.8**	**-2.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
SONM	**Songino Array**	**31.77**	**288**	P	**P**	**22 11 10.1**	**-1.7**
	comp=Z,0.7nm,0.5s,mb3.7,baz=69,slow=9.2,SNR=8.2						
SONM				PcP	PcP	22 14 01.2	-1.8
	comp=Z,0.9nm,0.7s,baz=99,slow=2.2,SNR=6.2						
ILAR	**Eielson Array**	**35.37**	**39**	P	**P**	**22 11 41.5**	**-1.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=253,slow=6.4,SNR=9.5						
XAN	**Xi'an**	**36.36**	**265**	P	**P**	**22 11 50.9**	**-0.5**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.5						
GTA	**Gaotai**	**39.59**	**279**	*e*P	**P**	**22 12 18.4**	**0.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2						
INK	**Inuvik**	**40.49**	**33**	P	**P**	**22 12 25.7**	**+0.2**
	comp=Z,6.2nm,0.7s,mb4.4,baz=282,slow=4.1,SNR=12						
INK	**Inuvik**	**40.49**	**33**	*e*P	**P**	**22 12 26.0**	**+0.5**
	comp=Z,7.3nm,0.9s,mb4.4

comp=Z,1.1nm,0.4s,mb4.2,baz=53,slow=8.2,SNR=8.0
LSA Lhasa 50.99 273 P **P** **22 13 50.4 +1.2**
LSA Lhasa 50.99 273 *eP* **P** **22 13 50.5 +1.3**
comp=Z,20nm,0.6s,mb5.2
LSA Lhasa 50.99 273 *eP* **P** **22 13 50.6 +1.4**
LSA pmax pmax
comp=Z,20nm,0.6s,mb5.2
AAK Ala-Archa 54.13 296⇓ *eP* **P** **22 14 10.2 -2.3**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AAK MLR MLR
comp=Z,200nm,18.0s,MS4.2
ARU Arti 54.87 317 *eP* **P** **22 14 15.6 -2.2**
KKN Kakani 56.17 275 *eP* **P** **22 14 27.4 -0.1**
comp=Z,37nm,0.6s,mb5.6
KKN Kakani 56.17 275 *eP* **P** **22 14 27.4 -0.1**
KKN pmax pmax
comp=Z,19nm,0.6s,mb5.3
PKI Pulchoki 56.22 275 *eP* **P** **22 14 27.8 -0.1**
comp=Z,21nm,0.6s,mb5.3
DMN Daman 56.40 275 *eP* **P** **22 14 28.8 -0.4**
comp=Z,97nm,0.9s,mb5.8
GKN Gorkha 56.46 276 *eP* **P** **22 14 29.1 -0.5**
comp=Z,40nm,0.5s,mb5.7
ARCES ARCESS Array B 57.26 341 P **P** **22 14 34.6 -0.2**
comp=Z,3.8nm,0.9s,mb4.4,baz=18,slow=7.7,SNR=4.0
KOLN Koldanda 57.31 277 *eP* **P** **22 14 35.4 -0.3**
comp=Z,38nm,0.8s,mb5.5
KLP Kalpa 58.45 284 *eP* **P** **22 14 43.6 0.0**
KLP AMb AMB 22 14 44.9
comp=Z,5.0nm,0.0s
SUMG Summit 59.76 4 *eP* **P** **22 14 52.0 -0.1**
comp=Z,20nm,0.9s,mb5.1
KKR Kurukshetra 60.40 283 *eP* **P** **22 14 53.8 -3.3**
BISR Bishrakh 60.90 281 *eP* **P** **22 14 59.1 -1.4**
AYAN Aya Nagar 61.16 282 *eP* **P** **22 15 00.6 -1.7**
QLMT Earthquake Lak 61.23 54 *eP* **P** **22 15 02.5 0.0**
NVAR Mina Array Bea 61.34 63 P **P** **22 15 03.4 0.0**
comp=Z,0.8nm,0.6s,mb4.0,baz=284,slow=7.9,SNR=6.0
SONA Sohna 61.35 281 *eP* **P** **22 15 02.0 -1.6**
SONA AMb AMB 22 15 03.2
comp=Z,8.5nm,0.7s,mb5.0
RRI2 Red Ridge 62.25 55 *eP* **P** **22 15 09.7 +0.3**
comp=Z,4.7nm,0.9s,mb4.6
KAF Kangasniemi 62.95 335 *ep* **P** **22 15 12.4 -1.4**
comp=Z,5.0nm,0.8s,mb4.7
KAF Kangasniemi 62.95 335 *eP* **P** **22 15 12.4 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
KAKA Kakadu 63.15 204 *eP* **P** **22 15 07.8 -7.9**
comp=Z,3.5nm,0.6s,mb4.7
FINES FINESS Array B 63.56 335 P **P** **22 15 15.5 -2.1**
comp=Z,4.1nm,0.5s,mb4.7,baz=33,slow=7.1,SNR=39
PDAR Pinedale Array 63.60 55 P **P** **22 15 16.6 -1.7**
comp=Z,2.0nm,1.0s,mb4.1,baz=297,slow=3.3,SNR=11
BHPL Bhopal 64.47 277 *eP* **P** **22 15 21.1 -3.2**
BHPL AMb AMB 22 15 24.6
comp=Z,27nm,0.9s,mb5.3
OBN Obninsk 65.00 326 *eP* **P** **22 15 26.0 -1.2**
OBN pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ULM Lac du Bonnet 65.35 42 P **P** **22 15 28.8 -0.6**
comp=Z,1.7nm,0.7s,mb4.2,baz=75,slow=18,SNR=2.5
ULM LR LR 22 44 21.0
comp=Z,45nm,18.2s,MS3.7,baz=293,slow=36
JASL Jaisalmer 66.30 284 *eP* **P** **22 15 34.2 -1.8**
NB2 NORSAR Subarra 67.63 342 P **P** **22 15 42.8 -1.0**
comp=Z,1.3nm,0.4s,mb4.3,baz=30,slow=6.5
NB2 NORSAR Subarra 67.63 342 P **P** **22 15 42.8 -1.0**
NB2 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
NOA NORSAR Array B 67.63 342 P **P** **22 15 42.6 -1.2**
comp=Z,1.5nm,0.5s,mb4.3,baz=26,slow=6.4,SNR=8.5
HFS Hagfors 67.89 340 P **P** **22 15 44.7 -0.7**
comp=Z,4.3nm,0.4s,mb4.8,baz=56,slow=5.3,SNR=61
WRA Warramunga Arr 69.61 200 P **P** **22 15 54.4 -2.4**
comp=Z,2.2nm,0.7s,mb4.2,baz=19,slow=6.5,SNR=8.8
FITZ Fitzroy Crossi 70.29 209 *eP* **P** **22 15 59.8 -1.1**
comp=Z,5.4nm,0.9s,mb4.5
KAD Karad 70.77 275 *ex* x 22 15 54.5
KAD AMb AMB 22 15 54.9
comp=Z,18nm,1.3s,mb4.8
AKASG Malin Array Be 71.23 327 P **P** **22 16 04.4 -1.7**
comp=Z,1.3nm,0.3s,mb4.3,baz=33,slow=6.4,SNR=8.7
OJC Ojcow 74.91 332 *eP* **P** **22 16 27.0 -0.5**
STHS Stebnicka Huta 75.12 330 *eP* **P** **22 16 29.6 +0.8**
KOLS Kolonicke sedl 75.19 330 *eP* **P** **22 16 29.7 +0.5**
KOLS *e* pP 22 16 36.2 +0.3
UPC Upice 75.82 334 *eP* **P** **22 16 33.0 +0.2**
DPC Dobruska-Polom 75.87 334 *eP* **P** **22 16 33.6 +0.6**
CLL Collm 75.97 336 P **P** **22 16 33.0 -0.6**
comp=Z,logA/T=1.2,mb4.9
CLL *e**SP sP 22 16 51.0 +8.5
CLL Collm 75.97 336 *i* P **P** **22 16 33.0 -0.6**
comp=Z,12nm,0.8s,mb4.9
CLL *e* 22 16 51.0
CLL Collm 75.97 336 *i* P **P** **22 16 33.0 -0.6**
CLL *e* 22 16 51.0
CLL pmax pmax
comp=Z,12nm,0.8s,mb4.9
BRG Berggiesshubel 76.09 335 *i* P **P** **22 16 33.7 -0.6**
comp=Z,3.3nm,0.7s,mb4.4
BRG Berggiesshubel 76.09 335 *i* P **P** **22 16 33.7 -0.6**
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KECS Kecovo 76.18 330 *eP* **P** **22 16 34.5 -0.4**
PVCC Panska Ves 76.23 335 *eP* **P** **22 16 35.0 -0.1**
TXAR Lajitas Array 76.39 61 P **P** **22 16 36.0 -0.5**
comp=Z,2.0nm,0.7s,mb4.1,baz=295,slow=4.7,SNR=23
VRAC Vranov 76.71 333 P **P** **22 16 37.6 -0.2**
comp=Z,6.2nm,0.8s,mb4.6,baz=26,slow=4.9,SNR=13
VRAC Vranov 76.71 333 *eP* **P** **22 16 38.0 +0.2**
VRAC Vranov 76.71 333 P **P** **22 16 37.6 -0.2**
VRAC pmax pmax
comp=Z,6.0nm,0.8s
PRU Pruhonice 76.72 335 *eP* **P** **22 16 37.9 +0.1**
VYHS Vyhne 76.72 331 *eP* **P** **22 16 37.8 -0.1**
MLR Muntele Rosu 76.77 325 P **P** **22 16 38.0 -0.2**
comp=Z,8.0nm,0.6s,mb4.8,baz=176,slow=3.6,SNR=13
MOX Moxa 76.94 337 *eP* **P** **22 16 39.0 -0.1**
NKC Novy Kostel 77.09 336 *eP* **P** **22 16 39.4 -0.5**
SMOL Smolenice 77.15 332 *eP* **P** **22 16 40.8 +0.5**
ZST Bratislava 77.53 332 *eP* **P** **22 16 43.4 +1.0**
KHC Kasperske Hory 77.76 335 *eP* **P** **22 16 43.9 +0.3**
GRA1 Grafenberg Arr 77.91 336 *eP* **P** **22 16 44.8 +0.4**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 77.91 336 *eP* **P** **22 16 44.8 +0.4**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GERES GERESS Array B 77.99 335 P **P** **22 16 44.7 -0.1**
comp=Z,3.0nm,0.6s,mb4.4,baz=33,slow=5.4,SNR=40
BR131 Keskin Array S 78.26 317 *eP* **P** **22 16 46.9 +0.4**
comp=Z,3.2nm,0.6s,mb4.4
BRTR Keskin Array B 78.26 317 P **P** **22 16 47.0 +0.5**
comp=Z,6.6nm,0.9s,mb4.6,baz=67,slow=3.5,SNR=20
MOA Molln 78.71 334⇑ *iP* **P** **22 16 49.1 +0.2**
comp=Z,6.6nm,0.8s,mb4.6
MOA Molln 78.71 334 *i* P **P** **22 16 49.1 +0.3**
comp=Z,6.6nm,0.8s,mb4.6,SNR=8.3
UMR Umm Al-Rimmam 78.82 302 *eP* **P** **22 16 49.7 -0.1**
MIB Mutribah 78.85 302 *eP* **P** **22 16 50.1 +0.1**
MIB AMb AMB 22 16 51.8
comp=Z,59nm,0.7s,mb5.6
KBD Kabd 79.11 301 *eP* **P** **22 16 51.6 +0.1**
BAIF Baives 79.30 341 *eP* **P** **22 16 52.2 +0.2**
NAY Al-Naaiem 79.32 302 *eP* **P** **22 16 52.4 -0.2**
NAY AMb AMB 22 16 53.5
comp=Z,22nm,0.8s,mb5.1
RDF Al-Radifah 79.38 301 *eP* **P** **22 16 53.0 +0.1**
KBA Koelnbreinsper 79.68 334⇑ *iP* **P** **22 16 55.3 +1.2**
comp=Z,12nm,0.5s,mb5.1
KBA Koelnbreinsper 79.68 334⇑ *iP* **P** **22 16 55.3 +1.2**
KBA pmax pmax
comp=Z,12nm,0.5s,mb5.1
WATA Walderalm 79.96 335⇑ *iP* **P** **22 16 56.3 +0.7**
comp=Z,11nm,1.1s,mb4.7
WATA Walderalm 79.96 335⇑ *iP* **P** **22 16 56.3 +0.7**
WATA pmax pmax
comp=Z,11nm,1.1s,mb4.7
WTTA Wattenberg 80.01 335⇑ *iP* **P** **22 16 56.9 +1.0**
comp=Z,16nm,0.6s,mb5.1
WTTA Wattenberg 80.01 335 *i* P **P** **22 16 56.9 +1.0**
comp=Z,16nm,0.6s,mb5.2,SNR=21
WTTA Wattenberg 80.01 335⇑ *iP* **P** **22 16 56.9 +1.0**
WTTA pmax pmax
comp=Z,16nm,0.6s,mb5.1
MOTA Moosalm 80.08 336⇑ *iP* **P** **22 16 56.9 +0.6**
comp=Z,11nm,1.0s,mb4.7
MOTA Moosalm 80.08 336⇑ *iP* **P** **22 16 56.9 +0.6**
MOTA pmax pmax
comp=Z,11nm,1.0s,mb4.7
CDF Champ du Feu 80.12 338⇑ *iP* **P** **22 16 56.7 +0.3**
comp=Z,22nm,1.0s,mb4.7
CDF Champ du Feu 80.12 338⇑ *iP* **P** **22 16 56.7 +0.3**
CDF pmax pmax
comp=Z,11nm,1.0s,mb4.7
SQTA Sankt Quirin 80.17 335⇑ *iP* **P** **22 16 57.6 +0.9**
comp=Z,8.2nm,1.0s,mb4.6
SQTA Sankt Quirin 80.17 335⇑ *iP* **P** **22 16 57.6 +0.9**
SQTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
DAVA Damuels 80.48 336⇑ *iP* **P** **22 16 59.0 +0.6**
comp=Z,10nm,0.9s,mb4.8
MEZF Maizieres J'vi 80.57 340⇑ *iP* **P** **22 16 59.3 +0.5**
comp=Z,25nm,1.0s,mb4.8
HAU Haudompre 80.72 339 *eP* **P** **22 16 59.8 +0.1**
comp=Z,12nm,0.8s,mb4.6
HAU Haudompre 80.72 339 *eP* **P** **22 16 59.8 +0.1**
HAU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
HINF Hinteralfeld 80.78 338 *eP* **P** **22 17 00.0 +0.1**
DAVOX Davos 80.94 336 P **P** **22 17 01.8 +1.0**
comp=Z,7.9nm,0.8s,mb4.7,baz=52,slow=2.6,SNR=13
FLN La Foliniere 81.50 343 *eP* **P** **22 17 03.9 +0.2**
comp=Z,4.8nm,0.5s,mb4.3
FLN La Foliniere 81.50 343 *eP* **P** **22 17 03.9 +0.2**
FLN pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
LDF La Druitiere 81.60 343⇑ *iP* **P** **22 17 04.3 +0.1**
comp=Z,7.8nm,0.5s,mb4.6
LDF La Druitiere 81.60 343⇑ *iP* **P** **22 17 04.3 +0.1**
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
GRR Gorron 81.94 344⇑ *iP* **P** **22 17 06.3 +0.3**
comp=Z,13nm,0.7s,mb4.7
GRR Gorron 81.94 344⇑ *iP* **P** **22 17 06.3 +0.3**
GRR pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LOR Lormes 82.00 340⇑ *iP* **P** **22 17 06.6 +0.2**
comp=Z,6.9nm,0.7s,mb4.4
LOR Lormes 82.00 340⇑ *iP* **P** **22 17 06.6 +0.2**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CABF La Chapelle 82.09 338 *eP* **P** **22 17 07.4 +0.6**
SSF Saint Saulge 82.28 340⇑ *iP* **P** **22 17 08.2 +0.4**
comp=Z,4.3nm,0.6s,mb4.3
SSF Saint Saulge 82.28 340⇑ *iP* **P** **22 17 08.2 +0.4**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SGMF Saint Gilles 82.38 345⇑ *iP* **P** **22 17 08.9 +0.6**
comp=Z,12nm,0.5s,mb4.7
SGMF Saint Gilles 82.38 345⇑ *iP* **P** **22 17 08.9 +0.6**
SGMF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ROSF Rostrenen 82.43 345 *eP* **P** **22 17 09.1 +0.6**
comp=Z,18nm,0.8s,mb4.7
ROSF Rostrenen 82.43 345 *eP* **P** **22 17 09.1 +0.6**
ROSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AVF Avril sur Loir 82.57 340⇑ *iP* **P** **22 17 09.8 +0.5**
comp=Z,8.1nm,0.6s,mb4.6
AVF Avril sur Loir 82.57 340⇑ *iP* **P** **22 17 09.8 +0.5**
AVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SMF Signal de Mont 82.60 340 *eP* **P** **22 17 09.9 +0.5**
comp=Z,23nm,0.9s,mb4.9
SMF Signal de Mont 82.60 340 *eP* **P** **22 17 09.9 +0.5**
SMF pmax pmax
comp=Z,11nm,0.9s,mb4.9
ASF Jabal al Asfar 82.70 311 P **P** **22 17 10.8 +0.5**
comp=Z,4.6nm,0.8s,mb4.5,baz=265,slow=0.7,SNR=6.7
QUIF Quistinic 82.81 345 *eP* **P** **22 17 10.9 +0.4**
BGF Bois d'Agland 82.91 341 *eP* **P** **22 17 11.6 +0.5**
comp=Z,5.9nm,0.6s,mb4.5
BGF Bois d'Agland 82.91 341 *eP* **P** **22 17 11.6 +0.5**
BGF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LPL La Plagne 82.95 338⇑ *iP* **P** **22 17 12.7 +1.4**
comp=Z,10.0nm,0.7s,mb4.7
LPL La Plagne 82.95 338⇑ *iP* **P** **22 17 12.7 +1.4**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LPG La Plagne 82.96 338⇑ *iP* **P** **22 17 12.9 +1.6**
comp=Z,10nm,0.7s,mb4.7
LPG La Plagne 82.96 338⇑ *iP* **P** **22 17 12.9 +1.6**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
TCF Toulx Ste Croi 83.30 341⇑ *iP* **P** **22 17 13.8 +0.7**
comp=Z,12nm,0.8s,mb4.7
TCF Toulx Ste Croi 83.30 341⇑ *iP* **P** **22 17 13.8 +0.7**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MFF Saint Martin d 83.50 343 *eP* **P** **22 17 14.7 +0.7**
comp=Z,5.8nm,0.5s,mb4.7
MFF Saint Martin d 83.50 343 *eP* **P** **22 17 14.7 +0.7**
MFF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
MBDF Montbardon 83.67 337 *eP* **P** **22 17 15.7 +0.8**
ORIF Oris-en-Rattie 83.72 338 *eP* **P** **22 17 16.5 +1.3**
comp=Z,14nm,0.7s,mb4.9
ORIF Oris-en-Rattie 83.72 338 *eP* **P** **22 17 16.5 +1.3**
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
VIVF Saint-Julien-l 84.08 339 *eP* **P** **22 17 18.0 +1.0**
comp=Z,15nm,1.0s,mb4.8
VIVF Saint-Julien-l 84.08 339 *eP* **P** **22 17 18.0 +1.0**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
SBF Sospel 84.30 337⇑ *iP* **P** **22 17 18.4 +0.3**
comp=Z,8.3nm,0.4s,mb4.9
SBF Sospel 84.30 337⇑ *iP* **P** **22 17 18.4 +0.3**
SBF pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
RJF Les Rejaudoux 84.39 341 *eP* **P** **22 17 19.4 +0.9**
comp=Z,2.8nm,0.5s,mb4.3
RJF Les Rejaudoux 84.39 341 *eP* **P** **22 17 19.4 +0.9**
RJF pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
CAF Calviac 84.63 341⇑ *iP* **P** **22 17 20.9 +1.2**
comp=Z,6.1nm,0.6s,mb4.6
CAF Calviac 84.63 341⇑ *iP* **P** **22 17 20.9 +1.2**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
SMRF Simiane la Rot 84.68 338 *eP* **P** **22 17 21.5 +1.5**
comp=Z,8.2nm,0.7s,mb4.7
FRF La Foret Royal 84.79 337⇑ *iP* **P** **22 17 20.9 +0.3**
comp=Z,7.0nm,0.8s,mb4.5
FRF La Foret Royal 84.79 337⇑ *iP* **P** **22 17 20.9 +0.3**
FRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
LFF La Frestale 84.91 341⇑ *iP* **P** **22 17 22.0 +0.9**
comp=Z,7.9nm,0.5s,mb4.8
LFF La Frestale 84.91 341⇑ *iP* **P** **22 17 22.0 +0.9**
LFF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
LASF Ste Croix 85.01 339 *eP* **P** **22 17 22.3 +0.6**
LMR La Mourre 85.04 337⇑ *iP* **P** **22 17 22.5 +0.7**
comp=Z,14nm,0.7s,mb4.9
LMR La Mourre 85.04 337⇑ *iP* **P** **22 17 22.5 +0.7**
LMR pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
PGF Pioggiola 85.08 335 *eP* **P** **22 17 22.3 +0.3**
comp=Z,9.3nm,0.9s,mb4.6
PGF Pioggiola 85.08 335 *eP* **P** **22 17 22.3 +0.3**
PGF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
IDI Anoyia 85.82 321 P **P** **22 17 24.3 -1.6**
comp=Z,4.4nm,0.8s,mb4.7,baz=16,slow=10,SNR=6.6
MTLF Montolieu 86.09 340 *eP* **P** **22 17 27.2 +0.1**
comp=Z,7.2nm,1.0s,mb4.6
MTLF Montolieu 86.09 340 *eP* **P** **22 17 27.2 +0.1**
MTLF pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
EPF Esparros 86.81 341 *eP* **P** **22 17 30.9 +0.3**
comp=Z,2.7nm,0.4s,mb4.5
EPF Esparros 86.81 341 *eP* **P** **22 17 30.9 +0.3**
EPF pmax pmax
comp=Z,1.0nm,0.4s,mb4.4
SJPF Ste Jean 87.07 342 *eP* **P** **22 17 33.1 +1.2**
ETSF Etsaut 87.13 342⇑ *iP* **P** **22 17 33.9 +1.7**
comp=Z,2.8nm,0.5s,mb4.4
ETSF Etsaut 87.13 342⇑ *iP* **P** **22 17 33.9 +1.7**
ETSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.3
LSZ Lusaka 125.24 287 PKP PKPdf 22 23 46.9 -3.8
comp=Z,1.6nm,0.6s,baz=79,slow=1.5,SNR=7.5
MATP Matopo 128.76 283 PKP PKPdf 22 23 53.8 -3.7
comp=Z,0.8nm,0.4s,baz=53,slow=2.3,SNR=6.1

*DHMR **24** 22:15:19.7±2.2, 12.70N×40.57E, h2km±10km, ML4.9*
*IDC **24** 22:15:20.3±1.4, 12.30N×40.50E, mb4.0/13, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML5.2/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/22, Error ellipse: s-maj=32.7km s-min=18.3km az=19.0*
*CSEM **24** 22:15:20.1±0.8, 12.42N×40.63E, h1km±6km, mb4.3/8, Ms3.9, Error ellipse: s-maj=11.1km s-min=4.0km az=2.0*
*NEIC **24** 22:15:22.0±0.8, 12.30N×40.66E, h10km, mb4.5/8, MS4.0/1, ML4.9(DHMR), Error ellipse: s-maj=18.0km s-min=6.3km az=189.0*

ISC 24 22:15:21.6±0.7, 12.52N±0.10×40.70E±0.04, h10km, n53, σ1§19/59, mb4.1/20, MS4.0/7, 2C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.32**	**115**	Pn	**Pn**	**Pn**	**22 15 59.5**	**-1.0**
	591nm,0.3s,baz=105,slow=2.1,SNR=53							
ATD				Sn	**Sn**	**Sn**	**22 16 32.3**	**+2.9**
	63nm,0.3s,baz=342,slow=23,SNR=9.1							
UDYN	**Al 'Udayn**	**3.49**	**65**	*i* P	**Pn**	**Pn**	**22 16 17.6**	**+0.4**
UDYN				*i* S	**Sn**	**Sn**	**22 17 04.8**	**+5.7**
UDYN				AML	AML	AML	22 17 28.8	
	comp=N,6µm,0.6s							
UDYN	**Al 'Udayn**	**3.49**	**65**	*i* P	**Pn**	**Pn**	**22 16 18.3**	**+1.2**
DHBB	**Dhamar BB**	**4.13**	**60**⇓	*i*P	**Pn**	**Pn**	**22 16 26.8**	**+0.6**
DHBB				*i* S	**Sn**	**Sn**	**22 17 18.9**	**+3.8**
DHBB	**Dhamar BB**	**4.13**	**60**	*i* P	**Pn**	**Pn**	**22 16 26.8**	**+0.6**
DHBB				*i* S	**Sn**	**Sn**	**22 17 15.1**	**0.0**
ADEN	**Aden**	**4.19**	**86**	*i* P	**Pn**	**Pn**	**22 16 28.2**	**+1.1**
ADEN				*i* S	**Sn**	**Sn**	**22 17 21.9**	**+5.1**
ADEN	**Aden**	**4.19**	**86**	*i* P	**Pn**	**Pn**	**22 16 27.6**	**+0.5**
ADEN				*i* S	**Sn**	**Sn**	**22 17 18.7**	**+2.0**
ADEN				*i* S	**Sn**	**Sn**	**22 17 18.7**	**+2.0**
ADEN	**Aden**	**4.19**	**86**	*i* P	**Pn**	**Pn**	**22 16 27.6**	**+0.5**
ADEN				*i* S	**Sn**	**Sn**	**22 17 18.7**	**+2.0**
SANA	**San'a**	**4.44**	**50**⇑	*i*P	**Pn**	**Pn**	**22 16 30.1**	**-0.5**
SANA	**San'a**	**4.44**	**50**	*i* P	**Pn**	**Pn**	**22 16 30.0**	**-0.6**
LBOS		**4.63**	**73**⇑	*i*P	**Pn**	**Pn**	**22 16 32.2**	**-1.1**
LBOS				*i* S	**Sn**	**Sn**	**22 17 28.1**	**+0.2**
LBOS		**4.63**	**73**	*i* P	**Pn**	**Pn**	**22 16 32.2**	**-1.1**
LBOS				*i* S	**Sn**	**Sn**	**22 17 27.3**	**-0.5**
BDHA	**Al Bayda'**	**4.96**	**73**	*i* P	**Pn**	**Pn**	**22 16 36.2**	**-1.8**
BDHA	**Al Bayda'**	**4.96**	**73**	*i* P	**Pn**	**Pn**	**22 16 36.7**	**-1.3**
MUKL	**Al Mukalla**	**8.34**	**76**⇓	*i*P	**P**	**P**	**22 17 22.8**	**-2.7**
MUKL				*i* S	**Sn**	**Sn**	**22 18 59.0**	**-1.7**
MUKL	**Al Mukalla**	**8.34**	**76**	*i* P	**P**	**P**	**22 17 22.8**	**-2.7**
MUKL				*i* S	**Sn**	**Sn**	**22 18 57.7**	**-3.0**
ASF	**Jabal al Asfar**	**19.87**	**350**	P	**P**	**P**	**22 19 56.3**	**+0.4**
	comp=N,12nm,1.0s,baz=52,slow=4.6,SNR=9.5							
ASF				LR	LR	LR	22 26 41.4	
	comp=N,125nm,19.8s,baz=214,slow=34							
MALT	**Malatya**	**25.76**	**356**	*eP*	**P**	**P**	**22 20 56.4**	**+2.2**
	comp=N,15nm,1.1s,mb4.4							
MALT	**Malatya**	**25.76**	**356**	*eP*	**P**	**P**	**22 20 56.4**	**+2.2**
	comp=N,15nm,1.1s,mb4.4							
BRTR	**Keskin Array B**	**27.80**	**348**	P	**P**	**P**	**22 21 13.8**	**+0.8**
	comp=N,11nm,1.2s,mb4.4,baz=164,slow=9.0,SNR=18							
LSZ	**Lusaka**	**30.27**	**204**	LR	LR	LR	22 34 59.8	
	comp=N,132nm,18.4s,MS3.6,baz=26,slow=39							
MATP	**Matopo**	**34.87**	**200**	LR	LR	LR	22 35 02.2	
	comp=N,249nm,18.3s,MS4.0,baz=24,slow=34							
MLR	**Muntele Rosu**	**35.17**	**342**	P	**P**	**P**	**22 22 17.7**	**0.0**
	comp=N,3.2nm,0.9s,mb4.3,baz=109,slow=14,SNR=3.7							
TSUM	**Tsumeb**	**38.89**	**216**	LR	LR	LR	22 40 44.6	
	comp=N,246nm,18.3s,MS4.1,baz=316,slow=40							
AKASG	**Malin Array Be**	**39.21**	**348**	P	**P**	**P**	**22 22 50.1**	**-1.5**
	comp=N,0.4nm,0.3s,mb3.6,baz=166,slow=6.6,SNR=7.1							
LBTB	**Lobatse**	**40.11**	**202**	LR	LR	LR	22 40 59.8	
	comp=N,226nm,18.0s,MS4.1,baz=221,slow=39							
VRAC	**Vranov**	**41.73**	**336**	P	**P**	**P**	**22 23 11.5**	**-0.9**
	comp=N,0.9nm,0.4s,mb3.7,baz=93,slow=3.4,SNR=4.5							
GERES	**GERESS Array B**	**42.56**	**334**	P	**P**	**P**	**22 23 17.5**	**-1.7**
	comp=N,1.2nm,0.6s,mb3.8,baz=126,slow=6.4,SNR=11							
FRF	**La Foret Royal**	**42.60**	**323**	*eP*	**P**	**P**	**22 23 20.2**	**+0.6**
	comp=N,15nm,1.1s,mb4.3							
KHC	**Kasperske Hory**	**42.83**	**334**	*eP*	**P**	**P**	**22 23 20.0**	**-1.4**
MBDF	**Montbardon**	**43.22**	**324**	*eP*	**P**	**P**	**22 23 26.3**	**+1.6**
	comp=N,19nm,0.7s,mb4.6							
LPL	**La Plagne**	**43.73**	**325**	*eP*	**P**	**P**	**22 23 28.7**	**0.0**
	comp=N,9.9nm,1.1s,mb4.2							
ORIF	**Oris-en-Rattie**	**43.84**	**324**	*eP*	**P**	**P**	**22 23 30.4**	**+0.7**
ORIF				*eR*				
	comp=N,157nm,18.0s							
GRA1	**Grafenberg Arr**	**44.28**	**333**	*eP*	**P**	**P**	**22 23 32.0**	**-1.2**
	comp=N,2.0nm,1.1s,mb3.8							
VIVF	**Saint-Julien-l**	**44.51**	**323**	*eP*	**P**	**P**	**22 23 35.7**	**+0.6**
LASF	**Ste Croix**	**44.55**	**322**	*eP*	**P**	**P**	**22 23 36.0**	**+0.6**
	comp=N,5.0nm,0.8s,mb4.1							
CABF	**La Chapelle**	**44.75**	**326**	*eP*	**P**	**P**	**22 23 37.1**	**+0.1**
DBIC	**Dimbokro**	**45.24**	**267**	P	**P**	**P**	**22 23 38.4**	**-3.0**
	comp=N,5.2nm,1.1s,mb4.3,baz=32,slow=10,SNR=4.3							
DBIC				LR	LR	LR	22 44 25.1	
	comp=N,100nm,20.8s,MS3.7,baz=84,slow=39							
CDF	**Champ du Feu**	**45.27**	**329**	*eP*	**P**	**P**	**22 23 41.7**	**+0.5**
MDT	**Midelt**	**46.01**	**304**	P	**P**	**P**	**22 23 46.8**	**-0.4**
	comp=N,1.8nm,0.8s,mb4.1,baz=81,slow=7.6,SNR=4.9							
LOR	**Lormes**	**46.37**	**326**	*eP*	**P**	**P**	**22 23 50.0**	**+0.2**
LOR				*eR*				
	comp=N,163nm,18.2s							
SSF	**Saint Saulge**	**46.44**	**325**	*eP*	**P**	**P**	**22 23 50.4**	**0.0**
MEZF	**Maizieres J'vi**	**46.47**	**328**	*eP*	**P**	**P**	**22 23 51.4**	**+0.8**
	comp=N,10.0nm,0.7s,mb4.5							
BGF	**Bois d'Agland**	**46.53**	**324**	*eP*	**P**	**P**	**22 23 51.8**	**+0.7**
ETSF	**Etsaut**	**46.72**	**318**	*eP*	**P**	**P**	**22 23 54.1**	**+1.5**
	comp=N,9.1nm,0.9s,mb4.4							
MKAR	**Makanchi Array**	**48.83**	**37**	P	**P**	**P**	**22 24 09.3**	**+0.2**
	comp=N,0.8nm,0.8s,mb3.8,baz=233,slow=6.1,SNR=4.8							
HFS	**Hagfors**	**51.54**	**343**	P	**P**	**P**	**22 24 28.4**	**-1.2**
	comp=N,1.4nm,0.7s,mb4.0,baz=225,slow=2.0,SNR=3.9							
NB2	**NORSAR Subarra**	**52.99**	**343**	P	**P**	**P**	**22 24 38.7**	**-1.8**
	comp=N,3.9nm,0.9s,mb4.3,baz=144,slow=7.4							
NOA	**NORSAR Array B**	**52.99**	**343**	P	**P**	**P**	**22 24 38.4**	**-2.1**
	comp=N,1.5nm,0.8s,mb4.0,baz=142,slow=7.3,SNR=3.9							
ZAL	**Zalesovo**	**53.96**	**31**	P	**P**	**P**	**22 24 48.3**	**+0.6**
	comp=N,0.9nm,0.7s,mb3.8,baz=248,slow=8.2,SNR=5.4							
SONM	**Songino Array**	**64.53**	**43**	P	**P**	**P**	**22 26 02.8**	**+1.8**
	comp=N,1.9nm,0.9s,mb4.1,baz=265,slow=6.1,SNR=15							
MAW	**Mawson**	**81.52**	**172**	LR	LR	LR	23 00 10.7	
	comp=N,89nm,21.3s,MS4.1,baz=64,slow=33							
BDFB	**Brasilia**	**92.09**	**255**	LR	LR	LR	23 05 48.3	
	comp=N,85nm,19.7s,MS4.2,baz=124,slow=33							

*IDC **24** 22:17:35.1±3.9, 12.38N×40.56E, mb4.0/7, mb1 4.1/9, mb1mx3.9/19, mbtmp4.0/9, ML4.2/1, Error ellipse: s-maj=87.5km s-min=22.2km az=35.0*
*NEIC **24** 22:17:37.3±2.1, 12.48N×40.70E, h10km, mb4.4/2,

BVAR	**Borovoye Array**	**46.80**	**24**	P		**P**		**22 26 07.7**	**0.0**
	1.3nm,0.8s,mb3.9,baz=236,slow=5.3,SNR=5.1								
MKAR	**Makanchi Array**	**48.81**	**37**	P		**P**		**22 26 22.8**	**-0.7**
	2.9nm,1.0s,mb4.2,baz=225,slow=6.9,SNR=5.7								
NOA	**NORSAR Array B**	**52.90**	**343**	P		**P**		**22 26 53.7**	**-0.7**
	1.2nm,0.8s,mb3.9,baz=143,slow=7.5,SNR=3.2								
NOA	**NORSAR Array B**	**52.90**	**343**	P		**P**		**22 26 53.7**	**-0.7**
ZAL	**Zalesovo**	**53.93**	**31**	P		**P**		**22 27 02.4**	**+0.4**
	1.2nm,0.9s,mb3.8,baz=223,slow=7.4,SNR=4.3								
SONM	**Songino Array**	**64.53**	**43**	P		**P**		**22 28 15.8**	**+0.2**
	2.4nm,1.1s,mb4.1,baz=243,slow=5.9,SNR=7.5								

*NNC **24** 22:23:54.5±4.3,37.01N×71.00E,mpv3.6,Error ellipse: s-maj=47.0km s-min=31.4km az=134.0*
ISC 24 22:23:52.2±2.8,36.9N±0.2×71.0E±0.2,h10km,n9, σ0§52/11,1C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.61**	**21**	P			**Pn**	**22 25 18.4**	**+0.6**
	SNR=18								
UCH	**Uchtor**	**5.96**	**26**	P			**Pn**	**22 25 22.7**	**0.0**
	SNR=7.2								
EKS2	**Erkin-Say**	**6.12**	**20**	P			**Pn**	**22 25 25.4**	**+0.3**
	SNR=8.4								
KK31	**Karatay Array**	**6.19**	**357**	P			**Pn**	**22 25 26.3**	**+0.3**
	1.4nm,0.3s,baz=180,slow=13,SNR=152								
KK31				⇓S			**Sn**	**22 26 37.2**	**-0.4**
	2.1nm,0.7s,baz=186,slow=24,SNR=4.5								
AAK	**Ala-Archa**	**6.32**	**24**	P			**Pn**	**22 25 27.7**	**0.0**
	SNR=6.1								
AAK	**Ala-Archa**	**6.32**	**24**	⇓P			**Pn**	**22 25 27.4**	**-0.3**
	3.2nm,0.4s								
AAK				⇓S			**Sn**	**22 26 41.0**	**+0.3**
	2.6nm,0.6s								
KBK	**Karagaybulak**	**6.49**	**27**	P			**Pn**	**22 25 30.4**	**+0.1**
	SNR=5.1								
ULHL	**Ulahol**	**6.69**	**36**	P			**Pn**	**22 25 27.0**	**-6.0**
	SNR=6.4								
TKM2	**Tokmak 2**	**6.96**	**29**	P			**Pn**	**22 25 35.6**	**-1.2**
	SNR=5.2								

*BJI **24** 22:25:18.3,0.60N×97.47E,h8km,mb4.3*
*IDC **24** 22:25:23.9±1.8,1.17N×96.85E,mb4.2/8,mb1 4.3/8, mb1mx4.0/17,mbtmp4.2/8,Error ellipse: s-maj=83.6km s-min=20.9km az=56.0*
*NEIC **24** 22:25:29.1±0.7,1.31N×97.07E,h30km,mb4.4/2,Error ellipse: s-maj=20.0km s-min=11.6km az=49.0*
ISC 24 22:25:27.2±0.9,1.3N±0.1×97.1E±0.1,h30km,n16, σ0§66/16,mb4.2/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.33**	**42**	*e*Pn			**Pn**	**22 26 46.5**	**-0.3**
DMN	**Daman**	**28.55**	**337**	*e*P			**P**	**22 31 23.7**	**+1.0**
KKN	**Kakani**	**28.65**	**338**	*e*P			**P**	**22 31 23.4**	**-0.2**
GKN	**Gorkha**	**29.09**	**337**	*e*P			**P**	**22 31 26.6**	**-1.0**
KOLN	**Koldanda**	**29.30**	**335**	*e*P			**P**	**22 31 30.2**	**+0.7**
	14nm,0.8s,mb4.8								
GTA	**Gaotai**	**38.00**	**3**	*e*P			**P**	**22 32 45.3**	**+0.8**
GTA					AP		pP	22 32 48.4	-5.0
GTA					XP		sP	22 32 51.3	-5.9
GTA					AMB		AMB		
	comp=Z,4.0nm,0.8s,mb4.2								
WRA	**Warramunga Arr**	**42.20**	**122**	P			**P**	**22 33 19.0**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.7,baz=300,slow=9.1,SNR=7.9								
SONM	**Songino Array**	**47.04**	**9**	P			**P**	**22 33 58.0**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=190,slow=9.2,SNR=29								
MKAR	**Makanchi Array**	**47.10**	**346**	P			**P**	**22 33 58.8**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.2,baz=160,slow=8.9,SNR=48								
KURK	**Kurchatov**	**51.65**	**345**	*e*P			**P**	**22 34 33.0**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.3								
ZAL	**Zalesovo**	**53.42**	**351**	P			**P**	**22 34 46.9**	**+0.3**
	comp=Z,3.8nm,0.5s,mb4.6,baz=292,slow=6.2,SNR=18								
STKA	**Stephens Creek**	**53.52**	**132**	P			**P**	**22 34 48.2**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=270,slow=24,SNR=2.8								
BVAR	**Borovoye Array**	**56.10**	**341**	P			**P**	**22 35 05.3**	**-0.8**
	comp=Z,1.5nm,0.7s,mb4.2,baz=149,slow=8.6,SNR=12								
FINES	**FINESS Array B**	**79.84**	**333**	P			**P**	**22 37 33.0**	**-1.3**
	comp=Z,2.7nm,1.0s,mb4.1,baz=108,slow=6.0,SNR=4.7								
FINES	**FINESS Array B**	**79.84**	**333**	P			**P**	**22 37 33.0**	**-1.3**
ARCES	**ARCESS Array B**	**82.39**	**340**	P			**P**	**22 37 47.9**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=56,slow=4.4,SNR=4.6								

*CSEM **24** 22:28:36.6±0.5,37.77N×25.43W,h2km±2km,ML2.7,Error ellipse: s-maj=12.8km s-min=6.2km az=175.0,After PDA*
*PDA **24** 22:28:36.6±1.0,37.77N×25.43W,h2km±1km,MD2.5, ML2.7,Error ellipse: s-maj=2.4km s-min=1.7km az=155.0*
SVSA 24 22:28:36.6±1.0,37.77N×25.43W,h2km±1km,MD2.5, ML2.7,Error ellipse: s-maj=2.4km s-min=1.7km az=155.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.03**	**335**	*i* P			Pg	22 28 37.8	+0.6
VIF	**Vila Franca**	**0.03**	**194**	*i* P			Pg	22 28 37.8	+0.6
PCNG	**Congro**	**0.03**	**96**	*e*P			Pg	22 28 37.8	+0.5
PCNG				*e*S			Sg	22 28 39.0	+1.3
LFA	**Lagoa do Fogo**	**0.04**	**274**	*e*P			Pg	22 28 38.1	+0.6
PMAT	**Coroa da Mata**	**0.06**	**326**	*e*P			Pg	22 28 38.1	+0.3
PMAT				*e*S			Sg	22 28 40.0	+1.5
PRCH	**Ribeira Ch**	**0.06**	**222**	*e*P			Pg	22 28 38.1	+0.3
FRA1	**Furnas**	**0.07**	**114**	*e*P			Pg	22 28 38.0	+0.1
CMLA	**Cha da Macela**	**0.07**	**265**	*e*P			Pg	22 28 36.7	-1.4
CMLA				*e*S			Sg	22 28 38.9	-0.2
CML	**Cha da Macela**	**0.09**	**271**	*e*P			Pg	22 28 39.1	+0.7
PFAD	**Fenais da Ajud**	**0.11**	**51**	*e*P			Pg	22 28 39.4	+0.6
PFAD				*e*S			Sg	22 28 41.6	+1.3
MIRA	**Miradouro**	**0.12**	**83**	*e*P			Pg	22 28 39.2	+0.1
MIRA				*e*S			Sg	22 28 41.7	+1.0
FAC	**Faja de Cima**	**0.17**	**271**	*e*P			Pg	22 28 41.3	+1.2
FAC				*e*S			Sg	22 28 43.1	+0.7
PDA	**Ponta Delgada**	**0.18**	**263**	*i* P			Pg	22 28 40.0	-0.3
PDA				*e*S			Sg	22 28 43.0	+0.2
PDA	**Ponta Delgada**	**0.18**	**263**	*e*S			Sg	22 28 43.0	+0.2
PSET	**Sete Cidades**	**0.23**	**283**	*e*P			Pg	22 28 40.8	-0.5
PSET				*e*S			Sg	22 28 44.2	-0.2
PSAN	**Santo Antonio**	**0.25**	**289**	*e*P			Pg	22 28 42.3	+0.8
PSAN				*e*S			Sg	22 28 46.0	+1.2
PFET	**Feteiras**	**0.29**	**280**	*e*P			Pg	22 28 42.8	+0.5
PFET				*e*S			Sg	22 28 47.8	+1.6
SET2	**Ginetes**	**0.31**	**284**	*e*P			Pg	22 28 43.4	+0.7
SET2				*e*S			Sg	22 28 48.0	+1.2
SET4	**Mosteiros**	**0.31**	**290**	*e*P			Pg	22 28 43.2	+0.4
SET4				*e*S			Sg	22 28 47.5	+0.6
PSCM	**Serra do Cume**	**1.62**	**306**	*e*P			Pn	22 29 00.8	-5.6
PSCM				*e*S			Sb	22 29 20.1	-7.7
	22nm,0.1s								

IDC 24 22:28:50.3±4.7,12.05N×40.03E,mb3.6/3,mb1 3.8/4, mb1mx3.5/17,mbtmp3.7/4,ML4.4/1,MS3.8/1,Ms1 3.8/1, ms1mx3.1/19,Error ellipse: s-maj=111.4km s-min=25.7km az=30.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.80**	**100**	Pn			**Pn**	**22 29 36.1**	**-1.1**
	60nm,0.3s,baz=285,slow=22,SNR=9.1								
ATD					Sn		Sn	22 30 12.5	+0.3
	49nm,0.3s,baz=266,slow=22,SNR=11								
BRTR	**Keskin Array B**	**28.14**	**350**	P			P	22 34 44.9	-1.3
	1.8nm,1.1s,baz=149,slow=7.2,SNR=5.0								
GERES	**GERESS Array B**	**42.70**	**334**	P			P	22 36 48.4	-2.1
	0.2nm,0.6s,baz=121,slow=7.8,SNR=4.5								
GERES					LR		LR	22 55 03.0	
	comp=Z,110nm,19.8s,baz=218,slow=37								
SONM	**Songino Array**	**65.32**	**43**	P			P	22 39 34.6	-1.8
	0.3nm,0.7s,baz=244,slow=6.2,SNR=4.2								

*IDC **24** 22:29:21.8±1.2,24.10S×67.05W,h181km±13km,mb3.8/5, mb1 3.8/11,mb1mx3.6/19,mbtmp4.2/11,Error ellipse: s-maj=21.2km s-min=16.7km az=26.0*
*GUC **24** 22:29:22.1±0.7,24.36S×67.36W,h170km,ML4.3*
*NEIC **24** 22:29:22.1,24.36S×67.36W,h170km,After GUC.*
ISC 24 22:29:19.6±0.6,24.33S±0.04×67.14W±0.08, h180km±10km,n23,σ1§40/34,mb4.0/5,4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.36**	**316**	P			**P**	**22 30 03.0**	**+1.8**
	48nm,0.3s,baz=135,slow=6.8,SNR=438								
LVC					S		**S**	**22 30 33.7**	**+0.5**
	47nm,0.3s,baz=8.2,slow=21,SNR=40								
LVC	**Limon Verde**	**2.36**	**316**	⇑*i*P			**P**	**22 30 03.1**	**+1.9**
LVC				*i* S			**S**	**22 30 33.6**	**+0.4**
LVC				AMP				22 30 35.5	
	comp=N,678nm,0.6s								
LVC	**Limon Verde**	**2.36**	**316**	*e*Pn			**P**	**22 30 03.0**	**+1.8**
CEN1	**Los Morros**	**2.96**	**288**	⇓*i*P			**P**	**22 30 10.4**	**+2.1**
CEN1				*i* S			**S**	**22 30 46.5**	**+0.8**
CEN1				AMP				22 30 50.4	
	comp=N,467nm,0.7s								
CPN1	**Cerro Paranal**	**2.99**	**264**	⇑*i*P			**P**	**22 30 09.9**	**+1.2**
CPN1				*i* S			**S**	**22 30 46.2**	**-0.3**
CPN1				AMP				22 30 49.5	
	comp=E,446nm,0.7s								
ANCH	**Antofagasta**	**3.06**	**282**	⇑*i*P			**P**	**22 30 10.8**	**+1.2**
ANCH				*i* S			**S**	**22 30 46.9**	**-1.1**
ANCH				AMP				22 30 51.5	
	comp=N,562nm,0.3s								
CRCH	**Chaqaral**	**3.73**	**237**	⇑*i*P			**P**	**22 30 18.5**	**+0.5**
CRCH				*i* S			**S**	**22 31 01.8**	**-1.3**
CRCH				AMP				22 31 04.5	
	comp=E,892nm,0.5s								
CDCH	**Caldera**	**4.30**	**230**	⇓*i*P			**P**	**22 30 24.7**	**-0.6**
CDCH				*i* S			**S**	**22 31 13.5**	**-2.5**
CFAA	**Coronel Fontan**	**7.31**	**187**	P			**P**	**22 31 04.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=16,slow=12,SNR=13								
CFAA					S		**S**	**22 32 23.2**	**-3.3**
	comp=E,0.1nm,0.3s,baz=276,slow=21,SNR=3.7								
LPAZ	**La Paz**	**8.06**	**353**	P			**P**	**22 31 14.5**	**0.0**
	comp=E,2.3nm,0.3s,baz=157,slow=8.6,SNR=39								
LPAZ					S		**S**	**22 32 42.5**	**-1.8**
	comp=E,0.1nm,0.3s,baz=12,slow=22,SNR=3.0								
LPAZ	**La Paz**	**8.06**	**353**	P			**P**	**22 31 14.5**	**0.0**
LPAZ				*e*Pn			**P**	**22 31 15.0**	**+0.5**
LPAZ				S			**S**	**22 32 42.5**	**-1.8**
CPUP	**Villa Florida**	**9.10**	**105**	P			**P**	**22 31 28.2**	**0.0**
	comp=E,0.2nm,0.3s,baz=290,slow=14,SNR=4.7								
CPUP	**Villa Florida**	**9.10**	**105**	P			**P**	**22 31 28.2**	**0.0**
SIV	**San Ignacio**	**10.06**	**36**	P			**P**	**22 31 38.7**	**-2.2**
	comp=E,0.5nm,0.3s,baz=218,slow=14,SNR=18								
SIV					S		**S**	**22 33 16.8**	**-15**
	comp=E,0.1nm,0.3s,baz=218,slow=19,SNR=2.8								
PLCA	**Paso Flores**	**16.60**	**189**	P			**P**	**22 33 05.1**	**+1.7**
	comp=E,0.1nm,0.3s,baz=36,slow=13,SNR=3.3								
PLCA	**Paso Flores**	**16.60**	**189**	P			**P**	**22 33 05.1**	**+1.7**
BDFB	**Brasilia**	**19.93**	**68**	P			**P**	**22 33 38.3**	**-1.0**
	comp=E,2.8nm,0.3s,baz=250,slow=10,SNR=29								
TXAR	**Lajitas Array**	**63.87**	**325**	P			**P**	**22 39 33.5**	**-1.9**
	comp=E,0.5nm,0.8s,mb3.4,baz=142,slow=6.7,SNR=3.8								
DBIC	**Dimbokro**	**68.03**	**71**	P			**P**	**22 40 00.5**	**-1.5**
	comp=E,6.5nm,1.1s,mb4.3,baz=219,slow=16,SNR=4.6								
LBTB	**Lobatse**	**82.37**	**114**	P			**P**	**22 41 24.1**	**+1.1**
	comp=E,1.1nm,0.3s,mb3.9,baz=241,slow=9.1,SNR=7.2								
MATP	**Matopo**	**86.67**	**111**	P			**P**	**22 41 46.3**	**+1.7**
	comp=E,3.1nm,0.7s,mb4.2,baz=259,slow=5.0,SNR=8.2								
LSZ	**Lusaka**	**88.54**	**106**	P			**P**	**22 41 55.4**	**+1.9**
	comp=E,1.4nm,0.6s,mb4.1,baz=221,slow=5.8,SNR=5.7								
MKAR	**Makanchi Array**	**146.86**	**40**	PKPbc			PKPbc	22 48 41.6	+1.6
	comp=E,0.6nm,0.7s,baz=300,slow=3.3,SNR=6.6								

*BJI **24** 22:31:42.6,12.10N×40.40E,h10km,mB4.9,mb4.9*
*MOS **24** 22:31:44.5±0.8,11.91N×40.42E,h10km,mb4.5/18,Error ellipse: s-maj=16.1km s-min=6.4km az=108.4*
*CSEM **24** 22:31:45.6±0.3,12.11N×40.48E,h10km,mb4.4/21,Error ellipse: s-maj=10.6km s-min=3.0km az=1.0*
*NEIC **24** 22:31:47.6±0.8,12.10N×40.47E,h10km,mb4.4/21, ML4.7(DHMR),Error ellipse: s-maj=17.0km s-min=5.5km az=192.0*
*DHMR **24** 22:31:47.4±0.4,12.66N×40.56E,h7km±208km,ML4.7*
*IDC **24** 22:31:48.6±1.1,12.46N×40.64E,mb4.1/11,mb1 4.2/13, mb1mx4.1/21,mbtmp4.1/13,ML4.2/2,MS3.9/1,Ms1 3.9/1, ms1mx3.2/26,Error ellipse: s-maj=25.6km s-min=18.0km az=42.0*
ISC 24 22:31:47.8±0.5,12.40N±0.08×40.50E±0.04,h10km,n86, σ0§92/92,mb4.2/33,MS3.9/1,8C-4D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.45**	**110**	Pn			**Pn**	**22 32 28.2**	**-0.3**
	161nm,0.3s,baz=277,slow=9.8,SNR=29								
ATD					Sn		**Sn**	**22 33 00.2**	**+1.3**
	160nm,0.3s,baz=289,slow=22,SNR=12								
UDYN	**Al 'Udayn**	**3.72**	**65**	*e*P			**Pn**	**22 32 46.3**	**-0.3**
UDYN				*i* S			**Sn**	**22 33 31.9**	**+0.9**
UDYN				AML			AML	22 33 49.3	
	comp=N,4μm,0.6s								
UDYN	**Al 'Udayn**	**3.72**	**65**	P			**Pn**	**22 32 46.8**	**+0.2**
UDYN				S			**Sn**	**22 33 33.8**	**+2.8**
DHBB	**Dhamar BB**	**4.36**	**60**	⇓*e*P			**Pn**	**22 32 54.3**	**-1.3**
DHBB	**Dhamar BB**	**4.36**	**60**	P			**Pn**	**22 32 55.3**	**-0.4**
ADEN	**Aden**	**4.39**	**85**	*e*P			**Pn**	**22 32 55.6**	**-0.5**
ADEN				*i* S			**Sn**	**22 33 49.2**	**+1.2**
ADEN	**Aden**	**4.39**	**85**	P			**Pn**	**22 32 56.4**	**+0.2**
ADEN				S			**Sn**	**22 33 47.4**	**-0.7**
BSY	**Bisya**	**18.94**	**55**	⇓P			**P**	**22 36 10.8**	**-0.7**
	SNR=6.0								
BSYO	**Bisya**	**18.96**	**55**	P			**P**	**22 36 10.8**	**-1.0**
	SNR=6.0								
ASHO	**Ashiyiah**	**19.13**	**48**	⇓P			**P**	**22 36 13.2**	**-0.5**
	SNR=5.9								
ASF	**Jabal al Asfar**	**19.96**	**351**	P			**P**	**22 36 23.5**	**+0.4**
	comp=N,0.2nm,0.3s,baz=45,slow=2.6,SNR=8.7								
BANOM	**Banah**	**20.07**	**46**	⇓P			**P**	**22 36 23.0**	**-1.3**
	SNR=6.6								
BHD	**Baghdad**	**21.08**	**9**	*ex*			x	22 36 31.0	
MALT	**Malatya**	**25.88**	**356**	*e*P			**P**	**22 37 23.7**	**+2.2**
	comp=N,12nm,1.3s,mb4.3								
MALT	**Malatya**	**25.88**	**356**	*e*P			**P**	**22 37 23.7**	**+2.2**
MALT					pmax		pmax		
	comp=Z,12nm,1.3s,mb4.3								
IDI	**Anoyia**	**26.82**	**331**	P			**P**	**22 37 31.2**	**+0.9**
	comp=Z,4.3nm,0.8s,mb4.0,baz=256,slow=23,SNR=3.3								
IDI	**Anoyia**	**26.82**	**331**	P			**P**	**22 37 31.1**	**+0.9**
BRTR	**Keskin Array B**	**27.89**	**349**	P			**P**	**22 37 41.9**	**+1.9**
	comp=Z,8.3nm,1.1s,mb4.3,baz=172,slow=8.7,SNR=19								
BRTR	**Keskin Array B**	**27.89**	**349**	P			**P**	**22 37 41.8**	**+1.9**
GNI	**Garni**	**27.90**	**7**	P			**P**	**22 37 42.3**	**+2.3**
	comp=Z,5.3nm,0.8s,mb4.2,baz=18,slow=22,SNR=3.7								
MATP	**Matopo**	**34.69**	**200**	P			**P**	**22 38 41.8**	**+1.8**
	comp=Z,2.0nm,0.9s,mb4.0,baz=339,slow=7.6,SNR=3.8								
AKASG	**Malin Array Be**	**39.29**	**349**	P			**P**	**22 39 18.3**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.7,baz=171,slow=7.3,SNR=6.8								
PGF	**Pioggiola**	**40.60**	**324**	*e*P			**P**	**22 39 29.6**	**+0.2**
	comp=Z,10nm,0.9s,mb4.1								
PGF	**Pioggiola**	**40.60**	**324**	*e*P			**P**	**22 39 29.6**	**+0.2**
PGF					pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.1								
AAK	**Ala-Archa**	**42.12**	**38**	*i* P			**P**	**22 39 42.5**	**+0.6**
	comp=Z,5.0nm,1.2s,mb4.0								
AAK	**Ala-Archa**	**42.12**	**38**	*i* P			**P**	**22 39 42.5**	**+0.6**
AAK					pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.0								
FRF	**La Foret Royal**	**42.58**	**323**	*e*P			**P**	**22 39 45.5**	**-0.2**
GERES	**GERESS Array B**	**42.59**	**334**	P			**P**	**22 39 45.8**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.0,baz=135,slow=7.5,SNR=16								
DPC	**Dobruska-Polom**	**42.71**	**337**	*e*P			**P**	**22 39 46.9**	**+0.3**
OBN	**Obninsk**	**42.73**	**357**	*i*eP			**P**	**22 39 47.7**	**+1.0**
	comp=Z,24nm,1.4s,mb4.7								
OBN	**Obninsk**	**42.73**	**357**	⇑*e*P			**P**	**22 39 47.7**	**+1.0**
OBN					pmax		pmax		
	comp=Z,24nm,1.4s,mb4.7								
OBN					MLR		MLR		
	comp=Z,100nm,9.0s								
KHC	**Kasperske Hory**	**42.86**	**334**	*e*P			**P**	**22 39 47.7**	**-0.2**
UPC	**Upice**	**42.96**	**337**	*e*P			**P**	**22 39 49.7**	**+1.1**
MBDF	**Montbardon**	**43.21**	**325**	*e*P			**P**	**22 39 51.7**	**+0.9**
	comp=Z,13nm,0.8s,mb4.4								
MBDF	**Montbardon**	**43.21**	**325**	*e*P			**P**	**22 39 51.7**	**+0.9**
MBDF					pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.4								
LPG	**La Plagne**	**43.70**	**326**	*e*P			**P**	**22 39 54.0**	**-0.7**
	comp=Z,5.0nm,0.8s,mb4.0								
LPG	**La Plagne**	**43.70**	**326**	*e*P			**P**	**22 39 54.0**	**-0.7**
LPG					pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.1								
LPL	**La Plagne**	**43.72**	**326**	*e*P			**P**	**22 39 54.1**	**-0.8**
	comp=Z,2.9nm,0.7s,mb3.8								
LPL	**La Plagne**	**43.72**	**326**	*e*P			**P**	**22 39 54.1**	**-0.8**
LPL					pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.6								
SUW	**Suwalki**	**43.73**	**345**	*e*P			**P**	**22 39 55.1**	**+0.3**
ORIF	**Oris-en-Rattie**	**43.84**	**324**	*e*P			**P**	**22 39 55.8**	**0.0**
BRG	**Berggiesshubel**	**44.05**	**336**	P			**P**	**22 39 57.7**	**+0.2**
	comp=Z,4.1nm,1.0s,mb4.1								
BRG	**Berggiesshubel**	**44.05**	**336**	P			**P**	**22 39 57.7**	**+0.2**
	comp=Z,4.1nm,1.0s,mb4.1								
BRG	**Berggiesshubel**	**44.05**	**336**	P			**P**	**22 39 57.7**	**+0.2**
BRG					pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.1								
GRA1	**Grafenberg Arr**	**44.30**	**333**	*e*P			**P**	**22 39 59.5**	**-0.1**
	comp=Z,5.0nm,1.2s,mb4.1								
GRF	**Grafenberg Arr**	**44.30**	**333**	*e*P			**P**	**22 39 59.5**	**-0.1**
GRF					pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.1								
VIVF	**Saint-Julien-l**	**44.49**	**324**	*e*P			**P**	**22 40 00.9**	**-0.3**
LASF	**Ste Croix**	**44.53**	**322**	*e*P			**P**	**22 40 01.5**	**0.0**
	comp=Z,15nm,1.2s,mb4.4								
CABF	**La Chapelle**	**44.75**	**326**	*e*P			**P**	**22 40 02.4**	**-0.8**
DBIC	**Dimbokro**	**45.04**	**267**	LR			LR	23 00 53.3	
	comp=Z,144nm,19.0s,MS3.9,baz=65,slow=39								
HINF	**Hinteralfeld**	**45.11**	**328**	*e*P			**P**	**22 40 05.6**	**-0.5**
	comp=Z,2.5nm,0.5s,mb4.0								
HINF	**Hinteralfeld**	**45.11**	**328**	*e*P			**P**	**22 40 05.6**	**-0.5**
HINF					pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.9								
MTLF	**Montolieu**	**45.14**	**320**	*e*P			**P**	**22 40 06.3**	**-0.1**
	comp=Z,11nm,1.2s,mb4.2								
MTLF	**Montolieu**	**45.14**	**320**	*e*P			**P**	**22 40 06.3**	**-0.1**
MTLF					pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.2								
CDF	**Champ du Feu**	**45.28**	**329**	*e*P			**P**	**22 40 07.0**	**-0.5**
	comp=Z,7.2nm,0.9s,mb4.2								
CDF	**Champ du Feu**	**45.28**	**329**	*e*P			**P**	**22 40 07.0**	**-0.5**
CDF					pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2								
HAU	**Haudompre**	**45.49**	**328**	*e*P			**P**	**22 40 08.6**	**-0.5**
ARU	**Arti**	**46.10**	**14**	⇑*i*P			**P**	**22 40 14.2**	**+0.4**
	comp=Z,11nm,1.0s,mb4.7								
ARU				*e*				22 42 03.6	
ARU				*e*PPP			PPP	22 42 45.1	-0.8
ARU				*e*S			**S**	**22 47 01.5**	**+2.8**
ARU	**Arti**	**46.10**	**14**	⇑*i*P			**P**	**22 40 14.2**	**+0.4**
ARU				*e*S			**S**	**22 47 01.5**	**+2.8**
ARU	**Arti**	**46.10**	**14**	⇑*i*P			**P**	**22 40 14.2**	**+0.4**
ARU				*e*				22 42 03.6	
ARU				*e*PPP			PPP	22 42 45.1	-0.8
ARU				*e*S			**S**	**22 47 01.5**	**+2.8**
ARU					pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7								
AVF	**Avril sur Loir**	**46.37**	**325**	*e*P			**P**	**22 40 15.2**	**-0.8**
	comp=Z,5.8nm,0.9s,mb4.2								
AVF	**Avril sur Loir**	**46.37**	**325**	*e*P			**P**	**22 40 15.2**	**-0.8**
AVF					pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2								
LOR	**Lormes**	**46.37**	**326**	*e*P			**P**	**22 40 15.3**	**-0.7**
	comp=Z,38nm,1.6s,mb4.8								
LOR	**Lormes**	**46.37**	**326**	*e*P			**P**	**22 40 15.3**	**-0.7**
LOR					pmax		pmax		
	comp=Z,19nm,1.6s,mb4.8								
SSF	**Saint Saulge**	**46.44**	**325**	*e*P			**P**	**22 40 15.8**	**-0.8**
	comp=Z,1.4nm,0.8s,mb4.0								

comp=E,0.8nm,0.8s,mb3.8,baz=243,slow=8.1,SNR=4.2
MKAR LR LR 23 12 24.8
comp=E,132nm,18.1s,MS4.0,baz=231,slow=41
MKAR Makanchi Array 49.02 37 P **P 22 47 16.6 +1.3**
NOA NORSAR Array B 53.09 343 P **P 22 47 45.8 -0.2**
comp=E,1.1nm,0.7s,mb3.9,baz=142,slow=7.4,SNR=3.8
ZAL Zalesovo 54.14 31 LR LR 23 15 25.3
comp=E,85nm,18.9s,MS3.8,baz=236,slow=40
SONM Songino Array 64.72 43 P **P 22 49 06.2 -0.9**
comp=E,1.1nm,0.9s,mb3.9,baz=135,slow=2.0,SNR=6.7

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*DHMR **24** 23:05:16.4±2.7, 12.52N×40.38E, h14km±303km, ML5.1*
*IDC **24** 23:05:19.1±0.8, 12.36N×40.71E, mb4.3/21, mb1 4.4/22, mb1mx4.3/28, mbtmp4.3/22, ML4.0/2, MS4.1/12, Ms1 4.1/12, ms1mx4.0/30, Error ellipse: s-maj=17.0km s-min=15.2km az=69.0*
*MOS **24** 23:05:19.1±0.9, 12.41N×40.53E, h10km, mb4.9/40, Error ellipse: s-maj=11.4km s-min=4.3km az=110.3*
*BJI **24** 23:05:20.1, 12.47N×40.94E, h3km, mB5.3, mb4.6, Ms4.8, Msz4.4*
*NEIC **24** 23:05:20.4±0.4, 12.39N×40.66E, h10km, mb4.8/40, MS4.2/2, ML5.1(DHMR), Error ellipse: s-maj=8.4km s-min=6.8km az=71.0*
*CSEM **24** 23:05:24.0±0.1, 12.35N×40.78E, h60km, mb4.7/39, Ms4.1, Error ellipse: s-maj=2.7km s-min=2.6km az=47.0*
*SNSN **24** 23:05:58.1, 14.89N×40.70E, h94km, Ml3.8*

ISC 24 23:05:18.9±0.3, 12.34N±0.04×40.56E±0.03, h10km, n190, σ1§18/191, mb4.6/70, MS4.2/22, 22C-8D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.38**	**110**	Pn	**Pn**	**23 05 57.2**	**-1.4**
	982nm,0.3s,baz=275,slow=18,SNR=94						
ATD				Sn	**Sn**	**23 06 28.8**	**+0.6**
	164nm,0.3s,baz=327,slow=23,SNR=9.7						
ATD	**Arta Tunnel**	**2.38**	**110**	Pn	**Pn**	**23 05 57.2**	**-1.4**
UDYN	**Al 'Udayn**	**3.69**	**64**	*i* P	**Pn**	**23 06 17.2**	**-0.1**
UDYN				*i* S	**Sn**	**23 07 04.5**	**+3.1**
UDYN				AML	AML	23 07 27.2	
	comp=N,10μm,0.7s						
ADEN	**Aden**	**4.34**	**84**⇑	*i* P	**Pn**	**23 06 26.4**	**-0.1**
ADEN				*i* S	**Sn**	**23 07 20.8**	**+3.0**
LBOS		**4.82**	**71**	*i* P	**Pn**	**23 06 30.2**	**-3.1**
LBOS				*i* S	**Sn**	**23 07 28.2**	**-1.6**
BLJS	**Baljurashi**	**7.56**	**7**	P	**Pn**	**23 07 12.6**	**+0.7**
LTHS	**Al Lith**	**7.89**	**359**	P	**Pn**	**23 07 14.2**	**-2.3**
MUKL	**Al Mukalla**	**8.52**	**75**	*i* P	**P**	**23 07 20.8**	**-4.5**
YNBS	**Yanbu' al Bahr**	**12.18**	**349**	P	**P**	**23 08 16.6**	**+1.2**
MZLS	**Mizel**	**12.43**	**20**	P	**P**	**23 08 19.9**	**+1.0**
ABTO	**Aybut**	**13.28**	**66**	⇓P	**P**	**23 08 32.5**	**+2.3**
KMBO	**Kilima Mbogo**	**13.78**	**194**	Pn	**P**	**23 08 38.7**	**+1.8**
	comp=N,0.0nm,0.3s,baz=22,slow=13,SNR=3.9						
KMBO				LR	LR	23 13 54.8	
	comp=N,288nm,18.2s,baz=10,slow=37						
WHFO	**Wadi Hawf**	**13.91**	**65**	⇑P	**P**	**23 08 40.4**	**+1.9**
	SNR=5.7						
RBK	**Rabkut**	**14.15**	**67**	⇓P	**P**	**23 08 44.6**	**+2.9**
HILS	**Ha'il**	**15.01**	**4**	P	**P**	**23 08 53.3**	**+0.4**
SHAO	**Shalim**	**15.60**	**67**	⇑P	**P**	**23 09 04.0**	**+3.4**
TAYS	**Tayyib Ism**	**16.98**	**343**	P	**P**	**23 09 21.2**	**+3.0**
HAQS	**Haql**	**17.43**	**343**	P	**P**	**23 09 27.0**	**+3.1**
JMOS	**Jabal al Moall**	**17.49**	**344**	P	**P**	**23 09 27.3**	**+2.7**
ALWS	**Ilw as Safayha**	**17.64**	**344**	P	**P**	**23 09 28.2**	**+1.8**
ARQ	**Araqi**	**18.70**	**52**	⇓P	**P**	**23 09 36.6**	**-3.0**
BSY	**Bisya**	**18.92**	**55**	⇑P	**P**	**23 09 40.5**	**-1.8**
	SNR=12						
BSYO	**Bisya**	**18.95**	**55**	P	**P**	**23 09 40.5**	**-2.1**
	SNR=12						
ASHO	**Ashiyiah**	**19.13**	**48**	⇓P	**P**	**23 09 41.4**	**-3.3**
	SNR=8.7						
HOQ	**Hoqain**	**19.44**	**53**	⇓P	**P**	**23 09 45.3**	**-3.1**
JMDO	**Jabal Madar**	**19.47**	**57**	⇑P	**P**	**23 09 46.9**	**-1.9**
SMDO	**Samad**	**19.76**	**55**	⇓P	**P**	**23 09 50.1**	**-1.9**
	SNR=14						
ASF	**Jabal al Asfar**	**20.02**	**351**	P	**P**	**23 09 54.8**	**0.0**
	comp=N,45nm,1.2s,baz=53,slow=3.3,SNR=15						
ASF				LR	LR	23 16 39.4	
	comp=N,470nm,20.1s,MS3.8,baz=214,slow=34						
ASF	**Jabal al Asfar**	**20.02**	**351**	P	**P**	**23 09 54.8**	**0.0**
ASF				LR	LR	23 16 39.4	
BIDO	**Bidbid**	**20.05**	**54**	⇑P	**P**	**23 09 55.2**	**0.0**
BHD	**Baghdad**	**21.12**	**9**	*ex*	x	23 10 02.0	
MSL	**Mosul**	**23.95**	**5**	*ex*	x	23 10 54.0	
MALT	**Malatya**	**25.93**	**356**	*eP*	**P**	**23 10 54.7**	**+1.6**
	comp=N,41nm,1.2s,mb4.8						
MALT	**Malatya**	**25.93**	**356**	*eP*	**P**	**23 10 54.7**	**+1.6**
	comp=N,41nm,1.2s,mb4.8						
MALT	**Malatya**	**25.93**	**356**	*eP*	**P**	**23 10 54.7**	**+1.6**
MALT				pmax	pmax		
	comp=Z,41nm,1.2s,mb4.8						
IDI	**Anoyia**	**26.89**	**331**	P	**P**	**23 11 03.1**	**+1.2**
	comp=Z,2.7nm,0.7s,mb3.9,baz=148,slow=13,SNR=3.3						
GNI	**Garni**	**27.94**	**7**	P	**P**	**23 11 12.9**	**+1.4**
	comp=Z,7.0nm,0.8s,mb4.3,baz=133,slow=19,SNR=6.9						
GNI				LR	LR	23 22 28.7	
	comp=Z,586nm,19.4s,MS4.2,baz=352,slow=37						
BR131	**Keskin Array S**	**27.95**	**349**	*eP*	**P**	**23 11 12.1**	**+0.6**
	comp=Z,26nm,1.2s,mb4.7						
BR131	**Keskin Array S**	**27.95**	**349**	*eP*	**P**	**23 11 12.1**	**+0.6**
	comp=Z,26nm,1.2s,mb4.7						
BRTR	**Keskin Array B**	**27.95**	**349**	P	**P**	**23 11 12.4**	**+0.9**
	comp=Z,26nm,1.1s,mb4.8,baz=172,slow=8.7,SNR=28						
BRTR	**Keskin Array B**	**27.95**	**349**	P	**P**	**23 11 12.4**	**+0.9**
TBLG	**Delisi**	**29.50**	**6**	P	**P**	**23 11 26.8**	**+1.3**
TI2	**Plekhanov**	**29.51**	**6**	*i* P	**P**	**23 11 24.4**	**-1.2**
TI2	**Plekhanov**	**29.51**	**6**	⇑*i* P	**P**	**23 11 24.4**	**-1.2**
LSZ	**Lusaka**	**30.05**	**204**	P	**P**	**23 11 30.9**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.4,baz=97,slow=17,SNR=1.8						
LSZ				LR	LR	23 24 47.3	
	comp=Z,216nm,21.0s,MS3.8,baz=14,slow=39						
ZEI	**Tsey**	**30.45**	**5**	*eP*	**P**	**23 11 30.8**	**-3.1**
ZEI				*i* *PP	pP	23 11 40.0	+3.1
ZEI				*i*		23 12 25.9	
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
KIV	**Kislovodsk**	**31.55**	**3**	*eP*	**P**	**23 11 44.3**	**+0.7**
	comp=Z,28nm,1.3s,mb4.9						
KIV	**Kislovodsk**	**31.55**	**3**	*eP*	**P**	**23 11 44.3**	**+0.7**
	comp=Z,28nm,1.3s,mb4.9						
KIV	**Kislovodsk**	**31.55**	**3**	*i* P	**P**	**23 11 45.7**	**+2.1**
KIV				*e*		23 12 45.5	
KIV				*eS*	**S**	**23 16 53.4**	**+2.5**
KIV				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.9						
KIV				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.0						
SKO	**Skopje**	**33.90**	**334**	*i* P	**P**	**23 12 06.0**	**+1.9**
VAE	**Valguarnera**	**34.25**	**321**	P	**P**	**23 12 09.5**	**+2.4**
	comp=Z,11nm,1.1s,mb4.7,baz=69,slow=8.6,SNR=2.7						
VAE	**Valguarnera**	**34.25**	**321**	P	**P**	**23 12 09.6**	**+2.4**
MATP	**Matopo**	**34.66**	**200**	P	**P**	**23 12 10.3**	**-0.5**
	comp=Z,1.5nm,0.9s,mb3.9,baz=31,slow=16,SNR=3.5						
MATP				LR	LR	23 25 00.5	
	comp=Z,728nm,18.5s,MS4.5,baz=26,slow=34						
MLR	**Muntele Rosu**	**35.30**	**342**	P	**P**	**23 12 16.8**	**+0.7**
	comp=Z,4.7nm,0.7s,mb4.5,baz=139,slow=10,SNR=7.1						
AKASG	**Malin Array Be**	**39.36**	**349**	P	**P**	**23 12 48.6**	**-1.5**
	comp=Z,5.5nm,0.9s,mb4.3,baz=168,slow=7.1,SNR=18						
KOLS	**Kolonicke sedl**	**39.51**	**341**	epP	pP	23 12 54.4	0.0
KECS	**Kecovo**	**39.71**	**339**	*eP*	**P**	**23 12 53.4**	**+0.3**
LBTB	**Lobatse**	**39.90**	**201**	LR	LR	23 31 09.1	
	comp=Z,220nm,20.5s,MS4.0,baz=218,slow=39						
KWP	**Kalwaria**	**39.99**	**342**	*eP*	**P**	**23 12 54.8**	**-0.5**
	comp=Z,38nm,1.1s,mb5.0						
KWP	**Kalwaria**	**39.99**	**342**	*eP*	**P**	**23 12 54.8**	**-0.5**
	comp=Z,38nm,1.1s,mb5.0						
KWP	**Kalwaria**	**39.99**	**342**	*eP*	**P**	**23 12 54.8**	**-0.5**
KWP				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.0						
STHS	**Stebnicka Huta**	**40.26**	**340**	*eP*	**P**	**23 12 58.3**	**+0.7**
VYHS	**Vyhne**	**40.32**	**338**	*eP*	**P**	**23 12 58.7**	**+0.6**
VOY	**Vojsko**	**40.47**	**331**	*eP*	**P**	**23 12 59.4**	**+0.1**
VOJS	**Vojsko**	**40.47**	**331**	*i* P	**P**	**23 13 00.3**	**+0.9**
ARSA	**Arzberg**	**40.65**	**334**⇑	*i* P	**P**	**23 13 01.5**	**+0.7**
	comp=Z,14nm,0.9s,mb4.6						
PGF	**Pioggiola**	**40.67**	**324**	*eP*	**P**	**23 13 01.4**	**+0.3**
	comp=Z,16nm,1.1s,mb4.3						
PGF	**Pioggiola**	**40.67**	**324**	*eP*	**P**	**23 13 01.4**	**+0.3**
PGF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
ZST	**Bratislava**	**40.74**	**336**	*eP*	**P**	**23 13 01.5**	**-0.1**
SMOL	**Smolenice**	**40.87**	**336**	*eP*	**P**	**23 13 02.3**	**-0.3**
OJC	**Ojcow**	**41.43**	**340**	*eP*	**P**	**23 13 06.6**	**-0.6**
MOA	**Molln**	**41.66**	**333**⇑	*i* P	**P**	**23 13 09.4**	**+0.3**
	comp=Z,10nm,1.0s,mb4.4						
OKC	**Ostrava-Krasne**	**41.69**	**338**	*eP*	**P**	**23 13 09.3**	**0.0**
VRAC	**Vranov**	**41.84**	**337**	P	**P**	**23 13 10.1**	**-0.4**
	comp=Z,6.4nm,0.8s,mb4.3,baz=151,slow=7.0,SNR=7.5						
VRAC				LR	LR	23 32 52.5	
	comp=Z,162nm,20.2s,MS3.9,baz=69,slow=40						
VRAC	**Vranov**	**41.84**	**337**	*eP*	**P**	**23 13 10.6**	**+0.1**
VRAC	**Vranov**	**41.84**	**337**	P	**P**	**23 13 10.1**	**-0.4**
VRAC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VRAC				MLR	MLR		
	comp=Z,162nm,20.2s						
AAK	**Ala-Archa**	**42.13**	**38**⇑	*eP*	**P**	**23 13 14.5**	**+1.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.2						
AAK				MLR	MLR		
	comp=Z,800nm,25.0s,MS4.5						
TREC	**Trest**	**42.26**	**336**	*eP*	**P**	**23 13 13.7**	**-0.3**
SBF	**Sospel**	**42.38**	**324**	*eP*	**P**	**23 13 14.9**	**-0.2**
WTTA	**Wattenberg**	**42.43**	**331**⇑	*i* P	**P**	**23 13 15.5**	**+0.1**
	comp=Z,18nm,1.5s,mb4.5						
WTTA	**Wattenberg**	**42.43**	**331**⇑	*i* P	**P**	**23 13 15.5**	**+0.1**
WTTA				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.5						
WATA	**Walderalm**	**42.51**	**331**⇑	*i* P	**P**	**23 13 16.1**	**0.0**
	comp=Z,9.2nm,1.1s,mb4.4						
WATA	**Walderalm**	**42.51**	**331**⇑	*i* P	**P**	**23 13 16.1**	**0.0**
WATA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
LMR	**La Mourre**	**42.60**	**323**	*eP*	**P**	**23 13 16.8**	**-0.1**
	comp=Z,6.4nm,1.0s,mb4.0						
LMR	**La Mourre**	**42.60**	**323**	*eP*	**P**	**23 13 16.8**	**-0.1**
LMR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
SQTA	**Sankt Quirin**	**42.61**	**330**⇑	*i* P	**P**	**23 13 17.0**	**+0.1**
	comp=Z,7.1nm,1.1s,mb4.3						
SQTA	**Sankt Quirin**	**42.61**	**330**⇑	*i* P	**P**	**23 13 17.0**	**+0.1**
SQTA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
FRF	**La Foret Royal**	**42.66**	**323**	*eP*	**P**	**23 13 17.0**	**-0.4**
GERES	**GERESS Array B**	**42.66**	**334**	P	**P**	**23 13 17.0**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.2,baz=143,slow=6.7,SNR=31						
GERES				LR	LR	23 32 33.0	
	comp=Z,203nm,20.2s,MS4.0,baz=149,slow=38						
MOTA	**Moosalm**	**42.74**	**330**⇑	*i* P	**P**	**23 13 16.5**	**-1.5**
	comp=Z,10nm,1.2s,mb4.4						
MOTA	**Moosalm**	**42.74**	**330**⇑	*i* P	**P**	**23 13 16.5**	**-1.5**
MOTA				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
DPC	**Dobruska-Polom**	**42.78**	**337**	*eP*	**P**	**23 13 18.0**	**-0.3**
OBN	**Obninsk**	**42.78**	**357**⇑	*eP*	**P**	**23 13 18.2**	**0.0**
OBN				*e*		23 15 09.4	
OBN				*eS*	**S**	**23 19 42.4**	**+0.5**
OBN				pmax	pmax		
	comp=Z,65nm,1.9s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.0						
KHC	**Kasperske Hory**	**42.93**	**334**	*eP*	**P**	**23 13 18.5**	**-1.0**
DAVOX	**Davos**	**42.95**	**329**	P	**P**	**23 13 20.9**	**+1.2**
	comp=Z,2.9nm,0.7s,mb4.1,baz=339,slow=12,SNR=7.0						
UPC	**Upice**	**43.02**	**337**	*eP*	**P**	**23 13 19.8**	**-0.5**
PRU	**Pruhonice**	**43.19**	**336**	*eP*	**P**	**23 13 21.1**	**-0.5**
MBDF	**Montbardon**	**43.29**	**325**	*eP*	**P**	**23 13 23.1**	**+0.6**
	comp=Z,46nm,1.2s,mb4.8						
MBDF	**Montbardon**	**43.29**	**325**	*eP*	**P**	**23 13 23.1**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.8						
DAVA	**Damuels**	**43.30**	**330**⇑	*i* P	**P**	**23 13 22.2**	**-0.3**
	comp=Z,13nm,0.8s,mb4.7						
MOS	**Moscow**	**43.35**	**358**	*eP*	**P**	**23 13 22.2**	**-0.6**
MOS				*e*		23 15 04.8	
MOS				*eS*	**S**	**23 19 43.7**	**-6.5**
MOS				pmax	pmax		
	comp=Z,106nm,1.5s,mb5.3						
SMRF	**Simiane la Rot**	**43.53**	**323**	*eP*	**P**	**23 13 24.6**	**+0.2**
PVCC	**Panska Ves**	**43.60**	**336**	*eP*	**P**	**23 13 25.7**	**+0.8**
LPG	**La Plagne**	**43.77**	**326**	*eP*	**P**	**23 13 25.4**	**-1.0**
	comp=Z,9.9nm,0.9s,mb4.2						
LPG	**La Plagne**	**43.77**	**326**	*eP*	**P**	**23 13 25.4**	**-1.0**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
SUW	**Suwalki**	**43.79**	**345**	*eP*	**P**	**23 13 26.2**	**-0.2**
	comp=Z,65nm,1.0s,mb5.3						
SUW	**Suwalki**	**43.79**	**345**	*eP*	**P**	**23 13 26.2**	**-0.2**
	comp=Z,65nm,1.0s,mb5.3						
SUW	**Suwalki**	**43.79**	**345**	*eP*	**P**	**23 13 26.2**	**-0.2**
SUW				pmax	pmax		
	comp=Z,65nm,1.0s,mb5.3						
LPL	**La Plagne**	**43.80**	**326**	*eP*	**P**	**23 13 25.5**	**-1.1**
	comp=Z,7.6nm,0.9s,mb4.1						
LPL	**La Plagne**	**43.80**	**326**	*eP*	**P**	**23 13 25.5**	**-1.1**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ORIF	**Oris-en-Rattie**	**43.91**	**324**	*eP*	**P**	**23 13 27.2**	**-0.3**
	comp=Z,11nm,1.0s,mb4.2						
ORIF				*eR*			
	comp=Z,233nm,17.8s						
BRG	**Berggiesshubel**	**44.12**	**336**	*eP*	**P**	**23 13 30.0**	**+0.9**
	comp=Z,11nm,1.1s,mb4.5						
BRG	**Berggiesshubel**	**44.12**	**336**	*eP*	**P**	**23 13 30.0**	**+0.9**
	comp=Z,11nm,1.1s,mb4.5						
BRG	**Berggiesshubel**	**44.12**	**336**	*eP*	**P**	**23 13 30.0**	**+0.9**
BRG				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
GRA1	**Grafenberg Arr**	**44.38**	**333**	*eP*	**P**	**23 13 30.0**	**-1.2**
	comp=Z,10.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**44.38**	**333**	*eP*	**P**	**23 13 30.0**	**-1.2**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
VIVF	**Saint-Julien-l**	**44.57**	**324**	*eP*	**P**	**23 13 32.4**	**-0.4**
	comp=Z,44nm,1.6s,mb4.7						
VIVF	**Saint-Julien-l**	**44.57**	**324**	*eP*	**P**	**23 13 32.4**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.7						
LASF	**Ste Croix**	**44.61**	**322**	*eP*	**P**	**23 13 32.9**	**-0.3**
	comp=Z,29nm,1.2s,mb4.7						
CABF	**La Chapelle**	**44.83**	**326**	*eP*	**P**	**23 13 33.8**	**-1.1**
	comp=Z,35nm,1.2s,mb4.8						
CABF	**La Chapelle**	**44.83**	**326**	*eP*	**P**	**23 13 33.8**	**-1.1**
CABF				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
CLL	**Collm**	**44.83**	**336**	P	**P**	**23 13 33.2**	**-1.7**
	comp=Z,logA/T=1.0,mb4.6						
CLL	**Collm**	**44.83**	**336**	*i* P	**P**	**23 13 33.2**	**-1.7**
	comp=Z,11nm,1.1s,mb4.6						
CLL				*e*		23 13 46.0	
CLL	**Collm**	**44.83**	**336**	*i* P	**P**	**23 13 33.2**	**-1.7**
CLL	**Collm**	**44.83**	**336**	*i* P	**P**	**23 13 33.2**	**-1.7**
CLL				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
MOX	**Moxa**	**44.91**	**334**	*i* P	**P**	**23 13 36.0**	**+0.5**
	comp=Z,logA/T=1.2,mb4.8						
MOX	**Moxa**	**44.91**	**334**	*eP*	**P**	**23 13 36.0**	**+0.5**
	comp=Z,28nm,1.9s,mb4.8						
MOX	**Moxa**	**44.91**	**334**	*eP*	**P**	**23 13 36.0**	**+0.5**
MOX				pmax	pmax		
	comp=Z,28nm,1.9s,mb4.8						
DBIC	**Dimbokro**	**45.10**	**267**	P	**P**	**23 13 40.0**	**+2.5**
	comp=Z,3.8nm,0.9s,mb4.2,baz=83,slow=9.0,SNR=4.0						
HINF	**Hinteralfeld**	**45.18**	**328**	*eP*	**P**	**23 13 37.1**	**-0.6**
	comp=Z,26nm,1.1s,mb4.7						
HINF	**Hinteralfeld**	**45.18**	**328**	*eP*	**P**	**23 13 37.1**	**-0.6**
HINF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.7						
MTLF	**Montolieu**	**45.21**	**320**	*eP*	**P**	**23 13 38.1**	**+0.1**
LIC	**Lamto**	**45.35**	**267**⇑	*i* P	**P**	**23 13 41.0**	**+1.5**
	comp=Z,12nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**45.36**	**329**	*eP*	**P**	**23 13 38.4**	**-0.7**
	comp=Z,31nm,1.3s,mb4.7						
CDF	**Champ du Feu**	**45.36**	**329**	*eP*	**P**	**23 13 38.4**	**-0.7**
CDF				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.7						
HAU	**Haudompre**	**45.57**	**328**	*eP*	**P**	**23 13 40.1**	**-0.6**
	comp=Z,17nm,0.9s,mb4.7						
HAU				*eR*			
	comp=Z,179nm,17.0s						
HAU	**Haudompre**	**45.57**	**328**	*eP*	**P**	**23 13 40.1**	**-0.6**
HAU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
HAU				MLR	MLR		
	comp=Z,180nm,17.0s,MS4.1						
MDT	**Midelt**	**46.00**	**304**	P	**P**	**23 13 45.4**	**+1.0**
	comp=Z,3.7nm,1.0s,mb4.3,baz=84,slow=9.4,SNR=6.7						
SMF	**Signal de Mont**	**46.08**	**325**	*eP*	**P**	**23 13 43.8**	**-1.0**
ARU	**Arti**	**46.14**	**14**⇑	*i* P	**P**	**23 13 45.3**	**+0.1**
ARU				*e*		23 15 32.2	
ARU				*eS*	**S**	**23 20 30.3**	**0.0**
ARU				*eSS*	SS	23 23 52.9	+5.1
ARU				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
ARU				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,100nm,19.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,200nm,17.0s,MS4.2						
CAF	**Calviac**	**46.15**	**322**	*eP*	**P**	**23 13 45.8**	**+0.4**
LOR	**Lormes**	**46.44**	**326**	*eP*	**P**	**23 13 46.9**	**-0.7**
	comp=E,52nm,1.5s,mb5.0						
LOR				*eR*			
	comp=E,225nm,17.8s						
LOR	**Lormes**	**46.44**	**326**	*eP*	**P**	**23 13 46.9**	**-0.7**
LOR				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
LOR				MLR	MLR		
	comp=Z,220nm,17.8s,MS4.2						
AVF	**Avril sur Loir**	**46.44**	**325**	*eP*	**P**	**23 13 46.6**	**-1.1**
SSF	**Saint Saulge**	**46.51**	**325**	*eP*	**P**	**23 13 47.1**	**-1.1**
	comp=Z,7.4nm,1.2s,mb4.5						
SSF	**Saint Saulge**	**46.51**	**325**	*eP*	**P**	**23 13 47.1**	**-1.1**
SSF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
MEZF	**Maizieres J'vi**	**46.55**	**328**	*eP*	**P**	**23 13 48.2**	**-0.3**
	comp=Z,48nm,1.0s,mb5.1						
BGF	**Bois d'Agland**	**46.59**	**324**	*eP*	**P**	**23 13 48.5**	**-0.4**
	comp=Z,44nm,1.3s,mb4.9						
BGF	**Bois d'Agland**	**46.59**	**324**	*eP*	**P**	**23 13 48.5**	**-0.4**
BGF				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
RJF	**Les Rejaudoux**	**46.67**	**322**	*eP*	**P**	**23 13 49.3**	**-0.2**
RJF				*eR*			
	comp=Z,317nm,18.5s						
ETSF	**Etsaut**	**46.76**	**318**	*eP*	**P**	**23 13 51.0**	**+0.7**
TCF	**Toulx Ste Croi**	**46.80**	**324**	*eP*	**P**	**23 13 50.6**	**+0.1**
LFF	**La Frestale**	**46.95**	**322**	*eP*	**P**	**23 13 51.9**	**+0.2**
	comp=Z,15nm,0.7s,mb4.7						
LFF	**La Frestale**	**46.95**	**322**	*eP*	**P**	**23 13 51.9**	**+0.2**
LFF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**47.05**	**24**	P	**P**	**23 13 52.0**	**-0.5**
	comp=Z,3.3nm,1.0s,mb4.2,baz=180,slow=4.4,SNR=12						
SJPF	**Ste Jean**	**47.29**	**318**	*eP*	**P**	**23 13 55.3**	**+0.8**
	comp=Z,51nm,1.3s,mb5.0						
SJPF	**Ste Jean**	**47.29**	**318**	*eP*	**P**	**23 13 55.3**	**+0.8**
SJPF				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
GIVF	**Givet**	**47.68**	**329**	*eP*	**P**	**23 13 56.6**	**-0.8**
ESDC	**Sonseca Array**	**47.72**	**313**	P	**P**	**23 13 58.2**	**+0.4**
	comp=Z,1.7nm,0.9s,mb4.1,baz=118,slow=7.8,SNR=6.3						
SUR	**Sutherland**	**48.32**	**203**	LR	LR	23 32 40.9	
	comp=Z,608nm,20.7s,MS4.6,baz=210,slow=34						
SOKR	**Solikamsk**	**48.67**	**11**⇓	*i* P	**P**	**23 14 05.3**	**+0.3**
SOKR				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,410nm,19.0s,MS4.4						
MKAR	**Makanchi Array**	**49.05**	**37**	P	**P**	**23 14 08.1**	**-0.1**
	comp=Z,5.0nm,1.1s,mb4.5,baz=239,slow=7.1,SNR=14						
KURK	**Kurchatov**	**49.23**	**31**⇓	*eP*	**P**	**23 14 10.7**	**+1.3**
LDF	**La Druitiere**	**49.39**	**325**	*eP*	**P**	**23 14 09.3**	**-1.4**
FLN	**La Foliniere**	**49.69**	**325**	*eP*	**P**	**23 14 11.5**	**-1.4**
	comp=Z,29nm,1.1s,mb4.9						
FLN				*eR*			
	comp=Z,227nm,21.2s						
FLN	**La Foliniere**	**49.69**	**325**	*eP*	**P**	**23 14 11.5**	**-1.4**
FLN				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
FLN				MLR	MLR		
	comp=Z,230nm,21.3s,MS4.2						
GRR	**Gorron**	**49.70**	**325**	*eP

comp=Z,221nm,20.0s,MS4.5,baz=61,slow=32

NEIC ***24*** *23:07:57.2,38.67S×175.46E,h216km,MG4.0(WEL), After WEL.*

WEL 24 23:07:57.6±0.3,38.66S×175.49E,h211km±2km,ML3.9/17, 1C-3D,Error ellipse: s-maj=3.3km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNZ	**Chateau**	**0.54**	**175**	⇓P	N	P	23 08 26.4	-0.1
CNZ	**Chateau**	**0.54**	**175**	⇓P		P	23 08 26.4	-0.1
FWVZ	**Far West T-bar**	**0.60**	**175**	PN		P	23 08 26.6	-0.1
FWVZ				SN		S	23 08 48.8	-0.4
FWVZ	**Far West T-bar**	**0.60**	**175**	⇓P		P	23 08 26.7	0.0
FWVZ				S		S	23 08 48.8	-0.4
DRZ	**Dome Shelter**	**0.62**	**175**	PN		P	23 08 26.7	-0.1
TUVZ	**Tukino**	**0.62**	**168**	PN		P	23 08 26.8	0.0
TUVZ				SN		S	23 08 48.6	-0.8
TUVZ	**Tukino**	**0.62**	**168**	P		P	23 08 26.8	0.0
PKVZ	**Pokaka**	**0.64**	**190**	PN		P	23 08 26.4	-0.5
PKVZ				SN		S	23 08 48.9	-0.6
WNVZ	**Wahianoa**	**0.67**	**173**	PN		P	23 08 26.9	-0.1
WNVZ	**Wahianoa**	**0.67**	**173**	P		P	23 08 27.0	0.0
MTVZ	**Mangateitei**	**0.72**	**181**	PN		P	23 08 26.9	-0.3
MTVZ				SN		S	23 08 49.5	-0.6
MOVZ	**Moawhango**	**0.77**	**165**	⇑PN		P	23 08 27.0	-0.4
MOVZ				SN		S	23 08 49.2	-1.4
MOVZ	**Moawhango**	**0.77**	**165**	P		P	23 08 27.0	-0.5
BKZ	**Black Stump Fm**	**0.93**	**123**	PN		P	23 08 28.5	+0.2
BKZ				SN		S	23 08 51.9	-0.2
BKZ	**Black Stump Fm**	**0.93**	**123**	P		P	23 08 28.5	+0.2
WAZ	**Wanganui**	**1.16**	**199**	PN		P	23 08 29.0	-0.9
WAZ				SN		S	23 08 53.7	-1.2
WAZ	**Wanganui**	**1.16**	**199**	P		P	23 08 29.1	-0.8
URZ	**Urewera**	**1.33**	**73**	PN		P	23 08 30.8	-0.5
URZ				SN		S	23 08 56.0	-1.3
URZ	**Urewera**	**1.33**	**73**	P		P	23 08 30.8	-0.5
TSZ	**Takapari Road**	**1.45**	**165**	PN		P	23 08 31.6	-0.7
TSZ				SN		S	23 08 57.3	-1.6
TSZ	**Takapari Road**	**1.45**	**165**	P		P	23 08 31.6	-0.6
MWZ	**Matawai**	**1.63**	**79**	PN		P	23 08 33.6	-0.2
MWZ				SN		S	23 09 01.1	-0.7
MWZ	**Matawai**	**1.63**	**79**	*e*P		P	23 08 33.5	-0.4
PXZ	**Pawanui**	**1.73**	**143**	PN		P	23 08 34.5	-0.4
PXZ				SN		S	23 09 02.6	-0.9
MRZ	**Mangatainoka R**	**2.00**	**178**	PN		P	23 08 35.6	-1.8
MRZ	**Mangatainoka R**	**2.00**	**178**	P		P	23 08 35.6	-1.7
BFZ	**Birch Farm**	**2.10**	**164**	PN		P	23 08 36.9	-1.5
BFZ	**Birch Farm**	**2.10**	**164**	*e*P		P	23 08 37.0	-1.4
KIW	**Kapiti Island**	**2.24**	**191**	PN		P	23 08 37.3	-2.6
KIW	**Kapiti Island**	**2.24**	**191**	P		P	23 08 37.4	-2.5
PUZ	**Puketiti**	**2.25**	**76**	PN		P	23 08 39.4	-0.6
PUZ				SN		S	23 09 11.4	-1.3
PUZ	**Puketiti**	**2.25**	**76**	P		P	23 08 39.6	-0.4
DUWZ	**D'Urville Isla**	**2.46**	**209**	PN		P	23 08 38.9	-3.3
CAW	**Cannon Point**	**2.47**	**187**	PN		P	23 08 39.6	-2.7
CAW	**Cannon Point**	**2.47**	**187**	P		P	23 08 39.7	-2.6
MTW	**Mount Morrison**	**2.50**	**180**	PN		P	23 08 39.8	-2.8
MTW	**Mount Morrison**	**2.50**	**180**	P		P	23 08 39.9	-2.7
MRW	**Makara Radio**	**2.64**	**193**	PN		P	23 08 41.1	-3.1
MRW	**Makara Radio**	**2.64**	**193**	P		P	23 08 41.1	-3.1
WEL	**Wellington**	**2.68**	**192**	PN		P	23 08 41.7	-3.0
TCW	**Tory Channel**	**2.71**	**200**	PN		P	23 08 41.9	-3.1
TCW	**Tory Channel**	**2.71**	**200**	P		P	23 08 42.0	-3.1
PAWZ	**Paruwai Farm**	**2.72**	**181**	PN		P	23 08 42.2	-2.9
TRWZ	**Traveller**	**2.74**	**177**	PN		P	23 08 42.6	-2.7
MSWZ	**Moikau Station**	**2.76**	**184**	PN		P	23 08 42.5	-3.1
MSWZ	**Moikau Station**	**2.76**	**184**	P		P	23 08 42.5	-3.0
BHW	**Baring Head**	**2.79**	**190**	PN		P	23 08 42.6	-3.3
BHW	**Baring Head**	**2.79**	**190**	P		P	23 08 42.6	-3.3
TUWZ	**Tuamarina**	**3.01**	**203**	PN		P	23 08 44.8	-3.7
TUWZ				SN		S	23 09 21.6	-6.2
NNZ	**Nelson**	**3.03**	**212**	PN		P	23 08 44.3	-4.4
QRZ	**Quartz Range**	**3.14**	**226**	PN		P	23 08 44.7	-5.3
QRZ	**Quartz Range**	**3.14**	**226**	P		P	23 08 44.8	-5.2
BSWZ	**Blackbirch Sta**	**3.29**	**202**	PN		P	23 08 48.2	-3.5
BSWZ	**Blackbirch Sta**	**3.29**	**202**	P		P	23 08 48.3	-3.5
THZ	**Tophouse**	**3.68**	**212**	PN		P	23 08 51.3	-5.1
THZ	**Tophouse**	**3.68**	**212**	*e*P		P	23 08 51.5	-4.9
KHZ	**Kahutara**	**4.04**	**201**	PN		P	23 08 56.4	-4.4
KHZ	**Kahutara**	**4.04**	**201**	P		P	23 08 56.5	-4.4
DSZ	**Denniston Nort**	**4.18**	**221**	PN		P	23 08 56.6	-6.0
DSZ	**Denniston Nort**	**4.18**	**221**	*e*P		P	23 08 56.6	-6.0
LTZ	**Lake Taylor**	**4.79**	**210**	PN		P	23 09 04.9	-5.4
LTZ	**Lake Taylor**	**4.79**	**210**	*e*P		P	23 09 04.9	-5.4
MQZ	**McQueen's Vall**	**5.48**	**202**	PN		P	23 09 12.4	-6.6
MQZ	**McQueen's Vall**	**5.48**	**202**	*e*P		P	23 09 12.5	-6.5

BJI ***24*** *23:22:45.9, 12.52N×40.29E, h15km, mB5.3, mb4.7, Ms4.8, Msz4.7*

DHMR ***24*** *23:22:46.2±2.4, 12.57N×40.56E, h2km±7km, ML4.9*

IDC ***24*** *23:22:47.7±0.9, 12.45N×40.65E, mb4.5/17, mb1 4.6/20, mb1mx4.5/26, mbtmp4.5/20, ML3.8/3, MS4.3/12, Ms1 4.3/12, ms1mx4.1/27, Error ellipse: s-maj=21.7km s-min=16.2km az=48.0*

MOS ***24*** *23:22:47.1±1.0, 12.44N×40.52E, h10km, mb4.9/47, Error ellipse: s-maj=10.5km s-min=4.0km az=109.8*

NEIC ***24*** *23:22:48.5±0.4, 12.39N×40.58E, h10km, mb4.7/60, MS4.1/2, ML4.9(DHMR), Error ellipse: s-maj=8.7km s-min=4.9km az=195.0*

CSEM ***24*** *23:22:48.3±0.1, 12.00N×40.55E, h40km, mb4.7/69, Ms4.1, Error ellipse: s-maj=6.3km s-min=2.0km az=5.0*

ISC 24 23:22:47.2±1.5, 12.42N±0.06×40.60E±0.03, h12km±10km, n254, σ1ş08/263, mb4.7/93, MS4.3/19, 23C-11D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.37**	**112**	Pn	**Pn**	**23 23 26.8**	**+0.1**
	306nm,0.3s,baz=136,slow=3.0,SNR=50						
ATD				Sn	**Sn**	**23 23 59.3**	**+3.3**
	120nm,0.3s,baz=257,slow=22,SNR=17						
ATD				LR	LR	23 24 35.1	
	comp=Z,11μm,19.0s,baz=283,slow=46						
UDYN	**Al 'Udayn**	**3.62**	**65**	*i* P	**Pn**	**23 23 45.5**	**+1.1**
UDYN				*i* S	**Sn**	**23 24 32.1**	**+4.5**
UDYN				AML	AML	23 24 49.8	
	comp=E,5μm,0.7s						
UDYN	**Al 'Udayn**	**3.62**	**65**	P	**Pn**	**23 23 45.3**	**+0.8**
UDYN				S	**Sn**	**23 24 31.4**	**+3.7**
ADEN	**Aden**	**4.30**	**85**	*i* P	**Pn**	**23 23 55.3**	**+1.3**
ADEN				AML	AML	23 24 01.6	
	comp=Z,5μm,0.6s						
ADEN				*i* S	**Sn**	**23 24 49.1**	**+4.4**
ADEN	**Aden**	**4.30**	**85**	P	**Pn**	**23 23 54.3**	**+0.3**
ADEN				S	**Sn**	**23 24 45.8**	**+1.1**
SANA	**San'a**	**4.58**	**50**	*i* P	**Pn**	**23 23 55.7**	**-2.4**
SANA				*i* S	**Sn**	**23 24 50.8**	**-1.0**
SANA	**San'a**	**4.58**	**50**	P	**Pn**	**23 23 57.8**	**-0.2**
SANA				S	**Sn**	**23 24 53.3**	**+1.4**
LBOS		**4.76**	**72**	*i* P	**Pn**	**23 23 59.2**	**-1.3**
LBOS				*i* S	**Sn**	**23 24 55.9**	**-0.5**
LBOS		**4.76**	**72**	P	**Pn**	**23 23 59.9**	**-0.6**
LBOS				S	**Sn**	**23 24 56.1**	**-0.2**
MUKL	**Al Mukalla**	**8.46**	**75**	⇓*i* P	**P**	**23 24 49.8**	**-2.8**
MUKL				*i* S	**Sn**	**23 26 27.0**	**-2.0**
MUKL	**Al Mukalla**	**8.46**	**75**	P	**P**	**23 24 49.8**	**-2.8**
MUKL				S	**Sn**	**23 26 25.7**	**-4.3**
ABTO	**Aybut**	**13.22**	**67**	⇑P	**P**	**23 26 01.7**	**+4.2**
WHFO	**Wadi Hawf**	**13.84**	**65**	⇓P	**P**	**23 26 08.9**	**+3.1**
	SNR=6.4						
KMBO	**Kilima Mbogo**	**13.86**	**194**	Pn	**P**	**23 26 07.7**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=33,slow=12,SNR=6.6						
KMBO				Lg		23 29 59.8	
	comp=Z,0.1nm,0.3s,baz=75,slow=19,SNR=3.9						
KMBO				LR	LR	23 31 49.7	
	comp=Z,784nm,19.9s,baz=5.4,slow=39						
RBK	**Rabkut**	**14.08**	**67**	⇑P	**P**	**23 26 13.4**	**+4.4**
SHAO	**Shalim**	**15.53**	**67**	⇓P	**P**	**23 26 32.5**	**+4.6**
ARQ	**Araqi**	**18.62**	**52**	⇓P	**P**	**23 27 06.7**	**-0.1**
BSY	**Bisya**	**18.85**	**55**	⇓P	**P**	**23 27 09.1**	**-0.4**
	SNR=13						
BSYO	**Bisya**	**18.87**	**55**	P	**P**	**23 27 09.1**	**-0.8**
	SNR=13						
ASHO	**Ashiyiah**	**19.05**	**48**	⇑P	**P**	**23 27 12.7**	**+0.8**
	SNR=21						
HOQ	**Hoqain**	**19.37**	**53**	⇓P	**P**	**23 27 15.7**	**0.0**
JMDO	**Jabal Madar**	**19.40**	**57**	⇓P	**P**	**23 27 15.1**	**-0.9**
SMDO	**Samad**	**19.68**	**55**	⇓P	**P**	**23 27 19.2**	**-0.1**
	SNR=7.5						
ASF	**Jabal al Asfar**	**19.95**	**351**	P	**P**	**23 27 22.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=41,slow=5.5,SNR=20						
BIDO	**Bidbid**	**19.97**	**54**	⇑P	**P**	**23 27 21.1**	**-1.5**
BANOM	**Banah**	**19.98**	**46**	⇑P	**P**	**23 27 21.1**	**-1.5**
BHD	**Baghdad**	**21.04**	**9**	*ex*	x	23 27 31.0	
CSS	**Prodhromos**	**23.39**	**345**	*e*P	**P**	**23 27 58.1**	**+1.2**
	comp=Z,50nm,1.4s,mb4.8						
CSS	**Prodhromos**	**23.39**	**345**	*e*P	**P**	**23 27 58.1**	**+1.2**
	comp=Z,50nm,1.4s,mb4.8						
MSL	**Mosul**	**23.87**	**5**	*ex*	x	23 28 25.0	
MALT	**Malatya**	**25.86**	**356**	*e*P	**P**	**23 28 22.4**	**+1.9**
	comp=Z,32nm,1.2s,mb4.7						
MALT	**Malatya**	**25.86**	**356**	*e*P	**P**	**23 28 22.4**	**+1.9**
	comp=Z,32nm,1.2s,mb4.7						
MALT	**Malatya**	**25.86**	**356**	*e*P	**P**	**23 28 22.4**	**+1.9**
MALT				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.7						
IDI	**Anoyia**	**26.84**	**331**	P	**P**	**23 28 30.5**	**+0.9**
	comp=Z,5.2nm,0.9s,mb4.1,baz=158,slow=16,SNR=2.6						
IDI				LR	LR	23 41 05.6	
	comp=Z,367nm,18.9s,MS4.0,baz=35,slow=41						
GNI	**Garni**	**27.86**	**7**	P	**P**	**23 28 41.6**	**+2.8**
	comp=Z,5.4nm,0.8s,mb4.2,baz=263,slow=1.2,SNR=7.6						
BRTR	**Keskin Array B**	**27.88**	**348**	P	**P**	**23 28 40.9**	**+1.9**
	comp=Z,15nm,1.0s,mb4.6,baz=173,slow=10.0,SNR=45						
BR131	**Keskin Array S**	**27.88**	**348**	*e*P	**P**	**23 28 40.7**	**+1.7**
	comp=Z,16nm,1.0s,mb4.6						
BR131	**Keskin Array S**	**27.88**	**348**	*e*P	**P**	**23 28 40.7**	**+1.7**
	comp=Z,16nm,1.0s,mb4.6						
TBLG	**Delisi**	**29.42**	**6**	P	**P**	**23 28 54.5**	**+1.6**
TI2	**Plekhanov**	**29.43**	**6**	*i* P	**P**	**23 28 50.4**	**-2.5**
LSZ	**Lusaka**	**30.14**	**204**	LR	LR	23 41 58.5	
	comp=Z,618nm,19.3s,MS4.3,baz=198,slow=38						
ZEI	**Tsey**	**30.37**	**5**	*e*P	**P**	**23 29 00.1**	**-1.2**
ZEI				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**31.47**	**3**	*e*P	**P**	**23 29 11.5**	**+0.5**
	comp=Z,27nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**31.47**	**3**	*e*P	**P**	**23 29 12.5**	**+1.5**
	comp=Z,31nm,1.2s,mb5.0						
KIV				*e*S	**S**	**23 34 18.6**	**+1.0**
KIV	**Kislovodsk**	**31.47**	**3**	⇑*e*P	**P**	**23 29 12.5**	**+1.5**
KIV				*e*		23 32 02.5	
KIV				*e*S	**S**	**23 34 18.6**	**+1.0**
KIV				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.0						
KIV				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.0						
ANN	**Anapa**	**32.38**	**356**	*e*P	**P**	**23 29 12.1**	**-6.8**
ANN				pmax	pmax		
	comp=Z,524nm,6.0s						
SIM	**Simferopol'**	**32.89**	**352**	*e*P	**P**	**23 29 24.6**	**+1.3**
	comp=Z,24nm,1.0s,mb5.1						
SIM	**Simferopol'**	**32.89**	**352**	*e*P	**P**	**23 29 24.6**	**+1.3**
SIM				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
CFR	**Carcaliu**	**34.33**	**344**	⇑P	**P**	**23 29 36.1**	**+0.2**
MATP	**Matopo**	**34.74**	**200**	P	**P**	**23 29 40.1**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.1,baz=28,slow=12,SNR=3.9						
MLR	**Muntele Rosu**	**35.24**	**342**	P	**P**	**23 29 44.9**	**+1.2**
	comp=Z,6.6nm,0.8s,mb4.6,baz=173,slow=4.9,SNR=11						
VRI	**Vrincioaia**	**35.35**	**343**	⇑P	**P**	**23 29 45.8**	**+1.2**
VOIR		**35.47**	**341**	⇑P	**P**	**23 29 46.1**	**+0.5**
CII	**Carovilli**	**37.12**	**327**	*e*P	**P**	**23 30 00.1**	**+0.5**
	comp=Z,21nm,1.4s,mb4.8						
CII	**Carovilli**	**37.12**	**327**	*e*P	**P**	**23 30 00.1**	**+0.5**
	comp=Z,21nm,1.4s,mb4.8						
VOR	**Voronezh**	**39.22**	**359**	*e*P	**P**	**23 30 18.3**	**+1.2**
	comp=Z,50nm,1.6s,mb5.0						
VOR	**Voronezh**	**39.22**	**359**	*e*P	**P**	**23 30 18.3**	**+1.2**
VOR				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.0						
VOR				pmax	pmax		
	comp=N,50nm,1.6s						
AKASG	**Malin Array Be**	**39.29**	**349**	P	**P**	**23 30 16.9**	**-0.8**
	comp=N,6.2nm,0.9s,mb4.3,baz=171,slow=7.1,SNR=23						
KOLS	**Kolonicke sedl**	**39.45**	**341**	*e*P	**P**	**23 30 20.1**	**+1.1**
CRES	**Cresnjev**	**39.54**	**332**	*e*P	**P**	**23 30 20.4**	**+0.6**
GOLS	**Golise**	**39.60**	**333**	*i* P	**P**	**23 30 22.4**	**+2.0**
KECS	**Kecovo**	**39.66**	**339**	*e*P	**P**	**23 30 21.9**	**+1.2**
SRO2	**Mosa**	**39.83**	**337**	*e*P	**P**	**23 30 23.1**	**+0.9**
KWP	**Kalwaria**	**39.93**	**342**	*e*P	**P**	**23 30 24.7**	**+1.7**
STHS	**Stebnicka Huta**	**40.20**	**340**	*e*P	**P**	**23 30 26.9**	**+1.7**
VYHS	**Vyhne**	**40.26**	**338**	*e*P	**P**	**23 30 27.0**	**+1.3**
PERS	**Pernice**	**40.31**	**333**	*e*P	**P**	**23 30 27.6**	**+1.5**
PERS	**Pernice**	**40.31**	**333**	*e*P	**P**	**23 30 27.6**	**+1.5**
OBKA	**Obir**	**40.47**	**332**	⇑*i* P	**P**	**23 30 29.1**	**+1.7**
	comp=N,20nm,1.3s,mb4.7						
KBA	**Koelnbreinsper**	**41.45**	**332**	⇑*i* P	**P**	**23 30 36.7**	**+1.3**
KBA				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.3						
MOA	**Molln**	**41.61**	**333**	⇑*i* P	**P**	**23 30 37.8**	**+1.0**
	comp=Z,17nm,1.1s,mb4.6						
OKC	**Ostrava-Krasne**	**41.63**	**338**	*e*P	**P**	**23 30 35.5**	**-1.4**
VRAC	**Vranov**	**41.78**	**336**	P	**P**	**23 30 38.4**	**+0.2**
	comp=Z,9.2nm,0.9s,mb4.4,baz=139,slow=7.0,SNR=14						
VRAC	**Vranov**	**41.78**	**336**	*e*P	**P**	**23 30 39.2**	**+1.0**
VRAC	**Vranov**	**41.78**	**336**	P	**P**	**23 30 38.4**	**+0.2**
VRAC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MORC	**Moravsky Berou**	**41.80**	**338**	*e*P	**P**	**23 30 39.0**	**+0.7**
	comp=Z,10.0nm,1.3s,mb4.3						
MORC	**Moravsky Berou**	**41.80**	**338**	*e*P	**P**	**23 30 39.0**	**+0.7**
MORC				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**42.05**	**38**	*e*P	**P**	**23 30 41.9**	**+1.4**
	comp=Z,800nm,26.0s						
AAK	**Ala-Archa**	**42.05**	**38**	⇑*e*P	**P**	**23 30 41.9**	**+1.4**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
AAK				MLR	MLR		
	comp=Z,800nm,26.0s,MS4.5						
TREC	**Trest**	**42.21**	**336**	*e*P	**P**	**23 30 41.0**	**-0.7**
SBF	**Sospel**	**42.34**	**324**	*e*P	**P**	**23 30 42.5**	**-0.4**
WTTA	**Wattenberg**	**42.38**	**331**	⇑*i* P	**P**	**23 30 43.9**	**+0.7**
	comp=Z,18nm,1.3s,mb4.5						
WTTA	**Wattenberg**	**42.38**	**331**	⇑*i* P	**P**	**23 30 43.9**	**+0.7**
WTTA				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
SQTA	**Sankt Quirin**	**42.56**	**330**	⇑*i* P	**P**	**23 30 45.3**	**+0.7**
	comp=Z,8.1nm,1.1s,mb4.4						
SQTA	**Sankt Quirin**	**42.56**	**330**	⇑*i* P	**P**	**23 30 45.3**	**+0.7**
SQTA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
LMR	**La Mourre**	**42.57**	**323**	*e*P	**P**	**23 30 44.4**	**-0.3**
GERES	**GERESS Array B**	**42.61**	**334**	P	**P**	**23 30 45.4**	**+0.4**
	comp=Z,8.0nm,0.9s,mb4.4,baz=133,slow=6.4,SNR=54						
GERES				LR	LR	23 49 40.0	
	comp=Z,179nm,18.8s,MS4.0,baz=35,slow=38						
FRF	**La Foret Royal**	**42.62**	**323**	*e*P	**P**	**23 30 44.6**	**-0.6**
	comp=Z,14nm,1.2s,mb4.3						
FRF	**La Foret Royal**	**42.62**	**323**	*e*P	**P**	**23 30 44.6**	**-0.6**
FRF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
MOTA	**Moosalm**	**42.70**	**330**	⇓*i* P	**P**	**23 30 46.4**	**+0.7**
	comp=Z,6.9nm,1.0s,mb4.3						
MOTA	**Moosalm**	**42.70**	**330**	⇓*i* P	**P**	**23 30 46.4**	**+0.7**
MOTA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
OBN	**Obninsk**	**42.71**	**357**	*i* P	**P**	**23 30 46.7**	**+1.0**
	comp=Z,39nm,1.3s,mb5.0						
OBN	**Obninsk**	**42.71**	**357**	*e*PcP	PcP	23 32 34.7	-3.4
	comp=Z,200nm,16.0s						
OBN				*e*S	**S**	**23 37 08.7**	**0.0**
OBN	**Obninsk**	**42.71**	**357**	*i* P	**P**	**23 30 46.7**	**+1.0**
OBN				*e*		23 32 34.7	
OBN				*e*S	**S**	**23 37 08.7**	**0.0**
OBN				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.1						
DPC	**Dobruska-Polom**	**42.73**	**337**	*e*P	**P**	**23 30 46.0**	**+0.1**
KHC	**Kasperske Hory**	**42.88**	**334**	*e*P	**P**	**23 30 47.0**	**-0.2**
DAVOX	**Davos**	**42.91**	**329**	P	**P**	**23 30 48.1**	**+0.6**
	comp=Z,4.6nm,1.0s,mb4.2,baz=134,slow=7.9,SNR=4.6						
DAVOX				LR	LR	23 50 42.6	
	comp=Z,152nm,18.9s,MS3.9,baz=133,slow=39						
KOLN	**Koldanda**	**42.94**	**63**	*e*P	**P**	**23 30 47.4**	**-0.6**
	comp=Z,34nm,1.2s,mb5.0						
UPC	**Upice**	**42.97**	**337**	*e*P	**P**	**23 30 48.2**	**+0.3**
ETOS	**Mallorca**	**43.01**	**316**	P	**P**	**23 30 47.4**	**-0.9**
ETOS	**Mallorca**	**43.01**	**316**	P	**P**	**23 30 47.4**	**-1.0**
KSP	**Ksiaz**	**43.13**	**338**	*e*P	**P**	**23 30 50.4**	**+1.2**
PRU	**Pruhonice**	**43.14**	**336**	*e*P	**P**	**23 30 49.4**	**+0.1**
MBDF	**Montbardon**	**43.25**	**325**	*e*P	**P**	**23 30 50.7**	**+0.5**
	comp=Z,42nm,0.9s,mb4.9						
MBDF	**Montbardon**	**43.25**	**325**	*e*P	**P**	**23 30 50.7**	**+0.5**
MBDF				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
DAVA	**Damuels**	**43.26**	**330**	⇑*i* P	**P**	**23 30 51.1**	**+0.8**
	comp=Z,21nm,1.0s,mb4.8						
MOS	**Moscow**	**43.28**	**358**	*e*P	**P**	**23 30 49.4**	**-0.9**
	comp=Z,88nm,1.6s,mb5.2						
MOS	**Moscow**	**43.28**	**358**	*e*P	**P**	**23 30 49.4**	**-0.9**
MOS				pmax	pmax		
	comp=Z,88nm,1.6s,mb5.2						
PVCC	**Panska Ves**	**43.55**	**336**	*e*P	**P**	**23 30 51.9**	**-0.7**
EIBI	**Ibiza**	**43.67**	**314**	P	**P**	**23 30 50.4**	**-3.4**
SUW	**Suwalki**	**43.73**	**345**	*e*P	**P**	**23 30 54.2**	**+0.2**
LPG	**La Plagne**	**43.73**	**325**	*e*P	**P**	**23 30 53.0**	**-1.1**
	comp=Z,9.7nm,0.9s,mb4.2						
LPG	**La Plagne**	**43.73**	**325**	*e*P	**P**	**23 30 53.0**	**-1.1**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
LPL	**La Plagne**	**43.75**	**325**	*e*P	**P**	**23 30 53.0**	**-1.3**
	comp=Z,34nm,1.3s,mb4.6						
LPL	**La Plagne**	**43.75**	**325**	*e*P	**P**	**23 30 53.0**	**-1.3**
LPL				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6						
ORIF	**Oris-en-Rattie**	**43.87**	**324**	*e*P	**P**	**23 30 54.7**	**-0.6**
	comp=Z,18nm,1.1s,mb4.4						
ORIF				*e*R			
	comp=Z,251nm,22.8s						
GKN	**Gorkha**	**43.88**	**62**	*e*P	**P**	**23 30 54.8**	**-0.8**
	comp=Z,29nm,1.1s,mb4.9						
BRG	**Berggiesshubel**	**44.07**	**336**	*i* P	**P**	**23 30 56.2**	**-0.6**
	comp=Z,41nm,1.8s,mb4.9						
BRG	**Berggiesshubel**	**44.07**	**336**	*i* P	**P**	**23 30 56.2**	**-0.6**
	comp=Z,41nm,1.8s,mb4.9						
BRG	**Berggiesshubel**	**44.07**	**336**	*i* P	**P**	**23 30 56.2**	**-0.6**
BRG				pmax	pmax		
	comp=Z,41nm,1.8s,mb4.9						
NKC	**Novy Kostel**	**44.19**	**334**	*e*P	**P**	**23 30 57.3**	**-0.5**
DMN	**Daman**	**44.22**	**63**	*e*P	**P**	**23 30 57.3**	**-1.0**
	comp=Z,25nm,1.1s,mb4.9						
EJON	**La Jonquera**	**44.30**	**320**	P	**P**	**23 30 57.4**	**-1.4**
EJON	**La Jonquera**	**44.30**	**320**	P	**P**	**23 30 57.4**	**-1.4**
GRA1	**Grafenberg Arr**	**44.33**	**333**	*e*P	**P**	**23 30 58.0**	**-0.9**
	comp=Z,14nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**44.33**	**333**	*e*P	**P**	**23 30 58.0**	**-0.9**
GRF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
KKN	**Kakani**	**44.40**	**63**	*e*P	**P**	**23 30 58.9**	**-0.9**
	comp=Z,36nm,1.2s,mb5.0						
PKI	**Pulchoki**	**44.47**	**63**	*e*P	**P**	**23 30 59.5**	**-0.9**
VIVF	**Saint-Julien-l**	**44.53**	**323**	*e*P	**P**	**23 30 59.9**	**-0.7**
	comp=Z,26nm,1.5s,mb4.5						
VIVF	**Saint-Julien-l**	**44.53**	**323**	*e*P	**P**	**23 30 59.9**	**-0.7**
VIVF				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.5						
LASF	**Ste Croix**	**44.57**	**322**	*e*P	**P**	**23 31 00.4**	**-0.6**
	comp=Z,37nm,1.3s,mb4.8						
CLL	**Collm**	**44.78**	**336**	P	**P**	**23 31 02.0**	**-0.6**
	comp=Z,logA/T=1.0,mb4.6						
CLL	**Collm**	**44.78**	**336**	*e*P	**P**	**23 31 02.0**	**-0.6**
	comp=Z,10.0

SSF	**Saint Saulge**	**46.47**	**325**	*e*P		**P**	**23 31 14.6**	**-1.4**
	comp=Z,20nm,1.5s,mb4.8								
SSF	**Saint Saulge**	**46.47**	**325**	*e*P		**P**	**23 31 14.6**	**-1.4**
SSF				pmax	pmax				
	comp=Z,20nm,1.5s,mb4.8								
MEZF	**Maizieres J'vi**	**46.51**	**328**	*e*P		**P**	**23 31 15.8**	**-0.5**
	comp=Z,58nm,1.1s,mb5.1								
BGF	**Bois d'Agland**	**46.55**	**324**	*e*P		**P**	**23 31 16.1**	**-0.6**
	comp=Z,34nm,1.1s,mb4.9								
BGF	**Bois d'Agland**	**46.55**	**324**	*e*P		**P**	**23 31 16.1**	**-0.6**
BGF				pmax	pmax				
	comp=Z,17nm,1.1s,mb4.9								
ERON	**Agron**	**46.63**	**310**	P		**P**	**23 31 19.2**	**+1.8**
	comp=Z,1.8nm,0.3s,mb4.5								
RJF	**Les Rejaudoux**	**46.64**	**322**	*e*P		**P**	**23 31 17.1**	**-0.3**
	comp=Z,22nm,1.3s,mb4.6								
RJF				*e*R					
	comp=Z,194nm,17.0s								
RJF	**Les Rejaudoux**	**46.64**	**322**	*e*P		**P**	**23 31 17.1**	**-0.3**
RJF				pmax	pmax				
	comp=Z,11nm,1.3s,mb4.6								
RJF				MLR	MLR				
	comp=Z,190nm,17.0s,MS4.1								
ETSF	**Etsaut**	**46.73**	**318**	*e*P		**P**	**23 31 18.5**	**+0.4**
TCF	**Toulx Ste Croi**	**46.77**	**324**	*e*P		**P**	**23 31 18.1**	**-0.2**
	comp=Z,17nm,1.4s,mb4.5								
TCF	**Toulx Ste Croi**	**46.77**	**324**	*e*P		**P**	**23 31 18.1**	**-0.2**
TCF				pmax	pmax				
	comp=Z,9.0nm,1.4s,mb4.5								
LFF	**La Frestale**	**46.92**	**321**	*e*P		**P**	**23 31 19.5**	**-0.1**
	comp=Z,27nm,1.0s,mb4.8								
LFF	**La Frestale**	**46.92**	**321**	*e*P		**P**	**23 31 19.5**	**-0.1**
LFF				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.8								
ELOJ	**Sierra Loja**	**46.93**	**310**	P		**P**	**23 31 18.6**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.1								
ELOJ	**Sierra Loja**	**46.93**	**310**	P		**P**	**23 31 18.6**	**-1.2**
ELOJ				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
BVAR	**Borovoye Array**	**46.97**	**24**	P		**P**	**23 31 20.3**	**+0.4**
	comp=Z,4.6nm,0.9s,mb4.4,baz=214,slow=5.3,SNR=20								
VSU	**Vasula**	**47.13**	**350**	*i* P		**P**	**23 31 21.7**	**+0.6**
SJPF	**Ste Jean**	**47.26**	**318**	*e*P		**P**	**23 31 22.7**	**+0.4**
	comp=Z,52nm,1.3s,mb5.0								
SJPF	**Ste Jean**	**47.26**	**318**	*e*P		**P**	**23 31 22.7**	**+0.4**
SJPF				pmax	pmax				
	comp=Z,26nm,1.3s,mb5.0								
GIVF	**Givet**	**47.63**	**329**	*e*P		**P**	**23 31 23.9**	**-1.2**
	comp=Z,23nm,0.9s,mb4.8								
GIVF	**Givet**	**47.63**	**329**	*e*P		**P**	**23 31 23.9**	**-1.2**
GIVF				pmax	pmax				
	comp=Z,11nm,0.9s,mb4.9								
ESDC	**Sonseca Array**	**47.69**	**313**	P		**P**	**23 31 26.5**	**+0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=111,slow=8.2,SNR=6.8								
ESDC	**Sonseca Array**	**47.69**	**313**	P		**P**	**23 31 26.4**	**+0.6**
	comp=Z,1.2nm,0.8s,mb4.0								
ESDC	**Sonseca Array**	**47.69**	**313**	P		**P**	**23 31 26.4**	**+0.6**
	comp=Z,1.2nm,0.8s,mb4.0								
BAIF	**Baives**	**47.91**	**329**	*e*P		**P**	**23 31 25.9**	**-1.4**
	comp=Z,12nm,1.0s,mb4.6								
BAIF	**Baives**	**47.91**	**329**	*e*P		**P**	**23 31 25.9**	**-1.4**
BAIF				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.6								
ESPR	**Espera**	**48.13**	**309**	P		**P**	**23 31 27.8**	**-1.5**
	comp=Z,5.1nm,0.9s,mb4.5								
ESPR	**Espera**	**48.13**	**309**	P		**P**	**23 31 27.8**	**-1.4**
	comp=Z,5.1nm,0.9s,mb4.5								
MFF	**Saint Martin d**	**48.31**	**323**	*e*P		**P**	**23 31 29.6**	**-0.9**
SOKR	**Solikamsk**	**48.59**	**11**	*i* P		**P**	**23 31 33.7**	**+1.3**
	comp=Z,30nm,1.2s,mb5.2								
SOKR	**Solikamsk**	**48.59**	**11**	⇓*i*P		**P**	**23 31 33.7**	**+1.3**
SOKR				pmax	pmax				
	comp=Z,30nm,1.2s,mb5.2								
MKAR	**Makanchi Array**	**48.97**	**37**	P		**P**	**23 31 35.1**	**-0.5**
	comp=Z,8.7nm,1.1s,mb4.7,baz=240,slow=5.9,SNR=27								
MKAR				LR	LR		23 54 35.2		
	comp=Z,405nm,20.3s,MS4.4,baz=242,slow=39								
KURK	**Kurchatov**	**49.14**	**31**	*e*P		**P**	**23 31 37.2**	**+0.4**
	comp=Z,15nm,1.6s,mb4.8								
KURK	**Kurchatov**	**49.14**	**31**	*e*P		**P**	**23 31 37.2**	**+0.4**
	comp=Z,15nm,1.6s,mb4.8								
KURK	**Kurchatov**	**49.14**	**31**⇑	*e*P		**P**	**23 31 37.6**	**+0.8**
LDF	**La Druitiere**	**49.35**	**325**	*e*P		**P**	**23 31 36.9**	**-1.6**
	comp=Z,29nm,1.2s,mb4.9								
LDF	**La Druitiere**	**49.35**	**325**	*e*P		**P**	**23 31 36.9**	**-1.6**
LDF				pmax	pmax				
	comp=Z,14nm,1.2s,mb4.9								
FLN	**La Foliniere**	**49.65**	**325**	*e*P		**P**	**23 31 39.0**	**-1.7**
	comp=Z,25nm,1.0s,mb4.9								
FLN				*e*R					
	comp=Z,194nm,19.5s								
FLN	**La Foliniere**	**49.65**	**325**	*e*P		**P**	**23 31 39.0**	**-1.7**
FLN				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.9								
FLN				MLR	MLR				
	comp=Z,190nm,19.5s,MS4.1								
GRR	**Gorron**	**49.66**	**325**	*e*P		**P**	**23 31 39.1**	**-1.7**
	comp=Z,62nm,1.2s,mb5.2								
GRR	**Gorron**	**49.66**	**325**	*e*P		**P**	**23 31 39.1**	**-1.7**
GRR				pmax	pmax				
	comp=Z,31nm,1.3s,mb5.2								
LSA	**Lhasa**	**49.81**	**62**	*e*P		**P**	**23 31 43.1**	**+0.8**
	comp=Z,9.0nm,1.1s,mb4.7								
LSA	**Lhasa**	**49.81**	**62**	*e*P		**P**	**23 31 43.1**	**+0.9**
	comp=Z,9.0nm,1.1s,mb4.7								
LSA	**Lhasa**	**49.81**	**62**	*e*P		**P**	**23 31 43.1**	**+0.9**
LSA				pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.7								
FINES	**FINESS Array B**	**50.07**	**351**	P		**P**	**23 31 43.5**	**-0.3**
	comp=Z,8.9nm,1.1s,mb4.7,baz=101,slow=9.7,SNR=8.4								
EVO	**Evora**	**50.27**	**310**	*e*P		**P**	**23 31 46.2**	**+0.5**
	comp=Z,13nm,0.9s,mb4.7								
EVO				*e*R					
	comp=Z,410nm,22.0s								
SGMF	**Saint Gilles**	**50.56**	**324**	*e*P		**P**	**23 31 45.9**	**-1.8**
QUIF	**Quistinic**	**50.75**	**323**	*e*P		**P**	**23 31 47.5**	**-1.6**
HFS	**Hagfors**	**51.61**	**343**	P		**P**	**23 31 54.8**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.3,baz=117,slow=9.9,SNR=6.5								
NB2	**NORSAR Subarra**	**53.06**	**343**	P		**P**	**23 32 05.3**	**-1.1**
	comp=Z,20nm,1.1s,mb5.0,baz=143,slow=7.4								
NB2	**NORSAR Subarra**	**53.06**	**343**	P		**P**	**23 32 05.3**	**-1.1**
NB2				pmax	pmax				
	comp=Z,20nm,1.1s,mb5.0								
NOA	**NORSAR Array B**	**53.06**	**343**	P		**P**	**23 32 05.4**	**-1.0**
	comp=Z,7.0nm,0.9s,mb4.6,baz=142,slow=7.4,SNR=12								
NVS	**Novosibirsk**	**53.84**	**29**	*i* P		**P**	**23 32 11.5**	**-0.7**
	comp=Z,23nm,2.2s,mb4.7								
NVS	**Novosibirsk**	**53.84**	**29**	*i* P		**P**	**23 32 11.5**	**-0.7**
NVS				pmax	pmax				
	comp=Z,23nm,2.2s,mb4.7								
NVS				pmax	pmax				
	comp=N,29nm,2.3s								
NVS				pmax	pmax				
	comp=E,17nm,2.3s								
ZAL	**Zalesovo**	**54.10**	**31**	P		**P**	**23 32 13.8**	**-0.3**
	comp=E,2.8nm,0.8s,mb4.3,baz=240,slow=7.8,SNR=20								
ARCES	**ARCESS Array B**	**57.87**	**354**	P		**P**	**23 32 41.4**	**+0.3**
	comp=E,12nm,1.2s,mb4.8,baz=173,slow=7.3,SNR=3.9								
ARCES				LR	LR		00 00 35.2		
	comp=E,248nm,19.0s,MS4.3,baz=11,slow=39								
GTA	**Gaotai**	**58.50**	**51**	*e*P		**P**	**23 32 46.3**	**+0.4**
GTA				AP	pP		23 32 50.0	+0.5	
GTA				XP	sP		23 32 53.0	+2.2	
GTA				AMB	AMB				
	comp=Z,11nm,1.2s,mb4.8								
GTA				AMB	AMB				
	comp=Z,171nm,5.3s								
GTA				LR	LR				
	comp=N,280nm,24.5s,MS4.5								
GTA				LR	LR				
	comp=E,400nm,26.4s,MS4.5								
GTA				LR	LR				
	comp=Z,675nm,24.5s,MS4.7								
SONM	**Songino Array**	**64.68**	**43**	P		**P**	**23 33 27.3**	**0.0**
	comp=Z,6.2nm,1.1s,mb4.5,baz=250,slow=5.4,SNR=22								
SONM				LR	LR		00 06 10.0		
	comp=Z,504nm,19.5s,MS4.7,baz=264,slow=40								
SONM	**Songino Array**	**64.68**	**43**	P		**P**	**23 33 27.3**	**0.0**
SONM				LR	LR		00 06 10.0		
HHC	**Hu-ho-hao-te**	**67.61**	**51**	*e*P		**P**	**23 33 45.8**	**-0.4**
HHC				AP	pP		23 33 49.8	0.0	
HHC				XP	sP		23 33 52.8	+1.7	
HHC				AMB	AMB				
	comp=Z,12nm,0.6s,mb5.1								
HHC				AMB	AMB				
	comp=Z,212nm,4.5s								
HHC				LR	LR				
	comp=Z,199nm,9.9s								
BOD	**Bodaibo**	**70.74**	**33**	*e*P		**P**	**23 33 59.2**	**-6.0**
BOD				pmax	pmax				
	comp=Z,7.0nm,1.4s,mb4.4								
SUMG	**Summit**	**74.95**	**342**	*e*P		**P**	**23 34 30.5**	**+0.8**
	comp=Z,11nm,0.9s,mb4.8								
SUMG	**Summit**	**74.95**	**342**	*e*P		**P**	**23 34 30.5**	**+0.8**
	comp=Z,11nm,0.9s,mb4.8								
SSE	**Sheshan**	**75.71**	**61**	*e*P		**P**	**23 34 33.3**	**-1.5**
SSE				AMB	AMB				
	comp=Z,37nm,0.8s,mb5.4								
SSE				AMB	AMB				
	comp=Z,198nm,3.6s								
SSE	**Sheshan**	**75.71**	**61**	*e*P		**P**	**23 34 33.3**	**-1.5**
	comp=Z,37nm,0.8s,mb5.4								
TIXI	**Tiksi**	**77.76**	**19**	*i* P		**P**	**23 34 45.4**	**0.0**
	comp=Z,200nm,19.0s								
TIXI	**Tiksi**	**77.76**	**19**	*i* P		**P**	**23 34 45.4**	**0.0**
TIXI				pmax	pmax				
	comp=Z,6.0nm,1.2s,mb4.4								
TIXI				MLR	MLR				
	comp=Z,200nm,19.0s,MS4.5								
MAW	**Mawson**	**81.43**	**172**	LR	LR		00 07 35.5		
	comp=Z,148nm,18.5s,MS4.4,baz=157,slow=33								
VNA2	**Neumayer--Watz**	**89.25**	**194**	P		**P**	**23 35 49.5**	**+5.4**
VNA2	**Neumayer--Watz**	**89.25**	**194**			**P**	**23 35 51.5**	**+7.4**
VNA1	**Neumayer--Stat**	**89.27**	**195**	P		**P**	**23 35 49.0**	**+4.8**
VNA1	**Neumayer--Stat**	**89.27**	**195**			**P**	**23 35 52.0**	**+7.8**
MA2	**Magadan**	**89.28**	**29**	*e*P		**P**	**23 35 44.6**	**+0.1**
	comp=Z,20nm,1.5s,mb5.2								
MA2	**Magadan**	**89.28**	**29**	*e*P		**P**	**23 35 44.6**	**+0.1**
MA2				*e*			23 39 17.8		
MA2				pmax	pmax				
	comp=Z,20nm,1.5s,mb5.2								
VNA3	**Neumayer Olymp**	**90.01**	**194**	P		**P**	**23 35 52.5**	**+4.9**
VNA3	**Neumayer Olymp**	**90.01**	**194**			**P**	**23 35 55.1**	**+7.5**
BDFB	**Brasilia**	**91.97**	**255**	LR	LR		00 13 26.5		
	comp=Z,269nm,19.2s,MS4.7,baz=111,slow=33								
TXAR	**Lajitas Array**	**126.03**	**321**	PKP	PKPdf		23 41 53.0	-0.5	
	comp=Z,0.4nm,0.8s,baz=90,slow=1.3,SNR=4.0								

IDC 24 23:27:43.9±1.6,**1.75N**×**97.99E,mb4.0**/8,**mb1 4.1**/8, **mb1mx3.9**/18,**mbtmp4.0**/8,**Error ellipse: s-maj=100.0km s-min=20.2km az=51.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.66**	**123**	P	P	23 35 34.2	-1.8
	2.8nm,0.6s,baz=301,slow=9.2,SNR=15						
MKAR	**Makanchi Array**	**46.91**	**345**	P	P	23 36 16.3	-1.7
	0.4nm,0.4s,baz=156,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**53.14**	**133**	P	P	23 37 03.9	-2.1
	1.4nm,0.8s,baz=336,slow=17,SNR=3.0						
ZAL	**Zalesovo**	**53.14**	**350**	P	P	23 37 02.8	-2.8
	1.1nm,0.4s,baz=253,slow=3.7,SNR=5.7						
BVAR	**Borovoye Array**	**56.00**	**340**	P	P	23 37 24.4	-2.1
	1.0nm,0.5s,baz=149,slow=9.3,SNR=7.1						
AKASG	**Malin Array Be**	**75.31**	**322**	P	P	23 39 28.5	-2.2
	0.4nm,0.4s,baz=78,slow=3.9,SNR=4.6						
FINES	**FINESS Array B**	**79.88**	**332**	P	P	23 39 54.4	-1.4
	2.4nm,0.9s,baz=108,slow=5.8,SNR=11						
HFS	**Hagfors**	**85.65**	**330**	P	P	23 40 24.6	-0.8
	2.1nm,0.9s,baz=31,slow=8.6,SNR=5.1						

*IDC **24** 23:29:23.8±1.0,67.81N×20.80E,mb1 3.2/4, mb1mx3.1/20,mbtmp3.2/4,ML2.4/4, Error ellipse: s-maj=17.3km s-min=6.8km az=121.0*
*BER **24** 23:29:24.4±3.6,67.85N×20.06E,ML1.9,ML2.2(NAO), Suspected explosion*
*HEL **24** 23:29:24.1±0.1,67.82N×20.38E,ML2.0,ML1.9(BER), ML2.2(NAO),Explosion*
*NAO **24** 23:29:24.7±3.4,67.74N×20.70E,ML2.2*
ISC 24 23:29:20.6±0.4,**67.74N**±0.03×**20.06E**±0.08,**n24**,σ1§**46**/36, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.30**	**12**	*e*P	**Pb**	**23 29 46.4**	**+0.8**
KIF				*e*S	**Sb**	**23 30 02.1**	**-0.8**
KTK1	**Kautokeino**	**1.74**	**41**	*e*P	**Pn**	**23 29 54.2**	**+1.9**
KTK1				*e*SN	**Sn**	**23 30 16.3**	**+0.8**
KTK1				AML	AML	23 30 19.1	
	comp=Z,12nm,0.3s						
TRO	**Tromso**	**1.95**	**348**	*e*P	**Pn**	**23 29 54.4**	**-0.9**
TRO				*e*S	**Sn**	**23 30 19.4**	**-1.4**
TRO				AML	AML	23 30 22.4	
	comp=Z,11nm,0.2s						
SGF	**Sodankyl**	**2.50**	**94**	*e*P	**Pn**	**23 30 04.4**	**+1.2**
SGF				*e*SB	**Sb**	**23 30 35.6**	**-1.9**
MELSS	**Ber_school_2**	**2.61**	**253**	*e*Sg	**Sg**	**23 30 46.5**	**-1.0**
ARA0	**ARCESS Array S**	**2.69**	**45**	Pn	**Pn**	**23 30 07.2**	**+1.3**
	baz=235,slow=14						
ARA0				Sn	**Sn**	**23 30 37.4**	**-2.3**
	baz=226,slow=28						
ARA0	**ARCESS Array S**	**2.69**	**45**	*e*P	**Pn**	**23 30 07.2**	**+1.3**
ARA0				*e*S	**Sn**	**23 30 37.4**	**-2.3**
ARCES	**ARCESS Array B**	**2.69**	**45**	Pn	**Pn**	**23 30 06.5**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=230,slow=14,SNR=35						
ARCES				Lg		23 30 39.1	
	comp=Z,3.1nm,0.3s,baz=226,slow=28,SNR=15						
MOR8	**Moi Rana**	**2.71**	**237**	*e*SG	**Sg**	**23 30 46.1**	**-4.8**
MOR8				AML	AML	23 30 46.9	
	comp=Z,26nm,0.3s						
STOK	**Stokkvaagen**	**3.10**	**246**	*e*SG	**Sg**	**23 31 04.1**	**+0.2**
STOK				AML	AML	23 31 12.6	
	comp=Z,13nm,0.6s						
KEV	**Kevo**	**3.24**	**48**	*e*P	**Pn**	**23 30 13.8**	**+0.1**
KEV				*e*S	**Sn**	**23 30 50.4**	**-3.3**
KEV				MSG		23 30 58.9	
	comp=Z,4.8nm,0.3s						
OUL	**Oulu**	**3.55**	**136**	*e*P	**Pn**	**23 30 20.1**	**+1.9**
OUL				*e*SG	**Sg**	**23 31 11.8**	**-7.0**
OUL				MSG		23 31 18.1	
	comp=Z,2.1nm,0.2s						
NSS	**Namsos**	**4.60**	**229**	*e*SG	**Sg**	**23 31 48.1**	**-5.7**
KJN	**Kajaani**	**4.82**	**136**	*e*P	**Pn**	**23 30 37.6**	**+1.4**
KJN				*e*S	**Sn**	**23 31 31.9**	**-1.8**
KJN				MSG		23 31 54.9	
	comp=Z,2.4nm,0.4s						
VAF	**Ylistaro**	**4.84**	**166**	*e*P	**Pn**	**23 30 38.6**	**+2.1**
VAF				*e*S	**Sn**	**23 31 33.8**	**-0.3**
VAF				MSG		23 31 56.2	
	comp=Z,3.0nm,0.4s						
KEF	**Keuruu**	**5.95**	**158**	*e*P	**Pn**	**23 30 53.9**	**+1.7**
KEF				*e*S	**Sn**	**23 31 59.9**	**-2.2**
FIA0	**FINESS Array S**	**6.83**	**155**	Pn	**Pn**	**23 31 05.3**	**+0.9**
	baz=342,slow=14						
FIA0				Sn	**Sn**	**23 32 20.1**	**-3.8**
	baz=351,slow=28						
FIA0				Lg		23 32 55.2	
	baz=338,slow=28						
FIA0	**FINESS Array S**	**6.83**	**155**	*e*P	**Pn**	**23 31 05.3**	**+0.9**
FIA0				*e*S	**Sn**	**23 32 20.1**	**-3.8**
FIA0				*e*SG		23 32 55.2	
FINES	**FINESS Array B**	**6.83**	**155**	Pn	**Pn**	**23 31 05.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=350,slow=12,SNR=5.0						
FINES				Sn	**Sn**	**23 32 21.0**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=311,slow=28,SNR=3.6						
FINES				Lg		23 32 56.0	
	comp=Z,0.3nm,0.3s,baz=340,slow=26,SNR=6.5						
NOA	**NORSAR Array B**	**7.73**	**214**	Pn	**Pn**	**23 31 19.1**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=55,slow=12,SNR=3.1						
NOA				Sn	**Sn**	**23 32 44.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=117,slow=9.1,SNR=2.5						
NOA				Lg		23 33 30.1	
	comp=Z,0.3nm,0.3s,baz=36,slow=23,SNR=2.6						
HFS	**Hagfors**	**8.13**	**203**	Lg		23 33 39.8	
	baz=21,slow=28						
HFS	**Hagfors**	**8.13**	**203**	*e*SG		23 33 39.8	
HFS	**Hagfors**	**8.13**	**203**	Pn	**P**	**23 31 22.6**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=20,slow=17,SNR=2.1						
HFS	**Hagfors**	**8.13**	**203**	Lg		23 33 39.8	
	baz=21,slow=28						

IDC 24 23:33:31.8±3.2,**1.81N**×**96.36E,mb3.9**/5,**mb1 4.0**/5, **mb1mx3.7**/17,**mbtmp3.9**/5,**Error ellipse: s-maj=128.2km s-min=28.4km az=55.0,Off west coast of northern Sumatera**

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

WRA	**Warramunga Arr**	**43.06**	**122**	P		P	23 41 33.7	-1.8	
	0.3nm,0.5s,baz=299,slow=9.3,SNR=4.6								
MKAR	**Makanchi Array**	**46.46**	**347**	P		P	23 42 00.2	-2.2	
	1.8nm,0.7s,baz=161,slow=7.8,SNR=17								
SONM	**Songino Array**	**46.66**	**9**	P		P	23 42 02.1	-1.8	
	0.4nm,0.4s,baz=189,slow=9.6,SNR=5.9								
ZAL	**Zalesovo**	**52.83**	**351**	P		P	23 42 49.5	-1.7	
	2.4nm,0.5s,baz=322,slow=6.5,SNR=14								
BVAR	**Borovoye Array**	**55.41**	**341**	P		P	23 43 07.3	-2.9	
	1.0nm,0.7s,baz=170,slow=9.0,SNR=6.1								

*NEIC **24** 23:35:57.6,28.03S×72.22W,h45km,After GUC.*
GUC 24 23:35:57.6±0.8,**28.03S**×**72.22W,h45**km,**ML3.8,3C,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**1.56**	**53**⇑	*i*P	P	23 36 23.8	+0.3
CDCH				*i* S	S	23 36 42.9	+0.3
CPCH	**Copiapo**	**1.79**	**68**⇑	*i*P	P	23 36 26.8	+0.1
CPCH				*i* S	S	23 36 49.0	+0.8
CPCH				AMP		23 36 51.1	
	comp=E,6μm,0.1s						
CRCH	**Chaqaral**	**2.20**	**41**	*i* P	P	23 36 32.5	0.0
CRCH				*i* S	S	23 36 58.1	-0.5
CRCH				AMP		23 36 58.5	
	comp=N,528nm,0.3s						
TLL	**Tololo Astrono**	**2.46**	**150**	*e*P	P	23 36 36.9	+0.7
TLL				AMP		23 37 05.5	
	comp=E,235nm,0.4s						
CMCH	**Combarbala**	**3.31**	**162**⇑	*i*P	P	23 36 47.2	-1.0
CMCH				AMP		23 37 23.6	
	comp=N,212nm,0.4s						
LVC	**Limon Verde**	**6.17**	**30**	*e*Pn	P	23 37 28.7	+0.3
	comp=N,14nm,1.8s						
LVC				*e*Sn	S	23 38 35.2	-3.4

*NEIC **24** 23:48:24.2,33.27S×71.98W,h23km,ML2.6(GUC),After GUC.*
GUC 24 23:48:24.2±0.6,**33.27S**×**71.98W,h23**km±8km,**MD3.7, ML2.6,5C-7D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.37**	**50**⇓	*i*P	Pb	23 48 32.1	-0.1
IHA				*i* S	Sb	23 48 37.7	+0.1
LCCH	**Las Cruces**	**0.40**	**122**⇑	*i*P	Pb	23 48 32.5	-0.2
LCCH				*i* S	Sb	23 48 39.1	+0.7
LNV	**Longovilo**	**0.84**	**146**⇓	*i*P	Pb	23 48 39.0	-0.9
LNV				*i* S	Sb	23 48 50.4	-0.3
ROCH	**El Roble**	**0.86**	**70**⇓	*i*P	Pb	23 48 40.0	-0.3
ROCH				*i* S	Sb	23 48 52.2	+0.7
TACH	**Talagante**	**0.95**	**114**⇑	*i*P	Pb	23 48 41.2	-0.7
TACH				*e*S	Sb	23 48 53.8	-0.3
RCDM	**Rinconada Maip**	**1.01**	**103**⇑	*i*P	Pb	23 48 41.7	-1.1
RCDM				*i* S	Sb	23 48 55.5	-0.1
RCDM				AMP		23 48 56.8	
	comp=N,483nm,0.1s						
SAN	**Santiago**	**1.12**	**100**	AMP		23 49 08.1	
	comp=N,180nm,0.5s						
ANTU	**Antumapu**	**1.17**	**105**	AMP		23 49 07.7	
	comp=N,207nm,0.4s						
CLCH	**Cerro Calan**	**1.21**	**97**	*e*P	Pn	23 48 45.7	-0.3
CLCH				*i* S	Sb	23 49 01.8	+0.1
CLCH				AMP		23 49 12.4	
	comp=N,222nm,0.5s						
PCH	**Pirque**	**1.27**	**107**⇓	*i*P	Pn	23 48 46.9	0.0
CHCH	**Chadas Angostu**	**1.29**	**121**⇑	*i*P	Pn	23 48 46.6	-0.4
CHCH				*i* S	Sn	23 49 03.1	-0.7
JACH	**Jahuel**	**1.30**	**64**⇓	*i*P	Pn	23 48 47.0	-0.3
JACH				*i* S	Sn	23 49 03.9	-0.1
FCH	**Farellones**	**1.42**	**93**⇓	*i*P	Pn	23 48 48.9	+0.1
FCH				*i* S	Sn	23 49 08.5	+1.6
FCH				AMP		23 49 13.4	
	comp=E,222nm,0.2s						
CACH	**El Canelo**	**1.43**	**127**⇑	*i*P	Pn	23 48 49.5	+0.5
CACH				*i* S	Sn	23 49 09.4	+2.1
SFDO	**San Fernando**	**1.57**	**149**⇓	*i*P	Pn	23 48 51.2	+0.1
SFDO				*i* S	Sn	23 49 11.1	+0.3
CICH	**Cipreses**	**1.67**	**129**	*e*P	Pn	23 48 53.2	+0.7
CICH				*i* S	Sn	23 49 14.6	+1.2

*ATH **24** 23:50:35.2,35.55N×25.89E,h25km±1km,MD3.5/6*
*NEIC **24** 23:50:35.2,35.55N×25.89E,h25km,MD3.5(ATH),After ATH.*
*CSEM **24** 23:50:35.0±0.1,35.61N×25.91E,h0km,MD3.5,Error ellipse: s-maj=3.1km s-min=1.9km az=147.0*
ISC 24 23:50:35.3±3.3,**35.53N**±0.06×**25.90E**±0.07,**h11**km±27km, **n13**,σ0§**92**/15,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.35**	**222**	*e*PB	**P

NEO	**Neokhori**	**1.07**	**112**	*e*P		**Pb**	**23**	**59**	**32.1**	**+0.2**
FNA	**Florina**	**1.16**	**338**	*e*Pg		**Pg**	**23**	**59**	**33.8**	**-1.4**
FNA				*e*Sg		**Sg**	**23**	**59**	**51.6**	**+0.8**
GRG	**Griva**	**1.29**	**16**	*e*Pg		**Pg**	**23**	**59**	**36.4**	**-1.6**
GRG				*e*Sg		**Sg**	**23**	**59**	**54.0**	**-1.3**
KNT	**Kendrikon**	**1.62**	**26**	*e*Pb		**Pb**	**23**	**59**	**41.1**	**-0.3**

MOS ***25*** *00:08:35.5±1.1,1.65N×126.50E,h33km,mb5.7/40,Error ellipse: s-maj=11.2km s-min=5.9km az=108.4*

IDC ***25*** *00:08:36.8±2.0,1.58N×126.52E,h31km±13km,mb4.9/18, mb1 4.9/19,mb1mx4.9/20,mbtmp5.1/19,ML5.5/1,MS4.3/9, Ms1 4.3/9,ms1mx4.1/18,Error ellipse: s-maj=18.9km s-min=10.3km az=77.0*

CSEM ***25*** *00:08:37.8,1.50N×126.60E,h60km,mb5.7*

BJI ***25*** *00:08:38.5,1.60N×126.51E,h60km,mB5.4,mb5.1,Ms4.8, Msz4.6*

NEIC ***25*** *00:08:40.2±0.8,1.56N×126.58E,h63km±7km,mb5.4/45, Error ellipse: s-maj=5.9km s-min=3.6km az=71.0*

NEIC Felt [II] at Manado and on Ternate, Indonesia.

HRVD ***25*** *00:08:40.2±0.2,1.71N×126.56E,h52km,MW5.4/63, Centroid moment Tensor Solution. LP body waves: s59,c105;Mantle waves: s63,c124; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.34±.03; $M_{\theta\theta}$0.05±.02; $M_{\phi\phi}$-1.39±.02; $M_{r\theta}$0.11±.02; $M_{\theta\phi}$-0.29±.02; $M_{\phi r}$-0.18±.03; Best double couple: $M_0$1.41×10^{17} NP1:ϕ_s17°,δ42°,λ100°. NP2:ϕ_s184°,δ49°,λ81°. Principal axes: T 1.365, Plg83°, Azm38°; N .089, Plg6°, Azm190°; P -1.454, Plg3°, Azm281°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 00:08:39.0±0.7,1.58N±0.03×126.58E±0.04,h66km±5km, h60km±2.7km:pP-P,n310,σ1§18/279,mb5.3/99,32C-9D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**5.34**	**357**	*e*P		**P**	**00 10 00.0**	**+2.0**
DAV	**Davao City (W)**	**5.55**	**350**	*e*P		**P**	**00 10 06.8**	**+6.0**
DAV	**Davao City (W)**	**5.55**	**350**	*e*P		**P**	**00 10 01.9**	**+1.1**
	399nm,0.6s							
KCP	**Kidapawan**	**5.60**	**345**	*e*P		**P**	**00 10 05.0**	**+3.5**
CTBH	**Cotabato--PC H**	**6.07**	**338**	⇑*e*P		**P**	**00 10 09.6**	**+1.5**
BIPH	**Bislig**	**6.57**	**358**	⇑*e*P		**P**	**00 10 14.0**	**-1.1**
BIPH				*e*S		**S**	**00 11 33.6**	**+4.4**
SNPH	**Sibulan**	**8.40**	**337**	*i* P		**P**	**00 10 46.0**	**+5.6**
TBP	**Tagbilaran**	**8.50**	**342**	*e*P		**P**	**00 10 40.0**	**-1.8**
TSM	**Tawau**	**9.11**	**287**	P		**P**	**00 10 50.3**	**+0.3**
KKM	**Kota Kinabalu**	**11.26**	**294**	P		**P**	**00 11 22.7**	**+3.4**
KKM	**Kota Kinabalu**	**11.26**	**294**	*e*P		**P**	**00 11 20.3**	**+1.0**
KAKA	**Kakadu**	**15.34**	**158**	*e*P		**P**	**00 12 29.3**	**+16**
	527nm,0.8s							
KSM	**Kuching**	**16.27**	**270**	*e*P		**P**	**00 12 25.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.57**	**183**	⇓*i*P			**00 13 02.3**	**-2.1**
	168nm,0.8s							
FITZ				*i* S		**S**	**00 16 45.4**	**+9.0**
FITZ	**Fitzroy Crossi**	**19.57**	**183**	P		**P**	**00 13 01.7**	**-2.7**
	11nm,0.3s,baz=16,slow=11,SNR=62							
FITZ				S		**S**	**00 16 36.7**	**+0.2**
	0.5nm,0.3s,baz=169,slow=20,SNR=1.8							
GUMO	**Guam**	**21.68**	**56**	P		**P**	**00 13 24.4**	**-1.6**
	44nm,0.4s,mb5.1,baz=222,slow=8.4,SNR=7.2							
GUMO	**Guam**	**21.68**	**56**	*e*P		**P**	**00 13 24.1**	**-1.9**
	129nm,1.1s,mb5.2							
GUMO	**Guam**	**21.68**	**56**	P		**P**	**00 13 24.4**	**-1.6**
GUMO				pmax		pmax		
	comp=Z,44nm,0.4s,mb5.1							
WRAB	**Tennant Creek**	**22.69**	**161**	⇑*i*P		**P**	**00 13 35.3**	**-0.7**
	comp=Z,790nm,0.8s,mb6.1							
WRAB	**Tennant Creek**	**22.69**	**161**	*c i*P		**P**	**00 13 35.4**	**-0.6**
WRA	**Warramunga Arr**	**22.70**	**161**	P		**P**	**00 13 35.3**	**-0.8**
	comp=Z,552nm,0.7s,mb6.0,baz=339,slow=11,SNR=366							
WRA				S		**S**	**00 17 36.8**	**+1.5**
	comp=Z,20nm,0.8s,baz=343,slow=16,SNR=7.7							
WRA				ScP			00 21 02.5	
	comp=Z,3.6nm,0.8s,baz=342,slow=3.1,SNR=4.5							
WB2	**Warramunga Arr**	**22.70**	**161**	⇑*i*P		**P**	**00 13 35.4**	**-0.7**
WB2				*i* S		**S**	**00 17 34.2**	**-1.2**
WB2				*e*SCS		ScS	00 24 45.3	+2.6
PMG	**Port Moresby**	**23.22**	**118**	P		**P**	**00 13 41.4**	**+0.2**
	comp=Z,44nm,0.8s,mb4.9,baz=259,slow=4.9,SNR=8.7							
PMG	**Port Moresby**	**23.22**	**118**	*e*P		**P**	**00 13 41.3**	**+0.1**
	comp=Z,54nm,0.9s,mb4.9							
PMG				LR		LR		
	comp=Z,1μm,22.0s							
PMG	**Port Moresby**	**23.22**	**118**	P		**P**	**00 13 41.4**	**+0.2**
PMG				pmax		pmax		
	comp=Z,44nm,0.8s							
KGM	**Kluang**	**23.26**	**271**	P		**P**	**00 13 44.1**	**+2.5**
YHNB	**Yeheng**	**23.50**	**348**	*e*P		**P**	**00 13 43.1**	**-0.8**
MBWA	**Marble Bar**	**23.57**	**196**	*e*P		**P**	**00 13 43.9**	**-0.6**
	comp=Z,45nm,0.6s,mb5.0							
QIZ	**Qiongzhong**	**23.87**	**318**	P		**P**	**00 13 46.6**	**-0.9**
QIZ				XP			00 14 11.3	
QIZ				*e*S		**S**	**00 17 53.5**	**-2.3**
QIZ				AMB		AMB		
	comp=Z,70nm,1.9s,mb4.7							
QIZ				LR		LR		
	comp=Z,2μm,26.6s							
QIZ	**Qiongzhong**	**23.87**	**318**	*e*P		**P**	**00 13 48.2**	**+0.8**
QZH	**Quanzhou**	**24.48**	**342**	*e*P		**P**	**00 13 55.1**	**+1.7**
QZH				S		**S**	**00 18 10.8**	**+4.7**
QZH				AMB		AMB		
	comp=Z,560nm,1.9s,mb5.6							
QZH				LR		LR		
	comp=Z,6μm,38.7s							
JOW	**Kunigami**	**25.16**	**4**	P		**P**	**00 14 01.3**	**+1.4**
	comp=Z,144nm,0.9s,mb5.4,baz=191,slow=10,SNR=13							
IPM	**Ipoh**	**25.69**	**277**	P		**P**	**00 14 04.8**	**-0.1**
ASPA	**Alice Springs**	**26.08**	**165**	⇑*i*P		**P**	**00 14 07.4**	**-1.1**
ASPA				*i* S		**S**	**00 18 34.9**	**+2.2**
ASPA				*e*SCS		ScS	00 24 58.4	+2.2
KULM	**Kulim**	**26.14**	**279**	*e*P		**P**	**00 14 08.4**	**-0.7**
CTA	**Charters Tower**	**28.91**	**139**	⇑*i*P		**P**	**00 14 33.8**	**-0.3**
	comp=Z,44nm,0.9s,mb5.1							
CTA				*e*			00 17 41.3	
CTA	**Charters Tower**	**28.91**	**139**	P		**P**	**00 14 34.0**	**-0.2**
	comp=Z,45nm,0.9s,mb5.1,baz=321,slow=11,SNR=30							
CTA				PcP		PcP	00 17 40.3	-1.8
	comp=Z,18nm,0.8s,baz=340,slow=5.4,SNR=3.8							
CTA				ScP			00 21 21.0	
	comp=Z,10nm,1.0s,baz=314,slow=9.4,SNR=3.5							
CTA	**Charters Tower**	**28.91**	**139**	P		**P**	**00 14 34.0**	**-0.1**
CTA							00 17 40.3	
CTA				pmax		pmax		
	comp=Z,45nm,0.9s							
CTA				pmax		pmax		
	comp=Z,18nm,0.8s							
CTA				pmax		pmax		
	comp=N,10.0nm,1.0s							
CTAO	**Charters Tower**	**28.91**	**139**	*e*P		**P**	**00 14 33.2**	**-1.0**
	comp=N,64nm,0.9s,mb5.2							
CTAO				LR		LR		
	comp=Z,548nm,19.0s							
CTAO	**Charters Tower**	**28.91**	**139**	*e*P		**P**	**00 14 33.2**	**-0.9**
CTAO				pmax		pmax		
	comp=Z,64nm,0.9s,mb5.2							
CTAO				MLR		MLR		
	comp=Z,548nm,19.0s							
CBIJ	**Chichi jima**	**29.46**	**29**	P		**P**	**00 14 37.7**	**-1.3**
	comp=Z,261nm,0.9s,mb5.9,baz=300,slow=7.3,SNR=5.3							
CBIJ				LR		LR	00 25 56.2	
	comp=Z,611nm,20.4s,baz=191,slow=35							
NST	**Nakhon Sawan**	**29.60**	**300**	P		**P**	**00 14 37.0**	**-3.4**
SSE	**Sheshan**	**29.80**	**351**	*e*P		**P**	**00 14 42.8**	**+0.8**
SSE				PCP		PcP	00 17 40.3	-3.9
SSE				S		**S**	**00 19 32.4**	**-0.1**
SSE				SCS		ScS	00 25 07.4	-5.5
SSE				AMB		AMB		
	comp=Z,36nm,0.7s,mb5.1							
SSE				AMB		AMB		
	comp=Z,366nm,5.1s							
SSE				LR		LR		
	comp=N,644nm,28.7s							
SSE				LR		LR		
	comp=E,969nm,28.7s							
SSE				LR		LR		
	comp=Z,1μm,27.1s							
SSE	**Sheshan**	**29.80**	**351**	*e*P		**P**	**00 14 42.7**	**+0.7**
	comp=Z,36nm,0.7s,mb5.1							
SSE				pP		pP	00 15 11.0	+13
SSE				sP		sP	00 15 26.1	+20
SSE				PP		PP	00 15 53.5	+12
SSE				PcP		PcP	00 17 40.3	-3.9
SSE				S		**S**	**00 19 32.4**	**-0.1**
SSE				sS			00 20 22.7	
SSE				ScS		ScS	00 25 07.4	-5.5
SSE				LR		LR		
	comp=Z,1μm,27.1s							
NANT	**Nan**	**30.60**	**306**	⇓P		**P**	**00 14 49.5**	**+0.3**
	comp=Z,175nm,0.6s,mb6.0							
NJ2	**Nanjing**	**31.18**	**347**	*e*P		**P**	**00 14 53.3**	**-0.8**
NJ2				AP		pP	00 15 08.6	-1.6
NJ2				XP		sP	00 15 15.6	-2.6
NJ2				PP		PP	00 15 59.3	+0.6
NJ2				S		**S**	**00 19 57.0**	**+2.8**
NJ2				XS			00 20 23.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,40nm,5.2s							
NJ2				LR		LR		
	comp=N,1μm,16.1s							
NJ2				LR		LR		
	comp=E,1μm,23.4s							
NJ2				LR		LR		
	comp=Z,4μm,18.3s							
GYA	**Guiyang**	**31.28**	**324**	P		**P**	**00 14 56.4**	**+1.3**
GYA				AP		pP	00 15 11.3	+0.1
GYA				XP		sP	00 15 18.5	-0.7
GYA				PP		PP	00 16 01.8	+1.7
GYA				PCP		PcP	00 17 49.3	+1.2
GYA				S		**S**	**00 19 56.4**	**+0.5**
GYA				XS			00 20 22.4	
GYA				SCP			00 21 26.5	
GYA				SCS		ScS	00 25 22.8	+2.7
GYA				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.8							
GYA				AMB		AMB		
	comp=Z,140nm,3.0s							
GYA				LR		LR		
	comp=N,480nm,16.7s							
GYA				LR		LR		
	comp=E,610nm,16.4s							
GYA				LR		LR		
	comp=Z,510nm,16.5s							
JNU	**Nakatsue**	**31.64**	**7**	P		**P**	**00 14 57.2**	**-1.0**
	comp=Z,31nm,0.9s,mb5.0,baz=196,slow=7.9,SNR=9.8							
CHG	**Chiang Mai**	**32.05**	**304**	P		**P**	**00 15 00.8**	**-1.1**
	comp=Z,12nm,0.8s,mb4.7							
FORT	**Forrest**	**32.20**	**178**	*e*P		**P**	**00 15 02.0**	**-1.1**
	comp=Z,329nm,0.7s,mb6.2							
FORT				*e*			00 17 52.3	
KMI	**Kunming**	**32.82**	**317**	P		**P**	**00 15 07.5**	**-1.1**
KMI				AP		pP	00 15 23.8	-1.0
KMI				XP		sP	00 15 31.3	-1.6
KMI				PP		PP	00 16 18.9	-1.0
KMI				PPP		PPP	00 16 36.1	0.0
KMI				S		**S**	**00 20 19.3**	**-0.6**
KMI				XS			00 20 47.3	
KMI				SS		SS	00 22 21.3	-0.8
KMI				SSS		SSS	00 22 46.9	-0.8
KMI				AMB		AMB		
	comp=Z,22nm,0.9s,mb5.0							
KMI				LR		LR		
	comp=E,933nm,26.7s							
KMI				LR		LR		
	comp=Z,1μm,24.6s							
KMI	**Kunming**	**32.82**	**317**	P		**P**	**00 15 07.5**	**-1.1**
	comp=Z,22nm,0.9s,mb5.0							
KMI				pP		pP	00 15 23.7	-1.1
KMI				sP		sP	00 15 31.3	-1.6
KMI				PP		PP	00 16 18.9	-1.0
KMI				PPP		PPP	00 16 36.1	0.0
KMI				S		**S**	**00 20 19.2**	**-0.7**
KMI				sS			00 20 47.2	
KMI				SS		SS	00 22 21.2	-0.9
KMI				SSS		SSS	00 22 46.9	-0.8
KMI				LR		LR		
	comp=Z,1μm,24.6s							
KMI	**Kunming**	**32.82**	**317**	P		**P**	**00 15 07.5**	**-1.1**
KMI				*PP		pP	00 15 23.7	-1.1
KMI							00 16 18.9	
KMI				PPP		PPP	00 16 36.1	0.0
KMI				S		**S**	**00 20 19.2**	**-0.7**
KMI				SS		SS	00 22 21.2	-0.9
KMI				SSS		SSS	00 22 46.9	-0.8
KMI				pmax		pmax		
	comp=Z,22nm,0.9s,mb5.0							
KMI				MLR		MLR		
	comp=Z,1μm,24.6s							
ENH	**Enshi**	**32.83**	**332**	*e*P		**P**	**00 15 07.3**	**-1.2**
	comp=Z,34nm,0.8s,mb5.2							
ENH				LR		LR		
	comp=Z,1μm,20.0s							
KLBR	**Kellerberrin**	**34.03**	**194**	*e*P		**P**	**00 15 18.0**	**-0.9**
	comp=Z,26nm,0.8s,mb5.5							
NWAO	**Narrogin (SRO)**	**35.43**	**194**	*e*P		**P**	**00 15 30.2**	**-0.7**
	comp=Z,202nm,1.6s,mb5.7							
NWAO	**Narrogin (SRO)**	**35.43**	**194**	*e*P		**P**	**00 15 30.2**	**-0.7**
NWAO				pmax		pmax		
	comp=Z,202nm,1.6s							
TIA	**Tai'an**	**35.56**	**347**	*e*P		**P**	**00 15 31.1**	**-0.8**
KS15	**Wonju Array Si**	**35.71**	**2**	*e*P		**P**	**00 15 34.1**	**+0.9**
STKA	**Stephens Creek**	**36.19**	**158**	⇑*i*P		**P**	**00 15 36.4**	**-0.9**
	comp=Z,64nm,0.8s,mb5.6							
STKA				*e*			00 18 01.8	
STKA	**Stephens Creek**	**36.19**	**158**	P		**P**	**00 15 36.0**	**-1.3**
	comp=Z,84nm,0.8s,mb5.7,baz=332,slow=7.9,SNR=132							
STKA				PcP		PcP	00 18 01.8	-0.1
	comp=Z,26nm,0.7s,baz=322,slow=6.8,SNR=3.6							
STKA				LR		LR	00 32 43.5	
	comp=Z,229nm,19.0s,baz=338,slow=40							
XAN	**Xi'an**	**36.28**	**335**	P		**P**	**00 15 37.0**	**-1.0**
XAN				AMB		AMB		
	comp=Z,18nm,0.9s,mb5.0							
CD2	**Chengdu**	**36.31**	**326**	*e*P		**P**	**00 15 37.6**	**-0.7**
CD2				AP		pP	00 15 52.8	-1.9
CD2				PP		PP	00 17 00.6	-2.4
CD2				PPP		PPP	00 17 21.6	-1.8
CD2				*e*S		**S**	**00 21 10.8**	**-2.8**
CD2				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.0							
CD2				LR		LR		
	comp=Z,550nm,28.8s							
MJAR	**Matsushiro Arr**	**36.42**	**16**	P		**P**	**00 15 37.8**	**-1.4**
	comp=Z,22nm,0.7s,mb5.2,baz=184,slow=9.6,SNR=45							
MJAR				PcP		PcP	00 18 02.8	+0.3
	comp=Z,8.7nm,0.9s,baz=179,slow=3.0,SNR=6.6							
MJAR				ScP			00 21 47.7	
	comp=Z,2.1nm,1.0s,baz=135,slow=3.4,SNR=3.8							
MJAR				LR		LR	00 30 25.8	
	comp=Z,625nm,20.2s,baz=195,slow=36							
MJAR	**Matsushiro Arr**	**36.42**	**16**	P		**P**	**00 15 37.8**	**-1.3**
MJAR				PcP		PcP	00 18 02.8	+0.3
MJAR				ScP			00 21 47.7	
MJAR				LR		LR	00 30 25.8	
MAJO	**Matsushiro**	**36.42**	**16**	*e*P		**P**	**00 15 37.6**	**-1.6**
	comp=Z,62nm,1.1s,mb5.5							
MAJO	**Matsushiro**	**36.42**	**16**	*e*P		**P**	**00 15 37.6**	**-1.6**
MAJO				pmax		pmax		
	comp=Z,62nm,1.1s,mb5.5							
MAT	**Matsushiro**	**36.42**	**16**	P		**P**	**00 15 37.7**	**-1.5**
MAT	**Matsushiro**	**36.42**	**16**	*e*P		**P**	**00 15 38.0**	**-1.2**
	comp=Z,49nm,1.0s,mb5.4							
MAT	**Matsushiro**	**36.42**	**16**	*e*P		**P**	**00 15 38.0**	**-1.2**
MAT				pmax		pmax		
	comp=Z,49nm,1.0s,mb5.4							
DL2	**Dalian**	**37.43**	**354**	P		**P**	**00 15 48.8**	**+1.2**
DL2				AMB		AMB		
	comp=Z,40nm,0.8s,mb5.4							
ARMA	**Armidale**	**39.78**	**145**	*e*P		**P**	**00 16 07.8**	**+0.6**
ARMA				*e*			00 18 13.5	
SNY	**Shenyang**	**40.16**	**357**	⇑P		**P**	**00 16 10.9**	**+0.6**
SNY				S		**S**	**00 22 05.5**	**-6.4**
SNY				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.1							
SNY				AMB		AMB		
	comp=Z,250nm,7.6s							
SNY				LR		LR		
	comp=N,470nm,23.7s							
SNY				LR		LR		
	comp=Z,640nm,27.0s							
LZH	**Lanzhou**	**40.29**	**331**	*e*P		**P**	**00 16 11.8**	**+0.4**
LZH				PP		PP	00 17 47.0	-1.5
LZH				PCP		PcP	00 18 15.8	+1.2
LZH				PCS			00 22 08.0	
LZH				S		**S**	**00 22 11.0**	**-2.8**
LZH				AMB		AMB		
	comp=Z,280nm,1.6s,mb5.8							
LZH				AMB		AMB		
	comp=Z,590nm,4.8s							
LZH				LR		LR		
	comp=E,1μm,13.4s							
LZH				LR		LR		
	comp=Z,3μm,20.7s							
LZH	**Lanzhou**	**40.29**	**331**	*e*P		**P**	**00 16 11.8**	**+0.4**
	comp=Z,280nm,1.6s,mb5.8							
LZH				pP		pP	00 16 22.0	-5.9
LZH				sP		sP	00 16 27.0	-8.8
LZH				PP		PP	00 17 47.0	-1.5
LZH				PcP		PcP	00 18 15.7	+1.1
LZH				ScP			00 22 02.0	
LZH				PcS			00 22 08.0	
LZH				S		**S**	**00 22 11.0**	**-2.8**
LZH				sS			00 22 28.0	
LZH				SS		SS	00 24 59.0	-10
LZH				LR		LR		
	comp=Z,3μm,20.7s							
LZH	**Lanzhou**	**40.29**	**331**	*e*P		**P**	**00 16 11.8**	**+0.4**
LZH				*PP		pP	00 16 22.0	-5.9
LZH				*SP		sP	00 16 27.0	-8.8
LZH							00 17 47.0	
LZH							00 18 15.7	
LZH				S		**S**	**00 22 11.0**	**-2.8**
LZH				*SS			00 22 28.0	
LZH							00 25 02.0	
LZH				pmax		pmax		
	comp=Z,280nm,1.6s,mb5.8							
LZH				MLR		MLR		
	comp=Z,3μm,20.7s							
HHC	**Hu-ho-hao-te**	**41.39**	**343**	*e*P		**P**	**00 16 20.4**	**0.0**
HHC				AP		pP	00 16 35.8	-1.2
HHC				XP		sP	00 16 42.9	-1.9
HHC				PP		PP	00 17 59.9	0.0
HHC				PCP		PcP	00 18 18.9	+0.7
HHC				SCP			00 22 02.5	
HHC				PCS			00 22 08.5	
HHC				S		**S**	**00 22 27.5**	**-2.6**
HHC				XS			00 22 56.1	
HHC				SS		SS	00 25 29.5	-1.8
HHC				SCS		ScS	00 26 16.6	+1.0
HHC				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.7							
HHC				AMB		AMB		
	comp=Z,276nm,4.2s							
HHC				LR		LR		
	comp=N,549nm,15.5s							
HHC				LR		LR		
	comp=E,409nm,15.5s							
HHC				LR		LR		
	comp=Z,1μm,26.2s							
VLA	**Vladivostok**	**41.63**	**6**	*i* P		**P**	**00 16 22.8**	**+0.4**
CN2	**Changchun**	**42.06**	**359**	*e*P		**P**	**00 16 28.0**	**+2.1**
CN2				*e*AP		pP	00 16 44.0	+1.6
CN2				*e*S		**S**	**00 22 44.0**	**+4.0**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.4							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,210nm,16.0s							
CN2				LR		LR		
	comp=E,550nm,16.0s							
CN2				LR		LR		
	comp=Z,450nm,21.0s							
CNB	**Canberra Magne**	**42.44**	**152**	*e*P		**P**	**00 16 28.6**	**-0.5**
	comp=Z,38nm,0.9s,mb5.1							
TOO	**Toolangi**	**42.71**	**158**	*e*P		**P**	**00 16 32.2**	**+0.9**
	comp=Z,15nm,0.7s,mb4.8							
TOO				*e*			00 18 10.4	
TOO	**Toolangi**	**42.71**	**158**	*e*P		**P**	**00 16 32.2**	**+0.9**
TOO				*e*			00 18 10.4	
TOO				pmax		pmax		
	comp=Z,15nm,0.7s,mb4.8							
MDJ	**Mudanjiang**	**42.94**	**3**	P		**P**	**00 16 33.9**	**+0.8**
MDJ				AP		pP	00 16 49.5	-0.2
MDJ				XP		sP	00 16 56.4	-1.1
MDJ				PP		PP	00 18 15.8	-0.2
MDJ				PCP		PcP	00 18 21.3	-2.0
MDJ				SCP			00 22 07.1	
MDJ				PCS			00 22 13.8	
MDJ				S		**S**	**00 22 57.5**	**+4.6**
MDJ				XS			00 23 24.8	
MDJ				SCS		ScS	00 26 27.8	+2.8
MDJ				AMB		AMB		
	comp=Z,45nm,1.0s,mb5.2							
MDJ				AMB		AMB		
	comp=Z,196nm,6.0s							
MDJ				LR		LR		
	comp=N,793nm,33.1s							
MDJ				LR		LR		
	comp=E,246nm,29.2s							
MDJ				LR		LR		
	comp=Z,955nm,32.5s							
MDJ	**Mudanjiang**	**42.94**	**3**	*e*P		**P**	**00 16 33.9**	**+0.8**
	comp=Z,33nm,0.8s,mb5.1							
LSA	**Lhasa**	**43.77**	**313**	P		**P**	**00 16 39.6**	**-0.5**
LSA				S		**S**	**00 23 02.8**	**-2.3**
LSA				LR		LR		
	comp=N,340nm,33.0s							
LSA				LR		LR		
	comp=E,660nm,31.6s							
LSA				LR		LR		
	comp=Z,970nm,32.0s							
LSA	**Lhasa**	**43.77**	**313**	*e*P		**P**	**00 16 41.0**	**+0.9**
	comp=Z,30nm,0.6s,mb5.2							
LSA				LR		LR		
	comp=Z,297nm,21.0s							
LSA	**Lhasa**	**43.77**	**313**	*e*P		**P**	**00 16 41.0**	**+0.9**
LSA				pmax		pmax		
	comp=Z,30nm,0.6s,mb5.2							
LSA				MLR		MLR		
	comp=Z,297nm,21.0s							
ASAJ	**Asahikawa**	**44.68**	**16**	P		**P**	**00 16 48.2**	**+1.0**
	comp=Z,44nm,0.8s,mb5.2,baz=226,slow=13,SNR=26							
ASAJ	**Asahikawa**	**44.68**	**16**	P		**P**	**00 16 48.2**	**+1.0**
ASAJ				pmax		pmax		
	comp=Z,44nm,0.8s							
GTA	**Gaotai**	**44.87**	**330**	⇑P		**P**	**00 16 48.5**	**-0.2**
GTA				AP		pP	00 17 01.6	-3.8
GTA				PCP		PcP	00 18 31.0	+1.1
GTA				PP		PP	00 18 34.1	-1.2
GTA				SCP			00 22 18.1	
GTA				PCS			00 22 23.0	
GTA				S		**S**	**00 23 19.9**	**-1.0**
GTA				SCS		ScS	00 26 41.3	+4.1
GTA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.5							
GTA				AMB		AMB		
	comp=Z,122nm,5.3s							
GTA				LR		LR		
	comp=N,535nm,22.0s							
GTA				LR		LR		
	comp=E,502nm,24.3s							
GTA				LR		LR		
	comp=Z,978nm,27.4s							
NOUC	**Port Laguerre**	**45.34**	**124**	*e*P		**P**	**00 16 52.2**	**-0.5**
VIS	**Vishakhapatnam**	**45.40**	**293**	*e*P		**P**	**00 16 51.8**	**-1.4**
VIS				AMb		AMB	00 17 10.0	
	comp=Z,24nm,1.5s,mb4.7							
DZM	**Mont Dzumac

comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.2
HIA Hailar 47.87 354 *e*P **P 00 17 12.5 +0.2**
comp=Z,47nm,1.2s,mb5.2
HIA LR LR
comp=Z,647nm,19.0s
HIA Hailar 47.87 354 *e*P **P 00 17 12.5 +0.2**
HIA pmax pmax
comp=Z,47nm,1.2s
HIA MLR MLR
comp=Z,647nm,19.0s
GKN Gorkha 47.92 307 *e*P **P 00 17 11.7 -1.3**
comp=Z,62nm,0.8s,mb5.5
KOLN Koldanda 48.65 306 *e*P **P 00 17 17.6 -1.0**
comp=Z,118nm,0.5s,mb6.0
SONM Songino Array 49.28 342 P **P 00 17 23.3 +0.1**
comp=Z,7.4nm,0.8s,mb4.7,baz=156,slow=8.2,SNR=37
SONM PcP PcP 00 18 45.7 +0.2
comp=Z,5.5nm,0.8s,baz=150,slow=4.0,SNR=2.3
SONM ScP 00 22 39.0
comp=Z,2.0nm,1.1s,baz=136,slow=3.0,SNR=3.4
SONM LR LR 00 40 49.4
comp=Z,227nm,21.9s,baz=154,slow=39
HYB Hyderabad 49.73 292 *i*P **P 00 17 26.0 -1.1**
HYB Hyderabad 49.73 292 *e*P **P 00 17 26.0 -1.1**
NGP Nagpur 50.22 296 *e*P **P 00 17 31.3 +0.5**
AKL Akola 51.94 295 *e*P **P 00 17 39.3 -4.4**
AKL AMb AMB 00 17 44.4
comp=Z,60nm,0.9s,mb5.6
BHPL Bhopal 52.26 298 *e*P **P 00 17 44.4 -1.8**
BHPL AMb AMB 00 17 48.0
comp=Z,24nm,0.7s,mb5.3
ZAK Zakamensk 52.50 341⇑ *e*P **P 00 17 47.2 -0.3**
ZAK *e* 00 18 56.9
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
AGRA Agra 53.09 303 *e*P **P 00 17 49.5 -2.7**
AGRA AMb AMB 00 17 54.0
comp=Z,38nm,0.4s,mb5.8
KAD Karad 53.79 290 *e*P **P 00 17 56.4 -1.2**
KAD AMb AMB 00 17 57.6
comp=E,14nm,0.8s
IRK Irkutsk 53.83 343 *e*P **P 00 17 57.2 -0.2**
IRK *e* 00 18 59.9
IRK pmax pmax
comp=Z,109nm,2.5s,mb5.4
BISR Bishrakh 53.97 305 *e*P **P 00 17 56.0 -2.7**
SONA Sohna 54.15 304 *e*P **P 00 17 57.6 -2.5**
SONA AMb AMB 00 17 59.4
comp=Z,31nm,0.6s,mb5.5
NDI New Delhi 54.20 305 *ex* x 00 17 57.0
NDI *e*P 00 17 57.9
NDI AMb AMB 00 17 59.8
comp=Z,19nm,0.5s,mb5.3
AYAN Aya Nagar 54.20 304 *e*P **P 00 17 57.5 -2.9**
WMQ Urumqi 54.41 326 *e*P **P 00 18 02.1 +0.4**
WMQ AP pP 00 18 18.0 -0.8
WMQ XP sP 00 18 26.0 -0.3
WMQ PCP PcP 00 19 05.0 +0.4
WMQ PP PP 00 20 06.0 +0.3
WMQ S **S 00 25 34.0 +0.7**
WMQ XS 00 26 02.0
WMQ SS SS 00 29 17.0 +1.1
WMQ AMB AMB
comp=Z,34nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,375nm,4.5s
WMQ LR LR
comp=N,2μm,23.5s
WMQ LR LR
comp=E,967nm,24.2s
WMQ LR LR
comp=Z,1μm,26.0s
BHGR Bahadurgarh 54.43 305 *e*P **P 00 17 59.0 -3.1**
KKR Kurukshetra 54.98 306 *e*P **P 00 18 03.3 -2.8**
KKR AMb AMB 00 18 07.3
comp=Z,61nm,0.2s,mb6.2
CLNS Chul'man 55.11 359 *e*P **P 00 18 06.8 +0.2**
CLNS pmax pmax
comp=Z,41nm,0.7s,mb5.6
CLNS pmax pmax
comp=N,41nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.7s
BOD Bodaibo 56.96 352 *e*P **P 00 18 18.9 -1.0**
BOD pmax pmax
comp=Z,43nm,1.5s,mb5.3
PET Petropavlovsk 57.76 22 *e*P **P 00 18 22.1 -3.5**
PET *e*S **S 00 26 23.4 +5.7**
PET pmax pmax
comp=Z,39nm,1.4s,mb5.2
PET MLR MLR
comp=Z,100nm,18.0s
MKAR Makanchi Array 59.24 326 P **P 00 18 35.1 -0.8**
comp=Z,21nm,0.6s,mb5.4,baz=122,slow=8.3,SNR=117
MKAR LR LR 00 43 37.1
comp=Z,356nm,20.7s,baz=179,slow=36
MKAR Makanchi Array 59.24 326 P **P 00 18 35.1 -0.8**
MKAR LR LR 00 43 37.1
KSH Kashi 59.47 316 *e*P **P 00 18 37.1 -0.5**
KSH *e*AP pP 00 18 53.9 -1.1
KSH *e*XP sP 00 19 00.6 -2.0
KSH *e*PCP PcP 00 19 25.8 +1.4
KSH *e*PP PP 00 20 51.4 +0.1
KSH *e*PPP PPP 00 22 16.0 -0.9
KSH *e*SCP 00 23 19.6
KSH *e*PCS 00 23 26.0
KSH *e*S **S 00 26 39.3 -0.8**
KSH *e*SCS ScS 00 28 18.5 +0.6
KSH *e*SS SS 00 30 32.5 -5.0
KSH AMB AMB
comp=Z,470nm,4.8s
KSH LR LR
comp=N,1μm,7.0s
KSH LR LR
comp=E,1μm,7.6s
YAK Yakutsk 60.35 2 *e*P **P 00 18 42.8 -0.6**
comp=E,115nm,0.8s,mb6.0
YAK Yakutsk 60.35 2 *e*P **P 00 18 42.8 -0.6**
YAK pmax pmax
comp=Z,115nm,0.8s,mb6.0
MA2 Magadan 60.82 14 *e*P **P 00 18 46.7 +0.1**
comp=Z,28nm,0.6s,mb5.5
MA2 Magadan 60.82 14*ce*P **P 00 18 46.9 +0.4**
MA2 *e*SP SP 00 27 02.7 -10
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.5
TKM2 Tokmak 2 61.26 319 P **P 00 18 49.6 -0.2**
SNR=33
KBK Karagaybulak 61.57 319 P **P 00 18 54.5 +2.7**
SNR=13
UCH Uchtor 61.66 318 P **P 00 18 52.9 +0.4**
SNR=31
CHMS Chumysh 61.85 319 P **P 00 18 52.9 -0.8**
SNR=12
AAK Ala-Archa 61.85 319 P **P 00 18 54.0 +0.2**
SNR=6.6
AAK Ala-Archa 61.85 319 *e*P **P 00 18 52.6 -1.1**
comp=Z,42nm,1.4s,mb5.3
AAK LR LR
comp=Z,120nm,22.0s
AAK Ala-Archa 61.85 319 *e*P **P 00 18 52.6 -1.2**
AAK pmax pmax
comp=Z,42nm,1.4s,mb5.3
AAK MLR MLR
comp=Z,120nm,22.0s
FRU Bishkek 61.86 319 *e*P **P 00 18 56.0 +2.2**
USP Ospenovka 62.14 319 P **P 00 18 55.4 -0.3**
SNR=34
AML Almayashu 62.17 318 P **P 00 18 56.5 +0.6**
SNR=30
EKS2 Erkin-Say 62.34 318 P **P 00 18 57.3 +0.3**
SNR=40
ZAL Zalesovo 62.44 334 P **P 00 18 56.1 -1.3**
comp=Z,5.3nm,0.4s,mb4.9,baz=351,slow=6.2,SNR=30
ZAL S **S 00 27 20.3 +2.7**
comp=Z,1.6nm,0.4s,baz=89,slow=18,SNR=3.2
KURK Kurchatov 63.47 328 *e*P **P 00 19 03.3 -1.1**
comp=Z,41nm,0.5s,mb5.6
KURK LR LR
comp=Z,54nm,19.0s
KURK Kurchatov 63.47 328*c i*P **P 00 19 03.4 -1.0**
NVS Novosibirsk 63.72 334⇑ *i*P **P 00 19 03.5 -2.5**
NVS *e*S **S 00 27 32.6 -1.1**
NVS pmax pmax
comp=Z,95nm,1.8s,mb5.3
NVS pmax pmax
comp=N,48nm,1.5s
NVS pmax pmax
comp=E,36nm,1.3s
NVS smax
comp=N,108nm,2.9s
NVS smax
comp=E,38nm,2.9s
CASY Casey 68.67 187 *e*P **P 00 19 37.3 +0.1**
DRV Dumont d'Urvil 68.76 174 P **P 00 19 35.0 -2.7**
BVAR Borovoye Array 69.04 327 S S 00 28 39.7 +1.5
comp=E,1.0nm,1.0s,baz=97,slow=12,SNR=2.8
BRVK Borovoye 69.11 327 *e*P **P 00 19 39.5 -0.7**
comp=E,23nm,0.8s,mb5.1
BRVK Borovoye 69.11 327 *e*P **P 00 19 39.5 -0.6**
BRVK pmax pmax
comp=Z,23nm,0.8s,mb5.1
TIXI Tiksi 69.98 1⇑ *e*P **P 00 19 44.1 -1.1**
BILL Bilibino 71.66 15 *i*P **P 00 19 55.4 +0.1**
MIR Mirnyy 72.04 193*c i*P **P 00 19 58.8 +1.2**
MIR *i* pP 00 20 19.0 +3.4
MIR pmax pmax
comp=Z,97nm,1.6s,mb5.4
ARU Arti 76.67 328 *e*P **P 00 20 23.8 -0.6**
comp=Z,73nm,0.9s,mb5.4
ARU Arti 76.67 328⇑ *i*P **P 00 20 24.3 -0.2**
ARU *e* 00 23 19.1
ARU *e*PPP PPP 00 25 07.2 +0.3
ARU *e*S S 00 30 02.8 -1.6
ARU *e*SS SS 00 35 02.1 -1.9
ARU pmax pmax
comp=Z,68nm,0.9s,mb5.4
SOKR Solikamsk 78.50 331⇓ *i*P **P 00 20 35.1 +0.6**
SOKR pmax pmax
comp=Z,60nm,1.3s,mb5.3
KBD Kabd 79.53 299 *e*P **P 00 20 40.9 +0.1**
UMR Umm Al-Rimmam 79.54 300 *e*P **P 00 20 40.8 -0.1**
UMR AMb AMB 00 20 42.1
comp=Z,87nm,0.6s,mb5.8
RDF Al-Radifah 79.64 299 *e*P **P 00 20 41.0 -0.4**
RDF AMb AMB 00 20 48.1
comp=Z,45nm,0.6s,mb5.5
MIB Mutribah 79.88 300 *e*P **P 00 20 42.3 -0.3**
MIB AMb AMB 00 20 44.7
comp=Z,109nm,0.6s,mb5.8
NAY Al-Naaiem 79.93 299 *e*P **P 00 20 42.4 -0.5**
NAY AMb AMB 00 20 44.1
comp=Z,36nm,0.7s,mb5.3
VNDA Vanda 81.32 173⇑ *i*P **P 00 20 49.7 +0.4**
comp=Z,58nm,0.8s,mb5.5
VNDA *e* 00 21 02.8
VNDA LR LR
comp=Z,296nm,19.0s
VNDA Vanda 81.32 173⇑ *i*P **P 00 20 49.7 +0.3**
VNDA *e* 00 21 02.8
VNDA pmax pmax
comp=Z,58nm,0.8s
VNDA MLR MLR
comp=Z,296nm,19.0s
MZLS Mizel 81.48 294 P **P 00 20 52.6 +1.4**
MAW Mawson 81.69 200⇑ *i*P **P 00 20 52.3 +0.9**
comp=Z,17nm,1.5s,mb4.7
MAW Mawson 81.69 200 P **P 00 20 52.4 +1.0**
comp=Z,17nm,0.9s,mb4.9,baz=60,slow=6.5,SNR=34
MAW LR LR 00 50 36.7
comp=Z,154nm,21.3s,baz=55,slow=31
SBA Scott Base 82.23 172⇑ *e*P **P 00 20 55.2 +1.1**
comp=Z,57nm,1.0s,mb5.4
SBA Scott Base 82.23 172⇑ *e*P **P 00 20 55.2 +1.1**
SBA pmax pmax
comp=Z,57nm,1.0s,mb5.4
DGRG David-gareji 82.37 311 P **P 00 20 56.3 +0.9**
BHD Baghdad 82.61 303 *ex* x 00 20 53.0
SVW2 Sparrevohn 82.75 29 *e*P **P 00 20 58.2 +1.2**
MTA Mtatsminda 82.82 312 P **P 00 20 59.6 +1.9**
TI2 Plekhanov 82.85 312⇑ *i*P **P 00 20 55.4 -2.5**
TBLG Delisi 82.86 312 P **P 00 20 59.2 +1.3**
TTA Tatalina 82.88 27 *e*P **P 00 20 59.0 +1.4**
CLDR Caldiran 83.31 309 *e*P **P 00 21 01.1 +0.8**
HKR Hakkari 83.36 307 *e*P **P 00 21 00.8 +0.2**
HAKT HAKKARI 83.39 307 *i*P **P 00 21 01.1 +0.4**
AFFS 'Afif 83.50 294 P **P 00 21 02.9 +1.4**
ZEI Tsey 83.56 313 *e*P **P 00 20 59.3 -2.2**
ZEI *i* 00 24 13.1
ZEI pmax pmax
comp=Z,85nm,0.9s,mb5.6
TVAN Van 83.68 308 *i*P **P 00 21 01.6 -0.6**
MSL Mosul 83.82 306 *ex* x 00 21 23.5
SIRT Sirnak 84.39 307 *e*P **P 00 21 05.7 -0.1**
SPU Mount Spurr 84.46 29 *e*P **P 00 21 06.1 +0.6**
KIV Kislovodsk 84.51 314 *e*P **P 00 21 07.5 +1.3**
comp=Z,33nm,0.8s,mb5.3
KIV Kislovodsk 84.51 314 *e*P **P 00 21 05.9 -0.3**
KIV pmax pmax
comp=N,13nm,1.0s
KIV pmax pmax
comp=Z,39nm,1.0s,mb5.3
PPT Papeete 84.60 108 LR LR 00 52 40.6
comp=Z,250nm,21.5s,baz=268,slow=31
HILS Ha'il 84.65 297 P **P 00 21 09.4 +2.1**
BLJS Baljurashi 84.75 290 P **P 00 21 10.2 +2.2**
ARTV Artvin 84.94 311 *i*P **P 00 21 09.2 +0.7**
BTMT Batman 85.17 308 *e*P **P 00 21 11.1 +1.5**
SLKM Skilak Lake 85.28 30 *e*P **P 00 21 10.2 +0.6**
EZM Erzurum 85.32 310 *e*P **P 00 21 12.1 +1.7**
BEST Besiri 85.33 308 *i*P **P 00 21 12.1 +1.7**
BNGL BINGOL 85.46 309 *i*P **P 00 21 12.6 +1.6**
MARD Mardin 85.71 307 *i*P **P 00 21 12.5 +0.2**
LTHS Al Lith 85.87 290 P **P 00 21 15.3 +1.9**
PMR Palmer 85.90 28 *e*P **P 00 21 13.0 +0.4**
comp=Z,110nm,1.4s,mb5.6
PMR LR LR
comp=Z,503nm,22.0s
PMR Palmer 85.90 28 *e*P **P 00 21 13.0 +0.4**
PMR pmax pmax
comp=Z,110nm,1.4s,mb5.6
PMR MLR MLR
comp=Z,503nm,22.0s
MCK McKinley 86.15 26 *e*P **P 00 21 14.2 +0.4**
comp=Z,7.5nm,1.0s,mb4.6
MCK McKinley 86.15 26 *e*P **P 00 21 14.2 +0.4**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
DIY Diyarbakir 86.16 308 *e*P **P 00 21 15.7 +1.2**
SML Sawmill 86.29 28 *e*P **P 00 21 15.8 +1.2**
MACK Trabzon 86.56 311 *i*P **P 00 21 18.0 +1.6**
SOC Sochi 86.65 313*c i*P **P 00 21 15.8 -1.0**
SOC *e* 00 24 41.4
SOC pmax pmax
comp=Z,29nm,1.0s,mb5.2
SOC pmax pmax
comp=N,21nm,0.9s
SOC pmax pmax
comp=E,17nm,1.0s
GUMT Gumushane 86.78 310 *e*P **P 00 21 19.0 +1.5**
PTK Pertek 86.83 309 *e*P **P 00 21 18.6 +0.8**
KBRS Khaybar 86.91 296 P **P 00 21 20.8 +2.3**
ILAR Eielson Array 87.10 25 P **P 00 21 17.7 -0.8**
comp=E,4.0nm,1.0s,mb4.3,baz=251,slow=4.6,SNR=17
ILAR PKKPbc 00 39 11.7
comp=E,0.5nm,0.8s,baz=6.0,slow=2.7,SNR=5.3
ILAR LR LR 00 56 27.6
comp=E,123nm,21.5s,baz=245,slow=33
ELZG Elazig 87.15 308 *i*P **P 00 21 20.5 +1.1**
VOR Voronezh 87.15 322 *e*P **P 00 21 19.0 0.0**
VOR pmax pmax
comp=Z,110nm,2.0s,mb5.4
URFA Urfa 87.27 307 *e*P **P 00 21 19.9 -0.1**
DIV Divide 87.49 29 *e*P **P 00 21 22.3 +1.9**
comp=Z,236nm,1.4s,mb5.9
MALT Malatya 87.58 308 *e*P **P 00 21 22.9 +1.4**
comp=Z,82nm,1.8s,mb5.5
MALT Malatya 87.58 308 *e*P **P 00 21 22.9 +1.5**
MALT pmax pmax
comp=Z,81nm,1.8s,mb5.5
MYA Malatya 87.58 308 *e*P **P 00 21 22.9 +1.5**
GRSN GIRESUNGRSN 87.70 311 *i*P **P 00 21 20.9 -1.0**
MOS Moscow 88.12 326 *e*P **P 00 21 22.3 -1.2**
MOS pmax pmax
comp=Z,64nm,2.1s,mb5.3
GZT Gaziantep 88.27 307 *i*P **P 00 21 24.9 +0.1**
ANN Anapa 88.30 315 *e*P **P 00 21 22.8 -1.9**
ANN pmax pmax
comp=Z,66nm,0.9s,mb5.7
QURS Qurayyt al Mil 88.56 301 P **P 00 21 27.8 +1.6**
GAZ Gaziantep 88.56 307 *e*P **P 00 21 26.9 +0.8**
OBN Obninsk 88.73 325 *e*P **P 00 21 25.9 -0.5**
comp=Z,75nm,1.3s,mb5.6
OBN Obninsk 88.73 325*ce*P **P 00 21 26.2 -0.2**
OBN *e* 00 25 00.5
OBN *e*S S 00 32 06.6 +0.6
OBN *e*PS PS 00 33 22.5 +1.2
OBN pmax pmax
comp=Z,67nm,1.4s,mb5.5
KAHT Ahir Dag 88.82 307 *i*P **P 00 21 28.4 +1.1**
KMBO Kilima Mbogo 89.36 269 P **P 00 21 31.4 +0.9**
comp=Z,13nm,1.1s,mb4.9,baz=58,slow=5.9,SNR=18
BOYT Boyabat 90.23 311 *i*P **P 00 21 33.7 -0.2**
AVNT Avonos 90.37 309 *i*P **P 00 21 35.1 +0.5**
SYO Syowa Base 90.38 201⇓ P **P 00 21 33.5 -0.4**
SYO Syowa Base 90.38 201⇓ PcP PcP 00 21 35.0 -0.2
JMOS Jabal al Moall 90.53 299 P **P 00 21 36.9 +1.3**
ALWS Ilw as Safayha 90.56 299 P **P 00 21 37.2 +1.5**
SIM Simferopol' 90.65 315 *e*P **P 00 21 35.8 +0.1**
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,300nm,20.0s
HAQS Haql 90.69 299 P **P 00 21 37.5 +1.2**
JOF Joensuu 91.02 333 *ep* P **P 00 21 36.1 -0.9**
BR131 Keskin Array S 91.27 310 *e*P **P 00 21 38.9 +0.1**
comp=Z,2.9nm,0.7s,mb4.5
BRTR Keskin Array B 91.27 310 P **P 00 21 38.7 -0.1**
comp=Z,4.9nm,0.8s,mb4.7,baz=127,slow=5.7,SNR=26
QSPA South Pole Qui 91.50 180 *e*P **P 00 21 40.3 +1.4**
comp=Z,84nm,1.3s,mb5.7
CSS Prodhromos 91.78 305 *e*P **P 00 21 41.2 0.0**
comp=Z,22nm,0.9s,mb5.4
INK Inuvik 92.21 22 *e*P **P 00 21 42.4 0.0**
ARCES ARCESS Array B 92.41 340 P **P 00 21 42.5 -0.8**
comp=Z,8.7nm,0.8s,mb5.0,baz=90,slow=4.9,SNR=12
ARCES PKKPbc 00 38 58.0
comp=Z,3.8nm,0.9s,baz=254,slow=3.6,SNR=8.1
ARCES LR LR 01 06 50.5
comp=Z,298nm,20.4s,baz=97,slow=38
KAF Kangasniemi 93.43 332 *ep* P **P 00 21 47.6 -0.5**
ESKT Eskisehir 93.44 310 *i*P **P 00 21 39.8 -8.9**
AKASG Malin Array Be 93.46 321 P **P 00 21 47.4 -1.1**
comp=Z,0.5nm,0.4s,mb4.2,baz=70,slow=3.7,SNR=15
AKASG PKKPbc 00 38 54.1
comp=Z,0.2nm,0.3s,baz=274,slow=2.7,SNR=4.2
FINES FINESS Array B 93.65 332 P **P 00 21 50.1 +1.0**
comp=Z,1.8nm,0.7s,mb4.5,baz=108,slow=6.0,SNR=8.3
TKTP Tekketepe 93.98 308 *i*P **P 00 21 48.9 -2.3**
ULDT Uludag 94.69 310 *i*P **P 00 21 53.3 -1.1**
CFR Carcaliu 94.85 315⇓ P **P 00 21 55.1 +0.1**
BTOK Tokmak 95.58 310 *i*P **P 00 21 57.8 -0.6**
VRI Vrincioaia 95.74 316⇑ P **P 00 22 00.6 +1.6**
BURAR Bucovina Array 96.50 318⇓ P **P 00 22 03.9 +1.5**
DRGR 98.33 318⇓ P **P 00 22 10.9 +0.2**
LSZ Lusaka 98.51 255 *e*P **P 00 22 12.4 +0.2**
comp=Z,17nm,1.4s,mb5.4
LSZ Lusaka 98.51 255 *e*P **P 00 22 12.4 +0.2**
LSZ pmax pmax
comp=Z,17nm,1.4s,mb5.4
NB2 NORSAR Subarra100.64 333 P P 00 22 19.9 -1.0
comp=Z,1.4nm,0.7s,baz=70,slow=4.3
NB2 NORSAR Subarra100.64 333 P P
NB2 pmax pmax 00 22 19.9 -1.0
comp=Z,1.0nm,0.7s
NOA NORSAR Array B100.64 333 P P 00 22 20.1 -0.8
comp=Z,2.3nm,0.9s,baz=66,slow=4.5,SNR=3.7
NOA PKKPbc 00 38 36.5
comp=Z,2.0nm,0.8s,baz=69,slow=2.7,SNR=5.3
BRG Berggiesshubel 102.87 323 *e*P Pdif 00 22 31.3 +0.3
comp=Z,15nm,1.7s
BRG *e* 00 22 37.0
BRG Berggiesshubel 102.87 323 *e*P Pdif 00 22 31.3 +0.3
BRG pmax pmax
comp=Z,15nm,1.7s
GERES GERESS Array B 103.67 321 Pdiff Pdif 00 22 32.2 -2.4
comp=Z,0.5nm,0.7s,baz=90,slow=5.3,SNR=6.6
GERES PKKPbc 00 38 26.7
comp=Z,0.2nm,0.5s,baz=243,slow=3.0,SNR=3.8
VNA2 Neumayer--Watz 104.71 194⇑ *i*Pdif Pdif 00 22 40.4 +1.7
VNA2 *e* 00 23 03.8
VNA2 *e* 00 23 20.7
VNA2 *e* 00 26 11.3
VNA2 *e* 00 26 50.2
VNA2 *e* 00 26 54.7
VNA2 *e* 00 27 28.9
VNA2 *e* 00 27 40.6
VNA2 *e* 00 38 23.3
VNA2 *e* 00 38 41.0
VNA3 Neumayer Olymp 105.04 193⇑ *i*Pdif Pdif 00 22 43.8 +3.7
VNA3 *e* 00 23 05.4
VNA3 *e* 00 23 24.3
VNA3 *e* 00 26 13.5
VNA3 *e* 00 26 48.6
VNA3 *e* 00 26 55.2
VNA3 *e* 00 27 26.6
VNA3 *e* 00 27 38.4
VNA3 *e* 00 38 22.6
VNA3 *e* 00 38 39.0
VNA1 Neumayer--Stat 105.11 194⇑ *i*P Pdif 00 22 42.3 +1.8
VNA1 Neumayer--Stat 105.11 194 *e* Pdif 00 23 04.5 +24
VNA1 Neumayer--Stat 105.11 194 *e* Pdif 00 23 23.3 +43
VNA1 Neumayer--Stat 105.11 194 *e* 00 26 49.3
VNA1 Neumayer--Stat 105.11 194⇑ Pdif Pdif 00 22 42.3 +1.8
VNA1 *e* 00 23 04.5
VNA1 *e* 00 23 23.3
VNA1 *e* 00 26 12.5
VNA1 *e* 00 26 49.3
VNA1 *e* 00 38 22.4
VNA1 *e* 00 38 39.9
NVAR Mina Array Bea 108.44 49 Pdiff Pdif 00 22 56.6 +0.8
comp=Z,1.4nm,0.9s,baz=280,slow=2.9,SNR=5.6
NVAR PKKPbc 00 38 13.3
comp=Z,0.9nm,0.8s,baz=109,slow=3.0,SNR=4.2
NVAR Mina Array Bea 108.44 49 Pdif Pdif 00 22 56.6 +0.8
NVAR PKKPbc 00 38 13.3
LPG La Plagne 109.29 320 *e*PKIKP 00 27 04.5
comp=Z,4.4nm,0.8s
LPL La Plagne 109.29 320 *e*PKIKP 00 27 04.4
comp=Z,7.1nm,0.9s
ELK Elko 109.93 45 PKKPbc 00 38 08.3
comp=Z,0.8nm,0.6s,baz=47,slow=5.5,SNR=4.8
SSF Saint Saulge 110.67 322 *e*PKIKP PKPdf 00 27 05.0 +0.8
comp=Z,8.9nm,1.1s
LASF Ste Croix 111.75 319 *e*PKIKP PKPdf 00 27 08.0 +1.6
comp=Z,15nm,1.1s
PDAR Pinedale Array 113.06 42 PKKPbc 00 37 57.9
comp=Z,1.3nm,0.7s,baz=90,slow=4.4,SNR=8.5
ULM Lac du Bonnet 116.91 29 PKP PKPdf 00 27 17.1 +0.8
comp=Z,2.2nm,0.5s,baz=320,slow=3.2,SNR=6.1
ANMO Albuquerque 118.56 48⇑ *i*PKIKP PKPdf 00 27 23.3 +3.4
MNTX Cornudas Mount 120.71 51 *e*PKPdf PKPdf 00 27 25.5 +1.3
EVO Evora 122.24 319 *e*PKIKP PKPdf 00 27 28.1 +1.2
comp=Z,33nm,1.3s
SCHQ Schefferville 122.70 9 PKP PKPdf 00 27 28.7 +1.3
comp=Z,3.9nm,0.5s,baz=14,slow=5.1,SNR=16
TXAR Lajitas Array 123.01 53 PKP PKPdf 00 27 31.3 +2.7
comp=Z,2.8nm,0.8s,baz=209,slow=1.0,SNR=29
TXAR PKKPbc 00 37 22.2
comp=Z,0.7nm,0.8s,baz=121,slow=7.3,SNR=8.2
CCM Cathedral Cave 127.34 38 *e*P PKPdf 00 27 37.4 +0.6
WCI Wyandotte Cave 130.12 34 *e*PKPdf PKPdf 00 27 44.2 +2.0
KIC Kosan Boka 130.77 280 *e*PKIKP PKPdf 00 27 46.7 +2.7
comp=Z,28nm,0.7s
DBIC Dimbokro 130.84 280 PKP PKPdf 00 27 46.1 +2.0
comp=Z,5.5nm,0.8s,baz=84,slow=5.8,SNR=8.3
TIC Toumodi 131.01 280 *e*PKIKP PKPdf 00 27 47.1 +2.6
comp=Z,140nm,1.6s
LIC Lamto 131.07 280 *e*PKIKP PKPdf 00 27 46.9 +2.3
comp=Z,69nm,1.3s
LIC Lamto 131.07 280 *e*PKIKP PKPdf 00 27 47.3 +2.7
comp=Z,21nm,0.6s
PLAL Pickwick Lake 131.27 38 *e*PKPdf PKPdf 00 27 45.6 +1.2
PLCA Paso Flores 138.05 160 PKhKP 00 27 48.1
comp=Z,3.7nm,0.8s,baz=225,slow=4.0,SNR=6.0
PLCA PKP PKPdf 00 28 00.1 +3.3
comp=Z,10nm,0.8s,baz=187,slow=3.7,SNR=12
PLCA Paso Flores 138.05 160 PKP 00 27 48.1
PLCA *e*PKPdf PKPdf 00 27 59.6 +2.8
PLCA Paso Flores 138.05 160 *e*PKIKP PKPdf 00 27 59.6 +2.8

FCH	**Farellones**	**144.67**	**155**	*i* P		PKPbc	00 28 11.2	+2.5
CMCH	**Combarbala**	**146.19**	**152**	*i* P		PKPdf	00 28 14.6	+3.2
JTS	**JuntasAbangare**	**146.47**	**69**	*e*PKPdf		PKPdf	00 28 14.6	+2.3
HLGC	**Holguin**	**148.54**	**44**	*e*P		PKPdf	00 28 21.6	+6.1
LVC	**Limon Verde**	**154.23**	**145**	*e*PKPbc		PKPdf	00 28 35.7	+12
CPUP	**Villa Florida**	**155.10**	**172**	PKP		PKPdf	00 28 27.3	+2.3
	comp=Z,4.0nm,1.1s,baz=153,slow=4.1,SNR=3.6							
CPUP				PKPbc		PKPdf	00 28 37.1	+12
	comp=E,8.6nm,0.9s,baz=235,slow=1.4,SNR=11							
CPUP	**Villa Florida**	**155.10**	**172**	*e*PKIKP		PKPdf	00 28 27.5	+2.5
CPUP				*e*			00 28 36.7	
SJG	**San Juan**	**156.77**	**32**	PKP		PKPdf	00 28 29.6	+2.3
	comp=Z,2.2nm,0.2s,baz=306,slow=18,SNR=3.1							
SJG				PKPab		PKPab	00 28 59.4	-0.2
	comp=Z,3.1nm,0.3s,baz=348,slow=18,SNR=4.3							
CPD	**Cerro la Pandu**	**156.95**	**32**	*e*PKPdf		PKPdf	00 28 29.8	+2.2
MTP	**Monte Pirata**	**157.09**	**31**	*e*PKPdf		PKPdf	00 28 29.9	+2.1
ROSC	**El Rosal**	**158.15**	**73**	PKP		PKPdf	00 28 33.0	+3.6
	comp=Z,5.2nm,0.6s,baz=94,slow=23,SNR=8.6							
ROSC				PKPab		PKPab	00 29 07.7	+1.9
	comp=Z,7.2nm,0.7s,baz=87,slow=20,SNR=4.4							
LPAZ	**La Paz**	**159.41**	**136**	PKP		PKPdf	00 28 34.9	+4.2
	comp=Z,5.0nm,0.9s,baz=316,slow=1.1,SNR=20							
LPAZ				PKPab		PKPab	00 29 12.2	+1.2
	comp=Z,4.5nm,0.9s,baz=215,slow=3.3,SNR=4.8							
LPAZ	**La Paz**	**159.41**	**136**	*e*PKPdf		PKPdf	00 28 34.4	+3.8
LPAZ				LR		LR		
	comp=Z,190nm,19.0s							
LPAZ	**La Paz**	**159.41**	**136**	PKIKP		PKPdf	00 28 34.9	+4.2
LPAZ							00 29 12.3	
LPAZ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
LPAZ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
SDV	**Santo Domingo**	**159.94**	**59**	*e*PKPdf		PKPdf	00 28 33.4	+2.1
BAO	**Brasilia Array**	**165.04**	**201**	PKPdf		PKPdf	00 28 39.0	+2.7
BDFB	**Brasilia**	**165.04**	**201**	PKP		PKPdf	00 28 38.5	+2.1
	comp=Z,2.4nm,0.7s,baz=283,slow=4.2,SNR=3.7							
BDFB				PKPab		PKPab	00 29 36.1	+0.6
	comp=Z,7.4nm,0.8s,baz=158,slow=4.1,SNR=7.2							

NEIC 25 00:10:09.2, 35.38N×118.47W, h6km, ML3.6(PAS), **After PAS., Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWC	**Mount Wilson**	**1.20**	**164**	*e*P	Pb	00 10 30.9	-1.1
MWC				*e*S	Sb	00 10 45.9	-1.7
PTRM	**Twissleman Ran**	**1.45**	**281**	*e*P	Pn	00 10 34.0	-2.0
MTUM	**Tungsten Hills**	**1.97**	**358**	*e*Pn	Pn	00 10 42.8	-0.6
LRV	**Little Rabbit**	**2.32**	**297**	*e*Pn	Pn	00 10 47.0	-1.4
PFO	**Pinyon Flat Ob**	**2.43**	**136**	*e*Pn	Pn	00 10 47.7	-2.3
LDFC	**Landfair**	**2.77**	**95**	*e*Pn	Pn	00 10 51.2	-3.7
SAO	**San Andreas Ge**	**2.78**	**301**	*e*Pn	Pn	00 10 54.0	-1.0
NEN	**Nelson**	**2.97**	**84**	*e*Pn	Pn	00 10 55.0	-2.7
MNV	**Mina**	**3.06**	**5**	Pn	Pn	00 10 57.2	-1.8
CMB	**Columbia Colle**	**3.06**	**330**	*e*Pn	Pn	00 10 58.5	-0.6
NSHM	**Saint Helena R**	**4.56**	**315**	*e*Pn	Pn	00 11 17.5	-2.9
ARUT	**Antelope Range**	**4.70**	**58**	*e*Pn	Pn	00 11 19.7	-2.7
BEKR	**Beckwourth**	**4.72**	**342**	*e*Pn	Pn	00 11 20.5	-2.2
MSU	**Marysvale**	**5.93**	**56**	*e*Pn	Pn	00 11 37.5	-2.1

BJI ***25*** *00:37:25.9, 12.65N×40.10E, h18km, mB5.2, mb4.8, Ms5.1, Msz4.7*
IDC ***25*** *00:37:27.3±0.6, 12.48N×40.71E, mb4.4/21, mb1 4.5/24, mb1mx4.4/30, mbtmp4.4/24, ML3.7/1, MS4.4/10, Ms1 4.4/10, ms1mx4.2/23, Error ellipse: s-maj=15.9km s-min=11.1km az=47.0*
MOS ***25*** *00:37:27.1±0.9, 12.51N×40.56E, h10km, mb5.1/55, Error ellipse: s-maj=9.6km s-min=3.6km az=112.7*
DHMR ***25*** *00:37:28.8±2.6, 12.65N×40.49E, h14km±321km, ML4.6*
STR ***25*** *00:37:28.1±0.0, 12.61N×40.80E, Mb5.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***25*** *00:37:28.6±0.3, 12.45N×40.60E, h10km, mb5.0/63, MS4.6/2, Error ellipse: s-maj=7.3km s-min=5.4km az=56.0*
HRVD ***25*** *00:37:28.6±0.3, 12.62N×40.60E, h12km, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s24,c31;Mantle waves: s56,c102; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.40±.15; Mθθ0.36±.13; Mϕϕ4.04±.14; Mrθ1.28±.61; Mrϕ-1.67±.13; Mθϕ0.06±.42; Best double couple: M=4.726×10^16 NP1: ϕs174°, δ44°, λ-68°. NP2:ϕs324°, δ50°, λ-110°. Principal axes: T 4.704, Plg3°, Azm68°; N .043, Plg15°, Azm338°; P -4.748, Plg75°, Azm168°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CSEM ***25*** *00:37:29.1±0.1, 12.43N×40.57E, h25km, mb5.1/73, Ms4.5, Mw5.0 Error ellipse: s-maj=3.5km s-min=2.6km az=175.0*
CRAAG ***25*** *00:37:31.0, 12.61N×40.52E, Mb5.1*

ISC 25 00:37:27.0±0.3, 12.39N±0.04×40.50E±0.03, h10km, (h12km±2.4km:pP-P), n325, σ1s09/331, mb4.8/104, **MS4.6**/19, **15C-10D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.46**	**110**	Pn	**Pn**	**00 38 06.2**	**-1.5**
	243nm,0.3s,baz=284,slow=6.4,SNR=47						
ATD				LR	LR	00 38 28.5	
	comp=Z,3μm,21.1s,baz=282,slow=27						
ATD				Lg		00 38 38.6	
	48nm,0.3s,baz=94,slow=23,SNR=12						
ATD	**Arta Tunnel**	**2.46**	**110**	Pn	**Pn**	**00 38 06.2**	**-1.6**
UDYN	**Al 'Udayn**	**3.73**	**65**‖	*e*P	**Pn**	**00 38 26.7**	**+0.8**
UDYN				*i* S	**Sn**	**00 39 25.4**	**+2.1**
UDYN				AML	AML	00 39 30.2	
	comp=E,3μm,0.8s						
DHBB	**Dhamar BB**	**4.36**	**60**	*e*P	**Pn**	**00 38 34.8**	**-0.1**
DHBB				*i* S	**Sn**	**00 39 27.0**	**+0.6**
ADEN	**Aden**	**4.40**	**85**	*e*P	**Pn**	**00 38 36.2**	**+0.8**
ADEN				*i* S	**Sn**	**00 39 29.7**	**+2.4**
BLJS	**Baljurashi**	**7.52**	**8**	P	**Pn**	**00 39 19.8**	**+0.4**
MUKL	**Al Mukalla**	**8.56**	**75**	*e*P	**P**	**00 39 30.6**	**-3.4**
MUKL				*i* S	**Sn**	**00 41 07.4**	**-4.2**
KAMS	**Al Khamasin**	**8.79**	**26**	P	**P**	**00 39 38.8**	**+1.6**
AFFS	**'Afif**	**11.72**	**11**	P	**P**	**00 40 19.2**	**+1.9**
MZLS	**Mizel**	**12.41**	**20**	P	**P**	**00 40 27.8**	**+1.2**
KMBO	**Kilima Mbogo**	**13.81**	**194**	Pn	**P**	**00 40 48.3**	**+2.9**
	comp=E,0.0nm,0.3s,baz=29,slow=16,SNR=4.1						
KMBO				Sn	**S**	**00 43 25.1**	**+5.3**
	comp=E,0.0nm,0.3s,baz=294,slow=2.8,SNR=2.9						
KMBO				Lg		00 44 37.2	
	comp=E,0.1nm,0.3s,baz=32,slow=13,SNR=3.1						
KMBO				LR	LR	00 45 57.6	
	comp=E,1μm,21.3s,baz=187,slow=37						
KMBO	**Kilima Mbogo**	**13.81**	**194**	Pn	**P**	**00 40 48.3**	**+2.9**
KMBO				Sn	**S**	**00 43 25.1**	**+5.3**
KMBO				Lg		00 44 37.2	
KMBO				LR	LR	00 45 57.6	
HILS	**Ha'il**	**14.96**	**4**	P	**P**	**00 41 03.0**	**+2.6**
HASS	**Wahat al Ahsa'**	**15.41**	**33**	P	**P**	**00 41 07.8**	**+1.5**
TBKS	**Tabuk**	**16.18**	**347**	P	**P**	**00 41 21.6**	**+5.4**
PRNI	**Paran**	**18.58**	**345**	P	**P**	**00 41 47.4**	**+1.1**
ASF	**Jabal al Asfar**	**19.96**	**351**	P	**P**	**00 42 02.5**	**+0.1**
	comp=E,0.2nm,0.3s,baz=40,slow=4.9,SNR=30						
MMLI	**Mount Malkishu**	**20.49**	**348**	P	**P**	**00 42 08.7**	**+0.9**
SALA	**Sala**	**20.52**	**351**	⇑*i*P	**P**	**00 42 09.2**	**+1.1**
OFRI	**'Ofer**	**20.76**	**347**	P	**P**	**00 42 11.1**	**+0.5**
BHD	**Baghdad**	**21.08**	**9**	*ex*	x	00 42 10.5	
HNTI	**Hanita**	**21.16**	**348**	P	**P**	**00 42 15.1**	**+0.4**
KSDI	**Kefar Szold**	**21.17**	**349**	P	**P**	**00 42 15.5**	**+0.7**
TOTH	**TOTAH**	**21.20**	**351**	⇑*i*P	**P**	**00 42 17.0**	**+1.9**
BRBR	**Barbar**	**21.33**	**350**	⇑*i*P	**P**	**00 42 19.0**	**+2.6**
QASN	**Qassioun**	**21.39**	**350**	⇑*i*P	**P**	**00 42 15.9**	**-1.2**
BHL	**Bhannes**	**21.86**	**349**	*e*P	**P**	**00 42 23.2**	**+1.4**
ROOS	**tl alroos**	**21.88**	**353**	⇑*i*P	**P**	**00 42 20.7**	**-1.2**
CSS	**Prodhromos**	**23.39**	**345**	*e*P	**P**	**00 42 37.3**	**+0.4**
	comp=E,128nm,1.7s,mb5.1						
CSS	**Prodhromos**	**23.39**	**345**	*e*P	**P**	**00 42 37.3**	**+0.4**
	comp=E,128nm,1.7s,mb5.1						
SLMH	**Al Salmeh**	**23.83**	**355**	⇑*i*P	**P**	**00 42 42.8**	**+1.7**
MSL	**Mosul**	**23.91**	**5**	*ex*	x	00 43 05.0	
MARD	**Mardin**	**24.82**	**1**	*i* P	**P**	**00 42 48.7**	**-2.0**
GZT	**Gaziantep**	**25.00**	**354**	*i* P	**P**	**00 42 52.6**	**+0.1**
HAKT	**HAKKARI**	**25.23**	**6**	*i* P	**P**	**00 42 54.4**	**-0.2**
KAHT	**Ahir Dag**	**25.34**	**353**	*i* P	**P**	**00 42 56.9**	**+1.2**
BEST	**Besiri**	**25.40**	**1**	*i* P	**P**	**00 42 58.1**	**+1.8**
MALT	**Malatya**	**25.88**	**356**	*e*P	**P**	**00 43 02.0**	**+1.2**
	comp=E,84nm,1.8s,mb5.0						
MALT	**Malatya**	**25.88**	**356**	*e*P	**P**	**00 43 02.0**	**+1.3**
MALT				pmax	pmax		
	comp=Z,84nm,1.8s,mb5.0						
GOLH	**Golhisar**	**26.61**	**340**	*i* P	**P**	**00 43 08.2**	**+0.7**
IDI	**Anoyia**	**26.82**	**331**	P	**P**	**00 43 09.9**	**+0.5**
	comp=Z,7.5nm,0.9s,mb4.2,baz=165,slow=9.1,SNR=5.2						
BR131	**Keskin Array S**	**27.89**	**349**	*e*P	**P**	**00 43 20.3**	**+1.1**
	comp=Z,52nm,1.5s,mb4.9						
BR131	**Keskin Array S**	**27.89**	**349**	*e*P	**P**	**00 43 20.3**	**+1.2**
	comp=Z,52nm,1.5s,mb4.9						
BRTR	**Keskin Array B**	**27.89**	**349**	P	**P**	**00 43 19.8**	**+0.6**
	comp=E,18nm,1.2s,mb4.6,baz=166,slow=10,SNR=36						
GNI	**Garni**	**27.90**	**7**	*e*P	**P**	**00 43 20.3**	**+1.1**
	comp=Z,131nm,2.0s,mb5.2						
GNI	**Garni**	**27.90**	**7**	*e*P	**P**	**00 43 20.3**	**+1.1**
	comp=Z,131nm,2.0s,mb5.2						
GNI	**Garni**	**27.90**	**7**	*e*P	**P**	**00 43 20.3**	**+1.1**
GNI				pmax	pmax		
	comp=Z,131nm,2.0s						
ESKT	**Eskisehir**	**28.34**	**344**	*i* P	**P**	**00 43 21.0**	**-2.2**
SGKT	**Sivrigoynuk**	**29.04**	**347**	*i* P	**P**	**00 43 29.5**	**+0.1**
TBLG	**Delisi**	**29.46**	**6**	P	**P**	**00 43 34.4**	**+1.2**
TI2	**Plekhanov**	**29.47**	**6**	*i* P	**P**	**00 43 30.4**	**-2.9**
TI2	**Plekhanov**	**29.47**	**6**	⇑*i*P	**P**	**00 43 30.4**	**-2.9**
ZEI	**Tsey**	**30.41**	**5**	*e*P	**P**	**00 43 39.5**	**-2.2**
	comp=Z,10.0nm,1.0s,mb4.5						
ZEI	**Tsey**	**30.41**	**5**	*e*P	**P**	**00 43 39.5**	**-2.2**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
SOC	**Sochi**	**31.09**	**359**	*e*P	**P**	**00 43 45.4**	**-2.2**
SOC				*e*		00 44 43.3	
SOC				*e*		00 46 44.5	
SOC				*e*S	**S**	**00 48 49.9**	**-1.9**
SOC				*e*SS	SS	00 50 26.3	-10
SOC				pmax	pmax		
	comp=N,18nm,1.1s						
SOC				pmax	pmax		
	comp=E,10.0nm,1.1s						
SOC				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.9						
SOC				MLR	MLR		
	comp=Z,383nm,14.0s,MS4.2						
SOC				MLR	MLR		
	comp=N,438nm,12.0s,MS4.4						
SOC				MLR	MLR		
	comp=E,172nm,11.0s,MS4.4						
OPO	**Ambohidratompo**	**31.46**	**168**	P	**P**	**00 43 53.2**	**+2.0**
	comp=E,2.9nm,1.0s,mb4.1,baz=66,slow=18,SNR=2.5						
KIV	**Kislovodsk**	**31.51**	**3**	*e*P	**P**	**00 43 51.4**	**+0.1**
KIV				pmax	pmax		
	comp=N,10.0nm,1.2s						
KIV				pmax	pmax		
	comp=E,6.0nm,1.2s						
KIV				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
SIM	**Simferopol'**	**32.90**	**352**	P	**P**	**00 44 04.5**	**+1.0**
	comp=Z,14nm,1.2s,mb4.8						
SIM	**Simferopol'**	**32.90**	**352**	P	**P**	**00 44 04.5**	**+1.0**
SIM				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
SKO	**Skopje**	**33.83**	**334**	*i* P	**P**	**00 44 11.5**	**-0.1**
TLCR		**34.17**	**345**	⇑P	**P**	**00 44 14.3**	**-0.2**
VAE	**Valguarnera**	**34.18**	**321**	P	**P**	**00 44 16.8**	**+2.2**
	comp=Z,13nm,1.0s,mb4.8,baz=126,slow=1.1,SNR=5.7						
VAE	**Valguarnera**	**34.18**	**321**	P	**P**	**00 44 16.9**	**+2.2**
CFR	**Carcaliu**	**34.34**	**344**	⇑P	**P**	**00 44 16.0**	**+0.1**
MATP	**Matopo**	**34.68**	**200**	P	**P**	**00 44 19.9**	**+0.8**
	comp=Z,6.1nm,1.2s,mb4.4,baz=52,slow=8.1,SNR=4.2						
MLR	**Muntele Rosu**	**35.24**	**342**	P	**P**	**00 44 24.8**	**+1.2**
	comp=Z,9.4nm,1.0s,mb4.7,baz=224,slow=4.3,SNR=11						
VRI	**Vrincioaia**	**35.35**	**343**	⇑P	**P**	**00 44 24.9**	**+0.3**
VOIR		**35.47**	**341**	⇓P	**P**	**00 44 26.2**	**+0.6**
CII	**Carovilli**	**37.09**	**327**	*e*P	**P**	**00 44 39.7**	**+0.4**
	comp=Z,184nm,2.1s,mb5.5						
BURAR	**Bucovina Array**	**37.38**	**343**	⇓P	**P**	**00 44 43.2**	**+1.6**
AQU	**L'Aquila**	**38.02**	**327**	*e*P	**P**	**00 44 47.8**	**+0.7**
	comp=Z,80nm,1.4s,mb5.3						
AQU	**L'Aquila**	**38.02**	**327**	*e*P	**P**	**00 44 47.8**	**+0.7**
	comp=Z,80nm,1.4s,mb5.3						
AQU	**L'Aquila**	**38.02**	**327**	*e*P	**P**	**00 44 47.8**	**+0.7**
AQU				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.3						
ABSA	**Djebel Ababsia**	**38.04**	**314**	P	**P**	**00 44 50.0**	**+2.7**
CMAH	**Djebel Manchou**	**38.26**	**315**	P	**P**	**00 44 50.5**	**+1.3**
CKFL	**Kef-Lekhel**	**38.63**	**314**	P	**P**	**00 44 53.0**	**+0.7**
CASM	**Ain Smara**	**38.73**	**314**	P	**P**	**00 44 55.0**	**+1.9**
VOR	**Voronezh**	**39.25**	**359**	*e*P	**P**	**00 44 57.7**	**+0.4**
VOR				pmax	pmax		
	comp=N,80nm,1.7s						
VOR				pmax	pmax		
	comp=Z,80nm,1.7s,mb5.2						
AKASG	**Malin Array Be**	**39.30**	**349**	P	**P**	**00 44 57.2**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.0,baz=172,slow=7.4,SNR=19						
AKASG	**Malin Array B**	**39.30**	**349**	P	**P**	**00 44 57.2**	**-0.5**
KOLS	**Kolonicke sedl**	**39.44**	**341**	*e*P	**P**	**00 44 57.2**	**-1.8**
KECS	**Kecovo**	**39.65**	**339**	*e*P	**P**	**00 44 59.7**	**-1.0**
CEY	**Cerknica**	**39.93**	**331**	*e*P	**P**	**00 45 03.8**	**+0.7**
LJU	**Ljubljana**	**40.11**	**332**	*e*P	**P**	**00 45 05.3**	**+0.8**
STHS	**Stebnicka Huta**	**40.20**	**341**	*e*P	**P**	**00 45 06.2**	**+1.0**
VYHS	**Vyhne**	**40.25**	**338**	*e*P	**P**	**00 45 06.2**	**+0.6**
ARSA	**Arzberg**	**40.59**	**334**	⇑*i*P	**P**	**00 45 09.3**	**+0.9**
	comp=Z,22nm,1.1s,mb4.7						
PGF	**Pioggiola**	**40.60**	**324**	*e*P	**P**	**00 45 08.5**	**-0.1**
	comp=Z,75nm,1.8s,mb4.7						
PGF	**Pioggiola**	**40.60**	**324**	*e*P	**P**	**00 45 08.5**	**-0.1**
PGF				pmax	pmax		
	comp=Z,37nm,1.8s,mb4.7						
ZST	**Bratislava**	**40.67**	**336**	*e*P	**P**	**00 45 09.5**	**+0.4**
ROBS	**Robic**	**40.74**	**331**	*e*P	**P**	**00 45 10.1**	**+0.4**
SMOL	**Smolenice**	**40.80**	**337**	*e*P	**P**	**00 45 08.9**	**-1.3**
OJC	**Ojcow**	**41.37**	**340**	*e*P	**P**	**00 45 14.7**	**0.0**
MOA	**Molln**	**41.59**	**333**	⇑*i*P	**P**	**00 45 17.5**	**+0.9**
	comp=Z,18nm,0.9s,mb4.7						
OKC	**Ostrava-Krasne**	**41.62**	**338**	*e*P	**P**	**00 45 16.8**	**0.0**
VRAC	**Vranov**	**41.77**	**337**	P	**P**	**00 45 18.4**	**+0.3**
	comp=Z,8.2nm,1.0s,mb4.3,baz=142,slow=7.9,SNR=7.2						
VRAC	**Vranov**	**41.77**	**337**	*e*P	**P**	**00 45 18.3**	**+0.2**
VRAC	**Vranov**	**41.77**	**337**	P	**P**	**00 45 18.4**	**+0.3**
VRAC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MORC	**Moravsky Berou**	**41.79**	**338**	*e*P	**P**	**00 45 18.3**	**0.0**
AAK	**Ala-Archa**	**42.13**	**38**	*e*P	**P**	**00 45 21.0**	**-0.1**
	comp=Z,24nm,1.7s,mb4.5						
AAK	**Ala-Archa**	**42.13**	**38**	*e*P	**P**	**00 45 21.0**	**-0.1**
	comp=Z,24nm,1.7s,mb4.5						
AAK	**Ala-Archa**	**42.13**	**38**	*e*P	**P**	**00 45 21.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.5						
TREC	**Trest**	**42.20**	**336**	*e*P	**P**	**00 45 20.7**	**-0.9**
SBF	**Sospel**	**42.31**	**324**	*e*P	**P**	**00 45 22.5**	**-0.1**
	comp=Z,32nm,1.1s,mb4.5						
SBF	**Sospel**	**42.31**	**324**	*e*P	**P**	**00 45 22.5**	**-0.1**
SBF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.6						
FRU	**Bishkek**	**42.32**	**38**	*e*P	**P**	**00 45 22.0**	**-0.7**
	comp=Z,60nm,2.0s,mb4.9						
FRU	**Bishkek**	**42.32**	**38**	*e*P	**P**	**00 45 22.0**	**-0.7**
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb4.9						
SAOF	**Saorge**	**42.32**	**324**	*e*P	**P**	**00 45 23.5**	**+0.8**
WTTA	**Wattenberg**	**42.36**	**331**	⇑*i*P	**P**	**00 45 23.8**	**+0.8**
	comp=Z,26nm,1.3s,mb4.7						
WTTA	**Wattenberg**	**42.36**	**331**	⇑*i*P	**P**	**00 45 23.8**	**+0.8**
WTTA				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.7						
AUTN	**L'Aution**	**42.40**	**324**	*e*P	**P**	**00 45 24.2**	**+0.9**
MVIF	**Mont Vial**	**42.49**	**324**	*e*P	**P**	**00 45 25.2**	**+1.1**
TOUF	**Mont Tournerai**	**42.51**	**324**	*e*P	**P**	**00 45 25.7**	**+1.5**
LMR	**La Mourre**	**42.53**	**323**	*e*P	**P**	**00 45 23.9**	**-0.5**
SQTA	**Sankt Quirin**	**42.54**	**330**	⇑*i*P	**P**	**00 45 25.0**	**+0.6**
	comp=Z,49nm,2.1s,mb4.9						
SQTA	**Sankt Quirin**	**42.54**	**330**	⇑*i*P	**P**	**00 45 25.0**	**+0.6**
SQTA				pmax	pmax		
	comp=Z,49nm,2.1s,mb4.9						
CALN	**Calern**	**42.56**	**324**	*e*P	**P**	**00 45 25.7**	**+1.1**
FRF	**La Foret Royal**	**42.59**	**323**	*e*P	**P**	**00 45 24.4**	**-0.5**
	comp=Z,22nm,1.2s,mb4.5						
FRF	**La Foret Royal**	**42.59**	**323**	*e*P	**P**	**00 45 24.4**	**-0.5**
FRF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
GERES	**GERESS Array B**	**42.59**	**334**	P	**P**	**00 45 25.0**	**+0.1**
	comp=Z,5.8nm,0.9s,mb4.3,baz=135,slow=7.5,SNR=16						
DPC	**Dobruska-Polom**	**42.72**	**337**	*e*P	**P**	**00 45 25.7**	**-0.1**
OBN	**Obninsk**	**42.73**	**357**	⇓*e*P	**P**	**00 45 25.5**	**-0.4**
OBN				*e*		00 47 07.2	
OBN				*e*S	**S**	**00 51 46.3**	**-2.9**
OBN				pmax	pmax		
	comp=Z,109nm,2.1s,mb5.2						
OBN				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.2						
KHC	**Kasperske Hory**	**42.86**	**334**	*e*P	**P**	**00 45 26.1**	**-1.0**
KHC	**Kasperske Hory**	**42.86**	**334**	*e*P	**P**	**00 45 26.5**	**-0.6**
KHC	**Kasperske Hory**	**42.86**	**334**	⇓*e*P	**P**	**00 45 26.5**	**-0.6**
DAVOX	**Davos**	**42.88**	**329**	P	**P**	**00 45 27.4**	**+0.2**
	comp=Z,3.3nm,0.6s,mb4.2,baz=348,slow=19,SNR=6.4						
UPC	**Upice**	**42.96**	**337**	*e*P	**P**	**00 45 28.1**	**+0.3**
TAVF	**Tavernes**	**42.96**	**323**	*e*P	**P**	**00 45 28.9**	**+0.9**
PRU	**Pruhonice**	**43.12**	**336**	*e*P	**P**	**00 45 28.9**	**-0.3**
KSP	**Ksiaz**	**43.12**	**338**	*e*P	**P**	**00 45 29.2**	**0.0**
PUYF	**Puyloubier**	**43.13**	**323**	*e*P	**P**	**00 45 30.0**	**+0.7**
MBDF	**Montbardon**	**43.22**	**325**	*e*P	**P**	**00 45 30.6**	**+0.6**
	comp=Z,44nm,0.8s,mb4.9						
MBDF	**Montbardon**	**43.22**	**325**	*e*P	**P**	**00 45 30.6**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9						
DAVA	**Damuels**	**43.23**	**330**	⇑*i*P	**P**	**00 45 29.8**	**-0.3**
	comp=Z,24nm,0.9s,mb4.9						
VILF	**Villemus**	**43.30**	**323**	*e*P	**P**	**00 45 31.7**	**+1.0**
MOS	**Moscow**	**43.31**	**358**	*e*P	**P**	**00 45 28.8**	**-1.7**
	comp=Z,182nm,1.8s,mb5.5						
MOS	**Moscow**	**43.31**	**358**	*e*P	**P**	**00 45 28.8**	**-1.7**
MOS				*i*		00 47 12.6	
MOS				pmax	pmax		
	comp=Z,182nm,1.8s,mb5.5						
SMRF	**Simiane la Rot**	**43.46**	**323**	*e*P	**P**	**00 45 32.2**	**+0.2**
	comp=Z,75nm,1.9s,mb4.8						
PVCC	**Panska Ves**	**43.53**	**336**	*e*P	**P**	**00 45 32.0**	**-0.5**
PRAF	**Pradon**	**43.60**	**323**	*e*P	**P**	**00 45 33.7**	**+0.6**
LPG	**La Plagne**	**43.70**	**326**	*e*P	**P**	**00 45 32.9**	**-1.0**
	comp=Z,132nm,1.9s,mb5.0						
LPG	**La Plagne**	**43.70**	**326**	*e*P	**P**	**00 45 32.9**	**-1.0**
LPG				pmax	pmax		
	comp=Z,66nm,1.9s,mb5.0						
LPL	**La Plagne**	**43.72**	**326**	*e*P	**P**	**00 45 33.0**	**-1.1**
	comp=Z,94nm,1.7s,mb5.0						
LPL	**La Plagne**	**43.72**	**326**	*e*P	**P**	**00 45 33.0**	**-1.1**
LPL				pmax	pmax		
	comp=Z,47nm,1.7s,mb4.9						
ORIF	**Oris-en-Rattie**	**43.84**	**324**	*e*P	**P**	**00 45 34.8**	**-0.2**
	comp=Z,45nm,1.3s,mb4.7						
ORIF	**Oris-en-Rattie**	**43.84**	**324**	*e*P	**P**	**00 45 34.8**	**-0.2**
ORIF				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**00 45 36.2**	**-0.5**
	comp=Z,72nm,2.0s,mb5.1						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**00 45 36.2**	**-0.5**
	comp=Z,72nm,2.0s,mb5.1						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**00 45 36.2**	**-0.5**
BRG				pmax	pmax		
	comp=Z,72nm,2.0s,mb5.1						
NKC	**Novy Kostel**	**44.18**	**334**	*e*P	**P**	**00 45 36.8**	**-0.9**
EJON	**La Jonquera**	**44.26**	**320**	P	**P**	**00 45 38.1**	**-0.3**
	comp=Z,178nm,2.3s,mb5.4						
EJON	**La Jonquera**	**44.26**	**320**	P	**P**	**00 45 38.

ARU	**Arti**	**46.11**	**14**	*i* P		**P**	**00 45 53.0**	**0.0**
ARU				*e*			00 47 40.7	
ARU				*e*	PPP	PPP	00 48 20.3	-4.8
ARU				*e*	S	**S**	**00 52 35.5**	**-2.5**
ARU				*e*	SS	SS	00 55 57.0	+1.7
ARU					pmax	pmax		
	comp=Z,48nm,2.2s,mb5.0							
EBIE	**Bielsa**	**46.13**	**319**	P		**P**	**00 45 52.9**	**-0.5**
	comp=Z,128nm,2.3s,mb5.5							
EBIE	**Bielsa**	**46.13**	**319**	P		**P**	**00 45 52.9**	**-0.5**
	comp=Z,128nm,2.3s,mb5.5							
EPF	**Esparros**	**46.17**	**319**	*e*P		**P**	**00 45 53.7**	**0.0**
	comp=Z,28nm,1.4s,mb4.7							
EPF	**Esparros**	**46.17**	**319**	*e*P		**P**	**00 45 53.7**	**0.0**
EPF					pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7							
EVIA	**Vianos**	**46.20**	**312**	P		**P**	**00 45 51.8**	**-2.1**
	comp=Z,134nm,2.5s,mb5.4							
EVIA	**Vianos**	**46.20**	**312**	P		**P**	**00 45 51.8**	**-2.2**
	comp=Z,134nm,2.5s,mb5.4							
EVIA	**Vianos**	**46.20**	**312**	P		**P**	**00 45 51.8**	**-2.2**
EVIA					pmax	pmax		
	comp=Z,134nm,2.5s,mb5.4							
EQES	**Quesada**	**46.30**	**311**	P		**P**	**00 45 53.7**	**-1.1**
	comp=Z,277nm,2.7s,mb5.7							
EQES	**Quesada**	**46.30**	**311**	P		**P**	**00 45 53.7**	**-1.1**
	comp=Z,277nm,2.7s,mb5.7							
AVF	**Avril sur Loir**	**46.37**	**325**	*e*P		**P**	**00 45 54.0**	**-1.2**
	comp=Z,28nm,1.3s,mb4.7							
AVF	**Avril sur Loir**	**46.37**	**325**	*e*P		**P**	**00 45 54.0**	**-1.2**
AVF					pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7							
LOR	**Lormes**	**46.37**	**326**	*e*P		**P**	**00 45 54.2**	**-1.0**
	comp=Z,79nm,1.4s,mb5.1							
LOR	**Lormes**	**46.37**	**326**	*e*P		**P**	**00 45 54.2**	**-1.0**
LOR					pmax	pmax		
	comp=Z,39nm,1.4s,mb5.1							
SSF	**Saint Saulge**	**46.44**	**325**	*e*P		**P**	**00 45 54.5**	**-1.3**
	comp=Z,8.2nm,1.2s,mb4.5							
SSF	**Saint Saulge**	**46.44**	**325**	*e*P		**P**	**00 45 54.5**	**-1.3**
SSF					pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5							
MEZF	**Maizieres J'vi**	**46.48**	**328**	*e*P		**P**	**00 45 55.8**	**-0.3**
	comp=Z,96nm,1.2s,mb5.3							
BGF	**Bois d'Agland**	**46.52**	**324**	*e*P		**P**	**00 45 56.0**	**-0.4**
ERON	**Agron**	**46.57**	**310**	P		**P**	**00 45 58.8**	**+1.8**
	comp=Z,2.4nm,0.4s,mb4.5							
ERON	**Agron**	**46.57**	**310**	P		**P**	**00 45 58.8**	**+1.9**
	comp=Z,2.4nm,0.4s,mb4.5							
RJF	**Les Rejaudoux**	**46.60**	**322**	*e*P		**P**	**00 45 56.8**	**-0.3**
ETSF	**Etsaut**	**46.69**	**318**	*e*P		**P**	**00 45 58.4**	**+0.6**
	comp=Z,40nm,1.0s,mb5.0							
ETSF	**Etsaut**	**46.69**	**318**	*e*P		**P**	**00 45 58.4**	**+0.6**
ETSF					pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0							
TCF	**Toulx Ste Croi**	**46.73**	**324**	*e*P		**P**	**00 45 58.0**	**-0.1**
	comp=Z,79nm,1.7s,mb5.1							
TCF	**Toulx Ste Croi**	**46.73**	**324**	*e*P		**P**	**00 45 58.0**	**-0.1**
TCF					pmax	pmax		
	comp=Z,40nm,1.7s,mb5.1							
ELOJ	**Sierra Loja**	**46.88**	**310**	P		**P**	**00 46 00.3**	**+1.0**
	comp=Z,29nm,1.3s,mb5.0							
ELOJ	**Sierra Loja**	**46.88**	**310**	P		**P**	**00 46 00.3**	**+0.9**
	comp=Z,29nm,1.3s,mb5.0							
ELOJ	**Sierra Loja**	**46.88**	**310**	P		**P**	**00 46 00.3**	**+0.9**
ELOJ					pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0							
LFF	**La Frestale**	**46.88**	**322**	*e*P		**P**	**00 45 59.4**	**+0.1**
	comp=Z,39nm,1.0s,mb5.0							
LFF	**La Frestale**	**46.88**	**322**	*e*P		**P**	**00 45 59.4**	**+0.1**
LFF					pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0							
BRVK	**Borovoye**	**47.02**	**24**	*e*P		**P**	**00 45 59.3**	**-1.0**
	comp=Z,51nm,2.4s,mb5.0							
BRVK	**Borovoye**	**47.02**	**24**	*e*P		**P**	**00 45 59.3**	**-0.9**
	comp=Z,51nm,2.4s,mb5.0							
BRVK	**Borovoye**	**47.02**	**24**	*e*P		**P**	**00 45 59.3**	**-0.9**
BRVK					pmax	pmax		
	comp=Z,51nm,2.4s,mb5.0							
BVAR	**Borovoye Array**	**47.03**	**24**	P		**P**	**00 45 59.1**	**-1.3**
	comp=Z,1.8nm,0.9s,mb4.0,baz=202,slow=8.0,SNR=13							
ELUQ	**Luque**	**47.10**	**310**	P		**P**	**00 46 01.4**	**+0.2**
	comp=Z,22nm,1.5s,mb4.9							
ELUQ	**Luque**	**47.10**	**310**	P		**P**	**00 46 01.4**	**+0.3**
	comp=Z,22nm,1.5s,mb4.9							
ELUQ	**Luque**	**47.10**	**310**	P		**P**	**00 46 01.4**	**+0.3**
ELUQ					pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9							
EMIJ	**Mijas**	**47.15**	**309**	P		**P**	**00 46 02.8**	**+1.2**
	comp=Z,198nm,4.4s							
EMIJ	**Mijas**	**47.15**	**309**	P		**P**	**00 46 02.8**	**+1.2**
	comp=Z,198nm,4.4s							
SJPF	**Ste Jean**	**47.22**	**318**	*e*P		**P**	**00 46 02.5**	**+0.5**
	comp=Z,106nm,1.4s,mb5.3							
SJPF	**Ste Jean**	**47.22**	**318**	*e*P		**P**	**00 46 02.5**	**+0.5**
SJPF					pmax	pmax		
	comp=Z,53nm,1.4s,mb5.3							
GIVF	**Givet**	**47.61**	**329**	*e*P		**P**	**00 46 03.9**	**-1.1**
ESDC	**Sonseca Array**	**47.64**	**313**	P		**P**	**00 46 05.1**	**-0.3**
	comp=Z,6.8nm,1.2s,mb4.6,baz=113,slow=7.7,SNR=13							
ESDC	**Sonseca Array**	**47.64**	**313**	P		**P**	**00 46 05.5**	**+0.1**
	comp=Z,9.9nm,1.3s,mb4.7							
ESDC	**Sonseca Array**	**47.64**	**313**	P		**P**	**00 46 05.5**	**+0.1**
	comp=Z,9.9nm,1.3s,mb4.7							
ESLA	**Sonseca Array**	**47.64**	**313**	*e*P		**P**	**00 46 02.9**	**-2.5**
	comp=Z,14nm,1.5s,mb4.8							
BAIF	**Baives**	**47.89**	**329**	*e*P		**P**	**00 46 05.9**	**-1.3**
ESPR	**Espera**	**48.07**	**309**	P		**P**	**00 46 07.1**	**-1.7**
	comp=Z,242nm,3.0s							
ESPR	**Espera**	**48.07**	**309**	P		**P**	**00 46 07.1**	**-1.7**
	comp=Z,242nm,3.0s							
MFF	**Saint Martin d**	**48.27**	**323**	*e*P		**P**	**00 46 09.9**	**-0.3**
	comp=Z,13nm,1.0s,mb4.6							
MFF	**Saint Martin d**	**48.27**	**323**	*e*P		**P**	**00 46 09.9**	**-0.3**
MFF					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
SOKR	**Solikamsk**	**48.63**	**11**	*i* P		**P**	**00 46 13.3**	**+0.5**
	comp=Z,50nm,1.7s,mb5.3							
SOKR	**Solikamsk**	**48.63**	**11**	⇑*i*P		**P**	**00 46 13.3**	**+0.5**
SOKR					pmax	pmax		
	comp=Z,50nm,1.7s,mb5.3							
MKAR	**Makanchi Array**	**49.05**	**37**	P		**P**	**00 46 14.5**	**-1.7**
	comp=Z,2.1nm,0.8s,mb4.2,baz=239,slow=6.9,SNR=13							
MKAR					LR	LR	01 09 37.8	
	comp=Z,632nm,21.5s,MS4.6,baz=214,slow=40							
MKAR	**Makanchi Array**	**49.05**	**37**	P		**P**	**00 46 14.5**	**-1.7**
MKAR					LR	LR	01 09 37.8	
KURK	**Kurchatov**	**49.22**	**31**	*e*P		**P**	**00 46 16.7**	**-0.8**
	comp=Z,38nm,1.9s,mb5.1							
KURK	**Kurchatov**	**49.22**	**31**	*e*P		**P**	**00 46 16.7**	**-0.7**
	comp=Z,38nm,1.9s,mb5.1							
KURK	**Kurchatov**	**49.22**	**31**	*e*P		**P**	**00 46 16.7**	**-0.7**
KURK					pmax	pmax		
	comp=Z,38nm,1.9s,mb5.1							
LDF	**La Druitiere**	**49.32**	**325**	*e*P		**P**	**00 46 16.7**	**-1.6**
	comp=Z,37nm,1.3s,mb5.0							
LDF	**La Druitiere**	**49.32**	**325**	*e*P		**P**	**00 46 16.7**	**-1.6**
LDF					pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0							
EBAD	**Badajoz**	**49.54**	**311**	P		**P**	**00 46 22.9**	**+2.8**
	comp=Z,592nm,5.8s							
FLN	**La Foliniere**	**49.62**	**325**	*e*P		**P**	**00 46 19.1**	**-1.4**
	comp=Z,24nm,1.0s,mb4.9							
FLN	**La Foliniere**	**49.62**	**325**	*e*P		**P**	**00 46 19.1**	**-1.4**
FLN					pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9							
GRR	**Gorron**	**49.62**	**325**	*e*P		**P**	**00 46 19.1**	**-1.5**
	comp=Z,16nm,0.8s,mb4.8							
GRR	**Gorron**	**49.62**	**325**	*e*P		**P**	**00 46 19.1**	**-1.5**
GRR					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8							
FINES	**FINESS Array B**	**50.08**	**351**	P		**P**	**00 46 22.9**	**-1.0**
	comp=Z,6.8nm,1.1s,mb4.6,SNR=6.9							
FINES	**FINESS Array B**	**50.08**	**351**	P		**P**	**00 46 22.9**	**-1.0**
FINES	**FINESS Array B**	**50.08**	**351**	*i* P		**P**	**00 46 23.3**	**-0.6**
	comp=Z,7.0nm,1.1s,mb4.6							
FINES	**FINESS Array B**	**50.08**	**351**	*i* P		**P**	**00 46 23.3**	**-0.6**
FINES					pmax	pmax		
	comp=Z,7.0nm,1.1s							
EVO	**Evora**	**50.21**	**310**	*e*P		**P**	**00 46 25.0**	**-0.2**
	comp=Z,131nm,1.8s,mb5.3							
EVO				*e*R				
	comp=Z,417nm,19.5s							
SGMF	**Saint Gilles**	**50.53**	**324**	*e*P		**P**	**00 46 26.0**	**-1.5**
KAF	**Kangasniemi**	**50.69**	**351**	*e*p		**P**	**00 46 27.3**	**-1.2**
	comp=Z,4.4nm,1.1s,mb4.3,baz=161,slow=7.8							
KAF	**Kangasniemi**	**50.69**	**351**	*e*P		**P**	**00 46 27.3**	**-1.2**
KAF					pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3							
JOF	**Joensuu**	**50.88**	**355**	*e*p		**P**	**00 46 27.9**	**-2.0**
WMQ	**Urumqi**	**51.13**	**43**	P		**P**	**00 46 32.0**	**-0.1**
WMQ					AP	pP	00 46 36.0	+0.9
WMQ					XP	sP	00 46 39.0	+2.7
WMQ					PCP	PcP	00 47 49.0	+1.0
WMQ					PP	PP	00 48 29.0	-0.7
WMQ					PPP	PPP	00 49 29.0	-0.5
WMQ					SCP		00 51 43.0	
WMQ					S	**S**	**00 53 48.0**	**-0.5**
WMQ					XS		00 53 55.0	
WMQ					SCS	ScS	00 56 19.0	-0.8
WMQ					AMB	AMB		
	comp=Z,17nm,1.9s,mb4.7							
WMQ					AMB	AMB		
	comp=Z,182nm,6.6s							
WMQ					LR	LR		
	comp=N,846nm,12.1s,MS5.1							
WMQ					LR	LR		
	comp=E,782nm,14.7s,MS5.1							
WMQ					LR	LR		
	comp=Z,1μm,25.6s							
HFS	**Hagfors**	**51.61**	**343**	P		**P**	**00 46 33.1**	**-2.4**
	comp=Z,2.2nm,0.6s,mb4.3,baz=149,slow=8.6,SNR=9.4							
NB2	**NORSAR Subarra**	**53.06**	**343**	P		**P**	**00 46 44.4**	**-2.0**
	comp=Z,89nm,2.0s,mb5.3,baz=145,slow=7.4							
NB2	**NORSAR Subarra**	**53.06**	**343**	P		**P**	**00 46 44.4**	**-2.0**
	baz=145,slow=7.4							
NB2	**NORSAR Subarra**	**53.06**	**343**	P		**P**	**00 46 44.4**	**-2.0**
NB2					pmax	pmax		
	comp=Z,89nm,2.0s,mb5.3							
NOA	**NORSAR Array B**	**53.06**	**343**	P		**P**	**00 46 45.1**	**-1.3**
	comp=Z,3.4nm,0.8s,mb4.3,baz=142,slow=7.4,SNR=7.8							
NOA					LR	LR	01 10 38.6	
	comp=Z,172nm,19.4s,MS4.1,baz=60,slow=38							
NVS	**Novosibirsk**	**53.91**	**29**	*e*P		**P**	**00 46 49.1**	**-3.6**
NVS				*e*			00 47 53.2	
NVS					pmax	pmax		
	comp=Z,26nm,2.1s,mb4.8							
NVS					pmax	pmax		
	comp=N,19nm,2.0s							
NVS					pmax	pmax		
	comp=E,13nm,2.0s							
ZAL	**Zalesovo**	**54.17**	**31**	P		**P**	**00 46 52.7**	**-1.9**
	comp=E,1.9nm,0.7s,mb4.1,baz=236,slow=7.7,SNR=12							
GTA	**Gaotai**	**58.60**	**51**	*e*P		**P**	**00 47 25.6**	**-1.0**
GTA					AP	pP	00 47 29.6	-0.1
GTA					XP	sP	00 47 33.0	+2.2
GTA					AMB	AMB		
	comp=Z,11nm,1.8s,mb4.6							
GTA					AMB	AMB		
	comp=Z,134nm,5.0s							
GTA					LR	LR		
	comp=N,398nm,21.0s,MS4.6							
GTA					LR	LR		
	comp=E,423nm,25.6s,MS4.6							
GTA					LR	LR		
	comp=Z,603nm,26.8s,MS4.6							
KMI	**Kunming**	**59.84**	**68**	P		**P**	**00 47 36.4**	**+1.1**
KMI					PP	PP	00 49 45.1	-4.3
KMI					S	**S**	**00 55 49.1**	**+4.0**
KMI					SS	SS	00 59 45.5	+3.0
KMI					AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.7							
KMI					LR	LR		
	comp=Z,394nm,24.1s,MS4.5							
KMI	**Kunming**	**59.84**	**68**	P		**P**	**00 47 36.4**	**+1.1**
	comp=Z,8.0nm,1.0s,mb4.7							
KMI					PP	PP	00 49 45.1	-4.3
KMI					S	**S**	**00 55 49.1**	**+4.0**
KMI					SS	SS	00 59 45.5	+3.0
KMI					LR	LR		
	comp=Z,390nm,24.1s,MS4.5							
CD2	**Chengdu**	**60.87**	**61**	*e*P		**P**	**00 47 41.9**	**-0.4**
LZH	**Lanzhou**	**61.31**	**56**	*e*P		**P**	**00 47 44.5**	**-0.7**
LZH					AP	pP	00 47 52.0	+3.6
LZH					XP	sP	00 47 56.0	+6.5
LZH					AMB	AMB		
	comp=Z,42nm,1.5s,mb5.3							
LZH					LR	LR		
	comp=N,860nm,12.4s							
LZH					LR	LR		
	comp=Z,950nm,22.0s							
LZH	**Lanzhou**	**61.31**	**56**	*e*P		**P**	**00 47 44.5**	**-0.7**
	comp=Z,42nm,1.5s,mb5.3							
LZH					pP	pP	00 47 52.0	+3.6
LZH					sP	sP	00 47 56.0	+6.5
LZH					LR	LR		
	comp=Z,950nm,22.0s,MS4.9							
LZH	**Lanzhou**	**61.31**	**56**	*e*P		**P**	**00 47 44.5**	**-0.7**
LZH					*PP	pP	00 47 52.0	+3.6
LZH					pmax	pmax		
	comp=Z,42nm,1.5s,mb5.3							
LZH					MLR	MLR		
	comp=Z,950nm,22.0s,MS4.9							
ZAK	**Zakamensk**	**63.27**	**40**	*e*P		**P**	**00 47 57.2**	**-0.8**
ZAK					pmax	pmax		
	comp=Z,1.0nm,1.5s,mb3.7							
GYA	**Guiyang**	**63.36**	**67**	P		**P**	**00 47 58.9**	**-0.1**
GYA					AP	pP	00 48 02.9	+0.8
GYA					XP	sP	00 48 06.3	+3.0
GYA					PP	PP	00 50 20.5	+0.4
GYA					S	**S**	**00 56 29.8**	**0.0**
GYA					AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2							
GYA					AMB	AMB		
	comp=Z,90nm,3.8s							
GYA					LR	LR		
	comp=N,370nm,18.4s,MS4.7							
GYA					LR	LR		
	comp=E,350nm,18.8s,MS4.7							
GYA					LR	LR		
	comp=Z,270nm,18.6s,MS4.5							
SONM	**Songino Array**	**64.76**	**43**	P		**P**	**00 48 07.1**	**-0.8**
	comp=Z,3.1nm,1.0s,mb4.3,baz=256,slow=3.6,SNR=20							
SONM					LR	LR	01 20 15.4	
	comp=Z,596nm,20.6s,MS4.8,baz=265,slow=40							
HHC	**Hu-ho-hao-te**	**67.70**	**51**	*e*P		**P**	**00 48 27.5**	**+0.7**
HHC					AP	pP	00 48 32.0	+2.1
HHC					XP	sP	00 48 34.3	+3.2
HHC					PCP	PcP	00 48 54.8	+1.1
HHC					PP	PP	00 50 57.3	-0.7
HHC					PCS		00 52 55.0	
HHC					S	S	00 57 22.6	-0.1
HHC					XS		00 57 32.3	
HHC					SCS	ScS	00 58 22.1	+0.4
HHC					SS	SS	01 01 45.5	+0.2
HHC					AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1							
HHC					AMB	AMB		
	comp=Z,282nm,4.5s							
HHC					LR	LR		
	comp=N,332nm,14.3s,MS4.9							
HHC					LR	LR		
	comp=E,338nm,13.1s,MS4.9							
HHC					LR	LR		
	comp=Z,227nm,16.6s,MS4.5							
NJ2	**Nanjing**	**73.74**	**60**	*e*P		**P**	**00 49 02.6**	**-0.9**
NJ2					AP	pP	00 49 13.0	+6.4
NJ2					XP	sP	00 49 16.8	+9.1
NJ2					PP	PP	00 51 48.5	-1.3
NJ2					S	S	00 58 29.0	-4.1
NJ2					XS		00 58 46.0	
NJ2					AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
NJ2					AMB	AMB		
	comp=Z,220nm,5.9s							
NJ2					LR	LR		
	comp=N,2μm,24.8s,MS5.4							
NJ2					LR	LR		
	comp=E,2μm,24.6s,MS5.4							
NJ2					LR	LR		
	comp=Z,540nm,24.4s,MS4.8							
SSE	**Sheshan**	**75.81**	**61**	*e*P		**P**	**00 49 12.8**	**-2.6**
SSE					AMB	AMB		
	comp=Z,31nm,0.8s,mb5.3							
SSE					AMB	AMB		
	comp=Z,378nm,4.4s							
SSE					LR	LR		
	comp=N,47nm,22.6s,MS4.3							
SSE					LR	LR		
	comp=E,148nm,22.5s,MS4.3							
SSE					LR	LR		
	comp=Z,134nm,20.0s,MS4.2							
SSE	**Sheshan**	**75.81**	**61**	*e*P		**P**	**00 49 12.7**	**-2.7**
	comp=Z,31nm,0.8s,mb5.3							
SSE					LR	LR		
	comp=Z,130nm,20.0s,MS4.2							
TIXI	**Tiksi**	**77.82**	**19**	*i* P		**P**	**00 49 23.3**	**-2.5**
TIXI					pmax	pmax		
	comp=Z,16nm,2.7s,mb4.5							
CN2	**Changchun**	**77.92**	**48**	*e*P		**P**	**00 49 26.4**	**-0.5**
CN2					AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7							
MDJ	**Mudanjiang**	**80.78**	**46**	P		**P**	**00 49 41.3**	**-1.0**
MDJ					AP	pP	00 49 44.4	-1.1
MDJ					PP	PP	00 52 45.8	-2.8
MDJ					S	S	00 59 49.8	+0.9
MDJ					SS	SS	01 05 01.9	-3.5
MDJ					AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.4							
MDJ					AMB	AMB		
	comp=Z,56nm,5.5s							
MDJ					LR	LR		
	comp=N,296nm,23.1s,MS4.6							
MDJ					LR	LR		
	comp=E,100nm,20.4s,MS4.6							
MDJ					LR	LR		
	comp=Z,158nm,20.4s,MS4.4							
MAW	**Mawson**	**81.42**	**172**	*e*P		**P**	**00 49 45.6**	**+0.4**
	comp=Z,5.8nm,1.3s,mb4.3							
MAW	**Mawson**	**81.42**	**172**	*e*P		**P**	**00 49 45.6**	**+0.4**
	comp=Z,5.8nm,1.3s,mb4.3							
MAW	**Mawson**	**81.42**	**172**	*e*P		**P**	**00 49 45.6**	**+0.4**
MAW					pmax	pmax		
	comp=Z,6.0nm,1.3s							
KLR	**Kul'dur**	**81.55**	**41**	*e*P		**P**	**00 49 41.0**	**-5.2**
JNU	**Nakatsue**	**83.66**	**58**	LR		LR	01 30 39.9	
	comp=Z,174nm,18.9s,MS4.5,baz=148,slow=38							
MJAR	**Matsushiro Arr**	**88.81**	**53**	LR		LR	01 32 47.4	
	comp=Z,188nm,21.3s,MS4.5,baz=185,slow=38							
VNA2	**Neumayer--Watz**	**89.20**	**194**	*e*		**P**	**00 50 25.6**	**+1.8**
VNA2	**Neumayer--Watz**	**89.20**	**194**	*e*		**P**	**00 50 35.8**	**+12**
VNA2	**Neumayer--Watz**	**89.20**	**194**	⇑*i*P		**P**	**00 50 23.3**	**-0.5**
VNA2				*e*		pP	00 50 25.6	-1.4
VNA2				*e*			00 50 35.8	
VNA2				*e*			00 53 58.7	
VNA1	**Neumayer--Stat**	**89.22**	**195**	*e*		**P**	**00 50 26.3**	**+2.4**
VNA1	**Neumayer--Stat**	**89.22**	**195**	*e*		**P**	**00 50 35.2**	**+11**
VNA1	**Neumayer--Stat**	**89.22**	**195**	⇑*i*P		**P**	**00 50 23.7**	**-0.2**
VNA1				*e*		pP	00 50 26.3	-0.9
VNA1				*e*			00 50 35.2	
FITZ	**Fitzroy Crossi**	**89.26**	**109**	P		**P**	**00 50 25.5**	**+0.2**
	comp=Z,19nm,1.1s,mb5.3,baz=297,slow=2.6,SNR=4.7							
VNA3	**Neumayer Olymp**	**89.96**	**194**	*e*		**P**	**00 50 29.1**	**+1.7**
VNA3	**Neumayer Olymp**	**89.96**	**194**	*e*		**P**	**00 50 39.1**	**+12**
VNA3	**Neumayer Olymp**	**89.96**	**194**	⇑*i*P		**P**	**00 50 26.1**	**-1.3**
VNA3				*e*		pP	00 50 29.1	-1.5
VNA3				*e*			00 50 39.1	
VNA3				*e*			00 53 59.3	
ASAJ	**Asahikawa**	**89.98**	**45**	LR		LR	01 34 25.6	
	comp=Z,278nm,18.3s,MS4.7,baz=9.1,slow=38							
MNTX	**Cornudas Mount**	**125.31**	**324**	*e*PKPdf		PKPdf	00 56 30.2	-1.7
TXAR	**Lajitas Array**	**125.99**	**321**	PKP		PKPdf	00 56 31.5	-1.7
	comp=Z,0.3nm,0.7s,baz=27,slow=2.8,SNR=4.3							

NEIC ***25*** *00:42:23.0±0.4, 50.39N×18.83E, h5km, ML2.8(CLL), ML2.6(VIE), Error ellipse: s-maj=6.7km s-min=4.7km az=178.0*

PRU ***25*** *00:42:23.7, 50.28N×18.77E*

IPEC ***25*** *00:42:23.3±0.2, 50.28N×18.80E, ML2.2/3, Error ellipse: s-maj=2.4km s-min=0.8km az=171.0*

CSEM ***25*** *00:42:24.8±0.1, 50.29N×18.72E, h2km, ML2.9/2, Error ellipse: s-maj=2.1km s-min=1.1km az=6.0*

IDC ***25*** *00:42:25.2±1.8, 50.25N×18.66E, mb1 3.5/5, mb1mx3.3/20, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=31.9km s-min=9.3km az=127.0*

VIE ***25*** *00:42:28.4±0.6, 49.84N×18.68E, mb2.4/3, ML2.5/3, Error ellipse: s-maj=3.4km s-min=3.2km az=50.0, Suspected Mining induced.*

WAR 25 00:42:23.7, 50.27N×18.85E, h0km, ML2.7, 1C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46**	**246**	*e*PG		Pg		00 42 33.0	+0.2
RAC				*e*SG		Sg		00 42 39.0	0.0
OJC	**Ojcow**	**0.61**	**94**	*e*PG		Pg		00 42 36.0	0.0
OJC				*e*SG		Sg		00 42 45.0	+0.9
OJC	**Ojcow**	**0.61**	**94**	*e*Pg		Pg		00 42 35.7	-0.3
OJC				*e*Sg		Sg		00 42 45.0	+0.9
OKC	**Ostrava-Krasne**	**0.62**	**226**	*e*Pg		Pg		00 42 35.8	-0.4
MORC	**Moravsky Berou**	**0.97**	**240**	*e*P		Pn		00 42 41.7	-2.7
MORC				*e*S		Sg		00 42 56.2	+0.1
MORC	**Moravsky Berou**	**0.97**	**240**	*e*Pg		Pn		00 42 41.8	-2.6
MORC				*e*Sg		Sg		00 42 56.2	+0.1
LIKS	**Likavka**	**1.23**	**172**	*e*PN		Pn		00 42 47.5	-0.6
LIKS				*e*SN		Sn		00 43 04.9	-0.7
NIE	**Niedzica**	**1.28**	**131**	*e*PG		Pg		00 42 48.0	-1.2
NIE				*e*SG		Sg		00 43 06.0	-0.2
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*PG		Pn		00 42 52.5	-1.1
DPC				*e*SG		Sn		00 43 13.9	-1.5
	65nm,0.6s								
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*Pg		Pn		00 42 52.5	-1.1
DPC				*e*Sg		Sn		00 43 13.1	-2.3
KOLL	**Kolacno**	**1.72**	**190**	*e*SN		Sn		00 43 17.8	-0.1
KSP	**Ksiaz**	**1.73**	**290**	*e*PN		Pn		00 42 54.0	-1.1

2.3nm,0.3s,baz=61,slow=28,SNR=9.8
CLL Collm 3.85 288 *i* PN Pn 00 43 19.3 -6.1
CLL *i* PG Pg 00 43 37.2 -3.4
CLL *e*SG Sg 00 44 26.0 -5.9
CLL *i* 00 44 31.4
MOA Molln 3.86 233 ⇑*i*Pn Pn 00 43 24.3 -1.4
MOA ⇓*i*Sg Sg 00 44 24.5 -7.8
comp=Z,3.5nm,0.5s
AKASG Malin Array Be 6.64 82 Pg Pg 00 44 28.8 -7.4
0.5nm,0.3s,baz=275,slow=14,SNR=4.0
DAVOX Davos 6.90 243 Pn Pn 00 44 07.3 -1.3
0.2nm,0.3s,baz=160,slow=23,SNR=2.3
DAVOX Lg 00 46 07.0
0.3nm,0.3s,baz=333,slow=23,SNR=3.2
NOA NORSAR Array B 11.61 341 Pn P 00 45 06.6 -6.9
0.1nm,0.3s,baz=123,slow=13,SNR=2.5
FINES FINESS Array B 11.90 17 Pn P 00 45 10.9 -6.6
0.2nm,0.3s,baz=185,slow=11,SNR=6.6
ARCES ARCESS Array B 19.59 7 Pn P 00 46 51.3 -4.4
0.1nm,0.3s,baz=190,slow=14,SNR=6.3

*IDC **25** 01:00:14.4±6.0, 11.60N×40.39E, mb3.9/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, Error ellipse: s-maj=126.9km s-min=38.1km az=20.0*
*NEIC **25** 01:00:15.8±3.2, 11.60N×40.38E, h10km, mb4.1/3, Error ellipse: s-maj=64.6km s-min=21.9km az=204.0*
*DHMR **25** 01:00:18.7±0.3, 12.65N×40.60E, h2km±157km, ML4.4*
*CSEM **25** 01:00:19.5±0.7, 12.16N×40.62E, h20km, mb4.1/3, Error ellipse: s-maj=25.6km s-min=8.6km az=177.0*
ISC 25 01:00:17.1±3.2, 12.1N±0.3×40.58E±0.07, h7km±24km, n16, σ0.981/19, mb4.0/8, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UDYN	**Al 'Udayn**	**3.79**	**60**	⇓*e*P		**Pn**	**01 01 17.4**	**+0.3**
UDYN				*i* S		**Sn**	**01 02 03.3**	**+0.8**
UDYN				AML		AML	01 02 21.1	
	comp=N,4μm,0.5s							
DHBB	**Dhamar BB**	**4.45**	**56**	⇓*e*P		**Pn**	**01 01 25.8**	**-0.8**
DHBB				*i* S		**Sn**	**01 02 17.9**	**-1.4**
DHBB				AML		AML	01 02 50.5	
	comp=E,642nm,0.8s							
LBOS		**4.88**	**68**	⇓*e*P		**Pn**	**01 01 32.8**	**+0.1**
LBOS				*i* S		**Sn**	**01 02 30.8**	**+0.6**
ASF	**Jabal al Asfar**	**20.27**	**351**	P		**P**	**01 04 56.7**	**+0.6**
	comp=E,1.4nm,0.8s,baz=197,slow=11,SNR=3.6							
MALT	**Malatya**	**26.18**	**356**	*e*P		**P**	**01 05 55.3**	**+1.2**
	comp=E,7.6nm,1.3s,mb4.1							
MALT	**Malatya**	**26.18**	**356**	*e*P		**P**	**01 05 55.3**	**+1.3**
	comp=E,7.6nm,1.3s,mb4.1							
BR131	**Keskin Array S**	**28.20**	**349**	P		**P**	**01 06 12.2**	**-0.2**
	comp=E,5.1nm,1.4s,mb4.0							
BR131	**Keskin Array S**	**28.20**	**349**	P		**P**	**01 06 12.2**	**-0.2**
	comp=E,5.1nm,1.4s,mb4.0							
BRTR	**Keskin Array B**	**28.20**	**349**	P		**P**	**01 06 13.7**	**+1.3**
	comp=E,1.8nm,0.9s,mb3.7,baz=187,slow=10.0,SNR=7.0							
GERES	**GERESS Array B**	**42.89**	**334**	P		**P**	**01 08 17.9**	**0.0**
	comp=E,1.1nm,0.9s,mb3.6,baz=143,slow=6.7,SNR=9.5							
MKAR	**Makanchi Array**	**49.23**	**37**	P		**P**	**01 09 08.3**	**+0.2**
	comp=E,2.1nm,1.0s,mb4.1,baz=256,slow=5.0,SNR=9.0							
KURK	**Kurchatov**	**49.42**	**31**	*e*P		**P**	**01 09 09.7**	**+0.1**
	comp=E,1.4nm,0.9s,mb4.0							
KURK	**Kurchatov**	**49.42**	**31**	*e*P		**P**	**01 09 09.6**	**0.0**
	comp=E,1.4nm,0.9s,mb4.0							
NOA	**NORSAR Array B**	**53.36**	**343**	P		**P**	**01 09 37.4**	**-1.9**
	comp=E,2.7nm,1.2s,mb4.0,baz=154,slow=9.1,SNR=3.4							
ZAL	**Zalesovo**	**54.38**	**30**	P		**P**	**01 09 46.0**	**-0.8**
	comp=E,1.3nm,0.3s,mb4.3,baz=224,slow=5.4,SNR=4.8							
SONM	**Songino Array**	**64.92**	**43**	P		**P**	**01 10 60.0**	**+0.4**
	comp=E,0.9nm,1.0s,mb3.8,baz=214,slow=5.3,SNR=4.5							

*CSEM **25** 01:07:37.4, 26.93N×57.99E, h30km, mb3.3, Error ellipse: s-maj=26.4km s-min=11.3km az=17.0, After OMAN*
OMAN 25 01:07:37.4±134.0, 26.93N×57.99E, h30km, 4C-6D, Error ellipse: s-maj=26.4km s-min=11.3km az=17.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BANOM	**Banah**	**1.82**	**237**	⇑P		Pn	01 08 06.4	-0.8
	SNR=7.1							
ASHO	**Ashiyiah**	**2.83**	**218**	⇑P		Pn	01 08 21.6	-0.2
	SNR=22							
ASHO				⇓S		Sn	01 08 54.4	-0.9
BIDO	**Bidbid**	**3.40**	**178**	⇑P		Pn	01 08 27.1	-2.6
	SNR=9.0							
ARQ	**Araqi**	**3.82**	**201**	⇓P		Pn	01 08 34.6	-1.1
	SNR=6.7							
SMDO	**Samad**	**3.85**	**179**	⇓P		Pn	01 08 34.9	-1.3
BSY	**Bisya**	**4.23**	**190**	⇓P		Pn	01 08 40.1	-1.4
BSYO	**Bisya**	**4.24**	**189**	P		Pn	01 08 40.1	-1.5
JMDO	**Jabal Madar**	**4.54**	**179**	⇑P		Pn	01 08 45.2	-0.7
RBK	**Rabkut**	**10.01**	**201**	⇓P		P	01 09 57.6	-4.9
ABTO	**Aybut**	**10.47**	**205**	⇓P		P	01 10 04.6	-4.2

*NDI **25** 01:08:16.3±4.4, 31.02N×76.34E, h5km, ML3.6*
*NNC **25** 01:08:36.5±22.0, 31.03N×73.38E, h468km±402km, Error ellipse: s-maj=757.7km s-min=300.9km az=82.0*
ISC 25 01:08:16.2±0.7, 31.02N±0.03×76.33E±0.07, h10km, n12, σ1.954/19, 1D, Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BHK	**Bhakra**	**0.41**	**11**	*ex*		**Pg**	**01 08 21.3**	**-3.2**
BHK				*e*S		**Sg**	**01 08 29.0**	**-1.0**
SMLA	**Simla**	**0.73**	**81**	*e*P		**Pb**	**01 08 27.9**	**-2.6**
SMLA				*ex*		x	01 08 35.8	
SDNR	**Sundarnagar**	**0.73**	**49**	*e*P		**Pb**	**01 08 30.0**	**-0.5**
SDNR				*e*S		**Sb**	**01 08 41.0**	**+0.6**
THN	**Thein Dam**	**1.50**	**340**	*e*P		**Pn**	**01 08 43.6**	**+0.3**
THN				*e*S		**Sb**	**01 09 04.1**	**+1.4**
DLH	**Dalhousie**	**1.55**	**349**	*e*P		**Pn**	**01 08 46.0**	**+2.0**
DLH				*e*S		**Sb**	**01 09 09.0**	**+4.9**
KLP	**Kalpa**	**1.73**	**72**	*e*P		**Pn**	**01 08 48.2**	**+1.7**
KLP				*e*S		**Sn**	**01 09 11.8**	**+3.0**
KLP				*e*S		**Sn**	**01 09 12.5**	**+3.8**
KLP				AML		AML	01 09 13.6	
	comp=E,3μm,0.3s							
KLP				AML		AML	01 09 14.5	
	comp=N,830nm,0.3s							
AYAN	**Aya Nagar**	**2.62**	**164**	*e*P		**Pn**	**01 08 57.2**	**-2.1**
AYAN				*ex*		x	01 09 26.5	
BISR	**Bishrakh**	**2.62**	**158**	*e*S		**Sn**	**01 09 32.6**	**+1.0**
SONA	**Sohna**	**2.84**	**166**	*e*P		**Pn**	**01 09 01.1**	**-1.3**
SONA				*e*S		**Sn**	**01 09 38.2**	**+1.2**
SONA				AML		AML	01 09 39.8	
	comp=E,231nm,0.7s							
SONA				AML		AML	01 09 48.9	
	comp=N,95nm,0.3s							
AGRA	**Agra**	**4.03**	**159**	*ex*		x	01 10 16.0	
KK31	**Karatay Array**	**12.92**	**341**	P		**P**	**01 11 17.9**	**-4.7**
	comp=N,1.1nm,0.3s,baz=151,slow=12,SNR=51							
KK31				⇓S		**S**	**01 13 31.6**	**-16**
	comp=N,1.3nm,0.5s,baz=176,slow=23,SNR=3.6							
MK31	**Makanchi Array**	**16.41**	**15**	P		**P**	**01 12 07.1**	**-1.0**
	comp=N,0.3nm,0.3s,baz=179,slow=11,SNR=5.8							

*CSEM **25** 01:10:49.6±0.3, 11.22N×40.55E, h15km, mb5.0/49, Ms3.9, Mw4.9, Error ellipse: s-maj=11.3km s-min=3.5km az=164.0*
*BJI **25** 01:10:57.0, 12.30N×40.15E, h19km, mB5.3, mb4.8, Ms5.0, Msz4.6*
*IDC **25** 01:10:57.1±1.2, 12.29N×40.61E, mb4.1/15, mb1 4.3/16, mb1mx4.3/21, mbtmp4.2/16, ML4.6/1, MS4.1/1, Ms1 4.1/1, ms1mx3.6/10, Error ellipse: s-maj=28.9km s-min=13.4km az=24.0*
*NEIC **25** 01:10:58.7±0.5, 12.26N×40.51E, h10km, mb4.9/56, MS3.9/3, Error ellipse: s-maj=11.8km s-min=9.6km az=212.0*
*HRVD **25** 01:10:58.7±0.4, 12.54N×40.60E, h12km, MW4.9/62, Centroid moment Tensor Solution. LP body waves: s30,c42;Mantle waves: s62,c97; Half duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-2.98±.12; Mθθ0.89±.11; Mφφ2.09±.14; Mrθ1.20±.41; Mrφ-1.12±.10; Mθφ0.61±.37; Best double couple: M0 3.116×1016 NP1:φs168°, δ47°, λ-62°. NP2:φs310°, δ49°, λ-117°. Principal axes: T 2.762, Plg1°, Azm59°; N .707, Plg20°, Azm328°; P -3.471, Plg70°, Azm151°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DHMR **25** 01:10:59.6±0.3, 12.65N×40.51E, h12km±21km, mb5.1*
*CRAAG **25** 01:11:05.7, 12.86N×40.37E, Mb4.8*
ISC 25 01:10:57.4±1.9, 12.29N±0.08×40.43E±0.03, h10km±11km, h13km±.8km: pP-P, n152, σ1.929/155, mb4.7/73, MS4.5/7, 3C-4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATD	**Arta Tunnel**	**2.48**	**107**	Pn		**Pn**	**01 11 37.7**	**-0.9**
	144nm,0.3s,baz=238,slow=20,SNR=13							
ATD				Lg			01 12 09.9	
	170nm,0.3s,baz=67,slow=23,SNR=12							
ADEN	**Aden**	**4.47**	**83**	⇓*e*P		**Pn**	**01 12 08.1**	**+1.2**
ADEN				*i* S		**Sn**	**01 13 01.4**	**+1.9**
DHBB	**Dhamar BB**	**4.47**	**59**	⇓*e*P		**Pn**	**01 12 06.6**	**-0.3**
DHBB				*i* S		**Sn**	**01 12 59.0**	**-0.6**
LBOS		**4.95**	**71**	*i* P		**Pn**	**01 12 11.8**	**-1.9**
LBOS				AMb		AMB	01 12 12.5	
	comp=Z,114nm,0.8s							
LBOS				*i* S		**Sn**	**01 13 08.1**	**-3.6**
KBRS	**Khaybar**	**13.48**	**355**	P		**P**	**01 14 19.3**	**+8.1**
KMBO	**Kilima Mbogo**	**13.70**	**194**	Pn		**P**	**01 14 10.7**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=42,slow=15,SNR=3.1							
KMBO				Lg			01 18 14.9	
	comp=Z,0.1nm,0.3s,baz=86,slow=10.0,SNR=6.1							
HILS	**Ha'il**	**15.07**	**5**	P		**P**	**01 14 37.7**	**+5.4**
HASS	**Wahat al Ahsa'**	**15.53**	**33**	P		**P**	**01 14 40.5**	**+2.2**
ASF	**Jabal al Asfar**	**20.06**	**351**	P		**P**	**01 15 33.1**	**-0.7**
	comp=Z,14nm,1.1s,baz=61,slow=5.2,SNR=17							
BHD	**Baghdad**	**21.20**	**9**	*ex*		x	01 15 43.0	
BHD				*ex*		x	01 20 21.0	
BHL	**Bhannes**	**21.95**	**349**	*e*P		**P**	**01 15 55.2**	**+2.0**
CSS	**Prodhromos**	**23.48**	**345**	*e*P		**P**	**01 16 09.3**	**+1.2**
	comp=Z,51nm,1.5s,mb4.7							
MALT	**Malatya**	**25.98**	**356**	*e*P		**P**	**01 16 31.7**	**-0.4**
	comp=Z,115nm,1.9s,mb5.1							
MALT	**Malatya**	**25.98**	**356**	*e*P		**P**	**01 16 31.7**	**-0.4**
	comp=Z,115nm,1.9s,mb5.1							
IDI	**Anoyia**	**26.88**	**331**	P		**P**	**01 16 41.8**	**+1.4**
	comp=Z,4.4nm,1.0s,mb4.0,baz=160,slow=9.0,SNR=3.3							
BRTR	**Keskin Array B**	**27.98**	**349**	P		**P**	**01 16 51.3**	**+0.9**
	comp=Z,6.5nm,1.0s,mb4.2,baz=173,slow=10.0,SNR=14							
BR131	**Keskin Array S**	**27.98**	**349**	*e*P		**P**	**01 16 50.1**	**-0.2**
	comp=Z,18nm,1.3s,mb4.5							
BR131	**Keskin Array S**	**27.98**	**349**	*e*P		**P**	**01 16 50.1**	**-0.3**
	comp=Z,18nm,1.3s,mb4.5							
GNI	**Garni**	**28.01**	**7**	P		**P**	**01 16 51.9**	**+1.3**
	comp=Z,28nm,1.5s,mb4.7							
GNI	**Garni**	**28.01**	**7**	P		**P**	**01 16 51.9**	**+1.3**
	comp=Z,28nm,1.5s,mb4.7							
SKO	**Skopje**	**33.90**	**334**	*i* P		**P**	**01 17 43.8**	**+1.2**
VAE	**Valguarnera**	**34.22**	**322**	LR		LR	01 32 22.1	
	comp=Z,280nm,18.4s,MS4.0,baz=322,slow=37							
MLR	**Muntele Rosu**	**35.32**	**342**	P		**P**	**01 17 54.7**	**-0.1**
	comp=Z,5.0nm,1.0s,mb4.4,baz=182,slow=9.3,SNR=6.6							
ABSA	**Djebel Ababsia**	**38.07**	**315**	P		**P**	**01 18 21.0**	**+3.0**
AQU	**L'Aquila**	**38.07**	**327**	*e*P		**P**	**01 18 19.8**	**+1.8**
	comp=Z,49nm,1.5s,mb5.0							
AQU	**L'Aquila**	**38.07**	**327**	*e*P		**P**	**01 18 19.8**	**+1.8**
	comp=Z,49nm,1.5s,mb5.0							
CMAH	**Djebel Manchou**	**39.29**	**315**	P		**P**	**01 18 22.0**	**+2.1**
CKFL	**Kefnel**	**38.66**	**314**	P		**P**	**01 18 26.0**	**+3.0**
CASM	**Ain Smara**	**38.75**	**314**	P		**P**	**01 18 28.0**	**+4.2**
AKASG	**Malin Array Be**	**39.39**	**349**	P		**P**	**01 18 27.9**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.7,baz=169,slow=7.3,SNR=11							
PSZ	**Piszkesteto**	**39.45**	**338**	*e*P		**P**	**01 18 29.3**	**-0.2**
	comp=Z,69nm,1.8s,mb5.1							
PSZ	**Piszkesteto**	**39.45**	**338**	*e*P		**P**	**01 18 29.3**	**-0.2**
	comp=Z,69nm,1.8s,mb5.1							
KOLS	**Kolonicke sedl**	**39.52**	**341**	*e*P		**P**	**01 18 32.5**	**+2.5**
CRES	**Cresnjev**	**39.58**	**332**	*e*P		**P**	**01 18 32.6**	**+2.0**
KECS	**Kecovo**	**39.72**	**339**	*e*P		**P**	**01 18 31.6**	**-0.1**
STHS	**Stebnicka Huta**	**40.27**	**341**	*e*P		**P**	**01 18 34.0**	**-2.2**
JAVS	**Javornik**	**40.28**	**331**	*e*P		**P**	**01 18 38.4**	**+2.1**
VYHS	**Vyhne**	**40.32**	**338**	*e*P		**P**	**01 18 37.0**	**+0.3**
VOJS	**Vojsko**	**40.46**	**331**	*e*P		**P**	**01 18 39.9**	**+2.0**
PGF	**Pioggiola**	**40.65**	**324**	*e*P		**P**	**01 18 38.8**	**-0.6**
	comp=Z,78nm,1.8s,mb4.7							
ARSA	**Arzberg**	**40.65**	**334**	⇓*i*P		**P**	**01 18 39.9**	**+0.6**
	comp=Z,16nm,1.1s,mb4.6							
ZST	**Bratislava**	**40.74**	**336**	*e*P		**P**	**01 18 41.9**	**+1.8**
OJC	**Ojcow**	**41.44**	**340**	*e*P		**P**	**01 18 45.0**	**-0.8**
KBA	**Koelnbreinsper**	**41.49**	**332**	⇑*i*P		**P**	**01 18 46.7**	**+0.5**
	comp=Z,2.8nm,0.5s,mb4.2							
MOA	**Molln**	**41.66**	**333**	⇑*i*P		**P**	**01 18 47.8**	**+0.2**
	comp=Z,14nm,1.3s,mb4.5							
OKC	**Ostrava-Krasne**	**41.69**	**338**	*e*P		**P**	**01 18 48.0**	**+0.1**
VRAC	**Vranov**	**41.84**	**337**	*e*P		**P**	**01 18 50.7**	**+1.6**
MORC	**Moravsky Berou**	**41.86**	**338**	*e*P		**P**	**01 18 50.7**	**+1.4**
AAK	**Ala-Archa**	**42.25**	**38**	*e*P		**P**	**01 18 53.1**	**+0.6**
	comp=Z,14nm,1.5s,mb4.3							
TREC	**Trest**	**42.27**	**336**	*e*P		**P**	**01 18 53.7**	**+1.1**
SBF	**Sospel**	**42.36**	**324**	*e*P		**P**	**01 18 52.0**	**-1.4**
	comp=Z,29nm,1.3s,mb4.5							
LMR	**La Mourre**	**42.58**	**323**	*e*P		**P**	**01 18 54.2**	**-1.0**
	comp=Z,38nm,1.7s,mb4.6							
FRF	**La Foret Royal**	**42.63**	**323**	*e*P		**P**	**01 18 54.7**	**-1.0**
GERES	**GERESS Array B**	**42.66**	**334**	P		**P**	**01 18 55.2**	**-0.7**
	comp=Z,2.9nm,0.8s,mb4.1,baz=135,slow=7.5,SNR=23							
MOTA	**Moosalm**	**42.73**	**331**	⇑*i*P		**P**	**01 18 56.0**	**-0.5**
	comp=Z,5.8nm,1.1s,mb4.2							
DPC	**Dobruska-Polom**	**42.79**	**337**	*e*P		**P**	**01 18 58.1**	**+1.3**
KHC	**Kasperske Hory**	**42.93**	**334**	*e*P		**P**	**01 18 57.5**	**-0.5**
UPC	**Upice**	**43.03**	**337**	*e*P		**P**	**01 18 59.7**	**+0.9**
PRU	**Pruhonice**	**43.19**	**336**	*e*P		**P**	**01 19 01.1**	**+1.0**
MBDF	**Montbardon**	**43.27**	**325**	*e*P		**P**	**01 19 00.8**	**0.0**
	comp=Z,48nm,1.0s,mb4.9							
DAVA	**Damuels**	**43.29**	**330**	⇓*i*P		**P**	**01 19 00.3**	**-0.7**
	comp=Z,14nm,1.0s,mb4.6							
SMRF	**Simiane la Rot**	**43.50**	**323**	*e*P		**P**	**01 19 02.4**	**-0.4**
	comp=Z,69nm,1.9s,mb4.8							
PVCC	**Panska Ves**	**43.60**	**336**	*e*P		**P**	**01 19 04.3**	**+0.8**
LPG	**La Plagne**	**43.75**	**326**	*e*P		**P**	**01 19 03.2**	**-1.5**
	comp=Z,88nm,1.8s,mb4.9							
LPL	**La Plagne**	**43.77**	**326**	*e*P		**P**	**01 19 03.2**	**-1.7**
	comp=Z,46nm,1.5s,mb4.7							
ORIF	**Oris-en-Rattie**	**43.88**	**324**	*e*P		**P**	**01 19 05.0**	**-0.8**
	comp=Z,38nm,1.4s,mb4.6							
ORIF				*e*R				
	comp=Z,189nm,20.0s							
BRG	**Berggiesshubel**	**44.12**	**336**	*e*P		**P**	**01 19 08.5**	**+0.8**
	comp=Z,22nm,1.5s,mb4.7							
BRG	**Berggiesshubel**	**44.12**	**336**	*e*P		**P**	**01 19 08.5**	**+0.8**
	comp=Z,22nm,1.5s,mb4.7							
NKC	**Novy Kostel**	**44.24**	**334**	*e*P		**P**	**01 19 09.4**	**+0.7**
EJON	**La Jonquera**	**44.29**	**320**	P		**P**	**01 19 09.1**	**-0.1**
	comp=Z,338nm,3.7s							
EJON	**La Jonquera**	**44.29**	**320**	P		**P**	**01 19 09.1**	**-0.1**
	comp=Z,338nm,3.7s							
GRA1	**Grafenberg Arr**	**44.37**	**333**	*e*P		**P**	**01 19 10.1**	**+0.4**
	comp=Z,68nm,2.3s,mb5.0							
VIVF	**Saint-Julien-l**	**44.54**	**324**	*e*P		**P**	**01 19 10.1**	**-1.1**
LASF	**Ste Croix**	**44.58**	**322**	*e*P		**P**	**01 19 10.7**	**-0.8**
	comp=Z,33nm,1.4s,mb4.7							
CABF	**La Chapelle**	**44.81**	**327**	*e*P		**P**	**01 19 11.6**	**-1.7**
	comp=Z,27nm,1.0s,mb4.7							
CLL	**Collm**	**44.84**	**336**	*e*P		**P**	**01 19 14.0**	**+0.6**
EMIR	**Miracle**	**44.90**	**318**	P		**P**	**01 19 16.3**	**+2.3**
	comp=Z,422nm,4.5s							
MOX	**Moxa**	**44.91**	**334**	*i* P		**P**	**01 19 14.6**	**+0.6**
	comp=Z,logA/T=1.3,mb4.9							
MOX	**Moxa**	**44.91**	**334**	*e*P		**P**	**01 19 14.6**	**+0.6**
	comp=Z,36nm,1.9s,mb4.9							
EPOB	**Poblet**	**44.91**	**317**	P		**P**	**01 19 14.2**	**-0.1**
	comp=Z,346nm,3.3s							
EPOB	**Poblet**	**44.91**	**317**	P		**P**	**01 19 14.2**	**0.0**
	comp=Z,346nm,3.3s							
DBIC	**Dimbokro**	**44.98**	**267**	P		**P**	**01 19 15.3**	**+0.2**
	comp=Z,6.6nm,0.9s,mb4.5,baz=80,slow=8.5,SNR=4.7							
DBIC	**Dimbokro**	**44.98**	**267**	*e*P		**P**	**01 19 16.0**	**+0.9**
	comp=Z,7.9nm,0.8s,mb4.6							
EMUR	**La Murta**	**45.00**	**312**	P		**P**	**01 19 15.2**	**+0.2**
	comp=Z,175nm,2.3s,mb5.5							
EMUR	**La Murta**	**45.00**	**312**	P		**P**	**01 19 15.2**	**+0.3**
	comp=Z,175nm,2.3s,mb5.5							
HINF	**Hinteralfeld**	**45.17**	**328**	*e*P		**P**	**01 19 14.8**	**-1.3**
	comp=Z,19nm,1.0s,mb4.6							
MTLF	**Montolieu**	**45.18**	**320**	*e*P		**P**	**01 19 15.7**	**-0.6**
CDF	**Champ du Feu**	**45.34**	**329**	*e*P		**P**	**01 19 16.3**	**-1.2**
	comp=Z,35nm,1.5s,mb4.7							
HAU	**Haudompre**	**45.55**	**328**	*e*P		**P**	**01 19 17.7**	**-1.5**
	comp=Z,111nm,1.8s,mb5.2							
HAU				*e*R				
	comp=Z,192nm,19.5s							
EGRA	**Graus**	**45.82**	**318**	P		**P**	**01 19 22.9**	**+1.6**
	comp=Z,22nm,1.3s,mb4.9							
EGRA	**Graus**	**45.82**	**318**	P		**P**	**01 19 22.9**	**+1.5**
	comp=Z,22nm,1.3s,mb4.9							
EHUE	**Huescar**	**45.97**	**311**	P		**P**	**01 19 25.7**	**+3.1**
	comp=Z,3.9nm,1.0s,mb4.3							
SMF	**Signal de Mont**	**46.06**	**325**	*e*P		**P**	**01 19 21.3**	**-1.9**
	comp=Z,20nm,1.3s,mb4.6							
ESAC	**San Caprasio**	**46.12**	**317**	P		**P**	**01 19 24.8**	**+1.1**
	comp=Z,270nm,3.5s							
ESAC	**San Caprasio**	**46.12**	**317**	P		**P**	**01 19 24.8**	**+1.1**
	comp=Z,270nm,3.5s							
CAF	**Calviac**	**46.12**	**322**	*e*P		**P**	**01 19 23.4**	**-0.3**
EBIE	**Bielsa**	**46.17**	**319**	P		**P**	**01 19 26.8**	**+2.7**
	comp=Z,167nm,3.3s							
EPF	**Esparros**	**46.21**	**319**	*e*P		**P**	**01 19 24.0**	**-0.4**
	comp=Z,24nm,1.5s,mb4.6							
EQES	**Quesada**	**46.32**	**311**	P		**P**	**01 19 27.0**	**+1.6**
	comp=Z,424nm,4.8s							
EQES	**Quesada**	**46.32**	**311**	P		**P**	**01 19 27.0**	**+1.6**
	comp=Z,424nm,4.8s							
AVF	**Avril sur Loir**	**46.42**	**325**	*e*P		**P**	**01 19 24.2**	**-1.8**
LOR	**Lormes**	**46.42**	**326**	*e*P		**P**	**01 19 24.5**	**-1.5**
	comp=Z,46nm,1.4s,mb4.9							
LOR				*e*R				
	comp=Z,97nm,19.2s							
SSF	**Saint Saulge**	**46.49**	**326**	*e*P		**P**	**01 19 24.9**	**-1.7**
	comp=Z,16nm,1.4s,mb4.8							
ECOG	**Cogollos-Vega**	**46.50**	**310**	P		**P**	**01 19 29.6**	**+2.8**
	comp=Z,1.1nm,0.4s,mb4.1							
MEZF	**Maizieres J'vi**	**46.53**	**328**	*e*P		**P**	**01 19 26.0**	**-0.9**
	comp=Z,200nm,1.7s,mb5.5							
BGF	**Bois d'Agland**	**46.57**	**325**	*e*P		**P**	**01 19 26.2**	**-1.0**
	comp=Z,30nm,1.2s,mb4.8							
ERON	**Agron**	**46.59**	**310**	P		**P**	**01 19 30.6**	**+3.1**
	comp=Z,2.1nm,0.3s,mb4.5							
RJF	**Les Rejaudoux**	**46.65**	**322**	*e*P		**P**	**01 19 27.2**	**-0.7**
	comp=Z,31nm,1.4s,mb4.7							
RJF				*e*R				
	comp=Z,150nm,19.8s							
ETSF	**Etsaut**	**46.72**	**319**	*e*P		**P**	**01 19 29.3**	**+0.8**
	comp=Z,67nm,1.7s,mb5.0							
TCF	**Toulx Ste Croi**	**46.78**	**324**	*e*P		**P**	**01 19 27.8**	**-1.1**
ELOJ	**Sierra Loja**	**46.89**	**310**	P		**P**	**01 19 30.6**	**+0.7**
	comp=Z,12nm,1.3s,mb4.7							
ELOJ	**Sierra Loja**	**46.89**	**310**	P		**P**	**01 19 30.6**	**+0.7**
	comp=Z,12nm,1.3s,mb4.7							
LFF	**La Frestale**	**46.92**	**322**	*e*P		**P**	**01 19 29.7**	**-0.3**
	comp=Z,17nm,0.9s,mb4.7							
BRVK	**Borovoye**	**47.13**	**24**	*e*P		**P**	**01 19 31.7**	**+0.1**
BVAR	**Borovoye Array**	**47.15**	**24**	P		**P**	**01 19 30.9**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=207,slow=9.7,SNR=5.6							
SJPF	**Ste Jean**	**47.26**	**318**	*e*P		**P**	**01 19 32.9**	**+0.2**
	comp=Z,46nm,1.3s,mb5.0							
GIVF	**Givet**	**47.66**	**330**	*e*P		**P**	**01 19 34.2**	**-1.6**
ESDC	**Sonseca Array**	**47.67**	**313**	P		**P**	**01 19 35.5**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=116,slow=8.6,SNR=8.4							
ESDC	**Sonseca Array**	**47.67**	**313**	P		**P**	**01 19 36.7**	**+0.7**
	comp=Z,1.7nm,0.8s,mb4.1							
ESDC	**Sonseca Array**	**47.67**	**313**	P		**P**	**01 19 36.7**	**+0.7**
	comp=Z,1.7nm,0.8s,mb4.1							
BAIF	**Baives**	**47.94**	**329**	*e*P		**P**	**01 19 36.2**	**-1.8**
	comp=Z,71nm,1.7s,mb5.1							
ESPR	**Espera**	**48.09**	**309**	P		**P**	**01 19 41.0**	**+1.6**
	comp=Z,134nm,2.0s,mb5.6							
MFF	**Saint Martin d**	**48.32**	**323**	*e*P		**P**	**01 19 39.7**

HHC				PCS			01 26 23.0	
HHC				SCP			01 26 26.6	
HHC				S	S		01 30 54.3	-0.2
HHC				XS			01 31 03.8	
HHC				SCS	ScS		01 31 53.6	+0.6
HHC				SS	SS		01 35 17.0	-0.4
HHC				AMB	AMB			
	comp=Z,18nm,0.7s,mb5.2							
HHC				AMB	AMB			
	comp=Z,331nm,4.3s							
HHC				LR	LR			
	comp=N,340nm,11.9s,MS4.8							
HHC				LR	LR			
	comp=E,195nm,14.3s,MS4.8							
HHC				LR	LR			
	comp=Z,352nm,15.5s,MS4.7							
CN2	**Changchun**	**78.03**	**48**	*e*P	**P**		**01 22 59.0**	**+1.1**
MDJ	**Mudanjiang**	**80.89**	**46**	P	**P**		**01 23 13.8**	**+0.4**
MDJ				AP	pP		01 23 17.0	+0.4
MDJ				PCP	PcP		01 23 20.3	-0.1
MDJ				PP	PP		01 26 17.3	-2.8
MDJ				S	S		01 33 22.3	+1.8
MDJ				SCS	ScS		01 33 40.4	+2.7
MDJ				SS	SS		01 38 36.0	-1.5
MDJ				AMB	AMB			
	comp=Z,6.0nm,1.1s,mb4.4							
MDJ				AMB	AMB			
	comp=Z,71nm,6.2s							
MDJ				LR	LR			
	comp=N,237nm,21.9s,MS4.6							
MDJ				LR	LR			
	comp=E,75nm,17.2s,MS4.6							
MDJ				LR	LR			
	comp=Z,119nm,20.4s,MS4.2							
MAW	**Mawson**	**81.32**	**171**	*e*P	**P**		**01 23 16.5**	**+1.4**
MNTX	**Cornudas Mount**	**125.35**	**324**	*e*PKPdf	PKPdf		01 30 02.4	0.0
TXAR	**Lajitas Array**	**126.03**	**321**	PKP	PKPdf		01 30 03.9	+0.1
	comp=Z,0.8nm,0.8s,baz=90,slow=2.5,SNR=8.5							

*IDC **25** 01:11:28.3±1.3, 12.25N×40.55E, mb4.1/14, mb1 4.3/14, mb1mx4.2/20, mbtmp4.1/14, Error ellipse: s-maj=30.8km s-min=21.6km az=135.0*
*NEIC **25** 01:11:31.1±0.6, 12.42N×40.46E, h10km, mb4.6/6, Error ellipse: s-maj=19.3km s-min=11.9km az=100.0*
*CSEM **25** 01:11:34.1±1.0, 12.64N×40.62E, h33km, mb4.6/5, Error ellipse: s-maj=41.1km s-min=5.9km az=10.0*

ISC 25 01:11:29.8±0.7, 12.50N±0.08×40.5E±0.1, h10km, n52, σ0=97/43, mb4.3/17, 3C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.47**	**113**	Lg			01 12 43.5	
	128nm,0.3s,baz=132,slow=23,SNR=3.6							
ASF	**Jabal al Asfar**	**19.86**	**351**	P		**P**	**01 16 05.8**	**+1.7**
	9.9nm,1.0s,baz=40,slow=5.1,SNR=5.4							
MSL	**Mosul**	**23.80**	**5**	*ex*		x	01 16 37.0	
MALT	**Malatya**	**25.78**	**356**	*e*P		**P**	**01 17 03.6**	**+1.0**
MALT	**Malatya**	**25.78**	**356**	*e*P		**P**	**01 17 03.6**	**+1.0**
BR131	**Keskin Array S**	**27.80**	**349**	*e*P		**P**	**01 17 22.0**	**+0.9**
	17nm,1.3s,mb4.5							
BR131	**Keskin Array S**	**27.80**	**349**	*e*P		**P**	**01 17 22.0**	**+0.9**
	17nm,1.3s,mb4.5							
BRTR	**Keskin Array B**	**27.80**	**349**	P		**P**	**01 17 22.8**	**+1.7**
	5.7nm,0.9s,mb4.2,baz=167,slow=10,SNR=9.5							
MLR	**Muntele Rosu**	**35.15**	**342**	P		**P**	**01 18 27.2**	**+1.4**
	5.1nm,0.8s,mb4.5,baz=298,slow=18,SNR=4.6							
TSUM	**Tsumeb**	**38.77**	**216**	P		**P**	**01 18 53.2**	**-3.3**
	1.7nm,0.9s,mb3.8,baz=311,slow=5.1,SNR=3.1							
AKASG	**Malin Array Be**	**39.20**	**349**	P		**P**	**01 18 58.7**	**-1.0**
	2.5nm,0.6s,mb4.1,baz=173,slow=7.2,SNR=5.3							
AKASG	**Malin Array Be**	**39.20**	**349**	P		**P**	**01 18 58.7**	**-1.0**
PSZ	**Piszkesteto**	**39.29**	**338**	*e*P		**P**	**01 19 00.7**	**+0.1**
	6.2nm,0.9s,mb4.3							
PSZ	**Piszkesteto**	**39.29**	**338**	*e*P		**P**	**01 19 00.7**	**+0.1**
	6.2nm,0.9s,mb4.3							
KOLS	**Kolonicke sedl**	**39.35**	**341**	*e*pP		pP	01 19 04.8	+0.8
CRES	**Cresnjev**	**39.44**	**332**	*e*P		**P**	**01 19 02.8**	**+1.0**
KECS	**Kecovo**	**39.56**	**339**	*e*P		**P**	**01 19 02.9**	**+0.1**
JAVS	**Javornik**	**40.14**	**331**	*e*P		**P**	**01 19 08.4**	**+0.9**
VYHS	**Vyhne**	**40.16**	**338**	*e*P		**P**	**01 19 08.2**	**+0.4**
VOJS	**Vojsko**	**40.32**	**331**	*e*P		**P**	**01 19 10.0**	**+0.9**
ZST	**Bratislava**	**40.59**	**336**	*e*P		**P**	**01 19 12.1**	**+0.8**
OKC	**Ostrava-Krasne**	**41.53**	**338**	*e*P		**P**	**01 19 19.4**	**+0.4**
OKC	**Ostrava-Krasne**	**41.53**	**338**	*e*pP		pP	01 19 19.4	-2.6
MORC	**Moravsky Berou**	**41.70**	**338**	*e*P		**P**	**01 19 19.4**	**-1.0**
	16nm,1.6s,mb4.4							
MORC	**Moravsky Berou**	**41.70**	**338**	*e*P		**P**	**01 19 19.4**	**-1.0**
	16nm,1.6s,mb4.4							
GERES	**GERESS Array B**	**42.51**	**334**	P		**P**	**01 19 26.3**	**-0.7**
	2.7nm,0.8s,mb4.0,baz=127,slow=6.7,SNR=7.6							
DPC	**Dobruska-Polom**	**42.63**	**337**	*e*P		**P**	**01 19 28.0**	**0.0**
DPC	**Dobruska-Polom**	**42.63**	**337**	*e*pP		pP	01 19 28.0	-3.0
KHC	**Kasperske Hory**	**42.78**	**334**	*e*P		**P**	**01 19 27.9**	**-1.3**
KHC	**Kasperske Hory**	**42.78**	**334**	*e*pP		pP	01 19 27.9	-4.3
UPC	**Upice**	**42.87**	**337**	*e*P		**P**	**01 19 30.0**	**0.0**
UPC	**Upice**	**42.87**	**337**	*e*pP		pP	01 19 30.0	-3.0
PVCC	**Panska Ves**	**43.45**	**336**	*e*P		**P**	**01 19 34.9**	**+0.3**
PVCC	**Panska Ves**	**43.45**	**336**	*e*pP		pP	01 19 34.9	-2.7
GRA1	**Grafenberg Arr**	**44.23**	**333**	*e*P		**P**	**01 19 39.2**	**-1.8**
	25nm,1.8s,mb4.6							
CLL	**Collm**	**44.68**	**336**	P		**P**	**01 19 44.0**	**-0.6**
DBIC	**Dimbokro**	**45.07**	**267**	P		**P**	**01 19 47.5**	**-0.8**
	3.7nm,0.8s,mb4.3,baz=82,slow=14,SNR=4.3							
DBIC	**Dimbokro**	**45.07**	**267**	P		**P**	**01 19 47.5**	**-0.8**
BVAR	**Borovoye Array**	**46.93**	**24**	P		**P**	**01 20 02.1**	**-0.2**
	2.8nm,1.0s,mb4.2,baz=194,slow=6.1,SNR=7.0							
ESDC	**Sonseca Array**	**47.59**	**313**	P		**P**	**01 20 06.9**	**-0.9**
	2.1nm,1.0s,mb4.1,baz=110,slow=7.2,SNR=5.4							
MKAR	**Makanchi Array**	**48.95**	**37**	P		**P**	**01 20 17.9**	**-0.4**
	2.1nm,0.8s,mb4.2,baz=236,slow=4.4,SNR=5.3							
KURK	**Kurchatov**	**49.12**	**31**	*e*P		**P**	**01 20 19.1**	**-0.4**
	9.1nm,1.3s,mb4.7							
KURK	**Kurchatov**	**49.12**	**31**	*e*P		**P**	**01 20 19.1**	**-0.4**
	9.1nm,1.3s,mb4.7							
FINES	**FINESS Array B**	**49.98**	**351**	P		**P**	**01 20 25.4**	**-0.7**
	2.2nm,0.8s,mb4.3,baz=146,slow=14,SNR=4.7							
NB2	**NORSAR Subarra**	**52.97**	**343**	P		**P**	**01 20 47.3**	**-1.3**
	7.9nm,1.0s,mb4.6,baz=142,slow=7.4							
NOA	**NORSAR Array B**	**52.97**	**343**	P		**P**	**01 20 47.3**	**-1.2**
	2.5nm,0.7s,mb4.2,baz=141,slow=7.4,SNR=6.8							
ZAL	**Zalesovo**	**54.07**	**31**	P		**P**	**01 20 55.8**	**-0.9**
	1.3nm,0.5s,mb4.1,baz=218,slow=8.7,SNR=5.3							
SONM	**Songino Array**	**64.67**	**43**	P		**P**	**01 22 09.7**	**-0.4**
	2.0nm,1.0s,mb4.1,baz=256,slow=6.3,SNR=5.7							
VNA2	**Neumayer--Watz**	**89.30**	**194**	⇑*i*P		**P**	**01 24 28.4**	**+1.2**
VNA2				*e*			01 25 25.3	
VNA1	**Neumayer--Stat**	**89.32**	**195**	⇑P		**P**	**01 24 29.2**	**+1.9**
VNA1				*e*			01 25 25.9	
VNA3	**Neumayer Olymp**	**90.07**	**194**	⇑*i*P		**P**	**01 24 30.9**	**+0.2**
VNA3				*e*			01 25 28.6	
MNTX	**Cornudas Mount**	**125.24**	**324**	PKPdf		PKPdf	01 30 32.3	-2.3

*IDC **25** 01:12:25.7±1.6, 12.34N×40.50E, mb4.3/12, mb1 4.4/13, mb1mx4.3/19, mbtmp4.3/13, ML3.0/1, MS4.1/3, Ms1 4.2/3, ms1mx3.8/19, Error ellipse: s-maj=34.8km s-min=21.9km az=13.0*
*NEIC **25** 01:12:27.4±0.7, 12.35N×40.50E, h10km, mb4.7/12, Error ellipse: s-maj=15.9km s-min=9.3km az=206.0*
*CSEM **25** 01:12:31.6±0.1, 12.35N×40.59E, h60km, mb4.6/11, Error ellipse: s-maj=6.5km s-min=3.6km az=29.0*

ISC 25 01:12:26.2±0.9, 12.4N±0.1×40.51E±0.10, h10km, n44, σ0=79/42, mb4.4/20, MS4.2/3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.45**	**111**	Pn		**Pn**	**01 13 08.2**	**+1.3**
	3.6nm,0.3s,baz=43,slow=18,SNR=1.4							
ATD				Lg			01 13 40.1	
	23nm,0.3s,baz=249,slow=21,SNR=2.5							
ASF	**Jabal al Asfar**	**19.94**	**351**	P		**P**	**01 17 01.9**	**+0.6**
	14nm,1.1s,baz=34,slow=1.9,SNR=4.3							
MALT	**Malatya**	**25.86**	**356**	*e*P		**P**	**01 18 00.3**	**+0.6**
	16nm,1.1s,mb4.5							
MALT	**Malatya**	**25.86**	**356**	*e*P		**P**	**01 18 00.3**	**+0.6**
	16nm,1.1s,mb4.5							
BRTR	**Keskin Array B**	**27.87**	**349**	P		**P**	**01 18 19.4**	**+1.3**
	8.2nm,1.0s,mb4.3,baz=173,slow=10.0,SNR=10							
BR131	**Keskin Array S**	**27.87**	**349**	*e*P		**P**	**01 18 19.0**	**+0.8**
	11nm,1.1s,mb4.4							
BR131	**Keskin Array S**	**27.87**	**349**	*e*P		**P**	**01 18 19.0**	**+0.8**
	11nm,1.1s,mb4.4							

AQU	**L'Aquila**	**38.00**	**327**	*e*P		**P**	**01 19 46.4**	**+0.2**
	64nm,1.6s,mb5.1							
AKASG	**Malin Array Be**	**39.28**	**349**	P		**P**	**01 19 55.4**	**-1.4**
	4.2nm,0.9s,mb4.2,baz=172,slow=7.2,SNR=5.8							
PSZ	**Piszkesteto**	**39.36**	**338**	*e*P		**P**	**01 19 57.8**	**+0.3**
	7.5nm,1.0s,mb4.4							
PSZ	**Piszkesteto**	**39.36**	**338**	*e*P		**P**	**01 19 57.8**	**+0.3**
	7.5nm,1.0s,mb4.4							
CRES	**Cresnjev**	**39.51**	**332**	*e*P		**P**	**01 19 59.8**	**+1.0**
KECS	**Kecovo**	**39.63**	**339**	*e*P		**P**	**01 20 00.5**	**+0.8**
JAVS	**Javornik**	**40.20**	**331**	*e*P		**P**	**01 20 04.8**	**+0.4**
JAVS	**Javornik**	**40.20**	**331**	*e*P		**P**	**01 20 04.8**	**+0.3**
VYHS	**Vyhne**	**40.23**	**338**	*e*P		**P**	**01 20 05.5**	**+0.8**
VOJS	**Vojsko**	**40.39**	**331**	*e*P		**P**	**01 20 07.0**	**+1.0**
ZST	**Bratislava**	**40.66**	**336**	*e*P		**P**	**01 20 09.0**	**+0.8**
VRAC	**Vranov**	**41.75**	**337**	*e*P		**P**	**01 20 17.2**	**0.0**
MORC	**Moravsky Berou**	**41.77**	**338**	*e*P		**P**	**01 20 17.3**	**-0.1**
	9.3nm,1.4s,mb4.2							
MORC	**Moravsky Berou**	**41.77**	**338**	*e*P		**P**	**01 20 17.3**	**0.0**
	9.3nm,1.4s,mb4.2							
GERES	**GERESS Array B**	**42.58**	**334**	P		**P**	**01 20 24.1**	**+0.2**
	3.7nm,0.9s,mb4.1,baz=143,slow=6.7,SNR=6.8							
GERES				LR		LR	01 37 22.6	
	comp=Z,147nm,21.3s,MS3.8,baz=325,slow=35							
KHC	**Kasperske Hory**	**42.85**	**334**	*e*P		**P**	**01 20 26.0**	**-0.1**
BRG	**Berggiesshubel**	**44.04**	**336**	*e*P		**P**	**01 20 35.5**	**-0.3**
	13nm,1.3s,mb4.5							
BRG	**Berggiesshubel**	**44.04**	**336**	*e*P		**P**	**01 20 35.5**	**-0.3**
	13nm,1.3s,mb4.5							
GRA1	**Grafenberg Arr**	**44.29**	**333**	*e*P		**P**	**01 20 37.0**	**-0.9**
	12nm,1.2s,mb4.5							
CLL	**Collm**	**44.75**	**336**	P		**P**	**01 20 41.0**	**-0.5**
	logA/T=1.1,mb4.7							
CLL	**Collm**	**44.75**	**336**	*e*P		**P**	**01 20 41.0**	**-0.5**
	17nm,1.5s,mb4.7							
DBIC	**Dimbokro**	**45.06**	**267**	P		**P**	**01 20 43.4**	**-1.1**
	6.9nm,1.0s,mb4.5,baz=56,slow=7.6,SNR=3.5							
DBIC	**Dimbokro**	**45.06**	**267**	*e*P		**P**	**01 20 43.9**	**-0.6**
	29nm,1.4s,mb4.9							
BVAR	**Borovoye Array**	**47.01**	**24**	P		**P**	**01 20 59.6**	**+0.2**
	1.4nm,0.7s,mb4.0,baz=198,slow=9.4,SNR=5.7							
ESDC	**Sonseca Array**	**47.64**	**313**	P		**P**	**01 21 05.0**	**+0.4**
	3.3nm,1.0s,mb4.3,baz=113,slow=7.4,SNR=5.3							
MKAR	**Makanchi Array**	**49.02**	**37**	P		**P**	**01 21 14.9**	**-0.3**
	4.0nm,1.0s,mb4.4,baz=225,slow=5.1,SNR=6.4							
KURK	**Kurchatov**	**49.19**	**31**	*e*P		**P**	**01 21 15.9**	**-0.5**
	4.5nm,1.0s,mb4.5							
KURK	**Kurchatov**	**49.19**	**31**	*e*P		**P**	**01 21 15.9**	**-0.5**
	4.5nm,1.0s,mb4.5							
FINES	**FINESS Array B**	**50.06**	**351**	P		**P**	**01 21 22.3**	**-0.6**
	3.6nm,0.9s,mb4.4,SNR=4.2							
HFS	**Hagfors**	**51.59**	**343**	LR		LR	01 48 08.9	
	comp=Z,269nm,19.0s,MS4.3,baz=206,slow=42							
NB2	**NORSAR Subarra**	**53.04**	**343**	P		**P**	**01 21 43.4**	**-2.1**
	16nm,1.2s,mb4.8,baz=145,slow=7.4							
NOA	**NORSAR Array B**	**53.04**	**343**	P		**P**	**01 21 43.8**	**-1.7**
	5.6nm,1.0s,mb4.5,baz=141,slow=7.3,SNR=5.6							
ZAL	**Zalesovo**	**54.14**	**31**	P		**P**	**01 21 52.8**	**-0.9**
	1.2nm,0.3s,mb4.3,baz=244,slow=8.9,SNR=4.8							
ZAL				LR		LR	01 47 59.4	
	comp=Z,306nm,21.9s,MS4.3,baz=241,slow=39							
SONM	**Songino Array**	**64.73**	**43**	P		**P**	**01 23 05.4**	**-1.5**
	2.4nm,1.0s,mb4.2,baz=258,slow=7.1,SNR=6.1							
SUMG	**Summit**	**74.93**	**342**	*e*P		**P**	**01 24 08.7**	**0.0**
	13nm,1.0s,mb4.8							
SUMG	**Summit**	**74.93**	**342**	*e*P		**P**	**01 24 08.7**	**-0.1**
	13nm,1.0s,mb4.8							
MNTX	**Cornudas Mount**	**125.30**	**324**	*e*PKPdf		PKPdf	01 31 29.3	-1.8

*IDC **25** 01:25:38.6±1.5, 37.19N×142.30E, mb3.4/4, mb1 3.5/6, mb1mx3.5/22, mbtmp3.4/6, ML3.2/2, Error ellipse: s-maj=30.4km s-min=25.1km az=134.0*
*JMA **25** 01:25:42.0±0.2, 37.36N×142.06E, h33km±4km, M3.5*
*NEIC **25** 01:25:45.0±3.0, 37.21N×142.21E, h48km±26km, MG3.5(JMA), Error ellipse: s-maj=29.3km s-min=23.6km az=86.0*

ISC 25 01:25:42.2±0.9, 37.35N±0.05×142.10E±0.06, h33km, n17, σ0=97/28, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.98**	**271**	P		**P**	**01 25 59.2**	**-0.4**
JFK				S		**S**	**01 26 10.9**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.07**	**257**	P		**P**	**01 26 00.4**	**-0.5**
ONAJ				*e*S		**S**	**01 26 13.3**	**-1.5**
JMM	**Marumori**	**1.16**	**297**	P		**P**	**01 26 01.8**	**-0.4**
JMM				*e*S		**S**	**01 26 15.9**	**-1.2**
JIO	**Ouri**	**1.25**	**332**	P		**P**	**01 26 03.3**	**-0.2**
JIO				*e*S		**S**	**01 26 18.2**	**-1.3**
JFT	**Otama**	**1.42**	**277**	P		**P**	**01 26 06.4**	**+0.5**
JFT				S		**S**	**01 26 23.4**	**-0.1**
JOU	**Okura**	**1.53**	**312**	P		**P**	**01 26 07.8**	**+0.4**
JOU				*e*S		**S**	**01 26 26.3**	**0.0**
JMK	**Ichinoseki**	**1.75**	**337**	P		**P**	**01 26 10.6**	**0.0**
JMK				*e*S		**S**	**01 26 32.1**	**+0.2**
JYS	**Shirataka**	**1.83**	**299**	P		**P**	**01 26 12.9**	**+1.0**
JYS				*e*S		**S**	**01 26 35.4**	**+1.3**
JFY	**Yanaizu**	**1.91**	**272**	*e*S		**S**	**01 26 36.7**	**+0.6**
JYK	**Kaneyama**	**2.08**	**319**	P		**P**	**01 26 15.7**	**+0.3**
JYK				*e*S		**S**	**01 26 41.2**	**+0.7**
MJAR	**Matsushiro Arr**	**3.22**	**257**	Pn		**Pn**	**01 26 33.2**	**+1.4**
	1.5nm,0.3s,baz=84,slow=15,SNR=11							
MJAR				Sn		**Sn**	**01 27 13.7**	**+4.2**
	1.8nm,0.3s,baz=148,slow=30,SNR=5.1							
MAJO	**Matsushiro**	**3.22**	**257**	*e*P		**P**	**01 26 34.6**	**+2.9**
ASAJ	**Asahikawa**	**6.77**	**3**	Pn		**Pn**	**01 27 22.2**	**+0.2**
	0.6nm,0.3s,baz=75,slow=28,SNR=3.4							
ASAJ				Sn		**Sn**	**01 28 37.9**	**-0.9**
	0.1nm,0.3s,baz=81,slow=20,SNR=2.8							
SONM	**Songino Array**	**28.07**	**303**	P		**P**	**01 31 32.9**	**+0.4**
	0.3nm,0.5s,mb3.1,baz=108,slow=9.5,SNR=2.8							
MKAR	**Makanchi Array**	**44.42**	**302**	P		**P**	**01 33 52.5**	**+1.1**
	0.2nm,0.3s,mb3.3,baz=83,slow=12,SNR=3.0							
ILAR	**Eielson Array**	**48.94**	**33**	P		**P**	**01 34 26.6**	**-0.1**
	0.6nm,1.0s,mb3.6,baz=267,slow=6.7,SNR=5.0							
WRA	**Warramunga Arr**	**57.45**	**189**	P		**P**	**01 35 28.1**	**-2.2**
	0.4nm,0.5s,mb3.7,baz=5.9,slow=7.5,SNR=4.8							

*IDC **25** 01:26:56.7±3.9, 12.29N×40.67E, mb3.8/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=93.2km s-min=15.4km az=32.0*
*NEIC **25** 01:26:57.7±2.2, 12.23N×40.62E, h10km, mb3.9/4, Error ellipse: s-maj=52.6km s-min=12.6km az=217.0*
*CSEM **25** 01:26:57.7±0.5, 12.23N×40.62E, h10km, mb3.9/4, Error ellipse: s-maj=26.3km s-min=5.8km az=34.0, After NEIC*

ISC 25 01:26:57.2±2.3, 12.4N±0.3×40.7E±0.3, h10km, n16, σ0=69/16, mb3.8/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.29**	**113**	Pn		**Pn**	**01 27 36.1**	**+0.5**
	59nm,0.3s,baz=286,slow=21,SNR=16							
ATD				Lg			01 28 08.4	
	42nm,0.3s,baz=280,slow=23,SNR=5.9							
ASF	**Jabal al Asfar**	**19.96**	**351**	P		**P**	**01 31 33.1**	**+0.6**
	1.1nm,0.4s,baz=262,slow=9.5,SNR=5.0							
MALT	**Malatya**	**25.86**	**356**	*e*P		**P**	**01 32 31.4**	**+0.7**
	4.2nm,0.9s,mb4.0							
MALT	**Malatya**	**25.86**	**356**	*e*P		**P**	**01 32 31.4**	**+0.6**
	4.2nm,0.9s,mb4.0							
BRTR	**Keskin Array B**	**27.89**	**348**	P		**P**	**01 32 50.1**	**+0.7**
	3.1nm,1.1s,mb3.9,baz=168,slow=11,SNR=9.0							
BR131	**Keskin Array S**	**27.89**	**348**	*e*P		**P**	**01 32 50.1**	**+0.7**
	1.0nm,0.7s,mb3.5							
BR131	**Keskin Array S**	**27.89**	**348**	*e*P		**P**	**01 32 50.1**	**+0.7**
	1.0nm,0.7s,mb3.5							
MORC	**Moravsky Berou**	**41.83**	**338**	*e*P		**P**	**01 34 48.0**	**-0.9**
	1.8nm,0.9s,mb3.7							
MORC	**Moravsky Berou**	**41.83**	**338**	*e*P		**P**	**01 34 48.0**	**-0.8**
	1.8nm,0.9s,mb3.7							
GERES	**GERESS Array B**	**42.64**	**334**	P		**P**	**01 34 54.7**	**-0.9**
	1.3nm,0.8s,mb3.7,baz=133,slow=6.5,SNR=9.8							
MKAR	**Makanchi Array**	**48.90**	**37**	P		**P**	**01 35 44.6**	**-0.7**
	0.9nm,0.9s,mb3.8,baz=233,slow=6.1,SNR=5.6							
KURK	**Kurchatov**	**49.09**	**31**	P		**P**	**01 35 46.1**	**-0.6**
	1.9nm,1.0s,mb4.1							
KURK	**Kurchatov**	**49.09**	**31**	P		**P**	**01 35 46.1**	**-0.6**
	1.9nm,1.0s,mb4.1							
NOA	**NORSAR Array B**	**53.08**	**343**	P		**P**	**01 36 17.8**	**+0.9**
	1.4nm,0.9s,mb3.9,baz=300,slow=6.7,SNR=3.3							
NOA	**NORSAR Array B**	**53.08**	**343**	P		**P**	**01 36 17.8**	**+0.9**
SONM	**Songino Array**	**64.60**	**43**	P		**P**	**01 37 36.7**	**-0.5**
	0.8nm,1.0s,mb3.7,baz=252,slow=9.4,SNR=5.4							

*CSEM **25** 01:31:42.9±0.1, 12.26N×40.59E, h10km, mb4.6/20, Error ellipse: s-maj=6.2km s-min=4.4km az=119.0*
*IDC **25** 01:31:43.5±1.9, 12.25N×40.65E, mb4.0/13, mb1 4.1/14, mb1mx4.1/22, mbtmp4.0/14, ML4.5/1, Error ellipse: s-maj=46.2km s-min=13.5km az=25.0*
*NEIC **25** 01:31:44.5±0.5, 12.22N×40.55E, h10km, mb4.6/19, Error ellipse: s-maj=9.6km s-min=8.0km az=203.0*

ISC 25 01:31:43.2±0.6, 12.27N±0.09×40.54E±0.08, h10km, n69, σ0=76/68, mb4.3/30, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.37**	**108**	Pn		**Pn**	**01 32 23.4**	**+0.6**
	141nm,0.3s,baz=258,slow=23,SNR=29							
ATD				Lg			01 32 55.1	
	43nm,0.3s,baz=113,slow=23,SNR=13							
KMBO	**Kilima Mbogo**	**13.71**	**194**	Lg			01 39 01.3	
	0.1nm,0.3s,baz=77,slow=21,SNR=3.1							
MBAR	**Mbarara**	**16.07**	**218**	P		**P**	**01 35 31.1**	**0.0**
	0.6nm,1.5s							
ASF	**Jabal al Asfar**	**20.09**	**351**	P		**P**	**01 36 20.4**	**+0.6**
	5.5nm,0.8s,baz=29,slow=5.8,SNR=9.5							
MALT	**Malatya**	**26.00**	**356**	*e*P		**P**	**01 37 19.7**	**+1.6**
	21nm,1.5s,mb4.4							
MALT	**Malatya**	**26.00**	**356**	*e*P		**P**	**01 37 19.7**	**+1.7**
	21nm,1.5s,mb4.4							
BR131	**Keskin Array S**	**28.02**	**349**	*e*P		**P**	**01 37 37.8**	**+1.4**
	7.7nm,1.3s,mb4.2							
BR131	**Keskin Array S**	**28.02**	**349**	*e*P		**P**	**01 37 37.8**	**+1.4**
	7.7nm,1.3s,mb4.2							
BRTR	**Keskin Array B**	**28.02**	**349**	P		**P**	**01 37 38.0**	**+1.6**
	7.2nm,1.1s,mb4.2,baz=172,slow=8.7,SNR=17							
BRTR	**Keskin Array B**	**28.02**	**349**	P		**P**	**01 37 38.0**	**+1.6**
TIRR	**Tirgusor**	**33.72**	**344**	*e*P		**P**	**01 38 26.1**	**-0.7**
TIRR	**Tirgusor**	**33.72**	**344**	*e*P		**P**	**01 38 26.1**	**-0.7**
MLR	**Muntele Rosu**	**35.36**	**342**	P		**P**	**01 38 42.2**	**+1.3**
	2.4nm,0.8s,mb4.2,baz=232,slow=22,SNR=4.3							
AKASG	**Malin Array Be**	**39.42**	**349**	P		**P**	**01 39 14.6**	**-0.3**
	0.2nm,0.3s,mb3.4,baz=169,slow=7.1,SNR=6.9							
PSZ	**Piszkesteto**	**39.51**	**338**	*e*P		**P**	**01 39 15.8**	**+0.1**
	2.7nm,0.8s,mb4.0							
PSZ	**Piszkesteto**	**39.51**	**338**	*e*P		**P**	**01 39 15.8**	**+0.1**
	2.7nm,0.8s,mb4.0							
KOLS	**Kolonicke sedl**	**39.57**	**341**	*e*P		**P**	**01 39 16.6**	**+0.4**
KECS	**Kecovo**	**39.77**	**339**	*e*P		**P**	**01 39 18.8**	**+0.9**
STHS	**Stebnicka Huta**	**40.32**	**341**	*e*P		**P**	**01 39 21.1**	**-1.3**
VYHS	**Vyhne**	**40.38**	**338**	*e*P		**P**	**01 39 23.9**	**+1.0**
PGF	**Pioggiola**	**40.72**	**324**	*e*P		**P**	**01 39 25.9**	**+0.2**
	13nm,1.2s,mb4.2							
ZST	**Bratislava**	**40.80**	**336**	*e*P		**P**	**01 39 27.5**	**+1.2**
OJC	**Ojcow**	**41.49**	**340**	*e*P		**P**	**01 39 32.1**	**+0.1**
VRAC	**Vranov**	**41.90**	**337**	*e*P		**P**	**01 39 35.6**	**+0.3**
MORC	**Moravsky Berou**	**41.92**	**338**	*e*P		**P**	**

VNA1				*e*			01 42 44.7	
VNA1				*e*			01 42 50.2	
VNA3	**Neumayer Olymp**	**63.38**	**201**	*e*	**P**		**01 42 47.4**	**+6.1**
VNA3	**Neumayer Olymp**	**63.38**	**201**	*e*	**P**		**01 42 52.8**	**+11**
VNA3	**Neumayer Olymp**	**63.38**	**201**	⇑*iP*	**P**		**01 42 41.8**	**+0.5**
VNA3				*e*			01 42 47.4	
VNA3				*e*			01 42 52.8	
QSPA	**South Pole Qui**	**65.25**	**180**	*eP*	**P**		**01 42 52.7**	**-0.7**
	14nm,1.0s,mb5.0							
VNDA	**Vanda**	**66.28**	**166**	*eP*	**P**		**01 42 59.2**	**-0.9**
	3.2nm,0.9s,mb4.3							
AAK	**Ala-Archa**	**67.30**	**4**	P	**P**		**01 43 06.4**	**-0.6**
	14nm,1.6s,mb4.7							
MKAR	**Makanchi Array**	**72.18**	**9**	P	**P**		**01 43 35.7**	**-1.2**
	2.3nm,0.7s,mb4.2,baz=194,slow=6.1,SNR=19							
MKAR	**Makanchi Array**	**72.18**	**9**	P	**P**		**01 43 35.7**	**-1.2**
BRTR	**Keskin Array B**	**72.71**	**331**	P	**P**		**01 43 39.8**	**-0.3**
	0.9nm,0.8s,mb3.8,baz=90,slow=4.3,SNR=2.9							
KURK	**Kurchatov**	**75.64**	**6**	*eP*	**P**		**01 43 56.9**	**+0.1**
	19nm,1.3s,mb4.9							
KURK				*e*			01 44 03.9	
BVAR	**Borovoye Array**	**77.57**	**0**	P	**P**		**01 44 07.2**	**-0.3**
	1.1nm,0.7s,mb3.9,baz=169,slow=7.6,SNR=8.5							
BRVK	**Borovoye**	**77.60**	**0**	*eP*	**P**		**01 44 07.3**	**-0.4**
	2.6nm,1.0s,mb4.1							
DBIC	**Dimbokro**	**79.27**	**283**	LR	LR		02 16 03.9	
	comp=Z,191nm,18.9s,MS4.5,baz=101,slow=33							
SONM	**Songino Array**	**79.40**	**24**	P	**P**		**01 44 18.6**	**+0.9**
	1.2nm,0.9s,mb3.8,baz=214,slow=4.3,SNR=6.8							
SONM				LR	LR		02 17 32.4	
	comp=Z,162nm,18.5s,MS4.4,baz=93,slow=34							
ZAL	**Zalesovo**	**79.51**	**9**	P	**P**		**01 44 18.0**	**-0.2**
	1.5nm,0.7s,mb4.0,baz=286,slow=4.0,SNR=8.4							
MLR	**Muntele Rosu**	**80.72**	**330**	*eP*	**P**		**01 44 26.1**	**+1.3**
	5.3nm,1.1s,mb4.4,baz=126,slow=10,SNR=4.3							
AKASG	**Malin Array Be**	**83.45**	**335**	P	**P**		**01 44 38.8**	**0.0**
	0.3nm,0.2s,mb3.9,baz=135,slow=4.3,SNR=5.7							
OKC	**Ostrava-Krasne**	**87.49**	**329**	*ep*P	pP		01 45 05.6	+3.5
DPC	**Dobruska-Polom**	**88.69**	**329**	*ep*P	pP		01 45 11.9	+4.1
UPC	**Upice**	**88.95**	**329**	*ep*P	pP		01 45 11.9	+2.8
GERES	**GERESS Array B**	**88.96**	**327**	P	**P**		**01 45 04.2**	**-1.7**
	1.1nm,1.0s,mb4.1,baz=146,slow=4.8,SNR=4.9							
KHC	**Kasperske Hory**	**89.21**	**327**	*eP*	**P**		**01 45 07.4**	**+0.3**
PRU	**Pruhonice**	**89.30**	**328**	*eP*	**P**		**01 45 07.5**	**0.0**
DAVOX	**Davos**	**89.64**	**323**	P	**P**		**01 45 09.8**	**+0.6**
	2.8nm,0.7s,mb4.7,baz=112,slow=8.2,SNR=5.0							
PVCC	**Panska Ves**	**89.64**	**328**	*eP*	**P**		**01 45 15.9**	**+6.8**
NKC	**Novy Kostel**	**90.48**	**327**	*eP*	**P**		**01 45 12.7**	**-0.3**
GRA1	**Grafenberg Arr**	**90.75**	**326**	*eP*	**P**		**01 45 14.9**	**+0.6**
	8.0nm,1.3s,mb4.9							
GRF	**Grafenberg Arr**	**90.75**	**326**	*eP*	**P**		**01 45 14.9**	**+0.6**
	8.0nm,1.3s,mb4.9							
ULM	**Lac du Bonnet**	**152.43**	**340**	PKPbc	PKPdf		01 52 07.9	+5.8
	1.1nm,0.6s,baz=316,slow=2.6,SNR=3.2							
PDAR	**Pinedale Array**	**162.15**	**359**	PKP	PKPdf		01 52 12.4	-1.8
	0.5nm,1.0s,baz=101,slow=4.6,SNR=3.1							

NEIC ***25*** *01:38:25.9, 37.95S×176.29E, h159km, MG4.0(WEL), After WEL.*

WEL 25 01:38:25.8±0.2, 37.97S×176.32E, h161km±2km, ML3.9/15, 2C, Error ellipse: s-maj=2.8km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**0.69**	**115**	⇑PN		P	01 38 49.5	-0.2
URZ				SN		S	01 39 07.4	-0.8
URZ	**Urewera**	**0.69**	**115**	P		P	01 38 49.5	-0.2
MWZ	**Matawai**	**1.02**	**112**	PN		P	01 38 52.1	+0.2
MWZ				SN		S	01 39 11.7	-0.3
MWZ	**Matawai**	**1.02**	**112**	P		P	01 38 52.1	+0.2
MWZ				S		S	01 39 12.7	+0.7
BKZ	**Black Stump Fm**	**1.21**	**174**	PN		P	01 38 53.4	-0.2
BKZ				SN		S	01 39 14.4	-0.7
BKZ	**Black Stump Fm**	**1.21**	**174**	P		P	01 38 53.5	-0.1
TWVZ	**Taurewa**	**1.30**	**212**	PN		P	01 38 54.6	0.0
TWVZ	**Taurewa**	**1.30**	**212**	P		P	01 38 54.6	+0.1
NGZ	**Ngauruhoe**	**1.33**	**205**	PN		P	01 38 54.5	-0.3
NGZ	**Ngauruhoe**	**1.33**	**205**	P		P	01 38 55.2	+0.4
CNZ	**Chateau**	**1.37**	**206**	PN		P	01 38 54.9	-0.3
CNZ	**Chateau**	**1.37**	**206**	P		P	01 38 55.0	-0.2
WPVZ	**Whakapapa**	**1.38**	**206**	PN		P	01 38 55.3	0.0
WPVZ	**Whakapapa**	**1.38**	**206**	P		P	01 38 55.4	+0.1
TUVZ	**Tukino**	**1.40**	**202**	PN		P	01 38 55.5	0.0
TUVZ	**Tukino**	**1.40**	**202**	P		P	01 38 55.6	+0.1
FWVZ	**Far West T-bar**	**1.42**	**205**	PN		P	01 38 55.5	-0.2
FWVZ	**Far West T-bar**	**1.42**	**205**	P		P	01 38 55.8	+0.1
KNZ	**Kokohu**	**1.49**	**135**	PN		P	01 38 56.3	-0.1
KNZ	**Kokohu**	**1.49**	**135**	P		P	01 38 56.5	+0.1
MOVZ	**Moawhango**	**1.51**	**197**	PN		P	01 38 55.9	-0.7
MOVZ	**Moawhango**	**1.51**	**197**	P		P	01 38 55.9	-0.7
PKVZ	**Pokaka**	**1.53**	**210**	PN		P	01 38 56.5	-0.3
PKVZ				SN		S	01 39 20.5	-0.2
PUZ	**Puketiti**	**1.53**	**95**	PN		P	01 38 56.2	-0.6
PUZ	**Puketiti**	**1.53**	**95**	*eP*		P	01 38 56.2	-0.6
MTVZ	**Mangateitei**	**1.57**	**205**	PN		P	01 38 56.8	-0.3
MXZ	**Matakaoa Point**	**1.62**	**76**	PN		P	01 38 57.5	-0.3
MXZ				SN		S	01 39 21.8	-0.7
MXZ	**Matakaoa Point**	**1.62**	**76**	P		P	01 38 57.7	-0.1
WAZ	**Wanganui**	**2.07**	**210**	*e*PN		P	01 39 01.3	-1.4
WAZ	**Wanganui**	**2.07**	**210**	P		P	01 39 02.0	-0.7
PXZ	**Pawanui**	**2.10**	**169**	⇑PN		P	01 39 02.3	-0.8
TSZ	**Takapari Road**	**2.11**	**188**	PN		P	01 39 01.9	-1.3
TSZ				SN		S	01 39 29.1	-2.9
TSZ	**Takapari Road**	**2.11**	**188**	P		P	01 39 01.9	-1.3
BFZ	**Birch Farm**	**2.71**	**181**	*eP*		P	01 39 08.3	-2.3
MRZ	**Mangatainoka R**	**2.75**	**192**	PN		P	01 39 08.5	-2.6
MRZ				SN		S	01 39 40.9	-5.0
MRZ	**Mangatainoka R**	**2.75**	**192**	P		P	01 39 08.6	-2.5
KIW	**Kapiti Island**	**3.09**	**200**	PN		P	01 39 12.2	-3.2
KIW	**Kapiti Island**	**3.09**	**200**	P		P	01 39 12.3	-3.1
MTW	**Mount Morrison**	**3.25**	**191**	PN		P	01 39 13.8	-3.6
MTW				SN		S	01 39 51.8	-5.2
MTW	**Mount Morrison**	**3.25**	**191**	P		P	01 39 13.9	-3.5
CAW	**Cannon Point**	**3.28**	**197**	PN		P	01 39 14.2	-3.7
CAW	**Cannon Point**	**3.28**	**197**	P		P	01 39 14.5	-3.3
DUWZ	**D'Urville Isla**	**3.39**	**213**	*e*PN		P	01 39 15.8	-3.4
TRWZ	**Traveller**	**3.46**	**188**	PN		P	01 39 16.3	-3.8
PAWZ	**Paruwai Farm**	**3.48**	**191**	PN		P	01 39 16.5	-3.9
PAWZ	**Paruwai Farm**	**3.48**	**191**	P		P	01 39 16.5	-3.9
MRW	**Makara Radio**	**3.49**	**201**	PN		P	01 39 16.8	-3.7
MRW	**Makara Radio**	**3.49**	**201**	P		P	01 39 16.7	-3.8
MSWZ	**Moikau Station**	**3.54**	**193**	PN		P	01 39 17.1	-4.1
MSWZ	**Moikau Station**	**3.54**	**193**	P		P	01 39 17.3	-3.9
TCW	**Tory Channel**	**3.61**	**205**	PN		P	01 39 17.9	-4.1
TCW	**Tory Channel**	**3.61**	**205**	P		P	01 39 18.3	-3.7
BHW	**Baring Head**	**3.62**	**198**	PN		P	01 39 17.9	-4.2
BHW	**Baring Head**	**3.62**	**198**	P		P	01 39 18.1	-4.0
TUWZ	**Tuamarina**	**3.92**	**207**	PN		P	01 39 21.9	-4.1
NNZ	**Nelson**	**3.96**	**214**	*e*PN		P	01 39 22.3	-4.3
NNZ	**Nelson**	**3.96**	**214**	*eP*		P	01 39 22.5	-4.1
BSWZ	**Blackbirch Sta**	**4.19**	**206**	*e*PN		P	01 39 25.4	-4.2
BSWZ	**Blackbirch Sta**	**4.19**	**206**	P		P	01 39 25.9	-3.7
KHZ	**Kahutara**	**4.93**	**205**	PN		P	01 39 34.7	-4.6
KHZ	**Kahutara**	**4.93**	**205**	*eP*		P	01 39 34.9	-4.4
DSZ	**Denniston Nort**	**5.13**	**221**	SN		S	01 40 32.7	-8.1
LTZ	**Lake Taylor**	**5.72**	**211**	SN		S	01 40 44.7	-10
LTZ	**Lake Taylor**	**5.72**	**211**	*eP*		P	01 39 44.5	-5.1
MQZ	**McQueen's Vall**	**6.37**	**205**	*e*PN		P	01 39 51.6	-6.8
MQZ				SN		S	01 40 58.7	-12

IDC ***25*** *01:47:15.0±1.4, 12.35N×40.67E, mb3.9/5, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML4.0/2, Error ellipse: s-maj=29.0km s-min=15.9km az=38.0*

NEIC ***25*** *01:47:16.6±0.7, 12.37N×40.61E, h10km, mb4.0/2, Error ellipse: s-maj=16.5km s-min=11.0km az=76.0*

CSEM ***25*** *01:47:19.2±0.1, 12.51N×40.64E, h40km, mb4.0/2, Error ellipse: s-maj=2.4km s-min=1.8km az=108.0*

ISC 25 01:47:14.7±0.8, 12.36N±0.09×40.5E±0.1, h10km, n16, σ1°11/18, mb3.9/6, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.44**	**110**	Pn		**Pn**	**01 47 55.2**	**0.0**
	47nm,0.3s,baz=78,slow=13,SNR=11							
ATD				Lg			01 48 26.6	
	41nm,0.3s,baz=118,slow=22,SNR=11							
ATD	**Arta Tunnel**	**2.44**	**110**	Pn		**Pn**	**01 47 55.2**	**0.0**
ATD				Lg			01 48 26.6	
UDYN	**Al 'Udayn**	**3.74**	**64**	*i* P		**Pn**	**01 48 17.8**	**+4.1**
UDYN				*i* S		**Sn**	**01 49 08.0**	**+10**
DHBB	**Dhamar BB**	**4.38**	**59**	⇓*i*P		**Pn**	**01 48 22.5**	**-0.3**
DHBB				*i* S		**Sn**	**01 49 26.1**	**+12**
KMBO	**Kilima Mbogo**	**13.78**	**194**	Pn		**P**	**01 50 32.9**	**+0.2**
	0.5nm,0.3s,baz=3.2,slow=23,SNR=11							
KMBO				Lg			01 54 33.0	
	0.0nm,0.3s,baz=76,slow=9.5,SNR=3.4							
KMBO	**Kilima Mbogo**	**13.78**	**194**	Pn		**P**	**01 50 32.9**	**+0.2**
KMBO				Lg			01 54 33.0	
MALT	**Malatya**	**25.91**	**356**	*eP*		**P**	**01 52 50.1**	**+1.4**
	3.9nm,1.0s,mb3.9							
MALT	**Malatya**	**25.91**	**356**	*eP*		**P**	**01 52 50.1**	**+1.4**
	3.9nm,1.0s,mb3.9							
BR131	**Keskin Array S**	**27.92**	**349**	P		**P**	**01 53 06.2**	**-0.9**
	2.6nm,1.0s,mb3.8							
BR131	**Keskin Array S**	**27.92**	**349**	P		**P**	**01 53 06.2**	**-0.9**
	2.5nm,1.0s,mb3.8							
BRTR	**Keskin Array B**	**27.92**	**349**	P		**P**	**01 53 08.2**	**+1.1**
	3.2nm,1.1s,mb3.9,baz=174,slow=12,SNR=8.5							
GERES	**GERESS Array B**	**42.62**	**334**	P		**P**	**01 55 12.8**	**0.0**
	2.0nm,1.1s,mb3.8,baz=143,slow=6.7,SNR=8.0							
MKAR	**Makanchi Array**	**49.07**	**37**	P		**P**	**01 56 03.0**	**-1.0**
	1.6nm,0.9s,mb4.0,baz=236,slow=4.4,SNR=6.9							
ZAL	**Zalesovo**	**54.20**	**31**	P		**P**	**01 56 41.5**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=246,slow=7.3,SNR=4.3							
ZAL	**Zalesovo**	**54.20**	**31**	P		**P**	**01 56 41.5**	**-1.0**
SONM	**Songino Array**	**64.78**	**43**	P		**P**	**01 57 55.5**	**-0.2**
	0.9nm,1.0s,mb3.8,baz=217,slow=7.4,SNR=4.6							

NNC ***25*** *02:02:13.1±6.2, 41.00N×76.10E, mpv2.5, Error ellipse: s-maj=73.2km s-min=28.6km az=11.0*

KNET 25 02:02:13.8±0.7, 41.30N×76.23E, h1km±4km, ml2.2, 10C-5D, Error ellipse: s-maj=5.7km s-min=3.0km az=105.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ULHL	**Ulahol**	**0.95**	**1**	⇑P		Pb	02 02 31.2	-1.5
	4.0nm,0.2s,SNR=12							
ULHL				⇑S		Sg	02 02 46.4	+1.1
	24nm,0.3s							
UCH	**Uchtor**	**1.58**	**306**	⇓P		Pn	02 02 44.8	+1.6
	5.0nm,0.2s,SNR=11							
UCH				⇓S		Sb	02 03 07.1	+3.1
	14nm,0.2s							
KBK	**Karagaybulak**	**1.66**	**325**	⇑P		Pn	02 02 45.4	+1.1
	4.8nm,0.1s,SNR=6.6							
KBK				⇑S		Sb	02 03 10.1	+3.9
	19nm,0.2s							
TKM2	**Tokmak 2**	**1.69**	**344**	⇑P		Pn	02 02 45.6	+1.0
	5.9nm,0.3s,SNR=7.0							
TKM2				⇑S		Sb	02 03 10.5	+3.5
	8.3nm,0.2s							
AAK	**Ala-Archa**	**1.86**	**316**	⇓P		Pn	02 02 49.0	+2.0
	5.8nm,0.3s,SNR=6.2							
AAK	**Ala-Archa**	**1.86**	**316**	⇑P		Pn	02 02 49.1	+2.1
	3.0nm,0.4s							
AAK				⇑S		Sn	02 03 15.2	+3.7
	16nm,0.8s							
CHMS	**Chumysh**	**2.02**	**328**	P		Pn	02 02 52.0	+2.6
	4.3nm,0.2s,SNR=5.7							
CHMS				⇑S		Sn	02 03 21.1	+5.4
	8.7nm,0.2s							
USP	**Osponovka**	**2.35**	**327**	⇑P		Pn	02 02 56.6	+2.5
	5.2nm,0.3s,SNR=7.5							
KK31	**Karatay Array**	**4.61**	**295**	⇓Pg		Pg	02 03 36.0	-10
	0.2nm,0.3s,baz=127,slow=16,SNR=4.5							
KK31				⇓Lg			02 04 39.8	
	0.9nm,0.5s,baz=106,slow=28,SNR=5.5							

NEIC ***25*** *02:09:29.1, 19.58N×66.11W, h25km, MD3.7(RSPR), After RSPR.*

RSPR 25 02:09:29.1, 19.58N×66.11W, h25km±21km, MD3.7/11, MD3.7/11, 7C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CBYP	**Canovanas**	**1.33**	**169**	⇑*eP*		Pn	02 09 49.7	-2.7
CBYP				*e*S		Sn	02 10 06.5	-2.8
HUMP	**Col San Antoni**	**1.45**	**170**	⇑*eP*		Pn	02 09 51.6	-2.6
HUMP				*e*S		Sn	02 10 09.2	-3.4
AGPR	**Aguadilla, PR**	**1.46**	**221**	⇑*eP*		Pn	02 09 51.9	-2.3
SJG	**San Juan**	**1.46**	**181**	⇓*iP*		Pn	02 09 51.9	-2.4
SJG				*e*S		Sn	02 10 09.2	-3.6
SJG	**San Juan**	**1.46**	**181**	⇑*eP*		Pn	02 09 51.8	-2.5
SJG				*e*S		Sn	02 10 09.9	-2.9
CPD	**Cerro la Pandu**	**1.55**	**173**	⇑*eP*		Pn	02 09 53.1	-2.3
CPD				*e*S		Sn	02 10 11.3	-3.6
CELP	**Cerrillos**	**1.56**	**196**	⇓*iP*		Pn	02 09 53.0	-2.7
CELP				*e*S		Sn	02 10 12.2	-3.1
MTP	**Monte Pirata**	**1.57**	**160**	⇑*eP*		Pn	02 09 53.7	-2.2
LSP	**Las Mesas**	**1.67**	**214**	⇓*eP*		Pn	02 09 54.9	-2.4
ICM	**Isla Caja Muer**	**1.72**	**193**	⇑*eP*		Pn	02 09 55.9	-2.1
ICM				*e*S		Sn	02 10 18.5	-3.0
MGP	**Maguayo**	**1.82**	**211**	⇓*eP*		Pn	02 09 56.9	-2.4
CRPR	**Cabo Rojo, PR**	**1.83**	**211**	⇓*eP*		Pn	02 09 56.9	-2.6
CRPR				*e*S		Sn	02 10 18.5	-3.6

GUC ***25*** *02:20:37.2±0.8, 36.17S×71.43W, h104km±7km, ML4.4*

NEIC ***25*** *02:20:37.2, 36.17S×71.43W, h104km, mb3.7/2, After GUC.*

NEIC Felt [III] at Cauquenes, Linares, Parral and Talca; [II] at San Carlos.

IDC ***25*** *02:20:37.8±2.7, 36.12S×71.23W, h99km±27km, mb3.7/4, mb1 3.7/9, mb1mx3.6/16, mbtmp3.9/9, MS3.6/2, Ms1 3.7/2, ms1mx2.9/19, Error ellipse: s-maj=43.0km s-min=13.3km az=94.0*

ISC 25 02:20:36.6±0.4, 36.16S±0.04×71.41W±0.07, h109km±5km, h99km±1.7km: pP-P, n39, σ0°86/52, mb3.8/6, 6C-8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CCHI	**Chillan**	**0.70**	**231**	⇓*i*P		**P**	**02 20 54.9**	**-0.1**
CCHI				*i* S		**S**	**02 21 08.1**	**-0.7**
CCHI				AMP			02 21 09.2	
	comp=N,14μm,0.3s							
CNCO	**Chanco**	**1.01**	**295**	⇑*i*P		**P**	**02 20 58.1**	**0.0**
CNCO				*i* S		**S**	**02 21 13.9**	**-0.4**
CNCO				AMP			02 21 21.4	
	comp=N,7μm,0.3s							
COCH	**Cobquecura**	**1.12**	**271**	⇑*i*P		**P**	**02 20 59.5**	**+0.2**
COCH				*i* S		**S**	**02 21 16.0**	**-0.4**
CTCH	**Constitucion**	**1.17**	**315**	*eP*		**P**	**02 21 00.8**	**+0.9**
CTCH				*i* S		**S**	**02 21 17.6**	**+0.2**
CTCH				AMP			02 21 23.6	
	comp=E,26μm,0.6s							
NICH	**Los Niches**	**1.17**	**7**	*eP*		**P**	**02 21 00.1**	**+0.2**
NICH				*i* S		**S**	**02 21 17.9**	**+0.5**
SFDO	**San Fernando**	**1.58**	**12**	⇑*i*P		**P**	**02 21 04.9**	**+0.2**
CICH	**Cipreses**	**2.01**	**24**	⇑*i*P		**P**	**02 21 11.2**	**+1.1**
CICH				*i* S		**S**	**02 21 37.0**	**+1.8**
CACH	**El Canelo**	**2.15**	**18**	*eP*		**P**	**02 21 12.9**	**+0.9**
LNV	**Longovilo**	**2.20**	**360**	⇓*i*P		**P**	**02 21 13.0**	**+0.3**
CHCH	**Chadas Angostu**	**2.31**	**16**	⇓*i*P		**P**	**02 21 14.4**	**+0.3**
CHCH				*i* S		**S**	**02 21 43.1**	**+0.7**
TACH	**Talagante**	**2.53**	**9**	⇑*i*P		**P**	**02 21 16.8**	**-0.4**
PCH	**Pirque**	**2.64**	**16**	*eP*		**P**	**02 21 18.9**	**+0.3**
SJCH	**San Jose de Ma**	**2.66**	**19**	*eP*		**P**	**02 21 18.5**	**-0.4**
SJCH				*i* S		**S**	**02 21 50.8**	**0.0**
ANTU	**Antumapu**	**2.67**	**14**	*eP*		**P**	**02 21 18.9**	**0.0**
ANTU				*i* S		**S**	**02 21 50.7**	**-0.2**
ANTU				AMP			02 21 54.7	
	comp=E,1μm,0.2s							
RCDM	**Rinconada Maip**	**2.71**	**11**	*eP*		**P**	**02 21 19.2**	**-0.5**
RCDM				*i* S		**S**	**02 21 51.2**	**-0.8**
RCDM				AMP			02 21 53.3	
	comp=E,2μm,0.1s							
FSR	**Penalolen**	**2.77**	**15**	*eP*		**P**	**02 21 20.6**	**+0.2**
STL	**Santa Lucia**	**2.79**	**13**	*eP*		**P**	**02 21 19.6**	**-1.1**
DSCH	**Colegio Aleman**	**2.84**	**14**	*eP*		**P**	**02 21 20.9**	**-0.5**
DSCH				*i* S		**S**	**02 21 54.5**	**-0.7**
DSCH				AMP			02 21 55.8	
	comp=E,1μm,0.4s							
CLCH	**Cerro Calan**	**2.85**	**15**	⇓*i*P		**P**	**02 21 21.4**	**-0.1**
CLCH				*i* S		**S**	**02 21 55.0**	**-0.3**
CLCH				AMP			02 21 56.9	
	comp=E,1μm,0.4s							
FCH	**Farellones**	**2.97**	**18**	⇓*i*P		**P**	**02 21 23.1**	**0.0**
FCH				*i* S		**S**	**02 21 58.8**	**+0.4**
FCH				AMP			02 22 00.9	
	comp=N,1μm,0.2s							
PLCA	**Paso Flores**	**4.61**	**172**	P		**P**	**02 21 45.2**	**-0.1**
	comp=N,0.6nm,0.3s,baz=337,slow=11,SNR=15							
PLCA	**Paso Flores**	**4.61**	**172**	*eP*		**P**	**02 21 45.0**	**-0.3**
ZON	**Zonda**	**5.13**	**27**	⇑*i*P		**P**	**02 21 54.7**	**+2.3**
CFAA	**Coronel Fontan**	**5.25**	**31**	P		**P**	**02 21 52.1**	**-2.0**
	comp=N,1.0nm,0.3s,baz=213,slow=13,SNR=81							
CFAA				S		**S**	**02 22 51.3**	**-2.6**
	comp=N,1.3nm,0.3s,baz=353,slow=14,SNR=8.5							
LVC	**Limon Verde**	**13.68**	**10**	P		**P**	**02 23 45.8**	**-1.0**
	comp=N,0.5nm,0.3s,baz=196,slow=7.1,SNR=6.5							
LVC	**Limon Verde**	**13.68**	**10**	*eP*		**P**	**02 23 45.9**	**-1.0**
USHA	**Ushuaia**	**18.78**	**175**	P		**P**	**02 24 50.1**	**+0.6**
	comp=N,0.3nm,0.3s,baz=308,slow=14,SNR=3.5							
LPAZ	**La Paz**	**20.01**	**9**	P		**P**	**02 25 04.2**	**+1.5**
	comp=N,0.2nm,0.3s,baz=163,slow=6.4,SNR=12							
LPAZ				LR		LR	02 33 55.6	
	comp=N,79nm,20.3s,baz=148,slow=40							
LPAZ	**La Paz**	**20.01**	**9**	*eP*		**P**	**02 25 04.4**	**+1.6**
LPAZ				LR		LR	02 33 55.6	
SIV	**San Ignacio**	**22.10**	**27**	P		**P**	**02 25 23.3**	**-0.4**
	comp=N,2.5nm,0.6s,mb3.7,baz=199,slow=7.6,SNR=21							
SAML	**Samuel**	**28.11**	**17**	P		**P**	**02 26 17.4**	**-2.9**
	comp=N,1.5nm,1.0s,mb3.5							
ROSC	**El Rosal**	**40.90**	**356**	LR		LR	02 46 43.8	
	comp=N,202nm,19.2s,baz=289,slow=38							
VNA3	**Neumayer Olymp**	**47.17**	**157**	⇓*i*P		**P**	**02 28 59.9**	**+0.7**
VNA3				*e*		pP	02 29 23.9	-1.1
VNA1	**Neumayer--Stat**	**47.49**	**156**	⇓*i*P		**P**	**02 29 00.2**	**-1.5**
VNA1				*e*		pP	02 29 24.2	-3.3
VNA2	**Neumayer--Watz**	**47.82**	**156**	⇓*i*P		**P**	**02 29 04.8**	**+0.5**
VNA2				*e*		pP	02 29 27.6	-2.5
SNAA	**Sanae**	**49.39**	**157**	P		**P**	**02 29 16.8**	**+0.4**
	comp=N,0.4nm,0.4s,mb3.7,baz=281,slow=6.0,SNR=12							
TXAR	**Lajitas Array**	**71.87**	**331**	P		**P**	**02 31 50.5**	**+1.0**
	comp=N,0.7nm,0.6s,mb3.7,baz=154,slow=9.5,SNR=15							
MNTX	**Cornudas Mount**	**74.64**	**330**	*eP*		**P**	**02 32 05.6**	**0.0**
	comp=N,1.5nm,0.9s,mb3.7							
ULM	**Lac du Bonnet**	**88.72**	**345**	P		**P**	**02 33 18.6**	**+0.2**
	comp=N,1.8nm,0.5s,mb4.4,baz=359,slow=5.0,SNR=4.7							

THR ***25*** *02:33:26.4±0.4, 27.81N×57.62E, h14km±7km, ML3.1*

CSEM ***25*** *02:33:26.1±0.1, 27.71N×57.70E, h25km, mb2.7, Error ellipse: s-maj=2.0km s-min=1.3km az=59.0*

OMAN ***25*** *02:33:30.3, 27.57N×58.05E, h30km, Error ellipse: s-maj=71.6km s-min=8.4km az=22.0*

ISC 25 02:33:25.8±0.8, 27.67N±0.06×57.63E±0.06, h10km, n14, σ0°83/16, 3C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.32**	**259**	*e*PG		**Pg**	**02 33 51.4**	**-0.9**
BNDS				*e*SG		**Sg**	**02 34 09.9**	**0.0**
BNDS				AML		AML	02 34 17.2	
	comp=N,259nm,0.4s							
BANOM	**Banah**	**2.11**	**215**	⇓P		**Pn**	**02 34 05.8**	**+4.3**
	SNR=9.0							
KRBR	**Kerman**	**2.43**	**342**	*e*PN		**Pn**	**02 34 06.2**	**+0.1**
KRBR				*e*SG		**Sg**	**02 34 38.7**	**-8.0**
KRBR				AML	

ISC 25 03:00:43.8±0.3,21.56S±0.06×169.76E±0.04,h33km,n229, σ1°24/72,mb4.8/29,MS4.7/24,52C-4D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.12**	**260**	⇓*iP*	**P**	**03 01 31.3**	**-0.5**
DZM				*eS*	**S**	**03 02 06.8**	**-1.5**
DZM	**Mont Dzumac**	**3.12**	**260**	Pn	**Pn**	**03 01 31.3**	**-0.6**
	19nm,0.3s,baz=80,slow=16,SNR=455						
DZM				Sn	**Sn**	**03 02 08.1**	**-0.4**
	119nm,0.3s,baz=96,slow=20,SNR=11						
DZM				LR	LR	03 02 22.6	
	comp=Z,4μm,19.6s,baz=66,slow=32						
RAO	**Raoul Island**	**13.51**	**127**	LR	LR	03 07 58.4	
	comp=Z,4μm,20.5s,baz=120,slow=32						
HNR	**Honiara**	**15.31**	**320**	LR	LR	03 09 01.8	
	comp=Z,1μm,21.9s,baz=348,slow=33						
URZ	**Urewera**	**17.81**	**161**	P	**P**	**03 04 51.3**	**+0.7**
	0.5nm,0.3s,baz=2.4,slow=6.3,SNR=14						
URZ				LR	LR	03 10 27.2	
	comp=Z,3μm,19.1s,baz=188,slow=33						
ARMA	**Armidale**	**18.52**	**238**	*eP*	**P**	**03 05 01.9**	**+2.3**
AFI	**Afiamalu**	**19.15**	**70**	P	**P**	**03 05 06.1**	**-1.0**
	4.7nm,0.3s,baz=256,slow=18,SNR=2.2						
AFI				LR	LR	03 10 55.8	
	comp=Z,2μm,21.2s,baz=44,slow=32						
CTA	**Charters Tower**	**22.02**	**270**	*eP*	**P**	**03 05 39.2**	**+2.2**
	11nm,0.8s,mb4.3						
CTA				*i* S	**S**	**03 09 40.7**	**+7.8**
CTA	**Charters Tower**	**22.02**	**270**	P	**P**	**03 05 38.8**	**+1.8**
	9.4nm,0.8s,mb4.3,baz=99,slow=13,SNR=4.6						
CTA	**Charters Tower**	**22.02**	**270**	*eP*	**P**	**03 05 39.2**	**+2.2**
CTA				*i* S	**S**	**03 09 40.7**	**+7.8**
CTA				pmax	pmax		
	comp=Z,11nm,0.8s						
CTAO	**Charters Tower**	**22.02**	**270**	*eP*	**P**	**03 05 38.0**	**+1.0**
CTAO				LR	LR		
	comp=Z,4μm,19.0s,MS4.9						
RPZ	**Rata Peaks**	**22.12**	**178**	P	**P**	**03 05 39.9**	**+2.0**
	comp=Z,13nm,1.0s,mb4.3,baz=26,slow=16,SNR=3.1						
RPZ				LR	LR	03 13 18.9	
	comp=Z,3μm,19.3s,MS4.7,baz=353,slow=34						
CNB	**Canberra Magne**	**22.51**	**228**	*eP*	**P**	**03 05 44.2**	**+2.3**
	comp=Z,44nm,1.1s,mb4.8						
PMG	**Port Moresby**	**24.86**	**296**	P	**P**	**03 06 06.1**	**+1.1**
	comp=Z,21nm,0.9s,mb4.7,baz=188,slow=3.4,SNR=3.2						
PMG				LR	LR	03 14 10.9	
	comp=Z,2μm,19.7s,MS4.5,baz=335,slow=33						
PMG	**Port Moresby**	**24.86**	**296**	P	**P**	**03 06 03.9**	**-1.1**
PMG				MLR	MLR		
	comp=Z,2μm,21.0s						
TOO	**Toolangi**	**26.35**	**227**	*eP*	**P**	**03 06 20.2**	**+1.5**
	comp=Z,9.3nm,1.1s,mb4.2						
TOO	**Toolangi**	**26.35**	**227**	*eP*	**P**	**03 06 20.2**	**+1.5**
TOO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**27.10**	**242**	*eP*	**P**	**03 06 25.8**	**+0.1**
	comp=Z,6.6nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**27.10**	**242**	P	**P**	**03 06 26.2**	**+0.6**
	comp=Z,7.6nm,0.8s,mb4.3,baz=74,slow=9.5,SNR=14						
STKA				LR	LR	03 16 06.8	
	comp=Z,3μm,20.9s,MS4.8,baz=45,slow=34						
WB2	**Warramunga Arr**	**33.11**	**266**	*eP*	**P**	**03 07 18.7**	**-0.4**
WRAB	**Tennant Creek**	**33.11**	**266**	*eP*	**P**	**03 07 17.8**	**-1.3**
WRAB				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
WRA	**Warramunga Arr**	**33.12**	**266**	P	**P**	**03 07 17.5**	**-1.6**
	comp=Z,2.4nm,0.8s,mb4.2,baz=98,slow=7.9,SNR=16						
TBI	**Tubuai**	**37.65**	**101**	*e*LQ		03 16 30.0	
TBI				*e*LR	LR	03 18 04.2	
	comp=Z,1μm,26.0s,baz=264						
PPT	**Papeete**	**38.45**	**91**	*e*S	**S**	**03 13 54.8**	**-2.3**
PPT				*e*LQ		03 16 48.2	
PPT				*e*LR	LR	03 18 19.0	
	comp=Z,834nm,23.2s,baz=257						
PPT	**Papeete**	**38.45**	**91**	LR	LR	03 19 52.6	
	comp=Z,553nm,20.1s,MS4.4,baz=248,slow=30						
FITZ	**Fitzroy Crossi**	**41.55**	**267**	*eP*	**P**	**03 08 29.8**	**-0.3**
	comp=Z,24nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**41.55**	**267**	P	**P**	**03 08 30.5**	**+0.4**
	comp=Z,24nm,0.7s,mb4.9,baz=148,slow=5.6,SNR=21						
FITZ				LR	LR	03 26 24.7	
	comp=Z,4μm,18.3s,MS5.3,baz=96,slow=37						
NWAO	**Narrogin (SRO)**	**47.63**	**245**	P	**P**	**03 09 18.7**	**0.0**
	comp=Z,7.6nm,0.7s,mb4.8,baz=104,slow=9.1,SNR=6.9						
NWAO				LR	LR	03 28 36.3	
	comp=Z,2μm,20.2s,MS5.2,baz=99,slow=35						
NWAO	**Narrogin (SRO)**	**47.63**	**245**	P	**P**	**03 09 18.7**	**-0.1**
NWAO				LR	LR	03 28 36.3	
TAOE	**Nuku Hiva Isla**	**49.76**	**83**	*e*S	**S**	**03 16 42.1**	**+1.0**
TAOE				*e*LR	LR	03 23 35.6	
	comp=Z,3μm,24.5s						
RKT	**Rikitea**	**50.88**	**103**	*e*S	**S**	**03 16 51.8**	**-4.8**
RKT				*e*LQ		03 21 28.7	
RKT				*e*LR	LR	03 24 08.2	
	comp=Z,571nm,30.0s,baz=268						
VNDA	**Vanda**	**56.14**	**182**	*eP*	**P**	**03 10 20.4**	**-1.6**
	comp=Z,13nm,1.5s,mb4.7						
VNDA				LR	LR		
	comp=Z,575nm,19.0s,MS4.7						
SBA	**Scott Base**	**56.36**	**181**	*eP*	**P**	**03 10 23.0**	**-0.6**
	comp=Z,22nm,1.0s,mb5.1						
SBA				LR	LR		
	comp=Z,686nm,20.0s,MS4.7						
CASY	**Casey**	**58.21**	**204**	*eP*	**P**	**03 10 34.5**	**-2.3**
MJAR	**Matsushiro Arr**	**65.02**	**332**	P	**P**	**03 11 21.7**	**-1.3**
	comp=Z,3.7nm,0.6s,mb4.6,baz=170,slow=7.7,SNR=12						
MJAR				LR	LR	03 38 55.3	
	comp=Z,181nm,18.2s,MS4.3,baz=160,slow=35						
MIR	**Mirnyy**	**65.15**	**205**	*eP*	**P**	**03 11 23.0**	**-0.3**
MIR				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
QSPA	**South Pole Qui**	**68.50**	**180**	*eP*	**P**	**03 11 43.9**	**-0.4**
	comp=Z,43nm,1.2s,mb5.2						
ASAJ	**Asahikawa**	**69.94**	**340**	LR	LR	03 37 19.0	
	comp=Z,685nm,21.5s,MS4.9,baz=168,slow=32						
YSS	**Yuzh-Sakhalins**	**72.42**	**341**	*eP*	**P**	**03 12 09.0**	**+0.5**
RPN	**Rapa Nui**	**72.73**	**113**	LR	LR	03 36 34.7	
	comp=Z,304nm,22.0s,MS4.5,baz=288,slow=30						
PET	**Petropavlovsk**	**74.89**	**353**	*eP*	**P**	**03 12 16.6**	**-6.2**
PET				*e*S	S	03 21 58.6	+2.2
PET				pmax	pmax		
	comp=Z,100nm,18.8s						
PET				smax			
	comp=N,100nm,14.8s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
MDJ	**Mudanjiang**	**75.39**	**332**	P	**P**	**03 12 26.5**	**+0.7**
MDJ				S	S	03 22 04.8	+2.7
MDJ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,146nm,5.1s						
MDJ				LR	LR		
	comp=N,138nm,22.9s,MS4.2						
MDJ				LR	LR		
	comp=E,74nm,22.9s,MS4.2						
MDJ				LR	LR		
	comp=Z,210nm,22.0s,MS4.4						
TIA	**Tai'an**	**76.00**	**319**	*eP*	**P**	**03 12 28.6**	**-0.9**
MAW	**Mawson**	**76.48**	**202**	P	**P**	**03 12 31.8**	**+0.2**
	comp=Z,7.3nm,1.0s,mb4.6,baz=100,slow=6.6,SNR=12						
MAW				LR	LR	03 43 01.3	
	comp=Z,387nm,18.8s,MS4.7,baz=90,slow=33						
MAW	**Mawson**	**76.48**	**202**	*eP*	**P**	**03 12 31.0**	**-0.6**
	comp=Z,9.5nm,1.0s,mb4.7						
MAW	**Mawson**	**76.48**	**202**	*eP*	**P**	**03 12 31.0**	**-0.6**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CN2	**Changchun**	**76.69**	**329**	*eP*	**P**	**03 12 33.9**	**+0.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
KLR	**Kul'dur**	**78.18**	**336**	*eP*	**P**	**03 12 39.2**	**-2.2**
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.0						
KMI	**Kunming**	**79.91**	**302**	P	**P**	**03 12 53.5**	**+2.2**
KMI				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.7						
KMI	**Kunming**	**79.91**	**302**	P	**P**	**03 12 53.5**	**+2.2**
	comp=Z,16nm,1.5s,mb4.7						
KMI				pP	pP	03 13 12.2	+10
KMI	**Kunming**	**79.91**	**302**	P	**P**	**03 12 53.5**	**+2.2**
KMI				*PP	pP	03 13 12.2	+10
KMI				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7						
HHC	**Hu-ho-hao-te**	**82.29**	**319**	*eP*	**P**	**03 13 04.9**	**+1.4**
HHC				AP	pP	03 13 18.3	+4.4
HHC				PP	PP	03 16 16.3	+2.1
HHC				S	S	03 23 16.9	+1.5
HHC				SKS	SKS	03 23 18.1	+0.8
HHC				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,206nm,4.5s						
HHC				LR	LR		
	comp=N,217nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=E,237nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=Z,213nm,19.0s,MS4.5						
SYO	**Syowa Base**	**82.85**	**196**	⇑*iP*	**P**	**03 13 04.0**	**-1.8**
SYO	**Syowa Base**	**82.85**	**196**	⇑*i*SP	sP	03 13 24.2	+4.4
LZH	**Lanzhou**	**84.64**	**312**	*eP*	**P**	**03 13 17.5**	**+2.0**
LZH				AP	pP	03 13 27.5	+1.5
LZH				XP	sP	03 13 32.5	+3.0
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.2						
LZH	**Lanzhou**	**84.64**	**312**	*eP*	**P**	**03 13 17.5**	**+2.0**
	comp=Z,30nm,1.5s,mb5.2						
LZH				pP	pP	03 13 27.5	+1.5
LZH				sP	sP	03 13 32.5	+3.0
CLNS	**Chul'man**	**86.71**	**337**	*eP*	**P**	**03 13 26.0**	**+0.8**
CLNS				pmax	pmax		
	comp=N,21nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.5						
CLNS				pmax	pmax		
	comp=E,11nm,1.3s						
VNA3	**Neumayer Olymp**	**87.44**	**180**	*e*	**P**	**03 13 33.8**	**+5.3**
VNA3	**Neumayer Olymp**	**87.44**	**180**	*e*	**P**	**03 13 41.9**	**+13**
VNA3	**Neumayer Olymp**	**87.44**	**180**	⇑*i*Pdif	**P**	**03 13 28.0**	**-0.5**
VNA3				*e*		03 13 33.8	
VNA3				*e*		03 13 41.9	
VNA2	**Neumayer--Watz**	**87.74**	**181**	*e*	**P**	**03 13 35.8**	**+5.9**
VNA2	**Neumayer--Watz**	**87.74**	**181**	*e*	**P**	**03 13 45.1**	**+15**
VNA2	**Neumayer--Watz**	**87.74**	**181**	⇑*i*Pdif	**P**	**03 13 29.8**	**-0.1**
VNA2				*e*		03 13 35.8	
VNA2				*e*		03 13 45.1	
VNA1	**Neumayer--Stat**	**88.03**	**181**	*e*	**P**	**03 13 37.3**	**+6.0**
VNA1	**Neumayer--Stat**	**88.03**	**181**	*e*	**P**	**03 13 44.5**	**+13**
VNA1	**Neumayer--Stat**	**88.03**	**181**	⇑*i*Pdif	**P**	**03 13 31.4**	**+0.1**
VNA1				*e*		03 13 37.3	
VNA1				*e*		03 13 44.5	
GTA	**Gaotai**	**89.07**	**313**	*eP*	**P**	**03 13 38.5**	**+1.5**
GTA				AP	pP	03 13 44.1	-3.5
GTA				XP	sP	03 13 46.8	-4.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.6						
SONM	**Songino Array**	**89.36**	**323**	P	**P**	**03 13 38.2**	**+0.1**
	comp=Z,5.1nm,1.1s,mb4.8,baz=136,slow=4.3,SNR=32						
SONM				LR	LR	03 51 00.3	
	comp=Z,193nm,20.2s,MS4.5,baz=267,slow=34						
SONM	**Songino Array**	**89.36**	**323**	P	**P**	**03 13 38.2**	**+0.1**
SONM				LR	LR	03 51 00.3	
MNV	**Mina**	**90.07**	**48**	*eP*	**P**	**03 13 42.1**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.5						
MNV	**Mina**	**90.07**	**48**	*eP*	**P**	**03 13 42.2**	**+0.5**
MNV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
BOD	**Bodaibo**	**91.62**	**334**	*eP*	**P**	**03 13 47.4**	**-1.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.7						
ILAR	**Eielson Array**	**92.29**	**17**	P	**P**	**03 13 49.6**	**-1.8**
	comp=Z,1.4nm,0.7s,mb4.4,baz=242,slow=4.9,SNR=19						
ILAR				LR	LR	03 54 01.9	
	comp=Z,300nm,18.0s,MS4.8,baz=213,slow=35						
ZAK	**Zakamensk**	**92.45**	**324**	⇑*iP*	**P**	**03 13 52.9**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.6						
PLCA	**Paso Flores**	**96.48**	**138**	LR	LR	03 47 23.9	
	comp=Z,218nm,19.3s,MS4.7,baz=230,slow=29						
TXAR	**Lajitas Array**	**97.44**	**62**	LR	LR	03 50 16.8	
	comp=Z,486nm,19.9s,MS5.0,baz=260,slow=31						
PDAR	**Pinedale Array**	**97.83**	**47**	LR	LR	03 49 59.6	
	comp=Z,163nm,20.2s,MS4.5,baz=262,slow=30						
WMQ	**Urumqi**	**99.15**	**313**	*eP*	**P**	**03 14 24.0**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,102nm,5.2s						
WMQ				LR	LR		
	comp=N,153nm,19.7s,MS4.7						
WMQ				LR	LR		
	comp=E,214nm,23.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,176nm,26.0s,MS4.4						
MKAR	**Makanchi Array**	**103.72**	**315**	Pdiff	Pdiff	03 14 45.5	+2.0
	comp=Z,0.6nm,0.7s,baz=124,slow=4.4,SNR=4.6						
MKAR				PKiKP		03 19 00.1	
	comp=Z,0.3nm,0.5s,baz=130,slow=1.7,SNR=3.8						
MKAR				PKKPbc		03 30 34.3	
	comp=Z,0.4nm,0.6s,baz=250,slow=4.7,SNR=3.6						
ARU	**Arti**	**119.39**	**324**	*e*PKPdf	PKPdf	03 19 30.4	+0.7
ARU	**Arti**	**119.39**	**324**	*e*PKIKP	PKPdf	03 19 30.4	+0.7
ARCES	**ARCESS Array B**	**127.43**	**345**	PKP	PKPdf	03 19 44.9	0.0
	comp=Z,4.9nm,0.5s,baz=42,slow=1.4,SNR=46						
JOF	**Joensuu**	**130.07**	**337**	*e*pkp	PKPdf	03 19 50.8	+0.8
KAF	**Kangasniemi**	**132.38**	**338**	*e*pkp	PKPdf	03 19 55.2	+0.7
FINES	**FINESS Array B**	**132.91**	**337**	PKP	PKPdf	03 19 56.3	+0.9
	comp=Z,1.6nm,0.5s,baz=62,slow=3.7,SNR=26						
AKASG	**Malin Array Be**	**137.64**	**323**	PKP	PKPdf	03 20 05.2	+0.7
	comp=Z,1.6nm,0.6s,baz=50,slow=2.1,SNR=7.6						
NB2	**NORSAR Subarra**	**137.80**	**345**	PKPabc	PKPdf	03 20 06.7	+2.2
	comp=Z,0.7nm,0.5s,baz=40,slow=4.1						
NOA	**NORSAR Array B**	**137.80**	**345**	PKP	PKPdf	03 20 05.6	+1.1
	comp=Z,0.9nm,0.5s,baz=38,slow=2.7,SNR=4.1						
BRTR	**Keskin Array B**	**138.59**	**306**	PKP	PKPdf	03 20 08.6	+2.1
	comp=Z,1.3nm,1.0s,baz=270,slow=3.7,SNR=3.6						
KOLS	**Kolonicke sedl**	**142.40**	**324**	*e*PKP	PKPdf	03 20 13.6	+0.6
STHS	**Stebnicka Huta**	**142.67**	**326**	*e*PKP	PKPdf	03 20 15.3	+1.9
KECS	**Kecovo**	**143.62**	**325**	*e*	PKPbc	03 20 12.7	-1.1
PRK	**Paraskevi**	**144.21**	**308**	*e*P	PKPbc	03 20 16.5	+0.7
PSZ	**Piszkesteto**	**144.28**	**325**	*e*PKP	PKPdf	03 20 15.9	-0.4
DPC	**Dobruska-Polom**	**144.48**	**330**	*e*PKP	PKPdf	03 20 17.1	+0.6
VYHS	**Vyhne**	**144.49**	**326**	*e*PKP	PKPdf	03 20 17.1	+0.5
UPC	**Upice**	**144.51**	**331**	*e*PKP	PKPdf	03 20 16.8	+0.2
KARP	**Karpathos**	**144.54**	**301**	*e*P	PKPbc	03 20 17.5	+0.7
VRAC	**Vranov**	**145.07**	**329**	*e*PKP	PKPdf	03 20 18.8	+1.2
PVCC	**Panska Ves**	**145.14**	**332**	*e*PKP	PKPdf	03 20 19.0	+1.3
BRG	**Berggiesshubel**	**145.16**	**333**	⇑*i*PKP	PKPdf	03 20 19.0	+1.3
SMOL	**Smolenice**	**145.19**	**327**	*e*PKP	PKPdf	03 20 18.8	+1.0
PKS7	**Kunszentmiklos**	**145.20**	**324**	‖*e*P	PKPdf	03 20 19.9	+2.0
CLL	**Collm**	**145.22**	**334**	⇑*i*PKIKP	PKPdf	03 20 18.9	+1.1
	comp=Z,logA/T=1.6						
CLL	**Collm**	**145.22**	**334**	⇑*i*PKHKP		03 20 18.9	
CLL				*e*		03 20 26.0	
PKS6	**Bocsa**	**145.24**	**323**	*e*P	PKPdf	03 20 20.1	+2.1
SRO1	**Iza**	**145.26**	**326**	*e*PKP	PKPdf	03 20 20.3	+2.3
PKSG		**145.41**	**325**	‖*e*P	PKPdf	03 20 19.7	+1.5
PRU	**Pruhonice**	**145.55**	**331**	*e*PKP	PKPdf	03 20 19.6	+1.2
ZST	**Bratislava**	**145.56**	**327**	*e*PKP	PKPdf	03 20 20.2	+1.7
TREC	**Trest**	**145.61**	**330**	*e*PKP	PKPdf	03 20 20.0	+1.5
CLZ	**Clausthal**	**145.80**	**337**	*e*PKPbc	PKPbc	03 20 21.1	+1.5
NPS	**Neapolis**	**145.83**	**301**	*e*P	PKPdf	03 20 22.5	+3.1
PKSM	**Moragy**	**145.99**	**323**	⇑*i*P	PKPdf	03 20 21.5	+2.2
NKC	**Novy Kostel**	**146.26**	**334**	*e*PKP	PKPdf	03 20 22.7	+3.1
MOX	**Moxa**	**146.28**	**335**	*i* P	PKPdf	03 20 22.3	+2.7
	comp=Z,logA/T=1.4						
MOX	**Moxa**	**146.28**	**335**	*e*PKP2	PKPab	03 20 22.3	-1.3
RHK1	**Bakonya**	**146.37**	**323**	‖*e*P	PKPdf	03 20 23.0	+3.1
DIVS	**Divcibare**	**146.39**	**319**	*e*PKP	PKPdf	03 20 17.4	-2.6
SKO	**Skopje**	**146.53**	**315**	*i* P	PKPdf	03 20 23.3	+3.0
KHC	**Kasperske Hory**	**146.60**	**331**	*e*PKP	PKPdf	03 20 22.1	+1.9
KHC				x	x	03 20 26.5	
KHC	**Kasperske Hory**	**146.60**	**331**	*e*PKHKP		03 20 22.1	
KHC				*e*		03 20 26.5	
GEC2	**GERESS Array S**	**146.75**	**331**	*e*PKPbc	PKPbc	03 20 23.6	+1.7
GERES	**GERESS Array B**	**146.75**	**331**	PKPbc	PKPbc	03 20 23.9	+2.0
	comp=Z,6.5nm,0.6s,baz=26,slow=3.0,SNR=71						
WET	**Wettzell**	**146.90**	**332**	*e*PKPbc	PKPbc	03 20 24.4	+2.1
ARSA	**Arzberg**	**146.99**	**327**	⇓*iP*	PKPdf	03 20 23.7	+2.8
	comp=Z,16nm,1.4s						
GRA1	**Grafenberg Arr**	**147.19**	**334**	*e*PKP	PKPdf	03 20 25.1	+3.9
GRA1				LR	LR		
	comp=Z,200nm,18.0s,MS4.9						
GRF	**Grafenberg Arr**	**147.19**	**334**	*e*PKP	PKPdf	03 20 25.1	+3.9
GRF				LR	LR		
	comp=Z,200nm,18.0s,MS4.9						
MOA	**Molln**	**147.20**	**329**	⇑*iP*	PKPdf	03 20 25.0	+3.8
	comp=Z,25nm,1.3s						
MOA	**Molln**	**147.20**	**329**	*i* P	PKPdf	03 20 25.0	+3.7
	comp=Z,25nm,1.3s,SNR=12						
EVR	**Evrytania**	**147.57**	**309**	*eP*	PKPdf	03 20 26.5	+4.4
TNS	**Taunus Mts**	**147.83**	**337**	*e*PKPbc	PKPdf	03 20 26.8	+4.6
GCIS	**Gornji Cirnik**	**147.85**	**325**	*e*PKPbc	PKPdf	03 20 27.1	+4.7
OBKA	**Obir**	**147.98**	**327**	⇑*iP*	PKPdf	03 20 26.8	+4.3
	comp=Z,10nm,1.2s						
SIND	**Sindeldorf**	**148.10**	**335**	‖*eP*	PKPdf	03 20 27.4	+4.8
ITM	**Ithomi**	**148.12**	**306**	*eP*	PKPdf	03 20 28.5	+5.4
KBA	**Koelnbreinsper**	**148.19**	**329**	⇑*iP*	PKPdf	03 20 27.2	+4.4
	comp=Z,26nm,1.6s						
DCN	**Croghan**	**148.19**	**357**	*eP*	PKPdf	03 20 26.7	+4.1
DLF	**Lyons Farm**	**148.19**	**356**	*eP*	PKPdf	03 20 27.0	+4.3
TOD	**Tromm**	**148.20**	**336**	⇑*eP*	PKPdf	03 20 27.9	+5.1
TOD	**Tromm**	**148.20**	**336**	PKIKP	PKPdf	03 20 28.3	+5.5
VISS	**Visnje**	**148.31**	**326**	*e*PKPbc	PKPdf	03 20 28.0	+4.9
LJU	**Ljubljana**	**148.31**	**326**	*e*PKPbc	PKPdf	03 20 28.1	+5.0
FUR	**Furstenfeldbru**	**148.34**	**332**	*e*PKPbc	PKPdf	03 20 29.1	+6.0
ABH	**Alteburg**	**148.43**	**338**	‖*eP*	PKPdf	03 20 28.6	+5.5
ABH	**Alteburg**	**148.43**	**338**	PKP	PKPdf	03 20 28.5	+5.4
HDH	**Heidenheim**	**148.47**	**334**	‖*eP*	PKPdf	03 20 28.3	+5.1
VOY	**Vojsko**	**148.64**	**327**	*e*PKPbc	PKPdf	03 20 28.2	+4.6
KTD	**Kalmit**	**148.71**	**337**	PKP	PKPdf	03 20 29.6	+6.0
STU	**Stuttgart**	**148.73**	**335**	*e*PKPbc	PKPdf	03 20 28.9	+5.3
WATA	**Walderalm**	**148.83**	**331**	⇑*iP*	PKPdf	03 20 29.2	+5.3
	comp=Z,45nm,1.6s						
WTTA	**Wattenberg**	**148.85**	**331**	⇑*iP*	PKPdf	03 20 29.6	+5.7
	comp=Z,72nm,1.7s						
BUCH	**Bad Urach**	**148.92**	**334**	‖*eP*	PKPdf	03 20 29.5	+5.5
LBG	**Lerchenberg**	**148.97**	**335**	‖*eP*	PKPdf	03 20 29.8	+5.8
MOTA	**Moosalm**	**149.03**	**331**	⇑*iP*	PKPdf	03 20 29.8	+5.6
	comp=Z,50nm,1.3s						
MOTA	**Moosalm**	**149.03**	**331**	*i* P	PKPdf	03 20 29.8	+5.6
	comp=Z,50nm,1.3s,SNR=19						
SQTA	**Sankt Quirin**	**149.08**	**331**	⇑*iP*	PKPdf	03 20 30.1	+5.8
	comp=Z,60nm,1.4s						
SQTA	**Sankt Quirin**	**149.08**	**331**	*i* P	PKPdf	03 20 30.1	+5.8
	comp=Z,60nm,1.4s,SNR=19						
LANF	**Langenberg**	**149.09**	**337**	PKP	PKPdf	03 20 30.9	+6.7
WLF	**Walferdange**	**149.09**	**339**	*e*PKPbc	PKPdf	03 20 30.4	+6.1
GIVF	**Givet**	**149.13**	**341**	⇑*i*PKP1	PKPdf	03 20 30.0	+5.7
UBR	**Uberruh**	**149.21**	**333**	‖*eP*	PKPdf	03 20 30.1	+5.6
GUT	**Gutenstein**	**149.32**	**334**	‖*eP*	PKPdf	03 20 30.3	+5.7
BAIF	**Baives**	**149.36**	**342**	⇑*i*PKP1	PKPdf	03 20 30.7	+6.1
	comp=Z,134nm,1.3s						
BFO	**Black Forest**	**149.43**	**335**	*e*PKPbc	PKPdf	03 20 30.5	+5.7
SPAK	**Spaichingen**	**149.43**	**335**	*eP*	PKPdf	03 20 30.7	+5.9
STR	**Strasbourg**	**149.43**	**336**	PKP	PKPdf	03 20 31.7	+6.9
DAVA	**Damuels**	**149.62**	**332**	⇑*iP*	PKPdf	03 20 31.5	+6.4
	comp=Z,44nm,1.3s						
DAVA	**Damuels**	**149.62**	**332**	*i* P	PKPdf	03 20 31.5	+6.4
	comp=Z,44nm,1.3s,SNR=15						
WLS	**Welschbruch**	**149.73**	**336**	PKP	PKPdf	03 20 31.9	+6.6
CDF	**Champ du Feu**	**149.76**	**337**	⇑*i*PKP1	PKPdf	03 20 31.4	+6.1
	comp=Z,135nm,1.3s						
FELD	**Feldberg**	**149.92**	**335**	*eP*	PKPdf	03 20 31.9	+6.3
ECH	**Echery**	**149.96**	**336**	PKP	PKPdf	03 20 32.4	+6.7
MOF	**Molkenrain**	**150.28**	**336**	PKP	PKPdf	03 20 33.3	+7.2
THEF	**They Montfort**	**150.38**	**338**	PKP	PKPdf

n50,σ1°28/95,2D,Maine

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMMW	**East Machias**	**0.35**	**193**	*e*Pg	**Pb**	**03 09 04.7**	**+0.3**
EMMW				*e*Sg	**Sb**	**03 09 09.4**	**0.0**
GGN	**Saint George**	**0.36**	**79**	||Pg	**Pb**	**03 09 04.0**	**-0.6**
GGN				Sg	**Sb**	**03 09 08.2**	**-1.5**
GGN				Trac		03 09 10.1	
	comp=Z,2μm,0.1s						
GGN	**Saint George**	**0.36**	**79**	||Pg	**Pb**	**03 09 04.0**	**-0.6**
GGN				Sg	**Sb**	**03 09 08.2**	**-1.5**
PQI	**Presque Isle**	**1.69**	**344**	*e*Pn	**Pn**	**03 09 27.3**	**+1.3**
PQI				*e*Pg	**Pn**	**03 09 29.8**	**+3.7**
PQI				*e*Sn	**Sn**	**03 09 49.7**	**+2.4**
PQI				*e*Sg	**Sn**	**03 09 51.6**	**+4.3**
WVL	**Waterville**	**1.71**	**254**	*e*Pn	**Pn**	**03 09 28.4**	**+1.9**
WVL				*e*Sn	**Sn**	**03 09 47.4**	**-0.7**
LMN	**Caledonia Moun**	**1.96**	**65**	PN	**Pn**	**03 09 31.1**	**+1.1**
LMN				SG	**Sn**	**03 09 56.4**	**+2.0**
LMN				Trac		03 09 59.0	
	comp=Z,222nm,0.1s						
HAL	**Halifax**	**2.70**	**97**	PN	**Pn**	**03 09 41.6**	**+1.0**
HAL				SN	**Sn**	**03 10 14.2**	**+0.9**
HAL				Trac		03 10 26.4	
	comp=Z,101nm,0.2s						
A11	**Saint Roch-des**	**2.95**	**319**	PN	**Pn**	**03 09 44.9**	**+0.8**
A11				SN	**Sn**	**03 10 22.1**	**+2.5**
A11				Trac		03 10 35.0	
	comp=Z,128nm,0.4s						
A16	**Riviere Ouelle**	**3.04**	**324**	PN	**Pn**	**03 09 46.7**	**+1.2**
A16				SN	**Sn**	**03 10 22.7**	**+0.9**
A16				Trac		03 10 39.3	
	comp=Z,80nm,0.2s						
LMQ	**La Malbaie**	**3.24**	**321**	PN	**Pn**	**03 09 49.2**	**+1.0**
LMQ				SN	**Sn**	**03 10 27.2**	**+0.4**
LMQ				Trac		03 10 41.5	
	comp=N,47nm,0.1s						
LMQ	**La Malbaie**	**3.24**	**321**	Pn	**Pn**	**03 09 49.2**	**+1.0**
LMQ				Sn	**Sn**	**03 10 27.2**	**+0.4**
QCQ	**Quebec**	**3.24**	**304**	PN	**Pn**	**03 09 49.9**	**+1.6**
QCQ				SN	**Sn**	**03 10 28.8**	**+2.0**
QCQ				Trac		03 10 46.4	
	comp=Z,42nm,0.2s						
LBNH	**Lisbon**	**3.37**	**258**	PN	**Pn**	**03 09 51.1**	**+1.1**
LBNH				SN	**Sn**	**03 10 31.5**	**+1.5**
LBNH				Trac		03 10 52.1	
	comp=Z,163nm,0.4s						
LBNH	**Lisbon**	**3.37**	**258**	*e*Pn	**Pn**	**03 09 51.0**	**+1.0**
LBNH				*e*Pg	**Pn**	**03 10 01.2**	**+11**
LBNH				*e*Sn	**Sn**	**03 10 27.7**	**-2.3**
FFD	**Franklin Falls**	**3.47**	**244**	*e*Pn	**Pn**	**03 09 52.7**	**+1.2**
FFD				*e*Sn	**Sn**	**03 10 29.5**	**-3.2**
MOQ	**Mont Orford**	**3.48**	**276**	PN	**Pn**	**03 09 53.0**	**+1.4**
MOQ				SN	**Sn**	**03 10 32.9**	**+0.1**
MOQ				Trac		03 10 53.2	
	comp=Z,112nm,0.3s						
HNH	**Hanover**	**3.79**	**251**	*e*Pn	**Pn**	**03 09 56.7**	**+0.7**
GSQ	**Grosses Roches**	**3.86**	**2**	PN	**Pn**	**03 09 57.9**	**+0.8**
GSQ				SN	**Sn**	**03 10 41.9**	**-0.7**
GSQ				Trac		03 11 09.2	
	comp=Z,16nm,0.1s						
WES	**Weston**	**3.92**	**229**	*e*Pn	**Pn**	**03 09 58.1**	**+0.2**
WES				*e*Sn	**Sn**	**03 10 41.5**	**-2.6**
DAQ	**Lac Daran**	**3.96**	**319**	PN	**Pn**	**03 09 58.8**	**+0.3**
DAQ				SN	**Sn**	**03 10 45.5**	**+0.4**
DAQ				Trac		03 11 08.8	
	comp=Z,44nm,0.3s						
DPQ	**Saint Jean**	**4.13**	**295**	PN	**Pn**	**03 10 01.7**	**+0.9**
DPQ				SN	**Sn**	**03 10 49.1**	**-0.1**
DPQ				Trac		03 11 08.6	
	comp=Z,34nm,0.2s						
CNQ	**Baie Comeau**	**4.28**	**354**	PN	**Pn**	**03 10 02.8**	**-0.3**
CNQ				SN	**Sn**	**03 10 50.1**	**-3.1**
FRNY	**Flat Rock**	**4.44**	**269**	*e*Pn	**Pn**	**03 10 05.5**	**+0.3**
MNT	**Montreal**	**4.45**	**278**	SN	**Sn**	**03 10 59.3**	**+1.8**
MNT				Trac		03 11 25.4	
	comp=Z,40nm,0.3s						
MNT	**Montreal**	**4.45**	**278**	Sn	**Sn**	**03 10 59.3**	**+1.8**
ICQ	**Pointe Anglais**	**4.47**	**1**	PN	**Pn**	**03 10 05.7**	**0.0**
ICQ				SN	**Sn**	**03 10 55.5**	**-2.5**
ICQ				LG		03 11 14.4	
ICQ	**Pointe Anglais**	**4.47**	**1**	Pn	**Pn**	**03 10 05.7**	**0.0**
ICQ				Sn	**Sn**	**03 10 55.5**	**-2.5**
ICQ				Lg		03 11 18.4	
MIV	**Mineville/With**	**4.53**	**260**	*e*Pn	**Pn**	**03 10 06.8**	**+0.3**
QUA2	**Belchertown**	**4.57**	**234**	*e*Pn	**Pn**	**03 10 05.9**	**-1.2**
QUA2				*e*Sn	**Sn**	**03 10 55.4**	**-5.0**
MRHQ	**Morin Heights**	**4.90**	**282**	PN	**Pn**	**03 10 12.1**	**+0.3**
MRHQ				SN	**Sn**	**03 11 08.8**	**0.0**
MRHQ				LG		03 11 33.8	
MRHQ	**Morin Heights**	**4.90**	**282**	Pn	**Pn**	**03 10 12.1**	**+0.3**
MRHQ				Sn	**Sn**	**03 11 08.8**	**0.0**
MRHQ				Lg		03 11 33.7	
NCB	**Newcomb**	**5.04**	**260**	*e*Pn	**Pn**	**03 10 13.6**	**-0.1**
	12nm,0.4s						
TRQ	**Mont Tremblant**	**5.19**	**286**	PN	**Pn**	**03 10 16.2**	**+0.3**
TRQ				SN	**Sn**	**03 11 15.9**	**-0.1**
TRQ				Trac		03 11 44.5	
	comp=Z,23nm,0.3s						
SMQ	**Clarke City**	**5.19**	**5**	PN	**Pn**	**03 10 15.4**	**-0.6**
SMQ				SN	**Sn**	**03 11 12.4**	**-3.7**
SMQ				Trac		03 11 19.5	
	comp=Z,12nm,0.1s						
ALFO	**Alfred**	**5.34**	**279**	PN	**Pn**	**03 10 18.6**	**+0.5**
ALFO				SN	**Sn**	**03 11 18.4**	**-1.5**
MNQ	**Manicouagan**	**5.57**	**351**	PN	**Pn**	**03 10 19.8**	**-1.4**
MNQ				SN	**Sn**	**03 11 21.3**	**-4.3**
MNQ				Trac		03 11 30.3	
	comp=Z,6.8nm,0.1s						
WBO	**Williamsburg**	**5.62**	**272**	PN	**Pn**	**03 10 21.8**	**-0.2**
WBO				LG		03 11 56.9	
WBO				Trac		03 12 01.2	
GAC	**Glen Almond**	**5.76**	**279**	PN	**Pn**	**03 10 24.0**	**0.0**
GAC				SN	**Sn**	**03 11 29.6**	**-0.9**
GAC				LG		03 11 58.0	
GAC				Trac		03 12 03.0	
	comp=Z,31nm,0.4s						
GRQ	**Grand Remous**	**6.15**	**288**	PN	**Pn**	**03 10 28.6**	**-0.9**
GRQ				SN	**Sn**	**03 11 37.4**	**-2.6**
GRQ				Trac		03 12 17.0	
	comp=Z,22nm,0.4s						
BRNJ	**Basking Ridge**	**6.87**	**233**	*e*Pn	**Pn**	**03 10 34.5**	**-5.0**
CRLO	**Chalk River**	**7.11**	**282**	PN	**Pn**	**03 10 42.2**	**-0.8**
CRLO				SN	**Sn**	**03 11 59.6**	**-4.6**
CRLO				Trac		03 12 44.4	
	comp=Z,16nm,0.4s						
DRLN	**Deer Lake**	**7.92**	**54**	PN	**Pn**	**03 10 51.8**	**-2.5**
DRLN				SN	**Sn**	**03 12 14.7**	**-10**
DRLN	**Deer Lake**	**7.92**	**54**	Pn	**Pn**	**03 10 51.8**	**-2.5**
DRLN				Sn	**Sn**	**03 12 14.7**	**-10**
EEO	**Eldee**	**8.34**	**285**	PN	**P**	**03 10 59.0**	**-1.1**
EEO				SN	**Sn**	**03 12 30.3**	**-4.6**
EEO				Trac		03 13 31.5	
	comp=Z,15nm,0.5s						
BUKO	**Buck Lake**	**8.51**	**277**	PN	**P**	**03 11 02.7**	**+0.2**
BUKO				SN	**Sn**	**03 12 33.7**	**-5.5**
BUKO				LG		03 13 22.2	
HSMO	**Haileybury Sch**	**8.85**	**290**	PN	**P**	**03 11 04.3**	**-2.9**
HSMO				SN	**Sn**	**03 12 39.9**	**-7.7**
HSMO				LG		03 13 35.6	
MALO	**McAlpine Lake**	**9.76**	**305**	PN	**P**	**03 11 15.7**	**-3.9**
MALO				SN	**Sn**	**03 12 57.9**	**-12**
MALO				LG		03 14 02.2	
MALO	**McAlpine Lake**	**9.76**	**305**	Pn	**P**	**03 11 15.5**	**-4.1**
MALO				Sn	**Sn**	**03 12 57.9**	**-12**
MALO				Lg		03 14 02.2	
SCHQ	**Schefferville**	**9.80**	**2**	PN	**P**	**03 11 16.4**	**-3.7**
SCHQ				SN	**Sn**	**03 13 01.1**	**-10**
SCHQ	**Schefferville**	**9.80**	**2**	*e*Pn	**P**	**03 11 15.8**	**-4.3**
SCHQ				*e*Sn	**Sn**	**03 12 58.1**	**-13**

*MEX **25** 03:11:41.8±0.7, 13.63N×92.51W, h20km±526km, MD4.5*
*CASC **25** 03:11:46.3±2.3, 14.09N×91.90W, MD4.2*
ISC 25 03:11:44.1±0.9, 14.02N±0.09×92.27W±0.05, h34km±45km, n21,σ1°06/30, 4C-3D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.45**	**73**	||*e*P	**P**	**03 12 07.1**	**-1.1**
PCG	**Pacaya**	**1.66**	**77**	*e*S	**S**	**03 12 30.4**	**-1.1**
IXG	**Ixpaco**	**1.77**	**85**	||*e*P	**P**	**03 12 12.1**	**-0.7**
IXG				*e*S	**S**	**03 12 31.8**	**-2.6**
CCIG	**Comitan**	**2.25**	**3**	*i* P	**P**	**03 12 21.7**	**+2.0**
CCIG				*i* S	**S**	**03 12 52.0**	**+5.4**
RBDL	**Robledal**	**2.51**	**88**	||*e*P	**P**	**03 12 24.1**	**+0.6**
RBDL				*e*S	**S**	**03 12 54.2**	**+1.1**
RTR	**El Retiro**	**2.55**	**92**	||*e*P	**P**	**03 12 24.2**	**+0.2**
SBLS	**San Blas**	**2.58**	**94**	*e*P	**P**	**03 12 25.2**	**+0.8**
SNJE	**San Jose**	**2.59**	**93**	||*e*P	**P**	**03 12 25.0**	**+0.4**
MRL	**Marmol**	**2.71**	**67**	||*e*P	**P**	**03 12 26.5**	**+0.3**
MRL				*e*S	**S**	**03 12 58.1**	**0.0**
SCX	**San Cristobal**	**2.72**	**353**	*i* P	**P**	**03 12 27.0**	**+0.6**
SCX				*i* S	**S**	**03 13 03.5**	**+5.0**
MTO2	**Montecristo 2**	**2.85**	**82**	*e*P	**P**	**03 12 28.3**	**+0.1**
BQQS	**Boqueron**	**2.92**	**95**	*e*P	**P**	**03 12 30.1**	**+0.8**
LFRS	**El Faro**	**3.14**	**97**	*e*P	**P**	**03 12 32.4**	**0.0**
LFRS				*e*S	**S**	**03 13 09.2**	**0.0**
LBRS	**Las Brisas**	**3.15**	**95**	*e*P	**P**	**03 12 32.2**	**-0.3**
LCBS	**La Ceiba**	**3.22**	**96**	||*e*P	**P**	**03 12 33.2**	**-0.3**
SNVI	**San Vicente**	**3.36**	**97**	*e*P	**P**	**03 12 36.2**	**+0.7**
SNVI				*e*S	**S**	**03 13 14.2**	**-0.5**
CMIG	**Matias Romero**	**3.96**	**321**	*i* P	**P**	**03 12 40.9**	**-3.1**
CMIG				*i* S	**S**	**03 13 28.9**	**-1.0**
TUIG	**Tuzandepetl**	**4.50**	**333**	*i* P	**P**	**03 12 50.9**	**-0.7**
TUIG				*i* S	**S**	**03 13 44.2**	**+0.8**
OXX	**Oaxaca**	**5.26**	**306**	*e*P	**P**	**03 13 03.0**	**+0.6**
VHO	**Vista Hermosa**	**5.26**	**306**	*i* P	**P**	**03 13 00.2**	**-2.2**
PPM	**Popocatepetl**	**7.89**	**310**	*e*P	**P**	**03 13 42.0**	**+2.7**

IDC 25 03:28:02.1±14.0, 11.13N×40.32E, mb3.7/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.7/3, Error ellipse: s-maj=287.1km s-min=61.6km az=12.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**29.09**	**349**	P	P	03 34 04.7	-1.9
	1.4nm,1.1s,baz=150,slow=10.0,SNR=4.4						
GERES	**GERESS Array B**	**43.65**	**335**	P	P	03 36 08.3	-1.7
	0.4nm,0.6s,baz=135,slow=7.5,SNR=6.1						
MKAR	**Makanchi Array**	**50.15**	**37**	P	P	03 36 59.3	-2.0
	0.8nm,1.0s,baz=252,slow=4.6,SNR=3.6						

*BJI **25** 03:29:13.0, 15.30S×173.80W, h50km, mB5.0, mb4.4, Ms4.6, Msz4.3*
*NEIC **25** 03:29:15.0±0.3, 15.35S×173.79W, h50km, mb4.6/7, Error ellipse: s-maj=19.0km s-min=6.9km az=143.0*
*IDC **25** 03:29:17.1±2.8, 15.34S×173.71W, h70km±25km, mb4.0/8, mb1 4.3/9, mb1mx4.1/15, mbtmp4.3/9, MS3.7/2, Ms1 3.7/2, ms1mx3.3/20, Error ellipse: s-maj=39.0km s-min=15.4km az=135.0*
ISC 25 03:29:14.8±1.6, 15.3S±0.1×173.8W±0.1, h62km±14km, n83, σ0°65/32, mb4.4/16, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.38**	**56**	P	**P**	**03 29 54.0**	**+1.7**
	123nm,0.3s,baz=36,slow=3.5,SNR=8.0						
AFI				S	**S**	**03 30 18.8**	**-1.5**
	476nm,0.3s,baz=166,slow=17,SNR=14						
AFI	**Afiamalu**	**2.38**	**56**	||P	**P**	**03 29 54.0**	**+1.6**
AFI				*e*S	**S**	**03 30 18.8**	**-1.5**
DZM	**Mont Dzumac**	**19.89**	**247**	LR	LR	03 39 03.0	
	comp=Z,148nm,19.3s,baz=15,slow=29						
PPT	**Papeete**	**23.34**	**99**	*e*LR	LR	03 39 23.9	
	210nm,29.5s						
URZ	**Urewera**	**24.27**	**198**	P	**P**	**03 34 27.0**	**-0.4**
	7.0nm,0.3s,mb4.5,baz=355,slow=7.1,SNR=10						
TBI	**Tubuai**	**24.31**	**113**	*e*LR	LR	03 39 52.1	
	162nm,36.0s						
HNR	**Honiara**	**26.28**	**280**	LR	LR	03 43 16.3	
	comp=Z,204nm,20.1s,baz=318,slow=32						
RKT	**Rikitea**	**37.40**	**108**	*e*LR	LR	03 45 55.5	
	388nm,33.8s						
STKA	**Stephens Creek**	**43.77**	**240**	P	**P**	**03 37 16.1**	**-0.1**
	3.5nm,0.7s,mb4.2,baz=68,slow=5.2,SNR=5.7						
STKA	**Stephens Creek**	**43.77**	**240**	P	**P**	**03 37 16.1**	**-0.2**
WB2	**Warramunga Arr**	**49.49**	**257**	||*i*P	**P**	**03 38 01.3**	**-0.1**
WRAB	**Tennant Creek**	**49.49**	**257**	*e*P	**P**	**03 38 00.9**	**-0.4**
	4.7nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**49.50**	**257**	P	**P**	**03 38 01.2**	**-0.2**
	2.5nm,0.8s,mb4.3,baz=93,slow=6.8,SNR=22						
CMB	**Columbia Colle**	**72.92**	**42**	*e*P	**P**	**03 40 38.8**	**-0.7**
	5.2nm,1.0s,mb4.4						
MTUM	**Tungsten Hills**	**73.71**	**43**	*e*P	**P**	**03 40 44.7**	**+0.6**
YBH	**Yreka Blue Hor**	**73.72**	**37**	*e*P	**P**	**03 40 45.1**	**+0.9**
	14nm,1.3s,mb4.7						
NVAR	**Mina Array Bea**	**74.49**	**42**	P	**P**	**03 40 48.8**	**+0.1**
	4.3nm,0.8s,mb4.4,baz=218,slow=6.8,SNR=22						
MNV	**Mina**	**74.58**	**42**	*e*P	**P**	**03 40 49.2**	**0.0**
	11nm,1.2s,mb4.7						
LDFC	**Landfair**	**74.83**	**47**	*e*P	**P**	**03 40 50.9**	**+0.2**
MOD	**Modoc**	**75.25**	**38**	*e*P	**P**	**03 40 52.5**	**-0.5**
	12nm,1.1s,mb4.7						
NEN	**Nelson**	**75.31**	**46**	*e*P	**P**	**03 40 53.6**	**+0.2**
WVOR	**Wild Horse Val**	**76.57**	**39**	*e*P	**P**	**03 41 00.7**	**+0.3**
	9.6nm,1.1s,mb4.6						
TUC	**Tucson**	**76.60**	**51**	*e*P	**P**	**03 41 00.3**	**-0.6**
	4.3nm,1.0s,mb4.3						
MSU	**Marysvale**	**78.60**	**45**	*e*P	**P**	**03 41 12.7**	**+1.0**
MDJ	**Mudanjiang**	**78.68**	**323**	P	**P**	**03 41 11.3**	**-0.8**
MDJ				AP	pP	03 41 25.5	-3.8
MDJ				XP	sP	03 41 31.4	-4.7
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,147nm,7.1s						
TMUT	**Trail Mountain**	**79.65**	**44**	*e*P	**P**	**03 41 17.8**	**+0.4**
CN2	**Changchun**	**80.73**	**320**	*e*P	**P**	**03 41 24.0**	**+0.9**
TXAR	**Lajitas Array**	**80.86**	**56**	P	**P**	**03 41 23.8**	**-0.3**
	comp=Z,3.4nm,1.1s,mb4.2,baz=225,slow=5.3,SNR=18						
ILAR	**Eielson Array**	**82.39**	**11**	P	**P**	**03 41 30.6**	**-0.7**
	comp=Z,1.4nm,0.9s,mb3.9,baz=232,slow=7.2,SNR=13						
PDAR	**Pinedale Array**	**82.42**	**42**	P	**P**	**03 41 31.8**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=225,slow=2.6,SNR=15						
MAW	**Mawson**	**87.80**	**199**	P	**P**	**03 41 58.4**	**+0.4**
	comp=Z,0.7nm,0.5s,mb4.2,baz=113,slow=7.7,SNR=4.2						
VNA3	**Neumayer Olymp**	**93.03**	**175**	*e*	**P**	**03 42 17.3**	**-5.0**
VNA3	**Neumayer Olymp**	**93.03**	**175**	*e*	**P**	**03 42 22.2**	**-0.1**
VNA2	**Neumayer--Watz**	**93.52**	**176**	*e*	**P**	**03 42 20.5**	**-4.1**
VNA2	**Neumayer--Watz**	**93.52**	**176**	*e*	**P**	**03 42 24.8**	**+0.2**
CLL	**Collm**	**143.63**	**353**	*e*P	PKPbc	03 48 36.0	-5.3
BRG	**Berggiesshubel**	**143.94**	**352**	*i* P	PKPbc	03 48 36.5	-5.8
DPC	**Dobruska-Polom**	**144.06**	**349**	*e*PKP	PKPdf	03 48 43.4	+0.1
OKC	**Ostrava-Krasne**	**144.17**	**347**	*e*PKP	PKPdf	03 48 44.4	+0.9
PVCC	**Panska Ves**	**144.18**	**351**	*e*PKP	PKPdf	03 48 36.7	-6.8
MOX	**Moxa**	**144.44**	**354**	*i* P	PKPbc	03 48 44.5	+0.8
PRU	**Pruhonice**	**144.71**	**351**	*e*PKP	PKPdf	03 48 45.9	+1.4
NKC	**Novy Kostel**	**144.76**	**353**	*e*PKP	PKPdf	03 48 45.6	+1.0
KECS	**Kecovo**	**144.85**	**343**	*e*PKP	PKPdf	03 48 46.8	+2.0
TNS	**Taunus Mts**	**145.09**	**357**	*e*PKPbc	PKPbc	03 48 47.1	+1.6
GIVF	**Givet**	**145.24**	**2**	*e*PKP1	PKPbc	03 48 46.5	+0.6
BAIF	**Baives**	**145.26**	**2**	*e*PKP1	PKPbc	03 48 46.7	+0.8
	comp=Z,50nm,1.2s						
VYHS	**Vyhne**	**145.27**	**345**	*e*PKP	PKPdf	03 48 48.4	+2.9
GRA1	**Grafenberg Arr**	**145.42**	**354**	*e*PKPbc	PKPbc	03 48 48.5	+2.1
KHC	**Kasperske Hory**	**145.69**	**351**	*e*PKP	PKPdf	03 48 48.5	+2.3
WET	**Wettzell**	**145.77**	**352**	*e*PKPbc	PKPbc	03 48 49.6	+2.4
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc	PKPbc	03 48 50.0	+2.4
	comp=Z,1.1nm,0.8s,baz=63,slow=3.2,SNR=5.8						
GEC2	**GERESS Array S**	**145.95**	**351**	*e*PKPbc	PKPbc	03 48 49.9	+2.2
GERES	**GERESS Array B**	**145.95**	**351**	PKPbc	PKPbc	03 48 47.6	-0.1
	comp=Z,1.5nm,0.7s,baz=27,slow=3.0,SNR=9.9						
FLN	**La Foliniere**	**146.15**	**8**	*e*PKP1	PKPbc	03 48 48.8	+0.6
LDF	**La Druitiere**	**146.36**	**8**	*e*PKP1	PKPbc	03 48 49.3	+0.6
GRR	**Gorron**	**146.46**	**9**	*e*PKP1	PKPbc	03 48 49.9	+1.0
	comp=Z,38nm,1.2s						
FUR	**Furstenfeldbru**	**146.93**	**354**	*e*PKPbc	PKPbc	03 48 52.8	+2.8
CDF	**Champ du Feu**	**146.94**	**359**	*e*PKP1	PKPbc	03 48 51.8	+1.8
	comp=Z,25nm,0.9s						
BFO	**Black Forest**	**146.98**	**357**	*e*PKPbc	PKPbc	03 48 52.7	+2.6
HAU	**Haudompre**	**147.35**	**360**	*e*PKP1	PKPdf	03 48 52.8	+3.7
	comp=Z,18nm,1.0s						
LOR	**Lormes**	**148.03**	**3**	*e*PKP1	PKPdf	03 48 53.7	+3.5
	comp=Z,18nm,1.1s						
SSF	**Saint Saulge**	**148.22**	**3**	*e*PKP1	PKPdf	03 48 54.4	+3.9
	comp=Z,11nm,0.9s						
DAVOX	**Davos**	**148.43**	**355**	PKPbc	PKPdf	03 48 56.4	+5.6
	comp=Z,4.9nm,0.8s,baz=324,slow=8.8,SNR=6.1						
AVF	**Avril sur Loir**	**148.48**	**4**	*e*PKP1	PKPdf	03 48 55.5	+4.6
	comp=Z,7.7nm,0.9s						
SMF	**Signal de Mont**	**148.65**	**3**	*e*PKP1	PKPdf	03 48 56.1	+4.9
BGF	**Bois d'Agland**	**148.68**	**4**	*e*PKP1	PKPdf	03 48 56.3	+5.1
	comp=Z,12nm,0.8s						
CABF	**La Chapelle**	**148.75**	**0**	*e*PKP1	PKPdf	03 48 57.2	+5.9
	comp=Z,43nm,1.1s						
TCF	**Toulx Ste Croi**	**148.89**	**5**	*e*PKP1	PKPdf	03 48 57.1	+5.5
	comp=Z,26nm,1.3s						
RJF	**Les Rejaudoux**	**149.79**	**7**	*e*PKP1	PKPdf	03 48 59.0	+5.9
	comp=Z,47nm,1.5s						
LPL	**La Plagne**	**149.84**	**359**	*e*PKP1	PKPdf	03 49 00.3	+7.2
	comp=Z,13nm,1.0s						
LPG	**La Plagne**	**149.86**	**359**	*e*PKP1	PKPdf	03 49 00.5	+7.3
	comp=Z,26nm,1.1s						
LFF	**La Frestale**	**150.06**	**8**	*e*PKP1	PKPdf	03 48 59.6	+6.1
CAF	**Calviac**	**150.23**	**6**	*e*PKP1	PKPdf	03 48 59.5	+5.8
BNI	**Bardonecchia**	**150.31**	**359**	*e*PKPdf	PKPdf	03 48 56.3	+2.4
BNI				*e*PKPbc	PKPdf	03 49 02.2	+8.3
ORIF	**Oris-en-Rattie**	**150.44**	**0**	*e*PKP1	PKPdf	03 49 01.3	+7.2
VIVF	**Saint-Julien-l**	**150.47**	**2**	*e*PKP1	PKPdf	03 49 01.2	+7.1
	comp=Z,23nm,1.1s						
MBDF	**Montbardon**	**150.63**	**359**	*e*PKP1	PKPdf	03 49 01.6	+7.2
LASF	**Ste Croix**	**151.21**	**4**	*e*PKP1	PKPdf	03 49 03.0	+7.8
	comp=Z,23nm,1.1s						
SMRF	**Simiane la Rot**	**151.38**	**1**	*e*PKP1	PKPdf	03 49 03.7	+8.2
	comp=Z,11nm,0.9s						
FRF	**La Foret Royal**	**151.80**	**359**	*e*PKP1	PKPdf	03 49 03.7	+7.6
ETSF	**Etsaut**	**151.86**	**11**	*e*PKP1	PKPdf	03 49 04.2	+7.9
	comp=Z,14nm,1.0s						
LMR	**La Mourre**	**152.02**	**360**	*e*PKP1	PKPdf	03 49 04.2	+7.7
	comp=Z,12nm,1.1s						

*NIED **25** 03:41:00, 29.20N×131.10E, h8km, Mw4.3 Best double couple: M0 2.97×10^15 NP1:φs182°, δ54°, λ-83°. NP2: φs351°, δ36°, λ-99°.*
*IDC **25** 03:41:08.9±0.7, 29.17N×131.14E, mb4.1/14, mb1 4.3/18, mb1mx4.2/25, mbtmp4.2/18, ML4.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/33, Error ellipse: s-maj=19.3km s-min=17.5km az=66.0*
*NEIC **25** 03:41:12.7±2.5, 29.14N×131.09E, h25km±18km, mb4.3/4, Error ellipse: s-maj=12.0km s-min=8.6km az=131.0*
*JMA **25** 03:41:12.7±0.1, 29.16N×131.09E, h74km±5km, M4.1*
ISC 25 03:41:12.1±0.6, 29.14N±0.03×131.18E±0.05, h34km±6km, n43, σ0°93/54, mb4.1/16, MS3.2/1, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**1.33**	**302**	P	**P**	**03 41 34.9**	**+0.3**
JNN				*e*S	**S**	**03 41 51.6**	**+0.3**
JZK	**Kikaishima**	**1.35**	**232**	P	**P**	**03 41 35.3**	**+0.6**
JZK				*e*S	**S**	**03 41 53.6**	**+2.0**
JTN	**Tanegashima 3**	**1.52**	**353**	P	**P**	**03 41 37.7**	**+0.5**
JTN				S	**S**	**03 41 56.3**	**+0.4**
JAM	**Amami Oshima**	**1.56**	**243**	P	**P**	**03 41 37.8**	**-0.1**
JAM				S	**S**	**03 41 56.1**	**-1.1**
JKC	**Kuchinoerabu**	**1.57**	**327**	P	**P**	**03 41 38.4**	**+0.5**
JTSR	**Tashiro 2**	**2.03**	**354**	P	**P**	**03 41 45.3**	**+0.8**
JTSR				*e*S	**S**	**03 42 09.1**	**+0.2**
JNAR	**Kushima--Naru**	**2.38**	**2**	P	**P**	**03 41 50.3**	**+0.5**
JNAR				*e*S	**S**	**03 42 17.9**	**+0.2**
JTK	**Tokunoshima**	**2.38**	**236**	P	**P**	**03 41 49.6**	**0.0**
JSU	**Suzuyama**	**2.44**	**345**	P	**P**	**03 41 50.6**	**+0.3**
JTZ	**Takazaki**	**2.75**	**358**	P	**P**	**03 41 55.3**	**+0.5**
JTZ				*e*S	**S**	**03 42 27.0**	**-0.2**
JSJ	**Shimokoshiki**	**2.83**	**334**	P	**P**	**03 41 55.5**	**-0.4**
JSJ				*e*S	**S**	**03 42 28.5**	**-0.6**
JZO	**Okuchi**	**3.03**	**351**	P	**P**	**03 41 59.0**	**+0.2**
JTSN	**Tsuno**	**3.10**	**5**	P	**P**	**03

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	11nm,1.3s,mb4.2						
BRTR	**Keskin Array B**	**28.14**	**349**	P	**P**	**03 49 30.6**	**+1.7**
	3.3nm,1.0s,mb3.9,baz=169,slow=13,SNR=9.8						
BRTR	**Keskin Array B**	**28.14**	**349**	P	**P**	**03 49 30.5**	**+1.6**
BR131	**Keskin Array S**	**28.14**	**349**	P	**P**	**03 49 27.9**	**-1.0**
	6.8nm,1.4s,mb4.1						
BR131	**Keskin Array S**	**28.14**	**349**	P	**P**	**03 49 27.9**	**-1.0**
	6.8nm,1.4s,mb4.1						
MATP	**Matopo**	**34.42**	**200**	LR	LR	04 05 00.7	
	comp=Z,230nm,20.7s,MS3.9,baz=304,slow=38						
TSUM	**Tsumeb**	**38.43**	**216**	LR	LR	04 08 13.6	
	comp=Z,267nm,18.3s,MS4.1,baz=320,slow=39						
AKASG	**Malin Array Be**	**39.55**	**349**	P	**P**	**03 51 06.8**	**-0.5**
	0.2nm,0.3s,mb3.4,baz=161,slow=7.3,SNR=4.5						
AKASG	**Malin Array Be**	**39.55**	**349**	P	**P**	**03 51 06.8**	**-0.5**
PGF	**Pioggiola**	**40.79**	**324**	*e*P	**P**	**03 51 18.6**	**+1.0**
	21nm,1.2s,mb4.3						
MORC	**Moravsky Berou**	**42.02**	**338**	*e*P	**P**	**03 51 26.0**	**-1.6**
	5.6nm,1.3s,mb4.0						
MORC	**Moravsky Berou**	**42.02**	**338**	*e*P	**P**	**03 51 26.0**	**-1.6**
	5.6nm,1.3s,mb4.0						
FRF	**La Foret Royal**	**42.77**	**323**	*e*P	**P**	**03 51 34.0**	**+0.1**
	7.0nm,1.0s,mb4.0						
GERES	**GERESS Array B**	**42.81**	**334**	P	**P**	**03 51 33.7**	**-0.4**
	1.5nm,0.9s,mb3.7,baz=135,slow=5.7,SNR=11						
GERES	**GERESS Array B**	**42.81**	**334**	P	**P**	**03 51 33.7**	**-0.4**
MBDF	**Montbardon**	**43.40**	**325**	*e*P	**P**	**03 51 40.2**	**+1.2**
	12nm,0.9s,mb4.3						
LPG	**La Plagne**	**43.89**	**326**	*e*P	**P**	**03 51 42.5**	**-0.4**
	4.2nm,0.9s,mb3.9						
LPL	**La Plagne**	**43.91**	**326**	*e*P	**P**	**03 51 42.6**	**-0.5**
GRA1	**Grafenberg Arr**	**44.52**	**333**	*e*P	**P**	**03 51 47.5**	**-0.5**
	3.0nm,1.0s,mb4.1						
GRF	**Grafenberg Arr**	**44.52**	**333**	*e*P	**P**	**03 51 47.5**	**-0.5**
	3.0nm,1.0s,mb4.1						
VIVF	**Saint-Julien-l**	**44.68**	**324**	*e*P	**P**	**03 51 49.5**	**+0.2**
	17nm,1.4s,mb4.4						
LASF	**Ste Croix**	**44.71**	**322**	*e*P	**P**	**03 51 49.9**	**+0.3**
CABF	**La Chapelle**	**44.95**	**327**	*e*P	**P**	**03 51 50.8**	**-0.7**
HINF	**Hinteralfeld**	**45.31**	**328**	*e*P	**P**	**03 51 54.0**	**-0.3**
MTLF	**Montolieu**	**45.31**	**321**	*e*P	**P**	**03 51 55.2**	**+0.8**
CDF	**Champ du Feu**	**45.49**	**329**	*e*P	**P**	**03 51 55.5**	**-0.2**
	20nm,1.2s,mb4.5						
SMF	**Signal de Mont**	**46.20**	**325**	*e*P	**P**	**03 52 01.3**	**-0.1**
AVF	**Avril sur Loir**	**46.56**	**325**	*e*P	**P**	**03 52 03.6**	**-0.6**
	13nm,1.3s,mb4.4						
LOR	**Lormes**	**46.56**	**326**	*e*P	**P**	**03 52 03.9**	**-0.3**
SSF	**Saint Saulge**	**46.63**	**326**	*e*P	**P**	**03 52 04.3**	**-0.5**
	4.7nm,0.9s,mb4.4						
MEZF	**Maizieres J'vi**	**46.68**	**328**	*e*P	**P**	**03 52 05.3**	**+0.2**
BGF	**Bois d'Agland**	**46.71**	**325**	*e*P	**P**	**03 52 05.4**	**0.0**
TCF	**Toulx Ste Croi**	**46.92**	**324**	*e*P	**P**	**03 52 07.5**	**+0.5**
BVAR	**Borovoye Array**	**47.29**	**24**	P	**P**	**03 52 09.6**	**-0.3**
	1.8nm,0.9s,mb4.0,baz=219,slow=9.5,SNR=5.7						
BAIF	**Baives**	**48.09**	**329**	*e*P	**P**	**03 52 15.8**	**-0.4**
MKAR	**Makanchi Array**	**49.29**	**37**	P	**P**	**03 52 24.4**	**-1.2**
	2.1nm,1.0s,mb4.1,baz=233,slow=6.1,SNR=8.4						
KURK	**Kurchatov**	**49.47**	**31**	*e*P	**P**	**03 52 25.0**	**-1.8**
	1.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	**49.47**	**31**	*e*P	**P**	**03 52 25.0**	**-1.8**
	1.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**64.99**	**43**	P	**P**	**03 54 16.2**	**-0.7**
	1.3nm,1.1s,mb3.9,baz=244,slow=7.6,SNR=5.6						

IDC ***25*** *03:51:17.5±2.0, 12.23N×40.52E, mb4.2/11, mb1 4.3/12, mb1mx4.2/19, mbtmp4.2/12, ML3.8/1, MS3.9/9, Ms1 3.9/9, ms1mx3.8/19, Error ellipse: s-maj=46.3km s-min=14.5km az=23.0*

NEIC ***25*** *03:51:18.8±0.7, 12.25N×40.46E, h10km, mb4.7/34, MS4.3/3, Error ellipse: s-maj=15.2km s-min=7.1km az=191.0*

CSEM ***25*** *03:51:21.4±0.2, 12.32N×40.44E, h40km, mb4.7/37, Ms4.1, Error ellipse: s-maj=8.6km s-min=2.8km az=17.0*

ISC 25 03:51:17.7±0.9**, 12.4N**±0.1×**40.48E**±0.06**, h10km, n105, σ0.77**/101**, mb4.6**/41**, MS4.1**/6**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.46**	**109**	Pn	**Pn**	**03 51 59.0**	**+0.5**
	23nm,0.3s,baz=218,slow=17,SNR=4.5						
ATD				LR	LR	03 52 20.8	
	comp=Z,620nm,21.7s,baz=109,slow=27						
ATD				Lg		03 52 32.4	
	25nm,0.3s,baz=282,slow=18,SNR=4.3						
LBOS		**4.88**	**71**	*i* P	**Pn**	**03 52 32.6**	**-0.5**
LBOS				*i* S	**Sn**	**03 53 47.5**	**+17**
KMBO	**Kilima Mbogo**	**13.77**	**194**	Lg		03 58 22.2	
	0.1nm,0.3s,baz=250,slow=18,SNR=2.7						
KMBO				LR	LR	03 59 49.9	
	comp=Z,637nm,21.6s,baz=86,slow=38						
ASF	**Jabal al Asfar**	**20.00**	**351**	P	**P**	**03 55 53.9**	**+0.4**
	15nm,1.1s,baz=81,slow=5.1,SNR=13						
ASF				LR	LR	04 02 26.0	
	comp=Z,159nm,21.8s,baz=197,slow=33						
MALT	**Malatya**	**25.92**	**356**	*e*P	**P**	**03 56 54.3**	**+2.5**
	25nm,1.5s,mb4.5						
IDI	**Anoyia**	**26.84**	**331**	LR	LR	04 10 16.9	
	comp=Z,82nm,18.0s,MS3.3,baz=336,slow=42						
BRTR	**Keskin Array B**	**27.93**	**349**	P	**P**	**03 57 11.4**	**+1.2**
	7.0nm,1.0s,mb4.2,baz=166,slow=10,SNR=27						
BR131	**Keskin Array S**	**27.93**	**349**	*e*P	**P**	**03 57 09.7**	**-0.5**
	18nm,1.3s,mb4.5						
BR131	**Keskin Array S**	**27.93**	**349**	*e*P	**P**	**03 57 09.7**	**-0.5**
	18nm,1.3s,mb4.5						
LSZ	**Lusaka**	**30.03**	**204**	LR	LR	04 09 56.7	
	comp=Z,536nm,20.3s,MS4.2,baz=9.0,slow=37						
AKASG	**Malin Array Be**	**39.33**	**349**	P	**P**	**03 58 49.1**	**+0.3**
	1.8nm,0.6s,mb4.0,baz=173,slow=7.7,SNR=12						
PSZ	**Piszkesteto**	**39.41**	**338**	*e*P	**P**	**03 58 49.7**	**+0.2**
	5.5nm,0.9s,mb4.3						
PSZ	**Piszkesteto**	**39.41**	**338**	*e*P	**P**	**03 58 49.7**	**+0.2**
	5.5nm,0.9s,mb4.3						
KOLS	**Kolonicke sedl**	**39.47**	**341**	*e*P	**P**	**03 58 50.1**	**+0.1**
CRES	**Cresnjev**	**39.55**	**332**	*e*P	**P**	**03 58 51.8**	**+1.2**
KECS	**Kecovo**	**39.68**	**339**	*e*P	**P**	**03 58 50.3**	**-1.4**
STHS	**Stebnicka Huta**	**40.23**	**341**	*e*P	**P**	**03 58 57.4**	**+1.2**
JAVS	**Javornik**	**40.24**	**331**	*e*P	**P**	**03 58 57.4**	**+1.0**
VYHS	**Vyhne**	**40.28**	**338**	*e*P	**P**	**03 58 57.3**	**+0.7**
PGF	**Pioggiola**	**40.62**	**324**	*e*P	**P**	**03 59 00.0**	**+0.5**
	17nm,1.0s,mb4.3						
ZST	**Bratislava**	**40.70**	**336**	*e*P	**P**	**03 59 01.0**	**+0.9**
OJC	**Ojcow**	**41.40**	**340**	*e*P	**P**	**03 59 04.6**	**-1.2**
OKC	**Ostrava-Krasne**	**41.65**	**338**	*e*P	**P**	**03 59 08.6**	**+0.7**
VRAC	**Vranov**	**41.80**	**337**	*e*P	**P**	**03 59 09.8**	**+0.7**
MORC	**Moravsky Berou**	**41.82**	**338**	*e*P	**P**	**03 59 09.9**	**+0.6**
AAK	**Ala-Archa**	**42.17**	**38**	*e*P	**P**	**03 59 12.7**	**+0.4**
	12nm,1.6s,mb4.3						
AAK	**Ala-Archa**	**42.17**	**38**	*e*P	**P**	**03 59 12.6**	**+0.4**
	12nm,1.6s,mb4.3						
TREC	**Trest**	**42.23**	**336**	*e*P	**P**	**03 59 12.4**	**-0.2**
SBF	**Sospel**	**42.33**	**324**	*e*P	**P**	**03 59 13.3**	**-0.3**
LMR	**La Mourre**	**42.55**	**323**	*e*P	**P**	**03 59 15.5**	**+0.1**
	7.5nm,1.0s,mb4.1						
FRF	**La Foret Royal**	**42.61**	**323**	*e*P	**P**	**03 59 15.6**	**-0.2**
	21nm,1.4s,mb4.4						
GERES	**GERESS Array B**	**42.62**	**334**	P	**P**	**03 59 15.9**	**+0.1**
	2.7nm,0.8s,mb4.0,baz=143,slow=6.7,SNR=25						
DPC	**Dobruska-Polom**	**42.74**	**337**	*e*P	**P**	**03 59 16.6**	**-0.2**
KHC	**Kasperske Hory**	**42.89**	**334**	*e*P	**P**	**03 59 18.1**	**+0.1**
UPC	**Upice**	**42.99**	**337**	*e*P	**P**	**03 59 18.8**	**0.0**
PRU	**Pruhonice**	**43.15**	**336**	*e*P	**P**	**03 59 20.0**	**-0.2**
MBDF	**Montbardon**	**43.24**	**325**	*e*P	**P**	**03 59 21.8**	**+0.9**
	26nm,1.1s,mb4.6						
SMRF	**Simiane la Rot**	**43.48**	**323**	*e*P	**P**	**03 59 23.4**	**+0.5**
PVCC	**Panska Ves**	**43.56**	**336**	*e*P	**P**	**03 59 23.7**	**+0.2**
LPG	**La Plagne**	**43.72**	**326**	*e*P	**P**	**03 59 24.1**	**-0.8**
	31nm,1.5s,mb4.5						
LPL	**La Plagne**	**43.75**	**326**	*e*P	**P**	**03 59 24.3**	**-0.7**
	33nm,1.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**43.86**	**324**	*e*P	**P**	**03 59 26.0**	**0.0**
	41nm,1.6s,mb4.6						
ORIF				*e*R			
	285nm,21.0s						
BRG	**Berggiesshubel**	**44.08**	**336**	*i* P	**P**	**03 59 27.3**	**-0.4**
	19nm,1.7s,mb4.5						
BRG	**Berggiesshubel**	**44.08**	**336**	*i* P	**P**	**03 59 27.3**	**-0.4**
	19nm,1.7s,mb4.5						
NKC	**Novy Kostel**	**44.20**	**334**	*e*P	**P**	**03 59 19.6**	**-9.1**
EJON	**La Jonquera**	**44.27**	**320**	P	**P**	**03 59 29.6**	**+0.3**
	320nm,5.6s						
EJON	**La Jonquera**	**44.27**	**320**	P	**P**	**03 59 29.6**	**+0.2**
	320nm,5.6s						
GRA1	**Grafenberg Arr**	**44.33**	**333**	*e*P	**P**	**03 59 29.2**	**-0.6**
	15nm,1.5s,mb4.5						
GRF	**Grafenberg Arr**	**44.33**	**333**	*e*P	**P**	**03 59 29.2**	**-0.6**
	15nm,1.5s,mb4.5						
VIVF	**Saint-Julien-l**	**44.52**	**324**	*e*P	**P**	**03 59 31.1**	**-0.2**
	36nm,1.5s,mb4.7						
LASF	**Ste Croix**	**44.55**	**322**	*e*P	**P**	**03 59 31.6**	**0.0**
	70nm,1.5s,mb5.0						
CABF	**La Chapelle**	**44.78**	**326**	*e*P	**P**	**03 59 32.6**	**-0.8**
	24nm,1.2s,mb4.6						
CLL	**Collm**	**44.79**	**336**	P	**P**	**03 59 32.5**	**-1.0**
	logA/T=1.5,mb5.1						
CLL	**Collm**	**44.79**	**336**	*i* P	**P**	**03 59 32.5**	**-1.0**
	64nm,2.2s,mb5.1						
MOX	**Moxa**	**44.87**	**334**	*i* P	**P**	**03 59 34.1**	**+0.1**
	logA/T=1.2,mb4.8						
MOX	**Moxa**	**44.87**	**334**	*e*P	**P**	**03 59 34.1**	**+0.1**
	29nm,1.9s,mb4.8						
EMIR	**Miracle**	**44.88**	**318**	P	**P**	**03 59 33.6**	**-0.7**
	776nm,5.0s						
EMIR	**Miracle**	**44.88**	**318**	P	**P**	**03 59 33.6**	**-0.7**
	776nm,5.0s						
EPOB	**Poblet**	**44.90**	**317**	P	**P**	**03 59 35.3**	**+0.9**
	478nm,6.3s						
EPOB	**Poblet**	**44.90**	**317**	P	**P**	**03 59 35.3**	**+0.9**
	478nm,6.3s						
EMUR	**La Murta**	**44.99**	**312**	P	**P**	**03 59 35.7**	**+0.5**
	32nm,1.8s,mb4.9						
EMUR	**La Murta**	**44.99**	**312**	P	**P**	**03 59 35.7**	**+0.5**
	32nm,1.8s,mb4.9						
HINF	**Hinteralfeld**	**45.14**	**328**	*e*P	**P**	**03 59 35.7**	**-0.5**
CDF	**Champ du Feu**	**45.31**	**329**	*e*P	**P**	**03 59 37.2**	**-0.4**
ECHE	**Chera**	**45.50**	**314**	P	**P**	**03 59 41.4**	**+2.2**
	6.1nm,0.9s,mb4.5						
HAU	**Haudompre**	**45.52**	**328**	*e*P	**P**	**03 59 38.7**	**-0.6**
HAU				*e*R			
	162nm,22.0s						
MDT	**Midelt**	**45.93**	**304**	P	**P**	**03 59 43.2**	**+0.4**
	8.4nm,1.3s,mb4.5,baz=119,slow=7.5,SNR=6.6						
SMF	**Signal de Mont**	**46.03**	**325**	*e*P	**P**	**03 59 42.7**	**-0.6**
CAF	**Calviac**	**46.09**	**322**	*e*P	**P**	**03 59 44.4**	**+0.6**
EVIA	**Vianos**	**46.21**	**312**	P	**P**	**03 59 45.9**	**+1.1**
	6.5nm,1.9s,mb4.2						
EVIA	**Vianos**	**46.21**	**312**	P	**P**	**03 59 45.9**	**+1.0**
	6.5nm,1.9s,mb4.2						
EQES	**Quesada**	**46.31**	**311**	P	**P**	**03 59 46.0**	**+0.3**
	184nm,4.3s						
EQES	**Quesada**	**46.31**	**311**	P	**P**	**03 59 46.0**	**+0.3**
	184nm,4.3s						
LOR	**Lormes**	**46.39**	**326**	*e*P	**P**	**03 59 45.5**	**-0.6**
	30nm,1.4s,mb4.7						
LOR				*e*R			
	401nm,21.8s						
AVF	**Avril sur Loir**	**46.39**	**325**	*e*P	**P**	**03 59 45.5**	**-0.6**
SSF	**Saint Saulge**	**46.46**	**325**	*e*P	**P**	**03 59 45.8**	**-0.9**
	13nm,1.5s,mb4.7						
MEZF	**Maizieres J'vi**	**46.50**	**328**	*e*P	**P**	**03 59 47.1**	**+0.1**
	58nm,1.4s,mb5.0						
BGF	**Bois d'Agland**	**46.54**	**325**	*e*P	**P**	**03 59 47.4**	**+0.1**
	12nm,0.9s,mb4.5						
ERON	**Agron**	**46.58**	**310**	P	**P**	**03 59 48.8**	**+1.0**
	9.1nm,1.2s,mb4.6						
ETSF	**Etsaut**	**46.70**	**318**	*e*P	**P**	**03 59 49.7**	**+1.0**
	51nm,1.5s,mb4.9						
ELOJ	**Sierra Loja**	**46.89**	**310**	P	**P**	**03 59 49.2**	**-1.1**
	30nm,1.6s,mb5.0						
ELOJ	**Sierra Loja**	**46.89**	**310**	P	**P**	**03 59 49.2**	**-1.0**
	30nm,1.6s,mb5.0						
LFF	**La Frestale**	**46.90**	**322**	*e*P	**P**	**03 59 50.7**	**+0.5**
	87nm,1.6s,mb5.1						
BRVK	**Borovoye**	**47.05**	**24**	*e*P	**P**	**03 59 51.2**	**-0.1**
BRVK	**Borovoye**	**47.05**	**24**	*e*P	**P**	**03 59 51.2**	**-0.1**
BVAR	**Borovoye Array**	**47.07**	**24**	P	**P**	**03 59 51.8**	**+0.3**
	3.4nm,1.0s,mb4.2,baz=225,slow=8.4,SNR=12						
SJPF	**Ste Jean**	**47.24**	**318**	*e*P	**P**	**03 59 53.8**	**+0.9**
	38nm,1.3s,mb4.9						
GIVF	**Givet**	**47.63**	**329**	*e*P	**P**	**03 59 55.3**	**-0.6**
ESDC	**Sonseca Array**	**47.66**	**313**	P	**P**	**03 59 56.9**	**+0.6**
	2.0nm,0.9s,mb4.1,baz=113,slow=8.0,SNR=7.1						
ESDC	**Sonseca Array**	**47.66**	**313**	P	**P**	**03 59 57.3**	**+1.0**
	4.5nm,1.8s,mb4.2						
ESDC	**Sonseca Array**	**47.66**	**313**	P	**P**	**03 59 57.3**	**+1.0**
	4.5nm,1.8s,mb4.2						
BAIF	**Baives**	**47.91**	**329**	*e*P	**P**	**03 59 57.3**	**-0.8**
	46nm,1.6s,mb5.0						
MKAR	**Makanchi Array**	**49.09**	**37**	P	**P**	**04 00 07.3**	**+0.1**
	3.3nm,1.1s,mb4.3,baz=233,slow=6.1,SNR=15						
MKAR				LR	LR	04 23 29.0	
	comp=Z,231nm,19.9s,MS4.2,baz=180,slow=39						
KURK	**Kurchatov**	**49.26**	**31**	*e*P	**P**	**04 00 08.1**	**-0.4**
	19nm,1.6s,mb4.9						
LDF	**La Druitiere**	**49.34**	**325**	*e*P	**P**	**04 00 07.9**	**-1.3**
EBAD	**Badajoz**	**49.55**	**311**	P	**P**	**04 00 08.4**	**-2.5**
	151nm,4.1s						
EBAD	**Badajoz**	**49.55**	**311**	P	**P**	**04 00 08.4**	**-2.6**
	151nm,4.1s						
FLN	**La Foliniere**	**49.64**	**325**	*e*P	**P**	**04 00 10.2**	**-1.2**
FLN				*e*R			
	296nm,18.2s						
GRR	**Gorron**	**49.65**	**325**	*e*P	**P**	**04 00 10.1**	**-1.4**
FINES	**FINESS Array B**	**50.12**	**351**	P	**P**	**04 00 14.5**	**-0.5**
	2.5nm,0.9s,mb4.2,baz=168,slow=18,SNR=3.8						
NB2	**NORSAR Subarra**	**53.09**	**343**	P	**P**	**04 00 36.3**	**-1.1**
	23nm,1.4s,mb4.9,baz=145,slow=7.4						
NOA	**NORSAR Array B**	**53.09**	**343**	P	**P**	**04 00 36.8**	**-0.6**
	2.1nm,0.8s,mb4.2,baz=141,slow=7.4,SNR=4.8						
SONM	**Songino Array**	**64.80**	**43**	P	**P**	**04 01 58.7**	**-0.2**
	3.0nm,1.2s,mb4.2,baz=236,slow=5.3,SNR=14						
SONM				LR	LR	04 33 56.0	
	comp=Z,304nm,19.4s,MS4.5,baz=187,slow=39						
MAW	**Mawson**	**81.38**	**172**	LR	LR	04 35 50.1	
	comp=Z,74nm,20.6s,MS4.0,baz=58,slow=33						
MJAR	**Matsushiro Arr**	**88.84**	**53**	LR	LR	04 51 18.7	
	comp=Z,153nm,18.5s,MS4.5,baz=140,slow=40						

IDC ***25*** *04:15:31.1±2.4, 12.37N×40.72E, mb3.9/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.8/31, Error ellipse: s-maj=60.6km s-min=14.4km az=30.0*

NEIC ***25*** *04:15:32.4±1.6, 12.35N×40.65E, h10km, mb4.4/2, Error ellipse: s-maj=40.4km s-min=13.1km az=214.0*

CSEM ***25*** *04:15:32.4±0.4, 12.35N×40.65E, h10km±6km, mb4.4/2, Error ellipse: s-maj=19.0km s-min=12.1km az=19.0, After NEIC*

ISC 25 04:15:31.6±1.6**, 12.5N**±0.2×**40.7E**±0.2**, h10km, n15, σ0.83**/15**, mb3.9**/8**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.32**	**115**	Pn	**Pn**	**04 16 10.9**	**+0.4**
	53nm,0.3s,baz=263,slow=16,SNR=14						
ATD				Lg		04 16 41.6	
	36nm,0.3s,baz=90,slow=23,SNR=7.2						
ATD				LR	LR	04 16 49.3	
	comp=Z,273nm,18.6s,baz=107,slow=35						
ATD	**Arta Tunnel**	**2.32**	**115**	Pn	**Pn**	**04 16 10.9**	**+0.4**
ATD				Lg		04 16 41.6	
ATD				LR	LR	04 16 49.3	
ASF	**Jabal al Asfar**	**19.86**	**350**	P	**P**	**04 20 07.0**	**+1.1**
	1.0nm,0.4s,baz=180,slow=11,SNR=3.1						
IDI	**Anoyia**	**26.80**	**330**	P	**P**	**04 21 14.8**	**+0.9**
	3.4nm,0.9s,mb3.9,baz=120,slow=6.3,SNR=2.3						
BR131	**Keskin Array S**	**27.80**	**348**	P	**P**	**04 21 23.4**	**+0.4**
	12nm,1.7s,mb4.2						
BR131	**Keskin Array S**	**27.80**	**348**	P	**P**	**04 21 23.4**	**+0.5**
	12nm,1.7s,mb4.2						
BRTR	**Keskin Array B**	**27.80**	**348**	P	**P**	**04 21 24.2**	**+1.3**
	2.7nm,1.1s,mb3.8,baz=172,slow=10,SNR=8.5						
PSZ	**Piszkesteto**	**39.33**	**338**	*e*P	**P**	**04 23 01.3**	**-1.4**
	17nm,2.0s,mb4.4						
PSZ	**Piszkesteto**	**39.33**	**338**	*e*P	**P**	**04 23 01.3**	**-1.4**
	17nm,2.0s,mb4.4						
GERES	**GERESS Array B**	**42.56**	**334**	P	**P**	**04 23 28.4**	**-0.8**
	1.1nm,0.9s,mb3.6,baz=135,slow=6.9,SNR=9.5						
ESDC	**Sonseca Array**	**47.70**	**313**	P	**P**	**04 24 10.6**	**+0.1**
	0.8nm,0.8s,mb3.8,baz=119,slow=7.9,SNR=4.3						
MKAR	**Makanchi Array**	**48.82**	**37**	P	**P**	**04 24 18.7**	**-0.4**
	1.1nm,0.9s,mb3.9,baz=243,slow=8.1,SNR=5.6						
MKAR	**Makanchi Array**	**48.82**	**37**	P	**P**	**04 24 18.7**	**-0.4**
ZAL	**Zalesovo**	**53.95**	**31**	P	**P**	**04 24 56.5**	**-1.1**
	0.8nm,0.4s,mb4.0,baz=232,slow=4.8,SNR=4.2						
SONM	**Songino Array**	**64.53**	**43**	P	**P**	**04 26 11.3**	**+0.3**
	0.4nm,0.7s,mb3.6,baz=233,slow=7.4,SNR=3.9						

NEIC ***25*** *04:26:41.9±0.9, 11.94N×40.45E, h10km, mb4.4/16, Error ellipse: s-maj=21.6km s-min=8.4km az=196.0*

IDC ***25*** *04:26:42.0±2.1, 12.20N×40.62E, mb3.9/12, mb1 4.1/13, mb1mx4.0/22, mbtmp4.0/13, ML4.4/1, MS4.2/12, Ms1 4.1/12, ms1mx3.9/26, Error ellipse: s-maj=50.0km s-min=13.9km az=25.0*

CSEM ***25*** *04:26:46.5±0.3, 11.92N×40.52E, h67km±4km, mb4.4/17, Ms4.0, Error ellipse: s-maj=15.3km s-min=6.3km az=178.0*

ISC 25 04:26:41.3±1.1**, 12.1N**±0.2×**40.43E**±0.07**, h10km, n71, σ0.99**/62**, mb4.2**/25**, MS4.2**/11**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.44**	**103**	Pn	**Pn**	**04 27 22.8**	**+0.9**
	112nm,0.3s,baz=90,slow=22,SNR=24						
ATD				Lg		04 27 54.4	
	72nm,0.3s,baz=261,slow=22,SNR=15						
ATD	**Arta Tunnel**	**2.44**	**103**	Pn	**Pn**	**04 27 22.8**	**+0.9**
ATD				Lg		04 27 54.4	
ADEN	**Aden**	**4.50**	**81**	*i* P	**Pn**	**04 27 54.3**	**+3.0**
ADEN				*i* S	**Sn**	**04 28 51.3**	**+7.0**
LBOS		**5.03**	**69**	*i* P	**Pn**	**04 27 58.2**	**-0.4**
LBOS				*i* S	**Sn**	**04 29 07.7**	**+10**
KMBO	**Kilima Mbogo**	**13.50**	**194**	Lg		04 33 59.8	
	0.1nm,0.3s,baz=82,slow=19,SNR=4.6						
KMBO				LR	LR	04 35 13.8	
	comp=Z,906nm,22.0s,baz=8.6,slow=38						
ASF	**Jabal al Asfar**	**20.25**	**351**	P	**P**	**04 31 19.9**	**+0.2**
	8.2nm,1.1s,baz=0.2,slow=2.6,SNR=7.0						
ASF				LR	LR	04 37 53.3	
	comp=Z,219nm,20.0s,MS3.5,baz=274,slow=33						
BHD	**Baghdad**	**21.39**	**9**	*e*x	x	04 31 29.0	
MSL	**Mosul**	**24.22**	**5**	*e*x	x	04 32 18.5	
MALT	**Malatya**	**26.18**	**356**	*e*P	**P**	**04 32 19.9**	**+2.1**
	42nm,1.8s,mb4.7						
MALT	**Malatya**	**26.18**	**356**	*e*P	**P**	**04 32 19.9**	**+2.1**
	42nm,1.8s,mb4.7						
IDI	**Anoyia**	**27.05**	**331**	LR	LR	04 46 03.2	
	comp=Z,110nm,18.9s,MS3.4,baz=256,slow=43						
BR131	**Keskin Array S**	**28.17**	**349**	*e*P	**P**	**04 32 37.2**	**+1.2**
	0.8nm,0.6s,mb3.5						
BR131	**Keskin Array S**	**28.17**	**349**	*e*P	**P**	**04 32 37.2**	**+1.2**
	0.8nm,0.6s,mb3.5						
BRTR	**Keskin Array B**	**28.17**	**349**	P	**P**	**04 32 37.4**	**+1.4**
	3.4nm,1.0s,mb4.0,baz=172,slow=8.7,SNR=14						
GNI	**Garni**	**28.21**	**7**	P	**P**	**04 32 36.5**	**+0.2**
GNI	**Garni**	**28.21**	**7**	P	**P**	**04 32 36.5**	**+0.2**
LSZ	**Lusaka**	**29.77**	**204**	LR	LR	04 45 20.4	
	comp=Z,770nm,21.3s,MS4.3,baz=18,slow=37						
MLR	**Muntele Rosu**	**35.51**	**342**	P	**P**	**04 33 40.5**	**+0.2**
	3.6nm,0.9s,mb4.3,baz=162,slow=7.1,SNR=4.3						
AKASG	**Malin Array Be**	**39.58**	**349**	P	**P**	**04 34 14.1**	**-0.3**
	0.8nm,0.6s,mb3.6,baz=162,slow=6.8,SNR=5.7						
PSZ	**Piszkesteto**	**39.63**	**338**	*e*P	**P**	**04 34 14.1**	**-0.8**
	4.8nm,0.8s,mb4.3						
KOLS	**Kolonicke sedl**	**39.71**	**341**	*e*P	**P**	**04 34 17.2**	**+1.7**
KECS	**Kecovo**	**39.91**	**339**	*e*P	**P**	**04 34 18.6**	**+1.5**
VYHS	**Vyhne**	**40.50**	**338**	*e*P	**P**	**04 34 23.4**	**+1.3**
ZST	**Bratislava**	**40.92**	**336**	*e*P	**P**	**04 34 27.4**	**+1.9**
SBF	**Sospel**	**42.52**	**324**	*e*P	**P**	**04 34 38.8**	**+0.2**
FRF	**La Foret Royal**	**42.79**	**323**	*e*P	**P**	**04 34 40.9**	**0.0**
GERES	**GERESS Array B**	**42.83**	**334**	P	**P**	**04 34 41.5**	**+0.3**
	2.1nm,0.7s,mb4.0,baz=132,slow=6.8,SNR=20						
KHC	**Kasperske Hory**	**43.10**	**334**	*e*P	**P**	**04 34 43.4**	**0.0**
DAVOX	**Davos**	**43.11**	**329**	P	**P**	**04 34 44.5**	**+1.0**
	2.5nm,0.8s,mb4.0,baz=289,slow=8.4,SNR=4.4						
UPC	**Upice**	**43.21**	**337**	*e*P	**P**	**04 34 44.6**	**+0.4**
PRU	**Pruhonice**	**43.37**	**336**	*e*P	**P**	**04 34 45.6**	**+0.1**
MBDF	**Montbardon**	**43.42**	**325**	*e*P	**P**	**04 34 47.0**	**+1.0**
	16nm,0.8s,mb4.5						
LPG	**La Plagne**	**43.91**	**326**	*e*P	**P**	**04 34 49.2**	**-0.7**
	11nm,1.0s,mb4.2						
LPL	**La Plagne**	**43.93**	**326**	*e*P	**P**	**04 34 49.3**	**-0.8**
	4.9nm,0.8s,mb4.0						
ORIF	**Oris-en-Rattie**	**44.04**	**325**	*e*P	**P**	**04 34 51.0**	**0.0**
GRA1	**Grafenberg Arr**	**44.55**	**333**	*e*P	**P**	**04 34 54.7**	**-0.3**
	5.0nm,1.1s,mb4.3						
GRF	**Grafenberg Arr**	**44.55**	**333**	*e*P	**P**	**04 34 54.7**	**-0.3**
	5.0nm,1.1s,mb4.3						
VIVF	**Saint-Julien-l**	**44.70**	**324**	*e*P	**P**	**04 34 56.1**	**-0.2**
LASF	**Ste Croix**	**44.73**	**322**	*e*P	**P**	**04 34 56.8**	**+0.2**
DBIC	**Dimbokro**	**44.96**	**267**	LR	LR	04 53 14.0	
	comp=Z,348nm,18.9s,MS4.3,baz=56,slow=35						
CABF	**La Chapelle**	**44.97**	**327**	*e*P	**P**	**04 34 57.7**	**-0.8**
	14nm,0.9s,mb4.5						
CLL	**Collm**	**45.01**	**336**	*e*P	**P**	**04 34 59.0**	**+0.2**
HINF	**Hinteralfeld**	**45.33**	**328**	*e*P	**P**	**04 35 01.0**	**-0.4**
	6.2nm,0.7s,mb4.2						
CDF	**Champ du Feu**	**45.51**	**329**	*e*P	**P**	**04 35 02.3**	**-0.4**
	13nm,1.2s,mb4.4						
MDT	**Midelt**	**46.03**	**304**	P	**P**	**04 35 08.3**	**+1.1**
	1.7nm,0.9s,mb4.0,baz=96,slow=10,SNR=3.7						
SMF	**Signal de Mont**	**46.22**	**325**	*e*P	**P**	**04 35 07.5**	**-0.9**
AVF	**Avril sur Loir**	**46.58**	**325**	*e*P	**P**	**04 35 10.4**	**-0.8**
LOR	**Lormes**	**46.58**	**326**	*e*P	**P**	**04 35 10.7**	**-0.5**
	3.7nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**46.65**	**326**	*e*P	**P**	**04 35 11.1**	**-0.7**
	3.5nm,1.0s,mb4.2						
MEZF	**Maizieres J'vi**	**46.70**	**328**	*e*P	**P**	**04 35 12.2**	**+0.1**
	18nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**46.73**	**325**	*e*P	**P**	**04 35 12.4**	**0.0**
ETSF	**Etsaut**	**46.87**	**319**	*e*P	**P**	**04 35 14.9**	**+1.4**
TCF	**Toulx Ste Croi**	**46.93**	**324**	*e*P	**P**	**04 35 14.4**	**+0.4**
LFF	**La Frestale**	**47.07**	**322**	*e*P	**P**	**04 35 15.8**	**+0.7**
	22nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**47.34**	**24**	P	**P**	**04 35 15.4**	**-1.7**
	0.5nm,0.6s,mb3.6,baz=252,slow=4.6,SNR=3.1						
BAIF	**Baives**	**48.11**	**329**	*e*P	**P**	**04 35 22.0**	**-1.2**
MFF	**Saint Martin d**	**48.47**	**323**	*e*P	**P**	**04 35 25.3**	**-0.8**
MKAR	**Makanchi Array**	**49.33**	**37**	P	**P**	**04 35 30.6**	**-2.1**
	0.7nm,0.7s,mb3.8,baz=236,slow=8.7,SNR=4.8						
MKAR				LR	LR	05 00 09.9	
	comp=Z,389nm,21.3s,MS4.4,slow=41						
LDF	**La Druitiere**	**49.53**	**325**	*e*P	**P**	**04 35 33.7**	**-0.5**
FLN	**La Foliniere**	**49.82**	**325**	*e*P	**P**	**04 35 35.4**	**-1.0**
LSA	**Lhasa**	**50.11**	**61**	*e*P	**P**	**04 35 38.3**	**-0.7**
	3.4nm,0.6s,mb4.5						
LSA	**Lhasa**	**50.11**	**61**	*e*P	**P**	**04 35 38.3**	**-0.6**
	3.4nm,0.6s,mb4.5						
NB2	**NORSAR Subarra**	**53.33**	**343**	P	**P**	**04 36 01.6**	**-1.1**
	16nm,1.7s,mb4.7,baz=145,slow=7.4						
NOA	**NORSAR Array B**	**53.33**	**343**	P	**P**	**04 36 00.8**	**-1.9**
	2.2nm,0.8s,mb4.1,baz=142,slow=7.3,SNR=4.5						
ZAL	**Zalesovo**	**54.47**	**31**	P	**P**	**04 36 09.8**	**-1.4**
	1.5nm,0.3s,mb4.4,baz=168,slow=4.2,SNR=4.4						
SONM	**Songino Array**	**65.03**	**43**	P	**P**	**04 37 22.6**	**-1.4**
	0.4nm,0.6s,mb3.6,baz=270,slow=5.9,SNR=4.3						
SONM				LR	LR	05 09 33.0	
	comp=Z,340nm,20.6s,MS4.5,baz=84,slow=40						
MAW	**Mawson**	**81.13**	**171**	LR	LR	05 12 00.1	
	comp=Z,105nm,21.4s,MS4.2,baz=245,slow=34						
JOW	**Kunigami**	**82.75**	**64**	LR	LR	05 18 31.5	
	comp=Z,157nm,19.0s,MS4.4,baz=291,slow=38						
JNU	**Nakatsue**	**83.88**	**58**	LR	LR	05 19 48.5	
	comp=Z,84nm,18.6s,MS4.2,baz=323,slow=38						
MJAR	**Matsushiro Arr**	**89.05**	**53**	LR	LR	05 25 14.4	
	comp=Z,109nm,18.4s,MS4.3,baz=140,slow=40						
BDFB	**Brasilia**	**91.72**	**254**	LR	LR	05 17 21.5	
	comp=Z,168nm,19.8s,MS4.5,baz=99,slow=33						

IDC ***25*** *04:52:24.9±9.1, 11.61N×40.45E, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, MS3.7/2, Ms1 3.7/2, ms1mx3.2/20, Error ellipse: s-maj=197.0km s-min=42.2km az=18.0*

ISC 25 04:52:17.8±2.9**, 10.7N**±0.4×**40.1E**±0.2**, h10km, n8, σ1.00**/7**, mb3.9**/5**, MS3.9**/1**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBOS		**5.94**	**57**	*i* P	**Pn**	**04 53 43.5**	**-4.6**
LBOS				*i* S	**Sn**	**04 54 57.2**	**+0.3**
KMBO	**Kilima Mbogo**	**12.06**	**194**	LR	LR	05 01 00.1	
	comp=Z,175nm,20.9s,baz=222,slow=40						
BRTR	**Keskin Array B**	**29.50**	**350**	P	**P**	**04 58 24.0**	**-0.5**
	3.5nm,1.1s,mb4.0,baz=170,slow=7.5,SNR=6.8						
TSUM	**Tsumeb**	**37.08**	**217**	LR	LR	05 16 11.7	
	comp=Z,162nm,18.4s,MS3.9,baz=323,slow=38						
GERES	**GERESS Array B**	**43.97**	**335**	P	**P**	**05 00 28.0**	**+1.1**
	0.8nm,0.7s,mb3.6,baz=140,slow=7.7,SNR=9.4						
MKAR	**Makanchi Array**	**50.64**	**37**	P	**P**	**05 01 18.5**	**-0.7**
	0.8nm,0.8s,mb3.7,baz=233,slow=6.1,SNR=5.9						
ZAL	**Zalesovo**	**55.83**	**30**	P	**P**	**05 01 56.2**	**-1.4**
	1.1nm,0.3s,mb4.3,baz=137,slow=10.0,SNR=3.8						
SONM	**Songino Array**	**66.27**	**42**	P	**P**	**05 03 09.9**	**+1.4**
	0.9nm,1.0s,mb3.8,baz=243,slow=6.4,SNR=6.6						

*CSEM **25** 05:01:21.6±0.8,37.72N×25.35W,h6km±3km,ML2.5,Error ellipse: s-maj=16.6km s-min=9.0km az=147.0,After PDA*
*PDA **25** 05:01:21.6±1.2,37.72N×25.35W,h6km±3km,MD2.1, ML2.5,Error ellipse: s-maj=5.3km s-min=2.9km az=4.0*
SVSA 25 05:01:21.6±1.2,37.72N×25.35W,h6km±3km,MD2.1, ML2.5,Error ellipse: s-maj=5.3km s-min=2.9km az=4.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRA1	**Furnas**	**0.02**	**351**	*eP*	Pg	05 01 23.0	+0.3
PCNG	**Congro**	**0.06**	**322**	*iP*	Pg	05 01 22.9	-0.2
PCNG	3μm,0.1s			*eS*	Sg	05 01 24.1	0.0
PCNG	**Congro**	**0.06**	**322**	*eS*	Sg	05 01 24.1	0.0
VIF	**Vila Franca**	**0.07**	**287**	*iP*	Pg	05 01 23.4	0.0
VIF	1μm,0.3s			*eS*	Sg	05 01 24.6	0.0
VIF	**Vila Franca**	**0.07**	**287**	*eS*	Sg	05 01 24.6	0.0
MIRA	**Miradouro**	**0.09**	**44**	*eP*	Pg	05 01 24.1	+0.5
MESC	**Monte Escuro**	**0.10**	**313**	*iP*	Pg	05 01 23.7	-0.2
MESC				*eS*	Sg	05 01 25.3	-0.1
MESC	**Monte Escuro**	**0.10**	**313**	*eS*	Sg	05 01 25.3	-0.1
PRCH	**Ribeira Ch**	**0.10**	**272**	*eP*	Pg	05 01 23.8	-0.1
PRCH	751nm,0.1s			*eS*	Sg	05 01 25.5	+0.1
LFA	**Lagoa do Fogo**	**0.11**	**295**	*i* P	Pg	05 01 24.0	-0.1
PFAD	**Fenais da Ajud**	**0.12**	**12**	*eP*	Pg	05 01 24.3	+0.1
PMAT	**Coroa da Mata**	**0.13**	**315**	*eP*	Pg	05 01 24.0	-0.4
PMAT				*eS*	Sg	05 01 25.8	-0.5
CML	**Cha da Macela**	**0.16**	**287**	*eP*	Pg	05 01 25.3	+0.3
CML				*eS*	Sg	05 01 27.9	+0.7
FAC	**Faja de Cima**	**0.24**	**282**	*eP*	Pg	05 01 27.5	+1.0
FAC				*eS*	Sg	05 01 30.9	+1.1
PSET	**Sete Cidades**	**0.31**	**289**	*eP*	Pg	05 01 27.0	-0.8
PSET	177nm,0.1s			*eS*	Sg	05 01 32.1	+0.1
PSAN	**Santo Antonio**	**0.32**	**293**	*eP*	Pg	05 01 28.4	+0.3
PSAN				*eS*	Sg	05 01 33.4	+1.0
PFET	**Feteiras**	**0.36**	**285**	*eP*	Pg	05 01 29.1	+0.3
PFET				*eS*	Sg	05 01 34.4	+0.8
SET2	**Ginetes**	**0.38**	**289**	*eP*	Pg	05 01 29.4	+0.2
SET2				*eS*	Sg	05 01 34.3	0.0
PSCM	**Serra do Cume**	**1.70**	**306**	*eP*	Pn	05 01 46.7	-5.3
PSCM				*eS*	Sn	05 02 06.3	-8.0

*IDC **25** 05:11:48.6±1.6,12.25N×40.61E,mb4.1/14,mb1 4.3/15, mb1mx4.2/23,mbtmp4.1/15,ML4.4/1,MS4.1/11,Ms1 4.0/11, ms1mx3.8/22,Error ellipse: s-maj=39.3km s-min=13.0km az=27.0*
*MOS **25** 05:11:48.0±0.8,12.22N×40.50E,h10km,mb4.7/19,Error ellipse: s-maj=14.7km s-min=4.9km az=112.3*
*NEIC **25** 05:11:50.3±0.6,12.32N×40.59E,h10km,mb4.5/29,Error ellipse: s-maj=13.7km s-min=6.7km az=201.0*
*CSEM **25** 05:11:53.5±0.1,12.63N×40.60E,h30km,mb4.5/33,Ms3.9, Error ellipse: s-maj=6.6km s-min=3.0km az=6.0*
ISC 25 05:11:49.1±0.8,12.4N±0.1×40.54E±0.06,h10km,n141, σ0§78/132,mb4.4/46,MS4.1/10,1C-3D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.40**	**110**	Pn	**Pn**	**05 12 28.2**	**-0.9**
ATD	109nm,0.3s,baz=255,slow=10,SNR=38			Lg		05 13 00.0	
TRBA	**At Turbah**	**3.60**	**76**	*i*P	**Pn**	**05 12 48.1**	**+2.0**
TRBA	52nm,0.3s,baz=90,slow=22,SNR=16			*i* S	**Sn**	**05 13 35.6**	**+6.5**
LBOS		**4.83**	**71**	*i*P	**Pn**	**05 13 03.8**	**+0.2**
LBOS				*i* S	**Sn**	**05 14 17.7**	**+17**
KMBO	**Kilima Mbogo**	**13.78**	**194**	Lg		05 19 05.6	
KMBO	0.1nm,0.3s,baz=253,slow=20,SNR=6.2			LR	LR	05 20 19.0	
ASF	**Jabal al Asfar**	**20.01**	**351**	P	**P**	**05 16 25.4**	**+0.5**
BHD	**Baghdad**	**21.11**	**9**	*ex*	x	05 16 34.0	
MSL	**Mosul**	**23.94**	**5**	*ex*	x	05 17 27.0	
MALT	**Malatya**	**25.92**	**356**	*eP*	**P**	**05 17 24.4**	**+1.1**
MALT	33nm,1.9s,mb4.5 **Malatya**	**25.92**	**356**	*eP*	**P**	**05 17 24.4**	**+1.2**
MALT	33nm,1.9s,mb4.5			pmax	pmax		
IDI	**Anoyia**	**26.87**	**331**	P	**P**	**05 17 32.5**	**+0.5**
GNI	comp=Z,3.5nm,0.8s,mb4.0,baz=149,slow=13,SNR=3.5 **Garni**	**27.93**	**7**	LR	LR	05 29 26.8	
GNI	comp=Z,126nm,19.4s,MS3.5,baz=19,slow=38 **Garni**	**27.93**	**7**	*eP*	**P**	**05 17 41.2**	**-0.4**
GNI	comp=Z,5.0nm,1.3s,mb4.0			pmax	pmax		
BRTR	**Keskin Array B**	**27.94**	**349**	P	**P**	**05 17 42.2**	**+0.6**
BRTR	comp=Z,4.7nm,1.0s,mb4.1,baz=172,slow=8.7,SNR=14 **Keskin Array B**	**27.94**	**349**	P	**P**	**05 17 42.2**	**+0.6**
LSZ	**Lusaka**	**30.05**	**204**	LR	LR	05 30 58.4	
MLR	comp=Z,302nm,18.3s,MS4.0,baz=186,slow=38 **Muntele Rosu**	**35.29**	**342**	P	**P**	**05 18 46.5**	**+0.3**
AKASG	comp=Z,3.4nm,0.8s,mb4.3,baz=167,slow=14,SNR=4.3 **Malin Array Be**	**39.34**	**349**	P	**P**	**05 19 19.8**	**-0.4**
PSZ	comp=Z,1.0nm,0.6s,mb3.7,baz=173,slow=7.5,SNR=12 **Piszkesteto**	**39.43**	**338**	*eP*	**P**	**05 19 19.8**	**-1.2**
PSZ	comp=Z,11nm,1.4s,mb4.4 **Piszkesteto**	**39.43**	**338**	*eP*	**P**	**05 19 19.8**	**-1.2**
PSZ	comp=Z,11nm,1.4s,mb4.4			pmax	pmax		
KOLS	**Kolonicke sedl**	**39.49**	**341**	*eP*	**P**	**05 19 22.7**	**+1.2**
GCIS	**Gornji Cirnik**	**39.53**	**332**	*eP*	**P**	**05 19 23.1**	**+1.2**
GCIS	**Gornji Cirnik**	**39.53**	**332**	P	**P**	**05 19 23.0**	**+1.2**
CRES	**Cresnjev**	**39.57**	**332**	*eP*	**P**	**05 19 23.6**	**+1.5**
CRES	**Cresnjev**	**39.57**	**332**	*eP*	**P**	**05 19 23.6**	**+1.4**
KECS	**Kecovo**	**39.70**	**339**	*eP*	**P**	**05 19 21.6**	**-1.6**
LBTB	**Lobatse**	**39.90**	**201**	LR	LR	05 35 32.6	
STHS	comp=Z,442nm,18.8s,MS4.3,baz=146,slow=36 **Stebnicka Huta**	**40.24**	**340**	*eP*	**P**	**05 19 26.7**	**-1.0**
VYHS	**Vyhne**	**40.30**	**338**	*eP*	**P**	**05 19 29.0**	**+0.8**
VOJS	**Vojsko**	**40.45**	**331**	*i* P	**P**	**05 19 30.7**	**+1.2**
PGF	**Pioggiola**	**40.66**	**324**	*eP*	**P**	**05 19 31.5**	**+0.4**
ZST	**Bratislava**	**40.73**	**336**	*eP*	**P**	**05 19 32.9**	**+1.3**
OJC	**Ojcow**	**41.41**	**340**	*eP*	**P**	**05 19 37.2**	**-0.1**
VRAC	**Vranov**	**41.82**	**337**	*eP*	**P**	**05 19 41.4**	**+0.8**
MORC	**Moravsky Berou**	**41.84**	**338**	*eP*	**P**	**05 19 40.6**	**-0.2**
MORC	comp=Z,2.7nm,0.9s,mb3.9 **Moravsky Berou**	**41.84**	**338**	*eP*	**P**	**05 19 40.6**	**-0.2**
MORC	comp=Z,2.7nm,0.9s,mb3.9			pmax	pmax		
AAK	comp=Z,3.0nm,0.9s,mb3.9 **Ala-Archa**	**42.13**	**38**	*eP*	**P**	**05 19 44.2**	**+0.9**
AAK	comp=Z,2.0nm,1.3s,mb3.6 **Ala-Archa**	**42.13**	**38**	*eP*	**P**	**05 19 44.2**	**+0.9**
AAK	comp=Z,2.0nm,1.3s,mb3.6			pmax	pmax		
SBF	**Sospel**	**42.37**	**324**	*eP*	**P**	**05 19 45.2**	**0.0**
LMR	**La Mourre**	**42.59**	**323**	*eP*	**P**	**05 19 47.1**	**+0.1**
LMR	comp=Z,21nm,1.3s,mb4.4 **La Mourre**	**42.59**	**323**	*eP*	**P**	**05 19 47.1**	**+0.1**
LMR	comp=Z,10.0nm,1.3s,mb4.4			pmax	pmax		
FRF	**La Foret Royal**	**42.64**	**323**	*eP*	**P**	**05 19 47.6**	**+0.2**
GERES	**GERESS Array B**	**42.64**	**334**	P	**P**	**05 19 47.4**	**0.0**
DPC	comp=Z,2.0nm,0.7s,mb4.0,baz=133,slow=6.8,SNR=25 **Dobruska-Polom**	**42.77**	**337**	*eP*	**P**	**05 19 48.7**	**+0.3**
OBN	**Obninsk**	**42.77**	**357**	*eP*	**P**	**05 19 49.4**	**+1.1**
OBN	comp=Z,15nm,1.7s,mb4.5			*eScS*	ScS	05 29 40.0	-7.5
OBN	**Obninsk**	**42.77**	**357**	*eP*	**P**	**05 19 49.4**	**+1.1**
OBN				*e*		05 21 29.4	
OBN				*eSS*	SS	05 29 40.0	+23
OBN	comp=Z,15nm,1.7s,mb4.5			pmax	pmax		
KHC	**Kasperske Hory**	**42.91**	**334**	*eP*	**P**	**05 19 49.1**	**-0.5**
UPC	**Upice**	**43.01**	**337**	*eP*	**P**	**05 19 50.1**	**-0.2**
PRU	**Pruhonice**	**43.17**	**336**	*eP*	**P**	**05 19 51.6**	**-0.1**
MBDF	**Montbardon**	**43.27**	**325**	*eP*	**P**	**05 19 53.4**	**+0.9**
MBDF	comp=Z,24nm,0.8s,mb4.7 **Montbardon**	**43.27**	**325**	*eP*	**P**	**05 19 53.4**	**+0.9**
MBDF	comp=Z,12nm,0.8s,mb4.7			pmax	pmax		
SMRF	**Simiane la Rot**	**43.51**	**323**	*eP*	**P**	**05 19 54.9**	**+0.4**
PVCC	**Panska Ves**	**43.59**	**336**	*eP*	**P**	**05 19 54.8**	**-0.2**
LPG	**La Plagne**	**43.76**	**326**	*eP*	**P**	**05 19 55.7**	**-0.8**
LPL	**La Plagne**	**43.78**	**326**	*eP*	**P**	**05 19 56.0**	**-0.6**
ORIF	**Oris-en-Rattie**	**43.89**	**324**	*eP*	**P**	**05 19 57.5**	**-0.1**
ORIF	comp=Z,6.6nm,0.8s,mb4.1 **Oris-en-Rattie**	**43.89**	**324**	*eP*	**P**	**05 19 57.5**	**-0.1**
ORIF	comp=Z,3.0nm,0.8s,mb4.1			pmax	pmax		
BRG	**Berggiesshubel**	**44.10**	**336**	*eP*	**P**	**05 19 59.0**	**-0.2**
BRG	comp=Z,7.9nm,1.1s,mb4.4 **Berggiesshubel**	**44.10**	**336**	*eP*	**P**	**05 19 59.0**	**-0.2**
BRG	comp=Z,8.0nm,1.1s,mb4.4			pmax	pmax		
EJON	**La Jonquera**	**44.31**	**320**	P	**P**	**05 20 01.1**	**+0.1**
EJON	comp=Z,3.2nm,0.9s,mb4.0 **La Jonquera**	**44.31**	**320**	P	**P**	**05 20 01.1**	**+0.1**
GRA1	comp=Z,3.2nm,0.9s,mb4.0 **Grafenberg Arr**	**44.36**	**333**	*eP*	**P**	**05 20 00.9**	**-0.4**
GRF	comp=Z,12nm,1.4s,mb4.4 **Grafenberg Arr**	**44.36**	**333**	*eP*	**P**	**05 20 00.9**	**-0.4**
GRF	comp=Z,12nm,1.4s,mb4.4 **Grafenberg Arr**	**44.36**	**333**	*eP*	**P**	**05 20 00.9**	**-0.4**
GRF	comp=Z,12nm,1.4s,mb4.4			pmax	pmax		
GRF	**Grafenberg Arr**	**44.36**	**333**	*eP*	**P**	**05 20 00.9**	**-0.4**
GRF	comp=Z,12nm,1.4s,mb4.4			pmax	pmax		
VIVF	**Saint-Julien-l**	**44.55**	**324**	*eP*	**P**	**05 20 02.8**	**-0.1**
LASF	**Ste Croix**	**44.59**	**322**	*eP*	**P**	**05 20 03.2**	**0.0**
CABF	**La Chapelle**	**44.81**	**326**	*eP*	**P**	**05 20 04.0**	**-1.0**
CABF	comp=Z,35nm,1.2s,mb4.8 **La Chapelle**	**44.81**	**326**	*eP*	**P**	**05 20 04.0**	**-1.0**
CABF	comp=Z,17nm,1.2s,mb4.8			pmax	pmax		
CLL	**Collm**	**44.82**	**336**	*eP*	**P**	**05 20 04.0**	**-1.0**
MOX	**Moxa**	**44.89**	**334**	*eP*	**P**	**05 20 04.0**	**-1.6**
EMIR	**Miracle**	**44.91**	**318**	P	**P**	**05 20 06.3**	**+0.4**
EMUR	comp=Z,7.8nm,1.6s,mb4.3 **La Murta**	**45.03**	**312**	P	**P**	**05 20 07.3**	**+0.4**
EMUR	comp=Z,2.1nm,0.9s,mb4.0 **La Murta**	**45.03**	**312**	P	**P**	**05 20 07.3**	**+0.4**
DBIC	comp=Z,2.1nm,0.9s,mb4.0 **Dimbokro**	**45.08**	**267**	LR	LR	05 38 18.8	
HINF	comp=Z,166nm,18.3s,MS4.0,baz=68,slow=35 **Hinteralfeld**	**45.17**	**328**	*eP*	**P**	**05 20 07.2**	**-0.6**
HINF	comp=Z,7.7nm,0.8s,mb4.3 **Hinteralfeld**	**45.17**	**328**	*eP*	**P**	**05 20 07.2**	**-0.6**
HINF	comp=Z,4.0nm,0.8s,mb4.3			pmax	pmax		
CDF	**Champ du Feu**	**45.34**	**329**	*eP*	**P**	**05 20 08.5**	**-0.7**
HAU	**Haudompre**	**45.55**	**328**	*eP*	**P**	**05 20 10.3**	**-0.5**
MDT	**Midelt**	**45.98**	**304**	P	**P**	**05 20 14.4**	**-0.1**
SMF	comp=Z,6.9nm,1.2s,mb4.5,baz=102,slow=11,SNR=4.4 **Signal de Mont**	**46.06**	**325**	*eP*	**P**	**05 20 14.1**	**-0.8**
ARU	**Arti**	**46.13**	**14**	*eP*	**P**	**05 20 15.9**	**+0.6**
ARU	comp=Z,7.0nm,0.8s,mb4.6 **Arti**	**46.13**	**14**	*eP*	**P**	**05 20 15.9**	**+0.6**
ARU	comp=Z,7.0nm,0.8s,mb4.6			pmax	pmax		
EBIE	**Bielsa**	**46.19**	**319**	P	**P**	**05 20 17.1**	**+1.2**
EBIE	comp=Z,4.6nm,0.9s,mb4.4 **Bielsa**	**46.19**	**319**	P	**P**	**05 20 17.1**	**+1.2**
LOR	comp=Z,4.6nm,0.9s,mb4.4 **Lormes**	**46.42**	**326**	*eP*	**P**	**05 20 17.0**	**-0.7**
LOR	comp=Z,11nm,0.9s,mb4.5 **Lormes**	**46.42**	**326**	*eP*	**P**	**05 20 17.0**	**-0.7**
LOR	comp=Z,6.0nm,0.9s,mb4.5			pmax	pmax		
AVF	**Avril sur Loir**	**46.42**	**325**	*eP*	**P**	**05 20 16.8**	**-0.9**
SSF	**Saint Saulge**	**46.49**	**325**	*eP*	**P**	**05 20 17.4**	**-0.9**
MEZF	**Maizieres J'vi**	**46.53**	**328**	*eP*	**P**	**05 20 18.6**	**0.0**
BGF	comp=Z,24nm,0.8s,mb4.9 **Bois d'Agland**	**46.57**	**324**	*eP*	**P**	**05 20 18.8**	**-0.1**
ERON	**Agron**	**46.63**	**310**	P	**P**	**05 20 20.9**	**+1.4**
ERON	comp=Z,3.2nm,0.8s,mb4.3 **Agron**	**46.63**	**310**	P	**P**	**05 20 20.9**	**+1.4**
ETSF	comp=Z,3.2nm,0.8s,mb4.3 **Etsaut**	**46.74**	**318**	*eP*	**P**	**05 20 21.7**	**+1.4**
ETSF	comp=Z,11nm,0.8s,mb4.5 **Etsaut**	**46.74**	**318**	*eP*	**P**	**05 20 21.7**	**+1.4**
ETSF	comp=Z,5.0nm,0.8s,mb4.5			pmax	pmax		
TCF	**Toulx Ste Croi**	**46.78**	**324**	*eP*	**P**	**05 20 20.8**	**+0.2**
ELOJ	**Sierra Loja**	**46.93**	**310**	P	**P**	**05 20 22.6**	**+0.7**
ELOJ	comp=Z,1.3nm,0.6s,mb4.0 **Sierra Loja**	**46.93**	**310**	P	**P**	**05 20 22.6**	**+0.7**
ELOJ	comp=Z,1.0nm,0.6s,mb3.9			pmax	pmax		
LFF	**La Frestale**	**46.93**	**322**	*eP*	**P**	**05 20 22.2**	**+0.4**
LFF	comp=Z,26nm,0.9s,mb4.9 **La Frestale**	**46.93**	**322**	*eP*	**P**	**05 20 22.2**	**+0.4**
LFF	comp=Z,13nm,0.9s,mb4.9			pmax	pmax		
BVAR	**Borovoye Array**	**47.05**	**24**	P	**P**	**05 20 22.2**	**-0.5**
SJPF	comp=Z,1.5nm,0.8s,mb4.0,baz=217,slow=7.4,SNR=8.1 **Ste Jean**	**47.27**	**318**	*eP*	**P**	**05 20 25.5**	**+1.0**
SJPF	comp=Z,75nm,1.5s,mb5.1 **Ste Jean**	**47.27**	**318**	*eP*	**P**	**05 20 25.5**	**+1.0**
SJPF	comp=Z,37nm,1.5s,mb5.1			pmax	pmax		
GIVF	**Givet**	**47.66**	**329**	*eP*	**P**	**05 20 26.7**	**-0.8**
ESDC	**Sonseca Array**	**47.70**	**313**	P	**P**	**05 20 27.7**	**-0.2**
ESDC	comp=Z,1.9nm,0.9s,mb4.1,baz=110,slow=8.6,SNR=7.2 **Sonseca Array**	**47.70**	**313**	P	**P**	**05 20 28.4**	**+0.5**
ESDC	comp=Z,3.4nm,1.4s,mb4.2 **Sonseca Array**	**47.70**	**313**	P	**P**	**05 20 28.4**	**+0.5**
ESLA	comp=Z,3.4nm,1.4s,mb4.2 **Sonseca Array**	**47.70**	**313**	*eP*	**P**	**05 20 27.9**	**0.0**
ESLA	comp=Z,7.3nm,1.5s,mb4.5 **Sonseca Array**	**47.70**	**313**	*eP*	**P**	**05 20 27.9**	**0.0**
BAIF	comp=Z,7.3nm,1.5s,mb4.5 **Baives**	**47.94**	**329**	*eP*	**P**	**05 20 28.8**	**-0.9**
ESPR	**Espera**	**48.13**	**309**	P	**P**	**05 20 31.4**	**+0.1**
ESPR	comp=Z,6.4nm,1.3s,mb4.5 **Espera**	**48.13**	**309**	P	**P**	**05 20 31.4**	**+0.1**
SUR	comp=Z,6.4nm,1.3s,mb4.5 **Sutherland**	**48.32**	**202**	LR	LR	05 40 53.0	
MKAR	comp=Z,241nm,20.1s,MS4.2,baz=1.8,slow=36 **Makanchi Array**	**49.06**	**37**	P	**P**	**05 20 37.5**	**-0.9**
MKAR	comp=Z,1.0nm,0.8s,mb3.9,baz=239,slow=7.1,SNR=9.2			LR	LR	05 44 00.0	
KURK	comp=Z,227nm,20.1s,MS4.2,baz=180,slow=39 **Kurchatov**	**49.23**	**31**	*eP*	**P**	**05 20 38.8**	**-0.9**
KURK	comp=Z,3.8nm,1.2s,mb4.3 **Kurchatov**	**49.23**	**31**	*eP*	**P**	**05 20 38.8**	**-0.8**
KURK	comp=Z,3.8nm,1.2s,mb4.3 **Kurchatov**	**49.23**	**31**	*eP*	**P**	**05 20 39.6**	**0.0**
FLN	**La Foliniere**	**49.67**	**325**	*eP*	**P**	**05 20 41.8**	**-1.2**
FLN	comp=Z,46nm,1.2s,mb5.1 **La Foliniere**	**49.67**	**325**	*eP*	**P**	**05 20 41.8**	**-1.2**
FLN	comp=Z,23nm,1.2s,mb5.1			pmax	pmax		
EVO	**Evora**	**50.27**	**310**	*eP*	**P**	**05 20 48.6**	**+0.8**
EVO	comp=Z,19nm,1.1s,mb4.7			*eR*			
NAO01	comp=Z,103nm,20.2s **NORSAR Array S**	**53.05**	**342**	*eP*	**P**	**05 21 07.8**	**-0.6**
NAO01	**NORSAR Array S**	**53.05**	**342**	*eP*	**P**	**05 21 07.8**	**-0.6**
NB2	**NORSAR Subarra**	**53.10**	**343**	P	**P**	**05 21 07.2**	**-1.7**
NB2	comp=Z,42nm,1.7s,mb5.1,baz=141,slow=7.4 **NORSAR Subarra** baz=141,slow=7.9	**53.10**	**343**	P	**P**	**05 21 07.2**	**-1.7**
NB2	**NORSAR Subarra**	**53.10**	**343**	P	**P**	**05 21 07.2**	**-1.7**
NB2	comp=Z,42nm,1.7s,mb5.1			pmax	pmax		
NOA	**NORSAR Array B**	**53.10**	**343**	P	**P**	**05 21 07.3**	**-1.5**
ZAL	comp=Z,2.1nm,0.8s,mb4.1,baz=142,slow=7.4,SNR=6.0 **Zalesovo**	**54.18**	**31**	P	**P**	**05 21 16.4**	**-0.4**
SONM	comp=Z,2.0nm,0.7s,mb4.1,baz=254,slow=6.0,SNR=8.0 **Songino Array**	**64.76**	**43**	P	**P**	**05 22 30.1**	**+0.1**
SONM	comp=Z,1.1nm,0.8s,mb3.9,baz=256,slow=6.1,SNR=10			LR	LR	05 55 11.0	
BOD	comp=Z,170nm,19.7s,MS4.2,baz=2.4,slow=40 **Bodaibo**	**70.83**	**33**	*eP*	**P**	**05 23 06.9**	**-0.9**
BOD	comp=Z,6.0nm,1.8s,mb4.2 **Bodaibo**	**70.83**	**33**	*eP*	**P**	**05 23 06.9**	**-0.9**
BOD	comp=Z,6.0nm,1.8s,mb4.2			pmax	pmax		
SUMG	**Summit**	**74.99**	**342**	*eP*	**P**	**05 23 31.6**	**-0.4**
SUMG	comp=Z,4.4nm,0.7s,mb4.5 **Summit**	**74.99**	**342**	*eP*	**P**	**05 23 31.6**	**-0.5**
MAW	comp=Z,4.4nm,0.7s,mb4.5 **Mawson**	**81.37**	**172**	LR	LR	05 56 21.5	
MJAR	comp=Z,68nm,21.8s,MS4.0,baz=50,slow=33 **Matsushiro Arr**	**88.80**	**53**	LR	LR	06 07 23.5	
FITZ	comp=Z,120nm,18.1s,MS4.4,baz=35,slow=38 **Fitzroy Crossi**	**89.21**	**109**	P	**P**	**05 24 47.9**	**+0.7**
BILL	comp=Z,7.4nm,1.1s,mb4.9,baz=320,slow=3.6,SNR=3.3 **Bilibino**	**91.01**	**18**	*eP*	**P**	**05 25 04.7**	**+10**
BILL	comp=Z,7.0nm,0.6s,mb5.2			pmax	pmax		
BDFB	**Brasilia**	**91.90**	**255**	LR	LR	06 02 36.6	
	comp=Z,92nm,18.3s,MS4.3,baz=349,slow=33						

ISC 25 05:18:38.3±0.6,38.98N±0.04×29.93E±0.04,h10km,n9, σ1§24/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.16**	**62**	*i* PG	**Pg**	**05 18 42.6**	**+0.5**
GDZ	**Gediz**	**0.36**	**288**	*i* P	**Pg**	**05 18 44.6**	**-1.2**
GDZ				*i* S	**Sg**	**05 18 50.9**	**0.0**
KHL	**Karahalli**	**0.73**	**206**	PG	**Pg**	**05 18 51.8**	**-1.2**
KHL				SG	**Sg**	**05 19 01.9**	**-0.9**
ESKT	**Eskisehir**	**0.90**	**53**	*e*PG	**Pg**	**05 18 54.2**	**-2.2**
ESKT	**Eskisehir**	**0.90**	**53**	*i* P	**Pb**	**05 18 54.1**	**-1.5**
ESKT				*i* S	**Sb**	**05 19 08.7**	**+1.4**
TKTP	**Tekketepe**	**0.99**	**162**	*i* P	**Pb**	**05 18 56.6**	**-0.5**
TKTP				*i* S	**Sb**	**05 19 12.3**	**+2.4**
MANT	**Manisa**	**1.18**	**246**	*i* P	**Pb**	**05 19 00.7**	**+0.4**
MANT				*i* S	**Sb**	**05 19 16.0**	**+0.6**
ULDT	**Uludag**	**1.31**	**333**	*i* P	**Pb**	**05 19 03.0**	**+0.4**
ULDT				*i* S	**Sb**	**05 19 22.8**	**+3.4**
DNZL	**Cakiroluk**	**1.46**	**209**	*i* P	**Pn**	**05 19 05.5**	**+0.6**
DNZL				*i* S	**Sb**	**05 19 27.5**	**+3.8**

*CSEM **25** 05:33:12.5±0.7,12.08N×40.50E,h10km,mb4.1/2,Error ellipse: s-maj=25.4km s-min=6.3km az=2.0*
*IDC **25** 05:33:13.1±3.0,12.20N×40.60E,mb3.7/7,mb1 4.0/8, mb1mx3.9/17,mbtmp3.8/8,ML4.0/1,MS3.7/7,Ms1 3.7/7, ms1mx3.5/20,Error ellipse: s-maj=71.0km s-min=15.0km az=27.0*
*NEIC **25** 05:33:14.0±1.7,12.05N×40.51E,h10km,mb4.1/2,Error ellipse: s-maj=38.4km s-min=12.3km az=210.0*
*DHMR **25** 05:33:14.5±0.3,12.62N×40.55E,h8km±23km,ML4.2*
ISC 25 05:33:12.6±1.2,12.1N±0.1×40.46E±0.05,h10km,n25, σ1§02/25,mb3.8/9,MS3.7/6,1D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.41**	**104**	Pn	**Pn**	**05 33 53.5**	**+0.9**
ATD	37nm,0.3s,baz=89,slow=24,SNR=16			Lg		05 34 25.3	
ATD	**Arta Tunnel**	**2.41**	**104**	Pn	**Pn**	**05 33 53.5**	**+0.9**
ATD	41nm,0.3s,baz=117,slow=23,SNR=16			Lg		05 34 25.3	
TRBA	**At Turbah**	**3.73**	**72**	*eP*	**Pn**	**05 34 12.4**	**+0.9**
TRBA				*i* S	**Sn**	**05 34 57.6**	**+1.5**
TRBA	comp=N,1μm,0.7s			AML	AML	05 35 11.4	
TRBA	**At Turbah**	**3.73**	**72**	*eP*	**Pn**	**05 34 12.4**	**+0.8**
TRBA	comp=N,551nm,0.7s			*i* S	**Sn**	**05 34 57.6**	**+1.5**
UDYN	**Al 'Udayn**	**3.88**	**61**	*eP*	**Pn**	**05 34 13.3**	**-0.3**
UDYN				*i* S	**Sn**	**05 34 59.4**	**-0.4**
UDYN	comp=Z,1μm,0.8s			AML	AML	05 35 18.9	
LBOS		**4.98**	**69**	*eP*	**Pn**	**05 34 26.6**	**-2.7**
LBOS				*i* S	**Sn**	**05 35 22.9**	**-4.7**
KMBO	**Kilima Mbogo**	**13.54**	**194**	Lg		05 40 31.5	
KMBO	comp=Z,0.1nm,0.3s,baz=40,slow=18,SNR=4.4			LR	LR	05 41 43.6	
ASF	**Jabal al Asfar**	**20.23**	**351**	P	**P**	**05 37 51.6**	**+0.9**
ASF	comp=Z,4.3nm,0.9s,baz=56,slow=2.8,SNR=4.9			LR	LR	05 44 12.0	
MALT	comp=Z,91nm,20.0s,MS3.1,baz=174,slow=33 **Malatya**	**26.15**	**356**	*eP*	**P**	**05 38 50.1**	**+1.3**
MALT	**Malatya**	**26.15**	**356**	*eP*	**P**	**05 38 50.1**	**+1.3**
BRTR	**Keskin Array B**	**28.15**	**349**	P	**P**	**05 39 07.6**	**+0.5**
GNI	comp=Z,1.4nm,0.7s,mb3.7,baz=180,slow=12,SNR=6.9 **Garni**	**28.18**	**7**	LR	LR	05 50 11.6	
LSZ	comp=Z,99nm,19.5s,MS3.4,baz=324,slow=36 **Lusaka**	**29.81**	**204**	LR	LR	05 51 50.1	
AKASG	comp=Z,266nm,20.8s,MS3.9,baz=19,slow=37 **Malin Array Be**	**39.56**	**349**	P	**P**	**05 40 45.2**	**-0.3**
PSZ	comp=Z,0.6nm,0.7s,mb3.5,baz=172,slow=6.9,SNR=4.4 **Piszkesteto**	**39.62**	**338**	*eP*	**P**	**05 40 47.0**	**+0.9**
PSZ	comp=Z,2.9nm,0.8s,mb4.1 **Piszkesteto**	**39.62**	**338**	*eP*	**P**	**05 40 47.0**	**+0.9**
GERES	**GERESS Array B**	**42.82**	**334**	P	**P**	**05 41 11.9**	**-0.4**
DBIC	comp=Z,1.1nm,0.8s,mb3.6,baz=127,slow=6.7,SNR=9.8 **Dimbokro**	**44.99**	**267**	LR	LR	05 59 22.1	
ESDC	comp=Z,78nm,18.8s,MS3.7,baz=67,slow=35 **Sonseca Array**	**47.80**	**313**	P	**P**	**05 41 52.6**	**+0.4**
MKAR	comp=Z,0.1nm,0.3s,mb3.4,baz=122,slow=6.3,SNR=4.1 **Makanchi Array**	**49.29**	**37**	P	**P**	**05 42 02.5**	**-1.2**
MKAR	comp=Z,0.8nm,0.9s,mb3.8,baz=225,slow=6.9,SNR=6.2			LR	LR	06 05 25.4	
KURK	comp=Z,155nm,18.1s,MS4.0,baz=0.7,slow=39 **Kurchatov**	**49.47**	**31**	P	**P**	**05 42 03.9**	**-1.1**
KURK	comp=Z,2.9nm,1.2s,mb4.2 **Kurchatov**	**49.47**	**

ESDC Sonseca Array 47.71 313 P **P** **06 08 58.4 +0.2**
comp=Z,0.1nm,0.3s,mb3.3,baz=125,slow=8.4,SNR=4.6
MKAR Makanchi Array 49.23 37 P **P** **06 09 09.1 -0.8**
comp=Z,1.6nm,0.9s,mb4.0,baz=233,slow=6.1,SNR=9.1
MKAR Makanchi Array 49.23 37 P **P** **06 09 09.1 -0.8**
NB2 NORSAR Subarra 53.20 343 P **P** **06 09 38.1 -1.7**
comp=Z,2.6nm,1.0s,mb4.1,baz=145,slow=7.4
NOA NORSAR Array B 53.20 343 P **P** **06 09 38.2 -1.6**
comp=Z,1.4nm,0.8s,mb3.9,baz=142,slow=7.3,SNR=4.0
NOA NORSAR Array B 53.20 343 P **P** **06 09 38.2 -1.6**
ZAL Zalesovo 54.36 31 P **P** **06 09 46.9 -1.4**
comp=Z,1.2nm,0.3s,mb4.3,baz=130,slow=6.3,SNR=5.1

IDC 25 06:02:26.0±4.4, 12.33N×40.70E, mb3.8/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=102.1km s-min=16.1km az=32.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ATD	**Arta Tunnel**	**2.25**	**110**	Pn	Pn		06 03 06.0	+1.0
	34nm,0.3s,baz=265,slow=22,SNR=5.4							
ATD				Lg			06 03 36.2	
	46nm,0.3s,baz=135,slow=22,SNR=4.8							
BRTR	**Keskin Array B**	**28.00**	**348**	P	P		06 08 19.4	-1.1
	1.5nm,0.8s,baz=180,slow=8.6,SNR=5.2							
AKASG	**Malin Array Be**	**39.40**	**349**	P	P		06 09 56.5	-2.7
	0.1nm,0.2s,baz=169,slow=6.5,SNR=4.2							
GERES	**GERESS Array B**	**42.74**	**334**	P	P		06 10 24.5	-2.1
	0.9nm,0.8s,baz=127,slow=6.7,SNR=6.1							
MKAR	**Makanchi Array**	**48.99**	**37**	P	P		06 11 14.9	-1.4
	0.3nm,0.6s,baz=236,slow=10,SNR=3.2							
ZAL	**Zalesovo**	**54.13**	**31**	P	P		06 11 52.4	-2.5
	1.7nm,0.3s,baz=146,slow=7.3,SNR=3.5							

IDC 25 06:29:48.5±2.6, 9.82N×91.69E, mb3.9/5, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, MS3.6/1, Ms1 3.6/1, ms1mx3.0/21, Error ellipse: s-maj=160.4km s-min=21.7km az=54.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**37.71**	**349**	P	P		06 37 06.0	-1.6
	0.5nm,0.7s,baz=171,slow=9.0,SNR=6.2							
JNU	**Nakatsue**	**42.85**	**51**	LR	LR		06 59 43.0	
	comp=Z,69nm,18.0s,baz=155,slow=42							
FITZ	**Fitzroy Crossi**	**43.51**	**130**	P	P		06 37 54.1	-1.7
	2.3nm,0.8s,baz=286,slow=7.4,SNR=2.8							
WRA	**Warramunga Arr**	**51.35**	**125**	P	P		06 38 55.1	-2.2
	0.8nm,0.5s,baz=306,slow=8.5,SNR=15							
FINES	**FINESS Array B**	**69.88**	**332**	P	P		06 41 01.2	-1.9
	1.9nm,1.0s,baz=101,slow=7.1,SNR=3.5							
ARCES	**ARCESS Array B**	**72.63**	**340**	P	P		06 41 17.4	-2.1
	4.0nm,1.0s,baz=67,slow=6.9,SNR=3.8							

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*IDC **25** 06:32:34.9±4.1, 12.27N×40.51E, mb3.5/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=96.1km s-min=18.3km az=30.0*
*DHMR **25** 06:32:39.6±0.5, 12.65N×40.50E, h12^{km}±38^{km}, ML3.9*
*CSEM **25** 06:32:43.3±2.4, 10.28N×42.09E, h2^{km}, mb4.3/3, Error ellipse: s-maj=89.3km s-min=22.2km az=155.0*
ISC 25 06:32:33.9±1.4, 12.2N±0.2×40.23E±0.08, h10^{km}, n9, σ0^{s}95/12, mb3.6/3, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ATD	**Arta Tunnel**	**2.65**	**105**	Pn	Pn		06 33 17.1	-0.4
	25nm,0.3s,baz=287,slow=14,SNR=11							
ATD				Lg			06 33 49.5	
	13nm,0.3s,baz=287,slow=19,SNR=5.0							
TRBA	**At Turbah**	**3.92**	**75**	*eP*	Pn		06 33 37.3	+1.8
TRBA				*i* S	Sn		06 34 22.8	+0.6
TRBA				AML	AML		06 34 38.6	
	comp=N,544nm,0.7s							
UDYN	**Al 'Udayn**	**4.04**	**64**	*eP*	Pn		06 33 38.4	+1.1
UDYN				*i* S	Sn		06 34 24.2	-0.9
UDYN	**Al 'Udayn**	**4.04**	**64**	*eP*	Pn		06 33 38.3	+1.1
UDYN				*i* S	Sn		06 34 24.2	-0.9
LBOS		**5.16**	**71**	*eP*	Pn		06 33 51.9	-1.3
LBOS				*i* S	Sn		06 34 48.1	-5.4
KMBO	**Kilima Mbogo**	**13.58**	**193**	Lg			06 39 56.2	
	comp=N,0.1nm,0.3s,baz=62,slow=14,SNR=4.0							
GERES	**GERESS Array B**	**42.64**	**334**	P	P		**06 40 32.7**	**+0.5**
	comp=N,0.8nm,0.8s,mb3.5,baz=135,slow=5.7,SNR=6.2							
MKAR	**Makanchi Array**	**49.35**	**37**	P	P		**06 41 24.9**	**-0.6**
	comp=N,1.1nm,1.0s,mb3.9,baz=236,slow=5.2,SNR=5.4							
SONM	**Songino Array**	**65.07**	**43**	P	P		**06 43 16.1**	**-0.7**
	comp=N,0.5nm,0.9s,mb3.5,baz=243,slow=6.4,SNR=3.4							

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*NEIC **25** 06:33:03.3±4.2, 11.85N×40.50E, h10^{km}, mb4.2/3, Error ellipse: s-maj=85.8km s-min=29.5km az=203.0*
*IDC **25** 06:33:03.1±6.7, 12.02N×40.56E, mb3.6/7, mb1 3.7/7, mb1mx3.7/18, mbtmp3.6/7, Error ellipse: s-maj=136.0km s-min=41.1km az=22.0*
ISC 25 06:33:02.8±5.0, 12.0N±0.6×40.6E±0.4, h10^{km}, n9, σ0^{s}99/9, mb3.7/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ASF	**Jabal al Asfar**	**20.35**	**351**	P	P		**06 37 42.5**	**+0.2**
	3.5nm,0.8s,baz=303,slow=2.5,SNR=3.7							
CSS	**Prodhromos**	**23.79**	**345**	*eP*	P		**06 38 16.6**	**+0.1**
	4.5nm,0.6s,mb4.1							
MALT	**Malatya**	**26.27**	**356**	*eP*	P		**06 38 41.2**	**+1.0**
	5.3nm,1.0s,mb4.0							
BRTR	**Keskin Array B**	**28.28**	**349**	P	P		**06 38 59.5**	**+0.9**
	1.9nm,0.9s,mb3.7,baz=164,slow=10,SNR=6.4							
AKASG	**Malin Array Be**	**39.69**	**349**	P	P		**06 40 35.6**	**-1.3**
	0.2nm,0.2s,mb3.4,baz=173,slow=7.4,SNR=5.0							
GERES	**GERESS Array B**	**42.98**	**334**	P	P		**06 41 03.5**	**-0.4**
	1.4nm,1.0s,mb3.6,baz=143,slow=6.7,SNR=5.9							
BVAR	**Borovoye Array**	**47.33**	**24**	P	P		**06 41 36.6**	**-2.0**
	0.3nm,0.5s,mb3.5,baz=225,slow=4.1,SNR=3.8							
MKAR	**Makanchi Array**	**49.29**	**37**	P	P		**06 41 53.8**	**-0.1**
	0.9nm,0.9s,mb3.8,baz=233,slow=6.1,SNR=3.9							
SONM	**Songino Array**	**64.97**	**43**	P	P		**06 43 46.4**	**+1.3**
	0.3nm,0.6s,mb3.5,baz=270,slow=7.4,SNR=3.9							

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*IDC **25** 06:37:10.6±3.9, 12.41N×40.57E, mb3.8/7, mb1 4.0/8, mb1mx3.9/17, mbtmp3.8/8, ML4.3/1, MS3.8/13, Ms1 3.8/13, ms1mx3.6/28, Error ellipse: s-maj=92.8km s-min=15.6km az=32.0*
*NEIC **25** 06:37:11.8±2.1, 12.40N×40.44E, h10^{km}, mb3.7/1, Error ellipse: s-maj=53.5km s-min=12.0km az=216.0*
*DHMR **25** 06:37:11.4±0.3, 12.57N×40.52E, h12^{km}±328^{km}, ML4.3*
*CSEM **25** 06:37:13.4±0.1, 12.56N×40.33E, h30^{km}, mb3.7/1, Error ellipse: s-maj=5.5km s-min=2.9km az=14.0*
ISC 25 06:37:10.0±1.2, 12.4N±0.1×40.38E±0.05, h10^{km}, n26, σ0^{s}76/19, mb3.7/7, MS4.0/11, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ATD	**Arta Tunnel**	**2.56**	**109**	Pn	Pn		**06 37 52.9**	**+0.6**
	66nm,0.3s,baz=295,slow=12,SNR=21							
ATD				Lg			06 38 24.8	
	64nm,0.3s,baz=259,slow=22,SNR=7.2							
TRBA	**At Turbah**	**3.74**	**77**	*i* P	Pn		**06 38 09.4**	**+0.3**
TRBA				*i* S	Sn		**06 38 54.6**	**+0.8**
TRBA				AML	AML		06 39 13.7	
	comp=N,1μm,0.7s							
TRBA	**At Turbah**	**3.74**	**77**	*i* P	Pn		**06 38 09.4**	**+0.3**
TRBA				*i* S	Sn		**06 38 54.6**	**+0.9**
	comp=N,588nm,0.7s							
UDYN	**Al 'Udayn**	**3.83**	**65**	*eP*	Pn		**06 38 10.3**	**-0.1**
UDYN				*i* S	Sn		**06 38 56.5**	**+0.5**
UDYN				AML	AML		06 39 17.1	
	comp=Z,1μm,0.7s							
LBOS		**4.97**	**72**	*eP*	Pn		**06 38 25.8**	**-0.7**
LBOS				*i* S	Sn		**06 39 23.8**	**-1.0**
KMBO	**Kilima Mbogo**	**13.78**	**193**	Lg			06 44 28.8	
	comp=Z,0.0nm,0.3s,baz=68,slow=18,SNR=2.6							
KMBO				LR	LR		06 45 42.8	
	comp=Z,342nm,21.1s,baz=94,slow=37							
ASF	**Jabal al Asfar**	**19.95**	**351**	P	P		**06 41 48.8**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=62,slow=3.7,SNR=4.3							
ASF				LR	LR		06 48 44.8	
	comp=Z,32nm,18.5s,baz=234,slow=35							
BHD	**Baghdad**	**21.11**	**9**	*ex*	x		06 41 55.0	
MSL	**Mosul**	**23.93**	**5**	*ex*	x		06 42 52.0	
BRTR	**Keskin Array B**	**27.87**	**349**	P	P		**06 43 03.2**	**+1.2**
	comp=Z,2.0nm,0.9s,mb3.8,baz=180,slow=12,SNR=6.7							
LSZ	**Lusaka**	**30.02**	**204**	LR	LR		06 56 22.5	
	comp=Z,185nm,18.5s,MS3.8,baz=45,slow=38							
MATP	**Matopo**	**34.64**	**200**	LR	LR		06 58 31.7	
	comp=Z,308nm,18.4s,MS4.1,baz=25,slow=37							
TSUM	**Tsumeb**	**38.60**	**216**	LR	LR		07 01 34.0	
	comp=Z,131nm,20.6s,MS3.7,baz=327,slow=38							
AKASG	**Malin Array Be**	**39.28**	**349**	P	P		**06 44 40.6**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.3,baz=168,slow=7.0,SNR=4.3							
LBTB	**Lobatse**	**39.87**	**201**	LR	LR		07 01 19.5	
	comp=Z,204nm,20.3s,MS4.0,baz=42,slow=36							
GERES	**GERESS Array B**	**42.55**	**334**	P	P		**06 45 07.9**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.6,baz=146,slow=4.8,SNR=8.6							
SUR	**Sutherland**	**48.29**	**202**	LR	LR		07 06 59.5	
	comp=Z,270nm,21.8s,MS4.2,baz=30,slow=37							
MKAR	**Makanchi Array**	**49.13**	**37**	P	P		**06 45 58.9**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.7,baz=236,slow=4.1,SNR=6.8							
MKAR				LR	LR		07 10 26.9	
	comp=Z,113nm,21.2s,MS3.8,baz=0.3,slow=41							
NB2	**NORSAR Subarra**	**53.03**	**343**	P	P		**06 46 28.6**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=142,slow=7.4							
NOA	**NORSAR Array B**	**53.03**	**343**	P	P		**06 46 28.5**	**-0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=142,slow=7.4,SNR=4.2							
NOA	**NORSAR Array B**	**53.03**	**343**	P	P		**06 46 28.5**	**-0.7**
ZAL	**Zalesovo**	**54.23**	**31**	P	P		**06 46 37.1**	**-1.0**
	comp=Z,1.1nm,0.3s,mb4.2,baz=150,slow=7.6,SNR=3.3							
ZAL				LR	LR		07 12 52.7	
	comp=Z,64nm,20.5s,MS3.7,baz=237,slow=40							
SONM	**Songino Array**	**64.85**	**43**	P	P		**06 47 51.3**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.6,baz=243,slow=6.4,SNR=3.3							
SONM				LR	LR		07 20 24.0	
	comp=Z,104nm,18.7s,MS4.0,baz=80,slow=40							
MAW	**Mawson**	**81.43**	**171**	LR	LR		07 27 49.3	
	comp=Z,61nm,18.5s,MS4.0,baz=240,slow=37							
MJAR	**Matsushiro Arr**	**88.91**	**53**	LR	LR		07 31 12.8	
	comp=Z,76nm,18.3s,MS4.2,baz=335,slow=36							
BDFB	**Brasilia**	**91.76**	**254**	LR	LR		07 27 50.3	
	comp=Z,66nm,18.5s,MS4.1,baz=291,slow=33							

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*IDC **25** 06:43:12.8±4.1, 12.15N×40.60E, mb4.0/6, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, ML3.8/1, Error ellipse: s-maj=92.5km s-min=15.4km az=29.0*
*NEIC **25** 06:43:13.1±2.0, 12.00N×40.45E, h10^{km}, mb4.2/3, Error ellipse: s-maj=49.0km s-min=11.5km az=211.0*
*DHMR **25** 06:43:15.5±0.4, 12.66N×40.50E, h12^{km}±376^{km}, ML4.1*
*CSEM **25** 06:43:16.7±0.1, 12.16N×40.48E, h40^{km}, mb4.2/3, Error ellipse: s-maj=5.5km s-min=2.1km az=19.0*
ISC 25 06:43:12.3±1.2, 12.1N±0.2×40.40E±0.05, h10^{km}, n20, σ0^{s}86/23, mb4.0/7, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ATD	**Arta Tunnel**	**2.47**	**104**	Pn	Pn		**06 43 53.0**	**-0.4**
	23nm,0.3s,baz=259,slow=23,SNR=17							
ATD				Lg			06 44 24.8	
	32nm,0.3s,baz=271,slow=23,SNR=12							
TRBA	**At Turbah**	**3.79**	**73**	*eP*	Pn		**06 44 13.6**	**+1.5**
TRBA				*i* S	Sn		**06 44 58.7**	**+1.4**
TRBA				AML	AML		06 45 07.5	
	comp=N,858nm,0.6s							
TRBA	**At Turbah**	**3.79**	**73**	*eP*	Pn		**06 44 13.6**	**+1.5**
TRBA				*i* S	Sn		**06 44 58.7**	**+1.4**
	comp=N,343nm,0.8s							
UDYN	**Al 'Udayn**	**3.93**	**62**	*eP*	Pn		**06 44 14.4**	**+0.3**
UDYN				*i* S	Sn		**06 45 00.2**	**-0.6**
UDYN				AML	AML		06 45 22.9	
	comp=N,687nm,0.8s							
LBOS		**5.04**	**69**	*eP*	Pn		**06 44 29.6**	**-0.1**
LBOS				*i* S	Sn		**06 45 27.8**	**-0.9**
KMBO	**Kilima Mbogo**	**13.54**	**194**	Lg			06 50 34.9	
	comp=N,0.1nm,0.3s,baz=239,slow=23,SNR=3.7							
ASF	**Jabal al Asfar**	**20.20**	**351**	P	P		**06 47 50.1**	**-0.1**
	comp=N,5.9nm,0.9s,baz=153,slow=14,SNR=5.9							
BR131	**Keskin Array S**	**28.12**	**349**	*eP*	P		**06 49 07.1**	**+0.6**
	comp=N,7.3nm,1.3s,mb4.2							
BR131	**Keskin Array S**	**28.12**	**349**	*eP*	P		**06 49 07.1**	**+0.5**
	comp=N,7.3nm,1.3s,mb4.2							
BRTR	**Keskin Array B**	**28.12**	**349**	P	P		**06 49 08.0**	**+1.4**
	comp=N,3.1nm,1.0s,mb3.9,baz=180,slow=9.9,SNR=11							
BRTR	**Keskin Array B**	**28.12**	**349**	P	P		**06 49 07.9**	**+1.3**
PSZ	**Piszkesteto**	**39.58**	**338**	*eP*	P		**06 50 45.9**	**+0.4**
	comp=N,5.9nm,0.9s,mb4.3							
PSZ	**Piszkesteto**	**39.58**	**338**	*eP*	P		**06 50 45.9**	**+0.4**
	comp=N,5.9nm,0.9s,mb4.3							
MORC	**Moravsky Berou**	**41.99**	**338**	*eP*	P		**06 51 05.8**	**+0.6**
	comp=N,2.9nm,0.9s,mb3.9							
MORC	**Moravsky Berou**	**41.99**	**338**	*eP*	P		**06 51 05.8**	**+0.6**
	comp=N,2.9nm,0.9s,mb3.9							
GERES	**GERESS Array B**	**42.78**	**334**	P	P		**06 51 12.5**	**+0.8**
	comp=N,1.7nm,0.8s,mb3.8,baz=135,slow=7.5,SNR=13							
KHC	**Kasperske Hory**	**43.05**	**334**	*eP*	P		**06 51 13.5**	**-0.4**
MKAR	**Makanchi Array**	**49.32**	**37**	P	P		**06 52 02.4**	**-1.2**
	comp=N,0.4nm,0.7s,mb3.5,baz=248,slow=7.8,SNR=4.3							
NOA	**NORSAR Array B**	**53.27**	**343**	P	P		**06 52 32.5**	**-0.8**
	comp=N,3.3nm,1.1s,mb4.2,baz=142,slow=7.4,SNR=3.7							
ZAL	**Zalesovo**	**54.44**	**31**	P	P		**06 52 40.5**	**-1.4**
	comp=N,0.9nm,0.4s,mb4.1,baz=188,slow=7.1,SNR=3.5							

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*MOS **25** 06:47:31.5±0.8, 11.84N×40.50E, h10^{km}, mb4.7/16, Error ellipse: s-maj=14.5km s-min=5.5km az=109.6*
*IDC **25** 06:47:33.8±2.7, 12.11N×40.56E, mb4.0/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/18, Error ellipse: s-maj=61.9km s-min=14.5km az=25.0*
*BJI **25** 06:47:35.1, 12.10N×40.50E, h33^{km}, mB5.1, mb5.0, Ms5.0, Msz4.1*
*CSEM **25** 06:47:35.2±0.2, 12.29N×40.37E, h10^{km}, mb4.4/17, Error ellipse: s-maj=8.3km s-min=2.4km az=11.0*
*NEIC **25** 06:47:35.1±0.8, 12.10N×40.51E, h10^{km}, mb4.5/16, Error ellipse: s-maj=18.3km s-min=7.4km az=197.0*
*DHMR **25** 06:47:37.9±0.5, 12.62N×40.55E, h10^{km}±38^{km}, ML4.4*
ISC 25 06:47:32.2±0.6, 11.89N±0.08×40.41E±0.04, h10^{km}, n94, σ0^{s}96/97, mb4.4/30, MS4.0/5, 3C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ATD	**Arta Tunnel**	**2.41**	**98**	Pn	Pn		**06 48 14.6**	**+2.2**
	43nm,0.3s,baz=263,slow=16,SNR=21							
ATD				Lg			06 48 46.3	
	59nm,0.3s,baz=117,slow=23,SNR=10							
TRBA	**At Turbah**	**3.86**	**69**	*i* P	Pn		**06 48 35.5**	**+2.6**
TRBA				*i* S	Sn		**06 49 20.8**	**+2.0**
TRBA				AML	AML		06 49 36.3	
	comp=N,2μm,0.6s							
TRBA	**At Turbah**	**3.86**	**69**	*i* P	Pn		**06 48 35.5**	**+2.6**
TRBA				*i* S	Sn		**06 49 20.8**	**+2.0**
	comp=N,947nm,0.6s							
UDYN	**Al 'Udayn**	**4.04**	**59**	*i* P	Pn		**06 48 36.9**	**+1.4**
UDYN				*i* S	Sn		**06 49 22.3**	**-1.1**
UDYN				AML	AML		06 49 38.7	
	comp=N,1μm,0.6s							
LBOS		**5.12**	**67**	*i* P	Pn		**06 48 49.7**	**-1.1**
LBOS				*i* S	Sn		**06 49 46.0**	**-4.6**
KMBO	**Kilima Mbogo**	**13.30**	**194**	Lg			06 54 52.4	
	comp=N,0.1nm,0.3s,baz=58,slow=19,SNR=4.2							
KMBO				LR	LR		06 56 05.2	
	comp=N,291nm,21.4s,baz=84,slow=38							
KMBO	**Kilima Mbogo**	**13.30**	**194**	*eP*	P		**06 50 42.7**	**-1.1**
KMBO	**Kilima Mbogo**	**13.30**	**194**	*eP*	P		**06 50 42.7**	**-1.1**
ASF	**Jabal al Asfar**	**20.45**	**351**	P	P		**06 52 11.7**	**-0.9**
	comp=N,4.3nm,0.7s,baz=47,slow=9.6,SNR=7.5							
MALT	**Malatya**	**26.38**	**356**	P	P		**06 53 09.3**	**-1.2**
	comp=N,31nm,2.0s,mb4.5							
MALT	**Malatya**	**26.38**	**356**	P	P		**06 53 09.3**	**-1.2**
	comp=N,31nm,2.0s,mb4.5							
MALT	**Malatya**	**26.38**	**356**	P	P		**06 53 09.3**	**-1.2**
MALT				pmax	pmax			
	comp=Z,31nm,2.0s,mb4.5							
BR131	**Keskin Array S**	**28.37**	**349**	*eP*	P		**06 53 28.9**	**+0.2**
	comp=Z,9.9nm,1.2s,mb4.3							
BR131	**Keskin Array S**	**28.37**	**349**	*eP*	P		**06 53 28.9**	**+0.2**
	comp=Z,9.9nm,1.2s,mb4.3							
BRTR	**Keskin Array B**	**28.37**	**349**	P	P		**06 53 29.2**	**+0.6**
	comp=Z,7.7nm,1.1s,mb4.2,baz=166,slow=10,SNR=14							
BRTR	**Keskin Array B**	**28.37**	**349**	P	P		**06 53 29.2**	**+0.6**
GNI	**Garni**	**28.41**	**7**	*eP*	P		**06 53 29.4**	**+0.4**
	comp=Z,7.0nm,1.3s,mb4.1							
GNI	**Garni**	**28.41**	**7**	*eP*	P		**06 53 29.4**	**+0.4**
GNI				pmax	pmax			
	comp=Z,7.0nm,1.3s							
TIP	**Timpagrande**	**34.34**	**326**	*eP*	P		**06 54 20.4**	**-0.9**
TIP	**Timpagrande**	**34.34**	**326**	*eP*	P		**06 54 20.4**	**-0.9**
AKASG	**Malin Array Be**	**39.77**	**349**	P	P		**06 55 06.2**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.5,baz=182,slow=7.8,SNR=5.7							
PSZ	**Piszkesteto**	**39.81**	**338**	*eP*	P		**06 55 07.5**	**+0.3**
	comp=Z,5.8nm,0.8s,mb4.4							
PSZ	**Piszkesteto**	**39.81**	**338**	*eP*	P		**06 55 07.6**	**+0.3**
	comp=Z,5.8nm,0.8s,mb4.4							
PSZ	**Piszkesteto**	**39.81**	**338**	*eP*	P		**06 55 07.6**	**+0.3**
PSZ				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.4							
KECS	**Kecovo**	**40.09**	**339**	*eP*	P		**06 55 10.3**	**+0.8**
STHS	**Stebnicka Huta**	**40.64**	**341**	*eP*	P		**06 55 15.1**	**+1.0**
VYHS	**Vyhne**	**40.68**	**338**	*eP*	P		**06 55 15.2**	**+0.8**
ZST	**Bratislava**	**41.10**	**336**	*eP*	P		**06 55 19.4**	**+1.6**
OJC	**Ojcow**	**41.81**	**340**	*eP*	P		**06 55 24.1**	**+0.5**
MORC	**Moravsky Berou**	**42.22**	**338**	*eP*	P		**06 55 27.4**	**+0.4**
	comp=Z,4.0nm,1.1s,mb4.0							
MORC	**Moravsky Berou**	**42.22**	**338**	*eP*	P		**06 55 27.4**	**+0.4**
MORC				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.0							
AAK	**Ala-Archa**	**42.58**	**38**	*eP*	P		**06 55 30.1**	**0.0**
	comp=Z,200nm,20.0s							
AAK	**Ala-Archa**	**42.58**	**38**	*eP*	P		**06 55 30.1**	**0.0**
AAK				pmax	pmax			
	comp=Z,10.0nm,2.5s,mb4.1							
AAK				MLR	MLR			
	comp=Z,200nm,20.0s,MS4.0							
SBF	**Sospel**	**42.67**	**324**	*eP*	P		**06 55 31.1**	**+0.3**
FRF	**La Foret Royal**	**42.94**	**324**	*eP*	P		**06 55 33.3**	**+0.3**
GERES	**GERESS Array B**	**43.01**	**334**	P	P		**06 55 33.6**	**+0.2**
	comp=Z,2.5nm,0.9s,mb3.9,baz=135,slow=7.5,SNR=17							
OBN	**Obninsk**	**43.23**	**357**	*eP*	P		**06 55 35.5**	**+0.3**
	comp=Z,100nm,14.0s							
OBN	**Obninsk**	**43.23**	**357**	*eP*	P		**06 55 35.5**	**+0.3**
OBN				pmax	pmax			
	comp=Z,36nm,1.7s,mb4.8							
OBN				MLR	MLR			
	comp=Z,100nm,14.0s,MS3.9							
KHC	**Kasperske Hory**	**43.28**	**334**	*eP*	P		**06 55 35.0**	**-0.7**
MBDF	**Montbardon**	**43.58**	**325**	*eP*	P		**06 55 39.4**	**+1.2**
	comp=Z,23nm,1.0s,mb4.6							
MBDF	**Montbardon**	**43.58**	**325**	*eP*	P		**06 55 39.4**	**+1.2**
MBDF				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.6							
LPG	**La Plagne**	**44.07**	**326**	*eP*	P		**06 55 41.7**	**-0.4**
	comp=Z,12nm,1.1s,mb4.2							
LPG	**La Plagne**	**44.07**	**326**	*eP*	P		**06 55 41.7**	**-0.4**
LPG				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.2							
LPL	**La Plagne**	**44.09**	**326**	*eP*	P		**06 55 41.8**	**-0.5**
ORIF	**Oris-en-Rattie**	**44.20**	**325**	*eP*	P		**06 55 43.5**	**+0.3**
	comp=Z,7.9nm,1.0s,mb4.1							
ORIF	**Oris-en-Rattie**	**44.20**	**325**	*eP*	P		**06 55 43.5**	**+0.3**
ORIF				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.1							
GRA1	**Grafenberg Arr**	**44.72**	**333**	*eP*	P		**06 55 46.9**	**-0.4**
	comp=Z,7.0nm,1.3s,mb4.3							
GRF	**Grafenberg Arr**	**44.72**	**333**	*eP*	P		**06 55 46.9**	**-0.4**
	comp=Z,7.0nm,1.3s,mb4.3							
GRF	**Grafenberg Arr**	**44.72**	**333**	*eP*	P		**06 55 46.9**	**-0.4**
GRF				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.3							
GRF	**Grafenberg Arr**	**44.72**	**333**	*eP*	P		**06 55 46.9**	**-0.4**
GRF				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.3							
DBIC	**Dimbokro**	**44.93**	**268**	LR	LR		07 14 05.0	
	comp=Z,76nm,19.2s,MS3.6,baz=77,slow=35							
CABF	**La Chapelle**	**45.12**	**327**	*eP*	P		**06 55 50.0**	**-0.6**
CLL	**Collm**	**45.19**	**336**	P	P		**06 55 51.0**	**-0.1**
MTLF	**Montolieu**	**45.47**	**321**	*eP*	P		**06 55 54.0**	**+0.6**
HINF	**Hinteralfeld**	**45.49**	**329**	*eP*	P		**06 55 53.3**	**-0.2**
	comp=Z,11nm,0.9s,mb4.4							
HINF	**Hinteralfeld**	**45.49**	**329**	*eP*	P		**06 55 53.3**	**-

BILL	**Bilibino**	**91.49**	**18**	⇓*e*P		**P**	**07 00 45.5**	**+5.7**
BILL				pmax	pmax			
	comp=Z,20nm,1.3s,mb5.3							
BILL				MLR	MLR			
	comp=Z,100nm,21.0s,MS4.2							

NNC 25 07:22:33.4±11.0, 37.92N×71.97E, mpv 3.1, 4C, Error ellipse: s-maj=91.7km s-min=79.4km az=167.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.09**	**22**	⇑P	Pn	07 23 51.1	-1.7
	2.1nm,0.4s						
AAK				⇑S	Sn	07 24 51.7	-1.6
	4.5nm,0.9s						
KK31	**Karatay Array**	**5.30**	**348**	⇑P	Pn	07 23 54.9	-0.8
	0.4nm,0.3s,baz=162,slow=11,SNR=18						
KK31				⇑S	Sn	07 24 56.8	-1.6
	2.6nm,0.3s,baz=154,slow=16,SNR=28						
AB31	**Akbulak array**	**14.27**	**326**	P	P	07 25 52.3	-6.5
	0.5nm,0.4s,baz=139,slow=12,SNR=6.7						

*JMA **25** 07:30:43.8±0.1, 33.76N×137.11E, h392km, M3.0*
*IDC **25** 07:30:46.6±5.0, 33.61N×136.56E, h315km±107km, mb2.7/3, mb1 2.8/4, mb1mx2.7/21, mbtmp3.3/4, Error ellipse: s-maj=178.6km s-min=23.3km az=60.0*

ISC 25 07:30:46.7±0.8, 33.8N±0.1×137.2E±0.1, h362km±7km, n14, σ0§55/18, mb2.8/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.70**	**328**	P	**P**	**07 31 33.4**	**+0.5**
HMMJ	**Hamamatsu 2**	**1.16**	**24**	P	**P**	**07 31 35.1**	**+0.5**
JWY	**Kouya**	**1.36**	**289**	P	**P**	**07 31 35.7**	**+0.1**
JAO	**Obara**	**1.47**	**3**	P	**P**	**07 31 36.5**	**+0.3**
JWT	**Wachi**	**2.07**	**316**	P	**P**	**07 31 39.5**	**-0.4**
JAI	**Aioi**	**2.25**	**271**	P	**P**	**07 31 40.8**	**-0.4**
JRY	**Ryogami san**	**2.64**	**32**	P	**P**	**07 31 45.1**	**+0.8**
JRY				*e*S	**S**	**07 32 30.2**	**+0.8**
JMN	**Monobe**	**2.73**	**270**	P	**P**	**07 31 44.4**	**-0.6**
MJAR	**Matsushiro Arr**	**2.88**	**17**	P	**P**	**07 31 46.2**	**0.0**
	0.8nm,0.3s,baz=196,slow=11,SNR=11						
MJAR				S	**S**	**07 32 32.9**	**0.0**
	baz=247,slow=38,SNR=3.1						
BSO1	**Boso 1**	**3.28**	**74**	P	**P**	**07 31 49.2**	**-0.7**
BSO1				*e*S	**S**	**07 32 39.1**	**-0.4**
JFK	**Kawauchi**	**4.68**	**39**	P	**P**	**07 32 02.9**	**-1.0**
JFK				*e*S	**S**	**07 33 00.0**	**-4.5**
SONM	**Songino Array**	**26.97**	**311**	P	**P**	**07 35 58.5**	**+0.3**
	0.2nm,0.3s,mb2.8,baz=117,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**42.98**	**305**	P	**P**	**07 38 12.4**	**-0.4**
	0.4nm,0.7s,mb2.7,baz=91,slow=9.3,SNR=4.0						
WRA	**Warramunga Arr**	**53.50**	**183**	P	**P**	**07 39 33.9**	**+0.7**
	0.2nm,0.3s,mb2.9,baz=0.1,slow=7.5,SNR=6.3						

*THR **25** 07:34:24.3±0.4, 33.66N×45.53E, h14km±7km, ML3.9*
*CSEM **25** 07:34:24.5±0.1, 33.65N×45.68E, h14km, mb4.7/19, Ms3.7, Error ellipse: s-maj=1.9km s-min=1.8km az=165.0*
*NEIC **25** 07:34:25.0±1.8, 33.63N×45.73E, h2km±12km, mb4.6/18, MS3.8/1, ML4.1(TEH), Error ellipse: s-maj=8.6km s-min=4.9km az=191.0*
*IDC **25** 07:34:25.8±0.8, 33.74N×45.71E, mb4.0/10, mb1 4.1/13, mb1mx3.9/24, mbtmp4.0/13, ML3.9/3, MS3.7/8, Ms1 3.7/8, ms1mx3.5/28, Error ellipse: s-maj=20.4km s-min=15.2km az=129.0*
*TEH **25** 07:34:28.7, 33.66N×45.89E, h10km, Mn4.1*
*MOS **25** 07:34:28.8±0.7, 33.78N×45.55E, h33km, mb4.8/18, Error ellipse: s-maj=13.9km s-min=8.8km az=43.8*

ISC 25 07:34:24.2±0.2, 33.63N±0.03×45.74E±0.03, h10km, n112, σ1§28/111, mb4.4/27, MS3.8/8, 3C-4D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.98**	**45**	Pg	**Pg**	**07 34 44.7**	**+0.8**
BHD	**Baghdad**	**1.19**	**253**	*i* x	x	07 34 46.5	
BHD				*i* x	x	07 35 06.0	
BHD	**Baghdad**	**1.19**	**253**	*i* x	x	07 34 51.0	
BHD				*i* x	x	07 35 10.0	
IDHR	**Dehrash**	**1.20**	**27**	Pn	**Pn**	**07 34 49.9**	**+2.9**
IVIS	**Veys**	**1.29**	**46**	Pn	**Pn**	**07 34 50.6**	**+2.3**
IKOM	**Komasi**	**1.58**	**69**	Pn	**Pn**	**07 34 55.2**	**+2.8**
ILIN	**Laeen**	**1.64**	**38**	Pn	**Pn**	**07 34 56.8**	**+3.5**
SNGE	**Sanandaj**	**1.98**	**42**	*e*PG	**Pg**	**07 35 02.1**	**-1.7**
SNGE				*e*SG	**Sg**	**07 35 29.6**	**-0.5**
SNGE				AML	AML	07 35 44.1	
	comp=N,610nm,0.6s						
MSL	**Mosul**	**3.43**	**321**	*ex*	x	07 35 44.0	
MSL				*ex*	x	07 36 26.0	
MSL	**Mosul**	**3.43**	**321**	*ex*	x	07 35 59.0	
MSL				*ex*	x	07 36 42.0	
ASAO	**Ashtian**	**3.68**	**74**	*e*Pn	**Pn**	**07 35 25.1**	**+2.7**
ASAO				AML	AML	07 36 38.1	
	comp=N,209nm,0.8s						
MIB	**Mutribah**	**4.05**	**160**	*e*P	**Pn**	**07 35 29.2**	**+1.5**
MIB				AML	AML	07 36 35.7	
	comp=Z,897nm,0.5s						
MIB	**Mutribah**	**4.05**	**160**	*e*P	**Pn**	**07 35 29.5**	**+1.8**
HAKT	**HAKKARI**	**4.25**	**338**	*i* P	**Pn**	**07 35 32.2**	**+1.7**
HAKT				*i* S	**Pg**	**07 35 48.1**	**-1.1**
UMR	**Umm Al-Rimmam**	**4.40**	**157**	*e*P	**Pn**	**07 35 33.9**	**+1.2**
UMR				AML	AML	07 36 43.7	
	comp=Z,425nm,0.3s						
IPIR	**Pirpir**	**4.43**	**101**	Pn	**Pn**	**07 35 32.5**	**-0.6**
NAY	**Al-Naaiem**	**4.55**	**163**	*e*P	**Pn**	**07 35 35.6**	**+0.7**
NAY				AML	AML	07 36 30.8	
	comp=Z,464nm,0.6s						
IQOM	**Qom**	**4.58**	**73**	Pn	**Pn**	**07 35 35.9**	**+0.6**
IQOM				Sn	**Sn**	**07 36 25.6**	**-3.6**
IGZV	**Gazvin**	**4.59**	**52**	Pn	**Pn**	**07 35 47.3**	**+12**
KBD	**Kabd**	**4.75**	**159**	*e*P	**Pn**	**07 35 38.2**	**+0.7**
KBD				AML	AML	07 36 50.5	
	comp=Z,1μm,0.4s						
KBD	**Kabd**	**4.75**	**159**	*e*P	**Pn**	**07 35 38.2**	**+0.6**
KBD				*e*S	**Sn**	**07 36 33.9**	**+0.6**
THKV	**Tehran--Karaj**	**4.81**	**60**	*e*PN	**Pn**	**07 35 40.6**	**+2.2**
IKLH	**Kalahroud**	**4.89**	**92**	Pn	**Pn**	**07 35 37.6**	**-2.1**
RDF	**Al-Radifah**	**4.94**	**161**	*e*P	**Pn**	**07 35 41.0**	**+0.7**
RDF				AML	AML	07 36 40.3	
	comp=Z,2μm,0.4s						
RDF	**Al-Radifah**	**4.94**	**161**	*e*P	**Pn**	**07 35 41.0**	**+0.7**
IVRN	**Varamin**	**5.14**	**73**	Pn	**Pn**	**07 35 43.4**	**+0.2**
IVRN				Sn	**Sn**	**07 36 38.8**	**-4.6**
QRN	**Al-Qurain**	**5.22**	**158**	*e*P	**Pn**	**07 35 44.8**	**+0.6**
QRN				AML	AML	07 36 49.0	
	comp=Z,633nm,0.4s						
GRMI	**Germi**	**5.46**	**18**	*e*PN	**Pn**	**07 35 47.7**	**+0.1**
MARD	**Mardin**	**5.46**	**314**	*i* P	**Pn**	**07 35 47.3**	**-0.4**
DAMV	**Damavand**	**5.51**	**67**	*e*Pn	**Pn**	**07 35 50.0**	**+1.6**
IDMV	**Damavand**	**5.54**	**68**	Pn	**Pn**	**07 35 48.7**	**-0.1**
IZEF	**Zefreh**	**5.57**	**96**	Pn	**Pn**	**07 35 47.4**	**-1.8**
BEST	**Besiri**	**5.59**	**321**	*i* P	**Pn**	**07 35 59.4**	**+10**
BEST				*i* S	**Sn**	**07 36 46.2**	**-8.4**
IGAR	**Garneh**	**5.61**	**102**	Pn	**Pn**	**07 35 46.3**	**-3.4**
NASN	**Na'in**	**5.99**	**96**	*e*PN	**Pn**	**07 35 57.3**	**+2.3**
IFIR	**Firoozkooh**	**6.12**	**69**	Pn	**Pn**	**07 35 57.0**	**0.0**
IFIR				Lg		07 37 34.9	
GNI	**Garni**	**6.56**	**353**	LR	LR	07 39 15.4	
	comp=Z,284nm,21.4s,baz=167,slow=45						
ELZG	**Elazig**	**7.31**	**314**	*i* P	**Pn**	**07 36 08.0**	**-5.7**
ICHK	**Chekchek**	**7.42**	**98**	Pn	**Pn**	**07 36 14.1**	**-1.2**
MALT	**Malatya**	**7.54**	**310**	Pn	**Pn**	**07 36 21.1**	**+4.1**
	comp=Z,24nm,1.4s						
MALT				*e*Sg	**Sg**	**07 38 36.5**	**+1.1**
MALT	**Malatya**	**7.54**	**310**	P	**Pn**	**07 36 21.1**	**+4.1**
MALT				pmax	pmax		
	comp=Z,24nm,1.4s						
ASF	**Jabal al Asfar**	**7.57**	**261**	Pn	**Pn**	**07 36 17.2**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=103,slow=19,SNR=3.5						
ASF				Pg	**Pg**	**07 36 54.6**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=349,slow=3.3,SNR=5.2						
ASF				Lg		07 38 27.8	
	comp=Z,1.8nm,0.3s,baz=129,slow=21,SNR=4.2						
ASF				LR	LR	07 39 54.6	
	comp=Z,376nm,18.5s,baz=313,slow=43						
GZT	**Gaziantep**	**7.63**	**301**	*i* P	**Pn**	**07 36 23.8**	**+5.6**
IMEH	**Mehriz**	**7.82**	**104**	Pn	**Pn**	**07 36 19.4**	**-1.5**
IBAF	**Bafgh**	**8.54**	**101**	Pn	**P**	**07 36 29.2**	**-1.7**
BANOM	**Banah**	**11.96**	**127**	⇓P	**P**	**07 37 14.7**	**-3.1**
	SNR=10						
ASHO	**Ashiyiah**	**12.67**	**132**	⇓P	**P**	**07 37 26.7**	**-0.7**
	SNR=14						
BSY	**Bisya**	**14.81**	**134**	⇑P	**P**	**07 37 56.0**	**+0.4**
	SNR=9.7						
BSYO	**Bisya**	**14.85**	**134**	P	**P**	**07 37 56.0**	**-0.1**
	SNR=9.7						
SMDO	**Samad**	**15.10**	**131**	⇓P	**P**	**07 37 56.8**	**-2.6**
	SNR=5.8						
JMDO	**Jabal Madar**	**15.64**	**133**	⇑P	**P**	**07 38 04.6**	**-1.9**
WHFO	**Wadi Hawf**	**17.23**	**153**	⇓P	**P**	**07 38 23.4**	**-3.2**
IDI	**Anoyia**	**17.27**	**281**	P	**P**	**07 38 27.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=1.9						
ABTO	**Aybut**	**17.57**	**155**	⇑P	**P**	**07 38 27.1**	**-3.8**
MLR	**Muntele Rosu**	**19.26**	**314**	P	**P**	**07 38 50.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=162,slow=13,SNR=2.7						
AKASG	**Malin Array Be**	**20.91**	**330**	P	**P**	**07 39 08.1**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=144,slow=9.4,SNR=14						
BVAR	**Borovoye Array**	**26.19**	**35**	P	**P**	**07 40 01.5**	**+1.0**
	comp=Z,0.4nm,0.5s,mb3.2,baz=217,slow=7.2,SNR=4.3						
GERES	**GERESS Array B**	**28.23**	**312**	LR	LR	07 53 20.5	
	comp=Z,124nm,19.8s,MS3.5,baz=288,slow=40						
KURK	**Kurchatov**	**29.43**	**45**	P	**P**	**07 40 30.3**	**+0.3**
	comp=Z,6.3nm,1.3s,mb4.2						
KURK	**Kurchatov**	**29.43**	**45**	P	**P**	**07 40 30.3**	**+0.3**
	comp=Z,6.3nm,1.3s,mb4.2						
KURK	**Kurchatov**	**29.43**	**45**	P	**P**	**07 40 30.3**	**+0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
MKAR	**Makanchi Array**	**30.57**	**54**	P	**P**	**07 40 39.8**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.9,baz=239,slow=7.1,SNR=9.7						
MKAR				LR	LR	07 55 15.4	
	comp=Z,88nm,19.0s,MS3.4,baz=2.6,slow=41						
FINES	**FINESS Array B**	**30.57**	**341**	LR	LR	07 54 14.5	
	comp=Z,185nm,18.4s,MS3.8,baz=17,slow=39						
SBF	**Sospel**	**31.32**	**300**	*e*P	**P**	**07 40 46.6**	**-0.2**
	comp=Z,35nm,0.9s,mb4.9						
SBF	**Sospel**	**31.32**	**300**	*e*P	**P**	**07 40 46.6**	**-0.2**
SBF				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
FRF	**La Foret Royal**	**31.86**	**300**	*e*P	**P**	**07 40 51.1**	**-0.4**
	comp=Z,12nm,1.1s,mb4.4						
FRF	**La Foret Royal**	**31.86**	**300**	*e*P	**P**	**07 40 51.1**	**-0.4**
FRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
MBDF	**Montbardon**	**31.89**	**302**	*e*P	**P**	**07 40 52.4**	**+0.6**
	comp=Z,14nm,0.8s,mb4.6						
MBDF	**Montbardon**	**31.89**	**302**	*e*P	**P**	**07 40 52.4**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
BNI	**Bardonecchia**	**32.00**	**303**	*e*P	**P**	**07 40 52.6**	**0.0**
	comp=Z,23nm,0.9s,mb5.0						
BNI	**Bardonecchia**	**32.00**	**303**	*e*P	**P**	**07 40 52.6**	**-0.1**
	comp=Z,23nm,0.9s,mb5.0						
BNI	**Bardonecchia**	**32.00**	**303**	*e*P	**P**	**07 40 52.6**	**-0.1**
BNI				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.0						
LPG	**La Plagne**	**32.00**	**303**	*e*P	**P**	**07 40 53.4**	**+0.7**
	comp=Z,13nm,0.7s,mb4.5						
LPG	**La Plagne**	**32.00**	**303**	*e*P	**P**	**07 40 53.4**	**+0.7**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
LPL	**La Plagne**	**32.02**	**303**	*e*P	**P**	**07 40 53.6**	**+0.7**
	comp=Z,23nm,0.9s,mb4.7						
LPL	**La Plagne**	**32.02**	**303**	*e*P	**P**	**07 40 53.6**	**+0.7**
LPL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**32.18**	**309**	*e*P	**P**	**07 40 53.1**	**-1.1**
ORIF	**Oris-en-Rattie**	**32.54**	**302**	*e*P	**P**	**07 40 56.0**	**-1.4**
	comp=Z,5.2nm,0.7s,mb4.3						
ORIF				*e*R			
	comp=Z,148nm,18.2s						
CABF	**La Chapelle**	**32.63**	**305**	*e*P	**P**	**07 40 58.0**	**-0.1**
	comp=Z,24nm,1.0s,mb4.8						
CABF	**La Chapelle**	**32.63**	**305**	*e*P	**P**	**07 40 58.0**	**-0.1**
CABF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
VIVF	**Saint-Julien-l**	**33.39**	**302**	*e*P	**P**	**07 41 03.8**	**-1.0**
	comp=Z,8.4nm,0.9s,mb4.4						
VIVF	**Saint-Julien-l**	**33.39**	**302**	*e*P	**P**	**07 41 03.8**	**-1.0**
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
LASF	**Ste Croix**	**33.91**	**300**	*e*P	**P**	**07 41 08.5**	**-0.9**
	comp=Z,7.3nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**34.15**	**42**	P	**P**	**07 41 13.1**	**+1.8**
	comp=Z,0.9nm,0.4s,mb4.0,baz=153,slow=6.8,SNR=3.3						
ZAL				LR	LR	07 58 52.8	
	comp=Z,159nm,18.2s,MS3.8,baz=224,slow=43						
ZAL	**Zalesovo**	**34.15**	**42**	P	**P**	**07 41 13.1**	**+1.8**
ZAL				LR	LR	07 58 52.8	
SMF	**Signal de Mont**	**34.16**	**305**	*e*P	**P**	**07 41 10.7**	**-0.8**
	comp=Z,38nm,0.9s,mb5.0						
SMF	**Signal de Mont**	**34.16**	**305**	*e*P	**P**	**07 41 10.7**	**-0.8**
SMF				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
LOR	**Lormes**	**34.23**	**306**	*e*P	**P**	**07 41 11.1**	**-1.0**
	comp=Z,16nm,1.1s,mb4.6						
LOR				*e*R			
	comp=Z,163nm,19.5s						
LOR	**Lormes**	**34.23**	**306**	*e*P	**P**	**07 41 11.1**	**-1.0**
LOR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
LOR				MLR	MLR		
	comp=Z,160nm,19.5s,MS3.8						
SSF	**Saint Saulge**	**34.45**	**306**	*e*P	**P**	**07 41 13.2**	**-0.7**
	comp=Z,14nm,1.2s,mb4.8						
SSF	**Saint Saulge**	**34.45**	**306**	*e*P	**P**	**07 41 13.2**	**-0.7**
SSF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
AVF	**Avril sur Loir**	**34.52**	**305**	*e*P	**P**	**07 41 13.6**	**-0.9**
	comp=Z,24nm,1.0s,mb4.8						
AVF	**Avril sur Loir**	**34.52**	**305**	*e*P	**P**	**07 41 13.6**	**-0.9**
AVF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**35.25**	**304**	*e*P	**P**	**07 41 20.3**	**-0.5**
	comp=Z,13nm,1.0s,mb4.5						
TCF	**Toulx Ste Croi**	**35.25**	**304**	*e*P	**P**	**07 41 20.3**	**-0.5**
TCF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
RJF	**Les Rejaudoux**	**35.66**	**302**	*e*P	**P**	**07 41 23.8**	**-0.5**
	comp=Z,22nm,1.1s,mb4.7						
RJF				*e*R			
	comp=Z,142nm,17.0s						
RJF	**Les Rejaudoux**	**35.66**	**302**	*e*P	**P**	**07 41 23.8**	**-0.5**
RJF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
RJF				MLR	MLR		
	comp=Z,140nm,17.0s,MS3.8						
ARCES	**ARCESS Array B**	**37.69**	**349**	P	**P**	**07 41 40.8**	**-0.3**
	comp=Z,12nm,1.2s,mb4.5,baz=164,slow=8.3,SNR=5.5						
ESDC	**Sonseca Array**	**39.91**	**293**	P	**P**	**07 42 01.6**	**+1.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=76,slow=8.7,SNR=3.7						
ZAK	**Zakamensk**	**44.76**	**50**	*e*P	**P**	**07 42 37.6**	**-1.8**
	comp=Z,1.0nm,1.4s,mb3.5						
ZAK	**Zakamensk**	**44.76**	**50**	*e*P	**P**	**07 42 37.6**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
LSZ	**Lusaka**	**51.43**	**202**	P	**P**	**07 43 33.3**	**+1.6**
	comp=Z,1.6nm,0.7s,mb4.0,baz=37,slow=4.6,SNR=4.6						
LSZ	**Lusaka**	**51.43**	**202**	*e*P	**P**	**07 43 33.8**	**+2.0**
	comp=Z,1.8nm,0.7s,mb4.1						
LSZ	**Lusaka**	**51.43**	**202**	P	**P**	**07 43 33.3**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MATP	**Matopo**	**56.21**	**200**	P	**P**	**07 44 07.9**	**+1.0**
	comp=Z,5.9nm,0.7s,mb4.7,baz=20,slow=8.2,SNR=13						
LBTB	**Lobatse**	**61.38**	**201**	P	**P**	**07 44 44.7**	**+1.8**
	comp=Z,3.8nm,1.0s,mb4.5,baz=29,slow=13,SNR=3.2						
LBTB	**Lobatse**	**61.38**	**201**	*e*P	**P**	**07 44 44.8**	**+1.9**
	comp=Z,17nm,1.4s,mb5.0						
LBTB	**Lobatse**	**61.38**	**201**	*e*P	**P**	**07 44 44.8**	**+1.9**
	comp=Z,17nm,1.4s,mb5.0						
LBTB	**Lobatse**	**61.38**	**201**	*e*P	**P**	**07 44 44.8**	**+1.9**
LBTB				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.0						
ASAJ	**Asahikawa**	**71.91**	**49**	LR	LR	08 20 55.9	
	comp=Z,80nm,19.6s,MS4.0,baz=342,slow=39						
ILAR	**Eielson Array**	**81.43**	**5**	P	**P**	**07 46 44.0**	**+1.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=311,slow=2.4,SNR=7.7						
NEW	**Newport**	**97.04**	**349**	LR	LR	08 32 35.9	
	comp=Z,78nm,18.7s,MS4.2,baz=0.6,slow=36						

*MOS **25** 07:39:21.6±0.8, 11.67N×40.48E, h10km, mb4.7/28, Error ellipse: s-maj=13.6km s-min=4.6km az=110.3*

*CSEM **25** 07:39:22.7±0.3, 11.83N×40.47E, h10km, mb4.6/34, Ms4.1, Error ellipse: s-maj=11.7km s-min=3.5km az=4.0*
*DHMR **25** 07:39:23.8±0.4, 12.58N×40.47E, h12km±53km, ML4.6*
*BJI **25** 07:39:24.0, 11.70N×40.64E, h16km, mB5.3, mb5.0, Ms4.8*
*NEIC **25** 07:39:25.9±0.8, 11.99N×40.44E, h10km, mb4.6/28, Error ellipse: s-maj=17.8km s-min=7.7km az=196.0*
*IDC **25** 07:39:26.8±1.8, 12.30N×40.67E, mb4.2/13, mb1 4.4/14, mb1mx4.3/21, mbtmp4.3/14, ML4.4/1, MS3.9/9, Ms1 3.8/9, ms1mx3.7/20, Error ellipse: s-maj=44.9km s-min=13.4km az=28.0*

ISC 25 07:39:23.3±2.5, 12.0N±0.1×40.53E±0.04, h4km±16km, n145, σ0§92/143, mb4.5/49, MS3.9/12, 3C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.32**	**102**	Pn	**Pn**	**07 40 06.2**	**+3.4**
	112nm,0.3s,baz=270,slow=14,SNR=34						
ATD				Lg		07 40 37.5	
	169nm,0.3s,baz=96,slow=23,SNR=17						
UDYN	**Al 'Udayn**	**3.85**	**60**	*i* P	**Pn**	**07 40 23.1**	**-1.5**
UDYN				*i* S	**Sn**	**07 41 09.8**	**-1.2**
UDYN				AML	AML	07 41 31.0	
	comp=Z,3μm,0.9s						
ADEN	**Aden**	**4.41**	**80**	*i* P	**Pn**	**07 40 32.8**	**+0.3**
ADEN				*i* S	**Sn**	**07 41 26.3**	**+1.4**
LBOS		**4.94**	**68**	⇓*i* P	**Pn**	**07 40 36.6**	**-3.5**
LBOS				*i* S	**Sn**	**07 41 33.5**	**-5.0**
KMBO	**Kilima Mbogo**	**13.48**	**194**	Lg		07 46 43.7	
	comp=Z,0.1nm,0.3s,baz=110,slow=19,SNR=6.9						
KMBO				LR	LR	07 47 57.6	
	comp=Z,403nm,21.9s,baz=89,slow=37						
ASF	**Jabal al Asfar**	**20.31**	**351**	P	**P**	**07 44 04.2**	**+1.1**
	comp=Z,2.6nm,0.4s,baz=52,slow=13,SNR=3.5						
ASF				LR	LR	07 51 06.5	
	comp=Z,137nm,20.5s,MS3.3,baz=342,slow=35						
BHD	**Baghdad**	**21.42**	**9**	*ex*	x	07 44 57.0	
BHD				*ex*	x	07 49 40.0	
CSS	**Prodhromos**	**23.74**	**345**	*e*P	**P**	**07 44 38.2**	**+0.8**
	comp=Z,7.5nm,0.6s,mb4.3						
CSS	**Prodhromos**	**23.74**	**345**	*e*P	**P**	**07 44 38.2**	**+0.8**
	comp=Z,7.5nm,0.6s,mb4.3						
MSL	**Mosul**	**24.25**	**5**	*ex*	x	07 45 06.5	
MALT	**Malatya**	**26.23**	**356**	*e*P	**P**	**07 45 02.7**	**+1.5**
	comp=Z,14nm,1.1s,mb4.4						
MALT	**Malatya**	**26.23**	**356**	*e*P	**P**	**07 45 02.7**	**+1.6**
	comp=Z,14nm,1.1s,mb4.4						
MALT	**Malatya**	**26.23**	**356**	*e*P	**P**	**07 45 02.7**	**+1.6**
MALT				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
IDI	**Anoyia**	**27.14**	**331**	P	**P**	**07 45 10.2**	**+0.6**
	comp=Z,3.2nm,0.8s,mb3.9,baz=117,slow=9.1,SNR=4.5						
IDI				LR	LR	07 57 38.0	
	comp=Z,93nm,21.1s,MS3.3,baz=352,slow=40						
BR131	**Keskin Array S**	**28.24**	**349**	*e*P	**P**	**07 45 18.8**	**-0.6**
	comp=Z,1.0nm,0.4s,mb3.8						
BR131	**Keskin Array S**	**28.24**	**349**	*e*P	**P**	**07 45 18.8**	**-0.6**
	comp=Z,1.0nm,0.4s,mb3.8						
BRTR	**Keskin Array B**	**28.24**	**349**	P	**P**	**07 45 20.9**	**+1.5**
	comp=Z,7.2nm,1.0s,mb4.3,baz=174,slow=11,SNR=23						
GNI	**Garni**	**28.24**	**7**	LR	LR	07 56 15.1	
	comp=Z,122nm,19.3s,MS3.5,baz=347,slow=36						
GNI	**Garni**	**28.24**	**7**	P	**P**	**07 45 19.9**	**+0.4**
	comp=Z,22nm,1.5s,mb4.6						
GNI	**Garni**	**28.24**	**7**	P	**P**	**07 45 19.9**	**+0.5**
	comp=Z,22nm,1.5s,mb4.6						
GNI	**Garni**	**28.24**	**7**	P	**P**	**07 45 19.9**	**+0.5**
GNI				pmax	pmax		
	comp=Z,22nm,1.5s						
TI2	**Plekhanov**	**29.81**	**6**	*e*P	**P**	**07 45 33.6**	**+0.1**
ZEI	**Tsey**	**30.75**	**5**	*e*P	**P**	**07 45 39.8**	**-2.1**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
KIV	**Kislovodsk**	**31.85**	**3**	*e*P	**P**	**07 45 50.5**	**-1.0**
	comp=Z,60nm,14.0s						
KIV	**Kislovodsk**	**31.85**	**3**	*e*P	**P**	**07 45 50.5**	**-1.0**
KIV				pmax	pmax		
	comp=N,7.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,11nm,1.0s						
KIV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
KIV				MLR	MLR		
	comp=Z,60nm,14.0s,MS3.4						
KIV				MLR	MLR		
	comp=E,84nm,18.0s						
MLR	**Muntele Rosu**	**35.58**	**342**	P	**P**	**07 46 25.3**	**+

comp=Z,12nm,1.0s,mb4.3
LPG La Plagne 44.01 326 *e*P **P** 07 47 32.8 **-0.8**
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
LPL La Plagne 44.03 326 *e*P **P** 07 47 33.0 **-0.8**
comp=Z,11nm,1.1s,mb4.2
LPL La Plagne 44.03 326 *e*P **P** 07 47 33.0 **-0.8**
LPL pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
ORIF Oris-en-Rattie 44.14 325 *e*P **P** 07 47 33.9 **-0.8**
comp=Z,9.1nm,0.9s,mb4.2
ORIF Oris-en-Rattie 44.14 325 *e*P **P** 07 47 33.9 **-0.8**
ORIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
GRA1 Grafenberg Arr 44.63 333 *e*P **P** 07 47 38.5 **-0.1**
comp=Z,6.0nm,0.9s,mb4.4
GRF Grafenberg Arr 44.63 333 *e*P **P** 07 47 38.5 **-0.1**
comp=Z,6.0nm,0.9s,mb4.4
GRF Grafenberg Arr 44.63 333 *e*P **P** 07 47 38.5 **-0.1**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
GRF Grafenberg Arr 44.63 333 *e*P **P** 07 47 38.5 **-0.1**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
VIVF Saint-Julien-l 44.80 324 *e*P **P** 07 47 39.7 **-0.3**
LASF Ste Croix 44.83 322 *e*P **P** 07 47 40.4 **+0.1**
comp=Z,37nm,1.5s,mb4.7
CABF La Chapelle 45.06 327 *e*P **P** 07 47 41.4 **-0.7**
CLL Collm 45.10 336 P **P** 07 47 42.0 **-0.3**
CLL *e* 07 47 52.0
CLL Collm 45.10 336 *e*P **P** 07 47 42.0 **-0.3**
CLL *e* 07 47 52.0
HINF Hinteralfeld 45.43 328 *e*P **P** 07 47 44.4 **-0.6**
MTLF Montolieu 45.43 321 *e*P **P** 07 47 44.5 **-0.6**
CDF Champ du Feu 45.60 329 *e*P **P** 07 47 45.9 **-0.4**
comp=Z,17nm,1.1s,mb4.6
CDF Champ du Feu 45.60 329 *e*P **P** 07 47 45.9 **-0.4**
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
HAU Haudompre 45.81 328 *e*P **P** 07 47 47.4 **-0.6**
SMF Signal de Mont 46.32 325 *e*P **P** 07 47 51.2 **-0.8**
CAF Calviac 46.37 322 *e*P **P** 07 47 52.9 **+0.5**
ARU Arti 46.44 14 *i*P **P** 07 47 53.8 **+1.0**
comp=Z,6.0nm,0.5s,mb4.8
ARU *e*S **S** 07 54 41.0 **+0.4**
ARU Arti 46.44 14⇑*i*P **P** 07 47 53.8 **+1.0**
ARU *e* 07 49 40.8
ARU *e*PPP PPP 07 50 25.0 -1.4
ARU *e*S **S** 07 54 41.0 **+0.4**
ARU *e*SS SS 07 58 05.3 +6.7
ARU pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
AVF Avril sur Loir 46.67 325 *e*P **P** 07 47 54.1 **-0.7**
comp=Z,12nm,0.9s,mb4.5
AVF Avril sur Loir 46.67 325 *e*P **P** 07 47 54.1 **-0.7**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LOR Lormes 46.67 326 *e*P **P** 07 47 54.2 **-0.6**
comp=Z,17nm,1.0s,mb4.6
LOR Lormes 46.67 326 *e*P **P** 07 47 54.2 **-0.6**
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SSF Saint Saulge 46.75 326 *e*P **P** 07 47 54.6 **-0.8**
MEZF Maizieres J'vi 46.80 328 *e*P **P** 07 47 55.8 **0.0**
comp=Z,37nm,0.9s,mb5.0
BGF Bois d'Agland 46.82 325 *e*P **P** 07 47 55.9 **-0.1**
comp=Z,27nm,1.1s,mb4.8
BGF Bois d'Agland 46.82 325 *e*P **P** 07 47 55.9 **-0.1**
BGF pmax pmax
comp=Z,13nm,1.0s,mb4.8
RJF Les Rejaudoux 46.90 323 *e*P **P** 07 47 56.9 **+0.3**
comp=Z,37nm,1.3s,mb4.8
RJF Les Rejaudoux 46.90 323 *e*P **P** 07 47 56.9 **+0.3**
RJF pmax pmax
comp=Z,18nm,1.3s,mb4.8
ETSF Etsaut 46.97 319 *e*P **P** 07 47 58.3 **+1.1**
TCF Toulx Ste Croi 47.03 324 *e*P **P** 07 47 57.2 **-0.5**
comp=Z,8.1nm,1.0s,mb4.3
TCF Toulx Ste Croi 47.03 324 *e*P **P** 07 47 57.2 **-0.5**
TCF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
LFF La Frestale 47.17 322 *e*P **P** 07 47 59.4 **+0.6**
BRVK Borovoye 47.32 24 *e*P **P** 07 47 59.5 **-0.3**
comp=Z,4.3nm,1.4s,mb4.2
BRVK Borovoye 47.32 24 *e*P **P** 07 47 59.5 **-0.3**
comp=Z,4.3nm,1.4s,mb4.2
BRVK Borovoye 47.32 24 *e*P **P** 07 47 59.5 **-0.3**
BRVK pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
BVAR Borovoye Array 47.34 24 P **P** 07 47 59.7 **-0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=207,slow=6.6,SNR=8.9
VSU Vasula 47.49 350 *e*P **P** 07 48 01.1 **0.0**
ESDC Sonseca Array 47.91 313 P **P** 07 48 05.9 **+1.2**
comp=Z,0.4nm,0.3s,mb4.0,baz=120,slow=8.4,SNR=5.7
GIVF Givet 47.92 330 *e*P **P** 07 48 03.9 **-0.8**
BAIF Baives 48.20 329 *e*P **P** 07 48 05.8 **-1.0**
comp=Z,19nm,1.2s,mb4.7
BAIF Baives 48.20 329 *e*P **P** 07 48 05.8 **-1.0**
BAIF pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MKAR Makanchi Array 49.30 37 P **P** 07 48 15.5 **+0.1**
comp=Z,2.6nm,0.9s,mb4.3,baz=233,slow=6.1,SNR=19
MKAR LR LR 08 12 41.9
comp=Z,199nm,20.8s,MS4.1,baz=180,slow=41
KURK Kurchatov 49.49 31 *e*P **P** 07 48 17.1 **+0.4**
comp=Z,9.4nm,1.3s,mb4.7
KURK Kurchatov 49.49 31 *e*P **P** 07 48 17.1 **+0.3**
comp=Z,9.4nm,1.3s,mb4.7
KURK Kurchatov 49.49 31⇑*e*P **P** 07 48 17.5 **+0.7**
LDF La Druitiere 49.63 325 *e*P **P** 07 48 16.7 **-1.1**
comp=Z,76nm,1.5s,mb5.2
LDF La Druitiere 49.63 325 *e*P **P** 07 48 16.7 **-1.1**
LDF pmax pmax
comp=Z,38nm,1.5s,mb5.2
FLN La Foliniere 49.92 325 *e*P **P** 07 48 19.0 **-1.1**
comp=Z,14nm,0.8s,mb4.8
FLN La Foliniere 49.92 325 *e*P **P** 07 48 19.0 **-1.1**
FLN pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
GRR Gorron 49.93 325 *e*P **P** 07 48 19.0 **-1.1**
FINES FINESS Array B 50.43 351 P **P** 07 48 23.4 **-0.4**
comp=Z,4.4nm,1.1s,mb4.4,baz=135,slow=2.7,SNR=4.4
FINES LR LR 08 10 42.8
comp=Z,186nm,18.9s,MS4.1,baz=186,slow=37
SGMF Saint Gilles 50.83 324 *e*P **P** 07 48 25.9 **-1.1**
ROSF Rostrenen 51.28 324 *e*P **P** 07 48 29.0 **-1.4**
comp=Z,421nm,1.9s,mb5.7
ROSF Rostrenen 51.28 324 *e*P **P** 07 48 29.0 **-1.4**
ROSF pmax pmax
comp=Z,211nm,1.9s,mb5.8
WMQ Urumqi 51.35 43 *e*P **P** 07 48 30.8 **-0.2**
NB2 NORSAR Subarra 53.40 343 P **P** 07 48 45.0 **-1.1**
comp=Z,8.7nm,1.0s,mb4.6,baz=145,slow=7.4
NB2 NORSAR Subarra 53.40 343 P **P** 07 48 45.0 **-1.1**
NB2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
NOA NORSAR Array B 53.40 343 P **P** 07 48 45.6 **-0.5**
comp=Z,3.5nm,0.8s,mb4.3,baz=141,slow=7.4,SNR=7.4
NVS Novosibirsk 54.20 29 *e*P **P** 07 48 50.1 **-1.9**
ZAL Zalesovo 54.45 30 P **P** 07 48 53.7 **-0.2**
comp=Z,2.9nm,0.8s,mb4.2,baz=236,slow=6.8,SNR=13
ZAL Zalesovo 54.45 30 P **P** 07 48 53.7 **-0.2**
ZAL Zalesovo 54.45 30 *i*P **P** 07 48 54.0 **+0.1**
comp=Z,3.0nm,0.8s,mb4.3
ZAL Zalesovo 54.45 30 *i*P **P** 07 48 54.0 **+0.1**
ZAL pmax pmax
comp=Z,3.0nm,0.8s
GTA Gaotai 58.79 51 *e*P **P** 07 49 26.3 **+1.2**
GTA AP pP 07 49 30.8 +4.4
GTA XP sP 07 49 33.0 +6.1
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
SONM Songino Array 64.99 43 P **P** 07 50 07.4 **+0.7**
comp=Z,2.9nm,1.1s,mb4.2,baz=246,slow=6.1,SNR=16
SONM LR LR 08 22 05.1
comp=Z,156nm,19.7s,MS4.2,baz=248,slow=40
SONM Songino Array 64.99 43 P **P** 07 50 07.4 **+0.7**
SONM LR LR 08 22 05.1
HHC Hu-ho-hao-te 67.89 51 *e*P **P** 07 50 25.5 **+0.2**
HHC AP pP 07 50 29.5 +3.0
HHC XP sP 07 50 32.3 +5.3
HHC PCP PcP 07 50 52.5 +0.7
HHC PP PP 07 52 56.3 -0.6
HHC PCS 07 54 56.5
HHC S S 07 59 21.5 -1.5
HHC SS SS 08 03 43.3 -2.6
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,223nm,6.1s
HHC LR LR
comp=N,202nm,15.5s,MS4.7
HHC LR LR
comp=E,290nm,19.0s,MS4.7
BOD Bodaibo 71.09 33 *e*P **P** 07 50 41.4 **-3.1**
BOD pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
NJ2 Nanjing 73.88 60 *e*P **P** 07 51 02.0 **+0.5**
SSE Sheshan 75.95 61 *e*P **P** 07 51 11.8 **-1.6**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,196nm,4.1s
SSE Sheshan 75.95 61 *e*P **P** 07 51 11.8 **-1.6**
comp=Z,22nm,0.7s,mb5.2
MAW Mawson 81.07 172 LR LR 08 27 18.1
comp=Z,62nm,20.1s,MS4.0,baz=62,slow=35
MJAR Matsushiro Arr 88.99 53 LR LR 08 33 56.8
comp=Z,111nm,18.9s,MS4.3,baz=195,slow=37
TXAR Lajitas Array 126.29 321 PKP PKPdf 07 58 32.7 +2.4
comp=Z,0.5nm,0.9s,baz=90,slow=3.8,SNR=5.4

SFS ***25*** *07:45:41.0,36.99N×8.46W,h27km*
CNRM ***25*** *07:45:47.5,36.09N×8.51W,h30km,MD3.5*
NEIC ***25*** *07:45:53.9,36.20N×8.46W,h26km,ML3.5(LDG), MN3.2(MDD), After MDD.*
IGIL ***25*** *07:45:53.1,36.28N×8.23W,h0km,ML3.1*
MDD ***25*** *07:45:53.6±1.0,36.22N×8.45W,h21km±17km,mbLg3.2/27, Error ellipse: s-maj=21.0km s-min=4.4km az=37.0, PRXIMO*
INMG ***25*** *07:45:54.8±1.1,36.20N×8.46W,h28km±15km,ML3.0, Error ellipse: s-maj=11.8km s-min=3.1km az=43.0*
LDG ***25*** *07:45:54.3±0.2,36.31N×8.49W,h10km,Md3.7/1,Ml3.5/4, Error ellipse: s-maj=4.7km s-min=3.5km az=33.0*
CSEM ***25*** *07:45:57.2±0.2,36.77N×8.02W,h10km,ML3.3/3,Error ellipse: s-maj=3.8km s-min=1.9km az=31.0*

ISC 25 07:45:56.5±0.6,36.68N±0.03×8.03W±0.03,h10km,n114,
σ1§24/213,13C-3D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MORF	**Marmelete**	**0.80**	**321**	*e*P	**Pb**	**07 46 12.5**	**+0.5**
MORF				*e*S	**Sb**	**07 46 26.6**	**+4.0**
MORF				*e*S	**Sb**	**07 46 26.6**	**+4.0**
MORF				AML	AML	07 46 27.6	
	comp=E,653nm,0.1s						
EGRO	**El Granado**	**0.96**	**27**	⇑P	**Pb**	**07 46 19.2**	**+4.6**
	comp=E,40nm,0.2s,SNR=262						
EGRO				S	**Sb**	**07 46 37.5**	**+10**
	comp=E,184nm,0.1s,SNR=5.3						
EGRO	**El Granado**	**0.96**	**27**	⇑P	**Pb**	**07 46 19.2**	**+4.5**
EGRO				S	**Sb**	**07 46 37.5**	**+10**
PTEO	**Sao Teotonio**	**1.03**	**327**	*i*P	**Pb**	**07 46 16.0**	**+0.1**
PTEO				*e*S	**Sb**	**07 46 32.6**	**+3.3**
	comp=E,75nm,0.2s						
PTEO	**Sao Teotonio**	**1.03**	**327**	P	**Pb**	**07 46 15.9**	**0.0**
PTEO				S	**Sb**	**07 46 32.5**	**+3.2**
PBEJ	**Beja**	**1.35**	**5**	*i*Pn	**Pn**	**07 46 23.5**	**+2.1**
PBEJ				*e*Sn	**Sn**	**07 46 45.5**	**+6.0**
	comp=E,74nm,0.1s						
PBEJ	**Beja**	**1.35**	**5**	P	**Pn**	**07 46 23.4**	**+2.0**
PBEJ				Sn	**Sn**	**07 46 45.5**	**+6.0**
	comp=E,37nm,0.1s						
PBEJ	**Beja**	**1.35**	**5**	P	**Pn**	**07 46 23.4**	**+2.0**
PBEJ				S	**Sb**	**07 46 45.4**	**+6.8**
EMIN	**Mina Concepcio**	**1.53**	**44**	⇑P	**Pn**	**07 46 26.7**	**+2.7**
	comp=E,27nm,0.2s,SNR=260						
EMIN				S	**Sb**	**07 46 51.0**	**+7.2**
	comp=E,26nm,0.1s,SNR=8.2						
EMIN	**Mina Concepcio**	**1.53**	**44**	⇑P	**Pn**	**07 46 26.7**	**+2.7**
EMIN				S	**Sb**	**07 46 50.5**	**+6.7**
EMIN	**Mina Concepcio**	**1.53**	**44**	⇑P	**Pn**	**07 46 26.7**	**+2.7**
EMIN				S	**Sb**	**07 46 50.5**	**+6.7**
GIBL	**Gibalbin**	**1.66**	**84**	P	**Pn**	**07 46 27.0**	**+1.2**
GIBL				S	**Sn**	**07 46 52.4**	**+5.1**
GIBL	**Gibalbin**	**1.66**	**84**	*i*P	**Pn**	**07 46 27.0**	**+1.1**
GIBL				*e*S	**Sn**	**07 46 52.4**	**+5.0**
ESPR	**Espera**	**1.75**	**83**	⇑P	**Pn**	**07 46 27.9**	**+0.7**
	comp=E,101nm,0.2s,SNR=198						
ESPR				S	**Sn**	**07 46 52.9**	**+3.2**
	comp=E,161nm,0.3s,SNR=6.9						
ESPR	**Espera**	**1.75**	**83**	⇑P	**Pn**	**07 46 27.9**	**+0.7**
ESPR				S	**Sn**	**07 46 52.9**	**+3.2**
EVO	**Evora**	**1.85**	**0**	*e*Pn	**Pn**	**07 46 29.5**	**+0.9**
EVO				*e*Sn	**Sn**	**07 46 55.6**	**+3.4**
	comp=E,106nm,0.2s						
EJIF	**Jimena Fronter**	**2.07**	**96**	⇑P	**Pn**	**07 46 31.4**	**-0.3**
	comp=E,4.6nm,0.2s,SNR=23						
EJIF				S	**Sn**	**07 46 58.4**	**+0.6**
	comp=E,5.1nm,0.3s,SNR=4.0						
LIJA	**Lijar**	**2.12**	**83**	P	**Pn**	**07 46 33.5**	**+1.1**
LIJA				S	**Sn**	**07 47 02.6**	**+3.6**
LIJA	**Lijar**	**2.12**	**83**	*i*P	**Pn**	**07 46 33.5**	**+1.1**
LIJA				*e*S	**Sn**	**07 47 02.6**	**+3.6**
LIS	**Lisbon**	**2.22**	**337**	*e*P	**Pn**	**07 46 33.8**	**-0.1**
LIS				*e*S	**Sn**	**07 47 03.4**	**+1.8**
LIS				*e*S	**Sn**	**07 47 03.6**	**+2.0**
LIS				AML	AML	07 47 04.2	
	comp=N,128nm,0.2s						
LIS	**Lisbon**	**2.22**	**337**	*e*P	**Pn**	**07 46 33.8**	**-0.1**
LIS				*e*S	**Sn**	**07 47 03.6**	**+2.0**
EBAD	**Badajoz**	**2.22**	**21**	⇓P	**Pn**	**07 46 35.9**	**+2.0**
	comp=N,18nm,0.1s,SNR=168						
EBAD				S	**Sn**	**07 47 08.0**	**+6.3**
	comp=N,52nm,0.1s,SNR=12						
EBAD	**Badajoz**	**2.22**	**21**	⇓P	**Pn**	**07 46 35.9**	**+2.0**
EBAD				S	**Sn**	**07 47 07.1**	**+5.5**
EBAD	**Badajoz**	**2.22**	**21**	⇓P	**Pn**	**07 46 35.9**	**+2.0**
EBAD				S	**Sn**	**07 47 07.1**	**+5.4**
REAL	**Reales**	**2.28**	**94**	P	**Pn**	**07 46 34.5**	**-0.2**
REAL				S	**Sn**	**07 47 05.5**	**+2.4**
REAL	**Reales**	**2.28**	**94**	*i*P	**Pn**	**07 46 34.5**	**-0.2**
REAL				*e*S	**Sn**	**07 47 05.5**	**+2.4**
PLOU	**Loures**	**2.38**	**338**	*e*Pn	**Pn**	**07 46 35.4**	**-0.7**
PLOU				*e*Sn	**Sn**	**07 47 06.3**	**+0.7**
	comp=N,72nm,0.3s						
PLOU	**Loures**	**2.38**	**338**	P	**Pn**	**07 46 35.4**	**-0.7**
PLOU				Sn	**Sn**	**07 47 06.3**	**+0.7**
	comp=N,36nm,0.3s						
ECAB	**El Cabril**	**2.50**	**55**	⇑P	**Pn**	**07 46 39.5**	**+1.5**
	comp=N,12nm,0.1s,SNR=245						
ECAB				S	**Sn**	**07 47 12.8**	**+4.1**
	comp=N,18nm,0.2s						
ECAB	**El Cabril**	**2.50**	**55**	⇑P	**Pn**	**07 46 39.5**	**+1.6**
ECAB				S	**Sn**	**07 47 12.8**	**+4.1**
ALMR	**Almeirim**	**2.51**	**350**	*e*P	**Pn**	**07 46 38.1**	**+0.1**
ALMR				*e*S	**Sn**	**07 47 10.9**	**+1.9**
ALMR				*e*S	**Sn**	**07 47 11.0**	**+2.0**
ALMR				AML	AML	07 47 13.5	
	comp=N,34nm,0.2s						
EMIJ	**Mijas**	**2.62**	**92**	P	**Pn**	**07 46 37.9**	**-1.7**
	comp=N,2.0nm,0.1s,SNR=14						
EMIJ				S	**Sn**	**07 47 11.6**	**-0.1**
	comp=N,9.5nm,0.2s						
PTOM	**Tomar**	**2.95**	**354**	*e*Pn	**Pn**	**07 46 44.5**	**+0.2**
PTOM				*e*Sn	**Sn**	**07 47 21.6**	**+1.5**
	comp=N,72nm,0.1s						
PTOM	**Tomar**	**2.95**	**354**	P	**Pn**	**07 46 44.4**	**+0.1**
PTOM				Sn	**Sn**	**07 47 21.6**	**+1.5**
	comp=N,36nm,0.1s						
EADA	**Adamuz**	**3.12**	**61**	⇑P	**Pn**	**07 46 48.1**	**+1.4**
	comp=N,24nm,0.1s,SNR=239						
EADA				S	**Sn**	**07 47 28.4**	**+3.9**
	comp=N,20nm,0.1s						
EADA	**Adamuz**	**3.12**	**61**	⇑P	**Pn**	**07 46 48.1**	**+1.4**
EADA				S	**Sn**	**07 47 27.5**	**+3.0**
EADA	**Adamuz**	**3.12**	**61**	⇑P	**Pn**	**07 46 48.1**	**+1.4**
EADA				S	**Sn**	**07 47 27.5**	**+3.0**
ELUQ	**Luque**	**3.13**	**73**	P	**Pn**	**07 46 47.4**	**+0.5**
	comp=N,3.2nm,0.1s						
ELUQ				S	**Sn**	**07 47 27.1**	**+2.4**
	comp=N,7.8nm,0.2s,SNR=7.3						
ELOJ	**Sierra Loja**	**3.14**	**80**	P	**Pn**	**07 46 47.7**	**+0.7**
	comp=N,2.2nm,0.2s,SNR=4.6						
ELOJ				S	**Sn**	**07 47 26.2**	**+1.3**
	comp=N,5.3nm,0.2s,SNR=7.0						
PCBR	**Castelo Branco**	**3.18**	**8**	*e*Pn	**Pn**	**07 46 48.7**	**+1.0**
PCBR				*e*Sn	**Sn**	**07 47 29.0**	**+2.9**
	comp=N,25nm,0.2s						
PCBR	**Castelo Branco**	**3.18**	**8**	Pn	**Pn**	**07 46 48.7**	**+1.0**
PCBR				Sn	**Sn**	**07 47 29.0**	**+2.9**
	comp=N,12nm,0.2s						
PCBR	**Castelo Branco**	**3.18**	**8**	P	**Pn**	**07 46 48.6**	**+0.9**
PCBR				S	**Sn**	**07 47 28.9**	**+2.8**
ERON	**Agron**	**3.40**	**83**	P	**Pn**	**07 46 51.2**	**+0.5**
	comp=N,2.9nm,0.2s,SNR=8.2						
ERON				S	**Sn**	**07 47 31.8**	**+0.2**
	comp=N,3.8nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**3.62**	**79**	P	**Pn**	**07 46 54.2**	**+0.4**
	comp=N,14nm,0.4s,SNR=16						
ECOG				S	**Sn**	**07 47 38.9**	**+1.8**
	comp=N,7.2nm,0.2s						
EBAN	**Banos Encina**	**3.69**	**65**	P	**Pn**	**07 46 55.1**	**+0.3**
	comp=N,9.4nm,0.1s,SNR=36						
EBAN				S	**Sn**	**07 47 41.3**	**+2.6**
	comp=N,6.6nm,0.2s						
EBAN	**Banos Encina**	**3.69**	**65**	P	**Pn**	**07 46 55.1**	**+0.3**
EBAN				S	**Sn**	**07 47 39.4**	**+0.7**
EBAN	**Banos Encina**	**3.69**	**65**	P	**Pn**	**07 46 55.1**	**+0.3**
EBAN				S	**Sn**	**07 47 39.4**	**+0.6**
EQUE	**Quentar**	**3.71**	**81**	P	**Pn**	**07 46 55.3**	**+0.2**
	comp=N,2.7nm,0.2s,SNR=12						
EQUE				S	**Sn**	**07 47 39.4**	**0.0**
	comp=N,5.8nm,0.2s,SNR=6.0						
MTE	**Manteigas**	**3.73**	**6**	*e*Pn	**Pn**	**07 46 56.0**	**+0.6**
MTE				*e*Sn	**Sn**	**07 47 41.9**	**+1.9**
	comp=N,38nm,0.1s						
MTE	**Manteigas**	**3.73**	**6**	P	**Pn**	**07 46 56.1**	**+0.7**
MTE				S	**Sn**	**07 47 41.8**	**+1.8**
TZK	**Tazeka**	**4.07**	**128**	*i*P	**Pn**	**07 46 47.0**	**-13**
TZK				*i*S	**Sn**	**07 47 30.0**	**-18**
EALB	**Alboran**	**4.10**	**99**	P	**Pn**	**07 46 57.0**	**-3.6**
	comp=N,0.5nm,0.0s,SNR=6.6						
EALB				S	**Sn**	**07 47 44.0**	**-5.2**
	comp=N,12nm,0.2s						
EALB	**Alboran**	**4.10**	**99**	P	**Pn**	**07 46 57.0**	**-3.6**
EALB				S	**Sn**	**07 47 41.6**	**-7.6**
EALB	**Alboran**	**4.10**	**99**	P	**Pn**	**07 46 57.0**	**-3.6**
EQES	**Quesada**	**4.11**	**73**	P	**Pn**	**07 47 00.7**	**-0.1**
	comp=N,1.8nm,0.1s,SNR=12						
EQES				S	**Sn**	**07 47 50.1**	**+0.6**
	comp=N,1.8nm,0.1s						
EQES	**Quesada**	**4.11**	**73**	P	**Pn**	**07 47 00.7**	**-0.1**
EQES				S	**Sn**	**07 47 50.1**	**+0.6**
EBER	**Berja**	**4.13**	**85**	P	**Pn**	**07 47 00.7**	**-0.4**
	comp=N,1.6nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**07 47 45.3**	**-4.6**
	comp=N,3.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.13**	**85**	P	**Pn**	**07 47 00.7**	**-0.4**
EBER				S	**Sn**	**07 47 45.3**	**-4.7**
ESDC	**Sonseca Array**	**4.38**	**46**	P	**Pn**	**07 47 05.6**	**+0.9**
	comp=N,82nm,0.1s,baz=230,slow=13,SNR=70						
ESDC				S	**Sn**	**07 47 57.5**	**+1.2**
	comp=N,9.5nm,0.2s,baz=229,slow=23,SNR=8.8						
ESDC	**Sonseca Array**	**4.38**	**46**	P	**Pn**	**07 47 05.6**	**+1.0**
ESDC				S	**Sn**	**07 47 57.5**	**+1.2**
EHUE	**Huescar**	**4.48**	**74**	P	**Pn**	**07 47 05.4**	**-0.7**
	comp=N,2.1nm,0.1s,SNR=22						
EHUE				S	**Sn**	**07 47 59.2**	**+0.3**
	comp=N,2.6nm,0.2s						
PVRL	**Vila Real**	**4.59**	**3**	*e*Pn	**Pn**	**07 47 07.4**	**-0.3**
PVRL				*e*Sn	**Sn**	**07 48 02.0**	**+0.2**
	comp=N,28nm,0.1s						
ENIJ	**Nijar**	**4.68**	**85**	P	**Pn**	**07 47 07.8**	**-1.1**
	comp=N,0.5nm,0.3s,SNR=4.0						
ENIJ				S	**Sn**	**07 48 01.6**	**-2.3**
	comp=N,0.6nm,0.3s,SNR=4.0						
EVIA	**Vianos**	**4.80**	**64**	P	**Pn**	**07 47 10.2**	**-0.4**
	comp=N,1.9nm,0.1s,SNR=5.9						
EVIA				S	**Sn**	**07 48 06.7**	**-0.2**
	comp=N,3.6nm,0.2s						
PCAB	**Cabril**	**5.02**	**360**	*e*Pn	**Pn**	**07 47 12.7**	**-1.1**
PCAB				*e*Sn	**Sn**	**07 48 11.3**	**-1.3**
	comp=N,13nm,0.2s						
PCAB	**Cabril**	**5.02**	**360**	P	**Pn**	**07 47 12.7**	**-1.1**
PCAB				S	**Sn**	**07 48 10.8**	**-1.8**
ELOB	**Lobios**	**5.18**	**360**	P	**Pn**	**07 47 15.1**	**-0.9**
	comp=N,3.7nm,0.1s,SNR=23						
ELOB				S	**Sn**	**07 48 14.5**	**-2.0**
	comp=N,25nm,0.2s						
ELOB	**Lobios**	**5.18**	**360**	P	**Pn**	**07 47 15.1**	**-0.9**
ELOB				S	**Sn**	**07 48 14.5**	**-2.0**
PBRG	**Braganca**	**5.21**	**11**	*e*Pn	**Pn**	**07 47 16.7**	**+0.3**
PBRG				*e*Sn	**Sn**	**07 48 17.6**	**+0.2**
	comp=N,8.9nm,0.3s						
PBRG	**Braganca**	**5.21**	**11**	P	**Pn**	**07 47 16.6**	**+0.2**
PBRG				S	**Sn**	**07 48 17.1**	**-0.3**
ECAL	**Calabor**	**5.35**	**10**	P	**Pn**	**07 47 18.6**	**+0.3**
	comp=N,3.1nm,0.2s,SNR=9.3						
ECAL				S	**Sn**	**07 48 21.3**	**+0.6**
	comp=N,12nm,0.2s						
ECAL	**Calabor**	**5.35**	**10**	P	**Pn**	**07 47 18.6**	**+0.3**
EZAM	**Zamans**	**5.49**	**355**	P	**Pn**	**07 47 19.2**	**-1.1**
	comp=N,5.1nm,0.4s,SNR=7.9						
EZAM				S	**Sn**	**07 48 21.4**	**-2.9**
	comp=N,3.3nm,0.2s,SNR=5.5						
ETOB	**Tobarra**	**5.50**	**67**	P	**Pn**	**07 47 19.2**	**-1.2**
	comp=N,3.9nm,0.2s,SNR=24						
ETOB				S	**Sn**	**07 48 22.4**	**-2.2**
	comp=N,4.1nm,0.1s,SNR=5.2						
ETOB	**Tobarra**	**5.50**	**67**	P	**Pn**	**07 47 19.2**	**-1.3**
ETOB				S	**Sn**	**07 48 22.4**	**-2.2**
EMUR	**La Murta**	**5.53**	**76**	P	**Pn**	**07 47 19.6**	**-1.4**
	comp=N,1.4nm,0.2s,SNR=4.5						
EMUR				S	**Sn**	**07 48 22.7**	**-2.7**
	comp=N,1.5nm,0.3s						
EMUR	**La Murta**	**5.53**	**76**	P	**Pn**	**07 47 19.6**	**-1.4**
EMUR				S	**Sn**	**07 48 22.7**	**-2.7**
ERUA	**La Rua**	**5.75**	**7**	P	**Pn**	**07 47 22.4**	**-1.6**
	comp=N,1.6nm,0.1s,SNR=7.9						
ERUA				S	**Sn**	**07 48 30.3**	**-0.4**
	comp=N,3.6nm,0.2s,SNR=7.9						
STS	**Santiago**	**6.21**	**356**	S	**Sn**	**07 48 40.1**	**-2.3**
	comp=N,4.3nm,0.1s,SNR=4.0						
EMAZ	**Mazaricos**	**6.30**	**354**	P	**Pn**	**07 47 30.2**	**-1.6**
	comp=N,1.7nm,0.1s,SNR=6.5						
EMAZ				S	**Sn**	**07 48 40.1**	**-4.6**
	comp=N,4.0nm,0.1s,SNR=5.3						
EMAZ	**Mazaricos**	**6.30**	**354**	P	**Pn**	**07 47 30.2**	**-1.6**
EPON	**Pontenova**	**6.67**	**6**	P	**Pn**	**07 47 36.3**	**-0.7**
	comp=N,0.3nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**07 48 52.5**	**-1.4**
	comp=N,2.4nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**6.67**	**6**	P	**Pn**	**07 47 36.3**	**-0.7**
EPON				S	**Sn**	**07 48 52.5**	**-1.4**
EARI	**Arriondas**	**6.96**	**17**	P	**Pn**	**07 47 41.6**	**+0.6**
	comp=N,0.5nm,0.3s,SNR=7.9						
EARI				S	**Sn**	**07 49 00.4**	**-0.6**
	comp=N,0.7nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**6.96**	**17**	P	**Pn**	**

SJPF	**Ste Jean**	**8.28**	**37**	*e*Pn	**P**	**07 47 59.6**	**+0.1**
SJPF				*e*Sn	**Sn**	**07 49 32.6**	**-1.5**
	comp=N,3.5nm,0.4s						
ETSF	**Etsaut**	**8.46**	**40**	*e*Pn	**P**	**07 48 02.0**	**0.0**
ETSF				*e*Sn	**Sn**	**07 49 37.0**	**-1.5**
	comp=N,2.5nm,0.4s						
ETSF	**Etsaut**	**8.46**	**40**	*e*Pn	**P**	**07 48 02.0**	**0.0**
ETSF				*e*Sn	**Sn**	**07 49 37.0**	**-1.5**
	comp=N,1.2nm,0.4s						
EGRA	**Graus**	**8.48**	**47**	P	**P**	**07 48 02.0**	**-0.3**
	comp=N,1.3nm,0.2s,SNR=13						
EGRA				S	**Sn**	**07 49 35.1**	**-4.0**
	comp=N,1.6nm,0.6s						
EPOB	**Poblet**	**8.48**	**54**	P	**P**	**07 48 02.0**	**-0.3**
	comp=N,1.1nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**8.48**	**54**	P	**P**	**07 48 02.0**	**-0.3**
EBIE	**Bielsa**	**8.69**	**44**	P	**P**	**07 48 05.3**	**+0.1**
	comp=N,2.3nm,0.2s,SNR=16						
EBIE				S	**Sn**	**07 49 42.5**	**-1.9**
	comp=N,1.9nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**8.69**	**44**	P	**P**	**07 48 05.3**	**0.0**
EBIE				S	**Sn**	**07 49 42.5**	**-1.9**
EPF	**Esparros**	**9.03**	**43**	*e*Pn	**P**	**07 48 10.2**	**+0.3**
EPF				*e*Sn	**Sn**	**07 49 50.7**	**-2.0**
	comp=N,1.7nm,0.3s						
MTLF	**Montolieu**	**10.29**	**47**	*e*Pn	**P**	**07 48 26.9**	**-0.3**
RJF	**Les Rejaudoux**	**11.23**	**37**	*e*Pn	**P**	**07 48 38.8**	**-1.2**
CAF	**Calviac**	**11.23**	**40**	*e*Pn	**P**	**07 48 39.1**	**-1.0**
MFF	**Saint Martin d**	**11.53**	**28**	*e*Pn	**P**	**07 48 42.8**	**-1.3**
LASF	**Ste Croix**	**11.68**	**47**	*e*Pn	**P**	**07 48 45.6**	**-0.6**
QUIF	**Quistinic**	**11.79**	**16**	*e*Pn	**P**	**07 48 45.6**	**-2.0**
ROSF	**Rostrenen**	**12.16**	**15**	*e*Pn	**P**	**07 48 50.8**	**-1.9**
BGF	**Bois d'Agland**	**12.78**	**36**	*e*Pn	**P**	**07 49 00.4**	**-0.5**

IDC 25 07:59:12.6±2.9, 13.26S×171.75E, mb4.0/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/18, Error ellipse: s-maj=135.0km s-min=31.5km az=135.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.27**	**231**	P	P	08 05 51.3	-2.7
	1.3nm,0.4s,baz=61,slow=9.8,SNR=6.8						
WRA	**Warramunga Arr**	**36.40**	**254**	P	P	08 06 19.4	-1.4
	2.3nm,0.7s,baz=85,slow=8.8,SNR=25						
CBIJ	**Chichi jima**	**49.33**	**325**	LR	LR	08 25 56.4	
	comp=Z,111nm,18.8s,baz=301,slow=32						
ILAR	**Eielson Array**	**83.84**	**17**	P	P	08 11 43.6	-1.3
	0.3nm,0.5s,baz=238,slow=5.2,SNR=8.5						

IDC 25 08:17:10.7±2.4, 12.36N×40.75E, mb3.9/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=68.4km s-min=16.1km az=32.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.21**	**112**	Pn	Pn	08 17 48.5	-0.6
	15nm,0.3s,baz=287,slow=16,SNR=6.9						
ATD				Lg		08 18 20.9	
	32nm,0.3s,baz=254,slow=21,SNR=9.0						
KMBO	**Kilima Mbogo**	**13.85**	**195**	Lg		08 24 29.7	
	0.1nm,0.3s,baz=72,slow=24,SNR=2.2						
BRTR	**Keskin Array B**	**27.97**	**348**	P	P	08 23 03.9	-1.2
	2.8nm,1.1s,baz=180,slow=6.2,SNR=6.7						
GERES	**GERESS Array B**	**42.73**	**334**	P	P	08 25 08.3	-2.9
	1.4nm,1.0s,baz=135,slow=3.8,SNR=4.8						
SONM	**Songino Array**	**64.61**	**43**	P	P	08 27 50.3	-1.9
	0.9nm,1.1s,baz=243,slow=6.6,SNR=7.1						
TXAR	**Lajitas Array**	**126.17**	**321**	PKP	PKPdf	08 36 16.5	-1.2
	0.3nm,1.0s,baz=342,slow=4.0,SNR=3.7						

*BJI **25** 08:18:39.7, 12.39N×40.04E, h24km, mB5.2, mb4.7, Ms4.9, Msz4.6*
*IDC **25** 08:18:40.9±0.8, 12.38N×40.68E, mb4.5/19, mb1 4.6/21, mb1mx4.5/25, mbtmp4.5/21, ML3.9/2, MS4.3/3, Ms1 4.3/3, ms1mx3.8/14, Error ellipse: s-maj=20.1km s-min=12.3km az=30.0*
*MOS **25** 08:18:40.8±0.9, 12.45N×40.47E, h10km, mb5.1/64, Error ellipse: s-maj=9.8km s-min=3.3km az=112.7*
*DHMR **25** 08:18:40.6±1.0, 12.57N×40.52E, h10km, ML4.9*
*CSEM **25** 08:18:41.6±0.1, 12.48N×40.51E, h11km, mb4.9/50, Ms4.0, Mw5.0, Error ellipse: s-maj=3.0km s-min=2.2km az=26.0*
*STR **25** 08:18:42.5±0.0, 12.34N×40.30E, Mb4.8, Ms4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **25** 08:18:42.5±0.3, 12.44N×40.50E, h10km, mb4.9/81, Error ellipse: s-maj=8.3km s-min=6.4km az=61.0*
*HRVD **25** 08:18:42.5±0.4, 12.45N×40.60E, h12km, MW5.0/58, Centroid moment Tensor Solution. LP body waves: s19,c22;Mantle waves: s58,c93; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.51±.14; $M_{\theta\theta}$1.16±.13; $M_{\phi\phi}$2.35±.14; $M_{r\theta}$-1.91±.48; $M_{r\phi}$-1.66±.12; $M_{\theta\phi}$0.43±.47; Best double couple: $M_0$4.01×10^{16} NP1:ϕ_s341°, δ36°, λ-62°. NP2:ϕ_s127°, δ59°, λ-109°. Principal axes: T 3.825, Plg12°, Azm231°; N .371, Plg16°, Azm137°; P -4.195, Plg70°, Azm356°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 08:18:40.0±1.8, 12.38N±0.05×40.46E±0.03, h7km±11km, h18km±3.4km: pP-P, n302, σ1§04/308, mb4.8/115, MS4.3/13, 12C-15D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.48**	**110**	Pn	**Pn**	**08 19 20.1**	**-1.5**
	187nm,0.3s,baz=127,slow=22,SNR=21						
ATD				Lg		08 19 52.6	
	136nm,0.3s,baz=103,slow=23,SNR=11						
ATD				Rg		08 20 09.2	
	1μm,0.8s,baz=263,slow=20,SNR=6.2						
ATD	**Arta Tunnel**	**2.48**	**110**	Pn	**Pn**	**08 19 20.0**	**-1.6**
UDYN	**Al 'Udayn**	**3.76**	**65**	*e*P	**Pn**	**08 19 40.7**	**+0.9**
UDYN				*i* S	**Sn**	**08 20 25.9**	**+1.0**
UDYN				AML	AML	08 20 43.3	
	comp=Z,6μm,0.7s						
DHBB	**Dhamar BB**	**4.40**	**60**	*i* P	**Pn**	**08 19 47.6**	**-1.3**
DHBB				*i* S	**Sn**	**08 20 40.8**	**-0.3**
ADEN	**Aden**	**4.43**	**84**	*i* P	**Pn**	**08 19 48.8**	**-0.5**
ADEN				*i* S	**Sn**	**08 20 42.6**	**+0.7**
KMBO	**Kilima Mbogo**	**13.79**	**194**	Pn	**P**	**08 22 00.3**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=41,slow=18,SNR=3.0						
KMBO				Lg		08 26 00.4	
	comp=Z,0.1nm,0.3s,baz=268,slow=17,SNR=5.6						
KMBO				LR	LR	08 27 10.4	
	comp=Z,2μm,21.7s,baz=352,slow=37						
ASF	**Jabal al Asfar**	**19.97**	**351**	P	**P**	**08 23 14.7**	**-1.2**
	comp=Z,20nm,0.9s,baz=59,slow=4.1,SNR=3.1						
ASF				LR	LR	08 30 19.2	
	comp=Z,343nm,19.1s,baz=218,slow=35						
BHD	**Baghdad**	**21.10**	**9**	*ex*	x	08 23 23.0	
BHD				*ex*	x	08 27 25.0	
CSS	**Prodhromos**	**23.40**	**345**	*e*P	**P**	**08 23 51.7**	**+1.2**
	comp=Z,20nm,1.0s,mb4.5						
CSS	**Prodhromos**	**23.40**	**345**	*e*P	**P**	**08 23 51.7**	**+1.2**
	comp=Z,20nm,1.0s,mb4.5						
MSL	**Mosul**	**23.93**	**5**	*ex*	x	08 24 16.5	
GZT	**Gaziantep**	**25.01**	**355**	*i* P	**P**	**08 24 06.9**	**+0.8**
HAKT	**HAKKARI**	**25.24**	**6**	*i* P	**P**	**08 24 09.4**	**+1.1**
MALT	**Malatya**	**25.89**	**356**	*e*P	**P**	**08 24 16.7**	**+2.3**
	comp=Z,37nm,1.3s,mb4.8						
MALT	**Malatya**	**25.89**	**356**	*e*P	**P**	**08 24 16.7**	**+2.3**
	comp=Z,37nm,1.3s,mb4.8						
MALT	**Malatya**	**25.89**	**356**	*e*P	**P**	**08 24 16.7**	**+2.3**
MALT				pmax	pmax		
	comp=Z,37nm,1.3s,mb4.8						
AVNT	**Avonos**	**26.76**	**350**	*i* P	**P**	**08 24 23.6**	**+1.2**
IDI	**Anoyia**	**26.82**	**331**	P	**P**	**08 24 24.3**	**+1.4**
	comp=Z,6.1nm,0.8s,mb4.2,baz=145,slow=14,SNR=5.6						
BR131	**Keskin Array S**	**27.90**	**349**	*e*P	**P**	**08 24 34.0**	**+1.2**
	comp=Z,18nm,1.1s,mb4.6						
BR131	**Keskin Array S**	**27.90**	**349**	*e*P	**P**	**08 24 34.0**	**+1.2**
	comp=Z,18nm,1.1s,mb4.6						
BRTR	**Keskin Array B**	**27.90**	**349**	P	**P**	**08 24 34.5**	**+1.7**
	comp=Z,15nm,0.9s,mb4.6,baz=174,slow=11,SNR=43						
GNI	**Garni**	**27.92**	**7**	*i* P	**P**	**08 24 34.6**	**+1.7**
	comp=Z,500nm,17.0s						
GNI	**Garni**	**27.92**	**7**	*d* P	**P**	**08 24 34.6**	**+1.7**
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
GNI				MLR	MLR		
	comp=Z,500nm,17.0s						

APE	**Apeiranthos**	**28.00**	**334**	*e*P	**P**	**08 24 34.0**	**+0.3**
ESKT	**Eskisehir**	**28.34**	**344**	*i* P	**P**	**08 24 36.4**	**-0.4**
TI2	**Plekhanov**	**29.48**	**7**	*e*P	**P**	**08 24 46.0**	**-1.0**
LSZ	**Lusaka**	**30.04**	**204**	*e*P	**P**	**08 24 54.2**	**+1.9**
	comp=Z,19nm,1.8s,mb4.5						
LSZ	**Lusaka**	**30.04**	**204**	*e*P	**P**	**08 24 54.2**	**+1.9**
LSZ				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.5						
ZEI	**Tsey**	**30.43**	**5**	*e*P	**P**	**08 24 55.8**	**+0.4**
	comp=Z,15nm,1.1s,mb4.6						
ZEI	**Tsey**	**30.43**	**5**	*e*P	**P**	**08 24 55.8**	**+0.4**
ZEI				*i* *PP	pP	08 25 05.0	+7.6
ZEI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
SOC	**Sochi**	**31.10**	**359**	*e*P	**P**	**08 25 00.1**	**-1.2**
	comp=Z,60nm,1.2s,mb5.3						
SOC	**Sochi**	**31.10**	**359**	*e*P	**P**	**08 25 00.1**	**-1.2**
SOC				*e*		08 26 09.7	
SOC				*e*S	**S**	**08 30 12.3**	**+6.3**
SOC				*e*SS	SS	08 32 11.7	+21
SOC				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.3						
SOC				pmax	pmax		
	comp=N,60nm,1.2s						
SOC				pmax	pmax		
	comp=E,41nm,1.1s						
SOC				MLR	MLR		
	comp=N,262nm,9.0s						
SOC				MLR	MLR		
	comp=Z,313nm,9.0s						
SOC				MLR	MLR		
	comp=E,162nm,8.0s						
KIV	**Kislovodsk**	**31.52**	**3**	*e*P	**P**	**08 25 06.4**	**+1.3**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9						
KIV				pmax	pmax		
	comp=N,17nm,0.9s						
KIV				MLR	MLR		
	comp=N,486nm,19.0s,MS4.3						
KIV				MLR	MLR		
	comp=Z,608nm,19.0s,MS4.3						
KIV				MLR	MLR		
	comp=E,292nm,16.0s,MS4.3						
SIM	**Simferopol'**	**32.91**	**352**	P	**P**	**08 25 17.2**	**+0.1**
SIM				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
SKO	**Skopje**	**33.83**	**334**	*i* P	**P**	**08 25 25.9**	**+0.7**
TIP	**Timpagrande**	**33.97**	**326**	*e*P	**P**	**08 25 27.2**	**+0.8**
TIP	**Timpagrande**	**33.97**	**326**	*e*P	**P**	**08 25 27.2**	**+0.8**
CFR	**Carcaliu**	**34.34**	**344**	⇓P	**P**	**08 25 29.7**	**+0.1**
MLR	**Muntele Rosu**	**35.24**	**342**	P	**P**	**08 25 39.0**	**+1.8**
	comp=Z,12nm,0.9s,mb4.8,baz=141,slow=5.7,SNR=13						
VRI	**Vrincioaia**	**35.36**	**343**	⇓P	**P**	**08 25 39.8**	**+1.5**
VOIR		**35.47**	**341**	⇑P	**P**	**08 25 40.7**	**+1.5**
CII	**Carovilli**	**37.09**	**327**	*e*P	**P**	**08 25 53.5**	**+0.6**
	comp=Z,104nm,1.8s,mb5.4						
CII	**Carovilli**	**37.09**	**327**	*e*P	**P**	**08 25 53.5**	**+0.6**
	comp=Z,104nm,1.8s,mb5.4						
BURAR	**Bucovina Array**	**37.38**	**343**	⇓P	**P**	**08 25 57.7**	**+2.4**
DRGR		**37.43**	**340**	⇑P	**P**	**08 25 55.5**	**-0.2**
AQU	**L'Aquila**	**38.01**	**327**	*e*P	**P**	**08 26 01.7**	**+1.1**
	comp=Z,62nm,1.5s,mb5.1						
AQU	**L'Aquila**	**38.01**	**327**	*e*P	**P**	**08 26 01.7**	**+1.1**
	comp=Z,62nm,1.5s,mb5.1						
AQU	**L'Aquila**	**38.01**	**327**	*e*P	**P**	**08 26 01.7**	**+1.1**
AQU				pmax	pmax		
	comp=Z,63nm,1.5s,mb5.1						
VOR	**Voronezh**	**39.26**	**359**	*e*P	**P**	**08 26 11.5**	**+0.5**
VOR				pmax	pmax		
	comp=Z,70nm,2.0s,mb5.0						
VOR				pmax	pmax		
	comp=N,80nm,1.8s						
AKASG	**Malin Array Be**	**39.31**	**349**	P	**P**	**08 26 11.5**	**+0.1**
	comp=N,5.6nm,0.8s,mb4.3,baz=168,slow=7.0,SNR=6.0						
PSZ	**Piszkesteto**	**39.38**	**338**	*e*P	**P**	**08 26 12.7**	**+0.6**
PSZ	**Piszkesteto**	**39.38**	**338**	*e*P	**P**	**08 26 12.7**	**+0.6**
KOLS	**Kolonicke sedl**	**39.45**	**341**	*e*P	**P**	**08 26 14.1**	**+1.5**
CRES	**Cresnjev**	**39.52**	**332**	*e*P	**P**	**08 26 14.4**	**+1.1**
KECS	**Kecovo**	**39.65**	**339**	*e*P	**P**	**08 26 15.5**	**+1.2**
KWP	**Kalwaria**	**39.93**	**342**	*e*P	**P**	**08 26 18.3**	**+1.8**
LJU	**Ljubljana**	**40.11**	**332**	*e*P	**P**	**08 26 19.1**	**+1.0**
STHS	**Stebnicka Huta**	**40.20**	**341**	*e*P	**P**	**08 26 19.0**	**+0.2**
VYHS	**Vyhne**	**40.25**	**338**	*e*P	**P**	**08 26 20.1**	**+0.9**
VYHS				*e*PP	PP	08 27 53.3	-2.3
PERS	**Pernice**	**40.29**	**333**	*e*P	**P**	**08 26 21.0**	**+1.4**
VOY	**Vojsko**	**40.40**	**331**	*e*P	**P**	**08 26 21.7**	**+1.3**
VOJS	**Vojsko**	**40.40**	**331**	*i* P	**P**	**08 26 21.6**	**+1.2**
VOJS	**Vojsko**	**40.40**	**331**	*i* P	**P**	**08 26 21.6**	**+1.1**
OBKA	**Obir**	**40.45**	**332**	⇓*i* P	**P**	**08 26 22.6**	**+1.7**
	comp=N,35nm,1.5s,mb4.9						
ARSA	**Arzberg**	**40.58**	**334**	⇑*i* P	**P**	**08 26 23.3**	**+1.3**
	comp=N,29nm,0.9s,mb4.9						
ARSA	**Arzberg**	**40.58**	**334**	*i* P	**P**	**08 26 23.3**	**+1.3**
	comp=N,29nm,0.9s,mb4.9,SNR=21						
PGF	**Pioggiola**	**40.59**	**324**	*e*P	**P**	**08 26 21.8**	**-0.3**
	comp=N,45nm,1.4s,mb4.6						
PGF	**Pioggiola**	**40.59**	**324**	*e*P	**P**	**08 26 21.8**	**-0.3**
PGF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.6						
ZST	**Bratislava**	**40.67**	**336**	*e*P	**P**	**08 26 23.2**	**+0.5**
SMOL	**Smolenice**	**40.80**	**337**	*e*P	**P**	**08 26 24.4**	**+0.7**
OJC	**Ojcow**	**41.37**	**340**	*e*P	**P**	**08 26 28.5**	**+0.1**
KBA	**Koelnbreinsper**	**41.42**	**332**	⇓*i* P	**P**	**08 26 30.2**	**+1.3**
	comp=Z,9.8nm,1.0s,mb4.4						
KBA	**Koelnbreinsper**	**41.42**	**332**	⇓*i* P	**P**	**08 26 30.2**	**+1.3**
KBA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
MOA	**Molln**	**41.59**	**333**	⇓*i* P	**P**	**08 26 31.2**	**+1.0**
	comp=Z,21nm,1.0s,mb4.7						
OKC	**Ostrava-Krasne**	**41.62**	**338**	*e*P	**P**	**08 26 30.9**	**+0.5**
VRAC	**Vranov**	**41.77**	**337**	*e*P	**P**	**08 26 32.3**	**+0.6**
MORC	**Moravsky Berou**	**41.79**	**338**	*e*P	**P**	**08 26 32.4**	**+0.6**
	comp=Z,49nm,1.8s,mb4.8						
MORC	**Moravsky Berou**	**41.79**	**338**	*e*P	**P**	**08 26 32.4**	**+0.6**
	comp=Z,49nm,1.8s,mb4.8						
MORC	**Moravsky Berou**	**41.79**	**338**	*e*P	**P**	**08 26 32.4**	**+0.6**
MORC				pmax	pmax		
	comp=Z,49nm,1.8s,mb4.8						
AAK	**Ala-Archa**	**42.16**	**38**	*d* *iP*	**P**	**08 26 35.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,22nm,2.5s,mb4.3						
AAK				MLR	MLR		
	comp=Z,500nm,24.0s,MS4.3						
TREC	**Trest**	**42.20**	**336**	*e*P	**P**	**08 26 35.7**	**+0.5**
SBF	**Sospel**	**42.30**	**324**	*e*P	**P**	**08 26 35.5**	**-0.6**
	comp=Z,21nm,1.0s,mb4.5						
SBF	**Sospel**	**42.30**	**324**	*e*P	**P**	**08 26 35.5**	**-0.6**
SBF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
FRU	**Bishkek**	**42.35**	**38**	*e*P	**P**	**08 26 36.0**	**-0.5**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb4.7						
WTTA	**Wattenberg**	**42.36**	**331**	⇓*i* P	**P**	**08 26 37.5**	**+1.0**
	comp=Z,24nm,1.2s,mb4.7						
WTTA	**Wattenberg**	**42.36**	**331**	⇓*i* P	**P**	**08 26 37.5**	**+1.0**
WTTA				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.7						
WATA	**Walderalm**	**42.44**	**331**	⇑*i* P	**P**	**08 26 38.0**	**+0.8**
	comp=Z,22nm,1.2s,mb4.7						
WATA	**Walderalm**	**42.44**	**331**	⇑*i* P	**P**	**08 26 38.0**	**+0.8**
WATA				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.7						
MVIF	**Mont Vial**	**42.49**	**324**	*e*P	**P**	**08 26 39.3**	**+1.7**
TOUF	**Mont Tournerai**	**42.50**	**324**	*e*P	**P**	**08 26 39.1**	**+1.3**
LMR	**La Mourre**	**42.52**	**323**	*e*P	**P**	**08 26 37.1**	**-0.9**
SQTA	**Sankt Quirin**	**42.53**	**330**	⇑*i* P	**P**	**08 26 38.6**	**+0.6**
	comp=Z,15nm,1.1s,mb4.7						
SQTA	**Sankt Quirin**	**42.53**	**330**	⇑*i* P	**P**	**08 26 38.6**	**+0.6**
SQTA				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
FRF	**La Foret Royal**	**42.58**	**323**	*e*P	**P**	**08 26 37.6**	**-0.8**
	comp=Z,44nm,1.5s,mb4.7						
FRF	**La Foret Royal**	**42.58**	**323**	*e*P	**P**	**08 26 37.6**	**-0.8**
FRF				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.7						
GEC2	**GERESS Array S**	**42.59**	**334**	*e*P	**P**	**08 26 39.2**	**+0.8**
	comp=Z,38nm,1.4s,mb4.9						
GEC2	**GERESS Array S**	**42.59**	**334**	*e*P	**P**	**08 26 39.2**	**+0.8**
GEC2				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.9						
GERES	**GERESS Array B**	**42.59**	**334**	P	**P**	**08 26 38.8**	**+0.4**
	comp=Z,8.9nm,0.9s,mb4.5,baz=135,slow=7.5,SNR=48						
MOTA	**Moosalm**	**42.67**	**331**	⇑*i* P	**P**	**08 26 39.3**	**+0.2**
	comp=Z,13nm,1.0s,mb4.6						
MOTA	**Moosalm**	**42.67**	**331**	⇑*i* P	**P**	**08 26 39.3**	**+0.2**
MOTA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
DPC	**Dobruska-Polom**	**42.72**	**337**	*e*P	**P**	**08 26 39.6**	**+0.2**
OBN	**Obninsk**	**42.75**	**357**	*e*P	**P**	**08 26 39.7**	**+0.1**
OBN				*e*		08 28 22.7	
OBN				*e*S	**S**	**08 33 09.6**	**+6.2**
OBN				*e*SS	SS	08 36 31.4	+24
OBN				pmax	pmax		
	comp=Z,72nm,1.6s,mb5.2						
KHC	**Kasperske Hory**	**42.86**	**334**	*e*P	**P**	**08 26 40.5**	**-0.1**
KHC				PP	PP	08 28 23.5	+0.8
KHC	**Kasperske Hory**	**42.86**	**334**	*e*P	**P**	**08 26 40.5**	**-0.1**
KHC				*e*		08 28 23.5	
DAVOX	**Davos**	**42.88**	**329**	P	**P**	**08 26 41.9**	**+1.1**
	comp=Z,6.5nm,0.8s,mb4.4,baz=147,slow=10,SNR=7.8						
DAVOX	**Davos**	**42.88**	**329**	P	**P**	**08 26 41.9**	**+1.1**
ETOS	**Mallorca**	**42.95**	**316**	P	**P**	**08 26 42.0**	**+0.5**
	comp=Z,5.0nm,1.2s,mb4.1						
ETOS	**Mallorca**	**42.95**	**316**	P	**P**	**08 26 42.0**	**+0.5**
	comp=Z,5.0nm,1.2s,mb4.1						
UPC	**Upice**	**42.96**	**337**	*e*P	**P**	**08 26 41.8**	**+0.4**
PRU	**Pruhonice**	**43.12**	**336**	*e*P	**P**	**08 26 42.5**	**-0.2**
KSP	**Ksiaz**	**43.13**	**338**	*e*P	**P**	**08 26 43.7**	**+0.9**
KSP	**Ksiaz**	**43.13**	**338**	*e*P	**P**	**08 26 43.1**	**+0.3**
WET	**Wettzell**	**43.17**	**334**	*e*P	**P**	**08 26 43.0**	**-0.2**
	comp=Z,16nm,1.2s,mb4.6						
WET	**Wettzell**	**43.17**	**334**	*e*P	**P**	**08 26 43.0**	**-0.2**
WET				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
FUR	**Furstenfeldbru**	**43.17**	**332**	*e*P	**P**	**08 26 43.4**	**+0.2**
	comp=Z,20nm,0.9s,mb4.8						
FUR	**Furstenfeldbru**	**43.17**	**332**	*e*P	**P**	**08 26 43.4**	**+0.2**
FUR				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
GELF	**Grande-Etoile**	**43.19**	**322**	*e*P	**P**	**08 26 43.6**	**+0.2**
MBDF	**Montbardon**	**43.21**	**325**	*e*P	**P**	**08 26 43.8**	**+0.3**
	comp=Z,73nm,0.9s,mb5.1						
MBDF	**Montbardon**	**43.21**	**325**	*e*P	**P**	**08 26 43.8**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.1						
DAVA	**Damuels**	**43.23**	**330**	⇓*i* P	**P**	**08 26 44.1**	**+0.5**
	comp=Z,28nm,0.9s,mb5.0						
VILF	**Villemus**	**43.30**	**323**	*e*P	**P**	**08 26 46.4**	**+2.2**
MOS	**Moscow**	**43.32**	**358**	*e*P	**P**	**08 26 44.8**	**+0.6**
MOS				pmax	pmax		
	comp=Z,190nm,1.7s,mb5.5						
SMRF	**Simiane la Rot**	**43.45**	**323**	*e*P	**P**	**08 26 45.3**	**-0.2**
	comp=Z,33nm,1.3s,mb4.6						
PVCC	**Panska Ves**	**43.53**	**336**	*e*P	**P**	**08 26 46.0**	**-0.1**
EIBI	**Ibiza**	**43.61**	**315**	P	**P**	**08 26 45.7**	**-1.2**
	comp=Z,4.3nm,0.9s,mb4.2						
EIBI	**Ibiza**	**43.61**	**315**	P	**P**	**08 26 45.7**	**-1.2**
	comp=Z,4.3nm,0.9s,mb4.2						
LPG	**La Plagne**	**43.69**	**326**	*e*P	**P**	**08 26 46.2**	**-1.2**
	comp=Z,62nm,1.4s,mb4.8						
LPG	**La Plagne**	**43.69**	**326**	*e*P	**P**	**08 26 46.2**	**-1.2**
LPG				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.8						
LPL	**La Plagne**	**43.72**	**326**	*e*P	**P**	**08 26 46.2**	**-1.4**
	comp=Z,21nm,1.0s,mb4.5						
LPL	**La Plagne**	**43.72**	**326**	*e*P	**P**	**08 26 46.2**	**-1.4**
LPL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
SUW	**Suwalki**	**43.73**	**345**	*e*P	**P**	**08 26 47.7**	**+0.1**
ORIF	**Oris-en-Rattie**	**43.83**	**324**	*e*P	**P**	**08 26 47.9**	**-0.6**
	comp=Z,41nm,1.2s,mb4.7						
ORIF				*e*R			
	comp=Z,204nm,18.0s						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**08 26 50.0**	**-0.3**
	comp=Z,15nm,1.1s,mb4.6						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**08 26 50.0**	**-0.3**
	comp=Z,15nm,1.1s,mb4.6						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**08 26 50.0**	**-0.3**
BRG				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
NKC	**Novy Kostel**	**44.18**	**334**	*e*P	**P**	**08 26 51.4**	**+0.1**
GRA1	**Grafenberg Arr**	**44.31**	**333**	*e*P	**P**	**08 26 51.7**	**-0.7**
	comp=Z,24nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**44.31**	**333**	*e*P	**P**	**08 26 51.7**	**

TNS	**Taunus Mts**	**45.94**	**332**	*eP*	**P**	**08 27 05.7**	**+0.3**
	comp=Z,15nm,1.0s,mb4.9						
TNS	**Taunus Mts**	**45.94**	**332**	*eP*	**P**	**08 27 05.7**	**+0.3**
TNS				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
PYM	**Petit Puy Mans**	**45.96**	**324**	*eP*	**P**	**08 27 06.7**	**+1.1**
SMF	**Signal de Mont**	**46.00**	**325**	*eP*	**P**	**08 27 04.4**	**-1.5**
	comp=Z,18nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**46.00**	**325**	*eP*	**P**	**08 27 04.4**	**-1.5**
SMF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
AGO	**Saint Agoulin**	**46.06**	**324**	*eP*	**P**	**08 27 06.9**	**+0.5**
CAF	**Calviac**	**46.06**	**322**	*eP*	**P**	**08 27 06.3**	**-0.1**
	comp=Z,50nm,1.4s,mb5.0						
CAF	**Calviac**	**46.06**	**322**	*eP*	**P**	**08 27 06.3**	**-0.1**
CAF				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
EBIE	**Bielsa**	**46.12**	**319**	P	**P**	**08 27 06.3**	**-0.6**
	comp=Z,60nm,2.0s,mb5.2						
EBIE	**Bielsa**	**46.12**	**319**	P	**P**	**08 27 06.3**	**-0.6**
	comp=Z,60nm,2.0s,mb5.2						
ARU	**Arti**	**46.13**	**14**	*eP*	**P**	**08 27 06.7**	**0.0**
	comp=Z,21nm,0.9s,mb5.1						
ARU	**Arti**	**46.13**	**14**	*eP*	**P**	**08 27 06.7**	**-0.1**
	comp=Z,21nm,0.9s,mb5.1						
ARU	**Arti**	**46.13**	**14**	*eP*	**P**	**08 27 07.0**	**+0.2**
ARU				*e*		08 28 58.1	
ARU				*e*PPP	PPP	08 29 44.8	+5.9
ARU				*e*S	**S**	**08 33 59.5**	**+7.2**
ARU				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,300nm,19.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS4.3						
EPF	**Esparros**	**46.16**	**319**	*eP*	**P**	**08 27 06.7**	**-0.5**
	comp=E,8.5nm,0.8s,mb4.4						
EPF	**Esparros**	**46.16**	**319**	*eP*	**P**	**08 27 06.7**	**-0.5**
EPF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
EVIA	**Vianos**	**46.18**	**312**	P	**P**	**08 27 07.8**	**+0.4**
	comp=Z,5.7nm,1.0s,mb4.5						
EVIA	**Vianos**	**46.18**	**312**	P	**P**	**08 27 07.8**	**+0.3**
	comp=Z,5.7nm,1.0s,mb4.5						
EVIA	**Vianos**	**46.18**	**312**	P	**P**	**08 27 07.8**	**+0.3**
EVIA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
EQES	**Quesada**	**46.28**	**311**	P	**P**	**08 27 07.3**	**-0.9**
	comp=Z,27nm,1.3s,mb5.0						
EQES	**Quesada**	**46.28**	**311**	P	**P**	**08 27 07.3**	**-1.0**
	comp=Z,27nm,1.3s,mb5.0						
AVF	**Avril sur Loir**	**46.36**	**325**	*eP*	**P**	**08 27 07.3**	**-1.4**
	comp=Z,24nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**46.36**	**325**	*eP*	**P**	**08 27 07.3**	**-1.4**
AVF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
LOR	**Lormes**	**46.36**	**326**	*eP*	**P**	**08 27 07.5**	**-1.2**
	comp=Z,34nm,1.0s,mb4.9						
LOR				*eR*			
	comp=Z,179nm,20.5s						
LOR	**Lormes**	**46.36**	**326**	*eP*	**P**	**08 27 07.5**	**-1.2**
LOR				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
LOR				MLR	MLR		
	comp=Z,180nm,20.5s,MS4.0						
SSF	**Saint Saulge**	**46.43**	**325**	*eP*	**P**	**08 27 07.8**	**-1.5**
	comp=Z,20nm,1.0s,mb4.7						
SSF	**Saint Saulge**	**46.43**	**325**	*eP*	**P**	**08 27 07.8**	**-1.5**
SSF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
MEZF	**Maizieres J'vi**	**46.48**	**328**	*eP*	**P**	**08 27 08.9**	**-0.7**
	comp=Z,72nm,1.0s,mb5.3						
BGF	**Bois d'Agland**	**46.51**	**325**	*eP*	**P**	**08 27 09.1**	**-0.8**
	comp=Z,34nm,1.0s,mb4.9						
BGF	**Bois d'Agland**	**46.51**	**325**	*eP*	**P**	**08 27 09.1**	**-0.8**
BGF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
ERON	**Agron**	**46.55**	**310**	P	**P**	**08 27 11.5**	**+1.0**
	comp=Z,12nm,1.1s,mb4.7						
ERON	**Agron**	**46.55**	**310**	P	**P**	**08 27 11.5**	**+1.1**
	comp=Z,12nm,1.1s,mb4.7						
RJF	**Les Rejaudoux**	**46.59**	**322**	*eP*	**P**	**08 27 10.1**	**-0.5**
	comp=Z,52nm,1.4s,mb5.0						
RJF				*eR*			
	comp=Z,195nm,17.0s						
RJF	**Les Rejaudoux**	**46.59**	**322**	*eP*	**P**	**08 27 10.1**	**-0.5**
RJF				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0						
RJF				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.1						
ETSF	**Etsaut**	**46.67**	**318**	*eP*	**P**	**08 27 11.6**	**+0.3**
	comp=Z,59nm,1.2s,mb5.1						
ETSF	**Etsaut**	**46.67**	**318**	*eP*	**P**	**08 27 11.6**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
TCF	**Toulx Ste Croi**	**46.72**	**324**	*eP*	**P**	**08 27 11.0**	**-0.6**
ELOJ	**Sierra Loja**	**46.86**	**310**	P	**P**	**08 27 12.5**	**-0.3**
	comp=Z,77nm,1.9s,mb5.3						
ELOJ	**Sierra Loja**	**46.86**	**310**	P	**P**	**08 27 12.5**	**-0.3**
	comp=Z,77nm,1.9s,mb5.3						
ELOJ	**Sierra Loja**	**46.86**	**310**	P	**P**	**08 27 12.5**	**-0.3**
ELOJ				pmax	pmax		
	comp=Z,77nm,1.9s,mb5.3						
LFF	**La Frestale**	**46.87**	**322**	*eP*	**P**	**08 27 12.6**	**-0.2**
	comp=Z,65nm,1.1s,mb5.2						
LFF	**La Frestale**	**46.87**	**322**	*eP*	**P**	**08 27 12.6**	**-0.2**
LFF				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2						
BRVK	**Borovoye**	**47.04**	**24**	*eP*	**P**	**08 27 13.8**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9						
BRVK	**Borovoye**	**47.04**	**24**	*eP*	**P**	**08 27 13.8**	**-0.2**
	comp=Z,1.2nm,0.8s,mb3.9						
BRVK	**Borovoye**	**47.04**	**24**	*eP*	**P**	**08 27 13.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**47.06**	**24**	P	**P**	**08 27 13.9**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.2,baz=217,slow=7.4,SNR=15						
ELUQ	**Luque**	**47.09**	**310**	P	**P**	**08 27 14.5**	**-0.2**
	comp=Z,18nm,1.5s,mb4.8						
ELUQ	**Luque**	**47.09**	**310**	P	**P**	**08 27 14.5**	**-0.1**
	comp=Z,18nm,1.5s,mb4.8						
ELUQ	**Luque**	**47.09**	**310**	P	**P**	**08 27 14.5**	**-0.1**
ELUQ				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
EMIJ	**Mijas**	**47.14**	**309**	P	**P**	**08 27 14.1**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8						
EMIJ	**Mijas**	**47.14**	**309**	P	**P**	**08 27 14.1**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8						
VSU	**Vasula**	**47.15**	**350**	*eP*	**P**	**08 27 14.6**	**-0.2**
SJPF	**Ste Jean**	**47.21**	**318**	*eP*	**P**	**08 27 15.8**	**+0.3**
	comp=Z,91nm,1.3s,mb5.2						
SJPF	**Ste Jean**	**47.21**	**318**	*eP*	**P**	**08 27 15.8**	**+0.3**
SJPF				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
GIVF	**Givet**	**47.60**	**329**	*eP*	**P**	**08 27 17.1**	**-1.4**
	comp=Z,42nm,1.0s,mb5.1						
GIVF	**Givet**	**47.60**	**329**	*eP*	**P**	**08 27 17.1**	**-1.4**
GIVF				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
ESDC	**Sonseca Array**	**47.63**	**313**	P	**P**	**08 27 19.7**	**+0.8**
	comp=Z,2.9nm,0.8s,mb4.4,baz=115,slow=7.7,SNR=14						
ESDC	**Sonseca Array**	**47.63**	**313**	P	**P**	**08 27 17.2**	**-1.7**
	comp=Z,26nm,2.0s,mb4.9						
ESDC	**Sonseca Array**	**47.63**	**313**	P	**P**	**08 27 17.2**	**-1.7**
	comp=Z,26nm,2.0s,mb4.9						
ESLA	**Sonseca Array**	**47.63**	**313**	*eP*	**P**	**08 27 19.6**	**+0.7**
	comp=Z,30nm,1.9s,mb5.0						
ESLA	**Sonseca Array**	**47.63**	**313**	*eP*	**P**	**08 27 19.5**	**+0.6**
	comp=Z,30nm,1.9s,mb5.0						
BSEG	**Bad Segeberg**	**47.83**	**336**	*eP*	**P**	**08 27 20.2**	**-0.1**
BAIF	**Baives**	**47.88**	**329**	*eP*	**P**	**08 27 18.9**	**-1.8**
	comp=Z,57nm,1.5s,mb5.1						
BAIF	**Baives**	**47.88**	**329**	*eP*	**P**	**08 27 18.9**	**-1.8**
BAIF				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.1						
ESPR	**Espera**	**48.06**	**309**	P	**P**	**08 27 21.8**	**-0.5**
	comp=Z,59nm,2.1s,mb5.2						
ESPR	**Espera**	**48.06**	**309**	P	**P**	**08 27 21.8**	**-0.5**
	comp=Z,59nm,2.1s,mb5.2						
MFF	**Saint Martin d**	**48.27**	**323**	*eP*	**P**	**08 27 23.0**	**-0.7**
	comp=Z,27nm,1.2s,mb4.8						
MFF	**Saint Martin d**	**48.27**	**323**	*eP*	**P**	**08 27 23.0**	**-0.7**
MFF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
EMIN	**Mina Concepcio**	**48.96**	**310**	P	**P**	**08 27 27.9**	**-1.3**
	comp=Z,6.6nm,1.1s,mb4.6						
EMIN	**Mina Concepcio**	**48.96**	**310**	P	**P**	**08 27 27.9**	**-1.3**
	comp=Z,6.6nm,1.1s,mb4.6						
MKAR	**Makanchi Array**	**49.08**	**37**	P	**P**	**08 27 29.1**	**-1.0**
	comp=Z,6.1nm,1.0s,mb4.6,baz=233,slow=6.1,SNR=24						
MKAR				LR	LR	08 50 53.0	
	comp=Z,697nm,19.7s,MS4.7,baz=184,slow=40						
KURK	**Kurchatov**	**49.25**	**31**	*eP*	**P**	**08 27 30.9**	**-0.3**
	comp=Z,36nm,1.8s,mb5.1						
KURK	**Kurchatov**	**49.25**	**31**	*eP*	**P**	**08 27 31.0**	**-0.2**
	comp=Z,36nm,1.8s,mb5.1						
KURK	**Kurchatov**	**49.25**	**31**	*eP*	**P**	**08 27 31.0**	**-0.2**
KURK				pmax	pmax		
	comp=Z,36nm,1.8s,mb5.1						
LDF	**La Druitiere**	**49.32**	**325**	*eP*	**P**	**08 27 29.9**	**-1.9**
EBAD	**Badajoz**	**49.52**	**311**	P	**P**	**08 27 32.2**	**-1.3**
	comp=Z,57nm,2.1s,mb5.2						
EBAD	**Badajoz**	**49.52**	**311**	P	**P**	**08 27 32.2**	**-1.4**
	comp=Z,57nm,2.1s,mb5.2						
FLN	**La Foliniere**	**49.61**	**325**	*eP*	**P**	**08 27 32.2**	**-1.8**
	comp=Z,211nm,1.6s,mb5.6						
FLN				*eR*			
	comp=Z,133nm,18.8s						
FLN	**La Foliniere**	**49.61**	**325**	*eP*	**P**	**08 27 32.2**	**-1.8**
FLN				pmax	pmax		
	comp=Z,106nm,1.6s,mb5.6						
FLN				MLR	MLR		
	comp=Z,130nm,18.8s,MS4.0						
GRR	**Gorron**	**49.62**	**325**	*eP*	**P**	**08 27 32.2**	**-1.9**
	comp=Z,40nm,1.1s,mb5.1						
GRR	**Gorron**	**49.62**	**325**	*eP*	**P**	**08 27 32.2**	**-1.9**
GRR				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
FINES	**FINESS Array B**	**50.09**	**351**	P	**P**	**08 27 37.3**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.5,baz=153,slow=8.5,SNR=9.1						
EVO	**Evora**	**50.20**	**310**	*eP*	**P**	**08 27 37.5**	**-1.2**
	comp=Z,124nm,1.7s,mb5.4						
EVO				*eR*			
	comp=Z,344nm,20.5s						
SGMF	**Saint Gilles**	**50.52**	**324**	*eP*	**P**	**08 27 39.2**	**-1.8**
	comp=Z,92nm,1.4s,mb5.2						
SGMF	**Saint Gilles**	**50.52**	**324**	*eP*	**P**	**08 27 39.2**	**-1.8**
SGMF				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.2						
KAF	**Kangasniemi**	**50.70**	**351**	*ep*	**P**	**08 27 41.2**	**-1.0**
	comp=Z,10nm,1.1s,mb4.7,baz=160,slow=7.6						
KAF	**Kangasniemi**	**50.70**	**351**	*eP*	**P**	**08 27 41.2**	**-1.0**
KAF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
QUIF	**Quistinic**	**50.70**	**323**	*eP*	**P**	**08 27 40.9**	**-1.5**
	comp=Z,128nm,1.5s,mb5.3						
QUIF	**Quistinic**	**50.70**	**323**	*eP*	**P**	**08 27 40.9**	**-1.5**
QUIF				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.3						
JOF	**Joensuu**	**50.89**	**355**	*ep*	**P**	**08 27 41.6**	**-2.0**
	comp=Z,14nm,1.1s,mb4.8						
ROSF	**Rostrenen**	**50.97**	**324**	*eP*	**P**	**08 27 42.5**	**-2.0**
	comp=Z,30nm,1.1s,mb4.8						
ROSF	**Rostrenen**	**50.97**	**324**	*eP*	**P**	**08 27 42.5**	**-2.0**
ROSF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
WMQ	**Urumqi**	**51.16**	**43**	*eP*	**P**	**08 27 45.5**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
HFS	**Hagfors**	**51.61**	**343**	P	**P**	**08 27 48.2**	**-0.9**
	comp=Z,7.3nm,0.8s,mb4.6,baz=158,slow=8.0,SNR=9.4						
KONO	**Kongsberg**	**52.46**	**341**	*eP*	**P**	**08 27 54.4**	**-1.1**
NB2	**NORSAR Subarra**	**53.06**	**343**	P	**P**	**08 27 58.9**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=135,slow=7.9						
NB2	**NORSAR Subarra**	**53.06**	**343**	P	**P**	**08 27 58.9**	**-1.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**53.06**	**343**	P	**P**	**08 27 59.2**	**-0.8**
	comp=Z,9.2nm,0.9s,mb4.7,baz=141,slow=7.4,SNR=18						
NOA	**NORSAR Array B**	**53.06**	**343**	P	**P**	**08 27 59.2**	**-0.8**
NVS	**Novosibirsk**	**53.94**	**29**	*i* P	**P**	**08 28 04.9**	**-1.6**
NVS				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.6						
NVS				pmax	pmax		
	comp=N,11nm,1.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.6s						
ZAL	**Zalesovo**	**54.20**	**31**	P	**P**	**08 28 07.3**	**-1.1**
	comp=E,2.9nm,0.8s,mb4.3,baz=244,slow=6.6,SNR=11						
ARCES	**ARCESS Array B**	**57.90**	**354**	P	**P**	**08 28 33.2**	**-1.7**
	comp=E,5.3nm,0.9s,mb4.5,baz=90,slow=2.4,SNR=4.9						
GTA	**Gaotai**	**58.63**	**51**	*eP*	**P**	**08 28 39.3**	**-1.1**
GTA				AP	pP	08 28 46.0	+3.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
KMI	**Kunming**	**59.87**	**68**	P	**P**	**08 28 49.8**	**+0.6**
KMI				S	**S**	**08 36 59.5**	**0.0**
KMI				SS	SS	08 40 56.5	-0.4
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
KMI				LR	LR		
	comp=Z,179nm,23.7s,MS4.1						
KMI	**Kunming**	**59.87**	**68**	P	**P**	**08 28 49.7**	**+0.5**
	comp=Z,9.0nm,0.7s,mb4.9						
KMI				pP	pP	08 28 53.0	+1.7
KMI				S	**S**	**08 36 59.5**	**0.0**
KMI				SS	SS	08 40 56.4	-0.5
KMI				LR	LR		
	comp=Z,180nm,23.7s,MS4.1						
KMI	**Kunming**	**59.87**	**68**	P	**P**	**08 28 49.7**	**+0.5**
KMI				*PP	pP	08 28 53.0	+1.7
KMI				S	**S**	**08 36 59.5**	**0.0**
KMI				SS	SS	08 40 56.4	-0.5
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
KMI				MLR	MLR		
	comp=Z,180nm,23.7s,MS4.1						
GYA	**Guiyang**	**63.40**	**67**	P	**P**	**08 29 14.3**	**+1.4**
GYA				AP	pP	08 29 19.0	+4.1
GYA				PP	PP	08 31 35.3	+1.3
GYA				S	**S**	**08 37 44.8**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,90nm,3.9s						
GYA				LR	LR		
	comp=N,340nm,18.6s,MS4.7						
GYA				LR	LR		
	comp=E,370nm,18.9s,MS4.7						
GYA				LR	LR		
	comp=Z,360nm,18.0s,MS4.6						
SONM	**Songino Array**	**64.80**	**43**	P	**P**	**08 29 21.1**	**-0.6**
	comp=Z,5.8nm,1.2s,mb4.5,baz=251,slow=5.4,SNR=20						
HHC	**Hu-ho-hao-te**	**67.74**	**51**	*eP*	**P**	**08 29 41.0**	**+0.4**
HHC				AP	pP	08 29 45.5	+2.8
HHC				PCP	PcP	08 30 07.8	+0.3
HHC				PP	PP	08 32 11.0	-0.9
HHC				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.3						
HHC				AMB	AMB		
	comp=Z,150nm,4.4s						
HHC				LR	LR		
	comp=N,276nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=E,316nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=Z,230nm,15.5s,MS4.5						
BOD	**Bodaibo**	**70.85**	**33**	*eP*	**P**	**08 29 56.4**	**-3.1**
BOD				pmax	pmax		
	comp=Z,11nm,1.9s,mb4.5						
NJ2	**Nanjing**	**73.77**	**60**	*eP*	**P**	**08 30 14.3**	**-3.0**
NJ2				AP	pP	08 30 24.0	+4.6
NJ2				XP	sP	08 30 28.5	+8.4
NJ2				PP	PP	08 33 01.8	-1.9
NJ2				S	S	08 39 44.0	-3.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,410nm,6.0s						
NJ2				LR	LR		
	comp=Z,1μm,24.6s,MS5.1						
CN2	**Changchun**	**77.95**	**48**	*eP*	**P**	**08 30 41.5**	**+0.8**
MDJ	**Mudanjiang**	**80.81**	**46**	P	**P**	**08 30 55.3**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,176nm,6.6s						
MDJ				LR	LR		
	comp=N,199nm,20.5s,MS4.5						
MDJ				LR	LR		
	comp=E,43nm,20.5s,MS4.5						
MDJ				LR	LR		
	comp=Z,118nm,19.1s,MS4.3						
VNA2	**Neumayer--Watz**	**89.17**	**194**	*e*	**P**	**08 31 43.1**	**+5.7**
VNA2	**Neumayer--Watz**	**89.17**	**194**	↑*i*P	**P**	**08 31 39.2**	**+1.8**
VNA2				*e*	pP	08 31 43.1	+3.6
VNA2				*e*		08 34 28.0	
VNA2				*e*		08 40 37.7	
VNA1	**Neumayer--Stat**	**89.19**	**195**	*e*	**P**	**08 31 45.4**	**+7.9**
VNA1	**Neumayer--Stat**	**89.19**	**195**	↑*i*P	**P**	**08 31 41.1**	**+3.6**
VNA1				*e*		08 31 45.4	
VNA1				*e*		08 34 29.6	
VNA3	**Neumayer Olymp**	**89.94**	**194**	*e*	**P**	**08 31 47.3**	**+6.4**
VNA3	**Neumayer Olymp**	**89.94**	**194**	↑*i*P	**P**	**08 31 42.7**	**+1.8**
VNA3				*e*		08 31 47.3	
VNA3				*e*		08 34 31.8	
VNA3				*e*		08 40 42.2	
WRA	**Warramunga Arr**	**97.72**	**109**	P	**P**	**08 32 17.2**	**-0.5**
	comp=Z,1.0nm,1.0s,mb4.3,baz=295,slow=3.5,SNR=4.9						
MNTX	**Cornudas Mount**	**125.30**	**324**	PKPdf	PKPdf	08 37 43.5	-1.6
TXAR	**Lajitas Array**	**125.98**	**321**	PKP	PKPdf	08 37 46.1	-0.4
	comp=Z,0.9nm,0.9s,baz=90,slow=2.5,SNR=8.0						

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*BJI **25** 08:21:23.4, 12.00N×39.87E, h10km, mb4.9, Msz4.4*
*IDC **25** 08:21:28.6±1.8, 12.26N×40.62E, mb4.2/13, mb1 4.3/14, mb1mx4.2/23, mbtmp4.2/14, ML4.6/1, MS4.5/1, Ms1 4.4/1, ms1mx3.4/22, Error ellipse: s-maj=43.5km s-min=14.0km az=27.0*
*NEIC **25** 08:21:29.4±0.6, 12.19N×40.50E, h10km, mb4.6/25, MS4.0/2, Error ellipse: s-maj=15.3km s-min=7.3km az=198.0*
*CSEM **25** 08:21:29.7±0.2, 12.53N×40.52E, h10km, mb4.6/24, Ms4.0, Error ellipse: s-maj=8.3km s-min=2.9km az=19.0*

ISC 25 08:21:27.7±0.9, 12.2N±0.1×40.49E±0.05, h10km, n76, σ0°78/75, mb4.4/37, MS4.5/2, Ethiopia

Code	Station Name	Δ°	Az°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.40**	**106**	Pn	**Pn**	**08 22 08.4**	**+0.7**
	143nm,0.3s,baz=74,slow=20,SNR=9.2						
ATD				Lg		08 22 40.5	
	48nm,0.3s,baz=252,slow=23,SNR=5.6						
UDYN	**Al 'Udayn**	**3.81**	**62**	*i* P	**Pn**	**08 22 27.9**	**+0.2**
UDYN				*e*		08 22 28.1	
	baz=334,slow=4.1						
UDYN				*i* S	**Sn**	**08 23 14.1**	**+1.0**
UDYN				AML	AML	08 23 32.9	
	comp=Z,3μm,0.8s						
DHBB	**Dhamar BB**	**4.46**	**58**	*i* P	**Pn**	**08 22 35.1**	**-1.9**
DHBB				*i* S	**Sn**	**08 23 34.8**	**+5.1**
ASF	**Jabal al Asfar**	**20.14**	**351**	P	**P**	**08 26 05.4**	**+0.5**
	comp=Z,5.3nm,0.8s,baz=32,slow=8.0,SNR=5.8						
MALT	**Malatya**	**26.06**	**356**	*eP*	**P**	**08 27 04.6**	**+1.4**
	comp=Z,8.3nm,1.1s,mb4.2						
BRTR	**Keskin Array B**	**28.07**	**349**	P	**P**	**08 27 23.1**	**+1.6**
	comp=Z,3.7nm,0.9s,mb4.0,baz=173,slow=10.0,SNR=9.7						
BRTR	**Keskin Array B**	**28.07**	**349**	P	**P**	**08 27 23.0**	**+1.5**
MLR	**Muntele Rosu**	**35.41**	**342**	P	**P**	**08 28 27.1**	**+1.2**
	comp=Z,4.8nm,0.8s,mb4.5,baz=150,slow=18,SNR=4.4						
AKASG	**Malin Array Be**	**39.47**	**349**	P	**P**	**08 28 59.5**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.0,baz=168,slow=7.0,SNR=5.5						
PSZ	**Piszkesteto**	**39.55**	**338**	*eP*	**P**	**08 29 01.2**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	**39.55**	**338**	*eP*	**P**	**08 29 01.2**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.2						
CRES	**Cresnjev**	**39.68**	**332**	*eP*	**P**	**08 29 03.0**	**+1.3**
VOJS	**Vojsko**	**40.56**	**331**	*eP*	**P**	**08 29 10.4**	**+1.4**
PGF	**Pioggiola**	**40.74**	**324**	*eP*	**P**	**08 29 11.3**	**+0.8**
	comp=Z,15nm,1.2s,mb4.2						
VRAC	**Vranov**	**41.93**	**337**	P	**P**	**08 29 19.9**	**-0.3**
	comp=Z,3.9nm,0.9s,mb4.0,baz=68,slow=3.5,SNR=4.9						
VRAC	**Vranov**	**41.93**	**337**	*eP*	**P**	**08 29 20.6**	**+0.4**
MORC	**Moravsky Berou**	**41.96**	**338**	*eP*	**P**	**08 29 20.7**	**+0.3**
	comp=Z,66nm,2.4s,mb4.8						
MORC	**Moravsky Berou**	**41.96**	**338**	*eP*	**P**	**08 29 20.7**	**+0.3**
	comp=Z,66nm,2.4s,mb4.8						
GERES	**GERESS Array B**	**42.75**	**334**	P	**P**	**08 29 26.9**	**0.0**
	comp=Z,2.8nm,0.9s,mb4.0,baz=135,slow=5.7,SNR=8.5						
DPC	**Dobruska-Polom**	**42.88**	**337**	*eP*	**P**	**08 29 28.1**	**+0.2**
KHC	**Kasperske Hory**	**43.02**	**334**	*eP*	**P**	**08 29 28.4**	**-0.7**
UPC	**Upice**	**43.12**	**337**	*eP*	**P**	**08 29 30.4**	**+0.5**
PRU	**Pruhonice**	**43.29**	**336**	*eP*	**P**	**08 29 31.1**	**-0.1**
MBDF	**Montbardon**	**43.36**	**325**	*eP*	**P**	**08 29 32.9**	**+1.0**
	comp=Z,17nm,0.7s,mb4.6						
LPG	**La Plagne**	**43.85**	**326**	*eP*	**P**	**08 29 35.2**	**-0.7**
	comp=Z,7.7nm,0.9s,mb4.1						
LPL	**La Plagne**	**43.87**	**326**	*eP*	**P**	**08 29 35.3**	**-0.7**
ORIF	**Oris-en-Rattie**	**43.98**	**324**	*eP*	**P**	**08 29 37.0**	**+0.1**
	comp=Z,42nm,1.5s,mb4.7						
ORIF				*eR*			
	comp=Z,204nm,18.0s						
BRG	**Berggiesshubel**	**44.22**	**336**	*eP*	**P**	**08 29 38.7**	**-0.1**
	comp=Z,32nm,2.0s,mb4.7						
BRG	**Berggiesshubel**	**44.22**	**336**	*eP*	**P**	**08 29 38.7**	**-0.1**
	comp=Z

NB2	**NORSAR Subarra**	**53.23**	**343**	P		**P**	**08 30 47.1**	**-1.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=142,slow=7.4							
NOA	**NORSAR Array B**	**53.23**	**343**	P		**P**	**08 30 47.3**	**-1.1**
	comp=Z,2.9nm,0.9s,mb4.2,baz=142,slow=7.3,SNR=5.0							
ZAL	**Zalesovo**	**54.33**	**31**	P		**P**	**08 30 55.7**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=251,slow=10,SNR=4.8							
ZAL				LR		LR	08 57 43.4	
	comp=Z,383nm,19.3s,MS4.5,baz=242,slow=40							
SONM	**Songino Array**	**64.90**	**43**	P		**P**	**08 32 09.8**	**+0.2**
	comp=Z,2.1nm,1.0s,mb4.1,baz=243,slow=6.0,SNR=8.4							
HHC	**Hu-ho-hao-te**	**67.82**	**51**	*eP*		**P**	**08 32 28.5**	**+0.2**
HHC				AP		pP	08 32 32.5	+1.1
HHC				XP		sP	08 32 35.3	+2.7
HHC				PCP		PcP	08 32 55.5	+0.5
HHC				PP		PP	08 34 58.0	-1.8
HHC				SCP			08 36 57.0	
HHC				S		S	08 41 24.5	-0.4
HHC				SCS		ScS	08 42 23.0	-0.4
HHC				AMB		AMB		
	comp=Z,11nm,0.5s,mb5.1							
HHC				LR		LR		
	comp=Z,230nm,17.8s,MS4.5							
SUMG	**Summit**	**75.12**	**342**	*eP*		**P**	**08 33 11.9**	**+0.5**
SUMG	**Summit**	**75.12**	**342**	*eP*		**P**	**08 33 11.9**	**+0.5**
MNTX	**Cornudas Mount**	**125.45**	**324**	PKPdf		PKPdf	08 40 31.8	-1.1
MNTX	**Cornudas Mount**	**125.45**	**324**	PKIKP		PKPdf	08 40 31.8	-1.1
TXAR	**Lajitas Array**	**126.13**	**321**	PKP		PKPdf	08 40 34.6	+0.4
	comp=Z,0.3nm,0.8s,baz=45,slow=1.8,SNR=3.6							

IDC ***25*** *08:27:36.7±2.8, 12.23N×40.48E, mb3.8/8, mb1 3.9/9, mb1mx3.9/19, mbtmp3.9/9, ML4.6/1, MS4.3/7, Ms1 4.3/7, ms1mx4.0/21, Error ellipse: s-maj=67.1km s-min=15.0km az=26.0*

NEIC ***25*** *08:27:37.4±0.5, 12.15N×40.37E, h10km, mb4.5/14, Error ellipse: s-maj=14.0km s-min=7.3km az=214.0*

CSEM ***25*** *08:27:38.2±0.2, 12.61N×40.41E, h10km, mb4.5/13, Ms3.7, Error ellipse: s-maj=7.5km s-min=2.6km az=14.0*

DHMR ***25*** *08:27:39.0±0.9, 12.71N×40.54E, h10km, ML4.5*

ISC 25 08:27:36.4±0.6, 12.28N±0.09×40.41E±0.04, h10km, n54, σ0s87/45, mb4.3/22, MS4.3/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.50**	**107**	Pn	**Pn**	**08 28 18.5**	**+0.6**
	138nm,0.3s,baz=259,slow=12,SNR=15						
ATD				Lg		08 28 52.4	
	59nm,0.3s,baz=274,slow=23,SNR=15						
UDYN	**Al 'Udayn**	**3.85**	**64**	*i* P	**Pn**	**08 28 36.9**	**-0.2**
UDYN				*i* S	**Sn**	**08 29 23.1**	**+0.2**
UDYN				AML	AML	08 29 42.3	
	comp=Z,2μm,0.8s						
DHBB	**Dhamar BB**	**4.50**	**59**	*i* P	**Pn**	**08 28 45.3**	**-0.9**
DHBB				*i* S	**Sn**	**08 29 37.4**	**-1.8**
ADEN	**Aden**	**4.50**	**83**	*i* P	**Pn**	**08 28 47.9**	**+1.7**
ADEN				*i* S	**Sn**	**08 29 40.0**	**+0.8**
KMBO	**Kilima Mbogo**	**13.68**	**193**	Lg		08 34 55.5	
	comp=Z,0.1nm,0.3s,baz=105,slow=16,SNR=3.6						
BHD	**Baghdad**	**21.21**	**9**	*ex*	x	08 32 02.0	
MSEY	**Mahe Island**	**22.55**	**137**	P	**P**	**08 32 36.2**	**-2.0**
	comp=Z,147nm,1.4s,mb5.2						
MSL	**Mosul**	**24.03**	**5**	*ex*	x	08 33 18.5	
MALT	**Malatya**	**25.98**	**356**	P	**P**	**08 33 12.7**	**+1.6**
	comp=Z,30nm,2.1s,mb4.5						
IDI	**Anoyia**	**26.87**	**331**	LR	LR	08 44 03.7	
	comp=Z,181nm,19.8s,MS3.6,baz=350,slow=37						
BR131	**Keskin Array S**	**27.98**	**349**	*eP*	**P**	**08 33 29.9**	**+0.5**
BR131	**Keskin Array S**	**27.98**	**349**	*eP*	**P**	**08 33 29.9**	**+0.5**
BRTR	**Keskin Array B**	**27.98**	**349**	P	**P**	**08 33 30.4**	**+1.1**
	comp=Z,3.0nm,1.0s,mb3.9,baz=174,slow=12,SNR=11						
LSZ	**Lusaka**	**29.93**	**204**	LR	LR	08 46 15.3	
	comp=Z,1μm,21.2s,MS4.5,baz=240,slow=37						
MATP	**Matopo**	**34.55**	**200**	LR	LR	08 49 07.3	
	comp=Z,1μm,19.5s,MS4.6,baz=26,slow=37						
AKASG	**Malin Array Be**	**39.39**	**349**	P	**P**	**08 35 06.8**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=169,slow=6.9,SNR=6.8						
LBTB	**Lobatse**	**39.78**	**201**	LR	LR	08 51 22.7	
	comp=Z,859nm,20.1s,MS4.6,baz=30,slow=36						
VYHS	**Vyhne**	**40.32**	**338**	*eP*	**P**	**08 35 16.9**	**+1.3**
PGF	**Pioggiola**	**40.64**	**324**	*eP*	**P**	**08 35 18.2**	**-0.1**
	comp=Z,13nm,1.2s,mb4.2						
MORC	**Moravsky Berou**	**41.86**	**338**	*eP*	**P**	**08 35 29.0**	**+0.8**
	comp=Z,7.9nm,1.3s,mb4.2						
MORC	**Moravsky Berou**	**41.86**	**338**	*eP*	**P**	**08 35 29.0**	**+0.8**
	comp=Z,7.9nm,1.3s,mb4.2						
FRF	**La Foret Royal**	**42.62**	**323**	*eP*	**P**	**08 35 34.4**	**-0.2**
	comp=Z,19nm,1.3s,mb4.4						
GERES	**GERESS Array B**	**42.65**	**334**	P	**P**	**08 35 35.0**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.8,baz=143,slow=6.7,SNR=9.0						
MBDF	**Montbardon**	**43.26**	**325**	*eP*	**P**	**08 35 40.6**	**+0.9**
	comp=Z,16nm,0.8s,mb4.5						
SMRF	**Simiane la Rot**	**43.49**	**323**	*eP*	**P**	**08 35 41.5**	**-0.1**
LPG	**La Plagne**	**43.74**	**326**	*eP*	**P**	**08 35 42.8**	**-0.8**
	comp=Z,12nm,1.1s,mb4.2						
ORIF	**Oris-en-Rattie**	**43.88**	**324**	*eP*	**P**	**08 35 44.7**	**0.0**
GRA1	**Grafenberg Arr**	**44.37**	**333**	*eP*	**P**	**08 35 48.5**	**-0.2**
	comp=Z,6.0nm,1.3s,mb4.2						
GRF	**Grafenberg Arr**	**44.37**	**333**	*eP*	**P**	**08 35 48.5**	**-0.2**
	comp=Z,6.0nm,1.3s,mb4.2						
LASF	**Ste Croix**	**44.57**	**322**	*eP*	**P**	**08 35 50.5**	**+0.1**
	comp=Z,28nm,1.2s,mb4.7						
CABF	**La Chapelle**	**44.80**	**327**	*eP*	**P**	**08 35 51.3**	**-0.9**
MOX	**Moxa**	**44.90**	**334**	*eP*	**P**	**08 35 54.0**	**+1.1**
DBIC	**Dimbokro**	**44.95**	**267**	LR	LR	08 56 34.8	
	comp=Z,275nm,20.2s,MS4.2,baz=72,slow=39						
DBIC	**Dimbokro**	**44.95**	**267**	P	**P**	**08 35 54.2**	**+0.4**
DBIC	**Dimbokro**	**44.95**	**267**	P	**P**	**08 35 54.2**	**+0.4**
HINF	**Hinteralfeld**	**45.16**	**328**	*eP*	**P**	**08 35 54.5**	**-0.6**
CDF	**Champ du Feu**	**45.34**	**329**	*eP*	**P**	**08 35 55.8**	**-0.6**
	comp=Z,21nm,1.4s,mb4.5						
MDT	**Midelt**	**45.91**	**304**	LR	LR	08 58 05.5	
	comp=Z,518nm,18.9s,MS4.5,baz=331,slow=40						
EPF	**Esparros**	**46.20**	**319**	*eP*	**P**	**08 36 03.6**	**+0.3**
	comp=Z,31nm,1.4s,mb4.7						
LOR	**Lormes**	**46.41**	**326**	*eP*	**P**	**08 36 04.3**	**-0.6**
SSF	**Saint Saulge**	**46.48**	**326**	*eP*	**P**	**08 36 04.8**	**-0.7**
	comp=Z,22nm,1.6s,mb4.8						
TCF	**Toulx Ste Croi**	**46.77**	**324**	*eP*	**P**	**08 36 08.0**	**+0.2**
BVAR	**Borovoye Array**	**47.17**	**24**	P	**P**	**08 36 12.2**	**+1.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=225,slow=10,SNR=6.2						
ESDC	**Sonseca Array**	**47.65**	**313**	P	**P**	**08 36 15.6**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=111,slow=7.5,SNR=4.8						
BAIF	**Baives**	**47.94**	**329**	*eP*	**P**	**08 36 16.1**	**-0.8**
	comp=Z,19nm,1.1s,mb4.7						
MKAR	**Makanchi Array**	**49.19**	**37**	P	**P**	**08 36 26.1**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.9,baz=243,slow=5.4,SNR=6.9						
MKAR	**Makanchi Array**	**49.19**	**37**	P	**P**	**08 36 26.1**	**-0.6**
FLN	**La Foliniere**	**49.65**	**325**	*eP*	**P**	**08 36 29.3**	**-0.9**
	comp=Z,73nm,1.4s,mb5.2						
SGMF	**Saint Gilles**	**50.56**	**324**	*eP*	**P**	**08 36 36.0**	**-1.2**
HFS	**Hagfors**	**51.69**	**343**	P	**P**	**08 36 46.4**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.1,baz=201,slow=13,SNR=4.1						
NOA	**NORSAR Array B**	**53.14**	**343**	LR	LR	09 00 57.3	
	comp=Z,104nm,18.1s,MS3.9,baz=115,slow=38						
SONM	**Songino Array**	**64.91**	**43**	P	**P**	**08 38 18.5**	**+0.2**
	comp=Z,1.2nm,0.9s,mb3.9,baz=298,slow=5.2,SNR=7.4						
MNTX	**Cornudas Mount**	**125.34**	**324**	PKPdf	PKPdf	08 46 40.0	-1.4
MNTX	**Cornudas Mount**	**125.34**	**324**	PKIKP	PKPdf	08 46 40.0	-1.4

BJI ***25*** *08:33:35.2, 12.30N×40.50E, h10km, mB5.5, mb4.8, Ms4.2, Ms2.4.2*

IDC ***25*** *08:33:38.7±1.2, 12.25N×40.60E, mb4.1/13, mb1 4.3/14, mb1mx4.2/21, mbtmp4.2/14, ML4.3/1, MS4.0/1, Ms1 4.0/1, ms1mx3.5/23, Error ellipse: s-maj=30.4km s-min=13.4km az=22.0*

MOS ***25*** *08:33:38.8±0.9, 12.35N×40.39E, h10km, mb4.9/23, Error ellipse: s-maj=14.0km s-min=5.1km az=112.5*

CSEM ***25*** *08:33:38.9±0.1, 12.36N×40.44E, h10km, mb4.6/26, Ms3.7, Error ellipse: s-maj=5.0km s-min=3.2km az=34.0*

NEIC ***25*** *08:33:40.2±0.4, 12.32N×40.48E, h10km, mb4.6/23, Error ellipse: s-maj=10.5km s-min=7.5km az=50.0*

ISC 25 08:33:38.7±0.5, 12.37N±0.08×40.50E±0.06, h10km, (h9km±2.0km:pP-P), n125, σ0s90/122, mb4.5/43, MS4.1/4, 6C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.44**	**110**	Pn	**Pn**	**08 34 17.8**	**-1.4**
	71nm,0.3s,baz=289,slow=7.8,SNR=20						
ATD				Lg		08 34 51.6	
	80nm,0.3s,baz=141,slow=23,SNR=13						
KMBO	**Kilima Mbogo**	**13.79**	**194**	Lg		08 40 49.8	
	0.1nm,0.3s,baz=88,slow=17,SNR=5.4						
ASF	**Jabal al Asfar**	**19.99**	**351**	P	**P**	**08 38 14.7**	**+0.4**
	8.8nm,1.0s,baz=34,slow=5.5,SNR=7.5						
BHD	**Baghdad**	**21.11**	**9**	*ex*	x	08 38 25.0	
MSL	**Mosul**	**23.93**	**5**	*ex*	x	08 39 17.0	
MALT	**Malatya**	**25.91**	**356**	*eP*	**P**	**08 39 08.1**	**-4.6**
	26nm,1.3s,mb4.6						
MALT	**Malatya**	**25.91**	**356**	*eP*	**P**	**08 39 08.1**	**-4.6**
MALT				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.6						
BR131	**Keskin Array S**	**27.92**	**349**	*eP*	**P**	**08 39 32.4**	**+1.4**
	comp=Z,26nm,1.4s,mb4.7						
BR131	**Keskin Array S**	**27.92**	**349**	*eP*	**P**	**08 39 32.4**	**+1.3**
	comp=Z,26nm,1.4s,mb4.7						
BRTR	**Keskin Array B**	**27.92**	**349**	P	**P**	**08 39 33.0**	**+1.9**
	comp=Z,14nm,1.3s,mb4.4,baz=166,slow=10,SNR=18						
GNI	**Garni**	**27.93**	**7**	LR	LR	08 51 17.6	
	comp=Z,292nm,18.9s,MS3.9,baz=285,slow=38						
GNI	**Garni**	**27.93**	**7**	*eP*	**P**	**08 39 33.0**	**+1.8**
GNI	**Garni**	**27.93**	**7**	*eP*	**P**	**08 39 33.0**	**+1.9**
KIV	**Kislovodsk**	**31.53**	**3**	*i* P	**P**	**08 40 08.5**	**+5.3**
MLR	**Muntele Rosu**	**35.27**	**342**	P	**P**	**08 40 35.6**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=124,slow=24,SNR=3.5						
AKASG	**Malin Array Be**	**39.32**	**349**	P	**P**	**08 41 10.0**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.3,baz=169,slow=7.0,SNR=11						
PSZ	**Piszkesteto**	**39.41**	**338**	*eP*	**P**	**08 41 11.4**	**+1.1**
	comp=Z,19nm,1.3s,mb4.7						
PSZ	**Piszkesteto**	**39.41**	**338**	*eP*	**P**	**08 41 11.4**	**+1.0**
	comp=Z,19nm,1.3s,mb4.7						
PSZ	**Piszkesteto**	**39.41**	**338**	*eP*	**P**	**08 41 11.4**	**+1.0**
PSZ				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
KOLS	**Kolonicke sedl**	**39.47**	**341**	*eP*	**P**	**08 41 12.7**	**+1.8**
KECS	**Kecovo**	**39.67**	**339**	*eP*	**P**	**08 41 12.0**	**-0.6**
VYHS	**Vyhne**	**40.28**	**338**	*eP*	**P**	**08 41 18.9**	**+1.4**
PGF	**Pioggiola**	**40.62**	**324**	*eP*	**P**	**08 41 20.6**	**+0.2**
	comp=Z,19nm,1.1s,mb4.3						
PGF	**Pioggiola**	**40.62**	**324**	*eP*	**P**	**08 41 20.6**	**+0.2**
PGF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
OJC	**Ojcow**	**41.39**	**340**	*eP*	**P**	**08 41 17.2**	**-9.4**
VRAC	**Vranov**	**41.80**	**337**	P	**P**	**08 41 31.1**	**+1.1**
	comp=Z,1.6nm,0.3s,mb4.1,baz=171,slow=13,SNR=5.3						
AAK	**Ala-Archa**	**42.15**	**38**	*eP*	**P**	**08 41 33.8**	**+0.8**
	comp=Z,4.0nm,1.7s,mb3.8						
AAK	**Ala-Archa**	**42.15**	**38**	*eP*	**P**	**08 41 33.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.8						
TREC	**Trest**	**42.22**	**336**	*eP*	**P**	**08 41 34.0**	**+0.5**
FRU	**Bishkek**	**42.34**	**38**	*eP*	**P**	**08 41 35.0**	**+0.5**
	comp=Z,40nm,2.0s,mb4.7						
FRU	**Bishkek**	**42.34**	**38**	*eP*	**P**	**08 41 35.0**	**+0.5**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb4.7						
FRF	**La Foret Royal**	**42.61**	**323**	*eP*	**P**	**08 41 36.4**	**-0.3**
	comp=Z,26nm,1.5s,mb4.4						
FRF	**La Foret Royal**	**42.61**	**323**	*eP*	**P**	**08 41 36.4**	**-0.3**
FRF				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.4						
GERES	**GERESS Array B**	**42.62**	**334**	P	**P**	**08 41 37.5**	**+0.8**
	comp=Z,24nm,0.8s,mb4.0,baz=143,slow=6.7,SNR=20						
DPC	**Doruska-Polom**	**42.74**	**337**	*eP*	**P**	**08 41 38.0**	**+0.3**
OBN	**Obninsk**	**42.76**	**357**	*eP*	**P**	**08 41 38.5**	**+0.7**
	comp=Z,52nm,1.7s,mb5.0						
OBN	**Obninsk**	**42.76**	**357**	*ce*	**P**	**08 41 38.5**	**+0.7**
OBN				*e*		08 43 22.5	
OBN				*eS*	**S**	**08 48 05.3**	**+4.0**
OBN				*e*SS	ScS	08 51 55.6	+19
OBN				pmax	pmax		
	comp=Z,52nm,1.7s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.0						
KHC	**Kasperske Hory**	**42.89**	**334**	*eP*	**P**	**08 41 39.1**	**+0.2**
UPC	**Upice**	**42.98**	**337**	*eP*	**P**	**08 41 40.6**	**+0.9**
PRU	**Pruhonice**	**43.15**	**336**	*eP*	**P**	**08 41 41.6**	**+0.6**
MBDF	**Montbardon**	**43.24**	**325**	*eP*	**P**	**08 41 42.5**	**+0.6**
	comp=Z,20nm,1.0s,mb4.5						
MBDF	**Montbardon**	**43.24**	**325**	*eP*	**P**	**08 41 42.5**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
MOS	**Moscow**	**43.33**	**358**	*eP*	**P**	**08 41 41.3**	**-1.1**
	comp=Z,99nm,1.5s,mb5.3						
MOS	**Moscow**	**43.33**	**358**	*eP*	**P**	**08 41 41.3**	**-1.1**
MOS				pmax	pmax		
	comp=Z,99nm,1.5s,mb5.3						
SMRF	**Simiane la Rot**	**43.48**	**323**	*eP*	**P**	**08 41 44.2**	**+0.4**
PVCC	**Panska Ves**	**43.56**	**336**	*eP*	**P**	**08 41 45.1**	**+0.7**
LPG	**La Plagne**	**43.72**	**326**	*eP*	**P**	**08 41 45.0**	**-0.8**
	comp=Z,27nm,1.5s,mb4.5						
LPG	**La Plagne**	**43.72**	**326**	*eP*	**P**	**08 41 45.0**	**-0.8**
LPG				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.4						
LPL	**La Plagne**	**43.75**	**326**	*eP*	**P**	**08 41 44.9**	**-1.1**
	comp=Z,33nm,1.5s,mb4.5						
LPL	**La Plagne**	**43.75**	**326**	*eP*	**P**	**08 41 44.9**	**-1.1**
LPL				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.5						
ORIF	**Oris-en-Rattie**	**43.86**	**324**	*eP*	**P**	**08 41 46.6**	**-0.3**
	comp=Z,12nm,1.1s,mb4.2						
ORIF	**Oris-en-Rattie**	**43.86**	**324**	*eP*	**P**	**08 41 46.6**	**-0.3**
ORIF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
BRG	**Berggiesshubel**	**44.08**	**336**	*eP*	**P**	**08 41 48.9**	**+0.3**
	comp=Z,17nm,1.5s,mb4.6						
BRG	**Berggiesshubel**	**44.08**	**336**	*eP*	**P**	**08 41 48.9**	**+0.3**
	comp=Z,17nm,1.5s,mb4.6						
BRG	**Berggiesshubel**	**44.08**	**336**	*eP*	**P**	**08 41 48.9**	**+0.3**
BRG				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.5						
GRA1	**Grafenberg Arr**	**44.33**	**333**	*eP*	**P**	**08 41 50.4**	**-0.3**
	comp=Z,12nm,1.4s,mb4.4						
GRF	**Grafenberg Arr**	**44.33**	**333**	*eP*	**P**	**08 41 50.4**	**-0.3**
	comp=Z,12nm,1.4s,mb4.4						
GRF	**Grafenberg Arr**	**44.33**	**333**	*eP*	**P**	**08 41 50.4**	**-0.3**
GRF				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.4						
GRF	**Grafenberg Arr**	**44.33**	**333**	*eP*	**P**	**08 41 50.4**	**-0.3**
GRF				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.4						
LASF	**Ste Croix**	**44.56**	**322**	*eP*	**P**	**08 41 52.4**	**-0.2**
	comp=Z,37nm,1.5s,mb4.7						
CABF	**La Chapelle**	**44.78**	**326**	*eP*	**P**	**08 41 52.8**	**-1.5**
	comp=Z,33nm,1.3s,mb4.7						
CABF	**La Chapelle**	**44.78**	**326**	*eP*	**P**	**08 41 52.8**	**-1.5**
CABF				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.7						
CLL	**Collm**	**44.79**	**336**	P	**P**	**08 41 54.0**	**-0.3**
	comp=Z,logA/T=0.8,mb4.4						
CLL	**Collm**	**44.79**	**336**	*eP*	**P**	**08 41 54.0**	**-0.3**
	comp=Z,9.0nm,1.3s,mb4.4						
CLL	**Collm**	**44.79**	**336**	*eP*	**P**	**08 41 54.0**	**-0.3**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
MOX	**Moxa**	**44.86**	**334**	*eP*	**P**	**08 41 54.0**	**-0.9**
DBIC	**Dimbokro**	**45.04**	**267**	P	**P**	**08 41 57.2**	**+0.3**
	comp=Z,5.5nm,0.9s,mb4.4,baz=168,slow=6.6,SNR=3.4						
HINF	**Hinteralfeld**	**45.14**	**328**	*eP*	**P**	**08 41 56.5**	**-0.7**
MTLF	**Montolieu**	**45.16**	**320**	*eP*	**P**	**08 41 57.2**	**-0.2**
CDF	**Champ du Feu**	**45.31**	**329**	*eP*	**P**	**08 41 57.6**	**-0.9**
	comp=Z,17nm,1.2s,mb4.5						
CDF	**Champ du Feu**	**45.31**	**329**	*eP*	**P**	**08 41 57.6**	**-0.9**
CDF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
HAU	**Haudompre**	**45.52**	**328**	*eP*	**P**	**08 41 59.4**	**-0.8**
MDT	**Midelt**	**45.94**	**304**	P	**P**	**08 42 04.0**	**+0.3**
	comp=Z,4.9nm,1.1s,mb4.4,baz=108,slow=8.8,SNR=4.4						
SMF	**Signal de Mont**	**46.03**	**325**	*eP*	**P**	**08 42 03.5**	**-0.7**
CAF	**Calviac**	**46.09**	**322**	*eP*	**P**	**08 42 04.8**	**0.0**
ARU	**Arti**	**46.13**	**14**	*eP*	**P**	**08 42 05.4**	**+0.5**
	comp=Z,6.3nm,0.9s,mb4.5						
ARU	**Arti**	**46.13**	**14**	*eP*	**P**	**08 42 05.4**	**+0.5**
	comp=Z,6.3nm,0.9s,mb4.5						
ARU	**Arti**	**46.13**	**14**	*iP*	**P**	**08 42 05.6**	**+0.7**
ARU				*e*		08 43 55.7	
ARU				*e*PPP	PPP	08 44 41.0	+3.9
ARU				*eS*	**S**	**08 48 58.5**	**+8.5**
ARU				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.8						
EPF	**Esparros**	**46.19**	**319**	*eP*	**P**	**08 42 05.6**	**0.0**
	comp=Z,34nm,1.5s,mb4.8						
EPF	**Esparros**	**46.19**	**319**	*eP*	**P**	**08 42 05.6**	**0.0**
EPF				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
LOR	**Lormes**	**46.39**	**326**	*eP*	**P**	**08 42 06.3**	**-0.8**
	comp=Z,30nm,1.4s,mb4.7						
LOR	**Lormes**	**46.39**	**326**	*eP*	**P**	**08 42 06.3**	**-0.8**
LOR				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
SSF	**Saint Saulge**	**46.46**	**325**	*eP*	**P**	**08 42 06.5**	**-1.1**
	comp=Z,19nm,1.6s,mb4.8						
SSF	**Saint Saulge**	**46.46**	**325**	*eP*	**P**	**08 42 06.5**	**-1.1**
SSF				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.8						
MEZF	**Maizieres J'vi**	**46.50**	**328**	*eP*	**P**	**08 42 07.6**	**-0.3**
	comp=Z,32nm,1.0s,mb4.9						
RJF	**Les Rejaudoux**	**46.62**	**322**	*eP*	**P**	**08 42 08.9**	**0.0**
ETSF	**Etsaut**	**46.71**	**318**	*eP*	**P**	**08 42 10.4**	**+0.8**
	comp=Z,21nm,1.2s,mb4.6						
ETSF	**Etsaut**	**46.71**	**318**	*eP*	**P**	**08 42 10.4**	**+0.8**
ETSF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
TCF	**Toulx Ste Croi**	**46.75**	**324**	*eP*	**P**	**08 42 09.7**	**-0.3**
LFF	**La Frestale**	**46.90**	**322**	*eP*	**P**	**08 42 11.3**	**+0.2**
VSU	**Vasula**	**47.17**	**350**	*eP*	**P**	**08 42 12.6**	**-0.5**
SJPF	**Ste Jean**	**47.24**	**318**	*eP*	**P**	**08 42 14.4**	**+0.5**
GIVF	**Givet**	**47.63**	**329**	*eP*	**P**	**08 42 15.9**	**-0.9**
ESDC	**Sonseca Array**	**47.66**	**313**	P	**P**	**08 42 18.5**	**+1.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=109,slow=7.7,SNR=5.8						
MKAR	**Makanchi Array**	**49.07**	**37**	P	**P**	**08 42 27.8**	**-0.2**
	comp=Z,1.4nm,0.9s,mb4.0,baz=225,slow=5.1,SNR=11						
KURK	**Kurchatov**	**49.24**	**31**	*eP*	**P**	**08 42 29.2**	**0.0**
KURK	**Kurchatov**	**49.24**	**31**	*i* P	**P**	**08 42 29.6**	**+0.3**
KURK	**Kurchatov**	**49.24**	**31**	*c i* P	**P**	**08 42 29.6**	**+0.3**
LDF	**La Druitiere**	**49.35**	**325**	*eP*	**P**	**08 42 28.6**	**-1.5**
GRR	**Gorron**	**49.65**	**325**	*eP*	**P**	**08 42 30.8**	**-1.7**
SGMF	**Saint Gilles**	**50.55**	**324**	*eP*	**P**	**08 42 37.9**	**-1.4**
WMQ	**Urumqi**	**51.14**	**43**	*eP*	**P**	**08 42 43.5**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
NB2	**NORSAR Subarra**	**53.08**	**343**	P	**P**	**08 42 57.0**	**-1.3**
	comp=Z,21nm,1.4s,mb4.9,baz=145,slow=7.4						
NB2	**NORSAR Subarra**	**53.08**	**343**	P	**P**	**08 42 57.0**	**-1.3**
NB2				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
NOA	**NORSAR Array B**	**53.08**	**343**	P	**P**	**08 42 57.7**	**-0.6**
	comp=Z,3.7nm,1.0s,mb4.3,baz=142,slow=7.4,SNR=4.0						
ZAL	**Zalesovo**	**54.19**	**31**	P	**P**	**08 43 07.3**	**+0.8**
	comp=Z,1.7nm,0.4s,mb4.4,baz=139,slow=4.5,SNR=4.1						
GTA	**Gaotai**	**58.61**	**51**	*eP*	**P**	**08 43 38.0**	**-0.3**
GTA				AP	pP	08 43 42.3	+0.9
GTA				XP	sP	08 43 45.3	+2.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.6						
SONM	**Songino Array**	**64.78**	**43**	P	**P**	**08 44 19.2**	**-0.5**
	comp=Z,3.1nm,1.1s,mb4.2,baz=244,slow=5.9,SNR=17						
HHC	**Hu-ho-hao-te**	**67.72**	**51**	*eP*	**P**	**08 44 39.5**	**+0.9**
HHC				AP	pP	08 44 44.0	+2.3
HHC				XP	sP	08 44 46.5	+3.7
HHC				PCP	PcP	08 45 05.3	-0.2
HHC				PP	PP	08 47 09.5

comp=Z,3.0nm,1.1s,mb3.9
GRF Grafenberg Arr 44.15 333 *e*P **P 08 52 57.9 -1.5**
comp=Z,3.0nm,1.1s,mb3.9
DBIC Dimbokro 45.00 267 P **P 08 53 07.0 +0.3**
comp=Z,3.0nm,0.6s,mb4.3,baz=80,slow=12,SNR=6.3
MDT Midelt 45.80 304 LR LR 09 13 20.1
comp=Z,175nm,18.7s,MS4.0,baz=351,slow=37
BVAR Borovoye Array 46.92 24 P **P 08 53 21.1 -0.2**
comp=Z,1.1nm,0.8s,mb3.8,baz=219,slow=9.5,SNR=4.7
ESDC Sonseca Array 47.51 313 P **P 08 53 27.0 +0.8**
comp=Z,1.4nm,0.8s,mb4.0,baz=124,slow=8.1,SNR=5.3
MKAR Makanchi Array 48.96 37 P **P 08 53 36.3 -1.1**
comp=Z,1.7nm,0.9s,mb4.1,baz=239,slow=7.1,SNR=9.3
ZAL Zalesovo 54.06 31 P **P 08 54 16.2 +0.5**
comp=Z,1.3nm,0.4s,mb4.2,baz=203,slow=6.7,SNR=3.8
ZAL Zalesovo 54.06 31 P **P 08 54 16.2 +0.5**
SONM Songino Array 64.69 43 P **P 08 55 28.8 -0.5**
comp=Z,1.9nm,0.9s,mb4.1,baz=249,slow=6.0,SNR=14
MAW Mawson 81.57 172 P **P 08 57 07.9 0.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=313,slow=9.2,SNR=5.4
MNTX Cornudas Mount 125.16 324 *e*PKIKP PKPdf 09 03 52.0 -1.5
TXAR Lajitas Array 125.85 321 PKP PKPdf 09 03 54.0 -0.9
comp=Z,0.3nm,0.8s,baz=135,slow=1.8,SNR=4.7

ISK ***25*** *08:45:01.7, 35.79N×33.20E, h32km, MD3.1*
CSEM ***25*** *08:45:04.7±0.2, 35.75N×33.72E, h25km, Mw2.8, Error ellipse: s-maj=8.7km s-min=3.8km az=112.0*
NEIC ***25*** *08:45:06.9, 35.64N×33.73E, h42km, After NIC.*
NIC ***25*** *08:45:06.9±0.0, 35.64N×33.73E, h42km, ML3.6, MW2.8*
ISC 25 08:45:04.5±1.1**, 35.73N**±0.03×**33.83E**±0.05**, h9**km±8km**, n13**, σ0**97**/23**, 1C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKL	**Isikli**	**0.52**	**347**		PG	**Pg**	**08 45 14.7**	**-0.3**
IKL					SG	**Sg**	**08 45 22.4**	**+0.4**
PHNC	**Paralimni**	**0.74**	**167**		P	**Pb**	**08 45 20.2**	**+1.0**
PHNC					S	**Sb**	**08 45 30.3**	**+1.1**
MAMC	**Mammari**	**0.75**	**222**	⇑	P	**Pb**	**08 45 19.4**	**+0.2**
MAMC					S	**Sb**	**08 45 30.0**	**+0.7**
CSS	**Prodhromos**	**0.87**	**208**	*e*	P	**Pb**	**08 45 21.2**	**-0.1**
	2.6nm,0.2s							
CSS					S	**Sb**	**08 45 32.1**	**-0.7**
MEST	**Erdemli**	**0.89**	**17**	*i*	P	**Pb**	**08 45 19.9**	**-1.8**
MEST				*i*	S	**Sb**	**08 45 33.4**	**0.0**
LEF	**Lefka**	**0.98**	**232**	*e*	PG	**Pg**	**08 45 15.2**	**-8.9**
ALFC	**Alevga**	**1.16**	**241**		P	**Pb**	**08 45 25.3**	**-0.9**
	6.3nm,0.1s							
ALFC					S	**Sb**	**08 45 39.4**	**-1.7**
ERMK	**Ermenek**	**1.17**	**321**	*i*	P	**Pb**	**08 45 27.8**	**+1.4**
ERMK				*i*	S	**Sb**	**08 45 44.8**	**+3.2**
MERS	**Mersin**	**1.27**	**26**	*e*	PN	**Pn**	**08 45 27.5**	**-0.9**
MERS				*e*	SN	**Sn**	**08 45 46.0**	**+0.5**
KARA	**Karaisali**	**1.82**	**33**	*e*	PN	**Pn**	**08 45 35.7**	**-0.5**
COBT	**Iskenderun**	**2.12**	**67**	*i*	P	**Pn**	**08 45 41.2**	**+0.7**
COBT				*i*	S	**Sn**	**08 46 06.5**	**-0.7**
KOZT	**Kozan**	**2.37**	**42**	*e*	PN	**Pn**	**08 45 44.2**	**0.0**
AVNT	**Avonos**	**3.15**	**15**	*i*	P	**Pn**	**08 46 02.3**	**+7.0**
AVNT				*i*	S	**Sn**	**08 46 50.1**	**+17**

IDC ***25*** *08:51:36.8±3.2, 12.73N×40.70E, mb3.7/7, mb1 3.9/8, mb1mx3.7/18, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=79.7km s-min=26.1km az=37.0*
NEIC ***25*** *08:51:38.0±2.5, 12.64N×40.68E, h10km, mb4.1/1, Error ellipse: s-maj=66.8km s-min=17.2km az=223.0*
CSEM ***25*** *08:51:38.0±0.4, 12.64N×40.68E, h10km, mb4.1/1, Error ellipse: s-maj=15.1km s-min=6.0km az=11.0, After NEIC*
ISC 25 08:51:37.0±2.2**, 12.8N**±0.3×**40.7E**±0.3**, h10**km**, n13**, σ1**9**/13**, mb3.7/8**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.42**	**120**		Pn	**Pn**	**08 52 17.6**	**+0.3**
	24nm,0.3s,baz=208,slow=19,SNR=4.8							
MALT	**Malatya**	**25.52**	**356**		P	**P**	**08 57 10.2**	**+2.8**
	4.7nm,1.0s,mb4.0							
MALT	**Malatya**	**25.52**	**356**		P	**P**	**08 57 10.2**	**+2.9**
	4.7nm,1.0s,mb4.0							
BRTR	**Keskin Array B**	**27.56**	**348**		P	**P**	**08 57 27.4**	**+1.2**
	3.4nm,1.1s,mb3.9,baz=168,slow=11,SNR=9.1							
AKASG	**Malin Array Be**	**38.97**	**348**		P	**P**	**08 59 05.3**	**+0.3**
	0.2nm,0.3s,mb3.3,baz=175,slow=7.2,SNR=4.3							
GERES	**GERESS Array B**	**42.35**	**334**		P	**P**	**08 59 31.7**	**-1.2**
	1.0nm,0.9s,mb3.5,baz=149,slow=7.8,SNR=7.3							
BVAR	**Borovoye Array**	**46.60**	**24**		P	**P**	**09 00 05.4**	**-1.5**
	0.7nm,0.8s,mb3.6,baz=209,slow=15,SNR=3.9							
MKAR	**Makanchi Array**	**48.62**	**37**		P	**P**	**09 00 21.8**	**-1.1**
	0.2nm,0.5s,mb3.5,baz=259,slow=6.2,SNR=4.2							
MKAR	**Makanchi Array**	**48.62**	**37**		P	**P**	**09 00 21.8**	**-1.1**
NB2	**NORSAR Subarra**	**52.76**	**342**		P	**P**	**09 00 53.6**	**-0.6**
	1.1nm,0.9s,mb3.8,baz=142,slow=7.4							
NOA	**NORSAR Array B**	**52.76**	**342**		P	**P**	**09 00 53.6**	**-0.6**
	1.9nm,0.9s,mb4.0,baz=141,slow=7.2,SNR=4.0							
NOA	**NORSAR Array B**	**52.76**	**342**		P	**P**	**09 00 53.6**	**-0.6**
SONM	**Songino Array**	**64.34**	**43**		P	**P**	**09 02 16.0**	**+0.9**
	0.6nm,0.9s,mb3.6,baz=280,slow=9.0,SNR=3.8							

IDC ***25*** *08:52:00.4±4.4, 12.24N×40.63E, mb3.9/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, ML4.3/1, MS3.7/1, Ms1 3.7/1, ms1mx3.2/19, Error ellipse: s-maj=107.1km s-min=15.7km az=30.0*
NEIC ***25*** *08:52:01.4±1.0, 12.19N×40.47E, h10km, mb4.4/12, Error ellipse: s-maj=26.6km s-min=9.1km az=201.0*
CSEM ***25*** *08:52:09.8±0.3, 13.82N×40.59E, h10km, mb4.3/11, Error ellipse: s-maj=14.5km s-min=2.5km az=14.0*
ISC 25 08:52:01.3±0.9**, 12.5N**±0.1×**40.64E**±0.05**, h10**km**, n51, σ0**82**/51**, mb4.2**/17**, MS3.6**/1, 1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.38**	**114**		Pn	**Pn**	**08 52 41.1**	**+0.2**
	71nm,0.3s,baz=264,slow=20,SNR=9.4							
ATD					Lg		08 53 11.6	
	19nm,0.3s,baz=175,slow=23,SNR=4.1							
UDYN	**Al 'Udayn**	**3.55**	**66**	⇓	P	**Pn**	**08 53 03.1**	**+5.5**
UDYN				*i*	S	**Sn**	**08 53 39.7**	**-0.4**
BDHA	**Al Bayda'**	**5.01**	**73**	*i*	P	**Pn**	**08 53 07.8**	**-11**
BDHA				*i*	S	**Sn**	**08 54 16.5**	**-0.6**
KMBO	**Kilima Mbogo**	**13.97**	**194**		Lg		08 59 21.8	
	0.1nm,0.3s,baz=47,slow=22,SNR=3.5							
MALT	**Malatya**	**25.76**	**356**	*e*	P	**P**	**08 57 37.0**	**+3.1**
	11nm,1.3s,mb4.2							
MALT	**Malatya**	**25.76**	**356**	*e*	P	**P**	**08 57 37.0**	**+3.1**
	11nm,1.3s,mb4.2							
BRTR	**Keskin Array B**	**27.79**	**348**		P	**P**	**08 57 55.1**	**+2.6**
	2.3nm,0.8s,mb3.9,baz=180,slow=12,SNR=8.6							
VAE	**Valguarnera**	**34.17**	**321**		LR	LR	09 12 24.6	
	comp=Z,124nm,19.3s,MS3.6,baz=305,slow=36							
AKASG	**Malin Array Be**	**39.20**	**349**		P	**P**	**08 59 31.7**	**+0.5**
	1.0nm,0.7s,mb3.7,baz=172,slow=7.2,SNR=5.0							
PSZ	**Piszkesteto**	**39.31**	**338**	*e*	P	**P**	**08 59 31.6**	**-0.6**
	6.1nm,0.8s,mb4.4							
PSZ	**Piszkesteto**	**39.31**	**338**	*e*	P	**P**	**08 59 31.5**	**-0.7**
	6.1nm,0.8s,mb4.4							
PGF	**Pioggiola**	**40.58**	**323**	*e*	P	**P**	**08 59 42.7**	**0.0**
MORC	**Moravsky Berou**	**41.73**	**338**		P	**P**	**08 59 50.6**	**-1.3**
	2.8nm,1.1s,mb3.8							
MORC	**Moravsky Berou**	**41.73**	**338**		P	**P**	**08 59 50.7**	**-1.3**
	2.8nm,1.1s,mb3.8							
SBF	**Sospel**	**42.29**	**324**	*e*	P	**P**	**08 59 56.8**	**+0.1**
LMR	**La Mourre**	**42.51**	**323**	*e*	P	**P**	**08 59 58.4**	**-0.2**
GERES	**GERESS Array B**	**42.54**	**334**		P	**P**	**08 59 59.5**	**+0.8**
	1.3nm,0.6s,mb3.9,baz=127,slow=6.7,SNR=12							
FRF	**La Foret Royal**	**42.57**	**323**	*e*	P	**P**	**08 59 59.0**	**0.0**
MBDF	**Montbardon**	**43.19**	**325**	*e*	P	**P**	**09 00 05.0**	**+0.9**
	16nm,0.8s,mb4.5							
SMRF	**Simiane la Rot**	**43.44**	**323**	*e*	P	**P**	**09 00 06.9**	**+0.8**
LPG	**La Plagne**	**43.67**	**325**	*e*	P	**P**	**09 00 07.3**	**-0.7**
LPL	**La Plagne**	**43.70**	**325**	*e*	P	**P**	**09 00 07.4**	**-0.7**
ORIF	**Oris-en-Rattie**	**43.81**	**324**	*e*	P	**P**	**09 00 09.1**	**0.0**
	20nm,1.3s,mb4.4							
GRA1	**Grafenberg Arr**	**44.26**	**333**	*e*	P	**P**	**09 00 12.0**	**-0.6**
	4.0nm,1.0s,mb4.1							
GRF	**Grafenberg Arr**	**44.26**	**333**	*e*	P	**P**	**09 00 12.0**	**-0.6**
	4.0nm,1.0s,mb4.1							
VIVF	**Saint-Julien-l**	**44.47**	**323**	*e*	P	**P**	**09 00 14.1**	**-0.4**
LASF	**Ste Croix**	**44.52**	**322**	*e*	P	**P**	**09 00 14.8**	**0.0**
CLL	**Collm**	**44.71**	**336**	*e*	P	**P**	**09 00 18.0**	**+1.7**
CABF	**La Chapelle**	**44.72**	**326**	*e*	P	**P**	**09 00 15.7**	**-0.8**
	39nm,1.4s,mb4.8							
HINF	**Hinteralfeld**	**45.08**	**328**	*e*	P	**P**	**09 00 18.9**	**-0.4**
	19nm,1.2s,mb4.5							
CDF	**Champ du Feu**	**45.25**	**329**	*e*	P	**P**	**09 00 20.2**	**-0.4**
	28nm,1.4s,mb4.6							
HAU	**Haudompre**	**45.46**	**328**	*e*	P	**P**	**09 00 21.9**	**-0.4**
SMF	**Signal de Mont**	**45.98**	**325**	*e*	P	**P**	**09 00 25.6**	**-0.9**
CAF	**Calviac**	**46.06**	**322**	*e*	P	**P**	**09 00 27.2**	**+0.1**
EPF	**Esparros**	**46.16**	**319**	*e*	P	**P**	**09 00 28.6**	**+0.7**
LOR	**Lormes**	**46.34**	**326**	*e*	P	**P**	**09 00 28.6**	**-0.6**
	15nm,1.1s,mb4.5							
AVF	**Avril sur Loir**	**46.34**	**325**	*e*	P	**P**	**09 00 28.5**	**-0.8**
SSF	**Saint Saulge**	**46.41**	**325**	*e*	P	**P**	**09 00 29.1**	**-0.7**
MEZF	**Maizieres J'vi**	**46.45**	**328**	*e*	P	**P**	**09 00 30.1**	**0.0**
ETSF	**Etsaut**	**46.68**	**318**	*e*	P	**P**	**09 00 33.0**	**+1.0**
BRVK	**Borovoye**	**46.84**	**24**		P	**P**	**09 00 34.4**	**+1.2**
	6.0nm,1.7s,mb4.2							
BRVK	**Borovoye**	**46.84**	**24**		P	**P**	**09 00 34.4**	**+1.3**
	6.0nm,1.7s,mb4.2							
LFF	**La Frestale**	**46.87**	**321**	*e*	P	**P**	**09 00 33.9**	**+0.5**
SJPF	**Ste Jean**	**47.22**	**318**	*e*	P	**P**	**09 00 37.1**	**+0.9**
GIVF	**Givet**	**47.57**	**329**	*e*	P	**P**	**09 00 38.2**	**-0.7**
MKAR	**Makanchi Array**	**48.87**	**37**		P	**P**	**09 00 49.9**	**+0.9**
	1.3nm,1.0s,mb3.9,baz=225,slow=5.1,SNR=4.9							
MKAR	**Makanchi Array**	**48.87**	**37**		P	**P**	**09 00 49.9**	**+0.9**
FLN	**La Foliniere**	**49.59**	**325**	*e*	P	**P**	**09 00 53.3**	**-1.3**
NOA	**NORSAR Array B**	**52.98**	**343**		P	**P**	**09 01 19.5**	**-0.6**
	2.2nm,0.8s,mb4.1,baz=142,slow=7.4,SNR=3.9							
NOA	**NORSAR Array B**	**52.98**	**343**		P	**P**	**09 01 19.5**	**-0.6**
SONM	**Songino Array**	**64.58**	**43**		P	**P**	**09 02 41.1**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=247,slow=6.5,SNR=5.3							

IDC ***25*** *09:09:07.1±2.1, 12.15N×40.57E, mb3.9/8, mb1 4.0/9, mb1mx4.0/18, mbtmp3.9/9, ML4.1/1, Error ellipse: s-maj=51.5km s-min=23.3km az=29.0*
NEIC ***25*** *09:09:08.3±0.9, 12.13N×40.52E, h10km, mb4.5/4, Error ellipse: s-maj=25.1km s-min=10.7km az=214.0*
CSEM ***25*** *09:09:08.3±0.3, 12.13N×40.52E, h10km, mb4.5/4, Error ellipse: s-maj=17.6km s-min=4.7km az=32.0, After NEIC*
ISC 25 09:09:06.8±1.7**, 12.2N**±0.3×**40.5E**±0.2**, h10**km**, n22, σ0**84**/20**, mb4.0/9**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.38**	**105**		Pn	**Pn**	**09 09 46.8**	**+0.3**
	49nm,0.3s,baz=254,slow=22,SNR=12							
ASF	**Jabal al Asfar**	**20.18**	**351**		P	**P**	**09 13 43.6**	**-0.8**
	16nm,1.2s,baz=3.5,slow=3.7,SNR=10							
MALT	**Malatya**	**26.10**	**356**	*e*	P	**P**	**09 14 43.6**	**+1.0**
BRTR	**Keskin Array B**	**28.11**	**349**		P	**P**	**09 15 01.8**	**+0.8**
	4.9nm,1.1s,mb4.0,baz=164,slow=9.0,SNR=13							
AKASG	**Malin Array Be**	**39.52**	**349**		P	**P**	**09 16 40.7**	**+1.3**
	0.2nm,0.3s,mb3.4,baz=165,slow=6.8,SNR=7.8							
AKASG	**Malin Array Be**	**39.52**	**349**		P	**P**	**09 16 40.7**	**+1.3**
KOLS	**Kolonicke sedl**	**39.65**	**341**	*e*	P	**P**	**09 16 41.9**	**+1.4**
KECS	**Kecovo**	**39.86**	**339**	*e*	P	**P**	**09 16 42.8**	**+0.6**
GERES	**GERESS Array B**	**42.79**	**334**		P	**P**	**09 17 06.3**	**-0.1**
	2.2nm,1.0s,mb3.8,baz=153,slow=9.0,SNR=13							
KHC	**Kasperske Hory**	**43.06**	**334**	*e*	P	**P**	**09 17 08.0**	**-0.5**
KHC					x	x	09 17 24.5	
KHC	**Kasperske Hory**	**43.06**	**334**	*e*	P	**P**	**09 17 08.0**	**-0.5**
KHC					*e*		09 17 24.5	
BRG	**Berggiesshubel**	**44.26**	**336**	*e*	P	**P**	**09 17 17.8**	**-0.4**
	16nm,1.7s,mb4.5							
BRG					*e*		09 17 34.0	
GRA1	**Grafenberg Arr**	**44.51**	**333**	*e*	P	**P**	**09 17 19.0**	**-1.2**
	6.0nm,1.2s,mb4.3							
GRA1					*e*		09 17 35.7	
GRF	**Grafenberg Arr**	**44.51**	**333**	*e*	P	**P**	**09 17 19.0**	**-1.2**
	6.0nm,1.2s,mb4.3							
GRF					*e*		09 17 35.7	
CLL	**Collm**	**44.97**	**336**		P	**P**	**09 17 23.0**	**-0.9**
ESDC	**Sonseca Array**	**47.80**	**313**		P	**P**	**09 17 47.1**	**+0.7**
	0.1nm,0.2s,mb3.4,baz=126,slow=8.4,SNR=4.4							
MKAR	**Makanchi Array**	**49.22**	**37**		P	**P**	**09 17 56.5**	**-0.8**
	0.4nm,0.5s,mb3.8,baz=243,slow=8.1,SNR=5.5							
NB2	**NORSAR Subarra**	**53.27**	**343**		P	**P**	**09 18 26.5**	**-1.3**
	14nm,1.2s,mb4.8,baz=140,slow=7.4							
NOA	**NORSAR Array B**	**53.27**	**343**		P	**P**	**09 18 27.1**	**-0.7**
	3.6nm,1.0s,mb4.2,baz=141,slow=7.3,SNR=3.8							
SONM	**Songino Array**	**64.92**	**43**		P	**P**	**09 19 48.6**	**-0.2**
	1.2nm,0.9s,mb3.9,baz=256,slow=4.6,SNR=8.9							
MNTX	**Cornudas Mount**	**125.49**	**324**	*e*	PKPdf	PKPdf	09 28 11.2	-0.9
TXAR	**Lajitas Array**	**126.17**	**321**		PKP	PKPdf	09 28 12.3	-1.0
	0.1nm,0.7s,baz=45,slow=5.1,SNR=3.9							

IDC ***25*** *09:09:22.3±2.3, 12.16N×40.65E, mb4.1/8, mb1 4.3/9, mb1mx4.1/19, mbtmp4.1/9, ML4.2/1, MS4.5/1, Ms1 4.5/1, ms1mx3.6/20, Error ellipse: s-maj=59.0km s-min=14.8km az=28.0*
NEIC ***25*** *09:09:23.6±0.7, 12.09N×40.59E, h10km, mb4.5/4, Error ellipse: s-maj=19.8km s-min=9.5km az=224.0*
ISC 25 09:09:22.0±1.1**, 12.1N**±0.2×**40.5E**±0.2**, h10**km**, n21, σ0**69**/16**, mb4.2**/11**, MS4.5**/1, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.33**	**104**		Pn	**Pn**	**09 10 01.7**	**+0.7**
	61nm,0.3s,baz=286,slow=20,SNR=4.6							
ATD					Lg		09 10 32.8	
	39nm,0.3s,baz=317,slow=21,SNR=3.2							
KMBO	**Kilima Mbogo**	**13.56**	**194**		Lg		09 16 32.5	
	0.0nm,0.3s,baz=78,slow=18,SNR=4.0							
MSL	**Mosul**	**24.18**	**5**	*ex*		x	09 14 48.0	
MALT	**Malatya**	**26.15**	**356**	*e*	P	**P**	**09 14 58.8**	**+0.5**
	25nm,1.6s,mb4.5							
BR131	**Keskin Array S**	**28.17**	**349**	*e*	P	**P**	**09 15 17.8**	**+1.2**
	12nm,1.3s,mb4.3							
BRTR	**Keskin Array B**	**28.17**	**349**		P	**P**	**09 15 17.4**	**+0.8**
	4.9nm,1.1s,mb4.1,baz=180,slow=9.9,SNR=8.3							
MLR	**Muntele Rosu**	**35.51**	**342**		P	**P**	**09 16 21.0**	**0.0**
	17nm,1.3s,mb4.8,baz=290,slow=1.2,SNR=5.4							
AKASG	**Malin Array Be**	**39.57**	**349**		P	**P**	**09 16 55.1**	**+0.1**
	0.6nm,0.5s,mb3.6,baz=172,slow=7.5,SNR=6.4							
PSZ	**Piszkesteto**	**39.65**	**338**	*e*	P	**P**	**09 16 56.5**	**+0.8**
	9.6nm,1.1s,mb4.4							
VRAC	**Vranov**	**42.03**	**337**		P	**P**	**09 17 14.9**	**-0.4**
	2.1nm,0.6s,mb3.9,baz=147,slow=6.8,SNR=5.0							
MORC	**Moravsky Berou**	**42.06**	**338**	*e*	P	**P**	**09 17 16.4**	**+1.0**
	13nm,1.5s,mb4.3							
GERES	**GERESS Array B**	**42.85**	**334**		P	**P**	**09 17 22.0**	**0.0**
	1.2nm,0.6s,mb3.8,baz=149,slow=7.8,SNR=8.6							
CLL	**Collm**	**45.03**	**336**		P	**P**	**09 17 39.0**	**-0.6**
SUR	**Sutherland**	**48.10**	**203**		LR	LR	09 37 52.1	
	comp=Z,486nm,19.9s,MS4.5,baz=188,slow=36							
MKAR	**Makanchi Array**	**49.24**	**37**		P	**P**	**09 18 11.8**	**-0.9**
	1.2nm,1.0s,mb3.9,baz=239,slow=7.1,SNR=5.2							
MKAR	**Makanchi Array**	**49.24**	**37**		P	**P**	**09 18 11.8**	**-0.9**
NOA	**NORSAR Array B**	**53.33**	**343**		P	**P**	**09 18 42.1**	**-1.3**
	3.5nm,1.0s,mb4.2,baz=141,slow=7.4,SNR=3.7							
SONM	**Songino Array**	**64.93**	**43**		P	**P**	**09 20 03.3**	**-0.8**
	1.6nm,0.9s,mb4.0,baz=258,slow=7.5,SNR=6.5							
MAW	**Mawson**	**81.14**	**172**		P	**P**	**09 21 38.7**	**-0.1**
TXAR	**Lajitas Array**	**126.23**	**321**		PKP	PKPdf	09 28 27.8	-0.9
	0.6nm,0.8s,baz=90,slow=1.3,SNR=6.9							
TXAR	**Lajitas Array**	**126.23**	**321**		PKP	PKPdf	09 28 27.8	-0.9

DHMR ***25*** *09:11:34.9±3.1, 12.65N×40.53E, h12km±194km, ML4.7*
MOS ***25*** *09:11:34.8±0.9, 12.34N×40.56E, h10km, mb4.8/26, Error ellipse: s-maj=15.7km s-min=5.7km az=102.8*
BJI ***25*** *09:11:35.4, 12.72N×39.84E, h22km, mB5.3, mb4.7, Ms4.8, Msz4.5*
IDC ***25*** *09:11:35.7±0.9, 12.32N×40.60E, mb4.4/14, mb1 4.5/15, mb1mx4.4/21, mbtmp4.4/15, ML4.3/1, MS4.2/15, Ms1 4.2/15, ms1mx4.1/20, Error ellipse: s-maj=22.3km s-min=13.2km az=29.0*
NEIC ***25*** *09:11:37.6±0.3, 12.50N×40.52E, h10km, mb4.7/63, MS4.0/2, Error ellipse: s-maj=8.8km s-min=5.7km az=207.0*
CSEM ***25*** *09:11:39.1±0.1, 12.38N×40.54E, h40km, mb4.7/51, Ms4.0, Error ellipse: s-maj=5.8km s-min=2.2km az=8.0*
ISC 25 09:11:35.6±0.5**, 12.43N**±0.07×**40.49E**±0.03**, h10**km**, (h10**km**±2.1**km**:pP-P), n226**, σ1**9**/218**, mb4.7/84, MS4.3/25, 15C-3D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.48**	**111**		Pn	**Pn**	**09 12 15.9**	**-0.8**
	74nm,0.3s,baz=240,slow=20,SNR=10							
ATD					Lg		09 12 49.7	
	109nm,0.3s,baz=270,slow=22,SNR=9.4							
UDYN	**Al 'Udayn**	**3.72**	**65**	⇓	*e*P	**Pn**	**09 12 33.6**	**-0.8**
UDYN				*i*	S	**Sn**	**09 13 19.3**	**+0.6**
UDYN					AML	AML	09 13 42.9	
	comp=Z,3μm,0.8s							
DHBB	**Dhamar BB**	**4.35**	**60**	*i*	S	**Sn**	**09 13 33.9**	**-0.9**
ADEN	**Aden**	**4.40**	**85**	*i*	S	**Sn**	**09 13 36.4**	**+0.3**
BDHA	**Al Bayda'**	**5.18**	**72**	*i*	S	**Sn**	**09 13 51.0**	**-4.7**
KMBO	**Kilima Mbogo**	**13.85**	**194**		Lg		09 18 52.4	
	comp=Z,0.0nm,0.3s,baz=90,slow=11,SNR=5.0							
KMBO					LR	LR	09 20 07.0	
	comp=Z,1μm,21.7s,baz=91,slow=37							
ASF	**Jabal al Asfar**	**19.92**	**351**		P	**P**	**09 16 12.4**	**+1.8**
	comp=Z,15nm,1.0s,baz=53,slow=3.9,SNR=9.3							
ASF					LR	LR	09 23 21.2	
	comp=Z,301nm,18.1s,baz=214,slow=35							
ASF	**Jabal al Asfar**	**19.92**	**351**		P	**P**	**09 16 12.4**	**+1.9**
ASF					pmax	pmax		
	comp=Z,15nm,1.0s							
ASF					MLR	MLR		
	comp=Z,301nm,18.1s							
BHD	**Baghdad**	**21.05**	**9**	*ex*		x	09 16 18.0	
BHD				*ex*		x	09 20 21.0	
CSS	**Prodhromos**	**23.35**	**345**	*e*	P	**P**	**09 16 47.0**	**+1.9**
	comp=Z,11nm,0.8s,mb4.3							
CSS	**Prodhromos**	**23.35**	**345**	*e*	P	**P**	**09 16 47.0**	**+1.8**
	comp=Z,11nm,0.8s,mb4.3							
MSL	**Mosul**	**23.87**	**5**	*ex*		x	09 17 13.0	
MSL				*ex*		x	09 21 50.0	
MALT	**Malatya**	**25.84**	**356**	*e*	P	**P**	**09 17 11.2**	**+2.2**
	comp=Z,14nm,1.0s,mb4.5							
MALT	**Malatya**	**25.84**	**356**	*e*	P	**P**	**09 17 11.2**	**+2.2**
	comp=Z,14nm,1.0s,mb4.5							
IDI	**Anoyia**	**26.78**	**331**		LR	LR	09 28 00.3	
	comp=Z,146nm,20.2s,MS3.5,baz=91,slow=37							
BRTR	**Keskin Array B**	**27.85**	**349**		P	**P**	**09 17 29.0**	**+1.6**
	comp=Z,10.0nm,1.0s,mb4.4,baz=173,slow=10.0,SNR=25							
BRTR	**Keskin Array B**	**27.85**	**349**		P	**P**	**09 17 29.0**	**+1.6**
BRTR					pmax	pmax		
	comp=Z,10.0nm,1.0s							
BR131	**Keskin Array S**	**27.85**	**349**	*e*	P	**P**	**09 17 28.5**	**+1.1**
	comp=Z,28nm,1.3s,mb4.7							
BR131	**Keskin Array S**	**27.85**	**349**	*e*	P	**P**	**09 17 28.5**	**+1.1**
	comp=Z,28nm,1.3s,mb4.7							
GNI	**Garni**	**27.86**	**7**	⇑	*e*P	**P**	**09 17 23.1**	**-4.4**
GNI					pmax	pmax		
	comp=Z,23nm,1.4s							
GNI					MLR	MLR		
	comp=Z,300nm,16.0s							
LSZ	**Lusaka**	**30.10**	**204**		LR	LR	09 30 13.8	
	comp=Z,996nm,21.0s,MS4.4,baz=149,slow=37							
SOC	**Sochi**	**31.05**	**359**	*e*	P	**P**	**09 17 57.8**	**+1.9**
SOC				*e*	PPP	PPP	09 19 13.7	+0.6
SOC				*e*			09 20 53.0	
SOC				*e*	S	**S**	**09 22 51.6**	**-8.2**
SOC					pmax	pmax		
	comp=N,22nm,1.0s							
SOC					pmax	pmax		
	comp=E,35nm,1.0s							
SOC					pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2							
SOC					MLR	MLR		
	comp=Z,267nm,11.0s,MS4.2							
SOC					MLR	MLR		
	comp=N,118nm,10.0s							
SOC					MLR	MLR		
	comp=E,153nm,9.0s							
KIV	**Kislovodsk**	**31.47**	**3**	*e*	P	**P**	**09 17 59.3**	**-0.3**
	comp=E,23nm,1.1s,mb4.

ETOS Mallorca 42.93 316 P **P** 09 19 34.9 -1.5
comp=Z,3.0nm,0.8s,mb4.1
ETOS Mallorca 42.93 316 P **P** 09 19 34.9 -1.5
comp=Z,3.0nm,0.8s,mb4.1
KOLN Koldanda 43.03 63 *e*P **P** 09 19 36.5 -0.9
comp=Z,66nm,1.3s,mb5.2
PRU Pruhonice 43.08 336 *e*P **P** 09 19 37.4 -0.1
WET Wettzell 43.13 334 *e*P **P** 09 19 37.2 -0.7
comp=Z,19nm,1.5s,mb4.6
WET Wettzell 43.13 334 *e*P **P** 09 19 37.2 -0.7
WET pmax pmax
comp=Z,19nm,1.5s,mb4.6
FUR Furstenfeldbru 43.14 331 *e*P **P** 09 19 38.7 +0.7
comp=Z,9.0nm,0.5s,mb4.8
FUR Furstenfeldbru 43.14 331 *e*P **P** 09 19 38.7 +0.7
FUR pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
MBDF Montbardon 43.18 325 *e*P **P** 09 19 38.9 +0.6
comp=Z,28nm,0.9s,mb4.7
MOS Moscow 43.27 358 *e*P **P** 09 19 39.2 +0.3
comp=Z,75nm,1.2s,mb5.3
MOS Moscow 43.27 358 *e*P **P** 09 19 39.2 +0.3
MOS pmax pmax
comp=Z,75nm,1.2s,mb5.3
SMRF Simiane la Rot 43.42 323 *e*P **P** 09 19 40.6 +0.3
comp=Z,28nm,1.4s,mb4.5
BNI Bardonecchia 43.43 325 *e*P **P** 09 19 40.2 -0.2
comp=Z,12nm,1.3s,mb4.5
BNI Bardonecchia 43.43 325 *e*P **P** 09 19 40.2 -0.2
comp=Z,12nm,1.3s,mb4.5
PVCC Panska Ves 43.49 336 *e*P **P** 09 19 40.9 +0.1
LPG La Plagne 43.66 326 *e*P **P** 09 19 41.3 -0.9
comp=Z,44nm,1.5s,mb4.7
LPL La Plagne 43.69 326 *e*P **P** 09 19 41.5 -0.9
comp=Z,45nm,1.5s,mb4.7
ORIF Oris-en-Rattie 43.80 324 *e*P **P** 09 19 43.0 -0.4
comp=Z,18nm,1.1s,mb4.4
ORIF *e*R
comp=Z,176nm,19.2s
GKN Gorkha 43.97 63 *e*P **P** 09 19 43.9 -1.1
BRG Berggiesshubel 44.01 336 *i* P **P** 09 19 45.0 -0.1
comp=Z,14nm,1.3s,mb4.5
BRG Berggiesshubel 44.01 336 *i* P **P** 09 19 45.0 0.0
comp=Z,14nm,1.3s,mb4.5
BRG Berggiesshubel 44.01 336 *i* P **P** 09 19 45.0 0.0
BRG pmax pmax
comp=Z,14nm,1.3s,mb4.5
EJON La Jonquera 44.22 320 P **P** 09 19 46.1 -0.7
comp=Z,8.8nm,1.5s,mb4.3
EJON La Jonquera 44.22 320 P **P** 09 19 46.1 -0.7
comp=Z,8.8nm,1.5s,mb4.3
GRA1 Grafenberg Arr 44.27 333 *e*P **P** 09 19 46.6 -0.5
comp=Z,10.0nm,1.0s,mb4.5
GRF Grafenberg Arr 44.27 333 *e*P **P** 09 19 46.6 -0.5
comp=Z,10.0nm,1.0s,mb4.5
GRF Grafenberg Arr 44.27 333 *e*P **P** 09 19 46.6 -0.5
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
VIVF Saint-Julien-l 44.46 324 *e*P **P** 09 19 48.2 -0.5
comp=Z,53nm,1.6s,mb4.7
KKN Kakani 44.49 63 *e*P **P** 09 19 48.2 -1.0
LASF Ste Croix 44.50 322 *e*P **P** 09 19 48.7 -0.3
comp=Z,48nm,1.3s,mb4.8
PKI Pulchoki 44.56 63 *e*P **P** 09 19 49.1 -0.7
BFO Black Forest 44.67 330 *e*P **P** 09 19 50.6 +0.2
comp=Z,34nm,2.0s,mb4.8
BFO Black Forest 44.67 330 *e*P **P** 09 19 50.6 +0.2
BFO pmax pmax
comp=Z,34nm,2.0s,mb4.8
CABF La Chapelle 44.72 326 *e*P **P** 09 19 49.6 -1.2
comp=Z,51nm,1.3s,mb4.9
CLL Collm 44.73 336 ⇑P **P** 09 19 50.5 -0.3
comp=Z,logA/T=1.2,mb4.8
CLL *e**SP sP 09 19 55.0 0.0
CLL Collm 44.73 336 ⇑*i*P **P** 09 19 50.5 -0.3
comp=Z,20nm,1.4s,mb4.8
CLL *e* pP 09 19 55.0 +1.2
CLL Collm 44.73 336 ⇑*i*P **P** 09 19 50.5 -0.3
CLL *e* pP 09 19 55.0 +1.2
CLL pmax pmax
comp=Z,20nm,1.4s,mb4.8
MOX Moxa 44.80 334 *i* P **P** 09 19 50.8 -0.6
comp=Z,logA/T=1.3,mb4.9
MOX Moxa 44.80 334 *e*P **P** 09 19 50.8 -0.6
comp=Z,30nm,1.6s,mb4.9
MOX Moxa 44.80 334 *e*P **P** 09 19 50.8 -0.6
MOX pmax pmax
comp=Z,30nm,1.6s,mb4.9
EMIR Miracle 44.82 318 P **P** 09 19 51.6 -0.1
comp=Z,5.8nm,1.1s,mb4.3
EMIR Miracle 44.82 318 P **P** 09 19 51.7 0.0
comp=Z,5.8nm,1.1s,mb4.3
EPOB Poblet 44.84 317 P **P** 09 19 52.1 +0.2
comp=Z,9.2nm,1.1s,mb4.5
EPOB Poblet 44.84 317 P **P** 09 19 52.2 +0.3
comp=Z,9.2nm,1.1s,mb4.5
EMUR La Murta 44.94 312 P **P** 09 19 52.9 +0.2
comp=Z,6.7nm,1.1s,mb4.4
DBIC Dimbokro 45.03 267 P **P** 09 19 54.8 +1.0
comp=Z,7.2nm,1.0s,mb4.5,baz=61,slow=8.1,SNR=5.2
DBIC Dimbokro 45.03 267 *e*P **P** 09 19 53.8 0.0
comp=Z,46nm,1.5s,mb5.1
DBIC Dimbokro 45.03 267 P **P** 09 19 54.8 +1.0
DBIC pmax pmax
comp=Z,7.0nm,1.0s
HINF Hinteralfeld 45.08 328 *e*P **P** 09 19 52.8 -0.8
MTLF Montolieu 45.10 320 *e*P **P** 09 19 53.6 -0.3
comp=Z,35nm,1.5s,mb4.7
CDF Champ du Feu 45.25 329 *e*P **P** 09 19 54.2 -0.8
comp=Z,56nm,1.5s,mb4.9
HAU Haudompre 45.46 328 *e*P **P** 09 19 55.7 -0.9
HAU *e*R
comp=Z,137nm,22.5s
MDT Midelt 45.89 304 P **P** 09 20 02.1 +1.8
comp=Z,12nm,1.2s,mb4.7,baz=93,slow=12,SNR=6.5
TNS Taunus Mts 45.91 332 *e*P **P** 09 20 00.3 +0.1
comp=Z,22nm,1.5s,mb4.9
TNS Taunus Mts 45.91 332 *e*P **P** 09 20 00.3 +0.1
TNS pmax pmax
comp=Z,22nm,1.5s,mb4.9
SMF Signal de Mont 45.97 325 *e*P **P** 09 19 59.5 -1.2
comp=Z,16nm,1.2s,mb4.5
CAF Calviac 46.03 322 *e*P **P** 09 20 01.4 +0.1
ARU Arti 46.07 14 *e*P **P** 09 20 01.7 +0.3
comp=Z,24nm,1.4s,mb4.9
ARU Arti 46.07 14 ⇑*i*P **P** 09 20 00.8 -0.6
ARU *e* 09 21 44.8
ARU *e*SS SS 09 29 55.1 -8.3
ARU pmax pmax
comp=Z,18nm,1.4s,mb4.8
ARU MLR MLR
comp=N,200nm,18.0s,MS4.1
ARU MLR MLR
comp=Z,300nm,18.0s,MS4.3
ARU MLR MLR
comp=E,100nm,19.0s,MS4.1
EBIE Bielsa 46.09 319 P **P** 09 20 02.6 +0.8
comp=E,4.6nm,0.9s,mb4.4
EQES Quesada 46.27 311 P **P** 09 20 02.8 -0.4
comp=E,6.5nm,1.1s,mb4.5
EQES Quesada 46.27 311 P **P** 09 20 02.8 -0.4
comp=E,6.5nm,1.1s,mb4.5
AVF Avril sur Loir 46.33 325 *e*P **P** 09 20 02.4 -1.2
comp=E,23nm,1.3s,mb4.7
LOR Lormes 46.33 326 *e*P **P** 09 20 02.5 -1.0
comp=E,45nm,1.4s,mb4.9
LOR *e*R
comp=E,172nm,20.3s
SSF Saint Saulge 46.40 325 *e*P **P** 09 20 03.0 -1.1
MEZF Maizieres J'vi 46.44 328 *e*P **P** 09 20 04.1 -0.3
comp=E,64nm,1.0s,mb5.2
BGF Bois d'Agland 46.48 324 *e*P **P** 09 20 04.3 -0.5
ERON Agron 46.54 310 P **P** 09 20 07.4 +2.0
comp=E,6.6nm,0.7s,mb4.7
ERON Agron 46.54 310 P **P** 09 20 07.4 +2.1
comp=E,6.6nm,0.7s,mb4.7
ETSF Etsaut 46.65 318 *e*P **P** 09 20 06.7 +0.6
comp=E,82nm,1.5s,mb5.1
TCF Toulx Ste Croi 46.69 324 *e*P **P** 09 20 06.4 0.0
comp=E,8.7nm,0.9s,mb4.4
LFF La Frestale 46.84 321 *e*P **P** 09 20 07.9 +0.3
ELOJ Sierra Loja 46.84 310 P **P** 09 20 08.6 +0.8
comp=E,2.3nm,0.6s,mb4.3
ELOJ Sierra Loja 46.84 310 P **P** 09 20 08.6 +0.8
comp=E,2.3nm,0.6s,mb4.3
BRVK Borovoye 46.98 24 *e*P **P** 09 20 08.3 -0.4
comp=E,3.7nm,1.2s,mb4.2
BRVK Borovoye 46.98 24 *e*P **P** 09 20 08.3 -0.3
comp=E,3.7nm,1.2s,mb4.2
BVAR Borovoye Array 47.00 24 P **P** 09 20 08.7 -0.1
comp=E,4.6nm,1.0s,mb4.3,baz=207,slow=6.6,SNR=14
BVAR Borovoye Array 47.00 24 P **P** 09 20 08.7 -0.1
BVAR pmax pmax
comp=Z,5.0nm,1.0s
VSU Vasula 47.10 350 *e*P **P** 09 20 10.3 +0.8
EMIJ Mijas 47.12 309 P **P** 09 20 10.0 0.0
comp=Z,2.8nm,1.2s,mb4.1
EMIJ Mijas 47.12 309 P **P** 09 20 10.0 0.0
comp=Z,2.8nm,1.2s,mb4.1
SJPF Ste Jean 47.18 318 *e*P **P** 09 20 11.0 +0.6
comp=Z,40nm,1.2s,mb4.9
GIVF Givet 47.57 329 *e*P **P** 09 20 12.1 -1.2
ESDC Sonseca Array 47.61 313 P **P** 09 20 14.8 +1.0
comp=Z,3.5nm,0.9s,mb4.4,baz=112,slow=8.0,SNR=11
ESDC Sonseca Array 47.61 313 P **P** 09 20 13.6 -0.1
comp=Z,4.3nm,1.5s,mb4.3
ESDC Sonseca Array 47.61 313 P **P** 09 20 13.6 -0.2
comp=Z,4.3nm,1.5s,mb4.3
ESLA Sonseca Array 47.61 313 *e*P **P** 09 20 14.1 +0.3
comp=Z,20nm,1.8s,mb4.8
ESLA Sonseca Array 47.61 313 *e*P **P** 09 20 14.1 +0.3
comp=Z,20nm,1.8s,mb4.8
BSEG Bad Segeberg 47.79 336 *e*P **P** 09 20 14.7 -0.3
BSEG pmax pmax
comp=Z,67nm,1.7s,mb5.4
BAIF Baives 47.85 329 *e*P **P** 09 20 14.3 -1.2
comp=Z,4.9nm,0.8s,mb4.3
ESPR Espera 48.04 309 P **P** 09 20 16.9 -0.3
comp=Z,8.8nm,1.2s,mb4.7
ESPR Espera 48.04 309 P **P** 09 20 16.9 -0.3
comp=Z,8.8nm,1.2s,mb4.7
MKAR Makanchi Array 49.03 37 P **P** 09 20 24.5 -0.1
comp=Z,6.4nm,1.1s,mb4.6,baz=233,slow=6.1,SNR=16
MKAR LR LR 09 43 46.4
comp=Z,545nm,19.2s,MS4.6,baz=205,slow=39
MKAR Makanchi Array 49.03 37 P **P** 09 20 24.5 -0.1
MKAR LR LR 09 43 46.4
MKAR Makanchi Array 49.03 37 P **P** 09 20 24.5 -0.1
MKAR pmax pmax
comp=Z,6.0nm,1.1s
MKAR MLR MLR
comp=Z,545nm,19.2s
KURK Kurchatov 49.19 31 *e*P **P** 09 20 25.5 -0.3
comp=Z,11nm,1.4s,mb4.7
KURK Kurchatov 49.19 31 *e*P **P** 09 20 25.5 -0.3
comp=Z,11nm,1.4s,mb4.7
KURK Kurchatov 49.19 31⇑*e*P **P** 09 20 26.1 +0.3
LDF La Druitiere 49.28 325 *e*P **P** 09 20 25.2 -1.4
comp=Z,36nm,1.3s,mb5.0
EBAD Badajoz 49.51 311 P **P** 09 20 28.3 -0.2
comp=Z,3.7nm,1.0s,mb4.4
EBAD Badajoz 49.51 311 P **P** 09 20 28.3 -0.2
comp=Z,3.7nm,1.0s,mb4.4
FLN La Foliniere 49.58 325 *e*P **P** 09 20 27.3 -1.6
comp=Z,38nm,1.1s,mb5.1
FLN *e*R
comp=Z,191nm,17.1s
GRR Gorron 49.59 325 *e*P **P** 09 20 27.6 -1.4
comp=Z,30nm,1.0s,mb5.0
FINES FINESS Array B 50.04 351 P **P** 09 20 32.0 -0.3
comp=Z,3.5nm,0.9s,mb4.4,baz=156,slow=23,SNR=6.4
FINES FINESS Array B 50.04 351 P **P** 09 20 32.0 -0.3
FINES pmax pmax
comp=Z,4.0nm,0.9s
EVO Evora 50.18 310 *e*P **P** 09 20 33.6 0.0
comp=Z,48nm,1.3s,mb5.1
EVO *e*R
comp=Z,258nm,20.5s
KAF Kangasniemi 50.65 351 *e*p **P** 09 20 34.8 -2.1
QUIF Quistinic 50.67 323 *e*P **P** 09 20 35.7 -1.6
JOF Joensuu 50.84 355 *e*p **P** 09 20 36.2 -2.1
ROSF Rostrenen 50.94 324 *e*P **P** 09 20 37.5 -1.8
WMQ Urumqi 51.10 43 *e*P **P** 09 20 43.0 +2.4
WMQ XP sP 09 20 50.0 +5.2
WMQ PP PP 09 22 40.0 +1.8
WMQ *e*S **S** **09 28 00.0 +3.1**
WMQ XS 09 28 06.0
WMQ AMB AMB
comp=Z,8.0nm,0.6s,mb4.8
WMQ AMB AMB
comp=Z,117nm,5.8s
WMQ LR LR
comp=N,707nm,20.7s
WMQ LR LR
comp=E,760nm,26.2s
WMQ LR LR
comp=Z,792nm,34.6s
HFS Hagfors 51.57 343 LR LR 09 42 59.5
comp=Z,194nm,18.1s,MS4.2,baz=271,slow=36
EZAM Zamans 51.84 314 P **P** 09 20 43.3 -2.9
comp=Z,7.5nm,0.6s,mb4.8
NB2 NORSAR Subarra 53.02 343 P **P** 09 20 53.3 -1.5
comp=Z,29nm,1.4s,mb5.0,baz=145,slow=7.4
NB2 NORSAR Subarra 53.02 343 P **P** 09 20 53.3 -1.5
baz=145,slow=7.4
NOA NORSAR Array B 53.02 343 P **P** 09 20 54.0 -0.8
comp=Z,3.0nm,0.7s,mb4.3,baz=141,slow=7.5,SNR=7.7
NOA LR LR 09 43 09.7
comp=Z,83nm,19.1s,MS3.8,baz=140,slow=36
NOA NORSAR Array B 53.02 343 P **P** 09 20 54.0 -0.8
NOA LR LR 09 43 09.7
NOA NORSAR Array B 53.02 343 P **P** 09 20 54.0 -0.8
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,83nm,19.1s
NVS Novosibirsk 53.88 29 *e*P **P** 09 21 00.8 -0.4
ZAL Zalesovo 54.14 31 LR LR 09 45 35.0
comp=Z,302nm,19.8s,MS4.4,baz=240,slow=38
ARCES ARCESS Array B 57.85 354 LR LR 09 46 37.8
comp=Z,252nm,21.6s,MS4.3,baz=339,slow=36
GTA Gaotai 58.58 51 *e*P **P** 09 21 33.5 -1.6
GTA PP PP 09 23 45.3 -1.2
GTA S **S** **09 29 45.0 +7.7**
GTA XS 09 29 54.5
GTA AMB AMB
comp=Z,8.0nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,134nm,4.2s
GTA LR LR
comp=N,372nm,17.9s,MS4.7
GTA LR LR
comp=E,384nm,15.6s,MS4.7
GTA LR LR
comp=Z,453nm,22.4s
KMI Kunming 59.83 68 P **P** 09 21 46.0 +2.0
KMI S **S** **09 29 58.0 +4.3**
KMI SS SS 09 33 59.8 +8.8
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
KMI LR LR
comp=Z,152nm,21.4s,MS4.1
KMI Kunming 59.83 68 P **P** 09 21 46.0 +2.0
comp=Z,6.0nm,0.8s,mb4.7
KMI sP sP 09 21 50.4 +2.2
KMI S **S** **09 29 58.1 +4.4**
KMI SS SS 09 33 59.7 +8.7
KMI LR LR
comp=Z,150nm,21.4s,MS4.1
LZH Lanzhou 61.30 56 *e*P **P** 09 21 53.0 -0.8
LZH AP pP 09 22 03.5 +6.6
LZH XP sP 09 22 07.5 +9.5
LZH AMB AMB
comp=Z,26nm,1.2s,mb5.2
LZH Lanzhou 61.30 56 *e*P **P** 09 21 53.0 -0.8
comp=Z,26nm,1.2s,mb5.2
LZH pP pP 09 22 03.5 +6.6
LZH sP sP 09 22 07.5 +9.5
ZAK Zakamensk 63.24 40 *e*P **P** 09 22 05.0 -1.5
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.9
GYA Guiyang 63.35 67 P **P** **09 22 09.3 +1.7**
GYA AP pP 09 22 13.8 +3.0
GYA XP sP 09 22 16.8 +4.9
GYA PP PP 09 24 30.5 +1.8
GYA S **S** **09 30 40.0 +1.6**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,80nm,3.0s
GYA LR LR
comp=N,210nm,18.4s,MS4.5
GYA LR LR
comp=E,200nm,18.6s,MS4.5
GYA LR LR
comp=Z,310nm,18.9s,MS4.5
SONM Songino Array 64.74 43 P **P** **09 22 16.5 +0.1**
comp=Z,3.3nm,1.1s,mb4.3,baz=256,slow=6.0,SNR=14
SONM LR LR 09 54 13.7
comp=Z,450nm,19.7s,MS4.7,baz=269,slow=40
SONM Songino Array 64.74 43 P **P** **09 22 16.5 +0.1**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM MLR MLR
comp=Z,450nm,19.7s
HHC Hu-ho-hao-te 67.69 51 *e*P **P** **09 22 36.5 +1.1**
HHC AP pP 09 22 41.0 +2.5
HHC XP sP 09 22 43.5 +3.9
HHC PCP PcP 09 23 04.0 +1.7
HHC PP PP 09 25 07.0 +0.5
HHC SCP 09 27 04.8
HHC PCS 09 27 07.3
HHC S S 09 31 32.5 +1.3
HHC AMB AMB
comp=Z,14nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,347nm,4.9s
HHC LR LR
comp=N,272nm,14.3s,MS4.7
HHC LR LR
comp=E,223nm,16.7s,MS4.7
HHC LR LR
comp=Z,226nm,13.1s,MS4.6
BOD Bodaibo 70.79 33 *e*P **P** **09 22 52.0 -2.1**
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
NJ2 Nanjing 73.73 60 *e*P **P** **09 23 12.0 -0.1**
NJ2 AP pP 09 23 16.3 +1.1
NJ2 XP sP 09 23 20.5 +4.2
NJ2 PP PP 09 25 59.0 +0.6
NJ2 S S 09 32 41.0 -0.6
NJ2 LR LR
comp=Z,390nm,17.4s,MS4.8
SSE Sheshan 75.80 61 *e*P **P** **09 23 27.0 +3.0**
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,389nm,4.7s
SSE LR LR
comp=N,45nm,21.5s,MS4.1
SSE LR LR
comp=E,91nm,21.5s,MS4.1
SSE LR LR
comp=Z,103nm,22.2s,MS4.1
SSE Sheshan 75.80 61 *e*P **P** **09 23 27.0 +3.0**
comp=Z,26nm,0.7s,mb5.3
SSE LR LR
comp=Z,100nm,22.2s,MS4.1
CN2 Changchun 77.90 48 *e*P **P** **09 23 36.5 +1.1**
MDJ Mudanjiang 80.76 46 P **P** **09 23 51.0 +0.1**
MDJ AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
MDJ AMB AMB
comp=Z,98nm,5.1s
MDJ LR LR
comp=N,144nm,22.4s
MDJ LR LR
comp=E,40nm,17.1s
MDJ LR LR
comp=Z,84nm,21.4s,MS4.1
MAW Mawson 81.45 172 P **P** **09 23 53.0 -1.0**
comp=Z,2.5nm,0.9s,mb4.1,baz=357,slow=8.4,SNR=5.6
MAW Mawson 81.45 172 *e*P **P** **09 23 56.1 +2.0**
comp=Z,12nm,1.4s,mb4.6
MAW Mawson 81.45 172 P **P** **09 23 53.0 -1.1**
MAW pmax pmax
comp=Z,3.0nm,0.9s
VNA2 Neumayer--Watz 89.23 194 *e* **P** **09 24 36.4 +3.7**
VNA2 Neumayer--Watz 89.23 194 *e* **P** **09 24 42.6 +10**
VNA2 Neumayer--Watz 89.23 194⇑*i*P **P** **09 24 34.7 +2.0**
VNA2 *e* pP 09 24 36.4 +0.5
VNA2 *e* 09 24 42.6
VNA1 Neumayer--Stat 89.25 195 *e* **P** **09 24 36.9 +4.1**
VNA1 Neumayer--Stat 89.25 195⇑*i*P **P** **09 24 35.3 +2.5**
VNA1 *e* pP 09 24 36.9 +0.9
VNA3 Neumayer Olymp 89.99 194 *e* **P** **09 24 39.7 +3.5**
VNA3 Neumayer Olymp 89.99 194 *e* **P** **09 24 46.6 +10**
VNA3 Neumayer Olymp 89.99 194⇑*i*P **P** **09 24 38.2 +2.0**
VNA3 *e* pP 09 24 39.7 +0.3
VNA3 *e* 09 24 46.6
BILL Bilibino 90.96 18 *e*P **P** **09 24 47.3 +6.6**
MNTX Cornudas Mount 125.27 324 *e*PKPdf PKPdf 09 30 39.0 -1.4
TXAR Lajitas Array 125.96 321 PKP PKPdf 09 30 41.3 -0.5
comp=Z,0.6nm,1.1s,baz=127,slow=6.3,SNR=3.5
TXAR Lajitas Array 125.96 321 PKIKP PKPdf 09 30 41.3 -0.5
TXAR pmax pmax
comp=Z,1.0nm,1.1s

IDC ***25*** *09:17:29.9±2.2, 12.01N×40.49E, mb3.8/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, ML4.6/1, Error ellipse: s-maj=52.0km s-min=15.6km az=25.0*
NEIC ***25*** *09:17:31.9±0.8, 12.08N×40.47E, h10km, mb4.4/15, Error ellipse: s-maj=19.5km s-min=8.6km az=201.0*
DHMR ***25*** *09:17:32.9±2.9, 12.62N×40.49E, h15km±376km, ML4.1*
CSEM ***25*** *09:17:35.5±0.2, 12.31N×40.51E, h40km, mb4.4/14, Error ellipse: s-maj=8.6km s-min=3.6km az=10.0*

ISC 25 09:17:30.9±0.9, 12.2N±0.1×40.52E±0.04, h10km, n53, σ0s91/54, mb4.2/20, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.37**	**106**	Pn	**Pn**	**09 18 11.8**	**+1.3**
	161nm,0.3s,baz=271,slow=23,SNR=22						
ATD				Lg		09 18 43.7	
	57nm,0.3s,baz=156,slow=23,SNR=5.4						
ATD	**Arta Tunnel**	**2.37**	**106**	Pn	**Pn**	**09 18 11.8**	**+1.3**
ATD				Lg		09 18 43.7	
UDYN	**Al 'Udayn**	**3.79**	**62**	*i* P	**Pn**	**09 18 31.7**	**+1.0**
UDYN				*i* S	**Sn**	**09 19 17.5**	**+1.6**
UDYN				AML	AML	09 19 36.4	
	comp=Z,812nm,0.8s						
DHBB	**Dhamar BB**	**4.45**	**57**⇓	*e*P	**Pn**	**09 18 39.9**	**-0.1**
DHBB				*i* S	**Sn**	**09 19 32.1**	**-0.4**
BDHA	**Al Bayda'**	**5.23**	**70**⇓	*e*P	**Pn**	**09 18 49.2**	**-1.8**
BDHA				*i* S	**Sn**	**09 19 49.1**	**-3.0**
ASF	**Jabal al Asfar**	**20.16**	**351**	P	**P**	**09 22 08.9**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=40,slow=1.6,SNR=6.0						
CSS	**Prodhromos**	**23.59**	**345**	*e*P	**P**	**09 22 44.1**	**+1.4**
	comp=Z,16nm,1.2s,mb4.3						
CSS	**Prodhromos**	**23.59**	**345**	*e*P	**P**	**09 22 44.1**	**+1.4**
	comp=Z,16nm,1.2s,mb4.3						
MALT	**Malatya**	**26.08**	**356**	*e*P	**P**	**09 23 08.2**	**+1.7**
	comp=Z,9.1nm,1.1s,mb4.2						
MALT	**Malatya**	**26.08**	**356**	*e*P	**P**	**09 23 08.1**	**+1.6**
	comp=Z,9.1nm,1.1s,mb4.2						
BR131	**Keskin Array S**	**28.09**	**349**	*e*P	**P**	**09 23 24.6**	**-0.2**
	comp=Z,5.7nm,1.0s,mb4.2						
BR131	**Keskin Array S**	**28.09**	**349**	*e*P	**P**	**09 23 24.6**	**-0.2**
	comp=Z,5.7nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**28.09**	**349**	P	**P**	**09 23 25.4**	**+0.6**
	comp=Z,2.8nm,1.0s,mb3.9,baz=172,slow=8.7,SNR=8.8						
AKASG	**Malin Array Be**	**39.50**	**349**	P	**P**	**09 25 02.6**	**-0.7**
	comp=Z,0.4nm,0.2s,mb3.8,baz=171,slow=7.0,SNR=5.0						
KOLS	**Kolonicke sedl**	**39.64**	**341**	*e*P	**P**	**09 25 05.4**	**+0.9**
KECS	**Kecovo**	**39.84**	**339**	*e*P	**P**	**09 25 08.0**	**+1.8**
VYHS	**Vyhne**	**40.45**	**338**	*e*P	**P**	**09 25 12.4**	**+1.3**
MORC	**Moravsky Berou**	**41.98**	**338**	*e*P	**P**	**09 25 22.0**	**-1.8**
	comp=Z,2.1nm,0.9s,mb3.8						
MORC	**Moravsky Berou**	**41.98**	**338**	*e*P	**P**	**09 25 22.0**	**-1.7**
	comp=Z,2.1nm,0.9s,mb3.8						
SBF	**Sospel**	**42.49**	**324**	*e*P	**P**	**09 25 28.1**	**+0.2**
	comp=Z,19nm,1.0s,mb4.4						
LMR	**La Mourre**	**42.70**	**323**	*e*P	**P**	**09 25 29.3**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.0						
FRF	**La Foret Royal**	**42.76**	**323**	*e*P	**P**	**09 25 30.0**	**-0.2**
	comp=Z,10nm,1.1s,mb4.2						
GERES	**GERESS Array B**	**42.78**	**334**	P	**P**	**09 25 30.8**	**+0.5**
	comp=Z,1.5nm,0.7s,mb3.9,baz=129,slow=6.9,SNR=13						
MBDF	**Montbardon**	**43.39**	**325**	*e*P	**P**	**09 25 36.3**	**+1.0**
	comp=Z,11nm,0.8s,mb4.4						
LPG	**La Plagne**	**43.88**	**326**	*e*P	**P**	**09 25 38.6**	**-0.6**
ORIF	**Oris-en-Rattie**	**44.01**	**324**	*e*P	**P**	**09 25 40.4**	**+0.1**
CABF	**La Chapelle**	**44.93**	**327**	*e*P	**P**	**09 25 46.9**	**-0.9**
	comp=Z,17nm,1.0s,mb4.5						
MOX	**Moxa**	**45.03**	**334**	*e*P	**P**	**09 25 48.0**	**-0.5**
HINF	**Hinteralfeld**	**45.30**	**328**	*e*P	**P**	**09 25 50.2**	**-0.4**

MTLF	**Montolieu**	**45.31**	**320**	*e*P		**P**	**09 25 51.0**	**+0.2**
CDF	**Champ du Feu**	**45.47**	**329**	*e*P		**P**	**09 25 51.5**	**-0.5**
HAU	**Haudompre**	**45.68**	**328**	*e*P		**P**	**09 25 53.0**	**-0.6**
SMF	**Signal de Mont**	**46.19**	**325**	*e*P		**P**	**09 25 56.9**	**-0.8**
	comp=Z,4.8nm,0.8s,mb4.2							
EPF	**Esparros**	**46.34**	**319**	*e*P		**P**	**09 25 59.8**	**+0.9**
AVF	**Avril sur Loir**	**46.54**	**325**	*e*P		**P**	**09 25 59.6**	**-0.9**
	comp=Z,7.7nm,1.0s,mb4.3							
LOR	**Lormes**	**46.55**	**326**	*e*P		**P**	**09 25 59.9**	**-0.6**
SSF	**Saint Saulge**	**46.62**	**326**	*e*P		**P**	**09 26 00.2**	**-0.9**
MEZF	**Maizieres J'vi**	**46.66**	**328**	*e*P		**P**	**09 26 01.4**	**0.0**
BGF	**Bois d'Agland**	**46.70**	**325**	*e*P		**P**	**09 26 01.6**	**-0.1**
RJF	**Les Rejaudoux**	**46.77**	**322**	*e*P		**P**	**09 26 02.5**	**+0.2**
TCF	**Toulx Ste Croi**	**46.91**	**324**	*e*P		**P**	**09 26 03.6**	**+0.2**
LFF	**La Frestale**	**47.05**	**322**	*e*P		**P**	**09 26 05.0**	**+0.5**
	comp=Z,9.7nm,0.7s,mb4.5							
BVAR	**Borovoye Array**	**47.21**	**24**	P		**P**	**09 26 04.5**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=196,slow=11,SNR=3.9							
SJPF	**Ste Jean**	**47.38**	**319**	*e*P		**P**	**09 26 08.5**	**+1.3**
	comp=Z,29nm,1.1s,mb4.8							
GIVF	**Givet**	**47.79**	**330**	*e*P		**P**	**09 26 09.6**	**-0.7**
BAIF	**Baives**	**48.07**	**329**	*e*P		**P**	**09 26 11.7**	**-0.8**
MFF	**Saint Martin d**	**48.45**	**323**	*e*P		**P**	**09 26 15.9**	**+0.5**
	comp=Z,31nm,1.2s,mb4.9							
MKAR	**Makanchi Array**	**49.20**	**37**	P		**P**	**09 26 21.1**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=225,slow=5.1,SNR=4.9							
NB2	**NORSAR Subarra**	**53.26**	**343**	P		**P**	**09 26 50.3**	**-1.4**
	comp=Z,7.2nm,1.1s,mb4.5,baz=145,slow=7.4							
NOA	**NORSAR Array B**	**53.26**	**343**	P		**P**	**09 26 51.0**	**-0.8**
	comp=Z,1.4nm,0.8s,mb4.0,baz=143,slow=7.3,SNR=4.0							
SONM	**Songino Array**	**64.89**	**43**	P		**P**	**09 28 12.8**	**+0.1**
	comp=Z,1.0nm,1.2s,mb3.7,baz=243,slow=6.6,SNR=5.0							
TXAR	**Lajitas Array**	**126.16**	**321**	PKP		PKPdf	09 36 34.6	-2.8
	comp=Z,0.2nm,0.8s,baz=342,slow=2.9,SNR=2.2							
PPT	**Papeete**	**168.88**	**120**	*e*LR		LR	09 37 14.4	
	comp=Z,234nm,23.5s							

IDC 25 09:25:40.8±4.2, 12.43N×40.69E, mb3.6/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=101.5km s-min=16.4km az=34.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.30**	**113**	Pn	Pn	09 26 20.6	+0.2
	25nm,0.3s,baz=269,slow=19,SNR=10						
ATD				Lg		09 26 52.6	
	32nm,0.3s,baz=254,slow=22,SNR=7.8						
BRTR	**Keskin Array B**	**27.89**	**348**	P	P	09 31 31.4	-3.1
	0.6nm,0.4s,baz=180,slow=7.4,SNR=3.9						
GERES	**GERESS Array B**	**42.64**	**334**	P	P	09 33 38.9	-1.7
	0.6nm,0.6s,baz=127,slow=6.7,SNR=6.9						
MKAR	**Makanchi Array**	**48.91**	**37**	P	P	09 34 28.9	-1.6
	0.3nm,0.7s,baz=225,slow=2.0,SNR=2.8						
SONM	**Songino Array**	**64.61**	**43**	P	P	09 36 21.0	-1.3
	0.2nm,0.3s,baz=256,slow=6.1,SNR=4.3						

IDC 25 09:33:39.9±4.5, 12.42N×40.71E, mb3.6/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=110.1km s-min=28.3km az=37.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.27**	**113**	Pn	Pn	09 34 19.1	-0.1
	42nm,0.3s,baz=83,slow=24,SNR=6.4						
BRTR	**Keskin Array B**	**27.91**	**348**	P	P	09 39 33.3	-0.4
	1.6nm,0.9s,baz=166,slow=10,SNR=5.6						
GERES	**GERESS Array B**	**42.66**	**334**	P	P	09 41 37.4	-2.5
	0.5nm,0.5s,baz=143,slow=6.7,SNR=5.6						
MKAR	**Makanchi Array**	**48.90**	**37**	P	P	09 42 26.3	-3.2
	0.6nm,0.9s,baz=207,slow=3.2,SNR=3.5						
SONM	**Songino Array**	**64.60**	**43**	P	P	09 44 19.9	-1.5
	0.3nm,0.8s,baz=270,slow=8.6,SNR=3.8						

*IDC **25** 09:34:07.8±2.4, 12.35N×40.75E, mb3.8/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, ML4.2/1, MS4.2/1, Ms1 4.2/1, ms1mx3.4/15, Error ellipse: s-maj=62.5km s-min=15.5km az=32.0*

*NEIC **25** 09:34:08.7±1.2, 12.21N×40.68E, h10km, mb4.1/2, Error ellipse: s-maj=31.7km s-min=13.6km az=216.0*

*CSEM **25** 09:34:11.2±0.3, 12.69N×40.89E, h20km, mb4.1/2, Error ellipse: s-maj=18.3km s-min=6.5km az=51.0*

ISC 25 09:34:05.4±3.3, 12.0N±0.4×40.5E±0.3, h10km, n20, σ0 93/13, mb3.9/6, MS4.2/1, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.37**	**102**	Pn	**Pn**	**09 34 45.4**	**+0.4**
	70nm,0.3s,baz=279,slow=13,SNR=10						
ATD				Lg		09 35 18.6	
	51nm,0.3s,baz=280,slow=22,SNR=12						
KMBO	**Kilima Mbogo**	**13.46**	**194**	Lg		09 41 19.2	
	0.1nm,0.3s,baz=216,slow=20,SNR=3.9						
BHD	**Baghdad**	**21.44**	**9**	*ex*	x	09 38 53.5	
MSL	**Mosul**	**24.27**	**5**	*ex*	x	09 39 47.0	
MALT	**Malatya**	**26.24**	**356**	P	**P**	**09 39 42.9**	**+0.4**
MALT	**Malatya**	**26.24**	**356**	P	**P**	**09 39 42.9**	**+0.4**
BRTR	**Keskin Array B**	**28.24**	**349**	P	**P**	**09 40 02.3**	**+1.6**
	1.0nm,0.7s,mb3.5,baz=186,slow=11,SNR=3.7						
BR131	**Keskin Array S**	**28.24**	**349**	*e*P	**P**	**09 40 01.1**	**+0.3**
	3.6nm,1.0s,mb4.0						
BR131	**Keskin Array S**	**28.24**	**349**	*e*P	**P**	**09 40 01.0**	**+0.3**
	3.6nm,1.0s,mb4.0						
PSZ	**Piszkesteto**	**39.71**	**338**	*e*P	**P**	**09 41 39.9**	**+0.2**
	3.8nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	**39.71**	**338**	*e*P	**P**	**09 41 39.9**	**+0.3**
	3.8nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**42.42**	**38**	*e*P	**P**	**09 42 03.3**	**+1.3**
GERES	**GERESS Array B**	**42.91**	**334**	P	**P**	**09 42 06.1**	**+0.2**
	0.8nm,0.8s,mb3.5,baz=135,slow=9.4,SNR=6.1						
MKAR	**Makanchi Array**	**49.34**	**37**	P	**P**	**09 42 55.0**	**-1.9**
	0.4nm,0.5s,mb3.7,baz=248,slow=6.5,SNR=3.5						
MKAR				LR	LR	10 06 31.8	
	comp=Z,262nm,21.4s,MS4.2,baz=199,slow=40						
FINES	**FINESS Array B**	**50.44**	**351**	P	**P**	**09 43 04.0**	**-1.0**
	3.6nm,1.0s,mb4.3,baz=174,slow=13,SNR=4.1						
SONM	**Songino Array**	**65.03**	**43**	P	**P**	**09 44 47.6**	**-0.6**
	0.9nm,1.0s,mb3.7,baz=247,slow=3.3,SNR=6.9						
MNTX	**Cornudas Mount**	**125.59**	**324**	PKPdf	PKPdf	09 53 11.2	+0.3
MNTX	**Cornudas Mount**	**125.59**	**324**	PKIKP	PKPdf	09 53 11.2	+0.3
TXAR	**Lajitas Array**	**126.26**	**321**	PKP	PKPdf	09 53 13.2	+1.1
	0.6nm,0.9s,baz=135,slow=1.8,SNR=4.8						
TXAR	**Lajitas Array**	**126.26**	**321**	PKIKP	PKPdf	09 53 13.2	+1.0

WEL 25 09:39:15.1±0.8, 35.65S×179.16E, h12km, ML3.5/9, Error ellipse: s-maj=9.0km s-min=4.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.04**	**200**	P*	Pb	09 39 49.2	-2.4
MXZ				S*	Sb	09 40 12.5	-4.3
MXZ				S*	Sb	09 40 12.5	-4.2
PUZ	**Puketiti**	**2.53**	**196**	PN	Pn	09 39 55.3	-1.4
PUZ				SN	Sn	09 40 24.6	-3.1
PUZ				SN	Sn	09 40 24.8	-2.9
MWZ	**Matawai**	**2.99**	**205**	*e*P*	Pb	09 40 01.0	-6.8
KUZ	**Kuaotunu**	**2.99**	**247**	PN	Pn	09 40 01.5	-1.8
URZ	**Urewera**	**3.08**	**212**	*e*P*	Pb	09 40 02.2	-7.3
URZ				S*	Sb	09 40 36.0	-11
KNZ	**Kokohu**	**3.57**	**199**	*e*PN	Pn	09 40 08.5	-3.1
BKZ	**Black Stump Fm**	**4.11**	**210**	*e*P*	Pb	09 40 14.4	-13
BKZ				S*	Sb	09 40 59.7	-17
PXZ	**Pawanui**	**4.74**	**202**	*e*PN	Pn	09 40 20.2	-8.0
TSZ	**Takapari Road**	**5.08**	**209**	*e*PN	Pn	09 40 26.4	-6.6
MRZ	**Mangatainoka R**	**5.75**	**208**	*e*PN	Pn	09 40 33.8	-8.5
MRZ				SN	Sn	09 41 35.5	-14
TCW	**Tory Channel**	**6.75**	**213**	SN	Sn	09 41 59.5	-15
NNZ	**Nelson**	**7.18**	**217**	SN	Sn	09 42 10.2	-15

*NNC **25** 09:46:33.4±2.8, 38.32N×76.05E, h16km±28km, mpv3.1, Error ellipse: s-maj=99.0km s-min=28.6km az=65.0*

BJI 25 09:46:24.3, 37.86N×77.02E, h32km, ML4.0, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.85**	**334**	PG	Pn	09 46 57.5	+3.1
KSH				SG	Sn	09 47 19.0	+2.2
KSH				Smax			
	comp=N,2μm,0.4s						
KSH				Smax			
	comp=E,2μm,0.3s						
AAK	**Ala-Archa**	**5.14**	**339**	⇓Pn	Pn	09 47 41.4	+0.2
	comp=E,5.6nm,0.6s						
AAK				⇑Lg		09 48 56.9	
	comp=E,62nm,0.9s						
KK31	**Karatay Array**	**7.21**	**319**	⇑Pn	Pn	09 48 09.2	-1.1
	comp=E,0.2nm,0.2s,baz=126,slow=12,SNR=6.6						
KK31				⇓Sn	Sn	09 49 25.0	-7.0
	comp=E,0.5nm,0.4s,baz=129,slow=23						
KK31				⇑Lg		09 49 53.4	
	comp=E,0.9nm,0.5s,baz=128,slow=29						

*CSEM **25** 10:02:07.9±0.1, 11.94N×40.58E, h10km, mb5.2/82, Ms4.1, Mw5.0, Error ellipse: s-maj=5.3km s-min=2.5km az=162.0*

*BJI **25** 10:02:09.3, 12.04N×40.17E, h26km, mB5.4, mb4.8, Ms5.1, Msz4.7*

*CRAAG **25** 10:02:10.5, 11.84N×40.50E, Mb5.0*

*MOS **25** 10:02:10.6±0.9, 12.34N×40.50E, h10km, mb5.3/59, MS4.4/10, Error ellipse: s-maj=9.3km s-min=3.5km az=112.7*

*DHMR **25** 10:02:10.8±2.7, 12.61N×40.52E, h10km, ML4.8*

*IDC **25** 10:02:11.1±0.8, 12.33N×40.62E, mb4.4/19, mb1 4.6/20, mb1mx4.5/25, mbtmp4.5/20, ML3.6/2, MS4.6/20, Ms1 4.6/20, ms1mx4.5/26, Error ellipse: s-maj=19.5km s-min=12.4km az=31.0*

*NEIC **25** 10:02:12.7±0.3, 12.37N×40.51E, h10km, mb5.2/85, MS4.2/6, Error ellipse: s-maj=7.9km s-min=6.6km az=224.0*

*HRVD **25** 10:02:12.7±0.3, 12.53N×40.58E, h12km, MW5.0/70, Centroid moment Tensor Solution. LP body waves: s31,c43;Mantle waves: s70,c117; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.56±.14; Mθθ 1.96±.14; Mϕϕ 2.60±.17; Mrθ 0.51±.41; Mrϕ -2.01±.14; Mθr~0.04±.45; Best double couple: Mϕ4.466×10^16 NP1: ϕs144°, δ43°, λ-84°. NP2:ϕs 315°, δ48°, λ-96°. Principal axes: T 4.33, Plg2°, Azm49°; N .272, Plg4°, Azm319°; P -4.602, Plg85°, Azm168°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*STR **25** 10:02:13.5±0.0, 12.93N×41.10E, Mb5.0, Ms4.1 Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 10:02:10.0±0.4, 12.20N±0.05×40.50E±0.03, h10km, (h9km±3.0km: pP-P), n347, σ1§04/341, mb5.0/121, MS4.6/34, 17C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.39**	**106**	Pn	**Pn**	**10 02 50.7**	**+0.9**
	90nm,0.3s,baz=122,slow=16,SNR=16						
ATD				LR	LR	10 03 13.4	
	comp=Z,4μm,21.9s,baz=297,slow=27						
ATD				Lg		10 03 23.4	
	86nm,0.3s,baz=276,slow=21,SNR=13						
ATD	**Arta Tunnel**	**2.39**	**106**	Pn	**Pn**	**10 02 50.7**	**+0.9**
ATD				LR	LR	10 03 13.3	
ATD				Lg		10 03 23.4	
ADEN	**Aden**	**4.41**	**82**	*e*P	**Pn**	**10 03 19.5**	**+0.8**
ADEN				*i* S	**Sn**	**10 04 12.8**	**+2.1**
ADEN				AML	AML	10 04 30.4	
	comp=N,3μm,0.7s						
LBOS		**4.92**	**70**	*e*P	**Pn**	**10 03 22.9**	**-2.9**
LBOS				*i* S	**Sn**	**10 04 20.2**	**-3.2**
BLJS	**Baljurashi**	**7.71**	**8**	P	**Pn**	**10 04 04.9**	**-0.3**
MUKL	**Al Mukalla**	**8.61**	**74**	*i* S	**Sn**	**10 05 50.1**	**-5.6**
AFFS	**'Afif**	**11.91**	**11**	P	**P**	**10 05 04.3**	**+1.4**
MZLS	**Mizel**	**12.59**	**20**	P	**P**	**10 05 12.9**	**+0.8**
KMBO	**Kilima Mbogo**	**13.62**	**194**	Pn	**P**	**10 05 27.9**	**+1.9**
	comp=N,0.1nm,0.3s,baz=33,slow=13,SNR=6.4						
KMBO				Lg		10 09 22.3	
	comp=N,0.1nm,0.3s,baz=240,slow=21,SNR=4.2						
KMBO				LR	LR	10 10 41.5	
	comp=N,3μm,22.0s,baz=279,slow=37						
HILS	**Ha'il**	**15.16**	**4**	P	**P**	**10 05 48.0**	**+2.0**
HASS	**Wahat al Ahsa'**	**15.57**	**33**	P	**P**	**10 05 52.1**	**+0.7**
TBKS	**Tabuk**	**16.37**	**348**	P	**P**	**10 06 06.3**	**+4.7**
BDAS	**Al Bad'**	**16.92**	**343**	P	**P**	**10 06 12.8**	**+4.2**
TAYS	**Tayyib Ism**	**17.10**	**343**	P	**P**	**10 06 14.1**	**+3.2**
JMQS	**Jabal Moqyreh**	**17.16**	**346**	P	**P**	**10 06 14.9**	**+3.3**
HAQS	**Haql**	**17.56**	**344**	P	**P**	**10 06 18.6**	**+2.0**
JMOS	**Jabal al Moall**	**17.62**	**344**	P	**P**	**10 06 18.8**	**+1.4**
ALWS	**Ilw as Safayha**	**17.77**	**344**	P	**P**	**10 06 20.6**	**+1.4**
QRN	**Al-Qurain**	**17.86**	**22**	*e*P	**P**	**10 06 20.4**	**+0.1**
QRN				AMb	AMB	10 06 27.0	
	comp=Z,83nm,1.2s						
RDF	**Al-Radifah**	**17.90**	**20**	*e*P	**P**	**10 06 21.1**	**+0.3**
RDF				AMb	AMB	10 06 32.4	
	comp=Z,78nm,1.5s						
NAY	**Al-Naaiem**	**18.09**	**19**	*e*P	**P**	**10 06 23.4**	**+0.2**
NAY				AMb	AMB	10 06 30.1	
	comp=Z,66nm,1.6s						
KBD	**Kabd**	**18.17**	**21**	*e*P	**P**	**10 06 24.0**	**-0.3**
KBD				AMb	AMB	10 06 33.1	
	comp=Z,400nm,1.6s						
ASF	**Jabal al Asfar**	**20.16**	**351**	P	**P**	**10 06 47.0**	**-0.4**
	comp=Z,18nm,1.1s,baz=51,slow=4.2,SNR=30						
ASF				LR	LR	10 13 31.5	
	comp=Z,707nm,21.6s,MS4.0,baz=40,slow=34						
BHD	**Baghdad**	**21.27**	**9**	*ex*	x	10 06 55.0	
BHD				*ex*	x	10 07 15.0	
BHD				*ex*	x	10 10 47.0	
BHL	**Bhannes**	**22.06**	**349**	*e*P	**P**	**10 07 08.0**	**+1.2**
CSS	**Prodhromos**	**23.58**	**345**	*e*P	**P**	**10 07 21.7**	**-0.1**
	comp=Z,236nm,2.1s,mb5.2						
CSS	**Prodhromos**	**23.58**	**345**	*e*P	**P**	**10 07 21.7**	**-0.1**
	comp=Z,236nm,2.1s,mb5.2						
MSL	**Mosul**	**24.10**	**5**	*ex*	x	10 07 49.5	
MSL				*ex*	x	10 12 10.0	
GZT	**Gaziantep**	**25.19**	**354**	*i* P	**P**	**10 07 37.8**	**+0.5**
ATAB	**Bozova**	**25.25**	**356**	*i* P	**P**	**10 07 38.2**	**+0.4**
ERMK	**Ermenek**	**25.28**	**346**	*i* P	**P**	**10 07 38.7**	**+0.5**
MALT	**Malatya**	**26.07**	**356**	*e*P	**P**	**10 07 46.6**	**+1.0**
	comp=Z,135nm,1.9s,mb5.2						
MALT	**Malatya**	**26.07**	**356**	*e*P	**P**	**10 07 46.6**	**+1.0**
	comp=Z,135nm,1.9s,mb5.2						
MALT	**Malatya**	**26.07**	**356**	*e*P	**P**	**10 07 46.6**	**+1.0**
MALT				pmax	pmax		
	comp=Z,135nm,1.9s,mb5.2						
GOLH	**Golhisar**	**26.80**	**340**	*i* P	**P**	**10 07 52.7**	**+0.5**
IDI	**Anoyia**	**26.99**	**331**	P	**P**	**10 07 55.2**	**+1.1**
	comp=Z,6.3nm,0.9s,mb4.1,baz=193,slow=9.3,SNR=4.8						
IDI				LR	LR	10 20 33.2	
	comp=Z,366nm,18.4s,MS4.0,baz=91,slow=41						
BR131	**Keskin Array S**	**28.08**	**349**	*e*P	**P**	**10 08 04.6**	**+0.7**
	comp=Z,69nm,1.5s,mb5.1						
BR131	**Keskin Array S**	**28.08**	**349**	*e*P	**P**	**10 08 04.6**	**+0.7**
	comp=Z,69nm,1.5s,mb5.1						
BRTR	**Keskin Array B**	**28.08**	**349**	P	**P**	**10 08 04.7**	**+0.7**
	comp=Z,22nm,1.2s,mb4.7,baz=172,slow=8.7,SNR=36						
BRTR				PcP	PcP	10 11 17.9	-0.8
	comp=Z,0.7nm,0.8s,baz=180,slow=4.3,SNR=3.5						
GNI	**Garni**	**28.09**	**7**	*e*P	**P**	**10 08 03.4**	**-0.6**
	comp=Z,9.6nm,0.8s,mb4.5						
GNI	**Garni**	**28.09**	**7**	*e*P	**P**	**10 08 03.4**	**-0.6**
	comp=Z,9.6nm,0.8s,mb4.5						
GNI	**Garni**	**28.09**	**7**	*e*P	**P**	**10 08 03.4**	**-0.6**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TI2	**Plekhanov**	**29.66**	**6**	⇑*i*P	**P**	**10 08 17.0**	**-1.1**
	comp=Z,50nm,0.6s,mb5.4						
TI2	**Plekhanov**	**29.66**	**6**	⇑*i*P	**P**	**10 08 17.0**	**-1.1**
TI2				pmax	pmax		
	comp=Z,50nm,0.6s,mb5.4						
LSZ	**Lusaka**	**29.89**	**204**	LR	LR	10 21 12.7	
	comp=Z,3μm,18.2s,MS5.0,baz=21,slow=38						
ZEI	**Tsey**	**30.60**	**5**	*e*P	**P**	**10 08 25.8**	**-0.6**
	comp=Z,13nm,1.3s,mb4.6						
ZEI	**Tsey**	**30.60**	**5**	*e*P	**P**	**10 08 25.8**	**-0.6**
ZEI				*i*		10 09 26.7	
ZEI				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.6						
SOC	**Sochi**	**31.28**	**359**	*i* P	**P**	**10 08 31.8**	**-0.6**
SOC	**Sochi**	**31.28**	**359**	*e* *i*P	**P**	**10 08 31.8**	**-0.6**
SOC				*e*		10 09 36.0	
SOC				*i* S	**S**	**10 13 35.8**	**-2.1**
SOC				*e*SS	SS	10 15 24.4	+0.3
SOC						10 19 00.0	
SOC				pmax	pmax		
	comp=N,37nm,1.0s						
SOC				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.2						
SOC				pmax	pmax		
	comp=E,28nm,0.8s						
SOC				MLR	MLR		
	comp=N,972nm,12.0s,MS4.7						
SOC				MLR	MLR		
	comp=Z,692nm,12.0s,MS4.5						
SOC				MLR	MLR		
	comp=E,232nm,14.0s,MS4.7						
KIV	**Kislovodsk**	**31.70**	**3**	*e*PcP	PcP	10 11 24.5	-3.4
KIV	**Kislovodsk**	**31.70**	**3**	*e*P	**P**	**10 08 34.9**	**-1.2**
KIV				*e*		10 11 24.5	
KIV				*e*S	**S**	**10 13 46.0**	**+1.6**
KIV				pmax	pmax		
	comp=N,3.0nm,0.9s						
KIV				pmax	pmax		
	comp=E,5.0nm,0.9s						
KIV				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
KIV				MLR	MLR		
	comp=N,953nm,19.0s,MS4.6						
KIV				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.6						
KIV				MLR	MLR		
	comp=E,410nm,16.0s,MS4.6						
SKO	**Skopje**	**34.01**	**334**	*i* P	**P**	**10 08 55.5**	**-0.7**
VAE	**Valguarnera**	**34.34**	**322**	LR	LR	10 23 43.5	
	comp=E,680nm,18.2s,MS4.4,baz=181,slow=38						
MATP	**Matopo**	**34.50**	**200**	LR	LR	10 23 40.2	
	comp=E,4μm,19.4s,MS5.1,baz=26,slow=37						
MLR	**Mutnele Rosu**	**35.43**	**342**	P	**P**	**10 09 09.3**	**+1.0**
	comp=E,6.8nm,0.9s,mb4.6,baz=207,slow=4.7,SNR=9.0						
KIS	**Kishinev**	**36.06**	**346**	*e*P	**P**	**10 09 12.0**	**-1.7**
KIS				*e*		10 11 43.0	
KIS				*e*		10 14 42.0	
DIVS	**Divcibare**	**36.36**	**335**	⇑*i*P	**P**	**10 09 15.6**	**-0.6**
CII	**Carovilli**	**37.26**	**327**	*e*P	**P**	**10 09 24.8**	**+1.1**
	comp=E,44nm,1.4s,mb5.1						
CII	**Carovilli**	**37.26**	**327**	*e*P	**P**	**10 09 24.8**	**+1.0**
	comp=E,44nm,1.4s,mb5.1						
ABSA	**Djebel Ababsia**	**38.18**	**315**	P	**P**	**10 09 35.0**	**+3.4**
AQU	**L'Aquila**	**38.18**	**327**	*e*P	**P**	**10 09 31.9**	**+0.4**
	comp=E,94nm,1.5s,mb5.3						
AQU	**L'Aquila**	**38.18**	**327**	*e*P	**P**	**10 09 31.9**	**+0.4**
	comp=E,94nm,1.5s,mb5.3						
AQU	**L'Aquila**	**38.18**	**327**	*e*P	**P**	**10 09 31.9**	**+0.4**
AQU				pmax	pmax		
	comp=Z,94nm,1.5s,mb5.3						
CMAH	**Djebel Manchou**	**38.40**	**315**	P	**P**	**10 09 35.5**	**+2.1**
TSUM	**TSumeb**	**38.52**	**216**	LR	LR	10 26 10.9	
	comp=Z,3μm,19.2s,MS5.1,baz=326,slow=37						
VSL	**Villasalto**	**38.69**	**320**	*e*P	**P**	**10 09 36.9**	**+1.1**
	comp=Z,102nm,1.9s,mb5.2						
VSL	**Villasalto**	**38.69**	**320**	*e*P	**P**	**10 09 36.9**	**+1.1**
	comp=Z,102nm,1.9s,mb5.2						
CKFL	**Kef-Lekhel**	**38.77**	**314**	P	**P**	**10 09 39.0**	**+2.4**
CASM	**Ain Smara**	**38.87**	**314**	P	**P**	**10 09 39.5**	**+2.2**
DFRA	**Djebel Bou Aff**	**39.44**	**314**	P	**P**	**10 09 45.0**	**+2.9**
VOR	**Voronezh**	**39.44**	**359**	*e*P	**P**	**10 09 42.0**	**0.0**
	comp=E,110nm,2.0s,mb5.2						
VOR	**Voronezh**	**39.44**	**359**	*e*P	**P**	**10 09 42.0**	**0.0**
VOR						10 11 14.0	
VOR				pmax	pmax		
	comp=Z,110nm,2.0s,mb5.2						
VOR				pmax	pmax		
	comp=N,100nm,1.7s						
VOR				pmax	pmax		
	comp=E,70nm,1.7s						
VOR				pmax	pmax		
	comp=N,120nm,2.5s						
VOR				pmax	pmax		
	comp=E,110nm,2.5s						
VOR				pmax	pmax		
	comp=Z,150nm,2.5s,mb5.3						
CKHR	**Kef el Ahmar**	**39.44**	**313**	P	**P**	**10 09 45.5**	**+3.4**
AKASG	**Malin Array Be**	**39.49**	**349**	P	**P**	**10 09 41.5**	**-0.9**
	comp=Z,2.1nm,0.8s,mb3.9,baz=176,slow=8.1,SNR=15						
AKASG	**Malin Array Be**	**39.49**	**349**	*i* P	**P**	**10 09 41.0**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PSZ	**Piszkesteto**	**39.56**	**338**	⇑*i*P	**P**	**10 09 43.9**	**+0.9**
KOLS	**Kolonicke sedl**	**39.63**	**341**	*e*P	**P**	**10 09 44.5**	**+1.0**
CRES	**Cresnjev**	**39.70**	**332**	*e*P	**P**	**10 09 45.0**	**+0.8**
CRES				*e*		10 10 06.0	
LBTB	**Lobatse**	**39.74**	**201**	LR	LR	10 26 18.3	
	comp=Z,2μm,21.4s,MS4.9,baz=40,slow=36						
KECS	**Kecovo**	**39.83**	**339**	*e*P	**P**	**10 09 44.5**	**-0.7**
PDKS	**Podkum**	**40.08**	**332**	*e*P	**P**	**10 09 48.2**	**+0.9**
LJU	**Ljubljana**	**40.29**	**332**	*e*P	**P**	**10 09 49.1**	**+0.1**
STHS	**Stebnicka Huta**	**40.38**	**341**	*e*P	**P**	**10 09 50.7**	**+1.0**
JAVS	**Javornik**	**40.39**	**331**	*e*P	**P**	**10 09 50.2**	**+0.4**
VYHS	**Vyhne**	**40.43**	**338**	*e*P	**P**	**10 09 50.1**	**-0.1**
CORF	**

OBN Obninsk 42.93 357 *e*P **P** 10 10 10.7 +0.2
comp=Z,130nm,1.9s,mb5.3
OBN Obninsk 42.93 357 *e*P **P** 10 10 10.7 +0.2
OBN *e* 10 11 53.1
OBN *e*S **S** 10 16 38.7 +3.6
OBN pmax pmax
comp=Z,130nm,1.9s,mb5.3
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.4
KHC Kasperske Hory 43.04 334 *e*P **P** 10 10 10.9 -0.6
KHC x x 10 10 26.5
KHC Kasperske Hory 43.04 334 *e*P **P** 10 10 10.9 -0.6
KHC *e* 10 10 26.5
DAVOX Davos 43.06 329 P **P** 10 10 10.8 -0.9
comp=Z,3.4nm,0.8s,mb4.1,baz=182,slow=20,SNR=5.4
DAVOX LR LR 10 30 43.1
comp=Z,193nm,19.0s,MS4.0,baz=89,slow=40
DAVOX Davos 43.06 329 P **P** 10 10 10.8 -0.9
DAVOX LR LR 10 30 43.1
UPC Upice 43.14 337 *e*P **P** 10 10 12.4 +0.1
PUYF Puyloubier 43.28 323 *e*P **P** 10 10 14.6 +1.0
PRU Pruhonice 43.30 336 *e*P **P** 10 10 12.2 -1.5
KSP Ksiaz 43.31 338 *e*P **P** 10 10 14.0 +0.3
KSP Ksiaz 43.31 338 *e*P **P** 10 10 13.1 -0.6
MBDF Montbardon 43.38 325 *e*P **P** 10 10 15.0 +0.7
comp=Z,72nm,1.2s,mb5.0
MBDF Montbardon 43.38 325 *e*P **P** 10 10 15.0 +0.7
MBDF pmax pmax
comp=Z,36nm,1.2s,mb5.0
DAVA Damuels 43.40 330⇑ *i*P **P** 10 10 14.7 +0.2
comp=Z,37nm,1.8s,mb4.8
VILF Villemus 43.46 323 *e*P **P** 10 10 16.1 +1.1
MOS Moscow 43.50 358 *e*P **P** 10 10 13.7 -1.5
comp=Z,235nm,1.8s,mb5.6
MOS Moscow 43.50 358 *e*P **P** 10 10 13.7 -1.5
MOS *e* 10 11 55.8
MOS pmax pmax
comp=Z,500nm,2.0s,mb5.9
MOS pmax pmax
comp=Z,235nm,1.8s,mb5.6
SMRF Simiane la Rot 43.62 323 *e*P **P** 10 10 16.5 +0.2
comp=Z,67nm,1.7s,mb4.8
PVCC Panska Ves 43.72 336 *e*P **P** 10 10 17.0 0.0
PRAF Pradon 43.76 323 *e*P **P** 10 10 18.3 +0.9
EIBI Ibiza 43.77 315 P **P** 10 10 17.7 +0.1
comp=Z,47nm,1.4s,mb5.0
EIBI Ibiza 43.77 315 P **P** 10 10 17.7 +0.1
comp=Z,47nm,1.4s,mb5.0
LPG La Plagne 43.87 326 *e*P **P** 10 10 17.3 -1.0
comp=Z,125nm,1.7s,mb5.0
LPG La Plagne 43.87 326 *e*P **P** 10 10 17.3 -1.0
LPG pmax pmax
comp=Z,62nm,1.7s,mb5.1
LPL La Plagne 43.89 326 *e*P **P** 10 10 17.5 -1.0
comp=Z,125nm,1.6s,mb5.1
LPL La Plagne 43.89 326 *e*P **P** 10 10 17.5 -1.0
LPL pmax pmax
comp=Z,63nm,1.6s,mb5.1
SUW Suwalki 43.92 345 *e*P **P** 10 10 18.5 -0.1
ORIF Oris-en-Rattie 44.00 324 *e*P **P** 10 10 19.1 -0.3
comp=Z,119nm,1.7s,mb5.0
ORIF *e*R
comp=Z,243nm,22.8s
BRG Berggiesshubel 44.23 336 *i*P **P** 10 10 20.8 -0.4
comp=Z,64nm,1.8s,mb5.0
BRG Berggiesshubel 44.23 336 *i*P **P** 10 10 20.8 -0.4
comp=Z,64nm,1.8s,mb5.0
BRG Berggiesshubel 44.23 336 *i*P **P** 10 10 20.8 -0.4
BRG pmax pmax
comp=Z,64nm,1.8s,mb5.0
NKC Novy Kostel 44.36 334 *e*P **P** 10 10 21.7 -0.5
EJON La Jonquera 44.41 320 P **P** 10 10 19.8 -3.0
comp=Z,42nm,1.5s,mb5.0
GRA1 Grafenberg Arr 44.48 333 *e*P **P** 10 10 21.7 -1.6
comp=Z,46nm,1.6s,mb5.0
GRA1 *e*PP PP 10 12 08.1 -0.3
GRF Grafenberg Arr 44.48 333 *e*P **P** 10 10 21.7 -1.6
comp=Z,46nm,1.6s,mb5.0
GRF *e*PP PP 10 12 08.1 -0.3
GRF Grafenberg Arr 44.48 333 *e*P **P** 10 10 21.7 -1.6
GRF *e* 10 12 08.1
GRF pmax pmax
comp=Z,46nm,1.6s,mb5.0
GRF Grafenberg Arr 44.48 333 *e*P **P** 10 10 21.7 -1.6
GRF *e* 10 12 08.1
GRF pmax pmax
comp=Z,46nm,1.6s,mb5.0
VIVF Saint-Julien-l 44.66 324 *e*P **P** 10 10 24.4 -0.3
comp=Z,95nm,1.7s,mb5.0
VIVF Saint-Julien-l 44.66 324 *e*P **P** 10 10 24.4 -0.3
VIVF pmax pmax
comp=Z,47nm,1.7s,mb5.0
FILF Fillols 44.67 320 *e*P **P** 10 10 26.6 +1.7
LASF Ste Croix 44.69 322 *e*P **P** 10 10 24.8 -0.2
comp=Z,102nm,1.5s,mb5.1
BBS Basel-Blauen 44.72 328 *e*P **P** 10 10 25.2 0.0
CABF La Chapelle 44.92 327 *e*P **P** 10 10 25.7 -1.1
comp=Z,94nm,1.4s,mb5.1
CABF La Chapelle 44.92 327 *e*P **P** 10 10 25.7 -1.1
CABF pmax pmax
comp=Z,47nm,1.4s,mb5.1
CLL Collm 44.95 336 P **P** 10 10 25.7 -1.2
comp=Z,logA/T=1.5,mb5.1
CLL Collm 44.95 336 *i*P **P** 10 10 25.7 -1.2
comp=Z,55nm,1.7s,mb5.1
CLL *e* 10 10 48.0
CLL Collm 44.95 336 *i*P **P** 10 10 25.7 -1.2
CLL Collm 44.95 336 *i*P **P** 10 10 25.7 -1.2
CLL pmax pmax
comp=Z,55nm,1.7s,mb5.1
KIC Kosan Boka 44.98 267 *e*P **P** 10 10 28.1 +0.3
comp=Z,313nm,1.6s,mb5.9
LOMF Lomont 44.99 328 *e*P **P** 10 10 27.8 +0.4
EMIR Miracle 45.01 318 P **P** 10 10 25.8 -1.8
comp=Z,80nm,1.7s,mb5.3
MOX Moxa 45.02 334 *i*P **P** 10 10 26.8 -0.7
comp=Z,logA/T=1.3,mb4.9
MOX PP PP 10 12 15.0 +1.3
MOX Moxa 45.02 334 *e*P **P** 10 10 26.8 -0.7
comp=Z,36nm,1.7s,mb4.9
MOX *e*PP PP 10 12 14.9 +1.2
MOX Moxa 45.02 334 *e*P **P** 10 10 26.8 -0.7
MOX *e* 10 12 14.9
MOX pmax pmax
comp=Z,36nm,1.7s,mb4.9
EPOB Poblet 45.03 317 P **P** 10 10 26.6 -1.1
comp=Z,82nm,1.8s,mb5.3
EPOB Poblet 45.03 317 P **P** 10 10 26.6 -1.2
comp=Z,82nm,1.8s,mb5.3
DBIC Dimbokro 45.04 267 P **P** 10 10 28.7 +0.5
comp=Z,9.6nm,0.8s,mb4.7,baz=71,slow=12,SNR=6.1
DBIC LR LR 10 28 40.8
comp=Z,668nm,19.5s,MS4.6,baz=65,slow=35
DBIC Dimbokro 45.04 267 *e*P **P** 10 10 29.8 +1.6
comp=Z,18nm,1.0s,mb4.8
DBIC Dimbokro 45.04 267 P **P** 10 10 28.7 +0.5
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC MLR MLR
comp=Z,668nm,19.5s
EMUR La Murta 45.11 312 P **P** 10 10 27.1 -1.3
comp=Z,98nm,1.8s,mb5.3
EMUR La Murta 45.11 312 P **P** 10 10 27.1 -1.3
comp=Z,98nm,1.8s,mb5.3
MOF Molkenrain 45.16 329 *e*P **P** 10 10 28.9 +0.2
TIC Toumodi 45.20 267 *e*P **P** 10 10 30.1 +0.6
comp=Z,325nm,1.7s,mb5.9
HINF Hinteralfeld 45.28 328 *e*P **P** 10 10 28.9 -0.8
comp=Z,160nm,1.8s,mb5.2
HINF Hinteralfeld 45.28 328 *e*P **P** 10 10 28.9 -0.8
HINF pmax pmax
comp=Z,80nm,1.8s,mb5.2
LIC Lamto 45.29 267 *e*P **P** 10 10 30.7 +0.5
comp=Z,97nm,1.5s,mb5.4
MTLF Montolieu 45.30 321 *e*P **P** 10 10 29.7 -0.1
comp=Z,111nm,1.9s,mb5.1
MTLF Montolieu 45.30 321 *e*P **P** 10 10 29.7 -0.1
MTLF pmax pmax
comp=Z,56nm,1.9s,mb5.1
ERTA Horta de San J 45.34 317 P **P** 10 10 30.1 -0.1
comp=Z,57nm,1.5s,mb5.2
ERTA Horta de San J 45.34 317 P **P** 10 10 30.1 -0.1
comp=Z,57nm,1.5s,mb5.2
ECH Echery 45.39 329 *e*P **P** 10 10 30.6 +0.1
CDF Champ du Feu 45.46 329 *e*P **P** 10 10 30.3 -0.7
comp=Z,80nm,1.6s,mb5.0
CDF Champ du Feu 45.46 329 *e*P **P** 10 10 30.3 -0.7
CDF pmax pmax
comp=Z,40nm,1.6s,mb5.0
TOD Tromm 45.53 331 *e*P **P** 10 10 31.7 +0.2
LANF Langenberg 45.58 330 *e*P **P** 10 10 31.9 0.0
ECHE Chera 45.63 314 P **P** 10 10 30.4 -2.1
comp=Z,22nm,1.4s,mb4.9
ECHE Chera 45.63 314 P **P** 10 10 30.4 -2.1
comp=Z,22nm,1.4s,mb4.9
ECHE Chera 45.63 314 P **P** 10 10 30.4 -2.1
ECHE pmax pmax
comp=Z,22nm,1.4s,mb4.9
HAU Haudompre 45.66 328 *e*P **P** 10 10 31.9 -0.8
comp=Z,141nm,1.6s,mb5.3
HAU *e*R
comp=Z,198nm,21.8s
HAU Haudompre 45.66 328 *e*P **P** 10 10 31.9 -0.8
HAU pmax pmax
comp=Z,71nm,1.6s,mb5.3
HAU MLR MLR
comp=Z,200nm,21.8s,MS4.0
LBL Lubilhac 45.70 323 *e*P **P** 10 10 34.1 +1.1
EALB Alboran 45.75 309 P **P** 10 10 33.2 -0.3
comp=Z,160nm,1.8s,mb5.7
EALB Alboran 45.75 309 P **P** 10 10 33.2 -0.3
comp=Z,160nm,1.8s,mb5.7
PLDF La Plantade 45.90 324 *e*P **P** 10 10 34.7 +0.1
EGRA Graus 45.93 318 P **P** 10 10 33.8 -1.1
comp=Z,58nm,1.6s,mb5.3
EGRA Graus 45.93 318 P **P** 10 10 33.8 -1.1
comp=Z,58nm,1.6s,mb5.3
EBER Berja 45.97 310 P **P** 10 10 35.6 +0.4
comp=Z,54nm,1.7s,mb5.2
EBER Berja 45.97 310 P **P** 10 10 35.7 +0.4
comp=Z,54nm,1.7s,mb5.2
MELF Melles 45.98 319 *e*P **P** 10 10 36.9 +1.7
THEF They Montfort 45.99 328 *e*P **P** 10 10 35.1 -0.2
MDT Midelt 46.04 304 P **P** 10 10 37.5 +1.6
comp=Z,10nm,1.1s,mb4.7,baz=109,slow=11
MDT LR LR 10 32 39.5
comp=Z,769nm,20.9s,MS4.6,baz=336,slow=40
EHUE Huescar 46.09 311 P **P** 10 10 36.8 +0.6
comp=Z,42nm,1.9s,mb5.0
EHUE Huescar 46.09 311 P **P** 10 10 36.8 +0.7
comp=Z,42nm,1.9s,mb5.0
EHUE Huescar 46.09 311 P **P** 10 10 36.8 +0.7
EHUE pmax pmax
comp=Z,42nm,1.9s,mb5.0
PYM Petit Puy Mans 46.13 324 *e*P **P** 10 10 37.1 +0.7
SMF Signal de Mont 46.17 325 *e*P **P** 10 10 35.6 -1.1
comp=Z,27nm,1.5s,mb4.7
SMF Signal de Mont 46.17 325 *e*P **P** 10 10 35.6 -1.1
SMF pmax pmax
comp=Z,14nm,1.5s,mb4.7
ESAC San Caprasio 46.23 317 P **P** 10 10 37.1 -0.1
comp=Z,58nm,1.5s,mb5.3
ESAC San Caprasio 46.23 317 P **P** 10 10 37.1 -0.1
comp=Z,58nm,1.5s,mb5.3
CAF Calviac 46.23 322 *e*P **P** 10 10 37.5 +0.3
comp=Z,105nm,1.7s,mb5.2
CAF Calviac 46.23 322 *e*P **P** 10 10 37.5 +0.3
CAF pmax pmax
comp=Z,52nm,1.7s,mb5.2
EBIE Bielsa 46.28 319 P **P** 10 10 36.7 -0.9
comp=Z,78nm,1.7s,mb5.4
EBIE Bielsa 46.28 319 P **P** 10 10 36.7 -0.9
comp=Z,78nm,1.7s,mb5.4
ARU Arti 46.30 14 *e*P **P** 10 10 37.5 0.0
comp=Z,109nm,1.8s,mb5.5
ARU Arti 46.30 14 *i*P **P** 10 10 37.1 -0.4
comp=Z,42nm,2.0s,mb5.0
ARU Arti 46.30 14 *e*PcP PcP 10 12 09.8 -3.6
ARU Arti 46.30 14⇓ *i*P **P** 10 10 37.1 -0.4
ARU *e* 10 12 09.8
ARU *e* 10 12 27.3
ARU *e*PPP PPP 10 13 08.7 -1.9
ARU *e*S **S** 10 17 25.0 +1.3
ARU *e*SS SS 10 20 43.1 +1.5
ARU pmax pmax
comp=Z,42nm,2.0s,mb5.0
ARU MLR MLR
comp=N,500nm,18.0s,MS4.7
ARU MLR MLR
comp=E,500nm,18.0s,MS4.7
ARU MLR MLR
comp=Z,900nm,18.0s,MS4.8
EPF Esparros 46.32 319 *e*P **P** 10 10 37.9 0.0
comp=Z,51nm,1.6s,mb4.9
EPF Esparros 46.32 319 *e*P **P** 10 10 37.9 0.0
EPF pmax pmax
comp=Z,25nm,1.6s,mb4.9
EVIA Vianos 46.33 312 P **P** 10 10 37.5 -0.6
comp=Z,23nm,1.4s,mb4.9
EVIA Vianos 46.33 312 P **P** 10 10 37.5 -0.6
EVIA pmax pmax
comp=Z,23nm,1.4s,mb4.9
EQES Quesada 46.43 311 P **P** 10 10 37.5 -1.3
comp=Z,48nm,1.7s,mb5.2
EQES Quesada 46.43 311 P **P** 10 10 37.5 -1.4
comp=Z,48nm,1.7s,mb5.2
AVF Avril sur Loir 46.53 325 *e*P **P** 10 10 38.5 -1.0
comp=Z,82nm,1.9s,mb5.0
AVF Avril sur Loir 46.53 325 *e*P **P** 10 10 38.5 -1.0
AVF pmax pmax
comp=Z,41nm,1.9s,mb5.0
LOR Lormes 46.53 326 *e*P **P** 10 10 38.6 -0.9
comp=Z,113nm,1.6s,mb5.2
LOR *e*R
comp=Z,110nm,18.5s
LOR Lormes 46.53 326 *e*P **P** 10 10 38.6 -0.9
LOR pmax pmax
comp=Z,57nm,1.6s,mb5.2
LOR MLR MLR
comp=Z,110nm,18.5s,MS3.8
SSF Saint Saulge 46.60 326 *e*P **P** 10 10 39.0 -1.1
comp=Z,16nm,1.4s,mb4.8
SSF Saint Saulge 46.60 326 *e*P **P** 10 10 39.0 -1.1
SSF pmax pmax
comp=Z,16nm,1.4s,mb4.8
ECOG Cogollos-Vega 46.61 310 P **P** 10 10 40.7 +0.4
comp=Z,2.9nm,0.8s,mb4.3
ECOG Cogollos-Vega 46.61 310 P **P** 10 10 40.7 +0.4
ECOG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MEZF Maizieres J'vi 46.65 328 *e*P **P** 10 10 40.1 -0.3
comp=Z,248nm,1.6s,mb5.6
BGF Bois d'Agland 46.68 325 *e*P **P** 10 10 40.4 -0.3
comp=Z,114nm,1.5s,mb5.3
BGF Bois d'Agland 46.68 325 *e*P **P** 10 10 40.4 -0.3
BGF pmax pmax
comp=Z,57nm,1.5s,mb5.3
ERON Agron 46.70 310 P **P** 10 10 40.2 -0.8
comp=Z,18nm,1.0s,mb5.0
ERON Agron 46.70 310 P **P** 10 10 40.2 -0.8
comp=Z,18nm,1.0s,mb5.0
RJF Les Rejaudoux 46.76 322 *e*P **P** 10 10 41.4 0.0
comp=Z,55nm,1.4s,mb5.0
RJF *e*R
comp=Z,222nm,18.2s
RJF Les Rejaudoux 46.76 322 *e*P **P** 10 10 41.4 0.0
RJF pmax pmax
comp=Z,28nm,1.4s,mb5.0
RJF MLR MLR
comp=Z,220nm,18.3s,MS4.2
REYF Montagne du Re 46.81 319 *e*P **P** 10 10 43.4 +1.6
ETSF Etsaut 46.84 319 *e*P **P** 10 10 42.9 +0.9
comp=Z,134nm,1.5s,mb5.3
ETSF Etsaut 46.84 319 *e*P **P** 10 10 42.9 +0.9
ETSF pmax pmax
comp=Z,67nm,1.5s,mb5.3
TCF Toulx Ste Croi 46.89 324 *e*P **P** 10 10 42.5 +0.1
ELOJ Sierra Loja 47.01 310 P **P** 10 10 43.8 +0.3
comp=Z,40nm,1.4s,mb5.2
ELOJ Sierra Loja 47.01 310 P **P** 10 10 43.8 +0.4
comp=Z,40nm,1.4s,mb5.2
ELOJ Sierra Loja 47.01 310 P **P** 10 10 43.8 +0.4
ELOJ pmax pmax
comp=Z,40nm,1.4s,mb5.2
LFF La Frestale 47.03 322 *e*P **P** 10 10 43.9 +0.3
comp=Z,41nm,0.9s,mb5.0
LFF La Frestale 47.03 322 *e*P **P** 10 10 43.9 +0.3
LFF pmax pmax
comp=Z,20nm,0.9s,mb5.0
BRVK Borovoye 47.19 24 *e*P **P** 10 10 44.2 -0.5
BRVK Borovoye 47.19 24 *e*P **P** 10 10 44.2 -0.5
BVAR Borovoye Array 47.21 24 P **P** 10 10 44.2 -0.6
comp=Z,2.3nm,0.9s,mb4.1,baz=225,slow=10,SNR=8.0
ELUQ Luque 47.23 310 P **P** 10 10 42.7 -2.6
comp=Z,23nm,1.5s,mb4.9
ELUQ Luque 47.23 310 P **P** 10 10 42.7 -2.5
ELUQ pmax pmax
comp=Z,23nm,1.5s,mb4.9
EMIJ Mijas 47.28 309 P **P** 10 10 42.9 -2.8
comp=Z,38nm,2.1s,mb5.0
SJPF Ste Jean 47.37 319 *e*P **P** 10 10 47.0 +0.8
comp=Z,183nm,1.6s,mb5.5
SJPF Ste Jean 47.37 319 *e*P **P** 10 10 47.0 +0.8
SJPF pmax pmax
comp=Z,92nm,1.6s,mb5.5
EJIF Jimena Fronter 47.77 308 P **P** 10 10 49.9 +0.3
comp=Z,35nm,1.6s,mb5.1
EJIF Jimena Fronter 47.77 308 P **P** 10 10 49.9 +0.4
comp=Z,35nm,1.6s,mb5.1
EJIF Jimena Fronter 47.77 308 P **P** 10 10 49.9 +0.4
EJIF pmax pmax
comp=Z,35nm,1.6s,mb5.1
GIVF Givet 47.78 330 *e*P **P** 10 10 48.4 -0.9
ESDC Sonseca Array 47.78 313 P **P** 10 10 50.5 +1.0
comp=Z,3.4nm,0.9s,mb4.4,baz=115,slow=7.9,SNR=17
ESDC Sonseca Array 47.78 313 P **P** 10 10 48.0 -1.6
comp=Z,26nm,1.4s,mb5.1
ESDC Sonseca Array 47.78 313 P **P** 10 10 48.0 -1.5
comp=Z,26nm,1.4s,mb5.1
ESLA Sonseca Array 47.78 313 *e*P **P** 10 10 50.0 +0.5
comp=Z,30nm,1.7s,mb5.0
ESLA Sonseca Array 47.78 313 *e*P **P** 10 10 50.0 +0.5
comp=Z,30nm,1.7s,mb5.0
BAIF Baives 48.06 329 *e*P **P** 10 10 50.3 -1.2
comp=Z,117nm,1.7s,mb5.3
BAIF Baives 48.06 329 *e*P **P** 10 10 50.3 -1.2
BAIF pmax pmax
comp=Z,59nm,1.7s,mb5.3
SUR Sutherland 48.16 203 LR LR 10 31 46.5
comp=Z,3µm,18.1s,MS5.3,baz=24,slow=37
ESPR Espera 48.20 309 P **P** 10 10 52.1 -0.7
comp=Z,79nm,1.5s,mb5.5
ESPR Espera 48.20 309 P **P** 10 10 52.1 -0.7
comp=Z,79nm,1.5s,mb5.5
MFF Saint Martin d 48.43 323 *e*P **P** 10 10 53.8 -0.7
SOKR Solikamsk 48.82 11 *i*P **P** 10 10 58.4 +1.1
comp=Z,970nm,20.0s
SOKR Solikamsk 48.82 11⇓ *i*P **P** 10 10 58.4 +1.1
SOKR pmax pmax
comp=Z,50nm,1.8s,mb5.2
SOKR MLR MLR
comp=Z,970nm,20.0s,MS4.8
ELAN Lanestosa 48.87 318 P **P** 10 10 54.3 -3.5
comp=Z,72nm,1.6s,mb5.5
EMIN Mina Concepcio 49.10 310 P **P** 10 10 56.7 -3.1
comp=Z,42nm,2.0s,mb5.1
MKAR Makanchi Array 49.20 37 P **P** 10 10 59.9 -0.5
comp=Z,3.1nm,1.0s,mb4.3,baz=239,slow=7.1,SNR=14
MKAR LR LR 10 34 22.0
comp=Z,1µm,20.5s,MS4.9,baz=201,slow=39
MKAR Makanchi Array 49.20 37 P **P** 10 10 59.9 -0.5
MKAR LR LR 10 34 22.0
KURK Kurchatov 49.38 31 *e*P **P** 10 11 00.9 -0.8
comp=Z,36nm,1.8s,mb5.1
KURK Kurchatov 49.38 31 *e*P **P** 10 11 00.9 -0.8
comp=Z,36nm,1.8s,mb5.1
KURK Kurchatov 49.38 31⇑ *e*P **P** 10 11 01.6 -0.1
LDF La Druitiere 49.49 325 *e*P **P** 10 11 01.2 -1.4
comp=Z,30nm,1.1s,mb5.0
LDF La Druitiere 49.49 325 *e*P **P** 10 11 01.2 -1.4
LDF pmax pmax
comp=Z,15nm,1.0s,mb5.0
EGRO El Granado 49.64 309 P **P** 10 11 01.3 -2.6
comp=Z,50nm,1.8s,mb5.2
EBAD Badajoz 49.67 311 P **P** 10 11 03.4 -0.8
comp=Z,76nm,1.9s,mb5.4
EBAD Badajoz 49.67 311 P **P** 10 11 03.3 -0.8
comp=Z,76nm,1.9s,mb5.4
FLN La Foliniere 49.78 325 *e*P **P** 10 11 03.4 -1.4
comp=Z,145nm,1.6s,mb5.5
FLN *e*R
comp=Z,284nm,18.5s
FLN La Foliniere 49.78 325 *e*P **P** 10 11 03.4 -1.4
FLN pmax pmax
comp=Z,73nm,1.6s,mb5.5
FLN MLR MLR
comp=Z,280nm,18.5s,MS4.3
GRR Gorron 49.79 325 *e*P **P** 10 11 03.5 -1.4
FINES FINESS Array B 50.28 351 P **P** 10 11 07.8 -0.7
comp=Z,18nm,1.2s,mb5.0,baz=143,slow=9.5,SNR=8.6
EVO Evora 50.34 310 *e*P **P** 10 11 09.7 +0.4
comp=Z,189nm,1.7s,mb5.6
EVO *e*R
comp=Z,487nm,21.0s
PCBR Castelo Branco 50.37 312 *e*P **P** 10 11 08.7 -0.7
comp=Z,29nm,1.4s,mb5.1
SGMF Saint Gilles 50.69 324 *e*P **P** 10 11 10.4 -1.3
WMQ Urumqi 51.26 43 *e*P **P** 10 11 16.5 +0.3
WMQ PCP PcP 10 12 33.0 +1.5
WMQ PP PP 10 13 14.0 0.0
WMQ *e*S **S** 10 18 33.0 -0.4
WMQ SS SS 10 22 06.0 -0.9
WMQ AMB AMB
comp=Z,15nm,1.8s,mb4.6
WMQ AMB AMB
comp=Z,210nm,3.6s
WMQ LR LR
comp=N,1µm,16.7s,MS5.1
WMQ LR LR
comp=E,634nm,16.0s,MS5.1
WMQ LR LR
comp=Z,1µm,30.0s
HFS Hagfors 51.80 343 P **P** 10 11 18.8 -1.2
comp=Z,4.7nm,1.0s,mb4.4,SNR=4.4
HFS LR LR 10 33 17.3
comp=Z,120nm,21.1s,MS3.9,baz=5.4,slow=36
EMAZ Mazaricos 52.49 315 P **P** 10 11 22.6 -2.9
comp=Z,109nm,1.8s,mb5.5
KONO Kongsberg 52.64 341 *e*P **P** 10 11 27.3 +1.0
KONO Kongsberg 52.64 341⇑ *e*P **P** 10 11 27.3 +1.0
NB2 NORSAR Subarra 53.24 343 P **P** 10 11 29.0 -1.8
comp=Z,81nm,1.7s,mb5.4,baz=145,slow=7.4
NB2 NORSAR Subarra 53.24 343 P **P** 10 11 29.0 -1.8
baz=145,slow=7.4
NB2 NORSAR Subarra 53.24 343 P **P** 10 11 29.0 -1.8
NB2 pmax pmax
comp=Z,81nm,1.7s,mb5.4
NOA NORSAR Array B 53.24 343 P **P** 10 11 29.7 -1.1
comp=Z,11nm,1.1s,mb4.7,baz=142,slow=7.4,SNR=6.7
NOA LR LR 10 36 54.2
comp=Z,176nm,20.1s,MS4.1,baz=150,slow=39
NVS Novosibirsk 54.08 29 *i*P **P** 10 11 35.2 -1.8
NVS pmax pmax
comp=N,23nm,1.8s
NVS pmax pmax
comp=E,14nm,1.8s
NVS pmax pmax
comp=Z,27nm,1.8s,mb4.9
ZAL Zalesovo 54.33 31 P **P** 10 11 38.0 -0.9
comp=Z,2.1nm,0.6s,mb4.2,baz=211,slow=6.0,SNR=7.0
KMI Kunming 59.90 68 P **P** 10 12 19.5 +0.7
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
KMI LR LR
comp=Z,303nm,19.8s,MS4.4
KMI Kunming 59.90 68 P **P** 10 12 19.6 +0.8
comp=Z,7.0nm,1.0s,mb4.7
KMI sP sP 10 12 25.6 +2.5
KMI LR LR
comp=Z,300nm,19.8s,MS4.4
KMI Kunming 59.90 68 P **P** 10 12 19.6 +0.8
KMI *SP sP 10 12 25.6 +2.5
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KMI MLR MLR
comp=Z,300nm,19.8s,MS4.4
CD2 Chengdu 60.96 61 *e*P **P** 10 12 26.0 +0.1
LZH Lanzhou 61.42 56 *e*P **P** 10 12 28.0 -1.0
LZH AP pP 10 12 32.8 +0.7
LZH XP sP 10 12 36.0 +2.8
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,500nm,4.0s
LZH LR LR
comp=E,700nm,10.5s
LZH LR LR
comp=Z,1µm,16.0s
LZH Lanzhou 61.42 56 *e*P **P** 10 12 27.9 -1.1

	comp=Z,30nm,1.0s,mb5.4									
LZH						pP	pP	10 12 32.7	+0.6	
LZH						sP	sP	10 12 36.0	+2.8	
LZH						LR	LR			
	comp=Z,1μm,16.0s,MS5.1									
LZH	**Lanzhou**	**61.42**	**56**	*eP*		**P**		**10 12 27.9**	**-1.1**	
LZH					*PP	pP		10 12 32.7	+0.6	
LZH					pmax	pmax				
	comp=Z,30nm,1.0s,mb5.4									
LZH					MLR	MLR				
	comp=Z,1μm,16.0s,MS5.1									
SONM	**Songino Array**	**64.90**	**43**	P		**P**		**10 12 52.2**	**+0.4**	
	comp=Z,4.0nm,1.2s,mb4.3,baz=248,slow=6.9,SNR=19									
SONM					LR	LR		10 44 59.9		
	comp=Z,1μm,20.6s,MS5.1,baz=266,slow=40									
HHC	**Hu-ho-hao-te**	**67.82**	**51**	*eP*		**P**		**10 13 11.3**	**+0.7**	
HHC					AP	pP		10 13 15.8	+2.1	
HHC					XP	sP		10 13 19.0	+4.2	
HHC					PCP	PcP		10 13 37.8	+0.5	
HHC					PP	PP		10 15 40.8	-1.3	
HHC					SCP			10 17 39.8		
HHC					PCS			10 17 42.0		
HHC					AMB	AMB				
	comp=Z,23nm,0.7s,mb5.3									
HHC					AMB	AMB				
	comp=Z,213nm,4.6s									
HHC					LR	LR				
	comp=N,523nm,16.7s,MS5.0									
HHC					LR	LR				
	comp=E,488nm,13.1s,MS5.0									
HHC					LR	LR				
	comp=Z,380nm,19.0s									
BOD	**Bodaibo**	**70.98**	**33**	*eP*		**P**		**10 13 27.5**	**-2.2**	
BOD					pmax	pmax				
	comp=Z,14nm,1.8s,mb4.6									
BOD					pmax	pmax				
	comp=Z,6.0nm,1.9s,mb4.2									
NJ2	**Nanjing**	**73.83**	**60**	*eP*		**P**		**10 13 46.0**	**-1.0**	
NJ2					AP	pP		10 13 56.5	+6.3	
NJ2					XP	sP		10 14 00.3	+9.0	
NJ2					PP	PP		10 16 34.0	+0.4	
NJ2					AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.8									
NJ2					AMB	AMB				
	comp=Z,320nm,5.6s									
NJ2					LR	LR				
	comp=N,1μm,18.5s									
NJ2					LR	LR				
	comp=E,960nm,24.5s									
NJ2					LR	LR				
	comp=Z,370nm,25.2s									
SSE	**Sheshan**	**75.90**	**61**	*eP*		**P**		**10 13 55.5**	**-3.5**	
SSE					AMB	AMB				
	comp=Z,44nm,0.7s,mb5.5									
SSE					AMB	AMB				
	comp=Z,249nm,4.5s									
SSE					LR	LR				
	comp=N,47nm,23.2s,MS4.3									
SSE					LR	LR				
	comp=E,177nm,23.1s,MS4.3									
SSE					LR	LR				
	comp=Z,171nm,21.3s,MS4.3									
SSE	**Sheshan**	**75.90**	**61**	*eP*		**P**		**10 13 55.6**	**-3.4**	
	comp=Z,44nm,0.7s,mb5.5									
SSE					LR	LR				
	comp=Z,170nm,21.3s,MS4.3									
CN2	**Changchun**	**78.04**	**47**	*eP*		**P**		**10 14 11.0**	**+0.4**	
CN2				*e*	XP	sP		10 14 18.0	+3.1	
CN2					AMB	AMB				
	comp=Z,20nm,0.9s,mb5.0									
CN2					AMB	AMB				
	comp=Z,300nm,5.0s									
CN2					LR	LR				
	comp=N,300nm,19.0s,MS4.9									
CN2					LR	LR				
	comp=E,400nm,19.0s,MS4.9									
CN2					LR	LR				
	comp=Z,500nm,21.0s,MS4.8									
MDJ	**Mudanjiang**	**80.91**	**46**	P		**P**		**10 14 26.5**	**+0.4**	
MDJ					AMB	AMB				
	comp=Z,8.0nm,1.6s,mb4.4									
MDJ					AMB	AMB				
	comp=Z,130nm,4.7s									
MDJ					LR	LR				
	comp=N,309nm,23.6s,MS4.6									
MDJ					LR	LR				
	comp=E,97nm,21.1s,MS4.6									
MDJ					LR	LR				
	comp=Z,234nm,21.1s,MS4.5									
MAW	**Mawson**	**81.22**	**172**	P		**P**		**10 14 30.6**	**+3.4**	
	comp=Z,1.3nm,0.8s,mb3.9,baz=324,slow=12,SNR=4.9									
MAW					LR	LR		10 46 53.7		
	comp=Z,299nm,21.8s,MS4.6,baz=28,slow=33									
VNA2	**Neumayer--Watz**	**89.01**	**194**	*e*		**P**		**10 15 11.7**	**+5.7**	
VNA2	**Neumayer--Watz**	**89.01**	**194**	*e*		**P**		**10 15 17.3**	**+11**	
VNA2	**Neumayer--Watz**	**89.01**	**194**	*e*		**P**		**10 15 21.1**	**+15**	
VNA2	**Neumayer--Watz**	**89.01**	**194**	⇑*iP*		**P**		**10 15 10.1**	**+4.1**	
VNA2				*e*		pP		10 15 11.7	+2.5	
VNA2				*e*				10 15 17.3		
VNA2				*e*				10 15 21.1		
VNA1	**Neumayer--Stat**	**89.03**	**195**	*e*		**P**		**10 15 12.1**	**+6.0**	
VNA1	**Neumayer--Stat**	**89.03**	**195**	*e*		**P**		**10 15 19.9**	**+14**	
VNA1	**Neumayer--Stat**	**89.03**	**195**	*e*		**P**		**10 15 23.5**	**+17**	
VNA1	**Neumayer--Stat**	**89.03**	**195**	⇑*iP*		**P**		**10 15 10.3**	**+4.2**	
VNA1				*e*		pP		10 15 12.1	+2.8	
VNA1				*e*				10 15 19.9		
VNA1				*e*				10 15 23.5		
VNA3	**Neumayer Olymp**	**89.77**	**194**	*e*		**P**		**10 15 14.9**	**+5.3**	
VNA3	**Neumayer Olymp**	**89.77**	**194**	*e*		**P**		**10 15 21.5**	**+12**	
VNA3	**Neumayer Olymp**	**89.77**	**194**	*e*		**P**		**10 15 24.5**	**+15**	
VNA3	**Neumayer Olymp**	**89.77**	**194**	⇑*iP*		**P**		**10 15 13.5**	**+3.9**	
VNA3				*e*		pP		10 15 14.9	+2.1	
VNA3				*e*				10 15 21.5		
VNA3				*e*				10 15 24.5		
BILL	**Bilibino**	**91.17**	**18**	*eP*		**P**		**10 15 15.9**	**-0.2**	
BILL				*e*	S	S		10 26 13.5	+1.8	
BILL				pmax	pmax					
	comp=Z,42nm,2.5s,mb5.3									
BDFB	**Brasilia**	**91.83**	**254**	LR		LR		10 55 04.6		
	comp=Z,491nm,19.1s,MS5.0,baz=102,slow=34									
MNTX	**Cornudas Mount**	**125.47**	**324**	*e*PKPdf		PKPdf		10 21 14.5	-0.8	
TXAR	**Lajitas Array**	**126.15**	**321**	PKP		PKPdf		10 21 16.3	-0.2	
	comp=Z,1.1nm,1.0s,baz=135,slow=3.5,SNR=6.9									

*BJI **25** 10:04:18.6,0.15N×97.21E,h30km,mB5.2,mb4.8,Ms4.6, Msz4.4*
*IDC **25** 10:04:22.1±1.4,0.87N×96.94E,mb4.4/10,mb1 4.5/10, mb1mx4.2/17,mbtmp4.4/10,MS4.4/2,Ms1 4.4/2, ms1mx3.7/22,Error ellipse: s-maj=68.3km s-min=17.0km az=54.0*
*NEIC **25** 10:04:26.9±0.7,1.03N×97.16E,h30km,mb4.9/4,Error ellipse: s-maj=17.7km s-min=10.7km az=53.0*
ISC 25 10:04:25.6±0.7,1.05N±0.09×97.18E±0.08,h33km,n31, σ0s89/29,mb4.5/16,MS4.2/4,1C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IPM	**Ipoh**	**5.20**	**48**	P		**P**	**10 05 43.3**	**+0.2**
KULM	**Kulim**	**5.45**	**39**	⇑*iP*		**P**	**10 05 46.3**	**-0.3**
KULM				*e*pP			10 05 52.4	
KGM	**Kluang**	**6.21**	**81**	P		**P**	**10 05 57.8**	**+0.5**
KKM	**Kota Kinabalu**	**19.63**	**75**	P		**P**	**10 08 54.6**	**+0.2**
KKM	**Kota Kinabalu**	**19.63**	**75**	P		**P**	**10 08 54.1**	**-0.3**
TSM	**Tawau**	**20.92**	**81**	P		**P**	**10 09 07.7**	**-0.2**
KMI	**Kunming**	**24.52**	**12**	⇓P		**P**	**10 09 46.0**	**+2.5**
KMI				AMB	AMB			
	comp=Z,40nm,1.1s,mb4.9							
KMI				AMB	AMB			
	comp=Z,435nm,5.6s							
KMI				LR	LR			
	comp=Z,250nm,16.8s,MS3.8							
KMI	**Kunming**	**24.52**	**12**	⇓P		**P**	**10 09 46.1**	**+2.6**
	comp=Z,40nm,1.1s,mb4.9							
KMI				pP			10 09 51.9	
KMI				sP			10 09 54.7	
KMI				S		**S**	**10 14 06.9**	**+7.7**
KMI				LR	LR			
	comp=Z,250nm,16.8s,MS3.8							
ENH	**Enshi**	**31.32**	**21**	*eP*		**P**	**10 10 42.6**	**-2.8**
	comp=Z,14nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.86**	**126**	P		**P**	**10 11 06.3**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=203,slow=4.5,SNR=5.2							
XAN	**Xi'an**	**34.61**	**17**	P		**P**	**10 11 12.5**	**-1.3**
XAN				AMB	AMB			
	comp=Z,15nm,0.9s,mb4.9							
GTA	**Gaotai**	**38.25**	**3**	*eP*		**P**	**10 11 45.0**	**+0.5**
GTA				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
GTA				AMB	AMB			
	comp=Z,183nm,5.7s							
GTA				LR	LR			
	comp=N,404nm,20.1s,MS4.4							
GTA				LR	LR			
	comp=E,560nm,24.7s,MS4.4							
GTA				LR	LR			
	comp=Z,789nm,26.6s,MS4.4							
WRA	**Warramunga Arr**	**41.98**	**122**	P		**P**	**10 12 15.7**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.0,baz=300,slow=9.1,SNR=35							
WB2	**Warramunga Arr**	**41.98**	**122**	*eP*		**P**	**10 12 15.6**	**-0.1**
KS15	**Wonju Array Si**	**45.95**	**34**	*eP*		**P**	**10 12 47.6**	**+0.2**
KS15				*e*pP		pP	10 12 53.5	-3.8
SONM	**Songino Array**	**47.28**	**8**	P		**P**	**10 12 58.6**	**+0.9**
	comp=Z,6.8nm,0.9s,mb4.6,baz=187,slow=9.7,SNR=22							
SONM				PcP		PcP	10 14 29.7	+0.8
	comp=Z,0.3nm,0.4s,baz=195,slow=3.4,SNR=3.7							
SONM	**Songino Array**	**47.28**	**8**	P		**P**	**10 12 58.6**	**+0.9**
SONM				PcP		PcP	10 14 29.7	+0.8
MKAR	**Makanchi Array**	**47.38**	**346**	P		**P**	**10 12 59.3**	**+0.7**
	comp=Z,4.5nm,0.7s,mb4.5,baz=160,slow=8.0,SNR=14							
CN2	**Changchun**	**49.44**	**27**	*eP*		**P**	**10 13 14.3**	**-0.3**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb5.0							
KURK	**Kurchatov**	**51.93**	**345**	*eP*		**P**	**10 13 32.6**	**-0.8**
	comp=Z,6.1nm,1.0s,mb4.5							
CTA	**Charters Tower**	**52.45**	**116**	LR		LR	10 38 04.0	
	comp=Z,164nm,21.2s,MS4.0,baz=136,slow=38							
STKA	**Stephens Creek**	**53.27**	**132**	P		**P**	**10 13 44.8**	**+1.1**
	comp=Z,2.7nm,0.6s,mb4.3,baz=306,slow=10.0,SNR=6.5							
ZAL	**Zalesovo**	**53.69**	**351**	P		**P**	**10 13 47.3**	**+0.8**
	comp=Z,3.1nm,0.5s,mb4.5,baz=294,slow=7.0,SNR=8.2							
ZAL				LR		LR	10 41 43.9	
	comp=Z,768nm,19.2s,MS4.8,baz=243,slow=42							
BVAR	**Borovoye Array**	**56.38**	**341**	P		**P**	**10 14 05.2**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=6.3							
BRVK	**Borovoye**	**56.44**	**341**	*eP*		**P**	**10 14 05.3**	**-1.1**
FINES	**FINESS Array B**	**80.12**	**333**	P		**P**	**10 16 33.6**	**-0.1**
	comp=Z,3.3nm,1.1s,mb4.2,baz=135,slow=2.7,SNR=3.4							
ARCES	**ARCESS Array B**	**82.67**	**340**	P		**P**	**10 16 47.2**	**+0.4**
	comp=Z,4.1nm,0.9s,mb4.4,baz=90,slow=3.6,SNR=4.5							
ARCES	**ARCESS Array B**	**82.67**	**340**	P		**P**	**10 16 47.2**	**+0.4**
GERES	**GERESS Array B**	**84.91**	**310**	P		**P**	**10 16 59.0**	**+0.4**
	comp=Z,1.1nm,1.0s,mb4.0,baz=90,slow=3.9,SNR=4.3							
TXAR	**Lajitas Array**	**143.80**	**32**	PKP		PKPdf	10 23 58.7	+0.6
	comp=Z,0.2nm,0.6s,baz=125,slow=1.1,SNR=7.4							
TXAR	**Lajitas Array**	**143.80**	**32**	PKP		PKPdf	10 23 58.7	+0.6

*BJI **25** 10:07:55.6,12.33N×40.59E,h12km,mB5.5,mb4.8,Ms5.4, Msz4.8*
*IDC **25** 10:07:55.5±1.2,12.28N×40.63E,mb4.3/15,mb1 4.5/16, mb1mx4.4/22,mbtmp4.3/16,ML4.4/1,Error ellipse: s-maj=29.0km s-min=13.2km az=22.0*
*MOS **25** 10:07:55.5±0.9,12.37N×40.59E,h10km,mb5.0/30,Error ellipse: s-maj=12.3km s-min=4.4km az=111.8*
*DHMR **25** 10:07:56.7±0.3,12.57N×40.54E,h10km,ML4.6*
*NEIC **25** 10:07:58.0±0.4,12.45N×40.62E,h10km,mb4.8/33,Error ellipse: s-maj=10.2km s-min=7.2km az=224.0*
*CSEM **25** 10:08:00.6±0.1,12.50N×40.61E,h40km,mb4.8/43,Error ellipse: s-maj=4.5km s-min=2.3km az=20.0*
ISC 25 10:07:58.8±3.0,12.47N±0.07×40.63E±0.04,h27km±23km, h27km±3.6km:pP-P,n181,σ0s96/178,mb4.7/54,MS4.6/3, 8C-3D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.36**	**113**	Pn		**Pn**	**10 08 35.5**	**-1.2**
	108nm,0.3s,baz=279,slow=13,SNR=18							
ATD				Lg			10 09 07.6	
	124nm,0.3s,baz=62,slow=23,SNR=12							
ADEN	**Aden**	**4.26**	**85**	⇓*eP*		**Pn**	**10 09 05.0**	**+1.3**
ADEN				*i* S		**Sn**	**10 09 58.2**	**+5.2**
ADEN				AML		AML	10 10 16.7	
	comp=E,2μm,0.8s							
ADEN	**Aden**	**4.26**	**85**	⇓*eP*		**Pn**	**10 09 04.9**	**+1.3**
LBOS		**4.71**	**72**	*eP*		**Pn**	**10 09 08.8**	**-1.2**
LBOS				*i* S		**Sn**	**10 10 05.3**	**+0.9**
MUKL	**Al Mukalla**	**8.41**	**75**	*i* S		**Sn**	**10 11 36.3**	**-0.9**
KMBO	**Kilima Mbogo**	**13.92**	**194**	Lg			10 15 07.0	
	comp=E,0.1nm,0.3s,baz=71,slow=23,SNR=2.7							
ASF	**Jabal al Asfar**	**19.91**	**351**	P		**P**	**10 12 32.1**	**+0.6**
	comp=E,14nm,1.1s,baz=67,slow=2.2,SNR=9.5							
BHD	**Baghdad**	**20.98**	**9**	*ex*		x	10 12 40.0	
MSEY	**Mahe Island**	**22.54**	**138**	*eP*		**P**	**10 12 58.5**	**+0.2**
	comp=E,180nm,1.6s,mb5.2							
MSEY	**Mahe Island**	**22.54**	**138**	*eP*		**P**	**10 12 58.5**	**+0.2**
	comp=E,180nm,1.6s,mb5.2							
CSS	**Prodhromos**	**23.35**	**345**	*eP*		**P**	**10 13 07.4**	**+1.4**
	comp=E,15nm,1.0s,mb4.4							
CSS	**Prodhromos**	**23.35**	**345**	*eP*		**P**	**10 13 07.4**	**+1.3**
	comp=E,15nm,1.0s,mb4.4							
MSL	**Mosul**	**23.82**	**5**	*ex*		x	10 13 29.0	
MALT	**Malatya**	**25.81**	**356**	*eP*		**P**	**10 13 30.7**	**+1.1**
GNI	**Garni**	**27.81**	**7**	*eP*		**P**	**10 13 50.2**	**+2.4**
	comp=E,99nm,2.3s,mb5.0							
GNI	**Garni**	**27.81**	**7**	*eP*		**P**	**10 13 50.2**	**+2.3**
	comp=E,99nm,2.3s,mb5.0							
GNI	**Garni**	**27.81**	**7**	*eP*		**P**	**10 13 50.2**	**+2.3**
GNI				pmax		pmax		
	comp=Z,99nm,2.3s							
BRTR	**Keskin Array S**	**27.84**	**348**	P		**P**	**10 13 49.6**	**+1.5**
	comp=Z,11nm,1.1s,mb4.4,baz=173,slow=10.0,SNR=20							
BR131	**Keskin Array S**	**27.84**	**348**	*eP*		**P**	**10 13 50.1**	**+1.9**
	comp=Z,11nm,1.1s,mb4.4							
BR131	**Keskin Array S**	**27.84**	**348**	*eP*		**P**	**10 13 50.1**	**+1.9**
	comp=Z,11nm,1.1s,mb4.4							
TI2	**Plekhanov**	**29.37**	**6**	*eP*		**P**	**10 14 02.0**	**0.0**
ZEI	**Tsey**	**30.32**	**5**	*eP*		**P**	**10 14 10.7**	**+0.3**
	comp=Z,12nm,1.1s,mb4.5							
ZEI	**Tsey**	**30.32**	**5**	*eP*		**P**	**10 14 10.7**	**+0.3**
ZEI				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.5							
KIV	**Kislovodsk**	**31.42**	**3**	*eP*		**P**	**10 14 21.0**	**+0.9**
	comp=Z,14nm,1.0s,mb4.8							
KIV	**Kislovodsk**	**31.42**	**3**	*eP*		**P**	**10 14 21.0**	**+0.9**
KIV				pmax		pmax		
	comp=Z,14nm,1.0s,mb4.8							
CFR	**Carcaliu**	**34.30**	**344**	⇑P		**P**	**10 14 45.8**	**+0.7**
MLR	**Muntele Rosu**	**35.21**	**342**	P		**P**	**10 14 53.1**	**+0.3**
	comp=Z,12nm,1.2s,mb4.7,baz=135,slow=6.8,SNR=7.4							
MLR	**Muntele Rosu**	**35.21**	**342**	⇑P		**P**	**10 14 55.5**	**+2.7**
VOIR		**35.44**	**341**	⇑P		**P**	**10 14 57.0**	**+2.2**
DRGR		**37.40**	**340**	⇓P		**P**	**10 15 11.4**	**+0.1**
VOR	**Voronezh**	**39.17**	**359**	P		**P**	**10 15 26.0**	**-0.1**
VOR				pmax		pmax		
	comp=N,80nm,2.0s							
VOR				pmax		pmax		
	comp=Z,70nm,2.0s,mb5.0							
AKASG	**Malin Array Be**	**39.25**	**349**	P		**P**	**10 15 26.5**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.7,baz=170,slow=7.2,SNR=12							
PSZ	**Piszkesteto**	**39.36**	**338**	*eP*		**P**	**10 15 27.2**	**-0.5**
	comp=Z,45nm,1.9s,mb4.9							
PSZ	**Piszkesteto**	**39.36**	**338**	*eP*		**P**	**10 15 27.2**	**-0.5**
	comp=Z,45nm,1.9s,mb4.9							
PSZ	**Piszkesteto**	**39.36**	**338**	*eP*		**P**	**10 15 27.2**	**-0.5**
PSZ				pmax		pmax		
	comp=Z,45nm,1.9s,mb4.9							
KOLS	**Kolonicke sedl**	**39.41**	**341**	*eP*		**P**	**10 15 26.2**	**-2.0**
CRES	**Cresnjev**	**39.51**	**332**	*eP*		**P**	**10 15 29.8**	**+0.8**
KECS	**Kecovo**	**39.62**	**339**	*eP*		**P**	**10 15 31.0**	**+1.1**
STHS	**Stebnicka Huta**	**40.17**	**340**	*eP*		**P**	**10 15 33.3**	**-1.1**
VYHS	**Vyhne**	**40.23**	**338**	*eP*		**P**	**10 15 35.8**	**+0.9**
PERS	**Pernice**	**40.28**	**333**	*eP*		**P**	**10 15 37.2**	**+1.9**
VOJS	**Vojsko**	**40.40**	**331**	*eP*		**P**	**10 15 35.9**	**-0.4**
PGF	**Pioggiola**	**40.62**	**323**	*eP*		**P**	**10 15 38.3**	**+0.2**
	comp=Z,45nm,1.6s,mb4.5							
PGF	**Pioggiola**	**40.62**	**323**	*eP*		**P**	**10 15 38.3**	**+0.2**
PGF				pmax		pmax		
	comp=Z,23nm,1.6s,mb4.6							
ZST	**Bratislava**	**40.66**	**336**	*eP*		**P**	**10 15 39.7**	**+1.3**
OJC	**Ojcow**	**41.34**	**340**	*eP*		**P**	**10 15 43.6**	**-0.4**
OKC	**Ostrava-Krasne**	**41.60**	**338**	*eP*		**P**	**10 15 47.0**	**+0.9**
VRAC	**Vranov**	**41.75**	**336**	P		**P**	**10 15 47.5**	**+0.1**
	comp=Z,6.7nm,1.0s,mb4.2,baz=175,slow=9.2,SNR=7.0							
VRAC	**Vranov**	**41.75**	**336**	*eP*		**P**	**10 15 48.2**	**+0.8**
VRAC	**Vranov**	**41.75**	**336**	P		**P**	**10 15 47.5**	**+0.1**
VRAC				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MORC	**Moravsky Berou**	**41.77**	**338**	*eP*		**P**	**10 15 45.3**	**-2.2**
	comp=Z,10nm,1.5s,mb4.2							
MORC	**Moravsky Berou**	**41.77**	**338**	*eP*		**P**	**10 15 45.3**	**-2.2**
	comp=Z,10nm,1.5s,mb4.2							
MORC	**Moravsky Berou**	**41.77**	**338**	*eP*		**P**	**10 15 45.3**	**-2.2**
MORC				pmax		pmax		
	comp=Z,10.0nm,1.5s,mb4.2							
AAK	**Ala-Archa**	**41.98**	**38**	*i* P		**P**	**10 15 49.0**	**-0.4**
	comp=Z,20nm,2.4s,mb4.3							
AAK	**Ala-Archa**	**41.98**	**38**	*c iP*		**P**	**10 15 49.0**	**-0.4**
AAK				pmax		pmax		
	comp=Z,20nm,2.4s,mb4.3							
TREC	**Trest**	**42.18**	**336**	*eP*		**P**	**10 15 51.5**	**+0.6**
SBF	**Sospel**	**42.33**	**324**	*eP*		**P**	**10 15 51.6**	**-0.6**
LMR	**La Mourre**	**42.55**	**323**	*eP*		**P**	**10 15 53.5**	**-0.5**
GERES	**GERESS Array B**	**42.58**	**334**	P		**P**	**10 15 53.9**	**-0.3**
	comp=Z,3.4nm,0.9s,mb4.1,baz=135,slow=3.8,SNR=20							
FRF	**La Foret Royal**	**42.60**	**323**	*eP*		**P**	**10 15 54.1**	**-0.4**
	comp=Z,37nm,1.5s,mb4.6							
FRF	**La Foret Royal**	**42.60**	**323**	*eP*		**P**	**10 15 54.1**	**-0.4**
FRF				pmax		pmax		
	comp=Z,19nm,1.5s,mb4.6							
OBN	**Obninsk**	**42.66**	**357**	*eP*		**P**	**10 15 55.3**	**+0.5**
	comp=Z,48nm,1.7s,mb5.0							
OBN	**Obninsk**	**42.66**	**357**	⇑*eP*		**P**	**10 15 55.3**	**+0.5**
OBN				*e*			10 17 37.3	
OBN				pmax		pmax		
	comp=Z,48nm,1.7s,mb5.0							
OBN				MLR		MLR		
	comp=Z,200nm,17.0s,MS4.1							
DPC	**Dobruska-Polom**	**42.69**	**337**	*eP*		**P**	**10 15 54.7**	**-0.4**
KHC	**Kasperske Hory**	**42.85**	**334**	*eP*		**P**	**10 15 55.4**	**-1.0**
UPC	**Upice**	**42.94**	**337**	*eP*		**P**	**10 15 57.4**	**+0.3**
PRU	**Pruhonice**	**43.11**	**335**	*eP*		**P**	**10 15 58.3**	**-0.2**
MBDF	**Montbardon**	**43.23**	**325**	*eP*		**P**	**10 16 00.2**	**+0.7**
	comp=Z,51nm,1.3s,mb4.8							
MBDF	**Montbardon**	**43.23**	**325**	*eP*		**P**	**10 16 00.2**	**+0.7**
MBDF				pmax		pmax		
	comp=Z,25nm,1.3s,mb4.8							
MOS	**Moscow**	**43.23**	**358**	*eP*		**P**	**10 15 57.4**	**-2.0**
	comp=Z,82nm,1.6s,mb5.2							
MOS	**Moscow**	**43.23**	**358**	*eP*		**P**	**10 15 57.4**	**-2.0**
MOS				pmax		pmax		
	comp=Z,82nm,1.6s,mb5.2							
SMRF	**Simiane la Rot**	**43.48**	**323**	*eP*		**P**	**10 16 01.8**	**+0.3**
PVCC	**Panska Ves**	**43.52**	**336**	*eP*		**P**	**10 16 01.8**	**0.0**
LPG	**La Plagne**	**43.71**	**325**	*eP*		**P**	**10 16 02.6**	**-0.8**
	comp=Z,86nm,1.8s,mb4.9							
LPG	**La Plagne**	**43.71**	**325**	*eP*		**P**	**10 16 02.6**	**-0.8**
LPG				pmax		pmax		
	comp=Z,43nm,1.8s,mb4.9							
LPL	**La Plagne**	**43.73**	**325**	*eP*		**P**	**10 16 02.6**	**-1.0**
	comp=Z,51nm,1.7s,mb4.7							
LPL	**La Plagne**	**43.73**	**325**	*eP*		**P**	**10 16 02.6**	**-1.0**
LPL				pmax		pmax		
	comp=Z,25nm,1.7s,mb4.7							
ORIF	**Oris-en-Rattie**	**43.85**	**324**	*eP*		**P**	**10 16 04.4**	**-0.2**
BRG	**Berggiesshubel**	**44.04**	**336**	*i* P		**P**	**10 16 05.4**	**-0.6**
	comp=Z,20nm,1.6s,mb4.6							
BRG	**Berggiesshubel**	**44.04**	**336**	*i* P		**P**	**10 16 05.4**	**-0.6**
	comp=Z,20nm,1.6s,mb4.6							
BRG	**Berggiesshubel**	**44.04**	**336**	*i* P		**P**	**10 16 05.4**	**-0.6**
BRG				pmax		pmax		
	comp=Z,20nm,1.6s,mb4.6							
NKC	**Novy Kostel**	**44.16**	**334**	*eP*		**P**	**10 15 58.5**	**-8.5**
GRA1	**Grafenberg Arr**	**44.30**	**333**	*eP*		**P**	**10 16 06.8**	**-1.3**
	comp=Z,15nm,1.3s,mb4.6							
GRF	**Grafenberg Arr**	**44.30**	**333**	*eP*		**P**	**10 16 06.8**	**-1.3**
	comp=Z,15nm,1.3s,mb4.6							
GRF	**Grafenberg Arr**	**44.30**	**333**	*eP*		**P**	**10 16 06.8**	**-1.3**
GRF				pmax		pmax		
	comp=Z,15nm,1.3s,mb4.6							
GRF	**Grafenberg Arr**	**44.30**	**333**	*eP*		**P**	**10 16 06.8**	**-1.3**
GRF				pmax		pmax		
	comp=Z,15nm,1.3s,mb4.6							
VIVF	**Saint-Julien-l**	**44.51**	**323**	*eP*		**P**	**10 16 09.6**	**-0.3**
LASF	**Ste Croix**	**44.55**	**322**	*eP*		**P**	**10 16 09.8**	**-0.5**
CLL	**Collm**	**44.75**	**336**	P		**P**	**10 16 11.0**	**-0.8**
	comp=Z,logA/

comp=Z,19nm,1.4s,mb4.8
TCF Toulx Ste Croi 46.75 324 *e*P **P 10 16 27.5 -0.1**
BRVK Borovoye 46.89 24 *e*P **P 10 16 28.6 0.0**
comp=Z,16nm,2.0s,mb4.6
BRVK Borovoye 46.89 24 *e*P **P 10 16 28.6 0.0**
comp=Z,16nm,2.0s,mb4.6
BRVK Borovoye 46.89 24 *e*P **P 10 16 28.6 0.0**
BRVK pmax pmax
comp=Z,16nm,2.0s,mb4.6
LFF La Frestale 46.90 321 *e*P **P 10 16 29.0 +0.1**
BVAR Borovoye Array 46.91 24 P **P 10 16 29.7 +0.9**
comp=Z,2.0nm,0.7s,mb4.1,baz=214,slow=5.3,SNR=7.1
ELOJ Sierra Loja 46.93 310 P **P 10 16 31.0 +1.8**
comp=Z,2.5nm,0.8s,mb4.2
ELOJ Sierra Loja 46.93 310 P **P 10 16 31.0 +1.8**
comp=Z,2.5nm,0.8s,mb4.2
ELOJ Sierra Loja 46.93 310 P **P 10 16 31.0 +1.8**
ELOJ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VSU Vasula 47.09 350 *i*P **P 10 16 30.4 +0.2**
SJPF Ste Jean 47.25 318 *e*P **P 10 16 32.2 +0.5**
GIVF Givet 47.61 329 *e*P **P 10 16 33.7 -0.7**
ESDC Sonseca Array 47.69 313 P **P 10 16 34.8 -0.3**
comp=Z,1.6nm,0.8s,mb4.1,baz=115,slow=8.9,SNR=7.4
ESDC Sonseca Array 47.69 313 P **P 10 16 36.2 +1.0**
comp=Z,2.8nm,1.0s,mb4.2
ESDC Sonseca Array 47.69 313 P **P 10 16 36.2 +1.0**
comp=Z,2.8nm,1.0s,mb4.2
BAIF Baives 47.89 329 *e*P **P 10 16 35.6 -1.0**
comp=Z,34nm,1.5s,mb4.9
BAIF Baives 47.89 329 *e*P **P 10 16 35.6 -1.0**
BAIF pmax pmax
comp=Z,17nm,1.5s,mb4.8
ESPR Espera 48.13 309 P **P 10 16 39.0 +0.4**
comp=Z,175nm,3.1s
ESPR Espera 48.13 309 P **P 10 16 39.0 +0.4**
comp=Z,175nm,3.1s
MFF Saint Martin d 48.29 323 *e*P **P 10 16 39.2 -0.5**
MKAR Makanchi Array 48.91 37 P **P 10 16 43.6 -0.8**
comp=Z,2.4nm,0.8s,mb4.3,baz=228,slow=4.6,SNR=11
KURK Kurchatov 49.08 31 *e*P **P 10 16 46.2 +0.4**
comp=Z,6.6nm,1.2s,mb4.5
KURK Kurchatov 49.08 31 *e*P **P 10 16 46.2 +0.4**
comp=Z,6.6nm,1.2s,mb4.5
KURK Kurchatov 49.08 31 *e*P **P 10 16 46.2 +0.4**
KURK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
FINES FINESS Array B 50.03 351 P **P 10 16 52.3 -0.6**
comp=Z,5.5nm,1.1s,mb4.5,baz=146,slow=14,SNR=5.7
SGMF Saint Gilles 50.54 324 *e*P **P 10 16 55.5 -1.5**
NB2 NORSAR Subarra 53.02 343 P **P 10 17 13.7 -1.8**
comp=Z,21nm,1.2s,mb4.9,baz=141,slow=7.4
NOA NORSAR Array B 53.02 343 P **P 10 17 14.0 -1.5**
comp=Z,4.8nm,1.0s,mb4.4,baz=142,slow=7.4,SNR=5.2
ZAL Zalesovo 54.03 31 P **P 10 17 22.3 -0.7**
comp=Z,2.7nm,0.7s,mb4.3,baz=236,slow=8.3,SNR=7.8
GTA Gaotai 58.44 51 *e*P **P 10 17 54.3 -0.5**
GTA AP pP 10 17 58.5 -4.7
GTA XP sP 10 18 02.0 -4.3
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.5
SONM Songino Array 64.61 43 P **P 10 18 36.4 +0.1**
comp=Z,2.2nm,0.9s,mb4.2,baz=257,slow=5.0,SNR=10
HHC Hu-ho-hao-te 67.55 51 *e*P **P 10 18 56.5 +1.3**
HHC AP pP 10 19 01.0 -2.6
HHC XP sP 10 19 03.0 -3.7
HHC PCP PcP 10 19 22.8 +0.6
HHC PP PP 10 21 26.0 +0.1
HHC SCP 10 23 25.0
HHC PCS 10 23 27.0
HHC S S 10 27 52.5 +4.0
HHC XS 10 28 00.5
HHC AMB AMB
comp=Z,31nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,191nm,5.4s
HHC LR LR
comp=N,292nm,13.1s,MS4.9
HHC LR LR
comp=E,488nm,17.8s,MS4.9
HHC LR LR
comp=Z,380nm,20.2s,MS4.6
BOD Bodaibo 70.68 33 *e*P **P 10 19 12.5 -1.6**
comp=Z,9.0nm,1.9s,mb4.4
BOD Bodaibo 70.68 33 *e*P **P 10 19 12.5 -1.6**
BOD pmax pmax
comp=Z,9.0nm,1.9s,mb4.4
NJ2 Nanjing 73.58 60 *e*P **P 10 19 32.0 +0.1**
NJ2 AP pP 10 19 42.0 +1.6
NJ2 XP sP 10 19 46.3 +2.9
NJ2 PP PP 10 22 18.3 +0.5
NJ2 S S 10 28 57.0 -1.8
NJ2 XS 10 29 14.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,332nm,5.5s
NJ2 LR LR
comp=N,1μm,18.5s,MS5.3
NJ2 LR LR
comp=E,960nm,14.5s,MS5.3
NJ2 LR LR
comp=Z,370nm,15.2s,MS4.8
CN2 Changchun 77.77 48 *e*P **P 10 19 55.5 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
VNA2 Neumayer--Watz 89.31 194 *e* **P 10 20 56.0 +2.4**
VNA2 Neumayer--Watz 89.31 194 *e* **P 10 21 03.1 +10**
VNA2 Neumayer--Watz 89.31 194⇑*i*P **P 10 20 54.2 +0.6**
VNA2 *e* 10 20 56.0
VNA2 *e* pP 10 21 03.1 +0.8
VNA1 Neumayer--Stat 89.33 195 *e* **P 10 20 58.4 +4.7**
VNA1 Neumayer--Stat 89.33 195 *e* **P 10 21 07.3 +14**
VNA1 Neumayer--Stat 89.33 195⇑*i*P **P 10 20 56.6 +2.9**
VNA1 *e* 10 20 58.4
VNA1 *e* pP 10 21 07.3 +4.9
VNA3 Neumayer Olymp 90.07 194 *e* **P 10 20 59.7 +2.6**
VNA3 Neumayer Olymp 90.07 194 *e* **P 10 21 08.4 +11**
VNA3 Neumayer Olymp 90.07 194⇑*i*P **P 10 20 57.9 +0.8**
VNA3 *e* 10 20 59.7
VNA3 *e* pP 10 21 08.4 +2.5
MNTX Cornudas Mount 125.32 324 *e*P PKPdf 10 26 57.9 -5.0
TXAR Lajitas Array 126.02 321 PKP PKPdf 10 27 01.4 -2.8
comp=Z,0.6nm,1.0s,baz=143,slow=6.3,SNR=4.2

*BJI **25** 10:17:57.3, 12.32N×40.39E, h11km, mB5.0, mb4.5, Ms4.9, Msz4.4*
*MOS **25** 10:17:58.3±1.0, 12.46N×40.49E, h10km, mb4.8/16, Error ellipse: s-maj=16.7km s-min=7.0km az=98.6*
*IDC **25** 10:17:59.1±1.2, 12.49N×40.62E, mb4.0/11, mb1 4.2/12, mb1mx4.1/21, mbtmp4.0/12, ML4.0/1, MS3.7/7, Ms1 3.7/7, ms1mx3.6/26, Error ellipse: s-maj=30.5km s-min=13.6km az=33.0*
*NEIC **25** 10:18:00.3±0.5, 12.49N×40.48E, h10km, mb4.6/17, Error ellipse: s-maj=13.4km s-min=8.9km az=48.0*
*CSEM **25** 10:18:00.1±0.2, 12.54N×40.52E, h19km, mb4.7/23, Error ellipse: s-maj=7.2km s-min=5.0km az=18.0*
ISC 25 10:17:59.2±0.5, 12.58N±0.07×40.54E±0.05, h10km, (h10km±4.5km: pP-P), n98, σ1°09/93, mb4.5/35, MS4.1/6, 6C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.49**	**115**	Pn		**Pn**	**10 18 40.5**	**0.0**
	34nm,0.3s,baz=268,slow=13,SNR=7.9							
ATD				LR		LR	10 19 01.9	
	comp=Z,1μm,20.6s,baz=298,slow=26							
ATD				Lg			10 19 12.9	
	28nm,0.3s,baz=109,slow=24,SNR=13							
LBOS		**4.76**	**74**	*i* S		**Sn**	**10 20 07.0**	**-1.7**
LBOS				AML		AML	10 20 47.2	
	comp=N,979nm,0.8s							
KMBO	**Kilima Mbogo**	**14.01**	**194**	Lg			10 25 17.6	
	comp=N,0.1nm,0.3s,baz=71,slow=18,SNR=4.7							
KMBO				LR		LR	10 26 07.3	
	comp=N,280nm,21.6s,baz=84,slow=35							
ASF	**Jabal al Asfar**	**19.78**	**351**	LR		LR	10 29 58.9	
	comp=N,29nm,19.5s,baz=32,slow=36							
MALT	**Malatya**	**25.69**	**356**	*e*P		**P**	**10 23 33.5**	**+2.3**
	comp=N,29nm,1.7s,mb4.5							
MALT	**Malatya**	**25.69**	**356**	*e*P		**P**	**10 23 33.5**	**+2.3**
	comp=N,29nm,1.7s,mb4.5							
MALT	**Malatya**	**25.69**	**356**	*e*P		**P**	**10 23 33.5**	**+2.3**
	comp=Z,29nm,1.7s,mb4.5							
GNI	**Garni**	**27.71**	**7**	*i*P		**P**	**10 23 52.3**	**+2.6**
	comp=Z,20nm,1.7s,mb4.5							
GNI	**Garni**	**27.71**	**7**	*c*P		**P**	**10 23 52.3**	**+2.6**
GNI				pmax		pmax		
	comp=Z,20nm,1.7s							
BR131	**Keskin Array S**	**27.71**	**349**	*e*P		**P**	**10 23 50.9**	**+1.2**
	comp=Z,15nm,1.4s,mb4.4							
BR131	**Keskin Array S**	**27.71**	**349**	*e*P		**P**	**10 23 50.9**	**+1.2**
	comp=Z,15nm,1.4s,mb4.4							
BRTR	**Keskin Array B**	**27.71**	**349**	P		**P**	**10 23 51.3**	**+1.6**
	comp=Z,6.5nm,1.2s,mb4.2,baz=170,slow=7.5,SNR=15							
APE	**Apeiranthos**	**27.85**	**334**	*e*P		**P**	**10 23 56.4**	**+5.4**
LSZ	**Lusaka**	**30.26**	**204**	LR		LR	10 36 00.6	
	comp=Z,124nm,18.1s,MS3.6,baz=243,slow=36							
KIV	**Kislovodsk**	**31.32**	**3**	*e*P		**P**	**10 24 22.6**	**+0.8**
KIV				pmax		pmax		
	comp=N,4.0nm,1.1s							
KIV				pmax		pmax		
	comp=E,11nm,1.1s							
KIV				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.6							
MATP	**Matopo**	**34.87**	**200**	LR		LR	10 39 29.1	
	comp=Z,366nm,20.6s,MS4.1,baz=16,slow=37							
MLR	**Muntele Rosu**	**35.07**	**342**	P		**P**	**10 24 55.8**	**+1.3**
	comp=Z,2.8nm,0.9s,mb4.2,baz=180,slow=5.0,SNR=3.9							
AQU	**L'Aquila**	**37.88**	**327**	P		**P**	**10 25 19.5**	**+1.3**
	comp=Z,33nm,1.6s,mb4.8							
AQU	**L'Aquila**	**37.88**	**327**	P		**P**	**10 25 19.5**	**+1.4**
	comp=Z,33nm,1.6s,mb4.8							
AQU	**L'Aquila**	**37.88**	**327**	P		**P**	**10 25 19.5**	**+1.4**
AQU				pmax		pmax		
	comp=Z,33nm,1.6s,mb4.8							
TSUM	**Tsumeb**	**38.85**	**216**	LR		LR	10 40 54.6	
	comp=Z,145nm,20.0s,MS3.8,baz=321,slow=35							
VOR	**Voronezh**	**39.06**	**359**	*e*P		**P**	**10 25 29.0**	**+1.1**
	comp=Z,60nm,1.6s,mb5.1							
VOR	**Voronezh**	**39.06**	**359**	*e*P		**P**	**10 25 29.0**	**+1.1**
VOR				pmax		pmax		
	comp=Z,60nm,1.6s,mb5.1							
AKASG	**Malin Array Be**	**39.12**	**349**	P		**P**	**10 25 28.3**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.8,baz=172,slow=7.5,SNR=8.1							
PSZ	**Piszkesteto**	**39.22**	**338**	*e*P		**P**	**10 25 30.1**	**+0.8**
	comp=Z,14nm,1.3s,mb4.5							
PSZ	**Piszkesteto**	**39.22**	**338**	*e*P		**P**	**10 25 30.1**	**+0.8**
	comp=Z,14nm,1.3s,mb4.5							
PSZ	**Piszkesteto**	**39.22**	**338**	*e*P		**P**	**10 25 30.1**	**+0.8**
PSZ				pmax		pmax		
	comp=Z,14nm,1.3s,mb4.5							
KOLS	**Kolonicke sedl**	**39.28**	**341**	*e*P		**P**	**10 25 28.1**	**-1.7**
KECS	**Kecovo**	**39.49**	**339**	*e*P		**P**	**10 25 32.1**	**+0.6**
STHS	**Stebnicka Huta**	**40.03**	**340**	*e*P		**P**	**10 25 32.9**	**-3.1**
VYHS	**Vyhne**	**40.09**	**338**	*e*P		**P**	**10 25 35.9**	**-0.6**
LBTB	**Lobatse**	**40.11**	**201**	LR		LR	10 42 37.1	
	comp=Z,333nm,19.4s,MS4.2,baz=41,slow=37							
ZST	**Bratislava**	**40.52**	**336**	*e*P		**P**	**10 25 40.1**	**+0.1**
VRAC	**Vranov**	**41.61**	**336**	P		**P**	**10 25 49.2**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.0,baz=177,slow=6.0,SNR=6.9							
VRAC	**Vranov**	**41.61**	**336**	*e*P		**P**	**10 25 49.3**	**+0.3**
AAK	**Ala-Archa**	**41.95**	**38**	*e*P		**P**	**10 25 52.3**	**+0.4**
	comp=Z,7.0nm,1.7s,mb4.0							
AAK	**Ala-Archa**	**41.95**	**38**	*e*P		**P**	**10 25 52.3**	**+0.4**
AAK				pmax		pmax		
	comp=Z,7.0nm,1.7s,mb4.0							
GERES	**GERESS Array B**	**42.44**	**334**	P		**P**	**10 25 55.4**	**-0.4**
	comp=Z,1.5nm,0.9s,mb3.6,baz=143,slow=6.7,SNR=13							
OBN	**Obninsk**	**42.55**	**357**	*e*P		**P**	**10 25 58.0**	**+1.4**
	comp=Z,39nm,1.7s,mb4.9							
OBN	**Obninsk**	**42.55**	**357**	*de*P		**P**	**10 25 58.0**	**+1.4**
OBN				*e*			10 27 41.2	
OBN				pmax		pmax		
	comp=Z,39nm,1.7s,mb4.9							
KHC	**Kasperske Hory**	**42.71**	**334**	*e*P		**P**	**10 25 56.9**	**-1.1**
MOS	**Moscow**	**43.12**	**358**	*e*P		**P**	**10 26 00.9**	**-0.3**
SUW	**Suwalki**	**43.56**	**345**	*e*P		**P**	**10 26 05.2**	**+0.4**
BRG	**Berggiesshubel**	**43.90**	**336**	*e*P		**P**	**10 26 06.8**	**-0.8**
	comp=Z,17nm,1.7s,mb4.5							
BRG	**Berggiesshubel**	**43.90**	**336**	*e*P		**P**	**10 26 06.8**	**-0.8**
	comp=Z,17nm,1.7s,mb4.5							
BRG	**Berggiesshubel**	**43.90**	**336**	*e*P		**P**	**10 26 06.8**	**-0.8**
BRG				pmax		pmax		
	comp=Z,17nm,1.7s,mb4.5							
GRA1	**Grafenberg Arr**	**44.16**	**333**	*e*P		**P**	**10 26 08.4**	**-1.4**
	comp=Z,18nm,1.8s,mb4.5							
GRF	**Grafenberg Arr**	**44.16**	**333**	*e*P		**P**	**10 26 08.4**	**-1.4**
	comp=Z,18nm,1.8s,mb4.5							
GRF	**Grafenberg Arr**	**44.16**	**333**	*e*P		**P**	**10 26 08.4**	**-1.4**
GRF				pmax		pmax		
	comp=Z,18nm,1.8s,mb4.5							
GRF	**Grafenberg Arr**	**44.16**	**333**	*e*P		**P**	**10 26 08.4**	**-1.4**
GRF				pmax		pmax		
	comp=Z,18nm,1.8s,mb4.5							
CLL	**Collm**	**44.61**	**336**	*i*P		**P**	**10 26 12.8**	**-0.6**
MOX	**Moxa**	**44.69**	**334**	*e*P		**P**	**10 26 14.0**	**0.0**
EMUR	**La Murta**	**44.88**	**312**	P		**P**	**10 26 13.2**	**-2.5**
	comp=Z,25nm,1.4s,mb4.8							
EMUR	**La Murta**	**44.88**	**312**	P		**P**	**10 26 13.2**	**-2.6**
	comp=Z,25nm,1.4s,mb4.8							
EBER	**Berja**	**45.75**	**310**	P		**P**	**10 26 22.1**	**-0.6**
	comp=Z,40nm,1.6s,mb5.1							
EBER	**Berja**	**45.75**	**310**	P		**P**	**10 26 22.1**	**-0.6**
	comp=Z,40nm,1.6s,mb5.1							
MDT	**Midelt**	**45.85**	**304**	P		**P**	**10 26 23.9**	**+0.3**
	comp=Z,1.7nm,1.0s,mb3.9,baz=101,slow=11,SNR=5.2							
ARU	**Arti**	**45.91**	**14**	*i*P		**P**	**10 26 23.7**	**0.0**
	comp=Z,13nm,1.8s,mb4.6							
ARU	**Arti**	**45.91**	**14**⇑	*i*P		**P**	**10 26 23.7**	**0.0**
ARU				*e*			10 28 16.2	
ARU				*e*PPP		PPP	10 28 55.0	+0.2
ARU				*e*S		**S**	**10 33 16.8**	**+9.4**
ARU				pmax		pmax		
	comp=Z,13nm,1.8s,mb4.6							
EBIE	**Bielsa**	**46.02**	**318**	P		**P**	**10 26 22.4**	**-2.3**
	comp=Z,20nm,1.5s,mb4.8							
EBIE	**Bielsa**	**46.02**	**318**	P		**P**	**10 26 22.4**	**-2.3**
	comp=Z,20nm,1.5s,mb4.8							
ERON	**Agron**	**46.48**	**310**	P		**P**	**10 26 29.1**	**+0.6**
	comp=Z,7.4nm,1.4s,mb4.4							
ERON	**Agron**	**46.48**	**310**	P		**P**	**10 26 29.1**	**+0.6**
	comp=Z,7.4nm,1.4s,mb4.4							
ELOJ	**Sierra Loja**	**46.79**	**310**	P		**P**	**10 26 29.6**	**-1.2**
	comp=Z,8.6nm,1.2s,mb4.6							
ELOJ	**Sierra Loja**	**46.79**	**310**	P		**P**	**10 26 29.6**	**-1.3**
	comp=Z,8.6nm,1.2s,mb4.6							
ELOJ	**Sierra Loja**	**46.79**	**310**	P		**P**	**10 26 29.6**	**-1.3**
ELOJ				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.6							
BVAR	**Borovoye Array**	**46.84**	**24**	P		**P**	**10 26 31.5**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=262,slow=10,SNR=6.7							
ESDC	**Sonseca Array**	**47.54**	**313**	P		**P**	**10 26 37.3**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.1,baz=109,slow=15,SNR=5.9							
ESLA	**Sonseca Array**	**47.54**	**313**	*e*P		**P**	**10 26 36.6**	**-0.2**
	comp=Z,15nm,1.8s,mb4.7							
ESLA	**Sonseca Array**	**47.54**	**313**	*e*P		**P**	**10 26 36.6**	**-0.2**
	comp=Z,15nm,1.8s,mb4.7							
MKAR	**Makanchi Array**	**48.87**	**37**	P		**P**	**10 26 47.0**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.1,baz=237,slow=6.3,SNR=12							
KURK	**Kurchatov**	**49.03**	**31**	*e*P		**P**	**10 26 48.2**	**0.0**
	comp=Z,8.7nm,1.4s,mb4.6							
KURK	**Kurchatov**	**49.03**	**31**	*e*P		**P**	**10 26 48.2**	**0.0**
	comp=Z,8.7nm,1.4s,mb4.6							
KURK	**Kurchatov**	**49.03**	**31**	*e*P		**P**	**10 26 48.3**	**+0.1**
NVS	**Novosibirsk**	**53.73**	**29**	*i*P		**P**	**10 27 22.2**	**-1.4**
ZAL	**Zalesovo**	**53.98**	**31**	*e*P		**P**	**10 27 25.1**	**-0.4**
ZAL	**Zalesovo**	**53.98**	**31**⇑	*e*P		**P**	**10 27 25.1**	**-0.4**
LVZ	**Lovozero**	**55.40**	**357**	*e*P		**P**	**10 27 34.7**	**-1.0**
	comp=Z,20nm,1.5s,mb4.9							
LVZ	**Lovozero**	**55.40**	**357**	*e*P		**P**	**10 27 34.7**	**-1.0**
LVZ				pmax		pmax		
	comp=Z,20nm,1.5s,mb4.9							
GTA	**Gaotai**	**58.45**	**51**	*e*P		**P**	**10 27 58.5**	**+0.8**
GTA				AMB		AMB		
	comp=Z,5.0nm,1.6s,mb4.3							
KMI	**Kunming**	**59.73**	**68**	P		**P**	**10 28 06.3**	**-0.5**
KMI				AP		pP	10 28 12.0	+2.1
KMI				AMB		AMB		
	comp=Z,5.0nm,1.3s,mb4.4							
KMI	**Kunming**	**59.73**	**68**	P		**P**	**10 28 06.2**	**-0.6**
	comp=Z,5.0nm,1.3s,mb4.4							
KMI				pP		pP	10 28 12.0	+2.1
KMI	**Kunming**	**59.73**	**68**	P		**P**	**10 28 06.2**	**-0.6**
KMI				*PP		pP	10 28 12.0	+2.1
KMI				pmax		pmax		
	comp=Z,5.0nm,1.3s,mb4.4							
SONM	**Songino Array**	**64.59**	**43**	P		**P**	**10 28 39.0**	**-0.1**
	comp=Z,1.4nm,0.9s,mb4.0,baz=251,slow=7.3,SNR=10							
HHC	**Hu-ho-hao-te**	**67.55**	**51**	*e*P		**P**	**10 28 59.8**	**+1.7**
HHC				AP		pP	10 29 04.3	+3.1
HHC				XP		sP	10 29 07.0	+4.7
HHC				PCP		PcP	10 29 26.3	+1.0
HHC				PP		PP	10 31 30.5	+1.7
HHC				S		S	10 37 55.8	+2.7
HHC				XS			10 38 04.0	
HHC				AMB		AMB		
	comp=Z,19nm,0.6s,mb5.3							
HHC				AMB		AMB		
	comp=Z,230nm,5.2s							
HHC				LR		LR		
	comp=N,235nm,14.3s,MS4.7							
HHC				LR		LR		
	comp=E,222nm,16.6s,MS4.7							
HHC				LR		LR		
	comp=Z,172nm,15.5s,MS4.4							
BOD	**Bodaibo**	**70.64**	**33**	*e*P		**P**	**10 29 15.2**	**-1.5**
BOD				pmax		pmax		
	comp=Z,5.0nm,1.6s,mb4.2							
CN2	**Changchun**	**77.76**	**48**	*e*P		**P**	**10 29 59.5**	**+1.3**
MDJ	**Mudanjiang**	**80.62**	**46**	P		**P**	**10 30 14.0**	**+0.3**
MDJ				AMB		AMB		
	comp=Z,8.0nm,0.6s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,49nm,5.6s							
MDJ				LR		LR		
	comp=N,309nm,21.5s,MS4.6							
MDJ				LR		LR		
	comp=E,97nm,21.5s,MS4.6							
MDJ				LR		LR		
	comp=Z,234nm,21.5s,MS4.5							
MAW	**Mawson**	**81.60**	**172**	P		**P**	**10 30 18.6**	**+0.3**
	comp=Z,3.3nm,1.2s,mb4.2,baz=319,slow=15,SNR=3.5							
MAW	**Mawson**	**81.60**	**172**	*e*P		**P**	**10 30 18.2**	**-0.1**
	comp=Z,6.6nm,1.3s,mb4.4							
MAW	**Mawson**	**81.60**	**172**	*e*P		**P**	**10 30 18.2**	**-0.2**
	comp=Z,6.6nm,1.3s,mb4.4							
MAW	**Mawson**	**81.60**	**172**	*e*P		**P**	**10 30 18.3**	**-0.1**
MAW				pmax		pmax		
	comp=Z,7.0nm,1.3s							
VNA2	**Neumayer--Watz**	**89.39**	**194**	*e*		**P**	**10 30 59.4**	**+2.4**
VNA2	**Neumayer--Watz**	**89.39**	**194**⇑	*i*P		**P**	**10 30 57.9**	**+0.9**
VNA2				*e*		pP	10 30 59.4	-0.8
VNA1	**Neumayer--Stat**	**89.41**	**195**⇑	*i*		**P**	**10 30 54.9**	**-2.2**
VNA1	**Neumayer--Stat**	**89.41**	**195**	*e*		**P**	**10 30 56.2**	**-0.9**
VNA3	**Neumayer Olymp**	**90.15**	**194**	*e*		**P**	**10 31 02.4**	**+1.9**
VNA3	**Neumayer Olymp**	**90.15**	**194**⇑	*i*P		**P**	**10 31 01.0**	**+0.5**
VNA3				*e*		pP	10 31 02.4	-1.3

JMA 25 10:28:59.0±0.2, 38.55N×144.36E, h53km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.17**	**285**	P		P	10 29 33.8	+0.4
MIYJ	**Miyakonagasawa**	**2.23**	**298**	P		P	10 29 34.3	0.0
MIYJ				*e*S		S	10 30 00.8	+0.2
JMK	**Ichinoseki**	**2.49**	**280**	P		P	10 29 38.6	+0.6
JMK				*e*S		S	10 30 08.2	+1.0
JOM	**Ohasama**	**2.56**	**292**	P		P	10 29 39.5	+0.4
JOM				S		S	10 30 09.2	+0.1
JMM	**Marumori**	**2.89**	**257**	P		P	10 29 43.8	0.0
JMM				*e*S		S	10 30 16.9	-0.6
JOT	**Ohata**	**3.81**	**319**	P		P	10 29 55.7	-0.9
JOT				S		S	10 30 38.1	-2.4
JCH	**Churui**	**4.13**	**350**	*e*S		S	10 30 44.9	-3.8
JKB	**Kayabe**	**4.20**	**324**	*e*S		S	10 30 46.7	-3.7
NEM2	**Nemuro 2**	**4.92**	**12**	P		P	10 30 07.3	-5.0
NEM2				*e*S		S	10 30 59.2	-9.5
JRY	**Ryogami san**	**5.03**	**242**	P		P	10 30 13.3	-0.6
JTKR	**Abashiri--Toko**	**5.43**	**357**	*e*S		S	10 31 14.0	-7.3

*IDC **25** 10:31:18.9±3.9, 12.33N×40.64E, mb3.9/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/21, Error ellipse: s-maj=92.3km s-min=15.3km az=32.0*
*NEIC **25** 10:31:19.5±0.6, 12.21N×40.49E, h10km, mb4.6/3, Error ellipse: s-maj=14.4km s-min=12.2km az=53.0*
*CSEM **25** 10:31:19.5±0.3, 12.21N×40.49E, h10km±4km, mb4.6/3, Error ellipse: s-maj=13.1km s-min=7.7km az=158.0, After NEIC*
ISC 25 10:31:17.8±0.8, 12.2N±0.1×40.4E±0.1, h10km, n16, σ1°00/16, mb4.1/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.46**	**106**	Pn		**Pn**	**10 31 59.5**	**+0.8**
	29nm,0.3s,baz=275,slow=17,SNR=10							
ATD				LR		LR	10 32 18.6	
	comp=Z,328nm,18.1s,baz=94,slow=26							
ATD				Lg			10 32 30.8	
	22nm,0.3s,baz=116,slow=23,SNR=9.4							
ATD	**Arta Tunnel**	**2.46**	**106**	Pn		**Pn**	**10 31 59.5**	**+0.8**
ATD				LR		LR	10 32 18.6	
ATD				Lg			10 32 30.8	
ASF	**Jabal al Asfar**	**20.11**	**351**	P		**P**	**10 35 53.2**	**-1.5**
	5.1nm,0.8s,baz=270,slow=2.0,SNR=2.6							
MALT	**Malatya**	**26.03**	**356**	*e*P		**P**	**10 36 53.4**	**+0.4**
	7.3nm,1.2s,mb4.1							
MALT	**Malatya**	**26.03**	**356**	*e*P		**P**	**10 36 53.4**	**+0.5**
	7.3nm,1.2s,mb4.1							
BRTR	**Keskin Array B**	**28.03**	**349**	P		**P**	**10 37 12.7**	**+1.4**
	2.3nm,1.0s,mb3.8,baz=174,slow=11,SNR=7.9							
BRTR	**Keskin Array B**	**28.03**	**349**	P		**P**	**10 37 12.6**	**+1.4**
LSZ	**Lusaka**	**29.91**	**204**	P		**P**	**10 37 27.1**	**-1.3**
	23nm,2.1s,mb4.5							
LSZ	**Lusaka**	**29.91**	**204**	P		**P**	**10 37 27.1**	**-1.2**
	23nm,2.1s,mb4.5							
GERES	**GERESS Array B**	**42.70**	**334**	P		**P**	**10 39 17.2**	**+0.6**
	1.8nm,0.9s,mb3.8,baz=127,slow=6.7,SNR=10							
DBIC	**Dimbokro**	**44.98**	**267**	P		**P**	**10 39 36.9**	**+1.3**
	20nm,1.3s,mb4.8							
DBIC	**Dimbokro**	**44.98**	**267**	P		**P**	**10 39 36.9**	**+1.4**
	20nm,1.3s,mb4.8							
MKAR	**Makanchi Array**	**49.20**	**37**	P		**P**	**10 40 07.6**	**-0.6**

mb1mx3.6/16, **mbtmp3.8**/3, **MS4.0**/5, **Ms1 4.0**/5, **ms1mx3.7**/19, **Error ellipse: s-maj=249.2km s-min=49.7km az=23.0, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**13.20**	**193**	LR	LR	10 57 22.0	
	comp=Z,413nm,20.0s,baz=98,slow=38						
BRTR	**Keskin Array B**	**28.37**	**349**	P	P	10 54 57.3	-1.9
	1.0nm,0.8s,baz=172,slow=7.5,SNR=4.5						
GERES	**GERESS Array B**	**42.95**	**334**	P	P	10 57 01.9	-1.6
	0.7nm,0.5s,baz=129,slow=6.3,SNR=7.5						
DBIC	**Dimbokro**	**44.70**	**268**	LR	LR	11 15 10.9	
	comp=Z,106nm,21.9s,baz=71,slow=35						
MKAR	**Makanchi Array**	**49.68**	**37**	LR	LR	11 21 15.1	
	comp=Z,160nm,20.8s,baz=181,slow=39						
SONM	**Songino Array**	**65.38**	**43**	P	P	10 59 45.8	-1.9
	1.6nm,1.1s,baz=252,slow=4.6,SNR=8.0						
SONM				LR	LR	11 31 42.2	
	comp=Z,184nm,18.7s,baz=178,slow=39						
FITZ	**Fitzroy Crossi**	**89.39**	**109**	LR	LR	11 32 40.0	
	comp=Z,124nm,20.5s,baz=82,slow=29						

CASC 25 10:50:13.7±1.9, **5.76N**×**82.54W, h109**km±129km, **MD4.4, MW4.6, 3C-1D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**3.02**	**357**	⇑*i* P	P	10 51 00.3	-0.6
AZU2	**Pedas**	**3.06**	**55**	*e*P	P	10 51 01.5	+0.1
BUS	**Buena Vista**	**3.96**	**342**	⇑P	P	10 51 13.3	-0.3
BUS				*e*S	S	10 52 00.9	+1.5
URSC	**Urasca**	**4.23**	**343**	*e*P	P	10 51 17.4	+0.1
LIO	**Limon**	**4.25**	**353**	*e*P	P	10 51 18.8	+1.2
LIO				*e*S	S	10 52 05.8	-0.7
SJS	**Escuela Geolog**	**4.42**	**340**	⇓*e*P	P	10 51 19.6	-0.3
SJS				*e*S	S	10 52 12.0	+1.4
CGA2	**Cerro Gallo 2**	**4.64**	**336**	*e*P	P	10 51 22.7	-0.2
CGA2				*e*S	S	10 52 15.6	-0.4
VPS2	**Volcan Poas 2**	**4.71**	**339**	*e*P	P	10 51 23.8	-0.1
VCR	**Vista de Mar**	**5.31**	**325**	⇑*e*P	P	10 51 31.2	-0.7
VCR				*e*S	S	10 52 32.0	-0.5

*NEIC **25** 10:54:12.9±1.2, 30.17S×70.60W, h117km±16km, MD3.7(GUC), Error ellipse: s-maj=19.9km s-min=9.0km az=96.0*

GUC 25 10:54:12.9±0.8, **30.21S**×**70.30W, h103**km±7km, **MD3.7, ML3.9, 3C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.44**	**275**	*i* P	P	10 54 29.3	+0.5
TLL				*i* S	S	10 54 42.0	+1.3
TLL				AMP		10 54 44.1	
	comp=N,5μm,0.5s						
OVCH	**Ovalle**	**0.88**	**243**	⇓*i* P	P	10 54 32.3	-0.2
OVCH				*i* S	S	10 54 47.5	+0.2
OVCH				AMP		10 54 47.7	
	comp=N,3μm,0.2s						
CMCH	**Combarbala**	**1.14**	**212**	⇓*i* P	P	10 54 35.1	-0.4
CMCH				*i* S	S	10 54 52.4	0.0
CMCH				AMP		10 54 53.1	
	comp=E,7μm,0.6s						
ILCH	**Illapel**	**1.61**	**208**	⇑*i* P	P	10 54 40.9	-0.2
ILCH				*i* S	S	10 55 02.0	-0.2
ILCH				AMP		10 55 03.1	
	comp=N,1μm,0.1s						
ZON	**Zonda**	**1.93**	**134**	*e*P	P	10 54 48.4	+3.3
ZON				*e*S	S	10 55 14.1	+5.0
CHNG	**Los Chungos**	**1.96**	**211**	⇑*i* P	P	10 54 45.7	+0.1
CHNG				*i* S	S	10 55 10.1	+0.2
CHNG				AMP		10 55 16.4	
	comp=E,416nm,0.2s						
CPCH	**Copiapo**	**2.84**	**359**	*e*P	P	10 54 56.6	-0.9
CPCH				*i* S	S	10 55 30.9	-0.1
FCH	**Farellones**	**3.11**	**180**	*e*P	P	10 55 01.9	+0.7
FCH				*e*S	S	10 55 38.2	+0.5
FCH				AMP		10 55 51.1	
	comp=N,200nm,0.2s						
CLCH	**Cerro Calan**	**3.19**	**184**	*i* P	P	10 55 01.7	-0.6
CLCH				*i* S	S	10 55 39.5	-0.1
CLCH				AMP		10 55 51.6	
	comp=N,281nm,0.6s						
DSCH	**Colegio Aleman**	**3.19**	**184**	AMP		10 55 51.2	
	comp=N,306nm,0.4s						
RCDM	**Rinconada Maip**	**3.30**	**187**	*i* P	P	10 55 03.3	-0.5
RCDM				*i* S	S	10 55 41.9	-0.5
RCDM				AMP		10 55 54.0	
	comp=E,272nm,0.2s						
ANTU	**Antumapu**	**3.37**	**185**	AMP		10 55 54.1	
	comp=N,186nm,0.5s						
CHCH	**Chadas Angostu**	**3.73**	**185**	*i* P	P	10 55 08.9	-0.8
CHCH				*i* S	S	10 55 52.3	-0.5
CACH	**El Canelo**	**3.91**	**184**	⇑*i* P	P	10 55 12.0	-0.1
CACH				*i* S	S	10 55 57.2	0.0
CICH	**Cipreses**	**4.10**	**181**	⇓*i* P	P	10 55 14.3	-0.5
CICH				*i* S	S	10 56 01.3	-0.6

*IDC **25** 11:05:31.8±1.4, 27.16N×97.05E, mb3.5/4, mb1 3.7/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=55.5km s-min=23.8km az=61.0*

ISC 25 11:05:34.0±1.2, **27.0N**±0.2×**96.8E**±0.1, **h33**km, **n8**, σ**0**§**75**/8, **mb3.7**/4, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**10.18**	**276**	*e*P	P	11 08 01.1	+0.2
KKN	**Kakani**	**10.30**	**277**	*e*P	P	11 08 03.1	+0.5
	27nm,0.6s						
GKN	**Gorkha**	**10.88**	**278**	*e*P	P	11 08 09.6	-0.8
	13nm,0.4s						
KOLN	**Koldanda**	**11.79**	**277**	*e*P	P	11 08 22.2	-0.6
	19nm,0.9s						
SONM	**Songino Array**	**22.08**	**17**	P	P	11 10 26.5	-1.1
	1.2nm,0.6s,mb3.5,baz=210,slow=12,SNR=12						
MKAR	**Makanchi Array**	**22.83**	**334**	P	P	11 10 36.4	+1.3
	1.4nm,0.7s,mb3.5,baz=148,slow=8.2,SNR=13						
AKASG	**Malin Array Be**	**55.60**	**315**	P	P	11 15 09.0	+0.3
	0.5nm,0.5s,mb3.8,baz=75,slow=6.9,SNR=4.2						
WRA	**Warramunga Arr**	**59.17**	**138**	P	P	11 15 34.5	+0.2
	0.7nm,0.6s,mb3.9,baz=329,slow=7.4,SNR=24						

*CSEM **25** 11:07:37.9±0.1, 36.07N×31.00E, h60km, Mw3.1, Error ellipse: s-maj=2.2km s-min=1.7km az=19.0*
*NIC **25** 11:07:39.5±0.5, 36.62N×31.62E, h36km, ML3.5, MW3.1*
*ISK **25** 11:07:40.0, 36.18N×31.05E, h60km, MD3.4, ML3.4*
*HLW **25** 11:07:44.6, 35.62N×30.99E, h32km, Mb3.5*

ISC 25 11:07:39.2±0.3, **35.98N**±0.03×**31.01E**±0.03, **h33**km, **n33,** σ**1**§**09**/50, **5C-3D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.96**	**343**	*e*PG	P	11 07 56.3	0.0
ANTB				*e*SG	S	11 08 07.6	-1.4
AKAS	**Kas**	**1.17**	**283**	*i* P	P	11 08 00.1	+0.9
AKAS				*i* S	S	11 08 17.1	+2.9
ELL	**Elmali**	**1.17**	**311**	*e*PN	Pn	11 07 59.8	+0.2
ELL				*e*SN	Sn	11 08 13.6	-1.0
ALFC	**Alevga**	**1.53**	**122**	P	P	11 08 05.7	+1.2
	13nm,0.2s						
ALFC				S	S	11 08 26.9	+3.4
PPCY	**Paphos**	**1.54**	**135**	⇑P	P	11 08 09.2	+4.5
ERMK	**Ermenek**	**1.67**	**66**	*i* P	P	11 08 06.2	-0.3
ERMK				*i* S	S	11 08 33.1	+6.1
GOLH	**Golhisar**	**1.71**	**318**	*i* P	P	11 08 09.6	+2.5
GOLH				*i* S	S	11 08 31.5	+3.5
SZAC	**Souni-Zanaja**	**1.96**	**128**	⇓P	P	11 08 15.7	+5.1
MAMC	**Mammari**	**1.97**	**114**	P	P	11 08 10.6	-0.2
DALT	**Dalyan (Mudla)**	**2.07**	**293**	*e*PN	Pn	11 08 13.0	+0.6
DALT				*e*SN	Sn	11 08 37.7	+0.4
TKTP	**Tekketepe**	**2.13**	**345**	*i* P	P	11 08 13.7	+0.6
TKTP				*i* S	S	11 08 43.1	+4.5
CSS	**Prodhromos**	**2.15**	**118**	⇑P	P	11 08 12.8	-0.5
	2.5nm,0.3s						
CSS				S	S	11 08 39.8	+0.7
IKL	**Isikli**	**2.18**	**82**	*e*PN	Pn	11 08 14.4	+0.4
DNZL	**Cakiroluk**	**2.32**	**318**	*i* P	P	11 08 19.8	+4.0
DNZL				*i* S	S	11 08 47.0	+3.6
DENT	**Denizli**	**2.38**	**319**	*e*PN	Pn	11 08 16.1	-0.7
YER	**Yerkesik**	**2.48**	**298**	*e*PN	Pn	11 08 18.6	+0.3
MEST	**Erdemli**	**2.60**	**76**	*i* P	P	11 08 19.5	-0.4
MEST				*i* S	S	11 08 52.2	+1.6
PHNC	**Paralimni**	**2.65**	**111**	P	P	11 08 25.1	+4.6
MERS	**Mersin**	**2.97**	**72**	*e*PN	Pn	11 08 24.9	-0.3
KIZT	**Kizilcal**	**2.98**	**13**	*e*PN	Pn	11 08 24.1	-1.2
AYDN	**Tasoluk**	**3.02**	**305**	*i* P	P	11 08 26.7	+0.9
BDRM	**Kayabasi**	**3.07**	**292**	*i* P	P	11 08 27.7	+1.2
BDRM				*i* S	S	11 09 02.3	-0.2
ALT	**Altintas**	**3.15**	**347**	*e*PN	Pn	11 08 26.0	-1.8
MANT	**Manisa**	**3.18**	**323**	*i* P	P	11 08 28.2	+0.2
MANT				*i* S	S	11 09 04.5	-0.7
KARA	**Karaisali**	**3.50**	**67**	*e*PN	Pn	11 08 32.4	-0.3
ESKT	**Eskisehir**	**3.54**	**358**	*e*PN	Pn	11 08 31.5	-1.8
IZM	**Izmir**	**3.84**	**310**	*e*PN	Pn	11 08 37.2	-0.4
HTY	**Hatay**	**4.16**	**87**	*e*PN	Pn	11 08 42.6	+0.5
AMAG	**Maghara**	**5.63**	**160**	⇓*e*P	P	11 09 01.6	-1.1
AMAG				S	S	11 09 58.5	-8.7
SLUM		**6.58**	**229**	⇑P	P	11 09 16.4	+0.2
SLUM				S	S	11 10 23.3	-7.7
SWA1		**8.05**	**215**	⇑*e*P	P	11 09 35.6	-1.0
SWA1				S	S	11 10 56.9	-11
SWA2		**8.19**	**216**	⇑*e*P	P	11 09 37.4	-1.1
SWA2				S	S	11 11 00.4	-11
HFRF	**Wahat Farafira**	**9.10**	**195**	⇓P	P	11 09 49.6	-1.6

*DHMR **25** 11:20:00.6±0.3, 12.53N×40.62E, h2km±1km, ML4.5*
*BJI **25** 11:20:01.2, 12.27N×40.29E, h22km, mB5.3, mb4.9, Ms5.1, Msz4.7*
*MOS **25** 11:20:01.8±0.8, 12.41N×40.56E, h10km, mb5.2/66, MS4.3/11, Error ellipse: s-maj=9.5km s-min=3.3km az=113.0*
*IDC **25** 11:20:02.4±0.7, 12.39N×40.69E, mb4.3/14, mb1 4.4/17, mb1mx4.4/23, mbtmp4.3/17, ML3.6/3, MS4.4/14, Ms1 4.4/14, ms1mx4.3/24, Error ellipse: s-maj=16.0km s-min=12.2km az=55.0*
*STR **25** 11:20:03.5±0.0, 12.81N×40.90E, Mb5.0, Ms4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **25** 11:20:03.8±0.2, 12.42N×40.58E, h10km, mb5.1/102, MS4.3/3, Error ellipse: s-maj=6.3km s-min=4.6km az=55.0*
*HRVD **25** 11:20:03.8±0.3, 12.54N×40.65E, h12km, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s40,c54;Mantle waves: s66,c112; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.93±.16; $M_{\theta\theta}$1.32±.14; $M_{\phi\phi}$3.61±.17; $M_{r\theta}$-0.63±.50; $M_{\theta\phi}$-2.25±.14; $M_{\phi r}$0.21±.46; Best double couple: M_o5.004×10^{16} NP1: ϕ_s333°, δ42°, λ-83°. NP2:ϕ_s144°, δ48°, λ-97°. Principal axes: T 5.016, Plg3°, Azm238°; N -.023, Plg5°, Azm148°; P -4.992, Plg84°, Azm359°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CRAAG **25** 11:20:04.6, 12.25N×40.49E, Mb5.1*
*CSEM **25** 11:20:04.7±0.1, 12.40N×40.53E, h28km, mb5.1/99, Ms4.1, Mw5.1, Error ellipse: s-maj=2.8km s-min=2.4km az=9.0*

ISC 25 11:20:03.7±1.7, **12.36N**±0.04×**40.56E**±0.03, **h23**km±12km, **h25**km±2.4km**: pP-P, n376,** σ**0**§**94**/371, **mb5.0**/129, **MS4.5**/29, **25C-10D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.39**	**110**	Pn	Pn	11 20 40.8	-1.5
	54nm,0.3s,baz=260,slow=16,SNR=23						
ATD				Lg		11 21 14.3	
	84nm,0.3s,baz=101,slow=21,SNR=20						
ATD	**Arta Tunnel**	**2.39**	**110**	Pn	Pn	11 20 40.8	-1.5
ATD				Lg		11 21 14.3	
DHBB	**Dhamar BB**	**4.33**	**59**	*i* P	Pn	11 21 08.1	-1.8
DHBB				*i* S	Sn	11 22 00.9	+0.5
ADEN	**Aden**	**4.34**	**84**	⇑*e*P	Pn	11 21 08.8	-1.2
ADEN				*i* S	Sn	11 22 01.9	+1.3
ADEN				AML	AML	11 22 24.8	
	comp=N,1μm,0.6s						
ADEN	**Aden**	**4.34**	**84**	⇑*e*P	Pn	11 21 08.8	-1.2
ADEN				*i* S	Sn	11 22 01.9	+1.3
	comp=N,716nm,0.6s						
BDHA	**Al Bayda'**	**5.14**	**71**	⇑*e*P	Pn	11 21 17.1	-4.2
MUKL	**Al Mukalla**	**8.52**	**75**	*i* S	Sn	11 23 40.2	-4.9
KMBO	**Kilima Mbogo**	**13.79**	**194**	Pn	P	11 23 21.8	+1.3
	comp=N,0.1nm,0.3s,baz=46,slow=22,SNR=6.5						
KMBO				Lg		11 27 22.6	
	comp=N,0.1nm,0.3s,baz=116,slow=14,SNR=6.3						
KMBO				LR	LR	11 28 31.6	
	comp=N,3μm,21.5s,baz=273,slow=37						
RDF	**Al-Radifah**	**17.73**	**21**	*e*P	P	11 24 11.8	+0.9
RDF				AMb	AMB	11 24 20.1	
	comp=Z,76nm,1.8s						
NAY	**Al-Naaiem**	**17.93**	**19**	*e*P	P	11 24 13.6	+0.3
NAY				AMb	AMB	11 24 20.7	
	comp=Z,54nm,1.2s						
KBD	**Kabd**	**18.01**	**21**	*e*P	P	11 24 14.6	+0.2
KBD				AMb	AMB	11 24 24.0	
	comp=Z,458nm,1.7s						
ASF	**Jabal al Asfar**	**20.01**	**351**	P	P	11 24 37.6	-0.2
	comp=Z,0.3nm,0.3s,baz=44,slow=4.5,SNR=35						
ASF				LR	LR	11 31 22.7	
	comp=Z,472nm,21.1s,MS3.8,baz=37,slow=34						
BHD	**Baghdad**	**21.11**	**9**	*ex*	x	11 24 44.5	
BHD				*ex*	x	11 25 19.0	
BHD				*ex*	x	11 28 35.0	
BHD	**Baghdad**	**21.11**	**9**	*e*S	S	11 28 35.0	-3.0
TOTH	**TOTAH**	**21.25**	**350**	⇑*i* P	P	11 24 51.4	+0.9
BRBR	**Barbar**	**21.38**	**349**	⇑*i* P	P	11 24 54.2	+2.3
BHL	**Bhannes**	**21.91**	**349**	*e*P	P	11 24 58.6	+1.4
ROOS	**tl_alroos**	**21.92**	**353**	⇑*i* P	P	11 24 59.3	+2.0
MSEY	**Mahe Island**	**22.50**	**138**	*e*P	P	11 25 04.4	+1.1
MSEY	**Mahe Island**	**22.50**	**138**	*e*P	P	11 25 04.4	+1.1
BSHR	**Al Beshri**	**23.22**	**358**	⇑*i* P	P	11 25 10.2	+0.1
WRDH	**Warideh**	**23.35**	**351**	⇑*i* P	P	11 25 12.1	+0.7
CSS	**Prodhromos**	**23.44**	**345**	*e*P	P	11 25 13.9	+1.7
	comp=Z,179nm,1.8s,mb5.2						
CSS	**Prodhromos**	**23.44**	**345**	*e*P	P	11 25 13.9	+1.6
	comp=Z,179nm,1.8s,mb5.2						
SLMH	**Al Salmeh**	**23.87**	**355**	⇑*i* P	P	11 25 17.0	+0.6
MSL	**Mosul**	**23.94**	**5**	*ex*	x	11 25 39.0	
MSL				*ex*	x	11 30 04.0	
ATAB	**Bozova**	**25.09**	**356**	*i* P	P	11 25 28.9	+0.7
ERMK	**Ermenek**	**25.14**	**345**	*i* P	P	11 25 25.6	-3.1
HAKT	**HAKKARI**	**25.25**	**6**	*i* P	P	11 25 29.6	-0.2
MALT	**Malatya**	**25.92**	**356**	*e*P	P	11 25 38.0	+2.0
	comp=Z,94nm,1.6s,mb5.1						
MALT	**Malatya**	**25.92**	**356**	*e*P	P	11 25 38.0	+2.0
	comp=Z,94nm,1.6s,mb5.1						
MALT	**Malatya**	**25.92**	**356**	*e*P	P	11 25 38.0	+2.0
MALT				pmax	pmax		
	comp=Z,94nm,1.6s,mb5.1						
ELZG	**Elazig**	**26.07**	**357**	*i* P	P	11 25 38.8	+1.4
GOLH	**Golhisar**	**26.67**	**340**	*i* P	P	11 25 42.1	-0.8
IDI	**Anoyia**	**26.88**	**331**	P	P	11 25 45.9	+1.1
	comp=Z,9.4nm,1.0s,mb4.3,baz=145,slow=12,SNR=5.6						
IDI				LR	LR	11 36 27.7	
	comp=Z,267nm,21.5s,MS3.8,baz=91,slow=37						
TKTP	**Tekketepe**	**27.16**	**342**	*i* P	P	11 25 44.0	-3.3
CDAG	**Cicekdag**	**27.70**	**350**	*i* P	P	11 25 51.5	-0.8
GNI	**Garni**	**27.93**	**7**	*e*P	P	11 25 56.1	+1.8
	comp=Z,259nm,2.3s,mb5.5						
GNI	**Garni**	**27.93**	**7**	*e*P	P	11 25 56.1	+1.8
GNI				pmax	pmax		
	comp=Z,259nm,2.3s						
BR131	**Keskin Array S**	**27.94**	**349**	*e*P	P	11 25 54.5	+0.1
	comp=Z,38nm,1.4s,mb4.8						
BR131	**Keskin Array S**	**27.94**	**349**	*e*P	P	11 25 54.5	+0.1
	comp=Z,38nm,1.4s,mb4.8						
BRTR	**Keskin Array B**	**27.94**	**349**	P	P	11 25 55.8	+1.4
	comp=Z,13nm,1.1s,mb4.5,baz=172,slow=8.7,SNR=33						
APE	**Apeiranthos**	**28.06**	**334**	*e*P	P	11 25 55.6	+0.1
ESKT	**Eskisehir**	**28.39**	**344**	*i* P	P	11 25 57.7	-0.8
ELDT	**Eldivan**	**28.72**	**349**	*i* P	P	11 26 01.9	+0.5
SGKT	**Sivrigoynuk**	**29.09**	**347**	*i* P	P	11 26 04.8	0.0
TI2	**Plekhanov**	**29.50**	**6**	⇑*i* P	P	11 26 07.8	-0.6
	comp=Z,30nm,0.8s,mb5.1						
TI2	**Plekhanov**	**29.50**	**6**	α*i* P	P	11 26 07.8	-0.6
TI2				MLR	MLR		
	comp=Z,1μm,10.0s,MS4.7						
LSZ	**Lusaka**	**30.06**	**204**	P	P	11 26 13.9	+0.2
	comp=Z,0.4nm,0.3s,mb3.6,baz=63,slow=14,SNR=3.0						
ZEI	**Tsey**	**30.44**	**5**	*e*P	P	11 26 18.0	+1.2
	comp=Z,6.0nm,0.6s,mb4.5						
ZEI	**Tsey**	**30.44**	**5**	*e*P	P	11 26 18.0	+1.2
ZEI				*i*		11 27 23.3	
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
SOC	**Sochi**	**31.12**	**359**	*i* P	P	11 26 22.8	0.0
	comp=Z,10.0nm,0.6s,mb4.8						
SOC	**Sochi**	**31.12**	**359**	*c i*P	P	11 26 22.8	0.0
SOC				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.0						
SOC				pmax	pmax		
	comp=N,10.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.4s						
SOC				MLR	MLR		
	comp=N,914nm,12.0s,MS4.7						
SOC				MLR	MLR		
	comp=E,193nm,12.0s,MS4.7						
SOC				MLR	MLR		
	comp=Z,548nm,12.0s,MS4.4						
KIV	**Kislovodsk**	**31.54**	**3**	*e*P	P	11 26 24.2	-2.3
	comp=Z,143nm,1.9s,mb5.5						
KIV	**Kislovodsk**	**31.54**	**3**	*e*P	P	11 26 25.3	-1.2
KIV				*e*		11 27 41.7	
KIV				pmax	pmax		
	comp=N,11nm,1.1s						
KIV				pmax	pmax		
	comp=E,3.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=N,553nm,15.0s,MS4.5						
KIV				MLR	MLR		
	comp=E,400nm,15.0s,MS4.5						
KIV				MLR	MLR		
	comp=Z,781nm,15.0s,MS4.5						
SKO	**Skopje**	**33.89**	**334**	*i* P	P	11 26 47.2	+0.3
CFR	**Carcaliu**	**34.39**	**344**	⇑P	P	11 26 51.3	+0.1
MATP	**Matopo**	**34.67**	**200**	P	P	11 26 53.7	-0.2
	comp=Z,2.3nm,1.1s,mb4.0,baz=40,slow=7.9,SNR=2.8						
MATP				LR	LR	11 41 20.5	
	comp=Z,3μm,18.1s,MS5.0,baz=19,slow=37						
MLR	**Muntele Rosu**	**35.29**	**342**	⇑P	P	11 27 00.6	+1.7
VRI	**Vrincioaia**	**35.41**	**343**	⇑P	P	11 27 01.5	+1.6
VOIR		**35.52**	**341**	⇓P	P	11 27 02.3	+1.4
CII	**Carovilli**	**37.16**	**327**	*e*P	P	11 27 15.3	+0.6
	comp=Z,77nm,1.5s,mb5.3						
CII	**Carovilli**	**37.16**	**327**	*e*P	P	11 27 15.3	+0.6
	comp=Z,77nm,1.5s,mb5.3						
BURAR	**Bucovina Array**	**37.43**	**343**	⇓P	P	11 27 17.8	+0.9
DRGR		**37.48**	**340**	⇑P	P	11 27 17.6	+0.2
AQU	**L'Aquila**	**38.08**	**327**	*e*P	P	11 27 22.8	+0.3
	comp=Z,91nm,1.4s,mb5.3						
AQU	**L'Aquila**	**38.08**	**327**	*e*P	P	11 27 22.8	+0.4
	comp=Z,91nm,1.4s,mb5.3						
AQU	**L'Aquila**	**38.08**	**327**	*e*P	P	11 27 22.8	+0.4
AQU				pmax	pmax		
	comp=Z,91nm,1.4s,mb5.3						
ABSA	**Djebel Ababsia**	**38.10**	**314**	P	P	11 27 25.0	+2.3
CMAH	**Djebel Manchou**	**38.32**	**315**	P	P	11 27 26.5	+1.9
VSL	**Villasalto**	**38.60**	**320**	*e*P	P	11 27 27.9	+1.1
	comp=Z,22nm,1.2s,mb4.8						
CKFL	**Kef-Lekhel**	**38.70**	**314**	P	P	11 27 29.5	+1.8
CASM	**Ain Smara**	**38.79**	**314**	P	P	11 27 30.0	+1.5
VOR	**Voronezh**	**39.28**	**359**	*e*P	P	11 27 32.5	+0.1
VOR				pmax	pmax		
	comp=N,100nm,2.0s						
VOR				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.3						
AKASG	**Malin Array Be**	**39.34**	**349**	P	P	11 27 32.9	-0.1
	comp=Z,3.8nm,0.9s,mb4.1,baz=174,slow=7.4,SNR=18						
DFRA	**Djebel Bou Aff**	**39.36**	**314**	P	P	11 27 35.0	+1.7
PSZ	**Piszkesteto**	**39.44**	**338**	*e*P	P	11 27 34.1	+0.3
	comp=Z,98nm,1.8s,mb5.2						
PSZ	**Piszkesteto**	**39.44**	**338**	*e*P	P	11 27 34.1	+0.4
	comp=Z,98nm,1.8s,mb5.2						
PSZ	**Piszkesteto**	**39.44**	**338**	*e*P	P	11 27 34.1	+0.4
PSZ				pmax	pmax		
	comp=Z,98nm,1.8s,mb5.2						
KOLS	**Kolonicke sedl**	**39.50**	**341**	*e*P	P	11 27 34.7	+0.5
CRES	**Cresnjev**	**39.58**	**332**	*e*P	P	11 27 35.5	+0.6
CRES	**Cresnjev**	**39.58**	**332**	*e*P	P	11 27 35.5	+0.5
KECS	**Kecovo**	**39.70**	**339**	*e*P	P	11 27 36.8	+0.9
KWP	**Kalwaria**	**39.98**	**342**	P	P	11 27 39.2	+1.0
	comp=Z,19nm,0.2s,mb5.5						
KWP	**Kalwaria**	**39.98**	**342**	P	P	11 27 39.2	+1.0
	comp=Z,19nm,0.2s,mb5.5						
KWP	**Kalwaria**	**39.98**	**342**	P	P	11 27 39.2	+1.0
KWP				pmax	pmax		
	comp=Z,19nm,0.2s,mb5.5						
LJU	**Ljubljana**	**40.17**	**332**	*e*P	P	11 27 40.2	+0.4
LJU				*e*PP	PP	11 29 15.4	-0.5
STHS	**Stebnicka Huta**	**40.25**	**340**	*e*P	P	11 27 41.5	+1.1
VYHS	**Vyhne**	**40.31**	**338**	*e*P	P	11 27 41.8	+0.9
VOJS	**Vojsko**	**40.46**	**331**	*e*P	P	11 27 43.0	+0.8
OBKA	**Obir**	**40.51**	**332**	⇑*i* P	P	11 27 44.3	+1.7
	comp=Z,46nm,1.5s,mb4.9						
NIE	**Niedzica**	**40.56**	**340**	*e*P	P	11 27 44.3	+1.3
ARSA	**Arzberg**	**40.64**	**334**	⇑*i* P	P	11 27 45.0	+1.3
	comp=Z,29nm,1.1s,mb4.8						
PGF	**Pioggiola**	**40.66**	**324**	*e*P	P	11 27 43.6	-0.3
	comp=Z,120nm,1.8s,mb4.9						
PGF	**Pioggiola**	**40.66**	**324**	*e*P	P	11 27 43.6	-0.3
PGF				pmax	pmax		
	comp=Z,60nm,1.8s,mb4.9						
ZST

GERES GERESS Array B 42.65 334 P **P** **11 28 00.4 +0.3**
comp=Z,6.5nm,0.9s,mb4.3,baz=127,slow=6.7,SNR=33
GERES LR LR 11 47 37.2
comp=Z,157nm,18.1s,MS3.9,baz=326,slow=39
GERES GERESS Array B 42.65 334 P **P** **11 28 00.4 +0.3**
GERES LR LR 11 47 37.2
MOTA Moosalm 42.73 330⇑ *i*P **P** **11 28 01.0 +0.1**
comp=Z,12nm,1.2s,mb4.5
MOTA Moosalm 42.73 330⇑ *i*P **P** **11 28 01.0 +0.1**
MOTA pmax pmax
comp=Z,12nm,1.2s,mb4.5
DPC Dobruska-Polom 42.77 337 *e*P **P** **11 28 00.7 -0.4**
OBN Obninsk 42.77 357 *e*P **P** **11 28 01.3 +0.3**
comp=Z,20nm,0.9s,mb4.8
OBN Obninsk 42.77 357 *e*P **P** **11 28 01.3 +0.3**
comp=Z,20nm,0.9s,mb4.8
OBN Obninsk 42.77 357 *e*PcP PcP 11 29 52.3 -0.6
OBN Obninsk 42.77 357 *c e*P **P** **11 28 01.3 +0.3**
OBN *e* 11 29 52.3
OBN *e*S **S** **11 34 31.6 +8.3**
OBN *e*SS SS 11 38 13.5 +45
OBN pmax pmax
comp=Z,125nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.1
KHC Kasperske Hory 42.92 334 *e*P **P** **11 28 01.5 -0.8**
KHC PP PP 11 29 45.5 +1.1
KHC Kasperske Hory 42.92 334 *e*P **P** **11 28 01.5 -0.8**
KHC *e* 11 29 45.5
UPC Upice 43.02 337 *e*P **P** **11 28 02.7 -0.4**
ETOS Mallorca 43.03 316 P **P** **11 28 01.5 -1.8**
comp=Z,20nm,1.5s,mb4.6
ETOS Mallorca 43.03 316 P **P** **11 28 01.5 -1.8**
comp=Z,20nm,1.5s,mb4.6
KSP Ksiaz 43.18 338 *e*P **P** **11 28 04.6 +0.2**
PRU Pruhonice 43.18 336 *e*P **P** **11 28 03.9 -0.5**
PUYF Puyloubier 43.19 323 *e*P **P** **11 28 05.3 +0.7**
WET Wettzell 43.23 334 *e*P **P** **11 28 03.9 -1.0**
comp=Z,75nm,2.0s,mb5.1
WET Wettzell 43.23 334 *e*P **P** **11 28 03.9 -1.0**
WET pmax pmax
comp=Z,75nm,2.0s,mb5.1
FUR Furstenfeldbru 43.24 331 *e*P **P** **11 28 04.5 -0.4**
comp=Z,21nm,1.0s,mb4.8
FUR Furstenfeldbru 43.24 331 *e*P **P** **11 28 04.5 -0.4**
FUR pmax pmax
comp=Z,21nm,1.0s,mb4.8
MBDF Montbardon 43.28 325 *e*P **P** **11 28 05.9 +0.6**
comp=Z,83nm,1.1s,mb5.1
MBDF Montbardon 43.28 325 *e*P **P** **11 28 05.9 +0.6**
MBDF pmax pmax
comp=Z,42nm,1.1s,mb5.1
DAVA Damuels 43.29 330⇑ *i*P **P** **11 28 05.7 +0.3**
comp=Z,29nm,1.0s,mb5.0
MOS Moscow 43.34 358 *e*P **P** **11 28 05.3 -0.4**
comp=Z,183nm,1.6s,mb5.6
MOS Moscow 43.34 358 *e*P **P** **11 28 05.3 -0.4**
MOS *e* 11 29 49.6
MOS pmax pmax
comp=Z,500nm,2.2s,mb5.9
MOS pmax pmax
comp=Z,183nm,1.6s,mb5.6
VILF Villemus 43.37 323 *e*P **P** **11 28 06.8 +0.8**
SMRF Simiane la Rot 43.52 323 *e*P **P** **11 28 07.3 0.0**
comp=Z,104nm,1.9s,mb4.9
BNI Bardonecchia 43.53 325 *e*P **P** **11 28 05.8 -1.5**
comp=Z,3.4nm,0.4s,mb4.4
BNI Bardonecchia 43.53 325 *e*P **P** **11 28 05.8 -1.5**
comp=Z,3.4nm,0.4s,mb4.4
BNI Bardonecchia 43.53 325 *e*P **P** **11 28 05.8 -1.5**
BNI pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
PVCC Panska Ves 43.59 336 *e*P **P** **11 28 07.5 -0.3**
PRAF Pradon 43.66 323 *e*P **P** **11 28 09.2 +0.8**
LPG La Plagne 43.76 326 *e*P **P** **11 28 08.1 -1.1**
comp=Z,142nm,1.8s,mb5.1
LPG La Plagne 43.76 326 *e*P **P** **11 28 08.1 -1.1**
LPG pmax pmax
comp=Z,71nm,1.8s,mb5.1
SUW Suwalki 43.78 345 *e*P **P** **11 28 09.4 +0.2**
comp=Z,63nm,1.0s,mb5.3
SUW Suwalki 43.78 345 *e*P **P** **11 28 09.4 +0.2**
comp=Z,63nm,1.0s,mb5.3
SUW Suwalki 43.78 345 *e*P **P** **11 28 09.4 +0.2**
SUW pmax pmax
comp=Z,63nm,1.0s,mb5.3
LPL La Plagne 43.78 326 *e*P **P** **11 28 08.2 -1.2**
comp=Z,80nm,1.5s,mb4.9
LPL La Plagne 43.78 326 *e*P **P** **11 28 08.2 -1.2**
LPL pmax pmax
comp=Z,40nm,1.5s,mb4.9
ORIF Oris-en-Rattie 43.90 324 *e*P **P** **11 28 10.0 -0.3**
comp=Z,72nm,1.4s,mb4.9
ORIF *e*R
comp=Z,225nm,22.8s
BRG Berggiesshubel 44.11 336 *i*P **P** **11 28 11.2 -0.8**
comp=Z,87nm,2.0s,mb5.1
BRG Berggiesshubel 44.11 336 *i*P **P** **11 28 11.2 -0.8**
comp=Z,87nm,2.0s,mb5.1
BRG Berggiesshubel 44.11 336 *i*P **P** **11 28 11.2 -0.8**
BRG pmax pmax
comp=Z,87nm,2.0s,mb5.1
NKC Novy Kostel 44.23 334 *e*P **P** **11 28 12.6 -0.4**
EJON La Jonquera 44.32 320 P **P** **11 28 13.1 -0.7**
comp=Z,45nm,1.6s,mb5.0
EJON La Jonquera 44.32 320 P **P** **11 28 13.1 -0.7**
comp=Z,45nm,1.6s,mb5.0
GRA1 Grafenberg Arr 44.37 333 *e*P **P** **11 28 13.1 -1.0**
comp=Z,30nm,1.3s,mb4.9
GRA1 *e*PP PP 11 29 58.6 -0.3
GRF Grafenberg Arr 44.37 333 *e*P **P** **11 28 13.1 -1.0**
comp=Z,30nm,1.3s,mb4.9
GRF *e*PP PP 11 29 58.6 -0.3
GRF Grafenberg Arr 44.37 333 *e*P **P** **11 28 13.1 -1.0**
comp=Z,30nm,1.3s,mb4.9
GRF Grafenberg Arr 44.37 333 *e*P **P** **11 28 13.1 -1.0**
GRF *e* 11 29 58.6
GRF pmax pmax
comp=Z,30nm,1.3s,mb4.9
GRF Grafenberg Arr 44.37 333 *e*P **P** **11 28 13.1 -1.0**
GRF *e* 11 29 58.6
GRF pmax pmax
comp=Z,30nm,1.3s,mb4.9
VIVF Saint-Julien-l 44.56 324 *e*P **P** **11 28 15.1 -0.6**
comp=Z,106nm,1.8s,mb5.1
VIVF Saint-Julien-l 44.56 324 *e*P **P** **11 28 15.1 -0.6**
VIVF pmax pmax
comp=Z,53nm,1.8s,mb5.1
FILF Fillols 44.59 320 *e*P **P** **11 28 17.3 +1.4**
LASF Ste Croix 44.60 322 *e*P **P** **11 28 15.6 -0.4**
comp=Z,122nm,1.7s,mb5.2
BBS Basel-Blauen 44.61 328 *e*P **P** **11 28 16.1 0.0**
FELD Feldberg 44.63 329 *e*P **P** **11 28 16.1 -0.1**
BFO Black Forest 44.77 330 *e*P **P** **11 28 17.0 -0.3**
comp=Z,93nm,2.3s,mb5.2
BFO Black Forest 44.77 330 *e*P **P** **11 28 17.0 -0.3**
BFO pmax pmax
comp=Z,93nm,2.3s,mb5.2
CABF La Chapelle 44.82 326 *e*P **P** **11 28 16.6 -1.1**
comp=Z,43nm,1.0s,mb4.9
CABF La Chapelle 44.82 326 *e*P **P** **11 28 16.6 -1.1**
CABF pmax pmax
comp=Z,21nm,1.0s,mb4.9
CLL Collm 44.82 336 ⇓P **P** **11 28 16.5 -1.2**
comp=Z,logA/T=1.3,mb4.9
CLL *e* 11 28 30.0
CLL Collm 44.82 336 ⇓ *i*P **P** **11 28 16.5 -1.2**
comp=Z,27nm,1.4s,mb4.9
CLL *e* 11 28 30.0
CLL Collm 44.82 336 ⇓ *i*P **P** **11 28 16.5 -1.2**
CLL pmax pmax
comp=Z,27nm,1.4s,mb4.9
LOMF Lomont 44.89 328 *e*P **P** **11 28 18.5 +0.2**
MOX Moxa 44.90 334 *i*P **P** **11 28 17.7 -0.6**
comp=Z,logA/T=1.6,mb5.2
MOX PP PP 11 29 59.0 -5.2
MOX Moxa 44.90 334 *e*P **P** **11 28 17.7 -0.6**
comp=Z,71nm,1.9s,mb5.2
MOX *e*PP PP 11 29 58.7 -5.5
MOX Moxa 44.90 334 *e*PcP PcP 11 29 58.7 -1.4
MOX Moxa 44.90 334 *e*P **P** **11 28 17.7 -0.6**
MOX *e* 11 29 58.7
MOX pmax pmax
comp=Z,71nm,1.9s,mb5.2
EMIR Miracle 44.92 318 P **P** **11 28 18.7 0.0**
comp=Z,51nm,1.8s,mb5.0
EMIR Miracle 44.92 318 P **P** **11 28 18.7 0.0**
comp=Z,51nm,1.8s,mb5.0
EPOB Poblet 44.95 317 P **P** **11 28 18.2 -0.7**
comp=Z,32nm,1.8s,mb4.8
EPOB Poblet 44.95 317 P **P** **11 28 18.2 -0.7**
comp=Z,32nm,1.8s,mb4.8
EMUR La Murta 45.04 312 P **P** **11 28 19.6 -0.1**
comp=Z,94nm,1.7s,mb5.3
EMUR La Murta 45.04 312 P **P** **11 28 19.6 0.0**
comp=Z,94nm,1.7s,mb5.3
MOF Molkenrain 45.05 328 *e*P **P** **11 28 19.5 -0.1**
DBIC Dimbokro 45.10 267 LR LR 11 46 31.6
comp=Z,564nm,18.9s,MS4.5,baz=68,slow=35
HINF Hinteralfeld 45.17 328 *e*P **P** **11 28 19.8 -0.8**
comp=Z,63nm,1.3s,mb5.0
HINF Hinteralfeld 45.17 328 *e*P **P** **11 28 19.8 -0.8**
HINF pmax pmax
comp=Z,31nm,1.3s,mb5.0
MTLF Montolieu 45.20 320 *e*P **P** **11 28 20.5 -0.4**
ERTA Horta de San J 45.26 316 P **P** **11 28 21.0 -0.3**
comp=Z,48nm,1.7s,mb5.0
ECH Echery 45.28 329 *e*P **P** **11 28 21.3 -0.1**
WLS Welschbruch 45.31 329 *e*P **P** **11 28 21.5 -0.1**
CDF Champ du Feu 45.35 329 *e*P **P** **11 28 21.0 -0.9**
comp=Z,48nm,1.4s,mb4.8
CDF Champ du Feu 45.35 329 *e*P **P** **11 28 21.0 -0.9**
CDF pmax pmax
comp=Z,24nm,1.4s,mb4.8
TOD Tromm 45.41 331 *e*P **P** **11 28 22.4 0.0**
EMOS Mosqueruela 45.54 315 P **P** **11 28 24.1 +0.5**
comp=Z,34nm,1.7s,mb5.0
EMOS Mosqueruela 45.54 315 P **P** **11 28 24.1 +0.5**
comp=Z,34nm,1.7s,mb5.0
ECHE Chera 45.55 314 P **P** **11 28 24.3 +0.6**
comp=Z,20nm,1.6s,mb4.8
ECHE Chera 45.55 314 P **P** **11 28 24.3 +0.6**
ECHE pmax pmax
comp=Z,20nm,1.6s,mb4.8
HAU Haudompre 45.56 328 *e*P **P** **11 28 22.7 -0.9**
comp=Z,128nm,1.6s,mb5.3
HAU *e*R
comp=Z,140nm,18.0s
HAU Haudompre 45.56 328 *e*P **P** **11 28 22.7 -0.9**
HAU pmax pmax
comp=Z,64nm,1.6s,mb5.3
HAU MLR MLR
comp=Z,140nm,18.0s,MS3.9
ETOB Tobarra 45.58 313 P **P** **11 28 23.9 0.0**
comp=Z,27nm,1.6s,mb4.9
ETOB Tobarra 45.58 313 P **P** **11 28 23.9 0.0**
comp=Z,27nm,1.6s,mb4.9
LBL Lubilhac 45.60 323 *e*P **P** **11 28 24.3 +0.3**
EALB Alboran 45.69 309 P **P** **11 28 25.2 +0.4**
comp=Z,128nm,1.6s,mb5.6
EALB Alboran 45.69 309 P **P** **11 28 25.2 +0.4**
comp=Z,128nm,1.6s,mb5.6
PLDF La Plantade 45.80 324 *e*P **P** **11 28 25.5 -0.1**
EGRA Graus 45.85 318 P **P** **11 28 24.7 -1.3**
comp=Z,23nm,1.4s,mb4.9
EGRA Graus 45.85 318 P **P** **11 28 24.7 -1.3**
comp=Z,23nm,1.4s,mb4.9
THEF They Montfort 45.88 328 *e*P **P** **11 28 25.8 -0.4**
EBER Berja 45.91 310 P **P** **11 28 27.0 +0.5**
comp=Z,43nm,1.8s,mb5.1
EBER Berja 45.91 310 P **P** **11 28 27.0 +0.5**
comp=Z,43nm,1.8s,mb5.1
MDT Midelt 45.99 304 P **P** **11 28 28.5 +1.3**
comp=Z,12nm,1.1s,mb4.8,baz=102,slow=9.5,SNR=13
TNS Taunus Mts 46.00 332 *e*P **P** **11 28 26.7 -0.4**
comp=Z,14nm,1.2s,mb4.8
TNS Taunus Mts 46.00 332 *e*P **P** **11 28 26.7 -0.4**
TNS pmax pmax
comp=Z,14nm,1.2s,mb4.8
EHUE Huescar 46.02 311 P **P** **11 28 27.2 -0.2**
comp=Z,4.2nm,1.1s,mb4.3
EHUE Huescar 46.02 311 P **P** **11 28 27.2 -0.2**
EHUE pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
PYM Petit Puy Mans 46.03 324 *e*P **P** **11 28 28.0 +0.6**
SMF Signal de Mont 46.07 325 *e*P **P** **11 28 26.3 -1.4**
comp=Z,22nm,1.2s,mb4.7
SMF Signal de Mont 46.07 325 *e*P **P** **11 28 26.3 -1.4**
SMF pmax pmax
comp=Z,11nm,1.2s,mb4.7
ARU Arti 46.13 14 *e*P **P** **11 28 27.7 -0.3**
comp=Z,141nm,1.8s,mb5.6
ARU Arti 46.13 14 *i*P **P** **11 28 27.9 -0.1**
comp=Z,60nm,2.2s,mb5.1
ARU Arti 46.13 14 ⇓ *i*P **P** **11 28 27.9 -0.1**
ARU *e* 11 30 17.9
ARU *e*S **S** **11 35 27.5 +16**
ARU pmax pmax
comp=Z,60nm,2.2s,mb5.1
ARU MLR MLR
comp=Z,600nm,17.0s,MS4.6
ARU MLR MLR
comp=N,400nm,18.0s,MS4.5
ARU MLR MLR
comp=E,300nm,19.0s,MS4.5
AGO Saint Agoulin 46.13 324 *e*P **P** **11 28 28.3 +0.1**
CAF Calviac 46.14 322 *e*P **P** **11 28 28.4 +0.2**
comp=E,76nm,1.7s,mb5.1
CAF Calviac 46.14 322 *e*P **P** **11 28 28.4 +0.2**
CAF pmax pmax
comp=Z,38nm,1.7s,mb5.0
ESAC San Caprasio 46.15 317 P **P** **11 28 27.0 -1.3**
comp=Z,50nm,1.5s,mb5.2
ESAC San Caprasio 46.15 317 P **P** **11 28 27.0 -1.3**
comp=Z,50nm,1.5s,mb5.2
EBIE Bielsa 46.20 319 P **P** **11 28 28.6 -0.1**
comp=Z,69nm,1.7s,mb5.3
EPF Esparros 46.23 319 *e*P **P** **11 28 28.9 -0.1**
comp=Z,21nm,1.2s,mb4.7
EPF Esparros 46.23 319 *e*P **P** **11 28 28.9 -0.1**
EPF pmax pmax
comp=Z,11nm,1.2s,mb4.7
EVIA Vianos 46.26 312 P **P** **11 28 29.7 +0.4**
comp=Z,11nm,1.2s,mb4.7
EVIA Vianos 46.26 312 P **P** **11 28 29.7 +0.4**
comp=Z,11nm,1.2s,mb4.7
EVIA Vianos 46.26 312 P **P** **11 28 29.7 +0.4**
EVIA pmax pmax
comp=Z,11nm,1.2s,mb4.7
CLZ Clausthal 46.31 334 *e*P **P** **11 28 28.5 -1.0**
comp=Z,32nm,1.9s,mb4.9
CLZ Clausthal 46.31 334 *e*P **P** **11 28 28.5 -1.0**
CLZ pmax pmax
comp=Z,32nm,1.9s,mb4.9
EQES Quesada 46.37 311 P **P** **11 28 29.1 -1.1**
comp=Z,66nm,2.0s,mb5.2
EQES Quesada 46.37 311 P **P** **11 28 29.0 -1.1**
comp=Z,66nm,2.0s,mb5.2
LOR Lormes 46.43 326 *e*P **P** **11 28 29.4 -1.1**
comp=Z,92nm,1.5s,mb5.2
LOR *e*R
comp=Z,172nm,22.8s
LOR Lormes 46.43 326 *e*P **P** **11 28 29.4 -1.1**
LOR pmax pmax
comp=Z,46nm,1.5s,mb5.2
LOR MLR MLR
comp=Z,170nm,22.8s,MS3.9
AVF Avril sur Loir 46.43 325 *e*P **P** **11 28 29.3 -1.2**
comp=Z,22nm,1.2s,mb4.7
AVF Avril sur Loir 46.43 325 *e*P **P** **11 28 29.3 -1.2**
AVF pmax pmax
comp=Z,11nm,1.2s,mb4.7
SSF Saint Saulge 46.50 325 *e*P **P** **11 28 29.9 -1.2**
comp=Z,5.7nm,1.0s,mb4.5
SSF Saint Saulge 46.50 325 *e*P **P** **11 28 29.9 -1.2**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MEZF Maizieres J'vi 46.54 328 *e*P **P** **11 28 31.0 -0.3**
comp=Z,249nm,1.6s,mb5.6
BGF Bois d'Agland 46.58 324 *e*P **P** **11 28 31.2 -0.5**
comp=Z,132nm,1.6s,mb5.3
BGF Bois d'Agland 46.58 324 *e*P **P** **11 28 31.2 -0.5**
BGF pmax pmax
comp=Z,66nm,1.6s,mb5.3
ERON Agron 46.64 310 P **P** **11 28 32.8 +0.5**
comp=Z,13nm,1.1s,mb4.8
RJF Les Rejaudoux 46.67 322 *e*P **P** **11 28 32.3 -0.1**
comp=Z,30nm,1.1s,mb4.8
RJF *e*R
comp=Z,230nm,18.0s
RJF Les Rejaudoux 46.67 322 *e*P **P** **11 28 32.3 -0.1**
RJF pmax pmax
comp=Z,15nm,1.1s,mb4.8
RJF MLR MLR
comp=Z,230nm,18.0s,MS4.2
REYF Montagne du Re 46.73 319 *e*P **P** **11 28 34.2 +1.3**
ETSF Etsaut 46.75 318 *e*P **P** **11 28 33.6 +0.5**
comp=Z,74nm,1.4s,mb5.1
ETSF Etsaut 46.75 318 *e*P **P** **11 28 33.6 +0.5**
ETSF pmax pmax
comp=Z,37nm,1.4s,mb5.1
TCF Toulx Ste Croi 46.80 324 *e*P **P** **11 28 33.5 +0.1**
ELOJ Sierra Loja 46.94 310 P **P** **11 28 34.8 +0.2**
comp=Z,32nm,1.3s,mb5.1
ELOJ Sierra Loja 46.94 310 P **P** **11 28 34.8 +0.1**
comp=Z,32nm,1.3s,mb5.1
ELOJ Sierra Loja 46.94 310 P **P** **11 28 34.8 +0.1**
ELOJ pmax pmax
comp=Z,32nm,1.3s,mb5.1
LFF La Frestale 46.94 322 *e*P **P** **11 28 34.7 +0.1**
comp=Z,124nm,1.6s,mb5.3
LFF La Frestale 46.94 322 *e*P **P** **11 28 34.7 +0.1**
LFF pmax pmax
comp=Z,62nm,1.6s,mb5.3
BRVK Borovoye 47.02 24 *e*P **P** **11 28 35.2 +0.1**
comp=Z,10nm,1.4s,mb4.6
BRVK Borovoye 47.02 24 *e*P **P** **11 28 35.2 +0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
VSU Vasula 47.19 350 *e*P **P** **11 28 36.5 +0.2**
EMIJ Mijas 47.22 309 P **P** **11 28 36.4 -0.5**
comp=Z,46nm,2.4s,mb5.0
EMIJ Mijas 47.22 309 P **P** **11 28 36.4 -0.5**
comp=Z,46nm,2.4s,mb5.0
SJPF Ste Jean 47.28 318 *e*P **P** **11 28 37.8 +0.5**
comp=Z,149nm,1.4s,mb5.4
SJPF Ste Jean 47.28 318 *e*P **P** **11 28 37.8 +0.5**
SJPF pmax pmax
comp=Z,74nm,1.4s,mb5.4
HGN Heimansgroeve 47.55 331 *e*P **P** **11 28 38.9 -0.5**
comp=Z,48nm,0.9s,mb5.5
GIVF Givet 47.67 329 *e*P **P** **11 28 39.2 -1.0**
ESDC Sonseca Array 47.71 313 P **P** **11 28 40.8 +0.1**
comp=Z,7.2nm,1.1s,mb4.6,baz=118,slow=5.7,SNR=14
ESDC Sonseca Array 47.71 313 P **P** **11 28 40.1 -0.6**
comp=Z,27nm,1.4s,mb5.1
ESDC Sonseca Array 47.71 313 P **P** **11 28 40.1 -0.6**
comp=Z,27nm,1.4s,mb5.1
ESLA Sonseca Array 47.71 313 *e*P **P** **11 28 41.1 +0.4**
comp=Z,31nm,1.7s,mb5.1
ESLA Sonseca Array 47.71 313 *e*P **P** **11 28 41.1 +0.4**
comp=Z,31nm,1.7s,mb5.1
BSEG Bad Segeberg 47.89 336 *e*P **P** **11 28 41.3 -0.6**
BAIF Baives 47.95 329 *e*P **P** **11 28 41.2 -1.2**
comp=Z,30nm,1.3s,mb4.9
BAIF Baives 47.95 329 *e*P **P** **11 28 41.2 -1.2**
BAIF pmax pmax
comp=Z,15nm,1.3s,mb4.9
WTSB Winterswijk 47.96 332 *e*P **P** **11 28 42.1 -0.4**
comp=Z,53nm,1.7s,mb5.3
ESPR Espera 48.14 309 P **P** **11 28 43.3 -0.9**
comp=Z,83nm,1.5s,mb5.5
ESPR Espera 48.14 309 P **P** **11 28 43.3 -0.8**
comp=Z,83nm,1.5s,mb5.5
ECAB El Cabril 48.20 310 P **P** **11 28 42.2 -2.4**
comp=Z,24nm,1.9s,mb4.9
ECAB El Cabril 48.20 310 P **P** **11 28 42.2 -2.4**
comp=Z,24nm,1.9s,mb4.9
MFF Saint Martin d 48.34 323 *e*P **P** **11 28 44.7 -0.8**
SOKR Solikamsk 48.66 11 *i*P **P** **11 28 48.9 +1.1**
comp=Z,630nm,18.0s
SOKR Solikamsk 48.66 11 *c i*P **P** **11 28 48.9 +1.1**
SOKR pmax pmax
comp=Z,70nm,1.9s,mb5.4
SOKR MLR MLR
comp=Z,630nm,18.0s,MS4.6
MKAR Makanchi Array 49.05 37 P **P** **11 28 50.2 -0.7**
comp=Z,3.0nm,0.9s,mb4.3,baz=233,slow=6.1,SNR=20
KURK Kurchatov 49.22 31 *e*P **P** **11 28 51.7 -0.5**
comp=Z,36nm,1.8s,mb5.1
KURK Kurchatov 49.22 31 *e*P **P** **11 28 51.7 -0.5**
comp=Z,36nm,1.8s,mb5.1
KURK Kurchatov 49.22 31 *e*P **P** **11 28 51.7 -0.5**
KURK pmax pmax
comp=Z,36nm,1.8s,mb5.1
LDF La Druitiere 49.38 325 *e*P **P** **11 28 52.0 -1.5**
comp=Z,26nm,1.1s,mb4.9
LDF La Druitiere 49.38 325 *e*P **P** **11 28 52.0 -1.5**
LDF pmax pmax
comp=Z,13nm,1.1s,mb4.9
EGRO El Granado 49.58 309 P **P** **11 28 54.3 -0.9**
comp=Z,72nm,1.9s,mb5.4
EGRO El Granado 49.58 309 P **P** **11 28 54.3 -0.9**
comp=Z,72nm,1.9s,mb5.4
EBAD Badajoz 49.61 311 P **P** **11 28 54.5 -0.9**
comp=Z,72nm,2.1s,mb5.3
EBAD Badajoz 49.61 311 P **P** **11 28 54.5 -0.9**
comp=Z,72nm,2.1s,mb5.3
FLN La Foliniere 49.68 325 *e*P **P** **11 28 54.3 -1.5**
comp=Z,135nm,1.4s,mb5.5
FLN *e*R
comp=Z,151nm,17.8s
FLN La Foliniere 49.68 325 *e*P **P** **11 28 54.3 -1.5**
FLN pmax pmax
comp=Z,67nm,1.4s,mb5.5
FLN MLR MLR
comp=Z,150nm,17.8s,MS4.0
GRR Gorron 49.69 325 *e*P **P** **11 28 54.3 -1.6**
comp=Z,111nm,1.5s,mb5.4
GRR Gorron 49.69 325 *e*P **P** **11 28 54.3 -1.6**
GRR pmax pmax
comp=Z,55nm,1.5s,mb5.4
LSA Lhasa 49.87 62 *e*P **P** **11 28 56.6 -1.0**
comp=Z,15nm,1.0s,mb5.0
LSA Lhasa 49.87 62 *e*P **P** **11 28 56.6 -0.9**
comp=Z,15nm,1.0s,mb5.0
LSA Lhasa 49.87 62 *e*P **P** **11 28 56.6 -0.9**
LSA pmax pmax
comp=Z,15nm,1.0s,mb5.0
FINES FINESS Array B 50.13 351 P **P** **11 28 58.1 -0.9**
comp=Z,4.6nm,0.9s,mb4.5,baz=225,slow=5.4,SNR=8.1
EVO Evora 50.28 310 *e*P **P** **11 29 00.6 +0.1**
comp=Z,170nm,1.7s,mb5.5
EVO *e*R
comp=Z,429nm,17.0s
PCBR Castelo Branco 50.30 312 *e*P **P** **11 29 01.6 +0.9**
MTE Manteigas 50.53 313 *e*LR LR 11 47 44.8
comp=Z,284nm,16.0s
SGMF Saint Gilles 50.59 324 *e*P **P** **11 29 01.1 -1.6**
KAF Kangasniemi 50.73 351 *e*p **P** **11 29 02.8 -0.8**
QUIF Quistinic 50.78 323 *e*P **P** **11 29 02.5 -1.6**
JOF Joensuu 50.92 355 *e*p **P** **11 29 03.9 -1.1**
ROSF Rostrenen 51.05 324 *e*P **P** **11 29 04.3 -1.9**
comp=Z,109nm,1.5s,mb5.3
ROSF Rostrenen 51.05 324 *e*P **P** **11 29 04.3 -1.9**
ROSF pmax pmax
comp=Z,55nm,1.5s,mb5.3
WMQ Urumqi 51.11 43 P **P** **11 29 07.0 +0.2**
WMQ XP sP 11 29 14.0 -2.6
WMQ PCP PcP 11 30 23.5 +1.0
WMQ PP PP 11 31 04.5 +0.2
WMQ PCS 11 34 17.5
WMQ S **S** **11 36 23.5 +1.7**
WMQ SS SS 11 39 55.0 0.0
WMQ AMB AMB
comp=Z,20nm,1.8s,mb4.8
WMQ AMB AMB
comp=Z,152nm,5.4s
WMQ LR LR
comp=N,974nm,17.4s,MS5.0
WMQ LR LR
comp=E,439nm,14.6s,MS5.0
WMQ LR LR
comp=Z,1μm,29.2s
KONO Kongsberg 52.51 341 *e*P **P** **11 29 15.7 -1.4**
NAO01 NORSAR Array S 53.05 342 *e*P **P** **11 29 20.1 -1.0**
comp=Z,99nm,1.6s,mb5.5
NAO01 NORSAR Array S 53.05 342 *e*P **P** **11 29 20.1 -1.0**
comp=Z,99nm,1.6s,mb5.5
NB2 NORSAR Subarra 53.11 343 P **P** **11 29 19.8 -1.8**
comp=Z,153nm,2.0s,mb5.6,baz=145,slow=7.4
NB2 NORSAR Subarra 53.11 343 P **P** **11 29 19.8 -1.8**
baz=145,slow=7.4
NB2 NORSAR Subarra 53.11 343 P **P** **11 29 19.8 -1.8**
NB2 pmax pmax
comp=Z,153nm,2.0s,mb5.6
NOA NORSAR Array B 53.11 343 P **P** **11 29 20.1 -1.4**
comp=Z,5.1nm,0.9s,mb4.5,baz=142,slow=7.3,SNR=8.9
NOA LR LR 11 55 27.4

comp=Z,81nm,18.8s,MS3.8,baz=145,slow=40
NOA NORSAR Array B 53.11 343 P **P** **11 29 20.1 -1.4**
NOA LR LR 11 55 27.4
NVS Novosibirsk 53.92 29 *i* P **P** **11 29 25.9 -1.6**
ZAL Zalesovo 54.17 31 P **P** **11 29 28.1 -1.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=227,slow=7.4,SNR=12
GTA Gaotai 58.58 51 *eP* **P** **11 30 01.3 +0.2**
GTA AP pP 11 30 06.8 -1.6
GTA XP sP 11 30 09.5 -1.5
GTA AMB AMB
comp=Z,18nm,2.1s,mb4.7
GTA AMB AMB
comp=Z,243nm,4.2s
GTA LR LR
comp=N,513nm,17.5s
GTA LR LR
comp=E,475nm,23.6s
GTA LR LR
comp=Z,833nm,25.1s
KMI Kunming 59.80 68 P **P** **11 30 10.0 +0.2**
KMI XP sP 11 30 16.8 -2.8
KMI S **S** **11 38 18.8 +0.8**
KMI AMB AMB
comp=Z,11nm,0.5s,mb5.1
KMI AMB AMB
comp=Z,332nm,4.0s
KMI LR LR
comp=Z,260nm,22.2s,MS4.3
KMI Kunming 59.80 68 P **P** **11 30 10.0 +0.2**
comp=Z,11nm,0.5s,mb5.1
KMI sP sP 11 30 16.8 -2.8
KMI S **S** **11 38 18.8 +0.8**
KMI SS SS 11 42 18.2 +2.8
KMI LR LR
comp=Z,260nm,22.2s,MS4.3
LZH Lanzhou 61.28 56 *eP* **P** **11 30 19.5 -0.3**
LZH AP pP 11 30 28.0 +1.0
LZH XP sP 11 30 32.0 +2.4
LZH AMB AMB
comp=Z,70nm,1.6s,mb5.5
LZH LR LR
comp=E,2μm,19.8s
LZH LR LR
comp=Z,1μm,20.0s,MS5.0
LZH Lanzhou 61.28 56 *eP* **P** **11 30 19.5 -0.3**
comp=Z,70nm,1.6s,mb5.5
LZH pP pP 11 30 28.0 +1.0
LZH sP sP 11 30 32.0 +2.4
LZH LR LR
comp=Z,1μm,20.0s,MS5.0
LZH Lanzhou 61.28 56 *eP* **P** **11 30 19.5 -0.3**
LZH *PP pP 11 30 28.0 +1.0
LZH pmax pmax
comp=Z,70nm,1.6s,mb5.5
LZH MLR MLR
comp=Z,1μm,20.0s,MS5.0
ZAK Zakamensk 63.26 40 *eP* **P** **11 30 31.9 -0.8**
ZAK pmax pmax
comp=Z,1.0nm,2.2s,mb3.6
SONM Songino Array 64.75 43 P **P** **11 30 42.6 +0.1**
comp=Z,2.6nm,1.0s,mb4.2,baz=253,slow=6.7,SNR=25
SONM LR LR 12 02 50.7
comp=Z,878nm,20.2s,MS5.0,baz=266,slow=40
HHC Hu-ho-hao-te 67.68 51 *eP* **P** **11 31 01.8 +0.4**
HHC AP pP 11 31 08.8 +0.2
HHC PCP PcP 11 31 28.0 -0.2
HHC PP PP 11 33 31.8 -0.7
HHC SCP 11 35 29.8
HHC PCS 11 35 31.8
HHC S S 11 39 58.3 +2.5
HHC SCS ScS 11 40 56.5 +1.8
HHC SS SS 11 44 20.0 +1.5
HHC AMB AMB
comp=Z,23nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,248nm,4.8s
HHC LR LR
comp=N,279nm,17.8s,MS4.8
HHC LR LR
comp=E,315nm,14.3s,MS4.8
HHC LR LR
comp=Z,368nm,22.6s
BOD Bodaibo 70.82 33 *eP* **P** **11 31 19.4 -0.9**
BOD pmax pmax
comp=Z,15nm,1.8s,mb4.6
NJ2 Nanjing 73.71 60 *eP* **P** **11 31 36.0 -2.0**
NJ2 AP pP 11 31 46.3 +1.0
NJ2 XP sP 11 31 50.5 +2.7
NJ2 PP PP 11 34 24.0 -0.3
NJ2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
NJ2 AMB AMB
comp=Z,420nm,5.6s
NJ2 LR LR
comp=Z,760nm,15.2s,MS5.1
CN2 Changchun 77.90 48 *eP* **P** **11 32 02.0 +0.5**
CN2 *eXP* sP 11 32 09.0 -2.3
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,300nm,19.0s,MS4.9
CN2 LR LR
comp=E,400nm,19.0s,MS4.9
CN2 LR LR
comp=Z,600nm,21.0s,MS4.9
MDJ Mudanjiang 80.76 46 P **P** **11 32 16.8 -0.1**
MDJ AMB AMB
comp=Z,8.0nm,1.8s,mb4.3
MDJ AMB AMB
comp=Z,179nm,5.8s
MDJ LR LR
comp=N,41nm,29.7s
MDJ LR LR
comp=E,73nm,23.8s
MDJ LR LR
comp=Z,56nm,17.1s
MAW Mawson 81.37 172 P **P** **11 32 22.4 +2.7**
comp=Z,1.9nm,1.0s,mb4.0,baz=359,slow=6.0,SNR=3.9
MAW LR LR 12 04 24.0
comp=Z,172nm,21.0s,MS4.4,baz=153,slow=33
MAW Mawson 81.37 172 *eP* **P** **11 32 21.4 +1.8**
comp=Z,19nm,1.8s,mb4.7
MAW Mawson 81.37 172 *eP* **P** **11 32 21.4 +1.8**
comp=Z,19nm,1.8s,mb4.7
MAW Mawson 81.37 172 *eP* **P** **11 32 21.4 +1.8**
MAW pmax pmax
comp=Z,19nm,1.8s
KLR Kul'dur 81.54 42 *eP* **P** **11 32 17.2 -3.7**
NWAO Narrogin (SRO) 85.74 125 LR LR 12 03 28.5
comp=Z,312nm,19.6s,MS4.7,baz=44,slow=30
FRB Frobisher Bay 87.24 335 LR LR 12 13 58.1
comp=Z,108nm,18.6s,MS4.3,baz=265,slow=37
MJAR Matsushiro Arr 88.78 53 LR LR 12 18 31.9
comp=Z,216nm,18.9s,MS4.6,baz=285,slow=40
VNA2 Neumayer--Watz 89.17 194 *e* **P** **11 33 04.4 +6.0**
VNA2 Neumayer--Watz 89.17 194 *e* **P** **11 33 10.1 +12**
VNA2 Neumayer--Watz 89.17 194↑*iP* **P** **11 33 00.7 +2.3**
VNA2 *e* 11 33 04.4
VNA2 *e* pP 11 33 10.1 +4.3
VNA1 Neumayer--Stat 89.20 195 *e* **P** **11 33 05.0 +6.5**
VNA1 Neumayer--Stat 89.20 195↓*iP* **P** **11 33 01.9 +3.4**
VNA1 *e* 11 33 05.0
FITZ Fitzroy Crossi 89.20 109 *eP* **P** **11 33 00.7 +1.0**
comp=Z,20nm,1.5s,mb5.2
YSS Yuzh-Sakhalins 89.23 42 *eP* **P** **11 32 51.0 -8.2**
YSS pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
VNA3 Neumayer Olymp 89.94 194 *e* **P** **11 33 07.8 +5.8**
VNA3 Neumayer Olymp 89.94 194 *e* **P** **11 33 13.2 +11**
VNA3 Neumayer Olymp 89.94 194↑*iP* **P** **11 33 03.6 +1.6**
VNA3 *e* 11 33 07.8
VNA3 *e* 11 33 13.2
ASAJ Asahikawa 89.96 45 LR LR 12 17 01.2
comp=Z,266nm,19.0s,MS4.7,baz=149,slow=38
BDFB Brasilia 91.92 255 LR LR 12 12 26.6
comp=Z,343nm,18.7s,MS4.8,baz=109,slow=34
KAKA Kakadu 94.46 102 *eP* **P** **11 33 20.7 -3.4**
comp=Z,5.2nm,0.5s,mb5.2
MNTX Cornudas Mount 125.37 324 *e*PKPdf PKPdf 11 39 04.7 -3.3
TXAR Lajitas Array 126.06 321 PKP PKPdf 11 39 08.0 -1.4
comp=Z,1.1nm,1.0s,baz=135,slow=3.5,SNR=7.1

*NEIC **25** 11:28:14.4±2.7, 4.47S×153.57E, h142km±20km, mb4.3/3, Error ellipse: s-maj=30.8km s-min=15.0km az=110.0*
*IDC **25** 11:28:14.4±5.5, 4.46S×153.57E, h142km±44km, mb3.9/7, mb1 4.1/8, mb1mx3.9/13, mbtmp4.3/8, Error ellipse: s-maj=48.1km s-min=25.0km az=105.0*
ISC 25 11:28:14.1±4.2, 4.5S±0.2×153.6E±0.3, h152km±33km, n13, σ0§49/15, mb4.0/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.01**	**232**	P		**P**	**11 30 08.8**	**+0.3**
	6.4nm,0.3s,baz=41,slow=7.3,SNR=21							
PMG				S		**S**	**11 31 37.7**	**-0.1**
	2.3nm,0.3s,baz=49,slow=8.7,SNR=5.3							
PMG	**Port Moresby**	**8.01**	**232**	*eP*		**P**	**11 30 08.3**	**-0.2**
PMG				S		**S**	**11 31 37.7**	**-0.1**
WRAB	**Tennant Creek**	**24.20**	**229**	*eP*		**P**	**11 33 18.6**	**+0.7**
	13nm,0.7s,mb4.6							
WB2	**Warramunga Arr**	**24.20**	**229**	*eP*		**P**	**11 33 18.2**	**+0.2**
WRA	**Warramunga Arr**	**24.21**	**229**	P		**P**	**11 33 18.7**	**+0.7**
	8.9nm,0.7s,mb4.4,baz=54,slow=10.0,SNR=97							
STKA	**Stephens Creek**	**29.46**	**201**	P		**P**	**11 34 05.3**	**-0.6**
	1.6nm,0.7s,mb3.9,baz=22,slow=14,SNR=3.7							
FITZ	**Fitzroy Crossi**	**30.46**	**241**	P		**P**	**11 34 14.2**	**-0.7**
	7.0nm,0.6s,mb4.6,baz=67,slow=4.2,SNR=13							
MBWA	**Marble Bar**	**36.77**	**240**	*eP*		**P**	**11 35 08.2**	**-0.6**
	4.4nm,0.8s,mb4.1							
MKAR	**Makanchi Array**	**80.59**	**319**	P		**P**	**11 40 10.8**	**-0.3**
	0.3nm,0.5s,mb3.2,baz=95,slow=7.9,SNR=4.4							
ZAL	**Zalesovo**	**81.32**	**326**	P		**P**	**11 40 15.3**	**+0.5**
	3.0nm,0.3s,mb4.5,baz=196,slow=2.4,SNR=3.5							
ILAR	**Eielson Array**	**81.59**	**22**	P		**P**	**11 40 15.8**	**-0.2**
	0.4nm,0.8s,mb3.1,baz=240,slow=6.1,SNR=4.3							
MAW	**Mawson**	**86.14**	**203**	*eP*		**P**	**11 40 39.0**	**+0.3**
	1.9nm,0.6s,mb4.0							
MAW	**Mawson**	**86.14**	**203**	P		**P**	**11 40 39.2**	**+0.5**
	2.2nm,0.6s,mb4.1,baz=105,slow=9.9,SNR=13							

*MOS **25** 11:35:02.8±0.9, 13.72N×120.85E, h184km, mb4.6/13, Error ellipse: s-maj=15.7km s-min=7.5km az=116.8*
*MAN **25** 11:35:05.5, 13.73N×120.67E, h177km, mb5.3, ML4.3, MS4.5*
*BJI **25** 11:35:06.4, 13.57N×121.02E, h231km, mB4.8, mb4.9*
*NEIC **25** 11:35:06.4±0.2, 13.70N×120.81E, mb4.5/20, Error ellipse: s-maj=6.9km s-min=4.3km az=78.0*
*IDC **25** 11:35:07.0±0.7, 13.67N×120.89E, h208km±6km, mb4.0/25, mb1 4.1/26, mb1mx4.1/28, mbtmp4.6/26, Error ellipse: s-maj=12.9km s-min=6.7km az=66.0*
ISC 25 11:35:04.7±0.2, 13.71N±0.02×120.80E±0.04, h198km±2km, h204km±2.4km: pP-P, n174, σ1§05/161, mb4.4/54, 11C-7D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.26**	**144**	↑*iP*		**P**	**11 35 29.8**	**-1.4**
PGP				*i* S		**S**	**11 35 49.1**	**-2.5**
TGY	**Tagaytay City**	**0.41**	**19**	↑*iP*		**P**	**11 35 31.4**	**-0.2**
TGY				*i* S		**S**	**11 35 38.7**	**-14**
LUBP	**Lubang**	**0.54**	**272**	*eP*		**P**	**11 35 30.6**	**-1.4**
BOAC	**Boac**	**1.05**	**104**	*eP*		**P**	**11 35 34.8**	**+0.1**
BOAC				*eS*		**S**	**11 35 57.4**	**-0.7**
SJMP	**San Jose**	**1.28**	**166**	*eP*		**P**	**11 35 36.1**	**-0.6**
SJMP				*eS*		**S**	**11 35 58.2**	**-3.2**
POLP	**Polilio Island**	**1.50**	**48**	*eP*		**P**	**11 35 39.5**	**+0.9**
GQP	**Guinayangan**	**1.61**	**83**	↑*iP*		**P**	**11 35 40.2**	**+0.6**
BUSP	**Coron**	**1.80**	**199**	*eP*		**P**	**11 35 40.9**	**-0.5**
OTRP	**Odiongan**	**1.80**	**138**	*eP*		**P**	**11 35 41.1**	**-0.3**
AUQP	**San Andres**	**1.87**	**102**	*eP*		**P**	**11 35 44.6**	**+2.5**
BALP	**Baler**	**2.15**	**20**	*eP*		**P**	**11 35 45.6**	**+0.5**
BALP				*eS*		**S**	**11 36 16.2**	**0.0**
SCZP	**Santa Cruz**	**2.22**	**337**	*eP*		**P**	**11 35 45.0**	**-0.8**
KALP	**Kalibo**	**2.52**	**143**	↑*eP*		**P**	**11 35 50.2**	**+1.1**
BCPH	**Baguio City Da**	**2.66**	**356**	↑*iP*		**P**	**11 35 50.4**	**-0.3**
BCPH				*i* S		**S**	**11 36 25.1**	**-1.3**
BOLP	**Bolinao**	**2.79**	**342**	*eP*		**P**	**11 35 51.6**	**-0.6**
ENPP	**El Nido**	**2.83**	**208**	*eP*		**P**	**11 35 52.9**	**+0.2**
CUYO	**Cuyo Island**	**2.85**	**176**	*eP*		**P**	**11 35 53.1**	**+0.1**
RCP	**Roxas**	**2.86**	**138**	↓*eP*		**P**	**11 35 54.0**	**+0.9**
PVCP	**Virac**	**3.27**	**92**	*eP*		**P**	**11 36 00.3**	**+2.4**
CAUP	**Cauayan**	**3.36**	**17**	*eP*		**P**	**11 36 00.1**	**+1.0**
ABRA	**Dolores**	**3.92**	**359**	*eP*		**P**	**11 36 05.3**	**-0.6**
CNP	**Catarman**	**3.95**	**107**	*eP*		**P**	**11 36 08.6**	**+2.2**
LLP	**Lapu-Lapu**	**4.58**	**137**	*eP*		**P**	**11 36 15.2**	**+0.9**
SNPH	**Sibulan**	**4.96**	**151**	↓*iP*		**P**	**11 36 21.0**	**+1.8**
TBP	**Tagbilaran**	**5.00**	**143**	*eP*		**P**	**11 36 20.7**	**+1.1**
DCPH	**Dipolog City**	**5.68**	**154**	↓*eP*		**P**	**11 36 28.7**	**+0.2**
BATP	**Bataraza**	**5.70**	**211**	*eP*		**P**	**11 36 29.4**	**+0.7**
SCPH	**Surigao**	**6.03**	**130**	*eP*		**P**	**11 36 34.6**	**+1.6**
BBP	**Basco**	**6.78**	**9**	*eP*		**P**	**11 36 42.9**	**0.0**
CTBH	**Cotabato--PC H**	**7.29**	**152**	↓*eP*		**P**	**11 36 50.0**	**+0.6**
KKM	**Kota Kinabalu**	**8.86**	**211**	P		**P**	**11 37 10.5**	**+0.6**
KKM	**Kota Kinabalu**	**8.86**	**211**	*eP*		**P**	**11 37 11.1**	**+1.2**
TSM	**Tawau**	**9.79**	**197**	P		**P**	**11 37 24.6**	**+2.4**
NACB	**Ninganchiao**	**10.43**	**4**	*eP*		**P**	**11 37 29.6**	**-0.8**
YHNB	**Yeheng**	**10.91**	**3**	*eP*		**P**	**11 37 36.8**	**+0.2**
QIZ	**Qiongzhong**	**11.76**	**298**	*eP*		**P**	**11 37 45.1**	**-2.4**
JOW	**Kunigami**	**14.81**	**27**	P		**P**	**11 38 24.4**	**-1.3**
	1.8nm,0.3s,baz=224,slow=10,SNR=5.4							
KSM	**Kuching**	**15.99**	**221**	*eP*		**P**	**11 38 41.4**	**+1.1**
GYA	**Guiyang**	**18.33**	**316**	↑*iP*		**P**	**11 39 07.5**	**+0.9**
GYA					AMB	AMB		
	comp=Z,50nm,1.4s							
NJ2	**Nanjing**	**18.34**	**355**	*eP*		**P**	**11 39 08.0**	**+1.4**
NJ2					AMB	AMB		
	comp=Z,60nm,0.8s							
ENH	**Enshi**	**19.51**	**329**	*eP*		**P**	**11 39 16.4**	**-2.2**
	comp=Z,34nm,0.8s							
NANT	**Nan**	**19.94**	**287**	↓*P*		**P**	**11 39 25.0**	**+1.9**
	comp=Z,188nm,0.5s							
NST	**Nakhon Sawan**	**20.08**	**278**	P		**P**	**11 39 25.0**	**+0.4**
KMI	**Kunming**	**20.44**	**306**	P		**P**	**11 39 32.0**	**+3.9**
KMI					AMB	AMB		
	comp=Z,23nm,1.2s							
KMI					LR	LR		
	comp=Z,260nm,21.3s							
KMI	**Kunming**	**20.44**	**306**	P		**P**	**11 39 32.1**	**+4.0**
	comp=Z,23nm,1.2s							
KMI					LR	LR		
	comp=Z,260nm,21.3s							
KGM	**Kluang**	**20.83**	**238**	P		**P**	**11 39 31.9**	**-0.1**
JNU	**Nakatsue**	**21.39**	**24**	P		**P**	**11 39 38.4**	**+1.0**
	comp=Z,15nm,0.8s,mb4.6,baz=241,slow=26,SNR=6.4							
IPM	**Ipoh**	**21.51**	**247**	P		**P**	**11 39 39.6**	**+1.0**
KULM	**Kulim**	**21.55**	**249**	*eP*		**P**	**11 39 39.2**	**+0.2**
TIA	**Tai'an**	**22.64**	**352**	*eP*		**P**	**11 39 50.5**	**+0.9**
XAN	**Xi'an**	**22.93**	**334**	P		**P**	**11 39 52.8**	**+0.4**
XAN					AMB	AMB		
	comp=Z,38nm,0.7s,mb5.0							
CD2	**Chengdu**	**23.21**	**320**	P		**P**	**11 39 56.0**	**+0.9**
CD2					AMB	AMB		
	comp=Z,60nm,1.0s,mb5.1							
GUMO	**Guam**	**23.39**	**87**	P		**P**	**11 39 56.7**	**-0.3**
	comp=Z,80nm,1.0s,mb5.2,baz=205,slow=9.6,SNR=4.9							
GUMO	**Guam**	**23.39**	**87**	*eP*		**P**	**11 39 58.4**	**+1.5**
	comp=Z,122nm,1.2s,mb5.3							
GUMO	**Guam**	**23.39**	**87**	P		**P**	**11 39 56.7**	**-0.3**
GUMO					pmax	pmax		
	comp=Z,80nm,1.0s,mb5.2							
CBIJ	**Chichi jima**	**24.01**	**53**	P		**P**	**11 40 02.0**	**-0.7**
	comp=Z,61nm,0.4s,mb5.6,baz=316,slow=20,SNR=4.6							
KS15	**Wonju Array Si**	**24.46**	**14**	*eP*		**P**	**11 40 08.4**	**+1.6**
LZH	**Lanzhou**	**26.98**	**329**	*eP*		**P**	**11 40 30.5**	**+0.4**
LZH					AMB	AMB		
	comp=Z,88nm,1.0s,mb5.3							
LZH	**Lanzhou**	**26.98**	**329**	*eP*		**P**	**11 40 30.6**	**+0.5**
	comp=Z,88nm,1.0s,mb5.3							
LZH					pP	pP	11 41 11.0	+1.3
LZH					sP	sP	11 41 29.0	-4.2
LZH	**Lanzhou**	**26.98**	**329**	*eP*		**P**	**11 40 30.6**	**+0.5**
LZH					*PP	pP	11 41 11.0	+1.3
LZH					*SP	sP	11 41 29.0	-4.2
LZH					pmax	pmax		
	comp=Z,88nm,1.0s,mb5.3							
MJAR	**Matsushiro Arr**	**27.57**	**31**	P		**P**	**11 40 33.4**	**-1.9**
	comp=Z,1.0nm,0.6s,mb3.6,baz=176,slow=9.5,SNR=2.9							
MJAR					PcP	PcP	11 43 47.5	-0.5
	comp=Z,1.4nm,0.7s,baz=205,slow=3.1,SNR=4.3							
CN2	**Changchun**	**30.25**	**7**	*eP*		**P**	**11 41 00.0**	**+0.9**
GTA	**Gaotai**	**31.58**	**328**	P		**P**	**11 41 11.8**	**+1.1**
GTA					PP	PP	11 42 25.5	+2.8
GTA					PCP	PcP	11 43 59.0	+0.7
GTA					S	**S**	**11 46 08.8**	**+5.2**
GTA					SS	SS	11 48 14.5	+4.9
GTA					AMB	AMB		
	comp=Z,19nm,0.6s,mb4.8							
GTA					AMB	AMB		
	comp=Z,125nm,4.2s							
GTA					LR	LR		
	comp=N,342nm,19.4s							
GTA					LR	LR		
	comp=E,326nm,20.5s							
GTA					LR	LR		
	comp=Z,833nm,26.6s							
LSA	**Lhasa**	**31.68**	**305**	P		**P**	**11 41 11.0**	**-0.7**
	comp=Z,5.0nm,0.5s,mb4.3							
LSA	**Lhasa**	**31.68**	**305**	P		**P**	**11 41 11.0**	**-0.7**
LSA					pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3							
MDJ	**Mudanjiang**	**31.70**	**12**	P		**P**	**11 41 11.5**	**-0.2**
MDJ					AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.2							
MDJ					AMB	AMB		
	comp=Z,157nm,6.5s							
FITZ	**Fitzroy Crossi**	**31.97**	**171**	*eP*		**P**	**11 41 12.1**	**-2.2**
	comp=Z,3.4nm,0.4s,mb4.2							
FITZ	**Fitzroy Crossi**	**31.97**	**171**	P		**P**	**11 41 12.3**	**-2.1**
	comp=Z,3.8nm,0.3s,mb4.3,baz=355,slow=6.5,SNR=9.0							
MBWA	**Marble Bar**	**34.67**	**182**	*eP*		**P**	**11 41 35.5**	**-1.8**
PMG	**Port Moresby**	**34.81**	**130**	P		**P**	**11 41 37.4**	**-1.2**
	comp=Z,8.2nm,0.4s,mb4.6,baz=353,slow=8.1,SNR=11							
PMG	**Port Moresby**	**34.81**	**130**	*eP*		**P**	**11 41 38.0**	**-0.7**
PKI	**Pulchoki**	**35.73**	**298**	*eP*		**P**	**11 41 46.4**	**+0.2**
	comp=Z,19nm,0.4s,mb4.9							
KKN	**Kakani**	**35.90**	**299**	*eP*		**P**	**11 41 47.8**	**+0.1**
	comp=Z,15nm,0.6s,mb4.7							
WRAB	**Tennant Creek**	**35.99**	**158**	*eP*		**P**	**11 41 46.7**	**-1.8**
	comp=Z,12nm,0.6s,mb4.6							
WRAB	**Tennant Creek**	**35.99**	**158**	*eP*		**P**	**11 41 46.7**	**-1.8**
WRAB					pmax	pmax		
	comp=Z,12nm,0.6s,mb4.6							
WRA	**Warramunga Arr**	**36.00**	**158**	P		**P**	**11 41 46.8**	**-1.8**
	comp=Z,5.8nm,0.5s,mb4.4,baz=337,slow=9.4,SNR=52							
WRA					pP	pP	11 42 31.4	+1.0
	comp=Z,5.3nm,0.6s,baz=336,slow=9.5,SNR=2.8							
WRA					S	**S**	**11 47 06.3**	**-5.6**
	comp=Z,6.5nm,1.1s,baz=336,slow=15,SNR=10.0							
WRA	**Warramunga Arr**	**36.00**	**158**	P		**P**	**11 41 46.8**	**-1.8**
WRA					S	**S**	**11 47 06.3**	**-5.7**
WB2	**Warramunga Arr**	**36.00**	**158**	↑*iP*		**P**	**11 41 46.9**	**-1.7**
WB2					*eS	**S**	**11 47 06.3**	**-5.7**
SONM	**Songino Array**	**36.07**	**343**	P		**P**	**11 41 49.3**	**+0.4**
	comp=Z,5.5nm,0.7s,mb4.2,baz=164,slow=9.9,SNR=50							
SONM					pP	pP	11 42 33.4	+2.6
	comp=Z,3.6nm,0.8s,baz=156,slow=9.3,SNR=3.5							
SONM					PcP	PcP	11 44 10.3	-0.6
	comp=Z,1.4nm,0.5s,baz=157,slow=3.3,SNR=5.0							
SONM					ScP		11 47 38.2	
	comp=Z,1.0nm,0.8s,baz=168,slow=4.2,SNR=4.4							
SONM	**Songino Array**	**36.07**	**343**	P		**P**	**11 41 49.3**	**+0.4**
SONM							11 44 10.3	
GKN	**Gorkha**	**36.50**	**299**	*eP*		**P**	**11 41 52.6**	**-0.1**
	comp=Z,8.8nm,0.4s,mb4.7							
KLR	**Kul'dur**	**36.55**	**12**	*eP*		**P**	**11 41 50.7**	**-2.2**
KOLN	**Koldanda**	**37.33**	**298**	*eP*		**P**	**11 42 00.0**	**+0.3**
	comp=Z,8.0nm,0.3s,mb4.7							
ZAK	**Zakamensk**	**39.26**	**342**	*eP*		**P**	**11 42 15.4**	**0.0**
ZAK				*e*		pP	11 42 58.1	+0.3
ZAK				*e*			11 43 54.9	
ZAK				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.4							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb3.6							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s,mb3.5							
ASPA	**Alice Springs**	**39.30**	**161**	↓*iP*		**P**	**11 42 15.2**	**-0.8**
ASPA				*eS		**S**	**11 47 57.1**	**-4.6**
WMQ	**Urumqi**	**41.25**	**323**	*eP*		**P**	**11 42 32.5**	**+0.7**
WMQ					AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.3							
WMQ					AMB	AMB		
	comp=Z,154nm,5.8s							
CTA	**Charters Tower**	**41.90**	**143**	*eP*		**P**	**11 42 37.9**	**+0.5**
	comp=Z,13nm,0.9s,mb4.4							
CTA	**Charters Tower**	**41.90**	**143**	P		**P**	**11 42 37.9**	**+0.5**
	comp=Z,17nm,0.8s,mb4.5,baz=325,slow=10,SNR=14							
CTA	**Charters Tower**	**41.90**	**143**	*eP*		**P**	**11 42 37.9**	**+0.5**
CTA				pmax		pmax		
	comp=Z,13nm,0.9s							
CTAO	**Charters Tower**	**41.90**	**143**	*eP*		**P**	**11 42 37.8**	**+0.4**
BOD	**Bodaibo**	**44.32**	**355**	*eP*		**P**	**11 42 55.6**	**-0.8**
BOD				pmax		pmax		
	comp=Z,3.0nm,1.3s,mb3.5							
FORT	**Forrest**	**44.78**	**171**	*eP*		**P**	**11 42 59.3**	**-1.1**
	comp=Z,81nm,0.6s,mb5.2							
KLBR	**Kellerberrin**	**45.14**	**184**	*eP*		**P**	**11 43 01.5**	**-1.8**
	comp=Z,8.6nm,0.4s,mb4.4							
MKAR	**Makanchi Array**	**46.08**	**324**	P		**P**	**11 43 11.3**	**+0.9**
	comp=Z,2.1nm,0.6s,mb3.6,baz=125,slow=8.5,SNR=17							
MKAR					pP	pP	11 43 55.2	+1.4
	comp=Z,1.8nm,0.8s,baz=124,slow=8.7,SNR=2.3							
MKAR					PcP	PcP	11 44 43.2	-0.5
	comp=Z,2.8nm,0.8s,baz=122,slow=3.7,SNR=4.1							
MKAR					ScP		11 48 16.5	
	comp=Z,0.9nm,0.8s,baz=135,slow=4.1,SNR=3.9							
MKAR	**Makanchi Array**	**46.08**	**324**	P		**P**	**11 43 11.3**	**+0.9**
MKAR					pP	pP	11 43 55.2	+1.4
MKAR					PcP	PcP	11 44 43.2	-0.5
MKAR					ScP		11 48 16.5	
NWAO	**Narrogin (SRO)**	**46.50**	**184**	P		**P**	**11 43 12.8**	**-1.1**
	comp=Z,14nm,0.8s,mb4.3,baz=9.1,slow=7.8,SNR=13							
YAK	**Yakutsk**	**48.67**	**6**	*eP*		**P**	**11 43 30.0**	**-0.3**
ZAL	**Zalesovo**	**49.09**	**333**	P		**P**	**11 43 33.6**	**0.0**
	comp=Z,3.1nm,0.4s,mb4.0,baz=360,slow=5.8,SNR=7.3							
AAK	**Ala-Archa**	**49.12**	**315**	*eP*		**P**	**11 43 35.2**	**+1.2**
STKA	**Stephens Creek**	**49.52**	**157**	*eP*		**P**	**11 43 36.3**	**-0.9**
	comp=Z,5.4nm,1.0s,mb3.8							
STKA	**Stephens Creek**	**49.52**	**157**	P		**P**	**11 43 35.9**	**-1.3**
	comp=Z,5.1nm,0.6s,mb4.0,baz=324,slow=8.1,SNR=7.2							
KURK	**Kurchatov**	**50.23**	**326**	*eP*		**P**	**11 43 42.2**	**-0.1**
	comp=Z,17nm,0.6s,mb4.6							
KURK	**Kurchatov**	**50.23**	**326**	*eP*		**P**	**11 43 42.2**	**-0.1**
KURK				pmax		pmax		
	comp=Z,17nm,0.6s,mb4.5							
NVS	**Novosibirsk**	**50.37**	**333**	*eP*		**P**	**11 43 42.9**	**-0.4**
CNB	**Canberra Magne**	**55.77**	**152**	*eP*		**P**	**11 44 23.0**	**-0.2**
	comp=Z,5.1nm,0.5s,mb4.3							
BVAR	**Borovoye Array**	**55.82**	**326**	P		**P**	**11 44 23.3**	**0.0**
	comp=Z,0.7nm,0.3s,mb3.6,baz=120,slow=12,SNR=8.6							
BVAR					pP	pP	11 45 08.5	+0.2
	comp=Z,1.5nm,0.6s,baz=90,slow=8.9,SNR=2.2							
BRVK	**Borovoye**	**55.89**	**326**	*eP*		**P**	**11 44 23.6**	**-0.2**
	comp=Z,3.5nm,0.8s,mb3.9							
BRVK	**Borovoye**	**55.89**	**326**	*eP*		**P**	**11 44 23.6**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.0							
DZM	**Mont Dz

ILAR	**Eielson Array**	**78.70**	**26**	P		**P**	**11 46 45.2**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.6,baz=268,slow=4.0,SNR=12							
ARCES	**ARCESS Array B**	**79.11**	**339**	P		**P**	**11 46 48.3**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.1,baz=79,slow=6.4,SNR=31							
JMQS	**Jabal Moqyreh**	**79.12**	**297**	P		**P**	**11 46 50.7**	**+1.7**
BRTR	**Keskin Array B**	**79.22**	**308**	P		**P**	**11 46 49.3**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.5,baz=207,slow=2.8,SNR=3.9							
JMQS	**Jabal al Moall**	**79.74**	**298**	P		**P**	**11 46 53.8**	**+1.5**
BDAS	**Al Bad'**	**79.87**	**297**	P		**P**	**11 46 54.3**	**+1.2**
HAQS	**Haql**	**79.91**	**298**	P		**P**	**11 46 54.6**	**+1.3**
KAF	**Kangasniemi**	**80.09**	**332**	*ep*		**P**	**11 46 53.0**	**-0.5**
	comp=Z,3.2nm,0.6s,mb4.1,baz=77,slow=4.8							
KAF	**Kangasniemi**	**80.09**	**332**	*eP*		**P**	**11 46 53.0**	**-0.5**
KAF				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.1							
CASY	**Casey**	**80.13**	**184**	⇑*iP*		**P**	**11 46 52.3**	**-1.3**
FINES	**FINESS Array B**	**80.32**	**331**	P		**P**	**11 46 55.0**	**+0.2**
	comp=Z,1.7nm,0.5s,mb4.0,baz=65,slow=5.7,SNR=28							
AKASG	**Malin Array Be**	**80.51**	**320**	P		**P**	**11 46 55.5**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.6,baz=66,slow=5.2,SNR=4.2							
INK	**Inuvik**	**83.05**	**21**	*eP*		**P**	**11 47 09.2**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.4							
INK	**Inuvik**	**83.05**	**21**	*eP*		**P**	**11 47 09.2**	**+0.4**
INK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KMBO	**Kilima Mbogo**	**83.99**	**267**	P		**P**	**11 47 16.3**	**+1.6**
	comp=Z,8.5nm,0.9s,mb4.5,baz=58,slow=9.5,SNR=22							
OJC	**Ojcow**	**86.48**	**321**	*eP*		**P**	**11 47 26.5**	**+0.4**
NB2	**NORSAR Subarra**	**87.29**	**333**	P		**P**	**11 47 29.0**	**-0.7**
	comp=Z,3.0nm,0.6s,mb4.2,baz=67,slow=4.6							
NOA	**NORSAR Array B**	**87.29**	**333**	P		**P**	**11 47 29.4**	**-0.4**
	comp=Z,3.8nm,0.7s,mb4.2,baz=68,slow=4.6,SNR=16							
BRG	**Berggiesshubel**	**89.79**	**323**	P		**P**	**11 47 42.5**	**+0.8**
	comp=Z,5.3nm,0.9s,mb4.4							
BRG	**Berggiesshubel**	**89.79**	**323**	P		**P**	**11 47 42.5**	**+0.8**
BRG				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3							
GERES	**GERESS Array B**	**90.68**	**321**	P		**P**	**11 47 46.6**	**+0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=45,slow=3.8,SNR=11							
MAW	**Mawson**	**91.14**	**199**	*eP*		**P**	**11 47 47.3**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.2							
MAW	**Mawson**	**91.14**	**199**	P		**P**	**11 47 47.4**	**-0.2**
	comp=Z,3.9nm,1.0s,mb4.3,baz=30,slow=6.0,SNR=8.4							
MAW	**Mawson**	**91.14**	**199**	*eP*		**P**	**11 47 47.3**	**-0.3**
MAW				pmax	pmax			
	comp=Z,2.0nm,0.8s							
VNDA	**Vanda**	**94.04**	**172**	*eP*		**P**	**11 48 00.1**	**-0.7**
	comp=Z,4.7nm,1.1s,mb4.4							
VNDA	**Vanda**	**94.04**	**172**	*eP*		**P**	**11 48 00.1**	**-0.6**
VNDA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
VNA2	**Neumayer--Watz**	**114.83**	**197**	*e*		PKPdf	11 53 24.1	+3.0
VNA2	**Neumayer--Watz**	**114.83**	**197**	*e*		PKPdf	11 53 26.7	+5.6
VNA2	**Neumayer--Watz**	**114.83**	**197**	⇑*iP*		PKPdf	11 53 22.3	+1.2
VNA2				*e*			11 53 24.1	
VNA2				*e*			11 53 26.7	
VNA1	**Neumayer--Stat**	**115.23**	**197**	*e*		PKPdf	11 53 24.9	+3.0
VNA1	**Neumayer--Stat**	**115.23**	**197**	*e*		PKPdf	11 53 27.1	+5.2
VNA1	**Neumayer--Stat**	**115.23**	**197**	⇑*iP*		PKPdf	11 53 23.2	+1.3
VNA1				*e*			11 53 24.9	
VNA1				*e*			11 53 27.1	
VNA3	**Neumayer Olymp**	**115.27**	**196**	*e*		PKPdf	11 53 24.5	+2.5
VNA3	**Neumayer Olymp**	**115.27**	**196**	*e*		PKPdf	11 53 26.9	+4.9
VNA3	**Neumayer Olymp**	**115.27**	**196**	⇑*iP*		PKPdf	11 53 22.7	+0.7
VNA3				*e*			11 53 24.5	
VNA3				*e*			11 53 26.9	
TXAR	**Lajitas Array**	**119.40**	**45**	PKP		PKPdf	11 53 33.1	+2.2
	comp=Z,2.5nm,0.8s,baz=247,slow=1.0,SNR=27							
DBIC	**Dimbokro**	**122.38**	**287**	PKP		PKPdf	11 53 38.2	+1.1
	comp=Z,2.9nm,0.6s,baz=78,slow=5.3,SNR=6.7							
KIC	**Kosan Boka**	**122.38**	**287**	*e*PKIKP		PKPdf	11 53 38.2	+1.2
	comp=Z,171nm,1.6s							
TIC	**Toumodi**	**122.54**	**287**	*e*PKIKP		PKPdf	11 53 38.4	+1.1
	comp=Z,10.0nm,0.2s							
LIC	**Lamto**	**122.69**	**287**	*e*PKIKP		PKPdf	11 53 38.6	+1.0
	comp=Z,98nm,2.0s							
SJG	**San Juan**	**147.65**	**12**	*e*PKPbc		PKPdf	11 54 28.1	+4.7
MTP	**Monte Pirata**	**147.78**	**11**	*e*PKPbc		PKPdf	11 54 28.4	+4.8
PLCA	**Paso Flores**	**151.31**	**162**	PKPbc		PKPdf	11 54 37.1	+8.6
	comp=Z,6.7nm,0.8s,baz=202,slow=2.1,SNR=21							
SDV	**Santo Domingo**	**154.84**	**27**	*e*PKPdf		PKPdf	11 54 36.8	+2.7
SDV				*e*PKPbc		PKPdf	11 54 45.3	+11
CPUP	**Villa Florida**	**167.32**	**188**	PKPab		PKPab	11 55 54.7	-0.4
	comp=Z,3.7nm,0.7s,baz=179,slow=7.4,SNR=9.3							
CPUP	**Villa Florida**	**167.32**	**188**	PKP2		PKPab	11 55 54.7	-0.5
CPUP				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BDFB	**Brasilia**	**169.00**	**259**	PKPab		PKPab	11 56 03.4	+0.6
	comp=Z,0.7nm,0.3s,baz=131,slow=5.0,SNR=8.1							
BDFB	**Brasilia**	**169.00**	**259**	PKP2		PKPab	11 56 03.4	+0.6
BDFB				pmax	pmax			
	comp=Z,1.0nm,0.4s							
LPAZ	**La Paz**	**171.00**	**108**	PKP		PKPdf	11 54 52.5	+3.0
	comp=Z,1.0nm,0.8s,baz=69,slow=1.7,SNR=4.9							
LPAZ				PKPab		PKPab	11 56 15.0	+3.3
	comp=Z,4.3nm,0.9s,baz=294,slow=1.7,SNR=13							

DHMR ***25*** *11:43:21.0±0.3,12.66N×40.59E,h2km±84km,ML4.4*
IDC ***25*** *11:43:26.8±5.2,12.11N×40.49E,mb3.9/4,mb1 4.1/5, mb1mx3.8/17,mbtmp3.9/5,ML4.0/1,MS3.5/1,Ms1 3.5/1, ms1mx3.2/14,Error ellipse: s-maj=115.3km s-min=17.0km az=27.0*

ISC 25 11:43:29.0±1.2,12.5N±0.1×40.74E±0.07,h10km,n9, σ1§20/12,mb3.7/4,4D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.28**	**115**	Pn		**Pn**	**11 44 07.5**	**+0.3**
	39nm,0.3s,baz=57,slow=21,SNR=10							
ATD				Lg			11 44 42.5	
	9.3nm,0.3s,baz=110,slow=24,SNR=10							
ATD				LR		LR	11 45 16.2	
	comp=Z,972nm,18.9s,baz=298,slow=46							
UDYN	**Al 'Udayn**	**3.47**	**65**	⇓*eP*		**Pn**	**11 44 20.7**	**-3.5**
UDYN				*i* S		**Sn**	**11 45 06.7**	**+0.9**
UDYN				AML		AML	11 45 27.3	
	comp=N,2μm,0.7s							
DHBB	**Dhamar BB**	**4.11**	**59**	⇓*eP*		**Pn**	**11 44 28.9**	**-4.4**
DHBB				*i* S		**Sn**	**11 45 21.3**	**-0.7**
ADEN	**Aden**	**4.15**	**86**	⇓*eP*		**Pn**	**11 44 30.4**	**-3.6**
ADEN				*i* S		**Sn**	**11 45 23.8**	**+0.6**
LBOS		**4.60**	**72**	⇓*eP*		**Pn**	**11 44 33.9**	**-6.4**
BRTR	**Keskin Array B**	**27.83**	**348**	P		**P**	**11 49 21.9**	**+1.3**
	comp=N,1.1nm,0.7s,mb3.6,baz=153,slow=8.3,SNR=5.8							
GERES	**GERESS Array B**	**42.60**	**334**	P		**P**	**11 51 26.1**	**-0.9**
	comp=N,0.3nm,0.8s,mb3.1,baz=135,slow=5.7,SNR=5.6							
MKAR	**Makanchi Array**	**48.82**	**37**	P		**P**	**11 52 17.3**	**+0.8**
	comp=N,1.0nm,0.9s,mb3.8,baz=225,slow=4.1,SNR=5.2							
ZAL	**Zalesovo**	**53.96**	**31**	P		**P**	**11 52 54.9**	**-0.2**
	comp=N,1.0nm,0.3s,mb4.2,baz=276,slow=5.8,SNR=4.7							

IDC 25 11:50:54.5±1.4,21.45N×145.07E,mb3.8/6,mb1 3.9/6, mb1mx3.8/19,mbtmp3.8/6,MS2.9/1,Ms1 2.9/1, ms1mx2.7/26,Error ellipse: s-maj=47.0km s-min=26.1km az=87.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**7.82**	**181**	LR		LR	11 55 34.3	
	comp=Z,94nm,21.2s,baz=89,slow=36							
SONM	**Songino Array**	**40.65**	**320**	P		P	11 58 36.6	-1.3
	0.4nm,0.3s,baz=128,slow=6.7,SNR=4.2							
WRA	**Warramunga Arr**	**42.46**	**195**	P		P	11 58 51.3	-1.9
	0.4nm,0.4s,baz=14,slow=8.3,SNR=16							
MKAR	**Makanchi Array**	**56.16**	**313**	P		P	12 00 36.5	-1.8
	0.7nm,0.5s,baz=86,slow=8.7,SNR=8.1							
ILAR	**Eielson Array**	**61.46**	**27**	P		P	12 01 12.7	-2.2
	0.2nm,0.6s,baz=258,slow=4.7,SNR=4.8							
BVAR	**Borovoye Array**	**64.00**	**320**	P		P	12 01 29.9	-2.0
	1.1nm,0.4s,baz=82,slow=6.1,SNR=7.7							
FINES	**FINESS Array B**	**84.15**	**335**	P		P	12 03 26.6	-1.9
	1.2nm,0.7s,baz=36,slow=4.0,SNR=7.8							

NIED ***25*** *12:55:00.32,10.10N×140.80E,h53km,Mw4.3 Best double couple: M0 2.74×10^15 NP1:φs35°,δ71°,λ-84°. NP2:φs198°, δ20°,λ-107°.*
IDC ***25*** *12:55:16.6±1.7,31.52N×140.37E,h82km±13km,mb4.0/13, mb1 4.1/16,mb1mx4.1/22,mbtmp4.3/16,MS3.2/1, Ms1 3.2/1,ms1mx3.0/43,Error ellipse: s-maj=23.0km s-min=14.1km az=70.0*
JMA ***25*** *12:55:17.7±0.2,32.11N×140.81E,h4km,M4.8*

2005 SEP

BJI ***25*** *12:55:18.2,31.50N×140.30E,h97km,mB4.6,mb4.1*
NEIC ***25*** *12:55:18.3±1.1,31.53N×140.29E,h98km±7km,mb4.8/19, MW4.2(NIED),Error ellipse: s-maj=11.3km s-min=8.9km az=147.0*
MOS ***25*** *12:55:26.6±0.9,32.21N×140.08E,h151km,mb4.9/16, Error ellipse: s-maj=23.0km s-min=6.8km az=113.6*

ISC 25 12:55:14.8±0.7,31.50N±0.05×140.44E±0.06,h81km±5km, n109,σ1§00/123,mb4.5/32,4C-3D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**1.69**	**342**	P		**P**	**12 55 41.8**	**-1.4**
JHJ2				*eS*		**S**	**12 55 59.7**	**-4.3**
JHJ	**Hachijo jima 2**	**1.70**	**341**	P		**P**	**12 55 43.0**	**-0.4**
	163nm,0.3s,baz=74,slow=20,SNR=9.2							
JHJ				S		**S**	**12 55 59.9**	**-4.5**
	722nm,0.3s,baz=210,slow=19,SNR=21							
JKO	**Kozu shima**	**2.89**	**338**	P		**P**	**12 56 00.7**	**+0.9**
BSO1	**Boso 1**	**3.17**	**8**	P		**P**	**12 56 00.3**	**-3.4**
BSO3	**Boso 3**	**3.29**	**1**	⇑P		**P**	**12 56 02.7**	**-2.6**
JIM2	**Oshima 3**	**3.31**	**345**	P		**P**	**12 56 04.9**	**-0.8**
JOD2	**Odawara 2**	**3.92**	**344**	P		**P**	**12 56 13.5**	**-0.5**
JOD2				S		**S**	**12 56 53.8**	**-5.2**
JIE	**Ise**	**4.26**	**314**	⇑P		**P**	**12 56 19.2**	**+0.4**
JIE				S		**S**	**12 57 09.1**	**+1.5**
JYN	**Shimob**	**4.29**	**339**	P		**P**	**12 56 20.3**	**+1.2**
JWZ	**Kozaga**	**4.47**	**298**	⇑P		**P**	**12 56 22.1**	**+0.4**
JWZ				S		**S**	**12 57 12.1**	**-0.8**
CBIJ	**Chichi jima**	**4.65**	**160**	P		**P**	**12 56 24.9**	**+0.8**
	5.9nm,0.3s,baz=298,slow=17,SNR=3.0							
CBIJ				S		**S**	**12 57 13.9**	**-3.3**
	20nm,0.3s,baz=270,slow=20,SNR=3.9							
JRY	**Ryogami san**	**4.68**	**345**	P		**P**	**12 56 25.4**	**+0.8**
JWY	**Kouya**	**4.89**	**305**	⇑P		**P**	**12 56 28.7**	**+1.2**
JWY				S		**S**	**12 57 22.4**	**-1.0**
JAG	**Ashikaga**	**4.98**	**351**	P		**P**	**12 56 27.1**	**-1.6**
JGM	**Miyama**	**5.21**	**324**	P		**P**	**12 56 33.2**	**+1.4**
MJAR	**Matsushiro Arr**	**5.36**	**340**	P		**P**	**12 56 34.5**	**+0.7**
	2.9nm,0.3s,baz=158,slow=11,SNR=26							
MJAR				S		**S**	**12 57 34.6**	**-0.2**
	1.3nm,0.3s,baz=174,slow=24,SNR=2.9							
MAJO	**Matsushiro**	**5.36**	**340**	*eP*		**P**	**12 56 35.1**	**+1.3**
	56nm,0.6s							
MAJO	**Matsushiro**	**5.36**	**340**	*eP*		**P**	**12 56 35.1**	**+1.3**
MAJO				pmax	pmax			
	comp=Z,56nm,0.6s							
MAT	**Matsushiro**	**5.36**	**340**	P		**P**	**12 56 33.5**	**-0.3**
MAT				S		**S**	**12 57 33.1**	**-1.8**
MAT	**Matsushiro**	**5.36**	**340**	P		**P**	**12 56 35.8**	**+2.0**
MAT	**Matsushiro**	**5.36**	**340**	*eP*		**P**	**12 56 36.0**	**+2.2**
	comp=Z,11nm,0.6s							
MAT				*eS*		**S**	**12 57 37.0**	**+2.1**
MAT	**Matsushiro**	**5.36**	**340**	*eP*		**P**	**12 56 36.0**	**+2.2**
MAT				*eS*		**S**	**12 57 37.0**	**+2.1**
MAT				pmax	pmax			
	comp=Z,11nm,0.6s							
JAI	**Aioi**	**5.54**	**296**	P		**P**	**12 56 37.7**	**+1.3**
JAI				S		**S**	**12 57 39.2**	**-0.2**
JWT	**Wachi**	**5.65**	**313**	P		**P**	**12 56 39.1**	**+1.2**
JWT				S		**S**	**12 57 42.2**	**0.0**
JKG	**Kaga**	**5.86**	**325**	P		**P**	**12 56 38.5**	**-2.2**
JNU	**Nakatsue**	**8.25**	**284**	P		**P**	**12 57 12.4**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=120,slow=15,SNR=8.7							
JNU				LR		LR	13 00 21.0	
	comp=Z,173nm,19.6s,baz=291,slow=37							
ASAJ	**Asahikawa**	**12.71**	**7**	P		**P**	**12 58 07.7**	**-6.0**
	comp=Z,0.6nm,0.3s,baz=1.5,slow=11,SNR=6.4							
ASAJ				S		**S**	**13 00 18.7**	**-15**
	comp=Z,0.5nm,0.3s,baz=139,slow=20,SNR=4.1							
ASAJ	**Asahikawa**	**12.71**	**7**	P		**P**	**12 58 07.7**	**-6.0**
ASAJ				S		**S**	**13 00 18.7**	**-15**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**15.53**	**6**	*eP*		**P**	**12 58 51.0**	**+0.8**
	comp=Z,5.0nm,0.6s							
YSS	**Yuzh-Sakhalins**	**15.53**	**6**	*eP*		**P**	**12 58 51.0**	**+0.8**
YSS				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MDJ	**Mudanjiang**	**15.61**	**330**	P		**P**	**12 58 51.0**	**-0.2**
MDJ				AMB		AMB		
	comp=Z,6.0nm,0.7s							
MDJ				AMB		AMB		
	comp=Z,97nm,6.2s							
CN2	**Changchun**	**17.04**	**320**	*eP*		**P**	**12 59 10.8**	**+1.7**
HIA	**Hailar**	**23.61**	**325**	*eP*		**P**	**13 00 19.6**	**+0.8**
	comp=Z,3.1nm,0.6s,mb3.8							
HIA	**Hailar**	**23.61**	**325**	*eP*		**P**	**13 00 19.6**	**+0.8**
HIA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ENH	**Enshi**	**26.55**	**275**	P		**P**	**13 00 46.6**	**-0.3**
SONM	**Songino Array**	**30.56**	**312**	P		**P**	**13 01 22.2**	**-0.5**
	comp=Z,1.3nm,0.7s,mb3.8,baz=108,slow=9.4,SNR=8.1							
SONM				PcP		PcP	13 04 18.9	-0.8
	comp=Z,0.4nm,0.6s,baz=90,slow=1.5,SNR=3.8							
BOD	**Bodaibo**	**31.94**	**333**	*eP*		**P**	**13 01 32.7**	**-2.0**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.2							
ZAK	**Zakamensk**	**33.36**	**315**	*eP*		**P**	**13 01 45.5**	**-1.6**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.2s,mb3.5							
WMQ	**Urumqi**	**42.86**	**302**	*eP*		**P**	**13 03 06.5**	**+0.1**
ZAL	**Zalesovo**	**45.22**	**317**	P		**P**	**13 03 25.2**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.0,baz=16,slow=6.4,SNR=4.2							
ZAL				PcP		PcP	13 05 04.7	+0.1
	comp=Z,2.1nm,0.5s,baz=254,slow=2.7,SNR=6.6							
ZAL	**Zalesovo**	**45.22**	**317**	P		**P**	**13 03 25.3**	**0.0**
ZAL				*e*			13 05 04.7	
NVS	**Novosibirsk**	**46.23**	**318**	*eP*		**P**	**13 03 33.4**	**+0.1**
MKAR	**Makanchi Array**	**46.57**	**307**	P		**P**	**13 03 34.8**	**-1.3**
	comp=Z,1.4nm,0.5s,mb4.0,baz=86,slow=9.8,SNR=20							
MKAR				PcP		PcP	13 05 09.1	-0.4
	comp=Z,1.0nm,0.6s,baz=79,slow=6.2,SNR=4.2							
MKAR	**Makanchi Array**	**46.57**	**307**	P		**P**	**13 03 34.8**	**-1.3**
MKAR				*e*			13 05 09.1	
KURK	**Kurchatov**	**48.87**	**312**	*eP*		**P**	**13 03 51.6**	**-2.3**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
WRA	**Warramunga Arr**	**51.48**	**187**	P		**P**	**13 04 13.5**	**-0.8**
	comp=Z,5.2nm,0.7s,mb4.7,baz=2.9,slow=7.8,SNR=2.5							
ILAR	**Eielson Array**	**54.63**	**30**	P		**P**	**13 04 35.9**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=268,slow=6.2,SNR=6.5							
KIP	**Kipapa**	**55.39**	**84**	P		**P**	**13 04 50.9**	**+7.8**
KIP				pmax	pmax			
	comp=Z,85nm,1.1s							
ARCES	**ARCESS Array B**	**68.89**	**340**	P		**P**	**13 06 11.7**	**-0.6**
	comp=Z,5.5nm,0.9s,mb4.4,baz=75,slow=7.5,SNR=7.3							
JOF	**Joensuu**	**70.47**	**333**	*ep*		**P**	**13 06 21.0**	**-1.1**
	comp=Z,3.3nm,0.4s,mb4.5							
KAF	**Kangasniemi**	**72.86**	**333**	*ep*		**P**	**13 06 35.2**	**-1.0**
	comp=Z,3.6nm,0.5s,mb4.5,baz=52,slow=5.6							
KAF	**Kangasniemi**	**72.86**	**333**	*eP*		**P**	**13 06 35.2**	**-1.0**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.5							
FINES	**FINESS Array B**	**73.34**	**333**	P		**P**	**13 06 38.9**	**-0.1**
	comp=Z,4.9nm,0.7s,mb4.5,baz=73,slow=6.1,SNR=36							
AKASG	**Malin Array Be**	**78.19**	**323**	P		**P**	**13 07 06.3**	**-0.4**
	comp=Z,3.3nm,0.4s,mb4.4,baz=48,slow=6.1,SNR=14							
NB2	**NORSAR Subarra**	**78.97**	**337**	P		**P**	**13 07 10.3**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.2,baz=41,slow=5.0							
NB2	**NORSAR Subarra**	**78.97**	**337**	P		**P**	**13 07 10.3**	**-0.4**
NB2				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.2							
NOA	**NORSAR Array B**	**78.97**	**337**	P		**P**	**13 07 10.7**	**-0.1**
	comp=Z,3.9nm,0.7s,mb4.3,baz=42,slow=5.4,SNR=12							
BR131	**Keskin Array S**	**81.92**	**312**	*eP*		**P**	**13 07 27.4**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.2							
BRTR	**Keskin Array B**	**81.92**	**312**	P		**P**	**13 07 27.8**	**+1.0**
	comp=Z,5.2nm,0.8s,mb4.4,baz=108,slow=3.9,SNR=16							
PDAR	**Pinedale Array**	**82.15**	**44**	P		**P**	**13 07 28.1**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=256,slow=6.1,SNR=4.0							
KWP	**Kalwaria**	**82.15**	**324**	*eP*		**P**	**13 07 28.6**	**+0.8**
	comp=Z,39nm,1.1s,mb5.2							
KWP	**Kalwaria**	**82.15**	**324**	*eP*		**P**	**13 07 28.6**	**+0.8**
KWP				pmax	pmax			
	comp=Z,39nm,1.1s,mb5.2							
KOLS	**Kolonicke sedl**	**82.82**	**324**	*eP*		**P**	**13 07 32.0**	**+0.7**
STHS	**Stebnicka Huta**	**83.01**	**325**	*eP*		**P**	**13 07 33.2**	**+1.0**
OJC	**Ojcow**	**83.17**	**326**	*eP*		**P**	**13 07 33.6**	**+0.6**
NIE	**Niedzica**	**83.47**	**325**	*eP*		**P**	**13 07 36.6**	**+2.1**
KECS	**Kecovo**	**84.01**	**325**	*eP*		**P**	**13 07 38.1**	**+0.9**
KSP	**Ksiaz**	**84.37**	**328**	*eP*		**P**	**13 07 39.5**	**+0.6**
VYHS	**Vyhne**	**84.81**	**325**	*eP*		**P**	**13 07 41.8**	**+0.6**
PV10	**Paradox Valley**	**85.06**	**48**	*eP*		**P**	**13 07 44.6**	**+1.9**
VRAC	**Vranov**	**85.31**	**327**	*eP*		**P**	**13 07 44.4**	**+0.7**
CLL	**Collm**	**85.48**	**330**	⇓P		**P**	**13 07 44.7**	**+0.3**
	comp=Z,logA/T=1.0,mb4.7							
CLL				*e*PP		pP	13 08 07.0	+0.5
CLL	**Collm**	**85.48**	**330**	⇓*iP*		**P**	**13 07 44.7**	**+0.3**
	comp=Z,11nm,1.1s,mb4.7							
CLL				*e*		pP	13 08 07.0	+0.5
CLL	**Collm**	**85.48**	**330**	⇓*iP*		**P**	**13 07 44.7**	**+0.3**
CLL				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
GERES	**GERESS Array B**	**86.97**	**328**	P		**P**	**13 07 50.8**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=34,slow=4.8,SNR=9.8							
GIVF	**Givet**	**89.73**	**333**	*eP*		**P**	**13 08 04.6**	**-0.3**
BAIF	**Baives**	**90.00**	**334**	*eP*		**P**	**13 08 06.6**	**+0.4**
CDF	**Champ du Feu**	**90.09**	**331**	*eP*		**P**	**13 08 06.6**	**0.0**
MEZF	**Maizieres J'vi**	**90.92**	**332**	*eP*		**P**	**13 08 10.1**	**-0.4**
LOR	**Lormes**	**92.39**	**332**	*eP*		**P**	**13 08 17.1**	**-0.2**
LPL	**La Plagne**	**92.59**	**329**	*eP*		**P**	**13 08 18.4**	**+0.1**
	comp=Z,6.2nm,0.7s,mb4.7							
LPL	**La Plagne**	**92.59**	**329**	*eP*		**P**	**13 08 18.4**	**+0.1**
LPL				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.7							
LPG	**La Plagne**	**92.60**	**329**	*eP*		**P**	**13 08 18.5**	**+0.2**
	comp=Z,8.9nm,0.8s,mb4.9							
LPG	**La Plagne**	**92.60**	**329**	*eP*		**P**	**13 08 18.5**	**+0.2**
LPG				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.8							
SSF	**Saint Saulge**	**92.70**	**332**	*eP*		**P**	**13 08 18.6**	**-0.2**
	comp=Z,19nm,1.2s,mb5.0							
SSF	**Saint Saulge**	**92.70**	**332**	*eP*		**P**	**13 08 18.6**	**-0.2**
SSF				pmax	pmax			
	comp=Z,10.0nm,1.2s,mb5.0							
FLN	**La Foliniere**	**92.80**	**335**	*eP*		**P**	**13 08 18.9**	**-0.3**
SMF	**Signal de Mont**	**92.91**	**332**	*eP*		**P**	**13 08 19.5**	**-0.2**
	comp=Z,20nm,1.1s,mb5.1							
SMF	**Signal de Mont**	**92.91**	**332**	*eP*		**P**	**13 08 19.5**	**-0.2**
SMF				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb5.1							
AVF	**Avril sur Loir**	**92.98**	**332**	*eP*		**P**	**13 08 20.0**	**-0.1**
	comp=Z,20nm,1.1s,mb5.0							
AVF	**Avril sur Loir**	**92.98**	**332**	*eP*		**P**	**13 08 20.0**	**-0.1**
AVF				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb5.1							
MBDF	**Montbardon**	**93.20**	**329**	*eP*		**P**	**13 08 20.2**	**-0.9**
	comp=Z,4.3nm,0.9s,mb4.5							
MBDF	**Montbardon**	**93.20**	**329**	*eP*		**P**	**13 08 20.2**	**-0.9**
MBDF				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.5							
GRR	**Gorron**	**93.25**	**335**	*eP*		**P**	**13 08 21.2**	**0.0**
ORIF	**Oris-en-Rattie**	**93.43

WCZ Waipu Caves 19.25 164 *e*P **P** **13 00 10.1 0.0**
ARMA Armidale 19.52 226 *e*P **P** **13 00 14.3 +1.0**
ARMA *i*S **S** **13 03 57.5 +11**
AFI Afiamalu 20.01 83 P **P** **13 00 16.6 -2.0**
comp=Z,2.5nm,0.3s,baz=68,slow=12,SNR=13
AFI LR LR 13 06 07.0
comp=Z,55μm,21.4s,MS5.9,baz=269,slow=31
AFI Afiamalu 20.01 83⇓ *e*P **P** **13 00 16.5 -2.0**
comp=Z,830nm,1.3s
AFI Afiamalu 20.01 83⇓ *e*P **P** **13 00 16.5 -2.1**
AFI pmax pmax
comp=Z,830nm,1.3s
KUZ Kuaotunu 20.40 161 *e*PN **P** **13 00 21.4 -1.0**
KUZ Kuaotunu 20.40 161 *e*P **P** **13 00 21.4 -1.1**
CTA Charters Tower 20.53 259 *e*P **P** **13 00 23.6 -0.3**
comp=Z,128nm,0.9s
CTA *e*S **S** **13 04 18.0 +11**
CTA Charters Tower 20.53 259 P **P** **13 00 24.0 0.0**
comp=Z,123nm,1.1s,baz=85,slow=12,SNR=22
CTA S **S** **13 04 20.7 +14**
comp=Z,11nm,0.9s,baz=211,slow=7.9,SNR=1.4
CTA LR LR 13 07 36.8
comp=Z,49μm,18.6s,MS5.9,baz=119,slow=35
CTA Charters Tower 20.53 259 *e*P **P** **13 00 23.6 -0.3**
CTA *e*S **S** **13 04 18.0 +11**
CTA pmax pmax
comp=Z,129nm,0.9s
CTAO Charters Tower 20.53 259 P **P** **13 00 23.9 0.0**
CTAO P 13 00 26.9
CTAO Charters Tower 20.53 259 *e*P **P** **13 00 23.9 0.0**
comp=Z,564nm,1.3s
CTAO LR LR
comp=Z,49μm,19.0s,MS5.9
CTAO Charters Tower 20.53 259 *e*P **P** **13 00 24.0 +0.1**
CTAO pmax pmax
comp=Z,563nm,1.3s
CTAO MLR MLR
comp=Z,49μm,19.0s,MS5.9
PMG Port Moresby 21.59 289 P **P** **13 00 35.4 +0.6**
comp=Z,36nm,0.7s,mb4.9,baz=104,slow=12,SNR=4.1
PMG S **S** **13 04 37.1 +10**
comp=Z,13nm,0.8s,baz=308,slow=4.7,SNR=1.3
PMG LR LR 13 07 46.9
comp=Z,42μm,18.6s,MS5.9,baz=252,slow=34
PMG Port Moresby 21.59 289 *e*P **P** **13 00 34.8 0.0**
comp=Z,309nm,1.0s,mb5.7
PMG LR LR
comp=Z,39μm,19.0s,MS5.8
PMG Port Moresby 21.59 289 *e*P **P** **13 00 34.8 0.0**
PMG pmax pmax
comp=Z,309nm,1.0s
PMG MLR MLR
comp=Z,39μm,19.0s
HIZ Hauiti 21.81 165 *e*PN **P** **13 00 37.2 +0.4**
HIZ Hauiti 21.81 165 *e*P **P** **13 00 37.2 +0.3**
MXZ Matakaoa Point 22.01 157 *e*PN **P** **13 00 38.4 -0.5**
MXZ SN **S** **13 04 43.5 +8.6**
MXZ Matakaoa Point 22.01 157 *e*P **P** **13 00 38.4 -0.4**
MXZ S **S** **13 04 43.5 +8.6**
RIV Riverview 22.04 219 *e*P **P** **13 00 43.6 +4.5**
URZ Urewera 22.22 160 P **P** **13 00 41.5 +0.6**
comp=Z,241nm,1.0s,mb5.6,baz=13,slow=3.1,SNR=31
URZ S **S** **13 04 49.9 +11**
comp=Z,17nm,1.0s,baz=182,slow=22,SNR=1.7
URZ LR LR 13 08 27.9
comp=Z,45μm,18.1s,MS5.9,baz=349,slow=34
URZ Urewera 22.22 160 *e*PN **P** **13 00 40.3 -0.6**
URZ Urewera 22.22 160 *e*P **P** **13 00 40.3 -0.6**
MWZ Matawai 22.43 160 *e*PN **P** **13 00 43.5 +0.5**
MWZ Matawai 22.43 160 *e*P **P** **13 00 43.5 +0.6**
PUZ Puketiti 22.44 158 *e*PN **P** **13 00 42.2 -0.9**
PUZ SN **S** **13 04 47.8 +5.0**
PUZ Puketiti 22.44 158 *e*P **P** **13 00 42.2 -0.9**
PUZ S **S** **13 04 47.8 +5.0**
CNZ Chateau 22.64 164 PN **P** **13 00 47.3 +2.3**
CNZ Chateau 22.64 164 P **P** **13 00 50.3 +5.2**
DRZ Dome Shelter 22.71 164 *e*PN **P** **13 00 49.8 +4.0**
BKZ Black Stump Fm 22.86 162 PN **P** **13 00 47.1 -0.2**
BKZ Black Stump Fm 22.86 162 P **P** **13 00 47.1 -0.2**
KNZ Kokohu 23.09 160 PN **P** **13 00 48.8 -0.7**
KNZ Kokohu 23.09 160 P **P** **13 00 48.8 -0.7**
TSZ Takapari Road 23.55 164 PN **P** **13 00 54.4 +0.4**
TSZ Takapari Road 23.55 164 P **P** **13 00 54.4 +0.4**
QRZ Quartz Range 23.58 171 *e*PN **P** **13 00 56.9 +2.7**
QRZ Quartz Range 23.58 171 *e*P **P** **13 00 56.7 +2.5**
PXZ Pawanui 23.77 162 *e*PN **P** **13 00 55.9 -0.2**
MRZ Mangatainoka R 24.02 165 *e*PN **P** **13 00 58.6 0.0**
MRZ Mangatainoka R 24.02 165 *e*P **P** **13 00 58.6 0.0**
NNZ Nelson 24.10 170 PN **P** **13 01 00.2 +0.9**
CNB Canberra Magne 24.13 219 *e*P **P** **13 01 00.6 +1.0**
comp=Z,225nm,0.8s,mb5.7
TCW Tory Channel 24.26 168 *e*PN **P** **13 01 01.6 +0.7**
TCW Tory Channel 24.26 168 *e*P **P** **13 01 01.6 +0.7**
TUWZ Tuamarina 24.41 169 *e*PN **P** **13 01 02.1 -0.2**
SNZO South Karori 24.44 167 *e*P **P** **13 01 04.3 +1.7**
comp=Z,529nm,1.4s,mb5.8
THZ Tophouse 24.56 171 PN **P** **13 01 04.6 +0.9**
PAWZ Paruwai Farm 24.67 166 PN **P** **13 01 05.3 +0.5**
PAWZ Paruwai Farm 24.67 166 P **P** **13 01 05.3 +0.5**
TRWZ Traveller 24.75 166 PN **P** **13 01 05.9 +0.3**
KHZ Kahutara 25.30 170 PN **P** **13 01 09.5 -1.2**
KHZ Kahutara 25.30 170 P **P** **13 01 09.1 -1.6**
LTZ Lake Taylor 25.47 172 PN **P** **13 01 11.7 -0.6**
LTZ Lake Taylor 25.47 172 P **P** **13 01 11.7 -0.6**
WVZ Waitaha Valley 25.59 175 *e*PN **P** **13 01 14.4 +0.9**
WVZ Waitaha Valley 25.59 175 *e*P **P** **13 01 16.8 +3.3**
KWAJ Kwajalein Atol 26.16 360 PFAKE 13 01 30.0 +11
KWAJ LR LR
comp=Z,3μm,19.0s,MS4.8
RPZ Rata Peaks 26.26 175 P **P** **13 01 19.6 0.0**
comp=Z,51nm,1.0s,mb5.0,baz=337,slow=5.0,SNR=5.8
RPZ S **S** **13 05 51.5 +3.5**
comp=Z,1.6nm,0.3s,baz=222,slow=23,SNR=0.9
RPZ LR LR 13 10 13.2
comp=Z,19μm,21.1s,MS5.6,baz=231,slow=33
RPZ Rata Peaks 26.26 175 *e*PN **P** **13 01 19.6 -0.1**
RPZ Rata Peaks 26.26 175 *e*P **P** **13 01 19.6 -0.1**
JCZ Jackson Bay 26.48 178 *e*PN **P** **13 01 22.2 +0.5**
JCZ Jackson Bay 26.48 178 *e*P **P** **13 01 22.2 +0.5**
JCZ *e* pP 13 01 30.9 +0.4
LBZ Lake Benmore 26.86 176 *e*PN **P** **13 01 25.8 +0.6**
STKA Stephens Creek 27.65 234 *e*P **P** **13 01 31.8 -0.7**
comp=Z,67nm,0.6s,mb5.5
STKA *e* 13 04 50.4
STKA *i*S **S** **13 06 14.5 +3.7**
STKA Stephens Creek 27.65 234 P **P** **13 01 32.2 -0.3**
comp=Z,66nm,0.6s,mb5.5,baz=60,slow=7.4,SNR=68
STKA S **S** **13 06 14.7 +3.9**
comp=Z,5.8nm,0.8s,baz=80,slow=3.6,SNR=1.0
STKA LR LR 13 12 30.5
comp=Z,49μm,18.4s,MS6.1,baz=62,slow=36
TAU Tasmania Unive 30.70 210 *e*P **P** **13 01 56.1 -3.6**
comp=Z,93nm,1.4s,mb5.4
TAU LR LR
comp=Z,7μm,19.0s,MS5.3
TAU Tasmania Unive 30.70 210 *e*P **P** **13 01 56.1 -3.6**
TAU pmax pmax
comp=Z,93nm,1.4s,mb5.4
TAU MLR MLR
comp=Z,7μm,19.0s,MS5.3
RAR Rarotonga 30.81 102 PFAKE 13 02 10.0 +9.2
RAR LR LR
comp=Z,2.0nm,22.0s
WB2 Warramunga Arr 31.71 260 *e*P **P** **13 02 06.7 -2.1**
WB2 *i*S **S** **13 07 16.6 +1.3**
WRAB Tennant Creek 31.71 260 *e*P **P** **13 02 06.2 -2.6**
comp=Z,404nm,1.5s,mb6.0
WRAB LR LR
comp=Z,9μm,21.0s,MS5.4
WRAB Tennant Creek 31.71 260 *e*P **P** **13 02 06.2 -2.6**
WRAB pmax pmax
comp=Z,404nm,1.5s,mb6.0
WRAB MLR MLR
comp=Z,9μm,21.0s,MS5.4
WRA Warramunga Arr 31.72 260 P **P** **13 02 07.2 -1.7**
comp=Z,13nm,0.7s,mb4.9,baz=80,slow=6.0,SNR=106
WRA S **S** **13 07 13.2 -2.3**
comp=Z,1.8nm,0.9s,baz=152,slow=45,SNR=2.4
WRA P3KPbc 13 33 44.4
comp=Z,2.0nm,0.8s,baz=287,slow=2.9,SNR=13
WRA Warramunga Arr 31.72 260 P **P** **13 02 07.2 -1.7**
WRA S **S** **13 07 13.2 -2.3**
WRA *e* 13 33 44.4
ASPA Alice Springs 32.24 253 *e*P **P** **13 02 11.2 -2.2**
ASPA *i*S **S** **13 07 22.7 -0.8**
KAKA Kakadu 34.41 273 *e*P **P** **13 02 49.4 +17**
comp=Z,61nm,0.6s,mb5.7
WAKE Wake Island 36.59 358 PFAKE 13 03 00.0 +9.2
WAKE LR LR
comp=Z,15μm,19.0s,MS5.8
GUMO Guam 38.30 322 P **P** **13 03 05.7 +0.6**
comp=Z,73nm,0.6s,mb5.6,baz=178,slow=12,SNR=12
GUMO LR LR 13 18 20.1
comp=Z,14μm,18.2s,MS5.8,baz=317,slow=36
GUMO Guam 38.30 322 *e*P **P** **13 03 05.0 -0.1**
comp=Z,353nm,1.4s,mb5.9
GUMO LR LR
comp=Z,11μm,20.0s,MS5.7
GUMO Guam 38.30 322 *e*P **P** **13 03 05.1 0.0**
GUMO pmax pmax
comp=Z,353nm,1.4s,mb5.9
GUMO MLR MLR
comp=Z,11μm,20.0s,MS5.7
FORT Forrest 38.36 242⇑ *i*P **P** **13 03 04.9 -0.6**
comp=Z,94nm,0.6s,mb5.7
FITZ Fitzroy Crossi 40.05 263 *e*P **P** **13 03 18.5 -1.2**
comp=Z,324nm,0.9s,mb6.1
FITZ *i*S **S** **13 09 24.2 +0.8**
FITZ Fitzroy Crossi 40.05 263 P **P** **13 03 19.8 +0.1**
comp=Z,216nm,0.7s,mb6.0,baz=126,slow=4.0,SNR=66
FITZ LR LR 13 19 57.7
comp=Z,45μm,18.1s,MS6.4,baz=95,slow=36
TBI Tubuai 40.38 106 *e*LQ 13 13 06.1
TBI Tubuai 40.38 106 *e*P **P** **13 03 22.5 +0.1**
comp=Z,137nm,1.1s,mb5.6
TBI Tubuai 40.38 106 *e*LR LR 13 14 27.2
comp=Z,29μm,27.5s,baz=274
PAE Paea 40.59 97 *e*P **P** **13 03 23.7 -0.4**
comp=Z,75nm,1.0s,mb5.3
PPT Papeete 40.60 97 *e*P **P** **13 03 24.0 -0.2**
comp=Z,57nm,1.1s,mb5.1
PPT Papeete 40.60 97 *e*LQ 13 13 14.1
PPT *e*LR LR 13 14 35.2
comp=Z,45μm,24.8s,baz=263
PPT Papeete 40.60 97 P **P** **13 03 24.2 0.0**
comp=Z,54nm,0.9s,mb5.2,baz=262,slow=2.8,SNR=4.6
PPT LR LR 13 16 34.5
comp=Z,10μm,20.2s,MS5.7,baz=261,slow=31
TVO Taravao 40.89 97 *e*P **P** **13 03 26.3 -0.2**
comp=Z,68nm,0.8s,mb5.3
MBWA Marble Bar 45.34 257 *e*P **P** **13 04 02.0 -0.8**
comp=Z,181nm,1.0s,mb5.9
MBWA LR LR
comp=Z,15μm,20.0s,MS5.9
KLBR Kellerberrin 47.22 243 *e*P **P** **13 04 15.6 -1.9**
comp=Z,82nm,0.9s,mb5.7
MIDW Midway 47.69 18 PFAKE 13 04 30.0 +8.7
MIDW LR LR
comp=Z,7μm,19.0s,MS5.7
NWAO Narrogin (SRO) 47.78 241 P **P** **13 04 20.1 -1.8**
comp=Z,95nm,1.0s,mb5.8,baz=89,slow=6.5,SNR=40
NWAO LR LR 13 24 09.9
comp=Z,11μm,20.9s,MS5.8,baz=200,slow=36
NWAO Narrogin (SRO) 47.78 241 *e*P **P** **13 04 20.2 -1.8**
comp=Z,80nm,0.9s,mb5.8
NWAO LR LR
comp=Z,12μm,22.0s,MS5.8
NWAO Narrogin (SRO) 47.78 241 *e*P **P** **13 04 20.2 -1.8**
NWAO pmax pmax
comp=Z,80nm,0.9s
NWAO MLR MLR
comp=Z,12μm,22.0s
DAV Davao City (W) 48.31 297 PFAKE 13 04 40.0 +14
DAV LR LR
comp=Z,3μm,19.0s,MS5.3
CBIJ Chichi jima 50.83 330 P **P** **13 04 43.0 -2.4**
comp=Z,301nm,0.8s,mb6.3,baz=155,slow=15,SNR=7.7
CBIJ LR LR 13 22 55.1
comp=Z,4μm,19.5s,MS5.4,baz=130,slow=32
TBP Tagbilaran 51.12 299 *e*P **P** **13 04 45.1 -2.7**
KIP Kipapa 51.21 42 *e*P **P** **13 04 47.7 -0.6**
comp=Z,77nm,1.1s,mb5.5
KIP LR LR
comp=Z,15μm,22.0s,MS6.0
KIP Kipapa 51.21 42 *e*P **P** **13 04 47.7 -0.6**
KIP pmax pmax
comp=Z,77nm,1.1s,mb5.5
KIP MLR MLR
comp=Z,15μm,22.0s,MS6.0
TAOE Nuku Hiva Isla 51.30 87 *e*LR LR 13 19 26.7
comp=Z,109μm,24.6s,baz=261
SNPH Sibulan 51.47 298 *e*P sP 13 05 03.0 -0.1
POHA Pohakuloa 51.68 46 PFAKE 13 05 00.0 +8.0
POHA LR LR
comp=Z,131μm,22.0s,MS6.9
DRV Dumont d'Urvil 52.35 194 P **P** **13 04 59.0 +2.6**
DRV S **S** **13 12 24.0 +5.6**
DRV L 13 17 00.0
DRV R 13 21 00.0
RKT Rikitea 53.70 106 *e*P **P** **13 05 06.5 -0.4**
comp=Z,82nm,1.1s,mb5.6
RKT Rikitea 53.70 106 *e*SS SS 13 16 22.0 +4.5
RKT *e*LQ 13 18 35.0
RKT *e*LR LR 13 20 35.5
comp=Z,23μm,27.5s,baz=266
TSM Tawau 53.80 289 P **P** **13 05 09.1 +1.3**
KKM Kota Kinabalu 56.03 290 P **P** **13 05 25.0 +1.0**
KKM Kota Kinabalu 56.03 290 *e*P **P** **13 05 24.0 -0.1**
PTCN Pitcairn Islan 57.96 109 PFAKE 13 05 50.0 +12
PTCN LR LR
comp=Z,7μm,21.0s,MS5.7
JOW Kunigami 58.43 318 P **P** **13 05 41.2 +0.4**
comp=Z,54nm,0.7s,mb5.7,baz=182,slow=8.3,SNR=10
JOW LR LR 13 30 59.0
comp=Z,7μm,18.1s,MS5.8,baz=234,slow=36
KSM Kuching 59.64 282 *e*P **P** **13 05 48.4 -1.0**
VNDA Vanda 60.09 181 *e*P **P** **13 05 50.4 -1.3**
comp=Z,138nm,1.6s,mb5.7
VNDA LR LR
comp=Z,3μm,19.0s,MS5.5
VNDA Vanda 60.09 181 *e*P **P** **13 05 50.4 -1.3**
VNDA pmax pmax
comp=Z,138nm,1.6s
VNDA MLR MLR
comp=Z,3μm,19.0s
SBA Scott Base 60.36 180 *e*P **P** **13 05 53.2 -0.3**
comp=Z,147nm,1.0s,mb6.0
SBA LR LR
comp=Z,3μm,19.0s,MS5.4
SBA Scott Base 60.36 180 P **P** **13 05 53.6 +0.1**
SBA pmax pmax
comp=Z,150nm,1.0s,mb6.0
MJAR Matsushiro Arr 60.59 333 P **P** **13 05 53.1 -2.5**
comp=Z,55nm,1.0s,mb5.6,baz=165,slow=7.3,SNR=45
MJAR LR LR 13 29 08.2
comp=Z,4μm,20.4s,MS5.6,baz=150,slow=33
MJAR PKP2bc 13 35 24.2
comp=Z,5.9nm,1.2s,baz=279,slow=3.9,SNR=5.0
MJAR Matsushiro Arr 60.59 333 P **P** **13 05 53.1 -2.5**
MJAR LR LR 13 29 08.2
MJAR ⇑*e* 13 35 24.2
MAJO Matsushiro 60.60 333 *e*P **P** **13 05 52.6 -3.1**
comp=Z,88nm,1.0s,mb5.8
MAJO LR LR
comp=Z,5μm,21.0s,MS5.7
MAJO Matsushiro 60.60 333 P **P** **13 05 53.3 -2.3**
MAJO pmax pmax
comp=Z,88nm,1.0s,mb5.8
MAT Matsushiro 60.60 333 P **P** **13 05 53.3 -2.3**
MAT S **S** **13 14 09.0 +1.0**
MAT Matsushiro 60.60 333 *e*P **P** **13 05 53.0 -2.6**
comp=Z,93nm,1.0s,mb5.9
MAT *e*S **S** **13 14 09.0 +1.0**
MAT LR LR
comp=Z,4μm,18.0s,MS5.6
MAT Matsushiro 60.60 333 *e*P **P** **13 05 53.0 -2.6**
MAT *e*S **S** **13 14 09.0 +1.0**
MAT pmax pmax
comp=Z,93nm,1.0s,mb5.9
MAT MLR MLR
comp=Z,4μm,18.0s,MS5.6
CASY Casey 61.15 203 *e*P **P** **13 05 57.4 -1.6**
CASY *i*S **S** **13 14 16.2 +1.7**
NACB Ninganchiao 61.21 311 *e*P **P** **13 06 00.3 +0.3**
JNU Nakatsue 61.47 325 P **P** **13 06 00.8 -0.8**
comp=Z,56nm,0.9s,mb5.7,baz=159,slow=5.1,SNR=15
JNU LR LR 13 30 00.1
comp=Z,3μm,19.3s,MS5.4,baz=128,slow=34
YHNB Yeheng 61.67 312 *e*P **P** **13 06 02.1 -1.0**
TATO Taipei 61.78 312 PFAKE 13 06 20.0 +16
TATO LR LR
comp=Z,7μm,20.0s,MS5.8
QZH Quanzhou 63.85 310 P **P** **13 06 16.0 -1.6**
QZH S **S** **13 14 55.0 +5.8**
QZH LR LR
comp=Z,11μm,14.7s,MS6.2
YUK Yuzh-Kuril'sk 64.46 343 *e*P **P** **13 06 24.0 +2.8**
YUK *e* 13 06 41.0
YUK *e*PPP PPP 13 10 17.0 -0.8
YUK *e*S **S** **13 15 09.0 +13**
YUK *e*PS PS 13 15 35.0 +15
YUK *e* 13 16 13.0
YUK pmax pmax
comp=Z,3μm,7.0s
YUK smax
comp=N,3μm,13.0s
YUK smax
comp=E,3μm,13.0s
ASAJ Asahikawa 65.52 340 P **P** **13 06 27.0 -1.1**
comp=E,26nm,0.7s,mb5.4,baz=193,slow=10.0,SNR=20
ASAJ S S 13 15 10.3 +0.9
comp=E,4.5nm,1.0s,baz=193,slow=19,SNR=2.1
ASAJ LR LR 13 32 05.4
comp=E,7μm,19.7s,MS5.9,baz=174,slow=33
SSE Sheshan 65.87 317 *e*P **P** **13 06 30.5 -0.1**
SSE AP pP 13 06 38.8 -1.1
SSE XP sP 13 06 43.8 +0.5
SSE PCP PcP 13 07 00.5 -0.7
SSE S S 13 15 17.0 +3.0
SSE XS 13 15 32.0
SSE SCS ScS 13 16 23.0 +2.5
SSE AMB AMB
comp=Z,59nm,0.9s,mb5.6
SSE AMB AMB
comp=Z,1μm,7.4s
SSE LR LR
comp=N,4μm,35.3s,MS5.6
SSE LR LR
comp=E,5μm,35.3s,MS5.6
SSE LR LR
comp=Z,4μm,17.8s
SSE Sheshan 65.87 317 *e*P **P** **13 06 30.4 -0.2**
comp=Z,59nm,0.9s,mb5.6
SSE pP pP 13 06 38.8 -1.1
SSE sP sP 13 06 43.8 +0.5
SSE PcP PcP 13 07 00.5 -0.7
SSE S S 13 15 17.1 +3.1
SSE sS 13 15 32.1
SSE ScS ScS 13 16 23.0 +2.5
SSE SS SS 13 19 32.4 +2.0
SSE LR LR
comp=Z,4μm,17.8s,MS5.7
KS15 Wonju Array Si 66.32 326 *e*P **P** **13 06 32.6 -0.7**
KGM Kluang 66.37 280 P **P** **13 06 35.8 +1.7**
INCN Inchon 67.03 325 *e*P **P** **13 06 37.7 -0.2**
comp=Z,186nm,1.4s,mb5.9
INCN LR LR
comp=Z,4μm,20.0s,MS5.6
QIZ Qiongzhong 67.52 300 P **P** **13 06 40.8 -0.4**
QIZ *e*S S 13 15 32.0 -2.1
QIZ LR LR
comp=E,4μm,23.9s
QIZ LR LR
comp=Z,7μm,28.9s,MS5.7
MIR Mirnyy 68.00 205 *e*P **P** **13 06 45.0 +1.6**
MIR *i* 13 07 00.0
MIR *e*S S 13 15 43.0 +4.0
MIR *e*SS SS 13 20 05.0 +2.4
MIR pmax pmax
comp=E,600nm,7.0s
MIR smax
comp=N,2μm,13.0s
NJ2 Nanjing 68.01 316 *e*P **P** **13 06 44.0 -0.1**
NJ2 AP pP 13 06 54.5 +1.0
NJ2 XP sP 13 06 58.3 +1.4
NJ2 PP PP 13 09 16.5 +0.4
NJ2 S S 13 15 38.0 -1.8
NJ2 XS 13 15 56.0
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,520nm,6.2s
NJ2 LR LR
comp=N,8μm,17.8s,MS6.1
NJ2 LR LR
comp=E,8μm,20.5s,MS6.1
NJ2 LR LR
comp=Z,10μm,22.5s,MS6.0
YSS Yuzh-Sakhalins 68.02 342 *e*P **P** **13 06 42.6 -1.2**
comp=Z,157nm,0.8s,mb6.1
YSS LR LR
comp=Z,6μm,20.0s,MS5.8
YSS Yuzh-Sakhalins 68.02 342 *e*P **P** **13 06 42.7 -1.2**
YSS pmax pmax
comp=Z,157nm,0.8s,mb6.1
YSS MLR MLR
comp=Z,6μm,20.0s,MS5.8
SKR Severo-Kuril's 68.68 352 *e*P **P** **13 06 42.0 -5.9**
SKR *e*PPP PPP 13 10 52.0 -7.4
SKR *e*S S 13 15 45.0 -2.4
SKR *e* 13 16 30.0
SKR pmax pmax
comp=Z,3μm,5.0s
SKR pmax pmax
comp=N,2μm,2.0s
SKR pmax pmax
comp=E,2μm,2.0s
SKR pmax pmax
comp=N,130nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.1
SKR smax
comp=N,3μm,10.0s
SKR smax
comp=E,6μm,16.0s
VLA Vladivostok 68.76 333 *i* Pr 13 06 46.7
VLA Vladivostok 68.76 333 *d*/*i*P **P** **13 06 46.3 -2.3**
VLA *e*S S 13 15 51.6 +3.1
VLA *e*SS SS 13 20 12.5 -2.7
VLA pmax pmax
comp=Z,102nm,2.2s,mb5.4
VLA MLR MLR
comp=Z,6μm,23.0s,MS5.7
IPM Ipoh 69.40 282 P **P** **13 06 54.1 +1.1**
KULM Kulim 70.00 282 *e*P **P** **13 06 56.0 -0.7**
WHN Wuhan 70.17 313 *e*P **P** **13 06 59.0 +1.6**
WHN S S 13 16 10.0 +4.7
WHN LR LR
comp=Z,11μm,25.5s,MS6.0
SMY Shemya 70.17 4 PFAKE 13 07 10.0 +13
SMY LR LR
comp=Z,17μm,19.0s,MS6.3
PET Petropavlovsk 70.69 354 *e*P **P** **13 06 57.8 -2.4**
comp=Z,44nm,0.9s,mb5.4
PET LR LR
comp=Z,5μm,22.0s,MS5.8
PET Petropavlovsk 70.69 354 *e*P **P** **13 06 59.2 -1.0**
PET pmax pmax
comp=Z,65nm,2.5s,mb5.1
PET MLR MLR
comp=Z,5μm,19.0s,MS5.8
DL2 Dalian 70.81 323⇑ *i*P **P** **13 07 01.3 +0.1**
DL2 XP sP 13 07 16.3 +2.4
DL2 S S 13 16 15.5 +2.8
DL2 AMB AMB
comp=Z,100nm,0.9s,mb5.8
DL2 AMB AMB
comp=Z,1μm,6.2s
DL2 LR LR
comp=N,2μm,18.4s,MS5.4
DL2 LR LR
comp=E,1μm,17.3s,MS5.4
DL2 LR LR
comp=Z,2μm,17.0s,MS5.5
MDJ Mudanjiang 70.96 332 P **P** **13 07 01.3 -0.7**
MDJ AP pP 13 07 10.8 -0.6
MDJ XP sP 13 07 14.5 -0.2
MDJ PCP PcP 13 07 20.5 -1.8
MDJ PP PP 13 09 39.3 -2.1
MDJ S S 13 16 18.8 +4.5
MDJ AMB AMB
comp=Z,79nm,1.0s,mb5.6
MDJ AMB AMB

comp=Z,1μm,9.2s
MDJ LR LR
comp=N,5μm,22.1s
MDJ LR LR
comp=E,5μm,29.4s
MDJ LR LR
comp=Z,4μm,22.1s,MS5.6
MDJ Mudanjiang 70.96 332 *e*P **P 13 07 01.5 -0.5**
comp=Z,119nm,0.9s,mb5.8
TIA Tai'an 71.74 319 ⇑P **P 13 07 06.3 -0.5**
TIA S S 13 16 26.5 +3.0
TIA AMB AMB
comp=Z,1μm,8.0s
TIA LR LR
comp=N,6μm,17.0s,MS6.0
TIA LR LR
comp=E,5μm,17.0s,MS6.0
SNY Shenyang 71.79 327 ⇑P **P 13 07 07.0 0.0**
SNY S S 13 16 18.8 -5.1
SNY AMB AMB
comp=Z,20nm,1.8s,mb4.8
SNY LR LR
comp=N,4μm,16.2s,MS5.8
SNY LR LR
comp=E,3μm,16.5s,MS5.8
SNY LR LR
comp=Z,5μm,17.7s,MS5.9
CN2 Changchun 72.28 329 *e*P **P 13 07 09.0 -0.9**
CN2 *e*AP pP 13 07 20.0 +0.7
CN2 *e*XP sP 13 07 24.5 +1.9
CN2 *e*S S 13 16 30.0 +0.6
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,2μm,10.0s
CN2 LR LR
comp=N,3μm,16.0s,MS5.8
CN2 LR LR
comp=E,2μm,16.0s,MS5.8
CN2 LR LR
comp=Z,4μm,16.0s,MS5.7
KKTK Khon Kaen 72.29 294 PN **P 13 07 10.5 +0.2**
QSPA South Pole Qui 72.52 180 *e*P **P 13 07 10.6 0.0**
comp=Z,500nm,1.0s,mb6.4
ENH Enshi 73.51 310 *e*P **P 13 07 17.7 +0.4**
comp=Z,57nm,0.9s,mb5.5
NNT Nongplab 73.53 289 P **P 13 07 20.0 +2.3**
GYA Guiyang 73.70 305 ⇓*i*P **P 13 07 20.0 +1.5**
GYA AP pP 13 07 29.8 +1.8
GYA XP sP 13 07 33.5 +2.2
GYA PP PP 13 10 06.8 +2.0
GYA PPP PPP 13 11 51.3 +2.1
GYA S S 13 16 52.0 +6.1
GYA SKS SKS 13 17 18.5 -8.2
GYA AMB AMB
comp=Z,50nm,1.2s,mb5.3
GYA AMB AMB
comp=Z,770nm,5.7s
GYA LR LR
comp=N,1μm,19.8s,MS5.5
GYA LR LR
comp=E,2μm,18.9s,MS5.5
GYA LR LR
comp=Z,3μm,19.5s,MS5.5
KLR Kul'dur 73.75 336 *e*P **P 13 07 14.5 -3.8**
KLR *e*S S 13 16 48.5 +2.6
KLR pmax pmax
comp=E,280nm,3.0s
KLR pmax pmax
comp=Z,300nm,3.0s
KLR pmax pmax
comp=N,700nm,9.0s
KLR pmax pmax
comp=E,500nm,9.0s
KLR pmax pmax
comp=Z,3μm,9.0s
KLR smax
comp=N,2μm,15.0s
KLR smax
comp=E,2μm,15.0s
NST Nakhon Sawan 74.38 292 P **P 13 07 21.0 -1.6**
comp=E,82nm,1.3s,mb5.5
NANT Nan 75.15 295 P **P 13 07 28.0 +0.9**
comp=E,488nm,0.9s,mb6.4
TIY Taiyuan 75.64 318 ⇑P **P 13 07 30.0 +0.5**
TIY S S 13 17 11.0 +3.8
TIY LR LR
comp=E,4μm,17.0s
TIY LR LR
comp=Z,2μm,19.0s,MS5.5
XAN Xi'an 75.93 313 P **P 13 07 32.3 +1.1**
XAN S S 13 17 11.3 +0.8
XAN AMB AMB
comp=Z,36nm,1.7s,mb5.0
XAN AMB AMB
comp=Z,1μm,9.3s
XAN LR LR
comp=N,2μm,17.0s,MS5.6
XAN LR LR
comp=E,2μm,18.7s,MS5.6
XAN LR LR
comp=Z,6μm,17.9s,MS6.0
RPN Rapa Nui 76.06 114 PFAKE 13 07 40.0 +7.9
RPN LR LR
comp=Z,1μm,19.0s,MS5.2
KMI Kunming 76.19 302 ⇓P **P 13 07 35.0 +2.2**
KMI AP pP 13 07 44.3 +2.0
KMI XP sP 13 07 47.8 +2.2
KMI PP PP 13 10 27.5 +1.8
KMI PPP PPP 13 12 14.3 +1.4
KMI S S 13 17 18.0 +4.5
KMI XS 13 17 33.8
KMI SKS SKS 13 17 41.0 -3.9
KMI SS SS 13 22 12.8 +2.5
KMI AMB AMB
comp=Z,60nm,1.6s,mb5.3
KMI AMB AMB
comp=Z,1μm,4.6s
KMI LR LR
comp=N,4μm,23.6s,MS5.7
KMI LR LR
comp=E,2μm,23.6s,MS5.7
KMI LR LR
comp=Z,4μm,36.3s
KMI Kunming 76.19 302 ⇓P **P 13 07 35.0 +2.2**
comp=Z,60nm,1.6s,mb5.3
KMI pP pP 13 07 44.3 +2.0
KMI PcP PcP 13 07 46.9 +1.8
KMI sP sP 13 07 47.7 +2.1
KMI PP PP 13 10 27.6 +1.9
KMI PPP PPP 13 12 14.3 +1.4
KMI S S 13 17 18.1 +4.6
KMI sS 13 17 33.8
KMI SKS SKS 13 17 41.0 -3.9
KMI SS SS 13 22 12.8 +2.5
KMI LR LR
comp=Z,4μm,36.3s,MS5.5
KMI Kunming 76.19 302 ⇓P **P 13 07 35.0 +2.2**
KMI *PP pP 13 07 44.3 +2.0
KMI 13 07 46.9
KMI *SP sP 13 07 47.7 +2.1
KMI 13 10 27.6
KMI PPP PPP 13 12 14.3 +1.4
KMI S S 13 17 18.1 +4.6
KMI *SS 13 17 33.8
KMI 13 17 41.0
KMI SS SS 13 22 12.8 +2.5
KMI pmax pmax
comp=Z,60nm,1.6s,mb5.3
KMI MLR MLR
comp=Z,4μm,36.3s,MS5.5
CHRT Chiangrai 76.38 296 ⇑P **P 13 07 35.5 +1.5**
CHG Chiang Mai 76.67 295 ⇑P **P 13 07 37.1 +1.4**
comp=Z,98nm,0.9s,mb5.7
HHC Hu-ho-hao-te 78.02 320 *e*P **P 13 07 43.5 +0.8**
HHC PCP PcP 13 07 53.8 +1.1
HHC PP PP 13 10 41.5 +0.5
HHC S S 13 17 39.0 +6.0
HHC SKS SKS 13 17 51.0 -6.8
HHC SCS ScS 13 17 56.8 +0.2
HHC AMB AMB
comp=Z,58nm,1.0s,mb5.5
HHC AMB AMB
comp=Z,1μm,6.9s
HHC LR LR
comp=N,3μm,16.6s,MS5.7
HHC LR LR
comp=E,2μm,16.6s,MS5.7
HHC LR LR
comp=Z,3μm,5.3s
MA2 Magadan 78.07 351 *e*P **P 13 07 42.9 +0.4**
comp=Z,36nm,0.9s,mb5.3
MA2 LR LR
comp=Z,7μm,22.0s,MS6.0
MA2 Magadan 78.07 351 *de*P **P 13 07 42.2 -0.3**
MA2 *e*S S 13 17 33.5 +0.4
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,7μm,20.0s,MS6.0
CD2 Chengdu 78.09 308 ⇓*i*P **P 13 07 45.0 +1.7**
CD2 PP PP 13 10 45.3 +3.5
CD2 PPP PPP 13 12 31.3 +0.4
CD2 S S 13 17 34.0 0.0
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CD2 AMB AMB
comp=Z,1μm,8.4s
CD2 LR LR
comp=N,3μm,16.8s
CD2 LR LR
comp=Z,3μm,26.4s
HIA Hailar 78.94 330 *e*P **P 13 07 46.6 -0.9**
comp=Z,137nm,1.4s,mb5.7
HIA Hailar 78.94 330 *e*P **P 13 07 46.6 -0.9**
HIA pmax pmax
comp=Z,137nm,1.4s
MAW Mawson 79.49 202 *i*S S 13 17 54.7 +6.6
MAW Mawson 79.49 202 *e*P **P 13 07 50.9 +0.8**
comp=Z,44nm,1.1s,mb5.3,baz=102,slow=7.3,SNR=46
MAW S S 13 17 52.6 +4.5
comp=Z,0.6nm,0.4s,baz=194,slow=17,SNR=2.0
MAW LR LR 13 38 55.8
comp=Z,8μm,19.2s,MS6.1,baz=98,slow=33
MAW Mawson 79.49 202 *e*P **P 13 07 50.7 +0.5**
comp=Z,47nm,1.0s,mb5.4
MAW *i*S S 13 17 54.7 +6.6
MAW Mawson 79.49 202 *e*P **P 13 07 50.7 +0.5**
MAW *i*S S 13 17 54.7 +6.6
MAW pmax pmax
comp=Z,47nm,1.0s
PBA Port Blair 79.55 286 *ex* x 13 08 03.0
PBA AMb AMB 13 08 11.2
comp=Z,190nm,1.1s,mb5.9
LZH Lanzhou 80.55 312 P **P 13 07 59.3 +2.8**
LZH AP pP 13 08 08.5 +2.5
LZH XP sP 13 08 11.5 +2.3
LZH PP PP 13 11 04.0 +2.1
LZH S S 13 18 01.1 +1.3
LZH SKS SKS 13 18 07.2 -8.8
LZH XS 13 18 17.0
LZH SS SS 13 23 18.3 +2.8
LZH AMB AMB
comp=Z,200nm,1.4s,mb5.8
LZH AMB AMB
comp=Z,2μm,5.0s
LZH LR LR
comp=E,8μm,19.3s
LZH LR LR
comp=Z,7μm,19.8s,MS6.0
LZH Lanzhou 80.55 312 P **P 13 07 59.2 +2.7**
comp=Z,200nm,1.4s,mb5.8
LZH pP pP 13 08 08.4 +2.4
LZH sP sP 13 08 11.5 +2.3
LZH PP PP 13 11 04.0 +2.1
LZH S S 13 18 01.1 +1.3
LZH SKS SKS 13 18 07.2 -8.8
LZH sS 13 18 17.0
LZH PS PS 13 18 52.4 +2.4
LZH SS SS 13 23 18.3 +2.8
LZH LR LR
comp=Z,7μm,19.8s,MS6.0
LZH Lanzhou 80.55 312 P **P 13 07 59.2 +2.7**
LZH *PP pP 13 08 08.4 +2.4
LZH *SP sP 13 08 11.5 +2.3
LZH 13 11 04.0
LZH S S 13 18 01.1 +1.3
LZH 13 18 07.2
LZH PS PS 13 18 52.4 +2.4
LZH SS SS 13 23 18.3 +2.8
LZH pmax pmax
comp=Z,200nm,1.4s,mb5.8
LZH MLR MLR
comp=Z,7μm,19.8s,MS6.0
SEY Seymchan 81.10 353 *i*P **P 13 07 57.4 -1.4**
SEY 13 08 03.2
SEY *e* 13 11 07.7
SEY *e*PPP PPP 13 13 04.7 +7.4
SEY *e*S S 13 18 02.4 -2.5
SEY *e*PS PS 13 18 48.5 -8.0
SEY *e*SS SS 13 23 17.9 -5.2
SEY *e* 13 26 46.4
SEY smax
comp=N,3μm,15.1s
SEY smax
comp=E,8μm,20.4s
KDAK Kodiak Island 81.90 20 P **P 13 08 04.0 +1.0**
comp=E,11nm,0.9s,mb4.8,baz=270,slow=1.0,SNR=4.2
KDAK LR LR 13 44 07.9
comp=E,9μm,18.2s,MS6.2,baz=225,slow=36
KDAK Kodiak Island 81.90 20 *e*P **P 13 08 02.9 -0.1**
comp=E,34nm,0.9s,mb5.3
KDAK LR LR
comp=Z,2μm,19.0s,MS5.4
CLNS Chul'man 82.28 338 *e*P **P 13 08 05.4 +0.4**
CLNS *e* 13 11 11.9
CLNS *e*PPP PPP 13 13 03.4 -4.7
CLNS *e*S S 13 18 23.2 +6.0
CLNS *e*SS SS 13 23 42.6 +1.6
CLNS pmax pmax
comp=Z,133nm,0.9s,mb5.9
CLNS pmax pmax
comp=N,100nm,1.0s
CLNS pmax pmax
comp=E,77nm,1.0s
CLNS pmax pmax
comp=Z,21nm,1.4s,mb4.9
CLNS pmax pmax
comp=N,18nm,0.7s
CLNS pmax pmax
comp=E,21nm,1.0s
CLNS smax
comp=N,2μm,13.9s
CLNS smax
comp=Z,807nm,14.8s
CLNS smax
comp=E,3μm,13.6s
CLNS MLR MLR
comp=N,3μm,17.0s,MS5.9
CLNS MLR MLR
comp=Z,5μm,17.0s,MS5.9
CLNS MLR MLR
comp=E,3μm,16.0s,MS5.9
SVW2 Sparrevohn 83.66 17 *e*P **P 13 08 13.0 +1.0**
SPU Mount Spurr 84.75 18 P **P 13 08 18.0 +0.5**
SLKM Skilak Lake 84.79 19 *e*P **P 13 08 16.5 -1.2**
YAK Yakutsk 84.83 343 *e*P **P 13 08 17.1 -0.7**
comp=E,163nm,0.8s,mb6.2
YAK *ep*P pP 13 08 23.0 -4.5
YAK LR LR
comp=Z,5μm,19.0s,MS5.9
YAK Yakutsk 84.83 343 *i*P **P 13 08 16.6 -1.3**
YAK *e* 13 08 23.1
YAK *e*S S 13 18 41.9 -0.6
YAK pmax pmax
comp=Z,53nm,1.1s,mb5.6
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,177nm,11.4s
YAK smax
comp=N,2μm,16.6s
YAK smax
comp=E,1μm,12.5s
YAK MLR MLR
comp=N,2μm,17.0s,MS5.6
YAK MLR MLR
comp=E,2μm,17.0s,MS5.6
YAK MLR MLR
comp=Z,3μm,17.0s,MS5.7
GTA Gaotai 84.94 314 *e*P **P 13 08 19.5 +0.5**
GTA AP pP 13 08 28.5 -0.1
GTA XP sP 13 08 33.0 +1.3
GTA PP PP 13 11 38.3 +0.8
GTA SKS SKS 13 18 37.3 -8.9
GTA AMB AMB
comp=Z,52nm,1.9s,mb5.3
GTA AMB AMB
comp=Z,1μm,7.6s
GTA LR LR
comp=N,3μm,21.0s,MS5.8
GTA LR LR
comp=E,3μm,23.7s,MS5.8
GTA LR LR
comp=Z,4μm,27.9s,MS5.7
SONM Songino Array 85.02 324 P **P 13 08 20.0 +0.8**
comp=Z,118nm,0.9s,mb6.0,baz=133,slow=3.7,SNR=227
SONM S S 13 18 43.6 -1.1
comp=Z,0.4nm,0.7s,baz=297,slow=3.3,SNR=2.2
SONM PKPPKP 13 34 32.1
comp=Z,1.0nm,1.0s,baz=135,slow=2.0,SNR=4.6
SONM LR LR 13 43 18.3
comp=Z,4μm,20.8s,MS5.8,baz=120,slow=34
SHL Shillong 85.31 298 *e*P **P 13 08 21.5 +0.3**
SHL *eP* 13 08 23.1
SHL AMb AMB 13 08 29.6
comp=Z,555nm,1.0s
SHL *e*S S 13 18 41.5 -6.7
BILL Bilibino 85.33 359 *e*P **P 13 08 19.3 -0.9**
comp=Z,80nm,1.0s,mb5.8
BILL LR LR
comp=Z,4μm,21.0s,MS5.8
BILL Bilibino 85.33 359 ⇓*i*P **P 13 08 19.5 -0.7**
BILL pmax pmax
comp=Z,141nm,2.5s,mb5.7
BILL MLR MLR
comp=Z,4μm,24.0s,MS5.7
HOPS Hopland 85.58 47 PFAKE 13 08 30.0 +7.8
HOPS LR LR
comp=Z,19μm,19.0s,MS6.5
SNCC San Nicolas Is 85.73 53 PFAKE 13 08 30.0 +6.9
SNCC LR LR
comp=Z,11μm,22.0s,MS6.2
SAO San Andreas Ge 85.76 49 PFAKE 13 08 30.0 +6.8
SAO LR LR
comp=Z,10μm,19.0s,MS6.2
PMR Palmer 85.97 19 *e*P **P 13 08 25.7 +2.2**
comp=Z,21nm,0.9s,mb5.4
PMR LR LR
comp=Z,9μm,19.0s,MS6.2
PMR Palmer 85.97 19 *e*P **P 13 08 25.7 +2.2**
PMR pmax pmax
comp=Z,21nm,0.9s,mb5.4
PMR MLR MLR
comp=Z,9μm,19.0s,MS6.2
SYO Syowa Base 86.18 196 ⇓P **P 13 08 23.4 -1.1**
SYO Syowa Base 86.18 196 ⇑PcP PcP 13 08 25.2 -2.2
WDC Whiskeytown Da 86.65 46 *e*P **P 13 08 27.8 +0.3**
comp=Z,69nm,1.5s,mb5.7
WDC LR LR
comp=Z,19μm,22.0s,MS6.4
WDC Whiskeytown Da 86.65 46 *e*P **P 13 08 27.8 +0.3**
WDC pmax pmax
comp=Z,69nm,1.5s,mb5.7
WDC MLR MLR
comp=Z,19μm,22.0s,MS6.4
OHCM Honcut 86.84 47 *e*P **P 13 08 28.3 -0.1**
YBH Yreka Blue Hor 87.05 45 P **P 13 08 28.7 -0.7**
comp=Z,9.4nm,1.0s,mb5.0,baz=172,slow=1.2,SNR=8.4
YBH LR LR 13 38 28.6
comp=Z,9μm,21.7s,MS6.2,baz=244,slow=30
YBH Yreka Blue Hor 87.05 45 *e*P **P 13 08 29.1 -0.3**
comp=Z,28nm,1.3s,mb5.3
YBH LR LR
comp=Z,10μm,22.0s,MS6.2
YBH Yreka Blue Hor 87.05 45 *e*P **P 13 08 29.1 -0.3**
YBH pmax pmax
comp=Z,28nm,1.3s
YBH MLR MLR
comp=Z,10μm,22.0s
CMB Columbia Colle 87.06 49 *e*P **P 13 08 28.0 -1.5**
comp=Z,40nm,1.1s,mb5.6
CMB LR LR
comp=Z,10μm,22.0s,MS6.2
CMB Columbia Colle 87.06 49 *e*P **P 13 08 28.6 -0.9**
CMB pmax pmax
comp=Z,40nm,1.0s,mb5.6
MWC Mount Wilson 87.24 53 *e*P **P 13 08 30.7 +0.3**
CAL Calcutta 87.27 295 *e*P **P 13 08 29.9 -1.0**
CAL *e*S S 13 18 56.9 -10
HUMO Hull Mountain 87.28 44 *e*P **P 13 08 29.4 -1.1**
comp=Z,21nm,0.9s,mb5.4
HUMO LR LR
comp=Z,9μm,22.0s,MS6.1
LSA Lhasa 87.44 302 P **P 13 08 32.8 +1.2**
LSA XP sP 13 08 46.5 +2.2
LSA AMB AMB
comp=Z,20nm,1.8s,mb5.0
LSA AMB AMB
comp=Z,1μm,10.8s
LSA LR LR
comp=E,2μm,24.8s
LSA LR LR
comp=Z,3μm,23.5s,MS5.7
LSA Lhasa 87.44 302 *e*P **P 13 08 32.3 +0.7**
comp=Z,39nm,1.0s,mb5.6
LSA Lhasa 87.44 302 *e*P **P 13 08 32.3 +0.7**
LSA pmax pmax
comp=Z,39nm,1.0s,mb5.6
ISA Isabella 87.50 51 PFAKE 13 08 40.0 +8.3
ISA LR LR
comp=Z,4μm,21.0s,MS5.8
BEKR Beckwourth 87.85 47 *e*P **P 13 08 32.0 -1.2**
comp=Z,33nm,1.2s,mb5.4
COR Corvallis 87.95 42 PFAKE 13 08 40.0 +6.4
COR LR LR
comp=Z,1μm,22.0s,MS5.3
SIT Sitka 88.05 27 PFAKE 13 08 40.0 +6.3
SIT LR LR
comp=Z,9μm,19.0s,MS6.2
ZAK Zakamensk 88.10 325 ⇓*i*P **P 13 08 34.7 +0.5**
ZAK *e* 13 18 51.0
ZAK pmax pmax
comp=Z,50nm,1.1s,mb5.7
ZAK pmax pmax
comp=Z,40nm,1.2s,mb5.5
MTUM Tungsten Hills 88.11 50 *e*P **P 13 08 34.1 -0.4**
PFO Pinyon Flat Ob 88.23 54 P **P 13 08 29.8 -5.5**
comp=Z,22nm,1.2s,mb5.3
PFO LR LR
comp=Z,3μm,21.0s,MS5.7
PFO Pinyon Flat Ob 88.23 54 P **P 13 08 35.9 +0.7**
PFO pmax pmax
comp=Z,22nm,1.2s,mb5.3
IRK Irkutsk 88.52 327 *e*P **P 13 08 35.6 -0.5**
IRK *e* 13 19 23.7
IRK pmax pmax
comp=Z,96nm,2.7s,mb5.7
MENT Mentasta 88.68 20 *e*P **P 13 08 38.1 +1.5**
NVAR Mina Array Bea 88.72 49 LR LR 13 39 35.5
comp=Z,8μm,21.8s,MS6.1,baz=270,slow=30
MOD Modoc 88.75 45 *e*P **P 13 08 36.5 -1.0**
comp=Z,24nm,0.9s,mb5.5
MOD LR LR
comp=Z,11μm,19.0s,MS6.3
BBB Bella Bella 88.82 34 LR LR 13 42 52.3
comp=Z,5μm,18.8s,MS6.0,baz=244,slow=32
MNV Mina 88.83 49 *e*P **P 13 08 37.3 -0.7**
comp=Z,26nm,1.0s,mb5.5
MNV LR LR
comp=Z,9μm,22.0s,MS6.1
MNV Mina 88.83 49 *e*P **P 13 08 37.3 -0.7**
MNV pmax pmax
comp=Z,26nm,1.0s,mb5.5
MNV MLR MLR
comp=Z,9μm,22.0s,MS6.1
PMSA Palmer Station 88.99 160 *e*P **P 13 08 37.2 -0.9**
comp=Z,62nm,0.9s,mb5.9
PMSA LR LR
comp=Z,5μm,19.0s,MS6.0
ILAR Eielson Array 89.02 18 P **P 13 08 35.0 -3.2**
comp=Z,9.0nm,0.7s,mb5.2,baz=241,slow=4.7,SNR=27
ILAR PKPPKP 13 34 22.6
comp=Z,1.1nm,1.0s,baz=348,slow=2.5,SNR=6.4

ILAR LR LR 13 45 38.3
comp=Z,7µm,20.1s,MS6.1,baz=174,slow=34
ERK Elk Rock 89.33 41 P **P** **13 08 41.0 +0.9**
PGC Sidney 89.71 38 *e*P **P** **13 08 41.2 -0.7**
comp=Z,94nm,1.0s,mb6.1
LDFC Landfair 89.81 53 P **P** **13 08 42.5 -0.2**
SNB Saturna Island 89.93 38 P **P** **13 08 43.7 +0.8**
MOY Mondy 89.99 325 *e*P **P** **13 08 43.5 +0.4**
MOY pmax pmax
comp=Z,138nm,3.2s
WVOR Wild Horse Val 90.09 45 *e*P **P** **13 08 42.4 -1.4**
comp=Z,68nm,1.4s,mb5.8
WVOR LR LR
comp=Z,11µm,22.0s,MS6.2
WVOR Wild Horse Val 90.09 45 P **P** **13 08 43.3 -0.5**
WVOR pmax pmax
comp=Z,69nm,1.4s,mb5.8
VIS Vishakhapatnam 90.14 288 *e*P **P** **13 08 42.0 -2.6**
VIS *e*S SKS 13 19 10.4 -10
NEN Nelson 90.22 53 *e*P **P** **13 08 45.1 +0.5**
NVL N'lazarevskaya 90.37 186 ⇓*i*P **P** **13 08 43.9 -0.5**
NVL *e*'PP pP 13 08 59.3 +5.2
NVL *e* 13 19 42.2
NVL pmax pmax
comp=Z,12nm,1.1s,mb5.1
NVL MLR MLR
comp=Z,530nm,18.8s,MS5.0
MAIT Maitri 90.37 188 *e*P **P** **13 08 36.1 -8.3**
MAIT *e*PP PP 13 12 25.5 +4.3
MAIT *e*SKSac 13 19 23.7
TWW Teanaway 90.60 40 P **P** **13 08 47.1 +1.1**
RPW Rockport 90.77 39 P **P** **13 08 46.4 -0.4**
DAWY Dawson 90.88 21 *e*P **P** **13 08 46.1 -0.7**
HAWA Hanford 91.12 41 *e*P **P** **13 08 47.4 -1.0**
comp=Z,3.7nm,1.1s,mb4.6
HAWA LR LR
comp=Z,271nm,22.0s
DLBC Dease Lake 91.17 28 P **P** **13 08 52.0 +3.6**
comp=Z,7.0nm,1.0s,mb5.0,baz=217,slow=7.7,SNR=5.2
DLBC LR LR 13 45 24.8
comp=Z,6µm,18.6s,MS6.1,baz=244,slow=33
H2OWA Water 91.19 41 P **P** **13 08 49.5 +0.7**
NLW Nelson Butte 91.32 40 P **P** **13 08 49.7 +0.4**
PKI Pulchoki 91.44 298 *e*P **P** **13 08 51.5 +1.1**
VNA3 Neumayer Olymp 91.44 181 *e* **P** **13 08 50.2 +0.8**
VNA3 Neumayer Olymp 91.44 181 *e* pP 13 08 58.2 -0.8
VNA3 Neumayer Olymp 91.44 181 *e* sP 13 09 01.8 -0.3
VNA3 Neumayer Olymp 91.44 181 *e* PP 13 12 25.0 -4.7
VNA3 Neumayer Olymp 91.44 181 *e*S S 13 19 46.0 +2.0
VNA3 Neumayer Olymp 91.44 181 ⇑*i*P **P** **13 08 49.0 -0.4**
VNA3 *e* 13 08 50.2
VNA3 *e* pP 13 08 58.2 -0.8
VNA3 *e* 13 09 01.8
VNA3 *e* 13 09 21.8
VNA3 *e* 13 09 30.5
VNA3 *e* 13 09 33.2
VNA3 *e* 13 12 25.0
VNA3 *e* 13 13 39.7
VNA3 *e* 13 13 47.5
VNA3 *e* 13 13 59.4
VNA3 *e*S S 13 19 46.0 +2.0
VNA3 *e* 13 19 54.5
KKN Kakani 91.62 299 *e*P **P** **13 08 52.2 +1.0**
DMN Daman 91.71 298 *e*P **P** **13 08 52.8 +1.2**
comp=Z,42nm,0.8s,mb5.8
VNA2 Neumayer--Watz 91.72 182 *e* **P** **13 08 51.8 +1.2**
VNA2 Neumayer--Watz 91.72 182 *e* pP 13 09 00.0 -0.3
VNA2 Neumayer--Watz 91.72 182 *e* sP 13 09 03.3 -0.1
VNA2 Neumayer--Watz 91.72 182 *e* PP 13 12 28.4 -3.5
VNA2 Neumayer--Watz 91.72 182 *e*S S 13 19 48.8 +2.4
VNA2 Neumayer--Watz 91.72 182 ⇑*i*P **P** **13 08 50.6 0.0**
VNA2 *e* 13 08 51.8
VNA2 *e* pP 13 09 00.0 -0.3
VNA2 *e* 13 09 03.3
VNA2 *e* 13 09 24.5
VNA2 *e* 13 09 32.3
VNA2 *e* 13 09 34.8
VNA2 *e* 13 12 28.4
VNA2 *e* 13 13 41.4
VNA2 *e* 13 13 49.9
VNA2 *e* 13 14 01.6
VNA2 *e*S S 13 19 48.8 +2.4
VNA2 *e* 13 19 57.0
ELK Elko 91.80 48 LR LR 13 41 20.4
comp=Z,8µm,21.7s,MS6.1,baz=238,slow=30
VNA1 Neumayer--Stat 92.01 181 *e* **P** **13 08 53.6 +1.6**
VNA1 Neumayer--Stat 92.01 181 *e* pP 13 09 02.5 +0.9
VNA1 Neumayer--Stat 92.01 181 *e* sP 13 09 06.1 +1.4
VNA1 Neumayer--Stat 92.01 181 *e* PP 13 12 26.7 -7.6
VNA1 Neumayer--Stat 92.01 181 ⇑*i*P **P** **13 08 52.1 +0.1**
VNA1 *e* 13 08 53.6
VNA1 *e* pP 13 09 02.5 +0.9
VNA1 *e* 13 09 06.1
VNA1 *e* 13 09 23.9
VNA1 *e* 13 09 32.2
VNA1 *e* 13 09 34.3
VNA1 *e* 13 12 26.7
VNA1 *e* 13 13 40.0
VNA1 *e* 13 13 48.2
VNA1 *e* 13 14 00.1
ARUT Antelope Range 92.04 51 *e*P **P** **13 08 53.5 +0.7**
GKN Gorkha 92.23 299 *e*P **P** **13 08 54.3 +0.3**
comp=Z,25nm,0.8s,mb5.6
TUC Tucson 92.23 57 *e*P **P** **13 08 54.6 +0.7**
comp=Z,17nm,1.3s,mb5.2
TUC LR LR
comp=Z,3µm,22.0s,MS5.7
TUC Tucson 92.23 57 *e*P **P** **13 08 54.6 +0.7**
TUC pmax pmax
comp=Z,17nm,1.3s,mb5.2
TUC MLR MLR
comp=Z,3µm,22.0s,MS5.7
WUAZ Wupatki 92.83 54 *e*P **P** **13 08 57.1 +0.5**
comp=Z,14nm,0.9s,mb5.4
WUAZ LR LR
comp=Z,10µm,20.0s,MS6.3
DGAR Diego Garcia 92.83 261 PFAKE 13 09 10.0 +13
DGAR LR LR
comp=Z,3µm,19.0s,MS5.8
KOLN Koldanda 93.03 298 *e*P **P** **13 08 57.8 +0.1**
comp=Z,59nm,1.8s,mb5.7
MSU Marysvale 93.22 51 *e*P **P** **13 08 58.2 -0.1**
DUG Dugway 93.33 49 PFAKE 13 09 10.0 +11
DUG LR LR
comp=Z,12µm,22.0s,MS6.3
NEW Newport 93.37 40 P **P** **13 08 58.6 -0.1**
comp=Z,1.4nm,0.5s,mb4.6,baz=217,slow=5.1,SNR=2.1
NEW Newport 93.37 40 *e*P **P** **13 08 57.7 -1.0**
comp=Z,7.6nm,1.0s,mb5.1
NEW LR LR
comp=Z,4µm,21.0s,MS5.9
NEW Newport 93.37 40 P **P** **13 08 58.8 +0.1**
NEW pmax pmax
comp=Z,8.0nm,1.0s
USHA Ushuaia 93.61 151 P **P** **13 08 59.7 0.0**
comp=Z,39nm,1.0s,mb5.8,baz=313,slow=6.5,SNR=8.5
HYB Hyderabad 94.39 287 *i*P **P** **13 09 05.5 +1.4**
HYB Hyderabad 94.39 287 *e*P **P** **13 08 56.0 -8.1**
HWUT Hardware Ranch 94.70 48 PFAKE 13 09 20.0 +15
HWUT LR LR
comp=Z,7µm,22.0s,MS6.1
MCMT McKenzie Canyo 94.88 45 *e*P **P** **13 09 06.8 +1.1**
NGP Nagpur 95.02 290 *e*P **P** **13 09 07.9 +0.9**
NGP AMb AMB 13 09 17.3
comp=Z,17nm,0.8s,mb5.5
WMQ Urumqi 95.02 314 ⇑*i*P **P** **13 09 08.0 +1.6**
WMQ AP pP 13 09 18.5 +2.4
WMQ XP sP 13 09 22.5 +3.3
WMQ PP PP 13 13 00.0 +2.0
WMQ PPP PPP 13 15 05.0 +2.0
WMQ SKS SKS 13 19 40.0 -6.9
WMQ S S 13 20 17.0 +1.4
WMQ SS SS 13 26 48.0 +2.7
WMQ AMB AMB
comp=Z,47nm,1.7s,mb5.6
WMQ AMB AMB
comp=Z,870nm,7.8s
WMQ LR LR
comp=N,4µm,19.4s,MS5.9
WMQ LR LR
comp=E,2µm,21.4s,MS5.9
WMQ LR LR
comp=Z,4µm,24.5s,MS5.8

INK Inuvik 95.37 19 P **P** **13 09 06.7 -0.7**
comp=Z,4.2nm,0.8s,mb4.9,baz=316,slow=4.1,SNR=1.9
INK LR LR 13 48 40.8
comp=Z,5µm,19.7s,MS6.0,baz=232,slow=33
INK Inuvik 95.37 19 P **P** **13 09 06.7 -0.7**
INK LR LR 13 48 40.8
AHID Auburn Hatcher 95.40 47 PFAKE 13 09 20.0 +12
AHID LR LR
comp=Z,8µm,22.0s,MS6.2
RRI2 Red Ridge 95.43 46 *e*P **P** **13 09 09.8 +1.5**
comp=Z,6.5nm,0.8s,mb5.1
REDW Red Top Meadow 95.76 46 *e*P **P** **13 09 11.2 +1.3**
comp=Z,8.9nm,1.3s,mb5.0
IMW Indian Meadow 95.87 46 P **P** **13 09 08.9 -1.4**
comp=Z,5.0nm,1.0s,mb4.9
MNTX Cornudas Mount 96.42 59 PFAKE 13 09 20.0 +6.9
MNTX LR LR
comp=Z,3µm,19.0s,MS5.8
LKWY Lake 96.45 45 PFAKE 13 09 20.0 +7.1
LKWY LR LR
comp=Z,24µm,19.0s,MS6.7
ANMO Albuquerque 96.48 56 P **P** **13 09 15.2 +1.9**
comp=Z,1.1nm,0.8s,baz=246,slow=6.1,SNR=5.3
ANMO LR LR 13 43 58.7
comp=Z,6µm,21.9s,MS6.0,baz=269,slow=30
ANMO Albuquerque 96.48 56 *e*P **P** **13 09 12.6 -0.8**
comp=Z,3.4nm,1.0s,mb4.7
ANMO LR LR
comp=Z,6µm,22.0s,MS6.0
ANMO Albuquerque 96.48 56 *e*P **P** **13 09 12.6 -0.7**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO MLR MLR
comp=Z,6µm,22.0s
PDAR Pinedale Array 96.48 47 P **P** **13 09 14.6 +1.5**
comp=Z,0.6nm,0.8s,baz=247,slow=6.9,SNR=3.6
PDAR PP PP 13 13 05.5 -4.2
comp=Z,2.2nm,1.1s,baz=225,slow=2.1,SNR=4.7
PDAR PKKPbc 13 25 59.0
comp=Z,2.8nm,0.8s,baz=90,slow=4.4,SNR=12
PDAR LR LR 13 45 55.5
comp=Z,4µm,21.3s,MS5.8,baz=274,slow=31
AKL Akola 96.72 290 *e*P **P** **13 09 14.9 +0.3**
BHPL Bhopal 97.05 292 *e*P **P** **13 09 18.0 +1.9**
BHPL *ex* x 13 09 29.2
BHPL AMb AMB 13 09 31.1
comp=Z,24nm,1.7s,mb5.3
BHPL *e*S SKS 13 19 49.2 -9.0
BHPL *e*S SKS 13 19 49.2 -9.0
LTX Lajitas 97.18 62 PFAKE 13 09 30.0 +13
LTX LR LR
comp=Z,7µm,19.0s,MS6.2
TXAR Lajitas Array 97.18 62 P **P** **13 09 17.6 +1.0**
comp=Z,1.1nm,0.8s,baz=214,slow=4.5,SNR=5.7
TXAR PKKPbc 13 25 57.1
comp=Z,1.3nm,0.9s,baz=108,slow=4.0,SNR=7.6
TXAR LR LR 13 47 44.8
comp=Z,6µm,18.2s,MS6.2,baz=295,slow=32
SDCO Great Sand Dun 98.00 53 PFAKE 13 09 30.0 +10
SDCO LR LR
comp=Z,8µm,21.0s,MS6.2
KAD Karad 98.37 285 *e*P **P** **13 09 21.2 -1.0**
KAD AMb AMB 13 09 58.8
comp=Z,31nm,2.1s,mb5.5
KAD *i* x x 13 13 28.6
KAD *ex* x 13 19 49.2
ISCO Idaho Springs 98.48 51 PFAKE 13 09 30.0 +7.8
ISCO LR LR
comp=Z,15µm,22.0s,MS6.5
KLP Kalpa 98.57 300 *e*P **P** **13 09 23.4 +0.6**
KLP AMb AMB 13 09 35.8
KLP *ex* x 13 13 15.4
KLP *i* x x 13 20 23.7
NDI New Delhi 98.69 297 *e*P **P** **13 09 23.6 +0.2**
NDI AMb AMB 13 09 38.1
comp=Z,16nm,1.1s,mb5.5
AYAN Aya Nagar 98.71 297 *e*P **P** **13 09 22.1 -1.4**
AYAN AMb AMB 13 09 35.1
AYAN *ex* x 13 12 49.5
KUDL Kundal 99.17 297 *e*P **P** **13 09 26.5 +0.9**
KUDL AMb AMB 13 09 29.5
comp=Z,6.6nm,1.6s,mb4.9
MKAR Makanchi Array 99.54 316 P **P** **13 09 26.5 -0.4**
comp=Z,5.4nm,0.7s,mb5.1,baz=101,slow=6.2,SNR=30
MKAR PP PP 13 13 32.2 -0.9
comp=Z,5.7nm,1.0s,baz=104,slow=10.0,SNR=4.3
MKAR PKKPbc 13 25 49.7
comp=Z,1.1nm,0.8s,baz=270,slow=3.6,SNR=5.0
MKAR LR LR 13 58 39.1
comp=Z,2µm,18.5s,MS5.7,baz=358,slow=38
MKAR Makanchi Array 99.54 316 P **P** **13 09 26.5 -0.4**
MKAR PP PP 13 13 32.2 -0.9
MKAR PKKPbc 13 25 49.7
MKAR LR LR 13 58 39.1
KHET Khetri 99.73 296 *i* x **P** **13 09 28.9 +0.7**
KHET AMb AMB 13 09 30.7
comp=Z,7.0nm,1.1s,mb5.0
YKA Yellowknife Ar 99.79 27 P **P** **13 09 29.0 +1.4**
comp=Z,6.7nm,1.0s,mb5.0,baz=250,slow=4.0,SNR=3.8
YKA LR LR 13 53 43.2
comp=Z,5µm,18.3s,MS6.0,baz=240,slow=35
LAO LASA Array 99.86 44 PFAKE 13 09 40.0 +12
LAO LR LR
comp=Z,5µm,19.0s,MS6.0
ZAL Zalesovo 99.92 323 P **P** **13 09 28.6 +0.1**
comp=Z,6.8nm,1.0s,mb5.0,baz=359,slow=5.1,SNR=36
ZAL LR LR 13 53 55.1
comp=Z,6µm,20.3s,MS6.1,baz=4.8,slow=35
BOM Bombay 100.05 287 *e*P P 13 09 31.1 +1.3
comp=Z,76nm,18.9s
BOM *ex* x 13 19 42.0
EFI East Falkland 100.36 153 PFAKE 13 09 40.0 +10
EFI LR LR
comp=Z,589nm,21.0s,MS5.1
PLCA Paso Flores 100.73 139 P P 13 09 32.5 +0.1
comp=Z,2.2nm,0.9s,baz=184,slow=7.6,SNR=4.9
PLCA Paso Flores 100.73 139 P P 13 09 32.5 +0.1
PLCA MLR MLR
comp=Z,2µm,22.0s
NVS Novosibirsk 101.04 324 *e*P P 13 09 33.1 -0.3
NVS *i* S 13 20 11.1
NVS pmax pmax
comp=N,20nm,1.7s
NVS pmax pmax
comp=Z,50nm,1.7s
NVS pmax pmax
comp=E,26nm,1.4s
NVS smax
comp=N,9.0nm,1.5s
NVS smax
comp=E,40nm,1.9s
DGMT Dagmar 101.63 43 PFAKE 13 09 50.0 +14
DGMT LR LR
comp=Z,3µm,20.0s,MS5.7
CBKS Cedar Bluff 102.66 53 PFAKE 13 09 50.0 +9.0
CBKS LR LR
comp=Z,7µm,21.0s,MS6.2
KURK Kurchatov 102.83 319 *e*Pdif Pdif 13 09 41.7 +0.3
comp=Z,26nm,1.4s
KURK LR LR
comp=Z,927nm,19.0s,MS5.3
KURK Kurchatov 102.83 319 *e*P Pdif 13 09 41.7 +0.3
KURK pmax pmax
comp=Z,26nm,1.4s
KURK MLR MLR
comp=Z,927nm,19.0s,MS5.3
JASL Jaisalmer 103.69 294 *ex* Pdif 13 09 54.4 +8.6
AAK Ala-Archa 104.02 311 PFAKE 13 10 00.0 +13
AAK LR LR
comp=Z,553nm,22.0s,MS5.0
AAK Ala-Archa 104.02 311 ⇑*e*P Pdif 13 09 51.5 +4.6
AAK *i* 13 14 02.7
FFC Flin Flon 104.25 37 PFAKE 13 10 00.0 +12
FFC LR LR
comp=Z,2µm,20.0s,MS5.6
MIAR Mount Ida 106.71 58 PFAKE 13 14 20.0
MIAR LR LR
comp=Z,3µm,19.0s,MS5.8
ULM Lac du Bonnet 107.29 42 PFAKE 13 14 20.0
ULM LR LR
comp=Z,5µm,21.0s,MS6.1
BVAR Borovoye Array 108.21 321 PKKPbc 13 25 21.1
comp=Z,1.5nm,0.8s,baz=315,slow=4.2,SNR=5.7
BRVK Borovoye 108.28 321 PFAKE 13 14 20.0
BRVK LR LR
comp=Z,530nm,21.0s,MS5.1

CCM Cathedral Cave 109.10 55 PFAKE 13 14 30.0
CCM LR LR
comp=Z,1µm,19.0s,MS5.5
JTS JuntasAbangare 109.39 85 PFAKE 13 14 30.0
JTS LR LR
comp=Z,1µm,20.0s,MS5.5
MSEY Mahe Island 109.67 258 PFAKE 13 14 30.0
MSEY LR LR
comp=Z,4µm,19.0s,MS6.0
NNA Nana 109.79 110 PFAKE 13 14 30.0
NNA LR LR
comp=Z,878nm,22.0s,MS5.3
EYMN Ely 109.94 45 PFAKE 13 14 30.0
EYMN LR LR
comp=Z,8µm,19.0s,MS6.3
PLAL Pickwick Lake 111.25 59 PFAKE 13 14 30.0 +8.6
PLAL LR LR
comp=Z,4µm,21.0s,MS6.0
LVC Limon Verde 111.71 124 PFAKE 13 14 30.0 +7.4
LVC LR LR
comp=Z,4µm,20.0s,MS5.9
LRAL Lakeview Retre 111.90 61 PFAKE 13 14 30.0 +7.3
LRAL LR LR
comp=Z,4µm,21.0s,MS5.9
WCI Wyandotte Cave 113.00 55 PFAKE 13 14 30.0 +5.2
WCI LR LR
comp=Z,1µm,19.0s,MS5.5
GOGA Godfrey 114.88 61 PFAKE 13 14 40.0 +11
GOGA LR LR
comp=Z,4µm,21.0s,MS6.0
ARU Arti 115.04 325 *e*PKiKP 13 14 22.7
ARU LR LR
comp=Z,858nm,19.0s,MS5.4
ARU Arti 115.04 325 *i* PKIKP PKPdf 13 14 22.8 -5.5
ARU *e* 13 15 22.2
ARU *e* 13 21 32.2
ARU *e*SP SP 13 24 59.7 +0.5
ARU *e*PS PS 13 25 09.6 +6.7
ARU *e*SS SS 13 31 13.4 -4.9
ARU *e*SSS SSS 13 35 35.1 -1.3
LPAZ La Paz 115.49 118 PKKPbc 13 25 01.5
comp=Z,0.6nm,0.5s,baz=352,slow=8.5,SNR=4.4
LPAZ La Paz 115.49 118 PFAKE 13 14 40.0 +10
LPAZ LR LR
comp=Z,2µm,21.0s,MS5.8
SOKR Solikamsk 115.56 328 ⇑*i* PKIKP PKPdf 13 14 25.9 -3.4
SOKR PS PS 13 25 11.0 +3.5
SOKR SS SS 13 31 32.2 +7.2
SOKR SSS SSS 13 35 48.1 +4.0
SOKR pmax pmax
comp=Z,30nm,0.8s
ACSO Alum Creek Sta 115.68 53 PFAKE 13 14 40.0 +10
ACSO LR LR
comp=Z,2µm,19.0s,MS5.7
DWPF Disney 116.07 67 PFAKE 13 14 40.0 +8.9
DWPF LR LR
comp=Z,662nm,20.0s,MS5.2
KBS Kingsbay 117.51 355 *e*SS SS 13 31 51.2 +1.2
KBS AMS AMS 14 01 52.9
comp=Z,1µm,17.6s,MS5.5
KBS Kingsbay 117.51 355 PFAKE 13 14 40.0 +7.3
KBS LR LR
comp=Z,3µm,20.0s,MS5.8
BLA Blacksburg 117.59 57 PFAKE 13 14 40.0 +6.3
BLA LR LR
comp=Z,4µm,20.0s,MS6.0
ERPA Erie 117.95 51 PFAKE 13 14 40.0 +5.7
ERPA LR LR
comp=Z,6µm,19.0s,MS6.3
CPUP Villa Florida 118.19 134 PKKPbc 13 24 51.1
comp=Z,5.8nm,1.0s,baz=138,slow=3.8,SNR=5.2
CPUP Villa Florida 118.19 134 PFAKE 13 14 40.0 +4.8
CPUP LR LR
comp=Z,1µm,19.0s,MS5.6
CBN Corbin 120.02 56 PFAKE 13 14 50.0 +12
CBN LR LR
comp=Z,5µm,19.0s,MS6.2
MVL Millersville 120.76 54 PKPdf PKPdf 13 14 35.1 -4.8
BINY Binghamton 120.92 51 PFAKE 13 14 50.0 +10
BINY LR LR
comp=Z,4µm,22.0s,MS6.0
SUR Sutherland 121.15 213 PKP PKPdf 13 14 38.7 -2.2
comp=Z,22nm,0.9s,baz=142,slow=8.1,SNR=5.1
SUR Sutherland 121.15 213 PKP PKPdf 13 14 38.7 -2.2
SUR LR LR
comp=Z,1µm,19.0s,MS5.5
LVZ Lovozero 121.59 341 *i* PKIKP PKPdf 13 14 35.6 -5.2
LVZ *i* 13 16 07.3
LVZ *i* PS PS 13 26 00.4 -1.2
LVZ *i* SS SS 13 32 41.8 -1.4
LVZ pmax pmax
comp=Z,36nm,1.3s
LVZ MLR MLR
comp=Z,3µm,21.0s,MS5.9
NCB Newcomb 122.04 49 *e*PKPdf PKPdf 13 14 36.1 -6.2
NCB LR LR
comp=Z,13µm,21.0s,MS6.5
APA Apatity 122.17 341 ⇑*i* PKIKP PKPdf 13 14 37.0 -4.9
APA *i* 13 14 49.0
APA *e* 13 32 51.0
APA pmax pmax
comp=Z,31nm,1.0s
HASS Wahat al Ahsa' 122.25 289 P PKPdf 13 14 40.2 -2.9
MIV Mineville/With 122.52 49 *e*PKPdf PKPdf 13 14 37.4 -5.8
KEV Kevo 122.53 345 *e*P PKPdf 13 14 37.2 -5.4
KEV LR LR
comp=Z,4µm,20.0s,MS6.1
SDV Santo Domingo 122.68 91 *e*PKPdf PKPdf 13 14 38.9 -5.2
SDV LR LR
comp=Z,3µm,20.0s,MS5.9
SUMG Summit 122.90 9 *e*PKPdf PKPdf 13 14 40.0 -3.2
ARCES ARCESS Array B 123.06 345 PKP PKPdf 13 14 38.3 -5.3
comp=Z,20nm,0.8s,baz=75,slow=1.6,SNR=22
ARCES PKKPbc 13 24 30.2
comp=Z,7.3nm,0.8s,baz=198,slow=3.8,SNR=7.7
ARE0 ARCESS Array S 123.06 345 *e*PKPdf PKPdf 13 14 38.2 -5.4
HNH Hanover 123.47 49 *e*PKPdf PKPdf 13 14 40.2 -4.8
QUA2 Belchertown 123.59 51 *e*PKPdf PKPdf 13 14 40.0 -5.3
LBNH Lisbon 123.65 48 *e*PKPdf PKPdf 13 14 40.2 -5.2
LBNH LR LR
comp=Z,14µm,22.0s,MS6.6
LBTB Lobatse 123.92 222 *e*PKPdf PKPdf 13 14 42.3 -4.0
LBTB LR LR
comp=Z,4µm,20.0s,MS6.1
QRN Al-Qurain 124.07 293 *e*P PKPdf 13 14 42.9 -3.7
QRN AMb AMB 13 14 47.3
comp=Z,273nm,0.8s
HRV Harvard--Oak R 124.15 50 PFAKE 13 14 50.0 +3.6
HRV LR LR
comp=Z,8µm,22.0s,MS6.4
KBD Kabd 124.29 294 *e*P PKPdf 13 14 43.3 -3.7
KBD AMb AMB 13 14 46.1
comp=Z,283nm,1.0s
SCHQ Schefferville 124.32 35 PKP PKPdf 13 14 40.9 -5.5
comp=Z,8.6nm,0.9s,baz=234,slow=17,SNR=5.1
SCHQ Schefferville 124.32 35 *e*PKPdf PKPdf 13 14 40.0 -6.4
SCHQ LR LR
comp=Z,14µm,19.0s,MS6.7
WES Weston 124.34 50 PFAKE 13 14 50.0 +3.3
WES LR LR
comp=Z,12µm,22.0s,MS6.5
RDF Al-Radifah 124.40 293 *e*P PKPdf 13 14 43.4 -3.8
RDF AMb AMB 13 14 46.4
comp=Z,220nm,1.0s
TRO Tromso 124.49 347 *e*P PKPdf 13 14 45.2 -1.1
TRO AMS AMS 14 04 44.1
comp=Z,1µm,21.8s,MS5.6
MIB Mutribah 124.62 294 *e*P PKPdf 13 14 43.6 -4.1
MIB AMb AMB 13 14 46.6
comp=Z,179nm,0.9s
NAY Al-Naaiem 124.68 294 *e*P PKPdf 13 14 43.5 -4.3
NAY AMb AMB 13 14 46.5
comp=Z,67nm,0.9s
RYDS Riyadh 124.92 288 P PKPdf 13 14 46.0 -2.4
WVL Waterville 125.20 47 PFAKE 13 15 00.0 +12
WVL LR LR
comp=Z,42µm,22.0s
JOF Joensuu 125.64 337 *ep* PKPdf 13 14 42.6 -6.1
TRIS Tristan da Cun 125.70 180 PFAKE 13 15 00.0 +10
TRIS LR LR
comp=Z,3µm,19.0s,MS6.0
PQI Presque Isle 125.91 45 PFAKE 13 15 00.0 +10
PQI LR LR
comp=Z,44µm,21.0s
VRHR Novokhopersk 125.96 321 *e*PKIKP PKPdf 13 14 44.8 -4.8

VRHR pmax pmax
comp=Z,60µm,1.0s
TI2 Plekhanov 125.99 309κ *i*PKIKP PKPdf 13 14 44.6 -5.3
MZLS Mizel 126.21 287 P PKPdf 13 14 47.7 -3.2
GNI Garni 126.22 307 *e*PKPdf PKPdf 13 14 46.3 -4.1
GNI LR LR
comp=Z,2µm,19.0s,MS5.8
GNI Garni 126.22 307 *i* PKIKP PKPdf 13 14 46.1 -4.3
GNI MLR MLR
comp=Z,900nm,22.0s
KAMS Al Khamasin 126.41 283 P PKPdf 13 14 48.2 -3.0
ZEI Tsey 126.45 311 *e*PKIKP PKPdf 13 14 44.8 -5.9
MOS Moscow 126.49 327 *e*PKIKP PKPdf 13 14 46.4 -4.1
MOS *e* 13 16 49.6
MOS *e*PPS PPS 13 28 17.8 0.0
MOS *e*SS SS 13 33 51.4 +6.2
EMMW East Machias 126.71 47 PFAKE 13 15 00.0 +8.8
EMMW LR LR
comp=Z,23µm,19.0s,MS6.9
KIV Kislovodsk 127.09 312 *e*PKPdf PKPdf 13 14 48.1 -3.8
KIV LR LR
comp=Z,446nm,20.0s,MS5.1
KIV Kislovodsk 127.09 312 *i* PKIKP PKPdf 13 14 47.6 -4.4
KIV *e* 13 16 44.8
KIV *e*SS SS 13 33 57.6 +4.4
KIV pmax pmax
comp=Z,57nm,1.2s
KIV pmax pmax
comp=N,19nm,0.8s
BHD Baghdad 127.11 299 *ex* x 13 14 46.0
VOR Voronezh 127.18 322 PKIKP PKPdf 13 14 48.0 -3.9
VOR pmax pmax
comp=Z,150nm,1.7s
OBN Obninsk 127.31 327 *e*PKPdf PKPdf 13 14 48.0 -4.1
OBN LR LR
comp=Z,988nm,22.0s,MS5.5
OBN Obninsk 127.31 327⇓ *i*PKIKP PKPdf 13 14 47.4 -4.7
OBN *i* 13 16 50.9
OBN *e* 13 19 41.3
OBN *e*SS SS 13 33 48.6 -6.8
OBN pmax pmax
comp=Z,80nm,1.3s
OBN MLR MLR
comp=Z,4µm,21.0s,MS6.1
PUL Pulkovo 127.87 334⇑ *e*PKIKP PKPdf 13 14 48.5 -4.6
KMBO Kilima Mbogo 127.88 254 PKP PKPdf 13 14 51.6 -2.7
comp=Z,17nm,1.0s,baz=34,slow=2.5,SNR=23
MSL Mosul 127.95 303 *ex* x 13 15 10.0
KAF Kangasniemi 127.96 338 *ep* PKPdf 13 14 47.8 -5.4
AFFS 'Afif 128.22 287 P PKPdf 13 14 51.8 -3.0
FINES FINESS Array B 128.48 338 PKP PKPdf 13 14 49.3 -4.9
comp=Z,17nm,1.0s,baz=64,slow=4.4,SNR=14
LSZ Lusaka 128.52 233 *e*PKPdf PKPdf 13 14 52.0 -3.5
LSZ LR LR
comp=Z,5µm,19.0s,MS6.2
SJG San Juan 128.82 81 *e*PKPdf PKPdf 13 14 51.2 -4.7
SJG LR LR
comp=Z,2µm,21.0s,MS5.9
SOC Sochi 129.27 312 *i* PKIKP PKPdf 13 14 51.9 -4.3
SOC *i* 13 17 02.5
SOC *i* PPP PPP 13 19 45.6 -5.4
SOC *e* 13 22 01.2
SOC *e*PS PS 13 27 06.3 -2.7
SOC *e*SS SS 13 34 21.5 +1.1
SOC *e*SSS SSS 13 39 12.6 +3.7
SOC pmax pmax
comp=N,12nm,1.0s
SOC pmax pmax
comp=E,11nm,1.0s
SOC pmax pmax
comp=Z,26nm,1.0s
SOC MLR MLR
comp=N,1µm,19.0s,MS5.7
SOC MLR MLR
comp=E,978nm,19.0s,MS5.7
SOC MLR MLR
comp=Z,2µm,19.0s,MS5.8
MTP Monte Pirata 129.38 81 PKPdf PKPdf 13 14 53.6 -3.4
HILS Ha'il 129.45 291 P PKPdf 13 14 55.7 -1.3
VSU Vasula 130.13 334 *e*PKP PKPdf 13 14 53.4 -4.0
VSU Vasula 130.13 334 *i* PKIKP PKPdf 13 14 53.3 -4.1
NSS Namsos 130.25 347 AMS AMS 14 08 09.2
comp=Z,2µm,22.1s,MS5.8
ANN Anapa 130.53 314 *i* PKIKP PKPdf 13 14 47.8 -11
ANN pmax pmax
comp=Z,20nm,0.6s
BBSR BB Station 130.64 62 PFAKE 13 15 10.0 +11
BBSR LR LR
comp=Z,3µm,21.0s,MS6.0
MALT Malatya 131.35 306 *e*PKPdf PKPdf 13 14 57.6 -2.7
BDFB Brasilia 131.72 131 PKhKP 13 14 51.8
comp=Z,6.1nm,1.1s,baz=197,slow=9.0,SNR=4.1
BDFB PKP PKPdf 13 14 57.0 -4.5
comp=Z,5.8nm,0.9s,baz=179,slow=4.3,SNR=5.8
BAO Brasilia Array 131.75 131 PKPdf 13 14 49.0
MNK Minsk 131.99 330 *e*PKIKP PKPdf 13 14 52.0 -9.1
BORG Borgarnes 132.41 5 PFAKE 13 15 10.0 +8.4
BORG LR LR
comp=Z,1µm,20.0s,MS5.6
SIM Simferopol' 132.72 316 PKIKP PKPdf 13 15 02.2 -0.5
SIM pmax pmax
comp=Z,900nm,17.0s
YNBS Yanbu' al Bahr 132.81 287 P PKPdf 13 15 01.3 -2.2
QURS Qurayyt al Mil 133.20 297 P PKPdf 13 15 02.8 -1.2
TSUM Tsumeb 133.20 220 PFAKE 13 15 10.0 +5.7
TSUM LR LR
comp=Z,5µm,19.0s,MS6.2
AKASG Malin Array Be 133.29 325 PKhKP 13 14 50.9
comp=Z,0.3nm,0.3s,baz=87,slow=2.2,SNR=5.2
AKASG PKP PKPdf 13 14 58.1 -5.4
comp=Z,14nm,0.9s,baz=65,slow=2.5,SNR=22
NB2 NORSAR Subarra133.43 345 PKPdf PKPdf 13 14 58.7 -4.8
comp=Z,15nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra133.43 345 PKPd 13 14 58.7
baz=31,slow=1.9
NOA NORSAR Array B133.43 345 PKP PKPdf 13 14 59.3 -4.2
comp=Z,7.1nm,0.8s,baz=34,slow=1.9,SNR=13
NOA SKP 13 18 39.7
comp=Z,3.9nm,0.9s,baz=31,slow=4.3,SNR=5.4
NOA NORSAR Array B133.43 345 PKP PKPdf 13 14 59.3 -4.2
NOA SKP 13 18 39.7
TBKS Tabuk 134.08 292 P PKPdf 13 15 03.4 -2.3
BHL Bhannes 134.30 300 *e*P PKPdf 13 15 03.5 -2.5
SUW Suwalki 134.47 331 *e*PKP PKPdf 13 15 02.0 -3.7
JMQS Jabal Moqyreh 134.63 293 P PKPdf 13 15 04.0 -2.7
BR131 Keskin Array S 134.66 309 *e*PKPdf PKPdf 13 15 02.8 -3.7
BR131 LR LR
comp=Z,2µm,19.0s,MS5.9
BRTR Keskin Array B 134.66 309 PKhKP 13 14 54.7
comp=Z,1.4nm,0.7s,baz=104,slow=5.1,SNR=4.3
BRTR PKP PKPdf 13 15 03.0 -3.4
comp=Z,13nm,1.0s,baz=135,slow=1.7,SNR=22
BRTR PP PP 13 17 40.8 +1.8
comp=Z,3.3nm,1.0s,baz=104,slow=5.1,SNR=3.6
KONO Kongsberg 135.04 345 PFAKE 13 15 10.0 +3.4
KONO LR LR
comp=Z,2µm,20.0s,MS5.9
KIS Kishinev 135.29 320 *e*PKIKP PKPdf 13 15 03.0 -4.4
KIS *e* 13 17 40.0
BDAS Al Bad' 135.34 293 P PKPdf 13 15 05.0 -3.0
BER Bergen 135.36 348 *e*P PKPdf 13 15 04.4 -2.8
BER *e*PP PP 13 17 38.0 -4.5
BER *i* 13 18 43.0
BER AMS AMS 14 14 43.5
comp=Z,2µm,17.3s,MS5.9
BER Bergen 135.36 348 *e*PKIKP PKPdf 13 15 04.4 -2.8
BER MLR MLR
comp=Z,1990µm,17.3s
HAQS Haql 135.45 294 P PKPdf 13 15 05.3 -2.9
CSS Prodhromos 136.01 302 *e*PKPdf PKPdf 13 15 06.9 -2.2
CFR Carcaliu 136.53 318⇑ P PKPdf 13 15 06.7 -3.0
VRI Vrincioaia 137.10 320⇓ P PKPdf 13 15 08.0 -2.7
BURAR Bucovina Array 137.13 323⇑ P PKPdf 13 15 05.9 -4.8
KWP Kalwaria 137.39 327 *e*PKP PKPdf 13 15 08.0 -3.2
COP Copenhagen 137.54 340 *e*PKHKP 13 14 52.5
COP *i* 13 17 54.9
COP MLR MLR
comp=Z,1µm,24.0s,MS5.5
MUD Monsted U'grnd 137.91 342 *i* P PKPdf 13 15 02.1 -10
MUD *i* 13 17 51.3
MUD *i* 13 31 15.5
comp=Z,4µm,23.0s
MUD Monsted U'grnd 137.91 342 *e*P PKPdf 13 15 02.1 -10
MUD *i* 13 17 51.3
MUD *i* 13 31 15.5
KOLS Kolonicke sedl 138.03 326 *e*PKP PKPdf 13 15 08.6 -3.8
KOLS Kolonicke sedl 138.03 326 *e*PKIKP PKPdf 13 15 03.4 -9.0
KOLS *e* 13 15 08.6
STHS Stebnicka Huta 138.28 327 *e*PKP PKPdf 13 15 12.6 -0.2
STHS Stebnicka Huta 138.28 327 *e*PKIKP PKPdf 13 15 04.2 -8.6
STHS *e* 13 15 12.6
OJC Ojcow 138.50 329 *e*PKP PKPdf 13 15 05.9 -7.3
NIE Niedzica 138.76 328 *e*PKP PKPdf 13 15 09.5 -4.2
DRGR 139.01 323⇑ P PKPdf 13 15 03.1 -11
KECS Kecovo 139.25 327 *e*PKP PKPdf 13 15 13.6 -1.0
KECS Kecovo 139.25 327 *e*PKHKP 13 15 04.8
KECS *e* 13 15 13.6
OKC Ostrava-Krasne 139.56 330 *e*PKP PKPdf 13 15 04.7 -10
OKC AMS AMS 14 13 10.0
comp=Z,4µm,23.5s
OKC Ostrava-Krasne 139.56 330 *e*PKP PKPdf 13 15 04.7 -10
KSP Ksiaz 139.73 332 *e*PKP PKPdf 13 15 12.2 -3.2
KSP Ksiaz 139.73 332 *e*PKP PKPdf 13 15 12.0 -3.4
KSP *e*PP PP 13 18 06.0 -4.0
KSP *e*SKKP 13 28 15.0
KSP *e*PPS PPS 13 30 15.0 -11
KSP *e*SS SS 13 36 26.0 +1.3
KSP LR LR
comp=Z,11µm,21.5s,MS6.6
KSP Ksiaz 139.73 332 *e*PKIKP PKPdf 13 15 12.0 -3.4
KSP *e* 13 18 06.0
KSP *e*PPS PPS 13 30 15.0 -11
KSP *e*SS SS 13 36 26.0 +1.3
KSP MLR MLR
comp=Z,11µm,21.5s,MS6.6
KDZ Kurdzhali 139.85 315 P PKPdf 13 15 07.5 -8.4
MORC Moravsky Berou 139.89 330 *e*PKPpre 13 15 04.5
PSZ Piszkesteto 139.91 326⇑ *e*PKP/D PKPdf 13 15 12.4 -3.4
DPC Dobruska-Polom 140.06 332 *e*PKP PKPdf 13 15 07.4 -8.6
DPC AMS AMS 14 17 00.0
comp=Z,4µm,21.5s
UPC Upice 140.09 332 *e*PKP PKPdf 13 15 09.2 -6.8
VYHS Vyhne 140.10 328 *e*PKP PKPdf 13 15 13.0 -3.1
VYHS Vyhne 140.10 328 *e*PKIKP PKPdf 13 15 07.6 -8.5
VYHS *e* 13 15 13.0
RZN Rozhen 140.31 315 P PKPdf 13 15 10.0 -6.7
VRAC Vranov 140.66 330 *e*PKP PKPdf 13 15 09.0 -8.1
PVCC Panska Ves 140.71 333 *e*PKP PKPdf 13 15 09.6 -7.6
PVCC AMS AMS 14 11 50.0
comp=Z,4µm,24.2s
BRG Berggiesshubel 140.72 334 *i* PKP PKPdf 13 15 10.0 -7.2
BRG *i* 13 15 14.8
BRG *e* 13 15 26.8
BRG *e* 13 15 46.3
BRG PP PP 13 18 16.0 0.0
BRG SKS tx 13 30 37.0
BRG SS SS 13 36 51.0 +14
BRG *e* 13 38 38.0
BRG LR LR
comp=Z,4µm,21.0s,MS6.1
BRG Berggiesshubel 140.72 334 *i* PKIKP PKPdf 13 15 10.0 -7.2
BRG *i* 13 15 14.9
BRG *e* 13 15 26.8
BRG 13 18 16.0
BRG 13 30 37.0
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=Z,33nm,1.2s
BRG pmax pmax
comp=Z,22nm,0.9s
BRG pmax pmax
comp=Z,61nm,1.7s
BRG MLR MLR
comp=Z,4µm,21.0s,MS6.1
BRG MLR MLR
comp=N,3µm,22.6s,MS6.1
BRG MLR MLR
comp=E,3µm,22.6s,MS6.1
CLL Collm 140.78 335 *i* PKPdf 13 15 07.8 -9.5
CLL *i* PKIKP PKPdf 13 15 13.7 -3.6
CLL *i* *PPKP 13 15 18.8
CLL *i* 13 15 22.7
CLL *i* 13 15 33.7
CLL *i* 13 15 46.3
CLL *i* 13 16 05.3
CLL *e*PP PP 13 18 14.0 -2.3
CLL *e*PKS PKS 13 18 50.0 +3.1
CLL *e*PPP PPP 13 21 18.0 -4.9
CLL *e*PPS PPS 13 30 36.0 -0.4
CLL *e*SS SS 13 36 42.0 +4.6
CLL Collm 140.78 335 *i* PKP PKPdf 13 15 07.8 -9.5
CLL ⇑ *i*PKP PKPdf 13 15 13.7 -3.6
CLL *i* pPKP 13 15 18.8
CLL *i* sPKP 13 15 22.7
CLL *e*PKS PKS 13 18 50.0 +3.1
CLL LR LR
comp=Z,4µm,19.6s,MS6.2
CLL Collm 140.78 335 *i* PKHKP 13 15 07.8
CLL *i* 13 15 13.7
CLL *i* 13 15 22.7
CLL MLR MLR
comp=Z,4µm,19.6s,MS6.2
LOS Limnos 140.79 312 *e*P PKPdf 13 15 07.5 -10
SMOL Smolenice 140.79 329 *e* PKPdf 13 15 08.1 -9.3
VTS Vitosha 140.88 317 P PKPdf 13 15 08.5 -9.2
EAB Aberfoyle 140.94 353 *e*P PKPdf 13 15 12.3 -5.1
MMB Musomiste 141.01 316 *i* P PKPdf 13 15 08.0 -10
PRU Pruhonice 141.12 332 *e*PKP PKPdf 13 15 08.0 -10
PRU AMS AMS 14 13 00.0
comp=Z,6µm,25.6s
EAU Auchinoon 141.17 352 *e*P PKPdf 13 15 13.2 -4.6
ZST Bratislava 141.17 328 *e*PKP PKPdf 13 15 14.4 -3.6
ZST Bratislava 141.17 328 *e*PKP PKPdf 13 15 10.3 -7.7
ZST *e* 13 15 14.4
TREC Trest 141.19 331 *e*PKP PKPdf 13 15 09.6 -8.4
TREC AMS AMS 14 11 30.0
comp=Z,8µm,29.0s
SVIS Svilajnac 141.26 321⇑ *i*PKP PKPdf 13 15 12.7 -5.6
KKB Krupnik 141.31 316 P PKPdf 13 15 08.0 -10
SRS Serrai 141.32 315 *e*P PKPdf 13 15 07.6 -11
CLZ Clausthal 141.37 338 *e*PKPbc PKPdf 13 15 09.3 -9.0
OUR Ouranopolis 141.39 314 *e*P PKPdf 13 15 10.7 -8.0
PKSM Moragy 141.63 325⇑ *e*P PKPdf 13 15 10.4 -8.5
ESK Eskdalemuir 141.65 352 PFAKE 13 15 30.0 +11
ESK LR LR
comp=Z,873nm,20.0s,MS5.5
KNT Kendrikon 141.76 315 *e*P PKPdf 13 15 09.9 -9.4
SANT Santorini 141.82 307 *e*PKPpre 13 15 10.1
NKC Novy Kostel 141.83 334 *e*PKP PKPdf 13 15 10.9 -8.2
NKC AMS AMS 14 18 20.0
comp=Z,4µm,21.6s
MOX Moxa 141.85 335 *i* P PKPdf 13 15 09.5 -10
comp=Z,logA/T=1.2
MOX PP PP 13 18 16.0 -6.8
MOX SS SS 13 37 06.0 +16
MOX L 14 25 40.0
MOX Moxa 141.85 335 *e*PKP PKPdf 13 15 09.5 -10
MOX *e*PP PP 13 18 16.0 -6.8
MOX *e*SS SS 13 37 06.0 +16
MOX LR LR
comp=Z,2µm,20.0s,MS6.0
MOX Moxa 141.85 335 *e*PKHKP 13 15 09.5
MOX pmax pmax
comp=Z,19nm,1.2s
MOX MLR MLR
comp=Z,2µm,20.0s,MS6.0
THR5 Thira Island, 141.89 307 *e*P PKPdf 13 15 15.8 -3.8
THE Thessaloniki 141.96 315 *e*P PKPdf 13 15 11.6 -8.0
RHK1 Bakonya 142.02 325 *e*P PKPdf 13 15 11.5 -8.1
NPS Neapolis 142.06 305 *e*P PKPdf 13 15 13.5 -6.5
DIVS Divcibare 142.10 321⇓ *i*PKP PKPdf 13 15 09.7 -10
KHC Kasperske Hory 142.18 332 *e*PKP PKPdf 13 15 11.9 -7.8
KHC *x* x 13 15 34.0
KHC AMS AMS 14 13 20.0
comp=Z,5µm,26.8s
KHC Kasperske Hory 142.18 332 *e*PKP PKPdf 13 15 11.9 -7.8
KHC *e* 13 15 34.0
KHC LR LR
comp=Z,5µm,26.8s,MS6.1
KHC Kasperske Hory 142.18 332 *e*PKIKP PKPdf 13 15 11.9 -7.8
KHC MLR MLR
comp=Z,5µm,26.8s,MS6.1
GRG Griva 142.19 315 *e*P PKPdf 13 15 10.2 -10
LWH Whinny Nab 142.19 349 *e*P PKPdf 13 15 15.3 -4.3
GEC2 GERESS Array S 142.33 332 *e*PKPbc PKPdf 13 15 13.6 -6.4
GERES GERESS Array B 142.33 332 PKhKP 13 15 12.5
comp=Z,5.8nm,0.8s,baz=27,slow=3.0,SNR=36
SKO Skopje 142.33 317 *i* PKP PKPdf 13 15 13.0 -7.2
SKO *i* 13 15 18.0
comp=Z,0.0nm,1.0s
XOR Xorichti 142.36 313 *e*P PKPdf 13 15 12.8 -7.6
WET Wettzell 142.47 333 *e*PKPbc PKPdf 13 15 14.4 -5.8
WTSB Winterswijk 142.49 341 *e*PKP PKPdf 13 15 16.5 -3.6
comp=Z,66nm,1.9s
LIT Litokhoron 142.52 314 *e*P PKPdf 13 15 12.6 -8.0
ARSA Arzberg 142.59 329⇑ *i*P PKPdf 13 15 13.6 -6.9
comp=Z,28nm,1.1s
GRA1 Grafenberg Arr 142.75 335 *e*PKPbc PKPdf 13 15 14.9 -5.8
GRA1 *e*PP PP 13 18 30.8 +2.6
GRA1 LR LR
comp=Z,2µm,21.8s,MS5.9
GRF Grafenberg Arr 142.75 335 *e*PKP PKPdf 13 15 14.9 -5.8
GRF *e*PP PP 13 18 30.8 +2.6
GRF LR LR
comp=Z,2µm,21.8s,MS5.9
MOA Molln 142.79 330⇑ *i*P PKPdf 13 15 13.8 -7.0
comp=Z,54nm,0.9s
MOA Molln 142.79 330 *i* P PKPdf 13 15 13.8 -7.0
comp=Z,54nm,0.9s,SNR=22
FNA Florina 142.96 316 *e*P PKPdf 13 15 15.4 -5.9
VAM Vamos 143.11 306 *e*P PKPbc 13 15 16.0 +1.3
AGG Agios Georgios 143.11 313 *e*P PKPbc 13 15 14.0 -0.6
LHO Holmfirth 143.15 350 *e*P PKPbc 13 15 15.2 +1.0
PERS Pernice 143.22 328 *e*PKPbc PKPbc 13 15 14.1 -0.5
KBI1 Birley Grange 143.38 349 *e*P PKPbc 13 15 15.2 +0.3
GVD Gavdhos 143.38 305 *e*PKPpre 13 15 16.1
TNS Taunus Mts 143.40 338 *e*PKPbc PKPbc 13 15 15.4 +0.3
EVR Evrytania 143.52 313 *e*P PKPbc 13 15 18.0 +2.2
MEV Metsovon 143.53 314 *e*P PKPbc 13 15 17.4 +1.6
OBKA Obir 143.59 328⇑ *i*P PKPbc 13 15 15.4 -0.4
comp=Z,38nm,1.0s
VLI Veliai 143.60 309 *e*P PKPbc 13 15 17.5 +1.4
KWE Weaver Farm 143.66 349 *e*P PKPbc 13 15 15.0 -0.8
SIND Sindeldorf 143.67 336⇑ *e*P PKPbc 13 15 16.5 +0.6
KYTH Kithira 143.69 308 *e*P PKPbc 13 15 17.0 +0.6
TOD Tromm 143.77 337⇓ *e*P PKPbc 13 15 16.6 +0.4
TOD Tromm 143.77 337 PKP PKPdf 13 15 16.3 -6.1
KBA Koelnbreinsper 143.78 330⇓ *i*P PKPbc 13 15 15.8 -0.5
comp=Z,72nm,0.8s
HGN Heimansgroeve 143.80 340 *e*PKP PKPdf 13 15 17.1 -5.4
comp=Z,88nm,2.5s
JAN Janina 143.85 314 *e*P PKPbc 13 15 18.0 +1.2
FUR Furstenfeldbru 143.91 333 *e*PKPbc PKPbc 13 15 17.1 +0.4
SWS Schriesheim 143.91 337 *e*P PKPbc 13 15 16.6 0.0
LJU Ljubljana 143.92 328 *e*PKPbc PKPbc 13 15 16.6 -0.1
LJU *e* 13 15 50.1
SBD1 Bryn Du 144.00 351 *e*P PKPbc 13 15 17.6 +0.8
ABH Alteburg 144.00 338⇓ *e*P PKPbc 13 15 17.4 +0.5
ABH Alteburg 144.00 338 PKP PKPdf 13 15 16.9 -5.9
DLF Lyons Farm 144.03 354 *e*P PKPbc 13 15 15.9 -0.9
HDH Heidenheim 144.04 334⇑ *e*P PKPbc 13 15 17.6 +0.6
DCN Croghan 144.05 355 *e*P PKPbc 13 15 16.1 -0.8
ITM Ithomi 144.17 310 *e*P PKPbc 13 15 18.5 +0.7
CADS Cadrg 144.19 329 *e*PKPbc PKPbc 13 15 16.8 -0.8
VOY Vojsko 144.25 328 *e*PKPbc PKPbc 13 15 17.2 -0.5
KTD Kalmit 144.28 337 *e*P PKPbc 13 15 18.2 +0.5
STU Stuttgart 144.30 336 *e*PKP PKPdf 13 15 17.9 -5.4
HLM1 Long Mynd 144.31 350 *e*P PKPbc 13 15 17.4 -0.3
HLM1 AMb AMB 13 15 26.0
comp=Z,77nm,1.8s
WATA Walderalm 144.41 332⇓ *i*P PKPbc 13 15 18.2 +0.1
comp=Z,62nm,1.3s
LKD Levkas 144.42 313 *e*P PKPbc 13 15 19.0 +0.6
WTTA Wattenberg 144.43 332⇑ *i*P PKPbc 13 15 18.9 +0.7
comp=Z,109nm,1.4s
WTTA Wattenberg 144.43 332 *i* P PKPbc 13 15 18.9 +0.7
comp=Z,109nm,1.4s,SNR=27
SSP1 Stoney Pound 144.45 350 *e*P PKPbc 13 15 17.9 -0.2
BUCH Bad Urach 144.49 335 *e*P PKPbc 13 15 18.8 +0.5
LBG Lerchenberg 144.54 336⇑ *e*P PKPbc 13 15 18.8 +0.4
MOTA Moosalm 144.61 332⇑ *i*P PKPbc 13 15 18.7 0.0
comp=Z,131nm,1.0s
MOTA Moosalm 144.61 332 *i* P PKPbc 13 15 18.7 0.0
comp=Z,131nm,1.0s,SNR=106
SQTA Sankt Quirin 144.66 332⇓ *i*P PKPbc 13 15 19.0 +0.2
comp=Z,111nm,1.0s
LANF Langenberg 144.66 337 PKP PKPdf 13 15 19.1 -4.9
WLF Walferdange 144.67 339 *e*PKP PKPdf 13 15 19.2 -4.8
SKP1 Kophill 144.70 348 *e*P PKPbc 13 15 18.0 -0.7
HAE Alders End 144.72 350 *e*P PKPbc 13 15 17.9 -0.9
HAE AMb AMB 13 15 25.6
comp=Z,278nm,1.1s
GIVF Givet 144.72 341 *e*PKP1 PKPbc 13 15 16.8 -2.1
comp=Z,70nm,0.8s
NVLJ Novalja 144.73 326 *i* P PKPbc 13 15 18.4 -0.7
UBR Uberruh 144.78 334 *e*P PKPbc 13 15 19.4 +0.2
HTR Trewern Hill 144.80 350 *e*P PKPbc 13 15 18.5 -0.5
HTR AMb AMB 13 15 25.2
comp=Z,133nm,0.9s
MCH1 Michaelchurch 144.84 350 *e*P PKPbc 13 15 18.6 -0.5
GUT Gutenstein 144.89 335⇑ *e*P PKPbc 13 15 19.6 +0.2
BAIF Baives 144.95 341 *e*PKP1 PKPbc 13 15 17.8 -1.7
comp=Z,156nm,0.9s
BFO Black Forest 144.99 336 *e*PKPbc PKPbc 13 15 19.8 +0.1
SPAK Spaichingen 145.00 335⇑ *e*P PKPbc 13 15 20.2 +0.5
SPAK Spaichingen 145.00 335 PKP PKPdf 13 15 20.0 -4.7
STR Strasbourg 145.00 337 PKP PKPdf 13 15 20.6 -4.0
MENF Mencas 145.09 344 PKP PKPdf 13 15 20.9 -3.8
SWN1 Swindon 145.09 349 *e*P PKPbc 13 15 18.8 -1.0
HGH Gray Hill 145.15 350 *e*P PKPbc 13 15 19.6 -0.4
HGH AMb AMB 13 15 26.7
comp=Z,171nm,2.6s
DAVA Damuels 145.19 333⇑ *i*P PKPbc 13 15 20.5 +0.3
comp=Z,330nm,0.9s
HSA Swansea 145.26 351 *e*P PKPbc 13 15 19.2 -1.0
WLS Welschbruch 145.30 337 PKP PKPdf 13 15 21.3 -3.9
CDF Champ du Feu 145.33 337 *e*PKP1 PKPbc 13 15 19.2 -1.4
comp=Z,714nm,1.0s
LIBD Limburg 145.42 336 *e*P PKPbc 13 15 21.8 +1.0
LIBD Limburg 145.42 336 PKIKP PKPdf 13 15 22.1 -3.3
KIZ Kirchzarten 145.46 336⇑ *e*P PKPbc 13 15 21.5 +0.6
FELD Feldberg 145.49 336⇑ *e*P PKPbc 13 15 21.8 +0.8
SWK Warminster 145.52 349 *e*P PKPbc 13 15 21.0 0.0
ECH Echery 145.53 337 PKP PKPdf 13 15 21.9 -3.7
VAL Valentia 145.63 358 *e*P PKPbc 13 15 19.4 -1.8
SIW Isle of Wight 145.81 348 *e*P PKPbc 13 15 20.2 -1.5
MOF Molkenrain 145.84 337 PKP PKPdf 13 15 22.6 -3.5
HEX Exmoor 145.87 351 *e*P PKPbc 13 15 21.3 -0.5
THEF They Montfort 145.95 338 PKP PKPdf 13 15 23.4 -2.9
HINF Hinteralfeld 145.98 337 *e*PKP1 PKPbc 13 15 21.0 -1.2
comp=Z,151nm,0.9s
HAU Haudompre 146.01 338 *e*PKP1 PKPbc 13 15 21.3 -1.0
comp=Z,294nm,0.9s
HAU *e*R
comp=Z,4µm,19.2s
BBS Basel-Blauen 146.02 336 *e*P PKPbc 13 15 22.7 +0.4
MEZF Maizieres J'vi 146.04 339 *e*PKP1 PKPbc 13 15 21.8 -0.5
comp=Z,899nm,1.2s
LOMF Lomont 146.38 336 PKP PKPdf 13 15 24.7 -2.3
CSA1 St Austell 146.72 351 *e*P PKPbc 13 15 25.3 +1.5
TIP Timpagrande 146.83 316 *e*PKPdf PKPdf 13 15 24.0 -4.1
CII Carovilli 146.87 322 *e*PKPbc PKPbc 13 15 25.5 +1.0
CRQ2 Rosemanowes 2 146.94 352 *e*P PKPbc 13 15 24.5 +0.2
AQU L'Aquila 146.99 324 *e*PKPbc PKPbc 13 15 26.6 +1.9
CGW Gweek 147.02 352 *e*P PKPdf 13 15 24.2 -3.8
CGH1 Goonhilly 147.06 352 *e*P PKPdf 13 15 25.5 -2.6
RCBR Riachuelo 147.06 133 PKPdf PKPdf 13 15 25.6 -3.6
RCBR Riachuelo 147.06 133 *e*PKP PKPdf 13 15 25.1 -4.1
RCBR LR LR
comp=Z,3µm,20.0s,MS6.1
GRAM 147.23 330 P PKPdf 13 15 26.2 -2.4
VALM 147.25 330 P PKPdf 13 15 26.5 -2.1
CABF La Chapelle 147.27 336 *e*PKP1 PKPdf 13 15 25.6 -2.9
comp=Z,432nm,1.0s
SARO Sassorosso 147.30 329 P PKPdf 13 15 26.7 -2.0
ORX Oropa 147.30 333 P PKPdf 13 15 26.0 -2.7
VLC Villacollemand 147.32 329 *e*PKPbc PKPdf 13 15 26.9 -1.8
BACM 147.39 330 P PKPdf 13 15 25.9 -2.9
FLN La Foliniere 147.41 346 *e*PKP1 PKPdf 13 15 24.9 -3.8
comp=Z,283nm,0.9s
FLN *e*R
comp=Z,4µm,20.5s
MAIM 147.45 329 P PKPdf 13 15 25.6 -3.4
VINC Vinca 147.45 329 P PKPdf 13 15 26.3 -2.6
LDF La Druitiere 147.48 345 *e*PKP1 PKPdf 13 15 24.9 -3.9
comp=Z,226nm,1.0s
TRAV 147.50 333 P PKPdf 13 15 26.4 -2.6
LOR Lormes 147.51 339 *e*PKP1 PKPdf 13 15 25.5 -3.4

comp=Z,296nm,1.2s
LOR *eR*
comp=Z,4μm,19.0s
LSD Ceresole Reale 147.79 334 P PKPdf 13 15 28.4 -1.0
SSF Saint Saulge 147.81 340 *e*PKP1 PKPdf 13 15 26.4 -3.0
comp=Z,512nm,1.1s
GRR Gorron 147.85 346 *e*PKP1 PKPdf 13 15 26.2 -3.2
comp=Z,257nm,0.9s
PCP Pian Castagno 147.90 331 P PKPdf 13 15 26.6 -3.1
HYF Humbligny 147.91 341 *e*PKP1 PKPdf 13 15 27.0 -2.5
LPL La Plagne 147.92 335 *e*PKP1 PKPdf 13 15 27.3 -2.3
comp=Z,214nm,0.9s
LPG La Plagne 147.93 334 *e*PKP1 PKPdf 13 15 27.4 -2.2
comp=Z,237nm,0.9s
RSP Reno Superiore 147.99 334 P PKPdf 13 15 28.2 -1.6
SMF Signal de Mont 148.06 339 *e*PKP1 PKPdf 13 15 26.9 -2.9
comp=Z,302nm,1.0s
AVF Avril sur Loir 148.10 340 *e*PKP1 PKPdf 13 15 26.8 -3.1
comp=Z,208nm,0.9s
FENE Fenestrelle 148.17 334 P PKPdf 13 15 28.3 -1.8
BHB Bricherasio 148.24 333 P PKPdf 13 15 27.0 -3.2
FIN Finale Ligure 148.31 331 P PKPdf 13 15 26.2 -4.1
BNI Bardonecchia 148.32 334 *e*PKPdf PKPdf 13 15 26.5 -3.8
SGMF Saint Gilles 148.35 348 *e*PKP1 PKPdf 13 15 27.3 -2.9
comp=Z,194nm,0.8s
RRL Cesana Torines 148.38 334 P PKPdf 13 15 28.3 -2.1
ROB Roburent 148.40 332 P PKPdf 13 15 28.0 -2.5
ROSF Rostrenen 148.41 349 *e*PKP1 PKPdf 13 15 27.4 -2.9
comp=Z,115nm,0.8s
BGF Bois d'Agland 148.47 340 *e*PKP1 PKPdf 13 15 28.0 -2.5
comp=Z,179nm,0.9s
MBDF Montbardon 148.54 334 *e*PKP1 PKPdf 13 15 28.2 -2.4
comp=Z,184nm,0.9s
MONE Monesi 148.62 332 P PKPdf 13 15 28.4 -2.4
ENR Entracque 148.66 332 P PKPdf 13 15 28.2 -2.7
STV Sta Anna Valdi 148.68 332 P PKPdf 13 15 27.8 -3.1
IMI Imperia 148.69 331 P PKPdf 13 15 27.2 -3.7
PLDF La Plantade 148.72 338 PKP PKPdf 13 15 31.2 +0.3
ORIF Oris-en-Rattie 148.75 335 *e*PKP1 PKPdf 13 15 29.0 -2.0
comp=Z,223nm,0.8s
ORIF *eR*
comp=Z,4μm,23.0s
SAOF Saorge 148.78 332 PKP PKPdf 13 15 28.9 -2.2
QUIF Quistinic 148.79 348 *e*PKP1 PKPdf 13 15 28.2 -2.7
comp=Z,99nm,0.9s
AGO Saint Agoulin 148.82 339 PKP PKPdf 13 15 31.2 +0.2
NEGI Negi 148.82 332 P PKPdf 13 15 28.3 -2.8
AUTN L'Aution 148.83 332 PKP PKPdf 13 15 29.2 -1.9
TCF Toulx Ste Croi 148.91 340 *e*PKP1 PKPdf 13 15 29.3 -1.9
comp=Z,314nm,1.3s
SBF Sospel 148.93 332 *e*PKP1 PKPdf 13 15 29.0 -2.3
comp=Z,340nm,0.9s
MVIF Mont Vial 149.03 332 PKP PKPdf 13 15 29.4 -2.1
REVF Revere 149.06 332 PKP PKPdf 13 15 28.9 -2.6
COLF Collangettes 149.09 338 PKP PKPdf 13 15 32.0 +0.5
PGF Pioggiola 149.19 329 *e*PKP1 PKPdf 13 15 30.1 -1.7
comp=Z,784nm,1.1s
CALN Calern 149.26 332 PKP PKPdf 13 15 29.5 -2.3
OCF Saint Nazaire 149.27 335 PKP PKPdf 13 15 32.2 +0.4
OG26 St.-Nazaire-De 149.27 335 PKP PKPdf 13 15 32.2 +0.4
VIVF Saint-Julien-l 149.28 336 *e*PKP1 PKPdf 13 15 30.4 -1.4
comp=Z,260nm,1.1s
MFF Saint Martin d 149.33 344 *e*PKP1 PKPdf 13 15 30.1 -1.7
comp=Z,211nm,0.9s
LBL Lubilhac 149.49 338 PKP PKPdf 13 15 33.1 +0.9
FRF La Foret Royal 149.52 332 *e*PKP1 PKPdf 13 15 30.7 -1.6
comp=Z,350nm,1.1s
FRNF Fournols 149.59 339 PKP PKPdf 13 15 33.5 +1.2
SMRF Simiane la Rot 149.65 334 *e*PKP1 PKPdf 13 15 31.6 -0.9
comp=Z,557nm,1.4s
VILF Villemus 149.69 334 PKP PKPdf 13 15 33.7 +1.2
TAVF Tavernes 149.74 333 PKP PKPdf 13 15 33.5 +0.9
LMR La Mourre 149.76 332 *e*PKP1 PKPdf 13 15 31.3 -1.4
comp=Z,372nm,1.1s
PUYF Puyloubier 149.96 333 PKP PKPdf 13 15 34.2 +1.3
PRAF Pradon 149.96 334 PKP PKPdf 13 15 34.4 +1.5
RJF Les Rejaudoux 150.01 340 *e*PKP1 PKPdf 13 15 32.0 -1.0
comp=Z,276nm,1.0s
RJF *eR*
comp=Z,5μm,18.2s
BERF Bertagne 150.14 333 PKP PKPdf 13 15 34.6 +1.4
CAF Calviac 150.17 339 *e*PKP1 PKPdf 13 15 32.6 -0.6
comp=Z,183nm,1.0s
GELF Grande-Etoile 150.19 334 PKP PKPdf 13 15 34.6 +1.3
LASF Ste Croix 150.25 336 *e*PKP1 PKPdf 13 15 32.9 -0.5
comp=Z,279nm,0.9s
LFF La Frestale 150.58 341 *e*PKP1 PKPdf 13 15 33.3 -0.6
comp=Z,304nm,1.0s
VSL Villasalto 151.16 324 *e*PKPdf PKPdf 13 15 30.8 -4.1
VSL *e*PKPbc PKPdf 13 15 36.6 +1.7
MTLF Montolieu 151.50 338 *e*PKP1 PKPdf 13 15 35.6 +0.3
comp=Z,362nm,1.2s
EJON La Jonquera 152.01 336 PKP PKPdf 13 15 37.0 +0.9
EPF Esparros 152.42 340 *e*PKP1 PKPdf 13 15 37.7 +1.1
EBIE Bielsa 152.79 340 PKP PKPdf 13 15 36.6 -0.6
EALK Alkurruntz 152.82 343 PKP PKPdf 13 15 41.4 +4.3
ETSF Etsaut 152.83 341 *e*PKP1 PKPdf 13 15 39.1 +1.9
SJPF Ste Jean 152.83 342 *e*PKP1 PKPdf 13 15 38.7 +1.5
ELIZ Elizondo 152.88 343 PKP PKPdf 13 15 39.3 +2.0
EMIR Miracle 152.99 337 PKP PKPdf 13 15 32.9 -4.6
EGRA Graus 153.18 339 PKP PKPdf 13 15 35.4 -2.3
ELAN Lanestosa 153.31 346 PKP PKPdf 13 15 41.4 +3.5
EPOB Poblet 153.64 337 PKP PKPdf 13 15 36.7 -1.7
ESAC San Caprasio 153.86 340 PKP PKPdf 13 15 37.6 -1.1
EPON Pontenova 153.92 352 PKP PKPdf 13 15 41.4 +2.7
CMAH Djebel Manchou 154.25 321 P PKPdf 13 15 37.0 -2.4
ERTA Horta de San J 154.26 338 PKP PKPdf 13 15 32.3 -7.0
ETOS Mallorca 154.28 333 PKP PKPdf 13 15 36.0 -3.4
CGMA Guelma 154.37 321 P PKPdf 13 15 35.0 -4.5
ABSA Djebel Ababsia 154.45 321 P PKPdf 13 15 37.5 -2.1
CAEH 'Ain El Ouahch 154.48 322 P PKPdf 13 15 41.0 +1.3
STS Santiago 154.53 354 PKP PKPdf 13 15 44.7 +5.1
CKFL Kef-Lekhel 154.81 322 P PKPdf 13 15 39.0 -1.1
ERUA La Rua 154.84 351 PKP PKPdf 13 15 33.2 -6.8
CASM Ain Smara 155.04 322 P PKPdf 13 15 39.0 -1.4
EMOS Mosqueruela 155.07 338 PKP PKPdf 13 15 37.6 -2.7
DFRA Djebel Bou Aff 155.20 323 P PKPdf 13 15 41.0 +0.4
ECAL Calabor 155.21 350 PKP PKPdf 13 15 45.8 +5.3
PBRG Braganca 155.35 350 *e*PKPab PKPab 13 16 02.8 -0.6
EIBI Ibiza 155.53 334 PKP PKPdf 13 15 37.1 -3.8
SET Setif 155.72 323 P PKPdf 13 15 48.0 +6.7
CMER Merouana 155.83 322 P PKPdf 13 15 49.0 +7.5
ECHE Chera 155.93 338 PKP PKPdf 13 15 38.0 -3.5
PVRL Vila Real 156.01 352 *e*PKPab PKPab 13 16 05.0 -1.2
CMLA Cha da Macela 156.70 27 PFAKE 13 15 50.0 +7.4
CMLA LR LR
comp=Z,5μm,22.0s,MS6.3
ESDC Sonseca Array 156.79 344 PKP PKPdf 13 15 41.3 -1.4
comp=Z,2.2nm,0.8s,baz=6.5,slow=4.8,SNR=7.9
ESDC PKPab PKPab 13 16 09.7 +0.1
comp=Z,8.1nm,0.9s,baz=20,slow=2.7,SNR=8.4
ESDC Sonseca Array 156.79 344 PKP PKPdf 13 15 38.9 -3.7
ESLA Sonseca Array 156.79 344 PFAKE 13 15 50.0 +7.4
ESLA LR LR
comp=Z,21μm,20.0s,MS7.0
MTE Manteigas 156.85 351 *e*PKPdf PKPdf 13 15 40.3 -2.4
MTE Manteigas 156.85 351 *e*SS SS 13 39 40.5 +3.7
MTE Manteigas 156.85 351 PKPdf PKPdf 13 15 39.4 -3.3
ETOB Tobarra 156.98 338 PKP PKPdf 13 15 39.8 -3.1
EMHD Djebel Mahouad 157.05 327 P PKPdf 13 15 41.0 -2.1
EVIA Vianos 157.31 340 PKP PKPdf 13 15 41.5 -1.8
PCBR Castelo Branco 157.38 350 *e*PKPdf PKPdf 13 15 42.8 -0.6
EMUR La Murta 157.58 337 PKP PKPdf 13 15 39.9 -3.8
EBNR Beni Rached 157.69 330 P PKPab 13 16 16.0 +2.4
PTOM Tomar 157.74 352 *e*PKPdf PKPdf 13 15 40.7 -3.2
ECHA Ech Chlef 157.88 330 P PKPab 13 16 17.0 +2.6
ECHF Ech Chlef 157.89 330 P PKPab 13 16 17.0 +2.5
EHUE Huescar 158.09 339 PKP PKPdf 13 15 41.9 -2.5
EBAN Banos Encina 158.15 342 PKP PKPdf 13 15 41.6 -2.9
EANR 'Ain N'Sour 158.17 330 P PKPab 13 16 18.0 +2.3
EQES Quesada 158.26 340 PKP PKPdf 13 15 40.4 -4.2
OKGL Djebel Kef Gue 158.31 331 P PKPab 13 16 17.0 +0.7
EBAD Badajoz 158.36 349 PKP PKPdf 13 15 43.3 -1.4
ETRT Tiaret 158.52 329 P PKPab 13 16 19.0 +1.8
PLOU Loures 158.55 353 *e*PKPab PKPab 13 16 20.5 +3.3
OJGS Djebel Guires 158.69 330 P PKPab 13 16 18.0 0.0
EVO Evora 158.75 351 *e*PKIKP PKPdf 13 15 40.4 -4.8
comp=Z,37nm,1.1s
EVO *eR*
comp=Z,6μm,18.8s
OJBR Djebel Berber 158.82 331 P PKPab 13 16 17.0 -1.5
ELUQ Luque 158.85 342 PKP PKPdf 13 15 46.4 +1.0
PBEJ Beja 159.22 350 *e*PKPdf PKPdf 13 15 41.7 -4.0
EMIN Mina Concepcio 159.25 347 PKP PKPdf 13 15 41.3 -4.5
OTSS Djebel Tessala 159.59 332 P PKPab 13 16 22.0 +0.2
EGRO El Granado 159.63 349 PKP PKPdf 13 15 44.1 -2.1
EALB Alboran 159.93 338 PKP PKPdf 13 15 41.7 -4.8
ESPR Espera 159.93 345 PKP PKPdf 13 15 43.4 -3.1
EJIF Jimena Fronter 160.22 344 PKP PKPdf 13 15 47.1 +0.2
KIC Kosan Boka 166.71 214 *e*P PKPdf 13 15 49.9 -3.8
comp=Z,184nm,1.2s
LIC Lamto 166.75 213 *e*PKIKP PKPdf 13 15 47.7 -6.0
comp=Z,38nm,1.0s
LIC Lamto 166.75 213 *e*P PKPdf 13 15 48.9 -4.8
comp=Z,95nm,1.5s
DBIC Dimbokro 167.03 215 PKP PKPdf 13 15 49.0 -4.9
comp=Z,21nm,1.0s,baz=6.1,slow=1.4,SNR=8.0
DBIC PKPab PKPab 13 16 55.4 +0.6
comp=Z,9.5nm,0.9s,baz=144,slow=5.2,SNR=3.7
DBIC Dimbokro 167.03 215 *e*PKIKP PKPdf 13 15 49.9 -4.0
DBIC MLR MLR
comp=Z,4μm,19.0s
TIC Toumodi 167.10 214 *e*P PKPdf 13 15 47.9 -6.1
comp=Z,130nm,1.3s

NEIC 25 13:05:40.3, 52.04N×170.72W, h90km, MG3.5(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**1.48**	**50**	P	P	13 06 04.3	-1.9
NIKO				S	S	13 06 23.8	-1.6
ATKA	**Atka Island**	**2.15**	**276**	P	P	13 06 12.6	-2.5
ATKA				S	S	13 06 39.2	-1.7
UNV	**Unalaska Valle**	**3.13**	**53**	P	P	13 06 26.1	-2.6
GSMY	**Great Sitkin M**	**3.30**	**272**	P	P	13 06 28.6	-2.4
GSTD	**Great Sitkin T**	**3.35**	**272**	P	P	13 06 29.2	-2.5
ETKA	**Kagalaska Isla**	**3.52**	**269**	P	P	13 06 32.3	-1.8
AHB	**Akutan Harbor**	**3.62**	**53**	P	P	13 06 33.3	-2.1
ADAG	**Mount Adagdak**	**3.64**	**271**	P	P	13 06 33.9	-1.8
KIMD	**Kanaga Island**	**4.05**	**269**	P	P	13 06 39.0	-2.4
DRIA	**Deer Island**	**5.84**	**56**	P	P	13 07 02.7	-3.1
DOL	**Dolgoi Island**	**6.12**	**56**	P	P	13 07 06.6	-3.2

*NEIC **25** 13:05:57.2, 15.93N×95.45W, h112km, MD3.9(MEX), After MEX.*

MEX 25 13:05:57.0±0.5, 16.18N×95.04W, h29km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.92**	**9**	*i* P	Pn	13 06 11.6	-2.5
CMIG				*i* S	Sb	13 06 23.0	-3.2
HUIG	**Huatulco**	**1.10**	**249**	*i* P	Pn	13 06 14.0	-2.7
HUIG				*i* S	Sn	13 06 27.3	-3.8
OXX	**Oaxaca**	**1.84**	**299**	*i* P	Pn	13 06 24.5	-2.8
OXX				*i* S	Sn	13 06 46.0	-3.9
VHO	**Vista Hermosa**	**1.85**	**299**	*e*P	Pn	13 06 25.4	-2.0
VHO				*e*S	Sn	13 06 47.1	-2.9
CCIG	**Comitan**	**2.79**	**87**	*i* P	Pn	13 06 38.9	-2.0
CCIG				*i* S	Sn	13 07 09.3	-4.7
CCIG	**Comitan**	**2.79**	**87**	*e*P	Pn	13 06 46.2	+5.3
CCIG				*e*S	Sn	13 07 21.7	+7.7

CASC 25 13:16:41.7±10.0, 14.14N×91.63W, h25km±51km, MD4.0, 7C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.82**	**68**⇑	*e*P	Pb	13 16 56.4	-0.8
TP2	**Tecpan 2**	**0.86**	**43**⇑	*e*P	Pb	13 16 58.1	+0.2
TP2				*e*S	Sb	13 17 13.2	+4.0
PCG	**Pacaya**	**1.02**	**76**⇓	*e*P	Pn	13 16 59.9	-0.6
PCG				*e*S	Sb	13 17 15.6	+2.0
IXG	**Ixpaco**	**1.14**	**88**⇓	*e*P	Pn	13 17 02.0	-0.2
IXG				*e*S	Sb	13 17 19.6	+2.6
RBDL	**Robledal**	**1.88**	**91**⇑	*e*P	Pn	13 17 17.8	+5.0
RBDL				*e*S	Sn	13 17 41.9	+5.9
RTR	**El Retiro**	**1.94**	**97**⇑	*e*P	Pn	13 17 18.2	+4.5
RTR				*e*S	Sn	13 17 42.8	+5.4
SBLS	**San Blas**	**1.97**	**99**	*e*P	Pn	13 17 18.3	+4.2
SBLS				*e*S	Sn	13 17 43.6	+5.5
SNJE	**San Jose**	**1.98**	**98**⇑	*e*P	Pn	13 17 18.9	+4.6
SNJE				*e*S	Sn	13 17 44.5	+6.1
MRL	**Marmol**	**2.09**	**64**⇑	*e*P	Pn	13 17 15.4	-0.4
MRL				*e*S	Sn	13 17 41.6	+0.5
MTO2	**Montecristo 2**	**2.21**	**83**	*e*P	Pn	13 17 21.5	+3.9
MTO2				*e*S	Sn	13 17 35.7	-8.6
BOQS	**Boqueron**	**2.31**	**100**	*e*P	Pn	13 17 23.3	+4.3
BOQS				*e*S	Sn	13 17 52.5	+5.5
SNET	**Serv Nac Est T**	**2.37**	**101**	*e*P	Pn	13 17 19.2	-0.6
SNET				*e*S	Sn	13 17 48.7	+0.3
LFRS	**El Faro**	**2.54**	**101**⇑	*e*P	Pn	13 17 26.6	+4.3
LFRS				*e*S	Sn	13 17 57.9	+5.1
LCBS	**La Ceiba**	**2.62**	**100**	*e*P	Pn	13 17 27.6	+4.2
LCBS				*e*S	Sn	13 18 03.3	+8.6

IDC 25 13:26:47.8±4.0, 6.01S×107.47E, mb3.9/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.9/3, Error ellipse: s-maj=172.4km s-min=28.1km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.55**	**120**	P	P	13 32 54.4	-2.2
	0.2nm,0.3s,baz=296,slow=10,SNR=11						
SONM	**Songino Array**	**53.62**	**359**	P	P	13 36 11.5	-1.6
	0.8nm,0.5s,baz=182,slow=7.0,SNR=4.9						
MKAR	**Makanchi Array**	**57.12**	**340**	P	P	13 36 35.8	-2.8
	1.5nm,0.4s,baz=156,slow=7.9,SNR=30						

LDG 25 13:34:25.6±0.4, 17.38S×167.28E, h10km, Error ellipse: s-maj=89.6km s-min=4.3km az=96.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDF	**Champ du Feu**	**145.01**	**337**	*e*PKP1	PKPbc	13 54 02.2	-1.2
	16nm,0.8s						
HINF	**Hinteralfeld**	**145.66**	**336**	*e*PKP1	PKPbc	13 54 03.8	-1.2
HAU	**Haudompre**	**145.70**	**337**	*e*PKP1	PKPbc	13 54 04.1	-1.0
MEZF	**Maizieres J'vi**	**145.74**	**339**	*e*PKP1	PKPbc	13 54 04.6	-0.6
LOR	**Lormes**	**147.21**	**339**	*e*PKP1	PKPdf	13 54 08.3	-1.6
	7.1nm,0.9s						
SSF	**Saint Saulge**	**147.51**	**339**	*e*PKP1	PKPdf	13 54 09.3	-1.1
	6.7nm,0.9s						
LPG	**La Plagne**	**147.59**	**334**	*e*PKP1	PKPdf	13 54 10.3	-0.3
MBDF	**Montbardon**	**148.20**	**333**	*e*PKP1	PKPdf	13 54 10.5	-1.1
ORIF	**Oris-en-Rattie**	**148.42**	**334**	*e*PKP1	PKPdf	13 54 12.0	0.0
	7.7nm,0.8s						
SBF	**Sospel**	**148.59**	**331**	*e*PKP1	PKPdf	13 54 12.0	-0.2
TCF	**Toulx Ste Croi**	**148.62**	**340**	*e*PKP1	PKPdf	13 54 12.1	-0.1
PGF	**Pioggiola**	**148.82**	**328**	*e*PKP1	PKPdf	13 54 13.0	+0.3
	7.3nm,0.7s						
VIVF	**Saint-Julien-l**	**148.96**	**336**	*e*PKP1	PKPdf	13 54 13.2	+0.4
	8.1nm,0.9s						
FRF	**La Foret Royal**	**149.18**	**332**	*e*PKP1	PKPdf	13 54 13.6	+0.4
SMRF	**Simiane la Rot**	**149.31**	**334**	*e*PKP1	PKPdf	13 54 14.5	+1.1
RJF	**Les Rejaudoux**	**149.72**	**340**	*e*PKP1	PKPdf	13 54 14.9	+0.9
	11nm,1.0s						
LASF	**Ste Croix**	**149.93**	**336**	*e*PKP1	PKPdf	13 54 15.8	+1.4
	8.3nm,0.9s						
MTLF	**Montolieu**	**151.19**	**337**	*e*PKP1	PKPdf	13 54 18.4	+2.1
EVO	**Evora**	**158.53**	**350**	*e*PKIKP	PKPdf	13 54 23.4	-3.0
	19nm,1.3s						

*DHMR **25** 13:35:56.9±2.6, 12.54N×40.59E, h10km, ML3.9*
*IDC **25** 13:36:01.0±4.3, 12.29N×40.56E, mb3.8/7, mb1 3.9/8, mb1mx3.8/18, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=96.2km s-min=15.5km az=32.0*
*NEIC **25** 13:36:01.6±2.8, 12.17N×40.43E, h10km, mb4.1/2, Error ellipse: s-maj=66.7km s-min=14.0km az=216.0*

ISC 25 13:36:03.7±1.2, 12.8N±0.1×40.87E±0.06, h10km, n15, σ1§00/18, mb3.7/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.29**	**122**	Pn	**Pn**	**13 36 42.5**	**+0.5**
	26nm,0.3s,baz=72,slow=22,SNR=9.7						
ATD				Lg		13 37 15.6	
	20nm,0.3s,baz=269,slow=23,SNR=13						
ATD	**Arta Tunnel**	**2.29**	**122**	Pn	**Pn**	**13 36 42.5**	**+0.5**
ATD				Lg		13 37 15.6	
DHBB	**Dhamar BB**	**3.87**	**62**	*i* P	**Pn**	**13 37 03.8**	**-0.8**
DHBB				*i* S	**Sn**	**13 37 56.0**	**+5.3**
DHBB				AML	AML	13 38 33.7	
	comp=E,338nm,0.7s						
DHBB	**Dhamar BB**	**3.87**	**62**	*i* P	**Pn**	**13 37 03.8**	**-0.8**
DHBB				*i* S	**Sn**	**13 37 56.0**	**+5.3**
	comp=E,169nm,0.7s						
LBOS		**4.41**	**75**	*e*P	**Pn**	**13 37 08.4**	**-3.8**
LBOS				*i* S	**Sn**	**13 38 04.6**	**+0.3**
BDHA	**Al Bayda'**	**4.73**	**75**	*i* S	**Sn**	**13 38 12.2**	**-0.3**
ASF	**Jabal al Asfar**	**19.67**	**350**	P	**P**	**13 40 37.4**	**+1.6**
	comp=E,1.8nm,0.4s,baz=284,slow=3.1,SNR=4.5						
BRTR	**Keskin Array B**	**27.61**	**348**	P	**P**	**13 41 55.1**	**+1.8**
	comp=E,3.8nm,1.1s,mb3.9,baz=174,slow=12,SNR=9.1						
BR131	**Keskin Array S**	**27.62**	**348**	P	**P**	**13 41 54.2**	**+0.8**
	comp=E,6.3nm,1.3s,mb4.1						
AKASG	**Malin Array Be**	**39.02**	**348**	P	**P**	**13 43 31.9**	**-0.2**
	comp=E,0.2nm,0.2s,mb3.4,baz=176,slow=7.9,SNR=5.2						
MORC	**Moravsky Berou**	**41.60**	**337**	P	**P**	**13 43 52.1**	**-1.2**
	comp=E,3.3nm,1.1s,mb3.9						
GERES	**GERESS Array B**	**42.43**	**333**	P	**P**	**13 43 58.9**	**-1.3**
	comp=E,1.1nm,0.9s,mb3.5,baz=143,slow=6.7,SNR=7.5						
MKAR	**Makanchi Array**	**48.55**	**37**	P	**P**	**13 44 50.1**	**+1.1**
	comp=E,0.7nm,0.7s,mb3.8,baz=231,slow=7.8,SNR=8.0						
ZAL	**Zalesovo**	**53.68**	**31**	P	**P**	**13 45 26.8**	**-0.9**
	comp=E,0.7nm,0.7s,mb3.7,baz=209,slow=8.6,SNR=3.4						
SONM	**Songino Array**	**64.26**	**43**	P	**P**	**13 46 41.7**	**+0.4**
	comp=E,0.7nm,0.9s,mb3.7,baz=236,slow=5.3,SNR=4.0						

GUC 25 13:58:32.2±0.4, 24.42S×67.26W, h90km±26km, MD3.4, ML3.6, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.35**	**320**⇑	*i* P	P	13 59 10.6	+0.8
LVC				*i* S	S	13 59 39.7	+1.8
LVC				AMP		13 59 42.0	
	comp=E,172nm,0.3s						
CPN1	**Cerro Paranal**	**2.87**	**265**⇓	*i* P	P	13 59 17.7	+0.6
CPN1				*i* S	S	13 59 52.7	+2.0
CPN1				AMP		13 59 54.7	
	comp=E,175nm,0.2s						
CEN1	**Los Morros**	**2.88**	**290**	*e*P	P	13 59 18.2	+1.0
CEN1				*i* S	S	13 59 53.0	+2.1
CEN1				AMP		13 59 55.4	
	comp=N,144nm,0.3s						
ANCH	**Antofagasta**	**2.97**	**284**⇓	*i* P	P	13 59 18.5	0.0
ANCH				*i* S	S	13 59 53.6	+0.4
CRCH	**Chaqaral**	**3.59**	**237**	*i* S	S	14 00 08.9	+0.4
CRCH				AMP		14 00 09.8	
	comp=E,127nm,0.2s						
CDCH	**Caldera**	**4.16**	**230**	AMP		14 00 26.0	
	comp=E,36nm,0.6s						

*IDC **25** 13:59:25.2±0.9, 17.26S×167.77E, mb4.5/10, mb1 4.7/11, mb1mx4.5/16, mbtmp4.5/11, ML4.7/1, MS4.2/3, Ms1 4.2/3, ms1mx3.9/21, Error ellipse: s-maj=28.8km s-min=20.1km az=98.0*
*LDG **25** 13:59:27.5±0.2, 17.20S×167.28E, h10km, Mb5.1/2, Error ellipse: s-maj=26.4km s-min=3.7km az=93.0*
*NEIC **25** 13:59:29.8±0.4, 17.30S×167.78E, h30km, mb4.7/7, Error ellipse: s-maj=11.6km s-min=9.1km az=88.0*
*BJI **25** 13:59:31.2, 17.87S×167.97E, h62km, mB5.0, mb4.5, Ms4.8, Ms2.4.7*

ISC 25 13:59:27.0±4.2, 17.35S±0.07×167.6E±0.1, h17km±28km, n100, σ1§13/43, mb4.6/17, MS4.7/2, 13C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.81**	**193**	*e*P	**Pn**	**14 00 39.6**	**-1.1**
DZM				*e*S	**Sn**	**14 01 31.2**	**-5.5**
DZM	**Mont Dzumac**	**4.81**	**193**	Pn	**Pn**	**14 00 39.6**	**-1.1**
	32nm,0.3s,baz=38,slow=14,SNR=91						
DZM				Sn	**Sn**	**14 01 32.7**	**-4.0**
	42nm,0.3s,baz=127,slow=23,SNR=11						
DZM				LR	LR	14 02 23.4	
	comp=Z,2μm,19.5s,baz=9.6,slow=36						
DZM	**Mont Dzumac**	**4.81**	**193**	*e*P	**Pn**	**14 00 39.6**	**-1.1**
DZM				*e*S	**Sn**	**14 01 31.2**	**-5.5**
HNR	**Honiara**	**10.82**	**316**	Pn	**P**	**14 02 05.5**	**+1.0**
	19nm,0.3s,baz=135,slow=4.3,SNR=9.2						
HNR				Sn	**S**	**14 04 04.5**	**-1.8**
	6.3nm,0.3s,baz=38,slow=19,SNR=4.4						
HNR	**Honiara**	**10.82**	**316**	*e*P	**P**	**14 02 05.2**	**+0.7**
RAO	**Raoul Island**	**17.80**	**134**	LR	LR	14 07 50.0	
	comp=Z,634nm,19.8s,baz=327,slow=28						
CTA	**Charters Tower**	**20.38**	**259**	*e*P	**P**	**14 04 07.9**	**+2.0**
	9.9nm,1.1s						
CTA	**Charters Tower**	**20.38**	**259**	P	**P**	**14 04 07.8**	**+1.9**
	19nm,1.0s,baz=82,slow=14,SNR=12						
CTA				LR	LR	14 10 55.2	
	comp=Z,1μm,18.2s,MS4.2,baz=176,slow=34						
CTAO	**Charters Tower**	**20.38**	**259**	*e*P	**P**	**14 04 07.8**	**+1.9**
	21nm,0.9s						
URZ	**Urewera**	**22.44**	**160**	P	**P**	**14 04 26.0**	**-0.6**
	16nm,0.6s,mb4.6,baz=113,slow=2.2,SNR=8.0						
CNB	**Canberra Magne**	**24.15**	**219**⇑	*i* P	**P**	**14 04 45.4**	**+2.1**
	41nm,1.3s,mb4.7						
STKA	**Stephens Creek**	**27.61**	**234**	*e*P	**P**	**14 05 16.3**	**+0.6**
	4.8nm,0.6s,mb4.3						
STKA				*i*		14 05 27.1	
STKA	**Stephens Creek**	**27.61**	**234**	P	**P**	**14 05 16.6**	**+0.9**
	5.9nm,0.6s,mb4.4,baz=63,slow=8.3,SNR=26						
STKA				PcP	PcP	14 08 31.9	-1.6
	1.9nm,1.0s,baz=127,slow=5.7,SNR=2.9						
WB2	**Warramunga Arr**	**31.57**	**260**	*e*P	**P**	**14 05 50.1**	**-1.0**
WRAB	**Tennant Creek**	**31.57**	**260**	*e*P	**P**	**14 05 50.6**	**-0.6**
	23nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**31.58**	**260**	P	**P**	**14 05 50.6**	**-0.6**
	3.3nm,0.7s,mb4.3,baz=90,slow=9.2,SNR=45						
WRA				PcP	PcP	14 08 42.6	-1.1
	0.9nm,0.7s,baz=86,slow=2.8,SNR=5.6						
ASPA	**Alice Springs**	**32.12**	**253**	*e*P	**P**	**14 05 55.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.90**	**262**	*e*P	**P**	**14 07 02.8**	**+0.7**
	28nm,0

VNA3	Neumayer Olymp	91.61	181	⇑	P	14 12 41.6	+7.7
VNA3	Neumayer Olymp	91.61	181	⇑	P	14 12 44.7	+11
VNA3	Neumayer Olymp	91.61	181	⇑	Px	14 12 54.6	
VNA2	Neumayer--Watz	91.88	182	⇑	P	14 12 36.7	+1.5
VNA2	Neumayer--Watz	91.88	182	⇑	P	14 12 43.5	+8.3
VNA2	Neumayer--Watz	91.88	182	⇑	P	14 12 46.1	+11
VNA2	Neumayer--Watz	91.88	182	⇑	Px	14 12 58.5	
VNA1	Neumayer--Stat	92.18	181	⇑	P	14 12 38.3	+1.8
VNA1	Neumayer--Stat	92.18	181	⇑	P	14 12 53.0	+16
VNA1	Neumayer--Stat	92.18	181	⇑	Px	14 12 59.4	
WMQ	Urumqi	94.77	314	*eP*	P	14 12 50.0	+0.9
MKAR	Makanchi Array	99.30	316	P	P	14 13 08.9	-0.6
	comp=Z,0.5nn,0.7s,mb4.2,baz=104,slow=6.4,SNR=2.8						
ZAL	Zalesovo	99.68	323	P	P	14 13 10.6	-0.5
	comp=Z,1.6nn,0.2s,mb5.0,baz=130,slow=12,SNR=6.6						
ARCES	ARCESS Array B	122.85	345	PKP	PKPdf	14 18 21.5	-4.2
	comp=Z,3.7nn,0.9s,baz=63,slow=2.7,SNR=3.8						
ARCES	ARCESS Array B	122.85	345	PKP	PKPdf	14 18 21.5	-4.2
BRTR	Keskin Array B	134.42	309	PKP	PKPdf	14 18 45.2	-3.4
	comp=Z,1.4nn,0.9s,baz=315,slow=1.7,SNR=4.4						
KHC	Kasperske Hory	141.94	332	*e*PKP	PKPdf	14 19 00.4	-1.5
WET	Wettzell	142.24	333	*e*PKP	PKPdf	14 18 57.0	-5.4
WLF	Walferdange	144.45	339	*e*PKP	PKPdf	14 19 02.5	-3.7
GIVF	Givet	144.51	341	*e*PKP1	PKPbc	14 19 01.4	-0.9
BAIF	Baives	144.74	341	*e*PKP1	PKPbc	14 19 02.5	-0.4
	comp=Z,17nn,1.0s						
BFO	Black Forest	144.77	336	*e*PKP	PKPdf	14 19 02.3	-4.5
WLS	Welschbruch	145.07	337	PKP	PKPdf	14 19 03.5	-3.9
CDF	Champ du Feu	145.10	337	*e*PKP1	PKPbc	14 19 03.9	0.0
	comp=Z,32nn,0.6s						
FELD	Feldberg	145.26	336	PKP	PKPdf	14 19 04.4	-3.3
ECH	Echery	145.31	337	PKP	PKPdf	14 19 04.2	-3.6
THEF	They Montfort	145.73	338	PKP	PKPdf	14 19 05.7	-2.8
HINF	Hinteralfeld	145.75	337	*e*PKP1	PKPbc	14 19 05.6	0.0
	comp=Z,32nn,1.2s						
HAU	Haudompre	145.78	337	*e*PKP1	PKPbc	14 19 05.9	+0.2
MEZF	Maizieres J'vi	145.82	339	*e*PKP1	PKPbc	14 19 06.4	+0.7
	comp=Z,75nn,1.1s						
TIP	Timpagrande	146.58	317	*e*PKP	PKPdf	14 19 08.9	-1.3
AQU	L'Aquila	146.75	324	*e*PKP	PKPdf	14 19 10.0	-0.4
CABF	La Chapelle	147.05	336	*e*PKP1	PKPdf	14 19 10.1	-0.7
	comp=Z,44nn,1.2s						
FLN	La Foliniere	147.20	345	*e*PKP1	PKPdf	14 19 09.5	-1.5
	comp=Z,24nn,0.9s						
LDF	La Druitiere	147.27	345	*e*PKP1	PKPdf	14 19 09.5	-1.6
LOR	Lormes	147.29	339	*e*PKP1	PKPdf	14 19 10.2	-1.0
	comp=Z,18nn,0.9s						
SSF	Saint Saulge	147.59	340	*e*PKP1	PKPdf	14 19 11.1	-0.5
	comp=Z,27nn,1.0s						
GRR	Gorron	147.64	346	*e*PKP1	PKPdf	14 19 10.9	-0.8
LPL	La Plagne	147.69	334	*e*PKP1	PKPdf	14 19 12.0	+0.1
	comp=Z,12nn,0.8s						
LPG	La Plagne	147.69	334	*e*PKP1	PKPdf	14 19 11.6	-0.3
	comp=Z,38nn,1.2s						
SMF	Signal de Mont	147.84	339	*e*PKP1	PKPdf	14 19 11.5	-0.6
	comp=Z,32nn,1.2s						
AVF	Avril sur Loir	147.88	339	*e*PKP1	PKPdf	14 19 11.5	-0.6
	comp=Z,21nn,1.1s						
BNI	Bardonecchia	148.09	334	*e*PKPbc	PKPdf	14 19 12.9	+0.4
SGMF	Saint Gilles	148.14	347	*e*PKP1	PKPdf	14 19 12.0	-0.5
	comp=Z,176nn,1.7s						
ROSF	Rostrenen	148.21	348	*e*PKP1	PKPdf	14 19 12.2	-0.4
BGF	Bois d'Agland	148.25	340	*e*PKP1	PKPdf	14 19 12.8	+0.1
	comp=Z,18nn,0.7s						
MBDF	Montbardon	148.31	334	*e*PKP1	PKPdf	14 19 12.9	0.0
	comp=Z,7.6nn,0.6s						
ORIF	Oris-en-Rattie	148.53	335	*e*PKP1	PKPdf	14 19 13.9	+0.7
	comp=Z,16nn,0.8s						
SAOF	Saorge	148.55	332	PKP	PKPdf	14 19 13.2	-0.1
AUTN	L'Aution	148.60	332	PKP	PKPdf	14 19 12.3	-1.1
TCF	Toulx Ste Croi	148.70	340	*e*PKP1	PKPdf	14 19 14.0	+0.6
	comp=Z,28nn,1.2s						
SBF	Sospel	148.70	332	*e*PKP1	PKPdf	14 19 13.8	+0.3
	comp=Z,31nn,1.1s						
PYM	Petit Puy Mans	148.90	339	PKP	PKPdf	14 19 15.9	+2.1
PGF	Pioggiola	148.96	328	*e*PKP1	PKPdf	14 19 14.8	+0.8
	comp=Z,63nn,1.1s						
VIVF	Saint-Julien-l	149.06	336	*e*PKP1	PKPdf	14 19 15.1	+1.0
MFF	Saint Martin d	149.11	343	*e*PKP1	PKPdf	14 19 14.8	+0.7
	comp=Z,25nn,0.8s						
LBL	Lubilhac	149.27	338	PKP	PKPdf	14 19 16.6	+2.2
FRF	La Foret Royal	149.29	332	*e*PKP1	PKPdf	14 19 15.4	+0.9
	comp=Z,42nn,1.2s						
SMRF	Simiane la Rot	149.42	334	*e*PKP1	PKPdf	14 19 16.2	+1.5
	comp=Z,32nn,1.2s						
VILF	Villemus	149.46	334	PKP	PKPdf	14 19 16.5	+1.7
LMR	La Mourre	149.53	332	*e*PKP1	PKPdf	14 19 16.0	+1.1
	comp=Z,31nn,1.1s						
RJF	Les Rejaudoux	149.79	340	*e*PKP1	PKPdf	14 19 16.9	+1.7
BERF	Bertagne	149.91	333	PKP	PKPdf	14 19 17.4	+1.9
CAF	Calviac	149.95	339	*e*PKP1	PKPdf	14 19 17.4	+1.9
	comp=Z,23nn,1.1s						
LASF	Ste Croix	150.03	336	*e*PKP1	PKPdf	14 19 17.6	+2.0
	comp=Z,36nn,1.0s						
LFF	La Frestale	150.37	341	*e*PKP1	PKPdf	14 19 18.0	+1.9
	comp=Z,36nn,1.1s						
MTLF	Montolieu	151.27	337	*e*PKP1	PKPdf	14 19 20.3	+2.8
	comp=Z,27nn,1.3s						
EPF	Esparros	152.20	340	*e*PKP1	PKPdf	14 19 22.6	+3.7
	comp=Z,9.4nn,0.8s						
ETSF	Etsaut	152.61	341	*e*PKP1	PKPdf	14 19 23.7	+4.2
	comp=Z,34nn,1.2s						
SJPF	Ste Jean	152.62	342	*e*PKP1	PKPdf	14 19 23.2	+3.7

*IDC **25** 14:31:39.4±1.6, 17.63S×168.03E, mb3.9/5, mb1 4.0/6, mb1mx3.9/13, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=48.2km s-min=24.0km az=122.0*
*LDG **25** 14:31:43.4±0.2, 17.34S×167.29E, h10km, Mb4.7/2, Error ellipse: s-maj=26.9km s-min=3.6km az=93.0*
*NEIC **25** 14:31:44.7±0.5, 17.60S×167.88E, h30km, mb4.1/6, Error ellipse: s-maj=14.4km s-min=10.8km az=114.0*
ISC 25 14:31:43.3±3.8, 17.7S±0.1×167.9E±0.2, h34km±31km, n48, σ0$74/19, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.57	197	*e*P	P	14 32 52.5	+0.5
DZM				*e*S	S	14 33 44.5	-0.1
DZM	Mont Dzumac	4.57	197	Pn	P	14 32 51.5	-0.5
	3.4nn,0.3s,baz=20,slow=18,SNR=39						
DZM				Sn	S	14 33 44.1	-0.6
	9.7nn,0.3s,baz=142,slow=22,SNR=9.8						
DZM	Mont Dzumac	4.57	197	*e*P	P	14 32 52.5	+0.5
DZM				*e*S	S	14 33 44.5	-0.1
CTA	Charters Tower	20.62	260	*e*P	P	14 36 25.5	+3.1
	4.9nn,0.8s						
CTA	Charters Tower	20.62	260	P	P	14 36 23.0	+0.6
	4.5nn,0.8s,baz=71,slow=15,SNR=4.4						
CTAO	Charters Tower	20.62	260	P	P	14 36 21.6	-0.8
	9.2nn,1.0s						
STKA	Stephens Creek	27.66	234	*e*P	P	14 37 31.4	+1.2
	3.4nn,1.0s,mb3.9						
STKA	Stephens Creek	27.66	234	P	P	14 37 30.7	+0.5
	1.8nn,0.6s,mb3.9,baz=56,slow=11,SNR=8.8						
WRAB	Tennant Creek	31.81	261	*e*P	P	14 38 07.0	-0.3
WRA	Warramunga Arr	31.82	261	P	P	14 38 06.2	-1.1
	0.4nn,0.4s,mb3.6,baz=90,slow=9.4,SNR=13						
FITZ	Fitzroy Crossi	40.16	263	*e*P	P	14 39 18.4	+0.4
	9.5nn,0.7s,mb4.6						
MBWA	Marble Bar	45.43	258	*e*P	P	14 40 00.7	-0.3
VNDA	Vanda	59.94	182	P	P	14 41 48.8	+0.7
	0.4nn,0.8s,mb3.5						
SBA	Scott Base	60.20	180	*e*P	P	14 41 49.5	-0.4
	1.0nn,0.4s,mb4.2						
SONM	Songino Array	85.22	324	P	P	14 44 18.6	+0.9
	3.0nn,1.1s,mb4.3,baz=139,slow=4.9,SNR=7.8						
ILAR	Eielson Array	89.14	18	P	P	14 44 35.4	-0.8
	0.3nn,0.7s,mb3.8,baz=241,slow=4.5,SNR=5.3						
ARCES	ARCESS Array B	123.25	345	PKP	PKPdf	14 50 37.5	+1.0
	5.7nn,1.0s,baz=45,slow=1.7,SNR=5.4						
BAIF	Baives	145.14	342	*e*PKP1	PKPbc	14 51 18.6	+1.1
CDF	Champ du Feu	145.52	337	*e*PKP1	PKPbc	14 51 20.2	+1.7
	31nn,0.7s						
HINF	Hinteralfeld	146.18	337	*e*PKP1	PKPbc	14 51 21.8	+1.6
HAU	Haudompre	146.21	338	*e*PKP1	PKPbc	14 51 22.1	+1.9
	7.1nn,0.7s						
MEZF	Maizieres J'vi	146.24	339	*e*PKP1	PKPbc	14 51 22.6	+2.3
CABF	La Chapelle	147.47	336	*e*PKP1	PKPdf	14 51 26.3	+5.1
	9.6nn,0.8s						
FLN	La Foliniere	147.59	346	*e*PKP1	PKPdf	14 51 25.8	+4.4
LDF	La Druitiere	147.66	345	*e*PKP1	PKPdf	14 51 25.7	+4.2
	3.6nn,0.6s						
LOR	Lormes	147.71	339	*e*PKP1	PKPdf	14 51 26.4	+4.8
	6.3nn,0.7s						
SSF	Saint Saulge	148.00	340	*e*PKP1	PKPdf	14 51 27.3	+5.2
GRR	Gorron	148.03	346	*e*PKP1	PKPdf	14 51 27.1	+5.0
	23nn,1.0s						
LPL	La Plagne	148.12	335	*e*PKP1	PKPdf	14 51 28.1	+5.8
	9.8nn,0.9s						
LPG	La Plagne	148.12	335	*e*PKP1	PKPdf	14 51 28.3	+6.0
	6.6nn,0.7s						
SMF	Signal de Mont	148.25	339	*e*PKP1	PKPdf	14 51 27.5	+5.0
AVF	Avril sur Loir	148.29	340	*e*PKP1	PKPdf	14 51 27.4	+4.8
BGF	Bois d'Agland	148.66	340	*e*PKP1	PKPdf	14 51 28.9	+5.7
	17nn,0.8s						
MBDF	Montbardon	148.74	334	*e*PKP1	PKPdf	14 51 28.0	+4.7
ORIF	Oris-en-Rattie	148.95	335	*e*PKP1	PKPdf	14 51 28.8	+5.1
	7.7nn,0.7s						
TCF	Toulx Ste Croi	149.11	341	*e*PKP1	PKPdf	14 51 30.1	+6.2
SBF	Sospel	149.13	332	*e*PKP1	PKPdf	14 51 29.9	+5.9
PGF	Pioggiola	149.39	329	*e*PKP1	PKPdf	14 51 30.9	+6.4
	18nn,0.7s						
VIVF	Saint-Julien-l	149.48	336	*e*PKP1	PKPdf	14 51 31.3	+6.8
MFF	Saint Martin d	149.51	344	*e*PKP1	PKPdf	14 51 31.0	+6.5
	12nn,0.8s						
FRF	La Foret Royal	149.72	332	*e*PKP1	PKPdf	14 51 31.5	+6.5
	7.1nn,0.7s						
SMRF	Simiane la Rot	149.85	334	*e*PKP1	PKPdf	14 51 32.4	+7.3
	7.5nn,0.7s						
LMR	La Mourre	149.97	332	*e*PKP1	PKPdf	14 51 32.0	+6.7
	18nn,1.0s						
RJF	Les Rejaudoux	150.20	340	*e*PKP1	PKPdf	14 51 33.0	+7.3
CAF	Calviac	150.36	339	*e*PKP1	PKPdf	14 51 33.5	+7.6
LASF	Ste Croix	150.45	336	*e*PKP1	PKPdf	14 51 33.8	+7.7
	12nn,0.8s						
MTLF	Montolieu	151.69	338	*e*PKP1	PKPdf	14 51 36.4	+8.5
	8.4nn,0.8s						
ETSF	Etsaut	153.02	341	*e*PKP1	PKPdf	14 51 39.9	+10
	5.2nn,0.7s						

*IDC **25** 15:04:31.3±0.7, 7.13N×33.90W, mb4.1/17, mb1 4.2/17, mb1mx4.2/27, mbtmp4.1/17, MS4.3/4, Ms1 4.3/4, ms1mx4.0/24, Error ellipse: s-maj=29.2km s-min=13.7km az=144.0*
*BJI **25** 15:04:33.0, 7.10N×33.90W, h10km, Ms4.9, Msz4.4*
*NEIC **25** 15:04:33.0±0.3, 7.06N×33.86W, h10km, mb4.6/18, Error ellipse: s-maj=9.6km s-min=5.1km az=140.0*
ISC 25 15:04:31.1±0.4, 7.02N±0.08×33.81W±0.07, h10km, n57, σ0$74/54, mb4.3/33, MS4.3/4, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	Riachuelo	12.93	189	*e*P	P	15 07 37.7	-0.2
BDFB	Brasilia	26.55	212	P	P	15 10 11.3	0.0
	3.7nn,0.8s,mb4.0,baz=45,slow=4.3,SNR=3.8						
BDFB				LR	LR	15 19 23.0	
	comp=Z,696nm,18.0s,MS4.2,baz=222,slow=34						
DBIC	Dimbokro	28.74	89	P	P	15 10 30.6	-0.6
	5.6nn,0.8s,mb4.3,baz=171,slow=4.1,SNR=4.0						
DBIC				LR	LR	15 19 33.1	
	comp=Z,424nm,18.2s,MS4.1,baz=178,slow=31						
DBIC	Dimbokro	28.74	89	*e*P	P	15 10 30.7	-0.6
SIV	San Ignacio	35.38	230	P	P	15 11 29.1	-0.2
	0.9nn,0.5s,mb4.0,baz=132,slow=19,SNR=4.0						
SDV	Santo Domingo	36.51	275	P	P	15 11 39.1	+0.2
	1.1nn,0.3s,mb4.1,baz=327,slow=6.1,SNR=4.1						
SDV	Santo Domingo	36.51	275	*e*P	P	15 11 39.4	+0.5
	2.1nn,0.7s,mb4.1						
MDT	Midelt	37.33	43	P	P	15 11 46.8	+1.2
	2.5nn,1.0s,mb4.0,baz=250,slow=9.9,SNR=4.8						
MDT				LR	LR	15 24 58.6	
	comp=Z,373nn,19.0s,MS4.2,baz=50,slow=33						
LPAZ	La Paz	41.11	235	P	P	15 12 18.6	+1.5
	1.8nn,0.7s,mb3.8,baz=59,slow=9.8,SNR=8.3						
ESDC	Sonseca Array	42.12	35	P	P	15 12 25.3	0.0
	0.3nn,0.3s,mb3.4,baz=230,slow=10.0,SNR=5.6						
ESDC	Sonseca Array	42.12	35	P	P	15 12 25.3	0.0
SJPF	Ste Jean	45.96	33	*e*P	P	15 12 56.7	+0.5
	37nn,1.2s,mb4.9						
ETSF	Etsaut	46.18	34	*e*P	P	15 12 58.0	0.0
	14nn,0.9s,mb4.6						
EPF	Esparros	46.77	34	*e*P	P	15 13 03.7	+1.1
MTLF	Montolieu	48.03	35	*e*P	P	15 13 12.3	-0.3
LFF	La Frestale	48.23	33	*e*P	P	15 13 14.1	0.0
QUIF	Quistinic	48.37	27	*e*P	P	15 13 14.6	-0.5
ROSF	Rostrenen	48.63	27	*e*P	P	15 13 17.0	-0.1
	50nn,1.1s,mb5.2						
SGMF	Saint Gilles	48.89	27	*e*P	P	15 13 19.0	-0.1
CAF	Calviac	48.94	34	*e*P	P	15 13 19.5	0.0
	14nn,1.0s,mb4.6						
VIVF	Saint-Julien-l	50.35	35	*e*P	P	15 13 30.9	+0.5
	23nn,1.2s,mb4.8						
SMRF	Simiane la Rot	50.36	36	*e*P	P	15 13 30.9	+0.4
	14nn,0.9s,mb4.7						
AVF	Avril sur Loir	50.82	32	*e*P	P	15 13 35.1	+1.2
ORIF	Oris-en-Rattie	51.09	36	*e*P	P	15 13 36.4	+0.5
	7.7nn,0.9s,mb4.3						
LOR	Lormes	51.39	32	*e*P	P	15 13 39.2	+1.0
	7.7nn,0.8s,mb4.4						
SBF	Sospel	51.41	38	*e*P	P	15 13 38.5	+0.1
MBDF	Montbardon	51.50	36	*e*P	P	15 13 39.6	+0.5
	15nn,0.9s,mb4.6						
BNI	Bardonecchia	51.63	36	*e*P	P	15 13 40.5	+0.4
	21nn,1.5s,mb4.8						
PGF	Pioggiola	51.69	40	*e*P	P	15 13 40.2	-0.4
	18nn,0.9s,mb4.7						
LPL	La Plagne	51.92	35	*e*P	P	15 13 42.8	+0.5
LPG	La Plagne	51.92	36	*e*P	P	15 13 43.0	+0.7
	12nn,1.1s,mb4.4						
GRA1	Grafenberg Arr	56.77	33	*e*P	P	15 14 16.9	-0.9
GRF	Grafenberg Arr	56.77	33	*e*P	P	15 14 16.9	-0.9
GERES	GERESS Array B	57.72	35	P	P	15 14 23.2	-1.3
	1.3nn,0.9s,mb4.0,baz=239,slow=7.8,SNR=8.3						
KHC	Kasperske Hory	57.79	35	*e*P	P	15 14 22.5	-2.5
PLCA	Paso Flores	58.30	212	LR	LR	15 39 19.3	
	comp=Z,418nn,19.0s,MS4.6,baz=59,slow=36						
IDI	Anoyia	60.54	53	P	P	15 14 44.9	+0.7
	10nn,0.9s,mb4.9,baz=241,slow=10,SNR=4.9						
NB2	NORSAR Subarra	63.41	23	P	P	15 15 02.1	-1.0
	2.7nn,0.8s,mb4.4,baz=232,slow=7.0						
NOA	NORSAR Array B	63.41	23	P	P	15 15 02.2	-0.8
	2.3nn,0.8s,mb4.3,baz=232,slow=6.7,SNR=6.2						
NOA	NORSAR Array B	63.41	23	P	P	15 15 02.2	-0.8
HFS	Hagfors	63.85	24	P	P	15 15 05.0	-0.9
	2.8nn,0.7s,mb4.4,baz=207,slow=3.3,SNR=5.5						
AKASG	Malin Array Be	67.67	38	P	P	15 15 29.8	-0.8
	2.9nn,0.7s,mb4.4,baz=252,slow=6.7,SNR=8.6						
BRTR	Keskin Array B	68.23	50	P	P	15 15 33.7	-0.6
	3.4nn,0.7s,mb4.5,baz=274,slow=6.8,SNR=8.8						
TXAR	Lajitas Array	69.05	299	P	P	15 15 38.3	-1.3
	0.4nn,0.7s,mb3.5,baz=102,slow=5.8,SNR=5.7						
FINES	FINESS Array B	69.77	26	P	P	15 15 43.6	+0.2
	0.8nn,0.7s,mb3.7,baz=225,slow=2.7,SNR=5.2						
MNTX	Cornudas Mount	70.68	301	*e*P	P	15 15 49.8	+0.3
	4.5nn,1.3s,mb4.2						
PV01	Paradox Valley	73.72	308	*e*P	P	15 16 07.8	+0.3
PV10	Paradox Valley	74.10	308	*e*P	P	15 16 10.2	+0.6
PDAR	Pinedale Array	74.81	312	P	P	15 16 12.5	-1.2
	1.6nn,0.9s,mb4.0,baz=112,slow=8.0,SNR=8.3						
WUAZ	Wupatki	75.85	305	P	P	15 16 20.4	+0.6
	7.8nn,1.0s,mb4.6						
IMW	Indian Meadow	75.90	313	P	P	15 16 19.9	+0.1
	5.9nn,1.2s,mb4.6						
HWUT	Hardware Ranch	76.22	311	*e*P	P	15 16 21.3	-0.4
	5.9nn,1.0s,mb4.5						
MSU	Marysvale	76.57	308	*e*P	P	15 16 23.9	+0.2
DLMT	Dillon	77.17	315	*e*P	P	15 16 27.2	+0.3
ILAR	Eielson Array	93.27	337	P	P	15 17 45.6	-1.4
	0.5nn,0.9s,mb4.0,baz=37,slow=4.5,SNR=4.8						
CN2	Changchun	126.04	18	*e*PKP	PKPdf	15 23 31.5	-5.6
MDJ	Mudanjiang	126.47	15	PKP	PKPdf	15 23 35.5	-2.3

*NEIC **25** 15:09:11.3±1.1, 12.00N×40.37E, h10km, mb4.6/18, Error ellipse: s-maj=26.1km s-min=10.6km az=195.0*
*MOS **25** 15:09:12.2±1.2, 12.40N×40.34E, h10km, mb4.8/19, Error ellipse: s-maj=15.8km s-min=5.9km az=110.2*
*IDC **25** 15:09:13.1±1.1, 12.46N×40.65E, mb4.1/12, mb1 4.2/14, mb1mx4.2/20, mbtmp4.1/14, ML4.0/1, MS4.0/2, Ms1 4.0/2, ms1mx3.6/24, Error ellipse: s-maj=28.0km s-min=13.4km az=34.0*
*CSEM **25** 15:09:13.3±0.2, 12.39N×40.37E, h20km, mb4.7/20, Error ellipse: s-maj=10.3km s-min=3.3km az=24.0*
ISC 25 15:09:10.6±1.0, 12.2N±0.2×40.42E±0.08, h10km, n81, σ1$09/79, mb4.4/30, MS4.5/2, 4C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	Arta Tunnel	2.47	105	Pn	Pn	15 09 52.1	+0.4
	38nn,0.3s,baz=250,slow=22,SNR=17						
ATD				LR	LR	15 10 15.4	
	comp=Z,711nm,21.5s,baz=271,slow=27						
ATD				Lg		15 10 26.8	
	23nn,0.3s,baz=242,slow=19,SNR=21						
KMBO	Kilima Mbogo	13.60	194	Lg		15 16 33.4	
	0.4nn,0.3s,baz=77,slow=18,SNR=4.8						
ASF	Jabal al Asfar	20.14	351	P	P	15 13 48.5	+0.6
	0.3nn,0.3s,baz=5.8,slow=1.8,SNR=8.0						
MALT	Malatya	26.07	356	*e*P	P	15 14 48.1	+2.0
	9.0nn,0.9s,mb4.3						
MALT	Malatya	26.07	356	*e*P	P	15 14 48.1	+2.0
MALT				pmax	pmax		
	comp=Z,9.0nn,0.9s,mb4.3						
BR131	Keskin Array S	28.07	349	*e*P	P	15 15 06.1	+1.7
	comp=Z,6.4nn,1.0s,mb4.2						
BR131	Keskin Array S	28.07	349	*e*P	P	15 15 06.1	+1.7
	comp=Z,6.4nn,1.0s,mb4.2						
BRTR	Keskin Array B	28.07	349	P	P	15 15 05.8	+1.5
	comp=Z,5.8nn,1.0s,mb4.2,baz=173,slow=10.0,SNR=19						
KIV	Kislovodsk	31.71	3	*e*P	P	15 15 35.0	-1.7
AKASG	Malin Array Be	39.47	349	P	P	15 16 42.7	-0.1
	comp=Z,1.0nn,0.5s,mb3.8,baz=171,slow=7.2,SNR=8.5						
KOLS	Kolonicke sedl	39.60	341	*e*P	P	15 16 45.7	+1.8
KECS	Kecovo	39.80	339	*e*P	P	15 16 47.0	+1.4
VYHS	Vyhne	40.40	338	*e*P	P	15 16 52.1	+1.6
ZST	Bratislava	40.82	336	*e*P	P	15 16 55.7	+1.8
MORC	Moravsky Berou	41.94	338	*e*P	P	15 17 04.0	+0.9
	comp=Z,7.3nn,1.3s,mb4.2						
MORC	Moravsky Berou	41.94	338	*e*P	P	15 17 04.0	+0.9
	comp=Z,7.3nn,1.3s,mb4.2						
MORC	Moravsky Berou	41.94	338	*e*P	P	15 17 04.0	+0.9
MORC				pmax	pmax		
	comp=Z,7.0nn,1.3s,mb4.1						
AAK	Ala-Archa	42.33	38	*e*P	P	15 17 05.5	-0.9
AAK	Ala-Archa	42.33	38	*e*P	P	15 17 05.5	-0.9
GERES	GERESS Array B	42.73	334	P	P	15 17 10.5	+0.9
	comp=Z,2.2nn,0.9s,mb3.9,baz=141,slow=8.5,SNR=16						
OBN	Obninsk	42.92	357	*e*P	P	15 17 11.8	+0.7
	comp=Z,12nn,1.1s,mb4.5						
OBN	Obninsk	42.92	357	*e*P	P	15 17 11.8	+0.7
OBN				*e*		15 18 49.8	
OBN				*e*SS	SS	15 27 09.6	+29
OBN				pmax	pmax		
	comp=Z,12nn,1.1s,mb4.5						
OBN				MLR	MLR		
	comp=Z,300nn,16.0s,MS4.3						
MBDF	Montbardon	43.33	325	*e*P	P	15 17 15.0	+0.5
	comp=Z,19nn,1.1s,mb4.4						
MBDF	Montbardon	43.33	325	*e*P	P	15 17 15.0	+0.5
MBDF				pmax	pmax		
	comp=Z,9.0nn,1.1s,mb4.4						
LPG	La Plagne	43.82	326	*e*P	P	15 17 17.5	-1.0
LPL	La Plagne	43.84	326	*e*P	P	15 17 17.4	-1.3
GRA1	Grafenberg Arr	44.45	333	*e*P	P	15 17 23.3	-0.2
	comp=Z,5.0nn,1.1s,mb4.2						
GRF	Grafenberg Arr	44.45	333	*e*P	P	15 17 23.3	-0.2
	comp=Z,5.0nn,1.1s,mb4.2						
GRF	Grafenberg Arr	44.45	333	*e*P	P	15 17 23.3	-0.2
GRF				pmax	pmax		
	comp=Z,5.0nn,1.1s,mb4.2						
GRF	Grafenberg Arr	44.45	333	*e*P	P

MAW	**Mawson**	**81.23**	**171**	P	**P**	**15 21 32.6**	**+4.7**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
JOW	**Kunigami**	**82.71**	**64**	LR	LR	16 02 00.0	
	comp=Z,372nm,18.0s,MS4.8,baz=294,slow=38						

GUC 25 15:26:16.5±0.4, 33.28S×71.99W, h19km±25km, MD3.5, ML2.3, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.40**	**120**	⇑*i*P	Pb	15 26 24.8	0.0
LNV	**Longovilo**	**0.83**	**145**	⇓*i*P	Pb	15 26 31.4	-0.7
LNV				*i* S	Sb	15 26 42.7	-0.1
TACH	**Talagante**	**0.95**	**114**	⇑*i*P	Pb	15 26 33.5	-0.7
TACH				*i* S	Sb	15 26 46.5	+0.1
RCDM	**Rinconada Maip**	**1.01**	**103**	⇓*i*P	Pb	15 26 34.1	-1.1
RCDM				*i* S	Sb	15 26 47.8	-0.2
RCDM				AMP		15 26 49.0	
	comp=N,215nm,0.1s						
CLCH	**Cerro Calan**	**1.22**	**96**	AMP		15 27 05.5	
	comp=E,99nm,0.5s						
PCH	**Pirque**	**1.28**	**106**	*e*P	Pn	15 26 39.2	-0.3
PCH				*e*S	Sb	15 26 55.7	0.0
CHCH	**Chadas Angostu**	**1.29**	**121**	⇓*i*P	Pn	15 26 39.0	-0.7
JACH	**Jahuel**	**1.31**	**64**	⇓*i*P	Pn	15 26 39.1	-0.9
JACH				*i* S	Sb	15 26 56.9	+0.2
FCH	**Farellones**	**1.42**	**93**	⇓*i*P	Pn	15 26 41.6	+0.1
FCH				*i* S	Sn	15 27 00.6	+0.7
FCH				AMP		15 27 05.3	
	comp=N,81nm,0.2s						
CACH	**El Canelo**	**1.43**	**126**	⇑*i*P	Pn	15 26 41.9	+0.2
CACH				*i* S	Sn	15 27 01.3	+1.2
SFDO	**San Fernando**	**1.56**	**149**	*e*P	Pn	15 26 43.2	-0.4
CICH	**Cipreses**	**1.67**	**129**	⇑*i*P	Pn	15 26 45.6	+0.4
CICH				*i* S	Sn	15 27 06.8	+0.7

*IDC **25** 15:37:03.6±0.6, 0.03N×97.82E, mb4.8/18, mb1 4.8/18, mb1mx4.8/20, mbtmp4.8/18, MS4.6/7, Ms1 4.5/7, ms1mx4.2/26, Error ellipse: s-maj=19.8km s-min=14.3km az=55.0*

*BJI **25** 15:37:06.7, 0.23S×98.01E, h44km, mB5.5, mb5.1, Ms5.2, Msz5.0*

*NEIC **25** 15:37:08.5±0.2, 0.07N×97.87E, mb5.1/47, MS5.1/1, Error ellipse: s-maj=6.6km s-min=4.8km az=219.0*

*MOS **25** 15:37:08.0±0.8, 0.22N×98.03E, h33km, mb5.3/55, Error ellipse: s-maj=12.4km s-min=5.8km az=116.7*

*HRVD **25** 15:37:08.5±0.7, 0.38S×97.88E, h50km±2km, MW5.0/31, Centroid moment Tensor Solution. LP body waves: s17,c24;Mantle waves: s31,c49; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.91±.46; $M_{\theta\theta}$-3.85±.33; $M_{\phi\phi}$1.95±.43; $M_{r\theta}$1.42±.20; $M_{r\phi}$2.96±.22; $M_{\theta\phi}$-0.89±.36; Best double couple: M_o4.365×10^{16} NP1:ϕ_s247°,δ70°,λ2°. NP2:ϕ_s156°,δ89°,λ160°. Principal axes: T 3.265, Plg15°, Azm110°; N 2.21, Plg70°, Azm332°; P -5.465, Plg13°, Azm203°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 15:37:06.9±0.2, 0.09N±0.04×97.94E±0.04, h29km, h29km±1.0km:pP-P, n215, σ1s01/220, mb5.0/94, MS4.8/18, 21C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.43**	**35**	P	**Pn**	**15 38 28.8**	**+0.7**
KGM	**Kluang**	**5.71**	**70**	P	**Pn**	**15 38 34.0**	**+1.8**
KULM	**Kulim**	**5.84**	**28**	*e*P	**Pn**	**15 38 34.0**	**+0.1**
SNG	**Songkhla**	**7.53**	**21**	P	**Pn**	**15 38 56.0**	**-1.7**
	406nm,1.0s						
KSM	**Kuching**	**12.45**	**84**	*e*P	**P**	**15 40 07.2**	**+1.9**
NST	**Nakhon Sawan**	**15.64**	**8**	P	**P**	**15 40 49.0**	**+1.8**
	43nm,0.5s						
NANT	**Nan**	**18.79**	**8**	P	**P**	**15 41 27.0**	**+0.3**
	112nm,0.7s						
KKM	**Kota Kinabalu**	**19.18**	**72**	P	**P**	**15 41 31.9**	**+0.6**
KKM	**Kota Kinabalu**	**19.18**	**72**	*e*P	**P**	**15 41 31.4**	**0.0**
QIZ	**Qiongzhong**	**22.16**	**31**	*e*P	**P**	**15 42 04.5**	**+2.2**
QIZ				*e*S	**S**	**15 46 06.5**	**+6.8**
QIZ				LR	LR		
	comp=E,5μm,5.4s						
QIZ				LR	LR		
	comp=Z,4μm,5.3s						
QIZ	**Qiongzhong**	**22.16**	**31**	*e*P	**P**	**15 42 04.7**	**+2.4**
KMI	**Kunming**	**25.32**	**10**	P	**P**	**15 42 34.5**	**+1.5**
KMI				AP	pP	15 42 43.8	+2.3
KMI				XP	sP	15 42 48.3	+3.0
KMI				PP	PP	15 43 15.8	+3.9
KMI				PPP	PPP	15 43 23.5	+0.3
KMI				S	**S**	**15 47 01.0**	**+6.4**
KMI				XS		15 47 13.8	
KMI				SS	SS	15 48 02.5	+5.9
KMI				SSS	SSS	15 48 24.0	+11
KMI				AMB	AMB		
	comp=Z,37nm,1.7s,mb4.6						
KMI				AMB	AMB		
	comp=Z,828nm,3.9s						
KMI				LR	LR		
	comp=N,5μm,14.9s,MS5.2						
KMI				LR	LR		
	comp=E,2μm,14.2s,MS5.2						
KMI				LR	LR		
	comp=Z,5μm,11.7s,MS5.3						
KMI	**Kunming**	**25.32**	**10**	P	**P**	**15 42 34.5**	**+1.5**
	comp=Z,37nm,1.7s,mb4.6						
KMI				pP	pP	15 42 43.8	+2.3
KMI				sP	sP	15 42 48.3	+3.0
KMI				PP	PP	15 43 15.7	+3.8
KMI				PPP	PPP	15 43 23.5	+0.3
KMI				S	**S**	**15 47 00.9**	**+6.3**
KMI				sS		15 47 13.7	
KMI				SS	SS	15 48 02.6	+6.0
KMI				SSS	SSS	15 48 23.9	+11
KMI				LR	LR		
	comp=Z,5μm,11.7s,MS5.3						
KMI	**Kunming**	**25.32**	**10**	P	**P**	**15 42 34.5**	**+1.5**
KMI				*PP	pP	15 42 43.8	+2.3
KMI				*SP	sP	15 42 48.3	+3.0
KMI						15 43 15.7	
KMI				PPP	PPP	15 43 23.5	+0.3
KMI				S	**S**	**15 47 00.9**	**+6.3**
KMI				*SS		15 47 13.7	
KMI				SS	SS	15 48 02.6	+6.0
KMI				pmax	pmax		
	comp=Z,37nm,1.7s,mb4.6						
KMI				MLR	MLR		
	comp=Z,5μm,11.7s,MS5.3						
PKI	**Pulchoki**	**29.86**	**337**	*e*P	**P**	**15 43 13.8**	**-0.5**
MBWA	**Marble Bar**	**29.99**	**136**	*e*P	**P**	**15 43 16.6**	**+1.0**
DMN	**Daman**	**30.01**	**337**	*e*P	**P**	**15 43 15.9**	**+0.2**
KKN	**Kakani**	**30.10**	**337**	*e*P	**P**	**15 43 16.2**	**-0.3**
	comp=Z,33nm,0.8s,mb5.1						
KKN	**Kakani**	**30.10**	**337**	*e*P	**P**	**15 43 16.2**	**-0.3**
KKN				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
LSA	**Lhasa**	**30.15**	**348**	P	**P**	**15 43 17.8**	**+0.9**
LSA	**Lhasa**	**30.15**	**348**	*e*P	**P**	**15 43 17.5**	**+0.6**
	comp=Z,30nm,0.8s,mb5.1						
LSA	**Lhasa**	**30.15**	**348**	*e*P	**P**	**15 43 17.5**	**+0.6**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
GKN	**Gorkha**	**30.55**	**336**	*e*P	**P**	**15 43 20.1**	**-0.3**
KOLN	**Koldanda**	**30.77**	**335**	*e*P	**P**	**15 43 22.6**	**+0.2**
	comp=Z,35nm,0.7s,mb5.3						
ENH	**Enshi**	**31.97**	**19**	*e*P	**P**	**15 43 30.8**	**-2.0**
	comp=Z,88nm,1.4s,mb5.4						
FITZ	**Fitzroy Crossi**	**32.69**	**125**	⇑*i*P	**P**	**15 43 38.5**	**-0.8**
	comp=Z,28nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**32.69**	**125**	P	**P**	**15 43 38.6**	**-0.7**
	comp=Z,38nm,0.9s,mb5.3,baz=289,slow=2.1,SNR=23						
XAN	**Xi'an**	**35.31**	**16**	P	**P**	**15 44 01.0**	**-0.8**
XAN				S	**S**	**15 49 41.0**	**+7.8**
XAN				AMB	AMB		
	comp=Z,92nm,0.9s,mb5.7						
XAN				LR	LR		
	comp=N,1μm,15.4s,MS4.9						
XAN				LR	LR		
	comp=E,857nm,14.3s,MS4.9						
XAN				LR	LR		
	comp=Z,3μm,15.8s,MS5.2						
LZH	**Lanzhou**	**36.24**	**8**	⇑P	**P**	**15 44 09.5**	**0.0**
LZH				AP	pP	15 44 17.8	-0.4
LZH				XP	sP	15 44 22.0	+0.2
LZH				AMB	AMB		
	comp=Z,210nm,1.6s,mb5.8						
LZH				AMB	AMB		
	comp=Z,470nm,4.7s						
LZH				LR	LR		
	comp=N,4μm,19.2s						
LZH				LR	LR		
	comp=Z,3μm,19.4s,MS5.1						
LZH	**Lanzhou**	**36.24**	**8**	⇑P	**P**	**15 44 09.5**	**0.0**
	comp=Z,210nm,1.6s,mb5.8						
LZH				pP	pP	15 44 17.8	-0.4
LZH				sP	sP	15 44 21.9	+0.1
LZH				LR	LR		
	comp=Z,3μm,19.4s,MS5.1						
LZH	**Lanzhou**	**36.24**	**8**	⇑P	**P**	**15 44 09.5**	**0.0**
LZH				*PP	pP	15 44 17.8	-0.4
LZH				*SP	sP	15 44 21.9	+0.1
LZH				pmax	pmax		
	comp=Z,210nm,1.6s,mb5.8						
LZH				MLR	MLR		
	comp=Z,3μm,19.4s,MS5.1						
KAKA	**Kakadu**	**36.51**	**112**	*e*P	**P**	**15 44 29.5**	**+18**
	comp=Z,5.3nm,0.6s,mb4.5						
NJ2	**Nanjing**	**37.44**	**30**	*e*P	**P**	**15 44 19.3**	**-0.4**
NJ2				AP	pP	15 44 29.8	+1.5
NJ2				XP	sP	15 44 33.5	+1.5
NJ2				PP	PP	15 45 45.8	-2.2
NJ2				S	**S**	**15 50 05.0**	**-0.8**
NJ2				XS		15 50 21.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,400nm,3.9s						
NJ2				LR	LR		
	comp=N,1μm,15.0s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,15.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,270nm,14.9s,MS4.2						
NWAO	**Narrogin (SRO)**	**37.54**	**153**	*e*P	**P**	**15 44 21.8**	**+1.3**
SSE	**Sheshan**	**37.91**	**33**	*e*P	**P**	**15 44 22.5**	**-1.2**
SSE				PP	PP	15 45 51.8	-1.9
SSE				PCP	PcP	15 46 34.5	-5.4
SSE				S	**S**	**15 50 04.0**	**-9.1**
SSE				AMB	AMB		
	comp=Z,37nm,1.5s,mb4.9						
SSE				AMB	AMB		
	comp=Z,506nm,5.7s						
SSE				LR	LR		
	comp=N,617nm,17.4s,MS4.5						
SSE				LR	LR		
	comp=E,300nm,17.4s,MS4.5						
SSE				LR	LR		
	comp=Z,962nm,16.5s,MS4.7						
SSE	**Sheshan**	**37.91**	**33**	*e*P	**P**	**15 44 22.6**	**-1.1**
	comp=Z,37nm,1.5s,mb4.9						
SSE				pP	pP	15 44 54.7	+22
SSE				sP	sP	15 45 12.7	+37
SSE				PP	PP	15 45 51.8	-1.9
SSE				PcP	PcP	15 46 34.5	-5.4
SSE				S	**S**	**15 50 03.9**	**-9.2**
SSE				sS		15 51 01.3	
SSE				ScS	ScS	15 54 22.0	-10
SSE				LR	LR		
	comp=Z,960nm,16.5s,MS4.7						
GTA	**Gaotai**	**39.17**	**2**	⇑P	**P**	**15 44 34.5**	**+0.3**
GTA				AMB	AMB		
	comp=Z,27nm,1.5s,mb4.8						
JOW	**Kunigami**	**39.48**	**45**	P	**P**	**15 44 36.4**	**-0.5**
	comp=Z,14nm,0.7s,mb4.8,baz=217,slow=10,SNR=3.7						
TIA	**Tai'an**	**40.12**	**24**	*e*P	**P**	**15 44 42.5**	**+0.5**
WRA	**Warramunga Arr**	**40.83**	**121**	P	**P**	**15 44 47.5**	**-0.5**
	comp=Z,24nm,0.9s,mb4.8,baz=303,slow=9.0,SNR=144						
WRA				S	**S**	**15 50 54.6**	**-2.4**
	comp=Z,3.9nm,1.0s,baz=294,slow=17,SNR=9.7						
WRAB	**Tennant Creek**	**40.84**	**121**	*e*P	**P**	**15 44 47.8**	**-0.3**
	comp=Z,53nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**40.84**	**121**	*c i*P	**P**	**15 44 47.9**	**-0.1**
WB2	**Warramunga Arr**	**40.84**	**121**	⇑*i*P	**P**	**15 44 47.7**	**-0.4**
WB2				*e*S	**S**	**15 50 55.1**	**-2.0**
ASPA	**Alice Springs**	**42.14**	**127**	⇑*i*P	**P**	**15 44 59.4**	**+0.6**
ASPA				*e*S	**S**	**15 51 16.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**42.42**	**15**	*e*P	**P**	**15 45 02.5**	**+1.6**
HHC				AP	pP	15 45 09.8	+0.2
HHC				PP	PP	15 46 43.5	+1.5
HHC				PCP	PcP	15 46 55.5	+1.2
HHC				SCP		15 50 43.5	
HHC				PCS		15 50 46.5	
HHC				S	**S**	**15 51 21.8**	**+1.5**
HHC				XS		15 51 39.5	
HHC				SS	SS	15 54 26.0	+2.0
HHC				SCS	ScS	15 55 00.0	+1.8
HHC				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,527nm,7.7s						
HHC				LR	LR		
	comp=N,2μm,15.5s,MS5.2						
HHC				LR	LR		
	comp=E,915nm,14.3s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,15.5s,MS5.1						
DL2	**Dalian**	**44.32**	**27**	P	**P**	**15 45 17.0**	**+0.6**
DL2				*e*S	**S**	**15 51 43.3**	**-4.8**
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
DL2				LR	LR		
	comp=N,560nm,13.4s,MS4.7						
DL2				LR	LR		
	comp=E,250nm,12.9s,MS4.7						
DL2				LR	LR		
	comp=Z,540nm,15.4s,MS4.6						
WMQ	**Urumqi**	**44.49**	**349**	⇑*i*P	**P**	**15 45 19.0**	**+1.3**
WMQ				AP	pP	15 45 29.0	+2.6
WMQ				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,174nm,4.0s						
WMQ				LR	LR		
	comp=N,605nm,26.4s,MS4.7						
WMQ				LR	LR		
	comp=E,923nm,23.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,760nm,24.4s,MS4.5						
JNU	**Nakatsue**	**45.16**	**40**	P	**P**	**15 45 22.5**	**-0.7**
	comp=Z,10.0nm,0.8s,mb4.7,baz=217,slow=21,SNR=6.3						
KS15	**Wonju Array Si**	**46.33**	**33**	*e*P	**P**	**15 45 32.3**	**0.0**
UCH	**Uchtor**	**46.96**	**336**	P	**P**	**15 45 38.5**	**+1.3**
	SNR=13						
TKM2	**Tokmak 2**	**47.12**	**338**	P	**P**	**15 45 39.4**	**+0.9**
	SNR=16						
KBK	**Karagaybulak**	**47.15**	**337**	P	**P**	**15 45 40.3**	**+1.5**
	SNR=10						
AML	**Almayashu**	**47.21**	**335**	P	**P**	**15 45 40.6**	**+1.3**
	SNR=14						
AAK	**Ala-Archa**	**47.30**	**336**	P	**P**	**15 45 41.0**	**+1.0**
	SNR=6.5						
AAK	**Ala-Archa**	**47.30**	**336**	*e*P	**P**	**15 45 39.4**	**-0.6**
	comp=Z,16nm,1.0s,mb4.9						
AAK	**Ala-Archa**	**47.30**	**336**	*e*P	**P**	**15 45 39.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
FRU	**Bishkek**	**47.42**	**337**	*e*P	**P**	**15 45 41.0**	**0.0**
FRU				*e*		15 45 58.0	
FRU				pmax	pmax		
	comp=Z,80nm,2.0s,mb5.3						
CHMS	**Chumysh**	**47.51**	**337**	P	**P**	**15 45 42.0**	**+0.4**
	SNR=10						
SNY	**Shenyang**	**47.56**	**26**	⇑P	**P**	**15 45 40.0**	**-2.1**
SNY				AP	pP	15 45 49.3	-1.5
SNY				S	**S**	**15 52 24.5**	**-10**
SNY				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
SNY				LR	LR		
	comp=N,1μm,18.0s,MS5.1						
SNY				LR	LR		
	comp=E,920nm,13.7s,MS5.1						
SNY				LR	LR		
	comp=Z,1μm,18.0s,MS4.8						
EKS2	**Erkin-Say**	**47.62**	**336**	P	**P**	**15 45 43.5**	**+1.1**
	SNR=15						
USP	**Ospenovka**	**47.84**	**337**	P	**P**	**15 45 44.8**	**+0.6**
	SNR=23						
SONM	**Songino Array**	**48.12**	**8**	P	**P**	**15 45 46.7**	**+0.3**
	comp=Z,11nm,0.5s,mb5.2,baz=190,slow=10.0,SNR=90						
SONM				LR	LR	16 08 13.3	
	comp=Z,837nm,19.5s,MS4.7,baz=193,slow=39						
MKAR	**Makanchi Array**	**48.49**	**346**	P	**P**	**15 45 49.5**	**+0.3**
	comp=Z,44nm,0.5s,mb5.7,baz=156,slow=8.2,SNR=591						
MKAR				S	**S**	**15 52 48.8**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=199,slow=22,SNR=2.5						
PMG	**Port Moresby**	**49.90**	**102**	*e*P	**P**	**15 46 00.0**	**-0.4**
	comp=Z,20nm,1.0s,mb5.1						
PMG	**Port Moresby**	**49.90**	**102**	*e*P	**P**	**15 46 00.0**	**-0.4**
PMG				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2	**Changchun**	**49.97**	**26**	*e*P	**P**	**15 46 00.0**	**-0.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
ZAK	**Zakamensk**	**50.31**	**4**	⇑*i*P	**P**	**15 46 03.3**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
CTA	**Charters Tower**	**51.35**	**116**	⇑*i*P	**P**	**15 46 11.4**	**0.0**
	comp=Z,12nm,1.1s,mb4.7						
CTA	**Charters Tower**	**51.35**	**116**	⇑*i*P	**P**	**15 46 11.4**	**0.0**
CTA				pmax	pmax		
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**51.35**	**116**	*e*P	**P**	**15 46 11.4**	**-0.1**
	comp=Z,17nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**51.35**	**116**	*e*P	**P**	**15 46 11.4**	**0.0**
CTAO				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
MJAR	**Matsushiro Arr**	**52.02**	**41**	P	**P**	**15 46 14.6**	**-1.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=221,slow=6.3,SNR=7.3						
MJAR				LR	LR	16 09 49.9	
	comp=Z,360nm,19.7s,MS4.4,baz=250,slow=38						
MJAR	**Matsushiro Arr**	**52.02**	**41**	P	**P**	**15 46 14.6**	**-1.7**
MJAR				LR	LR	16 09 50.0	
STKA	**Stephens Creek**	**52.07**	**132**	⇑*i*P	**P**	**15 46 17.6**	**+0.9**
	comp=Z,19nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**52.07**	**132**	P	**P**	**15 46 17.7**	**+1.0**
	comp=Z,16nm,0.9s,mb4.9,baz=299,slow=7.1,SNR=28						
STKA				LR	LR	16 09 33.8	
	comp=Z,852nm,19.9s,MS4.8,baz=7.6,slow=37						
IRK	**Irkutsk**	**52.24**	**5**	*e*P	**P**	**15 46 17.2**	**-0.5**
IRK				pmax	pmax		
	comp=Z,52nm,2.1s,mb5.1						
HIA	**Hailar**	**52.46**	**18**	*e*P	**P**	**15 46 18.4**	**-1.0**
	comp=Z,6.2nm,0.6s,mb4.7						
HIA	**Hailar**	**52.46**	**18**	*e*P	**P**	**15 46 18.4**	**-1.0**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ	**Mudanjiang**	**52.48**	**28**	P	**P**	**15 46 19.5**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,316nm,7.6s						
VLA	**Vladivostok**	**52.53**	**31**	*e*P	**P**	**15 46 17.7**	**-2.3**
VLA				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.4						
VLA				MLR	MLR		
	comp=Z,1μm,22.2s,MS4.9						
KURK	**Kurchatov**	**53.05**	**345**	*e*P	**P**	**15 46 23.0**	**-0.7**
	comp=Z,31nm,0.9s,mb5.2						
KURK	**Kurchatov**	**53.05**	**345**	*e*P	**P**	**15 46 23.0**	**-0.8**
KURK				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
OPO	**Ambohidratompo**	**53.15**	**247**	P	**P**	**15 46 22.4**	**-2.5**
	comp=Z,3.7nm,1.0s,mb4.3,baz=148,slow=3.2,SNR=2.2						
ZAL	**Zalesovo**	**54.76**	**351**	P	**P**	**15 46 36.4**	**+0.2**
	comp=Z,25nm,0.4s,mb5.6,baz=312,slow=4.9,SNR=57						
ZAL				LR	LR	16 13 50.2	
	comp=Z,233nm,18.0s,MS4.3,baz=196,slow=40						
ZAL	**Zalesovo**	**54.76**	**351**	P	**P**	**15 46 36.4**	**+0.2**
ZAL				LR	LR	16 13 50.2	
NVS	**Novosibirsk**	**55.89**	**350**	*i* P	**P**	**15 46 42.4**	**-2.0**
NVS				*e*S	**S**	**15 54 19.7**	**-8.6**
NVS				pmax	pmax		
	comp=N,44nm,1.4s						
NVS				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.3						
NVS				pmax	pmax		
	comp=E,18nm,1.0s						
NVS				smax			
	comp=N,35nm,1.8s						
NVS				smax			
	comp=E,14nm,2.1s						
UMR	**Umm Al-Rimmam**	**56.06**	**306**	*e*P	**P**	**15 46 45.2**	**-0.8**
UMR				AMb	AMB	15 46 59.1	
	comp=Z,49nm,0.7s,mb5.6						
NAY	**Al-Naaiem**	**56.34**	**306**	*e*P	**P**	**15 46 46.9**	**-1.1**
NAY				AMb	AMB	15 46 48.0	
	comp=Z,17nm,0.5s,mb5.3						
MIB	**Mutribah**	**56.46**	**306**	*e*P	**P**	**15 46 48.3**	**-0.6**
MIB				AMb	AMB	15 46 58.9	
	comp=Z,82nm,0.7s,mb5.8						
KLR	**Kul'dur**	**56.92**	**26**	*e*P	**P**	**15 46 48.5**	**-3.4**
KLR				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.1						
KLR				MLR	MLR		
	comp=N,700nm,14.0s,MS5.2						
KLR				MLR	MLR		
	comp=E,1μm,14.0s,MS5.2						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.4						
BVAR	**Borovoye Array**	**57.53**	**341**	P	**P**	**15 46 54.4**	**-1.8**
	comp=Z,6.9nm,0.5s,mb4.9,baz=147,slow=9.3,SNR=64						
BRVK	**Borovoye**	**57.60**	**341**	*e*P	**P**	**15 46 55.0**	**-1.6**
	comp=Z,5.8nm,0.6s,mb4.8						
BRVK	**Borovoye**	**57.60**	**341**	*e*P	**P**	**15 46 55.0**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
BOD	**Bodaibo**	**58.97**	**10**	*e*P	**P**	**15 47 05.4**	**-0.7**
BOD				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.9						
YSS	**Yuzh-Sakhalins**	**60.85**	**34**	*e*P	**P**	**15 47 18.9**	**-0.3**
	comp=Z,102nm,1.4s,mb5.8						
YSS	**Yuzh-Sakhalins**	**60.85**	**34**	*c i*P	**P**	**15 47 19.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,68nm,1.3s,mb5.6						
GNI	**Garni**	**62.60**	**316**	*e*P	**P**	**15 47 30.1**	**-0.9**
GNI				pmax	pmax		
	comp=Z,15nm,1.7s						
ZEI	**Tsey**	**64.31**	**319**	*e*P	**P**	**15 47 39.2**	**-3.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
ARU	**Arti**	**64.49**	**337**	*e*P	**P**	**15 47 41.2**	**-2.0**
	comp=Z,15nm,1.3s,mb4.9						
ARU	**Arti**	**64.49**	**337**	⇓*i*P	**P**	**15 47 39.6**	**-3.6**
ARU				*e*		15 49 59.3	
ARU				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.7						
KIV	**Kislovodsk**	**65.62**	**319**	*e*P	**P**	**15 47 50.2**	**-0.5**
KIV				*e*		15 48 21.6	
KIV				*e*		15 50 16.7	
KIV				*e*S	S	15 56 24.4	-8.4
KIV				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
YAK	**Yakutsk**	**66.28**	**16**	*e*P	**P**	**15 47 53.2**	**-1.4**
	comp=Z,55nm,1.0s,mb5.5						
YAK	**Yakutsk**	**66.28**	**16**	*e*P	**P**	**15 47 52.9**	**-1.7**
YAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK

ANN *i* *PP pP 15 48 41.9 +18
ANN *i* *SS 15 57 57.7
ANN pmax pmax
comp=Z,56nm,1.6s,mb5.2
BR131 Keskin Array S 70.40 312 *e*P **P** **15 48 19.3 -1.3**
BRTR Keskin Array B 70.40 312 P **P** **15 48 18.7 -1.9**
comp=Z,2.2nm,0.6s,mb4.3,baz=135,slow=7.0,SNR=8.7
SIM Simferopol' 71.68 318 *e*P **P** **15 48 28.1 -0.1**
SIM pmax pmax
comp=Z,30nm,1.1s,mb5.1
MAW Mawson 71.80 193 P **P** **15 48 26.8 -1.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=354,slow=6.4,SNR=4.7
MAW LR LR 16 13 16.4
comp=Z,364nm,19.4s,MS4.7,baz=68,slow=30
MA2 Magadan 72.02 25 *i* P **P** **15 48 30.2 +0.2**
MA2 pmax pmax
comp=Z,23nm,1.3s,mb5.0
PET Petropavlovsk 72.74 33*c* *i*P **P** **15 48 34.4 0.0**
PET pmax pmax
comp=Z,57nm,1.3s,mb5.3
MOS Moscow 73.66 329 *e*P **P** **15 48 36.9 -2.8**
OBN Obninsk 73.94 328⇓ *e*P **P** **15 48 40.2 -1.1**
OBN *e* 15 51 29.4
OBN *e*S S 15 58 03.6 -6.5
OBN pmax pmax
comp=Z,30nm,1.7s,mb5.0
SEY Seymchan 74.49 23 *e*P **P** **15 48 38.7 -5.7**
SEY *e* 15 48 51.3
SEY pmax pmax
comp=Z,40nm,1.4s,mb5.2
SEY pmax pmax
comp=E,20nm,1.6s
TIRR Tirgusor 75.43 316 ⇑P **P** **15 48 58.6 +8.5**
AKASG Malin Array Be 76.58 322 P **P** **15 48 55.3 -1.2**
comp=E,3.1nm,0.5s,mb4.5,baz=90,slow=5.1,SNR=21
AKASG Malin Array Be 76.58 322 *i* P **P** **15 48 55.2 -1.3**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
VRI Vrincioaia 76.93 317 ⇓P **P** **15 48 58.3 -0.2**
MLR Muntele Rosu 77.38 317 ⇑P **P** **15 49 00.8 -0.2**
BURAR Bucovina Array 78.34 319 ⇑P **P** **15 49 06.6 +0.3**
SYO Syowa Base 79.18 198 ⇑PcP PcP 15 49 19.0 -0.1
JOF Joensuu 79.46 335 *ep* **P** **15 49 10.8 -1.3**
comp=Z,8.1nm,1.1s,mb4.6
DRGR 79.84 318 ⇓P **P** **15 49 13.2 -1.3**
APA Apatity 80.42 339⇑ *i*P **P** **15 49 17.2 +0.1**
APA *i* pP 15 49 27.0 +0.7
APA pmax pmax
comp=Z,27nm,1.1s,mb5.1
KOLS Kolonicke sedl 80.53 320 *e*P **P** **15 49 19.4 +1.3**
KOLS *ep*P pP 15 49 26.9 -0.4
SUW Suwalki 81.00 325 *e*P **P** **15 49 20.2 -0.2**
STHS Stebnicka Huta 81.29 320 *i* P **P** **15 49 23.5 +1.5**
STHS *ep*P pP 15 49 31.5 +0.2
FINES FINESS Array B 81.32 332 P **P** **15 49 21.8 -0.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=98,slow=5.6,SNR=13
FINES FINESS Array B 81.32 332 *i* P **P** **15 49 21.7 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 81.40 333 *ep* **P** **15 49 21.8 -0.6**
comp=Z,11nm,1.0s,mb4.7,baz=103,slow=5.0
KAF Kangasniemi 81.40 333 *e*P **P** **15 49 21.8 -0.6**
KAF pmax pmax
comp=Z,11nm,1.0s,mb4.7
URZ Urewera 81.55 129 LR LR 16 22 41.6
comp=Z,565nm,21.8s,MS4.9,baz=332,slow=34
KECS Kecovo 81.62 319 *e*P **P** **15 49 24.0 +0.2**
KECS *e* 15 49 30.3
OJC Ojcow 82.34 321 *e*P **P** **15 49 26.2 -1.3**
LIKS Líkavka 82.61 319 *e* **P** **15 49 35.9 +7.0**
VYHS Vyhne 82.71 319 *e*P **P** **15 49 30.5 +1.1**
OKC Ostrava-Krasne 83.34 320 *e*P **P** **15 49 33.2 +0.5**
OKC *ep*P pP 15 49 40.7 -1.2
MORC Moravsky Berou 83.72 320 *e*P **P** **15 49 34.9 +0.3**
comp=Z,13nm,1.2s,mb4.9
MORC Moravsky Berou 83.72 320 *e*P **P** **15 49 34.9 +0.3**
MORC pmax pmax
comp=Z,13nm,1.2s,mb4.9
ZST Bratislava 83.82 318 *e*P **P** **15 49 35.7 +0.6**
ZST *e* pP 15 49 44.3 -0.1
ARCES ARCESS Array B 83.82 340 P **P** **15 49 35.5 +0.8**
comp=Z,2.3nm,0.5s,mb4.6,baz=104,slow=4.7,SNR=13
DPC Dobruska-Polom 84.57 320 *e*P **P** **15 49 39.9 +1.0**
DPC *ep*P pP 15 49 47.9 -0.3
UPC Upice 84.78 321 *e*P **P** **15 49 40.5 +0.6**
UPC *ep*P pP 15 49 50.8 +1.6
LJU Ljubljana 85.35 316 *e*P **P** **15 49 43.3 +0.4**
LJU *e* pP 15 49 51.8 -0.4
PRU Pruhonice 85.67 320 *e*P **P** **15 49 43.2 -1.2**
PRU *ep*P pP 15 49 54.3 +0.6
SBA Scott Base 85.70 169 *e*P **P** **15 49 46.1 +2.1**
comp=Z,58nm,1.9s,mb5.5
SBA Scott Base 85.70 169 *e*P **P** **15 49 46.1 +2.2**
SBA pmax pmax
comp=Z,58nm,1.9s,mb5.5
PVCC Panska Ves 85.70 321 *e*P **P** **15 49 45.6 +1.1**
VOJS Vojsko 85.80 316 *e*P **P** **15 49 45.1 0.0**
AQU L'Aquila 85.89 312 *e*P **P** **15 49 46.1 +0.4**
comp=Z,14nm,0.8s,mb5.2
AQU L'Aquila 85.89 312 *e*P **P** **15 49 46.1 +0.4**
AQU pmax pmax
comp=Z,14nm,0.8s,mb5.2
GERES GERESS Array B 86.13 319 P **P** **15 49 47.1 +0.5**
comp=Z,4.4nm,1.1s,mb4.6,baz=108,slow=4.2,SNR=22
BRG Berggiesshubel 86.13 321 *e*P **P** **15 49 46.9 +0.3**
comp=Z,20nm,1.7s,mb5.1
BRG *e* pP 15 49 57.5 +1.6
BRG Berggiesshubel 86.13 321 *e*P **P** **15 49 46.9 +0.3**
BRG *e* pP 15 49 57.5 +1.6
BRG pmax pmax
comp=Z,20nm,1.7s,mb5.1
KHC Kasperske Hory 86.23 319 *e*P **P** **15 49 43.2 -4.0**
CLL Collm 86.75 321 *e**SP sP 15 50 00.0 -2.0
CLL Collm 86.75 321 *e*P **P** **15 49 58.0 +8.3**
comp=Z,9.0nm,1.1s,mb4.9
GRA1 Grafenberg Arr 87.80 320 *e*P **P** **15 49 55.5 +0.7**
comp=Z,14nm,1.2s,mb5.1
GRA1 *ep*P pP 15 50 05.3 +1.2
GRF Grafenberg Arr 87.80 320 *e*P **P** **15 49 55.5 +0.7**
comp=Z,14nm,1.2s,mb5.1
GRF *ep*P pP 15 50 05.3 +1.2
GRF Grafenberg Arr 87.80 320 *e*P **P** **15 49 55.5 +0.7**
GRF *e**PP pP 15 50 05.3 +1.2
GRF pmax pmax
comp=Z,14nm,1.2s,mb5.1
GRF Grafenberg Arr 87.80 320 *e*P **P** **15 49 55.5 +0.7**
GRF *e**PP pP 15 50 05.3 +1.2
GRF pmax pmax
comp=Z,14nm,1.2s,mb5.1
NB2 NORSAR Subarra 88.33 331 P **P** **15 49 57.1 +0.1**
comp=Z,1.1nm,0.7s,mb4.2,baz=95,slow=4.8
NB2 NORSAR Subarra 88.33 331 P **P** **15 49 57.1 +0.1**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
NOA NORSAR Array B 88.33 331 P **P** **15 49 57.2 +0.1**
comp=Z,4.1nm,1.0s,mb4.6,baz=94,slow=4.9,SNR=4.8
NOA LR LR 16 33 19.2
comp=Z,168nm,19.9s,MS4.5,baz=65,slow=38
NVL N'lazarevskaya 88.79 199⇓ *i*P pP 15 50 10.0 +1.7
NVL pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
MAIT Maitri 88.82 199 *e*P **P** **15 50 02.9 +3.7**
MAIT *e*PcP pP 15 50 11.2 +2.7
KONO Kongsberg 89.08 329 *e*P **P** **15 49 57.8 -2.9**
PGF Pioggiola 89.16 312 *e*P **P** **15 50 01.9 +0.5**
comp=Z,25nm,1.4s,mb5.1
PGF Pioggiola 89.16 312 *e*P **P** **15 50 01.9 +0.5**
PGF pmax pmax
comp=Z,13nm,1.4s,mb5.1
SBF Sospel 90.30 314 *e*P **P** **15 50 07.1 +0.3**
comp=Z,25nm,1.0s,mb5.2
SBF Sospel 90.30 314 *e*P **P** **15 50 07.1 +0.3**
SBF pmax pmax
comp=Z,12nm,1.0s,mb5.2
CDF Champ du Feu 90.37 318 *e*P **P** **15 50 07.1 +0.1**
comp=Z,18nm,1.2s,mb5.0
CDF Champ du Feu 90.37 318 *e*P **P** **15 50 07.1 +0.1**
CDF pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
MBDF Montbardon 90.77 315 *e*P **P** **15 50 09.0 +0.1**
comp=Z,28nm,1.4s,mb5.1
MBDF Montbardon 90.77 315 *e*P **P** **15 50 09.0 +0.1**
MBDF pmax pmax
comp=Z,14nm,1.4s,mb5.1
LPG La Plagne 90.77 315 *e*P **P** **15 50 09.6 +0.7**
comp=Z,31nm,1.1s,mb5.2
LPG La Plagne 90.77 315 *e*P **P** **15 50 09.6 +0.7**
LPG pmax pmax
comp=Z,16nm,1.1s,mb5.3
LPL La Plagne 90.78 315 *e*P **P** **15 50 09.6 +0.7**
comp=Z,49nm,1.3s,mb5.4
LPL La Plagne 90.78 315 *e*P **P** **15 50 09.6 +0.7**
LPL pmax pmax
comp=Z,25nm,1.3s,mb5.4
FRF La Foret Royal 90.88 313 *e*P **P** **15 50 09.9 +0.5**
comp=Z,44nm,1.3s,mb5.3
FRF La Foret Royal 90.88 313 *e*P **P** **15 50 09.9 +0.5**
FRF pmax pmax
comp=Z,22nm,1.3s,mb5.3
HAU Haudompre 91.00 318 *e*P **P** **15 50 10.0 +0.1**
comp=Z,35nm,1.1s,mb5.3
HAU Haudompre 91.00 318 *e*P **P** **15 50 10.0 +0.1**
HAU pmax pmax
comp=Z,17nm,1.1s,mb5.3
CABF La Chapelle 91.21 316 *e*P **P** **15 50 11.6 +0.7**
comp=Z,45nm,1.1s,mb5.4
CABF La Chapelle 91.21 316 *e*P **P** **15 50 11.6 +0.7**
CABF pmax pmax
comp=Z,22nm,1.1s,mb5.4
ORIF Oris-en-Rattie 91.40 315 *e*P **P** **15 50 12.4 +0.6**
MEZF Maizieres J'vi 91.85 318 *e*P **P** **15 50 14.4 +0.6**
comp=Z,68nm,1.4s,mb5.5
GIVF Givet 91.94 320 *e*P **P** **15 50 14.6 +0.5**
VIVF Saint-Julien-l 92.26 315 *e*P **P** **15 50 16.1 +0.4**
comp=Z,45nm,1.5s,mb5.3
VIVF Saint-Julien-l 92.26 315 *e*P **P** **15 50 16.1 +0.4**
VIVF pmax pmax
comp=Z,23nm,1.5s,mb5.3
BAIF Baives 92.33 320 *e*P **P** **15 50 16.7 +0.8**
comp=Z,52nm,1.4s,mb5.4
BAIF Baives 92.33 320 *e*P **P** **15 50 16.7 +0.8**
BAIF pmax pmax
comp=Z,26nm,1.4s,mb5.4
LOR Lormes 92.71 317 *e*P **P** **15 50 18.2 +0.5**
comp=Z,52nm,1.4s,mb5.5
LOR Lormes 92.71 317 *e*P **P** **15 50 18.2 +0.5**
LOR pmax pmax
comp=Z,26nm,1.4s,mb5.5
SMF Signal de Mont 92.76 317 *e*P **P** **15 50 18.2 +0.2**
comp=Z,29nm,1.2s,mb5.3
SMF Signal de Mont 92.76 317 *e*P **P** **15 50 18.2 +0.2**
SMF pmax pmax
comp=Z,14nm,1.2s,mb5.3
SSF Saint Saulge 92.96 317 *e*P **P** **15 50 19.4 +0.5**
comp=Z,66nm,1.6s,mb5.5
SSF Saint Saulge 92.96 317 *e*P **P** **15 50 19.4 +0.5**
SSF pmax pmax
comp=Z,33nm,1.6s,mb5.5
AVF Avril sur Loir 93.08 317 *e*P **P** **15 50 19.9 +0.4**
comp=Z,33nm,1.4s,mb5.3
AVF Avril sur Loir 93.08 317 *e*P **P** **15 50 19.9 +0.4**
AVF pmax pmax
comp=Z,17nm,1.4s,mb5.3
BGF Bois d'Agland 93.45 316 *e*P **P** **15 50 22.0 +0.9**
comp=Z,33nm,1.2s,mb5.3
BGF Bois d'Agland 93.45 316 *e*P **P** **15 50 22.0 +0.9**
BGF pmax pmax
comp=Z,17nm,1.3s,mb5.3
TCF Toulx Ste Croi 93.90 316 *e*P **P** **15 50 24.1 +0.8**
MTLF Montolieu 94.11 313 *e*P **P** **15 50 24.8 +0.5**
comp=Z,10nm,1.0s,mb4.9
MTLF Montolieu 94.11 313 *e*P **P** **15 50 24.8 +0.5**
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
ILAR Eielson Array 100.43 23 PKKP PKKP 16 07 16.3 +10
comp=Z,0.8nm,0.9s,baz=145,slow=1.4,SNR=6.0
PDAR Pinedale Array 130.71 27 PKP PKPdf 15 56 15.3 -5.6
comp=Z,0.6nm,0.6s,slow=1.5,SNR=5.0
LTX Lajitas 144.21 33 *e*PKP PKPdf 15 56 41.4 -4.4
TXAR Lajitas Array 144.21 33 PKP PKPdf 15 56 41.7 -4.1
comp=Z,2.8nm,0.4s,baz=203,slow=0.3,SNR=76
CPUP Villa Florida 144.66 220 PKP PKPdf 15 56 43.2 -3.5
comp=Z,6.1nm,0.7s,baz=180,slow=1.0,SNR=12
CPUP Villa Florida 144.66 220 *e*PKIKP PKPdf 15 56 42.7 -4.0
CPUP *e* 15 56 51.4
LRAL Lakeview Retre 146.73 8 *e*PKPdf PKPdf 15 56 45.6 -4.4

*KRSC **25** 15:43:34.2±0.8,54.05N×156.72E,h331km±4km, ML4.0*
*MOS **25** 15:43:34.4±1.3,54.33N×157.12E,h328km, mb3.7/2, Error ellipse: s-maj=32.6km s-min=18.4km az=93.8*
*NEIC **25** 15:43:35.5±1.0,54.27N×157.04E,h320km±12km, mb3.7/2, Error ellipse: s-maj=35.8km s-min=13.4km az=75.0*
*IDC **25** 15:43:44.4±11.0,54.22N×156.36E,h400km±106km, mb2.8/4,mb1 3.1/5,mb1mx2.8/22,mbtmp3.7/5, Error ellipse: s-maj=90.0km s-min=24.4km az=82.0*
ISC 25 15:43:35.4±0.4,**54.10N**±0.06×**156.9E**±0.2,**h322**km±7km, **n38**,σ1**911/46**,**mb3.3/6**,**Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GNL	**Ganaly**	**0.72**	**124**	*e*P	**P**		**15 44 17.4**	**+0.1**
GNL				*e*S	**S**		**15 44 49.3**	**-0.9**
KOK	**Koryaka**	**1.30**	**128**	*e*P	**P**		**15 44 20.6**	**+0.7**
AVH	**Avacha**	**1.36**	**127**	*e*P	**P**		**15 44 21.0**	**+0.7**
AVH				*e*S	**S**		**15 44 56.2**	**+0.8**
SMAR	**Somma**	**1.39**	**126**	*e*P	**P**		**15 44 21.4**	**+1.0**
UGLR	**Uglovaya**	**1.44**	**128**	*i* P	**P**		**15 44 21.6**	**+0.9**
PET	**Petropavlovsk**	**1.49**	**136**	*e*P	**P**		**15 44 20.9**	**-0.1**
PET				*e*S	**S**		**15 44 55.1**	**-1.6**
PET	**Petropavlovsk**	**1.49**	**136**	PN	**P**		**15 44 20.6**	**-0.4**
GRL	**Gorelyy**	**1.69**	**156**	*e*P	**P**		**15 44 22.7**	**+0.4**
NLC	**Nalytchevo**	**1.71**	**122**	*i* P	**P**		**15 44 22.2**	**-0.2**
NLC				*e*S	**S**		**15 44 57.8**	**-1.4**
MIPR	**Malaya Ipel'ka**	**1.83**	**183**	*e*P	**P**		**15 44 23.1**	**-0.1**
RUS	**Russkaya**	**1.92**	**150**	*i* P	**P**		**15 44 23.0**	**-0.9**
RUS				*e*S	**S**		**15 44 59.0**	**-2.8**
ESO	**Esso**	**2.09**	**28**	*i* P	**P**		**15 44 25.3**	**+0.1**
SPN	**Mys Shipunski**	**2.10**	**117**	*i* P	**P**		**15 44 24.0**	**-1.2**
SPN				*e*S	**S**		**15 45 00.2**	**-4.0**
KMNR	**Kamenistaya**	**2.53**	**48**	*e*P	**P**		**15 44 29.0**	**+0.2**
KOZ	**Kozyrevsk**	**2.59**	**40**	*i* P	**P**		**15 44 29.6**	**+0.2**
KPT	**Kopyto**	**2.66**	**44**	*e*P	**P**		**15 44 31.3**	**+1.3**
SRDR	**Sredinnyy**	**2.74**	**35**	*i* P	**P**		**15 44 31.1**	**+0.4**
MKZ	**Mys Kozlova**	**2.85**	**79**	*i* P	**P**		**15 44 30.6**	**-1.1**
LGNR	**Loginova**	**2.94**	**46**	*e*P	**P**		**15 44 34.0**	**+1.5**
ZLN	**Zelenaya**	**2.94**	**48**	*e*P	**P**		**15 44 33.7**	**+1.1**
KRSR	**Krestovskiy**	**2.98**	**43**	*e*P	**P**		**15 44 33.1**	**+0.2**
CIRR	**Tsirk**	**2.98**	**46**	P	**P**		**15 44 34.6**	**+1.7**
KLY	**Klyuchi**	**3.08**	**42**	*e*P	**P**		**15 44 34.7**	**+0.9**
ALID	**Alaid**	**3.34**	**195**	*e*P	**P**		**15 44 37.0**	**+0.5**
KBTR	**Krutoberegovo**	**3.98**	**56**	*i* P	**P**		**15 44 41.8**	**-1.3**
KBTR				*e*S	**S**		**15 45 31.2**	**-4.9**
BKI	**Bering**	**5.36**	**74**	*i* P	**P**		**15 44 58.5**	**0.0**
BKI				*i* S	**S**		**15 45 59.3**	**-4.4**
BKI				Smax				

40nm,0.6s

MA2	**Magadan**	**6.45**	**331**	*e*P	**P**		**15 45 10.2**	**-1.1**
ASAJ	**Asahikawa**	**13.68**	**229**	P	**P**		**15 46 40.2**	**+1.5**
	1.0nm,0.3s,baz=65,slow=16,SNR=8.3							
ASAJ	**Asahikawa**	**13.68**	**229**	P	**P**		**15 46 40.3**	**+1.6**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
YAK	**Yakutsk**	**16.35**	**310**	*e*P	**P**		**15 47 04.1**	**-3.9**
MAJO	**Matsushiro**	**21.83**	**224**	*e*P	**P**		**15 48 04.4**	**+1.7**
	comp=Z,2.6nm,0.5s,mb3.7							
MAJO	**Matsushiro**	**21.83**	**224**	*e*P	**P**		**15 48 04.4**	**+1.6**
MAJO				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb3.8							
MJAR	**Matsushiro Arr**	**21.83**	**224**	P	**P**		**15 48 04.3**	**+1.6**
	comp=Z,1.1nm,0.4s,mb3.4,baz=17,slow=10,SNR=5.7							
KURK	**Kurchatov**	**45.60**	**299**	*e*P	**P**		**15 51 23.7**	**-1.6**
	comp=Z,1.3nm,0.4s,mb3.4							
KURK	**Kurchatov**	**45.60**	**299**	*e*P	**P**		**15 51 23.7**	**-1.6**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.3							
MKAR	**Makanchi Array**	**46.02**	**293**	P	**P**		**15 51 26.8**	**-1.9**
	comp=Z,0.2nm,0.5s,mb2.5,baz=63,slow=8.0,SNR=3.4							
FINES	**FINESS Array B**	**58.43**	**335**	P	**P**		**15 52 57.6**	**-1.6**
	comp=Z,1.3nm,0.9s,mb3.3,baz=45,slow=8.1,SNR=4.0							
WRA	**Warramunga Arr**	**76.26**	**202**	P	**P**		**15 54 50.1**	**-0.3**
	comp=Z,0.8nm,1.1s,mb3.4,baz=17,slow=5.9,SNR=5.7							

*IDC **25** 15:44:26.6±2.1,52.33N×169.28W,mb3.5/4,mb1 3.6/6, mb1mx3.5/24,mbtmp3.5/6,ML3.1/2,MS3.9/1,Ms1 3.9/1, ms1mx3.2/30,Error ellipse: s-maj=50.7km s-min=25.1km az=177.0*
*NEIC **25** 15:44:28.1,51.99N×169.29W,h1km,ML3.2(AEIC),After AEIC.*
ISC 25 15:44:28.6±1.0,**51.9N**±0.1×**169.3W**±0.1,**h33**km,**n16**, σ0**894**/18,**mb3.5/4**,**MS3.9**/1,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NIKO	**Nikolski**	**1.07**	**16**	P	**P**		**15 44 45.9**	**-1.4**
NIKO				S	**S**		**15 45 01.3**	**+0.1**
MSOM	**Makushin Julie**	**2.37**	**37**	P	**P**		**15 45 06.0**	**+0.1**
MSOM				S	**S**		**15 45 35.1**	**+1.0**
MSW	**Makushin Switc**	**2.51**	**37**	P	**P**		**15 45 07.9**	**0.0**
MSW				S	**S**		**15 45 38.3**	**+0.7**
UNV	**Unalaska Valle**	**2.57**	**41**	P	**P**		**15 45 08.8**	**+0.1**
MTBL	**Makushin Table**	**2.59**	**37**	P	**P**		**15 45 09.3**	**+0.3**
ATKA	**Atka Island**	**3.01**	**277**	P	**P**		**15 45 15.9**	**+0.9**
GSMY	**Great Sitkin M**	**4.15**	**274**	P	**P**		**15 45 32.0**	**+0.8**
GSTD	**Great Sitkin T**	**4.21**	**274**	P	**P**		**15 45 32.5**	**+0.5**
KDAK	**Kodiak Island**	**11.27**	**52**	Pn	**P**		**15 47 06.9**	**-3.3**
	0.2nm,0.3s,baz=158,slow=11,SNR=3.5							
KDAK	**Kodiak Island**	**11.27**	**52**	Pn	**P**		**15 47 06.9**	**-3.3**
ILAR	**Eielson Array**	**17.30**	**33**	Pn	**P**		**15 48 24.5**	**-4.1**
	0.0nm,0.3s,baz=231,slow=11,SNR=3.0							
JOW	**Kunigami**	**52.48**	**267**	LR	LR		16 15 44.5	
	comp=Z,103nm,18.2s,MS3.9,baz=340,slow=36							
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**		**15 53 43.2**	**+1.1**
	0.1nm,0.5s,mb3.0,baz=302,slow=6.1,SNR=4.2							
BVAR	**Borovoye Array**	**64.06**	**325**	P	**P**		**15 55 00.0**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=54,slow=7.2,SNR=3.7							
MKAR	**Makanchi Array**	**64.11**	**314**	P	**P**		**15 55 00.2**	**-0.9**
	0.1nm,0.3s,mb3.3,baz=52,slow=6.4,SNR=6.3							
FINES	**FINESS Array B**	**66.30**	**352**	P	**P**		**15 55 13.5**	**-1.4**
	0.9nm,0.8s,mb3.9,baz=27,slow=12,SNR=4.3							

*NEIC **25** 16:03:30.9±0.9,51.49N×16.12E,h5km,ML3.0(VIE), ML2.8(SZGRF),ML2.5(CLL),Error ellipse: s-maj=11.0km s-min=4.5km az=195.0*
*CSEM **25** 16:03:31.4±0.2,51.45N×16.13E,h2km,ML3.3/6,Error ellipse: s-maj=4.0km s-min=2.4km az=18.0*
*IPEC **25** 16:03:31.9±0.3,51.43N×16.52E,ML2.3/4,Error ellipse: s-maj=3.0km s-min=1.9km az=97.0*
*PRU **25** 16:03:32.3,51.42N×16.10E*
*VIE **25** 16:03:34.7±0.6,51.20N×16.18E,mb2.2/4,ML2.8/5,Error ellipse: s-maj=4.4km s-min=3.9km az=103.0,Suspected Mining induced.*
WAR 25 16:03:31.9,51.47N×16.11E,h1km,ML2.9,6C-3D,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSP	**Ksiaz**	**0.64**	**169**⇓	*i*PG	Pg		16 03 43.5	-1.1
KSP				*e*SG	Sg		16 03 52.5	-0.5
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	Pg		16 03 43.5	-1.1
KSP				*e*Sg	Sg		16 03 52.4	-0.7
KSP	**Ksiaz**	**0.64**	**169**⇓	*i*Pg	Pg		16 03 43.5	-1.1
KSP				*e*Sg	Sg		16 03 52.7	-1.0
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	Pg		16 03 43.3	-1.3
KSP				*e*Sg	Sg		16 03 50.8	-2.2
UPC	**Upice**	**0.96**	**184**	*e*PG	Pg		16 03 49.3	-1.8
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	Pg		16 03 51.9	-2.5
DPC				*e*SG	Sg		16 04 07.0	-2.4
	25nm,0.2s							
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*Pg	Pg		16 03 52.1	-2.3
DPC				*e*Sg	Sg		16 04 06.9	-2.5
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	Pg		16 03 56.6	-2.3
BRG	**Berggiesshubel**	**1.49**	**247**	Pg	Pg		16 03 59.4	-2.3
BRG				Sg	Sg		16 04 19.4	-2.0
BRG	**Berggiesshubel**	**1.49**	**247**	Pg	Pg		16 03 59.3	-2.3
BRG				Sg	Sg		16 04 19.4	-2.0
PRU	**Pruhonice**	**1.78**	**215**	*e*PN	Pn		16 04 02.8	-1.3
PRU				*e*PG	Pg		16 04 04.2	-3.3
PRU				*e*SG	Sg		16 04 27.8	-3.5
PRU	**Pruhonice**	**1.78**	**215**	*e*Pg	Pg		16 04 04.2	-3.3
PRU				*e*Sg	Sg		16 04 27.8	-3.5
MORC	**Moravsky Berou**	**1.92**	**151**	*e*P	Pn		16 04 04.2	-1.8
MORC				*e*S	Sn		16 04 29.5	-1.7
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	Pn		16 04 04.3	-1.8
MORC				*e*Sg	Sg		16 04 27.4	-8.5
CLL	**Collm**	**1.95**	**267**	*e*PN	Pn		16 04 04.0	-2.5
CLL				*i* PG	Pg		16 04 07.7	-3.2
CLL				*i* SG	Sg		16 04 33.9	-3.0
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PG	Pg		16 04 09.8	-3.7
OKC				*e*SG	Sg		16 04 35.6	-5.7
VRAC	**Vranov**	**2.18**	**172**	*e*Pn	Pn		16 04 09.1	-0.7
VRAC				*e*Sg	Sg		16 04 38.8	-5.8
	13nm,0.2s							
KRUC	**Moravsky**	**2.41**	**176**	*e*Pn	Pn		16 04 12.0	-1.1
KRUC				*e*Sg	Sg		16 04 46.0	-6.3
	11nm,0.4s							
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	Pn		16 04 14.7	-1.5
NKC				*e*PG	Pg		16 04 21.3	-3.1
NKC				*e*SG	Sg		16 04 55.3	-4.1
	24nm,0.3s							
OJC	**Ojcow**	**2.65**	**117**	*e*PG	Pg		16 04 21.0	-3.8
OJC				*e*SG	Sg		16 04 57.0	-3.1
OJC	**Ojcow**	**2.65**	**117**	*e*Pg	Pg		16 04 21.5	-3.3
OJC				*e*Sg	Sg		16 04 56.6	-3.5
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	Pn		16 04 17.7	-1.6
KHC				*e*PG	Pg		16 04 23.1	-5.6
KHC				*e*SN	Sn		16 04 50.0	-4.7
KHC				*e*SG	Sg		16 05 01.2	-5.5
MOX	**Moxa**	**2.95**	**256**	*i* P	Pn		16 04 17.7	-3.1
MOX				Pg	Pg		16 04 27.0	-3.8
MOX				Sg	Sg		16 05 06.0	-4.2
MOX	**Moxa**	**2.95**	**256**	*e*Pn	Pn		16 04 17.7	-3.1
MOX				*e*Pg	Pg		16 04 26.9	-3.9
MOX				*e*Sg	Sg		16 05 06.0	-4.2
MOX	**Moxa**	**2.95**	**256**	*e*Pg	Pg		16 04 26.9	-3.9
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn	Pn		16 04 20.8	-1.4
GEC2				*e*Sg	Sg		16 05 08.0	-5.3
SMOL	**Smolenice**	**3.08**	**163**	*e*SG	Sg		16 05 10.6	-3.7
ZST	**Bratislava**	**3.34**	**169**	*e*SG	Sg		16 05 19.6	-3.4
ZST	**Bratislava**	**3.34**	**169**	*e*Sg	Sg		16 05 19.6	-3.4
GRA1	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	Pn		16 04 27.7	-2.1
GRA1				*e*Sg	Sg		16 05 26.0	-5.3
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	Pn		16 04 27.7	-2.1
GRF				*e*Sg	Sg		16 05 26.0	-5.3
MOA	**Molln**	**3.81**	**199**⇑	*i*PN	Pn		16 04 31.2	-1.8
MOA				*i* SG	Sg		16 05 34.4	-4.5
	15nm,0.6s							
MOA	**Molln**	**3.81**	**199**⇑	*i*Pn	Pn		16 04 31.2	-1.9
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*PG	Pg		16 04 45.8	-3.4
STHS				*e*SG	Sg		16 05 37.9	-2.8
ARSA	**Arzberg**	**4.24**	**185**⇑	*i*PN	Pn		16 04 37.9	-1.2
ARSA				*i* SG	Sg		16 05 45.6	-7.4
	11nm,0.7s							
ARSA	**Arzberg**	**4.24**	**185**⇑	*i*Pn	Pn		16 04 37.9	-1.2
KBA	**Koelnbreinsper**	**4.75**	**203**⇑	*i*PN	Pn		16 04 44.3	-2.0
KBA				*i* SG	Sg		16 06 03.6	-6.4
	6.2

1µm,0.7s,baz=74,slow=23,SNR=4.5
UDYN Al 'Udayn 3.66 65⇓ *e*P **Pn 16 22 58.4 +0.1**
UDYN *i* S **Sn 16 23 44.3 +1.7**
UDYN AML AML 16 24 04.5
comp=Z,4µm,0.8s
DHBB Dhamar BB 4.29 60⇓ *e*P **Pn 16 23 06.5 -0.8**
DHBB *i* S **Sn 16 23 58.9 +0.1**
DHBB Dhamar BB 4.29 60⇓ *e*P **Pn 16 23 06.5 -0.8**
DHBB *i* S **Sn 16 23 58.8 0.0**
ADEN Aden 4.33 85 *e*P **Pn 16 23 08.0 0.0**
ADEN *i* S **Sn 16 24 01.4 +1.6**
MUKL Al Mukalla 8.50 75 *i* S **Sn 16 25 39.1 -5.0**
KMBO Kilima Mbogo 13.86 194 Pn **P 16 25 20.4 +0.7**
comp=Z,0.1nm,0.3s,baz=234,slow=22,SNR=5.4
KMBO Lg 16 29 16.4
comp=Z,0.1nm,0.3s,baz=111,slow=15,SNR=6.7
KMBO LR LR 16 30 31.3
comp=Z,1µm,21.8s,baz=94,slow=37
ASF Jabal al Asfar 19.93 351 P **P 16 26 36.7 +1.0**
comp=Z,0.3nm,0.3s,baz=49,slow=4.5,SNR=20
ASF LR LR 16 33 21.2
comp=Z,432nm,20.2s,baz=351,slow=34
BHD Baghdad 21.04 9 *ex* x 16 26 43.0
BHD *ex* x 16 30 53.0
BHL Bhannes 21.84 349 *e*P **P 16 26 57.6 +2.3**
CSS Prodhromos 23.37 345 *e*P **P 16 27 11.7 +1.3**
comp=Z,74nm,1.7s,mb4.8
CSS Prodhromos 23.37 345 *e*P **P 16 27 11.7 +1.3**
comp=Z,74nm,1.7s,mb4.8
MSL Mosul 23.86 5 *ex* x 16 27 28.0
MSL *ex* x 16 32 08.0
MALT Malatya 25.84 356 *e*P **P 16 27 35.4 +1.3**
comp=Z,34nm,1.4s,mb4.7
MALT Malatya 25.84 356 *e*P **P 16 27 35.4 +1.3**
comp=Z,34nm,1.4s,mb4.7
MALT Malatya 25.84 356 *e*P **P 16 27 35.4 +1.3**
MALT pmax pmax
comp=Z,34nm,1.4s,mb4.7
GNI Garni 27.85 7 LR LR 16 39 26.9
comp=Z,305nm,18.3s,MS3.9,baz=2.3,slow=38
GNI Garni 27.85 7*d i*P **P 16 27 54.5 +2.0**
GNI pmax pmax
comp=Z,38nm,2.5s
GNI MLR MLR
comp=Z,400nm,15.0s
BR131 Keskin Array S 27.86 349 *e*P **P 16 27 52.0 -0.6**
comp=Z,12nm,1.2s,mb4.4
BR131 Keskin Array S 27.86 349 *e*P **P 16 27 52.0 -0.6**
comp=Z,12nm,1.2s,mb4.4
BRTR Keskin Array B 27.86 349 P **P 16 27 53.7 +1.1**
comp=Z,8.1nm,1.1s,mb4.3,baz=172,slow=8.7,SNR=23
BRTR PcP PcP 16 31 09.1 +0.2
comp=Z,0.9nm,0.8s,baz=172,slow=8.7,SNR=4.1
BRTR Keskin Array B 27.86 349 PcP PcP 16 31 09.1 +0.2
KIV Kislovodsk 31.46 3 *e*P **P 16 28 24.4 -0.3**
KIV *e*S **S 16 33 31.1 -1.3**
KIV pmax pmax
comp=N,9.0nm,1.2s
KIV pmax pmax
comp=Z,12nm,1.2s,mb4.6
KIV MLR MLR
comp=N,346nm,17.0s,MS4.2
KIV MLR MLR
comp=Z,442nm,17.0s,MS4.2
KIV MLR MLR
comp=E,138nm,14.0s,MS4.2
SKO Skopje 33.82 334 *i* P **P 16 28 45.4 +0.1**
CII Carovilli 37.09 327 *e*P **P 16 29 13.3 +0.2**
comp=E,40nm,1.5s,mb5.0
CII Carovilli 37.09 327 *e*P **P 16 29 13.3 +0.2**
comp=E,40nm,1.5s,mb5.0
AQU L'Aquila 38.01 327 *e*P **P 16 29 20.9 +0.1**
comp=E,54nm,1.6s,mb5.0
AQU L'Aquila 38.01 327 *e*P **P 16 29 21.0 +0.2**
comp=E,54nm,1.6s,mb5.0
AQU L'Aquila 38.01 327 *e*P **P 16 29 21.0 +0.2**
AQU pmax pmax
comp=Z,54nm,1.6s,mb5.0
VOR Voronezh 39.21 359 *e*P **P 16 29 31.0 +0.3**
VOR pmax pmax
comp=Z,80nm,1.9s,mb5.1
AKASG Malin Array Be 39.27 349 P **P 16 29 30.7 -0.6**
comp=Z,1.5nm,0.7s,mb3.8,baz=166,slow=7.1,SNR=19
PSZ Piszkesteto 39.37 338 *e*P **P 16 29 31.7 -0.4**
comp=Z,4.1nm,0.8s,mb4.2
PSZ Piszkesteto 39.37 338 *e*P **P 16 29 31.7 -0.4**
comp=Z,4.1nm,0.8s,mb4.2
PSZ Piszkesteto 39.37 338 *e*P **P 16 29 31.7 -0.4**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
KOLS Kolonicke sedl 39.42 341 *e*sP sP 16 29 37.0 +3.7
CRES Cresnjev 39.51 332 *e*P **P 16 29 34.5 +1.1**
KECS Kecovo 39.63 339 *e*P **P 16 29 35.9 +1.6**
GROS Grobnik 39.98 333 *e*P **P 16 29 38.2 +1.1**
GROS Grobnik 39.98 333 *e*P **P 16 29 38.2 +1.0**
STHS Stebnicka Huta 40.18 340 *e*P **P 16 29 40.4 +1.6**
VYHS Vyhne 40.24 338 *e*P **P 16 29 40.4 +1.1**
VOY Vojsko 40.39 331 *e*P **P 16 29 41.6 +1.0**
PGF Pioggiola 40.60 324 *e*P **P 16 29 42.8 +0.4**
comp=Z,73nm,1.8s,mb4.7
PGF Pioggiola 40.60 324 *e*P **P 16 29 42.8 +0.4**
PGF pmax pmax
comp=Z,36nm,1.8s,mb4.7
ZST Bratislava 40.66 336 *e*P **P 16 29 43.5 +0.7**
OJC Ojcow 41.35 340 *e*P **P 16 29 48.0 -0.4**
OKC Ostrava-Krasne 41.60 338 *e*P **P 16 29 50.6 +0.1**
VRAC Vranov 41.76 336 *e*P **P 16 29 50.8 -0.9**
MORC Moravsky Berou 41.78 338 *e*P **P 16 29 50.8 -1.1**
comp=Z,31nm,2.0s,mb4.6
MORC Moravsky Berou 41.78 338 *e*P **P 16 29 50.8 -1.1**
comp=Z,31nm,2.0s,mb4.6
MORC Moravsky Berou 41.78 338 *e*P **P 16 29 50.8 -1.1**
MORC pmax pmax
comp=Z,31nm,2.0s,mb4.6
AAK Ala-Archa 42.06 38 *e*P **P 16 29 54.8 +0.5**
comp=Z,15nm,1.5s,mb4.4
AAK Ala-Archa 42.06 38 *e*P **P 16 29 54.8 +0.5**
comp=Z,15nm,1.5s,mb4.4
AAK Ala-Archa 42.06 38 *e*P **P 16 29 54.8 +0.5**
AAK pmax pmax
comp=Z,15nm,1.5s,mb4.4
TREC Trest 42.19 336 *e*P **P 16 29 54.3 -1.0**
SBF Sospel 42.31 324 *e*P **P 16 29 56.6 +0.2**
LMR La Mourre 42.53 323 *e*P **P 16 29 58.2 0.0**
comp=Z,49nm,1.5s,mb4.7
LMR La Mourre 42.53 323 *e*P **P 16 29 58.2 0.0**
LMR pmax pmax
comp=Z,24nm,1.5s,mb4.7
GEC2 GERESS Array S 42.58 334 *e*P **P 16 29 57.9 -0.6**
comp=Z,33nm,1.5s,mb4.8
GEC2 GERESS Array S 42.58 334 *e*P **P 16 29 57.9 -0.6**
GEC2 pmax pmax
comp=Z,33nm,1.5s,mb4.8
GERES GERESS Array B 42.58 334 P **P 16 29 57.8 -0.8**
comp=Z,3.6nm,0.9s,mb4.1,baz=143,slow=6.7,SNR=29
GERES LR LR 16 48 38.5
comp=Z,172nm,19.0s,MS4.0,baz=98,slow=38
FRF La Foret Royal 42.59 323 *e*P **P 16 29 58.6 -0.1**
OBN Obninsk 42.70 357⇓ *e*P **P 16 29 59.4 0.0**
OBN *e* 16 31 43.0
OBN *e*SS SS 16 39 29.5 +2.2
OBN pmax pmax
comp=Z,46nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.1
DPC Dobruska-Polom 42.70 337 *e*P **P 16 29 59.5 0.0**
KHC Kasperske Hory 42.85 334 *e*P **P 16 30 00.0 -0.7**
KHC Kasperske Hory 42.85 334⇑ *e*P **P 16 30 00.4 -0.3**
UPC Upice 42.95 337 *e*P **P 16 30 01.6 +0.1**
KOLN Koldanda 42.97 63 *e*P **P 16 30 01.3 -0.7**
comp=Z,92nm,1.5s,mb4.3
KSP Ksiaz 43.11 338 *e*P **P 16 30 03.6 +0.8**
PRU Pruhonice 43.11 336 *e*P **P 16 30 01.6 -1.2**
WET Wettzell 43.16 334 *e*P **P 16 30 02.6 -0.7**
comp=Z,15nm,1.4s,mb4.5
WET Wettzell 43.16 334 *e*P **P 16 30 02.6 -0.7**
WET pmax pmax
comp=Z,15nm,1.4s,mb4.5
MBDF Montbardon 43.22 325 *e*P **P 16 30 04.8 +1.0**
comp=Z,89nm,1.6s,mb5.0
MBDF Montbardon 43.22 325 *e*P **P 16 30 04.8 +1.0**
MBDF pmax pmax
comp=Z,45nm,1.5s,mb5.0
MOS Moscow 43.27 358 *e*P **P 16 30 03.6 -0.4**
SMRF Simiane la Rot 43.46 323 *e*P **P 16 30 06.7 +0.9**
PVCC Panska Ves 43.52 336 *e*P **P 16 30 06.5 +0.3**
LPG La Plagne 43.70 326 *e*P **P 16 30 07.2 -0.5**
comp=Z,50nm,1.5s,mb4.7
LPG La Plagne 43.70 326 *e*P **P 16 30 07.2 -0.5**
LPG pmax pmax
comp=Z,25nm,1.5s,mb4.7
LPL La Plagne 43.72 326 *e*P **P 16 30 07.3 -0.6**
comp=Z,78nm,1.9s,mb4.8
LPL La Plagne 43.72 326 *e*P **P 16 30 07.3 -0.6**
LPL pmax pmax
comp=Z,39nm,1.9s,mb4.8
ORIF Oris-en-Rattie 43.84 324 *e*P **P 16 30 08.8 0.0**
comp=Z,82nm,1.8s,mb4.8
ORIF Oris-en-Rattie 43.84 324 *e*P **P 16 30 08.8 0.0**
ORIF pmax pmax
comp=Z,41nm,1.8s,mb4.9
GKN Gorkha 43.91 62 *e*P **P 16 30 08.2 -1.4**
comp=Z,85nm,1.5s,mb5.3
BRG Berggiesshubel 44.04 336 *e*P **P 16 30 10.1 -0.3**
comp=Z,24nm,1.6s,mb4.7
BRG Berggiesshubel 44.04 336 *e*P **P 16 30 10.1 -0.3**
comp=Z,24nm,1.6s,mb4.7
BRG Berggiesshubel 44.04 336 *e*P **P 16 30 10.1 -0.3**
BRG pmax pmax
comp=Z,24nm,1.6s,mb4.7
DMN Daman 44.24 63 *e*P **P 16 30 11.2 -1.1**
GRA1 Grafenberg Arr 44.30 333 *e*P **P 16 30 11.8 -0.7**
comp=Z,515nm,4.9s
GRF Grafenberg Arr 44.30 333 *e*P **P 16 30 11.8 -0.7**
comp=Z,515nm,4.9s
GRF Grafenberg Arr 44.30 333 *e*P **P 16 30 11.8 -0.7**
GRF pmax pmax
comp=Z,515nm,4.9s
GRF Grafenberg Arr 44.30 333 *e*P **P 16 30 11.8 -0.7**
GRF pmax pmax
comp=Z,515nm,4.9s
KKN Kakani 44.43 63 *e*P **P 16 30 12.8 -1.1**
comp=Z,110nm,1.6s,mb5.3
VIVF Saint-Julien-l 44.50 324 *e*P **P 16 30 14.0 -0.2**
LASF Ste Croix 44.54 322 *e*P **P 16 30 14.6 +0.1**
BFO Black Forest 44.70 330 *e*P **P 16 30 16.1 +0.3**
comp=Z,34nm,1.9s,mb4.8
BFO Black Forest 44.70 330 *e*P **P 16 30 16.1 +0.3**
BFO pmax pmax
comp=Z,34nm,1.9s,mb4.8
CABF La Chapelle 44.75 326 *e*P **P 16 30 15.6 -0.6**
comp=Z,22nm,1.1s,mb4.6
CABF La Chapelle 44.75 326 *e*P **P 16 30 15.6 -0.6**
CABF pmax pmax
comp=Z,11nm,1.1s,mb4.6
CLL Collm 44.75 336 ⇑P **P 16 30 15.8 -0.3**
comp=Z,logA/T=1.2,mb4.8
CLL *i* *PP pP 16 30 18.6 +2.0
CLL *e* 16 30 42.0
CLL Collm 44.75 336⇑ *i*P **P 16 30 15.8 -0.3**
comp=Z,21nm,1.4s,mb4.8
CLL *i* 16 30 18.6
CLL *e* 16 30 42.0
CLL Collm 44.75 336⇑ *i*P **P 16 30 15.8 -0.3**
CLL *i* 16 30 18.6
CLL pmax pmax
comp=Z,21nm,1.4s,mb4.8
MOX Moxa 44.83 334 *i* P **P 16 30 16.0 -0.7**
MOX Moxa 44.83 334 *e*P **P 16 30 16.0 -0.7**
EMUR La Murta 44.99 312 P **P 16 30 19.6 +1.4**
comp=Z,5.6nm,0.9s,mb4.4
DBIC Dimbokro 45.10 267 P **P 16 30 21.8 +2.4**
comp=Z,7.3nm,1.2s,mb4.4,baz=100,slow=8.4,SNR=3.6
DBIC LR LR 16 48 07.8
comp=Z,340nm,21.5s,MS4.2,baz=71,slow=35
HINF Hinteralfeld 45.11 328 *e*P **P 16 30 18.8 -0.2**
comp=Z,70nm,1.7s,mb4.9
HINF Hinteralfeld 45.11 328 *e*P **P 16 30 18.8 -0.2**
HINF pmax pmax
comp=Z,35nm,1.7s,mb4.9
MTLF Montolieu 45.15 320 *e*P **P 16 30 19.6 +0.2**
ERTA Horta de San J 45.20 316 P **P 16 30 20.4 +0.5**
ERTA Horta de San J 45.20 316 P **P 16 30 20.4 +0.5**
CDF Champ du Feu 45.28 329 *e*P **P 16 30 20.1 -0.3**
comp=Z,78nm,1.8s,mb5.0
CDF Champ du Feu 45.28 329 *e*P **P 16 30 20.1 -0.3**
CDF pmax pmax
comp=Z,39nm,1.8s,mb4.9
HAU Haudompre 45.49 328 *e*P **P 16 30 21.7 -0.3**
EALB Alboran 45.64 309 P **P 16 30 24.1 +0.7**
comp=Z,5.3nm,0.8s,mb4.5
EALB Alboran 45.64 309 P **P 16 30 24.1 +0.7**
comp=Z,5.3nm,0.8s,mb4.5
TNS Taunus Mts 45.94 332 *e*P **P 16 30 24.9 -0.6**
comp=Z,21nm,1.3s,mb4.9
TNS Taunus Mts 45.94 332 *e*P **P 16 30 24.9 -0.6**
TNS pmax pmax
comp=Z,21nm,1.3s,mb4.9
MDT Midelt 45.95 304 P **P 16 30 27.2 +1.3**
comp=Z,3.2nm,1.0s,mb4.2,baz=106,slow=11,SNR=7.2
SMF Signal de Mont 46.01 325 *e*P **P 16 30 25.6 -0.6**
ARU Arti 46.05 14 *e*P **P 16 30 26.5 +0.1**
comp=Z,44nm,1.4s,mb5.2
ARU Arti 46.05 14 *e*P **P 16 30 26.5 +0.1**
comp=Z,44nm,1.4s,mb5.2
ARU Arti 46.05 14⇓ *i*P **P 16 30 26.7 +0.3**
ARU *e* 16 32 13.4
ARU *e*PPP PPP 16 32 52.7 -5.2
ARU *e*S **S 16 37 11.1 -0.8**
ARU pmax pmax
comp=Z,19nm,1.2s,mb4.9
CAF Calviac 46.08 322 *e*P **P 16 30 27.1 +0.4**
ESAC San Caprasio 46.09 317 P **P 16 30 25.0 -1.9**
ESAC San Caprasio 46.09 317 P **P 16 30 25.0 -1.9**
EBIE Bielsa 46.14 318 P **P 16 30 25.3 -1.9**
EBIE Bielsa 46.14 318 P **P 16 30 25.3 -1.9**
EPF Esparros 46.18 319 *e*P **P 16 30 28.1 +0.6**
EQES Quesada 46.32 311 P **P 16 30 26.2 -2.5**
comp=Z,2.9nm,0.8s,mb4.3
EQES Quesada 46.32 311 P **P 16 30 26.2 -2.5**
comp=Z,2.9nm,0.8s,mb4.3
LOR Lormes 46.37 326 *e*P **P 16 30 28.5 -0.5**
comp=Z,48nm,1.5s,mb4.9
LOR Lormes 46.37 326 *e*P **P 16 30 28.5 -0.5**
LOR pmax pmax
comp=Z,24nm,1.5s,mb4.9
AVF Avril sur Loir 46.37 325 *e*P **P 16 30 28.3 -0.7**
comp=Z,25nm,1.4s,mb4.7
AVF Avril sur Loir 46.37 325 *e*P **P 16 30 28.3 -0.7**
AVF pmax pmax
comp=Z,12nm,1.4s,mb4.6
SSF Saint Saulge 46.44 325 *e*P **P 16 30 28.7 -0.8**
MEZF Maizieres J'vi 46.48 328 *e*P **P 16 30 30.0 +0.2**
comp=Z,82nm,1.2s,mb5.2
BGF Bois d'Agland 46.52 324 *e*P **P 16 30 30.2 0.0**
ERON Agron 46.59 310 P **P 16 30 32.6 +1.7**
comp=Z,2.5nm,0.5s,mb4.4
ERON Agron 46.59 310 P **P 16 30 32.6 +1.7**
comp=Z,2.5nm,0.5s,mb4.4
RJF Les Rejaudoux 46.61 322 *e*P **P 16 30 31.2 +0.3**
ETSF Etsaut 46.70 318 *e*P **P 16 30 32.7 +1.1**
TCF Toulx Ste Croi 46.73 324 *e*P **P 16 30 32.4 +0.5**
LFF La Frestale 46.88 321 *e*P **P 16 30 33.6 +0.5**
ELOJ Sierra Loja 46.90 310 P **P 16 30 33.3 0.0**
comp=Z,1.4nm,0.3s,mb4.4
ELOJ Sierra Loja 46.90 310 P **P 16 30 33.3 0.0**
ELOJ pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
BRVK Borovoye 46.95 24 *e*P **P 16 30 33.5 0.0**
comp=Z,2.3nm,1.1s,mb4.0
BRVK Borovoye 46.95 24 *e*P **P 16 30 33.5 0.0**
BRVK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BVAR Borovoye Array 46.97 24 P **P 16 30 33.8 +0.1**
comp=Z,1.7nm,0.9s,mb4.0,baz=207,slow=6.6,SNR=12
SJPF Ste Jean 47.23 318 *e*P **P 16 30 36.9 +1.1**
GIVF Givet 47.60 329 *e*P **P 16 30 38.1 -0.6**
ESDC Sonseca Array 47.66 313 P **P 16 30 40.0 +0.7**
comp=Z,4.1nm,1.1s,mb4.4,baz=117,slow=8.7,SNR=9.7
ESDC Sonseca Array 47.66 313 P **P 16 30 38.2 -1.1**
comp=Z,2.1nm,0.9s,mb4.2
ESLA Sonseca Array 47.66 313 *e*P **P 16 30 39.6 +0.3**
comp=Z,16nm,1.8s,mb4.8
BSEG Bad Segeberg 47.82 336 *e*P **P 16 30 40.0 -0.3**
BAIF Baives 47.88 329 *e*P **P 16 30 40.2 -0.7**
ESPR Espera 48.09 309 P **P 16 30 42.6 -0.1**
comp=Z,6.0nm,0.8s,mb4.7
ESPR Espera 48.09 309 P **P 16 30 42.7 -0.1**
comp=Z,6.0nm,0.8s,mb4.7
MFF Saint Martin d 48.28 323 *e*P **P 16 30 43.7 -0.3**
comp=Z,46nm,1.4s,mb5.0
MFF Saint Martin d 48.28 323 *e*P **P 16 30 43.7 -0.3**
MFF pmax pmax
comp=Z,23nm,1.4s,mb5.0
MKAR Makanchi Array 48.98 37 P **P 16 30 49.2 -0.2**
comp=Z,4.7nm,1.0s,mb4.5,baz=233,slow=6.1,SNR=16
MKAR LR LR 16 54 10.8
comp=Z,520nm,20.3s,MS4.5,baz=219,slow=40
MKAR Makanchi Array 48.98 37 P **P 16 30 49.2 -0.3**
MKAR Makanchi Array 48.98 37⇑ *i*P **P 16 30 49.2 -0.3**
MKAR *e* pP 16 30 49.2 -0.8
MKAR pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 49.15 31 *e*P **P 16 30 50.6 -0.1**
comp=Z,1.5nm,0.4s,mb4.4
KURK Kurchatov 49.15 31 *e*P **P 16 30 50.6 -0.1**
comp=Z,1.5nm,0.4s,mb4.4
KURK Kurchatov 49.15 31 *e*P **P 16 30 50.6 -0.1**
KURK pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
LDF La Druitiere 49.32 325 *e*P **P 16 30 51.0 -1.0**
comp=Z,27nm,1.1s,mb4.9
LDF La Druitiere 49.32 325 *e*P **P 16 30 51.0 -1.0**
LDF pmax pmax
comp=Z,13nm,1.1s,mb4.9
EGRO El Granado 49.53 309 P **P 16 30 51.5 -2.3**
EGRO El Granado 49.53 309 P **P 16 30 51.5 -2.3**
FLN La Foliniere 49.62 325 *e*P **P 16 30 53.3 -1.0**
comp=Z,24nm,1.0s,mb4.9
FLN La Foliniere 49.62 325 *e*P **P 16 30 53.3 -1.0**
FLN pmax pmax
comp=Z,12nm,1.0s,mb4.9
LSA Lhasa 49.84 62 *e*P **P 16 30 56.5 +0.2**
comp=Z,40nm,1.7s,mb5.2
LSA Lhasa 49.84 62 *e*P **P 16 30 56.5 +0.2**
comp=Z,40nm,1.7s,mb5.2
LSA Lhasa 49.84 62 *e*P **P 16 30 56.5 +0.2**
LSA pmax pmax
comp=Z,40nm,1.7s,mb5.2
FINES FINESS Array B 50.05 351 P **P 16 30 57.6 +0.1**
comp=Z,4.2nm,1.1s,mb4.4,baz=180,slow=11,SNR=5.9
EVO Evora 50.23 310⇑ *i*P **P 16 31 00.1 +0.9**
comp=Z,58nm,1.4s,mb5.1
EVO *e*R
comp=Z,329nm,20.5s
SGMF Saint Gilles 50.53 324 *e*P **P 16 31 00.0 -1.3**
KAF Kangasniemi 50.66 351 *e*p **P 16 30 52.2 -10**
comp=Z,4.4nm,1.0s,mb4.3,baz=158,slow=7.6
KAF Kangasniemi 50.66 351 *e*P **P 16 30 52.2 -10**
KAF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
WMQ Urumqi 51.06 43 *e*P **P 16 31 05.0 -0.3**
WMQ AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
NB2 NORSAR Subarra 53.04 343 P **P 16 31 18.5 -1.5**
comp=Z,21nm,1.2s,mb5.0,baz=142,slow=7.4
NB2 NORSAR Subarra 53.04 343 P **P 16 31 18.5 -1.5**
NB2 pmax pmax
comp=Z,21nm,1.2s,mb4.9
NOA NORSAR Array B 53.04 343 P **P 16 31 19.1 -1.0**
comp=Z,4.1nm,1.1s,mb4.3,baz=142,slow=7.4,SNR=4.6
NOA LR LR 16 56 31.1
comp=Z,85nm,19.1s,MS3.8,baz=135,slow=39
NVS Novosibirsk 53.85 29 *i* P **P 16 31 24.8 -1.3**
ZAL Zalesovo 54.11 31 P **P 16 31 27.6 -0.3**
comp=Z,1.2nm,0.8s,mb3.9,baz=226,slow=5.9,SNR=11
GTA Gaotai 58.53 51 *e*P **P 16 32 00.0 +0.1**
GTA AP pP 16 32 09.0 +8.6
GTA XP sP 16 32 13.0 +12
GTA AMB AMB
comp=Z,14nm,2.1s,mb4.6
GTA AMB AMB
comp=Z,100nm,4.6s
GTA LR LR
comp=N,402nm,19.5s
GTA LR LR
comp=E,340nm,24.8s
GTA LR LR
comp=Z,538nm,28.7s
LZH Lanzhou 61.24 56 *e*P **P 16 32 18.5 -0.1**
LZH AP pP 16 32 30.0 +11
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.3
LZH Lanzhou 61.24 56 *e*P **P 16 32 18.5 -0.1**
comp=Z,42nm,1.5s,mb5.3
LZH pP pP 16 32 30.0 +11
LZH sP sP 16 32 37.0 +18
LZH Lanzhou 61.24 56 *e*P **P 16 32 18.5 -0.1**
LZH pmax pmax
comp=Z,42nm,1.5s,mb5.3
SONM Songino Array 64.69 43 P **P 16 32 42.3 +1.0**
comp=Z,2.5nm,1.0s,mb4.2,baz=248,slow=8.2,SNR=17
SONM LR LR 17 04 38.3
comp=Z,531nm,19.8s,MS4.7,baz=264,slow=40
HHC Hu-ho-hao-te 67.63 51 *e*P **P 16 33 01.0 +0.8**
HHC AMB AMB
comp=Z,24nm,0.6s,mb5.4
HHC AMB AMB
comp=Z,192nm,4.8s
BOD Bodaibo 70.75 33 *e*P **P 16 33 17.1 -2.0**
BOD pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
NJ2 Nanjing 73.67 60 *e*P **P 16 32 37.5 +0.6**
NJ2 AP pP 16 33 47.8 +10
NJ2 XP sP 16 33 52.0 +14
NJ2 S S 16 43 05.0 -2.1
NJ2 XS 16 43 21.0
NJ2 AMB AMB
comp=Z,30nm,1.5s,mb5.0
NJ2 AMB AMB
comp=Z,320nm,5.4s
NJ2 LR LR
comp=Z,980nm,15.2s,MS5.2
SSE Sheshan 75.74 61 *e*P **P 16 33 46.8 -2.1**
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,222nm,3.8s
SSE LR LR
comp=N,51nm,19.2s,MS4.2
SSE LR LR
comp=E,99nm,19.2s,MS4.2
SSE LR LR
comp=Z,100nm,20.5s,MS4.1
SSE Sheshan 75.74 61 *e*P **P 16 33 46.8 -2.1**
comp=Z,28nm,0.8s,mb5.2
SSE LR LR
comp=Z,100nm,20.5s,MS4.1
CN2 Changchun 77.85 48 *e*P **P 16 34 00.8 +0.5**
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
YAK Yakutsk 78.72 29 *e*P **P 16 34 03.2 -1.5**
YAK pmax pmax
comp=Z,19nm,2.5s,mb4.6
MAW Mawson 81.45 172 *e*P **P 16 34 19.9 +0.6**
comp=Z,3.2nm,0.6s,mb4.4
MAW Mawson 81.45 172 *e*P **P 16 34 19.9 +0.7**
MAW pmax pmax
comp=Z,3.0nm,0.6s
NWAO Narrogin (SRO) 85.78 125 LR LR 17 06 41.4
comp=Z,243nm,19.2s,MS4.6,baz=136,slow=31
MJAR Matsushiro Arr 88.74 53 LR LR 17 17 32.3
comp=Z,168nm,18.1s,MS4.5,baz=335,slow=38
YSS Yuzh-Sakhalins 89.17 42⇑ *e*P **P 16 35 00.1 +2.0**
FITZ Fitzroy Crossi 89.22 109 LR LR 17 10 11.8
comp=Z,286nm,18.9s,MS4.7,baz=259,slow=32
VNA1 Neumayer--Stat 89.27 195 P **P 16 34 54.5 -3.6**
VNA3 Neumayer Olymp 90.01 194 **P 16 35 05.8 +4.3**
VNA3 Neumayer Olymp 90.01 194 P **P 16 35 05.8 +4.3**
BILL Bilibino 90.93 18 *e*P **P 16 35 06.4 +0.6**
BILL pmax pmax
comp=Z,34nm,2.5s,mb5.2
BDFB Brasilia 91.94 255 LR LR 17 14 25.4
comp=Z,305nm,18.1s,MS4.8,baz=130,slow=34
WRA Warramunga Arr 97.65 109 P **P 16 35 38.0 +0.3**
comp=Z,2.3nm,1.2s,mb4.6,baz=304,slow=3.4,SNR=4.7
WRAB Tennant Creek 97.66 109 *e*P **P 16 35 37.6 -0.1**
TXAR Lajitas Array 126.00 321 PKP PKPdf 16 41 06.4 +0.2
comp=Z,0.8nm,1.0s,SNR=4.9

*NEIC **25** 16:23:19.1±1.1,25.07S×179.54E,h452km±14km, mb4.6/11,Error ellipse: s-maj=12.6km s-min=10.7km az=120.0*
*IDC **25** 16:23:23.7±1.8,25.19S×179.43E,h505km±19km,mb3.9/9,*

mb1 4.1/12,mb1mx4.0/16,mbtmp4.8/12,Error ellipse: s-maj=16.1km s-min=15.0km az=173.0

ISC 25 16:23:18.6±1.3,25.06S±0.06×179.53E±0.08, h460km±17km,n68,σ1§22/68,mb4.4/17,1C-9D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	Kuaotunu	12.09	195	PN	P	16 26 03.5	+3.6
KUZ	Kuaotunu	12.09	195	P	P	16 26 03.5	+3.6
DZM	Mont Dzumac	12.37	281	*e*P	P	16 26 06.9	+4.0
DZM	Mont Dzumac	12.37	281	P	P	16 26 07.3	+4.3
	1.9nm,0.3s,baz=86,slow=15,SNR=17						
DZM	Mont Dzumac	12.37	281	*e*P	P	16 26 06.9	+4.0
MXZ	Matakaoa Point	12.50	184	*e*PN	P	16 26 05.0	+0.7
MXZ	Matakaoa Point	12.50	184	*e*P	P	16 26 05.0	+0.6
URZ	Urewera	13.32	188	P	P	16 26 13.0	+0.1
	9.4nm,0.3s,baz=2.7,slow=2.2,SNR=35						
URZ				S	S	16 28 32.8	-0.4
	0.6nm,0.3s,baz=201,slow=20,SNR=8.5						
URZ	Urewera	13.32	188	PN	P	16 26 11.7	-1.2
URZ	Urewera	13.32	188	P	P	16 26 11.7	-1.3
MWZ	Matawai	13.34	187	*e*PN	P	16 26 13.1	-0.1
MWZ	Matawai	13.34	187	*e*P	P	16 26 13.1	-0.1
AFI	Afiamalu	13.79	38	P	P	16 26 17.0	-1.1
	7.7nm,0.3s,baz=284,slow=16,SNR=14						
AFI				S	S	16 28 41.5	-0.8
	2.8nm,0.3s,baz=107,slow=22,SNR=4.7						
AFI	Afiamalu	13.79	38	P	P	16 26 17.0	-1.1
AFI				S	S	16 28 41.5	-0.8
BKZ	Black Stump Fm	14.29	190	*e*PN	P	16 26 21.2	-1.9
BKZ	Black Stump Fm	14.29	190	*e*P	P	16 26 21.2	-2.0
OTVZ	Oturere	14.43	192	*e*PN	P	16 26 26.3	+1.8
BFZ	Birch Farm	15.81	189	*e*PN	P	16 26 37.4	-1.2
BFZ				SN	S	16 29 17.9	-2.6
BFZ	Birch Farm	15.81	189	*e*P	P	16 26 37.4	-1.2
SNZO	South Karori	16.69	193	*e*P	P	16 26 47.1	-0.4
	16nm,0.4s						
QRZ	Quartz Range	16.77	199	*e*PN	P	16 26 50.0	+1.8
QRZ	Quartz Range	16.77	199	*e*P	P	16 26 50.0	+1.7
THZ	Tophouse	17.54	197	*e*PN	P	16 26 56.6	+0.6
THZ	Tophouse	17.54	197	*e*P	P	16 26 56.6	+0.7
KHZ	Kahutara	18.00	194	*e*PN	P	16 27 00.5	-0.1
KHZ	Kahutara	18.00	194	*e*P	P	16 27 00.5	0.0
LTZ	Lake Taylor	18.66	197	*e*PN	P	16 27 07.6	+0.6
LTZ	Lake Taylor	18.66	197	*e*P	P	16 27 07.6	+0.7
WVZ	Waitaha Valley	19.37	200	*e*PN	P	16 27 14.1	+0.4
WVZ	Waitaha Valley	19.37	200	*e*P	P	16 27 14.1	+0.4
RPZ	Rata Peaks	19.86	198	P	P	16 27 18.3	-0.1
	2.8nm,0.3s,baz=38,slow=3.0,SNR=24						
CNB	Canberra Magne	27.91	241	*e*P	P	16 28 33.2	+1.6
	11nm,0.6s,mb4.5						
CTA	Charters Tower	31.07	272	⇓*i*P	P	16 29 00.2	+1.0
	41nm,0.5s,mb5.1						
CTA	Charters Tower	31.07	272	P	P	16 29 00.2	+1.1
	52nm,0.5s,mb5.2,baz=98,slow=11,SNR=177						
CTAO	Charters Tower	31.07	272	*e*P	P	16 28 59.8	+0.6
	51nm,0.6s,mb5.1						
TOO	Toolangi	31.47	238	⇓*i*P	P	16 29 03.4	+1.1
	12nm,0.6s,mb4.5						
STKA	Stephens Creek	33.91	250	⇓*i*P	P	16 29 23.9	+0.9
	9.7nm,0.3s,mb4.7						
STKA	Stephens Creek	33.91	250	P	P	16 29 23.9	+0.9
	13nm,0.4s,mb4.7,baz=95,slow=10,SNR=78						
PMG	Port Moresby	34.49	291	P	P	16 29 28.7	+0.7
	27nm,0.6s,mb4.8,baz=110,slow=4.5,SNR=12						
PMG	Port Moresby	34.49	291	*e*P	P	16 29 28.5	+0.5
	28nm,0.7s,mb4.8						
ASPA	Alice Springs	41.44	262	⇓*i*P	P	16 30 25.2	+0.2
ASPA				*e*S	S	16 36 02.0	-4.7
WB2	Warramunga Arr	41.91	268	⇓*i*P	P	16 30 28.4	-0.5
WB2				*e*S	S	16 36 07.1	-6.4
WRAB	Tennant Creek	41.91	268	*e*P	P	16 30 28.0	-0.9
	63nm,0.6s,mb5.2						
WRA	Warramunga Arr	41.92	268	P	P	16 30 28.7	-0.3
	58nm,0.6s,mb5.2,baz=102,slow=7.9,SNR=604						
WRA				ScP		16 35 17.8	
	1.7nm,0.8s,baz=105,slow=4.1,SNR=5.7						
WRA				S	S	16 36 08.4	-5.2
	2.2nm,1.0s,baz=99,slow=14,SNR=8.6						
FORT	Forrest	45.52	251	⇓*i*P	P	16 30 55.8	-1.3
	27nm,0.7s,mb4.8						
KAKA	Kakadu	46.00	277	⇓*i*P	P	16 31 19.4	+18
	9.7nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	50.33	267	⇓*i*P	P	16 31 33.0	-0.8
	20nm,0.4s,mb4.8						
KLBR	Kellerberrin	54.15	248	*e*P	P	16 31 59.6	-1.7
	8.7nm,0.5s,mb4.3						
CASY	Casey	58.88	206	⇓*i*P	P	16 32 31.7	-1.7
MJAR	Matsushiro Arr	72.62	326	P	P	16 33 58.9	-0.7
	2.1nm,0.6s,mb3.9,baz=154,slow=6.5,SNR=8.5						
MJAR	Matsushiro Arr	72.62	326	P	P	16 33 58.9	-0.7
MAW	Mawson	76.52	201	P	P	16 34 20.8	-0.1
	2.4nm,0.5s,mb4.0,baz=119,slow=6.2,SNR=9.7						
MAW	Mawson	76.52	201	*e*P	P	16 34 20.6	-0.3
	3.8nm,1.4s,mb3.7						
SYO	Syowa Base	81.79	194	⇑P	P	16 34 46.0	-2.7
VNA3	Neumayer Olymp	83.74	177	P	P	16 35 00.5	+2.1
VNA2	Neumayer--Watz	84.15	178	P	P	16 35 02.4	+2.0
VNA1	Neumayer--Stat	84.39	177		P	16 35 07.5	+5.9
YBH	Yreka Blue Hor	85.25	39	P	P	16 35 08.6	+2.1
	2.1nm,0.9s,mb3.8,baz=210,slow=5.5,SNR=4.2						
MNTX	Cornudas Mount	91.22	55	*e*P	P	16 35 35.9	+1.1
	1.2nm,1.0s,mb3.8						
TXAR	Lajitas Array	91.41	58	P	P	16 35 36.6	+1.0
	1.2nm,0.8s,mb3.9,baz=217,slow=6.3,SNR=8.9						
ILAR	Eielson Array	93.26	14	P	P	16 35 42.2	-1.1
	0.3nm,0.6s,mb3.5,baz=220,slow=5.7,SNR=4.7						
SONM	Songino Array	97.70	319	P	PP	16 40 11.6	+0.9
	0.7nm,0.8s,baz=135,slow=4.1,SNR=4.7						
ARCES	ARCESS Array B	132.93	348	SKPbc		16 44 20.2	
	7.1nm,0.9s,baz=45,slow=1.7,SNR=8.6						
FINES	FINESS Array B	139.40	341	SKPbc		16 44 39.8	
	0.8nm,0.6s,baz=63,slow=4.3,SNR=5.5						
AKASG	Malin Array Be	145.70	326	PKPbc	PKPbc	16 42 04.0	-0.5
	0.9nm,0.5s,baz=46,slow=3.8,SNR=6.4						
ASF	Jabal al Asfar	146.57	291	PKPbc	PKPbc	16 42 08.8	+1.7
	2.7nm,0.6s,baz=57,slow=2.6,SNR=3.5						
BR131	Keskin Array S	147.92	305	*e*PKPbc	PKPdf	16 42 15.2	+8.1
BRTR	Keskin Array B	147.92	305	PKPbc	PKPdf	16 42 11.5	+4.4
	2.3nm,0.7s,baz=117,slow=3.2,SNR=3.3						
BRTR				PKPab	PKPab	16 42 15.8	-1.5
	3.1nm,0.8s,baz=92,slow=3.5,SNR=10						

ISK 25 16:25:35.3,38.83N×25.50E,h13km,MD3.6
ATH 25 16:25:36.2,38.82N×25.59E,h27km±2km,MD3.5/3,ML3.4
THE 25 16:25:38.4,38.87N×25.82E,h20km
CSEM 25 16:25:38.0±0.1,38.85N×25.70E,h52km±1km,mb3.9/3, Error ellipse: s-maj=2.2km s-min=1.7km az=74.0
NEIC 25 16:25:38.4,38.87N×25.82E,h76km,MD3.5(ATH),After THE.

SOF 25 16:25:41.0,39.52N×26.37E,h10km,MD3.0
ISC 25 16:25:36.5±0.3,38.82N±0.02×25.60E±0.03,h10km,n55, σ0§94/74,1C-3D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.68	51	*e*PN	Pb	16 25 49.5	-0.4
PRK				*e*SN	Sb	16 25 59.8	+0.8
URLA	Izmir	0.91	120	*i*P	Pb	16 25 53.9	+0.1
URLA				*i*S	Sb	16 26 05.8	+0.1
AYVA	Ayvalik	0.98	60	*i*P	Pb	16 25 56.9	+1.8
AYVA				*i*S	Sb	16 26 08.5	+0.7
LIA	Limnos Island	1.12	344	⇑*i*PN	Pn	16 25 57.8	-0.4
EZN	Ezine	1.15	29	*i*PN	Pn	16 25 57.8	-0.8
EZN				*i*SN	Sn	16 26 14.5	0.0
LOS	Limnos	1.18	340	*e*Pg	Pg	16 25 59.1	-1.1
LOS				*e*Sg	Sg	16 26 16.2	+0.2
BLCB	Balcova	1.21	110	*i*PN	Pn	16 26 00.0	+0.5
BLCB				*i*SN	Sn	16 26 17.2	+1.2
IZM	Izmir	1.37	107	*i*PN	Pn	16 26 01.9	+0.2
IZM				*i*SN	Sn	16 26 21.4	+1.4
KDAG	Bornova	1.37	107	*i*PN	Pn	16 26 00.8	-0.9
KDAG				*i*S	Sb	16 26 23.0	+3.7
AOS	Alonnisos	1.38	285	*e*Pg	Pg	16 26 03.9	-0.2
SMG	Samos	1.48	138	*e*PN	Pn	16 26 03.1	-0.2
CANB	Canakkale	1.65	43	PN	Pn	16 26 05.9	+0.2
CANB				SN	Sn	16 26 28.1	+1.0
ATH	Athens Observa	1.70	241	*e*PN	Pn	16 26 06.0	-0.5
AKS	Akhisar	1.73	87	*i*PN	Pn	16 26 06.6	-0.3
APE	Apeiranthos	1.75	182	*i*PN	Pn	16 26 06.6	-0.5
APE	Apeiranthos	1.75	182	*e*Pn	Pn	16 26 07.1	0.0
LPK	Lapseki	1.79	30	PN	Pn	16 26 07.2	-0.6
XOR	Xorichti	1.95	287	*e*Pn	Pn	16 26 11.9	+1.8
XOR				*e*Sn	Sn	16 26 36.6	+1.8
BALB	Balikesir	1.95	64	PN	Pn	16 26 10.5	+0.4
OUR	Ouranopolis	1.96	321	*e*Pn	Pn	16 26 10.0	-0.2
ALN	Alexandroupoli	2.10	9	*e*Pn	Pn	16 26 11.0	-1.2
AYDN	Tasoluk	2.14	122	*i*P	Pn	16 26 18.1	+5.4
AYDN				*i*S	Sn	16 26 48.3	+8.8
BODT	Bodrum	2.22	142	PN	Pn	16 26 12.9	-0.9
SART	Tekirdag	2.23	33	*i*P	Pn	16 26 16.5	+2.4
SART				*i*S	Sn	16 26 46.3	+4.4
BDRM	Kayabasi	2.28	140	*i*P	Pn	16 26 14.3	-0.4
BDRM				*i*S	Sn	16 26 50.6	+7.5
MLSB	Milas	2.30	131	*e*PN	Pn	16 26 14.4	-0.6
EDC	Edincik	2.32	48	PN	Pn	16 26 14.5	-0.9
RDO	Rodhopi	2.33	359	*e*PN	Pn	16 26 14.7	-0.7
MANT	Manisa	2.34	97	*i*P	Pn	16 26 15.4	-0.2
MANT				*i*S	Sn	16 26 49.5	+4.8
MFT	Murefte	2.35	33	PN	Pn	16 26 15.4	-0.4
MRMT	Marmara Adasi	2.36	40	*e*PN	Pn	16 26 15.8	0.0
BNT	Bandirma	2.36	49	PN	Pn	16 26 14.9	-1.0
THR5	Thira Island,	2.41	185	*e*Pn	Pn	16 26 16.6	0.0
THR1	Thera Island	2.45	183	*e*Pn	Pn	16 26 16.8	-0.3
AGG	Agios Georgios	2.56	276	*e*Pn	Pn	16 26 20.7	+2.0
AGG				*e*Sn	Sn	16 26 52.9	+2.8
SOH	Sokhos	2.64	320	*e*Pn	Pn	16 26 19.4	-0.6
YER	Yerkesik	2.71	128	*e*PN	Pn	16 26 20.4	-0.5
LIT	Litokhoron	2.73	299	*e*Pn	Pn	16 26 21.4	+0.3
SRS	Serrai	2.76	327	*e*Pn	Pn	16 26 20.1	-1.6
ORLT	Orhaneli	2.83	63	*e*PN	Pn	16 26 23.0	+0.3
DNZL	Cakiroluk	2.94	111	*i*P	Pn	16 26 24.3	+0.1
DNZL				*i*S	Sn	16 27 05.5	+5.6
RZN	Rozhen	2.94	347	*i*P	Pn	16 26 23.7	-0.5
ULDT	Uludag	3.04	63	*i*P	Pb	16 26 32.4	+2.1
ULDT				*i*S	Sb	16 27 12.2	+4.5
MMB	Musomiste	3.12	333	*i*P	Pn	16 26 25.7	-1.0
KNT	Kendrikon	3.13	319	*e*Pn	Pn	16 26 26.9	+0.1
CTT	Catalca	3.19	42	*e*PN	Pn	16 26 27.7	+0.1
GRG	Griva	3.26	312	*e*Pn	Pn	16 26 29.1	+0.5
YLV	Yalova	3.40	58	*e*PN	Pn	16 26 30.2	-0.4
KKB	Krupnik	3.60	329	*i*P	Pn	16 26 38.0	+4.5
TKTP	Tekketepe	3.79	100	*i*P	Pn	16 26 35.6	-0.6
TKTP				*i*S	Pg	16 26 49.6	-2.6
ESKT	Eskisehir	4.14	79	*i*P	Pg	16 26 53.9	-5.3
ESKT				*i*S	Sg	16 27 49.9	-4.5
VTS	Vitosha	4.18	335	*i*P	Pn	16 26 41.5	-0.3
MLR	Muntele Rosu	6.67	2	⇓P	Pn	16 27 16.0	-1.0
VRI	Vrincioaia	7.09	6	⇓P	Pn	16 27 23.1	+0.2
DRGR		8.24	346	⇓P	P	16 27 43.0	+4.0

SOF 25 16:31:46.2,40.87N×25.83E,h7km,MD2.8
ATH 25 16:31:47.1,40.86N×25.79E,h24km,MD3.3/4
NEIC 25 16:31:47.1,40.86N×25.79E,h24km,MD3.3(ATH),After ATH.
CSEM 25 16:31:47.5±0.1,40.86N×25.77E,h10km,ML3.3,Error ellipse: s-maj=2.3km s-min=2.2km az=96.0
THE 25 16:31:47.7,40.82N×25.74E,h4km,ML3.3
ISC 25 16:31:46.7±0.6,40.84N±0.03×25.73E±0.03,h4km±5km, n27,σ1§03/33,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	Alexandroupoli	0.24	77	*e*Pg	Pg	16 31 52.6	+0.9
ALN				*e*Sg	Sg	16 31 55.8	+0.9
RDO	Rodhopi	0.34	334	*e*PB	Pb	16 31 54.8	-0.1
RDO				*e*SB	Sb	16 31 59.8	-0.5
KDZ	Kurdzhali	0.84	344	*i*Pg	Pg	16 32 03.5	0.0
LPK	Lapseki	0.91	121	PG	Pg	16 32 06.2	+1.2
LIA	Limnos Island	1.03	204	*e*PN	Pn	16 32 07.5	-0.4
LIA				*e*SN	Sn	16 32 22.3	-0.6
LOS	Limnos	1.03	209	*e*Pg	Pg	16 32 07.1	-0.3
LOS				*e*Sg	Sg	16 32 21.2	0.0
RZN	Rozhen	1.14	318	*i*Pg	Pg	16 32 09.0	-0.5
MFT	Murefte	1.18	92	PG	Pg	16 32 08.9	-1.3
MFT				SG	Sg	16 32 24.3	-1.6
DIM	Dimitrovgrad	1.22	353	*i*P	Pb	16 32 10.3	+0.4
EDRB	Edirne	1.26	37	PN	Pn	16 32 10.5	-0.6
EDRB				SN	Sn	16 32 26.2	-2.5
CANB	Canakkale	1.31	129	*e*PN	Pn	16 32 13.2	+1.4
OUR	Ouranopolis	1.43	250	*e*Pg	Pg	16 32 13.7	-1.5
MRMT	Marmara Adasi	1.44	99	*e*PN	Pn	16 32 13.0	-0.6
PLD	Plovdiv	1.48	329	P	Pn	16 32 15.5	+1.3
NVR	Nevrokopi	1.50	290	*e*PN	Pn	16 32 15.1	+0.5
SRS	Serrai	1.64	280	*e*Pb	Pb	16 32 15.6	-1.6
PRK	Paraskevi	1.65	165	*e*PN	Pn	16 32 16.7	+0.1
MMB	Musomiste	1.69	297	*i*P	Pn	16 32 18.0	+0.8
EDC	Edincik	1.70	106	*e*PN	Pn	16 32 18.5	+1.2
BNT	Bandirma	1.73	106	*e*PN	Pn	16 32 19.1	+0.2
JMB	Yambol	1.74	21	*i*P	Pn	16 32 17.5	-0.5
CTT	Catalca	2.06	81	*e*PN	Pn	16 32 22.8	+0.2
PGB	Panagyurishte	2.07	326	*i*P	Pn	16 32 25.7	+3.0
KNT	Kendrikon	2.17	279	*e*Pn	Pn	16 32 24.5	+0.4
AOS	Alonnisos	2.19	221	*e*Pn	Pn	16 32 24.0	-0.5
KKB	Krupnik	2.24	298	*i*P	Pn	16 32 28.0	+2.9
VTS	Vitosha	2.57	314	P	Pn	16 32 35.0	+5.1

IDC 25 16:53:40.2±2.0,19.09S×173.58W,mb3.8/4,mb1 4.1/4, mb1mx3.9/13,mbtmp3.8/4,2C,Error ellipse: s-maj=119.9km s-min=29.4km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.14	243	P	P	17 01 33.7	-2.3
	0.6nm,0.3s,baz=72,slow=9.6,SNR=4.2						
ASPA	Alice Springs	48.90	255	⇑*i*P	P	17 02 29.8	-0.2
WB2	Warramunga Arr	48.92	260	⇑*i*P	P	17 02 29.1	-1.1
WRA	Warramunga Arr	48.93	260	P	P	17 02 28.9	-1.4
	1.3nm,0.3s,baz=97,slow=7.5,SNR=34						
TXAR	Lajitas Array	82.81	56	P	P	17 06 06.9	-1.1
	0.4nm,0.8s,baz=217,slow=4.5,SNR=4.0						
ILAR	Eielson Array	86.08	11	P	P	17 06 22.2	-1.4
	0.3nm,0.8s,baz=239,slow=5.3,SNR=4.1						

NEIC 25 16:55:16.6±1.0,10.18N×93.52E,h30km,mb4.0/2,Error ellipse: s-maj=36.1km s-min=12.1km az=53.0
IDC 25 16:55:34.8±20.0,10.54N×93.38E,h184km±187km, mb3.5/6,mb1 3.7/6,mb1mx3.3/17,mbtmp4.0/6,Error ellipse: s-maj=90.3km s-min=20.1km az=56.0
ISC 25 16:55:13.5±4.8,10.1N±0.2×93.4E±0.1,h26km±37km,n16, σ0§92/15,mb3.9/6,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	8.61	123	*e*P	P	16 57 19.8	+0.2
HYB	Hyderabad	16.16	298	*i*P	P	16 58 57.5	-3.2
HYB				*e*S	S	17 01 59.0	+0.1
DMN	Daman	19.09	337	*e*P	P	16 59 36.9	-0.1
KKN	Kakani	19.18	338	*e*P	P	16 59 39.0	+0.9
	12nm,0.8s						
LSA	Lhasa	19.60	354	*e*P	P	16 59 41.4	-1.6
	7.1nm,0.6s						
GKN	Gorkha	19.62	336	*e*P	P	16 59 43.7	+0.6
	13nm,0.4s						
KOLN	Koldanda	19.85	334	*e*P	P	16 59 47.3	+1.6
MKAR	Makanchi Array	37.76	347	P	P	17 02 28.7	-0.5
	1.4nm,0.7s,mb3.8,baz=168,slow=8.6,SNR=14						
MKAR	Makanchi Array	37.76	347	P	P	17 02 28.7	-0.5
SONM	Songino Array	39.16	14	P	P	17 02 40.4	-0.5
	0.6nm,0.6s,mb3.5,baz=190,slow=9.0,SNR=5.4						
ZAL	Zalesovo	44.25	353	P	P	17 03 22.9	+0.4
	2.4nm,0.3s,mb4.4,baz=198,slow=5.6,SNR=5.3						
WRA	Warramunga Arr	50.14	127	P	P	17 04 14.5	+5.3
	0.8nm,0.6s,mb3.9,baz=305,slow=8.6,SNR=6.4						
ARCES	ARCESS Array B	72.93	340	P	P	17 06 41.9	-0.3
	3.6nm,0.9s,mb4.3,baz=79,slow=6.2,SNR=8.6						
GERES	GERESS Array B	75.70	318	P	P	17 06 58.8	+0.3
	0.4nm,0.5s,mb3.6,baz=90,slow=5.3,SNR=5.9						
PLCA	Paso Flores	146.37	202	PKPbc	PKPbc	17 14 53.0	+0.6
	1.1nm,0.9s,baz=194,slow=7.1,SNR=4.8						
PLCA	Paso Flores	146.37	202	*e*PKPdf	PKPdf	17 14 53.1	-2.7

IDC 25 17:02:01.0±1.4,10.43S×111.97E,mb4.1/7,mb1 4.3/7, mb1mx4.1/13,mbtmp4.1/7,Error ellipse: s-maj=58.3km s-min=20.7km az=50.0
NEIC 25 17:02:04.1±0.9,10.43S×112.03E,h20km,mb4.4/1,Error ellipse: s-maj=36.1km s-min=10.5km az=48.0

ISC 25 17:02:02.4±1.0,10.7S±0.2×112.3E±0.3,h33km,n14, σ0§44/15,mb4.2/8,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	12.67	146	*e*P	P	17 05 03.0	-0.1
MBWA				*e*S	S	17 07 09.3	-15
FITZ	Fitzroy Crossi	14.92	121	Pn	P	17 05 26.8	-5.9
	0.2nm,0.3s,baz=2.6,slow=22,SNR=5.0						
FITZ				Sn	S	17 08 12.9	-4.7
	0.5nm,0.3s,baz=159,slow=13,SNR=4.0						
WRA	Warramunga Arr	23.19	116	P	P	17 07 13.0	+5.6
	5.3nm,0.8s,mb4.0,baz=289,slow=11,SNR=25						
WRAB	Tennant Creek	23.19	116	*e*P	P	17 07 12.7	+5.4
	14nm,1.1s,mb4.3						
WB2	Warramunga Arr	23.20	116	*e*P	P	17 07 12.9	+5.5
ASPA	Alice Springs	24.34	125	*e*P	P	17 07 25.1	+6.5
STKA	Stephens Creek	34.35	132	P	P	17 08 53.1	+4.8
	2.9nm,0.9s,mb4.2,baz=296,slow=10,SNR=6.0						
STKA	Stephens Creek	34.35	132	*e*P	P	17 08 53.1	+4.8
MJAR	Matsushiro Arr	52.92	26	P	P	17 11 17.9	+0.2
	1.4nm,0.7s,mb4.0,baz=198,slow=8.2,SNR=5.8						
SONM	Songino Array	58.47	355	P	P	17 11 57.7	+0.2
	1.4nm,0.8s,mb4.1,baz=181,slow=8.8,SNR=10						
MKAR	Makanchi Array	63.16	337	P	P	17 12 28.6	-0.8
	0.9nm,0.5s,mb4.2,baz=150,slow=7.7,SNR=24						
ZAL	Zalesovo	68.44	343	P	P	17 13 02.9	-0.1
	0.8nm,0.3s,mb4.2,baz=326,slow=8.0,SNR=5.9						
BRTR	Keskin Array B	88.13	311	P	P	17 14 51.8	+0.5
	1.6nm,0.8s,mb4.3,baz=141,slow=7.9,SNR=5.2						
TXAR	Lajitas Array	141.69	56	PKhKP		17 21 31.6	
	0.3nm,0.6s,baz=270,slow=3.8,SNR=3.8						

ISC 25 17:09:33.5±0.9,39.42N±0.06×33.12E±0.06,h10km,n6, σ0§97/10,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	Kaman	0.46	96	PG	Pg	17 09 42.0	-0.9
KAMT				SG	Sg	17 09 48.7	-0.5
LOD	Lodumlu	0.55	330	PG	Pg	17 09 43.7	-0.8
CDAG	Cicekdag	0.99	78	*i*P	Pb	17 09 50.9	-1.4
CDAG				*i*S	Sb	17 10 04.8	-0.4
ELDT	Eldivan	1.10	12	*i*P	Pb	17 09 54.1	-0.1
ELDT				*i*S	Sb	17 10 09.9	+1.6
KIZT	Kizilcal	1.10	241	*e*PN	Pn	17 09 55.0	+0.1
AVNT	Avonos	1.50	115	*i*P	Pn	17 10 01.6	+1.1
AVNT				*i*S	Sb	17 10 21.3	+1.5

DHMR 25 17:16:43.9±3.1,12.67N×40.51E,h12km±393km,ML4.1
IDC 25 17:16:46.9±4.4,12.34N×40.58E,mb3.7/5,mb1 3.9/6, mb1mx3.8/17,mbtmp3.8/6,ML4.0/1,MS3.5/2,Ms1 3.5/2, ms1mx3.0/25,Error ellipse: s-maj=100.9km s-min=16.4km az=32.0
NEIC 25 17:16:48.2±2.8,12.32N×40.51E,h10km,mb4.5/1,Error ellipse: s-maj=67.7km s-min=13.8km az=218.0
CSEM 25 17:16:50.5±0.3,12.92N×40.85E,h10km,mb4.5/1,Error ellipse: s-maj=11.1km s-min=6.9km az=37.0
ISC 25 17:16:47.5±1.2,12.5N±0.1×40.60E±0.07,h10km,n15, σ1§03/15,mb3.8/5,MS3.5/2,2C,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	2.41	114	Pn	Pn	17 17 28.1	+0.4
	36nm,0.3s,baz=265,slow=20,SNR=14						
ATD				Lg		17 18 01.2	
	40nm,0.3s,baz=105,slow=23,SNR=13						
ATD	Arta Tunnel	2.41	114	Pn	Pn	17 17 28.1	+0.4
UDYN	Al 'Udayn	3.57	66	*i*S	Sn	17 18 28.4	+1.4
UDYN				AML	AML	17 18 54.3	
	comp=N,854nm,0.8s						
DHBB	Dhamar BB	4.20	61	⇑*e*P	Pn	17 17 50.8	-2.5
DHBB				*i*S	Sn	17 18 42.8	-0.1
BDHA	Al Bayda'	5.04	73	⇑*e*P	Pn	17 18 00.2	-4.9
BDHA				*i*S	Sn	17 19 00.1	-4.1
BR131	Keskin Array S	27.77	348	*e*P	P	17 22 39.2	+0.6
	comp=N,13nm,1.6s,mb4.3						
BR131	Keskin Array S	27.77	348	*e*P	P	17 22 39.2	+0.6
BRTR	Keskin Array B	27.77	348	P	P	17 22 40.3	+1.7
	comp=N,0.9nm,0.6s,mb3.5,baz=180,slow=8.6,SNR=5.0						
MATP	Matopo	34.85	200	LR	LR	17 38

*NEIC **25** 17:39:13.0, 48.01N×128.53W, h10km, mb4.1/1, ML4.3(PGC), After PGC.*
*PGC **25** 17:39:13.2, 48.01N×128.53W, h10km, MLSn3.6/1, Mw4.3, mb4.1/1(NEIC), West of Vancouver Island, British Columbia*
*IDC **25** 17:39:14.6±1.4, 48.24N×128.27W, mb3.5/5, mb1 3.8/11, mb1mx3.7/26, mbtmp3.6/11, ML3.8/6, MS2.9/3, Ms1 2.9/3, ms1mx2.6/30, Error ellipse: s-maj=27.4km s-min=11.6km az=57.0*

ISC 25 17:39:13.1±0.9, 48.19N±0.04×128.30W±0.06, h3km±8km, n82, σ0985/97, mb3.4/4, MS4.3/1, 2C-4D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETB	**Estevan Point**	**1.66**	**44**	Pn	**Pn**	**17 39 44.0**	**+0.8**
EDB	**Eliza Dome**	**1.85**	**24**	Pn	**Pn**	**17 39 46.0**	**0.0**
EDB				Sn	**Sn**	**17 40 10.5**	**+0.3**
EDB				Trac		17 40 11.9	
	comp=Z,23nm,0.2s						
BPBC	**Brooks Peninsu**	**2.00**	**10**	Pn	**Pn**	**17 39 47.8**	**-0.3**
BPBC				Trac		17 40 28.2	
	comp=Z,29nm,0.2s						
OZB	**Mount Ozzard**	**2.02**	**67**	Pn	**Pn**	**17 39 48.1**	**-0.2**
OZB				Sn	**Sn**	**17 40 13.6**	**-0.7**
OZB				Trac		17 40 16.6	
	comp=Z,84nm,0.3s						
OZB	**Mount Ozzard**	**2.02**	**67**	P	**Pn**	**17 39 48.2**	**-0.1**
GDR	**Gold River**	**2.18**	**42**	Pn	**Pn**	**17 39 51.1**	**+0.4**
GDR				Sn	**Sn**	**17 40 19.3**	**+0.7**
	comp=Z,52nm,0.5s						
GDR				Trac		17 40 21.6	
	comp=Z,52nm,0.5s						
BTB	**Buttle Lake**	**2.24**	**54**	Pn	**Pn**	**17 39 52.0**	**+0.5**
BTB				Sn	**Sn**	**17 40 20.2**	**+0.3**
	comp=Z,145nm,0.3s						
BTB				Trac		17 40 23.9	
	comp=Z,145nm,0.3s						
WOSB	**Woss**	**2.27**	**29**	Pn	**Pn**	**17 39 52.8**	**+0.8**
WOSB				Trac		17 40 24.5	
	comp=Z,20nm,0.2s						
MAYB	**Maynard**	**2.33**	**18**	⇑Pn	**Pn**	**17 39 53.2**	**+0.3**
HOLB	**Holberg**	**2.45**	**2**	Pn	**Pn**	**17 39 54.1**	**-0.5**
HOLB				Sn	**Sn**	**17 40 24.4**	**-1.1**
	comp=Z,23nm,0.3s						
HOLB				Trac		17 40 34.6	
	comp=Z,23nm,0.3s						
MGB	**Mount Grey**	**2.53**	**70**	Pn	**Pn**	**17 39 55.2**	**-0.4**
MGB				Sn	**Sn**	**17 40 27.0**	**-0.3**
MGB				Trac		17 40 29.6	
	comp=Z,25nm,0.2s						
ALB	**Alberni**	**2.54**	**63**	⇓Pn	**Pn**	**17 39 55.5**	**-0.3**
ALB				Sn	**Sn**	**17 40 26.6**	**-1.0**
	comp=Z,32nm,0.3s						
ALB				Trac		17 40 28.6	
	comp=Z,32nm,0.3s						
PHC	**Port Hardy**	**2.58**	**12**	Pn	**Pn**	**17 39 56.4**	**0.0**
PHC				Trac		17 40 29.9	
	comp=Z,17nm,0.5s						
PFB	**Port Renfrew**	**2.60**	**80**	Pn	**Pn**	**17 39 55.6**	**-1.1**
PFB				Sn	**Sn**	**17 40 28.3**	**-0.9**
PFB				Trac		17 40 30.8	
	comp=Z,2.0nm,0.1s						
OTR	**Olympics--Tyee**	**2.65**	**91**	P	**Pn**	**17 39 57.4**	**-0.1**
NCRB	**Newcastle Ridg**	**2.66**	**33**	⇑Pn	**Pn**	**17 39 58.8**	**+1.3**
NCRB				Sn	**Sn**	**17 40 32.2**	**+1.6**
	comp=Z,57nm,0.6s						
NCRB				Trac		17 40 33.9	
	comp=Z,57nm,0.6s						
CBB	**Campbell River**	**2.67**	**45**	Pn	**Pn**	**17 39 58.5**	**+0.9**
CBB				Sn	**Sn**	**17 40 32.3**	**+1.4**
CBB				Trac		17 40 33.4	
	comp=Z,75nm,0.5s						
OOW	**Octopus West**	**2.80**	**98**	P	**Pn**	**17 39 58.9**	**-0.6**
OBC	**Olympics--Boni**	**2.83**	**92**	P	**Pn**	**17 39 59.6**	**-0.4**
TXB	**Texada**	**2.96**	**58**	⇑Pn	**Pn**	**17 40 02.4**	**+0.6**
TXB				Sn	**Sn**	**17 40 39.1**	**+0.8**
	comp=Z,51nm,0.4s						
TXB				Trac		17 40 42.9	
	comp=Z,51nm,0.4s						
LZB	**Mount Lazard**	**3.01**	**80**	Pn	**Pn**	**17 40 01.8**	**-0.8**
LZB				Sn	**Sn**	**17 40 39.1**	**-0.5**
LZB				Trac		17 40 40.6	
	comp=Z,3.0nm,0.2s						
NLLB	**Nanaimo Lost L**	**3.04**	**68**	Pn	**Pn**	**17 40 02.9**	**-0.1**
NLLB				Sn	**Sn**	**17 40 40.9**	**+0.6**
NLLB				Trac		17 40 43.1	
	comp=Z,24nm,0.3s						
STW	**Striped Peak**	**3.10**	**89**	P	**Pn**	**17 40 03.4**	**-0.4**
SHB	**Sechelt**	**3.24**	**63**	⇑Pn	**Pn**	**17 40 06.3**	**+0.5**
SHB				Trac		17 40 49.8	
	comp=Z,49nm,0.3s						
PGC	**Sidney**	**3.26**	**80**	Pn	**Pn**	**17 40 05.2**	**-0.9**
PGC				Sn	**Sn**	**17 40 45.9**	**0.0**
PGC				Trac		17 40 47.8	
	comp=Z,6.0nm,0.2s						
PGC	**Sidney**	**3.26**	**80**	*e*P	**Pn**	**17 40 05.0**	**-1.1**
GOBB	**Galiano Island**	**3.27**	**75**	⇓Pn	**Pn**	**17 40 06.3**	**+0.1**
GOBB				Sn	**Sn**	**17 40 49.1**	**+3.0**
	comp=Z,7.0nm,0.2s						
GOBB				Trac		17 40 52.5	
	comp=Z,7.0nm,0.2s						
VGZ	**Gonzales**	**3.33**	**84**	Pn	**Pn**	**17 40 06.0**	**-1.0**
VGZ				Sn	**Sn**	**17 40 46.3**	**-1.3**
VGZ				Trac		17 40 48.9	
	comp=Z,25nm,0.3s						
SNB	**Saturna Island**	**3.46**	**78**	Pn	**Pn**	**17 40 08.8**	**-0.1**
SNB				Sn	**Sn**	**17 40 52.1**	**+1.1**
SNB				Trac		17 40 55.1	
	comp=Z,6.0nm,0.2s						
SNB	**Saturna Island**	**3.46**	**78**	P	**Pn**	**17 40 09.1**	**+0.1**
BIB	**Bowen Island**	**3.52**	**68**	Pn	**Pn**	**17 40 09.9**	**+0.2**
SQM	**Sequim**	**3.52**	**90**	P	**Pn**	**17 40 10.2**	**+0.4**
HDW	**Hoodsport**	**3.57**	**97**	P	**Pn**	**17 40 10.1**	**-0.4**
BLN	**Blyn Mountain**	**3.58**	**91**	P	**Pn**	**17 40 10.7**	**+0.1**
MCW	**Mount Constitu**	**3.67**	**80**	P	**Pn**	**17 40 11.5**	**-0.4**
HNB	**Haney**	**3.94**	**72**	⇑Pn	**Pn**	**17 40 15.4**	**-0.3**
HNB				Sn	**Sn**	**17 41 03.4**	**+0.3**
HNB				Trac		17 41 10.9	
	comp=Z,18nm,0.3s						
BBB	**Bella Bella**	**4.00**	**2**	Pn	**Pn**	**17 40 16.7**	**+0.1**
	24nm,0.3s,baz=195,slow=9.4,SNR=418						
BBB				Sn	**Sn**	**17 41 02.1**	**-2.5**
	14nm,0.3s,baz=300,slow=22,SNR=11						
BBB				LR	LR	17 41 18.2	
	comp=Z,122nm,20.5s,baz=87,slow=31						
BBB	**Bella Bella**	**4.00**	**2**	⇓Pn	**Pn**	**17 40 16.7**	**+0.1**
BBB				Sn	**Sn**	**17 41 01.9**	**-2.7**
BBB				Trac		17 41 04.0	
	comp=Z,35nm,0.3s						
WSLR	**Whistler**	**4.03**	**59**	⇓Pn	**Pn**	**17 40 17.8**	**+0.8**
WSLR				Trac		17 41 09.7	
	comp=Z,8.0nm,0.3s						
VDB	**Vedder Mountai**	**4.20**	**76**	Pn	**Pn**	**17 40 19.0**	**-0.4**
VDB				Sn	**Sn**	**17 41 08.3**	**-1.3**
	comp=Z,3.0nm,0.2s						
VDB				Trac		17 41 14.0	
	comp=Z,3.0nm,0.2s						
VDB	**Vedder Mountai**	**4.20**	**76**	P	**Pn**	**17 40 19.0**	**-0.4**
JCW	**Jim Creek**	**4.26**	**88**	P	**Pn**	**17 40 19.9**	**-0.4**
HTW	**Haystack Looko**	**4.40**	**93**	P	**Pn**	**17 40 22.4**	**+0.1**
GSM	**Grass Mountain**	**4.50**	**100**	P	**Pn**	**17 40 24.0**	**+0.3**
RCM	**Mount Rainier-**	**4.65**	**105**	P	**Pn**	**17 40 26.1**	**+0.3**
HOPB	**Hope**	**4.70**	**73**	Pn	**Pn**	**17 40 26.1**	**-0.4**
HOPB				Sn	**Sn**	**17 41 22.1**	**-0.3**
HOPB				Trac		17 41 25.6	
	comp=Z,11nm,0.3s						
LLLB	**Lillooet**	**4.84**	**58**	⇑Pn	**Pn**	**17 40 29.0**	**+0.5**
ASR	**Mount Adams--S**	**5.01**	**112**	P	**Pn**	**17 40 30.8**	**-0.1**
VLMM	**Larch Mountain**	**5.05**	**119**	P	**Pn**	**17 40 32.4**	**+1.0**
TWW	**Teanaway**	**5.13**	**99**	P	**Pn**	**17 40 33.7**	**+1.1**
TBM	**Table Mountain**	**5.30**	**98**	P	**Pn**	**17 40 35.8**	**+0.8**
ETW	**Entiat**	**5.39**	**93**	P	**Pn**	**17 40 36.5**	**+0.2**
BNAB	**Bonilla**	**5.51**	**345**	Pn	**Pn**	**17 40 37.7**	**-0.3**
PNT	**Penticton**	**5.85**	**76**	Pn	**Pn**	**17 40 42.2**	**-0.6**
EPH	**Ephrata**	**5.93**	**95**	P	**Pn**	**17 40 42.9**	**-1.0**
SAW	**Saint Andrews**	**6.00**	**91**	P	**Pn**	**17 40 43.9**	**-1.0**
GBB	**Gable Butte**	**6.10**	**102**	P	**Pn**	**17 40 46.2**	**0.0**
LOCW	**Locke Island**	**6.19**	**100**	P	**Pn**	**17 40 47.3**	**-0.3**
OD2	**Odessa Site #2**	**6.51**	**93**	P	**Pn**	**17 40 50.4**	**-1.7**
NEW	**Newport**	**7.47**	**85**	Pn	**Pn**	**17 41 04.2**	**-1.4**
	2.5nm,0.3s,baz=286,slow=12,SNR=29						
NEW				LR	LR	17 43 45.0	
	comp=Z,111nm,18.9s,baz=67,slow=36						
NEW	**Newport**	**7.47**	**85**	*e*P	**Pn**	**17 41 03.1**	**-2.4**
YBH	**Yreka Blue Hor**	**7.58**	**146**	Pn	**Pn**	**17 41 08.0**	**+0.9**
	0.2nm,0.3s,baz=3.0,slow=7.9,SNR=5.1						
DLBC	**Dease Lake**	**10.32**	**355**	Pn	**P**	**17 41 43.6**	**-1.3**
	0.1nm,0.3s,baz=180,slow=19,SNR=1.8						
DLBC	**Dease Lake**	**10.32**	**355**	gP		17 41 43.4	
PDAR	**Pinedale Array**	**14.21**	**105**	Pn	**P**	**17 42 39.8**	**+2.6**
	0.1nm,0.3s,baz=307,slow=7.4,SNR=4.4						
YKA	**Yellowknife Ar**	**16.25**	**23**	LR	LR	17 49 54.6	
	comp=Z,37nm,21.1s,baz=270,slow=40						
PV01	**Paradox Valley**	**17.51**	**118**	P	**P**	**17 43 18.3**	**-1.3**
PHWY	**Pilot Hill**	**17.59**	**105**	P	**P**	**17 43 21.6**	**+1.0**
FFC	**Flin Flon**	**17.59**	**58**	*e*P	**P**	**17 43 22.1**	**+1.5**
	11nm,0.8s						
ILAR	**Eielson Array**	**19.39**	**336**	P	**P**	**17 43 42.8**	**+0.3**
	0.0nm,0.3s,baz=150,slow=12,SNR=8.2						
ANMO	**Albuquerque**	**20.93**	**121**	P	**P**	**17 44 00.0**	**+0.8**
	1.0nm,0.7s,baz=327,slow=8.5,SNR=4.0						
ULM	**Lac du Bonnet**	**21.19**	**72**	P	**P**	**17 44 01.8**	**+0.1**
	3.0nm,0.6s,mb3.8,baz=274,slow=10.0,SNR=5.8						
ULM	**Lac du Bonnet**	**21.19**	**72**	P	**P**	**17 44 01.8**	**+0.1**
TXAR	**Lajitas Array**	**26.71**	**126**	P	**P**	**17 44 57.4**	**+2.2**
	0.4nm,0.9s,mb2.9,baz=207,slow=2.8,SNR=4.0						
GERES	**GERESS Array B**	**77.90**	**25**	P	**P**	**17 51 13.1**	**-0.1**
	0.1nm,0.3s,mb3.2,baz=342,slow=4.2,SNR=5.9						
MKAR	**Makanchi Array**	**81.71**	**339**	P	**P**	**17 51 32.7**	**-1.0**
	0.4nm,0.7s,mb3.5,baz=346,slow=5.0,SNR=3.5						
MKAR				LR	LR	18 29 08.9	
	comp=Z,149nm,21.0s,MS4.3,baz=359,slow=37						
MKAR	**Makanchi Array**	**81.71**	**339**	P	**P**	**17 51 32.7**	**-1.0**
MKAR				LR	LR	18 29 08.9	
VNA3	**Neumayer Olymp**	**143.79**	**151**		PKPbc	17 58 52.2	+5.3
VNA3	**Neumayer Olymp**	**143.79**	**151**	P	PKPbc	17 58 47.7	+0.8
VNA3				P		17 58 52.2	
VNA1	**Neumayer--Stat**	**144.32**	**150**		PKPbc	17 58 48.2	-0.2
VNA2	**Neumayer--Watz**	**144.57**	**151**		PKPbc	17 58 54.2	+5.1
VNA2	**Neumayer--Watz**	**144.57**	**151**	P	PKPbc	17 58 49.5	+0.4
VNA2				P		17 58 54.2	

DHMR 25 17:43:27.7±2.5, 12.59N×40.53E, h9km±153km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.55**	**79**	*i* P	Pn	17 44 25.9	+1.6
TRBA				*i* S	Sn	17 45 11.2	+4.3
TRBA				AML	AML	17 45 33.4	
	comp=N,482nm,0.5s						
UDYN	**Al 'Udayn**	**3.62**	**67**	*e*P	Pn	17 44 27.1	+1.9
UDYN				*i* S	Sn	17 45 13.2	+4.7
UDYN				AML	AML	17 45 42.1	
	comp=N,396nm,0.6s						
DHBB	**Dhamar BB**	**4.24**	**62**	*i* P	Pn	17 44 34.8	+0.8
DHBB				*i* S	Sn	17 45 27.8	+3.5
LBOS		**4.77**	**74**	*i* P	Pn	17 44 40.0	-1.5
LBOS				*i* S	Sn	17 45 36.6	-1.0
BDHA	**Al Bayda'**	**5.09**	**74**	*i* S	Sn	17 45 44.6	-1.2

IDC 25 17:49:59.9±9.9, 11.89N×40.50E, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, MS3.5/1, Ms1 3.5/1, ms1mx3.0/18, Error ellipse: s-maj=216.9km s-min=46.4km az=19.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**13.32**	**194**	LR	LR	17 58 51.1	
	comp=Z,171nm,18.6s,baz=87,slow=40						
BRTR	**Keskin Array B**	**28.39**	**349**	P	P	17 55 56.5	-1.5
	1.1nm,0.9s,baz=180,slow=5.8,SNR=4.7						
GERES	**GERESS Array B**	**43.05**	**334**	P	P	17 58 01.1	-1.9
	1.2nm,1.0s,baz=135,slow=5.7,SNR=6.7						
MKAR	**Makanchi Array**	**49.45**	**37**	P	P	17 58 51.1	-2.6
	0.8nm,0.9s,baz=225,slow=2.0,SNR=4.1						
SONM	**Songino Array**	**65.13**	**43**	P	P	18 00 43.2	-1.6
	0.8nm,1.0s,baz=243,slow=6.4,SNR=4.5						

*IDC **25** 18:03:56.7±0.9, 17.47S×167.80E, mb4.3/9, mb1 4.4/11, mb1mx4.3/18, mbtmp4.4/11, ML4.4/2, MS4.1/11, Ms1 4.1/11, ms1mx3.9/21, Error ellipse: s-maj=27.5km s-min=19.4km az=86.0*
*LDG **25** 18:03:59.0±0.2, 17.46S×167.50E, h10km, Mb4.8/2, Error ellipse: s-maj=26.2km s-min=4.8km az=94.0*
*BJI **25** 18:04:01.2, 17.50S×167.80E, h30km, mB5.1, mb4.6*
*NEIC **25** 18:04:01.2±0.4, 17.54S×167.76E, h30km, mb4.7/9, Error ellipse: s-maj=12.1km s-min=9.4km az=79.0*

ISC 25 18:03:58.2±3.7, 17.63S±0.06×167.6E±0.1, h15km±21km, n110, σ1828/40, mb4.5/16, MS4.1/9, 28C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.54**	**193**	*e*P	**Pn**	**18 05 08.2**	**0.0**
DZM				*e*S	**Sn**	**18 05 60.0**	**-1.4**
DZM	**Mont Dzumac**	**4.54**	**193**	Pn	**Pn**	**18 05 08.0**	**-0.2**
	6.1nm,0.3s,baz=34,slow=14,SNR=28						
DZM				Sn	**Sn**	**18 05 59.7**	**-1.6**
	19nm,0.3s,baz=293,slow=22,SNR=8.4						
DZM				LR	LR	18 06 40.6	
	comp=Z,954nm,20.3s,baz=18,slow=34						
DZM	**Mont Dzumac**	**4.54**	**193**	*e*P	**Pn**	**18 05 08.2**	**0.0**
DZM				*e*S	**Sn**	**18 05 60.0**	**-1.4**
HNR	**Honiara**	**11.01**	**317**	Pn	**P**	**18 06 36.8**	**-1.6**
	6.4nm,0.3s,baz=268,slow=3.2,SNR=5.3						
HNR				LR	LR	18 10 22.1	
	comp=Z,986nm,18.8s,baz=291,slow=35						
HNR	**Honiara**	**11.01**	**317**	*e*P	**P**	**18 06 38.4**	**0.0**
	181nm,1.1s						
HNR				LR	LR	18 10 22.1	
CTA	**Charters Tower**	**20.32**	**260**	*e*P	**P**	**18 08 38.6**	**+2.0**
	10nm,1.0s						
CTA	**Charters Tower**	**20.32**	**260**	P	**P**	**18 08 38.4**	**+1.8**
	7.8nm,0.7s,baz=68,slow=14,SNR=6.8						
CTA				LR	LR	18 15 35.7	
	comp=Z,689nm,20.3s,MS4.0,baz=58,slow=34						
CTAO	**Charters Tower**	**20.32**	**260**	*e*P	**P**	**18 08 38.3**	**+1.7**
	18nm,1.0s						
PMG	**Port Moresby**	**21.44**	**290**	P	**P**	**18 08 48.1**	**-0.1**
	6.5nm,0.7s,mb4.1,baz=86,slow=18,SNR=2.4						
PMG				LR	LR	18 16 06.8	
	comp=Z,640nm,18.8s,MS4.0,baz=98,slow=34						
URZ	**Urewera**	**22.19**	**160**	P	**P**	**18 08 56.3**	**+0.8**
	9.7nm,0.8s,mb4.3,baz=22,slow=6.2,SNR=3.3						
RPZ	**Rata Peaks**	**26.17**	**174**	LR	LR	18 16 46.7	
	comp=Z,194nm,20.2s,MS3.6,baz=180,slow=29						
STKA	**Stephens Creek**	**27.43**	**234**	*e*P	**P**	**18 09 46.8**	**+1.3**
	6.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.43**	**234**	P	**P**	**18 09 47.2**	**+1.7**
	7.5nm,0.6s,mb4.4,baz=54,slow=7.3,SNR=20						
STKA				PcP	PcP	18 13 03.4	-1.1
	2.1nm,0.7s,baz=238,slow=2.5,SNR=4.1						
STKA				LR	LR	18 20 39.4	
	comp=Z,696nm,18.4s,MS4.3,baz=36,slow=36						
WB2	**Warramunga Arr**	**31.50**	**260**	*e*P	**P**	**18 10 21.4**	**-0.6**
WRAB	**Tennant Creek**	**31.50**	**260**	*e*P	**P**	**18 10 21.4**	**-0.6**
	7.1nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**31.52**	**260**	P	**P**	**18 10 21.8**	**-0.3**
	2.0nm,1.0s,mb3.9,baz=81,slow=6.0,SNR=21						
WRA				PcP	PcP	18 13 13.7	-1.3
	0.9nm,0.7s,baz=90,slow=2.5,SNR=6.4						
ASPA	**Alice Springs**	**32.02**	**253**	⇑*i*P	**P**	**18 10 26.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**39.85**	**263**	⇓*i*P	**P**	**18 11 35.1**	**+2.0**
	26nm,0.8s,mb5.0						
TBI	**Tubuai**	**40.54**	**105**	*e*S	**S**	**18 17 47.9**	**+0.8**
TBI				*e*LQ		18 21 08.8	
TBI				*e*LR	LR	18 22 40.0	
	300nm,29.8s						
PPT	**Papeete**	**40.78**	**97**	*e*S	**S**	**18 17 45.3**	**-5.4**
PPT				*e*LR	LR	18 23 10.8	
	490nm,25.2s,baz=258						
PPT	**Papeete**	**40.78**	**97**	LR	LR	18 24 14.1	
	comp=Z,204nm,18.5s,MS4.0,baz=227,slow=30						
VNDA	**Vanda**	**59.99**	**181**	*e*P	**P**	**18 14 03.1**	**-3.0**
	9.9nm,1.6s,mb4.6						
SBA	**Scott Base**	**60.26**	**180**	*e*P	**P**	**18 14 07.6**	**-0.4**
	13nm,1.2s,mb4.8						
MJAR	**Matsushiro Arr**	**60.60**	**333**	P	**P**	**18 14 08.6**	**-2.2**
	3.1nm,0.8s,mb4.5,baz=167,slow=9.7,SNR=11						
YSS	**Yuzh-Sakhalins**	**68.06**	**342**	P	**P**	**18 14 55.8**	**-3.6**
	25nm,1.0s,mb5.2						
MDJ	**Mudanjiang**	**70.96**	**332**	P	**P**	**18 15 15.8**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,104nm,7.0s						
CN2	**Changchun**	**72.27**	**329**	*e*P	**P**	**18 15 25.8**	**+0.8**
QSPA	**South Pole Qui**	**72.42**	**180**	⇑*i*P	**P**	**18 15 25.1**	**-0.2**
MAW	**Mawson**	**79.32**	**202**	P	**P**	**18 16 05.5**	**+1.0**
	comp=Z,1.1nm,0.6s,mb3.9,baz=62,slow=10,SNR=2.9						
MAW				LR	LR	18 46 37.6	
	comp=Z,117nm,19.4s,MS4.2,baz=241,slow=32						
MAW	**Mawson**	**79.32**	**202**	*e*P	**P**	**18 16 02.9**	**-1.6**
MAW				LR	LR	18 46 37.6	
YAK	**Yakutsk**	**84.87**	**343**	*e*P	**P**	**18 16 31.9**	**-1.4**
	comp=Z,20nm,0.8s,mb5.3						
YAK				*e*	pP	18 16 38.3	+0.2
GTA	**Gaotai**	**84.87**	**314**	*e*P	**P**	**18 16 36.0**	**+2.1**
GTA				AP	pP	18 16 43.5	+4.9
GTA				XP	sP	18 16 46.5	+6.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.5						
SONM	**Songino Array**	**84.99**	**324**	P	**P**	**18 16 35.0**	**+0.7**
	comp=Z,8.7nm,1.1s,mb4.8,baz=140,slow=4.2,SNR=36						
VNA3	**Neumayer Olymp**	**91.34**	**181**		**P**	**18 17 06.0**	**+1.9**
VNA3	**Neumayer Olymp**	**91.34**	**181**		**P**	**18 17 15.6**	**+11**
VNA2	**Neumayer--Watz**	**91.61**	**182**		**P**	**18 17 07.6**	**+2.2**
VNA2	**Neumayer--Watz**	**91.61**	**182**		**P**	**18 17 17.3**	**+12**
VNA2	**Neumayer--Watz**	**91.61**	**182**		**P**	**18 17 24.4**	**+19**
PDAR	**Pinedale Array**	**96.69**	**47**	LR	LR	18 56 40.3	
	comp=Z,59nm,18.1s,MS4.1,baz=262,slow=33						
TXAR	**Lajitas Array**	**97.40**	**62**	LR	LR	18 58 53.1	
	comp=Z,77nm,18.0s,MS4.2,baz=225,slow=34						
MKAR	**Makanchi Array**	**99.48**	**316**	P	**P**	**18 17 42.4**	**+0.5**
	comp=Z,0.2nm,0.7s,mb3.8,baz=146,slow=5.2,SNR=3.1						
YKA	**Yellowknife Ar**	**99.97**	**27**	LR	LR	18 59 27.6	
	comp=Z,65nm,18.8s,MS4.2,baz=260,slow=33						
ARCES	**ARCESS Array B**	**123.11**	**345**	PKP	PKPdf	18 22 52.7	-4.8
	comp=Z,1.7nm,0.6s,slow=1.2,SNR=5.8						
ARCES	**ARCESS Array B**	**123.11**	**345**	PKP	PKPdf	18 22 52.7	-4.8
AKASG	**Malin Array Be**	**133.26**	**325**	PKP	PKPdf	18 23 13.9	-3.4
	comp=Z,0.3nm,0.3s,baz=51,slow=1.3,SNR=4.1						
GERES	**GERESS Array B**	**142.33**	**332**	PKhKP		18 23 25.6	
	comp=Z,0.8nm,0.7s,baz=27,slow=3.0,SNR=6.2						
GRA1	**Grafenberg Arr**	**142.76**	**334**	*e*PKP	PKPdf	18 23 28.7	-5.9
LJU	**Ljubljana**	**143.90**	**328**	*e*PKPbc	PKPbc	18 23 32.1	-0.1
VISS	**Visnje**	**143.90**	**327**	*e*PKPbc	PKPbc	18 23 32.0	-0.2
ABH	**Alteburg**	**144.03**	**338**	PKP	PKPdf	18 23 32.3	-4.4
CEY	**Cerknica**	**144.16**	**327**	*e*PKPbc	PKPbc	18 23 32.4	-0.5
LANF	**Langenberg**	**144.68**	**337**	PKP	PKPdf	18 23 34.7	-3.2
WLF	**Walferdange**	**144.70**	**339**	*e*P	PKPbc	18 23 34.1	-0.2
GIVF	**Givet**	**144.76**	**341**	*e*PKP1	PKPbc	18 23 33.9	-0.5
BIAF	**Baives**	**144.99**	**341**	⇑*i*PKP1	PKPbc	18 23 34.8	-0.3
	comp=Z,11nm,0.7s						
WLS	**Welschbruch**	**145.32**	**337**	PKP	PKPdf	18 23 36.6	-2.4
CDF	**Champ du Feu**	**145.35**	**337**	⇑*i*PKP1	PKPbc	18 23 36.3	+0.3
	comp=Z,68nm,0.8s						
LIBD	**Limburg**	**145.44**	**336**	PKP	PKPdf	18 23 37.1	-2.2
FELD	**Feldberg**	**145.50**	**335**	PKP	PKPdf	18 23 37.1	-2.3
ECH	**Echery**	**145.55**	**337**	PKP	PKPdf	18 23 37.1	-2.4
DAVOX	**Davos**	**145.58**	**333**	PKPbc	PKPbc	18 23 37.6	+1.0
	comp=Z,17nm,0.9s,baz=326,slow=1.6,SNR=16						
MOF	**Molkenrain**	**145.86**	**336**	PKP	PKPdf	18 23 38.1	-1.9
HAU	**Haudompre**	**146.03**	**337**	⇑*i*PKP1	PKPbc	18 23 38.3	+0.6
MEZF	**Maizieres J'vi**	**146.07**	**339**	⇑*i*PKP1	PKPbc	18 23 38.8	+1.0
	comp=Z,99nm,1.2s						
LOMF	**Lomont**	**146.39**	**336**	PKP	PKPdf	18 23 40.1	-0.8
AQU	**L'Aquila**	**146.96**	**324**	*e*PKPbc	PKPbc	18 23 41.0	+1.0
CABF	**La Chapelle**	**147.29**	**336**	⇑*i*PKP1	PKPdf	18 23 42.4	0.0
	comp=Z,32nm,0.9s						
FLN	**La Foliniere**	**147.46**	**345**	⇑*i*PKP1	PKPdf	18 23 41.9	-0.7
	comp=Z,18nm,0.9s						
LDF	**La Druitiere**	**147.53**	**345**	⇑*i*PKP1	PKPdf	18 23 42.1	-0.6
	comp=Z,26nm,0.9s						
LOR	**Lormes**	**147.54**	**339**	⇑*i*PKP1	PKPdf	18 23 42.6	-0.2
	comp=Z,20nm,0.8s						
SSF	**Saint Saulge**	**147.84**	**339**	⇑*i*PKP1	PKPdf	18 23 43.5

ANTU				AMP		18 08 38.3	
	comp=N,268nm,0.4s						
CLCH	**Cerro Calan**	**1.26**	**96**⇓	*i*P	Pb	18 08 15.4	-1.0
CLCH				*i* S	Sb	18 08 32.6	+0.4
CLCH				AMP		18 08 42.2	
	comp=N,240nm,0.4s						
PCH	**Pirque**	**1.32**	**106**	*e*P	Pb	18 08 16.4	-1.0
PCH				*i* S	Sb	18 08 34.6	+0.7
CHCH	**Chadas Angostu**	**1.33**	**120**⇓	*i*P	Pn	18 08 16.5	-1.1
JACH	**Jahuel**	**1.35**	**65**⇓	*i*P	Pn	18 08 16.7	-1.0
JACH				*e*S	Sb	18 08 34.4	-0.3
FCH	**Farellones**	**1.46**	**93**⇑	*i*P	Pn	18 08 18.9	-0.6
FCH				*i* S	Sb	18 08 38.6	+0.5
FCH				AMP		18 08 44.8	
	comp=E,298nm,0.2s						
CACH	**El Canelo**	**1.47**	**126**⇑	*i*P	Pn	18 08 19.3	-0.1
CACH				*i* S	Sb	18 08 39.2	+1.0
SFDO	**San Fernando**	**1.59**	**148**⇓	*i*P	Pn	18 08 21.0	-0.3
CICH	**Cipreses**	**1.71**	**128**⇑	*i*P	Pn	18 08 23.0	+0.1
CICH				*i* S	Sn	18 08 44.4	-0.2

*ATH **25** 18:11:34.0,37.12N×21.43E,h18km±1km, MD3.5/7, ML3.5*
*NEIC **25** 18:11:34.4,37.12N×21.46E,h19km, ML3.5(ATH), After ATH.*
*CSEM **25** 18:11:34.5±0.1,37.12N×21.43E,h2km, ML3.5, Error ellipse: s-maj=2.3km s-min=1.3km az=20.0*
*THE **25** 18:11:37.6,37.07N×21.49E,h20km*
ISC 25 18:11:35.7±0.7,37.13N±0.04×21.49E±0.06,h19km,n35,
σ1§05/40,1D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.35**	**82**	⇓*i*PB		**Pb**	**18 11 42.4**	**-0.8**
ITM				*e*SB		**Sb**	**18 11 48.0**	**-0.2**
RLS	**Riolos of Patr**	**0.93**	**359**	*e*PN		**Pn**	**18 11 52.1**	**-1.6**
VLI	**Veliai**	**1.23**	**109**	*e*PN		**Pn**	**18 11 58.5**	**+0.4**
VLS	**Valsamata**	**1.27**	**326**	*e*PN		**Pn**	**18 11 57.6**	**-1.0**
VLS				*e*SN		**Sn**	**18 12 15.7**	**+0.5**
VLS	**Valsamata**	**1.27**	**326**	*e*Pb		**Pn**	**18 11 57.6**	**-1.0**
VLS				*e*Sn		**Sn**	**18 12 17.5**	**+2.3**
KYTH	**Kithira**	**1.50**	**124**	*e*PN		**Pn**	**18 12 03.0**	**+1.0**
MGER	**Gerania Oros**	**1.64**	**58**	*e*PN		**Pn**	**18 12 05.0**	**+1.0**
LKD	**Levkas**	**1.71**	**337**	*e*Pb		**Pb**	**18 12 05.5**	**-0.8**
NSAL	**Nisos Salamina**	**1.75**	**63**	*e*PB		**Pb**	**18 12 05.6**	**-1.4**
NSAL	**Nisos Salamina**	**1.75**	**63**	*e*Pb		**Pb**	**18 12 05.5**	**-1.5**
LKR	**Lokris**	**1.93**	**38**	*e*PN		**Pn**	**18 12 09.3**	**+1.2**
ATH	**Athens Observa**	**1.96**	**64**	*e*PB		**Pb**	**18 12 08.6**	**-1.9**
AGG	**Agios Georgios**	**2.00**	**19**	*e*Pn		**Pn**	**18 12 10.8**	**+1.7**
AGG				*e*Sn		**Sn**	**18 12 35.5**	**+1.7**
NEO	**Neokhori**	**2.56**	**32**	*e*PB		**Pb**	**18 12 18.0**	**-2.9**
XOR	**Xorichti**	**2.60**	**30**	*e*Pn		**Pn**	**18 12 18.7**	**+1.0**
MEV	**Metsovon**	**2.66**	**356**	*e*Pn		**Pn**	**18 12 19.8**	**+1.3**
AOS	**Alonnisos**	**2.77**	**42**	*e*Pn		**Pn**	**18 12 20.1**	**-0.1**
AOS	**Alonnisos**	**2.77**	**42**	*e*Pn		**Pn**	**18 12 20.0**	**-0.1**
VAM	**Vamos**	**2.78**	**127**	*e*PN		**Pn**	**18 12 20.8**	**+0.5**
KEK	**Kerkira**	**2.90**	**333**	*e*PN		**Pn**	**18 12 21.4**	**-0.6**
LIT	**Litokhoron**	**3.07**	**14**	*e*Pn		**Pn**	**18 12 25.4**	**+1.1**
GVD	**Gavdhos**	**3.11**	**137**	*e*P		**Pn**	**18 12 26.5**	**+1.6**
GVD	**Gavdhos**	**3.11**	**137**	*e*P		**Pn**	**18 12 26.5**	**+1.6**
THR5	**Thira Island,**	**3.18**	**102**	*e*Pn		**Pn**	**18 12 25.5**	**-0.4**
SANT	**Santorini**	**3.27**	**102**	*e*P		**Pn**	**18 12 26.7**	**-0.6**
SANT	**Santorini**	**3.27**	**102**	*e*P		**Pn**	**18 12 26.7**	**-0.6**
THR1	**Thera Island**	**3.27**	**102**	*e*Pn		**Pn**	**18 12 26.8**	**+0.5**
FNA	**Florina**	**3.65**	**359**	*e*Pn		**Pn**	**18 12 32.3**	**-0.2**
OUR	**Ouranopolis**	**3.74**	**31**	*e*Pn		**Pn**	**18 12 33.3**	**-0.6**
GRG	**Griva**	**3.88**	**10**	*e*Pn		**Pn**	**18 12 35.5**	**-0.5**
SOH	**Sokhos**	**3.96**	**21**	*e*Pn		**Pn**	**18 12 37.6**	**+0.6**
KNT	**Kendrikon**	**4.17**	**15**	*e*Pn		**Pn**	**18 12 40.2**	**+0.2**
KNT				*e*Sn		**Sn**	**18 13 28.8**	**0.0**
TIP	**Timpagrande**	**4.25**	**300**	*e*P		**Pn**	**18 12 40.0**	**-1.2**
SRS	**Serrai**	**4.30**	**22**	*e*Pn		**Pn**	**18 12 41.3**	**-0.6**
SKO	**Skopje**	**4.83**	**360**	*e*Pn		**Pn**	**18 12 43.0**	**-6.4**

*NEIC **25** 18:12:55.8,27.98S×70.68W,h61km, After GUC.*
GUC 25 18:12:55.8±0.4,27.98S×70.68W,h61km±18km,ML3.6,
1C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.68**	**26**⇑	*i*P		P	18 13 10.1	+0.1
CPCH				*i* S		S	18 13 21.1	+0.5
CPCH				AMP			18 13 21.4	
	comp=N,37μm,0.1s							
CDCH	**Caldera**	**0.91**	**352**⇓	*i*P		P	18 13 12.9	+0.1
CDCH				*i* S		S	18 13 25.9	+0.2
CDCH				AMP			18 13 28.4	
	comp=N,71nm,0.2s							
TLL	**Tololo Astrono**	**2.19**	**183**⇓	*i*P		P	18 13 31.1	+0.5
TLL				*i* S		S	18 13 57.6	+1.2
TLL				AMP			18 14 02.4	
	comp=N,259nm,0.3s							
CMCH	**Combarbala**	**3.20**	**185**	*e*P		P	18 13 43.9	-1.0
CMCH				AMP			18 14 43.3	
	comp=N,302nm,0.9s							
CMCH				AMP			18 14 48.2	
	comp=E,370nm,0.6s							

*IDC **25** 18:16:58.9±14.0, 12.29N×40.58E, mb3.6/4, mb1 3.6/4, mb1mx3.5/17, mbtmp3.6/4, MS3.8/2, Ms1 3.8/2, ms1mx3.2/25, Error ellipse: s-maj=295.2km s-min=62.3km az=28.0*
*DHMR **25** 18:17:03.3±2.4, 12.63N×40.52E, h10km, ML3.8*
ISC 25 18:16:56.1±2.0,11.9N±0.3×40.45E±0.10,h10km,n10,
σ1§29/10,mb3.6/4,MS4.5/1,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.99**	**59**	*i* S		**Sn**	**18 18 48.2**	**+2.1**
UDYN				AML		AML	18 19 06.5	
	comp=Z,393nm,0.8s							
DHBB	**Dhamar BB**	**4.66**	**55**	*i* P		**Pn**	**18 18 10.6**	**+2.4**
DHBB				*i* S		**Sn**	**18 19 02.8**	**-0.2**
LBOS		**5.07**	**67**	*i* P		**Pn**	**18 18 15.3**	**+1.3**
LBOS				*i* S		**Sn**	**18 19 11.8**	**-1.5**
BDHA	**Al Bayda'**	**5.39**	**67**	*i* S		**Sn**	**18 19 19.9**	**-1.6**
KMBO	**Kilima Mbogo**	**13.34**	**194**	LR		LR	18 24 58.7	
	comp=Z,93nm,18.6s,baz=84,slow=35							
BRTR	**Keskin Array B**	**28.35**	**349**	P		**P**	**18 22 51.9**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.5,baz=176,slow=19,SNR=5.9							
BVAR	**Borovoye Array**	**47.48**	**24**	P		**P**	**18 25 32.3**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=207,slow=3.3,SNR=3.9							
MKAR	**Makanchi Array**	**49.46**	**37**	P		**P**	**18 25 47.6**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=256,slow=5.0,SNR=5.1							
SONM	**Songino Array**	**65.14**	**43**	P		**P**	**18 27 39.8**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.6,baz=254,slow=7.4,SNR=4.7							
SCHQ	**Schefferville**	**90.05**	**326**	LR		LR	19 14 05.7	
	comp=Z,165nm,18.7s,MS4.5,baz=297,slow=38							

*IDC **25** 18:41:08.6±0.8,27.84S×176.69W,mb4.3/10, mb1 4.5/10, mb1mx4.5/13, mbtmp4.3/10, MS3.9/5, Ms1 3.9/5, ms1mx3.4/26, Error ellipse: s-maj=33.6km s-min=21.9km az=164.0*
*BJI **25** 18:41:14.0,27.70S×176.70W,h34km, mB5.2, mb4.8, Ms4.8, Msz4.5*
*NEIC **25** 18:41:14.1±5.5,27.74S×176.73W,h34km±37km,mb4.8/3, Error ellipse: s-maj=16.0km s-min=12.0km az=224.0*
ISC 25 18:41:12.7±0.6,27.64S±0.07×176.8W±0.1,h33km,n47,
σ1§03/34,mb4.4/15,MS3.9/4,2C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.90**	**212**	Pn		**Pn**	**18 41 44.1**	**+0.6**
	382nm,0.3s,baz=306,slow=2.8,SNR=18							
RAO				Sn		**Sn**	**18 42 07.6**	**+1.2**
	821nm,0.3s,baz=90,slow=22,SNR=10							
RAO	**Raoul Island**	**1.90**	**212**	*e*P		**P**	**18 41 43.2**	**0.0**
URZ	**Urewera**	**11.77**	**204**	Pn		**P**	**18 43 51.2**	**-10**
	0.6nm,0.3s,baz=303,slow=8.4,SNR=7.7							
URZ				Sn		**S**	**18 45 58.7**	**-14**
	3.3nm,0.3s,baz=195,slow=18,SNR=11							
AFI	**Afiamalu**	**14.43**	**20**	Pn		**P**	**18 44 31.5**	**-5.2**
	1.8nm,0.3s,baz=213,slow=21,SNR=2.6							
AFI	**Afiamalu**	**14.43**	**20**	*e*P		**P**	**18 44 30.9**	**-5.8**
AFI				*e*S		**S**	**18 47 06.3**	**-10**
DZM	**Mont Dzumac**	**16.21**	**286**	LR		LR	18 50 05.8	
	comp=Z,464nm,19.2s,baz=297,slow=33							

RPZ	**Rata Peaks**	**18.81**	**208**	P		**P**	**18 45 24.8**	**-7.2**
	0.8nm,0.3s,baz=25,slow=12,SNR=4.4							
TBI	**Tubuai**	**24.99**	**86**	*e*LQ			18 51 10.4	
TBI				*e*LR		LR	18 52 08.4	
PPT	**Papeete**	**26.98**	**74**	*e*LQ			18 51 51.3	
PPT				*e*LR		LR	18 52 59.3	
	224nm,30.2s							
HNR	**Honiara**	**28.46**	**305**	LR		LR	18 57 13.1	
	comp=Z,232nm,19.0s,MS3.8,baz=128,slow=34							
CTA	**Charters Tower**	**34.55**	**274**	P		**P**	**18 47 59.9**	**-0.4**
	3.9nm,0.3s,mb4.8,baz=85,slow=8.8,SNR=7.4							
STKA	**Stephens Creek**	**36.23**	**253**	P		**P**	**18 48 12.0**	**-2.6**
	3.1nm,0.8s,mb4.3,baz=117,slow=10,SNR=2.9							
STKA				LR		LR	18 59 49.5	
	comp=Z,189nm,20.3s,MS3.9,baz=27,slow=31							
STKA	**Stephens Creek**	**36.23**	**253**	*e*P		**P**	**18 48 15.4**	**+0.8**
STKA				LR		LR	18 59 49.5	
WB2	**Warramunga Arr**	**45.15**	**269**	*i*P		**P**	**18 49 27.5**	**-0.7**
WRAB	**Tennant Creek**	**45.15**	**269**	*e*P		**P**	**18 49 27.1**	**-1.1**
	11nm,1.1s,mb4.6							
WRA	**Warramunga Arr**	**45.16**	**269**	P		**P**	**18 49 27.6**	**-0.7**
	2.3nm,0.5s,mb4.3,baz=110,slow=6.6,SNR=47							
KAKA	**Kakadu**	**49.60**	**277**	*e*P		**P**	**18 50 21.6**	**+18**
	3.5nm,0.5s,mb4.7							
FITZ	**Fitzroy Crossi**	**53.51**	**267**	P		**P**	**18 50 31.7**	**-0.8**
	6.6nm,0.8s,mb4.6,baz=149,slow=6.5,SNR=8.5							
CASY	**Casey**	**58.08**	**207**	*e*P		**P**	**18 51 01.9**	**-2.8**
	8.4nm,0.7s,mb4.9							
MAW	**Mawson**	**75.26**	**200**	P		**P**	**18 52 53.0**	**-0.5**
	1.5nm,0.9s,mb3.9,baz=86,slow=12,SNR=3.7							
MAW				LR		LR	19 26 22.1	
	comp=Z,98nm,19.4s,MS4.1,baz=247,slow=36							
JOW	**Kunigami**	**75.64**	**311**	LR		LR	19 23 49.2	
	comp=Z,53nm,19.4s,MS3.9,baz=169,slow=34							
MJAR	**Matsushiro Arr**	**76.62**	**324**	P		**P**	**18 53 02.7**	**+0.8**
	6.6nm,0.9s,mb4.6,baz=161,slow=5.9,SNR=14							
MJAR	**Matsushiro Arr**	**76.62**	**324**	P		**P**	**18 53 02.7**	**+0.8**
MAT	**Matsushiro**	**76.62**	**324**	P		**P**	**18 53 02.4**	**+0.5**
MAT	**Matsushiro**	**76.62**	**324**	*e*P		**P**	**18 53 02.0**	**+0.1**
	10.0nm,1.0s,mb4.7							
SYO	**Syowa Base**	**80.03**	**193**	⇑pP		**P**	**18 53 20.5**	**+0.5**
VNA3	**Neumayer Olymp**	**80.97**	**176**			**P**	**18 53 24.5**	**-0.4**
VNA3	**Neumayer Olymp**	**80.97**	**176**			**P**	**18 53 31.2**	**+6.3**
VNA2	**Neumayer--Watz**	**81.42**	**176**			**P**	**18 53 27.7**	**+0.4**
VNA2	**Neumayer--Watz**	**81.42**	**176**			**P**	**18 53 33.7**	**+6.4**
PLCA	**Paso Flores**	**83.59**	**133**	P		**P**	**18 53 38.0**	**-1.0**
	1.0nm,0.8s,mb4.0,baz=231,slow=6.5,SNR=3.0							
MDJ	**Mudanjiang**	**86.98**	**325**	P		**P**	**18 53 58.0**	**+2.3**
MDJ				AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,117nm,6.0s							
TIA	**Tai'an**	**88.90**	**312**	*e*P		**P**	**18 54 07.0**	**+1.9**
TXAR	**Lajitas Array**	**89.98**	**57**	P		**P**	**18 54 10.3**	**-0.1**
	comp=Z,0.7nm,1.1s,mb3.9,baz=220,slow=7.0,SNR=3.5							
PDAR	**Pinedale Array**	**93.39**	**43**	P		**P**	**18 54 26.1**	**+0.3**
	comp=Z,0.6nm,0.7s,mb4.1,baz=180,slow=1.5,SNR=5.0							
ILAR	**Eielson Array**	**95.01**	**12**	P		**P**	**18 54 32.7**	**+0.1**
	comp=Z,0.9nm,0.7s,mb4.3,baz=221,slow=5.0,SNR=10							
MKAR	**Makanchi Array**	**116.81**	**311**	PKP		PKPdf	18 59 54.1	+0.4
	comp=Z,0.8nm,0.7s,baz=67,slow=2.3,SNR=7.2							
BVAR	**Borovoye Array**	**125.16**	**317**	PKP		PKPdf	19 00 10.6	+0.9
	comp=Z,1.4nm,0.7s,baz=90,slow=3.0,SNR=9.5							
ARCES	**ARCESS Array B**	**136.12**	**349**	PKP		PKPdf	19 00 32.4	+2.4
	comp=Z,2.8nm,0.7s,slow=1.2,SNR=5.8							
ARCES	**ARCESS Array B**	**136.12**	**349**	PKP		PKPdf	19 00 32.4	+2.4
FINES	**FINESS Array B**	**142.90**	**342**	PKhKP			19 00 39.9	
	comp=Z,0.4nm,0.4s,baz=25,slow=2.0,SNR=6.1							
NB2	**NORSAR Subarra1**	**46.17**	**353**	PKPabc		PKPdf	19 00 50.2	+2.3
	comp=Z,3.4nm,0.7s,baz=9,0,slow=2.9							
NOA	**NORSAR Array B**	**146.17**	**353**	PKPbc		PKPbc	19 00 50.5	+1.4
	comp=Z,7.3nm,0.9s,baz=15,slow=4.5,SNR=15							
MALT	**Malatya**	**148.78**	**299**	*e*PKPbc		PKPdf	19 00 58.2	+5.3
AKASG	**Malin Array Be**	**149.68**	**326**	PKPbc		PKPdf	19 00 59.1	+5.1
	comp=Z,4.5nm,0.7s,baz=47,slow=3.0,SNR=20							
BRTR	**Keskin Array B**	**152.11**	**303**	PKPbc		PKPdf	19 01 06.5	+8.5
	comp=Z,0.6nm,0.7s,baz=143,slow=6.2,SNR=3.7							
BRTR				PKPab		PKPab	19 01 17.0	+0.4
	comp=Z,2.6nm,0.9s,baz=162,slow=3.9,SNR=4.4							
CLL	**Collm**	**155.24**	**345**	*e*PKP2		PKPab	19 01 33.0	+3.7

*NEIC **25** 18:59:56.4, 19.75N×66.84W,h40km, MD3.8(RSPR), After RSPR.*
RSPR 25 18:59:56.4,19.75N×66.84W,h40km±14km,MD3.8/9,
MD3.8/9,9C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.30**	**191**⇑	*e*P		P	19 00 17.0	-1.5
AGPR				*e*S		S	19 00 33.0	-2.0
LSP	**Las Mesas**	**1.58**	**188**⇑	*e*P		P	19 00 21.3	-1.1
LSP				*e*S		S	19 00 40.4	-1.5
CELP	**Cerrillos**	**1.69**	**171**⇑	*i*P		P	19 00 22.3	-1.6
CELP				*e*S		S	19 00 42.5	-2.1
CBYP	**Canovanas**	**1.75**	**147**⇑	*e*P		P	19 00 23.0	-1.7
CBYP				*e*S		S	19 00 43.8	-2.1
CRPR	**Cabo Rojo, PR**	**1.76**	**188**⇑	*e*P		P	19 00 23.1	-1.8
CRPR				*e*S		S	19 00 44.1	-2.1
SJG	**San Juan**	**1.76**	**158**⇑	*e*P		P	19 00 23.7	-1.2
SJG				*e*S		S	19 00 44.5	-1.8
SJG	**San Juan**	**1.76**	**158**⇑	*e*P		P	19 00 23.5	-1.4
SJG				*e*S		S	19 00 44.5	-1.8
HUMP	**Col San Antoni**	**1.86**	**149**⇑	*e*P		P	19 00 24.9	-1.5
HUMP				*e*S		S	19 00 47.3	-1.5
ICM	**Isla Caja Muer**	**1.88**	**171**⇑	*e*P		P	19 00 25.4	-1.2
ICM				*e*S		S	19 00 47.6	-1.6
MTP	**Monte Pirata**	**2.05**	**143**⇑	*e*P		P	19 00 27.2	-1.9
MTP				*e*S		S	19 00 51.7	-1.9

*CSEM **25** 19:09:23.0±0.1, 36.81N×28.21E, h88km±2km, MD3.4, Error ellipse: s-maj=3.3km s-min=2.6km az=65.0*
*ATH **25** 19:09:24.7, 36.84N×28.08E, h88km±3km*
*ISK **25** 19:09:25.4, 36.82N×28.07E, h67km, MD3.4*
*HLW **25** 19:09:27.5, 36.52N×28.23E, h32km, Mb3.9*
ISC 25 19:09:23.8±0.3,36.79N±0.02×28.11E±0.04,h95km±5km,
n51,σ1§01/72,13C-7D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.37**	**22**	*i* PG		**P**	**19 09 38.2**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.42**	**92**	*i* PG		**P**	**19 09 38.2**	**-0.5**
DALT				*i* SG		**S**	**19 09 46.9**	**-2.9**
ARG	**Arkhangelos**	**0.57**	**179**⇑	*i*P		**P**	**19 09 41.2**	**+1.4**
ARG				*e*S		**S**	**19 09 52.6**	**+0.8**
MLSB	**Milas**	**0.57**	**332**	PG		**P**	**19 09 39.4**	**-0.4**
BDRM	**Kayabasi**	**0.60**	**298**	*i* P		**P**	**19 09 40.3**	**+0.2**
BDRM				*i* S		**S**	**19 09 50.2**	**-2.0**
BODT	**Bodrum**	**0.70**	**293**	PG		**P**	**19 09 40.1**	**-0.9**
BODT				SG		**S**	**19 09 50.7**	**-3.0**
NISR	**Nisiros**	**0.81**	**258**	*e*P		**P**	**19 09 43.0**	**+0.9**
AYDN	**Tasoluk**	**0.89**	**348**	*i* P		**P**	**19 09 43.8**	**+0.9**
AYDN				*i* S		**S**	**19 09 56.0**	**-1.1**
DNZL	**Cakiroluk**	**1.17**	**39**	*i* P		**P**	**19 09 47.2**	**+1.0**
DNZL				*i* S		**S**	**19 10 00.9**	**-2.0**
DENT	**Denizli**	**1.21**	**37**	PN		**P**	**19 09 47.1**	**+0.3**
GOLH	**Golhisar**	**1.25**	**68**	*i* P		**P**	**19 09 48.0**	**+0.9**
GOLH				*i* S		**S**	**19 10 05.0**	**+0.5**
AKAS	**Kas**	**1.33**	**114**	*i* P		**P**	**19 09 48.6**	**+0.6**
AKAS				*i* S		**S**	**19 10 06.3**	**+0.2**
KSL	**Kastellorizon**	**1.35**	**118**	*e*P		**P**	**19 09 50.0**	**+1.7**
SMG	**Samos**	**1.37**	**313**	*e*P		**P**	**19 09 49.0**	**+0.4**
SMG				*e*S		**S**	**19 10 06.7**	**-0.3**
ELL	**Elmali**	**1.45**	**91**	PN		**P**	**19 09 51.5**	**+1.9**
KARP	**Karpathos**	**1.46**	**212**⇓	*i*P		**P**	**19 09 51.6**	**+1.9**
KARP				*e*S		**S**	**19 10 10.3**	**+1.4**
MANT	**Manisa**	**1.74**	**12**	*i* P		**P**	**19 09 54.2**	**+1.0**
MANT				*i* S		**S**	**19 10 11.7**	**-3.3**
IZM	**Izmir**	**1.74**	**338**	PN		**P**	**19 09 54.2**	**+0.9**
KDAG	**Bornova**	**1.75**	**338**	*i* P		**P**	**19 09 53.3**	**-0.1**
KDAG				*i* S		**S**	**19 10 13.6**	**-1.6**
BLCB	**Balcova**	**1.81**	**332**	PN		**P**	**19 09 54.9**	**+0.8**
KHL	**Karahalli**	**1.90**	**36**	PN		**P**	**19 09 56.5**	**+1.1**
URLA	**Izmir**	**1.98**	**323**	*i* P		**P**	**19 09 56.6**	**+0.3**
URLA				*i* S		**S**	**19 10 20.8**	**+0.4**
APE	**Apeiranthos**	**2.08**	**278**	*e*PN		**P**	**19 09 58.2**	**+0.4**
APE	**Apeiranthos**	**2.08**	**278**	*e*P		**P**	**19 09 58.5**	**+0.7**
BCK	**Bucak**	**2.09**	**71**	*e*PN		**P**	**19 09 59.9**	**+1.9**
AKS	**Akhisar**	**2.10**	**354**	*e*PN		**P**	**19 09 58.8**	**+0.7**
TKTP	**Tekketepe**	**2.16**	**54**	*i* P		**P**	**19 09 59.3**	**+0.4**
TKTP				*i* S		**S**	**19 10 17.2**	**-7.7**
GDZ	**Gediz**	**2.54**	**25**	*i* P		**P**	**19 10 04.5**	**+0.4**

GDZ				*i* S		**S**	**19 10 32.9**	**-1.4**
ALT	**Altintas**	**2.76**	**34**	*e*PN		**P**	**19 10 08.1**	**+0.9**
BALB	**Balikesir**	**2.85**	**356**	*e*PN		**P**	**19 10 09.2**	**+0.7**
ESKT	**Eskisehir**	**3.48**	**38**	*i* P		**P**	**19 10 17.2**	**+0.1**
ESKT				*i* S		**S**	**19 10 55.8**	**-1.5**
DABA	**Dabaa**	**5.76**	**179**⇑	*e*P		**P**	**19 10 47.8**	**-0.5**
SLUM		**5.80**	**205**⇑	*e*P		**P**	**19 10 49.2**	**+0.4**
SLUM				S		**S**	**19 11 48.8**	**-5.9**
HBRG	**Burj al 'Arab**	**6.36**	**166**	⇓P		**P**	**19 10 55.8**	**-0.8**
HMYD	**Mayadein**	**7.33**	**161**	⇑P		**P**	**19 11 08.8**	**-1.0**
HNAT	**Natroun**	**7.44**	**163**	⇓P		**P**	**19 11 10.5**	**-0.9**
AMAG	**Maghara**	**7.46**	**144**⇑	*e*P		**P**	**19 11 10.5**	**-1.1**
FYM	**Al Fayyum**	**7.49**	**160**	⇑P		**P**	**19 11 11.7**	**-0.4**
AYT	**Al 'Ayyat**	**7.51**	**159**	⇑P		**P**	**19 11 11.3**	**-1.0**
KOT	**Kottamia**	**7.52**	**154**⇓	*e*P		**P**	**19 11 11.9**	**-0.5**
KOT				S		**S**	**19 12 27.1**	**-10**
KOT	**Kottamia**	**7.52**	**154**	P		**P**	**19 11 11.9**	**-0.5**
HHAG	**Hagoal**	**7.59**	**153**	⇑P		**P**	**19 11 13.0**	**-0.4**
HSAF	**As Saff**	**7.71**	**157**	⇑P		**P**	**19 11 14.1**	**-1.0**
SWA1		**7.77**	**196**⇓	*e*P		**P**	**19 11 15.5**	**-0.4**
SWA1				S		**S**	**19 12 34.6**	**-8.3**
GLL	**Jalalah**	**7.80**	**156**⇑	*e*P		**P**	**19 11 15.6**	**-0.7**
SWA2		**7.85**	**197**⇑	*e*P		**P**	**19 11 16.6**	**-0.3**
SWA2				S		**S**	**19 12 37.0**	**-7.8**
SWA2		**7.85**	**197**	P		**P**	**19 11 16.6**	**-0.3**
ZNM		**8.40**	**150**⇑	*e*P		**P**	**19 11 24.2**	**-0.3**
HNKL	**Nakhl**	**8.42**	**143**	⇓P		**P**	**19 11 24.1**	**-0.5**
HNKL				S		**S**	**19 12 49.9**	**-8.9**
HFRF	**Wahat Farafira**	**9.61**	**179**⇓	*e*P		**P**	**19 11 40.6**	**-0.2**
HKAT	**Jabal Katrina**	**9.62**	**147**	⇑P		**P**	**19 11 40.4**	**-0.5**

DHMR 25 19:14:53.8±3.0,12.69N×40.55E,h5km±362km,ML3.7,
Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.56**	**69**	*i* S		Sn	19 16 38.2	+4.3
UDYN				AML		AML	19 16 59.2	
	comp=N,291nm,0.5s							
DHBB	**Dhamar BB**	**4.18**	**63**	*i* P		Pn	19 16 00.7	+1.0
DHBB				*i* S		Sn	19 16 53.5	+4.0
LBOS		**4.72**	**75**	*i* P		Pn	19 16 06.2	-1.2
LBOS				*i* S		Sn	19 17 02.7	-0.6
BDHA	**Al Bayda'**	**5.05**	**75**	*i* S		Sn	19 17 10.0	-1.5

*IDC **25** 19:16:38.1±0.9,28.09S×176.62W,mb4.1/5,mb1 4.3/6, mb1mx4.1/13,mbtmp4.1/6,ML3.8/1,MS3.8/7,Ms1 3.7/7, ms1mx3.5/19,Error ellipse: s-maj=30.0km s-min=26.0km az=81.0*
*NEIC **25** 19:16:45.6±3.7,27.86S×176.66W,h49km±30km,mb4.3/2, Error ellipse: s-maj=33.0km s-min=18.7km az=220.0*
ISC 25 19:16:46.5±3.3,28.0S±0.2×176.8W±0.2,h69km±25km,n29,
σ0§95/19,mb3.8/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.64**	**218**	Pn		**P**	**19 17 14.0**	**+0.2**
	118nm,0.3s

DHBB				*i* S		**Sn**	**19 24 57.0**	**-1.7**
LBOS		**4.88**	**63**	⇓*e*P		**Pn**	**19 24 09.7**	**-0.1**
LBOS				*i* S		**Sn**	**19 25 06.1**	**-0.8**
LBOS		**4.88**	**63**	*i* P		**Pn**	**19 24 10.0**	**+0.2**
LBOS				*i* S		**Sn**	**19 25 05.7**	**-1.2**
KMBO	**Kilima Mbogo**	**13.18**	**196**	Pn		**P**	**19 26 04.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=14,slow=14,SNR=3.8							
KMBO				LR	LR		19 30 48.5	
	comp=Z,85nm,19.6s,baz=98,slow=36							
BRTR	**Keskin Array B**	**28.66**	**348**	P		**P**	**19 28 53.5**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.6,baz=166,slow=10,SNR=3.9							
MATP	**Matopo**	**34.09**	**201**	LR	LR		19 44 21.0	
	comp=Z,100nm,18.8s,MS3.6,baz=37,slow=38							
TSUM	**Tsumeb**	**38.25**	**217**	LR	LR		19 45 32.8	
	comp=Z,76nm,19.2s,MS3.5,baz=135,slow=36							
LBTB	**Lobatse**	**39.34**	**202**	LR	LR		19 45 46.3	
	comp=Z,62nm,19.1s,MS3.5,baz=268,slow=35							
GERES	**GERESS Array B**	**43.37**	**334**	P		**P**	**19 30 58.5**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.4,baz=135,slow=5.7,SNR=7.2							
MKAR	**Makanchi Array**	**49.46**	**37**	P		**P**	**19 31 46.5**	**-0.4**
	comp=Z,1.1nm,1.0s,mb3.9,baz=243,slow=5.4,SNR=5.1							
SONM	**Songino Array**	**65.11**	**43**	P		**P**	**19 33 39.8**	**+2.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=270,slow=4.3,SNR=3.8							

NEIC ***25*** *19:30:48.1±0.9, 44.04N×105.46W, ML3.2, Error ellipse: s-maj=13.6km s-min=10.0km az=98.0, Suspected Mining explosion.*
NEIC 0.0 [ ], 30 km [20 miles] S of Gillette.
IDC ***25*** *19:30:51.0±1.2, 44.43N×105.75W, mb1 3.5/3, mb1mx3.3/23, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=29.7km s-min=9.5km az=145.0*

ISC 25 19:30:46.6±0.8, 44.09N±0.06×105.4W±0.1, n15, σ1^{s}17/15, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**2.65**	**348**	*e*P		**Pn**		**19 31 32.2**	**+0.9**
PHWY	**Pilot Hill**	**2.79**	**180**	*e*P		**Pn**		**19 31 35.7**	**+2.4**
PDAR	**Pinedale Array**	**3.29**	**248**	Pn		**Pn**		**19 31 46.1**	**+5.7**
	1.7nm,0.3s,baz=67,slow=17,SNR=25								
PDAR				Lg				19 32 31.8	
	5.1nm,0.3s,baz=60,slow=32,SNR=10								
REDW	**Red Top Meadow**	**4.00**	**261**	P		**Pn**		**19 31 51.0**	**+0.5**
ISCO	**Idaho Springs**	**4.29**	**182**	P		**Pn**		**19 31 54.5**	**-0.2**
RRI2	**Red Ridge**	**4.34**	**262**	P		**Pn**		**19 31 54.5**	**-0.8**
QLMT	**Earthquake Lak**	**4.36**	**282**	P		**Pn**		**19 31 55.3**	**-0.3**
DGMT	**Dagmar**	**4.46**	**11**	P		**Pn**		**19 31 57.7**	**+0.6**
SMCO	**Snowmass**	**5.05**	**194**	P		**Pn**		**19 32 04.5**	**-0.9**
DLMT	**Dillon**	**5.26**	**286**	P		**Pn**		**19 32 10.1**	**+1.6**
MCMT	**McKenzie Canyo**	**5.36**	**280**	*e*P		**Pn**		**19 32 08.1**	**-1.7**
PV10	**Paradox Valley**	**6.33**	**207**	*e*P		**Pn**		**19 32 18.6**	**-4.9**
ULM	**Lac du Bonnet**	**8.95**	**43**	Pn		**P**		**19 32 58.8**	**-1.4**
	0.3nm,0.3s,baz=240,slow=12,SNR=4.6								
ULM				Lg				19 35 24.8	
	0.1nm,0.3s,baz=122,slow=23,SNR=2.2								
ULM	**Lac du Bonnet**	**8.95**	**43**	Pn		**P**		**19 32 58.8**	**-1.4**
ULM				Lg				19 35 24.8	
TXAR	**Lajitas Array**	**14.80**	**174**	Pn		**P**		**19 34 27.1**	**+8.2**
	baz=342,slow=12,SNR=3.4								

IDC 25 19:40:27.2±4.9, 12.03N×40.67E, mb3.7/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.7/7, ML4.1/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/23, Error ellipse: s-maj=114.7km s-min=15.2km az=26.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.19**	**103**	Pn		Pn		19 41 05.2	-0.1
	60nm,0.3s,baz=266,slow=17,SNR=21								
ATD				Lg				19 41 36.9	
	74nm,0.3s,baz=278,slow=23,SNR=12								
KMBO	**Kilima Mbogo**	**13.50**	**195**	Lg				19 47 36.9	
	0.0nm,0.3s,baz=55,slow=21,SNR=4.0								
KMBO				LR		LR		19 48 55.3	
	comp=Z,248nm,21.4s,baz=94,slow=38								
BRTR	**Keskin Array B**	**28.28**	**349**	P		P		19 46 23.9	-0.4
	0.9nm,0.6s,baz=167,slow=11,SNR=5.2								
MATP	**Matopo**	**34.40**	**200**	LR		LR		20 01 54.0	
	comp=Z,208nm,18.6s,baz=124,slow=37								
TSUM	**Tsumeb**	**38.48**	**217**	LR		LR		20 04 26.9	
	comp=Z,209nm,19.5s,baz=323,slow=37								
LBTB	**Lobatse**	**39.65**	**202**	LR		LR		20 04 08.8	
	comp=Z,144nm,19.4s,baz=309,slow=36								
AKASG	**Malin Array Be**	**39.68**	**349**	P		P		19 47 58.9	-3.8
	0.1nm,0.2s,baz=167,slow=9.1,SNR=4.1								
GERES	**GERESS Array B**	**42.99**	**334**	P		P		19 48 28.4	-1.4
	0.7nm,0.5s,baz=130,slow=6.9,SNR=12								
MKAR	**Makanchi Array**	**49.24**	**37**	P		P		19 49 17.9	-1.6
	0.8nm,0.8s,baz=231,slow=7.8,SNR=4.4								
NOA	**NORSAR Array B**	**53.45**	**343**	P		P		19 49 48.9	-2.2
	1.2nm,0.8s,baz=142,slow=7.3,SNR=3.8								
SONM	**Songino Array**	**64.91**	**43**	P		P		19 51 08.4	-2.3
	0.6nm,0.8s,baz=259,slow=7.6,SNR=4.8								

MAN 25 19:47:51.5, 8.28N×125.22E, mb3.9, ML2.7, MS2.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.43**	**202**	*e*P		Pg		19 48 08.1	+8.0
CGP	**Cagayan de Oro**	**0.55**	**288**	⇑*i*P		Pg		19 48 02.5	0.0
CGP				*i* S		Sg		19 48 05.9	-4.0
BUTP	**Butuan**	**0.79**	**30**	*e*P		Pg		19 48 07.1	-0.2
SCPH	**Surigao**	**1.51**	**10**	*e*P		Pn		19 48 28.2	+8.2
SCPH				*e*S		Sb		19 48 48.5	+8.7
DCPH	**Dipolog City**	**1.88**	**279**	⇑*i*P		Pn		19 48 24.6	-0.6
DCPH				*i* S		Sn		19 48 44.7	-5.2
MSLP	**Maasin**	**1.88**	**349**	*e*P		Pn		19 48 30.4	+5.3
GUIM	**Jordan**	**3.49**	**312**	*e*P		Pn		19 48 48.3	+0.1

CSEM ***25*** *19:47:49.9±0.2, 11.92N×40.50E, h2km, mb4.2/13, Error ellipse: s-maj=7.1km s-min=2.1km az=2.0*
IDC ***25*** *19:47:52.4±4.1, 11.99N×40.44E, mb3.9/10, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, ML4.2/1, Error ellipse: s-maj=88.6km s-min=15.3km az=25.0*
DHMR ***25*** *19:47:53.3±0.6, 12.55N×40.51E, h9km±39km, ML4.5*
NEIC ***25*** *19:47:54.9±0.9, 12.20N×40.62E, h10km, mb4.2/13, ML4.6(DHMR), Error ellipse: s-maj=21.2km s-min=6.1km az=192.0*

ISC 25 19:47:53.5±0.8, 12.2N±0.1×40.50E±0.03, h10km, n57, σ0^{s}97/67, mb4.1/21, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.39**	**106**	Pn		Pn		**19 48 33.8**	**+0.4**
	58nm,0.3s,baz=256,slow=14,SNR=23								
ATD				Lg				19 49 08.2	
	66nm,0.3s,baz=136,slow=22,SNR=14								
TRBA	**At Turbah**	**3.67**	**73**	*i* P		**Pn**		**19 48 52.0**	**+0.4**
TRBA				*i* S		**Sn**		**19 49 37.4**	**+1.9**
TRBA					AML	AML		19 49 55.0	
	comp=N,2μm,0.7s								
TRBA	**At Turbah**	**3.67**	**73**	*i* P		**Pn**		**19 48 51.1**	**-0.5**
TRBA				*i* S		**Sn**		**19 49 37.8**	**+2.4**
TRBA	**At Turbah**	**3.67**	**73**	*i* P		**Pn**		**19 48 51.1**	**-0.5**
TRBA				*i* S		**Sn**		**19 49 37.8**	**+2.4**
UDYN	**Al 'Udayn**	**3.81**	**62**	*i* P		**Pn**		**19 48 52.8**	**-0.7**
UDYN				*i* S		**Sn**		**19 49 39.9**	**+1.1**
UDYN					AML	AML		19 49 58.9	
	comp=Z,2μm,0.8s								
UDYN	**Al 'Udayn**	**3.81**	**62**	*i* P		**Pn**		**19 48 52.2**	**-1.3**
UDYN				*i* S		**Sn**		**19 49 40.6**	**+1.8**
ADEN	**Aden**	**4.41**	**82**	*i* P		**Pn**		**19 49 02.3**	**+0.1**
ADEN				*i* S		**Sn**		**19 49 55.7**	**+1.5**
ADEN	**Aden**	**4.41**	**82**	*i* P		**Pn**		**19 49 00.3**	**-1.9**
ADEN	**Aden**	**4.41**	**82**	*i* P		**Pn**		**19 49 00.3**	**-1.8**
ADEN				*i* S		**Sn**		**19 49 55.7**	**+1.5**
DHBB	**Dhamar BB**	**4.46**	**58**	*i* P		**Pn**		**19 49 01.0**	**-1.8**
DHBB				*i* S		**Sn**		**19 49 54.1**	**-1.3**
DHBB	**Dhamar BB**	**4.46**	**58**	*i* P		**Pn**		**19 48 59.1**	**-3.6**
BDHA	**Al Bayda'**	**5.24**	**70**	*i* P		**Pn**		**19 49 10.6**	**-3.3**
BDHA				*i* S		**Sn**		**19 50 10.9**	**-4.2**
BDHA	**Al Bayda'**	**5.24**	**70**	*i* P		**Pn**		**19 49 11.1**	**-2.7**
BDHA				*i* S		**Sn**		**19 50 14.3**	**-0.8**
BDHA	**Al Bayda'**	**5.24**	**70**	*i* P		**Pn**		**19 49 11.1**	**-2.7**
BDHA				*i* S		**Sn**		**19 50 14.3**	**-0.8**
KMBO	**Kilima Mbogo**	**13.63**	**194**	Lg				19 55 00.3	
	comp=Z,0.1nm,0.3s,baz=47,slow=23,SNR=3.7								
ASF	**Jabal al Asfar**	**20.15**	**351**	P		**P**		**19 52 31.5**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=19,slow=2.9,SNR=8.2								
MALT	**Malatya**	**26.07**	**356**	*e*P		**P**		**19 53 29.8**	**+0.8**
	comp=Z,8.9nm,1.3s,mb4.1								
MALT	**Malatya**	**26.07**	**356**	*e*P		**P**		**19 53 29.8**	**+0.8**
	comp=Z,8.9nm,1.3s,mb4.1								
BR131	**Keskin Array S**	**28.08**	**349**	*e*P		**P**		**19 53 48.8**	**+1.5**
	comp=Z,0.7nm,0.4s,mb3.6								
BR131	**Keskin Array S**	**28.08**	**349**	*e*P		**P**		**19 53 48.8**	**+1.5**
	comp=Z,0.7nm,0.4s,mb3.6								
BRTR	**Keskin Array B**	**28.08**	**349**	P		**P**		**19 53 48.7**	**+1.4**
	comp=Z,3.2nm,0.9s,mb4.0,baz=168,slow=11,SNR=12								
AKASG	**Malin Array Be**	**39.48**	**349**	P		**P**		**19 55 25.8**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.5,baz=171,slow=7.4,SNR=6.6								
AKASG	**Malin Array Be**	**39.48**	**349**	P		**P**		**19 55 25.8**	**0.0**
PSZ	**Piszkesteto**	**39.56**	**338**	*e*P		**P**		**19 55 27.1**	**+0.7**
	comp=Z,2.4nm,0.6s,mb4.1								
PSZ	**Piszkesteto**	**39.56**	**338**	*e*P		**P**		**19 55 27.1**	**+0.7**
	comp=Z,2.4nm,0.6s,mb4.1								
STHS	**Stebnicka Huta**	**40.38**	**341**	*e*		**P**		**19 55 29.7**	**-3.5**
VYHS	**Vyhne**	**40.43**	**338**	*e*P		**P**		**19 55 34.8**	**+1.2**
MORC	**Moravsky Berou**	**41.97**	**338**	*e*P		**P**		**19 55 46.3**	**+0.1**
	comp=Z,2.1nm,1.0s,mb3.7								
MORC	**Moravsky Berou**	**41.97**	**338**	*e*P		**P**		**19 55 46.3**	**+0.1**
	comp=Z,2.1nm,1.0s,mb3.7								
GERES	**GERESS Array B**	**42.76**	**334**	P		**P**		**19 55 53.2**	**+0.4**
	comp=Z,1.7nm,0.7s,mb3.9,baz=136,slow=6.6,SNR=18								
MBDF	**Montbardon**	**43.37**	**325**	*e*P		**P**		**19 55 58.9**	**+1.1**
	comp=Z,1.1nm,0.8s,mb4.3								
LPG	**La Plagne**	**43.86**	**326**	*e*P		**P**		**19 56 01.1**	**-0.6**
LPL	**La Plagne**	**43.88**	**326**	*e*P		**P**		**19 56 01.4**	**-0.5**
	comp=Z,3.6nm,0.9s,mb3.8								
ORIF	**Oris-en-Rattie**	**43.99**	**324**	*e*P		**P**		**19 56 03.1**	**+0.3**
	comp=Z,5.9nm,0.9s,mb4.0								
CABF	**La Chapelle**	**44.91**	**327**	*e*P		**P**		**19 56 09.7**	**-0.5**
	comp=Z,18nm,1.1s,mb4.5								
CDF	**Champ du Feu**	**45.45**	**329**	*e*P		**P**		**19 56 14.2**	**-0.3**
HAU	**Haudompre**	**45.66**	**328**	*e*P		**P**		**19 56 15.8**	**-0.3**
	comp=Z,5.3nm,0.8s,mb4.2								
SMF	**Signal de Mont**	**46.17**	**325**	*e*P		**P**		**19 56 19.5**	**-0.6**
CAF	**Calviac**	**46.22**	**322**	*e*P		**P**		**19 56 21.2**	**+0.6**
AVF	**Avril sur Loir**	**46.52**	**325**	*e*P		**P**		**19 56 22.4**	**-0.6**
LOR	**Lormes**	**46.53**	**326**	*e*P		**P**		**19 56 22.6**	**-0.4**
	comp=Z,10nm,1.0s,mb4.4								
SSF	**Saint Saulge**	**46.60**	**326**	*e*P		**P**		**19 56 22.9**	**-0.6**
	comp=Z,4.2nm,1.1s,mb4.3								
MEZF	**Maizieres J'vi**	**46.64**	**328**	*e*P		**P**		**19 56 24.1**	**+0.2**
	comp=Z,13nm,0.7s,mb4.7								
BGF	**Bois d'Agland**	**46.67**	**325**	*e*P		**P**		**19 56 24.2**	**0.0**
LFF	**La Frestale**	**47.03**	**322**	*e*P		**P**		**19 56 27.9**	**+0.9**
BVAR	**Borovoye Array**	**47.20**	**24**	P		**P**		**19 56 28.1**	**-0.1**
	comp=Z,1.5nm,0.9s,mb3.9,baz=211,slow=8.6,SNR=7.7								
SJPF	**Ste Jean**	**47.36**	**319**	*e*P		**P**		**19 56 31.0**	**+1.3**
GIVF	**Givet**	**47.77**	**330**	*e*P		**P**		**19 56 32.3**	**-0.5**
BAIF	**Baives**	**48.05**	**329**	*e*P		**P**		**19 56 34.4**	**-0.6**
MKAR	**Makanchi Array**	**49.20**	**37**	P		**P**		**19 56 43.8**	**0.0**
	comp=Z,2.5nm,1.0s,mb4.2,baz=243,slow=5.4,SNR=8.1								
FINES	**FINESS Array B**	**50.27**	**351**	P		**P**		**19 56 49.9**	**-2.0**
	comp=Z,3.0nm,1.0s,mb4.3,baz=180,slow=11,SNR=3.8								
EVO	**Evora**	**50.34**	**310**	*e*P		**P**		**19 56 53.6**	**+0.9**
	comp=Z,22nm,1.1s,mb4.8								
NB2	**NORSAR Subarra**	**53.24**	**343**	P		**P**		**19 57 13.2**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=142,slow=7.4								
NOA	**NORSAR Array B**	**53.24**	**343**	P		**P**		**19 57 13.5**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.0,baz=142,slow=7.4,SNR=4.6								
NOA	**NORSAR Array B**	**53.24**	**343**	P		**P**		**19 57 13.5**	**-0.7**
ZAL	**Zalesovo**	**54.33**	**31**	P		**P**		**19 57 21.7**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=268,slow=3.9,SNR=5.7								
SONM	**Songino Array**	**64.90**	**43**	P		**P**		**19 58 35.9**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.5,baz=231,slow=6.0,SNR=4.4								

IDC ***25*** *19:48:13.4±2.7, 12.03N×40.48E, mb3.9/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, MS3.6/5, Ms1 3.6/5, ms1mx3.5/20, Error ellipse: s-maj=58.6km s-min=42.3km az=7.0*
NEIC ***25*** *19:48:14.5±1.6, 11.95N×40.49E, h10km, mb4.2/3, Error ellipse: s-maj=33.4km s-min=23.2km az=197.0*

ISC 25 19:48:10.4±6.1, 11.7N±0.8×40.5E±0.3, h10km, n16, σ0^{s}53/10, mb4.0/9, MS3.5/3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.34**	**93**	Lg				19 49 27.2	
	47nm,0.3s,baz=78,slow=22,SNR=4.5								
ATD				LR		LR		19 49 54.2	
	comp=Z,2μm,19.8s,baz=277,slow=42								
KMBO	**Kilima Mbogo**	**13.09**	**194**	LR		LR		19 57 17.4	
	comp=Z,211nm,18.9s,baz=100,slow=40								
ASF	**Jabal al Asfar**	**20.68**	**351**	LR		LR		19 59 24.1	
	comp=Z,86nm,18.5s,MS3.1,baz=227,slow=33								
MALT	**Malatya**	**26.61**	**356**	*e*P		**P**		**19 53 50.8**	**0.0**
	12nm,1.3s,mb4.3								
BR131	**Keskin Array S**	**28.60**	**349**	*e*P		**P**		**19 54 09.7**	**+0.8**
	2.4nm,0.8s,mb4.0								
BRTR	**Keskin Array B**	**28.60**	**349**	P		**P**		**19 54 09.1**	**+0.1**
	3.0nm,0.9s,mb4.0,baz=180,slow=11,SNR=8.1								
GNI	**Garni**	**28.63**	**7**	LR		LR		20 05 12.8	
	comp=Z,101nm,18.3s,MS3.5,baz=336,slow=36								
LSZ	**Lusaka**	**29.39**	**205**	LR		LR		20 06 59.3	
	comp=Z,287nm,20.9s,MS3.9,baz=187,slow=38								
AKASG	**Malin Array Be**	**40.01**	**349**	P		**P**		**19 55 46.4**	**-0.7**
	1.3nm,0.7s,mb3.8,baz=173,slow=7.2,SNR=4.3								
PSZ	**Piszkesteto**	**40.05**	**338**	*e*P		**P**		**19 55 47.8**	**+0.5**
	5.3nm,0.9s,mb4.3								
GERES	**GERESS Array B**	**43.23**	**334**	P		**P**		**19 56 14.0**	**+0.5**
	1.7nm,0.8s,mb3.8,baz=127,slow=6.7,SNR=8.4								
BVAR	**Borovoye Array**	**47.71**	**24**	P		**P**		**19 56 48.8**	**-0.4**
	1.8nm,0.9s,mb4.1,baz=217,slow=7.4,SNR=7.0								
MKAR	**Makanchi Array**	**49.65**	**37**	P		**P**		**19 57 05.0**	**+0.7**
	1.3nm,0.9s,mb4.0,baz=248,slow=6.5,SNR=4.1								
NOA	**NORSAR Array B**	**53.74**	**343**	P		**P**		**19 57 34.0**	**-0.8**
	1.3nm,0.8s,mb3.9,baz=141,slow=7.3,SNR=3.8								
ZAL	**Zalesovo**	**54.82**	**30**	P		**P**		**19 57 42.6**	**-0.2**
	1.3nm,0.5s,mb4.0,baz=233,slow=8.5,SNR=5.7								
TXAR	**Lajitas Array**	**126.54**	**320**	PKP		PKPdf		20 07 18.7	+1.1
	0.3nm,0.8s,baz=131,slow=12,SNR=3.4								

CSEM ***25*** *19:56:02.9±0.1, 36.06N×27.09E, h8km, MD3.1, Error ellipse: s-maj=2.8km s-min=1.6km az=114.0*
ATH ***25*** *19:56:03.7, 35.97N×27.20E, h32km*
ISK ***25*** *19:56:06.5, 36.18N×27.10E, h28km, MD3.1*

ISC 25 19:56:04.3±0.6, 35.99N±0.04×27.22E±0.08, h33km, n9, σ0^{s}97/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.45**	**187**	*e*PB		**Pb**		**19 56 13.3**	**-0.7**
KARP				*e*SB		**Sb**		**19 56 20.3**	**-0.5**
ARG	**Arkhangelos**	**0.77**	**73**	*e*PN		**Pn**		**19 56 19.5**	**+0.7**
BODT	**Bodrum**	**1.07**	**4**	*e*PG		**P**		**19 56 22.6**	**-0.4**
BODT				*e*SG		**S**		**19 56 36.0**	**-0.9**
BDRM	**Kayabasi**	**1.09**	**9**	*i* P		**P**		**19 56 23.9**	**+0.7**
BDRM				*i* S		**S**		**19 56 36.5**	**-0.7**
MLSB	**Milas**	**1.38**	**19**	*e*PN		**Pn**		**19 56 28.8**	**+1.2**
YER	**Yerkesik**	**1.43**	**36**	*e*PN		**Pn**		**19 56 30.1**	**+1.8**
NPS	**Neapolis**	**1.50**	**242**	*e*PN		**Pn**		**19 56 29.5**	**+0.2**
NPS				*e*SN		**Sn**		**19 56 48.3**	**+0.4**
APE	**Apeiranthos**	**1.74**	**309**	*e*PN		**Pn**		**19 56 32.8**	**+0.1**
DNZL	**Cakiroluk**	**2.24**	**40**	*i* P		**P**		**19 56 37.5**	**-2.3**
DNZL				*i* S		**S**		**19 57 13.4**	**+6.9**

DHMR 25 19:56:39.7±0.3, 12.64N×40.55E, h10km±24km, ML3.9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.52**	**80**	*i* P		Pn		19 57 37.3	+1.6
TRBA				*i* S		Sn		19 58 22.4	+4.4
TRBA					AML	AML		19 58 37.2	
	comp=N,563nm,0.6s								
UDYN	**Al 'Udayn**	**3.58**	**68**	*i* S		Sn		19 58 24.1	+4.7
DHBB	**Dhamar BB**	**4.20**	**62**	*i* P		Pn		19 57 46.6	+1.3
DHBB				*i* S		Sn		19 58 38.6	+3.5
BDHA	**Al Bayda'**	**5.06**	**74**	*i* S		Sn		19 58 55.6	-1.2

IDC ***25*** *20:03:37.9±1.5, 64.45S×176.39E, mb4.2/3, mb1 4.4/3, mb1mx4.1/8, mbtmp4.2/3, MS4.1/3, Ms1 4.0/3, ms1mx3.8/19, Error ellipse: s-maj=101.9km s-min=31.8km az=42.0*
NEIC ***25*** *20:03:40.0±1.0, 64.48S×175.82E, h10km, mb4.8/2, Error ellipse: s-maj=32.6km s-min=13.7km az=69.0*

ISC 25 20:03:38.6±1.0, 64.4S±0.1×175.9E±0.5, h10km, n26, σ0^{s}67/17, mb4.6/5, MS4.0/3, 2C-1D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.90**	**193**	*e*P		**P**		**20 06 52.4**	**-5.1**
	61nm,1.8s								
RPZ	**Rata Peaks**	**20.88**	**350**	LR		LR		20 14 35.9	
	comp=Z,1μm,21.8s,MS4.2,baz=338,slow=31								
QSPA	**South Pole Qui**	**25.71**	**180**	⇓*i*P		**P**		**20 09 10.3**	**+0.4**
	33nm,1.3s,mb4.7								
URZ	**Urewera**	**26.16**	**2**	LR		LR		20 17 29.3	
	comp=Z,766nm,21.9s,MS4.2,baz=188,slow=32								
CASY	**Casey**	**26.26**	**236**	*e*P		**P**		**20 09 14.3**	**-0.7**
STKA	**Stephens Creek**	**38.85**	**310**	P		**P**		**20 11 06.9**	**+1.6**
	6.3nm,1.2s,mb4.2,baz=160,slow=9.5,SNR=5.2								
STKA	**Stephens Creek**	**38.85**	**310**	*e*P		**P**		**20 11 05.8**	**+0.5**
MAW	**Mawson**	**39.96**	**213**	LR		LR		20 26 57.0	
	comp=Z,93nm,20.4s,MS3.6,baz=340,slow=35								
VNA3	**Neumayer Olymp**	**44.60**	**177**			**P**		**20 12 00.6**	**+8.8**
VNA3	**Neumayer Olymp**	**44.60**	**177**	P		**P**		**20 11 52.3**	**+0.5**
VNA3				P				20 12 00.6	
VNA2	**Neumayer--Watz**	**44.95**	**178**			**P**		**20 12 04.3**	**+10**
VNA2	**Neumayer--Watz**	**44.95**	**178**	P		**P**		**20 11 55.1**	**+0.4**
VNA2				P				20 12 04.3	
VNA1	**Neumayer--Stat**	**45.22**	**178**			**P**		**20 12 06.6**	**+10**
VNA1	**Neumayer--Stat**	**45.22**	**178**	P		**P**		**20 11 56.9**	**+0.1**
VNA1				P				20 12 06.6	
TBI	**Tubuai**	**46.86**	**46**	*e*LR		LR		20 24 41.0	
	468nm,31.8s								
ASPA	**Alice Springs**	**49.03**	**306**	⇑*i*P		**P**		**20 12 28.1**	**+0.8**
RKT	**Rikitea**	**52.15**	**62**	*e*LR		LR		20 27 10.1	
	163nm,30.0s								
PPT	**Papeete**	**52.27**	**43**	*e*LR		LR		20 27 10.9	
	413nm,28.5s								
WB2	**Warramunga Arr**	**52.30**	**308**	⇑*i*P		**P**		**20 12 52.2**	**-0.1**
WRA	**Warramunga Arr**	**52.31**	**308**	P		**P**		**20 12 51.9**	**-0.4**
	0.7nm,0.6s,mb4.5,baz=157,slow=6.6,SNR=54								
WRAB	**Tennant Creek**	**52.31**	**308**	*e*P		**P**		**20 12 51.5**	**-0.9**
	101nm,1.9s,mb5.4								
LPAZ	**La Paz**	**86.09**	**120**	P		**P**		**20 16 20.2**	**-0.3**
	0.7nm,1.0s,mb3.9,baz=210,slow=4.5,SNR=4.0								
LPAZ	**La Paz**	**86.09**	**120**	*e*P		**P**		**20 16 19.7**	**-0.8**
	11nm,1.8s,mb4.8								
IDI	**Anoyia**	**146.00**	**225**	PKPbc		PKPbc		20 23 18.4	+0.6
	3.3nm,0.9s,baz=138,slow=4.3,SNR=4.1								
KIV	**Kislovodsk**	**146.92**	**255**	*e*PKPbc		PKPbc		20 23 20.6	+0.8
BRTR	**Keskin Array B**	**146.98**	**240**	PKPbc		PKPbc		20 23 20.8	+0.8
	5.8nm,1.1s,baz=166,slow=5.1,SNR=13								

NEIC ***25*** *20:10:31.6±1.1, 17.34S×174.76W, h182km±11km, mb3.6/2, Error ellipse: s-maj=20.6km s-min=9.7km az=127.0*
IDC ***25*** *20:10:31.6±2.3, 17.38S×174.71W, h181km±22km, mb3.6/

h29km±1.7km**:pP-P,n393,**σ1$06/149**,mb5.1**/61**,MS5.2**/138,
51C-12D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.84**	**195**	*eP*	**Pn**	**20 29 48.8**	**-2.9**
DZM				*eS*	**Sn**	**20 30 42.0**	**-5.5**
DZM	**Mont Dzumac**	**4.84**	**195**	P	**Pn**	**20 29 49.3**	**-2.4**
	24nm,0.3s,baz=57,slow=15,SNR=195						
DZM				S	**Sn**	**20 30 43.2**	**-4.3**
	84nm,0.3s,baz=134,slow=23,SNR=14						
DZM				LR	LR	20 31 34.2	
	comp=Z,27μm,20.8s,baz=7.1,slow=35						
DZM	**Mont Dzumac**	**4.84**	**195**	*eP*	**Pn**	**20 29 48.8**	**-2.9**
DZM				*eS*	**Sn**	**20 30 42.0**	**-5.6**
HNR	**Honiara**	**11.00**	**315**	P	**P**	**20 31 17.4**	**-0.1**
	38nm,0.3s,baz=176,slow=2.4,SNR=19						
HNR				S	**S**	**20 33 18.3**	**-2.3**
	9.8nm,0.3s,baz=319,slow=18,SNR=2.2						
HNR				LR	LR	20 35 04.3	
	comp=Z,9μm,18.2s,baz=142,slow=35						
HNR	**Honiara**	**11.00**	**315**	*eP*	**P**	**20 31 17.4**	**-0.2**
	920nm,0.9s						
HNR	**Honiara**	**11.00**	**315**	*eP*	**P**	**20 31 17.4**	**-0.1**
HNR				pmax	pmax		
	comp=Z,920nm,0.9s						
RAO	**Raoul Island**	**17.62**	**135**	LR	LR	20 37 58.0	
	comp=Z,6μm,21.4s,baz=142,slow=32						
AFI	**Afiamalu**	**19.94**	**83**	P	**P**	**20 33 12.4**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=249,slow=11,SNR=3.0						
AFI				LR	LR	20 38 56.6	
	comp=Z,8μm,21.4s,baz=250,slow=31						
AFI	**Afiamalu**	**19.94**	**83**	*eP*	**P**	**20 33 12.3**	**+0.7**
AFI	**Afiamalu**	**19.94**	**83**	P	**P**	**20 33 12.4**	**+0.8**
AFI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AFI				MLR	MLR		
	comp=Z,8μm,21.4s						
CTA	**Charters Tower**	**20.60**	**259**	*eP*	**P**	**20 33 19.3**	**+1.0**
	comp=Z,84nm,0.9s						
CTA				*eS*	**S**	**20 37 11.4**	**+9.2**
CTA	**Charters Tower**	**20.60**	**259**	P	**P**	**20 33 19.2**	**+0.8**
	comp=Z,28nm,1.0s,baz=81,slow=12,SNR=18						
CTA				LR	LR	20 40 32.2	
	comp=Z,10μm,19.2s,MS5.2,baz=38,slow=34						
CTA	**Charters Tower**	**20.60**	**259**	*eP*	**P**	**20 33 19.3**	**+1.0**
CTA				pmax	pmax		
	comp=Z,84nm,0.9s						
CTAO	**Charters Tower**	**20.60**	**259**	*eP*	**P**	**20 33 18.6**	**+0.3**
	comp=Z,142nm,1.0s						
CTAO				LR	LR		
	comp=Z,10μm,19.0s,MS5.2						
CTAO	**Charters Tower**	**20.60**	**259**	*eP*	**P**	**20 33 18.6**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,142nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,10μm,19.0s,MS5.2						
PMG	**Port Moresby**	**21.59**	**289**	P	**P**	**20 33 29.7**	**+1.3**
	comp=Z,28nm,1.0s,mb4.7,baz=120,slow=8.9,SNR=5.6						
PMG				LR	LR	20 40 42.3	
	comp=Z,6μm,19.3s,MS5.0,baz=95,slow=33						
PMG	**Port Moresby**	**21.59**	**289**	*eP*	**P**	**20 33 30.7**	**+2.2**
	comp=Z,126nm,1.0s,mb5.3						
PMG				LR	LR		
	comp=Z,7μm,19.0s,MS5.0						
PMG	**Port Moresby**	**21.59**	**289**	P	**P**	**20 33 29.7**	**+1.3**
PMG				pmax	pmax		
	comp=Z,28nm,1.0s						
PMG				MLR	MLR		
	comp=Z,6μm,19.3s						
URZ	**Urewera**	**22.34**	**160**	P	**P**	**20 33 36.0**	**+0.3**
	comp=Z,25nm,0.6s,mb4.8,baz=334,slow=3.9,SNR=18						
URZ				LR	LR	20 41 02.1	
	comp=Z,8μm,19.4s,MS5.2,baz=164,slow=33						
CNB	**Canberra Magne**	**24.27**	**219**	*eP*	**P**	**20 33 56.7**	**+2.1**
	comp=Z,115nm,1.0s,mb5.3						
KWAJ	**Kwajalein Atol**	**26.02**	**360**	PFAKE		20 34 20.0	+8.6
KWAJ				LR	LR		
	comp=Z,780nm,19.0s,MS4.3						
RPZ	**Rata Peaks**	**26.39**	**175**	P	**P**	**20 34 13.9**	**-0.7**
	comp=Z,14nm,0.8s,mb4.6,baz=97,slow=7.1,SNR=8.9						
STKA	**Stephens Creek**	**27.77**	**234**	⇓*iP*	**P**	**20 34 27.5**	**+0.2**
	comp=Z,34nm,0.9s,mb5.0						
STKA				*eS*	**S**	**20 39 10.6**	**+4.2**
STKA	**Stephens Creek**	**27.77**	**234**	P	**P**	**20 34 27.6**	**+0.3**
	comp=Z,11nm,0.5s,mb4.7,baz=62,slow=8.1,SNR=56						
STKA				PcP	PcP	20 37 42.7	-0.8
	comp=Z,13nm,0.8s,baz=48,slow=3.7,SNR=4.6						
STKA				LR	LR	20 45 16.1	
	comp=Z,8μm,19.2s,MS5.3,baz=62,slow=36						
TOO	**Toolangi**	**28.10**	**220**	*eP*	**P**	**20 34 30.8**	**+0.6**
	comp=Z,19nm,1.1s,mb4.6						
TOO	**Toolangi**	**28.10**	**220**	*eP*	**P**	**20 34 30.8**	**+0.6**
TOO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.6						
TAU	**Tasmania Unive**	**30.85**	**210**	PFAKE		20 35 10.0	+15
TAU				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
WB2	**Warramunga Arr**	**31.79**	**260**	*eP*	**P**	**20 35 02.6**	**-0.5**
WRAB	**Tennant Creek**	**31.79**	**260**	*eP*	**P**	**20 35 01.6**	**-1.5**
	comp=Z,138nm,1.3s,mb5.6						
WRAB				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
WRAB	**Tennant Creek**	**31.79**	**260**	*eP*	**P**	**20 35 03.5**	**+0.4**
WRA	**Warramunga Arr**	**31.80**	**260**	P	**P**	**20 35 02.0**	**-1.2**
	comp=Z,5.1nm,0.8s,mb4.4,baz=91,slow=9.6,SNR=82						
WRA				PcP	PcP	20 37 53.2	-0.8
	comp=Z,5.5nm,1.0s,baz=345,slow=0.9,SNR=5.7						
ASPA	**Alice Springs**	**32.33**	**253**	*eP*	**P**	**20 35 06.9**	**-0.9**
KAKA	**Kakadu**	**34.45**	**273**	*eP*	Px	20 35 46.7	
	comp=Z,43nm,0.9s						
WAKE	**Wake Island**	**36.45**	**358**	PFAKE		20 35 50.0	+6.8
WAKE				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
GUMO	**Guam**	**38.22**	**322**	PFAKE		20 36 10.0	+12
GUMO				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
FORT	**Forrest**	**38.47**	**242**	*eP*	**P**	**20 36 01.0**	**+0.9**
	comp=Z,53nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**40.12**	**262**	⇓*iP*	**P**	**20 36 14.5**	**+0.6**
	comp=Z,149nm,0.8s,mb5.8						
FITZ	**Fitzroy Crossi**	**40.12**	**262**	P	**P**	**20 36 14.4**	**+0.5**
	comp=Z,42nm,0.6s,mb5.4,baz=115,slow=4.2,SNR=73						
TBI	**Tubuai**	**40.38**	**106**	*eS*	**S**	**20 42 22.6**	**+0.7**
TBI				*eLQ*		20 45 45.2	
TBI				*eLR*	LR	20 47 13.0	
	comp=Z,4μm,24.8s,baz=272						
PPT	**Papeete**	**40.57**	**97**	*eS*	**S**	**20 42 23.8**	**-1.0**
PPT				*eLR*	LR	20 47 24.9	
	comp=Z,6μm,23.0s,baz=260						
PPT	**Papeete**	**40.57**	**97**	LR	LR	20 49 22.6	
	comp=Z,3μm,19.9s,MS5.1,baz=261,slow=30						
MBWA	**Marble Bar**	**45.42**	**257**	*eP*	**P**	**20 36 57.4**	**+0.3**
	comp=Z,70nm,0.9s,mb5.5						
MBWA				LR	LR		
	comp=Z,4μm,19.0s,MS5.3						
KLBR	**Kellerberrin**	**47.33**	**243**	*eP*	**P**	**20 37 11.4**	**-0.6**
	comp=Z,36nm,1.1s,mb5.2						
MIDW	**Midway**	**47.54**	**18**	PFAKE		20 37 30.0	+16
MIDW				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
NWAO	**Narrogin (SRO)**	**47.90**	**241**	*eP*	**P**	**20 37 15.9**	**-0.5**
	comp=Z,41nm,0.9s,mb5.5						
NWAO				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
NWAO	**Narrogin (SRO)**	**47.90**	**241**	*eP*	**P**	**20 37 15.9**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,41nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,2μm,22.0s						
DAV	**Davao City (W)**	**48.30**	**297**	PFAKE		20 37 30.0	+10
DAV				LR	LR		
	comp=Z,596nm,20.0s,MS4.6						
KIP	**Kipapa**	**51.07**	**42**	PFAKE		20 37 50.0	+9.1
KIP				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
TAOE	**Nuku Hiva Isla**	**51.24**	**87**	*eS*	**S**	**20 44 55.1**	**-2.5**
TAOE				*eSS*	SS	20 48 28.4	-2.6
TAOE				*eLR*	LR	20 52 20.7	
	comp=Z,14μm,23.0s						
POHA	**Pohakuloa**	**51.55**	**46**	PFAKE		20 38 00.0	+15
POHA				LR	LR		
	comp=Z,28μm,19.0s						
DRV	**Dumont d'Urvil**	**52.50**	**194**	P	**P**	**20 37 52.0**	**+0.9**
DRV				S	**S**	**20 45 14.0**	**-0.1**
DRV				R		20 54 00.0	
RKT	**Rikitea**	**53.69**	**106**	*eS*	**S**	**20 45 32.4**	**+1.5**
RKT				*eSS*	SS	20 49 13.0	+1.9
RKT				*eLQ*		20 51 28.9	
RKT				*eLR*	LR	20 53 23.7	
	comp=Z,3μm,25.0s,baz=264						
KKM	**Kota Kinabalu**	**56.03**	**290**	*eP*	**P**	**20 38 18.2**	**+0.6**
JHJ	**Hachijo jima 2**	**56.92**	**332**	LR	LR	21 00 00.5	
	comp=Z,760nm,18.3s,MS4.8,baz=173,slow=33						
JOW	**Kunigami**	**58.36**	**318**	LR	LR	21 02 20.1	
	comp=Z,913nm,18.3s,MS4.9,baz=141,slow=35						
KSM	**Kuching**	**59.66**	**282**	*eP*	**P**	**20 38 43.0**	**-0.2**
VNDA	**Vanda**	**60.24**	**181**	*eP*	**P**	**20 38 43.6**	**-2.7**
	comp=Z,43nm,1.5s,mb5.3						
VNDA				LR	LR		
	comp=Z,688nm,20.0s,MS4.8						
VNDA	**Vanda**	**60.24**	**181**	*eP*	**P**	**20 38 43.6**	**-2.7**
VNDA				pmax	pmax		
	comp=Z,43nm,1.5s						
VNDA				MLR	MLR		
	comp=Z,688nm,20.0s						
MJAR	**Matsushiro Arr**	**60.49**	**333**	P	**P**	**20 38 47.1**	**-1.4**
	comp=Z,8.5nm,0.9s,mb4.8,baz=164,slow=7.2,SNR=17						
MAJO	**Matsushiro**	**60.49**	**333**	*eP*	**P**	**20 38 46.6**	**-1.9**
	comp=Z,59nm,0.9s,mb5.6						
MAJO				LR	LR		
	comp=Z,801nm,21.0s,MS4.8						
MAJO	**Matsushiro**	**60.49**	**333**	*eP*	**P**	**20 38 46.6**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,59nm,0.9s,mb5.6						
MAJO				MLR	MLR		
	comp=Z,801nm,21.0s,MS4.8						
MAT	**Matsushiro**	**60.49**	**333**	P	**P**	**20 38 45.0**	**-3.6**
MAT				S	**S**	**20 47 02.0**	**+1.7**
MAT	**Matsushiro**	**60.49**	**333**	*eP*	**P**	**20 38 48.0**	**-0.6**
	comp=Z,10.0nm,1.0s,mb4.8						
MAT				*eS*	**S**	**20 47 02.0**	**+1.7**
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
MAT	**Matsushiro**	**60.49**	**333**	*eP*	**P**	**20 38 48.0**	**-0.6**
MAT				*eS*	**S**	**20 47 02.0**	**+1.7**
MAT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
SBA	**Scott Base**	**60.50**	**180**	*eP*	**P**	**20 38 47.2**	**-0.9**
	comp=Z,84nm,1.4s,mb5.7						
SBA				LR	LR		
	comp=Z,596nm,21.0s,MS4.7						
SBA	**Scott Base**	**60.50**	**180**	*eP*	**P**	**20 38 47.2**	**-0.9**
SBA				pmax	pmax		
	comp=Z,84nm,1.4s,mb5.7						
SBA				MLR	MLR		
	comp=Z,596nm,21.0s,MS4.7						
CASY	**Casey**	**61.30**	**203**	⇑*iP*	**P**	**20 38 52.1**	**-1.5**
CASY				*eS*	**S**	**20 47 09.1**	**-1.0**
JNU	**Nakatsue**	**61.38**	**325**	LR	LR	21 01 35.6	
	comp=Z,662nm,21.5s,MS4.8,baz=240,slow=32						
YHNB	**Yeheng**	**61.62**	**311**	*eP*	**P**	**20 38 56.1**	**-0.3**
TATO	**Taipei**	**61.73**	**312**	PFAKE		20 39 10.0	+13
TATO				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
SSE	**Sheshan**	**65.80**	**317**	*eP*	**P**	**20 39 23.0**	**-0.8**
SSE				AP	pP	20 39 31.5	-1.5
SSE				XP	sP	20 39 36.0	-0.3
SSE				PP	PP	20 41 46.8	-4.1
SSE				S	S	20 48 07.3	+0.4
SSE				XS		20 48 23.8	
SSE				SCS	ScS	20 49 16.0	+2.3
SSE				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,238nm,4.9s						
SSE				LR	LR		
	comp=N,381nm,38.1s,MS4.6						
SSE				LR	LR		
	comp=E,558nm,38.3s,MS4.6						
SSE				LR	LR		
	comp=Z,406nm,24.7s						
SSE	**Sheshan**	**65.80**	**317**	*eP*	**P**	**20 39 23.0**	**-0.8**
	comp=Z,23nm,0.9s,mb5.2						
SSE				pP	pP	20 39 31.6	-1.4
SSE				sP	sP	20 39 36.0	-0.3
SSE				PP	PP	20 41 46.8	-4.1
SSE				S	S	20 48 07.2	+0.3
SSE				sS		20 48 23.8	
SSE				ScS	ScS	20 49 16.0	+2.3
SSE				LR	LR		
	comp=Z,410nm,24.7s,MS4.5						
INCN	**Inchon**	**66.94**	**325**	PFAKE		20 39 40.0	+9.1
INCN				LR	LR		
	comp=Z,669nm,19.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**67.90**	**342**	*eP*	**P**	**20 39 38.4**	**+1.6**
	comp=Z,78nm,1.0s,mb5.7						
YSS				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
YSS	**Yuzh-Sakhalins**	**67.90**	**342**	*c iP*	**P**	**20 39 36.7**	**-0.1**
YSS				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.5						
YSS				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
NJ2	**Nanjing**	**67.94**	**316**	*eP*	**P**	**20 39 40.5**	**+3.2**
NJ2				AP	pP	20 39 50.5	+4.0
NJ2				XP	sP	20 39 55.5	+5.7
NJ2				PP	PP	20 42 13.5	+4.4
NJ2				S	S	20 48 37.0	+4.3
NJ2				XS		20 48 55.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,336nm,5.6s						
NJ2				LR	LR		
	comp=N,2μm,15.1s,MS5.5						
NJ2				LR	LR		
	comp=E,2μm,15.2s,MS5.5						
NJ2				LR	LR		
	comp=Z,140nm,15.6s,MS4.3						
MIR	**Mirnyy**	**68.15**	**205**	*c iP*	**P**	**20 39 38.6**	**+0.6**
MIR				pmax	pmax		
	comp=Z,43μm,1.4s						
VLA	**Vladivostok**	**68.66**	**333**	*eP*	**P**	**20 39 40.8**	**-0.8**
VLA				*i* *PP	pP	20 39 52.1	+1.3
VLA				*e*		20 40 06.0	
VLA				*e*		20 42 10.3	
VLA				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
KULM	**Kulim**	**70.02**	**282**	*eP*	**P**	**20 39 50.8**	**+0.4**
SMY	**Shemya**	**70.03**	**4**	PFAKE		20 40 00.0	+10
SMY				LR	LR		
	comp=Z,5μm,21.0s,MS5.7						
WHN	**Wuhan**	**70.11**	**313**	*eP*	**P**	**20 39 50.0**	**-0.7**
PET	**Petropavlovsk**	**70.56**	**354**	PFAKE		20 40 00.0	+7.0
PET				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
SNG	**Songkhla**	**70.72**	**284**	P	**P**	**20 39 56.0**	**+1.4**
DL2	**Dalian**	**70.73**	**323**	P	**P**	**20 39 54.3**	**0.0**
DL2				S	S	20 49 08.0	+2.6
DL2				SS	SS	20 53 40.3	+0.8
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
DL2				LR	LR		
	comp=N,400nm,16.1s,MS4.9						
DL2				LR	LR		
	comp=E,400nm,15.2s,MS4.9						
DL2				LR	LR		
	comp=Z,520nm,17.1s,MS4.8						
MDJ	**Mudanjiang**	**70.86**	**332**	P	**P**	**20 39 55.0**	**0.0**
MDJ				AP	pP	20 40 04.0	-0.2
MDJ				XP	sP	20 40 07.8	+0.3
MDJ				PCP	PcP	20 40 14.5	-1.0
MDJ				PP	PP	20 42 33.0	-1.1
MDJ				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,321nm,6.2s						
MDJ				LR	LR		
	comp=N,512nm,19.7s,MS5.0						
MDJ				LR	LR		
	comp=E,647nm,20.9s,MS5.0						
MDJ				LR	LR		
	comp=Z,662nm,17.4s,MS5.0						
MDJ	**Mudanjiang**	**70.86**	**332**	*eP*	**P**	**20 39 55.1**	**+0.1**
	comp=Z,56nm,1.0s,mb5.5						
MDJ				LR	LR		
	comp=Z,709nm,21.0s,MS4.9						
SNY	**Shenyang**	**71.70**	**327**	⇑P	**P**	**20 39 58.5**	**-1.6**
SNY				XP	sP	20 40 13.5	+0.9
SNY				S	S	20 49 07.8	-8.8
SNY				AMB	AMB		
	comp=Z,460nm,13.7s						
SNY				LR	LR		
	comp=N,460nm,16.7s,MS5.0						
SNY				LR	LR		
	comp=E,600nm,19.1s,MS5.0						
SNY				LR	LR		
	comp=Z,920nm,17.8s,MS5.1						
CN2	**Changchun**	**72.18**	**329**	*eP*	**P**	**20 40 02.5**	**-0.4**
CN2				*eAP*	pP	20 40 12.3	+0.1
CN2				*eS*	S	20 49 23.5	+1.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				LR	LR		
	comp=N,610nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=E,520nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=Z,590nm,21.0s,MS4.8						
QSPA	**South Pole Qui**	**72.66**	**180**	⇑*iP*	**P**	**20 40 04.7**	**-0.4**
	comp=Z,63nm,0.9s,mb5.5						
ENH	**Enshi**	**73.46**	**310**	*eP*	**P**	**20 40 09.8**	**-1.0**
	comp=Z,48nm,1.0s,mb5.4						
ENH				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
KLR	**Kul'dur**	**73.64**	**336**	*eP*	**P**	**20 40 08.0**	**-3.3**
KLR				*eS*	S	20 49 35.0	-3.4
KLR				pmax	pmax		
	comp=Z,75nm,2.4s,mb5.2						
KLR				MLR	MLR		
	comp=E,700nm,18.0s						
UNV	**Unalaska Valle**	**74.29**	**15**	PFAKE		20 40 30.0	+15
UNV				LR	LR		
	comp=Z,7μm,21.0s,MS5.9						
NST	**Nakhon Sawan**	**74.37**	**292**	P	**P**	**20 40 16.0**	**-0.2**
	comp=Z,41nm,0.8s,mb5.4						
NANT	**Nan**	**75.13**	**295**	P	**P**	**20 40 21.0**	**+0.4**
	comp=Z,112nm,0.9s,mb5.8						
XAN	**Xi'an**	**75.87**	**313**	P	**P**	**20 40 24.8**	**+0.3**
XAN				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.1						
KMI	**Kunming**	**76.15**	**302**	P	**P**	**20 40 28.0**	**+1.7**
KMI				AP	pP	20 40 35.8	+0.2
KMI				XP	sP	20 40 38.8	0.0
KMI				PP	PP	20 43 23.3	+4.2
KMI				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
KMI				AMB	AMB		
	comp=Z,383nm,6.6s						
KMI				LR	LR		
	comp=N,617nm,33.4s						
KMI				LR	LR		
	comp=E,439nm,24.7s						
KMI				LR	LR		
	comp=Z,587nm,23.8s						
KMI	**Kunming**	**76.15**	**302**	P	**P**	**20 40 27.9**	**+1.6**
	comp=Z,24nm,1.3s,mb5.0						
KMI				pP	pP	20 40 35.7	+0.1
KMI				sP	sP	20 40 38.8	0.0
KMI				PP	PP	20 43 23.3	+4.2
KMI				PPP	PPP	20 45 12.3	+6.1
KMI				S	S	20 50 10.6	+3.8
KMI				sS		20 50 25.8	
KMI				SS	SS	20 55 03.1	-0.3
KMI				SSS	SSS	20 58 27.3	+8.7
KMI				LR	LR		
	comp=Z,590nm,23.8s,MS4.8						
KMI	**Kunming**	**76.15**	**302**	P	**P**	**20 40 27.9**	**+1.6**
KMI				*SP	sP	20 40 38.8	0.0
KMI						20 43 23.3	
KMI				PPP	PPP	20 45 12.3	+6.1
KMI				S	S	20 50 10.6	+3.8
KMI				*SS		20 50 25.8	
KMI				SS	SS	20 55 03.1	-0.3
KMI				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.0						
KMI				MLR	MLR		
	comp=Z,590nm,23.8s,MS4.8						
MA2	**Magadan**	**77.93**	**351**	PFAKE		20 40 50.0	+15
MA2				LR	LR		
	comp=Z,1μm,22.0s,MS5.2						
MA2	**Magadan**	**77.93**	**351**	*de*P	**P**	**20 40 34.6**	**-0.8**
MA2				*e*		20 40 52.2	
MA2				*e*		20 43 40.6	
MA2				*eS*	S	20 50 23.0	-2.4
MA2				*e*		20 50 43.2	
MA2				*ePS*	PS	20 50 58.3	-12
MA2				*e*		20 51 15.1	
MA2				*eSS*	SS	20 55 32.0	+2.6
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
MA2				pmax	pmax		
	comp=N,20nm,1.5s						
MA2				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.1						
HHC	**Hu-ho-hao-te**	**77.94**	**320**	*eP*	**P**	**20 40 36.8**	**+0.9**
HHC				PCP	PcP	20 40 47.0	+1.0
HHC				XP	sP	20 40 51.0	+2.6
HHC				PP	PP	20 43 34.3	+0.3
HHC				AMB	AMB		
	comp=Z,23nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,450nm,5.9s						
HHC				LR	LR		
	comp=N,439nm,15.5s,MS5.0						
HHC				LR	LR		
	comp=E,511nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=Z,615nm,19.0s,MS5.0						
CD2	**Chengdu**	**78.04**	**308**	P	**P**	**20 40 38.5**	**+1.9**
CD2				PP	PP	20 43 37.5	+2.4
CD2				PPP	PPP	20 45 27.0	+2.9
CD2				S	S	20 50 30.0	+2.9
CD2				SS	SS	20 55 35.8	+4.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				LR	LR		
	comp=E,670nm,16.8s						
CD2				LR	LR		
	comp=Z,550nm,22.8s						
HIA	**Hailar**	**78.84**	**330**	*eP*	**P**	**20 40 41.0**	**+0.4**
	comp=Z,34nm,1.1s,mb5.2						
HIA				LR	LR		
	comp=Z,628nm,22.0s,MS4.9						
HIA	**Hailar**	**78.84**	**330**	*eP*	**P**	**20 40 41.0**	**+0.4**
HIA				pmax	pmax		
	comp=Z,35nm,1.1s						
HIA				MLR	MLR		
	comp=Z,628nm,22.0s						
MAW	**Mawson**	**79.64**	**202**	*eP*	**P**	**20 40 45.5**	**+0.9**
	comp=Z,13nm,1.1s,mb4.8						
MAW				*eS*	S	20 50 45.4	+2.0
MAW	**Mawson**	**79.64**	**202**	P	**P**	**20 40 45.2**	**+0.6**
	comp=Z,12nm,0.9s,mb4.8,baz=104,slow=6.5,SNR=21						
MAW				LR	LR	21 11 20.9	
	comp=Z,2μm,20.4s,MS5.4,baz=95,slow=32						
MAW	**Mawson**	**79.64**	**202**	*eP*	**P**	**20 40 45.5**	**+0.9**
MAW				*eS*	S	20 50 45.4	+2.0
MAW				pmax	pmax		
	comp=Z,13nm,1.1s						
LZH	**Lanzhou**	**80.49**	**312**	*eP*	**P**	**20 40 51.3**	**+1.5**
LZH				AP	pP	20 40 58.5	-0.7
LZH				XP	sP	20 41 01.5	-0.8
LZH				PP	PP	20 43 56.3	+1.3
LZH				S	S	20 50 55.3	+2.4
LZH				SKS	SKS	20 51 01.5	-7.7
LZH				XS		20 51 07.3	
LZH				SS	SS	20 56 11.3	+3.0
LZH				AMB	AMB		
	comp=Z,90nm,1.6s,mb5.5						
LZH				AMB	AMB		
	comp=Z,420nm,5.8

LZH PS PS 20 51 43.1 +0.2
LZH SS SS 20 56 11.2 +2.9
LZH LR LR
comp=Z,2μm,20.0s,MS5.4
LZH Lanzhou 80.49 312 *e*P **P 20 40 51.2 +1.4**
LZH *SP sP 20 41 01.6 -0.7
LZH 20 43 56.2
LZH S S 20 50 55.3 +2.4
LZH 20 51 01.4
LZH PS PS 20 51 43.1 +0.2
LZH SS SS 20 56 11.2 +2.9
LZH pmax pmax
comp=Z,90nm,1.6s,mb5.5
LZH MLR MLR
comp=Z,2μm,20.0s,MS5.4
SEY Seymchan 80.96 353 *e*P **P 20 40 49.3 -2.4**
SEY *e* 20 44 01.9
SEY *e*S S 20 50 55.1 -2.1
SEY *e*SS SS 20 56 14.9 +0.1
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.1
SEY smax
comp=N,150nm,7.6s
SEY smax
comp=E,230nm,9.1s
KDAK Kodiak Island 81.75 20 PFAKE 20 41 10.0 +14
KDAK LR LR
comp=Z,353nm,19.0s,MS4.7
CLNS Chul'man 82.17 338 *e*P **P 20 40 58.4 +0.3**
CLNS *e* 20 44 06.2
CLNS *e*PPP PPP 20 45 54.0 -6.7
CLNS *e*S S 20 51 15.2 +5.5
CLNS pmax pmax
comp=Z,27nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,22nm,0.9s
CLNS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax
comp=E,6.0nm,0.8s
CLNS smax
comp=Z,7.0nm,0.7s
CLNS smax
comp=N,3.0nm,0.6s
CLNS MLR MLR
comp=Z,400nm,16.0s,MS4.9
CLNS MLR MLR
comp=N,300nm,15.0s,MS4.9
CLNS MLR MLR
comp=E,300nm,16.0s,MS4.9
YAK Yakutsk 84.71 343 *e*P **P 20 41 10.9 0.0**
comp=E,61nm,1.0s,mb5.7
YAK LR LR
comp=Z,1μm,22.0s,MS5.2
YAK Yakutsk 84.71 343*c i*P **P 20 41 10.6 -0.3**
YAK *e*S S 20 51 35.5 +0.5
YAK pmax pmax
comp=Z,11nm,0.8s,mb5.0
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,18nm,6.9s
YAK smax
comp=N,232nm,14.8s
YAK smax
comp=E,79nm,9.7s
TNA Tin City 84.71 10 PFAKE 20 41 20.0 +9.2
TNA LR LR
comp=Z,764nm,22.0s,MS5.0
GTA Gaotai 84.88 314 *e*P **P 20 41 13.5 +1.2**
GTA AP pP 20 41 23.0 +1.2
GTA XP sP 20 41 27.3 +2.5
GTA PP PP 20 44 30.0 -0.6
GTA AMB AMB
comp=Z,17nm,2.2s,mb4.8
GTA AMB AMB
comp=Z,326nm,4.9s
GTA LR LR
comp=N,309nm,20.5s,MS4.9
GTA LR LR
comp=E,496nm,22.1s,MS4.9
GTA LR LR
comp=Z,534nm,20.2s,MS4.9
SONM Songino Array 84.93 324 P **P 20 41 13.1 +0.8**
comp=Z,27nm,0.9s,mb5.4,baz=146,slow=6.0,SNR=103
SONM LR LR 21 16 11.7
comp=Z,691nm,21.4s,MS5.0,baz=118,slow=34
BILL Bilibino 85.18 359 PFAKE 20 41 20.0 +6.8
BILL LR LR
comp=Z,921nm,20.0s,MS5.2
BILL Bilibino 85.18 359*d i*P **P 20 41 13.7 +0.6**
BILL *e*SS SS 20 57 13.0 -4.0
BILL pmax pmax
comp=Z,17nm,1.7s,mb4.9
BILL MLR MLR
comp=Z,400nm,19.0s,MS4.8
HOPS Hopland 85.45 47 PFAKE 20 41 30.0 +15
HOPS LR LR
comp=Z,4μm,20.0s,MS5.8
SNCC San Nicolas Is 85.61 53 PFAKE 20 41 30.0 +14
SNCC LR LR
comp=Z,2μm,20.0s,MS5.6
SAO San Andreas Ge 85.63 49 PFAKE 20 41 30.0 +14
SAO LR LR
comp=Z,2μm,19.0s,MS5.4
PMR Palmer 85.81 19 PFAKE 20 41 30.0 +14
PMR LR LR
comp=Z,1μm,19.0s,MS5.3
SYO Syowa Base 86.33 196 ‖P **P 20 41 17.4 -1.4**
SYO Syowa Base 86.33 196 ‖PcP PcP 20 41 19.2 -2.5
SYO Syowa Base 86.33 196 ‖pP pP 20 41 25.5 -2.8
WDC Whiskeytown Da 86.52 46 PFAKE 20 41 30.0 +10
WDC LR LR
comp=Z,3μm,20.0s,MS5.7
DIV Divide 86.56 21 PFAKE 20 41 30.0 +10
DIV LR LR
comp=Z,3μm,19.0s,MS5.7
YBH Yreka Blue Hor 86.92 45 PFAKE 20 41 30.0 +7.7
YBH LR LR
comp=Z,2μm,21.0s,MS5.4
CMB Columbia Colle 86.94 49 *e*P **P 20 41 21.0 -1.5**
comp=Z,8.9nm,0.9s,mb5.0
CMB LR LR
comp=Z,2μm,22.0s,MS5.4
CMB Columbia Colle 86.94 49 *e*P **P 20 41 21.0 -1.5**
CMB pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
CMB MLR MLR
comp=Z,2μm,22.0s,MS5.4
BOD Bodaibo 87.08 334 *e*P **P 20 41 20.5 -2.2**
BOD pmax pmax
comp=Z,21nm,1.4s,mb5.2
HUMO Hull Mountain 87.14 44 PFAKE 20 41 30.0 +6.6
HUMO LR LR
comp=Z,2μm,20.0s,MS5.4
ISA Isabella 87.37 51 PFAKE 20 41 40.0 +15
ISA LR LR
comp=Z,706nm,20.0s,MS5.1
LSA Lhasa 87.41 302 P **P 20 41 26.3 +1.3**
LSA Lhasa 87.41 302 *e*P **P 20 41 25.9 +0.8**
comp=Z,6.9nm,0.8s,mb4.9
LSA LR LR
comp=Z,451nm,22.0s,MS4.8
LSA Lhasa 87.41 302 *e*P **P 20 41 25.9 +0.9**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
LSA MLR MLR
comp=Z,451nm,22.0s,MS4.8
MCK McKinley 87.50 18 PFAKE 20 41 40.0 +15
MCK LR LR
comp=Z,820nm,20.0s,MS5.1
BEKR Beckwourth 87.72 47 P **P 20 41 26.7 +0.4**
comp=Z,16nm,1.3s,mb5.1
COR Corvallis 87.81 42 PFAKE 20 41 40.0 +13
COR LR LR
comp=Z,1μm,21.0s,MS5.2
SIT Sitka 87.90 27 PFAKE 20 41 40.0 +13
SIT LR LR
comp=Z,2μm,20.0s,MS5.5
MTUM Tungsten Hills 87.98 50 *e*P **P 20 41 27.8 +0.2**
ZAK Zakamensk 88.01 325‖ *e*P **P 20 41 27.3 -0.1**
ZAK pmax pmax
comp=Z,14nm,1.1s,mb5.1
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.4
PFO Pinyon Flat Ob 88.11 54 PFAKE 20 41 40.0 +12
PFO LR LR
comp=Z,554nm,20.0s,MS5.0
IRK Irkutsk 88.43 327 *e*P **P 20 41 29.2 -0.1**
IRK pmax pmax
comp=Z,50nm,2.4s,mb5.3
MOD Modoc 88.61 45 PFAKE 20 41 40.0 +10
MOD LR LR
comp=Z,2μm,20.0s,MS5.5
MNV Mina 88.70 49 *e*P **P 20 41 30.6 -0.4**
comp=Z,14nm,1.1s,mb5.2
MNV LR LR
comp=Z,2μm,21.0s,MS5.4
MNV Mina 88.70 49 *e*P **P 20 41 30.6 -0.4**
MNV pmax pmax
comp=Z,14nm,1.1s,mb5.2
MNV MLR MLR
comp=Z,2μm,21.0s,MS5.4
ILAR Eielson Array 88.87 18 P **P 20 41 31.3 +0.1**
comp=Z,1.2nm,0.7s,mb4.3,baz=247,slow=4.9,SNR=9.5
ILAR LR LR 21 18 03.0
comp=Z,1μm,19.3s,MS5.4,baz=239,slow=33
PMSA Palmer Station 89.11 160 PFAKE 20 41 40.0 +7.7
PMSA LR LR
comp=Z,1μm,19.0s,MS5.3
MOY Mondy 89.90 325 *e*P **P 20 41 36.9 +0.6**
MOY pmax pmax
comp=Z,67nm,2.5s,mb5.5
WVOR Wild Horse Val 89.96 45 *e*P **P 20 41 36.4 -0.4**
comp=Z,14nm,1.1s,mb5.2
WVOR LR LR
comp=Z,2μm,21.0s,MS5.5
WVOR Wild Horse Val 89.96 45 *e*P **P 20 41 36.4 -0.4**
WVOR pmax pmax
comp=Z,14nm,1.1s,mb5.2
WVOR MLR MLR
comp=Z,2μm,21.0s,MS5.5
NEN Nelson 90.10 53 P **P 20 41 38.7 +1.1**
NVL N'lazarevskaya 90.51 188 *e*P **P 20 41 37.1 -1.6**
NVL *e*SP sP 20 41 52.7 +1.5
NVL pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
NVL MLR MLR
comp=Z,81nm,18.2s,MS4.2
MAIT Maitri 90.52 188 *e*P **P 20 41 38.8 +0.1**
HAWA Hanford 90.98 41 *e*P **P 20 41 41.3 -0.2**
HAWA LR LR
comp=Z,0.7nm,0.8s
comp=Z,56nm,20.0s
PKI Pulchoki 91.42 298 *e*P **P 20 41 43.8 -0.1**
VNA3 Neumayer Olymp 91.59 181 P **P 20 41 45.3 +1.7**
VNA3 Neumayer Olymp 91.59 181 **P 20 41 53.0 +9.4**
VNA3 Neumayer Olymp 91.59 181 **P 20 41 57.9 +14**
KKN Kakani 91.60 299 *e*P **P 20 41 44.7 0.0**
comp=Z,60nm,1.7s,mb5.7
KKN Kakani 91.60 299 *e*P **P 20 41 44.7 0.0**
KKN pmax pmax
comp=Z,30nm,1.7s,mb5.3
DMN Daman 91.69 298 *e*P **P 20 41 45.7 +0.6**
comp=Z,32nm,1.3s,mb5.5
VNA2 Neumayer--Watz 91.86 182 P **P 20 41 46.7 +1.8**
VNA2 Neumayer--Watz 91.86 182 **P 20 41 48.9 +4.0**
VNA2 Neumayer--Watz 91.86 182 **P 20 41 54.5 +10**
VNA2 Neumayer--Watz 91.86 182 **P 20 41 59.7 +15**
TUC Tucson 92.11 57 PFAKE 20 42 00.0 +13
TUC LR LR
comp=Z,866nm,19.0s,MS5.2
VNA1 Neumayer--Stat 92.16 181 P **P 20 41 48.2 +1.9**
VNA1 Neumayer--Stat 92.16 181 **P 20 41 56.0 +10**
GKN Gorkha 92.21 299 *e*P **P 20 41 47.3 -0.2**
TIXI Tiksi 92.66 348 PFAKE 20 42 00.0 +11
TIXI LR LR
comp=Z,876nm,19.0s,MS5.2
WUAZ Wupatki 92.70 54 PFAKE 20 42 00.0 +10
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.7
DGAR Diego Garcia 92.90 261 PFAKE 20 42 00.0 +9.0
DGAR LR LR
comp=Z,644nm,20.0s,MS5.1
KOLN Koldanda 93.01 298 *e*P **P 20 41 52.3 +1.1**
comp=Z,18nm,1.3s,mb5.4
DUG Dugway 93.20 49 PFAKE 20 42 00.0 +8.2
DUG LR LR
comp=Z,2μm,20.0s,MS5.6
NEW Newport 93.23 40 PFAKE 20 42 00.0 +8.3
NEW LR LR
comp=Z,852nm,20.0s,MS5.2
HWUT Hardware Ranch 94.56 48 PFAKE 20 42 10.0 +12
HWUT LR LR
comp=Z,1μm,21.0s,MS5.3
WMQ Urumqi 94.95 314‖ *i*P **P 20 42 01.0 +1.2**
WMQ AP pP 20 42 11.5 +2.3
WMQ XP sP 20 42 15.0 +2.7
WMQ PP PP 20 45 53.0 +1.9
WMQ PPP PPP 20 47 58.0 +2.0
WMQ SKS SKS 20 52 32.5 -7.6
WMQ S S 20 53 11.0 +2.3
WMQ SS SS 20 59 41.0 +2.9
WMQ AMB AMB
comp=Z,20nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,173nm,5.2s
WMQ LR LR
comp=N,558nm,20.2s,MS5.1
WMQ LR LR
comp=E,461nm,20.0s,MS5.1
WMQ LR LR
comp=Z,591nm,22.0s,MS5.0
AHID Auburn Hatcher 95.27 47 PFAKE 20 42 10.0 +8.8
AHID LR LR
comp=Z,2μm,21.0s,MS5.5
MNTX Cornudas Mount 96.30 59 PFAKE 20 42 20.0 +14
MNTX LR LR
comp=Z,929nm,19.0s,MS5.3
LKWY Lake 96.31 45 PFAKE 20 42 20.0 +14
LKWY LR LR
comp=Z,4μm,19.0s,MS5.9
PDAR Pinedale Array 96.35 47 PKKPbc 20 58 51.3
comp=Z,1.0nm,0.7s,baz=91,slow=4.7,SNR=8.3
PDAR LR LR 21 18 35.4
comp=Z,701nm,20.9s,MS5.1,baz=279,slow=31
ANMO Albuquerque 96.36 56 PFAKE 20 42 20.0 +14
ANMO LR LR
comp=Z,983nm,22.0s,MS5.2
LTX Lajitas 97.07 62 PFAKE 20 42 20.0 +10
LTX LR LR
comp=Z,1μm,19.0s,MS5.4
TXAR Lajitas Array 97.07 62 P **P 20 42 11.2 +1.5**
comp=Z,0.5nm,0.9s,baz=243,slow=5.6,SNR=3.7
TXAR LR LR 21 20 45.4
comp=Z,1μm,18.1s,MS5.4,baz=295,slow=32
SDCO Great Sand Dun 97.88 53 PFAKE 20 42 20.0 +6.8
SDCO LR LR
comp=Z,2μm,20.0s,MS5.5
ISCO Idaho Springs 98.35 51 PFAKE 20 42 30.0 +15
ISCO LR LR
comp=Z,2μm,20.0s,MS5.7
MKAR Makanchi Array 99.47 316 P **P 20 42 20.2 0.0**
comp=Z,1.7nm,0.6s,mb4.8,baz=90,slow=6.5,SNR=12
YKA Yellowknife Ar 99.64 27 LR LR 21 26 27.6
comp=Z,893nm,18.2s,MS5.3,baz=235,slow=35
LAO LASA Array 99.73 44 PFAKE 20 42 30.0 +8.7
LAO LR LR
comp=Z,864nm,20.0s,MS5.2
ZAL Zalesovo 99.84 323 P **P 20 42 21.7 0.0**
comp=Z,1.8nm,0.9s,mb4.5,baz=335,slow=5.1,SNR=8.2
ZAL LR LR 21 25 41.2
comp=Z,535nm,21.0s,MS5.0,baz=244,slow=34
ZAL Zalesovo 99.84 323 P **P 20 42 21.7 0.0**
ZAL LR LR 21 25 41.2
EFI East Falkland 100.46 153 PFAKE 20 42 40.0 +15
EFI LR LR
comp=Z,204nm,21.0s,MS4.6
PLCA Paso Flores 100.81 139 PFAKE 20 42 40.0 +14
PLCA LR LR
comp=Z,608nm,21.0s,MS5.1
NVS Novosibirsk 100.96 324 *e*P P 20 42 24.9 -1.8
DGMT Dagmar 101.49 43 PFAKE 20 42 40.0 +11
DGMT LR LR
comp=Z,785nm,21.0s,MS5.2
CBKS Cedar Bluff 102.54 53 PFAKE 20 42 50.0 +16
CBKS LR LR
comp=Z,1μm,20.0s,MS5.5
KURK Kurchatov 102.75 319 PFAKE 20 42 50.0 +15
KURK LR LR
comp=Z,180nm,22.0s,MS4.5
AAK Ala-Archa 103.96 311 PFAKE 20 42 50.0 +10
AAK LR LR
comp=Z,124nm,21.0s,MS4.4
FFC Flin Flon 104.11 37 PFAKE 20 42 50.0 +9.4
FFC LR LR
comp=Z,334nm,19.0s,MS4.9
MIAR Mount Ida 106.59 58 PFAKE 20 47 10.0
MIAR LR LR
comp=Z,526nm,21.0s,MS5.1
ULM Lac du Bonnet 107.15 42 PFAKE 20 47 20.0
ULM LR LR
comp=Z,1μm,21.0s,MS5.4
BRVK Borovoye 108.20 321 PFAKE 20 47 20.0
BRVK LR LR
comp=Z,88nm,20.8s,MS4.3
CCM Cathedral Cave 108.98 55 PFAKE 20 47 20.0
CCM LR LR
comp=Z,998nm,20.0s,MS5.4
JTS JuntasAbangare 109.33 85 PFAKE 20 47 20.0
JTS LR LR
comp=Z,336nm,20.0s,MS4.9
MSEY Mahe Island 109.74 258 PFAKE 20 47 20.0
MSEY LR LR
comp=Z,509nm,19.0s,MS5.1
NNA Nana 109.79 110 PFAKE 20 47 20.0
NNA LR LR
comp=Z,165nm,20.0s,MS4.6
EYMN Ely 109.80 45 PFAKE 20 47 20.0
EYMN LR LR
comp=Z,2μm,19.0s,MS5.6
PLAL Pickwick Lake 111.13 59 PFAKE 20 47 20.0 +5.2
PLAL LR LR
comp=Z,1μm,19.0s,MS5.6
LVC Limon Verde 111.75 124 PFAKE 20 47 20.0 +3.8
LVC LR LR
comp=Z,888nm,21.0s,MS5.3
LRAL Lakeview Retre 111.78 61 PFAKE 20 47 20.0 +3.9
LRAL LR LR
comp=Z,676nm,20.0s,MS5.2
WCI Wyandotte Cave 112.88 55 PFAKE 20 47 30.0 +12
WCI LR LR
comp=Z,1μm,19.0s,MS5.5
ARU Arti 114.95 325 PFAKE 20 47 30.0 +8.3
ARU LR LR
comp=Z,186nm,20.0s,MS4.7
ARU Arti 114.95 325 *i* PKIKP PKPdf 20 47 18.7 -3.0
ARU *e* 20 48 17.1
ARU *e*PPP PPP 20 50 48.9 +2.2
ARU *e* 20 54 27.2
ARU *e*SP SP 20 57 50.8 -1.3
ARU *e*PS PS 20 57 53.4 -2.3
ARU *e*SS SS 21 04 07.0 -3.8
LPAZ La Paz 115.51 118 PFAKE 20 47 30.0 +6.2
LPAZ LR LR
comp=Z,535nm,19.0s,MS5.2
ACSO Alum Creek Sta 115.55 53 PFAKE 20 47 30.0 +6.6
ACSO LR LR
comp=Z,585nm,22.0s,MS5.2
DWPF Disney 115.97 67 PFAKE 20 47 30.0 +5.5
DWPF LR LR
comp=Z,601nm,20.0s,MS5.2
BLA Blacksburg 117.47 57 PFAKE 20 47 40.0 +13
BLA LR LR
comp=Z,794nm,20.0s,MS5.3
ERPA Erie 117.82 51 PFAKE 20 47 40.0 +12
ERPA LR LR
comp=Z,966nm,20.0s,MS5.4
CPUP Villa Florida 118.25 134 PFAKE 20 47 40.0 +11
CPUP LR LR
comp=Z,356nm,21.0s,MS5.0
CBN Corbin 119.90 56 PFAKE 20 47 40.0 +8.2
CBN LR LR
comp=Z,1μm,22.0s,MS5.5
BINY Binghamton 120.79 51 PFAKE 20 47 40.0 +6.5
BINY LR LR
comp=Z,1μm,19.0s,MS5.7
SUR Sutherland 121.30 213 PFAKE 20 47 40.0 +5.3
SUR LR LR
comp=Z,197nm,21.0s,MS4.7
NCB Newcomb 121.91 49 PFAKE 20 47 40.0 +4.4
NCB LR LR
comp=Z,3μm,21.0s,MS5.8
KEV Kevo 122.41 345 PFAKE 20 47 40.0 +4.1
KEV LR LR
comp=Z,735nm,22.0s,MS5.3
SDV Santo Domingo 122.63 90 PFAKE 20 47 50.0 +12
SDV LR LR
comp=Z,429nm,19.0s,MS5.1
ARCES ARCESS Array B 122.94 345 PKP PKPdf 20 47 31.6 -5.3
comp=Z,4.3nm,0.8s,baz=45,slow=1.7,SNR=7.4
LBNH Lisbon 123.52 48 PFAKE 20 47 50.0 +11
LBNH LR LR
comp=Z,3μm,19.0s,MS5.9
HRV Harvard--Oak R 124.02 50 PFAKE 20 47 50.0 +10
HRV LR LR
comp=Z,2μm,21.0s,MS5.7
LBTB Lobatse 124.05 222 PFAKE 20 47 50.0 +10
LBTB LR LR
comp=Z,726nm,19.0s,MS5.4
SCHQ Schefferville 124.18 35 PFAKE 20 47 50.0 +10
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.9
WES Weston 124.21 50 PFAKE 20 47 50.0 +10
WES LR LR
comp=Z,2μm,19.0s,MS5.8
WVL Waterville 125.07 47 PFAKE 20 47 50.0 +8.3
WVL LR LR
comp=Z,11μm,22.0s
JOF Joensuu 125.53 337 *e*p PKPdf 20 47 36.9 -5.1
PQI Presque Isle 125.77 45 PFAKE 20 47 50.0 +7.0
PQI LR LR
comp=Z,10μm,20.0s
GNI Garni 126.17 307 PFAKE 20 47 50.0 +6.1
GNI LR LR
comp=Z,341nm,21.0s,MS5.0
ZEI Tsey 126.39 311 *e*PKIKP PKPdf 20 47 40.2 -4.0
MOS Moscow 126.40 328 *e*PKIKP PKPdf 20 47 37.5 -6.4
EMMW East Machias 126.58 47 PFAKE 20 47 50.0 +5.5
EMMW LR LR
comp=Z,5μm,19.0s,MS6.2
KIV Kislovodsk 127.03 312 PFAKE 20 47 50.0 +4.6
KIV LR LR
comp=Z,85nm,19.0s,MS4.4
KIV Kislovodsk 127.03 312 *i* PKIKP PKPdf 20 47 41.7 -3.7
KIV *e* 20 49 36.7
KIV *e*SS SS 21 06 45.8 -0.4
KIV pmax pmax
comp=N,8.0nm,1.1s
KIV pmax pmax
comp=Z,13nm,1.1s
KIV pmax pmax
comp=E,11nm,1.7s
OBN Obninsk 127.21 327 PFAKE 20 47 50.0 +4.5
OBN LR LR
comp=Z,160nm,20.0s,MS4.7
OBN Obninsk 127.21 327 *i* PKIKP PKPdf 20 47 42.0 -3.5
OBN *e* 20 49 51.1
OBN *e*PS PS 20 59 49.0 +4.1
OBN pmax pmax
comp=Z,17nm,1.8s
OBN MLR MLR
comp=Z,700nm,21.0s,MS5.3
KAF Kangasniemi 127.84 338 *e*p PKPdf 20 47 45.8 -0.7
KMBO Kilima Mbogo 127.96 254 PKP PKPdf 20 47 44.9 -3.2
comp=Z,3.2nm,0.8s,baz=47,slow=23,SNR=8.3
FINES FINESS Array B 128.37 338 PKP PKPdf 20 47 43.6 -3.9
comp=Z,3.0nm,1.0s,baz=304,slow=0.4,SNR=7.1
LSZ Lusaka 128.64 233 PFAKE 20 48 00.0 +11
LSZ LR LR
comp=Z,927nm,19.0s,MS5.5
SJG San Juan 128.75 80 PFAKE 20 48 00.0 +11
SJG LR LR
comp=Z,419nm,20.0s,MS5.1
ANN Anapa 130.47 315 *i* PKIKP PKPdf 20 47 41.7 -10
ANN *e* 20 54 43.8

ANN pmax pmax
comp=Z,81nm,1.7s
BBSR BB Station 130.53 62 PFAKE 20 48 00.0 +7.5
BBSR LR LR
comp=Z,671nm,20.0s,MS5.3
MALT Malatya 131.31 306 *e*PKPdf PKPDf 20 47 51.0 -2.9
AKASG Malin Array Be 133.21 325 PKP PKPDf 20 47 51.8 -5.3
comp=Z,1.6nm,0.8s,baz=71,slow=2.9,SNR=8.0
NB2 NORSAR Subarra133.31 345 PKPbc PKPDf 20 48 01.4 +4.5
comp=Z,7.8nm,1.1s,baz=33,slow=2.0
NOA NORSAR Array B 133.31 345 PKP PKPDf 20 47 53.5 -3.5
comp=Z,1.2nm,0.8s,baz=339,slow=3.8,SNR=3.5
TSUM Tsumeb 133.34 220 PFAKE 20 48 10.0 +12
TSUM LR LR
comp=Z,773nm,21.0s,MS5.4
ASF Jabal al Asfar 133.46 298 PKP PKPDf 20 47 54.5 -3.6
comp=Z,4.7nm,0.9s,baz=358,slow=4.6,SNR=7.3
BR131 Keskin Array S 134.61 309 *e*PKPdf PKPDf 20 47 57.4 -2.6
BRTR Keskin Array B 134.61 309 PKP PKPDf 20 47 57.0 -3.0
comp=Z,3.3nm,1.0s,baz=135,slow=1.7,SNR=7.9
ANTO Ankara 135.19 309 PFAKE 20 48 10.0 +9.0
ANTO LR LR
comp=Z,336nm,19.0s,MS5.1
KOLS Kolonicke sedl 137.94 326 *e*PKP PKPdf 20 48 02.6 -3.2
STHS Stebnicka Huta 138.19 327 *e*PKP PKPdf 20 48 05.9 -0.3
KECS Kecovo 139.16 327 *e* PKPdf 20 48 11.3 +3.3
DPC Dobruska-Polom 139.96 332 *e*pPKP 20 48 15.7
DPC AMS AMS 21 50 20.0
comp=Z,1μm,22.6s
UPC Upice 139.99 332 *e*pPKP 20 48 20.9
PVCC Panska Ves 140.61 333 *e*PKPdf PKPdf 20 48 09.1 -1.5
PVCC AMS AMS 21 49 00.0
comp=Z,800nm,22.4s
BRG Berggiesshubel 140.62 334 *e*PKP PKPdf 20 48 02.9 -7.7
BRG *e* 20 48 08.6
BRG *e* 20 48 25.4
BRG Berggiesshubel 140.62 334 *e*PKIKP PKPdf 20 48 02.9 -7.7
BRG *e* 20 48 25.4
CLL Collm 140.68 335 *e* PKPdf 20 48 04.0 -6.7
CLL *e* 20 48 13.0
PRU Pruhonice 141.02 333 *e*PKPdf PKPdf 20 48 08.6 -2.7
PRU AMS AMS 21 45 50.0
comp=Z,800nm,21.5s
NKC Novy Kostel 141.73 334 *e*PKPdf PKPdf 20 48 11.1 -1.4
MOX Moxa 141.74 335 *i* P PKPdf 20 48 11.2 -1.3
comp=Z,logA/T=1.1
MOX Moxa 141.74 335 *e*PKIKP PKPdf 20 48 11.2 -1.3
RHK1 Bakonya 141.93 325 *e*P PKPdf 20 48 05.9 -7.1
KHC Kasperske Hory 142.07 332 *e*PKPpre 20 48 06.2
KHC PKPdf PKPdf 20 48 11.5 -1.6
KHC Kasperske Hory 142.07 332 *e*PKP PKPdf 20 48 06.2 -6.9
KHC *e* 20 48 11.5
GERES GERESS Array B 142.23 332 PKhKP 20 48 04.5
comp=Z,0.8nm,0.5s,baz=34,slow=2.1,SNR=16
SKO Skopje 142.26 318 *e*PKP 20 47 57.0
SKO *e* PKPdf 20 48 06.0 -7.7
GRA1 Grafenberg Arr 142.65 335 *e*PKP PKPdf 20 48 07.5 -6.6
GRF Grafenberg Arr 142.65 335 *e*PKP PKPdf 20 48 07.5 -6.6
MOA Molln 142.69 330⇑*i*P PKPdf 20 48 06.8 -7.4
comp=Z,5.0nm,0.7s
TOD Tromm 143.66 337⇓*e*P PKPbc 20 48 09.9 +0.4
TOD Tromm 143.66 337 PKP PKPdf 20 48 09.4 -6.4
KBA Koelnbreinsper 143.68 330⇑*i*P PKPbc 20 48 09.5 -0.2
comp=Z,16nm,1.3s
KBA Koelnbreinsper 143.68 330 *i* P PKPbc 20 48 09.5 -0.2
comp=Z,16nm,1.3s,SNR=7.9
FUR Furstenfeldbru 143.81 333 *e*PKP PKPdf 20 48 12.5 -3.6
LJU Ljubljana 143.82 328 *i* PKPbc PKPbc 20 48 10.2 +0.1
ABH Alteburg 143.89 338⇓*e*P PKPbc 20 48 10.9 +0.7
ABH Alteburg 143.89 338 PKP PKPdf 20 48 10.2 -6.0
HDH Heidenheim 143.93 335 *e*P PKPbc 20 48 10.3 -0.1
CADS Cadrg 144.09 329 *e*PKPbc PKPbc 20 48 10.1 -0.8
VOY Vojsko 144.15 328 *e*PKPbc PKPbc 20 48 10.8 -0.3
VOY *e* 20 48 15.8
VOY *e* 20 48 22.7
WTTA Wattenberg 144.33 332⇑*i*P PKPbc 20 48 11.8 +0.2
comp=Z,20nm,1.0s
BUCH Bad Urach 144.38 335⇑*e*P PKPbc 20 48 11.9 +0.2
LBG Lerchenberg 144.43 336 *e*P PKPbc 20 48 12.3 +0.5
MOTA Moosalm 144.51 332⇓*i*P PKPbc 20 48 12.3 +0.3
comp=Z,28nm,1.1s
LANF Langenberg 144.55 337 PKP PKPdf 20 48 12.6 -4.8
SQTA Sankt Quirin 144.56 332⇑*i*P PKPbc 20 48 12.8 +0.6
comp=Z,40nm,1.4s
WLF Walferdange 144.56 339 *e*PKPdf PKPdf 20 48 12.5 -4.9
GIVF Givet 144.61 341 *e*PKP1 PKPbc 20 48 12.4 +0.2
UBR Uberruh 144.68 334 *e*P PKPbc 20 48 12.8 +0.3
GUT Gutenstein 144.78 335⇑*e*P PKPbc 20 48 13.1 +0.3
BAIF Baives 144.83 342⇑*i*PKP1 PKPbc 20 48 13.2 +0.3
comp=Z,44nm,1.0s
BFO Black Forest 144.88 336 *e*PKP PKPdf 20 48 13.4 -4.6
SPAK Spaichingen 144.89 335 *e*P PKPbc 20 48 13.5 +0.4
DAVA Damuels 145.08 333⇑*i*P PKPbc 20 48 14.6 +1.0
comp=Z,45nm,0.7s
DAVA Damuels 145.08 333 *i* P PKPbc 20 48 14.6 +1.0
comp=Z,45nm,0.7s,SNR=27
WLS Welschbruch 145.19 337 PKP PKPdf 20 48 14.6 -4.0
CDF Champ du Feu 145.22 337⇑*i*PKP1 PKPbc 20 48 14.6 +0.7
comp=Z,178nm,1.0s
LIBD Limburg 145.31 337⇑*e*P PKPbc 20 48 15.0 +0.8
LIBD Limburg 145.31 337 PKIKP PKPdf 20 48 14.8 -4.0
KIZ Kirchzarten 145.35 336⇑*e*P PKPbc 20 48 14.9 +0.6
FELD Feldberg 145.38 336 *e*P PKPbc 20 48 15.2 +0.8
ECH Echery 145.42 337 PKP PKPdf 20 48 15.0 -4.0
MOF Molkenrain 145.74 337 PKP PKPdf 20 48 16.1 -3.4
THEF They Montfort 145.84 338 PKP PKPdf 20 48 16.5 -3.2
HINF Hinteralfeld 145.87 337⇑*i*PKP1 PKPbc 20 48 16.3 +0.7
comp=Z,41nm,0.9s
HAU Haudompre 145.90 338⇑*i*PKP1 PKPbc 20 48 16.6 +1.0
comp=Z,104nm,0.9s
HAU *e*R
comp=Z,768nm,22.2s
BBS Basel-Blauen 145.91 336 *e*P PKPbc 20 48 16.9 +1.2
BBS Basel-Blauen 145.91 336 PKP2 PKPab 20 48 16.5 -1.5
MEZF Maizieres J'vi 145.93 339⇑*i*PKP1 PKPbc 20 48 17.1 +1.4
comp=Z,161nm,0.9s
LOMF Lomont 146.27 337 PKP PKPdf 20 48 16.7 -3.7
TIP Timpagrande 146.76 317 *e*PKPdf PKPdf 20 48 18.2 -3.3
CII Carovilli 146.79 322 *e*PKPdf PKPdf 20 48 18.3 -3.2
AQU L'Aquila 146.90 324 *e*PKPdf PKPdf 20 48 19.4 -2.3
RCBR Riachuelo 147.12 132 PFAKE 20 48 30.0 +7.1
RCBR LR LR
comp=Z,627nm,20.0s,MS5.4
CABF La Chapelle 147.16 337⇑*i*PKP1 PKPdf 20 48 20.8 -1.2
comp=Z,151nm,1.1s
VLC Villacollemand 147.22 329 *e*PKPdf PKPdf 20 48 18.7 -3.5
FLN La Foliniere 147.28 346⇑*i*PKP1 PKPdf 20 48 20.2 -1.9
comp=Z,99nm,1.0s
FLN *e*R
comp=Z,818nm,21.0s
LDF La Druitiere 147.35 345⇑*i*PKP1 PKPdf 20 48 20.2 -2.0
comp=Z,56nm,0.9s
LOR Lormes 147.40 340⇑*i*PKP1 PKPdf 20 48 20.9 -1.4
comp=Z,139nm,1.2s
LOR *e*R
comp=Z,658nm,20.0s
SSF Saint Saulge 147.69 340⇑*i*PKP1 PKPdf 20 48 21.9 -0.9
comp=Z,128nm,1.1s
GRR Gorron 147.72 346⇑*i*PKP1 PKPdf 20 48 21.6 -1.2
comp=Z,140nm,1.1s
HYF Humbligny 147.79 341⇑*i*PKP1 PKPdf 20 48 22.3 -0.6
LPL La Plagne 147.81 335⇑*i*PKP1 PKPdf 20 48 22.7 -0.3
comp=Z,84nm,1.1s
LPG La Plagne 147.82 335⇑*i*PKP1 PKPdf 20 48 22.8 -0.2
comp=Z,78nm,0.9s
SMF Signal de Mont 147.94 339⇑*i*PKP1 PKPdf 20 48 22.3 -0.9
comp=Z,155nm,1.1s
AVF Avril sur Loir 147.98 340⇑*i*PKP1 PKPdf 20 48 22.2 -1.1
comp=Z,152nm,1.1s
BNI Bardonecchia 148.21 334 *e*PKPbc PKPdf 20 48 23.5 -0.2
SGMF Saint Gilles 148.22 348⇑*i*PKP1 PKPdf 20 48 22.8 -0.8
comp=Z,63nm,0.8s
ROSF Rostrenen 148.28 349⇑*i*PKP1 PKPdf 20 48 22.7 -1.0
comp=Z,167nm,1.4s
BGF Bois d'Agland 148.35 340⇑*i*PKP1 PKPdf 20 48 23.3 -0.6
comp=Z,42nm,0.8s
MBDF Montbardon 148.43 334⇑*i*PKP1 PKPdf 20 48 23.6 -0.5
comp=Z,84nm,1.1s
PLDF La Plantade 148.61 339 PKP PKPdf 20 48 24.5 +0.2
ORIF Oris-en-Rattie 148.65 335⇑*i*PKP1 PKPdf 20 48 24.5 +0.1
comp=Z,83nm,1.0s
ORIF *e*R
comp=Z,507nm,20.2s
QUIF Quistinic 148.66 348⇑*i*PKP1 PKPdf 20 48 23.8 -0.5
comp=Z,62nm,1.2s
SAOF Saorge 148.68 332 PKP PKPdf 20 48 23.2 -1.3
AUTN L'Aution 148.73 332 PKP PKPdf 20 48 23.7 -0.9
TOUF Mont Tournerai 148.80 332 PKP PKPdf 20 48 23.2 -1.5
TCF Toulx Ste Croi 148.80 341⇑*i*PKP1 PKPdf 20 48 24.6 0.0
comp=Z,88nm,1.1s
SBF Sospel 148.83 332⇑*i*PKP1 PKPdf 20 48 24.4 -0.3
comp=Z,130nm,0.9s
MVIF Mont Vial 148.93 332 PKP PKPdf 20 48 24.3 -0.6
COLF Collangettes 148.97 338 PKP PKPdf 20 48 25.4 +0.5
PYM Petit Puy Mans 149.01 339 PKP PKPdf 20 48 25.0 +0.1
PGF Pioggiola 149.10 329⇑*i*PKP1 PKPdf 20 48 25.5 +0.3
comp=Z,121nm,0.8s
CALN Calern 149.16 332 PKP PKPdf 20 48 25.1 -0.2
VIVF Saint-Julien-l 149.17 336⇑*i*PKP1 PKPdf 20 48 25.8 +0.6
comp=Z,89nm,1.1s
MFF Saint Martin d 149.20 344⇑*i*PKP1 PKPdf 20 48 25.4 +0.2
comp=Z,43nm,0.7s
LBL Lubilhac 149.38 338 PKP PKPdf 20 48 26.2 +0.6
STOF St-Etienne Org 149.39 334 PKP PKPdf 20 48 26.7 +1.1
FRF La Foret Royal 149.42 333⇑*i*PKP1 PKPdf 20 48 26.0 +0.3
comp=Z,73nm,1.1s
SMRF Simiane la Rot 149.54 334⇑*i*PKP1 PKPdf 20 48 27.0 +1.1
comp=Z,62nm,1.2s
TAVF Tavernes 149.63 333 PKP PKPdf 20 48 27.1 +1.1
LMR La Mourre 149.66 332⇑*i*PKP1 PKPdf 20 48 26.6 +0.5
comp=Z,84nm,1.0s
PRAF Pradon 149.85 335 PKP PKPdf 20 48 28.0 +1.6
RJF Les Rejaudoux 149.90 341⇑*i*PKP1 PKPdf 20 48 27.5 +1.1
comp=Z,105nm,1.1s
RJF *e*R
comp=Z,859nm,18.8s
BERF Bertagne 150.03 333 PKP PKPdf 20 48 28.0 +1.3
CAF Calviac 150.05 340⇑*i*PKP1 PKPdf 20 48 28.1 +1.5
comp=Z,73nm,1.1s
GELF Grande-Etoile 150.09 334 PKP PKPdf 20 48 25.2 -1.6
LASF Ste Croix 150.15 336⇑*i*PKP1 PKPdf 20 48 28.2 +1.4
comp=Z,119nm,1.1s
LFF La Frestale 150.47 341⇑*i*PKP1 PKPdf 20 48 28.8 +1.5
comp=Z,103nm,1.1s
VSL Villasalto 151.08 324 *e*PKPbc PKPdf 20 48 29.7 +1.3
MTLF Montolieu 151.39 338⇑*i*PKP1 PKPdf 20 48 30.9 +2.2
comp=Z,107nm,1.1s
EPF Esparros 152.31 340⇑*i*PKP1 PKPdf 20 48 33.4 +3.3
comp=Z,72nm,1.4s
ETSF Etsaut 152.71 341⇑*i*PKP1 PKPdf 20 48 34.4 +3.8
comp=Z,34nm,0.8s
SJPF Ste Jean 152.71 342 *e*PKP1 PKPdf 20 48 34.1 +3.5
CMAH Djebel Manchou 154.17 322 P PKPdf 20 48 37.0 +4.1
ABSA Djebel Ababsia 154.37 321 P PKPdf 20 48 38.0 +4.9
CKFL Kef-Lekhel 154.73 322 P PKPdf 20 48 40.0 +6.4
DFRA Djebel Bou Aff 155.12 324 P PKPdf 20 48 47.0 +13
CTEI Djebel Teioual 155.15 322 P PKPdf 20 48 46.0 +12
SET Setif 155.63 324 P PKPdf 20 48 50.0 +15
CMER Merouana 155.75 322 P PKPdf 20 48 42.0 +7.1
PVRL Vila Real 155.88 352 *e*PKPab PKPab 20 48 59.7 +0.4
CMLA Cha da Macela 156.55 27 PFAKE 20 48 40.0 +4.0
CMLA LR LR
comp=Z,3μm,22.0s,MS6.1
ESDC Sonseca Array 156.67 344 PKPab PKPab 20 49 01.0 -1.8
comp=Z,1.9nm,0.7s,baz=2.9,slow=3.7,SNR=5.4
ESLA Sonseca Array 156.67 344 PFAKE 20 48 40.0 +3.9
ESLA LR LR
comp=Z,5μm,21.0s,MS6.3
MTE Manteigas 156.72 351 *e*PKPab PKPab 20 49 02.4 -0.5
PBEJ Beja 159.09 350 *e*PKPab PKPab 20 49 12.8 -0.4
DBIC Dimbokro 167.18 215 PKPab PKPab 20 49 49.7 +0.7
comp=Z,6.3nm,1.0s,baz=140,slow=8.2,SNR=4.0
DBIC Dimbokro 167.18 215 PKP2 PKPab 20 49 49.7 +0.7
DBIC MLR MLR
comp=Z,878nm,21.0s

*IDC **25** 20:32:31.7±1.2, 17.45S×167.96E, mb4.5/8, mb1 4.6/10, mb1mx4.5/16, mbtmp4.6/10, ML4.6/2, Error ellipse: s-maj=33.2km s-min=21.8km az=113.0*
*LDG **25** 20:32:33.5±0.2, 17.27S×167.44E, h10km, Mb5.1/2, Error ellipse: s-maj=31.3km s-min=4.0km az=94.0*
*BJI **25** 20:32:36.5, 17.40S×167.90E, h30km, mB5.3, mb4.8, Ms4.7, Msz4.1*
*NEIC **25** 20:32:36.6±0.5, 17.37S×167.86E, h30km, mb4.8/10, Error ellipse: s-maj=12.6km s-min=9.6km az=88.0*
ISC 25 20:32:33.5±4.8, **17.48S**±0.07×**167.8E**±0.1, **h19**km±32km, **n60**, σ1§**19**/35, **mb4.7**/18, **MS4.5**/1, **3C**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.74**	**196**	Pn		**Pn**	**20 33 46.4**	**+0.6**
	9.8nm,0.3s,baz=47,slow=18,SNR=7.1							
DZM				Sn		**Sn**	**20 34 38.3**	**-2.7**
	16nm,0.3s,baz=130,slow=23,SNR=4.8							
HNR	**Honiara**	**11.07**	**315**	Pn		**P**	**20 35 14.4**	**+0.3**
	12nm,0.3s,baz=229,slow=4.3,SNR=2.8							
HNR	**Honiara**	**11.07**	**315**	*e*P		**P**	**20 35 11.0**	**-3.1**
CTA	**Charters Tower**	**20.57**	**259**	P		**P**	**20 37 13.8**	**-0.2**
CTA	**Charters Tower**	**20.57**	**259**	P		**P**	**20 37 13.8**	**-0.2**
CTAO	**Charters Tower**	**20.57**	**259**	*e*P		**P**	**20 37 14.1**	**0.0**
	70nm,1.4s							
PMG	**Port Moresby**	**21.62**	**289**	*e*P		**P**	**20 37 25.6**	**+1.0**
	24nm,1.0s,mb4.6							
CNB	**Canberra Magne**	**24.18**	**219**⇑*i*P			**P**	**20 37 52.6**	**+2.8**
	30nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**27.70**	**234**	P		**P**	**20 38 23.1**	**+0.4**
	11nm,0.9s,mb4.5,baz=54,slow=8.3,SNR=4.1							
STKA	**Stephens Creek**	**27.70**	**234**	*e*P		**P**	**20 38 23.1**	**+0.4**
WRAB	**Tennant Creek**	**31.76**	**260**	*e*P		**P**	**20 38 57.8**	**-1.2**
	27nm,1.1s,mb5.0							
WRA	**Warramunga Arr**	**31.77**	**260**	P		**P**	**20 38 58.2**	**-0.8**
	9.2nm,0.9s,mb4.6,baz=89,slow=8.6,SNR=6.5							
ASPA	**Alice Springs**	**32.28**	**253**	*e*P		**P**	**20 39 03.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.10**	**262**⇑*i*P			**P**	**20 40 10.8**	**+1.0**
	61nm,0.9s,mb5.3							
FITZ	**Fitzroy Crossi**	**40.10**	**262**	P		**P**	**20 40 10.9**	**+1.1**
	79nm,0.9s,mb5.5,baz=117,slow=4.1,SNR=12							
KSM	**Kuching**	**59.67**	**282**	*e*P		**P**	**20 42 39.3**	**-0.2**
VNDA	**Vanda**	**60.14**	**181**	*e*P		**P**	**20 42 40.8**	**-1.0**
	6.2nm,1.4s,mb4.5							
MJAR	**Matsushiro Arr**	**60.58**	**333**	P		**P**	**20 42 43.8**	**-1.6**
	3.2nm,0.9s,mb4.5,baz=166,slow=6.8,SNR=3.6							
YSS	**Yuzh-Sakhalins**	**67.99**	**342**	*e*P		**P**	**20 43 32.6**	**-1.0**
	17nm,1.0s,mb5.0							
MDJ	**Mudanjiang**	**70.94**	**332**	P		**P**	**20 43 55.5**	**+3.8**
MDJ				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,112nm,5.4s							
MDJ				LR		LR		
	comp=N,248nm,26.4s,MS4.5							
MDJ				LR		LR		
	comp=E,199nm,23.3s,MS4.5							
MDJ				LR		LR		
	comp=Z,178nm,29.5s							
MDJ	**Mudanjiang**	**70.94**	**332**	P		**P**	**20 43 49.3**	**-2.4**
	comp=Z,9.8nm,0.8s,mb4.8							
QSPA	**South Pole Qui**	**72.56**	**180**⇑*i*P			**P**	**20 44 01.3**	**+0.6**
	comp=Z,7.1nm,1.0s,mb4.5							
KMI	**Kunming**	**76.20**	**302**	P		**P**	**20 44 24.3**	**+1.5**
KMI				AMB		AMB		
	comp=Z,13nm,1.6s,mb4.6							
KMI	**Kunming**	**76.20**	**302**	P		**P**	**20 44 24.2**	**+1.4**
	comp=Z,13nm,1.6s,mb4.6							
HHC	**Hu-ho-hao-te**	**78.01**	**320**	*e*P		**P**	**20 44 33.3**	**+0.8**
HHC				PCP		PcP	20 44 43.0	+0.3
HHC				XP		sP	20 44 47.8	+7.2
HHC				AMB		AMB		
	comp=Z,11nm,0.5s,mb5.0							
MAW	**Mawson**	**79.54**	**202**	P		**P**	**20 44 40.2**	**-0.1**
	comp=Z,3.0nm,0.9s,mb4.2,baz=116,slow=13,SNR=3.4							
GTA	**Gaotai**	**84.94**	**314**	*e*P		**P**	**20 45 16.0**	**+7.1**
GTA				AP		pP	20 45 22.3	+7.3
GTA				XP		sP	20 45 25.8	+8.8
GTA				AMB		AMB		
	comp=Z,9.0nm,1.1s,mb4.8							
SONM	**Songino Array**	**85.01**	**324**	P		**P**	**20 45 09.4**	**+0.4**
	comp=Z,6.7nm,1.0s,mb4.7,baz=136,slow=4.9,SNR=8.6							
ILAR	**Eielson Array**	**88.97**	**18**	P		**P**	**20 45 26.8**	**-1.1**
	comp=Z,0.6nm,0.7s,mb4.0,baz=225,slow=5.1,SNR=5.5							
VNA3	**Neumayer Olymp**	**91.48**	**181**			**P**	**20 45 41.9**	**+2.5**
VNA3	**Neumayer Olymp**	**91.48**	**181**			**P**	**20 45 48.6**	**+9.2**
VNA2	**Neumayer--Watz**	**91.76**	**182**			**P**	**20 45 43.2**	**+2.5**
VNA2	**Neumayer--Watz**	**91.76**	**182**			**P**	**20 45 50.4**	**+10**
MKAR	**Makanchi Array**	**99.54**	**316**	P		**P**	**20 46 17.0**	**+0.2**
	comp=Z,0.9nm,0.9s,mb4.2,baz=104,slow=5.9,SNR=3.7							
ARCES	**ARCESS Array B**	**123.03**	**345**	PKP		PKPdf	20 51 31.3	-1.1
	comp=Z,4.0nm,1.0s,baz=34,slow=3.3,SNR=4.3							
BAIF	**Baives**	**144.93**	**342**	*e*PKP1		PKPbc	20 52 08.5	-1.0
	comp=Z,26nm,1.3s							
CDF	**Champ du Feu**	**145.31**	**337**	*e*PKP1		PKPbc	20 52 10.1	-0.4
	comp=Z,21nm,0.8s							
HINF	**Hinteralfeld**	**145.96**	**337**	*e*PKP1		PKPbc	20 52 11.8	-0.4
	comp=Z,12nm,1.0s							
HAU	**Haudompre**	**145.99**	**338**	*e*PKP1		PKPbc	20 52 12.1	-0.1
MEZF	**Maizieres J'vi**	**146.02**	**339**	*e*PKP1		PKPbc	20 52 12.7	+0.4
	comp=Z,42nm,1.1s							
TIP	**Timpagrande**	**146.82**	**317**	*e*PKPbc		PKPbc	20 52 16.1	+1.7
CABF	**La Chapelle**	**147.25**	**336**	*e*PKP1		PKPdf	20 52 16.2	-1.2
	comp=Z,74nm,1.6s							
LOR	**Lormes**	**147.49**	**339**	*e*PKP1		PKPdf	20 52 16.4	-1.4
SSF	**Saint Saulge**	**147.79**	**340**	*e*PKP1		PKPdf	20 52 17.2	-1.1
	comp=Z,13nm,1.0s							
LPL	**La Plagne**	**147.90**	**335**	*e*PKP1		PKPdf	20 52 17.7	-0.8
	comp=Z,12nm,1.0s							
LPG	**La Plagne**	**147.91**	**335**	*e*PKP1		PKPdf	20 52 18.2	-0.3
	comp=Z,20nm,1.0s							
SMF	**Signal de Mont**	**148.04**	**339**	*e*PKP1		PKPdf	20 52 17.9	-0.8
AVF	**Avril sur Loir**	**148.07**	**340**	*e*PKP1		PKPdf	20 52 17.7	-1.0
	comp=Z,28nm,1.3s							
BGF	**Bois d'Agland**	**148.45**	**340**	*e*PKP1		PKPdf	20 52 18.9	-0.4
MBDF	**Montbardon**	**148.52**	**334**	*e*PKP1		PKPdf	20 52 18.8	-0.7
	comp=Z,17nm,1.1s							
ORIF	**Oris-en-Rattie**	**148.73**	**335**	*e*PKP1		PKPdf	20 52 20.0	+0.1
	comp=Z,9.6nm,0.9s							
TCF	**Toulx Ste Croi**	**148.89**	**341**	*e*PKP1		PKPdf	20 52 20.1	0.0
	comp=Z,20nm,1.1s							
SBF	**Sospel**	**148.92**	**332**	*e*PKP1		PKPdf	20 52 19.8	-0.4
	comp=Z,41nm,1.2s							
PGF	**Pioggiola**	**149.18**	**329**	*e*PKP1		PKPdf	20 52 21.1	+0.4
	comp=Z,37nm,1.1s							
VIVF	**Saint-Julien-l**	**149.26**	**336**	*e*PKP1		PKPdf	20 52 21.4	+0.7
	comp=Z,8.3nm,0.9s							
FRF	**La Foret Royal**	**149.51**	**332**	*e*PKP1		PKPdf	20 52 21.4	+0.2
	comp=Z,16nm,1.1s							
SMRF	**Simiane la Rot**	**149.63**	**334**	*e*PKP1		PKPdf	20 52 22.5	+1.2
	comp=Z,50nm,1.5s							
LMR	**La Mourre**	**149.75**	**332**	*e*PKP1		PKPdf	20 52 22.0	+0.5
	comp=Z,34nm,1.3s							
CAF	**Calviac**	**150.14**	**339**	*e*PKP1		PKPdf	20 52 23.5	+1.4
LASF	**Ste Croix**	**150.24**	**336**	*e*PKP1		PKPdf	20 52 23.8	+1.5
	comp=Z,36nm,1.2s							

DHMR 25 20:45:48.0±2.9, **12.66N**×**40.51E**, **h10**km±345km, **ML3.6, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**3.61**	**68**	*i* S		Sn	20 47 33.0	+4.6
UDYN						AML	AML	20 47 51.6
	comp=E,225nm,0.5s							
DHBB	**Dhamar BB**	**4.23**	**63**	*i* P		Pn	20 46 55.2	+1.2
DHBB				*i* S		Sn	20 47 47.6	+3.6
LBOS		**4.77**	**75**	*e*P		Pn	20 47 00.3	-1.4
LBOS				*i* S		Sn	20 47 56.9	-0.9
BDHA	**Al Bayda'**	**5.10**	**75**	*i* S		Sn	20 48 04.6	-1.3

*IDC **25** 21:05:39.3±1.9, 0.31N×98.53E, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=93.3km s-min=26.1km az=56.0*
*NEIC **25** 21:05:43.1±1.1, 0.24N×98.48E, h30km, mb4.2/2, Error ellipse: s-maj=26.7km s-min=17.7km az=65.0*
ISC 25 21:05:41.3±1.3, **0.3N**±0.2×**98.5E**±0.2, **h30**km, **n9**, σ0§**71**/9, **mb3.9**/7, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KULM	**Kulim**	**5.43**	**24**	*e*P		**Pn**	**21 07 03.2**	**+0.7**
LSA	**Lhasa**	**30.08**	**347**	*e*P		**P**	**21 11 50.0**	**-0.6**
	2.0nm,0.4s,mb4.2							
ENH	**Enshi**	**31.61**	**18**	*e*P		**P**	**21 12 02.3**	**-1.8**
WRA	**Warramunga Arr**	**40.47**	**122**	P		**P**	**21 13 19.3**	**0.0**
	0.2nm,0.8s,mb2.9,baz=304,slow=9.0,SNR=4.7							
WRA				PcP		PcP	21 15 23.2	+0.9
	0.3nm,0.7s,baz=312,slow=2.6,SNR=5.1							
SONM	**Songino Array**	**47.87**	**7**	P		**P**	**21 14 19.3**	**+0.8**
	0.6nm,0.5s,mb3.9,baz=188,slow=9.5,SNR=6.0							
SONM				PcP		PcP	21 15 47.6	+0.4
	0.5nm,0.8s,baz=167,slow=4.8,SNR=3.3							
MKAR	**Makanchi Array**	**48.45**	**345**	P		**P**	**21 14 23.4**	**+0.3**
	1.4nm,0.5s,mb4.3,baz=158,slow=8.9,SNR=22							
KURK	**Kurchatov**	**53.01**	**344**	*e*P		**P**	**21 14 57.7**	**0.0**
	2.5nm,0.9s,mb4.1							
ZAL	**Zalesovo**	**54.66**	**350**	P		**P**	**21 15 09.7**	**-0.1**
	0.9nm,0.4s,mb4.1,baz=193,slow=6.8,SNR=3.3							
FINES	**FINESS Array B**	**81.40**	**332**	P		**P**	**21 17 57.1**	**+0.5**
	0.8nm,0.6s,mb3.8,baz=108,slow=4.4,SNR=7.1							

*MOS **25** 21:25:38.9±1.1, 5.70S×104.04E, h49km, mb5.5/40, MS4.7/5, Error ellipse: s-maj=11.1km s-min=6.1km az=113.7*
*BJI **25** 21:25:39.8, 5.90S×103.90E, h50km, mB5.5, mb5.2, Ms5.0, Msz4.8*
*NEIC **25** 21:25:39.8±0.2, 5.95S×103.88E, mb5.2/39, Error ellipse: s-maj=6.6km s-min=5.0km az=45.0*
*HRVD **25** 21:25:39.8±0.4, 6.38S×103.60E, h48km±1km, MW5.1/49, Centroid moment Tensor Solution. LP body waves: s44,c70;Mantle waves: s49,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.15±.23; $M_{\theta\theta}$-4.11±.19; $M_{\phi\phi}$-0.04±.26; $M_{r\theta}$2.27±.15; $M_{\theta\phi}$3.07±.13; $M_{\phi r}$-0.94±.19; Best double couple: $M_0$5.534×10^{16} NP1:ϕ_s304°, δ32°, λ98°. NP2:ϕ_s114°, δ58°, λ85°. Principal axes: T 4.738, Plg76°, Azm9°; N 1.586, Plg4°, Azm117°; P -6.33, Plg13°, Azm208°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **25** 21:25:39.8±0.6, 5.97S×103.83E, h51km±4km, mb5.0/19, mb1 4.9/19, mb1mx4.9/20, mbtmp5.2/19, MS4.6/13, Ms1 4.6/13, ms1mx4.4/24 Error ellipse: s-maj=19.4km s-min=11.1km az=45.0*
ISC 25 21:25:37.6±0.2, **5.95S**±0.04×**103.89E**±0.04, **h47**km, **h47**km±1.3km:**pP-P**, **n275**, σ1§**01**/255, **mb5.3**/101, **MS4.7**/28, **20C-9D,

KMI pP pP 21 32 06.5 +1.8
KMI sP sP 21 32 12.0 +1.3
KMI PP PP 21 32 57.3 +2.4
KMI PPP PPP 21 33 12.6 +2.7
KMI S **S** **21 36 54.6 +2.8**
KMI sS 21 37 16.6
KMI SS SS 21 38 41.8 +4.2
KMI SSS SSS 21 39 04.6 +4.4
KMI LR LR
comp=Z,2µm,16.4s,MS4.9
KMI Kunming 30.91 358 P **P** **21 31 53.8 +1.5**
KMI *PP pP 21 32 06.5 +1.8
KMI *SP sP 21 32 12.0 +1.3
KMI 21 32 57.3
KMI PPP PPP 21 33 12.6 +2.7
KMI S **S** **21 36 54.6 +2.8**
KMI *SS 21 37 16.6
KMI pmax pmax
comp=Z,29nm,0.8s,mb5.2
KMI MLR MLR
comp=Z,2µm,16.4s,MS4.9
VIS Vishakhapatnam 31.07 320 *eP* **P** **21 31 53.9 +0.1**
VIS AMb AMB 21 31 56.8
comp=Z,18nm,0.8s,mb5.0
VIS *ex* x 21 36 42.5
GYA Guiyang 32.33 5⇑*iP* **P** **21 32 06.5 +1.8**
GYA AP pP 21 32 19.0 +1.7
GYA XP sP 21 32 23.8 +0.5
GYA PP PP 21 33 14.8 +1.5
GYA S **S** **21 37 16.5 +2.4**
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,120nm,3.0s
GYA LR LR
comp=N,570nm,16.2s,MS4.5
GYA LR LR
comp=E,420nm,16.0s,MS4.5
GYA LR LR
comp=Z,530nm,16.8s,MS4.3
WRA Warramunga Arr 32.69 118 P **P** **21 32 07.0 -0.9**
comp=Z,16nm,0.8s,mb5.0,baz=291,slow=9.9,SNR=96
WRA pP pP 21 32 21.7 +1.3
comp=Z,10nm,0.7s,baz=290,slow=10.0,SNR=7.0
WRA PcP PcP 21 34 53.0 +0.1
comp=Z,3.0nm,0.8s,baz=306,slow=2.5,SNR=4.6
WRAB Tennant Creek 32.69 118 *eP* **P** **21 32 07.1 -0.9**
comp=Z,25nm,0.7s,mb5.2
WRAB Tennant Creek 32.69 118 *eP* **P** **21 32 07.5 -0.5**
WB2 Warramunga Arr 32.70 118⇑*iP* **P** **21 32 07.1 -0.9**
SHL Shillong 33.43 340 *ex* x 21 32 32.0
ASPA Alice Springs 33.81 125 *eP* **P** **21 32 17.3 -0.3**
BOK Bokaro 34.39 330 *eP* **P** **21 32 23.3 +0.7**
BOK AMb AMB 21 32 25.2
comp=Z,177nm,0.9s,mb6.0
BOK *ex* x 21 37 37.9
NACB Ninganchiao 34.56 29 *eP* **P** **21 32 23.9 -0.1**
YHNB Yeheng 34.88 29 *eP* **P** **21 32 28.2 +1.6**
BLSP Bilaspur 35.12 323 *eP* **P** **21 32 29.1 +0.3**
BLSP AMb AMB 21 32 31.1
comp=Z,44nm,0.8s,mb5.4
BLSP *ex* x 21 37 47.9
ENH Enshi 36.41 8 *eP* **P** **21 32 38.5 -1.2**
comp=Z,36nm,0.7s,mb5.4
CD2 Chengdu 36.65 360 *eP* **P** **21 32 41.8 +0.1**
CD2 AP pP 21 32 54.0 -0.4
CD2 PP PP 21 34 08.5 +1.2
CD2 PPP PPP 21 34 28.8 +1.3
CD2 S **S** **21 38 22.8 +1.9**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
CD2 LR LR
comp=E,860nm,14.4s
CD2 LR LR
comp=Z,920nm,15.6s,MS4.7
KAD Karad 37.36 309 *eP* **P** **21 32 48.1 +0.4**
KAD AMb AMB 21 32 49.8
comp=Z,21nm,1.0s,mb4.9
LSA Lhasa 37.50 342 P **P** **21 32 49.0 +0.2**
LSA Lhasa 37.50 342 *eP* **P** **21 32 49.0 +0.2**
comp=Z,23nm,0.6s,mb5.2
LSA Lhasa 37.50 342 *eP* **P** **21 32 49.0 +0.2**
LSA pmax pmax
comp=Z,23nm,0.6s,mb5.2
PKI Pulchoki 37.81 333 *eP* **P** **21 32 51.4 0.0**
comp=Z,81nm,0.6s,mb5.6
PKI Pulchoki 37.81 333 *eP* **P** **21 32 51.4 0.0**
PKI pmax pmax
comp=Z,41nm,0.6s,mb5.3
DMN Daman 37.98 332 *eP* **P** **21 32 52.7 -0.2**
comp=Z,144nm,0.9s,mb5.7
KKN Kakani 38.06 333 *eP* **P** **21 32 53.3 -0.2**
comp=Z,258nm,0.6s,mb6.1
GKN Gorkha 38.53 332 *eP* **P** **21 32 57.6 +0.2**
comp=Z,216nm,0.6s,mb6.1
KOLN Koldanda 38.83 331 *eP* **P** **21 33 00.3 +0.4**
comp=Z,362nm,0.8s,mb6.2
BHPL Bhopal 38.87 319 *eP* **P** **21 33 00.9 +0.7**
BHPL AMb AMB 21 33 04.0
comp=Z,46nm,0.6s,mb5.4
XAN Xi'an 40.06 6 P **P** **21 33 09.5 -0.5**
XAN AMB AMB
comp=Z,24nm,0.7s,mb5.0
JOW Kunigami 40.24 35 P **P** **21 33 11.7 0.0**
comp=Z,31nm,0.8s,mb5.1,baz=220,slow=5.4,SNR=5.6
SSE Sheshan 40.38 23 *eP* **P** **21 33 10.3 -2.4**
SSE PCP PcP 21 35 13.0 -2.9
SSE S **S** **21 39 15.5 -1.7**
SSE SCS ScS 21 43 14.5 +2.1
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,475nm,5.6s
SSE LR LR
comp=N,659nm,20.0s,MS4.6
SSE LR LR
comp=E,423nm,20.0s,MS4.6
SSE LR LR
comp=Z,925nm,18.9s,MS4.7
SSE Sheshan 40.38 23 *eP* **P** **21 33 10.3 -2.4**
comp=Z,34nm,0.7s,mb5.2
SSE pP pP 21 33 20.0 -5.5
SSE sP sP 21 33 22.3 -9.0
SSE PcP PcP 21 35 12.9 -3.0
SSE S **S** **21 39 15.6 -1.6**
SSE sS 21 39 30.8
SSE ScS ScS 21 43 14.6 +2.2
SSE LR LR
comp=Z,930nm,18.9s,MS4.7
NJ2 Nanjing 40.39 20 *eP* **P** **21 33 14.0 +1.2**
NJ2 AP pP 21 33 24.5 -1.1
NJ2 XP sP 21 33 28.0 -3.4
NJ2 S **S** **21 39 20.0 +2.6**
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,412nm,5.3s
NJ2 LR LR
comp=N,2µm,15.2s,MS5.1
NJ2 LR LR
comp=E,1µm,14.4s,MS5.1
NJ2 LR LR
comp=Z,2µm,15.2s,MS5.1
AGRA Agra 41.45 324 *eP* **P** **21 33 21.4 -0.2**
LZH Lanzhou 41.81 360 *eP* **P** **21 33 25.5 +1.0**
LZH AP pP 21 33 37.5 +0.1
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.0
LZH LR LR
comp=E,3µm,17.5s
LZH LR LR
comp=Z,2µm,20.0s,MS4.9
LZH Lanzhou 41.81 360 *eP* **P** **21 33 25.5 +1.0**
comp=Z,40nm,1.0s,mb5.0
LZH pP pP 21 33 37.5 +0.1
SONA Sohna 42.72 324 *eP* **P** **21 33 31.9 -0.1**
AYAN Aya Nagar 42.87 324 *eP* **P** **21 33 33.0 -0.2**
AJM Ajmer 42.93 320 *eP* **P** **21 33 34.4 +0.6**
PMG Port Moresby 42.99 97 P **P** **21 33 34.7 +0.2**
comp=Z,33nm,0.6s,mb5.2,baz=278,slow=7.3,SNR=12
PMG pP pP 21 33 49.3 +1.9
comp=Z,27nm,0.7s,baz=21,slow=6.9,SNR=4.7
PMG LR LR 21 55 28.7
comp=Z,284nm,19.2s,MS4.2,baz=84,slow=42
PMG Port Moresby 42.99 97 *eP* **P** **21 33 34.2 -0.3**
comp=Z,52nm,0.8s,mb5.3
PMG Port Moresby 42.99 97 P **P** **21 33 34.7 +0.2**
PMG *PP pP 21 33 49.3 +1.9
PMG pmax pmax
comp=Z,33nm,0.6s
PMG pmax pmax
comp=Z,27nm,0.7s
PMG MLR MLR
comp=Z,284nm,19.2s
KHET Khetri 43.34 323 *eP* **P** **21 33 36.8 -0.4**
CTA Charters Tower 43.45 113 *eP* **P** **21 33 38.1 0.0**
comp=Z,9.7nm,0.8s,mb4.6
CTA Charters Tower 43.45 113 *eP* **P** **21 33 38.1 0.0**
CTA pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 43.45 113 *eP* **P** **21 33 38.8 +0.7**
comp=Z,156nm,1.9s,mb5.4
CTAO Charters Tower 43.45 113 *eP* **P** **21 33 38.8 +0.7**
CTAO pmax pmax
comp=Z,156nm,1.9s,mb5.4
STKA Stephens Creek 43.64 131 *eP* **P** **21 33 39.6 +0.1**
comp=Z,14nm,0.7s,mb4.8
STKA *e* pP 21 33 53.4 +1.0
STKA Stephens Creek 43.64 131 P **P** **21 33 39.5 -0.1**
comp=Z,16nm,0.7s,mb4.9,baz=303,slow=7.9,SNR=38
STKA LR LR 21 52 04.8
comp=Z,755nm,19.9s,MS4.6,baz=302,slow=36
GUMO Guam 45.08 64 P **P** **21 33 50.5 -0.8**
comp=Z,21nm,0.3s,mb5.4,baz=191,slow=14,SNR=3.6
GUMO LR LR 21 52 34.2
comp=Z,197nm,18.5s,MS4.1,baz=245,slow=36
GTA Gaotai 45.29 356 P **P** **21 33 53.3 +0.6**
GTA AP pP 21 34 04.3 -1.2
GTA AMB AMB
comp=Z,24nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,288nm,4.2s
GTA LR LR
comp=N,877nm,23.2s,MS4.8
GTA LR LR
comp=E,639nm,19.0s,MS4.8
GTA LR LR
comp=Z,1µm,20.2s,MS4.9
JNU Nakatsue 46.54 32 P **P** **21 34 02.5 -0.1**
comp=Z,63nm,0.8s,mb5.6,baz=157,slow=14,SNR=26
HHC Hu-ho-hao-te 47.10 8 *eP* **P** **21 34 08.0 +1.1**
HHC AP pP 21 34 22.5 +2.7
HHC XP sP 21 34 29.8 +4.3
HHC PCP PcP 21 35 39.0 +0.4
HHC PP PP 21 35 57.0 -0.5
HHC SCP 21 39 26.3
HHC PCS 21 39 31.5
HHC S **S** **21 40 55.5 +0.8**
HHC XS 21 41 22.0
HHC SCS ScS 21 43 52.8 -1.4
HHC AMB AMB
comp=Z,66nm,0.7s,mb5.7
HHC AMB AMB
comp=Z,283nm,5.7s
HHC LR LR
comp=N,1µm,17.8s,MS5.1
HHC LR LR
comp=E,757nm,14.3s,MS5.1
HHC LR LR
comp=Z,1µm,19.0s,MS4.9
DL2 Dalian 47.56 19 P **P** **21 34 11.0 +0.4**
DL2 *eS* **S** **21 41 08.3 +7.0**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
DL2 LR LR
comp=N,310nm,18.2s,MS4.5
DL2 LR LR
comp=E,230nm,13.5s,MS4.5
DL2 LR LR
comp=Z,560nm,17.7s,MS4.6
INCN Inchon 48.14 24 *eP* **P** **21 34 14.8 -0.3**
comp=Z,30nm,0.6s,mb5.5
KS15 Wonju Array Si 48.63 26 *eP* **P** **21 34 19.8 +0.9**
SNY Shenyang 50.84 19⇓*P* **P** **21 34 35.3 -0.5**
SNY AP pP 21 34 51.5 +2.7
SNY XP sP 21 34 55.3 +1.0
SNY AMB AMB
comp=Z,30nm,0.9s,mb5.2
SNY LR LR
comp=N,400nm,19.6s,MS4.7
SNY LR LR
comp=E,550nm,20.6s,MS4.7
SNY LR LR
comp=Z,660nm,19.8s,MS4.7
WMQ Urumqi 51.66 345⇑*iP* **P** **21 34 42.0 +0.1**
WMQ AP pP 21 34 55.5 +0.5
WMQ XP sP 21 35 00.3 -0.2
WMQ PCP PcP 21 35 56.0 +0.8
WMQ PP PP 21 36 40.0 -0.3
WMQ PCS 21 39 52.0
WMQ S **S** **21 41 58.0 -0.2**
WMQ AMB AMB
comp=Z,13nm,0.7s,mb5.0
WMQ AMB AMB
comp=Z,267nm,4.5s
WMQ LR LR
comp=N,903nm,12.2s
WMQ LR LR
comp=E,1µm,17.5s
WMQ LR LR
comp=Z,700nm,24.0s
KSH Kashi 52.08 333 P **P** **21 34 45.3 +0.2**
KSH *e*AP pP 21 34 58.0 -0.2
KSH *e*XP sP 21 35 02.5 -1.2
KSH *e*PCP PcP 21 35 57.0 +0.2
KSH *e*PP PP 21 36 44.5 +0.2
KSH *e*PPP PPP 21 37 48.0 -0.9
KSH *e*SCP 21 39 48.0
KSH *e*PCS 21 39 53.8
KSH S **S** **21 42 03.3 -0.7**
KSH *e*SCS ScS 21 44 28.3 +0.7
KSH AMB AMB
comp=Z,660nm,3.4s
KSH LR LR
comp=N,540nm,6.7s
KSH LR LR
comp=E,630nm,6.1s
MAJO Matsushiro 53.09 35 *eP* **P** **21 34 51.1 -1.7**
comp=E,33nm,0.9s,mb5.3
MAJO Matsushiro 53.09 35 *eP* **P** **21 34 51.1 -1.6**
MAJO pmax pmax
comp=Z,33nm,0.9s,mb5.3
MAT Matsushiro 53.09 35 P **P** **21 34 50.9 -1.8**
MAT Matsushiro 53.09 35 *eP* **P** **21 34 52.0 -0.7**
comp=Z,15nm,0.8s,mb5.0
MAT Matsushiro 53.09 35 *eP* **P** **21 34 52.0 -0.7**
MAT pmax pmax
comp=Z,15nm,0.8s,mb5.0
MJAR Matsushiro Arr 53.09 35 P **P** **21 34 51.4 -1.3**
comp=Z,13nm,0.5s,mb5.1,baz=208,slow=8.5,SNR=35
MJAR LR LR 21 58 18.2
comp=Z,186nm,18.8s,MS4.2,baz=155,slow=37
CN2 Changchun 53.22 19⇑*P* **P** **21 34 52.8 -0.8**
CN2 *e*AP pP 21 35 06.0 -0.7
CN2 PCP PcP 21 36 01.3 +0.4
CN2 *e*S **S** **21 42 20.8 +1.4**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,480nm,19.0s,MS4.8
CN2 LR LR
comp=E,790nm,19.0s,MS4.8
CN2 LR LR
comp=Z,840nm,21.0s,MS4.8
SONM Songino Array 53.60 2 P **P** **21 34 56.8 +0.5**
comp=Z,108nm,0.9s,mb5.8,baz=180,slow=8.5,SNR=245
SONM PcP PcP 21 36 02.2 -0.1
comp=Z,9.1nm,0.9s,baz=193,slow=4.4,SNR=7.0
SONM ScP 21 39 57.8
comp=Z,1.0nm,0.7s,baz=207,slow=3.2,SNR=2.3
SONM LR LR 22 01 05.3
comp=Z,979nm,18.1s,MS4.9,baz=178,slow=40
KZA Kyzart 54.47 334 P **P** **21 35 03.4 +0.6**
SNR=15
UCH Uchtor 54.91 334 P **P** **21 35 05.9 -0.1**
SNR=38
TKM2 Tokmak 2 55.01 335 P **P** **21 35 06.2 -0.5**
SNR=74
VLA Vladivostok 55.05 25 *eP* **P** **21 35 04.9 -2.1**
VLA Vladivostok 55.05 25 *eP* **P** **21 35 05.6 -1.4**
VLA *e* 21 36 09.0
VLA pmax pmax
comp=Z,98nm,1.5s,mb5.6
KBK Karagaybulak 55.07 334 P **P** **21 35 07.2 0.0**
SNR=65
AML Almayashu 55.20 333 P **P** **21 35 08.0 -0.2**
SNR=35
AAK Ala-Archa 55.25 334 P **P** **21 35 08.0 -0.4**
SNR=22
AAK Ala-Archa 55.25 334 *eP* **P** **21 35 06.8 -1.7**
comp=Z,15nm,0.6s,mb5.2
AAK Ala-Archa 55.25 334*c iP* **P** **21 35 07.0 -1.4**
AAK pmax pmax
comp=Z,23nm,1.0s,mb5.2
FRU Bishkek 55.35 334 *eP* **P** **21 35 08.0 -1.2**
FRU *e* pP 21 35 22.0 -0.5
MDJ Mudanjiang 55.39 22 P **P** **21 35 09.0 -0.4**
MDJ AP pP 21 35 22.5 -0.2
MDJ XP sP 21 35 28.5 +0.4
MDJ PP PP 21 37 13.5 -1.4
MDJ SCP 21 40 02.8
MDJ PCS 21 40 08.5
MDJ S **S** **21 42 53.0 +4.4**
MDJ XS 21 43 16.5
MDJ SCS ScS 21 44 53.8 +3.0
MDJ AMB AMB
comp=Z,30nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,138nm,5.6s
MDJ LR LR
comp=N,324nm,19.1s,MS4.5
MDJ LR LR
comp=E,137nm,17.8s,MS4.5
MDJ LR LR
comp=Z,249nm,19.8s,MS4.3
MDJ Mudanjiang 55.39 22 *eP* **P** **21 35 08.7 -0.7**
comp=Z,25nm,0.9s,mb5.2
CHMS Chumysh 55.43 334 P **P** **21 35 08.8 -1.0**
SNR=10
EKS2 Erkin-Say 55.59 333 P **P** **21 35 10.6 -0.3**
SNR=55
HNR Honiara 55.61 97 P **P** **21 35 11.2 -0.2**
comp=Z,51nm,0.3s,mb6.0,baz=210,slow=12,SNR=5.3
HNR Honiara 55.61 97 P **P** **21 35 11.3 -0.1**
USP Ospenovka 55.76 334 P **P** **21 35 11.1 -1.0**
SNR=18
MKAR Makanchi Array 55.90 342 P **P** **21 35 12.1 -1.0**
comp=Z,67nm,0.8s,mb5.8,baz=146,slow=7.5,SNR=263
ZAK Zakamensk 56.11 360⇑*iP* **P** **21 35 14.6 +0.1**
ZAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
HIA Hailar 56.70 12 *eP* **P** **21 35 17.7 -1.1**
comp=Z,43nm,0.8s,mb5.5
HIA Hailar 56.70 12 *eP* **P** **21 35 17.7 -1.1**
HIA pmax pmax
comp=Z,43nm,0.8s
MOY Mondy 57.44 358 *eP* **P** **21 35 24.0 0.0**
MOY pmax pmax
comp=Z,45nm,2.0s,mb5.2
IRK Irkutsk 57.97 0 *eP* **P** **21 35 27.9 +0.2**
IRK *e* pP 21 35 45.5 +4.5
IRK pmax pmax
comp=Z,37nm,1.1s,mb5.3
KLR Kul'dur 60.08 21 *eP* **P** **21 35 38.5 -3.9**
KURK Kurchatov 60.51 342 *eP* **P** **21 35 44.0 -1.2**
comp=Z,62nm,0.8s,mb5.8
KURK Kurchatov 60.51 342*c iP* **P** **21 35 44.2 -1.0**
HASS Wahat al Ahsa' 61.08 303 P **P** **21 35 48.0 -1.5**
ZAL Zalesovo 61.79 347 P **P** **21 35 53.2 -0.7**
comp=Z,62nm,0.8s,mb5.8,baz=305,slow=3.7,SNR=176
ZAL LR LR 22 06 19.0
comp=Z,1µm,20.8s,MS5.0,baz=304,slow=40
ZAL Zalesovo 61.79 347 P **P** **21 35 53.2 -0.7**
ZAL LR LR 22 06 19.0
YSS Yuzh-Sakhalins 62.90 29 *eP* **P** **21 36 01.0 -0.3**
comp=Z,73nm,0.8s,mb5.9
YSS Yuzh-Sakhalins 62.90 29 *eP* **P** **21 36 01.0 -0.4**
YSS pmax pmax
comp=Z,73nm,0.8s,mb5.9
NVS Novosibirsk 62.98 347 *i* P **P** **21 35 59.2 -2.6**
NVS *e*S **S** **21 44 26.6 -0.1**
NVS pmax pmax
comp=N,10.0nm,0.5s
NVS pmax pmax
comp=Z,14nm,0.5s,mb5.3
NVS pmax pmax
comp=E,12nm,0.6s
NVS smax
comp=N,24nm,1.7s
NVS smax
comp=E,22nm,1.7s
BOD Bodaibo 64.08 6 *eP* **P** **21 36 07.5 -1.4**
BOD pmax pmax
comp=Z,23nm,0.8s,mb5.3
KBD Kabd 64.28 306 *eP* **P** **21 36 10.1 -0.6**
KBD AMb AMB 21 36 24.5
comp=Z,97nm,0.8s,mb5.9
RDF Al-Radifah 64.30 306 *eP* **P** **21 36 10.0 -0.8**
RDF AMb AMB 21 36 16.4
comp=Z,52nm,1.0s,mb5.5
UMR Umm Al-Rimmam 64.41 307 *eP* **P** **21 36 10.9 -0.6**
UMR AMb AMB 21 36 12.2
comp=Z,83nm,0.6s,mb5.9
NAY Al-Naaiem 64.67 306 *eP* **P** **21 36 12.3 -0.9**
NAY AMb AMB 21 36 24.7
comp=Z,14nm,0.9s,mb5.0
MIB Mutribah 64.81 307 *eP* **P** **21 36 13.6 -0.6**
MIB AMb AMB 21 36 14.8
comp=Z,49nm,0.7s,mb5.6
BRVK Borovoye 65.30 338 *eP* **P** **21 36 15.4 -1.4**
comp=Z,9.6nm,0.6s,mb5.0
BRVK Borovoye 65.30 338 *eP* **P** **21 36 15.4 -1.5**
BRVK pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
AFFS 'Afif 66.34 299 P **P** **21 36 24.4 +0.3**
BLJS Baljurashi 66.39 295 P **P** **21 36 26.2 +1.7**
KMBO Kilima Mbogo 66.65 271 LR LR 21 59 44.1
comp=Z,437nm,20.7s,MS4.7,baz=91,slow=31
MAW Mawson 67.50 196 P **P** **21 36 29.6 -1.0**
comp=Z,1.6nm,0.9s,mb4.1,baz=56,slow=4.9,SNR=4.2
MAW LR LR 22 00 44.4
comp=Z,941nm,19.4s,MS5.0,baz=46,slow=31
MAW Mawson 67.50 196 *eP* **P** **21 36 29.2 -1.4**
comp=Z,11nm,1.2s,mb4.8
MAW Mawson 67.50 196 P **P** **21 36 29.6 -1.0**
MAW pmax pmax
comp=Z,2.0nm,0.9s
MAW MLR MLR
comp=Z,941nm,19.4s
RPZ Rata Peaks 69.46 134 P **P** **21 36 42.2 -0.9**
comp=Z,6.3nm,0.7s,mb4.7,baz=229,slow=11,SNR=3.6
RPZ LR LR 22 06 39.5
comp=Z,748nm,18.4s,MS5.0,baz=184,slow=35
YAK Yakutsk 70.64 13 *eP* **P** **21 36 48.7 -1.3**
comp=Z,116nm,0.8s,mb5.9
YAK Yakutsk 70.64 13*c iP* **P** **21 36 48.8 -1.2**
YAK pmax pmax
comp=Z,90nm,0.8s,mb5.8
HAKT HAKKARI 70.70 313 *i* P **P** **21 36 51.1 +0.4**
GNI Garni 71.04 316 *eP* **P** **21 36 50.6 -2.2**
GNI Garni 71.04 316 *eP* **P** **21 36 53.4 +0.6**
comp=Z,17nm,0.8s,mb5.0
GNI Garni 71.04 316 *eP* **P** **21 36 53.5 +0.7**
GNI pmax pmax
comp=Z,20nm,1.0s
CLDR Calderan 71.20 315 *eP* **P** **21 36 52.4 -1.4**
TI2 Plekhanov 71.73 317⇑*iP* **P** **21 36 55.8 -1.0**
TI2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
SKR Severo-Kuril's 72.05 32 *eP* **P** **21 36 52.8 -5.8**
SKR pmax pmax
comp=N,60nm,0.6s
SKR pmax pmax
comp=E,80nm,0.6s
SKR pmax pmax
comp=Z,80nm,0.6s,mb5.8
ARU Arti 72.37 336⇑*eP* **P** **21 36 59.8 -0.6**
comp=Z,75nm,0.8s,mb5.7
ARU Arti 72.37 336⇑*iP* **P** **21 37 00.1 -0.3**
ARU *e* pP 21 37 14.2 +0.1
ARU *e*PPP PPP 21 41 18.3 -7.6
ARU *e*S S 21 46 21.1 +2.0
ARU *e* 21 47 02.4
ARU *e*SS SS 21 50 54.8 -5.2

ARU pmax pmax
comp=Z,62nm,0.8s,mb5.6
BEST Besiri 72.61 313 *i* P **P** **21 37 02.6 +0.4**
ZEI Tsey 72.75 318 *eP* **P** **21 37 02.2 -0.7**
ZEI pmax pmax
comp=Z,32nm,0.8s,mb5.3
MARD Mardin 72.75 312 *i* P **P** **21 37 02.6 -0.4**
URZ Urewera 73.17 128 LR LR 22 12 26.0
comp=Z,620nm,18.3s,MS4.9,baz=31,slow=38
ERZM Erzurum 73.31 315 *i* P **P** **21 37 06.4 +0.1**
EZM Erzurum 73.31 315 *eP* **P** **21 37 06.6 +0.3**
KIV Kislovodsk 74.05 319 P **P** **21 37 10.1 -0.4**
comp=Z,17nm,0.8s,mb5.0
KIV Kislovodsk 74.05 319 *eP* **P** **21 37 11.0 +0.5**
KIV pmax pmax
comp=Z,19nm,1.2s,mb4.9
KIV pmax pmax
comp=E,8.0nm,0.9s
PTK Pertek 74.35 313 *eP* **P** **21 37 10.6 -1.7**
ELZG Elazig 74.50 312 *i* P **P** **21 37 12.6 -0.6**
PET Petropavlovsk 74.66 31 *eP* **P** **21 37 13.3 -0.5**
comp=E,49nm,0.9s,mb5.4
PET Petropavlovsk 74.66 31 *eP* **P** **21 37 13.6 -0.2**
PET pmax pmax
comp=Z,44nm,1.0s,mb5.3
GUMT Gumushane 74.86 315 *eP* **P** **21 37 14.7 -0.5**
MA2 Magadan 75.08 23 *eP* **P** **21 37 16.1 0.0**
comp=Z,46nm,0.9s,mb5.4
MA2 Magadan 75.08 23*c* *iP* **P** **21 37 16.3 +0.2**
MA2 pmax pmax
comp=Z,31nm,0.8s,mb5.3
GZT Gaziantep 75.17 311 *i* P **P** **21 37 16.9 -0.2**
SOKR Solikamsk 75.17 337*c* *iP* **P** **21 37 17.3 +0.7**
SOKR pmax pmax
comp=Z,50nm,0.8s,mb5.5
GAZ Gaziantep 75.37 311 *eP* **P** **21 37 18.0 -0.2**
SYO Syowa Base 75.43 200 ⇑X 21 37 12.5
SYO Syowa Base 75.43 200 ⇑P **P** **21 37 24.6 +6.6**
KAHT Ahir Dag 75.78 311 *i* P **P** **21 37 21.6 +1.0**
SOC Sochi 75.87 318 *eP* **P** **21 37 19.9 -1.1**
SOC *e* 21 37 40.7
SOC *e* 21 40 11.0
SOC *eS* S 21 47 02.1 +3.7
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,14nm,0.8s
SOC pmax pmax
comp=Z,49nm,0.8s,mb5.5
SOC MLR MLR
comp=N,47nm,11.0s,MS4.3
SOC MLR MLR
comp=Z,126nm,11.0s,MS4.5
SOC MLR MLR
comp=E,56nm,10.0s,MS4.3
COBT Iskenderun 75.89 310 *i* P **P** **21 37 20.9 -0.3**
CSS Prodhromos 77.69 308 *eP* **P** **21 37 32.0 +0.6**
comp=E,24nm,0.8s,mb5.2
VRHR Novokhopersk 77.76 325 *eP* **P** **21 37 31.2 -0.2**
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
ANN Anapa 77.85 318 *eP* **P** **21 37 31.5 -0.5**
ANN *e**PP pP 21 37 42.3 -3.5
ANN *eS* S 21 47 22.5 +2.6
ANN pmax pmax
comp=Z,35nm,1.2s,mb5.2
BOYT Boyabat 78.44 314 *i* P **P** **21 37 33.9 -1.5**
KAMT Kaman 78.67 312 *eP* **P** **21 37 34.4 -2.3**
BR131 Keskin Array S 78.83 312 *eP* **P** **21 37 36.5 -1.1**
comp=Z,17nm,0.8s,mb5.0
BRTR Keskin Array B 78.83 312 P **P** **21 37 37.1 -0.4**
comp=Z,20nm,0.8s,mb5.1,baz=132,slow=6.6,SNR=88
TIXI Tiksi 79.17 8 *eP* **P** **21 37 36.9 -1.8**
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TIXI MLR MLR
comp=Z,536nm,16.0s,MS5.0
VOR Voronezh 79.41 325 P **P** **21 37 40.0 -0.4**
VOR pmax pmax
comp=Z,70nm,2.0s,mb5.2
KIZT Kizilcal 79.90 311 *eP* **P** **21 37 41.2 -2.2**
SAFT Safranbolu 79.98 314 *eP* **P** **21 37 43.0 -0.7**
SIM Simferopol' 80.12 317 ⇑*iP* **P** **21 37 44.8 +0.4**
SIM 21 40 44.0
SIM pmax pmax
comp=Z,43nm,0.7s,mb5.5
SGKT Sivrigoynuk 80.24 313 *i* P **P** **21 37 43.3 -1.8**
ESKT Eskisehir 80.84 311 *eP* **P** **21 37 47.1 -1.2**
ESKT Eskisehir 80.84 311 *i* P **P** **21 37 47.5 -0.8**
ELL Elmali 80.85 309 *eP* **P** **21 37 48.4 0.0**
TKTP Tekketepe 80.86 310 *i* P **P** **21 37 46.7 -1.8**
BORA Eskisehir 81.23 312 *i* P **P** **21 37 45.5 -4.9**
OBN Obninsk 82.18 328 *eP* **P** **21 37 54.6 -0.4**
comp=Z,24nm,0.8s,mb5.2
OBN Obninsk 82.18 328 ⇓*eP* **P** **21 37 55.7 +0.7**
OBN *i* pP 21 38 10.4 +1.5
OBN *e* 21 41 02.5
OBN *eS* SS 21 53 30.1 +1.5
OBN pmax pmax
comp=Z,63nm,1.6s,mb5.3
ULDT Uludag 82.28 312 *i* P **P** **21 37 55.0 -0.7**
BTOK Tokmak 83.01 311 *i* P **P** **21 38 00.2 +0.7**
KDAG Bornova 83.28 310 *i* P **P** **21 38 01.5 +0.6**
TIRR Tirgusor 83.87 316 ⇓P **P** **21 38 02.3 -1.5**
CFR Carcaliu 84.24 316 ⇓P **P** **21 38 05.5 -0.2**
KIS Kishinev 84.25 318 *eP* **P** **21 38 07.0 +1.4**
AKASG Malin Array Be 84.97 322 P **P** **21 38 08.9 -0.2**
comp=Z,21nm,0.8s,mb5.3,baz=88,slow=4.9,SNR=51
AKASG pP pP 21 38 23.8 +0.7
comp=Z,11nm,0.7s,baz=85,slow=5.3,SNR=8.5
AKASG PP PP 21 41 23.7 -4.1
comp=Z,1.8nm,0.6s,baz=86,slow=6.9,SNR=4.5
VRI Vrincioaia 85.37 317 ⇓P **P** **21 38 13.1 +1.9**
BILL Bilibino 85.52 20 *eP* **P** **21 38 12.3 +0.8**
BILL Bilibino 85.52 20 ⇓*iP* **P** **21 38 11.8 +0.3**
BILL *e* 21 41 35.4
BILL pmax pmax
comp=Z,29nm,1.7s,mb5.2
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.5
MLR Muntele Rosu 85.82 316 ⇓P **P** **21 38 14.5 +1.0**
PUL Pulkovo 86.93 331 *eP* **P** **21 38 20.9 +2.3**
JOF Joensuu 87.44 334 *ep* **P** **21 38 21.3 +0.4**
comp=Z,10nm,0.9s,mb5.1
LVZ Lovozero 87.82 339 *i* P **P** **21 38 22.9 +0.3**
LVZ pmax pmax
comp=Z,35nm,1.2s,mb5.5
LVZ pmax pmax
comp=N,9.0nm,1.4s
LVZ pmax pmax
comp=E,11nm,1.0s
APA Apatity 88.14 339 ⇑*iP* **P** **21 38 25.2 +1.0**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.3
DRGR 88.28 317 ⇓P **P** **21 38 25.8 +0.4**
VSU Vasula 88.36 329 *eP* **P** **21 38 26.8 +1.4**
KWP Kalwaria 88.80 320 *eP* **P** **21 38 29.6 +1.8**
SVIS Svilajnac 88.89 315 ⇓*iP* **P** **21 38 29.4 +1.0**
KOLS Kolonicke sedl 88.96 319 *i* P **P** **21 38 30.0 +1.5**
KOLS *ep* pP 21 38 44.6 +2.0
SUW Suwalki 89.33 324 *eP* **P** **21 38 31.1 +1.0**
FINES FINESS Array B 89.39 332 P **P** **21 38 30.8 +0.5**
comp=Z,7.7nm,0.7s,mb5.1,baz=104,slow=4.9,SNR=31
FINES pP pP 21 38 45.5 +1.1
comp=Z,7.5nm,0.8s,baz=108,slow=4.2,SNR=6.8
KAF Kangasniemi 89.45 333 *ep* **P** **21 38 31.4 +0.9**
comp=Z,15nm,0.7s,mb5.4,baz=98,slow=4.2
KAF Kangasniemi 89.45 333 *eP* **P** **21 38 31.4 +0.9**
KAF pmax pmax
comp=Z,15nm,0.7s,mb5.4
STHS Stebnicka Huta 89.71 320 *i* P **P** **21 38 33.3 +1.3**
STHS *ep* pP 21 38 48.9 +2.7
KECS Kecovo 90.05 319 *eP* **P** **21 38 34.1 +0.4**
KECS *ep* pP 21 38 48.1 +0.3
PSZ Piszkesteto 90.36 318 *eP* **P** **21 38 35.9 +0.7**
comp=Z,6.2nm,0.8s,mb5.0
PSZ Piszkesteto 90.36 318 *eP* **P** **21 38 35.9 +0.8**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
PKSM Moragy 90.97 316 *eP* **P** **21 38 38.6 +0.5**

VYHS Vyhne 91.14 318 *eP* **P** **21 38 40.3 +1.5**
VYHS *e* pP 21 38 51.9 -1.0
VNA2 Neumayer--Watz 91.23 198 **P** **21 38 55.0 +16**
VNA2 Neumayer--Watz 91.23 198 P **P** **21 38 43.0 +4.3**
VNA2 P pP 21 38 55.0 +2.1
ARCES ARCESS Array B 91.49 340 P **P** **21 38 40.2 +0.3**
comp=Z,3.9nm,0.6s,mb4.9,baz=93,slow=6.5,SNR=17
ARCES LR LR 22 24 23.4
comp=Z,340nm,18.9s,MS4.8,baz=91,slow=38
TIP Timpagrande 91.50 309 *eP* **P** **21 38 42.0 +1.3**
VNA1 Neumayer--Stat 91.60 198 P **P** **21 38 42.8 +2.4**
VNA1 P 21 39 09.6
OKC Ostrava-Krasne 91.76 320 *eP* **P** **21 38 42.9 +1.3**
OKC *epP* pP 21 38 56.8 +1.0
VNA3 Neumayer Olymp 91.79 197 **P** **21 38 55.6 +14**
VNA3 Neumayer Olymp 91.79 197 P **P** **21 38 41.9 +0.6**
VNA3 P pP 21 38 55.6 +0.2
VNA3 P 21 39 11.1
MORC Moravsky Berou 92.14 320 *eP* **P** **21 38 43.1 -0.3**
comp=Z,4.0nm,0.7s,mb4.9
MORC Moravsky Berou 92.14 320 *eP* **P** **21 38 43.1 -0.2**
MORC pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
DPC Dobruska-Polom 92.98 320 *eP* **P** **21 38 48.4 +1.2**
DPC *epP* pP 21 39 02.9 +1.5
GOLS Golise 93.03 316 *eP* **P** **21 38 48.7 +1.2**
GROS Grobnik 93.16 316 *eP* **P** **21 38 48.9 +0.8**
GROS *e* pP 21 39 01.7 -0.6
TREC Trest 93.42 319 *eP* **P** **21 38 50.2 +1.0**
PERS Pernice 93.44 316 *eP* **P** **21 38 50.4 +1.0**
LJU Ljubljana 93.80 316 *i* P **P** **21 38 52.5 +1.5**
PRU Pruhonice 94.09 320 *eP* **P** **21 38 53.5 +1.3**
BRG Berggiesshubel 94.54 321 *i* P **P** **21 38 55.2 +1.0**
comp=Z,2.9nm,0.6s,mb4.9
BRG *e* pP 21 39 09.6 +1.2
BRG Berggiesshubel 94.54 321 *i* P **P** **21 38 55.2 +1.0**
BRG *e* pP 21 39 09.6 +1.2
BRG pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
GERES GERESS Array B 94.56 318 P **P** **21 38 54.7 +0.3**
comp=Z,1.1nm,0.7s,mb4.4,baz=90,slow=4.0,SNR=11
GERES pP pP 21 39 08.6 0.0
comp=Z,2.5nm,0.9s,baz=108,slow=4.2,SNR=7.7
GERES PP PP 21 42 41.7 -3.4
comp=Z,0.5nm,0.7s,baz=90,slow=4.0,SNR=3.5
KHC Kasperske Hory 94.66 319 *eP* **P** **21 38 57.1 +2.3**
KHC pP pP 21 39 07.5 -1.5
KHC Kasperske Hory 94.66 319 *eP* **P** **21 38 57.1 +2.3**
KHC *e* pP 21 39 07.5 -1.5
GRA1 Grafenberg Arr 96.22 319 *eP* **P** **21 39 02.9 +1.0**
comp=Z,4.0nm,1.0s,mb4.8
GRA1 *epP* pP 21 39 17.8 +1.7
GRF Grafenberg Arr 96.22 319 *eP* **P** **21 39 02.9 +1.0**
comp=Z,4.0nm,1.0s,mb4.8
GRF *epP* pP 21 39 17.8 +1.7
GRF Grafenberg Arr 96.22 319 *eP* **P** **21 39 02.9 +1.0**
GRF *e**PP pP 21 39 17.8 +1.7
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
GRF Grafenberg Arr 96.22 319 *eP* **P** **21 39 02.9 +1.0**
GRF *e**PP pP 21 39 17.8 +1.7
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
NB2 NORSAR Subarra 96.46 331 P **P** **21 39 03.1 +0.4**
comp=Z,1.3nm,0.8s,mb4.4,baz=92,slow=5.0
NB2 NORSAR Subarra 96.46 331 P **P** **21 39 03.1 +0.4**
comp=Z,1.3nm,0.8s,mb4.4
NB2 NORSAR Subarra 96.46 331 P **P** **21 39 03.1 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
NOA NORSAR Array B 96.46 331 P **P** **21 39 02.0 -0.7**
comp=Z,1.6nm,0.8s,mb4.5,baz=91,slow=4.4,SNR=5.4
NOA pP pP 21 39 17.4 +0.5
comp=Z,1.8nm,0.8s,baz=92,slow=4.5,SNR=3.4
NOA PP PP 21 42 56.7 -2.9
comp=Z,1.9nm,0.8s,baz=91,slow=7.5,SNR=4.1
NOA LR LR 22 28 33.4
comp=Z,165nm,19.8s,MS4.5,baz=65,slow=39
NOA NORSAR Array B 96.46 331 P **P** **21 39 02.0 -0.7**
NOA pP pP 21 39 17.4 +0.5
NOA PP PP 21 42 56.7 -2.9
NOA LR LR 22 28 33.4
ILAR Eielson Array 103.50 25 PP PP 21 43 52.5 -0.7
comp=Z,1.3nm,0.9s,baz=284,slow=6.4,SNR=7.3
RRI2 Red Ridge 131.55 34 *e*PKPdf PKPdf 21 44 49.0 +3.3
HVU Hansel Valley 131.69 37 *e*PKPdf PKPdf 21 44 49.3 +3.3
ULM Lac du Bonnet 132.84 17 PKP PKPdf 21 44 49.6 +1.7
comp=Z,5.6nm,0.8s,baz=329,slow=4.3,SNR=8.2
PDAR Pinedale Array 132.91 34 PKP PKPdf 21 44 51.1 +2.8
comp=Z,0.9nm,0.6s,baz=60,slow=1.2,SNR=8.8
PDAR SKPbc 21 48 13.9
comp=Z,0.7nm,0.8s,baz=333,slow=2.0,SNR=3.6
PLCA Paso Flores 133.27 186 PKP PKPdf 21 44 52.3 +3.3
comp=Z,0.7nm,0.7s,baz=181,slow=17,SNR=3.0
MSU Marysvale 134.00 40 PKPdf PKPdf 21 44 53.8 +3.4
ANMO Albuquerque 139.80 40 ⇑*i*PKIKP PKPdf 21 45 04.7 +3.6
MNTX Cornudas Mount 142.51 43 *e*PKPpre 21 45 05.3
ERPA Erie 143.82 5 *e*PKPpre 21 45 06.5
BAO Brasilia Array 144.85 232 PKPdf PKPdf 21 45 12.0 +1.5
BDFB Brasilia 144.87 232 PKP PKPdf 21 45 11.3 +0.8
comp=Z,7.4nm,0.7s,baz=164,slow=3.0,SNR=11
SLM Saint Louis 145.03 19 *e*PKP PKPdf 21 45 10.8 +0.7
LTX Lajitas 145.10 45 *e*PKP PKPdf 21 45 12.7 +2.1
TXAR Lajitas Array 145.10 45 PKPbc PKPbc 21 45 12.7 +1.8
comp=Z,53nm,0.8s,baz=273,slow=1.1,SNR=339
TXAR pPKPbc 21 45 27.6
comp=Z,21nm,0.8s,baz=294,slow=1.7,SNR=9.5
CCM Cathedral Cave 145.21 21 *e*PKP PKPdf 21 45 11.2 +0.7
ACSO Alum Creek Sta 145.31 9 *e*PKP PKPdf 21 45 11.6 +1.0
FVM French Village 145.56 20 *e*PKP PKPdf 21 45 12.2 +1.1
BLO Bloomington 145.61 14 *e*PKP PKPdf 21 45 12.7 +1.5
MVL Millersville 146.10 0 *e*PKP PKPdf 21 45 14.0 +2.0
WCI Wyandotte Cave 146.56 15 *e*PKPdf PKPdf 21 45 14.7 +1.9
PARMO Parma 146.98 20 *e*PKPbc PKPbc 21 45 17.4 +2.2
MIAR Mount Ida 147.28 27 *e*PKPbc PKPdf 21 45 18.6 +4.5
UALR University of 147.63 25 *e*PKPbc PKPdf 21 45 18.8 +4.1
ELN Prospectdale 148.58 7 *e*PKPbc PKPdf 21 45 20.2 +4.1
PLAL Pickwick Lake 149.07 19 *e*PKPbc PKPdf 21 45 21.5 +4.6
CPCT Cooper Cave 149.64 14 *e*PKPbc PKPdf 21 45 24.1 +6.2
LRAL Lakeview Retre 151.21 19 *e*PKPbc PKPdf 21 45 27.3 +6.9
GOGA Godfrey 151.83 13 *e*PKPbc PKPdf 21 45 29.3 +8.1
LPAZ La Paz 156.54 200 PKP PKPdf 21 45 31.6 +3.6
comp=Z,0.7nm,0.8s,baz=21,slow=6.3,SNR=4.5

*IDC **25** 21:32:51.8±4.2, 19.25S×175.95W, h160km±69km, mb3.8/4, mb1 4.0/6, mb1mx3.7/16, mbtmp4.4/6, MS3.1/1, Ms1 3.1/1, ms1mx2.9/26, Error ellipse: s-maj=79.4km s-min=22.4km az=105.0*
*NEIC **25** 21:32:52.2±2.1, 19.23S×175.91W, h163km±28km, mb4.3/4, Error ellipse: s-maj=23.9km s-min=16.9km az=80.0*
ISC 25 21:32:51.6±2.6, 19.3S±0.1×175.9W±0.2, h177km±34km, n15, σ0°66/17, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.60**	**37**	P		**S**	**21 34 27.3**	**+0.1**
	10.0nm,0.3s,baz=45,slow=20,SNR=15							
AFI				S		**S**	**21 35 33.5**	**-8.2**
	17nm,0.3s,baz=41,slow=23,SNR=8.7							
AFI				LR		LR	21 36 21.7	
	comp=Z,150nm,18.4s,baz=308,slow=32							
AFI	**Afiamalu**	**6.60**	**37**	P		**P**	**21 34 27.3**	**0.0**
AFI				S		**S**	**21 35 33.5**	**-8.2**
AFI				LR		LR	21 36 21.7	
URZ	**Urewera**	**19.91**	**196**	P		**P**	**21 37 10.9**	**-0.4**
	3.9nm,0.3s,baz=2.5,slow=3.8,SNR=19							
CTA	**Charters Tower**	**35.63**	**262**	*eP*		**P**	**21 39 35.8**	**+1.4**
	3.1nm,0.4s,mb4.3							
CTAO	**Charters Tower**	**35.63**	**262**	*eP*		**P**	**21 39 35.4**	**+1.1**
	4.0nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**40.14**	**243**	P		**P**	**21 40 10.3**	**-1.5**
	3.6nm,1.2s,mb3.9,baz=85,slow=8.5,SNR=3.0							
STKA	**Stephens Creek**	**40.14**	**243**	P		**P**	**21 40 10.3**	**-1.5**
WB2	**Warramunga Arr**	**46.77**	**260**	*eP*		**P**	**21 41 05.0**	**-0.1**
WRAB	**Tennant Creek**	**46.77**	**260**	*eP*		**P**	**21 41 05.3**	**+0.1**
	4.5nm,0.6s,mb4.3							
ASPA	**Alice Springs**	**46.77**	**255**	*eP*		**P**	**21 41 05.8**	**+0.7**
WRA	**Warramunga Arr**	**46.78**	**260**	P		**P**	**21 41 05.1**	**-0.1**
	1.5nm,0.3s,mb4.1,baz=97,slow=7.2,SNR=49							
FITZ	**Fitzroy Crossi**	**55.20**	**261**	P		**P**	**21 42 08.3**	**-0.1**
	3.7nm,0.8s,mb4.2,baz=103,slow=3.5,SNR=5.0							
SBA	**Scott Base**	**59.25**	**184**	*eP*		**P**	**21 42 36.9**	**+0.7**
VNDA	**Vanda**	**59.33**	**186**	*eP*		**P**	**21 42 36.7**	**-0.1**
	1.0nm,0.8s,mb3.7							
MJAR	**Matsushiro Arr**	**70.43**	**322**	P		**P**	**21 43 48.0**	**-0.6**
	0.5nm,0.4s,mb3.6,baz=151,slow=3.3,SNR=6.0							

*NEIC **25** 21:35:13.7, 33.23S×72.00W, h35km, ML2.9(GUC), After GUC.*
GUC 25 21:35:13.7±0.8, 33.23S×72.00W, h35km±3km, MD3.9, ML2.9, 8C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.37**	**56**	⇓*iP*		P	**21 35 22.4**	-0.1
IHA				*i* S		S	21 35 28.1	-0.5
LCCH	**Las Cruces**	**0.43**	**124**	⇑*iP*		P	21 35 22.8	-0.6
LCCH				*i* S		S	21 35 29.1	-1.0
ROCH	**El Roble**	**0.87**	**73**	⇑*iP*		P	21 35 30.3	+0.8
ROCH				*i* S		S	21 35 42.5	+1.3
LNV	**Longovilo**	**0.87**	**146**	⇓*iP*		P	21 35 29.4	-0.1
LNV				*i* S		S	21 35 40.5	-0.7
TACH	**Talagante**	**0.98**	**115**	⇑*iP*		P	21 35 31.5	+0.4
TACH				*i* S		S	21 35 44.5	+0.5
RCDM	**Rinconada Maip**	**1.03**	**105**	⇑*iP*		P	21 35 32.0	+0.2
RCDM				*i* S		S	21 35 45.9	+0.6
RCDM				AMP			21 35 47.0	
	comp=N,490nm,0.1s							
SAN	**Santiago**	**1.14**	**101**	AMP			21 35 58.1	
	comp=N,333nm,0.6s							
STL	**Santa Lucia**	**1.16**	**100**	⇑*iP*		P	21 35 34.4	+0.8
STL				*i* S		S	21 35 50.0	+1.5
STL				AMP			21 35 55.4	
	comp=E,184nm,0.2s							
ANTU	**Antumapu**	**1.19**	**107**	⇑*iP*		P	21 35 35.2	+1.1
ANTU				*eS*		S	21 35 50.9	+1.5
ANTU				AMP			21 35 58.8	
	comp=N,354nm,0.4s							
DSCH	**Colegio Aleman**	**1.21**	**98**	*eP*		P	21 35 35.5	+1.2
DSCH				*eS*		S	21 35 52.2	+2.3
DSCH				AMP			21 35 57.5	
	comp=E,820nm,0.2s							
CLCH	**Cerro Calan**	**1.24**	**98**	⇓*iP*		P	21 35 36.4	+1.7
CLCH				*i* S		S	21 35 53.3	+2.8
CLCH				AMP			21 36 02.7	
	comp=N,284nm,0.4s							
PCH	**Pirque**	**1.30**	**108**	*i* P		P	21 35 37.3	+1.5
PCH				*i* S		S	21 35 55.1	+2.9
JACH	**Jahuel**	**1.31**	**65**	⇓*iP*		P	21 35 37.2	+1.4
JACH				*i* S		S	21 35 53.3	+1.0
CHCH	**Chadas Angostu**	**1.32**	**122**	⇓*iP*		P	21 35 37.0	+0.9
FCH	**Farellones**	**1.44**	**94**	⇓*iP*		P	21 35 39.1	+1.5
FCH				*i* S		S	21 35 58.7	+3.1
FCH				AMP			21 36 05.3	
	comp=E,349nm,0.2s							
CACH	**El Canelo**	**1.46**	**127**	⇑*iP*		P	21 35 39.9	+1.8
CACH				*i* S		S	21 35 59.7	+3.5
SFDO	**San Fernando**	**1.60**	**149**	⇓*iP*		P	21 35 41.0	+0.9
SFDO				*i* S		S	21 36 01.9	+2.2
CICH	**Cipreses**	**1.71**	**130**	*eP*		P	21 35 43.0	+1.5
CICH				*i* S		S	21 36 04.2	+1.9
CMCH	**Combarbala**	**2.22**	**23**	⇑*iP*		P	21 35 49.8	+0.9
CMCH				*i* S		S	21 36 16.4	+1.0
CMCH				AMP			21 36 27.3	
	comp=N,519nm,0.7s							

*CSEM **25** 21:41:19.3, 21.06S×177.02W, h33km, mb5.5*
*BJI **25** 21:42:11.2, 21.10S×178.40W, h501km, mB5.1, mb4.8*
*NEIC **25** 21:42:11.2±1.0, 21.15S×178.42W, h502km±11km, mb4.9/16, Error ellipse: s-maj=12.3km s-min=7.9km az=139.0*
*IDC **25** 21:42:12.2±1.4, 21.27S×178.51W, h513km±14km, mb3.9/15, mb1 4.1/17, mb1mx4.0/22, mbtmp4.8/17, Error ellipse: s-maj=17.3km s-min=11.1km az=151.0*
*MOS **25** 21:42:13.2±2.6, 20.25S×179.31W, h459km, mb4.9/8, Error ellipse: s-maj=15.7km s-min=13.0km az=166.6*
ISC 25 21:42:07.9±1.1, 21.14S±0.07×178.45W±0.08, h469km±13km, n125, σ0°97/63, mb4.5/37, 3C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.61**	**43**	P		**P**	**21 44 23.6**	**+1.2**
	14nm,0.3s,baz=45,slow=3.1,SNR=19							
AFI				S		**S**	**21 46 08.0**	**-1.2**
	7.3nm,0.3s,baz=199,slow=20,SNR=11							
AFI	**Afiamalu**	**9.61**	**43**	*eP*		**P**	**21 44 23.4**	**+1.0**
	196nm,0.8s							
AFI	**Afiamalu**	**9.61**	**43**	P		**P**	**21 44 23.6**	**+1.2**
AFI				S		**S**	**21 46 08.0**	**-1.2**
AFI				pmax	pmax			
	comp=Z,14nm,0.3s							
AFI				smax				
	comp=E,7.0nm,0.3s							
DZM	**Mont Dzumac**	**14.08**	**263**	*eP*		**P**	**21 45 14.3**	**+4.2**
DZM	**Mont Dzumac**	**14.08**	**263**	P		**P**	**21 45 13.0**	**+2.9**
	comp=E,2.1nm,0.3s,baz=78,slow=18,SNR=20							
DZM	**Mont Dzumac**	**14.08**	**263**	*eP*		**P**	**21 45 14.3**	**+4.2**
URZ	**Urewera**	**17.48**	**192**	P		**P**	**21 45 44.1**	**-0.3**
	comp=E,3.3nm,0.3s,baz=351,slow=4.9,SNR=18							
RPZ	**Rata Peaks**	**24.15**	**199**	P		**P**	**21 46 45.5**	**-1.3**
	comp=E,9.6nm,0.7s,mb4.3,baz=60,slow=2.5,SNR=6.4							
ARMA	**Armidale**	**28.41**	**245**	⇓*iP*		**P**	**21 47 26.1**	**+1.3**
CNB	**Canberra Magne**	**31.52**	**236**	⇓*iP*		**P**	**21 47 52.7**	**+1.2**
	comp=E,65nm,0.7s,mb5.2							
CTA	**Charters Tower**	**33.01**	**265**	⇓*iP*		**P**	**21 48 05.2**	**+0.9**
	comp=E,28nm,0.6s,mb4.9							
CTA	**Charters Tower**	**33.01**	**265**	⇓*iP*		**P**	**21 48 05.2**	**+0.9**
CTA				pmax	pmax			
	comp=Z,28nm,0.6s							
CTAO	**Charters Tower**	**33.01**	**265**	*eP*		**P**	**21 48 04.9**	**+0.7**
	comp=Z,32nm,0.6s,mb4.9							
CTAO	**Charters Tower**	**33.01**	**265**	*eP*		**P**	**21 48 04.9**	**+0.6**
CTAO				pmax	pmax			
	comp=Z,32nm,0.6s,mb4.9							
PMG	**Port Moresby**	**35.08**	**284**	P		**P**	**21 48 22.4**	**+0.7**
	comp=Z,67nm,0.8s,mb5.1,baz=93,slow=6.0,SNR=17							
PMG	**Port Moresby**	**35.08**	**284**	*eP*		**P**	**21 48 22.5**	**+0.8**
	comp=Z,82nm,0.9s,mb5.2							
PMG	**Port Moresby**	**35.08**	**284**	P		**P**	**21 48 22.4**	**+0.7**
PMG				pmax	pmax			
	comp=Z,67nm,0.8s							
TOO	**Toolangi**	**35.18**	**234**	*eP*		**P**	**21 48 23.1**	**+0.8**
	comp=Z,19nm,0.7s,mb4.6							
TOO	**Toolangi**	**35.18**	**234**	*eP*		**P**	**21 48 23.1**	**+0.8**
TOO				pmax	pmax			
	comp=Z,19nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**37.13**	**245**	⇓*iP*		**P**	**21 48 39.3**	**+0.7**
	comp=Z,19nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**37.13**	**245**	P		**P**	**21 48 39.5**	**+0.9**
	comp=Z,29nm,0.8s,mb4.7,baz=88,slow=9.3,SNR=59							
WB2	**Warramunga Arr**	**44.08**	**263**	⇓*iP*		**P**	**21 49 34.0**	**-0.8**
WRAB	**Tennant Creek**	**44.09**	**263**	*eP*		**P**	**21 49 33.9**	**-0.9**
	comp=Z,69nm,1.0s,mb5.0							
WRAB	**Tennant Creek**	**44.09**	**263**	*eP*		**P**	**21 49 33.9**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,69nm,1.0s,mb5.0							
WRA	**Warramunga Arr**	**44.09**	**263**	P		**P**	**21 49 34.1**	**-0.7**
	comp=Z,29nm,0.9s,mb4.7,baz=96,slow=7.5,SNR=172							
WRA				PcP	PcP		21 51 08.9	-1.7
WRA	comp=Z,4.3nm,0.9s,baz=96,slow=4.3,SNR=5.5			ScP			21 54 13.2	
	comp=Z,0.6nm,0.8s,baz=75,slow=3.6,SNR=3.5							
WRA				S		**S**	**21 55 26.5**	**-6.2**
	comp=Z,0.4nm,0.7s,baz=96,slow=14,SNR=2.8							
WRA	**Warramunga Arr**	**44.09**	**263**	P		**P**	**21 49 34.1**	**-0.8**
WRA							21 51 08.9	
WRA				S		**S**	**21 55 26.5**	**-6.2**
KAKA	**Kakadu**	**47.57**	**272**	*eP*		**P**	**21 50 20.6**	**+19**
	comp=Z,21nm,0.6s,mb4.7							
FORT	**Forrest**	**48.65**	**247**	*eP*		**P**	**21 50 08.7**	**-1.0**
	comp=Z,47nm,0.7s,mb4.9							
GUMO	**Guam**	**49.89**	**311**	P		**P**	**21 50 18.0**	**-1.2**
	comp=Z,61nm,0.8s,mb5.0,baz=179,slow=11,SNR=5.6							
FITZ	**Fitzroy Crossi**	**52.52**	**263

KLBR	**Kellerberrin**	**57.40**	245	*e*P		**P**	21 51 11.4	-1.1
	comp=Z,42nm,1.0s,mb4.7							
NWAO	**Narrogin (SRO)**	**57.70**	244	P		**P**	21 51 13.9	-0.6
	comp=Z,15nm,0.9s,mb4.3,baz=89,slow=6.0,SNR=5.5							
QSPA	**South Pole Qui**	**68.93**	180	*e*P		**P**	21 52 25.4	-0.4
	comp=Z,17nm,1.2s,mb4.5							
MJAR	**Matsushiro Arr**	**70.47**	324	P		**P**	21 52 35.2	-0.5
	comp=Z,4.3nm,0.6s,mb4.2,baz=155,slow=6.1,SNR=14							
MJAR				PcP		PcP	21 52 53.5	-0.4
	comp=Z,2.4nm,0.9s,baz=164,slow=4.9,SNR=4.1							
YSS	**Yuzh-Sakhalins**	**76.28**	334	*e*P		**P**	21 53 09.8	+1.3
YSS				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.4							
NJ2	**Nanjing**	**79.96**	310	*e*P		**P**	21 53 32.3	+3.8
NJ2				PP		PP	21 56 39.0	+0.5
NJ2				AMB		AMB		
	comp=Z,40nm,1.0s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,612nm,8.2s							
MDJ	**Mudanjiang**	**80.80**	325	P		**P**	21 53 32.5	-0.1
MDJ				AMB		AMB		
	comp=Z,15nm,1.0s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,85nm,4.0s							
YBH	**Yreka Blue Hor**	**81.05**	39	P		**P**	21 53 35.1	+1.1
	comp=Z,5.2nm,0.8s,mb4.1,baz=268,SNR=12							
CN2	**Changchun**	**82.55**	323	*e*P		**P**	21 53 42.3	+0.8
CN2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.6							
ELK	**Elko**	**85.04**	43	P		**P**	21 53 54.5	+0.5
	comp=Z,1.0nm,0.8s,mb3.5,baz=193,slow=22,SNR=4.8							
ENH	**Enshi**	**86.05**	304	*e*P		**P**	21 53 59.8	+0.7
	comp=Z,32nm,1.0s,mb4.9							
MCK	**McKinley**	**87.69**	13	*e*P		**P**	21 54 05.3	-0.8
TXAR	**Lajitas Array**	**87.76**	57	P		**P**	21 54 07.8	+0.6
	comp=Z,1.5nm,0.9s,mb3.7,baz=225,slow=5.3,SNR=13							
XAN	**Xi'an**	**88.18**	308	P		**P**	21 54 10.3	+1.2
XAN				AMB		AMB		
	comp=Z,23nm,1.0s,mb4.9							
DLBC	**Dease Lake**	**88.80**	23	P		**P**	21 54 10.4	-1.1
	comp=Z,1.6nm,0.6s,mb4.0,baz=207,slow=14,SNR=3.4							
ILAR	**Eielson Array**	**89.03**	13	P		**P**	21 54 11.2	-1.2
	comp=Z,2.7nm,0.9s,mb4.1,baz=220,slow=6.0,SNR=21							
KMI	**Kunming**	**89.26**	297	P		**P**	21 54 15.3	+0.9
KMI				AMB		AMB		
	comp=Z,18nm,0.9s,mb4.9							
KMI	**Kunming**	**89.26**	297	P		**P**	21 54 15.2	+0.8
	comp=Z,18nm,0.9s,mb4.9							
KMI	**Kunming**	**89.26**	297	P		**P**	21 54 15.2	+0.8
KMI				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.9							
IMW	**Indian Meadow**	**89.41**	42	*e*P		**P**	21 54 15.5	+0.9
	comp=Z,3.5nm,1.0s,mb4.1							
BILL	**Bilibino**	**89.63**	354	*e*P		**P**	21 54 14.8	-0.2
BILL				*e*S			22 04 03.7	
BILL				*e*PS		PS	22 06 34.2	-4.8
BILL				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.2							
PDAR	**Pinedale Array**	**89.72**	43	P		**P**	21 54 16.0	-0.1
	comp=Z,2.5nm,0.8s,mb4.1,baz=238,slow=1.8,SNR=16							
YAK	**Yakutsk**	**92.55**	338	*e*P		**P**	21 54 30.0	+1.4
YAK				pmax		pmax		
	comp=Z,23nm,0.7s,mb5.3							
SONM	**Songino Array**	**95.96**	319	P		**P**	21 54 43.3	-1.2
	comp=Z,0.4nm,0.6s,mb3.8,baz=135,slow=4.1,SNR=3.1							
TIXI	**Tiksi**	**99.25**	345	*e*P		**P**	21 54 57.8	-1.0
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.6							
MKAR	**Makanchi Array**	**111.33**	313	⇑*i* PKIKP		PKPdf	21 59 46.5	-0.8
ARU	**Arti**	**125.48**	325	*i* PKIKP		PKPdf	22 00 14.2	-0.2
ARU				*e*			22 02 11.5	
ARU				*e*SS		SS	22 18 53.2	+17
ARCES	**ARCESS Array B**	**129.47**	349	PKP		PKPdf	22 00 20.6	-1.2
	comp=Z,2.2nm,0.7s,baz=342,slow=3.8,SNR=7.4							
FINES	**FINESS Array B**	**136.26**	343	PKP		PKPdf	22 00 33.5	-1.1
	comp=Z,0.9nm,0.5s,baz=63,slow=4.3,SNR=5.0							
FINES				SKPbc			22 03 19.1	
	comp=Z,2.3nm,0.9s,baz=90,slow=3.8,SNR=4.4							
KMBO	**Kilima Mbogo**	**138.67**	242	PKP		PKPdf	22 00 42.0	+1.7
	comp=Z,1.4nm,0.8s,baz=84,slow=3.2,SNR=5.1							
NB2	**NORSAR Subarra1**	**139.56**	353	PKPabc		PKPdf	22 00 32.9	-7.7
	comp=Z,1.4nm,0.8s,baz=13,slow=2.5							
NB2	**NORSAR Subarra2**	**139.56**	353	PKPab		PKPdf	22 00 32.9	-7.7
NOA	**NORSAR Array B**	**139.56**	353	PKhKP			22 00 32.9	
	comp=Z,1.2nm,0.7s,baz=12,slow=2.3,SNR=4.8							
NOA				PKP		PKPdf	22 00 42.4	+1.7
	comp=Z,1.5nm,0.8s,baz=13,slow=4.0,SNR=3.5							
NOA	**NORSAR Array B**	**139.56**	353	PKHKP			22 00 32.9	
NOA							22 00 42.4	
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
NOA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
HILS	**Ha'il**	**142.90**	288	P		PKPdf	22 00 46.7	-0.8
SUW	**Suwalki**	**143.28**	339	*e*PKP		PKPdf	22 00 45.4	-1.8
AKASG	**Malin Array Be**	**143.36**	330	PKP		PKPdf	22 00 45.2	-2.3
	comp=Z,12nm,0.6s,baz=42,slow=4.4,SNR=78							
AKASG				SKPbc			22 03 38.1	
	comp=Z,0.8nm,0.7s,baz=39,slow=1.9,SNR=6.1							
SIM	**Simferopol'**	**144.20**	319	*i* PKHKP			22 00 49.9	
SIM				pmax		pmax		
	comp=Z,42nm,1.0s							
KBRS	**Khaybar**	**145.17**	285	P		PKPdf	22 00 53.5	+2.0
BSEG	**Bad Segeberg**	**146.58**	351	*e*PKPbc		PKPbc	22 00 56.0	+1.2
BR131	**Keskin Array S**	**146.95**	311	*e*PKP		PKPdf	22 00 56.8	+2.8
BRTR	**Keskin Array B**	**146.95**	311	PKPbc		PKPbc	22 00 56.6	+0.5
	comp=Z,3.9nm,0.7s,baz=139,slow=4.0,SNR=17							
KWP	**Kalwaria**	**146.98**	334	*e*PKP		PKPdf	22 00 57.5	+3.8
BURAR	**Bucovina Array**	**147.40**	330	⇓P		PKPdf	22 00 59.9	+5.5
CFR	**Carcaliu**	**147.56**	324	⇓P		PKPdf	22 00 58.0	+3.2
OJC	**Ojcow**	**147.60**	338	*e*PKP		PKPdf	22 00 58.0	+3.3
KOLS	**Kolonicke sedl**	**147.71**	334	*e*PKP		PKPdf	22 00 59.9	+5.0
KOLS				*e*			22 01 03.4	
STHS	**Stebnicka Huta**	**147.73**	336	*e*PKP		PKPdf	22 00 59.0	+4.1
STHS				*e*			22 01 04.3	
TIRR	**Tirgusor**	**147.84**	323	⇓P		PKPdf	22 01 03.3	+8.1
VRI	**Vrincioaia**	**147.87**	326	⇑P		PKPdf	22 00 59.6	+4.4
NIE	**Niedzica**	**148.08**	337	*e*PKP		PKPdf	22 01 05.7	+10
KSP	**Ksiaz**	**148.17**	342	*e*PKP		PKPdf	22 01 00.9	+5.3
OKC	**Ostrava-Krasne**	**148.48**	339	*e*PKPbc		PKPdf	22 01 00.9	+4.8
OKC				*e*PKPab		PKPab	22 01 06.7	-1.1
MLR	**Muntele Rosu**	**148.52**	326	⇓P		PKPdf	22 01 01.4	+5.1
UPC	**Upice**	**148.55**	342	*e*PKPbc		PKPdf	22 01 01.6	+5.4
UPC				*e*PKPab		PKPab	22 01 07.7	-0.3
CLL	**Collm**	**148.59**	346	⇓*i* PKIKP		PKPdf	22 01 01.0	+4.8
CLL				*i*			22 01 06.5	
CLL				pmax		pmax		
	comp=Z,15nm,0.9s							
CLZ	**Clausthal**	**148.60**	349	*e*PKPbc		PKPdf	22 01 01.0	+4.8
DPC	**Dobruska-Polom**	**148.60**	342	*e*PKPbc		PKPdf	22 01 01.6	+5.3
DPC				*e*PKPab		PKPab	22 01 07.7	-0.6
BDAS	**Al Bad'**	**148.76**	290	P		PKPdf	22 01 02.5	+5.3
BRG	**Berggiesshubel**	**148.77**	345	*i* PKP		PKPdf	22 01 01.6	+5.1
BRG				*e*			22 01 07.1	
BRG	**Berggiesshubel**	**148.77**	345	*i* PKIKP		PKPdf	22 01 01.6	+5.1
BRG				*e*			22 01 07.5	
BRG				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BRG				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KECS	**Kecovo**	**148.78**	335	*e*PKP		PKPdf	22 01 02.3	+5.7
KECS				*e*			22 01 08.2	
HAQS	**Haql**	**148.84**	291	P		PKPdf	22 01 02.8	+5.5
PVCC	**Panska Ves**	**148.93**	344	*e*PKPbc		PKPdf	22 01 02.3	+5.5
DRGR		**149.17**	331	⇑P		PKPdf	22 01 01.6	+4.3
VYHS	**Vyhne**	**149.39**	337	*e*PKP		PKPdf	22 01 03.1	+5.5
VYHS				*e*			22 01 07.5	
PRU	**Pruhonice**	**149.43**	343	*e*PKPbc		PKPdf	22 01 03.2	+5.6
PRU				*e*PKPab		PKPab	22 01 10.0	-1.6
MOX	**Moxa**	**149.51**	347	*e*PKHKP			22 01 03.5	
MOX				pmax		pmax		
	comp=Z,13nm,1.3s							
NKC	**Novy Kostel**	**149.72**	346	*e*PKPbc		PKPdf	22 01 03.3	+5.2
NKC				*e*PKPab		PKPab	22 01 11.7	-1.1
KHC	**Kasperske Hory**	**150.47**	344	*e*PKPbc		PKPdf	22 01 05.6	+6.4
KHC				*e*PKPab		PKPab	22 01 15.1	-0.9
TNS	**Taunus Mts**	**150.47**	351	*e*PKPbc		PKPdf	22 01 05.9	+6.7
GRA1	**Grafenberg Arr**	**150.49**	347	*e*PKPbc		PKPdf	22 01 06.1	+6.8
GRF	**Grafenberg Arr**	**150.49**	347	*e*PKHKP			22 01 06.1	
GEC2	**GERESS Array S**	**150.70**	343	*e*PKPbc		PKPdf	22 01 05.8	+6.2
GERES	**GERESS Array B**	**150.70**	343	PKPbc		PKPdf	22 01 05.5	+5.9
	comp=Z,4.3nm,0.8s,baz=45,slow=1.9,SNR=38							
GIVF	**Givet**	**150.98**	356	*e*PKP1		PKPdf	22 01 05.4	+5.4
BAIF	**Baives**	**151.07**	356	*e*PKP1		PKPdf	22 01 06.7	+6.6
	comp=Z,15nm,1.0s							
FUR	**Furstenfeldbru**	**151.92**	346	*e*PKPbc		PKPdf	22 01 09.0	+7.6
BFO	**Black Forest**	**152.33**	350	*e*PKPbc		PKPdf	22 01 09.8	+7.9
CDF	**Champ du Feu**	**152.41**	352	*e*PKP1		PKPdf	22 01 09.3	+7.3
	comp=Z,6.0nm,0.8s							
MEZF	**Maizieres J'vi**	**152.56**	355	*e*PKP1		PKPdf	22 01 09.8	+7.6
LDF	**La Druitiere**	**152.58**	2	*e*PKP1		PKPdf	22 01 09.4	+7.1
GRR	**Gorron**	**152.75**	4	*e*PKP1		PKPdf	22 01 09.9	+7.4
	comp=Z,12nm,0.8s							
CRES	**Cresnjev**	**152.87**	338	*e*PKPdf		PKPdf	22 01 10.8	+8.0
HAU	**Haudompre**	**152.92**	353	*e*PKP1		PKPdf	22 01 10.4	+7.6
LJU	**Ljubljana**	**152.98**	340	*e*PKPdf		PKPdf	22 01 11.2	+8.3
LJU				*e*PKPab		PKPab	22 01 25.6	-1.0
CEY	**Cerknica**	**153.29**	340	*e*PKPdf		PKPdf	22 01 11.5	+8.2
CEY				*e*PKPab		PKPab	22 01 26.2	-1.7
LOR	**Lormes**	**153.87**	356	*e*PKP1		PKPdf	22 01 13.5	+9.5
SSF	**Saint Saulge**	**154.09**	357	*e*PKP1		PKPdf	22 01 14.0	+10
CABF	**La Chapelle**	**154.33**	353	*e*PKP1		PKPdf	22 01 14.0	+9.3
AVF	**Avril sur Loir**	**154.37**	357	*e*PKP1		PKPdf	22 01 14.4	+10

IDC 25 21:52:48.6±1.6, 6.47S×129.88E, mb3.9/2, mb1 4.3/4, mb1mx3.9/12, mbtmp4.1/4, ML4.3/2, Error ellipse: s-maj=75.6km s-min=25.2km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.70**	158	*e*P	Px	21 54 53.8	
	24nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.28**	199	*e*P	P	21 55 45.1	-2.7
	4.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.28**	199	Pn	P	21 55 45.1	-2.7
	1.7nm,0.3s,baz=14,slow=12,SNR=28						
WRA	**Warramunga Arr**	**14.08**	162	Pn	P	21 56 08.8	-3.0
	1.1nm,0.3s,baz=345,slow=12,SNR=28						
WB2	**Warramunga Ar**	**14.08**	162	*e*P	P	21 56 08.8	-3.0
STKA	**Stephens Creek**	**27.55**	158	P	P	21 58 37.4	-1.8
	0.6nm,0.3s,baz=324,slow=12,SNR=7.3						
MKAR	**Makanchi Array**	**67.72**	327	P	P	22 03 48.0	-2.1
	0.4nm,0.3s,baz=121,slow=7.0,SNR=11						

IDC 25 21:54:52.8±1.6, 7.07S×127.80E, mb3.7/2, mb1 4.3/4, mb1mx3.9/12, mbtmp4.1/4, ML4.4/2, Error ellipse: s-maj=88.9km s-min=25.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.17**	191	Pn	P	21 57 35.1	-1.8
	1.9nm,0.3s,baz=12,slow=8.3,SNR=3.4						
FITZ				Sn	S	21 59 29.1	-15
	5.6nm,0.3s,baz=175,slow=7.7,SNR=4.6						
WRA	**Warramunga Arr**	**14.28**	154	Pn	P	21 58 16.4	-2.2
	1.7nm,0.3s,baz=323,slow=14,SNR=27						
WRA				Sn	S	22 00 41.2	-18
	3.2nm,0.3s,baz=324,slow=24,SNR=8.5						
STKA	**Stephens Creek**	**27.84**	154	P	P	22 00 43.6	-2.4
	1.1nm,0.6s,baz=352,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**67.11**	328	P	P	22 05 48.3	-2.1
	0.2nm,0.4s,baz=121,slow=7.7,SNR=7.0						

JMA 25 22:04:49.0±0.5, 33.81N×142.04E, h24km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.22**	314	P	Pn	22 05 10.6	-0.2
BSO2	**Boso 2**	**1.42**	312	*e*S	Sn	22 05 32.5	+0.8
BSO3	**Boso 3**	**1.61**	308	P	Pn	22 05 16.8	+0.5
BSO3				*e*S	Sn	22 05 35.8	-0.7
BSO4	**Boso 4**	**1.83**	310	P	Pn	22 05 20.5	+0.9
JOD2	**Odawara 2**	**2.83**	302	P	Pn	22 05 33.6	-0.3
JYN	**Shimob**	**3.34**	301	P	Pn	22 05 42.0	+1.0
JAG	**Ashikaga**	**3.36**	322	P	Pn	22 05 41.3	-0.1
JRY	**Ryogami san**	**3.39**	311	P	Pn	22 05 42.4	+0.6

*NEIC **25** 22:06:57.1±0.4,21.42S×179.39W, h600km, mb4.6/8, Error ellipse: s-maj=15.2km s-min=10.7km az=161.0*
*IDC **25** 22:07:01.4±2.7,21.52S×179.58W, h644km±29km, mb3.4/8, mb1 3.6/9, mb1mx3.5/15, mbtmp4.5/9, Error ellipse: s-maj=26.7km s-min=17.8km az=151.0*
ISC 25 22:07:00.2±2.0, 21.5S±0.1×179.6W±0.1, h648km±24km, n40, σ0§65/27, mb4.1/15, 9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.95**	265	P	**P**	**22 09 48.0**	**0.0**
	0.6nm,0.3s,baz=87,slow=21,SNR=5.9						
ARMA	**Armidale**	**27.27**	245	*e*P	**P**	**22 11 58.5**	**+0.6**
CTA	**Charters Tower**	**31.89**	266	⇓*i* P	**P**	**22 12 37.9**	**+0.8**
	6.7nm,0.4s,mb4.5						
CTA	**Charters Tower**	**31.89**	266	P	**P**	**22 12 38.0**	**+0.8**
	9.6nm,0.4s,mb4.7,baz=95,slow=11,SNR=23						
CTAO	**Charters Tower**	**31.89**	266	*e*P	**P**	**22 12 37.9**	**+0.7**
	9.5nm,0.5s,mb4.6						
PMG	**Port Moresby**	**34.11**	285	P	**P**	**22 12 56.2**	**+0.6**
	14nm,0.6s,mb4.7,baz=83,slow=4.3,SNR=5.7						
PMG	**Port Moresby**	**34.11**	285	*e*P	**P**	**22 12 56.0**	**+0.4**
	13nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**35.99**	245	⇓*i* P	**P**	**22 13 11.5**	**+0.6**
	4.6nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**35.99**	245	P	**P**	**22 13 11.6**	**+0.6**
	5.0nm,0.4s,mb4.4,baz=89,slow=9.8,SNR=30						
ASPA	**Alice Springs**	**42.82**	258	⇓*i* P	**P**	**22 14 05.7**	**0.0**
ASPA				*e*S	**S**	**22 19 47.0**	**+0.8**
WB2	**Warramunga Arr**	**42.95**	263	⇓*i* P	**P**	**22 14 06.4**	**-0.4**
WRAB	**Tennant Creek**	**42.96**	263	*e*P	**P**	**22 14 06.2**	**-0.5**
	29nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**42.97**	263	P	**P**	**22 14 06.5**	**-0.3**
	7.4nm,0.3s,mb4.6,baz=96,slow=7.7,SNR=582						
WRA				PcP	PcP	22 15 42.9	+0.7
	0.5nm,0.3s,baz=93,slow=3.6,SNR=2.8						
WRA				S	**S**	**22 19 48.0**	**-0.2**
	0.9nm,0.8s,baz=101,slow=18,SNR=4.8						
KAKA	**Kakadu**	**46.49**	273	⇓*i* P	**P**	**22 14 53.3**	**+19**
	14nm,0.4s,mb4.6						
FORT	**Forrest**	**47.51**	247	⇓*i* P	**P**	**22 14 40.5**	**-0.9**
	11nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.40**	264	*e*P	**P**	**22 15 10.0**	**+0.1**
	7.2nm,0.4s,mb4.3						
MBWA	**Marble Bar**	**56.16**	258	*e*P	**P**	**22 15 42.5**	**-0.6**
	16nm,0.8s,mb4.2						
KLBR	**Kellerberrin**	**56.26**	246	*e*P	**P**	**22 15 43.0**	**-0.7**
	36nm,1.5s,mb4.3						
VNDA	**Vanda**	**56.80**	185	*e*P	**P**	**22 15 45.6**	**-1.2**
	0.7nm,0.8s,mb2.8						
MJAR	**Matsushiro Arr**	**70.12**	325	P	**P**	**22 17 11.7**	**+0.4**
	2.6nm,0.6s,mb3.8,baz=155,slow=5.7,SNR=6.3						
MAW	**Mawson**	**80.12**	200	P	**P**	**22 18 05.6**	**-0.1**
	1.2nm,0.5s,mb3.6,baz=60,slow=8.1,SNR=4.1						
VNA3	**Neumayer Olymp**	**87.26**	177		**P**	**22 18 41.0**	**+0.5**
VNA2	**Neumayer--Watz**	**87.68**	177		**P**	**22 18 43.8**	**+1.4**
TXAR	**Lajitas Array**	**88.87**	58	P	**P**	**22 18 49.4**	**+0.5**
	0.6nm,0.8s,mb3.4,baz=212,slow=4.2,SNR=8.0						
ILAR	**Eielson Array**	**89.61**	13	P	**P**	**22 18 50.5**	**-1.0**
	0.2nm,0.4s,mb3.3,baz=217,slow=5.3,SNR=5.8						
BVAR	**Borovoye Array**	**118.84**	320	PKP	PKPdf	22 24 37.1	+0.5
	1.1nm,0.3s,baz=114,slow=2.0,SNR=6.9						
ARCES	**ARCESS Array B**	**129.60**	349	PKP	PKPdf	22 24 57.8	+0.9
	4.0nm,0.8s,baz=63,slow=2.7,SNR=4.5						
FINES	**FINESS Array B**	**136.27**	342	PKP	PKPdf	22 25 11.3	+1.9
	1.1nm,0.6s,baz=90,slow=4.2,SNR=5.9						
AKASG	**Malin Array Be**	**143.11**	329	PKP	PKPdf	22 25 21.3	-0.4
	2.0nm,0.3s,baz=43,slow=4.2,SNR=33						
ASF	**Jabal al Asfar**	**145.86**	296	PKPbc	PKPbc	22 25 31.7	+3.0
	2.2nm,0.7s,baz=110,slow=5.2,SNR=3.8						
BRTR	**Keskin Array B**	**146.34**	310	PKPbc	PKPbc	22 25 32.0	+2.4
	2.0nm,0.7s,baz=138,slow=4.2,SNR=9.9						
BURAR	**Bucovina Array**	**147.13**	328	⇓P	PKPdf	22 25 35.7	+7.0
CFR	**Carcaliu**	**147.17**	323	⇓P	PKPdf	22 25 34.2	+5.4
KOLS	**Kolonicke sedl**	**147.52**	333	*e*PKP	PKPdf	22 25 35.2	+5.9
KOLS				*e*		22 25 59.5	
STHS	**Stebnicka Huta**	**147.57**	334	*e*PKP	PKPdf	22 25 35.0	+5.7
STHS				*e*		22 25 54.3	
BRG	**Berggiesshubel**	**148.80**	343	*i* P	PKPdf	22 25 38.2	+6.9
DRGR		**148.92**	330	⇓P	PKPdf	22 25 37.9	+6.3
KHC	**Kasperske Hory**	**150.47**	342	*e*PKPbc	PKPdf	22 25 42.0	+8.2
KHC				PKPab	PKPab	22 25 52.0	-0.4
KHC	**Kasperske Hory**	**150.47**	342	*e*P	PKPdf	22 25 42.0	+8.2
KHC				*e*		22 25 52.0	
GERES	**GERESS Array B**	**150.70**	342	PKPbc	PKPdf	22 25 42.4	+8.2
	1.1nm,0.6s,baz=45,slow=1.9,SNR=11						
GERES				PKPab	PKPab	22 25 52.9	-0.4
	0.1nm,0.3s,baz=18,slow=4.2,SNR=4.1						

*IDC **25** 22:09:04.7±1.5,29.96S×177.04W, mb4.2/2, mb1 4.4/2, mb1mx3.9/12, mbtmp4.2/2, Error ellipse: s-maj=42.7km s-min=26.1km az=40.0*
*NEIC **25** 22:09:05.8±1.2,30.04S×177.02W, h10km, mb4.4/1, Error ellipse: s-maj=29.3km s-min=21.3km az=224.0*
ISC 25 22:09:07.9±3.5, 30.1S±0.2×177.1W±0.5, h33km, n10, σ0§71/9, mb4.3/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.10**	319	Pn	**Pn**	**22 09 27.4**	**+0.2**
	714nm,0.3s,baz=78,slow=19,SNR=66						
RAO				Sn	**Sn**	**22 09 41.3**	**0.0**
	2µm,0.3s,baz=105,slow=19,SNR=24						
RAO	**Raoul Island**	**1.10**	319	*e*P	**P**	**22 09 27.3**	**+0.3**
RAO				*e*S	**S**	**22 09 41.2**	**-0.1**
RAO				Sn	**Sn**	**22 09 41.4**	**0.0**
STKA	**Stephens Creek**	**35.31**	256	P	**P**	**22 16 03.3**	**+1.4**
	1.1nm,0.3s,mb4.3,baz=104,slow=13,SNR=5.6						
STKA	**Stephens Creek**	**35.31**	256	*e*P	**P**	**22 16 03.3**	**+1.4**
WRAB	**Tennant Creek**	**44.86**	271	*e*P	**P**	**22 17 20.0**	**-1.1**
	2.6nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**44.87**	271	P	**P**	**22 17 20.4**	**-0.7**
	1.2nm,0.3s,mb4.2,baz=110,slow=8.2,SNR=12						
KAF	**Kangasniemi**	**144.52**	341	*e*p	PKPbc	22 28 38.0	-1.8
FINES	**FINESS Array B**	**145.12**	341	PKP	PKPdf	22 28 42.0	+0.7
	2.2nm,0.4s,baz=48,slow=4.0,SNR=31						
HFS	**Hagfors**	**149.09**	349	PKPbc	PKPdf	22 28 54.3	+6.5
	1.4nm,0.6s,baz=45,slow=2.1,SNR=5.8						
AKASG	**Malin Array Be**	**151.52**	324	PKPbc	PKPdf	22 28 59.5	+7.6
	0.8nm,0.4s,baz=48,slow=3.2,SNR=7.6						

*IDC **25** 22:16:17.1±1.5,32.10N×70.78E, mb3.9/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML3.2/1, MS4.3/1, Ms1 4.3/1, ms1mx3.3/30, Error ellipse: s-maj=35.8km s-min=24.3km az=42.0*
*NEIC **25** 22:16:18.5±1.0,32.12N×70.95E, h10km, mb3.8/2, Error ellipse: s-maj=20.1km s-min=9.1km az=225.0*
*NDI **25** 22:16:19.8±3.8,32.07N×70.81E, h15km±160km, ML4.0, mb3.8(NEIC)*
*BJI **25** 22:16:20.4,32.69N×70.85E, h10km, mb4.2, ML4.7*
*NNC **25** 22:16:29.1±0.9,32.67N×70.87E, h56km±8km, Error ellipse: s-maj=16.2km s-min=7.1km az=98.0*
ISC 25 22:16:18.8±2.1, 32.22N±0.05×71.05E±0.08, h19km±16km, n48, σ1§24/52, mb3.8/8, MS4.3/1, 5C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JASL	**Jaisalmer**	**5.28**	181	*ex*	x	22 18 00.6	
KHET	**Khetri**	**5.84**	134	*e*P	**Pn**	**22 17 46.3**	**-0.4**
KHET				*e*S	**Sn**	**22 18 50.5**	**-3.4**
KHET				AML	AML	22 19 46.8	
	comp=N,54nm,0.7s						
KHET				AML	AML	22 19 47.3	
	comp=E,85nm,0.8s						
KLP	**Kalpa**	**6.17**	94	*e*P	**Pn**	**22 17 53.4**	**+2.0**
KLP				*e*S	**Sn**	**22 19 00.2**	**-1.9**
KLP				AML	AML	22 20 02.9	
	comp=E,6µm,0.8s						
KLP				AML	AML	22 20 03.2	
BHGR	**Bahadurgarh**	**6.19**	123	*ex*	x	22 19 37.3	
KUD

WRA	**Warramunga Arr**	**79.72**	**121**	P		**P**		**22 28 27.6**	**+0.2**
	comp=Z,2.5nm,1.0s,mb4.1,baz=320,slow=5.2,SNR=11								
WRAB	**Tennant Creek**	**79.72**	**121**	P		**P**		**22 28 27.7**	**+0.4**

DHMR 25 22:16:59.4±2.9, 12.70N×40.51E, h2km±17km, ML3.6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.56**	**81**	*i* P	Pn	22 17 58.3	+1.5
TRBA				*i* S	Sn	22 18 44.6	+4.6
TRBA				AML	AML	22 18 54.4	
	comp=N,215nm,0.7s						
UDYN	**Al 'Udayn**	**3.60**	**69**	*i* S	Sn	22 18 45.4	+4.4
UDYN				AML	AML	22 18 58.8	
	comp=Z,216nm,0.5s						
DHBB	**Dhamar BB**	**4.21**	**63**	*i* S	Sn	22 19 00.4	+3.9
LBOS		**4.76**	**75**	*i* P	Pn	22 18 12.6	-1.3
LBOS				*i* S	Sn	22 19 09.5	-1.0

IDC 25 22:18:28.3±2.6, 6.24S×103.50E, mb4.1/6, mb1 4.1/6, mb1mx3.8/15, mbtmp4.1/6, Error ellipse: s-maj=122.9km s-min=21.4km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.90**	**117**	P	P	22 25 03.9	-2.6
	0.5nm,0.6s,baz=285,slow=12,SNR=7.3						
STKA	**Stephens Creek**	**43.75**	**131**	P	P	22 26 35.8	-1.6
	1.3nm,0.8s,baz=291,slow=8.6,SNR=3.5						
SONM	**Songino Array**	**53.90**	**2**	P	P	22 27 53.5	-2.2
	2.5nm,0.6s,baz=182,slow=7.5,SNR=16						
MKAR	**Makanchi Array**	**56.06**	**343**	P	P	22 28 08.8	-2.6
	1.9nm,0.6s,baz=162,slow=8.3,SNR=14						
ZAL	**Zalesovo**	**61.99**	**348**	P	P	22 28 50.1	-2.4
	2.4nm,0.3s,baz=292,slow=2.8,SNR=8.7						
BVAR	**Borovoye Array**	**65.36**	**339**	P	P	22 29 12.1	-2.5
	1.1nm,0.5s,baz=141,slow=9.5,SNR=6.2						
TXAR	**Lajitas Array**	**145.59**	**45**	PKPbc	PKPbc	22 38 09.6	-0.2
	1.0nm,0.6s,baz=281,slow=1.0,SNR=17						

*ISK **25** 22:19:23.2, 39.17N×27.81E, h13km, MD3.2*
*ATH **25** 22:19:23.7, 39.24N×27.79E, h25km, MD3.2/3*
*CSEM **25** 22:19:23.0±0.1, 39.18N×27.83E, h10km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.3km az=108.0*

ISC 25 22:19:23.3±0.6, 39.18N±0.02×27.80E±0.03, h10km±5km, n33, σ0§66/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.29**	**179**	*i* PG	**Pg**	**22 19 29.7**	**+0.3**
AKS				*i* SG	**Sg**	**22 19 34.7**	**+1.1**
BALB	**Balikesir**	**0.47**	**7**	*i* PG	**Pg**	**22 19 33.4**	**+0.6**
DST	**Dursunbey**	**0.77**	**56**	*i* PG	**Pg**	**22 19 38.3**	**-0.4**
KDAG	**Bornova**	**0.88**	**209**	*i* P	**Pb**	**22 19 38.4**	**-1.7**
KDAG				*i* S	**Sb**	**22 19 51.6**	**0.0**
IZM	**Izmir**	**0.88**	**209**	*i* PG	**Pg**	**22 19 40.2**	**-0.8**
MANT	**Manisa**	**0.90**	**139**	*i* P	**Pb**	**22 19 40.4**	**-0.1**
MANT				*i* S	**Sb**	**22 19 53.0**	**+0.7**
BLCB	**Balcova**	**0.99**	**217**	*i* PG	**Pg**	**22 19 42.6**	**-0.5**
CANB	**Canakkale**	**1.02**	**326**	*i* PG	**Pg**	**22 19 42.9**	**-0.8**
EDC	**Edincik**	**1.17**	**2**	*i* PN	**Pn**	**22 19 45.9**	**+0.3**
BNT	**Bandirma**	**1.18**	**4**	*i* PN	**Pn**	**22 19 46.2**	**+0.4**
PRK	**Paraskevi**	**1.19**	**274**	*e*PN	**Pn**	**22 19 46.1**	**+0.2**
PRK				*e*SN	**Sn**	**22 20 02.5**	**+0.3**
ORLT	**Orhaneli**	**1.21**	**44**	*i* PN	**Pn**	**22 19 46.1**	**-0.1**
URLA	**Izmir**	**1.25**	**230**	*i* P	**Pb**	**22 19 45.3**	**-1.1**
URLA				*i* S	**Sb**	**22 20 02.5**	**+0.2**
GDZ	**Gediz**	**1.31**	**93**	*i* P	**Pb**	**22 19 47.2**	**-0.2**
GDZ				*i* S	**Sb**	**22 20 04.1**	**0.0**
EZN	**Ezine**	**1.32**	**300**	*i* PN	**Pn**	**22 19 47.9**	**+0.2**
ULDT	**Uludag**	**1.41**	**46**	*i* P	**Pn**	**22 19 49.0**	**-0.1**
ULDT				*i* S	**Sb**	**22 20 05.8**	**-1.3**
MRMT	**Marmara Adasi**	**1.44**	**354**	PN	**Pn**	**22 19 50.1**	**+0.7**
LPK	**Lapseki**	**1.44**	**326**	PN	**Pn**	**22 19 50.1**	**+0.6**
AYDN	**Tasoluk**	**1.51**	**178**	*i* P	**Pn**	**22 19 49.9**	**-0.6**
AYDN				*i* S	**Sb**	**22 20 09.1**	**-0.9**
KHL	**Karahalli**	**1.59**	**122**	PN	**Pn**	**22 19 52.0**	**+0.4**
SMG	**Samos**	**1.65**	**208**	*e*PN	**Pn**	**22 19 53.9**	**+1.4**
MFT	**Murefte**	**1.66**	**346**	PN	**Pn**	**22 19 52.8**	**+0.2**
YLV	**Yalova**	**1.84**	**40**	PN	**Pn**	**22 19 55.0**	**-0.2**
BADT	**Buyukada**	**1.96**	**31**	PN	**Pn**	**22 19 56.8**	**-0.1**
YER	**Yerkesik**	**2.07**	**169**	PN	**Pn**	**22 19 58.9**	**+0.4**
BODT	**Bodrum**	**2.15**	**191**	*e*PN	**Pn**	**22 20 00.0**	**+0.4**
LIA	**Limnos Island**	**2.15**	**290**	*e*PN	**Pn**	**22 19 59.7**	**0.0**
HRT	**Hereke**	**2.18**	**40**	*e*PN	**Pn**	**22 19 59.5**	**-0.6**
HRT	**Hereke**	**2.18**	**40**	*e*PN	**Pn**	**22 20 00.4**	**+0.3**
HRT	**Hereke**	**2.18**	**40**	*e*Pn	**Pn**	**22 20 00.4**	**+0.3**
TKTP	**Tekketepe**	**2.27**	**119**	*i* P	**Pn**	**22 20 07.0**	**+5.6**
TKTP				*i* S	**Sn**	**22 20 42.2**	**+13**
ESKT	**Eskisehir**	**2.39**	**81**	*e*PN	**Pn**	**22 20 03.1**	**+0.1**
ESKT	**Eskisehir**	**2.39**	**81**	*i* P	**Pn**	**22 20 06.7**	**+3.7**
ESKT				*i* S	**Sn**	**22 20 36.9**	**+4.3**

*CSEM **25** 22:28:45.5±0.1, 79.13N×2.25E, h2km, ML3.6, Error ellipse: s-maj=4.1km s-min=2.6km az=4.0*
*IDC **25** 22:28:48.2±0.7, 79.17N×2.60E, mb3.8/11, mb1 4.0/15, mb1mx3.9/24, mbtmp3.8/15, ML3.5/4, MS3.7/2, Ms1 3.7/2, ms1mx3.1/31, Error ellipse: s-maj=21.0km s-min=13.5km az=54.0*
*BER **25** 22:28:49.6±2.5, 79.36N×3.96E, h10km, MD2.9, ML3.6, ML3.2(NAO)*
*NEIC **25** 22:28:49.4±0.6, 79.17N×3.05E, h10km, mb4.4/2, Error ellipse: s-maj=14.7km s-min=9.4km az=49.0*
*NAO **25** 22:28:52.2±6.5, 79.42N×5.08E, h25km±41km, ML3.2*

ISC 25 22:28:48.8±0.6, 79.09N±0.07×4.1E±0.3, h10km, n49, σ1§29/44, mb3.7/12, MS3.6/1, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.51**	**92**	Pn	**Pn**	**22 29 16.4**	**+0.3**
KBS				Lg		22 29 35.1	
KBS	**Kingsbay**	**1.51**	**92**	*e*P	**Pn**	**22 29 16.2**	**+0.1**
KBS				*e*S	**Sb**	**22 29 35.1**	**-0.4**
KBS				AML	AML	22 29 37.4	
	comp=Z,1μm,0.2s						
SPA0	**Spitsbergen Ar**	**2.59**	**105**	Pn	**Pn**	**22 29 31.6**	**+0.1**
	baz=304,slow=8.6						
SPA0				Sn	**Sn**	**22 30 01.8**	**-1.6**
HSP	**Hornsund**	**3.16**	**126**	*e*P	**Pn**	**22 29 39.8**	**+0.2**
HSP				*e*S	**Sn**	**22 30 15.9**	**-1.9**
DAG	**Danmarks Havn**	**5.28**	**256⇑**	*i*P	**Pn**	**22 30 02.8**	**-6.9**
	comp=Z,5.5nm,0.7s						
DAG	**Danmarks Havn**	**5.28**	**256⇑**	*e*P	**Pn**	**22 30 02.8**	**-6.9**
	comp=Z,5.5nm,0.7s						
KEV	**Kevo**	**11.07**	**135**	*e*P	**P**	**22 31 31.1**	**+1.1**
KEV				*e*S	**S**	**22 33 29.6**	**-5.3**
KEV	**Kevo**	**11.07**	**135**	*e*P	**P**	**22 31 31.1**	**+1.1**
ARA0	**ARCESS Array S**	**11.08**	**138**	Pn	**P**	**22 31 29.1**	**-1.1**
	baz=350,slow=12						
ARA0				Sn	**S**	**22 33 28.9**	**-6.3**
	baz=0.2,slow=22						
ARA0	**ARCESS Array S**	**11.08**	**138**	Pn	**P**	**22 31 29.0**	**-1.1**
	SNR=50						
ARCES	**ARCESS Array B**	**11.08**	**138**	Pn	**P**	**22 31 30.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=344,slow=13,SNR=14						
ARCES	**ARCESS Array B**	**11.08**	**138**	Pn	**P**	**22 31 30.2**	**0.0**
JOF	**Joensuu**	**18.12**	**138**	*ep*	**P**	**22 33 01.5**	**-0.3**
NB2	**NORSAR Subarra**	**18.27**	**169**	P	**P**	**22 33 07.4**	**+3.8**
	baz=358,slow=11						
NOA	**NORSAR Array B**	**18.27**	**169**	P	**P**	**22 33 06.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=2.9						
NOA	**NORSAR Array B**	**18.27**	**169**	P	**P**	**22 33 05.9**	**+2.3**
KAF	**Kangasniemi**	**18.32**	**146**	*ep*	**P**	**22 33 02.8**	**-1.4**
FIA0	**FINESS Array S**	**18.95**	**146**	P	**P**	**22 33 12.6**	**+0.8**
	baz=341,slow=12						
FINES	**FINESS Array B**	**18.95**	**146**	P	**P**	**22 33 12.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=349,slow=9.7,SNR=6.3						
FINES				LR	LR	22 39 56.7	
	comp=Z,171nm,19.3s,baz=117,slow=35						
FINES	**FINESS Array B**	**18.95**	**146**	P	**P**	**22 33 12.3**	**+0.5**
FINES				LR	LR	22 39 56.7	
HFS	**Hagfors**	**19.28**	**165**	P	**P**	**22 33 15.8**	**0.0**
	baz=359,slow=9.3						
HFS	**Hagfors**	**19.28**	**165**	P	**P**	**22 33 15.6**	**-0.2**
	comp=Z,0.1nm,0.3s,slow=8.9,SNR=16						
RES	**Resolute Bay**	**20.21**	**311**	*e*P	**P**	**22 33 19.9**	**-6.1**
	comp=Z,64nm,1.3s						
RES	**Resolute Bay**	**20.21**	**311**	*e*P	**P**	**22 33 19.9**	**-6.1**
	comp=Z,64nm,1.3s						
FRB	**Frobisher Bay**	**25.24**	**275**	LR	LR	22 43 19.4	
	comp=Z,200nm,20.8s,MS3.6,baz=109,slow=35						
AKASG	**Malin Array Be**	**29.85**	**147**	P	**P**	**22 34 56.6**	**-1.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=349,slow=9.6,SNR=6.6						
GERES	**GERESS Array B**	**30.56**	**168**	P	**P**	**22 35 04.3**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=14,slow=11,SNR=6.2						
BRVK	**Borovoye**	**33.99**	**99**	*e*P	**P**	**22 35 36.0**	**+1.9**
BRVK	**Borovoye**	**33.99**	**99**	*e*P	**P**	**22 35 36.0**	**+2.0**
BVAR	**Borovoye Array**	**34.04**	**99**	P	**P**	**22 35 36.1**	**+1.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=333,slow=9.0,SNR=9.7						
ILAR	**Eielson Array**	**35.36**	**339**	P	**P**	**22 35 44.3**	**-1.4**
	comp=Z,0.9nm,0.8s,mb3.7,baz=11,slow=7.7,SNR=7.7						
ILAR				PcP	PcP	22 38 13.8	-2.3
	comp=Z,0.5nm,0.6s,baz=342,slow=3.3,SNR=8.4						
ILAR	**Eielson Array**	**35.36**	**339**	PcP	PcP	22 38 13.8	-2.3
KURK	**Kurchatov**	**37.80**	**92**	*e*P	**P**	**22 36 08.0**	**+1.6**
	comp=Z,2.9nm,1.1s,mb3.9						
KURK	**Kurchatov**	**37.80**	**92**	*e*P	**P**	**22 36 08.0**	**+1.6**
ESDC	**Sonseca Array**	**39.66**	**190**	P	**P**	**22 36 22.0**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=2.4,slow=7.8,SNR=5.8						
BRTR	**Keskin Array B**	**41.17**	**145**	P	**P**	**22 36 36.0**	**+1.5**
	comp=Z,0.9nm,0.8s,mb3.5,baz=352,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**42.26**	**90**	P	**P**	**22 36 45.0**	**+1.8**
	comp=Z,1.8nm,0.7s,mb3.8,baz=338,slow=7.5,SNR=13						
SONM	**Songino Array**	**45.73**	**67**	P	**P**	**22 37 12.3**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=331,slow=6.1,SNR=4.0						
PDAR	**Pinedale Array**	**52.57**	**302**	P	**P**	**22 38 00.9**	**-3.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=63,slow=6.0,SNR=2.6						
MJAR	**Matsushiro Arr**	**61.63**	**41**	P	**P**	**22 39 07.4**	**-1.0**
	comp=Z,2.6nm,0.9s,mb4.4,baz=342,slow=6.7,SNR=5.5						
TXAR	**Lajitas Array**	**64.68**	**293**	P	**P**	**22 39 24.9**	**-3.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=34,slow=6.5,SNR=2.7						
VNA2	**Neumayer--Watz**	**149.97**	**188**		PKPdf	22 48 46.0	+11
VNA2	**Neumayer--Watz**	**149.97**	**188**		PKPdf	22 48 51.5	+16
VNA2	**Neumayer--Watz**	**149.97**	**188**	P	PKPdf	22 48 39.0	+4.8
VNA2				P		22 48 46.0	
VNA2				P		22 48 51.5	
MAW	**Mawson**	**150.33**	**139**	PKPbc	PKPdf	22 48 39.5	+3.8
	comp=Z,1.9nm,0.7s,baz=4.5,slow=6.2,SNR=4.6						
MAW	**Mawson**	**150.33**	**139**	*e*PKPbc	PKPdf	22 48 39.4	+3.7
MAW				PKPbc	PKPdf	22 48 39.5	+3.8
VNA3	**Neumayer Olymp**	**150.34**	**189**		PKPdf	22 48 47.9	+12
VNA3	**Neumayer Olymp**	**150.34**	**189**		PKPdf	22 48 51.4	+16
VNA3	**Neumayer Olymp**	**150.34**	**189**	P	PKPdf	22 48 40.6	+4.9
VNA3				P		22 48 47.9	
VNA3				P		22 48 51.4	

*CSEM **25** 22:42:18.5±0.1, 37.76N×25.42W, h4km, ML2.5, Error ellipse: s-maj=6.9km s-min=2.1km az=3.0, After PDA*
*PDA **25** 22:42:18.5±1.0, 37.76N×25.42W, h4km±1km, MD3.8, ML2.5, Error ellipse: s-maj=2.4km s-min=2.3km az=93.0*

SVSA 25 22:42:18.5±1.0, 37.76N×25.42W, h4km±1km, MD3.8, ML2.5, Error ellipse: s-maj=2.4km s-min=2.3km az=93.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.02**	**68**	*i* P	Pg	22 42 19.8	+0.5
PCNG				*e*S	Sg	22 42 21.1	+1.2
	5μm,0.3s						
PCNG	**Congro**	**0.02**	**68**	*e*S	Sg	22 42 21.1	+1.2
VIF	**Vila Franca**	**0.03**	**230**	*i* P	Pg	22 42 19.9	+0.5
VIF				*e*S	Sg	22 42 21.1	+1.1
VIF	**Vila Franca**	**0.03**	**230**	*e*S	Sg	22 42 21.1	+1.1
MESC	**Monte Escuro**	**0.04**	**323**	*i* P	Pg	22 42 20.1	+0.5
MESC				*e*S	Sg	22 42 21.6	+1.3
MESC	**Monte Escuro**	**0.04**	**323**	*e*S	Sg	22 42 21.6	+1.3
FRA1	**Furnas**	**0.05**	**111**	*e*P	Pg	22 42 20.2	+0.5
LFA	**Lagoa do Fogo**	**0.06**	**282**	*i* P	Pg	22 42 20.4	+0.6
PRCH	**Ribeira Ch**	**0.06**	**237**	*i* P	Pg	22 42 20.3	+0.4
PRCH				*e*S	Sg	22 42 21.9	+1.0
	3μm,0.3s						
PRCH	**Ribeira Ch**	**0.06**	**237**	*e*S	Sg	22 42 21.9	+1.0
PMAT	**Coroa da Mata**	**0.07**	**321**	*e*P	Pg	22 42 20.5	+0.4
PMAT				*e*S	Sg	22 42 22.0	+0.8
CML	**Cha da Macela**	**0.10**	**275**	*e*P	Pg	22 42 21.0	+0.3
MIRA	**Miradouro**	**0.11**	**77**	*e*P	Pg	22 42 21.3	+0.5
FAC	**Faja de Cima**	**0.19**	**274**	*e*P	Pg	22 42 23.1	+0.8
PDA	**Ponta Delgada**	**0.20**	**266**	*e*P	Pg	22 42 22.4	-0.1
PDA				*e*S	Sg	22 42 25.7	+0.5
PSET	**Sete Cidades**	**0.25**	**284**	*e*P	Pg	22 42 23.0	-0.6
PSET				*e*S	Sg	22 42 26.3	-0.6
	254nm,0.4s						
PFET	**Feteiras**	**0.30**	**281**	*e*P	Pg	22 42 24.9	+0.3
SET2	**Ginetes**	**0.32**	**285**	*e*P	Pg	22 42 25.3	+0.3
SET4	**Mosteiros**	**0.32**	**291**	*e*P	Pg	22 42 25.4	+0.4

IDC 25 22:44:18.8±3.3, 11.44N×144.48E, h42km±31km, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=80.7km s-min=20.4km az=103.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.17**	**10**	P	P	22 44 52.4	-0.9
	21nm,0.3s,baz=140,slow=4.4,SNR=6.9						
GUMO				S	S	22 45 18.6	-0.5
	38nm,0.3s,baz=268,slow=21,SNR=12						
MJAR	**Matsushiro Arr**	**25.63**	**348**	P	P	22 49 44.3	-1.9
	0.5nm,0.4s,baz=146,slow=8.8,SNR=2.7						
WRA	**Warramunga Arr**	**32.74**	**198**	P	P	22 50 47.6	-2.5
	1.4nm,0.6s,baz=21,slow=9.8,SNR=22						
ILAR	**Eielson Array**	**70.67**	**25**	P	P	22 55 30.1	-1.8
	0.3nm,0.8s,baz=262,slow=6.0,SNR=4.1						

*IDC **25** 22:54:02.4±1.5, 12.29N×40.56E, mb3.8/9, mb1 4.0/10, mb1mx3.9/18, mbtmp3.9/10, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.9/20, Error ellipse: s-maj=35.8km s-min=14.7km az=26.0*
*DHMR **25** 22:54:02.9±2.6, 12.67N×40.60E, h2km±288km, ML4.3*
*NEIC **25** 22:54:04.1±1.1, 12.33N×40.57E, h10km, mb3.9/1, ML4.3(DHMR), Error ellipse: s-maj=22.8km s-min=11.0km az=15.0*
*CSEM **25** 22:54:05.9±0.2, 12.54N×40.47E, h30km, mb3.9/1*

ISC 25 22:54:02.2±0.9, 12.3N±0.1×40.53E±0.05, h10km, n26, σ1§23/34, mb3.8/8, 3C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.41**	**109**	Pn	**Pn**	**22 54 43.6**	**+1.3**
	35nm,0.3s,baz=262,slow=19,SNR=40						
ATD				Lg		22 55 17.0	
	46nm,0.3s,baz=107,slow=24,SNR=14						
UDYN	**Al 'Udayn**	**3.73**	**64⇑**	*e*P	**Pn**	**22 55 01.3**	**+0.3**
UDYN				*i* S	**Sn**	**22 55 47.1**	**+1.6**
UDYN				AML	AML	22 56 07.7	
	comp=N,1μm,0.7s						
DHBB	**Dhamar BB**	**4.37**	**59⇑**	*e*P	**Pn**	**22 55 09.8**	**-0.3**
DHBB				*i* S	**Sn**	**22 56 02.3**	**+0.5**
DHBB	**Dhamar BB**	**4.37**	**59**	P	**Pn**	**22 55 09.2**	**-1.0**
DHBB				S	**Sn**	**22 56 01.1**	**-0.7**
DHBB	**Dhamar BB**	**4.37**	**59⇑**	*e*P	**Pn**	**22 55 09.9**	**-0.3**
DHBB				S	**Sn**	**22 56 01.1**	**-0.7**
LBOS		**4.85**	**71**	*i* P	**Pn**	**22 55 15.0**	**-2.0**
LBOS				*i* S	**Sn**	**22 56 11.1**	**-2.8**
LBOS		**4.85**	**71**	P	**Pn**	**22 55 15.9**	**-1.1**
LBOS				S	**Sn**	**22 56 16.6**	**+2.7**
BDHA	**Al Bayda'**	**5.18**	**71⇓**	*i*P	**Pn**	**22 55 19.3**	**-2.3**
BDHA				*i* S	**Sn**	**22 56 18.8**	**-3.3**
BDHA	**Al Bayda'**	**5.18**	**71**	P	**Pn**	**22 55 19.7**	**-1.9**
BDHA				S	**Sn**	**22 56 25.5**	**+3.4**
BDHA	**Al Bayda'**	**5.18**	**71⇓**	*i*P	**Pn**	**22 55 19.3**	**-2.3**
BDHA				S	**Sn**	**22 56 25.5**	**+3.4**
KMBO	**Kilima Mbogo**	**13.76**	**194**	LR	LR	23 02 36.1	
	comp=N,111nm,22.0s,baz=177,slow=37						
ASF	**Jabal al Asfar**	**20.03**	**351**	P	**P**	**22 58 39.3**	**+1.1**
	comp=N,1.4nm,0.7s,baz=152,slow=4.6,SNR=4.9						
BRTR	**Keskin Array B**	**27.96**	**349**	P	**P**	**22 59 56.5**	**+1.6**
	comp=N,1.2nm,0.7s,mb3.7,baz=166,slow=10,SNR=7.6						
BRTR	**Keskin Array B**	**27.96**	**349**	P	**P**	**22 59 56.5**	**+1.6**
AKASG	**Malin Array Be**	**39.36**	**349**	P	**P**	**23 01 32.9**	**-0.6**
	comp=N,0.9nm,0.7s,mb3.6,baz=176,slow=7.3,SNR=5.5						
GERES	**GERESS Array B**	**42.66**	**334**	P	**P**	**23 02 00.8**	**+0.2**
	comp=N,0.8nm,0.7s,mb3.5,baz=135,slow=7.5,SNR=11						
DBIC	**Dimbokro**	**45.07**	**267**	P	**P**	**23 02 20.9**	**+0.4**
	comp=N,3.6nm,0.8s,mb4.2,baz=82,slow=11,SNR=3.7						
DBIC	**Dimbokro**	**45.07**	**267**	P	**P**	**23 02 20.9**	**+0.4**
MKAR	**Makanchi Array**	**49.08**	**37**	P	**P**	**23 02 51.2**	**-0.4**
	comp=N,1.1nm,0.7s,mb4.0,baz=248,slow=6.5,SNR=7.7						
MKAR	**Makanchi Array**	**49.08**	**37**	P	**P**	**23 02 51.2**	**-0.4**
NB2	**NORSAR Subarra**	**53.12**	**343**	P	**P**	**23 03 20.6**	**-1.5**
	comp=N,1.3nm,0.8s,mb3.9,baz=142,slow=7.4						
NOA	**NORSAR Array B**	**53.12**	**343**	P	**P**	**23 03 21.1**	**-1.0**
	comp=N,1.6nm,0.7s,mb4.0,baz=142,slow=7.4,SNR=5.5						
NOA	**NORSAR Array B**	**53.12**	**343**	P	**P**	**23 03 21.0**	**-1.1**
ZAL	**Zalesovo**	**54.21**	**31**	P	**P**	**23 03 29.3**	**-0.8**
	comp=N,0.7nm,0.5s,mb3.9,baz=235,slow=8.7,SNR=4.0						
ZAL	**Zalesovo**	**54.21**	**31**	P	**P**	**23 03 29.3**	**-0.8**
SONM	**Songino Array**	**64.79**	**43**	P	**P**	**23 04 43.6**	**+0.4**
	comp=N,0.3nm,0.5s,mb3.6,baz=277,slow=5.9,SNR=4.1						

*IDC **25** 22:58:50.0±0.6, 17.45S×167.87E, mb4.9/15, mb1 5.0/18, mb1mx4.9/21, mbtmp5.0/18, ML5.1/2, MS5.1/26, Ms1 5.1/26, ms1mx5.0/29, Error ellipse: s-maj=19.0km s-min=15.2km az=82.0*
*LDG **25** 22:58:52.1±0.1, 17.34S×167.42E, h10km, Mb5.3/2, Ms5.0/9, Error ellipse: s-maj=23.5km s-min=3.3km az=94.0*
*NEIC **25** 22:58:54.7±0.3, 17.48S×167.77E, h30km, mb5.2/29, MS5.2/109, MW5.6, Error ellipse: s-maj=8.9km s-min=7.5km az=107.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}1.99; $M_{\theta\theta}$0.54; $M_{\phi\phi}$-2.53; $M_{r\theta}$-1.20; $M_{\theta\phi}$-0.57; $M_{\phi r}$-0.61; Best double couple: $M_0$2.7×10^{17} NP1:φ§345°, δ42°, λ48°. NP2:φ§215°, δ60°, λ121°. Principal axes: T 2.68, Plg61°, Azm174°; N .1, Plg27°, Azm19°; P -2.78, Plg10°, Azm283°;*
*HRVD **25** 22:58:54.7±0.2, 17.43S×167.77E, h27km, MW5.6/63, Centroid moment Tensor Solution. LP body waves: s63,c134;Mantle waves: s58,c114; Half duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.84±.05; $M_{\theta\theta}$0.10±.04; $M_{\phi\phi}$-1.94±.04; $M_{r\theta}$0.96±.09; $M_{\theta\phi}$0.77±.03; $M_{\phi r}$-1.64±.10; Best double couple: $M_0$2.778×10^{17} NP1:φ§353°, δ24°, λ109°. NP2:φ§153°, δ67°, λ82°. Principal axes: T 2.627, Plg67°, Azm47°; N .303, Plg8°, Azm156°; P -2.928, Plg21°, Azm249°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **25** 22:58:55.7, 16.84S×167.80E, h20km, mB5.6, mb4.9, Ms5.3, Msz4.9*
*CSEM **25** 22:58:55.2, 17.87S×167.67E, h33km, mb5.5*
*MOS **25** 22:58:55.1±2.1, 17.50S×167.59E, h33km, mb5.2/22, MS4.9/22, Error ellipse: s-maj=10.8km s-min=9.4km az=131.6*

ISC 25 22:58:53.9±0.3, 17.56S±0.04×167.68E±0.05, h31km, h31km±1.5km:pP-P, n322, σ1§43/134, mb5.1/52, MS5.2/132, 8C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.63**	**194**	*e*P	**Pn**	**23 00 01.9**	**-1.8**
DZM				*e*S	**Sn**	**23 00 52.8**	**-4.4**
DZM	**Mont Dzumac**	**4.63**	**194**	Pn	**Pn**	**23 00 02.0**	**-1.7**
	29nm,0.3s,baz=61,slow=16,SNR=97						
DZM				Sn	**Sn**	**23 00 53.9**	**-3.2**
	91nm,0.3s,baz=130,slow=20,SNR=10						
DZM				LR	LR	23 01 34.0	
	comp=Z,11μm,21.7s,baz=19,slow=34						
DZM	**Mont Dzumac**	**4.63**	**194**	*e*P	**Pn**	**23 00 01.9**	**-1.8**
DZM				*e*S	**Sn**	**23 00 52.8**	**-4.4**
HNR	**Honiara**	**11.04**	**316**	Pn	**P**	**23 01 31.3**	**-1.7**
	40nm,0.3s,baz=83,slow=0.4,SNR=32						
HNR				Sn	**S**	**23 03 32.8**	**-3.5**
	17nm,0.3s,baz=270,slow=20,SNR=1.9						
HNR				LR	LR	23 05 26.6	
	comp=Z,7μm,18.5s,baz=141,slow=36						
HNR	**Honiara**	**11.04**	**316**	*e*P	**P**	**23 01 31.6**	**-1.3**
	659nm,0.8s						
HNR	**Honiara**	**11.04**	**316**	P	**P**	**23 01 31.3**	**-1.7**
HNR						23 03 32.8	
HNR		

WRAB MLR MLR
comp=Z,2µm,21.0s,MS4.7
WRA Warramunga Arr 31.63 260 P **P** **23 05 15.3 -1.4**
comp=Z,22nm,0.7s,mb5.1,baz=90,slow=9.1,SNR=124
ASPA Alice Springs 32.14 253 *eP* **P** **23 05 20.3 -0.8**
ASPA *eS* **S** **23 10 35.7 +5.2**
KAKA Kakadu 34.32 273 *eP* **P** **23 05 58.1 +18**
comp=Z,20nm,0.6s,mb5.2
WAKE Wake Island 36.63 358 PFAKE 23 06 10.0 +10
WAKE LR LR
comp=Z,2µm,21.0s,MS4.8
FORT Forrest 38.27 242 *eP* **P** **23 06 12.7 -0.6**
comp=Z,52nm,0.7s,mb5.4
GUMO Guam 38.28 323 LR LR 23 21 10.3
comp=Z,2µm,18.8s,MS4.9,baz=318,slow=35
GUMO Guam 38.28 323 PFAKE 23 06 20.0 +6.5
GUMO LR LR
comp=Z,2µm,21.0s,MS4.8
FITZ Fitzroy Crossi 39.96 263 *eP* **P** **23 06 27.6 +0.1**
comp=Z,239nm,0.6s,mb6.1
FITZ *eS* **S** **23 12 29.6 -0.9**
FITZ Fitzroy Crossi 39.96 263 LR LR 23 22 46.7
comp=Z,6µm,19.2s,MS5.5,baz=97,slow=36
TBI Tubuai 40.46 106 *eS* **S** **23 12 43.1 +5.2**
TBI *eLQ* 23 16 02.9
TBI *eLR* LR 23 17 46.0
comp=Z,3µm,27.0s,baz=273
PPT Papeete 40.69 97 *eS* **S** **23 12 40.0 -1.3**
baz=265
PPT *eLQ* 23 16 09.7
PPT *eLR* LR 23 17 51.6
comp=Z,6µm,24.2s,baz=258
PPT Papeete 40.69 97 LR LR 23 19 17.4
comp=Z,2µm,21.5s,MS5.0,baz=262,slow=30
MBWA Marble Bar 45.25 257 *eP* **P** **23 07 10.8 +0.1**
comp=Z,88nm,0.8s,mb5.6
MBWA LR LR
comp=Z,3µm,20.0s,MS5.2
KLBR Kellerberrin 47.12 243 *eP* **P** **23 07 24.7 -0.6**
comp=Z,51nm,0.7s,mb5.6
NWAO Narrogin (SRO) 47.69 241 *eP* **P** **23 07 29.3 -0.5**
comp=Z,64nm,0.7s,mb5.8
NWAO LR LR
comp=Z,3µm,21.0s,MS5.2
NWAO Narrogin (SRO) 47.69 241 *eP* **P** **23 07 29.3 -0.5**
NWAO pmax pmax
comp=Z,64nm,0.7s
NWAO MLR MLR
comp=Z,3µm,21.0s
MIDW Midway 47.76 18 PFAKE 23 07 40.0 +10
MIDW LR LR
comp=Z,2µm,20.0s,MS5.1
DAV Davao City (W) 48.25 297 PFAKE 23 07 50.0 +16
DAV LR LR
comp=Z,495nm,20.0s,MS4.5
CBIJ Chichi jima 50.82 330 P **P** **23 07 52.8 -1.1**
comp=Z,87nm,0.7s,mb5.8,baz=303,slow=17,SNR=4.6
CBIJ LR LR 23 26 48.6
comp=Z,843nm,18.9s,MS4.8,baz=306,slow=33
KIP Kipapa 51.30 42 PFAKE 23 08 10.0 +12
KIP LR LR
comp=Z,3µm,20.0s,MS5.4
TAOE Nuku Hiva Isla 51.39 87 *eS* **S** **23 15 18.8 +4.5**
TAOE *eSS* SS 23 18 57.2 +9.1
TAOE *eLR* LR 23 22 53.4
comp=Z,15µm,24.3s,baz=261
POHA Pohakuloa 51.77 46 PFAKE 23 08 10.0 +8.8
POHA LR LR
comp=Z,26µm,20.0s
DRV Dumont d'Urvil 52.29 194 S **S** **23 15 36.0 +10**
DRV R 23 24 00.0
RKT Rikitea 53.77 106 *eS* **S** **23 15 48.9 +2.1**
RKT *eSS* SS 23 19 34.2 +7.1
RKT *eLQ* 23 21 42.8
RKT *eLR* LR 23 23 58.8
comp=Z,3µm,27.8s,baz=266
KSM Kuching 59.57 282 *eP* **P** **23 08 56.8 -0.7**
VNDA Vanda 60.05 181 *eP* **P** **23 08 58.4 -1.6**
comp=Z,9.4nm,1.0s,mb4.8
VNDA LR LR
comp=Z,431nm,19.0s,MS4.6
VNDA Vanda 60.05 181 *eP* **P** **23 08 58.4 -1.6**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA MLR MLR
comp=Z,431nm,19.0s
SBA Scott Base 60.32 180 *eP* **P** **23 09 00.9 -0.8**
comp=Z,43nm,1.2s,mb5.4
SBA LR LR
comp=Z,560nm,21.0s,MS4.7
SBA Scott Base 60.32 180 *eP* **P** **23 09 01.0 -0.8**
SBA pmax pmax
comp=Z,43nm,1.2s,mb5.3
SBA MLR MLR
comp=Z,560nm,21.0s,MS4.7
MJAR Matsushiro Arr 60.59 333 P **P** **23 09 01.9 -2.2**
comp=Z,10nm,0.8s,mb5.0,baz=166,slow=8.2,SNR=26
MAJO Matsushiro 60.59 333 *eP* **P** **23 09 02.4 -1.7**
comp=Z,29nm,1.0s,mb5.4
MAJO LR LR
comp=Z,760nm,21.0s,MS4.8
MAJO Matsushiro 60.59 333 *eP* **P** **23 09 02.4 -1.8**
MAJO pmax pmax
comp=Z,29nm,1.0s,mb5.4
MAJO MLR MLR
comp=Z,760nm,21.0s,MS4.8
MAT Matsushiro 60.59 333 P **P** **23 09 01.9 -2.3**
MAT S **S** **23 17 21.0 +4.7**
MAT Matsushiro 60.59 333 *eP* **P** **23 09 02.0 -2.2**
comp=Z,11nm,0.8s,mb5.0
MAT *eS* **S** **23 17 21.0 +4.7**
MAT LR LR
comp=Z,710nm,20.0s,MS4.8
MAT Matsushiro 60.59 333 *eP* **P** **23 09 02.0 -2.2**
MAT *eS* **S** **23 17 21.0 +4.7**
MAT pmax pmax
comp=Z,11nm,0.8s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.8
CASY Casey 61.07 203 *eP* **P** **23 09 05.4 -1.6**
JNU Nakatsue 61.45 325 P **P** **23 09 08.7 -1.3**
comp=Z,4.0nm,0.4s,mb4.9,baz=140,slow=8.3,SNR=3.1
YHNB Yeheng 61.63 312 *eP* **P** **23 09 11.4 0.0**
INCN Inchon 67.01 325 PFAKE 23 10 00.0 +14
INCN LR LR
comp=Z,640nm,19.0s,MS4.9
MIR Mirnyy 67.92 205*c iP* **P** **23 09 52.2 +0.7**
MIR *e* 23 10 06.0
MIR pmax pmax
comp=Z,60nm,1.2s,mb5.5
MIR MLR MLR
comp=N,440nm,20.0s,MS4.9
MIR MLR MLR
comp=E,660nm,20.0s,MS4.9
MIR MLR MLR
comp=Z,2µm,20.0s,MS5.2
NJ2 Nanjing 67.98 316 *eP* **P** **23 09 54.0 +1.5**
NJ2 AP pP 23 10 04.3 +2.1
NJ2 XP sP 23 10 09.0 +3.3
NJ2 PP PP 23 12 26.5 +2.1
NJ2 S S 23 18 51.0 +3.2
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NJ2 AMB AMB
comp=Z,552nm,6.0s
NJ2 LR LR
comp=N,2µm,15.1s,MS5.6
NJ2 LR LR
comp=E,2µm,14.7s,MS5.6
NJ2 LR LR
comp=Z,2µm,15.6s,MS5.4
YSS Yuzh-Sakhalins 68.03 342 *eP* **P** **23 09 53.0 +0.5**
comp=Z,84nm,1.0s,mb5.7
YSS LR LR
comp=Z,1µm,21.0s,MS5.1
YSS Yuzh-Sakhalins 68.03 342*ceP* **P** **23 09 51.6 -0.9**
YSS *e**SP* sP 23 10 05.6 -0.1
YSS *eS* S 23 18 48.0 -0.2
YSS *eSS* SS 23 23 14.0 +2.1
YSS pmax pmax
comp=Z,400nm,7.5s
YSS pmax pmax
comp=E,40nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS smax
comp=E,500nm,6.0s
YSS MLR MLR
comp=E,500nm,18.0s
YSS MLR MLR
comp=Z,600nm,18.0s,MS4.9
SMY Shemya 70.22 4 PFAKE 23 10 20.0 +14
SMY LR LR
comp=Z,2µm,20.0s,MS5.5
SNG Songkhla 70.63 284 P **P** **23 10 11.0 +2.0**
PET Petropavlovsk 70.72 354 PFAKE 23 10 20.0 +11
PET LR LR
comp=Z,830nm,21.0s,MS5.0
PET Petropavlovsk 70.72 354 *eP* **P** **23 10 05.8 -3.1**
PET *eS* S 23 19 20.5 +0.6
PET *eSS* SS 23 23 57.1 +3.2
PET *eSSS* SSS 23 27 04.9 +5.3
PET pmax pmax
comp=Z,300nm,8.1s
PET pmax pmax
comp=Z,200nm,13.8s
PET smax
comp=E,500nm,22.8s
PET MLR MLR
comp=Z,600nm,22.0s,MS4.8
PET MLR MLR
comp=Z,500nm,19.0s
DL2 Dalian 70.79 323 P **P** **23 10 10.0 +0.4**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
MDJ Mudanjiang 70.96 332 P **P** **23 10 10.0 -0.5**
MDJ AP pP 23 10 19.3 -0.9
MDJ XP sP 23 10 23.0 -0.7
MDJ PP PP 23 12 48.0 -1.9
MDJ AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,324nm,7.1s
MDJ LR LR
comp=N,380nm,24.8s,MS4.8
MDJ LR LR
comp=E,567nm,22.8s,MS4.8
MDJ LR LR
comp=Z,433nm,20.7s,MS4.7
MDJ Mudanjiang 70.96 332 *eP* **P** **23 10 08.7 -1.8**
comp=Z,44nm,0.9s,mb5.4
MDJ *e* 23 10 15.3
MDJ LR LR
comp=Z,432nm,20.0s,MS4.7
SNY Shenyang 71.78 327 ⇑P **P** **23 10 16.5 +1.0**
SNY XP sP 23 10 28.0 -0.7
SNY AMB AMB
comp=Z,410nm,13.5s
SNY LR LR
comp=N,600nm,16.9s
SNY LR LR
comp=Z,680nm,17.7s,MS5.0
CN2 Changchun 72.27 329 *eP* **P** **23 10 20.8 +2.5**
CN2 *eAP* pP 23 10 31.0 +2.9
CN2 *ePP* PP 23 13 04.0 +3.3
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 LR LR
comp=N,590nm,15.0s,MS5.1
CN2 LR LR
comp=E,410nm,15.0s,MS5.1
CN2 LR LR
comp=Z,450nm,19.0s,MS4.8
QSPA South Pole Qui 72.48 180 *eP* **P** **23 10 18.7 -0.3**
comp=Z,58nm,0.9s,mb5.5
QSPA LR LR
comp=Z,847nm,19.0s,MS5.0
ENH Enshi 73.47 310 *eP* **P** **23 10 24.2 -1.5**
comp=Z,17nm,0.9s,mb5.0
ENH LR LR
comp=Z,1µm,19.0s,MS5.1
KLR Kul'dur 73.75 336 *eP* **P** **23 10 21.1 -5.8**
KLR *e* pP 23 10 32.5 -4.2
KLR *eS* S 23 19 49.5 -4.9
NST Nakhon Sawan 74.31 292 P **P** **23 10 31.7 +0.9**
UNV Unalaska Valle 74.50 16 PFAKE 23 10 40.0 +8.9
UNV LR LR
comp=Z,5µm,21.0s,MS5.8
NANT Nan 75.09 296 P **P** **23 10 38.0 +2.8**
XAN Xi'an 75.89 313 P **P** **23 10 41.8 +2.3**
KMI Kunming 76.13 302 P **P** **23 10 43.3 +2.2**
KMI AP pP 23 10 54.0 +3.1
KMI XP sP 23 10 58.3 +4.0
KMI PP PP 23 13 35.2 +1.5
KMI PPP PPP 23 15 23.8 +2.9
KMI S S 23 20 29.5 +8.2
KMI SKS SKS 23 20 46.8 -6.3
KMI SS SS 23 25 18.5 +0.6
KMI AMB AMB
comp=Z,18nm,1.6s,mb4.8
KMI LR LR
comp=N,567nm,30.6s
KMI LR LR
comp=E,327nm,38.8s
KMI LR LR
comp=Z,782nm,21.0s
KMI Kunming 76.13 302 P **P** **23 10 43.3 +2.2**
comp=Z,18nm,1.6s,mb4.8
KMI pP pP 23 10 54.0 +3.1
KMI sP sP 23 10 58.3 +4.0
KMI PP PP 23 13 35.2 +1.4
KMI PPP PPP 23 15 23.7 +2.8
KMI S S 23 20 29.4 +8.1
KMI SKS SKS 23 20 46.7 -6.4
KMI SS SS 23 25 18.6 +0.7
KMI LR LR
comp=Z,780nm,21.0s,MS5.0
KMI Kunming 76.13 302 P **P** **23 10 43.3 +2.2**
KMI *PP pP 23 10 54.0 +3.1
KMI *SP sP 23 10 58.3 +4.0
KMI 23 13 35.2
KMI PPP PPP 23 15 23.7 +2.8
KMI S S 23 20 29.4 +8.1
KMI 23 20 46.7
KMI SS SS 23 25 18.6 +0.7
KMI pmax pmax
comp=Z,18nm,1.6s,mb4.8
KMI MLR MLR
comp=Z,780nm,21.0s,MS5.0
CHRT Chiangrai 76.32 296 P **P** **23 10 43.8 +1.6**
comp=Z,108nm,0.8s,mb5.8
HHC Hu-ho-hao-te 77.99 320 *eP* **P** **23 10 56.5 +5.5**
HHC PCP PcP 23 11 05.5 +4.4
HHC AMB AMB
comp=Z,25nm,0.9s,mb5.1
HHC AMB AMB
comp=Z,334nm,4.9s
HHC LR LR
comp=N,483nm,13.1s,MS5.1
HHC LR LR
comp=E,389nm,13.1s,MS5.1
HHC LR LR
comp=Z,693nm,20.2s
CD2 Chengdu 78.05 308 *eP* **P** **23 10 55.5 +3.9**
CD2 PP PP 23 13 54.5 +4.5
CD2 PPP PPP 23 15 44.0 +5.0
CD2 *eS* S 23 20 47.3 +5.4
CD2 LR LR
comp=E,540nm,15.0s
CD2 LR LR
comp=Z,520nm,25.2s
MA2 Magadan 78.09 351 PFAKE 23 11 00.0 +8.8
MA2 LR LR
comp=Z,960nm,21.0s,MS5.1
HIA Hailar 78.93 330 *eP* **P** **23 10 56.2 +0.1**
comp=Z,30nm,1.2s,mb5.1
HIA LR LR
comp=Z,578nm,20.0s,MS4.9
HIA Hailar 78.93 330 *eP* **P** **23 10 56.2 +0.2**
HIA pmax pmax
comp=Z,30nm,1.2s
HIA MLR MLR
comp=Z,578nm,20.0s
MAW Mawson 79.42 202 *eP* **P** **23 10 59.1 +0.8**
comp=Z,9.4nm,1.1s,mb4.6
MAW Mawson 79.42 202 P **P** **23 10 59.1 +0.8**
comp=Z,9.4nm,1.0s,mb4.7,baz=116,slow=8.8,SNR=13
MAW LR LR 23 41 42.2
comp=Z,1µm,19.9s,MS5.3,baz=100,slow=32
MAW Mawson 79.42 202 *eP* **P** **23 10 59.1 +0.8**
MAW pmax pmax
comp=Z,9.0nm,1.1s
LZH Lanzhou 80.51 313 *eP* **P** **23 11 11.0 +6.2**
LZH *eS* S 23 21 12.0 +4.2
LZH SKS SKS 23 21 21.0 -3.4
LZH AMB AMB
comp=Z,70nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,1µm,4.6s
LZH LR LR
comp=N,2µm,18.8s
LZH LR LR
comp=Z,1µm,19.9s,MS5.2
KDAK Kodiak Island 81.97 20 PFAKE 23 11 20.0 +8.1
KDAK LR LR
comp=Z,209nm,20.0s,MS4.5
YAK Yakutsk 84.84 343 *eP* **P** **23 11 29.1 +2.6**
comp=Z,73nm,1.1s,mb5.7
YAK LR LR
comp=Z,885nm,20.0s,MS5.2
YAK Yakutsk 84.84 343*c iP* **P** **23 11 29.8 +3.3**
YAK *e**PP pP 23 11 39.5 +3.0
YAK pmax pmax
comp=Z,36nm,1.0s,mb5.5
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
YAK MLR MLR
comp=Z,541nm,20.0s,MS4.9
YAK MLR MLR
comp=N,338nm,18.0s,MS4.9
YAK MLR MLR
comp=E,352nm,22.0s,MS4.9
GTA Gaotai 84.91 314 *eP* **P** **23 11 29.3 +2.0**
GTA AP pP 23 11 35.3 -2.1
GTA XP sP 23 11 39.0 -1.6
GTA AMB AMB
comp=Z,6.0nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,298nm,7.2s
GTA LR LR
comp=N,332nm,16.4s,MS5.0
GTA LR LR
comp=E,431nm,20.9s,MS5.0
GTA LR LR
comp=Z,515nm,22.0s,MS4.9
TNA Tin City 84.91 10 PFAKE 23 11 40.0 +13
TNA LR LR
comp=Z,578nm,21.0s,MS4.9
SONM Songino Array 85.00 324 P **P** **23 11 27.8 +0.2**
comp=Z,12nm,0.9s,mb5.0,baz=138,slow=5.4,SNR=27
SONM LR LR 23 51 10.4
comp=Z,374nm,18.7s,MS4.8,baz=117,slow=37
BILL Bilibino 85.36 359 PFAKE 23 11 40.0 +11
BILL LR LR
comp=Z,542nm,20.0s,MS4.9
BILL Bilibino 85.36 359⇓*eP* **P** **23 11 31.7 +2.7**
BILL *e* 23 14 56.1
BILL *eS* S 23 21 58.0 +1.9
BILL *eSS* SS 23 27 31.1 -3.3
BILL pmax pmax
comp=Z,23nm,1.2s,mb5.2
FIB Fire Island 85.38 19 PFAKE 23 11 40.0 +11
FIB LR LR
comp=Z,2µm,22.0s,MS5.4
HOPS Hopland 85.67 47 PFAKE 23 11 40.0 +8.8
HOPS LR LR
comp=Z,3µm,20.0s,MS5.7
SNCC San Nicolas Is 85.83 53 PFAKE 23 11 40.0 +7.9
SNCC LR LR
comp=Z,2µm,20.0s,MS5.5
SAO San Andreas Ge 85.86 50 PFAKE 23 11 40.0 +7.8
SAO LR LR
comp=Z,2µm,19.0s,MS5.5
PMR Palmer 86.03 19 PFAKE 23 11 40.0 +7.6
PMR LR LR
comp=Z,1µm,20.0s,MS5.2
SYO Syowa Base 86.12 197 ⇓P **P** **23 11 31.6 -1.1**
SYO Syowa Base 86.12 197 ⇑X 23 11 32.4
WDC Whiskeytown Da 86.75 46 PFAKE 23 11 50.0 +14
WDC LR LR
comp=Z,3µm,20.0s,MS5.6
DIV Divide 86.78 21 PFAKE 23 11 50.0 +14
DIV LR LR
comp=Z,3µm,20.0s,MS5.6
YBH Yreka Blue Hor 87.14 45 LR LR 23 41 35.0
comp=Z,2µm,21.7s,MS5.4,baz=245,slow=30
YBH Yreka Blue Hor 87.14 45 PFAKE 23 11 50.0 +12
YBH LR LR
comp=Z,2µm,21.0s,MS5.4
CMB Columbia Colle 87.16 49 *eP* **P** **23 11 37.5 -1.0**
comp=Z,7.9nm,1.1s,mb4.9
CMB LR LR
comp=Z,1µm,22.0s,MS5.3
CMB Columbia Colle 87.16 49 *eP* **P** **23 11 37.5 -1.0**
CMB pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
CMB MLR MLR
comp=Z,1µm,22.0s,MS5.3
BOD Bodaibo 87.19 334 *eP* **P** **23 11 36.1 -2.0**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.8
HUMO Hull Mountain 87.37 44 PFAKE 23 11 50.0 +11
HUMO LR LR
comp=Z,1µm,20.0s,MS5.4
LSA Lhasa 87.39 302 P **P** **23 11 42.0 +2.2**
LSA Lhasa 87.39 302 *eP* **P** **23 11 41.3 +1.4**
comp=Z,5.1nm,0.7s,mb4.9
LSA LR LR
comp=Z,460nm,22.0s,MS4.8
LSA Lhasa 87.39 302 *eP* **P** **23 11 41.3 +1.5**
LSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LSA MLR MLR
comp=Z,460nm,22.0s,MS4.8
ISA Isabella 87.59 52 PFAKE 23 11 50.0 +9.4
ISA LR LR
comp=Z,646nm,20.0s,MS5.0
MCK McKinley 87.71 18 PFAKE 23 11 50.0 +9.5
MCK LR LR
comp=Z,518nm,20.0s,MS4.9
BEKR Beckwourth 87.94 47 *eP* **P** **23 11 44.6 +2.4**
comp=Z,12nm,1.4s,mb4.9
COR Corvallis 88.04 42 PFAKE 23 11 50.0 +7.5
COR LR LR
comp=Z,1µm,21.0s,MS5.3
ZAK Zakamensk 88.08 325 *eP* **P** **23 11 42.2 -0.4**
ZAK *e* pP 23 11 52.8 +0.2
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
SIT Sitka 88.12 27 PFAKE 23 11 50.0 +7.3
SIT LR LR
comp=Z,2µm,19.0s,MS5.5
PFO Pinyon Flat Ob 88.33 54 PFAKE 23 11 50.0 +5.8
PFO LR LR
comp=Z,510nm,20.0s,MS4.9
MOD Modoc 88.84 45 PFAKE 23 12 00.0 +14
MOD LR LR
comp=Z,2µm,20.0s,MS5.5
BBB Bella Bella 88.90 34 LR LR 23 44 56.1
comp=Z,905nm,19.1s,MS5.2,baz=251,slow=31
MNV Mina 88.92 49 *eP* **P** **23 11 48.2 +1.2**
comp=Z,12nm,1.2s,mb5.1
MNV LR LR
comp=Z,1µm,20.0s,MS5.3
MNV Mina 88.92 49 *eP* **P** **23 11 48.2 +1.2**
MNV pmax pmax
comp=Z,11nm,1.2s,mb5.1
MNV MLR MLR
comp=Z,1µm,20.0s,MS5.3
ILAR Eielson Array 89.09 18 P **P** **23 11 45.0 -2.1**
comp=Z,1.7nm,0.7s,mb4.5,baz=234,slow=4.8,SNR=18
ILAR LR LR 23 48 28.7
comp=Z,835nm,19.2s,MS5.2,baz=236,slow=34
MOY Mondy 89.97 325 *eP* **P** **23 11 52.6 +1.1**
WVOR Wild Horse Val 90.19 45 *eP* **P** **23 11 53.3 +0.6**
comp=Z,6.6nm,1.2s,mb4.8
WVOR LR LR
comp=Z,1µm,20.0s,MS5.4
WVOR Wild Horse Val 90.19 45 *eP* **P** **23 11 53.3 +0.5**
WVOR pmax pmax
comp=Z,7.0nm,1.2s,mb4.9

WVOR MLR MLR
comp=Z,1μm,20.0s,MS5.4
NVL N'lazarevskaya 90.31 188 *e*P **P** **23 11 52.8 +0.1**
NVL *e**PP pP 23 12 01.4 -1.3
NVL *e**SP sP 23 12 04.8 -1.1
NVL pmax pmax
comp=Z,1.0nm,1.0s
MAIT Maitri 90.32 188 *e*P **P** **23 11 52.9 +0.2**
MAIT *e*SKSac 23 20 24.5
HAWA Hanford 91.21 41 PFAKE 23 12 10.0 +13
HAWA LR LR
comp=Z,53nm,19.0s
DLBC Dease Lake 91.25 28 LR LR 23 49 00.6
comp=Z,949nm,18.4s,MS5.3,baz=256,slow=33
VNA3 Neumayer Olymp 91.40 181 **P** **23 12 00.0 +2.3**
VNA3 Neumayer Olymp 91.40 181 **P** **23 12 06.0 +8.3**
VNA2 Neumayer--Watz 91.67 182 **P** **23 12 01.7 +2.7**
VNA2 Neumayer--Watz 91.67 182 **P** **23 12 09.1 +10**
ELK Elko 91.89 48 LR LR 23 47 45.6
comp=Z,1μm,19.0s,MS5.4,baz=330,slow=32
VNA1 Neumayer--Stat 91.97 181 **P** **23 12 03.1 +2.8**
VNA1 Neumayer--Stat 91.97 181 **P** **23 12 12.7 +12**
TUC Tucson 92.33 57 PFAKE 23 12 10.0 +7.1
TUC LR LR
comp=Z,681nm,19.0s,MS5.1
DGAR Diego Garcia 92.74 261 PFAKE 23 12 20.0 +15
DGAR LR LR
comp=Z,447nm,20.0s,MS4.9
TIXI Tiksi 92.81 349 PFAKE 23 12 10.0 +5.8
TIXI LR LR
comp=Z,598nm,19.0s,MS5.1
TIXI Tiksi 92.81 349 *e*P **P** **23 12 16.5 +12**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
WUAZ Wupatki 92.92 54 PFAKE 23 12 20.0 +14
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.6
DUG Dugway 93.42 49 PFAKE 23 12 20.0 +12
DUG LR LR
comp=Z,2μm,19.0s,MS5.5
NEW Newport 93.46 40 LR LR 23 51 17.3
comp=Z,611nm,19.2s,MS5.1,baz=254,slow=34
NEW Newport 93.46 40 PFAKE 23 12 20.0 +12
NEW LR LR
comp=Z,778nm,20.0s,MS5.2
HWUT Hardware Ranch 94.79 48 PFAKE 23 12 20.0 +6.0
HWUT LR LR
comp=Z,1μm,22.0s,MS5.4
WMQ Urumqi 94.98 314 *e*P **P** **23 12 16.8 +2.0**
WMQ AP pP 23 12 27.5 +2.7
WMQ XP sP 23 12 31.0 +3.0
WMQ PP PP 23 16 07.0 +0.8
WMQ PPP PPP 23 18 14.0 +2.8
WMQ AMB AMB
comp=Z,14nm,1.1s,mb5.3
WMQ AMB AMB
comp=Z,175nm,5.4s
WMQ LR LR
comp=N,896nm,20.6s,MS5.3
WMQ LR LR
comp=E,579nm,21.7s,MS5.3
WMQ LR LR
comp=Z,782nm,26.5s,MS5.0
INK Inuvik 95.43 19 LR LR 23 49 05.7
comp=Z,674nm,21.2s,MS5.1,slow=32
AHID Auburn Hatcher 95.49 47 PFAKE 23 12 30.0 +13
AHID LR LR
comp=Z,1μm,21.0s,MS5.4
MNTX Cornudas Mount 96.51 59 PFAKE 23 12 30.0 +7.9
MNTX LR LR
comp=Z,786nm,19.0s,MS5.2
LKWY Lake 96.54 45 PFAKE 23 12 30.0 +8.1
LKWY LR LR
comp=Z,4μm,20.0s,MS5.9
PDAR Pinedale Array 96.57 47 LR LR 23 49 13.1
comp=Z,682nm,20.7s,MS5.1,baz=276,slow=31
ANMO Albuquerque 96.57 56 LR LR 23 47 04.9
comp=Z,964nm,21.9s,MS5.2,baz=252,slow=30
ANMO Albuquerque 96.57 56 PFAKE 23 12 30.0 +7.7
ANMO LR LR
comp=Z,1μm,22.0s,MS5.3
LTX Lajitas 97.27 62 PFAKE 23 12 40.0 +14
LTX LR LR
comp=Z,955nm,19.0s,MS5.3
TXAR Lajitas Array 97.27 62 P **P** **23 12 24.1 -1.5**
comp=Z,0.6nm,0.9s,mb4.0,baz=228,slow=5.8,SNR=5.9
TXAR LR LR 23 51 01.9
comp=Z,1μm,18.4s,MS5.4,baz=295,slow=32
SDCO Great Sand Dun 98.10 53 PFAKE 23 12 40.0 +11
SDCO LR LR
comp=Z,1μm,20.0s,MS5.5
ISCO Idaho Springs 98.57 51 PFAKE 23 12 40.0 +8.9
ISCO LR LR
comp=Z,2μm,20.0s,MS5.7
MKAR Makanchi Array 99.51 316 P **P** **23 12 34.0 -1.2**
comp=Z,0.7nm,0.6s,mb4.2,baz=78,slow=5.9,SNR=5.9
ZAL Zalesovo 99.90 323 P **P** **23 12 35.9 -0.9**
comp=Z,0.8nm,0.7s,mb4.3,baz=12,slow=6.9,SNR=5.3
ZAL LR LR 23 58 09.7
comp=Z,407nm,19.6s,MS4.9,baz=2.8,slow=36
ZAL Zalesovo 99.90 323 P **P** **23 12 35.9 -0.9**
ZAL LR LR 23 58 09.7
LAO LASA Array 99.95 44 PFAKE 23 12 50.0 +13
LAO LR LR
comp=Z,825nm,19.0s,MS5.3
NVS Novosibirsk 101.03 324 *e*P P 23 12 52.6 +11
DGMT Dagmar 101.72 43 PFAKE 23 13 00.0 +15
DGMT LR LR
comp=Z,510nm,19.0s,MS5.1
CBKS Cedar Bluff 102.76 53 PFAKE 23 13 00.0 +10
CBKS LR LR
comp=Z,1μm,20.0s,MS5.4
KURK Kurchatov 102.80 319 PFAKE 23 13 00.0 +10
KURK LR LR
comp=Z,130nm,19.0s,MS4.5
AAK Ala-Archa 103.98 311 PFAKE 23 13 10.0 +15
AAK LR LR
comp=Z,76nm,21.0s,MS4.2
FFC Flin Flon 104.34 37 PFAKE 23 13 10.0 +14
FFC LR LR
comp=Z,312nm,21.0s,MS4.8
MIAR Mount Ida 106.80 58 PFAKE 23 17 30.0
MIAR LR LR
comp=Z,423nm,19.0s,MS5.0
ULM Lac du Bonnet 107.38 42 PFAKE 23 17 30.0
ULM LR LR
comp=Z,1μm,21.0s,MS5.4
BRVK Borovoye 108.26 321 PFAKE 23 17 30.0
BRVK LR LR
comp=Z,77nm,20.0s,MS4.3
CCM Cathedral Cave 109.19 55 PFAKE 23 17 30.0
CCM LR LR
comp=Z,1μm,19.0s,MS5.5
JTS JuntasAbangare 109.48 85 PFAKE 23 17 30.0
JTS LR LR
comp=Z,272nm,20.0s,MS4.8
MSEY Mahe Island 109.57 258 PFAKE 23 17 40.0
MSEY LR LR
comp=Z,476nm,19.0s,MS5.1
NNA Nana 109.86 110 PFAKE 23 17 40.0
NNA LR LR
comp=Z,157nm,21.0s,MS4.6
EYMN Ely 110.03 45 PFAKE 23 17 30.0 +2.6
EYMN LR LR
comp=Z,1μm,20.0s,MS5.5
PLAL Pickwick Lake 111.34 59 PFAKE 23 17 40.0 +10
PLAL LR LR
comp=Z,1μm,20.0s,MS5.5
LVC Limon Verde 111.76 124 PFAKE 23 17 40.0 +8.7
LVC LR LR
comp=Z,728nm,19.0s,MS5.3
LRAL Lakeview Retre 111.99 61 PFAKE 23 17 40.0 +8.4
LRAL LR LR
comp=Z,752nm,21.0s,MS5.3
WCI Wyandotte Cave 113.09 55 PFAKE 23 17 40.0 +6.4
WCI LR LR
comp=Z,1μm,20.0s,MS5.5
ARU Arti 115.02 325 PFAKE 23 17 40.0 +3.1
ARU LR LR
comp=Z,113nm,19.0s,MS4.5
LPAZ La Paz 115.55 118 PFAKE 23 17 50.0 +11
LPAZ LR LR
comp=Z,505nm,20.0s,MS5.1
ACSO Alum Creek Sta 115.77 53 PFAKE 23 17 50.0 +11
ACSO LR LR
comp=Z,471nm,20.0s,MS5.1
DWPF Disney 116.17 67 PFAKE 23 17 50.0 +10
DWPF LR LR
comp=Z,599nm,19.0s,MS5.2
BLA Blacksburg 117.69 57 PFAKE 23 17 50.0 +7.4
BLA LR LR
comp=Z,710nm,19.0s,MS5.3
ERPA Erie 118.04 51 PFAKE 23 17 50.0 +6.9
ERPA LR LR
comp=Z,1μm,20.0s,MS5.5
CBN Corbin 120.11 56 PFAKE 23 17 50.0 +2.7
CBN LR LR
comp=Z,1μm,21.0s,MS5.5
BINY Binghamton 121.01 51 PFAKE 23 18 00.0 +11
BINY LR LR
comp=Z,1μm,19.0s,MS5.6
NCB Newcomb 122.13 49 PFAKE 23 18 00.0 +9.0
NCB LR LR
comp=Z,3μm,21.0s,MS5.8
SDV Santo Domingo 122.77 91 PFAKE 23 18 00.0 +7.1
SDV LR LR
comp=Z,349nm,20.0s,MS5.0
ARCES ARCESS Array B 123.08 345 PKP PKPdf 23 17 46.7 -5.6
comp=Z,5.4nm,0.7s,baz=71,slow=1.2,SNR=12
LBNH Lisbon 123.74 48 PFAKE 23 18 00.0 +5.8
LBNH LR LR
comp=Z,2μm,20.0s,MS5.8
LBTB Lobatse 123.83 222 PFAKE 23 18 00.0 +5.2
LBTB LR LR
comp=Z,568nm,19.0s,MS5.2
HRV Harvard--Oak R 124.24 50 PFAKE 23 18 00.0 +4.8
HRV LR LR
comp=Z,2μm,22.0s,MS5.6
SCHQ Schefferville 124.41 35 PFAKE 23 18 00.0 +4.8
SCHQ LR LR
comp=Z,3μm,19.0s,MS5.9
WES Weston 124.43 50 PFAKE 23 18 00.0 +4.4
WES LR LR
comp=Z,2μm,20.0s,MS5.7
WVL Waterville 125.29 48 PFAKE 23 18 00.0 +2.8
WVL LR LR
comp=Z,8μm,20.0s
GNI Garni 126.17 307 PFAKE 23 18 10.0 +11
GNI LR LR
comp=Z,321nm,19.0s,MS5.0
ZEI Tsey 126.41 310 *e*PKIKP PKPdf 23 17 52.8 -6.5
EMMW East Machias 126.81 47 PFAKE 23 18 10.0 +10
EMMW LR LR
comp=Z,7μm,20.0s
KIV Kislovodsk 127.05 312 PFAKE 23 18 10.0 +9.5
KIV LR LR
comp=Z,77nm,20.0s,MS4.4
OBN Obninsk 127.29 327 PFAKE 23 18 10.0 +9.3
OBN LR LR
comp=Z,139nm,21.0s,MS4.6
LSZ Lusaka 128.42 233 PFAKE 23 18 10.0 +6.1
LSZ LR LR
comp=Z,947nm,21.0s,MS5.5
FINES FINESS Array B 128.48 338 PKP PKPdf 23 17 58.0 -4.8
comp=Z,1.1nm,0.7s,baz=338,slow=10,SNR=4.0
SJG San Juan 128.91 81 PFAKE 23 18 10.0 +5.2
SJG LR LR
comp=Z,360nm,19.0s,MS5.1
BBSR BB Station 130.74 62 PFAKE 23 18 10.0 +2.0
BBSR LR LR
comp=Z,816nm,19.0s,MS5.5
TSUM Tsumeb 133.11 220 PFAKE 23 18 20.0 +7.2
TSUM LR LR
comp=Z,951nm,21.0s,MS5.5
AKASG Malin Array Be 133.28 325 PKP PKPdf 23 18 06.8 -5.4
comp=Z,0.2nm,0.4s,baz=52,slow=2.0,SNR=3.8
AKASG Malin Array Be 133.28 325 PKP PKPdf 23 18 06.8 -5.4
NB2 NORSAR Subarra 133.45 344 PKPdf PKPdf 23 18 09.8 -2.4
comp=Z,2.2nm,0.9s,baz=30,slow=1.7
NOA NORSAR Array B 133.45 344 PKP PKPdf 23 18 06.0 -6.2
comp=Z,1.0nm,0.8s,baz=27,slow=2.0,SNR=3.0
ANTO Ankara 135.20 309 PFAKE 23 18 20.0 +3.9
ANTO LR LR
comp=Z,291nm,20.0s,MS5.0
DPC Dobruska-Polom 140.06 331 *e*pPKP 23 18 31.8
UPC Upice 140.08 332 *e*PKP PKPdf 23 18 26.7 +2.0
PVCC Panska Ves 140.71 333 *e*PKP PKPdf 23 18 35.1 +9.3
BRG Berggiesshubel 140.72 334 *e*PKP PKPdf 23 18 19.0 -6.8
BRG *e* 23 18 34.6
CLL Collm 140.78 335 *e* PKPdf 23 18 19.0 -6.9
CLL *e*PKIKP PKPdf 23 18 22.0 -3.9
CLL *e**PKKP 23 18 31.0
CLL Collm 140.78 335 *e*PKIKP PKPdf 23 18 19.0 -6.9
CLL *e* 23 18 31.0
PRU Pruhonice 141.12 332 *e*PKP PKPdf 23 18 27.6 +1.1
KHC Kasperske Hory 142.17 332 *e*PKP PKPdf 23 18 20.0 -8.4
KHC *ex* x 23 18 25.0
KHC x x 23 18 30.5
KHC Kasperske Hory 142.17 332 *e*P PKPdf 23 18 20.0 -8.4
KHC *e* 23 18 30.5
GERES GERESS Array B 142.32 332 PKhKP 23 18 18.2
comp=Z,0.3nm,0.4s,baz=108,slow=3.1,SNR=3.7
GERES PKP PKPdf 23 18 24.8 -3.8
comp=Z,0.5nm,0.6s,baz=45,slow=3.8,SNR=5.4
IDI Anoyia 142.56 306 PKHKP 23 18 20.5
comp=Z,5.4nm,0.8s,baz=154,slow=1.8,SNR=8.6
GRA1 Grafenberg Arr 142.75 335 *e*PKP PKPdf 23 18 25.0 -4.3
GRA1 *e*PKKP PKKP 23 27 27.2 -5.3
GRF Grafenberg Arr 142.75 335 *e*PKP PKPdf 23 18 25.0 -4.3
GRF *e*PKKP PKKP 23 27 27.2 -5.3
KBA Koelnbreinsper 143.77 330 ⇑*i*P PKPbc 23 18 23.5 -1.3
comp=Z,12nm,1.0s
TOD Tromm 143.78 337 PKP PKPdf 23 18 24.2 -6.9
LJU Ljubljana 143.91 328 *e*PKPbc PKPbc 23 18 24.6 -0.7
CEY Cerknica 144.16 327 *e*PKPbc PKPbc 23 18 25.6 -0.4
VOY Vojsko 144.24 328 *e*PKPbc PKPbc 23 18 25.4 -0.8
VOY *e* 23 18 33.4
WTTA Wattenberg 144.43 332 ⇓*i*P PKPbc 23 18 26.7 0.0
comp=Z,15nm,1.1s
MOTA Moosalm 144.60 332 ⇓*i*P PKPbc 23 18 27.0 -0.2
comp=Z,18nm,1.1s
SQTA Sankt Quirin 144.65 332 ⇑*i*P PKPbc 23 18 27.4 +0.1
comp=Z,18nm,1.0s
GIVF Givet 144.74 341 *e*PKP1 PKPbc 23 18 26.8 -0.7
BAIF Baives 144.96 341 *e*PKP1 PKPbc 23 18 27.5 -0.6
comp=Z,44nm,1.1s
DAVA Damuels 145.19 333 ⇑*i*P PKPbc 23 18 29.0 +0.2
comp=Z,54nm,1.0s
DAVA Damuels 145.19 333 *i* P PKPbc 23 18 29.0 +0.2
comp=Z,54nm,1.0s,SNR=27
WLS Welschbruch 145.30 337 PKP PKPdf 23 18 28.9 -4.9
CDF Champ du Feu 145.33 337 *e*PKP1 PKPbc 23 18 29.0 -0.1
comp=Z,120nm,0.9s
FELD Feldberg 145.49 336 PKP PKPdf 23 18 30.0 -4.1
ECH Echery 145.54 337 PKP PKPdf 23 18 28.9 -5.3
DAVOX Davos 145.58 333 PKPbc PKPbc 23 18 30.6 +0.8
baz=33,slow=7.7
MOF Molkenrain 145.85 336 PKP PKPdf 23 18 31.7 -3.0
THEF They Montfort 145.96 338 PKP PKPdf 23 18 31.5 -3.4
HINF Hinteralfeld 145.98 337 *e*PKP1 PKPbc 23 18 30.5 -0.2
comp=Z,34nm,0.8s
HAU Haudompre 146.01 337 *e*PKP1 PKPbc 23 18 30.8 0.0
comp=Z,80nm,0.9s
HAU *e*R
comp=Z,514nm,20.0s
MEZF Maizieres J'vi 146.05 339 *e*PKP1 PKPbc 23 18 31.5 +0.6
comp=Z,94nm,0.9s
LOMF Lomont 146.38 336 PKP PKPdf 23 18 33.0 -2.7
TIP Timpagrande 146.80 316 *e*PKPdf PKPdf 23 18 34.6 -2.1
CII Carovilli 146.85 322 *e*PKPdf PKPdf 23 18 34.6 -2.1
AQU L'Aquila 146.97 324 *e*PKPdf PKPdf 23 18 34.8 -2.0
RCBR Riachuelo 147.10 133 PFAKE 23 18 50.0 +12
RCBR LR LR
comp=Z,482nm,22.0s,MS5.2
CABF La Chapelle 147.27 336 *e*PKP1 PKPdf 23 18 35.1 -2.1
comp=Z,76nm,1.1s
FLN La Foliniere 147.43 345 *e*PKP1 PKPdf 23 18 34.3 -3.1
comp=Z,83nm,1.0s
FLN *e*R
comp=Z,686nm,21.5s
LDF La Druitiere 147.49 345 *e*PKP1 PKPdf 23 18 34.6 -2.9
comp=Z,34nm,0.8s
LOR Lormes 147.52 339 *e*PKP1 PKPdf 23 18 35.3 -2.3
comp=Z,33nm,0.8s
LOR *e*R
comp=Z,597nm,21.2s
SSF Saint Saulge 147.82 340 *e*PKP1 PKPdf 23 18 36.1 -1.9
comp=Z,61nm,1.0s
GRR Gorron 147.86 346 *e*PKP1 PKPdf 23 18 35.9 -2.2
comp=Z,52nm,0.9s
LPL La Plagne 147.92 334 *e*PKP1 PKPdf 23 18 36.9 -1.4
comp=Z,30nm,0.8s
HYF Humbligny 147.92 341 *e*PKP1 PKPdf 23 18 36.6 -1.6
LPG La Plagne 147.92 334 *e*PKP1 PKPdf 23 18 37.0 -1.3
comp=Z,69nm,1.1s
SMF Signal de Mont 148.07 339 *e*PKP1 PKPdf 23 18 36.6 -1.9
comp=Z,53nm,1.0s
AVF Avril sur Loir 148.11 339 *e*PKP1 PKPdf 23 18 36.5 -2.0
comp=Z,38nm,1.1s
BNI Bardonecchia 148.31 334 *e*PKPdf PKPdf 23 18 37.3 -1.6
SGMF Saint Gilles 148.37 348 *e*PKP1 PKPdf 23 18 37.0 -1.9
comp=Z,59nm,1.0s
ROSF Rostrenen 148.43 348 *e*PKP1 PKPdf 23 18 37.0 -2.0
comp=Z,135nm,1.3s
BGF Bois d'Agland 148.48 340 *e*PKP1 PKPdf 23 18 37.6 -1.5
comp=Z,48nm,0.8s
MBDF Montbardon 148.54 333 *e*PKP1 PKPdf 23 18 37.9 -1.4
comp=Z,25nm,0.9s
GRN Grenoble 148.54 335 PKP PKPdf 23 18 39.3 0.0
SURF Saint Ours 148.72 333 PKP PKPdf 23 18 41.2 +1.6
PLDF La Plantade 148.73 338 PKP PKPdf 23 18 40.4 +0.9
ORIF Oris-en-Rattie 148.75 335 *e*PKP1 PKPdf 23 18 38.8 -0.8
comp=Z,42nm,0.8s
ORIF *e*R
comp=Z,570nm,22.0s
SAOF Saorge 148.78 332 PKP PKPdf 23 18 35.4 -4.3
QUIF Quistinic 148.81 348 *e*PKP1 PKPdf 23 18 37.8 -1.8
comp=Z,25nm,0.9s
AUTN L'Aution 148.83 332 PKP PKPdf 23 18 38.9 -0.9
TOUF Mont Tournerai 148.89 332 PKP PKPdf 23 18 39.7 -0.2
TCF Toulx Ste Croi 148.92 340 *e*PKP1 PKPdf 23 18 38.9 -0.9
comp=Z,56nm,1.2s
SBF Sospel 148.93 332 *e*PKP1 PKPdf 23 18 38.7 -1.2
comp=Z,48nm,0.7s
PYM Petit Puy Mans 149.13 339 PKP PKPdf 23 18 41.2 +1.0
PGF Pioggiola 149.18 328 *e*PKP1 PKPdf 23 18 39.7 -0.7
comp=Z,64nm,0.8s
CALN Calern 149.26 332 PKP PKPdf 23 18 35.0 -5.5
VIVF Saint-Julien-l 149.28 336 *e*PKP1 PKPdf 23 18 40.0 -0.5
comp=Z,50nm,1.1s
MFF Saint Martin d 149.34 343 *e*PKP1 PKPdf 23 18 39.8 -0.7
comp=Z,90nm,1.1s
LBL Lubilhac 149.50 338 PKP PKPdf 23 18 41.9 +1.1
FRF La Foret Royal 149.52 332 *e*PKP1 PKPdf 23 18 40.3 -0.6
comp=Z,56nm,1.1s
SMRF Simiane la Rot 149.65 334 *e*PKP1 PKPdf 23 18 41.2 +0.1
comp=Z,37nm,1.0s
LMR La Mourre 149.76 332 *e*PKP1 PKPdf 23 18 41.0 -0.3
comp=Z,54nm,1.0s
RJF Les Rejaudoux 150.02 340 *e*PKP1 PKPdf 23 18 41.6 0.0
comp=Z,75nm,1.3s
RJF *e*R
comp=Z,572nm,18.5s
CAF Calviac 150.17 339 *e*PKP1 PKPdf 23 18 42.4 +0.5
comp=Z,69nm,1.2s
LASF Ste Croix 150.26 336 *e*PKP1 PKPdf 23 18 42.5 +0.5
comp=Z,64nm,1.0s
LFF La Frestale 150.59 341 *e*PKP1 PKPdf 23 18 43.0 +0.5
comp=Z,41nm,0.9s
VSL Villasalto 151.14 324 *e*PKPbc PKPdf 23 18 44.5 +1.0
MTLF Montolieu 151.50 337 *e*PKP1 PKPdf 23 18 45.2 +1.3
comp=Z,31nm,0.9s
EPF Esparros 152.43 340 *e*PKP1 PKPdf 23 18 48.2 +2.9
comp=Z,23nm,0.9s
ETSF Etsaut 152.84 341 *e*PKP1 PKPdf 23 18 48.6 +2.7
comp=Z,31nm,0.9s
SJPF Ste Jean 152.84 342 *e*PKP1 PKPdf 23 18 48.2 +2.3
comp=Z,27nm,1.0s
PBRG Braganca 155.37 350 *e*PKPab PKPab 23 19 14.9 +2.9
PVRL Vila Real 156.04 351 *e*PKPab PKPab 23 19 15.2 +0.3
CMLA Cha da Macela 156.78 27 PFAKE 23 19 00.0 +8.7
CMLA LR LR
comp=Z,4μm,20.0s,MS6.2
ESDC Sonseca Array 156.80 343 PKPab PKPab 23 19 16.9 -1.4
comp=Z,2.1nm,0.7s,baz=15,slow=5.8,SNR=6.8
ESLA Sonseca Array 156.80 343 PFAKE 23 19 00.0 +8.7
ESLA LR LR
comp=Z,4μm,20.0s
MTE Manteigas 156.87 351 *e*PKPab PKPab 23 19 17.9 -0.6
PBEJ Beja 159.24 350 *e*PKPab PKPab 23 19 29.3 +0.5
DBIC Dimbokro 166.95 215 PFAKE 23 19 10.0 +7.5
DBIC LR LR
comp=Z,752nm,21.0s

IDC ***25*** *23:06:08.2±1.6, 17.53S×167.91E, mb4.3/7, mb1 4.5/9, mb1mx4.3/16, mbtmp4.4/9, ML4.4/2, Error ellipse: s-maj=42.0km s-min=24.3km az=123.0*
NEIC ***25*** *23:06:13.7±4.6, 17.53S×167.78E, h32km±31km, mb4.9/1, Error ellipse: s-maj=21.6km s-min=13.0km az=82.0*
ISC 25 23:06:11.0±4.8, 17.59S±0.07×167.6E±0.2, h19km±32km, n21, σ0.94/17, mb4.3/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.59**	**194**	Pn		**Pn**	**23 07 21.4**	**+0.2**
	4.2nm,0.3s,baz=66,slow=16,SNR=6.4							
DZM				Sn		**Sn**	**23 08 13.5**	**-1.2**
	7.0nm,0.3s,baz=125,slow=21,SNR=6.3							
HNR	**Honiara**	**11.01**	**316**	Pn		**P**	**23 08 50.5**	**-0.3**
	10nm,0.3s,baz=256,slow=4.4,SNR=3.6							
HNR	**Honiara**	**11.01**	**316**	*e*P		**P**	**23 08 50.8**	**0.0**
	57nm,0.9s							
CTA	**Charters Tower**	**20.36**	**260**	P		**P**	**23 10 50.6**	**+1.2**
	3.9nm,0.7s,baz=60,slow=14,SNR=3.2							
CTAO	**Charters Tower**	**20.36**	**260**	*e*P		**P**	**23 10 48.7**	**-0.7**
STKA	**Stephens Creek**	**27.49**	**234**	*e*P		**P**	**23 11 59.4**	**+1.1**
	4.4nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**27.49**	**234**	P		**P**	**23 11 59.6**	**+1.3**
	5.9nm,0.6s,mb4.3,baz=61,slow=9.5,SNR=13							
WRA	**Warramunga Arr**	**31.56**	**260**	P		**P**	**23 12 34.3**	**-0.5**
	1.8nm,0.8s,mb4.0,baz=92,slow=8.9,SNR=12							
ASPA	**Alice Springs**	**32.07**	**253**	*e*P		**P**	**23 12 38.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**39.89**	**263**	*e*P		**P**	**23 13 46.7**	**+1.0**
	16nm,0.6s,mb4.9							
FITZ				*i*			23 13 57.3	
FITZ	**Fitzroy Crossi**	**39.89**	**263**	P		**P**	**23 13 46.6**	**+0.9**
	23nm,0.6s,mb5.1,baz=97,slow=4.2,SNR=23							
NWAO	**Narrogin (SRO)**	**47.62**	**241**	P		**P**	**23 14 47.5**	**-0.5**
	12nm,0.8s,mb5.0,baz=92,slow=7.1,SNR=8.7							
SONM	**Songino Array**	**84.98**	**324**	P		**P**	**23 18 45.5**	**-0.9**
	1.6nm,0.9s,mb4.1,baz=135,slow=6.1,SNR=5.7							
ILAR	**Eielson Array**	**89.13**	**18**	P		**P**	**23 19 04.8**	**-1.5**
	0.4nm,0.8s,mb3.8,baz=239,slow=5.1,SNR=4.3							
VNA3	**Neumayer Olymp**	**91.38**	**181**			**P**	**23 19 17.6**	**+1.1**
VNA2	**Neumayer--Watz**	**91.65**	**182**			**P**	**23 19 19.1**	**+1.4**
CDF	**Champ du Feu**	**145.33**	**337**	*e*PKP1		PKPbc	23 25 47.1	-1.0
	6.2nm,0.7s							
DAVOX	**Davos**	**145.57**	**333**	PKPbc		PKPbc	23 25 48.7	-0.1
	1.8nm,0.6s,baz=27,slow=9.0,SNR=4.3							
SSF	**Saint Saulge**	**147.82**	**339**	*e*PKP1		PKPdf	23 25 54.1	-1.7
PGF	**Pioggiola**	**149.17**	**328**	*e*PKP1		PKPdf	23 25 57.8	-0.3
LMR	**La Mourre**	**149.75**	**332**	*e*PKP1		PKPdf	23 25 59.0	-0.1

IDC ***25*** *23:07:22.1±0.9, 17.33S×167.80E, mb4.5/10, mb1 4.6/11, mb1mx4.5/17, mbtmp4.5/11, ML4.2/1, MS4.7/1, Ms1 4.7/1, ms1mx4.1/15, Error ellipse: s-maj=28.3km s-min=20.0km az=117.0*
LDG ***25*** *23:07:23.9±0.1, 17.30S×167.40E, h10km, Mb5.2/1, Error ellipse: s-maj=19.9km s-min=3.5km az=93.0*
BJI ***25*** *23:07:26.1, 17.40S×167.90E, h30km, mB5.0, mb4.8, Ms5.1, Msz4.9*
NEIC ***25*** *23:07:26.2±0.4, 17.43S×167.88E, h30km, mb4.9/6, Error ellipse: s-maj=12.4km s-min=9.4km az=85.0*
ISC 25 23:07:26.6±2.2, 17.47S±0.08×167.8E±0.1, h46km±18km, n79, σ1.9s19/27, mb4.6/16, MS4.8/3, 8C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.74**	**195**	Pn		**P**	**23 08 37.1**	**-0.4**
	10nm,0.3s,baz=99,slow=17,SNR=4.8							
HNR	**Honiara**	**11.02**	**315**	*e*P		**P**	**23 10 05.0**	**+0.5**
CTA	**Charters Tower**	**20.52**	**259**	P		**P**	**23 12 04.8**	**+1.2**
	4.0nm,0.7s,baz=82,slow=15,SNR=3.1							
CTAO	**Charters Tower**	**20.52**	**259**	*e*P		**P**	**23 12 03.3**	**-0.2**
URZ	**Urewera**	**22.28**	**160**	P		**P**	**23 12 22.5**	**+1.4**
	9.1nm,0.6s,mb4.3,baz=333,slow=4.3,SNR=3.5							
STKA	**Stephens Creek**	**27.66**	**234**	*e*P		**P**	**23 13 13.2**	**+0.8**
	4.3nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**27.66**	**234**	P		**P**	**23 13 12.8**	**+0.4**
	5.4nm,0.6s,mb4.4,baz=62,slow=8.0,SNR=9.8							
WRAB	**Tennant Creek**	**31.70**	**260**	P		**P**	**23 13 48.2**	**-0.2**

50nm,1.8s,mb5.0
WRA **Warramunga Arr** **31.71 260** P **P** **23 13 47.6 -0.8**
1.8nm,0.7s,mb4.0,baz=91,slow=9.1,SNR=8.5
FITZ **Fitzroy Crossi** **40.04 262** *eP* **P** **23 14 59.9 +0.8**
17nm,0.6s,mb4.9
FITZ *e* pP 23 15 10.8 -0.7
FITZ **Fitzroy Crossi** **40.04 262** P **P** **23 15 00.1 +1.1**
22nm,0.7s,mb5.0,baz=125,slow=4.4,SNR=12
NWAO **Narrogin (SRO)** **47.79 241** P **P** **23 16 00.9 -0.6**
6.4nm,0.7s,mb4.8,baz=45,slow=7.4,SNR=3.6
VNDA **Vanda** **60.15 181** *eP* **P** **23 17 29.8 -1.7**
SBA **Scott Base** **60.41 180** *eP* **P** **23 17 32.9 -0.4**
15nm,1.3s,mb4.9
MJAR **Matsushiro Arr** **60.54 333** P **P** **23 17 33.0 -1.7**
4.2nm,0.9s,mb4.5,baz=168,slow=7.6,SNR=6.7
CASY **Casey** **61.19 203** *eP* **P** **23 17 37.3 -1.3**
1.9nm,0.6s,mb4.4
MDJ **Mudanjiang** **70.91 332** P **P** **23 18 41.5 +0.6**
MDJ AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
MDJ AMB AMB
comp=Z,91nm,8.0s
MDJ LR LR
comp=N,473nm,27.2s,MS4.7
MDJ LR LR
comp=E,467nm,30.4s,MS4.7
MDJ LR LR
comp=Z,328nm,22.4s
MDJ **Mudanjiang** **70.91 332** P **P** **23 18 39.5 -1.4**
comp=Z,5.9nm,0.6s,mb4.7
CN2 **Changchun** **72.22 329** *eP* **P** **23 18 54.5 +5.7**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
QSPA **South Pole Qui** **72.57 180**⇓ *iP* **P** **23 18 49.1 -1.1**
comp=Z,13nm,0.9s,mb4.9
RPN **Rapa Nui** **76.10 114** LR LR 23 44 09.2
comp=Z,485nm,19.1s,MS4.8,baz=291,slow=29
GTA **Gaotai** **84.89 314** *eP* **P** **23 20 01.0 +2.9**
GTA AP pP 23 20 05.3 -6.4
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,102nm,4.2s
GTA LR LR
comp=N,336nm,19.0s,MS4.9
GTA LR LR
comp=E,413nm,20.5s,MS4.9
GTA LR LR
comp=Z,515nm,22.1s,MS4.9
SONM **Songino Array** **84.96 324** P **P** **23 19 59.5 +1.2**
comp=Z,7.9nm,0.9s,mb4.8,baz=139,slow=5.2,SNR=23
ILAR **Eielson Array** **88.98 18** P **P** **23 20 16.6 -0.7**
comp=Z,0.9nm,0.7s,mb4.2,baz=238,slow=5.1,SNR=12
VNA3 **Neumayer Olymp** **91.50 181** **P** **23 20 30.9 +2.0**
VNA2 **Neumayer--Watz** **91.77 182** **P** **23 20 32.5 +2.3**
CHMT **Chamberlain Mo** **95.30 43** *eP* **P** **23 20 46.9 0.0**
MKAR **Makanchi Array** **99.49 316** P **P** **23 21 04.9 -1.0**
comp=Z,0.5nm,0.6s,mb4.2,baz=96,slow=4.3,SNR=5.2
ARCES **ARCESS Array B** **123.01 345** PKP PKPdf 23 26 20.8 +3.1
comp=Z,2.4nm,0.7s,slow=3.6,SNR=5.3
KMBO **Kilima Mbogo** **127.87 254** PKP PKPdf 23 26 31.3 +2.8
comp=Z,2.2nm,1.1s,baz=81,slow=2.3,SNR=3.8
KMBO **Kilima Mbogo** **127.87 254** PKP PKPdf 23 26 31.3 +2.8
LSZ **Lusaka** **128.53 233** PKP PKPdf 23 26 31.3 +1.7
comp=Z,2.3nm,0.9s,baz=79,slow=6.2,SNR=3.9
LSZ **Lusaka** **128.53 233** PKP PKPdf 23 26 31.3 +1.6
KHC **Kasperske Hory** **142.12 332** *eP* PKPdf 23 27 02.0 +8.2
LJU **Ljubljana** **143.86 328** *ePKP* PKPdf 23 26 56.3 -0.5
LJU *i* 23 27 31.0
VISS **Visnje** **143.87 327** *ePKP* PKPdf 23 26 56.3 -0.6
VISS *e* 23 27 30.5
VOJS **Vojsko** **144.20 328** *ePKP* PKPdf 23 26 56.7 -0.7
VOJS *e* 23 27 31.1
JAVS **Javornik** **144.20 328** *ePKP* PKPdf 23 26 56.9 -0.5
JAVS *e* 23 27 31.3
BAIF **Baives** **144.90 341** *e*PKP1 PKPbc 23 26 59.2 +0.5
CDF **Champ du Feu** **145.27 337**⇑ *i*PKP1 PKPbc 23 27 00.6 +0.9
comp=Z,28nm,0.7s
DAVOX **Davos** **145.53 333** PKPbc PKPbc 23 27 01.8 +1.4
comp=Z,14nm,0.9s,baz=27,slow=1.3,SNR=11
HINF **Hinteralfeld** **145.92 337** *e*PKP1 PKPbc 23 27 02.1 +0.8
comp=Z,8.8nm,1.0s
HAU **Haudompre** **145.95 338** *e*PKP1 PKPbc 23 27 02.5 +1.1
comp=Z,27nm,1.1s
MEZF **Maizieres J'vi** **145.99 339**⇑ *i*PKP1 PKPbc 23 27 03.1 +1.6
comp=Z,29nm,0.8s
TIP **Timpagrande** **146.78 317** *e*PKPbc PKPbc 23 27 05.9 +2.3
AQU **L'Aquila** **146.93 324** *e*PKPbc PKPbc 23 27 06.6 +2.7
CABF **La Chapelle** **147.22 336** *e*PKP1 PKPdf 23 27 06.7 +4.1
FLN **La Foliniere** **147.35 346** *e*PKP1 PKPdf 23 27 06.1 +3.4
comp=Z,27nm,0.9s
LDF **La Druitiere** **147.42 345** *e*PKP1 PKPdf 23 27 06.3 +3.4
LOR **Lormes** **147.46 339**⇑ *i*PKP1 PKPdf 23 27 06.7 +3.7
comp=Z,10.0nm,0.7s
SSF **Saint Saulge** **147.75 340**⇑ *i*PKP1 PKPdf 23 27 07.7 +4.3
comp=Z,18nm,0.8s
GRR **Gorron** **147.79 346** *e*PKP1 PKPdf 23 27 07.6 +4.2
LPL **La Plagne** **147.86 335**⇑ *i*PKP1 PKPdf 23 27 08.6 +4.9
comp=Z,8.8nm,0.9s
LPG **La Plagne** **147.87 334**⇑ *i*PKP1 PKPdf 23 27 08.7 +5.0
comp=Z,11nm,0.8s
SMF **Signal de Mont** **148.00 339** *e*PKP1 PKPdf 23 27 08.2 +4.4
comp=Z,9.8nm,0.8s
AVF **Avril sur Loir** **148.04 340** *e*PKP1 PKPdf 23 27 08.3 +4.4
comp=Z,9.5nm,0.9s
SGMF **Saint Gilles** **148.29 348** *e*PKP1 PKPdf 23 27 08.6 +4.3
comp=Z,19nm,0.8s
ROSF **Rostrenen** **148.35 349** *e*PKP1 PKPdf 23 27 08.8 +4.5
BGF **Bois d'Agland** **148.41 340** *e*PKP1 PKPdf 23 27 09.3 +4.8
comp=Z,13nm,0.7s
MBDF **Montbardon** **148.48 334** *e*PKP1 PKPdf 23 27 09.6 +4.9
comp=Z,4.3nm,0.7s
ORIF **Oris-en-Rattie** **148.70 335** *e*PKP1 PKPdf 23 27 10.3 +5.3
comp=Z,5.7nm,0.8s
QUIF **Quistinic** **148.74 348** *e*PKP1 PKPdf 23 27 09.8 +4.8
TCF **Toulx Ste Croi** **148.86 340** *e*PKP1 PKPdf 23 27 10.6 +5.4
SBF **Sospel** **148.88 332** *e*PKP1 PKPdf 23 27 10.4 +5.1
PGF **Pioggiola** **149.14 329** *e*PKP1 PKPdf 23 27 11.4 +5.6
comp=Z,48nm,1.2s
VIVF **Saint-Julien-l** **149.23 336** *e*PKP1 PKPdf 23 27 11.8 +5.9
MFF **Saint Martin d** **149.27 344** *e*PKP1 PKPdf 23 27 11.4 +5.5
comp=Z,17nm,0.8s
FRF **La Foret Royal** **149.47 332** *e*PKP1 PKPdf 23 27 12.3 +6.0
SMRF **Simiane la Rot** **149.59 334** *e*PKP1 PKPdf 23 27 12.9 +6.4
LMR **La Mourre** **149.71 332** *e*PKP1 PKPdf 23 27 12.6 +5.9
comp=Z,13nm,1.0s
RJF **Les Rejaudoux** **149.96 340** *e*PKP1 PKPdf 23 27 13.4 +6.4
CAF **Calviac** **150.11 339** *e*PKP1 PKPdf 23 27 14.1 +6.8
LASF **Ste Croix** **150.20 336**⇑ *i*PKP1 PKPdf 23 27 14.3 +6.9
comp=Z,32nm,1.1s
LFF **La Frestale** **150.53 341** *e*PKP1 PKPdf 23 27 14.8 +6.9
MTLF **Montolieu** **151.44 338**⇑ *i*PKP1 PKPdf 23 27 17.0 +7.7
comp=Z,8.5nm,0.8s
EPF **Esparros** **152.37 340** *e*PKP1 PKPdf 23 27 19.1 +8.4
ETSF **Etsaut** **152.77 341** *e*PKP1 PKPdf 23 27 20.4 +9.1
comp=Z,9.6nm,0.8s
SJPF **Ste Jean** **152.78 342** *e*PKP1 PKPdf 23 27 19.9 +8.6
ESDC **Sonseca Array** **156.73 344** PKPab PKPab 23 27 49.1 +0.4
comp=Z,0.8nm,0.6s,baz=20,slow=4.9,SNR=4.1

*IDC **25** 23:07:56.0±1.0, 17.49S×167.89E, mb4.9/12, mb1 5.0/14, mb1mx4.9/18, mbtmp5.0/14, ML4.9/2, MS4.2/3, Ms1 4.2/3, ms1mx4.1/16, Error ellipse: s-maj=28.2km s-min=19.5km az=119.0*
*LDG **25** 23:07:58.6±0.1, 17.31S×167.24E, h10km, Mb5.1/2, Error ellipse: s-maj=21.7km s-min=3.0km az=93.0*
*BJI **25** 23:08:00.1, 17.40S×167.80E, h27km, mB5.2, mb4.9, Ms5.5, Ms2.5.0*
*HRVD **25** 23:08:00.2±0.5, 17.52S×167.74E, h32km±1km, MW5.1/46, Centroid moment Tensor Solution. LP body waves: s13,c15;Mantle waves: s46,c79; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.74±.58; Mθθ-0.21±.30; Mφφ-4.53±.33; Mrθ1.35±.31; Mrφ0.24±.17; Mθφ-3.51±.29; Best double couple: M0 5.968×10^16^ NP1:φ1 6°, δ27°, λ108°. NP2:φ2 166°, δ65°, λ81°. Principal axes: T 6.148, Plg69°, Azm58°; N -.355, Plg8°, Azm170°; P -5.789, Plg19°, Azm263°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 23:08:00.2±4.0, 17.42S×167.83E, h27km±26km, mb5.2/11 Error ellipse: s-maj=15.4km s-min=8.6km az=81.0*
ISC 25 23:07:57.8±4.3, 17.52S±0.06×167.7E±0.1, h19km±28km,
n112, σ1§11/40, mb4.9/21, MS4.3/1, 27C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.69**	**195**	Pn	**Pn**	**23 09 09.1**	**-0.3**
	16nm,0.3s,baz=57,slow=18,SNR=6.8						
DZM				LR	LR	23 10 00.8	
	comp=Z,981nm,19.5s,baz=1.7,slow=26						
DZM				Sn	**Sn**	**23 10 01.9**	**-2.1**
	38nm,0.3s,baz=132,slow=23,SNR=5.7						
HNR	**Honiara**	**11.03**	**316**	Pn	**P**	**23 10 37.8**	**-0.1**
	25nm,0.3s,baz=156,slow=2.1,SNR=11						
HNR				LR	LR	23 14 24.2	
	comp=Z,2μm,19.0s,baz=3.2,slow=35						
HNR	**Honiara**	**11.03**	**316**	*e*P	**P**	**23 10 36.2**	**-1.6**
HNR				LR	LR	23 14 24.2	
ARMA	**Armidale**	**19.50**	**226**	*e*P	**P**	**23 12 29.2**	**+2.4**
CTA	**Charters Tower**	**20.49**	**259**	*e*P	**P**	**23 12 38.9**	**+1.5**
	45nm,0.9s						
CTA	**Charters Tower**	**20.49**	**259**	P	**P**	**23 12 38.9**	**+1.4**
	57nm,0.9s,baz=78,slow=13,SNR=15						
PMG	**Port Moresby**	**21.55**	**289**	P	**P**	**23 12 49.8**	**+1.5**
	12nm,0.8s,mb4.4,baz=323,slow=4.5,SNR=3.9						
PMG				LR	LR	23 19 36.2	
	comp=Z,1μm,19.1s,MS4.3,baz=107,slow=32						
CNB	**Canberra Magne**	**24.11**	**219**	*e*P	**P**	**23 13 15.6**	**+2.2**
	70nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**27.62**	**234**	*e*P	**P**	**23 13 47.0**	**+0.8**
	28nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**27.62**	**234**	P	**P**	**23 13 47.3**	**+1.1**
	38nm,0.8s,mb5.1,baz=58,slow=7.2,SNR=24						
WB2	**Warramunga Arr**	**31.67**	**260**	*e*P	**P**	**23 14 20.9**	**-1.6**
WRAB	**Tennant Creek**	**31.67**	**260**	*e*P	**P**	**23 14 21.2**	**-1.3**
	38nm,1.3s,mb5.1						
WRA	**Warramunga Arr**	**31.68**	**260**	P	**P**	**23 14 21.7**	**-0.9**
	9.1nm,0.9s,mb4.6,baz=91,slow=9.1,SNR=18						
WRA				ScP		23 20 55.9	
	6.8nm,1.3s,baz=92,slow=4.4,SNR=9.2						
ASPA	**Alice Springs**	**32.20**	**253**	*e*P	**P**	**23 14 26.2**	**-0.8**
FORT	**Forrest**	**38.33**	**242**	*e*P	**P**	**23 15 19.5**	**+0.2**
	29nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**40.01**	**263**⇓	*iP*	**P**	**23 15 34.0**	**+0.6**
	86nm,0.7s,mb5.6						
FITZ				*i*		23 15 45.0	
FITZ	**Fitzroy Crossi**	**40.01**	**263**	P	**P**	**23 15 34.2**	**+0.8**
	108nm,0.7s,mb5.7,baz=111,slow=3.7,SNR=27						
TBI	**Tubuai**	**40.43**	**106**	*e*LR	LR	23 27 11.1	
	677nm,24.5s,baz=273						
PPT	**Papeete**	**40.65**	**97**	*e*LR	LR	23 27 15.6	
	1μm,23.2s,baz=261						
MBWA	**Marble Bar**	**45.30**	**257**	*e*P	**P**	**23 16 16.9**	**+0.3**
	35nm,0.8s,mb5.2						
KLBR	**Kellerberrin**	**47.18**	**243**	*e*P	**P**	**23 16 30.8**	**-0.5**
	18nm,0.7s,mb5.1						
NWAO	**Narrogin (SRO)**	**47.75**	**241**	P	**P**	**23 16 35.4**	**-0.3**
	28nm,0.7s,mb5.4,baz=94,slow=5.0,SNR=20						
NWAO	**Narrogin (SRO)**	**47.75**	**241**	P	**P**	**23 16 35.4**	**-0.3**
TAOE	**Nuku Hiva Isla**	**51.34**	**87**	*e*LR	LR	23 32 10.9	
	3μm,23.2s						
RKT	**Rikitea**	**53.75**	**106**	*e*LR	LR	23 33 21.4	
	491nm,25.8s						
KSM	**Kuching**	**59.60**	**282**	*e*P	**P**	**23 18 01.9**	**-1.3**
VNDA	**Vanda**	**60.10**	**181**	*e*P	**P**	**23 18 05.7**	**-0.1**
	11nm,1.3s,mb4.7						
SBA	**Scott Base**	**60.37**	**180**	*e*P	**P**	**23 18 07.2**	**-0.5**
	25nm,1.0s,mb5.2						
MJAR	**Matsushiro Arr**	**60.57**	**333**	P	**P**	**23 18 07.6**	**-1.9**
	7.2nm,0.8s,mb4.9,baz=165,slow=7.9,SNR=12						
CASY	**Casey**	**61.14**	**203**	*e*P	**P**	**23 18 11.8**	**-1.2**
CN2	**Changchun**	**72.25**	**329**	*e*P	**P**	**23 19 23.3**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
QSPA	**South Pole Qui**	**72.53**	**180**⇑	*iP*	**P**	**23 19 25.6**	**+0.8**
	comp=Z,29nm,1.2s,mb5.1						
MAW	**Mawson**	**79.48**	**202**	P	**P**	**23 20 04.6**	**+0.4**
	comp=Z,3.6nm,0.9s,mb4.3,baz=35,slow=8.8,SNR=4.1						
GTA	**Gaotai**	**84.90**	**314**	*e*P	**P**	**23 20 34.0**	**+1.0**
GTA				AP	pP	23 20 40.5	+1.4
GTA				XP	sP	23 20 43.5	+2.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.6						
SONM	**Songino Array**	**84.99**	**324**	P	**P**	**23 20 34.0**	**+0.8**
	comp=Z,15nm,0.9s,mb5.1,baz=148,slow=7.1,SNR=26						
ILAR	**Eielson Array**	**89.03**	**18**	P	**P**	**23 20 51.7**	**-0.7**
	comp=Z,1.0nm,0.7s,mb4.3,baz=237,slow=5.4,SNR=4.1						
VNA3	**Neumayer Olymp**	**91.45**	**181**		**P**	**23 21 05.4**	**+1.8**
VNA3	**Neumayer Olymp**	**91.45**	**181**		**P**	**23 21 14.6**	**+11**
VNA2	**Neumayer--Watz**	**91.72**	**182**		**P**	**23 21 06.8**	**+2.0**
VNA2	**Neumayer--Watz**	**91.72**	**182**		**P**	**23 21 16.4**	**+12**
WMQ	**Urumqi**	**94.98**	**314**	*e*P	**P**	**23 21 21.0**	**+0.6**
MKAR	**Makanchi Array**	**99.51**	**316**	P	**P**	**23 21 41.0**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.5,baz=90,slow=6.1,SNR=7.8						
ZAL	**Zalesovo**	**99.89**	**323**	P	**P**	**23 21 42.2**	**-0.2**
	comp=Z,0.8nm,0.8s,mb4.2,baz=54,slow=6.2,SNR=4.4						
ARCES	**ARCESS Array B**	**123.04**	**345**	PKP	PKPdf	23 26 55.8	-0.9
	comp=Z,2.7nm,0.6s,baz=56,slow=0.8,SNR=8.8						
KMBO	**Kilima Mbogo**	**127.84**	**254**	PKP	PKPdf	23 27 05.3	-2.2
	comp=Z,1.8nm,1.0s,baz=74,slow=2.9,SNR=4.3						
LSZ	**Lusaka**	**128.49**	**233**	PKP	PKPdf	23 27 06.6	-2.0
	comp=Z,0.6nm,0.5s,baz=121,slow=4.7,SNR=3.5						
AKASG	**Malin Array Be**	**133.26**	**325**	PKP	PKPdf	23 27 12.5	-4.2
	comp=Z,0.3nm,0.4s,baz=64,slow=1.3,SNR=5.7						
AKASG	**Malin Array B**	**133.26**	**325**	PKP	PKPdf	23 27 12.5	-4.2
BRTR	**Keskin Array B**	**134.62**	**309**	PKP	PKPdf	23 27 15.6	-4.0
	comp=Z,1.9nm,1.0s,SNR=4.6						
KOLS	**Kolonicke sedl**	**138.00**	**326**	*e*PKP	PKPdf	23 27 21.0	-4.5
KOLS				*e*		23 27 34.6	
BRG	**Berggiesshubel**	**140.70**	**334**	*e*P	PKPdf	23 27 35.3	+5.0
KHC	**Kasperske Hory**	**142.15**	**332**	*e*PKP	PKPdf	23 27 29.0	-3.9
GERES	**GERESS Array B**	**142.30**	**332**	PKhKP		23 27 24.8	
	comp=Z,0.8nm,0.9s,slow=1.3,SNR=4.8						
KBA	**Koelnbreinsper**	**143.75**	**330**⇑	*iP*	PKPbc	23 27 30.0	-0.5
	comp=Z,9.6nm,0.9s						
TOD	**Tromm**	**143.75**	**337**	PKP	PKPdf	23 27 29.6	-6.0
ABH	**Alteburg**	**143.98**	**338**	PKP	PKPdf	23 27 30.4	-5.6
WTTA	**Wettenberg**	**144.41**	**332**⇓	*iP*	PKPbc	23 27 32.9	+0.5
	comp=Z,16nm,1.5s						
MOTA	**Moosalm**	**144.58**	**332**⇑	*iP*	PKPbc	23 27 32.8	-0.1
	comp=Z,15nm,1.0s						
SQTA	**Sankt Quirin**	**144.63**	**332**⇓	*iP*	PKPbc	23 27 33.3	+0.3
	comp=Z,15nm,1.0s						
GIVF	**Givet**	**144.70**	**341**	*e*PKP1	PKPbc	23 27 32.8	-0.4
BAIF	**Baives**	**144.93**	**341**	*e*PKP1	PKPbc	23 27 33.5	-0.3
	comp=Z,45nm,1.2s						
DAVA	**Damuels**	**145.16**	**333**⇑	*iP*	PKPbc	23 27 35.0	+0.5
	comp=Z,46nm,0.9s						
WLS	**Welschbruch**	**145.27**	**337**	PKP	PKPdf	23 27 35.0	-3.3
CDF	**Champ du Feu**	**145.30**	**337**⇑	*i*PKP1	PKPbc	23 27 35.2	+0.4
	comp=Z,83nm,0.9s						
FELD	**Feldberg**	**145.46**	**336**	PKP	PKPdf	23 27 35.4	-3.2
ECH	**Echery**	**145.51**	**337**	PKP	PKPdf	23 27 35.2	-3.5
DAVOX	**Davos**	**145.55**	**333**	PKPbc	PKPbc	23 27 36.8	+1.3
	comp=Z,32nm,0.9s,baz=42,slow=2.5,SNR=17						
MOF	**Molkenrain**	**145.82**	**337**	PKP	PKPdf	23 27 36.3	-3.0
HINF	**Hinteralfeld**	**145.96**	**337**	*e*PKP1	PKPbc	23 27 36.8	+0.4
	comp=Z,12nm,0.7s						
HAU	**Haudompre**	**145.99**	**337**⇑	*i*PKP1	PKPbc	23 27 37.1	+0.6
	comp=Z,36nm,1.0s						
MEZF	**Maizieres J'vi**	**146.02**	**339**⇑	*i*PKP1	PKPbc	23 27 37.6	+1.0
	comp=Z,67nm,1.1s						
TIP	**Timpagrande**	**146.79**	**316**	*e*PKP	PKPdf	23 27 39.2	-2.0
CII	**Carovilli**	**146.84**	**322**	*e*PKPbc	PKPbc	23 27 40.5	+1.8
AQU	**L'Aquila**	**146.96**	**324**	*e*PKPbc	PKPbc	23 27 41.0	+2.0
CABF	**La Chapelle**	**147.25**	**336**⇑	*i*PKP1	PKPdf	23 27 41.3	-0.4
	comp=Z,48nm,1.0s						
FLN	**La Foliniere**	**147.39**	**345**⇑	*i*PKP1	PKPdf	23 27 40.7	-1.2
	comp=Z,16nm,0.6s						
LDF	**La Druitiere**	**147.46**	**345**	*e*PKP1	PKPdf	23 27 40.9	-1.1
	comp=Z,23nm,0.8s						
LOR	**Lormes**	**147.49**	**339**⇑	*i*PKP1	PKPdf	23 27 41.4	-0.7
	comp=Z,31nm,1.1s						
SSF	**Saint Saulge**	**147.79**	**340**⇑	*i*PKP1	PKPdf	23 27 42.4	-0.1
	comp=Z,35nm,1.0s						
GRR	**Gorron**	**147.83**	**346**⇑	*i*PKP1	PKPdf	23 27 42.0	-0.6
	comp=Z,12nm,0.6s						
HYF	**Humbligny**	**147.89**	**341**	*e*PKP1	PKPdf	23 27 42.7	0.0
LPL	**La Plagne**	**147.89**	**334**⇑	*i*PKP1	PKPdf	23 27 43.1	+0.3
	comp=Z,32nm,1.0s						
LPG	**La Plagne**	**147.90**	**334**⇑	*i*PKP1	PKPdf	23 27 43.3	+0.5
	comp=Z,37nm,1.1s						
SMF	**Signal de Mont**	**148.04**	**339**	*e*PKP1	PKPdf	23 27 42.7	-0.3
	comp=Z,34nm,1.0s						
AVF	**Avril sur Loir**	**148.08**	**340**⇑	*i*PKP1	PKPdf	23 27 42.6	-0.4
	comp=Z,23nm,0.9s						
BNI	**Bardonecchia**	**148.29**	**334**	*e*PKPbc	PKPdf	23 27 44.0	+0.5
SGMF	**Saint Gilles**	**148.33**	**348**	*e*PKP1	PKPdf	23 27 43.2	-0.2
ROSF	**Rostrenen**	**148.39**	**349**	*e*PKP1	PKPdf	23 27 43.3	-0.2
	comp=Z,44nm,1.1s						
BGF	**Bois d'Agland**	**148.45**	**340**⇑	*i*PKP1	PKPdf	23 27 43.9	+0.3
	comp=Z,27nm,0.7s						
MBDF	**Montbardon**	**148.51**	**334**⇑	*i*PKP1	PKPdf	23 27 44.1	+0.3
	comp=Z,8.7nm,0.6s						
PLDF	**La Plantade**	**148.70**	**338**	PKP	PKPdf	23 27 45.3	+1.3
ORIF	**Oris-en-Rattie**	**148.73**	**335**⇑	*i*PKP1	PKPdf	23 27 44.9	+0.8
	comp=Z,26nm,0.9s						
SAOF	**Saorge**	**148.76**	**332**	PKP	PKPdf	23 27 44.7	+0.5
AUTN	**L'Aution**	**148.81**	**332**	PKP	PKPdf	23 27 45.1	+0.8
TOUF	**Mont Tournerai**	**148.87**	**332**	PKP	PKPdf	23 27 46.0	+1.6
TCF	**Toulx Ste Croi**	**148.89**	**340**⇑	*i*PKP1	PKPdf	23 27 45.2	+0.9
	comp=Z,74nm,1.4s						
SBF	**Sospel**	**148.91**	**332**	*e*PKP1	PKPdf	23 27 44.8	+0.4
	comp=Z,39nm,0.9s						
PYM	**Petit Puy Mans**	**149.10**	**339**	PKP	PKPdf	23 27 46.0	+1.3
PGF	**Pioggiola**	**149.16**	**328**⇑	*i*PKP1	PKPdf	23 27 45.9	+1.0
	comp=Z,76nm,0.9s						
VIVF	**Saint-Julien-l**	**149.26**	**336**⇑	*i*PKP1	PKPdf	23 27 46.3	+1.3
	comp=Z,38nm,1.3s						
MFF	**Saint Martin d**	**149.31**	**344**⇑	*i*PKP1	PKPdf	23 27 45.9	+0.9
	comp=Z,24nm,0.7s						
LBL	**Lubilhac**	**149.47**	**338**	PKP	PKPdf	23 27 47.7	+2.4
FRF	**La Foret Royal**	**149.50**	**332**⇑	*i*PKP1	PKPdf	23 27 46.4	+1.0
	comp=Z,28nm,1.0s						
SMRF	**Simiane la Rot**	**149.62**	**334**⇑	*i*PKP1	PKPdf	23 27 47.5	+1.9
	comp=Z,46nm,1.1s						
LMR	**La Mourre**	**149.74**	**332**⇑	*i*PKP1	PKPdf	23 27 47.2	+1.4
	comp=Z,35nm,0.9s						
RJF	**Les Rejaudoux**	**149.99**	**340**⇑	*i*PKP1	PKPdf	23 27 48.0	+1.9
	comp=Z,21nm,1.0s						
CAF	**Calviac**	**150.14**	**339**	*e*PKP1	PKPdf	23 27 48.3	+1.9
	comp=Z,26nm,1.0s						
LASF	**Ste Croix**	**150.23**	**336**⇑	*i*PKP1	PKPdf	23 27 48.8	+2.3
	comp=Z,38nm,0.9s						
LFF	**La Frestale**	**150.56**	**341**	*e*PKP1	PKPdf	23 27 49.3	+2.3
	comp=Z,29nm,1.0s						
MTLF	**Montolieu**	**151.47**	**338**	*e*PKP1	PKPdf	23 27 51.5	+3.1
	comp=Z,19nm,0.9s						
EPF	**Esparros**	**152.40**	**340**	*e*PKP1	PKPdf	23 27 53.7	+3.9
	comp=Z,35nm,1.2s						
ETSF	**Etsaut**	**152.81**	**341**	*e*PKP1	PKPdf	23 27 54.8	+4.4
	comp=Z,28nm,1.0s						

DHMR 25 23:11:34.3±2.7, 12.63N×40.56E, h6km±205km, ML3.9, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.51**	**80**	*i* P	Pn	23 12 32.3	+1.7
TRBA				*i* S	Sn	23 13 17.6	+4.5
TRBA				AML	AML	23 13 31.6	
	comp=N,574nm,0.6s						
UDYN	**Al 'Udayn**	**3.57**	**68**	*i* S	Sn	23 13 19.2	+4.7
UDYN				AML	AML	23 13 35.5	
	comp=Z,538nm,0.8s						
DHBB	**Dhamar BB**	**4.19**	**62**	*i* P	Pn	23 12 41.5	+1.2
DHBB				*i* S	Sn	23 13 33.9	+3.7
LBOS		**4.73**	**74**⇓	*iP*	Pn	23 12 46.4	-1.4
LBOS				*i* S	Sn	23 13 42.8	-1.0

*IDC **25** 23:35:28.8±1.2, 17.43S×167.89E, mb4.6/9, mb1 4.7/11, mb1mx4.6/15, mbtmp4.6/11, ML4.3/2, MS4.1/5, Ms1 4.1/5, ms1mx3.7/19, Error ellipse: s-maj=35.1km s-min=21.1km az=113.0*
*LDG **25** 23:35:30.8±0.1, 17.24S×167.62E, h10km, Mb4.8/2, Error ellipse: s-maj=20.0km s-min=4.1km az=97.0*
*NEIC **25** 23:35:33.1±0.4, 17.48S×167.86E, h30km, mb4.8/12, Error ellipse: s-maj=11.6km s-min=8.9km az=102.0*
ISC 25 23:35:32.1±0.7, 17.58S±0.05×167.7E±0.1, h33km, n69, σ1§12/31, mb4.7/17, MS4.0/4, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.63**	**195**	*e*P	**P**	**23 36 41.6**	**0.0**
DZM				*e*S	**S**	**23 37 33.0**	**-1.9**
DZM	**Mont Dzumac**	**4.63**	**195**	Pn	**Pn**	**23 36 42.2**	**+0.5**
	4.0nm,0.3s,baz=47,slow=17,SNR=30						
DZM				Sn	**Sn**	**23 37 34.0**	**-1.0**
	8.1nm,0.3s,baz=140,slow=19,SNR=4.0						
HNR	**Honiara**	**11.09**	**316**	Pn	**P**	**23 38 09.9**	**-1.7**
	8.2nm,0.3s,baz=231,slow=4.4,SNR=5.6						
HNR				LR	LR	23 41 31.6	
	comp=Z,544nm,18.0s,baz=

SSF	**Saint Saulge**	**147.86**	**340**	*e*PKP1	PKPdf	23 55 14.7	+3.9
	18nm,0.9s							
GRR	**Gorron**	**147.90**	**346**	*e*PKP1	PKPdf	23 55 14.3	+3.5
	22nm,1.2s							
LPL	**La Plagne**	**147.96**	**334**	*e*PKP1	PKPdf	23 55 15.5	+4.5
LPG	**La Plagne**	**147.97**	**334**	*e*PKP1	PKPdf	23 55 15.7	+4.7
	20nm,1.1s							
SMF	**Signal de Mont**	**148.10**	**339**	*e*PKP1	PKPdf	23 55 15.0	+3.8
	30nm,1.3s							
AVF	**Avril sur Loir**	**148.14**	**339**	*e*PKP1	PKPdf	23 55 15.0	+3.8
	10nm,1.0s							
MBDF	**Montbardon**	**148.58**	**334**	*e*PKP1	PKPdf	23 55 16.4	+4.4
ORIF	**Oris-en-Rattie**	**148.79**	**335**	*e*PKP1	PKPdf	23 55 17.3	+5.0
	9.7nm,0.8s							
TCF	**Toulx Ste Croi**	**148.96**	**340**	*e*PKP1	PKPdf	23 55 17.4	+4.8
SBF	**Sospel**	**148.97**	**332**	*e*PKP1	PKPdf	23 55 17.2	+4.5
PGF	**Pioggiola**	**149.23**	**328**	*e*PKP1	PKPdf	23 55 18.3	+5.2
	37nm,1.1s							
VIVF	**Saint-Julien-l**	**149.33**	**336**	*e*PKP1	PKPdf	23 55 18.5	+5.3
MFF	**Saint Martin d**	**149.37**	**344**	*e*PKP1	PKPdf	23 55 18.3	+5.1
	6.7nm,0.6s							
FRF	**La Foret Royal**	**149.56**	**332**	*e*PKP1	PKPdf	23 55 18.9	+5.3
	31nm,1.2s							
SMRF	**Simiane la Rot**	**149.69**	**334**	*e*PKP1	PKPdf	23 55 19.8	+6.0
LMR	**La Mourre**	**149.80**	**332**	*e*PKP1	PKPdf	23 55 19.5	+5.5
RJF	**Les Rejaudoux**	**150.06**	**340**	*e*PKP1	PKPdf	23 55 20.2	+5.9
	12nm,1.1s							
CAF	**Calviac**	**150.21**	**339**	*e*PKP1	PKPdf	23 55 20.8	+6.2
LASF	**Ste Croix**	**150.30**	**336**	*e*PKP1	PKPdf	23 55 20.9	+6.2
	38nm,1.3s							
LFF	**La Frestale**	**150.63**	**341**	*e*PKP1	PKPdf	23 55 21.6	+6.4
	34nm,1.1s							
EPF	**Esparros**	**152.47**	**340**	*e*PKP1	PKPdf	23 55 26.0	+8.0
ETSF	**Etsaut**	**152.88**	**341**	*e*PKP1	PKPdf	23 55 27.2	+8.6

IDC ***25*** *23:55:05.2±9.7,11.43N×40.43E,mb3.7/5,mb1 3.8/5, mb1mx3.7/16,mbtmp3.7/5,Error ellipse: s-maj=208.6km s-min=44.2km az=17.0*

DHMR ***25*** *23:55:09.8±0.6, 12.63N×40.41E,h12km±38km,ML4.0*

ISC 25 23:55:07.6±1.6,11.8N±0.2×40.66E±0.08,h10km,n10, σ1§02/15,mb3.6/5,2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.67**	**67**	*i* P		**Pn**	**23 56 09.0**	**+3.4**
TRBA				*i* S		**Sn**	**23 56 55.4**	**+5.9**
TRBA				AML		AML	23 57 10.6	
	comp=N,884nm,0.6s							
UDYN	**Al 'Udayn**	**3.88**	**56**	⇓*i* P		**Pn**	**23 56 10.0**	**+1.3**
UDYN				*i* S		**Sn**	**23 56 56.7**	**+1.7**
UDYN				AML		AML	23 57 22.5	
	comp=E,410nm,0.6s							
DHBB	**Dhamar BB**	**4.57**	**52**	*i* P		**Pn**	**23 56 17.9**	**-0.5**
DHBB				*i* S		**Sn**	**23 57 11.6**	**-0.6**
LBOS		**4.93**	**65**	⇓*e*P		**Pn**	**23 56 23.7**	**+0.1**
LBOS				*i* S		**Sn**	**23 57 21.0**	**-0.7**
BDHA	**Al Bayda'**	**5.26**	**65**	*e*P		**Pn**	**23 56 27.5**	**-0.7**
BDHA				*i* S		**Sn**	**23 57 28.6**	**-1.0**
BRTR	**Keskin Array B**	**28.51**	**349**	P		**P**	**00 01 06.2**	**+0.9**
	comp=E,0.9nm,0.9s,mb3.5,baz=188,slow=8.2,SNR=4.6							
GERES	**GERESS Array B**	**43.20**	**334**	P		**P**	**00 03 09.3**	**-1.1**
	comp=E,0.3nm,0.7s,mb3.1,baz=149,slow=11,SNR=3.4							
MKAR	**Makanchi Array**	**49.43**	**37**	P		**P**	**00 03 59.6**	**-0.1**
	comp=E,0.8nm,0.7s,mb3.9,baz=237,slow=6.3,SNR=6.2							
ZAL	**Zalesovo**	**54.60**	**30**	P		**P**	**00 04 37.5**	**-0.9**
	comp=E,0.6nm,0.2s,mb4.2,baz=186,slow=22,SNR=3.6							
SONM	**Songino Array**	**65.09**	**43**	P		**P**	**00 05 51.6**	**+0.9**
	comp=E,0.2nm,0.3s,mb3.6,baz=256,slow=5.9,SNR=4.1							

TRN 25 23:58:46.4,18.14N×61.84W,h21km,M3.6(FDF),1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.49**	**179**	⇓*i* P		Pb	23 58 58.9	+2.6
CPB				*e*S		Sb	23 59 06.7	+3.6
BPA	**Boggy Peak**	**1.08**	**181**	*e*P		Pb	23 59 08.2	+1.9
BPA				*e*S		Sb	23 59 23.4	+3.3
LZG	**Guadaloupe-1**	**1.98**	**178**	*e*P		Pn	23 59 20.4	+1.0
LZG				*e*S		Sn	23 59 46.6	+2.7
BCG	**Bois Riant Cap**	**2.05**	**174**	*e*P		Pn	23 59 21.1	+0.7

NNC ***26*** *00:05:06.2±2.5,41.49N×82.94E,mpv5.2,Error ellipse: s-maj=27.1km s-min=13.5km az=135.0*

LDG ***26*** *00:05:10.4,41.81N×82.59E,h10km*

IDC ***26*** *00:05:11.3±0.7,41.83N×82.74E,mb4.5/21,mb1 4.7/25, mb1mx4.6/27,mbtmp4.5/25,ML3.9/4,MS4.4/2,Ms1 4.4/2, ms1mx3.7/27,Error ellipse: s-maj=14.2km s-min=12.2km az=108.0*

MOS ***26*** *00:05:15.8±0.9,42.06N×82.59E,h33km,mb5.1/56,Error ellipse: s-maj=8.8km s-min=4.1km az=128.5*

BJI ***26*** *00:05:16.0,41.85N×82.65E,h42km,mB5.0,mb4.8,ML5.3, Ms4.7,Msz4.3*

CRAAG ***26*** *00:05:16.4,41.94N×82.57E,Mb5.0*

NEIC ***26*** *00:05:17.5±0.2,41.96N×82.59E,h35km,mb4.9/63,Error ellipse: s-maj=6.1km s-min=3.9km az=35.0*

ISC 26 00:05:16.0±0.6,41.93N±0.03×82.55E±0.03,h38km±5km, h30km±7.4km:pP-P,n279,σ1§14/283,mb4.8/92,MS4.2/13, 35C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.23**	**62**	⇓*i* P		**P**	**00 06 21.5**	**+1.8**
WMQ				AP			00 06 26.8	
WMQ				XP			00 06 29.0	
WMQ				S		**S**	**00 07 14.0**	**+5.5**
WMQ				LG1			00 07 30.0	
WMQ				Smax				
	comp=N,3μm,0.7s							
WMQ				Smax				
	comp=E,3μm,0.7s							
AAA	**Alma-Ata**	**4.34**	**290**	*e*PN		**P**	**00 06 26.6**	**+5.2**
AAA				*e*S		**S**	**00 07 24.3**	**+13**
AAA				pmax	pmax			
	comp=Z,709nm,0.7s							
AAA				smax				
	comp=E,18μm,1.9s							
AAA				MLR	MLR			
	comp=Z,8μm,3.6s							
ULHL	**Ulahol**	**4.70**	**276**	P		**P**	**00 06 26.2**	**-0.3**
	SNR=36							
MK31	**Makanchi Array**	**4.86**	**358**	Pn		**P**	**00 06 29.7**	**+1.0**
	comp=Z,448nm,0.8s,baz=178,slow=12,SNR=1321							
MK31				⇓Lg			00 07 53.1	
	comp=Z,2μm,0.8s,baz=177,slow=25,SNR=6.8							
MK31	**Makanchi Array**	**4.86**	**358**	Pn		**P**	**00 06 29.7**	**+1.0**
MK31				Lg			00 07 53.1	
MKAR	**Makanchi Array**	**4.86**	**358**	Pn		**P**	**00 06 30.0**	**+1.3**
	comp=Z,6.0nm,0.3s,baz=180,slow=14,SNR=368							
MKAR				Pg		**P**	**00 06 41.5**	**+13**
	comp=Z,24nm,0.3s,baz=176,slow=14,SNR=24							
MKAR				Sn		**S**	**00 07 26.8**	**+2.2**
	comp=Z,31nm,0.3s,baz=175,slow=16,SNR=4.2							
MKAR				Lg			00 07 53.8	
	comp=Z,59nm,0.3s,baz=199,slow=30,SNR=5.2							
TKM2	**Tokmak 2**	**5.24**	**283**	P		**P**	**00 06 34.5**	**+0.5**
	SNR=38							
KZA	**Kyzart**	**5.44**	**274**	P		**P**	**00 06 37.7**	**+0.9**
	SNR=13							
KSH	**Kashi**	**5.55**	**246**	*e*P		**P**	**00 06 38.5**	**+0.2**
KSH				S		**S**	**00 07 43.5**	**+1.8**
KSH				Smax				
	comp=N,2μm,0.9s							
KSH				Smax				
	comp=E,3μm,1.2s							
KBK	**Karagaybulak**	**5.68**	**280**	P		**P**	**00 06 40.3**	**+0.1**
	SNR=45							
CHMS	**Chumysh**	**5.86**	**283**	P		**P**	**00 06 47.0**	**+4.3**
	SNR=5.5							
FRU	**Bishkek**	**5.94**	**281**	*e*PN		**P**	**00 06 50.0**	**+6.2**
FRU				*i*			00 07 08.0	
FRU				pmax	pmax			
	comp=Z,360nm,1.8s							
UCH	**Uchtor**	**5.99**	**275**	P		**P**	**00 06 45.0**	**+0.6**
	SNR=18							
AAK	**Ala-Archa**	**6.01**	**279**	P		**P**	**00 06 44.8**	**-0.1**
	SNR=14							
AAK	**Ala-Archa**	**6.01**	**279**	⇑Pn		**P**	**00 06 44.7**	**-0.1**
	comp=Z,64nm,0.5s							
AAK				⇑Lg			00 08 25.7	
	comp=Z,317nm,1.0s							
USP	**Ospenovka**	**6.09**	**285**	P		**P**	**00 06 45.5**	**-0.3**
	SNR=25							
EKS2	**Erkin-Say**	**6.54**	**279**	P		**P**	**00 06 56.9**	**+4.6**
	SNR=11							
AML	**Almayashu**	**6.60**	**275**	P		**P**	**00 06 54.8**	**+1.8**
	SNR=7.3							
KK31	**Karatay Array**	**8.97**	**282**	Pn		**P**	**00 07 23.9**	**-2.2**
	comp=Z,13nm,0.7s,baz=95,slow=12,SNR=57							
KK31				⇓Lg			00 10 03.0	
	comp=Z,189nm,1.1s,baz=338,slow=83,SNR=5.3							
KK31	**Karatay Array**	**8.97**	**282**	Pn		**P**	**00 07 23.9**	**-2.2**
	comp=Z,13nm,0.6s							
KK31				Lg			00 10 03.0	
KURK	**Kurchatov**	**9.19**	**344**	Pn		**P**	**00 07 26.6**	**-2.5**
KURK				Lg			00 10 13.0	
KURK	**Kurchatov**	**9.19**	**344**	Pn		**P**	**00 07 26.6**	**-2.5**
KURK				Lg			00 10 13.0	
CHCP	**Chirah Chowk**	**11.05**	**225**	P		**P**	**00 07 49.8**	**-4.7**
CEP	**Cherat**	**11.66**	**229**	P		**P**	**00 07 57.2**	**-5.7**
ZAL	**Zalesovo**	**12.10**	**6**	Pn		**P**	**00 08 06.5**	**-2.3**
	comp=Z,1.7nm,0.3s,baz=282,slow=13,SNR=110							
ZAL				Sn		**S**	**00 10 19.9**	**-3.6**
	comp=Z,3.4nm,0.3s,baz=108,slow=17,SNR=2.4							
ZAL				Lg			00 11 39.9	
	comp=Z,1.1nm,0.3s,baz=210,slow=19,SNR=2.6							
ZAL	**Zalesovo**	**12.10**	**6**	Pn		**P**	**00 08 06.5**	**-2.3**
ZAL				Sn		**S**	**00 10 19.9**	**-3.6**
ZAL				Lg			00 11 39.9	
NVS	**Novosibirsk**	**12.92**	**2**	*e*P		**P**	**00 08 17.2**	**-2.5**
NVS				*e*S		**S**	**00 10 45.8**	**+2.6**
VOSK	**Vostochnaya**	**13.32**	**328**	⇑Pn		**P**	**00 08 21.9**	**-3.1**
	comp=Z,18nm,0.8s							
VOSK				⇓Lg			00 12 25.4	
	comp=Z,274nm,1.5s							
VOSK	**Vostochnaya**	**13.32**	**328**	⇑Pn		**P**	**00 08 21.9**	**-3.1**
	comp=Z,18nm,0.8s							
VOSK				Lg			00 12 25.4	
GTA	**Gaotai**	**13.35**	**95**	*e*P		**P**	**00 08 21.5**	**-3.8**
GTA				AP			00 08 28.5	
GTA				AMB	AMB			
	comp=Z,9.0nm,2.0s							
GTA				AMB	AMB			
	comp=Z,142nm,4.2s							
GTA				LR	LR			
	comp=N,1μm,11.4s							
GTA				LR	LR			
	comp=E,943nm,9.1s							
GTA				LR	LR			
	comp=Z,813nm,9.5s							
BVA0	**Borovoye Array**	**13.79**	**328**	⇑Pn		**P**	**00 08 31.4**	**+0.5**
	comp=Z,5.1nm,1.1s,baz=224,slow=39,SNR=26							
BVA0				⇑Sn		**S**	**00 11 13.7**	**+10**
	comp=Z,8.4nm,1.0s							
BVA0				⇑Lg			00 12 40.4	
	comp=Z,30nm,1.7s,baz=138,slow=28,SNR=4.0							
BVA0	**Borovoye Array**	**13.79**	**328**	⇑Pn		**P**	**00 08 31.4**	**+0.5**
	comp=Z,5.1nm,1.1s							
BVA0				Sn		**S**	**00 11 13.7**	**+10**
BVA0				Lg			00 12 40.4	
BVAR	**Borovoye Array**	**13.79**	**328**	Pn		**P**	**00 08 30.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=129,slow=9.5,SNR=12							
BRVK	**Borovoye**	**13.85**	**328**	*e*Pn		**P**	**00 08 32.7**	**+0.9**
	comp=Z,19nm,0.9s							
BRVK				*e*Sn		**S**	**00 11 09.5**	**+4.2**
BRVK	**Borovoye**	**13.85**	**328**	*e*P		**P**	**00 08 32.7**	**+0.9**
BRVK				*e*			00 11 09.5	
BRVK				pmax	pmax			
	comp=Z,19nm,0.9s							
LSA	**Lhasa**	**14.05**	**148**	P		**P**	**00 08 33.5**	**-1.0**
LSA				LR	LR			
	comp=N,530nm,15.4s							
LSA				LR	LR			
	comp=E,550nm,13.7s							
LSA				LR	LR			
	comp=Z,950nm,15.9s							
LSA	**Lhasa**	**14.05**	**148**	*e*Pn		**P**	**00 08 35.2**	**+0.7**
	comp=Z,53nm,0.8s							
LSA				*e*Sn		**S**	**00 11 22.1**	**+12**
LSA	**Lhasa**	**14.05**	**148**	*e*P		**P**	**00 08 35.2**	**+0.7**
LSA				*e*			00 11 22.1	
LSA				pmax	pmax			
	comp=Z,53nm,0.8s							
CHKZ	**Chkalovo**	**14.20**	**330**	⇑Pn		**P**	**00 08 34.4**	**-1.9**
	comp=Z,22nm,0.8s							
CHKZ				⇑Lg			00 12 52.9	
	comp=Z,285nm,1.8s							
CHKZ	**Chkalovo**	**14.20**	**330**	⇑Pn		**P**	**00 08 34.4**	**-1.9**
CHKZ				Lg			00 12 52.9	
ZAK	**Zakamensk**	**16.62**	**52**	⇓*i* P		**P**	**00 09 06.7**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,19nm,1.0s							
AJM	**Ajmer**	**16.73**	**205**	*i* x		x	00 09 03.0	
AB31	**Akbulak array**	**17.39**	**303**	⇓P		**P**	**00 09 15.1**	**-2.1**
	comp=Z,16nm,0.8s,baz=102,slow=9.6,SNR=79							
AB31	**Akbulak array**	**17.39**	**303**	⇓P		**P**	**00 09 15.1**	**-2.1**
AB31				pmax	pmax			
	comp=Z,16nm,0.8s							
LZH	**Lanzhou**	**17.53**	**102**	*e*P		**P**	**00 09 18.0**	**-1.1**
LZH				AP			00 09 22.5	
LZH				PP	PP		00 09 33.0	-0.7
LZH				*e*S		**S**	**00 12 35.0**	**+4.1**
LZH				XS			00 12 41.3	
LZH				AMB	AMB			
	comp=Z,40nm,1.1s							
LZH				AMB	AMB			
	comp=Z,400nm,4.5s							
LZH				LR	LR			
	comp=E,3μm,10.7s							
LZH				LR	LR			
	comp=Z,3μm,11.5s							
LZH	**Lanzhou**	**17.53**	**102**	*e*P		**P**	**00 09 18.1**	**-1.0**
	comp=Z,40nm,1.1s							
LZH				pP			00 09 22.4	
LZH				sP			00 09 24.8	
LZH				PP	PP		00 09 33.0	-0.7
LZH				*e*S		**S**	**00 12 35.0**	**+4.1**
LZH				sS			00 12 41.3	
LZH				SS	SS		00 12 58.0	+4.6
LZH	**Lanzhou**	**17.53**	**102**	*e*P		**P**	**00 09 18.1**	**-1.0**
LZH				*e*S		**S**	**00 12 35.0**	**+4.1**
LZH				pmax	pmax			
	comp=Z,40nm,1.1s							
SONM	**Songino Array**	**17.86**	**63**	P		**P**	**00 09 22.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=251,slow=8.1,SNR=16							
SONM				LR	LR		00 16 58.7	
	comp=Z,264nm,18.3s,baz=252,slow=40							
SHL	**Shillong**	**18.06**	**152**	*e*P		**P**	**00 09 23.5**	**-2.2**
SHL				*e*S		**S**	**00 12 47.0**	**+4.2**
AKTK	**Aktyubinsk**	**18.93**	**305**	⇑P		**P**	**00 09 33.8**	**-2.3**
AKTO	**Aktyubinsk**	**18.93**	**305**	⇑P		**P**	**00 09 33.8**	**-2.3**
	comp=Z,4.4nm,1.2s							
BHPL	**Bhopal**	**19.13**	**195**	*e*P		**P**	**00 09 40.2**	**+1.6**
BHPL				AMb	AMB		00 09 41.9	
	comp=Z,21nm,0.8s							
BLSP	**Bilaspur**	**19.75**	**181**	*e*P		**P**	**00 09 43.5**	**-2.0**
BLSP				AMb	AMB		00 09 49.0	
	comp=Z,60nm,0.8s							
CAL	**Calcutta**	**19.94**	**164**	*ex*		x	00 13 58.5	
CAL				*ex*		x	00 15 02.9	
CD2				*e*P		**P**	**00 09 50.0**	**-0.8**
CD2				PP	PP		00 10 10.3	-1.0
CD2				PPP	PPP		00 10 19.3	-1.2
CD2				S		**S**	**00 13 30.0**	**-0.9**
CD2				SS	SS		00 13 59.3	-1.6
CD2				AMB	AMB			
	comp=Z,40nm,1.3s							
CD2				LR	LR			
	comp=E,690nm,13.2s							
CD2				LR	LR			
	comp=Z,680nm,9.0s							
ARU	**Arti**	**21.20**	**321**	*e*P		**P**	**00 09 59.6**	**-0.7**
	comp=Z,43nm,0.9s,mb4.8							
ARU	**Arti**	**21.20**	**321**	⇓*i* P		**P**	**00 09 59.4**	**-0.9**
ARU				*e*			00 10 20.1	
ARU				*e*S		**S**	**00 13 55.1**	**+6.2**
ARU				*e*SS		SS	00 14 21.0	-2.6
ARU				pmax	pmax			
	comp=Z,47nm,1.0s,mb4.8							
ARU				MLR	MLR			
	comp=Z,500nm,15.0s,MS4.0							
ARU				MLR	MLR			
	comp=N,300nm,16.0s,MS3.9							
ARU				MLR	MLR			
	comp=E,300nm,16.0s,MS3.9							
HHC	**Hu-ho-hao-te**	**21.76**	**83**	*e*P		**P**	**00 10 07.0**	**+1.0**
HHC				AP			00 10 16.3	
HHC				XP			00 10 20.5	
HHC				PP	PP		00 10 32.5	+0.9
HHC				S		**S**	**00 14 01.3**	**+1.9**
HHC				PCP	PcP		00 14 07.5	+1.2
HHC				XS			00 14 14.8	
HHC				SS	SS		00 14 39.0	+1.4
HHC				SCP			00 17 41.0	
HHC				AMB	AMB			
	comp=Z,18nm,0.9s,mb4.5							
HHC				AMB	AMB			
	comp=Z,254nm,3.1s							
HHC				LR	LR			
	comp=N,439nm,9.5s							
HHC				LR	LR			
	comp=E,494nm,8.7s							
HHC				LR	LR			
	comp=Z,468nm,11.1s,MS4.2							
XAN	**Xi'an**	**22.17**	**102**	P		**P**	**00 10 09.0**	**-1.2**
XAN				AMB	AMB			
	comp=Z,15nm,0.9s,mb4.4							
XAN				LR	LR			
	comp=N,657nm,14.4s,MS4.3							
XAN				LR	LR			
	comp=E,458nm,14.6s,MS4.3							
XAN				LR	LR			
	comp=Z,399nm,14.2s,MS4.0							
KMI	**Kunming**	**23.66**	**129**	P		**P**	**00 10 27.8**	**+3.0**
KMI				AP			00 10 35.0	
KMI				XP			00 10 39.0	
KMI				PP	PP		00 10 59.8	+1.7
KMI				S		**S**	**00 14 35.8**	**+2.1**
KMI				AMB	AMB			
	comp=Z,29nm,0.7s,mb4.8							
KMI	**Kunming**	**23.66**	**129**	P		**P**	**00 10 27.7**	**+2.9**
	comp=Z,29nm,0.7s,mb4.8							
KMI				pP			00 10 35.0	
KMI				sP			00 10 39.1	
KMI				PP	PP		00 10 59.8	+1.7
KMI				S		**S**	**00 14 35.7**	**+2.0**
KMI				SS	SS		00 15 26.8	+3.1
KMI				pmax	pmax			
	comp=Z,29nm,0.7s,mb4.8							
KMI				MLR	MLR			
	comp=Z,130nm,18.4s,MS3.4							
KMI	**Kunming**	**23.66**	**129**	P		**P**	**00 10 27.7**	**+2.9**
KMI				*PP			00 10 35.0	
KMI				*SP			00 10 39.1	
KMI							00 10 59.8	
KMI				S		**S**	**00 14 35.7**	**+2.0**
KMI				SS	SS		00 15 26.8	+3.1
KMI				pmax	pmax			
	comp=Z,29nm,0.7s,mb4.8							
KMI				MLR	MLR			
	comp=Z,130nm,18.4s,MS3.4							
SOKR	**Solikamsk**	**23.77**	**327**	⇑*i* P		**P**	**00 10 33.9**	**+8.4**
SOKR				pmax	pmax			
	comp=Z,30nm,0.9s,mb4.7							
VIS	**Vishakhapatnam**	**24.14**	**178**	*e*P		**P**	**00 10 29.2**	**-0.4**
VIS				AMb	AMB		00 10 35.0	
	comp=Z,31nm,1.6s,mb4.5							
ENH	**Enshi**	**24.58**	**110**	*e*P		**P**	**00 10 34.3**	**+0.6**
	comp=Z,33nm,0.8s,mb4.9							
HYB	**Hyderabad**	**24.67**	**189**	*i* P		**P**	**00 10 37.5**	**+2.8**
HYB	**Hyderabad**	**24.67**	**189**	*e*P		**P**	**00 10 37.5**	**+2.8**
GYA	**Guiyang**	**25.10**	**120**	⇓*i* P		**P**	**00 10 39.0**	**+0.2**
GYA				AP		pP	00 10 48.5	-0.5
GYA				XP		sP	00 10 52.8	-0.5
GYA				PP	PP		00 11 16.0	-1.2
GYA				S		**S**	**00 14 56.5**	**-1.7**
GYA				XS			00 15 11.8	
GYA				SS	SS		00 15 54.5	-4.8
GYA				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.6							
GYA				AMB	AMB			
	comp=Z,90nm,3.0s							
GYA				LR	LR			
	comp=N,380nm,16.4s,MS4.2							
GYA				LR	LR			
	comp=E,570nm,16.8s,MS4.2							
GYA				LR	LR			
	comp=Z,610nm,16.3s,MS4.2							
BOD	**Bodaibo**	**25.44**	**41**	*e*P		**P**	**00 10 41.9**	**+0.3**
BOD				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.4							
KAD	**Karad**	**25.57**	**199**	*e*P		**P**	**00 10 45.9**	**+2.6**
HIA	**Hailar**	**26.82**	**61**	*e*P		**P**	**00 10 58.6**	**+4.1**
	comp=Z,9.1nm,1.3s,mb4.2							
HIA	**Hailar**	**26.82**	**61**	*e*P		**P**	**00 10 58.6**	**+4.1**
HIA				pmax	pmax			
	comp=Z,9.0nm,1.3s							
GNI	**Garni**	**28.42**	**279**	P		**P**	**00 11 11.6**	**+2.5**
	comp=Z,2.1nm,0.6s,mb4.0,slow=10,SNR=2.8							
GNI	**Garni**	**28.42**	**279**	*e*P		**P**	**00 11 11.7**	**+2.6**
	comp=Z,14nm,1.1s,mb4.5							
GNI	**Garni**	**28.42**	**279**	*e*P		**P**	**00 11 11.7**	**+2.6**
GNI				pmax	pmax			
	comp=Z,14nm,1.1s							
KIV	**Kislovodsk**	**29.06**	**288**	*e*P		**P**	**00 11 12.9**	**-1.8**
KIV				pmax	pmax			
	comp=N,7.0nm,1.1s							
KIV				pmax	pmax			
	comp=E,6.0nm,1.1s							
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.3							
KIV				MLR	MLR			
	comp=N,94nm,16.0s							
KIV				MLR	MLR			
	comp=Z,202nm,16.0s,MS3.8							
CN2	**Changchun**	**31.24**	**72**	*e*P		**P**	**00 11 36.5**	**+2.3**
CN2				*e*XP		sP	00 11 51.0	+1.4
CN2				*e*S		**S**	**00 16 39.5**	**+2.7**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8							
CN2				AMB	AMB			
	comp=Z,300nm,3.0s							
CN2				LR	LR			
	comp=N,400nm,12.0s,MS4.5							
CN2				LR	LR			
	comp=E,500nm,12.0s,MS4.5							
CN2				LR	LR			
	comp=Z,600nm,13.0s,MS4.5							
OBN	**Obninsk**	**32.56**	**310**	*e*P		**P**	**00 11 49.4**	**+3.9**
OBN	**Obninsk**	**32.56**	**310**	*e*P		**P**	**00 11 42.5**	**-3.1**
OBN				*e*			00 11 49.0	
OBN				pmax	pmax			
	comp=Z,27nm,2.5s,mb4.7							
OBN				MLR	MLR			
	comp=Z,300nm,18.0s,MS4.0							
SSE	**Sheshan**	**32.64**	**97**	P		**P**	**00 11 41.8**	**-4.7**
SSE				AMB	AMB			
	comp=Z,42nm,0.7s,mb5.5							
SSE				AMB	AMB			
	comp=Z,393nm,5.1s							
SSE	**Sheshan**	**32.64**	**97**	P		**P**	**00 11 41.7**	**-4.8**
	comp=Z,42nm,0.7s,m

KAF	**Kangasniemi**	**38.51**	**321**	*e*P		**P**	**00 12 34.2**	**-1.8**
KAF				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.2							
FINES	**FINES Array B**	**38.56**	**320**	P		**P**	**00 12 36.3**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=9.6							
CFR	**Carcaliu**	**38.94**	**294**	⇑P		**P**	**00 12 39.5**	**-0.3**
KEV	**Kevo**	**39.55**	**333**	*e*p		**P**	**00 12 43.7**	**-0.9**
	comp=Z,12nm,0.7s,mb4.7							
KEV	**Kevo**	**39.55**	**333**	*e*P		**P**	**00 12 43.7**	**-0.9**
KEV				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.7							
VRI	**Vrincioaia**	**39.72**	**295**	⇑P		**P**	**00 12 50.3**	**+4.1**
ARCES	**ARCESS Array B**	**40.00**	**333**	P		**P**	**00 12 49.1**	**+0.7**
	comp=Z,11nm,0.7s,mb4.7,baz=98,slow=8.6,SNR=19							
ARE0	**ARCESS Array S**	**40.00**	**333**	*e*P		**P**	**00 12 49.1**	**+0.8**
BURAR	**Bucovina Array**	**40.29**	**298**	⇓P		**P**	**00 12 51.3**	**+0.3**
BURAR	**Bucovina Array**	**40.29**	**298**	⇓P		**P**	**00 12 51.3**	**+0.4**
MLR	**Muntele Rosu**	**40.35**	**295**	P		**P**	**00 12 52.3**	**+0.8**
	baz=144,slow=13							
MLR	**Muntele Rosu**	**40.35**	**295**	⇑P		**P**	**00 12 53.2**	**+1.7**
MLR	**Muntele Rosu**	**40.35**	**295**	⇑P		**P**	**00 12 53.2**	**+1.7**
VOIR		**40.97**	**295**	⇑P		**P**	**00 12 58.9**	**+2.3**
KOLS	**Kolonicke sedl**	**41.89**	**301**	*e*P		**P**	**00 13 02.8**	**-1.2**
DRGR		**42.16**	**298**	⇑P		**P**	**00 13 05.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**42.35**	**62**	P		**P**	**00 13 10.2**	**+2.3**
YSS				MLR		MLR		
	comp=E,500nm,12.0s							
YSS				MLR		MLR		
	comp=Z,500nm,12.0s,MS4.6							
STHS	**Stebnicka Huta**	**42.42**	**302**	*e*P		**P**	**00 13 07.5**	**-0.9**
MJAR	**Matsushiro Arr**	**42.81**	**78**	P		**P**	**00 13 10.2**	**-1.6**
	comp=Z,2.3nm,0.8s,mb4.0,baz=295,slow=11,SNR=4.2							
NIE	**Niedzica**	**43.01**	**302**	*e*P		**P**	**00 13 15.1**	**+1.9**
OJC	**Ojcow**	**43.14**	**303**	*e*P		**P**	**00 13 14.6**	**+0.4**
KECS	**Kecovo**	**43.15**	**301**	*e*P		**P**	**00 13 15.3**	**+1.0**
VYHS	**Vyhne**	**44.20**	**301**	*e*P		**P**	**00 13 23.8**	**+1.0**
OKC	**Ostrava-Krasne**	**44.27**	**303**	*e*P		**P**	**00 13 24.2**	**+0.8**
HFS	**Hagfors**	**44.67**	**318**	P		**P**	**00 13 26.3**	**-0.2**
	comp=Z,6.4nm,0.7s,mb4.5,baz=91,slow=7.9,SNR=19							
IDI	**Anoyia**	**44.81**	**281**	P		**P**	**00 13 27.3**	**-0.6**
	comp=Z,16nm,0.8s,mb4.9,baz=38,slow=9.5,SNR=15							
SMOL	**Smolenice**	**45.09**	**302**	*e*P		**P**	**00 13 31.5**	**+1.5**
DPC	**Dobruska-Polom**	**45.26**	**304**	*e*P		**P**	**00 13 32.2**	**+0.9**
DPC				*ex*		x	00 13 35.7	
VRAC	**Vranov**	**45.38**	**303**	P		**P**	**00 13 32.6**	**+0.3**
	comp=Z,4.9nm,0.4s,mb4.7,baz=123,slow=20,SNR=6.4							
ZST	**Bratislava**	**45.39**	**301**	*e*P		**P**	**00 13 36.6**	**+4.2**
UPC	**Upice**	**45.41**	**305**	*e*P		**P**	**00 13 33.4**	**+0.9**
UPC				*ex*		x	00 13 37.1	
NB2	**NORSAR Subarra**	**45.75**	**320**	P		**P**	**00 13 34.8**	**-0.3**
	comp=Z,8.4nm,0.8s,mb4.7,baz=80,slow=7.9							
NB2	**NORSAR Subarra**	**45.75**	**320**	P		**P**	**00 13 34.8**	**-0.3**
NB2				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
NOA	**NORSAR Array B**	**45.75**	**320**	P		**P**	**00 13 34.9**	**-0.1**
	comp=Z,6.0nm,0.7s,mb4.7,baz=81,slow=7.8,SNR=28							
TREC	**Trest**	**46.08**	**303**	*e*P		**P**	**00 13 39.0**	**+1.1**
TREC				*ex*		x	00 13 42.8	
PVCC	**Panska Ves**	**46.28**	**305**	*e*P		**P**	**00 13 40.4**	**+1.0**
PVCC				*ex*		x	00 13 44.1	
PRU	**Pruhonice**	**46.46**	**304**	*e*P		**P**	**00 13 41.6**	**+0.8**
PRU				*ex*		x	00 13 45.0	
BRG	**Berggiesshubel**	**46.56**	**306**	*e*P		**P**	**00 13 42.2**	**+0.6**
	comp=Z,4.5nm,0.9s,mb4.4							
BRG	**Berggiesshubel**	**46.56**	**306**	*e*P		**P**	**00 13 42.2**	**+0.6**
BRG				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
CLL	**Collm**	**47.00**	**306**	⇑P		**P**	**00 13 45.4**	**+0.4**
	comp=Z,logA/T=1.1,mb4.8							
CLL				*i*			00 13 49.0	
CLL				*i* *SP		sP	00 13 58.7	-1.8
CLL	**Collm**	**47.00**	**306**	⇑*i*P		**P**	**00 13 45.4**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.8							
CLL				*i* pP		pP	00 13 49.0	-6.9
CLL				*i* sP		sP	00 13 58.7	-1.8
CLL	**Collm**	**47.00**	**306**	⇑*i*P		**P**	**00 13 45.4**	**+0.4**
CLL				*i* *SP		sP	00 13 58.7	-1.8
CLL				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
PERS	**Pernice**	**47.17**	**300**	*i* P		**P**	**00 13 46.6**	**+0.1**
KHC	**Kasperske Hory**	**47.32**	**303**	*e*P		**P**	**00 13 48.3**	**+0.7**
KHC				*ex*		x	00 13 51.9	
GEC2	**GERESS Array S**	**47.34**	**303**	*e*P		**P**	**00 13 48.5**	**+0.8**
	comp=Z,8.0nm,1.0s,mb4.6							
GEC2	**GERESS Array S**	**47.34**	**303**	*e*P		**P**	**00 13 48.5**	**+0.8**
GEC2				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
GERES	**GERESS Array B**	**47.34**	**303**	P		**P**	**00 13 48.6**	**+0.9**
	comp=Z,3.1nm,0.8s,mb4.3,baz=68,slow=7.2,SNR=22							
VISS	**Visnje**	**47.64**	**299**	*e*P		**P**	**00 13 50.3**	**+0.1**
NKC	**Novy Kostel**	**47.67**	**305**	*e*P		**P**	**00 13 48.8**	**-1.5**
NKC				*ex*		x	00 13 54.4	
WET	**Wettzell**	**47.75**	**304**	*e*P		**P**	**00 13 51.7**	**+0.7**
	comp=Z,16nm,1.2s,mb4.9							
WET	**Wettzell**	**47.75**	**304**	*e*P		**P**	**00 13 51.7**	**+0.7**
WET				pmax		pmax		
	comp=Z,16nm,1.2s,mb4.9							
BSEG	**Bad Segeberg**	**47.81**	**311**	*e*P		**P**	**00 13 52.4**	**+1.0**
MOX	**Moxa**	**48.04**	**306**	*i* P		**P**	**00 13 53.8**	**+0.6**
	comp=Z,logA/T=1.1,mb4.9							
MOX	**Moxa**	**48.04**	**306**	*e*P		**P**	**00 13 53.8**	**+0.6**
	comp=Z,17nm,1.5s,mb4.8							
MOX	**Moxa**	**48.04**	**306**	*e*P		**P**	**00 13 53.8**	**+0.6**
MOX				pmax		pmax		
	comp=Z,17nm,1.5s,mb4.8							
ROBS	**Robic**	**48.35**	**300**	*e*P		**P**	**00 13 58.5**	**+2.9**
CLZ	**Clausthal**	**48.41**	**308**	*e*P		**P**	**00 13 56.8**	**+0.8**
	comp=Z,14nm,1.3s,mb4.8							
CLZ	**Clausthal**	**48.41**	**308**	*e*P		**P**	**00 13 56.8**	**+0.8**
CLZ				pmax		pmax		
	comp=Z,14nm,1.3s,mb4.8							
GRA1	**Grafenberg Arr**	**48.59**	**305**	*e*P		**P**	**00 13 58.6**	**+1.1**
	comp=Z,28nm,1.2s,mb5.2							
GRF	**Grafenberg Arr**	**48.59**	**305**	*e*P		**P**	**00 13 58.6**	**+1.1**
	comp=Z,28nm,1.2s,mb5.2							
GRF	**Grafenberg Arr**	**48.59**	**305**	*e*P		**P**	**00 13 58.6**	**+1.1**
GRF				pmax		pmax		
	comp=Z,28nm,1.2s,mb5.2							
GRF	**Grafenberg Arr**	**48.59**	**305**	*e*P		**P**	**00 13 58.6**	**+1.1**
GRF				pmax		pmax		
	comp=Z,28nm,1.2s,mb5.2							
TIP	**Timpagrande**	**48.95**	**290**	*e*P		**P**	**00 14 00.4**	**0.0**
WTTA	**Wattenberg**	**49.18**	**302**	⇑*i*P		**P**	**00 14 02.6**	**+0.5**
	comp=Z,25nm,1.0s,mb5.2							
WTTA	**Wattenberg**	**49.18**	**302**	*i* P		**P**	**00 14 02.6**	**+0.5**
	comp=Z,25nm,1.0s,mb5.2,SNR=14							
WTTA	**Wattenberg**	**49.18**	**302**	⇑*i*P		**P**	**00 14 02.6**	**+0.5**
WTTA				pmax		pmax		
	comp=Z,25nm,1.0s,mb5.2							
WATA	**Walderalm**	**49.19**	**302**	⇑*i*P		**P**	**00 14 02.9**	**+0.7**
	comp=Z,11nm,1.0s,mb4.8							
WATA	**Walderalm**	**49.19**	**302**	⇑*i*P		**P**	**00 14 02.9**	**+0.7**
WATA				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.8							
SQTA	**Sankt Quirin**	**49.47**	**302**	⇑*i*P		**P**	**00 14 04.5**	**+0.2**
	comp=Z,7.1nm,0.9s,mb4.7							
SQTA	**Sankt Quirin**	**49.47**	**302**	⇑*i*P		**P**	**00 14 04.5**	**+0.2**
SQTA				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
MOTA	**Moosalm**	**49.49**	**302**	⇑*i*P		**P**	**00 14 04.6**	**+0.2**
	comp=Z,16nm,1.0s,mb5.0							
MOTA	**Moosalm**	**49.49**	**302**	*i* P		**P**	**00 14 04.6**	**+0.2**
	comp=Z,16nm,1.0s,mb5.0,SNR=19							
MOTA	**Moosalm**	**49.49**	**302**	⇑*i*P		**P**	**00 14 04.6**	**+0.2**
MOTA				pmax		pmax		
	comp=Z,16nm,1.0s,mb5.0							
DAVOX	**Davos**	**50.48**	**302**	P		**P**	**00 14 12.2**	**+0.2**
	comp=Z,8.5nm,0.7s,mb4.9,baz=77,slow=8.3,SNR=15							
VAE	**Valguarnera**	**51.36**	**289**	P		**P**	**00 14 20.9**	**+2.1**
	comp=Z,3.6nm,0.7s,mb4.4,baz=29,slow=3.9,SNR=2.4							
CDF	**Champ du Feu**	**51.47**	**305**	*e*P		**P**	**00 14 18.7**	**-0.8**
	comp=Z,24nm,1.1s,mb4.8							
CDF	**Champ du Feu**	**51.47**	**305**	*e*P		**P**	**00 14 18.7**	**-0.8**
CDF				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.7							
HINF	**Hinteralfeld**	**51.97**	**304**	*e*P		**P**	**00 14 22.5**	**-0.7**
	comp=Z,17nm,0.9s,mb4.7							
HINF	**Hinteralfeld**	**51.97**	**304**	*e*P		**P**	**00 14 22.5**	**-0.7**
HINF				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.7							
HAU	**Haudompre**	**52.20**	**304**	*e*P		**P**	**00 14 24.6**	**-0.4**
	comp=Z,23nm,1.2s,mb4.7							
HAU	**Haudompre**	**52.20**	**304**	*e*P		**P**	**00 14 24.6**	**-0.4**
HAU				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.7							

BAIF	**Baives**	**52.68**	**307**	*e*P		**P**	**00 14 27.9**	**-0.6**
	comp=Z,13nm,0.8s,mb4.6							
BAIF	**Baives**	**52.68**	**307**	*e*P		**P**	**00 14 27.9**	**-0.6**
BAIF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
PGF	**Pioggiola**	**52.79**	**297**	*e*P		**P**	**00 14 29.2**	**-0.3**
	comp=Z,16nm,1.0s,mb4.6							
PGF	**Pioggiola**	**52.79**	**297**	*e*P		**P**	**00 14 29.2**	**-0.3**
PGF				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
MEZF	**Maizieres J'vi**	**52.80**	**305**	*e*P		**P**	**00 14 28.9**	**-0.5**
	comp=Z,81nm,1.0s,mb5.3							
CABF	**La Chapelle**	**52.94**	**303**	*e*P		**P**	**00 14 30.2**	**-0.3**
LPG	**La Plagne**	**52.98**	**301**	*e*P		**P**	**00 14 31.0**	**+0.1**
	comp=Z,51nm,0.8s,mb5.2							
LPG	**La Plagne**	**52.98**	**301**	*e*P		**P**	**00 14 31.0**	**+0.1**
LPG				pmax		pmax		
	comp=Z,26nm,0.8s,mb5.2							
LPL	**La Plagne**	**52.99**	**301**	*e*P		**P**	**00 14 31.0**	**+0.1**
	comp=Z,66nm,0.8s,mb5.3							
LPL	**La Plagne**	**52.99**	**301**	*e*P		**P**	**00 14 31.0**	**+0.1**
LPL				pmax		pmax		
	comp=Z,33nm,0.8s,mb5.3							
BNI	**Bardonecchia**	**53.22**	**301**	*e*P		**P**	**00 14 32.2**	**-0.5**
	comp=Z,18nm,0.9s,mb5.0							
BNI	**Bardonecchia**	**53.22**	**301**	*e*P		**P**	**00 14 32.2**	**-0.4**
BNI				pmax		pmax		
	comp=Z,18nm,0.9s,mb5.0							
SBF	**Sospel**	**53.24**	**299**	*e*P		**P**	**00 14 32.2**	**-0.6**
	comp=Z,32nm,0.7s,mb5.0							
SBF	**Sospel**	**53.24**	**299**	*e*P		**P**	**00 14 32.2**	**-0.6**
SBF				pmax		pmax		
	comp=Z,16nm,0.7s,mb5.1							
MBDF	**Montbardon**	**53.30**	**300**	*e*P		**P**	**00 14 33.0**	**-0.2**
	comp=Z,24nm,0.7s,mb4.9							
MBDF	**Montbardon**	**53.30**	**300**	*e*P		**P**	**00 14 33.0**	**-0.2**
MBDF				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.9							
ORIF	**Oris-en-Rattie**	**53.79**	**301**	*e*P		**P**	**00 14 36.3**	**-0.5**
	comp=Z,27nm,0.7s,mb5.0							
ORIF	**Oris-en-Rattie**	**53.79**	**301**	*e*P		**P**	**00 14 36.3**	**-0.5**
ORIF				pmax		pmax		
	comp=Z,14nm,0.7s,mb5.0							
FRF	**La Foret Royal**	**53.89**	**299**	*e*P		**P**	**00 14 36.8**	**-0.8**
	comp=Z,12nm,0.8s,mb4.6							
FRF	**La Foret Royal**	**53.89**	**299**	*e*P		**P**	**00 14 36.8**	**-0.8**
FRF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
LOR	**Lormes**	**54.04**	**304**	*e*P		**P**	**00 14 37.3**	**-1.4**
	comp=Z,24nm,1.1s,mb4.7							
LOR	**Lormes**	**54.04**	**304**	*e*P		**P**	**00 14 37.3**	**-1.4**
LOR				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.7							
LMR	**La Mourre**	**54.08**	**299**	*e*P		**P**	**00 14 38.6**	**-0.4**
SMF	**Signal de Mont**	**54.32**	**304**	*e*P		**P**	**00 14 39.7**	**-1.0**
	comp=Z,40nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**54.32**	**304**	*e*P		**P**	**00 14 39.7**	**-1.0**
SMF				pmax		pmax		
	comp=Z,20nm,0.9s,mb5.0							
SSF	**Saint Saulge**	**54.35**	**304**	*e*P		**P**	**00 14 40.3**	**-0.6**
	comp=Z,15nm,1.1s,mb4.5							
SSF	**Saint Saulge**	**54.35**	**304**	*e*P		**P**	**00 14 40.3**	**-0.6**
SSF				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
SMRF	**Simiane la Rot**	**54.40**	**300**	*e*P		**P**	**00 14 40.8**	**-0.6**
	comp=Z,29nm,1.1s,mb4.8							
AVF	**Avril sur Loir**	**54.56**	**304**	*e*P		**P**	**00 14 41.6**	**-0.9**
	comp=Z,45nm,0.8s,mb5.2							
AVF	**Avril sur Loir**	**54.56**	**304**	*e*P		**P**	**00 14 41.6**	**-0.9**
AVF				pmax		pmax		
	comp=Z,22nm,0.8s,mb5.2							
VIVF	**Saint-Julien-l**	**54.59**	**301**	*e*P		**P**	**00 14 42.3**	**-0.4**
	comp=Z,19nm,0.8s,mb4.9							
VIVF	**Saint-Julien-l**	**54.59**	**301**	*e*P		**P**	**00 14 42.3**	**-0.4**
VIVF				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.9							
BGF	**Bois d'Agland**	**54.98**	**304**	*e*P		**P**	**00 14 45.1**	**-0.4**
	comp=Z,26nm,1.0s,mb4.9							
BGF	**Bois d'Agland**	**54.98**	**304**	*e*P		**P**	**00 14 45.1**	**-0.4**
BGF				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.9							
LASF	**Ste Croix**	**55.46**	**301**	*e*P		**P**	**00 14 48.7**	**-0.3**
	comp=Z,30nm,0.9s,mb5.0							
TCF	**Toulx Ste Croi**	**55.49**	**304**	*e*P		**P**	**00 14 48.6**	**-0.6**
	comp=Z,25nm,0.8s,mb5.0							
TCF	**Toulx Ste Croi**	**55.49**	**304**	*e*P		**P**	**00 14 48.6**	**-0.6**
TCF				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
LDF	**La Druitiere**	**55.87**	**307**	*e*P		**P**	**00 14 51.2**	**-0.7**
	comp=Z,26nm,0.9s,mb5.0							
LDF	**La Druitiere**	**55.87**	**307**	*e*P		**P**	**00 14 51.2**	**-0.7**
LDF				pmax		pmax		
	comp=Z,14nm,0.9s,mb5.0							
FLN	**La Foliniere**	**56.01**	**308**	*e*P		**P**	**00 14 51.6**	**-1.3**
	comp=Z,12nm,0.8s,mb4.7							
FLN	**La Foliniere**	**56.01**	**308**	*e*P		**P**	**00 14 51.6**	**-1.3**
FLN				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.7							
CAF	**Calviac**	**56.21**	**303**	*e*P		**P**	**00 14 53.9**	**-0.5**
RJF	**Les Rejaudoux**	**56.37**	**303**	*e*P		**P**	**00 14 54.8**	**-0.8**
	comp=Z,30nm,0.8s,mb5.1							
RJF	**Les Rejaudoux**	**56.37**	**303**	*e*P		**P**	**00 14 54.8**	**-0.8**
RJF				pmax		pmax		
	comp=Z,15nm,0.8s,mb5.1							
GRR	**Gorron**	**56.40**	**307**	*e*P		**P**	**00 14 54.7**	**-1.0**
	comp=Z,43nm,1.0s,mb5.2							
GRR	**Gorron**	**56.40**	**307**	*e*P		**P**	**00 14 54.7**	**-1.0**
GRR				pmax		pmax		
	comp=Z,21nm,1.0s,mb5.1							
MFF	**Saint Martin d**	**56.80**	**305**	*e*P		**P**	**00 14 57.6**	**-1.0**
	comp=Z,59nm,1.5s,mb5.1							
MFF	**Saint Martin d**	**56.80**	**305**	*e*P		**P**	**00 14 57.6**	**-1.0**
MFF				pmax		pmax		
	comp=Z,29nm,1.5s,mb5.1							
MTLF	**Montolieu**	**56.85**	**301**	*e*P		**P**	**00 14 58.1**	**-1.0**
	comp=Z,19nm,1.0s,mb4.8							
MTLF	**Montolieu**	**56.85**	**301**	*e*P		**P**	**00 14 58.1**	**-1.0**
MTLF				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
LFF	**La Frestale**	**57.03**	**303**	*e*P		**P**	**00 14 59.3**	**-1.0**
	comp=Z,33nm,0.7s,mb5.2							
LFF	**La Frestale**	**57.03**	**303**	*e*P		**P**	**00 14 59.3**	**-1.0**
LFF				pmax		pmax		
	comp=Z,17nm,0.7s,mb5.2							
SGMF	**Saint Gilles**	**57.47**	**308**	*e*P		**P**	**00 15 02.5**	**-0.8**
	comp=Z,44nm,0.9s,mb5.2							
SGMF	**Saint Gilles**	**57.47**	**308**	*e*P		**P**	**00 15 02.5**	**-0.8**
SGMF				pmax		pmax		
	comp=Z,22nm,0.9s,mb5.2							
ROSF	**Rostrenen**	**57.85**	**308**	*e*P		**P**	**00 15 05.5**	**-0.5**
QUIF	**Quistinic**	**57.98**	**308**	*e*P		**P**	**00 15 06.1**	**-0.8**
	comp=Z,34nm,0.9s,mb5.1							
QUIF	**Quistinic**	**57.98**	**308**	*e*P		**P**	**00 15 06.1**	**-0.8**
QUIF				pmax		pmax		
	comp=Z,17nm,0.9s,mb5.1							
EPF	**Esparros**	**58.21**	**301**	*e*P		**P**	**00 15 07.9**	**-0.7**
	comp=Z,14nm,0.9s,mb4.7							
EPF	**Esparros**	**58.21**	**301**	*e*P		**P**	**00 15 07.9**	**-0.7**
EPF				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
ETSF	**Etsaut**	**58.84**	**302**	*e*P		**P**	**00 15 13.1**	**+0.1**
	comp=Z,68nm,1.4s,mb5.2							
ETSF	**Etsaut**	**58.84**	**302**	*e*P		**P**	**00 15 13.1**	**+0.1**
ETSF				pmax		pmax		
	comp=Z,34nm,1.4s,mb5.2							
SJPF	**Ste Jean**	**59.16**	**302**	*e*P		**P**	**00 15 15.3**	**+0.1**
KMBO	**Kilima Mbogo**	**59.22**	**236**	P		**P**	**00 15 15.4**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=23,slow=18,SNR=2.9							
ESDC	**Sonseca Array**	**62.72**	**300**	P		**P**	**00 15 38.8**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.5,baz=56,slow=6.8,SNR=13							
INK	**Inuvik**	**66.81**	**14**	*e*P		**P**	**00 16 05.6**	**+0.4**
	comp=Z,27nm,0.9s,mb5.3							
INK	**Inuvik**	**66.81**	**14**	*e*P		**P**	**00 16 05.6**	**+0.4**
INK				pmax		pmax		
	comp=Z,27nm,0.9s							
ILAR	**Eielson Array**	**66.82**	**21**	P		**P**	**00 16 04.7**	**-0.7**
	comp=Z,7.7nm,0.8s,mb4.8,baz=316,slow=5.6,SNR=39							
MCK	**McKinley**	**67.08**	**22**	*e*P		**P**	**00 16 08.1**	**+1.1**
	comp=Z,2.6nm,0.7s,mb4.4							
MCK	**McKinley**	**67.08**	**22**	*e*P		**P**	**00 16 08.1**	**+1.1**
MCK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
THY	**Trims Highway**	**68.21**	**21**	*e*P		**P**	**00 16 14.7**	**+0.6**
SML	**Sawmill**	**68.76**	**23**	*e*P		**P**	**00 16 18.3**	**+0.8**
KAKA	**Kakadu**	**71.12**	**128**	*e*P		**P**	**00 16 51.3**	**+19**
	comp=Z,7.3nm,0.7s,mb4.7							

KAKA				*e*			00 16 55.5	
MBWA	**Marble Bar**	**71.58**	**144**	*e*P		**P**	**00 16 35.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**71.78**	**137**	*e*P		**P**	**00 16 35.9**	**-0.7**
	comp=Z,9.3nm,0.8s,mb4.8							
FITZ				*e*		pP	00 16 46.4	-1.6
YKA	**Yellowknife Ar**	**75.01**	**8**	P		**P**	**00 16 55.0**	**+0.4**
	comp=Z,11nm,0.8s,mb4.8,baz=344,slow=5.6,SNR=13							
WRAB	**Tennant Creek**	**77.97**	**131**	*e*P		**P**	**00 17 12.0**	**-0.1**
	comp=Z,17nm,0.8s,mb5.0							
WRAB	**Tennant Creek**	**77.97**	**131**	*e*P		**P**	**00 17 12.0**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.0							
WRA	**Warramunga Arr**	**77.97**	**131**	P		**P**	**00 17 10.6**	**-1.5**
	comp=Z,9.5nm,0.8s,mb4.8,baz=329,slow=5.5,SNR=69							
WRA	**Warramunga Arr**	**77.97**	**131**	*i* P		**P**	**00 17 12.1**	**-0.1**
WRA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
WB2	**Warramunga Ar**	**77.98**	**131**	*e*P		**P**	**00 17 11.8**	**-0.4**
WB2				*e*			00 17 16.4	
FORT	**Forrest**	**83.63**	**142**	*e*P		**P**	**00 17 41.5**	**-0.3**
	comp=Z,10.0nm,0.9s,mb5.0							
FFC	**Flin Flon**	**83.64**	**3**	*e*P		**P**	**00 17 41.9**	**+0.6**
	comp=Z,17nm,0.9s,mb5.2							
FFC	**Flin Flon**	**83.64**	**3**	*e*P		**P**	**00 17 41.9**	**+0.6**
FFC				pmax		pmax		
	comp=Z,17nm,0.9s,mb5.2							
DBIC	**Dimbokro**	**83.66**	**273**	P		**P**	**00 17 42.3**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.6,baz=338,slow=11,SNR=7.9							
CTA	**Charters Tower**	**85.22**	**122**	*e*P		**P**	**00 17 49.7**	**-0.3**
	comp=Z,5.0nm,0.9s,mb4.6							
CTA	**Charters Tower**	**85.22**	**122**	*e*P		**P**	**00 17 49.7**	**-0.3**
CTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
CTAO	**Charters Tower**	**85.22**	**122**	*e*P		**P**	**00 17 51.4**	**+1.4**
ULM	**Lac du Bonnet**	**88.19**	**359**	P		**P**	**00 18 05.3**	**+1.5**
	comp=Z,4.6nm,0.8s,mb4.8,baz=350,slow=5.8,SNR=5.0							
SUR	**Sutherland**	**93.20**	**228**	LR		LR	00 59 58.6	
	comp=Z,654nm,18.3s,MS5.1,slow=35							
PDAR	**Pinedale Array**	**94.98**	**9**	P		**P**	**00 18 36.4**	**+0.9**
	comp=Z,0.5nm,0.5s,mb4.2,slow=3.0,SNR=3.9							
SNAA	**Sanae**	**127.78**	**204**	⇑*i*P		PKPdf	00 24 23.7	+7.0
SNAA	**Sanae**	**127.78**	**204**	*e*		PKPdf	00 24 25.8	+9.1
SNAA	**Sanae**	**127.78**	**204**	*e*		PKPdf	00 24 32.3	+16
SNAA	**Sanae**	**127.78**	**204**	*e*		PKPdf	00 24 39.7	+23
VNA2	**Neumayer--Watz**	**128.94**	**205**	*e*		PKPdf	00 24 21.2	+2.3
VNA2	**Neumayer--Watz**	**128.94**	**205**	*e*		PKPdf	00 24 29.5	+11
VNA2	**Neumayer--Watz**	**128.94**	**205**	*e*		PKPdf	00 24 35.7	+17
VNA2	**Neumayer--Watz**	**128.94**	**205**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.57**	**334**	⇓*i*P	Pb	00 26 18.8	-0.2
CICH				*i* S	Sb	00 26 26.9	+0.3
CACH	**El Canelo**	**0.81**	**331**	⇑*i*P	Pb	00 26 22.9	-0.3
CACH				*i* S	Sb	00 26 34.5	+0.9
CHCH	**Chadas Angostu**	**1.00**	**334**	⇓*e*P	Pb	00 26 26.4	+0.1
CHCH				*i* S	Sb	00 26 40.4	+1.3
RCDM	**Rinconada Maip**	**1.45**	**337**	*e*P	Pn	00 26 34.2	+0.5
RCDM				*i* S	Sb	00 26 54.0	+1.8
FCH	**Farellones**	**1.51**	**355**	*e*P	Pn	00 26 35.8	+1.4
FCH				*i* S	Sn	00 26 56.9	+3.2
FCH				AMP		00 26 59.3	

comp=N,52nm,0.5s

PDA ***26*** *00:41:08.2±1.6,38.61N×28.57W,MD2.9,ML2.3,Error ellipse: s-maj=4.3km s-min=3.5km az=12.0*
CSEM ***26*** *00:41:08.2±0.2,38.61N×28.57W,ML2.3,Error ellipse: s-maj=4.8km s-min=3.0km az=44.0,After PDA*
SVSA 26 00:41:08.2±1.6,38.61N×28.57W,MD2.9,ML2.3,Error ellipse: s-maj=4.3km s-min=3.5km az=12.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**208**	*i* P	Pg	00 41 09.9	-0.3
HOR				*e*S	Sg	00 41 11.5	0.0
HOR	**Horta**	**0.10**	**208**	*e*S	Sg	00 41 11.5	0.0
CALA	**Caldeira**	**0.11**	**253**	*i* P	Pg	00 41 10.3	-0.1
CALA				*e*S	Sg	00 41 11.9	+0.1
CALA	**Caldeira**	**0.11**	**253**	*e*S	Sg	00 41 11.9	+0.1
PICO	**Pico**	**0.16**	**135**	*i* P	Pg	00 41 11.6	+0.2
PICO				*e*S	Sg	00 41 13.7	+0.2
PICO	**Pico**	**0.16**	**135**	*e*S	Sg	00 41 13.7	+0.2
PCND	**Candelaria**	**0.17**	**150**	*e*P	Pg	00 41 12.5	+1.0
PCND				*e*S	Sg	00 41 15.4	+1.6
PTCA	**Ponta do Capel**	**0.18**	**261**	*e*P	Pg	00 41 12.2	+0.4
PTCA				*e*S	Sg	00 41 14.7	+0.5
	550nm,0.2s						
PBOI	**Pico dos Bois**	**0.23**	**139**	*e*P	Pg	00 41 14.5	+1.6
PBOI				*e*S	Sg	00 41 17.2	+1.2
ROSA	**Rosais**	**0.28**	**68**	*i* P	Pg	00 41 13.5	-0.2
ROSA				*e*S	Sg	00 41 17.0	-0.5
ROSA	**Rosais**	**0.28**	**68**	*e*S	Sg	00 41 17.0	-0.5
PAMA	**Santo Amaro**	**0.31**	**78**	*i* P	Pg	00 41 14.9	+0.5
PMAN	**Manadas**	**0.38**	**87**	*i* P	Pg	00 41 15.0	-0.7
PMAN				*e*S	Sg	00 41 20.5	-0.3
	563nm,0.1s						
PMAN	**Manadas**	**0.38**	**87**	*e*S	Sg	00 41 20.5	-0.3
PIED	**Piedade**	**0.45**	**116**	*e*P	Pg	00 41 19.2	+2.0
PIED				*e*S	Sg	00 41 24.8	+1.6
PLUZ	**Luz**	**0.51**	**322**	*e*P	Pg	00 41 19.6	+1.2
PLUZ				*e*S	Sg	00 41 25.8	+0.5
PVIA	**Vitoria**	**0.61**	**42**	*e*P	Pg	00 41 20.1	-0.2
PVIA				*e*S	Sg	00 41 27.8	-0.7
STGR	**Santa Cruz**	**0.64**	**43**	*e*P	Pg	00 41 20.0	-1.0
STGR				*e*S	Sg	00 41 28.7	-0.9
	41nm,0.2s						
ASBA	**Santa Barbara**	**0.98**	**83**	*e*P	Pb	00 41 24.5	-3.2
ASBA				*e*S	Sg	00 41 37.4	-3.4
	32nm,0.2s						
PSBA	**Serra de Santa**	**0.99**	**81**	*i* P	Pb	00 41 23.5	-4.4
PSBA				*e*S	Sg	00 41 36.3	-4.7
	27nm,0.2s						
PPAD	**Pico dos Padre**	**1.01**	**85**	*e*P	Pb	00 41 24.9	-3.3
PPAD				*e*S	Sg	00 41 37.4	-4.4
	23nm,0.2s						
PBIS	**Biscoitos**	**1.04**	**81**	*e*P	Pb	00 41 25.3	-3.5
PBIS				*e*S	Sb	00 41 38.1	-4.7
	17nm,0.2s						
ADH	**Angra Heroismo**	**1.05**	**87**	*e*rx		00 41 37.9	
RIB2	**Ribeirinha**	**1.09**	**87**	*e*P	Pb	00 41 26.0	-3.7
RIB2				*e*S	Sb	00 41 39.5	-4.9
	36nm,0.2s						
PVNV	**Vila Nova**	**1.12**	**82**	*e*P	Pb	00 41 26.5	-3.6
PVNV				*e*S	Sb	00 41 40.1	-4.9
	11nm,0.2s						
PSCM	**Serra do Cume**	**1.14**	**85**	*e*P	Pb	00 41 25.8	-4.7
PSCM				*e*S	Sb	00 41 40.1	-5.6
	73nm,0.2s						
PFAV	**Pico das Favas**	**1.17**	**85**	*e*P	Pb	00 41 27.3	-3.6
PFAV				*e*S	Sb	00 41 41.3	-5.2
	17nm,0.2s						

THR ***26*** *00:55:11.5±0.9,36.45N×53.44E,h15km,ML3.0*
CSEM ***26*** *00:55:12.9±0.1,36.31N×53.34E,h14km,ML3.6,Error ellipse: s-maj=3.3km s-min=1.6km az=161.0*
TEH ***26*** *00:55:14.3,36.30N×53.37E,h10km,Mn3.6*
ISC 26 00:55:16.3±0.9,36.13N±0.06×53.28E±0.07,h10km,n16, σ1§42/20,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Galoogah**	**0.25**	**44**	**Pg**	**Pg**	**00 55 22.0**	**+0.4**
IKIA	**Kiasar**	**0.34**	**77**	**Pg**	**Pg**	**00 55 19.4**	**-3.8**
IFIR	**Firoozkooh**	**0.65**	**221**	**Pg**	**Pg**	**00 55 29.2**	**-0.2**
IFIR				Sg	**Sg**	**00 55 40.2**	**+2.1**
IPRN	**Paran-Amol**	**0.85**	**278**	Pg	**Pg**	**00 55 28.7**	**-4.6**
IDMV	**Damavand**	**1.15**	**242**	Pg	**Pg**	**00 55 37.3**	**-2.1**
DAMV	**Damavand**	**1.18**	**245**	*e*PG	**Pg**	**00 55 37.6**	**-2.3**
DAMV				AML	AML	00 56 03.9	
	comp=N,267nm,0.6s						
IAFJ	**Afjeh**	**1.30**	**258**	Sg	**Sg**	**00 55 58.6**	**-1.1**
IVRN	**Varamin**	**1.70**	**229**	Pn	**Pn**	**00 55 46.7**	**+0.4**
IVRN				Sn	**Sn**	**00 56 09.8**	**+1.6**
THKV	**Tehran--Karaj**	**1.96**	**264**	*e*PG	**Pg**	**00 55 51.0**	**-4.5**
IMHD	**Mahdasht**	**2.17**	**259**	Pn	**Pn**	**00 55 53.9**	**+0.9**
IQOM	**Qom**	**2.21**	**235**	Pn	**Pn**	**00 55 54.2**	**+0.5**
IRAZ	**Razeghan**	**2.82**	**256**	Pn	**Pn**	**00 56 04.7**	**+2.4**
ASAO	**Ashtian**	**3.09**	**240**	*e*PN	**Pn**	**00 56 06.1**	**-0.1**
ASAO				AML	AML	00 56 57.0	
	comp=N,32nm,0.5s						
NASN	**Na'in**	**3.34**	**187**	*e*PN	**Pn**	**00 56 10.2**	**+0.4**
NASN				*e*SG	**Sg**	**00 57 06.2**	**-1.5**
NASN	**Na'in**	**3.34**	**187**	*e*PN	**Pn**	**00 56 10.2**	**+0.4**
	SNR=52						
NASN				*e*Sg	**Sg**	**00 57 06.2**	**-1.5**
	SNR=90						
GRMI	**Germi**	**5.05**	**304**	*e*PN	**Pn**	**00 56 28.1**	**-5.9**

GUC 26 00:56:14.4±0.5,34.87S×70.16W,h17km±2km,MD3.7, ML2.4,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.59**	**338**	⇓*i*P	Pb	00 56 25.7	-0.1
CICH				*i* S	Sb	00 56 34.0	+0.4
SFDO	**San Fernando**	**0.75**	**289**	*e*P	Pb	00 56 28.2	-0.4
CACH	**El Canelo**	**0.83**	**334**	⇑*i*P	Pb	00 56 29.8	-0.2
CACH				*i* S	Sb	00 56 41.4	+0.7
CHCH	**Chadas Angostu**	**1.02**	**336**	*e*P	Pb	00 56 33.1	0.0
CHCH				*i* S	Sb	00 56 47.2	+1.2
PCH	**Pirque**	**1.28**	**346**	*e*P	Pb	00 56 37.8	+0.2
PCH				*i* S	Sb	00 56 55.8	+2.2
TACH	**Talagante**	**1.37**	**332**	⇑*i*P	Pn	00 56 39.4	+0.4
TACH				*i* S	Sb	00 56 58.0	+1.6
RCDM	**Rinconada Maip**	**1.48**	**338**	*e*P	Pn	00 56 40.8	+0.4
RCDM				*i* S	Sb	00 57 01.2	+1.9
RCDM				AMP		00 57 03.6	
	comp=E,108nm,0.1s						
FCH	**Farellones**	**1.54**	**356**	*e*P	Pn	00 56 42.7	+1.3
FCH				*i* S	Sn	00 57 04.0	+3.0

FUNV ***26*** *00:57:41.2,10.87N×61.96W,h16km,MW2.3*
TRN ***26*** *00:57:48.5,10.87N×61.69W,h3km,MD2.9*
ISC 26 00:57:42.6±0.7,10.56N±0.08×62.09W±0.04,h30km±5km, n10,σ1§08/17,1C-1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.16**	**304**	*e*P	**Pb**	**00 57 48.5**	**+0.1**
GUIV				*e*S	**Sb**	**00 57 52.7**	**+0.5**
TPP	**Pointe-a-Pierr**	**0.67**	**111**	*e*P	**Pb**	**00 58 00.4**	**+4.7**
TRN	**Trinidad (W)**	**0.68**	**82**	⇓*i*P	**Pb**	**00 57 54.4**	**-1.5**
TRN				*e*S	**Sb**	**00 58 00.6**	**-4.4**
GUNV	**Guanoco**	**0.93**	**245**	*e*P	**Pb**	**00 58 03.8**	**+4.1**
GUNV				*e*S	**Sb**	**00 58 19.4**	**+7.5**
TBH	**Brigand Hill**	**1.01**	**94**	⇑*i*P	**Pn**	**00 58 02.6**	**+1.8**
CRUV	**Carupano**	**1.13**	**276**	*e*P	**Pn**	**00 58 03.6**	**+1.0**
CRUV				*e*S	**Sn**	**00 58 20.2**	**+2.9**
ITEV	**Isla Los Testi**	**1.29**	**308**	*e*P	**Pn**	**00 58 04.1**	**-0.8**
ITEV				*e*S	**Sn**	**00 58 20.5**	**-0.9**
TPR	**Prospect**	**1.43**	**64**	*e*P	**Pn**	**00 58 07.2**	**+0.2**
CUPV	**Cœpira**	**3.67**	**263**	*e*P	**Pn**	**00 58 38.0**	**-0.8**
CUPV				*e*S	**Sn**	**00 59 21.6**	**-0.1**
CAOV	**Caicara del Or**	**5.27**	**233**	*e*P	**Pn**	**00 59 01.0**	**-0.4**
CAOV				*e*S	**Sn**	**01 00 01.3**	**-0.7**

NEIC ***26*** *00:58:34.6,37.87S×176.88E,h129km,MG3.7(WEL), After WEL.*
WEL 26 00:58:34.9±0.2,37.87S×176.91E,h128km±1km,ML3.6/10, 1C,Error ellipse: s-maj=1.9km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.22**	**237**	PN	P	00 58 52.7	+0.2
MARZ	**Manawahe**	**0.22**	**237**	P	P	00 58 52.7	+0.1
URZ	**Urewera**	**0.42**	**158**	⇑PN	P	00 58 53.1	-0.3
URZ				SN	S	00 59 07.1	-0.3
TAZ	**Tarawera**	**0.48**	**221**	P	P	00 58 54.3	+0.6
MWZ	**Matawai**	**0.68**	**134**	PN	P	00 58 54.7	-0.2
MWZ				SN	S	00 59 10.1	-0.2
MWZ	**Matawai**	**0.68**	**134**	P	P	00 58 54.7	-0.3
PUZ	**Puketiti**	**1.09**	**101**	PN	P	00 58 58.1	-0.6
PUZ				SN	S	00 59 15.9	-0.8
PUZ	**Puketiti**	**1.09**	**101**	*e*P	P	00 58 57.7	-1.0
MXZ	**Matakaoa Point**	**1.15**	**75**	PN	P	00 58 58.9	-0.5
MXZ				SN	S	00 59 18.0	+0.2
MXZ	**Matakaoa Point**	**1.15**	**75**	P	P	00 58 58.9	-0.5
KNZ	**Kokohu**	**1.30**	**153**	PN	P	00 59 00.7	-0.3
KNZ				SN	S	00 59 20.0	-0.7
KNZ	**Kokohu**	**1.30**	**153**	P	P	00 59 00.7	-0.3
TUVZ	**Tukino**	**1.71**	**215**	PN	P	00 59 05.0	-0.6
TUVZ	**Tukino**	**1.71**	**215**	P	P	00 59 05.0	-0.6
FWVZ	**Far West T-bar**	**1.74**	**217**	PN	P	00 59 05.4	-0.7
FWVZ	**Far West T-bar**	**1.74**	**217**	P	P	00 59 05.6	-0.5
WNVZ	**Wahianoa**	**1.78**	**215**	PN	P	00 59 05.8	-0.7
WNVZ	**Wahianoa**	**1.78**	**215**	P	P	00 59 05.8	-0.7
MOVZ	**Moawhango**	**1.78**	**210**	PN	P	00 59 05.2	-1.3
MOVZ	**Moawhango**	**1.78**	**210**	P	P	00 59 05.2	-1.3
MOVZ				S	S	00 59 28.8	-1.8
PXZ	**Pawanui**	**2.16**	**181**	PN	P	00 59 09.6	-1.7
PXZ				SN	S	00 59 37.5	-1.3
BFZ	**Birch Farm**	**2.85**	**190**	PN	P	00 59 17.4	-2.9
BFZ	**Birch Farm**	**2.85**	**190**	P	P	00 59 17.4	-3.0
MRZ	**Mangatainoka R**	**2.97**	**200**	PN	P	00 59 18.7	-3.3
MRZ	**Mangatainoka R**	**2.97**	**200**	P	P	00 59 18.7	-3.2
KIW	**Kapiti Island**	**3.37**	**207**	PN	P	00 59 23.4	-3.8
KIW	**Kapiti Island**	**3.37**	**207**	P	P	00 59 23.4	-3.8
MTW	**Mount Morrison**	**3.46**	**198**	PN	P	00 59 24.1	-4.3
MTW	**Mount Morrison**	**3.46**	**198**	P	P	00 59 24.1	-4.3
CAW	**Cannon Point**	**3.53**	**203**	PN	P	00 59 25.2	-4.2
CAW	**Cannon Point**	**3.53**	**203**	P	P	00 59 25.2	-4.2
SNZO	**South Karori**	**3.83**	**206**	*e*Pn	P	00 59 29.2	-4.2
SNZO				*e*Sn	S	01 00 12.9	-5.2
TCW	**Tory Channel**	**3.91**	**211**	PN	P	00 59 29.6	-4.8
TCW	**Tory Channel**	**3.91**	**211**	P	P	00 59 29.9	-4.5
THZ	**Tophouse**	**4.96**	**217**	PN	P	00 59 44.7	-3.8

IDC ***26*** *01:05:16.1±1.3,6.74S×129.35E,mb4.0/3,mb1 4.3/5, mb1mx4.0/13,mbtmp4.2/5,ML4.3/2,Error ellipse: s-maj=55.8km s-min=22.6km az=62.0*
NEIC ***26*** *01:05:21.4±1.1,6.82S×129.34E,h35km,mb3.8/2,Error ellipse: s-maj=19.6km s-min=14.7km az=61.0*
ISC 26 01:05:29.8±2.7,7.4S±0.1×129.0E±0.1,h133km±29km,n14, σ1§70/21,mb3.9/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.30**	**148**	*e*P	**P**	**01 07 22.3**	**+21**
	38nm,0.2s						
KAKA				*e*S	**S**	**01 08 29.7**	**+17**
FITZ	**Fitzroy Crossi**	**11.18**	**197**	*e*P	**P**	**01 08 07.9**	**+1.1**
	4.0nm,0.2s						
FITZ				*e*S	**S**	**01 10 07.0**	**-2.7**
FITZ	**Fitzroy Crossi**	**11.18**	**197**	Pn	**P**	**01 08 08.2**	**+1.5**
	1.5nm,0.3s,baz=35,slow=9.5,SNR=25						
FITZ				Sn	**S**	**01 10 06.9**	**-2.8**
	7.2nm,0.3s,baz=69,slow=15,SNR=10						
WRAB	**Tennant Creek**	**13.53**	**158**	*e*Pn	**P**	**01 08 36.3**	**-1.1**
	8.2nm,0.4s						
WRAB				*e*Sn	**S**	**01 10 58.5**	**-6.3**
WRA	**Warramunga Arr**	**13.53**	**158**	Pn	**P**	**01 08 35.7**	**-1.8**
	1.4nm,0.3s,baz=343,slow=13,SNR=81						
WRA				Sn	**S**	**01 10 59.0**	**-6.0**
	4.7nm,0.3s,baz=330,slow=22,SNR=14						
WB2	**Warramunga Arr**	**13.54**	**158**	*e*P	**P**	**01 08 35.9**	**-1.6**
WB2				*e*S	**S**	**01 10 58.9**	**-6.2**
MBWA	**Marble Bar**	**16.41**	**212**	*e*Pn	**P**	**01 09 16.9**	**+3.2**
	11nm,1.2s						
ASPA	**Alice Springs**	**16.88**	**164**	*e*P	**P**	**01 09 21.6**	**+2.1**
ASPA				*e*S	**S**	**01 12 21.3**	**-0.1**
CTA	**Charters Tower**	**20.95**	**129**	P	**P**	**01 10 04.0**	**+0.3**
	2.3nm,0.5s,baz=301,slow=15,SNR=4.4						
CTAO	**Charters Tower**	**20.95**	**129**	*e*P	**P**	**01 10 05.6**	**+1.9**
	2.6nm,0.6s						
STKA	**Stephens Creek**	**27.07**	**156**	P	**P**	**01 11 02.6**	**+0.6**
	1.0nm,0.4s,mb3.8,baz=343,slow=9.0,SNR=5.5						
STKA	**Stephens Creek**	**27.07**	**156**	*e*P	**P**	**01 11 03.0**	**+1.1**
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**01 16 15.1**	**-1.7**
	1.2nm,0.3s,mb4.1,baz=116,slow=8.3,SNR=34						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**01 16 15.1**	**-1.7**

IDC ***26*** *01:16:04.4±2.0,11.91N×40.37E,mb3.9/5,mb1 4.0/6, mb1mx3.9/17,mbtmp3.9/6,ML3.1/1,Error ellipse: s-maj=48.7km s-min=37.6km az=93.0*
DHMR ***26*** *01:16:10.2±2.8,12.66N×40.55E,h12km±187km,ML4.0*
ISC 26 01:16:03.8±0.9,11.9N±0.1×40.58E±0.07,h10km,n11, σ0§94/13,mb3.6/5,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.71**	**68**	*i* P	**Pn**	**01 17 07.5**	**+5.1**
TRBA				*i* S	**Sn**	**01 17 52.3**	**+5.6**
TRBA				AML	AML	01 18 06.3	
	comp=N,818nm,0.6s						
UDYN	**Al 'Udayn**	**3.91**	**57**	AML	AML	01 18 13.0	
	comp=Z,591nm,0.7s						
DHBB	**Dhamar BB**	**4.59**	**54**	*i* P	**Pn**	**01 17 16.6**	**+1.7**
DHBB				*i* S	**Sn**	**01 18 08.5**	**-0.4**
LBOS		**4.97**	**66**	*i* P	**Pn**	**01 17 21.9**	**+1.5**
LBOS				*i* S	**Sn**	**01 18 18.3**	**-0.4**
BDHA	**Al Bayda'**	**5.30**	**66**	*i* S	**Sn**	**01 18 25.3**	**-1.5**
KMBO	**Kilima Mbogo**	**13.32**	**195**	Pn	**P**	**01 19 15.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=340,slow=15,SNR=6.8						
KMBO				Lg		01 23 15.6	
	comp=Z,0.0nm,0.3s,baz=71,slow=19,SNR=2.4						
BRTR	**Keskin Array B**	**28.43**	**349**	P	**P**	**01 22 00.6**	**-0.2**
	comp=Z,2.3nm,1.0s,mb3.8,baz=173,slow=10.0,SNR=7.2						
AKASG	**Malin Array Be**	**39.83**	**349**	P	**P**	**01 23 38.0**	**-0.9**
	comp=Z,0.1nm,0.3s,mb3.0,baz=180,slow=8.1,SNR=4.3						
GERES	**GERESS Array B**	**43.10**	**334**	P	**P**	**01 24 05.3**	**-0.5**
	comp=Z,1.0nm,1.0s,mb3.5,baz=153,slow=6.0,SNR=6.5						
MKAR	**Makanchi Array**	**49.42**	**37**	P	**P**	**01 24 56.6**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.9,baz=243,slow=5.4,SNR=5.4						
ZAL	**Zalesovo**	**54.59**	**30**	P	**P**	**01 25 35.1**	**+0.6**
	comp=Z,0.6nm,0.3s,mb4.0,baz=259,slow=7.3,SNR=3.5						

IDC ***26*** *01:34:26.1±0.6,17.41S×167.54E,mb4.7/14,mb1 4.8/16, mb1mx4.7/19,mbtmp4.7/16,ML4.6/2,MS5.1/6,Ms1 5.1/6, ms1mx4.9/24,Error ellipse: s-maj=16.3km s-min=13.0km az=169.0*
LDG ***26*** *01:34:27.2±0.2,17.46S×168.15E,h10km,Mb5.2/2,Error ellipse: s-maj=37.9km s-min=2.2km az=103.0*
CSEM ***26*** *01:34:29.3,18.39S×167.82E,h33km,mb5.5*
MOS ***26*** *01:34:31.3±2.0,17.41S×167.30E,h33km,mb5.2/18,Error ellipse: s-maj=12.3km s-min=8.9km az=128.9*
BJI ***26*** *01:34:32.3,17.60S×167.40E,h35km,mB5.5,mb4.9, Ms5.2,Msz5.0*
HRVD ***26*** *01:34:32.4±0.5,17.48S×167.56E,h18km±1km,MW5.6/26, Centroid moment Tensor Solution. LP body waves: s25,c56;Mantle waves: s26,c49; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.22±.09; $M_{\theta\theta}$0.03±.07; $M_{\phi\phi}$-2.25±.07; $M_{r\theta}$1.09±.18; $M_{\theta\phi}$0.33±.06; $M_{r\text{-}}$1.89±.20; Best double couple: $M_0$3.14×10^{17} NP1:ϕ_{θ}6°,δ25°,λ116°. NP2:ϕ_{θ}157°,δ67°,λ78°. Principal axes: T 3.182, Plg66°, Azm47°; N -.083, Plg11°, Azm162°; P -3.097, Plg22°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *01:34:32.4±0.2,17.56S×167.44E,h35km,mb5.1/22, MS5.0/1 Error ellipse: s-maj=10.2km s-min=8.4km az=81.0*
ISC 26 01:34:29.0±0.3,17.34S±0.04×167.59E±0.05,h32km, h32km±.9km:pP-P,n244,σ1§33/126,mb4.8/46,MS5.0/14, 13C-13D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.83**	**193**	*e*P	**Pn**	**01 35 37.4**	**-4.1**
DZM				*e*S	**Sn**	**01 36 28.1**	**-8.9**
DZM	**Mont Dzumac**	**4.83**	**193**	Pn	**Pn**	**01 35 37.6**	**-3.9**
	8.9nm,0.3s,baz=41,slow=16,SNR=66						
DZM				Sn	**Sn**	**01 36 29.5**	**-7.5**
	25nm,0.3s,baz=288,slow=18,SNR=4.2						
DZM	**Mont Dzumac**	**4.83**	**193**	*e*P	**Pn**	**01 35 37.4**	**-4.1**
DZM				*e*S	**Sn**	**01 36 28.1**	**-8.9**
HNR	**Honiara**	**10.82**	**316**	Pn	**P**	**01 37 03.3**	**-1.7**
	16nm,0.3s,baz=125,slow=2.8,SNR=5.0						
HNR				Sn	**S**	**01 39 05.1**	**-0.9**
	6.8nm,0.3s,baz=57,slow=23,SNR=2.3						
HNR				LR	LR	01 40 47.0	
	comp=Z,9μm,18.9s,baz=139,slow=35						
HNR	**Honiara**	**10.82**	**316**	*e*Pn	**P**	**01 37 04.4**	**-0.6**
	313nm,0.9s						
HNR	**Honiara**	**10.82**	**316**	P	**P**	**01 37 03.3**	**-1.7**
HNR						01 39 05.1	
HNR				pmax	pmax		
	comp=Z,16nm,0.3s						
HNR				smax			
	comp=E,7.0nm,0.3s						
HNR				MLR	MLR		
	comp=Z,9μm,19.0s						
RAO	**Raoul Island**	**17.80**	**134**	P	**P**	**01 38 37.4**	**+1.2**
	comp=Z,32nm,0.3s,baz=251,slow=23,SNR=2.1						
ARMA	**Armidale**	**19.53**	**225**	⇓*i*P	**P**	**01 38 59.4**	**+2.5**
ARMA				*e*S	S	01 42 51.7	+22
AFI	**Afiamalu**	**20.16**	**83**	P	**P**	**01 39 02.4**	**-1.3**
	comp=Z,98nm,1.2s,baz=232,slow=16,SNR=3.1						
AFI				LR	LR	01 44 54.3	
	comp=Z,6μm,21.4s,MS5.0,baz=243,slow=31						
AFI	**Afiamalu**	**20.16**	**83**	*e*Pn	**P**	**01 39 00.4**	**-3.4**
CTA	**Charters Tower**	**20.39**	**259**	*e*P	**P**	**01 39 05.6**	**-0.5**
	comp=Z,42nm,1.1s						
CTA				*i* S	**S**	**01 42 58.6**	**+11**
CTA	**Charters Tower**	**20.39**	**259**	P	**P**	**01 39 05.7**	**-0.5**
	comp=Z,35nm,0.8s,baz=84,slow=12,SNR=27						
CTA				S	**S**	**01 42 54.1**	**+6.3**
	comp=Z,0.8nm,0.4s,baz=90,slow=14,SNR=1.7						
CTA				LR	LR	01 45 51.7	
	comp=Z,5μm,21.5s,MS4.9,baz=70,slow=34						
CTA	**Charters Tower**	**20.39**	**259**	P	**P**	**01 39 05.7**	**-0.4**
CTA				S	**S**	**01 42 54.1**	**+6.3**
CTA				pmax	pmax		
	comp=Z,35nm,0.8s						
CTA				smax			
	comp=E,1.0nm,0.4s						
CTA				MLR	MLR		
	comp=Z,5μm,21.5s						
CTAO	**Charters Tower**	**20.39**	**259**	*e*P	**P**	**01 39 05.8**	**-0.3**
	comp=Z,122nm,1.3s						
CTAO	**Charters Tower**	**20.39**	**259**	*e*P	**P**	**01 39 05.8**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,122nm,1.3s						
PMG	**Port Moresby**	**21.37**	**289**	P	**P**	**01 39 15.4**	**-0.7**
	comp=Z,15nm,1.0s,mb4.3,slow=20,SNR=2.3						
PMG				LR	LR	01 46 21.9	
	comp=Z,5μm,18.1s,MS5.0,baz=101,slow=34						
PMG	**Port Moresby**	**21.37**	**289**	*e*P	**P**	**01 39 17.3**	**+1.2**
	comp=Z,88nm,1.4s,mb4.9						
PMG	**Port Moresby**	**21.37**	**289**	P	**P**	**01 39 15.4**	**-0.8**
PMG				pmax	pmax		
	comp=Z,15nm,1.0s						
PMG				MLR	MLR		
	comp=Z,5μm,18.1s						
URZ	**Urewera**	**22.45**	**160**	P	**P**	**01 39 25.0**	**-1.7**
	comp=Z,57nm,0.8s,mb5.0,baz=353,slow=5.2,SNR=23						
URZ				LR	LR	01 45 46.9	
	comp=Z,3μm,18.5s,MS4.8,baz=8.7,slow=30						
CNB	**Canberra Magne**	**24.16**	**219**	*e*P	**P**	**01 39 44.3**	**+0.8**
	comp=Z,96nm,1.3s,mb5.1						
SNZO	**South Karori**	**24.66**	**167**	*e*P	**P**	**01 39 47.0**	**-1.2**
RPZ	**Rata Peaks**	**26.45**	**174**	P	**P**	**01 40 06.1**	**+1.0**
	comp=Z,4.6nm,0.5s,mb4.3,baz=310,slow=2.1,SNR=5.1						
STKA	**Stephens Creek**	**27.62**	**234**	*e*P	**P**	**01 40 15.0**	**-0.8**
	comp=Z,49nm,1.0s,mb5.1						
STKA				*e*S	**S**	**01 44 41.1**	**-13**
STKA	**Stephens Creek**	**27.62**	**234**	P	**P**	**01 40 14.9**	**-0.9**
	comp=Z,25nm,0.8s,mb4.9,baz=63,slow=7.4,SNR=49						
STKA				LR	LR	01 50 01.6	
	comp=Z,3μm,19.1s,MS4.9,baz=62,slow=34						
TOO	**Toolangi**	**27.99**	**220**	*e*P	**P**	**01 40 26.6**	**+7.5**
	comp=Z,17nm,1.3s,

MAT eS **S** **01 52 55.0 +6.7**
MAT pmax pmax
comp=Z,20nm,1.1s,mb5.1
SBA Scott Base 60.54 180 eP **P** **01 44 37.8 -0.5**
comp=Z,55nm,1.2s,mb5.6
SBA e pP 01 44 48.1 -0.1
SBA Scott Base 60.54 180 eP **P** **01 44 37.8 -0.5**
SBA e pP 01 44 48.1 -0.1
SBA pmax pmax
comp=Z,55nm,1.2s,mb5.6
CASY Casey 61.24 203 eP **P** **01 44 41.4 -1.8**
SSE Sheshan 65.62 317 P **P** **01 45 17.8 +5.3**
SSE AP pP 01 45 27.0 +4.5
SSE XP sP 01 45 30.8 +4.7
SSE S S 01 54 05.5 +11
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,360nm,4.9s
SSE LR LR
comp=N,380nm,21.8s,MS4.6
SSE LR LR
comp=E,216nm,21.8s,MS4.6
SSE LR LR
comp=Z,962nm,20.0s,MS5.0
SSE Sheshan 65.62 317 P **P** **01 45 17.7 +5.2**
comp=Z,29nm,0.7s,mb5.4
SSE pP pP 01 45 27.0 +4.5
SSE sP sP 01 45 30.8 +4.7
SSE S S 01 54 05.6 +11
SSE sS 01 54 21.7
SSE ScS ScS 01 55 11.7 +10
SSE LR LR
comp=Z,960nm,20.0s,MS5.0
NJ2 Nanjing 67.76 316 eP **P** **01 45 28.3 +2.2**
NJ2 AP pP 01 45 38.5 +2.4
NJ2 XP sP 01 45 41.5 +1.9
NJ2 PP PP 01 47 59.0 +1.6
NJ2 S S 01 54 23.0 +2.8
NJ2 XS 01 54 41.0
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NJ2 AMB AMB
comp=Z,630nm,5.0s
NJ2 LR LR
comp=N,1μm,22.2s,MS5.2
NJ2 LR LR
comp=E,1μm,22.6s,MS5.2
NJ2 LR LR
comp=Z,780nm,25.6s,MS4.8
YSS Yuzh-Sakhalins 67.79 342α *i*P **P** **01 45 26.2 +0.2**
YSS e*PP pP 01 45 36.2 +0.2
YSS e 01 45 48.0
YSS eS S 01 54 22.0 +1.7
YSS e 01 55 26.0
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
YSS pmax pmax
comp=Z,400nm,6.0s
MIR Mirnyy 68.09 205*d i*P **P** **01 45 27.6 +0.1**
MIR pmax pmax
comp=Z,47nm,1.2s,mb5.4
PET Petropavlovsk 70.50 354 eP **P** **01 45 37.0 -5.5**
PET *i* S S 01 54 54.3 +2.2
PET pmax pmax
comp=N,200nm,13.1s
PET pmax pmax
comp=Z,300nm,15.9s
PET smax
comp=E,500nm,14.9s
DL2 Dalian 70.57 324 P **P** **01 45 48.0 +4.8**
DL2 S S 01 55 00.3 +7.1
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
DL2 AMB AMB
comp=Z,300nm,5.1s
DL2 LR LR
comp=N,320nm,16.3s,MS4.9
DL2 LR LR
comp=E,370nm,14.9s,MS4.9
DL2 LR LR
comp=Z,760nm,18.7s,MS5.0
MDJ Mudanjiang 70.72 332 P **P** **01 45 45.3 +1.2**
MDJ AP pP 01 45 54.5 +0.5
MDJ XP sP 01 45 58.3 +0.7
MDJ PCP PcP 01 46 04.5 -0.3
MDJ PP PP 01 48 23.3 +0.5
MDJ S S 01 55 01.8 +6.9
MDJ XS 01 55 17.3
MDJ SCS ScS 01 55 47.3 +6.0
MDJ SS SS 01 59 36.5 +7.5
MDJ AMB AMB
comp=Z,12nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,171nm,4.8s
MDJ LR LR
comp=N,571nm,25.2s,MS4.9
MDJ LR LR
comp=E,573nm,27.3s,MS4.9
MDJ Mudanjiang 70.72 332 eP **P** **01 45 45.9 +1.9**
comp=E,32nm,1.3s,mb5.1
CN2 Changchun 72.04 329 eP **P** **01 45 53.5 +1.5**
CN2 eXP sP 01 46 07.5 +2.0
CN2 eS S 01 55 14.5 +4.5
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
CN2 AMB AMB
comp=Z,370nm,6.0s
CN2 LR LR
comp=N,690nm,16.0s,MS5.1
CN2 LR LR
comp=E,490nm,16.0s,MS5.1
CN2 LR LR
comp=Z,2μm,21.0s,MS5.4
QSPA South Pole Qui 72.70 180 eP **P** **01 45 55.2 0.0**
comp=Z,114nm,1.2s,mb5.7
GYA Guiyang 73.46 305⇓ *i*P **P** **01 46 05.8 +5.1**
GYA AP pP 01 46 14.8 +4.1
GYA XP sP 01 46 19.0 +4.8
GYA PP PP 01 48 53.3 +7.0
GYA S S 01 55 35.5 +9.0
GYA SKS SKS 01 56 05.5 -3.0
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,90nm,3.4s
GYA LR LR
comp=N,370nm,18.6s,MS4.8
GYA LR LR
comp=E,320nm,18.9s,MS4.8
GYA LR LR
comp=Z,370nm,18.2s,MS4.7
KLR Kul'dur 73.51 336 eP **P** **01 45 59.0 -1.5**
KMI Kunming 75.95 302 P **P** **01 46 17.0 +2.0**
KMI S S 01 55 58.0 +3.8
KMI AMB AMB
comp=Z,16nm,1.1s,mb4.9
KMI Kunming 75.95 302 P **P** **01 46 17.1 +2.1**
comp=Z,16nm,1.1s,mb4.9
KMI S S 01 55 57.9 +3.7
KMI Kunming 75.95 302 P **P** **01 46 17.1 +2.1**
KMI S S 01 55 57.9 +3.7
KMI pmax pmax
comp=Z,16nm,1.1s,mb4.9
HHC Hu-ho-hao-te 77.77 320 eP **P** **01 46 31.8 +7.0**
HHC PCP PcP 01 46 41.5 +6.4
HHC XP sP 01 46 46.0 +7.6
HHC PP PP 01 49 30.0 +7.7
HHC S S 01 56 21.8 +8.1
HHC SKS SKS 01 56 38.0 -1.7
HHC XS 01 56 39.8
HHC SCS ScS 01 56 46.0 +8.1
HHC AMB AMB
comp=Z,17nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,227nm,4.4s
HHC LR LR
comp=N,637nm,17.8s,MS5.1
HHC LR LR
comp=E,487nm,15.5s,MS5.1
HHC LR LR
comp=Z,2μm,20.2s,MS5.4
MA2 Magadan 77.86 351 eP **P** **01 46 23.7 -1.2**
HIA Hailar 78.70 330 eP **P** **01 46 31.7 +1.9**
comp=Z,24nm,1.5s,mb4.9
HIA Hailar 78.70 330 eP **P** **01 46 31.7 +2.0**
HIA pmax pmax
comp=Z,24nm,1.5s
MAW Mawson 79.59 202 eP **P** **01 46 35.3 +1.1**
comp=Z,11nm,1.1s,mb4.7
MAW eS S 01 56 34.5 +2.0
MAW Mawson 79.59 202 P **P** **01 46 34.1 -0.1**
comp=Z,5.0nm,0.9s,mb4.4,baz=100,slow=9.4,SNR=6.8
MAW Mawson 79.59 202 eP **P** **01 46 35.3 +1.1**
MAW eS S 01 56 34.5 +2.0
MAW pmax pmax
comp=Z,11nm,1.1s
LZH Lanzhou 80.30 313 eP **P** **01 46 45.8 +7.1**
LZH AP pP 01 46 53.0 +4.2
LZH XP sP 01 46 57.5 +5.3
LZH PP PP 01 49 51.5 +8.3
LZH eS S 01 56 47.5 +6.9
LZH XS 01 57 01.3
LZH AMB AMB
comp=Z,58nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,290nm,4.6s
LZH LR LR
comp=E,650nm,16.9s
LZH LR LR
comp=Z,963nm,19.0s,MS5.2
GTA Gaotai 84.69 314 eP **P** **01 47 03.8 +2.5**
GTA AP pP 01 47 14.3 +2.8
GTA XP sP 01 47 18.0 +3.2
GTA PP PP 01 50 23.0 +4.0
GTA SKS SKS 01 57 22.0 -6.1
GTA S S 01 57 25.8 +0.7
GTA XS 01 57 47.5
GTA AMB AMB
comp=Z,7.0nm,1.8s,mb4.5
GTA AMB AMB
comp=Z,318nm,7.6s
GTA LR LR
comp=N,516nm,21.3s,MS5.0
GTA LR LR
comp=E,389nm,19.0s,MS5.0
GTA LR LR
comp=Z,2μm,20.1s,MS5.4
SONM Songino Array 84.77 324 P **P** **01 47 02.4 +1.0**
comp=Z,6.6nm,0.8s,mb4.8,baz=150,slow=5.9,SNR=17
SYO Syowa Base 86.30 197⇑ P **P** **01 47 06.5 -2.1**
SYO Syowa Base 86.30 197⇑ P **P** **01 47 08.4 -0.2**
SYO Syowa Base 86.30 197⇓ P **P** **01 47 17.5 +8.9**
BOD Bodaibo 86.95 334 eP **P** **01 47 11.2 -0.8**
BOD pmax pmax
comp=Z,10.0nm,1.8s,mb4.7
YBH Yreka Blue Hor 87.04 45 P **P** **01 47 13.5 +0.6**
comp=Z,3.0nm,0.9s,mb4.5,baz=153,slow=4.5,SNR=3.5
CMB Columbia Colle 87.08 49 eP **P** **01 47 12.6 -0.6**
comp=Z,6.7nm,1.1s,mb4.8
CMB Columbia Colle 87.08 49 eP **P** **01 47 12.6 -0.5**
CMB pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
ZAK Zakamensk 87.85 325 eP **P** **01 47 18.2 +1.7**
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
ILAR Eielson Array 88.90 18 P **P** **01 47 19.1 -2.1**
comp=Z,1.1nm,0.8s,mb4.2,baz=236,slow=5.4,SNR=9.5
WVOR Wild Horse Val 90.09 45 eP **P** **01 47 27.1 -0.2**
comp=Z,10nm,1.2s,mb5.0
WVOR Wild Horse Val 90.09 45 eP **P** **01 47 27.1 -0.2**
WVOR pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
NVL N'lazarevskaya 90.52 188⇑ *i*P **P** **01 47 28.3 -0.4**
NVL e*PP pP 01 47 38.9 0.0
NVL e*SP sP 01 47 43.4 +1.2
NVL e 01 51 12.6
NVL *i* S S 01 58 00.6 -19
NVL pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
SNAA Sanae 90.97 183 *e* **P** **01 47 30.8 +0.1**
SNAA Sanae 90.97 183⇑ *i*P **P** **01 47 30.2 -0.5**
SNAA e pP 01 47 41.3 +0.4
SNAA e 01 47 46.4
HAWA Hanford 91.10 41 eP **P** **01 47 32.1 +0.3**
comp=Z,0.9nm,1.2s,mb4.0
VNA3 Neumayer Olymp 91.62 181 *e* **P** **01 47 34.0 +0.3**
VNA3 Neumayer Olymp 91.62 181 *e* **P** **01 47 44.3 +11**
VNA3 Neumayer Olymp 91.62 181 *e* **P** **01 47 49.4 +16**
VNA3 Neumayer Olymp 91.62 181⇑ *i*P **P** **01 47 33.2 -0.5**
VNA3 *e* pP 01 47 44.3 +0.4
VNA3 *e* 01 47 49.4
VNA2 Neumayer--Watz 91.89 182 *e* **P** **01 47 35.5 +0.6**
VNA2 Neumayer--Watz 91.89 182 *e* **P** **01 47 45.8 +11**
VNA2 Neumayer--Watz 91.89 182 *e* **P** **01 47 50.4 +15**
VNA2 Neumayer--Watz 91.89 182⇑ *i*P **P** **01 47 34.5 -0.5**
VNA2 *e* pP 01 47 45.8 +0.6
VNA2 *e* 01 47 50.4
VNA1 Neumayer--Stat 92.19 181 *e* **P** **01 47 37.7 +1.4**
VNA1 Neumayer--Stat 92.19 181 *e* **P** **01 47 47.3 +11**
VNA1 Neumayer--Stat 92.19 181 *e* **P** **01 47 53.0 +17**
VNA1 Neumayer--Stat 92.19 181⇑ *i*P **P** **01 47 36.9 +0.6**
VNA1 *e* pP 01 47 47.3 +0.7
VNA1 *e* 01 47 53.0
WMQ Urumqi 94.77 314 eP **P** **01 47 52.3 +3.5**
WMQ AMB AMB
comp=Z,8.0nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,189nm,3.8s
TXAR Lajitas Array 97.24 62 P **P** **01 48 02.6 +2.2**
comp=Z,0.2nm,0.7s,mb3.7,baz=202,slow=4.9,SNR=3.0
MKAR Makanchi Array 99.30 316 P **P** **01 48 09.2 -0.1**
comp=Z,0.4nm,0.4s,mb4.3,baz=86,slow=6.6,SNR=3.6
ZAL Zalesovo 99.68 323 P **P** **01 48 12.1 +1.3**
comp=Z,1.2nm,0.5s,mb4.6,baz=346,slow=4.8,SNR=8.6
ARCES ARCESS Array B 122.84 345 PKP PKPdf 01 53 22.6 -4.2
comp=Z,4.0nm,0.6s,baz=110,slow=1.0,SNR=22
FINES FINESS Array B 128.25 338 PKP PKPdf 01 53 33.5 -4.0
comp=Z,6.2nm,1.0s,baz=41,slow=1.8,SNR=7.9
BDFB Brasilia 131.97 131 PKP PKPdf 01 53 41.5 -4.2
comp=Z,7.4nm,1.2s,baz=163,slow=3.6,SNR=3.7
AKASG Malin Array Be 133.05 325 PKP PKPdf 01 53 42.6 -4.3
comp=Z,0.9nm,0.6s,baz=49,slow=2.4,SNR=5.7
NB2 NORSAR Subarra133.21 344 PKPdf PKPdf 01 53 42.7 -4.2
comp=Z,9.3nm,1.4s,baz=32,slow=1.9
NB2 NORSAR Subarra133.21 344 PKPd 01 53 42.7
baz=32,slow=1.9
NOA NORSAR Array B133.21 344 PKP PKPdf 01 53 43.2 -3.7
comp=Z,3.1nm,1.1s,baz=31,slow=1.9,SNR=4.2
ASF Jabal al Asfar 133.25 298 PKP PKPdf 01 53 43.5 -4.2
comp=Z,0.8nm,0.3s,baz=315,slow=8.6,SNR=3.0
HFS Hagfors 133.30 342 PKP PKPdf 01 53 42.3 -4.8
comp=Z,1.3nm,0.6s,baz=178,slow=40,SNR=4.1
BRTR Keskin Array B 134.41 309 PKP PKPdf 01 53 47.0 -2.7
comp=Z,0.8nm,0.8s,baz=212,slow=19,SNR=10
MLR Muntele Rosu 137.51 320 PKP PKPdf 01 53 53.2 -2.0
comp=Z,2.1nm,0.8s,baz=11,slow=17,SNR=3.8
KOLS Kolonicke sedl 137.79 326 *e*PKP PKPdf 01 53 52.7 -2.9
KOLS *e* 01 54 04.6
STHS Stebnicka Huta 138.04 327 *e*PKP PKPdf 01 53 53.9 -2.2
OKC Ostrava-Krasne 139.32 330 *e*PKP PKPdf 01 53 55.5 -2.9
DPC Dobruska-Polom 139.82 331 *e*PKP PKPdf 01 53 56.9 -2.4
UPC Upice 139.85 332 *e*PKP PKPdf 01 53 56.9 -2.4
PVCC Panska Ves 140.47 333 *e*PKP PKPdf 01 53 55.7 -4.7
BRG Berggiesshubel 140.49 334 *i* PKP PKPdf 01 53 56.6 -3.8
CLL Collm 140.55 335 *i* PKIKP PKPdf 01 53 54.2 -6.3
CLL *e*PPKP 01 54 06.0
PRU Pruhonice 140.88 332 *e*PKP PKPdf 01 53 54.9 -6.3
TREC Trest 140.95 331 *e*PKP PKPdf 01 53 53.8 -7.5
NKC Novy Kostel 141.60 334 *e*PKP PKPdf 01 53 59.1 -3.3
KHC Kasperske Hory 141.94 332 *e*PKP PKPdf 01 53 56.7 -6.3
GERES GERESS Array B 142.09 332 PKhKP 01 53 55.6
comp=Z,0.9nm,0.6s,baz=34,slow=4.8,SNR=13
GERES GERESS Array B 142.09 332 PKHKP 01 53 55.6
GERES pmax pmax
comp=Z,1.0nm,0.6s
IDI Anoyia 142.37 306 PKhKP 01 53 58.2
comp=Z,3.2nm,0.6s,baz=36,slow=9.6,SNR=9.1
GRF Grafenberg Arr 142.52 335 *e*PKHKP 01 53 56.3
PERS Pernice 142.97 328 *e*PKPdf PKPdf 01 54 00.1 -4.8
KBA Koelnbreinsper 143.53 330⇑ *i*P PKPbc 01 54 00.6 +1.5
comp=Z,16nm,1.2s
KBA Koelnbreinsper 143.53 330 *i* P PKPbc 01 54 00.6 +1.5
comp=Z,16nm,1.2s,SNR=8.9
TOD Tromm 143.54 337 eP PKPbc 01 54 00.5 +1.5
TOD Tromm 143.54 337 PKIKP PKPdf 01 54 00.1 -5.6
VISS Visnje 143.68 327 *e*PKPdf PKPdf 01 54 01.2 -4.9
ABH Alteburg 143.77 338 eP PKPbc 01 54 02.0 +2.3
ABH Alteburg 143.77 338 PKP PKPdf 01 54 01.6 -4.5
VOY Vojsko 144.00 328 *e*PKPdf PKPdf 01 54 01.2 -5.4
VOY *e* 01 54 20.9
ROBS Robic 144.05 329 *e*PKPdf PKPdf 01 54 01.6 -5.1
WTTA Wattenberg 144.19 332⇑ *i*P PKPbc 01 54 03.3 +2.3
comp=Z,25nm,1.0s
BUCH Bad Urach 144.26 335⇓ *e*P PKPbc 01 54 02.9 +1.7
LBG Lerchenberg 144.31 336⇓ *e*P PKPbc 01 54 03.0 +1.7
MOTA Moosalm 144.37 332⇓ *i*P PKPbc 01 54 03.2 +1.7
comp=Z,32nm,1.1s
SQTA Sankt Quirin 144.42 332⇑ *i*P PKPbc 01 54 03.6 +1.9
comp=Z,34nm,1.2s
GIVF Givet 144.50 341 *e*PKP1 PKPbc 01 54 03.5 +1.7
UBR Uberruh 144.55 334⇓ *e*P PKPbc 01 54 03.7 +1.7
GUT Gutenstein 144.65 335⇓ *e*P PKPbc 01 54 03.8 +1.5
BAIF Baives 144.73 341 *e*PKP1 PKPbc 01 54 03.6 +1.2
comp=Z,68nm,1.3s
SPAK Spaichingen 144.76 335 *e*P PKPbc 01 54 04.9 +2.3
STR Strasbourg 144.77 337 PKP PKPdf 01 54 05.3 -2.6
DAVA Damuels 144.95 333⇑ *i*P PKPbc 01 54 05.1 +1.9
comp=Z,84nm,1.2s
WLS Welschbruch 145.06 337 PKP PKPdf 01 54 05.5 -3.0
CDF Champ du Feu 145.09 337 *e*PKP1 PKPbc 01 54 04.4 +0.9
comp=Z,62nm,0.7s
LIBD Limburg 145.19 336 *e*P PKPbc 01 54 06.0 +2.3
LIBD Limburg 145.19 336 PKIKP PKPdf 01 54 06.3 -2.4
KIZ Kirchzarten 145.22 336⇓ *e*P PKPbc 01 54 05.6 +1.8
FELD Feldberg 145.25 336⇓ *e*P PKPbc 01 54 05.9 +2.0
ECH Echery 145.30 337 PKP PKPdf 01 54 06.8 -2.1
DAVOX Davos 145.34 333 PKPbc PKPbc 01 54 06.3 +2.2
comp=Z,34nm,0.6s,baz=37,slow=0.8,SNR=82
MOF Molkenrain 145.61 336 PKP PKPdf 01 54 06.8 -2.6
THEF They Montfort 145.72 338 PKP PKPdf 01 54 08.3 -1.3
HINF Hinteralfeld 145.75 337 *e*PKP1 PKPbc 01 54 06.6 +1.5
HAU Haudompre 145.78 337 *e*PKP1 PKPbc 01 54 07.0 +1.8
comp=Z,29nm,0.6s
BBS Basel-Blauen 145.78 336⇓ *e*P PKPbc 01 54 07.6 +2.4
MEZF Maizieres J'vi 145.81 339 *e*PKP1 PKPbc 01 54 06.9 +1.6
comp=Z,115nm,0.8s
LOMF Lomont 146.14 336 PKP PKPdf 01 54 09.2 -1.1
TIP Timpagrande 146.58 317 *e*PKPdf PKPdf 01 54 09.0 -2.4
CII Carovilli 146.63 322 *e*PKPdf PKPdf 01 54 11.1 -0.3
GRAM 146.99 330 P PKPbc 01 54 09.7 +1.5
VALM 147.01 330 P PKPdf 01 54 10.0 -1.9
CABF La Chapelle 147.04 336 *e*PKP1 PKPdf 01 54 10.2 -1.7
comp=Z,38nm,0.9s
ORX Oropa 147.06 333 P PKPdf 01 54 10.3 -1.6
CODM 147.17 330 P PKPdf 01 54 10.1 -2.1
FLN La Foliniere 147.19 345 *e*PKP1 PKPdf 01 54 10.6 -1.4
comp=Z,137nm,1.2s
MAIM 147.21 329 P PKPdf 01 54 09.9 -2.3
VINC Vinca 147.21 329 P PKPdf 01 54 10.4 -1.8
LDF La Druitiere 147.26 345 *e*PKP1 PKPdf 01 54 10.7 -1.5
comp=Z,16nm,0.7s
LOR Lormes 147.28 339 *e*PKP1 PKPdf 01 54 11.3 -0.9
comp=Z,24nm,0.7s
LSD Ceresole Reale 147.55 334 P PKPdf 01 54 12.5 -0.2
SSF Saint Saulge 147.58 340 *e*PKP1 PKPdf 01 54 12.2 -0.5
comp=Z,27nm,0.6s
GRR Gorron 147.63 346 *e*PKP1 PKPdf 01 54 12.0 -0.8
comp=Z,114nm,1.2s
PCP Pian Castagno 147.66 331 P PKPdf 01 54 12.2 -0.8
LPL La Plagne 147.68 334 *e*PKP1 PKPdf 01 54 13.0 +0.1
comp=Z,24nm,0.8s
HYF Humbligny 147.68 341 *e*PKP1 PKPdf 01 54 12.7 -0.2
LPG La Plagne 147.69 334 *e*PKP1 PKPdf 01 54 13.2 +0.3
comp=Z,25nm,0.8s
RSP Reno Superiore 147.75 333 P PKPdf 01 54 11.9 -1.1
SMF Signal de Mont 147.83 339 *e*PKP1 PKPdf 01 54 12.6 -0.5
comp=Z,59nm,1.1s
AVF Avril sur Loir 147.87 339 *e*PKP1 PKPdf 01 54 12.6 -0.6
comp=Z,73nm,1.5s
FENE Fenestrelle 147.94 334 P PKPdf 01 54 12.7 -0.7
FIN Finale Ligure 148.07 331 P PKPdf 01 54 12.9 -0.7
BNI Bardonecchia 148.08 334 *e*PKPdf PKPdf 01 54 11.6 -2.0
SGMF Saint Gilles 148.13 347 *e*PKP1 PKPdf 01 54 13.1 -0.5
comp=Z,65nm,0.9s
RRL Cesana Torines 148.14 334 P PKPdf 01 54 14.1 +0.5
ROB Roburent 148.16 332 P PKPdf 01 54 12.7 -1.0
GDM Grand'Maison 148.19 335 PKP PKPdf 01 54 15.1 +1.3
ROSF Rostrenen 148.20 348 *e*PKP1 PKPdf 01 54 13.7 0.0
comp=Z,69nm,1.2s
BGF Bois d'Igland 148.24 340 *e*PKP1 PKPdf 01 54 13.8 0.0
comp=Z,33nm,0.7s
MBDF Montbardon 148.30 334 *e*PKP1 PKPdf 01 54 14.0 0.0
comp=Z,13nm,0.9s
GRN Grenoble 148.31 335 PKP PKPdf 01 54 16.2 +2.3
MONE Monesi 148.38 332 P PKPdf 01 54 13.9 -0.2
IMI Imperia 148.45 331 P PKPdf 01 54 13.8 -0.4
SURF Saint Ours 148.48 333 PKP PKPdf 01 54 16.3 +2.1
PLDF La Plantade 148.49 338 PKP PKPdf 01 54 15.3 +1.1
ORIF Oris-en-Rattie 148.52 335 *e*PKP1 PKPdf 01 54 14.9 +0.6
comp=Z,41nm,1.0s
SAOF Saorge 148.54 332 PKP PKPdf 01 54 14.9 +0.5
QUIF Quistinic 148.58 348 *e*PKP1 PKPdf 01 54 14.3 0.0
comp=Z,22nm,0.7s
AGO Saint Agoulin 148.59 339 PKP PKPdf 01 54 15.3 +0.9
AUTN L'Aution 148.59 332 PKP PKPdf 01 54 15.6 +1.2
TOUF Mont Tournerai 148.66 332 PKP PKPdf 01 54 15.4 +0.9
TCF Toulx Ste Croi 148.69 340 *e*PKP1 PKPdf 01 54 14.9 +0.4
comp=Z,9.4nm,0.6s
SBF Sospel 148.69 332 *e*PKP1 PKPdf 01 54 14.8 +0.2
PYM Petit Puy Mans 148.90 339 PKP PKPdf 01 54 16.7 +1.8
PGF Pioggiola 148.95 328 *e*PKP1 PKPdf 01 54 16.0 +0.9
comp=Z,140nm,1.1s
CALN Calern 149.03 332 PKP PKPdf 01 54 16.8 +1.7
VAE Valguarnera 149.05 316 PKPbc PKPdf 01 54 18.5 +3.2
comp=Z,2.3nm,0.6s,baz=233,slow=12,SNR=2.8
VIVF Saint-Julien-l 149.05 336 *e*PKP1 PKPdf 01 54 15.7 +0.6
comp=Z,124nm,1.6s
MFF Saint Martin d 149.10 343 *e*PKP1 PKPdf 01 54 15.9 +0.7
comp=Z,44nm,0.6s
STOF St-Étienne Org 149.25 334 PKP PKPdf 01 54 17.4 +1.9
LBL Lubilhac 149.26 338 PKP PKPdf 01 54 16.6 +1.1
FRF La Foret Royal 149.28 332 *e*PKP1 PKPdf 01 54 16.4 +0.8
comp=Z,13nm,0.6s
SMRF Simiane la Rot 149.41 334 *e*PKP1 PKPdf 01 54 17.3 +1.5
comp=Z,19nm,0.8s
VILF Villemus 149.46 334 PKP PKPdf 01 54 17.4 +1.6
TAVF Tavernes 149.50 333 PKP PKPdf 01 54 17.8 +1.9
LMR La Mourre 149.53 332 *e*PKP1 PKPdf 01 54 17.1 +1.1
comp=Z,15nm,0.6s
RJF Les Rejaudoux 149.78 340 *e*PKP1 PKPdf 01 54 18.0 +1.7
comp=Z,104nm,1.3s
CAF Calviac 149.94 339 *e*PKP1 PKPdf 01 54 18.5 +1.9
comp=Z,58nm,1.3s
LASF Ste Croix 150.02 336 *e*PKP1 PKPdf 01 54 18.5 +1.8
comp=Z,112nm,1.1s
LFF La Frestale 150.36 341 *e*PKP1 PKPdf 01 54 19.5 +2.3
comp=Z,81nm,1.1s
VSL Villasalto 150.92 324 *e*PKPdf PKPdf 01 54 19.8 +1.5
MTLF Montolieu 151.27 337 *e*PKP1 PKPdf 01 54 21.6 +3.0
comp=Z,16nm,0.8s
EPF Esparros 152.19 340 *e*PKP1 PKPdf 01 54 23.9 +3.9
ETSF Etsaut 152.60 341 *e*PKP1 PKPdf 01 54 24.7 +4.1
comp=Z,38nm,1.0s
SJPF Ste Jean 152.61 342 *e*PKP1 PKPdf 01 54 24.6 +4.0
ESDC Sonseca Array 156.57 343 PKPbc PKPdf 01 54 34.0 +7.9
comp=Z,0.5nm,0.6s,baz=6.4,slow=3.9,SNR=3.9
EVO Evora 158.54 351 *e*PKIKP PKPdf 01 54 25.4 -3.2
comp=Z,32nm,1.2s
MDT Midelt 163.06 337 PKP PKPdf 01 54 31.5 -2.0
comp=Z,5.5nm,1.1s,baz=165,slow=1.5,SNR=4.2
LIC Lamto 166.80 214 *e*PKP2 PKPab 01 55 33.8 -3.5
comp=Z,48nm,1.3s

IDC ***26*** *01:42:32.2±3.1, 18.48S×168.06E, mb3.9/4, mb1 4.1/4, mb1mx3.9/11, mbtmp3.9/4, Error ellipse: s-maj=99.7km s-min=36.9km az=135.0*
NEIC ***26*** *01:42:40.8±0.6, 18.21S×167.55E, h35km, mb4.4/2, Error ellipse: s-maj=19.2km s-min=18.1km az=185.0*
ISC 26 01:42:39.8±1.1, 18.1S±0.2×167.3E±0.2, h33km, (h34km±3.3km:pP-P), n27, σθ92/11, mb3.8/4, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower** 8.6nm,1.1s,baz=64,slow=11,SNR=3.9	**20.01**	**261**	P	**P**		**01 47 13.4**	**+0.8**
CTAO	**Charters Tower** 11nm,1.0s	**20.01**	**261**	*e*P	**P**		**01 47 14.4**	**+1.9**
STKA	**Stephens Creek** 2.5nm,0.6s,mb3.8,baz=67,slow=7.0,SNR=4.8	**26.96**	**235**	P	**P**		**01 48 20.9**	**+0.4**
STKA	**Stephens Creek**	**26.96**	**235**	*e*P	**P**		**01 48 19.5**	**-0.9**

WRA	**Warramunga Arr**	**31.21**	**261**	P		**P**	**01 48**	**57.4**	**-1.2**
	0.4nm,0.8s,mb3.3,baz=96,slow=8.8,SNR=5.9								
GUMO	**Guam**	**38.52**	**323**	*e*P		**P**	**01 50**	**00.0**	**-1.0**
	217nm,1.9s								
VNDA	**Vanda**	**59.49**	**181**	*e*P		**P**	**01 52**	**37.3**	**-4.4**
	11nm,2.2s,mb4.5								
SONM	**Songino Array**	**85.25**	**324**	P		**P**	**01 55**	**15.6**	**+1.3**
	0.5nm,0.8s,mb3.7,baz=106,slow=9.3,SNR=2.8								
SNAA	**Sanae**	**90.19**	**183**	*e*	Px		01 55	45.1	
SNAA	**Sanae**	**90.19**	**183**	*e*	Px		01 55	48.9	
SNAA	**Sanae**	**90.19**	**183**	*e*	Px		01 55	55.1	
SNAA	**Sanae**	**90.19**	**183**	⇑*iP*		**P**	**01 55**	**37.6**	**0.0**
SNAA				*e*			01 55	45.1	
SNAA				*e*	pP		01 55	48.9	+0.7
SNAA				*e*			01 55	55.1	
SNAA				*e*			01 56	31.4	
VNA3	**Neumayer Olymp**	**90.85**	**181**	*e*	Px		01 55	48.8	
VNA3	**Neumayer Olymp**	**90.85**	**181**	*e*	Px		01 55	51.9	
VNA3	**Neumayer Olymp**	**90.85**	**181**	*e*	Px		01 55	58.7	
VNA3	**Neumayer Olymp**	**90.85**	**181**	⇑*iP*		**P**	**01 55**	**40.8**	**+0.1**
VNA3				*e*			01 55	48.8	
VNA3				*e*	pP		01 55	51.9	+0.6
VNA3				*e*			01 55	58.7	
VNA3				*e*			01 56	34.2	
VNA2	**Neumayer--Watz**	**91.11**	**182**	*e*	Px		01 55	50.4	
VNA2	**Neumayer--Watz**	**91.11**	**182**	*e*	Px		01 55	53.4	
VNA2	**Neumayer--Watz**	**91.11**	**182**	*e*	Px		01 56	00.3	
VNA2	**Neumayer--Watz**	**91.11**	**182**	⇑*iP*		**P**	**01 55**	**41.7**	**-0.2**
VNA2				*e*	pP		01 55	50.4	-2.1
VNA2				*e*	pP		01 55	53.4	+0.9
VNA2				*e*			01 56	00.3	
VNA2				*e*			01 56	35.8	
CDF	**Champ du Feu**	**145.70**	**336**	*e*PKP1	PKPbc		02 02	13.1	-2.5
	18nm,0.9s								
DAVOX	**Davos**	**145.91**	**332**	PKPbc	PKPbc		02 02	13.8	-2.3
	4.7nm,0.6s,baz=1.6,slow=2.4,SNR=13								
CABF	**La Chapelle**	**147.64**	**336**	*e*PKP1	PKPdf		02 02	19.3	+1.2
FLN	**La Foliniere**	**147.87**	**345**	*e*PKP1	PKPdf		02 02	19.7	+1.3
LOR	**Lormes**	**147.91**	**339**	*e*PKP1	PKPdf		02 02	19.3	+0.8
SSF	**Saint Saulge**	**148.21**	**339**	*e*PKP1	PKPdf		02 02	20.3	+1.3
	6.9nm,0.8s								
LPG	**La Plagne**	**148.27**	**334**	*e*PKP1	PKPdf		02 02	21.4	+2.3

MOS **26** *01:55:31.7±0.9,5.58S×76.39W,h71km,mb7.1/73, MS6.9/43,Error ellipse: s-maj=6.7km s-min=4.5km az=90.3*

BJI **26** *01:55:37.0,5.70S×76.40W,h115km,mB7.6*

NEIC **26** *01:55:37.7±0.1,5.68S×76.40W,h115km,mb6.7/198, ME7.0,MW7.5,MD7.5(IGQ),Error ellipse: s-maj=3.3km s-min=2.5km az=223.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*130°,*δ*55°,*λ*-110°. NP2:*ϕ_s*342°,*δ*40°, *λ*-64°. Principal axes: T Plg8°, Azm234°; N Plg0°, Azm0°; P Plg72°, Azm349°; Moment Tensor Solution. s55 Moment tensor: Scale 10*^{20} *Nm; Mrr-1.56; Mθθ-0.21; Mϕϕ1.77; Mrθ-0.20; Mrϕ-1.14; Mθϕ0.50; Best double couple: M*$_o$*2×10*^{20} *NP1:*ϕ_s*157°,*δ*53°,*λ*-88°. NP2:*ϕ_s*334°, *δ*37°,*λ*-92°. Principal axes: T 2.36, Plg8°, Azm246°; N -.73, Plg1°, Azm336°; P -1.64, Plg82°, Azm75°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Five people killed, at least 60 injured, about 70 percent of the houses destroyed and at least 200 buildings damaged at Lamas. Buildings damaged at Chachapoyas, Moyobamba and Tarapoto. Felt [IV] at Cajamarca, Lima and Trujillo. Felt [VI] at Cuenca and Loja and [III] at Guayaquil and Quito, Ecuador. Felt [III] at Manaus, Brazil and [II] at Bogota, Colombia. Felt throughout Peru and Ecuador. Also felt in Rondonia, Brazil.

HRVD **26** *01:55:37.7±0.1,5.60S×76.20W,h108km,MW7.5/76, Centroid moment Tensor Solution.Mantle waves: s76,c197; Half duration: 13s6 Moment tensor: Scale 10*^{20} *Nm; Mrr-2.02±.01; Mθθ-0.12±.01; Mϕϕ2.15±.01; Mrθ-0.05±.01; Mθϕ-0.50±.01; Mϕr0.45±.01; Best double couple: M*$_o$*2.185×10*^{20} *NP1:*ϕ_s*347°,*δ*39°,*λ*-92°. NP2: *ϕ_s*169°,*δ*51°,*λ*-88°. Principal axes: T 2.302, Plg6°, Azm258°; N -.228, Plg1°, Azm348°; P -2.067, Plg84°, Azm91°; nsta1 refers to body waves. nsta2 refers to mantle waves, cutoff=150s.*

BGS **26** *01:55:40.0,4.85S×76.59W,h115km,mb6.6,MS7.0*

IDC **26** *01:55:40.4±0.3,5.59S×76.39W,h142km±2km,mb5.9/31, mb1 5.9/35,mb1mx5.9/35,mbtmp6.3/35,MS6.8/11, Ms1 6.8/11,ms1mx6.5/32,Error ellipse: s-maj=7.3km s-min=5.1km az=82.0*

ISC 26 01:55:37.7±0.1,5.74S±0.02×76.48W±0.02,h129km, h129km±.8km:pP-P,n1517,ω0s99/1223,mb6.5/280, 62C-361D,Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**6.22**	**183**	⇑*e*Pn		**P**	**01 57 07.2**	**-1.1**
	28μm,1.0s							
NNA				*e*Sn		**S**	**01 58 13.8**	**-4.8**
ROSC	**El Rosal**	**10.74**	**12**	P		**P**	**01 58 07.8**	**-1.1**
	6.6nm,0.3s,baz=159,slow=2.8,SNR=61							
ROSC				S		**S**	**02 00 10.1**	**+2.9**
	296nm,0.3s,baz=105,slow=23,SNR=1.6							
ROSC				P3KPbc			02 34 41.9	
	0.3nm,0.3s,baz=94,slow=12,SNR=5.6							
ARE	**Arequipa**	**11.72**	**156**	*e*P		**P**	**01 58 21.0**	**-0.9**
LPAZ	**La Paz**	**13.30**	**143**	P		**P**	**01 58 37.9**	**-4.5**
	6.4nm,0.3s,baz=325,slow=15,SNR=183							
LPAZ				S		**S**	**02 01 12.6**	**+5.0**
	58nm,0.3s,baz=31,slow=12,SNR=2.7							
LPAZ				LR		LR	02 04 38.3	
	comp=Z,321μm,20.2s,baz=329,slow=40							
LPAZ				P3KPbc			02 34 36.5	
	0.1nm,0.3s,baz=20,slow=12,SNR=3.3							
LPAZ	**La Paz**	**13.30**	**143**	⇑*e*Pn		**P**	**01 58 38.1**	**-4.3**
	12nm,2.5s							
LPAZ				*e*Sn		**S**	**02 01 01.6**	**-6.0**
LPAZ	**La Paz**	**13.30**	**143**	P		**P**	**01 58 37.9**	**-4.5**
LPAZ				S		**S**	**02 01 12.6**	**+5.0**
LPAZ				pmax	pmax			
	comp=Z,6.0nm,0.3s							
LPAZ				smax				
	comp=E,58nm,0.3s							
LPAZ				MLR	MLR			
	comp=Z,321μm,20.2s							
SDV	**Santo Domingo**	**15.65**	**22**	P		**P**	**01 59 10.1**	**-2.3**
	comp=Z,47nm,0.3s,baz=213,slow=7.6,SNR=222							
SDV				S		**S**	**02 02 05.2**	**+3.3**
	comp=Z,121nm,0.3s,baz=252,slow=21,SNR=1.7							
SDV				P3KPbc			02 34 25.1	
	comp=Z,0.5nm,0.3s,baz=70,slow=4.3,SNR=4.3							
SDV	**Santo Domingo**	**15.65**	**22**	⇑*iP*		**P**	**01 59 10.0**	**-2.4**
SDV				*e*S		**S**	**02 02 05.1**	**+3.2**
SDV	**Santo Domingo**	**15.65**	**22**	⇑*iPn*		**P**	**01 59 10.1**	**-2.3**
	comp=Z,7μm,0.8s							
SDV				*e*Sn		**S**	**02 02 04.0**	**+2.1**
BUS	**Buena Vista**	**16.84**	**334**	*e*P		**P**	**01 59 29.8**	**+2.6**
BUS	**Buena Vista**	**16.84**	**334**	*e*P		**P**	**01 59 30.8**	**+3.7**
LIO	**Limon**	**16.95**	**337**	*e*P		**P**	**01 59 31.5**	**+3.0**
LIO	**Limon**	**16.95**	**337**	*e*P		**P**	**01 59 32.0**	**+3.5**
URSC	**Urasca**	**17.09**	**335**	*e*P		**P**	**01 59 35.0**	**+4.7**
ICR	**Volcan Irazu**	**17.25**	**335**	*e*P		**P**	**01 59 35.9**	**+3.6**
ICR	**Volcan Irazu**	**17.25**	**335**	*e*P		**P**	**01 59 35.6**	**+3.4**
SJS	**Escuela Geolog**	**17.30**	**334**	⇑*e*P		**P**	**01 59 33.5**	**+0.6**
SJS	**Escuela Geolog**	**17.30**	**334**	⇑*e*P		**P**	**01 59 34.2**	**+1.3**
CGA2	**Cerro Gallo 2**	**17.56**	**333**	*e*P		**P**	**01 59 38.3**	**+2.3**
CGA2	**Cerro Gallo 2**	**17.56**	**333**	*e*P		**P**	**01 59 38.3**	**+2.4**
VPS2	**Volcan Poas 2**	**17.61**	**334**	*e*P		**P**	**01 59 35.1**	**-1.4**
VPS2	**Volcan Poas 2**	**17.61**	**334**	*e*P		**P**	**01 59 36.0**	**-0.6**
JTS	**JuntasAbangare**	**18.02**	**332**	P		**P**	**01 59 41.3**	**0.0**
	comp=Z,11nm,0.3s,baz=176,slow=3.0,SNR=30							
JTS				S		**S**	**02 02 59.7**	**+4.7**
JTS	**JuntasAbangare**	**18.02**	**332**	⇓*iP*		**P**	**01 59 41.9**	**+0.5**
	comp=Z,5μm,1.2s							
JTS				*e*Sn		**S**	**02 02 59.5**	**+4.5**
JTS	**JuntasAbangare**	**18.02**	**332**	P		**P**	**01 59 41.3**	**-0.1**
JTS				S		**S**	**02 02 59.7**	**+4.7**
JTS				pmax	pmax			
	comp=Z,11nm,0.3s							
FORC	**Fortuna**	**18.05**	**333**	*e*P		**P**	**01 59 42.8**	**+1.1**
FORC	**Fortuna**	**18.05**	**333**	*e*P		**P**	**01 59 43.1**	**+1.5**
VCR	**Vista de Mar**	**18.21**	**330**	*e*P		**P**	**01 59 45.8**	**+2.4**
VCR	**Vista de Mar**	**18.21**	**330**	*e*P		**P**	**01 59 44.2**	**+0.8**
SIV	**San Ignacio**	**18.22**	**125**	P		**P**	**01 59 39.8**	**-3.8**
	comp=Z,11nm,0.3s,baz=303,slow=11,SNR=275							
SIV				S		**S**	**02 02 52.9**	**-6.5**
	baz=72,slow=23,SNR=2.2							
LVC	**Limon Verde**	**18.30**	**157**	P		**P**	**01 59 44.9**	**+0.6**
	comp=Z,32nm,0.3s,baz=320,slow=8.9,SNR=116							
LVC				S		**S**	**02 03 07.7**	**+6.7**
	comp=Z,14nm,0.3s,baz=353,slow=19,SNR=1.8							
LVC	**Limon Verde**	**18.30**	**157**	⇓*eP*		**P**	**01 59 44.6**	**+0.3**
LVC				AMP			01 59 57.4	
	comp=Z,18μm,1.1s							
LVC				*e*S		**S**	**02 03 08.1**	**+7.1**
LVC	**Limon Verde**	**18.30**	**157**	⇓*iP*		**P**	**01 59 45.2**	**+0.9**
	comp=Z,5μm,0.8s							
LVC				*e*S		**S**	**02 03 10.9**	**+10**
MADN	**Villa Maderas**	**19.27**	**332**	*e*P		**P**	**01 59 56.6**	**+1.8**
SSNN	**San Juan del S**	**19.31**	**331**	*e*P		**P**	**01 59 56.7**	**+1.4**
CONN	**Concepcion**	**19.45**	**332**	*e*P		**P**	**01 59 58.2**	**+1.5**
APON	**Apoyo**	**19.96**	**331**	*e*P		**P**	**02 00 03.8**	**+1.8**
MASN	**Masaya**	**20.07**	**331**	*e*P		**P**	**02 00 04.9**	**+1.9**
TICN	**Ticuantepe**	**20.14**	**331**	*e*P		**P**	**02 00 05.4**	**+1.6**
WILN	**Americas 2**	**20.23**	**332**	*e*P		**P**	**02 00 09.0**	**+4.3**
MGAN	**Managua**	**20.25**	**331**	*e*P		**P**	**02 00 07.5**	**+2.6**
MGAN				*e*S		**S**	**02 03 47.4**	**+7.7**
XAVN	**Gruta Xavier**	**20.29**	**331**	*e*P		**P**	**02 00 07.2**	**+1.9**
COPN	**Copaltepe**	**20.44**	**331**	*e*P		**P**	**02 00 08.7**	**+1.8**
PYTN	**Playitas**	**20.50**	**332**	⇑*e*P		**P**	**02 00 09.1**	**+1.6**
MOMJ	**Momotombo**	**20.62**	**331**	*e*P		**P**	**02 00 10.8**	**+2.2**
MIRN	**Miramar**	**20.73**	**331**	*e*P		**P**	**02 00 12.8**	**+3.1**
CNGN	**Cerro Negro**	**20.77**	**331**	*e*P		**P**	**02 00 13.1**	**+2.9**
LEON	**Leon**	**20.80**	**330**	*e*P		**P**	**02 00 13.8**	**+3.4**
TEL3	**Telica 3**	**20.91**	**330**	*e*P		**P**	**02 00 14.6**	**+3.1**
TELN	**Telica**	**20.93**	**331**	*e*P		**P**	**02 00 11.3**	**-0.4**
CRIN	**San Cristobal**	**21.12**	**330**	*e*P		**P**	**02 00 16.6**	**+3.0**
BUAY	**Buenos Aires**	**21.56**	**43**	*e*P		**P**	**02 00 19.7**	**+1.7**
ALNG	**Atlantic LNG**	**21.61**	**43**	*e*P		**P**	**02 00 20.3**	**+1.8**
SIPA	**Siparia**	**21.71**	**43**	*e*P		**P**	**02 00 20.5**	**+1.1**
TPP	**Pointe-a-Pierr**	**21.87**	**43**	*e*P		**P**	**02 00 22.4**	**+1.4**
TRN	**Trinidad (W)**	**22.14**	**43**	*e*P		**P**	**02 00 24.5**	**+0.8**
TBH	**Brigand Hill**	**22.25**	**44**	*e*P		**P**	**02 00 26.4**	**+1.7**
TPR	**Prospect**	**22.95**	**43**	*e*P		**P**	**02 00 31.9**	**+0.2**
BOT	**Bacolet**	**22.98**	**43**	*e*P		**P**	**02 00 32.1**	**+0.2**
GRW	**Mount Saint Ca**	**23.09**	**40**	*e*P		**P**	**02 00 34.2**	**+1.2**
PCJ	**Portland Cotta**	**23.34**	**358**	⇑*e*P		**P**	**02 00 37.3**	**+2.0**
MCJ	**Malvern**	**23.54**	**357**	*e*P		**P**	**02 00 39.6**	**+2.3**
HOJ	**Hope**	**23.59**	**359**	⇑*e*P		**P**	**02 00 40.6**	**+2.8**
GWJ	**Greenwich**	**23.66**	**359**	⇑*e*P		**P**	**02 00 40.3**	**+1.8**
STH	**Stony Hill**	**23.66**	**359**	⇑*e*P		**P**	**02 00 40.4**	**+1.9**
CVJ	**Coleyville**	**23.83**	**358**	⇑*e*P		**P**	**02 00 42.4**	**+2.2**
NEJ	**Negril**	**23.90**	**356**	⇑*e*P		**P**	**02 00 40.1**	**-0.7**
BNJ	**Bonny Gate**	**23.91**	**359**	⇑*e*P		**P**	**02 00 42.3**	**+1.5**
BBJ	**Bamboo Saint A**	**23.98**	**358**	⇑*e*P		**P**	**02 00 43.3**	**+1.8**
MBJ	**Montego Bay**	**24.02**	**357**	⇓*e*P		**P**	**02 00 45.0**	**+3.0**
FCV	**Fort Charlotte**	**24.11**	**39**	*e*P		**P**	**02 00 42.6**	**-0.2**
SVB	**Belmont**	**24.19**	**39**	*e*P		**P**	**02 00 43.1**	**-0.5**
SLB	**Belfond**	**24.75**	**38**	*e*P		**P**	**02 00 46.0**	**-2.9**
TLL	**Tololo Astrono**	**24.88**	**166**	⇓*iP*		**P**	**02 00 51.2**	**+1.2**
TLL				AMP			02 01 01.5	
	comp=Z,9μm,1.9s							
TLL				*e*S		**S**	**02 05 07.4**	**+6.5**
SLW	**Petit Monier**	**24.96**	**38**	*e*P		**P**	**02 00 49.0**	**-1.8**
BBSP	**Saint Philip**	**25.22**	**42**	*e*P		**P**	**02 00 44.4**	**-9.0**
FDF	**Fort de France**	**25.39**	**37**	*e*P		**P**	**02 00 52.1**	**-2.8**
MVM	**Montagne Vaucl**	**25.40**	**37**	*e*P		**P**	**02 00 51.8**	**-3.2**
CRM	**Caravelle**	**25.54**	**37**	*e*P		**P**	**02 00 53.2**	**-3.1**
RCC	**Rio Carpintero**	**25.58**	**2**	⇑*iP*		**P**	**02 00 57.8**	**+1.2**
RCC				*i* S		**S**	**02 04 55.8**	**-17**
	comp=N,24μm,11.0s							
	comp=E,19μm,11.0s							
DSHT	**Scott's Head**	**25.64**	**36**	*e*P		**P**	**02 00 58.2**	**+1.0**
DSHT	**Scott's Head**	**25.64**	**36**	*e*	pP		02 01 30.4	+6.1
LMGC	**Las Mercedes**	**25.64**	**359**	*e*P		**P**	**02 00 56.8**	**-0.4**
LMGC				*e*S		**S**	**02 05 17.6**	**+3.9**
	comp=N,307nm,13.1s							
	comp=E,267nm,15.5s							
DBCT	**Belle View Cho**	**25.70**	**36**	*e*P		**P**	**02 00 58.5**	**+0.8**
DBCT	**Belle View Cho**	**25.70**	**36**	*e*	pP		02 01 30.5	+5.6
MDN	**Morne-Daniel**	**25.71**	**35**	*e*P		**P**	**02 00 56.7**	**-1.2**
MDN	**Morne-Daniel**	**25.71**	**35**	*e*	pP		02 01 30.3	+5.3
SJG	**San Juan**	**25.79**	**23**	P		**P**	**02 00 57.4**	**-1.3**
	comp=E,867nm,0.5s,mb6.7,baz=193,slow=5.7,SNR=182							
SJG				pP		pP	02 01 26.1	+0.3
	comp=E,2μm,0.6s,baz=196,slow=11,SNR=3.3							
SJG				S		**S**	**02 05 16.0**	**-0.2**
	comp=E,135nm,0.8s,baz=218,slow=15,SNR=1.7							
SJG				P3KPbc			02 33 47.3	
	comp=E,3.6nm,0.5s,baz=352,slow=17,SNR=2.0							
SJG	**San Juan**	**25.79**	**23**	⇓*iP*		**P**	**02 00 57.3**	**-1.3**
	comp=E,12μm,1.2s,mb7.4							
SJG				*e*pP		pP	02 01 28.4	+2.6
SJG				*e*S		**S**	**02 05 18.3**	**+2.1**
SJG				LR		LR		
	comp=Z,626μm,20.0s							
SJG	**San Juan**	**25.79**	**23**	⇓*iP*		**P**	**02 00 57.3**	**-1.3**
SJG				*e*S		**S**	**02 05 18.3**	**+2.1**
SJG				MLR		MLR		
	comp=Z,626μm,20.0s							
CPD	**Cerro la Pandu**	**25.82**	**24**	⇓*iP*		**P**	**02 00 57.4**	**-1.5**
CPD				*e*pP		pP	02 01 25.5	-0.6
CPD				*e*S		**S**	**02 05 19.0**	**+2.3**
BBL	**Barber's Block**	**25.83**	**35**	*e*P		**P**	**02 00 57.3**	**-1.7**
DWS	**Wesley**	**25.95**	**35**	*e*P		**P**	**02 00 59.4**	**-0.7**
TBG	**Guadaloupe-3**	**25.99**	**34**	*e*P		**P**	**02 00 59.3**	**-1.2**
MTP	**Monte Pirata**	**26.01**	**24**	⇓*iP*		**P**	**02 00 58.7**	**-2.0**
MTP				*e*			02 01 32.3	
MTP				*e*S		**S**	**02 05 22.7**	**+2.9**
DOG	**Dongo Capester**	**26.16**	**34**	⇓*e*P		**P**	**02 01 01.0**	**-1.0**
LZG	**Guadalupe-1**	**26.16**	**34**	*e*P		**P**	**02 01 01.0**	**-1.0**
BCG	**Bois Riant Cap**	**26.20**	**34**	⇓*e*P		**P**	**02 01 01.4**	**-0.9**
MOAC	**Moa**	**26.27**	**3**	*e*P		**P**	**02 01 04.1**	**+1.1**
MOAC				*e*S		**S**	**02 05 28.3**	**+4.3**
	comp=N,493nm,19.0s							
	comp=E,444nm,12.2s							
HLGC	**Holguin**	**26.46**	**1**	*e*P		**P**	**02 01 05.6**	**+0.8**
NVRH	**Round Hill, Ne**	**26.58**	**31**	*e*P		**P**	**02 01 07.2**	**+1.3**
SKTB	**Turtle Beach**	**26.59**	**31**	*e*P		**P**	**02 01 06.7**	**+0.7**
BSK	**Brimstone Hill**	**26.60**	**30**	*e*P		**P**	**02 01 06.9**	**+0.8**
BSK	**Brimstone Hill**	**26.60**	**30**	*e*	sP		02 01 45.3	-3.1
SKI	**Saint Kitts**	**26.64**	**30**	*e*P		**P**	**02 01 06.9**	**+0.5**
SKDB	**Saint Kitts 2**	**26.66**	**30**	*e*P		**P**	**02 01 07.5**	**+0.9**
CCCC	**Cccc**	**26.80**	**357**	*e*P		**P**	**02 01 08.1**	**+0.3**
BPA	**Boggy Peak**	**26.86**	**32**	*e*P		**P**	**02 01 05.3**	**-3.1**
CFAA	**Coronel Fontan**	**26.87**	**164**	P		**P**	**02 01 07.8**	**-0.6**
	comp=E,109nm,1.2s,baz=340,slow=8.4,SNR=173							
CFAA				pP		pP	02 01 38.4	+2.7
	comp=E,23nm,0.6s,baz=58,slow=5.7,SNR=1.9							
CFAA				S		**S**	**02 05 33.0**	**-0.6**
	comp=E,9.4nm,0.8s,baz=344,slow=7.1,SNR=1.5							
CFAA				P3KPbc			02 33 43.0	
	comp=E,0.5nm,0.8s,baz=101,slow=1.4,SNR=3.2							
CFAA	**Coronel Fontan**	**26.87**	**164**	P		**P**	**02 01 07.8**	**-0.6**
CFAA				pP		pP	02 01 38.4	+2.7
CFAA				S		**S**	**02 05 33.0**	**-0.6**
CFAA				*e*			02 33 43.0	
STMA	**St. Maarten, A**	**27.06**	**29**	*e*P		**P**	**02 01 08.4**	**-1.9**
CPUP	**Villa Florida**	**27.45**	**140**	P		**P**	**02 01 12.3**	**-1.4**
	comp=E,956nm,0.8s,mb6.5,baz=341,slow=8.7,SNR=189							
CPUP				S		**S**	**02 05 42.7**	**-0.4**
	comp=E,234nm,1.2s,baz=318,slow=14,SNR=2.4							
CPUP	**Villa Florida**	**27.45**	**140**	⇓*iP*		**P**	**02 01 12.3**	**-1.5**
	comp=E,150nm,0.1s,mb6.6							
CPUP				*e*S		**S**	**02 05 41.8**	**-1.2**
CPUP				LR		LR		
	comp=Z,301μm,22.0s							
CPUP	**Villa Florida**	**27.45**	**140**	⇓*iP*		**P**	**02 01 12.3**	**-1.5**
CPUP				*e*S		**S**	**02 05 41.8**	**-1.3**
CPUP				pmax	pmax			
	comp=Z,150nm,0.1s							
CPUP				MLR		MLR		
	comp=Z,301μm,22.0s							
MDZ	**Mendoza**	**27.93**	**166**	P		**P**	**02 01 19.2**	**+1.2**
MDZ				pP		pP	02 01 22.5	-23
MDZ				sP		sP	02 01 40.8	-20
MDZ				PP		PP	02 02 02.7	-10
MDZ				PP		PP	02 02 07.2	-5.3
MDZ				S		**S**	**02 06 02.4**	**+12**
MDZ				SS		SS	02 07 30.6	+7.7
MDZ				SS		SS	02 07 36.0	+13
MDZ				LR		LR	02 09 03.6	
MDZ	**Mendoza**	**27.93**	**166**	P		**P**	**02 01 19.2**	**+1.2**
MDZ				*SP		sP	02 01 40.8	-20
MDZ							02 02 07.2	
MDZ				S		**S**	**02 06 02.4**	**+12**
MDZ				SS		SS	02 07 30.6	+7.7
MDZ				SS		SS	02 07 36.0	+13
FCH	**Farellones**	**28.05**	**169**	⇓*eP*		**P**	**02 01 19.5**	**+0.4**
FCH				AMP			02 01 26.8	
	comp=Z,6μm,2.0s							
FCH				*e*S		**S**	**02 05 57.6**	**+5.0**
CLCH	**Cerro Calan**	**28.07**	**169**	⇓*iP*		**P**	**02 01 18.5**	**-0.8**
CLCH				AMP			02 01 28.8	
	comp=Z,5μm,1.4s							
CLCH				*i* S		**S**	**02 05 56.9**	**+3.9**
SCR	**San Cristobal**	**28.09**	**170**	⇓*iP*		**P**	**02 01 19.4**	**-0.1**
SCR				AMP			02 01 28.4	
	comp=Z,5μm,1.6s							
SOR	**Soroa**	**29.06**	**348**	*e*P		**P**	**02 01 28.7**	**+0.5**
BDFB	**Brasilia**	**29.61**	**112**	P		**P**	**02 01 31.3**	**-1.8**
	comp=Z,607nm,0.8s,mb6.4,baz=284,slow=11,SNR=148							
BDFB				S		**S**	**02 06 10.2**	**-7.3**
	comp=Z,647nm,0.9s,baz=173,slow=26,SNR=1.9							
BDFB				P3KPbc			02 33 30.4	
	comp=Z,9.3nm,1.1s,baz=69,slow=24,SNR=1.8							
BDFB	**Brasilia**	**29.61**	**112**	P		**P**	**02 01 31.3**	**-1.8**
BDFB				S		**S**	**02 06 10.2**	**-7.3**
BDFB				*e*			02 33 30.4	
BAO	**Brasilia Array**	**29.63**	**112**	P		**P**	**02 01 31.5**	**-1.8**
CCHI	**Chillan**	**30.98**	**173**	⇓*eP*		**P**	**02 01 45.1**	**0.0**
CCHI				AMP		pP	02 02 16.9	+3.7
	comp=Z,3μm,1.4s							
CCHI				*e*S		**S**	**02 06 42.5**	**+3.6**
LPA	**La Plata**	**33.70**	**152**	*k iP*		**P**	**02 02 08.2**	**-0.4**
	comp=Z,6μm,1.0s,mb7.2							
LPA				*e*pP		pP	02 02 35.0	-2.2
LPA				*e*PP		PP	02 03 24.0	-1.8
LPA				*e*S		**S**	**02 07 26.0**	**+4.8**
DWPF	**Disney**	**33.99**	**352**	⇓*iP*		**P**	**02 02 10.4**	**-0.7**
	comp=Z,4μm,0.9s,mb7.1							
DWPF				*e*pP		pP	02 02 38.6	-1.0
DWPF				*e*S		**S**	**02 07 31.6**	**+5.9**
DWPF				LR		LR		
	comp=Z,51μm,22.0s							
PLCA	**Paso Flores**	**35.25**	**172**	P		**P**	**02 02 21.1**	**-0.6**
	comp=Z,226nm,0.7s,mb5.9,baz=343,slow=9.8,SNR=115							
PLCA				PcP		PcP	02 04 50.4	+0.4
	comp=Z,468nm,0.9s,baz=348,slow=5.3,SNR=6.9							
PLCA				S		**S**	**02 07 40.7**	**-4.2**
	comp=Z,48nm,1.0s,baz=19,slow=4.3,SNR=1.7							
PLCA				P3KPbc			02 33 07.7	
	comp=Z,3.3nm,1.0s,baz=181,slow=4.3,SNR=5.5							
PLCA	**Paso Flores**	**35.25**	**172**	⇓*iP*		**P**	**02 02 21.4**	**-0.3**
	comp=Z,382nm,0.9s,mb6.0							
PLCA				*e*		pP	02 02 45.4	-5.0
PLCA				*e*PcP		PcP	02 04 50.5	+0.6
PLCA				*e*S		**S**	**02 07 46.4**	**+1.4**
PLCA				LR		LR		
	comp=Z,177μm,20.0s							
PLCA	**Paso Flores**	**35.25**	**172**	⇓*iP*		**P**	**02 02 21.4**	**-0.3**
PLCA				*e*		pP	02 02 45.4	-5.0
PLCA				*e*			02 04 50.5	
PLCA				*e*S		**S**	**02 07 46.4**	**+1.4**
PLCA				pmax	pmax			
	comp=Z,382nm,0.9s							
PLCA				MLR	MLR			
	comp=Z,177μm,20.0s							
CAM4	**Nova Friburgo**

MIAR **Mount Ida** 43.20 339⇓*iP* **P** 02 03 25.0 -2.6
comp=Z,450nm,1.1s,mb6.0
MIAR *e* pP 02 03 57.4 +0.5
MIAR *eS* **S** **02 09 43.8 -0.2**
MIAR Mount Ida 43.20 339⇓*iP* **P** **02 03 25.0 -2.6**
MIAR *eS* **S** **02 09 43.8 -0.2**
MIAR pmax pmax
comp=Z,450nm,1.1s,mb6.0
FWV Forest Hill 43.28 355 *eP* **P** **02 03 28.1 -0.1**
FWV *epP* pP 02 03 59.0 +1.4
FWV *e* 02 05 18.7
FWV *eS* **S** **02 09 48.4 +3.2**
GNAR Gosnell 43.38 344⇓*iP* **P** **02 03 27.8 -1.3**
comp=Z,4μm,0.6s,mb7.2
GNAR *epP* pP 02 03 58.1 -0.3
GNAR *e* 02 05 19.5
GNAR *eS* **S** **02 09 38.1 -8.6**
UTMT University of 43.44 345⇓*iP* **P** **02 03 27.3 -2.2**
comp=Z,3μm,1.0s,mb6.8
UTMT *epP* pP 02 03 57.4 -1.5
UTMT *e* 02 05 15.8
UTMT *eS* tx 02 09 02.5
GLAT Glass 43.48 345⇓*iP* **P** **02 03 27.9 -1.9**
GLAT *epP* pP 02 03 58.3 -0.9
GLAT *eS* **S** **02 09 28.2 -20**
LTX Lajitas 43.58 325⇓*eP* **P** **02 03 29.4 -1.4**
comp=Z,5μm,0.9s,mb7.1
LTX *epP* pP 02 03 54.9 -5.2
LTX *e* 02 05 18.7
LTX *eS* **S** **02 09 49.3 -0.3**
LTX LR LR
comp=Z,84μm,19.0s
LTX Lajitas 43.58 325⇓*eP* **P** **02 03 29.4 -1.3**
LTX *e**PP pP 02 03 54.9 -5.2
LTX *e* 02 05 18.7
LTX *eS* **S** **02 09 49.3 -0.3**
LTX pmax pmax
comp=Z,5μm,0.9s,mb7.1
LTX MLR MLR
comp=Z,84μm,19.0s
TXAR Lajitas Array 43.58 325 P **P** **02 03 30.7 -0.1**
comp=Z,125nm,0.6s,mb5.7,baz=146,slow=9.1,SNR=460
TXAR pP pP 02 04 02.0 +1.9
comp=Z,185nm,1.0s,baz=83,slow=7.3,SNR=2.3
TXAR PcP PcP 02 05 16.1 -0.5
comp=Z,316nm,1.2s,baz=141,slow=5.8,SNR=2.2
TXAR S **S** **02 09 48.5 -1.0**
comp=Z,17nm,0.9s,baz=112,slow=4.9,SNR=1.9
TXAR P3KPbc 02 32 26.6
comp=Z,3.2nm,1.1s,baz=27,slow=2.8,SNR=4.7
TXAR P3KP 02 34 10.1
comp=Z,5.9nm,1.1s,SNR=4.4
TXAR tx tx 02 34 48.0
comp=Z,9.9nm,1.1s,baz=256,slow=5.2,SNR=5.9
TXAR PKPPKP 02 35 21.4
comp=Z,8.0nm,1.1s,baz=320,slow=1.4,SNR=3.3
TXAR P4KPbc 02 41 24.5
comp=Z,1.7nm,0.7s,baz=129,slow=6.4,SNR=7.6
TXAR Lajitas Array 43.58 325 P **P** **02 03 30.7 -0.1**
TXAR pP pP 02 04 02.0 +1.9
TXAR PcP PcP 02 05 16.1 -0.5
TXAR S **S** **02 09 48.5 -1.0**
TXAR *e* 02 32 26.6
TXAR PKKKP 02 34 10.1
TXAR P'P' 02 35 21.4
TXAR Lajitas Array 43.58 325 P **P** **02 03 30.7 0.0**
TXAR 02 05 16.1
TXAR S **S** **02 09 48.6 -1.0**
PVMO Portageville 43.72 345⇓*iP* **P** **02 03 29.9 -1.9**
PVMO *eScP* 02 09 01.3
PVMO *eS* **S** **02 09 42.0 -10**
CBN Corbin 43.72 359⇓*iP* **P** **02 03 31.9 +0.1**
comp=Z,468nm,0.7s,mb6.2
CBN *epP* pP 02 03 58.6 -2.6
CBN *e* 02 05 16.5
CBN *eS* S 02 09 30.5 -21
CBN LR LR
comp=Z,197μm,19.0s
PARMO Parma 43.97 345⇓*iP* **P** **02 03 31.8 -2.0**
PARMO *epP* pP 02 04 01.9 -1.3
PARMO *e* 02 05 17.9
PARMO *eS* **S** **02 09 42.8 -12**
WCI Wyandotte Cave 44.68 349⇓*iP* **P** **02 03 37.5 -2.0**
comp=Z,2μm,1.1s,mb6.6
WCI *epP* pP 02 04 03.2 -5.8
WCI *ePcP* PcP 02 05 18.5 -1.8
WCI *eS* **S** **02 09 50.5 -15**
WCI LR LR
comp=Z,48μm,19.0s
WCI Wyandotte Cave 44.68 349⇓*iP* **P** **02 03 37.5 -2.0**
WCI *e**PP pP 02 04 03.2 -5.8
WCI *e* 02 05 18.5
WCI pmax pmax
comp=Z,2μm,1.1s,mb6.6
WCI MLR MLR
comp=Z,48μm,19.0s
FVM French Village 45.39 344⇓*iP* **P** **02 03 42.7 -2.4**
comp=Z,2μm,1.2s,mb6.7
FVM *epP* pP 02 04 15.2 +0.5
FVM *e* 02 05 25.4
FVM *eS* S 02 09 53.0 -23
FVM French Village 45.39 344⇓*iP* **P** **02 03 42.7 -2.4**
FVM *e* 02 05 25.4
FVM pmax pmax
comp=Z,2μm,1.2s,mb6.7
MVL Millersville 45.51 0⇓*iP* **P** **02 03 45.7 -0.3**
MVL *epP* pP 02 04 15.8 +0.2
MVL *e* 02 05 22.3
MVL *eS* **S** **02 10 08.4 -8.7**
BLO Bloomington 45.64 349⇓*iP* **P** **02 03 44.7 -2.4**
comp=Z,2μm,0.7s,mb6.7
BLO *epP* pP 02 04 18.7 +2.0
BLO *ePP* PP 02 05 40.5 +4.4
BLO *eS* S 02 09 56.1 -23
BLO Bloomington 45.64 349⇓*iP* **P** **02 03 44.7 -2.4**
BLO *e* 02 05 40.5
BLO pmax pmax
comp=Z,2μm,0.7s,mb6.7
CCM Cathedral Cave 45.68 344⇓*iP* **P** **02 03 44.6 -2.8**
comp=Z,350nm,0.6s,mb6.2
CCM *epP* pP 02 04 16.2 -0.8
CCM *e* 02 05 22.6
CCM *eS* S 02 09 46.4 -33
CCM LR LR
comp=Z,29μm,21.0s
CCM Cathedral Cave 45.68 344⇓*iP* **P** **02 03 44.6 -2.8**
CCM *e* 02 05 22.6
CCM pmax pmax
comp=Z,350nm,0.6s,mb6.2
CCM MLR MLR
comp=Z,29μm,21.0s
SLM Saint Louis 45.96 345⇓*iP* **P** **02 03 47.6 -2.0**
comp=Z,1μm,1.0s,mb6.4
SLM *epP* pP 02 04 15.7 -3.5
SLM *e* 02 05 24.7
SLM *eS* S 02 10 03.0 -21
SLM Saint Louis 45.96 345⇓*iP* **P** **02 03 47.6 -2.0**
SLM *e**PP pP 02 04 15.7 -3.5
SLM *e* 02 05 24.7
SLM pmax pmax
comp=Z,1μm,1.0s,mb6.4
ACSO Alum Creek Sta 46.13 353⇓*iP* **P** **02 03 49.2 -1.7**
comp=Z,1μm,1.4s,mb6.3
ACSO *epP* pP 02 04 17.5 -3.1
ACSO *ePcP* PcP 02 05 24.5 -0.8
ACSO *eScP* 02 09 04.9
ACSO *eS* S 02 09 51.2 -35
ACSO LR LR
comp=Z,139μm,21.0s
BRNJ Basking Ridge 46.22 2⇓*iP* **P** **02 03 52.2 +0.6**
BRNJ *epP* pP 02 04 22.3 +1.0
BRNJ *ePcP* PcP 02 05 25.5 -0.1
BRNJ *eS* **S** **02 10 08.1 -19**
MNTX Cornudas Mount 46.32 325⇓*iP* **P** **02 03 52.4 -0.2**
comp=Z,338nm,0.7s,mb6.1
MNTX *epP* pP 02 04 18.5 -3.7
MNTX *ePcP* PcP 02 05 25.5 -0.6
MNTX *eScP* 02 09 09.6
MNTX *eS* **S** **02 10 30.7 +1.8**
MNTX LR LR
comp=Z,56μm,19.0s
CPNY Central Park 46.36 3⇓*iP* **P** **02 03 51.7 -1.0**
CPNY *epP* pP 02 04 23.7 +1.3
CPNY *ePcP* PcP 02 05 20.9 -5.1
CPNY *eS* **S** **02 10 20.6 -8.5**
PAL Palisades 46.57 3⇓*iP* **P** **02 03 54.0 -0.4**
comp=Z,978nm,0.7s,mb6.5
PAL *epP* pP 02 04 22.9 -1.2
PAL *ePcP* PcP 02 05 25.4 -1.5
PAL *eS* S 02 10 08.3 -24
PAL Palisades 46.57 3⇓*iP* **P** **02 03 54.0 -0.4**
PAL *e**PP pP 02 04 22.9 -1.2
PAL *e* 02 05 25.4
PAL pmax pmax
comp=Z,978nm,0.7s,mb6.5
ALLY Alegheny Colle 47.27 356⇓*iP* **P** **02 03 58.7 -1.1**
ALLY *epP* pP 02 04 28.7 -0.9
ALLY *ePcP* PcP 02 05 28.1 -1.3
ALLY *eS* **S** **02 10 30.3 -12**
BRYW Bryant College 47.64 5⇓*iP* **P** **02 04 02.5 -0.2**
comp=Z,17μm,2.0s,mb7.3
BRYW *epP* pP 02 04 31.0 -1.5
BRYW *ePcP* PcP 02 05 31.1 +0.5
BRYW *eS* **S** **02 10 52.3 +5.0**
BINY Binghamton 47.71 0⇓*iP* **P** **02 04 02.9 -0.3**
comp=Z,452nm,0.7s,mb6.2
BINY *epP* pP 02 04 34.6 +1.5
BINY *ePcP* PcP 02 05 31.2 +0.3
BINY *eS* **S** **02 10 49.9 +1.7**
BINY LR LR
comp=Z,130μm,22.0s
ERPA Erie 47.73 356⇓*iP* **P** **02 04 01.9 -1.5**
comp=Z,3μm,1.1s,mb6.8
ERPA *epP* pP 02 04 32.5 -0.7
ERPA *ePcP* PcP 02 05 29.5 -1.5
ERPA *eS* **S** **02 10 50.3 +1.7**
ERPA LR LR
comp=Z,108μm,21.0s
QUA2 Belchertown 47.93 4⇓*iP* **P** **02 04 04.4 -0.6**
comp=Z,2μm,0.7s,mb6.8
QUA2 *epP* pP 02 04 35.8 +1.0
QUA2 *ePcP* PcP 02 05 31.8 +0.1
QUA2 *eS* **S** **02 10 43.8 -7.5**
WES Weston 48.12 5⇓*iP* **P** **02 04 05.9 -0.5**
comp=Z,6μm,1.8s,mb6.9
WES *epP* pP 02 04 36.4 +0.1
WES *ePcP* PcP 02 05 31.6 -0.8
WES *eS* **S** **02 10 38.3 -16**
WES LR LR
comp=Z,181μm,21.0s
WES Weston 48.12 5⇓*iP* **P** **02 04 05.9 -0.5**
WES *e**PP pP 02 04 36.4 +0.1
WES *e* 02 05 31.6
WES pmax pmax
comp=Z,6μm,1.8s,mb6.9
WES MLR MLR
comp=Z,181μm,21.0s
HRV Harvard--Oak R 48.22 5⇓*iP* **P** **02 04 06.5 -0.7**
comp=Z,2μm,1.3s,mb6.6
HRV *epP* pP 02 04 34.8 -2.2
HRV *eS* S 02 10 34.2 -21
HRV LR LR
comp=Z,159μm,21.0s
HRV Harvard--Oak R 48.22 5⇓*iP* **P** **02 04 06.5 -0.7**
HRV *e**PP pP 02 04 34.8 -2.3
HRV pmax pmax
comp=Z,2μm,1.3s,mb6.6
HRV MLR MLR
comp=Z,159μm,21.0s
EFI East Falkland 48.27 165⇓*eP* **P** **02 04 07.2 -0.3**
comp=Z,3μm,0.9s,mb6.9
EFI *epP* pP 02 04 36.8 -0.5
EFI *eS* **S** **02 11 01.7 +5.7**
EFI LR LR
comp=Z,28μm,21.0s
EFI East Falkland 48.27 165⇓*eP* **P** **02 04 07.2 -0.3**
EFI *e**PP pP 02 04 36.8 -0.5
EFI *eS* **S** **02 11 01.7 +5.7**
EFI pmax pmax
comp=Z,3μm,0.9s,mb6.9
EFI MLR MLR
comp=Z,28μm,21.0s
GENY Geneseo 48.29 359 *eP* **P** **02 04 07.7 -0.1**
GENY *epP* pP 02 04 31.9 -5.6
KSU1 Kansas State U 48.35 339 *eP* **P** **02 04 07.1 -1.2**
KSU1 *epP* pP 02 04 34.8 -3.3
KSU1 *ePcP* PcP 02 05 31.1 -2.1
KSU1 *eS* **S** **02 10 52.2 -5.0**
ACCN Adirondack Com 48.95 3⇓*iP* **P** **02 04 12.8 -0.1**
ACCN *epP* pP 02 04 43.5 +0.7
ACCN *eS* **S** **02 11 11.8 +6.2**
FFD Franklin Falls 49.17 5⇓*iP* **P** **02 04 14.6 +0.1**
comp=Z,7μm,0.9s,mb7.3
FFD *epP* pP 02 04 45.2 +0.8
FFD *eS* **S** **02 11 14.2 +5.5**
CBKS Cedar Bluff 49.29 336⇓*iP* **P** **02 04 15.2 -0.3**
comp=Z,4μm,1.0s,mb7.0
CBKS *epP* pP 02 04 43.4 -2.1
CBKS *ePP* PP 02 06 09.6 -1.3
CBKS *eS* **S** **02 10 59.3 +11**
CBKS Cedar Bluff 49.29 336⇓*iP* **P** **02 04 15.2 -0.3**
CBKS *e**PP pP 02 04 43.4 -2.1
CBKS *e* 02 06 09.6
CBKS pmax pmax
comp=Z,4μm,1.0s,mb7.0
ANMO Albuquerque 49.35 327 P **P** **02 04 16.1 0.0**
comp=Z,1μm,0.9s,mb6.5,baz=142,slow=9.4,SNR=448
ANMO *epP* pP 02 04 48.0 +2.0
comp=Z,1μm,1.0s,baz=149,slow=8.5,SNR=4.3
ANMO S **S** **02 11 06.5 -4.9**
comp=Z,34nm,1.2s,baz=109,slow=9.4,SNR=2.0
ANMO Albuquerque 49.35 327⇓*iP* **P** **02 04 16.0 -0.1**
comp=Z,142nm,0.6s,mb5.8
ANMO *epP* pP 02 04 45.0 -1.1
ANMO *ePP* PP 02 06 15.6 +4.0
ANMO *eS* **S** **02 11 01.0 -10**
ANMO LR LR
comp=Z,79nm,21.0s
ANMO Albuquerque 49.35 327 P **P** **02 04 16.1 +0.1**
ANMO S **S** **02 11 06.5 -4.8**
ANMO smax
comp=E,34nm,1.2s
HNH Hanover 49.36 4⇓*iP* **P** **02 04 15.9 0.0**
comp=E,139nm,0.7s,mb5.7
HNH *epP* pP 02 04 47.7 +1.8
HNH *ePP* PP 02 06 15.6 +4.2
HNH *eS* **S** **02 11 17.1 +5.9**
USHA Ushuaia 49.38 174 P **P** **02 04 16.5 +0.6**
comp=E,1μm,0.8s,mb6.5,baz=339,slow=5.8,SNR=58
USHA S **S** **02 11 03.5 -7.9**
comp=E,14nm,0.9s,baz=292,slow=5.4,SNR=3.9
NCB Newcomb 49.52 2⇓*iP* **P** **02 04 16.9 -0.2**
comp=E,932nm,0.7s,mb6.5
NCB *epP* pP 02 04 37.6 -10
NCB *ePP* PP 02 06 14.5 +1.5
NCB *eS* **S** **02 10 56.5 -17**
NCB LR LR
comp=Z,116μm,20.0s
MIV Mineville/With 49.65 3 *eP* **P** **02 04 17.7 -0.5**
MIV *e* pP 02 04 47.8 -0.4
LBNH Lisbon 49.91 4⇓*iP* **P** **02 04 19.8 -0.4**
comp=Z,2μm,0.9s,mb6.6
LBNH *epP* pP 02 04 44.6 -5.6
LBNH *ePP* PP 02 06 17.9 +1.0
LBNH *eS* **S** **02 11 24.8 +5.9**
LBNH Lisbon 49.91 4⇓*iP* **P** **02 04 19.8 -0.4**
LBNH *e**PP pP 02 04 44.6 -5.6
LBNH *e* 02 06 17.9
LBNH *eS* **S** **02 11 24.8 +5.9**
LBNH pmax pmax
comp=Z,2μm,0.9s,mb6.6
TUC Tucson 49.97 321⇓*iP* **P** **02 04 20.6 -0.1**
comp=Z,2μm,1.3s,mb6.7
TUC *epP* pP 02 04 47.6 -3.2
TUC *eS* **S** **02 11 18.2 -1.7**
TUC LR LR
comp=Z,132μm,21.0s
TUC Tucson 49.97 321⇓*iP* **P** **02 04 20.7 -0.1**
TUC *e**PP pP 02 04 47.6 -3.2
TUC *eS* **S** **02 11 18.2 -1.7**
TUC pmax pmax
comp=Z,2μm,1.3s,mb6.7
TUC MLR MLR
comp=Z,132μm,21.0s
SADO Sadowa 50.33 358 P **P** **02 04 21.1 -2.2**
comp=Z,297nm,0.6s,mb6.1,baz=192,slow=8.2,SNR=114
SADO *epP* pP 02 04 52.9 -0.5
comp=Z,626nm,1.0s,baz=186,slow=7.5,SNR=4.6
SADO S **S** **02 11 17.4 -7.3**
comp=Z,33nm,0.8s,baz=317,slow=20,SNR=1.9
FRNY Flat Rock 50.41 3⇓*iP* **P** **02 04 23.2 -0.7**
FRNY *epP* pP 02 04 53.1 -0.9
FRNY *ePP* PP 02 06 24.4 +2.9
FRNY *eS* **S** **02 11 24.8 -0.9**
WVL Waterville 50.44 6⇓*iP* **P** **02 04 23.8 -0.4**
comp=Z,118nm,0.9s,mb5.5
WVL *epP* pP 02 04 56.1 +1.8
WVL *ePP* PP 02 06 29.0 +7.2
WVL LR LR
comp=Z,431μm,20.0s
MSNY Massena 50.52 1 *eP* **P** **02 04 23.9 -0.9**
MSNY *epP* pP 02 04 54.3 -0.6
EMMW East Machias 50.87 8⇓*iP* **P** **02 04 26.7 -0.7**
comp=Z,118nm,0.9s,mb5.5
EMMW *epP* pP 02 04 58.5 +1.0
EMMW *ePP* PP 02 06 34.2 +8.6
EMMW LR LR
comp=Z,417μm,19.0s
SDCO Great Sand Dun 51.01 330⇓*iP* **P** **02 04 28.5 -0.1**
comp=Z,5μm,1.1s,mb7.1
SDCO *epP* pP 02 05 00.2 +1.4
SDCO *ePP* PP 02 06 32.6 +5.7
SDCO *e* 02 09 31.7
SDCO *eS* **S** **02 11 42.4 +8.3**
SDCO LR LR
comp=Z,77μm,22.0s
WUAZ Wupatki 52.53 324⇓*iP* **P** **02 04 40.3 +0.2**
comp=Z,37nm,0.4s,mb5.5
WUAZ *epP* pP 02 05 06.7 -3.6
WUAZ *i* S **S** **02 11 58.2 +3.3**
WUAZ LR LR
comp=Z,120μm,20.0s
ISCO Idaho Springs 52.68 332⇓*iP* **P** **02 04 40.8 -0.3**
comp=Z,89μm,1.4s
ISCO *epP* pP 02 05 09.4 -2.0
ISCO *ePcP* PcP 02 05 49.8 +0.7
ISCO *eS* **S** **02 11 57.6 +0.8**
ISCO LR LR
comp=Z,69μm,21.0s
PQI Presque Isle 52.72 7⇓*iP* **P** **02 04 40.4 -0.8**
comp=Z,9μm,1.4s,mb7.3
PQI *epP* pP 02 05 12.0 +0.4
PQI *ePcP* PcP 02 05 49.4 +0.3
PQI *ePP* PP 02 06 49.2 +6.4
PQI LR LR
comp=Z,909μm,22.0s
SMCO Snowmass 52.85 330⇓*iP* **P** **02 04 42.4 +0.1**
SMCO *eS* **S** **02 11 59.6 +0.5**
PHWY Pilot Hill 53.80 333⇓*iP* **P** **02 04 49.1 -0.2**
PHWY *epP* pP 02 05 16.1 -3.7
PHWY *ePcP* PcP 02 05 51.2 -2.2
PHWY *eS* **S** **02 12 19.0 +7.0**
PFO Pinyon Flat Ob 54.43 319⇓*iP* **P** **02 04 53.9 -0.1**
comp=Z,1μm,1.1s,mb6.5
PFO *epP* pP 02 05 22.4 -2.2
PFO *ePP* PP 02 06 50.1 -8.7
PFO *eScP* 02 09 43.1
PFO *eS* **S** **02 12 24.8 +4.2**
PFO LR LR
comp=Z,13μm,21.0s
PFO Pinyon Flat Ob 54.43 319⇓*iP* **P** **02 04 53.9 -0.1**
PFO *e**PP pP 02 05 22.4 -2.1
PFO *eS* **S** **02 12 24.8 +4.2**
PFO pmax pmax
comp=Z,1μm,1.1s,mb6.5
PFO MLR MLR
comp=Z,13μm,21.0s
LDFC Landfair 54.50 321⇓*iP* **P** **02 04 55.0 +0.5**
LDFC *epP* pP 02 05 23.2 -1.8
LDFC *eScP* 02 09 43.3
LDFC *i* S **S** **02 12 22.8 +1.4**
SRU San Rafael 54.62 328⇓*iP* **P** **02 04 54.8 -0.5**
comp=Z,3μm,1.3s,mb6.9
SRU *epP* pP 02 05 27.3 +1.6
SRU *ePP* PP 02 07 03.7 +3.3
SRU San Rafael 54.62 328⇓*iP* **P** **02 04 54.8 -0.5**
SRU *e* 02 07 03.7
SRU pmax pmax
comp=Z,3μm,1.3s,mb6.9
NEN Nelson 54.70 322 *eP* **P** **02 04 55.3 -0.7**
NEN *epP* pP 02 05 26.7 +0.3
PTCN Pitcairn Islan 54.75 243 *eP* **P** **02 04 56.9 +0.4**
comp=Z,792nm,1.1s,mb6.4
PTCN *epP* pP 02 05 25.7 -1.3
PTCN *eScP* 02 09 47.1
PTCN LR LR
comp=Z,79μm,21.0s
EYMN Ely 55.06 348⇓*iP* **P** **02 04 55.6 -2.8**
comp=Z,37μm,1.5s
EYMN *epP* pP 02 05 22.5 -6.4
EYMN *ePP* PP 02 06 57.9 -6.4
EYMN *i* S **S** **02 12 27.1 -1.7**
EYMN LR LR
comp=Z,141μm,21.0s
MSU Marysvale 55.09 326⇓*eP* **P** **02 04 58.6 -0.1**
MSU Marysvale 55.09 326 P **P** **02 04 58.4 -0.3**
TMUT Trail Mountain 55.12 327⇓*iP* **P** **02 04 58.3 -0.6**
TMUT *epP* pP 02 05 31.6 +2.1
TMUT *ePP* PP 02 07 07.5 +2.6
ARUT Antelope Range 55.30 325 *eP* **P** **02 05 00.4 +0.1**
ARUT Antelope Range 55.30 325 P **P** **02 05 00.1 -0.1**
MPU Maple Canyon 55.86 328⇓*iP* **P** **02 05 03.4 -0.9**
comp=Z,23μm,1.0s
MPU *epP* pP 02 05 33.4 -1.5
MPU *ePP* PP 02 07 08.3 -3.3
MWC Mount Wilson 55.86 318⇓*iP* **P** **02 05 03.5 -0.8**
MWC *epP* pP 02 05 30.8 -4.2
MWC *i* S **S** **02 12 37.4 -2.3**
DAU Daniels Canyon 55.95 328⇓*eP* **P** **02 05 04.8 -0.2**
DAU *epP* pP 02 05 37.9 +2.4
NLU North Lily Min 56.05 327⇓*iP* **P** **02 05 05.5 -0.2**
NLU *epP* pP 02 05 38.6 +2.3
NLU *ePP* PP 02 07 19.2 +5.9
SNCC San Nicolas Is 56.28 317 PFAKE 02 05 20.0 +13
SNCC LR LR
comp=Z,31μm,21.0s
CTU Camp Tracy 56.41 328⇓*iP* **P** **02 05 07.4 -0.8**
comp=Z,322nm,0.3s,mb6.6
CTU *epP* pP 02 05 40.4 +1.5
CTU *ePP* PP 02 07 15.8 -0.7
TCUT Toone Canyon 56.54 329 *eP* **P** **02 05 08.9 -0.2**
TCUT *epP* pP 02 05 41.3 +1.5
TCUT *e* 02 07 24.7
NOQ North Oquirrh 56.58 328⇓*iP* **P** **02 05 08.9 -0.5**
comp=Z,1μm,1.0s,mb6.8
NOQ *epP* pP 02 05 42.1 +2.0
NOQ *e* 02 07 26.6
NOQ *eScP* 02 09 55.7
DUG Dugway 56.62 327⇓*iP* **P** **02 05 09.4 -0.2**
comp=Z,83μm,1.4s
DUG *epP* pP 02 05 38.2 -2.1
DUG *e* 02 07 23.9
DUG *i* S **S** **02 12 51.2 +1.6**
DUG LR LR
comp=Z,94μm,20.0s
DUG Dugway 56.62 327 P **P** **02 05 09.3 -0.4**
PDAR Pinedale Array 56.85 331 P **P** **02 05 09.7 -1.5**
comp=Z,185nm,1.0s,mb5.9,baz=125,slow=8.6,SNR=148
PDAR pP pP 02 05 41.6 -0.4
comp=Z,127nm,1.0s,baz=143,slow=15,SNR=3.3
PDAR S **S** **02 12 47.3 -5.2**
comp=Z,6.2nm,0.7s,baz=129,slow=5.8,SNR=2.2
PDAR LR LR 02 31 54.9
comp=Z,56μm,21.6s,baz=304,slow=38
PDAR PKPPKP 02 34 47.9
comp=Z,9.4nm,1.0s,baz=308,slow=1.9,SNR=7.3
PDAR PKP2bc 02 35 04.8
comp=Z,21nm,1.0s,baz=7.5,slow=1.2,SNR=8.9
PDAR P4KPbc 02 42 21.9
comp=Z,10nm,0.7s,baz=129,slow=5.8,SNR=24
PDAR Pinedale Array 56.85 331 P **P** **02 05 09.7 -1.5**
PDAR pP pP 02 05 41.6 -0.4
PDAR S **S** **02 12 47.3 -5.2**
PDAR LR LR 02 31 54.9
PDAR P'P' 02 34 47.9
PDAR ⇑*e* 02 35 04.8
HWUT Hardware Ranch 56.98 329⇓*iP* **P** **02 05 10.9 -1.2**
comp=Z,1μm,0.7s,mb6.9
HWUT *epP* pP 02 05 39.1 -3.8
HWUT *ePP* PP 02 07 21.3 -0.3

HWUT *i* S **S** **02 12 57.9 +3.7**
HWUT LR LR
comp=Z,115µm,22.0s
ISA Isabella 57.01 319⇓ *i*P **P** **02 05 12.2 -0.2**
comp=Z,685nm,1.0s,mb6.4
ISA *e*pP pP 02 05 40.0 -3.2
ISA *e*PcP PcP 02 06 06.5 +0.6
ISA *e*PP PP 02 07 26.3 +4.4
ISA LR LR
comp=Z,18µm,21.0s
ISA Isabella 57.01 319⇓ *i*P **P** **02 05 12.2 -0.2**
ISA *e**PP pP 02 05 40.0 -3.2
ISA *e* 02 06 06.5
ISA *e* 02 07 26.3
ISA pmax pmax
comp=Z,685nm,1.0s,mb6.4
ISA MLR MLR
comp=Z,18µm,21.0s
BGU Big Grassy Mou 57.26 328⇓ *i*P **P** **02 05 13.2 -0.8**
BGU *e*pP pP 02 05 40.7 -4.1
BGU *e* 02 07 29.2
AHID Auburn Hatcher 57.60 330⇓ *i*P **P** **02 05 14.2 -2.2**
comp=Z,5µm,1.1s,mb7.3
AHID *e* 02 05 51.1
AHID LR LR
comp=Z,57µm,22.0s
HVU Hansel Valley 57.73 328⇓ *i*P **P** **02 05 16.6 -0.8**
comp=Z,510nm,0.6s,mb6.5
HVU *e*pP pP 02 05 47.2 -1.1
HVU *e*PP PP 02 07 32.3 +3.9
HVU Hansel Valley 57.73 328⇓ *i*P **P** **02 05 16.6 -0.8**
HVU *e**PP pP 02 05 47.2 -1.0
HVU *e* 02 07 32.3
HVU pmax pmax
comp=Z,510nm,0.6s,mb6.5
REDW Red Top Meadow 57.92 331⇓ *i*P **P** **02 05 17.7 -1.0**
comp=Z,784nm,0.7s,mb6.7
REDW *e*pP pP 02 05 50.0 +0.4
REDW *i* S **S** **02 13 13.2 +6.6**
SNOW Snow King Moun 57.95 331⇓ *i*P **P** **02 05 18.2 -0.7**
comp=Z,2µm,0.6s,mb7.2
SNOW *e*pP pP 02 05 51.4 +1.7
SNOW *i* S **S** **02 13 13.2 +6.3**
LOHW Long Hollow 57.99 331⇓ *i*P **P** **02 05 18.2 -1.0**
comp=Z,3µm,0.6s,mb7.3
LOHW *e*pP pP 02 05 46.8 -3.2
LOHW *i* S **S** **02 13 13.0 +5.5**
TPAW Teton Pass 58.07 331⇓ *i*P **P** **02 05 18.7 -1.0**
comp=Z,548nm,0.8s,mb6.4
TPAW *e*pP pP 02 05 52.9 +2.3
TPAW *i* S **S** **02 13 13.6 +5.2**
MTUM Tungsten Hills 58.10 321 *e*P **P** **02 05 19.6 -0.4**
MTUM *e*pP pP 02 05 49.9 -1.0
PTRM Twissleman Ran 58.13 318 *e*P **P** **02 05 20.6 +0.3**
PTRM *e*pP pP 02 05 49.7 -1.4
RRI2 Red Ridge 58.14 331⇓ *i*P **P** **02 05 19.6 -0.7**
comp=Z,2µm,0.8s,mb6.9
RRI2 *e*pP pP 02 05 46.0 -5.1
RRI2 *i* S **S** **02 13 14.1 +4.6**
ULM Lac du Bonnet 58.24 345 P **P** **02 05 18.0 -2.8**
comp=Z,1µm,0.7s,mb6.8,baz=159,slow=7.2,SNR=411
ULM pP pP 02 05 53.2 +1.5
comp=Z,1µm,1.0s,baz=159,slow=4.7,SNR=3.9
ULM S **S** **02 13 04.8 -5.8**
comp=Z,14nm,0.9s,baz=107,slow=22,SNR=1.6
ULM LR LR 02 29 44.2
comp=Z,168µm,20.0s,baz=137,slow=35
ULM tx tx 02 34 37.6
comp=Z,7.1nm,1.0s,baz=320,slow=1.9,SNR=4.8
ULM PKPPKP 02 34 53.0
comp=Z,12nm,1.0s,baz=310,slow=2.3,SNR=5.8
ULM PKP2bc 02 35 07.4
comp=Z,89nm,1.0s,baz=328,slow=3.0,SNR=20
ULM P4KPbc 02 42 26.8
comp=Z,14nm,0.8s,baz=172,slow=4.6,SNR=14
ULM Lac du Bonnet 58.24 345⇓ *i*P **P** **02 05 18.1 -2.7**
comp=Z,59µm,1.5s
ULM *e*pP pP 02 05 48.5 -3.2
ULM *e*PP PP 02 07 28.0 -4.8
ULM *i* S **S** **02 13 10.3 -0.3**
ULM LR LR
comp=Z,33µm,22.0s
IMW Indian Meadow 58.37 331⇓ *i*P **P** **02 05 20.9 -0.9**
comp=Z,605nm,0.7s,mb6.5
IMW *e*pP pP 02 05 50.5 -2.2
IMW *e*PP PP 02 07 27.5 -6.5
IMW *i* S **S** **02 13 20.2 +7.9**
LAO LASA Array 58.48 336⇓ *i*P **P** **02 05 21.2 -1.4**
comp=Z,851nm,0.6s,mb6.8
LAO *e*pP pP 02 05 47.7 -5.8
LAO *e*PP PP 02 07 31.3 -3.7
LAO *i* S **S** **02 13 14.3 +0.4**
LAO LR LR
comp=Z,84µm,20.0s
MNV Mina 58.52 322⇓ *i*P **P** **02 05 22.7 -0.2**
comp=Z,1µm,0.6s,mb6.9
MNV *e*pP pP 02 05 49.2 -4.7
MNV *e*PP PP 02 07 39.9 +4.4
MNV *i* S **S** **02 13 17.0 +2.6**
MNV LR LR
comp=Z,63µm,21.0s
MNV Mina 58.52 322⇓ *i*P **P** **02 05 22.7 -0.2**
MNV *e**PP pP 02 05 49.2 -4.7
MNV *e* 02 07 39.9
MNV *i* S **S** **02 13 17.0 +2.6**
MNV pmax pmax
comp=Z,1µm,0.6s,mb6.9
MNV MLR MLR
comp=Z,63µm,21.0s
LKWY Lake 58.62 332⇓ *i*P **P** **02 05 24.1 +0.5**
comp=Z,660nm,0.8s,mb6.5
LKWY *e*pP pP 02 05 48.8 -5.7
LKWY *e* 02 09 41.9
LKWY *i* S **S** **02 13 27.9 +12**
LKWY LR LR
comp=Z,111µm,22.0s
LKWY Lake 58.62 332⇓ *i*P **P** **02 05 24.1 +0.6**
LKWY *e**PP pP 02 05 48.8 -5.7
LKWY *i* S **S** **02 13 27.9 +12**
LKWY pmax pmax
comp=Z,660nm,0.8s,mb6.5
LKWY MLR MLR
comp=Z,111µm,22.0s
YFT Old Faithful 58.73 332⇓ *i*P **P** **02 05 25.2 +0.8**
YFT *e*pP pP 02 05 51.8 -3.5
YFT *e*PP PP 02 07 48.1 +11
RKT Rikitea 58.84 247 *e*P **P** **02 05 25.4 0.0**
comp=Z,651nm,0.9s,mb6.5
RKT Rikitea 58.84 247 *e*sP sP 02 05 58.3 -12
comp=Z,1µm,1.3s
RKT Rikitea 58.84 247 *e*S **S** **02 13 12.0 -6.8**
RKT *e*SS SS 02 17 24.1 +8.2
RKT *e*LQ 02 20 24.2
RKT *e*LR LR 02 22 51.4
comp=Z,685µm,37.0s,baz=83
YMR Madison River 58.96 332⇓ *i*P **P** **02 05 26.0 0.0**
comp=Z,584nm,0.6s,mb6.6
YMR *e*pP pP 02 05 54.0 -2.9
YMR *e*PP PP 02 07 31.6 -7.8
YMR *e*ScP 02 09 47.4
LRV Little Rabbit 59.12 319 *e*P **P** **02 05 26.8 -0.4**
DGMT Dagmar 59.20 339⇓ *i*P **P** **02 05 26.7 -0.8**
comp=Z,1µm,0.7s,mb6.8
DGMT *e*pP pP 02 05 53.8 -4.7
DGMT *e*PP PP 02 07 39.0 -2.4
DGMT *i* S **S** **02 13 26.1 +3.1**
DGMT LR LR
comp=Z,73µm,19.0s
GCMT Greycliff 59.22 334 *e*P **P** **02 05 26.9 -0.8**
QLMT Earthquake Lak 59.30 332 *e*P **P** **02 05 28.3 0.0**
QLMT *e*pP pP 02 05 56.3 -2.9
PMSA Palmer Station 59.59 174⇓ *i*P **P** **02 05 30.2 +0.2**
comp=Z,2µm,1.3s,mb6.8
PMSA *e*pP pP 02 05 60.0 -1.1
PMSA *i* S **S** **02 13 27.5 -0.4**
PMSA LR LR
comp=Z,52µm,19.0s
SAO San Andreas Ge 59.59 319⇓ *i*P **P** **02 05 29.8 -0.6**
SAO *e*pP pP 02 05 59.2 -2.2
SAO *e*ScP 02 10 02.4
SAO *i* S **S** **02 13 29.0 +0.7**
SAO LR LR
comp=Z,58µm,21.0s
SAO San Andreas Ge 59.59 319⇓ *i*P **P** **02 05 29.8 -0.6**
SAO *e**PP pP 02 05 59.2 -2.2
SAO *i* S **S** **02 13 29.0 +0.7**
SAO MLR MLR
comp=Z,58µm,21.0s
CMB Columbia Colle 59.66 321⇓ *i*P **P** **02 05 29.8 -1.0**
comp=Z,2µm,1.3s,mb6.7
CMB *e*pP pP 02 05 56.4 -5.5
CMB *i* S **S** **02 13 35.0 +5.9**
CMB LR LR
comp=Z,46µm,22.0s
CMB Columbia Colle 59.66 321⇓ *i*P **P** **02 05 29.8 -1.0**
CMB *e**PP pP 02 05 56.4 -5.5
CMB *i* S **S** **02 13 35.0 +5.9**
CMB pmax pmax
comp=Z,2µm,1.3s,mb6.7
CMB MLR MLR
comp=Z,46µm,22.0s
MCMT McKenzie Canyo 59.98 331 *e*P **P** **02 05 32.5 -0.4**
PAHR Pah Rah Range 60.06 323⇓ *i*P **P** **02 05 33.6 +0.1**
comp=Z,2µm,1.5s,mb6.8
PAHR *e*pP pP 02 06 02.2 -2.4
PAHR *e*PP PP 02 07 45.8 -3.6
DLMT Dillon 60.25 331⇓ *i*P **P** **02 05 34.1 -0.6**
DLMT *e*pP pP 02 05 58.2 -7.6
DLMT *e*PP PP 02 07 49.8 -1.2
DLMT *e*ScP 02 09 56.0
DLMT *i* S **S** **02 13 36.3 -0.3**
SAC San Andreas 60.70 319 *e*P **P** **02 05 37.7 -0.2**
BEKR Beckwourth 60.75 322⇓ *i*P **P** **02 05 38.0 -0.2**
comp=Z,504nm,0.6s,mb6.5
BEKR *e*pP pP 02 06 05.9 -3.5
BEKR *e*PP PP 02 08 05.2 +10
BEKR *e*ScP 02 10 07.0
SCHQ Schefferville 60.88 6 P **P** **02 05 36.8 -2.1**
comp=Z,154nm,0.7s,mb6.0,baz=205,slow=5.6,SNR=100
SCHQ pP pP 02 06 10.2 +0.1
comp=Z,778nm,0.8s,baz=210,slow=3.9,SNR=7.9
SCHQ S **S** **02 13 41.1 -3.4**
comp=Z,24nm,0.8s,baz=42,slow=15,SNR=1.9
SCHQ PKPPKP 02 34 52.0
comp=Z,16nm,0.9s,baz=14,slow=2.7,SNR=5.6
SCHQ P4KPbc 02 42 36.3
comp=Z,2.9nm,0.8s,baz=236,slow=3.6,SNR=2.7
SCHQ Schefferville 60.88 6⇓ *i*P **P** **02 05 37.4 -1.5**
comp=Z,80nm,0.9s,mb5.5
SCHQ *e*pP pP 02 06 08.1 -2.0
SCHQ *i* S **S** **02 13 45.4 +0.9**
SCHQ LR LR
comp=Z,86µm,20.0s
HRY Holter Researc 60.90 333 *e*P **P** **02 05 38.0 -1.1**
OHCM Honcut 61.12 321 *e*P **P** **02 05 40.0 -0.7**
NSHM Saint Helena R 61.36 320 *e*P **P** **02 05 42.0 -0.3**
NSHM *e*pP pP 02 06 12.7 -0.9
WVOR Wild Horse Val 61.36 326⇓ *i*P **P** **02 05 41.1 -1.2**
comp=Z,683nm,0.9s,mb6.5
WVOR *e*pP pP 02 06 09.8 -3.8
WVOR *e*PP PP 02 08 02.8 +1.9
WVOR *i* S **S** **02 13 52.2 +1.5**
WVOR LR LR
comp=Z,138µm,20.0s
WVOR Wild Horse Val 61.36 326⇓ *i*P **P** **02 05 41.1 -1.2**
WVOR *e**PP pP 02 06 09.8 -3.7
WVOR *e* 02 08 02.8
WVOR *i* S **S** **02 13 52.2 +1.5**
WVOR pmax pmax
comp=Z,683nm,0.9s,mb6.5
WVOR MLR MLR
comp=Z,138µm,20.0s
ASCN Ascension 61.67 96 P **P** **02 05 42.7 -2.0**
CHMT Chamberlain Mo 61.70 332 *e*P **P** **02 05 43.6 -0.9**
HOPS Hopland 61.93 320⇓ *i*P **P** **02 05 45.8 -0.4**
comp=Z,2µm,1.4s,mb6.7
HOPS *e*pP pP 02 06 16.0 -1.4
HOPS *i* S **S** **02 14 00.8 +2.9**
HOPS LR LR
comp=Z,52µm,20.0s
MOD Modoc 61.98 324⇓ *i*P **P** **02 05 45.5 -0.9**
comp=Z,49µm,1.4s
MOD *e*pP pP 02 06 17.0 -0.7
MOD *i* S **S** **02 14 05.1 +6.6**
MOD LR LR
comp=Z,64µm,22.0s
PTCA Ponta do Capel 62.39 41 *e*P **P** **02 05 50.0 +0.7**
comp=Z,454nm,1.6s,mb6.0
PTCA *e*pP pP 02 06 22.2 +1.6
PTCA Ponta do Capel 62.39 41 *e* 02 34 57.4
CALA Caldeira 62.45 41 *e*P **P** **02 05 49.9 +0.2**
HOR Horta 62.47 41 *e* **P** **02 05 50.2 +0.4**
WDC Whiskeytown Da 62.52 322⇓ *i*P **P** **02 05 47.8 -2.2**
comp=Z,790nm,0.6s,mb6.7
WDC *e*pP pP 02 06 17.4 -3.9
WDC *e*PP PP 02 08 09.5 -1.3
WDC *i* S **S** **02 14 05.3 0.0**
WDC LR LR
comp=Z,37µm,22.0s
WDC Whiskeytown Da 62.52 322⇓ *i*P **P** **02 05 47.8 -2.2**
WDC *e**PP pP 02 06 17.4 -3.9
WDC *e* 02 08 09.5
WDC *i* S **S** **02 14 05.3 0.0**
WDC pmax pmax
comp=Z,790nm,0.6s,mb6.7
WDC MLR MLR
comp=Z,37µm,22.0s
PLUZ Luz 62.52 40 *e*P **P** **02 05 55.4 +5.3**
comp=Z,800nm,1.3s,mb6.4
PLUZ *e*pP pP 02 06 25.1 +3.7
PLUZ *e*S S 02 14 26.0 +21
PLUZ Luz 62.52 40 *e* 02 34 46.3
PCND Candelaria 62.55 41 *e*P **P** **02 05 51.2 +0.9**
comp=Z,786nm,1.4s,mb6.3
PCND *e*pP pP 02 06 22.1 +0.5
PCND *e*S **S** **02 14 07.7 +2.0**
PCND Candelaria 62.55 41 *e* 02 34 58.8
PBOI Pico dos Bois 62.59 41 *e*P **P** **02 05 51.4 +0.9**
comp=Z,570nm,1.3s,mb6.2
PBOI *e*pP pP 02 06 24.1 +2.2
PBOI *e*S **S** **02 14 08.9 +2.7**
PBOI Pico dos Bois 62.59 41 *e* 02 35 05.9
PICO Pico 62.59 41 *e*P **P** **02 05 50.7 +0.1**
KCPM Cahto Peak 62.65 320 *e*P **P** **02 05 51.5 +0.6**
KCPM *e*pP pP 02 06 24.5 +2.3
KIPM Iron Peak 62.65 321 *e*P **P** **02 05 50.9 -0.1**
PIED Piedade 62.79 41 *e*P **P** **02 05 52.5 +0.6**
ROSA Rosais 62.83 41 *e*P **P** **02 05 52.2 0.0**
PAMA Santo Amaro 62.85 41 *e*P **P** **02 05 51.7 -0.6**
comp=Z,967nm,1.2s,mb6.5
PAMA *e*pP pP 02 06 22.3 -1.3
PAMA *e*S **S** **02 14 09.4 -0.1**
PAMA Santo Amaro 62.85 41 *e* 02 34 58.3
PVIA Vitoria 63.15 41 *e*P **P** **02 05 55.5 +1.3**
comp=Z,902nm,1.3s,mb6.4
PVIA *e*pP pP 02 06 26.2 +0.6
PVIA *e*S **S** **02 14 09.3 -3.9**
PVIA Vitoria 63.15 41 *e* 02 34 51.4
TAOE Nuku Hiva Isla 63.17 263 *e*P **P** **02 05 55.2 +0.5**
comp=Z,4µm,1.2s,mb7.2
TAOE Nuku Hiva Isla 63.17 263 *e*LR LR 02 25 17.0
comp=Z,740µm,30.5s,baz=95
STGR Santa Cruz 63.18 41 *e*P **P** **02 05 55.8 +1.3**
comp=Z,1µm,1.2s,mb6.5
STGR *e*pP pP 02 06 25.6 -0.2
STGR *e*S **S** **02 14 06.9 -6.7**
STGR Santa Cruz 63.18 41 *e* 02 34 50.6
VSP Spence Mountai 63.21 324 P **P** **02 05 54.5 -0.1**
YBH Yreka Blue Hor 63.30 323 P **P** **02 05 53.5 -1.7**
comp=Z,328nm,0.9s,mb6.2,baz=66,slow=2.9,SNR=128
YBH S **S** **02 14 13.6 -1.5**
comp=Z,7.9nm,1.2s,baz=46,slow=11,SNR=2.0
YBH Yreka Blue Hor 63.30 323⇓ *i*P **P** **02 05 53.2 -2.0**
comp=Z,21nm,0.4s
YBH *e*pP pP 02 06 21.2 -5.4
YBH *i* S **S** **02 14 18.6 +3.5**
YBH LR LR
comp=Z,80µm,20.0s
YBH Yreka Blue Hor 63.30 323⇓ *i*P **P** **02 05 53.2 -2.0**
YBH *e**PP pP 02 06 21.2 -5.4
YBH *i* S **S** **02 14 18.6 +3.6**
YBH pmax pmax
comp=Z,21nm,0.4s
YBH MLR MLR
comp=Z,80µm,20.0s
BUOR Burton Butte 63.35 323 P **P** **02 05 54.6 -0.9**
KHMM Horse Mountain 63.42 321⇓ *i*P **P** **02 05 55.8 -0.2**
KHMM *e* pP 02 06 29.2 +1.8
ASBA Santa Barbara 63.43 41 *e*P **P** **02 05 57.2 +1.1**
comp=Z,995nm,1.4s,mb6.5
ASBA *e*pP pP 02 06 22.6 -4.9
ASBA *e*S **S** **02 14 22.7 +6.0**
ASBA Santa Barbara 63.43 41 *e* 02 34 50.1
PPAD Pico dos Padre 63.45 41 *e*P **P** **02 05 57.0 +0.8**
comp=Z,854nm,1.5s,mb6.4
PPAD *e*pP pP 02 06 25.7 -1.9
PPAD *e*S **S** **02 14 10.9 -6.0**
PPAD Pico dos Padre 63.45 41 *e* 02 35 00.2
ADH Angra Heroismo 63.45 42 *e*P **P** **02 05 55.8 -0.5**
PBIS Biscoitos 63.50 41 *e*P **P** **02 05 57.1 +0.5**
comp=Z,722nm,1.6s,mb6.2
PBIS *e*pP pP 02 06 25.7 -2.3
PBIS *e*S **S** **02 14 00.4 -17**
RIB2 Ribeirinha 63.50 42 *e*P **P** **02 05 57.5 +0.9**
comp=Z,882nm,1.4s,mb6.4
RIB2 *e*pP pP 02 06 25.6 -2.4
RIB2 *e*S **S** **02 14 13.1 -4.6**
RIB2 Ribeirinha 63.50 42 *e* 02 34 51.3
PSCM Serra do Cume 63.56 42 *i*P **P** **02 05 56.0 -1.0**
comp=Z,2µm,1.5s,mb6.7
PVNV Vila Nova 63.56 41 *e*P **P** **02 05 57.8 +0.8**
comp=Z,751nm,1.6s,mb6.3
PVNV *e*S **S** **02 14 16.9 -1.5**
PVNV Vila Nova 63.56 41 *e* 02 34 56.9
PFAV Pico das Favas 63.58 42 *e*P **P** **02 05 58.1 +0.9**
comp=Z,652nm,1.4s,mb6.3
PFAV *e*pP pP 02 06 28.1 -0.4
PFAV *e*S **S** **02 14 19.8 +1.1**
PFAV Pico das Favas 63.58 42 *e* 02 34 44.8
FFC Flin Flon 63.89 344⇓ *i*P **P** **02 05 57.2 -1.7**
comp=Z,1µm,1.0s,mb6.8
FFC *e* pP 02 06 31.1 +0.9
FFC *e*PP PP 02 08 18.7 -3.7
FFC *i* S **S** **02 14 25.3 +3.1**
FFC LR LR
comp=Z,18µm,22.0s
FFC Flin Flon 63.89 344⇓ *i*P **P** **02 05 57.2 -1.6**
FFC *e* pP 02 06 31.1 +0.9
FFC *e* 02 08 18.7
FFC *i* S **S** **02 14 25.3 +3.1**
FFC pmax pmax
comp=Z,1µm,1.0s,mb6.8
FFC MLR MLR
comp=Z,18µm,22.0s
KRMB Red Mountain 63.90 322⇓ *i*P **P** **02 05 59.0 -0.1**
KRMB *e* pP 02 06 32.7 +2.1
KRMB *e*PP PP 02 08 27.9 +5.1
HUMO Hull Mountain 63.97 323⇓ *i*P **P** **02 05 57.8 -1.7**
comp=Z,41nm,0.6s
HUMO *e* pP 02 06 25.9 -5.1
HUMO *i* S **S** **02 14 28.6 +5.2**
HUMO LR LR
comp=Z,56µm,20.0s
PFET Feteiras 63.98 43 *e*P **P** **02 06 02.8 +3.1**
PFET *e*pP pP 02 06 33.3 +2.2
SET2 Ginetes 63.98 43 *e*P **P** **02 06 01.1 +1.4**
SET2 *e*pP pP 02 06 33.3 +2.1
SET4 Mosteiros 64.00 43 *e*pP pP 02 06 33.6 +2.3
PDA Ponta Delgada 64.03 43 *e*P **P** **02 05 58.1 -2.0**
PDA *e*S **S** **02 14 27.4 +3.2**
PSET Sete Cidades 64.03 43 *i*P **P** **02 05 59.0 -1.1**
comp=Z,3µm,1.7s,mb6.8
PSAN Santo Antonio 64.04 43 *e*P **P** **02 06 00.9 +0.8**
FAC Faja de Cima 64.05 43 *e*P **P** **02 06 03.1 +2.9**
FAC *e*pP pP 02 06 32.6 +1.0
FAC *e*S **S** **02 14 31.7 +7.2**
PSMN Pico do Norte, 64.06 44 *e*S **S** **02 14 30.6 +5.9**
CML Cha da Macela 64.12 43 *e*P **P** **02 06 01.2 +0.5**
CML *e*pP pP 02 06 34.4 +2.3
CML *e*S **S** **02 14 13.5 -12**
CML Cha da Macela 64.12 43 *e* 02 34 50.9
CMLA Cha da Macela 64.13 43 PFAKE 02 06 10.0 +9.3
CMLA LR LR
comp=Z,34µm,22.0s
PRCH Ribeira Ch 64.15 43 *e*P **P** **02 06 01.8 +1.0**
comp=Z,648nm,1.7s,mb6.2
PRCH *e*pP pP 02 06 34.8 +2.6
PRCH Ribeira Ch 64.15 43 *e* 02 34 44.1
LFA Lagoa do Fogo 64.17 43 *e*P **P** **02 06 02.3 +1.4**
LFA *e*pP pP 02 06 37.7 +5.3
LFA Lagoa do Fogo 64.17 43 *e* 02 34 43.3
VIF Vila Franca 64.18 43 *e*P **P** **02 06 02.3 +1.3**
comp=Z,479nm,1.8s,mb6.0
VIF *e*pP pP 02 06 36.7 +4.2
VIF Vila Franca 64.18 43 *e* 02 34 57.9
PMAT Coroa da Mata 64.20 43 *e*P **P** **02 06 03.7 +2.6**
PMAT *e*pP pP 02 06 36.8 +4.2
PMAT Coroa da Mata 64.20 43 *e* 02 35 03.2
MESC Monte Escuro 64.20 43 *e*P **P** **02 06 02.6 +1.4**
MESC *e*pP pP 02 06 37.8 +5.2
MESC *e*S **S** **02 14 28.0 +1.6**
MESC Monte Escuro 64.20 43 *e* 02 34 55.4
PCNG Congro 64.22 43 *e*P **P** **02 06 02.2 +0.9**
comp=Z,2µm,1.3s,mb6.8
PCNG *e*pP pP 02 06 35.5 +2.8
PCNG Congro 64.22 43 *e* 02 34 52.6
FRA1 Furnas 64.24 43 *e*P **P** **02 06 02.4 +1.0**
FRA1 *e*S **S** **02 14 25.4 -1.4**
FRA1 Furnas 64.24 43 *e* 02 34 57.2
PFAD Fenais da Ajud 64.31 43 *e*P **P** **02 06 03.1 +1.2**
PFAD *e*pP pP 02 06 32.6 -0.7
PFAD Fenais da Ajud 64.31 43 *e* 02 34 58.8
MIRA Miradouro 64.31 43 *e*P **P** **02 06 02.7 +0.8**
MIRA Miradouro 64.31 43 *e* 02 34 52.7
HAWA Hanford 64.43 328⇓ *i*P **P** **02 06 03.1 +0.6**
comp=Z,129nm,0.6s,mb5.9
HAWA *e* pP 02 06 34.2 +0.3
HAWA *i* S **S** **02 14 28.1 -0.9**
HAWA LR LR
comp=Z,8µm,22.0s
NEW Newport 64.49 331 P **P** **02 06 01.7 -1.2**
comp=Z,549nm,0.8s,mb6.4,baz=129,slow=5.8,SNR=167
NEW S **S** **02 14 26.2 -3.5**
comp=Z,21nm,1.1s,baz=77,slow=12,SNR=1.7
NEW Newport 64.49 331⇓ *i*P **P** **02 06 01.7 -1.2**
comp=Z,4µm,0.6s,mb7.4
NEW *e* pP 02 06 29.6 -4.8
NEW *e*PP PP 02 08 20.4 -7.6
NEW *i* S **S** **02 14 30.7 +0.9**
NEW LR LR
comp=Z,71µm,20.0s
NEW Newport 64.49 331⇓ *i*P **P** **02 06 01.7 -1.2**
NEW *e* pP 02 06 29.6 -4.7
NEW *e* 02 08 20.4
NEW *i* S **S** **02 14 30.7 +0.9**
NEW pmax pmax
comp=Z,4µm,0.6s
NEW MLR MLR
comp=Z,71µm,20.0s
WRD Warden 64.50 329 P **P** **02 06 04.4 +1.4**
OD2 Odessa Site #2 64.68 330 P **P** **02 06 03.3 -0.8**
EUO Eugene 64.88 325 P **P** **02 06 04.6 -0.9**
KEBM Edson Butte 64.94 323⇓ *i*P **P** **02 06 06.2 +0.3**
KEBM *e*pP pP 02 06 39.8 +2.4
KEBM *e*PP PP 02 08 36.0 +4.0
KEBM *i* S **S** **02 14 36.4 +1.0**
SSOR Sweet Springs 65.04 326 P **P** **02 06 05.4 -1.1**
COR Corvallis 65.35 325⇓ *i*P **P** **02 06 08.2 -0.3**
comp=Z,5µm,1.4s,mb7.1
COR *e* pP 02 06 36.3 -3.8
COR *i* S S 02 14 46.7 +6.3
COR LR LR
comp=Z,14µm,22.0s
COR Corvallis 65.35 325⇓ *i*P **P** **02 06 08.2 -0.3**
COR *e* pP 02 06 36.3 -3.7
COR *i* S S 02 14 46.7 +6.3
COR pmax pmax
comp=Z,5µm,1.4s,mb7.1
COR MLR MLR
comp=Z,14µm,22.0s
CHIE El Hierro 65.50 56 P **P** **02 06 09.2 -0.5**
comp=Z,2µm,0.9s,mb6.9
FCC Fort Churchill 65.82 350⇓ *i*P **P** **02 06 09.4 -1.9**
comp=Z,3µm,1.2s,mb6.9
FCC *e* pP 02 06 41.8 -1.1
FCC *e*S S 02 14 44.5 -1.4
FCC Fort Churchill 65.82 350⇓ *i*P **P** **02 06 09.4 -1.9**
FCC *e* pP 02 06 41.8 -1.0
FCC *e*S S 02 14 44.5 -1.4
FCC pmax pmax
comp=Z,3µm,1.2s,mb6.9

LON	**Longmire**	**65.86**	**328**	P		**P**	**02 06 11.1**	**-0.6**	
EHIG	**Higuera**	**65.92**	**55**	P		**P**	**02 06 10.9**	**-1.6**	
	comp=Z,3μm,2.1s,mb6.8								
TRIS	**Tristan da Cun**	**66.02**	**128**	⇓*i*P		**P**	**02 06 12.7**	**-0.2**	
	comp=Z,1μm,0.8s,mb6.7								
TRIS				*e*		pP	02 06 42.7	-1.8	
TRIS				LR		LR			
	comp=Z,93μm,21.0s								
EGOM	**La Gomera**	**66.27**	**56**	P		**P**	**02 06 12.7**	**-1.9**	
	comp=Z,11μm,2.7s,mb7.2								
EDM	**Edmonton**	**66.47**	**337**	⇓*i*P		**P**	**02 06 13.9**	**-1.5**	
EDM				*e*		pP	02 06 43.5	-3.6	
EDM				*i* S		S	02 14 52.4	-1.3	
CCAN	**Las Canadas**	**66.79**	**56**	P		**P**	**02 06 17.2**	**-0.8**	
	comp=Z,862nm,1.2s,mb6.5								
GNW	**Green Mountain**	**66.91**	**328**	P		**P**	**02 06 17.5**	**-0.9**	
SQM	**Sequim**	**67.35**	**328**	P		**P**	**02 06 21.7**	**+0.7**	
EOSO	**Osorio**	**67.61**	**57**	P		**P**	**02 06 22.0**	**-1.0**	
	comp=Z,50μm,6.1s								
PGC	**Sidney**	**67.92**	**328**	⇓*i*P		**P**	**02 06 24.4**	**-0.2**	
	comp=Z,4.7nm,0.9s								
PGC				*e*		pP	02 06 53.9	-2.4	
PGC				*i* S		S	02 15 19.5	+8.4	
CFTV	**Fuerteventura**	**68.95**	**57**	P		**P**	**02 06 30.5**	**-0.8**	
	comp=Z,336nm,0.9s,mb6.1								
EFAM	**Famara**	**69.64**	**56**	P		**P**	**02 06 35.0**	**-0.5**	
	comp=Z,35μm,4.5s								
PMOR	**Pomariorio Ree**	**70.61**	**256**	*e*P		**P**	**02 06 42.7**	**+1.2**	
	comp=Z,1μm,1.1s,mb6.5								
PMOR				*es*P		sP	02 07 15.4	-12	
	comp=Z,1μm,1.2s								
TVO	**Taravao**	**71.89**	**253**	*e*P		**P**	**02 06 50.5**	**+1.4**	
	comp=Z,2μm,1.6s,mb6.5								
TVO				*es*P		sP	02 07 24.3	-11	
	comp=Z,2μm,1.5s								
TBI	**Tubuai**	**72.14**	**247**	*e*LQ			02 25 57.4		
TBI	**Tubuai**	**72.14**	**247**	*e*P		**P**	**02 06 52.1**	**+1.6**	
	comp=Z,485nm,0.9s,mb6.2								
TBI	**Tubuai**	**72.14**	**247**	*es*P		sP	02 07 25.7	-11	
	comp=Z,2μm,1.4s								
TBI				*e*S		S	02 15 52.1	-8.5	
TBI				*e*LR		LR	02 28 59.2		
	comp=Z,391μm,35.0s,baz=86								
TBI	**Tubuai**	**72.14**	**247**	*e*SS		SS	02 20 48.6	+6.0	
PPT	**Papeete**	**72.20**	**253**	*e*P		**P**	**02 06 52.3**	**+1.4**	
	comp=Z,790nm,1.6s,mb6.2								
PPT				*ep*P		pP	02 07 12.1	-11	
PPT				*es*P		sP	02 07 26.4	-11	
	comp=Z,1μm,1.5s								
PPT	**Papeete**	**72.20**	**253**	*e*S		S	02 15 51.8	-10	
PPT				*e*SS		SS	02 20 38.4	-5.2	
PPT				*e*LQ			02 26 03.3		
PPT				*e*LR		LR	02 28 56.5		
	comp=Z,805μm,33.8s,baz=93								
PPT	**Papeete**	**72.20**	**253**	P		**P**	**02 06 52.3**	**+1.4**	
	comp=Z,106nm,0.7s,mb5.7,baz=82,slow=9.3,SNR=17								
PPT				pP		pP	02 07 25.8	+2.8	
	comp=Z,291nm,0.9s,baz=316,slow=12,SNR=2.3								
PPT				S		S	02 16 08.1	+6.7	
	comp=Z,17nm,0.8s,baz=194,slow=16,SNR=1.7								
PPT				LR		LR	02 32 33.9		
	comp=Z,37μm,19.2s,baz=54,slow=31								
PPT	**Papeete**	**72.20**	**253**	P		**P**	**02 06 52.3**	**+1.4**	
PPT				S		S	02 16 08.1	+6.7	
PAE	**Paea**	**72.20**	**253**	*e*P		**P**	**02 06 52.3**	**+1.4**	
	comp=Z,2μm,1.2s,mb6.7								
PAE				*es*P		sP	02 07 25.5	-12	
	comp=Z,2μm,1.3s								
LIC	**Lamto**	**72.30**	**82**	⇓*i*P		**P**	**02 06 50.6**	**-1.0**	
	comp=Z,8μm,1.5s,mb6.9								
LIC	**Lamto**	**72.30**	**82**	*e*P		**P**	**02 06 51.1**	**-0.5**	
	comp=Z,7μm,1.5s,mb7.1								
TIC	**Toumodi**	**72.36**	**81**	*e*P		**P**	**02 06 51.6**	**-0.4**	
	comp=Z,5μm,1.3s,mb7.1								
DBIC	**Dimbokro**	**72.53**	**81**	P		**P**	**02 06 52.3**	**-0.7**	
	comp=Z,1μm,0.8s,mb6.6,baz=245,slow=5.5,SNR=175								
DBIC				pP		pP	02 07 25.7	+0.5	
	comp=Z,946nm,0.8s,baz=246,slow=7.7,SNR=4.6								
DBIC				S		S	02 15 58.4	-6.9	
	comp=Z,32nm,1.1s,baz=334,slow=19,SNR=2.2								
DBIC				PKPPKP			02 34 30.8		
	comp=Z,5.6nm,0.8s,baz=28,slow=5.0,SNR=4.3								
DBIC				LR		LR	02 39 00.5		
	comp=Z,147μm,20.4s,baz=166,slow=36								
DBIC	**Dimbokro**	**72.53**	**81**	⇓*i*P		**P**	**02 06 52.2**	**-0.9**	
	comp=Z,28nm,0.6s								
DBIC				*ep*P		pP	02 07 20.6	-4.7	
DBIC				LR		LR			
	comp=Z,31μm,19.0s								
KIC	**Kosan Boka**	**72.60**	**82**	*e*P		**P**	**02 06 53.2**	**-0.3**	
	comp=Z,2μm,0.9s,mb6.9								
YKA	**Yellowknife Ar**	**74.01**	**343**	P		**P**	**02 06 59.3**	**-1.4**	
	comp=Z,170nm,0.7s,mb5.9,baz=139,slow=6.2,SNR=224								
YKA				pP		pP	02 07 34.6	+1.6	
	comp=Z,260nm,0.8s,baz=136,slow=6.0,SNR=3.8								
YKA				S		S	02 16 19.4	-1.5	
	comp=Z,2.2nm,0.7s,baz=270,slow=22,SNR=2.6								
YKA				PKPPKP			02 34 31.1		
	comp=Z,14nm,1.1s,baz=312,slow=2.3,SNR=4.8								
YKA	**Yellowknife Ar**	**74.01**	**343**	P		**P**	**02 06 59.4**	**-1.4**	
YKA				pP		pP	02 07 34.6	+1.6	
YKA				S		S	02 16 19.4	-1.5	
YKA				P'P'			02 34 31.1		
YKA	**Yellowknife Ar**	**74.01**	**343**	P		**P**	**02 06 59.3**	**-1.4**	
YKA				S		S	02 16 19.5	-1.4	
YKA				pmax		pmax			
	comp=Z,170nm,0.7s								
YKA				smax					
	comp=E,2.0nm,0.7s								
YKW3	**Yellowknife Ar**	**74.06**	**343**	⇓*i*P		**P**	**02 07 00.0**	**-1.0**	
YKW3				*ep*P		pP	02 07 33.4	0.0	
YKW3				*e*PP		PP	02 09 36.0	-13	
YKW3				*i* S		S	02 16 17.7	-3.9	
SFJD	**Kangerlussuaq**	**74.89**	**10**	⇓*i*P		**P**	**02 07 04.5**	**-1.2**	
	comp=E,966nm,1.3s,mb6.3								
SFJD				*i* S		S	02 16 24.9	-5.7	
SFJD				*i*			02 17 24.9		
SFJD				*i*			02 21 23.0		
	comp=Z,84μm,22.0s								
SFJD	**Kangerlussuaq**	**74.89**	**10**	⇓*i*P		**P**	**02 07 04.5**	**-1.2**	
SFJD				*i* S		S	02 16 24.9	-5.7	
SFJD				*i*			02 17 24.9		
SFJD				*i*			02 21 23.0		
SFJD				pmax		pmax			
	comp=Z,966nm,1.3s,mb6.3								
SFJD				MLR		MLR			
	comp=Z,84μm,22.0s								
PTEO	**Sao Teotonio**	**76.16**	**49**	*i* P		**P**	**02 07 13.9**	**+0.5**	
	comp=Z,3μm,1.3s,mb6.7								
PTEO				*e*-		pP	02 07 48.3	+2.4	
LIS	**Lisbon**	**76.22**	**48**	*e*P		**P**	**02 07 13.7**	**0.0**	
LIS				*e*S		S	02 16 48.0	+2.2	
LIS				*e*S		S	02 16 48.0	+2.2	
LIS				AMS		AMS	02 36 24.5		
	comp=Z,135μm,10.2s								
PLOU	**Loures**	**76.27**	**48**	*i* P		**P**	**02 07 13.9**	**-0.1**	
	comp=Z,2μm,1.1s,mb6.7								
PLOU				*e*-		pP	02 07 48.4	+1.9	
CRAG	**Craig**	**76.71**	**331**	*e*P		**P**	**02 07 18.3**	**+2.2**	
CRAG				LR		LR			
	comp=Z,73μm,22.0s								
ALMR	**Almeirim**	**76.78**	**48**	*e*P		**P**	**02 07 16.8**	**-0.1**	
DLBC	**Dease Lake**	**76.91**	**334**	⇓*i*P		**P**	**02 07 17.9**	**+0.7**	
DLBC				*ep*P		pP	02 07 47.4	-2.3	
DLBC				*e*PP		PP	02 10 11.2	-1.7	
PBEJ	**Beja**	**76.95**	**49**	*i* P		**P**	**02 07 18.2**	**+0.3**	
	comp=Z,1μm,2.0s,mb6.2								
PBEJ				*e*-		pP	02 07 49.8	-0.6	
EVO	**Evora**	**77.00**	**48**	*e*P		**P**	**02 07 16.8**	**-1.3**	
	comp=Z,3μm,1.3s,mb6.5								
EVO				*e*R					
	comp=Z,171μm,19.0s								
PTOM	**Tomar**	**77.05**	**47**	*i* P		**P**	**02 07 17.9**	**-0.5**	
	comp=Z,1μm,1.4s								
EGRO	**El Granado**	**77.09**	**50**	P		**P**	**02 07 19.0**	**+0.4**	
	comp=Z,490nm,1.3s,mb6.0								
VNA3	**Neumayer Olymp**	**77.25**	**162**	⇓*i*P		**P**	**02 07 18.8**	**0.0**	
VNA3				*e*			02 07 28.1		
VNA3				*e*			02 07 40.6		
VNA3				*e*		pP	02 07 52.6	+1.2	
VNA3				*e*			02 08 08.7		
VNA3				*e*			02 10 13.9		
VNA3				*e*			02 12 57.3		
VNA3				*e*			02 13 30.8		
VNA3				*e*			02 13 46.0		
VNA3				*e*S		S	02 17 00.1	+3.8	
VNA3				*e*			02 17 19.8		
VNA3				*e*			02 17 22.9		
VNA3				*e*			02 17 27.7		
VNA3				*e*			02 17 37.7		
VNA3				*e*			02 18 10.6		
VNA3				*e*			02 22 15.2		
VNA3				*e*			02 26 22.2		
VNA3				*e*			02 26 26.3		
VNA3				*e*			02 26 55.6		
VNA3				*e*			02 29 16.9		
VNA3				*e*			02 34 32.7		
VNA1	**Neumayer--Stat**	**77.48**	**162**	*e*		**P**	**02 07 29.2**	**+9.1**	
VNA1	**Neumayer--Stat**	**77.48**	**162**	*e*		pP	02 07 54.1	+1.4	
VNA1	**Neumayer--Stat**	**77.48**	**162**	*e*		sP	02 08 09.6	+2.7	
VNA1	**Neumayer--Stat**	**77.48**	**162**	*e*S		S	02 16 58.4	-0.4	
VNA1	**Neumayer--Stat**	**77.48**	**162**	⇓*i*P		**P**	**02 07 20.4**	**+0.3**	
VNA1				*e*			02 07 29.2		
VNA1				*e*		pP	02 07 54.1	+1.4	
VNA1				*e*			02 08 09.6		
VNA1				*e*			02 10 13.6		
VNA1				*e*S		S	02 16 58.4	-0.4	
VNA1				*e*			02 17 17.9		
VNA1				*e*			02 17 24.5		
VNA1				*e*			02 18 08.9		
VNA1				*e*			02 26 22.1		
VNA1				*e*			02 26 26.6		
VNA1				*e*			02 26 57.9		
VNA1				*e*			02 34 31.6		
EZAM	**Zamans**	**77.67**	**45**	P		**P**	**02 07 22.2**	**+0.5**	
	comp=Z,446nm,0.6s,mb6.3								
EZAM	**Zamans**	**77.67**	**45**	P		**P**	**02 07 22.2**	**+0.4**	
EZAM				pmax		pmax			
	comp=Z,446nm,0.6s,mb6.3								
EMAZ	**Mazaricos**	**77.75**	**44**	P		**P**	**02 07 21.2**	**-0.9**	
	comp=Z,34μm,6.5s								
EMIN	**Mina Concepcio**	**77.78**	**50**	P		**P**	**02 07 22.5**	**+0.1**	
	comp=Z,4μm,6.1s								
PCBR	**Castelo Branco**	**77.81**	**47**	*i* P		**P**	**02 07 21.9**	**-0.6**	
	comp=Z,826nm,1.8s,mb6.1								
PCBR				*e*-		pP	02 07 56.5	+1.4	
EBAD	**Badajoz**	**77.82**	**49**	P		**P**	**02 07 22.4**	**-0.2**	
VNA2	**Neumayer--Watz**	**77.84**	**162**	*e*		**P**	**02 07 30.8**	**+8.7**	
VNA2	**Neumayer--Watz**	**77.84**	**162**	*e*		Px	02 07 43.7		
VNA2	**Neumayer--Watz**	**77.84**	**162**	*e*		pP	02 07 55.1	+0.4	
VNA2	**Neumayer--Watz**	**77.84**	**162**	*e*		sP	02 08 10.9	+2.0	
VNA2	**Neumayer--Watz**	**77.84**	**162**	*e*S		S	02 17 06.6	+4.0	
VNA2	**Neumayer--Watz**	**77.84**	**162**	⇓*i*P		**P**	**02 07 22.0**	**-0.1**	
VNA2				*e*			02 07 30.8		
VNA2				*e*			02 07 43.7		
VNA2				*e*		pP	02 07 55.1	+0.4	
VNA2				*e*			02 08 10.9		
VNA2				*e*			02 10 15.8		
VNA2				*e*			02 12 58.6		
VNA2				*e*			02 13 32.8		
VNA2				*e*			02 13 49.6		
VNA2				*e*S		S	02 17 06.6	+4.0	
VNA2				*e*			02 17 23.5		
VNA2				*e*			02 17 26.7		
VNA2				*e*			02 17 31.3		
VNA2				*e*			02 17 43.1		
VNA2				*e*			02 18 14.8		
VNA2				*e*			02 22 13.8		
VNA2				*e*			02 26 21.7		
VNA2				*e*			02 26 25.7		
VNA2				*e*			02 26 57.4		
VNA2				*e*			02 29 14.6		
VNA2				*e*			02 34 31.8		
MTE	**Manteigas**	**77.93**	**47**	*i* P		**P**	**02 07 22.7**	**-0.5**	
	comp=Z,1μm,1.2s,mb6.4								
MTE				*ep*P		pP	02 07 52.1	-3.7	
MTE				*i* S		S	02 17 06.2	+2.0	
PCAB	**Cabril**	**78.00**	**45**	*i* P		**P**	**02 07 22.8**	**-0.8**	
	comp=Z,1μm,1.3s,mb6.4								
PCAB				*e*-		pP	02 07 57.4	+1.2	
STS	**Santiago**	**78.02**	**44**	P		**P**	**02 07 23.0**	**-0.7**	
	comp=Z,983nm,1.4s,mb6.2								
ELOB	**Lobios**	**78.03**	**45**	P		**P**	**02 07 23.2**	**-0.5**	
	comp=Z,65μm,8.9s								
MDT	**Midelt**	**78.04**	**55**	P		**P**	**02 07 24.6**	**+0.6**	
	comp=Z,212nm,1.1s,mb5.7,baz=261,slow=5.7,SNR=82								
MDT				pP		pP	02 07 58.5	+1.9	
	comp=Z,376nm,0.9s,baz=218,slow=4.2,SNR=5.7								
MDT				S		S	02 17 01.7	-3.8	
	comp=Z,8.9nm,1.0s,baz=325,slow=2.8,SNR=1.6								
PVRL	**Vila Real**	**78.08**	**46**	*i* P		**P**	**02 07 23.5**	**-0.5**	
	comp=Z,1μm,1.3s,mb6.3								
PVRL				*e*-		pP	02 07 57.6	+1.0	
ESPR	**Espera**	**78.14**	**51**	P		**P**	**02 07 25.0**	**+0.6**	
	comp=Z,4μm,3.7s								
EJIF	**Jimena Fronter**	**78.32**	**51**	P		**P**	**02 07 26.5**	**+1.1**	
	comp=Z,923nm,1.1s,mb6.3								
EJIF	**Jimena Fronter**	**78.32**	**51**	P		**P**	**02 07 26.5**	**+1.1**	
EJIF				pmax		pmax			
	comp=Z,923nm,1.1s,mb6.3								
SIT	**Sitka**	**78.58**	**332**	*e*P		**P**	**02 07 28.7**	**+2.4**	
SIT				LR		LR			
	comp=Z,60μm,19.0s								
ERUA	**La Rua**	**78.84**	**45**	P		**P**	**02 07 28.7**	**+0.6**	
	comp=Z,2μm,1.8s,mb6.3								
EMIJ	**Mijas**	**78.89**	**51**	P		**P**	**02 07 28.9**	**+0.4**	
	comp=Z,19μm,5.5s								
PBRG	**Braganca**	**78.94**	**46**	*i* P		**P**	**02 07 28.4**	**-0.3**	
	comp=Z,1μm,1.6s,mb6.3								
ECAL	**Calabor**	**78.99**	**45**	P		**P**	**02 07 28.8**	**-0.1**	
	comp=Z,884nm,1.6s,mb6.1								
EPON	**Pontenova**	**79.14**	**44**	P		**P**	**02 07 29.4**	**-0.2**	
	comp=Z,4μm,3.5s								
SNAA	**Sanae**	**79.46**	**162**	*e*		**P**	**02 07 38.5**	**+7.6**	
SNAA	**Sanae**	**79.46**	**162**	*e*		pP	02 08 02.2	-1.4	
SNAA	**Sanae**	**79.46**	**162**	*e*		sP	02 08 19.2	+1.4	
SNAA	**Sanae**	**79.46**	**162**	*e*S		S	02 17 18.3	-1.5	
SNAA	**Sanae**	**79.46**	**162**	*e*		PKKP	02 26 18.4	+29	
SNAA	**Sanae**	**79.46**	**162**	PKKPbc			02 26 18.7		
	comp=Z,6.1nm,1.0s,baz=127,slow=3.0,SNR=10								
SNAA				PKPPKP			02 34 08.6		
	comp=Z,2.2nm,1.0s,baz=92,slow=2.2,SNR=5.0								
SNAA	**Sanae**	**79.46**	**162**	⇓*i*P		**P**	**02 07 30.7**	**-0.2**	
SNAA				*e*			02 07 38.5		
SNAA				*e*		pP	02 08 02.2	-1.4	
SNAA				*e*			02 08 19.2		
SNAA				*e*			02 10 35.0		
SNAA				*e*			02 13 06.1		
SNAA				*e*			02 13 38.4		
SNAA				*e*			02 13 51.9		
SNAA				*e*S		S	02 17 18.3	-1.5	
SNAA				*e*			02 17 34.6		
SNAA				*e*			02 17 37.2		
SNAA				*e*			02 17 42.4		
SNAA				*e*			02 18 00.4		
SNAA				*e*			02 18 21.6		
SNAA				*e*			02 22 35.7		
SNAA				*e*			02 26 18.4		
SNAA				*e*			02 26 22.4		
SNAA				*e*			02 26 58.7		
SNAA				*e*			02 29 34.1		
SNAA				*e*			02 34 22.9		
SNAA	**Sanae**	**79.46**	**162**	⇓*i*P		**P**	**02 07 30.7**	**-0.2**	
SNAA				*e*			02 07 38.5		
SNAA				*e*		pP	02 08 02.2	-1.4	
SNAA				*e*			02 10 35.0		
SNAA				*e*S		S	02 17 18.3	-1.5	
SNAA				*e*			02 17 37.2		
SNAA				*e*			02 17 42.4		
SNAA				*e*			02 18 21.6		
SNAA				*e*			02 22 35.7		
EADA	**Adamuz**	**79.48**	**50**	P		**P**	**02 07 31.6**	**0.0**	
	comp=Z,50μm,7.1s								
ELOJ	**Sierra Loja**	**79.53**	**51**	P		**P**	**02 07 33.2**	**+1.2**	
	comp=Z,2μm,1.1s,mb6.6								
ELUQ	**Luque**	**79.55**	**50**	P		**P**	**02 07 32.8**	**+0.7**	
	comp=Z,533nm,1.3s,mb6.0								
ERON	**Agron**	**79.76**	**51**	P		**P**	**02 07 33.9**	**+0.7**	
	comp=Z,417nm,1.0s,mb6.0								
EGUA	**Guajares**	**79.90**	**51**	P		**P**	**02 07 35.2**	**+1.2**	
	comp=Z,29nm,0.7s								
EBAN	**Banos Encina**	**80.08**	**50**	P		**P**	**02 07 35.1**	**+0.2**	
	comp=Z,87nm,0.8s,mb5.4								
EALB	**Alboran**	**80.09**	**52**	P		**P**	**02 07 35.2**	**+0.3**	
	comp=Z,52nm,5.9s								
VAL	**Valentia**	**80.19**	**35**	⇓*i*P		**P**	**02 07 35.4**	**+0.2**	
VAL				*i* S		S	02 17 32.8	+5.0	
ESDC	**Sonseca Array**	**80.35**	**48**	P		**P**	**02 07 36.4**	**+0.1**	
	comp=Z,28nm,0.6s,baz=259,slow=5.5,SNR=150								
ESDC				pP		pP	02 08 09.9	+0.9	
	comp=Z,401nm,1.0s,baz=250,slow=6.3,SNR=7.1								
ESDC				S		S	02 17 25.8	-3.9	
	comp=Z,7.9nm,1.2s,baz=225,slow=2.1,SNR=2.1								
ESDC				PKKPbc			02 26 22.0		
	comp=Z,4.6nm,0.8s,baz=53,slow=2.9,SNR=6.5								
ESDC				PKPPKP			02 34 07.0		
	comp=Z,3.5nm,1.1s,baz=71,slow=1.7,SNR=4.6								
ESDC	**Sonseca Array**	**80.35**	**48**	P		**P**	**02 07 36.4**	**+0.1**	
	comp=Z,2μm,2.0s,mb6.3								
ESLA	**Sonseca Array**	**80.35**	**48**	⇓*i*P		**P**	**02 07 36.6**	**+0.3**	
	comp=Z,6.0nm,0.6s								
ESLA				*ep*P		pP	02 08 07.6	-1.5	
ESLA				LR		LR			
	comp=Z,719μm,19.0s								
EBER	**Berja**	**80.44**	**51**	P		**P**	**02 07 37.4**	**+0.6**	
	comp=Z,4μm,3.0s								
EARI	**Arriondas**	**80.47**	**45**	P		**P**	**02 07 37.0**	**+0.2**	
	comp=Z,14μm,5.7s								
EQES	**Quesada**	**80.53**	**50**	P		**P**	**02 07 37.9**	**+0.6**	
	comp=Z,58μm,5.6s								
EHUE	**Huescar**	**80.90**	**50**	P		**P**	**02 07 39.4**	**+0.1**	
	comp=Z,2μm,1.3s,mb6.5								
ENIJ	**Nijar**	**80.99**	**51**	P		**P**	**02 07 39.0**	**-0.7**	
	comp=Z,8.8nm,1.0s								
RES	**Resolute Bay**	**81.07**	**355**	⇓*i*P		**P**	**02 07 39.1**	**-0.3**	
	comp=Z,2μm,1.5s,mb6.5								
RES				*ep*P		pP	02 08 10.2	-2.0	
RES				*e*PP		PP	02 10 47.9	0.0	
RES				*i* S		S	02 17 33.8	-2.7	
RES	**Resolute Bay**	**81.07**	**355**	⇓*i*P		**P**	**02 07 39.1**	**-0.3**	
RES				*e**PP		pP	02 08 10.2	-2.0	
RES				*e*			02 10 47.9		
RES				*i* S		S	02 17 33.8	-2.7	
RES				pmax		pmax			
	comp=Z,2μm,1.5s,mb6.5								
BORG	**Borgarnes**	**81.13**	**21**	P		**P**	**02 07 40.1**	**+0.2**	
	comp=Z,879nm,1.0s,mb6.3,baz=247,slow=4.1,SNR=35								
BORG				pP		pP	02 08 15.4	+2.8	
	comp=Z,858nm,0.9s,baz=187,slow=9.1,SNR=3.3								
BORG				S		S	02 17 38.1	+0.9	
	comp=Z,23nm,1.0s,baz=162,slow=9.8,SNR=2.3								
BORG	**Borgarnes**	**81.13**	**21**	⇓*e*P		**P**	**02 07 41.0**	**+1.2**	
	comp=Z,2μm,1.1s,mb6.7								
BORG				*ep*P		pP	02 08 13.5	+0.9	
BORG				LR		LR			
	comp=Z,16μm,21.0s								
EVIA	**Vianos**	**81.17**	**50**	P		**P**	**02 07 41.4**	**+0.7**	
	comp=Z,49nm,1.8s								
EVIA	**Vianos**	**81.17**	**50**	P		**P**	**02 07 41.4**	**+0.7**	
EVIA				pmax		pmax			
	comp=Z,49nm,1.8s								
POHA	**Pohakuloa**	**81.69**	**291**	PFAKE			02 08 00.0	+16	
POHA				LR		LR			
	comp=Z,231μm,19.0s								
ELAN	**Lanestosa**	**81.70**	**45**	P		**P**	**02 07 43.3**	**0.0**	
	comp=Z,6μm,4.9s								
OTSS	**Djebel Tessala**	**81.71**	**53**	P		**P**	**02 07 46.0**	**+2.5**	
RAR	**Rarotonga**	**81.72**	**249**	PFAKE			02 08 00.0	+16	
RAR				LR		LR			
	comp=Z,1.0nm,22.0s								
ETOB	**Tobarra**	**81.90**	**50**	P		**P**	**02 07 45.2**	**+0.8**	
	comp=Z,15μm,5.6s								
EMUR	**La Murta**	**81.94**	**51**	P		**P**	**02 07 44.0**	**-0.7**	
	comp=Z,870nm,1.6s,mb6.1								
USTO	**Oran**	**82.00**	**53**	P		**P**	**02 07 48.0**	**+3.0**	
CPZ	**Penzance**	**82.33**	**38**	*e*P		**P**	**02 07 45.7**	**-0.7**	
CPZ				AMb		AMB	02 07 52.2		
	comp=Z,2μm,1.7s,mb6.5								
DCN	**Croghan**	**82.39**	**34**	⇑*i*P		**P**	**02 07 46.2**	**-0.5**	
DCN	**Croghan**	**82.39**	**34**	⇑*i*P		pP	02 08 20.6	+1.1	
HKL	**Haleakala**	**82.51**	**292**	*e*P		**P**	**02 07 50.4**	**+2.5**	
HKL				*ep*P		pP	02 08 24.0	+3.2	
CGW	**Gweek**	**82.53**	**38**	*e*P		**P**	**02 07 46.7**	**-0.7**	
CGH1	**Goonhilly**	**82.55**	**38**	*e*P		**P**	**02 07 47.6**	**+0.1**	
CCA1	**Carnmenellis**	**82.55**	**38**	*e*P		**P**	**02 07 47.2**	**-0.4**	
ECHE	**Chera**	**82.56**	**49**	P		**P**	**02 07 48.6**	**+0.7**	
	comp=Z,3μm,1.9s,mb6.7								
CMA1	**Manaccan**	**82.58**	**38**	*e*P		**P**	**02 07 47.6**	**-0.1**	
CRQ2	**Rosemanowes 2**	**82.58**	**38**	*e*P		**P**	**02 07 47.3**	**-0.4**	
CRQ2				AMb		AMB	02 07 57.8		
	comp=Z,3μm,1.2s,mb6.9								
OJBR	**Djebel Berber**	**82.68**	**53**	P		**P**	**02 07 51.0**	**+2.5**	
DLF	**Lyons Farm**	**82.79**	**35**	⇑*i*P		**P**	**02 07 48.1**	**-0.6**	
DLF	**Lyons Farm**	**82.79**	**35**	⇑*i*P		p

WME Myndd Eilian 84.09 35 *eP* **P 02 07 54.9 -0.3**
WME AMb AMB 02 08 00.7
comp=Z,2µm,1.8s,mb6.4
EBIE Bielsa 84.10 46 P **P 02 07 56.5 +1.0**
comp=Z,27µm,4.7s
WIM Isle of Man 84.11 34 *eP* **P 02 07 55.1 -0.2**
WIM AMb AMB 02 08 01.1
comp=Z,2µm,1.7s,mb6.6
EGRA Graus 84.12 47 P **P 02 07 56.5 +0.9**
comp=Z,4µm,1.4s,mb6.9
KSK Scoval 84.12 31 *eP* **P 02 07 54.6 -0.7**
EIBI Ibiza 84.19 50 P **P 02 07 55.9 -0.1**
comp=Z,40µm,6.4s
HON Honolulu 84.21 292⇑ *iP* **P 02 07 57.4 +0.8**
HON *epP* pP 02 08 33.2 +3.6
SCO Scoresbysund 84.23 16 *i P* **P 02 07 55.8 +0.3**
comp=Z,275nm,1.0s,mb5.9
SCO *i* S S 02 18 11.1 +2.9
SCO Scoresbysund 84.23 16 *i P* **P 02 07 55.8 +0.3**
SCO *i* S S 02 18 11.1 +2.9
SCO pmax pmax
comp=Z,280nm,1.0s,mb6.0
KIP Kipapa 84.24 292⇓ *iP* **P 02 07 58.3 +1.6**
comp=Z,2µm,1.4s,mb6.6
KIP *epP* pP 02 08 25.9 -3.8
KIP LR LR
comp=Z,43µm,21.0s
KIP Kipapa 84.24 292⇓ *iP* **P 02 07 58.3 +1.6**
KIP *e**PP pP 02 08 25.9 -3.9
KIP pmax pmax
comp=Z,2µm,1.4s,mb6.6
KIP MLR MLR
comp=Z,43µm,21.0s
RESF Ens 84.27 46 *eP* **P 02 07 57.5 +1.1**
WPM1 Penmaenmawr 84.28 35 *eP* **P 02 07 55.6 -0.5**
WPM1 AMb AMB 02 08 01.6
comp=Z,2µm,1.6s,mb6.6
HTR Trewern Hill 84.30 36 *eP* **P 02 07 55.8 -0.5**
HTR AMb AMB 02 08 04.6
comp=Z,2µm,1.3s,mb6.7
EPF Esparros 84.32 46 *eP* **P 02 07 56.1 -0.5**
comp=Z,9µm,1.5s,mb7.0
QSPA South Pole Qui 84.36 180 *eP* **P 02 07 57.5 +1.5**
KAR1 Arisaig 84.39 31 *eP* **P 02 07 56.1 -0.5**
MCH1 Michaelchurch 84.44 37 P **P 02 07 56.4 -0.6**
MCH1 AMb AMB 02 08 01.6
comp=Z,5µm,1.7s,mb7.0
MCH1 AMb AMB 02 08 02.3
comp=Z,1µm,1.9s,mb6.4
MCH1 Michaelchurch 84.44 37 *eP* **P 02 07 56.4 -0.6**
MCH1 *eP* 02 07 56.4
MCH1 AMb AMB 02 08 01.6
comp=Z,5µm,1.7s,mb7.0
MCH1 AMb AMB 02 08 02.3
comp=Z,1µm,1.9s,mb6.4
HGH Gray Hill 84.45 37 *eP* **P 02 07 56.2 -0.9**
HGH AMb AMB 02 08 02.6
comp=Z,2µm,1.7s,mb6.6
EPOB Poblet 84.48 48 P **P 02 07 57.7 +0.2**
comp=Z,6µm,8.4s
SSP1 Stoney Pound 84.49 36 *eP* **P 02 07 56.7 -0.5**
SSP1 AMb AMB 02 08 02.7
comp=Z,2µm,1.8s,mb6.4
MATF Mathat 84.54 43 *eP* **P 02 07 58.3 +0.7**
SBD1 Bryn Du 84.55 36 *eP* **P 02 07 56.1 -1.4**
SBD1 AMb AMB 02 08 07.2
comp=Z,1µm,1.5s,mb6.4
KPL Plockton 84.62 31 *eP* **P 02 07 57.0 -0.7**
KPL AMb AMB 02 08 05.0
comp=Z,2µm,1.2s,mb6.8
SWK Warminster 84.65 38 *eP* **P 02 07 57.8 -0.3**
HLM1 Long Mynd 84.66 36 *eP* **P 02 07 57.6 -0.4**
HLM1 AMb AMB 02 08 03.5
comp=Z,2µm,1.9s,mb6.5
RTO Tolsta 84.69 30 *eP* **P 02 07 58.1 +0.1**
KSB Sheil Bridge 84.69 31 *eP* **P 02 07 57.6 -0.5**
KSB AMb AMB 02 08 05.6
comp=Z,1µm,1.3s,mb6.4
RRR Rubha Reidh 84.71 30 *eP* **P 02 07 57.0 -1.2**
GRR Gorron 84.79 40 *eP* **P 02 07 57.8 -1.0**
comp=Z,3µm,1.1s,mb6.6
MFF Saint Martin d 84.82 42 *eP* **P 02 07 58.3 -0.7**
comp=Z,1µm,0.8s,mb6.4
MFF *epP* pP 02 08 33.9 +1.8
MFF Saint Martin d 84.82 42 *eP* **P 02 07 58.3 -0.7**
MFF pmax pmax
comp=Z,593nm,0.8s,mb6.4
MID Middleton Isla 84.85 331 *eP* **P 02 08 02.9 +4.1**
KAC Achnashellach 84.85 31 *eP* **P 02 07 59.0 +0.1**
SALF Salau 84.87 46 *eP* **P 02 08 00.7 +1.3**
EMHD Djebel Mahouad 84.88 53 P **P 02 08 00.0 +0.4**
EAB Aberfoyle 84.93 32 *eP* **P 02 07 58.8 -0.6**
EAB AMb AMB 02 08 06.8
comp=Z,1µm,1.3s,mb6.5
EMIR Miracle 84.93 47 P **P 02 08 00.0 +0.3**
comp=Z,52µm,7.6s
MENT Mentasta 84.97 335 *eP* **P 02 07 59.3 0.0**
SWN1 Swindon 85.02 37 *eP* **P 02 07 59.5 -0.4**
LFF La Frestale 85.04 44 *eP* **P 02 07 59.5 -0.6**
comp=Z,4µm,1.1s,mb6.8
ABA Alger-Bouzarea 85.06 52 P **P 02 07 59.0 -1.4**
REB Eisghbrachaidh 85.06 30 *eP* **P 02 07 59.5 -0.5**
FLN La Foliniere 85.13 40 *eP* **P 02 07 59.6 -0.9**
comp=Z,3µm,1.0s,mb6.7
FLN *eR*
comp=Z,62µm,18.0s
DIV Divide 85.19 333⇓ *iP* **P 02 08 00.3 -0.1**
comp=Z,6µm,1.5s,mb7.1
DIV *epP* pP 02 08 33.9 +0.3
DIV *ePP* PP 02 11 24.4 +3.5
DIV LR LR
comp=Z,225µm,22.0s
RSC Scourie 85.19 30 *eP* **P 02 08 00.5 -0.1**
ESK Eskdalemuir 85.28 33 *eP* **P 02 08 00.7 -0.4**
ESK *eS* S 02 18 13.0 -5.8
ESK Eskdalemuir 85.28 33⇓ *iP* **P 02 08 01.1 0.0**
comp=Z,813nm,1.2s,mb6.3
ESK *epP* pP 02 08 35.1 +0.9
ESK *ePP* PP 02 11 27.9 +6.1
ESK LR LR
comp=Z,6µm,19.0s
ESK Eskdalemuir 85.28 33⇓ *iP* **P 02 08 01.1 0.0**
ESK *e* 02 11 27.9
ESK pmax pmax
comp=Z,813nm,1.2s,mb6.3
ESK MLR MLR
comp=Z,6µm,19.0s
ECK Cauldkaine Hil 85.28 33 *eP* **P 02 08 00.5 -0.6**
EAU Auchinoon 85.31 33 *eP* **P 02 08 00.9 -0.3**
EAU AMb AMB 02 08 07.8
comp=Z,3µm,2.2s,mb6.6
MDO Dochfour 85.31 31 *eP* **P 02 08 00.7 -0.4**
LDF La Druitiere 85.32 40 *eP* **P 02 08 00.6 -0.8**
comp=Z,3µm,1.1s,mb6.6
LDF *epP* pP 02 08 36.4 +1.8
LDF La Druitiere 85.32 40 *eP* **P 02 08 00.6 -0.8**
LDF pmax pmax
comp=Z,1µm,1.1s,mb6.6
EBH Black Hill 85.39 32 *eP* **P 02 08 01.4 -0.2**
EBH AMb AMB 02 08 08.3
comp=Z,4µm,2.0s,mb6.8
VALF Valcebollere 85.39 47 *eP* **P 02 08 02.8 +0.8**
KWE Weaver Farm 85.40 36 *eP* **P 02 08 01.7 -0.1**
KWE AMb AMB 02 08 07.6
comp=Z,2µm,1.9s,mb6.6
ETOS Mallorca 85.45 49 P **P 02 08 02.7 +0.4**
comp=Z,12µm,6.8s
EDI Edinburgh 85.47 33 *eP* **P 02 08 00.9 -1.1**
EDI AMb AMB 02 08 08.5
comp=Z,2µm,2.0s,mb6.4
EDI *eS* S 02 18 14.2 -6.4
EDI AMS AMS 02 19 08.8
comp=E,134µm,19.2s
EDI AMS AMS 02 20 01.5
comp=N,67µm,19.8s
EBL Broad Law 85.50 33 *eP* **P 02 08 01.7 -0.5**
EBL AMb AMB 02 08 08.8
comp=Z,2µm,2.1s,mb6.4
LHO Holmfirth 85.54 35 *eP* **P 02 08 02.4 0.0**
MVH1 Achvaich 85.55 31 *eP* **P 02 08 02.0 -0.4**
AKET Djebel Ketaf 85.59 53 P **P 02 08 03.6 +0.5**
OTO Tongue 85.63 30 *eP* **P 02 08 02.0 -0.7**
KBI1 Birley Grange 85.65 36 *eP* **P 02 08 02.8 -0.1**
KBI1 AMb AMB 02 08 08.7
comp=Z,2µm,2.0s,mb6.5

RJF Les Rejaudoux 85.66 44 *eP* **P 02 08 02.0 -1.2**
comp=Z,4µm,1.4s,mb6.7
RJF *eR*
comp=Z,76µm,19.5s
RJF Les Rejaudoux 85.66 44 *eP* **P 02 08 02.0 -1.2**
RJF pmax pmax
comp=Z,2µm,1.4s,mb6.7
RJF MLR MLR
comp=Z,76µm,19.5s
SKP1 Kophill 85.67 37 *eP* **P 02 08 02.6 -0.4**
MTLF Montolieu 85.73 46 *eP* **P 02 08 02.9 -0.7**
comp=Z,3µm,1.3s,mb6.6
MTLF *epP* pP 02 08 38.5 +1.7
EDU Dundee 85.74 32 *eP* **P 02 08 03.6 +0.3**
EDU AMb AMB 02 08 12.1
comp=Z,6µm,1.4s,mb7.1
LDU Leeds Universi 85.78 35 *eP* **P 02 08 04.0 +0.5**
MCD Coleburn Disti 85.92 31 *eP* **P 02 08 03.9 -0.2**
CAF Calviac 85.95 44 *eP* **P 02 08 03.7 -0.9**
comp=Z,4µm,1.4s,mb6.6
ORE Reay 85.96 30 *eP* **P 02 08 04.3 0.0**
MME1 Meikle Cairn 85.99 31 *eP* **P 02 08 04.3 -0.2**
THY Trims Highway 86.00 335⇓ *iP* **P 02 08 04.5 +0.1**
THY *epP* pP 02 08 35.7 -1.9
THY *ePP* PP 02 11 27.5 +0.1
EJON La Jonquera 86.03 47 P **P 02 08 05.2 +0.1**
comp=Z,40µm,8.9s
EDR Drumtochty 86.10 32 *eP* **P 02 08 04.9 -0.1**
OBR Brabster 86.28 30 *eP* **P 02 08 05.7 -0.2**
TCF Toulx Ste Croi 86.34 43 *eP* **P 02 08 05.4 -1.1**
comp=Z,1µm,1.4s,mb6.1
TCF *epP* pP 02 08 41.1 +1.4
FRNF Fournols 86.39 44 *eP* **P 02 08 07.0 +0.2**
LMK Market Rasen 86.39 36 *eP* **P 02 08 06.5 -0.1**
LWH Whinny Nab 86.42 35 *eP* **P 02 08 06.8 +0.2**
OWE Westray 86.55 30 *eP* **P 02 08 07.2 0.0**
SML Sawmill 86.57 333⇓ *iP* **P 02 08 07.3 +0.1**
SML *epP* pP 02 08 41.9 +1.5
OST Stronsay 86.72 30 *eP* **P 02 08 07.8 -0.2**
PYM Petit Puy Mans 86.77 44 *eP* **P 02 08 09.3 +0.7**
BGF Bois d'Agland 86.83 43 *eP* **P 02 08 07.8 -1.0**
comp=Z,3µm,1.3s,mb6.6
BGF *epP* pP 02 08 43.7 +1.6
HYF Humbligny 86.83 42 *eP* **P 02 08 08.1 -0.7**
comp=Z,2µm,0.8s,mb6.6
LBL Lubilhac 86.84 44 *eP* **P 02 08 09.0 +0.1**
PMR Palmer 86.87 333 *eP* **P 02 08 08.1 -0.5**
PMR LR LR
comp=Z,54µm,17.0s
CKHR Kef el Ahmar 86.89 54 P **P 02 08 11.0 +1.6**
AGO Saint Agoulin 86.92 43 *eP* **P 02 08 09.0 -0.3**
AWH Whinburgh 86.94 37 *eP* **P 02 08 08.7 -0.5**
ILAR Eielson Array 86.95 336 P **P 02 08 08.2 -0.8**
comp=Z,224nm,1.1s,mb5.9,baz=143,slow=3.7,SNR=162
ILAR *pP* pP 02 08 45.4 +3.1
comp=Z,296nm,0.8s,baz=143,slow=2.3,SNR=7.7
ILAR PP PP 02 11 36.4 +0.5
comp=Z,232nm,1.0s,baz=108,slow=6.6,SNR=8.4
ILAR PKKPbc 02 26 01.6
comp=Z,11nm,0.8s,baz=284,slow=2.8,SNR=10
ILAR PKPPKP 02 34 01.9
comp=Z,4.1nm,1.1s,baz=327,slow=5.1,SNR=5.8
ILAR LR LR 02 48 50.3
comp=Z,57µm,18.2s,baz=118,slow=37
ILAR Eielson Array 86.95 336 P **P 02 08 08.2 -0.8**
ILAR 02 11 36.4
LASF Ste Croix 87.04 45 *eP* **P 02 08 09.3 -0.6**
comp=Z,918nm,1.2s,mb6.2
SLKM Skilak Lake 87.05 332 *eP* **P 02 08 09.8 +0.3**
SLKM *e* pP 02 08 47.7 +4.9
SLKM *ePP* PP 02 11 41.6 +4.8
SLKM *e* 02 12 07.2
SLKM Skilak Lake 87.05 332 *eP* **P 02 08 09.8 +0.3**
SLKM *e* 02 11 41.6
AEU East Anglia Un 87.11 37 *eP* **P 02 08 09.8 -0.3**
ABA1 Baconsthorpe 87.12 36 *eP* **P 02 08 09.7 -0.4**
CMER Merouana 87.13 54 P **P 02 08 00.0 -11**
APAE Packway 87.18 37 *eP* **P 02 08 10.3 0.0**
COLF Collangettes 87.20 44 *eP* **P 02 08 11.3 +0.7**
MENF Mencas 87.21 39 *eP* **P 02 08 10.7 +0.1**
AVF Avril sur Loir 87.21 43 *eP* **P 02 08 09.1 -1.6**
comp=Z,461nm,0.9s,mb6.0
AVF *epP* pP 02 08 45.4 +1.4
AVF Avril sur Loir 87.21 43 *eP* **P 02 08 09.1 -1.6**
AVF pmax pmax
comp=Z,231nm,0.9s,mb6.0
FIB Fire Island 87.22 332⇓ *iP* **P 02 08 11.5 +1.1**
comp=Z,4µm,1.4s,mb7.1
FIB *ePP* PP 02 11 34.2 -4.0
FIB LR LR
comp=Z,34µm,20.0s
FIB Fire Island 87.22 332⇓ *iP* **P 02 08 11.5 +1.2**
FIB *e* 02 11 34.2
FIB pmax pmax
comp=Z,4µm,1.4s,mb7.1
FIB MLR MLR
comp=Z,34µm,20.0s
PLDF La Plantade 87.24 43 *eP* **P 02 08 10.9 +0.1**
DFRA Djebel Bou Aff 87.26 53 P **P 02 08 12.5 +1.3**
AWI1 Witton 87.28 36 *eP* **P 02 08 10.3 -0.5**
COLA College 87.37 336 PFAKE 02 08 20.0 +9.0
COLA LR LR
comp=Z,23nm,19.0s
SSF Saint Saulge 87.37 42 *eP* **P 02 08 10.0 -1.4**
comp=Z,512nm,1.1s,mb6.0
SSF Saint Saulge 87.37 42 *eP* **P 02 08 10.0 -1.4**
SSF pmax pmax
comp=Z,256nm,1.1s,mb6.0
MCK McKinley 87.45 335⇓ *iP* **P 02 08 11.5 +0.1**
comp=Z,1µm,1.1s,mb6.6
MCK *es*P sP 02 08 52.0 -6.9
MCK LR LR
comp=Z,45µm,22.0s
MCK McKinley 87.45 335⇓ *iP* **P 02 08 11.5 +0.1**
MCK pmax pmax
comp=Z,1µm,1.1s,mb6.6
MCK MLR MLR
comp=Z,45µm,22.0s
KDAK Kodiak Island 87.47 329 P **P 02 08 11.7 0.0**
comp=Z,189nm,0.8s,mb6.0,baz=113,slow=3.7,SNR=31
KDAK pP pP 02 08 46.7 +1.8
comp=Z,205nm,1.0s,baz=102,slow=8.8,SNR=3.0
KDAK PP PP 02 11 40.8 +0.5
comp=Z,124nm,1.1s,baz=250,slow=7.5,SNR=2.0
KDAK S 02 18 24.7
comp=Z,3.0nm,0.6s,baz=258,slow=11,SNR=2.0
KDAK PKPPKP 02 34 04.8
comp=Z,14nm,0.9s,baz=29,slow=11,SNR=3.4
KDAK LR LR 02 45 32.4
comp=Z,57µm,21.9s,baz=104,slow=34
KDAK Kodiak Island 87.47 329 *eP* **P 02 08 12.4 +0.8**
KDAK LR LR
comp=Z,41µm,18.0s
SMF Signal de Mont 87.52 43 *eP* **P 02 08 10.8 -1.3**
comp=Z,1µm,1.0s,mb6.4
CTEI Djebel Teioual 87.61 54 P **P 02 08 14.0 +1.1**
LOR Lormes 87.65 42 *eP* **P 02 08 11.7 -1.0**
comp=Z,519nm,0.9s,mb6.1
LOR *eR*
comp=Z,88µm,22.0s
LOR Lormes 87.65 42 *eP* **P 02 08 11.7 -1.0**
LOR pmax pmax
comp=Z,260nm,0.9s,mb6.1
LOR MLR MLR
comp=Z,88µm,22.0s
LRW Lerwick 87.68 29 *eP* **P 02 08 12.4 -0.2**
LRW *eS* 02 18 26.7
LRW AMS AMS 02 20 21.6
comp=N,41µm,19.7s
LRW AMS AMS 02 20 26.3
comp=E,59µm,20.8s
CASM Ain Smara 87.71 53 P **P 02 08 14.0 +0.7**
VIVF Saint-Julien-l 87.76 45 *eP* **P 02 08 12.7 -0.6**
comp=E,1µm,1.5s,mb6.2
CKFL Kef-Lekhel 87.91 53 P **P 02 08 15.0 +0.7**
PRAF Pradon 87.92 46 *eP* **P 02 08 14.7 +0.5**
GELF Grande-Etoile 88.04 46 *eP* **P 02 08 14.9 +0.2**
CAEH 'Ain El Ouahch 88.07 53 P **P 02 08 16.0 +0.9**
SPU Mount Spurr 88.10 332 *eP* **P 02 08 14.4 -0.1**
SPU *e* 02 11 48.2
OCF Saint Nazaire 88.15 45 *eP* **P 02 08 16.5 +1.3**
OG26 St.-Nazaire-De 88.15 45 *eP* **P 02 08 16.5 +1.3**
BERF Bertagne 88.22 46 *eP* **P 02 08 15.8 +0.2**
SMRF Simiane la Rot 88.24 46 *eP* **P 02 08 15.6 -0.1**
comp=E,2µm,1.3s,mb6.4
PUYF Puyloubier 88.26 46 *eP* **P 02 08 15.8 0.0**
VILF Villemus 88.32 46 *eP* **P 02 08 16.8 +0.7**
JMIC Jan Mayen 88.36 18 P **P 02 08 16.8 +1.1**
comp=E,172nm,0.5s,mb6.1,baz=157,slow=9.9,SNR=5.5
JMIC pP pP 02 08 51.6 +2.6
comp=E,602nm,1.1s,baz=208,slow=4.5,SNR=2.5
JMIC Jan Mayen 88.36 18⇓ *iP* **P 02 08 16.5 +0.9**
JMIC AMb AMB 02 08 23.6
comp=Z,2µm,1.4s,mb6.8
JMIC *ePP* PP 02 11 44.4 -2.7
JMIC *e*SKSa 02 18 33.2
JMIC *e*SS SS 02 24 45.9 +2.2
JMIC Jan Mayen 88.36 18⇓ *iP* **P 02 08 16.5 +0.9**
JMIC *e*SKSac 02 18 40.6
JMIC *e*SS SS 02 24 45.9 +2.2
BAIF Baives 88.40 40 *eP* **P 02 08 15.3 -1.0**
comp=Z,2µm,1.7s,mb6.3
BAIF Baives 88.40 40 *eP* **P 02 08 15.3 -1.0**
BAIF pmax pmax
comp=Z,865nm,1.7s,mb6.3
JNW Jan Mayen West 88.41 18 *eP* **P 02 08 18.8 +3.0**
STOF St-Etienne Org 88.48 46 *eP* **P 02 08 17.0 +0.2**
ABSA Djebel Ababsia 88.50 54 P **P 02 08 17.0 -0.1**
TAVF Tavernes 88.53 46 *eP* **P 02 08 17.2 +0.2**
DAG Danmarks Havn 88.54 11 *b iP* **P 02 08 16.8 +0.4**
comp=Z,538nm,0.5s,mb6.7
DAG *i* pP 02 08 47.7 -2.1
DAG Danmarks Havn 88.54 11 *i* Pcr 02 08 16.8
comp=Z,539nm,0.5s
DAG *i* 02 08 47.7
DAG Danmarks Havn 88.54 11⇑ *iP* **P 02 08 16.8 +0.4**
DAG *i* pP 02 08 47.7 -2.1
DAG pmax pmax
comp=Z,539nm,0.5s,mb6.7
GRN Grenoble 88.57 44 *eP* **P 02 08 17.3 +0.1**
ORIF Oris-en-Rattie 88.61 45 *eP* **P 02 08 17.1 -0.3**
comp=Z,977nm,0.9s,mb6.4
ORIF *eR*
comp=Z,184µm,21.2s
MEZF Maizieres J'vi 88.66 41 *eP* **P 02 08 17.0 -0.5**
comp=Z,2µm,1.2s,mb6.6
MEZF *epP* pP 02 08 52.4 +1.5
GIVF Givet 88.80 40 *eP* **P 02 08 18.0 -0.1**
comp=Z,4µm,1.3s,mb6.8
LMR La Mourre 88.81 46 *eP* **P 02 08 17.9 -0.5**
comp=Z,1µm,0.9s,mb6.5
LMR *epP* pP 02 08 53.2 +1.4
LMR La Mourre 88.81 46 *eP* **P 02 08 17.9 -0.5**
LMR pmax pmax
comp=Z,572nm,0.9s,mb6.5
GDM Grand'Maison 88.83 45 *eP* **P 02 08 19.1 +0.7**
FRF La Foret Royal 88.94 46 *eP* **P 02 08 18.3 -0.7**
comp=Z,2µm,0.9s,mb6.8
FRF La Foret Royal 88.94 46 *eP* **P 02 08 18.3 -0.7**
FRF pmax pmax
comp=Z,1µm,0.9s,mb6.8
CABF La Chapelle 89.03 43 *eP* **P 02 08 18.5 -0.8**
comp=Z,2µm,1.0s,mb6.7
CABF La Chapelle 89.03 43 *eP* **P 02 08 18.5 -0.8**
CABF pmax pmax
comp=Z,981nm,1.0s,mb6.7
GIMEL Gimel 89.14 43⇓ *iP* **P 02 08 19.7 -0.1**
CALN Calern 89.15 46 *eP* **P 02 08 20.2 +0.3**
BNI Bardonecchia 89.19 45⇓ *iP* **P 02 08 20.6 +0.5**
comp=Z,808nm,1.3s,mb6.5
BNI *i* S S 02 18 59.5 +3.5
BNI Bardonecchia 89.19 45⇓ *iP* **P 02 08 20.6 +0.5**
BNI *i* S S 02 18 59.5 +3.5
BNI pmax pmax
comp=Z,808nm,1.3s,mb6.5
SURF Saint Ours 89.20 45 *eP* **P 02 08 21.7 +1.5**
MBDF Montbardon 89.21 45 *eP* **P 02 08 20.3 +0.1**
comp=Z,966nm,1.1s,mb6.3
MBDF Montbardon 89.21 45 *eP* **P 02 08 20.3 +0.1**
MBDF pmax pmax
comp=Z,483nm,1.1s,mb6.3
THEF They Montfort 89.23 42 *eP* **P 02 08 20.1 -0.1**
RRL Cesana Torines 89.25 45 P **P 02 08 21.0 +0.6**
LPL La Plagne 89.30 44 *eP* **P 02 08 20.6 0.0**
comp=Z,1µm,1.1s,mb6.4
LPL *epP* pP 02 08 56.3 +2.2
LPL La Plagne 89.30 44 *eP* **P 02 08 20.6 0.0**
LPL pmax pmax
comp=Z,520nm,1.1s,mb6.4
LPG La Plagne 89.31 44 *eP* **P 02 08 20.8 +0.1**
comp=Z,1µm,1.1s,mb6.5
LPG La Plagne 89.31 44 *eP* **P 02 08 20.8 +0.1**
LPG pmax pmax
comp=Z,651nm,1.1s,mb6.5
BRANT Les Verrieres 89.35 43⇓ *iP* **P 02 08 20.9 +0.1**
MVIF Mont Vial 89.36 46 *eP* **P 02 08 21.3 +0.4**
HAU Haudompre 89.43 42 *eP* **P 02 08 20.3 -0.9**
comp=Z,363nm,0.9s,mb6.0
HAU *eR*
comp=Z,83µm,21.5s
HAU Haudompre 89.43 42 *eP* **P 02 08 20.3 -0.9**
HAU pmax pmax
comp=Z,181nm,0.9s,mb6.0
HAU MLR MLR
comp=Z,83µm,21.5s
TOUF Mont Tournerai 89.44 46 *eP* **P 02 08 21.6 +0.3**
FENE Fenestrelle 89.46 45 P **P 02 08 21.1 -0.3**
REVF Revere 89.49 46 *eP* **P 02 08 21.9 +0.4**
EMV Vieux Emosson 89.50 44⇓ *iP* **P 02 08 21.8 +0.3**
EMV Vieux Emosson 89.50 44⇓ *iP* **P 02 08 21.7 +0.2**
DOI San Damiano 89.51 45 P **P 02 08 21.2 -0.4**
STV Sta Anna Valdi 89.53 46 P **P 02 08 20.9 -0.8**
STV2 Anna di Valdie 89.53 46 P **P 02 08 21.1 -0.6**
SBF Sospel 89.55 46 *eP* **P 02 08 21.5 -0.3**
comp=Z,3µm,1.2s,mb6.7
SBF Sospel 89.55 46 *eP* **P 02 08 21.5 -0.3**
SBF pmax pmax
comp=Z,1µm,1.2s,mb6.8
SALAN Lac Salanfe 89.57 44⇓ *iP* **P 02 08 21.9 +0.1**
AUTN L'Aution 89.57 46 *eP* **P 02 08 23.0 +1.1**
BHB Bricherasio 89.57 45 P **P 02 08 21.2 -0.7**
AIGLE Aigle 89.58 43⇓ *iP* **P 02 08 21.8 -0.1**
LSD Ceresole Reale 89.59 44 P **P 02 08 22.8 +0.9**
ENR Entracque 89.59 46 P **P 02 08 21.5 -0.5**
HGN Heimansgroeve 89.61 39⇓ *iP* **P 02 08 21.9 0.0**
comp=Z,852nm,2.2s,mb6.3
HGN pP pP 02 08 55.9 +0.6
comp=Z,451nm,1.5s
HGN *ePP* PP 02 11 52.0 -5.6
HGN *e*SKS SKS 02 18 50.6 +12
HGN *e*Sdif 02 19 58.4
RSP Reno Superiore 89.61 45 P **P 02 08 22.7 +0.6**
LOMF Lomont 89.65 42 *eP* **P 02 08 22.2 0.0**
TORNY Torny 89.65 43⇓ *iP* **P 02 08 22.3 +0.1**
SAOF Saorge 89.66 46 *eP* **P 02 08 22.4 +0.1**
GRYON Gryon 89.68 44⇓ *iP* **P 02 08 22.4 0.0**
SVW2 Sparrevohn 89.74 332 *eP* **P 02 08 21.3 -1.0**
HINF Hinteralfeld 89.74 42 *eP* **P 02 08 21.5 -1.1**
comp=Z,1µm,1.5s,mb6.3
HINF Hinteralfeld 89.74 42 *eP* **P 02 08 21.5 -1.1**
HINF pmax pmax
comp=Z,629nm,1.5s,mb6.3
NEGI Negi 89.74 46 P **P 02 08 21.3 -1.4**
MONE Monesi 89.81 46 P **P 02 08 22.4 -0.6**
SENIN Lac Senin 89.82 44⇓ *iP* **P 02 08 23.5 +0.5**
SENIN Lac Senin 89.82 44⇓ *iP* **P 02 08 23.4 +0.4**
DIX Grande Dixence 89.86 44⇓ *iP* **P 02 08 23.8 +0.6**
SBA Scott Base 89.88 191⇓ *iP* **P 02 08 23.8 +1.2**
comp=Z,1µm,1.4s,mb6.6
SBA *ePP* PP 02 11 52.5 -6.7
SBA LR LR
comp=Z,40µm,20.0s
SBA Scott Base 89.88 191⇓ *iP* **P 02 08 23.8 +1.1**
SBA pmax pmax
comp=Z,1µm,1.4s,mb6.6
SBA MLR MLR
comp=Z,40µm,20.0s
IMI Imperia 89.89 46 P **P 02 08 22.5 -0.9**
ROB Roburent 89.92 46 P **P 02 08 22.9 -0.6**
BOURR Bourrignon 89.93 42⇓ *iP* **P 02 08 23.2 -0.3**
MOF Molkenrain 89.93 42 *eP* **P 02 08 23.4 -0.1**
ECH Echery 90.00 42 *eP* **P 02 08 23.6 -0.2**
TRAV 90.01 44 P **P 02 08 23.0 -0.9**
RORO 90.04 46 P **P 02 08 23.1 -1.0**
LKBD Leukerbad 90.05 44⇓ *iP* **P 02 08 24.2 +0.1**
WIMIS Wimmis 90.09 43⇓ *iP* **P 02 08 24.3 0.0**
CDF Champ du Feu 90.11 41 *eP* **P 02 08 23.6 -0.7**
comp=Z,1µm,1.0s,mb6.5

CDF	**Champ du Feu**	**90.11**	**41**	*e*P	**P**	**02 08 23.6**	**-0.7**		
CDF				pmax	pmax				
	comp=Z,706nm,1.0s,mb6.5								
BBS	**Basel-Blauen**	**90.12**	**42**	*e*P	**P**	**02 08 24.3**	**-0.1**		
BBS	**Basel-Blauen**	**90.12**	**42**	*e*P	**P**	**02 08 24.5**	**+0.1**		
FIN	**Finale Ligure**	**90.15**	**46**	P	**P**	**02 08 23.7**	**-1.0**		
WLS	**Welschbruch**	**90.16**	**41**	*e*P	**P**	**02 08 24.8**	**+0.2**		
ORO	**Oropa**	**90.19**	**44**	P	**P**	**02 08 23.9**	**-0.9**		
ORX	**Oropa**	**90.19**	**44**	P	**P**	**02 08 24.0**	**-0.8**		
BALST	**Balsthal**	**90.23**	**43**	⇓*i*P	**P**	**02 08 24.7**	**-0.2**		
MMK	**Mattmark**	**90.24**	**44**	⇓*i*P	**P**	**02 08 25.7**	**+0.7**		
MCGN	**Macugnaga**	**90.24**	**44**	P	**P**	**02 08 24.6**	**-0.4**		
CHGN	**Chignik**	**90.27**	**327**	*e*P	**P**	**02 08 25.0**	**+0.1**		
LIBD	**Limburg**	**90.28**	**42**	*e*P	**P**	**02 08 25.4**	**+0.2**		
LIBD	**Limburg**	**90.28**	**42**	*e*P	**P**	**02 08 25.7**	**+0.5**		
TTA	**Tatalina**	**90.32**	**333**	*e*P	**P**	**02 08 26.2**	**+1.2**		
WTSB	**Winterswijk**	**90.34**	**38**	⇓*e*P	**P**	**02 08 25.7**	**+0.4**		
	comp=Z,1μm,2.5s,mb6.4								
WTSB				pP	pP	02 09 01.1	+2.3		
	comp=Z,643nm,1.8s								
WIT	**Witteveen**	**90.39**	**37**	⇓*e*P	**P**	**02 08 26.6**	**+1.0**		
	comp=Z,2μm,1.2s,mb7.0								
VSL	**Villasalto**	**90.41**	**51**	⇓*i*P	**P**	**02 08 26.0**	**0.0**		
	comp=Z,638nm,0.8s,mb6.6								
VSL				*e*	pP	02 08 57.2	-2.3		
VSL				*i* S	S	02 19 06.7	-0.5		
PCP	**Pian Castagno**	**90.44**	**45**	P	**P**	**02 08 25.7**	**-0.3**		
STR	**Strasbourg**	**90.45**	**41**	*e*P	**P**	**02 08 26.1**	**+0.1**		
HASLI	**Hasliberg**	**90.46**	**43**	⇓*i*P	**P**	**02 08 26.2**	**+0.2**		
KIZ	**Kirchzarten**	**90.47**	**42**	*e*P	**P**	**02 08 25.7**	**-0.3**		
ABH	**Alteburg**	**90.50**	**40**	⇓*e*P	**P**	**02 08 26.3**	**+0.2**		
ABH	**Alteburg**	**90.50**	**40**	*e*P	**P**	**02 08 26.8**	**+0.7**		
PGF	**Pioggiola**	**90.51**	**47**	*e*P	**P**	**02 08 25.4**	**-1.0**		
	comp=Z,1μm,1.3s,mb6.5								
FELD	**Feldberg**	**90.51**	**42**	⇓*e*P	**P**	**02 08 26.1**	**-0.2**		
LANF	**Langenberg**	**90.54**	**41**	*e*P	**P**	**02 08 26.2**	**-0.1**		
SULZ	**Sulz-Cheisache**	**90.54**	**42**	⇓*i*P	**P**	**02 08 26.1**	**-0.3**		
BUB	**Bochum--Univer**	**90.55**	**38**	P	**P**	**02 08 25.7**	**-0.6**		
KMY	**Karmoy**	**90.66**	**31**	*e*P	**P**	**02 08 26.8**	**+0.1**		
KMY				AMb	AMB	02 08 33.6			
	comp=Z,1μm,2.1s,mb6.5								
KMY	**Karmoy**	**90.66**	**31**	*e*P	**P**	**02 08 26.8**	**+0.1**		
	comp=Z,1μm,2.1s,mb6.5								
DGI	**Dorgali Grotta**	**90.69**	**50**	P	**P**	**02 08 27.2**	**-0.1**		
GENL	**Genova Univers**	**90.72**	**46**	P	**P**	**02 08 26.5**	**-0.8**		
SUE	**Sulen**	**90.75**	**29**	*e*P	**P**	**02 08 27.6**	**+0.5**		
SUE				AMb	AMB	02 08 34.2			
	comp=Z,618nm,1.6s,mb6.4								
SUE	**Sulen**	**90.75**	**29**	*e*P	**P**	**02 08 27.6**	**+0.5**		
	comp=Z,618nm,1.6s,mb6.4								
KTD	**Kalmit**	**90.76**	**41**	*e*P	**P**	**02 08 27.8**	**+0.4**		
KTD	**Kalmit**	**90.76**	**41**	*e*P	**P**	**02 08 28.0**	**+0.6**		
VAI	**Varese**	**90.77**	**44**	P	**P**	**02 08 26.7**	**-0.8**		
FUSIO	**Fusio**	**90.77**	**44**	⇓*i*P	**P**	**02 08 27.9**	**+0.4**		
BFO	**Black Forest**	**90.79**	**42**	*e*P	**P**	**02 08 26.9**	**-0.6**		
	comp=Z,342nm,1.1s,mb6.3								
BFO				*e*SKSac		02 18 49.2			
BFO	**Black Forest**	**90.79**	**42**	*e*P	**P**	**02 08 26.9**	**-0.6**		
BFO				*e*		02 18 49.2			
BFO				pmax	pmax				
	comp=Z,342nm,1.1s,mb6.3								
MUO	**Muotathal**	**90.82**	**43**	⇓*i*P	**P**	**02 08 28.1**	**+0.4**		
SLE	**Schleitheim**	**90.83**	**42**	⇓*i*P	**P**	**02 08 27.4**	**-0.3**		
EGD	**Espegrend**	**90.83**	**30**	*e*P	**P**	**02 08 28.1**	**+0.7**		
EGD				AMb	AMB	02 08 35.2			
	comp=Z,1μm,1.8s,mb6.6								
ZUR	**Zurich**	**90.83**	**43**	⇓*i*P	**P**	**02 08 27.8**	**0.0**		
STAV	**Stavanger**	**90.84**	**31**	*e*P	**P**	**02 08 28.2**	**+0.7**		
STAV				AMb	AMB	02 08 34.9			
	comp=Z,926nm,1.8s,mb6.5								
STAV	**Stavanger**	**90.84**	**31**	*e*P	**P**	**02 08 28.2**	**+0.7**		
	comp=Z,926nm,1.8s,mb6.5								
FLACH	**Flaach**	**90.85**	**42**	⇓*i*P	**P**	**02 08 27.6**	**-0.2**		
ASK	**Askoy**	**90.85**	**29**	*e*P	**P**	**02 08 28.6**	**+1.1**		
ASK				AMb	AMB	02 08 33.3			
	comp=Z,2μm,1.9s,mb6.8								
ASK	**Askoy**	**90.85**	**29**	*e*P	**P**	**02 08 28.6**	**+1.1**		
	comp=Z,2μm,1.9s,mb6.8								
BER	**Bergen**	**90.90**	**29**	⇓*i*P	**P**	**02 08 28.3**	**+0.5**		
BER				AMb	AMB	02 08 35.2			
	comp=Z,814nm,1.6s,mb6.5								
BER				*e*SKSa		02 18 54.8			
BER				*e*S	S	02 19 11.5	+0.5		
BER				AMS	AMS	02 41 57.8			
	comp=Z,84μm,14.1s								
BER	**Bergen**	**90.90**	**29**	*e*P	**P**	**02 08 28.1**	**+0.3**		
BER				*e*		02 18 54.8			
VNDA	**Vanda**	**90.96**	**191**	⇓*i*P	**P**	**02 08 29.2**	**+1.5**		
	comp=Z,181nm,0.7s,mb6.2								
VNDA				*e*	pP	02 08 58.7	-2.5		
VNDA				*e*PP	PP	02 12 05.8	-2.0		
VNDA	**Vanda**	**90.96**	**191**	⇓*i*P	**P**	**02 08 29.2**	**+1.5**		
VNDA				*e*	pP	02 08 58.7	-2.6		
VNDA				*e*		02 12 05.8			
VNDA				pmax	pmax				
	comp=Z,181nm,0.7s								
MUGIO	**Muggio**	**90.96**	**44**	⇓*i*P	**P**	**02 08 27.4**	**-1.0**		
FOO	**Floro**	**90.98**	**28**	*e*P	**P**	**02 08 29.1**	**+1.0**		
FOO				AMb	AMB	02 08 35.2			
	comp=Z,428nm,1.8s,mb6.2								
FOO	**Floro**	**90.98**	**28**	*e*P	**P**	**02 08 29.1**	**+1.0**		
	comp=Z,428nm,1.8s,mb6.2								
LLS	**Linth-Limmern**	**91.06**	**43**	⇓*i*P	**P**	**02 08 29.0**	**+0.2**		
WILA	**Wila**	**91.06**	**43**	⇓*i*P	**P**	**02 08 28.9**	**+0.1**		
SPAK	**Spaichingen**	**91.06**	**42**	*e*P	**P**	**02 08 28.7**	**-0.1**		
SPAK	**Spaichingen**	**91.06**	**42**	P	**P**	**02 08 29.1**	**+0.3**		
STEIN	**Stein am Rhein**	**91.06**	**42**	⇓*i*P	**P**	**02 08 28.5**	**-0.4**		
BOB	**Bobbio (Coli)**	**91.11**	**45**	P	**P**	**02 08 29.2**	**+0.1**		
TNS	**Taunus Mts**	**91.12**	**40**	*e*P	**P**	**02 08 29.2**	**+0.2**		
	comp=Z,849nm,1.2s,mb6.7								
TNS				*e*SKSac		02 18 53.0			
TNS	**Taunus Mts**	**91.12**	**40**	*e*P	**P**	**02 08 29.2**	**+0.2**		
TNS				*e*		02 18 53.0			
TNS				pmax	pmax				
	comp=Z,849nm,1.2s,mb6.7								
WEIN	**Weingarten**	**91.13**	**43**	⇓*i*P	**P**	**02 08 28.9**	**-0.2**		
SISB	**Singen-Sch Ber**	**91.13**	**42**	P	**P**	**02 08 28.9**	**-0.3**		
LBG	**Lerchenberg**	**91.14**	**41**	⇓*e*P	**P**	**02 08 28.8**	**-0.4**		
LBG	**Lerchenberg**	**91.14**	**41**	P	**P**	**02 08 28.9**	**-0.3**		
SWS	**Schriesheim**	**91.19**	**41**	⇓*e*P	**P**	**02 08 28.8**	**-0.6**		
SWS	**Schriesheim**	**91.19**	**41**	P	**P**	**02 08 30.8**	**+1.4**		
TUE	**Stuetta**	**91.24**	**44**	P	**P**	**02 08 28.4**	**-1.3**		
SDPT	**Sand Point**	**91.27**	**325**	*e*P	**P**	**02 08 30.2**	**+0.6**		
SDPT				LR	LR				
	comp=Z,41μm,23.0s								
TOD	**Tromm**	**91.27**	**40**	*e*P	**P**	**02 08 29.4**	**-0.3**		
TOD	**Tromm**	**91.27**	**40**	*e*P	**P**	**02 08 29.9**	**+0.2**		
GUT	**Gutenstein**	**91.28**	**42**	*e*P	**P**	**02 08 29.4**	**-0.4**		
VDL	**Val di Lei**	**91.33**	**44**	⇓*i*P	**P**	**02 08 30.2**	**+0.1**		
PLONS	**Plons**	**91.33**	**43**	⇓*i*P	**P**	**02 08 30.1**	**0.0**		
CODM		**91.35**	**46**	P	**P**	**02 08 27.9**	**-2.3**		
LIENZ	**Alp Oberkamor**	**91.44**	**43**	⇓*i*P	**P**	**02 08 30.8**	**+0.2**		
HYA	**Hoyanger**	**91.45**	**29**	*e*P	**P**	**02 08 31.5**	**+1.2**		
HYA				AMb	AMB	02 08 37.1			
	comp=Z,717nm,1.6s,mb6.5								
HYA	**Hoyanger**	**91.45**	**29**	*e*P	**P**	**02 08 31.5**	**+1.2**		
	comp=Z,717nm,1.5s,mb6.5								
ODD1	**Odda**	**91.46**	**30**	*e*P	**P**	**02 08 29.7**	**-0.7**		
ODD1				AMb	AMB	02 08 35.3			
	comp=Z,466nm,2.0s,mb6.2								
ODD1	**Odda**	**91.46**	**30**	*e*P	**P**	**02 08 29.7**	**-0.7**		
	comp=Z,466nm,2.0s,mb6.2								
BUCH	**Bad Urach**	**91.48**	**42**	⇓*e*P	**P**	**02 08 30.6**	**-0.2**		
BUCH	**Bad Urach**	**91.48**	**42**	P	**P**	**02 08 30.9**	**+0.1**		
BACM		**91.49**	**46**	P	**P**	**02 08 29.3**	**-1.6**		
GRAM		**91.51**	**46**	P	**P**	**02 08 30.1**	**-0.9**		
SNART	**Snartemo**	**91.53**	**32**	*e*P	**P**	**02 08 32.4**	**+1.7**		
SNART				AMb	AMB	02 08 38.4			
	comp=Z,416nm,2.1s,mb6.1								
SNART	**Snartemo**	**91.53**	**32**	*e*P	**P**	**02 08 32.4**	**+1.7**		
	comp=Z,416nm,2.1s,mb6.1								
VINC	**Vinca**	**91.53**	**46**	P	**P**	**02 08 29.1**	**-2.0**		
VALM		**91.62**	**46**	P	**P**	**02 08 29.2**	**-2.3**		
DAVOX	**Davos**	**91.64**	**43**	⇓*i*P	**P**	**02 08 31.9**	**+0.4**		
BERNI	**Berninapass**	**91.70**	**44**	⇓*i*P	**P**	**02 08 32.1**	**+0.3**		
DAVA	**Damuels**	**91.70**	**43**	⇑*i*P	**P**	**02 08 31.8**	**0.0**		
	comp=Z,46μm,9.0s								
DAVA	**Damuels**	**91.70**	**43**	*i* P	**P**	**02 08 31.8**	**0.0**		
	comp=Z,46μm,9.0s,SNR=156								
VLC	**Villacollemand**	**91.70**	**46**	⇓*i*P	**P**	**02 08 30.4**	**-1.5**		
	comp=Z,897nm,1.3s,mb6.6								
VLC				*e*		02 09 10.5			
VLC				*e*PP	PP	02 12 07.9	-6.5		
VLC				*e*S	S	02 19 17.4	-1.0		
SARO	**Sassorosso**	**91.72**	**46**	P	**P**	**02 08 29.6**	**-2.4**		
ERBM	**Eremo**	**91.75**	**46**	P	**P**	**02 08 32.1**	**0.0**		
MAIM		**91.75**	**46**	P	**P**	**02 08 29.8**	**-2.4**		
PII	**Pisa**	**91.75**	**46**	P	**P**	**02 08 31.2**	**-0.9**		
SIND	**Sindeldorf**	**91.76**	**41**	*e*P	**P**	**02 08 32.1**	**+0.1**		
SIND	**Sindeldorf**	**91.76**	**41**	P	**P**	**02 08 31.8**	**-0.2**		
GSCL	**Gusciola**	**91.87**	**46**	P	**P**	**02 08 32.3**	**-0.3**		
FUORN	**Ofenpass**	**91.89**	**44**	⇓*i*P	**P**	**02 08 33.0**	**+0.4**		
FUORN	**Ofenpass**	**91.89**	**44**	⇓*i*P	**P**	**02 08 32.9**	**+0.3**		
UBR	**Uberruh**	**91.90**	**42**	⇓*e*P	**P**	**02 08 32.8**	**+0.1**		
UBR	**Uberruh**	**91.90**	**42**	P	**P**	**02 08 32.6**	**-0.1**		
TSUM	**Tsumeb**	**91.95**	**109**	S		02 18 58.2			
	comp=Z,6.5nm,1.0s,baz=71,slow=6.3,SNR=1.9								
TSUM				PKKPbc		02 25 50.9			
	comp=Z,9.2nm,1.1s,baz=96,slow=5.1,SNR=2.9								
TSUM	**Tsumeb**	**91.95**	**109**	⇓*i*P	**P**	**02 08 34.8**	**+1.2**		
	comp=Z,3μm,1.4s,mb7.1								
TSUM				*e*	pP	02 09 04.6	-2.6		
TSUM				*e*PP	PP	02 12 15.7	-1.3		
TSUM				*i* S	S	02 19 23.7	+2.5		
TSUM				LR	LR				
	comp=Z,127μm,19.0s								
SAL	**Salo**	**91.96**	**45**	P	**P**	**02 08 32.7**	**-0.3**		
HDH	**Heidenheim**	**92.06**	**42**	*e*P	**P**	**02 08 33.4**	**0.0**		
ZCCA	**Zocca**	**92.14**	**46**	P	**P**	**02 08 34.2**	**+0.3**		
PTS	**Pantelleria**	**92.17**	**53**	P	**P**	**02 08 34.8**	**+0.6**		
FNVD	**Fontana Vidola**	**92.23**	**46**	P	**P**	**02 08 34.9**	**+0.6**		
CSNT	**Castellina Chi**	**92.28**	**47**	P	**P**	**02 08 33.0**	**-1.5**		
RAVA	**Ravarino**	**92.29**	**45**	P	**P**	**02 08 34.9**	**+0.4**		
MOL	**Molde**	**92.29**	**27**	*e*P	**P**	**02 08 37.3**	**+3.2**		
MOL				AMb	AMB	02 08 43.5			
	comp=Z,369nm,1.6s,mb6.2								
MOL	**Molde**	**92.29**	**27**	*e*P	**P**	**02 08 37.3**	**+3.2**		
	comp=Z,369nm,1.6s,mb6.2								
MUD	**Monsted U'grnd**	**92.33**	**34**	⇓*i*P	**P**	**02 08 35.8**	**+1.4**		
	comp=Z,409nm,0.9s,mb6.5								
MUD				*i*	pP	02 09 07.0	-1.0		
MUD				*e*		02 12 06.3			
MUD				*i* S	S	02 19 27.9	+4.3		
MUD				*i*		02 20 15.7			
MUD				*i*		02 20 25.7			
	comp=Z,50μm,20.0s								
MUD	**Monsted U'grnd**	**92.33**	**34**	⇓*i*P	**P**	**02 08 35.8**	**+1.4**		
MUD				*i*	pP	02 09 07.0	-1.0		
MUD				*e*		02 12 06.3			
MUD				*i* S	S	02 19 27.9	+4.3		
MUD				pmax	pmax				
	comp=Z,409nm,0.9s,mb6.5								
APPI	**Appiano**	**92.53**	**44**	P	**P**	**02 08 36.0**	**+0.4**		
MOTA	**Moosalm**	**92.53**	**43**	⇑*i*P	**P**	**02 08 35.5**	**-0.1**		
	comp=Z,2μm,2.4s,mb6.9								
MOTA	**Moosalm**	**92.53**	**43**	*i* P	**P**	**02 08 35.5**	**-0.1**		
	comp=Z,2μm,2.4s,mb6.9,SNR=119								
MOTA	**Moosalm**	**92.53**	**43**	⇑*i*P	**P**	**02 08 35.5**	**-0.1**		
MOTA				pmax	pmax				
	comp=Z,2μm,2.4s,mb6.9								
LVI	**Isola Levanzo**	**92.56**	**52**	P	**P**	**02 08 37.4**	**+1.5**		
SQTA	**Sankt Quirin**	**92.59**	**43**	⇑*i*P	**P**	**02 08 36.0**	**+0.1**		
	comp=Z,2μm,2.3s,mb6.9								
SQTA	**Sankt Quirin**	**92.59**	**43**	*i* P	**P**	**02 08 36.0**	**+0.1**		
	comp=Z,2μm,2.3s,mb6.9,SNR=83								
SQTA	**Sankt Quirin**	**92.59**	**43**	⇑*i*P	**P**	**02 08 36.0**	**+0.1**		
SQTA				pmax	pmax				
	comp=Z,2μm,2.3s,mb6.9								
PGD	**Poggio Sodo**	**92.63**	**46**	P	**P**	**02 08 35.3**	**-0.8**		
TOLF	**Tolfa**	**92.67**	**48**	P	**P**	**02 08 37.0**	**+0.6**		
BSEG	**Bad Segeberg**	**92.70**	**36**	*e*P	**P**	**02 08 36.9**	**+0.7**		
BSEG				*e*SKSac		02 19 01.2			
SFI	**Santa Sofia**	**92.73**	**46**	P	**P**	**02 08 35.9**	**-0.7**		
FUR	**Furstenfeldbru**	**92.73**	**42**	*e*P	**P**	**02 08 36.7**	**+0.2**		
	comp=Z,825nm,1.4s,mb6.7								
FUR				*e*SKSac		02 19 02.0			
FUR	**Furstenfeldbru**	**92.73**	**42**	*e*P	**P**	**02 08 36.7**	**+0.2**		
FUR				*e*		02 19 02.0			
FUR				pmax	pmax				
	comp=Z,825nm,1.4s,mb6.7								
ERC	**Erice**	**92.75**	**52**	P	**P**	**02 08 36.9**	**0.0**		
CRE	**Caprese Michel**	**92.77**	**47**	P	**P**	**02 08 35.4**	**-1.4**		
GRA1	**Grafenberg Arr**	**92.84**	**41**	*e*P	**P**	**02 08 36.9**	**0.0**		
GRA1				*e*sP	sP	02 09 12.1	-12		
GRA1				*e*SKSac		02 19 04.1			
GRF	**Grafenberg Arr**	**92.84**	**41**	*e*P	**P**	**02 08 36.9**	**0.0**		
GRF				*e*sP	sP	02 09 12.1	-12		
GRF				*e*SKS	SKS	02 19 04.1	+7.2		
GRF	**Grafenberg Arr**	**92.84**	**41**	*e*P	**P**	**02 08 36.9**	**0.0**		
GRF				*e*		02 19 04.1			
GRF	**Grafenberg Arr**	**92.84**	**41**	*e*P	**P**	**02 08 36.9**	**0.0**		
GRF				*e*		02 19 04.1			
WATA	**Walderalm**	**92.85**	**43**	⇑*i*P	**P**	**02 08 37.1**	**0.0**		
	comp=Z,1μm,1.9s,mb6.7								
WATA	**Walderalm**	**92.85**	**43**	*i* P	**P**	**02 08 37.1**	**0.0**		
	comp=Z,1μm,1.9s,mb6.7,SNR=49								
WATA	**Walderalm**	**92.85**	**43**	⇑*i*P	**P**	**02 08 37.1**	**0.0**		
WATA				pmax	pmax				
	comp=Z,1μm,1.9s,mb6.7								
WTTA	**Wattenberg**	**92.89**	**43**	⇑*i*P	**P**	**02 08 37.5**	**+0.3**		
	comp=Z,9μm,5.4s								
WTTA	**Wattenberg**	**92.89**	**43**	*i* P	**P**	**02 08 37.5**	**+0.3**		
	comp=Z,9μm,5.4s,SNR=68								
WTTA	**Wattenberg**	**92.89**	**43**	⇑*i*P	**P**	**02 08 37.5**	**+0.3**		
WTTA				pmax	pmax				
	comp=Z,9μm,5.4s								
KONO	**Kongsberg**	**92.92**	**30**	⇓*i*P	**P**	**02 08 35.9**	**-1.2**		
KONO				*e*SKSa		02 18 59.3			
KONO				*e*		02 19 30.9			
KONO				*e*SS	SS	02 25 53.3	+3.7		
KONO	**Kongsberg**	**92.92**	**30**	⇓*i*P	**P**	**02 08 35.9**	**-1.2**		
KONO				*e*		02 18 59.3			
KONO				*e*SS	SS	02 25 53.3	+3.8		
KONO				MLR	MLR				
	comp=Z,801μm,22.0s								
BRSN	**Barisano**	**92.92**	**46**	P	**P**	**02 08 39.2**	**+1.7**		
DOMB	**Dombas**	**92.93**	**28**	*e*P	**P**	**02 08 37.3**	**+0.3**		
DOMB				AMb	AMB	02 08 44.4			
	comp=Z,434nm,1.8s,mb6.3								
DOMB	**Dombas**	**92.93**	**28**	*e*P	**P**	**02 08 37.3**	**+0.3**		
	comp=Z,434nm,1.8s,mb6.3								
BADI	**Badiali**	**92.98**	**47**	P	**P**	**02 08 36.5**	**-1.2**		
MFNL	**Monte Finestre**	**93.00**	**52**	P	**P**	**02 08 38.9**	**+0.9**		
MMGO	**Monte Magaggia**	**93.03**	**53**	P	**P**	**02 08 39.3**	**+1.2**		
ROM9	**Roma**	**93.03**	**48**	P	**P**	**02 08 39.4**	**+1.4**		
SUR	**Sutherland**	**93.09**	**123**	S		02 19 03.8			
	comp=Z,8.5nm,0.9s,baz=230,slow=1.3,SNR=1.8								
SUR	**Sutherland**	**93.09**	**123**	⇓*i*P	**P**	**02 08 39.8**	**+1.3**		
	comp=Z,1μm,1.3s,mb6.9								
SUR				*e*	pP	02 09 09.5	-2.6		
SUR				*e*PP	PP	02 12 19.5	-6.3		
SUR				LR	LR				
	comp=Z,22μm,21.0s								
MA9	**Marino**	**93.13**	**49**	P	**P**	**02 08 38.7**	**+0.2**		
LAV9	**Lanuvio**	**93.15**	**49**	P	**P**	**02 08 39.0**	**+0.4**		
MURB	**Monte Urbino**	**93.16**	**47**	P	**P**	**02 08 39.3**	**+0.7**		
RSM	**Repubblica di**	**93.16**	**46**	P	**P**	**02 08 38.0**	**-0.6**		
MOX	**Moxa**	**93.18**	**40**	⇓*i*P	**P**	**02 08 38.7**	**+0.2**		
	comp=Z,logA/T=2.8,mb6.7								
MOX				SKS	SKS	02 19 05.0	+6.3		
MOX				PKKP	PKKP	02 25 50.0	+23		
MOX				SS	SS	02 26 08.0	+15		
MOX				PKPPKP		02 33 46.0			
MOX				PKPPKS		02 37 20.0			
MOX				L		02 48 05.0			
MOX	**Moxa**	**93.18**	**40**	⇓*e*P	**P**	**02 08 38.7**	**+0.2**		
	comp=Z,1μm,2.0s,mb6.7								
MOX				*e*SKS	SKS	02 19 05.0	+6.3		
MOX				*i* PKKP	PKKP	02 25 50.0	+23		
MOX				*e*SS	SS	02 26 08.0	+15		
MOX				*e*P'P'		02 33 46.0			
MOX				*e*P'PKS		02 37 20.0			
MOX				LR	LR				
	comp=Z,44μm,19.0s								
MOX	**Moxa**	**93.18**	**40**	⇓*e*P	**P**	**02 08 38.7**	**+0.2**		
MOX				*e*		02 19 05.0			
MOX				*i*		02 25 50.0			
MOX				*e*SS	SS	02 26 08.0	+15		
MOX				pmax	pmax				
	comp=Z,1μm,2.0s,mb6.7								
MOX				MLR	MLR				
	comp=Z,44μm,19.0s								
MNS	**Montasola**	**93.20**	**48**	P	**P**	**02 08 38.5**	**-0.3**		
CLTB	**Caltabellotta**	**93.21**	**53**	P	**P**	**02 08 39.2**	**+0.2**		
SEST	**Monte Rota**	**93.24**	**44**	P	**P**	**02 08 38.8**	**0.0**		
USI	**Ustica**	**93.28**	**52**	P	**P**	**02 08 38.9**	**-0.3**		
FSSB	**Fossombrone**	**93.38**	**47**	P	**P**	**02 08 38.5**	**-1.1**		
CERT	**Cerreto**	**93.39**	**48**	P	**P**	**02 08 39.9**	**+0.3**		
SNTG	**Esanatoglia**	**93.46**	**47**	P	**P**	**02 08 38.9**	**-1.0**		
ARV	**Arcevia**	**93.48**	**47**	P	**P**	**02 08 38.8**	**-1.2**		
FAVR	**Favara**	**93.55**	**53**	P	**P**	**02 08 39.4**	**-1.1**		
NRCA	**Norcia**	**93.56**	**47**	P	**P**	**02 08 39.0**	**-1.4**		
GUAR	**Guarcino**	**93.62**	**49**	P	**P**	**02 08 41.4**	**+0.7**		
VENT	**Ventotene**	**93.63**	**50**	P	**P**	**02 08 41.3**	**+0.6**		
CING	**Cingoli**	**93.66**	**47**	P	**P**	**02 08 40.6**	**-0.2**		
NKC	**Novy Kostel**	**93.67**	**40**	⇓*i*P	**P**	**02 08 40.9**	**+0.2**		
NKC				*e*pP	pP	02 09 12.2	-2.1		
NKC				*e*PP	PP	02 12 26.6	-3.3		
NKC				*e*SKS	SKS	02 19 08.1	+6.6		
NKC				*e*PKKP	PKKP	02 25 49.2	+23		
NKC				*e*PKPPKP		02 33 55.5			
NAO01	**NORSAR Array S**	**93.68**	**29**	⇓*i*P	**P**	**02 08 41.2**	**+0.7**		
	comp=Z,380nm,1.3s,mb6.4								
NAO01				*e*		02 09 08.4			
NAO01				*e*S	S	02 19 46.8	+12		
NAO01				LR	LR				
	comp=Z,91μm,21.0s								
PTQR	**Pietraquaria**	**93.70**	**48**	P	**P**	**02 08 41.2**	**+0.1**		
SYO	**Syowa Base**	**93.72**	**161**	⇑P	**P**	**02 08 36.2**	**-4.3**		
SYO	**Syowa Base**	**93.72**	**161**	⇑P	**P**	**02 08 39.0**	**-1.5**		
AQU	**L'Aquila**	**93.73**	**48**	⇓*i*P	**P**	**02 08 41.0**	**-0.2**		
	comp=Z,729nm,1.3s,mb6.7								
AQU				*e*PP	PP	02 12 21.6	-8.9		
AQU				*i* S		02 20 38.5			
AQU	**L'Aquila**	**93.73**	**48**	⇓*i*P	**P**	**02 08 41.0**	**-0.2**		
AQU				*e*		02 12 21.6			
AQU				pmax	pmax				
	comp=Z,729nm,1.3s,mb6.7								
AFI	**Afiamalu**	**93.76**	**256**	P	**P**	**02 08 43.8**	**+1.9**		
	comp=Z,161nm,0.8s,mb6.2,baz=196,slow=2.3,SNR=9.4								
AFI				pP	pP	02 09 17.3	+1.8		
	comp=Z,65nm,0.8s,baz=119,slow=13,SNR=2.3								
AFI				S		02 19 04.0			
	comp=Z,42nm,1.0s,baz=69,slow=20,SNR=2.1								
AFI				LR	LR	02 45 11.4			
	comp=Z,36μm,18.2s,baz=41,slow=32								
AFI	**Afiamalu**	**93.76**	**256**	*e*P	**P**	**02 08 44.2**	**+2.3**		
	comp=Z,381nm,1.1s,mb6.4								
AFI				*e*	pP	02 09 16.3	+0.9		
AFI				*e*PP	PP	02 12 30.9

KHC eSKS SKS 02 19 09.9 +4.8
KHC ePKKP PKKP 02 25 45.1 +20
KHC ePKPPKP 02 33 51.9
KHC Kasperske Hory 94.33 41⇓ *iP* **P 02 08 43.5 -0.2**
KHC *e* 02 08 55.0
KHC epP pP 02 09 17.6 +0.3
KHC ePP PP 02 12 32.1 -2.7
KHC eSKS SKS 02 19 09.9 +4.8
KHC ePKKP PKKP 02 25 45.1 +20
KHC Kasperske Hory 94.33 41⇓ *iP* **P 02 08 43.5 -0.2**
KHC *e* 02 12 32.1
KHC *e* 02 19 09.9
VOY Vojsko 94.34 44 *eP* **P 02 08 44.2 +0.4**
VOY *e* 02 09 24.2
CII Carovilli 94.36 49⇓ *iP* **P 02 08 44.5 +0.5**
comp=Z,561nm,1.2s,mb6.6
CII *e* 02 09 23.5
CII ePP PP 02 12 33.9 -1.3
CII eS 02 19 15.1
GERES GERESS Array B 94.39 41 P **P 02 08 43.8 -0.2**
comp=Z,25nm,0.7s,mb5.5,baz=262,slow=2.7,SNR=88
GERES pP pP 02 09 19.1 +1.5
comp=Z,16nm,0.7s,baz=180,slow=13,SNR=3.5
GERES S 02 19 06.7
comp=Z,1.5nm,0.8s,baz=90,slow=5.9,SNR=1.9
GERES PKKPbc 02 25 44.0
comp=Z,18nm,0.9s,baz=91,slow=2.1,SNR=18
GERES PKPPKP 02 33 47.7
comp=Z,2.0nm,0.8s,baz=135,slow=1.9,SNR=5.3
GERES LR LR 02 51 15.0
comp=Z,63µm,18.7s,baz=268,slow=35
GERES GERESS Array B 94.39 41 P **P 02 08 43.8 -0.2**
GERES S 02 19 06.7
NSS Namsos 94.46 26⇓ *iP* **P 02 08 42.8 -1.1**
NSS AMb AMB 02 08 51.7
comp=Z,530nm,1.5s,mb6.4
NSS ePP PP 02 12 30.5 -4.9
NSS eSS SS 02 26 10.2 -0.9
SLNA Salina 94.56 52 P **P 02 08 43.7 -1.3**
UNV Unalaska Valle 94.60 324⇓ *iP* **P 02 08 44.8 0.0**
comp=Z,5µm,1.7s,mb7.4
UNV *e* pP 02 09 16.5 -1.9
UNV ePP PP 02 12 39.8 +3.2
UNV LR LR
comp=Z,78µm,21.0s
SSY Sortino 94.66 53 P **P 02 08 46.7 +1.2**
BRG Berggiesshubel 94.67 39⇓ *iP* **P 02 08 45.9 +0.6**
comp=Z,197nm,1.0s,mb6.3
BRG *i* 02 08 52.3
BRG pP pP 02 09 21.5 +2.7
BRG PP PP 02 12 34.9 -2.3
BRG PP PP 02 12 39.0 +1.9
BRG SKS SKS 02 19 16.0 +9.1
BRG SP SP 02 21 06.0 0.0
BRG PKKP PKKP 02 25 36.1 +12
BRG SS SS 02 25 59.0 -15
BRG *e* 02 30 05.0
BRG P'P' 02 33 53.8
BRG Berggiesshubel 94.67 39⇓ *iP* **P 02 08 45.8 +0.6**
BRG 02 12 34.9
BRG 02 19 16.0
BRG SP SP 02 21 06.0 0.0
BRG *e* 02 30 05.0
BRG pmax pmax
comp=Z,197nm,1.0s,mb6.3
BRG pmax pmax
comp=Z,569nm,2.0s,mb6.5
CEY Cerknica 94.69 45 *iP* **P 02 08 45.2 -0.2**
MOA Molln 94.71 43⇑ *iP* **P 02 08 45.5 0.0**
comp=Z,32µm,8.9s
MOA Molln 94.71 43 *iP* **P 02 08 45.5 0.0**
comp=Z,32µm,8.9s,SNR=158
LJU Ljubljana 94.78 44 *eP* **P 02 08 46.3 +0.4**
LJU *e* 02 08 54.0
LJU *i* pP pP 02 09 14.6 -4.8
LJU esP sP 02 09 19.8 -14
LJU *e* 02 09 25.9
LJU ePP PP 02 12 15.9 -22
LJU eSKSac 02 19 11.9
LJU eSP SP 02 21 01.7 -5.7
LJU eSS SS 02 26 18.8 +2.9
LJU Ljubljana 94.78 44 *eP* **P 02 08 46.3 +0.4**
LJU *i* pP pP 02 09 14.6 -4.8
LJU esP sP 02 09 19.8 -14
LJU *e* 02 09 25.9
LJU ePP PP 02 12 15.9 -22
LJU eSKSac 02 19 11.9
LJU eSS SS 02 26 18.8 +2.9
LJU Ljubljana 94.78 44 *eP* **P 02 08 46.3 +0.4**
LJU *i* *PP pP 02 09 14.6 -4.8
LJU *e* 02 19 11.9
LJU eSS SS 02 26 18.8 +2.8
AGST Augusta-Monte 94.79 53 P **P 02 08 46.9 +0.8**
OBKA Obir 94.82 44⇑ *iP* **P 02 08 46.0 0.0**
comp=Z,9µm,4.2s
OBKA Obir 94.82 44 *iP* **P 02 08 46.0 0.0**
comp=Z,9µm,4.2s,SNR=60
CSSN Cassano Irpino 94.84 50 P **P 02 08 47.9 +1.6**
STR5 Stromboli 5 94.86 52 P **P 02 08 45.7 -0.7**
NVLJ Novalja 94.94 46⇓ *iP* **P 02 08 46.5 -0.2**
VISS Visnje 94.99 45 *eP* **P 02 08 46.8 0.0**
FG2 Serracapriola 95.00 49 P **P 02 08 46.2 -0.8**
PRU Pruhonice 95.00 40⇓ *iP* **P 02 08 46.9 +0.1**
PRU epP pP 02 09 21.4 +1.0
PRU ePP PP 02 12 32.4 -7.1
PRU eSKS SKS 02 19 15.0 +6.2
PRU ePKKP PKKP 02 25 41.9 +18
PRU ePKPPKP 02 33 50.2
PRU Pruhonice 95.00 40⇓ *iP* **P 02 08 46.9 +0.1**
PRU *e* 02 12 32.4
PRU *e* 02 19 15.0
STOK Stokkvaagen 95.01 24 *eP* **P 02 08 47.2 +0.7**
STOK AMb AMB 02 08 55.3
comp=Z,664nm,1.4s,mb6.7
STOK Stokkvaagen 95.01 24 *eP* **P 02 08 47.2 +0.7**
comp=Z,664nm,1.4s,mb6.7
SGO Sicignano 95.04 50 P **P 02 08 47.0 -0.2**
PVCC Panska Ves 95.05 40⇓ *iP* **P 02 08 47.4 +0.4**
PVCC epP pP 02 09 21.6 +1.0
PVCC *ex* x 02 12 10.8
PVCC eSKS SKS 02 19 14.3 +5.3
PVCC *ex* x 02 25 51.4
PVCC Panska Ves 95.05 40⇓ *iP* **P 02 08 47.4 +0.4**
PVCC *e* 02 19 14.3
FG5 Orsara di Pugl 95.05 49 P **P 02 08 46.5 -0.7**
MRLC Muro Lucano 95.19 50 P **P 02 08 48.6 +0.7**
MTTG Motta San Giov 95.20 52 P **P 02 08 48.2 +0.2**
MGR Morigerati 95.21 50 P **P 02 08 47.5 -0.5**
PERS Pernice 95.22 44 *eP* **P 02 08 47.5 -0.4**
FG4 Candela 95.23 49 P **P 02 08 47.2 -0.9**
SLCN Sala Consilina 95.28 50 P **P 02 08 48.1 -0.2**
KBS Kingsbay 95.28 11⇓ *iP* **P 02 08 48.9 +1.4**
KBS ePP PP 02 12 39.2 -2.0
KBS eSKSa 02 19 16.9
KBS eSS SS 02 26 27.4 +5.1
KBS AMS AMS 02 46 31.3
comp=Z,83µm,28.9s
KBS Kingsbay 95.28 11⇓ *iP* **P 02 08 48.9 +1.4**
KBS *e* 02 19 16.9
KBS eSS SS 02 26 27.4 +5.1
MELSS Ber_school_2 95.31 23 *eP* **P 02 08 47.8 0.0**
CEL Celeste 95.37 52 P **P 02 08 49.4 +0.6**
CRES Cresnjev 95.42 45 P **P 02 08 50.0 +1.2**
BSD Bornholm Skovb 95.46 35 *iP* **P 02 08 49.3 +0.6**
comp=Z,303nm,0.8s,mb6.6
BSD *i* pP 02 09 23.6 +1.3
BSD *e* 02 12 15.2
BSD *i* 02 19 55.7
BSD *e* 02 21 03.6
BSD Bornholm Skovb 95.46 35 *iP* **P 02 08 49.3 +0.6**
BSD *i* 02 19 55.7
BSD pmax pmax
comp=Z,303nm,0.8s,mb6.6
SOI Samo 95.49 52 P **P 02 08 51.5 +2.2**
ARSA Arzberg 95.53 43⇑ *iP* **P 02 08 49.1 -0.1**
comp=Z,22µm,8.3s
ARSA Arzberg 95.53 43 *iP* **P 02 08 49.1 -0.1**
comp=Z,22µm,8.3s,SNR=36
MOR8 Moi Rana 95.58 24 *eP* **P 02 08 49.7 +0.7**
MOR8 AMb AMB 02 08 56.0
comp=Z,246nm,1.8s,mb6.2
MOR8 Moi Rana 95.58 24 *eP* **P 02 08 49.7 +0.7**
comp=Z,246nm,1.8s,mb6.2
TREC Trest 95.59 41⇓ *iP* **P 02 08 49.9 +0.5**
TREC epP pP 02 09 21.5 -1.5
TREC *ex* x 02 12 11.7
TREC eSKS SKS 02 19 18.3 +6.4
TREC ePKKP PKKP 02 25 42.0 +19
TREC ePKPPKP 02 33 51.7
TREC Trest 95.59 41⇓ *iP* **P 02 08 49.9 +0.5**
TREC *e*PP pP 02 09 21.5 -1.5
TREC *e* 02 19 18.3
FGMS Monte Sant'Ang 95.59 49 P **P 02 08 48.7 -1.0**
TNA Tin City 95.78 335⇓ *iP* **P 02 08 50.6 +0.7**
comp=Z,524nm,1.7s,mb6.6
TNA *e* pP 02 09 19.5 -4.0
TNA ePP PP 02 12 41.3 -4.0
TNA LR LR
comp=Z,29µm,20.0s
TDS Terranova Siba 95.79 51 P **P 02 08 49.9 -0.7**
GRI Girifalco 95.81 52 P **P 02 08 47.5 -3.2**
ORI Oriolo Calabro 95.89 50 P **P 02 08 50.5 -0.5**
UPC Upice 95.97 40⇓ *iP* **P 02 08 51.8 +0.7**
UPC epP pP 02 09 25.9 +1.2
UPC *ex* x 02 12 28.6
UPC ePKKP PKKP 02 25 40.7 +18
UPC ePKPPKP 02 33 52.2
NIKO Nikolski 95.97 323⇓ *iP* **P 02 08 51.9 +0.8**
NIKO *e* pP 02 09 20.8 -3.8
NIKO ePP PP 02 12 45.1 -2.0
HSP Hornsund 96.01 13 *eP* **P 02 08 53.2 +2.4**
TIP Timpagrande 96.09 51⇓ *iP* **P 02 08 50.5 -1.5**
TIP eS S 02 20 01.1 +4.9
VKA Vienna 96.10 42⇓ *iP* **P 02 08 51.7 -0.1**
comp=Z,21µm,11.0s
VKA Vienna 96.10 42⇓ *iP* **P 02 08 51.7 -0.1**
VKA MLR MLR
comp=Z,42µm,16.0s
KSP Ksiaz 96.16 40 *eP* **P 02 08 53.8 +1.8**
comp=Z,56µm,11.1s
KSP ePP PP 02 12 45.0 -3.6
KSP eSKS SKS 02 19 21.5 +6.6
KSP eS S 02 20 00.5 +4.0
KSP eSP SP 02 21 17.6 -4.7
KSP eSS SS 02 26 47.6 +13
KSP Ksiaz 96.16 40 *eP* **P 02 08 52.6 +0.6**
KSP epP pP 02 09 27.2 +1.6
KSP ePP PP 02 12 44.5 -4.1
KSP eSKS SKS 02 19 18.0 +3.1
KSP eS S 02 20 01.5 +5.0
KSP eSP SP 02 21 15.0 -7.3
KSP eSS SS 02 26 17.0 -18
KSP Ksiaz 96.16 40 *eP* **P 02 08 52.6 +0.6**
KSP *e* 02 12 44.5
KSP *e* 02 19 18.0
KSP eS S 02 20 01.5 +5.0
DPC Dobruska-Polom 96.16 40⇓ *iP* **P 02 08 52.9 +0.9**
DPC epP pP 02 09 26.7 +1.1
DPC *ex* x 02 12 11.9
DPC eSKS SKS 02 19 20.9 +5.9
DPC ePKKP PKKP 02 25 38.4 +16
DPC *ex* x 02 26 01.8
DPC ePKPPKP 02 33 53.3
DPC Dobruska-Polom 96.16 40⇓ *iP* **P 02 08 52.9 +0.9**
DPC *e* 02 19 20.9
KRUC Moravsky 96.17 41 P **P 02 08 52.4 +0.3**
LTRZ Laterza 96.19 50 P **P 02 08 51.5 -0.9**
VRAC Vranov 96.31 41 *eP* **P 02 08 53.3 +0.6**
VRAC eS 02 19 22.5
VRAC *e* 02 25 43.4
VRAC *e* 02 26 14.3
VRAC *e* 02 33 53.8
BRT Bari-Castellan 96.50 50 P **P 02 08 53.2 -0.6**
ZST Bratislava 96.62 42 *iP* **P 02 08 54.3 +0.1**
ZST *e* pP 02 09 28.8 +1.0
ZST ePP PP 02 12 49.5 -2.9
ZST eS 02 19 20.9
ZST *e* 02 25 42.3
ZST Bratislava 96.62 42 *iP* **P 02 08 54.3 +0.1**
ZST *e* 02 12 49.5
ZST eS 02 19 20.9
SMOL Smolenice 96.85 42 *iP* **P 02 08 56.2 +1.0**
SMOL *e* pP 02 09 29.9 +1.1
SMOL *e* 02 25 38.3
MORC Moravsky Berou 96.94 41 P **P 02 08 56.4 +0.8**
BJO1 Bjornoya 96.96 16⇓ *iP* **P 02 08 55.5 +0.3**
BJO1 eSKSac 02 19 19.1
BJO Bjornoya 97.01 16⇓ *iP* **P 02 08 55.5 +0.1**
BJO *e* 02 12 20.9
BJO eSKSa 02 19 19.1
JAVC Velka Javorina 97.01 42 P **P 02 08 57.5 +1.5**
RAO Raoul Island 97.14 240 P **P 02 08 59.3 +2.3**
comp=Z,84nm,0.3s,mb6.5,baz=90,slow=20,SNR=2.3
RAO S 02 19 22.6
comp=Z,115nm,0.3s,baz=90,slow=23,SNR=1.7
RAO LR LR 02 41 00.6
comp=Z,14µm,20.5s,baz=102,slow=28
RAO Raoul Island 97.14 240⇓ *iP* **P 02 08 58.4 +1.4**
RAO LR LR
comp=Z,22µm,20.0s
LCI Lecce 97.17 50 P **P 02 08 57.4 +0.5**
TRO Tromso 97.23 21⇓ *iP* **P 02 08 53.2 -3.3**
TRO AMb AMB 02 09 02.5
comp=Z,424nm,1.9s,mb6.5
TRO ePP PP 02 12 53.4 -3.3
TRO eSKSa 02 19 22.5
TRO eSS SS 02 27 02.5 +13
TRO Tromso 97.23 21⇓ *iP* **P 02 08 53.2 -3.3**
TRO *e* 02 19 31.9
TRO eSS SS 02 27 02.5 +13
RHK1 Bakonya 97.25 44 *eP* **P 02 08 57.9 +0.8**
OKC Ostrava-Krasne 97.33 41⇓ *iP* **P 02 08 58.1 +0.7**
OKC epP pP 02 09 32.4 +1.4
OKC *ex* x 02 12 14.8
OKC eSKS SKS 02 19 26.4 +5.3
OKC ePKKP PKKP 02 25 38.1 +18
OKC ePKPPKP 02 33 51.2
OKC Ostrava-Krasne 97.33 41⇓ *iP* **P 02 08 58.1 +0.7**
OKC *e* 02 19 26.4
RAC Raciborz 97.36 40 *eP* **P 02 08 58.1 +0.6**
RAC ePP PP 02 12 55.8 -2.4
RAC ⇑*e*SKSa 02 19 25.4
RAC eS S 02 20 14.5 +7.8
RAC MLR MLR 02 36 50.7
comp=Z,85µm,25.0s
SRO1 Iza 97.38 43 *iP* **P 02 08 58.9 +1.3**
SRO1 *e* pP 02 09 35.8 +4.6
SRO1 *e* 02 25 40.7
PKS9 Tamasi 97.40 44⇓ *eP* **P 02 08 58.3 +0.5**
SRO Srobarova 97.43 43 *iP* **P 02 08 57.8 -0.1**
SRO *e* pP 02 09 31.6 +0.1
SRO ePP PP 02 12 52.5 -6.3
SRO *e* 02 25 40.3
SRO Srobarova 97.43 43 *iP* **P 02 08 57.8 -0.1**
SRO *e* 02 12 52.5
PKSG 97.48 43⇓ *eP* **P 02 08 58.0 -0.1**
SRO2 Moca 97.48 43 *eP* **P 02 08 58.0 -0.1**
SRO2 02 25 40.1
HCY Herceg Novi 97.50 48⇓ *iP* **P 02 08 59.3 +0.9**
BRY Bratogost 97.55 48⇓ *iP* **P 02 08 59.0 +0.4**
PKSM Moragy 97.65 44⇓ *iP* **P 02 09 00.0 +1.1**
PKS8 Sarbogard 97.67 44⇓ *eP* **P 02 08 58.7 -0.3**
VYHS Vyhne 97.78 42 *iP* **P 02 08 59.8 +0.4**
VYHS *e* pP 02 09 34.0 +1.0
VYHS eS 02 19 29.6
VYHS *e* 02 25 39.1
VYHS *e* 02 33 45.7
VYHS Vyhne 97.78 42 *iP* **P 02 08 59.8 +0.4**
VYHS eS 02 19 29.6
UPM Unac-Piva 97.82 47⇓ *iP* **P 02 09 00.4 +0.7**
NKY Niksic 97.88 48⇓ *iP* **P 02 09 01.0 +1.0**
LIKS Likavka 97.96 41 *eP* **P 02 09 02.3 +2.1**
LIKS *e* pP 02 09 37.0 +3.2
PKS7 Kunszentmiklos 98.01 43⇓ *eP* **P 02 08 59.2 -1.3**
ULC Ulcinj 98.06 49⇓ *iP* **P 02 09 01.8 +1.0**
TTG Podgorica 98.07 48⇓ *iP* **P 02 09 01.8 +0.9**
PLE Pljevlja 98.17 47⇓ *iP* **P 02 09 02.5 +1.2**
PKS6 Bocsa 98.28 44⇑ *eP* **P 02 09 03.7 +1.9**
OJC Ojcow 98.39 40⇓ *iP* **P 02 09 03.2 +1.0**
OJC ePP PP 02 13 01.2 -4.8
OJC eSKS SKS 02 19 30.7 +4.2
OJC eS S 02 20 23.6 +8.3
OJC eSP SP 02 21 39.4 -6.5
OJC eSS SS 02 26 55.4 -11
OJC MLR MLR 02 48 01.4
comp=Z,48µm,18.8s
OJC Ojcow 98.39 40⇓ *iP* **P 02 09 03.2 +1.0**
OJC *e* 02 13 01.2
OJC *e* 02 19 30.7
OJC eS S 02 20 23.6 +8.3
OJC MLR MLR
comp=Z,48µm,18.8s
LBTB Lobatse 98.46 116 S 02 19 33.1
comp=Z,8.0nm,1.1s,baz=257,slow=16,SNR=1.6
LBTB PKKPbc 02 25 30.9
comp=Z,8.0nm,0.9s,baz=28,slow=1.8,SNR=3.5
LBTB Lobatse 98.46 116⇓ *iP* **P 02 09 04.2 +1.1**
comp=Z,420nm,0.6s,mb7.0
LBTB *e* pP 02 09 34.3 -2.4
LBTB ePP PP 02 13 00.2 -6.9
LBTB LR LR
comp=Z,95µm,22.0s
LBTB Lobatse 98.46 116⇓ *iP* **P 02 09 04.2 +1.1**
LBTB *e* pP 02 09 34.3 -2.4
LBTB *e* 02 13 00.2
LBTB pmax pmax
comp=Z,421nm,0.6s,mb7.0
LBTB MLR MLR
comp=Z,95µm,22.0s
PSZ Piszkesteto 98.50 43⇓ *iP* **P 02 09 03.8 +1.1**
IVA Berane 98.54 48⇓ *iP* **P 02 09 03.8 +0.8**
PVY Plav 98.60 48⇓ *iP* **P 02 09 03.9 +0.6**
DIVS Divcibare 98.60 46⇓ *iP* **P 02 09 02.8 -0.5**
NIE Niedzica 98.74 41⇓ *iP* **P 02 09 05.3 +1.5**
NIE *i* 02 09 25.2
NIE *i* pP 02 09 37.7 +0.3
NIE ePP PP 02 13 07.8 -0.7
NIE eSKS SKS 02 19 33.8 +5.5
KTK1 Kautokeino 98.81 21 *eP* **P 02 09 04.0 +0.3**
KTK1 AMb AMB 02 09 10.8
comp=Z,197nm,1.6s,mb6.3
KTK1 Kautokeino 98.81 21 *eP* **P 02 09 04.0 +0.3**
comp=Z,197nm,1.6s,mb6.3
KECS Kecovo 98.88 42 *iP* **P 02 09 05.6 +1.1**
KECS *e* pP 02 09 37.0 -1.0
KECS *e* 02 25 32.3
WAR Warsaw 99.10 38 *eP* **P 02 09 06.7 +1.4**
comp=Z,33µm,11.6s
WAR ePP PP 02 13 08.8 -2.2
WAR eSKS SKS 02 19 35.1 +5.0
WAR eSP SP 02 21 53.3 -0.3
WAR eSS SS 02 27 19.1 +3.1
LKD Levkas 99.11 52 *eP* **P 02 09 05.9 +0.1**
URZ Urewera 99.22 230 P **P 02 09 07.9 +1.6**
comp=Z,4.0nm,0.7s,baz=1.4,slow=1.8,SNR=5.7
URZ S 02 19 31.0
comp=Z,13nm,0.9s,baz=169,slow=22,SNR=2.7
URZ PKKPbc 02 25 29.4
comp=Z,42nm,0.8s,baz=251,slow=2.0,SNR=16
URZ PKPPKP 02 33 44.2
comp=Z,12nm,0.9s,baz=358,slow=1.9,SNR=3.6
URZ LR LR 02 45 36.3
comp=Z,38µm,20.6s,baz=288,slow=30
STHS Stebnicka Huta 99.35 41 *eP* **P 02 09 08.1 +1.5**
STHS *e* pP 02 09 43.6 +3.4
STHS *e* 02 25 35.4
ARCES ARCESS Array B 99.53 20 P **P 02 09 05.7 -1.2**
comp=Z,39nm,0.6s,mb6.0,baz=277,slow=3.7,SNR=73
ARCES PP PP 02 13 12.1 -1.9
comp=Z,44nm,1.0s,baz=281,slow=6.2,SNR=4.4
ARCES PKKPbc 02 25 29.6
comp=Z,49nm,1.0s,baz=90,slow=3.6,SNR=10
ARCES PKPPKP 02 33 42.3
comp=Z,19nm,1.1s,baz=333,slow=2.7,SNR=7.0
ARCES ARCESS Array B 99.53 20 P **P 02 09 05.7 -1.2**
ARCES PP PP 02 13 12.1 -1.9
ARCES PKKPbc 02 25 29.6
ARCES P'P' 02 33 42.3
ARE0 ARCESS Array S 99.53 20 *e*Pdif **P 02 09 05.5 -1.5**
ARE0 *e*PP PP 02 13 01.2 -13
MEV Metsovon 99.56 51 *eP* **P 02 09 08.2 +0.5**
FNA Florina 99.66 50 *eP* **P 02 09 08.3 +0.1**
SKO Skopje 99.69 49⇓ *iP* **P 02 09 08.0 -0.3**
comp=Z,0.2nm,1.1s
SKO *i* pP 02 09 44.4 +2.5
comp=Z,0.3nm,1.2s
SKO *i* PP PP 02 13 11.2 -4.8
SKO *i* PsP 02 13 42.5
SKO Lm 02 59 30.0
comp=E,71nm,16.0s
SKO Skopje 99.69 49⇓ *iP* **P 02 09 08.0 -0.3**
SKO *i* 02 13 11.2
SKO pmax pmax
comp=Z,150nm,1.1s,mb6.3
KEV Kevo 100.01 20 *ep* P 02 09 07.7 -1.4
comp=Z,35nm,0.7s
KEV Kevo 100.01 20 P P 02 09 09.8 +0.7
KEV pmax pmax
comp=Z,81nm,1.0s
BOLS Boljevac 100.03 47⇑ *iP* P 02 09 09.5 -0.3
KOLS Kolonicke sedl 100.05 41 *eP* P 02 09 10.3 +0.6
KOLS ePP PP 02 13 16.8 -1.8
KOLS *e* 02 25 31.4
KOLS eSS SS 02 27 31.7 +2.4
KOLS Kolonicke sedl 100.05 41 *eP* P 02 09 10.3 +0.6
KOLS *e* 02 13 16.8
KOLS eSS SS 02 27 31.7 +2.4
UZH Uzhgorod 100.07 42*d* *iP* P 02 09 11.6 +1.8
UZH *e* 02 13 11.0
UZH *i* S S 02 20 35.2 +5.7
SUW Suwalki 100.29 36 *eP* P 02 09 11.5 +0.9
comp=Z,21µm,8.8s
SUW ePP PP 02 13 16.4 -4.0
SUW eSKS SKS 02 19 38.8 +3.0
SUW eSP SP 02 22 01.2 -4.5
SUW eSS SS 02 27 27.9 -4.7
SUW Suwalki 100.29 36 *eP* P 02 09 11.5 +0.8
SUW ePP PP 02 13 16.4 -4.0
SUW eSKS SKS 02 19 38.8 +3.0
SUW eSP SP 02 22 01.2 -4.5
SUW eSS SS 02 27 27.9 -4.7
SUW Suwalki 100.29 36 *eP* P 02 09 11.5 +0.8
SUW *e* 02 13 16.4
SUW *e* 02 19 38.8
SUW eSS SS 02 27 27.9 -4.7
KWP Kalwaria 100.29 41 *eP* P 02 09 12.3 +1.5
comp=Z,24µm,8.7s
KWP ePP PP 02 13 17.0 -3.6
KWP eSKS SKS 02 19 38.8 +2.8
KWP eSP SP 02 22 02.9 -2.9
KWP eSS SS 02 27 32.9 +0.2
AGG Agios Georgios 100.42 52 *eP* P 02 09 11.5 -0.1
GRG Griva 100.44 50 *eP* P 02 09 11.9 +0.2
DRGR 100.44 44 ⇓P P 02 09 11.5 -0.1
DRGR 100.44 44 ⇓P P 02 09 11.5 -0.1
LIT Litokhoron 100.52 50 *eP* P 02 09 11.5 -0.6
KNT Kendrikon 100.81 49 *eP* P 02 09 13.7 +0.4
THE Thessaloniki 100.87 50 *eP* P 02 09 13.9 +0.3
KKB Krupnik 100.92 49 *iP* P 02 09 15.5 +1.7
VTS Vitosha 100.98 48 *iP* P 02 09 16.0 +1.9
VTS Vitosha 100.98 48 P P 02 09 16.1 +2.0
FINES FINESS Array B 101.01 29 P P 02 09 13.2 -0.5
comp=Z,47nm,0.9s,baz=270,slow=1.9,SNR=43
FINES pP 02 09 47.8
comp=Z,35nm,0.9s,baz=252,slow=4.4,SNR=2.7
FINES PKKPbc 02 25 27.3
comp=Z,9.6nm,0.5s,baz=63,slow=6.2,SNR=13
FINES PKPPKP 02 33 38.5
comp=Z,4.3nm,0.9s,baz=153,slow=4.3,SNR=3.8
KAF Kangasniemi 101.02 28 *ep* P 02 09 12.6 -1.2
comp=Z,84nm,0.8s,baz=278,slow=4.3
KAF Kangasniemi 101.02 28 *eP* P 02 09 12.6 -1.2
KAF pmax pmax
comp=Z,84nm,0.8s
XOR Xorichti 101.08 51 *eP* P 02 09 13.9 -0.8
LVV L'vov 101.14 40*d* *iP* P 02 09 15.1 +0.5
LVV *e* 02 13 23.0
LVV *e* 02 19 42.0
SOH Sokhos 101.16 50 *eP* P 02 09 14.4 -0.5
SRS Serrai 101.33 49 *eP* P 02 09 14.0 -1.7
MAW Mawson 101.40 165 *i* PDIF P 02 09 16.1 +0.8
comp=Z,79nm,1.5s
MAW ePP PP 02 13 15.0 -14
MAW eSKS SKS 02 19 34.9 -6.0
MAW eSP SP 02 22 13.9 -3.1

MAW **Mawson** 101.40 165 P P 02 09 16.1 +0.8
comp=Z,50nm,0.8s,baz=186,slow=4.7,SNR=29
MAW S 02 19 41.6
comp=Z,7.5nm,1.0s,baz=239,slow=11,SNR=2.2
MAW PKKPbc 02 25 23.4
comp=Z,12nm,0.8s,baz=349,slow=2.1,SNR=9.3
MAW PKPPKP 02 33 40.7
comp=Z,13nm,1.1s,baz=353,slow=4.6,SNR=5.9
MAW **Mawson** 101.40 165 *i* P P 02 09 16.1 +0.8
MAW pmax pmax
comp=Z,79nm,1.5s
MMB **Musomiste** 101.41 49 *i* P P 02 09 17.0 +1.0
AOS **Alonnisos** 101.62 51 *e*P P 02 09 17.2 +0.2
OUR **Ouranopolis** 101.66 50 *e*P P 02 09 17.1 0.0
PGB **Panagyurishte** 101.69 48 P P 02 09 18.5 +1.3
ISAL **Salakas** 101.83 34 *e*P P 02 09 18.0 +0.5
ISAL AMb AMB 02 09 24.6
comp=Z,58nm,1.6s
IZAR **Zarasai** 101.88 34 *e*P P 02 09 18.2 +0.6
IZAR AMb AMB 02 09 24.8
comp=Z,66nm,1.8s
MATP **Matopo** 101.93 112 PP PP 02 13 29.5 -3.9
comp=Z,38nm,0.8s,baz=260,slow=9.3,SNR=5.5
RPZ **Rata Peaks** 101.97 223 P P 02 09 19.1 +0.7
comp=Z,6.5nm,0.9s,baz=100,slow=18,SNR=2.5
RPZ S 02 19 43.0
comp=Z,7.0nm,0.8s,baz=240,slow=8.9,SNR=2.0
RPZ PKKPbc 02 25 22.6
comp=Z,30nm,0.8s,baz=12,slow=0.2,SNR=9.6
RPZ **Rata Peaks** 101.97 223 P P 02 09 19.1 +0.7
RPZ S 02 19 43.0
RPZ PKKPbc 02 25 22.6
BURAR **Bucovina Array** 102.10 43 ⇑P Pdif 02 09 21.2 +2.3
PLD **Plovdiv** 102.11 48 P Pdif 02 09 21.0 +1.9
RZN **Rozhen** 102.15 49 *i* P Pdif 02 09 20.0 +0.7
VOIR 102.15 45 ⇑P Pdif 02 09 21.3 +2.1
VOIR 102.15 45 ⇑P Pdif 02 09 21.3 +2.1
MTUR **Matau** 102.17 45 P Pdif 02 09 20.6 +1.3
IDID **Didziasalis** 102.21 35 *e*P Pdif 02 09 19.6 +0.4
IDID AMb AMB 02 09 26.2
comp=Z,55nm,2.0s
MIDW **Midway** 102.28 298 PFAKE 02 09 30.0 +10
MIDW LR LR
comp=Z,20µm,21.0s
LOS **Limnos** 102.52 51 *e*P Pdif 02 09 22.1 +1.2
LSZ **Lusaka** 102.54 107 PP PP 02 13 30.1 -8.2
comp=Z,43nm,1.0s,baz=268,slow=11,SNR=5.9
LSZ S 02 19 51.3
comp=Z,5.9nm,0.9s,baz=206,slow=23,SNR=1.7
LSZ PKKPbc 02 25 21.7
comp=Z,10nm,0.5s,baz=57,slow=4.5,SNR=6.7
LSZ **Lusaka** 102.54 107 *i* Pdif Pdif 02 09 23.1 +1.5
comp=Z,287nm,1.6s
LSZ *e*PP PP 02 13 23.9 -14
LSZ LR LR
comp=Z,100µm,20.0s
LSZ **Lusaka** 102.54 107 *i* P Pdif 02 09 23.1 +1.6
LSZ pmax pmax
comp=Z,287nm,1.6s
LSZ MLR MLR
comp=Z,100µm,20.0s
IDI **Anoyia** 102.56 55 P Pdif 02 09 21.0 -0.3
comp=Z,54nm,0.9s,baz=302,slow=6.0,SNR=31
IDI pP 02 09 55.7
comp=Z,86nm,0.8s,baz=297,slow=4.6,SNR=3.3
IDI PP PP 02 13 35.8 -2.3
comp=Z,48nm,0.9s,baz=292,slow=10,SNR=3.4
IDI S 02 19 50.9
comp=Z,11nm,1.1s,baz=111,slow=19,SNR=2.7
IDI PKKPbc 02 25 21.3
comp=Z,9.3nm,0.8s,baz=185,slow=12,SNR=3.9
IDI PKPPKP 02 33 38.8
comp=Z,15nm,1.1s,baz=166,slow=3.2,SNR=4.1
KDZ **Kurdzhali** 102.67 49 P Pdif 02 09 21.5 -0.1
DIM **Dimitrovgrad** 102.73 48 P Pdif 02 09 23.0 +1.2
MLR **Muntele Rosu** 102.78 45 P Pdif 02 09 22.3 +0.4
comp=Z,17nm,0.8s,baz=158,slow=8.7,SNR=24
MLR **Muntele Rosu** 102.78 45 ⇑P Pdif 02 09 23.5 +1.6
MLR **Muntele Rosu** 102.78 45 P Pdif 02 09 22.3 +0.4
MLR pmax pmax
comp=Z,17nm,0.8s
MNK **Minsk** 102.95 35⇑*e*P Pdif 02 09 23.0 +0.5
THR1 **Thera Island** 102.98 54 *e*P Pdif 02 09 23.6 +0.5
JOF **Joensuu** 103.14 27 *e*p Pdif 02 09 22.4 -0.7
comp=Z,56nm,0.8s
LVZ **Lovozero** 103.16 21 *d* iP Pdif 02 09 22.8 -0.3
LVZ *i* 02 13 36.1
LVZ *i* 02 19 53.3
LVZ *i* SP SP 02 22 38.4 +2.9
LVZ *i* SS SS 02 28 15.1 +2.8
LVZ pmax pmax
comp=Z,11µm,10.4s
LVZ pmax pmax
comp=N,1µm,4.8s
LVZ pmax pmax
comp=E,1µm,5.7s
LVZ pmax pmax
comp=N,17nm,0.9s
LVZ pmax pmax
comp=E,22nm,0.9s
LVZ pmax pmax
comp=Z,80nm,0.9s
DRV **Dumont d'Urvil** 103.16 194 Pdif Pdif 02 09 24.0 +0.9
DRV **Dumont d'Urvil** 103.16 194 PP PP 02 13 42.0 +0.1
DRV SKS SKS 02 19 54.0 +4.9
DRV SP SP 02 22 41.0 +5.5
DRV SS SS 02 28 38.0 +26
DRV L 02 38 00.0
ALN **Alexandroupoli** 103.20 49 *e*P Pdif 02 09 24.0 +0.1
VRI **Vrincioaia** 103.29 44 ⇓P Pdif 02 09 27.3 +3.1
PUL **Pulkovo** 103.36 30 *d* iP Pdif 02 09 23.8 -0.4
PUL *i* 02 13 38.2
PUL *i* SP SP 02 22 43.9 +6.2
PUL *i* PS PS 02 22 50.7 -2.6
PUL *i* SS SS 02 28 19.2 +4.1
PUL pmax pmax
comp=Z,11µm,8.1s
PUL pmax pmax
comp=Z,165nm,0.9s
PUL pmax pmax
comp=N,147nm,0.8s
PUL pmax pmax
comp=E,273nm,1.3s
EDRB **Edirne** 103.65 48 *e*P Pdif 02 09 23.3 -2.6
URLA **Izmir** 103.78 52 *i* P Pdif 02 09 26.4 -0.1
CANB **Canakkale** 104.03 50 *e*P Pdif 02 09 27.8 +0.2
SART **Tekirdag** 104.07 50 *i* P Pdif 02 09 27.4 -0.3
BLCB **Balcova** 104.13 52 *e*P Pdif 02 09 28.7 +0.6
MFT **Murefte** 104.14 50 *e*P Pdif 02 09 24.2 -3.8
IZM **Izmir** 104.31 52 *e*P Pdif 02 09 30.1 +1.3
AKASG **Malin Array Be** 104.35 39 Pdiff Pdif 02 09 28.1 -0.6
comp=E,3.0nm,0.7s,baz=268,slow=4.4,SNR=16
AKASG PKIKP 02 13 45.1
comp=E,64nm,1.1s,baz=275,slow=3.4,SNR=11
AKASG S 02 19 54.5
comp=E,1.1nm,0.8s,baz=333,slow=4.4,SNR=2.1
AKASG PKKPbc 02 25 15.1
comp=E,8.2nm,0.7s,baz=76,slow=3.6,SNR=8.9
AKASG PKPPKP 02 33 34.5
comp=E,4.7nm,0.9s,baz=77,slow=2.2,SNR=8.8
MRMT **Marmara Adasi** 104.39 50 *e*P Pdif 02 09 29.1 -0.1
BODT **Bodrum** 104.43 53 *e*P Pdif 02 09 28.1 -1.3
KIS **Kishinev** 104.60 43 *d* iP Pdif 02 09 29.0 -0.9
KIS *i* 02 13 48.0
KIS *i* 02 20 02.0
KIS *i* S S 02 21 15.0 +7.8
KIS *i* PS PS 02 23 02.0 -3.8
KIS pmax pmax
comp=Z,14µm,14.0s
KIS pmax pmax
comp=Z,20µm,20.0s
KIS pmax pmax
comp=Z,16µm,18.0s
KIS pmax pmax
comp=E,6µm,20.0s
KIS pmax pmax
comp=Z,18µm,20.0s
BNT **Bandirma** 104.66 50 *e*P Pdif 02 09 30.1 -0.2
BALB **Balikesir** 104.69 51 *e*P Pdif 02 09 28.2 -2.3
MLSB **Milas** 104.79 53 *e*P Pdif 02 09 28.7 -2.3
YER **Yerkesik** 105.20 53 *e*P Pdif 02 09 31.3 -1.6
BILL **Bilibino** 105.27 340 *e*Pdif Pdif 02 09 32.2 -0.1
comp=Z,345nm,1.6s
BILL *e* 02 13 54.0
BILL LR LR
comp=Z,47µm,20.0s
BILL **Bilibino** 105.27 340 *d* iP Pdif 02 09 33.3 +0.9
BILL *i* 02 13 53.7
BILL *i* 02 16 15.3
BILL *i* 02 20 01.7
BILL *i* PS PS 02 23 04.2 -7.8
BILL pmax pmax
comp=Z,1µm,3.0s
BILL pmax pmax
comp=Z,231nm,1.8s
BILL MLR MLR
comp=Z,63µm,22.0s
ISK **Istanbul-Kandi** 105.45 49 *e*P Pdif 02 09 29.0 -4.9
DALT **Dalyan (Mudla)** 105.52 54 *e*P Pdif 02 09 33.5 -0.7
YLV **Yalova** 105.74 50 *e*P Pdif 02 09 31.3 -3.8
GDZ **Gediz** 105.98 51 *i* P Pdif 02 09 35.1 -1.1
GOLH **Golhisar** 106.21 53 *i* P Pdif 02 09 37.0 -0.3
AKAS **Kas** 106.34 54 *i* P Pdif 02 09 36.0 -1.8
ALT **Altintas** 106.47 51 *e*P Pdif 02 09 38.2 -0.1
ELL **Elmali** 106.53 53 *e*P Pdif 02 09 41.7 +3.0
BORA **Eskisehir** 106.64 50 *i* P Pdif 02 09 37.0 -2.1
ESKT **Eskisehir** 106.99 51 *e*P Pdif 02 09 41.7 +1.1
BCK **Bucak** 107.01 53 *e*P Pdif 02 09 40.5 -0.2
ANTB **Antalya** 107.11 53 *e*P Pdif 02 09 39.4 -1.9
MIR **Mirnyy** 107.49 176 *e*P Pdif 02 09 44.0 +1.8
MIR pmax pmax
comp=E,1089µm,16.0s
OBN **Obninsk** 107.76 34 *e*Pdif Pdif 02 09 44.2 +0.6
comp=E,610nm,1.8s
OBN *e* 02 14 10.5
OBN LR LR
comp=Z,19µm,20.0s
OBN **Obninsk** 107.76 34 *d* iP Pdif 02 09 44.7 +1.1
OBN *i* 02 14 10.0
OBN *i* 02 20 12.9
OBN *i* 02 20 57.4
OBN *i* PS PS 02 23 18.4 -19
OBN PPS PPS 02 24 20.4 -21
OBN pmax pmax
comp=Z,2µm,2.5s
OBN pmax pmax
comp=Z,211nm,1.5s
KIZT **Kizilcal** 107.86 51 *e*P Pdif 02 09 46.6 +2.2
CASY **Casey** 107.98 183 *e*PDIF Pdif 02 09 45.6 +1.2
CASY *e*PP PP 02 14 13.1 -4.6
CASY *e*SKS SKS 02 20 14.6 +3.9
CASY *e*SP SP 02 23 23.9 +0.3
CASY *e*PKKP PKKP 02 25 03.7 +3.4
KDHN **Kadinhani** 108.08 51 *i* P Pdif 02 09 46.6 +1.1
MOS **Moscow** 108.16 33 *k* iP Pdif 02 09 45.9 +0.5
MOS *i* 02 14 13.5
MOS pmax pmax
comp=Z,8µm,10.1s
MOS pmax pmax
comp=N,2µm,7.0s
MOS pmax pmax
comp=E,1µm,9.1s
MOS pmax pmax
comp=Z,213nm,2.0s
MOS MLR MLR
comp=Z,43µm,16.6s
SIM **Simferopol'** 108.57 45 *d* iP Pdif 02 09 48.5 +1.1
SIM *e* 02 20 13.0
SIM *e*PS PS 02 23 35.0 -10
SIM *e*SS SS 02 29 34.0 +7.9
SIM pmax pmax
comp=Z,6µm,12.8s
ERMK **Ermenek** 108.95 53 *i* P Pdif 02 09 49.5 +0.1
BR131 **Keskin Array S** 109.09 50 *e*Pdif Pdif 02 09 50.8 +0.9
comp=Z,12nm,0.9s
BR131 *e* 02 13 54.5
BR131 *e*PP PP 02 14 21.8 -5.4
BR131 LR LR
comp=Z,21µm,20.0s
BRTR **Keskin Array B** 109.09 50 Pdiff Pdif 02 09 50.4 +0.5
comp=Z,4.9nm,0.8s,baz=256,slow=2.3,SNR=11
BRTR PKiKP 02 13 55.0
comp=Z,71nm,1.0s,baz=180,slow=2.5,SNR=13
BRTR PKKPbc 02 25 03.0
comp=Z,6.4nm,0.6s,baz=122,slow=5.5,SNR=9.9
BRTR PKPPKP 02 33 29.6
comp=Z,5.4nm,1.1s,baz=192,slow=1.6,SNR=3.9
CDAG **Cicekdag** 109.67 50 *i* P Pdif 02 09 53.3 +0.9
CORM **Corum** 109.78 49 *e*P Pdif 02 09 53.5 +0.7
MERS **Mersin** 110.20 53 *e*P Pdif 02 09 54.5 -0.3
VOR **Voronezh** 110.23 37 P Pdif 02 09 55.0 +0.4
VOR *e* 02 14 29.0
VOR pmax pmax
comp=Z,50nm,2.0s
VOR pmax pmax
comp=N,270nm,2.0s
VOR pmax pmax
comp=E,260nm,2.0s
VOR pmax pmax
comp=Z,670nm,2.0s
VORD **Divnogorie** 110.52 37 *e*P Pdif 02 09 55.7 -0.1
VORD pmax pmax
comp=Z,9µm,15.3s
VORD pmax pmax
comp=E,3µm,16.1s
VORD MLR MLR
comp=E,32µm,18.0s
VORD MLR MLR
comp=Z,40µm,18.0s
KZIT **Kziot** 110.82 59 P PKPdf 02 13 59.0 +3.3
ANN **Anapa** 110.91 44 *i* P Pdif 02 09 55.1 -2.6
ANN *e* 02 14 33.7
ANN *e* 02 20 25.6
ANN *e*SS SS 02 29 57.0 -0.4
ANN *e*SSS SSS 02 34 08.0 -0.3
ANN pmax pmax
comp=Z,6µm,8.2s
OFRI **'Ofer** 111.13 57 P PKPdf 02 13 59.3 +3.0
KOZT **Kozan** 111.14 52 *e*P Pdif 02 10 00.2 +1.3
HAF **Haifa** 111.14 57 P PKPdf 02 13 59.7 +3.4
MASH **Mash'abbe Sade** 111.14 59 P PKPdf 02 13 59.4 +3.1
CEYT **Ceyhan** 111.15 53 *e*P Pdif 02 10 00.9 +2.0
PECR **Pechory** 111.37 31 *ce*P Pdif 02 10 00.0 +0.5
PECR pmax pmax
comp=Z,110nm,2.0s
PECR pmax pmax
comp=Z,7µm,14.0s
PECR pmax pmax
comp=E,2µm,11.0s
MBH **Mount Berech** 111.38 60 P PKPdf 02 14 00.7 +3.9
PRNI **Paran** 111.40 60 P PKPdf 02 13 59.5 +2.7
EIL **Elat** 111.42 60 P PKPdf 02 14 00.0 +3.1
TAYS **Tayyib Ism** 111.46 62 P PKPdf 02 14 00.4 +3.5
HAQS **Haql** 111.47 61 P PKPdf 02 14 00.3 +3.3
HAQS **Haql** 111.47 61 P PKKP 02 25 04.3 +10
MMLI **Mount Malkishu** 111.52 57 P PKPdf 02 13 59.6 +2.6
BHL **Bhannes** 111.52 56 *e*P Pdif 02 10 02.2 +1.5
ALWS **Ilw as Safayha** 111.56 61 P PKPdf 02 14 01.8 +4.6
ALWS **Ilw as Safayha** 111.56 61 P PKKP 02 25 04.2 +10
JMOS **Jabal al Moall** 111.61 61 P PKPdf 02 14 02.1 +4.9
JMOS **Jabal al Moall** 111.61 61 P PKKP 02 25 03.7 +9.4
KSDI **Kefar Szold** 111.62 57 P PKPdf 02 13 59.1 +1.9
BDAS **Al Bad'** 111.67 62 P PKPdf 02 14 01.0 +3.6
MKRJ **Makawir** 111.81 58 P PKPdf 02 14 00.9 +3.3
AYUS **'Aynunah** 111.84 62 P PKPdf 02 14 01.6 +3.9
TIXI **Tiksi** 112.27 352 *i* PKPr 02 13 59.8
TIXI LR LR
comp=Z,52µm,22.0s
TIXI **Tiksi** 112.27 352 *e*P Pdif 02 10 03.0 -0.1
TIXI *i* 02 13 58.5
TIXI *e*PPP PPP 02 17 08.8 -3.6
TIXI *e* 02 21 03.4
TIXI *e*SP SP 02 24 02.5 -1.9
TIXI *e*PS PS 02 24 21.0 +1.6
TIXI pmax pmax
comp=Z,34nm,1.1s
TIXI pmax pmax
comp=N,11nm,1.4s
TIXI pmax pmax
comp=E,13nm,1.7s
TIXI pmax pmax
comp=Z,6µm,12.8s
TIXI pmax pmax
comp=Z,51nm,1.0s
TIXI pmax pmax
comp=N,4.0nm,1.5s
TIXI pmax pmax
comp=E,19nm,1.9s
TIXI MLR MLR
comp=Z,30µm,17.0s
TIXI MLR MLR
comp=N,23µm,20.0s
TIXI MLR MLR
comp=E,6µm,16.0s
DZM **Mont Dzumac** 112.53 243 PKiKP 02 14 04.0
comp=E,20nm,1.1s,baz=54,slow=12,SNR=6.6
DZM S SKS 02 20 33.3 +2.9
comp=E,6.7nm,0.8s,baz=101,slow=16,SNR=1.7
DZM PKKPab 02 24 52.1
comp=E,17nm,0.9s,baz=109,slow=19,SNR=3.7
SOC **Sochi** 112.79 45 *d* iP Pdif 02 10 07.1 +1.1
SOC *i* 02 14 01.7
SOC *i* 02 14 48.0
SOC *i* PPP PPP 02 17 16.6 -1.1
SOC *i* 02 20 32.3
SOC *i* PS PS 02 24 10.4 -15
SOC *e*SSS SSS 02 34 36.9 -0.4
SOC pmax pmax
comp=N,95nm,1.3s
SOC pmax pmax
comp=Z,244nm,1.3s
SOC pmax pmax
comp=E,50nm,1.1s
SOC MLR MLR
comp=N,32µm,21.0s
SOC MLR MLR
comp=Z,28µm,21.0s
SOC MLR MLR
comp=E,13µm,20.0s
ASF **Jabal al Asfar** 112.79 58 PKKPab 02 24 53.3
comp=E,34nm,1.1s,baz=350,slow=0.3,SNR=9.4
SEY **Seymchan** 112.82 338 *i* P Pdif 02 10 06.9 +1.2
SEY *e*PPP PP 02 15 00.2 +6.8
SEY *e*S SKS 02 20 36.3 +5.7
SEY *e* 02 24 15.9
SEY *e*SS tx 02 25 43.5
SEY pmax pmax
comp=Z,20nm,1.2s
SEY pmax pmax
comp=E,9.0nm,1.0s
TBKS **Tabuk** 112.96 62 P PKPdf 02 14 03.2 +3.2
ATAB **Bozova** 113.07 52 *i* P Pdif 02 10 07.7 +0.2
QURS **Qurayyt al Mil** 113.26 58 P PKPdf 02 14 03.3 +2.8
QURS **Qurayyt al Mil** 113.26 58 P PKKP 02 24 54.5 +3.4
KELT **Kelkit** 113.26 49 *i* P Pdif 02 09 57.1 -11
MACK **Trabzon** 113.46 48 *i* P Pdif 02 10 09.6 +0.5
KMBO **Kilima Mbogo** 113.48 94 Pdiff Pdif 02 10 11.2 +1.4
comp=E,0.3nm,0.4s,baz=308,slow=3.7,SNR=2.0
KMBO PKiKP 02 14 04.5
comp=E,28nm,0.9s,baz=331,slow=0.6,SNR=5.0
KMBO PKPbc 02 24 47.0
comp=E,12nm,1.0s,baz=46,slow=5.7,SNR=7.6
KMBO **Kilima Mbogo** 113.48 94 Pdif Pdif 02 10 11.2 +1.4
KMBO PKPdf PKPdf 02 14 04.5 +3.1
KMBO PKKPbc 02 24 47.0
KMBO LR LR
comp=Z,467µm,20.0s
URFA **Urfa** 113.49 52 *e*P Pdif 02 10 10.8 +1.6
PTK **Pertek** 113.63 50 *e*P Pdif 02 10 09.9 +0.1
KIV **Kislovodsk** 114.76 44 *e*PKiKP 02 14 04.8
KIV **Kislovodsk** 114.76 44 *e*P Pdif 02 10 16.7 +2.0
KIV *i* 02 14 04.7
KIV *e* 02 15 01.0
KIV *e* 02 20 47.2
KIV *e*PS PS 02 24 33.6 -10
KIV *e*SS SS 02 30 43.5 -4.7
KIV *e*SSS SSS 02 35 13.3 +6.3
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV pmax pmax
comp=N,34nm,1.0s
KIV pmax pmax
comp=E,30nm,1.0s
KIV pmax pmax
comp=Z,100nm,1.0s
BNGL **BINGOL** 114.96 50 *i* P Pdif 02 10 17.2 +1.6
ARTV **Artvin** 114.99 47 *i* P Pdif 02 10 15.3 -0.4
PET **Petropavlovsk** 115.01 327 *e*PKiKP 02 14 04.3
PET *e*PP PP 02 15 06.5 -2.7
PET LR LR
comp=Z,29µm,22.0s
PET **Petropavlovsk** 115.01 327 *d* iP Pdif 02 10 16.7 +1.1
PET *e* 02 14 04.3
PET *e* 02 15 03.5
PET *e* 02 20 42.3
PET *e* 02 24 46.9
PET *e*SS SS 02 31 06.0 +15
PET pmax pmax
comp=Z,5µm,13.7s
PET pmax pmax
comp=E,2µm,15.0s
PET pmax pmax
comp=Z,9µm,21.5s
PET pmax pmax
comp=E,3µm,19.5s
PET pmax pmax
comp=Z,2µm,10.8s
PET pmax pmax
comp=Z,34µm,12.2s
PET pmax pmax
comp=Z,41µm,19.3s
PET MLR MLR
comp=Z,23µm,18.0s
MARD **Mardin** 115.04 51 *i* P Pdif 02 10 17.2 +1.1
MA2 **Magadan** 115.42 336 *e*Pdif Pdif 02 10 15.5 -1.7
MA2 *e* 02 13 59.1
MA2 *i* PKPr 02 14 04.9
MA2 *e*PP PP 02 15 09.7 -2.2
MA2 LR LR
comp=Z,32µm,20.0s
MA2 **Magadan** 115.42 336 *e*P Pdif 02 10 17.5 +0.3
MA2 *i* 02 14 04.9
MA2 *i* 02 15 16.4
MA2 *i* PS PS 02 24 38.8 -11
MA2 *i* SS SS 02 31 13.3 +17
MA2 pmax pmax
comp=Z,40nm,1.4s
KBRS **Khaybar** 115.63 64 P PKPdf 02 14 08.8 +3.6
KBRS **Khaybar** 115.63 64 P PKKP 02 24 48.8 +2.2
SOKR **Solikamsk** 115.64 24 ⇑*i* P Pdif 02 10 17.7 -0.5
SOKR *i* 02 14 06.4
SOKR *PP 02 14 28.0
SOKR 02 15 08.1
SOKR S SKS 02 20 46.4 +5.1
SOKR pmax pmax
comp=Z,250nm,1.1s
SOKR MLR MLR
comp=Z,37µm,21.0s
ONI **Oni** 115.69 45 P Pdif 02 10 18.5 -0.3
ZEI **Tsey** 115.95 45 *i* P Pdif 02 10 31.2 +11
DIGO **Kars** 116.25 48 *i* P Pdif 02 10 23.0 +1.7
KWAJ **Kwajalein Atol** 116.42 277 PFAKE 02 14 20.0 +13
KWAJ LR LR
comp=Z,11µm,21.0s
VANB **Van** 116.74 50 *e*P Pdif 02 10 24.4 +0.9
TI2 **Plekhanov** 116.87 46 ⇑*i* PKIKP PKPdf 02 14 07.8 +0.6
TI2 pmax pmax
comp=Z,60nm,0.8s
MSL **Mosul** 117.08 52 *ex* x 02 10 45.0
MSL *ex* x 02 15 39.0
MSL *ex* x 02 21 14.0
MSL *ex* x 02 22 19.0
WAKE **Wake Island** 117.22 289 PFAKE 02 14 20.0 +12
WAKE LR LR
comp=Z,30µm,21.0s
HAKT **HAKKARI** 117.25 51 *i* P Pdif 02 10 26.8 +1.0
GNI **Garni** 117.33 48 *e*P Pdif 02 10 26.2 +0.1
GNI **Garni** 117.33 48 PKP PKPdf 02 14 10.3 +2.2
comp=Z,61nm,0.6s,baz=344,slow=0.3,SNR=20
GNI **Garni** 117.33 48 *i* Pdif Pdif 02 10 21.2 -4.9
GNI *i* PKPr 02 14 09.1
GNI PKP PKPdf 02 14 10.3 +2.2
GNI *e* 02 14 13.5
GNI *e* 02 15 20.8
GNI LR LR
comp=Z,31µm,21.0s
GNI **Garni** 117.33 48 PKIKP PKPdf 02 14 10.3 +2.2
GNI pmax pmax
comp=Z,61nm,0.6s
TAU **Tasmania Unive** 117.41 215 PFAKE 02 14 20.0 +12
TAU LR LR
comp=Z,8µm,21.0s
SKR **Severo-Kuril's** 117.46 325 *e*PKIKP PKPdf 02 14 04.5 -3.6

SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,310nm,1.0s
HILS Ha'il 117.67 62 P PKPdf 02 14 11.1 +2.0
HILS Ha'il 117.67 62 P PKKP 02 24 38.3 -4.6
ARU Arti 118.28 26 ePKPdf PKPdf 02 14 07.2 -2.4
ARU ⇑ePKP PKPdf 02 14 12.3 +2.7
ARU ePP PP 02 15 24.5 -7.4
ARU LR LR
comp=Z,14µm,21.0s
ARU Arti 118.28 26 eP Pdif 02 10 30.9 +1.1
ARU i 02 14 12.1
ARU i 02 15 28.2
ARU eS SKS 02 20 57.7 +6.7
ARU ePS PS 02 25 06.4 -8.7
ARU eSSS SSS 02 35 58.6 -0.6
BLJS Baljurashi 118.31 71 P PKPdf 02 14 13.4 +2.9
BLJS Baljurashi 118.31 71 P PKKP 02 24 40.3 -1.6
MAK Makhachkala 118.40 44*c* iP Pdif 02 10 33.0 +2.2
MAK i 02 20 59.0
MAK i PS PS 02 25 04.0 -13
MAK pmax pmax
comp=Z,6µm,11.0s
BHD Baghdad 118.80 55 ex x 02 10 31.5
BHD i x x 02 15 13.5
BHD i x x 02 17 50.0
BHD ex x 02 22 11.0
BHD ex x 02 25 58.0
AFFS 'Afif 119.22 66 P PKPdf 02 14 15.0 +2.8
AFFS 'Afif 119.22 66 P PKKP 02 24 34.6 -5.5
OPO Ambohidratompo 119.46 115 PKP PKPdf 02 14 15.3 +2.5
comp=Z,44nm,0.9s,baz=220,slow=2.3,SNR=19
OPO PKKPbc 02 24 26.9
comp=Z,6.8nm,0.9s,baz=82,slow=2.0,SNR=8.3
RIV Riverview 120.21 225 ePKP PKPdf 02 14 16.0 +2.1
YAK Yakutsk 120.57 346 ePdif Pdif 02 10 38.4 -1.4
YAK i PKPr 02 14 14.6
YAK ePKPdf PKPdf 02 14 15.9 +1.9
YAK LR LR
comp=Z,48µm,22.0s
YAK Yakutsk 120.57 346 ePKIKP PKPdf 02 14 16.4 +2.5
YAK pmax pmax
comp=Z,125nm,0.9s
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,13nm,1.0s
CNB Canberra Magne 120.65 223 ePKP PKPdf 02 14 16.0 +1.2
comp=E,162nm,0.9s
KAMS Al Khamasin 121.07 70 P PKPdf 02 14 17.6 +1.7
MZLS Mizel 121.20 65 P PKPdf 02 14 17.7 +1.6
DHBB Dhamar BB 121.27 77⇓ eP PKPdf 02 14 19.4 +3.0
ARMA Armidale 121.60 229 ePKP PKPdf 02 14 18.2 +1.5
ARMA eSKKS 02 22 44.7
ARMA e 02 24 18.9
ARMA ePKKP PKKP 02 25 40.0 +64
HNR Honiara 121.79 255 PKP PKPdf 02 14 19.9 +2.5
comp=E,54nm,0.5s,baz=174,slow=10,SNR=2.2
TOO Toolangi 121.84 219 ePKP PKPdf 02 14 17.7 +0.7
comp=E,80nm,0.7s
TOO ePP PP 02 15 53.7 -2.7
TOO eSKKS 02 22 37.8
TOO e 02 24 19.5
TOO e 02 24 54.1
TOO eSP SP 02 25 40.5 +7.6
TOO Toolangi 121.84 219 ePKIKP PKPdf 02 14 17.7 +0.7
TOO e 02 15 53.7
TOO eSP SP 02 25 40.5 +7.6
MIB Mutribah 122.03 58 eP PKPdf 02 14 18.3 +0.8
MIB AMb AMB 02 14 25.9
comp=Z,1µm,0.9s
NAY Al-Naaiem 122.07 59 eP PKPdf 02 14 18.6 +0.9
NAY AMb AMB 02 14 25.8
comp=Z,620nm,1.0s
LBOS 122.13 77⇓ eP PKPdf 02 14 20.7 +2.7
RDF Al-Radifah 122.40 59 eP PKPdf 02 14 18.5 +0.2
RDF AMb AMB 02 14 26.3
comp=Z,728nm,0.8s
UMR Umm Al-Rimmam 122.41 59 eP PKPdf 02 14 19.5 +1.3
UMR AMb AMB 02 14 26.6
comp=Z,2µm,0.7s
KBD Kabd 122.47 59 eP PKPdf 02 14 19.3 +0.9
KBD AMb AMB 02 16 01.1
comp=Z,980nm,1.6s
RYDS Riyadh 122.47 65 P PKPdf 02 14 20.5 +2.0
HASS Wahat al Ahsa' 125.04 63 P PKPdf 02 14 24.2 +0.6
BRVK Borovoye 125.56 24 i Pdif Pdif 02 11 02.0 0.0
BRVK ePKPdf PKPdf 02 14 24.8 +1.0
BRVK ePP PP 02 16 08.0 -13
BRVK LR LR
comp=Z,4µm,19.0s
CLNS Chul'man 126.32 346 i PKIKP PKPdf 02 14 26.6 +1.5
CLNS eSS SS 02 33 26.8 +11
CLNS pmax pmax
comp=Z,1µm,1.8s
CLNS pmax pmax
comp=N,379nm,1.1s
CLNS pmax pmax
comp=E,435nm,1.2s
CLNS MLR MLR
comp=Z,57µm,21.0s
CLNS MLR MLR
comp=N,96µm,23.0s
CLNS MLR MLR
comp=E,48µm,24.0s
YUK Yuzh-Kuril'sk 126.82 323⇓ iPKIKP PKPdf 02 14 27.0 +0.6
YUK i S PP 02 16 30.0 +0.7
YUK pmax pmax
comp=Z,2µm,1.2s
YUK pmax pmax
comp=N,320nm,0.7s
YUK pmax pmax
comp=E,240nm,0.6s
YUK pmax pmax
comp=Z,15µm,10.5s
YUK pmax pmax
comp=N,3µm,1.2s
YUK pmax pmax
comp=E,3µm,2.2s
YSS Yuzh-Sakhalins 126.89 327 ePKPdf PKPdf 02 14 27.3 +0.8
YSS ePP PP 02 16 27.5 -2.2
YSS LR LR
comp=Z,37µm,20.0s
YSS Yuzh-Sakhalins 126.89 327*d* iP Pdif 02 11 08.2 +0.2
YSS i 02 14 27.7
VAN Vannovskaya 127.81 45 PKIKP PKPdf 02 14 31.0 +2.4
STKA Stephens Creek 127.90 222 ePKP PKPdf 02 14 29.9 +1.0
comp=Z,417nm,0.8s
STKA epPKP 02 15 05.2
STKA ePP PP 02 16 25.3 -12
STKA eSKP 02 18 39.2
STKA eSKKS 02 23 15.3
STKA Stephens Creek 127.90 222 PKP PKPdf 02 14 30.2 +1.3
comp=Z,359nm,0.9s,baz=114,slow=1.9,SNR=58
STKA pPKP 02 15 06.5
comp=Z,128nm,0.8s,baz=7.0,slow=4.0,SNR=2.8
STKA Stephens Creek 127.90 222 ePKP PKPdf 02 14 29.9 +1.0
STKA ePKPdf PKPdf 02 14 30.5 +1.6
STKA epPKPdf 02 15 03.1
STKA epPKP 02 15 05.2
STKA ePP PP 02 16 25.3 -12
STKA ePP PP 02 16 33.4 -3.7
STKA eSKP 02 18 39.2
STKA eSKKS 02 23 15.3
NVS Novosibirsk 128.38 15 i PKIKP PKPdf 02 14 30.4 +1.2
NVS i 02 16 34.4
NVS i PPP PPP 02 19 20.8 -5.1
NVS e 02 21 37.2
NVS pmax pmax
comp=E,488nm,1.3s
NVS pmax pmax
comp=Z,2µm,1.3s
NVS pmax pmax
comp=N,64nm,0.8s
NVS pmax pmax
comp=Z,484nm,1.5s
NVS pmax pmax
comp=N,360nm,1.3s
NVS pmax pmax
comp=E,150nm,0.7s
ASAJ Asahikawa 128.70 324 PKP PKPdf 02 14 30.9 +0.8
comp=E,302nm,1.0s,baz=287,slow=11,SNR=27
ASAJ Asahikawa 128.70 324 PKIKP PKPdf 02 14 30.9 +0.8
ASAJ pmax pmax
comp=Z,302nm,1.0s
ZAL Zalesovo 129.59 14 PKhKP 02 14 18.1
comp=Z,3.9nm,0.6s,baz=147,slow=6.2,SNR=4.5
ZAL pKP PKPdf 02 14 33.1 +1.6
comp=Z,545nm,0.9s,baz=176,slow=2.7,SNR=112
ZAL pPKP 02 15 08.6
comp=Z,214nm,0.9s,baz=161,slow=4.3,SNR=1.8
ZAL Zalesovo 129.59 14 PKP PKPdf 02 14 33.1 +1.6
ZAL pPKP 02 15 08.6
ABTO Aybut 129.60 72⇑ P PKPdf 02 14 34.8 +2.3
SNR=34
WHFO Wadi Hawf 129.97 71⇑ P PKPdf 02 14 34.9 +1.7
SNR=38
RBK Rabkut 130.44 72⇑ P PKPdf 02 14 35.8 +1.7
SNR=28
KLR Kul'dur 130.52 336*c* iPKIKP PKPdf 02 14 31.0 -2.4
KLR e 02 16 47.7
KLR e 02 26 50.5
KLR pmax pmax
comp=E,250nm,1.6s
KLR pmax pmax
comp=Z,500nm,1.6s
KLR pmax pmax
comp=N,1µm,12.0s
KLR pmax pmax
comp=E,1µm,12.0s
KLR pmax pmax
comp=Z,14µm,12.0s
KURK Kurchatov 130.57 21 ePdif Pdif 02 11 26.7 +2.5
KURK ePKPdf PKPdf 02 14 25.0 -8.5
KURK LR LR
comp=Z,13µm,22.0s
KURK Kurchatov 130.57 21*d* iP Pdif 02 11 26.3 +2.2
KURK i 02 14 35.4
BANOM Banah 130.67 61⇓ P PKPdf 02 14 34.1 -0.2
SNR=25
CTA Charters Tower 130.78 237 ePKP PKPdf 02 14 23.6 -11
comp=Z,52nm,1.9s
CTA Charters Tower 130.78 237 ePKP PKPdf 02 14 38.3 +3.6
CTA ePP PP 02 16 54.5 -1.9
CTA ePKS PKS 02 18 02.7 -7.3
CTA ePKS PKS 02 18 36.0 +26
CTA eSKP 02 18 52.8
CTA eSKKS 02 23 34.4
CTA Charters Tower 130.78 237 PKhKP 02 14 20.8
comp=Z,17nm,0.9s,baz=92,slow=6.2,SNR=5.0
CTA PKP PKPdf 02 14 36.4 +1.7
comp=Z,425nm,1.2s,baz=119,slow=0.8,SNR=33
CTA pPKP 02 15 12.8
comp=Z,123nm,1.2s,baz=111,slow=2.3,SNR=1.3
CTA Charters Tower 130.78 237 PKP PKPdf 02 14 36.4 +1.7
CTA ePKP PKPdf 02 14 38.3 +3.6
CTA pPKP 02 15 12.8
CTA ePP PP 02 16 54.5 -1.9
CTA ePKS PKS 02 18 02.7 -7.3
CTA ePKS PKS 02 18 36.0 +26
CTA eSKP 02 18 52.8
CTA eSKKS 02 23 34.4
CTA Charters Tower 130.78 237 PKIKP PKPdf 02 14 36.4 +1.7
CTA e 02 16 54.5
CTAO Charters Tower 130.78 237 epPKPdf 02 15 11.3
CTAO ePP PP 02 16 54.0 -2.3
ASHO Ashiyiah 130.78 62⇓ P PKPdf 02 14 35.3 +0.8
SNR=61
MSEY Mahe Island 130.92 101 ePKPdf PKPdf 02 14 37.3 +2.2
MSEY ePP PP 02 16 57.4 -0.2
MSEY LR LR
comp=Z,14µm,22.0s
ARQ Araqi 131.52 64⇑ P PKPdf 02 14 37.0 +1.0
SNR=28
SHAO Shalim 131.71 71⇓ P PKPdf 02 14 38.1 +1.7
SNR=10
HOQ Hoqain 132.16 63⇓ P PKPdf 02 14 38.8 +1.6
SNR=16
BSY Bisya 132.26 64⇓ P PKPdf 02 14 39.4 +1.9
SNR=36
BIDO Bidbid 132.90 63⇑ P PKPdf 02 14 40.7 +2.1
SNR=21
SMDO Samad 132.95 64⇓ P PKPdf 02 14 41.1 +2.4
SNR=14
JMDO Jabal Madar 133.16 65⇑ P PKPdf 02 14 40.2 +1.1
IRK Irkutsk 133.64 359 ePKIKP PKPdf 02 14 41.4 +2.2
IRK e 02 15 11.1
IRK e 02 17 10.5
IRK pmax pmax
comp=Z,3µm,2.2s
PMG Port Moresby 133.99 251 PKhKP 02 14 31.0
comp=Z,13nm,0.7s,baz=290,slow=3.2,SNR=4.7
PMG PKP PKPdf 02 14 43.3 +2.5
comp=Z,578nm,1.4s,baz=55,slow=6.3,SNR=23
PMG pPKP 02 15 19.9
comp=Z,44nm,0.8s,baz=34,slow=3.6,SNR=2.0
PMG Port Moresby 133.99 251 PKP PKPdf 02 14 43.3 +2.5
PMG pPKP 02 15 19.9
MOY Mondy 134.17 2 ePKIKP PKPdf 02 14 42.5 +2.3
MOY pmax pmax
comp=Z,2µm,2.2s
HIA Hailar 134.50 345*d* iPKIKP PKPdf 02 14 42.0 +1.1
MDJ Mudanjiang 135.06 334 PKP PKPdf 02 14 43.3 +1.2
MDJ XPKP 02 15 28.3
MDJ PP PP 02 17 19.5 -2.7
MDJ SKS SKS 02 21 43.0 +4.9
MDJ PS PS 02 27 41.8 +0.4
MDJ SS SS 02 35 04.5 +1.2
MDJ LR LR
comp=N,27µm,37.2s
MDJ LR LR
comp=E,69µm,34.9s
MDJ LR LR
comp=Z,51µm,23.2s
FRU Bishkek 135.07 30 ePKHKP 02 14 32.5
FRU i 02 14 45.0
FRU pmax pmax
comp=Z,2µm,2.0s
VLA Vladivostok 135.13 330⇑ iPKIKP PKPdf 02 14 43.2 +1.0
AAK Ala-Archa 135.16 31 i PKPr PKPdf 02 14 43.4 +1.1
AAK ePP PP 02 17 08.5 -14
MKAR Makanchi Array 135.19 21 PKhKP 02 14 33.4
comp=Z,5.9nm,0.6s,baz=322,slow=3.3,SNR=8.1
MKAR PKP PKPdf 02 14 43.1 +0.9
comp=Z,159nm,0.8s,baz=6.0,slow=2.2,SNR=58
MKAR pPKP 02 15 21.3
comp=Z,57nm,0.7s,baz=300,slow=3.0,SNR=1.7
MKAR tx tx 02 50 38.7
comp=Z,1.6nm,0.8s,slow=2.4,SNR=6.5
MKAR Makanchi Array 135.19 21 PKP PKPdf 02 14 43.1 +0.9
MKAR pPKP 02 15 21.3
ZAK Zakamensk 135.50 0 ePKHKP 02 14 35.6
ZAK e 02 17 22.3
ZAK pmax pmax
comp=Z,172nm,1.0s
ZAK pmax pmax
comp=Z,80nm,1.5s
MJAR Matsushiro Arr 135.87 319 PKhKP 02 14 30.0
comp=Z,14nm,0.7s,baz=75,slow=2.6,SNR=14
MJAR PKP PKPdf 02 14 45.0 +1.2
comp=Z,88nm,0.8s,baz=88,slow=1.2,SNR=24
MJAR tx tx 02 50 41.5
comp=Z,4.9nm,0.8s,baz=53,slow=5.4,SNR=5.5
MJAR Matsushiro Arr 135.87 319 PKP PKPdf 02 14 45.0 +1.2
JHJ Hachijo jima 2 136.66 314 PKP PKPdf 02 14 46.2 +1.0
comp=Z,464nm,0.8s,baz=253,slow=19,SNR=1.8
FORT Forrest 136.76 211 ePKP PKPdf 02 14 37.1 -8.4
comp=Z,293nm,0.8s
FORT ePP PP 02 17 23.9 -8.8
FORT eSKKS 02 24 12.4
CBIJ Chichi jima 137.53 304 PKP PKPdf 02 14 48.2 +1.2
comp=Z,161nm,0.7s,baz=297,slow=6.8,SNR=4.5
SONM Songino Array 137.98 357 PKhKP 02 14 38.5
comp=Z,32nm,0.9s,baz=336,slow=2.0,SNR=25
SONM PKP PKPdf 02 14 49.3 +1.9
comp=Z,246nm,1.1s,baz=335,slow=1.1,SNR=30
SONM SKPbc 02 18 11.0
comp=Z,47nm,1.1s,baz=322,slow=3.9,SNR=2.6
SONM tx tx 02 50 49.3
comp=Z,5.4nm,1.1s,baz=347,slow=5.2,SNR=9.5
SONM Songino Array 137.98 357 PKP PKPdf 02 14 49.3 +1.9
SONM SKPbc 02 18 11.0
ASPA Alice Springs 138.37 224 ePKP PKPdf 02 14 41.5 -7.2
ASPA ePKS PKS 02 18 08.2 -15
ASPA eSKKS 02 24 13.7
GUMO Guam 138.55 284 PKhKP 02 14 43.3
comp=Z,130nm,0.9s,baz=342,slow=3.2,SNR=4.0
GUMO PKP PKPdf 02 14 51.8 +2.6
comp=Z,1µm,1.1s,baz=156,slow=6.9,SNR=18
GUMO pPKP 02 15 28.7
comp=Z,452nm,1.1s,baz=189,slow=10,SNR=2.5
GUMO Guam 138.55 284 PKP PKPdf 02 14 51.8 +2.6
GUMO pPKP 02 15 28.7
GUMO ePP PP 02 17 40.7 -3.9
GUMO LR LR
comp=Z,21µm,21.0s
GUMO Guam 138.55 284 PKIKP PKPdf 02 14 51.8 +2.6
GUMO e 02 17 40.7
GUMO MLR MLR
comp=Z,21µm,21.0s
NWAO Narrogin (SRO) 139.40 198 PKhKP 02 14 44.7
comp=Z,117nm,0.9s,baz=164,slow=4.1,SNR=24
NWAO PKP PKPdf 02 14 52.5 +2.2
comp=Z,181nm,0.9s,baz=160,slow=3.8,SNR=20
NWAO Narrogin (SRO) 139.40 198 PKIKP PKPdf 02 14 52.5 +2.2
NWAO e 02 17 44.8
NWAO MLR MLR
comp=Z,26µm,21.0s
WMQ Urumqi 139.59 18 PKP PKPdf 02 14 46.3 -4.0
WMQ PKS PKS 02 18 21.0 -4.2
WMQ PPP PPP 02 20 51.0 -4.7
WMQ SKS SKS 02 21 47.0 +1.3
WMQ SKKS 02 24 27.0
WMQ SS SS 02 35 57.0 +0.6
WMQ PP PP
comp=Z,4µm,6.4s
WMQ LR LR
comp=N,116µm,34.2s
WMQ LR LR
comp=E,107µm,38.8s
WMQ LR LR
comp=Z,103µm,40.0s
WB2 Warramunga Arr 140.37 229 ePKP PKPdf 02 14 43.2 -9.2
WB2 epPKP 02 15 28.7
WB2 ePP PP 02 17 51.2 -4.1
WB2 eSKKS 02 24 32.9
WRA Warramunga Arr 140.38 229 PKhKP 02 14 45.0
comp=Z,63nm,0.8s,baz=133,slow=2.8,SNR=47
WRA PKP PKPdf 02 14 53.7 +1.3
comp=Z,322nm,1.0s,baz=129,slow=1.7,SNR=61
WRA pPKP 02 15 30.6
comp=Z,374nm,0.9s,baz=127,slow=2.9,SNR=5.8
WRA Warramunga Arr 140.38 229 PKP PKPdf 02 14 53.7 +1.3
WRA pPKP 02 15 30.6
KLBR Kellerberrin 140.47 199 ePKP PKPdf 02 14 46.1 -6.2
comp=Z,3µm,1.7s
KLBR ePKS PKS 02 18 30.6 +3.5
KS15 Wonju Array Si 141.41 328 ePKPdf PKPdf 02 14 48.5 -5.3
INCN Inchon 142.02 330 ePKPdf PKPdf 02 14 49.4 -5.5
INCN ePP PP 02 17 58.8 -6.0
INCN LR LR
comp=Z,41µm,22.0s
JASL Jaisalmer 142.47 52 ex PKPdf 02 14 50.3 -5.7
JNU Nakatsue 142.72 320 PKhKP 02 14 50.2
comp=Z,63nm,0.5s,baz=239,slow=7.9,SNR=24
JNU PKP PKPdf 02 14 57.1 +0.9
comp=Z,208nm,0.8s,baz=57,slow=5.2,SNR=31
JNU pPKP 02 15 33.3
comp=Z,196nm,1.1s,baz=315,slow=1.4,SNR=2.3
JNU Nakatsue 142.72 320 PKP PKPdf 02 14 57.1 +0.9
JNU pPKP 02 15 33.3
BHUJ Bhuj 143.02 58 eP PKPbc 02 14 56.7 +1.7
DL2 Dalian 143.13 336 i PKPR 02 14 51.5
DL2 SKS SKS 02 21 52.0 +0.5
DL2 SKKS 02 24 47.5
DL2 PP PP
comp=Z,26µm,9.3s
DL2 LR LR
comp=N,15µm,21.5s
DL2 LR LR
comp=E,17µm,25.1s
DL2 LR LR
comp=Z,32µm,25.5s
HHC Hu-ho-hao-te 144.31 350⇓ iPKP PKPdf 02 14 57.3 -1.4
HHC SKS SKS 02 21 55.3 +2.1
HHC PP PP
comp=Z,51µm,13.1s
HHC LR LR
comp=N,45µm,27.3s
HHC LR LR
comp=E,21µm,19.8s
HHC LR LR
comp=Z,107µm,33.3s
KHET Khetri 145.57 47 eP PKPdf 02 15 03.6 +2.3
KHET AMb AMB 02 15 10.4
comp=Z,9µm,1.6s
AJM Ajmer 145.59 50 eP PKPdf 02 15 03.1 +1.7
AJM AMS AMS 02 51 40.6
comp=Z,17µm,19.5s
BHV Bhavnagar 145.72 59 ex PKPdf 02 15 05.0 +3.3
KAKA Kakadu 145.92 237 ePKP PKPdf 02 15 22.5 +20
comp=Z,5µm,1.4s
KAKA epPKP 02 15 57.0
BHGR Bahadurgarh 146.02 45 ex PKPdf 02 15 06.0 +3.9
KUDL Kundal 146.03 46 eP PKPdf 02 15 04.6 +2.5
KUDL AMb AMB 02 15 11.9
comp=Z,8µm,1.2s
NDI New Delhi 146.22 44 eP PKPdf 02 15 03.0 +0.7
NDI eP 02 15 03.8
AYAN Aya Nagar 146.28 45 eP PKPdf 02 15 05.0 +2.6
AYAN AMb AMB 02 15 11.8
comp=Z,4µm,1.0s
GTA Gaotai 146.31 5 PKP PKPdf 02 15 04.5 +2.3
GTA APKP 02 15 31.0
GTA XPKP 02 15 42.0
GTA PP PP 02 18 29.3 -1.2
GTA PKS PKS 02 18 38.8 +2.4
GTA SKS SKS 02 22 02.8 +6.7
GTA SKKS 02 25 07.8
GTA PP PP
comp=Z,13µm,10.2s
GTA LR LR
comp=N,34µm,24.7s
GTA LR LR
comp=E,28µm,25.1s
GTA LR LR
comp=Z,80µm,31.9s
DGAR Diego Garcia 146.36 112 ePKPdf PKPdf 02 15 05.7 +2.7
DGAR LR LR
comp=Z,13µm,19.0s
SONA Sohna 146.38 45 eP PKPdf 02 15 05.6 +3.0
SONA AMb AMB 02 15 12.0
comp=Z,3µm,1.3s
BISR Bishrakh 146.44 44 eP PKPdf 02 15 05.7 +3.0
TIY Taiyuan 147.15 347 PKP PKPdf 02 15 01.0 -2.6
TIY PP PP 02 18 34.0 -1.6
TIY LR LR
comp=N,74µm,24.0s
TIA Tai'an 147.20 339 PKP PKPdf 02 15 05.5 +1.8
TIA PKP2 PKPab 02 15 11.0 +0.6
TIA APKP 02 15 32.0
TIA PP PP 02 18 35.0 -0.9
TIA SKS SKS 02 22 04.0 +6.5
TIA SKKS 02 25 12.0
TIA SS SS 02 37 24.5 -0.3
TIA PP PP
comp=Z,44µm,10.0s
TIA LR LR
comp=N,19µm,20.0s
TIA LR LR
comp=E,15µm,20.0s
BOM Bombay 147.34 64 eP PKPdf 02 15 07.4 +2.9
BOM ex x 02 15 09.1
BOM ex x 02 18 44.3
AGRA Agra 147.60 46 eP PKPdf 02 15 06.7 +2.0
FITZ Fitzroy Crossi 147.79 222 ePKP PKPdf 02 15 06.2 +1.0
comp=E,3µm,0.7s
FITZ epPKP 02 15 43.7
FITZ Fitzroy Crossi 147.79 222 PKP PKPdf 02 15 06.3 +1.0
comp=E,523nm,0.8s,baz=184,slow=1.4,SNR=69
FITZ PKPbc PKPdf 02 15 09.4 +4.1
comp=E,3µm,1.1s,baz=172,slow=2.1,SNR=112
FITZ pPKP 02 15 43.0
comp=E,2µm,1.1s,baz=176,slow=2.2,SNR=3.3
JOW Kunigami 148.43 314 PKPbc PKPdf 02 15 09.1 +3.0
comp=E,845nm,1.0s,baz=146,slow=0.4,SNR=27
JOW pPKPbc 02 15 46.6
comp=E,924nm,1.1s,baz=83,slow=4.1,SNR=2.9
MBWA Marble Bar 148.90 210 ePKPdf PKPdf 02 15 07.7 +0.8
MBWA e 02 18 43.4
MBWA LR LR

comp=Z,36μm,22.0s
KAD Karad 149.09 66 *e*P PKPdf 02 15 08.9 +1.6
KAD AMb AMB 02 15 20.3
comp=Z,4μm,1.2s
BHPL Bhopal 149.42 53 *e*P PKPdf 02 15 10.2 +2.5
BHPL AMb AMB 02 15 21.2
comp=Z,4μm,1.5s
BHPL AMS AMS 02 59 32.8
comp=Z,21μm,19.3s
LZH Lanzhou 149.79 359 ⇓PKP PKPdf 02 15 10.5 +2.6
LZH APKP 02 15 36.5
LZH PKS PKS 02 18 42.0 +0.3
LZH PP PP 02 18 49.5 -1.0
LZH SKS SKS 02 22 07.0 +6.0
LZH SKKS 02 25 28.3
LZH SS SS 02 37 56.0 +2.7
LZH PP PP
comp=Z,68μm,9.2s
LZH LR LR
comp=N,53μm,17.7s
LZH LR LR
comp=Z,132μm,21.0s
LZH Lanzhou 149.79 359 ⇓PKHKP 02 15 10.4
SSE Sheshan 149.81 329 PKP PKPdf 02 15 04.8 -3.3
SSE PP PP
comp=Z,52μm,12.0s
SSE LR LR
comp=N,37μm,20.0s
SSE LR LR
comp=E,31μm,20.0s
SSE LR LR
comp=Z,48μm,20.0s
NJ2 Nanjing 150.15 333 *e*PKP PKPdf 02 15 03.8 -4.8
NJ2 PKP2 PKPab 02 15 23.0 +0.5
NJ2 PKS PKS 02 18 42.0 -0.3
NJ2 PP PP
comp=Z,91μm,10.2s
NJ2 LR LR
comp=N,143μm,30.9s
NJ2 LR LR
comp=E,222μm,39.5s
NJ2 LR LR
comp=Z,377μm,34.7s
AKL Akola 150.29 57 *ex* x 02 14 57.0
MNGI Mangalore 150.81 74 *e*P PKPdf 02 15 12.9 +2.9
KOLN Koldanda 151.04 39 *e*P PKPdf 02 15 10.6 +0.6
XAN Xi'an 151.40 351 PKP PKPdf 02 15 12.5 +2.1
XAN LR LR
comp=N,35μm,38.3s
XAN LR LR
comp=E,19μm,24.4s
XAN LR LR
comp=Z,87μm,38.3s
GKN Gorkha 151.50 37 *e*P PKPdf 02 15 11.4 +0.7
GKN Gorkha 151.50 37 *e*P PKPdf 02 15 11.7 +1.0
comp=Z,13μm,1.0s
GKN Gorkha 151.50 37 *e*P PKPdf 02 15 11.7 +1.0
ALBI Allahabad 151.51 45 *e*P PKPdf 02 15 12.0 +1.2
NGP Nagpur 151.76 55 *e*P PKPdf 02 15 12.0 +0.8
KKN Kakani 152.04 36 *e*P PKPdf 02 15 12.7 +1.2
comp=Z,4μm,1.0s
KKN Kakani 152.04 36 *e*P PKPdf 02 15 12.8 +1.3
DMN Daman 152.07 37 *e*P PKPdf 02 15 13.0 +1.4
PKI Pulchoki 152.28 36 *e*P PKPdf 02 15 12.5 +0.6
HYB Hyderabad 152.97 62 *e*PKP PKPdf 02 15 14.5 +1.5
HYB *e*PKPAB PKPab 02 15 34.0 -0.7
HYB *ep*PKPAB 02 16 02.0
HYB *es*PKPAB 02 16 12.5
HYB *e*PP PP 02 19 08.5 -0.5
HYB *e* 02 26 05.0
HYB LR LR 03 18 40.0
comp=Z,172nm,26.0s
HYB Hyderabad 152.97 62 ⇓*e*PKP PKPdf 02 15 14.5 +1.5
HYB *e* 02 15 34.0
HYB *e* 02 16 02.0
WHN Wuhan 153.30 339 PKP PKPdf 02 15 14.3 +1.1
WHN PP PP 02 19 07.8 -2.9
LSA Lhasa 153.46 25 PKP PKPdf 02 15 16.5 +3.1
LSA PP PP 02 19 10.8 -0.8
LSA LR LR
comp=N,66μm,45.7s
LSA LR LR
comp=E,83μm,39.2s
LSA LR LR
comp=Z,68μm,39.2s
LSA Lhasa 153.46 25 *e*PKIKP PKPdf 02 15 16.3 +2.9
BLSP Bilaspur 153.67 50 *e*P PKPdf 02 15 15.6 +1.7
BLSP AMb AMB 02 15 22.9
comp=Z,2μm,1.1s
BLSP *i* x x 02 19 08.9
TATO Taipei 154.26 320 *e*PKPdf PKPdf 02 15 14.9 +0.2
TATO *e*PP PP 02 19 13.2 -3.1
TATO LR LR
comp=Z,39μm,22.0s
YHNB Yeheng 154.54 320 *e*PKPdf PKPdf 02 15 16.2 +1.1
YHNB *e*PP PP 02 19 14.1 -3.6
NACB Ninganchiao 154.75 318 *e*PKPdf PKPdf 02 15 15.7 +0.3
NACB *e*PP PP 02 19 12.2 -6.6
ENH Enshi 154.96 348 *e*PKPdf PKPdf 02 15 17.0 +1.6
ENH *e*PP PP 02 19 18.5 -1.1
CD2 Chengdu 154.96 360 PKP PKPdf 02 15 17.5 +2.1
CD2 APKP 02 15 44.5
CD2 SKKS 02 25 51.0
CD2 SS SS 02 38 48.0 -1.8
CD2 LR LR
comp=N,23μm,24.0s
CD2 LR LR
comp=Z,26μm,32.4s
BOK Bokaro 155.29 42 *e*P PKPdf 02 15 18.3 +2.2
BOK AMb AMB 02 15 25.7
comp=Z,2μm,1.2s
BOK AMS AMS 02 55 16.1
comp=Z,23μm,16.0s
BBP Basco 156.89 311 *e*P PKPdf 02 15 20.6 +2.3
BBP *e*S PKPab 02 15 49.4 -1.8
VIS Vishakhapatnam 156.95 57 *e*P PKPdf 02 15 20.9 +2.5
VIS AMb AMB 02 15 27.8
comp=Z,1μm,1.5s
SHL Shillong 157.35 28 *e*P PKPdf 02 15 20.0 +1.2
MATI Mati 157.38 274 *e*P PKPdf 02 15 21.3 +2.2
CAL Calcutta 157.76 40 *e*P PKPdf 02 15 22.4 +3.0
CAL *ex* x 02 15 23.6
CAL *ex* x 02 19 43.8
CAL *ex* x 02 20 02.1
BUTP Butuan 157.85 280 *e*P PKPdf 02 15 22.2 +2.5
DAV Davao City (W) 158.04 275 *e*P PKPdf 02 15 23.0 +3.0
DAV Davao City (W) 158.04 275 PFAKE 02 15 30.0 +10
DAV LR LR
comp=Z,11μm,22.0s
CNP Catarman 158.08 289 *e*P PKPdf 02 15 21.9 +1.9
PLP Palo 158.11 286 *e*P PKPdf 02 15 22.6 +2.6
PVCP Virac 158.23 293 *e*P PKPdf 02 15 22.6 +2.4
MSLP Maasin 158.43 283 *e*P PKPdf 02 15 22.6 +2.2
BUKP Musuan 158.51 277 *e*P PKPdf 02 15 22.7 +2.2
CGP Cagayan de Oro 158.82 279 ⇓*e*P PKPdf 02 15 22.8 +1.9
CAUP Cauayan 158.91 303 *e*P PKPdf 02 15 24.1 +3.3
GYA Guiyang 159.18 352 ⇓*i*PKP PKPdf 02 15 22.3 +1.3
GYA APKP 02 15 49.0
GYA SKKS 02 26 19.3
GYA SS SS 02 39 39.5 +4.8
GYA LR LR
comp=N,53μm,30.8s
GYA LR LR
comp=E,49μm,26.6s
GYA LR LR
comp=Z,49μm,29.4s
LLP Lapu-Lapu 159.26 284 ⇓*e*P PKPdf 02 15 22.8 +1.4
CTBH Cotabato--PC H 159.36 275 ⇓*e*P PKPdf 02 15 23.1 +1.6
ABRA Dolores 159.45 307 *e*P PKPdf 02 15 25.9 +4.5
TBP Tagbilaran 159.47 282 ⇓*i*P PKPdf 02 15 21.6 0.0
GQP Guinayangan 159.68 295 *e*P PKPdf 02 15 25.7 +3.9
BALP Baler 159.69 301 *e*P PKPdf 02 15 23.6 +1.8
BALP *e*S Px 02 16 09.0
POLP Polilio Island 159.81 298 *e*P PKPdf 02 15 25.6 +3.6
SNPH Sibulan 160.14 282 *e*P PKPdf 02 15 23.0 +0.7
RCP Roxas 160.14 288 ⇓*e*P PKPdf 02 15 24.5 +2.1
PAGZ Pagadian 160.17 277 *e*P PKPdf 02 15 24.2 +1.8
PCPH Palayan 160.18 301 *e*P PKPdf 02 15 28.1 +5.8
BCPH Baguio City Da 160.22 304 ⇓*i*P PKPdf 02 15 23.5 +1.2
GZH Guangzhou 160.32 332 PKP PKPdf 02 15 24.0 +1.7
GZH LR LR
comp=N,15μm,22.1s
GZH LR LR
comp=E,25μm,25.0s
GZH LR LR
comp=Z,93μm,52.8s
BOAC Boac 160.39 294 *e*P PKPdf 02 15 19.9 -2.6
GUIM Jordan 160.52 286 *e*P PKPdf 02 15 23.9 +1.2
HKC Hong Kong 160.58 329 P PKPdf 02 15 34.0 +11
OTRP Odiongan 160.59 291 *e*P PKPdf 02 15 26.9 +4.2
KMI Kunming 160.71 2 PKP PKPdf 02 15 24.5 +1.9
KMI PKS PKS 02 18 56.5 +1.5
KMI PP PP 02 19 49.3 -2.0
KMI SKS SKS 02 22 15.0 +1.8
KMI PPP PPP 02 23 34.3 -3.4
KMI SKKS 02 26 22.5
KMI LR LR
comp=N,31μm,21.1s
KMI LR LR
comp=E,28μm,24.2s
KMI LR LR
comp=Z,64μm,32.4s
KMI Kunming 160.71 2 PKIKP PKPdf 02 15 24.4 +1.8
BOLP Bolinao 160.77 305 *e*P PKPdf 02 15 26.6 +3.8
IPIL Ipil 160.98 277 *e*P PKPdf 02 15 25.2 +2.0
SCZP Santa Cruz 161.08 303 *e*P PKPdf 02 15 25.9 +2.8
SJMP San Jose 161.40 292 *e*P PKPdf 02 15 26.1 +2.5
LUBP Lubang 161.72 297 *e*P PKPdf 02 15 26.2 +2.3
CUYO Cuyo Island 161.96 287 *e*P PKPdf 02 15 27.4 +3.2
BUSP Coron 162.40 292 *e*P PKPdf 02 15 27.2 +2.7
ENPP El Nido 163.37 290 *e*P PKPdf 02 15 27.7 +2.2
PPR Puerto Princes 164.41 286 ⇓*e*P PKPdf 02 15 30.0 +3.4
QIZ Qiongzhong 165.42 336 *i* PKP PKPdf 02 15 30.3 +2.9
QIZ XPKP 02 16 12.5
QIZ PP PP 02 20 13.8 -2.5
QIZ PPP PPP 02 24 06.5 -5.6
QIZ SKKS 02 26 55.0
QIZ SS SS 02 40 41.5 +2.2
QIZ LR LR
comp=N,51μm,26.6s
QIZ LR LR
comp=E,52μm,24.8s
QIZ Qiongzhong 165.42 336 *e*PKPdf PKPdf 02 15 27.1 -0.3
QIZ *e*PP PP 02 20 14.2 -2.1
BATP Bataraza 165.52 283 *e*P PKPdf 02 15 30.1 +2.4
TSM Tawau 165.63 265 P PKPdf 02 15 29.7 +1.9
TSM Tawau 165.63 265 P PKPdf 02 15 29.7 +1.9
CHG Chiang Mai 166.26 19 ⇓P PKPdf 02 15 30.0 +1.9
comp=E,150nm,1.5s
NANT Nan 166.73 12 ⇓P PKPdf 02 15 28.0 -0.4
comp=E,2μm,1.0s
KKM Kota Kinabalu 167.37 272 P PKPdf 02 15 31.9 +2.9
KKM Kota Kinabalu 167.37 272 P PKPdf 02 15 31.9 +2.9
KKM Kota Kinabalu 167.37 272 *e*PKPdf PKPdf 02 15 30.8 +1.8
KKM *e*PP PP 02 20 23.2 -3.0
BDT Bhumibol Dam 167.74 21 P 02 17 20.0
comp=E,111nm,1.0s
PBA Port Blair 167.83 60 *e*P PKPdf 02 15 30.9 +1.6
KKTK Khon Kaen 169.44 4 P PKPdf 02 15 32.0 +1.8
comp=E,2μm,0.5s
NST Nakhon Sawan 169.58 18 ⇑P PKPdf 02 15 32.0 +1.7
comp=E,333nm,1.2s
KSM Kuching 172.02 238 *e*PKPdf PKPdf 02 15 32.4 +0.6
KSM *e*PP PP 02 20 44.4 -5.1
NNT Nongplab 172.23 29 P PKPdf 02 15 33.6 +1.8
KGM Kluang 176.30 177 P PKPdf 02 15 35.6 +2.4
KGM Kluang 176.30 177 P PKPdf 02 15 35.6 +2.4
SNG Songkhla 176.78 63 P PKPdf 02 15 34.0 +0.7
comp=E,576nm,1.0s
KULM Kulim 177.10 99 *e*PKPdf PKPdf 02 15 34.0 +0.7
KULM *e*PP PP 02 21 16.6 +2.7
IPM Ipoh 177.26 115 P PKPdf 02 15 34.2 +0.8
IPM Ipoh 177.26 115 P PKPdf 02 15 34.2 +0.8

NEIC ***26*** *01:57:09.2±5.8, 18.85S×169.40E, h35km, mb4.4/5, Error ellipse: s-maj=151.0km s-min=26.1km az=137.0*
IDC ***26*** *01:57:21.2±5.6, 17.54S×167.95E, h45km±64km, mb4.1/5, mb1 4.2/6, mb1mx4.2/13, mbtmp4.3/6, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx3.6/27, Error ellipse: s-maj=63.6km s-min=37.0km az=121.0*

ISC 26 01:57:20.4±4.2, 17.6S±0.2×167.8E±0.3, h53km±45km, n16, σ1§08/18, mb4.4/7, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.68**	**196**	*e*P	**P**		**01 58 30.2**	**-0.1**
DZM				*e*S	**S**		**01 59 24.1**	**+0.1**
DZM	**Mont Dzumac**	**4.68**	**196**	P	**P**		**01 58 30.2**	**-0.1**
	8.6nm,0.3s,baz=64,slow=21,SNR=28							
DZM				S	**S**		**01 59 23.8**	**-0.2**
	6.6nm,0.3s,baz=136,slow=23,SNR=8.7							
DZM				LR	LR		02 00 13.4	
	comp=Z,1μm,20.3s,baz=21,slow=36							
CTA	**Charters Tower**	**20.59**	**260**	*e*P	**P**		**02 01 59.5**	**+2.0**
	6.8nm,1.1s							
CTA	**Charters Tower**	**20.59**	**260**	P	**P**		**02 01 59.1**	**+1.7**
	13nm,1.1s,baz=85,slow=11,SNR=5.0							
CTAO	**Charters Tower**	**20.59**	**260**	*e*P	**P**		**02 01 59.7**	**+2.2**
	13nm,1.1s							
STKA	**Stephens Creek**	**27.69**	**234**	*e*P	**P**		**02 03 07.2**	**+1.5**
	3.7nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**27.69**	**234**	P	**P**		**02 03 07.0**	**+1.3**
	4.8nm,0.9s,mb4.1,baz=73,slow=10,SNR=7.7							
STKA	**Stephens Creek**	**27.69**	**234**	*e*P	**P**		**02 03 00.9**	**-4.8**
WB2	**Warramunga Arr**	**31.77**	**260**	*e*P	**P**		**02 03 41.0**	**-1.1**
WRAB	**Tennant Creek**	**31.78**	**260**	*e*P	**P**		**02 03 40.0**	**-2.1**
	7.6nm,1.1s,mb4.4							
WRA	**Warramunga Arr**	**31.79**	**260**	P	**P**		**02 03 41.2**	**-0.9**
	2.7nm,0.9s,mb4.1,baz=90,slow=8.9,SNR=20							
FITZ	**Fitzroy Crossi**	**40.12**	**263**	⇑*i*P	**P**		**02 04 54.0**	**+1.2**
	15nm,0.8s,mb4.8							
MBWA	**Marble Bar**	**45.40**	**257**	*e*P	**P**		**02 05 28.1**	**-7.8**
	5.2nm,0.8s,mb4.4							
NWAO	**Narrogin (SRO)**	**47.83**	**241**	*e*P	**P**		**02 05 54.9**	**0.0**
MJAR	**Matsushiro Arr**	**60.65**	**333**	P	**P**		**02 07 28.4**	**-0.1**
	1.2nm,0.4s,mb4.4,baz=166,slow=5.2,SNR=5.2							
SONM	**Songino Array**	**85.08**	**324**	P	**P**		**02 09 52.0**	**+0.3**
	3.5nm,0.7s,mb4.6,baz=142,slow=5.8,SNR=16							

IDC 26 02:33:46.8±9.7, 20.75S×179.18W, h625km±94km, mb3.2/4, mb1 3.4/4, mb1mx3.2/12, mbtmp4.3/4, Error ellipse: s-maj=116.5km s-min=47.7km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.36**	**265**	P	P		02 39 27.3	-1.4
	5.9nm,0.4s,baz=91,slow=10,SNR=18							
STKA	**Stephens Creek**	**36.68**	**244**	P	P		02 40 03.2	-1.1
	2.3nm,0.9s,baz=95,slow=11,SNR=4.1							
WRA	**Warramunga Arr**	**43.47**	**263**	P	P		02 40 57.1	-1.6
	1.3nm,0.3s,baz=97,slow=6.5,SNR=144							
ILAR	**Eielson Array**	**88.80**	**13**	P	P		02 45 35.0	-1.3
	0.6nm,0.5s,baz=213,slow=5.3,SNR=17							
BVAR	**Borovoye Array**	**118.55**	**320**	PKP	PKPdf		02 51 24.2	-0.5
	0.6nm,0.3s,baz=134,slow=3.0,SNR=5.6							
ARCES	**ARCESS Array B**	**128.96**	**349**	PKP	PKPdf		02 51 44.0	-0.3
	5.5nm,1.0s,baz=45,slow=3.4,SNR=6.7							
FINES	**FINESS Array B**	**135.69**	**343**	PKP	PKPdf		02 51 57.6	+0.6
	0.8nm,0.6s,baz=120,slow=0.8,SNR=5.4							
HFS	**Hagfors**	**139.60**	**350**	PKhKP			02 51 57.3	
	3.4nm,1.0s,baz=55,slow=3.2,SNR=11							
AKASG	**Malin Array Be**	**142.68**	**330**	PKP	PKPdf		02 52 07.3	-2.5
	3.0nm,0.4s,baz=43,slow=4.3,SNR=23							
BRTR	**Keskin Array B**	**146.18**	**311**	PKPbc	PKPbc		02 52 18.4	+0.5
	1.2nm,0.7s,baz=142,slow=4.0,SNR=6.6							
GERES	**GERESS Array B**	**150.12**	**343**	PKPbc	PKPdf		02 52 28.5	+6.5
	1.2nm,0.7s,baz=27,slow=3.0,SNR=10							
DAVOX	**Davos**	**153.00**	**346**	PKPbc	PKPdf		02 52 35.5	+9.3
	1.8nm,0.6s,baz=251,slow=2.9,SNR=4.7							

DHMR ***26*** *02:58:25.4±2.4, 12.62N×40.49E, h12km±125km, ML4.6*
IDC ***26*** *02:58:31.2±1.5, 12.57N×40.57E, mb4.0/9, mb1 4.0/12, mb1mx3.9/21, mbtmp3.9/12, ML3.8/3, Error ellipse: s-maj=34.3km s-min=14.4km az=35.0*
MOS ***26*** *02:58:31.5±0.7, 12.62N×40.50E, h10km, mb4.7/4, Error ellipse: s-maj=28.6km s-min=10.1km az=83.0*
NEIC ***26*** *02:58:33.2±0.6, 12.64N×40.61E, h10km, mb4.6/4, ML4.6(DHMR), Error ellipse: s-maj=11.4km s-min=8.3km az=40.0*
CSEM ***26*** *02:58:35.2±0.1, 12.80N×40.62E, h30km, mb4.6/4, Error ellipse: s-maj=2.6km s-min=2.2km az=42.0*

ISC 26 02:58:31.5±0.6, 12.65N±0.07×40.58E±0.04, h10km, n42, σ1§03/51, mb4.1/14, 7C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.48**	**116**	Pn	**Pn**		**02 59 12.7**	**0.0**
	152nm,0.3s,baz=145,slow=6.3,SNR=13							
ATD				Lg			02 59 49.0	
	49nm,0.3s,baz=235,slow=22,SNR=10.0							
ATD	**Arta Tunnel**	**2.48**	**116**	Pn	**Pn**		**02 59 12.6**	**0.0**
UDYN	**Al 'Udayn**	**3.55**	**68**	*i* P	**Pn**		**02 59 24.2**	**-3.6**
UDYN				*i* S	**Sn**		**03 00 10.1**	**-0.2**
DHBB	**Dhamar BB**	**4.17**	**62**	*i* P	**Pn**		**02 59 32.6**	**-4.0**
DHBB				*i* S	**Sn**		**03 00 25.4**	**-0.6**
DHBB	**Dhamar BB**	**4.17**	**62**	*i* P	**Pn**		**02 59 36.6**	**0.0**
DHBB				*i* S	**Sn**		**03 00 32.2**	**+6.3**
ADEN	**Aden**	**4.30**	**88**	*i* P	**Pn**		**02 59 33.9**	**-4.6**
ADEN				*i* S	**Sn**		**03 00 27.4**	**-1.8**
ADEN				AML	AML		03 00 54.8	
	comp=E,2μm,0.6s							
ADEN	**Aden**	**4.30**	**88**	*i* P	**Pn**		**02 59 37.9**	**-0.5**
ADEN				*i* S	**Sn**		**03 00 31.4**	**+2.2**
LBOS		**4.70**	**75**	*i* P	**Pn**		**02 59 37.8**	**-6.5**
LBOS				*i* S	**Sn**		**03 00 34.4**	**-5.2**
LBOS		**4.70**	**75**	*i* P	**Pn**		**02 59 42.7**	**-1.5**
LBOS				*i* S	**Sn**		**03 00 41.0**	**+1.5**
BDHA	**Al Bayda'**	**5.03**	**74**	*i* P	**Pn**		**02 59 42.3**	**-6.5**
BDHA				*i* S	**Sn**		**03 00 42.1**	**-5.6**
BDHA	**Al Bayda'**	**5.03**	**74**	*i* P	**Pn**		**02 59 47.0**	**-1.8**
BDHA				*i* S	**Sn**		**03 00 48.1**	**+0.4**
KMBO	**Kilima Mbogo**	**14.08**	**194**	Pn	**P**		**03 01 52.9**	**-0.6**
	comp=E,0.1nm,0.3s,baz=13,slow=19,SNR=2.8							
KMBO				Lg			03 05 48.9	
	comp=E,0.1nm,0.3s,baz=125,slow=22,SNR=4.0							
KMBO	**Kilima Mbogo**	**14.08**	**194**	Pn	**P**		**03 01 52.8**	**-0.6**
ASF	**Jabal al Asfar**	**19.72**	**351**	P	**P**		**03 03 05.1**	**+0.9**
	comp=E,0.2nm,0.3s,baz=35,slow=2.7,SNR=3.4							
MSEY	**Mahe Island**	**22.70**	**138**	*e*P	**P**		**03 03 36.3**	**+1.5**
	comp=E,75nm,1.8s,mb4.8							
MSEY	**Mahe Island**	**22.70**	**138**	*e*P	**P**		**03 03 36.3**	**+1.4**
	comp=E,75nm,1.8s,mb4.8							
IDI	**Amoyia**	**26.64**	**330**	P	**P**		**03 04 12.1**	**-0.1**
	comp=E,2.5nm,0.8s,mb3.8,baz=112,slow=11,SNR=2.4							
GNI	**Garni**	**27.64**	**7**	*i* P	**P**		**03 04 20.0**	**-1.3**
BRTR	**Keskin Array B**	**27.66**	**348**	P	**P**		**03 04 22.1**	**+0.7**
	comp=E,2.9nm,1.0s,mb3.9,baz=180,slow=9.9,SNR=12							
BRTR	**Keskin Array B**	**27.66**	**348**	P	**P**		**03 04 22.1**	**+0.6**
ZEI	**Tsey**	**30.15**	**5**	*e*P	**P**		**03 04 40.9**	**-2.9**
ZEI				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.2							
KIV	**Kislovodsk**	**31.25**	**3**	⇑*e*P	**P**		**03 04 53.1**	**-0.4**
	comp=Z,11nm,1.3s,mb4.5							
KIV	**Kislovodsk**	**31.25**	**3**	⇑*e*P	**P**		**03 04 53.1**	**-0.4**
KIV				pmax	pmax			
	comp=Z,11nm,1.3s,mb4.5							
TIP	**Timpagrande**	**33.81**	**326**	P	**P**		**03 05 16.0**	**+0.1**
TIP	**Timpagrande**	**33.81**	**326**	P	**P**		**03 05 16.0**	**+0.1**
AKASG	**Malin Array Be**	**39.06**	**349**	P	**P**		**03 06 00.0**	**-0.3**
	comp=Z,2.5nm,1.0s,mb3.9,baz=172,slow=7.2,SNR=7.9							
AAK	**Ala-Archa**	**41.88**	**38**	⇑*i*P	**P**		**03 06 24.8**	**+1.3**
	comp=Z,9.0nm,2.5s,mb4.0							
AAK	**Ala-Archa**	**41.88**	**38**	⇑*i*P	**P**		**03 06 24.8**	**+1.3**
AAK				pmax	pmax			
	comp=Z,9.0nm,2.5s,mb4.0							
GERES	**GERESS Array B**	**42.40**	**334**	P	**P**		**03 06 28.1**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.5,baz=135,slow=7.5,SNR=11							
OBN	**Obninsk**	**42.48**	**357**	*e*P	**P**		**03 06 28.2**	**-0.1**
	comp=Z,22nm,1.6s,mb4.5							
OBN	**Obninsk**	**42.48**	**357**	*e*P	**P**		**03 06 28.2**	**-0.1**
OBN				pmax	pmax			
	comp=Z,22nm,1.6s,mb4.5							
KHC	**Kasperske Hory**	**42.67**	**334**	*e*P	**P**		**03 06 30.0**	**+0.1**
KHC	**Kasperske Hory**	**42.67**	**334**	⇑*e*P	**P**		**03 06 30.0**	**+0.1**
ARU	**Arti**	**45.84**	**14**	*e*P	**P**		**03 06 56.7**	**+1.3**
ARU				*e*			03 08 40.7	
ARU				eSS	SS		03 16 52.8	-2.3
BVAR	**Borovoye Array**	**46.77**	**24**	P	**P**		**03 07 03.3**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=217,slow=7.4,SNR=3.7							
ESDC	**Sonseca Array**	**47.53**	**313**	P	**P**		**03 07 07.9**	**-1.1**
	comp=Z,1.3nm,0.9s,mb4.0,baz=101,slow=7.6,SNR=5.4							
MKAR	**Makanchi Array**	**48.80**	**37**	P	**P**		**03 07 18.1**	**-0.6**
	comp=Z,1.9nm,0.9s,mb4.1,baz=233,slow=6.1,SNR=8.0							
KURK	**Kurchatov**	**48.95**	**31**	⇑*e*P	**P**		**03 07 21.4**	**+1.5**
ZAL	**Zalesovo**	**53.91**	**31**	P	**P**		**03 07 57.1**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.1,baz=251,slow=3.5,SNR=5.3							
ZAL	**Zalesovo**	**53.91**	**31**	⇑*e*P	**P**		**03 07 58.0**	**+0.8**
SONM	**Songino Array**	**64.52**	**43**	P	**P**		**03 09 10.2**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.2,baz=250,slow=6.4,SNR=4.4							
HIA	**Hailar**	**73.46**	**42**	*e*P	**P**		**03 10 09.9**	**+3.9**

NEIC ***26*** *03:01:47.9, 33.79S×69.18W, h11km, ML3.4(GUC), After GUC.*
NEIC Felt [IV] at Tunuyan.

GUC 26 03:01:47.9±0.9, 33.79S×69.18W, h11km±4km, MD4.1, ML3.4, 9C-12D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**0.95**	**17**	*e*P		Pb	03 02 04.5	-1.4
MDZ				*i*			03 02 13.2	
MDZ				*i* S		Sb	03 02 19.3	+1.1
SJCH	**San Jose de Ma**	**0.99**	**279**	⇑*i*P		Pb	03 02 05.6	-0.9
SJCH				*i* S		Sb	03 02 19.8	+0.5
SJCH				AMP			03 02 20.5	
	comp=N,2μm,0.4s							
FCH	**Farellones**	**1.04**	**296**	⇓*i*P		Pb	03 02 07.2	-0.1
FCH				⇓*i*P			03 02 07.3	
FCH				*i* S		Sb	03 02 21.8	+1.1
FCH				*i* S		Sb	03 02 22.1	+1.3
FCH				AMP			03 02 22.6	
	comp=N,2μm,0.2s							
FCH	**Farellones**	**1.04**	**296**	⇓*i*P		Pb	03 02 07.3	-0.1
FCH				*i* S		Sb	03 02 22.1	+1.3
PCH	**Pirque**	**1.12**	**278**	⇑*i*P		Pb	03 02 08.8	0.0
PCH				*i* S		Sb	03 02 23.9	+0.6
CICH	**Cipreses**	**1.15**	**243**	⇓*i*P		Pb	03 02 09.0	-0.4
CICH				*i* S		Sb	03 02 24.8	+0.6
FSR	**Penalolen**	**1.17**	**285**	⇓*i*P		Pb	03 02 09.8	+0.2
FSR				*i* S		Sb	03 02 26.3	+1.8
FSR				AMP			03 02 27.5	
	comp=N,2μm,0.3s							
CLCH	**Cerro Calan**	**1.20**	**289**	⇓*i*P		Pb	03 02 10.0	-0.1
CLCH				*i* S		Sb	03 02 27.1	+1.7
CLCH				AMP			03 02 27.7	
	comp=N,1μm,0.4s							
CLCH				AMP			03 02 28.2	
	comp=N,2μm,0.4s							
CACH	**El Canelo**	**1.22**	**254**	⇑*i*P		Pb	03 02 10.2	-0.3
CACH				*i* S		Sb	03 02 27.2	+1.0
DSCH	**Colegio Aleman**	**1.22**	**288**	⇑*i*P		Pb	03 02 10.7	+0.1
DSCH				*i* S		Sb	03 02 28.0	+1.8
DSCH				AMP			03 02 28.4	
	comp=N,3μm,0.3s							
ANTU	**Antumapu**	**1.23**	**280**	*i* P		Pb	03 02 10.8	+0.1
ANTU				*i* S		Sb	03 02 28.0	+1.6
ANTU				AMP			03 02 28.3	
	comp=N,851nm,0.2s							
CHCH	**Chadas Angostu**	**1.23**	**263**	⇓*i*P		Pb	03 02 10.6	-0.1
CHCH				*i* S		Sb	03 02 28.2	+1.8
STL	**Santa Lucia**	**1.27**	**286**	*i* P		Pb	03 02 10.8	-0.5
STL				*i* S		Sb	03 02 28.6	+1.1
STL				AMP			03 02 29.2	
	comp=N,340nm,0.1s							
SAN	**Santiago**	**1.28**	**285**	*e*P		Pb	03 02 11.6	+0.1
SAN				*i* S		Sb	03 02 29.1	+1.3
SAN				AMP			03 02 30.2	
	comp=N,730nm,0.4s							
RCDM	**Rinconada Maip**	**1.39**	**282**	⇓*i*P		Pn	03 02 13.5	+0.2
RCDM				*i* S		Sb	03 02 32.9	+1.9
RCDM				AMP			03 02 33.1	
	comp=E,1μm,0.2s							
PEL	**Peldehue**	**1.41**	**297**	⇑*i*P		Pn	03 02 13.9	+0.2
PEL				⇓*i*P			03 02 14.0	
PEL				*i* S		Sb	03 02 33.2	+1.5
PEL				*i* S		Sb	03 02 33.4	+1.7
PEL	**Peldehue**	**1.41**	**297**	⇑*i*P		Pn	03 02 13.9	+0.2
PEL				*i* S		Sb	03 02 33.4	+1.

ROCH	**El Roble**	**1.74**	**298**⇑	*i* P		Pn	03 02 19.5	+1.2
ROCH				*i* S		Sn	03 02 43.1	+2.6
LNV	**Longovilo**	**1.86**	**264**⇑	*i* P		Pn	03 02 21.1	+1.1
LNV				*i* S		Sn	03 02 46.4	+2.7
LCCH	**Las Cruces**	**2.02**	**278**⇓	*i* P		Pn	03 02 24.0	+1.7
LCCH				*i* S		Sn	03 02 51.2	+3.5
ZON	**Zonda**	**2.28**	**11**	*e*P		Pn	03 02 28.2	+2.1
ZON				*e*S		Sn	03 03 04.8	+10
CMCH	**Combarbala**	**3.03**	**329**	*e*P		Pn	03 02 41.3	+4.6
CMCH				*e*S		Sn	03 03 23.4	+10
CMCH				AMP			03 03 33.3	

comp=N,1μm,0.7s

*DHMR **26** 03:04:01.7±2.7, 12.68N×40.56E, h3km±316km, ML4.4*
*IDC **26** 03:04:03.0±1.5, 12.47N×40.73E, mb3.9/7, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML3.7/2, Error ellipse: s-maj=34.3km s-min=14.4km az=43.0*

ISC 26 03:04:02.1±0.9, 12.40N±0.10×40.60E±0.06, h10km, n13, σ1§09/16, mb3.8/7, 2C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.36**	**111**	Pn	**Pn**	**03 04 41.8**	**+0.3**
	34nm,0.3s,baz=273,slow=9.0,SNR=15						
ATD				Lg		03 05 14.5	
	37nm,0.3s,baz=120,slow=23,SNR=12						
UDYN	**Al 'Udayn**	**3.63**	**64**⇓	*i*P	**Pn**	**03 05 00.6**	**+1.0**
UDYN				*i* S	**Sn**	**03 05 46.8**	**+3.8**
UDYN				AML	AML	03 06 05.7	
	comp=Z,2μm,0.8s						
DHBB	**Dhamar BB**	**4.27**	**59**⇓	*i*P	**Pn**	**03 05 09.0**	**+0.3**
DHBB				*i* S	**Sn**	**03 06 01.3**	**+2.1**
LBOS		**4.76**	**72**⇑	*e*P	**Pn**	**03 05 13.9**	**-1.7**
LBOS				*i* S	**Sn**	**03 06 10.4**	**-1.1**
BDHA	**Al Bayda'**	**5.08**	**72**⇑	*e*P	**Pn**	**03 05 18.4**	**-1.8**
ASF	**Jabal al Asfar**	**19.97**	**351**	P	**P**	**03 08 38.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=33,slow=5.2,SNR=5.8						
BRTR	**Keskin Array B**	**27.90**	**348**	P	**P**	**03 09 55.4**	**+1.0**
	comp=Z,1.6nm,0.8s,mb3.7,baz=169,slow=13,SNR=7.5						
OPO	**Ambohidratompo**	**31.45**	**168**	P	**P**	**03 10 27.5**	**+1.3**
	comp=Z,4.5nm,1.0s,mb4.2,baz=86,slow=1.7,SNR=3.1						
AKASG	**Malin Array Be**	**39.31**	**349**	P	**P**	**03 11 32.2**	**-0.8**
	comp=Z,0.2nm,0.4s,mb3.2,baz=169,slow=7.1,SNR=5.0						
GERES	**GERESS Array B**	**42.63**	**334**	P	**P**	**03 11 59.8**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.6,baz=127,slow=6.7,SNR=8.9						
BVAR	**Borovoye Array**	**46.98**	**24**	P	**P**	**03 12 35.0**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=270,slow=3.0,SNR=6.0						
MKAR	**Makanchi Array**	**48.98**	**37**	P	**P**	**03 12 50.2**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=225,slow=6.1,SNR=6.3						
ZAL	**Zalesovo**	**54.11**	**31**	P	**P**	**03 13 28.8**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=261,slow=10.0,SNR=3.3						

*SKO **26** 03:06:40.0, 42.40N×21.36E, h20km, ML2.6*
*CSEM **26** 03:06:40.2±0.2, 42.39N×21.42E, h10km, ML2.6, Error ellipse: s-maj=9.3km s-min=4.3km az=86.0*
*BEO **26** 03:06:41±0.1, 42.38N×21.48E, h6km±1km*

ISC 26 03:06:40.6±0.9, 42.38N±0.04×21.5E±0.1, h8km±7km, n9, σ0§67/13, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.41**	**188**⇑	*i*Pg	**Pg**	**03 06 48.7**	**-0.3**
SKO				*i* Sg	**Sg**	**03 06 54.5**	**0.0**
SKO				Smax		03 06 55.5	
	comp=Z,0.3nm,0.3s						
BARS	**Barje**	**0.49**	**27**⇓	*i*Pg	**Pg**	**03 06 50.4**	**-0.2**
BARS				Sg	**Sg**	**03 06 57.1**	**0.0**
BARS	**Barje**	**0.49**	**27**	Sg	**Sg**	**03 06 57.1**	**-0.1**
BIA	**Bitola**	**1.37**	**186**	*i* Pn	**Pn**	**03 07 05.8**	**-0.3**
BIA				*i* Sn	**Sn**	**03 07 23.8**	**-0.8**
GRG	**Griva**	**1.57**	**155**	*e*P	**Pn**	**03 07 10.1**	**+1.2**
KNT	**Kendrikon**	**1.60**	**139**	*e*P	**Pn**	**03 07 09.7**	**+0.3**
FNA	**Florina**	**1.60**	**184**	*e*P	**Pn**	**03 07 10.6**	**+1.2**
SRS	**Serrai**	**2.00**	**128**	*e*P	**Pn**	**03 07 14.2**	**-1.0**
DIVS	**Divcibare**	**2.05**	**327**⇑	*i*Pn	**Pn**	**03 07 15.8**	**0.0**
DIVS				Sg	**Sn**	**03 07 36.5**	**-5.3**

KRSC 26 03:25:34.1±0.2, 52.69N×160.05E, h40km±6km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.41**	**358**	*i* P	P	03 25 44.5	+0.8
SPN				*i* S	S	03 25 51.8	+1.5
NLC	**Nalytchevo**	**0.64**	**319**	*i* P	P	03 25 47.2	+0.4
NLC				*i* S	S	03 25 56.6	+0.6
UGLR	**Uglovaya**	**0.91**	**306**	*i* P	P	03 25 51.2	+0.7
PET	**Petropavlovsk**	**0.91**	**292**	*i* P	P	03 25 50.7	+0.2
PET				*i* S	S	03 26 02.8	+0.1
SMAR	**Somma**	**0.95**	**308**	*i* P	P	03 25 51.5	+0.4
RUS	**Russkaya**	**0.97**	**255**	*i* P	P	03 25 51.5	+0.1
RUS				*e*S	S	03 26 04.3	0.0
AVH	**Avacha**	**0.98**	**307**	*i* P	P	03 25 52.2	+0.7
AVH				*e*S	S	03 26 05.1	+0.6
KOK	**Koryaka**	**1.05**	**306**	*e*P	P	03 25 53.4	+0.9
KRMR	**Karymshinskiy**	**1.18**	**278**	*i* P	P	03 25 54.4	+0.1
KRMR				*i* S	S	03 26 09.2	-0.2
GRL	**Gorelyy**	**1.21**	**264**	*i* P	P	03 25 55.6	+0.8
GRL				*i* S	S	03 26 11.2	+0.9
KII	**Karymskiy**	**1.40**	**345**	*e*P	P	03 25 57.8	+0.3
KII				*e*S	S	03 26 15.2	+0.2
GNL	**Ganaly**	**1.62**	**309**	*i* P	P	03 26 01.9	+1.2
GNL				*e*S	S	03 26 22.6	+2.1
APC	**Apacha**	**1.77**	**279**	*i* P	P	03 26 04.0	+1.2
APC				*i* S	S	03 26 25.8	+1.5
APC				Smax			
	80nm,0.7s						
MKZ	**Mys Kozlova**	**2.12**	**27**	*e*P	P	03 26 07.2	-0.6
MKZ				*e*S	S	03 26 31.4	-1.7
PAU	**Pauzhetka**	**2.34**	**240**	*i* P	P	03 26 11.8	+0.8
PAU				*i* S	S	03 26 39.5	+0.7
PAU				Smax			
	140nm,1.1s						
TUMR	**Tumrok**	**2.60**	**1**	*e*P	P	03 26 15.9	+1.2
TUMR				*e*S	S	03 26 46.4	+1.1
KMNR	**Kamenistaya**	**3.07**	**2**	*e*P	P	03 26 21.6	+0.2
KMNR				*e*S	S	03 26 56.6	-0.8
ESO	**Esso**	**3.34**	**347**	*i* P	P	03 26 25.8	+0.6
ESO				*i* S	S	03 27 03.5	-0.5
ESO				Smax			
	20nm,1.2s						
KBTR	**Krutoberegovo**	**3.88**	**24**	*i* P	P	03 26 33.4	+0.6
KBTR				*i* S	S	03 27 16.7	-1.0
BKI	**Bering**	**4.31**	**52**	*i* S	S	03 27 22.3	-6.4
BKI				Smax			
	30nm,0.3s						

TRN 26 03:27:33.9, 15.35N×61.43W, h162km, MD3.6, M3.3(FDF), Md3.1(FDF), 4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBL	**Barber's Block**	**0.18**	**348**	*e*P	P	03 27 57.1	+1.1
FDF	**Fort de France**	**0.67**	**156**⇓	*e*P	P	03 27 58.5	+0.6
FDF				*e*S	S	03 28 16.6	+0.2
BCG	**Bois Riant Cap**	**0.76**	**346**	*e*P	P	03 27 59.7	+1.3
CRM	**Caravelle**	**0.77**	**140**⇓	*e*P	P	03 27 58.9	+0.4
CRM				*e*S	S	03 28 17.9	+0.4
LZG	**Guadaloupe-1**	**0.86**	**337**	*e*P	P	03 28 00.4	+1.4
MVM	**Montagne Vaucl**	**0.94**	**147**⇓	*e*P	P	03 28 00.2	+0.6
DEG	**La Desirade**	**1.02**	**20**	*e*P	P	03 28 01.6	+1.4
DEG				*e*S	S	03 28 21.2	+0.7
BPA	**Boggy Peak**	**1.74**	**346**⇓	*e*P	P	03 28 08.1	+0.9
BPA				*e*S	S	03 28 32.1	-0.9
CPB	**Codrington**	**2.31**	**351**	*e*P	P	03 28 14.2	+0.3
CPB				*e*S	S	03 28 44.3	-0.3

*IDC **26** 03:44:17.4±12.0, 11.55N×40.37E, mb3.7/4, mb1 3.8/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=251.3km s-min=56.0km az=13.0*

ISC 26 03:44:16.0±2.9, 11.4N±0.4×40.4E±0.1, h10km, n6, σ0§56/7, mb3.5/4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**4.30**	**53**	*i* S	**Sn**	**03 46 13.9**	**+0.1**
UDYN				AML	AML	03 46 31.9	
	comp=N,535nm,0.7s						
LBOS		**5.31**	**62**	*i* P	**Pn**	**03 45 37.2**	**-0.2**
LBOS				*i* S	**Sn**	**03 46 31.6**	**-7.8**
BRTR	**Keskin Array B**	**28.83**	**349**	P	**P**	**03 50 17.1**	**+0.4**
	comp=N,2.1nm,0.9s,mb3.9,baz=173,slow=10.0,SNR=9.0						
AKASG	**Malin Array Be**	**40.23**	**349**	P	**P**	**03 51 53.4**	**-1.1**
	comp=N,0.2nm,0.3s,mb3.3,baz=171,slow=7.4,SNR=4.9						
GERES	**GERESS Array B**	**43.43**	**334**	P	**P**	**03 52 21.1**	**+0.4**
	comp=N,0.3nm,0.8s,mb3.1,baz=135,slow=9.4,SNR=8.7						
MKAR	**Makanchi Array**	**49.88**	**37**	P	**P**	**03 53 12.0**	**+0.4**
	comp=N,0.6nm,0.6s,mb3.8,baz=233,slow=6.1,SNR=5.3						

DHMR 26 04:09:38.5±2.5, 12.64N×40.49E, h12km±298km, ML4.0, 2C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.58**	**80**	*i* P	Pn	04 10 36.6	+1.6
TRBA				*i* S	Sn	04 11 21.9	+4.2
TRBA				AML	AML	04 11 35.6	
	comp=N,597nm,0.7s						
UDYN	**Al 'Udayn**	**3.63**	**68**⇑	*i*P	Pn	04 10 37.4	+1.6
UDYN				*i* S	Sn	04 11 23.5	+4.5
UDYN				AML	AML	04 11 43.1	
	comp=N,703nm,0.6s						
DHBB	**Dhamar BB**	**4.25**	**63**	*i* P	Pn	04 10 45.7	+1.1
DHBB				*i* S	Sn	04 11 38.1	+3.5
LBOS		**4.79**	**75**⇑	*i*P	Pn	04 10 50.8	-1.5
LBOS				*i* S	Sn	04 11 47.4	-0.9
BDHA	**Al Bayda'**	**5.11**	**74**	*i* S	Sn	04 11 55.1	-1.4

*IDC **26** 04:19:26.7±2.4, 12.03N×40.68E, mb4.0/6, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx3.4/19, Error ellipse: s-maj=57.6km s-min=15.1km az=26.0*
*DHMR **26** 04:19:27.7±0.4, 12.52N×40.42E, h12km±36km, ML4.2*

ISC 26 04:19:25.3±1.2, 11.9N±0.1×40.53E±0.06, h10km, n15, σ1§01/19, mb4.0/5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.30**	**99**	Pn	**Pn**	**04 20 04.1**	**+0.2**
	35nm,0.3s,baz=266,slow=15,SNR=18						
ATD				Lg		04 20 35.5	
	64nm,0.3s,baz=263,slow=22,SNR=14						
ATD				LR	LR	04 20 42.5	
	comp=Z,753nm,18.6s,baz=167,slow=35						
TRBA	**At Turbah**	**3.74**	**69**	*i* P	**Pn**	**04 20 27.1**	**+2.7**
TRBA				*i* S	**Sn**	**04 21 13.3**	**+4.3**
TRBA				AML	AML	04 21 18.4	
	comp=N,1μm,0.8s						
UDYN	**Al 'Udayn**	**3.93**	**58**	*i* P	**Pn**	**04 20 28.3**	**+1.2**
UDYN				*i* S	**Sn**	**04 21 15.5**	**+1.7**
UDYN				AML	AML	04 21 37.0	
	comp=Z,792nm,0.8s						
DHBB	**Dhamar BB**	**4.60**	**54**	*i* P	**Pn**	**04 20 36.5**	**-0.1**
DHBB				*i* S	**Sn**	**04 21 30.2**	**-0.6**
LBOS		**5.00**	**66**	*i* P	**Pn**	**04 20 41.5**	**-0.8**
LBOS				*i* S	**Sn**	**04 21 39.2**	**-1.7**
LBOS		**5.00**	**66**	*i* P	**Pn**	**04 20 41.5**	**-0.8**
LBOS				*i* S	**Sn**	**04 21 39.2**	**-1.7**
BDHA	**Al Bayda'**	**5.33**	**67**	*i* P	**Pn**	**04 20 45.7**	**-1.2**
ASF	**Jabal al Asfar**	**20.45**	**351**	P	**P**	**04 24 06.1**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=254,slow=4.1,SNR=4.2						
BRTR	**Keskin Array B**	**28.37**	**349**	P	**P**	**04 25 21.7**	**-0.1**
	comp=Z,3.0nm,1.0s,mb3.9,baz=172,slow=8.7,SNR=7.9						
GERES	**GERESS Array B**	**43.04**	**334**	P	**P**	**04 27 26.9**	**0.0**
	comp=Z,1.9nm,0.9s,mb3.8,baz=135,slow=7.5,SNR=9.9						
MKAR	**Makanchi Array**	**49.42**	**37**	P	**P**	**04 28 17.1**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=236,slow=8.7,SNR=7.6						
NB2	**NORSAR Subarra**	**53.53**	**343**	P	**P**	**04 28 47.2**	**-1.0**
	comp=Z,5.5nm,1.1s,mb4.4,baz=145,slow=7.4						
NOA	**NORSAR Array B**	**53.53**	**343**	P	**P**	**04 28 47.9**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=142,slow=7.4,SNR=4.7						
SONM	**Songino Array**	**65.10**	**43**	P	**P**	**04 30 08.5**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.3,baz=225,slow=8.4,SNR=3.8						
TXAR	**Lajitas Array**	**126.39**	**321**	PKP	PKPdf	04 38 32.9	+0.6
	comp=Z,0.4nm,0.8s,baz=153,slow=2.8,SNR=4.9						

*ROM **26** 04:20:38.3±0.2, 45.09N×7.29E, h29km±3km, Md2.7/9, Ml2.3/1, Error ellipse: s-maj=3.6km s-min=3.5km az=149.0*
*NEIC **26** 04:20:39.3, 45.11N×7.40E, h5km, ML2.9(LDG), ML2.9(GEN), ML2.7(STR), After LDG.*
*LDG **26** 04:20:39.3±0.1, 45.11N×7.40E, h5km, Md3.1/2, Ml2.9/22, Error ellipse: s-maj=1.1km s-min=0.8km az=101.0*
*GEN **26** 04:20:39.6, 45.10N×7.35E, h9km, ML2.0*
*CSEM **26** 04:20:39.0±0.1, 45.10N×7.45E, h8km, ML2.8/20, Error ellipse: s-maj=1.3km s-min=0.9km az=85.0*
*STR **26** 04:20:42.1±0.7, 44.95N×7.34E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 04:20:38.5±0.3, 45.10N±0.01×7.35E±0.02, h15km±2km, n87, σ1§24/143, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSP	**Reno Superiore**	**0.08**	**306**	P	**Pb**	**04 20 41.9**	**+0.6**
RSP	**Reno Superiore**	**0.08**	**306**	P	**Pb**	**04 20 41.9**	**+0.6**
FENE	**Fenestrelle**	**0.22**	**251**	P	**Pg**	**04 20 44.4**	**+0.9**
FENE				S	**Sg**	**04 20 47.2**	**+0.3**
FENE	**Fenestrelle**	**0.22**	**251**	P	**Pg**	**04 20 44.4**	**+0.8**
BHB	**Bricherasio**	**0.27**	**194**	P	**Pg**	**04 20 45.6**	**+1.2**
BHB				S	**Sg**	**04 20 49.1**	**+0.7**
BHB	**Bricherasio**	**0.27**	**194**	P	**Pg**	**04 20 45.6**	**+1.2**
LSD	**Ceresole Reale**	**0.38**	**339**	P	**Pb**	**04 20 47.2**	**+0.8**
LSD				S	**Sb**	**04 20 52.4**	**+0.6**
LSD	**Ceresole Reale**	**0.38**	**339**	P	**Pb**	**04 20 47.2**	**+0.8**
MONC	**Moncucco Torin**	**0.41**	**94**	Pg	**Pg**	**04 20 49.3**	**+2.3**
MONC				Sg	**Sg**	**04 20 57.4**	**+4.7**
RRL	**Cesana Torines**	**0.44**	**246**	P	**Pb**	**04 20 48.3**	**+0.9**
RRL				S	**Sb**	**04 20 54.2**	**+0.7**
RRL	**Cesana Torines**	**0.44**	**246**	P	**Pb**	**04 20 48.3**	**+0.9**
BNI	**Bardonecchia**	**0.48**	**264**	Pg	**Pg**	**04 20 49.3**	**+0.9**
BNI				Sg	**Sg**	**04 20 55.3**	**+0.2**
	187nm,0.3s						
TRAV		**0.50**	**34**	P	**Pb**	**04 20 49.1**	**+0.7**
TRAV				S	**Sb**	**04 20 55.6**	**+0.6**
TRAV		**0.50**	**34**	P	**Pb**	**04 20 49.1**	**+0.7**
MBDF	**Montbardon**	**0.56**	**228**	*e*Pg	**Pg**	**04 20 50.8**	**+0.9**
MBDF				*e*Sg	**Sg**	**04 20 58.9**	**+1.3**
	168nm,0.2s						
LPG	**La Plagne**	**0.58**	**313**	*e*Pg	**Pg**	**04 20 50.8**	**+0.5**
LPG				*e*Sg	**Sg**	**04 20 58.8**	**+0.5**
	154nm,0.2s						
DOI	**San Damiano**	**0.60**	**187**	Pg	**Pg**	**04 20 50.7**	**-0.1**
DOI				Sg	**Sg**	**04 20 59.8**	**+0.8**
	6.0nm,0.5s						
LPL	**La Plagne**	**0.60**	**314**	*e*Pg	**Pg**	**04 20 51.3**	**+0.5**
LPL				*e*Sg	**Sg**	**04 20 59.6**	**+0.6**
	108nm,0.2s						
PZZ	**Prazzo**	**0.62**	**197**	P	**Pb**	**04 20 51.6**	**+1.1**
PZZ				S	**Sb**	**04 20 59.5**	**+0.7**
PZZ	**Prazzo**	**0.62**	**197**	P	**Pb**	**04 20 51.6**	**+1.1**
ORO	**Oropa**	**0.69**	**40**	Pg	**Pg**	**04 20 52.2**	**-0.2**
ORX	**Oropa**	**0.69**	**40**	P	**Pb**	**04 20 52.6**	**+0.9**
ORX				S	**Sb**	**04 21 01.3**	**+0.5**
ORX	**Oropa**	**0.69**	**40**	P	**Pb**	**04 20 52.6**	**+0.9**
ORX				S	**Sb**	**04 21 01.3**	**+0.5**
SURF	**Saint Ours**	**0.73**	**212**	Pg	**Pg**	**04 20 54.1**	**+0.8**
SURF				Sg	**Sg**	**04 21 03.9**	**+0.7**
STV2	**Anna di Valdie**	**0.86**	**181**	P	**Pb**	**04 20 54.5**	**0.0**
STV2	**Anna di Valdie**	**0.86**	**181**	P	**Pb**	**04 20 54.5**	**0.0**
STV	**Sta Anna Valdi**	**0.86**	**181**	P	**Pb**	**04 20 54.7**	**+0.1**
STV	**Sta Anna Valdi**	**0.86**	**181**	P	**Pb**	**04 20 54.7**	**+0.1**
ENR	**Entracque**	**0.88**	**177**	P	**Pb**	**04 20 55.0**	**+0.1**
ENR				S	**Sb**	**04 21 06.4**	**+0.3**
ENR	**Entracque**	**0.88**	**177**	P	**Pb**	**04 20 55.0**	**+0.1**
ENR				S	**Sb**	**04 21 06.4**	**+0.2**
GDM	**Grand'Maison**	**0.88**	**277**	Pg	**Pg**	**04 20 57.7**	**+1.5**
GDM				Sg	**Sg**	**04 21 08.7**	**+0.6**
ROB	**Roburent**	**0.89**	**155**	P	**Pb**	**04 20 56.6**	**+1.5**
ROB				S	**Sb**	**04 21 07.4**	**+0.9**
ROB	**Roburent**	**0.89**	**155**	P	**Pb**	**04 20 56.6**	**+1.5**
ROB				S	**Sb**	**04 21 07.4**	**+0.9**
DIX	**Grande Dixence**	**0.98**	**2**	Pg	**Pg**	**04 20 57.9**	**-0.3**
EMV	**Vieux Emosson**	**1.01**	**342**	Pg	**Pg**	**04 20 59.2**	**+0.3**
PCP	**Pian Castagno**	**1.02**	**123**	P	**Pb**	**04 20 58.6**	**+1.3**
PCP	**Pian Castagno**	**1.02**	**123**	P	**Pb**	**04 20 58.6**	**+1.3**
MMK	**Mattmark**	**1.04**	**24**	Pg	**Pg**	**04 20 58.7**	**-0.7**
ORIF	**Oris-en-Rattie**	**1.06**	**261**	*e*Pg	**Pg**	**04 21 00.1**	**+0.3**
ORIF				*e*Sg	**Sg**	**04 21 14.1**	**0.0**
	84nm,0.2s						
MONE	**Monesi**	**1.06**	**164**	P	**Pb**	**04 20 58.8**	**+0.8**
MONE	**Monesi**	**1.06**	**164**	P	**Pb**	**04 20 58.8**	**+0.7**
FIN	**Finale Ligure**	**1.08**	**145**	Pg	**Pg**	**04 21 00.1**	**-0.1**
FIN				Sg	**Sg**	**04 21 15.3**	**+0.5**
TOUF	**Mont Tournerai**	**1.09**	**184**	Pg	**Pg**	**04 20 59.2**	**-1.2**
AUTN	**L'Aution**	**1.11**	**177**	Pg	**Pg**	**04 20 59.0**	**-1.7**
RORO		**1.11**	**153**	P	**Pb**	**04 21 00.2**	**+1.2**
RORO		**1.11**	**153**	P	**Pb**	**04 21 00.2**	**+1.3**
SAOF	**Saorge**	**1.12**	**173**	Pg	**Pg**	**04 20 59.2**	**-1.9**
SAOF				Sg	**Sg**	**04 21 13.3**	**-2.9**
GRN	**Grenoble**	**1.15**	**278**	Pg	**Pg**	**04 21 02.5**	**+1.0**
MVIF	**Mont Vial**	**1.21**	**187**	Pg	**Pg**	**04 21 01.3**	**-1.6**
MVIF				Sg	**Sg**	**04 21 11.6**	**-7.5**
SBF	**Sospel**	**1.24**	**177**	*e*Pn	**Pn**	**04 21 01.7**	**+0.4**
SBF				*e*Sg	**Sg**	**04 21 18.9**	**-1.1**
	88nm,0.4s						
IMI	**Imperia**	**1.25**	**162**	Pg	**Pg**	**04 21 02.0**	**-1.6**
VAI	**Varese**	**1.26**	**52**	Pg	**Pg**	**04 21 01.8**	**-1.9**
NEGI	**Negi**	**1.28**	**169**	P	**Pb**	**04 21 02.2**	**+0.4**
CALN	**Calern**	**1.39**	**194**	Pg	**Pg**	**04 21 04.4**	**-1.9**
MUGIO	**Muggio**	**1.44**	**55**	Pg	**Pg**	**04 21 05.0**	**-2.4**
STOF	**St-Étienne Org**	**1.51**	**224**	Pg	**Pg**	**04 21 09.9**	**+1.1**
STOF				Sg	**Sg**	**04 21 31.8**	**+2.8**
OCF	**Saint Nazaire**	**1.55**	**251**	Pg	**Pg**	**04 21 10.5**	**+1.0**
OG26	**St.-Nazaire-De**	**1.55**	**251**	Pg	**Pg**	**04 21 10.5**	**+1.0**
FRF	**La Foret Royal**	**1.62**	**198**	*e*P	**Pn**	**04 21 09.1**	**+2.3**
FRF				*e*Pg	**Pg**	**04 21 09.9**	**-1.1**
FRF				*e*Sg	**Sg**	**04 21 31.5**	**-1.2**
	25nm,0.2s						
FRF	**La Foret Royal**	**1.62**	**198**	*e*Pg	**Pg**	**04 21 09.9**	**-1.1**
FRF				*e*Sg	**Sg**	**04 21 31.5**	**-1.2**
	13nm,0.2s						
SMRF	**Simiane la Rot**	**1.70**	**229**	*e*Pg	**Pg**	**04 21 12.0**	**-0.5**
SMRF				*e*Sg	**Sg**	**04 21 33.9**	**-1.3**
	24nm,0.4s						
CABF	**La Chapelle**	**1.75**	**330**	*e*Pg	**Pg**	**04 21 12.3**	**-1.2**
CABF				*e*Sn	**Sn**	**04 21 30.2**	**-0.5**
CABF				*e*Sg	**Sg**	**04 21 34.9**	**-2.0**
	30nm,0.3s						
TAVF	**Tavernes**	**1.75**	**212**	Pg	**Pg**	**04 21 13.3**	**-0.2**
LMR	**La Mourre**	**1.87**	**199**	*e*P	**Pn**	**04 21 12.5**	**+2.2**
LMR				*e*Pg	**Pg**	**04 21 14.5**	**-1.4**
LMR				*e*Sg	**Sg**	**04 21 38.5**	**-2.4**
	21nm,0.2s						
VIVF	**Saint-Julien-l**	**1.92**	**264**	*e*Pn	**Pn**	**04 21 11.5**	**+0.5**
VIVF				*e*P		04 21 14.2	
VIVF				*e*Pg	**Pg**	**04 21 15.9**	**-0.9**
VIVF				*e*Sg	**Sg**	**04 21 41.1**	**-1.4**
	13nm,0.3s						
PUYF	**Puyloubier**	**1.97**	**218**	Pg	**Pg**	**04 21 17.2**	**-0.6**
PRAF	**Pradon**	**2.03**	**231**	Pg	**Pg**	**04 21 19.1**	**0.0**
LOMF	**Lomont**	**2.28**	**351**	Pn	**Pn**	**04 21 23.5**	**+6.9**
BBS	**Basel-Blauen**	**2.37**	**3**	Pn	**Pn**	**04 21 24.6**	**+7.2**
LASF	**Ste Croix**	**2.70**	**249**	*e*P	**Pn**	**04 21 24.5**	**+2.3**
LASF				*e*Sn	**Sn**	**04 21 53.9**	**-1.0**
	5.2nm,0.3s						
HINF	**Hinteralfeld**	**2.74**	**353**	*e*Pn	**Pn**	**04 21 21.8**	**-1.0**
HINF				*e*P		04 21 25.1	
HINF				*e*Sg	**Sg**	**04 22 05.1**	**-4.6**
	5.7nm,0.2s						
PGF	**Pioggiola**	**2.82**	**154**	*e*Pn	**Pn**	**04 21 23.5**	**-0.4**
PGF				*e*Sn	**Sn**	**04 21 55.5**	**-2.4**
	2.1nm,0.3s						
SMF	**Signal de Mont**	**2.90**	**303**	*e*Pn	**Pn**	**04 21 24.0**	**-1.0**
SMF				*e*P		04 21 28.0	
SMF				*e*Sg	**Sg**	**04 22 11.4**	**-3.6**
	9.1nm,0.3s						
HAU	**Haudompre**	**2.99**	**347**	*e*P	**Pn**	**04 21 28.3**	**+2.0**
HAU				*e*Sg	**Sg**	**04 22 13.1**	**-4.9**
	7.6nm,0.3s						
LOR	**Lormes**	**3.25**	**313**	*e*Pn	**Pn**	**04 21 29.2**	**-0.9**
	baz=135						
LOR				*e*P		04 21 32.7	
	baz=134						
LOR				*e*Sn	**Sn**	**04 22 06.0**	**-2.9**
LOR				*e*Sg	**Sg**	**04 22 21.5**	**-5.4**
	6.0nm,0.3s						
LOR	**Lormes**	**3.25**	**313**	*e*P	**Pn**	**

TLL				*i* S	Sn	04 45 56.5	+3.4
TLL				AMP		04 46 00.5	
	comp=E,693nm,0.3s						
RCDM	**Rinconada Maip**	**1.92**	**154**	⇓*i* P	Pn	04 45 32.9	+0.8
RCDM				*i* S	Sn	04 45 57.6	+2.0
RCDM				AMP		04 46 04.4	
	comp=E,480nm,0.1s						
DSCH	**Colegio Aleman**	**1.94**	**147**	⇑*i* P	Pn	04 45 33.5	+1.0
DSCH				*i* S	Sn	04 45 57.7	+1.6
DSCH				AMP		04 46 11.6	
	comp=N,1μm,0.5s						
STL	**Santa Lucia**	**1.94**	**149**	⇓*i* P	Pn	04 45 32.8	+0.4
STL				*i* S	Sn	04 45 57.8	+1.7
STL				AMP		04 46 07.4	
	comp=E,159nm,0.4s						
SAN	**Santiago**	**1.94**	**150**	AMP		04 46 08.1	
	comp=N,472nm,0.5s						
CLCH	**Cerro Calan**	**1.95**	**147**	⇑*i* P	Pn	04 45 33.6	+1.0
CLCH				*i* S	Sn	04 45 58.5	+2.1
CLCH				AMP		04 46 06.4	
	comp=N,747nm,0.7s						
CLCH				AMP		04 46 07.0	
	comp=N,880nm,0.7s						
FCH	**Farellones**	**2.02**	**141**	⇑*i* P	Pn	04 45 34.8	+1.1
FCH				*i* S	Sn	04 46 00.8	+2.6
FCH				AMP		04 46 06.9	
	comp=N,390nm,0.4s						
TACH	**Talagante**	**2.02**	**159**	*e*P	Pn	04 45 34.4	+0.8
FSR	**Penalolen**	**2.02**	**148**	AMP		04 46 09.8	
	comp=N,566nm,0.5s						
ANTU	**Antumapu**	**2.05**	**151**	⇑*i* P	Pn	04 45 34.6	+0.5
ANTU				AMP		04 46 10.3	
	comp=E,328nm,0.2s						
PCH	**Pirque**	**2.15**	**149**	⇑*i* P	Pn	04 45 36.5	+1.0
LNV	**Longovilo**	**2.21**	**171**	⇓*i* P	Pn	04 45 36.6	+0.3
SJCH	**San Jose de Ma**	**2.24**	**147**	*i* P	Pn	04 45 36.9	+0.1
SJCH				*i* S	Sn	04 46 04.5	+0.8
SJCH				AMP		04 46 14.4	
	comp=N,252nm,0.5s						
CHCH	**Chadas Angostu**	**2.37**	**156**	⇑*i* P	Pn	04 45 39.4	+0.7
CHCH				*i* S	Sn	04 46 08.2	+1.1
CHCH				*e*		04 46 08.2	
CHCH	**Chadas Angostu**	**2.37**	**156**	⇑*i* P	Pn	04 45 39.4	+0.7
CHCH				*e*		04 46 08.2	
CICH	**Cipreses**	**2.80**	**156**	*e*P	Pn	04 45 45.8	+1.0
SFDO	**San Fernando**	**2.92**	**167**	*e*P	Pn	04 45 46.6	+0.2

WEL 26 04:50:47.9±0.3,35.31S×178.36E,h171km±9km,ML3.6/4, Error ellipse: s-maj=8.7km s-min=8.4km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.25**	**181**	PN	P	04 51 27.5	-0.2
MXZ				SN	S	04 51 57.9	-0.4
PUZ	**Puketiti**	**2.76**	**182**	PN	P	04 51 33.1	-0.7
PUZ				SN	S	04 52 07.0	-2.1
MWZ	**Matawai**	**3.10**	**192**	PN	P	04 51 38.0	0.0
MWZ				SN	S	04 52 16.2	-0.3
URZ	**Urewera**	**3.11**	**198**	PN	P	04 51 37.9	-0.3
URZ				SN	S	04 52 16.8	-0.1
MQZ	**McQueen's Vall**	**9.47**	**206**	SN	S	04 54 29.5	-17

*MAN **26** 04:52:45.0,4.33N×127.82E,h146km,mb5.0,ML4.0, MS4.8*
*IDC **26** 04:52:46.4±4.3,4.31N×127.86E,h130km±40km,mb4.4/14, mb1 4.4/14,mb1mx4.3/19,mbtmp4.8/14, Error ellipse: s-maj=28.7km s-min=10.5km az=78.0*
*BJI **26** 04:52:47.9,4.42N×127.82E,h143km,mB5.5,mb4.9*
*MOS **26** 04:52:47.5±1.0,4.36N×127.94E,h157km,mb4.7/12, Error ellipse: s-maj=21.9km s-min=8.8km az=101.8*
*NEIC **26** 04:52:49.2±2.2,4.32N×127.96E,h159km±22km, mb4.8/16, Error ellipse: s-maj=13.7km s-min=5.9km az=84.0*

ISC 26 04:52:44.3±0.8,4.31N±0.04×127.96E±0.08,h125km±6km, h141km±6.0km:pP-P,n109,σ1509/102,mb4.7/42,8C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.12**	**327**	*e*P	**P**	**04 53 34.0**	**+0.8**
MATI				*e*S	**S**	**04 54 09.8**	**-0.5**
BIPH	**Bislig**	**4.17**	**338**	⇓*e*P	**P**	**04 53 48.0**	**+0.8**
BIPH				*i* S	**S**	**04 54 31.5**	**-3.8**
BUKP	**Musuan**	**4.57**	**321**	*e*P	**P**	**04 53 54.3**	**+1.7**
BUKP				*e*S	**S**	**04 54 45.1**	**0.0**
BUTP	**Butuan**	**5.18**	**333**	*e*P	**P**	**04 54 01.6**	**+0.8**
BUTP				*e*S	**S**	**04 55 00.1**	**+0.2**
PAGZ	**Pagadian**	**5.75**	**308**	*e*P	**P**	**04 54 08.0**	**-0.5**
IPIL	**Ipil**	**6.38**	**303**	*e*P	**P**	**04 54 16.7**	**-0.3**
IPIL				*e*S	**S**	**04 55 24.0**	**-5.0**
MSLP	**Maasin**	**6.55**	**332**	*e*P	**P**	**04 54 17.8**	**-1.6**
CUYO	**Cuyo Island**	**9.46**	**314**	*e*P	**P**	**04 54 56.8**	**-1.7**
KAKA	**Kakadu** 12nm,0.6s	**17.48**	**165**	*e*P	Px	04 57 02.7	
KSM	**Kuching**	**17.85**	**261**	*e*P	**P**	**04 56 45.1**	**-1.2**
YHNB	**Yeheng**	**21.21**	**343**	*e*P	**P**	**04 57 23.1**	**+1.7**
FITZ	**Fitzroy Crossi** 3.7nm,0.6s,mb3.9	**22.39**	**186**	*e*P	**P**	**04 57 34.5**	**+1.5**
FITZ	**Fitzroy Crossi** 4.5nm,0.4s,mb4.2,baz=2.3,slow=9.2,SNR=12	**22.39**	**186**	P	**P**	**04 57 32.8**	**-0.2**
JOW	**Kunigami** 46nm,0.7s,mb4.9,baz=187,slow=9.3,SNR=8.2	**22.40**	**1**	P	**P**	**04 57 33.9**	**+0.9**
WRAB	**Tennant Creek** 30nm,0.6s,mb4.9	**24.90**	**166**	*e*P	**P**	**04 57 57.5**	**+0.3**
WRAB	**Tennant Creek**	**24.90**	**166**	*e*P	**P**	**04 57 57.5**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,30nm,0.6s,mb4.9						
WRA	**Warramunga Ar** comp=Z,21nm,0.5s,mb4.8,baz=343,slow=10,SNR=71	**24.90**	**166**	P	**P**	**04 57 57.4**	**+0.2**
WB2	**Warramunga Ar**	**24.91**	**166**	⇑*i* P	**P**	**04 57 57.4**	**+0.1**
MBWA	**Marble Bar**	**26.57**	**197**	*e*P	**P**	**04 58 12.8**	**+0.2**
SSE	**Sheshan**	**27.40**	**347**	P	**P**	**04 58 17.5**	**-2.7**
SSE				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.6						
SSE				AMB	AMB		
	comp=Z,2μm,12.0s						
SSE	**Sheshan** comp=Z,17nm,0.8s,mb4.6	**27.40**	**347**	P	**P**	**04 58 17.4**	**-2.8**
ASPA	**Alice Springs**	**28.40**	**168**	*e*P	**P**	**04 58 28.9**	**-0.4**
JNU	**Nakatsue** comp=Z,28nm,0.8s,mb4.9,baz=208,slow=10.0,SNR=12	**28.79**	**5**	P	**P**	**04 58 32.8**	**+0.1**
NJ2	**Nanjing**	**28.89**	**344**	*e*P	**P**	**04 58 32.5**	**-1.1**
NJ2				S	**S**	**05 03 17.0**	**+3.7**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,740nm,6.0s						
NJ2				LR	LR		
	comp=N,810nm,13.3s						
NJ2				LR	LR		
	comp=E,750nm,12.1s						
NJ2				LR	LR		
	comp=Z,1μm,21.4s						
KMI	**Kunming**	**31.86**	**313**	P	**P**	**04 59 00.8**	**+0.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
KMI	**Kunming** comp=Z,9.0nm,1.2s,mb4.4	**31.86**	**313**	P	**P**	**04 59 00.8**	**+0.9**
KS15	**Wonju Array Si**	**32.98**	**360**	*e*P	**P**	**04 59 10.2**	**+0.9**
MJAR	**Matsushiro Arr** comp=Z,15nm,0.6s,mb5.0,baz=179,slow=10,SNR=32	**33.43**	**15**	P	**P**	**04 59 13.0**	**-0.3**
MAJO	**Matsushiro** comp=Z,17nm,0.5s,mb5.1	**33.43**	**15**	*e*P	**P**	**04 59 12.3**	**-0.9**
MAJO	**Matsushiro**	**33.43**	**15**	*e*P	**P**	**04 59 12.4**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,17nm,0.5s,mb5.1						
MAT	**Matsushiro**	**33.43**	**15**	P	**P**	**04 59 12.4**	**-0.9**
MAT	**Matsushiro** comp=Z,15nm,0.6s,mb5.0	**33.43**	**15**	P	**P**	**04 59 12.0**	**-1.3**
MAT	**Matsushiro**	**33.43**	**15**	P	**P**	**04 59 12.0**	**-1.3**
MAT				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.0						
XAN	**Xi'an**	**34.48**	**331**	P	**P**	**04 59 21.5**	**-0.7**
XAN				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.1						
FORT	**Forrest** comp=Z,22nm,0.5s,mb5.2	**34.89**	**180**	*e*P	**P**	**04 59 25.5**	**-0.2**
CD2	**Chengdu**	**34.92**	**322**	*e*P	**P**	**04 59 28.8**	**+2.8**
CD2				AP	pP	04 59 59.5	+5.6
CD2				PP	PP	05 00 52.0	+4.0
CD2				*e*S	**S**	**05 04 49.5**	**+2.1**
STKA	**Stephens Creek** comp=Z,18nm,0.4s,mb5.3	**38.25**	**161**	⇑*i* P	**P**	**04 59 54.6**	**+0.6**
STKA	**Stephens Creek** comp=Z,26nm,0.5s,mb5.3,baz=336,slow=8.3,SNR=77	**38.25**	**161**	P	**P**	**04 59 54.8**	**+0.8**
LZH	**Lanzhou**	**38.65**	**328**	*e*P	**P**	**04 59 59.0**	**+1.8**
LZH				XP	sP	05 00 48.8	+8.6
LZH				SCP		05 05 41.0	
LZH				*e*S	**S**	**05 05 45.0**	**+1.0**
LZH				XS		05 06 40.0	
LZH				SS	SS	05 08 34.0	+1.7
LZH				AMB	AMB		
	comp=Z,62nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,270nm,4.6s						
LZH	**Lanzhou** comp=Z,62nm,1.4s,mb5.2	**38.65**	**328**	*e*P	**P**	**04 59 59.0**	**+1.8**
LZH				pP	pP	05 00 28.0	+2.6
LZH				sP	sP	05 00 48.8	+8.6
LZH				ScP		05 05 41.0	
LZH				*e*S	**S**	**05 05 45.0**	**+1.0**
LZH				sS		05 06 40.0	
LZH				SS	SS	05 08 34.0	+1.7
LZH	**Lanzhou**	**38.65**	**328**	*e*P	**P**	**04 59 59.0**	**+1.8**
LZH				*SP	sP	05 00 48.8	+8.6
LZH				*e*S	**S**	**05 05 45.0**	**+1.0**
LZH				*SS		05 06 40.0	
LZH				SS	SS	05 08 34.0	+1.7
LZH				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.2						
HHC	**Hu-ho-hao-te**	**39.25**	**340**	*e*P	**P**	**05 00 03.5**	**+1.3**
HHC				AP	pP	05 00 39.0	+8.6
HHC				XP	sP	05 00 56.8	+12
HHC				PP	PP	05 01 40.8	+3.1
HHC				PCP	PcP	05 02 09.5	+0.2
HHC				S	**S**	**05 05 50.8**	**-2.3**
HHC				PCS		05 05 59.3	
HHC				XS		05 06 52.8	
HHC				SS	SS	05 08 45.0	+0.2
HHC				SCS	ScS	05 09 51.8	-3.6
HHC				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.9						
HHC				AMB	AMB		
	comp=Z,741nm,7.3s						
HHC				LR	LR		
	comp=N,352nm,17.8s						
HHC				LR	LR		
	comp=E,783nm,19.0s						
HHC				LR	LR		
	comp=Z,3μm,20.2s						
CN2	**Changchun**	**39.39**	**357**	*e*P	**P**	**05 00 07.0**	**+3.7**
MDJ	**Mudanjiang**	**40.17**	**2**	P	**P**	**05 00 11.8**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,2μm,12.9s						
MDJ	**Mudanjiang** comp=Z,26nm,0.9s,mb5.1	**40.17**	**2**	*e*P	**P**	**05 00 11.1**	**+1.4**
GTA	**Gaotai**	**43.25**	**328**	⇑P	**P**	**05 00 36.3**	**+1.4**
GTA				AP	pP	05 01 07.8	+4.4
GTA				PP	PP	05 02 20.5	+1.2
GTA				SCP		05 06 01.0	
GTA				S	**S**	**05 06 54.0**	**+2.0**
GTA				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,932nm,10.1s						
GTA				LR	LR		
	comp=N,938nm,23.7s						
GTA				LR	LR		
	comp=E,511nm,20.6s						
GTA				LR	LR		
	comp=Z,4μm,43.6s						
YSS	**Yuzh-Sakhalins**	**44.37**	**14**	*d* iP	**P**	**05 00 45.4**	**+1.6**
YSS				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.8						
YSS				MLR	MLR		
	comp=Z,1μm,21.0s						
KLR	**Kul'dur**	**44.87**	**4**	*e*P	**P**	**05 00 45.5**	**-2.3**
SONM	**Songino Array** comp=Z,7.7nm,0.7s,mb4.5,baz=162,slow=5.2,SNR=13	**47.16**	**340**	P	**P**	**05 01 05.4**	**-0.5**
ZAK	**Zakamensk**	**50.40**	**340**	*e*P	**P**	**05 01 27.1**	**-3.7**
ZAK				*e*		05 02 44.5	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
WMQ	**Urumqi**	**52.97**	**324**	⇓*i* P	**P**	**05 01 51.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,132nm,5.2s						
BOD	**Bodaibo**	**54.48**	**351**	*e*P	**P**	**05 02 00.1**	**-0.9**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
YAK	**Yakutsk**	**57.60**	**1**	*e*P	**P**	**05 02 22.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb5.2						
MKAR	**Makanchi Array** comp=Z,22nm,0.7s,mb5.3,baz=120,slow=8.4,SNR=206	**57.79**	**324**	P	**P**	**05 02 24.7**	**-0.1**
MA2	**Magadan**	**57.85**	**13**	*d*eP	**P**	**05 02 25.5**	**+0.5**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ULHL	**Ulahol** SNR=6.2	**59.42**	**317**	P	**P**	**05 02 36.6**	**+0.4**
KZA	**Kyzart** SNR=8.9	**60.03**	**317**	P	**P**	**05 02 41.4**	**+1.1**
TKM2	**Tokmak 2** SNR=16	**60.14**	**318**	P	**P**	**05 02 41.1**	**+0.1**
UCH	**Uchtor** SNR=20	**60.59**	**317**	P	**P**	**05 02 45.2**	**+1.1**
ZAL	**Zalesovo** comp=Z,1.9nm,0.3s,mb4.5,baz=352,slow=6.9,SNR=11	**60.64**	**332**	P	**P**	**05 02 43.6**	**-0.7**
AAK	**Ala-Archa** SNR=5.2	**60.76**	**317**	P	**P**	**05 02 45.6**	**+0.4**
AAK	**Ala-Archa** comp=Z,2.7nm,0.5s,mb4.5	**60.76**	**317**	*e*P	**P**	**05 02 44.3**	**-1.0**
AAK	**Ala-Archa**	**60.76**	**317**	*e*P	**P**	**05 02 44.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
USP	**Ospenovka** SNR=15	**61.01**	**318**	P	**P**	**05 02 46.9**	**-0.1**
AML	**Almayashu** SNR=19	**61.11**	**316**	P	**P**	**05 02 48.5**	**+0.8**
EKS2	**Erkin-Say** SNR=7.6	**61.26**	**317**	P	**P**	**05 02 49.2**	**+0.5**
KURK	**Kurchatov** comp=Z,27nm,0.6s,mb5.5	**61.92**	**327**	*e*P	**P**	**05 02 52.4**	**-0.6**
KURK	**Kurchatov**	**61.92**	**327**	*e*P	**P**	**05 02 52.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.5						
TIXI	**Tiksi**	**67.25**	**0**	*d* iP	**P**	**05 03 26.4**	**-0.7**
BVAR	**Borovoye Array** comp=Z,11nm,0.8s,mb4.7,baz=127,slow=7.4,SNR=41	**67.51**	**327**	P	**P**	**05 03 28.4**	**-0.6**
BRVK	**Borovoye** comp=Z,9.8nm,1.0s,mb4.6	**67.58**	**327**	*e*P	**P**	**05 03 28.9**	**-0.6**
BRVK	**Borovoye**	**67.58**	**327**	*e*P	**P**	**05 03 28.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
BILL	**Bilibino**	**68.68**	**14**	*i* P	**P**	**05 03 36.1**	**+0.1**
CASY	**Casey** comp=Z,8.0nm,0.8s,mb4.6	**71.54**	**187**	*e*P	**P**	**05 03 53.4**	**+0.2**
MIR	**Mirnyy**	**75.01**	**194**	*d* iP	**P**	**05 04 09.2**	**-4.2**
MIR				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
ARU	**Arti** comp=Z,9.6nm,0.6s,mb4.7	**75.11**	**327**	P	**P**	**05 04 13.1**	**-1.0**
ARU	**Arti**	**75.11**	**327**	⇓*i* P	**P**	**05 04 12.8**	**-1.3**
ARU				*e*S	S	05 13 46.6	+6.0
ARU				*e*SS	SS	05 18 36.7	+2.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
ZEI	**Tsey**	**82.74**	**312**	*e*P	**P**	**05 04 53.4**	**-2.3**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
VNDA	**Vanda** comp=Z,1.7nm,0.8s,mb3.9	**83.84**	**173**	*e*P	**P**	**05 05 01.0**	**+0.4**
VNDA	**Vanda**	**83.84**	**173**	*e*P	**P**	**05 05 01.0**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array** comp=Z,1.2nm,0.6s,mb3.9,baz=250,slow=5.6,SNR=26	**84.06**	**25**	P	**P**	**05 05 02.0**	**+0.2**
MAW	**Mawson** comp=Z,0.8nm,0.5s,mb3.9,baz=14,slow=4.2,SNR=4.4	**84.72**	**200**	P	**P**	**05 05 05.1**	**0.0**
MAW	**Mawson**	**84.72**	**200**	*e*P	**P**	**05 05 05.7**	**+0.6**
MAW	**Mawson**	**84.72**	**200**	P	**P**	**05 05 05.1**	**0.0**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SOC	**Sochi**	**85.79**	**313**	*e*P	**P**	**05 05 07.1**	**-3.8**
SOC				*e*		05 08 39.9	
SOC				*e*S	S	05 15 26.5	-5.0
SOC				*e*SSS	SSS	05 24 47.2	+2.8
SOC				pmax	pmax		
	comp=N,15nm,0.8s						
SOC				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
SOC				pmax	pmax		
	comp=E,20nm,1.0s						
SOC				MLR	MLR		
	comp=N,945nm,22.0s						
SOC				MLR	MLR		
	comp=Z,950nm,22.0s						
SOC				MLR	MLR		
	comp=E,444nm,20.0s						
ARCES	**ARCESS Array B** comp=E,4.0nm,0.8s,mb4.6,baz=80,slow=6.2,SNR=9.5	**90.33**	**340**	P	**P**	**05 05 31.2**	**-0.7**
FINES	**FINESS Array B** comp=E,1.0nm,0.7s,mb4.2,baz=90,slow=3.8,SNR=5.4	**91.90**	**332**	P	**P**	**05 05 38.0**	**-1.5**
FINES	**FINESS Array B**	**91.90**	**332**	P	**P**	**05 05 38.0**	**-1.5**
FINES	**FINESS Array B**	**91.90**	**332**	*i* P	**P**	**05 05 39.4**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be** comp=Z,1.3nm,0.5s,mb4.4,baz=68,slow=5.1,SNR=7.9	**92.22**	**321**	P	**P**	**05 05 39.0**	**-2.2**
AKASG	**Malin Array Be**	**92.22**	**321**	P	**P**	**05 05 39.0**	**-2.2**
SNAA	**Sanae**	**106.08**	**194**	⇑*i* P	Pdif	05 06 37.8	-5.1
SNAA	**Sanae**	**106.08**	**194**	*e*	Pdif	05 06 55.9	+13
SNAA	**Sanae**	**106.08**	**194**	*e*	Pdif	05 07 00.1	+17
VNA2	**Neumayer--Watz**	**107.68**	**194**	*e*	Pdif	05 07 05.2	+15
VNA2	**Neumayer--Watz**	**107.68**	**194**	*e*	Pdif	05 07 10.7	+21
VNA2	**Neumayer--Watz**	**107.68**	**194**	⇑*i* Pdif	Pdif	05 06 46.6	-3.4
VNA2				*e*		05 07 05.2	
VNA2				*e*		05 07 10.7	
VNA2				*e*		05 09 08.6	
VNA2				*e*		05 10 58.1	
VNA3	**Neumayer Olymp**	**108.00**	**193**	⇑*i* P	Pdif	05 06 45.7	-5.7
VNA3	**Neumayer Olymp**	**108.00**	**193**	*e*	Pdif	05 07 04.1	+13
VNA3	**Neumayer Olymp**	**108.00**	**193**	*e*	Pdif	05 07 09.5	+18
VNA3	**Neumayer Olymp**	**108.00**	**193**	*e*		05 10 56.3	
VNA1	**Neumayer--Stat**	**108.08**	**194**	⇑*i* P	Pdif	05 07 03.9	+12
VNA1	**Neumayer--Stat**	**108.08**	**194**	*e*	Pdif	05 07 08.3	+17
TXAR	**Lajitas Array** comp=Z,0.3nm,0.8s,baz=162,slow=2.9,SNR=3.8	**120.27**	**52**	PKhKP		05 11 16.6	
TXAR				PKP	PKPdf	05 11 21.6	+0.4
	comp=Z,0.3nm,0.7s,baz=153,slow=2.8,SNR=4.5						
TXAR	**Lajitas Array**	**120.27**	**52**	PKIKP	PKPdf	05 11 21.6	+0.4
DBIC	**Dimbokro** comp=Z,4.8nm,0.9s,baz=320,slow=19,SNR=4.0	**131.66**	**283**	PKP	PKPdf	05 11 44.2	+0.6
LPAZ	**La Paz** comp=Z,0.6nm,0.6s,baz=107,slow=0.5,SNR=3.3	**160.22**	**128**	PKPab	PKPab	05 13 14.3	+1.5
LPAZ	**La Paz**	**160.22**	**128**	PKP2	PKPab	05 13 14.3	+1.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SIV	**San Ignacio** comp=Z,1.1nm,1.0s,baz=161,slow=4.6,SNR=4.3	**165.39**	**143**	PKP	PKPdf	05 12 36.9	+2.4
SIV				PKPab	PKPab	05 13 35.4	+0.2
	comp=Z,0.9nm,1.0s,baz=270,slow=12,SNR=2.8						

*JMA **26** 05:24:41.9±0.1,36.30N×138.19E,h195km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φs112°, δ42°,λ-154°. NP2:φs3°,δ73°,λ-51°. Principal axes: T Plg19°, Azm65°; N Plg37°, Azm170°; P Plg47°, Azm313°;*
*IDC **26** 05:24:41.6±0.9,36.40N×138.20E,h192km±5km,mb3.6/8, mb1 3.7/11,mb1mx3.5/23,mbtmp4.2/11 Error ellipse: s-maj=28.7km s-min=21.5km az=104.0*
*NEIC **26** 05:24:42.6±0.9,36.51N×137.98E,h190km±8km,mb4.1/3, Error ellipse: s-maj=39.2km s-min=10.4km az=135.0*

ISC 26 05:24:40.7±0.4,36.34N±0.05×138.17E±0.07,h200km±3km, n36,σ0967/48,mb3.8/10,3C-6D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.09**	**322**	⇓P	**P**	**05 25 07.7**	**+0.5**
JNG				S	**S**	**05 25 27.5**	**+0.1**
MAJO	**Matsushiro**	**0.21**	**9**	*e*Pn	**P**	**05 25 07.8**	**+0.4**
MAJO				*e*Sn	**S**	**05 25 27.5**	**-0.3**
MAT	**Matsushiro**	**0.21**	**9**	P	**P**	**05 25 07.6**	**+0.2**
MAT				S	**S**	**05 25 26.9**	**-0.9**
MAT	**Matsushiro**	**0.21**	**9**	P	**P**	**05 25 07.5**	**+0.1**
MAT				S	**S**	**05 25 26.8**	**-1.0**
MAT	**Matsushiro**	**0.21**	**9**	*e*P	**P**	**05 25 08.0**	**+0.6**
MAT				*e*S	**S**	**05 25 27.0**	**-0.8**
MJAR	**Matsushiro Arr** 111nm,0.3s,baz=186,slow=2.4,SNR=413	**0.21**	**9**	P	**P**	**05 25 07.7**	**+0.3**
MJAR				S	**S**	**05 25 27.1**	**-0.7**
	11nm,0.3s,baz=71,slow=3.1,SNR=4.3						
JRY	**Ryogami san**	**0.67**	**118**	⇓P	**P**	**05 25 09.1**	**+0.2**
JRY				S	**S**	**05 25 29.5**	**-1.1**
JYN	**Shimob**	**0.89**	**160**	⇓P	**P**	**05 25 10.4**	**+0.4**
JAG	**Ashikaga**	**1.04**	**85**	⇓P	**P**	**05 25 11.3**	**+0.3**
JAG				S	**S**	**05 25 33.9**	**-0.4**
JSZ	**Suzu**	**1.28**	**330**	P	**P**	**05 25 13.3**	**+0.4**
JSZ				S	**S**	**05 25 37.3**	**-0.5**
JOD2	**Odawara 2**	**1.31**	**145**	⇓P	**P**	**05 25 13.5**	**+0.4**
JGM	**Miyama**	**1.34**	**242**	⇓P	**P**	**05 25 13.6**	**+0.2**
JGM				S	**S**	**05 25 38.0**	**-0.6**
JKG	**Kaga**	**1.48**	**268**	P	**P**	**05 25 15.2**	**+0.5**
JSD	**Sado**	**1.70**	**2**	⇓P	**P**	**05 25 17.4**	**+0.7**
JSD				S	**S**	**05 25 45.0**	**+0.7**
JNS	**Sasagawa**	**1.74**	**32**	P	**P**	**05 25 18.2**	**+1.1**
JHG	**Hegura jima**	**1.81**	**327**	P	**P**	**05 25 18.4**	**+0.7**
JIE	**Ise**	**2.28**	**212**	⇑P	**P**	**05 25 22.6**	**0.0**
JAW	**Awa shima**	**2.28**	**22**	P	**P**	**05 25 23.8**	**+1.1**
JWT	**Wachi**	**2.48**	**246**	⇑P	**P**	**05 25 24.6**	**-0.3**
JHJ	**Hachijo jima 2** 88nm,0.3s,baz=82,slow=24,SNR=4.9	**3.47**	**157**	P	**P**	**05 25 36.8**	**+0.1**
JHJ				S	**S**	**05 26 24.8**	**+5.0**
	59nm,0.3s,baz=246,slow=23,SNR=3.8						
JNU	**Nakatsue** 1.4nm,0.3s,baz=130,slow=14,SNR=5.4	**6.80**	**244**	P	**P**	**05 26 18.9**	**-0.3**
ASAJ	**Asahikawa** 3.9nm,0.3s,baz=211,slow=11,SNR=7.1	**8.47**	**22**	P	**P**	**05 26 38.9**	**-2.2**
YSS	**Yuzh-Sakhalins**	**11.15**	**16**	P	**P**	**05 27 14.4**	**-1.1**
MKAR	**Makanchi Array** 2.6nm,0.6s,mb3.6,baz=89,slow=10.0,SNR=28	**42.28**	**302**	P	**

ellipse: s-maj=20.0km s-min=10.7km az=83.0

ISC 26 05:29:19.3±3.5,5.3S±0.1×147.4E±0.1,h56km±31km,n20, σ1°09/21,mb4.2/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.06**	**183**	Pn	**P**	**05 30 20.3**	**-0.3**
	5.4nm,0.3s,baz=8.0,slow=8.3,SNR=9.7						
PMG				Sn	**S**	**05 31 10.7**	**+3.4**
	8.2nm,0.3s,baz=22,slow=16,SNR=5.9						
PMG	**Port Moresby**	**4.06**	**183**	*e*P	**P**	**05 30 20.7**	**+0.2**
CTA	**Charters Tower**	**14.72**	**184**	Pn	**P**	**05 32 46.7**	**+0.9**
	0.2nm,0.3s,baz=3.1,slow=14,SNR=3.8						
CTAO	**Charters Tower**	**14.72**	**184**	Pn	**P**	**05 32 44.1**	**-1.8**
KAKA	**Kakadu**	**16.45**	**242**	*e*P	**P**	**05 33 27.5**	**+19**
	23nm,0.6s						
WRAB	**Tennant Creek**	**19.27**	**220**	*e*P	**P**	**05 33 41.4**	**-0.8**
	18nm,0.7s						
WB2	**Warramunga Arr**	**19.27**	**220**	*e*P	**P**	**05 33 41.3**	**-0.9**
WRA	**Warramunga Arr**	**19.28**	**220**	P	**P**	**05 33 41.4**	**-0.9**
	0.7nm,0.3s,baz=40,slow=11,SNR=64						
ASPA	**Alice Springs**	**22.38**	**214**	*e*P	**P**	**05 34 15.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.73**	**237**	*e*P	**P**	**05 34 37.7**	**+0.6**
	20nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**24.73**	**237**	P	**P**	**05 34 38.0**	**+1.0**
	29nm,0.6s,mb5.0,baz=42,slow=5.3,SNR=41						
DZM	**Mont Dzumac**	**24.86**	**134**	P	**P**	**05 34 37.4**	**-0.9**
	13nm,0.7s,mb4.6,baz=282,slow=12,SNR=12						
STKA	**Stephens Creek**	**26.96**	**191**	*e*P	**P**	**05 34 58.6**	**+0.8**
	2.1nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**26.96**	**191**	P	**P**	**05 34 58.1**	**+0.3**
	2.1nm,0.6s,mb3.8,baz=346,slow=6.1,SNR=6.2						
STKA	**Stephens Creek**	**26.96**	**191**	*e*P	**P**	**05 34 58.3**	**+0.5**
MBWA	**Marble Bar**	**31.07**	**237**	*e*P	**P**	**05 35 31.5**	**-3.0**
	10nm,1.2s,mb4.5						
SONM	**Songino Array**	**63.99**	**331**	P	**P**	**05 39 49.1**	**-0.1**
	1.2nm,0.6s,mb4.1,baz=124,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**77.21**	**320**	P	**P**	**05 41 09.8**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=112,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**77.21**	**320**	P	**P**	**05 41 09.8**	**+0.7**
BVAR	**Borovoye Array**	**86.44**	**324**	P	**P**	**05 41 57.7**	**+0.8**
	0.9nm,0.6s,mb4.2,baz=117,slow=9.9,SNR=5.1						

IDC 26 06:16:08.1±2.0,6.31S×76.78W,mb3.7/3,mb1 3.8/5, mb1mx3.7/16,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=97.3km s-min=25.2km az=42.0
NEIC 26 06:16:13.2±0.5,6.35S×76.76W,h35km,mb4.1/2,Error ellipse: s-maj=20.6km s-min=9.0km az=57.0

ISC 26 06:16:09.3±4.5,6.29S±0.07×76.7W±0.1,h22km±34km,n11, σ0°67/12,mb3.8/5,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.66**	**181**	*e*Pn	**Pn**	**06 17 34.0**	**-0.4**
	24nm,0.8s						
NNA				*e*Sn	**Sn**	**06 18 40.1**	**+0.6**
LPAZ	**La Paz**	**13.00**	**141**	Pn	**P**	**06 19 14.7**	**-0.9**
	0.1nm,0.3s,baz=322,slow=12,SNR=5.0						
LPAZ	**La Paz**	**13.00**	**141**	*e*Pn	**P**	**06 19 15.5**	**-0.1**
LPAZ				*e*Sn	**S**	**06 21 39.7**	**-0.9**
SIV	**San Ignacio**	**18.09**	**123**	P	**P**	**06 20 22.1**	**+0.9**
	0.2nm,0.3s,baz=293,slow=12,SNR=9.8						
CPUP	**Villa Florida**	**27.17**	**139**	P	**P**	**06 21 53.5**	**+0.1**
	4.7nm,1.1s,mb3.9						
TXAR	**Lajitas Array**	**43.90**	**325**	P	**P**	**06 24 16.6**	**+0.2**
	0.4nm,0.8s,mb3.2,baz=147,slow=9.4,SNR=4.4						
MNTX	**Cornudas Mount**	**46.66**	**326**	*e*P	**P**	**06 24 34.4**	**-3.9**
PDAR	**Pinedale Array**	**57.23**	**332**	P	**P**	**06 25 57.2**	**-0.3**
	0.2nm,0.6s,mb3.3,baz=131,slow=8.3,SNR=3.6						
HWUT	**Hardware Ranch**	**57.34**	**329**	*e*P	**P**	**06 25 58.0**	**-0.4**
	1.7nm,0.6s,mb4.2						
DBIC	**Dimbokro**	**72.83**	**81**	P	**P**	**06 27 40.0**	**+0.9**
	2.4nm,0.7s,mb4.2,baz=217,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**139.85**	**229**	PKP	PKPdf	06 35 39.7	-1.4
	0.4nm,0.4s,baz=121,slow=2.0,SNR=17						

DHMR 26 06:35:04.8±0.3,12.69N×40.52E,h10km,ML3.6,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.54**	**81**	*i* P	Pn	06 36 02.7	+1.6
TRBA				*i* S	Sn	06 36 47.8	+4.3
TRBA				AML	AML	06 36 59.8	
	comp=N,352nm,0.6s						
TRBA	**At Turbah**	**3.54**	**81**	*i* P	Pn	06 36 02.7	+1.6
TRBA				*i* S	Sn	06 36 47.8	+4.3
	comp=N,176nm,0.6s						
UDYN	**Al 'Udayn**	**3.59**	**69**	*i* P	Pn	06 36 03.5	+1.8
UDYN				*i* S	Sn	06 36 49.2	+4.6
UDYN				AML	AML	06 37 08.1	
	comp=N,189nm,0.6s						
LBOS		**4.75**	**75**	*i* S	Sn	06 37 13.1	-1.0

NNC 26 06:37:42.9±3.8,37.90N×71.67E,h235km±51km,mpv3.7, Error ellipse: s-maj=43.5km s-min=25.3km az=27.0

ISC 26 06:37:40.5±2.6,37.7N±0.2×71.5E±0.3,h186km±43km,n8, σ0°74/11,4C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.75**	**20**	P	**P**	**06 38 51.4**	**-0.7**
	SNR=24						
UCH	**Uchtor**	**5.09**	**26**	P	**P**	**06 38 56.4**	**-0.1**
	SNR=5.2						
EKS2	**Erkin-Say**	**5.27**	**18**	P	**P**	**06 38 58.6**	**-0.2**
	SNR=7.0						
AAK	**Ala-Archa**	**5.45**	**24**	P	**P**	**06 39 00.9**	**-0.2**
	SNR=8.2						
AAK	**Ala-Archa**	**5.45**	**24**	⇑P	**P**	**06 39 00.4**	**-0.7**
	3.5nm,0.5s						
AAK				⇑S	**S**	**06 40 03.3**	**-0.4**
	4.5nm,0.5s						
KK31	**Karatay Array**	**5.48**	**352**	⇓P	**P**	**06 39 01.4**	**-0.1**
	6.8nm,0.3s,baz=172,slow=12,SNR=113						
KK31				⇑S	**S**	**06 40 04.9**	**+0.5**
	1.4nm,0.4s,baz=176,slow=21,SNR=7.7						
TKM2	**Tokmak 2**	**6.09**	**29**	P	**P**	**06 39 12.2**	**+2.7**
	SNR=9.3						
AB31	**Akbulak array**	**14.29**	**328**	⇑P	**P**	**06 40 55.2**	**-0.1**
	0.7nm,0.6s,baz=223,slow=29,SNR=7.9						
AB31				⇓S	**S**	**06 43 29.1**	**-0.1**
	1.2nm,0.7s,baz=156,slow=22,SNR=3.3						

SKHL 26 06:49:28.9±1.1,55.32N×139.97E,h10km,mb3.9/3,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**2.21**	**169**	*e*rx	rx	06 50 03.2	
NKL				*e*Pg	Pg	06 50 09.0	-4.1
NKL				AMB	AMB	06 50 11.1	
	108nm,1.0s						
NKL				*e*Sg	Sg	06 50 38.3	-4.4
NKL				A		06 50 41.0	
	70nm,0.4s						
NKL				A		06 50 41.0	
	120nm,0.4s						
OKH	**Okha**	**2.48**	**134**	*e*Sg	Sg	06 50 46.1	-5.4
OKH				A		06 50 59.0	
	333nm,0.8s						
EKMR	**Ekimchan**	**4.70**	**244**	*e*Pg	Pg	06 50 53.8	-8.9
EKMR				AMB	AMB	06 50 57.2	
	4.0nm,0.5s						
EKMR				AMB	AMB	06 50 57.2	
	5.0nm,0.5s						
EKMR				AMB	AMB	06 50 57.2	
	12nm,0.5s						
EKMR				*e*Sg	Sg	06 51 55.9	-9.4
EKMR				A		06 52 03.0	
	52nm,0.5s						
EKMR				A		06 52 03.0	
	49nm,0.5s						
EKMR				A		06 52 03.0	
	20nm,0.5s						
BMKR	**Bomnak**	**6.43**	**269**	*e*Pg	Pg	06 51 22.9	-14
BMKR				*e*rx	rx	06 52 45.0	
BMKR				*e*Sg	Sg	06 52 50.4	-13
BMKR				A		06 52 53.7	
	10.0nm,0.5s						
YASR	**Yasnyy**	**7.30**	**259**	*e*Pg	Pg	06 51 41.8	-13
YASR				*e*Sg	Sg	06 53 16.4	-16
YASR				A		06 53 25.4	
	4.0nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**7.55**	**269**	*e*Pg	Pg	06 51 44.3	-15
KROS				AMB	AMB	06 51 46.3	
	2.0nm,0.7s						
KROS				*e*S	Sn	06 52 43.5	-4.9
KROS				*e*Sg	Sg	06 53 26.1	-14
KROS				A		06 53 27.3	
	10.0nm,0.5s						
KROS				A		06 53 27.3	
	5.0nm,0.5s						
ZEA	**Zeya**	**7.57**	**263**	*e*Sg	Sg	06 53 22.0	-19
KLR	**Kul'dur**	**7.91**	**223**	*e*Sg	Sg	06 53 35.0	-17

ATH 26 06:54:49.3,40.61N×19.94E,h8km±3km,MD3.5/3
NEIC 26 06:54:49.3,40.61N×19.94E,h8km,MD3.5(ATH),After ATH.
CSEM 26 06:54:52.2±0.3,40.48N×19.95E,h2km,MD3.5,Error ellipse: s-maj=8.6km s-min=4.8km az=75.0

ISC 26 06:54:48.4±0.6,40.63N±0.02×19.92E±0.05,h2km,n19, σ1°46/28,1D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.34**	**168**	*i* Pg	**Pg**	**06 54 53.0**	**-2.2**
TPE				*i* Sg	**Sg**	**06 54 58.7**	**-0.9**
KBN	**Korca**	**0.66**	**90**	*i* Pg	**Pg**	**06 54 54.8**	**-6.8**
KBN				*i* Sg	**Sg**	**06 55 08.6**	**-1.7**
LSK	**Leskovik**	**0.70**	**132**	*i* Pg	**Pg**	**06 54 59.5**	**-3.0**
LSK				*i* Sg	**Sg**	**06 55 13.7**	**+1.9**
SRN	**Sarande**	**0.75**	**175**	*i* Pg	**Pg**	**06 55 04.3**	**+1.0**
QSH	**Qafa e Shtames**	**0.90**	**359**	*i* Pg	**Pg**	**06 55 04.0**	**-2.3**
QSH				*i* Sg	**Sg**	**06 55 19.0**	**+0.7**
KEK	**Kerkira**	**0.92**	**186**	*e*PG	**Pg**	**06 55 06.3**	**-0.4**
KEK				*e*SB	**Sb**	**06 55 19.2**	**+0.1**
FNA	**Florina**	**1.12**	**81**	*e*P	**Pb**	**06 55 08.4**	**-1.7**
JAN	**Janina**	**1.20**	**143**	*e*PB	**Pb**	**06 55 11.8**	**+0.2**
JAN				*e*SB	**Sb**	**06 55 27.1**	**-0.3**
MEV	**Metsovon**	**1.30**	**130**	*e*P	**Pb**	**06 55 16.7**	**+3.3**
KZN	**Kozani**	**1.45**	**102**	*e*PG	**Pg**	**06 55 16.0**	**-1.3**
KZN				*e*SB	**Sb**	**06 55 36.3**	**+1.8**
SDA	**Shkodra**	**1.46**	**348**	*i* Pn	**Pn**	**06 55 15.4**	**-0.5**
SDA				*i* Sn	**Sn**	**06 55 32.6**	**-3.3**
SKO	**Skopje**	**1.77**	**40**	*i* Pn	**Pn**	**06 55 20.0**	**-0.3**
SKO				*i* Sn	**Sn**	**06 55 44.3**	**+0.7**
SKO				Lg		06 55 51.0	
	comp=Z,0.1nm,0.6s						
LIT	**Litokhoron**	**2.03**	**104**	*e*P	**Pn**	**06 55 26.0**	**+2.0**
EVR	**Evrytania**	**2.24**	**139**	*e*PN	**Pn**	**06 55 28.1**	**+1.0**
AGG	**Agios Georgios**	**2.45**	**130**	*e*P	**Pg**	**06 55 36.4**	**-0.9**
VLS	**Valsamata**	**2.50**	**168**	*e*PN	**Pn**	**06 55 32.9**	**+2.1**
NVSS	**Nova Varos 2**	**2.88**	**357**	⇓*i*P	**Pn**	**06 55 41.8**	**+5.5**
BBLS	**Bajina Basta -**	**3.26**	**353**	*e*P	**Pn**	**06 55 48.1**	**+6.5**
DIVS	**Divcibare**	**3.47**	**1**	*e*P	**Pn**	**06 55 46.9**	**+2.3**

BJI 26 06:55:13.4,5.82S×152.91E,h71km,mB5.2,mb4.8,Ms4.8, Msz4.6
NEIC 26 06:55:16.6±1.2,5.65S×152.58E,h71km±14km,mb4.8/5, Error ellipse: s-maj=14.8km s-min=9.8km az=140.0
IDC 26 06:55:21.8±2.8,5.20S×151.63E,h68km±23km,mb4.2/7, mb1 4.3/9,mb1mx4.2/14,mbtmp4.4/9,MS4.9/1,Ms1 4.9/1, ms1mx4.0/7,Error ellipse: s-maj=29.9km s-min=13.8km az=129.0

ISC 26 06:55:22.6±2.8,5.28S±0.09×151.6E±0.1,h87km±23km, n42,σ0°90/39,mb4.5/20,1C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.05**	**227**	P	**P**	**06 56 50.1**	**-1.0**
	10nm,0.3s,baz=36,slow=6.5,SNR=18						
PMG				S	**S**	**06 57 58.6**	**-1.0**
	6.2nm,0.3s,baz=58,slow=18,SNR=4.5						
PMG	**Port Moresby**	**6.05**	**227**	*e*Pn	**P**	**06 56 50.0**	**-1.1**
	65nm,0.8s						
PMG				*e*Sn	**S**	**06 58 00.7**	**+1.1**
CTA	**Charters Tower**	**15.62**	**199**	P	**P**	**06 58 59.9**	**+0.8**
	0.2nm,0.3s,baz=30,slow=13,SNR=3.8						
GUMO	**Guam**	**19.92**	**340**	P	**P**	**06 59 51.1**	**+1.2**
	2.5nm,0.3s,baz=142,slow=9.3,SNR=3.6						
GUMO	**Guam**	**19.92**	**340**	P	**P**	**06 59 51.1**	**+1.2**
KAKA	**Kakadu**	**20.34**	**247**	⇑*i*P	**P**	**07 00 12.4**	**+18**
	18nm,0.4s						
WRAB	**Tennant Creek**	**22.25**	**228**	*e*P	**P**	**07 00 13.4**	**+0.1**
	36nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**22.26**	**228**	*e*P	**P**	**07 00 13.2**	**-0.2**
WB2				*e*S	**S**	**07 04 14.2**	**+6.6**
WRA	**Warramunga Arr**	**22.27**	**228**	P	**P**	**07 00 13.2**	**-0.2**
	5.5nm,0.6s,mb4.1,baz=52,slow=9.9,SNR=36						
WRA				PcP	PcP	07 04 08.1	+0.1
	0.9nm,0.6s,baz=43,slow=2.3,SNR=4.7						
WRA				S	**S**	**07 04 16.1**	**+8.4**
	3.2nm,0.9s,baz=50,slow=16,SNR=11						
ASPA	**Alice Springs**	**25.03**	**221**	*e*P	**P**	**07 00 42.5**	**+2.3**
FITZ	**Fitzroy Crossi**	**28.42**	**241**	⇓*i*P	**P**	**07 01 10.4**	**-1.0**
	17nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**28.42**	**241**	P	**P**	**07 01 09.8**	**-1.5**
	27nm,0.8s,mb4.8,baz=98,slow=3.1,SNR=25						
MBWA	**Marble Bar**	**34.73**	**240**	*e*P	**P**	**07 02 05.6**	**-0.8**
	3.2nm,0.5s,mb4.4						
RAO	**Raoul Island**	**37.37**	**133**	LR	LR	07 14 54.2	
	comp=Z,2μm,20.5s,baz=173,slow=31						
QIZ	**Qiongzhong**	**47.73**	**302**	*e*P	**P**	**07 03 52.9**	**-0.1**
	488nm,1.8s						
NJ2	**Nanjing**	**48.50**	**322**	*e*P	**P**	**07 04 00.0**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
MDJ	**Mudanjiang**	**53.48**	**341**	P	**P**	**07 04 35.0**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,225nm,7.7s						
MDJ				LR	LR		
	comp=N,475nm,47.3s						
MDJ				LR	LR		
	comp=E,381nm,43.7s						
MDJ				LR	LR		
	comp=Z,791nm,47.3s						
CN2	**Changchun**	**54.27**	**337**	*e*P	**P**	**07 04 45.0**	**+3.0**
KMI	**Kunming**	**56.31**	**305**	P	**P**	**07 05 01.5**	**+4.5**
KMI				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.1						
KMI	**Kunming**	**56.31**	**305**	P	**P**	**07 05 01.4**	**+4.4**
	comp=Z,12nm,0.6s,mb5.1						
LZH	**Lanzhou**	**60.78**	**317**	*e*P	**P**	**07 05 27.3**	**-0.6**
LZH				PP	PP	07 07 45.0	+0.3
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,71nm,4.0s						
LZH	**Lanzhou**	**60.78**	**317**	*e*P	**P**	**07 05 27.3**	**-0.6**
	comp=Z,15nm,1.0s,mb5.0						
LZH				pP	pP	07 05 36.0	-14
LZH				sP	sP	07 05 39.5	-20
LZH				PP	PP	07 07 45.0	+0.3
GTA	**Gaotai**	**65.23**	**318**	*e*P	**P**	**07 05 57.8**	**+0.5**
GTA				S	S	07 14 44.3	+12
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.2						
GTA				AMB	AMB		
	comp=Z,211nm,5.7s						
GTA				LR	LR		
	comp=N,278nm,14.1s						
GTA				LR	LR		
	comp=E,186nm,14.1s						
GTA				LR	LR		
	comp=Z,1μm,17.5s						
SONM	**Songino Array**	**66.12**	**328**	P	**P**	**07 06 02.2**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.2,baz=146,slow=3.0,SNR=4.3						
GUN	**Gumba**	**71.39**	**302**	*e*P	**P**	**07 06 34.7**	**-0.8**
	comp=Z,16nm,0.7s,mb5.0						
PKI	**Pulchoki**	**71.69**	**301**	*e*P	**P**	**07 06 37.4**	**0.0**
KKN	**Kakani**	**71.86**	**301**	*e*P	**P**	**07 06 38.4**	**0.0**
	comp=Z,6.9nm,0.4s,mb4.8						
DMN	**Daman**	**71.96**	**301**	*e*P	**P**	**07 06 39.3**	**+0.3**
	comp=Z,12nm,0.8s,mb4.8						
GKN	**Gorkha**	**72.47**	**301**	*e*P	**P**	**07 06 41.9**	**0.0**
	comp=Z,18nm,0.8s,mb4.9						
KOLN	**Koldanda**	**73.29**	**301**	*e*P	**P**	**07 06 46.5**	**-0.3**
	comp=Z,12nm,0.8s,mb4.8						
WMQ	**Urumqi**	**75.32**	**318**	*e*P	**P**	**07 06 59.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	**79.93**	**319**	P	**P**	**07 07 23.6**	**0.0**
	comp=Z,1.6nm,0.8s,mb3.9,baz=100,slow=7.4,SNR=8.6						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**83.04**	**22**	P	**P**	**07 07 38.2**	**-1.2**
	comp=Z,1.5nm,0.6s,mb4.0,baz=250,slow=5.1,SNR=35						
KURK	**Kurchatov**	**83.44**	**322**	*e*P	**P**	**07 07 41.6**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.0						
MAW	**Mawson**	**84.69**	**203**	P	**P**	**07 07 47.9**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=63,slow=6.8,SNR=4.4						
PDAR	**Pinedale Array**	**100.02**	**48**	P	**P**	**07 08 59.5**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=250,slow=1.0,SNR=6.3						
ARCES	**ARCESS Array B**	**106.99**	**343**	PKiKP		07 13 39.0	
	comp=Z,4.6nm,0.9s,slow=3.6,SNR=4.8						
GERES	**GERESS Array B**	**123.85**	**328**	PKP	PKPdf	07 14 12.1	+1.4
	comp=Z,1.2nm,0.5s,baz=70,slow=1.7,SNR=10.0						
ROSC	**El Rosal**	**134.21**	**88**	PKP	PKPdf	07 14 34.1	+2.7
	comp=Z,2.2nm,0.5s,baz=208,slow=1.6,SNR=4.6						
LPAZ	**La Paz**	**135.20**	**119**	PKP	PKPdf	07 14 36.2	+3.1
	comp=Z,1.1nm,0.9s,baz=190,slow=2.3,SNR=5.8						
BDFB	**Brasilia**	**151.52**	**137**	PKPbc	PKPdf	07 15 08.8	+7.7
	comp=Z,4.4nm,0.8s,baz=197,slow=2.6,SNR=10						
BDFB				PKPab	PKPab	07 15 18.8	+0.2
	comp=Z,2.9nm,0.8s,baz=90,slow=3.0,SNR=3.5						
DBIC	**Dimbokro**	**156.59**	**275**	PKPbc	PKPdf	07 15 22.3	+14
	comp=Z,6.3nm,1.1s,baz=74,slow=4.8,SNR=4.2						

IDC 26 07:19:10.9±2.6,37.11S×179.12E,mb4.5/2,mb1 4.5/3, mb1mx4.2/10,mbtmp4.3/3,Error ellipse: s-maj=67.7km s-min=28.7km az=132.0
WEL 26 07:19:16.3±0.3,37.16S×178.97E,h12km,ML4.3/9,Error ellipse: s-maj=3.3km s-min=1.7km az=90.0
NEIC 26 07:19:16.3±0.9,37.34S×179.13E,h35km,mb4.7/1,Error ellipse: s-maj=20.9km s-min=14.0km az=130.0

ISC 26 07:19:11.4±0.8,37.20S±0.05×179.29E±0.08,h12km,n50, σ1°19/55,mb4.8/6,3D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.86**	**245**	⇓P*	**Pb**	**07 19 27.9**	**+0.2**
MXZ				S*	**Sb**	**07 19 38.2**	**-0.8**
MXZ				S*	**Sb**	**07 19 38.4**	**-0.7**
PUZ	**Puketiti**	**1.20**	**223**	P*	**Pb**	**07 19 36.0**	**+2.5**
PUZ				S*	**Sb**	**07 19 50.4**	**+1.7**
WIZ	**White Island**	**1.70**	**258**	PN	**Pn**	**07 19 42.0**	**+0.8**
MWZ	**Matawai**	**1.80**	**230**	PN	**Pn**	**07 19 43.9**	**+1.4**
MWZ				SN	**Sn**	**07 20 04.3**	**-1.1**
URZ	**Urewera**	**2.03**	**238**	Pn	**Pn**	**07 19 46.7**	**+0.9**
	63nm,0.3s,baz=41,slow=7.3,SNR=181						
URZ				Sn	**Sn**	**07 20 10.0**	**-1.2**
	130nm,0.3s,baz=168,slow=20,SNR=24						
URZ	**Urewera**	**2.03**	**238**	PN	**Pn**	**07 19 47.3**	**+1.5**
URZ				SN	**Sn**	**07 20 09.7**	**-1.5**
EDRZ	**Edgecumbe**	**2.22**	**245**	PN	**Pn**	**07 19 49.9**	**+1.4**
MARZ	**Manawahe**	**2.22**	**248**	PN	**Pn**	**07 19 49.7**	**+1.2**
KNZ	**Kokohu**	**2.22**	**214**	PN	**Pn**	**07 19 49.7**	**+1.1**
MYRZ	**Mayor Island**	**2.43**	**267**	PN	**Pn**	**07 19 51.9**	**+0.3**
TAZ	**Tarawera**	**2.43**	**244**	PN	**Pn**	**07 19 52.9**	**+1.2**
UTU	**Utuhina**	**2.64**	**247**	PN	**Pn**	**07 19 54.9**	**+0.3**
PATZ	**Paeroa**	**2.67**	**243**	PN	**Pn**	**07 19 56.1**	**+1.0**
KUZ	**Kuaotunu**	**2.89**	**278**	PN	**Pn**	**07 19 56.7**	**-1.4**
MKAZ	**Moumakai**	**3.29**	**270**	PN	**Pn**	**07 20 02.1**	**-1.7**
PXZ	**Pawanui**	**3.41**	**213**	PN	**Pn**	**07 20 04.5**	**-1.0**
KRVZ	**Karewarewa**	**3.44**	**235**	PN	**Pn**	**07 20 06.3**	**+0.3**
OTVZ	**Oturere**	**3.46**	**234**	PN	**Pn**	**07 20 06.4**	**+0.1**
OTAZ	**Otara**	**3.50**	**273**	PN	**Pn**	**07 20 07.7**	**+1.0**
NGZ	**Ngauruhoe**	**3.51**	**235**	PN	**Pn**	**07 20 07.1**	**+0.2**
MTAZ	**Motutapu**	**3.53**	**275**	PN	**Pn**	**07 20 07.3**	**+0.1**
TUVZ	**Tukino**	**3.53**	**233**	PN	**Pn**	**07 20 07.4**	**+0.2**
MOVZ	**Moawhango**	**3.55**	**230**	PN	**Pn**	**07 20 07.3**	**-0.2**
CNZ	**Chateau**	**3.56**	**235**	PN	**Pn**	**07 20 07.8**	**+0.2**
WPVZ	**Whakapapa**	**3.56**	**235**	PN	**Pn**	**07 20 08.0**	**+0.3**
FWVZ	**Far West T-bar**	**3.59**	**234**	PN	**Pn**	**07 20 08.3**	**+0.3**
WNVZ	**Wahianoa**	**3.60**	**233**	PN	**Pn**	**07 20 08.1**	**-0.2**
MTVZ	**Mangateitei**	**3.71**	**233**	PN	**Pn**	**07 20 09.9**	**0.0**
HIZ	**Hauiti**	**3.75**	**248**	PN	**Pn**	**07 20 11.7**	**+1.4**
WTAZ	**Waiatarua**	**3.78**	**273**	PN	**Pn**	**07 20 12.1**	**+1.3**
WCZ	**Waipu Caves**	**4.17**	**286**	PN	**Pn**	**07 20 15.5**	**-0.8**
BFZ	**Birch Farm**	**4.21**	**213**	PN	**Pn**	**07 20 14.3**	**-2.6**
MRZ	**Mangatainoka R**	**4.51**	**219**	PN	**Pn**	**07 20 18.4**	**-2.8**
KIW	**Kapiti Island**	**5.00**	**222**	PN	**Pn**	**07 20 24.4**	**-3.7**
OUZ	**Omahuta**	**5.01**	**292**	PN	**Pn**	**07 20 27.6**	**-0.6**
TUWZ	**Tuamarina**	**5.92**	**223**	PN	**Pn**	**07 20 37.8**	**-3.2**
THZ	**Tophouse**	**6.72**	**225**	PN	**Pn**	**07 20 47.7**	**-4.6**
DSZ	**Denniston Nort**	**7.36**	**230**	PN	**Pn**	**07 20 55.5**	**-5.7**
LTZ	**Lake Taylor**	**7.75**	**222**	PN	**Pn**	**07 21 03.2**	**-3.6**
RPZ	**Rata Peaks**	**9.04**	**221**	Pn	**P**	**07 21 20.3**	**-4.4**
	0.8nm,0.3s,baz=54,slow=19,SNR=3.6						
RPZ				Sn	**Sn**	**07 22 51.6**	**-16**
	2.2nm,0.3s,baz=97,slow=11,SNR=8.2						

EMIN	**Mina Concepcio**	**2.67**	**64**	P	Pn	08 19 03.5	-2.1
	0.4nm,0.1s,SNR=15						
EMIN				S	Sn	08 19 34.4	-3.8
	1.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.67**	**64**	Pn	Pn	08 19 03.4	-2.1
EMIN				Sn	Sn	08 19 35.2	-3.0
EMIN	**Mina Concepcio**	**2.67**	**64**	Pn	Pn	08 19 03.4	-2.2
EMIN				S	Sn	08 19 34.4	-3.8
	1.5nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	08 19 35.2	-3.0
EBAD	**Badajoz**	**3.00**	**45**	P	Pn	08 19 08.0	-2.3
	1.5nm,0.1s,SNR=14						
EBAD				S	Sn	08 19 42.6	-4.0
	6.3nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**3.00**	**45**	Pn	Pn	08 19 08.0	-2.3
EBAD				Sn	Sn	08 19 42.6	-4.0
ESPR	**Espera**	**3.10**	**85**	P	Pn	08 19 09.4	-2.3
	0.7nm,0.1s,SNR=7.9						
ESPR				S	Sn	08 19 44.8	-4.4
	19nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.10**	**85**	Pn	Pn	08 19 09.4	-2.3
ESPR				Sn	Sn	08 19 44.8	-4.3
PTOM	**Tomar**	**3.14**	**19**	*e*Pn	Pn	08 19 10.3	-2.0
PTOM				*e*Sn	Sn	08 19 45.8	-4.3
PCBR	**Castelo Branco**	**3.64**	**28**	*e*Pn	Pn	08 19 17.3	-2.1
PCBR				*e*Sn	Sn	08 19 57.5	-5.3
ECAB	**El Cabril**	**3.70**	**66**	P	Pn	08 19 17.9	-2.4
	0.6nm,0.1s,SNR=7.9						
ECAB				S	Sn	08 19 59.3	-5.1
	1.9nm,0.2s,SNR=6.9						
ECAB	**El Cabril**	**3.70**	**66**	Pn	Pn	08 19 17.9	-2.4
ECAB				Sn	Sn	08 19 59.3	-5.1
MTE	**Manteigas**	**4.12**	**24**	*e*Pn	Pn	08 19 23.3	-2.8
MTE				*e*Sn	Sn	08 20 09.3	-5.5
EADA	**Adamuz**	**4.36**	**68**	P	Pn	08 19 27.1	-2.5
	SNR=7.9						
EADA				S	Sn	08 20 13.9	-7.0
	1.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.36**	**68**	Pn	Pn	08 19 26.9	-2.7
EADA				Sn	Sn	08 20 15.6	-5.4
EADA	**Adamuz**	**4.36**	**68**	Pn	Pn	08 19 26.9	-2.7
EADA				S	Sn	08 20 13.9	-7.1
	1.9nm,0.1s,SNR=7.9						
EADA				Sn	Sn	08 20 15.6	-5.4
ELOB	**Lobios**	**5.37**	**13**	P	Pn	08 19 40.6	-3.3
	0.5nm,0.1s,SNR=7.9						
ELOB				S	Sn	08 20 38.4	-8.1
	1.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.37**	**13**	Pn	Pn	08 19 40.3	-3.6
ELOB				Sn	Sn	08 20 39.0	-7.4
ELOB	**Lobios**	**5.37**	**13**	Pn	Pn	08 19 40.3	-3.6
ELOB				S	Sn	08 20 38.4	-8.0
	1.4nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	08 20 39.0	-7.4
ESDC	**Sonseca Array**	**5.44**	**55**	P	Pn	08 19 42.0	-2.9
	0.6nm,0.2s,baz=239,slow=14,SNR=4.8						
ESDC				S	Sn	08 20 41.3	-7.0
	0.9nm,0.2s,baz=239,slow=24,SNR=8.5						
ESDC	**Sonseca Array**	**5.44**	**55**	Pn	Pn	08 19 42.0	-2.9
ESDC				Sn	Sn	08 20 41.3	-7.0
PBRG	**Braganca**	**5.64**	**23**	*e*Pn	Pn	08 19 44.2	-3.5
PBRG				*e*Sn	Sn	08 20 45.8	-7.5
ECAL	**Calabor**	**5.77**	**23**	P	Pn	08 19 46.4	-3.1
	1.4nm,0.1s,SNR=5.1						
ECAL				S	Sn	08 20 49.0	-7.5
	2.9nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**5.77**	**23**	Pn	Pn	08 19 46.4	-3.1
ECAL				Sn	Sn	08 20 49.0	-7.5

ISC 26 08:22:05.7±0.8,**39.78N**±0.05×**29.51E**±0.08,**h10**km,**n6,**
σ0§97/10,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.47**	**322**	*i* P	**Pg**	**08 22 14.7**	**-0.5**
ULDT				*i* S	**Sg**	**08 22 22.1**	**+0.6**
ORLT	**Orhaneli**	**0.54**	**300**	PG	**Pg**	**08 22 15.9**	**-0.9**
YLV	**Yalova**	**0.80**	**352**	PG	**Pg**	**08 22 22.1**	**+0.4**
YLV				SG	**Sg**	**08 22 37.3**	**+5.0**
ESKT	**Eskisehir**	**1.06**	**104**	*e*PN	**Pn**	**08 22 26.4**	**-0.2**
ESKT	**Eskisehir**	**1.06**	**104**	*i* P	**Pb**	**08 22 25.9**	**+0.1**
ESKT				*i* S	**Sb**	**08 22 44.4**	**+4.8**
MANT	**Manisa**	**1.48**	**210**	*i* P	**Pn**	**08 22 31.6**	**-1.0**
MANT				*i* S	**Sb**	**08 22 53.6**	**+1.9**

ISC 26 08:54:05.8±1.0,**39.05N**±0.06×**27.48E**±0.07,**h10**km,**n6,**
σ0§77/10,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**123**	*i* PG	**Pg**	**08 54 11.0**	**-1.2**
AKS				*i* SG	**Sg**	**08 54 16.8**	**+0.3**
IZM	**Izmir**	**0.67**	**195**	PG	**Pg**	**08 54 18.3**	**-0.9**
BLCB	**Balcova**	**0.74**	**208**	*e*PG	**Pg**	**08 54 20.5**	**-0.2**
URLA	**Izmir**	**0.97**	**226**	*i* P	**Pb**	**08 54 25.5**	**+1.2**
URLA				*i* S	**Sb**	**08 54 41.5**	**+4.5**
MANT	**Manisa**	**1.01**	**123**	*i* P	**Pb**	**08 54 25.4**	**+0.5**
MANT				*i* S	**Sb**	**08 54 38.4**	**+0.4**
ULDT	**Uludag**	**1.68**	**49**	*i* P	**Pn**	**08 54 35.0**	**-0.5**
ULDT				*i* S	**Sn**	**08 54 57.7**	**+0.4**

*IDC **26** 09:31:06.6±1.7, 12.35N×40.61E, mb4.0/10, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, ML3.9/1, Error ellipse: s-maj=41.9km s-min=14.1km az=26.0*
*NEIC **26** 09:31:08.9±0.5, 12.45N×40.63E, h10km, mb4.4/2, Error ellipse: s-maj=14.5km s-min=10.3km az=58.0*
NEIC Felt strongly in the Dabbahu area.
*CSEM **26** 09:31:10.7±0.2, 12.57N×40.61E, h30km, mb4.5/1, Error ellipse: s-maj=9.1km s-min=5.5km az=33.0*

ISC 26 09:31:07.6±0.6,**12.49N**±0.08×**40.69E**±0.05,**h10**km,**n31,**
σ1§08/31,mb3.9/10,4C,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.32**	**114**	Pn	**Pn**	**09 31 46.8**	**+0.3**
	29nm,0.3s,baz=74,slow=22,SNR=39						
ATD				Lg		09 32 19.6	
	45nm,0.3s,baz=296,slow=24,SNR=20						
TRBA	**At Turbah**	**3.42**	**77**	*e*P	**Pn**	**09 32 05.9**	**+3.7**
TRBA				*i* S	**Sn**	**09 32 41.2**	**-2.0**
TRBA				AML	AML	09 33 04.5	
	comp=N,2μm,0.6s						
TRBA	**At Turbah**	**3.42**	**77**	*e*P	**Pn**	**09 32 05.9**	**+3.7**
TRBA				*i* S	**Sn**	**09 32 41.2**	**-2.1**
	comp=N,864nm,0.6s						
UDYN	**Al 'Udayn**	**3.52**	**65**	⇑*i* P	**Pn**	**09 32 03.9**	**+0.4**
UDYN				*i* S	**Sn**	**09 32 45.9**	**+0.3**
KMBO	**Kilima Mbogo**	**13.95**	**194**	Lg		09 38 36.1	
	comp=N,1.2nm,0.3s,baz=70,slow=23,SNR=3.7						
ASF	**Jabal al Asfar**	**19.89**	**351**	P	**P**	**09 35 43.6**	**+1.4**
	comp=N,3.3nm,0.5s,baz=53,slow=1.3,SNR=14						
GNI	**Garni**	**27.78**	**7**	*e*P	**P**	**09 36 59.9**	**+1.2**
GNI	**Garni**	**27.78**	**7**	*e*P	**P**	**09 36 59.9**	**+1.1**
BR131	**Keskin Array S**	**27.83**	**348**	*e*P	**P**	**09 37 00.5**	**+1.3**
	comp=N,2.0nm,0.4s,mb4.1						
BR131	**Keskin Array S**	**27.83**	**348**	*e*P	**P**	**09 37 00.5**	**+1.3**
BRTR	**Keskin Array B**	**27.83**	**348**	P	**P**	**09 36 59.6**	**+0.3**
	comp=N,3.2nm,0.8s,mb4.0,baz=174,slow=11,SNR=14						
BRTR	**Keskin Array B**	**27.83**	**348**	P	**P**	**09 36 59.5**	**+0.3**
KIV	**Kislovodsk**	**31.40**	**3**	*e*P	**P**	**09 37 33.8**	**+2.8**
AKASG	**Malin Array Be**	**39.24**	**348**	P	**P**	**09 38 36.7**	**-1.2**
	comp=N,0.4nm,0.4s,mb3.5,baz=173,slow=7.1,SNR=8.4						
VYHS	**Vyhne**	**40.23**	**337**	*e*P	**P**	**09 38 45.9**	**-0.2**
GERES	**GERESS Array B**	**42.59**	**334**	P	**P**	**09 39 04.5**	**-0.9**
	comp=N,1.1nm,0.5s,mb3.8,baz=127,slow=6.7,SNR=11						
MDT	**Midelt**	**46.02**	**304**	P	**P**	**09 39 32.9**	**-0.5**
	comp=N,0.9nm,0.7s,mb3.8,baz=82,slow=7.9,SNR=3.5						
BVAR	**Borovoye Array**	**46.87**	**24**	P	**P**	**09 39 39.9**	**+0.2**
	comp=N,0.8nm,0.7s,mb3.7,baz=180,slow=3.0,SNR=6.1						
ESDC	**Sonseca Array**	**47.71**	**313**	P	**P**	**09 39 45.4**	**-1.1**
	comp=N,0.3nm,0.3s,mb3.9,baz=115,slow=8.7,SNR=4.9						
MKAR	**Makanchi Array**	**48.86**	**37**	P	**P**	**09 39 55.4**	**0.0**
	comp=N,1.4nm,0.9s,mb4.0,baz=239,slow=7.1,SNR=8.8						
NB2	**NORSAR Subarra**	**53.02**	**343**	P	**P**	**09 40 24.8**	**-2.0**
	comp=N,5.9nm,1.0s,mb4.5,baz=142,slow=7.4						
NOA	**NORSAR Array B**	**53.02**	**343**	P	**P**	**09 40 25.1**	**-1.7**
	comp=N,2.1nm,0.8s,mb4.1,baz=142,slow=7.3,SNR=4.0						
NOA	**NORSAR Array B**	**53.02**	**343**	P	**P**	**09 40 25.0**	**-1.8**
ZAL	**Zalesovo**	**53.99**	**31**	P	**P**	**09 40 33.5**	**-0.4**
	comp=N,0.9nm,0.3s,mb4.1,baz=40,slow=19,SNR=4.3						
ZAL	**Zalesovo**	**53.99**	**31**	P	**P**	**09 40 33.5**	**-0.4**

SONM	**Songino Array**	**64.56**	**43**	P	**P**	**09 41 47.4**	**+0.1**
	comp=N,1.1nm,1.0s,mb3.9,baz=233,slow=7.4,SNR=7.2						
SNAA	**Sanae**	**88.84**	**193**	⇑*i*	**P**	**09 44 01.8**	**-1.0**
VNA2	**Neumayer--Watz**	**89.34**	**194**	⇑*i*	**P**	**09 44 05.9**	**+0.7**
VNA1	**Neumayer--Stat**	**89.36**	**195**	⇑*i*	**P**	**09 44 06.4**	**+1.1**
TXAR	**Lajitas Array**	**126.03**	**321**	PKP	PKPdf	09 50 11.6	-2.4
	comp=N,0.5nm,1.0s,baz=252,slow=4.0,SNR=3.7						
TXAR	**Lajitas Array**	**126.03**	**321**	PKP	PKPdf	09 50 11.6	-2.4

*BJI **26** 09:33:51.5, 12.31N×40.42E, h16km, mB5.5, mb5.2, Ms5.3, Msz4.9*
*DHMR **26** 09:33:51.6±1.1, 12.47N×40.50E, h12km±50km, ML5.0*
*CRAAG **26** 09:33:52.6, 12.40N×40.56E, Mb5.2*
*IDC **26** 09:33:52.6±0.6, 12.36N×40.69E, mb4.6/21, mb1 4.6/23, mb1mx4.6/25, mbtmp4.5/23, ML4.6/1, MS4.6/5, Ms1 4.6/5, ms1mx4.4/10, Error ellipse: s-maj=14.3km s-min=11.8km az=57.0*
*MOS **26** 09:33:52.3±1.0, 12.41N×40.52E, h10km, mb5.4/47, MS4.6/11, Error ellipse: s-maj=8.8km s-min=3.4km az=110.8*
*STR **26** 09:33:53.7±0.0, 12.44N×40.50E, Mb5.1, Ms4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **26** 09:33:53.3±0.1, 12.47N×40.61E, h14km, mb5.3/52, Ms4.5, Error ellipse: s-maj=2.8km s-min=1.5km az=3.0*
*NEIC **26** 09:33:54.2±0.2, 12.43N×40.60E, h10km, mb5.2/69, MS4.9/9, ML5.0(DHMR), Error ellipse: s-maj=5.6km s-min=3.8km az=202.0*
NEIC Felt strongly in the Dabbahu area. This was followed by a major eruption of Dabbahu Volcano.

ISC 26 09:33:53.4±0.2,**12.42N**±0.03×**40.60E**±0.02,**h15**km,
h15km±1.5km:**pP-P,n346,**σ1§**12**/372,**mb5.1**/99,**MS4.8**/30,
31C-29D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.37**	**112**	Pn	**Pn**	**09 34 32.1**	**-0.2**
	173nm,0.3s,baz=287,slow=9.4,SNR=31						
ATD				Lg		09 35 03.5	
	165nm,0.3s,baz=287,slow=22,SNR=4.1						
ATD	**Arta Tunnel**	**2.37**	**112**	Pn	**Pn**	**09 34 32.1**	**-0.2**
ATD				Lg		09 35 03.5	
TRBA	**At Turbah**	**3.52**	**76**	*i* P	**Pn**	**09 34 49.9**	**+1.2**
TRBA				*i* S	**Sn**	**09 35 35.4**	**+5.0**
TRBA				AML	AML	09 35 47.1	
	comp=Z,7μm,0.7s						
TRBA	**At Turbah**	**3.52**	**76**	*i* P	**Pn**	**09 34 49.9**	**+1.2**
TRBA				*i* S	**Sn**	**09 35 37.1**	**+6.7**
TRBA	**At Turbah**	**3.52**	**76**	*i* P	**Pn**	**09 34 49.9**	**+1.2**
TRBA				*i* S	**Sn**	**09 35 35.4**	**+5.0**
	comp=Z,3μm,0.7s						
UDYN	**Al 'Udayn**	**3.62**	**64**	*e*P	**Pn**	**09 34 50.4**	**+0.3**
UDYN				*i* S	**Sn**	**09 35 37.9**	**+4.9**
DHBB	**Dhamar BB**	**4.26**	**59**	*i* P	**Pn**	**09 34 59.6**	**+0.4**
DHBB				*i* S	**Sn**	**09 35 53.0**	**+3.8**
ADEN	**Aden**	**4.29**	**85**	*i* P	**Pn**	**09 35 01.0**	**+1.3**
ADEN				*i* S	**Sn**	**09 35 53.9**	**+3.9**
ADEN				AML	AML	09 36 11.4	
	comp=E,6μm,0.7s						
ADEN	**Aden**	**4.29**	**85**	*i* P	**Pn**	**09 35 01.0**	**+1.3**
ADEN				*i* S	**Sn**	**09 35 53.9**	**+3.9**
	comp=E,3μm,0.7s						
SANA	**San'a**	**4.58**	**49**	*i* P	**Pn**	**09 35 01.7**	**-2.0**
SANA				*i* S	**Sn**	**09 35 56.4**	**-0.7**
LBOS		**4.75**	**72**	*i* P	**Pn**	**09 35 04.6**	**-1.5**
LBOS				*i* S	**Sn**	**09 36 01.7**	**+0.1**
BDHA	**Al Bayda'**	**5.08**	**72**	*e*P	**Pn**	**09 35 09.0**	**-1.8**
BDHA				*i* S	**Sn**	**09 36 09.9**	**+0.1**
BDHA	**Al Bayda'**	**5.08**	**72**	*i* P	**Pn**	**09 35 09.0**	**-1.8**
BDHA				*i* S	**Sn**	**09 36 09.9**	**+0.1**
MUKL	**Al Mukalla**	**8.45**	**75**	*i* S	**Sn**	**09 37 32.0**	**-2.2**
ABTO	**Aybut**	**13.21**	**67**	⇑P	**P**	**09 37 06.8**	**+3.7**
WHFO	**Wadi Hawf**	**13.83**	**65**	⇓P	**P**	**09 37 14.2**	**+2.8**
KMBO	**Kilima Mbogo**	**13.86**	**194**	Pn	**P**	**09 37 10.8**	**-1.0**
	baz=62,slow=23,SNR=3.7						
KMBO				Lg		09 41 10.9	
	baz=106,slow=18,SNR=7.1						
KMBO				LR	LR	09 42 22.2	
	comp=E,4μm,21.9s,baz=91,slow=37						
RBK	**Rabkut**	**14.08**	**67**	⇑P	**P**	**09 37 17.4**	**+2.8**
SHAO	**Shalim**	**15.53**	**67**	⇑P	**P**	**09 37 35.7**	**+2.2**
RDF	**Al-Radifah**	**17.65**	**20**	*e*P	**P**	**09 38 02.4**	**+1.9**
NAY	**Al-Naaiem**	**17.85**	**19**	*e*P	**P**	**09 38 04.4**	**+1.5**
NAY				AMb	AMB	09 38 11.4	
	comp=Z,83nm,2.0s						
KBD	**Kabd**	**17.93**	**21**	*e*P	**P**	**09 38 05.4**	**+1.4**
KBD				AMb	AMB	09 38 12.8	
	comp=Z,623nm,1.5s						
ARQ	**Araqi**	**18.62**	**52**	⇓P	**P**	**09 38 12.0**	**-0.5**
BSY	**Bisya**	**18.84**	**55**	⇓P	**P**	**09 38 14.4**	**-0.7**
	SNR=23						
BSYO	**Bisya**	**18.87**	**55**	P	**P**	**09 38 14.4**	**-1.1**
	SNR=23						
ASHO	**Ashiyiah**	**19.04**	**48**	⇓P	**P**	**09 38 17.0**	**-0.5**
	SNR=21						
HOQ	**Hoqain**	**19.36**	**53**	⇓P	**P**	**09 38 21.0**	**-0.3**
JMDO	**Jabal Madar**	**19.39**	**57**	⇓P	**P**	**09 38 20.9**	**-0.7**
	SNR=11						
SMDO	**Samad**	**19.68**	**55**	⇓P	**P**	**09 38 23.7**	**-1.1**
	SNR=16						
ASF	**Jabal al Asfar**	**19.95**	**351**	P	**P**	**09 38 28.9**	**+1.0**
	comp=Z,28nm,1.0s,baz=42,slow=3.9,SNR=45						
BIDO	**Bidbid**	**19.97**	**54**	⇓P	**P**	**09 38 26.9**	**-1.2**
BANOM	**Banah**	**19.98**	**45**	⇓P	**P**	**09 38 26.5**	**-1.6**
	SNR=11						
WBK	**Wadi Bani Khal**	**20.21**	**57**	⇓P	**P**	**09 38 29.4**	**-1.2**
	SNR=8.0						
BHD	**Baghdad**	**21.04**	**9**	*ex*	x	09 38 36.0	
BHD				*ex*	x	09 42 27.0	
BHD	**Baghdad**	**21.04**	**9**	*e*S	**S**	**09 42 27.0**	**-0.9**
MSEY	**Mahe Island**	**22.52**	**138**	*e*P	**P**	**09 38 54.3**	**+0.1**
	comp=Z,558nm,1.7s,mb5.7						
MSEY				LR	LR		
	comp=Z,237nm,21.0s,MS3.6						
MSEY	**Mahe Island**	**22.52**	**138**	*e*P	**P**	**09 38 54.3**	**+0.1**
	comp=Z,558nm,1.7s,mb5.7						
MSL	**Mosul**	**23.87**	**5**	*ex*	x	09 39 31.0	
MSL				*ex*	x	09 43 56.0	
IDI	**Anoyia**	**26.85**	**331**	P	**P**	**09 39 36.5**	**+1.2**
	comp=Z,6.0nm,0.8s,mb4.2,baz=156,slow=12,SNR=8.4						
IDI				LR	LR	09 50 18.8	
	comp=Z,296nm,21.9s,MS3.8,baz=234,slow=37						
GNI	**Garni**	**27.86**	**7**	P	**P**	**09 39 46.4**	**+2.0**
	comp=Z,3.9nm,0.3s,mb4.5,baz=150,slow=22,SNR=9.8						
GNI				LR	LR	09 50 50.1	
	comp=Z,1μm,20.8s,MS4.4,baz=189,slow=36						
GNI	**Garni**	**27.86**	**7**	⇓*e*P	**P**	**09 39 45.9**	**+1.5**
	comp=Z,109nm,2.3s,mb5.1						
GNI	**Garni**	**27.86**	**7**	⇓*e*P	**P**	**09 39 45.9**	**+1.5**
GNI				pmax	pmax		
	comp=Z,109nm,2.3s						
BRTR	**Keskin Array B**	**27.89**	**348**	P	**P**	**09 39 46.3**	**+1.6**
	comp=Z,22nm,1.1s,mb4.7,baz=162,slow=7.8,SNR=34						
BR131	**Keskin Array S**	**27.89**	**348**	*e*P	**P**	**09 39 46.6**	**+2.0**
	comp=Z,83nm,1.5s,mb5.1						
BR131	**Keskin Array S**	**27.89**	**348**	*e*P	**P**	**09 39 46.6**	**+1.9**
	comp=Z,83nm,1.5s,mb5.1						
ANTO	**Ankara**	**28.20**	**347**	*e*P	**P**	**09 39 48.8**	**+1.3**
	comp=Z,128nm,1.5s,mb5.3						
ANTO				LR	LR		
	comp=Z,351nm,21.0s,MS3.9						
ANTO	**Ankara**	**28.20**	**347**	*e*P	**P**	**09 39 48.8**	**+1.3**
	comp=Z,128nm,1.5s,mb5.3						
ANTO	**Ankara**	**28.20**	**347**	*e*P	**P**	**09 39 48.8**	**+1.3**
ANTO				pmax	pmax		
	comp=Z,128nm,1.5s,mb5.3						
ANTO				MLR	MLR		
	comp=Z,351nm,21.0s,MS3.9						
DGRG	**David-gareji**	**29.22**	**7**	P	**P**	**09 39 57.3**	**+0.6**
TBLG	**Delisi**	**29.42**	**6**	⇓*i* P	**P**	**09 40 01.0**	**+2.5**
TBLG				LR	LR		
	comp=Z,2μm,13.0s,MS5.0						
TI2	**Plekhanov**	**29.43**	**6**	⇓*i* P	**P**	**09 40 01.0**	**+2.4**
TI2				MLR	MLR		
	comp=E,500nm,13.0s						
TI2				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.0						
LSZ	**Lusaka**	**30.14**	**204**	P	**P**	**09 40 04.1**	**-1.0**
	comp=Z,3.0nm,0.9s,mb4.0,baz=101,slow=16,SNR=4.3						
LSZ	**Lusaka**	**30.14**	**204**	*e*P	**P**	**09 40 05.7**	**+0.6**
	comp=Z,32nm,1.8s,mb4.8						
LSZ				LR	LR		
	comp=Z,4μm,22.0s,MS5.0						
LSZ	**Lusaka**	**30.14**	**204**	*e*P	**P**	**09 40 05.7**	**+0.6**
	comp=Z,32nm,1.8s,mb4.8						
LSZ	**Lusaka**	**30.14**	**204**	*e*P	**P**	**09 40 05.7**	**+0.6**
LSZ				pmax	pmax		
	comp=Z,32nm,1.8s,mb4.8						
LSZ				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.0						
ZEI	**Tsey**	**30.38**	**5**	*e*P	**P**	**09 40 05.5**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
MAK	**Makhachkala**	**31.01**	**10**	*e*P	**P**	**09 40 16.0**	**+3.4**
MAK				MLR	MLR		
	comp=N,2μm,12.0s,MS5.1						
MAK				MLR	MLR		
	comp=E,2μm,12.0s,MS5.1						
MAK				MLR	MLR		
	comp=Z,2μm,12.0s,MS5.1						
SOC	**Sochi**	**31.06**	**359**	*i* Pr		09 40 11.7	
	comp=Z,47nm,1.6s						
SOC				*i* S	**S**	**09 45 15.9**	**-0.5**
SOC				*e*SS	SS	09 46 59.2	-2.0
SOC				LR	LR		
	comp=Z,790nm,12.0s,MS4.6						
SOC	**Sochi**	**31.06**	**359**	*i* P	**P**	**09 40 11.7**	**-1.3**
SOC				*i* S	**S**	**09 45 15.9**	**-0.5**
SOC	**Sochi**	**31.06**	**359**	*d* P	**P**	**09 40 11.7**	**-1.3**
SOC				*i* S	**S**	**09 45 15.9**	**-0.5**
SOC				*e*SS	SS	09 46 59.2	-2.0
SOC				pmax	pmax		
	comp=N,55nm,1.6s						
SOC				pmax	pmax		
	comp=Z,47nm,1.6s,mb5.1						
SOC				pmax	pmax		
	comp=E,13nm,1.0s						
SOC				MLR	MLR		
	comp=N,1μm,12.0s,MS4.8						
SOC				MLR	MLR		
	comp=E,245nm,12.0s,MS4.8						
SOC				MLR	MLR		
	comp=Z,788nm,12.0s,MS4.6						
OPO	**Ambohidratompo**	**31.47**	**168**	P	**P**	**09 40 18.2**	**+1.4**
	comp=Z,6.2nm,1.0s,mb4.4,baz=355,slow=11,SNR=4.8						
KIV	**Kislovodsk**	**31.48**	**3**	*e*P	**P**	**09 40 16.5**	**-0.1**
	comp=Z,13nm,0.8s,mb4.8						
KIV				*e*S	**S**	**09 45 24.1**	**+1.3**
KIV				*e*SS	SS	09 47 09.9	-1.2
KIV				LR	LR		
	comp=Z,940nm,16.0s,MS4.6						
KIV	**Kislovodsk**	**31.48**	**3**	*e*P	**P**	**09 40 16.5**	**-0.1**
KIV				*e*S	**S**	**09 45 24.1**	**+1.3**
KIV				*e*SS	SS	09 47 09.9	-1.2
KIV				pmax	pmax		
	comp=N,4.0nm,0.8s						
KIV				pmax	pmax		
	comp=E,8.0nm,0.8s						
KIV				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
KIV				MLR	MLR		
	comp=N,714nm,16.0s,MS4.6						
KIV				MLR	MLR		
	comp=E,626nm,16.0s,MS4.6						
KIV				MLR	MLR		
	comp=Z,937nm,16.0s,MS4.5						
ANN	**Anapa**	**32.38**	**356**	*e*P	**P**	**09 40 25.3**	**+0.7**
	comp=Z,96nm,1.2s,mb5.5						
ANN				*e*S	**S**	**09 45 38.9**	**+1.9**
ANN	**Anapa**	**32.38**	**356**	*e*P	**P**	**09 40 25.3**	**+0.7**
ANN				*e*S	**S**	**09 45 38.9**	**+1.9**
ANN				pmax	pmax		
	comp=Z,96nm,1.2s,mb5.5						
SIM	**Simferopol'**	**32.89**	**352**	*e*P	**P**	**09 40 30.0**	**+1.0**
	comp=Z,15nm,0.8s,mb5.0						
SIM	**Simferopol'**	**32.89**	**352**	*e*P	**P**	**09 40 30.0**	**+1.0**
SIM				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
SKO	**Skopje**	**33.85**	**334**	*i* P	**P**	**09 40 38.0**	**+0.6**
TIP	**Timpagrande**	**34.01**	**326**	*e*P	**P**	**09 40 39.2**	**+0.4**
TIP	**Timpagrande**	**34.01**	**326**	*e*P	**P**	**09 40 39.2**	**+0.4**
MATP	**Matopo**	**34.74**	**200**	P	**P**	**09 40 44.8**	**-0.4**
	comp=Z,11nm,1.2s,mb4.7,baz=15,slow=11,SNR=5.4						
MLR	**Muntele Rosu**	**35.25**	**342**	⇑P	**P**	**09 40 51.0**	**+1.7**
VRI	**Vrincioaia**	**35.36**	**343**	⇓P	**P**	**09 40 51.2**	**+0.9**
VOIR		**35.48**	**341**	⇓P	**P**	**09 40 52.0**	**+0.8**
GRUS	**Gruza**	**35.73**	**335**	*i* P	**P**	**09 40 52.8**	**-0.6**
KIS	**Kishinev**	**35.87**	**346**	*e*P	**P**	**09 40 54.0**	**-0.6**
DIVS	**Divcibare**	**36.20**	**335**	⇑*i* P	**P**	**09 40 56.9**	**-0.5**
BBLS	**Bajina Basta -**	**36.26**	**334**	*e*P	**P**	**09 40 59.5**	**+1.6**
CII	**Carovilli**	**37.13**	**327**	*e*P	**P**	**09 41 07.3**	**+2.1**
	comp=Z,71nm,1.4s,mb5.3						
CII	**Carovilli**	**37.13**	**327**	*e*P	**P**	**09 41 07.3**	**+2.1**
	comp=Z,71nm,1.4s,mb5.3						
**AQU

KSH *e*PP PP 09 43 19.3 +1.2
KSH *e*PcP PcP 09 43 38.8 -0.2
KSH *e*ScP 09 47 28.0
KSH *e*PcS 09 47 31.8
KSH *e*S **S** **09 47 52.0 -0.8**
KSH *e*SS SS 09 50 53.3 +1.7
KSH *e*ScS ScS 09 51 42.5 +1.1
KSH Kashi 41.27 43 *e*P **P** **09 41 40.3 +0.6**
KSH *e*pP pP 09 41 45.3 +1.0
KSH *e*ScS ScS 09 51 42.5 +1.1
OJC Ojcow 41.38 340 *e*P **P** **09 41 40.3 -0.1**
KBA Koelnbreinsper 41.45 332⇑ *i*P **P** **09 41 41.6 +0.5**
comp=E,30nm,1.8s,mb4.6
KBA Koelnbreinsper 41.45 332⇑ *i*P **P** **09 41 41.6 +0.5**
KBA pmax pmax
comp=Z,30nm,1.8s,mb4.6
MOA Molln 41.61 333⇑ *i*P **P** **09 41 43.4 +1.0**
comp=Z,48nm,1.4s,mb4.9
MOA Molln 41.61 333 *i* P **P** **09 41 43.4 +1.0**
comp=Z,48nm,1.4s,mb5.0,SNR=15
OKC Ostrava-Krasne 41.63 338 *e*P **P** **09 41 42.8 +0.3**
VRAC Vranov 41.79 336 *e*P **P** **09 41 44.3 +0.5**
UCH Uchtor 41.82 38 P **P** **09 41 46.1 +2.0**
SNR=20
AAK Ala-Archa 42.04 38 P **P** **09 41 48.3 +2.3**
SNR=5.4
AAK Ala-Archa 42.04 38 *e*P **P** **09 41 46.0 0.0**
comp=Z,35nm,1.5s,mb4.8
AAK *e* 09 43 21.7
AAK Ala-Archa 42.04 38 *e*P **P** **09 41 46.0 0.0**
AAK Ala-Archa 42.04 38 *e*P **P** **09 41 46.0 0.0**
AAK *e* 09 43 21.7
AAK pmax pmax
comp=Z,35nm,1.5s,mb4.8
KZA Kyzart 42.19 39 P **P** **09 41 49.8 +2.6**
SNR=8.4
TREC Trest 42.22 336 *e*P **P** **09 41 47.0 -0.3**
FRU Bishkek 42.23 38⇓ *e*P **P** **09 41 51.0 +3.4**
FRU *e* 09 43 30.0
REVF Revere 42.31 324 *e*P **P** **09 41 48.6 +0.4**
KBK Karagaybulak 42.33 38 P **P** **09 41 50.4 +2.0**
SNR=6.5
SBF Sospel 42.35 324 *e*P **P** **09 41 47.6 -0.9**
SAOF Saorge 42.36 324 *e*P **P** **09 41 48.9 +0.3**
WTTA Wattenberg 42.39 331⇑ *i*P **P** **09 41 49.8 +1.0**
comp=Z,45nm,1.3s,mb4.9
WTTA Wattenberg 42.39 331⇑ *i*P **P** **09 41 49.8 +1.0**
WTTA pmax pmax
comp=Z,45nm,1.3s,mb4.9
AUTN L'Aution 42.44 324 *e*P **P** **09 41 46.7 -2.5**
SQTA Sankt Quirin 42.56 330⇑ *i*P **P** **09 41 50.2 0.0**
comp=Z,56nm,1.7s,mb5.0
SQTA Sankt Quirin 42.56 330⇑ *i*P **P** **09 41 50.2 0.0**
SQTA pmax pmax
comp=Z,56nm,1.7s,mb5.0
LMR La Mourre 42.57 323 *e*P **P** **09 41 49.3 -1.1**
CALN Calern 42.60 324 *e*P **P** **09 41 48.4 -2.2**
GERES GERESS Array B 42.62 334 P **P** **09 41 50.6 0.0**
comp=Z,8.1nm,0.9s,mb4.5,baz=135,slow=7.5,SNR=27
FRF La Foret Royal 42.63 323 *e*P **P** **09 41 49.7 -1.1**
MOTA Moosalm 42.70 330⇓ *i*P **P** **09 41 51.3 -0.1**
comp=Z,28nm,1.4s,mb4.8
MOTA Moosalm 42.70 330⇓ *i*P **P** **09 41 51.3 -0.1**
MOTA pmax pmax
comp=Z,28nm,1.4s,mb4.8
OBN Obninsk 42.71 357 *i* Pr 09 41 51.4
comp=Z,171nm,1.6s
OBN *i* 09 43 35.0
OBN LR LR
comp=Z,300nm,15.0s,MS4.3
OBN Obninsk 42.71 357 *d i*P **P** **09 41 51.4 +0.1**
OBN *i* 09 43 35.0
OBN pmax pmax
comp=Z,171nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.3
DPC Dobruska-Polom 42.73 337 *e*P **P** **09 41 51.3 -0.2**
KHC Kasperske Hory 42.88 334 *e*P **P** **09 41 52.2 -0.6**
KHC *e*PP PP 09 43 35.0 +0.1
ULHL Ulahol 42.89 39 P **P** **09 41 55.3 +2.3**
SNR=18
KOLN Koldanda 42.93 63 *e*P **P** **09 41 52.8 -0.7**
comp=Z,243nm,1.8s,mb5.6
UPC Upice 42.98 337 *e*P **P** **09 41 53.3 -0.2**
TAVF Tavernes 43.01 323 *e*P **P** **09 41 54.9 +1.0**
BERF Bertagne 43.05 322 *e*P **P** **09 41 54.9 +0.7**
SURF Saint Ours 43.08 324 *e*P **P** **09 41 55.3 +0.8**
KSP Ksiaz 43.14 338 *e*P **P** **09 41 55.6 +0.8**
KSP Ksiaz 43.14 338 *e*P **P** **09 41 54.8 -0.1**
PRU Pruhonice 43.14 335 *e*P **P** **09 41 54.5 -0.4**
PUYF Puyloubier 43.17 323 *e*P **P** **09 41 55.8 +0.6**
GELF Grande-Etoile 43.25 322 *e*P **P** **09 41 56.3 +0.5**
MBDF Montbardon 43.26 325 *e*P **P** **09 41 55.8 -0.1**
comp=Z,82nm,1.0s,mb5.1
MBDF Montbardon 43.26 325 *e*P **P** **09 41 55.8 -0.1**
MBDF pmax pmax
comp=Z,41nm,1.0s,mb5.1
DAVA Damuels 43.26 330⇓ *i*P **P** **09 41 55.8 -0.1**
comp=Z,34nm,1.1s,mb5.0
MOS Moscow 43.28 358 *e*P **P** **09 41 55.8 -0.1**
comp=Z,315nm,1.7s,mb5.8
MOS *e* 09 43 38.3
MOS Moscow 43.28 358 *e*P **P** **09 41 55.8 -0.1**
MOS *e* 09 43 38.3
MOS pmax pmax
comp=Z,700nm,2.0s,mb6.0
MOS pmax pmax
comp=Z,315nm,1.7s,mb5.8
VILF Villemus 43.34 323 *e*P **P** **09 41 55.3 -1.3**
SMRF Simiane la Rot 43.50 323 *e*P **P** **09 41 57.4 -0.5**
BNI Bardonecchia 43.51 325 *e*P **P** **09 42 00.5 +2.6**
comp=Z,41nm,1.5s,mb4.9
BNI Bardonecchia 43.51 325 *e*P **P** **09 42 00.5 +2.6**
comp=Z,41nm,1.5s,mb4.9
BNI Bardonecchia 43.51 325 *e*P **P** **09 42 00.5 +2.6**
BNI pmax pmax
comp=Z,41nm,1.5s,mb4.9
PVCC Panska Ves 43.55 336 *e*P **P** **09 41 58.0 -0.2**
PRAF Pradon 43.64 323 *e*P **P** **09 41 59.6 +0.6**
SUW Suwalki 43.73 345 *e*P **P** **09 42 00.0 +0.4**
LPG La Plagne 43.74 325 *e*P **P** **09 41 58.0 -1.8**
LPL La Plagne 43.76 325 *e*P **P** **09 41 58.2 -1.8**
comp=Z,171nm,1.7s,mb5.2
LPL La Plagne 43.76 325 *e*P **P** **09 41 58.2 -1.8**
LPL pmax pmax
comp=Z,85nm,1.7s,mb5.2
ORIF Oris-en-Rattie 43.88 324 *e*P **P** **09 42 00.0 -0.9**
GKN Gorkha 43.88 62 *e*P **P** **09 42 00.1 -1.1**
comp=Z,234nm,1.8s,mb5.6
GDM Grand'Maison 43.91 325 *e*P **P** **09 42 01.4 +0.2**
BRG Berggiesshubel 44.07 336 *i* P **P** **09 42 02.3 -0.1**
comp=Z,62nm,1.5s,mb5.1
BRG Berggiesshubel 44.07 336 *i* P **P** **09 42 02.3 -0.1**
BRG pmax pmax
comp=Z,62nm,1.5s,mb5.1
GRN Grenoble 44.15 325 *e*P **P** **09 42 03.3 +0.2**
NKC Novy Kostel 44.20 334 *e*P **P** **09 42 02.6 -0.9**
GRA1 Grafenberg Arr 44.33 333 *e*P **P** **09 42 03.6 -0.9**
comp=Z,55nm,1.5s,mb5.1
GRA1 *e* 09 43 48.9
GRF Grafenberg Arr 44.33 333 *e*P **P** **09 42 03.6 -0.9**
comp=Z,55nm,1.5s,mb5.1
GRF *e* 09 43 48.9
GRF Grafenberg Arr 44.33 333 *e*P **P** **09 42 03.6 -0.9**
GRF *e* 09 43 48.9
GRF pmax pmax
comp=Z,55nm,1.5s,mb5.1
GRF Grafenberg Arr 44.33 333 *e*P **P** **09 42 03.6 -0.9**
GRF *e* 09 43 48.9
GRF pmax pmax
comp=Z,55nm,1.5s,mb5.1
KKN Kakani 44.40 63 *e*P **P** **09 42 04.7 -0.7**
comp=Z,275nm,1.8s,mb5.7
VIVF Saint-Julien-l 44.53 323 *e*P **P** **09 42 05.1 -1.2**
FILF Fillols 44.57 320 *e*P **P** **09 42 06.6 0.0**
LASF Ste Croix 44.58 322 *e*P **P** **09 42 05.6 -1.0**
comp=Z,104nm,1.4s,mb5.2
BBS Basel-Blauen 44.58 328 *e*P **P** **09 42 06.4 -0.2**
FELD Feldberg 44.60 329 *e*P **P** **09 42 06.9 +0.2**
CLL Collm 44.78 336⇑ P **P** **09 42 07.6 -0.6**
comp=Z,logA/T=1.6,mb5.2
CLL *i* *PP pP 09 42 11.6 -1.2
CLL *i* *SP sP 09 42 14.0 -0.7
CLL *i* 09 42 20.8

CLL Collm 44.78 336⇑ *i*P **P** **09 42 07.6 -0.6**
comp=Z,69nm,1.6s,mb5.2
CLL *i* pP pP 09 42 11.6 -1.2
CLL Collm 44.78 336⇑ *i*P **P** **09 42 07.6 -0.6**
CLL *i* *PP pP 09 42 11.6 -1.2
CLL pmax pmax
comp=Z,69nm,1.6s,mb5.2
CABF La Chapelle 44.79 326 *e*P **P** **09 42 06.5 -1.8**
comp=Z,28nm,0.7s,mb4.9
CABF La Chapelle 44.79 326 *e*P **P** **09 42 06.5 -1.8**
CABF pmax pmax
comp=Z,14nm,0.7s,mb4.9
LOMF Lomont 44.86 328 *e*P **P** **09 42 09.2 +0.4**
MOX Moxa 44.86 334 *i* P **P** **09 42 08.2 -0.6**
comp=Z,logA/T=1.7,mb5.3
MOX Moxa 44.86 334 *e*P **P** **09 42 08.2 -0.6**
comp=Z,82nm,1.8s,mb5.3
MOX Moxa 44.86 334 *e*P **P** **09 42 08.2 -0.6**
MOX pmax pmax
comp=Z,82nm,1.8s,mb5.3
LIBD Limburg 44.98 329 *e*P **P** **09 42 09.9 +0.1**
MOF Molkenrain 45.02 328 *e*P **P** **09 42 10.2 +0.1**
KIC Kosan Boka 45.09 267 *e*P **P** **09 42 10.1 -1.0**
comp=Z,118nm,1.2s,mb5.6
HINF Hinteralfeld 45.15 328 *e*P **P** **09 42 09.7 -1.4**
DBIC Dimbokro 45.15 267 P **P** **09 42 11.6 +0.1**
comp=Z,14nm,1.1s,mb4.7,baz=69,slow=10,SNR=4.2
DBIC Dimbokro 45.15 267 P **P** **09 42 12.9 +1.3**
DBIC Dimbokro 45.15 267 P **P** **09 42 12.9 +1.3**
DBIC Dimbokro 45.15 267 P **P** **09 42 11.6 0.0**
DBIC pmax pmax
comp=Z,14nm,1.1s
JIRN Jiri 45.16 63 *e*P **P** **09 42 10.9 -0.6**
comp=Z,192nm,1.8s,mb5.6
MTLF Montolieu 45.19 320 *e*P **P** **09 42 10.6 -0.9**
ECH Echery 45.25 329 *e*P **P** **09 42 12.0 +0.1**
WLS Welschbruch 45.28 329 *e*P **P** **09 42 12.0 -0.1**
TIC Toumodi 45.31 267 *e*P **P** **09 42 12.6 -0.3**
comp=Z,378nm,1.7s,mb6.0
CDF Champ du Feu 45.32 329 *e*P **P** **09 42 11.1 -1.3**
comp=Z,91nm,1.5s,mb5.1
CDF Champ du Feu 45.32 329 *e*P **P** **09 42 11.1 -1.3**
CDF pmax pmax
comp=Z,46nm,1.5s,mb5.1
TOD Tromm 45.38 331 *e*P **P** **09 42 12.8 -0.1**
LIC Lamto 45.40 267 *e*P **P** **09 42 13.6 0.0**
comp=Z,69nm,1.2s,mb5.4
LIC Lamto 45.40 267 *e*P **P** **09 42 13.1 -0.5**
comp=Z,31nm,1.2s,mb5.0
LANF Langenberg 45.43 330 *e*P **P** **09 42 13.2 -0.1**
HAU Haudompre 45.53 328 *e*P **P** **09 42 12.7 -1.4**
SALF Salau 45.54 319 *e*P **P** **09 42 15.5 +1.2**
LBL Lubilhac 45.58 323 *e*P **P** **09 42 14.7 +0.1**
PLDF La Plantade 45.78 324 *e*P **P** **09 42 14.4 -1.7**
THEF They Montfort 45.86 328 *e*P **P** **09 42 15.6 -1.1**
MDT Midelt 45.99 304 P **P** **09 42 18.7 +0.7**
comp=Z,18nm,1.1s,mb4.9,baz=104,slow=9.9,SNR=16
PYM Petit Puy Mans 46.01 324 *e*P **P** **09 42 17.3 -0.7**
PYM Petit Puy Mans 46.01 324 *e*P **P** **09 42 16.1 -1.9**
SMF Signal de Mont 46.05 325 *e*P **P** **09 42 16.6 -1.6**
ARU Arti 46.06 14⇓ *i*P **P** **09 42 18.8 +0.6**
comp=Z,82nm,2.2s,mb5.3
ARU *e* 09 43 51.3
ARU *e* 09 44 07.7
ARU *e*S **S** **09 49 03.8 +1.6**
ARU LR LR
comp=Z,800nm,18.5s,MS4.7
ARU Arti 46.06 14⇓ *i*P **P** **09 42 18.8 +0.6**
ARU *e* 09 43 51.3
ARU *e* 09 44 07.7
ARU *e*S **S** **09 49 03.8 +1.6**
ARU pmax pmax
comp=Z,82nm,2.2s,mb5.3
ARU MLR MLR
comp=Z,800nm,18.5s,MS4.7
ARU MLR MLR
comp=N,500nm,18.0s,MS4.6
ARU MLR MLR
comp=E,400nm,20.0s,MS4.6
RESF Ens 46.11 319 *e*P **P** **09 42 20.0 +1.2**
CAF Calviac 46.12 322 *e*P **P** **09 42 18.2 -0.6**
EPF Esparros 46.22 319 *e*P **P** **09 42 18.5 -1.1**
LOR Lormes 46.40 326 *e*P **P** **09 42 19.4 -1.6**
comp=E,103nm,1.3s,mb5.3
LOR Lormes 46.40 326 *e*P **P** **09 42 19.4 -1.6**
LOR pmax pmax
comp=Z,51nm,1.3s,mb5.3
AVF Avril sur Loir 46.41 325 *e*P **P** **09 42 19.3 -1.8**
SSF Saint Saulge 46.48 325 *e*P **P** **09 42 19.8 -1.8**
comp=Z,8.7nm,0.9s,mb4.7
SSF Saint Saulge 46.48 325 *e*P **P** **09 42 19.8 -1.8**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MEZF Maizieres J'vi 46.51 328 *e*P **P** **09 42 21.0 -0.9**
BGF Bois d'Agland 46.56 324 *e*P **P** **09 42 21.2 -1.1**
comp=Z,227nm,1.7s,mb5.5
BGF Bois d'Agland 46.56 324 *e*P **P** **09 42 21.2 -1.1**
BGF pmax pmax
comp=Z,114nm,1.7s,mb5.5
RJF Les Rejaudoux 46.65 322 *e*P **P** **09 42 22.2 -0.8**
REYF Montagne du Re 46.71 319 *e*P **P** **09 42 24.7 +1.2**
ETSF Etsaut 46.74 318 *e*P **P** **09 42 23.6 -0.1**
comp=Z,36nm,0.7s,mb5.1
ETSF Etsaut 46.74 318 *e*P **P** **09 42 23.6 -0.1**
ETSF pmax pmax
comp=Z,18nm,0.7s,mb5.1
TCF Toulx Ste Croi 46.77 324 *e*P **P** **09 42 23.2 -0.8**
LFF La Frestale 46.92 321 *e*P **P** **09 42 24.6 -0.6**
BRVK Borovoye 46.95 24 *e*P **P** **09 42 25.8 +0.5**
comp=Z,57nm,1.9s,mb5.2
BRVK Borovoye 46.95 24 *e*P **P** **09 42 25.8 +0.5**
BRVK pmax pmax
comp=Z,57nm,1.9s,mb5.2
BVAR Borovoye Array 46.97 24 P **P** **09 42 24.9 -0.5**
comp=Z,4.9nm,0.9s,mb4.4,baz=207,slow=6.6,SNR=15
SJPF Ste Jean 47.27 318 *e*P **P** **09 42 27.9 -0.1**
comp=Z,24nm,0.7s,mb5.0
SJPF Ste Jean 47.27 318 *e*P **P** **09 42 27.9 -0.1**
SJPF pmax pmax
comp=Z,12nm,0.7s,mb4.9
HGN Heimansgroeve 47.52 331⇑ *i*P **P** **09 42 30.1 +0.2**
comp=Z,73nm,2.1s,mb5.3
GIVF Givet 47.64 329 *e*P **P** **09 42 29.2 -1.6**
ESDC Sonseca Array 47.70 313 P **P** **09 42 31.9 +0.5**
comp=Z,1.1nm,0.4s,mb4.2,baz=111,slow=7.9,SNR=20
ESLA Sonseca Array 47.70 313 *e*P **P** **09 42 31.9 +0.4**
comp=Z,109nm,2.3s,mb5.5
ESLA LR LR
comp=Z,5μm,19.0s,MS5.5
ESLA Sonseca Array 47.70 313 *e*P **P** **09 42 31.9 +0.5**
comp=Z,109nm,2.3s,mb5.5
BAIF Baives 47.92 329 *e*P **P** **09 42 31.2 -1.8**
WTSB Winterswijk 47.93 332 *e*P **P** **09 42 33.0 0.0**
comp=Z,80nm,1.7s,mb5.5
MFF Saint Martin d 48.31 323 *e*P **P** **09 42 34.7 -1.4**
SOKR Solikamsk 48.59 11 *i* Pr **P** **09 42 38.4 +0.4**
comp=Z,90nm,1.8s,mb5.5
SOKR S S 09 49 59.8 +22
SOKR LR LR
comp=Z,780nm,19.0s,MS4.7
SOKR Solikamsk 48.59 11 *d i*P **P** **09 42 38.4 +0.4**
SOKR S S 09 49 59.8 +22
SOKR pmax pmax
comp=Z,90nm,1.8s,mb5.5
SOKR MLR MLR
comp=Z,780nm,19.0s,MS4.7
MKAR Makanchi Array 48.97 37 P **P** **09 42 40.8 -0.3**
comp=Z,3.7nm,0.9s,mb4.4,baz=233,slow=6.1,SNR=19
MKAR LR LR 10 06 04.3
comp=Z,1μm,21.5s,MS4.9,baz=242,slow=40
KURK Kurchatov 49.14 31 *e*P **P** **09 42 42.4 0.0**
KURK *e* 09 44 37.3
KURK pmax pmax
comp=Z,56nm,1.8s,mb5.3
KURK MLR MLR
comp=Z,309nm,19.0s,MS4.3
LDF La Druitiere 49.36 325 *e*P **P** **09 42 41.9 -2.2**
FLN La Foliniere 49.65 325 *e*P **P** **09 42 44.2 -2.2**
GRR Gorron 49.66 325 *e*P **P** **09 42 44.2 -2.2**
LSA Lhasa 49.80 62 P **P** **09 42 49.0 +1.2**
LSA Lhasa 49.80 62 *e*P **P** **09 42 48.3 +0.5**
LSA pmax pmax
comp=Z,142nm,1.9s,mb5.7
LSA MLR MLR
comp=Z,444nm,22.0s,MS4.4

FINES FINESS Array B 50.07 351 P **P** **09 42 49.1 -0.3**
comp=Z,11nm,1.1s,mb4.8,baz=135,slow=2.7,SNR=11
EVO Evora 50.28 310 *e*P **P** **09 42 50.7 -0.6**
comp=Z,238nm,1.8s,mb5.6
EVO *e*R
comp=Z,579nm,21.5s
KAF Kangasniemi 50.68 351 *e*p **P** **09 42 51.7 -2.3**
comp=Z,23nm,1.1s,mb5.0,baz=160,slow=7.5
KAF Kangasniemi 50.68 351 *e*P **P** **09 42 51.7 -2.3**
KAF pmax pmax
comp=Z,23nm,1.1s,mb5.0
JOF Joensuu 50.86 355 *e*p **P** **09 42 51.9 -3.4**
comp=Z,26nm,1.1s,mb5.1
ROSF Rostrenen 51.02 323 *e*P **P** **09 42 54.3 -2.5**
comp=Z,246nm,1.9s,mb5.5
ROSF Rostrenen 51.02 323 *e*P **P** **09 42 54.3 -2.5**
ROSF pmax pmax
comp=Z,123nm,1.9s,mb5.5
WMQ Urumqi 51.03 43⇑ *i*P **P** **09 42 57.5 +0.6**
WMQ XP sP 09 43 04.5 +1.0
WMQ PCP PcP 09 44 14.0 +0.8
WMQ PP PP 09 44 55.0 +0.5
WMQ SCP 09 48 09.0
WMQ S **S** **09 50 13.0 +0.8**
WMQ AMB AMB
comp=Z,194nm,1.8s,mb5.7
WMQ AMB AMB
comp=Z,411nm,3.7s
WMQ LR LR
comp=N,1μm,17.4s,MS5.0
WMQ LR LR
comp=E,776nm,20.0s,MS5.0
WMQ LR LR
comp=Z,1μm,27.4s
WMQ Urumqi 51.03 43⇑ *i*P **P** **09 42 57.5 +0.6**
comp=Z,190nm,1.8s,mb5.7
WMQ sP sP 09 43 04.5 +1.0
WMQ PcP PcP 09 44 14.0 +0.8
WMQ PP PP 09 44 55.0 +0.5
WMQ ScP 09 48 09.0
WMQ S **S** **09 50 13.0 +0.8**
WMQ LR LR
comp=Z,1μm,27.4s,MS4.7
KONO Kongsberg 52.46 341⇑ *e*P **P** **09 43 06.8 -0.7**
NAO01 NORSAR Array S 53.00 342 *e*P **P** **09 43 10.9 -0.6**
comp=Z,116nm,1.4s,mb5.6
NAO01 NORSAR Array S 53.00 342 *e*P **P** **09 43 10.9 -0.7**
comp=Z,116nm,1.4s,mb5.6
NB2 NORSAR Subarra 53.06 343 P **P** **09 43 10.4 -1.6**
comp=Z,101nm,1.4s,mb5.6,baz=145,slow=7.4
NB2 NORSAR Subarra 53.06 343 P **P** **09 43 10.4 -1.6**
baz=145,slow=7.4
NB2 NORSAR Subarra 53.06 343 P **P** **09 43 10.4 -1.6**
NB2 pmax pmax
comp=Z,101nm,1.4s,mb5.6
NOA NORSAR Array B 53.06 343 P **P** **09 43 10.2 -1.8**
comp=Z,19nm,1.1s,mb4.9,baz=144,slow=7.2,SNR=8.6
NOA NORSAR Array B 53.06 343 P **P** **09 43 10.1 -1.9**
NVS Novosibirsk 53.84 29 *i* P **P** **09 43 16.4 -1.3**
comp=Z,93nm,2.5s,mb5.3
NVS Novosibirsk 53.84 29 *i* P **P** **09 43 16.4 -1.3**
NVS pmax pmax
comp=Z,93nm,2.5s,mb5.3
NVS pmax pmax
comp=N,38nm,1.8s
NVS pmax pmax
comp=E,5.0nm,0.9s
ZAL Zalesovo 54.09 31 P **P** **09 43 18.9 -0.8**
comp=E,3.9nm,0.9s,mb4.3,baz=239,slow=7.4,SNR=15
ARCES ARCESS Array B 57.88 354 P **P** **09 43 45.1 -1.6**
comp=E,10nm,1.2s,mb4.7,baz=162,slow=7.7,SNR=6.2
GTA Gaotai 58.50 51⇓ P **P** **09 43 51.0 -0.4**
GTA AP pP 09 43 55.5 -0.7
GTA XP sP 09 43 58.0 +0.1
GTA PCP PcP 09 44 43.0 +1.3
GTA PP PP 09 46 00.5 -2.2
GTA S **S** **09 51 45.8 -6.7**
GTA AMB AMB
comp=Z,28nm,1.6s,mb5.0
GTA AMB AMB
comp=Z,280nm,8.4s
GTA LR LR
comp=N,675nm,18.7s
GTA LR LR
comp=E,625nm,29.0s
GTA LR LR
comp=Z,1μm,28.3s
GTA Gaotai 58.50 51⇓ P **P** **09 43 51.0 -0.4**
comp=Z,28nm,1.6s,mb5.0
GTA pP pP 09 43 55.5 -0.7
GTA sP sP 09 43 58.0 +0.1
GTA PcP PcP 09 44 43.0 +1.3
GTA PP PP 09 46 00.5 -2.2
GTA S **S** **09 51 45.8 -6.7**
GTA LR LR
comp=Z,1μm,28.3s,MS4.8
KMI Kunming 59.73 68 P **P** **09 44 00.0 -0.1**
KMI XP sP 09 44 10.0 +3.3
KMI AMB AMB
comp=Z,19nm,0.8s,mb5.2
KMI LR LR
comp=Z,890nm,42.9s,MS4.6
KMI Kunming 59.73 68 P **P** **09 44 00.0 -0.1**
comp=Z,19nm,0.8s,mb5.2
KMI sP sP 09 44 10.0 +3.3
KMI LR LR
comp=Z,890nm,42.9s,MS4.6
KMI Kunming 59.73 68 P **P** **09 44 00.0 -0.1**
KMI pmax pmax
comp=Z,19nm,0.8s,mb5.2
KMI MLR MLR
comp=Z,890nm,42.9s,MS4.6
CD2 Chengdu 60.77 61 *e*P **P** **09 44 06.5 -0.6**
CD2 PP PP 09 46 22.0 -1.2
CD2 *e*S **S** **09 52 20.5 -1.3**
CD2 SS SS 09 56 20.0 -2.2
LZH Lanzhou 61.21 56 *e*P **P** **09 44 10.3 +0.2**
LZH AP pP 09 44 13.8 -1.1
LZH XP sP 09 44 15.8 -0.8
LZH PP PP 09 46 26.5 -0.7
LZH *e*S **S** **09 52 21.0 -6.5**
LZH AMB AMB
comp=Z,104nm,1.7s,mb5.7
LZH AMB AMB
comp=Z,390nm,4.2s
LZH LR LR
comp=N,2μm,17.4s
LZH LR LR
comp=Z,3μm,19.0s,MS5.5
LZH Lanzhou 61.21 56 *e*P **P** **09 44 10.3 +0.2**
comp=Z,100nm,1.7s,mb5.7
LZH pP pP 09 44 13.8 -1.1
LZH sP sP 09 44 15.8 -0.8
LZH PP PP 09 46 26.5 -0.7
LZH *e*S **S** **09 52 21.0 -6.5**
LZH LR LR
comp=Z,3μm,19.0s,MS5.5
LZH Lanzhou 61.21 56 *e*P **P** **09 44 10.3 +0.2**
LZH *PP pP 09 44 13.7 -1.2
LZH *SP sP 09 44 15.8 -0.8
LZH 09 46 26.5
LZH *e*S **S** **09 52 21.1 -6.3**
LZH pmax pmax
comp=Z,104nm,1.7s,mb5.7
LZH MLR MLR
comp=Z,3μm,19.0s,MS5.5
ZAK Zakamensk 63.18 40 *e*P **P** **09 44 13.3 -10**
GYA Guiyang 63.25 67⇓ *i*P **P** **09 44 22.5 -1.3**
GYA AP pP 09 44 26.8 -1.8
GYA XP sP 09 44 29.8 -0.6
GYA PP PP 09 46 42.5 -2.2
GYA S **S** **09 52 50.8 -2.6**
GYA SS SS 09 56 58.5 -3.3
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,160nm,4.0s
GYA LR LR
comp=N,480nm,18.4s,MS4.8
GYA LR LR
comp=E,430nm,18.6s,MS4.8
GYA LR LR
comp=Z,420nm,18.8s,MS4.6
GYA Guiyang 63.25 67⇓ *i*P **P** **09 44 22.5 -1.3**
comp=Z,30nm,1.0s,mb5.4

GYA pP pP 09 44 26.8 -1.8
GYA sP sP 09 44 29.8 -0.6
GYA PP PP 09 46 42.5 -2.2
GYA S **S** **09 52 50.8 -2.6**
GYA SS SS 09 56 58.5 -3.3
GYA LR LR
comp=Z,420nm,18.8s,MS4.6
SONM Songino Array 64.67 43 P **P** **09 44 33.1 +0.2**
comp=Z,6.1nm,0.9s,mb4.6,baz=245,slow=6.6,SNR=34
SONM LR LR 10 16 31.4
comp=Z,1μm,19.8s,MS5.1,baz=288,slow=40
XAN Xi'an 65.24 58 P **P** **09 44 36.0 -0.8**
XAN AMB AMB
comp=Z,24nm,2.1s,mb4.9
XAN Xi'an 65.24 58 P **P** **09 44 36.0 -0.8**
comp=Z,24nm,2.1s,mb4.9
BTO Baotou 66.42 51 *e*P **P** **09 44 42.8 -1.4**
HHC Hu-ho-hao-te 67.61 51 *e*P **P** **09 44 52.5 +0.8**
HHC AP pP 09 44 57.0 +0.5
HHC XP sP 09 44 59.3 +1.0
HHC PCP PcP 09 45 19.8 +0.9
HHC PP PP 09 47 22.5 -0.2
HHC SCP 09 49 20.3
HHC PCS 09 49 22.8
HHC S S 09 53 48.0 +1.5
HHC XS 09 53 56.8
HHC SCS ScS 09 54 46.8 +0.9
HHC SS SS 09 58 12.0 +3.1
HHC AMB AMB
comp=Z,41nm,1.4s,mb5.3
HHC AMB AMB
comp=Z,169nm,4.6s
HHC LR LR
comp=N,374nm,20.2s,MS4.8
HHC LR LR
comp=E,339nm,17.8s,MS4.8
HHC LR LR
comp=Z,633nm,23.8s
HHC Hu-ho-hao-te 67.61 51 *e*P **P** **09 44 52.5 +0.8**
comp=Z,41nm,1.4s,mb5.3
HHC pP pP 09 44 57.0 +0.5
HHC sP sP 09 44 59.3 +1.0
HHC PcP PcP 09 45 19.8 +0.9
HHC PP PP 09 47 22.5 -0.2
HHC ScP 09 49 20.3
HHC PcS 09 49 22.8
HHC S S 09 53 48.0 +1.5
HHC sS 09 53 56.8
HHC ScS ScS 09 54 46.8 +0.9
HHC SS SS 09 58 12.0 +3.1
HHC LR LR
comp=Z,630nm,23.8s,MS4.8
HHC Hu-ho-hao-te 67.61 51 *e*P **P** **09 44 52.5 +0.8**
comp=Z,41nm,1.4s,mb5.3
HHC pP pP 09 44 57.0 +0.5
HHC ScS ScS 09 54 46.8 +0.9
BOD Bodaibo 70.74 33 *e*P **P** **09 45 01.5 -9.2**
comp=Z,25nm,1.8s,mb4.8
BOD Bodaibo 70.74 33 *e*P **P** **09 45 01.5 -9.2**
BOD pmax pmax
comp=Z,25nm,1.8s,mb4.8
HIA Hailar 73.62 42 *e*P **P** **09 45 28.4 +0.5**
comp=Z,28nm,1.4s,mb5.0
HIA Hailar 73.62 42 *e*P **P** **09 45 28.4 +0.5**
comp=Z,28nm,1.4s,mb5.0
HIA Hailar 73.62 42 *e*P **P** **09 45 28.4 +0.5**
HIA pmax pmax
comp=Z,28nm,1.4s
NJ2 Nanjing 73.63 60 *e*P **P** **09 45 28.8 +0.4**
NJ2 AP pP 09 45 34.5 +1.3
NJ2 XP sP 09 45 36.3 +1.4
NJ2 PCP PcP 09 45 45.5 +0.9
NJ2 S S 09 54 55.0 -1.8
NJ2 XS 09 55 05.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,500nm,4.2s
NJ2 LR LR
comp=N,1μm,22.0s,MS5.3
NJ2 LR LR
comp=E,960nm,25.0s,MS5.3
NJ2 LR LR
comp=Z,830nm,24.4s,MS4.9
NJ2 Nanjing 73.63 60 *e*P **P** **09 45 28.8 +0.4**
comp=Z,20nm,0.6s,mb5.2
NJ2 pP pP 09 45 34.5 +1.3
NJ2 sP sP 09 45 36.3 +1.4
NJ2 PcP PcP 09 45 45.5 +0.9
NJ2 S S 09 54 55.0 -1.8
NJ2 sS 09 55 05.0
NJ2 LR LR
comp=Z,830nm,24.4s,MS4.9
DL2 Dalian 75.37 53 P **P** **09 45 38.5 +0.2**
DL2 *e*S S 09 55 17.3 +1.3
DL2 AMB AMB
comp=Z,20nm,1.7s,mb4.8
DL2 AMB AMB
comp=Z,400nm,3.8s
DL2 LR LR
comp=N,170nm,15.2s,MS4.8
DL2 LR LR
comp=E,330nm,15.0s,MS4.8
DL2 LR LR
comp=Z,590nm,19.1s,MS4.9
DL2 Dalian 75.37 53 P **P** **09 45 38.5 +0.2**
comp=Z,20nm,1.7s,mb4.8
DL2 *e*S S 09 55 17.3 +1.3
DL2 LR LR
comp=Z,590nm,19.1s,MS4.9
SSE Sheshan 75.70 61 P **P** **09 45 38.8 -1.6**
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,274nm,4.3s
SSE Sheshan 75.70 61 P **P** **09 45 38.8 -1.6**
comp=Z,32nm,0.7s,mb5.4
SNY Shenyang 76.63 50 ⇑P **P** **09 45 45.8 +0.5**
SNY AMB AMB
comp=Z,20nm,1.7s,mb4.8
SNY Shenyang 76.63 50 ⇑P **P** **09 45 45.8 +0.5**
comp=Z,20nm,1.7s,mb4.8
TIXI Tiksi 77.76 19 *e*P **P** **09 45 51.5 +0.5**
comp=Z,8.0nm,0.9s,mb4.7
TIXI Tiksi 77.76 19 *e*P **P** **09 45 51.5 +0.5**
TIXI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CN2 Changchun 77.82 48 *e*P **P** **09 45 52.0 +0.1**
CN2 *e*XP sP 09 45 59.0 +0.6
CN2 *e*S S 09 55 42.0 -0.6
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,400nm,17.0s,MS5.0
CN2 LR LR
comp=E,500nm,17.0s,MS5.0
CN2 LR LR
comp=Z,600nm,18.0s,MS5.0
CN2 Changchun 77.82 48 *e*P **P** **09 45 52.0 +0.1**
comp=Z,30nm,0.9s,mb5.2
CN2 *e*sP sP 09 45 59.0 +0.6
CN2 *e*S S 09 55 42.0 -0.6
CN2 LR LR
comp=Z,600nm,18.0s,MS5.0
YAK Yakutsk 78.71 29⇑*i*P **P** **09 45 56.6 +0.3**
MDJ Mudanjiang 80.68 46 P **P** **09 46 07.5 +0.1**
MDJ AMB AMB
comp=Z,13nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,102nm,4.6s
MDJ LR LR
comp=N,488nm,22.9s,MS4.8
MDJ LR LR
comp=E,176nm,23.9s,MS4.8
MDJ LR LR
comp=Z,376nm,35.4s
MDJ Mudanjiang 80.68 46 P **P** **09 46 07.5 +0.1**
comp=Z,13nm,0.8s,mb4.9
MDJ LR LR
comp=Z,380nm,35.4s,MS4.5
MAW Mawson 81.43 172 P **P** **09 46 12.4 +1.6**
comp=Z,2.3nm,0.8s,mb4.2,baz=334,slow=7.6,SNR=4.6
KLR Kul'dur 81.46 42 *e*P **P** **09 46 07.4 -3.9**
KLR pmax pmax
comp=Z,45nm,2.0s,mb5.0
KLR MLR MLR
comp=Z,1μm,16.0s,MS5.3
MIR Mirnyy 87.56 161 *e*P **P** **09 46 43.0 +1.4**
MIR pmax pmax
comp=Z,36nm,2.0s,mb5.3
MJAR Matsushiro Arr 88.71 53 P **P** **09 46 48.1 +0.3**
comp=Z,2.5nm,1.0s,mb4.5,baz=286,slow=5.4,SNR=5.9
SNAA Sanae 88.75 193⇓*i*P **P** **09 46 47.5 +0.3**
SNAA *e* 09 46 58.1
YSS Yuzh-Sakhalins 89.15 42⇑*i*P **P** **09 46 50.0 +0.3**
comp=Z,35nm,2.5s,mb5.2
YSS Yuzh-Sakhalins 89.15 42⇑*i*P **P** **09 46 50.0 +0.3**
YSS pmax pmax
comp=Z,35nm,2.5s,mb5.2
VNA2 Neumayer--Watz 89.25 194⇑*i*P **P** **09 46 51.0 +1.4**
VNA2 *e* 09 47 02.5
VNA1 Neumayer--Stat 89.27 195⇑*i*P **P** **09 46 51.7 +2.0**
VNA1 *e* 09 47 03.1
VNA3 Neumayer Olymp 90.01 194⇑*i*P **P** **09 46 54.6 +1.4**
VNA3 *e* 09 47 06.8
WRA Warramunga Arr 97.60 109 P **P** **09 47 27.3 -1.8**
comp=Z,3.2nm,1.2s,mb4.7,baz=294,slow=3.6,SNR=9.4
WRA PP PP 09 51 25.4 -4.2
comp=Z,3.4nm,1.3s,baz=275,slow=8.8,SNR=7.4
WRAB Tennant Creek 97.61 109⇑*i*P **P** **09 47 28.2 -0.9**
TXAR Lajitas Array 126.04 321 PKP PKPdf 09 52 57.9 -1.5
comp=Z,1.0nm,0.9s,baz=114,slow=1.7,SNR=8.4
NEN Nelson 126.85 335 *e*PKPdf PKPdf 09 52 59.9 -0.8

NEIC ***26*** *09:39:34.5±0.8, 17.25S×70.61W, h115km±9km, mb3.6/1, Error ellipse: s-maj=15.9km s-min=12.8km az=46.0*
IDC ***26*** *09:39:35.0±2.3, 17.30S×70.60W, h120km±21km, mb3.5/5, mb1 3.7/8, mb1mx3.5/17, mbtmp3.9/8, Error ellipse: s-maj=26.3km s-min=17.8km az=106.0*
ISC 26 09:39:33.0±0.6,**17.32S**±0.06×**70.69W**±0.07,**h123**km±7km,
n19,σ1§**18/19,mb3.7/5,1C,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.14**	**318**	⇑*i*P	**P**	**09 39 57.7**	**+0.7**
ARE				*i* S	**S**	**09 40 14.2**	**-0.8**
LPAZ	**La Paz**	**2.66**	**68**	P	**P**	**09 40 17.4**	**+1.7**
	8.6nm,0.3s,baz=253,slow=11,SNR=177						
LPAZ				S	**S**	**09 40 48.6**	**+0.6**
	2.6nm,0.3s,baz=5.5,slow=24,SNR=10						
LPAZ	**La Paz**	**2.66**	**68**	*e*Pn	**P**	**09 40 17.4**	**+1.7**
LPAZ				*e*Sn	**S**	**09 40 47.5**	**-0.5**
LVC	**Limon Verde**	**5.53**	**163**	P	**P**	**09 40 54.7**	**+0.5**
	7.7nm,0.3s,baz=331,slow=8.4,SNR=114						
LVC				S	**S**	**09 41 53.5**	**-3.6**
	11nm,0.3s,baz=168,slow=21,SNR=22						
LVC	**Limon Verde**	**5.53**	**163**	*e*Pn	**P**	**09 40 54.8**	**+0.6**
LVC				*e*Sn	**S**	**09 41 57.8**	**+0.7**
SIV	**San Ignacio**	**9.31**	**83**	P	**P**	**09 41 43.4**	**-1.9**
	0.9nm,0.3s,baz=269,slow=13,SNR=21						
CFAA	**Coronel Fontan**	**14.40**	**172**	P	**P**	**09 42 49.8**	**-2.2**
	0.1nm,0.3s,baz=347,slow=12,SNR=7.5						
PLCA	**Paso Flores**	**23.34**	**180**	P	**P**	**09 44 33.0**	**+2.1**
	2.1nm,0.8s,mb3.5,baz=320,slow=8.0,SNR=6.5						
PLCA	**Paso Flores**	**23.34**	**180**	*e*P	**P**	**09 44 34.3**	**+3.4**
	2.2nm,0.8s,mb3.5						
TXAR	**Lajitas Array**	**56.25**	**325**	P	**P**	**09 49 03.2**	**+0.2**
	0.1nm,0.5s,mb3.1,baz=149,slow=7.3,SNR=4.6						
TXAR	**Lajitas Array**	**56.25**	**325**	P	**P**	**09 49 03.2**	**+0.2**
DBIC	**Dimbokro**	**69.25**	**76**	P	**P**	**09 50 28.6**	**-0.6**
	4.3nm,0.7s,mb4.4,baz=161,slow=10,SNR=8.9						
PDAR	**Pinedale Array**	**69.66**	**330**	P	**P**	**09 50 31.6**	**+0.4**
	0.2nm,0.4s,mb3.3,baz=149,slow=8.6,SNR=3.1						
ULM	**Lac du Bonnet**	**70.84**	**343**	P	**P**	**09 50 38.0**	**-0.2**
	1.9nm,0.6s,mb4.1,baz=190,slow=3.6,SNR=4.7						
MEV	**Metsovon**	**102.31**	**52**	*e*P	Pdif	09 53 10.5	-5.4
FNA	**Florina**	**102.63**	**51**	*e*P	Pdif	09 53 11.3	-6.0
LIT	**Litokhoron**	**103.32**	**52**	*e*P	Pdif	09 53 15.8	-4.6
MJAR	**Matsushiro Arr**	**148.09**	**313**	PKPbc	PKPdf	09 59 06.0	+4.9
	1.1nm,0.5s,baz=221,slow=4.3,SNR=5.5						
SONM	**Songino Array**	**149.47**	**4**	PKPbc	PKPdf	09 59 11.5	+8.6
	0.8nm,0.5s,baz=310,slow=1.9,SNR=6.4						

GUC 26 10:26:28.6±0.4,**23.26S**×**66.60W,h224**km±9km,**ML3.6,**
1C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.22**	**286**	⇑*i*P	P	10 27 13.2	+1.6
LVC				*i* S	S	10 27 47.1	+2.3
LVC				AMP		10 27 48.4	
	comp=E,151nm,0.6s						
CEN1	**Los Morros**	**3.31**	**267**	⇓*i*P	P	10 27 26.9	+3.3
CEN1				*i* S	S	10 28 11.5	+5.2
ANCH	**Antofagasta**	**3.52**	**262**	⇓*i*P	P	10 27 27.8	+1.7
ANCH				*i* S	S	10 28 12.5	+1.8
CPN1	**Cerro Paranal**	**3.74**	**248**	*e*P	P	10 27 31.2	+2.6
CPN1				*i* S	S	10 28 19.0	+3.7
CRCH	**Chaqaral**	**4.78**	**229**	*i* S	S	10 28 41.2	+3.1

IDC ***26*** *10:35:28.0±3.0, 33.77N×45.76E, mb3.8/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, ML3.1/1, Error ellipse: s-maj=60.9km s-min=32.1km az=176.0*
CSEM ***26*** *10:35:31.6±0.9, 33.19N×45.54E, h2km, ML3.4, Error ellipse: s-maj=33.7km s-min=6.8km az=37.0*
KISR ***26*** *10:35:32.0±1.4, 33.34N×45.80E, h33km, ML3.4*
ISC 26 10:35:29.7±0.5,**33.53N**±0.04×**45.60E**±0.07,**h33**km,**n15,**
σ1§**07/20,mb3.7/4,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHD	**Baghdad**	**1.05**	**256**	*e*P	x	10 35 51.0	
BHD				*i* S	x	10 36 08.5	
MSL	**Mosul**	**3.44**	**324**	*ex*	x	10 36 58.0	
MSL				*ex*	x	10 36 05.5	
MSL				*i* x	x	10 37 30.5	
MSL				*i* x	x	10 37 40.5	
HAKT	**HAKKARI**	**4.30**	**340**	*i* P	**P**	**10 36 35.3**	**+0.8**
HAKT				*i* S	**S**	**10 37 24.4**	**+0.3**
UMR	**Umm Al-Rimmam**	**4.36**	**155**	*e*P	**P**	**10 36 36.5**	**+1.2**
UMR				*e*S	**S**	**10 37 25.4**	**-0.3**
NAY	**Al-Naaiem**	**4.50**	**161**	*e*P	**P**	**10 36 38.4**	**+1.1**
NAY				*e*S	**S**	**10 37 28.8**	**-0.3**
NAY				AML	AML	10 37 30.3	
	comp=Z,9.0nm,0.3s						
KBD	**Kabd**	**4.70**	**157**	*e*P	**P**	**10 36 41.4**	**+1.3**
KBD				AML	AML	10 37 33.1	
	comp=Z,73nm,0.3s						
RDF	**Al-Radifah**	**4.89**	**160**	*e*P	**P**	**10 36 43.9**	**+1.1**
RDF				*e*S	**S**	**10 37 37.4**	**-1.5**
RDF				AML	AML	10 37 39.5	
	comp=Z,38nm,0.3s						
QRN	**Al-Qurain**	**5.17**	**157**	*e*P	**P**	**10 36 47.5**	**+0.7**
QRN				*e*S	**S**	**10 37 43.7**	**-2.4**
QRN				AML	AML	10 37 47.2	
	comp=Z,34nm,0.3s						
MARD	**Mardin**	**5.45**	**315**	*i* P	**P**	**10 36 50.7**	**0.0**
MARD				*i* S	**S**	**10 37 49.9**	**-3.2**
ASF	**Jabal al Asfar**	**7.45**	**262**	Pn	**Pn**	**10 37 20.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=306,slow=14,SNR=3.4						
ASF				Sn	**Sn**	**10 38 42.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=13,slow=18,SNR=3.0						
ASF				Lg		10 39 39.4	
	comp=Z,1.8nm,0.3s,baz=120,slow=23,SNR=8.6						
AKASG	**Malin Array Be**	**20.94**	**330**	P	**P**	**10 40 11.3**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=138,slow=10,SNR=8.6						
FINES	**FINESS Array B**	**30.63**	**342**	P	**P**	**10 41 42.1**	**-0.6**
	comp=Z,1.5nm,0.9s,mb3.8,baz=317,slow=36,SNR=3.3						
MKAR	**Makanchi Array**	**30.72**	**53**	P	**P**	**10 41 42.8**	**-0.8**
	comp=Z,1.0nm,0.7s,mb3.8,baz=252,slow=7.0,SNR=7.1						
ARCES	**ARCESS Array B**	**37.76**	**349**	P	**P**	**10 42 43.0**	**-0.9**
	comp=Z,2.0nm,0.9s,mb3.9,baz=162,slow=7.7,SNR=5.4						
ILAR	**Eielson Array**	**81.53**	**5**	P	**P**	**10 47 45.4**	**+0.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=325,slow=4.4,SNR=4.9						

BJI ***26*** *10:39:56.1, 13.15N×120.55E, h10km, mB5.0, mb4.9, Ms4.5, Msz4.3*
MAN ***26*** *10:40:03.1, 13.64N×119.76E, h6km, mb5.0, ML3.9, MS4.0*
MAN QUEZON CITY - INTENSITY II INDANG CAVITE - INTENSITY I.
NEIC ***26*** *10:40:03.2±0.2, 13.79N×120.05E, h10km, mb4.7/18, Error ellipse: s-maj=7.9km s-min=5.4km az=80.0*

NEIC Felt [II PIVS] at Quezon City, Luzon.
MOS ***26*** *10:40:05.2±1.1, 13.79N×120.09E, h33km, mb5.0/17, Error ellipse: s-maj=13.1km s-min=7.0km az=116.2*
IDC ***26*** *10:40:09.0±3.5, 13.76N×120.20E, h55km±30km, mb4.1/20, mb1 4.3/20, mb1mx4.2/23, mbtmp4.4/20, MS4.2/14, Ms1 4.2/14, ms1mx4.0/29, Error ellipse: s-maj=25.8km s-min=10.3km az=68.0*
ISC 26 10:40:02.3±0.2,**13.63N**±0.02×**119.68E**±0.02,**h10**km,**n147,**
σ1§**34**/163,**mb4.7**/53,**MS4.3**/22,**11C-11D,Philippine**
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.56**	**79**	*e*P	**Pg**	**10 40 13.7**	**0.0**
LUBP				*e*S	**Sg**	**10 40 21.0**	**-0.4**
PGP	**Puerto Galera**	**1.25**	**96**	⇓*i*P	**Pb**	**10 40 26.8**	**+1.3**
PGP				*i* S	**Sb**	**10 40 45.4**	**+3.9**
TGY	**Tagaytay City**	**1.31**	**69**	⇓*i*P	**Pb**	**10 40 27.9**	**+1.3**
TGY				*i* S	**Sb**	**10 40 45.5**	**+2.1**
NBP	**Mount Natib**	**1.32**	**33**	*e*P	**Pb**	**10 40 25.9**	**-0.8**
QVPH	**Quezon City--P**	**1.69**	**53**⇑	*e*P	**Pn**	**10 40 32.7**	**+0.7**
QVPH				*e*S	**Sn**	**10 40 54.6**	**+0.8**
BUSP	**Coron**	**1.69**	**162**	*e*P	**Pn**	**10 40 33.4**	**+1.2**
BUSP				*e*S	**Sn**	**10 40 52.6**	**-1.5**
SJMP	**San Jose**	**1.82**	**129**	*e*P	**Pn**	**10 40 34.8**	**+0.8**
SJMP				*e*S	**Sn**	**10 40 55.8**	**-1.6**
BOAC	**Boac**	**2.12**	**94**	*e*P	**Pn**	**10 40 38.5**	**+0.2**
BOAC				*e*S	**Sn**	**10 41 03.2**	**-1.6**
SCZP	**Santa Cruz**	**2.15**	**6**	*e*P	**Pn**	**10 40 39.9**	**+1.2**
SCZP				*e*S	**Sn**	**10 41 09.3**	**+3.7**
PCPH	**Palayan**	**2.37**	**35**	*e*P	**Pn**	**10 40 40.6**	**-1.2**
PCPH				*e*S	**Sn**	**10 41 09.2**	**-1.9**
ENPP	**El Nido**	**2.42**	**186**	*e*P	**Pn**	**10 40 44.0**	**+1.4**
ENPP				*e*S	**Sn**	**10 41 12.4**	**-0.1**
POLP	**Polilio Island**	**2.45**	**63**	*e*P	**Pn**	**10 40 43.7**	**+0.7**
POLP				*e*S	**Sn**	**10 41 14.1**	**+0.7**
OTRP	**Odiongan**	**2.61**	**119**	*e*P	**Pn**	**10 40 45.5**	**+0.2**
OTRP				*e*S	**Sn**	**10 41 19.1**	**+1.7**
GQP	**Guinayangan**	**2.71**	**84**	⇓*e*P	**Pn**	**10 40 48.1**	**+1.4**
GQP				*e*S	**Sn**	**10 41 27.5**	**+7.7**
BOLP	**Bolinao**	**2.75**	**5**	*e*P	**Pn**	**10 40 49.3**	**+2.0**
BALP	**Baler**	**2.79**	**41**	*e*P	**Pn**	**10 40 48.0**	**+0.1**
BALP				*e*S	**Sn**	**10 41 21.1**	**-0.8**
BCPH	**Baguio City Da**	**2.87**	**18**	*i* P	**Pn**	**10 40 49.3**	**+0.2**
AUQP	**San Andres**	**2.94**	**96**	*e*P	**Pn**	**10 40 54.7**	**+4.8**
CUYO	**Cuyo Island**	**3.06**	**154**	*e*P	**Pn**	**10 40 51.8**	**+0.2**
CUYO				*e*S	**Sn**	**10 41 25.8**	**-2.9**
KALP	**Kalibo**	**3.24**	**126**	⇓*e*P	**Pg**	**10 41 09.2**	**+2.2**
RCP	**Roxas**	**3.63**	**124**	*e*P	**Pn**	**10 41 05.6**	**+5.8**
CAUP	**Cauayan**	**3.90**	**32**	*e*P	**Pn**	**10 41 03.8**	**+0.2**
CAUP				*e*S	**Sn**	**10 41 50.8**	**+0.9**
ABRA	**Dolores**	**4.12**	**14**	*e*P	**Pn**	**10 41 07.2**	**+0.5**
GUIM	**Jordan**	**4.13**	**136**	*e*P	**Pn**	**10 41 07.6**	**+0.8**
GUIM				*e*S	**Sn**	**10 41 51.6**	**-4.1**
PVCP	**Virac**	**4.36**	**90**	*e*P	**Pn**	**10 41 10.3**	**+0.2**
PVCP				*e*S	**Sn**	**10 42 07.8**	**+6.3**
CVP	**Callao Caves**	**4.55**	**27**	*e*P	**Pn**	**10 41 13.2**	**+0.3**
CNP	**Catarman**	**4.99**	**102**	*e*P	**Pg**	**10 41 38.1**	**-3.7**
SGCP	**Mt. Cagua**	**5.12**	**26**	*e*P	**Pn**	**10 41 20.8**	**-0.2**
BATP	**Bataraza**	**5.14**	**201**	*e*P	**Pn**	**10 41 20.2**	**-1.0**
BATP				*e*S	**Sn**	**10 42 19.1**	**-2.2**
SNPH	**Sibulan**	**5.51**	**140**	*e*P	**Pn**	**10 41 27.5**	**+1.1**
TBP	**Tagbilaran**	**5.67**	**133**	*e*P	**Pn**	**10 41 30.8**	**+2.1**
	976μm,12.0s						
TBP				*e*S	**Sg**	**10 43 15.8**	**+4.8**
MSLP	**Maasin**	**6.15**	**124**	*e*P	**Pn**	**10 41 34.5**	**-0.9**
IPIL	**Ipil**	**6.46**	**154**	*e*P	**Pn**	**10 41 39.8**	**-0.1**
IPIL				*e*S	**Sn**	**10 42 48.5**	**-6.0**
PAGZ	**Pagadian**	**6.80**	**147**	*e*P	**Pn**	**10 41 46.3**	**+1.7**
BUKP	**Musuan**	**7.79**	**137**	*e*P	**Pn**	**10 42 00.8**	**+2.4**
NACB	**Ninganchiao**	**10.65**	**10**	*e*Pn	**P**	**10 42 30.4**	**-7.6**
KSM	**Kuching**	**15.22**	**218**	*e*Pn	**P**	**10 43 43.1**	**+3.9**
JOW	**Kunigami**	**15.41**	**30**	LR	LR	10 50 01.1	
	comp=Z,716nm,19.0s,baz=165,slow=39						
SSE	**Sheshan**	**17.44**	**4**	P	**P**	**10 44 05.0**	**-2.4**
SSE				AP		10 44 14.0	
SSE				XP		10 44 18.0	
SSE				S	**S**	**10 47 18.5**	**-1.3**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s						
SSE				AMB	AMB		
	comp=Z,276nm,6.5s						
SSE				LR	LR		
	comp=N,239nm,18.8s						
SSE				LR	LR		
	comp=E,366nm,18.8s						
SSE				LR	LR		
	comp=Z,477nm,18.2s						
SSE	**Sheshan**	**17.44**	**4**	P	**P**	**10 44 04.9**	**-2.5**
	comp=Z,41nm,0.7s						
SSE				pP		10 44 14.0	
SSE				sP		10 44 18.1	
SSE				S	**S**	**10 47 18.5**	**-1.3**
SSE				sS		10 47 39.3	
NJ2	**Nanjing**	**18.35**	**358**	*e*P	**P**	**10 44 20.8**	**+2.0**
NJ2				PCP	PcP	10 48 46.3	-4.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,250nm,6.2s						
NJ2				LR	LR		
	comp=N,810nm,15.7s						
NJ2				LR	LR		
	comp=E,1μm,20.0s						
NJ2				LR	LR		
	comp=Z,500nm,14.7s						
KMI	**Kunming**	**19.62**	**308**	P	**P**	**10 44 37.8**	**+3.9**
KMI				AP		10 44 43.3	
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s						
KMI				LR	LR		
	comp=Z,399nm,18.8s						
KMI	**Kunming**	**19.62**	**308**	P	**P**	**10 44 37.7**	**+3.8**
	comp=Z,7.0nm,0.9s						
KMI				pP		10 44 43.2	
KMI	**Kunming**	**19.62**	**308**	P	**P**	**10 44 37.7**	**+3.8**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KULM	**Kulim**	**20.50**	**248**	*e*P	**P**	**10 44 46.9**	**+3.6**
JNU	**Nakatsue**	**21.93**	**26**	P	**P**	**10 44 55.5**	**-2.2**
	comp=Z,7.0nm,0.7s,mb4.2,baz=239,slow=35,SNR=6.0						
CD2	**Chengdu**	**22.60**	**322**	*e*P	**P**	**10 45 06.3**	**+1.8**
CD2				PP	PP	10 45 35.5	+2.9
CD2				S	**S**	**10 49 10.3**	**+3.2**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
CD2				LR	LR		
	comp=E,510nm,13.2s						
CD2				LR	LR		
	comp=Z,570nm,12.0s,MS4.2						
TIA	**Tai'an**	**22.60**	**355**	*e*P	**P**	**10 45 02.3**	**-2.2**
GUMO	**Guam**	**24.48**	**87**	LR	LR	10 54 37.7	
	comp=Z,582nm,19.8s,MS4.1,baz=275,slow=36						
GUMO	**Guam**	**24.48**	**87**	P	**P**	**10 45 17.5**	**-5.5**
KS15	**Wonju Array Si**	**24.82**	**16**	*e*P	**P**	**10 45 24.6**	**-1.5**
CBIJ	**Chichi jima**	**24.94**	**54**	LR	LR	10 53 34.0	
	comp=Z,562nm,19.6s,MS4.1,baz=317,slow=33						
DL2	**Dalian**	**25.24**	**4**	P	**P**	**10 45 29.0**	**-1.0**
DL2				*e*S	**S**	**10 49 55.5**	**+2.8**
DL2				XS		10 50 05.3	
DL2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
DL2				LR	LR		
	comp=N,320nm,16.6s,MS4.0						
DL2				LR	LR		
	comp=E,280nm,19.0s,MS4.0						
DL2				LR	LR		
	comp=Z,420nm,16.5s,MS4.0						
LZH	**Lanzhou**	**26.50**	**330**	*e*P	**P**	**10 45 48.0**	**+6.2**
LZH				AP	pP	10 45 51.0	+6.3
LZH				XS		10 50 27.0	
LZH				AMB	AMB		
	comp=Z,33nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,13.0s						
LZH				LR	LR		
	comp=Z,3μm,15.0s,MS4.9						
JHJ	**Hachijo jima 2**	**26.69**	**40**	LR	LR	10 53 50.2	
	comp=Z,282nm,20.4s,MS3.8,baz=254,slow=31						
MAJO	**Matsushiro**	**28.22**	**33**	*e*P	**P**	**10 45 52.5**	**-4.9**
SNY	**Shenyang**	**28.30**	**6**	⇑P	**P**	**10 45 55.5**	**-2.6**

SNY AMB AMB
comp=Z,40nm,0.8s,mb5.1
SNY LR LR
comp=E,720nm,16.8s
SNY LR LR
comp=Z,710nm,15.6s,MS4.4
KAKA Kakadu 29.07 154 ⇓ *iP* **P 10 46 22.4 +17**
comp=Z,8.3nm,0.6s,mb4.6
CN2 Changchun 30.48 8 *eP* **P 10 46 14.5 -3.0**
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
MDJ Mudanjiang 32.02 13 P **P 10 46 29.3 -1.8**
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,79nm,5.1s
MDJ LR LR
comp=N,201nm,24.4s,MS4.1
MDJ LR LR
comp=E,377nm,22.6s,MS4.1
MDJ LR LR
comp=Z,549nm,20.9s,MS4.2
MDJ Mudanjiang 32.02 13 *eP* **P 10 46 29.6 -1.5**
comp=Z,21nm,1.1s,mb4.9
FITZ Fitzroy Crossi 32.07 169 ⇑ *iP* **P 10 46 31.3 -0.5**
comp=Z,16nm,1.0s,mb4.8
FITZ Fitzroy Crossi 32.07 169 P **P 10 46 31.0 -0.8**
comp=Z,26nm,1.0s,mb5.0,baz=356,slow=11,SNR=8.7
FITZ PcP PcP 10 49 20.2 -1.2
comp=Z,2.4nm,0.7s,baz=348,slow=6.3,SNR=3.3
JIRN Jiri 34.17 299 *eP* **P 10 46 51.2 +1.2**
comp=Z,12nm,0.5s,mb5.1
MBWA Marble Bar 34.57 180 *eP* **P 10 46 55.0 +1.5**
comp=Z,4.8nm,0.6s,mb4.6
PKI Pulchoki 34.81 299 *eP* **P 10 46 56.1 +0.6**
comp=Z,11nm,0.5s,mb5.0
KKN Kakani 34.98 299 *eP* **P 10 46 57.1 +0.1**
comp=Z,20nm,0.9s,mb5.1
DMN Daman 35.08 299 *eP* **P 10 46 58.8 +1.0**
comp=Z,26nm,0.9s,mb5.2
HIA Hailar 35.54 0 *eP* **P 10 47 01.1 -0.3**
comp=Z,11nm,0.7s,mb4.9
HIA Hailar 35.54 0 *eP* **P 10 47 01.1 -0.4**
HIA pmax pmax
comp=Z,11nm,0.7s
GKN Gorkha 35.59 299 *eP* **P 10 47 01.8 -0.3**
comp=Z,8.1nm,0.5s,mb4.9
SONM Songino Array 35.85 345 P **P 10 47 03.1 -1.0**
comp=Z,1.6nm,0.5s,mb4.2,baz=168,slow=9.9,SNR=15
SONM PcP PcP 10 49 30.8 -1.0
comp=Z,1.5nm,0.5s,baz=167,slow=3.6,SNR=12
SONM LR LR 11 02 41.2
comp=Z,341nm,20.6s,MS4.1,baz=152,slow=38
WRAB Tennant Creek 36.34 156 *eP* **P 10 47 07.1 -1.4**
comp=Z,59nm,1.0s,mb5.5
WRAB Tennant Creek 36.34 156 *eP* **P 10 47 07.1 -1.4**
WRAB pmax pmax
comp=Z,59nm,1.0s,mb5.5
WRA Warramunga Arr 36.35 156 P **P 10 47 07.0 -1.6**
comp=Z,14nm,0.6s,mb5.1,baz=335,slow=9.6,SNR=111
WRA S **S 10 52 44.0 -4.9**
comp=Z,2.6nm,1.1s,baz=343,slow=16,SNR=6.0
WB2 Warramunga Arr 36.35 156 ⇓ *iP* **P 10 47 07.1 -1.5**
WB2 *eS* **S 10 52 44.2 -4.8**
KOLN Koldanda 36.41 298 *eP* **P 10 47 09.8 +0.8**
comp=Z,10nm,0.7s,mb4.8
YSS Yuzh-Sakhalins 38.44 26 *eP* **P 10 47 22.5 -3.5**
YSS Yuzh-Sakhalins 38.44 26 *eP* **P 10 47 23.5 -2.4**
YSS *e* 10 47 36.0
YSS MLR MLR
comp=Z,300nm,17.0s,MS4.2
YSS MLR MLR
comp=E,300nm,14.0s
CIT Chita 38.61 354 *eP* **P 10 47 26.8 -0.5**
CIT *e* 10 53 22.0
CIT pmax pmax
comp=Z,75nm,1.8s,mb5.1
ZAK Zakamensk 39.02 343 *eP* **P 10 47 30.6 -0.1**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
ASPA Alice Springs 39.59 159 *eP* **P 10 47 35.2 -0.6**
HYB Hyderabad 39.75 281 *i P* **P 10 47 39.0 +1.9**
HYB Hyderabad 39.75 281 *eP* **P 10 47 39.0 +1.9**
WMQ Urumqi 40.67 324 *eP* **P 10 47 46.0 +1.6**
WMQ XP *sP* 10 47 53.0 +4.3
WMQ PP PP 10 49 23.0 +1.4
WMQ PCP PcP 10 49 46.0 -0.8
WMQ *eS* **S 10 53 57.0 +2.8**
WMQ AMB AMB
comp=Z,8.0nm,0.6s,mb4.5
WMQ AMB AMB
comp=Z,168nm,4.2s
WMQ LR LR
comp=N,728nm,13.0s,MS4.8
WMQ LR LR
comp=E,437nm,12.3s,MS4.8
WMQ LR LR
comp=Z,604nm,23.2s
MOY Mondy 40.82 342 *eP* **P 10 47 46.0 +0.4**
CTA Charters Tower 42.50 142 ⇑ *iP* **P 10 47 59.7 -0.1**
comp=Z,8.3nm,0.9s,mb4.4
CTA Charters Tower 42.50 142 ⇑ *iP* **P 10 47 59.7 -0.1**
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTAO Charters Tower 42.50 142 *eP* **P 10 47 59.8 0.0**
comp=Z,12nm,0.9s,mb4.5
CTAO Charters Tower 42.50 142 *eP* **P 10 47 59.8 0.0**
CTAO pmax pmax
comp=Z,12nm,0.9s,mb4.5
BOD Bodaibo 44.31 356 *eP* **P 10 48 12.5 -1.5**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.1
FORT Forrest 44.88 170 ⇑ *iP* **P 10 48 18.9 -0.1**
comp=Z,48nm,0.9s,mb5.3
KLBR Kellerberrin 45.00 182 *eP* **P 10 48 19.5 -0.4**
comp=Z,7.2nm,0.6s,mb4.7
MKAR Makanchi Array 45.50 324 P **P 10 48 24.6 +0.9**
comp=Z,4.3nm,0.7s,mb4.5,baz=135,slow=9.2,SNR=30
MKAR PcP PcP 10 50 02.3 -0.7
comp=Z,1.6nm,0.6s,baz=123,slow=2.5,SNR=4.7
MKAR LR LR 11 08 57.4
comp=Z,204nm,18.5s,MS4.1,baz=308,slow=38
HNR Honiara 46.07 118 LR LR 11 07 10.5
comp=Z,99nm,19.2s,MS3.8,baz=84,slow=36
NWAO Narrogin (SRO) 46.35 183 P **P 10 48 30.5 -0.1**
comp=Z,25nm,1.2s,mb5.0,baz=1.3,slow=7.3,SNR=9.6
NWAO Narrogin (SRO) 46.35 183 *eP* **P 10 48 30.9 +0.3**
comp=Z,23nm,1.2s,mb5.0
NWAO Narrogin (SRO) 46.35 183 *eP* **P 10 48 30.9 +0.3**
NWAO pmax pmax
comp=Z,23nm,1.2s
AAK Ala-Archa 48.42 316 *eP* **P 10 48 47.9 +1.2**
comp=Z,3.9nm,0.8s,mb4.5
AAK Ala-Archa 48.42 316 *c iP* **P 10 48 47.7 +1.0**
AAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
YAK Yakutsk 48.86 6 *d iP* **P 10 48 47.7 -2.1**
YAK pmax pmax
comp=Z,30nm,1.0s,mb5.3
KURK Kurchatov 49.70 327 *eP* **P 10 48 56.4 0.0**
comp=Z,18nm,0.8s,mb5.1
KURK Kurchatov 49.70 327 *eP* **P 10 48 56.4 0.0**
KURK pmax pmax
comp=Z,18nm,0.8s,mb5.2
STKA Stephens Creek 49.89 155 ⇓ *iP* **P 10 48 56.7 -1.4**
comp=Z,2.9nm,0.5s,mb4.6
STKA Stephens Creek 49.89 155 P **P 10 48 55.4 -2.7**
comp=Z,4.4nm,0.6s,mb4.6,baz=340,slow=8.2,SNR=20
NVS Novosibirsk 49.95 333 *eP* **P 10 49 03.6 +5.3**
NVS *eS* **S 10 56 05.5 -2.0**
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS pmax pmax
comp=Z,13nm,1.3s,mb4.8
NVS smax
comp=N,21nm,2.5s
NVS smax
comp=E,21nm,1.9s
MA2 Magadan 51.30 20 *eP* **P 10 49 06.1 -2.4**
SEY Seymchan 54.38 18 ⇑ *eP* **P 10 49 29.2 -2.2**
BVAR Borovoye Array 55.27 326 P **P 10 49 38.0 0.0**
comp=E,3.6nm,0.6s,mb4.6,baz=120,slow=8.4,SNR=24
BRVK Borovoye 55.35 326 *eP* **P 10 49 38.5 -0.1**
comp=E,3.8nm,0.6s,mb4.6
BRVK Borovoye 55.35 326 *eP* **P 10 49 38.5 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TIXI Tiksi 58.26 3 ⇑ *eP* **P 10 49 55.6 -3.5**
TIXI pmax pmax
comp=Z,19nm,1.1s,mb5.0
BILL Bilibino 62.08 18 *i P* **P 10 50 26.9 +1.6**
ARU Arti 62.90 327 ⇓ *iP* **P 10 50 30.3 -0.5**
ARU *e* 10 52 47.1
ARU *eS* **S 10 59 02.8 +3.9**
ARU *eSS* SS 11 03 08.3 +2.1
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
GNI Garni 69.87 308 *eP* **P 10 51 17.7 +2.2**
GNI pmax pmax
comp=Z,19nm,1.3s
ZEI Tsey 70.47 311 *eP* **P 10 51 19.0 -0.1**
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KIV Kislovodsk 71.34 312 *eP* **P 10 51 25.6 +1.3**
KIV *e* 10 51 44.5
KIV *eS* S 11 00 38.6 -2.2
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.8
KIV pmax pmax
comp=N,6.0nm,0.8s
KIV pmax pmax
comp=E,6.0nm,0.8s
KIV MLR MLR
comp=Z,120nm,17.0s,MS4.2
KIV MLR MLR
comp=N,75nm,19.0s,MS4.2
KIV MLR MLR
comp=E,85nm,17.0s,MS4.2
RPZ Rata Peaks 73.81 144 P **P 10 51 36.9 -2.0**
comp=E,6.0nm,0.7s,mb4.6,baz=48,slow=1.6,SNR=6.0
OBN Obninsk 75.01 324 ⇓ *eP* **P 10 51 45.0 -0.6**
OBN pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
ASF Jabal al Asfar 76.84 300 P **P 10 51 57.7 +1.2**
comp=Z,1.4nm,0.4s,mb4.3,baz=58,slow=4.3,SNR=5.4
BRTR Keskin Array B 78.41 308 P **P 10 52 06.1 +1.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=121,slow=5.6,SNR=5.4
ARCES ARCESS Array B 78.80 339 P **P 10 52 05.9 -0.6**
comp=Z,2.9nm,0.5s,mb4.5,baz=81,slow=7.1,SNR=20
ARCES LR LR 11 30 53.2
comp=Z,146nm,19.1s,MS4.3,baz=261,slow=39
ILAR Eielson Array 79.25 26 P **P 10 52 05.1 -3.9**
comp=Z,0.4nm,0.5s,mb3.6,baz=266,slow=3.8,SNR=12
FINES FINESS Array B 79.86 331 P **P 10 52 11.5 -0.9**
comp=Z,1.2nm,0.5s,mb4.1,baz=49,slow=6.0,SNR=11
FINES LR LR 11 30 58.5
comp=Z,157nm,19.8s,MS4.4,baz=340,slow=38
FINES FINESS Array B 79.86 331 P **P 10 52 11.5 -0.9**
FINES LR LR 11 30 58.5
AKASG Malin Array Be 79.87 320 P **P 10 52 12.6 -0.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=65,slow=5.2,SNR=4.3
VSU Vasula 80.04 328 ⇑ *eP* **P 10 52 15.5 +2.1**
DAWY Dawson 82.58 26 *eP* **P 10 52 24.4 -2.2**
KMBO Kilima Mbogo 82.90 267 P **P 10 52 32.3 +3.0**
comp=Z,3.2nm,1.0s,mb4.3,baz=55,slow=10,SNR=5.6
KMBO LR LR 11 29 28.7
comp=Z,142nm,18.2s,MS4.4,baz=318,slow=36
KMBO Kilima Mbogo 82.90 267 P **P 10 52 32.3 +3.0**
KMBO LR LR 11 29 28.7
MLR Muntele Rosu 83.00 315 P **P 10 52 30.0 +0.9**
comp=Z,3.8nm,0.9s,mb4.5,baz=354,slow=9.1,SNR=2.7
MLR LR LR 11 31 03.1
comp=Z,140nm,18.2s,MS4.4,baz=69,slow=37
NB2 NORSAR Subarra 86.86 332 P **P 10 52 47.0 -1.1**
comp=Z,3.4nm,0.8s,mb4.6,baz=68,slow=4.5
NB2 NORSAR Subarra 86.86 332 P **P 10 52 47.0 -1.1**
baz=68,slow=4.6
NB2 NORSAR Subarra 86.86 332 P **P 10 52 47.0 -1.1**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
NOA NORSAR Array B 86.86 332 P **P 10 52 47.0 -1.1**
comp=Z,1.5nm,0.6s,mb4.4,baz=68,slow=4.6,SNR=6.5
GERES GERESS Array B 90.06 321 P **P 10 53 03.1 -0.6**
comp=Z,0.4nm,0.4s,mb4.1,baz=225,slow=11,SNR=4.0
MAW Mawson 90.70 199 LR LR 11 28 10.2
comp=Z,71nm,20.0s,MS4.1,baz=123,slow=32
YKA Yellowknife Ar 93.22 22 P **P 10 53 17.1 -0.8**
comp=Z,1.0nm,0.5s,mb4.5,baz=306,slow=4.2,SNR=5.1
YKA LR LR 11 39 41.7
comp=Z,113nm,18.2s,MS4.4,baz=55,slow=38
YKA Yellowknife Ar 93.22 22 P **P 10 53 17.1 -0.8**
YKA LR LR 11 39 41.7
BORG Borgarnes 96.47 344 LR LR 11 40 31.9
comp=Z,240nm,21.0s,MS4.7,baz=353,slow=38
SNAA Sanae 112.79 197 ⇑ *iP* PKPdf 10 58 40.2 -1.6
VNA2 Neumayer--Watz 114.44 197 ⇓ *iP* PKPdf 10 58 43.5 -1.6
VNA3 Neumayer Olymp 114.89 196 P PKPdf 10 58 43.9 -2.0
TXAR Lajitas Array 120.22 44 PKP PKPdf 10 58 54.4 -2.8
comp=Z,0.2nm,0.4s,baz=203,slow=1.6,SNR=9.1
ACCN Adirondack Com 121.97 11 *e* PKPdf PKPdf 10 59 01.6 +1.3
PLCA Paso Flores 151.55 164 PKP PKPdf 10 59 48.9 -4.8
comp=Z,0.5nm,0.4s,baz=300,slow=12,SNR=3.6
PLCA PKPbc PKPdf 10 59 59.0 +5.3
comp=Z,1.6nm,0.5s,baz=202,slow=2.5,SNR=6.8
PLCA Paso Flores 151.55 164 PKIKP PKPdf 10 59 48.9 -4.8
PLCA 10 59 59.0
PLCA pmax pmax
comp=Z,1.0nm,0.4s
PLCA pmax pmax
comp=Z,2.0nm,0.5s

*IDC **26** 10:48:46.6±2.6,23.48S×178.99E,h558km±29km, mb3.1/4, mb1 3.5/5,mb1mx3.3/11,mbtmp4.1/5,Error ellipse: s-maj=40.5km s-min=19.1km az=162.0*

ISC 26 10:48:47.2±2.8,23.5S±0.1×179.0E±0.1,h580km±36km, n13,σ0°69/13,mb4.0/6,3C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.81**	**186**	P	**P**	**10 51 52.6**	**-1.2**
	1.8nm,0.3s,baz=1.2,slow=3.4,SNR=11						
URZ				S	**S**	**10 54 24.3**	**+0.3**
	0.5nm,0.3s,baz=236,slow=21,SNR=7.0						
CTA	**Charters Tower**	**30.53**	**270**	⇑ *iP*	**P**	**10 54 16.7**	**+0.7**
	4.3nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**34.01**	**247**	⇓ *iP*	**P**	**10 54 46.6**	**+1.6**
	3.6nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**34.01**	**247**	P	**P**	**10 54 45.7**	**+0.7**
	3.8nm,0.8s,mb4.1,baz=80,slow=9.8,SNR=14						
WB2	**Warramunga Arr**	**41.48**	**266**	*eP*	**P**	**10 55 45.7**	**-0.3**
WRA	**Warramunga Ar**	**41.50**	**266**	P	**P**	**10 55 45.8**	**-0.3**
	1.8nm,0.2s,mb4.2,baz=96,slow=8.0,SNR=211						
WRA				ScP		11 00 29.8	
	0.9nm,1.0s,baz=99,slow=4.4,SNR=5.4						
WRA				S	**S**	**11 01 19.9**	**-1.5**
	0.2nm,0.6s,baz=105,slow=15,SNR=3.0						
FORT	**Forrest**	**45.58**	**249**	*eP*	**P**	**10 56 18.0**	**+0.2**
	13nm,0.7s,mb4.6						
VNA2	**Neumayer--Watz**	**85.74**	**178**	⇑ *iP*	**P**	**11 00 26.2**	**+0.3**
VNA1	**Neumayer--Stat**	**85.98**	**178**	⇑ *iP*	**P**	**11 00 21.0**	**-6.1**
TXAR	**Lajitas Array**	**91.01**	**58**	P	**P**	**11 00 51.8**	**+0.3**
	0.6nm,0.9s,mb3.5,baz=207,slow=6.0,SNR=5.9						
ILAR	**Eielson Array**	**91.85**	**14**	P	**P**	**11 00 54.0**	**-0.4**
	0.3nm,0.9s,mb3.3,baz=230,slow=5.0,SNR=4.3						
AKASG	**Malin Array Be**	**144.12**	**327**	PKP	PKPdf	11 07 17.2	+0.4
	0.9nm,0.5s,baz=43,slow=4.0,SNR=6.2						
CLL	**Collm**	**150.18**	**342**	P	PKPdf	11 07 34.0	+7.3

*NEIC **26** 10:49:19.0,47.99N×128.53W,h10km,ML3.8(PGC),After PGC.*

PGC 26 10:49:19.3,47.99N×128.53W,h10km,MLSn3.1/2,Mw3.8, 2C-1D,232km southwest of Tofino, Bc West of Vancouver Island, British Columbia,Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETB	**Estevan Point**	**1.92**	**43**	Pn	Pn	10 49 50.6	-1.9
EDB	**Eliza Dome**	**2.11**	**26**	Pn	Pn	10 49 52.5	-2.6
EDB				Sn	Sn	10 50 17.1	-4.6
EDB				Trac		10 50 17.4	
	comp=Z,4.0nm,0.1s						
BPBC	**Brooks Peninsu**	**2.23**	**13**	Pn	Pn	10 49 54.3	-2.6
OZB	**Mount Ozzard**	**2.25**	**63**	Pn	Pn	10 49 54.8	-2.4
OZB				Sn	Sn	10 50 20.6	-4.5
OZB				Trac		10 50 22.9	
	comp=Z,27nm,0.2s						
GDR	**Gold River**	**2.44**	**42**	Pn	Pn	10 49 57.7	-2.2
GDR				Sn	Sn	10 50 26.2	-3.9
	comp=Z,10.0nm,0.3s						
GDR				Trac		10 50 28.5	
	comp=Z,10.0nm,0.3s						
BTB	**Buttle Lake**	**2.49**	**52**	Pn	Pn	10 49 58.6	-2.0
BTB				Sn	Sn	10 50 26.7	-4.6
	comp=Z,60nm,0.3s						
BTB				Trac		10 50 30.3	
	comp=Z,60nm,0.3s						
WOSB	**Woss**	**2.53**	**30**	Pn	Pn	10 49 59.4	-1.8
MAYB	**Maynard**	**2.58**	**20**	Pn	Pn	10 49 59.9	-2.0
HOLB	**Holberg**	**2.67**	**6**	Pn	Pn	10 50 00.7	-2.5
HOLB				Sn	Sn	10 50 31.1	-4.8
	comp=Z,13nm,0.4s						
HOLB				Trac		10 50 41.5	
	comp=Z,13nm,0.4s						
MGB	**Mount Grey**	**2.75**	**67**	Pn	Pn	10 50 01.8	-2.5
MGB				Sn	Sn	10 50 33.7	-4.2
MGB				Trac		10 50 34.9	
	comp=Z,8.0nm,0.2s						
ALB	**Alberni**	**2.77**	**61**	Pn	Pn	10 50 01.9	-2.8
ALB				Sn	Sn	10 50 34.1	-4.4
	comp=Z,1.0nm,0.1s						
ALB				Trac		10 50 36.8	
	comp=Z,1.0nm,0.1s						
PFB	**Port Renfrew**	**2.80**	**76**	Pn	Pn	10 50 02.1	-2.9
PFB				Sn	Sn	10 50 33.7	-5.4
PFB				Trac		10 50 37.9	
PHC	**Port Hardy**	**2.82**	**14**	Pn	Pn	10 50 03.1	-2.2
PHC				Sn	Sn	10 50 34.4	-5.2
PHC				Trac		10 50 39.7	
	comp=Z,3.0nm,0.2s						
NCRB	**Newcastle Ridg**	**2.92**	**33**	⇑ Pn	Pn	10 50 05.4	-1.3
NCRB				Sn	Sn	10 50 38.9	-3.3
	comp=Z,7.0nm,0.3s						
NCRB				Trac		10 50 42.1	
	comp=Z,7.0nm,0.3s						
CBB	**Campbell River**	**2.92**	**44**	Pn	Pn	10 50 05.2	-1.7
CBB				Trac		10 50 39.7	
	comp=Z,18nm,0.5s						
TXB	**Texada**	**3.20**	**56**	⇑ Pn	Pn	10 50 08.9	-1.8
TXB				Sn	Sn	10 50 45.6	-3.8
	comp=Z,14nm,0.4s						
TXB				Trac		10 50 49.7	
	comp=Z,14nm,0.4s						
LZB	**Mount Lazard**	**3.21**	**77**	Pn	Pn	10 50 08.2	-2.7
LZB				Trac		10 50 46.6	
	comp=Z,1.0nm,0.1s						
NLLB	**Nanaimo Lost L**	**3.26**	**66**	Pn	Pn	10 50 09.3	-2.3
NLLB				Sn	Sn	10 50 47.8	-3.1
NLLB				Trac		10 50 49.6	
	comp=Z,5.0nm,0.2s						
PGC	**Sidney**	**3.46**	**77**	Pn	Pn	10 50 11.8	-2.5
PGC				Sn	Sn	10 50 52.7	-3.1
PGC				Trac		10 50 56.3	
	comp=Z,1.0nm,0.1s						
PGC	**Sidney**	**3.46**	**77**	*e* P	Pn	10 50 11.4	-3.0
SHB	**Sechelt**	**3.48**	**61**	⇑ Pn	Pn	10 50 12.8	-1.9
SHB				Trac		10 50 59.0	
	comp=Z,11nm,0.2s						
GOBB	**Galiano Island**	**3.48**	**72**	Pn	Pn	10 50 12.9	-1.8
GOBB				Trac		10 50 58.5	
	comp=Z,2.0nm,0.2s						
VGZ	**Gonzales**	**3.51**	**81**	Pn	Pn	10 50 12.3	-2.8
VGZ				Sn	Sn	10 50 53.0	-4.3
VGZ				Trac		10 50 55.4	
	comp=Z,8.0nm,0.3s						
SNB	**Saturna Island**	**3.66**	**76**	Pn	Pn	10 50 15.4	-1.9
SNB				Sn	Sn	10 50 58.6	-2.3
SNB				Trac		10 51 02.1	
	comp=Z,3.0nm,0.3s						
SQM	**Sequim**	**3.68**	**87**	P	Pn	10 50 16.6	-0.9
HDW	**Hoodsport**	**3.71**	**93**	P	Pn	10 50 16.9	-1.0
BLN	**Blyn Mountain**	**3.73**	**88**	P	Pn	10 50 17.2	-1.2
BIB	**Bowen Island**	**3.74**	**66**	Pn	Pn	10 50 16.4	-2.0
MCW	**Mount Constitu**	**3.87**	**78**	P	Pn	10 50 18.2	-1.9
WPB	**Watts Point**	**3.90**	**63**	⇓ Pn	Pn	10 50 18.7	-1.9
WPB				Sn	Sn	10 51 05.2	-1.7
	comp=Z,2.0nm,0.2s						
WPB				Trac		10 51 07.9	
	comp=Z,2.0nm,0.2s						
HNB	**Haney**	**4.16**	**70**	Pn	Pn	10 50 22.0	-2.3
HNB				Sn	Sn	10 51 09.4	-4.1
HNB				Trac		10 51 12.4	
	comp=Z,6.0nm,0.3s						
BBB	**Bella Bella**	**4.21**	**4**	Pn	Pn	10 50 23.2	-1.9
BBB				Sn	Sn	10 51 08.3	-6.6
BBB				Trac		10 51 10.6	
	comp=Z,10.0nm,0.3s						
WSLR	**Whistler**	**4.27**	**58**	Pn	Pn	10 50 24.2	-1.6
WSLR				Trac		10 51 16.3	
	comp=Z,3.0nm,0.4s						
VDB	**Vedder Mountai**	**4.40**	**74**	Pn	Pn	10 50 25.4	-2.3
VDB				Trac		10 51 18.4	
	comp=Z,1.0nm,0.2s						
JCW	**Jim Creek**	**4.43**	**85**	P	Pn	10 50 26.6	-1.6
MBW	**Mount Baker**	**4.49**	**77**	P	Pn	10 50 27.6	-1.5
HTW	**Haystack Looko**	**4.55**	**90**	P	Pn	10 50 29.0	-0.9
GSM	**Grass Mountain**	**4.63**	**97**	P	Pn	10 50 30.5	-0.5
RPW	**Rockport**	**4.72**	**82**	P	Pn	10 50 30.7	-1.6
HOPB	**Hope**	**4.92**	**71**	Pn	Pn	10 50 32.9	-2.2
LLLB	**Lillooet**	**5.08**	**56**	⇑ Pn	Pn	10 50 35.5	-1.9
TWW	**Teanaway**	**5.26**	**96**	P	Pn	10 50 40.3	+0.4
PNT	**Penticton**	**6.06**	**74**	Pn	Pn	10 50 49.7	-1.5

*NEIC **26** 10:53:31.0,47.93N×128.55W,h10km,ML3.8(PGC),After PGC.*

PGC 26 10:53:31.2,47.93N×128.55W,h10km,MLSn3.2/1,Mw3.8, 1C-2D,236km southwest of Tofino, Bc West of Vancouver Island, British Columbia,Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETB	**Estevan Point**	**1.97**	**42**	Pn	Pn	10 54 02.9	-2.1
ETB				Trac		10 54 29.7	
	comp=Z,2.9nm,0.2s						
EDB	**Eliza Dome**	**2.16**	**25**	Pn	Pn	10 54 05.0	-2.8
EDB				Trac		10 54 31.0	
	comp=Z,3.0nm,0.1s						
OZB	**Mount Ozzard**	**2.28**	**62**	Pn	Pn	10 54 07.3	-2.2
OZB				Sn	Sn	10 54 33.5	-4.4
OZB				Trac		10 54 35.3	
	comp=Z,13nm,0.2s						
BPBC	**Brooks Peninsu**	**2.29**	**13**	Pn	Pn	10 54 06.8	-2.8
GDR	**Gold River**	**2.49**	**41**	Pn	Pn	10 54 10.2	-2.3
GDR				Sn	Sn	10 54 38.7	-4.5
	comp=Z,2.0nm,0.2s						
GDR				Trac		10 54 41.3	
	comp=Z,2.0nm,0.2s						
BTB	**Buttle Lake**	**2.53**	**51**	Pn	Pn	10 54 11.0	-2.0
BTB				Sn	Sn	10 54 39.0	-5.1
	comp=Z,23nm,0.3s						
BTB				Trac		10 54 42.9	
	comp=Z,23nm,0.3s						
WOSB	**Woss**	**2.58**	**29**	Pn	Pn	10 54 12.0	-1.9
MAYB	**Maynard**	**2.63**	**19**	⇓ Pn	Pn	10 54 12.4	-2.2
HOLB	**Holberg**	**2.73**	**6**	Pn	Pn	10 54 13.3	-2.6
HOLB				Sn	Sn	10 54 43.2	-6.0
	comp=Z,5.0nm,0.3s						
HOLB				Trac		10 54 52.6	
	comp=Z,5.0nm,0.3s						
MGB	**Mount Grey**	**2.78**	**66**	Pn	Pn	10 54 14.3	-2.4
MGB				Trac		10 54 47.4	
	comp=Z,4.0nm,0.1s						
ALB	**Alberni**	**2.81**	**60**	Pn	Pn	10 54 14.5	-2.6
ALB				Trac		10 54 47.6	
	comp=Z,1.0nm,0.1s						
PFB	**Port Renfrew**	**2.82**	**75**	⇑ Pn	Pn	10 54 14.7	-2.5
PFB				Sn	Sn	10 54 46.5	-5.1
PFB				Trac		10 54 49.8	
	comp=Z,1.0nm,0.1s						
PHC	**Port Hardy**	**2.87**	**14**	Pn	Pn	10 54 15.7	-2.3
PHC				Trac		10 54 52.0	
	comp=Z,1.0nm,0.2s						
NCRB	**Newcastle Ridg**	**2.97**	**32**	⇑ Pn	Pn	10 54 17.8	-1.5
NCRB				Sn	Sn	10 54 51.4	-4.0
	comp=Z,1.0nm,0.1s						
NCRB				Trac		10 54 52.7	
	comp=Z,1.0nm,0.1s						
CBB	**Campbell River**	**2.97**	**44**	Pn	Pn	10 54 17.4	-1.9

CBB				Sn	Sn	10 54 50.6	-4.8	
CBB				Trac		10 54 52.6		
	comp=Z,5.0nm,0.3s							
LZB	**Mount Lazard**	**3.23**	**76**	Pn	Pn	10 54 20.7	-2.3	
LZB				Trac		10 54 59.1		
TXB	**Texada**	**3.24**	**55**	⇑Pn	Pn	10 54 21.4	-1.8	
TXB				Sn	Sn	10 54 58.1	-4.2	
	comp=Z,4.0nm,0.2s							
TXB				Trac		10 55 02.1		
	comp=Z,4.0nm,0.2s							
NLLB	**Nanaimo Lost L**	**3.29**	**65**	Pn	Pn	10 54 22.0	-2.0	
NLLB				Sn	Sn	10 55 00.2	-3.3	
NLLB				Trac		10 55 01.2		
	comp=Z,2.0nm,0.1s							
PGC	**Sidney**	**3.48**	**76**	Pn	Pn	10 54 24.6	-2.0	
PGC	**Sidney**	**3.48**	**76**	*e*P	Pn	10 54 23.8	-2.7	
GOBB	**Galiano Island**	**3.50**	**71**	Pn	Pn	10 54 25.3	-1.6	
SHB	**Sechelt**	**3.51**	**60**	⇑Pn	Pn	10 54 25.3	-1.7	
SHB				Sn	Sn	10 55 04.4	-4.7	
SHB				Trac		10 55 07.3		
	comp=Z,5.0nm,0.2s							
VGZ	**Gonzales**	**3.53**	**80**	Pn	Pn	10 54 24.8	-2.5	
VGZ				Sn	Sn	10 55 05.6	-3.9	
VGZ				Trac		10 55 07.5		
	comp=Z,2.0nm,0.1s							
SNB	**Saturna Island**	**3.68**	**75**	Pn	Pn	10 54 28.1	-1.4	
SNB				Trac		10 55 14.5		
	comp=Z,1.0nm,0.1s							
SQM	**Sequim**	**3.69**	**86**	P	Pn	10 54 29.2	-0.5	
HDW	**Hoodsport**	**3.71**	**92**	P	Pn	10 54 29.1	-0.8	
BIB	**Bowen Island**	**3.77**	**65**	Pn	Pn	10 54 28.9	-1.8	
WPB	**Watts Point**	**3.93**	**62**	Pn	Pn	10 54 31.3	-1.7	
HNB	**Haney**	**4.18**	**69**	⇓Pn	Pn	10 54 34.6	-2.0	
BBB	**Bella Bella**	**4.27**	**4**	Pn	Pn	10 54 35.4	-2.4	
BBB				Sn	Sn	10 55 21.1	-7.2	
BBB				Trac		10 55 25.4		
	comp=Z,13nm,0.5s							
WSLR	**Whistler**	**4.30**	**57**	Pn	Pn	10 54 36.7	-1.6	
VDB	**Vedder Mountai**	**4.42**	**73**	Pn	Pn	10 54 38.1	-1.9	
VDB				Trac		10 55 35.1		
	comp=Z,1.0nm,0.2s							
JCW	**Jim Creek**	**4.44**	**84**	P	Pn	10 54 39.4	-0.9	
MBW	**Mount Baker**	**4.51**	**77**	P	Pn	10 54 40.1	-1.2	
HTW	**Haystack Looko**	**4.56**	**89**	P	Pn	10 54 41.5	-0.5	
HOPB	**Hope**	**4.94**	**70**	Pn	Pn	10 54 45.5	-1.8	
LLLB	**Lillooet**	**5.12**	**56**	Pn	Pn	10 54 48.0	-1.8	

NNC ***26*** *11:08:01.9±6.8, 41.81N×82.65E, mpv3.0, Error ellipse: s-maj=77.6km s-min=32.5km az=149.0*

BJI 26 11:08:07.0, 41.69N×82.43E, h18km, ML3.1, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.42**	**59**	*e*P	Pn	11 09 15.8	+0.8
WMQ				S	Sn	11 10 08.5	+1.9
WMQ				Smax			
	comp=N,19nm,0.4s						
WMQ				Smax			
	comp=E,14nm,0.5s						
MK31	**Makanchi Array**	**5.10**	**359**	⇑Pn	Pn	11 09 20.7	-3.9
	comp=E,0.7nm,0.3s,baz=186,slow=14,SNR=22						
MK31				⇓Lg		11 10 39.6	
	comp=E,3.7nm,0.5s,baz=172,slow=28,SNR=4.2						
AAK	**Ala-Archa**	**5.97**	**282**	⇑Pg	Pn	11 09 54.4	+18
	comp=E,0.6nm,0.4s						
AAK				⇑Lg		11 11 14.8	
	comp=E,4.5nm,0.7s						

KRSC 26 11:10:39.4±0.3, 52.57N×159.80E, h28km±4km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.55**	**14**	*i* P	Pb	11 10 50.8	+0.4
SPN				*i* S	Sb	11 10 58.9	+0.9
NLC	**Nalytchevo**	**0.66**	**336**	*i* P	Pb	11 10 52.8	+0.5
NLC				*e*S	Sb	11 11 02.8	+1.6
RUS	**Russkaya**	**0.80**	**261**	*i* P	Pb	11 10 54.6	0.0
RUS				*i* S	Sb	11 11 05.6	+0.5
PET	**Petropavlovsk**	**0.83**	**304**	*i* P	Pb	11 10 55.0	-0.2
PET				*e*S	Sb	11 11 06.3	+0.3
UGLR	**Uglovaya**	**0.87**	**318**	*i* P	Pb	11 10 56.2	+0.4
SMAR	**Somma**	**0.92**	**319**	*e*P	Pn	11 10 56.5	-0.1
AVH	**Avacha**	**0.95**	**318**	*i* P	Pn	11 10 57.3	+0.3
AVH				*e*S	Sb	11 11 10.7	+1.4
KOK	**Koryaka**	**1.01**	**316**	*i* P	Pn	11 10 57.9	+0.1
KRMR	**Karymshinskiy**	**1.05**	**285**	*i* P	Pn	11 10 58.4	0.0
KRMR				*i* S	Sn	11 11 12.2	0.0
GRL	**Gorelyy**	**1.05**	**270**	*i* P	Pn	11 10 59.1	+0.6
GRL				*i* S	Sn	11 11 13.8	+1.5
KII	**Karymskiy**	**1.48**	**352**	*e*P	Pn	11 11 04.8	+0.2
KII				*e*S	Sn	11 11 23.2	0.0
GNL	**Ganaly**	**1.59**	**316**	*i* P	Pn	11 11 07.0	+0.9
GNL				*i* S	Sn	11 11 27.1	+1.2
APC	**Apacha**	**1.65**	**284**	*i* P	Pn	11 11 07.7	+0.8
APC				*i* S	Sn	11 11 28.6	+1.3
APC				Smax			
	120nm,0.8s						
PAU	**Pauzhetka**	**2.15**	**240**	*e*P	Pn	11 11 13.4	-0.8
PAU				*e*S	Sn	11 11 38.7	-1.5
MKZ	**Mys Kozlova**	**2.30**	**29**	*e*P	Pn	11 11 16.5	+0.2
MKZ				*e*S	Sn	11 11 44.0	+0.1
TUMR	**Tumrok**	**2.73**	**4**	*e*P	Pn	11 11 23.0	+0.6
KMNR	**Kamenistaya**	**3.20**	**4**	*e*P	Pn	11 11 30.1	+0.9
ESO	**Esso**	**3.42**	**350**	*i* P	Pn	11 11 32.6	+0.3
ESO				*i* S	Sn	11 12 11.3	-1.1
ESO				Smax			
	20nm,0.8s						
KBTR	**Krutoberegovo**	**4.05**	**25**	*e*P	Pn	11 11 41.5	+0.3
KBTR				*e*S	Sn	11 12 26.7	-1.6
BKI	**Bering**	**4.50**	**52**	*e*S	Sn	11 12 32.3	-7.5

INMG ***26*** *11:14:17.7±1.1, 42.23N×8.39W, h22km±2km, ML2.5, Error ellipse: s-maj=2.9km s-min=1.3km az=82.0*
NEIC ***26*** *11:14:17.9, 42.23N×8.40W, h21km, MN2.8(MDD), After MDD.*
CSEM ***26*** *11:14:17.7±0.1, 42.21N×8.48W, h31km, ML3.4/9, Error ellipse: s-maj=3.0km s-min=2.0km az=70.0*

MDD 26 11:14:17.9±0.2, 42.23N×8.40W, h20km±2km, mbLg2.6/15, 3C, Error ellipse: s-maj=2.9km s-min=2.1km az=54.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZAM	**Zamans**	**0.23**	**251**	⇑Pg	Pb	11 14 23.3	-0.4
	135nm,0.2s,SNR=18						
ELOB	**Lobios**	**0.44**	**145**	⇑Pg	Pb	11 14 26.6	-0.3
	32nm,0.0s,SNR=18						
ELOB				Lg		11 14 32.7	
	211nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**0.44**	**145**	Pg	Pb	11 14 26.6	-0.3
	32nm,0.0s,SNR=18						
STS	**Santiago**	**0.67**	**350**	⇑Pg	Pb	11 14 30.6	-0.2
	20nm,0.2s,SNR=18						
STS				Lg		11 14 39.6	
	285nm,0.2s,SNR=77						
EMAZ	**Mazaricos**	**0.84**	**330**	Pg	Pb	11 14 32.8	-0.9
	10nm,0.1s,SNR=7.9						
EMAZ				Lg		11 14 44.3	
	57nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**0.84**	**330**	Pg	Pb	11 14 32.8	-0.9
	10nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**0.95**	**79**	Pg	Pb	11 14 34.4	-1.1
	39nm,0.2s,SNR=25						
ERUA				Lg		11 14 46.5	
	90nm,0.2s,SNR=19						
ERUA	**La Rua**	**0.95**	**79**	Pg	Pb	11 14 34.4	-1.1
ERUA				Lg		11 14 46.5	
PVRL	**Vila Real**	**1.08**	**152**	*e*Pg	Pb	11 14 37.6	-0.1
PVRL				*e*Sg	Sb	11 14 51.6	+0.2
	97nm,0.1s						
PVRL	**Vila Real**	**1.08**	**152**	*e*Pg	Pb	11 14 37.6	-0.1
PVRL				*e*Sg	Sb	11 14 51.6	+0.2
	97nm,0.1s						
ECAL	**Calabor**	**1.27**	**102**	Pn	Pn	11 14 39.1	-1.6
	4.2nm,0.1s,SNR=7.9						
ECAL				Pg	Pn	11 14 41.6	+0.8
	5.0nm,0.3s,SNR=7.9						
ECAL				Sn	Sn	11 14 55.1	-2.2
	24nm,0.2s,SNR=7.9						
ECAL				Lg		11 14 58.1	
	90nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**1.27**	**102**	Pn	Pn	11 14 39.1	-1.7
	4.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**1.27**	**102**	Pg	Pn	11 14 41.5	+0.7
ECAL				Sn	Sn	11 14 55.1	-2.2
	24nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**1.30**	**108**	*e*Pn	Pn	11 14 39.7	-1.6
PBRG	**Braganca**	**1.30**	**108**	*e*Pg	Pn	11 14 41.7	+0.4
PBRG				*e*Sg	Sb	11 14 58.8	+0.9
	76nm,0.1s						
PBRG	**Braganca**	**1.30**	**108**	Pn	Pn	11 14 39.7	-1.6
PBRG				Pg	Pn	11 14 41.7	+0.4
PBRG				Lg		11 14 58.8	
	38nm,0.1s						
PBRG	**Braganca**	**1.30**	**108**	*e*Pg	Pn	11 14 41.7	+0.4
PBRG				*e*Sg	Sb	11 14 58.8	+0.9
	76nm,0.1s						
EPON	**Pontenova**	**1.43**	**39**	Pn	Pn	11 14 40.9	-2.3
	2.9nm,0.1s,SNR=7.9						
EPON				Pg	Pn	11 14 44.7	+1.6
	6.6nm,0.1s,SNR=7.9						
EPON				Sn	Sn	11 14 58.3	-3.2
	16nm,0.1s,SNR=7.9						
EPON				Lg		11 15 02.9	
	83nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**1.43**	**39**	Pn	Pn	11 14 40.9	-2.2
	2.9nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**1.43**	**39**	Pg	Pn	11 14 44.7	+1.6
	6.6nm,0.1s,SNR=7.9						
EPON				Sn	Sn	11 14 58.3	-3.2
	16nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**1.93**	**160**	*e*Sg	Sn	11 15 17.2	+3.0
	44nm,0.3s						
MTE	**Manteigas**	**1.93**	**160**	*e*Sg	Sn	11 15 17.2	+3.0
	44nm,0.3s						
PCBR	**Castelo Branco**	**2.48**	**163**	*e*Sn	Sn	11 15 24.7	-3.5
PCBR				*e*Sg	Sn	11 15 34.5	+6.3
	12nm,0.2s						
PCBR	**Castelo Branco**	**2.48**	**163**	Sn	Sn	11 15 24.7	-3.5
PCBR				Lg		11 15 34.5	
	6.1nm,0.2s						
EARI	**Arriondas**	**2.58**	**64**	Pn	Pn	11 14 58.2	-1.4
	2.3nm,0.1s,SNR=7.9						
EARI				Sn	Sn	11 15 28.1	-2.6
	4.1nm,0.2s,SNR=7.9						
EARI				Lg		11 15 37.8	
	3.0nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**2.58**	**64**	Pn	Pn	11 14 58.2	-1.4
	2.3nm,0.1s,SNR=7.9						
EARI				Sn	Sn	11 15 28.1	-2.6
	4.1nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**2.60**	**180**	*e*Sn	Sn	11 15 27.4	-3.9
	20nm,0.2s						
PTOM	**Tomar**	**2.60**	**180**	Sn	Sn	11 15 27.4	-3.9
	9.9nm,0.2s						
EBAD	**Badajoz**	**3.62**	**163**	Pn	Pn	11 15 09.5	-4.8
	SNR=7.9						
EBAD				Sn	Sn	11 15 52.7	-4.3
	3.7nm,0.2s,SNR=7.9						
EBAD				Lg		11 16 09.5	
	11nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.65**	**163**	Pn	Pn	11 15 25.4	-3.5
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	11 16 16.2	-6.7
	0.1nm,0.2s,SNR=7.9						
EMIN				Lg		11 16 41.9	
	1.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.65**	**163**	Pn	Pn	11 15 25.4	-3.5
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	11 16 16.2	-6.7
	0.1nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.73**	**150**	Pn	Pn	11 15 26.8	-3.3
	0.1nm,0.2s,SNR=7.9						
ECAB				Sn	Sn	11 16 17.1	-8.0
	0.8nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.73**	**150**	Pn	Pn	11 15 26.8	-3.3
	0.1nm,0.2s,SNR=7.9						
ECAB				Sn	Sn	11 16 17.1	-8.0
	0.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.74**	**171**	Sn	Sn	11 16 18.5	-6.7
	0.4nm,0.1s,SNR=7.9						
EGRO				Lg		11 16 43.5	
	0.1nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**4.74**	**171**	Sn	Sn	11 16 18.5	-6.8
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.00**	**143**	Pn	Pn	11 15 30.2	-3.7
	0.1nm,0.2s,SNR=7.9						
EADA				Sn	Sn	11 16 23.5	-8.3
	0.0nm,0.2s,SNR=7.9						
EADA				Lg		11 16 51.5	
	2.2nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**5.00**	**143**	Pn	Pn	11 15 30.2	-3.7
EADA				Sn	Sn	11 16 23.5	-8.3
EADA				Lg		11 16 54.2	
EADA	**Adamuz**	**5.00**	**143**	Pn	Pn	11 15 30.2	-3.7
	0.1nm,0.2s,SNR=7.9						
EADA				Sn	Sn	11 16 23.5	-8.3

NNC ***26*** *11:19:54.4±7.4, 41.99N×82.39E, mpv3.4, Error ellipse: s-maj=90.5km s-min=30.4km az=142.0*

BJI 26 11:19:54.8, 41.70N×82.34E, h12km, ML3.6, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.48**	**60**	*e*P	Pn	11 21 01.3	-2.8
WMQ				S	Sn	11 21 54.5	-2.2
WMQ				Smax			
	comp=N,38nm,0.6s						
WMQ				Smax			
	comp=E,32nm,0.5s						
MK31	**Makanchi Array**	**5.09**	**360**	⇑Pn	Pn	11 21 10.4	-2.4
	comp=E,2.4nm,0.4s,baz=195,slow=13,SNR=44						
MK31				⇑Lg		11 22 28.3	
	comp=E,8.2nm,0.5s,baz=176,slow=28,SNR=4.3						
AAK	**Ala-Archa**	**5.91**	**282**	⇓Pn	Pn	11 21 24.6	+0.3
	comp=E,2.1nm,0.8s						
AAK				⇓Pg	Pg	11 21 40.6	-12
	comp=E,6.4nm,0.9s						
AAK				⇑Lg		11 22 59.3	
	comp=E,22nm,1.4s						

NNC ***26*** *11:42:45.5±2.5, 44.50N×81.77E, h34km±12km, mpv3.3, Error ellipse: s-maj=25.2km s-min=12.6km az=129.0*

BJI 26 11:42:46.5, 44.31N×81.76E, h22km, ML3.4, 9C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**2.51**	**8**	⇑Pn	Pn	11 43 24.3	-2.6
	2.2nm,0.5s,baz=191,slow=13,SNR=767						
MK31				Pg	Pn	11 43 28.8	+1.8
	28nm,0.3s,baz=181,slow=16,SNR=30						
MK31				⇑Sn	Sn	11 43 54.2	-3.0
	13nm,0.3s,baz=178,slow=24,SNR=8.0						
MK31				⇓Lg		11 44 02.3	
	15nm,0.3s,baz=189,slow=27,SNR=3.7						
WMQ	**Urumqi**	**4.30**	**94**	*e*P	Pn	11 43 54.8	+2.4
WMQ				S	Sn	11 44 47.0	+4.4
WMQ				Smax			
	comp=N,38nm,0.5s						
WMQ				Smax			
	comp=E,37nm,0.6s						
AAK	**Ala-Archa**	**5.55**	**255**	⇑Pg	Pn	11 44 26.0	+16
	comp=E,6.8nm,0.7s						
AAK				⇓Lg		11 45 41.4	
	comp=E,17nm,0.6s						
KURK	**Kurchatov**	**6.75**	**343**	⇑Pn	Pn	11 44 21.3	-5.7
	comp=E,0.6nm,0.7s						
KURK				⇑Sn	Sn	11 45 33.7	-10
	comp=E,1.8nm,0.7s						
KURK				⇑Lg		11 46 15.5	
	comp=E,3.3nm,0.6s						
KK31	**Karatay Array**	**8.24**	**265**	⇑Pg	P	11 45 18.6	+31
	comp=E,0.6nm,0.5s,baz=74,slow=16,SNR=3.9						
KK31				⇑Lg		11 47 05.3	
	comp=E,6.1nm,0.7s,baz=75,slow=28,SNR=7.4						
VOSK	**Vostochnaya**	**11.03**	**324**	⇓Pn	P	11 45 14.6	-11
	comp=E,2.4nm,1.4s						
VOSK				⇑Sn	S	11 47 21.9	-8.0
	comp=E,1.9nm,0.8s						
VOSK				⇓Lg		11 48 30.4	
	comp=E,3.9nm,0.9s						

NIED ***26*** *11:45:00, 44.20N×149.40E, h20km, Mw4.5 Best double couple: M0 6.26×10^15 NP1:φs 52°, δ65°, λ127°. NP2:φs 171°, δ44°, λ38°.*
SKHL ***26*** *11:45:45.2±1.0, 43.55N×150.65E, h56km±2km, mb4.9/7, Ms4.4/6*
BJI ***26*** *11:45:58.8, 44.10N×149.11E, h23km, mB5.0, mb4.8, Ms4.3, Msz4.2*
MOS ***26*** *11:46:00.9±0.9, 43.83N×148.97E, h45km, mb5.1/39, Error ellipse: s-maj=9.9km s-min=6.0km az=113.2*
NEIC ***26*** *11:46:01.3±0.3, 43.94N×149.16E, h35km, mb4.9/35, Error ellipse: s-maj=7.9km s-min=4.5km az=146.0*
IDC ***26*** *11:46:02.1±0.6, 44.00N×149.09E, h40km±3km, mb4.3/18, mb1 4.4/21, mb1mx4.3/26, mbtmp4.5/21, ML3.7/3, MS4.0/6, Ms1 4.0/6, ms1mx3.6/25, Error ellipse: s-maj=16.3km s-min=9.7km az=174.0*

ISC 26 11:46:00.9±0.3, 43.96N±0.06×149.07E±0.05, h41km, h41km±1.0km: pP-P, n219, σ1 9 05/207, mb4.8/66, MS4.4/11, 9C-12D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.53**	**326**	*i* P	**P**	**11 46 23.5**	**-2.7**
KUR				*i* P		11 46 23.5	
KUR				AMB	AMB	11 46 29.5	
	4μm,1.5s						
KUR				AMB	AMB	11 46 29.5	
	6μm,1.5s						
KUR				AMB	AMB	11 46 32.0	
	1μm,0.8s						
KUR				AMB	AMB	11 46 32.0	
	430nm,0.8s						
KUR				AMB	AMB	11 46 32.0	
	3μm,0.8s						
KUR				sP		11 46 43.5	
KUR				*e*S	**S**	**11 46 53.0**	**+7.9**
KUR				A		11 46 59.0	
	15μm,1.6s						
KUR				A		11 46 59.0	
	10μm,1.6s						
KUR				A		11 46 59.0	
	4μm,0.8s						
KUR				A		11 46 59.0	
	2μm,0.8s						
KUR	**Kuril'sk**	**1.53**	**326**	α *i* PN	**P**	**11 46 23.5**	**-2.7**
KUR				*e*S	**S**	**11 46 53.0**	**+7.9**
KUR				pmax	pmax		
	comp=E,4μm,1.5s						
KUR				pmax	pmax		
	comp=Z,6μm,1.5s						
KUR				pmax	pmax		
	comp=N,1μm,0.8s						
KUR				pmax	pmax		
	comp=E,430nm,0.8s						
KUR				pmax	pmax		
	comp=Z,3μm,0.8s						
KUR				smax			
	comp=N,4μm,0.8s						
KUR				smax			
	comp=E,2μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.31**	**273**	⇓ *i* P	**P**	**11 46 37.2**	**-0.1**
YUK				AMB	AMB	11 46 41.8	
	comp=E,250nm,0.5s						
YUK				AMB	AMB	11 46 41.8	
	comp=E,230nm,0.5s						
YUK				AMB	AMB	11 46 41.8	
	comp=E,600nm,0.5s						
YUK				AMB	AMB	11 46 48.8	
	comp=E,3μm,1.0s						
YUK				AMB	AMB	11 46 48.8	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	11 46 48.8	
	comp=E,4μm,1.0s						
YUK				*e*S	**S**	**11 47 15.4**	**+11**
YUK				A		11 47 20.7	
	comp=E,6μm,1.0s						
YUK				A		11 47 20.7	
	comp=E,7μm,1.0s						
YUK				A		11 47 23.1	
	comp=E,2μm,0.5s						
YUK				A		11 47 23.1	
	comp=E,2μm,0.5s						
YUK				AMS	AMS	11 50 25.0	
	comp=E,2μm,9.0s						
YUK	**Yuzh-Kuril'sk**	**2.31**	**273**	⇓ *i* PN	**P**	**11 46 37.2**	**-0.1**
YUK				pmax	pmax		
	comp=E,230nm,0.4s						
YUK				pmax	pmax		
	comp=Z,600nm,0.4s						
YUK				pmax	pmax		
	comp=N,250nm,0.5s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,4μm,1.0s						
YUK				pmax	pmax		
	comp=N,3μm,1.2s						
YUK				MLR	MLR		
	comp=Z,2μm,9.0s						
ASAJ	**Asahikawa**	**4.67**	**274**	P	**P**	**11 47 11.7**	**+0.9**
	comp=Z,4.5nm,0.3s,baz=82,slow=14,SNR=44						
ASAJ				S	**S**	**11 48 01.4**	**-2.9**
	comp=Z,8.1nm,0.3s,baz=82,slow=23,SNR=3.1						
ASAJ				LR	LR	11 49 17.4	
	comp=Z,959nm,18.9s,baz=302,slow=42						
ASAJ	**Asahikawa**	**4.67**	**274**	PN	**P**	**11 47 11.7**	**+1.0**
ASAJ				S	**S**	**11 48 01.5**	**-2.9**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,959nm,18.9s						
YSS	**Yuzh-Sakhalins**	**5.35**	**306**	*e*Pn	**P**	**11 47 20.4**	**+0.1**
	comp=Z,84nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.35**	**306**	⇑ *i* PN	**P**	**11 47 20.0**	**-0.3**
YSS				pmax	pmax		
	comp=E,20nm,0.7s						
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
UGL	**Uglegorsk**	**7.03**	**319**	*e*P	**P**	**11 47 45.0**	**+1.1**
UGL				AMB	AMB	11 47 47.0	
	comp=Z,26nm,0.6s						
UGL				sP		11 48 07.0	
UGL				*e*L		11 49 33.0	
UGL				AMS	AMS	11 50 54.0	
	comp=Z,2μm,17.0s						
UGL				AMS	AMS	11 50 54.0	
	comp=Z,2μm,17.0s						
UGL				AMS	AMS	11 50 54.0	
	comp=Z,1μm,17.0s						
UGL	**Uglegorsk**	**7.03**	**319**	*e*PN	**P**	**11 47 45.0**	**+1.1**
UGL				pmax	pmax		
	comp=Z,26nm,0.6s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
UGL				MLR	MLR		
	comp=Z,1μm,16.0s						
UGL				MLR	MLR		
	comp=N,2μm,17.0s						
TYV	**Tymovskoe**	**8.15**	**330**	*e*P	**P**	**11 47 55.0**	**-4.5**
TYV				AMB	AMB	11 48 12.5	
	comp=N,14nm,0.8s						
TYV				AMB	AMB	11 48 12.5	
	comp=N,19nm,0.8s						
TYV				AMS	AMS	11 51 58.0	
	comp=N,2μm,14.0s						
TYV				AMS	AMS	11 51 58.0	
	comp=N,1μm,14.0s						
SKR	**Severo-Kuril's**	**8.25**	**33**	*e*PN	**P**	**11 47 54.7**	**-6.1**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
TEY	**Ternei**	**8.97**	**281**	*e*P	**P**	**11 48 08.5**	**-2.3**

TEY AMS AMS 11 52 37.0
comp=Z,700nm,14.0s
TEY AMS AMS 11 52 37.0
comp=Z,1μm,14.0s
NKL Nikolayevsk 10.73 332 *eP* **P 11 48 35.0 +0.1**
NKL AMB AMB 11 48 44.0
comp=Z,50nm,1.1s
NKL AMS AMS 11 53 54.0
comp=Z,500nm,15.0s
NKL AMS AMS 11 53 54.0
comp=Z,600nm,15.0s
GRNR Gornyy 10.94 313 *eP* **P 11 48 39.1 +1.4**
PET Petropavlovsk 11.06 32 *ePn* **P 11 48 34.3 -5.1**
PET Petropavlovsk 11.06 32 *ePN* **P 11 48 43.0 +3.6**
PET MLR MLR
comp=Z,500nm,19.0s
MAJO Matsushiro 11.12 232 *ePn* **P 11 48 37.2 -3.0**
comp=Z,15nm,0.6s
MAJO Matsushiro 11.12 232 *ePN* **P 11 48 37.2 -3.0**
MAJO pmax pmax
comp=Z,15nm,0.6s
MAT Matsushiro 11.12 232 P **P 11 48 37.0 -3.2**
MAT *eS* **S 11 50 33.8 -10**
MAT Matsushiro 11.12 232 *eP* **P 11 48 37.0 -3.2**
comp=Z,10nm,0.4s
MAT *eS* **S 11 50 34.0 -10**
MAT Matsushiro 11.12 232 *ePN* **P 11 48 37.0 -3.2**
MAT pmax pmax
comp=Z,10.0nm,0.4s
MJAR Matsushiro Arr 11.12 232 P **P 11 48 37.5 -2.7**
comp=Z,0.8nm,0.3s,baz=28,slow=14,SNR=9.9
VLA Vladivostok 12.49 272 *ePN* **P 11 49 10.2 +12**
KLR Kul'dur 13.01 300 *erx* rx 11 49 03.8
KLR AMS AMS 11 54 42.0
comp=Z,500nm,17.0s
KLR AMS AMS 11 54 42.0
comp=Z,900nm,17.0s
KLR AMS AMS 11 56 49.0
comp=Z,500nm,13.0s
KLR AMS AMS 11 56 49.0
comp=Z,1μm,13.0s
MDJ Mudanjiang 13.97 279 P **P 11 49 15.5 -2.5**
MDJ AMB AMB
comp=Z,13nm,0.9s
MDJ AMB AMB
comp=Z,115nm,5.9s
MDJ LR LR
comp=N,120nm,19.8s
MDJ LR LR
comp=E,227nm,16.2s
MDJ LR LR
comp=Z,396nm,16.2s
MDJ Mudanjiang 13.97 279 *ePn* **P 11 49 18.6 +0.6**
comp=Z,16nm,0.8s
EKMR Ekimchan 14.01 316 *eP* **P 11 49 13.2 -5.3**
EKMR AMB AMB 11 49 24.6
comp=Z,8.0nm,0.5s
MA2 Magadan 15.67 3 *eP* **P 11 49 46.6 +6.5**
BMKR Bomnak 16.94 317 *eP* **P 11 49 54.5 -1.7**
CN2 Changchun 17.02 278 *eP* **P 11 49 58.3 +1.1**
CN2 *eS* **S 11 52 58.0 -5.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,700nm,16.0s
CN2 LR LR
comp=E,600nm,16.0s
CN2 LR LR
comp=Z,700nm,17.0s
ZEA Zeya 17.30 312 *eP* **P 11 49 58.1 -2.6**
ZEA AMB AMB 11 49 59.2
comp=Z,30nm,0.9s
KS15 Wonju Array Si 17.31 255 *eP* **P 11 50 03.8 +2.9**
KROS Kirovskiy 17.76 314 *eP* **P 11 50 01.7 -4.7**
KROS AMB AMB 11 50 06.0
comp=Z,7.0nm,0.5s
JNU Nakatsue 17.84 239 P **P 11 50 06.2 -1.3**
comp=Z,0.1nm,0.3s,baz=181,slow=44,SNR=1.8
JNU LR LR 11 57 41.4
comp=Z,142nm,20.1s,baz=27,slow=39
SNY Shenyang 18.78 272 ⇓*P* **P 11 50 19.3 +0.3**
SNY AMB AMB
comp=Z,20nm,0.8s
SNY LR LR
comp=N,440nm,16.8s
SNY LR LR
comp=Z,580nm,18.6s
SEY Seymchan 19.10 5 *eP* **P 11 50 18.8 -3.8**
SEY *e* 11 53 55.8
SEY pmax pmax
comp=Z,10.0nm,0.9s
SEY MLR MLR
comp=Z,2μm,17.0s
SEY MLR MLR
comp=N,720nm,14.0s
SEY MLR MLR
comp=E,790nm,16.0s
CLNS Chul'man 19.95 319 *eP* **P 11 50 29.5 -2.4**
CLNS pmax pmax
comp=N,11nm,0.7s
CLNS pmax pmax
comp=Z,18nm,0.7s
CLNS pmax pmax
comp=E,16nm,0.9s
DL2 Dalian 21.14 266 P **P 11 50 44.5 +0.2**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.4
YAK Yakutsk 21.38 335 *eP* **P 11 50 42.8 -3.8**
comp=Z,70nm,0.7s,mb5.1
YAK Yakutsk 21.38 335 *eP* **P 11 50 42.8 -3.8**
YAK pmax pmax
comp=Z,70nm,0.7s,mb5.1
TIA Tai'an 25.52 263 P **P 11 51 28.0 +0.9**
BILL Bilibino 25.79 15 *eP* **P 11 51 39.1 +10**
HHC Hu-ho-hao-te 27.71 277 *eP* **P 11 51 50.8 +3.6**
HHC AP pP 11 52 00.0 +1.8
HHC XP sP 11 52 04.0 +0.7
HHC PP PP 11 52 39.5 +2.9
HHC S **S 11 56 32.3 +7.3**
HHC XS 11 56 46.5
HHC SS SS 11 57 51.5 +5.3
HHC SCP 11 58 42.0
HHC PCS 11 58 48.3
HHC AMB AMB
comp=Z,18nm,1.5s,mb4.5
HHC AMB AMB
comp=Z,175nm,5.0s
HHC LR LR
comp=N,272nm,9.8s
HHC LR LR
comp=E,335nm,12.0s
HHC LR LR
comp=Z,564nm,15.3s,MS4.3
TIXI Tiksi 29.45 347 ⇑*iP* **P 11 51 57.9 -4.5**
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
SONM Songino Array 29.67 293 P **P 11 52 04.7 +0.1**
comp=Z,9.9nm,0.6s,mb4.7,baz=80,slow=8.2,SNR=89
LZH Lanzhou 35.15 273 *eP* **P 11 52 53.5 +1.0**
LZH PP PP 11 54 11.5 -0.5
LZH *eS* **S 11 58 16.0 -5.8**
LZH XS 11 58 41.0
LZH AMB AMB
comp=Z,63nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,300nm,4.5s
LZH LR LR
comp=E,1μm,15.0s
LZH LR LR
comp=Z,1μm,16.4s,MS4.8
LZH Lanzhou 35.15 273 *eP* **P 11 52 53.4 +0.9**
comp=Z,63nm,1.0s,mb5.5
LZH pP pP 11 53 08.0 +4.2
LZH sP sP 11 53 14.2 +5.1
LZH PP PP 11 54 11.5 -0.5
LZH *eS* **S 11 58 16.0 -5.8**
LZH sS 11 58 41.0
LZH SS SS 12 00 33.0 -6.4
LZH LR LR
comp=Z,1μm,16.4s,MS4.8
LZH Lanzhou 35.15 273 *eP* **P 11 52 53.4 +0.9**
LZH *PP pP 11 53 08.0 +4.2
LZH *SP sP 11 53 14.2 +5.1
LZH *eS* **S 11 58 16.0 -5.8**
LZH *SS 11 58 41.0
LZH SS SS 12 00 33.0 -6.4
LZH pmax pmax
comp=Z,63nm,1.0s,mb5.5
LZH MLR MLR
comp=Z,1μm,16.4s,MS4.8
GTA Gaotai 36.62 280 *eP* **P 11 53 06.0 +1.0**
GTA PP PP 11 54 29.5 -0.7
GTA PCP PcP 11 55 28.0 +0.2
GTA S **S 11 58 41.0 -3.5**
GTA SCS ScS 12 03 14.0 -1.2
GTA AMB AMB
comp=Z,16nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,90nm,3.8s
GTA LR LR
comp=N,328nm,13.7s,MS4.4
GTA LR LR
comp=E,277nm,14.8s,MS4.4
GTA LR LR
comp=Z,499nm,12.5s,MS4.5
CD2 Chengdu 37.80 265 *eP* **P 11 53 15.5 +0.5**
CD2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
KDAK Kodiak Island 38.08 48 P **P 11 53 15.6 -1.4**
comp=Z,8.8nm,1.0s,mb4.5,baz=320,slow=6.9,SNR=5.1
KDAK pP pP 11 53 27.1 -1.3
comp=Z,16nm,0.8s,baz=281,slow=4.6,SNR=6.9
GYA Guiyang 38.32 257 P **P 11 53 19.5 +0.2**
GYA PP PP 11 54 50.3 -0.5
GYA PCP PcP 11 55 35.5 +2.3
GYA S **S 11 59 05.5 -5.0**
GYA SCP 11 59 16.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,90nm,3.2s
GYA LR LR
comp=N,280nm,16.7s,MS4.3
GYA LR LR
comp=E,240nm,16.9s,MS4.3
GYA LR LR
comp=Z,310nm,16.4s,MS4.2
KMI Kunming 41.92 259 P **P 11 53 48.0 -1.0**
KMI AMB AMB
comp=Z,11nm,0.7s,mb4.6
KMI Kunming 41.92 259 P **P 11 53 47.9 -1.1**
comp=Z,11nm,0.7s,mb4.6
KMI Kunming 41.92 259 P **P 11 53 47.9 -1.1**
KMI pmax pmax
comp=Z,11nm,0.7s,mb4.6
ZAL Zalesovo 41.99 307 P **P 11 53 50.0 +0.8**
comp=Z,2.8nm,0.4s,mb4.2,baz=46,slow=4.2,SNR=5.6
ZAL PcP PcP 11 55 43.8 -0.8
comp=Z,1.2nm,0.4s,baz=140,slow=7.6,SNR=3.2
WMQ Urumqi 43.30 292 ⇑*iP* **P 11 54 00.5 +0.4**
WMQ PP PP 11 55 42.0 -1.0
WMQ *eS* **S 12 00 21.0 -3.3**
WMQ AMB AMB
comp=Z,40nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,202nm,5.3s
WMQ LR LR
comp=N,597nm,18.4s,MS4.6
WMQ LR LR
comp=E,401nm,17.0s,MS4.6
WMQ LR LR
comp=Z,354nm,20.0s,MS4.3
INK Inuvik 45.52 31 P **P 11 54 17.4 -0.3**
comp=Z,6.8nm,1.1s,mb4.5,baz=328,slow=7.1,SNR=7.2
INK pP pP 11 54 28.9 -0.3
comp=Z,7.2nm,0.8s,baz=266,slow=8.2,SNR=6.0
INK Inuvik 45.52 31 P **P 11 54 17.2 -0.4**
comp=Z,7.0nm,1.0s,mb4.5
INK Inuvik 45.52 31 P **P 11 54 17.4 -0.2**
INK *PP pP 11 54 28.9 -0.2
INK pmax pmax
comp=Z,7.0nm,1.1s
MKAR Makanchi Array 45.71 298 P **P 11 54 19.8 +0.3**
comp=Z,28nm,0.8s,mb5.3,baz=77,slow=8.4,SNR=149
MKAR pP pP 11 54 31.0 0.0
comp=Z,14nm,0.7s,baz=70,slow=5.9,SNR=13
MKAR LR LR 12 15 06.7
comp=Z,417nm,18.8s,MS4.4,baz=90,slow=38
KURK Kurchatov 46.56 304 *eP* **P 11 54 25.1 -0.9**
comp=Z,21nm,0.8s,mb5.1
KURK Kurchatov 46.56 304 *eP* **P 11 54 25.1 -0.9**
KURK pmax pmax
comp=Z,21nm,0.8s,mb5.1
LSA Lhasa 47.57 273 *eP* **P 11 54 36.2 +1.9**
DLBC Dease Lake 49.58 43 P **P 11 54 48.9 -0.6**
comp=Z,2.0nm,0.9s,mb4.1,baz=291,slow=8.6,SNR=4.0
BVAR Borovoye Array 50.44 310 P **P 11 54 54.3 -1.8**
comp=Z,2.8nm,0.6s,mb4.5,baz=59,slow=8.6,SNR=18
BVAR pP pP 11 55 07.8 +0.1
comp=Z,3.4nm,0.8s,baz=59,slow=8.6,SNR=5.7
BRVK Borovoye 50.48 310 *eP* **P 11 54 55.6 -0.8**
comp=Z,5.2nm,0.7s,mb4.7
BRVK Borovoye 50.48 310 *eP* **P 11 54 55.6 -0.8**
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ULHL Ulahol 51.56 295 P **P 11 55 05.5 +0.8**
SNR=14
TKM2 Tokmak 2 51.66 296 P **P 11 55 06.4 +0.9**
SNR=15
USP Ospenovka 52.21 297 P **P 11 55 10.1 +0.6**
SNR=16
KZA Kyzart 52.29 295 P **P 11 55 11.8 +1.7**
SNR=11
FRU Bishkek 52.34 296 *eP* **P 11 55 11.0 +0.5**
FRU pmax pmax
comp=Z,35nm,1.8s,mb5.0
AAK Ala-Archa 52.51 296 P **P 11 55 12.3 +0.5**
SNR=11
AAK Ala-Archa 52.51 296 *eP* **P 11 55 11.3 -0.5**
comp=Z,15nm,0.9s,mb4.9
AAK *e* pP 11 55 23.5 0.0
AAK Ala-Archa 52.51 296 *eP* **P 11 55 11.3 -0.5**
AAK *e* pP 11 55 23.5 0.0
AAK pmax pmax
comp=Z,15nm,0.9s,mb4.9
KKN Kakani 52.88 275 *eP* **P 11 55 15.1 +0.3**
comp=Z,46nm,1.1s,mb5.3
KKN Kakani 52.88 275 *eP* **P 11 55 15.1 +0.3**
KKN pmax pmax
comp=Z,23nm,1.1s,mb5.0
EKS2 Erkin-Say 52.96 297 P **P 11 55 15.6 +0.4**
SNR=12
DMN Daman 53.12 275 *eP* **P 11 55 16.7 +0.1**
GKN Gorkha 53.22 275 *eP* **P 11 55 17.4 0.0**
comp=Z,33nm,0.7s,mb5.3
AML Almayashu 53.27 296 P **P 11 55 18.7 +1.1**
SNR=8.5
HNR Honiara 54.05 167 LR LR 12 17 44.7
comp=Z,97nm,19.7s,MS3.9,baz=311,slow=35
KOLN Koldanda 54.10 276 *eP* **P 11 55 24.1 +0.2**
comp=Z,53nm,1.0s,mb5.4
YKA Yellowknife Ar 54.85 34 P **P 11 55 27.4 -1.4**
comp=Z,0.8nm,0.4s,mb4.1,baz=341,slow=20,SNR=5.1
YKA pP pP 11 55 39.6 -1.0
comp=Z,3.7nm,0.7s,baz=302,slow=6.8,SNR=5.0
YKA Yellowknife Ar 54.85 34 P **P 11 55 27.4 -1.4**
YKA *PP pP 11 55 39.7 -0.9
ARU Arti 55.13 317 *eP* **P 11 55 28.5 -2.5**
comp=Z,7.0nm,0.6s,mb4.9
ARU Arti 55.13 317 ⇓*iP* **P 11 55 28.9 -2.0**
ARU pmax pmax
comp=Z,13nm,1.0s,mb4.9
KEV Kevo 59.00 340 *ep* **P 11 55 54.5 -3.7**
comp=Z,4.5nm,0.6s,mb4.7
KEV Kevo 59.00 340 *eP* **P 11 55 54.5 -3.7**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ARCES ARCESS Array B 59.52 340 P **P 11 55 59.6 -2.2**
comp=Z,3.2nm,0.7s,mb4.5,baz=41,slow=9.6,SNR=8.2
ARCES pP pP 11 56 11.7 -2.0
comp=Z,1.1nm,0.5s,baz=36,slow=10,SNR=1.2
JOF Joensuu 62.54 333 *ep* **P 11 56 19.5 -2.8**
comp=Z,14nm,0.3s,mb5.6
KAF Kangasniemi 64.74 334 *ep* **P 11 56 34.6 -1.9**
comp=Z,7.1nm,0.5s,mb5.0,baz=40,slow=6.2
KAF Kangasniemi 64.74 334 *eP* **P 11 56 34.6 -1.9**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
WRAB Tennant Creek 65.00 195 *eP* **P 11 56 39.0 +0.1**
WRA Warramunga Arr 65.01 195 P **P 11 56 38.1 -0.9**
comp=Z,1.5nm,0.6s,mb4.2,baz=14,slow=6.8,SNR=14
FINES FINESS Array B 65.31 334 P **P 11 56 39.1 -1.1**
comp=Z,18nm,0.6s,mb5.3,baz=39,slow=7.7,SNR=75
FINES pP pP 11 56 50.9 -1.4
comp=Z,15nm,0.7s,baz=45,slow=8.1,SNR=11
OBN Obninsk 65.96 324 *d iP* **P 11 56 43.7 -0.8**
OBN *i* pP 11 56 55.6 -1.0
OBN *i* *PP pP 11 57 18.7 +22
OBN pmax pmax
comp=Z,28nm,0.5s,mb5.5
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
VSU Vasula 67.33 331 ⇑*eP* **P 11 56 52.3 -0.8**
RRI2 Red Ridge 67.35 51 *eP* **P 11 56 53.6 +0.2**
comp=Z,18nm,1.0s,mb5.1
TPAW Teton Pass 67.46 51 *eP* **P 11 56 54.4 +0.2**
comp=Z,23nm,1.2s,mb5.1
REDW Red Top Meadow 67.60 51 *eP* **P 11 56 58.4 +3.3**
comp=Z,19nm,1.2s,mb5.0
PDAR Pinedale Array 68.71 51 P **P 11 57 00.9 -1.1**
comp=Z,1.2nm,0.8s,mb3.9,baz=218,slow=1.2,SNR=11
PDAR pP pP 11 57 13.3 -0.8
comp=Z,2.3nm,0.8s,baz=297,slow=1.9,SNR=11
PDAR sP sP 11 57 18.4 -0.2
comp=Z,2.9nm,0.7s,baz=313,slow=2.8,SNR=9.4
NB2 NORSAR Subarra 69.90 340 P **P 11 57 07.9 -1.0**
comp=Z,38nm,1.2s,mb5.2,baz=29,slow=6.2
NB2 NORSAR Subarra 69.90 340 P **P 11 57 07.9 -1.0**
baz=29,slow=6.5
NB2 NORSAR Subarra 69.90 340 P **P 11 57 07.9 -1.0**
NB2 pmax pmax
comp=Z,38nm,1.2s,mb5.2
NOA NORSAR Array B 69.90 340 P **P 11 57 08.2 -0.7**
comp=Z,12nm,0.8s,mb4.9,baz=32,slow=6.1,SNR=35
NOA pP pP 11 57 20.0 -1.1
comp=Z,15nm,0.7s,baz=31,slow=6.2,SNR=16
ULM Lac du Bonnet 70.49 38 P **P 11 57 10.8 -2.0**
comp=Z,0.8nm,0.4s,mb4.0,baz=294,slow=16,SNR=3.0
SRU San Rafael 70.54 54 *eP* **P 11 57 12.5 -0.8**
comp=Z,6.2nm,0.8s,mb4.6
SRU San Rafael 70.54 54 *eP* **P 11 57 12.5 -0.8**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KIV Kislovodsk 70.65 313 *eP* **P 11 57 14.7 +0.9**
comp=Z,16nm,0.6s,mb5.1
KIV Kislovodsk 70.65 313 *eP* **P 11 57 13.7 -0.1**
KIV *e* 11 57 37.6
KIV pmax pmax
comp=N,23nm,0.8s
KIV pmax pmax
comp=E,13nm,0.8s
KIV pmax pmax
comp=Z,25nm,0.8s,mb5.2
KIV MLR MLR
comp=N,126nm,17.0s,MS4.5
KIV MLR MLR
comp=E,168nm,17.0s,MS4.5
KIV MLR MLR
comp=Z,275nm,17.0s,MS4.6
ZEI Tsey 70.80 311 *eP* **P 11 57 13.1 -1.6**
ZEI pmax pmax
comp=Z,12nm,0.9s,mb4.8
PV10 Paradox Valley 71.90 54 *eP* **P 11 57 21.3 -0.1**
SUW Suwalki 72.03 330 *eP* **P 11 57 21.4 -0.4**
GNI Garni 72.10 309 *eP* **P 11 57 22.6 +0.1**
GNI pmax pmax
comp=Z,16nm,1.7s
AKASG Malin Array Be 72.22 325 P **P 11 57 22.4 -0.6**
comp=Z,4.3nm,0.5s,mb4.6,baz=37,slow=5.8,SNR=18
AKASG pP pP 11 57 34.2 -1.0
comp=Z,6.4nm,0.6s,baz=36,slow=6.2,SNR=7.3
SOC Sochi 72.46 314 *eP* **P 11 57 28.3 +3.7**
SOC *e* 12 00 01.9
SOC *ePPP PPP 12 01 53.4 +3.0
SOC *eSSS SSS 12 14 42.0 +6.9
SOC pmax pmax
comp=Z,26nm,0.9s,mb5.2
SOC pmax pmax
comp=N,16nm,1.1s
SOC pmax pmax
comp=E,14nm,1.0s
SMCO Snowmass 72.55 52 P **P 11 57 25.2 0.0**
KWP Kalwaria 75.69 327 *eP* **P 11 57 44.1 +0.9**
ANMO Albuquerque 75.75 55 *eP* **P 11 57 53.5 +10**
BURAR Bucovina Array 76.28 325 ⇓*P* **P 11 57 47.2 +0.6**
OJC Ojcow 76.32 329 *eP* **P 11 57 46.5 -0.2**
OJC *ePcP* PcP 11 57 58.8 -0.1
KOLS Kolonicke sedl 76.42 327 *eP* **P 11 57 48.0 +0.7**
STHS Stebnicka Huta 76.43 328 *eP* **P 11 57 48.9 +1.5**
STHS *epP* pP 11 58 00.7 +1.1
NIE Niedzica 76.78 328 *eP* **P 11 57 50.6 +1.2**
NIE *ePcP* PcP 11 57 58.8 -2.1
VRI Vrincioaia 77.00 323 ⇓*P* **P 11 58 04.5 +14**
UPC Upice 77.43 331 *eP* **P 11 57 53.4 +0.4**
UPC *epP* pP 11 58 05.4 +0.2
DPC Dobruska-Polom 77.46 331 *eP* **P 11 57 53.8 +0.6**
DPC *epP* pP 11 58 05.4 0.0
KECS Kecovo 77.48 328 *eP* **P 11 57 53.2 -0.1**
KECS *epP* pP 11 58 05.9 +0.4
MLR Muntele Rosu 77.64 323 ⇓*P* **P 11 57 56.2 +2.0**
CLL Collm 77.75 334 P **P 11 57 54.4 -0.4**
comp=E,logA/T=1.3,mb5.0
CLL *i* *PP pP 11 58 06.5 -0.5
CLL *i* *SP sP 11 58 10.2 -1.3
CLL Collm 77.75 334 *i P* **P 11 57 54.4 -0.4**
comp=E,13nm,0.7s,mb5.0
CLL *i* pP pP 11 58 06.5 -0.5
CLL Collm 77.75 334 *i P* **P 11 57 54.4 -0.4**
CLL *i* *PP pP 11 58 06.5 -0.5
CLL pmax pmax
comp=Z,13nm,0.7s,mb5.0
VOIR 78.06 323 ⇑*P* **P 11 57 57.5 +0.9**
VYHS Vyhne 78.10 329 *eP* **P 11 57 56.9 +0.2**
VYHS *epP* pP 11 58 08.1 -0.8
VRAC Vranov 78.24 330 *eP* **P 11 57 58.0 +0.6**
PRU Pruhonice 78.38 332 *eP* **P 11 57 58.5 +0.3**
PRU *epP* pP 11 58 09.9 -0.5
BRTR Keskin Array B 78.39 315 P **P 11 57 59.1 +0.6**
comp=Z,2.5nm,0.8s,mb4.2,baz=72,slow=3.9,SNR=7.0
MOX Moxa 78.77 334 *eP* **P 11 58 12.0 +12**
MOX pP pP 11 58 26.0 +13
NKC Novy Kostel 78.86 333 *eP* **P 11 58 01.6 +0.7**
KHC Kasperske Hory 79.44 332 *eP* **P 11 58 04.3 +0.3**
KHC *epP* pP 11 58 16.5 +0.2
GERES GERESS Array B 79.64 332 P **P 11 58 05.4 +0.3**
comp=Z,1.6nm,0.5s,mb4.2,baz=45,slow=5.7,SNR=12
GERES pP pP 11 58 16.9 -0.5
comp=Z,4.4nm,0.7s,baz=34,slow=4.8,SNR=7.9
GRA1 Grafenberg Arr 79.72 334 *eP* **P 11 58 06.0 +0.4**
comp=Z,12nm,1.0s,mb4.8
GRA1 *epP* pP 11 58 18.2 +0.4
GRF Grafenberg Arr 79.72 334 *eP* **P 11 58 06.0 +0.4**
comp=Z,12nm,1.0s,mb4.8
GRF *epP* pP 11 58 18.2 +0.4
GRF Grafenberg Arr 79.72 334 *eP* **P 11 58 06.0 +0.4**
GRF *e*PP pP 11 58 18.2 +0.4
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.72 334 *eP* **P 11 58 06.0 +0.4**
GRF *e*PP pP 11 58 18.2 +0.4
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
KBA Koelnbreinsper 81.28 331 ⇓*iP* **P 11 58 13.9 0.0**
comp=Z,13nm,0.9s,mb4.9
KBA Koelnbreinsper 81.28 331 ⇓*iP* **P 11 58 13.9 0.0**
KBA pmax pmax
comp=Z,13nm,0.9s,mb4.9
TXAR Lajitas Array 81.37 57 P **P 11 58 14.3 -0.4**
comp=Z,1.1nm,0.5s,mb4.0,baz=297,slow=4.1,SNR=28
TXAR pP pP 11 58 26.3 -0.7
comp=Z,4.0nm,0.6s,baz=297,slow=4.1,SNR=21
TXAR sP sP 11 58 32.4 +0.9
comp=Z,3.5nm,0.7s,baz=294,slow=4.0,SNR=8.7
WTTA Wattenberg 81.70 332 ⇑*iP* **P 11 58 16.9 +0.8**
comp=Z,12nm,0.7s,mb4.9
WTTA Wattenberg 81.70 332 ⇑*iP* **P 11 58 16.9 +0.8**
WTTA pmax pmax
comp=Z,12nm,0.7s,mb4.9
MOTA Moosalm 81.81 333 ⇓*iP* **P 11 58 17.4 +0.8**
comp=Z,14nm,1.2s,mb4.8
MOTA Moosalm 81.81 333 ⇓*iP* **P 11 58 17.4 +0.8**
MOTA pmax pmax
comp=Z,14nm,1.2s,mb4.8

CDF	**Champ du Feu**	**82.08**	**335**	*e*P		**P**	**11 58 18.0**	**0.0**	
SKO	**Skopje**	**82.41**	**323**	*e*P		**P**	**11 58 21.0**	**+1.2**	
PPT	**Papeete**	**82.95**	**122**	LR		LR	12 28 57.5		
	comp=Z,102nm,20.2s,MS4.2,baz=270,slow=31								
FLN	**La Foliniere**	**83.87**	**340**	*e*P		**P**	**11 58 27.5**	**+0.5**	
LDF	**La Druitiere**	**83.94**	**340**	*e*P		**P**	**11 58 27.5**	**+0.1**	
LOR	**Lormes**	**84.11**	**337**	*e*P		**P**	**11 58 28.7**	**+0.7**	
	comp=Z,6.0nm,0.6s,mb4.6								
LOR	**Lormes**	**84.11**	**337**	*e*P		**P**	**11 58 28.7**	**+0.5**	
LOR				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.6								
GRR	**Gorron**	**84.31**	**340**	*e*P		**P**	**11 58 29.4**	**+0.2**	
SSF	**Saint Saulge**	**84.39**	**337**	*e*P		**P**	**11 58 30.0**	**+0.3**	
	comp=Z,6.1nm,0.6s,mb4.6								
SSF	**Saint Saulge**	**84.39**	**337**	*e*P		**P**	**11 58 30.0**	**+0.3**	
SSF				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.6								
SMF	**Signal de Mont**	**84.68**	**337**	*e*P		**P**	**11 58 31.4**	**+0.3**	
	comp=Z,8.6nm,0.6s,mb4.8								
SMF	**Signal de Mont**	**84.68**	**337**	*e*P		**P**	**11 58 31.4**	**+0.3**	
SMF				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.7								
AVF	**Avril sur Loir**	**84.69**	**337**	*e*P		**P**	**11 58 31.3**	**+0.2**	
	comp=Z,6.8nm,0.7s,mb4.6								
AVF	**Avril sur Loir**	**84.69**	**337**	*e*P		**P**	**11 58 31.3**	**+0.2**	
AVF				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.5								
LPL	**La Plagne**	**84.84**	**334**	*e*P		**P**	**11 58 32.2**	**+0.3**	
	comp=Z,9.2nm,0.7s,mb4.7								
LPL	**La Plagne**	**84.84**	**334**	*e*P		**P**	**11 58 32.2**	**+0.3**	
LPL				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.8								
SGMF	**Saint Gilles**	**84.84**	**341**	*e*P		**P**	**11 58 32.0**	**+0.1**	
LPG	**La Plagne**	**84.85**	**334**	*e*P		**P**	**11 58 32.4**	**+0.4**	
	comp=Z,17nm,0.8s,mb4.9								
LPG	**La Plagne**	**84.85**	**334**	*e*P		**P**	**11 58 32.4**	**+0.4**	
LPG				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb5.0								
ROSF	**Rostrenen**	**84.92**	**342**	*e*P		**P**	**11 58 32.3**	**0.0**	
	comp=Z,41nm,1.1s,mb5.2								
ROSF	**Rostrenen**	**84.92**	**342**	*e*P		**P**	**11 58 32.3**	**0.0**	
ROSF				pmax		pmax			
	comp=Z,21nm,1.1s,mb5.2								
QUIF	**Quistinic**	**85.30**	**342**	*e*P		**P**	**11 58 34.5**	**+0.4**	
TCF	**Toulx Ste Croi**	**85.46**	**338**	*e*P		**P**	**11 58 35.2**	**+0.2**	
MBDF	**Montbardon**	**85.53**	**334**	*e*P		**P**	**11 58 35.7**	**+0.3**	
	comp=Z,6.6nm,0.7s,mb4.7								
MBDF	**Montbardon**	**85.53**	**334**	*e*P		**P**	**11 58 35.7**	**+0.3**	
MBDF				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.7								
ORIF	**Oris-en-Rattie**	**85.64**	**335**	*e*P		**P**	**11 58 36.2**	**+0.3**	
	comp=Z,9.5nm,0.7s,mb4.9								
ORIF	**Oris-en-Rattie**	**85.64**	**335**	*e*P		**P**	**11 58 36.2**	**+0.3**	
ORIF				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.9								
MFF	**Saint Martin d**	**85.80**	**339**	*e*P		**P**	**11 58 37.0**	**+0.4**	
	comp=Z,10.0nm,0.8s,mb4.8								
MFF	**Saint Martin d**	**85.80**	**339**	*e*P		**P**	**11 58 37.0**	**+0.4**	
MFF				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.8								
VIVF	**Saint-Julien-l**	**86.06**	**335**	*e*P		**P**	**11 58 38.3**	**+0.3**	
	comp=Z,15nm,0.9s,mb4.9								
VIVF	**Saint-Julien-l**	**86.06**	**335**	*e*P		**P**	**11 58 38.3**	**+0.3**	
VIVF				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.9								
SBF	**Sospel**	**86.09**	**333**	*e*P		**P**	**11 58 38.6**	**+0.5**	
	comp=Z,9.4nm,0.4s,mb5.0								
PGF	**Pioggiola**	**86.74**	**332**	*e*P		**P**	**11 58 41.5**	**+0.2**	
	comp=Z,8.3nm,0.8s,mb4.7								
PGF	**Pioggiola**	**86.74**	**332**	*e*P		**P**	**11 58 41.5**	**+0.2**	
PGF				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.7								
CAF	**Calviac**	**86.75**	**337**	*e*P		**P**	**11 58 41.7**	**+0.3**	
LMR	**La Mourre**	**86.87**	**334**	*e*P		**P**	**11 58 42.1**	**+0.2**	
	comp=Z,30nm,1.0s,mb5.2								
LMR	**La Mourre**	**86.87**	**334**	*e*P		**P**	**11 58 42.1**	**+0.2**	
LMR				pmax		pmax			
	comp=Z,15nm,1.0s,mb5.2								
LASF	**Ste Croix**	**87.01**	**336**	*e*P		**P**	**11 58 43.1**	**+0.4**	
LFF	**La Frestale**	**87.11**	**338**	*e*P		**P**	**11 58 43.4**	**+0.3**	
MTLF	**Montolieu**	**88.17**	**336**	*e*P		**P**	**11 58 48.4**	**+0.2**	
RPZ	**Rata Peaks**	**89.48**	**164**	LR		LR	12 33 58.8		
	comp=Z,186nm,20.4s,MS4.5,baz=358,slow=32								
BDFB	**Brasilia**	**148.25**	**33**	PKPbc		PKPdf	12 05 42.3	+3.0	
	comp=Z,2.3nm,0.7s,baz=60,slow=16,SNR=2.4								
BDFB				pPKPbc			12 05 56.7		
	comp=Z,3.6nm,0.7s,baz=102,slow=4.1,SNR=2.9								
CFAA	**Coronel Fontan**	**148.31**	**80**	PKPbc		PKPdf	12 05 43.3	+4.3	
	comp=Z,0.3nm,0.7s,baz=252,slow=1.8,SNR=3.1								
SNAA	**Sanae**	**149.07**	**197**	P		PKPdf	12 05 45.2	+6.2	
SNAA	**Sanae**	**149.07**	**197**			PKPdf	12 06 04.0	+25	
SNAA	**Sanae**	**149.07**	**197**			PKPdf	12 06 10.5	+32	
SNAA	**Sanae**	**149.07**	**197**			PKPdf	12 06 16.8	+38	
SNAA	**Sanae**	**149.07**	**197**	PKPbc		PKPdf	12 05 44.7	+5.7	
	comp=Z,0.5nm,0.7s,baz=143,slow=2.2,SNR=13								
SNAA	**Sanae**	**149.07**	**197**	PKP2		PKPab	12 05 44.7	-4.9	
SNAA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
VNA2	**Neumayer--Watz**	**150.57**	**196**	P		PKPdf	12 05 50.3	+8.9	
VNA2	**Neumayer--Watz**	**150.57**	**196**			PKPdf	12 06 06.5	+25	
VNA2	**Neumayer--Watz**	**150.57**	**196**			PKPdf	12 06 08.3	+27	
VNA2	**Neumayer--Watz**	**150.57**	**196**			PKPdf	12 06 18.9	+38	
VNA2	**Neumayer--Watz**	**150.57**	**196**			PKPdf	12 06 25.7	+44	
VNA3	**Neumayer Olymp**	**150.72**	**194**	P		PKPdf	12 05 50.2	+8.6	
VNA3	**Neumayer Olymp**	**150.72**	**194**			PKPdf	12 06 06.5	+25	
VNA3	**Neumayer Olymp**	**150.72**	**194**			PKPdf	12 06 08.7	+27	
VNA3	**Neumayer Olymp**	**150.72**	**194**			PKPdf	12 06 15.2	+34	
VNA3	**Neumayer Olymp**	**150.72**	**194**			PKPdf	12 06 25.7	+44	
PLCA	**Paso Flores**	**150.74**	**98**	PKPbc		PKPdf	12 05 49.0	+6.5	
	comp=Z,0.7nm,0.6s,baz=9.7,slow=22,SNR=1.6								
PLCA				pPKPbc			12 06 02.1		
	comp=Z,1.7nm,0.7s,baz=228,slow=3.7,SNR=2.9								
PLCA	**Paso Flores**	**150.74**	**98**	PKIKP		PKPdf	12 05 49.1	+6.6	
PLCA							12 06 02.1		
PLCA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
VNA1	**Neumayer--Stat**	**150.96**	**195**	P		PKPdf	12 06 04.5	+23	
VNA1	**Neumayer--Stat**	**150.96**	**195**			PKPdf	12 06 10.1	+28	
VNA1	**Neumayer--Stat**	**150.96**	**195**			PKPdf	12 06 15.9	+34	

*BJI **26** 11:56:15.6, 3.38N×79.01W, h34km, mB5.6, Ms5.0, Msz4.6*
*NEIC **26** 11:56:17.6±0.4, 3.51N×78.77W, h35km, mb4.7/11, Error ellipse: s-maj=11.0km s-min=6.9km az=48.0*
*IDC **26** 11:56:18.9±2.1, 3.60N×78.66W, h50km±20km, mb3.9/13, mb1 4.2/17, mb1mx4.1/26, mbtmp4.2/17, ML3.7/3, MS3.8/2, Ms1 3.7/2, ms1mx3.3/14, Error ellipse: s-maj=20.9km s-min=11.4km az=59.0*

ISC 26 11:56:18.0±1.6, 3.67N±0.06×78.66W±0.06, h53km±14km, n61, σ1$17/49, mb4.4/22, MS3.7/2, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**4.47**	**75**	P		**P**	**11 57 26.9**	**+2.0**
	26nm,0.3s,baz=320,slow=1.5,SNR=34							
ROSC				S		**S**	**11 58 24.3**	**+8.1**
	0.7nm,0.3s,baz=93,slow=23,SNR=1.9							
JTS	**JuntasAbangare**	**9.07**	**317**	P		**P**	**11 58 28.3**	**-0.5**
	0.7nm,0.3s,baz=314,slow=21,SNR=3.2							
JTS				S		**S**	**12 00 09.4**	**-1.2**
	0.8nm,0.3s,baz=336,slow=20,SNR=2.5							
SDV	**Santo Domingo**	**9.51**	**57**	P		**P**	**11 58 33.9**	**-1.1**
	4.2nm,0.3s,baz=173,slow=2.3,SNR=24							
SDV				S		**S**	**12 00 21.7**	**+0.2**
	1.4nm,0.3s,baz=55,slow=17,SNR=3.4							
SDV	**Santo Domingo**	**9.51**	**57**	*e*Pn		**P**	**11 58 35.4**	**+0.4**
	27nm,0.8s							
SDV				*e*Sn		**S**	**12 00 20.3**	**-1.1**
SJG	**San Juan**	**18.86**	**40**	P		**P**	**12 00 34.2**	**-2.4**
	baz=344,slow=21,SNR=1.6							
SJG	**San Juan**	**18.86**	**40**	*e*P		**P**	**12 00 37.8**	**+1.3**
ARE	**Arequipa**	**21.22**	**161**	*e*P		**P**	**12 01 04.0**	**+2.4**
LPAZ	**La Paz**	**22.40**	**153**	P		**P**	**12 01 12.4**	**-0.8**
	4.5nm,0.9s,mb3.9,baz=341,slow=11,SNR=17							
LPAZ	**La Paz**	**22.40**	**153**	*e*P		**P**	**12 01 12.5**	**-0.8**
	16nm,1.4s,mb4.3							
SIV	**San Ignacio**	**26.16**	**139**	P		**P**	**12 01 48.2**	**-1.3**
	6.7nm,0.9s,mb4.2,baz=326,slow=11,SNR=24							
LVC	**Limon Verde**	**27.81**	**160**	P		**P**	**12 02 03.3**	**-1.2**
	2.1nm,0.7s,mb3.9,baz=146,slow=6.7,SNR=2.3							
LRAL	**Lakeview Retre**	**30.23**	**346**	*e*P		**P**	**12 02 25.9**	**-0.2**
	16nm,0.8s,mb4.8							
TXAR	**Lajitas Array**	**34.84**	**320**	P		**P**	**12 03 06.2**	**0.0**
	1.5nm,0.9s,mb3.9,baz=146,slow=9.0,SNR=11							
TXAR				PcP		PcP	12 05 38.9	+0.3
	1.5nm,0.8s,baz=135,slow=5.3,SNR=12							
TXAR				LR		LR	12 17 56.1	
	comp=Z,108nm,20.0s,MS3.6,baz=75,slow=37							
TXAR	**Lajitas Array**	**34.84**	**320**	P		**P**	**12 03 06.2**	**0.0**
TXAR				PcP		PcP	12 05 38.9	+0.3
TXAR				LR		LR	12 17 56.1	
FVM	**French Village**	**35.81**	**344**	*e*P		**P**	**12 03 12.5**	**-1.8**
	16nm,0.9s,mb4.9							
BDFB	**Brasilia**	**35.89**	**123**	LR		LR	12 18 35.8	
	comp=Z,178nm,19.9s,MS3.8,baz=319,slow=37							
CCM	**Cathedral Cave**	**36.10**	**343**	*e*P		**P**	**12 03 15.3**	**-1.5**
	22nm,0.8s,mb5.1							
MNTX	**Cornudas Mount**	**37.53**	**321**	*e*P		**P**	**12 03 28.9**	**+0.1**
	15nm,1.3s,mb4.6							
CBKS	**Cedar Bluff**	**39.90**	**334**	*e*P		**P**	**12 03 48.2**	**-0.2**
	16nm,0.8s,mb4.8							
NCB	**Newcomb**	**40.32**	**5**	*e*P		**P**	**12 03 53.5**	**+1.7**
ANMO	**Albuquerque**	**40.41**	**324**	P		**P**	**12 03 54.0**	**+1.3**
	9.0nm,0.8s,mb4.5,baz=139,slow=8.6,SNR=39							
ANMO	**Albuquerque**	**40.41**	**324**	*e*P		**P**	**12 03 54.1**	**+1.4**
	12nm,1.0s,mb4.6							
TUC	**Tucson**	**41.45**	**317**	*e*P		**P**	**12 04 02.7**	**+1.4**
	11nm,1.8s,mb4.2							
SDCO	**Great Sand Dun**	**41.87**	**328**	*e*P		**P**	**12 04 06.0**	**+1.2**
	11nm,1.3s,mb4.3							
WUAZ	**Wupatki**	**43.80**	**320**	*e*P		**P**	**12 04 22.0**	**+1.4**
	14nm,1.1s,mb4.6							
PV01	**Paradox Valley**	**43.84**	**325**	*e*P		**P**	**12 04 22.3**	**+1.5**
PV10	**Paradox Valley**	**44.27**	**325**	*e*P		**P**	**12 04 24.9**	**+0.6**
PLCA	**Paso Flores**	**44.81**	**171**	P		**P**	**12 04 27.2**	**-1.3**
	1.0nm,0.7s,mb3.8,baz=355,slow=11,SNR=3.2							
SRU	**San Rafael**	**45.62**	**325**	*e*P		**P**	**12 04 35.6**	**+0.5**
NEN	**Nelson**	**46.14**	**318**	*e*P		**P**	**12 04 40.0**	**+0.8**
DAU	**Daniels Canyon**	**46.92**	**326**	*e*P		**P**	**12 04 46.5**	**+1.2**
PDAR	**Pinedale Array**	**47.65**	**329**	P		**P**	**12 04 50.0**	**-1.0**
	0.4nm,0.6s,mb3.6,baz=129,slow=9.5,SNR=6.1							
ULM	**Lac du Bonnet**	**48.64**	**345**	P		**P**	**12 04 56.3**	**-2.3**
	3.9nm,0.7s,mb4.5,baz=152,slow=7.6,SNR=4.7							
SCHQ	**Schefferville**	**51.90**	**9**	P		**P**	**12 05 23.3**	**0.0**
	7.3nm,0.8s,mb4.7,baz=204,slow=8.8,SNR=6.5							
SCHQ	**Schefferville**	**51.90**	**9**	P		**P**	**12 05 23.3**	**0.0**
WVOR	**Wild Horse Val**	**52.49**	**323**	*e*P		**P**	**12 05 27.9**	**-0.1**
	9.4nm,1.1s,mb4.6							
EDM	**Edmonton**	**57.03**	**336**	*e*P		**P**	**12 05 59.4**	**-1.5**
YKA	**Yellowknife Ar**	**64.44**	**342**	P		**P**	**12 06 49.7**	**-1.1**
	3.8nm,0.7s,mb4.5,baz=141,slow=6.3,SNR=5.8							
YKA	**Yellowknife Ar**	**64.44**	**342**	P		**P**	**12 06 49.7**	**-1.1**
ILAR	**Eielson Array**	**77.52**	**336**	P		**P**	**12 08 09.4**	**-0.1**
	2.0nm,1.0s,mb4.0,baz=101,slow=4.0,SNR=14							
NOA	**NORSAR Array B**	**86.75**	**29**	P		**P**	**12 08 57.7**	**+0.4**
	1.7nm,0.8s,mb4.3,baz=272,slow=4.8,SNR=3.0							
VNA3	**Neumayer Olymp**	**86.81**	**162**			**P**	**12 09 07.6**	**+10**
CLL	**Collm**	**88.20**	**39**	*e**PP		pP	12 09 15.0	-4.9
CLL	**Collm**	**88.20**	**39**	*e*pP		pP	12 09 15.0	-4.9
SNAA	**Sanae**	**89.03**	**162**			**P**	**12 09 09.0**	**+1.0**
SNAA	**Sanae**	**89.03**	**162**			**P**	**12 09 16.7**	**+8.7**
SNAA	**Sanae**	**89.03**	**162**	P		**P**	**12 09 08.7**	**+0.7**
	0.5nm,0.9s,mb3.8,baz=306,slow=7.0,SNR=4.0							
SNAA	**Sanae**	**89.03**	**162**	P		**P**	**12 09 09.0**	**+1.0**
ZAL	**Zalesovo**	**120.95**	**11**	PKP		PKPdf	12 15 06.7	+2.1
	0.6nm,0.4s,baz=199,slow=9.8,SNR=3.6							
ZAL	**Zalesovo**	**120.95**	**11**	PKP		PKPdf	12 15 06.7	+2.1
MDJ	**Mudanjiang**	**125.68**	**335**	PKP		PKPdf	12 15 16.5	+2.5
MKAR	**Makanchi Array**	**127.00**	**16**	PKP		PKPdf	12 15 17.8	+1.2
	0.8nm,0.8s,baz=45,slow=1.7,SNR=5.4							
SONM	**Songino Array**	**128.52**	**356**	PKP		PKPdf	12 15 20.9	+1.5
	0.9nm,0.9s,baz=346,slow=2.0,SNR=5.5							
WMQ	**Urumqi**	**131.15**	**13**	*e*PKP		PKPdf	12 15 26.5	+1.9
LZH	**Lanzhou**	**140.38**	**357**	*e*PKP		PKPdf	12 15 43.0	+1.2
LZH				XPKP			12 15 57.8	
WRA	**Warramunga Arr**	**144.00**	**241**	PKP		PKPdf	12 15 47.4	-1.1
	11nm,0.8s,baz=112,slow=3.2,SNR=81							
KOLN	**Koldanda**	**144.37**	**28**	*e*P		PKPbc	12 15 49.0	+0.4
	5.5nm,0.7s							
GKN	**Gorkha**	**144.63**	**26**	*e*P		PKPbc	12 15 50.2	+0.9
	21nm,0.7s							
KKN	**Kakani**	**145.10**	**25**	*e*P		PKPdf	12 15 52.1	+1.8
	31nm,0.7s							
DMN	**Daman**	**145.18**	**26**	*e*P		PKPdf	12 15 52.5	+2.1
	47nm,0.9s							
PKI	**Pulchoki**	**145.34**	**25**	*e*P		PKPdf	12 15 52.4	+1.7
	21nm,0.8s							

*CSEM **26** 11:56:25.9±0.8, 38.50N×28.53W, h14km±4km, ML2.0, Error ellipse: s-maj=9.1km s-min=2.5km az=14.0, After PDA*
*PDA **26** 11:56:25.9±0.8, 38.50N×28.53W, h14km±4km, MD2.8, ML2.0, Error ellipse: s-maj=9.1km s-min=2.5km az=14.0*

SVSA 26 11:56:25.9±0.8, 38.50N×28.53W, h14km±4km, MD2.8, ML2.0, Error ellipse: s-maj=9.1km s-min=2.5km az=14.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCND	**Candelaria**	**0.06**	**121**	*i* P		Pb	11 56 29.5	+1.1
PCND				*i* S		Sb	11 56 31.5	+1.5
PICO	**Pico**	**0.08**	**89**	*i* P		Pb	11 56 28.6	-0.2
PICO				*e*S		Sb	11 56 30.4	-0.2
HOR	**Horta**	**0.09**	**289**	*e*P		Pg	11 56 28.3	-0.6
HOR				*e*S		Sb	11 56 30.3	-0.5
PBOI	**Pico dos Bois**	**0.13**	**118**	*e*P		Pg	11 56 30.7	+1.2
PBOI				*e*S		Sg	11 56 33.2	+1.3
CALA	**Caldeira**	**0.16**	**301**	*e*P		Pg	11 56 29.5	-0.4
CALA				*e*S		Sg	11 56 32.4	-0.2
PTCA	**Ponta do Capel**	**0.23**	**292**	*e*S		Sg	11 56 35.3	+0.8
ROSA	**Rosais**	**0.31**	**45**	*e*P		Pg	11 56 31.7	-0.9
ROSA				*e*S		Sg	11 56 35.5	-1.6
PMAN	**Manadas**	**0.37**	**69**	*e*S		Sg	11 56 37.2	-1.6
	40nm,0.1s							
PSBA	**Serra de Santa**	**0.98**	**74**	*e*rx			11 56 46.4	

*IDC **26** 12:22:49.4±1.8, 32.41S×179.32W, h57km±18km, mb4.2/1, mb1 4.6/3, mb1mx4.0/12, mbtmp4.5/3, ML4.2/2, Error ellipse: s-maj=51.5km s-min=11.6km az=116.0*
*NEIC **26** 12:22:50.4±1.4, 32.44S×179.11W, h69km±13km, mb4.6/1, Error ellipse: s-maj=26.7km s-min=13.8km az=114.0*

ISC 26 12:22:45.6±0.9, 32.57S±0.08×179.2W±0.2, h35km±18km, n27, σ1$55/26, mb4.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.49**	**19**	P		**P**	**12 23 39.8**	**+0.9**
	30nm,0.3s,baz=73,slow=19,SNR=3.1							
RAO				S		**S**	**12 24 18.8**	**-0.9**
	99nm,0.3s,baz=68,slow=22,SNR=5.2							
RAO	**Raoul Island**	**3.49**	**19**	*e*Pn		**P**	**12 23 40.1**	**+1.2**
RAO				*e*Sn		**S**	**12 24 19.8**	**+0.1**
MXZ	**Matakaoa Point**	**5.38**	**201**	SN		**S**	**12 25 07.8**	**+0.6**
PUZ	**Puketiti**	**5.86**	**200**	PN		**P**	**12 24 13.3**	**+0.9**
PUZ				SN		**S**	**12 25 17.1**	**-2.2**
MWZ	**Matawai**	**6.33**	**204**	PN		**P**	**12 24 20.5**	**+1.5**
MWZ				SN		**S**	**12 25 33.4**	**+2.4**
URZ	**Urewera**	**6.42**	**207**	P		**P**	**12 24 24.3**	**+4.1**
	4.1nm,0.3s,baz=283,slow=1.5,SNR=33							
URZ				S		**S**	**12 25 35.1**	**+2.0**
	7.6nm,0.3s,baz=239,slow=19,SNR=13							
URZ	**Urewera**	**6.42**	**207**	PN		**P**	**12 24 22.0**	**+1.8**
KNZ	**Kokohu**	**6.91**	**200**	PN		**P**	**12 24 29.0**	**+1.8**
PXZ	**Pawanui**	**8.09**	**202**	PN		**P**	**12 24 42.2**	**-1.3**
BFZ	**Birch Farm**	**8.87**	**203**	*e*PN		**P**	**12 24 53.4**	**-1.1**
MRZ	**Mangatainoka R**	**9.09**	**206**	PN		**P**	**12 24 55.6**	**-1.8**
KIW	**Kapiti Island**	**9.52**	**208**	*e*PN		**P**	**12 25 01.6**	**-1.7**
CAW	**Cannon Point**	**9.67**	**207**	PN		**P**	**12 25 03.8**	**-1.6**
NNZ	**Nelson**	**10.46**	**212**	PN		**P**	**12 25 13.6**	**-2.7**
THZ	**Tophouse**	**11.11**	**212**	*e*PN		**P**	**12 25 21.5**	**-3.7**
KHZ	**Kahutara**	**11.38**	**208**	PN		**P**	**12 25 24.9**	**-3.9**
RPZ	**Rata Peaks**	**13.49**	**212**	S		**S**	**12 28 17.1**	**-10**
	0.8nm,0.3s,baz=16,slow=22,SNR=5.5							
CTA	**Charters Tower**	**33.19**	**283**	P		**P**	**12 29 23.2**	**+1.8**
	2.5nm,0.5s,mb4.4,baz=122,slow=10,SNR=8.6							
WRAB	**Tennant Creek**	**43.18**	**275**	*e*P		**P**	**12 30 44.8**	**-0.2**
	3.3nm,0.3s,mb4.5							
WRA	**Warramunga Arr**	**43.19**	**275**	P		**P**	**12 30 44.2**	**-0.9**
	2.7nm,0.3s,mb4.4,baz=112,slow=8.1,SNR=132							
VNDA	**Vanda**	**45.84**	**186**	P		**P**	**12 31 06.6**	**+0.9**
JOF	**Joensuu**	**144.02**	**337**	*e*pkp		PKPdf	12 42 21.3	+4.7
BORG	**Borgarnes**	**145.04**	**16**	PKP		PKPdf	12 42 19.5	+1.0
	37nm,1.0s,baz=288,slow=3.2,SNR=2.3							
KAF	**Kangasniemi**	**146.21**	**339**	*e*pkp		PKPdf	12 42 19.8	-0.7
	baz=44,slow=2.9							
FINES	**FINESS Array B**	**146.79**	**338**	PKPbc		PKPbc	12 42 22.6	-0.3
	4.6nm,0.6s,baz=49,slow=4.0,SNR=25							
NB2	**NORSAR Subarra**	**150.71**	**350**	PKPabc		PKPdf	12 42 33.4	+5.7
	7.6nm,1.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**150.71**	**350**	PKPbc		PKPdf	12 42 33.6	+5.8
	1.6nm,0.7s,baz=16,slow=4.2,SNR=5.1							

*LDG **26** 12:23:16.3±0.3, 43.66N×12.02E, h10km, Ml2.9/5, Error ellipse: s-maj=5.7km s-min=3.6km az=119.0*
*CSEM **26** 12:23:31.2±0.1, 43.37N×10.34E, h10km, MD2.8/9, Error ellipse: s-maj=2.1km s-min=1.5km az=175.0*
*ROM **26** 12:23:32.0±0.2, 43.35N×10.32E, h9km, Md2.8/9, Ml2.1/7, Error ellipse: s-maj=2.9km s-min=2.1km az=125.0*

ISC 26 12:23:31.1±0.5, 43.31N±0.04×10.25E±0.04, h9km±6km, n32, σ0$90/37, 3C, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GROG	**Isola di Gorgo**	**0.29**	**294**	⇑*i*Pg		**Pg**	**12 23 39.2**	**+2.2**
	186nm,0.5s							
PII	**Pisa**	**0.46**	**26**	Pg		**Pg**	**12 23 40.6**	**+0.3**
	74nm,0.2s							
GRFL	**Gerfalco**	**0.56**	**107**	Pg		**Pg**	**12 23 42.9**	**+0.6**
	18nm,0.3s							
MAIM		**0.63**	**16**	P		**Pg**	**12 23 43.6**	**-0.1**
CSNT	**Castellina Chi**	**0.78**	**78**	Pg		**Pg**	**12 23 46.5**	**-0.2**
	27nm,0.2s							
BDI	**Bagni Di Lucca**	**0.79**	**18**	Pg		**Pg**	**12 23 46.6**	**-0.4**
	39nm,0.3s							
VINC	**Vinca**	**0.83**	**355**	P		**Pb**	**12 23 47.8**	**+0.5**
VLC	**Villacollemand**	**0.85**	**7**	Pg		**Pg**	**12 23 48.0**	**-0.2**
	48nm,0.8s							
SARO	**Sassorosso**	**0.88**	**7**	P		**Pb**	**12 23 48.2**	**+0.1**
PZZT	**Monte Pizzetto**	**0.93**	**28**	⇑*i*Pg		**Pg**	**12 23 49.3**	**-0.5**
	57nm,0.2s							
BACM		**0.97**	**352**	P		**Pb**	**12 23 50.2**	**+0.5**
ARCI	**Arcidosso**	**1.01**	**117**	⇑*i*Pg		**Pg**	**12 23 51.8**	**+0.5**
	59nm,1.0s							
FNVD	**Fontana Vidola**	**1.06**	**36**	Pg		**Pg**	**12 23 51.7**	**-0.7**
	57nm,0.7s							
GSCL	**Gusciola**	**1.07**	**13**	Pg		**Pg**	**12 23 52.7**	**+0.2**
	21nm,0.2s							
MAON	**Monte Argentar**	**1.09**	**143**	Pg		**Pg**	**12 23 53.6**	**+0.6**
	148nm,1.0s							
ERBM	**Eremo**	**1.11**	**6**	Pg		**Pg**	**12 23 53.4**	**0.0**
	12nm,0.2s							
CODM		**1.12**	**345**	P		**Pb**	**12 23 52.0**	**-0.2**
VMG	**Vicchio**	**1.14**	**55**	Pg		**Pg**	**12 23 53.1**	**-0.8**
	29nm,0.2s							
ZCCA	**Zocca**	**1.16**	**27**	Pg		**Pg**	**12 23 55.6**	**+1.2**
	44nm,0.6s							
GRAM		**1.19**	**354**	P		**Pb**	**12 23 54.2**	**+0.9**
PGF	**Pioggiola**	**1.20**	**231**	*e*Pn		**Pn**	**12 23 55.1**	**+1.1**
PGF				*e*Sn		**Sn**	**12 24 23.4**	**+13**
	109nm,1.0s							
PGD	**Poggio Sodo**	**1.21**	**62**	Pg		**Pg**	**12 23 54.8**	**-0.5**

SVKR					Pmax		13 13 54.2	
	comp=N,292nm,0.5s							
SVKR					*e*Sg	Sg	13 14 30.1	-7.4
SVKR					Smax		13 14 33.7	
	comp=N,1μm,0.8s							
UKT	**Uakit**	**3.08**	**249**	⇑*i*Pn	Pn		13 13 49.6	-0.6
UKT				⇑*i*Pg	Pg		13 13 54.8	-7.3
UKT				Pmax			13 13 55.9	
	comp=N,113nm,0.6s							
UKT				*e*Sg	Sg		13 14 34.6	-8.5
UKT				Smax			13 14 41.7	
	comp=N,319nm,0.8s							
UKT	**Uakit**	**3.08**	**249**	*e*PN	Pn		13 13 54.7	+4.5
UKT				*e*			13 14 34.6	
UKT				pmax	pmax			
	comp=Z,58nm,0.2s							
UKT				smax				
	comp=N,175nm,0.6s							
CLNS	**Chul'man**	**3.42**	**85**	*e*	Pn		13 13 55.0	-0.1
CLNS				*e*Pg	Pg		13 14 02.1	-6.9
CLNS				*e*Sg	Sg		13 14 46.9	-7.7
CLNS	**Chul'man**	**3.42**	**85**	*e*PN	Pn		13 13 56.4	+1.3
CLNS				*e*			13 14 02.9	
CLNS				*e*S	Sn		13 14 47.0	+11
CLNS				pmax	pmax			
	comp=Z,8.0nm,0.3s							
CLNS				pmax	pmax			
	comp=N,2.0nm,0.2s							
CLNS				pmax	pmax			
	comp=E,2.0nm,0.2s							
CLNS				pmax	pmax			
	comp=Z,14nm,0.3s							
CLNS				pmax	pmax			
	comp=N,5.0nm,0.2s							
CLNS				pmax	pmax			
	comp=E,14nm,0.3s							
CLNS				smax				
	comp=N,54nm,0.3s							
CLNS				smax				
	comp=E,84nm,0.3s							
CLNS				smax				
	comp=Z,37nm,0.3s							
CLNS				smax				
	comp=E,108nm,0.3s							
CLNS				smax				
	comp=Z,43nm,0.3s							
CLNS				smax				
	comp=N,172nm,0.4s							
CLNS				MLR	MLR			
	comp=Z,100nm,15.0s							
TNDR	**Tynda**	**3.72**	**112**	*e*	Pn		13 13 58.8	-0.6
TNDR				*e*			13 14 43.2	
TNDR				*e*Sg	Sg		13 14 56.6	-8.1
YOA	**Uoyan**	**3.91**	**265**	*e*	Pn		13 14 32.1	+30
YOA				*e*Sg	Sg		13 15 02.6	-8.3
YOA				Smax			13 15 13.1	
	comp=Z,2μm,1.5s							
YOA	**Uoyan**	**3.91**	**265**	⇑*i*PN	Pn		13 14 11.5	+9.5
YOA				*i*			13 15 03.2	
YOA				pmax	pmax			
	comp=Z,154nm,0.5s							
YOA				smax				
	comp=N,1μm,1.0s							
KMO	**Kumora**	**4.25**	**262**	⇓*i*Pn	Pn		13 14 06.2	-0.7
KMO				*e*Pg	Pg		13 14 16.4	-9.1
KMO				Pmax			13 14 20.7	
	comp=N,100nm,1.2s							
KMO				*e*Sg	Sg		13 15 11.6	-11
KMO				Smax			13 15 19.0	
	comp=N,524nm,1.9s							
KMO	**Kumora**	**4.25**	**262**	*e*PN	Pn		13 14 06.0	-0.9
KMO				*e*			13 14 16.8	
KMO				*e*S	Sn		13 14 54.7	-2.4
KMO				*e*			13 15 10.8	
KMO				pmax	pmax			
	comp=Z,74nm,0.5s							
KMO				smax				
	comp=E,476nm,1.2s							
YLYR	**Ulyunkhan**	**4.62**	**250**	*e*Pn	Pn		13 14 10.8	-1.3
YLYR				*e*Pg	Pg		13 14 22.6	-10
YLYR				Pmax			13 14 28.2	
	comp=E,38nm,0.7s							
YLYR				*e*Sg	Sg		13 15 22.1	-12
YLYR				Smax			13 15 29.1	
	comp=E,251nm,1.5s							
YLYR	**Ulyunkhan**	**4.62**	**250**	*e*PN	Pn		13 14 11.3	-0.8
YLYR				*e*			13 14 23.1	
YLYR				*e*			13 15 21.8	
YLYR				pmax	pmax			
	comp=Z,38nm,0.6s							
YLYR				smax				
	comp=E,209nm,1.2s							
NIZ	**Nizh Angarsk**	**5.18**	**264**	*e*Pg	Pg		13 14 33.8	-10
NIZ				Pmax			13 14 37.2	
	comp=E,46nm,1.0s							
NIZ				*e*Sg	Sg		13 15 40.9	-12
NIZ				Smax			13 15 53.2	
	comp=E,221nm,1.8s							
NIZ	**Nizh Angarsk**	**5.18**	**264**	*e*PN	Pn		13 14 17.0	-3.1
NIZ				*e*			13 14 32.6	
NIZ				*e*S	Sn		13 15 15.0	-5.7
NIZ				*e*			13 15 41.6	
NIZ				pmax	pmax			
	comp=Z,36nm,0.5s							
NIZ				smax				
	comp=N,140nm,0.8s							
KROS	**Kirovskiy**	**5.21**	**112**	*i*	Pn		13 14 32.0	+12
KROS				*e*Sg	Sg		13 15 39.8	-14
CIT	**Chita**	**5.54**	**215**	*e*	Pg		13 14 48.4	-3.0
CIT				*e*Sg	Sg		13 15 53.1	-12
CIT				Smax			13 16 02.3	
	comp=N,394nm,1.2s							
CIT	**Chita**	**5.54**	**215**	*e*PN	Pn		13 14 39.6	+14
CIT				*e*			13 15 52.1	
CIT				pmax	pmax			
	comp=Z,16nm,0.9s							
CIT				smax				
	comp=E,395nm,1.2s							
SYVR	**Suvo**	**5.82**	**242**	*e*Pn	Pn		13 14 27.6	-1.5
SYVR				*e*Pg	Pg		13 14 45.0	-12
SYVR				Pmax			13 14 47.0	
	comp=E,35nm,1.6s							
SYVR				*e*Sg	Sg		13 16 01.5	-13
SYVR				Smax			13 16 07.5	
	comp=E,309nm,1.3s							
OGRR	**Ongureny**	**7.04**	**249**	*e*Pn	Pn		13 14 45.0	-1.3
OGRR				*e*Pg	Pg		13 15 07.7	-14
OGRR				Pmax			13 15 10.9	
	comp=E,7.0nm,1.0s							
OGRR				*e*Sg	Sg		13 16 40.3	-15
OGRR				Smax			13 16 51.7	
	comp=E,87nm,1.6s							
OGRR	**Ongureny**	**7.04**	**249**	*e*PN	Pn		13 14 44.2	-2.1
OGRR				*e*			13 15 07.8	
OGRR				*e*			13 16 40.6	
OGRR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
OGRR				smax				
	comp=N,87nm,1.8s							
YAK	**Yakutsk**	**7.77**	**42**	*e*PN	Pn		13 14 53.2	-3.3
YAK				*e*			13 15 18.7	
YAK				*e*			13 16 58.3	
YAK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
YAK				pmax	pmax			
	comp=N,1.0nm,0.8s							
YAK				pmax	pmax			
	comp=E,1.0nm,0.8s							
YAK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,2.0nm,1.0s							
YAK				smax				
	comp=N,33nm,0.8s							
YAK				smax				
	comp=Z,28nm,1.1s							
YAK				smax				
	comp=E,30nm,0.8s							
YAK				MLR	MLR			
	comp=Z,12nm,4.0s							
KPC	**Khapcheranga**	**7.94**	**211**	*e*Pn	Pn		13 14 55.9	-3.0
KPC				*e*Pg	Pg		13 15 23.0	-16
KPC				Pmax			13 15 30.1	
	comp=Z,3.0nm,0.5s							
KPC				*e*Sg	Sg		13 17 05.2	-20
KPC				Smax			13 17 37.1	
	comp=Z,177nm,1.6s							
KPC	**Khapcheranga**	**7.94**	**211**	*e*PN	Pn		13 14 55.4	-3.5
KPC				*e*			13 15 25.6	
KPC				*e*			13 17 08.9	
KPC				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KPC				smax				
	comp=E,767nm,0.8s							
TRG	**Tyrgan**	**8.15**	**246**	*e*Sg	Sg		13 17 13.6	-18
TRG				Smax			13 17 28.8	
	comp=E,59nm,1.8s							
LSTR	**Listvyanka**	**9.42**	**245**	*e*Sg	Sg		13 17 54.0	-20
LSTR				Smax			13 18 20.1	
	comp=E,55nm,1.6s							
ARS	**Arshan**	**10.62**	**250**	*e*	rx		13 17 07.5	
ARS				*e*Sg	S		13 18 30.9	+55
ARS				Smax			13 18 58.0	
	comp=E,93nm,0.8s							
MOY	**Mondy**	**11.51**	**252**	*e*P	P		13 15 32.3	-16
SONM	**Songino Array**	**11.60**	**226**	Pn	P		13 15 49.5	+0.3
	comp=E,0.1nm,0.3s,baz=34,slow=10,SNR=3.0							
SONM				Lg			13 19 07.1	
	comp=E,1.1nm,0.3s,baz=23,slow=31,SNR=7.0							
SONM				LR	LR		13 20 59.6	
	comp=E,49nm,19.5s,baz=200,slow=41							
ORL	**Orlik**	**11.69**	**257**	*e*	rx		13 18 32.3	
ORL				*e*Sg	S		13 19 03.3	+61
ORL				Smax			13 19 19.8	
	comp=E,50nm,2.0s							
KURK	**Kurchatov**	**24.19**	**273**	*e*P	P		13 18 16.3	-1.3
MKAR	**Makanchi Array**	**24.34**	**262**	P	P		13 18 20.7	+1.5
	comp=E,0.5nm,0.5s,baz=45,slow=8.6,SNR=5.7							
AAK	**Ala-Archa**	**31.27**	**262**	⇑*i*P	P		13 19 20.9	-1.5
AAK				pmax	pmax			
	comp=Z,1.0nm,1.2s							
ILAR	**Eielson Array**	**42.68**	**39**	P	P		13 20 57.5	-0.9
	comp=Z,0.4nm,0.7s,baz=286,slow=5.1,SNR=5.4							

NEIC ***26*** *13:27:55.5±1.6, 8.33S×120.02E, h184km±19km, mb4.6/3, Error ellipse: s-maj=21.9km s-min=8.8km az=54.0*
IDC ***26*** *13:27:56.0±3.9, 8.27S×120.22E, h187km±38km, mb3.7/3, mb1 3.7/5, mb1mx3.4/16, mbtmp4.2/5, Error ellipse: s-maj=43.0km s-min=15.8km az=47.0*

ISC 26 13:27:53.7±1.9, 8.27S±0.09×120.1E±0.1, h181km±21km, n12, σ0s94/15, mb4.2/4, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.15**	**152**	P		P		**13 30 29.7**	**+0.5**
	1.5nm,0.3s,baz=346,slow=12,SNR=24								
FITZ				S				**13 32 29.5**	**-1.5**
	3.5nm,0.3s,baz=183,slow=15,SNR=7.7								
MBWA	**Marble Bar**	**12.82**	**182**	*e*Pn		P		**13 30 50.4**	**-0.1**
MBWA				*e*Sn		S		**13 33 10.1**	**+0.5**
KSM	**Kuching**	**13.75**	**314**	*e*Pn		P		**13 31 03.3**	**+0.9**
WRA	**Warramunga Arr**	**18.01**	**132**	P		P		**13 31 52.5**	**-1.1**
	0.8nm,0.3s,baz=307,slow=13,SNR=83								
WRA				S		S		**13 35 07.9**	**+2.4**
	0.7nm,0.3s,baz=307,slow=20,SNR=9.9								
WRAB	**Tennant Creek**	**18.01**	**132**	*e*P		P		**13 31 53.2**	**-0.4**
	3.7nm,0.4s								
NWAO	**Narrogin (SRO)**	**24.68**	**186**	P		P		**13 32 59.6**	**+0.1**
	7.1nm,0.7s,mb4.3,baz=16,slow=8.6,SNR=6.9								
NWAO	**Narrogin (SRO)**	**24.68**	**186**	*e*P		P		**13 32 59.7**	**+0.2**
STKA	**Stephens Creek**	**30.84**	**143**	P		P		**13 33 55.2**	**+0.2**
	2.4nm,0.4s,mb4.3,baz=322,slow=9.7,SNR=22								
STKA	**Stephens Creek**	**30.84**	**143**	*e*P		P		**13 33 55.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**58.56**	**18**	*e*P		P		**13 37 34.2**	**+0.7**
MKAR	**Makanchi Array**	**64.32**	**332**	P		P		**13 38 11.1**	**-1.0**
	0.3nm,0.4s,mb3.5,baz=131,slow=6.1,SNR=4.3								
ARU	**Arti**	**81.77**	**330**	*e*P		P		**13 39 52.6**	**-0.9**
	30nm,2.0s,mb4.6								

BJI ***26*** *13:28:30.1, 11.54N×40.31E, h26km, mB5.3, mb4.7, Msz4.6*
CSEM ***26*** *13:28:31.3±0.2, 12.34N×40.46E, h10km, mb4.9/31, Ms4.1, Mw5.2, Error ellipse: s-maj=9.0km s-min=2.0km az=5.0*
IDC ***26*** *13:28:32.8±1.2, 12.46N×40.54E, mb4.3/14, mb1 4.4/16, mb1mx4.4/21, mbtmp4.4/16, ML4.2/2, MS4.1/8, Ms1 4.1/8, ms1mx3.9/17, Error ellipse: s-maj=28.5km s-min=13.3km az=23.0*
DHMR ***26*** *13:28:32.7±1.1, 12.71N×40.63E, h2km±55km, ML4.6*
NEIC ***26*** *13:28:33.3±0.7, 12.39N×40.58E, h10km, mb4.9/44, MS4.2/2, Error ellipse: s-maj=15.0km s-min=4.9km az=12.0*
MOS ***26*** *13:28:33.0±1.0, 12.58N×40.48E, h10km, mb5.1/33, Error ellipse: s-maj=10.0km s-min=4.2km az=108.9*
HRVD ***26*** *13:28:33.3±1.2, 12.42N×40.31E, h12km, MW5.2/34, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s34,c48; Half duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.85±.09; Mθθ0.19±.07; Mφφ0.65±.07; Mrθ-0.48±.40; Mθφ-0.06±.07; Mφr0.14±.24; Best double couple: M0.873×10^17 NP1:φs6°, δ39°, λ-59°. NP2:φs148°, δ57°, λ-113°. Principal axes: T.701, Plg10°, Azm254°; N.345, Plg19°, Azm161°; P-1.046, Plg69°, Azm10°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CRAAG ***26*** *13:28:34.3, 12.68N×40.70E, Mb5.0*

ISC 26 13:28:31.2±1.9, 12.40N±0.08×40.51E±0.03, h5km±12km, h12km±2.2km:pP-P, n219, σ1s13/230, mb4.8/64, MS4.2/11, 27C-12D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.44**	**111**	Pn		**Pn**	**Pn**	**13 29 14.8**	**+2.4**
	167nm,0.3s,baz=86,slow=7.8,SNR=57								
ATD				Lg				13 29 49.9	
	172nm,0.3s,baz=263,slow=23,SNR=12								
ATD	**Arta Tunnel**	**2.44**	**111**	Pn			**Pn**	**13 29 14.8**	**+2.4**
ATD				Lg				13 29 49.9	
TRBA	**At Turbah**	**3.61**	**76**	⇑*e*P			**Pn**	**13 29 29.6**	**+0.6**
TRBA				*i* S			**Sn**	**13 30 14.5**	**+2.0**
TRBA				AML		AML	AML	13 30 32.3	
	comp=N,5μm,0.7s								
TRBA	**At Turbah**	**3.61**	**76**	*e*P			**Pn**	**13 29 27.9**	**-1.0**
TRBA				*i* S			**Sn**	**13 30 18.6**	**+6.2**
TRBA	**At Turbah**	**3.61**	**76**	*e*P			**Pn**	**13 29 27.9**	**-1.1**
TRBA				*i* S			**Sn**	**13 30 14.5**	**+2.0**
	comp=N,2μm,0.7s								
UDYN	**Al 'Udayn**	**3.71**	**65**	⇑*e*P			**Pn**	**13 29 30.4**	**+0.1**
UDYN				*i* S			**Sn**	**13 30 15.5**	**+0.6**
UDYN				AML		AML	AML	13 30 38.6	
	comp=N,2μm,0.6s								
UDYN	**Al 'Udayn**	**3.71**	**65**	*e*P			**Pn**	**13 29 29.8**	**-0.5**
UDYN				*i* S			**Sn**	**13 30 22.1**	**+7.2**
DHBB	**Dhamar BB**	**4.34**	**60**	*e*P			**Pn**	**13 29 39.3**	**-0.1**
DHBB				*i* S			**Sn**	**13 30 31.4**	**+0.3**
DHBB	**Dhamar BB**	**4.34**	**60**	*e*P			**Pn**	**13 29 37.5**	**-1.9**
DHBB				*i* S			**Sn**	**13 30 36.3**	**+5.2**
ADEN	**Aden**	**4.38**	**85**	*e*P			**Pn**	**13 29 41.0**	**+1.1**
ADEN				*i* S			**Sn**	**13 30 34.0**	**+2.0**
ADEN	**Aden**	**4.38**	**85**	*e*P			**Pn**	**13 29 38.8**	**-1.1**
ADEN				*i* S			**Sn**	**13 30 39.1**	**+7.1**
LBOS		**4.84**	**72**	⇑*e*P			**Pn**	**13 29 44.4**	**-2.0**
LBOS				*i* S			**Sn**	**13 30 39.8**	**-3.8**
LBOS		**4.84**	**72**	*e*P			**Pn**	**13 29 44.7**	**-1.7**
BDHA	**Al Bayda'**	**5.17**	**72**	⇑*e*P			**Pn**	**13 29 48.6**	**-2.4**
BDHA				*i* S			**Sn**	**13 30 47.9**	**-3.9**
BDHA	**Al Bayda'**	**5.17**	**72**	*e*P			**Pn**	**13 29 49.1**	**-1.9**
BDHA				*i* S			**Sn**	**13 30 58.3**	**+6.5**
BDHA	**Al Bayda'**	**5.17**	**72**	*e*P			**Pn**	**13 29 49.1**	**-1.9**
BDHA				*i* S			**Sn**	**13 30 47.9**	**-3.9**
ABTO	**Aybut**	**13.30**	**67**	⇑P			**P**	**13 31 55.7**	**+12**
KMBO	**Kilima Mbogo**	**13.82**	**194**	Pn			**P**	**13 31 55.0**	**+4.6**
	comp=N,0.1nm,0.3s,baz=222,slow=23,SNR=7.3								
KMBO				Lg				13 35 56.6	
	comp=N,0.2nm,0.3s,baz=282,slow=24,SNR=4.5								
KMBO				LR		LR	LR	13 36 35.1	
	comp=N,362nm,18.1s,baz=124,slow=35								
WHFO	**Wadi Hawf**	**13.92**	**65**	⇓P			**P**	**13 32 02.1**	**+10**
SHAO	**Shalim**	**15.61**	**67**	⇓P			**P**	**13 32 20.3**	**+6.5**
RDF	**Al-Radifah**	**17.70**	**21**	*e*P			**P**	**13 32 42.2**	**+2.1**
RDF				AMb		AMB	AMB	13 32 45.5	
	comp=Z,45nm,1.2s								
NAY	**Al-Naaiem**	**17.90**	**19**	*e*P			**P**	**13 32 43.1**	**+0.5**
NAY				AMb		AMB	AMB	13 32 47.9	
	comp=Z,20nm,1.2s								
KBD	**Kabd**	**17.98**	**21**	*e*P			**P**	**13 32 42.7**	**-1.0**
KBD				AMb		AMB	AMB	13 32 53.6	
	comp=Z,217nm,1.4s								
ARQ	**Araqi**	**18.70**	**52**	⇑P			**P**	**13 32 53.5**	**+0.9**
	SNR=7.5								
BSY	**Bisya**	**18.93**	**55**	⇑P			**P**	**13 32 56.1**	**+0.8**
	SNR=15								
BSYO	**Bisya**	**18.95**	**55**	P			**P**	**13 32 56.1**	**+0.5**
	SNR=15								
ASHO	**Ashiyiah**	**19.12**	**48**	⇑P			**P**	**13 32 57.5**	**-0.1**
	SNR=11								
HOQ	**Hoqain**	**19.44**	**53**	⇑P			**P**	**13 33 01.0**	**-0.4**
	SNR=7.1								
JMDO	**Jabal Madar**	**19.48**	**57**	⇑P			**P**	**13 33 00.8**	**-1.0**
SMDO	**Samad**	**19.76**	**55**	⇑P			**P**	**13 33 05.1**	**0.0**
ASF	**Jabal al Asfar**	**19.96**	**351**	P			**P**	**13 33 06.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=18,slow=4.0,SNR=17								
ASF				LR		LR	LR	13 40 02.9	
	comp=Z,256nm,18.8s,baz=179,slow=35								
BIDO	**Bidbid**	**20.05**	**54**	⇑P			**P**	**13 33 08.5**	**+0.3**
WBK	**Wadi Bani Khal**	**20.30**	**57**	⇑P			**P**	**13 33 11.1**	**+0.3**
BHD	**Baghdad**	**21.07**	**9**	*ex*		x	x	13 33 14.0	
BHD				*ex*		x	x	13 37 13.0	
MSL	**Mosul**	**23.90**	**5**	*ex*		x	x	13 34 10.5	
MSL				*ex*		x	x	13 38 34.0	
IDI	**Anoyia**	**26.82**	**331**	P			**P**	**13 34 15.6**	**+1.3**
	comp=Z,9.2nm,1.0s,mb4.3,baz=171,slow=11,SNR=8.8								
IDI				LR		LR	LR	13 44 41.9	
	comp=Z,292nm,19.7s,MS3.8,baz=38,slow=36								
BR131	**Keskin Array S**	**27.89**	**349**	*e*P			**P**	**13 34 26.4**	**+2.4**
	comp=Z,11nm,1.1s,mb4.4								
BR131	**Keskin Array S**	**27.89**	**349**	*e*P			**P**	**13 34 26.4**	**+2.4**
	comp=Z,11nm,1.1s,mb4.4								
BRTR	**Keskin Array B**	**27.89**	**349**	P			**P**	**13 34 25.6**	**+1.6**
	comp=Z,11nm,1.1s,mb4.4,baz=174,slow=11,SNR=28								
GNI	**Garni**	**27.89**	**7**	P			**P**	**13 34 26.8**	**+2.8**
	comp=Z,8.1nm,0.3s,mb4.8,baz=171,slow=11,SNR=3.1								
GNI	**Garni**	**27.89**	**7**	*e*P			**P**	**13 34 21.7**	**-2.3**
	comp=Z,23nm,1.6s,mb4.6								
GNI	**Garni**	**27.89**	**7**	*e*P			**P**	**13 34 21.7**	**-2.3**
GNI				pmax	pmax				
	comp=Z,23nm,1.6s								
ZEI	**Tsey**	**30.40**	**5**	*e*P			**P**	**13 34 44.2**	**-2.3**
ZEI				pmax	pmax				
	comp=Z,21nm,1.4s,mb4.7								
SOC	**Sochi**	**31.08**	**359**	*e*P			**P**	**13 34 49.1**	**-3.4**
	comp=Z,17nm,1.5s,mb4.7								
SOC				*e*				13 35 54.4	
SOC				*e*SS		SS	SS	13 41 32.4	-8.8
SOC				LR		LR	LR		
	comp=Z,370nm,11.0s,MS4.3								
SOC	**Sochi**	**31.08**	**359**	*e*P			**P**	**13 34 49.1**	**-3.4**
SOC				*e*				13 35 54.4	
SOC				*e*SS		SS	SS	13 41 32.4	-8.8
SOC				pmax	pmax				
	comp=Z,17nm,1.5s,mb4.7								
SOC				pmax	pmax				
	comp=N,21nm,1.4s								
SOC				pmax	pmax				
	comp=E,20nm,1.2s								
SOC				MLR	MLR				
	comp=N,376nm,11.0s,MS4.3								
SOC				MLR	MLR				
	comp=E,102nm,11.0s,MS4.3								
SOC				MLR	MLR				
	comp=Z,372nm,11.0s,MS4.3								
KIV	**Kislovodsk**	**31.50**	**3**	⇑*e*P			**P**	**13 34 55.7**	**-0.5**
	comp=Z,50nm,1.8s,mb5.0								
KIV				LR		LR	LR		
	comp=Z,200nm,17.0s,MS3.9								
KIV	**Kislovodsk**	**31.50**	**3**	⇑*e*P			**P**	**13 34 55.7**	**-0.5**
KIV				pmax	pmax				
	comp=Z,50nm,1.8s,mb5.0								
KIV				MLR	MLR				
	comp=Z,200nm,17.0s,MS3.9								
ANN	**Anapa**	**32.39**	**356**	*e*P			**P**	**13 35 04.4**	**+0.4**
	comp=Z,75nm,1.3s,mb5.4								
ANN				*e*S			**S**	**13 40 16.8**	**-0.8**
ANN	**Anapa**	**32.39**	**356**	*e*P			**P**	**13 35 04.4**	**+0.4**
ANN				*e*S			**S**	**13 40 16.8**	**-0.8**
ANN				pmax	pmax				
	comp=Z,75nm,1.3s,mb5.4								
SIM	**Simferopol'**	**32.89**	**352**	*e*P			**P**	**13 35 11.0**	**+2.6**
	comp=Z,36nm,1.4s,mb5.1								
SIM	**Simferopol'**	**32.89**	**352**	*e*P			**P**	**13 35 11.0**	**+2.6**
SIM				pmax	pmax				
	comp=Z,36nm,1.4s,mb5.1								
TIRR	**Tirgusor**	**33.59**	**344**	⇑P			**P**	**13 35 14.9**	**+0.5**
SKO	**Skopje**	**33.83**	**334**	*i* P			**P**	**13 35 16.2**	**-0.3**
TIP	**Timpagrande**	**33.98**	**326**	*e*P			**P**	**13 35 18.9**	**+1.1**
TIP	**Timpagrande**	**33.98**	**326**	*e*P			**P**	**13 35 18.9**	**+1.1**
TDS	**Terranova Siba**	**34.55**	**326**	P			**P**	**13 35 23.9**	**+1.2**
MGR	**Morigerati**	**35.31**	**326**	P			**P**	**13 35 30.4**	**+1.1**
	comp=Z,11nm,0.8s,mb4.8								
VRI	**Vrincioaia**	**35.35**	**343**	⇓P			**P**	**13 35 30.5**	**+1.0**
VRI	**Vrincioaia**	**35.35**	**343**	⇓P			**P**	**13 35 30.6**	**+1.1**
SLCN	**Sala Consilina**	**35.44**	**326**	P			**P**	**13 35 32.3**	**+1.9**
VOIR		**35.46**	**341**	⇑P			**P**	**13 35 31.6**	**+1.1**
BURAR	**Bucovina Array**	**37.37**	**343**	⇑P			**P**	**13 35 48.0**	**+1.4**
BURAR	**Bucovina Array**	**37.37**	**343**	⇑P			**P**	**13 35 48.0**	**+1.4**
DRGR		**37.42**	**340**	⇓P			**P**	**13 35 47.1**	**+0.1**
ABSA	**Djebel Ababsia**	**38.04**	**314**	P			**P**	**13 35 55.0**	**+2.7**
CMAH	**Djebel Manchou**	**38.26**	**315**	P			**P**	**13 35 56.0**	**+1.8**
VSL	**Villasalto**	**38.53**	**320**	*e*P			**P**	**13 35 57.8**	**+1.3**
	comp=Z,45nm,1.8s,mb4.9								
VSL	**Villasalto**	**38.53**	**320**	*e*P			**P**	**13 35 57.8**	**+1.4**
	comp=Z,45nm,1.8s,mb4.9								
CKFL	**Kef-Lekhel**	**38.64**	**314**	P			**P**	**13 35 56.0**	**-1.3**
CASM	**Ain Smara**	**38.73**	**314**	P			**P**	**13 35 57.0**	**-1.1**
VOR	**Voronezh**	**39.24**	**359**	*e*P			**P**	**13 36 02.5**	**+0.3**
VOR				pmax	pmax				
	comp=Z,70nm,2.0s,mb5.0								
VOR				pmax	pmax				
	comp=N,70nm,1.8s								
AKASG	**Malin Array Be**	**39.29**	**349**	P			**P**	**13 36 01.8**	**-0.9**
	comp=N,6.1nm,0.9s,mb4.3,baz=170,slow=7.1,SNR=28								
AKASG				PcP		PcP		13 38 11.5	-0.5
	comp=N,0.3nm,0.3s,baz=157,slow=3.0,SNR=6.6								
AKASG	**Malin Array Be**	**39.29**	**349**	P			**P**	**13 36 01.8**	**-0.8**
AKASG				*e*				13 38 11.5	
DFRA	**Djebel Bou Aff**

comp=Z,2.9nm,0.8s,mb4.1,baz=135,slow=5.7,SNR=23
DPC Dobruska-Polom 42.71 337 *e*P **P 13 36 31.6 +0.8**
OBN Obninsk 42.72 357 *i* Pr 13 36 30.4
comp=Z,72nm,1.6s
OBN *e* 13 38 13.2
OBN LR LR
comp=Z,100nm,16.0s,MS3.8
OBN Obninsk 42.72 357 *d i*P **P 13 36 30.4 -0.4**
OBN *e* 13 38 13.2
OBN pmax pmax
comp=Z,72nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.8
KHC Kasperske Hory 42.86 334 *e*P **P 13 36 31.5 -0.5**
UPC Upice 42.96 337 *e*P **P 13 36 32.1 -0.7**
KOLN Koldanda 43.02 63 *e*P **P 13 36 33.6 0.0**
comp=Z,88nm,1.4s,mb5.3
PRU Pruhonice 43.12 336 *e*P **P 13 36 33.5 -0.6**
KSP Ksiaz 43.12 338 *e*P **P 13 36 35.1 +1.1**
KSP Ksiaz 43.12 338 *e*P **P 13 36 34.2 +0.1**
MBDF Montbardon 43.22 325 *e*P **P 13 36 35.3 +0.3**
comp=Z,50nm,1.1s,mb4.8
MBDF Montbardon 43.22 325 *e*P **P 13 36 35.3 +0.3**
MBDF pmax pmax
comp=Z,25nm,1.1s,mb4.9
DAVA Damuels 43.23 330⇑ *i*P **P 13 36 36.1 +1.1**
comp=Z,21nm,1.5s,mb4.6
MOS Moscow 43.30 358 *e*P **P 13 36 35.3 -0.1**
comp=Z,139nm,1.4s,mb5.5
MOS *e* 13 38 17.3
MOS Moscow 43.30 358 *e*P **P 13 36 35.3 -0.1**
MOS *e* 13 38 17.3
MOS pmax pmax
comp=Z,139nm,1.4s,mb5.5
SMRF Simiane la Rot 43.46 323 *e*P **P 13 36 36.7 -0.2**
PVCC Panska Ves 43.53 336 *e*P **P 13 36 37.8 +0.4**
LPG La Plagne 43.70 326 *e*P **P 13 36 37.6 -1.3**
LPL La Plagne 43.72 326 *e*P **P 13 36 37.9 -1.1**
comp=Z,60nm,1.5s,mb4.8
LPL La Plagne 43.72 326 *e*P **P 13 36 37.9 -1.1**
LPL pmax pmax
comp=Z,30nm,1.5s,mb4.8
SUW Suwalki 43.72 345 *e*P **P 13 36 40.3 +1.4**
ORIF Oris-en-Rattie 43.84 324 *e*P **P 13 36 39.4 -0.6**
ORIF *e*R
comp=Z,180nm,20.8s
GKN Gorkha 43.97 62 *e*P **P 13 36 40.9 -0.3**
comp=Z,79nm,1.4s,mb5.3
BRG Berggiesshubel 44.05 336 *i* P **P 13 36 42.0 +0.4**
comp=Z,32nm,1.6s,mb4.8
BRG Berggiesshubel 44.05 336 *i* P **P 13 36 42.0 +0.4**
comp=Z,32nm,1.6s,mb4.8
BRG Berggiesshubel 44.05 336 *i* P **P 13 36 42.0 +0.4**
BRG pmax pmax
comp=Z,32nm,1.6s,mb4.8
DMN Daman 44.30 63 *e*P **P 13 36 43.6 -0.3**
GRA1 Grafenberg Arr 44.31 333 *e*P **P 13 36 43.1 -0.6**
comp=Z,20nm,1.3s,mb4.7
GRF Grafenberg Arr 44.31 333 *e*P **P 13 36 43.1 -0.6**
comp=Z,20nm,1.3s,mb4.7
GRF Grafenberg Arr 44.31 333 *e*P **P 13 36 43.1 -0.6**
GRF pmax pmax
comp=Z,20nm,1.3s,mb4.7
GRF Grafenberg Arr 44.31 333 *e*P **P 13 36 43.1 -0.6**
GRF pmax pmax
comp=Z,20nm,1.3s,mb4.7
KKN Kakani 44.48 63 *e*P **P 13 36 44.7 -0.8**
comp=Z,124nm,1.6s,mb5.4
VIVF Saint-Julien-l 44.50 324 *e*P **P 13 36 44.5 -0.8**
LASF Ste Croix 44.54 322 *e*P **P 13 36 45.1 -0.6**
PKI Pulchoki 44.55 63 *e*P **P 13 36 45.4 -0.6**
comp=Z,57nm,1.3s,mb5.2
CABF La Chapelle 44.76 326 *e*P **P 13 36 45.6 -1.8**
CLL Collm 44.76 336 ⇓P **P 13 36 47.8 +0.4**
comp=Z,logA/T=1.3,mb4.9
CLL *i* *PP pP 13 36 51.2 +2.2
CLL Collm 44.76 336⇓ *i*P **P 13 36 47.8 +0.4**
comp=Z,31nm,1.6s,mb4.9
CLL Collm 44.76 336⇓ *i*P **P 13 36 47.8 +0.4**
CLL pmax pmax
comp=Z,31nm,1.6s,mb4.9
MOX Moxa 44.84 334 *i* P **P 13 36 47.8 -0.2**
comp=Z,logA/T=1.3,mb4.9
MOX Moxa 44.84 334 *e*P **P 13 36 47.8 -0.2**
comp=Z,40nm,1.9s,mb4.9
MOX Moxa 44.84 334 *e*P **P 13 36 47.8 -0.2**
MOX pmax pmax
comp=Z,40nm,1.9s,mb4.9
DBIC Dimbokro 45.06 267 P **P 13 36 51.2 +1.0**
comp=Z,10nm,1.1s,mb4.6,baz=136,slow=1.3,SNR=3.9
DBIC LR LR 13 55 23.0
comp=Z,432nm,18.3s,MS4.4,baz=76,slow=36
DBIC Dimbokro 45.06 267 P **P 13 36 51.2 +0.9**
HINF Hinteralfeld 45.11 328 *e*P **P 13 36 49.2 -1.0**
MTLF Montolieu 45.14 320 *e*P **P 13 36 50.0 -0.5**
CDF Champ du Feu 45.29 329 *e*P **P 13 36 50.5 -1.1**
HAU Haudompre 45.50 328 *e*P **P 13 36 52.1 -1.2**
HAU *e*R
comp=Z,137nm,18.2s
MDT Midelt 45.93 304 P **P 13 36 57.3 +0.4**
comp=Z,6.4nm,1.1s,mb4.5,baz=101,slow=9.5,SNR=7.0
SMF Signal de Mont 46.01 325 *e*P **P 13 36 56.2 -1.1**
CAF Calviac 46.07 322 *e*P **P 13 36 57.7 -0.2**
ARU Arti 46.09 14⇑ *i*P **P 13 36 58.6 +0.7**
comp=Z,12nm,1.1s,mb4.7
ARU *e* 13 38 45.0
ARU *e*S **S 13 43 37.7 -5.6**
ARU *e*SS SS 13 47 03.5 +3.0
ARU Arti 46.09 14⇑ *i*P **P 13 36 58.6 +0.7**
ARU *e* 13 38 45.0
ARU *e*S **S 13 43 37.7 -5.6**
ARU *e*SS SS 13 47 03.5 +3.0
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.7
EPF Esparros 46.17 319 *e*P **P 13 36 58.4 -0.3**
LOR Lormes 46.37 326 *e*P **P 13 36 58.7 -1.5**
comp=Z,62nm,1.4s,mb5.0
LOR Lormes 46.37 326 *e*P **P 13 36 58.7 -1.5**
LOR pmax pmax
comp=Z,31nm,1.4s,mb5.0
AVF Avril sur Loir 46.37 325 *e*P **P 13 36 58.8 -1.4**
SSF Saint Saulge 46.44 325 *e*P **P 13 36 59.4 -1.3**
MEZF Maizieres J'vi 46.48 328 *e*P **P 13 37 00.5 -0.5**
BGF Bois d'Agland 46.52 324 *e*P **P 13 37 00.7 -0.7**
comp=Z,12nm,0.5s,mb4.8
BGF Bois d'Agland 46.52 324 *e*P **P 13 37 00.7 -0.7**
BGF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
RJF Les Rejaudoux 46.60 322 *e*P **P 13 37 01.9 -0.2**
RJF *e*R
comp=Z,304nm,17.2s
ETSF Etsaut 46.69 318 *e*P **P 13 37 03.2 +0.4**
comp=Z,62nm,1.2s,mb5.1
ETSF Etsaut 46.69 318 *e*P **P 13 37 03.2 +0.4**
ETSF pmax pmax
comp=Z,31nm,1.2s,mb5.1
TCF Toulx Ste Croi 46.73 324 *e*P **P 13 37 02.6 -0.5**
LFF La Frestale 46.88 322 *e*P **P 13 37 04.2 0.0**
BVAR Borovoye Array 47.02 24 P **P 13 37 04.6 -0.6**
comp=Z,2.5nm,0.9s,mb4.2,baz=202,slow=8.0,SNR=10
SJPF Ste Jean 47.22 318 *e*P **P 13 37 07.5 +0.5**
comp=Z,204nm,1.7s,mb5.5
SJPF Ste Jean 47.22 318 *e*P **P 13 37 07.5 +0.5**
SJPF pmax pmax
comp=Z,102nm,1.7s,mb5.5
HGN Heimansgroeve 47.49 331 *e*P **P 13 37 09.7 +0.6**
comp=Z,27nm,1.4s,mb5.0
GIVF Givet 47.61 329 *e*P **P 13 37 08.9 -1.0**
ESDC Sonseca Array 47.65 313 P **P 13 37 10.8 +0.4**
comp=Z,3.4nm,0.8s,mb4.4,baz=112,slow=7.8,SNR=12
BAIF Baives 47.89 329 *e*P **P 13 37 10.7 -1.4**
WTSB Winterswijk 47.90 332‖ *e*P **P 13 37 12.1 -0.1**
comp=Z,51nm,1.3s,mb5.4
MKAR Makanchi Array 49.03 37 P **P 13 37 21.2 +0.2**
comp=Z,4.1nm,0.9s,mb4.5,baz=243,slow=5.4,SNR=17
MKAR Makanchi Array 49.03 37 *i* P **P 13 37 21.2 +0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 49.20 31 *e*P **P 13 37 22.4 +0.2**
KURK pmax pmax
comp=Z,14nm,1.3s,mb4.8
LDF La Druitiere 49.32 325 *e*P **P 13 37 21.6 -1.6**
comp=Z,149nm,1.7s,mb5.4
LDF La Druitiere 49.32 325 *e*P **P 13 37 21.6 -1.6**
LDF pmax pmax
comp=Z,74nm,1.7s,mb5.4
FLN La Foliniere 49.62 325 *e*P **P 13 37 23.8 -1.7**
comp=Z,110nm,1.4s,mb5.4
FLN La Foliniere 49.62 325 *e*P **P 13 37 23.8 -1.7**
FLN pmax pmax
comp=Z,55nm,1.4s,mb5.4
LSA Lhasa 49.89 62 *e*P **P 13 37 31.0 +3.1**
comp=Z,51nm,1.8s,mb5.2
LSA Lhasa 49.89 62 *e*P **P 13 37 31.0 +3.2**
comp=Z,51nm,1.8s,mb5.2
LSA Lhasa 49.89 62 *e*P **P 13 37 31.0 +3.2**
LSA pmax pmax
comp=Z,51nm,1.8s,mb5.2
FINES FINESS Array B 50.08 351 P **P 13 37 27.6 -1.2**
comp=Z,4.6nm,1.0s,mb4.5,baz=165,slow=22,SNR=5.9
NAO01 NORSAR Array S 52.99 342 *e*P **P 13 37 50.2 -0.7**
NAO01 NORSAR Array S 52.99 342 *e*P **P 13 37 50.2 -0.7**
NB2 NORSAR Subarra 53.05 343 P **P 13 37 49.4 -1.9**
comp=Z,30nm,1.4s,mb5.0,baz=143,slow=7.4
NB2 NORSAR Subarra 53.05 343 P **P 13 37 49.4 -1.9**
baz=143,slow=7.9
NB2 NORSAR Subarra 53.05 343 P **P 13 37 49.4 -1.9**
NB2 pmax pmax
comp=Z,30nm,1.4s,mb5.0
NOA NORSAR Array B 53.05 343 P **P 13 37 50.4 -1.0**
comp=Z,6.4nm,1.1s,mb4.5,baz=141,slow=7.4,SNR=4.8
NOA LR LR 14 02 56.6
comp=Z,78nm,19.2s,MS3.8,baz=310,slow=39
NOA NORSAR Array B 53.05 343 P **P 13 37 50.3 -1.0**
NVS Novosibirsk 53.90 29 *e*P **P 13 37 56.4 -1.2**
comp=Z,15nm,1.4s,mb4.7
NVS Novosibirsk 53.90 29 *e*P **P 13 37 56.4 -1.2**
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s,mb4.7
ZAL Zalesovo 54.15 31 P **P 13 37 58.8 -0.6**
comp=Z,2.6nm,1.0s,mb4.1,baz=244,slow=7.4,SNR=12
ARCES ARCESS Array B 57.88 354 P **P 13 38 26.9 +0.7**
comp=Z,4.2nm,1.0s,mb4.4,baz=157,slow=9.2,SNR=3.7
GTA Gaotai 58.58 51 P **P 13 38 31.3 -0.1**
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
GTA Gaotai 58.58 51 P **P 13 38 31.3 -0.1**
comp=Z,10.0nm,1.2s,mb4.7
LZH Lanzhou 61.29 56 *e*P **P 13 38 52.5 +2.4**
LZH AP pP 13 38 55.5 +3.7
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,120nm,4.0s
LZH Lanzhou 61.29 56 *e*P **P 13 38 52.5 +2.4**
comp=Z,25nm,1.0s,mb5.3
LZH pP pP 13 38 55.5 +3.7
LZH Lanzhou 61.29 56 *e*P **P 13 38 52.4 +2.3**
LZH *PP pP 13 38 55.5 +3.7
LZH *SP sP 13 38 57.3 +4.9
LZH pmax pmax
comp=Z,25nm,1.0s,mb5.3
SONM Songino Array 64.75 43 P **P 13 39 13.4 +0.6**
comp=Z,4.1nm,1.0s,mb4.4,baz=253,slow=6.4,SNR=21
HHC Hu-ho-hao-te 67.69 51 *e*P **P 13 39 34.0 +2.3**
HHC AP pP 13 39 38.5 +5.1
HHC XP sP 13 39 40.8 +6.8
HHC PCP PcP 13 40 01.5 +2.9
HHC PP PP 13 42 04.8 +2.0
HHC SCP 13 44 01.0
HHC PCS 13 44 04.5
HHC S S 13 48 29.8 +1.8
HHC SCS ScS 13 49 28.0 +0.9
HHC SS SS 13 52 52.3 +1.9
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,180nm,4.4s
HHC LR LR
comp=Z,353nm,17.8s,MS4.6
HHC Hu-ho-hao-te 67.69 51 *e*P **P 13 39 34.0 +2.3**
comp=Z,10.0nm,1.1s,mb4.8
HHC pP pP 13 39 38.5 +5.1
HHC sP sP 13 39 40.8 +6.8
HHC PcP PcP 13 40 01.5 +2.9
HHC PP PP 13 42 04.8 +2.0
HHC ScP 13 44 01.0
HHC PcS 13 44 04.5
HHC S S 13 48 29.8 +1.8
HHC ScS ScS 13 49 28.0 +0.9
HHC SS SS 13 52 52.3 +1.9
HHC LR LR
comp=Z,350nm,17.8s,MS4.6
BOD Bodaibo 70.80 33 *e*P **P 13 39 48.8 -1.7**
comp=Z,12nm,1.5s,mb4.6
BOD Bodaibo 70.80 33 *e*P **P 13 39 48.8 -1.7**
BOD pmax pmax
comp=Z,12nm,1.5s,mb4.6
NJ2 Nanjing 73.72 60 *e*P **P 13 40 06.3 -2.1**
NJ2 AP pP 13 40 17.5 +7.4
NJ2 XP sP 13 40 19.5 +8.8
NJ2 PP PP 13 42 53.0 -1.6
NJ2 S S 13 49 35.0 -3.4
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,100nm,6.0s
NJ2 Nanjing 73.72 60 *e*P **P 13 40 06.3 -2.1**
comp=Z,10.0nm,0.9s,mb4.8
NJ2 pP pP 13 40 17.5 +7.4
NJ2 sP sP 13 40 19.5 +8.8
NJ2 PP PP 13 42 53.0 -1.6
NJ2 S S 13 49 35.0 -3.4
SSE Sheshan 75.79 61 P **P 13 40 18.0 -2.3**
SSE S S 13 49 54.8 -6.6
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,431nm,4.6s
SSE LR LR
comp=Z,264nm,22.0s,MS4.5
SSE Sheshan 75.79 61 P **P 13 40 18.0 -2.3**
comp=Z,35nm,0.7s,mb5.4
SSE S S 13 49 54.8 -6.6
SSE LR LR
comp=Z,260nm,22.0s,MS4.5
TIXI Tiksi 77.80 19 *e*P **P 13 40 29.9 -0.8**
comp=Z,9.0nm,1.0s,mb4.7
TIXI Tiksi 77.80 19 *e*P **P 13 40 29.9 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CN2 Changchun 77.90 48 *e*P **P 13 40 34.0 +2.2**
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
CN2 Changchun 77.90 48 *e*P **P 13 40 34.0 +2.2**
comp=Z,20nm,0.6s,mb5.2
YAK Yakutsk 78.76 29 *e*P **P 13 40 36.2 +0.1**
comp=Z,16nm,1.9s,mb4.6
YAK Yakutsk 78.76 29 *e*P **P 13 40 36.2 +0.1**
YAK pmax pmax
comp=Z,16nm,1.9s,mb4.6
KLR Kul'dur 81.53 42 *e*P **P 13 40 48.8 -2.4**
NWAO Narrogin (SRO) 85.80 125 LR LR 14 11 12.8
comp=Z,128nm,21.6s,MS4.3,baz=283,slow=30
SEY Seymchan 88.67 25 *e*P **P 13 41 25.8 -0.7**
SCHQ Schefferville 89.68 326 LR LR 14 19 23.9
comp=Z,145nm,18.5s,MS4.4,baz=265,slow=34
BDFB Brasilia 91.89 255 LR LR 14 19 11.2
comp=Z,235nm,18.9s,MS4.7,baz=112,slow=33

IDC 26 13:31:30.6±5.5, 12.75N×40.86E, mb3.8/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.9/4, ML4.2/1, MS4.4/2, Ms1 4.4/2, ms1mx3.7/13, Error ellipse: s-maj=128.2km s-min=17.6km az=45.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.29**	**122**	Pn	Pn	13 32 09.1	-1.0
	70nm,0.3s,baz=274,slow=10,SNR=5.4						
ATD				LR	LR	13 32 42.0	
	comp=Z,642nm,19.7s,baz=285,slow=31						
ATD				Lg		13 32 44.0	
	22nm,0.3s,baz=251,slow=20,SNR=6.4						
BRTR	**Keskin Array B**	**27.61**	**348**	P	P	13 37 20.4	-1.4
	0.7nm,0.4s,baz=153,slow=9.7,SNR=4.6						
MKAR Makanchi Array 48.55 37 P **P 13 40 15.3 -2.2**
0.9nm,0.7s,baz=236,slow=7.2,SNR=4.2
ZAL Zalesovo 53.68 31 LR LR 14 07 44.7
comp=Z,410nm,18.9s,baz=249,slow=40
ARCES ARCESS Array B 57.58 354 LR LR 14 08 33.7
comp=Z,210nm,18.1s,baz=68,slow=39
SONM Songino Array 64.26 43 P **P 13 42 07.8 -2.1**
1.1nm,1.1s,baz=277,slow=5.1,SNR=4.2

*IDC **26** 13:48:34.8±1.2,22.48N×102.36E, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, MS3.9/3, Ms1 3.9/3, ms1mx3.6/15, Error ellipse: s-maj=58.3km s-min=23.3km az=59.0*
*NEIC **26** 13:48:36.8±0.7,22.50N×102.18E, h10km, mb4.0/2, Error ellipse: s-maj=11.0km s-min=8.2km az=176.0*
*BJI **26** 13:48:37.6,22.48N×102.24E, h29km, mB4.7, mb4.3, ML4.8, Ms4.6, Msz4.3*
*PLV **26** 13:48:42.9±1.3,22.41N×102.78E, h13km±7km, MD3.6*
ISC 26 13:48:33.7±0.4, 22.37N±0.04×102.28E±0.04, h10km, n37, σ1§49/49, mb4.0/8, MS3.7/3, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.77**	**9**	PG	**Pg**	**13 49 26.5**	**-2.5**
KMI				SG	**Sg**	**13 50 06.5**	**+0.6**
KMI				Smax			
	comp=N,1μm,1.1s						
KMI				Smax			
	comp=E,1μm,1.2s						
BVV	**Ba Vi**	**3.13**	**113**	*e*Pn	**Pn**	**13 49 26.7**	**+2.6**
BVV				*e*Pg	**Pg**	**13 49 36.3**	**+0.1**
BVV				*e*Sg	**Sg**	**13 50 12.6**	**-5.5**
CHRT	**Chiangrai**	**3.41**	**224**	P	**Pn**	**13 49 23.0**	**-5.1**
HNV	**Hanoi**	**3.52**	**111**	*e*Pn	**Pn**	**13 49 30.6**	**+1.0**
HNV				*e*Pg	**Pg**	**13 49 40.8**	**-3.2**
HNV				*e*Sg	**Sg**	**13 50 21.9**	**-9.1**
MTZV	**Met**	**3.85**	**102**	*e*Pn	**Pn**	**13 49 36.0**	**+1.7**
MTZV				*e*Pg	**Pg**	**13 49 47.9**	**-2.7**
MTZV				*e*Sg	**Sg**	**13 50 33.2**	**-8.8**
DSV	**Doi Son**	**3.87**	**117**	*e*Pn	**Pn**	**13 49 37.2**	**+2.6**
DSV				*e*Pg	**Pg**	**13 49 50.2**	**-0.7**
DSV				*e*Sg	**Sg**	**13 50 34.9**	**-7.6**
YTV	**Yen Tu**	**4.29**	**106**	*e*Pn	**Pn**	**13 49 42.1**	**+1.5**
YTV				*e*Pg	**Pg**	**13 49 57.9**	**-1.5**
YTV				*e*Sg	**Sg**	**13 50 47.6**	**-9.0**
PLV	**Phu-Lien**	**4.33**	**110**	*e*Pn	**Pn**	**13 49 43.4**	**+2.2**
PLV				*e*Pg	**Pg**	**13 49 58.7**	**-1.5**
PLV				*e*Sg	**Sg**	**13 50 49.6**	**-8.3**
CHG	**Chiang Mai**	**4.73**	**222**	P	**Pn**	**13 49 59.2**	**+12**
	comp=E,150nm,0.7s						
GYA	**Guiyang**	**5.70**	**44**	P	**Pn**	**13 50 01.8**	**+1.4**
GYA				Smax			
	comp=N,780nm,1.2s						
GYA				Smax			
	comp=E,950nm,1.1s						
GYA				LR	LR		
	comp=N,6μm,6.3s						
GYA				LR	LR		
	comp=E,10μm,4.8s						
GYA				LR	LR		
	comp=Z,6μm,6.4s						
KKTK	**Khon Kaen**	**6.03**	**175**	P	**Pn**	**13 50 02.0**	**-3.1**
	comp=Z,2μm,0.5s						
NST	**Nakhon Sawan**	**6.97**	**197**	P	**Pn**	**13 50 35.5**	**+17**
QIZ	**Qiongzhong**	**7.82**	**114**	P	**Pn**	**13 50 33.3**	**+3.1**
CD2	**Chengdu**	**8.60**	**8**	*e*P	**P**	**13 50 38.8**	**-2.4**
ENH	**Enshi**	**10.18**	**38**	*e*Pn	**P**	**13 51 03.9**	**+0.9**
	comp=Z,11nm,0.7s						
ENH				*e*Sn	**S**	**13 52 56.9**	**-1.2**
LSA	**Lhasa**	**12.38**	**308**	*e*P	**P**	**13 51 32.8**	**-0.1**
XAN	**Xi'an**	**13.01**	**25**	P	**P**	**13 51 39.5**	**-1.8**
XAN				S	**S**	**13 54 12.3**	**+5.2**
XAN				LR	LR		
	comp=N,2μm,14.4s						
XAN				LR	LR		
	comp=E,3μm,13.2s						
XAN				LR	LR		
	comp=Z,2μm,13.8s						
LZH	**Lanzhou**	**13.73**	**5**	*e*P	**P**	**13 51 54.0**	**+3.1**
LZH				AP		13 51 58.5	
LZH				XP		13 52 02.0	
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH				AMB	AMB		
	comp=Z,113nm,4.0s						
LZH	**Lanzhou**	**13.73**	**5**	*e*P	**P**	**13 51 54.0**	**+3.1**
	comp=Z,20nm,1.0s						
LZH				pP		13 51 58.5	
LZH				sP		13 52 02.0	
PKI	**Pulchoki**	**16.15**	**292**	*e*P	**P**	**13 52 22.1**	**-0.3**
KKN	**Kakani**	**16.32**	**293**	*e*P	**P**	**13 52 24.7**	**+0.1**
	comp=Z,37nm,1.0s						
DMN	**Daman**	**16.42**	**292**	*e*P	**P**	**13 52 24.9**	**-1.0**
GKN	**Gorkha**	**16.92**	**293**	*e*P	**P**	**13 52 31.7**	**-0.5**
	comp=Z,48nm,1.2s						
GTA	**Gaotai**	**17.11**	**353**	*e*P	**P**	**13 52 37.0**	**+2.5**
GTA				AP		13 52 41.3	
GTA				XP		13 52 44.3	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s						
GTA				LR	LR		
	comp=N,225nm,20.5s						
GTA				LR	LR		
	comp=E,347nm,26.6s						
GTA				LR	LR		
	comp=Z,710nm,28.1s						
GTA	**Gaotai**	**17.11**	**353**	*e*P	**P**	**13 52 37.0**	**+2.5**
	comp=Z,9.0nm,1.0s						
GTA				pP		13 52 41.3	
GTA				sP		13 52 44.3	
KOLN	**Koldanda**	**17.75**	**291**	*e*P	**P**	**13 52 38.4**	**-4.2**
	comp=Z,91nm,1.8s						
JOW	**Kunigami**	**24.03**	**74**	LR	LR	14 04 21.7	
	comp=Z,279nm,18.9s,MS3.8,baz=247,slow=40						
SONM	**Songino Array**	**25.62**	**6**	P	**P**	**13 54 05.1**	**+0.3**
	comp=Z,1.9nm,1.0s,mb3.6,baz=188,slow=10,SNR=8.6						
JNU	**Nakatsue**	**27.39**	**61**	LR	LR	14 06 09.8	
	comp=Z,199nm,19.3s,MS3.7,baz=46,slow=39						
MKAR	**Makanchi Array**	**29.23**	**331**	P	**P**	**13 54 36.8**	**-1.0**
	comp=Z,1.7nm,0.8s,mb3.8,baz=140,slow=9.5,SNR=10						
MJAR	**Matsushiro Arr**	**34.11**	**57**	LR	LR	14 10 59.1	
	comp=Z,157nm,18.8s,MS3.8,baz=265,slow=40						
ZAL	**Zalesovo**	**34.19**	**342**	P	**P**	**13 55 21.6**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.4,baz=319,slow=9.1,SNR=19						
BVAR	**Borovoye Array**	**39.08**	**330**	P	**P**	**13 56 02.3**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=121,slow=8.6,SNR=5.6						
WRA	**Warramunga Arr**	**52.43**	**141**	P	**P**	**13 57 49.5**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.3,baz=329,slow=8.2,SNR=8.0						
AKASG	**Malin Array Be**	**62.38**	**317**	P	**P**	**13 58 59.6**	**+0.8**
	comp=Z,0.3nm,0.2s,mb4.0,baz=75,slow=6.2,SNR=4.7						
FINES	**FINESS Array B**	**64.03**	**329**	P	**P**	**13 59 09.5**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.3,baz=243,slow=26,SNR=4.1						
GERES	**GERESS Array B**	**72.59**	**316**	P	**P**	**14 00 04.3**	**+1.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=90,slow=2.7,SNR=4.3						

MAN 26 13:52:17.9, 12.84N×123.04E, h21km, mb4.2, ML3.1, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.60**	**323**	*e*P	Pb	13 52 29.9	+0.3
AUQP				*e*S	Sb	13 52 41.8	+4.2
OTRP	**Odiongan**	**1.11**	**245**	*e*P	Pb	13 52 35.5	-2.7
OTRP				*e*S	Sb	13 52 51.9	-0.2
GQP	**Guinayangan**	**1.21**	**331**‖	*e*P	Pn	13 52 43.2	+3.5
GQP				*e*S	Sb	13 52 56.9	+1.8
PVCP	**Virac**	**1.32**	**55**	*e*P	Pn	13 52 41.4	+0.1
PVCP				*e*S	Sb	13 52 58.5	+0.3
BOAC	**Boac**	**1.32**	**298**	*e*P	Pn	13 52 40.4	-0.9
BOAC				*e*S	Sb	13 52 58.0	-0.4
CNP	**Catarman**	**1.61**	**102**	*e*P	Pn	13 52 43.5	-2.0
CNP				*e*S	Sn	13 53 08.3	+2.5
SJMP	**San Jose**	**1.92**	**259**	*e*P	Pn	13 52 49.4	-0.4
SJMP				*e*S	Sn	13 53 49.6	+36
POLP	**Polilio Island**	**2.16**	**330**	*e*P	Pn	13 52 53.3	-0.1
POLP				*e*S	Sn	13 53 25.6	+5.8
GUIM	**Jordan**	**2.25**	**191**	*e*P	Pn	13 52 55.1	+0.5
LUBP	**Lubang**	**2.87**	**288**	*e*P	Pn	13 53 08.2	+4.8
LUBP				*e*S	Sn	13 53 15.3	-22
BUSP	**Coron**	**2.90**	**254**	*e*P	Pn	13 53 28.0	+24
BUSP				*e*S	Sn	13 53 48.6	+10
ENPP	**El Nido**	**3.90**	**246**	*e*P	Pn	13 53 38.4	+20

ENPP				*e*S	Sn	13 54 07.3	+3.6

NAO ***26*** *13:56:05.7±1.6, 59.72N×22.15E, ML2.2*
IDC ***26*** *13:56:05.7±2.6, 59.67N×22.53E, mb1 3.1/3, mb1mx3.0/19, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=32.9km s-min=9.8km az=159.0*
BER ***26*** *13:56:08.0±4.3, 59.81N×22.15E, ML2.2(NAO), Suspected explosion*

HEL 26 13:56:05.4±0.1, 59.62N×22.25E, ML1.7, ML2.2(UPP), **ML2.2**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**2.04**	**61**	*e*P	Pn	13 56 41.1	-0.2
FLYU	**Flymyra**	**2.26**	**285**	*e*P	Pn	13 56 44.1	-0.4
NYNU	**Nynaeshamn**	**2.26**	**256**	*e*P	Pn	13 56 43.7	-0.8
UPP	**Uppsala**	**2.35**	**278**	*e*P	Pn	13 56 45.8	-0.1
VSU	**Vasula**	**2.59**	**115**	*e*PB	Pb	13 56 50.0	-2.5
VSU				*e*SB	Sb	13 57 23.5	-1.5
BACU	**Backbrunna**	**2.61**	**277**	*e*P	Pn	13 56 50.2	+0.6
FIA0	**FINESS Array S**	**2.63**	**44**	Pn	Pn	13 56 48.8	-1.1
	baz=227,slow=14						
FIA0				Lg		13 57 26.2	
	baz=251,slow=37						
FIA0	**FINESS Array S**	**2.63**	**44**	*e*P	Pn	13 56 49.5	-0.4
FIA0				*e*SB	Sb	13 57 23.7	-2.5
FINES	**FINESS Array B**	**2.63**	**44**	Pn	Pn	13 56 48.9	-1.0
	1.0nm,0.3s,baz=229,slow=12,SNR=21						
FINES				Lg		13 57 22.7	
	3.5nm,0.3s,baz=225,slow=32,SNR=24						
OSTU	**Oestervaala**	**2.65**	**286**	*e*P	Pn	13 56 49.6	-0.4
GOTU	**Gotland**	**2.73**	**226**	*e*P	Pn	13 56 50.1	-1.2
VJF	**Virojoki**	**2.81**	**69**	*e*P	Pn	13 56 51.1	-1.4
VJF				*e*SG	Sg	13 57 32.6	-6.6
KEF	**Keuruu**	**2.86**	**25**	*e*P	Pn	13 56 53.0	-0.1
KEF				*e*SG	Sg	13 57 32.5	-8.1
KEF				MSG		13 57 33.1	
	comp=Z,1.9nm,0.1s						
ESKU	**Eskilstuna**	**3.02**	**265**	*e*P	Pn	13 56 53.8	-1.5
VIKU	**Vikbolandet**	**3.08**	**251**	*e*P	Pn	13 56 54.5	-1.7
KAF	**Kangasniemi**	**3.19**	**37**	*e*SB	Sb	13 57 39.6	-2.9
KAF				MSG		13 57 39.8	
	comp=Z,1.7nm,0.1s						
VSTU	**Vaestervik**	**3.57**	**239**	*e*P	Pn	13 57 02.1	-1.2
VSTU				*e*S	Sn	13 57 44.8	-2.1
SUF	**Sumiainen**	**3.64**	**30**	*e*P	Pn	13 57 03.3	-0.9
LNKU	**Linkoeping**	**3.77**	**251**	*e*P	Pn	13 57 04.8	-1.2
OSKU	**Oskarshamn**	**4.05**	**236**	*e*P	Pn	13 57 07.9	-2.0
HFS	**Hagfors**	**4.34**	**281**	*e*P	Pn	13 57 12.1	-2.1
HFS				*e*PG	Pg	13 57 22.4	-10
HFS				*e*S	Sn	13 58 02.7	-3.6
HFS				*e*SG		13 58 19.3	
HFS	**Hagfors**	**4.34**	**281**	Pn	Pn	13 57 12.1	-2.1
	baz=66,slow=12						
HFS				Pg	Pg	13 57 22.4	-10
	baz=94,slow=16						
HFS				Sn	Sn	13 58 02.7	-3.6
	baz=96,slow=28						
HFS				Lg		13 58 19.3	
	baz=83,slow=37						
NB2	**NORSAR Subarra**	**5.66**	**289**	Pn	Pn	13 57 29.0	-3.8
	baz=98,slow=14						
NB2	**NORSAR Subarra**	**5.66**	**289**	*e*P	Pn	13 57 29.0	-3.8
NOA	**NORSAR Array B**	**5.66**	**289**	Pn	Pn	13 57 29.5	-3.4
	comp=Z,0.3nm,0.3s,baz=80,slow=14,SNR=2.7						
NOA				Sn	Sn	13 58 34.9	-4.7
	comp=Z,0.3nm,0.3s,baz=101,slow=18,SNR=2.6						
NOA				Lg		13 59 00.4	
	comp=Z,0.6nm,0.3s,baz=94,slow=18,SNR=3.0						
ARA0	**ARCESS Array S**	**10.05**	**7**	Pn	P	13 58 28.3	-5.7
	baz=191,slow=12						
ARA0				Sn	S	14 00 16.5	-12
	baz=194,slow=28						
ARA0	**ARCESS Array S**	**10.05**	**7**	*e*P	P	13 58 28.3	-5.7
ARA0				*e*S	S	14 00 16.5	-12
ARCES	**ARCESS Array B**	**10.05**	**7**	Pn	P	13 58 28.5	-5.5
	comp=Z,0.3nm,0.3s,baz=186,slow=13,SNR=13						

MAN 26 13:58:02.6, 12.94N×123.05E, h28km, mb3.8, ML2.6, MS2.2,1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.52**	**316**	*e*P	Pb	13 58 14.2	+0.9
AUQP				*e*S	Sb	13 58 23.4	+2.9
GQP	**Guinayangan**	**1.12**	**329**	⇑*e*P	Pn	13 58 22.9	+0.3
PVCP	**Virac**	**1.26**	**59**	*e*P	Pn	13 58 23.9	-0.6
PVCP				*e*S	Sn	13 58 41.8	+1.1
BOAC	**Boac**	**1.28**	**294**	*e*P	Pn	13 58 23.7	-1.1
BOAC				*e*S	Sn	13 58 41.3	+0.1
GUIM	**Jordan**	**2.35**	**191**	*e*P	Pn	13 58 40.1	-0.1
GUIM				*e*S	Sn	13 59 01.7	-6.6

DHMR 26 14:21:34.9±0.5, 12.70N×40.52E, h6km±30km, ML4.0, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.55**	**81**	*i* P	Pn	14 22 33.2	+1.4
TRBA				*i* S	Sn	14 23 19.0	+4.4
TRBA				AML	AML	14 23 31.5	
	comp=N,543nm,0.6s						
UDYN	**Al 'Udayn**	**3.59**	**69**	⇓*i*P	Pn	14 22 33.9	+1.5
UDYN				*i* S	Sn	14 23 20.4	+4.8
UDYN				AML	AML	14 23 38.9	
	comp=Z,669nm,0.7s						
DHBB	**Dhamar BB**	**4.20**	**63**	*i* P	Pn	14 22 42.5	+1.4
DHBB				*i* S	Sn	14 23 34.6	+3.5
LBOS		**4.75**	**75**	*i* P	Pn	14 22 47.6	-1.3
LBOS				*i* S	Sn	14 23 44.2	-0.9
BDHA	**Al Bayda'**	**5.08**	**75**	*i* P	Pn	14 22 51.9	-1.6
BDHA				*i* S	Sn	14 23 51.9	-1.4

IDC ***26*** *14:47:53.2±1.9, 59.43N×22.69E, mb1 3.2/4, mb1mx3.1/20, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=22.8km s-min=6.9km az=157.0*
CSEM ***26*** *14:47:55.3±0.1, 59.71N×22.16E, h2km, ML2.1, Error ellipse: s-maj=5.2km s-min=2.7km az=157.0, Mining explosion.*
NAO ***26*** *14:47:56.2±1.4, 59.90N×22.20E, ML2.4*
BER ***26*** *14:47:59.8±5.1, 59.65N×22.20E, ML2.3, ML2.4(NAO), Suspected explosion*
UPP ***26*** *14:47:59.0, 59.72N×21.67E, ML2.6, Mining explosion.*

HEL 26 14:47:56.1±0.2, 59.68N×22.23E, ML2.1, MD3.8(BER), **ML2.6**(UPP), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**1.83**	**272**	*e*P	Pn	14 48 26.5	-2.5
PVF	**Pernaja**	**2.02**	**63**	*e*P	Pn	14 48 30.2	-1.5
PVF				*e*S	Sn	14 48 56.2	-1.8
FORU	**Forsmark**	**2.16**	**291**	*e*P	Pn	14 48 31.3	-2.4
FLYU	**Flymyra**	**2.24**	**284**	*e*P	Pn	14 48 32.9	-2.0
FLYU				*e*S	Sn	14 49 05.7	+2.1
NYNU	**Nynaeshamn**	**2.27**	**255**	*e*P	Pn	14 48 34.7	-0.7
NYNU	**Nynaeshamn**	**2.27**	**255**	P	Pn	14 48 34.6	-0.8
BACU	**Backbrunna**	**2.60**	**276**	*e*P	Pn	14 48 39.9	-0.2
BACU	**Backbrunna**	**2.60**	**276**	P	Pn	14 48 39.8	-0.3
FIA0	**FINESS Array S**	**2.60**	**45**	*e*P	Pn	14 48 39.4	-0.6
FIA0				*e*SB	Sb	14 49 14.6	-1.4
FIA0	**FINESS Array S**	**2.60**	**45**	P	Pn	14 48 37.9	-2.2
	baz=230,slow=14						
FIA0				S	Sn	14 49 12.4	-0.4
	baz=224,slow=28						
FIA0	**FINESS Array S**	**2.60**	**45**	P	Sn	14 48 39.4	-0.7
FIA0				S	Sn	14 49 12.4	-0.4
	SNR=50						
FINES	**FINESS Array B**	**2.60**	**45**	Pn	Pn	14 48 37.9	-2.1
	0.7nm,0.3s,baz=220,slow=14,SNR=30						
FINES				Sn	Sn	14 49 10.4	-2.4
	1.0nm,0.3s,baz=240,slow=22,SNR=5.9						
FINES				Lg		14 49 14.9	
	7.6nm,0.3s,baz=223,slow=31,SNR=26						
VSU	**Vasula**	**2.62**	**116**	*e*PB	Pb	14 48 41.6	-2.1
VSU				*e*SB	Sb	14 49 14.9	-1.7
OSTU	**Oestervaala**	**2.62**	**284**	*e*P	Pn	14 48 39.8	-0.6
IGGU	**Iggoen**	**2.73**	**298**	*e*P	Pn	14 48 40.4	-1.5
GOTU	**Gotland**	**2.76**	**225**	*e*P	Pn	14 48 41.2	-1.3
VJF	**Virojoki**	**2.80**	**70**	*e*P	Pn	14 48 42.6	-0.4
VJF				*e*S	Sn	14 49 16.6	-1.4
KEF	**Keuruu**	**2.81**	**26**	*e*P	Pn	14 48 44.2	+1.0
KEF				*e*SB	Sb	14 49 21.3	-0.9
KEF				MSG		14 49 25.4	
	comp=Z,6.1nm,0.2s						
KEF	**Keuruu**	**2.81**	**26**	P	Pn	14 48 44.1	+1.0
ESKU	**Eskilstuna**	**3.02**	**264**	*e*P	Pn	14 48 45.8	-0.2
ESKU	**Eskilstuna**	**3.02**	**264**	P	Pn	14 48 45.7	-0.3
KAF	**Kangasniemi**	**3.15**	**37**	*e*P	Pn	14 48 47.4	-0.5
KAF				*e*SB	Sb	14 49 29.9	-2.2
KAF				MSG		14 49 30.5	
	comp=Z,5.0nm,0.2s						
FALU	**Falun**	**3.31**	**287**	*e*P	Pn	14 48 48.8	-1.5
FALU	**Falun**	**3.31**	**287**	P	Pn	14 48 48.7	-1.5
VSTU	**Vaestervik**	**3.60**	**238**	*e*P	Pn	14 48 53.6	-0.6
OSKU	**Oskarshamn**	**4.07**	**235**	*e*P	Pn	14 48 59.6	-1.4
HFS	**Hagfors**	**4.33**	**280**	*e*P	Pn	14 49 02.9	-1.7
HFS				*e*PG	Pg	14 49 14.2	-8.2
HFS				*e*S	Sn	14 49 51.7	-4.9
HFS				*e*SG		14 50 11.0	
HFS	**Hagfors**	**4.33**	**280**	Pn	Pn	14 49 03.1	-1.6
	comp=Z,0.1nm,0.3s,baz=85,slow=14,SNR=36						
HFS				Sn	Sn	14 49 56.1	-0.5
	comp=Z,0.1nm,0.3s,baz=97,slow=25,SNR=3.7						
HFS				Lg		14 50 14.8	
	comp=Z,0.4nm,0.3s,baz=90,slow=30,SNR=9.8						
HFS	**Hagfors**	**4.33**	**280**	Pn	Pn	14 49 02.9	-1.7
	baz=82,slow=14						
HFS				Pg	Pg	14 49 14.2	-8.2
	baz=106,slow=16						
HFS				Sn	Sn	14 49 51.7	-4.9
	baz=86,slow=22						
HFS				Lg		14 50 11.0	
	baz=93,slow=37						
HFS	**Hagfors**	**4.33**	**280**	P	Pn	14 49 02.8	-1.8
NB2	**NORSAR Subarra**	**5.64**	**289**	Pn	Pn	14 49 18.6	-4.7
	baz=93,slow=12						
NB2				Sn	Sn	14 50 23.2	-6.4
	baz=103,slow=22						
NB2				Lg		14 50 50.3	
NB2	**NORSAR Subarra**	**5.64**	**289**	*e*P	Pn	14 49 18.6	-4.7
NB2				*e*S	Sn	14 50 23.2	-6.4
NB2				*e*SG		14 50 50.3	
NB2	**NORSAR Subarra**	**5.64**	**289**	Pn	Pn	14 49 18.5	-4.7
	SNR=2.6						
NB2				Sg		14 50 50.2	
NOA	**NORSAR Array B**	**5.64**	**289**	Pn	Pn	14 49 19.4	-3.8
	comp=Z,0.5nm,0.3s,baz=136,slow=13,SNR=3.1						
NOA				Sn	Sn	14 50 28.3	-1.3
	comp=Z,0.4nm,0.3s,baz=82,slow=18,SNR=2.4						
NOA				Lg		14 50 54.4	
	comp=Z,0.6nm,0.3s,baz=140,slow=22,SNR=2.9						
NSS	**Namsos**	**6.84**	**320**	*e*P	Pn	14 49 39.0	-1.2
NSS				*e*S	Sn	14 50 53.0	-6.8
MOR8	**Moi Rana**	**7.42**	**335**	*e*P	Pn	14 49 46.3	-2.0
MOR8				*e*S	Sn	14 51 08.4	-5.8
MOL	**Molde**	**7.68**	**298**	*e*P	Pn	14 49 51.2	-0.7
MOL	**Molde**	**7.68**	**298**	P	Pn	14 49 51.1	-0.8
SNART	**Snartemo**	**7.87**	**267**	*e*P	Pn	14 49 51.9	-2.7
SNART				*e*S	Sn	14 51 16.0	-9.5
SNART	**Snartemo**	**7.87**	**267**	*e*P	Pn	14 49 51.9	-2.7
SNART				*e*S	Sn	14 51 14.9	-11
SNART				AML	AML	14 51 18.4	
	comp=Z,3.4nm,0.4s						
ODD1	**Odda**	**7.88**	**278**	*e*P	Pn	14 49 50.6	-4.1
BLS5	**Blasjo**	**8.02**	**275**	*e*P	P	14 49 53.8	-2.9
BLS5				*e*S	Sn	14 51 22.0	-7.2
BLS5				*e*S	Sn	14 51 24.3	-5.0
BLS5	**Blasjo**	**8.02**	**275**	P	P	14 49 53.8	-2.9
BLS5				*e*S	Sn	14 51 24.3	-4.9
	SNR=47						
KMY	**Karmoy**	**8.67**	**274**	*e*P	P	14 50 01.8	-3.9
ARA0	**ARCESS Array S**	**10.00**	**7**	*e*P	P	14 50 16.4	-7.5
ARA0				*e*S	Sn	14 52 05.8	-12
ARA0	**ARCESS Array S**	**10.00**	**7**	P	P	14 50 16.4	-7.5
ARA0				S	Sn	14 52 05.8	-12
	baz=192,slow=22						
ARCES	**ARCESS Array B**	**10.00**	**7**	Pn	P	14 50 17.8	-6.0
	comp=Z,0.3nm,0.3s,baz=190,slow=13,SNR=22						
ARCES				Sn	Sn	14 52 08.9	-9.1
	comp=Z,0.1nm,0.3s,baz=193,slow=21,SNR=4.1						

CSEM ***26*** *15:22:02.9±0.1, 38.24N×26.66W, h5km, ML2.8, Error ellipse: s-maj=16.2km s-min=2.2km az=33.0, After PDA*
PDA ***26*** *15:22:02.9±1.6, 38.24N×26.66W, h5km±8km, MD3.0, ML2.8, Error ellipse: s-maj=9.7km s-min=2.0km az=39.0*

SVSA 26 15:22:02.9±1.6, 38.24N×26.66W, h5km±8km, MD3.0, ML2.8, Error ellipse: s-maj=9.7km s-min=2.0km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.57**	**324**	*e*P	Pg	15 22 13.3	-1.1
PFAV				*e*S	Sg	15 22 21.2	-0.9
PSCM	**Serra do Cume**	**0.58**	**322**	*e*P	Pg	15 22 11.8	-2.7
PSCM				*e*S	Sg	15 22 20.0	-2.3
	318nm,0.4s						
RIB2	**Ribeirinha**	**0.59**	**317**	*e*P	Pg	15 22 12.6	-2.1
RIB2				*e*S	Sg	15 22 20.7	-1.8
	70nm,0.2s						
ADH	**Angra Heroismo**	**0.61**	**312**	*e*P	Pg	15 22 12.3	-2.8
ADH				*e*S	Sg	15 22 21.1	-2.2
PVNV	**Vila Nova**	**0.65**	**323**	*e*P	Pg	15 22 13.7	-2.2
PVNV				*e*S	Sg	15 22 22.6	-1.9
	157nm,0.2s						
PPAD	**Pico dos Padre**	**0.67**	**313**	*e*P	Pg	15 22 13.9	-2.4
PPAD				*e*S	Sg	15 22 22.5	-2.8
	97nm,0.2s						
PBIS	**Biscoitos**	**0.70**	**318**	*e*P	Pg	15 22 15.3	-1.5
PBIS				*e*S	Sg	15 22 24.4	-1.7
	35nm,0.3s						
ASBA	**Santa Barbara**	**0.71**	**312**	*e*P	Pg	15 22 14.5	-2.6
ASBA				*e*S	Sg	15 22 22.9	-3.6
	181nm,0.2s						
PSBA	**Serra de Santa**	**0.74**	**315**	*e*P	Pg	15 22 14.1	-3.6
PSBA				*e*S	Sg	15 22 24.4	-3.2
	356nm,0.4s						
SET4	**Mosteiros**	**0.77**	**118**	*e*S	Sg	15 22 25.4	-3.2
SET2	**Ginetes**	**0.78**	**120**	*e*P	Pg	15 22 16.0	-2.5
PFET	**Feteiras**	**0.81**	**122**	*e*P	Pb	15 22 16.2	-2.8
PSAN	**Santo Antonio**	**0.83**	**118**	*e*P	Pb	15 22 16.5	-3.0
PSET	**Sete Cidades**	**0.85**	**119**	*e*S	Sb	15 22 25.6	-5.7
	235nm,0.4s						
FAC	**Faja de Cima**	**0.92**	**120**	*e*P	Pb	15 22 18.0	-3.0
FAC				*e*S	Sb	15 22 29.0	-4.4
CML	**Cha da Macela**	**1.00**	**118**	*e*P	Pb	15 22 19.0	-3.3
CML				*e*S	Sb	15 22 30.6	-4.9
PMAT	**Coroa da Mata**	**1.03**	**114**	*e*S	Sb	15 22 31.4	-5.1
LFA	**Lagoa do Fogo**	**1.04**	**117**	*e*P	Pb	15 22 19.1	-3.9
MESC	**Monte Escuro**	**1.06**	**115**	*e*P	Pb	15 22 19.2	-4.1
MESC				*e*S	Sb	15 22 31.9	-5.4
PRCH	**Ribeira Ch**	**1.06**	**119**	*e*P	Pb	15 22 19.8	-3.6
PRCH				*e*S	Sb	15 22 32.3	-5.1
VIF	**Vila Franca**	**1.08**	**117**	*e*P	Pb	15 22 19.7	-4.1
PFAD	**Fenais da Ajud**	**1.13**	**111**	*e*P	Pb	15 22 20.1	-4.4
PFAD				*e*S	Sb	15 22 32.9	-6.4
MIRA	**Miradouro**	**1.18**	**112**	*e*P	Pb	15 22 20.6	-4.8
MIRA				*e*S	Sb	15 22 34.4	-6.5
PMAN	**Manadas**	**1.19**	**289**	*erx*		15 22 19.7	
PMAN	**Manadas**	**1.19**	**289**	*e-*		15 22 19.7	
PICO	**Pico**	**1.41**	**281**	*e*P	Pn	15 22 24.6	-4.7
PICO				*e*S	Sb	15 22 40.3	-7.3
HOR	**Horta**	**1.57**	**281**	*erx*		15 22 44.0	
CALA	**Caldeira**	**1.64**	**282**	*e*S	Sb	15 22 46.0	-8.2

JMA ***26*** *15:24:09.0±0.1, 38.48N×142.06E, h42km±1km, M3.7*
JMA Felt I J1.
NEIC ***26*** *15:24:10.5±1.5, 38.74N×141.87E, h35km, mb4.0/1, Error ellipse: s-maj=49.3km s-min=14.5km az=133.0*

ISC 26 15:24:08.9±1.6, 38.49N±0.06×142.1E±0.2, h46km±15km, **n11,σ0s79/18, mb3.9/1, 6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.55**	**267**	⇓P	P	**15 24 20.6**	**0.0**
JIO				S	S	**15 24 28.5**	**-0.5**
OFUJ	**Ofunato**	**0.67**	**334**	⇓P	P	**15 24 22.2**	**+0.1**
OFUJ				*e*S	S	**15 24 31.3**	**-0.4**
JMK	**Ichinoseki**	**0.80**	**306**	⇓P	P	**15 24 24.2**	**+0.3**
JMK				*e*S	S	**15 24 34.8**	**-0.1**
JOU	**Okura**	**1.09**	**264**	⇓P	P	**15 24 28.2**	**+0.1**
JOM	**Ohasama**	**1.15**	**329**	⇓P	P	**15 24 29.3**	**+0.5**
JOM				*e*S	S	**15 24 44.2**	**+0.5**
JMM	**Marumori**	**1.17**	**238**	⇓P	P	**15 24 28.3**	**-0.8**
JMM				*e*S	S	**15 24 42.5**	**-1.6**
MAJO	**Matsushiro**	**3.62**	**239**	*e*Pn	P	**15 25 04.7**	**+0.8**
MAT	**Matsushiro**	**3.62**	**239**	P	P	**15 25 04.4**	**+0.5**
MAT				*e*S	S	**15 25 48.0**	**+2.1**
MAT	**Matsushiro**	**3.62**	**239**	P	P	**15 25 04.0**	**+0.1**
MAT				S	S	**15 25 48.0**	**+2.1**
KURK	**Kurchatov**	**45.45**	**307**	*e*P	P	**15 32 23.7**	**-1.2**
	1.7nm,0.8s,mb3.9						
SML	**Sawmill**	**47.53**	**37**	*e*P	P	**15 32 41.1**	**0.0**

BJI ***26*** *15:36:23.6, 12.90N×40.05E, h8km, mB5.2, mb4.8*
IDC ***26*** *15:36:23.9±1.1, 12.43N×40.52E, mb4.3/13, mb1 4.4/15, mb1mx4.3/20, mbtmp4.3/15, ML4.0/2, MS3.5/5, Ms1 3.5/5, ms1mx3.4/18, Error ellipse: s-maj=28.1km s-min=13.5km az=22.0*
DHMR ***26*** *15:36:24.5±0.4, 12.60N×40.59E, h2km±1km, ML4.5*
MOS ***26*** *15:36:25.3±1.4, 12.62N×40.53E, h10km, mb4.9/17, Error ellipse: s-maj=12.1km s-min=5.6km az=96.5*
CSEM ***26*** *15:36:25.9±0.1, 12.51N×40.56E, h15km, mb4.7/15, Error ellipse: s-maj=3.7km s-min=2.0km az=6.0*
NEIC ***26*** *15:36:26.5±0.5, 12.53N×40.58E, h10km, mb4.7/20, ML4.6(DHMR), Error ellipse: s-maj=11.4km s-min=6.3km az=199.0*
SSN ***26*** *15:37:58.9±0.4, 13.87N×38.34E, mb5.7*

ISC 26 15:36:25.1±0.5, 12.56N±0.06×40.55E±0.03, h10km, **(h18**km±5.0km**:pP-P), n129,**σ1s**18**/141, **mb4.6**/36, **MS3.5**/3, **19C-17D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.47**	**114**	Pn	Pn	**15 37 06.4**	**+0.3**
	81nm,0.3s,baz=243,slow=12,SNR=35						
ATD				Lg		15 37 41.2	
	45nm,0.3s,baz=276,slow=23,SNR=11						
ATD	**Arta Tunnel**	**2.47**	**114**	Pn	Pn	**15 37 06.4**	**+0.3**
ATD				Lg		15 37 41.2	
TRBA	**At Turbah**	**3.54**	**79**	⇓*i*P	Pn	**15 37 22.6**	**+1.3**
TRBA				*i* S	Sn	**15 38 07.9**	**+4.1**
TRBA				AML	AML	15 38 22.3	
	comp=N,3μm,0.7s						
TRBA	**At Turbah**	**3.54**	**79**	⇓*i*P	Pn	**15 37 22.6**	**+1.3**
TRBA				*i* S	Sn	**15 38 07.8**	**+4.0**
TRBA	**At Turbah**	**3.54**	**79**	⇓*i*P	Pn	**15 37 22.6**	**+1.3**
TRBA				*i* S	Sn	**15 38 07.9**	**+4.1**
	comp=N,2μm,0.7s						
UDYN	**Al 'Udayn**	**3.61**	**67**	*i* P	Pn	**15 37 23.6**	**+1.3**
UDYN				*i* S	Sn	**15 38 10.0**	**+4.4**
UDYN				AML	AML	15 38 29.8	
	comp=N,1μm,0.6s						
UDYN	**Al 'Udayn**	**3.61**	**67**	⇓*i*P	Pn	**15 37 22.6**	**+0.3**
UDYN				*i* S	Sn	**15 38 10.0**	**+4.4**
DHBB	**Dhamar BB**	**4.24**	**61**	*i* P	Pn	**15 37 31.8**	**+0.6**
DHBB				*i* S	Sn	**15 38 24.4**	**+3.0**
DHBB	**Dhamar BB**	**4.24**	**61**	⇓*i*P	Pn	**15 37 28.8**	**-2.4**
DHBB				*i* S	Sn	**15 38 21.8**	**+0.4**
ADEN	**Aden**	**4.33**	**87**	*i* P	Pn	**15 37 32.9**	**+0.3**
ADEN				*i* S	Sn	**15 38 26.4**	**+2.6**
ADEN	**Aden**	**4.33**	**87**	⇓*i*P	Pn	**15 37 32.0**	**-0.6**
ADEN				*i* S	Sn	**15 38 24.8**	**+1.0**
ADEN	**Aden**	**4.33**	**87**	*i* P	Pn	**15 37 32.9**	**+0.3**
ADEN				*i* S	Sn	**15 38 24.8**	**+1.0**
LBOS		**4.76**	**74**	*i* P	Pn	**15 37 36.9**	**-1.7**
LBOS				*i* S	Sn	**15 38 33.4**	**-1.2**
LBOS		**4.76**	**74**	*i* P	Pn	**15 37 36.9**	**-1.7**
LBOS				*i* S	Sn	**15 38 34.9**	**+0.3**
BDHA	**Al Bayda'**	**5.09**	**73**	⇑*i*P	Pn	**15 37 41.2**	**-2.0**
BDHA				*i* S	Sn	**15 38 40.9**	**-1.9**
BDHA	**Al Bayda'**	**5.09**	**73**	⇑*i*P	Pn	**15 37 41.2**	**-2.0**
BDHA				*i* S	Sn	**15 38 43.9**	**+1.1**
BDHA	**Al Bayda'**	**5.09**	**73**	⇑*i*P	Pn	**15 37 41.2**	**-2.0**
BDHA				*i* S	Sn	**15 38 43.9**	**+1.1**
ABTO	**Aybut**	**13.21**	**67**	⇑P	P	**15 39 41.6**	**+6.2**
KMBO	**Kilima Mbogo**	**13.98**	**194**	Pn	P	**15 39 45.5**	**-0.3**
	baz=57,slow=22,SNR=3.5						
KMBO				Lg		15 43 48.3	
	comp=N,0.1nm,0.3s,baz=53,slow=17,SNR=5.8						
KMBO				LR	LR	15 44 59.3	
	comp=N,236nm,20.2s,baz=63,slow=37						
RBK	**Rabkut**	**14.08**	**68**	⇓P	P	**15 39 51.6**	**+4.7**
SHAO	**Shalim**	**15.52**	**68**	⇓P	P	**15 40 09.5**	**+3.6**
ARQ	**Araqi**	**18.58**	**53**	⇑P	P	**15 40 44.7**	**+0.3**
	SNR=7.3						
BSY	**Bisya**	**18.81**	**55**	⇑P	P	**15 40 47.6**	**+0.4**
	SNR=12						
BSYO	**Bisya**	**18.84**	**55**	P	P	**15 40 47.6**	**+0.1**
	SNR=12						
ASHO	**Ashiyiah**	**18.99**	**48**	⇑P	P	**15 40 49.2**	**-0.2**
	SNR=6.8						
HOQ	**Hoqain**	**19.32**	**53**	⇑P	P	**15 40 52.9**	**-0.3**
JMDO	**Jabal Madar**	**19.36**	**57**	⇑P	P	**15 40 53.3**	**-0.4**
SMDO	**Samad**	**19.64**	**55**	⇑P	P	**15 40 56.4**	**-0.5**
	SNR=8.8						
ASF	**Jabal al Asfar**	**19.81**	**351**	P	P	**15 40 58.2**	**-0.5**
	comp=N,0.2nm,0.3s,baz=45,slow=7.4,SNR=8.3						
BANOM	**Banah**	**19.92**	**46**

VRAC	**Vranov**	**41.64**	**336**	*e*P	**P**	**15 44 16.3 +1.2**
MORC	**Moravsky Berou**	**41.66**	**338**	*e*P	**P**	**15 44 16.1 +0.8**
AAK	**Ala-Archa**	**41.97**	**38**	*e*P	**P**	**15 44 18.4 +0.5**
	comp=Z,3.0nm,0.9s,mb3.9					
AAK	**Ala-Archa**	**41.97**	**38**	*e*P	**P**	**15 44 18.4 +0.5**
AAK				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb3.9					
TREC	**Trest**	**42.07**	**336**	*e*P	**P**	**15 44 19.3 +0.7**
GERES	**GERESS Array B**	**42.47**	**334**	P	**P**	**15 44 21.3 -0.6**
	comp=Z,3.4nm,0.9s,mb4.0,baz=127,slow=6.7,SNR=26					
OBN	**Obninsk**	**42.57**	**357**⇑	*e*P	**P**	**15 44 23.6 +0.9**
	comp=Z,49nm,1.9s,mb4.9					
OBN				*e*		15 46 20.1
OBN	**Obninsk**	**42.57**	**357**⇑	*e*P	**P**	**15 44 23.6 +0.9**
OBN				*e*		15 46 20.1
OBN				pmax	pmax	
	comp=Z,49nm,1.9s,mb4.9					
DPC	**Dobruska-Polom**	**42.59**	**337**	*e*P	**P**	**15 44 23.0 +0.1**
KHC	**Kasperske Hory**	**42.74**	**334**	*e*P	**P**	**15 44 24.1 0.0**
KHC				pP	pP	15 44 28.0 +0.9
UPC	**Upice**	**42.83**	**337**	*e*P	**P**	**15 44 25.5 +0.6**
KOLN	**Koldanda**	**42.92**	**63**	*e*P	**P**	**15 44 25.5 -0.4**
	comp=Z,70nm,1.4s,mb5.2					
KSP	**Ksiaz**	**42.99**	**338**	*e*P	**P**	**15 44 26.9 +0.7**
PRU	**Pruhonice**	**43.00**	**335**	*e*P	**P**	**15 44 25.7 -0.5**
MOS	**Moscow**	**43.15**	**358**	*e*P	**P**	**15 44 26.8 -0.5**
SUW	**Suwalki**	**43.59**	**345**	*e*P	**P**	**15 44 31.6 +0.7**
GKN	**Gorkha**	**43.86**	**63**	*e*P	**P**	**15 44 32.6 -1.0**
	comp=Z,58nm,1.3s,mb5.1					
BRG	**Berggiesshubel**	**43.93**	**336**	*i* P	**P**	**15 44 33.9 +0.2**
	comp=Z,4.5nm,1.0s,mb4.2					
BRG	**Berggiesshubel**	**43.93**	**336**	*i* P	**P**	**15 44 33.9 +0.2**
	comp=Z,4.5nm,1.0s,mb4.2					
BRG	**Berggiesshubel**	**43.93**	**336**	*i* P	**P**	**15 44 33.9 +0.2**
BRG				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.2					
GRA1	**Grafenberg Arr**	**44.19**	**333**	*e*P	**P**	**15 44 35.5 -0.4**
	comp=Z,10.0nm,1.1s,mb4.5					
GRF	**Grafenberg Arr**	**44.19**	**333**	*e*P	**P**	**15 44 35.5 -0.4**
	comp=Z,10.0nm,1.1s,mb4.5					
GRF	**Grafenberg Arr**	**44.19**	**333**	*e*P	**P**	**15 44 35.5 -0.4**
GRF				pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.5					
GRF	**Grafenberg Arr**	**44.19**	**333**	*e*P	**P**	**15 44 35.5 -0.4**
GRF				pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.5					
DMN	**Daman**	**44.20**	**63**	*e*P	**P**	**15 44 35.6 -0.7**
	comp=Z,53nm,1.2s,mb5.1					
KKN	**Kakani**	**44.38**	**63**	*e*P	**P**	**15 44 37.2 -0.6**
	comp=Z,105nm,1.5s,mb5.4					
PKI	**Pulchoki**	**44.45**	**63**	*e*P	**P**	**15 44 37.5 -0.9**
	comp=Z,43nm,1.1s,mb5.1					
MOX	**Moxa**	**44.72**	**334**	*i* P	**P**	**15 44 39.6 -0.5**
	comp=Z,logA/T=1.1,mb4.7					
MOX	**Moxa**	**44.72**	**334**	*e*P	**P**	**15 44 39.6 -0.5**
	comp=Z,22nm,1.7s,mb4.7					
MOX	**Moxa**	**44.72**	**334**	*e*P	**P**	**15 44 39.6 -0.5**
MOX				pmax	pmax	
	comp=Z,22nm,1.7s,mb4.7					
DBIC	**Dimbokro**	**45.10**	**267**	P	**P**	**15 44 41.2 -2.5**
	comp=Z,3.5nm,0.6s,mb4.4,baz=68,slow=9.9,SNR=8.1					
MDT	**Midelt**	**45.87**	**304**	P	**P**	**15 44 49.3 -0.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=88,slow=8.1,SNR=5.2					
ARU	**Arti**	**45.94**	**14**⇓	*i*P	**P**	**15 44 50.2 +0.4**
	comp=Z,12nm,1.1s,mb4.7					
ARU				*e*		15 46 37.4
ARU				*e*SS	SS	15 54 46.5 -4.0
ARU	**Arti**	**45.94**	**14**⇓	*i*P	**P**	**15 44 50.2 +0.4**
ARU				*e*		15 46 37.4
ARU				*e*SS	SS	15 54 46.5 -4.0
ARU				pmax	pmax	
	comp=Z,12nm,1.1s,mb4.7					
BRVK	**Borovoye**	**46.85**	**24**	P	**P**	**15 44 57.3 +0.3**
ESDC	**Sonseca Array**	**47.57**	**313**	P	**P**	**15 45 02.5 -0.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=114,slow=7.2,SNR=10.0					
MKAR	**Makanchi Array**	**48.89**	**37**	P	**P**	**15 45 12.2 -0.8**
	comp=Z,5.2nm,0.9s,mb4.6,baz=243,slow=5.4,SNR=23					
KURK	**Kurchatov**	**49.05**	**31**	*e*P	**P**	**15 45 15.2 +1.0**
KURK	**Kurchatov**	**49.05**	**31**⇑	*e*P	**P**	**15 45 15.2 +1.0**
LSA	**Lhasa**	**49.78**	**62**	*e*P	**P**	**15 45 21.8 +1.7**
	comp=Z,7.8nm,0.9s,mb4.7					
LSA	**Lhasa**	**49.78**	**62**	*e*P	**P**	**15 45 21.8 +1.6**
	comp=Z,7.8nm,0.9s,mb4.7					
LSA	**Lhasa**	**49.78**	**62**	*e*P	**P**	**15 45 21.8 +1.6**
LSA				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.8					
FINES	**FINESS Array B**	**49.93**	**351**	P	**P**	**15 45 19.4 -1.5**
	comp=Z,4.6nm,0.9s,mb4.5,baz=124,slow=6.9,SNR=6.4					
FINES	**FINESS Array B**	**49.93**	**351**	*i* P	**P**	**15 45 21.2 +0.4**
	comp=Z,5.0nm,0.9s,mb4.5					
FINES	**FINESS Array B**	**49.93**	**351**	*i* P	**P**	**15 45 21.2 +0.4**
FINES				pmax	pmax	
	comp=Z,5.0nm,0.9s					
KAF	**Kangasniemi**	**50.53**	**351**	*e*p	**P**	**15 45 23.6 -1.8**
	comp=Z,10nm,1.0s,mb4.7,baz=160,slow=7.3					
KAF	**Kangasniemi**	**50.53**	**351**	*e*P	**P**	**15 45 23.6 -1.8**
KAF				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.7					
JOF	**Joensuu**	**50.72**	**355**	*e*p	**P**	**15 45 23.6 -3.2**
	comp=Z,9.7nm,1.0s,mb4.7					
NB2	**NORSAR Subarra**	**52.92**	**343**	P	**P**	**15 45 41.5 -2.0**
	comp=Z,13nm,1.1s,mb4.8,baz=145,slow=7.4					
NB2	**NORSAR Subarra**	**52.92**	**343**	P	**P**	**15 45 41.5 -2.0**
NB2				pmax	pmax	
	comp=Z,13nm,1.1s,mb4.8					
NOA	**NORSAR Array B**	**52.92**	**343**	P	**P**	**15 45 41.3 -2.2**
	comp=Z,4.2nm,1.0s,mb4.3,baz=141,slow=7.5,SNR=5.5					
NVS	**Novosibirsk**	**53.75**	**29**	*e*P	**P**	**15 45 48.7 -0.9**
	comp=Z,16nm,1.7s,mb4.7					
NVS	**Novosibirsk**	**53.75**	**29**	*e*P	**P**	**15 45 48.7 -0.9**
NVS				pmax	pmax	
	comp=N,10.0nm,1.7s					
NVS				pmax	pmax	
	comp=E,7.0nm,1.7s					
NVS				pmax	pmax	
	comp=Z,16nm,1.7s,mb4.7					
ZAL	**Zalesovo**	**54.01**	**31**	P	**P**	**15 45 49.9 -1.7**
	comp=Z,2.5nm,0.9s,mb4.2,baz=237,slow=8.2,SNR=13					
ARCES	**ARCESS Array B**	**57.74**	**354**	P	**P**	**15 46 15.1 -3.1**
	comp=Z,3.2nm,0.9s,mb4.3,baz=156,slow=8.8,SNR=4.7					
GTA	**Gaotai**	**58.46**	**51**	*e*P	**P**	**15 46 23.8 +0.1**
GTA				AP	pP	15 46 28.8 +2.0
GTA				XP	sP	15 46 31.3 +3.4
GTA				AMB	AMB	
	comp=Z,7.0nm,1.4s,mb4.5					
GTA	**Gaotai**	**58.46**	**51**	*e*P	**P**	**15 46 23.8 +0.1**
	comp=Z,7.0nm,1.4s,mb4.5					
GTA				pP	pP	15 46 28.8 +2.0
GTA				sP	sP	15 46 31.3 +3.4
LZH	**Lanzhou**	**61.18**	**56**	*e*P	**P**	**15 46 43.0 +0.6**
LZH				AP	pP	15 46 51.0 +5.4
LZH				XP	sP	15 46 54.5 +7.8
LZH				AMB	AMB	
	comp=Z,34nm,1.2s,mb5.3					
LZH	**Lanzhou**	**61.18**	**56**	*e*P	**P**	**15 46 43.0 +0.6**
	comp=Z,34nm,1.2s,mb5.3					
LZH				pP	pP	15 46 51.0 +5.4
LZH				sP	sP	15 46 54.5 +7.8
LZH	**Lanzhou**	**61.18**	**56**	*e*P	**P**	**15 46 43.1 +0.7**
LZH				*PP	pP	15 46 51.1 +5.5
LZH				pmax	pmax	
	comp=Z,34nm,1.2s,mb5.3					
SONM	**Songino Array**	**64.61**	**43**	P	**P**	**15 47 04.9 -0.1**
	comp=Z,5.9nm,1.0s,mb4.6,baz=259,slow=5.9,SNR=25					
SONM				LR	LR	16 20 34.9
	comp=Z,113nm,18.2s,MS4.1,baz=356,slow=41					
BOD	**Bodaibo**	**70.66**	**33**	*e*P	**P**	**15 47 40.9 -1.8**
	comp=Z,9.0nm,1.3s,mb4.5					
BOD	**Bodaibo**	**70.66**	**33**	*e*P	**P**	**15 47 40.9 -1.8**
BOD				pmax	pmax	
	comp=Z,9.0nm,1.3s,mb4.5					
NJ2	**Nanjing**	**73.61**	**60**	*e*P	**P**	**15 48 02.0 +1.1**
NJ2				PP	PP	15 50 51.3 +4.4
NJ2				AMB	AMB	
	comp=Z,530nm,10.0s					
CN2	**Changchun**	**77.77**	**48**	*e*P	**P**	**15 48 25.0 +0.8**
CN2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.8					
CN2	**Changchun**	**77.77**	**48**	*e*P	**P**	**15 48 25.0 +0.8**
	comp=Z,10.0nm,0.8s,mb4.8					
SNAA	**Sanae**	**88.88**	**193**⇑	*e*P	**P**	**15 49 22.7 +2.3**

*IDC **26** 15:40:00.6±0.7, 16.91S×70.69W, mb4.3/9, mb1 4.5/12, mb1mx4.4/18, mbtmp4.4/12, ML4.8/2, MS4.3/11, Ms1 4.3/11, ms1mx4.2/18, Error ellipse: s-maj=15.5km s-min=13.3km az=23.0*

*NEIC **26** 15:40:08.2±1.0, 16.84S×70.47W, h51km±9km, mb4.8/7, Error ellipse: s-maj=13.5km s-min=9.0km az=51.0*

NEIC Felt [II] at Arequipa.

ISC 26 15:40:07.3±1.0, 16.88S±0.06×70.49W±0.07, h63km±10km, n57, σ1§08/47, mb4.5/15, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.34**	**76**	Pn		**P**		**15 40 44.8**	**+0.5**
	99nm,0.3s,baz=255,slow=15,SNR=1492								
LPAZ				Sn		**S**		**15 41 17.1**	**+5.3**
	45nm,0.3s,baz=146,slow=21,SNR=2.7								
LPAZ				Lg				15 41 23.4	
	21nm,0.3s,slow=19,SNR=2.2								
LPAZ				LR		LR		15 41 53.6	
	comp=Z,11μm,20.4s,baz=39,slow=45								
LPAZ	**La Paz**	**2.34**	**76**	*i* Pn		**P**		**15 40 44.8**	**+0.5**
LPAZ				*e*Sn		**S**		**15 41 19.6**	**+7.8**
LPAZ				Lg				15 41 23.4	
LPAZ				LR		LR		15 41 53.6	
LVC	**Limon Verde**	**5.89**	**166**	Pn		**P**		**15 41 31.8**	**-2.1**
	5.8nm,0.3s,baz=329,slow=9.6,SNR=49								
LVC				Sn		**S**		**15 42 49.0**	**+8.1**
	3.2nm,0.3s,baz=134,slow=20,SNR=2.2								
LVC				Lg				15 43 06.7	
	11nm,0.3s,baz=233,slow=20,SNR=3.9								
LVC	**Limon Verde**	**5.89**	**166**	*e*Pn		**P**		**15 41 33.6**	**-0.3**
LVC				Lg				15 43 06.7	
CEN1	**Los Morros**	**6.48**	**178**	*e*P		**P**		**15 41 37.8**	**-4.3**
NNA	**Nana**	**7.84**	**308**	*e*Pn		**P**		**15 41 59.9**	**-1.1**
	35nm,0.8s								
NNA				*e*Sn		**S**		**15 43 30.7**	**+1.5**
SIV	**San Ignacio**	**9.08**	**86**	Pn		**P**		**15 42 13.6**	**-4.4**
	2.1nm,0.3s,baz=278,slow=11,SNR=50								
SIV				Sn		**S**		**15 44 06.0**	**+6.3**
	0.6nm,0.3s,baz=288,slow=20,SNR=2.6								
SIV				Lg				15 44 52.1	
	2.2nm,0.3s,baz=322,slow=22,SNR=3.2								
CFAA	**Coronel Fontan**	**14.80**	**172**	Pn		**P**		**15 43 29.7**	**-4.7**
	0.0nm,0.3s,baz=351,slow=12,SNR=15								
CFAA				LR		LR		15 49 27.3	
	comp=Z,98nm,18.6s,baz=156,slow=38								
CPUP	**Villa Florida**	**15.42**	**130**	LR		LR		15 50 43.1	
	comp=Z,2μm,18.0s,baz=335,slow=41								
CPUP	**Villa Florida**	**15.42**	**130**	*e*P		**P**		**15 43 46.5**	**+4.0**
	4.8nm,1.0s								
FCH	**Farellones**	**16.38**	**179**	*i* P		**P**		**15 43 54.3**	**-0.2**
BDFB	**Brasilia**	**21.61**	**90**	P		**P**		**15 44 54.4**	**+0.5**
	5.6nm,0.9s,mb4.0,baz=233,slow=7.3,SNR=4.7								
BDFB				LR				15 53 48.2	
	comp=Z,848nm,18.5s,baz=156,slow=38								
BAO	**Brasilia Array**	**21.64**	**90**	P		**P**		**15 44 50.0**	**-4.0**
PLCA	**Paso Flores**	**23.77**	**180**	P		**P**		**15 45 15.2**	**+0.5**
	4.8nm,0.8s,mb4.0,baz=349,slow=12,SNR=16								
PLCA				LR		LR		15 54 34.7	
	comp=Z,488nm,18.7s,baz=340,slow=37								
PLCA	**Paso Flores**	**23.77**	**180**	*e*P		**P**		**15 45 15.6**	**+0.9**
PLCA				LR		LR		15 54 34.7	
SDV	**Santo Domingo**	**25.60**	**360**	P		**P**		**15 45 32.4**	**-0.1**
	2.6nm,0.7s,mb3.9,baz=176,slow=17,SNR=6.3								
SDV	**Santo Domingo**	**25.60**	**360**	*e*P		**P**		**15 45 33.0**	**+0.4**
	3.4nm,0.7s,mb4.0								
RPN	**Rapa Nui**	**37.30**	**247**	LR		LR		15 58 23.8	
	comp=Z,14μm,21.7s,baz=352,slow=30								
TXAR	**Lajitas Array**	**56.01**	**325**	P		**P**		**15 49 41.4**	**-0.6**
	1.1nm,0.4s,mb4.2,baz=146,slow=4.5,SNR=7.2								
TXAR				LR		LR		16 12 44.0	
	comp=Z,210nm,18.4s,baz=95,slow=35								
TXAR	**Lajitas Array**	**56.01**	**325**	P		**P**		**15 49 41.4**	**-0.6**
TXAR				LR		LR		16 12 44.0	
FVM	**French Village**	**57.70**	**341**	*e*P		**P**		**15 49 52.0**	**-1.9**
	39nm,0.9s,mb5.4								
CCM	**Cathedral Cave**	**58.02**	**341**	*e*P		**P**		**15 49 53.9**	**-2.2**
	15nm,0.9s,mb5.0								
MNTX	**Cornudas Mount**	**58.77**	**325**	*e*P		**P**		**15 50 00.1**	**-1.2**
	6.9nm,1.2s,mb4.6								
RKT	**Rikitea**	**60.50**	**253**	*e*S		**S**		**15 58 22.1**	**-0.2**
RKT				*e*LR		LR		16 07 59.5	
	396nm,30.5s								
ANMO	**Albuquerque**	**61.84**	**327**	*e*P		**P**		**15 50 22.6**	**+0.3**
	8.5nm,1.1s,mb4.8								
SDCO	**Great Sand Dun**	**63.53**	**329**	*e*P		**P**		**15 50 33.8**	**+0.3**
	16nm,1.2s,mb4.9								
VNA3	**Neumayer Olymp**	**64.91**	**162**	P		**P**		**15 50 42.0**	**+0.1**
VNA3	**Neumayer Olymp**	**64.91**	**162**			**P**		**15 50 46.1**	**+4.2**
VNA2	**Neumayer--Watz**	**65.48**	**161**	P		**P**		**15 50 45.7**	**+0.1**
VNA2	**Neumayer--Watz**	**65.48**	**161**			**P**		**15 50 49.4**	**+3.8**
VNA2	**Neumayer--Watz**	**65.48**	**161**			**P**		**15 51 03.9**	**+18**
NEN	**Nelson**	**67.04**	**322**	*e*P		**P**		**15 50 57.0**	**+1.0**
SNAA	**Sanae**	**67.11**	**161**	P		**P**		**15 50 55.1**	**-0.8**
SNAA	**Sanae**	**67.11**	**161**			**P**		**15 51 02.8**	**+6.9**
MSU	**Marysvale**	**67.54**	**326**	*e*P		**P**		**15 51 00.3**	**+1.2**
ARUT	**Antelope Range**	**67.72**	**324**	*e*P		**P**		**15 51 02.2**	**+2.0**
DBIC	**Dimbokro**	**68.96**	**76**	P		**P**		**15 51 08.2**	**-0.1**
	13nm,1.1s,mb4.8,baz=223,slow=4.3,SNR=4.7								
DBIC				LR		LR		16 19 15.1	
	comp=Z,471nm,20.2s,baz=224,slow=34								
PDAR	**Pinedale Array**	**69.38**	**330**	P		**P**		**15 51 10.3**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=153,slow=3.3,SNR=9.8								
PDAR				LR		LR		16 24 34.4	
	comp=Z,152nm,18.1s,baz=343,slow=39								
ULM	**Lac du Bonnet**	**70.48**	**343**	P		**P**		**15 51 15.5**	**-1.5**
	8.7nm,0.8s,mb4.7,baz=155,slow=6.4,SNR=9.7								
ULM				LR		LR		16 24 44.0	
	comp=Z,173nm,19.9s,baz=163,slow=38								
RRI2	**Red Ridge**	**70.66**	**330**	*e*P		**P**		**15 51 19.1**	**+0.9**
	9.2nm,0.8s,mb4.8								
TBI	**Tubuai**	**73.61**	**250**	*e*S		S		16 01 00.7	+0.6
TBI				*e*LR		LR		16 14 05.9	
	415nm,32.5s,baz=115								
PPT	**Papeete**	**74.96**	**256**	*e*S		S		16 01 15.8	+0.7
PPT				*e*LR		LR		16 14 32.8	
	285nm,32.8s								
PPT	**Papeete**	**74.96**	**256**	LR		LR		16 15 32.1	
	comp=Z,122nm,18.1s,baz=346,slow=28								
EDM	**Edmonton**	**78.96**	**335**	*e*P		**P**		**15 52 05.4**	**-0.3**
YKA	**Yellowknife Ar**	**86.36**	**341**	P		**P**		**15 52 43.2**	**-0.1**
	1.9nm,0.7s,mb4.5,baz=150,slow=5.1,SNR=4.1								
YKA				LR		LR		16 34 57.7	
	comp=Z,140nm,18.5s,baz=180,slow=38								
YKA	**Yellowknife Ar**	**86.36**	**341**	P		**P**		**15 52 43.2**	**-0.1**
YKA				LR		LR		16 34 57.7	
MAW	**Mawson**	**89.16**	**164**	P		**P**		**15 52 57.6**	**+0.9**
	3.0nm,0.7s,mb4.8,baz=197,slow=8.0,SNR=5.8								
MAW				LR		LR		16 31 49.9	
	comp=Z,162nm,20.1s,baz=56,slow=35								
WRA	**Warramunga Arr**	**136.02**	**215**	PKP			PKPdf	15 59 24.8	+2.7
	1.0nm,0.9s,baz=146,slow=1.8,SNR=8.9								
ZAL	**Zalesovo**	**138.33**	**22**	PKP			PKPdf	15 59 27.3	+1.9
	2.1nm,0.6s,baz=208,slow=0.3,SNR=12								
ZAL	**Zalesovo**	**138.33**	**22**	PKP			PKPdf	15 59 27.3	+1.8
MKAR	**Makanchi Array**	**142.63**	**31**	PKP			PKPdf	15 59 36.5	+3.3
	1.0nm,0.6s,baz=333,slow=2.7,SNR=7.1								
MJAR	**Matsushiro Arr**	**147.93**	**313**	PKPbc			PKPdf	15 59 48.4	+5.8
	13nm,1.0s,baz=109,slow=1.2,SNR=14								
MJAR	**Matsushiro Arr**	**147.93**	**313**	PKPbc			PKPdf	15 59 48.4	+5.8
MAJO	**Matsushiro**	**147.93**	**313**	*e*PKPdf			PKPdf	15 59 48.5	+6.0
MAT	**Matsushiro**	**147.93**	**313**	PKP			PKPdf	15 59 48.4	+5.8
MAT	**Matsushiro**	**147.93**	**313**	*e*PKP			PKPdf	15 59 48.0	+5.4
SONM	**Songino Array**	**149.03**	**4**	PKPbc			PKPdf	15 59 50.7	+6.8
	9.3nm,1.1s,baz=322,slow=1.7,SNR=38								

*NEIC **26** 16:14:04.9, 34.88S×70.19W, h14km, ML3.0(GUC), After GUC.*

GUC 26 16:14:04.9±0.8, 34.88S×70.19W, h14km±4km, MD3.9, ML3.0, 8C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.59**	**341**⇓	*i*P		P	Pb	16 14 16.1	-0.4
CICH				*i* S		Sb	Sb	16 14 24.5	+0.1
SFDO	**San Fernando**	**0.73**	**291**⇓	*i*P		P	Pb	16 14 18.8	+0.1
CACH	**El Canelo**	**0.83**	**336**⇑	*i*P		P	Pb	16 14 20.1	-0.5
CACH				*i* S		Sb	Sb	16 14 31.9	+0.6
NICH	**Los Niches**	**0.86**	**262**	*i* P		P	Pb	16 14 20.9	-0.2
NICH				*i* S		Sb	Sb	16 14 32.7	+0.5
CHCH	**Chadas Angostu**	**1.02**	**338**⇓	*i*P		P	Pb	16 14 23.8	0.0
CHCH				*i* S		Sb	Sb	16 14 37.8	+1.0
PCH	**Pirque**	**1.28**	**348**⇓	*i*P		P	Pb	16 14 28.4	+0.1
PCH				*i* S		Sb	Sb	16 14 46.7	+2.2
ANTU	**Antumapu**	**1.36**	**344**⇓	*i*P		P	Pn	16 14 30.1	+0.6
ANTU				*i* S		Sb	Sb	16 14 48.8	+2.2
ANTU				AMP				16 14 52.1	
	comp=N,397nm,0.5s								
LNV	**Longovilo**	**1.37**	**312**⇑	*i*P		P	Pn	16 14 29.5	-0.1
LNV				*e*				16 14 30.0	
LNV				*i* S		Sb	Sb	16 14 48.1	+1.3
LNV	**Longovilo**	**1.37**	**312**⇑	*i*P		P	Pn	16 14 29.5	-0.1
LNV				*i* S		Sb	Sb	16 14 48.1	+1.3
TACH	**Talagante**	**1.37**	**333**⇓	*i*P		P	Pn	16 14 29.8	+0.1
TACH				*i* S		Sb	Sb	16 14 49.0	+1.9
RCDM	**Rinconada Maip**	**1.48**	**340**⇓	*i*P		P	Pn	16 14 31.7	+0.5
RCDM				*i* S		Sb	Sb	16 14 51.8	+1.7
RCDM				AMP				16 14 52.7	
	comp=E,417nm,0.1s								
CLCH	**Cerro Calan**	**1.51**	**349**⇑	*i*P		P	Pn	16 14 32.4	+0.7
CLCH				*i* S		Sb	Sb	16 14 53.4	+2.4
CLCH				AMP				16 14 57.9	
	comp=E,837nm,0.7s								
FCH	**Farellones**	**1.55**	**357**⇑	*i*P		P	Pn	16 14 33.3	+1.0
FCH				⇑*i*P				16 14 33.3	
FCH				*i* S		Sb	Sb	16 14 54.6	+2.4
FCH				*i* S		Sb	Sb	16 14 55.9	+3.7
FCH				AMP				16 14 57.9	
	comp=N,255nm,0.3s								
FCH	**Farellones**	**1.55**	**357**⇑	*i*P		P	Pn	16 14 33.3	+1.1
FCH				*i* S		Sb	Sb	16 14 55.9	+3.7
PEL	**Peldehue**	**1.78**	**347**	*i* S		Sb	Sb	16 15 01.9	+3.8
LCCH	**Las Cruces**	**1.81**	**320**⇑	*i*P		P	Pn	16 14 37.1	+1.2
LCCH				*i* S		Sb	Sb	16 15 01.2	+2.5
JACH	**Jahuel**	**2.22**	**351**	*i* P		P	Pn	16 14 44.9	+3.1
JACH				*i* S		Sb	Sb	16 15 14.7	+5.5

DHMR 26 16:35:23.3±1.4, 12.65N×40.37E, h12km±182km, ML4.0, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.69**	**81**	*e*P		P	Pn	16 36 22.8	+1.3
TRBA				*i* S		Sn	Sn	16 37 08.7	+3.3
TRBA				AML		AML	AML	16 37 20.0	
	comp=N,571nm,0.6s								
UDYN	**Al 'Udayn**	**3.74**	**69**	*i* S		Sn	Sn	16 37 10.7	+4.2
UDYN				AML		AML	AML	16 37 29.0	
	comp=Z,543nm,0.7s								
DHBB	**Dhamar BB**	**4.35**	**63**⇓	*i*P		P	Pn	16 36 31.9	+1.1
DHBB				*i* S		Sn	Sn	16 37 25.0	+3.0
LBOS		**4.90**	**75**	*i* P		P	Pn	16 36 37.4	-1.2
LBOS				*i* S		Sn	Sn	16 37 35.5	-0.4
BDHA	**Al Bayda'**	**5.23**	**75**	*i* S		Sn	Sn	16 37 43.4	-0.7

*NNC **26** 16:40:52.9±3.6, 38.26N×69.48E, mpv5.5, Error ellipse: s-maj=33.1km s-min=22.4km az=14.0*

*BJI **26** 16:41:01.9, 38.77N×69.96E, h1km, mB5.3, mb5.3, ML5.8, Ms5.0, Msz4.7*

*MOS **26** 16:41:02.4±1.1, 38.75N×69.98E, h35km, mb5.4/93, MS4.5/31, Error ellipse: s-maj=5.5km s-min=3.0km az=133.7*

*BGS **26** 16:41:04.4±2.8, 38.63N×69.95E, h44km, mb5.4*

*IDC **26** 16:41:04.5±2.4, 38.63N×69.97E, h40km±19km, mb4.8/26, mb1 4.9/29, mb1mx4.9/29, mbtmp5.0/29, ML4.6/1, MS4.3/20, Ms1 4.4/20, ms1mx4.3/27, Error ellipse: s-maj=17.4km s-min=11.0km az=175.0*

*NEIC **26** 16:41:04.8±0.8, 38.63N×69.95E, h44km±6km, mb5.3/133, MS4.5/7, Error ellipse: s-maj=5.4km s-min=2.6km az=187.0*

NEIC Felt at Dushanbe. Also felt at Tashkent, Uzbekistan.

*HRVD **26** 16:41:04.8±0.6, 38.59N×69.60E, h12km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s13,c18;Mantle waves: s47,c75; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.75±.29; $M_{\theta\theta}$1.50±.26; $M_{\phi\phi}$2.24±.25; $M_{r\theta}$-0.90±.98; $M_{r\phi}$2.28±.20; $M_{\theta\phi}$-0.27±.84; Best double couple: M_{o}4.08×10^{16} NP1:φs212°,δ40°, λ-103°. NP2:φs49°,δ51°,λ

comp=Z,149nm,0.8s
MKAR Makanchi Array 12.27 44 Pn **P** **16 43 55.0 -1.7**
comp=Z,3.8nm,0.3s,baz=227,slow=13,SNR=153
MKAR Lg 16 47 21.4
comp=Z,2.2nm,0.3s,baz=242,slow=26,SNR=3.3
PTH Pithoragarh 12.36 133 *e*P **P** **16 44 00.0 +2.0**
PTH *ex* x 16 46 12.0
AJM Ajmer 12.65 160 *e*P **P** **16 43 58.1 -3.9**
AJM AMb AMB 16 44 12.2
comp=Z,156nm,0.9s
AJM *e*S **S** **16 46 15.1 -7.7**
AB31 Akbulak array 12.90 329 ⇓Pn **P** **16 44 00.7 -4.4**
comp=Z,90nm,0.5s,baz=147,slow=12,SNR=1395
AB31 ⇑Sn **S** **16 46 20.9 -7.7**
comp=Z,314nm,0.8s,baz=150,slow=22,SNR=9.0
AB31 Akbulak array 12.90 329 ⇓Pn **P** **16 44 00.7 -4.4**
comp=Z,90nm,0.5s
AB31 Sn **S** **16 46 20.9 -7.7**
AB31 Akbulak array 12.90 329 ⇓P **P** **16 44 00.7 -4.5**
AB31 16 46 20.9
AB31 pmax pmax
comp=Z,90nm,0.5s
AGRA Agra 13.12 147 *e*P **P** **16 44 05.4 -2.7**
AGRA AMb AMB 16 44 24.3
comp=Z,196nm,1.3s
KURK Kurchatov 13.65 24 ⇑Pn **P** **16 44 10.6 -4.3**
comp=Z,40nm,1.2s
KURK ⇑Lg 16 48 18.1
comp=Z,476nm,1.4s
VOSK Vostochnaya 14.21 3 ⇓Pn **P** **16 44 17.7 -4.6**
comp=Z,83nm,0.9s
VOSK ⇓Sn **S** **16 47 00.3 +0.6**
comp=Z,78nm,0.8s
VOSK Vostochnaya 14.21 3 ⇓P **P** **16 44 17.7 -4.6**
VOSK 16 47 00.3
VOSK pmax pmax
comp=Z,83nm,0.9s
WMQ Urumqi 14.37 63 ⇓*i*P **P** **16 44 24.3 -0.2**
WMQ AP 16 44 31.5
WMQ XP 16 44 36.5
WMQ PPP PPP 16 44 43.0 +0.4
WMQ S **S** **16 47 03.0 -0.6**
WMQ XS 16 47 14.0
WMQ AMB AMB
comp=Z,189nm,1.0s
WMQ AMB AMB
comp=Z,353nm,3.6s
WMQ LR LR
comp=N,6μm,12.7s
WMQ LR LR
comp=E,5μm,11.0s
WMQ LR LR
comp=Z,3μm,18.0s
BVA0 Borovoye Array 14.50 1 Pn **P** **16 44 22.4 -3.6**
comp=Z,14nm,0.7s,baz=175,slow=12,SNR=345
BVA0 ⇑Sn **S** **16 47 06.1 -0.4**
comp=Z,20nm,0.8s,baz=98,slow=67,SNR=2.5
BVA0 ⇓Lg 16 48 39.8
comp=Z,67nm,1.2s,baz=182,slow=24,SNR=4.0
BVA0 Borovoye Array 14.50 1 Pn **P** **16 44 22.4 -3.7**
comp=Z,14nm,0.7s
BVA0 Sn **S** **16 47 06.1 -0.4**
BVA0 Lg 16 48 39.8
BVAR Borovoye Array 14.50 1 Pn **P** **16 44 22.5 -3.6**
comp=Z,8.2nm,0.3s,baz=169,slow=12,SNR=107
BVAR Sn **S** **16 47 00.6 -5.9**
comp=Z,5.7nm,0.3s,baz=180,slow=19,SNR=4.1
BVAR Lg 16 48 36.5
comp=Z,2.0nm,0.3s,baz=162,slow=27,SNR=3.2
BRVK Borovoye 14.53 1 *e*Pn **P** **16 44 22.9 -3.5**
comp=Z,232nm,1.3s
BRVK *e*Sn **S** **16 46 59.8 -7.4**
BRVK Borovoye 14.53 1 *e*P **P** **16 44 22.9 -3.6**
BRVK *e* 16 46 59.8
BRVK pmax pmax
comp=Z,232nm,1.3s
AKTK Aktyubinsk 14.60 328 ⇓Pn **P** **16 44 25.7 -1.7**
AKTK Sn **S** **16 47 03.6 -5.4**
AKTO Aktyubinsk 14.60 328 ⇓Pn **P** **16 44 25.7 -1.7**
comp=Z,57nm,0.9s
AKTO ⇓Sn **S** **16 47 03.6 -5.4**
comp=Z,100nm,1.1s
CHKZ Chkalovo 15.15 2 Pn **P** **16 44 34.0 -0.6**
CHKZ Sn **S** **16 47 21.4 -0.5**
CHKZ Chkalovo 15.15 2 Pn **P** **16 44 34.0 -0.6**
CHKZ Sn **S** **16 47 21.4 -0.5**
BHUJ Bhuj 15.23 181 *e*P **P** **16 44 32.2 -3.6**
BHUJ AMb AMB 16 44 56.9
comp=Z,257nm,1.8s
KOLN Koldanda 15.67 129 *e*P **P** **16 44 37.0 -4.5**
comp=Z,712nm,1.0s
GKN Gorkha 16.15 126 *e*P **P** **16 44 42.8 -4.8**
comp=Z,2μm,1.0s
BHPL Bhopal 16.53 155 *e*P **P** **16 44 55.9 +3.4**
KKN Kakani 16.70 125 *e*P **P** **16 44 49.7 -4.9**
comp=Z,724nm,0.9s
DMN Daman 16.72 126 *e*P **P** **16 44 50.5 -4.3**
comp=Z,2μm,1.1s
PKI Pulchoki 16.94 126 *e*P **P** **16 44 52.8 -4.8**
BANOM Banah 17.04 226 ⇑P **P** **16 45 00.1 +1.3**
SNR=13
MAK Makhachkala 17.55 292 P **P** **16 45 12.0 +6.9**
MAK *e*S **S** **16 48 25.0 +7.7**
MAK smax
comp=E,2μm,8.0s
MAK MLR MLR
comp=E,8μm,13.0s
MAK MLR MLR
comp=Z,12μm,12.0s
MAK MLR MLR
comp=N,7μm,13.0s
BIDO Bidbid 18.04 217 ⇑P **P** **16 45 09.5 -1.9**
ASHO Ashiyiah 18.14 224 ⇑P **P** **16 45 13.7 +1.0**
SNR=16
HOQ Hoqain 18.38 219 ⇓P **P** **16 45 13.6 -2.0**
WBK Wadi Bani Khal 18.44 214 ⇑P **P** **16 45 11.7 -4.7**
SMDO Samad 18.47 217 ⇓P **P** **16 45 11.5 -5.2**
NVS Novosibirsk 18.64 25 ⇑*i*P **P** **16 45 15.2 -3.2**
NVS *e*S **S** **16 48 42.0 +0.2**
NVS pmax pmax
comp=N,158nm,1.3s
NVS pmax pmax
comp=E,67nm,1.3s
NVS pmax pmax
comp=Z,177nm,1.3s
NVS smax
comp=N,288nm,1.7s
NVS smax
comp=E,45nm,1.7s
AKL Akola 18.79 159 *ex* x 16 45 16.6
AKL *ex* x 16 48 36.0
ARQ Araqi 18.99 221 ⇓P **P** **16 45 22.2 -0.6**
DGRG David-gareji 19.03 287 P **P** **16 45 21.2 -2.0**
BLSP Bilaspur 19.41 144 *e*P **P** **16 45 26.4 -1.4**
BLSP AMb AMB 16 45 30.2
comp=Z,147nm,0.9s
BLSP *ex* x 16 48 55.4
ARU Arti 19.44 341 ⇓*e*Pn **P** **16 45 25.1 -2.7**
comp=Z,72nm,0.7s
ARU *e*Sn **S** **16 49 05.3 +5.5**
ARU Arti 19.44 341 ⇓*i*P **P** **16 45 25.2 -2.6**
ARU *e*S **S** **16 49 02.6 +2.7**
ARU pmax pmax
comp=Z,122nm,1.0s
ARU MLR MLR
comp=N,2μm,15.0s
ARU MLR MLR
comp=E,1μm,15.0s
ARU MLR MLR
comp=Z,3μm,15.0s
MTA Mtatsminda 19.47 287 P **P** **16 45 27.4 -0.9**
MTA S **S** **16 49 02.8 +2.2**
TI2 Plekhanov 19.50 287 ⇓*i*P **P** **16 45 29.6 +0.9**
TBLG Delisi 19.51 287 P **P** **16 45 27.2 -1.6**
TBLG S S 16 49 29.7 +28
TBLG Delisi 19.51 287 P **P** **16 45 28.9 +0.1**
GNI Garni 19.54 283 P **P** **16 45 29.6 +0.5**
comp=Z,1.5nm,0.3s,baz=55,slow=3.4,SNR=32
GNI LR LR 16 54 40.8
comp=Z,826nm,20.8s,baz=95,slow=42
GNI Garni 19.54 283 *e*P **P** **16 45 29.8 +0.7**
comp=Z,162nm,0.9s
GNI Garni 19.54 283 *e*P **P** **16 45 29.8 +0.7**
GNI pmax pmax
comp=Z,162nm,0.9s

LSA Lhasa 19.62 110 P **P** **16 45 28.8 -1.2**
LSA AP 16 45 36.5
LSA XP 16 45 40.5
LSA S **S** **16 49 12.8 +8.9**
LSA AMB AMB
comp=Z,160nm,1.1s
LSA AMB AMB
comp=Z,680nm,6.5s
LSA LR LR
comp=N,3μm,13.1s
LSA LR LR
comp=E,3μm,9.7s
LSA LR LR
comp=Z,5μm,9.9s
LSA Lhasa 19.62 110 *e*P **P** **16 45 30.1 0.0**
comp=Z,137nm,0.9s
LSA Lhasa 19.62 110 *e*P **P** **16 45 30.1 +0.1**
LSA pmax pmax
comp=Z,137nm,0.9s
BOK Bokaro 20.01 133 *e*P **P** **16 45 32.8 -1.4**
BOK AMb AMB 16 45 40.1
comp=Z,480nm,0.8s
ZEI Tsey 20.17 290 *e*P **P** **16 45 32.9 -2.9**
ZEI *i* 16 45 49.8
ZEI pmax pmax
comp=Z,60nm,0.7s
BKR Bakuriani 20.43 287 P **P** **16 45 38.9 +0.3**
AKH Akhalkalaki 20.44 286 P **P** **16 45 40.6 +1.9**
ONI Oni 20.49 290 P **P** **16 45 40.1 +1.0**
ONI S **S** **16 49 29.7 +7.9**
KBD Kabd 20.65 250 *e*P **P** **16 45 40.1 -0.9**
KBD AMb AMB 16 45 47.3
comp=Z,576nm,0.7s
HAKT HAKKARI 20.66 275 *i*P **P** **16 45 41.2 +0.3**
RDF Al-Radifah 20.89 249 *e*P **P** **16 45 42.8 -0.6**
RDF AMb AMB 16 45 47.3
comp=Z,193nm,0.9s
NAY Al-Naaiem 20.95 251 *e*P **P** **16 45 43.4 -0.6**
NAY AMb AMB 16 45 47.0
comp=Z,225nm,0.9s
KIV Kislovodsk 21.14 294 *e*P **P** **16 45 44.4 -1.4**
comp=Z,135nm,0.8s,mb5.3
KIV Kislovodsk 21.14 294 *e*P **P** **16 45 44.4 -1.4**
KIV pmax pmax
comp=Z,135nm,0.8s,mb5.3
BHD Baghdad 21.33 264 *ex* x 16 45 46.0
BHD *ex* x 16 49 45.0
MSL Mosul 21.42 272 *ex* x 16 46 07.0
MSL *ex* x 16 50 12.0
ARTV Artvin 21.63 286 *i*P **P** **16 45 50.8 +0.1**
HASS Wahat al Ahsa' 21.68 238 P **P** **16 45 50.1 -1.2**
ERZM Erzurum 22.14 283 *i*P **P** **16 45 57.5 +1.6**
HYB Hyderabad 22.35 158 *i*P **P** **16 45 58.0 0.0**
comp=Z,160nm,1.0s,mb5.4
HYB *e* 16 46 10.5
HYB *e*S **S** **16 50 03.0 +6.1**
HYB LR LR 16 54 44.0
comp=Z,5.4nm,16.0s
HYB Hyderabad 22.35 158 *e*P **P** **16 45 58.0 0.0**
comp=Z,160nm,1.0s,mb5.4
HYB *e*S **S** **16 50 03.0 +6.1**
HYB Hyderabad 22.35 158 *e*P **P** **16 45 58.0 0.0**
HYB *e*S **S** **16 50 03.0 +6.1**
HYB pmax pmax
comp=Z,160nm,1.0s,mb5.4
BNGL BINGOL 22.42 280 *i*P **P** **16 45 58.5 -0.2**
BEST Besiri 22.50 277 *i*P **P** **16 46 01.3 +1.9**
SHL Shillong 22.59 118 *e*P **P** **16 45 59.0 -1.4**
SHL *ex* x 16 50 03.0
SOKR Solikamsk 22.66 343*c i*P **P** **16 46 01.1 +0.3**
SOKR pmax pmax
comp=Z,240nm,1.4s,mb5.4
SOKR MLR MLR
comp=Z,3μm,14.0s,MS4.9
MARD Mardin 23.00 276 *i*P **P** **16 46 07.1 +2.8**
GTA Gaotai 23.20 78 ⇓P **P** **16 46 07.5 +1.3**
GTA AP 16 46 16.5
GTA XP 16 46 21.8
GTA S **S** **16 50 20.5 +8.6**
GTA AMB AMB
comp=Z,33nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,879nm,6.1s
GTA LR LR
comp=N,2μm,14.4s,MS4.8
GTA LR LR
comp=E,2μm,11.0s,MS4.8
GTA LR LR
comp=Z,1μm,13.3s,MS4.6
SOC Sochi 23.27 292 *i*P **P** **16 46 08.3 +1.5**
SOC *e* 16 46 31.9
SOC *i*S **S** **16 50 19.0 +6.0**
SOC *e*SS SS 16 50 56.3 -3.5
SOC *e*SSS SSS 16 51 12.3 -3.4
SOC pmax pmax
comp=Z,128nm,1.1s,mb5.3
SOC pmax pmax
comp=N,74nm,1.2s
SOC pmax pmax
comp=E,67nm,1.1s
SOC MLR MLR
comp=N,1μm,15.0s,MS4.5
SOC MLR MLR
comp=E,984nm,15.0s,MS4.5
SOC MLR MLR
comp=Z,1μm,15.0s,MS4.5
VRHR Novokhopersk 23.52 311 *e*P **P** **16 46 08.8 -0.4**
VRHR *e**PP 16 46 15.0
VRHR *e*S **S** **16 50 22.1 +4.7**
VRHR pmax pmax
comp=Z,390nm,0.9s,mb5.8
VRHR pmax pmax
comp=N,250nm,0.7s
VRHR pmax pmax
comp=E,700nm,0.9s
VRHR smax
comp=E,920nm,17.5s
VRHR smax
comp=Z,620nm,8.4s
VRHR smax
comp=N,370nm,10.0s
VRHR MLR MLR
comp=Z,2μm,12.0s,MS4.7
VRHR MLR MLR
comp=N,1μm,11.0s,MS4.8
VRHR MLR MLR
comp=E,2μm,15.0s,MS4.8
VIS Vishakhapatnam 23.81 147 *e*P **P** **16 46 12.9 +0.6**
VIS AMb AMB 16 46 22.5
comp=Z,119nm,1.4s,mb5.1
SHAQ Shalim 23.95 215 ⇓P **P** **16 46 10.6 -3.1**
ELZG Elazig 24.16 280 *i*P **P** **16 46 16.7 +1.1**
RYDS Riyadh 24.41 241 P **P** **16 46 18.2 +0.1**
MALT Malatya 24.63 279 *e*P **P** **16 46 22.2 +2.1**
comp=Z,34nm,1.0s,mb4.8
MALT Malatya 24.63 279 *e*P **P** **16 46 22.2 +2.1**
MALT pmax pmax
comp=Z,34nm,1.0s,mb4.8
PECR Pechory 24.71 324 *i*P **P** **16 46 20.7 0.0**
PECR pmax pmax
comp=Z,600nm,1.4s,mb5.9
PECR MLR MLR
comp=Z,1μm,16.0s,MS4.5
PECR MLR MLR
comp=E,1μm,14.0s
VORD Divnogorie 24.86 310 *e*P **P** **16 46 20.6 -1.6**
VORD pmax pmax
comp=Z,70nm,1.0s,mb5.2
VORD pmax pmax
comp=E,150nm,1.2s
VORD MLR MLR
comp=Z,960nm,9.0s
VORD MLR MLR
comp=E,870nm,10.0s
WHFO Wadi Hawf 24.92 219 ⇓P **P** **16 46 23.1 0.0**
SNR=18
ANN Anapa 24.96 295 *e*P **P** **16 46 22.1 -1.1**
ANN Anapa 24.96 295 *e*P **P** **16 46 22.2 -1.0**
ANN *e* 16 46 58.4
ANN *e*S **S** **16 50 45.6 +3.6**
ANN *e*SS SS 16 51 35.7 -5.8
ANN *e*SSS SSS 16 51 56.2 -1.8
ANN pmax pmax
comp=Z,107nm,1.0s,mb5.3
ANN MLR MLR
comp=N,1μm,17.0s,MS4.7
ANN MLR MLR
comp=E,2μm,17.0s,MS4.7
ANN MLR MLR
comp=Z,2μm,17.0s,MS4.6
RBK Rabkut 25.06 218 ⇑P **P** **16 46 24.2 -0.3**
VOR Voronezh 25.17 312 *e*P **P** **16 46 24.5 -0.6**
VOR pmax pmax
comp=N,150nm,1.3s
VOR pmax pmax
comp=E,170nm,1.3s
VOR pmax pmax
comp=Z,190nm,1.3s,mb5.5
MOY Mondy 25.34 49 *e*P **P** **16 46 28.0 +1.3**
MOY pmax pmax
comp=Z,116nm,1.7s,mb5.1
GZT Gaziantep 25.49 278 *i*P **P** **16 46 27.2 -1.0**
MZLS Mizel 25.50 243 P **P** **16 46 28.9 +0.4**
ABTO Aybut 25.63 219 ⇑P **P** **16 46 29.6 -0.1**
SNR=26
KAHT Ahir Dag 25.97 278 *i*P **P** **16 46 32.0 -0.7**
HILS Ha'il 26.00 253 P **P** **16 46 34.2 +1.0**
ZAK Zakamensk 26.36 52 ⇓*i*P **P** **16 46 36.9 +0.7**
ZAK *e* 16 47 22.4
ZAK *e* 16 50 02.0
ZAK pmax pmax
comp=Z,89nm,0.9s,mb5.3
ZAK pmax pmax
comp=Z,17nm,0.9s,mb4.6
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
BOYT Boyabat 26.89 287 *i*P **P** **16 46 33.9 -7.2**
LZH Lanzhou 27.00 85 ⇓P **P** **16 46 43.5 +1.3**
LZH AMB AMB
comp=Z,97nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,556nm,6.3s
LZH LR LR
comp=N,2μm,11.4s
LZH LR LR
comp=Z,3μm,12.0s,MS5.1
LZH Lanzhou 27.00 85 ⇓P **P** **16 46 43.4 +1.2**
LZH *PP pP 16 46 58.7 +7.4
LZH 16 47 45.5
LZH pmax pmax
comp=Z,97nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,3μm,12.0s,MS5.1
AFFS 'Afif 27.12 245 P **P** **16 46 43.6 +0.1**
SIM Simferopol' 27.33 295 *e*P **P** **16 46 46.0 +0.9**
SIM pmax pmax
comp=Z,113nm,1.6s,mb5.2
SIM MLR MLR
comp=Z,620nm,15.0s,MS4.3
IRK Irkutsk 27.44 49 *e*P **P** **16 46 45.9 -0.2**
IRK *e* 16 47 46.8
IRK pmax pmax
comp=Z,77nm,2.0s,mb4.9
MOS Moscow 27.56 319 *e*P **P** **16 46 44.8 -2.3**
MOS *e*PPP PPP 16 47 40.2 -7.3
MOS *e*S **S** **16 51 25.2 +0.6**
MOS *e*SSS SSS 16 52 52.2 -10
MOS pmax pmax
comp=Z,200nm,1.2s,mb5.6
MOS pmax pmax
comp=Z,110nm,1.0s,mb5.4
QURS Qurayyt al Mil 27.56 265 P **P** **16 46 48.9 +1.6**
ASF Jabal al Asfar 27.59 267 P **P** **16 46 49.4 +1.9**
comp=Z,7.4nm,0.9s,mb4.3,baz=315,slow=4.6,SNR=14
OBN Obninsk 27.86 317 *e*P **P** **16 46 48.8 -1.0**
comp=Z,77nm,0.7s,mb5.4
OBN Obninsk 27.86 317*d i*P **P** **16 46 48.6 -1.2**
OBN *i* 16 50 04.4
OBN pmax pmax
comp=Z,160nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,500nm,13.0s,MS4.3
SONM Songino Array 27.94 59 P **P** **16 46 51.0 +0.3**
comp=Z,9.5nm,0.8s,mb4.5,baz=260,slow=8.9,SNR=37
SONM PcP PcP 16 50 05.7 -0.1
comp=Z,5.9nm,0.8s,baz=208,slow=2.0,SNR=5.0
SONM LR LR 16 58 44.3
comp=Z,791nm,18.8s,MS4.3,baz=267,slow=38
BR131 Keskin Array S 28.07 284 *e*P **P** **16 46 51.9 +0.1**
comp=Z,39nm,1.2s,mb4.9
BRTR Keskin Array B 28.07 284 P **P** **16 46 52.1 +0.3**
comp=Z,20nm,1.1s,mb4.7,baz=104,slow=7.9,SNR=18
KSDI Kefar Szold 28.18 270 P **P** **16 46 55.1 +2.2**
KAMS Al Khamasin 28.45 238 P **P** **16 46 55.0 -0.4**
ANTO Ankara 28.68 284 *e*P **P** **16 47 00.8 +3.4**
comp=Z,82nm,1.4s,mb5.3
ANTO Ankara 28.68 284 *e*P **P** **16 47 00.8 +3.4**
ANTO pmax pmax
comp=Z,82nm,1.4s,mb5.3
CD2 Chengdu 28.70 95 ⇓*i*P **P** **16 46 58.8 +1.1**
CD2 PP PP 16 47 55.5 +4.9
CD2 PPP PPP 16 48 07.0 +3.7
CD2 S **S** **16 51 46.0 +2.7**
CD2 XS 16 52 02.0
CD2 AMB AMB
comp=Z,40nm,1.2s,mb5.0
CD2 AMB AMB
comp=Z,250nm,4.8s
CD2 LR LR
comp=E,1μm,12.0s
CD2 LR LR
comp=Z,920nm,10.8s,MS4.7
KBRS Khaybar 28.77 253 P **P** **16 47 00.0 +1.7**
JMOS Jabal al Moall 30.24 263 P **P** **16 47 13.0 +1.5**
HAQS Haql 30.44 263 P **P** **16 47 14.7 +1.5**
YNBS Yanbu' al Bahr 30.53 252 P **P** **16 47 14.6 +0.5**
KMI Kunming 30.74 106 P **P** **16 47 16.5 +0.6**
KMI PP PP 16 48 17.5 +0.4
KMI PPP PPP 16 48 32.0 +0.2
KMI S **S** **16 52 17.8 +2.2**
KMI SS SS 16 54 00.0 +1.4
KMI SSS SSS 16 54 21.8 +1.5
KMI AMB AMB
comp=Z,81nm,0.9s,mb5.5
KMI LR LR
comp=N,1μm,4.1s
KMI LR LR
comp=E,440nm,6.3s
KMI LR LR
comp=Z,787nm,9.6s
KMI Kunming 30.74 106 P **P** **16 47 16.5 +0.6**
comp=Z,81nm,0.9s,mb5.5
KMI pP pP 16 47 20.5 -4.6
KMI sP sP 16 47 21.8 -7.3
KMI PP PP 16 48 17.4 +0.3
KMI PPP PPP 16 48 32.0 +0.2
KMI S **S** **16 52 17.8 +2.2**
KMI sS 16 52 24.4
KMI SS SS 16 54 00.0 +1.4
KMI SSS SSS 16 54 21.7 +1.4
KMI Kunming 30.74 106 P **P** **16 47 16.5 +0.6**
KMI 16 48 17.4
KMI PPP PPP 16 48 32.0 +0.2
KMI S **S** **16 52 17.8 +2.2**
KMI SS SS 16 54 00.0 +1.4
KMI SSS SSS 16 54 21.7 +1.4
KMI pmax pmax
comp=Z,81nm,0.9s,mb5.5
BLJS Baljurashi 30.75 241 P **P** **16 47 15.8 -0.2**
TKTP Tekketepe 30.94 282 *i*P **P** **16 47 12.3 -5.2**
AKASG Malin Array Be 31.04 306 P **P** **16 47 16.9 -1.4**
comp=Z,29nm,0.7s,mb5.2,baz=79,slow=7.7,SNR=102
AKASG PcP PcP 16 50 12.9 -0.7
comp=Z,8.4nm,0.8s,baz=78,slow=2.9,SNR=4.7
KIS Kishinev 31.05 299 *e*P **P** **16 47 17.0 -1.4**
KIS *e* 16 48 22.0
KIS *e*S **S** **16 52 16.0 -4.3**
KIS MLR MLR
comp=Z,900nm,13.0s,MS4.6
KIS MLR MLR
comp=Z,1μm,14.0s
CFR Carcaliu 31.56 296 ⇓P **P** **16 47 21.8 -1.1**
XAN Xi'an 31.58 86 P **P** **16 47 23.3 +0.1**
XAN AMB AMB
comp=Z,50nm,0.9s,mb5.3
XAN LR LR
comp=N,394nm,10.2s,MS4.9
XAN LR LR
comp=E,1μm,12.6s,MS4.9
XAN LR LR

comp=Z,2µm,13.1s,MS4.9
CHRT Chiangrai 31.80 117 ⇓P **P 16 47 23.0 -2.3**
comp=Z,10nm,1.0s,mb4.6
HHC Hu-ho-hao-te 31.90 72 ⇓P **P 16 47 26.5 +0.5**
HHC AP pP 16 47 36.0 +0.8
HHC XP sP 16 47 40.0 +0.8
HHC PP PP 16 48 32.3 +0.2
HHC PCP PcP 16 50 15.8 -0.3
HHC S **S 16 52 33.3 -0.4**
HHC XS 16 52 48.5
HHC PCS 16 54 00.5
HHC SS SS 16 54 24.5 -1.6
HHC AMB AMB
comp=Z,38nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,198nm,3.3s
HHC LR LR
comp=N,1µm,14.2s,MS4.9
HHC LR LR
comp=E,1µm,10.9s,MS4.9
HHC LR LR
comp=Z,1µm,16.3s
VRI Vrincioaia 32.52 297 ⇑P **P 16 47 32.0 +0.8**
PUL Pulkovo 32.77 323⇑*e*P **P 16 47 33.3 0.0**
PUL Pulkovo 32.77 323 *i* P **P 16 47 32.3 -1.0**
PUL pmax pmax
comp=N,259nm,1.1s
PUL pmax pmax
comp=Z,181nm,1.1s,mb5.9
PUL pmax pmax
comp=E,417nm,1.4s
PUL MLR MLR
comp=Z,885nm,13.0s,MS4.7
PUL MLR MLR
comp=N,454nm,12.0s,MS4.8
PUL MLR MLR
comp=E,1µm,17.0s,MS4.8
JMB Yambol 32.93 291 *e*P **P 16 47 35.0 +0.1**
JMB Yambol 32.93 291 P **P 16 47 36.4 +1.5**
GYA Guiyang 33.03 100 ⇓*i*P **P 16 47 36.5 +0.6**
GYA AP pP 16 47 45.8 +0.7
GYA XP sP 16 47 50.0 +0.8
GYA PP PP 16 48 46.5 -0.3
GYA S **S 16 52 50.3 -1.0**
GYA XS 16 53 06.3
GYA SCP 16 54 01.5
GYA SCS ScS 16 58 01.3 +2.6
GYA AMB AMB
comp=Z,70nm,0.8s,mb5.6
GYA AMB AMB
comp=Z,160nm,3.0s
GYA LR LR
comp=N,410nm,16.4s,MS4.4
GYA LR LR
comp=E,510nm,16.8s,MS4.4
GYA LR LR
comp=Z,480nm,16.9s,MS4.3
MLR Muntele Rosu 33.08 296 LR LR 17 03 53.7
comp=Z,614nm,20.2s,MS4.3,baz=80,slow=41
MLR Muntele Rosu 33.08 296 ⇓P **P 16 47 37.7 +1.5**
ARG Arkhangelos 33.10 279 P **P 16 47 38.1 +1.6**
NANT Nan 33.16 118 P **P 16 47 35.0 -2.1**
IDID Didziasalis 33.29 315 *e*P **P 16 47 37.0 -0.9**
IDID AMb AMB 16 47 39.4
comp=Z,9.5nm,1.0s,mb4.7
IDID *e*PP PP 16 48 50.7 +1.0
ENH Enshi 33.45 92 *e*P **P 16 47 40.3 +0.7**
comp=Z,91nm,1.0s,mb5.7
BURAR Bucovina Array 33.50 300 ⇓P **P 16 47 40.2 +0.4**
IZAR Zarasai 33.66 315 *e*P **P 16 47 40.2 -0.9**
IZAR AMb AMB 16 47 41.6
comp=Z,11nm,1.0s,mb4.7
ISAL Salakas 33.69 315 *e*P **P 16 47 40.4 -0.9**
ISAL AMb AMB 16 47 41.9
comp=Z,6.8nm,0.9s,mb4.6
JOF Joensuu 33.69 329 *e*p **P 16 47 39.6 -1.7**
comp=Z,30nm,0.6s,mb5.4
VOIR 33.72 296 ⇓P **P 16 47 42.5 +0.8**
MTUR Matau 33.72 296 P **P 16 47 42.2 +0.5**
PVL Pavlikeni 33.74 292 *e*P **P 16 47 43.0 +1.1**
RDO Rodhopi 33.92 289 *e*P **P 16 47 44.0 +0.5**
RDO Rodhopi 33.92 289 P **P 16 47 43.6 +0.1**
KARP Karpathos 34.05 278 *e*P **P 16 47 45.5 +0.8**
VSU Vasula 34.08 320⇑*e*P **P 16 47 43.5 -1.2**
LVV L'vov 34.29 304 *i* P **P 16 47 46.0 -0.6**
BOD Bodaibo 34.34 41 ⇑*i*P **P 16 47 46.2 -0.8**
BOD pmax pmax
comp=Z,123nm,0.9s,mb5.8
RZN Rozhen 34.43 290 *e*P **P 16 47 48.0 +0.1**
PGB Panagyurishte 34.69 292 *e*P **P 16 47 50.5 +0.4**
NST Nakhon Sawan 34.96 122 P **P 16 47 53.5 +0.8**
SUW Suwalki 35.12 312 *e*P **P 16 47 52.3 -1.3**
SUW MLR MLR 17 03 51.2
comp=Z,2µm,20.4s,MS4.8
KWP Kalwaria 35.15 304 *e*P **P 16 47 54.0 +0.1**
KWP MLR MLR 17 04 58.7
comp=Z,1µm,18.9s,MS4.6
MMB Musomiste 35.17 290 *e*P **P 16 47 54.0 -0.2**
DRGR 35.24 299 ⇑P **P 16 47 54.7 -0.1**
LVZ Lovozero 35.26 338⇑*e*P **P 16 47 52.5 -2.2**
LVZ Lovozero 35.26 338 *i* P **P 16 47 53.5 -1.2**
LVZ pmax pmax
comp=Z,55nm,1.1s,mb5.4
LVZ pmax pmax
comp=N,22nm,0.9s
LVZ pmax pmax
comp=E,10.0nm,1.1s
LVZ MLR MLR
comp=Z,3µm,13.0s,MS5.3
LVZ MLR MLR
comp=N,1µm,12.0s,MS5.1
LVZ MLR MLR
comp=E,1µm,12.0s,MS5.1
FINES FINESS Array B 35.33 325 P **P 16 47 54.6 -0.7**
comp=E,14nm,0.5s,mb5.2,baz=119,slow=8.6,SNR=78
FINES LR LR 17 03 04.3
comp=E,998nm,19.9s,MS4.6,baz=274,slow=37
NPS Neapolis 35.34 279 *e*P **P 16 47 54.5 -1.2**
VTS Vitosha 35.38 292 *e*P **P 16 47 56.0 0.0**
VTS Vitosha 35.38 292 P **P 16 47 56.5 +0.5**
UZH Uzhgorod 35.44 302 *i* P **P 16 47 57.0 +0.6**
APA Apatity 35.44 337 ⇑*i*P **P 16 47 55.0 -1.2**
APA *i* pP 16 48 03.3 -2.2
APA *i* 16 50 27.0
APA pmax pmax
comp=Z,23nm,1.0s,mb5.1
APA MLR MLR
comp=Z,6µm,11.0s,MS5.6
KOLS Kolonicke sedl 35.44 303 *i* P **P 16 47 56.7 +0.3**
KOLS *e* 16 48 02.2
KAF Kangasniemi 35.47 326 *e*p **P 16 47 54.8 -1.7**
comp=Z,25nm,0.8s,mb5.2,baz=110,slow=8.7
KAF Kangasniemi 35.47 326 *e*P **P 16 47 54.8 -1.7**
KAF pmax pmax
comp=Z,25nm,0.8s,mb5.2
KKB Krupnik 35.60 291 *e*P **P 16 47 57.5 -0.3**
PLG Polygyros 35.63 288 *e*P **P 16 47 58.0 -0.1**
IDI Anoyia 35.89 279 LR LR 17 05 39.1
comp=Z,160nm,21.5s,MS3.8,baz=75,slow=41
STHS Stebnicka Huta 36.11 304 *i* P **P 16 48 01.6 -0.4**
STHS *e* 16 48 07.2
KKTK Khon Kaen 36.31 118 P **P 16 48 04.0 -0.1**
comp=Z,864nm,0.6s
BARS Barje 36.35 292 ⇑*i*P **P 16 48 04.1 0.0**
KECS Kecovo 36.64 302 *i* P **P 16 48 06.9 +0.4**
KECS *e* 16 48 12.6
KECS *e*PP PP 16 49 22.4 -9.2
NIE Niedzica 36.71 304 *e*P **P 16 48 08.2 +1.1**
SKO Skopje 36.78 291 *i* P **P 16 48 08.0 +0.2**
HIA Hailar 36.84 57 *e*P **P 16 48 08.6 +0.3**
comp=Z,23nm,1.1s,mb4.9
HIA Hailar 36.84 57 *e*P **P 16 48 08.6 +0.4**
HIA pmax pmax
comp=Z,23nm,1.1s
GRUS Gruza 36.97 294 *i* P **P 16 48 09.5 +0.1**
NNT Nongplab 36.98 126 P **P 16 48 10.0 +0.2**
BEO Belgrade 37.02 296 ⇑*i*P **P 16 48 10.2 +0.5**
OJC Ojcow 37.02 305 *e*P **P 16 48 08.7 -1.0**
PSZ Piszkesteto 37.07 301 ⇑*i*P **P 16 48 11.0 +0.8**
EVR Evrytania 37.20 286 *e*P **P 16 48 11.0 -0.3**
TIA Tai'an 37.26 79 *e*P **P 16 48 13.0 +1.2**
TIA AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
DIVS Divcibare 37.45 295 ⇑*i*P **P 16 48 13.6 +0.2**

BUD Budapest 37.70 301⇑*e*P **P 16 48 19.4 +4.0**
BUD Budapest 37.70 301 P **P 16 48 16.2 +0.8**
JAN Janina 37.73 288 *e*P **P 16 48 16.5 +0.7**
VYHS Vyhne 37.74 302 *i* P **P 16 48 16.5 +0.8**
VYHS *e* 16 48 19.2
NVSS Nova Varos 2 37.76 294⇑*i*P **P 16 48 16.4 +0.4**
PKS8 Sarbogard 37.99 300⇑*e*P **P 16 48 18.4 +0.5**
KOLL Kolacno 38.02 302 *i* P **P 16 48 18.9 +0.8**
KOLL *e* 16 48 24.5
PKSM Moragy 38.10 299⇓*e*P **P 16 48 19.2 +0.4**
OKC Ostrava-Krasne 38.10 304 *e*P **P 16 48 19.1 +0.3**
SRO Srobarova 38.14 301 *e*P **P 16 48 20.8 +1.6**
SRO1 Iza 38.20 301 *e*P **P 16 48 21.5 +1.8**
PKS9 Tamasi 38.30 299⇑*e*P **P 16 48 21.2 +0.7**
VLS Valsamata 38.32 285 *e*P **P 16 48 19.5 -1.3**
JAVC Velka Javorina 38.48 303 P **P 16 48 20.9 -1.1**
MORC Moravsky Berou 38.50 304 P **P 16 48 22.0 -0.1**
RHK1 Bakonya 38.50 298⇓*e*P **P 16 48 22.8 +0.6**
GKP Gorka Klasztor 38.60 310 *e*P **P 16 48 22.6 -0.4**
GKP MLR MLR 17 07 20.7
comp=Z,1µm,16.6s,MS4.8
KEV Kevo 38.60 338 *e*p **P 16 48 19.2 -3.6**
comp=Z,9.6nm,0.5s,mb4.8
KEV Kevo 38.60 338 *e*P **P 16 48 19.2 -3.6**
KEV pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
SMOL Smolenice 38.67 302 *e*P **P 16 48 24.2 +0.6**
ZST Bratislava 38.91 302 *e*P **P 16 48 25.8 +0.2**
ZST *e*PP PP 16 49 57.4 -1.4
ARCES ARCESS Array B 38.95 337 P **P 16 48 25.2 -0.5**
comp=Z,38nm,0.9s,mb5.1,baz=110,slow=7.6,SNR=65
ARCES LR LR 17 05 42.8
comp=Z,1µm,18.0s,MS4.8,baz=123,slow=38
ARCES ARCESS Array B 38.95 337 P **P 16 48 25.2 -0.5**
ARCES LR LR 17 05 42.8
ARE0 ARCESS Array S 38.95 337 *e*P **P 16 48 25.6 -0.1**
VRAC Vranov 39.15 304 *e*P **P 16 48 28.6 +1.1**
comp=Z,33nm,1.0s,mb5.0,baz=89,slow=9.2,SNR=20
VRAC Vranov 39.15 304 *e*P **P 16 48 28.2 +0.6**
KSP Ksiaz 39.24 306 *e*P **P 16 48 28.1 -0.2**
KSP MLR MLR 17 07 09.6
comp=Z,1µm,21.5s,MS4.6
KSP Ksiaz 39.24 306 *e*P **P 16 48 28.4 +0.1**
KSP *e*pP pP 16 48 31.0 -6.7
DPC Dobruska-Polom 39.25 305 *e*P **P 16 48 28.7 +0.3**
KRUC Moravsky 39.30 303 P **P 16 48 29.0 +0.2**
SOP Sopron 39.33 301⇑*e*P **P 16 48 29.9 +0.8**
KTK1 Kautokeino 39.42 336 *e*P **P 16 48 28.8 -0.8**
UPC Upice 39.44 306 *e*P **P 16 48 30.6 +0.7**
QIZ Qiongzhong 39.63 108 *e*P **P 16 48 33.0 +1.1**
TREC Trest 39.87 304 *e*P **P 16 48 34.3 +0.7**
TREC *e*sP sP 16 48 52.4 +5.6
DL2 Dalian 39.88 73 P **P 16 48 34.5 +0.7**
DL2 *e*S **S 16 54 34.8 -1.4**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
DL2 LR LR
comp=N,440nm,19.9s,MS4.4
DL2 LR LR
comp=E,240nm,18.9s,MS4.4
DL2 LR LR
comp=Z,420nm,14.8s,MS4.4
CLNS Chul'man 40.02 44 *e*P **P 16 48 35.3 +0.6**
CLNS *e* 16 50 04.8
CLNS *e* 16 50 42.7
CLNS *e*S **S 16 54 32.3 -5.8**
CLNS *e*SS SS 16 57 22.1 -7.7
CLNS pmax pmax
comp=Z,68nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=E,36nm,0.8s
CLNS pmax pmax
comp=Z,11nm,0.7s,mb4.7
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS smax
comp=N,100nm,14.5s
CLNS smax
comp=Z,34nm,13.0s
CLNS smax
comp=E,54nm,13.8s
CLNS MLR MLR
comp=Z,1µm,10.0s,MS5.0
CLNS MLR MLR
comp=N,600nm,12.0s,MS4.9
CLNS MLR MLR
comp=E,800nm,13.0s,MS4.9
ARSA Arzberg 40.09 301 ⇑*i*P **P 16 48 35.9 +0.6**
comp=E,40nm,1.4s,mb5.0
ARSA Arzberg 40.09 301 *i* P **P 16 48 35.9 +0.6**
comp=E,40nm,1.4s,mb5.0,SNR=15
CRES Cresnjev 40.35 298 *e*P **P 16 48 37.9 +0.3**
CRES *e* 16 48 56.2
PVCC Panska Ves 40.35 306 *e*P **P 16 48 37.9 +0.4**
PRU Pruhonice 40.42 305 *e*P **P 16 48 38.6 +0.6**
PRU *e*PP PP 16 50 08.6 -5.9
PERS Pernice 40.45 300 *e*P **P 16 48 38.6 +0.3**
LTRZ Laterza 40.48 290 P **P 16 48 38.9 +0.2**
SNY Shenyang 40.56 68 ⇓P **P 16 48 39.0 -0.3**
SNY AMB AMB
comp=Z,30nm,1.4s,mb4.7
RUE Ruedersdorf 40.71 309 *e*P **P 16 48 40.6 +0.1**
comp=Z,64nm,1.3s,mb5.1
BRG Berggiesshubel 40.72 306 ⇓*i*P **P 16 48 40.7 +0.2**
comp=Z,41nm,1.4s,mb4.9
BRG *i* pP 16 48 51.0 +1.0
BRG Berggiesshubel 40.72 306 ⇓*i*P **P 16 48 40.7 +0.2**
BRG *i* pP 16 48 51.0 +1.1
BRG pmax pmax
comp=Z,41nm,1.4s,mb4.9
MOA Molln 40.85 302 ⇑*i*P **P 16 48 41.9 +0.3**
comp=Z,66nm,1.6s,mb5.0
MOA Molln 40.85 302 *i* P **P 16 48 41.9 +0.3**
comp=Z,66nm,1.6s,mb5.0,SNR=12
OBKA Obir 40.86 300 ⇑*i*P **P 16 48 42.7 +1.0**
comp=Z,66nm,1.3s,mb5.1
ORI Oriolo Calabro 40.90 290 P **P 16 48 43.6 +1.5**
TIP Timpagrande 40.91 288 *e*P **P 16 48 41.6 -0.6**
RGN Rugen 40.92 312 *e*P **P 16 48 42.7 +0.6**
comp=Z,92nm,0.9s,mb5.4
LJU Ljubljana 40.95 299 *e*P **P 16 48 43.5 +1.1**
HFS Hagfors 40.95 321 P **P 16 48 41.8 -0.5**
comp=Z,87nm,0.8s,mb5.4,baz=98,slow=10,SNR=120
HFA0 Hagfors New Ar 40.96 321 P **P 16 48 44.6 +2.2**
GEC2 GERESS Array S 41.09 303 *e*P **P 16 48 44.0 +0.5**
comp=Z,34nm,1.4s,mb4.8
GEC2 GERESS Array S 41.09 303 *e*P **P 16 48 44.0 +0.5**
GEC2 pmax pmax
comp=Z,34nm,1.4s,mb4.8
GERES GERESS Array B 41.09 303 P **P 16 48 44.0 +0.4**
comp=Z,6.6nm,0.9s,mb4.2,baz=76,slow=5.5,SNR=22
GERES PP PP 16 50 24.9 +3.6
comp=Z,6.6nm,0.9s,baz=74,slow=9.7,SNR=4.1
GERES PcP PcP 16 50 44.3 +0.9
comp=Z,7.9nm,1.0s,baz=72,slow=6.2,SNR=4.7
GERES LR LR 17 07 47.9
comp=Z,406nm,18.2s,MS4.3,baz=89,slow=39
TDS Terranova Siba 41.09 289 P **P 16 48 44.5 +0.8**
KHC Kasperske Hory 41.13 304 *e*P **P 16 48 44.2 +0.3**
KHC Kasperske Hory 41.13 304⇑*e*P **P 16 48 43.9 0.0**
KNDS Knezji Dol 41.14 298 *e*P **P 16 48 44.5 +0.5**
CLL Collm 41.27 307 ⇑P **P 16 48 45.1 0.0**
comp=Z,logA/T=1.5,mb4.9
CLL *e**PP pP 16 48 55.0 +0.6
CLL *i* 16 49 10.7
CLL *i* PP PP 16 50 25.1 +1.8
CLL *e**PPP 16 50 34.0
CLL *e*PPP PPP 16 50 53.0 -0.8
CLL Collm 41.27 307 ⇑*i*P **P 16 48 45.1 0.0**
comp=Z,31nm,1.0s,mb4.9
CLL *e*pP pP 16 48 55.0 +0.6
CLL Collm 41.27 307 ⇑*i*P **P 16 48 45.1 0.0**
CLL *e**PP pP 16 48 55.0 +0.6
CLL pmax pmax
comp=Z,31nm,1.0s,mb4.9
FG4 Candela 41.30 291 P **P 16 48 46.2 +0.8**
CUC Castrocucco 41.38 290 P **P 16 48 47.7 +1.6**
VOY Vojsko 41.39 299 *e*P **P 16 48 46.0 0.0**
SLCN Sala Consilina 41.41 290 P **P 16 48 47.5 +1.2**
MRLC Muro Lucano 41.42 291 P **P 16 48 49.1 +2.7**

FG5 Orsara di Pugl 41.45 292 P **P 16 48 48.0 +1.4**
CN2 Changchun 41.46 64 *e*P **P 16 48 46.5 -0.1**
CN2 *e*XP sP 16 48 57.0 -2.9
CN2 *e*S **S 16 54 58.0 -1.6**
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.3
CN2 AMB AMB
comp=Z,400nm,4.0s
CN2 LR LR
comp=N,600nm,15.0s,MS4.8
CN2 LR LR
comp=E,700nm,15.0s,MS4.8
CN2 LR LR
comp=Z,1µm,16.0s,MS4.9
TRI Trieste 41.53 299 P **P 16 48 47.8 +0.6**
MGR Morigerati 41.54 290 P **P 16 48 47.5 +0.2**
KBA Koelnbreinsper 41.58 301 ⇑*i*P **P 16 48 48.3 +0.8**
comp=Z,52nm,1.1s,mb5.1
KBA Koelnbreinsper 41.58 301 *i* P **P 16 48 48.3 +0.7**
comp=Z,52nm,1.1s,mb5.1,SNR=16
KBA Koelnbreinsper 41.58 301 ⇑*i*P **P 16 48 48.3 +0.8**
KBA pmax pmax
comp=Z,52nm,1.1s,mb5.1
WET Wettzell 41.59 304 *e*P **P 16 48 48.0 +0.4**
comp=Z,24nm,1.3s,mb4.7
WET Wettzell 41.59 304 *e*P **P 16 48 48.0 +0.4**
WET pmax pmax
comp=Z,24nm,1.3s,mb4.7
SGO Sicignano 41.60 291 P **P 16 48 48.5 +0.7**
ROBS Robic 41.61 299 *e*P **P 16 48 47.7 -0.2**
MOR8 Moi Rana 41.63 330 *e*P **P 16 48 46.8 -0.9**
MOR8 AMb AMB 16 48 48.1
comp=Z,86nm,1.0s,mb5.3
MOR8 Moi Rana 41.63 330 *e*P **P 16 48 46.8 -0.9**
comp=Z,86nm,1.0s,mb5.3
PTCC Patocco-Chiusa 41.69 300 P **P 16 48 49.0 +0.5**
NKC Novy Kostel 41.73 306 *e*P **P 16 48 49.3 +0.6**
CSSN Cassano Irpino 41.73 291 P **P 16 48 50.6 +1.7**
SOI Samo 41.77 287 P **P 16 48 49.5 +0.3**
CEL Celeste 41.83 287 P **P 16 48 49.3 -0.4**
MTTG Motta San Giov 42.06 287 P **P 16 48 52.2 +0.6**
MELSS Ber_school_2 42.08 331 *e*P **P 16 48 51.0 -0.4**
MOX Moxa 42.21 306 *i* P **P 16 48 53.1 +0.4**
comp=Z,logA/T=1.5,mb4.9
MOX L 17 08 48.0
MOX Moxa 42.21 306 *e*P **P 16 48 53.1 +0.4**
comp=Z,49nm,1.6s,mb4.9
MOX LR LR
comp=Z,800nm,17.0s,MS4.7
MOX Moxa 42.21 306 *e*P **P 16 48 53.1 +0.4**
MOX pmax pmax
comp=Z,49nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,800nm,17.0s,MS4.7
NB2 NORSAR Subarra 42.26 322 P **P 16 48 52.2 -0.7**
comp=Z,54nm,0.7s,mb5.3,baz=95,slow=7.9
NB2 NORSAR Subarra 42.26 322 P **P 16 48 52.2 -0.7**
baz=95,slow=8.6
NB2 NORSAR Subarra 42.26 322 P **P 16 48 52.2 -0.7**
NB2 pmax pmax
comp=Z,55nm,0.7s,mb5.3
NOA NORSAR Array B 42.26 322 P **P 16 48 52.1 -0.8**
comp=Z,83nm,0.8s,mb5.4,baz=95,slow=8.1,SNR=164
NOA LR LR 17 07 29.0
comp=Z,522nm,18.5s,MS4.5,baz=100,slow=38
SSE Sheshan 42.27 84 P **P 16 48 53.0 -0.5**
SSE AP pP 16 49 01.8 -1.1
SSE XP sP 16 49 05.8 -1.0
SSE PP PP 16 50 30.0 -4.3
SSE S **S 16 55 09.8 -2.0**
SSE XS 16 55 24.5
SSE AMB AMB
comp=Z,115nm,0.8s,mb5.6
SSE AMB AMB
comp=Z,314nm,6.7s
SSE LR LR
comp=N,506nm,22.0s,MS4.5
SSE LR LR
comp=E,349nm,22.0s,MS4.5
SSE LR LR
comp=Z,360nm,15.9s
SSE Sheshan 42.27 84 P **P 16 48 52.9 -0.6**
comp=Z,115nm,0.8s,mb5.6
SSE pP pP 16 49 01.8 -1.1
SSE sP sP 16 49 05.7 -1.1
SSE PP PP 16 50 30.0 -4.3
SSE S **S 16 55 09.7 -2.1**
SSE sS 16 55 24.5
SSE LR LR
comp=Z,360nm,15.9s,MS4.3
TERO Teramo 42.31 294 P **P 16 48 54.4 +0.8**
RFI Roccamonfina 42.37 292 P **P 16 48 56.1 +1.9**
NAO01 NORSAR Array S 42.40 321 *e*P **P 16 48 53.2 -0.9**
comp=Z,95nm,0.9s,mb5.4
NAO01 *e* pP 16 49 03.3 -0.2
CING Cingoli 42.42 295 P **P 16 48 55.1 +0.6**
VVLD Villa Vallelon 42.49 293 P **P 16 48 56.0 +0.9**
AQU L'Aquila 42.52 294 *e*P **P 16 48 57.6 +2.2**
comp=Z,54nm,1.1s,mb5.2
AQU L'Aquila 42.52 294 *e*P **P 16 48 57.6 +2.2**
AQU pmax pmax
comp=Z,55nm,1.1s,mb5.2
ARV Arcevia 42.57 296 P **P 16 48 56.3 +0.5**
GRA1 Grafenberg Arr 42.59 305 *e*P **P 16 48 56.9 +1.1**
comp=Z,111nm,1.6s,mb5.3
GRA1 LR LR
comp=Z,500nm,18.2s,MS4.4
GRF Grafenberg Arr 42.59 305 *e*P **P 16 48 56.9 +1.1**
comp=Z,111nm,1.6s,mb5.3
GRF LR LR
comp=Z,500nm,18.2s,MS4.4
GRF Grafenberg Arr 42.59 305 *e*P **P 16 48 56.9 +1.1**
GRF pmax pmax
comp=Z,111nm,1.6s,mb5.3
GRF MLR MLR
comp=Z,500nm,18.2s,MS4.4
GRF Grafenberg Arr 42.59 305 *e*P **P 16 48 56.9 +1.1**
GRF pmax pmax
comp=Z,111nm,1.6s,mb5.3
GRF MLR MLR
comp=Z,500nm,18.2s,MS4.4
PTQR Pietraquaria 42.61 293 P **P 16 48 57.5 +1.4**
NRCA Norcia 42.61 295 P **P 16 48 56.6 +0.5**
SNTG Esanatoglia 42.63 295 P **P 16 48 56.9 +0.7**
FSSB Fossombrone 42.64 296 P **P 16 48 57.2 +0.9**
WTTA Wettenberg 42.70 301 ⇑*i*P **P 16 48 56.6 -0.1**
comp=Z,53nm,1.4s,mb5.1
WTTA Wettenberg 42.70 301 ⇑*i*P **P 16 48 56.6 -0.1**
WTTA pmax pmax
comp=Z,53nm,1.4s,mb5.1
BSEG Bad Segeberg 42.70 311 *e*P **P 16 48 57.1 +0.4**
WATA Walderalm 42.73 301 ⇑*i*P **P 16 48 56.5 -0.4**
comp=Z,56nm,1.4s,mb5.1
WATA Walderalm 42.73 301 ⇑*i*P **P 16 48 56.5 -0.4**
WATA pmax pmax
comp=Z,56nm,1.4s,mb5.1
YAK Yakutsk 42.83 37 *e*P **P 16 48 57.0 -0.5**
comp=Z,180nm,0.8s,mb5.8
YAK Yakutsk 42.83 37*d* ⇑*i*P **P 16 48 57.1 -0.5**
YAK *e**PP pP 16 49 05.8 -1.2
YAK *e* 16 50 47.4
YAK *e*S **S 16 55 19.6 +0.2**
YAK *e*SS SS 16 58 28.3 +3.5
YAK pmax pmax
comp=Z,75nm,0.8s,mb5.5
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,29nm,1.4s
YAK pmax pmax
comp=Z,19nm,0.8s,mb4.9
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK smax
comp=N,16nm,1.2s
YAK smax
comp=Z,3.0nm,1.1s
YAK smax
comp=E,10.0nm,1.2s
YAK MLR MLR
comp=N,184nm,10.0s,MS4.7
YAK MLR MLR
comp=E,416nm,10.0s,MS4.7

YAK MLR MLR
comp=Z,565nm,10.0s,MS4.8
CLZ Clausthal 42.86 308 *eP* **P 16 48 58.2 +0.3**
comp=Z,45nm,1.5s,mb5.0
CLZ Clausthal 42.86 308 *eP* **P 16 48 58.2 +0.3**
CLZ pmax pmax
comp=Z,45nm,1.5s,mb5.0
MURB Monte Urbino 42.92 295 P **P 16 48 59.8 +1.2**
KONO Kongsberg 42.98 320 *eP* **P 16 48 58.3 -0.6**
comp=Z,61nm,0.8s,mb5.4
KONO Kongsberg 42.98 320 *eP* **P 16 48 58.3 -0.6**
KONO pmax pmax
comp=Z,61nm,0.8s,mb5.4
SQTA Sankt Quirin 42.99 301⇑ *iP* **P 16 48 58.8 -0.3**
comp=Z,48nm,1.4s,mb5.0
SQTA Sankt Quirin 42.99 301⇑ *iP* **P 16 48 58.8 -0.3**
SQTA pmax pmax
comp=Z,48nm,1.4s,mb5.0
MNS Montasola 43.03 294 P **P 16 48 59.9 +0.4**
MOTA Moosalm 43.04 302⇑ *iP* **P 16 48 59.2 -0.3**
comp=Z,48nm,1.6s,mb5.0
MOTA Moosalm 43.04 302⇑ *iP* **P 16 48 59.2 -0.3**
MOTA pmax pmax
comp=Z,48nm,1.6s,mb5.0
BADI Badiali 43.06 296 P **P 16 49 01.6 +1.9**
MUD Monsted U'grnd 43.23 315 *i* P **P 16 49 08.7 +7.8**
comp=Z,12nm,0.4s,mb5.0
MUD *i* 16 58 25.1
comp=Z,1µm,17.0s
MUD Monsted U'grnd 43.23 315 *eP* **P 16 49 08.7 +7.8**
MUD pmax pmax
comp=Z,12nm,0.4s,mb5.0
MUD MLR MLR
comp=Z,1µm,17.0s,MS4.9
CRE Caprese Michel 43.24 296 P **P 16 49 02.1 +0.9**
SFI Santa Sofia 43.25 296 P **P 16 49 02.1 +0.9**
PGD Poggio Sodo 43.34 296 P **P 16 49 02.7 +0.7**
DOMB Dombas 43.36 323 *eP* **P 16 49 01.7 -0.2**
DOMB AMb AMB 16 49 07.6
comp=Z,142nm,1.2s,mb5.6
DOMB Dombas 43.36 323 *eP* **P 16 49 01.7 -0.2**
comp=Z,142nm,1.2s,mb5.6
VMG Vicchio 43.45 297 P **P 16 49 04.6 +1.7**
BRMO Bormio 43.70 300 P **P 16 49 04.6 -0.2**
CSNT Castellina Chi 43.74 296 P **P 16 49 05.5 +0.2**
SAL Salo 43.78 299 P **P 16 49 06.4 +0.9**
DAVA Damuels 43.87 302⇑ *iP* **P 16 49 05.9 -0.3**
comp=Z,82nm,1.6s,mb5.2
DAVA Damuels 43.87 302 *i* P **P 16 49 05.9 -0.3**
comp=Z,82nm,1.6s,mb5.2,SNR=16
DAVOX Davos 43.97 301 P **P 16 49 06.8 -0.2**
comp=Z,13nm,0.6s,mb4.8,baz=97,slow=9.7,SNR=12
GSCL Gusciola 44.02 297 P **P 16 49 09.1 +1.6**
GRFL Gerfalco 44.05 296 P **P 16 49 07.6 -0.2**
IPM Ipoh 44.05 132 P **P 16 49 09.0 +0.8**
INCN Inchon 44.07 73 *eP* **P 16 49 08.7 +0.6**
comp=Z,54nm,0.8s,mb5.3
MOL Molde 44.09 324 *eP* **P 16 49 10.6 +2.7**
MOL AMb AMB 16 49 17.8
comp=Z,127nm,1.4s,mb5.5
MOL Molde 44.09 324 *eP* **P 16 49 10.6 +2.7**
comp=Z,127nm,1.4s,mb5.5
ERBM Eremo 44.13 298 P **P 16 49 10.2 +1.8**
TOD Tromm 44.15 305 *eP* **P 16 49 09.0 +0.5**
MDJ Mudanjiang 44.17 62 P **P 16 49 08.5 -0.3**
MDJ AMB AMB
comp=Z,19nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,113nm,5.0s
MDJ LR LR
comp=N,674nm,15.2s,MS4.8
MDJ LR LR
comp=E,534nm,13.5s,MS4.8
MDJ LR LR
comp=Z,801nm,12.7s,MS4.8
MDJ Mudanjiang 44.17 62 *eP* **P 16 49 08.7 0.0**
comp=Z,14nm,0.8s,mb4.7
MMGO Monte Magaggia 44.21 287 P **P 16 49 08.1 -1.0**
VLC Villacollemand 44.21 297 *eP* **P 16 49 09.8 +0.7**
comp=Z,56nm,0.9s,mb5.3
TIXI Tiksi 44.22 23 *i* Pr 16 49 08.3
PII Pisa 44.22 297 P **P 16 49 09.1 -0.1**
TNS Taunus Mts 44.28 306 *eP* **P 16 49 09.7 +0.2**
comp=Z,18nm,1.2s,mb4.7
TNS Taunus Mts 44.28 306 *eP* **P 16 49 09.7 +0.2**
TNS pmax pmax
comp=Z,18nm,1.2s,mb4.7
TUE Stuetta 44.39 301 P **P 16 49 11.7 +1.2**
IBBN Ibbenburen 44.40 309 P **P 16 49 11.9 +1.4**
LLS Linth-Limmern 44.54 301⇓ *P* **P 16 49 14.1 +2.4**
BLS5 Blasjo 44.58 319 *eP* **P 16 49 13.5 +1.6**
BLS5 AMb AMB 16 49 19.2
comp=Z,95nm,1.0s,mb5.6
BLS5 Blasjo 44.58 319 *eP* **P 16 49 13.5 +1.6**
comp=Z,95nm,1.0s,mb5.6
KLR Kul'dur 44.66 55⇑ *eP* **P 16 49 09.5 -3.1**
KLR *eS* **S 16 55 36.5 -10**
KLR pmax pmax
comp=Z,43nm,1.4s,mb5.1
KLR MLR MLR
comp=Z,1µm,12.0s,MS5.0
KLR MLR MLR
comp=E,600nm,12.0s
BFO Black Forest 44.69 303 *eP* **P 16 49 13.1 +0.2**
comp=E,23nm,1.3s,mb4.8
BFO Black Forest 44.69 303 *eP* **P 16 49 13.1 +0.2**
BFO pmax pmax
comp=Z,23nm,1.3s,mb4.8
MUO Muotathal 44.76 301⇓ *P* **P 16 49 13.0 -0.5**
BUG Bochum--Univer 44.83 308 P **P 16 49 16.8 +2.9**
LANF Langenberg 44.91 304 *eP* **P 16 49 15.1 +0.5**
FELD Feldberg 44.99 303 *eP* **P 16 49 15.1 -0.2**
KS15 Wonju Array Si 45.02 72 *eP* **P 16 49 15.7 +0.1**
BER Bergen 45.13 321 *eP* **P 16 49 16.2 +0.1**
BER AMb AMB 16 49 21.9
comp=Z,154nm,1.3s,mb5.7
BER Bergen 45.13 321 *eP* **P 16 49 16.2 +0.1**
comp=Z,154nm,1.3s,mb5.7
EGD Espegrend 45.18 321 *eP* **P 16 49 16.7 +0.1**
EGD AMb AMB 16 49 21.3
comp=Z,282nm,1.7s,mb5.8
EGD Espegrend 45.18 321 *eP* **P 16 49 16.7 +0.1**
comp=Z,282nm,1.7s,mb5.8
ASK Askoy 45.19 321 *eP* **P 16 49 16.7 0.0**
ASK AMb AMB 16 49 21.3
comp=Z,479nm,1.3s,mb6.2
ASK Askoy 45.19 321 *eP* **P 16 49 16.7 0.0**
comp=Z,479nm,1.3s,mb6.2
WLS Welschbruch 45.31 304 *eP* **P 16 49 14.9 -2.9**
CDF Champ du Feu 45.36 304 *eP* **P 16 49 17.1 -1.1**
comp=Z,80nm,1.5s,mb5.0
CDF Champ du Feu 45.36 304 *eP* **P 16 49 17.1 -1.1**
CDF pmax pmax
comp=Z,40nm,1.5s,mb5.0
YHNB Yeheng 45.39 92 *eP* **P 16 49 20.8 +2.0**
BBS Basel-Blauen 45.41 302 P **P 16 49 19.8 +1.2**
ECH Echery 45.48 303 *eP* **P 16 49 18.9 -0.2**
LKBD Leukerbad 45.57 301⇑ *P* **P 16 49 19.4 -0.5**
PGF Pioggiola 45.61 295 *eP* **P 16 49 19.2 -1.0**
comp=Z,85nm,1.1s,mb5.3
PGF Pioggiola 45.61 295 *eP* **P 16 49 19.2 -1.0**
PGF pmax pmax
comp=Z,43nm,1.1s,mb5.3
HINF Hinteralfeld 45.76 303 *eP* **P 16 49 20.0 -1.4**
comp=Z,75nm,1.3s,mb5.2
HINF Hinteralfeld 45.76 303 *eP* **P 16 49 20.0 -1.4**
HINF pmax pmax
comp=Z,38nm,1.3s,mb5.2
DIX Grande Dixence 45.79 301⇑ *P* **P 16 49 24.1 +2.5**
WLF Walferdange 45.84 306 P **P 16 49 23.8 +1.9**
LOMF Lomont 45.88 302 *eP* **P 16 49 19.6 -2.7**
HAU Haudompre 46.05 303 *eP* **P 16 49 22.6 -1.1**
HAU *eR*
comp=Z,515nm,19.2s
EMV Vieux Emosson 46.14 301⇑ *P* **P 16 49 26.4 +2.0**
VLA Vladivostok 46.17 64⇑ *iP* **P 16 49 23.8 -0.9**
VLA Vladivostok 46.17 64*c iP* **P 16 49 24.6 -0.1**
VLA pmax pmax
comp=Z,79nm,0.8s,mb5.7
VLA MLR MLR
comp=Z,990nm,18.4s,MS4.8
SAOF Saorge 46.23 298 *eP* **P 16 49 25.5 +0.4**
THEF They Montfort 46.24 304 *eP* **P 16 49 24.3 -0.8**
VSL Villasalto 46.27 291 *eP* **P 16 49 26.0 +0.5**
comp=Z,30nm,1.5s,mb5.0
comp=Z,17nm,0.9s,mb4.7
EPF Esparros 51.51 299 *eP* **P 16 50 05.6 -0.4**
EPF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
EPOB Poblet 51.59 296 P **P 16 50 05.1 -1.5**
comp=Z,8.8nm,0.9s,mb4.7
RESF Ens 51.59 298 *eP* **P 16 50 06.8 +0.2**
SGMF Saint Gilles 51.74 306 *eP* **P 16 50 06.1 -1.5**
comp=Z,35nm,0.8s,mb5.0
SGMF Saint Gilles 51.74 306 *eP* **P 16 50 06.1 -1.5**
SGMF pmax pmax
comp=Z,17nm,0.8s,mb5.0
EBIE Bielsa 51.77 298 P **P 16 50 08.2 +0.3**
comp=Z,42nm,2.1s,mb5.0
EGRA Graus 51.82 298 P **P 16 50 07.9 -0.4**
comp=Z,21nm,1.1s,mb5.0
ROSF Rostrenen 52.17 306 *eP* **P 16 50 09.0 -1.9**
comp=Z,128nm,1.3s,mb5.4
ROSF Rostrenen 52.17 306 *eP* **P 16 50 09.0 -1.9**
ROSF pmax pmax
comp=Z,64nm,1.3s,mb5.4
ETSF Etsaut 52.18 299 *eP* **P 16 50 10.0 -1.0**
comp=Z,64nm,1.0s,mb5.2
ETSF Etsaut 52.18 299 *eP* **P 16 50 10.0 -1.0**
ETSF pmax pmax
comp=Z,32nm,1.0s,mb5.2
QUIF Quistinic 52.24 305 *eP* **P 16 50 09.5 -1.9**
ERTA Horta de San J 52.26 296 P **P 16 50 10.9 -0.7**
comp=Z,89nm,1.8s,mb5.4
YSS Yuzh-Sakhalins 52.36 56 *eP* **P 16 50 12.0 -0.4**
comp=Z,85nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 52.36 56⇑ *eP* **P 16 50 11.8 -0.5**
YSS pmax pmax
comp=Z,102nm,1.1s,mb5.7
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.5
ESAC San Caprasio 52.54 297 P **P 16 50 13.0 -0.8**
comp=Z,88nm,1.2s,mb5.6
DAG Danmarks Havn 52.54 343⇑ *iP* **P 16 50 12.7 -0.6**
comp=Z,66nm,0.8s,mb5.6
DAG Danmarks Havn 52.54 343⇑ *iP* **P 16 50 12.7 -0.6**
DAG pmax pmax
comp=Z,66nm,0.8s,mb5.6
SJPF Ste Jean 52.56 299 *eP* **P 16 50 12.5 -1.4**
comp=Z,22nm,1.0s,mb4.7
SJPF Ste Jean 52.56 299 *eP* **P 16 50 12.5 -1.4**
SJPF pmax pmax
comp=Z,11nm,1.0s,mb4.7
KKM Kota Kinabalu 52.84 116 P **P 16 50 16.5 +0.1**
KKM Kota Kinabalu 52.84 116 *eP* **P 16 50 15.8 -0.5**
MAJO Matsushiro 53.01 69 *eP* **P 16 50 16.1 -1.3**
comp=Z,39nm,0.8s,mb5.4
MAJO Matsushiro 53.01 69 *eP* **P 16 50 16.1 -1.2**
MAJO pmax pmax
comp=Z,39nm,0.8s,mb5.4
MAT Matsushiro 53.01 69 P **P 16 50 16.1 -1.2**
MAT Matsushiro 53.01 69 *eP* **P 16 50 16.0 -1.3**
comp=Z,73nm,1.2s,mb5.5
MAT LR LR
comp=Z,350nm,20.0s,MS4.4
MAT Matsushiro 53.01 69 *eP* **P 16 50 16.0 -1.3**
MAT pmax pmax
comp=Z,73nm,1.2s,mb5.5
MAT MLR MLR
comp=Z,350nm,20.0s,MS4.4
MJAR Matsushiro Arr 53.02 69 P **P 16 50 16.8 -0.6**
comp=Z,26nm,0.8s,mb5.2,baz=291,slow=9.7,SNR=57
MJAR LR LR 17 14 07.9
comp=Z,149nm,18.9s,MS4.1,baz=310,slow=37
SEY Seymchan 53.21 34⇑ *eP* **P 16 50 17.9 -0.5**
SEY Seymchan 53.21 34 *eP* **P 16 50 17.3 -1.1**
SEY *e* 16 50 36.2
SEY *e* 16 51 22.3
SEY pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SEY pmax pmax
comp=E,10.0nm,0.9s
ASAJ Asahikawa 53.22 59 LR LR 17 13 57.9
comp=E,216nm,21.1s,MS4.2,baz=184,slow=37
MA2 Magadan 53.30 39 *eP* **P 16 50 18.4 -0.7**
comp=E,52nm,1.4s,mb5.3
MA2 Magadan 53.30 39⇑ *eP* **P 16 50 18.3 -0.8**
MA2 pmax pmax
comp=Z,44nm,1.3s,mb5.2
MA2 MLR MLR
comp=Z,200nm,14.0s,MS4.3
ECHE Chera 53.70 295 P **P 16 50 21.7 -0.5**
comp=Z,36nm,1.4s,mb5.1
ECHE Chera 53.70 295 P **P 16 50 21.7 -0.6**
ECHE pmax pmax
comp=Z,36nm,1.4s,mb5.1
ELAN Lanestosa 54.02 300 P **P 16 50 23.6 -1.0**
comp=Z,49nm,1.2s,mb5.3
ETOB Tobarra 54.49 294 P **P 16 50 27.7 -0.4**
comp=Z,15nm,1.1s,mb4.8
EMUR La Murta 54.59 293 P **P 16 50 28.4 -0.6**
comp=Z,44nm,1.2s,mb5.4
EVIA Vianos 55.17 295 P **P 16 50 32.4 -0.7**
comp=Z,8.6nm,0.8s,mb4.8
EVIA Vianos 55.17 295 P **P 16 50 32.4 -0.7**
EVIA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EARI Arriondas 55.20 301 P **P 16 50 31.6 -1.6**
comp=Z,12nm,1.2s,mb4.8
TSM Tawau 55.24 116 P **P 16 50 34.4 +0.5**
EHUE Huescar 55.58 294 P **P 16 50 35.9 -0.2**
comp=Z,49nm,1.4s,mb5.3
EHUE Huescar 55.58 294 P **P 16 50 35.9 -0.2**
EHUE pmax pmax
comp=Z,49nm,1.4s,mb5.3
ESDC Sonseca Array 55.78 296 P **P 16 50 36.7 -0.8**
comp=Z,3.2nm,0.4s,mb4.7,baz=60,slow=7.7,SNR=26
ESDC Sonseca Array 55.78 296 P **P 16 50 36.0 -1.5**
comp=Z,21nm,0.8s,mb5.2
ESLA Sonseca Array 55.78 296 *eP* **P 16 50 36.8 -0.7**
comp=Z,5.3nm,0.9s,mb4.6
EQES Quesada 55.93 294 P **P 16 50 38.5 -0.1**
comp=Z,30nm,1.0s,mb5.3
EBAN Banos Encina 56.29 295 P **P 16 50 40.3 -0.9**
comp=Z,9.9nm,0.7s,mb5.0
EBAN Banos Encina 56.29 295 P **P 16 50 40.3 -0.8**
EBAN pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
EPON Pontenova 56.49 301 P **P 16 50 40.4 -2.2**
comp=Z,59nm,1.6s,mb5.4
EADA Adamuz 56.85 295 P **P 16 50 42.5 -2.7**
comp=Z,45nm,1.3s,mb5.3
ELUQ Luque 56.89 294 P **P 16 50 44.6 -0.9**
comp=Z,17nm,0.7s,mb5.2
ELUQ Luque 56.89 294 P **P 16 50 44.6 -0.9**
ELUQ pmax pmax
comp=Z,17nm,0.7s,mb5.2
BILL Bilibino 57.16 26 *i* Pr 16 50 46.7
BILL Bilibino 57.16 26*d iP* **P 16 50 46.6 -0.4**
BILL pmax pmax
comp=Z,66nm,1.7s,mb5.4
BILL MLR MLR
comp=Z,400nm,15.0s,MS4.6
ECAB El Cabril 57.49 295 P **P 16 50 48.5 -1.2**
comp=Z,38nm,1.6s,mb5.2
ELOB Lobios 57.70 300 P **P 16 50 50.5 -0.7**
comp=Z,41nm,1.0s,mb5.4
PCAB Cabril 57.74 300 *eP* **P 16 50 49.9 -1.5**
MTE Manteigas 57.97 298 *eP* **P 16 50 53.0 0.0**
comp=Z,71nm,1.5s,mb5.5
MTE Manteigas 57.97 298 *eP* **P 16 50 52.7 -0.3**
comp=Z,59nm,1.4s,mb5.4
EBAD Badajoz 58.31 296 P **P 16 50 54.2 -1.3**
comp=Z,48nm,1.0s,mb5.5
ESPR Espera 58.33 294 P **P 16 50 55.1 -0.5**
comp=Z,11nm,0.8s,mb5.0
EMIN Mina Concepcio 58.51 295 P **P 16 50 55.1 -1.8**
comp=Z,17nm,0.9s,mb5.1
PTOM Tomar 58.91 298 *eP* **P 16 50 59.7 +0.1**
EGRO El Granado 59.19 295 P **P 16 50 59.3 -2.3**
comp=Z,39nm,1.0s,mb5.4
PBEJ Beja 59.24 296 *eP* **P 16 51 02.1 +0.2**
comp=Z,50nm,1.5s,mb5.3
PBEJ Beja 59.24 296 *eP* **P 16 51 02.0 +0.1**
PET Petropavlovsk 59.67 44⇑ *eP* **P 16 51 02.6 -2.0**
PET Petropavlovsk 59.67 44 *eP* **P 16 51 02.7 -1.9**
PET pmax pmax
comp=Z,52nm,0.9s,mb5.6
PET MLR MLR
comp=Z,200nm,17.0s,MS4.3
SFJD Kangerlussuaq 65.56 338 *i* P **P 16 51 42.6 -0.9**
comp=Z,33nm,0.8s,mb5.4

AUTN L'Aution 46.31 298 *eP* **P 16 49 26.5 +0.7**
SBF Sospel 46.34 298 *eP* **P 16 49 25.2 -0.8**
comp=Z,172nm,1.0s,mb5.6
SBF Sospel 46.34 298 *eP* **P 16 49 25.2 -0.8**
SBF pmax pmax
comp=Z,86nm,1.0s,mb5.6
LPG La Plagne 46.38 300 *eP* **P 16 49 25.6 -0.7**
comp=Z,91nm,1.1s,mb5.3
LPG La Plagne 46.38 300 *eP* **P 16 49 25.6 -0.7**
LPG pmax pmax
comp=Z,46nm,1.1s,mb5.3
LPL La Plagne 46.39 300 *eP* **P 16 49 25.7 -0.6**
comp=Z,100nm,1.1s,mb5.4
LPL La Plagne 46.39 300 *eP* **P 16 49 25.7 -0.6**
LPL pmax pmax
comp=Z,50nm,1.1s,mb5.4
REVF Revere 46.42 297 *eP* **P 16 49 26.9 +0.2**
TOUF Mont Tournerai 46.43 298 *eP* **P 16 49 27.3 +0.6**
KBS Kingsbay 46.45 347 *eP* **P 16 49 26.6 +0.2**
comp=Z,38nm,0.9s,mb5.3
KBS Kingsbay 46.45 347 *eP* **P 16 49 26.6 +0.2**
KBS pmax pmax
comp=Z,38nm,0.9s,mb5.3
MVIF Mont Vial 46.53 298 *eP* **P 16 49 27.3 -0.2**
BNI Bardonecchia 46.55 299 *eP* **P 16 49 27.8 +0.2**
comp=Z,55nm,1.2s,mb5.4
BNI Bardonecchia 46.55 299 *eP* **P 16 49 27.8 +0.2**
BNI pmax pmax
comp=Z,55nm,1.2s,mb5.4
CABF La Chapelle 46.55 302 *eP* **P 16 49 26.7 -0.9**
comp=Z,81nm,1.2s,mb5.2
CABF La Chapelle 46.55 302 *eP* **P 16 49 26.7 -0.9**
CABF pmax pmax
comp=Z,40nm,1.2s,mb5.2
MBDF Montbardon 46.57 299 *eP* **P 16 49 27.4 -0.4**
comp=Z,82nm,1.2s,mb5.2
MBDF Montbardon 46.57 299 *eP* **P 16 49 27.4 -0.4**
MBDF pmax pmax
comp=Z,41nm,1.2s,mb5.2
GIVF Givet 46.59 306 *eP* **P 16 49 27.4 -0.5**
CALN Calern 46.75 298 *eP* **P 16 49 29.6 +0.3**
MEZF Maizieres J'vi 46.79 304 *eP* **P 16 49 28.8 -0.7**
comp=Z,110nm,1.1s,mb5.4
FRF La Foret Royal 46.98 297 *eP* **P 16 49 29.7 -1.3**
comp=Z,75nm,0.9s,mb5.3
FRF La Foret Royal 46.98 297 *eP* **P 16 49 29.7 -1.3**
FRF pmax pmax
comp=Z,38nm,0.9s,mb5.3
BAIF Baives 46.99 307 *eP* **P 16 49 30.6 -0.4**
ORIF Oris-en-Rattie 47.13 299 *eP* **P 16 49 30.6 -1.6**
ORIF *eR*
comp=Z,468nm,17.2s
GRN Grenoble 47.13 300 *eP* **P 16 49 32.3 +0.1**
LMR La Mourre 47.14 297 *eP* **P 16 49 31.0 -1.3**
comp=Z,107nm,1.6s,mb5.2
LMR La Mourre 47.14 297 *eP* **P 16 49 31.0 -1.3**
LMR pmax pmax
comp=Z,53nm,1.6s,mb5.2
STOF St-Etienne Org 47.37 298 *eP* **P 16 49 34.9 +0.8**
TAVF Tavernes 47.37 298 *eP* **P 16 49 34.5 +0.3**
KGM Kluang 47.45 132 P **P 16 49 35.4 +0.2**
SMRF Simiane la Rot 47.60 298 *eP* **P 16 49 34.9 -1.1**
comp=Z,70nm,1.2s,mb5.3
PUYF Puyloubier 47.64 298 *eP* **P 16 49 36.6 +0.3**
LOR Lormes 47.87 303 *eP* **P 16 49 36.2 -1.8**
comp=Z,23nm,1.0s,mb4.9
LOR *eR*
comp=Z,442nm,19.8s
LOR Lormes 47.87 303 *eP* **P 16 49 36.2 -1.8**
LOR pmax pmax
comp=Z,11nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,440nm,19.8s,MS4.4
PRAF Pradon 47.93 298 *eP* **P 16 49 37.5 -1.1**
VIVF Saint-Julien-l 47.97 300 *eP* **P 16 49 37.9 -0.9**
comp=Z,152nm,1.3s,mb5.6
VIVF Saint-Julien-l 47.97 300 *eP* **P 16 49 37.9 -0.9**
VIVF pmax pmax
comp=Z,76nm,1.3s,mb5.6
SMF Signal de Mont 48.04 302 *eP* **P 16 49 37.9 -1.4**
comp=Z,20nm,0.6s,mb5.0
SMF Signal de Mont 48.04 302 *eP* **P 16 49 37.9 -1.4**
SMF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
SSF Saint Saulge 48.15 303 *eP* **P 16 49 38.6 -1.6**
AVF Avril sur Loir 48.32 302 *eP* **P 16 49 40.2 -1.3**
comp=Z,22nm,0.7s,mb5.0
AVF Avril sur Loir 48.32 302 *eP* **P 16 49 40.2 -1.3**
AVF pmax pmax
comp=Z,11nm,0.7s,mb5.0
PLDF La Plantade 48.37 301 *eP* **P 16 49 43.6 +1.7**
AGO Saint Agoulin 48.67 302 *eP* **P 16 49 43.3 -0.9**
BGF Bois d'Agland 48.72 302 *eP* **P 16 49 43.2 -1.4**
LASF Ste Croix 48.76 299 *eP* **P 16 49 44.2 -0.7**
comp=Z,150nm,1.2s,mb5.6
LBL Lubilhac 48.83 300 *eP* **P 16 49 45.5 +0.1**
PYM Petit Puy Mans 48.84 301 *eP* **P 16 49 44.5 -1.0**
JNU Nakatsue 48.92 77 LR LR 17 11 11.3
comp=Z,345nm,18.9s,MS4.4,baz=132,slow=37
TCF Toulx Ste Croi 49.22 302 *eP* **P 16 49 47.4 -1.0**
comp=Z,52nm,1.0s,mb5.2
TCF Toulx Ste Croi 49.22 302 *eP* **P 16 49 47.4 -1.0**
TCF pmax pmax
comp=Z,26nm,1.0s,mb5.2
KMBO Kilima Mbogo 49.62 225 P **P 16 49 53.1 +1.2**
comp=Z,8.4nm,1.1s,mb4.7,baz=31,slow=11,SNR=15
KMBO PP PP 16 51 49.4 +2.5
comp=Z,5.3nm,1.0s,baz=40,slow=12,SNR=4.8
KMBO LR LR 17 13 24.6
comp=Z,149nm,18.6s,MS4.0,baz=91,slow=39
CAF Calviac 49.72 300 *eP* **P 16 49 51.5 -0.8**
comp=Z,96nm,1.4s,mb5.3
CAF Calviac 49.72 300 *eP* **P 16 49 51.5 -0.8**
CAF pmax pmax
comp=Z,48nm,1.4s,mb5.3
JOW Kunigami 49.73 85 LR LR 17 12 39.1
comp=Z,272nm,19.9s,MS4.2,baz=76,slow=38
EJON La Jonquera 49.94 297 P **P 16 49 53.1 -0.9**
comp=Z,29nm,1.3s,mb5.2
RJF Les Rejaudoux 49.98 301 *eP* **P 16 49 53.5 -0.8**
RJF *eR*
comp=Z,279nm,23.0s
LDF La Druitiere 50.09 306 *eP* **P 16 49 53.5 -1.6**
comp=Z,18nm,0.5s,mb5.1
LDF La Druitiere 50.09 306 *eP* **P 16 49 53.5 -1.6**
LDF pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
MTLF Montolieu 50.12 298 *eP* **P 16 49 54.2 -1.2**
comp=Z,42nm,1.1s,mb5.1
MTLF Montolieu 50.12 298 *eP* **P 16 49 54.2 -1.2**
MTLF pmax pmax
comp=Z,21nm,1.1s,mb5.1
FLN La Foliniere 50.28 306 *eP* **P 16 49 54.7 -1.8**
comp=Z,19nm,0.6s,mb5.0
FLN *eR*
comp=Z,473nm,20.5s
FLN La Foliniere 50.28 306 *eP* **P 16 49 54.7 -1.8**
FLN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
FLN MLR MLR
comp=Z,470nm,20.5s,MS4.5
LFF La Frestale 50.61 301 *eP* **P 16 49 58.1 -1.0**
GRR Gorron 50.62 305 *eP* **P 16 49 57.1 -2.0**
comp=Z,34nm,0.9s,mb5.0
GRR Gorron 50.62 305 *eP* **P 16 49 57.1 -2.0**
GRR pmax pmax
comp=Z,17nm,0.9s,mb5.0
MFF Saint Martin d 50.69 303 *eP* **P 16 49 57.8 -1.8**
comp=Z,46nm,1.1s,mb5.0
MFF Saint Martin d 50.69 303 *eP* **P 16 49 57.8 -1.8**
MFF pmax pmax
comp=Z,23nm,1.1s,mb5.0
KAC Achnashellach 50.94 318 *eP* **P 16 50 00.4 -1.0**
MLS Moulis 51.02 298 *eP* **P 16 50 01.7 -0.5**
KSB Sheil Bridge 51.07 317 *eP* **P 16 50 01.4 -1.0**
KSB AMb AMB 16 50 06.7
comp=Z,134nm,1.5s,mb5.6
EMIR Miracle 51.08 297 P **P 16 50 02.1 -0.6**
comp=Z,58nm,1.6s,mb5.3
KPL Plockton 51.16 318 *eP* **P 16 50 01.7 -1.4**
KPL AMb AMB 16 50 07.0
comp=Z,107nm,1.4s,mb5.6
KAR1 Arisaig 51.35 317 *eP* **P 16 50 03.9 -0.6**
KAR1 AMb AMB 16 50 09.1
comp=Z,154nm,1.3s,mb5.8
EPF Esparros 51.51 299 *eP* **P 16 50 05.6 -0.4**

SFJD	**Kangerlussuaq**	**65.56**	**338**	*i* P		**P**	**16 51 42.6**	**-0.9**
SFJD				pmax	pmax				
	comp=Z,33nm,0.8s,mb5.4								
LSZ	**Lusaka**	**66.28**	**225**	*e*P		**P**	**16 51 49.0**	**+0.1**
	comp=Z,25nm,1.2s,mb5.1								
LSZ	**Lusaka**	**66.28**	**225**	*e*P		**P**	**16 51 49.0**	**+0.1**
LSZ				pmax	pmax				
	comp=Z,25nm,1.2s,mb5.1								
INK	**Inuvik**	**72.04**	**9**	*e*P		**P**	**16 52 23.6**	**0.0**
	comp=Z,65nm,1.2s,mb5.4								
INK	**Inuvik**	**72.04**	**9**	*e*P		**P**	**16 52 23.6**	**+0.1**
INK				pmax	pmax				
	comp=Z,65nm,1.2s								
FRB	**Frobisher Bay**	**72.87**	**342**	P		**P**	**16 52 28.1**	**-0.3**
	comp=Z,32nm,0.9s,mb5.3,baz=5.1,slow=5.9,SNR=9.2								
ILAR	**Eielson Array**	**73.06**	**16**	P		**P**	**16 52 28.9**	**-0.6**
	comp=Z,13nm,0.9s,mb4.8,baz=322,slow=4.9,SNR=75								
ILAR				PP		PP	16 55 11.8	-2.5	
	comp=Z,4.8nm,0.9s,baz=320,slow=7.7,SNR=5.1								
ILAR				LR		LR	17 25 36.2		
	comp=Z,161nm,20.1s,MS4.3,baz=352,slow=37								
DBIC	**Dimbokro**	**73.98**	**266**	P		**P**	**16 52 35.0**	**-0.9**
	comp=Z,14nm,1.1s,mb4.8,baz=51,slow=5.4,SNR=4.9								
DBIC				LR		LR	17 28 37.4		
	comp=Z,173nm,21.0s,MS4.3,baz=217,slow=38								
SVW2	**Sparrevohn**	**74.02**	**21**	*e*P		**P**	**16 52 35.7**	**+0.6**
KIC	**Kosan Boka**	**74.08**	**265**	*e*P		**P**	**16 52 34.8**	**-1.6**
	comp=Z,120nm,1.1s,mb5.7								
TIC	**Toumodi**	**74.12**	**266**	*e*P		**P**	**16 52 35.5**	**-1.2**
	comp=Z,20nm,0.2s,mb5.7								
LIC	**Lamto**	**74.39**	**266**	*e*P		**P**	**16 52 36.3**	**-1.9**
	comp=Z,70nm,1.4s,mb5.4								
LIC	**Lamto**	**74.39**	**266**	*e*P		**P**	**16 52 37.0**	**-1.2**
	comp=Z,17nm,1.0s,mb4.9								
THY	**Trims Highway**	**74.49**	**16**	*e*P		**P**	**16 52 38.1**	**+0.3**
SPU	**Mount Spurr**	**74.92**	**20**	*e*P		**P**	**16 52 39.9**	**-0.4**
PMR	**Palmer**	**75.31**	**18**	*e*P		**P**	**16 52 42.1**	**-0.4**
PMR				LR		LR			
	comp=Z,200nm,17.0s,MS4.5								
SML	**Sawmill**	**75.31**	**18**	*e*P		**P**	**16 52 42.7**	**+0.2**
TSUM	**Tsumeb**	**75.53**	**231**	*e*P		**P**	**16 52 45.1**	**+0.4**
	comp=Z,22nm,1.0s,mb5.0								
LBTB	**Lobatse**	**75.64**	**221**	*e*P		**P**	**16 52 45.6**	**+0.4**
	comp=Z,39nm,1.2s,mb5.2								
LBTB	**Lobatse**	**75.64**	**221**	*e*P		**P**	**16 52 45.6**	**+0.4**
LBTB				pmax	pmax				
	comp=Z,39nm,1.2s,mb5.2								
SLKM	**Skilak Lake**	**75.97**	**19**	*e*P		**P**	**16 52 45.7**	**-0.6**
DIV	**Divide**	**76.51**	**17**	*e*P		**P**	**16 52 49.9**	**+0.5**
	comp=Z,50µm,0.8s								
FITZ	**Fitzroy Crossi**	**76.78**	**126**	*e*P		**P**	**16 52 52.0**	**+0.3**
	comp=Z,10nm,0.8s,mb4.8								
KAKA	**Kakadu**	**77.43**	**118**	⇓*i*P		**P**	**16 53 14.5**	**+19**
	comp=Z,40nm,1.4s,mb5.2								
KDAK	**Kodiak Island**	**77.63**	**22**	P		**P**	**16 52 55.8**	**+0.2**
	comp=Z,26nm,0.9s,mb5.2,baz=12,slow=3.2,SNR=12								
KDAK	**Kodiak Island**	**77.63**	**22**	*e*P		**P**	**16 52 55.9**	**+0.3**
KDAK				LR		LR			
	comp=Z,200nm,18.0s,MS4.5								
YKW3	**Yellowknife Ar**	**79.19**	**2**	*e*P		**P**	**16 53 04.7**	**+0.6**
YKA	**Yellowknife Ar**	**79.25**	**2**	P		**P**	**16 53 04.7**	**+0.3**
	comp=Z,20nm,0.8s,mb5.1,baz=350,slow=5.6,SNR=28								
YKA				LR		LR	17 31 46.6		
	comp=Z,177nm,18.5s,MS4.4,baz=35,slow=38								
SCHQ	**Schefferville**	**79.90**	**336**	P		**P**	**16 53 08.5**	**+0.4**
	comp=Z,8.5nm,0.7s,mb4.8,baz=16,slow=8.8,SNR=8.1								
SCHQ				LR		LR	17 27 06.5		
	comp=Z,280nm,21.2s,MS4.6,baz=286,slow=35								
DLBC	**Dease Lake**	**81.96**	**10**	P		**P**	**16 53 19.9**	**+1.1**
	comp=Z,7.1nm,0.9s,mb4.6,baz=325,slow=6.7,SNR=15								
DLBC	**Dease Lake**	**81.96**	**10**	*e*P		**P**	**16 53 19.9**	**+1.2**
DLBC				*e*		pP	16 53 30.9	+2.1	
FCC	**Fort Churchill**	**82.15**	**352**	*e*P		**P**	**16 53 20.0**	**+0.3**
	comp=Z,38nm,0.9s,mb5.3								
FCC	**Fort Churchill**	**82.15**	**352**	*e*P		**P**	**16 53 20.0**	**+0.2**
FCC				pmax	pmax				
	comp=Z,38nm,0.9s,mb5.3								
WRA	**Warramunga Arr**	**83.78**	**121**	P		**P**	**16 53 28.5**	**-0.5**
	comp=Z,40nm,0.9s,mb5.6,baz=323,slow=4.9,SNR=219								
WRA				PKKPbc			17 11 46.6		
	comp=Z,1.3nm,0.6s,baz=128,slow=2.5,SNR=9.7								
WRA				PKPPKP			17 19 51.2		
	comp=Z,1.2nm,1.0s,baz=134,slow=2.0,SNR=6.2								
WRAB	**Tennant Creek**	**83.78**	**121**	*e*P		**P**	**16 53 28.7**	**-0.2**
	comp=Z,84nm,0.9s,mb5.9								
WRAB	**Tennant Creek**	**83.78**	**121**	*d i*P		**P**	**16 53 28.9**	**-0.1**
WB2	**Warramunga Arr**	**83.78**	**121**	⇓*i*P		**P**	**16 53 28.9**	**-0.1**
PMG	**Port Moresby**	**85.96**	**105**	*d i*P		**P**	**16 53 40.5**	**+0.5**
ASPA	**Alice Springs**	**86.10**	**124**	⇓*i*P		**P**	**16 53 40.6**	**+0.1**
FORT	**Forrest**	**87.67**	**133**	*e*P		**P**	**16 53 48.7**	**+0.7**
	comp=Z,34nm,1.1s,mb5.3								
EDM	**Edmonton**	**88.58**	**2**	*e*P		**P**	**16 53 53.0**	**+1.3**
ULM	**Lac du Bonnet**	**90.72**	**351**	P		**P**	**16 54 02.5**	**+0.7**
	comp=Z,14nm,1.0s,mb5.2,baz=5.4,slow=4.3,SNR=8.5								
ULM				LR		LR	17 35 16.8		
	comp=Z,216nm,20.4s,MS4.6,baz=355,slow=36								
ULM	**Lac du Bonnet**	**90.72**	**351**	*e*P		**P**	**16 54 01.7**	**-0.2**
	comp=Z,23nm,1.1s,mb5.4								
CTA	**Charters Tower**	**92.15**	**114**	⇓*i*P		**P**	**16 54 09.9**	**+0.8**
CTA	**Charters Tower**	**92.15**	**114**	⇓*i*P		**P**	**16 54 09.9**	**+0.8**
CTA				pmax	pmax				
	comp=Z,23nm,1.2s								
CTAO	**Charters Tower**	**92.15**	**114**	*e*P		**P**	**16 54 10.3**	**+1.1**
	comp=Z,48nm,1.1s,mb5.7								
CTAO	**Charters Tower**	**92.15**	**114**	*e*P		**P**	**16 54 10.3**	**+1.2**
CTAO				pmax	pmax				
	comp=Z,48nm,1.1s,mb5.7								
EYMN	**Ely**	**92.33**	**348**	*e*P		**P**	**16 54 10.2**	**+0.9**
	comp=Z,16nm,1.0s,mb5.3								
NEW	**Newport**	**93.36**	**5**	P		**P**	**16 54 15.8**	**+1.8**
	comp=Z,8.0nm,0.8s,mb5.2,baz=354,slow=6.6,SNR=9.7								
NEW	**Newport**	**93.36**	**5**	*e*P		**P**	**16 54 15.6**	**+1.6**
	comp=Z,10nm,0.9s,mb5.2								
NEW	**Newport**	**93.36**	**5**	*e*P		**P**	**16 54 15.6**	**+1.6**
NEW				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CHMT	**Chamberlain Mo**	**94.89**	**2**	*e*P		**P**	**16 54 22.3**	**+1.2**
DLMT	**Dillon**	**96.45**	**2**	*e*P		**P**	**16 54 30.0**	**+1.7**
STKA	**Stephens Creek**	**96.67**	**126**	P		**P**	**16 54 29.1**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.6,baz=326,slow=12,SNR=4.9								
STKA				LR		LR	17 41 53.7		
	comp=Z,203nm,21.2s,MS4.6,baz=26,slow=38								
IMW	**Indian Meadow**	**97.95**	**1**	*e*P		**P**	**16 54 37.9**	**+2.8**
	comp=Z,4.3nm,0.9s,mb5.0								
PDAR	**Pinedale Array**	**99.08**	**360**	P		**P**	**16 54 41.5**	**+1.3**
	comp=Z,0.9nm,0.9s,mb4.3,slow=1.5,SNR=7.0								
PDAR				PKiKP			16 59 11.8		
	comp=Z,0.7nm,0.5s,baz=76,slow=3.7,SNR=4.6								
PDAR				LR		LR	17 44 00.6		
	comp=Z,299nm,18.1s,MS4.8,baz=12,slow=38								
TXAR	**Lajitas Array**	**112.22**	**354**	PP		PP	17 00 16.2	-7.1	
	comp=Z,0.9nm,0.7s,baz=45,slow=3.8,SNR=3.8								
TXAR				PKKPbc			17 10 26.9		
	comp=Z,1.0nm,0.9s,baz=180,slow=6.3,SNR=8.6								
SDV	**Santo Domingo**	**120.22**	**313**	*e*PKPdf		PKPdf	16 59 51.0	-3.9	
SNAA	**Sanae**	**121.00**	**201**	⇑		PKPdf	16 59 51.6	-3.5	
SNAA	**Sanae**	**121.00**	**201**	⇑		PKPdf	17 00 02.7	+7.6	
VNA2	**Neumayer--Watz**	**121.96**	**202**	⇑		PKPdf	16 59 54.6	-2.4	
VNA1	**Neumayer--Stat**	**122.10**	**203**	⇑		PKPdf	16 59 55.3	-1.9	
VNA3	**Neumayer Olymp**	**122.77**	**202**	⇑		PKPdf	16 59 56.1	-2.4	
ROSC	**El Rosal**	**125.61**	**314**	PKP		PKPdf	17 00 03.7	-1.6	
	comp=Z,25nm,0.9s,baz=81,slow=8.1,SNR=7.7								
SBA	**Scott Base**	**128.76**	**164**	*e*PKPdf		PKPdf	17 00 07.4	-2.4	
CPUP	**Villa Florida**	**134.42**	**269**	PKP		PKPdf	17 00 18.1	-3.7	
	comp=Z,5.6nm,0.7s,baz=85,slow=2.6,SNR=10								
LPAZ	**La Paz**	**137.16**	**289**	PKP		PKPdf	17 00 24.7	-2.3	
	comp=Z,4.1nm,0.8s,baz=55,slow=2.9,SNR=16								
LPAZ	**La Paz**	**137.16**	**289**	*e*PKPdf		PKPdf	17 00 24.8	-2.2	
LPAZ	**La Paz**	**137.16**	**289**	PKiKP		PKPdf	17 00 24.7	-2.3	
LPAZ				pmax	pmax				
	comp=Z,4.0nm,0.8s								
PLCA	**Paso Flores**	**149.66**	**253**	PKP		PKPdf	17 00 46.2	-1.7	
	comp=Z,22nm,1.0s,baz=84,slow=2.5,SNR=8.7								
PLCA				PKPbc		PKPdf	17 00 50.3	+2.3	
	comp=Z,21nm,0.9s,baz=108,slow=3.4,SNR=37								
PLCA	**Paso Flores**	**149.66**	**253**	*e*PKHKP			17 00 45.3		

DHMR 26 16:43:47.8±0.3, 12.64N×40.53E, h8km±21km, ML4.0, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.55**	**80**	⇑*i*P	Pn	16 44 45.8	+1.5
TRBA				*i* S	Sn	16 45 31.2	+4.3
TRBA					AML	AML	16 45 47.1	
	comp=N,671nm,0.6s							
UDYN	**Al 'Udayn**	**3.60**	**68**	*i* S	Sn		16 45 32.8	+4.6
UDYN					AML	AML	16 45 53.8	
	comp=Z,518nm,0.7s							
DHBB	**Dhamar BB**	**4.22**	**63**	*i* P	Pn		16 44 55.0	+1.2
DHBB				*i* S	Sn		16 45 47.4	+3.5
LBOS		**4.76**	**75**	*i* P	Pn		16 44 60.0	-1.5
LBOS				*i* S	Sn		16 45 56.4	-1.0

*NEIC **26** 16:52:45.8±0.7, 43.11N×126.40W, h10km, mb4.2/6, Error ellipse: s-maj=8.7km s-min=5.0km az=73.0*
*IDC **26** 16:52:46.5±1.5, 43.33N×125.99W, mb3.6/6, mb1 4.0/12, mb1mx3.8/28, mbtmp3.8/12, ML3.9/4, MS3.6/10, Ms1 3.6/10, ms1mx3.4/28, Error ellipse: s-maj=27.4km s-min=10.4km az=46.0*
*BJI **26** 16:52:47.1, 44.04N×127.19W, h10km, mB5.0, mb4.4, Ms4.5, Msz4.1*

ISC 26 16:52:43.9±2.3, 43.12N±0.04×126.50W±0.07, h10km±15km, n81, σ1§04/80, mb4.0/8, MS3.5/4, 5C, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.61**	**98**	⇑*i*P	Pn	**16 53 11.6**	**-1.0**
TAKO	**Tahkenitch**	**1.87**	**70**	P	Pn	**16 53 15.8**	**-0.6**
KBO	**Bosley Butte**	**1.91**	**117**	*e*P	Pn	**16 53 15.6**	**-1.3**
RNO	**Roman Nose**	**2.16**	**67**	⇑P	Pn	**16 53 20.4**	**-0.1**
DBO	**Dodson Butte**	**2.39**	**89**	⇑P	Pn	**16 53 23.3**	**-0.5**
HSO	**Harness Mounta**	**2.52**	**79**	P	Pn	**16 53 25.3**	**-0.5**
MPOR	**Mary's Peak**	**2.55**	**56**	P	Pn	**16 53 25.6**	**-0.5**
HUMO	**Hull Mountain**	**2.66**	**100**	⇑*i*P	Pn	**16 53 26.7**	**-0.9**
EUO	**Eugene**	**2.66**	**69**	P	Pn	**16 53 27.5**	**-0.2**
COR	**Corvallis**	**2.74**	**56**	⇑*i*P	Pn	**16 53 28.6**	**-0.3**
BBOR	**Butler Butte**	**2.81**	**93**	P	Pn	**16 53 29.9**	**0.0**
KHMM	**Horse Mountain**	**3.05**	**136**	*e*P	Pn	**16 53 31.2**	**-1.9**
YBH	**Yreka Blue Hor**	**3.13**	**115**	Pn	Pn	**16 53 34.4**	**+0.1**
	4.4nm,0.3s,baz=292,slow=11,SNR=67							
YBH				Sn	**Sn**	**16 54 11.0**	**-1.2**
	3.7nm,0.3s,baz=116,slow=12,SNR=8.3							
YBH	**Yreka Blue Hor**	**3.13**	**115**	*e*P	Pn	**16 53 34.2**	**-0.2**
HBO	**Huckleberry Mo**	**3.13**	**75**	P	Pn	**16 53 34.7**	**+0.3**
BROR	**Big Rock Looko**	**3.15**	**67**	P	Pn	**16 53 34.7**	**0.0**
IRO	**Indian Ridge**	**3.21**	**72**	P	Pn	**16 53 35.9**	**+0.4**
BUOR	**Burton Butte**	**3.25**	**103**	P	Pn	**16 53 36.8**	**+0.7**
FRIS	**Frissel Point**	**3.38**	**70**	P	Pn	**16 53 38.2**	**+0.3**
SSOR	**Sweet Springs**	**3.40**	**58**	P	Pn	**16 53 38.6**	**+0.4**
HUOR	**Husband**	**3.52**	**72**	P	Pn	**16 53 40.6**	**+0.6**
WIFE	**Three Sisters-**	**3.53**	**73**	P	Pn	**16 53 39.5**	**-0.6**
BKCOR	**Black Crater**	**3.68**	**70**	P	Pn	**16 53 42.6**	**+0.4**
WDC	**Whiskeytown Da**	**3.90**	**129**	*e*P	Pn	**16 53 44.1**	**-1.1**
KIPM	**Iron Peak**	**4.01**	**144**	*e*P	Pn	**16 53 46.1**	**-0.8**
VLMM	**Larch Mountain**	**4.01**	**51**	P	Pn	**16 53 47.5**	**+0.6**
KCPM	**Cahto Peak**	**4.07**	**146**	*e*P	Pn	**16 53 46.1**	**-1.6**
ERK	**Elk Rock**	**4.36**	**41**	P	Pn	**16 53 52.1**	**+0.3**
VIPM	**Ingram Point**	**4.48**	**70**	P	Pn	**16 53 53.2**	**-0.3**
MOD	**Modoc**	**4.74**	**103**	*e*P	Pn	**16 53 56.8**	**-0.5**
HOPS	**Hopland**	**4.87**	**147**	*e*P	Pn	**16 53 59.2**	**+0.2**
OHCM	**Honcut**	**5.34**	**133**	*e*P	Pn	**16 54 06.8**	**+1.0**
BEKR	**Beckwourth**	**5.64**	**123**	*e*P	Pn	**16 54 09.8**	**-0.1**
	4.7nm,0.7s							
WVOR	**Wild Horse Val**	**5.83**	**94**	*e*P	Pn	**16 54 10.2**	**-2.4**
	15nm,0.9s							
PGC	**Siey**	**5.93**	**20**	P	Pn	**16 54 11.5**	**-2.6**
	24nm,0.4s							
HAWA	**Hanford**	**5.95**	**54**	*e*P	Pn	**16 54 12.9**	**-1.3**
	2.8nm,0.7s							
CMB	**Columbia Colle**	**6.88**	**135**	*e*P	Pn	**16 54 29.0**	**+1.4**
	7.3nm,0.8s							
MNV	**Mina**	**7.87**	**124**	*e*P	Pn	**16 54 43.6**	**+2.3**
	3.8nm,0.8s							
NEW	**Newport**	**8.34**	**49**	Pn	**P**	**16 54 44.4**	**-3.5**
	1.0nm,0.3s,baz=258,slow=14,SNR=3.8							
NEW				LR	LR	16 58 03.8		
	comp=Z,634nm,20.4s,baz=240,slow=40							
ELK	**Elko**	**8.72**	**102**	Pn	**P**	**16 54 51.3**	**-1.9**
	0.1nm,0.3s,baz=305,slow=13,SNR=4.0							
ELK				LR	LR	16 58 31.6		
	comp=Z,212nm,21.1s,baz=276,slow=41							
BBB	**Bella Bella**	**9.14**	**354**	Pn	**P**	**16 54 58.6**	**-0.3**
	0.6nm,0.3s,baz=212,slow=19,SNR=2.9							
BBB				LR	LR	16 57 49.5		
	comp=Z,398nm,20.1s,baz=230,slow=34							
ISA	**Isabella**	**9.69**	**137**	P	**P**	**16 55 05.9**	**-0.6**
	4.2nm,0.3s							
DLMT	**Dillon**	**10.23**	**73**	*e*P	**P**	**16 55 13.4**	**-0.5**
DUG	**Dugway**	**10.65**	**101**	P	**P**	**16 55 19.6**	**-0.1**
	12nm,1.1s							
QLMT	**Earthquake Lak**	**11.00**	**76**	*e*P	**P**	**16 55 25.4**	**+1.0**
RRI2	**Red Ridge**	**11.08**	**84**	*e*P	**P**	**16 55 26.5**	**+1.0**
	48nm,1.4s							
ARUT	**Antelope Range**	**11.28**	**114**	*e*P	**P**	**16 55 29.3**	**+1.0**
AHID	**Auburn Hatcher**	**11.30**	**87**	*e*P	**P**	**16 55 29.7**	**+1.1**
	21nm,1.2s							
YMR	**Madison River**	**11.32**	**77**	P	**P**	**16 55 30.0**	**+1.2**
IMW	**Indian Meadow**	**11.33**	**81**	*e*P	**P**	**16 55 29.7**	**+0.7**
	22nm,1.3s							
TPAW	**Teton Pass**	**11.34**	**83**	*e*P	**P**	**16 55 29.5**	**+0.4**
	56nm,1.3s							
REDW	**Red Top Meadow**	**11.42**	**83**	*e*P	**P**	**16 55 30.7**	**+0.5**
	46nm,1.4s							
LOHW	**Long Hollow**	**11.59**	**82**	*e*P	**P**	**16 55 33.2**	**+0.8**
	26nm,1.3s							
NEN	**Nelson**	**11.70**	**126**	*e*P	**P**	**16 55 35.8**	**+1.9**
MSU	**Marysvale**	**11.79**	**108**	*e*P	**P**	**16 55 36.0**	**+0.9**
LDFC	**Landfair**	**11.94**	**128**	*e*P	**P**	**16 55 38.1**	**+0.9**
PDAR	**Pinedale Array**	**12.43**	**86**	Pn	**P**	**16 55 43.1**	**-0.7**
	0.1nm,0.3s,baz=278,slow=10,SNR=14							
PDAR				LR	LR	17 00 55.3		
	comp=Z,566nm,18.9s,baz=344,slow=41							
PDAR	**Pinedale Array**	**12.43**	**86**	Pn	**P**	**16 55 43.1**	**-0.7**
PDAR				LR	LR	17 00 55.3		
DLBC	**Dease Lake**	**15.50**	**353**	Pn	**P**	**16 56 30.8**	**+6.8**
	0.2nm,0.3s,baz=182,slow=12,SNR=8.9							
DLBC				LR	LR	17 01 41.2		
	comp=Z,128nm,20.2s,baz=280,slow=35							
DLBC	**Dease Lake**	**15.50**	**353**	P	**P**	**16 56 23.9**	**-0.1**
DLBC				Pn	**P**	**16 56 30.8**	**+6.8**
DLBC				LR	LR	17 01 41.2		
ISCO	**Idaho Springs**	**16.00**	**95**	*e*P	**P**	**16 56 30.1**	**-0.6**
	10nm,0.9s							
DGMT	**Dagmar**	**16.43**	**63**	P	**P**	**16 56 37.5**	**+1.4**
	64nm,1.4s							
SDCO	**Great Sand Dun**	**16.85**	**101**	*e*P	**P**	**16 56 42.2**	**+0.8**
	41nm,1.5s							
ANMO	**Albuquerque**	**17.55**	**111**	P	**P**	**16 56 50.0**	**-0.2**
	baz=309,slow=10,SNR=14							
ANMO				LR	LR	17 03 23.9		
	comp=Z,94nm,18.1s,slow=37							
ANMO	**Albuquerque**	**17.55**	**111**	*e*P	**P**	**16 56 51.1**	**+0.9**
	22nm,1.4s							
MNTX	**Cornudas Mount**	**20.22**	**117**	P	**P**	**16 57 21.4**	**-0.5**
	12nm,1.5s							
YKA	**Yellowknife Ar**	**20.63**	**16**	P	**P**	**16 57 24.8**	**-1.1**
	1.0nm,0.7s,baz=211,slow=13,SNR=3.2							
YKA				LR	LR	17 06 27.2		
	comp=Z,93nm,18.6s,MS3.2,baz=240,slow=40							
YKA	**Yellowknife Ar**	**20.63**	**16**	P	**P**	**16 57 24.8**	**-1.1**
YKA				LR	LR	17 06 27.2		
KDAK	**Kodiak Island**	**21.97**	**321**	P	**P**	**16 57 42.1**	**+2.6**
	3.5nm,0.7s,mb3.9,baz=125,slow=12,SNR=2.9							
ULM	**Lac du Bonnet**	**22.08**	**60**	P	**P**	**16 57 40.2**	**-0.4**
	5.4nm,0.8s,mb4.0,baz=256,slow=10,SNR=5.5							
ULM				LR	LR	17 06 43.2		
	comp=Z,257nm,19.3s,MS3.7,baz=316,slow=39							
TXAR	**Lajitas Array**	**22.90**	**119**	P	**P**	**16 57 51.6**	**+2.7**
	0.4nm,0.4s,mb3.2,baz=299,slow=9.3,SNR=4.1							
ILAR	**Eielson Array**	**24.57**	**339**	P	**P**	**16 58 06.3**	**+1.6**
	2.2nm,0.9s,mb3.7,baz=156,slow=9.1,SNR=10							
ILAR				LR	LR	17 06 14.8		
	comp=Z,95nm,20.7s,MS3.3,baz=6.1,slow=33							
INK	**Inuvik**	**25.52**	**354**	LR	LR	17 07 56.2		
	comp=Z,226nm,18.9s,MS3.7,baz=340,slow=36							
PLAL	**Pickwick Lake**	**30.71**	**92**	*e*P	**P**	**16 59 02.1**	**+0.9**
	7.1nm,1.0s,mb4.5							
MDJ	**Mudanjiang**	**69.45**	**312**	P	**P**	**17 03 52.3**	**-1.8**
MDJ					AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3							
MDJ					AMB	AMB		
	comp=Z,85nm,5.8s							
CN2	**Changchun**	**72.22**	**314**	*e*P	**P**	**17 04 10.0**	**-0.9**
AKASG	**Malin Array Be**	**84.20**	**15**	P	**P**	**17 05 17.4**	**+1.1**
	comp=Z,0.1nm,0.2s,mb3.5,slow=1.9,SNR=2.5							
WMQ	**Urumqi**	**88.20**	**336**	*e*P	**P**	**17 05 36.5**	**+0.4**
LZH	**Lanzhou**	**88.81**	**321**	*e*P	**P**	**17 05 37.8**	**-1.4**
LZH				AP	pP	17 05 41.0	-1.3	
LZH				XP	sP	17 05 42.8	-0.5	
LZH				AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.7							
WB2	**Warramunga Arr**	**109.90**	**261**	*e*P	Pdif	17 07 14.0	-0.7	
LSZ	**Lusaka**	**144.81**	**46**	*e*PKPdf	PKPdf	17 12 22.6	-1.8	

IDC 26 16:59:43.7±0.7, 28.29N×140.42E, h426km±24km, mb3.0/5, mb1 3.1/5, mb1mx2.9/18, mbtmp3.8/5, Error ellipse: s-maj=85.8km s-min=22.4km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.96**	**127**	P	P	17 00 42.0	-0.2
	14nm,0.3s,baz=275,slow=20,SNR=9.0							
CBIJ				S	S	17 01 29.1	+0.8	
	9.8nm,0.3s,baz=245,slow=19,SNR=2.6							
SONM	**Songino Array**	**32.77**	**316**	P	P	17 05 39.5	-1.1	
	0.3nm,0.4s,baz=126,slow=8.1,SNR=7.2							
WRA	**Warramunga Arr**	**48.31**	**188**	P	P	17 07 44.5	-1.8	
	0.2nm,0.3s,baz=5.4,slow=7.6,SNR=4.6							
MKAR	**Makanchi Array**	**48.51**	**309**	P	P	17 07 45.4	-2.1	
	0.3nm,0.4s,baz=77,slow=10.0,SNR=4.2							
BVAR	**Borovoye Array**	**56.11**	**317**	P	P	17 08 40.9	-1.8	
	1.2nm,0.4s,baz=94,slow=7.4,SNR=14							
FINES	**FINESS Array B**	**76.19**	**333**	P	P	17 10 46.0	-1.4	
	1.7nm,0.9s,baz=74,slow=10,SNR=4.0							

NNC 26 17:00:12.6±4.2, 38.67N×69.22E, h18km±20km, mpv3.4, 6C-1D, Error ellipse: s-maj=34.7km s-min=29.2km az=170.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.54**	**12**	Pn	Pn	17 01 22.3	+0.1
	1.8nm,0.6s,baz=200,slow=16,SNR=29							
KK31				⇑Pg	Pn	17 01 38.3	+16	
	4.0nm,0.5s							
KK31				⇑Sn	Sn	17 02 18.9	+3.7	
	3.6nm,0.5s							
KK31				⇓Lg		17 02 32.8		
	7.5nm,0.5s,baz=194,slow=32,SNR=4.8							
AAK	**Ala-Archa**	**5.64**	**44**	⇑Pn	Pn	17 01 35.2	-2.5	
	5.7nm,0.9s							
AAK				⇑Sn	Sn	17 02 42.3	-0.5	
	7.1nm,0.6s							
AAK				⇑Lg		17 03 10.3		
	14nm,0.9s							
AB31	**Akbulak array**	**12.51**	**331**	Pn	P	17 03 12.1	-0.4	
	0.9nm,0.6s,baz=152,slow=12,SNR=22							
AB31				⇑Sn	S	17 05 30.6	-1.8	
	2.6nm,0.8s,baz=151,slow=22,SNR=5.8							

MEX 26 17:00:42.3±0.5, 16.19N×95.04W, h37km±43km, MD3.8, Oaxaca

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

ALN	**Alexandroupoli**	**2.32**	**11**	*e*P		**Pn**	**17 18 14.1**	**+3.3**
RDO	**Rodhopi**	**2.53**	**1**	*e*P		**Pn**	**17 18 12.1**	**-1.7**

*IDC **26** 17:24:27.9±4.1, 12.06N×40.67E, mb3.9/8, mb1 4.1/9, mb1mx4.0/17, mbtmp4.0/9, ML3.9/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/19, Error ellipse: s-maj=94.2km s-min=14.6km az=27.0*
*NEIC **26** 17:24:29.0±1.0, 12.05N×40.63E, h10km, mb4.6/7, ML4.3(DHMR), Error ellipse: s-maj=22.8km s-min=6.6km az=191.0*
*DHMR **26** 17:24:28.3±0.3, 12.64N×40.51E, h12km±40km, ML4.2*
*CSEM **26** 17:24:29.3±0.1, 12.34N×40.59E, h10km, mb4.4/6, Ms3.3, Error ellipse: s-maj=6.4km s-min=2.4km az=10.0*

ISC 26 17:24:27.7±0.9, 12.1N±0.1×40.58E±0.04, h10km, n56, σ1§09/59, mb4.2/13, MS3.9/8, 4C-5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.30**	**104**	Pn		**Pn**	**17 25 06.2**	**+0.1**
	38nm,0.3s,baz=278,slow=9.8,SNR=43							
ATD				Lg			17 25 36.5	
	118nm,0.3s,baz=262,slow=23,SNR=26							
ATD				Rg			17 25 47.2	
	716nm,0.5s,baz=249,slow=20,SNR=10							
ATD	**Arta Tunnel**	**2.30**	**104**	Pn		**Pn**	**17 25 06.2**	**+0.1**
ATD				Lg			17 25 36.5	
ATD				Rg			17 25 47.2	
ATD	**Arta Tunnel**	**2.30**	**104**	Pn		**Pn**	**17 25 06.2**	**0.0**
TRBA	**At Turbah**	**3.63**	**72**⇑	*i*P		**Pn**	**17 25 26.1**	**+0.9**
TRBA				*i* S		**Sn**	**17 26 11.4**	**+2.8**
TRBA				AML		AML	17 26 26.1	
	comp=N,1μm,0.6s							
TRBA	**At Turbah**	**3.63**	**72**⇓	*i*P		**Pn**	**17 25 26.0**	**+0.8**
TRBA				*i* S		**Sn**	**17 26 10.9**	**+2.3**
TRBA	**At Turbah**	**3.63**	**72**⇓	*i*P		**Pn**	**17 25 26.0**	**+0.8**
TRBA				*i* S		**Sn**	**17 26 10.9**	**+2.3**
UDYN	**Al 'Udayn**	**3.79**	**60**⇑	*e*P		**Pn**	**17 25 27.1**	**-0.3**
UDYN				*i* S		**Sn**	**17 26 13.0**	**+0.4**
UDYN				AML		AML	17 26 33.1	
	comp=Z,1μm,0.8s							
UDYN	**Al 'Udayn**	**3.79**	**60**⇓	*i*P		**Pn**	**17 25 27.7**	**+0.3**
UDYN				*i* S		**Sn**	**17 26 15.2**	**+2.6**
DHBB	**Dhamar BB**	**4.45**	**56**⇓	*e*P		**Pn**	**17 25 35.4**	**-1.4**
DHBB				*i* S		**Sn**	**17 26 27.5**	**-1.8**
DHBB	**Dhamar BB**	**4.45**	**56**⇑	*i*P		**Pn**	**17 25 35.8**	**-1.0**
DHBB				*i* S		**Sn**	**17 26 31.2**	**+1.9**
DHBB	**Dhamar BB**	**4.45**	**56**⇑	*i*P		**Pn**	**17 25 35.8**	**-1.0**
DHBB				*i* S		**Sn**	**17 26 27.5**	**-1.8**
BDHA	**Al Bayda'**	**5.21**	**69**	*i*P		**Pn**	**17 25 44.8**	**-2.8**
BDHA				*i* S		**Sn**	**17 26 44.7**	**-3.7**
BDHA	**Al Bayda'**	**5.21**	**69**⇓	*i*P		**Pn**	**17 25 45.2**	**-2.3**
BDHA				*i* S		**Sn**	**17 26 46.3**	**-2.1**
BDHA	**Al Bayda'**	**5.21**	**69**	*i*P		**Pn**	**17 25 44.8**	**-2.8**
BDHA				*i* S		**Sn**	**17 26 46.3**	**-2.1**
KMBO	**Kilima Mbogo**	**13.55**	**194**	Lg			17 31 28.4	
	comp=Z,0.1nm,0.3s,baz=239,slow=21,SNR=3.6							
KMBO				LR		LR	17 32 55.1	
	comp=Z,525nm,20.9s,baz=93,slow=38							
ASF	**Jabal al Asfar**	**20.26**	**351**	P		**P**	**17 29 05.0**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=156,slow=7.5,SNR=12							
ASF				LR		LR	17 35 42.5	
	comp=Z,98nm,20.4s,MS3.1,baz=187,slow=33							
MALT	**Malatya**	**26.17**	**356**	*e*P		**P**	**17 30 06.8**	**+2.7**
	comp=Z,36nm,1.9s,mb4.6							
GNI	**Garni**	**28.18**	**7**	LR		LR	17 41 30.6	
	comp=Z,103nm,20.3s,MS3.4,baz=186,slow=36							
BRTR	**Keskin Array B**	**28.19**	**349**	P		**P**	**17 30 23.9**	**+1.4**
	comp=Z,2.2nm,0.9s,mb3.8,baz=174,slow=12,SNR=8.1							
LSZ	**Lusaka**	**29.84**	**205**	LR		LR	17 43 10.4	
	comp=Z,498nm,19.9s,MS4.2,baz=353,slow=38							
TIP	**Timpagrande**	**34.25**	**326**	P		**P**	**17 31 15.7**	**-0.3**
TIP	**Timpagrande**	**34.25**	**326**	P		**P**	**17 31 15.7**	**-0.3**
AKASG	**Malin Array Be**	**39.59**	**349**	P		**P**	**17 31 60.0**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.3,baz=168,slow=7.3,SNR=6.9							
KECS	**Kecovo**	**39.94**	**339**	*e*pP		pP	17 32 06.2	-0.6
VYHS	**Vyhne**	**40.55**	**338**	*e*P		**P**	**17 32 09.1**	**+0.4**
PGF	**Pioggiola**	**40.88**	**324**	*e*P		**P**	**17 32 11.8**	**+0.3**
OJC	**Ojcow**	**41.66**	**340**	*e*P		**P**	**17 32 15.4**	**-2.5**
VRAC	**Vranov**	**42.06**	**337**	*e*P		**P**	**17 32 22.6**	**+1.4**
GERES	**GERESS Array B**	**42.88**	**334**	P		**P**	**17 32 28.9**	**+1.0**
	comp=Z,1.6nm,0.7s,mb3.9,baz=143,slow=6.7,SNR=14							
KHC	**Kasperske Hory**	**43.15**	**334**	*e*P		**P**	**17 32 30.5**	**+0.4**
MBDF	**Montbardon**	**43.49**	**325**	*e*P		**P**	**17 32 33.5**	**+0.6**
	comp=Z,22nm,0.9s,mb4.6							
LPL	**La Plagne**	**44.00**	**326**	*e*P		**P**	**17 32 35.8**	**-1.2**
ORIF	**Oris-en-Rattie**	**44.12**	**324**	*e*P		**P**	**17 32 37.7**	**-0.3**
BRG	**Berggiesshubel**	**44.35**	**336**	*e*P		**P**	**17 32 40.4**	**+0.6**
	comp=Z,2.5nm,1.2s,mb3.8							
BRG	**Berggiesshubel**	**44.35**	**336**	*e*P		**P**	**17 32 40.3**	**+0.5**
	comp=Z,2.5nm,1.2s,mb3.8							
GRA1	**Grafenberg Arr**	**44.60**	**333**	*e*P		**P**	**17 32 41.9**	**+0.1**
	comp=Z,10.0nm,1.4s,mb4.5							
GRF	**Grafenberg Arr**	**44.60**	**333**	*e*P		**P**	**17 32 41.9**	**+0.1**
	comp=Z,10.0nm,1.4s,mb4.5							
LASF	**Ste Croix**	**44.81**	**322**	*e*P		**P**	**17 32 43.9**	**+0.3**
	comp=Z,22nm,1.3s,mb4.5							
CLL	**Collm**	**45.06**	**336**	P		**P**	**17 32 46.0**	**+0.5**
DBIC	**Dimbokro**	**45.10**	**267**	LR		LR	17 50 39.6	
	comp=Z,104nm,20.2s,MS3.8,baz=71,slow=35							
HINF	**Hinteralfeld**	**45.40**	**328**	*e*P		**P**	**17 32 47.5**	**-0.7**
MTLF	**Montolieu**	**45.41**	**321**	*e*P		**P**	**17 32 48.6**	**+0.2**
HAU	**Haudompre**	**45.78**	**328**	*e*P		**P**	**17 32 50.5**	**-0.7**
SSF	**Saint Saulge**	**46.72**	**326**	*e*P		**P**	**17 32 58.0**	**-0.7**
MEZF	**Maizieres J'vi**	**46.76**	**328**	*e*P		**P**	**17 32 58.7**	**-0.3**
ETSF	**Etsaut**	**46.95**	**319**	*e*P		**P**	**17 33 01.0**	**+0.4**
	comp=Z,28nm,1.3s,mb4.7							
MKAR	**Makanchi Array**	**49.23**	**37**	P		**P**	**17 33 18.2**	**0.0**
	comp=Z,1.2nm,0.9s,mb3.9,baz=230,slow=9.5,SNR=6.4							
MKAR				LR		LR	17 56 52.9	
	comp=Z,197nm,21.8s,MS4.1,baz=254,slow=40							
MKAR	**Makanchi Array**	**49.23**	**37**	P		**P**	**17 33 18.2**	**-0.1**
FINES	**FINESS Array B**	**50.38**	**351**	P		**P**	**17 33 27.6**	**+0.7**
	comp=Z,2.9nm,0.9s,mb4.3,baz=127,slow=9.5,SNR=5.2							
FINES	**FINESS Array B**	**50.38**	**351**	P		**P**	**17 33 27.5**	**+0.6**
NB2	**NORSAR Subarra**	**53.35**	**343**	P		**P**	**17 33 48.4**	**-0.9**
	comp=Z,9.1nm,1.2s,mb4.6,baz=145,slow=7.4							
NOA	**NORSAR Array B**	**53.35**	**343**	P		**P**	**17 33 47.5**	**-1.8**
	comp=Z,2.1nm,0.8s,mb4.1,baz=142,slow=7.3,SNR=4.5							
SONM	**Songino Array**	**64.92**	**43**	P		**P**	**17 35 10.4**	**+0.8**
	comp=Z,1.6nm,0.9s,mb4.1,baz=262,slow=6.6,SNR=9.2							
SONM				LR		LR	18 07 28.8	
	comp=Z,181nm,19.7s,MS4.3,baz=260,slow=40							
MJAR	**Matsushiro Arr**	**88.92**	**53**	LR		LR	18 20 58.3	
	comp=Z,80nm,19.2s,MS4.2,baz=30,slow=38							
BDFB	**Brasilia**	**91.87**	**255**	LR		LR	18 18 21.8	
	comp=Z,91nm,18.0s,MS4.3,baz=97,slow=35							
PPT	**Papeete**	**168.78**	**120**	*e*LR		LR	17 45 23.4	
	comp=Z,72nm,24.0s							

*IDC **26** 17:49:10.9±2.1, 3.78N×92.91E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=79.7km s-min=31.4km az=54.0*

ISC 26 17:49:14.7±1.7, 3.8N±0.3×93.1E±0.4, h33km, n9, σ0§99/9, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PKI	**Pulchoki**	**24.73**	**344**	*e*P		**P**	**17 54 35.5**	**+0.8**
DMN	**Daman**	**24.86**	**343**	*e*P		**P**	**17 54 37.5**	**+1.7**
	9.4nm,0.9s,mb4.3							
KKN	**Kakani**	**24.98**	**343**	*e*P		**P**	**17 54 36.2**	**-0.8**
GKN	**Gorkha**	**25.37**	**342**	*e*P		**P**	**17 54 39.1**	**-1.6**
	7.7nm,0.7s,mb4.3							
KOLN	**Koldanda**	**25.48**	**340**	*e*P		**P**	**17 54 43.0**	**+1.2**
MKAR	**Makanchi Array**	**43.83**	**349**	P		**P**	**17 57 19.0**	**-0.4**
	0.8nm,0.6s,mb3.6,baz=180,slow=7.2,SNR=6.5							
SONM	**Songino Array**	**45.33**	**13**	P		**P**	**17 57 30.9**	**-0.6**
	0.4nm,0.5s,mb3.5,baz=180,slow=4.3,SNR=2.4							
WRA	**Warramunga Arr**	**46.89**	**122**	P		**P**	**17 57 44.5**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=297,slow=8.9,SNR=5.0							
GERES	**GERESS Array B**	**80.15**	**319**	P		**P**	**18 01 22.7**	**-0.6**
	0.3nm,0.5s,mb3.5,baz=90,slow=2.9,SNR=3.5							

DHMR 26 17:59:15.4±2.6, 12.56N×40.56E, h2km±14km, ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TRBA	**At Turbah**	**3.53**	**79**	*i*P		Pn	18 00 14.0	+1.6
TRBA				*i* S		Sn	18 00 59.8	+4.5
TRBA				AML		AML	18 01 12.5	
	comp=N,560nm,0.6s							
UDYN	**Al 'Udayn**	**3.60**	**67**	*i* S		Sn	18 01 01.8	+4.7
UDYN				AML		AML	18 01 21.4	
	comp=E,645nm,0.8s							
DHBB	**Dhamar BB**	**4.23**	**61**	*i*P		Pn	18 00 23.5	+1.2
DHBB				*i* S		Sn	18 01 16.6	+3.6
LBOS		**4.75**	**74**	*i*P		Pn	18 00 28.3	-1.4
LBOS				*i* S		Sn	18 01 24.8	-1.4
BDHA	**Al Bayda'**	**5.08**	**73**	*i* S		Sn	18 01 33.4	-1.0

DHMR 26 18:04:41.8±1.0, 12.44N×40.31E, h12km±79km, ML3.9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TRBA	**At Turbah**	**3.79**	**78**	*i*P		Pn	18 05 41.5	+0.1
TRBA				*i* S		Sn	18 06 29.5	+3.2
TRBA				AML		AML	18 06 41.9	
	comp=N,458nm,0.6s							
UDYN	**Al 'Udayn**	**3.87**	**66**	*i* S		Sn	18 06 31.9	+3.5
UDYN				AML		AML	18 06 50.0	
	comp=E,347nm,0.6s							
DHBB	**Dhamar BB**	**4.50**	**61**	*i*P		Pn	18 05 52.2	+0.8
DHBB				*i* S		Sn	18 06 46.2	+2.0
LBOS		**5.01**	**73**	*i*P		Pn	18 05 57.1	-1.6
LBOS				*i* S		Sn	18 06 56.1	-1.2

DHMR 26 18:13:12.1±2.7, 12.56N×40.39E, h2km±14km, ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TRBA	**At Turbah**	**3.70**	**79**	*i*P		Pn	18 14 12.9	+1.4
TRBA				*i* S		Sn	18 15 00.7	+4.4
TRBA				AML		AML	18 15 15.4	
	comp=N,637nm,0.7s							
UDYN	**Al 'Udayn**	**3.76**	**68**	*i* S		Sn	18 15 01.7	+3.9
DHBB	**Dhamar BB**	**4.38**	**62**	*i*P		Pn	18 14 22.1	+1.0
DHBB				*i* S		Sn	18 15 17.4	+3.9
LBOS		**4.91**	**74**	*e*P		Pn	18 14 27.5	-1.2
LBOS				*i* S		Sn	18 15 25.7	-1.3
BDHA	**Al Bayda'**	**5.24**	**74**	*i* S		Sn	18 15 34.1	-1.1

*NEIC **26** 18:20:14.4±1.3, 4.44S×153.86E, h98km±12km, mb4.5/8, Error ellipse: s-maj=12.2km s-min=9.9km az=149.0*
*IDC **26** 18:20:16.2±5.4, 4.49S×153.74E, h106km±45km, mb4.1/6, mb1 4.2/8, mb1mx4.0/13, mbtmp4.5/8, MS2.9/1, Ms1 2.9/1, ms1mx2.7/15, Error ellipse: s-maj=42.9km s-min=21.9km az=95.0*

ISC 26 18:20:16.8±2.4, 4.5S±0.1×153.61E±0.06, h123km±23km, n32, σ0§67/31, mb4.6/16, 2C-4D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.99**	**128**	S		**S**	**18 23 40.2**	**-0.3**
	8.1nm,0.3s,baz=332,slow=21,SNR=6.0							
HNR	**Honiara**	**7.99**	**128**	*e*Pn		**P**	**18 22 04.3**	**-7.0**
PMG	**Port Moresby**	**8.05**	**232**	P		**P**	**18 22 12.5**	**+0.3**
	27nm,0.3s,baz=44,slow=7.5,SNR=77							
PMG				S		**S**	**18 23 41.3**	**-0.8**
	12nm,0.3s,baz=134,slow=20,SNR=17							
CTA	**Charters Tower**	**17.09**	**204**	P		**P**	**18 24 11.1**	**+1.5**
	0.1nm,0.3s,baz=24,slow=16,SNR=3.8							
CTA				LR		LR	18 29 47.4	
	comp=Z,41nm,20.1s,baz=152,slow=33							
CTAO	**Charters Tower**	**17.09**	**204**	*e*Pn		**P**	**18 24 12.2**	**+2.6**
	6.8nm,1.0s							
KAKA	**Kakadu**	**22.45**	**247**	*i*P		**P**	**18 25 26.3**	**+20**
	25nm,0.6s,mb4.7							
KAKA				*e*S		S	18 29 23.9	+24
WRAB	**Tennant Creek**	**24.24**	**229**	*e*P		**P**	**18 25 24.4**	**+0.8**
	24nm,0.6s,mb4.7							
WB2	**Warramunga Arr**	**24.25**	**229**⇑	*i*P		**P**	**18 25 24.0**	**+0.3**
WB2				*e*S		**S**	**18 29 43.3**	**+13**
WRA	**Warramunga Arr**	**24.26**	**229**	P		**P**	**18 25 24.5**	**+0.8**
	13nm,0.5s,mb4.5,baz=53,slow=9.7,SNR=101							
WRA				PcP		PcP	18 29 02.0	+0.1
	1.3nm,0.9s,baz=48,slow=2.5,SNR=5.5							
ASPA	**Alice Springs**	**26.93**	**223**	*i*P		**P**	**18 25 48.4**	**-0.2**
STKA	**Stephens Creek**	**29.49**	**201**⇑	*i*P		**P**	**18 26 10.8**	**-0.8**
	8.0nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**29.49**	**201**	P		**P**	**18 26 10.7**	**-0.9**
	9.3nm,0.8s,mb4.5,baz=3.6,slow=8.1,SNR=21							
FITZ	**Fitzroy Crossi**	**30.52**	**241**	*i*P		**P**	**18 26 19.6**	**-1.2**
	12nm,1.0s,mb4.6							
FORT	**Forrest**	**35.54**	**220**	*i*P		**P**	**18 27 03.8**	**-0.1**
	28nm,0.8s,mb5.2							
MBWA	**Marble Bar**	**36.83**	**240**	*e*P		**P**	**18 27 14.7**	**-0.1**
KSM	**Kuching**	**43.67**	**277**	*e*P		**P**	**18 28 10.8**	**-0.5**
KULM	**Kulim**	**53.77**	**280**	*e*P		**P**	**18 29 28.2**	**-0.9**
SONM	**Songino Array**	**66.49**	**327**	P		**P**	**18 30 55.5**	**+0.1**
	0.8nm,0.7s,mb3.7,baz=136,slow=4.8,SNR=4.2							
PKI	**Pulchoki**	**72.96**	**300**	*e*P		**P**	**18 31 35.5**	**+0.4**
KKN	**Kakani**	**73.13**	**301**	*e*P		**P**	**18 31 36.2**	**+0.2**
	18nm,0.8s,mb5.0							
DMN	**Daman**	**73.23**	**300**	*e*P		**P**	**18 31 37.1**	**+0.5**
	47nm,1.0s,mb5.2							
GKN	**Gorkha**	**73.73**	**301**	*e*P		**P**	**18 31 39.7**	**+0.1**
	43nm,1.1s,mb5.1							
KOLN	**Koldanda**	**74.57**	**300**	*e*P		**P**	**18 31 44.4**	**0.0**
	20nm,1.0s,mb4.8							
MKAR	**Makanchi Array**	**80.62**	**319**	P		**P**	**18 32 17.8**	**+0.5**
	3.0nm,0.9s,mb4.1,baz=79,slow=6.2,SNR=13							
ILAR	**Eielson Array**	**81.56**	**22**	P		**P**	**18 32 21.2**	**-0.7**
	1.7nm,0.9s,mb3.9,baz=246,slow=4.6,SNR=10							
KURK	**Kurhatov**	**84.02**	**322**	*e*P		**P**	**18 32 34.8**	**+0.1**
	4.2nm,1.0s,mb4.2							
AAK	**Ala-Archa**	**85.03**	**313**	*e*P		**P**	**18 32 40.8**	**+0.8**
	2.5nm,0.7s,mb4.2							
MAW	**Mawson**	**86.17**	**203**	P		**P**	**18 32 45.1**	**+0.2**
	4.5nm,0.8s,mb4.4,baz=80,slow=9.6,SNR=6.1							
BRVK	**Borovoye**	**89.54**	**323**	*e*P		**P**	**18 33 00.2**	**-1.1**
CLL	**Collm**	**122.96**	**332**	*i* PKIKP		PKPdf	18 39 00.5	+1.9
GERES	**GERESS Array B**	**124.20**	**329**	PKP		PKPdf	18 39 02.8	+1.7
	0.7nm,0.6s,baz=90,slow=1.3,SNR=7.2							
BDFB	**Brasilia**	**150.71**	**133**	PKPbc		PKPdf	18 39 56.5	+6.9
	2.7nm,0.7s,baz=347,slow=3.6,SNR=3.0							

DHMR 26 18:37:12.0±2.8, 12.73N×40.55E, h6km±181km, ML4.1, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TRBA	**At Turbah**	**3.51**	**81**	*i*P		Pn	18 38 10.1	+1.9
TRBA				*i* S		Sn	18 38 54.9	+4.2
TRBA				AML		AML	18 39 12.0	
	comp=N,1μm,0.6s							
UDYN	**Al 'Udayn**	**3.55**	**69**	AML		AML	18 39 20.3	
	comp=N,538nm,0.7s							
DHBB	**Dhamar BB**	**4.16**	**63**	*i*P		Pn	18 38 18.1	+0.7
DHBB				*i* S		Sn	18 39 10.9	+3.9
LBOS		**4.71**	**76**	*i*P		Pn	18 38 24.1	-1.2
LBOS				*i* S		Sn	18 39 20.0	-1.1
BDHA	**Al Bayda'**	**5.04**	**75**	*i* S		Sn	18 39 28.1	-1.2

*NIED **26** 18:50:00, 23.20N×121.50E, h35km, Mw5.2 Best double couple: M0 6.89×10^16 NP1:φs214°, δ60°, λ110°. NP2: φs358°, δ36°, λ59°.*
*IDC **26** 18:50:16.1±0.5, 23.15N×121.30E, mb4.6/16, mb1 4.6/18, mb1mx4.6/25, mbtmp4.6/18, ML3.9/2, MS4.5/25, Ms1 4.5/25, ms1mx4.4/32, Error ellipse: s-maj=22.0km s-min=12.0km az=66.0*
*BJI **26** 18:50:17.1, 23.26N×121.49E, h10km, mB5.1, mb4.6, ML5.0, Ms5.3, Msz5.1*
*NEIC **26** 18:50:20.4, 23.21N×121.41E, h9km, mb4.9/16, After TAP.*
NEIC Recorded [4 TAP] in Hua-lien and T'ai-tung; [3 TAP] in Yun-lin; [2 TAP] in Chia-i, Nan-t'ou and T'ai-nan; [1 TAP] in Chang-hua, Kao-hsiung, Miao-li, P'ing-tung and T'ai-chung Counties.
*HRVD **26** 18:50:20.4±0.4, 23.22N×121.40E, h26km±1km, MW5.2/44, Centroid moment Tensor Solution. LP body waves: s20,c28;Mantle waves: s44,c87; Half duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr 0.64±.06; Mθθ 0.05±.03; Mφφ -0.68±.04; Mrθ -0.09±.06; Mθφ -0.41±.02; Mφr 0.39±.07; Best double couple: M0 .869×10^17 NP1:φs227°, δ38°, λ126°. NP2:φs4°, δ60°, λ65°. Principal axes: T .798, Plg65°, Azm228°; N .143, Plg21°, Azm17°; P -.94, Plg12°, Azm112°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*JMA **26** 18:50:20.0±0.2, 23.20N×121.49E, h94km, M5.0*

ISC 26 18:50:16.3±0.3, 23.19N±0.03×121.49E±0.02, h9km, n113, σ1§38/127, mb4.8/35, MS4.7/25, 5C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
NACB	**Ninganchiao**	**0.99**	**5**⇓	*e*Pn		**Pn**	**18 50 36.0**	**-0.2**
NACB				*e*Sn		**Sn**	**18 50 50.9**	**+0.6**
YHNB	**Yeheng**	**1.48**	**356**	*e*Pn		**Pn**	**18 50 44.9**	**+1.6**
YHNB				*e*Sn		**Sn**	**18 51 03.0**	**+0.2**
TATO	**Taipei**	**1.78**	**360**	*e*Pn		**Pn**	**18 50 49.4**	**+1.8**
YOJ	**Yonaguni jima**	**1.88**	**47**	P		**Pn**	**18 50 51.1**	**+2.1**
YOJ				S		**Sn**	**18 51 15.0**	**+2.0**
HATJ	**Hateruma jima**	**2.29**	**67**	P		**Pn**	**18 50 56.6**	**+1.8**
HATJ				S		**Sn**	**18 51 24.0**	**+0.6**
IRIF	**Iriomote-Funau**	**2.35**	**60**	P		**Pn**	**18 50 57.6**	**+2.0**
IRIF				S		**Sn**	**18 51 26.2**	**+1.4**
JKRS	**Kuro-shima**	**2.53**	**65**	P		**Pn**	**18 51 00.2**	**+1.9**
JKRS				S		**Sn**	**18 51 30.8**	**+1.3**
JIJ	**Ishigaki jima**	**2.69**	**64**	P		**Pn**	**18 51 02.1**	**+1.5**
JIJ				S		**Sn**	**18 51 33.6**	**-0.1**
QZH	**Quanzhou**	**3.18**	**304**⇓	*i*P		**Pn**	**18 51 07.5**	**0.0**
QZH				S		**Sn**	**18 51 40.8**	**-5.1**
QZH				Smax				
	comp=N,5μm,0.9s							
QZH				Smax				
	comp=E,5μm,0.8s							
QZH				LR		LR		
	comp=N,41μm,13.2s							
QZH				LR		LR		
	comp=E,34μm,12.6s							
QZH				LR		LR		
	comp=Z,48μm,11.7s							
JTJ	**Tarama**	**3.27**	**63**	P		**Pn**	**18 51 10.1**	**+1.2**
JTJ				S		**Sn**	**18 51 48.1**	**-0.2**
JMJ	**Miyako jima 2**	**3.83**	**64**	P		**Pn**	**18 51 17.9**	**+1.1**
JMJ				S		**Sn**	**18 52 01.1**	**-1.4**
JOGS	**Gusukube**	**3.91**	**66**	P		**Pn**	**18 51 18.9**	**+1.1**
JOGS				*e*S		**Sn**	**18 52 03.9**	**-0.4**
JKE	**Kume jima 2**	**5.74**	**56**	P		**Pn**	**18 51 43.0**	**-0.8**
JKE				*e*S		**Sn**	**18 52 47.6**	**-2.9**
JAGN	**Aguni-jima**	**6.22**	**56**	P		**Pn**	**18 51 49.3**	**-1.3**
JAGN				*e*S		**Sn**	**18 52 58.8**	**-3.8**
JIH	**Iheya**	**7.01**	**56**	P		**Pn**	**18 51 59.9**	**-1.8**
JIH				*e*S		**Sn**	**18 53 18.0**	**-4.3**
JOW	**Kunigami**	**7.14**	**58**	Pn		**Pn**	**18 52 00.9**	**-2.6**
	comp=Z,9.6nm,0.3s,baz=190,slow=12,SNR=55							
JOW				Sn		**Sn**	**18 53 22.7**	**-2.9**
	comp=Z,7.3nm,0.3s,baz=120,slow=27,SNR=2.7							
JOW	**Kunigami**	**7.14**	**58**	P		**Pn**	**18 52 02.5**	**-1.0**
JOW				*e*S		**Sn**	**18 53 23.3**	**-2.3**
GZH	**Guangzhou**	**7.50**	**271**	P		**Pn**	**18 52 04.5**	**-4.1**
GZH				Smax				
	comp=N,855nm,1.4s							
GZH				Smax				
	comp=E,772nm,1.4s							
JTK	**Tokunoshima**	**8.14**	**54**	P		**P**	**18 52 16.5**	**-1.1**
JTK				*e*S		**Sn**	**18 53 47.6**	**-3.1**
JAM	**Amami Oshima**	**8.97**	**53**	P		**P**	**18 52 27.4**	**-1.6**
JAM				*e*S		**Sn**	**18 54 05.3**	**-5.9**
NJ2	**Nanjing**	**9.14**	**346**	*e*P		**P**	**18 52 32.0**	**+0.7**
NJ2				AP			18 52 35.5	
NJ2				XP			18 52 38.5	
NJ2				S		**Sn**	**18 54 18.0**	**+2.7**
NJ2				XS			18 54 24.0	
NJ2				Smax				
	comp=N,2μm,1.1s							
NJ2				Smax				
	comp=E,2μm,1.0s							
NJ2				LR		LR		
	comp=N,13μm,16.0s							
NJ2				LR		LR		
	comp=E,32μm,20.0s							
NJ2				LR		LR		
	comp=Z,5μm,14.0s							
JMZ	**Minamidaito 2**	**9.24**	**72**	P		**P**	**18 52 28.1**	**-4.6**
JMZ				*e*S		**Sn**	**18 54 06.4**	**-11**
WHN	**Wuhan**	**9.71**	**321**	*e*P		**P**	**18 52 37.5**	**-1.8**
WHN				S		**Sn**	**18 54 27.5**	**-2.1**
WHN				AMB		A

SNY LR LR
comp=Z,2µm,13.8s
JHJ Hachijo jima 2 18.90 54 LR LR 19 01 37.6
comp=Z,2µm,18.4s,baz=132,slow=36
CBIJ Chichi jima 19.13 74 LR LR 19 01 47.7
comp=Z,500nm,19.6s,baz=179,slow=36
HHC Hu-ho-hao-te 19.50 337 ⇑P **P** **18 54 47.5 +1.1**
HHC AP 18 54 51.0
HHC XP 18 54 53.8
HHC PP PP 18 55 03.5 -0.7
HHC S **S** **18 58 18.8 -1.6**
HHC SS SS 18 58 43.5 -3.6
HHC PCP PcP 18 59 09.8 +2.9
HHC AMB AMB
comp=Z,29nm,1.0s
HHC AMB AMB
comp=Z,437nm,3.2s
HHC LR LR
comp=N,3µm,15.5s
HHC LR LR
comp=E,7µm,13.1s
HHC LR LR
comp=Z,3µm,16.0s
MAT Matsushiro 19.64 44 P **P** **18 54 45.8 -2.3**
MAT *e*S S 18 58 49.0 +25
MJAR Matsushiro Arr 19.64 44 P **P** **18 54 47.5 -0.6**
comp=Z,0.4nm,0.3s,baz=225,slow=9.1,SNR=7.3
MJAR LR LR 19 03 47.7
comp=Z,351nm,18.1s,baz=225,slow=41
MJAR Matsushiro Arr 19.64 44 P **P** **18 54 47.5 -0.6**
MJAR LR LR 19 03 47.7
NANT Nan 19.89 261 ⇑P **P** **18 54 51.0 0.0**
comp=Z,106nm,1.0s
LZH Lanzhou 19.98 314 *e*P **P** **18 54 52.5 +0.7**
LZH AP 18 54 56.5
LZH XP 18 54 59.5
LZH PP PP 18 55 11.5 +0.6
LZH S **S** **18 58 31.3 +0.5**
LZH XS 18 58 35.5
LZH SS SS 18 58 59.5 +0.4
LZH AMB AMB
comp=Z,194nm,1.5s
LZH AMB AMB
comp=Z,480nm,4.2s
LZH LR LR
comp=E,6µm,11.5s
LZH LR LR
comp=Z,10µm,13.2s
LZH Lanzhou 19.98 314 *e*P **P** **18 54 52.6 +0.8**
comp=Z,194nm,1.5s
LZH pP 18 54 56.6
LZH sP 18 54 59.5
LZH PP PP 18 55 11.6 +0.7
LZH S **S** **18 58 31.2 +0.4**
LZH sS 18 58 35.5
LZH SS SS 18 58 59.6 +0.5
CHRT Chiangrai 20.46 265 ⇑P **P** **18 54 57.0 0.0**
comp=Z,158nm,0.8s
CN2 Changchun 20.82 8 *e*P **P** **18 54 59.0 -1.5**
CN2 *e*XP 18 55 06.0
CN2 *e*S **S** **18 58 46.0 -1.9**
CN2 AMB AMB
comp=Z,20nm,1.0s
CN2 AMB AMB
comp=Z,320nm,5.0s
CN2 LR LR
comp=N,2µm,17.0s,MS5.1
CN2 LR LR
comp=E,6µm,17.0s,MS5.1
CN2 LR LR
comp=Z,4µm,14.0s,MS4.9
CHG Chiang Mai 21.49 263 P **P** **18 55 09.7 +2.2**
comp=Z,33nm,1.5s,mb4.4
MDJ Mudanjiang 22.38 15 P **P** **18 55 16.0 -0.3**
MDJ AP 18 55 23.3
MDJ XP 18 55 27.0
MDJ S **S** **18 59 22.0 +4.7**
MDJ SCP 19 02 44.5
MDJ PCS 19 02 48.0
MDJ SCS ScS 19 06 29.5 -3.0
MDJ AMB AMB
comp=Z,21nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,101nm,4.6s
MDJ LR LR
comp=N,2µm,17.2s,MS5.0
MDJ LR LR
comp=E,5µm,13.9s,MS5.0
MDJ LR LR
comp=Z,4µm,13.9s,MS5.0
MDJ Mudanjiang 22.38 15 *e*P **P** **18 55 16.1 -0.2**
comp=Z,48nm,1.4s,mb4.7
GUMO Guam 24.12 109 P **P** **18 55 35.5 +2.0**
comp=Z,148nm,1.0s,mb5.4,baz=167,slow=12,SNR=6.3
GUMO LR LR 19 02 45.5
comp=Z,746nm,20.3s,MS4.2,baz=132,slow=31
ASAJ Asahikawa 27.14 35 P **P** **18 56 02.6 +1.0**
comp=Z,4.9nm,0.4s,mb4.4,baz=225,slow=11,SNR=11
ASAJ LR LR 19 07 33.0
comp=Z,1µm,19.2s,MS4.5,baz=354,slow=38
SONM Songino Array 27.39 338 P **P** **18 56 02.9 -1.0**
comp=Z,3.8nm,0.7s,mb4.1,baz=159,slow=9.4,SNR=27
SONM LR LR 19 08 25.4
comp=Z,3µm,18.6s,MS4.9,baz=150,slow=40
LSA Lhasa 27.88 290 P **P** **18 56 10.3 +1.8**
LSA AP pP 18 56 16.0 +4.7
LSA XP sP 18 56 18.3 +5.8
LSA AMB AMB
comp=Z,10.0nm,1.4s,mb4.2
LSA LR LR
comp=N,1µm,15.9s,MS5.1
LSA LR LR
comp=E,4µm,17.6s,MS5.1
LSA LR LR
comp=Z,5µm,18.1s,MS5.1
PKI Pulchoki 32.82 285 *e*P **P** **18 56 52.7 +0.4**
comp=Z,54nm,1.1s,mb5.4
KKN Kakani 32.93 286 *e*P **P** **18 56 53.1 -0.2**
comp=Z,105nm,1.4s,mb5.6
DMN Daman 33.09 285 *e*P **P** **18 56 54.7 0.0**
comp=Z,61nm,1.0s,mb5.5
GKN Gorkha 33.50 286 *e*P **P** **18 56 57.1 -1.2**
comp=Z,99nm,1.3s,mb5.6
KOLN Koldanda 34.42 286 *e*P **P** **18 57 06.5 +0.3**
comp=Z,83nm,1.2s,mb5.5
WMQ Urumqi 34.55 315 *e*P **P** **18 57 08.5 +1.3**
WMQ AP pP 18 57 18.0 +8.0
WMQ XP sP 18 57 21.0 +10
WMQ AMB AMB
comp=Z,19nm,1.3s,mb4.9
WMQ AMB AMB
comp=Z,198nm,4.6s
WMQ LR LR
comp=N,2µm,12.0s,MS5.4
WMQ LR LR
comp=E,4µm,13.5s,MS5.4
WMQ LR LR
comp=Z,3µm,14.6s,MS5.2
KAKA Kakadu 37.25 162 *e*P **P** **18 57 49.1 +19**
comp=Z,9.8nm,0.6s,mb4.8
MKAR Makanchi Array 39.25 317 P **P** **18 57 46.9 +0.1**
comp=Z,5.9nm,0.6s,mb4.5,baz=100,slow=8.5,SNR=28
PMG Port Moresby 40.99 139 LR LR 19 14 55.0
comp=Z,416nm,18.1s,MS4.3,baz=322,slow=36
FITZ Fitzroy Crossi 41.23 174 *e*P **P** **18 58 01.7 -1.7**
comp=Z,5.6nm,0.6s,mb4.4
FITZ Fitzroy Crossi 41.23 174 P **P** **18 58 01.8 -1.6**
comp=Z,6.1nm,0.4s,mb4.5,baz=5.4,slow=9.2,SNR=24
FITZ LR LR 19 19 51.9
comp=Z,167nm,18.5s,MS3.9,baz=359,slow=43
THW Thamme Wali 44.62 294 P **P** **18 58 33.3 +2.4**
WRA Warramunga Arr 44.66 163 P **P** **18 58 30.0 -1.4**
comp=Z,4.4nm,0.5s,mb4.6,baz=345,slow=8.8,SNR=66
WRA PcP PcP 19 00 13.0 -1.5
comp=Z,1.9nm,0.5s,baz=344,slow=3.5,SNR=5.0
WB2 Warramunga Arr 44.66 163 ⇑*i*P **P** **18 58 29.9 -1.5**
SBDP Sheikh Budin 45.42 293 P **P** **18 58 35.0 -2.3**
DRP Derazinda 45.95 292 P **P** **18 58 45.3 +3.8**
ASPA Alice Springs 48.11 165 ⇓*i*P **P** **18 58 57.9 -0.7**
BVAR Borovoye Array 48.62 321 P **P** **18 59 02.0 -0.2**
comp=Z,3.8nm,0.6s,mb4.6,baz=109,slow=8.6,SNR=17
BRVK Borovoye 48.70 321 *e*P **P** **18 59 02.5 -0.2**
comp=Z,6.9nm,0.9s,mb4.7
CTA Charters Tower 49.33 149 *e*P **P** **18 59 09.1 +1.1**
comp=Z,7.5nm,0.9s,mb4.7
CTA Charters Tower 49.33 149 P **P** **18 59 09.2 +1.2**
comp=Z,5.6nm,0.5s,mb4.9,baz=337,slow=9.5,SNR=8.5
CTA LR LR 19 18 51.9
comp=Z,473nm,21.0s,MS4.5,baz=328,slow=35
NWAO Narrogin (SRO) 55.95 184 LR LR 19 22 54.0
comp=Z,129nm,19.6s,MS4.0,baz=10,slow=35
STKA Stephens Creek 58.03 160 ⇓*i*P **P** **19 00 11.4 -0.7**
comp=Z,9.1nm,0.6s,mb5.0
STKA Stephens Creek 58.03 160 P **P** **19 00 11.4 -0.7**
comp=Z,9.7nm,0.6s,mb5.0,baz=335,slow=6.3,SNR=33
STKA LR LR 19 27 41.3
comp=Z,272nm,19.8s,MS4.4,baz=10,slow=39
CNB Canberra Magne 63.90 155 *e*P **P** **19 00 52.5 +0.7**
comp=Z,20nm,1.2s,mb5.0
TOO Toolangi 64.52 159 *e*P **P** **19 00 56.0 +0.2**
comp=Z,12nm,1.4s,mb4.7
GNI Garni 65.60 305 LR LR 19 33 12.1
comp=Z,366nm,18.8s,MS4.6,baz=342,slow=39
JOF Joensuu 69.71 331 *e*p **P** **19 01 26.1 -2.1**
comp=Z,3.9nm,0.4s,mb4.7
ILAR Eielson Array 69.97 27 P **P** **19 01 29.4 -0.2**
comp=Z,1.1nm,0.5s,mb4.0,baz=279,slow=4.9,SNR=9.1
KEV Kevo 70.00 338 *e*p **P** **19 01 27.6 -2.3**
comp=Z,15nm,0.7s,mb5.0
ARCES ARCESS Array B 70.57 338 P **P** **19 01 32.1 -1.2**
comp=Z,1.9nm,0.6s,mb4.2,baz=56,slow=8.7,SNR=11
ARCES LR LR 19 35 32.0
comp=Z,426nm,18.8s,MS4.7,baz=337,slow=38
KAF Kangasniemi 72.16 331 *e*p **P** **19 01 40.8 -2.2**
comp=Z,3.3nm,0.5s,mb4.5,baz=73,slow=5.6
FINES FINESS Array B 72.45 330 P **P** **19 01 43.5 -1.2**
comp=Z,5.3nm,0.7s,mb4.6,baz=56,slow=5.7,SNR=38
FINES LR LR 19 35 57.3
comp=Z,417nm,20.5s,MS4.7,baz=252,slow=38
FINES FINESS Array B 72.45 330 P **P** **19 01 43.5 -1.2**
FINES LR LR 19 35 57.3
ASF Jabal al Asfar 73.68 298 LR LR 19 38 46.8
comp=Z,452nm,20.8s,MS4.7,baz=73,slow=40
BRTR Keskin Array B 73.99 307 P **P** **19 01 53.4 -0.7**
comp=Z,2.7nm,0.5s,mb4.5,baz=118,slow=3.1,SNR=8.6
AFI Afiamalu 74.96 113 LR LR 19 32 49.1
comp=Z,131nm,18.4s,MS4.3,baz=97,slow=34
HFS Hagfors 78.57 331 P **P** **19 02 18.3 -1.2**
comp=Z,5.8nm,0.7s,mb4.6,baz=104,slow=6.1,SNR=13
HFS LR LR 19 40 17.6
comp=Z,2µm,18.4s,MS5.4,baz=63,slow=38
NB2 NORSAR Subarra 79.24 332 P **P** **19 02 21.3 -1.8**
comp=Z,3.8nm,0.6s,mb4.5,baz=57,slow=5.6
NOA NORSAR Array B 79.24 332 P **P** **19 02 21.7 -1.4**
comp=Z,8.8nm,1.0s,mb4.6,baz=58,slow=5.7,SNR=14
NOA LR LR 19 41 29.6
comp=Z,589nm,19.1s,MS4.9,baz=40,slow=39
JMIC Jan Mayen 79.86 345 LR LR 19 41 57.7
comp=Z,764nm,20.0s,MS5.0,baz=76,slow=39
IDI Anoyia 82.03 305 LR LR 19 41 22.0
comp=Z,136nm,20.0s,MS4.3,baz=77,slow=37
BRG Berggiesshubel 82.70 322 *i*P **P** **19 02 42.0 +0.5**
comp=Z,16nm,1.8s,mb4.8
CLL Collm 83.02 323 ⇓P **P** **19 02 43.3 +0.1**
comp=Z,logA/T=1.0,mb4.8
CLL Collm 83.02 323 ⇓*i*P **P** **19 02 43.3 +0.1**
comp=Z,10.0nm,0.9s,mb4.8
CLL *i* 19 02 58.0
YKA Yellowknife Ar 83.78 23 P **P** **19 02 47.5 +0.8**
comp=Z,2.2nm,0.7s,mb4.4,baz=310,slow=4.8,SNR=5.0
YKA LR LR 19 46 09.1
comp=Z,209nm,19.6s,MS4.5,slow=40
YKA Yellowknife Ar 83.78 23 P **P** **19 02 47.5 +0.7**
YKA LR LR 19 46 09.1
GERES GERESS Array B 83.79 321 LR LR 19 47 53.3
comp=Z,350nm,18.2s,MS4.8,baz=53,slow=41
MOX Moxa 84.11 323 *i*P **P** **19 02 49.5 +0.8**
comp=Z,logA/T=1.1,mb5.0
MOX PP PP 19 06 12.0 +7.4
MOX PPP PPP 19 08 13.0 +13
MOX L 19 44 56.0
MOX Moxa 84.11 323 *e*P **P** **19 02 49.5 +0.8**
comp=Z,22nm,1.8s,mb5.0
KMBO Kilima Mbogo 85.14 267 LR LR 19 40 33.0
comp=Z,246nm,19.5s,MS4.6,baz=94,slow=36
BRMO Bormio 86.92 320 P **P** **19 03 05.1 +2.3**
BORG Borgarnes 87.76 345 LR LR 19 45 11.5
comp=Z,175nm,20.7s,MS4.5,baz=58,slow=38
GSCL Gusciola 87.87 318 P **P** **19 03 05.2 -2.2**
VAI Varese 88.19 320 P **P** **19 03 14.1 +5.2**
BOB Bobbio (Coli) 88.36 319 P **P** **19 03 11.8 +2.1**
SNAA Sanae 122.38 198 PKPdf 19 09 11.9 -2.5
VNA2 Neumayer--Watz 124.03 198 PKPdf 19 09 16.2 -1.5
VNA3 Neumayer Olymp 124.50 197 PKPdf 19 09 16.7 -1.9
PLCA Paso Flores 159.78 153 PKPab PKPab 19 10 56.6 -0.2
comp=Z,1.1nm,0.7s,baz=256,slow=5.0,SNR=3.9
LPAZ La Paz 168.64 55 PKP PKPdf 19 10 27.2 +0.3
comp=Z,2.4nm,1.0s,baz=360,slow=4.5,SNR=10

DHMR 26 18:51:01.6±0.8, 12.56N×40.61E, h2km±3km, ML4.1, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
TRBA	**At Turbah**	**3.48**	**79**	*i* P		Pn	18 51 59.6	+1.6
TRBA				*i* S		Sn	18 52 45.1	+4.8
TRBA				AML		AML	18 53 00.1	
	comp=N,987nm,0.6s							
UDYN	**Al 'Udayn**	**3.56**	**66**	*i* P		Pn	18 52 00.6	+1.6
UDYN				*i* S		Sn	18 52 46.5	+4.4
UDYN				AML		AML	18 53 10.4	
	comp=E,625nm,0.7s							
DHBB	**Dhamar BB**	**4.18**	**61**	*i* P		Pn	18 52 09.1	+1.2
DHBB				*i* S		Sn	18 53 02.3	+4.2
LBOS		**4.70**	**73**	*i* P		Pn	18 52 13.9	-1.3
LBOS				*i* S		Sn	18 53 10.0	-1.2
BDHA	**Al Bayda'**	**5.03**	**73**	*i* P		Pn	18 52 18.6	-1.2
BDHA				*i* S		Sn	18 53 18.4	-1.0

*ORF **26** 18:57:00.1,36.71N×48.74E,h30km,mb4.7*
*TEH **26** 18:57:03.2,37.68N×47.60E,h10km,Mn5.5*
*BJI **26** 18:57:04.0,37.30N×47.80E,h14km,mB5.5,mb5.3*
*HRVD **26** 18:57:04.0±0.6,37.36N×47.77E,h20km±1km,MW5.2/45, Centroid moment Tensor Solution. LP body waves: s22,c26;Mantle waves: s45,c87; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.87±.47; Mθθ-1.73±.31; Mφφ-4.14±.29; Mrθ3.11±.73; Mrφ-3.47±.20; Mθφ-0.45±.54; Best double couple: M0 7.005×10^16 NP1:φ194°,δ43°,λ55°. NP2:φ57°,δ56°,λ118°. Principal axes: T 7.224, Plg66°, Azm22°; N -.438, Plg23°, Azm221°; P -6.786, Plg7°, Azm128°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 18:57:04.0,37.30N×47.80E,h14km,mb5.1/127,MS4.1/7, ML4.9(THR),After THR.*
*THR **26** 18:57:04.8±0.3,37.35N×47.80E,h16km±3km, ML4.8*
*DHMR **26** 18:57:05.3±2.6,37.29N×47.86E,h10km,mb5.5*
*CRAAG **26** 18:57:08.8,37.35N×47.75E,Mb5.1*
*IDC **26** 18:57:08.5±2.3,37.36N×47.71E,h39km±19km,mb4.7/27, mb1 4.8/32,mb1mx4.8/32,mbtmp4.9/32,ML4.3/4,MS4.1/8, Ms1 4.1/8,ms1mx3.9/22,Error ellipse: s-maj=12.2km s-min=10.0km az=153.0*
*MOS **26** 18:57:11.3±1.1,37.35N×47.66E,h85km,mb5.2/75,Error ellipse: s-maj=5.7km s-min=2.9km az=134.8*
*CSEM **26** 18:57:34.1,38.53N×46.04E,h179km,mb5.0*
ISC 26 18:57:02.9±0.1, 37.33N±0.02×47.71E±0.02, h10km, (h17km±3.6km:pP-P),n737,σ1§21/758,mb5.0/189, MS4.2/16, 42C-32D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
IBST	**Bostanabad**	**0.75**	**300**		Pg	**Pg**	**18 57 17.6**	**-0.3**
GRMI	**Germi**	**1.48**	**6**	*e*P	G	**Pg**	**18 57 31.7**	**-0.8**
GRMI				AML		AML	18 58 03.5	
	comp=N,6µm,0.4s							
ITBZ	**Tabriz**	**1.53**	**306**		Pn	**Pn**	**18 57 32.4**	**+1.9**
IMRD	**Marand**	**2.10**	**312**		Pn	**Pn**	**18 57 41.4**	**+2.8**
SNGE	**Sanandaj**	**2.25**	**188**	*e*PN		**Pn**	**18 57 44.0**	**+3.2**
SNGE				AML		AML	18 58 25.1	
	comp=N,6µm,0.7s							
SNGE	**Sanandaj**	**2.25**	**188**		Pn	**Pn**	**18 57 43.9**	**+3.1**
ILIN	**Laeen**	**2.48**	**194**		Pn	**Pn**	**18 57 47.4**	**+3.3**
IRAZ	**Razeghan**	**2.63**	**136**		Pn	**Pg**	**18 58 00.2**	**+4.8**
IDHR	**Dehrash**	**2.84**	**203**		Pn	**Pn**	**18 57 53.1**	**+3.9**
IVIS	**Veys**	**2.89**	**194**		Pn	**Pn**	**18 57 53.1**	**+3.2**
IMHD	**Mahdasht**	**2.89**	**124**		Pn	**Pn**	**18 57 50.8**	**+0.8**
IMHD					Sn	**Sn**	**18 58 29.6**	**+4.4**

THKV Tehran--Karaj 2.91 118 *e*PN **Pn** **18 57 51.7 +1.5**
THKV Tehran--Karaj 2.91 118 Pn **Pn** **18 57 52.0 +1.8**
MAKU Maku 3.12 311 *e*PN **Pn** **18 57 56.1 +2.9**
MAKU Maku 3.12 311 Pn **Pn** **18 57 56.2 +3.0**
IGHG Ghaleghazi 3.14 198 Pn **Pn** **18 57 56.7 +3.3**
IKOM Komasi 3.15 183 Pn **Pn** **18 57 57.3 +3.7**
HKR Hakkari 3.17 276 *i* PN **Pn** **18 57 58.8 +5.0**
HAKT HAKKARI 3.19 275 *i* P **Pn** **18 57 58.1 +3.9**
ASAO Ashtian 3.35 145 *e*PN **Pn** **18 57 58.5 +2.0**
ASAO *e*SG **Sg** **18 58 48.5 -6.1**
ASAO Ashtian 3.35 145 Pn **Pn** **18 57 58.4 +1.9**
CLDR Caldiran 3.49 302 *i* PN **Pn** **18 58 00.4 +1.9**
VANT Van 3.60 289 PN **Pn** **18 58 04.6 +4.7**
TVAN Van 3.61 291 *i* P **Pn** **18 58 03.0 +3.0**
VANB Van 3.64 292 PN **Pn** **18 58 05.7 +5.2**
GNI Garni 3.65 321 PN **Pn** **18 58 05.0 +4.4**
GNI Garni 3.65 321 Pn **Pn** **18 58 04.6 +4.0**
comp=N,5.7nm,0.3s,baz=213,slow=2.4,SNR=48
GNI Lg 18 59 08.6
comp=N,66nm,0.3s,baz=214,slow=21,SNR=3.4
GNI Garni 3.65 321 ⇓*e*Pn **Pn** **18 58 04.6 +4.0**
IQOM Qom 3.68 131 Pn **Pn** **18 58 01.2 0.0**
DAMV Damavand 3.83 115 *e*PN **Pn** **18 58 04.8 +1.6**
DAMV *e*SG **Sg** **18 59 02.4 -8.1**
DAMV AML AML 18 59 07.2
comp=N,3µm,0.5s
DAMV Damavand 3.83 115 Pn **Pn** **18 58 04.9 +1.7**
DAMV Damavand 3.83 115 *e*Pn **Pn** **18 58 04.8 +1.6**
SNR=52
DAMV *e*Sg **Sg** **18 59 02.3 -8.1**
comp=N,3µm,0.5s,SNR=90
MSL Mosul 3.85 256 *ex* x 18 58 26.0
MSL *i* x x 18 58 56.0
MSL *i* x x 18 59 22.5
IDMV Damavand 3.90 115 Pn **Pn** **18 58 05.8 +1.6**
IVRN Varamin 4.00 124 Pn **Pn** **18 58 06.7 +1.1**
IVRN Sn **Sn** **18 58 55.6 +2.5**
SIRT Sirnak 4.20 274 PN **Pn** **18 58 12.2 +3.7**
IFIR Firoozkooh 4.40 111 Pn **Pn** **18 58 12.5 +1.2**
DGRG David-gareji 4.49 337 P **Pn** **18 58 20.1 +7.4**
DGRG S **Sn** **18 59 23.6 +18**
DIGO Kars 4.57 314 *i* P **Pn** **18 58 25.6 +12**
KARS Kars 4.87 314 *e*PN **Pn** **18 58 20.2 +2.3**
BHD Baghdad 4.88 215 *ex* x 18 58 21.5
BHD *i* x x 18 59 13.5
BHD *i* x x 18 59 26.0
BHD *i* x x 18 59 32.0
BHD *i* x x 18 59 36.5
MTA Mtatsminda 4.91 334 P **Pn** **18 58 30.9 +12**
MTA S **Sn** **18 59 35.0 +19**
TI2 Plekhanov 4.96 333 ⇓*i*P **Pn** **18 58 25.6 +6.4**
TI2 *e*S **Sn** **18 59 28.4 +11**
TI2 Plekhanov 4.96 333 *i* P **Pn** **18 58 25.6 +6.4**
TI2 *e*S **Sn** **18 59 28.4 +11**
TI2 pmax pmax
comp=Z,30nm,0.6s
TI2 smax
comp=E,4µm,2.0s
TBLG Delisi 4.96 333 P **Pn** **18 58 32.5 +13**
TBLG S Sn 18 59 38.6 +21
BTMT Batman 5.00 282 PN **Pn** **18 58 23.4 +3.5**
IKLH Kalahroud 5.10 141 Pn **Pn** **18 58 22.6 +1.3**
BEST Besiri 5.14 278 *i* P **Pn** **18 58 28.0 +6.1**
AKH Akhalkalaki 5.22 323 P **Pn** **18 58 39.5 +16**
AKH S Sn 18 59 52.5 +29
SHGR Shooshtar-Gavs 5.29 170 *e*PN **Pn** **18 58 25.3 +1.4**
SHGR Shooshtar-Gavs 5.29 170 Pn **Pn** **18 58 25.4 +1.5**
IPIR Pirpir 5.32 150 Pn **Pn** **18 58 25.6 +1.2**
BNGL BINGOL 5.42 289 *i* P **Pn** **18 58 33.5 +7.7**
BKR Bakuriani 5.47 325 P **Pn** **18 58 32.5 +6.0**
BKR S Sn 18 59 55.5 +25
MARD Mardin 5.53 272 *i* P **Pn** **18 58 28.1 +0.9**
ERZM Erzurum 5.59 299 *i* P **Pn** **18 58 33.5 +5.3**
EZM Erzurum 5.60 299 *e*PN **Pn** **18 58 31.4 +3.1**
MAK Makhachkala 5.62 358 *d i*P **Pn** **18 58 32.0 +3.3**
MAK *i* S **Sn** **18 59 34.0 -0.1**
MAK pmax pmax
comp=Z,800nm,1.8s
MAK smax
comp=N,990nm,1.0s
MAK smax
comp=E,2µm,1.0s
MAK MLR MLR
comp=Z,16µm,8.0s
MAK MLR MLR
comp=N,10µm,8.0s
MAK MLR MLR
comp=E,16µm,8.0s
ARTV Artvin 5.91 312 *i* P **Pn** **18 58 38.5 +5.8**
DIY Diyarbakir 5.97 278 *e*PN **Pn** **18 58 36.1 +2.6**
NASN Na'in 6.16 136 *e*PN **Pn** **18 58 37.2 +1.0**
ZEI Tsey 6.17 333 *e*P **Pn** **18 58 41.8 +5.5**
comp=E,12nm,0.1s
ZEI Tsey 6.17 333 *e*P **Pn** **18 58 41.8 +5.5**
ZEI *e* 18 59 50.1
ZEI pmax pmax
comp=Z,12nm,0.1s
ZEI smax
comp=N,15nm,0.2s
ONI Oni 6.18 329 P **Pn** **18 58 43.3 +6.8**
ONI S rx 18 59 17.4
PTK Pertek 6.74 286 *e*PN **Pn** **18 58 44.1 -0.3**
ELZG Elazig 7.00 282 *i* P **Pn** **18 58 48.2 +0.2**
URFA Urfa 7.08 274 *e*PN **Pn** **18 58 52.1 +2.9**
GUMT Gumushane 7.14 298 *e*PN **Pn** **18 58 48.9 -1.1**
MACK Trabzon 7.15 303 *i* P **Pn** **18 58 57.8 +7.6**
MALT Malatya 7.41 280 *e*PN **Pn** **18 58 55.3 +1.4**
MYA Malataya 7.42 281 *e*PN **Pn** **18 58 55.3 +1.4**
KIV Kislovodsk 7.64 332 *e*Pn **Pn** **18 59 02.0 +5.0**
comp=N,161nm,0.9s
KIV Kislovodsk 7.64 332 *e*P **Pn** **18 59 02.0 +5.0**
comp=N,161nm,0.9s
KIV Kislovodsk 7.64 332 ⇑*e*P **Pn** **18 59 01.8 +4.8**
KIV pmax pmax
comp=Z,106nm,2.4s
KIV MLR MLR
comp=Z,500nm,13.0s
NAY Al-Naaiem 8.07 183 *e*P **P** **18 59 01.5 -1.5**
NAY AMb AMB 18 59 23.1
comp=Z,157nm,0.7s
NAY Al-Naaiem 8.07 183 *e*P **P** **18 59 02.0 -1.0**
KBD Kabd 8.13 180 *e*P **P** **18 59 03.0 -1.0**
KBD AMb AMB 18 59 21.8
comp=Z,1µm,1.1s
KBD Kabd 8.13 180 *e*P **P** **18 59 03.7 -0.2**
GRSN GIRESUNGRSN 8.17 299 *i* P **P** **18 59 09.0 +4.6**
VAN Vannovskaya 8.27 83 ⇑*i*P **P** **18 59 04.0 -1.8**
VAN *e* 19 00 37.0
GAZ Gaziantep 8.38 272 *e*PN **P** **18 59 08.0 +0.8**
RDF Al-Radifah 8.38 181 *e*P **P** **18 59 06.5 -0.9**
RDF AMb AMB 18 59 22.0
comp=Z,344nm,0.8s
RDF Al-Radifah 8.38 181 *e*P **P** **18 59 07.2 -0.2**
GOF Gofitskoye 8.48 337 *i* P **P** **18 59 10.9 +2.1**
GOF *i* S **Sn** **19 00 49.0 +3.4**
GOF pmax pmax
comp=Z,81nm,1.1s
QRN Al-Qurain 8.57 179 *e*P **P** **18 59 09.0 -0.9**
QRN AMb AMB 18 59 16.4
comp=Z,224nm,0.8s
KAHT Ahir Dag 8.62 275 *i* P **P** **18 59 14.2 +3.5**
SOC Sochi 8.72 318 *i* P **P** **18 59 15.3 +3.2**
SOC *e* 19 00 52.2
SOC pmax pmax
comp=N,178nm,1.1s
SOC pmax pmax
comp=Z,206nm,1.1s
SOC pmax pmax
comp=E,126nm,1.2s
SOC MLR MLR
comp=N,3µm,10.0s
SOC MLR MLR
comp=Z,3µm,10.0s
SOC MLR MLR
comp=E,2µm,9.0s
COBT Iskenderun 9.21 268 *i* P **P** **18 59 18.1 -0.8**
KOZT Kozan 9.46 274 *e*PN **P** **18 59 22.4 +0.1**
CEYT Ceyhan 9.56 272 *e*PN **P** **18 59 23.9 +0.4**
KVT Kavak 9.80 296 *e*PN **P** **18 59 27.1 +0.3**
HWQ Hawqa 10.03 256 *e*Pn **P** **18 59 30.9 +0.8**
GHIR Ghir-Karzin 10.05 152 *e*PN **P** **18 59 30.8 +0.3**
GHIR Ghir-Karzin 10.05 152 Pn **P** **18 59 30.7 +0.3**
AVNT Avonos 10.24 282 *i* P **P** **18 59 38.4 +5.3**

ASF	**Jabal al Asfar**	**10.28**	**243**	Pn	**P**		**18 59 32.3**	**-1.2**	
	comp=E,1.3nm,0.3s,baz=280,slow=7.8,SNR=12								
ASF				Lg			19 02 32.7		
	comp=E,0.3nm,0.3s,baz=112,slow=17,SNR=2.6								
ASF				LR	LR		19 03 29.6		
	comp=E,494nm,20.9s,baz=101,slow=37								
BHL	**Bhannes**	**10.39**	**254**	*e*Pn	**P**		**18 59 40.2**	**+5.1**	
KRBR	**Kerman**	**10.51**	**132**	*e*PN	**P**		**18 59 37.3**	**+0.5**	
KRBR	**Kerman**	**10.51**	**132**	Pn	**P**		**18 59 37.4**	**+0.7**	
MERS	**Mersin**	**10.55**	**271**	*e*PN	**P**		**18 59 38.3**	**+1.1**	
CTKT	**Corum**	**10.58**	**292**	*i* P	**P**		**18 59 42.5**	**+4.9**	
CORM	**Corum**	**10.60**	**290**	*e*PN	**P**		**18 59 35.1**	**-2.9**	
KSDI	**Kefar Szold**	**10.68**	**251**	P	**P**		**18 59 44.5**	**+5.4**	
CDAG	**Cicekdag**	**10.71**	**286**	*i* P	**P**		**18 59 43.4**	**+4.0**	
BOYT	**Boyabat**	**10.72**	**296**	*i* P	**P**		**18 59 47.5**	**+8.0**	
ANN	**Anapa**	**10.76**	**317**	*e*P	**P**		**18 59 45.3**	**+5.3**	
	comp=E,206nm,1.3s								
ANN	**Anapa**	**10.76**	**317**	*e*P	**P**		**18 59 45.3**	**+5.3**	
ANN				*e*S	**S**		**19 01 47.9**	**+6.3**	
ANN				pmax	pmax				
	comp=Z,206nm,1.3s								
ANN				MLR	MLR				
	comp=N,2µm,17.0s								
ANN				MLR	MLR				
	comp=E,2µm,17.0s								
ANN				MLR	MLR				
	comp=Z,2µm,17.0s								
HNTI	**Hanita**	**11.10**	**251**	P	**P**		**18 59 48.3**	**+3.6**	
KAMT	**Kaman**	**11.18**	**285**	*e*PN	**P**		**18 59 46.3**	**+0.4**	
MMLI	**Mount Malkishu**	**11.21**	**248**	P	**P**		**18 59 45.5**	**-0.8**	
BRTR	**Keskin Array B**	**11.28**	**287**	Pn	**P**		**18 59 50.9**	**+3.7**	
	comp=Z,0.2nm,0.3s,baz=107,slow=13,SNR=15								
BR131	**Keskin Array S**	**11.28**	**287**	*e*Pn	**P**		**18 59 51.9**	**+4.7**	
	comp=Z,19nm,0.9s								
OFRI	**'Ofer**	**11.45**	**250**	P	**P**		**18 59 53.1**	**+3.6**	
MKRJ	**Makawir**	**11.51**	**243**	P	**P**		**18 59 49.7**	**-0.7**	
CSS	**Prodhromos**	**11.87**	**263**	*e*Pn	**P**		**18 59 57.9**	**+2.8**	
	comp=Z,70nm,1.4s								
CSS	**Prodhromos**	**11.87**	**263**	*e*Pn	**P**		**18 59 57.9**	**+2.7**	
	comp=Z,70nm,1.4s								
ANTO	**Ankara**	**11.95**	**287**	*e*PN	**P**		**18 59 55.8**	**-0.4**	
ANTO	**Ankara**	**11.95**	**287**	*e*Pn	**P**		**19 00 00.9**	**+4.7**	
	comp=E,40nm,1.1s								
ANTO	**Ankara**	**11.95**	**287**	*e*P	**P**		**19 00 00.9**	**+4.7**	
	comp=Z,41nm,1.1s								
ANTO	**Ankara**	**11.95**	**287**	*e*P	**P**		**19 00 00.9**	**+4.7**	
ANTO				pmax	pmax				
	comp=Z,41nm,1.1s								
ZFRI	**Zfri**	**12.40**	**241**	P	**P**		**19 00 04.3**	**+1.9**	
KIZT	**Kizilcal**	**12.57**	**282**	*e*PN	**P**		**19 00 06.9**	**+2.3**	
PRNI	**Paran**	**12.64**	**240**	P	**P**		**19 00 07.4**	**+1.8**	
SIM	**Simferopol'**	**12.75**	**311**	*e*P	**P**		**19 00 12.0**	**+5.0**	
	comp=Z,43nm,1.1s								
SIM	**Simferopol'**	**12.75**	**311**	*e*P	**P**		**19 00 12.0**	**+5.0**	
SIM				pmax	pmax				
	comp=Z,43nm,1.1s								
MBH	**Mount Berech**	**13.05**	**239**	P	**P**		**19 00 13.1**	**+2.1**	
EIL	**Elat**	**13.10**	**238**	P	**P**		**19 00 11.3**	**-0.4**	
ZHSF	**Zahedan**	**13.34**	**121**	*e*PN	**P**		**19 00 16.0**	**+1.1**	
ZHSF	**Zahedan**	**13.34**	**121**	Pn	**P**		**19 00 16.1**	**+1.2**	
BANOM	**Banah**	**13.52**	**145**	⇑P	**P**		**19 00 18.5**	**+1.3**	
	SNR=5.9								
ISP	**Isparta**	**13.66**	**277**	*e*PN	**P**		**19 00 18.1**	**-0.9**	
ISP	**Isparta**	**13.66**	**277**	*e*Pn	**P**		**19 00 22.8**	**+3.8**	
	comp=Z,43nm,1.0s								
ISP	**Isparta**	**13.66**	**277***c*	*i* P	**P**		**19 00 22.6**	**+3.6**	
VRHR	**Novokhopersk**	**14.43**	**344**	*e*P	**P**		**19 00 29.1**	**+0.1**	
VRHR				*e*S	**S**		**19 03 11.8**	**+1.8**	
VRHR				pmax	pmax				
	comp=Z,200nm,7.6s								
VRHR				pmax	pmax				
	comp=N,150nm,6.4s								
VRHR				pmax	pmax				
	comp=E,130nm,13.6s								
VRHR				smax					
	comp=N,200nm,11.5s								
VRHR				smax					
	comp=Z,650nm,18.5s								
VRHR				smax					
	comp=E,580nm,21.1s								
VORD	**Divnogorie**	**14.89**	**339**	P	**P**		**19 00 36.9**	**+1.8**	
VORD				pmax	pmax				
	comp=E,30nm,0.8s								
VORD				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VOR	**Voronezh**	**15.61**	**340**	P	**P**		**19 00 44.0**	**-0.4**	
VOR				pmax	pmax				
	comp=N,90nm,1.8s								
VOR				pmax	pmax				
	comp=E,40nm,1.8s								
VOR				pmax	pmax				
	comp=Z,110nm,1.8s								
BALB	**Balikesir**	**15.70**	**285**	*e*PN	**P**		**19 00 45.2**	**-0.5**	
ARG	**Arkhangelos**	**15.74**	**272**	P	**P**		**19 00 48.8**	**+2.6**	
ARQ	**Araqi**	**15.88**	**149**	⇓P	**P**		**19 00 51.2**	**+3.1**	
	SNR=19								
HOQ	**Hoqain**	**15.99**	**146**	⇑P	**P**		**19 00 52.7**	**+3.0**	
TIRR	**Tirgusor**	**16.22**	**302**	⇓P	**P**		**19 01 02.2**	**+10**	
TIRR	**Tirgusor**	**16.22**	**302**	*e*P	**P**		**19 00 58.7**	**+6.4**	
BIDO	**Bidbid**	**16.42**	**144**	⇓P	**P**		**19 00 55.3**	**+0.3**	
	SNR=5.7								
KARP	**Karpathos**	**16.63**	**270**	*e*P	**P**		**19 01 00.0**	**+2.3**	
BSY	**Bisya**	**16.68**	**148**	⇑P	**P**		**19 00 57.9**	**-0.5**	
	SNR=32								
BSYO	**Bisya**	**16.71**	**148**	P	**P**		**19 00 57.9**	**-0.8**	
	SNR=32								
SMDO	**Samad**	**16.78**	**145**	⇑P	**P**		**19 01 00.2**	**+0.6**	
	SNR=37								
KIS	**Kishinev**	**16.98**	**311**	*e*P	**P**		**19 01 04.0**	**+2.1**	
KIS				*e*pP			19 01 20.0		
KIS				*i* S	**S**		**19 04 14.0**	**+4.4**	
KIS	**Kishinev**	**16.98**	**311**	*e*P	**P**		**19 01 04.0**	**+2.1**	
KIS				*i* S	**S**		**19 04 14.0**	**+4.4**	
KIS				MLR	MLR				
	comp=Z,500nm,15.0s								
ALN	**Alexandroupoli**	**17.18**	**289**	*e*P	**P**		**19 01 07.4**	**+2.9**	
JMDO	**Jabal Madar**	**17.40**	**146**	⇓P	**P**		**19 01 07.4**	**0.0**	
	SNR=27								
RDO	**Rodhopi**	**17.59**	**289**	*e*P	**P**		**19 01 12.0**	**+2.4**	
RDO	**Rodhopi**	**17.59**	**289**	P	**P**		**19 01 11.6**	**+2.0**	
APE	**Apeiranthos**	**17.67**	**276**	*e*P	**P**		**19 01 12.6**	**+1.9**	
VRI	**Vrincioaia**	**17.82**	**305**	⇓P	**P**		**19 01 16.3**	**+3.8**	
IAS	**Iasi**	**17.83**	**316**	⇓P	**P**		**19 01 15.7**	**+3.1**	
SANT	**Santorini**	**17.83**	**274**	P	**P**		**19 01 14.4**	**+1.7**	
NPS	**Neapolis**	**17.93**	**270**	*e*P	**P**		**19 01 14.5**	**+0.6**	
MLR	**Muntele Rosu**	**18.21**	**303**	P	**P**		**19 01 18.7**	**+1.3**	
	comp=Z,0.2nm,0.3s,baz=102,slow=10,SNR=6.0								
MLR				PcP	PcP		19 05 50.5	-0.5	
	comp=Z,0.1nm,0.3s,baz=226,slow=12,SNR=4.4								
MLR	**Muntele Rosu**	**18.21**	**303**	⇑P	**P**		**19 01 28.0**	**+11**	
RZN	**Rozhen**	**18.25**	**291**	*e*P	**P**		**19 01 18.0**	**+0.1**	
IDI	**Anoyia**	**18.50**	**271**	P	**P**		**19 01 20.2**	**-0.9**	
	comp=Z,0.9nm,0.3s,baz=58,slow=8.8,SNR=18								
IDI				S	**S**		**19 04 48.6**	**+4.3**	
	comp=Z,0.0nm,0.3s,baz=271,slow=17,SNR=1.7								
IDI				PcP	PcP		19 05 49.8	-1.8	
	comp=Z,0.5nm,0.3s,baz=94,slow=3.8,SNR=5.6								
IDI				LR	LR		19 09 27.1		
	comp=Z,264nm,18.9s,baz=320,slow=40								
OUR	**Ouranopolis**	**18.72**	**287**	*e*P	**P**		**19 01 23.6**	**-0.1**	
OUR	**Ouranopolis**	**18.72**	**287**	*e*P	**P**		**19 01 23.5**	**-0.1**	
PGB	**Panagyurishte**	**18.77**	**293**	*e*P	**P**		**19 01 26.5**	**+2.3**	
AKASG	**Malin Array Be**	**18.78**	**321**	P	**P**		**19 01 23.1**	**-1.2**	
	comp=Z,1.3nm,0.3s,baz=126,slow=12,SNR=23								
AKASG				S	**S**		**19 04 54.9**	**+4.4**	
	comp=Z,0.4nm,0.3s,baz=106,slow=12,SNR=2.5								
AKASG				PcP	PcP		19 05 50.8	-1.2	
	comp=Z,0.4nm,0.3s,baz=76,slow=2.3,SNR=6.1								
AKASG	**Malin Array Be**	**18.78**	**321**	P	**P**		**19 01 23.1**	**-1.2**	
AKASG				S	**S**		**19 04 54.9**	**+4.4**	
AKASG				PcP	PcP		19 05 50.8	-1.2	
VOIR		**18.79**	**303**	⇓P	**P**		**19 01 26.5**	**+2.0**	
MMB	**Musomiste**	**18.98**	**290**	*e*P	**P**		**19 01 27.0**	**+0.2**	
VAM	**Vamos**	**19.02**	**271**	*e*P	**P**		**19 01 27.6**	**+0.2**	
SRS	**Serrai**	**19.05**	**289**	*e*P	**P**		**19 01 26.6**	**-1.0**	
PLG	**Polygyros**	**19.13**	**287**	*e*P	**P**		**19 01 30.0**	**+1.5**	
NSAL	**Nisos Salamina**	**19.21**	**279**	*e*P	**P**		**19 01 29.8**	**+0.3**	
SOH	**Sokhos**	**19.21**	**288**	*e*P	**P**		**19 01 30.0**	**+0.5**	
GVD	**Gavdhos**	**19.25**	**270**	*e*P	**P**		**19 01 28.8**	**-1.2**	
	comp=Z,68nm,1.1s								
OBN	**Obninsk**	**19.34**	**340**	P	**P**		**19 01 28.9**	**-2.0**	
OBN				*e*Pn	**P**		**19 01 33.5**	**+2.5**	
OBN	**Obninsk**	**19.34**	**340**	*e*Pn	**P**		**19 01 33.5**	**+2.6**	
OBN	**Obninsk**	**19.34**	**340**	⇓*e*P	**P**		**19 01 30.5**	**-0.4**	
OBN				*i* S	**S**		**19 05 06.5**	**+3.3**	
OBN				pmax	pmax				
	comp=Z,244nm,1.4s								
OBN				MLR	MLR				
	comp=Z,600nm,17.0s								
MGER	**Gerania Oros**	**19.36**	**279**	*e*P	**P**		**19 01 30.8**	**-0.5**	
BURAR	**Bucovina Array**	**19.45**	**309**	⇑P	**P**		**19 01 31.9**	**-0.4**	
BURAR	**Bucovina Array**	**19.45**	**309**	⇑P	**P**		**19 01 31.9**	**-0.4**	
VTS	**Vitosha**	**19.48**	**293**	*e*P	**P**		**19 01 32.0**	**-0.6**	
VTS	**Vitosha**	**19.48**	**293**	P	**P**		**19 01 30.9**	**-1.7**	
KKB	**Krupnik**	**19.49**	**291**	*e*P	**P**		**19 01 32.0**	**-0.7**	
THE	**Thessaloniki**	**19.50**	**287**	*e*P	**P**		**19 01 31.9**	**-0.9**	
KNT	**Kendrikon**	**19.57**	**289**	*e*P	**P**		**19 01 32.8**	**-0.9**	
MOS	**Moscow**	**19.64**	**343**	*e*P	**P**		**19 01 31.0**	**-3.3**	
MOS				*e*S	**S**		**19 05 09.8**	**+0.1**	
MOS				pmax	pmax				
	comp=Z,370nm,1.0s								
MOS				pmax	pmax				
	comp=Z,254nm,1.2s								
KYTH	**Kithira**	**19.78**	**274**	*e*P	**P**		**19 01 35.5**	**-0.5**	
VLI	**Veliai**	**19.78**	**276**	*e*P	**P**		**19 01 38.2**	**+2.1**	
LIT	**Litokhoron**	**19.86**	**286**	*e*P	**P**		**19 01 35.8**	**-1.1**	
GRG	**Griva**	**19.94**	**288**	*e*P	**P**		**19 01 36.1**	**-1.6**	
AGG	**Agios Georgios**	**20.01**	**283**	*e*P	**P**		**19 01 36.8**	**-1.8**	
WHFO	**Wadi Hawf**	**20.06**	**163**	⇓P	**P**		**19 01 37.4**	**-1.8**	
	SNR=217								
EVR	**Evrytania**	**20.42**	**282**	*e*P	**P**		**19 01 45.8**	**+2.9**	
ARU	**Arti**	**20.45**	**17**	*e*P	**P**		**19 01 41.5**	**-1.5**	
	comp=Z,92nm,0.9s								
ARU				*e*S	**S**		**19 05 24.0**	**-2.7**	
ARU	**Arti**	**20.45**	**17**	*i* P	**P**		**19 01 41.8**	**-1.2**	
ARU				*e*S	**S**		**19 05 27.3**	**+0.6**	
ARU				pmax	pmax				
	comp=Z,195nm,1.6s								
SHAO	**Shalim**	**20.46**	**158**	⇓P	**P**		**19 01 41.7**	**-1.6**	
	SNR=7.4								
ABTO	**Aybut**	**20.50**	**165**	⇑P	**P**		**19 01 41.6**	**-2.2**	
	SNR=78								
ITM	**Ithomi**	**20.51**	**277**	*e*P	**P**		**19 01 41.5**	**-2.3**	
BARS	**Barje**	**20.52**	**294**	⇓*i*P	**P**		**19 01 43.0**	**-0.8**	
AML	**Almayashu**	**20.52**	**68**	P	**P**		**19 01 44.0**	**+0.2**	
	SNR=19								
BOLS	**Boljevac**	**20.56**	**296**	*i* P	**P**		**19 01 57.2**	**+13**	
RBK	**Rabkut**	**20.56**	**162**	⇓P	**P**		**19 01 42.6**	**-1.8**	
	SNR=157								
EKS2	**Erkin-Say**	**20.63**	**67**	P	**P**		**19 01 45.1**	**+0.1**	
	SNR=12								
FNA	**Florina**	**20.71**	**288**	*e*P	**P**		**19 01 45.0**	**-0.9**	
SKO	**Skopje**	**20.72**	**291**	*i* P	**P**		**19 01 45.8**	**-0.1**	
DRGR		**20.75**	**305**	⇓P	**P**		**19 01 45.2**	**-1.0**	
MEV	**Metsovon**	**20.83**	**285**	*e*P	**P**		**19 01 50.3**	**+3.2**	
JAN	**Janina**	**21.13**	**285**	*e*P	**P**		**19 01 50.0**	**-0.1**	
UCH	**Uchtor**	**21.13**	**68**	P	**P**		**19 01 50.1**	**0.0**	
	SNR=7.3								
AAK	**Ala-Archa**	**21.15**	**67**	P	**P**		**19 01 50.2**	**-0.1**	
	SNR=9.9								
AAK	**Ala-Archa**	**21.15**	**67**	⇑*i* P	**P**		**19 01 49.1**	**-1.2**	
USP	**Ospenovka**	**21.23**	**65**	P	**P**		**19 01 50.6**	**-0.5**	
	SNR=6.4								
FRU	**Bishkek**	**21.26**	**67**	*e*P	**P**		**19 01 51.5**	**+0.1**	
	comp=Z,150nm,1.8s,mb5.0								
FRU	**Bishkek**	**21.26**	**67**	⇑*e*P	**P**		**19 01 51.5**	**+0.1**	
FRU				*e*			19 02 23.5		
FRU				*e*S	**S**		**19 05 56.0**	**+13**	
FRU				*e*			19 06 39.0		
FRU				pmax	pmax				
	comp=Z,150nm,1.8s,mb5.0								
LKD	**Levkas**	**21.34**	**282**	*e*P	**P**		**19 01 52.6**	**+0.3**	
CHMS	**Chumysh**	**21.38**	**66**	P	**P**		**19 01 52.5**	**-0.1**	
	SNR=36								
VLS	**Valsamata**	**21.44**	**281**	*e*P	**P**		**19 01 53.5**	**+0.2**	
GRUS	**Gruza**	**21.46**	**296**	*i* P	**P**		**19 01 55.3**	**+1.9**	
KBK	**Karagaybulak**	**21.49**	**67**	P	**P**		**19 01 54.0**	**+0.3**	
	SNR=18								
IGT	**Igoumenitsa**	**21.53**	**284**	*e*P	**P**		**19 01 52.9**	**-1.3**	
KZA	**Kyzart**	**21.67**	**69**	P	**P**		**19 01 56.2**	**+0.7**	
	SNR=19								
KOLS	**Kolonicke sedl**	**21.78**	**310**	*e*P	**P**		**19 01 57.3**	**+0.7**	
KOLS				*e*			19 05 57.3		
BEO	**Belgrade**	**21.80**	**299**	⇓*i*P	**P**		**19 01 57.1**	**+0.3**	
KWP	**Kalwaria**	**21.80**	**312**	*e*P	**P**		**19 01 56.7**	**-0.1**	
KWP	**Kalwaria**	**21.80**	**312**	*e*P	**P**		**19 01 56.8**	**-0.1**	
	comp=Z,11nm,0.4s,mb4.6								
KWP	**Kalwaria**	**21.80**	**312**	*e*P	**P**		**19 01 56.8**	**0.0**	
	comp=Z,11nm,0.4s,mb4.6								
KWP	**Kalwaria**	**21.80**	**312**	*e*P	**P**		**19 01 56.8**	**0.0**	
KWP				pmax	pmax				
	comp=Z,11nm,0.4s,mb4.6								
TIR	**Tirane**	**21.87**	**289**	P	**P**		**19 02 01.8**	**+4.3**	
MNK	**Minsk**	**21.92**	**328**	*e*P	**P**		**19 01 54.0**	**-4.0**	
KEK	**Kerkira**	**21.93**	**285**	P	**P**		**19 01 58.3**	**+0.1**	
TKM2	**Tokmak 2**	**21.99**	**67**	P	**P**		**19 01 58.8**	**+0.1**	
	SNR=30								
DIVS	**Divclbare**	**22.01**	**297**	⇓*i*P	**P**		**19 01 58.4**	**-0.6**	
NVSS	**Nova Varos 2**	**22.14**	**295**	⇓*i*P	**P**		**19 02 03.5**	**+3.2**	
JASL	**Jaisalmer**	**22.16**	**111**	*e*P	**P**		**19 01 59.8**	**-0.8**	
JASL				AMb	AMb		19 02 05.8		
KSH	**Kashi**	**22.21**	**76**	*e*P	**P**		**19 02 02.3**	**+1.3**	
KSH				*e*AP			19 02 07.3		
KSH				AMB	AMB				
	comp=Z,450nm,2.5s,mb5.5								
BRVK	**Borovoye**	**22.22**	**38**	⇑*e*P	**P**		**19 02 01.3**	**+0.3**	
BVAR	**Borovoye Array**	**22.25**	**38**	P	**P**		**19 02 01.5**	**+0.2**	
	comp=Z,78nm,0.8s,mb5.2,baz=231,slow=9.5,SNR=97								
ULHL	**Ulahol**	**22.41**	**68**	P	**P**		**19 02 04.3**	**+1.3**	
	SNR=5.2								
STHS	**Stebnicka Huta**	**22.59**	**311**	*e*P	**P**		**19 02 05.5**	**+0.9**	
STHS				*e*			19 05 58.2		
KECS	**Kecovo**	**22.72**	**308**	*e*P	**P**		**19 02 09.6**	**+3.7**	
CHKZ	**Chkalovo**	**22.75**	**37**	*e*P	**P**		**19 02 06.5**	**+0.4**	
	comp=Z,76nm,0.9s,mb5.1								
CHKZ				*e*			19 02 22.4		
CHKZ	**Chkalovo**	**22.75**	**37**	*e*P	**P**		**19 02 06.5**	**+0.3**	
CHKZ				*e*			19 02 22.4		
CHKZ				pmax	pmax				
	comp=Z,76nm,0.9s,mb5.1								
MUKL	**Al Mukalla**	**22.79**	**177**	⇓*e*P	**P**		**19 02 07.6**	**+0.7**	
DHBB	**Dhamar BB**	**22.86**	**188**	⇓*e*P	**P**		**19 02 08.9**	**+1.3**	
PSZ	**Piszkesteto**	**22.92**	**306**	⇓*i*pP			19 02 10.9		
IDID	**Didziasalis**	**22.94**	**328**	*e*P	**P**		**19 02 08.8**	**+0.8**	
IDID				AMb	AMb		19 02 11.6		
	comp=Z,21nm,1.4s,mb4.4								
IDID	**Didziasalis**	**22.94**	**328**	*e*P	**P**		**19 02 08.8**	**+0.8**	
	comp=Z,21nm,1.4s,mb4.4,SNR=40								
NIE	**Niedzica**	**23.15**	**310**	*e*P	**P**		**19 02 11.6**	**+1.5**	
NIE				*e*			19 02 14.1		
PKS7	**Kunszentmiklos**	**23.16**	**304**	*e*P	**P**		**19 02 13.6**	**+3.3**	
LCI	**Lecce**	**23.20**	**287**	P	**P**		**19 02 09.9**	**-0.8**	
PKSM	**Moragy**	**23.32**	**302**	⇓*e*P	**P**		**19 02 13.8**	**+2.0**	
PKSM	**Moragy**	**23.32**	**302**	P	**P**		**19 02 12.7**	**+0.9**	
BDHA	**Al Bayda'**	**23.34**	**185**	⇓*e*P	**P**		**19 02 13.8**	**+1.6**	
BDHA				AMb	AMb		19 02 14.2		
	comp=Z,208nm,1.2s,mb5.4								
ISAL	**Salakas**	**23.37**	**328**	*e*P	**P**		**19 02 13.6**	**+1.4**	
ISAL				AMb	AMb		19 02 15.8		
	comp=Z,12nm,1.7s,mb4.0								
ISAL	**Salakas**	**23.37**	**328**	*e*P	**P**		**19 02 13.6**	**+1.4**	
	comp=Z,12nm,1.7s,mb4.0,SNR=35								
IZAR	**Zarasai**	**23.44**	**329**	*e*P	**P**		**19 02 13.9**	**+1.1**	
IZAR				AMb	AMb		19 02 18.0		
	comp=Z,33nm,1.4s,mb4.6								
IZAR	**Zarasai**	**23.44**	**329**	*e*P	**P**		**19 02 13.9**	**+1.1**	
	comp=Z,33nm,1.4s,mb4.6,SNR=35								
PKS8	**Sarbogard**	**23.44**	**303**	⇓*e*P	**P**		**19 02 15.5**	**+2.5**	
LBOS		**23.47**	**186**	⇓*e*P	**P**		**19 02 15.3**	**+1.8**	
RHK1	**Bakonya**	**23.68**	**301**	*e*P	**P**		**19 02 17.7**	**+2.4**	
SUW	**Suwalki**	**23.73**	**322**	*e*P	**P**		**19 02 17.1**	**+1.4**	
SUW	**Suwalki**	**23.73**	**322**	*e*P	**P**		**19 02 17.2**	**+1.5**	
SUW				*e*			19 02 32.9		
PKSG		**23.76**	**304**	⇑*e*P	**P**		**19 02 18.2**	**+2.2**	
OJC	**Ojcow**	**23.76**	**312**	*e*P	**P**		**19 02 17.1**	**+1.1**	
VYHS	**Vyhne**	**23.77**	**307**	*e*P	**P**		**19 02 18.5**	**+2.4**	
VYHS				*e*			19 06 00.1		
BRT	**Bari-Castellan**	**23.88**	**288**	P	**P**		**19 02 17.5**	**+0.2**	
KOLL	**Kolacno**	**24.07**	**307**	*e*P	**P**		**19 02 21.2**	**+2.2**	
LTRZ	**Laterza**	**24.18**	**287**	P	**P**		**19 02 19.9**	**-0.3**	
TRBA	**At Turbah**	**24.22**	**189**	*e*P	**P**		**19 02 22.2**	**+1.4**	
TIP	**Timpagrande**	**24.32**	**284**	*e*P	**P**		**19 02 21.5**	**-0.1**	
TDS	**Terranova Siba**	**24.60**	**285**	P	**P**		**19 02 25.0**	**+0.7**	
JAVC	**Velka Javorina**	**24.61**	**307**	P	**P**		**19 02 21.5**	**-2.8**	
OKC	**Ostrava-Krasne**	**24.62**	**310**	*e*P	**P**		**19 02 24.9**	**+0.5**	
SMOL	**Smolenice**	**24.67**	**307**	*e*P	**P**		**19 02 26.4**	**+1.5**	
ZST	**Bratislava**	**24.80**	**306**	*e*P	**P**		**19 02 27.2**	**+1.1**	
ZST				*e*			19 06 02.3		
MORC	**Moravsky Berou**	**24.97**	**309**	*e*P	**P**		**19 02 28.7**	**+1.0**	
	comp=Z,18nm,1.0s,mb4.6								
MORC				*e*PcP	PcP		19 06 03.2	-0.8	
MORC	**Moravsky Berou**	**24.97**	**309**	*e*P	**P**		**19 02 28.8**	**+1.0**	
MORC	**Moravsky Berou**	**24.97**	**309**	*e*P	**P**		**19 02 28.7**	**+0.9**	
MORC				*e*			19 06 03.2		
MORC				pmax	pmax				
	comp=Z,18nm,1.0s,mb4.6								
CUC	**Castrocucco**	**24.98**	**286**	P	**P**		**19 02 27.4**	**-0.5**	
SOI	**Samo**	**25.00**	**281**	P	**P**		**19 02 27.9**	**-0.3**	
SOP	**Sopron**	**25.03**	**304**	*e*pP	**P**		**19 02 29.0**	**+0.6**	
PUL	**Pulkovo**	**25.07**	**339**	⇑*e*P	**P**		**19 02 29.5**	**+0.9**	
PUL	**Pulkovo**	**25.07**	**339**	*i* P	**P**		**19 02 28.9**	**+0.3**	
PUL				*i*			19 13 18.6		
PUL				pmax	pmax				
	comp=Z,196nm,1.1s,mb5.5								
PUL				pmax	pmax				
	comp=N,37nm,0.6s								
PUL				pmax	pmax				
	comp=E,313nm,1.3s								
SLCN	**Sala Consilina**	**25.09**	**287**	P	**P**		**19 02 30.1**	**+1.1**	
CEL	**Celeste**	**25.10**	**282**	P	**P**		**19 02 28.5**	**-0.6**	
FG4	**Candela**	**25.15**	**289**	P	**P**		**19 02 29.6**	**+0.1**	
MGR	**Morigerati**	**25.17**	**286**	P	**P**		**19 02 30.1**	**+0.4**	
MRLC	**Muro Lucano**	**25.18**	**288**	P	**P**		**19 02 30.7**	**+0.8**	
VSU	**Vasula**	**25.19**	**334**	⇑*i*P	**P**		**19 02 30.2**	**+0.5**	
VSU	**Vasula**	**25.19**	**334***c*	*i* P	**P**		**19 02 30.1**	**+0.4**	
AJM	**Ajmer**	**25.21**	**108**	*e*P	**P**		**19 02 30.4**	**+0.1**	
MTTG	**Motta San Giov**	**25.29**	**281**	P	**P**		**19 02 30.9**	**0.0**	
KHET	**Khetri**	**25.30**	**103**	*e*P	**P**		**19 02 30.3**	**-0.9**	
KHET				AMb	AMB		19 02 35.1		
	comp=Z,50nm,1.2s,mb4.9								
KHET				*e*S	**S**		**19 06 42.1**	**-12**	
FG5	**Orsara di Pugl**	**25.33**	**289**	P	**P**		**19 02 32.2**	**+1.0**	
SGO	**Sicignano**	**25.33**	**287**	P	**P**		**19 02 31.7**	**+0.4**	
VRAC	**Vranov**	**25.42**	**308**	P	**P**		**19 02 32.8**	**+0.8**	
	comp=Z,8.2nm,0.6s,mb4.5,baz=91,slow=8.1,SNR=12								
VRAC				PcP	PcP		19 06 03.4	-1.6	
	comp=Z,3.5nm,0.5s,baz=267,slow=3.0,SNR=3.1								
VRAC	**Vranov**	**25.42**	**308**	*e*P	**P**		**19 02 33.6**	**+1.6**	
VRAC	**Vranov**	**25.42**	**308**	P	**P**		**19 02 32.8**	**+0.8**	
VRAC							19 06 03.4		
VRAC				pmax	pmax				
	comp=Z,8.0nm,0.6s								
VRAC				pmax	pmax				
	comp=Z,4.0nm,0.5s		

PGD Poggio Sodo 27.94 295 P **P** **19 02 56.9 +1.7**
VMG Vicchio 28.07 295 P **P** **19 02 59.1 +2.7**
KAF Kangasniemi 28.13 339 *eP* **P** **19 02 56.1 -0.7**
comp=Z,8.9nm,0.7s,mb4.5,baz=140,slow=9.2
KAF Kangasniemi 28.13 339 *eP* **P** **19 02 56.1 -0.7**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
CLL Collm 28.19 311 P **P** **19 02 57.0 -0.4**
comp=Z,logA/T=1.4,mb4.8
CLL *e*SP sP 19 03 03.0 +1.3
CLL *i* PCP PcP 19 06 09.6 -1.9
WTTA Wattenberg 28.25 302⇑ *iP* **P** **19 02 57.8 -0.1**
comp=Z,35nm,0.9s,mb5.0
WTTA Wattenberg 28.25 302⇑ *iP* **P** **19 02 57.8 -0.1**
WTTA pmax pmax
comp=Z,35nm,0.9s,mb5.0
WATA Walderalm 28.30 302⇓ *iP* **P** **19 02 58.3 -0.1**
comp=Z,38nm,1.3s,mb4.9
WATA Walderalm 28.30 302⇓ *iP* **P** **19 02 58.3 -0.1**
WATA pmax pmax
comp=Z,38nm,1.3s,mb4.9
BSD Bornholm Skovb 28.45 319 *i* P **P** **19 02 58.9 -0.8**
comp=Z,48nm,0.7s,mb5.2
BSD Bornholm Skovb 28.45 319 *i* P **P** **19 02 58.9 -0.8**
BSD pmax pmax
comp=Z,48nm,0.7s,mb5.2
SQTA Sankt Quirin 28.53 302⇑ *iP* **P** **19 02 59.4 -1.1**
comp=Z,20nm,0.9s,mb4.9
SQTA Sankt Quirin 28.53 302⇑ *iP* **P** **19 02 59.4 -1.1**
SQTA pmax pmax
comp=Z,20nm,0.9s,mb4.8
FUR Furstenfeldbru 28.61 304 *eP* **P** **19 03 01.0 -0.2**
comp=Z,43nm,1.1s,mb5.1
FUR *e*PcP PcP 19 06 11.2 -1.4
FUR Furstenfeldbru 28.61 304 *eP* **P** **19 03 01.0 -0.2**
FUR *e* 19 06 11.2
FUR pmax pmax
comp=Z,43nm,1.1s,mb5.1
MOTA Moosalm 28.61 302⇓ *iP* **P** **19 03 00.1 -1.2**
comp=Z,31nm,1.0s,mb5.0
MOTA Moosalm 28.61 302⇓ *iP* **P** **19 03 00.1 -1.2**
MOTA pmax pmax
comp=Z,31nm,1.0s,mb5.0
BOM Bombay 28.62 123 *eP* **P** **19 03 00.6 -1.1**
MOX Moxa 28.87 309 *eP* **P** **19 03 04.0 +0.5**
GRA1 Grafenberg Arr 28.91 307 *eP* **P** **19 03 04.7 +0.8**
comp=Z,62nm,1.6s,mb5.1
GRA1 LR LR
comp=Z,500nm,21.0s,MS4.1
GRF Grafenberg Arr 28.91 307 *eP* **P** **19 03 04.7 +0.8**
comp=Z,62nm,1.6s,mb5.1
GRF LR LR
comp=Z,500nm,21.0s,MS4.1
GRF Grafenberg Arr 28.91 307 *eP* **P** **19 03 04.7 +0.8**
GRF pmax pmax
comp=Z,62nm,1.6s,mb5.1
GRF MLR MLR
comp=Z,500nm,21.0s,MS4.1
GRF Grafenberg Arr 28.91 307 *eP* **P** **19 03 04.7 +0.8**
GRF pmax pmax
comp=Z,62nm,1.6s,mb5.1
GRF MLR MLR
comp=Z,500nm,21.0s,MS4.1
BHPL Bhopal 29.11 110 *eP* **P** **19 03 04.8 -1.2**
BHPL AMb AMB 19 03 10.8
comp=Z,75nm,1.1s,mb5.3
DAVOX Davos 29.39 301 P **P** **19 03 08.3 0.0**
comp=Z,19nm,0.7s,mb4.9,baz=106,slow=9.0,SNR=12
DAVOX LR LR 19 16 37.6
comp=Z,426nm,21.7s,MS4.0,baz=96,slow=40
DAVA Damuels 29.44 302⇑ *iP* **P** **19 03 07.7 -1.0**
comp=Z,62nm,0.9s,mb5.3
NVS Novosibirsk 29.79 43 *eP* **P** **19 03 10.8 -1.0**
NVS *e* 19 10 01.5
NVS pmax pmax
comp=N,60nm,1.6s
NVS pmax pmax
comp=E,38nm,1.6s
NVS pmax pmax
comp=Z,87nm,1.6s,mb5.2
CORF Corte 29.85 292 *eP* **P** **19 03 11.3 -1.2**
CLZ Clausthal 29.91 311 *eP* **P** **19 03 13.6 +0.7**
comp=Z,60nm,1.4s,mb5.1
CLZ *e*PcP PcP 19 06 14.4 -1.4
CLZ Clausthal 29.91 311 *eP* **P** **19 03 13.6 +0.7**
CLZ *e* 19 06 14.4
CLZ pmax pmax
comp=Z,60nm,1.4s,mb5.1
PGF Pioggiola 29.95 292 *eP* **P** **19 03 12.5 -0.8**
comp=Z,80nm,0.8s,mb5.2
PGF Pioggiola 29.95 292 *eP* **P** **19 03 12.5 -0.8**
PGF pmax pmax
comp=Z,40nm,0.8s,mb5.2
VSL Villasalto 29.97 286 *eP* **P** **19 03 13.4 -0.1**
comp=Z,72nm,1.3s,mb5.2
COP Copenhagen 29.98 319 *i* P **P** **19 03 15.5 +2.0**
comp=Z,29nm,0.9s,mb5.0
COP *i* 19 08 45.2
comp=Z,430nm,18.0s
COP Copenhagen 29.98 319 *eP* **P** **19 03 15.5 +2.0**
comp=Z,29nm,0.9s,mb5.0
COP *i* 19 08 45.2
COP LR LR
comp=Z,430nm,18.0s,MS4.1
COP Copenhagen 29.98 319 *eP* **P** **19 03 15.5 +2.0**
COP pmax pmax
comp=Z,29nm,0.9s,mb5.0
COP MLR MLR
comp=Z,430nm,18.0s,MS4.1
TOD Tromm 30.44 306 *eP* **P** **19 03 15.6 -2.0**
BSEG Bad Segeberg 30.52 315 *eP* **P** **19 03 18.3 0.0**
BSEG *e*PcP PcP 19 06 19.2 +1.9
MCGN Macugnaga 30.65 299 P **P** **19 03 21.3 +1.9**
TNS Taunus Mts 30.77 307 *eP* **P** **19 03 21.1 +0.6**
comp=Z,28nm,1.2s,mb5.0
TNS *e*PcP PcP 19 06 17.1 -0.9
TNS Taunus Mts 30.77 307 *eP* **P** **19 03 21.1 +0.6**
TNS *e* 19 06 17.1
TNS pmax pmax
comp=Z,28nm,1.2s,mb5.0
WMQ Urumqi 30.83 65⇑ *iP* **P** **19 03 21.5 +0.5**
WMQ AMB AMB
comp=Z,61nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,156nm,5.4s
KTD Kalmit 30.87 306 *eP* **P** **19 03 20.3 -1.0**
SAOF Saorge 30.95 295 *eP* **P** **19 03 22.0 -0.1**
LANF Langenberg 31.01 305 *eP* **P** **19 03 19.8 -2.8**
SBF Sospel 31.04 295 *eP* **P** **19 03 22.5 -0.4**
comp=Z,116nm,0.8s,mb5.5
SBF Sospel 31.04 295 *eP* **P** **19 03 22.5 -0.4**
SBF pmax pmax
comp=Z,58nm,0.8s,mb5.5
AUTN L'Aution 31.04 295 *eP* **P** **19 03 22.7 -0.2**
REVF Revere 31.09 295 *eP* **P** **19 03 23.3 -0.1**
TOUF Mont Tournerai 31.17 295 *eP* **P** **19 03 24.4 +0.4**
MVIF Mont Vial 31.24 295 *eP* **P** **19 03 24.6 -0.1**
WLS Welschbruch 31.24 304 *eP* **P** **19 03 23.1 -1.6**
ABH Alteburg 31.29 307 *eP* **P** **19 03 25.4 +0.3**
CDF Champ du Feu 31.29 304 *eP* **P** **19 03 23.8 -1.3**
APA Apatity 31.35 349⇓ *iP* **P** **19 03 25.6 +0.2**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.0
APA MLR MLR
comp=Z,2μm,15.0s,MS4.8
ECH Echery 31.35 303 *eP* **P** **19 03 23.8 -1.8**
HFS Hagfors 31.41 328 P **P** **19 03 25.6 -0.4**
comp=Z,69nm,0.8s,mb5.6,baz=129,slow=9.5,SNR=50
HFA0 Hagfors New Ar 31.42 328 P **P** **19 03 25.2 -0.9**
CALN Calern 31.43 295 *eP* **P** **19 03 26.0 -0.4**
SURF Saint Ours 31.47 296 *eP* **P** **19 03 27.0 +0.3**
MBDF Montbardon 31.49 297 *eP* **P** **19 03 26.2 -0.7**
comp=Z,38nm,0.7s,mb5.0
MBDF Montbardon 31.49 297 *eP* **P** **19 03 26.2 -0.7**
MBDF pmax pmax
comp=Z,19nm,0.7s,mb5.0
LPG La Plagne 31.50 298 *eP* **P** **19 03 26.3 -0.7**
comp=Z,35nm,0.8s,mb5.0
LPG La Plagne 31.50 298 *eP* **P** **19 03 26.3 -0.7**
LPG pmax pmax
comp=Z,17nm,0.8s,mb4.9
LOMF Lomont 31.51 302 *eP* **P** **19 03 23.6 -3.4**
LPL La Plagne 31.52 298 *eP* **P** **19 03 26.2 -0.9**
comp=Z,35nm,0.9s,mb4.9
LPL La Plagne 31.52 298 *eP* **P** **19 03 26.2 -0.9**
LPL pmax pmax
comp=Z,18nm,0.9s,mb4.9
HINF Hinteralfeld 31.52 303 *eP* **P** **19 03 26.2 -1.0**
BNI Bardonecchia 31.55 297 *eP* **P** **19 03 27.4 0.0**
comp=Z,39nm,1.0s,mb5.2
BNI *e*PcP PcP 19 06 19.4 -0.7
BNI Bardonecchia 31.55 297 *eP* **P** **19 03 27.5 +0.1**
BNI *e* 19 06 19.4
BNI pmax pmax
comp=Z,39nm,1.0s,mb5.2
KOLN Koldanda 31.56 97 *eP* **P** **19 03 27.3 -0.4**
comp=Z,102nm,1.2s,mb5.5
FRF La Foret Royal 31.62 294 *eP* **P** **19 03 27.3 -0.7**
comp=Z,87nm,1.2s,mb5.2
FRF La Foret Royal 31.62 294 *eP* **P** **19 03 27.3 -0.7**
FRF pmax pmax
comp=Z,44nm,1.2s,mb5.2
LMR La Mourre 31.73 294 *eP* **P** **19 03 28.1 -0.9**
comp=Z,17nm,0.8s,mb4.6
LMR La Mourre 31.73 294 *eP* **P** **19 03 28.1 -0.9**
LMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
HAU Haudompre 31.88 303 *eP* **P** **19 03 29.2 -1.0**
HAU *e*R
comp=Z,331nm,19.0s
MUD Monsted U'grnd 31.96 319 *i* P **P** **19 03 32.5 +1.6**
comp=Z,33nm,1.2s,mb5.0
comp=Z,730nm,17.0s
CABF La Chapelle 31.98 300 *eP* **P** **19 03 30.7 -0.5**
comp=Z,139nm,1.0s,mb5.4
CABF La Chapelle 31.98 300 *eP* **P** **19 03 30.7 -0.5**
CABF pmax pmax
comp=Z,69nm,1.0s,mb5.4
CMAH Djebel Manchou 32.03 281 P **P** **19 03 30.1 -1.6**
TAVF Tavernes 32.04 295 *eP* **P** **19 03 30.2 -1.6**
ABSA Djebel Ababsia 32.07 281 P **P** **19 03 30.5 -1.5**
ORIF Oris-en-Rattie 32.12 297 *eP* **P** **19 03 31.2 -1.2**
comp=Z,29nm,0.9s,mb4.8
ORIF *e*R
comp=Z,619nm,22.2s
STOF St-Etienne Org 32.13 295 *eP* **P** **19 03 34.2 +1.7**
THEF They Montfort 32.13 303 *eP* **P** **19 03 31.2 -1.3**
WLF Walferdange 32.16 306 *eP* **P** **19 03 32.7 0.0**
comp=Z,17nm,0.8s,mb4.9
WLF Walferdange 32.16 306 *eP* **P** **19 03 32.7 0.0**
WLF pmax pmax
comp=Z,17nm,0.8s,mb4.9
GKN Gorkha 32.28 96 *eP* **P** **19 03 33.6 -0.3**
comp=Z,199nm,1.3s,mb5.8
VILF Villemus 32.28 295 *eP* **P** **19 03 30.7 -3.1**
SMRF Simiane la Rot 32.38 295 *eP* **P** **19 03 33.9 -0.7**
comp=Z,27nm,1.1s,mb4.7
CAEH 'Ain El Ouahch 32.44 282 P **P** **19 03 35.1 -0.1**
HGN Heimansgroeve 32.44 308⇑ *iP* **P** **19 03 35.2 +0.1**
comp=Z,43nm,0.7s,mb5.4
HGN *e*S 19 09 14.4
OSL Oslo 32.62 326 *eP* **P** **19 03 36.4 -0.2**
OSL AMb AMB 19 03 41.0
comp=Z,221nm,1.2s,mb6.0
OSL Oslo 32.62 326 *eP* **P** **19 03 36.4 -0.2**
comp=Z,221nm,1.2s,mb6.0
OSL Oslo 32.62 326 *eP* **P** **19 03 36.4 -0.2**
comp=Z,221nm,1.2s,mb6.0,SNR=28
CKFL Kef-Lekhel 32.63 281 P **P** **19 03 37.0 +0.1**
MEZF Maizieres J'vi 32.78 304 *eP* **P** **19 03 37.0 -1.1**
DMN Daman 32.82 96 *eP* **P** **19 03 38.8 +0.1**
comp=Z,129nm,0.9s,mb5.9
CASM Ain Smara 32.84 281 P **P** **19 03 39.0 +0.2**
KKN Kakani 32.88 96 *eP* **P** **19 03 38.9 -0.3**
comp=Z,50nm,0.8s,mb5.5
NB2 NORSAR Subarra 32.93 328 P **P** **19 03 38.4 -0.8**
comp=Z,56nm,0.9s,mb5.5,baz=121,slow=8.6
NB2 NORSAR Subarra 32.93 328 P **P** **19 03 38.4 -0.8**
baz=121,slow=8.6
NB2 NORSAR Subarra 32.93 328 P **P** **19 03 38.4 -0.8**
NB2 pmax pmax
comp=Z,56nm,0.9s,mb5.5
NOA NORSAR Array B 32.93 328 P **P** **19 03 38.3 -0.9**
comp=Z,32nm,0.8s,mb5.3,baz=121,slow=8.4,SNR=62
NOA LR LR 19 17 55.4
comp=Z,360nm,21.6s,MS4.0,baz=125,slow=38
CTEI Djebel Teioual 32.96 281 P **P** **19 03 30.6 -9.2**
NAO01 NORSAR Array S 32.97 327 *eP* **P** **19 03 39.2 -0.5**
comp=Z,112nm,1.4s,mb5.6
VIVF Saint-Julien-l 32.98 297 *eP* **P** **19 03 38.5 -1.4**
comp=Z,42nm,1.0s,mb5.0
VIVF Saint-Julien-l 32.98 297 *eP* **P** **19 03 38.5 -1.4**
VIVF pmax pmax
comp=Z,21nm,1.0s,mb5.0
KONO Kongsberg 33.00 325 *eP* **P** **19 03 39.1 -0.7**
GIVF Givet 33.06 307 *eP* **P** **19 03 40.5 0.0**
PKI Pulchoki 33.08 96 *eP* **P** **19 03 40.8 -0.1**
comp=Z,133nm,1.2s,mb5.7
DFRA Djebel Bou Aff 33.25 282 P **P** **19 03 41.4 -0.9**
BAIF Baives 33.45 306 *eP* **P** **19 03 44.0 0.0**
comp=Z,41nm,0.9s,mb5.0
BAIF Baives 33.45 306 *eP* **P** **19 03 44.0 0.0**
BAIF pmax pmax
comp=Z,20nm,0.9s,mb5.0
CMER Merouana 33.47 280 P **P** **19 03 35.0 -9.3**
LOR Lormes 33.53 301 *eP* **P** **19 03 43.0 -1.6**
comp=Z,34nm,1.2s,mb4.9
LOR *e*R
comp=Z,449nm,19.5s
LOR Lormes 33.53 301 *eP* **P** **19 03 43.0 -1.6**
LOR pmax pmax
comp=Z,17nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,450nm,19.5s,MS4.2
SMF Signal de Mont 33.53 300 *eP* **P** **19 03 43.5 -1.2**
comp=Z,23nm,0.7s,mb4.9
SMF Signal de Mont 33.53 300 *eP* **P** **19 03 43.5 -1.2**
SMF pmax pmax
comp=Z,12nm,0.7s,mb4.9
HYB Hyderabad 33.59 118 *i* P **P** **19 03 44.0 -1.4**
HYB Hyderabad 33.59 118 *eP* **P** **19 03 44.0 -1.4**
LASF Ste Croix 33.61 296 *eP* **P** **19 03 44.3 -1.0**
comp=Z,211nm,1.6s,mb5.5
CKHR Kef el Ahmar 33.67 281 P **P** **19 03 44.1 -1.9**
PLDF La Plantade 33.69 299 *eP* **P** **19 03 45.0 -1.1**
SET Setif 33.71 281 P **P** **19 03 46.0 -0.3**
SSF Saint Saulge 33.76 301 *eP* **P** **19 03 45.6 -1.1**
comp=Z,33nm,1.5s,mb5.0
SSF Saint Saulge 33.76 301 *eP* **P** **19 03 45.6 -1.1**
SSF pmax pmax
comp=Z,33nm,1.5s,mb5.0
AVF Avril sur Loir 33.87 300 *eP* **P** **19 03 46.2 -1.4**
comp=Z,47nm,1.0s,mb5.1
AVF Avril sur Loir 33.87 300 *eP* **P** **19 03 46.2 -1.4**
AVF pmax pmax
comp=Z,23nm,1.0s,mb5.1
AGO Saint Agoulin 34.03 299 *eP* **P** **19 03 47.8 -1.2**
DOMB Dombas 34.31 329 *eP* **P** **19 03 51.0 -0.2**
DOMB AMb AMB 19 03 55.1
comp=Z,91nm,1.4s,mb5.5
DOMB Dombas 34.31 329 *eP* **P** **19 03 51.0 -0.2**
comp=Z,91nm,1.4s,mb5.5
DOMB Dombas 34.31 329 *eP* **P** **19 03 51.0 -0.3**
comp=Z,91nm,1.4s,mb5.5,SNR=28
KEV Kevo 34.35 347 *ep* **P** **19 03 50.4 -1.1**
comp=Z,26nm,1.0s,mb5.1
KEV Kevo 34.35 347 *eP* **P** **19 03 50.4 -1.1**
KEV pmax pmax
comp=Z,26nm,1.0s,mb5.1
HYF Humbligny 34.36 301 *eP* **P** **19 03 51.0 -0.8**
BLS5 Blasjo 34.38 323 *eP* **P** **19 03 53.2 +1.4**
BLS5 AMb AMB 19 03 58.1
comp=Z,44nm,1.4s,mb5.2
BLS5 Blasjo 34.38 323 *eP* **P** **19 03 53.2 +1.4**
comp=Z,44nm,1.4s,mb5.2
BLS5 Blasjo 34.38 323 *eP* **P** **19 03 53.2 +1.3**
comp=Z,44nm,1.4s,mb5.2,SNR=28
ARCES ARCESS Array B 34.43 346 P **P** **19 03 51.5 -0.7**
comp=Z,13nm,0.8s,mb4.9,baz=146,slow=8.7,SNR=14
ARCES PP PP 19 05 08.7 +0.8
comp=Z,18nm,1.1s,baz=143,slow=9.0,SNR=3.9
ARCES LR LR 19 18 06.1
comp=Z,391nm,19.3s,MS4.2,baz=332,slow=37
KTK1 Kautokeino 34.44 345 *eP* **P** **19 03 53.5 +1.2**
EJON La Jonquera 34.46 293 P **P** **19 03 50.1 -2.6**
comp=Z,4.1nm,0.7s,mb4.5
EJON La Jonquera 34.46 293 P **P** **19 03 50.1 -2.6**
comp=Z,4.1nm,0.7s,mb4.5,SNR=7.9
ODD1 Odda 34.48 324⇑ *iP* **P** **19 03 52.4 -0.4**
ODD1 AMb AMB 19 03 54.9
comp=Z,158nm,1.3s,mb5.8
ODD1 Odda 34.48 324⇑ *iP* **P** **19 03 52.4 -0.4**
comp=Z,158nm,1.3s,mb5.8,SNR=28
NSS Namsos 34.49 334 *eP* **P** **19 03 51.6 -1.1**
NSS *i* pP 19 03 55.0 -0.8
MOR8 Moi Rana 34.66 337 *eP* **P** **19 03 54.0 -0.2**
MOR8 AMb AMB 19 03 57.7
comp=Z,58nm,1.7s,mb5.2
MOR8 Moi Rana 34.66 337 *eP* **P** **19 03 54.0 -0.2**
comp=Z,58nm,1.7s,mb5.2,SNR=28
TCF Toulx Ste Croi 34.66 300 *eP* **P** **19 03 53.6 -0.9**
comp=Z,47nm,1.2s,mb5.0
TCF Toulx Ste Croi 34.66 300 *eP* **P** **19 03 53.6 -0.9**
TCF pmax pmax
comp=Z,24nm,1.2s,mb5.0
CAF Calviac 34.83 297 *eP* **P** **19 03 55.0 -0.9**
comp=Z,18nm,0.8s,mb4.7
CAF Calviac 34.83 297 *eP* **P** **19 03 55.0 -0.9**
CAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MTLF Montolieu 34.85 294 *eP* **P** **19 03 54.9 -1.2**
comp=Z,21nm,1.1s,mb4.7
MTLF Montolieu 34.85 294 *eP* **P** **19 03 54.9 -1.2**
MTLF pmax pmax
comp=Z,11nm,1.1s,mb4.7
AKET Djebel Ketaf 34.94 281 P **P** **19 03 55.6 -1.3**
HYA Hoyanger 35.17 326 *eP* **P** **19 04 00.8 +2.2**
HYA AMb AMB 19 04 05.0
comp=Z,116nm,1.3s,mb5.6
HYA Hoyanger 35.17 326 *eP* **P** **19 04 00.8 +2.2**
comp=Z,116nm,1.3s,mb5.7
HYA Hoyanger 35.17 326 *eP* **P** **19 04 00.9 +2.3**
comp=Z,116nm,1.3s,mb5.6,SNR=28
MOL Molde 35.19 329 *e* **P** **19 04 03.9 +5.1**
RJF Les Rejaudoux 35.19 298 *eP* **P** **19 03 58.4 -0.6**
comp=Z,181nm,1.6s,mb5.4
RJF *e*R
comp=Z,294nm,20.5s
RJF Les Rejaudoux 35.19 298 *eP* **P** **19 03 58.4 -0.6**
RJF pmax pmax
comp=Z,91nm,1.6s,mb5.5
RJF MLR MLR
comp=Z,290nm,20.5s,MS4.0
ADJB Djebel Djouab 35.25 282 P **P** **19 03 57.7 -1.9**
EMIR Miracle 35.53 292 P **P** **19 04 00.2 -1.7**
comp=Z,11nm,1.0s,mb4.8
EMIR Miracle 35.53 292 P **P** **19 04 00.2 -1.7**
comp=Z,11nm,1.0s,mb4.7,SNR=7.9
EMHD Djebel Mahouad 35.62 282 P **P** **19 04 03.5 +0.8**
LFF La Frestale 35.77 297 *eP* **P** **19 04 03.0 -0.9**
TRO Tromso 35.88 343 *eP* **P** **19 04 03.8 -0.8**
EPOB Poblet 35.95 291 P **P** **19 04 04.3 -1.2**
comp=Z,5.7nm,0.7s,mb4.6
EPOB Poblet 35.95 291 P **P** **19 04 04.3 -1.2**
comp=Z,5.7nm,0.7s,mb4.6,SNR=7.9
EIBI Ibiza 36.19 287 P **P** **19 04 06.1 -1.3**
comp=Z,26nm,0.8s,mb5.2
EIBI Ibiza 36.19 287 P **P** **19 04 06.1 -1.4**
comp=Z,26nm,0.8s,mb5.2,SNR=7.9
LDF La Druitiere 36.21 304 *eP* **P** **19 04 06.3 -1.3**
comp=Z,52nm,0.9s,mb5.1
LDF La Druitiere 36.21 304 *eP* **P** **19 04 06.3 -1.3**
LDF pmax pmax
comp=Z,26nm,0.9s,mb5.2
EPF Esparros 36.25 294 *eP* **P** **19 04 06.3 -1.7**
MFF Saint Martin d 36.28 300 *eP* **P** **19 04 06.9 -1.3**
comp=Z,60nm,1.0s,mb5.2
MFF Saint Martin d 36.28 300 *eP* **P** **19 04 06.9 -1.3**
MFF pmax pmax
comp=Z,30nm,1.0s,mb5.2
EBIE Bielsa 36.44 294 P **P** **19 04 05.8 -3.7**
comp=Z,3.9nm,0.6s,mb4.5
EBIE Bielsa 36.44 294 P **P** **19 04 05.8 -3.8**
comp=Z,3.9nm,0.6s,mb4.5,SNR=5.8
FLN La Foliniere 36.45 304 *eP* **P** **19 04 08.4 -1.2**
comp=Z,87nm,0.9s,mb5.4
FLN *e*R
comp=Z,344nm,18.7s
FLN La Foliniere 36.45 304 *eP* **P** **19 04 08.4 -1.2**
FLN pmax pmax
comp=Z,44nm,0.9s,mb5.4
FLN MLR MLR
comp=Z,340nm,18.7s,MS4.2
ERTA Horta de San J 36.57 291 P **P** **19 04 08.8 -1.9**
comp=Z,11nm,0.8s,mb4.7
ERTA Horta de San J 36.57 291 P **P** **19 04 08.8 -1.9**
comp=Z,11nm,0.8s,mb4.7,SNR=7.9
EBNR Beni Rached 36.70 283 P **P** **19 04 13.0 +1.1**
GRR Gorron 36.71 303 *eP* **P** **19 04 10.6 -1.1**
comp=Z,165nm,0.9s,mb5.5
GRR Gorron 36.71 303 *eP* **P** **19 04 10.6 -1.1**
GRR pmax pmax
comp=Z,82nm,0.9s,mb5.6
LSA Lhasa 36.75 89 P **P** **19 04 13.3 +1.0**
LSA AMb AMB
comp=Z,60nm,1.0s,mb5.4
LSA Lhasa 36.75 89 *eP* **P** **19 04 13.5 +1.1**
comp=Z,71nm,1.0s,mb5.5
LSA Lhasa 36.75 89 *eP* **P** **19 04 13.5 +1.2**
LSA pmax pmax
comp=Z,71nm,1.0s,mb5.5
ECHA Ech Chlef 36.87 283 P **P** **19 04 14.0 +0.8**
ECHF Ech Chlef 36.89 283 P **P** **19 04 14.0 +0.6**
ETSF Etsaut 36.92 294 *eP* **P** **19 04 12.2 -1.4**
comp=Z,24nm,1.1s,mb4.6
ETSF Etsaut 36.92 294 *eP* **P** **19 04 12.2 -1.4**
ETSF pmax pmax
comp=Z,12nm,1.1s,mb4.6
ESAC San Caprasio 37.04 292 P **P** **19 04 11.9 -2.7**
comp=Z,10nm,0.5s,mb4.9,SNR=7.9
EANR 'Ain N'Sour 37.13 282 P **P** **19 04 15.8 +0.3**
ETRT Tiaret 37.14 281 P **P** **19 04 16.0 +0.5**
EMOS Mosqueruela 37.28 290 P **P** **19 04 15.1 -1.6**
comp=Z,21nm,1.0s,mb4.9
EMOS Mosqueruela 37.28 290 P **P** **19 04 15.1 -1.6**
comp=Z,21nm,1.0s,mb4.9,SNR=7.1
SJPF Ste Jean 37.38 295 *eP* **P** **19 04 16.2 -1.2**
comp=Z,46nm,1.2s,mb4.9
SJPF Ste Jean 37.38 295 *eP* **P** **19 04 16.2 -1.2**
SJPF pmax pmax
comp=Z,23nm,1.2s,mb4.9
IPRE Itoiz 37.52 294 P **P** **19 04 18.3 -0.3**
comp=Z,4.4nm,0.4s,mb4.5,SNR=6.0
EARA Aranguren 37.69 294 P **P** **19 04 19.7 -0.3**
comp=Z,17nm,0.9s,mb4.8,SNR=4.9
ECHE Chera 37.82 289 P **P** **19 04 19.7 -1.5**
comp=Z,9.9nm,0.8s,mb4.6
ECHE Chera 37.82 289 P **P** **19 04 19.7 -1.5**
comp=Z,9.9nm,0.8s,mb4.6,SNR=5.5
ECHE Chera 37.82 289 P **P** **19 04 19.7 -1.5**
ECHE pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
SGMF Saint Gilles 37.84 303 *eP* **P** **19 04 20.5 -0.8**
comp=Z,200nm,1.3s,mb5.4
SGMF Saint Gilles 37.84 303 *eP* **P** **19 04 20.5 -0.8**
SGMF pmax pmax
comp=Z,100nm,1.3s,mb5.4
QUIF Quistinic 38.27 303 *eP* **P** **19 04 23.6 -1.3**
comp=Z,263nm,1.5s,mb5.5
QUIF Quistinic 38.27 303 *eP* **P** **19 04 23.6 -1.3**
QUIF pmax pmax
comp=Z,132nm,1.5s,mb5.4
ROSF Rostrenen 38.32 303 *eP* **P** **19 04 24.3 -1.0**
comp=Z,62nm,1.0s,mb5.0
ROSF Rostrenen 38.32 303 *eP* **P** **19 04 24.3 -1.0**
ROSF pmax pmax
comp=Z,31nm,1.0s,mb5.0
EMUR La Murta 38.44 286 P **P** **19 04 22.7 -3.7**
comp=Z,10nm,0.7s,mb4.7,SNR=7.9
ETOB Tobarra 38.47 288 P **P** **19 04 24.0 -2.6**
comp=Z,20nm,0.8s,mb4.9
ETOB Tobarra 38.47 288 P **P** **19 04 24.0 -2.7**
comp=Z,20nm,0.8s,mb4.9,SNR=9.3
EVIA Vianos 39.20 288 P **P** **19 04 30.2 -2.5**
comp=Z,18nm,0.7s,mb4.9
EVIA Vianos 39.20 288 P **P** **19 04 30.2 -2.6**
comp=Z,18nm,0.7s,mb4.9,SNR=9.1
EVIA Vianos 39.20 288 P **P** **19 04 30.2 -2.6**
EVIA pmax pmax
comp=Z,18nm,0.7s,mb4.9
ENIJ Nijar 39.41 285 P **P** **19 04 32.7 -1.8**
comp=Z,0.6nm,0.5s
ENIJ Nijar 39.41 285 P **P** **19 04 32.7 -1.8**
comp=Z,0.6nm,0.5s,SNR=4.6
ENIJ Nijar 39.41 285 P **P** **19 04 32.7 -1.8**

ENIJ					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KMBO	**Kilima Mbogo**	**39.48**	**197**	P		**P**	**19 04 36.5**	**+1.2**
	comp=Z,4.2nm,0.9s,mb4.2,baz=26,slow=9.7,SNR=5.6							
EHUE	**Huescar**	**39.48**	**287**	P		**P**	**19 04 34.1**	**-1.0**
	comp=Z,27nm,1.0s,mb4.9							
EHUE	**Huescar**	**39.48**	**287**	P		**P**	**19 04 34.1**	**-1.0**
	comp=Z,27nm,1.0s,mb4.9,SNR=20							
EHUE	**Huescar**	**39.48**	**287**	P		**P**	**19 04 34.1**	**-1.0**
EHUE					pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9							
MOY	**Mondy**	**39.71**	**51**	*e*P		**P**	**19 04 38.9**	**+2.0**
MOY					pmax	pmax		
	comp=Z,83nm,1.7s,mb5.2							
EQES	**Quesada**	**39.84**	**287**	P		**P**	**19 04 36.2**	**-2.0**
	comp=Z,45nm,1.0s,mb5.2							
EQES	**Quesada**	**39.84**	**287**	P		**P**	**19 04 36.2**	**-1.9**
	comp=Z,45nm,1.0s,mb5.2,SNR=26							
ESDC	**Sonseca Array**	**40.05**	**290**	P		**P**	**19 04 38.8**	**-1.0**
	comp=Z,18nm,0.9s,mb4.8,baz=65,slow=8.7,SNR=42							
ESDC					PcP	PcP	19 06 44.2	-1.1
	comp=Z,1.4nm,0.7s,baz=50,slow=3.6,SNR=4.2							
ESDC	**Sonseca Array**	**40.05**	**290**	P		**P**	**19 04 37.5**	**-2.3**
	comp=Z,12nm,0.7s,mb4.8							
ESDC	**Sonseca Array**	**40.05**	**290**	P		**P**	**19 04 37.5**	**-2.3**
	comp=Z,12nm,0.7s,mb4.8,SNR=47							
ESLA	**Sonseca Array**	**40.05**	**290**	*e*P		**P**	**19 04 39.1**	**-0.7**
	comp=Z,4.3nm,0.9s,mb4.2							
EARI	**Arriondas**	**40.23**	**296**	P		**P**	**19 04 39.6**	**-1.6**
	comp=Z,14nm,0.9s,mb4.7							
EARI	**Arriondas**	**40.23**	**296**	P		**P**	**19 04 39.6**	**-1.6**
	comp=Z,14nm,0.9s,mb4.7,SNR=5.2							
EBAN	**Banos Encina**	**40.29**	**287**	P		**P**	**19 04 41.0**	**-0.8**
	comp=Z,29nm,0.8s,mb5.0							
EBAN	**Banos Encina**	**40.29**	**287**	P		**P**	**19 04 41.0**	**-0.8**
	comp=Z,29nm,0.8s,mb5.1,SNR=27							
EBAN	**Banos Encina**	**40.29**	**287**	P		**P**	**19 04 41.0**	**-0.8**
EBAN					pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1							
GTA	**Gaotai**	**40.44**	**70**	*e*P		**P**	**19 04 44.5**	**+1.5**
GTA					AP	pP	19 04 51.8	+5.8
GTA					XP	sP	19 04 55.0	+7.8
GTA					AMB	AMB		
	comp=Z,41nm,1.5s,mb4.9							
EGUA	**Guajares**	**40.49**	**285**	P		**P**	**19 04 43.1**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.2,SNR=7.9							
EGUA	**Guajares**	**40.49**	**285**	P		**P**	**19 04 43.1**	**-0.4**
EGUA					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2							
ELUQ	**Luque**	**40.82**	**287**	P		**P**	**19 04 43.7**	**-2.4**
	comp=Z,10nm,0.8s,mb4.5							
ELUQ	**Luque**	**40.82**	**287**	P		**P**	**19 04 43.7**	**-2.5**
	comp=Z,10nm,0.8s,mb4.5,SNR=8.2							
ELUQ	**Luque**	**40.82**	**287**	P		**P**	**19 04 43.7**	**-2.5**
ELUQ					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5							
EADA	**Adamuz**	**40.89**	**288**	P		**P**	**19 04 44.2**	**-2.6**
	comp=Z,12nm,0.8s,mb4.6							
EADA	**Adamuz**	**40.89**	**288**	P		**P**	**19 04 44.2**	**-2.5**
	comp=Z,12nm,0.8s,mb4.6,SNR=11							
ZAK	**Zakamensk**	**41.20**	**53**	⇓*i*P		**P**	**19 04 50.0**	**+0.9**
ZAK				*e*			19 06 46.4	
ZAK					pmax	pmax		
	comp=Z,16nm,1.0s,mb4.6							
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1							
EMIJ	**Mijas**	**41.50**	**285**	P		**P**	**19 04 49.3**	**-2.4**
	comp=Z,30nm,0.7s,mb5.0							
EMIJ	**Mijas**	**41.50**	**285**	P		**P**	**19 04 49.3**	**-2.4**
	comp=Z,30nm,0.7s,mb5.0,SNR=14							
ECAL	**Calabor**	**41.59**	**294**	P		**P**	**19 04 51.2**	**-1.2**
	comp=Z,8.0nm,0.9s,mb4.3							
ECAL	**Calabor**	**41.59**	**294**	P		**P**	**19 04 51.2**	**-1.2**
	comp=Z,8.0nm,0.9s,mb4.4,SNR=7.9							
PBRG	**Braganca**	**41.63**	**294**	*e*P		**P**	**19 04 51.8**	**-0.9**
EJIF	**Jimena Fronter**	**42.07**	**286**	P		**P**	**19 04 54.8**	**-1.5**
	comp=Z,20nm,0.6s,mb4.9							
EJIF	**Jimena Fronter**	**42.07**	**286**	P		**P**	**19 04 54.8**	**-1.6**
	comp=Z,20nm,0.6s,mb4.9,SNR=9.2							
EJIF	**Jimena Fronter**	**42.07**	**286**	P		**P**	**19 04 54.8**	**-1.6**
EJIF					pmax	pmax		
	comp=Z,20nm,0.6s,mb4.9							
ESPR	**Espera**	**42.24**	**286**	P		**P**	**19 04 55.7**	**-2.1**
	comp=Z,17nm,0.9s,mb4.7							
ESPR	**Espera**	**42.24**	**286**	P		**P**	**19 04 55.7**	**-2.1**
	comp=Z,17nm,0.9s,mb4.7,SNR=7.8							
PVRL	**Vila Real**	**42.46**	**293**	*e*P		**P**	**19 04 59.0**	**-0.5**
	comp=Z,31nm,1.4s,mb4.7							
MTE	**Manteigas**	**42.54**	**292**	*e*P		**P**	**19 05 00.1**	**-0.1**
	comp=Z,82nm,1.5s,mb5.2							
MTE	**Manteigas**	**42.54**	**292**	*e*P		**P**	**19 05 00.2**	**0.0**
	comp=Z,97nm,1.4s,mb5.3							
ELOB	**Lobios**	**42.58**	**294**	P		**P**	**19 04 58.9**	**-1.6**
	comp=Z,11nm,1.0s,mb4.5							
ELOB	**Lobios**	**42.58**	**294**	P		**P**	**19 04 58.9**	**-1.6**
	comp=Z,11nm,1.0s,mb4.5,SNR=5.5							
EBAD	**Badajoz**	**42.58**	**289**	P		**P**	**19 04 58.9**	**-1.6**
	comp=Z,13nm,0.7s,mb4.8							
EBAD	**Badajoz**	**42.58**	**289**	P		**P**	**19 04 58.9**	**-1.6**
	comp=Z,13nm,0.7s,mb4.8,SNR=13							
EMIN	**Mina Concepcio**	**42.60**	**288**	P		**P**	**19 04 59.4**	**-1.3**
	comp=Z,34nm,0.9s,mb5.1,SNR=24							
MDT	**Midelt**	**42.61**	**280**	P		**P**	**19 05 01.2**	**+0.3**
	comp=Z,31nm,1.0s,mb5.0,baz=98,slow=9.9,SNR=12							
PCBR	**Castelo Branco**	**42.64**	**291**	*e*P		**P**	**19 05 00.6**	**-0.4**
	comp=Z,54nm,1.2s,mb5.2							
STS	**Santiago**	**42.71**	**296**	P		**P**	**19 05 01.2**	**-0.3**
	comp=Z,7.4nm,0.8s,mb4.5							
STS	**Santiago**	**42.71**	**296**	P		**P**	**19 05 01.2**	**-0.3**
	comp=Z,7.4nm,0.8s,mb4.4,SNR=7.9							
STS	**Santiago**	**42.71**	**296**	P		**P**	**19 05 01.2**	**-0.3**
STS					pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4							
EMAZ	**Mazaricos**	**43.00**	**296**	P		**P**	**19 05 01.6**	**-2.3**
	comp=Z,14nm,0.7s,mb4.8							
EMAZ	**Mazaricos**	**43.00**	**296**	P		**P**	**19 05 01.6**	**-2.3**
	comp=Z,14nm,0.7s,mb4.8,SNR=5.1							
EGRO	**El Granado**	**43.28**	**288**	P		**P**	**19 05 04.0**	**-2.3**
	comp=Z,14nm,0.8s,mb4.7							
EGRO	**El Granado**	**43.28**	**288**	P		**P**	**19 05 04.0**	**-2.3**
	comp=Z,14nm,0.8s,mb4.8,SNR=9.4							
PTOM	**Tomar**	**43.39**	**291**	*e*P		**P**	**19 05 06.8**	**-0.3**
	comp=Z,173nm,1.1s,mb5.7							
PBEJ	**Beja**	**43.42**	**289**	*e*P		**P**	**19 05 07.3**	**-0.1**
	comp=Z,61nm,1.4s,mb5.1							
SONM	**Songino Array**	**43.50**	**57**	P		**P**	**19 05 08.7**	**+0.8**
	comp=Z,8.9nm,0.7s,mb4.6,baz=274,slow=9.3,SNR=52							
SONM					PcP	PcP	19 06 54.5	-2.0
	comp=Z,3.6nm,1.0s,baz=252,slow=4.6,SNR=4.0							
PLOU	**Loures**	**44.14**	**290**	*e*P		**P**	**19 05 13.8**	**+0.5**
	comp=Z,260nm,1.1s,mb5.9							
KBS	**Kingsbay**	**44.15**	**351**	*e*P		**P**	**19 05 13.1**	**+0.3**
PTEO	**Sao Teotonio**	**44.22**	**288**	*e*P		**P**	**19 05 13.8**	**-0.1**
LZH	**Lanzhou**	**44.45**	**74**	*e*P		**P**	**19 05 16.5**	**+0.8**
LZH					AMB	AMB		
	comp=Z,31nm,1.3s,mb4.9							
LZH	**Lanzhou**	**44.45**	**74**	*e*P		**P**	**19 05 16.5**	**+0.8**
	comp=Z,31nm,1.3s,mb4.9							
LZH					pP	pP	19 05 29.5	+11
LZH					sP	sP	19 05 35.0	+15
LZH	**Lanzhou**	**44.45**	**74**	*e*P		**P**	**19 05 16.5**	**+0.8**
LZH					*SP	sP	19 05 35.0	+15
LZH					pmax	pmax		
	comp=Z,31nm,1.3s,mb4.9							
AVE	**Averroes**	**44.63**	**282**	P		**P**	**19 05 16.5**	**-0.8**
BOD	**Bodaibo**	**47.03**	**42**	*e*P		**P**	**19 05 35.7**	**-0.2**
BOD					pmax	pmax		
	comp=Z,87nm,0.8s,mb5.7							
CIT	**Chita**	**47.44**	**50**	*e*P		**P**	**19 05 39.8**	**+0.5**
CIT					pmax	pmax		
	comp=Z,143nm,1.8s,mb5.6							
KMI	**Kunming**	**48.00**	**88**	P		**P**	**19 05 43.8**	**-0.2**
KMI					AP	pP	19 05 54.3	+7.2
KMI					AMB	AMB		
	comp=Z,43nm,0.9s,mb5.5							
KMI	**Kunming**	**48.00**	**88**	P		**P**	**19 05 43.7**	**-0.3**
	comp=Z,43nm,0.9s,mb5.5							
KMI					pP	pP	19 05 54.2	+7.1
KMI					LR	LR		
	comp=Z,160nm,22.9s,MS3.9							
KMI	**Kunming**	**48.00**	**88**	P		**P**	**19 05 43.7**	**-0.3**
KMI					pmax	pmax		
	comp=Z,43nm,0.9s,mb5.5							
KMI					MLR	MLR		
	comp=Z,160nm,22.9s,MS3.9							
HHC	**Hu-ho-hao-te**	**48.71**	**65**	*e*P		**P**	**19 05 49.8**	**+0.5**
HHC					AP	pP	19 05 54.3	+2.0
HHC					XP	sP	19 05 57.0	+3.5
HHC					PP	PP	19 07 42.5	+0.2
HHC					PCS		19 11 09.5	
HHC					S	**S**	**19 12 51.5**	**+0.8**
HHC					SS	SS	19 16 15.0	-1.4
HHC					AMB	AMB		
	comp=Z,28nm,1.6s,mb5.0							
HHC					AMB	AMB		
	comp=Z,310nm,4.3s							
XAN	**Xi'an**	**49.06**	**74**	P		**P**	**19 05 51.8**	**-0.3**
XAN					AMB	AMB		
	comp=Z,61nm,1.1s,mb5.5							
NANT	**Nan**	**49.61**	**97**	⇓P		**P**	**19 05 57.0**	**+0.5**
	comp=Z,331nm,0.8s							
NST	**Nakhon Sawan**	**50.92**	**100**	P		**P**	**19 06 06.0**	**-0.5**
ENH	**Enshi**	**51.02**	**79**	*e*P		**P**	**19 06 06.6**	**-0.6**
	comp=Z,41nm,1.2s,mb5.2							
EFAM	**Famara**	**51.10**	**280**	P		**P**	**19 06 06.7**	**-1.1**
	comp=Z,52nm,0.9s,mb5.5							
EFAM	**Famara**	**51.10**	**280**	P		**P**	**19 06 06.6**	**-1.2**
	comp=Z,52nm,0.9s,mb5.5,SNR=7.9							
CFTV	**Fuerteventura**	**51.85**	**279**	P		**P**	**19 06 10.9**	**-2.6**
	comp=Z,20nm,0.8s,mb5.1,SNR=4.7							
HIA	**Hailar**	**51.88**	**52**	*e*P		**P**	**19 06 13.8**	**+0.5**
	comp=Z,33nm,0.9s,mb5.3							
HIA	**Hailar**	**51.88**	**52**	*e*P		**P**	**19 06 13.8**	**+0.4**
HIA					pmax	pmax		
	comp=Z,33nm,0.9s							
CLNS	**Chul'man**	**53.01**	**42**	*e*P		**P**	**19 06 22.1**	**+0.3**
CLNS				*e*			19 07 32.6	
CLNS				*e*PPP		PPP	19 09 26.4	-2.1
CLNS				*e*S		**S**	**19 13 32.7**	**-17**
CLNS					pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2							
CLNS					pmax	pmax		
	comp=N,12nm,0.7s							
CLNS					pmax	pmax		
	comp=E,16nm,0.8s							
CLNS					pmax	pmax		
	comp=N,13nm,1.0s							
CLNS					pmax	pmax		
	comp=E,16nm,1.0s							
CLNS					pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9							
CLNS					smax			
	comp=N,1μm,12.7s							
CLNS					smax			
	comp=Z,1μm,13.4s							
CLNS					smax			
	comp=E,500nm,12.0s							
CLNS					MLR	MLR		
	comp=N,300nm,14.0s,MS4.7							
CLNS					MLR	MLR		
	comp=Z,400nm,14.0s,MS4.6							
CLNS					MLR	MLR		
	comp=E,300nm,13.0s,MS4.7							
EOSO	**Osorio**	**53.16**	**280**	P		**P**	**19 06 22.4**	**-0.8**
	comp=E,64nm,1.1s,mb5.5							
EOSO	**Osorio**	**53.16**	**280**	P		**P**	**19 06 22.4**	**-0.9**
	comp=E,64nm,1.1s,mb5.5,SNR=7.9							
YAK	**Yakutsk**	**54.20**	**35**	*e*P		**P**	**19 06 29.4**	**-1.0**
	comp=E,43nm,1.0s,mb5.3							
YAK	**Yakutsk**	**54.20**	**35**	*e*P		**P**	**19 06 29.4**	**-0.9**
YAK					pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3							
TIA	**Tai'an**	**54.42**	**69**	⇑P		**P**	**19 06 32.0**	**-0.4**
TIA					AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7							
LSZ	**Lusaka**	**55.46**	**203**	P		**P**	**19 06 40.3**	**+0.1**
	comp=Z,11nm,0.8s,mb4.9,baz=27,slow=6.0,SNR=30							
LSZ	**Lusaka**	**55.46**	**203**	*e*P		**P**	**19 06 40.5**	**+0.2**
	comp=Z,17nm,1.0s,mb5.0							
LSZ	**Lusaka**	**55.46**	**203**	P		**P**	**19 06 40.3**	**0.0**
LSZ					pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9							
OPO	**Ambohidratompo**	**55.60**	**181**	P		**P**	**19 06 41.1**	**-0.2**
	comp=Z,6.2nm,0.8s,mb4.7,baz=10,slow=4.5,SNR=7.0							
DBIC	**Dimbokro**	**56.57**	**251**	P		**P**	**19 06 46.5**	**-1.8**
	comp=Z,17nm,1.0s,mb5.0,baz=48,slow=11,SNR=14							
DBIC					PcP	PcP	19 07 42.7	-2.0
	comp=Z,13nm,1.0s,baz=20,slow=8.6,SNR=3.8							
DBIC					LR	LR	19 32 39.6	
	comp=Z,137nm,18.7s,MS4.1,baz=26,slow=38							
DBIC	**Dimbokro**	**56.57**	**251**	*e*P		**P**	**19 06 44.8**	**-3.5**
	comp=Z,53nm,1.4s,mb5.4							
DBIC	**Dimbokro**	**56.57**	**251**	P		**P**	**19 06 46.5**	**-1.8**
DBIC							19 07 42.7	
DBIC					pmax	pmax		
	comp=Z,17nm,1.0s							
DBIC					pmax	pmax		
	comp=Z,13nm,1.0s							
DBIC					MLR	MLR		
	comp=Z,137nm,18.7s							
DL2	**Dalian**	**56.63**	**64**	P		**P**	**19 06 48.0**	**-0.4**
DL2					AMB	AMB		
	comp=Z,50nm,0.9s,mb5.5							
KIC	**Kosan Boka**	**56.68**	**251**	*e*P		**P**	**19 06 47.1**	**-2.0**
	comp=Z,264nm,1.2s							
TIC	**Toumodi**	**56.71**	**251**	*e*P		**P**	**19 06 47.2**	**-2.1**
	comp=Z,26nm,0.2s,mb5.9							
LIC	**Lamto**	**56.99**	**251**	*e*P		**P**	**19 06 49.3**	**-2.0**
	comp=Z,82nm,0.8s,mb5.8							
LIC	**Lamto**	**56.99**	**251**	⇑*i*P		**P**	**19 06 49.2**	**-2.1**
	comp=Z,27nm,0.8s,mb5.3							
CN2	**Changchun**	**57.38**	**57**	*e*P		**P**	**19 06 52.5**	**-1.1**
CN2					AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4							
NJ2	**Nanjing**	**57.47**	**72**	*e*P		**P**	**19 06 53.8**	**-0.7**
NJ2					PP	PP	19 09 04.0	+0.3
NJ2					S	**S**	**19 14 45.0**	**-4.8**
NJ2					AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1							
KULM	**Kulim**	**57.74**	**110**	*e*P		**P**	**19 06 54.0**	**-2.5**
KS15	**Wonju Array Si**	**61.72**	**63**	*e*P		**P**	**19 07 22.6**	**-1.0**
YHNB	**Yeheng**	**62.96**	**79**	*e*P		**P**	**19 07 32.5**	**+0.5**
TSUM	**Tsumeb**	**62.99**	**212**	*e*P		**P**	**19 07 31.7**	**-0.6**
	comp=Z,34nm,1.2s,mb5.3							
SEY	**Seymchan**	**63.60**	**30**	⇑*e*P		**P**	**19 07 36.1**	**+0.5**
SEY	**Seymchan**	**63.60**	**30**	*e*P		**P**	**19 07 36.3**	**+0.7**
SEY					pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3							
MA2	**Magadan**	**64.65**	**33**	*e*P		**P**	**19 07 43.0**	**+0.5**
	comp=Z,61nm,1.1s,mb5.5							
MA2	**Magadan**	**64.65**	**33**	⇑*e*P		**P**	**19 07 42.3**	**-0.3**
MA2					pmax	pmax		
	comp=Z,100nm,1.6s,mb5.6							
MA2					MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3							
BILL	**Bilibino**	**65.41**	**21**	*e*P		**P**	**19 07 47.5**	**+0.2**
	comp=Z,40nm,0.9s,mb5.5							
BILL	**Bilibino**	**65.41**	**21**	*c i*P		**P**	**19 07 47.4**	**+0.1**
BILL					pmax	pmax		
	comp=Z,66nm,1.2s,mb5.5							
LBTB	**Lobatse**	**65.41**	**202**	*e*P		**P**	**19 07 47.8**	**-0.3**
	comp=Z,43nm,0.7s,mb5.6							
LBTB	**Lobatse**	**65.41**	**202**	*e*P		**P**	**19 07 47.8**	**-0.3**
LBTB					pmax	pmax		
	comp=Z,43nm,0.7s,mb5.6							
YSS	**Yuzh-Sakhalins**	**66.93**	**48**	*e*P		**P**	**19 07 57.0**	**-0.4**
	comp=Z,40nm,1.0s,mb5.4							
YSS	**Yuzh-Sakhalins**	**66.93**	**48**	⇑*i*P		**P**	**19 07 56.8**	**-0.6**
YSS					pmax	pmax		
	comp=Z,100nm,1.3s,mb5.7							
JOW	**Kunigami**	**67.18**	**73**	P		**P**	**19 07 57.7**	**-1.7**
	comp=Z,12nm,0.7s,mb5.0,baz=120,slow=10,SNR=3.8							
KSM	**Kuching**	**67.53**	**106**	*e*P		**P**	**19 08 00.4**	**-1.4**
ASAJ	**Asahikawa**	**68.28**	**51**	P		**P**	**19 08 05.0**	**-1.0**
	comp=Z,11nm,0.8s,mb4.9,baz=289,slow=15,SNR=8.3							
ASAJ	**Asahikawa**	**68.28**	**51**	P		**P**	**19 08 05.0**	**-1.0**
ASAJ					pmax	pmax		
	comp=Z,11nm,0.8s							
MAT	**Matsushiro**	**69.36**	**59**	P		**P**	**19 08 06.5**	**-6.3**
MAT	**Matsushiro**	**69.36**	**59**	*e*P		**P**	**19 08 07.0**	**-5.8**
	comp=Z,6.0nm,1.0s,mb4.5							
MAT	**Matsushiro**	**69.36**	**59**	*e*P		**P**	**19 08 07.0**	**-5.8**
MAT					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
MJAR	**Matsushiro Arr**	**69.37**	**59**	P		**P**	**19 08 12.1**	**-0.6**
	comp=Z,5.7nm,0.9s,mb4.5,baz=300,slow=6.2,SNR=13							
SCHQ	**Schefferville**	**72.49**	**327**	P		**P**	**19 08 29.6**	**-1.7**
	comp=Z,10nm,1.0s,mb4.7,baz=49,slow=7.2,SNR=5.6							
SUR	**Sutherland**	**73.76**	**203**	*e*P		**P**	**19 08 39.7**	**+0.6**
	comp=Z,19nm,0.8s,mb5.1							
INK	**Inuvik**	**74.68**	**0**	*e*P		**P**	**19 08 43.4**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8							
ILAR	**Eielson Array**	**77.58**	**6**	P		**P**	**19 09 00.1**	**-0.1**
	comp=Z,8.3nm,0.9s,mb4.7,baz=330,slow=4.2,SNR=42							
ILAR					PP	PP	19 11 52.6	-4.4
	comp=Z,3.6nm,1.0s,baz=344,slow=7.6,SNR=6.2							
ILAR					PKKPbc		19 27 59.0	
	comp=Z,0.4nm,0.6s,baz=225,slow=2.6,SNR=4.5							
MCK	**McKinley**	**78.41**	**7**	*e*P		**P**	**19 09 05.2**	**+0.6**
	comp=Z,22nm,1.1s,mb5.0							
MCK	**McKinley**	**78.41**	**7**	*e*P		**P**	**19 09 05.2**	**+0.5**
MCK					pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0							
THY	**Trims Highway**	**79.02**	**6**	*e*P		**P**	**19 09 08.1**	**+0.1**
YKA	**Yellowknife Ar**	**79.50**	**352**	P		**P**	**19 09 10.6**	**-0.1**
	comp=Z,8.3nm,0.9s,mb4.7,baz=12,slow=6.0,SNR=8.6							
SVW2	**Sparrevohn**	**80.09**	**11**	*e*P		**P**	**19 09 13.2**	**-0.6**
SML	**Sawmill**	**80.35**	**8**	*e*P		**P**	**19 09 15.5**	**+0.3**
PMR	**Palmer**	**80.47**	**8**	*e*P		**P**	**19 09 16.3**	**+0.4**
	comp=Z,53nm,1.1s,mb5.4							
PMR					LR	LR		
	comp=Z,300nm,17.0s,MS4.7							
PMR	**Palmer**	**80.47**	**8**	*e*P		**P**	**19 09 16.3**	**+0.4**
PMR					pmax	pmax		
	comp=Z,53nm,1.1s,mb5.4							
PMR					MLR	MLR		
	comp=Z,300nm,17.0s,MS4.7							
DIV	**Divide**	**81.27**	**7**	*e*P		**P**	**19 09 20.5**	**+0.5**
	comp=Z,77nm,1.0s,mb5.6							
SLKM	**Skilak Lake**	**81.40**	**9**	*e*P		**P**	**19 09 20.5**	**-0.2**
KDAK	**Kodiak Island**	**83.72**	**11**	P		**P**	**19 09 33.6**	**+0.9**
	comp=Z,22nm,0.7s,mb5.4,baz=10.0,slow=2.5,SNR=22							
KDAK					LR	LR	19 48 39.1	
	comp=Z,192nm,18.5s,MS4.5,baz=356,slow=37							
KDAK	**Kodiak Island**	**83.72**	**11**	*e*P		**P**	**19 09 33.3**	**+0.6**
	comp=Z,27nm,0.8s,mb5.4							
DLBC	**Dease Lake**	**84.57**	**359**	*e*P		**P**	**19 09 38.4**	**+1.5**
ULM	**Lac du Bonnet**	**87.07**	**338**	P		**P**	**19 09 48.6**	**-0.9**
	comp=Z,7.2nm,0.9s,mb4.9,baz=40,slow=4.3,SNR=6.5							
ULM	**Lac du Bonnet**	**87.07**	**338**	*e*P		**P**	**19 09 48.3**	**-1.3**
	comp=Z,35nm,1.4s,mb5.4							
FITZ	**Fitzroy Crossi**	**91.60**	**111**	P		**P**	**19 10 10.1**	**-1.5**
	comp=Z,19nm,0.9s,mb5.4,baz=264,slow=0.1,SNR=8.0							
NEW	**Newport**	**93.72**	**350**	*e*P		**P**	**19 10 20.5**	**-0.2**
	comp=Z,16nm,1.3s,mb5.3							
NEW	**Newport**	**93.72**	**350**	*e*P		**P**	**19 10 20.5**	**-0.1**
NEW					pmax	pmax		
	comp=Z,16nm,1.3s							
PDAR	**Pinedale Array**	**97.64**	**343**	PKKPbc			19 27 12.5	
	comp=Z,0.7nm,0.8s,baz=180,slow=3.0,SNR=5.4							
WRA	**Warramunga Arr**	**99.24**	**108**	P		**P**	**19 10 44.5**	**-1.9**
	comp=Z,1.0nm,0.7s,mb4.4,baz=309,slow=4.1,SNR=6.8							
WRA					PP	PP	19 14 48.4	-3.2
	comp=Z,1.6nm,1.0s,baz=312,slow=7.8,SNR=5.6							
WRA					PKKPbc		19 27 09.1	
	comp=Z,0.5nm,0.8s,baz=122,slow=2.7,SNR=5.3							
WRA	**Warramunga Arr**	**99.24**	**108**	P		**P**	**19 10 44.5**	**-1.9**
WRA					PP	PP	19 14 48.4	-3.2
WRA					PKKPbc		19 27 09.1	
WRAB	**Tennant Creek**	**99.25**	**108**	*e*P		**P**	**19 10 42.7**	**-3.7**
BDFB	**Brasilia**	**103.79**	**261**	PP		PP	19 15 21.8	-4.5
	comp=Z,3.3nm,0.6s,baz=117,slow=6.8,SNR=3.6							
LPAZ	**La Paz**	**120.13**	**272**	PKP		PKPdf	19 15 55.5	-2.0
	comp=Z,2.5nm,0.8s,baz=71,slow=2.9,SNR=14							
LPAZ	**La Paz**	**120.13**	**272**	*e*PKIKP		PKPdf	19 15 55.4	-2.0
QSPA	**South Pole Qui**	**127.16**	**180**	⇑*i*P		PKPdf	19 16 06.2	-3.3
PLCA	**Paso Flores**	**132.79**	**246**	PKP		PKPdf	19 16 19.4	-1.9
	comp=Z,4.0nm,0.9s,baz=143,slow=3.5,SNR=7.1							

PRU ***26*** *19:25:42.6,50.27N×18.79E*
IDC ***26*** *19:25:43.2±1.9,50.24N×18.69E,mb1 3.9/2, mb1mx3.4/15, mbtmp3.8/2, ML2.9/3, Error ellipse: s-maj=36.5km s-min=9.9km az=133.0*
IPEC ***26*** *19:25:43.0±0.1,50.22N×18.82E,h2km±1km,ML2.4/3, Error ellipse: s-maj=1.4km s-min=0

*NEIC **26** 19:39:06.2, 39.96N×23.88E, h25km, MD2.9(ATH), After ATH.*
*CSEM **26** 19:39:06.7±0.1, 39.94N×23.92E, h20km, ML2.5, Error ellipse: s-maj=3.5km s-min=2.3km az=96.0*
*THE **26** 19:39:08.9, 40.11N×24.19E, h20km, ML2.5*
ISC 26 19:39:06.6±1.9, 39.92N±0.07×23.93E±0.08, h20km±21km, n10, σ0§99/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.42**	**6**	*e*Pg	**Pb**	**19 39 14.9**	**-0.3**
OUR				*e*Sg	**Sb**	**19 39 20.1**	**-1.0**
OUR	**Ouranopolis**	**0.42**	**6**	*e*Pg	**Pb**	**19 39 14.9**	**-0.3**
OUR				*e*Sg	**Sb**	**19 39 20.0**	**-1.0**
PLG	**Polygyros**	**0.58**	**321**	*e*PN	**Pn**	**19 39 16.6**	**-3.0**
NEO	**Neokhori**	**0.82**	**222**	*e*PN	**Pn**	**19 39 22.8**	**-0.1**
NEO				*e*SN	**Sn**	**19 39 34.0**	**-0.4**
LIA	**Limnos Island**	**0.97**	**91**	*e*PN	**Pn**	**19 39 25.4**	**+0.4**
SOH	**Sokhos**	**1.00**	**334**	*e*Pg	**Pb**	**19 39 26.9**	**+1.8**
SOH				*e*Sg	**Sb**	**19 39 37.7**	**-0.1**
SRS	**Serrai**	**1.22**	**348**	*e*Pg	**Pb**	**19 39 27.6**	**-1.2**
SRS				*e*Sg	**Sb**	**19 39 43.5**	**-0.8**
NVR	**Nevrokopi**	**1.43**	**358**	*e*PN	**Pn**	**19 39 31.9**	**+0.3**
KNT	**Kendrikon**	**1.47**	**328**	*e*Pg	**Pn**	**19 39 32.7**	**+0.5**
KNT				*e*Sg	**Sb**	**19 39 52.9**	**+1.6**
RDO	**Rodhopi**	**1.73**	**45**	*e*PN	**Pn**	**19 39 36.7**	**+0.7**

DHMR 26 19:52:09.9±2.7, 12.69N×40.51E, h10km±206km, ML4.2, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.55**	**81**	*i* P	Pn	19 53 07.8	+1.5
TRBA				*i* S	Sn	19 53 53.4	+4.4
TRBA	comp=N,1μm,0.7s			AML	AML	19 54 03.4	
UDYN	**Al 'Udayn**	**3.59**	**69**	*i* S	Sn	19 53 54.5	+4.6
DHBB	**Dhamar BB**	**4.21**	**63**	*i* P	Pn	19 53 17.2	+1.5
DHBB				*i* S	Sn	19 54 09.0	+3.5
LBOS		**4.76**	**75**	*i* P	Pn	19 53 21.8	-1.7
LBOS				*i* S	Sn	19 54 18.4	-1.0

*CSEM **26** 20:02:02.3±0.1, 35.27N×3.83W, h20km, MD3.2, Error ellipse: s-maj=4.2km s-min=2.6km az=86.0*
*CNRM **26** 20:02:02.9, 35.32N×3.81W, h16km, MD3.2*
*INMG **26** 20:02:06.0±1.5, 35.48N×3.80W, h10km±12km, ML2.3, Error ellipse: s-maj=5.9km s-min=4.8km az=172.0*
MDD 26 20:02:04.3±0.3, 35.27N×3.87W, h15km±3km, mbLg2.2/16, Error ellipse: s-maj=3.9km s-min=3.8km az=60.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.07**	**236**	P	Pb	20 02 06.0	-1.4
MPAL				S	Sb	20 02 10.0	+0.4
MPAL	**Palemas**	**0.07**	**236**	*i* P	Pb	20 02 06.0	-1.4
TOU	**Touzarine**	**0.32**	**163**	P	Pb	20 02 11.0	-0.1
TOU				S	Sb	20 02 15.0	-0.7
TOU	**Touzarine**	**0.32**	**163**	*i* P	Pb	20 02 11.0	-0.1
EMEL	**Melilla**	**0.74**	**87**	P	Pb	20 02 19.1	+0.7
EMEL	650nm,0.2s,SNR=34			S	Sb	20 02 29.0	+0.9
EMLI	1μm,0.2s,SNR=7.9 **Melilla**	**0.75**	**87**	P	Pb	20 02 19.1	+0.6
EMLI	650nm,0.2s,SNR=34			S	Sb	20 02 29.0	+0.8
EALB	1μm,0.2s,SNR=7.9 **Alboran**	**0.95**	**45**	P	Pb	20 02 19.9	-2.1
EALB	30nm,0.1s,SNR=46			S	Sb	20 02 33.1	-1.0
EALB	319nm,0.2s,SNR=5.0 **Alboran**	**0.95**	**45**	P	Pb	20 02 19.9	-2.1
EALB	30nm,0.1s,SNR=46			S	Sb	20 02 30.7	-3.4
TZK	319nm,0.2s,SNR=5.0 **Tazeka**	**1.20**	**193**	*i* P	Pb	20 02 25.0	-1.2
TZK				*i* S	Sb	20 02 40.0	-1.4
EMIJ	**Mijas**	**1.49**	**331**	P	Pn	20 02 28.0	-2.7
EMIJ	2.1nm,0.1s,SNR=7.9			S	Sb	20 02 46.9	-2.7
EMIJ	17nm,0.4s,SNR=7.9 **Mijas**	**1.49**	**331**	P	Pn	20 02 28.0	-2.7
EMIJ	2.1nm,0.1s,SNR=7.9			S	Sb	20 02 45.9	-3.7
EGUA	17nm,0.4s,SNR=7.9 **Guajares**	**1.58**	**9**	P	Pn	20 02 28.8	-3.2
EGUA	0.6nm,0.1s,SNR=7.9			S	Sn	20 02 49.8	-2.5
EGUA	12nm,0.2s,SNR=7.9 **Guajares**	**1.58**	**9**	P	Pn	20 02 28.8	-3.2
EGUA	0.6nm,0.1s,SNR=7.9			S	Sn	20 02 47.8	-4.4
EJIF	12nm,0.2s,SNR=7.9 **Jimena Fronter**	**1.76**	**313**	P	Pn	20 02 34.3	-0.3
EJIF	0.2nm,0.5s,SNR=8.2			S	Sn	20 02 54.8	-1.9
EQUE	11nm,0.4s,SNR=5.0 **Quentar**	**1.96**	**10**	P	Pn	20 02 35.7	-1.8
EQUE	2.5nm,0.2s,SNR=15			S	Sn	20 02 58.6	-3.4
ESPR	7.0nm,0.2s,SNR=9.2 **Espera**	**2.27**	**315**	P	Pn	20 02 41.9	+0.1
ESPR	1.7nm,0.2s,SNR=7.6			S	Sn	20 03 08.7	-1.0
ESPR	10nm,0.2s,SNR=5.0 **Espera**	**2.27**	**315**	P	Pn	20 02 41.9	0.0
ESPR	1.7nm,0.2s,SNR=7.6			S	Sn	20 03 08.7	-1.0
ELUQ	10nm,0.2s,SNR=5.0 **Luque**	**2.31**	**352**	P	Pn	20 02 41.9	-0.6
ELUQ	3.2nm,0.2s,SNR=7.9			S	Sn	20 03 08.4	-2.4
ELUQ	7.5nm,0.2s,SNR=7.9 **Luque**	**2.31**	**352**	P	Pn	20 02 41.9	-0.5
ELUQ	3.2nm,0.2s,SNR=7.9			S	Sn	20 03 05.1	-5.7
CZD	7.5nm,0.2s,SNR=7.9 **Col de Zad**	**2.43**	**204**	P	Pn	20 02 42.0	-2.2
CZD				S	Sn	20 03 10.0	-3.8
CZD	**Col de Zad**	**2.43**	**204**	*e*P	Pn	20 02 42.0	-2.2
EQES	**Quesada**	**2.61**	**14**	P	Pn	20 02 46.2	-0.5
EQES	4.7nm,0.3s,SNR=26			S	Sn	20 03 15.8	-2.5
EQES	7.1nm,0.3s,SNR=6.5 **Quesada**	**2.61**	**14**	P	Pn	20 02 46.2	-0.5
EQES	4.7nm,0.3s,SNR=26			S	Sn	20 03 15.8	-2.6
EBAN	7.1nm,0.3s,SNR=6.5 **Banos Encina**	**2.89**	**1**	P	Pn	20 02 48.6	-2.1
EBAN	0.7nm,0.4s,SNR=7.9			S	Sn	20 03 22.6	-2.9
EBAN	0.3nm,0.2s,SNR=7.9 **Banos Encina**	**2.89**	**1**	P	Pn	20 02 48.6	-2.1
EBAN	0.7nm,0.4s,SNR=7.9			S	Sn	20 03 26.5	+1.0
EADA	0.3nm,0.2s,SNR=7.9 **Adamuz**	**2.95**	**349**	P	Pn	20 02 49.7	-1.8
EADA	0.6nm,0.3s,SNR=8.7			S	Sn	20 03 23.5	-3.5
EADA	1.1nm,0.5s,SNR=5.0 **Adamuz**	**2.95**	**349**	P	Pn	20 02 49.7	-1.9
EADA	0.6nm,0.3s,SNR=8.7			S	Sn	20 03 27.3	+0.3
EMUR	1.1nm,0.5s,SNR=5.0 **La Murta**	**3.33**	**39**	S	Sn	20 03 30.4	-6.1
EMUR	6.1nm,0.3s,SNR=7.9 **La Murta**	**3.33**	**39**	S	Sn	20 03 30.4	-6.1
EMIN	6.1nm,0.3s,SNR=7.9 **Mina Concepcio**	**3.37**	**319**	P	Pn	20 02 55.3	-2.2
EMIN	0.4nm,0.1s,SNR=10			S	Sn	20 03 31.8	-5.7
EMIN	2.7nm,0.5s,SNR=5.0 **Mina Concepcio**	**3.37**	**319**	P	Pn	20 02 55.3	-2.2
EMIN	0.4nm,0.1s,SNR=10			S	Sn	20 03 31.8	-5.7
EGRO	2.7nm,0.5s,SNR=5.0 **El Granado**	**3.69**	**309**	P	Pn	20 03 00.4	-1.7
EGRO	0.5nm,0.1s,SNR=22			S	Sn	20 03 40.7	-5.1
EGRO	4.6nm,0.3s,SNR=5.0 **El Granado**	**3.69**	**309**	P	Pn	20 03 00.4	-1.7
EGRO	0.5nm,0.1s,SNR=22			S	Sn	20 03 40.7	-5.0
ETOB	4.6nm,0.3s,SNR=5.0 **Tobarra**	**3.85**	**28**	P	Pn	20 03 02.8	-1.6
ETOB	2.6nm,0.2s,SNR=14			S	Sn	20 03 44.6	-5.1
ETOB	1.9nm,0.3s,SNR=4.0 **Tobarra**	**3.85**	**28**	P	Pn	20 03 02.8	-1.5
ETOB	2.6nm,0.2s,SNR=14			S	Sn	20 03 44.6	-5.1
PBEJ	1.9nm,0.3s,SNR=4.0 **Beja**	**4.24**	**312**	*e*Pn	Pn	20 03 08.3	-1.5
PBEJ	2.5nm,0.2s			*e*Sn	Sn	20 03 53.8	-5.7
PBEJ	**Beja**	**4.24**	**312**	*e*Pn	Pn	20 03 08.3	-1.5
PBEJ	2.5nm,0.2s			*e*Sn	Sn	20 03 53.8	-5.7
EBAD	**Badajoz**	**4.30**	**325**	P	Pn	20 03 08.2	-2.5
EBAD	0.8nm,0.1s,SNR=7.3			S	Sn	20 03 54.0	-7.1
EBAD	3.4nm,0.6s,SNR=5.0 **Badajoz**	**4.30**	**325**	P	Pn	20 03 08.2	-2.5
EBAD	0.8nm,0.1s,SNR=7.3			S	Sn	20 03 54.0	-7.1
ESDC	3.4nm,0.6s,SNR=5.0 **Sonseca Array**	**4.40**	**359**	P	Pn	20 03 10.1	-2.0
ESDC	9.9nm,1.2s,baz=177,slow=12,SNR=8.4			S	Sn	20 03 56.8	-6.8
PTEO	0.5nm,0.3s,baz=184,slow=23,SNR=4.0 **Sao Teotonio**	**4.53**	**302**	*e*Pn	Pn	20 03 13.4	-0.6
PCBR	**Castelo Branco**	**5.39**	**329**	*e*Pn	Pn	20 03 23.1	-3.1
PCBR	1.8nm,0.4s			*e*Sn	Sn	20 04 20.4	-8.2
PCBR	**Castelo Branco**	**5.39**	**329**	Pn	Pn	20 03 23.1	-3.1
PCBR	0.9nm,0.4s			Sn	Sn	20 04 20.4	-8.2
PTOM	**Tomar**	**5.65**	**322**	*e*Pn	Pn	20 03 27.7	-2.1
PTOM				*e*Sn	Sn	20 04 27.6	-7.5
MTE	**Manteigas**	**5.89**	**331**	*e*Sn	Sn	20 04 33.1	-8.1
PVRL	**Vila Real**	**6.72**	**334**	*e*Sn	Sn	20 04 52.8	-9.1
PBRG	**Braganca**	**6.91**	**342**	*e*Pn	Pn	20 03 44.6	-2.9
PCAB	**Cabril**	**7.21**	**334**	*e*Pn	Pn	20 03 46.6	-5.2
PCAB				*e*Sn	Sn	20 05 01.6	-13

*CSEM **26** 20:04:20.6±0.1, 35.25N×3.79W, h10km, MD3.1, Error ellipse: s-maj=3.0km s-min=2.1km az=109.0*
*CNRM **26** 20:04:21.2, 35.39N×3.77W, h10km, MD3.1*
MDD 26 20:04:23.4±0.3, 35.29N×3.87W, h12km±3km, mbLg2.2/14, Error ellipse: s-maj=4.3km s-min=3.7km az=94.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.09**	**221**	P	Pg	20 04 24.5	-1.6
MPAL				S	Sg	20 04 29.0	+1.1
MPAL	**Palemas**	**0.09**	**221**	*i* P	Pg	20 04 24.5	-1.6
TOU	**Touzarine**	**0.34**	**163**	*i* P	Pg	20 04 29.0	-1.5
TOU				*i* S	Sg	20 04 36.0	+0.7
EMEL	**Melilla**	**0.75**	**89**	P	Pb	20 04 39.1	+1.1
EMEL	439nm,0.1s,SNR=5.8			S	Sb	20 04 47.7	-0.1
EMLI	707nm,0.2s,SNR=8.0 **Melilla**	**0.76**	**89**	P	Pb	20 04 39.1	+1.1
EMLI	439nm,0.1s,SNR=5.8			S	Sb	20 04 47.7	-0.3
EALB	707nm,0.2s,SNR=8.0 **Alboran**	**0.94**	**46**	P	Pb	20 04 38.8	-2.4
EALB	88nm,0.3s,SNR=7.2			S	Sb	20 04 52.1	-1.4
EALB	84nm,0.2s **Alboran**	**0.94**	**46**	P	Pb	20 04 39.2	-2.0
EALB	88nm,0.3s,SNR=7.2			S	Sb	20 04 49.5	-3.9
TZK	84nm,0.2s **Tazeka**	**1.23**	**192**	*i* P	Pb	20 04 44.0	-2.0
TZK				*i* S	Sb	20 05 01.0	-0.6
EMIJ	**Mijas**	**1.47**	**330**	P	Pn	20 04 47.8	-2.0
EMIJ	4.1nm,0.2s,SNR=7.9			S	Sb	20 05 07.7	-1.0
EMIJ	25nm,0.4s,SNR=7.9			T		20 05 56.5	
EMIJ	SNR=7.9 **Mijas**	**1.47**	**330**	P	Pn	20 04 47.8	-2.0
EMIJ	4.1nm,0.2s,SNR=7.9			S	Sb	20 05 04.6	-4.1
EGUA	25nm,0.4s,SNR=7.9 **Guajares**	**1.56**	**9**	P	Pn	20 04 50.5	-0.7
EGUA	1.0nm,0.2s,SNR=7.9			S	Sb	20 05 07.9	-3.5
EGUA	6.0nm,0.4s,SNR=7.9 **Guajares**	**1.56**	**9**	P	Pn	20 04 50.5	-0.7
EGUA	1.0nm,0.2s,SNR=7.9			S	Sb	20 05 06.0	-5.4
EJIF	6.0nm,0.4s,SNR=7.9 **Jimena Fronter**	**1.74**	**312**	P	Pn	20 04 52.7	-1.1
EJIF	2.9nm,0.3s,SNR=7.9			S	Sn	20 05 15.9	-0.1
EQUE	2.2nm,0.2s,SNR=7.9 **Quentar**	**1.94**	**10**	P	Pn	20 04 55.5	-1.1
EQUE	4.2nm,0.3s,SNR=4.7			S	Sn	20 05 16.7	-4.5
MIF	7.7nm,0.3s,SNR=6.1 **Mishlifen**	**2.19**	**211**	*i* P	Pn	20 04 58.0	-2.1
MIF				*i* S	Sn	20 05 25.0	-2.4
ESPR	**Espera**	**2.25**	**315**	P	Pn	20 05 01.8	+0.7
ESPR	4.5nm,0.4s,SNR=4.0			S	Sn	20 05 27.1	-1.9
ESPR	5.8nm,0.3s,SNR=7.9 **Espera**	**2.25**	**315**	P	Pn	20 05 01.8	+0.7
ESPR	4.5nm,0.4s,SNR=4.0			S	Sn	20 05 29.6	+0.6
ELUQ	5.8nm,0.3s,SNR=7.9 **Luque**	**2.29**	**352**	P	Pn	20 05 04.0	+2.4
ELUQ	2.6nm,0.3s,SNR=7.9			S	Sn	20 05 25.6	-4.3
ELUQ	5.6nm,0.4s,SNR=7.9 **Luque**	**2.29**	**352**	S	Sn	20 05 28.5	-1.5
CZD	5.6nm,0.4s,SNR=7.9 **Col de Zad**	**2.45**	**204**	*i* P	Pn	20 05 03.0	-0.9
CZD				*e*S	Sn	20 05 32.0	-2.1
EQES	**Quesada**	**2.59**	**14**	P	Pn	20 05 05.1	-0.8
EQES	1.8nm,0.1s,SNR=9.0			S	Sn	20 05 34.7	-2.9
EQES	18nm,0.4s,SNR=4.7 **Quesada**	**2.59**	**14**	P	Pn	20 05 05.1	-0.8
EQES	1.8nm,0.1s,SNR=9.0			S	Sn	20 05 34.7	-2.9
EBAN	18nm,0.4s,SNR=4.7 **Banos Encina**	**2.87**	**1**	S	Sn	20 05 42.0	-2.7
EADA	4.2nm,0.5s,SNR=7.9 **Adamuz**	**2.93**	**349**	P	Pn	20 05 10.2	-0.5
EADA	0.5nm,0.1s,SNR=7.9			S	Sn	20 05 43.2	-3.0
EMIN	4.6nm,0.4s,SNR=7.9 **Mina Concepcio**	**3.35**	**318**	P	Pn	20 05 14.6	-2.1
EMIN	0.4nm,0.1s,SNR=7.9			S	Sn	20 05 50.9	-5.9
EGRO	0.8nm,0.2s,SNR=7.9 **El Granado**	**3.67**	**309**	P	Pn	20 05 19.4	-2.0
EGRO	1.0nm,0.1s,SNR=6.4			S	Sn	20 05 59.1	-6.0
ETOB	5.7nm,0.4s **Tobarra**	**3.83**	**28**	P	Pn	20 05 22.0	-1.6
EBAD	1.3nm,0.2s,SNR=7.9 **Badajoz**	**4.28**	**325**	P	Pn	20 05 28.3	-1.6
EBAD	1.6nm,0.2s,SNR=7.9			S	Sn	20 06 13.7	-6.6
	2.8nm,0.2s,SNR=7.9						

NNC 26 20:09:58.2±9.7, 37.97N×69.76E, h19km±70km, mpv3.2, 6C-1D, Error ellipse: s-maj=85.7km s-min=74.7km az=149.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.16**	**6**	⇑Pn	Pn	20 11 16.5	0.0
KK31	1.1nm,0.6s,baz=195,slow=16,SNR=5.4 0.7nm,0.3s			⇑Sn	Sn	20 12 19.6	+3.4
KK31	3.3nm,0.5s,baz=180,slow=26,SNR=6.5			⇑Lg		20 12 43.3	
AAK	**Ala-Archa**	**5.90**	**36**	⇑Pn	Pn	20 11 27.3	+0.4
AAK	1.9nm,0.5s 4.3nm,0.8s			⇑Lg		20 13 05.8	
AB31	**Akbulak array**	**13.32**	**331**	⇑Pn	P	20 13 05.9	-2.9
AB31	0.9nm,0.8s,baz=226,slow=11,SNR=4.6 0.7nm,0.8s			⇓Sn	S	20 15 32.5	-4.8

*NNC **26** 20:20:52.8±4.1, 41.31N×67.68E, mpv4.3, Error ellipse: s-maj=40.9km s-min=22.0km az=20.0*
*IDC **26** 20:20:53.7±0.5, 40.97N×67.98E, mb4.4/24, mb1 4.5/27, mb1mx4.5/31, mbtmp4.4/27, ML4.2/1, MS4.1/2, Ms1 4.0/2, ms1mx3.2/32, Error ellipse: s-maj=13.4km s-min=10.2km az=148.0*
*BJI **26** 20:20:57.7, 41.04N×68.11E, h34km, mB5.1, mb4.7, ML5.1, Ms4.3, Ms2.4.1*
*NEIC **26** 20:20:58.9±0.3, 41.17N×68.12E, h35km, mb4.6/30, Error ellipse: s-maj=6.5km s-min=4.7km az=190.0*
*MOS **26** 20:20:58.2±1.2, 41.37N×68.00E, h33km, mb4.8/28, Error ellipse: s-maj=6.8km s-min=5.1km az=127.0*
ISC 26 20:20:57.4±0.6, 41.04N±0.03×68.02E±0.03, h38km±6km, h33km±7.0km:pP-P, n210, σ1§17/223, mb4.5/59, MS4.0/7, 28C-15D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**2.77**	**41**	Pn	**P**	**20 21 40.4**	**-0.1**
KK31	9.0nm,0.2s,baz=228,slow=15,SNR=2725 92nm,0.3s			⇑Pg	**P**	**20 21 47.3**	**+6.9**
KK31	635nm,0.5s,baz=228,slow=28,SNR=15			⇑Lg		20 22 22.4	
KK31	**Karatay Array**	**2.77**	**41**	Pn	**P**	**20 21 40.4**	**-0.1**
KK31				⇑Pg	**P**	**20 21 47.3**	**+6.8**
KK31				Lg		20 22 22.4	
AML	**Almayashu** SNR=161	**4.39**	**74**	P	**P**	**20 22 04.3**	**+0.9**
EKS2	**Erkin-Say** SNR=117	**4.59**	**67**	P	**P**	**20 22 07.5**	**+1.2**
UCH	**Uchtor** SNR=38	**5.01**	**74**	P	**P**	**20 22 12.8**	**+0.6**
AAK	**Ala-Archa** SNR=168	**5.09**	**70**	P	**P**	**20 22 14.8**	**+1.6**
AAK	**Ala-Archa** 79nm,0.6s	**5.09**	**70**	⇓Pn	**P**	**20 22 14.7**	**+1.4**
AAK	283nm,0.6s			⇑Lg		20 23 40.4	
AAK	**Ala-Archa**	**5.09**	**70**	⇓Pn	**P**	**20 22 14.7**	**+1.4**
AAK				Lg		20 23 40.4	
FRU	**Bishkek**	**5.23**	**68**	*e*Pn	**P**	**20 22 17.0**	**+1.7**
FRU	comp=Z,160nm,1.1s			*e* pmax	pmax	20 23 22.0	
USP	**Ospenovka** SNR=66	**5.30**	**63**	P	**P**	**20 22 16.0**	**-0.3**
CHMS	**Chumysh** SNR=26	**5.38**	**66**	P	**P**	**20 22 18.0**	**+0.6**
KBK	**Karagaybulak** SNR=205	**5.42**	**70**	P	**P**	**20 22 19.1**	**+1.2**
KZA	**Kyzart** SNR=40	**5.52**	**77**	P	**P**	**20 22 20.1**	**+0.8**
TKM2	**Tokmak 2** SNR=32	**5.95**	**69**	P	**P**	**20 22 25.4**	**+0.1**
KSH	**Kashi**	**6.27**	**101**	*e*P	**P**	**20 22 30.0**	**+0.2**
KSH	comp=N,1μm,1.1s			S	**S**	**20 23 43.8**	**+2.7**
KSH	comp=E,1μm,1.1s			Smax			
ULHL	**Ulahol** SNR=36	**6.27**	**76**	Smax P	**P**	**20 22 30.2**	**+0.3**
CEP	**Cherat**	**7.84**	**156**	P	**P**	**20 22 53.5**	**+1.7**
CEP				S	**S**	**20 24 17.0**	**-3.2**
CHCP	**Chirah Chowk**	**8.47**	**149**	P	**P**	**20 23 02.4**	**+1.9**
THW	**Thamme Wali**	**8.75**	**159**	P	**P**	**20 23 04.2**	**-0.2**
SBDP	**Sheikh Budin**	**9.01**	**165**	P	**P**	**20 23 07.7**	**-0.3**
DRP	**Derazinda**	**9.44**	**169**	P	**P**	**20 23 13.5**	**-0.5**
AB31	**Akbulak array** comp=E,15nm,0.5s	**9.99**	**328**	⇑Pn	**P**	**20 23 16.2**	**-5.3**
AB31	comp=E,27nm,0.4s			⇑Sn	**S**	**20 25 00.8**	**-13**
AB31	**Akbulak array** comp=E,15nm,0.4s	**9.99**	**328**	⇑Pn	**P**	**20 23 16.2**	**-5.3**
AB31				Sn	**S**	**20 25 00.8**	**-13**
AB31	**Akbulak array**	**9.99**	**328**	⇑P	**P**	**20 23 16.2**	**-5.3**
AB31						20 25 00.8	
AB31	comp=Z,15nm,0.4s			pmax	pmax		
AKTK	**Aktyubinsk**	**11.70**	**327**	Pn	**P**	**20 23 40.6**	**-4.0**
AKTK				Sn	**S**	**20 25 43.0**	**-12**
AKTO	**Aktyubinsk**	**11.70**	**327**	Pn	**P**	**20 23 40.6**	**-4.0**
AKTO				Sn	**S**	**20 25 43.0**	**-12**
MK31	**Makanchi Array** comp=Z,4.1nm,0.5s,baz=245,slow=13,SNR=36	**11.78**	**56**	Pn ⇑Lg	**P**	**20 23 43.0**	**-2.8**
MK31	comp=Z,41nm,0.7s					20 27 08.5	
MKAR	**Makanchi Array** comp=Z,1.4nm,0.3s,baz=249,slow=15,SNR=36	**11.78**	**56**	Pn	**P**	**20 23 43.2**	**-2.6**
MKAR	comp=Z,1.9nm,0.3s,baz=252,slow=32,SNR=3.7			Lg		20 27 08.1	
MKAR	**Makanchi Array**	**11.78**	**56**	Pn	**P**	**20 23 43.2**	**-2.6**
MKAR				Lg		20 27 08.1	
MK02	**Makanchi Array**	**11.78**	**56**	P	**P**	**20 23 43.0**	**-2.8**
MK02	comp=Z,4.0nm,0.5s			pmax	pmax		
VOSK	**Vostochnaya** comp=Z,6.9nm,0.5s	**11.86**	**9**	⇑Pn	**P**	**20 23 41.3**	**-5.5**
VOSK	comp=Z,17nm,0.5s			⇓Sn	**S**	**20 25 48.4**	**-10**
VOSK	**Vostochnaya** comp=Z,6.9nm,0.5s	**11.86**	**9**	⇑Pn	**P**	**20 23 41.3**	**-5.5**
VOSK				Sn	**S**	**20 25 48.4**	**-10**
VOSK	**Vostochnaya**	**11.86**	**9**	⇑P	**P**	**20 23 41.3**	**-5.5**
VOSK						20 25 48.4	
VOSK	comp=Z,7.0nm,0.5s			pmax	pmax		
BVA0	**Borovoye Array** comp=Z,3.5nm,0.7s,baz=181,slow=12,SNR=141	**12.10**	**7**	Pn	**P**	**20 23 44.6**	**-5.4**
BVA0	comp=Z,6.5nm,0.6s			⇓Sn	**S**	**20 25 52.9**	**-12**
BVA0	**Borovoye Array**	**12.10**	**7**	P	**P**	**20 23 44.6**	**-5.4**
BVA0						20 25 52.9	
BVA0	comp=Z,4.0nm,0.6s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,5.9nm,0.3s,baz=183,slow=14,SNR=82	**12.10**	**7**	Pn	**P**	**20 23 45.1**	**-4.9**
BVAR	comp=Z,0.9nm,0.3s,baz=180,slow=29,SNR=2.2			Lg		20 27 24.3	
BRVK	**Borovoye** comp=Z,19nm,0.6s	**12.12**	**7**	*e*Pn	**P**	**20 23 45.5**	**-4.8**
BRVK				*e*Sn	**S**	**20 25 56.2**	**-9.0**
BRVK	**Borovoye**	**12.12**	**7**	*e*P	**P**	**20 23 45.5**	**-4.8**
BRVK				*e*		20 25 56.2	
BRVK	comp=Z,19nm,0.6s			pmax	pmax		
KURK	**Kurchatov**	**12.16**	**34**	Lg		20 27 15.4	
KURK	**Kurchatov** comp=Z,11nm,0.8s	**12.16**	**34**	*e*Pn	**P**	**20 23 47.2**	**-3.7**
KURK	**Kurchatov** comp=Z,11nm,0.8s	**12.16**	**34**	*e*P	**P**	**20 23 47.2**	**-3.6**
KURK				pmax	pmax		
KLP	**Kalpa**	**12.56**	**136**	*e*P	**P**	**20 23 53.9**	**-2.5**
KLP				*e*S	**S**	**20 26 00.3**	**-16**
CHKZ	**Chkalovo** comp=Z,7.3nm,0.4s	**12.76**	**7**	⇑Pn	**P**	**20 23 53.4**	**-5.5**
CHKZ	comp=Z,36nm,0.8s			⇓Sn	**S**	**20 26 10.1**	**-10**
KHET	**Khetri** comp=Z,12nm,0.3s	**14.43**	**151**	AMb	AMB	20 24 18.6	
KHET				*e*P		20 24 19.4	
NDI	**New Delhi**	**14.44**	**146**	*ex*	**P**	**20 24 28.0**	**+6.9**
NDI				*ex*	**S**	**20 26 47.0**	**-14**
KALG	**Kalgarh**	**14.45**	**139**	*e*P	**P**	**20 24 19.3**	**-2.0**
KALG	comp=Z,31nm,0.5s			AMb	AMB	20 24 25.7	
AYAN	**Aya Nagar**	**14.58**	**146**	*e*P	**P**	**20 24 21.1**	**-1.9**
AYAN	comp=Z,17nm,0.9s			AMb	AMB	20 24 29.9	
KUDL	**Kundal**	**14.62**	**149**	*e*P	**P**	**20 24 22.1**	**-1.4**
KUDL				*ex*	x	20 26 48.8	
KUDL				*ex*	x	20 26 51.9	
BISR	**Bishrakh**	**14.64**	**145**	*e*P	**P**	**20 24 24.2**	**+0.5**
SONA	**Sohna**	**14.77**	**147**	*ex*	**S**	**20 26 54.2**	**-14**
SONA				*ex*	x	20 26 57.6	
WMQ	**Urumqi**	**14.79**	**73**	*e*P	**P**	**20 24 23.5**	**-2.0**
WMQ				AP		20 24 34.0	
WMQ				XP		20 24 38.0	
WMQ	comp=Z,15nm,1.0s			AMB	AMB		
WMQ	comp=Z,156nm,5.4s			AMB	AMB		

WMQ LR LR
comp=N,985nm,15.0s
WMQ LR LR
comp=E,651nm,14.0s
WMQ LR LR
comp=Z,692nm,27.8s
AJM Ajmer 15.53 157 *ex* **P 20 24 32.2 -2.9**
AJM *ex* **S 20 27 10.8 -15**
ARU Arti 16.59 341 *e*Pn **P 20 24 44.2 -4.3**
comp=Z,11nm,0.5s
ARU *e*Sn **S 20 27 40.2 -10**
ARU Arti 16.59 341⇑ *i*P **P 20 24 44.3 -4.2**
ARU *e*S **S 20 27 44.3 -6.3**
ARU pmax pmax
comp=Z,11nm,0.7s
ARU MLR MLR
comp=N,300nm,15.0s
ARU MLR MLR
comp=Z,400nm,15.0s
ARU MLR MLR
comp=E,200nm,14.0s
NVS Novosibirsk 17.10 31 *e*P **P 20 24 56.1 +1.1**
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.7s
NVS pmax pmax
comp=Z,5.0nm,0.7s
GNI Garni 17.70 275 P **P 20 25 02.8 +0.3**
comp=Z,0.7nm,0.3s,baz=257,slow=1.3,SNR=9.1
GNI Garni 17.70 275 *e*Pn **P 20 25 04.9 +2.4**
comp=Z,31nm,1.0s
GNI Garni 17.70 275 P **P 20 25 02.8 +0.3**
GNI pmax pmax
comp=Z,1.0nm,0.3s
BANOM Banah 17.94 216⇑P **P 20 25 06.8 +1.1**
ZEI Tsey 18.03 283 *e*P **P 20 25 03.6 -3.0**
KOLN Koldanda 18.41 131 *e*P **P 20 25 07.8 -3.7**
comp=Z,38nm,0.5s
KOLN *e*S **S 20 28 22.3 -10**
GKN Gorkha 18.84 128 *e*P **P 20 25 13.3 -3.4**
comp=Z,247nm,0.7s
KIV Kislovodsk 18.89 287 *e*Pn **P 20 25 15.0 -2.1**
comp=Z,59nm,0.6s
KIV Kislovodsk 18.89 287*c i*P **P 20 25 14.9 -2.2**
KIV pmax pmax
comp=Z,58nm,0.7s
KIV MLR MLR
comp=Z,100nm,20.0s
ASHO Ashiyiah 19.13 215⇑P **P 20 25 20.5 +0.5**
BIDO Bidbid 19.34 208⇓P **P 20 25 24.7 +2.3**
KKN Kakani 19.38 128 *e*P **P 20 25 20.4 -2.4**
comp=Z,68nm,0.6s
DMN Daman 19.41 128 *e*P **P 20 25 20.2 -2.9**
comp=Z,78nm,0.7s
BHPL Bhopal 19.43 153 *e*P **P 20 25 22.7 -0.7**
BHPL AMb AMB 20 25 30.1
comp=Z,33nm,1.1s
BHPL *ex* x 20 28 36.6
HOQ Hoqain 19.59 211⇓P **P 20 25 25.9 +0.7**
PKI Pulchoki 19.62 128 *e*P **P 20 25 23.8 -1.6**
comp=Z,116nm,0.8s
SMDO Samad 19.80 208⇓P **P 20 25 27.7 +0.3**
SOKR Solikamsk 19.83 343⇓*i*P **P 20 25 28.7 +1.2**
SOKR S **S 20 28 57.8 -5.9**
SOKR pmax pmax
comp=Z,20nm,0.8s
SOKR MLR MLR
comp=Z,410nm,15.0s
WBK Wadi Bani Khal 19.90 205⇑P **P 20 25 27.2 -1.2**
ARQ Araqi 20.12 212⇓P **P 20 25 30.1 -0.8**
BSY Bisya 20.39 210⇓P **P 20 25 33.7 0.0**
SNR=8.5
JMDO Jabal Madar 20.41 207⇓P **P 20 25 33.5 -0.4**
SNR=11
SOC Sochi 21.05 286 *e*P **P 20 25 44.9 +4.6**
SOC *e* 20 26 00.1
SOC *e*SS SS 20 29 45.9 -15
SOC pmax pmax
comp=Z,45nm,0.9s,mb4.8
SOC pmax pmax
comp=N,7.0nm,0.7s
SOC pmax pmax
comp=E,27nm,1.0s
LSA Lhasa 21.93 114 P **P 20 25 52.0 +2.8**
LSA Lhasa 21.93 114 *e*P **P 20 25 51.9 +2.8**
comp=E,9.8nm,0.6s,mb4.4
LSA Lhasa 21.93 114 *e*P **P 20 25 51.9 +2.7**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
NGP Nagpur 21.93 151 *e*P **P 20 25 49.5 +0.3**
NGP AMb AMB 20 25 53.6
comp=Z,12nm,0.5s,mb4.6
MALT Malatya 22.89 273 *e*P **P 20 26 01.1 +2.4**
comp=Z,18nm,0.9s,mb4.5
MALT *e* 20 26 09.4
MALT Malatya 22.89 273 *e*P **P 20 26 01.1 +2.5**
MALT *e* 20 26 09.4
MALT pmax pmax
comp=Z,18nm,0.9s,mb4.5
GTA Gaotai 24.26 83 *e*P **P 20 26 14.0 +2.1**
GTA AP 20 26 18.5
GTA XP 20 26 21.8
GTA AMB AMB
comp=Z,3.0nm,0.6s,mb3.9
SIM Simferopol' 25.00 290 *e*P **P 20 26 20.0 +1.0**
SIM pmax pmax
comp=Z,21nm,0.8s,mb4.7
OBN Obninsk 25.03 315⇑*e*P **P 20 26 18.9 -0.3**
OBN *i* 20 26 24.3
OBN *e* 20 26 51.7
OBN pmax pmax
comp=Z,35nm,1.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.4
WHFO Wadi Hawf 26.10 212⇓P **P 20 26 29.4 -0.1**
SNR=7.6
ZAK Zakamensk 26.12 57 *e*P **P 20 26 30.7 +1.3**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
BR131 Keskin Array S 26.13 279 *e*P **P 20 26 30.4 +0.8**
comp=Z,4.6nm,0.7s,mb4.1
BRTR Keskin Array B 26.13 279 P **P 20 26 29.7 +0.1**
comp=Z,4.0nm,0.7s,mb4.1,baz=90,slow=7.4,SNR=13
RBK Rabkut 26.30 211⇓P **P 20 26 31.4 -0.1**
SNR=10
ASF Jabal al Asfar 26.40 260 P **P 20 26 32.3 +0.1**
comp=Z,2.5nm,0.8s,mb3.8,baz=102,slow=3.1,SNR=3.6
ABTO Aybut 26.80 213⇓P **P 20 26 35.8 -0.2**
SNR=11
SONM Songino Array 28.01 63 P **P 20 26 47.5 +0.7**
comp=Z,1.8nm,0.7s,mb3.8,baz=275,slow=9.9,SNR=13
AKASG Malin Array Be 28.40 303 P **P 20 26 49.6 -0.5**
comp=Z,0.7nm,0.3s,mb3.7,baz=110,slow=8.1,SNR=7.3
MLR Muntele Rosu 30.70 293 P **P 20 27 11.7 +1.0**
comp=Z,4.2nm,0.7s,mb4.4,baz=341,slow=4.7,SNR=10
MLR Muntele Rosu 30.70 293⇑P **P 20 27 12.9 +2.2**
MLR Muntele Rosu 30.70 293⇑P **P 20 27 12.9 +2.1**
MLR Muntele Rosu 30.70 293 P **P 20 27 11.7 +1.0**
MLR pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 30.78 328 *ep* **P 20 27 15.9 +4.6**
comp=Z,1.9nm,0.3s,mb4.4
JOF Joensuu 30.78 328 *e*P **P 20 27 15.9 +4.6**
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.4
BURAR Bucovina Array 31.00 297⇑P **P 20 27 13.1 -0.3**
BURAR Bucovina Array 31.00 297⇑P **P 20 27 13.1 -0.3**
VSU Vasula 31.22 318 *e*P **P 20 27 13.7 -1.5**
FINES FINESS Array B 32.44 323 P **P 20 27 24.8 -1.0**
comp=Z,2.6nm,0.4s,mb4.4,baz=107,slow=9.3,SNR=19
KWP Kalwaria 32.56 301 *e*P **P 20 27 27.1 0.0**
comp=Z,20nm,1.2s,mb4.9
KWP Kalwaria 32.56 301 *e*P **P 20 27 27.1 +0.1**
KWP pmax pmax
comp=Z,20nm,1.2s,mb4.9
KAF Kangasniemi 32.57 324 *ep* **P 20 27 28.4 +1.5**
comp=Z,2.7nm,0.6s,mb4.3,baz=110,slow=9.0
KAF Kangasniemi 32.57 324 *e*P **P 20 27 28.4 +1.5**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
DRGR 32.78 296⇑P **P 20 27 29.1 +0.1**
DRGR 32.78 296⇑P **P 20 27 29.2 +0.2**
KOLS Kolonicke sedl 32.88 300 *e*P **P 20 27 30.1 +0.3**
BOD Bodaibo 33.51 44 *e*P **P 20 27 34.5 -0.6**
BOD pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
STHS Stebnicka Huta 33.53 300 *e*P **P 20 27 33.9 -1.5**
KECS Kecovo 34.10 299 *e*P **P 20 27 41.1 +0.8**
VYHS Vyhne 35.19 299 *e*P **P 20 27 48.8 -0.8**
ARCES ARCESS Array B 36.06 336 P **P 20 27 56.5 -0.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=100,slow=7.4,SNR=11
ARCES LR LR 20 42 59.3
comp=Z,61nm,18.5s,MS3.4,baz=67,slow=37
SMOL Smolenice 36.12 299 *e* **P 20 27 57.4 -0.1**
VRAC Vranov 36.56 301 P **P 20 28 02.0 +0.8**
comp=Z,1.9nm,0.6s,mb4.1,baz=94,slow=12,SNR=2.9
VRAC Vranov 36.56 301 *e*P **P 20 28 02.0 +0.7**
DPC Dobruska-Polom 36.62 303 *e*P **P 20 28 02.0 +0.2**
UPC Upice 36.80 303 *e*P **P 20 28 02.9 -0.4**
BRG Berggiesshubel 38.08 304 *i* P **P 20 28 14.4 +0.5**
comp=Z,4.1nm,0.8s,mb4.2
BRG Berggiesshubel 38.08 304 *i* P **P 20 28 14.4 +0.5**
BRG pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
HFS Hagfors 38.09 319 P **P 20 28 13.8 -0.2**
comp=Z,6.4nm,0.5s,mb4.6,baz=98,slow=10,SNR=36
GERES GERESS Array B 38.51 300 P **P 20 28 18.0 +0.5**
comp=Z,1.2nm,0.5s,mb3.9,baz=60,slow=8.4,SNR=16
GERES PcP PcP 20 30 29.4 -1.1
comp=Z,0.6nm,0.8s,baz=180,slow=1.3,SNR=3.5
KHC Kasperske Hory 38.55 301 *e*P **P 20 28 18.5 +0.7**
KHC pP pP 20 28 25.0 -3.6
KHC Kasperske Hory 38.55 301 *e*P **P 20 28 18.5 +0.7**
KHC *e* 20 28 25.0
CLL Collm 38.61 304 P **P 20 28 18.6 +0.2**
CLL Collm 38.61 304 *i* P **P 20 28 18.6 +0.2**
CLL *e* 20 28 25.0
NB2 NORSAR Subarra 39.38 320 P **P 20 28 24.2 -0.5**
comp=Z,4.7nm,0.7s,mb4.3,baz=95,slow=8.6
NB2 NORSAR Subarra 39.38 320 P **P 20 28 24.2 -0.5**
NB2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
NOA NORSAR Array B 39.38 320 P **P 20 28 24.2 -0.5**
comp=Z,1.8nm,0.8s,mb3.8,baz=215,slow=22,SNR=5.6
GRA1 Grafenberg Arr 39.97 302 *e*P **P 20 28 31.0 +1.3**
comp=Z,7.0nm,0.9s,mb4.4
GRF Grafenberg Arr 39.97 302 *e*P **P 20 28 31.0 +1.3**
comp=Z,7.0nm,0.9s,mb4.4
GRF Grafenberg Arr 39.97 302 *e*P **P 20 28 31.0 +1.3**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
GRF Grafenberg Arr 39.97 302 *e*P **P 20 28 31.0 +1.3**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
NJ2 Nanjing 41.31 86 *e*P **P 20 28 41.0 +0.1**
NJ2 AP pP 20 28 52.0 +0.2
NJ2 XP sP 20 28 57.0 +0.6
NJ2 PP PP 20 30 19.5 0.0
NJ2 S **S 20 34 52.0 -0.4**
NJ2 XS 20 35 12.0
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 LR LR
comp=N,680nm,17.0s,MS4.7
NJ2 LR LR
comp=E,620nm,21.0s,MS4.7
NJ2 LR LR
comp=Z,340nm,14.1s
DAVOX Davos 41.45 298 P **P 20 28 41.8 -0.1**
comp=Z,2.6nm,0.4s,mb4.2,baz=72,slow=6.4,SNR=5.8
YAK Yakutsk 41.74 39 *e*P **P 20 28 44.2 +0.2**
comp=Z,43nm,0.5s,mb5.3
YAK Yakutsk 41.74 39*c i*P **P 20 28 44.2 +0.1**
YAK pmax pmax
comp=Z,32nm,0.6s,mb5.1
YAK MLR MLR
comp=Z,100nm,16.0s,MS3.8
TIXI Tiksi 42.51 24 *e*P **P 20 28 49.0 -1.3**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
HINF Hinteralfeld 43.19 300 *e*P **P 20 28 56.6 +0.5**
PGF Pioggiola 43.25 292 *e*P **P 20 28 57.2 +0.5**
SSE Sheshan 43.52 86 P **P 20 28 57.0 -2.0**
SSE AP pP 20 29 08.5 -1.4
SSE XP sP 20 29 13.5 -1.0
SSE S **S 20 35 23.8 -1.0**
SSE XS 20 35 43.5
SSE AMB AMB
comp=Z,15nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,379nm,5.2s
SSE Sheshan 43.52 86 P **P 20 28 57.1 -1.9**
comp=Z,15nm,0.7s,mb4.8
SSE pP pP 20 29 08.5 -1.4
SSE sP sP 20 29 13.5 -1.0
SSE S **S 20 35 23.8 -1.0**
SSE sS 20 35 43.6
SSE SS SS 20 38 41.3 +8.7
SSE LR LR
comp=Z,50nm,16.4s,MS3.5
LPG La Plagne 43.89 297 *e*P **P 20 29 02.7 +0.9**
comp=Z,15nm,0.8s,mb4.5
LPG La Plagne 43.89 297 *e*P **P 20 29 02.7 +0.9**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LPL La Plagne 43.90 297 *e*P **P 20 29 02.8 +0.9**
comp=Z,10nm,0.7s,mb4.3
LPL La Plagne 43.90 297 *e*P **P 20 29 02.8 +0.9**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
SBF Sospel 43.92 295 *e*P **P 20 29 02.2 +0.1**
comp=Z,22nm,0.8s,mb4.6
SBF Sospel 43.92 295 *e*P **P 20 29 02.2 +0.1**
SBF pmax pmax
comp=Z,11nm,0.8s,mb4.6
BNI Bardonecchia 44.07 297 *e*P **P 20 29 01.3 -2.0**
comp=Z,7.5nm,1.0s,mb4.4
BNI Bardonecchia 44.07 297 *e*P **P 20 29 01.3 -2.0**
BNI pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MBDF Montbardon 44.10 296 *e*P **P 20 29 04.5 +1.0**
comp=Z,30nm,0.9s,mb4.7
MBDF Montbardon 44.10 296 *e*P **P 20 29 04.5 +1.0**
MBDF pmax pmax
comp=Z,15nm,0.9s,mb4.7
KLR Kul'dur 44.48 57 *e*P **P 20 29 03.2 -3.3**
KLR MLR MLR
comp=Z,900nm,15.0s,MS4.8
FRF La Foret Royal 44.55 295 *e*P **P 20 29 07.3 +0.1**
comp=Z,16nm,1.0s,mb4.5
FRF La Foret Royal 44.55 295 *e*P **P 20 29 07.3 +0.1**
FRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
ORIF Oris-en-Rattie 44.65 297 *e*P **P 20 29 08.5 +0.6**
comp=Z,9.7nm,0.9s,mb4.3
ORIF Oris-en-Rattie 44.65 297 *e*P **P 20 29 08.5 +0.6**
ORIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
LMR La Mourre 44.72 294 *e*P **P 20 29 08.5 0.0**
SMRF Simiane la Rot 45.16 295 *e*P **P 20 29 11.9 -0.1**
comp=Z,13nm,0.9s,mb4.4
LOR Lormes 45.30 300 *e*P **P 20 29 13.3 +0.3**
VIVF Saint-Julien-l 45.48 297 *e*P **P 20 29 14.7 +0.1**
comp=Z,17nm,0.9s,mb4.6
VIVF Saint-Julien-l 45.48 297 *e*P **P 20 29 14.7 +0.1**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
AVF Avril sur Loir 45.77 300 *e*P **P 20 29 16.6 -0.2**
LASF Ste Croix 46.29 296 *e*P **P 20 29 20.9 -0.1**
comp=Z,25nm,1.0s,mb4.8
TCF Toulx Ste Croi 46.67 300 *e*P **P 20 29 24.1 +0.2**
comp=Z,15nm,0.8s,mb4.7
TCF Toulx Ste Croi 46.67 300 *e*P **P 20 29 24.1 +0.2**
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CAF Calviac 47.21 298 *e*P **P 20 29 28.7 +0.5**
LDF La Druitiere 47.46 303 *e*P **P 20 29 29.7 -0.4**
comp=Z,10.0nm,0.6s,mb4.7
LDF La Druitiere 47.46 303 *e*P **P 20 29 29.7 -0.4**
LDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
FLN La Foliniere 47.64 304 *e*P **P 20 29 31.7 +0.2**
MTLF Montolieu 47.66 296 *e*P **P 20 29 31.8 0.0**
comp=Z,28nm,1.4s,mb4.8
MTLF Montolieu 47.66 296 *e*P **P 20 29 31.8 0.0**
MTLF pmax pmax
comp=Z,14nm,1.4s,mb4.8
EPF Esparros 49.05 296 *e*P **P 20 29 43.1 +0.6**
SGMF Saint Gilles 49.11 304 *e*P **P 20 29 42.5 -0.4**
SEY Seymchan 52.00 35 *i* P **P 20 30 08.0 +3.3**
YSS Yuzh-Sakhalins 52.20 57 P **P 20 30 07.0 +0.7**
ESDC Sonseca Array 53.38 294 P **P 20 30 14.2 -1.1**
comp=Z,0.5nm,0.5s,mb3.7,baz=60,slow=7.4,SNR=4.3
MJAR Matsushiro Arr 53.54 70 P **P 20 30 16.0 -0.5**
comp=Z,4.9nm,0.9s,mb4.4,baz=291,slow=8.9,SNR=12
JHJ Hachijo jima 2 56.33 73 LR LR 20 55 14.3
comp=Z,772nm,21.7s,MS4.8,baz=165,slow=36
LSZ Lusaka 67.09 222 P **P 20 31 49.3 0.0**
comp=Z,3.9nm,0.6s,mb4.6,baz=41,slow=6.0,SNR=12
INK Inuvik 69.78 8 *e*P **P 20 32 05.9 +0.8**
comp=Z,7.8nm,0.9s,mb4.6
INK Inuvik 69.78 8 *e*P **P 20 32 05.9 +0.8**
INK pmax pmax
comp=Z,8.0nm,0.9s
ILAR Eielson Array 71.03 15 P **P 20 32 12.7 -0.1**
comp=Z,5.0nm,0.8s,mb4.5,baz=330,slow=5.2,SNR=39
MATP Matopo 71.32 219 P **P 20 32 14.7 -0.5**
comp=Z,5.5nm,0.6s,mb4.7,baz=29,slow=7.7,SNR=27
DBIC Dimbokro 72.74 264 P **P 20 32 22.7 -1.1**
comp=Z,7.6nm,1.1s,mb4.5,baz=39,slow=7.3,SNR=7.3
TSUM Tsumeb 76.03 229 P **P 20 32 42.9 +0.1**
comp=Z,2.2nm,0.6s,mb4.2,baz=34,slow=7.8,SNR=3.7
LBTB Lobatse 76.61 219 P **P 20 32 46.1 +0.1**
comp=Z,7.0nm,0.5s,mb4.8,baz=26,slow=5.3,SNR=21
YKA Yellowknife Ar 76.79 1 P **P 20 32 46.8 +0.7**
comp=Z,2.2nm,0.5s,mb4.3,baz=355,slow=6.2,SNR=8.7
YKA Yellowknife Ar 76.79 1 P **P 20 32 46.8 +0.6**
YKA pmax pmax
comp=Z,2.0nm,0.5s
FITZ Fitzroy Crossi 79.44 125 *e*P **P 20 33 01.4 -0.2**
comp=Z,8.6nm,1.1s,mb4.6
KAKA Kakadu 79.88 117⇑*i*P **P 20 33 23.6 +20**
comp=Z,11nm,1.2s,mb4.7
WRA Warramunga Arr 86.33 120 P **P 20 33 37.2 +0.3**
comp=Z,7.3nm,0.7s,mb5.0,baz=323,slow=4.8,SNR=90
WRAB Tennant Creek 86.33 120 *e*P **P 20 33 37.5 +0.6**
comp=Z,14nm,0.6s,mb5.4
WRAB Tennant Creek 86.33 120 *e*P **P 20 33 37.5 +0.7**
WRAB pmax pmax
comp=Z,14nm,0.6s,mb5.4
WB2 Warramunga Arr 86.33 120⇑*i*P **P 20 33 37.1 +0.2**
ULM Lac du Bonnet 88.00 350 P **P 20 33 44.8 +0.5**
comp=Z,2.4nm,0.8s,mb4.5,baz=31,slow=11,SNR=3.3
ASPA Alice Springs 88.72 123 *e*P **P 20 33 48.9 +0.6**
CTA Charters Tower 94.49 113 P **P 20 34 15.6 +0.5**
comp=Z,2.0nm,0.6s,mb4.8,baz=290,slow=5.2,SNR=3.9
VNA2 Neumayer--Watz 123.72 202 P PKPdf 20 39 52.8 +2.4
VNA2 Neumayer--Watz 123.72 202 PKPdf 20 39 57.1 +6.7
VNA2 Neumayer--Watz 123.72 202 PKPdf 20 40 04.7 +14
VNA3 Neumayer Olymp 124.52 203 P PKPdf 20 39 54.1 +2.3
VNA3 Neumayer Olymp 124.52 203 PKPdf 20 39 59.4 +7.6
LPAZ La Paz 134.93 290 PKP PKPdf 20 40 16.2 +3.2
comp=Z,0.4nm,0.4s,baz=342,slow=8.0,SNR=3.6
PLCA Paso Flores 148.89 257 PKPbc PKPdf 20 40 42.7 +6.0
comp=Z,4.9nm,0.9s,baz=82,slow=1.7,SNR=12

IDC ***26*** *20:29:41.2±4.5, 11.99N×40.55E, mb3.7/5, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=97.7km s-min=16.3km az=26.0*
DHMR ***26*** *20:29:41.6±0.2, 12.66N×40.55E, h6km±10km, ML5.2*
NEIC ***26*** *20:29:44.8±1.7, 12.25N×40.67E, h10km, Error ellipse: s-maj=30.3km s-min=11.1km az=203.0*
NEIC Smaller of two events about 16 seconds apart.
ISC 26 20:29:42.4±1.2, 12.3N±0.1×40.56E±0.06, h10km, n20, σ1$35/34, mb3.7/4, 3C-11D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.35**	**108**	Pn		**Pn**	**Pn**	**20 30 22.3**	**+0.6**
	55nm,0.3s,baz=274,slow=7.6,SNR=34								
ATD				Lg				20 30 53.5	
	113nm,0.3s,baz=235,slow=23,SNR=8.7								
TRBA	**At Turbah**	**3.60**	**74**⇓	*e*P		**Pn**	**20 30 39.8**	**+0.3**	
TRBA				*i* S		**Sn**	**20 31 25.1**	**+2.5**	
TRBA				AML	AML		20 31 59.5		
	comp=N,13μm,0.7s								
TRBA	**At Turbah**	**3.60**	**74**⇓	*i*P		**Pn**	**20 30 38.8**	**-0.7**	
TRBA				*i* S		**Sn**	**20 31 30.3**	**+7.8**	
TRBA	**At Turbah**	**3.60**	**74**⇓	*e*P		**Pn**	**20 30 39.8**	**+0.3**	
TRBA				*i* S		**Sn**	**20 31 25.1**	**+2.5**	
	comp=N,6μm,0.7s								
UDYN	**Al 'Udayn**	**3.73**	**63**⇓	*e*P		**Pn**	**20 30 40.6**	**-0.7**	
UDYN				*i* S		**Sn**	**20 31 26.5**	**+0.7**	
UDYN				AML	AML		20 32 03.9		
	comp=Z,13μm,0.7s								
UDYN	**Al 'Udayn**	**3.73**	**63**⇓	*i*P		**Pn**	**20 30 41.4**	**+0.1**	
UDYN				*i* S		**Sn**	**20 31 32.1**	**+6.3**	
ADEN	**Aden**	**4.35**	**83**⇓	*i*P		**Pn**	**20 30 50.2**	**+0.1**	
ADEN				*i* S		**Sn**	**20 31 43.7**	**+2.2**	
DHBB	**Dhamar BB**	**4.38**	**58**⇓	*e*P		**Pn**	**20 30 48.8**	**-1.8**	
DHBB				*i* S		**Sn**	**20 31 41.1**	**-1.1**	
DHBB	**Dhamar BB**	**4.38**	**58**⇑	*i*P		**Pn**	**20 30 49.1**	**-1.4**	
DHBB				*i* S		**Sn**	**20 31 47.2**	**+4.9**	
LBOS		**4.84**	**70**⇓	*e*P		**Pn**	**20 30 53.8**	**-3.3**	
LBOS				*i* S		**Sn**	**20 31 50.2**	**-3.8**	
LBOS		**4.84**	**70**⇓	*i*P		**Pn**	**20 30 55.2**	**-1.9**	
LBOS				*i* S		**Sn**	**20 31 59.0**	**+5.0**	
BDHA	**Al Bayda'**	**5.17**	**70**⇓	*e*P		**Pn**	**20 30 58.2**	**-3.6**	
BDHA				*i* S		**Sn**	**20 31 58.2**	**-4.0**	
BDHA	**Al Bayda'**	**5.17**	**70**⇑	*i*P		**Pn**	**20 31 00.5**	**-1.2**	
BDHA				*i* S		**Sn**	**20 32 07.5**	**+5.3**	
MUKL	**Al Mukalla**	**8.54**	**74**⇓	*e*P		**P**	**20 31 44.5**	**-4.6**	
MUKL				*i* S		**Sn**	**20 33 21.4**	**-5.1**	
MUKL	**Al Mukalla**	**8.54**	**74**⇑	*i*P		**P**	**20 31 46.8**	**-2.3**	
MUKL				*i* S		**Sn**	**20 33 30.9**	**+4.5**	
ASF	**Jabal al Asfar**	**20.11**	**351**	P		**P**	**20 34 20.9**	**+1.7**	
	comp=Z,1.8nm,0.5s,baz=58,slow=2.1,SNR=4.8								
BRTR	**Keskin Array B**	**28.04**	**349**	P		**P**	**20 35 37.5**	**+1.7**	
	comp=Z,1.2nm,0.7s,mb3.6,baz=186,slow=11,SNR=5.5								
GERES	**GERESS Array B**	**42.74**	**334**	P		**P**	**20 37 41.2**	**-0.3**	
	comp=Z,0.8nm,0.7s,mb3.6,baz=135,slow=5.7,SNR=7.9								
MKAR	**Makanchi Array**	**49.12**	**37**	P		**P**	**20 38 31.1**	**-1.0**	
	comp=Z,1.3nm,0.9s,mb4.0,baz=230,slow=9.5,SNR=5.0								
SONM	**Songino Array**	**64.82**	**43**	P		**P**	**20 40 23.5**	**-0.2**	
	comp=Z,0.5nm,0.8s,mb3.6,baz=259,slow=7.3,SNR=3.5								

CRAAG ***26*** *20:29:57.9, 12.62N×41.76E, Mb4.8*
BJI ***26*** *20:29:59.2, 12.37N×40.42E, h15km, mB5.3, mb4.7, Ms5.0, Msz4.6*
MOS ***26*** *20:29:59.7±1.1, 12.42N×40.41E, h10km, mb5.2/38, Error ellipse: s-maj=10.5km s-min=4.2km az=109.5*
IDC ***26*** *20:30:00.0±0.7, 12.38N×40.66E, mb4.4/20, mb1 4.4/22, mb1mx4.4/26, mbtmp4.3/22, ML3.7/2, MS4.8/6, Ms1 4.8/6, ms1mx4.6/9, Error ellipse: s-maj=18.4km s-min=12.2km az=33.0*
CSEM ***26*** *20:30:00.1±0.1, 12.42N×40.47E, h14km, mb5.0/41, Ms4.1, Mw5.1, Error ellipse: s-maj=4.0km s-min=3.7km az=33.0*
NEIC ***26*** *20:30:01.5±0.4, 12.46N×40.54E, h10km, mb5.0/48, MS4.2/4, ML4.9(DHMR), Error ellipse: s-maj=8.7km s-min=6.6km az=215.0*
HRVD ***26*** *20:30:01.4±0.4, 12.61N×40.58E, h12km, MW5.1/54, Centroid moment Tensor Solution. LP body waves: s23,c26;Mantle waves: s54,c97; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.74±.21; $M_{\theta\theta}$1.24±.17; $M_{\phi\phi}$4.50±.19; $M_{r\theta}$1.51±.79; $M_{r\phi}$-1.65±.18; $M_{\theta\phi}$0.98±.58; Best double couple: $M_0$5.706×10^{16} NP1:ϕs323°, δ45°, λ-111°. NP2:ϕs172°, δ49°, λ-70°. Principal axes: T 5.2, Plg2°, Azm248°; N 1.014, Plg15°, Azm338°; P -6.213, Plg75°, Azm151°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 26 20:30:00.8±2.7, 12.42N±0.06×40.53E±0.05, h18km±20km, h26km±6.3km; pP-P, n202, σ1$22/199, mb4.8/71, MS4.6/21, 17C-5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.44**	**111**	Pn		**Pn**	**Pn**	**20 30 40.1**	**-0.4**
	158nm,0.3s,baz=10.0,slow=24,SNR=27								
ATD				Lg				20 31 12.1	
	78nm,0.3s,baz=270,slow=23,SNR=15								
KMBO	**Kilima Mbogo**	**13.84**	**194**	Pn		**P**	**20 33 18.8**	**0.0**	
	0.0nm,0.3s,baz=44,slow=15,SNR=7.8								
KMBO				Lg				20 37 13.6	
	0.1nm,0.3s,baz=134,slow=23,SNR=4.0								
ASF	**Jabal al Asfar**	**19.94**	**351**	P		**P**	**20 34 36.2**	**+1.2**	
	32nm,1.2s,baz=53,slow=3.8,SNR=27								
BHD	**Baghdad**	**21.05**	**9**	*ex*		x		20 34 47.0	
BHD				*ex*		x		20 38 50.0	

BHL Bhannes 21.85 349 *e*P **P** **20 34 55.8 +1.4**
CSS Prodhromos 23.38 345 *e*P **P** **20 35 11.0 +1.5**
191nm,2.2s,mb5.1
CSS Prodhromos 23.38 345 *e*P **P** **20 35 11.0 +1.5**
191nm,2.2s,mb5.1
MSL Mosul 23.88 5 *ex* x 20 35 37.0
MSL *ex* x 20 40 07.0
IDI Anoyia 26.81 331 P **P** **20 35 43.8 +1.7**
8.5nm,1.1s,mb4.2,baz=115,slow=10,SNR=4.5
GNI Garni 27.87 7 P **P** **20 35 53.9 +2.2**
6.0nm,0.9s,mb4.2,baz=53,slow=11,SNR=4.3
GNI Garni 27.87 7⇑ *e*P **P** **20 35 52.1 +0.4**
35nm,2.1s,mb4.6
GNI Garni 27.87 7⇑ *e*P **P** **20 35 52.1 +0.4**
GNI pmax pmax
comp=Z,35nm,2.1s
BRTR Keskin Array B 27.87 349 P **P** **20 35 53.4 +1.7**
comp=Z,11nm,1.1s,mb4.4,baz=164,slow=9.0,SNR=28
LSZ Lusaka 30.11 204 P **P** **20 36 13.4 +1.5**
comp=Z,1.1nm,0.9s,baz=6.3,slow=14,SNR=3.7
LSZ LR LR 20 48 37.6
comp=Z,2µm,21.3s,MS4.7,baz=28,slow=37
ZEI Tsey 30.38 5 *e*P **P** **20 36 11.4 -2.7**
ZEI pmax pmax
comp=Z,13nm,1.4s,mb4.5
SOC Sochi 31.06 359 *e*P **P** **20 36 15.3 -4.8**
comp=Z,12nm,0.8s,mb4.8
SOC *e*S **S** **20 41 17.0 -6.3**
SOC LR LR
comp=Z,540nm,12.0s,MS4.4
SOC Sochi 31.06 359 *e*P **P** **20 36 15.3 -4.8**
SOC *e*S **S** **20 41 17.0 -6.3**
SOC pmax pmax
comp=Z,12nm,0.8s,mb4.8
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,4.0nm,0.9s
SOC MLR MLR
comp=N,707nm,12.0s,MS4.5
SOC MLR MLR
comp=E,120nm,12.0s,MS4.5
SOC MLR MLR
comp=Z,541nm,12.0s,MS4.4
SOC MLR MLR
comp=N,381nm,11.0s
SOC MLR MLR
comp=Z,328nm,11.0s
SOC MLR MLR
comp=E,143nm,13.0s
KIV Kislovodsk 31.48 3⇑ *e*P **P** **20 36 24.2 +0.4**
comp=E,33nm,2.0s,mb4.8
KIV LR LR
comp=Z,800nm,16.0s,MS4.5
KIV Kislovodsk 31.48 3⇑ *e*P **P** **20 36 24.2 +0.4**
KIV pmax pmax
comp=Z,33nm,2.0s,mb4.8
KIV MLR MLR
comp=Z,800nm,16.0s,MS4.5
ANN Anapa 32.38 356 *e*P **P** **20 36 33.6 +2.0**
ANN MLR MLR
comp=N,710nm,16.0s
ANN MLR MLR
comp=Z,704nm,16.0s,MS4.5
SKO Skopje 33.82 334 *i* P **P** **20 36 44.0 -0.2**
GRI Girifalco 33.91 325 P **P** **20 36 57.9 +13**
VAE Valguarnera 34.18 321 P **P** **20 36 50.4 +3.0**
comp=Z,3.1nm,0.6s,mb4.5,baz=96,slow=15,SNR=3.2
MATP Matopo 34.72 200 LR LR 20 51 29.5
comp=Z,2µm,19.3s,MS4.9,baz=25,slow=37
GIB Gibilmanna 34.74 322 P **P** **20 36 54.0 +1.8**
comp=Z,10µm,0.3s
MLR Muntele Rosu 35.22 342 P **P** **20 36 57.3 +1.0**
comp=Z,7.9nm,1.1s,mb4.6,baz=43,slow=1.1,SNR=6.2
MLR Muntele Rosu 35.22 342 ⇑P **P** **20 36 59.0 +2.8**
MLR Muntele Rosu 35.22 342 ⇑P **P** **20 36 59.0 +2.7**
MLR Muntele Rosu 35.22 342 P **P** **20 36 57.3 +1.1**
MLR pmax pmax
comp=Z,8.0nm,1.1s
MGR Morigerati 35.30 326 P **P** **20 36 57.9 +0.9**
comp=Z,7.4nm,0.7s,mb4.7
VRI Vrincioaia 35.34 343 ⇑P **P** **20 36 59.2 +2.0**
VOIR 35.45 341 ⇑P **P** **20 37 00.3 +2.1**
CII Carovilli 37.09 327 P **P** **20 37 13.9 +1.9**
BURAR Bucovina Array 37.36 343 ⇑P **P** **20 37 13.6 -0.6**
BURAR Bucovina Array 37.36 343 ⇑P **P** **20 37 13.7 -0.6**
DRGR 37.41 340 ⇓P **P** **20 37 14.7 0.0**
AQU L'Aquila 38.01 327 P **P** **20 37 21.3 +1.6**
comp=Z,48nm,1.2s,mb5.1
ABSA Djebel Ababsia 38.04 314 P **P** **20 37 20.5 +0.4**
CMAH Djebel Manchou 38.26 315 P **P** **20 37 22.5 +0.6**
CKFL Kef-Lekhel 38.64 314 P **P** **20 37 28.0 +2.9**
CASM Ain Smara 38.73 314 P **P** **20 37 28.0 +2.1**
VOR Voronezh 39.22 359 P **P** **20 37 29.0 -0.8**
VOR pmax pmax
comp=Z,70nm,1.9s,mb5.1
FSSB Fossombrone 39.27 328 P **P** **20 37 31.0 +0.7**
AKASG Malin Array Be 39.28 349 P **P** **20 37 29.7 -0.6**
comp=Z,1.6nm,0.7s,mb3.9,baz=168,slow=7.3,SNR=17
AKASG PcP PcP 20 39 39.5 -0.1
comp=Z,0.2nm,0.3s,baz=156,slow=2.7,SNR=5.2
AKASG Malin Array Be 39.28 349 P **P** **20 37 29.7 -0.6**
AKASG *e* 20 39 39.5
DFRA Djebel Bou Aff 39.30 314 P **P** **20 37 32.1 +1.5**
PSZ Piszkesteto 39.37 338 *e*P **P** **20 37 32.2 +1.2**
comp=Z,15nm,1.2s,mb4.6
PSZ Piszkesteto 39.37 338 *e*P **P** **20 37 32.2 +1.1**
comp=Z,15nm,1.2s,mb4.6
PSZ Piszkesteto 39.37 338 *e*P **P** **20 37 32.3 +1.2**
PSZ pmax pmax
comp=Z,15nm,1.2s,mb4.6
KOLS Kolonicke sedl 39.43 341 *e*P **P** **20 37 32.8 +1.3**
KECS Kecovo 39.64 339 *e*P **P** **20 37 34.1 +0.8**
KWP Kalwaria 39.91 342 *e*P **P** **20 37 37.3 +1.8**
LBTB Lobatse 39.95 201 LR LR 20 53 44.8
comp=Z,1µm,20.0s,MS4.8,baz=39,slow=36
STHS Stebnicka Huta 40.18 340 *e*P **P** **20 37 38.4 +0.7**
VYHS Vyhne 40.24 338 *e*P **P** **20 37 39.4 +1.2**
VOY Vojsko 40.39 331 *e*P **P** **20 37 40.8 +1.3**
NIE Niedzica 40.49 340 *e*P **P** **20 37 41.9 +1.6**
PGF Pioggiola 40.60 324 *e*P **P** **20 37 40.3 -0.9**
comp=Z,49nm,1.6s,mb4.6
PGF Pioggiola 40.60 324 *e*P **P** **20 37 40.3 -0.9**
PGF pmax pmax
comp=Z,25nm,1.6s,mb4.6
ZST Bratislava 40.66 336 *e*P **P** **20 37 42.9 +1.2**
OJC Ojcow 41.35 340 *e*P **P** **20 37 47.2 -0.1**
OKC Ostrava-Krasne 41.61 338 *e*P **P** **20 37 50.2 +0.8**
VRAC Vranov 41.76 337 P **P** **20 37 51.2 +0.5**
comp=Z,6.1nm,1.0s,mb4.2,baz=158,slow=5.7,SNR=10
VRAC Vranov 41.76 337 *e*P **P** **20 37 51.4 +0.7**
VRAC Vranov 41.76 337 P **P** **20 37 51.2 +0.5**
VRAC pmax pmax
comp=Z,6.0nm,1.0s
TREC Trest 42.19 336 *e*P **P** **20 37 54.4 +0.2**
SBF Sospel 42.31 324 *e*P **P** **20 37 54.0 -1.3**
LMR La Mourre 42.53 323 *e*P **P** **20 37 55.8 -1.3**
comp=Z,30nm,1.6s,mb4.5
LMR La Mourre 42.53 323 *e*P **P** **20 37 55.8 -1.3**
LMR pmax pmax
comp=Z,15nm,1.6s,mb4.5
FRF La Foret Royal 42.58 323 *e*P **P** **20 37 56.2 -1.3**
comp=Z,58nm,1.6s,mb4.8
FRF La Foret Royal 42.58 323 *e*P **P** **20 37 56.2 -1.3**
FRF pmax pmax
comp=Z,29nm,1.6s,mb4.8
GERES GERESS Array B 42.58 334 P **P** **20 37 58.0 +0.5**
comp=Z,5.6nm,1.0s,mb4.2,baz=135,slow=7.5,SNR=24
GERES PcP PcP 20 39 49.2 -1.1
comp=Z,1.3nm,1.1s,baz=138,slow=5.5,SNR=3.5
GERES GERESS Array B 42.58 334 PcP PcP 20 39 49.2 -1.1
DPC Dobruska-Polom 42.70 337 *e*P **P** **20 37 58.6 +0.2**
OBN Obninsk 42.71 357⇑ *e*P **P** **20 37 58.7 +0.3**
comp=Z,75nm,1.7s,mb5.1
OBN LR LR
comp=Z,200nm,16.0s,MS4.1
OBN Obninsk 42.71 357⇑ *e*P **P** **20 37 58.7 +0.3**
comp=Z,75nm,1.7s,mb5.1
OBN Obninsk 42.71 357⇑ *e*P **P** **20 37 58.7 +0.3**
OBN pmax pmax
comp=Z,75nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.1
KHC Kasperske Hory 42.85 334 *e*P **P** **20 37 59.6 -0.1**
KHC Kasperske Hory 42.85 334⇑ *e*P **P** **20 37 59.4 -0.3**

UPC Upice 42.95 337 *e*P **P** **20 38 00.4 0.0**
KOLN Koldanda 43.00 63 *e*P **P** **20 38 00.2 -1.0**
comp=Z,97nm,1.5s,mb5.3
KSP Ksiaz 43.11 338 *e*P **P** **20 38 02.9 +1.1**
PRU Pruhonice 43.11 336 *e*P **P** **20 38 01.8 0.0**
MBDF Montbardon 43.21 325 *e*P **P** **20 38 02.3 -0.4**
MOS Moscow 43.28 358 *e*P **P** **20 38 02.7 -0.3**
comp=Z,127nm,1.7s,mb5.4
MOS *e* 20 39 41.1
MOS Moscow 43.28 358 *e*P **P** **20 38 02.7 -0.3**
MOS *e* 20 39 41.1
MOS pmax pmax
comp=Z,300nm,1.8s,mb5.7
MOS pmax pmax
comp=Z,127nm,1.7s,mb5.4
SMRF Simiane la Rot 43.45 323 *e*P **P** **20 38 03.9 -0.7**
comp=Z,42nm,1.6s,mb4.6
PVCC Panska Ves 43.52 336 *e*P **P** **20 38 04.5 -0.6**
LPG La Plagne 43.70 326 *e*P **P** **20 38 05.7 -0.9**
comp=Z,68nm,1.6s,mb4.8
LPG La Plagne 43.70 326 *e*P **P** **20 38 05.7 -0.9**
LPG pmax pmax
comp=Z,34nm,1.6s,mb4.8
SUW Suwalki 43.71 345 *e*P **P** **20 38 07.2 +0.6**
LPL La Plagne 43.72 326 *e*P **P** **20 38 04.8 -1.9**
comp=Z,44nm,1.5s,mb4.7
LPL La Plagne 43.72 326 *e*P **P** **20 38 04.8 -1.9**
LPL pmax pmax
comp=Z,22nm,1.5s,mb4.7
ORIF Oris-en-Rattie 43.83 324 *e*P **P** **20 38 06.3 -1.4**
comp=Z,70nm,1.7s,mb4.8
ORIF *e*R
comp=Z,285nm,19.5s
GKN Gorkha 43.94 62 *e*P **P** **20 38 07.6 -1.2**
comp=Z,77nm,1.5s,mb5.2
BRG Berggiesshubel 44.04 336 *i* P **P** **20 38 09.4 +0.1**
comp=Z,47nm,1.9s,mb4.9
BRG Berggiesshubel 44.04 336 *i* P **P** **20 38 09.4 +0.1**
comp=Z,47nm,1.9s,mb4.9
BRG Berggiesshubel 44.04 336 *i* P **P** **20 38 09.4 +0.1**
BRG pmax pmax
comp=Z,47nm,1.9s,mb4.9
NKC Novy Kostel 44.17 334 *e*P **P** **20 38 09.6 -0.7**
DMN Daman 44.28 63 *e*P **P** **20 38 10.6 -0.9**
comp=Z,68nm,1.4s,mb5.2
GRA1 Grafenberg Arr 44.30 333 *e*P **P** **20 38 11.3 -0.1**
comp=Z,31nm,1.6s,mb4.8
GRF Grafenberg Arr 44.30 333 *e*P **P** **20 38 11.3 -0.1**
comp=Z,31nm,1.6s,mb4.8
GRF Grafenberg Arr 44.30 333 *e*P **P** **20 38 11.3 -0.1**
GRF pmax pmax
comp=Z,31nm,1.6s,mb4.8
GRF Grafenberg Arr 44.30 333 *e*P **P** **20 38 11.3 -0.1**
GRF pmax pmax
comp=Z,31nm,1.6s,mb4.8
KKN Kakani 44.46 63 *e*P **P** **20 38 12.3 -0.7**
comp=Z,106nm,1.6s,mb5.3
VIVF Saint-Julien-l 44.49 324 *e*P **P** **20 38 11.5 -1.5**
LASF Ste Croix 44.53 322 *e*P **P** **20 38 12.7 -0.7**
comp=Z,99nm,1.6s,mb5.1
PKI Pulchoki 44.53 63 *e*P **P** **20 38 12.6 -1.0**
CABF La Chapelle 44.75 326 *e*P **P** **20 38 13.1 -2.0**
CLL Collm 44.76 336 ⇑P **P** **20 38 14.9 -0.2**
comp=Z,logA/T=1.2,mb4.8
CLL *e**PP pP 20 38 18.0 -2.4
CLL Collm 44.76 336⇑ *i*P **P** **20 38 14.9 -0.2**
comp=Z,19nm,1.3s,mb4.8
CLL *e* 20 38 24.0
CLL Collm 44.76 336⇑ *i*P **P** **20 38 14.9 -0.2**
CLL *e* 20 38 24.0
CLL pmax pmax
comp=Z,19nm,1.3s,mb4.8
MOX Moxa 44.83 334 *i* P **P** **20 38 15.3 -0.4**
comp=Z,logA/T=1.3,mb4.9
MOX Moxa 44.83 334 *e*P **P** **20 38 15.3 -0.4**
comp=Z,31nm,1.6s,mb4.9
MOX Moxa 44.83 334 *e*P **P** **20 38 15.3 -0.4**
MOX pmax pmax
comp=Z,31nm,1.6s,mb4.9
DBIC Dimbokro 45.07 267 P **P** **20 38 18.1 0.0**
comp=Z,3.4nm,0.8s,mb4.2,baz=83,slow=5.1,SNR=4.4
HINF Hinteralfeld 45.11 328 *e*P **P** **20 38 16.1 -1.8**
MTLF Montolieu 45.14 320 *e*P **P** **20 38 17.2 -1.0**
CDF Champ du Feu 45.28 329 *e*P **P** **20 38 17.5 -1.8**
comp=Z,50nm,1.4s,mb4.8
CDF Champ du Feu 45.28 329 *e*P **P** **20 38 17.5 -1.8**
CDF pmax pmax
comp=Z,25nm,1.4s,mb4.8
HAU Haudompre 45.49 328 *e*P **P** **20 38 20.2 -0.7**
comp=Z,86nm,1.5s,mb5.0
HAU *e*R
comp=Z,203nm,22.5s
HAU Haudompre 45.49 328 *e*P **P** **20 38 20.2 -0.7**
HAU pmax pmax
comp=Z,43nm,1.5s,mb5.1
HAU MLR MLR
comp=Z,200nm,22.5s,MS4.0
MDT Midelt 45.93 304 P **P** **20 38 25.9 +1.2**
comp=Z,8.8nm,1.2s,mb4.6,baz=110,slow=11,SNR=6.4
CAF Calviac 46.07 322 *e*P **P** **20 38 24.6 -1.0**
comp=Z,110nm,1.7s,mb5.2
CAF Calviac 46.07 322 *e*P **P** **20 38 24.6 -1.0**
CAF pmax pmax
comp=Z,55nm,1.7s,mb5.2
ARU Arti 46.08 14⇓ *i*P **P** **20 38 25.6 +0.2**
comp=Z,27nm,1.5s,mb5.0
ARU *e* 20 39 58.3
ARU *e* 20 40 14.7
ARU *e*PPP PPP 20 40 56.0 -1.6
ARU *e*S **S** **20 45 11.2 +1.8**
ARU LR LR
comp=Z,700nm,17.0s,MS4.7
ARU Arti 46.08 14 *e*PcP PcP 20 39 58.3 -3.9
ARU *e*S **S** **20 45 11.2 +1.8**
ARU Arti 46.08 14⇓ *i*P **P** **20 38 25.6 +0.2**
ARU *e* 20 39 58.3
ARU *e* 20 40 14.7
ARU *e*PPP PPP 20 40 56.0 -1.6
ARU *e*S **S** **20 45 11.2 +1.8**
ARU pmax pmax
comp=Z,27nm,1.5s,mb5.0
ARU MLR MLR
comp=Z,700nm,17.0s,MS4.7
ARU MLR MLR
comp=N,400nm,18.0s,MS4.6
ARU MLR MLR
comp=E,400nm,18.0s,MS4.6
LOR Lormes 46.36 326 *e*P **P** **20 38 26.0 -1.8**
comp=E,98nm,1.6s,mb5.2
LOR *e*R
comp=E,185nm,19.1s
LOR Lormes 46.36 326 *e*P **P** **20 38 26.0 -1.8**
LOR pmax pmax
comp=Z,49nm,1.6s,mb5.2
LOR MLR MLR
comp=Z,190nm,19.1s,MS4.1
AVF Avril sur Loir 46.36 325 *e*P **P** **20 38 25.8 -2.1**
comp=Z,35nm,1.5s,mb4.8
AVF Avril sur Loir 46.36 325 *e*P **P** **20 38 25.8 -2.1**
AVF pmax pmax
comp=Z,18nm,1.5s,mb4.8
SSF Saint Saulge 46.44 325 *e*P **P** **20 38 26.3 -2.1**
MEZF Maizieres J'vi 46.48 328 *e*P **P** **20 38 27.5 -1.2**
comp=Z,111nm,1.5s,mb5.3
BGF Bois d'Agland 46.52 324 *e*P **P** **20 38 27.5 -1.6**
comp=Z,69nm,1.5s,mb5.1
BGF Bois d'Agland 46.52 324 *e*P **P** **20 38 27.5 -1.6**
BGF pmax pmax
comp=Z,35nm,1.5s,mb5.1
RJF Les Rejaudoux 46.60 322 *e*P **P** **20 38 28.6 -1.2**
comp=Z,54nm,1.5s,mb5.0
RJF *e*R
comp=Z,306nm,17.0s
RJF Les Rejaudoux 46.60 322 *e*P **P** **20 38 28.6 -1.2**
RJF pmax pmax
comp=Z,27nm,1.5s,mb5.0
RJF MLR MLR
comp=Z,310nm,17.0s,MS4.3
ETSF Etsaut 46.69 318 *e*P **P** **20 38 30.3 -0.2**
comp=Z,91nm,1.6s,mb5.2
ETSF Etsaut 46.69 318 *e*P **P** **20 38 30.3 -0.2**
ETSF pmax pmax
comp=Z,45nm,1.6s,mb5.2
TCF Toulx Ste Croi 46.73 324 *e*P **P** **20 38 29.5 -1.2**
LFF La Frestale 46.88 321 *e*P **P** **20 38 31.1 -0.8**
comp=Z,90nm,1.5s,mb5.2

LFF La Frestale 46.88 321 *e*P **P** **20 38 31.1 -0.8**
LFF pmax pmax
comp=Z,45nm,1.5s,mb5.2
BRVK Borovoye 46.98 24 *e*P **P** **20 38 33.1 +0.5**
comp=Z,2.0nm,0.9s,mb4.0
BRVK Borovoye 46.98 24 *e*P **P** **20 38 33.1 +0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 47.00 24 P **P** **20 38 32.5 -0.3**
comp=Z,4.3nm,1.1s,mb4.3,baz=217,slow=7.4,SNR=13
SJPF Ste Jean 47.22 318 *e*P **P** **20 38 34.3 -0.4**
comp=Z,159nm,1.6s,mb5.4
SJPF Ste Jean 47.22 318 *e*P **P** **20 38 34.3 -0.4**
SJPF pmax pmax
comp=Z,79nm,1.6s,mb5.4
GIVF Givet 47.60 329 *e*P **P** **20 38 35.7 -1.9**
ESDC Sonseca Array 47.65 313 P **P** **20 38 39.0 +0.9**
comp=Z,2.1nm,0.9s,mb4.2,baz=118,slow=7.7,SNR=10.0
BAIF Baives 47.88 329 *e*P **P** **20 38 37.5 -2.3**
MFF Saint Martin d 48.27 323 *e*P **P** **20 38 40.9 -2.0**
SOKR Solikamsk 48.60 11⇓ *i*P **P** **20 38 46.8 +1.6**
comp=Z,40nm,1.7s,mb5.2
SOKR LR LR
comp=Z,610nm,19.0s,MS4.6
SOKR Solikamsk 48.60 11⇓ *i*P **P** **20 38 46.8 +1.6**
SOKR pmax pmax
comp=Z,40nm,1.7s,mb5.2
SOKR MLR MLR
comp=Z,610nm,19.0s,MS4.6
MKAR Makanchi Array 49.01 37 P **P** **20 38 48.6 +0.1**
comp=Z,5.6nm,1.1s,mb4.5,baz=233,slow=6.1,SNR=11
MKAR LR LR 21 02 10.6
comp=Z,878nm,20.9s,MS4.7,baz=180,slow=39
KURK Kurchatov 49.18 31 *e*P **P** **20 38 50.1 +0.3**
KURK pmax pmax
comp=Z,16nm,1.4s,mb4.9
LDF La Druitiere 49.32 325 *e*P **P** **20 38 48.4 -2.5**
comp=Z,152nm,1.8s,mb5.4
LDF La Druitiere 49.32 325 *e*P **P** **20 38 48.4 -2.5**
LDF pmax pmax
comp=Z,76nm,1.8s,mb5.4
FLN La Foliniere 49.61 325 *e*P **P** **20 38 50.8 -2.4**
comp=Z,48nm,1.2s,mb5.1
FLN *e*R
comp=Z,188nm,18.1s
FLN La Foliniere 49.61 325 *e*P **P** **20 38 50.8 -2.4**
FLN pmax pmax
comp=Z,24nm,1.2s,mb5.1
FLN MLR MLR
comp=Z,190nm,18.1s,MS4.1
LSA Lhasa 49.87 62 *e*P **P** **20 38 56.0 +0.6**
comp=Z,23nm,1.5s,mb5.0
LSA Lhasa 49.87 62 *e*P **P** **20 38 56.0 +0.6**
comp=Z,23nm,1.5s,mb5.0
LSA Lhasa 49.87 62 *e*P **P** **20 38 56.0 +0.6**
LSA pmax pmax
comp=Z,23nm,1.5s,mb5.0
FINES FINESS Array B 50.06 351 P **P** **20 38 55.6 -0.8**
comp=Z,7.0nm,1.1s,mb4.6,baz=143,slow=9.5,SNR=6.8
FINES FINESS Array B 50.06 351 *i* P **P** **20 38 56.2 -0.2**
FINES pmax pmax
comp=Z,7.0nm,1.2s
WMQ Urumqi 51.09 43 *e*P **P** **20 39 05.0 +0.5**
WMQ AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
WMQ AMB AMB
comp=Z,137nm,5.6s
WMQ Urumqi 51.09 43 *e*P **P** **20 39 05.0 +0.5**
comp=Z,10.0nm,1.3s,mb4.6
NB2 NORSAR Subarra 53.04 343 P **P** **20 39 17.6 -1.4**
comp=Z,62nm,1.7s,mb5.3,baz=142,slow=7.4
NB2 NORSAR Subarra 53.04 343 P **P** **20 39 17.6 -1.4**
baz=142,slow=7.9
NB2 NORSAR Subarra 53.04 343 P **P** **20 39 17.6 -1.4**
NB2 pmax pmax
comp=Z,62nm,1.7s,mb5.3
NOA NORSAR Array B 53.04 343 P **P** **20 39 18.2 -0.7**
comp=Z,2.7nm,0.8s,mb4.2,baz=142,slow=7.4,SNR=4.5
NOA PcP PcP 20 40 25.3 -2.1
comp=Z,2.1nm,0.9s,baz=129,slow=2.8,SNR=3.4
NOA NORSAR Array B 53.04 343 P **P** **20 39 18.2 -0.8**
NOA NORSAR Array B 53.04 343 PcP PcP 20 40 25.3 -2.1
NVS Novosibirsk 53.88 29 *e*P **P** **20 39 22.6 -2.5**
comp=Z,20nm,1.5s,mb4.8
NVS Novosibirsk 53.88 29 *e*P **P** **20 39 22.6 -2.5**
NVS pmax pmax
comp=Z,20nm,1.5s,mb4.8
NVS pmax pmax
comp=N,16nm,1.8s
NVS pmax pmax
comp=E,6.0nm,1.7s
GTA Gaotai 58.56 51 *e*P **P** **20 39 58.8 -0.1**
GTA AP pP 20 40 03.0 -1.4
GTA XP sP 20 40 06.3 -0.1
GTA AMB AMB
comp=Z,11nm,2.2s,mb4.5
GTA AMB AMB
comp=Z,143nm,6.1s
GTA LR LR
comp=N,573nm,16.1s
GTA LR LR
comp=E,516nm,26.0s
GTA LR LR
comp=Z,768nm,29.0s
GTA Gaotai 58.56 51 *e*P **P** **20 39 58.8 -0.1**
comp=Z,11nm,2.2s,mb4.5
GTA pP pP 20 40 03.0 -1.4
GTA sP sP 20 40 06.3 -0.1
GTA LR LR
comp=Z,770nm,29.0s,MS4.7
LZH Lanzhou 61.27 56 *e*P **P** **20 40 17.5 -0.1**
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,201nm,4.0s
LZH LR LR
comp=N,996nm,15.0s
LZH LR LR
comp=Z,1µm,16.5s,MS5.1
LZH Lanzhou 61.27 56 *e*P **P** **20 40 17.5 -0.1**
comp=Z,56nm,1.5s,mb5.5
LZH LR LR
comp=Z,1µm,16.5s,MS5.1
LZH Lanzhou 61.27 56 *e*P **P** **20 40 17.6 0.0**
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.5
LZH MLR MLR
comp=Z,1µm,16.5s,MS5.1
SONM Songino Array 64.72 43 P **P** **20 40 39.9 -0.4**
comp=Z,4.7nm,1.1s,mb4.4,baz=251,slow=5.9,SNR=18
SONM LR LR 21 12 37.8
comp=Z,812nm,20.0s,MS4.9,baz=266,slow=40
SONM Songino Array 64.72 43 P **P** **20 40 39.9 -0.4**
SONM LR LR 21 12 37.8
HHC Hu-ho-hao-te 67.66 51 *e*P **P** **20 41 00.0 +0.8**
HHC AP pP 20 41 10.3 +5.6
HHC XP sP 20 41 14.3 +7.6
HHC PCP PcP 20 41 25.5 -0.7
HHC PP PP 20 43 31.8 +1.5
HHC SCP 20 45 26.0
HHC PCS 20 45 30.5
HHC S S 20 49 55.8 +1.7
HHC SCS ScS 20 50 54.0 +0.8
HHC SS SS 20 54 21.0 +4.3
HHC AMB AMB
comp=Z,20nm,0.7s,mb5.3
HHC AMB AMB
comp=Z,195nm,5.4s
HHC LR LR
comp=N,363nm,14.3s,MS4.8
HHC LR LR
comp=E,239nm,14.3s,MS4.8
HHC LR LR
comp=Z,319nm,25.0s
HHC Hu-ho-hao-te 67.66 51 *e*P **P** **20 41 00.0 +0.8**
comp=Z,20nm,0.7s,mb5.3
HHC pP pP 20 41 10.3 +5.6
HHC sP sP 20 41 14.3 +7.6
HHC PcP PcP 20 41 25.5 -0.7
HHC PP PP 20 43 31.8 +1.5
HHC ScP 20 45 26.0
HHC PcS 20 45 30.5
HHC S S 20 49 55.8 +1.7
HHC ScS ScS 20 50 54.0 +0.8
HHC SS SS 20 54 21.0 +4.3
HHC LR LR

comp=Z,320nm,25.0s,MS4.5
BOD Bodaibo 70.78 33 *e*P **P 20 41 14.5 -3.6**
comp=Z,10.0nm,1.6s,mb4.5
BOD Bodaibo 70.78 33 *e*P **P 20 41 14.5 -3.6**
BOD pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
NJ2 Nanjing 73.70 60 *e*P **P 20 41 37.3 +1.4**
NJ2 AP pP 20 41 48.3 +6.9
NJ2 XP sP 20 41 50.0 +6.7
NJ2 PP PP 20 44 23.0 +0.8
NJ2 S S 20 51 04.0 -0.4
NJ2 XS 20 51 21.0
NJ2 AMB AMB
comp=Z,320nm,4.7s
NJ2 LR LR
comp=N,590nm,28.0s,MS4.7
NJ2 LR LR
comp=E,120nm,28.0s,MS4.7
NJ2 LR LR
comp=Z,310nm,26.0s,MS4.5
SSE Sheshan 75.77 61 P **P 20 41 47.0 -0.8**
SSE AP pP 20 41 56.5 +3.1
SSE XP sP 20 42 00.3 +5.0
SSE S S 20 51 26.5 -1.0
SSE XS 20 51 42.5
SSE SCS ScS 20 51 58.0 +0.3
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,241nm,4.2s
SSE LR LR
comp=N,56nm,22.2s,MS4.2
SSE LR LR
comp=E,140nm,22.1s,MS4.2
SSE LR LR
comp=Z,175nm,20.1s,MS4.4
SSE Sheshan 75.77 61 P **P 20 41 47.0 -0.8**
comp=Z,20nm,0.7s,mb5.2
SSE pP pP 20 41 56.5 +3.1
SSE sP sP 20 42 00.3 +5.0
SSE S S 20 51 26.5 -1.0
SSE sS 20 51 42.5
SSE ScS ScS 20 51 58.0 +0.3
SSE LR LR
comp=Z,170nm,20.1s,MS4.3
CN2 Changchun 77.88 48 *e*P **P 20 41 59.0 -0.3**
CN2 AMB AMB
comp=Z,20nm,1.5s,mb4.8
CN2 Changchun 77.88 48 *e*P **P 20 41 59.0 -0.3**
comp=Z,20nm,1.5s,mb4.8
SNAA Sanae 88.74 193 P **P 20 42 56.0 +1.8**
MJAR Matsushiro Arr 88.77 53 P **P 20 42 55.9 +0.7**
comp=Z,0.9nm,0.7s,mb4.2,baz=288,slow=4.0,SNR=4.2
VNA2 Neumayer--Watz 89.23 194 P **P 20 43 00.0 +3.4**
VNA2 Neumayer--Watz 89.23 194 P 20 43 12.9 +16
VNA1 Neumayer--Stat 89.25 195 P **P 20 43 00.0 +3.3**
VNA3 Neumayer Olymp 89.99 194 P **P 20 43 00.4 +0.2**
VNA3 Neumayer Olymp 89.99 194 P 20 43 12.3 +12
BDFB Brasilia 91.91 255 LR LR 21 22 24.8
comp=Z,380nm,18.7s,MS4.9,baz=114,slow=34
WRA Warramunga Arr 97.67 109 P **P 20 43 37.0 +0.5**
comp=Z,1.0nm,1.0s,mb4.3,baz=286,slow=3.7,SNR=4.8
WRAB Tennant Creek 97.68 109 *e*P **P 20 43 32.5 -4.1**
comp=Z,15nm,1.4s,mb5.3
WRAB Tennant Creek 97.68 109 *e*P **P 20 43 32.5 -4.0**
WRAB pmax pmax
comp=Z,15nm,1.4s,mb5.3

*IDC **26** 20:46:23.4±1.3,23.16N×121.53E,mb3.6/4,mb1 3.8/5, mb1mx3.6/18,mbtmp3.7/5,ML3.5/1,Error ellipse: s-maj=33.6km s-min=24.6km az=63.0*
*JMA **26** 20:46:29.4±0.2,23.23N×121.53E,h87km,M3.5*
ISC 26 20:46:30.3±1.4,**23.2N**±0.1×**121.62E**±0.09,**h76**km±15km, **n14**,σ0**93**/**23**,**mb3.4**/4,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.79**	**45**	P		**P**	**20 46 59.7**	**-0.2**
YOJ				S		**S**	**20 47 22.4**	**+0.7**
HATJ	**Hateruma jima**	**2.18**	**66**	P		**P**	**20 47 05.2**	**-0.1**
HATJ				*e*S		**S**	**20 47 32.3**	**+1.1**
IRIF	**Iriomote-Funau**	**2.25**	**59**	P		**P**	**20 47 06.1**	**0.0**
IRIF				*e*S		**S**	**20 47 34.2**	**+1.5**
JKRS	**Kuro-shima**	**2.43**	**64**	P		**P**	**20 47 08.8**	**+0.1**
JKRS				S		**S**	**20 47 38.6**	**+1.3**
JIJ	**Ishigaki jima**	**2.59**	**63**	P		**P**	**20 47 10.5**	**-0.5**
JIJ				S		**S**	**20 47 41.2**	**-0.2**
JTJ	**Tarama**	**3.17**	**62**	P		**P**	**20 47 18.8**	**-0.3**
JTJ				*e*S		**S**	**20 47 56.7**	**+0.8**
JMJ	**Miyako jima 2**	**3.73**	**64**	*e*S		**S**	**20 48 10.3**	**+0.4**
JOGS	**Gusukube**	**3.80**	**65**	P		**P**	**20 47 27.2**	**-0.7**
JOGS				*e*S		**S**	**20 48 11.5**	**-0.1**
JKE	**Kume jima 2**	**5.64**	**55**	P		**P**	**20 47 52.0**	**-1.3**
JKE				*e*S		**S**	**20 48 56.3**	**-1.1**
JOW	**Kunigami**	**7.04**	**58**	Pn		**P**	**20 48 10.8**	**-2.0**
	2.0nm,0.3s,baz=163,slow=17,SNR=20							
JOW				Sn		**S**	**20 49 30.4**	**-1.6**
	1.0nm,0.3s,baz=118,slow=22,SNR=2.4							
SONM	**Songino Array**	**27.43**	**337**	P		**P**	**20 52 10.2**	**-0.7**
	0.2nm,0.5s,mb2.9,baz=68,slow=43,SNR=3.3							
MKAR	**Makanchi Array**	**39.32**	**317**	P		**P**	**20 53 54.9**	**+1.4**
	0.2nm,0.3s,mb3.4,baz=85,slow=8.3,SNR=5.0							
WRA	**Warramunga Arr**	**44.63**	**163**	P		**P**	**20 54 37.6**	**+0.4**
	0.4nm,0.4s,mb3.5,baz=345,slow=8.8,SNR=9.8							
FINES	**FINESS Array B**	**72.50**	**330**	P		**P**	**20 57 51.3**	**+0.9**
	1.4nm,0.8s,mb3.9,baz=59,slow=11,SNR=4.0							

*NIED **26** 20:53:00,33.50N×141.90E,h5km,Mw4.3 Best double couple: M0 3.5×10^15 NP1:φs308°, δ62°, λ65°. NP2:φs174°, δ37°, λ129°.*
*IDC **26** 20:53:46.9±0.9,33.41N×141.89E,mb4.0/6,mb1 4.1/9, mb1mx4.0/20,mbtmp4.0/9,ML3.5/3,Error ellipse: s-maj=20.4km s-min=17.7km az=82.0*
*NEIC **26** 20:53:48.0±1.2,33.74N×142.60E,h35km,mb4.5/6, MW4.3(NIED),Error ellipse: s-maj=26.0km s-min=17.0km az=65.0*
*MOS **26** 20:53:48.6±1.1,33.51N×142.09E,h33km,mb4.6/7,Error ellipse: s-maj=20.9km s-min=9.3km az=117.0*
*JMA **26** 20:53:50.0±0.4,33.51N×141.88E,h65km,M3.9*
ISC 26 20:53:48.6±1.5,**33.46N**±0.04×**141.94E**±0.06,**h30**km±12km, **n46**,σ0**98**/**61**,**mb4.3**/16,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.43**	**326**	P		**Pn**	**20 54 13.1**	**+0.2**
BSO1				*e*S		**Sn**	**20 54 30.7**	**-0.1**
BSO2	**Boso 2**	**1.62**	**323**	*e*S		**Sn**	**20 54 37.4**	**+1.8**
BSO3	**Boso 3**	**1.79**	**319**	P		**Pn**	**20 54 18.5**	**+0.5**
BSO3				*e*S		**Sn**	**20 54 40.2**	**+0.4**
JHJ2	**Mitsune**	**1.81**	**259**	P		**Pn**	**20 54 19.7**	**+1.3**
JHJ	**Hachijo jima 2**	**1.84**	**260**	Pn		**Pn**	**20 54 19.8**	**+1.0**
	132nm,0.3s,baz=77,slow=22,SNR=7.2							
JHJ				Sn		**Sn**	**20 54 41.6**	**+0.4**
	187nm,0.3s,baz=61,slow=23,SNR=5.0							
BSO4	**Boso 4**	**2.02**	**319**	P		**Pn**	**20 54 22.3**	**+1.0**
KTR	**Katsuura**	**2.15**	**322**	P		**Pn**	**20 54 24.0**	**+0.8**
KTR				*e*S		**Sn**	**20 54 49.5**	**+0.3**
JIM2	**Oshima 3**	**2.43**	**302**	P		**Pn**	**20 54 26.4**	**-0.8**
JIZS	**Izushimoda**	**2.83**	**297**	P		**Pn**	**20 54 32.7**	**-0.2**
JIZS				*e*S		**Sn**	**20 55 04.0**	**-2.4**
JOD2	**Odawara 2**	**2.96**	**308**	P		**Pn**	**20 54 34.0**	**-0.8**
JOD2				*e*S		**Sn**	**20 55 07.8**	**-2.0**
JYN	**Shimob**	**3.46**	**307**	P		**Pn**	**20 54 42.1**	**+0.2**
JRY	**Ryogami san**	**3.57**	**316**	P		**Pn**	**20 54 43.2**	**-0.2**
JRY				*e*S		**Sn**	**20 55 25.3**	**+0.2**
JAG	**Ashikaga**	**3.59**	**326**	P		**Pn**	**20 54 43.7**	**0.0**
JAG				*e*S		**Sn**	**20 55 25.6**	**0.0**
MJAR	**Matsushiro Arr**	**4.34**	**316**	Pn		**Pn**	**20 54 54.3**	**0.0**
	1.6nm,0.3s,baz=142,slow=11,SNR=24							
MJAR				Sn		**Sn**	**20 55 43.4**	**-1.1**
	2.9nm,0.3s,baz=152,slow=21,SNR=7.6							
MAJO	**Matsushiro**	**4.34**	**316**	*e*Pn		**Pn**	**20 54 55.0**	**+0.6**
MAJO				*e*Sn		**Sn**	**20 55 44.6**	**+0.1**
MAT	**Matsushiro**	**4.34**	**316**	P		**Pn**	**20 54 54.4**	**+0.1**
MAT				S		**Sn**	**20 55 42.5**	**-2.0**
MAT	**Matsushiro**	**4.34**	**316**	P		**Pn**	**20 54 53.5**	**-0.8**
MAT				*e*S		**Sn**	**20 55 43.9**	**-0.6**
MAT	**Matsushiro**	**4.34**	**316**	*e*P		**Pn**	**20 54 54.0**	**-0.3**
MAT				*e*S		**Sn**	**20 55 43.0**	**-1.5**
JMM	**Marumori**	**4.49**	**348**	P		**Pn**	**20 54 55.5**	**-1.0**
CBIJ	**Chichi jima**	**6.35**	**178**	Pn		**Pn**	**20 55 22.9**	**+0.2**
	3.6nm,0.3s,baz=309,slow=14,SNR=4.3							
CBIJ				Sn		**Sn**	**20 56 32.6**	**-2.3**
	11nm,0.3s,baz=287,slow=20,SNR=3.2							
ASAJ	**Asahikawa**	**10.65**	**3**	Pn		**P**	**20 56 20.4**	**-1.9**
	0.6nm,0.3s,baz=164,slow=8.9,SNR=7.3							
ASAJ				Sn		**S**	**20 58 13.8**	**-7.7**
	0.0nm,0.3s,baz=323,slow=28,SNR=2.4							
ASAJ	**Asahikawa**	**10.65**	**3**	P		**P**	**20 56 20.4**	**-1.9**
ASAJ							20 58 13.8	
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**13.49**	**2**	*e*P		**P**	**20 56 57.0**	**-3.4**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
HIA	**Hailar**	**22.83**	**320**	*e*P		**P**	**20 58 52.0**	**+2.0**
	comp=Z,3.7nm,0.7s,mb3.9							
HIA	**Hailar**	**22.83**	**320**	*e*P		**P**	**20 58 52.0**	**+1.9**
HIA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MA2	**Magadan**	**26.77**	**10**	*e*P		**P**	**20 59 19.5**	**-7.9**
	comp=Z,23nm,1.2s,mb4.6							
MA2	**Magadan**	**26.77**	**10**	*e*P		**P**	**20 59 19.5**	**-7.9**
MA2				pmax	pmax			
	comp=Z,23nm,1.2s,mb4.6							
SONM	**Songino Array**	**30.25**	**309**	P		**P**	**21 00 00.4**	**+1.4**
	comp=Z,2.7nm,0.9s,mb4.0,baz=109,slow=8.8,SNR=14							
BOD	**Bodaibo**	**30.81**	**331**	*e*P		**P**	**21 00 03.2**	**-0.5**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.3							
MKAR	**Makanchi Array**	**46.45**	**305**	P		**P**	**21 02 15.5**	**+1.1**
	comp=Z,3.3nm,0.7s,mb4.4,baz=83,slow=9.8,SNR=26							
KURK	**Kurchatov**	**48.53**	**311**	*e*P		**P**	**21 02 30.9**	**+0.3**
	comp=Z,4.7nm,0.8s,mb4.6							
KURK	**Kurchatov**	**48.53**	**311**	*e*P		**P**	**21 02 30.9**	**+0.3**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
PKI	**Pulchoki**	**48.55**	**279**	*e*P		**P**	**21 02 31.0**	**-0.2**
	comp=Z,7.7nm,0.6s,mb4.9							
PKI	**Pulchoki**	**48.55**	**279**	*e*P		**P**	**21 02 31.0**	**-0.2**
PKI				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6							
KKN	**Kakani**	**48.58**	**279**	*e*P		**P**	**21 02 31.5**	**+0.1**
	comp=Z,9.9nm,0.8s,mb4.9							
DMN	**Daman**	**48.79**	**279**	*e*P		**P**	**21 02 32.9**	**-0.1**
GKN	**Gorkha**	**49.03**	**280**	*e*P		**P**	**21 02 34.9**	**0.0**
	comp=Z,8.1nm,0.7s,mb4.9							
KOLN	**Koldanda**	**49.97**	**280**	*e*P		**P**	**21 02 42.6**	**+0.5**
	comp=Z,13nm,1.1s,mb4.9							
ILAR	**Eielson Array**	**52.30**	**31**	P		**P**	**21 03 00.0**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=220,slow=31,SNR=6.1							
CHKZ	**Chkalovo**	**53.10**	**315**	*e*P		**P**	**21 03 04.7**	**-0.6**
	comp=Z,4.1nm,1.2s,mb4.2							
CHKZ	**Chkalovo**	**53.10**	**315**	*e*P		**P**	**21 03 04.7**	**-0.6**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.2							
WRAB	**Tennant Creek**	**53.59**	**189**	*e*P		**P**	**21 03 08.9**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.3							
WRAB	**Tennant Creek**	**53.59**	**189**	*e*P		**P**	**21 03 08.9**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
WRA	**Warramunga Arr**	**53.60**	**189**	P		**P**	**21 03 08.6**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=84,slow=7.6,SNR=30							
AKASG	**Malin Array Be**	**77.39**	**323**	P		**P**	**21 05 43.0**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=43,slow=5.6,SNR=4.2							
PDAR	**Pinedale Array**	**79.86**	**45**	P		**P**	**21 05 59.2**	**+3.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=292,slow=2.4,SNR=5.5							

*IDC **26** 20:57:48.8±2.8, 17.39S×174.36W,h114km±27km, mb3.8/5, mb1 4.0/6,mb1mx3.8/15,mbtmp4.2/6,Error ellipse: s-maj=45.6km s-min=17.8km az=131.0*
*NEIC **26** 20:57:49.2±1.2, 17.42S×174.32W,h121km±12km, mb4.3/1, Error ellipse: s-maj=21.6km s-min=10.8km az=129.0*
ISC 26 20:57:46.8±2.1,**17.3S**±0.2×**174.5W**±0.2,**h106**km±23km, **n13**,σ0**76**/**13**,**mb4.0**/6,**1D**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.22**	**38**	P		**P**	**20 58 51.7**	**+1.4**
	36nm,0.3s,baz=65,slow=2.5,SNR=31							
AFI				S		**S**	**20 59 36.3**	**-2.6**
	42nm,0.3s,baz=44,slow=23,SNR=9.1							
AFI	**Afiamalu**	**4.22**	**38**	*e*Pn		**P**	**20 58 52.2**	**+1.9**
AFI				*e*Sn		**S**	**20 59 37.2**	**-1.7**
URZ	**Urewera**	**22.17**	**198**	P		**P**	**21 02 34.7**	**-0.2**
	8.9nm,0.4s,mb4.5,baz=339,slow=2.4,SNR=21							
STKA	**Stephens Creek**	**42.24**	**241**	P		**P**	**21 05 31.1**	**-0.1**
	2.8nm,0.8s,mb4.0,baz=94,slow=14,SNR=6.4							
WB2	**Warramunga Arr**	**48.45**	**258**	*i*P		**P**	**21 06 20.3**	**-0.4**
WRAB	**Tennant Creek**	**48.45**	**258**	*e*P		**P**	**21 06 20.5**	**-0.2**
	2.9nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**48.46**	**258**	P		**P**	**21 06 20.4**	**-0.4**
	1.5nm,0.5s,mb4.1,baz=97,slow=6.9,SNR=54							
ASPA	**Alice Springs**	**48.60**	**253**	*e*P		**P**	**21 06 21.8**	**0.0**
GUMO	**Guam**	**50.54**	**305**	*e*P		**P**	**21 06 37.3**	**+0.5**
PDAR	**Pinedale Array**	**84.33**	**42**	P		**P**	**21 10 08.6**	**+0.2**
	1.2nm,0.6s,mb3.9,baz=216,slow=3.4,SNR=11							
ILAR	**Eielson Array**	**84.47**	**11**	P		**P**	**21 10 08.8**	**+0.3**
	0.4nm,0.5s,mb3.5,baz=232,slow=5.8,SNR=4.7							
KMBO	**Kilima Mbogo**	**143.80**	**243**	PKP		PKPdf	21 17 10.6	+0.2
	0.4nm,0.3s,baz=242,slow=23,SNR=4.2							
GERES	**GERESS Array B**	**147.82**	**350**	PKPbc		PKPdf	21 17 20.3	+4.1
	0.6nm,0.7s,slow=1.3,SNR=4.9							

*IDC **26** 21:10:09.1±2.1,23.69S×68.39W,h101km±22km, mb1 3.6/2,mb1mx3.4/13,mbtmp3.9/2,Error ellipse: s-maj=170.6km s-min=15.4km az=91.0*
*GUC **26** 21:10:11.0±0.3,23.62S×68.35W,h95km±9km,ML3.9*
*NEIC **26** 21:10:11.0,23.62S×68.35W,h95km,mb3.4/1,After GUC.*
ISC 26 21:10:09.0±1.1,**23.66S**±0.06×**68.2W**±0.2,**h107**km±24km, **n12**,σ0**75**/**18**,**4C-1D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.24**	**327**	*i*P		**P**	**21 10 33.5**	**+0.5**
LVC				*i* S		**S**	**21 10 50.5**	**-0.5**
LVC				AMP			21 10 51.8	
	comp=N,2μm,0.3s							
LVC	**Limon Verde**	**1.24**	**327**	*e*Pn		**P**	**21 10 33.6**	**+0.6**
LVC				*e*Sn		**S**	**21 10 50.4**	**-0.6**
CEN1	**Los Morros**	**1.87**	**278**	*i*P		**P**	**21 10 41.7**	**+1.0**
CEN1				*i* S		**S**	**21 11 05.0**	**+0.7**
CEN1				AMP			21 11 06.3	
	comp=N,683nm,0.4s							
ANCH	**Antofagasta**	**2.04**	**269**	*i*P		**P**	**21 10 42.5**	**-0.4**
ANCH				*i* S		**S**	**21 11 06.7**	**-1.6**
ANCH				AMP			21 11 08.0	
	comp=N,2μm,0.1s							
CPN1	**Cerro Paranal**	**2.25**	**244**	*e*P		**P**	**21 10 46.7**	**+1.0**
CPN1				*i* S		**S**	**21 11 13.5**	**+0.4**
CPN1				AMP			21 11 14.9	
	comp=E,795nm,0.2s							
CRCH	**Chaqaral**	**3.47**	**219**	*i*P		**P**	**21 11 02.5**	**+0.2**
CRCH				*i* S		**S**	**21 11 42.3**	**-0.4**
CRCH				AMP			21 11 42.7	
	comp=N,371nm,0.5s							
LPAZ	**La Paz**	**7.33**	**0**	P		**P**	**21 11 54.4**	**-0.7**
	comp=N,1.9nm,0.3s,baz=204,slow=7.3,SNR=27							
LPAZ				S		**S**	**21 13 17.4**	**+0.1**
	comp=N,0.2nm,0.3s,baz=312,slow=21,SNR=1.9							
CFAA	**Coronel Fontan**	**7.92**	**180**	P		**P**	**21 12 02.6**	**-0.3**
	comp=N,0.6nm,0.3s,baz=2.5,slow=12,SNR=26							
CFAA				S		**S**	**21 13 27.6**	**-3.9**
	comp=N,0.1nm,0.3s,baz=245,slow=20,SNR=2.2							
TRQA	**Tornquist**	**15.30**	**161**	*e*P		**P**	**21 13 45.5**	**+5.2**
	comp=N,2.4nm,0.9s							
ELN	**Prospectdale**	**61.71**	**349**	*e*P		**P**	**21 20 11.5**	**-6.8**
WRA	**Warramunga Arr**	**131.42**	**209**	PKP		PKPdf	21 29 09.7	0.0
	comp=N,0.2nm,0.5s,baz=150,slow=1.7,SNR=6.2							
MKAR	**Makanchi Array**	**146.94**	**38**	PKPbc		PKPbc	21 29 39.5	+1.0
	comp=N,1.0nm,0.7s,baz=315,slow=1.7,SNR=7.6							

*DHMR **26** 21:24:58.4±0.2, 12.66N×140.52E,h10km±10km,ML5.0*
*STR **26** 21:24:59.1±0.0, 11.07N×38.60E,Mb4.8,Ms4.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BJI **26** 21:24:59.2, 12.27N×40.39E,h15km,mB5.3,mb4.8*
*IDC **26** 21:25:00.3±0.7, 12.30N×40.66E,mb4.5/19,mb1 4.6/20, mb1mx4.5/23,mbtmp4.5/20,ML4.5/1,MS4.3/17,Ms1 4.3/17, ms1mx4.2/23,Error ellipse: s-maj=18.3km s-min=12.3km az=34.0*

*MOS **26** 21:25:00.3±0.9,12.36N×40.53E,h10km,mb5.1/51,Error ellipse: s-maj=9.4km s-min=3.5km az=111.3*
*CSEM **26** 21:25:00.4±0.1, 12.27N×40.63E,h14km,mb4.9/62,Ms3.9, Mw5.0,Error ellipse: s-maj=3.8km s-min=1.5km az=6.0*
*NEIC **26** 21:25:01.9±0.3,12.34N×40.62E,h10km,mb4.9/69, MS4.0/1,ML4.9(DHMR),Error ellipse: s-maj=6.4km s-min=3.7km az=196.0*
*HRVD **26** 21:25:01.7±0.6,12.60N×40.54E,h12km,MW5.0/44, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s44,c74; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.35±.20; Mθθ0.58±.17; Mφφ2.77±.20; Mrθ0.36±.87; Mrφ-1.18±.16; Mθφ0.62±.57; Best double couple: M0 3.393×10^16 NP1:φs327°, δ42°, λ-104°. NP2:φs166°, δ49°, λ-78°. Principal axes: T 3.313, Plg4°, Azm247°; N .163, Plg9°, Azm338°; P -3.473, Plg80°, Azm135°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SSN **26** 21:26:45.2±1.0, 14.26N×38.62E,h70km±999km,mb4.9*
ISC 26 21:25:00.1±0.3,**12.33N**±0.05×**40.62E**±0.02,**h10**km,**n310**, σ1§**00**/314,**mb4.8**/92,**MS4.2**/19,**36C-33D**,**Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.32**	**110**	Pn		**Pn**	**21 25 39.2**	**+0.3**
	126nm,0.3s,baz=296,slow=8.7,SNR=80							
ATD				LR		LR	21 26 10.3	
	comp=Z,2μm,19.1s,baz=302,slow=31							
ATD				Lg			21 26 11.5	
	63nm,0.3s,baz=68,slow=20,SNR=18							
ATD	**Arta Tunnel**	**2.32**	**110**	Pn		**Pn**	**21 25 39.2**	**+0.3**
ATD				LR		LR	21 26 10.3	
ATD				Lg			21 26 11.5	
TRBA	**At Turbah**	**3.52**	**75**	⇓*e*P		**Pn**	**21 25 56.4**	**+0.3**
TRBA				*i* S		**Sn**	**21 26 41.6**	**+3.3**
TRBA				AML	AML		21 27 02.1	
	comp=N,12μm,0.8s							
TRBA	**At Turbah**	**3.52**	**75**	⇑*i*P		**Pn**	**21 25 56.5**	**+0.4**
TRBA				*i* S		**Sn**	**21 26 41.1**	**+2.9**
TRBA	**At Turbah**	**3.52**	**75**	⇑*i*P		**Pn**	**21 25 56.5**	**+0.4**
TRBA				*i* S		**Sn**	**21 26 41.2**	**+2.9**
UDYN	**Al 'Udayn**	**3.64**	**63**	⇓*e*P		**Pn**	**21 25 57.2**	**-0.5**
UDYN				*i* S		**Sn**	**21 26 43.1**	**+1.9**
UDYN				AML	AML		21 27 04.7	
	comp=Z,5μm,0.8s							
UDYN	**Al 'Udayn**	**3.64**	**63**	⇓*i*P		**Pn**	**21 25 58.3**	**+0.6**
UDYN				*i* S		**Sn**	**21 26 43.6**	**+2.4**
ADEN	**Aden**	**4.28**	**84**	⇓*e*P		**Pn**	**21 26 06.9**	**+0.1**
ADEN				*i* S		**Sn**	**21 27 00.4**	**+2.9**
ADEN	**Aden**	**4.28**	**84**	⇓*i*P		**Pn**	**21 26 07.4**	**+0.5**
ADEN				*i* S		**Sn**	**21 27 00.7**	**+3.2**
DHBB	**Dhamar BB**	**4.29**	**58**	⇓*e*P		**Pn**	**21 26 05.5**	**-1.4**
DHBB				*i* S		**Sn**	**21 26 57.8**	**+0.1**
DHBB	**Dhamar BB**	**4.29**	**58**	⇓*i*P		**Pn**	**21 26 06.5**	**-0.5**
DHBB				*i* S		**Sn**	**21 26 57.8**	**+0.1**
LBOS		**4.76**	**71**	⇓*e*P		**Pn**	**21 26 10.5**	**-3.2**
LBOS				*i* S		**Sn**	**21 27 06.9**	**-2.7**
LBOS		**4.76**	**71**	⇓*i*P		**Pn**	**21 26 12.9**	**-0.7**
BDHA	**Al Bayda'**	**5.09**	**71**	⇓*e*P		**Pn**	**21 26 14.9**	**-3.3**
BDHA				*i* S		**Sn**	**21 27 14.9**	**-2.9**
BDHA	**Al Bayda'**	**5.09**	**71**	⇓*i*P		**Pn**	**21 26 17.4**	**-0.9**
BDHA				*i* S		**Sn**	**21 27 19.3**	**+1.5**
BDHA	**Al Bayda'**	**5.09**	**71**	⇓*i*P		**Pn**	**21 26 17.4**	**-0.9**
BDHA				*i* S		**Sn**	**21 27 19.3**	**+1.5**
MUKL	**Al Mukalla**	**8.46**	**74**	⇓*e*P		**P**	**21 27 01.3**	**-4.3**
MUKL				*i* S		**Sn**	**21 28 38.1**	**-4.0**
MUKL	**Al Mukalla**	**8.46**	**74**	⇓*i*P		**P**	**21 27 03.3**	**-2.4**
MUKL				*i* S		**Sn**	**21 28 42.4**	**+0.2**
KMBO	**Kilima Mbogo**	**13.78**	**194**	Pn		**P**	**21 28 18.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=26,slow=16,SNR=5.6							
KMBO				Lg			21 32 07.2	
	comp=Z,0.1nm,0.3s,baz=79,slow=22,SNR=5.2							
KMBO				LR		LR	21 33 30.1	
	comp=Z,1μm,21.8s,baz=99,slow=37							
MBAR	**Mbarara**	**16.17**	**218**	*e*Pn		**P**	**21 28 42.6**	**-6.6**
MBAR	**Mbarara**	**16.17**	**218**	*e*Pn		**P**	**21 28 42.6**	**-6.6**
ARQ	**Araqi**	**18.66**	**52**	⇓P		**P**	**21 29 20.2**	**-0.2**
BSY	**Bisya**	**18.88**	**54**	⇑P		**P**	**21 29 22.2**	**-0.8**
	SNR=18							
BSYO	**Bisya**	**18.90**	**55**	P		**P**	**21 29 22.2**	**-1.1**
	SNR=18							
ASHO	**Ashiyiah**	**19.09**	**48**	⇑P		**P**	**21 29 26.4**	**+0.9**
	SNR=12							
HOQ	**Hoqain**	**19.40**	**52**	⇓P		**P**	**21 29 29.2**	**0.0**
JMDO	**Jabal Madar**	**19.43**	**57**	⇓P		**P**	**21 29 27.5**	**-2.0**
	SNR=7.8							
SMDO	**Samad**	**19.71**	**55**	⇓P		**P**	**21 29 31.7**	**-1.0**
	SNR=12							
BIDO	**Bidbid**	**20.01**	**54**	⇑P		**P**	**21 29 35.0**	**-0.9**
	SNR=9.3							
BANOM	**Banah**	**20.02**	**45**	⇓P		**P**	**21 29 34.8**	**-1.3**
ASF	**Jabal al Asfar**	**20.04**	**351**	P		**P**	**21 29 37.0**	**+0.7**
	comp=Z,17nm,1.0s,baz=36,slow=4.4,SNR=36							
ASF				LR		LR	21 36 21.5	
	comp=Z,265nm,21.1s,MS3.6,baz=223,slow=34							
WBK	**Wadi Bani Khal**	**20.25**	**57**	⇑P		**P**	**21 29 37.1**	**-1.4**
BHD	**Baghdad**	**21.12**	**9**	*ex*		x	21 29 44.0	
BHD				*ex*		x	21 33 50.0

TIP Timpagrande 34.09 326 *eP* **P 21 31 47.2 +0.2**
CFR Carcaliu 34.43 344 ⇑P **P 21 31 50.1 +0.3**
FAVR Favara 34.63 320 P **P 21 31 56.8 +5.2**
MATP Matopo 34.67 200 P **P 21 31 51.7 -0.4**
comp=Z,3.2nm,1.0s,mb4.2,baz=36,slow=8.7,SNR=3.1
MATP LR LR 21 46 28.4
comp=Z,1µm,18.8s,MS4.7,baz=26,slow=37
GIB Gibilmanna 34.87 322 P **P 21 31 54.6 +0.9**
CLTB Caltabellotta 35.10 321 P **P 21 31 56.8 +1.1**
comp=Z,15nm,0.7s,mb5.0
MLR Muntele Rosu 35.33 342 ⇑P **P 21 31 58.6 +1.0**
VRI Vrincioaia 35.45 343 ⇓P **P 21 31 59.2 +0.7**
SLCN Sala Consilina 35.56 326 P **P 21 32 00.8 +1.2**
VOIR 35.56 341 ⇓P **P 21 32 00.2 +0.7**
SGO Sicignano 35.86 326 P **P 21 32 02.5 +0.4**
comp=Z,112nm,2.8s,mb5.3
CII Carovilli 37.21 327 P **P 21 32 14.6 +1.2**
BURAR Bucovina Array 37.47 343 ⇓P **P 21 32 16.3 +0.8**
BURAR Bucovina Array 37.47 343 ⇓P **P 21 32 16.3 +0.7**
VVLD Villa Vallelon 37.68 326 P **P 21 32 17.8 +0.4**
comp=Z,1µm,8.6s
PTQR Pietraquaria 37.91 326 P **P 21 32 20.5 +1.2**
AQU L'Aquila 38.13 327 P **P 21 32 22.2 +1.0**
comp=Z,7.2nm,0.1s,mb5.4
AQU L'Aquila 38.13 327 *eP* **P 21 32 22.2 +1.0**
AQU pmax pmax
comp=Z,61nm,1.4s,mb5.1
MNS Montasola 38.54 326 P **P 21 32 25.0 +0.4**
comp=Z,1.9nm,0.4s,mb4.2
NRCA Norcia 38.62 327 P **P 21 32 25.7 +0.5**
VSL Villasalto 38.66 320 *eP* **P 21 32 27.1 +1.5**
comp=Z,12nm,1.0s,mb4.6
VSL Villasalto 38.66 320 *eP* **P 21 32 27.1 +1.5**
comp=Z,12nm,1.0s,mb4.6
TSUM Tsumeb 38.69 216 LR LR 21 49 21.4
comp=Z,702nm,19.3s,MS4.5,baz=332,slow=38
VOR Voronezh 39.31 359 *eP* **P 21 32 32.0 +1.1**
VOR pmax pmax
comp=Z,60nm,1.8s,mb5.0
AKASG Malin Array Be 39.38 349 P **P 21 32 30.4 -1.1**
comp=Z,4.8nm,0.9s,mb4.2,baz=171,slow=7.2,SNR=21
AKASG PcP PcP 21 34 39.5 -0.9
comp=Z,0.2nm,0.3s,baz=179,slow=3.4,SNR=4.7
AKASG Malin Array Be 39.38 349 P **P 21 32 30.4 -1.1**
AKASG *e* 21 34 39.5
FSSB Fossombrone 39.39 328 P **P 21 32 32.0 +0.3**
PSZ Piszkesteto 39.48 338 *eP* **P 21 32 32.8 +0.4**
comp=Z,20nm,1.1s,mb4.8
PSZ Piszkesteto 39.48 338 *eP* **P 21 32 32.8 +0.4**
comp=Z,20nm,1.1s,mb4.8
PSZ Piszkesteto 39.48 338 *eP* **P 21 32 32.8 +0.4**
PSZ pmax pmax
comp=Z,20nm,1.1s,mb4.8
KOLS Kolonicke sedl 39.54 341 *eP* **P 21 32 34.2 +1.3**
CRES Cresnjev 39.63 332 *eP* **P 21 32 35.0 +1.4**
CRES Cresnjev 39.63 332 *eP* **P 21 32 35.0 +1.3**
KECS Kecovo 39.75 339 *eP* **P 21 32 34.7 +0.1**
VISS Visnje 39.90 332 *eP* **P 21 32 37.0 +1.1**
LBTB Lobatse 39.91 202 LR LR 21 48 44.1
comp=Z,875nm,19.9s,MS4.6,baz=41,slow=36
KWP Kalwaria 40.02 342 *eP* **P 21 32 38.1 +1.3**
LJU Ljubljana 40.22 332 *eP* **P 21 32 40.0 +1.5**
STHS Stebnicka Huta 40.29 340 *eP* **P 21 32 40.1 +1.0**
VYHS Vyhne 40.35 338 *eP* **P 21 32 40.2 +0.6**
PERS Pernice 40.40 333 *eP* **P 21 32 40.8 +0.8**
CORF Corte 40.48 323 *eP* **P 21 32 41.3 +0.6**
VOY Vojsko 40.51 331 *eP* **P 21 32 41.7 +0.8**
OBKA Obir 40.56 332 ⇓*iP* **P 21 32 42.5 +1.2**
comp=Z,38nm,1.9s,mb4.7
NIE Niedzica 40.61 340 *eP* **P 21 32 42.9 +1.3**
AKET Djebel Ketaf 40.63 312 P **P 21 32 37.0 -5.0**
ARSA Arzberg 40.69 334 ⇑*iP* **P 21 32 42.9 +0.5**
comp=Z,16nm,0.8s,mb4.7
PGF Pioggiola 40.72 324 *eP* **P 21 32 42.4 -0.3**
comp=Z,25nm,1.2s,mb4.4
PGF Pioggiola 40.72 324 *eP* **P 21 32 42.4 -0.3**
PGF pmax pmax
comp=Z,13nm,1.3s,mb4.4
ZST Bratislava 40.78 336 *eP* **P 21 32 43.4 +0.3**
ROBS Robic 40.85 331 *eP* **P 21 32 43.9 +0.2**
SMOL Smolenice 40.91 336 *eP* **P 21 32 44.7 +0.6**
ADJB Djebel Djouab 41.00 312 P **P 21 32 38.2 -6.8**
PTCC Patocco-Chiusa 41.04 331 P **P 21 32 45.9 +0.7**
OJC Ojcow 41.46 340 *eP* **P 21 32 48.5 -0.2**
KBA Koelnbreinsper 41.54 332 ⇓*iP* **P 21 32 50.0 +0.7**
KBA Koelnbreinsper 41.54 332 ⇓*iP* **P 21 32 50.0 +0.7**
KBA pmax pmax
comp=Z,12nm,1.1s,mb4.4
MOA Molln 41.70 333 ⇑*iP* **P 21 32 51.4 +0.8**
comp=Z,19nm,1.1s,mb4.6
OKC Ostrava-Krasne 41.72 338 *eP* **P 21 32 51.2 +0.4**
VRAC Vranov 41.87 336 *eP* **P 21 32 52.5 +0.4**
MORC Moravsky Berou 41.89 338 *eP* **P 21 32 52.7 +0.5**
comp=Z,45nm,1.8s,mb4.8
MORC Moravsky Berou 41.89 338 *eP* **P 21 32 52.7 +0.5**
comp=Z,45nm,1.8s,mb4.8
MORC Moravsky Berou 41.89 338 *eP* **P 21 32 52.7 +0.5**
MORC pmax pmax
comp=Z,45nm,1.8s,mb4.8
AAK Ala-Archa 42.10 38 *eP* **P 21 32 55.2 +1.2**
comp=Z,47nm,1.9s,mb4.8
AAK Ala-Archa 42.10 38 *eP* **P 21 32 55.2 +1.2**
AAK pmax pmax
comp=Z,47nm,1.9s,mb4.8
FRU Bishkek 42.29 38 *eP* **P 21 32 58.0 +2.4**
comp=Z,80nm,2.2s,mb5.0
FRU Bishkek 42.29 38 *eP* **P 21 32 58.0 +2.4**
FRU pmax pmax
comp=Z,80nm,2.2s,mb5.0
TREC Trest 42.30 336 *eP* **P 21 32 55.2 -0.4**
SBF Sospel 42.43 324 *eP* **P 21 32 56.1 -0.6**
SAOF Saorge 42.44 324 *eP* **P 21 32 53.6 -3.2**
WTTA Wattenberg 42.47 331 ⇑*iP* **P 21 32 57.7 +0.7**
comp=Z,22nm,1.3s,mb4.6
WTTA Wattenberg 42.47 331 ⇑*iP* **P 21 32 57.7 +0.7**
WTTA pmax pmax
comp=Z,22nm,1.3s,mb4.6
WATA Walderalm 42.55 331 ⇑*iP* **P 21 32 58.0 +0.3**
comp=Z,15nm,1.3s,mb4.6
WATA Walderalm 42.55 331 ⇑*iP* **P 21 32 58.0 +0.3**
WATA pmax pmax
comp=Z,15nm,1.3s,mb4.6
TOUF Mont Tournerai 42.63 324 *eP* **P 21 32 58.7 +0.4**
SQTA Sankt Quirin 42.65 330 ⇑*iP* **P 21 32 59.0 +0.6**
comp=Z,15nm,1.2s,mb4.6
SQTA Sankt Quirin 42.65 330 ⇑*iP* **P 21 32 59.0 +0.6**
SQTA pmax pmax
comp=Z,15nm,1.2s,mb4.6
LMR La Mourre 42.65 323 *eP* **P 21 32 58.3 -0.2**
CALN Calern 42.68 324 *eP* **P 21 32 56.0 -2.7**
GERES GERESS Array B 42.70 334 P **P 21 32 58.7 -0.2**
comp=Z,5.2nm,0.8s,mb4.3,baz=135,slow=5.7,SNR=45
GERES PcP PcP 21 34 50.7 -0.5
comp=Z,0.6nm,0.7s,baz=27,slow=2.2,SNR=3.1
GERES LR LR 21 52 26.6
comp=Z,142nm,18.8s,MS3.9,baz=75,slow=38
GERES GERESS Array B 42.70 334 PcP PcP 21 34 50.7 -0.5
FRF La Foret Royal 42.71 323 *eP* **P 21 32 58.4 -0.6**
MOTA Moosalm 42.79 330 ⇓*iP* **P 21 32 59.6 0.0**
comp=Z,8.6nm,1.0s,mb4.4
MOTA Moosalm 42.79 330 ⇓*iP* **P 21 32 59.6 0.0**
MOTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
OBN Obninsk 42.80 357 ⇑*eP* **P 21 32 59.6 0.0**
comp=Z,95nm,1.8s,mb5.2
OBN LR LR
comp=Z,100nm,17.0s,MS3.8
OBN Obninsk 42.80 357 ⇑*eP* **P 21 32 59.6 0.0**
comp=Z,95nm,1.8s,mb5.2
OBN Obninsk 42.80 357 ⇑*eP* **P 21 32 59.6 0.0**
OBN pmax pmax
comp=Z,95nm,1.8s,mb5.2
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.8
KOLN Koldanda 42.96 62 *eP* **P 21 33 01.4 +0.2**
comp=Z,143nm,1.9s,mb5.4
KHC Kasperske Hory 42.97 334 *eP* **P 21 33 00.2 -0.8**
KHC Kasperske Hory 42.97 334 *eP* **P 21 33 00.3 -0.7**
KHC Kasperske Hory 42.97 334 ⇑*eP* **P 21 33 00.3 -0.7**
DAVOX Davos 43.00 329 LR LR 21 53 33.8
comp=Z,115nm,18.1s,MS3.8,baz=109,slow=40
UPC Upice 43.06 337 *eP* **P 21 33 01.0 -0.8**
BERF Bertagne 43.13 322 *eP* **P 21 32 57.7 -4.7**
SURF Saint Ours 43.16 324 *eP* **P 21 33 04.1 +1.4**

KSP Ksiaz 43.23 338 *eP* **P 21 33 03.6 +0.5**
KSP Ksiaz 43.23 338 *eP* **P 21 33 03.1 0.0**
PRU Pruhonice 43.23 336 *eP* **P 21 33 02.0 -1.1**
PUYF Puyloubier 43.25 323 *eP* **P 21 33 01.0 -2.4**
MBDF Montbardon 43.34 325 *eP* **P 21 33 04.5 +0.4**
comp=Z,47nm,0.8s,mb5.0
MBDF Montbardon 43.34 325 *eP* **P 21 33 04.5 +0.4**
MBDF pmax pmax
comp=Z,23nm,0.8s,mb5.0
DAVA Lamuels 43.34 330 ⇑*iP* **P 21 33 04.2 +0.1**
comp=Z,18nm,1.0s,mb4.8
MOS Moscow 43.37 358 *eP* **P 21 33 03.2 -1.0**
comp=Z,176nm,2.0s,mb5.4
MOS *e* 21 34 46.0
MOS Moscow 43.37 358 *eP* **P 21 33 03.2 -1.0**
MOS *e* 21 34 46.0
MOS pmax pmax
comp=Z,176nm,2.0s,mb5.4
VILF Villemus 43.42 323 *eP* **P 21 33 01.5 -3.3**
SMRF Simiane la Rot 43.58 323 *eP* **P 21 33 05.9 -0.1**
comp=Z,65nm,1.6s,mb4.8
PRAF Pradon 43.72 323 *eP* **P 21 33 02.4 -4.8**
SUW Suwalki 43.82 345 *eP* **P 21 33 08.2 +0.3**
LPG La Plagne 43.82 326 *eP* **P 21 33 06.8 -1.2**
comp=Z,23nm,1.0s,mb4.6
LPG La Plagne 43.82 326 *eP* **P 21 33 06.8 -1.2**
LPG pmax pmax
comp=Z,12nm,1.0s,mb4.6
LPL La Plagne 43.84 326 *eP* **P 21 33 06.8 -1.4**
comp=Z,12nm,1.0s,mb4.3
LPL La Plagne 43.84 326 *eP* **P 21 33 06.8 -1.4**
LPL pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
GKN Gorkha 43.90 62 *eP* **P 21 33 08.6 -0.3**
comp=Z,89nm,1.7s,mb5.2
ORIF Oris-en-Rattie 43.96 324 *eP* **P 21 33 09.2 +0.1**
comp=Z,53nm,1.3s,mb4.8
ORIF *eR*
comp=Z,150nm,18.2s
BRG Berggiesshubel 44.16 336 *iP* **P 21 33 09.9 -0.7**
comp=Z,14nm,1.2s,mb4.5
BRG Berggiesshubel 44.16 336 *iP* **P 21 33 09.9 -0.8**
comp=Z,14nm,1.2s,mb4.5
BRG Berggiesshubel 44.16 336 *iP* **P 21 33 09.9 -0.8**
BRG pmax pmax
comp=Z,14nm,1.2s,mb4.6
DMN Daman 44.23 63 *eP* **P 21 33 11.7 +0.1**
comp=Z,52nm,1.3s,mb5.1
NKC Novy Kostel 44.28 334 *eP* **P 21 33 10.8 -0.9**
GRA1 Grafenberg Arr 44.42 333 *eP* **P 21 33 11.8 -1.0**
comp=Z,20nm,1.2s,mb4.7
GRF Grafenberg Arr 44.42 333 *eP* **P 21 33 11.8 -1.0**
comp=Z,20nm,1.2s,mb4.7
GRF Grafenberg Arr 44.42 333 *eP* **P 21 33 11.8 -1.0**
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.7
GRF Grafenberg Arr 44.42 333 *eP* **P 21 33 11.8 -1.0**
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.7
KKN Kakani 44.42 63 *eP* **P 21 33 13.0 -0.1**
comp=Z,142nm,1.8s,mb5.4
PKI Puchki 44.49 63 *eP* **P 21 33 13.4 -0.3**
comp=Z,24nm,1.0s,mb4.9
VIVF Saint-Julien-l 44.62 324 *eP* **P 21 33 13.7 -0.8**
LASF Ste Croix 44.66 322 *eP* **P 21 33 14.3 -0.5**
comp=Z,50nm,1.4s,mb4.9
BBS Basel-Blauen 44.66 328 *eP* **P 21 33 14.6 -0.2**
FELD Feldberg 44.68 329 *eP* **P 21 33 14.9 0.0**
CABF La Chapelle 44.87 326 *eP* **P 21 33 15.2 -1.3**
comp=Z,50nm,1.0s,mb5.0
CABF La Chapelle 44.87 326 *eP* **P 21 33 15.2 -1.3**
CABF pmax pmax
comp=Z,25nm,1.0s,mb5.0
CLL Collm 44.87 336 ⇓P **P 21 33 15.2 -1.2**
comp=Z,logA/T=1.2,mb4.8
CLL *i* 21 33 25.6
CLL *i* 21 33 29.3
CLL Collm 44.87 336 ⇓*iP* **P 21 33 15.2 -1.2**
comp=Z,16nm,1.1s,mb4.8
CLL *i* 21 33 25.6
CLL *i* 21 33 29.3
CLL Collm 44.87 336 ⇓*iP* **P 21 33 15.2 -1.2**
CLL pmax pmax
comp=Z,16nm,1.1s,mb4.8
LOMF Lomont 44.94 328 *eP* **P 21 33 17.0 -0.1**
MOX Moxa 44.95 334 *iP* **P 21 33 16.3 -0.7**
comp=Z,logA/T=1.4,mb5.0
MOX Moxa 44.95 334 *eP* **P 21 33 16.3 -0.7**
comp=Z,45nm,1.9s,mb5.0
MOX Moxa 44.95 334 *eP* **P 21 33 16.3 -0.7**
MOX pmax pmax
comp=Z,45nm,1.9s,mb5.0
MOF Molkenrain 45.11 328 *eP* **P 21 33 18.4 +0.1**
DBIC Dimbokro 45.16 267 P **P 21 33 19.6 +0.4**
comp=Z,4.7nm,0.9s,mb4.3,baz=69,slow=8.8,SNR=3.1
DBIC LR LR 21 51 30.5
comp=Z,297nm,19.7s,MS4.2,baz=67,slow=35
HINF Hinteralfeld 45.23 328 *eP* **P 21 33 18.3 -1.0**
comp=Z,76nm,1.4s,mb5.0
HINF Hinteralfeld 45.23 328 *eP* **P 21 33 18.3 -1.0**
HINF pmax pmax
comp=Z,38nm,1.4s,mb5.0
MTLF Montolieu 45.26 320 *eP* **P 21 33 19.2 -0.4**
ECH Echery 45.33 329 *eP* **P 21 33 20.1 0.0**
WLS Welschbruch 45.36 329 *eP* **P 21 33 20.3 -0.1**
CDF Champ du Feu 45.40 329 *eP* **P 21 33 19.7 -1.0**
LIC Lamto 45.41 267 *eP* **P 21 33 22.1 +0.9**
comp=Z,25nm,1.2s,mb4.9
TOD Tromm 45.46 331 *eP* **P 21 33 20.5 -0.6**
LANF Langenberg 45.52 330 *eP* **P 21 33 21.3 -0.3**
HAU Haudompre 45.61 328 *eP* **P 21 33 21.3 -1.0**
comp=Z,66nm,1.4s,mb5.1
HAU *eR*
comp=Z,123nm,17.2s
HAU Haudompre 45.61 328 *eP* **P 21 33 21.3 -1.0**
HAU pmax pmax
comp=Z,33nm,1.4s,mb5.1
HAU MLR MLR
comp=Z,120nm,17.3s,MS3.9
LBL Lubilhac 45.66 323 *eP* **P 21 33 22.9 +0.1**
PLDF La Plantade 45.86 324 *eP* **P 21 33 23.8 -0.5**
THEF They Montfort 45.94 328 *eP* **P 21 33 22.7 -2.2**
MDT Midelt 46.06 304 P **P 21 33 26.8 +0.7**
comp=Z,9.2nm,1.0s,mb4.7,baz=98,slow=9.4,SNR=6.3
PYM Petit Puy Mans 46.09 324 *eP* **P 21 33 26.4 +0.3**
SMF Signal de Mont 46.13 325 *eP* **P 21 33 25.1 -1.3**
ARU Arti 46.14 14 ⇑*eP* **P 21 33 26.9 +0.5**
comp=Z,71nm,2.1s,mb5.2
ARU Arti 46.14 14 ⇑*eP* **P 21 33 26.9 +0.5**
ARU pmax pmax
comp=Z,71nm,2.1s,mb5.2
AGO Saint Agoulin 46.19 324 *eP* **P 21 33 26.7 -0.2**
CAF Calviac 46.19 322 *eP* **P 21 33 26.9 -0.1**
comp=Z,33nm,1.3s,mb4.8
CAF Calviac 46.19 322 *eP* **P 21 33 26.9 -0.1**
CAF pmax pmax
comp=Z,16nm,1.3s,mb4.8
EPF Esparros 46.30 319 *eP* **P 21 33 27.3 -0.5**
LOR Lormes 46.48 326 *eP* **P 21 33 28.1 -1.1**
comp=Z,45nm,1.3s,mb4.9
LOR Lormes 46.48 326 *eP* **P 21 33 28.1 -1.1**
LOR pmax pmax
comp=Z,22nm,1.3s,mb4.9
AVF Avril sur Loir 46.49 325 *eP* **P 21 33 27.9 -1.4**
comp=Z,16nm,1.1s,mb4.5
AVF Avril sur Loir 46.49 325 *eP* **P 21 33 27.9 -1.4**
AVF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
SSF Saint Saulge 46.56 325 *eP* **P 21 33 28.5 -1.3**
comp=Z,9.0nm,1.0s,mb4.7
SSF Saint Saulge 46.56 325 *eP* **P 21 33 28.5 -1.3**
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MEZF Maizieres J'vi 46.60 328 *eP* **P 21 33 29.5 -0.6**
comp=Z,144nm,1.4s,mb5.4
BGF Bois d'Agland 46.64 324 *eP* **P 21 33 29.8 -0.7**
comp=Z,28nm,1.0s,mb4.8
BGF Bois d'Agland 46.64 324 *eP* **P 21 33 29.8 -0.7**
BGF pmax pmax
comp=Z,14nm,1.0s,mb4.8
RJF Les Rejaudoux 46.73 322 *eP* **P 21 33 30.9 -0.3**
RJF *eR*
comp=Z,130nm,17.2s
ETSF Etsaut 46.81 318 *eP* **P 21 33 32.2 +0.3**
TCF Toulx Ste Croi 46.85 324 *eP* **P 21 33 31.8 -0.3**

LFF La Frestale 47.00 321 *eP* **P 21 33 33.3 -0.1**
comp=Z,54nm,1.2s,mb5.1
LFF La Frestale 47.00 321 *eP* **P 21 33 33.3 -0.1**
LFF pmax pmax
comp=Z,27nm,1.2s,mb5.0
BRVK Borovoye 47.02 24 *eP* **P 21 33 33.9 +0.5**
comp=Z,12nm,1.6s,mb4.6
BRVK Borovoye 47.02 24 *eP* **P 21 33 33.9 +0.5**
BRVK pmax pmax
comp=Z,12nm,1.6s,mb4.6
BVAR Borovoye Array 47.04 24 P **P 21 33 33.5 0.0**
comp=Z,3.9nm,0.9s,mb4.3,baz=217,slow=7.4,SNR=17
SJPF Ste Jean 47.34 318 *eP* **P 21 33 36.3 +0.2**
comp=Z,54nm,1.1s,mb5.1
SJPF Ste Jean 47.34 318 *eP* **P 21 33 36.3 +0.2**
SJPF pmax pmax
comp=Z,27nm,1.0s,mb5.1
CHKZ Chkalovo 47.62 24 *eP* **P 21 33 38.2 +0.1**
CHKZ pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
GIVF Givet 47.72 329 *eP* **P 21 33 37.8 -1.2**
ESDC Sonseca Array 47.77 313 P **P 21 33 39.6 0.0**
comp=Z,5.0nm,1.0s,mb4.5,baz=113,slow=7.7,SNR=11
BAIF Baives 48.00 329 *eP* **P 21 33 39.8 -1.4**
SUR Sutherland 48.33 203 LR LR 21 53 40.4
comp=Z,645nm,18.3s,MS4.6,baz=220,slow=36
MFF Saint Martin d 48.39 323 *eP* **P 21 33 43.2 -1.0**
MKAR Makanchi Array 49.02 37 P **P 21 33 48.8 -0.3**
comp=Z,4.6nm,0.9s,mb4.5,baz=233,slow=6.1,SNR=17
MKAR LR LR 21 57 48.5
comp=Z,1µm,18.2s,MS5.0,baz=232,slow=40
MKAR Makanchi Array 49.02 37 ⇑*iP* **P 21 33 49.2 +0.1**
MKAR *e* 21 33 49.2
MKAR pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 49.20 31 ⇑*eP* **P 21 33 50.4 0.0**
LDF La Druitiere 49.44 325 *eP* **P 21 33 50.5 -1.8**
FLN La Foliniere 49.73 325 *eP* **P 21 33 52.9 -1.6**
comp=Z,64nm,1.1s,mb5.3
FLN *eR*
comp=Z,150nm,20.8s
FLN La Foliniere 49.73 325 *eP* **P 21 33 52.9 -1.6**
FLN pmax pmax
comp=Z,32nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,150nm,20.8s,MS4.0
GRR Gorron 49.74 325 *eP* **P 21 33 53.0 -1.6**
comp=Z,14nm,0.8s,mb4.7
GRR Gorron 49.74 325 *eP* **P 21 33 53.0 -1.6**
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
FINES FINESS Array B 50.16 351 P **P 21 33 57.2 -0.4**
comp=Z,5.1nm,0.9s,mb4.5,baz=121,slow=11,SNR=9.3
FINES FINESS Array B 50.16 351 P **P 21 33 57.2 -0.4**
SGMF Saint Gilles 50.65 324 *eP* **P 21 34 00.3 -1.2**
comp=Z,59nm,1.2s,mb5.1
SGMF Saint Gilles 50.65 324 *eP* **P 21 34 00.3 -1.2**
SGMF pmax pmax
comp=Z,29nm,1.2s,mb5.1
KAF Kangasniemi 50.77 351 *ep* **P 21 34 00.3 -1.9**
comp=Z,6.7nm,0.9s,mb4.6,baz=159,slow=7.6
KAF Kangasniemi 50.77 351 *eP* **P 21 34 00.3 -1.9**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
QUIF Quistinic 50.83 323 *eP* **P 21 34 01.5 -1.4**
JOF Joensuu 50.95 355 *ep* **P 21 33 59.6 -4.0**
comp=Z,8.7nm,0.9s,mb4.7
WMQ Urumqi 51.09 43 P **P 21 34 05.3 +0.4**
WMQ AMB AMB
comp=Z,11nm,1.4s,mb4.6
WMQ AMB AMB
comp=Z,117nm,3.6s
WMQ Urumqi 51.09 43 P **P 21 34 05.3 +0.4**
comp=Z,11nm,1.4s,mb4.6
NB2 NORSAR Subarra 53.15 343 P **P 21 34 18.5 -1.7**
comp=Z,43nm,1.4s,mb5.2,baz=145,slow=7.4
NB2 NORSAR Subarra 53.15 343 P **P 21 34 18.5 -1.7**
baz=145,slow=7.4
NB2 NORSAR Subarra 53.15 343 P **P 21 34 18.5 -1.7**
NB2 pmax pmax
comp=Z,43nm,1.4s,mb5.2
NOA NORSAR Array B 53.15 343 P **P 21 34 19.2 -1.0**
comp=Z,6.0nm,0.9s,mb4.5,baz=141,slow=7.4,SNR=9.2
NOA NORSAR Array B 53.15 343 P **P 21 34 19.2 -1.0**
NVS Novosibirsk 53.91 29 *eP* **P 21 34 24.3 -1.5**
comp=Z,24nm,1.8s,mb4.8
NVS *e* 21 35 25.2
NVS Novosibirsk 53.91 29 *eP* **P 21 34 24.3 -1.5**
NVS *e* 21 35 25.2
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,10.0nm,1.8s
NVS pmax pmax
comp=Z,24nm,1.8s,mb4.8
ARCES ARCESS Array B 57.96 354 P **P 21 34 54.4 -0.5**
comp=Z,3.4nm,0.8s,mb4.4,baz=117,slow=2.7,SNR=4.5
KEV Kevo 58.03 354 *ep* **P 21 34 48.3 -7.0**
comp=Z,18nm,1.0s,mb5.0
KEV Kevo 58.03 354 *eP* **P 21 34 48.3 -7.0**
KEV pmax pmax
comp=Z,18nm,1.0s,mb5.1
GTA Gaotai 58.54 51 *eP* **P 21 34 59.8 +0.5**
GTA AP pP 21 35 04.0 +1.6
GTA XP sP 21 35 07.0 +3.5
GTA PCP PcP 21 35 51.3 +1.8
GTA AMB AMB
comp=Z,15nm,1.3s,mb4.9
GTA Gaotai 58.54 51 *eP* **P 21 34 59.8 +0.5**
comp=Z,15nm,1.3s,mb4.9
GTA pP pP 21 35 04.0 +1.6
GTA sP sP 21 35 07.0 +3.5
GTA PcP PcP 21 35 51.3 +1.8
LZH Lanzhou 61.25 56 *eP* **P 21 35 18.5 +0.6**
LZH AMB AMB
comp=Z,57nm,1.6s,mb5.5
LZH AMB AMB
comp=Z,360nm,4.5s
LZH Lanzhou 61.25 56 *eP* **P 21 35 18.5 +0.6**
comp=Z,57nm,1.6s,mb5.5
ZAK Zakamensk 63.23 40 *eP* **P 21 35 29.2 -1.8**
comp=Z,2.0nm,1.1s,mb4.2
ZAK Zakamensk 63.23 40 *eP* **P 21 35 29.2 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.2
SONM Songino Array 64.72 43 P **P 21 35 40.7 -0.1**
comp=Z,3.2nm,0.9s,mb4.3,baz=240,slow=6.6,SNR=17
HHC Hu-ho-hao-te 67.65 51 *eP* **P 21 36 00.8 +1.2**
HHC AP pP 21 36 11.0 +8.3
HHC XP sP 21 36 14.8 +11
HHC PCP PcP 21 36 26.0 -0.6
HHC PP PP 21 38 32.0 +1.4
HHC SCP 21 40 26.0
HHC PCS 21 40 31.0
HHC S S 21 44 57.3 +2.1
HHC XS 21 45 14.0
HHC SCS ScS 21 45 54.3 -0.1
HHC SS SS 21 49 22.5 +4.9
HHC AMB AMB
comp=Z,27nm,0.7s,mb5.4
HHC AMB AMB
comp=Z,219nm,4.5s
HHC Hu-ho-hao-te 67.65 51 *eP* **P 21 36 00.8 +1.2**
comp=Z,27nm,0.7s,mb5.4
HHC pP pP 21 36 11.0 +8.3
HHC sP sP 21 36 14.8 +11
HHC PcP PcP 21 36 26.0 -0.6
HHC PP PP 21 38 32.0 +1.4
HHC ScP 21 40 26.0
HHC PcS 21 40 31.0
HHC S S 21 44 57.3 +2.1
HHC sS 21 45 14.0
HHC ScS ScS 21 45 54.3 -0.1
HHC SS SS 21 49 22.5 +4.9
BOD Bodaibo 70.80 33 *eP* **P 21 36 15.5 -3.2**
comp=Z,10.0nm,1.9s,mb4.4
BOD Bodaibo 70.80 33 *eP* **P 21 36 15.5 -3.2**
BOD pmax pmax
comp=Z,10.0nm,1.9s,mb4.4
NJ2 Nanjing 73.66 60 *eP* **P 21 36 35.3 -0.8**
NJ2 PP PP 21 39 24.5 +2.2
NJ2 S S 21 45 56.0 -9.3
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB

	comp=Z,170nm,7.8s								
NJ2	**Nanjing**	**73.66**	**60**	*e*P		**P**	**21 36 35.3**	**-0.8**	
	comp=Z,10.0nm,0.9s,mb4.8								
NJ2				PP		PP	21 39 24.5	+2.2	
NJ2				S		S	21 45 56.0	-9.3	
SNY	**Shenyang**	**76.67**	**50**	⇓P		**P**	**21 36 53.0**	**-0.2**	
SNY				AMB		AMB			
	comp=Z,10.0nm,1.5s,mb4.5								
SNY	**Shenyang**	**76.67**	**50**	⇓P		**P**	**21 36 53.0**	**-0.2**	
	comp=Z,10.0nm,1.5s,mb4.5								
CN2	**Changchun**	**77.87**	**48**	*e*P		**P**	**21 37 00.8**	**+1.1**	
CN2				AMB		AMB			
	comp=Z,20nm,1.4s,mb4.8								
CN2	**Changchun**	**77.87**	**48**	*e*P		**P**	**21 37 00.8**	**+1.1**	
	comp=Z,20nm,1.4s,mb4.8								
MAW	**Mawson**	**81.34**	**172**	LR		LR	22 09 21.1		
	comp=Z,128nm,19.7s,MS4.3,baz=232,slow=33								
NWAO	**Narrogin (SRO)**	**85.67**	**125**	LR		LR	22 08 59.6		
	comp=Z,259nm,19.0s,MS4.6,baz=122,slow=31								
SNAA	**Sanae**	**88.67**	**193**	⇑P		**P**	**21 37 57.3**	**+2.9**	
SNAA	**Sanae**	**88.67**	**193**	⇑*e*P		**P**	**21 37 56.8**	**+2.4**	
FITZ	**Fitzroy Crossi**	**89.13**	**109**	P		**P**	**21 37 58.1**	**+0.3**	
	comp=Z,13nm,1.1s,mb5.2,baz=12,slow=10.0,SNR=5.3								
FITZ				LR		LR	22 13 12.7		
	comp=Z,239nm,18.5s,MS4.7,baz=277,slow=32								
VNA2	**Neumayer--Watz**	**89.17**	**194**	⇑P		**P**	**21 37 59.1**	**+2.3**	
VNA2	**Neumayer--Watz**	**89.17**	**194**	⇑		**P**	**21 38 09.0**	**+12**	
SCHQ	**Schefferville**	**89.80**	**326**	P		**P**	**21 37 59.7**	**-0.4**	
	comp=Z,4.3nm,0.9s,mb4.8,baz=236,slow=5.7,SNR=3.7								
SCHQ	**Schefferville**	**89.80**	**326**	P		**P**	**21 37 59.7**	**-0.4**	
VNA3	**Neumayer Olymp**	**89.93**	**194**	⇑P		**P**	**21 37 52.3**	**-8.1**	
VNA3	**Neumayer Olymp**	**89.93**	**194**	⇑		**P**	**21 38 04.4**	**+4.0**	
BILL	**Bilibino**	**91.01**	**18**	*i* P		**P**	**21 38 01.2**	**-4.2**	
BDFB	**Brasilia**	**91.97**	**255**	LR		LR	22 17 34.9		
	comp=Z,198nm,19.6s,MS4.6,baz=109,slow=34								
WRA	**Warramunga Arr**	**97.56**	**109**	P		**P**	**21 38 37.5**	**+1.0**	
	comp=Z,1.3nm,1.1s,mb4.4,baz=276,slow=3.8,SNR=5.9								
TXAR	**Lajitas Array**	**126.12**	**321**	PKP		PKPdf	21 44 05.7	-0.9	
	comp=Z,0.3nm,0.3s,baz=90,slow=1.3,SNR=3.4								

*IDC **26** 21:34:50.2±1.2, 12.38N×40.44E, mb3.7/8, mb1 3.9/9, mb1mx3.8/18, mbtmp3.8/9, ML4.4/1, Error ellipse: s-maj=26.8km s-min=15.5km az=31.0*
*NEIC **26** 21:34:51.9±0.7, 12.40N×40.39E, h10km, Error ellipse: s-maj=17.7km s-min=13.3km az=47.0*
*DHMR **26** 21:34:53.0±2.4, 12.67N×40.50E, h13km±231km, ML4.4*
ISC 26 21:34:50.1±0.8, 12.4N±0.1×40.34E±0.05, h10km, n15, σ1§15/19, mb3.7/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.61**	**109**	Pn		**Pn**	**21 35 33.8**	**+0.8**
	73nm,0.3s,baz=232,slow=5.6,SNR=52							
ATD				Lg			21 36 08.7	
	33nm,0.3s,baz=260,slow=22,SNR=8.8							
TRBA	**At Turbah**	**3.78**	**77**	*i* P		**Pn**	**21 35 50.8**	**+1.1**
TRBA				*i* S		**Sn**	**21 36 36.1**	**+1.4**
TRBA				AML		AML	21 36 51.0	
	comp=N,2μm,0.7s							
UDYN	**Al 'Udayn**	**3.86**	**66**	*e*P		**Pn**	**21 35 51.9**	**+1.0**
UDYN				*i* S		**Sn**	**21 36 37.7**	**+0.9**
DHBB	**Dhamar BB**	**4.49**	**61**	*i* P		**Pn**	**21 35 59.8**	**0.0**
DHBB				*i* S		**Sn**	**21 36 51.9**	**-1.0**
LBOS		**5.00**	**73**	*e*P		**Pn**	**21 36 05.0**	**-2.1**
LBOS				*i* S		**Sn**	**21 37 01.4**	**-4.3**
BDHA	**Al Bayda'**	**5.33**	**72**	*i* P		**Pn**	**21 36 09.4**	**-2.3**
BDHA				*i* S		**Sn**	**21 37 09.2**	**-4.7**
KMBO	**Kilima Mbogo**	**13.79**	**193**	Lg			21 42 09.1	
	comp=N,0.0nm,0.3s,baz=78,slow=22,SNR=2.6							
BRTR	**Keskin Array B**	**27.85**	**349**	P		**P**	**21 40 43.1**	**+1.3**
	comp=N,1.4nm,0.9s,mb3.6,baz=180,slow=14,SNR=4.9							
LSZ	**Lusaka**	**30.02**	**204**	P		**P**	**21 41 01.1**	**-0.5**
	comp=N,2.7nm,1.0s,mb3.9,baz=37,slow=13,SNR=3.6							
AKASG	**Malin Array Be**	**39.25**	**349**	P		**P**	**21 42 20.4**	**-0.1**
	comp=N,0.1nm,0.2s,mb3.1,baz=164,slow=6.7,SNR=4.3							
GERES	**GERESS Array B**	**42.51**	**334**	P		**P**	**21 42 46.5**	**-0.8**
	comp=N,1.2nm,0.9s,mb3.6,baz=153,slow=6.0,SNR=8.7							
BVAR	**Borovoye Array**	**47.09**	**24**	P		**P**	**21 43 24.0**	**+0.1**
	comp=N,0.5nm,0.7s,mb3.5,baz=214,slow=11,SNR=3.6							
ESDC	**Sonseca Array**	**47.52**	**313**	P		**P**	**21 43 28.9**	**+1.4**
	comp=N,0.9nm,0.8s,mb3.9,baz=112,slow=8.0,SNR=4.3							
MKAR	**Makanchi Array**	**49.14**	**37**	P		**P**	**21 43 38.9**	**-1.0**
	comp=N,1.4nm,0.8s,mb4.0,baz=231,slow=7.8,SNR=8.1							
SONM	**Songino Array**	**64.86**	**43**	P		**P**	**21 45 31.2**	**-0.4**
	comp=N,1.0nm,0.8s,mb3.9,baz=268,slow=5.7,SNR=9.3							

IDC 26 21:35:46.7±3.2, 3.83S×103.28E, mb3.8/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, Error ellipse: s-maj=141.6km s-min=22.0km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**26.09**	**125**	P		P	21 41 21.0	-3.0
	3.0nm,0.8s,baz=307,slow=15,SNR=2.2							
WRA	**Warramunga Arr**	**34.25**	**120**	P		P	21 42 33.5	-3.2
	0.2nm,0.3s,baz=299,slow=8.1,SNR=6.7							
STKA	**Stephens Creek**	**45.50**	**132**	P		P	21 44 10.0	+0.1
	1.2nm,0.8s,baz=324,slow=7.4,SNR=4.7							
SONM	**Songino Array**	**51.52**	**3**	P		P	21 44 55.9	-0.4
	0.6nm,0.6s,baz=184,slow=9.6,SNR=6.9							
MKAR	**Makanchi Array**	**53.71**	**342**	P		P	21 45 09.0	-3.7
	0.4nm,0.4s,baz=156,slow=8.5,SNR=8.3							

*NEIC **26** 21:46:22.0, 38.47S×176.80E, h69km, ML4.0(WEL), After WEL.*
WEL 26 21:46:22.8±0.1, 38.48S×176.75E, h60km±1km, ML4.0/12, 1D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TAZ	**Tarawera**	**0.31**	**323**	P*		P	21 46 33.3	+0.2
TAZ	**Tarawera**	**0.31**	**323**	P		P	21 46 33.3	+0.2
URZ	**Urewera**	**0.36**	**52**	P*		P	21 46 33.2	-0.4
URZ				S*		S	21 46 41.1	-0.2
URZ				S*		S	21 46 41.2	-0.2
URZ	**Urewera**	**0.36**	**52**	P		P	21 46 33.2	-0.3
EDRZ	**Edgecumbe**	**0.37**	**359**	P*		P	21 46 33.4	-0.3
EDRZ	**Edgecumbe**	**0.37**	**359**	P		P	21 46 33.4	-0.2
PATZ	**Paeroa**	**0.40**	**284**	P*		P	21 46 33.9	0.0
PATZ				S*		S	21 46 40.1	-1.9
PATZ	**Paeroa**	**0.40**	**284**	P		P	21 46 33.9	0.0
MKRZ	**Makatiti**	**0.41**	**327**	P*		P	21 46 34.4	+0.5
MKRZ	**Makatiti**	**0.41**	**327**	P		P	21 46 34.4	+0.5
MARZ	**Manawahe**	**0.50**	**353**	P*		P	21 46 34.5	-0.4
MARZ	**Manawahe**	**0.50**	**353**	P		P	21 46 34.5	-0.3
UTU	**Utuhina**	**0.53**	**305**	P*		P	21 46 35.2	0.0
UTU	**Utuhina**	**0.53**	**305**	P		P	21 46 35.3	+0.1
LIRZ	**Lichensteins R**	**0.56**	**329**	P*		P	21 46 35.1	-0.4
LIRZ	**Lichensteins R**	**0.56**	**329**	P		P	21 46 35.1	-0.4
MWZ	**Matawai**	**0.63**	**77**	P*		P	21 46 36.0	-0.2
MWZ				S*		S	21 46 47.0	+0.7
MWZ	**Matawai**	**0.63**	**77**	P		P	21 46 36.1	-0.2
WHTZ	**Whakaora**	**0.65**	**253**	P*		P	21 46 36.9	+0.4
WHTZ	**Whakaora**	**0.65**	**253**	P		P	21 46 36.9	+0.4
HATZ	**Hinemaiaia**	**0.66**	**231**	P*		P	21 46 36.3	-0.3
HATZ				S*		S	21 46 46.8	-0.1
HATZ	**Hinemaiaia**	**0.66**	**231**	P		P	21 46 36.3	-0.3
WATZ	**Wairara**	**0.83**	**254**	P*		P	21 46 38.4	-0.3
WATZ	**Wairara**	**0.83**	**254**	P		P	21 46 38.4	-0.4
TGRZ	**Tauranga**	**0.84**	**333**	P*		P	21 46 38.2	-0.7
TGRZ	**Tauranga**	**0.84**	**333**	P		P	21 46 38.2	-0.7
RITZ	**Rihia Road**	**0.86**	**234**	P*		P	21 46 39.2	+0.1
RITZ	**Rihia Road**	**0.86**	**234**	P		P	21 46 39.2	+0.1
RITZ				S		S	21 46 52.3	+1.0
RATZ	**Rangitukua**	**0.86**	**243**	P*		P	21 46 38.8	-0.3
RATZ	**Rangitukua**	**0.86**	**243**	P		P	21 46 39.0	-0.1
KNZ	**Kokohu**	**0.90**	**127**	PN		P	21 46 40.2	+0.4
KNZ	**Kokohu**	**0.90**	**127**	P		P	21 46 40.2	+0.5
KNZ				S		S	21 46 57.6	+5.2
KATZ	**Kakaramea**	**0.96**	**239**	P*		P	21 46 40.5	-0.1
KATZ	**Kakaramea**	**0.96**	**239**	P		P	21 46 40.5	-0.1
WIZ	**White Island**	**1.01**	**20**	P*		P	21 46 40.0	-1.2
WIZ	**White Island**	**1.01**	**20**	P		P	21 46 40.1	-1.2
KRVZ	**Karewarewa**	**1.06**	**234**	P*		P	21 46 41.7	-0.2
KRVZ				S*		S	21 46 56.2	+0.1
OTVZ	**Oturere**	**1.09**	**231**	P*		P	21 46 42.0	-0.3
OTVZ				S*		S	21 46 56.5	-0.2
WTVZ	**West Tongariro**	**1.11**	**235**	P*		P	21 46 42.4	-0.2
WTVZ	**West Tongariro**	**1.11**	**235**	P		P	21 46 42.4	-0.1
NGZ	**Ngauruhoe**	**1.13**	**232**	P*		P	21 46 42.6	-0.2
NGZ				S*		S	21 46 57.7	-0.1
NGZ	**Ngauruhoe**	**1.13**	**232**	P		P	21 46 42.6	-0.3
TUVZ	**Tukino**	**1.16**	**227**	P*		P	21 46 42.9	-0.3
TUVZ	**Tukino**	**1.16**	**227**	P		P	21 46 42.9	-0.4
CNZ	**Chateau**	**1.18**	**232**	P*		P	21 46 43.5	-0.1
CNZ	**Chateau**	**1.18**	**232**	P		P	21 46 43.5	0.0
TWVZ	**Taurewa**	**1.18**	**240**	P*		P	21 46 43.0	-0.6
TWVZ	**Taurewa**	**1.18**	**240**	P		P	21 46 43.0	-0.5
WPVZ	**Whakapapa**	**1.19**	**232**	P*		P	21 46 43.4	-0.2
WPVZ	**Whakapapa**	**1.19**	**232**	P		P	21 46 43.4	-0.2
MOVZ	**Moawhango**	**1.21**	**220**	P*		P	21 46 43.1	-0.8
MOVZ				S*		S	21 46 58.3	-1.3
MOVZ	**Moawhango**	**1.21**	**220**	P		P	21 46 43.1	-0.8
FWVZ	**Far West T-bar**	**1.21**	**230**	P*		P	21 46 43.6	-0.4
FWVZ	**Far West T-bar**	**1.21**	**230**	P		P	21 46 43.6	-0.4
DRZ	**Dome Shelter**	**1.22**	**229**	P*		P	21 46 43.7	-0.3
DRZ	**Dome Shelter**	**1.22**	**229**	P		P	21 46 44.0	-0.1
DRZ				P			21 46 44.2	
WNVZ	**Wahianoa**	**1.23**	**226**	P*		P	21 46 43.8	-0.5
WNVZ	**Wahianoa**	**1.23**	**226**	P		P	21 46 43.8	-0.5
PUZ	**Puketiti**	**1.25**	**72**	PN		P	21 46 44.1	-0.5
PUZ	**Puketiti**	**1.25**	**72**	P		P	21 46 44.1	-0.5
MYRZ	**Mayor Island**	**1.26**	**341**	P*		P	21 46 43.8	-0.9
MTVZ	**Mangateitei**	**1.35**	**227**	P*		P	21 46 45.3	-0.7
PKVZ	**Pokaka**	**1.36**	**233**	P*		P	21 46 45.5	-0.7
HIZ	**Hauiti**	**1.49**	**268**	PN		P	21 46 47.3	-0.6
HIZ	**Hauiti**	**1.49**	**268**	P		P	21 46 47.3	-0.6
MXZ	**Matakaoa Point**	**1.53**	**54**	P*		P	21 46 48.4	-0.1
MXZ	**Matakaoa Point**	**1.53**	**54**	P		P	21 46 48.4	-0.1
PXZ	**Pawanui**	**1.55**	**177**	PN		P	21 46 46.8	-1.9
PXZ				SN		S	21 47 05.8	-2.2
VRZ	**Vera Road**	**1.68**	**247**	P*		P	21 46 50.0	-0.6
VRZ	**Vera Road**	**1.68**	**247**	P		P	21 46 50.1	-0.4
TSZ	**Takapari Road**	**1.69**	**201**	PN		P	21 46 48.9	-1.8
TSZ	**Takapari Road**	**1.69**	**201**	P		P	21 46 48.9	-1.8
MKAZ	**Moumakai**	**1.85**	**317**	PN		P	21 46 52.0	-0.9
MKAZ	**Moumakai**	**1.85**	**317**	P		P	21 46 52.0	-0.9
WAZ	**Wanganui**	**1.87**	**227**	PN		P	21 46 53.0	-0.1
WAZ	**Wanganui**	**1.87**	**227**	P		P	21 46 53.1	0.0
KUZ	**Kuaotunu**	**1.91**	**334**	⇓PN		P	21 46 52.3	-1.4
KUZ				SN		S	21 47 15.2	-1.4
KUZ	**Kuaotunu**	**1.91**	**334**	P		P	21 46 52.3	-1.4
RAEZ	**Rainy Point**	**2.01**	**246**	PN		P	21 46 55.2	+0.2
RAEZ	**Rainy Point**	**2.01**	**246**	P		P	21 46 55.2	+0.2
NEZ	**North Egmont**	**2.22**	**248**	*e*PN		P	21 46 57.7	-0.3
NEZ	**North Egmont**	**2.22**	**248**	P		P	21 46 58.4	+0.4
BFZ	**Birch Farm**	**2.23**	**190**	PN		P	21 46 55.3	-3.0
BFZ	**Birch Farm**	**2.23**	**190**	*e*P		P	21 46 55.3	-2.9
MTAZ	**Motutapu**	**2.23**	**319**	PN		P	21 46 57.5	-0.8
MTAZ	**Motutapu**	**2.23**	**319**	P		P	21 46 57.5	-0.7
PKE	**Pukeiti**	**2.27**	**251**	PN		P	21 46 58.5	-0.3
PKE	**Pukeiti**	**2.27**	**251**	P		P	21 46 59.5	+0.7
WTAZ	**Waiatarua**	**2.31**	**311**	PN		P	21 46 58.6	-0.8
WTAZ	**Waiatarua**	**2.31**	**311**	P		P	21 46 58.6	-0.8
MRZ	**Mangatainoka R**	**2.36**	**202**	PN		P	21 46 56.6	-3.4
MRZ				SN		S	21 47 24.6	-3.2
MRZ	**Mangatainoka R**	**2.36**	**202**	P		P	21 46 56.8	-3.2
KIW	**Kapiti Island**	**2.77**	**210**	PN		P	21 47 02.3	-3.6
KIW	**Kapiti Island**	**2.77**	**210**	P		P	21 47 02.4	-3.5
MTW	**Mount Morrison**	**2.84**	**199**	PN		P	21 47 02.6	-4.3
MTW	**Mount Morrison**	**2.84**	**199**	P		P	21 47 02.6	-4.3
TRWZ	**Traveller**	**3.03**	**195**	PN		P	21 47 05.2	-4.3
PAWZ	**Paruwai Farm**	**3.07**	**199**	PN		P	21 47 05.9	-4.2
PAWZ	**Paruwai Farm**	**3.07**	**199**	P		P	21 47 05.9	-4.2
MSWZ	**Moikau Station**	**3.15**	**201**	PN		P	21 47 06.8	-4.5
MSWZ	**Moikau Station**	**3.15**	**201**	P		P	21 47 06.8	-4.4
MRW	**Makara Radio**	**3.17**	**209**	PN		P	21 47 14.3	+2.8
DUWZ	**D'Urville Isla**	**3.19**	**222**	PN		P	21 47 13.4	+1.7
BHW	**Baring Head**	**3.26**	**206**	PN		P	21 47 08.8	-4.0
BHW	**Baring Head**	**3.26**	**206**	P		P	21 47 08.8	-4.0
TCW	**Tory Channel**	**3.33**	**214**	PN		P	21 47 09.0	-4.7
TCW	**Tory Channel**	**3.33**	**214**	P		P	21 47 09.3	-4.4
TUWZ	**Tuamarina**	**3.65**	**215**	PN		P	21 47 14.3	-4.0
QRZ	**Quartz Range**	**4.01**	**233**	*e*P		P	21 47 19.4	-3.9
THZ	**Tophouse**	**4.41**	**221**	P		P	21 47 24.0	-4.9
KHZ	**Kahutara**	**4.63**	**211**	*e*P		P	21 47 26.5	-5.5
LTZ	**Lake Taylor**	**5.48**	**217**	*e*P		P	21 47 37.3	-6.5

*NNC **26** 21:49:32.6±3.6, 38.25N×69.52E, mpv5.4, Error ellipse: s-maj=33.8km s-min=22.1km az=6.0*
*IDC **26** 21:49:37.9±0.5, 38.54N×69.95E, mb4.7/23, mb1 4.8/26, mb1mx4.8/28, mbtmp4.7/26, ML4.3/2, MS4.4/11, Ms1 4.4/11, ms1mx4.2/21, Error ellipse: s-maj=15.0km s-min=10.8km az=175.0*
*MOS **26** 21:49:41.7±1.0, 38.75N×69.96E, h33km, mb5.1/67, MS4.6/21, Error ellipse: s-maj=6.0km s-min=3.5km az=130.3*
*BJI **26** 21:49:42.8, 38.83N×70.04E, h38km, mB5.2, mb4.9, ML5.5, Ms5.0, Msz4.7*
*NEIC **26** 21:49:44.7±0.8, 38.66N×69.96E, h48km±7km, mb5.0/99, MS4.4/7, Error ellipse: s-maj=6.2km s-min=3.1km az=195.0*
*HRVD **26** 21:49:44.7±0.5, 38.88N×69.63E, h15km, MW5.1/47, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s47,c83; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-3.22±.28; Mθθ 0.78±.21; Mφφ 2.45±.20; Mrθ 0.48±1.01; Mθφ 2.74±.15; Mφr 2.94±.90; Best double couple: M0 4.943×10^16 NP1:φs 60°, δ 32°, λ -51°. NP2:φs 197°, δ 65°, λ -111°. Principal axes: T 5.327, Plg 18°, Azm 303°; N -.763, Plg 19°, Azm 206°; P -4.558, Plg 63°, Azm 72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 26 21:49:42.0±0.5, 38.53N±0.02×69.93E±0.02, h43km±4km, h37km±6.3km: pP-P, n430, σ1§09/450, mb4.9/139, MS4.6/42, 44C-34D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**4.59**	**5**	Pn		**P**	**21 50 50.9**	**+0.1**
	190nm,0.5s,baz=197,slow=17,SNR=1246							
KK31				⇑Lg			21 52 01.5	
	1μm,0.7s,baz=194,slow=28,SNR=5.3							
KK31	**Karatay Array**	**4.59**	**5**	Pn		**P**	**21 50 50.9**	**+0.1**
KK31				Lg			21 52 01.5	
AML	**Almayashu**	**4.61**	**37**	P		**P**	**21 50 51.8**	**+0.8**
	SNR=696							
KSH	**Kashi**	**4.81**	**76**	P		**P**	**21 50 55.5**	**+1.7**
KSH				S		**S**	**21 51 53.5**	**+4.5**
KSH				Smax				
	comp=N,7μm,1.0s							
KSH				Smax				
	comp=E,8μm,1.0s							
CEP	**Cherat**	**4.96**	**161**	P		**P**	**21 50 58.0**	**+2.0**
EKS2	**Erkin-Say**	**5.06**	**34**	P		**P**	**21 50 58.0**	**+0.6**
	SNR=176							
UCH	**Uchtor**	**5.09**	**42**	P		**P**	**21 50 58.9**	**+1.1**
	SNR=296							
AAK	**Ala-Archa**	**5.37**	**39**	P		**P**	**21 51 02.4**	**+0.7**
	SNR=144							
AAK	**Ala-Archa**	**5.37**	**39**	⇓Pn		**P**	**21 51 02.3**	**+0.6**
	comp=E,412nm,0.8s							
AAK				⇑Sn		**S**	**21 52 11.5**	**+8.3**
	comp=E,878nm,0.7s							
AAK				⇑Lg			21 52 34.3	
	comp=E,958nm,0.8s							
AAK	**Ala-Archa**	**5.37**	**39**	⇓Pn		**P**	**21 51 02.3**	**+0.6**
	comp=E,412nm,0.8s							
AAK				Sn		**S**	**21 52 11.5**	**+8.3**
AAK				Lg			21 52 34.3	
AAK	**Ala-Archa**	**5.37**	**39**	⇓PN		**P**	**21 51 02.3**	**+0.6**
AAK				S		S	21 52 34.3	+31
AAK				pmax	pmax			
	comp=Z,412nm,0.8s							
KZA	**Kyzart**	**5.39**	**47**	P		**P**	**21 51 03.6**	**+1.6**
	SNR=8.3							
CHCP	**Chirah Chowk**	**5.56**	**150**	⇑P		**P**	**21 51 07.7**	**+3.4**
FRU	**Bishkek**	**5.58**	**38**	⇓PN		**P**	**21 51 05.0**	**+0.3**
FRU				*i*			21 51 29.0	
FRU				*e*			21 52 11.0	
FRU				pmax	pmax			
	comp=Z,1μm,1.5s							
FRU				smax				
	comp=E,3μm,1.9s							
KBK	**Karagaybulak**	**5.62**	**41**	P		**P**	**21 51 06.5**	**+1.3**
	SNR=186							
CHMS	**Chumysh**	**5.77**	**38**	P		**P**	**21 51 07.7**	**+0.4**
	SNR=21							
USP	**Ospenovka**	**5.86**	**35**	P		**P**	**21 51 08.5**	**0.0**
	SNR=22							
THW	**Thamme Wali**	**5.91**	**165**	P		**P**	**21 51 10.0**	**+0.8**
ULHL	**Ulahol**	**6.08**	**50**	P		**P**	**21 51 11.9**	**+0.3**
	SNR=38							
TKM2	**Tokmak 2**	**6.14**	**43**	P		**P**	**21 51 12.9**	**+0.4**
	SNR=25							
SBDP	**Sheikh Budin**	**6.26**	**173**	P		**P**	**21 51 14.3**	**+0.2**
DRP	**Derazinda**	**6.77**	**178**	P		**P**	**21 51 22.0**	**+0.6**
SARP	**Sargodha**	**6.96**	**160**	P		**P**	**21 51 23.9**	**-0.2**
VAN	**Vannovskaya**	**9.32**	**270**	*e*P		**P**	**21 51 51.1**	**-5.6**
VAN				S		**S**	**21 53 32.6**	**-8.8**
KLP	**Kalpa**	**9.75**	**133**	*e*P		**P**	**21 52 00.9**	**-1.7**
BHGR	**Bahadurgarh**	**11.42**	**147**	*e*P		**P**	**21 52 24.2**	**-1.1**
KHET	**Khetri**	**11.52**	**153**	*e*P		**P**	**21 52 23.2**	**-3.6**
KHET				*ex*		x	21 54 30.5	
NDI	**New Delhi**	**11.54**	**146**	*e*P		**P**	**21 52 26.0**	**-1.0**
NDI				*ex*		x	21 54 32.0	
JASL	**Jaisalmer**	**11.60**	**176**	*e*P		**P**	**21 52 23.7**	**-4.1**
AYAN	**Aya Nagar**	**11.68**	**147**	*e*P		**P**	**21 52 27.1**	**-1.7**
KUDL	**Kundal**	**11.71**	**150**	*e*P		**P**	**21 52 26.9**	**-2.4**
KUDL				*ex*		x	21 54 34.1	
SONA	**Sohna**	**11.86**	**148**	*e*P		**P**	**21 52 29.9**	**-1.4**
SONA				*e*S		**S**	**21 54 34.0**	**-9.2**
MK02	**Makanchi Array**	**12.27**	**44**	P		**P**	**21 52 35.1**	**-1.7**
MK02				pmax	pmax			
	comp=Z,22nm,0.7s							
MK31	**Makanchi Array**	**12.28**	**44**	Pn		**P**	**21 52 35.1**	**-1.7**
	comp=Z,22nm,0.7s,baz=234,slow=11,SNR=103							
MK31				⇑Lg			21 56 10.0	
	comp=Z,91nm,1.1s							
MK31	**Makanchi Array**	**12.28**	**44**	Pn		**P**	**21 52 35.1**	**-1.7**
	comp=Z,22nm,0.7s							
MK31				Lg			21 56 10.0	
MKAR	**Makanchi Array**	**12.28**	**44**	Pn		**P**	**21 52 34.7**	**-2.1**
	comp=Z,1.5nm,0.3s,baz=226,slow=13,SNR=90							
MKAR				Lg			21 56 01.5	
	comp=Z,1.0nm,0.3s,baz=239,slow=25,SNR=3.4							
PTH	**Pithoragarh**	**12.36**	**133**	*e*P		**P**	**21 52 40.0**	**+2.0**
PTH				*ex*		x	21 54 51.0	
AJM	**Ajmer**	**12.65**	**160**	*i* P		**P**	**21 52 39.0**	**-2.9**
AJM				*i* x		x	21 55 20.0	
AB31	**Akbulak array**	**12.90**	**329**	⇓Pn		**P**	**21 52 40.3**	**-4.9**
	comp=Z,53nm,0.6s,baz=142,slow=12,SNR=982							
AB31				⇑Sn		**S**	**21 54 59.0**	**-9.3**
	comp=Z,81nm,0.7s,baz=157,slow=20,SNR=5.0							
AB31	**Akbulak array**	**12.90**	**329**	⇓Pn		**P**	**21 52 40.2**	**-4.9**
	comp=Z,53nm,0.6s							
AB31				Sn		**S**	**21 54 59.0**	**-9.3**
AB31	**Akbulak array**	**12.90**	**329**	⇓P		**P**	**21 52 40.3**	**-4.9**
AB31							21 54 59.0	
AB31				pmax	pmax			
	comp=Z,53nm,0.6s							
KURK	**Kurchatov**	**13.65**	**24**	Lg			21 56 53.9	
KURK	**Kurchatov**	**13.65**	**24**	*e*Pn		**P**	**21 52 50.2**	**-4.7**
	comp=Z,32nm,0.9s							
KURK	**Kurchatov**	**13.65**	**24**	⇑*e*P		**P**	**21 52 52.1**	**-2.8**
VOSK	**Vostochnaya**	**14.21**	**3**	⇑Pn		**P**	**21 52 58.3**	**-4.0**
	comp=Z,48nm,1.1s							
VOSK				⇑Lg			21 57 10.1	
	comp=Z,363nm,1.6s							
VOSK	**Vostochnaya**	**14.21**	**3**	⇑Pn		**P**	**21 52 58.3**	**-4.0**
	comp=Z,48nm,1.1s							
VOSK				Lg			21 57 10.1	

comp=Z,1.2nm,0.3s,baz=13,slow=2.4,SNR=19
GNI LR LR 22 03 20.6
comp=Z,898nm,20.5s,baz=98,slow=42
GNI Garni 19.54 283 *e*Pn **P** **21 54 09.5 +0.9**
comp=Z,86nm,0.9s
GNI Garni 19.54 283 P **P** **21 54 09.1 +0.5**
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI MLR MLR
comp=Z,898nm,20.5s
LSA Lhasa 19.62 110 P **P** **21 54 09.5 -0.1**
LSA AP 21 54 17.5
LSA XP 21 54 22.0
LSA S **S** **21 57 52.5 +9.3**
LSA AMB AMB
comp=Z,40nm,1.1s
LSA AMB AMB
comp=Z,560nm,7.5s
LSA LR LR
comp=N,3μm,14.5s
LSA LR LR
comp=E,3μm,14.5s
LSA LR LR
comp=Z,5μm,9.9s
LSA Lhasa 19.62 110 *e*P **P** **21 54 09.3 -0.3**
comp=Z,36nm,0.8s
LSA Lhasa 19.62 110 *e*P **P** **21 54 09.3 -0.3**
LSA pmax pmax
comp=Z,36nm,0.8s
BOK Bokaro 20.01 133 *e*P **P** **21 54 12.8 -1.0**
BOK AMb AMB 21 54 19.7
comp=Z,177nm,0.8s
ZEI Tsey 20.17 290 *e*P **P** **21 54 13.2 -2.2**
ZEI *i* *PP 21 54 23.1
ZEI pmax pmax
comp=Z,52nm,0.9s
CLDR Caldiran 20.26 280 *e*P **P** **21 54 15.5 -0.9**
BKR Bakuriani 20.43 287 P **P** **21 54 18.7 +0.6**
ONI Oni 20.49 290 P **P** **21 54 19.4 +0.7**
ONI S **S** **21 58 11.7 +11**
KIV Kislovodsk 21.14 294 *e*Pn **P** **21 54 25.1 -0.3**
comp=Z,72nm,0.8s,mb5.0
KIV *e*Sn **S** **21 58 16.9 +3.7**
KIV Kislovodsk 21.14 294 *e*P **P** **21 54 25.1 -0.3**
KIV *e* 21 58 16.9
KIV pmax pmax
comp=Z,71nm,0.8s,mb5.0
BHD Baghdad 21.32 264 *ex* x 21 54 31.0
BHD *ex* x 21 28 31.0
MSL Mosul 21.41 272 *ex* x 21 54 47.0
MSL *ex* x 21 55 19.0
MSL *ex* x 21 58 49.0
EZM Erzurum 22.14 283 *e*P **P** **21 54 38.2 +2.8**
BTMT Batman 22.27 278 *e*P **P** **21 54 39.7 +3.0**
HYB Hyderabad 22.35 158 *i* P **P** **21 54 39.0 +1.5**
comp=Z,100nm,1.0s,mb5.2
HYB *e*S **S** **21 58 42.0 +6.5**
HYB LR LR 22 03 24.0
comp=Z,6.3nm,12.0s
HYB Hyderabad 22.35 158 *e*P **P** **21 54 39.0 +1.5**
comp=Z,100nm,1.0s,mb5.2
HYB *e*S **S** **21 58 42.0 +6.5**
HYB Hyderabad 22.35 158 *e*P **P** **21 54 39.0 +1.5**
HYB *e*S **S** **21 58 42.0 +6.5**
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.2
CAL Calcutta 22.41 130 *e*P **P** **21 54 42.9 +4.8**
CAL *ex* x 21 58 40.5
SOKR Solikamsk 22.67 343⇑ *i*P **P** **21 54 40.8 +0.5**
SOKR S **S** **21 58 46.3 +5.3**
SOKR pmax pmax
comp=Z,60nm,0.8s,mb5.1
SOKR MLR MLR
comp=Z,2μm,14.0s,MS4.8
GTA Gaotai 23.21 78 P **P** **21 54 47.3 +1.5**
GTA AP 21 54 51.3
GTA AMB AMB
comp=Z,14nm,0.7s,mb4.5
GTA AMB AMB
comp=Z,667nm,6.1s
GTA LR LR
comp=N,2μm,15.6s,MS4.9
GTA LR LR
comp=E,2μm,10.6s,MS4.9
GTA LR LR
comp=Z,2μm,11.4s,MS4.7
SOC Sochi 23.27 292 *e*P **P** **21 54 50.1 +3.8**
SOC *e* 21 55 10.5
SOC *e*S **S** **21 58 57.9 +6.2**
SOC *e*SS SS 21 59 42.9 +3.2
SOC pmax pmax
comp=Z,46nm,0.8s,mb5.0
SOC pmax pmax
comp=N,16nm,1.0s
SOC pmax pmax
comp=E,42nm,1.2s
SOC MLR MLR
comp=N,1μm,18.0s,MS4.6
SOC MLR MLR
comp=E,1μm,18.0s,MS4.6
SOC MLR MLR
comp=Z,1μm,18.0s,MS4.5
VRHR Novokhopersk 23.52 311 *e*P **P** **21 54 49.7 +1.0**
VRHR *e**PP 21 54 56.3
VRHR *e**SP 21 55 01.1
VRHR *e*PPP PPP 21 55 24.9 -6.9
VRHR *e*S **S** **21 59 01.3 +5.2**
VRHR pmax pmax
comp=Z,290nm,15.3s
VRHR pmax pmax
comp=N,260nm,15.1s
VRHR pmax pmax
comp=E,440nm,16.3s
VRHR pmax pmax
comp=Z,120nm,0.7s,mb5.4
VRHR pmax pmax
comp=N,180nm,0.9s
VRHR pmax pmax
comp=E,210nm,1.1s
VRHR smax
comp=E,1μm,21.2s
VRHR smax
comp=Z,860nm,11.1s
VRHR smax
comp=N,720nm,14.7s
VRHR MLR MLR
comp=N,1μm,11.0s,MS4.7
VRHR MLR MLR
comp=Z,2μm,11.0s,MS4.8
VRHR MLR MLR
comp=E,1μm,14.0s,MS4.7
GUMT Gumushane 23.53 284 *e*P **P** **21 54 51.1 +2.3**
PTK Pertek 23.78 280 *e*P **P** **21 54 51.9 +0.5**
VIS Vishakhapatnam 23.81 147 *e*P **P** **21 54 52.4 +0.6**
VIS AMb AMB 21 54 55.3
comp=Z,74nm,0.9s,mb5.1
MALT Malatya 24.63 279 *e*P **P** **21 54 57.0 -2.6**
MALT Malatya 24.63 279 *e*P **P** **21 55 02.3 +2.6**
comp=Z,29nm,1.3s,mb4.7
MALT Malatya 24.63 279 *e*P **P** **21 55 02.3 +2.7**
MALT pmax pmax
comp=Z,29nm,1.3s,mb4.7
PECR Pechory 24.71 324 *e*P **P** **21 55 00.0 -0.3**
PECR *e*SS SS 22 00 32.0 +17
PECR MLR MLR
comp=Z,1μm,14.0s,MS4.5
PECR MLR MLR
comp=E,1μm,12.0s
VORD Divnogorie 24.86 310 *e*P **P** **21 55 01.6 -0.2**
VORD pmax pmax
comp=Z,40nm,1.2s,mb4.8
VORD pmax pmax
comp=E,60nm,1.4s
VORD MLR MLR
comp=Z,960nm,9.0s
VORD MLR MLR
comp=E,840nm,10.0s
WHFO Wadi Hawf 24.91 219⇑ P **P** **21 55 02.5 -0.1**
SNR=17
ANN Anapa 24.96 295 *e*P **P** **21 55 03.0 +0.2**
ANN *e**PP 21 55 20.1
ANN *e*SS SS 22 00 16.4 -4.9
ANN pmax pmax
comp=Z,54nm,1.0s,mb5.0
ANN MLR MLR
comp=N,998nm,18.0s,MS4.7
ANN MLR MLR
comp=E,2μm,18.0s,MS4.7
ANN MLR MLR
comp=Z,2μm,18.0s,MS4.6
RBK Rabkut 25.06 218⇓ P **P** **21 55 03.8 -0.1**
VOR Voronezh 25.17 312 P **P** **21 55 05.0 +0.4**
VOR pmax pmax
comp=Z,80nm,1.4s,mb5.1
VOR pmax pmax
comp=N,50nm,1.5s
VOR pmax pmax
comp=E,80nm,1.4s
MOY Mondy 25.34 49 *e*P **P** **21 55 07.5 +1.2**
MOY pmax pmax
comp=Z,64nm,1.8s,mb4.8
ABTO Aybut 25.63 219⇑ P **P** **21 55 09.6 +0.3**
SNR=18
ZAK Zakamensk 26.36 52⇓ *i*P **P** **21 55 16.7 +0.9**
ZAK pmax pmax
comp=Z,31nm,0.9s,mb4.8
LZH Lanzhou 27.00 85 *e*P **P** **21 55 22.5 +0.7**
LZH AMB AMB
comp=Z,46nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,302nm,5.0s
LZH LR LR
comp=E,2μm,13.0s
LZH LR LR
comp=Z,3μm,14.2s,MS5.0
SIM Simferopol' **27.32 295** *e*P **P** **21 55 25.0 +0.3**
SIM pmax pmax
comp=Z,43nm,1.1s,mb4.9
MOS Moscow 27.56 319 *e*P **P** **21 55 24.8 -1.9**
MOS *e*PPP PPP 21 56 15.5 -12
MOS *e*S **S** **21 59 56.5 -6.8**
MOS *e*SSS SSS 22 01 19.5 -23
MOS pmax pmax
comp=Z,58nm,1.1s,mb5.1
MOS MLR MLR
comp=Z,800nm,17.8s,MS4.3
ASF Jabal al Asfar 27.58 267 P **P** **21 55 28.5 +1.3**
comp=Z,2.8nm,0.8s,mb3.9,baz=271,slow=8.5,SNR=8.5
OBN Obninsk 27.86 317 *e*P **P** **21 55 28.7 -0.8**
comp=Z,56nm,0.8s,mb5.2
OBN Obninsk 27.86 317⇑ *e*P **P** **21 55 28.1 -1.3**
OBN pmax pmax
comp=Z,92nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,500nm,13.0s,MS4.3
SONM Songino Array 27.95 59 P **P** **21 55 30.6 +0.3**
comp=Z,2.9nm,0.5s,mb4.1,baz=272,slow=9.2,SNR=36
SONM PcP PcP 21 58 45.0 -0.1
comp=Z,1.9nm,0.7s,baz=243,slow=6.4,SNR=3.8
BR131 Keskin Array S 28.06 284 *e*P **P** **21 55 31.6 +0.2**
comp=Z,3.0nm,0.6s,mb4.1
BRTR Keskin Array B 28.06 284 P **P** **21 55 31.1 -0.3**
comp=Z,3.3nm,0.6s,mb4.1,baz=98,slow=8.7,SNR=11
CD2 Chengdu 28.70 95⇑ *i*P **P** **21 55 38.8 +1.5**
CD2 AMB AMB
comp=Z,20nm,1.8s,mb4.5
KMI Kunming 30.74 106 P **P** **21 55 56.5 +1.1**
KMI AMB AMB
comp=Z,27nm,1.0s,mb5.0
KMI LR LR
comp=Z,534nm,27.8s,MS4.0
KMI Kunming 30.74 106 P **P** **21 55 56.4 +1.0**
comp=Z,27nm,1.0s,mb5.0
KMI S **S** **22 01 10.4 +16**
KMI LR LR
comp=Z,530nm,27.8s,MS4.0
KMI Kunming 30.74 106 P **P** **21 55 56.4 +1.0**
KMI pmax pmax
comp=Z,27nm,1.0s,mb5.0
KMI MLR MLR
comp=Z,530nm,27.8s,MS4.0
AKASG Malin Array Be 31.04 306 P **P** **21 55 56.6 -1.1**
comp=Z,12nm,0.7s,mb4.9,baz=84,slow=7.1,SNR=36
KIS Kishinev 31.05 299 *e*P **P** **21 55 55.0 -2.9**
KIS *e* pP 21 56 09.0 -0.4
KIS MLR MLR
comp=Z,900nm,12.0s,MS4.7
KIS MLR MLR
comp=Z,1μm,12.0s
XAN Xi'an 31.59 86 P **P** **21 56 02.5 -0.3**
XAN AMB AMB
comp=Z,20nm,1.1s,mb4.9
HHC Hu-ho-hao-te 31.91 72 *e*P **P** **21 56 05.5 0.0**
HHC AP pP 21 56 14.8 -2.3
HHC XP sP 21 56 18.5 -4.0
HHC PP PP 21 57 10.8 -1.3
HHC PCP PcP 21 58 55.5 +0.2
HHC S **S** **22 01 11.0 -1.4**
HHC XS 22 01 26.5
HHC PCS 22 02 40.3
HHC SCS ScS 22 06 32.8 +1.8
HHC AMB AMB
comp=Z,17nm,0.9s,mb4.9
HHC AMB AMB
comp=Z,178nm,4.8s
HHC LR LR
comp=N,1μm,12.5s,MS4.9
HHC LR LR
comp=E,1μm,13.7s,MS4.9
HHC LR LR
comp=Z,1μm,16.7s,MS4.7
MNK Minsk 32.51 313 *e*P **P** **21 56 09.0 -1.6**
VRI Vrincioaia 32.51 297⇑ P **P** **21 56 11.9 +1.1**
MLR Muntele Rosu 33.08 296⇑ P **P** **21 56 17.3 +1.6**
ENH Enshi 33.46 92 *e*P **P** **21 56 20.2 +1.1**
comp=Z,29nm,1.0s,mb5.2
BURAR Bucovina Array 33.50 300⇓ P **P** **21 56 19.5 +0.2**
BURAR Bucovina Array 33.50 300⇓ P **P** **21 56 19.4 +0.2**
JOF Joensuu 33.69 329 *e*p **P** **21 56 19.0 -1.8**
comp=Z,17nm,0.8s,mb5.0
VOIR 33.72 296⇓ P **P** **21 56 21.9 +0.8**
MTUR Matau 33.72 296 P **P** **21 56 22.0 +0.8**
VSU Vasula 34.08 320 *e*P **P** **21 56 21.9 -2.2**
BOD Bodaibo 34.35 41⇑ *i*P **P** **21 56 25.9 -0.6**
BOD pmax pmax
comp=Z,44nm,0.7s,mb5.5
SUW Suwalki 35.12 312 *e*P **P** **21 56 32.7 -0.4**
SUW MLR MLR 22 12 30.4
comp=Z,2μm,20.3s,MS4.8
KWP Kalwaria 35.15 304 *e*P **P** **21 56 34.1 +0.7**
KWP MLR MLR 22 13 44.1
comp=Z,1μm,17.5s,MS4.7
KWP Kalwaria 35.15 304 *e*P **P** **21 56 33.6 +0.2**
DRGR 35.24 299⇓ P **P** **21 56 34.0 -0.2**
DRGR 35.24 299⇓ P **P** **21 56 34.0 -0.2**
DRGR 35.24 299 P **P** **21 56 34.2 0.0**
LVZ Lovozero 35.26 338⇑ *i*P **P** **21 56 30.8 -3.4**
LVZ pmax pmax
comp=Z,69nm,1.7s,mb5.3
LVZ MLR MLR
comp=Z,1μm,14.0s,MS4.8
FINES FINESS Array B 35.33 325 P **P** **21 56 34.2 -0.6**
comp=Z,8.4nm,0.6s,mb4.9,baz=121,slow=9.6,SNR=67
FINES LR LR 22 11 44.3
comp=Z,816nm,21.5s,MS4.5,baz=104,slow=38
FINES FINESS Array B 35.33 325 *i* P **P** **21 56 34.2 -0.6**
FINES pmax pmax
comp=Z,8.0nm,0.6s
SRS Serrai 35.36 289 *e*P **P** **21 56 31.1 -4.2**
APA Apatity 35.44 337⇓ *e*P **P** **21 56 35.4 -0.3**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.2
APA MLR MLR
comp=Z,4μm,12.0s,MS5.4
KOLS Kolonicke sedl 35.44 303 *i* P **P** **21 56 36.3 +0.4**
KAF Kangasniemi 35.47 326 *e*p **P** **21 56 34.3 -1.7**
comp=Z,12nm,0.8s,mb4.9,baz=111,slow=8.7
KAF Kangasniemi 35.47 326 *e*P **P** **21 56 34.3 -1.7**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
KNT Kendrikon 35.87 289 *e*P **P** **21 56 36.4 -3.2**
IDI Anoyia 35.89 279 P **P** **21 56 40.6 +0.7**
comp=Z,2.8nm,0.5s,mb4.4,baz=87,slow=17,SNR=5.3
STHS Stebnicka Huta 36.11 304 *i* P **P** **21 56 41.3 -0.2**
KKTK Khon Kaen 36.32 118 P **P** **21 56 43.0 -0.6**
comp=Z,463nm,0.7s
KECS Kecovo 36.64 302 *e*P **P** **21 56 45.8 -0.2**
NIE Niedzica 36.71 304⇓ *e*P **P** **21 56 47.6 +1.0**
AGG Agios Georgios 36.78 286 *e*P **P** **21 56 45.6 -1.6**
SKO Skopje 36.78 291 *i* P **P** **21 56 49.5 +2.2**
OJC Ojcow 37.02 305 *e*P **P** **21 56 48.8 -0.4**
PSZ Piszkesteto 37.07 301 *e*Pn **P** **21 56 50.1 +0.5**
comp=Z,9.5nm,0.8s
PSZ Piszkesteto 37.07 301 *e*P **P** **21 56 50.1 +0.5**
PSZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
FNA Florina 37.07 289 *e*P **P** **21 56 47.4 -2.4**
WHN Wuhan 37.16 89⇓ P **P** **21 56 52.5 +2.0**
TIA Tai'an 37.26 79 *e*P **P** **21 56 52.5 +1.2**
MEV Metsovon 37.41 288 *e*P **P** **21 56 52.3 -0.3**
DIVS Divcibare 37.45 295⇑ *i*P **P** **21 56 53.3 +0.4**
VYHS Vyhne 37.73 302 *e*P **P** **21 56 56.0 +0.8**
SRO2 Moca 38.09 301 *e*P **P** **21 56 59.5 +1.3**
PKSM Moragy 38.09 299⇓ *i*P **P** **21 56 58.8 +0.6**
OKC Ostrava-Krasne 38.10 304 *e*P **P** **21 56 58.9 +0.7**
SRO Srobarova 38.14 301 *e*P **P** **21 56 59.5 +0.9**
IGT Igoumenitsa 38.15 288 *e*P **P** **21 56 56.4 -2.4**
SRO1 Iza 38.20 301 *e*P **P** **21 57 00.6 +1.5**
MORC Moravsky Berou 38.50 304 *e*Pn **P** **21 57 01.5 -0.1**
comp=Z,13nm,1.2s
MORC Moravsky Berou 38.50 304 *e*P **P** **21 57 01.5 0.0**
MORC pmax pmax
comp=Z,13nm,1.2s,mb4.5
GKP Gorka Klasztor 38.60 310 *e*P **P** **21 57 04.8 +2.4**
GKP MLR MLR 22 16 02.4
comp=Z,1μm,17.1s,MS4.7
KEV Kevo 38.61 338 *ep* **P** **21 57 02.2 0.0**
comp=Z,6.0nm,0.5s,mb4.6
KEV Kevo 38.61 338 *e*P **P** **21 57 02.2 0.0**
KEV pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
SMOL Smolenice 38.67 302 *e*P **P** **21 57 06.0 +3.1**
SMOL *e* 21 57 13.5
ARCES ARCESS Array B 38.95 337 P **P** **21 57 04.9 -0.2**
comp=Z,6.9nm,0.4s,mb4.7,baz=108,slow=7.3,SNR=80
ARCES LR LR 22 13 14.4
comp=Z,1μm,18.2s,MS4.7,baz=300,slow=36
ARE0 ARCESS Array S 38.95 337 *e*P **P** **21 57 05.0 -0.1**
VRAC Vranov 39.15 304 *e*P **P** **21 57 07.8 +0.9**
KSP Ksiaz 39.24 306 *e*P **P** **21 57 09.2 +1.6**
KSP MLR MLR 22 15 50.0
comp=Z,1μm,19.7s,MS4.7
DPC Dobruska-Polom 39.25 305 *e*P **P** **21 57 08.1 +0.4**
KTK1 Kautokeino 39.42 336 *e*P **P** **21 57 08.7 -0.4**
UPC Upice 39.43 306 *e*P **P** **21 57 09.4 +0.1**
TREC Trest 39.87 304 *e*P **P** **21 57 13.4 +0.5**
DL2 Dalian 39.89 73 P **P** **21 57 14.5 +1.3**
DL2 *e*S **S** **22 03 21.0 +6.2**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
DL2 LR LR
comp=N,440nm,18.4s,MS4.4
DL2 LR LR
comp=E,260nm,18.0s,MS4.4
DL2 LR LR
comp=Z,610nm,16.7s,MS4.5
CLNS Chul'man 40.03 44 *e*P **P** **21 57 14.9 +0.7**
CLNS *e**PP pP 21 57 21.9 -4.0
CLNS *e*PPP PPP 21 58 51.2 -25
CLNS *e* 21 59 23.9
CLNS pmax pmax
comp=Z,16nm,0.7s,mb4.9
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS MLR MLR
comp=Z,1μm,13.0s,MS4.9
CLNS MLR MLR
comp=N,400nm,11.0s,MS4.9
CLNS MLR MLR
comp=E,800nm,11.0s,MS4.9
NJ2 Nanjing 40.07 84 *e*P **P** **21 57 15.0 +0.2**
NJ2 AP pP 21 57 29.3 +2.7
NJ2 PP PP 21 58 52.5 +1.5
NJ2 S **S** **22 03 16.5 -1.2**
NJ2 XS 22 03 42.0
NJ2 AMB AMB
comp=Z,360nm,4.0s
NJ2 LR LR
comp=N,970nm,14.8s,MS4.9
NJ2 LR LR
comp=E,850nm,15.0s,MS4.9
NJ2 LR LR
comp=Z,160nm,13.8s,MS4.0
ARSA Arzberg 40.08 301⇑ *i*P **P** **21 57 15.5 +0.8**
comp=Z,22nm,1.7s,mb4.6
ARSA Arzberg 40.08 301 *i* P **P** **21 57 15.5 +0.8**
comp=Z,22nm,1.7s,mb4.6,SNR=8.1
CRES Cresnjev 40.35 298 *i* P **P** **21 57 17.7 +0.8**
PVCC Panska Ves 40.35 306 *e*P **P** **21 57 17.4 +0.5**
PRU Pruhonice 40.42 305 *e*P **P** **21 57 17.8 +0.3**
PERS Pernice 40.45 300 *e*P **P** **21 57 18.3 +0.5**
SNY Shenyang 40.57 68⇓ P **P** **21 57 19.0 +0.2**
SNY AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
SNY LR LR
comp=N,760nm,18.6s,MS4.9
SNY LR LR
comp=E,1μm,13.8s,MS4.9
SNY LR LR
comp=Z,2μm,12.0s,MS5.1
BRG Berggiesshubel 40.72 306 *i* P **P** **21 57 20.5 +0.5**
comp=Z,16nm,0.9s,mb4.7
BRG *e* 21 58 48.9
BRG Berggiesshubel 40.72 306 *i* P **P** **21 57 20.5 +0.5**
BRG pmax pmax
comp=Z,16nm,0.9s,mb4.7
VISS Visnje 40.78 299 *e*P **P** **21 57 21.3 +0.8**
VISS *i* 21 57 24.4
MOA Molln 40.84 302⇑ *i*P **P** **21 57 21.6 +0.6**
comp=Z,17nm,1.2s,mb4.5
OBKA Obir 40.86 300⇑ *i*P **P** **21 57 21.0 -0.1**
comp=Z,26nm,1.5s,mb4.6
TIP Timpagrande 40.91 288 *e*P **P** **21 57 21.4 -0.3**
LJU Ljubljana 40.95 299 *e*P **P** **21 57 22.6 +0.7**
TRO Tromso 41.07 336 *e*P **P** **21 57 21.3 -1.4**
GERES GERESS Array B 41.09 303 P **P** **21 57 23.4 +0.4**
comp=Z,3.2nm,0.7s,mb4.1,baz=66,slow=6.8,SNR=15
GERES PcP PcP 21 59 22.1 -0.6
comp=Z,2.4nm,0.9s,baz=72,slow=4.2,SNR=4.5
GERES LR LR 22 16 27.8
comp=Z,460nm,18.6s,MS4.4,baz=87,slow=39
KHC Kasperske Hory 41.13 304 *e*P **P** **21 57 24.1 +0.7**
KHC pP pP 21 57 32.0 -3.2
KHC Kasperske Hory 41.13 304⇑ *e*P **P** **21 57 24.0 +0.6**
CLL Collm 41.27 307⇓ P **P** **21 57 24.4 -0.1**
comp=Z,logA/T=1.1,mb4.5
CLL *i* 21 57 28.9
CLL *e**PP pP 21 57 35.0 -1.3
CLL *i* *SP sP 21 57 45.6 +4.1
CLL *e*PP PP 21 58 56.0 -7.1
CLL *e**SPP 21 59 17.0
CLL *e* 21 59 34.0
CLL Collm 41.27 307⇓ *i*P **P** **21 57 24.4 -0.1**
comp=Z,17nm,1.3s,mb4.5
CLL *e* pP 21 57 35.0 -1.3
CLL Collm 41.27 307⇓ *i*P **P** **21 57 24.4 -0.1**
CLL *e* pP 21 57 35.0 -1.3
CLL pmax pmax
comp=Z,17nm,1.3s,mb4.5
CN2 Changchun 41.46 64 *e*P **P** **21 57 27.0 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
KBA Koelnbreinsper 41.58 301⇑ *i*P **P** **21 57 26.7 -0.3**
comp=Z,25nm,1.4s,mb4.7
KBA Koelnbreinsper 41.58 301⇑ *i*P **P** **21 57 26.7 -0.3**
KBA pmax pmax
comp=Z,25nm,1.4s,mb4.7
ROBS Robic 41.61 299 *e*P **P** **21 57 27.9 +0.6**
MOR8 Moi Rana 41.64 330 *e*P **P** **21 57 26.4 -0.8**
MOR8 AMb AMB 21 57 29.3
comp=Z,70nm,1.7s,mb5.0
MOR8 Moi Rana 41.64 330 *e*P **P** **21 57 26.4 -0.8**
comp=Z,70nm,1.7s,mb5.0
NKC Novy Kostel 41.73 306 *e*P **P** **21 57 27.5 -0.7**
MOX Moxa 42.21 306 *i* P **P** **21 57 32.6 +0.4**
comp=Z,logA/T=1.2,mb4.6
MOX L 22 17 31.0

MOX Moxa 42.21 306 *e*P P 21 57 32.6 +0.4
comp=Z,23nm,1.6s,mb4.6
MOX LR LR
comp=Z,800nm,20.0s,MS4.6
MOX Moxa 42.21 306 *e*P P 21 57 32.6 +0.4
MOX pmax pmax
comp=Z,23nm,1.6s,mb4.6
MOX MLR MLR
comp=Z,800nm,20.0s,MS4.6
NB2 NORSAR Subarra 42.26 322 P P 21 57 31.8 -0.6
comp=Z,16nm,0.7s,mb4.8,baz=94,slow=7.9
NB2 NORSAR Subarra 42.26 322 P P 21 57 31.8 -0.6
baz=94,slow=8.6
NB2 NORSAR Subarra 42.26 322 P P 21 57 31.8 -0.6
NB2 pmax pmax
comp=Z,16nm,0.7s,mb4.8
NOA NORSAR Array B 42.26 322 P P 21 57 31.8 -0.6
comp=Z,20nm,0.8s,mb4.8,baz=95,slow=8.2,SNR=62
NOA LR LR 22 16 09.3
comp=Z,494nm,19.1s,MS4.4,baz=95,slow=38
SSE Sheshan 42.28 84 P P 21 57 31.0 -2.0
SSE AP pP 21 57 46.5 +1.7
SSE XP sP 21 57 53.5 +3.5
SSE S **S 22 03 48.8 -1.6**
SSE SCS ScS 22 07 27.0 -2.0
SSE AMB AMB
comp=Z,38nm,1.0s,mb5.0
SSE AMB AMB
comp=Z,307nm,4.3s
SSE LR LR
comp=N,579nm,22.7s,MS4.5
SSE LR LR
comp=E,463nm,22.7s,MS4.5
SSE LR LR
comp=Z,352nm,18.3s,MS4.3
SSE Sheshan 42.28 84 P P 21 57 31.1 -1.9
comp=Z,38nm,1.0s,mb5.0
SSE pP pP 21 57 46.4 +1.6
SSE sP sP 21 57 53.6 +3.6
SSE S **S 22 03 48.7 -1.7**
SSE sS 22 04 15.5
SSE SS SS 22 07 01.2 +7.3
SSE ScS ScS 22 07 26.9 -2.1
SSE LR LR
comp=Z,350nm,18.3s,MS4.3
NAO01 NORSAR Array S 42.40 321 *e*P P 21 57 33.3 -0.3
comp=Z,33nm,0.9s,mb5.0
GRA1 Grafenberg Arr 42.59 305 *e*P P 21 57 36.0 +0.8
comp=Z,37nm,1.4s,mb4.9
GRA1 LR LR
comp=Z,400nm,20.3s,MS4.3
GRF Grafenberg Arr 42.59 305 *e*P P 21 57 36.0 +0.8
comp=Z,37nm,1.4s,mb4.9
GRF LR LR
comp=Z,400nm,20.3s,MS4.3
GRF Grafenberg Arr 42.59 305 *e*P P 21 57 36.0 +0.8
GRF pmax pmax
comp=Z,37nm,1.4s,mb4.9
GRF MLR MLR
comp=Z,400nm,20.3s,MS4.3
GRF Grafenberg Arr 42.59 305 *e*P P 21 57 36.0 +0.8
GRF pmax pmax
comp=Z,37nm,1.4s,mb4.9
GRF MLR MLR
comp=Z,400nm,20.3s,MS4.3
WTTA Wattenberg 42.70 301 ⇑ *i*P P 21 57 36.3 +0.1
comp=Z,21nm,1.2s,mb4.7
WTTA Wattenberg 42.70 301 ⇑ *i*P P 21 57 36.3 +0.1
WTTA pmax pmax
comp=Z,21nm,1.2s,mb4.7
YAK Yakutsk 42.83 37 *e*P P 21 57 37.0 0.0
comp=Z,50nm,0.6s,mb5.4
YAK Yakutsk 42.83 37 *d*iP P 21 57 36.8 -0.3
YAK *e**PP pP 21 57 45.3 -3.6
YAK *e* 21 59 16.0
YAK *e* 21 59 30.1
YAK *e*S **S 22 03 59.5 +1.5**
YAK *e**SS 22 04 14.3
YAK *e* 22 07 50.5
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.0
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK smax
comp=N,7.0nm,1.1s
YAK smax
comp=Z,2.0nm,0.8s
YAK smax
comp=E,2.0nm,1.0s
YAK MLR MLR
comp=Z,405nm,10.0s,MS4.6
YAK MLR MLR
comp=N,263nm,11.0s,MS4.6
YAK MLR MLR
comp=E,327nm,11.0s,MS4.6
KONO Kongsberg 42.98 320 *e*P P 21 57 38.1 -0.2
comp=E,42nm,1.1s,mb5.1
KONO Kongsberg 42.98 320⇑*e*P P 21 57 38.1 -0.3
MOTA Moosalm 43.04 302⇑ *i*P P 21 57 38.7 -0.3
comp=E,10nm,1.0s,mb4.5
MOTA Moosalm 43.04 302⇑ *i*P P 21 57 38.7 -0.3
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
MUD Monsted U'grnd 43.23 315 *i*P P 21 57 43.8 +3.4
comp=Z,20nm,1.1s,mb4.8
comp=Z,1μm,19.0s
MUD Monsted U'grnd 43.23 315 *e*P P 21 57 43.8 +3.4
comp=Z,20nm,1.1s,mb4.8
MUD Monsted U'grnd 43.23 315 *e*P P 21 57 43.8 +3.4
MUD pmax pmax
comp=Z,20nm,1.1s,mb4.8
DAVA Damuels 43.87 302⇓ *i*P P 21 57 45.1 -0.6
comp=Z,28nm,1.3s,mb4.8
MOL Molde 44.09 324 *e*P P 21 57 48.4 +1.1
MOL AMb AMB 21 58 00.1
comp=Z,112nm,1.9s,mb5.3
MOL Molde 44.09 324 *e*P P 21 57 48.4 +1.1
comp=Z,112nm,1.9s,mb5.3
TOD Tromm 44.15 305 *e*P P 21 57 48.4 +0.5
VLC Villacollemand 44.21 297 *e*Pn P 21 57 52.4 +3.9
comp=Z,47nm,1.3s,mb5.1
TIXI Tiksi 44.23 23⇓ *i*P P 21 57 46.8 -1.5
TIXI *e*S S 22 04 11.7 -6.5
TIXI *e*SS SS 22 07 40.9 +12
TIXI pmax pmax
comp=Z,56nm,0.8s,mb5.3
KLR Kul'dur 44.66 55 *e*P P 21 57 48.7 -3.3
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.1
KLR MLR MLR
comp=N,600nm,13.0s
LANF Langenberg 44.91 304 *e*P P 21 57 54.9 +0.9
FELD Feldberg 44.99 303 *e*P P 21 57 56.3 +1.6
CDF Champ du Feu 45.36 304 *e*P P 21 57 57.3 -0.3
ECH Echery 45.48 303 *e*P P 21 58 00.5 +1.9
MOF Molkenrain 45.57 303 *e*P P 21 58 00.7 +1.4
PGF Pioggiola 45.61 295 *e*P P 21 57 59.2 -0.5
comp=N,31nm,0.9s,mb5.0
PGF Pioggiola 45.61 295 *e*P P 21 57 59.2 -0.5
PGF pmax pmax
comp=Z,15nm,0.9s,mb4.9
HINF Hinteralfeld 45.76 303 *e*P P 21 58 00.0 -0.9
comp=Z,12nm,0.7s,mb4.6
HINF Hinteralfeld 45.76 303 *e*P P 21 58 00.0 -0.9
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
HAU Haudompre 46.05 303 *e*P P 21 58 02.9 -0.3
comp=Z,3.3nm,0.4s,mb4.4
HAU *e*R
comp=Z,483nm,18.5s
HAU Haudompre 46.05 303 *e*P P 21 58 02.9 -0.3
HAU pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
HAU MLR MLR
comp=Z,480nm,18.5s,MS4.5
SAOF Saorge 46.23 298 *e*P P 21 58 05.2 +0.6
THEF They Montfort 46.24 304 *e*P P 21 58 03.8 -0.8
AUTN L'Aution 46.31 298 *e*P P 21 58 06.2 +1.0

SBF Sospel 46.34 298 *e*P P 21 58 05.4 -0.1
comp=Z,51nm,0.8s,mb5.2
SBF Sospel 46.34 298 *e*P P 21 58 05.4 -0.1
SBF pmax pmax
comp=Z,26nm,0.8s,mb5.2
LPG La Plagne 46.38 300 *e*P P 21 58 05.8 +0.1
comp=Z,24nm,0.7s,mb4.9
LPG La Plagne 46.38 300 *e*P P 21 58 05.8 +0.1
LPG pmax pmax
comp=Z,12nm,0.7s,mb4.9
LPL La Plagne 46.39 300 *e*P P 21 58 05.8 0.0
comp=Z,33nm,0.8s,mb5.0
LPL La Plagne 46.39 300 *e*P P 21 58 05.8 0.0
LPL pmax pmax
comp=Z,16nm,0.8s,mb5.0
TOUF Mont Tournerai 46.43 298 *e*P P 21 58 06.8 +0.6
MVIF Mont Vial 46.53 298 *e*P P 21 58 07.8 +0.9
BNI Bardonecchia 46.55 299 *e*P P 21 58 07.3 +0.3
comp=Z,24nm,1.2s,mb5.0
BNI Bardonecchia 46.55 299 *e*P P 21 58 07.3 +0.3
BNI pmax pmax
comp=Z,24nm,1.2s,mb5.0
CABF La Chapelle 46.55 302 *e*P P 21 58 07.0 -0.1
comp=Z,29nm,1.0s,mb4.9
CABF La Chapelle 46.55 302 *e*P P 21 58 07.0 -0.1
CABF pmax pmax
comp=Z,14nm,1.0s,mb4.8
MBDF Montbardon 46.57 299 *e*P P 21 58 07.4 +0.2
comp=Z,23nm,0.8s,mb4.8
MBDF Montbardon 46.57 299 *e*P P 21 58 07.4 +0.2
MBDF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GIVF Givet 46.59 306 *e*P P 21 58 07.5 +0.2
CALN Calern 46.75 298 *e*P P 21 58 09.4 +0.7
MEZF Maizieres J'vi 46.79 304 *e*P P 21 58 08.7 -0.2
FRF La Foret Royal 46.98 297 *e*P P 21 58 10.0 -0.4
comp=Z,34nm,0.7s,mb5.1
FRF La Foret Royal 46.98 297 *e*P P 21 58 10.0 -0.4
FRF pmax pmax
comp=Z,17nm,0.7s,mb5.1
BAIF Baives 46.99 307 *e*P P 21 58 10.6 +0.2
ORIF Oris-en-Rattie 47.13 299 *e*P P 21 58 11.8 +0.2
ORIF *e*R
comp=Z,464nm,17.0s
LMR La Mourre 47.14 297 *e*P P 21 58 11.1 -0.6
STOF St-Etienne Org 47.36 298 *e*P P 21 58 16.8 +3.3
TAVF Tavernes 47.37 298 *e*P P 21 58 15.8 +2.2
VILF Villemus 47.54 298 *e*P P 21 58 15.6 +0.7
SMRF Simiane la Rot 47.60 298 *e*P P 21 58 15.1 -0.3
comp=Z,15nm,0.8s,mb4.8
PUYF Puyloubier 47.64 298 *e*P P 21 58 16.1 +0.4
BERF Bertagne 47.72 297 *e*P P 21 58 18.7 +2.4
LOR Lormes 47.86 303 *e*P P 21 58 16.8 -0.6
comp=Z,7.4nm,0.7s,mb4.5
LOR *e*R
comp=Z,458nm,22.0s
LOR Lormes 47.86 303 *e*P P 21 58 16.8 -0.6
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LOR MLR MLR
comp=Z,460nm,22.0s,MS4.4
GELF Grande-Etoile 47.88 297 *e*P P 21 58 17.7 +0.2
PRAF Pradon 47.93 298 *e*P P 21 58 20.6 +2.6
VIVF Saint-Julien-l 47.97 300 *e*P P 21 58 18.1 -0.1
comp=Z,39nm,0.9s,mb5.1
VIVF Saint-Julien-l 47.97 300 *e*P P 21 58 18.1 -0.1
VIVF pmax pmax
comp=Z,20nm,0.9s,mb5.2
SMF Signal de Mont 48.04 302 *e*P P 21 58 17.9 -0.9
SSF Saint Saulge 48.15 303 *e*P P 21 58 18.7 -0.9
AVF Avril sur Loir 48.32 302 *e*P P 21 58 19.8 -1.1
comp=Z,31nm,1.0s,mb5.0
AVF Avril sur Loir 48.32 302 *e*P P 21 58 19.8 -1.1
AVF pmax pmax
comp=Z,15nm,1.0s,mb5.0
PLDF La Plantade 48.37 301 *e*P P 21 58 22.9 +1.6
AGO Saint Agoulin 48.67 302 *e*P P 21 58 25.7 +2.0
BGF Bois d'Agland 48.72 302 *e*P P 21 58 23.5 -0.5
LASF Ste Croix 48.76 299 *e*P P 21 58 24.3 0.0
comp=Z,46nm,1.0s,mb5.2
LBL Lubilhac 48.83 300 *e*P P 21 58 25.0 +0.1
JNU Nakatsue 48.93 77 P P 21 58 25.9 0.0
comp=Z,19nm,0.7s,mb5.2,baz=139,slow=3.0,SNR=10.0
TCF Toulx Ste Croi 49.22 302 *e*P P 21 58 27.6 -0.3
comp=Z,34nm,1.0s,mb5.0
TCF Toulx Ste Croi 49.22 302 *e*P P 21 58 27.6 -0.3
TCF pmax pmax
comp=Z,17nm,1.0s,mb5.0
KMBO Kilima Mbogo 49.61 225 P P 21 58 33.2 +1.9
comp=Z,3.4nm,1.0s,mb4.3,baz=28,slow=9.2,SNR=9.6
CAF Calviac 49.72 300 *e*P P 21 58 31.6 -0.1
comp=Z,10.0nm,0.8s,mb4.6
CAF Calviac 49.72 300 *e*P P 21 58 31.6 -0.1
CAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
JOW Kunigami 49.73 85 P P 21 58 32.0 -0.1
comp=Z,30nm,0.7s,mb5.5,baz=288,slow=6.5,SNR=10
EJON La Jonquera 49.94 297 P P 21 58 34.5 +1.0
comp=Z,158nm,3.9s
LDF La Druitiere 50.09 306 *e*P P 21 58 33.4 -1.2
comp=Z,12nm,0.7s,mb4.8
LDF La Druitiere 50.09 306 *e*P P 21 58 33.4 -1.2
LDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
MTLF Montolieu 50.12 298 *e*P P 21 58 34.5 -0.3
comp=Z,30nm,1.1s,mb4.9
MTLF Montolieu 50.12 298 *e*P P 21 58 34.5 -0.3
MTLF pmax pmax
comp=Z,15nm,1.1s,mb4.9
FLN La Foliniere 50.28 306 *e*P P 21 58 34.7 -1.2
comp=Z,43nm,1.1s,mb5.1
FLN *e*R
comp=Z,529nm,20.2s
FLN La Foliniere 50.28 306 *e*P P 21 58 34.7 -1.2
FLN pmax pmax
comp=Z,22nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,530nm,20.3s,MS4.5
LFF La Frestale 50.61 301 *e*P P 21 58 38.2 -0.3
GRR Gorron 50.62 305 *e*P P 21 58 37.2 -1.4
MFF Saint Martin d 50.69 303 *e*P P 21 58 37.8 -1.3
comp=Z,18nm,0.9s,mb4.7
MFF Saint Martin d 50.69 303 *e*P P 21 58 37.8 -1.3
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ETOS Mallorca 50.93 294 P P 21 58 41.8 +0.7
comp=Z,146nm,2.0s,mb5.6
EMIR Miracle 51.08 297 P P 21 58 43.1 +1.0
comp=Z,303nm,3.5s
EPF Esparros 51.51 299 *e*P P 21 58 44.3 -1.1
EPOB Poblet 51.59 296 P P 21 58 46.8 +0.8
comp=Z,34nm,1.6s,mb5.0
SGMF Saint Gilles 51.74 306 *e*P P 21 58 45.9 -1.1
comp=Z,23nm,0.8s,mb4.8
SGMF Saint Gilles 51.74 306 *e*P P 21 58 45.9 -1.1
SGMF pmax pmax
comp=Z,11nm,0.8s,mb4.8
EBIE Bielsa 51.77 298 P P 21 58 46.5 -0.8
comp=Z,86nm,2.4s,mb5.2
EGRA Graus 51.82 298 P P 21 58 47.7 0.0
comp=Z,38nm,1.5s,mb5.1
ROSF Rostrenen 52.17 306 *e*P P 21 58 49.1 -1.1
comp=Z,16nm,0.7s,mb4.7
ROSF Rostrenen 52.17 306 *e*P P 21 58 49.1 -1.1
ROSF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ETSF Etsaut 52.18 299 *e*P P 21 58 50.1 -0.3
comp=Z,36nm,1.1s,mb4.9
ETSF Etsaut 52.18 299 *e*P P 21 58 50.1 -0.3
ETSF pmax pmax
comp=Z,18nm,1.1s,mb4.9
QUIF Quistinic 52.24 305 *e*P P 21 58 49.4 -1.3
ERTA Horta de San J 52.26 296 P P 21 58 50.3 -0.7
comp=Z,289nm,2.7s,mb5.7
YSS Yuzh-Sakhalins 52.37 56 *e*P P 21 58 52.1 +0.4
comp=Z,12nm,0.5s,mb5.1
YSS Yuzh-Sakhalins 52.37 56 *e*P P 21 58 51.8 +0.1
YSS MLR MLR
comp=E,500nm,15.0s
YSS MLR MLR
comp=Z,600nm,15.0s,MS4.8
ESAC San Caprasio 52.54 297 P P 21 58 52.4 -0.6
comp=Z,176nm,2.5s,mb5.5
DAG Danmarks Havn 52.55 343⇑ *i*P P 21 58 52.4 -0.3
comp=Z,12nm,0.7s,mb4.9
DAG Danmarks Havn 52.55 343⇑*e*P P 21 58 52.4 -0.3
comp=Z,12nm,0.7s,mb4.9
DAG Danmarks Havn 52.55 343⇑*e*P P 21 58 52.4 -0.3
DAG pmax pmax
comp=Z,12nm,0.7s,mb4.9
MAJO Matsushiro 53.02 69 *e*P P 21 58 56.3 -0.5
comp=Z,19nm,0.9s,mb5.0
MAJO Matsushiro 53.02 69 *e*P P 21 58 56.3 -0.5
MAJO pmax pmax
comp=Z,19nm,0.9s,mb5.0
MAT Matsushiro 53.02 69 P P 21 58 55.4 -1.4
MAT Matsushiro 53.02 69 *e*P P 21 58 55.0 -1.8
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 53.02 69 *e*P P 21 58 55.0 -1.8
MAT pmax pmax
comp=Z,13nm,0.8s,mb4.9
MJAR Matsushiro Arr 53.02 69 P P 21 58 56.4 -0.4
comp=Z,9.3nm,0.9s,mb4.7,baz=289,slow=9.8,SNR=22
EMOS Mosqueruela 53.05 296 P P 21 58 57.4 +0.5
comp=Z,174nm,3.0s
SEY Seymchan 53.22 34⇑*e*P P 21 58 57.0 -0.9
ECHE Chera 53.70 295 P P 21 59 01.4 -0.3
comp=Z,76nm,2.3s,mb5.2
ECHE Chera 53.70 295 P P 21 59 01.4 -0.3
ECHE pmax pmax
comp=Z,76nm,2.3s,mb5.2
ELAN Lanestosa 54.02 300 P P 21 59 03.7 -0.4
comp=Z,173nm,2.3s,mb5.6
ETOB Tobarra 54.49 294 P P 21 59 07.1 -0.5
comp=Z,69nm,2.8s,mb5.1
EMUR La Murta 54.59 293 P P 21 59 07.8 -0.5
comp=Z,40nm,1.5s,mb5.2
EVIA Vianos 55.17 295 P P 21 59 11.9 -0.6
comp=Z,27nm,1.9s,mb5.0
EVIA Vianos 55.17 295 P P 21 59 11.9 -0.6
EVIA pmax pmax
comp=Z,27nm,1.9s,mb5.0
EARI Arriondas 55.20 301 P P 21 59 12.0 -0.6
comp=Z,142nm,2.3s,mb5.6
EHUE Huescar 55.58 294 P P 21 59 14.8 -0.6
comp=Z,22nm,1.4s,mb5.0
EHUE Huescar 55.58 294 P P 21 59 14.8 -0.7
EHUE pmax pmax
comp=Z,22nm,1.4s,mb5.0
ESDC Sonseca Array 55.78 296 P P 21 59 15.8 -1.0
comp=Z,5.9nm,0.8s,mb4.7,baz=57,slow=7.3,SNR=18
ESDC Sonseca Array 55.78 296 P P 21 59 16.2 -0.7
comp=Z,16nm,1.0s,mb5.0
ESLA Sonseca Array 55.78 296 *e*P P 21 59 16.4 -0.5
comp=Z,9.7nm,1.3s,mb4.7
EQES Quesada 55.93 294 P P 21 59 16.8 -1.1
comp=Z,179nm,2.4s,mb5.7
EBAN Banos Encina 56.28 295 P P 21 59 19.3 -1.2
comp=Z,5.3nm,1.3s,mb4.4
EBAN Banos Encina 56.28 295 P P 21 59 19.3 -1.2
EBAN pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
EPON Pontenova 56.49 301 P P 21 59 20.8 -1.1
comp=Z,106nm,1.9s,mb5.5
ECAL Calabor 56.77 300 P P 21 59 21.6 -2.4
comp=Z,96nm,2.7s,mb5.3
EADA Adamuz 56.85 295 P P 21 59 23.5 -1.0
comp=Z,67nm,3.8s
ELUQ Luque 56.89 294 P P 21 59 23.5 -1.4
comp=Z,48nm,1.6s,mb5.3
ELUQ Luque 56.89 294 P P 21 59 23.5 -1.4
ELUQ pmax pmax
comp=Z,48nm,1.6s,mb5.3
BILL Bilibino 57.17 26⇑*i*P P 21 59 26.5 +0.1
BILL pmax pmax
comp=Z,24nm,1.7s,mb5.0
BILL MLR MLR
comp=Z,400nm,15.0s,MS4.6
EMIJ Mijas 57.69 293 P P 21 59 30.7 +0.2
comp=Z,60nm,2.4s,mb5.2
ELOB Lobios 57.70 300 P P 21 59 29.1 -1.4
comp=Z,93nm,2.0s,mb5.5
EBAD Badajoz 58.31 296 P P 21 59 33.6 -1.2
comp=Z,61nm,1.8s,mb5.3
ESPR Espera 58.33 294 P P 21 59 33.1 -1.9
comp=Z,59nm,1.6s,mb5.4
EMIN Mina Concepcio 58.51 295 P P 21 59 35.9 -0.3
comp=Z,91nm,2.7s,mb5.3
SUMG Summit 58.87 340 *e*P P 21 59 38.7 +0.4
comp=Z,31nm,0.8s,mb5.4
EGRO El Granado 59.19 295 P P 21 59 40.0 -1.0
comp=Z,9.9nm,0.8s,mb4.9
LSZ Lusaka 66.27 225 *e*P P 22 00 28.5 +0.3
comp=Z,89nm,2.1s,mb5.4
LSZ Lusaka 66.27 225 *e*P P 22 00 28.5 +0.3
LSZ pmax pmax
comp=Z,89nm,2.1s,mb5.4
INK Inuvik 72.04 9 P P 22 01 03.0 +0.2
comp=Z,7.0nm,0.6s,mb4.8,baz=4.0,slow=8.0,SNR=19
INK Inuvik 72.04 9 *e*P P 22 01 03.2 +0.4
comp=Z,7.0nm,0.6s,mb4.8
INK Inuvik 72.04 9 P P 22 01 03.0 +0.3
INK pmax pmax
comp=Z,7.0nm,0.6s
ILAR Eielson Array 73.06 16 P P 22 01 08.6 -0.2
comp=Z,3.2nm,0.9s,mb4.3,baz=324,slow=6.2,SNR=20
ILAR LR LR 22 38 48.8
comp=Z,140nm,18.7s,MS4.3,baz=259,slow=40
DBIC Dimbokro 73.98 266 P P 22 01 14.8 -0.4
comp=Z,6.2nm,1.0s,mb4.5,baz=44,slow=6.5,SNR=6.2
DBIC LR LR 22 34 36.7
comp=Z,168nm,18.4s,MS4.4,baz=216,slow=36
KIC Kosan Boka 74.08 265 *e*P P 22 01 13.1 -2.6
comp=Z,116nm,1.4s,mb5.6
TIC Toumodi 74.12 266 *e*P P 22 01 16.4 +0.4
comp=Z,229nm,1.6s,mb5.9
LIC Lamto 74.39 266 *e*P P 22 01 16.6 -0.9
comp=Z,52nm,1.4s,mb5.3
LIC Lamto 74.39 266 *e*P P 22 01 16.2 -1.3
comp=Z,17nm,1.1s,mb4.9
TSUM Tsumeb 75.52 231 *e*P P 22 01 24.8 +0.9
comp=Z,11nm,1.0s,mb4.7
LBTB Lobatse 75.63 221 *e*P P 22 01 25.4 +1.0
comp=Z,52nm,1.6s,mb5.2
LBTB Lobatse 75.63 221 *e*P P 22 01 25.4 +1.0
LBTB pmax pmax
comp=Z,52nm,1.6s,mb5.2
FITZ Fitzroy Crossi 76.78 126 P P 22 01 31.3 +0.3
comp=Z,18nm,1.3s,mb4.8,baz=296,slow=3.5,SNR=3.2
YKA Yellowknife Ar 79.26 2 P P 22 01 44.4 +0.6
comp=Z,6.0nm,0.8s,mb4.6,baz=352,slow=5.7,SNR=10
YKA LR LR 22 37 54.9
comp=Z,162nm,19.3s,MS4.4,baz=15,slow=37
SCHQ Schefferville 79.90 336 P P 22 01 47.5 +0.1
comp=Z,4.6nm,1.0s,mb4.3,baz=37,slow=10,SNR=3.2
SCHQ LR LR 22 35 57.6
comp=Z,327nm,20.5s,MS4.7,baz=141,slow=35
DLBC Dease Lake 81.96 10 *e*P P 22 01 57.6 -0.6
WRA Warramunga Arr 83.78 121 P P 22 02 08.7 +0.4
comp=Z,11nm,0.7s,mb5.1,baz=322,slow=4.7,SNR=89
WRAB Tennant Creek 83.78 121 *e*P P 22 02 08.6 +0.3
WB2 Warramunga Arr 83.78 121⇓*i*P P 22 02 08.4 +0.1
EDM Edmonton 88.58 2 *e*P P 22 02 32.8 +1.8
ULM Lac du Bonnet 90.72 351 P P 22 02 41.2 0.0
comp=Z,2.6nm,0.6s,mb4.7,baz=19,slow=5.2,SNR=3.5
ULM LR LR 22 43 56.2
comp=Z,242nm,18.1s,MS4.7,baz=30,slow=36
ULM Lac du Bonnet 90.72 351 P P 22 02 41.2 0.0
ULM LR LR 22 43 56.2
CTA Charters Tower 92.15 114⇑*i*P P 22 02 50.0 +1.5
comp=Z,9.1nm,1.0s,mb5.1
CTA Charters Tower 92.15 114 P P 22 02 48.5 +0.1
comp=Z,6.7nm,0.8s,mb5.0,baz=301,slow=5.4,SNR=8.8
CTA Charters Tower 92.15 114⇑*i*P P 22 02 50.0 +1.5
CTA pmax pmax
comp=Z,9.0nm,1.0s
CTAO Charters Tower 92.15 114 *e*P P 22 02 50.1 +1.6
comp=Z,17nm,1.0s,mb5.3
CTAO Charters Tower 92.15 114 *e*P P 22 02 50.1 +1.6
CTAO pmax pmax
comp=Z,17nm,1.0s,mb5.3
NEW Newport 93.36 5 *e*P P 22 02 44.4 -8.9
comp=Z,19nm,1.0s,mb5.5
NEW Newport 93.36 5 *e*P P 22 02 44.4 -9.0
NEW pmax pmax
comp=Z,19nm,1.0s
PDAR Pinedale Array 99.08 360 LR LR 22 51 27.2
comp=Z,220nm,18.0s,MS4.7,baz=165,slow=37
SNAA Sanae 121.00 201 PKPdf 22 08 37.2 +8.1
SNAA Sanae 121.00 201 PKPdf 22 08 54.3 +25
VNA2 Neumayer--Watz 121.96 202 PKPdf 22 08 34.2 +3.2
VNA2 Neumayer--Watz 121.96 202 PKPdf 22 08 47.1 +16
VNA3 Neumayer Olymp 122.76 202 PKPdf 22 08 35.1 +2.5

VNA3	**Neumayer Olymp**	**122.76**	**202**			PKPdf	22 08 48.6	+16
QSPA	**South Pole Qui**	**128.32**	**180**	*e*PKPdf		PKPdf	22 08 45.7	+2.7
CPUP	**Villa Florida**	**134.41**	**269**	PKP		PKPdf	22 08 56.9	+1.0
	comp=Z,2.7nm,0.8s,baz=225,slow=19,SNR=5.2							
LPAZ	**La Paz**	**137.16**	**289**	PKP		PKPdf	22 09 04.1	+3.0
	comp=Z,1.5nm,0.7s,baz=40,slow=7.6,SNR=2.6							
PLCA	**Paso Flores**	**149.66**	**253**	PKP		PKPdf	22 09 24.4	+2.4
	comp=Z,4.5nm,1.1s,baz=194,slow=5.7,SNR=3.9							
PLCA				PKPbc		PKPdf	22 09 29.1	+7.1
	comp=Z,8.8nm,1.0s,baz=61,slow=4.9,SNR=17							

DHMR 26 22:03:18.7±2.9, 12.70N×40.50E, h7km±220km, ML3.6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.56**	**81**	*i* P	Pn	22 04 17.1	+1.4
TRBA				*i* S	Sn	22 05 03.0	+4.5
TRBA				AML	AML	22 05 17.3	
	comp=E,232nm,0.7s						
UDYN	**Al 'Udayn**	**3.60**	**69**	*i* S	Sn	22 05 04.0	+4.5
DHBB	**Dhamar BB**	**4.21**	**63**	*i* P	Pn	22 04 26.3	+1.4
DHBB				*i* S	Sn	22 05 18.6	+3.6
LBOS		**4.76**	**75**	*i* S	Sn	22 05 28.0	-1.0

WEL 26 22:10:53.7±0.5, 34.75S×178.06E, h33km, ML4.0/3, Error ellipse: s-maj=8.5km s-min=3.0km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.81**	**176**	*e*PN	Pn	22 11 35.7	-1.8
PUZ	**Puketiti**	**3.32**	**177**	*e*PN	Pn	22 11 42.7	-2.0
PUZ				SN	Sn	22 12 19.1	-4.3
PUZ				SN	Sn	22 12 19.7	-3.8
URZ	**Urewera**	**3.58**	**192**	PN	Pn	22 11 46.2	-2.2

*NEIC **26** 22:24:38.2±1.5, 23.67S×179.91W, h458km±16km, mb3.7/4, Error ellipse: s-maj=19.2km s-min=14.1km az=124.0*
*IDC **26** 22:24:41.9±1.9, 23.50S×179.86W, h546km±23km, mb3.6/9, mb1 3.8/11, mb1mx3.7/16, mbtmp4.5/11, Error ellipse: s-maj=25.2km s-min=13.8km az=161.0*
ISC 26 22:24:39.5±0.9, 23.40S±0.07×179.8W±0.1, h526km±11km, n70, σ0°83/45, mb3.8/11, 5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.07**	**164**	P	**P**	**22 26 18.2**	**-0.3**
	20nm,0.3s,baz=86,slow=21,SNR=2.1						
RAO				S	**S**	**22 27 37.6**	**+0.6**
	57nm,0.3s,baz=246,slow=23,SNR=3.5						
AFI	**Afiamalu**	**12.12**	**40**	P	**P**	**22 27 18.1**	**-1.8**
	6.5nm,0.3s,baz=26,slow=6.6,SNR=8.2						
AFI				S	**S**	**22 29 22.3**	**-6.6**
	1.1nm,0.3s,baz=140,slow=17,SNR=3.2						
AFI	**Afiamalu**	**12.12**	**40**	*e*P	**P**	**22 27 20.3**	**+0.4**
AFI				S	**S**	**22 29 22.2**	**-6.6**
MXZ	**Matakaoa Point**	**14.21**	**186**	PN	**P**	**22 27 41.7**	**+0.4**
URZ	**Urewera**	**15.05**	**189**	P	**P**	**22 27 48.7**	**-0.9**
	7.1nm,0.3s,baz=310,slow=2.5,SNR=16						
URZ				S	**S**	**22 30 22.7**	**-0.4**
	0.9nm,0.3s,baz=276,slow=21,SNR=4.1						
URZ	**Urewera**	**15.05**	**189**	PN	**P**	**22 27 48.9**	**-0.7**
WNVZ	**Wahianoa**	**16.35**	**193**	PN	**P**	**22 28 03.1**	**+0.6**
TSZ	**Takapari Road**	**16.99**	**191**	PN	**P**	**22 28 08.6**	**-0.1**
MRZ	**Mangatainoka R**	**17.65**	**192**	PN	**P**	**22 28 14.4**	**-0.7**
KIW	**Kapiti Island**	**17.97**	**193**	PN	**P**	**22 28 17.6**	**-0.6**
MTW	**Mount Morrison**	**18.14**	**191**	PN	**P**	**22 28 19.2**	**-0.7**
CAW	**Cannon Point**	**18.18**	**193**	PN	**P**	**22 28 20.1**	**-0.1**
MRW	**Makara Radio**	**18.37**	**193**	PN	**P**	**22 28 21.7**	**-0.3**
TCW	**Tory Channel**	**18.45**	**194**	PN	**P**	**22 28 23.3**	**+0.6**
QRZ	**Quartz Range**	**18.54**	**199**	PN	**P**	**22 28 25.7**	**+2.1**
TUWZ	**Tuamarina**	**18.73**	**195**	PN	**P**	**22 28 26.0**	**+0.5**
THZ	**Tophouse**	**19.30**	**197**	PN	**P**	**22 28 31.4**	**+0.5**
KHZ	**Kahutara**	**19.76**	**195**	PN	**P**	**22 28 35.0**	**-0.2**
LTZ	**Lake Taylor**	**20.42**	**197**	PN	**P**	**22 28 40.6**	**-0.7**
WVZ	**Waitaha Valley**	**21.13**	**200**	PN	**P**	**22 28 47.7**	**-0.2**
MQZ	**McQueen's Vall**	**21.19**	**195**	PN	**P**	**22 28 51.5**	**+3.0**
RPZ	**Rata Peaks**	**21.62**	**198**	P	**P**	**22 28 52.7**	**+0.3**
	68nm,0.6s,baz=28,slow=2.4,SNR=32						
FOZ	**Fox Glacier**	**21.90**	**201**	PN	**P**	**22 28 53.7**	**-1.3**
LBZ	**Lake Benmore**	**22.49**	**199**	PN	**P**	**22 28 58.5**	**-1.9**
CTA	**Charters Tower**	**31.66**	**269**	P	**P**	**22 30 21.6**	**+0.6**
	1.7nm,0.4s,mb4.0,baz=97,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**31.66**	**269**	*e*P	**P**	**22 30 22.4**	**+1.5**
	2.6nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**35.08**	**247**	P	**P**	**22 30 50.3**	**+0.8**
	5.1nm,0.6s,mb4.2,baz=89,slow=9.9,SNR=19						
STKA	**Stephens Creek**	**35.08**	**247**	*e*P	**P**	**22 30 50.4**	**+0.9**
WRAB	**Tennant Creek**	**42.62**	**266**	*e*P	**P**	**22 31 51.0**	**+0.2**
	2.2nm,0.7s,mb3.8						
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**22 31 50.5**	**-0.4**
	1.2nm,0.5s,mb3.7,baz=96,slow=8.2,SNR=11						
WRA				S	**S**	**22 37 30.1**	**-6.1**
	0.6nm,0.8s,baz=95,slow=13,SNR=5.1						
VNDA	**Vanda**	**54.89**	**185**	*e*P	**P**	**22 33 21.3**	**-0.4**
	0.5nm,0.5s,mb3.0						
CASY	**Casey**	**60.64**	**206**	*e*P	**P**	**22 34 00.2**	**-0.5**
	2.0nm,0.7s,mb3.6						
MJAR	**Matsushiro Arr**	**71.59**	**325**	P	**P**	**22 35 07.8**	**-1.1**
	0.9nm,0.4s,mb3.5,baz=164,slow=7.0,SNR=5.2						
YBH	**Yreka Blue Hor**	**83.58**	**39**	P	**P**	**22 36 14.2**	**+1.1**
	1.9nm,0.9s,mb3.6,baz=201,slow=2.0,SNR=5.1						
SNAA	**Sanae**	**85.16**	**179**		**P**	**22 36 19.8**	**-0.4**
VNA3	**Neumayer Olymp**	**85.36**	**177**		**P**	**22 36 21.6**	**+0.5**
VNA2	**Neumayer--Watz**	**85.78**	**178**		**P**	**22 36 23.9**	**+0.8**
TXAR	**Lajitas Array**	**90.01**	**58**	P	**P**	**22 36 45.0**	**+1.1**
	1.5nm,0.6s,mb4.0,baz=219,slow=6.1,SNR=8.2						
ILAR	**Eielson Array**	**91.50**	**13**	P	**P**	**22 36 49.1**	**-0.8**
	0.6nm,0.6s,mb3.8,baz=226,slow=5.5,SNR=5.2						
PDAR	**Pinedale Array**	**92.20**	**44**	P	**P**	**22 36 53.6**	**-0.1**
	0.8nm,0.6s,mb3.9,baz=206,slow=3.7,SNR=6.0						
MKAR	**Makanchi Array**	**111.95**	**313**	PKiKP			22 42 14.2
	0.7nm,0.6s,baz=36,slow=0.9,SNR=12						
ARCES	**ARCESS Array B**	**131.44**	**348**	PKP		PKPdf	22 42 51.3	0.0
	3.4nm,0.7s,baz=27,slow=2.7,SNR=15						
FINES	**FINESS Array B**	**138.03**	**342**	PKhKP			22 42 54.7
	1.3nm,0.8s,baz=45,slow=2.7,SNR=4.7						
FINES				PKP		PKPdf	22 43 05.0	+1.4
	0.8nm,0.5s,baz=63,slow=4.3,SNR=6.1						
NB2	**NORSAR Subarra**	**141.62**	**351**	PKPabc		PKPdf	22 43 05.8	-4.1
	1.5nm,0.6s,baz=15,slow=3.1						
NOA	**NORSAR Array B**	**141.62**	**351**	PKhKP			22 43 06.0	
	1.9nm,0.6s,baz=16,slow=4.6,SNR=6.9						
AKASG	**Malin Array Be**	**144.65**	**328**	PKP		PKPdf	22 43 16.0	+0.5
	5.4nm,0.5s,baz=44,slow=4.0,SNR=37						
BRTR	**Keskin Array B**	**147.42**	**308**	PKPbc		PKPdf	22 43 24.4	+4.0
	2.0nm,0.6s,baz=146,slow=4.1,SNR=8.8						
BSEG	**Bad Segeberg**	**148.57**	**349**	*e*PKP		PKPdf	22 43 27.7	+6.0
BURAR	**Bucovina Array**	**148.66**	**327**	||P		PKPdf	22 43 29.5	+7.4
KOLS	**Kolonicke sedl**	**149.13**	**331**	*e*PKP		PKPdf	22 43 29.6	+6.8
STHS	**Stebnicka Huta**	**149.21**	**333**	*e*PKP		PKPdf	22 43 29.3	+6.4
MLR	**Muntele Rosu**	**149.63**	**323**	||P		PKPdf	22 43 30.6	+6.9
KSP	**Ksiaz**	**149.89**	**339**	*e*P		PKPdf	22 43 30.8	+6.8
OKC	**Ostrava-Krasne**	**150.10**	**336**	*e*PKPdf		PKPdf	22 43 31.3	+7.0
KECS	**Kecovo**	**150.25**	**332**	*e*PKP		PKPab	22 43 39.2	-2.0
UPC	**Upice**	**150.27**	**339**	*e*PKPdf		PKPdf	22 43 31.5	+6.9
DPC	**Dobruska-Polom**	**150.30**	**339**	*e*PKPdf		PKPdf	22 43 31.9	+7.3
CLL	**Collm**	**150.43**	**344**	||P		PKPdf	22 43 31.9	+7.1
	logA/T=1.3							
CLL	**Collm**	**150.43**	**344**	||*i* P		PKPdf	22 43 31.9	+7.1
DRGR		**150.47**	**328**	||P		PKPdf	22 43 31.1	+6.1
CLZ	**Clausthal**	**150.54**	**347**	*e*PKP		PKPdf	22 43 32.4	+7.5
BRG	**Berggiesshubel**	**150.57**	**342**	*i* P		PKPdf	22 43 32.4	+7.4
PVCC	**Panska Ves**	**150.70**	**341**	*e*PKPdf		PKPdf	22 43 33.0	+7.8
PRU	**Pruhonice**	**151.18**	**341**	*e*PKPdf		PKPdf	22 43 33.6	+7.7
SMOL	**Smolenice**	**151.45**	**336**	*e*		PKPab	22 43 46.2	0.0
KHC	**Kasperske Hory**	**152.23**	**341**	*e*PKPdf		PKPdf	22 43 35.7	+8.3
KHC				PKPab		PKPab	22 43 49.0	-0.5
KHC	**Kasperske Hory**	**152.23**	**341**	*e*PKP		PKPdf	22 43 35.7	+8.3
KHC				*e*			22 43 49.0	
GRA1	**Grafenberg Arr**	**152.37**	**344**	*e*PKP		PKPdf	22 43 35.2	+7.6
GRF	**Grafenberg Arr**	**152.37**	**344**	*e*PKP		PKPdf	22 43 35.2	+7.6
GERES	**GERESS Array B**	**152.45**	**341**	PKPbc		PKPdf	22 43 36.5	+8.7
	0.7nm,0.5s,baz=45,slow=1.9,SNR=9.7							

*CSEM **26** 22:33:14.9±1.0, 79.41N×2.63E, h30km, ML2.5, Error ellipse: s-maj=28.1km s-min=17.3km az=151.0*
*BER **26** 22:33:17.9±3.5, 79.28N×4.54E, MD2.7, ML2.5(NAO)*

*IDC **26** 22:33:17.5±5.5, 79.24N×3.76E, mb3.5/1, mb1 3.9/3, mb1mx3.5/19, mbtmp3.8/3, ML3.4/2, MS2.9/1, Ms1 3.0/1, ms1mx2.7/14, Error ellipse: s-maj=104.5km s-min=36.6km az=73.0*
*NAO **26** 22:33:19.8±8.1, 79.45N×5.42E, h20km±47km, ML2.5*
ISC 26 22:33:19.7±2.4, 78.9N±0.1×5.3E±0.7, h9km±26km, n13, σ1°10/18, mb3.2/1, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.30**	**84**	Pn	**Pn**	**22 33 43.2**	**-0.9**
KBS				Lg		22 34 01.9	
SPA0	**Spitsbergen Ar**	**2.33**	**102**	Pn	**Pn**	**22 33 58.6**	**-0.2**
	baz=284,slow=10						
SPA0				Sn	**Sn**	**22 34 29.5**	**+1.7**
HSP	**Hornsund**	**2.85**	**126**	*e*P	**Pn**	**22 34 07.0**	**+0.7**
HSP				*e*S	**Sn**	**22 34 42.9**	**+1.7**
HOPEN	**Hopen**	**4.82**	**109**	*e*P	**Pn**	**22 34 33.9**	**-0.4**
HOPEN				*e*S	**Sn**	**22 35 29.8**	**-1.3**
ARA0	**ARCESS Array S**	**10.76**	**139**	Pn	**P**	**22 35 56.0**	**-0.8**
	baz=349,slow=14						
ARA0				Sn	**S**	**22 37 56.2**	**-2.4**
	baz=356,slow=22						
ARA0	**ARCESS Array S**	**10.76**	**139**	Pn	**P**	**22 35 56.0**	**-0.9**
	SNR=50						
ARA0				Sn	**S**	**22 37 56.2**	**-2.4**
	SNR=50						
ARCES	**ARCESS Array B**	**10.76**	**139**	Pn	**P**	**22 35 57.0**	**+0.1**
	0.2nm,0.3s,baz=347,slow=12,SNR=13						
ARCES				Sn	**S**	**22 37 58.4**	**-0.3**
	0.2nm,0.3s,baz=341,slow=19,SNR=2.9						
NOA	**NORSAR Array B**	**18.00**	**171**	LR	LR	22 43 31.3	
	comp=Z,35nm,18.4s,baz=325,slow=33						
FIA0	**FINESS Array S**	**18.63**	**148**	P	**P**	**22 37 41.0**	**+1.9**
	baz=358,slow=11						
FIA0	**FINESS Array S**	**18.63**	**148**	P	**P**	**22 37 41.0**	**+1.8**
	SNR=47						
FINES	**FINESS Array B**	**18.63**	**148**	P	**P**	**22 37 41.0**	**+1.8**
	0.2nm,0.3s,baz=321,slow=8.9,SNR=9.1						
HFS	**Hagfors**	**19.00**	**167**	P	**P**	**22 37 43.9**	**+0.2**
	baz=33,slow=16						
MKAR	**Makanchi Array**	**42.04**	**91**	P	**P**	**22 41 12.4**	**-0.1**
	0.4nm,0.6s,mb3.2,baz=337,slow=9.2,SNR=4.0						

DHMR 26 23:15:29.0±0.3, 12.66N×40.50E, h11km±19km, ML3.8, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.57**	**80**	||*e*P	Pn	23 16 27.3	+1.7
TRBA				*i* S	Sn	23 17 12.4	+4.3
TRBA				AML	AML	23 17 32.8	
	comp=N,341nm,0.7s						
UDYN	**Al 'Udayn**	**3.62**	**69**	*i* S	Sn	23 17 14.1	+4.7
UDYN				AML	AML	23 17 31.4	
	comp=Z,366nm,0.7s						
DHBB	**Dhamar BB**	**4.23**	**63**	||*e*P	Pn	23 16 36.1	+1.1
DHBB				*i* S	Sn	23 17 28.5	+3.6
LBOS		**4.78**	**75**	||*e*P	Pn	23 16 41.2	-1.5
LBOS				*i* S	Sn	23 17 37.8	-1.0
BDHA	**Al Bayda'**	**5.10**	**75**	*i* S	Sn	23 17 45.7	-1.3

NNC 26 23:26:26.7±3.5, 38.71N×69.18E, mpv3.5, 4C-2D, Error ellipse: s-maj=33.0km s-min=17.3km az=172.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.50**	**13**	Pn	Pn	23 27 38.7	+1.0
	2.5nm,0.4s,baz=182,slow=12,SNR=30						
KK31				⇑Lg		23 28 49.6	
	8.8nm,0.5s,baz=193,slow=28,SNR=4.3						
AAK	**Ala-Archa**	**5.63**	**44**	⇑Pn	Pn	23 27 51.4	-2.2
	3.5nm,0.5s						
AAK				⇑Sn	Sn	23 28 58.7	-1.2
	6.3nm,0.6s						
AAK				⇓Lg		23 29 23.7	
	9.0nm,0.7s						
AB31	**Akbulak array**	**12.45**	**331**	⇓Pn	P	23 29 27.1	-0.9
	0.4nm,0.4s,baz=140,slow=14,SNR=12						
AB31				⇑Sn	S	23 31 43.4	-5.3
	1.6nm,0.6s,baz=150,slow=22,SNR=7.1						

*BJI **26** 23:53:07.6, 12.04N×39.96E, h32km, mB5.3, mb5.0, Ms4.8, Msz4.8*
*IDC **26** 23:53:07.6±1.1, 12.20N×40.36E, mb4.1/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.1/13, ML4.9/1, MS4.6/11, Ms1 4.6/11, ms1mx4.3/20, Error ellipse: s-maj=27.9km s-min=13.7km az=37.0*
*DHMR **26** 23:53:08.1±2.0, 12.65N×40.52E, h11km±92km, ML4.8*
*MOS **26** 23:53:09.4±1.0, 12.50N×40.39E, h10km, mb4.8/16, Error ellipse: s-maj=15.6km s-min=6.8km az=99.0*
*NEIC **26** 23:53:11.1±0.6, 12.46N×40.45E, h10km, mb4.5/11, Error ellipse: s-maj=14.2km s-min=10.1km az=54.0*
*CSEM **26** 23:53:13.2±0.1, 12.69N×40.65E, h33km, mb4.4/8, Ms4.2, Error ellipse: s-maj=3.3km s-min=2.1km az=5.0*
*SSN **26** 23:54:34.8±0.5, 14.59N×39.39E, h69km±999km, mb5.2*
ISC 26 23:53:09.0±0.5, 12.48N±0.06×40.48E±0.03, h10km, (h29km±3.9km: pP-P), n96, σ1°96/99, mb4.5/35, MS4.7/13, 3C-8D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.50**	**112**	Pn	**Pn**	**23 53 51.5**	**+1.0**
	269nm,0.3s,baz=289,slow=11,SNR=60						
ATD				Lg		23 54 28.6	
	212nm,0.3s,baz=183,slow=21,SNR=9.6						
TRBA	**At Turbah**	**3.63**	**78**	||*i* P	**Pn**	**23 54 06.0**	**-0.4**
TRBA				*i* S	**Sn**	**23 54 51.3**	**+1.5**
TRBA				AML	AML	23 55 08.8	
	comp=N,4μm,0.6s						
UDYN	**Al 'Udayn**	**3.71**	**66**	*i* P	**Pn**	**23 54 06.9**	**-0.8**
UDYN				*i* S	**Sn**	**23 54 52.8**	**+0.9**
DHBB	**Dhamar BB**	**4.34**	**61**	*i* P	**Pn**	**23 54 15.2**	**-1.4**
DHBB				*i* S	**Sn**	**23 55 07.4**	**-0.4**
ADEN	**Aden**	**4.41**	**86**	||*e*P	**Pn**	**23 54 16.6**	**-1.0**
ADEN				*i* S	**Sn**	**23 55 09.9**	**+0.3**
LBOS		**4.85**	**73**	||*e*P	**Pn**	**23 54 20.1**	**-3.7**
LBOS				*i* S	**Sn**	**23 55 16.6**	**-4.2**
BDHA	**Al Bayda'**	**5.17**	**73**	||*e*P	**Pn**	**23 54 24.6**	**-3.9**
BDHA				*i* S	**Sn**	**23 55 24.4**	**-4.5**
BDHA	**Al Bayda'**	**5.17**	**73**	||*e*P	**Pn**	**23 54 24.5**	**-4.0**
BDHA				*i* S	**Sn**	**23 55 24.4**	**-4.6**
MUKL	**Al Mukalla**	**8.56**	**76**	||*e*P	**P**	**23 55 10.9**	**-5.1**
MUKL				*i* S	**Sn**	**23 56 47.7**	**-5.9**
KMBO	**Kilima Mbogo**	**13.89**	**194**	Pn	**P**	**23 56 29.3**	**+0.8**
	comp=N,0.1nm,0.3s,baz=261,slow=16,SNR=2.3						
KMBO				Lg		00 00 23.1	
	comp=N,0.1nm,0.3s,baz=102,slow=19,SNR=4.1						
KMBO				LR	LR	00 01 46.3	
	comp=N,2μm,19.4s,baz=189,slow=38						
ASF	**Jabal al Asfar**	**19.88**	**351**	P	**P**	**23 57 44.4**	**+1.0**
	comp=N,4.8nm,0.9s,baz=55,slow=7.9,SNR=8.7						
ASF				LR	LR	00 04 43.3	
	comp=N,541nm,18.0s,baz=38,slow=35						
BHD	**Baghdad**	**21.00**	**9**	*ex*	x	23 57 47.0	
BHD				*ex*	x	00 01 58.0	
BHL	**Bhannes**	**21.78**	**349**	*e*P	**P**	**23 58 01.5**	**-1.5**
MSL	**Mosul**	**23.83**	**5**	*ex*	x	23 58 46.5	
MSL				*ex*	x	00 03 13.0	
MALT	**Malatya**	**25.80**	**356**	*e*P	**P**	**23 58 44.2**	**+2.2**
	comp=N,14nm,1.0s,mb4.4						
MALT	**Malatya**	**25.80**	**356**	*e*P	**P**	**23 58 44.2**	**+2.2**
MALT				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
IDI	**Anoyia**	**26.74**	**331**	P	**P**	**23 58 54.9**	**+4.2**
	comp=Z,11nm,1.0s,mb4.3,baz=142,slow=17,SNR=2.5						
IDI				LR	LR	00 10 54.2	
	comp=Z,432nm,18.6s,MS4.0,baz=33,slow=40						
BRTR	**Keskin Array B**	**27.80**	**349**	P	**P**	**23 59 01.7**	**+1.3**
	comp=Z,3.7nm,0.9s,mb4.0,baz=170,slow=9.1,SNR=13						
BR131	**Keskin Array S**	**27.81**	**349**	*e*P	**P**	**23 59 02.0**	**+1.6**
	comp=Z,5.6nm,1.0s,mb4.2						
BR131	**Keskin Array S**	**27.81**	**349**	*e*P	**P**	**23 59 02.0**	**+1.6**
	comp=Z,5.6nm,1.0s,mb4.2						
GNI	**Garni**	**27.82**	**7**	*e*P	**P**	**23 59 05.4**	**+4.9**
	comp=Z,7.1nm,0.9s,mb4.3						
GNI	**Garni**	**27.82**	**7**	*e*P	**P**	**23 59 05.4**	**+4.9**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZEI	**Tsey**	**30.33**	**5**	*e*P	**P**	**23 59 21.8**	**-1.2**
ZEI				*i* *PP	pP	23 59 30.9	+5.0
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
SOC	**Sochi**	**31.00**	**359**	*e*P	**P**	**23 59 28.9**	**0.0**
SOC				*e*		00 00 40.6	
SOC				*e*S	**S**	**00 04 32.6**	**+0.1**
SOC				*e*SS	SS	00 06 09.9	-6.5
SOC				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
SOC				pmax	pmax		
	comp=N,27nm,1.1s						
SOC				pmax	pmax		
	comp=E,9.0nm,1.1s						
SOC				MLR	MLR		
	comp=Z,893nm,14.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,879nm,11.0s,MS4.7						
SOC				MLR	MLR		
	comp=E,168nm,11.0s,MS4.7						
KIV	**Kislovodsk**	**31.43**	**3**	*e*P	**P**	**23 59 33.2**	**+0.6**
KIV	**Kislovodsk**	**31.43**	**3**	*e*P	**P**	**23 59 33.2**	**+0.5**
KIV	**Kislovodsk**	**31.43**	**3**	*e*P	**P**	**23 59 34.2**	**+1.5**
KIV				*e*S	**S**	**00 04 39.5**	**+0.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
KIV				MLR	MLR		
	comp=N,430nm,18.0s,MS4.3						
KIV				MLR	MLR		
	comp=E,425nm,18.0s,MS4.3						
KIV				MLR	MLR		
	comp=Z,504nm,18.0s,MS4.2						
OPO	**Ambohidratompo**	**31.55**	**168**	P	**P**	**23 59 29.8**	**-4.2**
	comp=Z,1.4nm,0.7s,mb3.9,baz=136,slow=24,SNR=3.5						
ANN	**Anapa**	**32.32**	**356**	*e*P	**P**	**23 59 41.5**	**+1.1**
MLR	**Muntele Rosu**	**35.15**	**342**	P	**P**	**00 00 06.6**	**+1.6**
	comp=Z,4.2nm,0.8s,mb4.4,baz=217,slow=10,SNR=6.6						
MLR	**Muntele Rosu**	**35.15**	**342**	P	**P**	**00 00 06.6**	**+1.6**
AKASG	**Malin Array Be**	**39.21**	**349**	P	**P**	**00 00 38.2**	**-0.9**
	comp=Z,4.2nm,0.9s,mb4.2,baz=171,slow=7.0,SNR=14						
AKASG	**Malin Array Be**	**39.21**	**349**	P	**P**	**00 00 38.2**	**-0.9**
VRAC	**Vranov**	**41.69**	**337**	P	**P**	**00 00 59.4**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.1,baz=153,slow=8.1,SNR=5.2						
VRAC	**Vranov**	**41.69**	**337**	P	**P**	**00 00 59.4**	**-0.1**
AAK	**Ala-Archa**	**42.07**	**38**	*d* P	**P**	**00 01 03.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,16nm,2.5s,mb4.2						
GERES	**GERESS Array B**	**42.51**	**334**	P	**P**	**00 01 05.0**	**-1.3**
	comp=Z,1.5nm,0.8s,mb3.8,baz=128,slow=6.8,SNR=13						
GERES	**GERESS Array B**	**42.51**	**334**	P	**P**	**00 01 05.0**	**-1.2**
OBN	**Obninsk**	**42.65**	**357**	P	**P**	**00 01 06.0**	**-1.3**
OBN				*e*		00 03 07.0	
OBN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
KHC	**Kasperske Hory**	**42.78**	**334**	*e*P	**P**	**00 01 03.5**	**-4.9**
KHC				x	x	00 01 19.0	
KHC	**Kasperske Hory**	**42.78**	**334**	*e*P	**P**	**00 01 03.5**	**-4.9**
KHC				*e*		00 01 19.0	
KHC	**Kasperske Hory**	**42.78**	**334**	⇑*e*P	**P**	**00 01 06.9**	**-1.5**
KOLN	**Koldanda**	**43.02**	**63**	*e*P	**P**	**00 01 09.7**	**-1.0**
	comp=Z,190nm,2.1s,mb5.5						
MBDF	**Montbardon**	**43.14**	**325**	*e*P	**P**	**00 01 12.2**	**+0.8**
	comp=Z,25nm,1.1s,mb4.5						
MBDF	**Montbardon**	**43.14**	**325**	*e*P	**P**	**00 01 12.2**	**+0.8**
MBDF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
SMRF	**Simiane la Rot**	**43.38**	**323**	*e*P	**P**	**00 01 14.3**	**+0.9**
LPG	**La Plagne**	**43.62**	**326**	*e*P	**P**	**00 01 14.5**	**-0.8**
	comp=Z,18nm,1.2s,mb4.4						
LPG	**La Plagne**	**43.62**	**326**	*e*P	**P**	**00 01 14.5**	**-0.8**
LPG				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
ORIF	**Oris-en-Rattie**	**43.76**	**324**	*e*P	**P**	**00 01 16.2**	**-0.2**
	comp=Z,9.5nm,1.0s,mb4.2						
ORIF				*e*R			
	comp=Z,342nm,21.8s						
GKN	**Gorkha**	**43.96**	**63**	*e*P	**P**	**00 01 17.7**	**-0.6**
GRA1	**Grafenberg Arr**	**44.22**	**333**	*e*P	**P**	**00 01 20.1**	**-0.1**
	comp=Z,7.0nm,1.4s,mb4.2						
GRA1	**Grafenberg Arr**

NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,140nm,4.8s						
NJ2				LR	LR		
	comp=Z,690nm,29.6s,MS4.8						
SSE	**Sheshan**	**75.78**	**61**	P	**P**	**00 04 55.0**	**-2.3**
SSE				AP	pP	00 05 04.3	+3.8
SSE				XP	sP	00 05 08.0	+6.4
SSE				S	S	00 14 36.5	-1.4
SSE				XS		00 14 52.8	
SSE				SCS	ScS	00 15 07.0	-1.1
SSE				SS	SS	00 19 30.8	-1.8
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,214nm,4.9s						
SSE				LR	LR		
	comp=N,186nm,23.1s,MS4.4						
SSE				LR	LR		
	comp=E,119nm,23.1s,MS4.4						
SSE				LR	LR		
	comp=Z,213nm,20.5s,MS4.4						
SSE	**Sheshan**	**75.78**	**61**	P	**P**	**00 04 54.9**	**-2.4**
SSE				pP	pP	00 05 04.2	+3.7
SSE				sP	sP	00 05 08.1	+6.5
SSE				S	S	00 14 36.5	-1.4
SSE				sS		00 14 52.8	
SSE				ScS	ScS	00 15 07.0	-1.1
SSE				SS	SS	00 19 30.8	-1.8
YAK	**Yakutsk**	**78.72**	**29**	*eP*	**P**	**00 05 12.6**	**-0.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
MAW	**Mawson**	**81.50**	**172**	LR	LR	00 38 10.7	
	comp=Z,156nm,20.5s,MS4.3,baz=150,slow=33						
NWAO	**Narrogin (SRO)**	**85.87**	**125**	LR	LR	00 38 53.8	
	comp=Z,664nm,19.2s,MS5.0,baz=114,slow=32						
MJAR	**Matsushiro Arr**	**88.77**	**53**	LR	LR	00 50 52.8	
	comp=Z,257nm,20.4s,MS4.6,baz=270,slow=39						
FITZ	**Fitzroy Crossi**	**89.31**	**109**	LR	LR	00 42 04.9	
	comp=Z,542nm,18.8s,MS5.0,baz=285,slow=33						
BILL	**Bilibino**	**90.92**	**18**	P	**P**	**00 06 24.0**	**+10**
BDFB	**Brasilia**	**91.88**	**254**	LR	LR	00 43 18.1	
	comp=Z,501nm,18.6s,MS5.0,baz=86,slow=33						

IDC 26 23:57:33.1±1.8,2.81N×128.70E,mb3.8/4,mb1 4.0/4, mb1mx3.7/15,mbtmp3.9/4,Error ellipse: s-maj=96.3km s-min=22.7km az=70.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.99**	**188**	P		P	00 02 19.8	-0.9
	1.5nm,0.4s,baz=5.7,slow=14,SNR=5.3							
WRA	**Warramunga Arr**	**23.28**	**166**	P		P	00 02 42.4	-1.1
	1.3nm,0.3s,baz=344,slow=11,SNR=20							
WB2	**Warramunga Arr**	**23.28**	**166**	*e*P		P	00 02 43.3	-0.3
STKA	**Stephens Creek**	**36.60**	**161**	P		P	00 04 39.9	-3.2
	0.6nm,0.4s,baz=329,slow=9.5,SNR=3.6							
MKAR	**Makanchi Array**	**59.43**	**325**	P		P	00 07 37.9	-2.1
	0.7nm,0.4s,baz=108,slow=8.0,SNR=15							

*INET **26** 23:58:04.5, 13.05N×88.69W, h5km, ML3.2*
*SSS **26** 23:58:24.5, 13.06N×88.91W, h56km, MD3.4, ML3.5*
CASC 26 23:58:02.7±3.3,12.96N×88.93W,h39km±108km,MD3.7, ML3.3,6C-8D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.65**	**8**	*e*P		P	23 58 37.4	+22
SNVI				eS		S	23 58 47.6	+23
LFRS	**El Faro**	**0.67**	**349**	*e*P		P	23 58 37.4	+22
LFRS				eS		S	23 58 48.6	+23
LCBS	**La Ceiba**	**0.69**	**356**	*e*P		P	23 58 37.7	+22
LCBS				eS		S	23 58 49.8	+24
SNET	**Serv Nac Est T**	**0.78**	**338**	*e*P		P	23 58 39.0	+22
SNET				eS		S	23 58 49.7	+22
SNET				*i*			23 58 52.2	
	comp=Z,2μm,0.2s							
BLLM	**Bellamira**	**0.82**	**55**	*e*P		P	23 58 39.3	+21
BLLM				eS		S	23 58 51.3	+22
BOQS	**Boqueron**	**0.84**	**336**	*e*P		P	23 58 40.2	+22
BOQS				eS		S	23 58 52.4	+23
SBLS	**San Blas**	**1.10**	**322**	*e*P		P	23 58 44.0	+22
SBLS				eS		S	23 58 58.6	+22
CNCH	**Conchagua**	**1.11**	**74**	*e*P		P	23 58 42.5	+21
CNCH				eS		S	23 58 58.2	+22
SNJE	**San Jose**	**1.12**	**324**	*e*P		P	23 58 43.8	+22
SNJE				eS		S	23 58 58.7	+22
RTR	**El Retiro**	**1.16**	**323**	*e*P		P	23 58 44.7	+22
RTR				eS		S	23 58 59.7	+22
RBDL	**Robledal**	**1.36**	**327**	*e*P		P	23 58 47.8	+22
RBDL				eS		S	23 59 03.8	+21
CRIN	**San Cristobal**	**1.85**	**98**	*e*P		P	23 58 32.8	+0.2
LEON	**Leon**	**2.06**	**105**	*e*P		P	23 58 35.0	-0.5
TEL3	**Telica 3**	**2.07**	**101**	*e*P		P	23 58 35.2	-0.5
TEL3				eS		S	23 58 59.8	-0.6
	comp=Z,227nm,0.4s							
TELN	**Telica**	**2.08**	**100**	*e*P		P	23 58 35.1	-0.7
CNGN	**Cerro Negro**	**2.22**	**102**	*e*P		P	23 58 35.0	-2.9
MIRN	**Miramar**	**2.22**	**103**	*e*P		P	23 58 38.0	+0.1
MOMJ	**Momotombo**	**2.40**	**103**	*e*P		P	23 58 40.3	0.0
COPN	**Copaltepe**	**2.41**	**109**	*e*P		P	23 58 40.9	+0.4
COPN				eS		S	23 59 06.6	-2.5
	comp=Z,136nm,0.3s							
TICN	**Ticuantepe**	**2.79**	**109**	*e*P		P	23 58 46.4	+0.4

NNC 27 00:10:11.6±11.0,36.82N×70.39E,h119km±272km, mpv3.2,2C-2D,Error ellipse: s-maj=105.6km s-min=100.4km az=26.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.27**	**1**	⇓P		P	00 11 41.8	-1.1
	0.4nm,0.3s,baz=176,slow=12,SNR=18							
KK31				⇑S		S	00 12 52.0	-1.8
	1.1nm,0.5s,baz=188,slow=27							
AAK	**Ala-Archa**	**6.61**	**27**	⇑P		P	00 11 46.0	-1.6
	1.3nm,0.5s							
AAK				⇓S		S	00 13 01.7	-0.3
	2.7nm,0.5s							
AB31	**Akbulak array**	**14.56**	**332**	P		P	00 13 31.8	-1.0
	0.2nm,0.3s,baz=160,slow=12,SNR=11							

*ORF **27** 00:23:49.8, 39.00N×27.43E, h30km, mb4.9*
*IDC **27** 00:25:31.6±0.6, 43.14N×18.10E, mb4.3/15, mb1 4.5/24, mb1mx4.4/28, mbtmp4.3/24, ML4.3/8, MS4.5/24, Ms1 4.5/24, ms1mx4.4/32, Error ellipse: s-maj=9.9km s-min=8.7km az=44.0*
*BJI **27** 00:25:32.3, 43.57N×17.97E, h16km, mB5.3, mb4.8, Ms5.0, Msz4.7*
*CSEM **27** 00:25:32.9, 43.17N×18.23E, h10km, ML5.1*
*SKO **27** 00:25:32.9, 43.17N×18.23E, h10km, ML5.0, MLg5.0*
*PRU **27** 00:25:33.2, 43.20N×18.48E, M4.8*
*MOS **27** 00:25:33.4±1.0, 43.20N×18.13E, h18km, mb5.1/16, MS4.4/17, Error ellipse: s-maj=2.9km s-min=2.0km az=114.7*
*NEIC **27** 00:25:35.6±0.1, 43.16N×18.20E, mb4.8/47, ML5.1(BUC), ML5.0(SKO), ML4.9(PDG), ML4.8(LDG), Error ellipse: s-maj=1.9km s-min=1.5km az=24.0*
NEIC Felt [III] at Sarajevo. Felt at Stolac. Felt [V] at Kotor, Niksic and Podgorica, Serbia and Montenegro and [IV] at Dubrovnik, Croatia. Also felt at Skopje, Macedonia.
*LDG **27** 00:25:35.2±0.1, 43.24N×18.55E, h25km, Md4.7/3, Ml4.8/22, ms4.1/8, Error ellipse: s-maj=3.0km s-min=2.6km az=62.0*
*PDG **27** 00:25:35.6±0.1, 43.13N×18.21E, h15km, West. Monten.V, Niksic, Podgorica, Kotor IV-V EMS-98*
*HRVD **27** 00:25:35.6±0.5, 43.18N×18.18E, h30km±1km, MW5.1/53, Centroid moment Tensor Solution. LP body waves: s26,c33;Mantle waves: s53,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.13±.37; $M_{\theta\theta}$-3.45±.26; $M_{\phi\phi}$-0.67±.23; $M_{r\theta}$-2.05±.31; $M_{\theta\phi}$3.21±.14; $M_{\phi r}$-0.36±.33; Best double couple: $M_0$5.365×10^{16} NP1:ϕ_s145°,δ41°, λ124°. NP2:ϕ_s283°,δ57°,λ64°. Principal axes: T 4.932, Plg67°, Azm143°; N .869, Plg21°, Azm298°; P -5.798,*

Plg9°, Azm32°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISC 27 00:25:33.7±0.1,43.188N±0.009×18.16E±0.01,h18km, h18km±1.9km:pP-P,n767,σ1§27/884,mb4.8/59,MS4.6/34, 62C-52D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.40**	**136**	⇓*i*Pg		Pb	**00 25 42.8**	**+0.9**
BRY				*e*Sg		Sb	**00 25 47.8**	**+0.2**
TREB	**Trebinje**	**0.49**	**164**	Pg		Pb	**00 25 44.6**	**+1.1**
UPM	**Unac-Piva**	**0.55**	**88**	⇓*i*Pg		Pb	**00 25 45.5**	**+1.1**
UPM				*e*Sg		Sb	**00 25 54.0**	**+2.3**
UPM	**Unac-Piva**	**0.55**	**88**	⇓*i*Pg		Pb	**00 25 45.5**	**+1.1**
UPM				*e*Sg		Sb	**00 25 54.0**	**+2.2**
NKY	**Niksic**	**0.72**	**121**	⇑*i*Pg		Pb	**00 25 48.1**	**+0.7**
NKY				*e*Sg		Sb	**00 25 58.4**	**+1.7**
HCY	**Herceg Novi**	**0.78**	**161**	⇓*i*Pg		Pb	**00 25 48.9**	**+0.5**
HCY				*e*Sg		Sb	**00 26 00.6**	**+2.1**
PLE	**Pljevlja**	**0.91**	**81**	⇓*i*Pg		Pb	**00 25 52.0**	**+1.4**
PLE				*e*Sg		Sb	**00 26 06.2**	**+3.9**
BUM	**Brajici-Budva**	**1.04**	**148**	⇑*i*Pg		Pb	**00 25 53.6**	**+0.8**
BUM				*e*Sg		Sb	**00 26 09.2**	**+3.2**
TTG	**Podgorica**	**1.11**	**133**	⇓*i*Pg		Pb	**00 25 54.7**	**+0.7**
TTG				*e*Sg		Sb	**00 26 11.3**	**+3.3**
BBLS	**Bajina Basta -**	**1.13**	**53**	*i*Pg		Pb	**00 25 57.4**	**+3.0**
BBLS				Sg		Sb	**00 26 14.7**	**+6.0**
NVSS	**Nova Varos 2**	**1.17**	**74**	⇓*i*Pg		Pb	**00 25 59.6**	**+4.6**
NVSS				Sg		Sb	**00 26 16.9**	**+7.2**
IVA	**Berane**	**1.31**	**103**	⇓*i*Pg		Pn	**00 25 59.0**	**+1.7**
IVA				*e*Sg		Sb	**00 26 18.4**	**+4.5**
PVY	**Plav**	**1.46**	**113**	P		Pn	**00 26 01.9**	**+2.5**
PVY				S		Sb	**00 26 22.0**	**+3.9**
ULC	**Ulcinj**	**1.46**	**146**	⇑*i*Pg		Pn	**00 26 01.5**	**+2.0**
ULC				*e*Sg		Sb	**00 26 22.1**	**+3.8**
ULC	**Ulcinj**	**1.46**	**146**	⇑*i*Pg		Pn	**00 26 01.5**	**+2.0**
ULC				*e*Sg		Sb	**00 26 22.0**	**+3.7**
SDA	**Shkodra**	**1.50**	**139**	*i*Pn		Pn	**00 26 03.8**	**+3.8**
SDA				*i*Sn		Sn	**00 26 25.7**	**+6.4**
DIVS	**Divcibare**	**1.61**	**55**	⇑*i*Pn		Pn	**00 26 02.8**	**+1.2**
DIVS				Sn		Sn	**00 26 22.5**	**+0.5**
BCI	**Bajram Curri**	**1.62**	**120**	*e*Pn		Pn	**00 26 05.3**	**+3.4**
BCI				*i*Sn		Sn	**00 26 29.2**	**+6.8**
BLY	**Banja Luka**	**1.71**	**336**	Pg		Pn	**00 26 04.7**	**+1.7**
PUK	**Puka**	**1.71**	**131**	*i*Pn		Pn	**00 26 07.1**	**+4.0**
PUK				*i*Sn		Sn	**00 26 32.1**	**+7.4**
GRUS	**Gruza**	**1.98**	**68**	*i*Pn		Pn	**00 26 07.8**	**+0.9**
GRUS				Sn		Sn	**00 26 31.2**	**-0.3**
QSH	**Qafa e Shtames**	**2.11**	**142**	*i*Pn		Pn	**00 26 10.0**	**+1.3**
QSH				*i*Sn		Sn	**00 26 40.0**	**+5.4**
FGMS	**Monte Sant'Ang**	**2.20**	**229**	P		Pn	**00 26 09.7**	**-0.4**
TIR	**Tirane**	**2.23**	**145**	⇓*i*Pn		Pn	**00 26 13.0**	**+2.5**
TIR				*i*Sn		Sn	**00 26 44.0**	**+6.2**
TIR	**Tirane**	**2.23**	**145**	P		Pn	**00 26 12.0**	**+1.5**
BAI	**Bari**	**2.29**	**205**	*e*Pn		Pn	**00 26 11.0**	**-0.3**
BEO	**Belgrade**	**2.33**	**45**	⇑*i*Pn		Pn	**00 26 11.9**	**+0.1**
BEO				Sn		Sn	**00 26 37.4**	**-2.8**
BRT	**Bari-Castellan**	**2.42**	**198**	P		Pn	**00 26 12.6**	**-0.5**
PE1	**Pezze di Greco**	**2.44**	**193**	*e*Pn		Pn	**00 26 13.1**	**-0.4**
SVIS	**Svilajnac**	**2.48**	**62**	⇓*i*Pn		Pn	**00 26 14.4**	**+0.4**
SVIS				Sn		Sn	**00 26 46.4**	**+0.5**
CDT	**Castel del Mon**	**2.53**	**214**	*e*Pn		Pn	**00 26 14.1**	**-0.6**
SG1	**Sgolgore (BA)**	**2.59**	**206**	*e*Pn		Pn	**00 26 14.9**	**-0.7**
FG2	**Serracapriola**	**2.62**	**239**	P		Pn	**00 26 15.7**	**-0.2**
RHK3	**Tenkes**	**2.70**	**1**	⇑*e*P		Pn	**00 26 17.4**	**+0.2**
SKO	**Skopje**	**2.71**	**116**	⇑*i*Pn		Pn	**00 26 20.5**	**+3.2**
SKO				*i*Pb		Pb	**00 26 25.4**	**+4.1**
SKO				*i*Pg		Pn	**00 26 28.5**	**+11**
SKO				*i*Sn		Sn	**00 26 54.6**	**+4.7**
SKO				*i*Sb		Sb	**00 27 02.6**	**+8.3**
SKO				*i*Sg		Sn	**00 27 04.0**	**+14**
SKO				Lg			00 27 10.0	
	comp=E,28nm,1.0s							
SKO				Lg			00 27 10.0	
	comp=N,25nm,1.2s							
SKO	**Skopje**	**2.71**	**116**	⇑*i*Pn		Pn	**00 26 20.5**	**+3.2**
SKO				*i*S		Sn	**00 26 54.6**	**+4.7**
BARS	**Barje**	**2.71**	**97**	⇑*i*Pn		Pn	**00 26 18.7**	**+1.4**
BARS				Sn		Sn	**00 26 52.4**	**+2.4**
BARS	**Barje**	**2.71**	**97**	Pn		Pn	**00 26 18.7**	**+1.4**
BARS				Sn		Sn	**00 26 52.3**	**+2.3**
NVLJ	**Novalja**	**2.75**	**301**	*i*Pn		Pn	**00 26 19.5**	**+1.7**
NVLJ				*i*Sn		Sn	**00 26 52.8**	**+1.8**
LTRZ	**Laterza**	**2.77**	**202**	P		Pn	**00 26 17.4**	**-0.8**
BOLS	**Boljevac**	**2.84**	**76**	⇓*i*Pn		Pn	**00 26 20.3**	**+1.2**
BOLS				Sn		Sn	**00 26 54.7**	**+1.5**
FG4	**Candela**	**2.84**	**225**	P		Pn	**00 26 19.5**	**+0.3**
LCI	**Lecce**	**2.85**	**181**	P		Pn	**00 26 18.9**	**-0.4**
CIGN	**Sant'Elia a Pi**	**2.86**	**239**	P		Pn	**00 26 20.2**	**+0.8**
FG5	**Orsara di Pugl**	**2.87**	**229**	P		Pn	**00 26 19.8**	**+0.2**
RHH3	**Bakonya**	**2.91**	**359**	⇑*e*P		Pn	**00 26 21.1**	**0.0**
PKSM	**Moragy**	**3.04**	**6**	⇓*i*P		Pn	**00 26 21.8**	**-0.2**
PKSM				*e*S		Sn	**00 26 57.3**	**-1.1**
MRLC	**Muro Lucano**	**3.14**	**220**	P		Pn	**00 26 22.3**	**-1.1**
PSB1	**Pescosannita**	**3.17**	**233**	P		Pn	**00 26 25.1**	**+1.3**
TPE	**Tepelena**	**3.20**	**154**	*i*Pn		Pn	**00 26 25.5**	**+1.2**
TPE				*i*Sn		Sn	**00 27 02.3**	**-0.2**
CII	**Carovilli**	**3.21**	**244**	*e*Pn		Pn	**00 26 24.6**	**+0.2**
CII	**Carovilli**	**3.21**	**244**	*e*Pn		Pn	**00 26 24.6**	**+0.2**
KBN	**Korca**	**3.23**	**142**	*i*Pn		Pn	**00 26 27.2**	**+2.6**
KBN				*i*Sn		Sn	**00 27 06.3**	**+3.3**
CRES	**Cresnjev**	**3.27**	**325**	*e*Pn		Pn	**00 26 26.7**	**+1.4**
MIDA	**Miranda**	**3.28**	**243**	P		Pn	**00 26 25.9**	**+0.5**
CSSN	**Cassano Irpino**	**3.30**	**226**	P		Pn	**00 26 26.7**	**+1.1**
RNI2	**Rionero Sannit**	**3.32**	**245**	P		Pn	**00 26 26.6**	**+0.7**
AOI	**Ancona**	**3.34**	**278**	P		Pn	**00 26 27.3**	**+1.0**
INTR	**Introdacqua**	**3.36**	**251**	P		Pn	**00 26 26.6**	**+0.1**
ORI	**Oriolo Calabro**	**3.38**	**203**	P		Pn	**00 26 26.7**	**-0.1**
SLCN	**Sala Consilina**	**3.38**	**215**	P		Pn	**00 26 26.3**	**-0.5**
SGO	**Sicignano**	**3.38**	**220**	P		Pn	**00 26 26.0**	**-0.8**
CESS	**Cesta pri Krsk**	**3.39**	**326**	*i*Pn		Pn	**00 26 28.2**	**+1.3**
CESS				*i*Sn		Sn	**00 27 10.0**	**+2.9**
FNA	**Florina**	**3.39**	**134**	*e*P		Pn	**00 26 29.3**	**+2.3**
FNA	**Florina**	**3.39**	**134**	P		Pn	**00 26 29.2**	**+2.2**
FNA				S		Sn	**00 27 07.7**	**+0.5**
TERO	**Teramo**	**3.40**	**262**	P		Pn	**00 26 27.4**	**+0.3**
PKS9	**Tamasi**	**3.40**	**1**	⇑*i*P		Pn	**00 26 27.7**	**+0.6**
DJES	**Djerdap**	**3.47**	**64**	*e*Pn		Pn	**00 26 29.1**	**+1.0**
DJES				Sg		Sn	**00 27 04.7**	**-4.4**
DOBS	**Dobrina**	**3.53**	**328**	*i*Pn		Pn	**00 26 29.8**	**+0.9**
DOBS				*i*			00 27 16.7	
DOBS				*i*			00 27 29.4	
VISS	**Visnje**	**3.53**	**319**	*e*Pn		Pn	**00 26 30.6**	**+1.6**
VISS				*i*			00 26 31.7	
VISS				*e*			00 27 20.5	
VISS				*e*			00 27 29.8	
LSK	**Leskovik**	**3.54**	**148**	*e*Pn		Pn	**00 26 30.5**	**+1.4**
SDI	**San Donato**	**3.54**	**247**	P		Pn	**00 26 32.4**	**+3.3**
PKS6	**Bocsa**	**3.55**	**16**	⇑*e*P		Pn	**00 26 29.0**	**-0.3**
SRN	**Sarande**	**3.58**	**157**	*i*Pn		Pn	**00 26 29.3**	**-0.4**
SRN				*i*Sn		Sn	**00 27 11.5**	**-0.5**
AQU	**L'Aquila**	**3.60**	**258**	*e*Pn		Pn	**00 26 30.4**	**+0.5**
AQU	**L'Aquila**	**3.60**	**258**	*e*Pn		Pn	**00 26 30.4**	**+0.4**
VVLD	**Villa Vallelon**	**3.60**	**250**	P		Pn	**00 26 30.4**	**+0.4**
MGR	**Morigerati**	**3.62**	**214**	P		Pn	**00 26 29.8**	**-0.4**
RFI	**Roccamonfina**	**3.63**	**240**	P		Pn	**00 26 31.4**	**+1.0**
CING	**Cingoli**	**3.63**	**275**	P		Pn	**00 26 31.5**	**+1.1**
CUC	**Castrocucco**	**3.65**	**210**	P		Pn	**00 26 29.9**	**-0.7**
KEK	**Kerkira**	**3.68**	**160**	*e*P		Pn	**00 26 31.0**	**-0.1**
KEK	**Kerkira**	**3.68**	**160**	P		Pn	**00 26 28.6**	**-2.5**
CEY	**Cerknica**	**3.69**	**315**	*e*Pn		Pn	**00 26 33.2**	**+1.9**
CEY				*e*			00 27 19.6	
PTQR	**Pietraquaria**	**3.70**	**253**	P		Pn	**00 26 32.6**	**+1.2**
PKS8	**Sarbogard**	**3.71**	**5**	⇑*e*P		Pn	**00 26 31.3**	**-0.2**
NRCA	**Norcia**	**3.72**	**266**	P		Pn	**00 26 32.0**	**+0.4**
VTS	**Vitosha**	**3.76**	**97**	P		Pn	**00 26 34.2**	**+2.0**
VTS	**Vitosha**	**3.76**	**97**	P		Pn	**00 26 33.7**	**+1.5**
VTS	**Vitosha**	**3.76**	**97**	⇓P		Pn	**00 26 33.7**	**+1.5**
GROS	**Grobnik**	**3.78**	**331**	*e*Pn		Pn	**00 26 32.6**	**+0.1**
GROS				*i*			00 26 33.1	
TDS	**Terranova Siba**	**3.78**	**202**	P		Pn	**00 26 32.5**	**0.0**
SNTG	**Esanatoglia**	**3.82**	**273**	P		Pn	**00 26 33.4**	**+0.4**
ARV	**Arcevia**	**3.82**	**276**	P		Pn	**00 26 33.7**	**+0.6**
FIAM	**Fiamignano**	**3.83**	**258**	P		Pn	**00 26 34.6**	**+1.4**
LJU	**Ljubljana**	**3.86**	**319**	*e*Pn		Pn	**00 26 35.2**	**+1.6**
LJU				*i*			00 26 35.9	
LJU				*e*			00 26 46.9	
GRG	**Griva**	**3.86**	**124**	*e*P		Pn	**00 26 35.5**	**+1.8**
PKSN	**Nyarlorinc**	**3.90**	**17**	*e*P		Pn	**00 26 34.8**	**+0.6**
PKS7	**Kunszentmiklos**	**3.92**	**10**	⇓*e*P		Pn	**00 26 34.4**	**-0.1**
KZN	**Kozani**	**3.95**	**136**	*e*P		Pn	**00 26 36.3**	**+1.4**
FSSB	**Fossombrone**	**3.95**	**279**	P		Pn	**00 26 35.4**	**+0.4**
IGT	**Igoumenitsa**	**4.00**	**155**	*e*P		Pn	**00 26 35.5**	**-0.2**
IGT	**Igoumenitsa**	**4.00**	**155**	P		Pn	**00 26 35.6**	**0.0**
IGT				S		Sn	**00 27 21.0**	**-1.6**
CERT	**Cerreto**	**4.02**	**254**	P		Pn	**00 26 36.6**	**+0.7**
TRI	**Trieste**	**4.03**	**310**	P		Pn	**00 26 37.2**	**+1.1**
KNT	**Kendrikon**	**4.06**	**118**	*e*P		Pn	**00 26 38.2**	**+1.7**
KNT	**Kendrikon**	**4.06**	**118**	P		Pn	**00 26 38.2**	**+1.7**
KNT				S		Sn	**00 27 25.2**	**+1.1**
KNT	**Kendrikon**	**4.06**	**118**	P		Pn	**00 26 38.3**	**+1.8**
KNT				S		Sn	**00 27 25.2**	**+1.1**
JAN	**Janina**	**4.07**	**149**	*e*P		Pn	**00 26 37.4**	**+0.8**
MEV	**Metsovon**	**4.11**	**145**	*e*P		Pn	**00 26 38.9**	**+1.7**
MNS	**Montasola**	**4.11**	**261**	P		Pn	**00 26 37.5**	**+0.2**
MURB	**Monte Urbino**	**4.12**	**273**	P		Pn	**00 26 38.5**	**+1.1**
TIP	**Timpagrande**	**4.14**	**195**	*e*Pn		Pn	**00 26 36.2**	**-1.5**
TIP	**Timpagrande**	**4.14**	**195**	*e*Pn		Pn	**00 26 36.2**	**-1.5**
MTCE	**Montecelio**	**4.17**	**256**	P		Pn	**00 26 38.4**	**+0.4**
VOY	**Vojsko**	**4.17**	**314**	⇓*e*Pn		Pn	**00 26 39.9**	**+1.9**
VOY				*e*			00 27 29.5	
OBKA	**Obir**	**4.20**	**324**	⇑*i*PN		Pn	**00 26 39.7**	**+1.2**
OBKA				*i* SN		Sn	**00 27 28.0**	**+0.4**
OBKA	**Obir**	**4.20**	**324**	*i* Pn		Pn	**00 26 39.7**	**+1.3**
	SNR=87							
OBKA	**Obir**	**4.20**	**324**	⇓*i*Sn		Sn	**00 27 28.0**	**+0.4**
	comp=N,555nm,0.9s							
PKSG		**4.21**	**2**	*e*P		Pn	**00 26 38.3**	**-0.3**
RSM	**Repubblica di**	**4.22**	**282**	P		Pn	**00 26 39.4**	**+0.7**
CRAR	**CRAIOVA**	**4.24**	**73**	P		Pn	**00 26 40.5**	**+1.5**
CRAR	**CRAIOVA**	**4.24**	**73**	⇓P		Pn	**00 26 40.5**	**+1.5**
MA9	**Marino**	**4.31**	**253**	P		Pn	**00 26 33.8**	**-6.2**
LAV9	**Lanuvio**	**4.32**	**251**	P		Pn	**00 26 40.2**	**+0.1**
BADI	**Badiali**	**4.33**	**276**	P		Pn	**00 26 41.7**	**+1.4**
BUD	**Budapest**	**4.34**	**8**	⇓*e*Pn		Pn	**00 26 39.9**	**-0.6**
CADS	**Cadrg**	**4.38**	**315**	*e*Pn		Pn	**00 26 42.4**	**+1.3**
ROM9	**Roma**	**4.39**	**254**	P		Pn	**00 26 42.5**	**+1.3**
DRE	**Drenchia**	**4.39**	**314**	⇓*i*P		Pn	**00 26 42.0**	**+0.8**
THE	**Thessaloniki**	**4.40**	**124**	*e*P		Pn	**00 26 42.2**	**+0.9**
THE	**Thessaloniki**	**4.40**	**124**	P		Pn	**00 26 42.1**	**+0.8**
ARSA	**Arzberg**	**4.47**	**336**	⇑*i*PN		Pn	**00 26 42.4**	**+0.1**
ARSA				*i* SN		Sn	**00 27 36.0**	**+1.5**
ARSA	**Arzberg**	**4.47**	**336**	*i* Pn		Pn	**00 26 42.4**	**0.0**
	SNR=133							
ARSA	**Arzberg**	**4.47**	**336**	⇑*i*Sn		Sn	**00 27 36.0**	**+1.5**
	comp=N,365nm,0.8s							
LIT	**Litokhoron**	**4.47**	**132**	*e*P		Pn	**00 26 43.2**	**+0.8**
LIT	**Litokhoron**	**4.47**	**132**	P		Pn	**00 26 43.2**	**+0.8**
LIT				S		Sn	**00 27 35.8**	**+1.2**
COLI	**Coloredo**	**4.51**	**312**	⇑*i*P		Pn	**00 26 44.0**	**+1.2**
SOH	**Sokhos**	**4.53**	**120**	*e*P		Pn	**00 26 44.2**	**+1.0**
SOH	**Sokhos**	**4.53**	**120**	P		Pn	**00 26 44.3**	**+1.1**
SOH				S		Sn	**00 27 34.9**	**-1.2**
TLI	**Talmassons**	**4.53**	**309**	⇑*i*P		Pn	**00 26 45.0**	**+1.8**
SRS	**Serrai**	**4.54**	**115**	*e*P		Pn	**00 26 43.6**	**+0.4**
SRS	**Serrai**	**4.54**	**115**	P		Pn	**00 26 43.7**	**+0.5**
SRS				S		Sn	**00 27 35.4**	**-0.8**
CRE	**Caprese Michel**	**4.55**	**278**	P		Pn	**00 26 44.9**	**+1.5**
GRI	**Girifalco**	**4.56**	**197**	P		Pn	**00 26 42.9**	**-0.6**
SRO1	**Iza**	**4.58**	**1**	*i* PN		Pn	**00 26 43.8**	**0.0**
SRO1				*i*SN		Sn	**00 27 36.2**	**+1.0**
SRO2	**Moca**	**4.58**	**2**	*e*PN		Pn	**00 26 43.4**	**-0.4**
SRO2				*e*SN		Sn	**00 27 37.8**	**+0.6**
NVR	**Nevrokopi**	**4.61**	**112**	*e*P		Pn	**00 26 46.3**	**+2.0**
**SR

VINC Vinca 5.89 282 P Pn 00 27 03.1 +0.8
AOS Alonnisos 5.89 131 eP Pn 00 27 01.1 -1.3
AOS Alonnisos 5.89 131 P Pn 00 27 01.6 -0.8
AOS Alonnisos 5.89 131 P Pn 00 27 01.6 -0.8
APPI Appiano 5.93 306 P Pn 00 27 03.1 +0.2
BACM 5.96 283 P Pn 00 27 04.3 +0.9
BACM 5.96 283 P Pn 00 27 04.3 +0.9
SCE Schlegeis 5.97 312 ePn Pn 00 27 04.6 +1.1
SAL Salo 5.98 296 P Pn 00 27 04.9 +1.3
GRAM 6.00 285 P Pn 00 27 04.7 +0.8
GRAM 6.00 285 P Pn 00 27 04.7 +0.8
KRUC Moravsky 6.00 349 P Pn 00 27 04.0 +0.1
MLR Muntele Rosu 6.04 65 Pn Pn 00 27 05.3 +0.9
comp=N,2.1nm,0.3s,baz=218,slow=5.7,SNR=46
MLR Sn Sn 00 28 11.5 -2.3
comp=N,14nm,0.3s,baz=114,slow=23,SNR=4.6
MLR Lg 00 28 53.8
comp=N,16nm,0.3s,baz=264,slow=22,SNR=5.0
MLR Muntele Rosu 6.04 65 ⇓P Pn 00 27 04.8 +0.4
MLR Muntele Rosu 6.04 65 ⇓P Pn 00 27 04.8 +0.3
GIB Gibilmanna 6.07 213 P Pn 00 27 04.2 -0.7
LOS Limnos 6.12 120 eP Pn 00 27 06.2 +0.6
LOS Limnos 6.12 120 P Pn 00 27 06.1 +0.4
CODM 6.14 284 P Pn 00 27 07.1 +1.3
CODM 6.14 284 P Pn 00 27 07.1 +1.3
WTTA Wattenberg 6.15 314⇑iPN Pn 00 27 05.9 -0.2
WTTA iSN Sn 00 28 19.4 +2.7
WTTA Wattenberg 6.15 314⇑iSn Sn 00 28 19.4 +2.7
comp=N,142nm,0.5s
UZH Uzhgorod 6.16 26 iP Pn 00 27 07.5 +1.3
UZH Uzhgorod 6.16 26c iP Pn 00 27 07.5 +1.3
UZH eS Sn 00 28 24.0 +7.1
MABI Malga Bissina 6.17 300 P Pn 00 27 07.5 +1.3
LIA Limnos Island 6.21 120 eP Pn 00 27 07.2 +0.3
VRAC Vranov 6.22 350 Pn Pn 00 27 06.1 -0.9
comp=N,2.0nm,0.3s,baz=177,slow=14,SNR=15
VRAC Sn Sn 00 28 18.1 -0.3
comp=N,5.0nm,0.3s,baz=140,slow=9.3,SNR=3.1
VRAC Lg 00 28 49.3
comp=N,1.6nm,0.3s,baz=115,slow=18,SNR=1.9
VRAC LR LR 00 29 31.8
comp=N,3µm,21.4s,baz=175,slow=38
VRAC Vranov 6.22 350 ePn Pn 00 27 06.6 -0.4
VRAC eSn Sn 00 28 12.1 -6.3
VRAC S Sn 00 28 18.1 -0.3
comp=N,3µm,21.4s
WATA Walderalm 6.23 314⇑iPN Pn 00 27 07.3 +0.2
WATA iSN Sn 00 28 19.8 +1.2
WATA Walderalm 6.23 314⇓iSn Sn 00 28 19.8 +1.2
comp=N,64nm,0.4s
JMB Yambol 6.23 94 P Pn 00 27 08.0 +0.8
ALN Alexandroupoli 6.30 109 eP Pn 00 27 09.6 +1.4
ALN Alexandroupoli 6.30 109 P Pn 00 27 09.4 +1.3
ALN S Sn 00 28 18.7 -1.7
ISR Istrita 6.33 69 ⇓P Pn 00 27 08.6 0.0
ISR Istrita 6.33 69 P Pn 00 27 08.7 +0.1
ISR Istrita 6.33 69 ⇓P Pn 00 27 08.7 +0.1
AGST Augusta-Monte 6.33 202 P Pn 00 27 06.5 -2.1
SQTA Sankt Quirin 6.35 312⇓iPN Pn 00 27 10.2 +1.3
SQTA iSN Sn 00 28 21.8 0.0
SQTA Sankt Quirin 6.35 312⇑iSn Sn 00 28 21.8 +0.1
comp=N,119nm,0.4s
VAE Valguarnera 6.38 208 Pn Pn 00 27 11.2 +1.9
comp=N,4.9nm,0.3s,baz=316,slow=9.9,SNR=26
VAE Lg 00 28 52.1
comp=N,4.9nm,0.3s,baz=33,slow=10.0,SNR=3.1
TREC Trest 6.38 344 ePN Pn 00 27 09.4 +0.1
NIE Niedzica 6.41 13 ePn Pn 00 27 10.0 +0.3
NIE eS Sn 00 29 06.6 +43
KOLS Kolonicke sedl 6.42 25 ePN Pn 00 27 10.4 +0.6
BRMO Bormio 6.44 303 P Pn 00 27 11.1 +1.0
GEC2 GERESS Array S 6.45 333 eP Pn 00 27 10.1 -0.2
GERES GERESS Array B 6.45 333 Pn Pn 00 27 10.1 -0.2
comp=N,6.9nm,0.3s,baz=154,slow=14,SNR=137
GERES Sn Sn 00 28 23.0 -1.2
comp=N,9.4nm,0.3s,baz=153,slow=24,SNR=6.5
GERES Lg 00 28 58.4
comp=N,1.3nm,0.3s,baz=150,slow=22,SNR=4.0
GERES LR LR 00 30 06.0
comp=N,5µm,18.2s,baz=145,slow=42
SSY Sortino 6.47 202 P Pn 00 27 09.0 -1.6
BOB Bobbio (Coli) 6.48 287 P Pn 00 27 10.0 -0.7
MGER Gerania Oros 6.48 142 eP Pn 00 27 09.5 -1.2
MOTA Moosalm 6.49 312⇑iPN Pn 00 27 11.2 +0.4
MOTA iSN Sn 00 28 26.5 +1.4
MOTA Moosalm 6.49 312⇑iSn Sn 00 28 26.5 +1.5
comp=N,184nm,0.8s
STHS Stebnicka Huta 6.58 18 ePN Pn 00 27 12.3 +0.1
MORC Moravsky Berou 6.61 357 ePn Pn 00 27 09.9 -2.5
comp=N,54nm,0.8s
MORC Moravsky Berou 6.61 357 ePn Pn 00 27 09.9 -2.5
comp=N,54nm,0.8s
MORC Moravsky Berou 6.61 357 P Pn 00 27 12.3 -0.1
MORC Moravsky Berou 6.61 357 P Pn 00 27 12.3 -0.1
BURAR Bucovina Array 6.65 46 ⇑P Pn 00 27 13.5 +0.4
BURAR Bucovina Array 6.65 46 ⇑P Pn 00 27 13.5 +0.4
OKC Ostrava-Krasne 6.65 360 ePN Pn 00 27 12.3 -0.8
OKC eSN Sn 00 28 25.3 -3.9
ITM Ithomi 6.66 153 eP Pn 00 27 11.4 -1.8
ITM Ithomi 6.66 153 P Pn 00 27 10.0 -3.2
ERC Erice 6.67 221 P Pn 00 27 13.1 -0.2
VRI Vrincioaia 6.68 63 ⇑P Pn 00 27 13.6 +0.1
CORF Corte 6.69 265 eP Pn 00 27 13.8 +0.1
MTGR Montagna Grand 6.70 220 P Pn 00 27 14.4 +0.6
ATH Athens Observa 6.71 139 eP Pn 00 27 12.7 -1.2
MFNL Monte Finestre 6.71 218 P Pn 00 27 15.7 +1.8
PTL Penteli 6.72 138 eP Pn 00 27 13.2 -0.9
KHC Kasperske Hory 6.74 333 ePN Pn 00 27 14.7 +0.3
KHC ex x 00 27 23.0
KHC x x 00 27 34.5
KHC eSN Sn 00 28 29.2 -2.3
KHC Kasperske Hory 6.74 333 ePn Pn 00 27 14.7 +0.3
KHC eSn Sn 00 28 29.2 -2.3
KHC Kasperske Hory 6.74 333 eP Pn 00 27 14.7 +0.3
KHC eS Sn 00 28 29.2 -2.3
CLTB Caltabellotta 6.75 216 P Pn 00 27 15.7 +1.1
PGF Pioggiola 6.76 268 ePn Pn 00 27 14.2 -0.5
PGF eSn Sn 00 28 29.0 -3.0
comp=N,102nm,0.8s
FAVR Favara 6.84 212 P Pn 00 27 15.6 -0.2
DAVOX Davos 6.88 304 Pn Pn 00 27 17.2 +0.8
comp=N,7.7nm,0.3s,baz=125,slow=12,SNR=72
DAVOX Sn Sn 00 28 34.7 -0.3
comp=N,5.0nm,0.3s,baz=81,slow=23,SNR=1.4
RAC Raciborz 6.90 0 ePn Pn 00 27 17.6 +1.0
RAC ePP PP 00 27 25.6 +1.4
RAC eSg Sn 00 29 19.2 +44
RAC MLR MLR 00 30 16.3
comp=N,6µm,15.2s
FUR Furstenfeldbru 6.93 318 P Pn 00 27 17.5 +0.5
EZN Ezine 6.99 116 P Pn 00 27 14.8 -3.1
WET Wettzell 7.00 330 eP Pn 00 27 18.2 +0.3
WET eS Sn 00 28 36.3 -1.5
VDL Val di Lei 7.00 301 ⇑P Pn 00 27 20.9 +2.9
DGI Dorgali Grotta 7.01 249 P Pn 00 27 17.4 -0.7
TUE Stuetta 7.08 301 P Pn 00 27 20.0 +1.0
OJC Ojcow 7.12 9 ePn Pn 00 27 18.9 -0.8
OJC ePg Pn 00 27 50.6 +31
OJC eSg Sn 00 29 11.9 +31
DAVA Damuels 7.14 308⇑iPN Pn 00 27 19.9 0.0
DAVA iSN Sn 00 28 43.1 +1.7
DAVA Damuels 7.14 308⇑iPn Pn 00 27 19.9 0.0
SNR=18
DAVA Damuels 7.14 308⇑iSn Sn 00 28 43.1 +1.7
comp=N,141nm,0.6s
KWP Kalwaria 7.17 24 ePn Pn 00 27 22.4 +2.0
KWP e 00 27 28.8
KWP MLR MLR 00 30 14.6
comp=N,5µm,20.2s
MFT Murefte 7.21 106 P Pn 00 27 20.5 -0.4
VAI Varese 7.23 295 P Pn 00 27 19.9 -1.3
UBR Uberruh 7.23 311 P Pn 00 27 21.7 +0.5
PRU Pruhonice 7.24 341 ePn Pn 00 27 21.5 +0.1
PRK Paraskevi 7.27 120 eP Pn 00 27 22.7 +0.9
DPC Dobruska-Polom 7.28 351 ePN Pn 00 27 22.4 +0.5
FIN Finale Ligure 7.29 281 P Pn 00 27 20.9 -1.1
CANB Canakkale 7.38 112 P Pn 00 27 23.8 +0.4
VLI Veliai 7.43 149 eP Pn 00 27 21.0 -3.0
CFR Carcaliu 7.44 71 ⇑P Pn 00 27 23.5 -0.7
LLS Linth-Limmern 7.45 303 ⇑P Pn 00 27 27.3 +3.1
UPC Upice 7.47 349 ePn Pn 00 27 25.1 +0.5
MRMT Marmara Adasi 7.50 107 P Pn 00 27 25.2 +0.2

IMI Imperia 7.50 279 P Pn 00 27 24.2 -0.8
TIRR Tirgusor 7.52 77 ⇓P Pn 00 27 27.0 +1.7
TIRR Tirgusor 7.52 77 ⇓P Pn 00 27 27.0 +1.7
TIRR Tirgusor 7.52 77 P Pn 00 27 26.2 +0.9
VSL Villasalto 7.57 244 ePn Pn 00 27 24.2 -1.7
comp=N,53nm,0.9s
VSL Villasalto 7.57 244 ePn Pn 00 27 24.2 -1.7
comp=N,53nm,0.9s
ORO Oropa 7.69 292 P Pn 00 27 25.7 -1.9
MUO Muotathal 7.73 303 ⇑P Pn 00 27 30.9 +2.7
HDH Heidenheim 7.74 317 P Pn 00 27 28.0 -0.3
SAOF Saorge 7.74 280 eP Pn 00 27 27.1 -1.3
PVCC Panska Ves 7.74 343 ePN Pn 00 27 28.4 0.0
IAS Iasi 7.75 56 P Pn 00 27 31.2 +2.7
IAS Iasi 7.75 56 P Pn 00 27 31.2 +2.7
KSP Ksiaz 7.76 351 eP Pn 00 27 30.1 +1.4
KSP e 00 27 36.0
KSP MLR MLR 00 30 43.4
comp=N,8µm,16.8s
KSP Ksiaz 7.76 351 eP Pn 00 27 29.9 +1.2
LVV L'vov 7.77 29 eP Pn 00 27 30.4 +1.6
WILA Wila 7.77 306 ⇑P Pn 00 27 29.7 +0.9
MCGN Macugnaga 7.77 294 P Pn 00 27 29.8 +1.0
EDC Edincik 7.79 108 eP Pn 00 27 29.9 +0.9
MMK Mattmark 7.82 295 ⇓P Pn 00 27 29.2 -0.2
BNT Bandirma 7.82 108 eP Pn 00 27 30.1 +0.6
SBF Sospel 7.83 279 ePn Pn 00 27 27.9 -1.7
SBF eSn Sn 00 28 53.4 -5.2
comp=N,202nm,0.7s
AUTN L'Aution 7.84 280 eP Pn 00 27 30.0 +0.3
KYTH Kithira 7.85 150 eP Pn 00 27 28.5 -1.4
REVF Revere 7.87 278 eP Pn 00 27 29.4 -0.8
SISB Singen-Sch Ber 7.88 308 P Pn 00 27 31.5 +1.2
CTT Catalca 7.89 101 eP Pn 00 27 30.9 +0.3
TLCR 7.91 72 ⇓P Pn 00 27 30.8 0.0
TLCR 7.91 72 ⇓P Pn 00 27 30.8 0.0
TLCR 7.91 72 P Pn 00 27 30.9 +0.1
TLCR 7.91 72 ⇓P Pn 00 27 30.9 +0.1
ZUR Zurich 7.94 305 ⇓P Pn 00 27 33.1 +1.9
TOUF Mont Tournerai 7.97 280 eP Pn 00 27 34.3 +2.8
DOI San Damiano 8.00 283 P Pn 00 27 31.4 -0.6
GUT Gutenstein 8.00 311 P Pn 00 27 31.8 -0.2
MVIF Mont Vial 8.03 279 eP P 00 27 34.1 +1.7
NKC Novy Kostel 8.06 333 ePN P 00 27 32.7 -0.2
GRA1 Grafenberg Arr 8.08 326 eP P 00 27 32.1 -1.0
GRF Grafenberg Arr 8.08 326 eP P 00 27 32.1 -1.0
BUCH Bad Urach 8.09 314 P P 00 27 33.0 -0.3
BALB Balikesir 8.12 113 eP P 00 27 34.0 +0.4
LKBD Leukerbad 8.15 297 ⇓P P 00 27 32.8 -1.2
SLE Schleitheim 8.19 307 ⇓P P 00 27 33.7 -0.9
DIX Grande Dixence 8.20 294 ⇓P P 00 27 34.2 -0.5
SPAK Spaichingen 8.20 310 P P 00 27 35.7 +0.9
BRG Berggiesshubel 8.21 341 iP P 00 27 35.4 +0.5
comp=N,13nm,0.8s
BRG e 00 30 09.7
BRG Berggiesshubel 8.21 341 iP P 00 27 35.3 +0.4
BRG pmax pmax
comp=Z,13nm,0.8s
BRG pmax pmax
comp=Z,670nm,2.4s
BRG MLR MLR
comp=Z,5µm,11.0s
BRG MLR MLR
comp=N,5µm,16.4s
BRG MLR MLR
comp=E,3µm,16.4s
CALN Calern 8.22 278 eP P 00 27 34.2 -0.8
BLCB Balcova 8.27 122 eP P 00 27 33.6 -2.1
TUBL Tuebingen Lnz 8.28 313 P P 00 27 35.9 0.0
SULZ Sulz-Cheisache 8.30 305 ⇑P P 00 27 36.9 +0.8
SURF Saint Ours 8.31 283 eP P 00 27 38.1 +1.8
APE Apeiranthos 8.32 135 eP P 00 27 33.7 -2.7
APE Apeiranthos 8.32 135 eP P 00 27 34.8 -1.6
APE Apeiranthos 8.32 135 P P 00 27 35.3 -1.1
APE Apeiranthos 8.32 135 P P 00 27 35.3 -1.1
APE Apeiranthos 8.32 135 eP P 00 27 33.8 -2.6
MBDF Montbardon 8.36 285 ePn P 00 27 34.1 -2.9
MBDF eSn Sn 00 29 06.6 -5.3
comp=E,197nm,0.8s
ISK Istanbul-Kandi 8.37 101 P P 00 27 35.5 -1.7
STU Stuttgart 8.37 315 ePn P 00 27 34.3 -2.8
comp=E,77nm,0.6s
STU Stuttgart 8.37 315 ePn P 00 27 34.3 -2.9
comp=E,77nm,0.6s
STU Stuttgart 8.37 315 eP P 00 27 34.3 -2.9
STU pmax pmax
comp=Z,77nm,0.6s
IZM Izmir 8.40 122 eP P 00 27 37.5 0.0
FRF La Foret Royal 8.40 276 ePn P 00 27 35.5 -2.0
FRF eSn Sn 00 29 09.1 -3.8
comp=Z,70nm,0.7s
KIS Kishinev 8.45 60 eP P 00 27 37.0 -1.2
KIS eS Sn 00 29 12.0 -2.0
KIS MLR MLR
comp=Z,2µm,10.0s
KIS MLR MLR
comp=N,3µm,9.0s
KIS MLR MLR
comp=E,4µm,12.0s
KIS MLR MLR
comp=Z,2µm,12.0s
AKS Akhisar 8.47 117 eP P 00 27 39.3 +0.8
BNI Bardonecchia 8.47 287 ePn P 00 27 35.6 -2.9
comp=Z,27nm,0.6s
BNI Bardonecchia 8.47 287 eP P 00 27 35.6 -2.9
BNI pmax pmax
comp=Z,27nm,0.6s
BADT Buyukada 8.48 102 eP P 00 27 38.9 +0.2
LPG La Plagne 8.50 290 ePn P 00 27 37.2 -1.7
LPG eSn Sn 00 29 10.0 -5.3
comp=Z,236nm,0.7s
LMR La Mourre 8.51 275 ePn P 00 27 36.5 -2.5
LMR eSn Sn 00 29 10.3 -5.3
comp=Z,42nm,0.8s
LPL La Plagne 8.52 290 ePn P 00 27 37.0 -2.1
LPL eSn Sn 00 29 10.3 -5.5
comp=Z,242nm,0.9s
LBG Lerchenberg 8.52 313 P P 00 27 39.1 -0.1
FELD Feldberg 8.53 307 P P 00 27 38.7 -0.7
EMV Vieux Emosson 8.53 294 ⇓P P 00 27 43.0 +3.6
SIND Sindeldorf 8.55 319 P P 00 27 38.9 -0.7
SMG Samos 8.58 127 eP P 00 27 39.5 -0.6
BFO Black Forest 8.58 310 eP P 00 27 38.8 -1.3
KIZ Kirchzarten 8.62 307 P P 00 27 39.6 -1.0
ORLT Orhaneli 8.63 108 eP P 00 27 41.2 +0.5
BBS Basel-Blauen 8.64 303 P P 00 27 42.4 +1.6
DST Dursunbey 8.64 111 eP P 00 27 41.7 +0.8
MOX Moxa 8.70 331 iP P 00 27 41.8 +0.1
MOX S Sn 00 29 18.0 -2.3
MOX L 00 31 17.0
MOX Moxa 8.70 331 eP P 00 27 41.8 +0.1
MOX eS Sn 00 29 18.6 -1.7
YLV Yalova 8.76 104 eP P 00 27 42.0 -0.6
SANT Santorini 8.82 138 ePn P 00 27 40.7 -2.7
SANT Santorini 8.82 138 ePn P 00 27 40.7 -2.7
THR1 Thera Island 8.82 138 eP P 00 27 40.9 -2.5
TAVF Tavernes 8.82 277 eP P 00 27 43.1 -0.3
CLL Collm 8.85 338 iPN P 00 27 44.6 +0.9
CLL i 00 28 05.0
CLL eSN Sn 00 29 20.0 -4.0
CLL e 00 29 29.0
CLL e 00 29 55.0
CLL eSG Sn 00 30 24.0 +60
CLL eSG Sn 00 30 24.0 +60
CLL Collm 8.85 338 iPn P 00 27 44.6 +0.9
CLL eSn Sn 00 29 20.0 -4.0
CLL eSg Sn 00 30 24.0 +60
GDM Grand'Maison 8.89 287 eP P 00 27 44.7 +0.4
HRT Hereke 8.89 102 eP P 00 27 43.7 -0.6
LIBD Limburg 8.90 308 eP P 00 27 46.4 +1.9
STOF St-Etienne Org 8.93 279 eP P 00 27 49.9 +5.0
LOMF Lomont 9.01 301 eP P 00 27 46.6 +0.6
ORIF Oris-en-Rattie 9.01 285 ePn P 00 27 44.5 -1.6
ORIF eSn Sn 00 29 23.6 -4.5
ORIF eR
comp=Z,3µm,21.5s
MOF Molkenrain 9.04 305 eP P 00 27 46.4 0.0
VAM Vamos 9.07 147 eP P 00 27 42.1 -4.7
VILF Villemus 9.07 278 eP P 00 27 49.5 +2.7
PUYF Puyloubier 9.09 276 eP P 00 27 48.0 +0.9
BERF Bertagne 9.11 275 eP P 00 27 47.3 0.0
TOD Tromm 9.11 318 P P 00 27 47.7 +0.4

GRN Grenoble 9.15 287 eP P 00 27 47.5 -0.5
SMRF Simiane la Rot 9.17 279 ePn P 00 27 47.4 -0.8
SMRF eSn Sn 00 29 26.5 -5.5
comp=Z,65nm,1.0s
HINF Hinteralfeld 9.19 304 ePn P 00 27 47.5 -1.0
HINF eSn Sn 00 29 26.5 -6.0
ECH Echery 9.19 307 P P 00 27 50.2 +1.7
CDF Champ du Feu 9.22 308 ePn P 00 27 47.4 -1.5
CDF eSn Sn 00 29 24.6 -8.7
CDF eSg Sn 00 30 27.9 +55
comp=Z,544nm,1.4s
CABF La Chapelle 9.23 296 ePn P 00 27 47.9 -1.1
CABF eSn Sn 00 29 27.0 -6.4
comp=Z,170nm,0.9s
WAR Warsaw 9.26 11 eP P 00 27 50.9 +1.4
WAR MLR MLR 00 31 54.3
comp=Z,6µm,17.2s
GELF Grande-Etoile 9.29 276 eP P 00 27 49.9 0.0
BODT Bodrum 9.30 128 eP P 00 27 47.9 -2.1
MLSB Milas 9.41 125 eP P 00 27 48.3 -3.2
IDI Anoyia 9.46 144 Pn P 00 27 47.2 -5.0
comp=Z,3.6nm,0.3s,baz=324,slow=9.5,SNR=58
IDI Sn Sn 00 29 27.6 -11
comp=Z,13nm,0.3s,baz=307,slow=19,SNR=5.7
IDI Anoyia 9.46 144 Sn Sn 00 29 27.6 -11
PRAF Pradon 9.47 278 eP P 00 27 54.6 +2.3
GVD Gavdhos 9.52 149 ePn P 00 27 48.9 -4.1
comp=Z,103nm,0.2s
GVD Gavdhos 9.52 149 ePn P 00 27 48.9 -4.2
comp=Z,103nm,0.2s
GPA Golpazari 9.53 104 eP P 00 27 54.3 +1.1
HAU Haudompre 9.58 304 ePn P 00 27 52.7 -1.1
HAU eSn Sn 00 29 35.6 -6.4
comp=Z,152nm,0.7s
HAU eR
comp=Z,3µm,17.8s
TNS Taunus Mts 9.69 320 eP P 00 27 55.0 -0.3
YER Yerkesik 9.82 125 eP P 00 27 57.0 -0.2
VIVF Saint-Julien-l 9.86 284 ePn P 00 27 55.2 -2.5
VIVF eSn Sn 00 29 43.0 -6.0
comp=Z,63nm,0.8s
THEF They Montfort 9.89 305 eP P 00 27 58.9 +0.8
DENT Denizli 9.90 120 eP P 00 27 59.7 +1.5
ABH Alteburg 9.91 316 eP P 00 27 58.5 +0.2
ALT Altintas 9.91 111 eP P 00 28 00.0 +1.6
GKP Gorka Klasztor 10.11 357 eP P 00 28 03.4 +2.3
GKP e 00 28 08.8
GKP MLR MLR 00 32 36.6
comp=Z,7µm,15.2s
MDU Mudurnu 10.12 101 eP P 00 28 00.7 -0.5
CLZ Clausthal 10.13 331 eP P 00 28 01.7 +0.4
XRY Khrisi 10.15 142 eP P 00 27 56.2 -5.5
ESKT Eskisehir 10.22 107 eP P 00 28 03.4 +0.8
DALT Dalyan (Mudla) 10.28 125 eP P 00 28 03.0 -0.4
KARP Karpathos 10.33 135 eP P 00 28 02.6 -1.5
ARG Arkhangelos 10.36 129 eP P 00 28 05.3 +0.8
ARG Arkhangelos 10.36 129 P P 00 28 04.8 +0.3
RFYF Reffroy 10.38 306 ePn P 00 28 02.5 -2.2
baz=125
RFYF eSn S 00 29 54.3 -7.3
RFYF eSg S 00 31 04.8 +63
comp=Z,215nm,1.3s
LASF Ste Croix 10.41 280 ePn P 00 28 04.0 -1.2
LASF eSn S 00 29 56.8 -5.7
comp=Z,21nm,0.7s
SFTF Sexfontaines 10.46 303 ePn P 00 28 04.2 -1.6
baz=130
SFTF eSn S 00 29 55.4 -8.2
SFTF eSg S 00 31 05.8 +62
comp=Z,315nm,1.4s
WLF Walferdange 10.51 312 ePn P 00 28 06.7 +0.1
comp=Z,22nm,0.8s
WLF Walferdange 10.51 312 ePn P 00 28 06.7 +0.1
comp=Z,22nm,0.8s
WLF Walferdange 10.51 312 eP P 00 28 06.7 +0.1
WLF pmax pmax
comp=Z,22nm,0.8s
MEZF Maizieres J'vi 10.57 305 ePn P 00 28 05.1 -2.3
baz=122
MEZF eSn S 00 29 58.4 -8.0
comp=Z,99nm,0.9s
AKASG Malin Array Be 10.65 41 Pn P 00 28 07.5 -1.1
comp=Z,0.7nm,0.3s,baz=233,slow=13,SNR=29
AKASG Sn S 00 30 03.1 -5.2
comp=Z,1.0nm,0.3s,baz=227,slow=13,SNR=2.7
AKASG Lg 00 31 16.2
baz=221,slow=28,SNR=4.6
SMF Signal de Mont 10.73 294 ePn P 00 28 07.2 -2.4
SMF eSn S 00 30 02.7 -7.5
PLDF La Plantade 10.74 290 eP P 00 28 08.1 -1.6
ISP Isparta 10.81 115 eP P 00 28 08.1 -2.5
LOR Lormes 10.88 297 ePn P 00 28 10.2 -1.4
baz=115
LOR eSn S 00 30 06.1 -7.8
comp=Z,26nm,0.3s
LOR eR
comp=Z,1µm,17.2s
LBL Lubilhac 10.90 286 eP P 00 28 09.3 -2.6
SSF Saint Saulge 11.05 296 ePn P 00 28 12.0 -2.0
SSF eSn S 00 30 11.6 -6.6
comp=Z,63nm,0.8s
ELL Elmali 11.07 122 eP P 00 28 17.1 +2.9
AVF Avril sur Loir 11.09 294 ePn P 00 28 12.2 -2.3
AVF eSn S 00 30 12.1 -6.9
comp=Z,92nm,1.0s
AGO Saint Agoulin 11.09 290 eP P 00 28 12.6 -1.9
KIZT Kizilcal 11.22 108 eP P 00 28 16.6 +0.3
EJON La Jonquera 11.25 271 P P 00 28 18.1 +1.4
comp=Z,1.4nm,0.3s
HGN Heimansgroeve 11.27 316 ePn P 00 28 18.0 +1.1
comp=Z,18nm,1.6s
HGN eSn S 00 30 25.7 +2.3
SUW Suwalki 11.33 15 eP P 00 28 17.7 0.0
SUW MLR MLR 00 33 20.8
comp=Z,6µm,16.6s
BGF Bois d'Agland 11.38 292 ePn P 00 28 16.9 -1.5
BGF eSn S 00 30 16.9 -9.2
ANTB Antalya 11.44 119 eP P 00 28 22.8 +3.4
ANTO Ankara 11.46 102 ePn P 00 28 16.4 -3.1
comp=Z,40nm,1.5s
ANTO Ankara 11.46 102 P P 00 28 16.4 -3.1
ANTO pmax pmax
comp=Z,40nm,1.5s
GIVF Givet 11.47 312 ePn P 00 28 17.3 -2.4
SIM Simferopol' 11.62 76 eP P 00 28 21.9 +0.3
comp=Z,54nm,1.4s
SIM Simferopol' 11.62 76⇑eP P 00 28 21.9 +0.3
SIM eS S 00 30 28.0 -3.9
SIM pmax pmax
comp=Z,54nm,1.4s
SIM MLR MLR
comp=Z,2µm,17.0s
MTLF Montolieu 11.63 276 ePn P 00 28 21.2 -0.7
WTSB Winterswijk 11.65 323 ePn P 00 28 31.5 +9.4
comp=Z,28nm,1.7s
HYF Humbligny 11.68 296 ePn P 00 28 20.6 -1.9
HYF eSn S 00 30 25.3 -8.1
CAF Calviac 11.72 284 ePn P 00 28 20.9 -2.1
TCF Toulx Ste Croi 11.76 291 ePn P 00 28 21.7 -1.9
TCF eSn S 00 30 28.6 -6.8
comp=Z,36nm,0.7s
BAIF Baives 11.79 310 ePn P 00 28 22.0 -2.0
ETOS Mallorca 12.01 259 P P 00 28 30.2 +3.3
comp=Z,28nm,1.1s
ETOS Mallorca 12.01 259 P P 00 28 30.2 +3.2
comp=Z,28nm,1.1s,SNR=5.5
BR131 Keskin Array S 12.12 101 ePn P 00 28 28.9 +0.5
comp=Z,31nm,1.0s
BR131 eSn S 00 30 32.6 -12
BRTR Keskin Array B 12.12 101 Pn P 00 28 29.1 +0.7
comp=Z,0.5nm,0.3s,baz=282,slow=8.9,SNR=56
BRTR Sn S 00 30 41.8 -2.3
comp=Z,0.4nm,0.3s,baz=43,slow=25,SNR=5.1
BRTR Lg 00 32 04.0
baz=285,slow=16,SNR=2.9
RJF Les Rejaudoux 12.13 286 ePn P 00 28 27.0 -1.5
RJF eSn S 00 30 36.9 -7.4
comp=Z,36nm,1.0s
RJF eR
comp=Z,1µm,26.2s
KAMT Kaman 12.30 103 eP P 00 28 31.5 +0.6
EMIR Miracle 12.34 270 P P 00 28 37.5 +6.1
comp=Z,19nm,1.0s
EMIR Miracle 12.34 270 P P 00 28 37.4 +6.0
comp=Z,19nm,1.0s,SNR=5.6

LFF La Frestale 12.66 284 *e*Pn **P** **00 28 35.7 +0.1**
EPOB Poblet 12.79 268 P **P** **00 28 46.5 +9.1**
comp=Z,270nm,4.2s
EPOB Poblet 12.79 268 P **P** **00 28 46.5 +9.1**
comp=Z,270nm,4.2s,SNR=7.9
MNK Minsk 12.97 26 *e*P **P** **00 28 36.0 -3.8**
EPF Esparros 13.03 275 *e*Pn **P** **00 28 39.8 -0.8**
EGRA Graus 13.17 272 P **P** **00 28 43.4 +1.0**
comp=Z,18nm,0.9s
EGRA Graus 13.17 272 P **P** **00 28 43.4 +0.9**
comp=Z,18nm,0.9s,SNR=6.6
EBIE Bielsa 13.22 274 P **P** **00 28 48.0 +5.0**
comp=Z,8.1nm,1.0s
EBIE Bielsa 13.22 274 P **P** **00 28 48.0 +4.9**
comp=Z,8.1nm,1.0s,SNR=5.6
MFF Saint Martin d 13.42 291 *e*Pn **P** **00 28 44.9 -0.8**
ETSF Etsaut 13.70 275 *e*P **P** **00 28 54.4 +5.0**
ALFC Alevga 13.76 121⇑P **P** **00 28 56.7 +6.5**
comp=Z,2.4nm,0.4s
ALFC Alevga 13.76 121⇑*e*P **P** **00 28 56.7 +6.5**
PPCY Paphos 13.78 122 P **P** **00 28 56.1 +5.6**
IKL Isikli 13.81 115 *e*P **P** **00 28 51.4 +0.6**
ESAC San Caprasio 13.84 270 P **P** **00 28 57.2 +6.0**
comp=Z,18nm,0.8s
ESAC San Caprasio 13.84 270 P **P** **00 28 57.2 +6.0**
comp=Z,18nm,0.8s,SNR=4.5
ANN Anapa 13.97 77 *e*P **P** **00 28 44.6 -8.3**
ANN *e*S **S** **00 31 20.1 -8.3**
ANN pmax pmax
comp=Z,101nm,2.4s
ANN MLR MLR
comp=N,1μm,17.0s
ANN MLR MLR
comp=E,797nm,17.0s
ANN MLR MLR
comp=Z,3μm,17.0s
LEF Lefka 13.97 120 *e*P **P** **00 28 57.6 +4.6**
MERS Mersin 14.03 111 *e*P **P** **00 28 53.6 -0.1**
FLN La Foliniere 14.10 300 *e*Pn **P** **00 28 53.6 -1.0**
baz=113
FLN *e*R
comp=Z,1μm,18.0s
MAMC Mammari 14.14 119⇑P **P** **00 29 00.9 +5.6**
MAMC Mammari 14.14 119⇑*e*P **P** **00 29 00.9 +5.6**
CSS Prodhromos 14.35 120⇑P **P** **00 29 03.6 +5.7**
comp=Z,1.3nm,0.7s
CSS Prodhromos 14.35 120⇑*e*P **P** **00 29 03.6 +5.7**
EARA Aranguren 14.46 275 P **P** **00 29 03.6 +4.2**
comp=Z,22nm,0.8s,SNR=5.8
SGMF Saint Gilles 15.32 296 *e*Pn **P** **00 29 10.5 0.0**
HTY Hatay 15.52 111 *e*P **P** **00 29 15.8 +2.5**
ETOB Tobarra 15.57 260 P **P** **00 29 22.9 +9.1**
comp=Z,4.3nm,2.6s
ETOB Tobarra 15.57 260 P **P** **00 29 22.9 +9.0**
comp=Z,4.3nm,2.6s,SNR=7.9
SOC Sochi 15.68 81 *i*P **P** **00 29 15.1 -0.1**
comp=Z,35nm,1.4s
SOC Sochi 15.68 81 *c i*P **P** **00 29 15.1 -0.1**
SOC *e* 00 32 14.5
SOC pmax pmax
comp=Z,50nm,1.3s
SOC pmax pmax
comp=N,35nm,1.4s
SOC pmax pmax
comp=E,59nm,1.3s
SOC MLR MLR
comp=Z,708nm,18.0s
SOC MLR MLR
comp=N,748nm,15.0s
SOC MLR MLR
comp=E,746nm,16.0s
EMUR La Murta 15.68 257 P **P** **00 29 27.1 +12**
comp=E,15nm,0.8s,SNR=5.2
GAZ Gaziantep 15.74 106 *e*P **P** **00 29 15.9 -0.1**
ELAN Lanestosa 15.75 278 P **P** **00 29 19.6 +3.5**
comp=E,14nm,0.9s
ELAN Lanestosa 15.75 278 P **P** **00 29 19.6 +3.5**
comp=E,14nm,0.9s,SNR=5.2
MALT Malatya 16.10 101 *e*P **P** **00 29 22.9 +2.2**
comp=E,140nm,0.6s
MALT Malatya 16.10 101 *e*P **P** **00 29 22.9 +2.2**
MALT pmax pmax
comp=Z,140nm,0.6s
GUMT Gumushane 16.12 92 *e*P **P** **00 29 24.3 +3.3**
VSU Vasula 16.20 16 P **P** **00 29 20.0 -1.8**
VSU Vasula 16.20 16 *e*P **P** **00 29 20.8 -1.0**
VSU Vasula 16.20 16⇑*e*P **P** **00 29 20.8 -1.0**
EVIA Vianos 16.26 261 P **P** **00 29 32.0 +9.3**
comp=Z,11nm,0.8s
EVIA Vianos 16.26 261 P **P** **00 29 32.0 +9.3**
comp=Z,11nm,0.8s,SNR=6.0
EVIA Vianos 16.26 261 P **P** **00 29 32.0 +9.3**
EVIA pmax pmax
comp=Z,11nm,0.8s
VOR Voronezh 16.55 52 P **P** **00 29 25.0 -1.3**
VOR pmax pmax
comp=N,30nm,1.5s
VOR pmax pmax
comp=E,70nm,1.5s
VOR pmax pmax
comp=Z,130nm,1.5s
PTK Pertek 16.57 98 *e*P **P** **00 29 26.6 -0.1**
EHUE Huescar 16.66 258 P **P** **00 29 39.0 +11**
comp=Z,5.7nm,0.8s,SNR=6.4
HNTI Hanita 16.73 121 P **P** **00 29 27.9 -0.8**
HAF Haifa 16.84 123 P **P** **00 29 29.7 -0.4**
OBN Obninsk 16.89 39 *e*P **P** **00 29 28.4 -2.1**
comp=Z,244nm,1.2s
OBN Obninsk 16.89 39 *d i*P **P** **00 29 28.0 -2.5**
OBN *i* S **S** **00 32 42.7 +6.0**
OBN pmax pmax
comp=Z,155nm,1.7s
OBN MLR MLR
comp=Z,2μm,19.0s
ESDC Sonseca Array 16.95 266 Pn **P** **00 29 32.6 +1.1**
comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=4.0
ESDC Sonseca Array 16.95 266 P **P** **00 29 38.2 +6.7**
comp=Z,3.1nm,0.7s,SNR=8.0
ESLA Sonseca Array 16.95 266 *e*P **P** **00 29 28.0 -3.5**
comp=Z,2.1nm,0.9s
ESLA Sonseca Array 16.95 266 *e*P **P** **00 29 28.0 -3.5**
comp=Z,2.1nm,0.9s
KSDI Kefar Szold 16.96 120 P **P** **00 29 31.2 -0.5**
EQES Quesada 17.01 259 P **P** **00 29 41.5 +9.3**
comp=Z,24nm,1.0s
EQES Quesada 17.01 259 P **P** **00 29 41.5 +9.3**
comp=Z,24nm,1.0s,SNR=8.0
EARI Arriondas 17.02 278 P **P** **00 29 34.2 +1.9**
comp=Z,8.6nm,1.0s
EARI Arriondas 17.02 278 P **P** **00 29 34.2 +1.9**
comp=Z,8.6nm,1.0s,SNR=5.7
HFS Hagfors 17.19 352 P **P** **00 29 33.4 -0.8**
comp=Z,0.2nm,0.3s,baz=157,slow=11,SNR=18
HFS LR LR 00 36 59.4
comp=Z,1μm,20.7s,baz=176,slow=40
HFA0 Hagfors New Ar 17.20 352 Pn **P** **00 29 33.7 -0.7**
KONO Kongsberg 17.30 345 *i*P **P** **00 29 32.9 -2.8**
MMLI Mount Malkishu 17.32 123 P **P** **00 29 32.8 -3.3**
EBAN Banos Encina 17.37 261 P **P** **00 29 44.0 +7.2**
comp=Z,13nm,1.1s
EBAN Banos Encina 17.37 261 P **P** **00 29 44.0 +7.2**
comp=Z,13nm,1.1s,SNR=8.2
EZM Erzurum 17.66 93 *e*P **P** **00 29 40.6 +0.3**
MOS Moscow 17.75 38 *e*P **P** **00 29 39.0 -2.3**
comp=Z,122nm,1.7s
MOS Moscow 17.75 38 *e*P **P** **00 29 39.0 -2.3**
MOS *e*S **S** **00 33 00.7 +4.5**
MOS pmax pmax
comp=Z,122nm,1.7s
MOS MLR MLR
comp=Z,2μm,14.3s
MOS MLR MLR
comp=N,2μm,11.9s
VRHR Novokhopersk 17.76 55 *e*P **P** **00 29 41.9 +0.4**
VRHR *e*S **S** **00 32 56.8 +0.2**
VRHR pmax pmax
comp=Z,160nm,6.5s
VRHR pmax pmax
comp=N,100nm,10.3s
VRHR pmax pmax
comp=E,160nm,11.4s
VRHR smax
comp=E,700nm,16.2s
VRHR smax
comp=Z,700nm,14.8s
VRHR smax
comp=N,420nm,15.2s
VRHR MLR MLR
comp=Z,2μm,13.0s
VRHR MLR MLR
comp=N,480nm,10.0s
VRHR MLR MLR
comp=E,2μm,11.0s
KIV Kislovodsk 17.78 79 *e*P **P** **00 29 42.0 +0.2**
comp=E,45nm,1.1s
KIV Kislovodsk 17.78 79 *e*P **P** **00 29 42.0 +0.3**
comp=E,45nm,1.1s
KIV Kislovodsk 17.78 79 *e*P **P** **00 29 42.1 +0.4**
KIV *e*S **S** **00 33 01.9 +4.9**
KIV pmax pmax
comp=N,12nm,1.2s
KIV pmax pmax
comp=Z,35nm,1.2s
KIV MLR MLR
comp=N,436nm,16.0s
KIV MLR MLR
comp=E,622nm,16.0s
KIV MLR MLR
comp=Z,732nm,16.0s
EGUA Guajares 17.79 256 P **P** **00 29 50.3 +8.4**
comp=Z,0.8nm,0.8s
EGUA Guajares 17.79 256 P **P** **00 29 50.3 +8.3**
comp=Z,0.8nm,0.8s,SNR=7.9
KZIT Kziot 17.80 128 P **P** **00 29 40.3 -1.8**
EADA Adamuz 17.94 261 P **P** **00 29 49.6 +5.8**
comp=Z,4.9nm,0.8s
EADA Adamuz 17.94 261 P **P** **00 29 49.6 +5.7**
comp=Z,4.9nm,0.8s,SNR=5.1
MKRJ Makawir 18.07 124 P **P** **00 29 42.4 -3.1**
PUL Pulkovo 18.19 20 *i*P **P** **00 29 47.4 +0.5**
comp=E,81nm,0.9s
PUL Pulkovo 18.19 20 *i*P **P** **00 29 47.4 +0.5**
PUL *i* S **S** **00 33 12.1 +5.7**
PUL pmax pmax
comp=Z,70nm,0.8s
PUL pmax pmax
comp=N,81nm,0.9s
PUL pmax pmax
comp=E,55nm,0.8s
PUL smax
comp=N,89nm,6.5s
PUL smax
comp=Z,836nm,18.1s
PUL smax
comp=E,193nm,10.8s
PUL MLR MLR
comp=N,3μm,13.0s
PUL MLR MLR
comp=Z,4μm,13.0s
PUL MLR MLR
comp=E,2μm,14.0s
NAO01 NONSAR Array S 18.22 349 *e*P **P** **00 29 47.4 +0.2**
comp=E,13nm,0.5s
NAO01 NORSAR Array S 18.22 349 *e*P **P** **00 29 47.4 +0.2**
comp=E,13nm,0.5s
NB2 NORSAR Subarra 18.36 349 P **P** **00 29 46.9 -2.0**
comp=E,14nm,0.9s,baz=164,slow=11
NB2 NORSAR Subarra 18.36 349 P **P** **00 29 46.9 -2.0**
baz=164,slow=11
NOA NORSAR Array B 18.36 349 P **P** **00 29 46.6 -2.3**
comp=E,1.1nm,0.3s,baz=160,slow=9.1,SNR=16
NOA LR LR 00 37 31.8
comp=E,849nm,20.1s,baz=180,slow=39
NOA NORSAR Array B 18.36 349 P **P** **00 29 46.7 -2.2**
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,849nm,20.1s
ECAL Calabor 18.37 275 P **P** **00 29 50.9 +1.8**
comp=Z,91nm,8.2s
ECAL Calabor 18.37 275 P **P** **00 29 50.9 +1.7**
comp=Z,91nm,8.2s,SNR=7.9
ESK Eskdalemuir 18.40 319 *e*P **P** **00 29 48.1 -1.3**
comp=Z,17nm,0.9s
ESK Eskdalemuir 18.40 319 *e*P **P** **00 29 48.1 -1.3**
ESK pmax pmax
comp=Z,17nm,0.9s
PBRG Braganca 18.40 274 *e*P **P** **00 29 50.3 +0.7**
ASF Jabal al Asfar 18.42 120 P **P** **00 29 49.7 -0.1**
comp=Z,0.3nm,0.3s,baz=165,slow=5.1,SNR=30
ASF LR LR 00 38 13.1
comp=Z,570nm,18.6s,baz=320,slow=41
PRNI Paran 18.56 128 P **P** **00 29 48.9 -2.7**
EMIJ Mijas 18.77 257 P **P** **00 30 01.6 +7.5**
comp=Z,17nm,0.7s,SNR=5.3
ZEI Tsey 18.82 82 *e*P **P** **00 29 52.0 -2.6**
FINES FINESS Array B 18.89 12 P **P** **00 29 53.7 -1.6**
comp=Z,1.3nm,0.3s,baz=173,slow=11,SNR=46
FINES LR LR 00 38 19.0
comp=Z,2μm,21.0s,baz=202,slow=40
MBH Mount Berech 18.93 129 P **P** **00 29 53.6 -2.4**
PVRL Vila Real 19.24 273 *e*P **P** **00 29 59.2 -0.4**
EJIF Jimena Fronter 19.32 258 P **P** **00 30 06.1 +5.5**
comp=Z,30nm,3.8s
EJIF Jimena Fronter 19.32 258 P **P** **00 30 06.1 +5.5**
comp=Z,30nm,3.8s,SNR=7.9
MTE Manteigas 19.35 271 *e*P **P** **00 29 59.8 -1.1**
comp=Z,38nm,1.0s
MTE Manteigas 19.35 271 *e*P **P** **00 29 59.8 -1.0**
comp=Z,38nm,1.0s
ELOB Lobios 19.35 275 P **P** **00 30 01.5 +0.6**
comp=Z,3.7nm,0.6s
ELOB Lobios 19.35 275 P **P** **00 30 01.5 +0.6**
comp=Z,3.7nm,0.6s,SNR=4.6
PCAB Cabril 19.36 275 *e*P **P** **00 29 59.0 -2.0**
ALWS Ilw as Safayha 19.38 130 P **P** **00 29 59.9 -1.4**
ESPR Espera 19.41 259 P **P** **00 30 08.3 +6.6**
comp=Z,15nm,1.0s
ESPR Espera 19.41 259 P **P** **00 30 08.3 +6.7**
comp=Z,15nm,1.0s,SNR=5.8
HAQS Haql 19.50 131 P **P** **00 30 01.5 -1.2**
STS Santiago 19.51 278 P **P** **00 30 03.4 +0.8**
comp=Z,7.2nm,0.8s
STS Santiago 19.51 278 P **P** **00 30 03.4 +0.8**
comp=Z,7.2nm,0.8s,SNR=7.9
STS Santiago 19.51 278 P **P** **00 30 03.4 +0.8**
STS pmax pmax
comp=Z,7.0nm,0.8s
JMOS Jabal al Moall 19.51 130 P **P** **00 30 01.3 -1.6**
KAF Kangasniemi 19.56 11 *e*p **P** **00 30 01.6 -1.5**
comp=Z,2.5nm,0.4s,baz=194,slow=13
KAF Kangasniemi 19.56 11 *e*P **P** **00 30 01.6 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.4s
EMIN Mina Concepcio 19.62 262 P **P** **00 30 08.3 +4.4**
EMIN Mina Concepcio 19.62 262 P **P** **00 30 08.3 +4.3**
comp=Z,95nm,9.2s,SNR=7.9
TI2 Plekhanov 19.65 85 *i*P **P** **00 30 05.0 +0.8**
TI2 Plekhanov 19.65 85⇑*i*P **P** **00 30 05.0 +0.8**
CLDR Caldiran 19.78 93 *e*P **P** **00 30 02.8 -3.0**
SFS San Fernando 19.84 258 P **P** **00 30 01.3 -5.2**
comp=Z,96nm,0.8s
SFS San Fernando 19.84 258 P **P** **00 30 01.3 -5.2**
SFS pmax pmax
comp=Z,96nm,0.8s
TAYS Tayyib Ism 19.86 132 P **P** **00 30 05.3 -1.4**
GNI Garni 20.06 90 *e*P **P** **00 30 07.6 -1.1**
GNI Garni 20.06 90 P **P** **00 30 08.8 +0.1**
comp=Z,86nm,1.0s,baz=251,slow=1.1,SNR=39
GNI LR LR 00 39 21.1
comp=Z,232nm,19.8s,baz=146,slow=41
GNI Garni 20.06 90 *e*P **P** **00 30 08.6 -0.1**
comp=Z,158nm,1.2s
GNI Garni 20.06 90⇑*e*P **P** **00 30 08.7 0.0**
GNI pmax pmax
comp=Z,147nm,1.2s
GNI MLR MLR
comp=Z,600nm,20.0s
BDAS Al Bad' **20.08 132** P **P** **00 30 07.9 -1.1**
EGRO El Granado 20.30 263 P **P** **00 30 16.0 +4.7**
comp=Z,13nm,0.8s
EGRO El Granado 20.30 263 P **P** **00 30 16.0 +4.7**
comp=Z,13nm,0.8s,SNR=5.2
MSL Mosul 20.33 101 *ex* x 00 30 31.5
MSL *ex* x 00 34 41.0
MOL 20.39 346 *e*P **P** **00 30 14.0 +2.0**
MOL Molde AMb AMB 00 30 29.0
comp=Z,137nm,1.7s
MOL Molde 20.39 346 *e*P **P** **00 30 14.0 +2.0**
comp=Z,137nm,1.7s
MOL Molde 20.39 346 *e*P **P** **00 30 14.0 +2.0**
comp=Z,137nm,1.7s,SNR=35
MDT Midelt 20.66 248 P **P** **00 30 13.4 -1.7**
comp=Z,4.4nm,1.1s,baz=317,slow=2.0,SNR=3.2
MDT LR LR 00 37 40.5
comp=Z,892nm,19.6s,MS4.1,baz=46,slow=35
TBKS Tabuk 21.05 129 P **P** **00 30 18.4 -0.6**
PECR Pechory 21.12 43 *e*P **P** **00 30 21.0 +1.4**
PECR *e*S **S** **00 34 11.2 +2.2**
PECR pmax pmax
comp=Z,600nm,1.3s,mb5.8
PECR smax
comp=E,1μm,11.0s
PECR MLR MLR
comp=Z,2μm,15.0s,MS4.6
PECR MLR MLR
comp=N,1μm,11.0s,MS4.7
PECR MLR MLR
comp=E,1μm,12.0s,MS4.7
JOF Joensuu 21.20 17 *e*p **P** **00 30 19.3 -1.1**
comp=E,5.9nm,0.5s,mb4.2
NSS Namsos 21.67 353 *e*P **P** **00 30 23.4 -1.7**
BHD Baghdad 22.77 107 *ex* x 00 30 41.0
BHD *ex* x 00 34 39.0
MOR8 Moi Rana 23.12 356 *e*P **P** **00 30 40.8 +1.5**
MOR8 AMb AMB 00 30 47.2
comp=Z,36nm,2.2s,mb4.4
MOR8 Moi Rana 23.12 356 *e*P **P** **00 30 40.8 +1.5**
comp=Z,36nm,2.2s,mb4.4
MOR8 Moi Rana 23.12 356 *e*P **P** **00 30 40.8 +1.5**
comp=Z,36nm,2.2s,mb4.4,SNR=34
KBRS Khaybar 24.46 128 P **P** **00 30 53.4 +0.7**
HILS Ha'il **24.79 122** P **P** **00 30 55.6 -0.3**
YNBS Yanbu' al Bahr 24.89 133 P **P** **00 30 59.8 +2.9**
TRO Tromso 26.51 1 *e*P **P** **00 31 09.4 -2.1**
ARE0 ARCESS Array S 26.68 6 P **P** **00 31 11.5 -1.6**
ARE0 ARCESS Array S 26.68 6 P **P** **00 31 11.5 -1.6**
ARCES ARCESS Array B 26.68 6 P **P** **00 31 10.9 -2.2**
comp=Z,1.6nm,0.5s,mb3.8,baz=189,slow=9.4,SNR=20
ARCES LR LR 00 42 42.7
comp=Z,3μm,18.9s,MS4.8,baz=193,slow=39
MIB Mutribah 26.84 110 *e*P **P** **00 31 13.6 -1.4**
MIB AMb AMB 00 31 18.4
comp=Z,194nm,1.2s,mb5.5
KEV Kevo 27.02 7 *e*p **P** **00 31 12.3 -3.9**
NAY Al-Naaiem 27.11 111 *e*P **P** **00 31 15.7 -1.8**
AFFS 'Afif **28.07 125** P **P** **00 31 25.9 -0.2**
SOKR Solikamsk 28.62 42 *e*P **P** **00 31 43.3 +13**
SOKR pmax pmax
comp=Z,30nm,1.2s,mb4.9
SOKR MLR MLR
comp=Z,1μm,17.0s,MS4.6
ARU Arti 28.78 48 *e*P **P** **00 31 29.8 -2.5**
comp=Z,19nm,0.6s,mb5.0
ARU Arti 28.78 48 *i*P **P** **00 31 30.7 -1.6**
comp=Z,35nm,1.5s,mb4.9
ARU Arti 28.78 48⇓*i*P **P** **00 31 30.7 -1.6**
ARU *e*PPP PPP 00 32 25.3 -13
ARU *e* 00 34 37.7
ARU *e*S **S** **00 36 21.8 +2.2**
ARU *e*SS SS 00 37 44.0 -3.1
ARU pmax pmax
comp=Z,35nm,1.5s,mb4.9
ARU MLR MLR
comp=Z,2μm,16.5s,MS4.7
ARU MLR MLR
comp=N,400nm,15.0s,MS4.6
ARU MLR MLR
comp=E,1μm,16.5s,MS4.6
MZLS Mizel 29.34 122 P **P** **00 31 36.6 -1.0**
BLJS Baljurashi 30.45 132 P **P** **00 31 48.1 +0.6**
BRVK Borovoye 35.44 55 *e*P **P** **00 32 29.6 -1.0**
comp=E,18nm,0.8s,mb5.1
BRVK Borovoye 35.44 55 *e*P **P** **00 32 29.6 -0.9**
comp=E,18nm,0.8s,mb5.1
BRVK Borovoye 35.44 55 *e*P **P** **00 32 29.6 -0.9**
BRVK pmax pmax
comp=Z,18nm,0.8s,mb5.0
BVAR Borovoye Array 35.50 55 P **P** **00 32 29.1 -2.0**
comp=Z,6.3nm,0.6s,mb4.7,baz=270,slow=7.4,SNR=38
AAK Ala-Archa 40.59 71 *e*P **P** **00 33 12.9 -0.8**
comp=Z,50nm,1.7s,mb4.9
AAK Ala-Archa 40.59 71 *e*P **P** **00 33 12.9 -0.8**
comp=Z,50nm,1.7s,mb4.9
AAK Ala-Archa 40.59 71 *e*P **P** **00 33 13.0 -0.7**
AAK pmax pmax
comp=Z,13nm,1.7s,mb4.3
AAK MLR MLR
comp=Z,700nm,16.0s,MS4.6
FRU Bishkek 40.60 70 *e*P **P** **00 33 22.0 +8.2**
KURK Kurchatov 40.92 58 *e*P **P** **00 33 14.8 -1.5**
comp=Z,6.4nm,0.9s,mb4.2
KURK Kurchatov 40.92 58 *e*P **P** **00 33 14.8 -1.5**
comp=Z,6.3nm,0.9s,mb4.2
KURK Kurchatov 40.92 58⇑*e*P **P** **00 33 15.0 -1.3**
DBIC Dimbokro 41.64 216 P **P** **00 33 21.4 -1.3**
comp=Z,5.9nm,0.5s,mb4.5,baz=9.5,slow=8.9,SNR=28
DBIC LR LR 00 54 37.7
comp=Z,371nm,18.3s,MS4.3,baz=7.3,slow=42
DBIC Dimbokro 41.64 216 *e*P **P** **00 33 21.5 -1.2**
comp=Z,11nm,0.7s,mb4.6
DBIC *e*pP pP 00 33 28.1 +0.1
DBIC Dimbokro 41.64 216 *e*P **P** **00 33 21.5 -1.2**
comp=Z,11nm,0.7s,mb4.6
DBIC Dimbokro 41.64 216 *e*P **P** **00 33 21.5 -1.2**
DBIC *e**PP pP 00 33 28.1 +0.1
DBIC pmax pmax
comp=Z,11nm,0.7s
TIC Toumodi 41.73 216 *e*P **P** **00 33 27.0 +3.6**
comp=Z,353nm,1.9s,mb5.7
KIC Kosan Boka 41.87 215 *e*P **P** **00 33 24.1 -0.4**
comp=Z,78nm,1.1s,mb5.3
LIC Lamto 42.11 216 *e*P **P** **00 33 25.6 -1.0**
comp=Z,33nm,0.8s,mb4.7
LIC *e*R
comp=Z,610nm,21.2s
LIC Lamto 42.11 216 *e*P **P** **00 33 25.5 -1.1**
comp=Z,66nm,0.9s,mb5.3
LIC Lamto 42.11 216 *e*P **P** **00 33 25.6 -1.0**
comp=Z,17nm,0.8s,mb4.7
LIC LR LR
comp=Z,310nm,21.3s,MS4.2
NVS Novosibirsk 42.73 51 *e*P **P** **00 33 30.2 -0.9**
NVS *e*S **S** **00 39 51.4 -2.1**
NVS pmax pmax
comp=Z,41nm,1.3s,mb5.0
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,14nm,1.0s
NVS smax
comp=N,15nm,1.8s
NVS smax
comp=E,23nm,1.8s
MKAR Makanchi Array 44.38 62 P **P** **00 33 43.1 -1.5**
comp=E,1.9nm,0.6s,mb4.0,baz=278,slow=7.8,SNR=25
MKAR PcP PcP 00 35 27.3 -1.6
comp=E,0.9nm,0.6s,baz=297,slow=3.2,SNR=2.2
MKAR LR LR 00 54 19.7
comp=E,355nm,20.7s,MS4.3,baz=286,slow=39
MKAR Makanchi Array 44.38 62 P **P** **00 33 43.1 -1.5**
MKAR PcP PcP 00 35 27.3 -1.6
MKAR LR LR 00 54 19.7
KMBO Kilima Mbogo 47.33 154 P **P** **00 34 08.8 +0.3**
comp=E,1.7nm,1.0s,mb3.9,baz=9.2,slow=6.7,SNR=4.9
KMBO LR LR 00 55 12.0
comp=E,248nm,20.4s,MS4.2,baz=350,slow=38
WMQ Urumqi 49.03 64 *e*P **P** **00 34 23.5 +2.2**
WMQ XP sP 00 34 30.0 +1.2
WMQ PCP PcP 00 35 48.0 +2.6
WMQ *e*S **S** **00 41 27.0 +3.2**
WMQ XS 00 41 35.0
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,219nm,7.6s
WMQ LR LR
comp=N,634nm,22.5s,MS4.6
WMQ LR LR
comp=E,442nm,22.4s,MS4.6
WMQ LR LR
comp=Z,313nm,22.7s,MS4.2
SCHQ Schefferville 53.62 314 P **P** **00 34 53.9 -1.9**
comp=Z,3.2nm,0.7s,mb4.4,baz=229,slow=17,SNR=6.8
SCHQ LR LR 00 54 25.1
comp=Z,278nm,21.3s,MS4.3,baz=162,slow=32
KOLN Koldanda 54.16 84 *e*P **P** **00 34 59.0 -1.1**
comp=Z,109nm,1.0s,mb5.8
GKN Gorkha 54.78 83 *e*P **P** **00 35 03.3 -1.4**

comp=Z,180nm,1.2s
DMN Daman 55.35 83 *e*P **P 00 35 07.8 -1.0**
comp=Z,146nm,1.2s
KKN Kakani 55.37 83 *e*P **P 00 35 07.6 -1.4**
comp=Z,42nm,0.8s,mb5.5
PKI Pulchoki 55.59 83 *e*P **P 00 35 09.1 -1.5**
comp=Z,54nm,1.1s,mb5.5
TIXI Tiksi 55.60 21 *i* P **P 00 35 09.2 -0.9**
ZAK Zakamensk 55.69 51 *e*P **P 00 35 03.1 -7.8**
BOD Bodaibo 57.57 39 *e*P **P 00 35 18.6 -5.7**
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LSA Lhasa 58.51 77 *e*P **P 00 35 30.4 -0.9**
comp=Z,11nm,0.6s,mb5.1
LSA Lhasa 58.51 77 *e*P **P 00 35 30.4 -0.8**
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.1
SONM Songino Array 58.73 52 P **P 00 35 31.3 -1.1**
comp=Z,4.8nm,0.9s,mb4.5,baz=291,slow=8.2,SNR=28
SONM LR LR 01 02 50.9
comp=Z,982nm,18.2s,MS5.0,baz=303,slow=38
LSZ Lusaka 58.90 169 *e*P **P 00 35 34.0 -0.1**
comp=Z,6.5nm,0.8s,mb4.7
LSZ *e*pP pP 00 35 42.5 +2.9
LSZ Lusaka 58.90 169 *e*P **P 00 35 34.0 -0.1**
LSZ *e**PP pP 00 35 42.5 +2.9
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ULN Ulaanbaatar 59.09 52 *e*P **P 00 35 34.0 -1.0**
comp=Z,2.4nm,0.8s,mb4.3
ULN *e* 00 35 47.9
ULN Ulaanbaatar 59.09 52 *e*P **P 00 35 34.0 -1.0**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
GTA Gaotai 59.10 63 *e*P **P 00 35 34.8 -0.4**
GTA AP pP 00 35 39.0 -1.8
GTA XP sP 00 35 42.3 -0.5
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,146nm,6.1s
GTA LR LR
comp=N,461nm,22.2s,MS4.7
GTA LR LR
comp=E,327nm,19.9s,MS4.7
GTA LR LR
comp=Z,316nm,22.9s,MS4.4
SHL Shillong 61.45 81 *ex* **P 00 35 49.0 -2.5**
YAK Yakutsk 61.65 30 *e*P **P 00 35 50.3 -2.0**
YAK pmax pmax
comp=Z,19nm,0.7s,mb5.3
YAK MLR MLR
comp=Z,1µm,20.0s,MS5.0
LZH Lanzhou 63.61 64 *e*P **P 00 36 04.5 -1.1**
LZH AP pP 00 36 07.8 -3.4
LZH PP PP 00 38 25.5 -1.8
LZH *e*S **S 00 44 35.0 -2.0**
LZH *e*SS SS 00 48 45.0 -1.3
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.0s
LZH LR LR
comp=E,785nm,16.0s
LZH LR LR
comp=Z,1µm,17.6s,MS5.1
LZH Lanzhou 63.61 64 *e*P **P 00 36 04.5 -1.1**
comp=Z,25nm,1.0s,mb5.2
LZH pP pP 00 36 07.7 -3.5
LZH sP sP 00 36 09.8 -3.4
LZH PP PP 00 38 25.5 -1.8
LZH *e*S **S 00 44 35.0 -2.0**
LZH sS 00 44 41.5
LZH *e*SS SS 00 48 45.0 -1.3
LZH LR LR
comp=Z,1µm,17.6s,MS5.1
LZH Lanzhou 63.61 64 *e*P **P 00 36 04.5 -1.1**
LZH *PP pP 00 36 07.7 -3.5
LZH *SP sP 00 36 09.8 -3.4
LZH 00 38 25.5
LZH *e*S **S 00 44 35.0 -2.0**
LZH *e*SS SS 00 48 45.0 -1.3
LZH pmax pmax
comp=Z,25nm,1.0s,mb5.2
LZH MLR MLR
comp=Z,1µm,17.6s,MS5.1
HHC Hu-ho-hao-te 65.71 56 *e*P **P 00 36 18.8 -0.4**
HHC AP pP 00 36 23.5 -1.2
HHC XP sP 00 36 25.5 -1.2
HHC PCP PcP 00 36 53.8 +3.4
HHC PP PP 00 38 40.3 -5.8
HHC S S 00 44 51.5 -11
HHC XS 00 45 09.3
HHC SCS ScS 00 46 07.5 -2.9
HHC AMB AMB
comp=Z,14nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,181nm,4.6s
HHC LR LR
comp=N,390nm,14.3s,MS5.0
HHC LR LR
comp=E,524nm,11.9s,MS5.0
HHC LR LR
comp=Z,638nm,16.6s,MS4.9
BILL Bilibino 66.53 13↑ *e*P **P 00 36 34.6 +11**
BILL pmax pmax
comp=Z,19nm,1.2s,mb5.0
BILL MLR MLR
comp=Z,300nm,19.0s,MS4.5
INK Inuvik 66.82 349 *e*P **P 00 36 23.1 -2.7**
comp=Z,2.0nm,0.6s,mb4.3
INK Inuvik 66.82 349 *e*P **P 00 36 23.1 -2.7**
INK pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 68.08 338 P **P 00 36 32.6 -1.2**
comp=Z,1.6nm,0.5s,mb4.3,baz=38,slow=5.4,SNR=7.2
YKA LR LR 01 08 53.8
comp=Z,474nm,18.6s,MS4.8,baz=15,slow=38
SEY Seymchan 68.10 21↑ *e*P **P 00 36 32.1 -1.8**
LBTB Lobatse 68.21 173 *e*P **P 00 36 34.7 -0.5**
comp=Z,6.0nm,0.8s,mb4.7
LBTB Lobatse 68.21 173 *e*P **P 00 36 34.7 -0.6**
LBTB pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KMI Kunming 69.48 74 P **P 00 36 42.5 -0.6**
KMI AP pP 00 36 47.0 -1.6
KMI S S 00 45 47.0 -1.3
KMI SS SS 00 50 14.3 -3.2
KMI AMB AMB
comp=Z,15nm,1.0s,mb4.9
KMI AMB AMB
comp=Z,655nm,3.6s
KMI LR LR
comp=Z,203nm,19.1s,MS4.4
KMI Kunming 69.48 74 P **P 00 36 42.5 -0.6**
comp=Z,15nm,1.0s,mb4.9
KMI pP pP 00 36 46.9 -1.7
KMI S S 00 45 47.1 -1.2
KMI SS SS 00 50 14.3 -3.2
KMI LR LR
comp=Z,200nm,19.1s,MS4.4
KMI Kunming 69.48 74 P **P 00 36 42.5 -0.6**
KMI *PP pP 00 36 46.9 -1.7
KMI S S 00 45 47.1 -1.2
KMI SS SS 00 50 14.3 -3.2
KMI pmax pmax
comp=Z,15nm,1.0s,mb4.9
KMI MLR MLR
comp=Z,200nm,19.1s,MS4.4
ULM Lac du Bonnet 70.64 322 P **P 00 36 48.1 -1.6**
comp=Z,2.5nm,0.7s,mb4.2,baz=52,slow=3.7,SNR=4.9
ULM LR LR 01 07 08.6
comp=Z,387nm,19.6s,MS4.7,baz=46,slow=35
FWV Forest Hill 71.12 304 *e*P **P 00 36 51.8 -1.1**
GYA Guiyang 71.38 71 P **P 00 36 57.5 +2.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
DAWY Dawson 71.63 350 *e*P **P 00 36 54.3 -1.1**
COLA College 71.72 354 *e*P **P 00 36 53.8 -2.2**
comp=Z,0.2nm,0.5s
ILAR Eielson Array 71.74 353 P **P 00 36 55.6 -0.5**
comp=Z,1.5nm,0.7s,mb4.0,baz=3.9,slow=6.2,SNR=14
CN2 Changchun 71.76 47 *e*P **P 00 36 55.5 -1.1**
CN2 *eXP sP 00 37 02.0 -2.2
CN2 *eS S 00 46 12.5 -2.0
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.8
CN2 LR LR
comp=E,300nm,15.0s,MS4.8
CN2 LR LR
comp=Z,400nm,16.0s,MS4.8
MDJ Mudanjiang 73.35 44 P **P 00 37 04.3 -1.6**
MDJ AP pP 00 37 07.8 -3.7
MDJ AMB AMB
comp=Z,4.0nm,0.6s,mb4.5
MDJ AMB AMB
comp=Z,81nm,6.0s
MDJ LR LR
comp=N,412nm,17.4s,MS4.9
MDJ LR LR
comp=E,324nm,16.7s,MS4.9
MDJ LR LR
comp=Z,639nm,16.7s,MS5.0
NJ2 Nanjing 75.82 59 *e*P **P 00 37 22.3 +1.9**
NJ2 AP pP 00 37 26.5 +0.5
NJ2 XP sP 00 37 29.5 +1.5
NJ2 PCP PcP 00 37 34.8 +1.4
NJ2 S S 00 47 03.0 +2.7
NJ2 XS 00 47 14.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,330nm,4.8s
NJ2 LR LR
comp=N,330nm,19.3s,MS4.8
NJ2 LR LR
comp=E,370nm,20.7s,MS4.8
NJ2 LR LR
comp=Z,180nm,20.6s,MS4.4
CCM Cathedral Cave 76.89 310 *e*P **P 00 37 23.5 -2.8**
comp=Z,6.7nm,0.6s,mb4.8
CCM *epP pP 00 37 31.7 -0.2
CCM Cathedral Cave 76.89 310 *e*P **P 00 37 23.5 -2.8**
CCM *e*PP pP 00 37 31.7 -0.2
CCM pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
PLAL Pickwick Lake 77.22 306 *e*P **P 00 37 26.8 -1.4**
comp=Z,7.5nm,0.8s,mb4.7
YSS Yuzh-Sakhalins 77.74 35 *e*P **P 00 37 29.6 -1.2**
YSS *e* pP 00 37 36.9 +0.5
YSS pmax pmax
comp=Z,30nm,1.1s,mb5.1
YSS MLR MLR
comp=N,500nm,17.0s,MS5.0
YSS MLR MLR
comp=Z,600nm,17.0s,MS5.0
YSS MLR MLR
comp=E,400nm,16.0s,MS5.0
LAO LASA Array 77.86 324 *e*P **P 00 37 31.2 -0.3**
comp=E,17nm,0.9s,mb5.0
LAO *epP pP 00 37 36.9 -0.2
LRAL Lakeview Retre 77.92 304 *e*P **P 00 37 31.8 -0.2**
comp=E,12nm,0.8s,mb4.9
SSE Sheshan 77.93 59 P **P 00 37 30.8 -1.4**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,337nm,4.3s
SSE LR LR
comp=N,126nm,20.6s,MS4.5
SSE LR LR
comp=E,173nm,20.6s,MS4.5
SSE LR LR
comp=Z,138nm,20.6s,MS4.3
SSE Sheshan 77.93 59 P **P 00 37 30.7 -1.5**
comp=Z,28nm,0.7s,mb5.3
SSE LR LR
comp=Z,140nm,20.6s,MS4.3
KSU1 Kansas State U 79.06 314 *e*P **P 00 37 36.7 -1.5**
KSU1 *epP pP 00 37 43.8 0.0
ASAJ Asahikawa 79.91 37 LR LR 01 17 56.8
comp=Z,587nm,18.3s,MS5.0,baz=352,slow=39
DLMT Dillon 81.55 327 *e*P **P 00 37 51.5 +0.2**
DLMT *epP pP 00 37 58.1 +1.2
PHWY Pilot Hill 81.76 321 *e*P **P 00 37 52.4 -0.1**
IMW Indian Meadow 82.09 326 *e*P **P 00 37 56.1 +2.0**
comp=Z,38nm,1.8s,mb5.0
JNU Nakatsue 82.31 51 LR LR 01 17 47.1
comp=Z,290nm,18.9s,MS4.7,baz=310,slow=38
TPAW Teton Pass 82.42 325 *e*P **P 00 37 57.2 +1.3**
comp=Z,11nm,1.0s,mb4.8
PDAR Pinedale Array 82.42 324 P **P 00 37 55.9 0.0**
comp=Z,1.4nm,0.8s,mb4.0,baz=54,slow=5.2,SNR=12
PDAR LR LR 01 13 55.4
comp=Z,418nm,19.5s,MS4.8,baz=34,slow=35
RRI2 Red Ridge 82.69 325 *e*P **P 00 37 58.6 +1.3**
comp=Z,43nm,1.6s,mb5.2
ISCO Idaho Springs 83.02 320 *e*P **P 00 38 00.1 +1.1**
comp=Z,5.7nm,0.8s,mb4.7
ISCO Idaho Springs 83.02 320 *e*P **P 00 38 00.1 +1.1**
ISCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SDV Santo Domingo 83.12 276 *e*P **P 00 37 59.0 -1.0**
comp=Z,8.0nm,0.8s,mb4.8
MJAR Matsushiro Arr 83.72 45 P **P 00 38 01.5 -1.2**
comp=Z,0.7nm,0.3s,mb4.3,baz=315,slow=5.3,SNR=5.1
MJAR LR LR 01 18 44.4
comp=Z,328nm,19.6s,MS4.7,baz=350,slow=38
BDFB Brasilia 84.15 242 LR LR 01 16 17.0
comp=Z,183nm,18.0s,MS4.5,baz=299,slow=36
HWUT Hardware Ranch 84.23 325 *e*P **P 00 38 05.1 0.0**
comp=Z,6.6nm,0.8s,mb4.8
HWUT *epP pP 00 38 09.7 -1.1
JOW Kunigami 85.33 57 LR LR 01 18 47.1
comp=Z,268nm,19.1s,MS4.7,baz=111,slow=37
JHJ Hachijo jima 2 87.19 46 LR LR 01 18 55.7
comp=Z,327nm,18.6s,MS4.8,baz=311,slow=37
MNTX Cornudas Mount 89.31 315 *e*P **P 00 38 29.2 -0.9**
comp=Z,3.3nm,0.6s,mb4.8
MNTX *epP pP 00 38 34.7 -1.1
TXAR Lajitas Array 90.25 312 P **P 00 38 34.5 -0.1**
comp=Z,1.5nm,0.8s,mb4.4,baz=72,slow=4.0,SNR=14
TXAR LR LR 01 19 03.3
comp=Z,250nm,20.5s,MS4.6,baz=35,slow=36
WRA Warramunga Arr 122.33 88 PKP PKPdf 00 44 27.8 -4.1
comp=Z,0.7nm,0.7s,baz=316,slow=1.7,SNR=6.5
VNDA Vanda 142.54 168 P PKPdf 00 45 03.6 -4.4

*NNC **27** 00:37:04.1±2.6,41.39N×77.57E,mpv3.0,Error ellipse: s-maj=28.7km s-min=18.4km az=34.0*
KNET 27 00:37:02.4±1.0,41.57N×77.48E,ml2.7,5C-7D,Error ellipse: s-maj=13.1km s-min=5.1km az=49.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
ULHL	**Ulahol**	**1.15**	**307**	⇓P	Pb	00 37 24.3	-0.5
	7.2nm,0.2s,SNR=33						
ULHL				⇑S	Sb	00 37 41.4	+1.4
	37nm,0.2s						
KZA	**Kyzart**	**1.74**	**288**	⇑P	Pn	00 37 34.5	+0.4
	54nm,0.4s,SNR=7.4						
TKM2	**Tokmak 2**	**1.95**	**315**	⇑P	Pn	00 37 39.2	+2.2
	13nm,0.2s,SNR=8.2						
TKM2				⇓S	Sn	00 38 07.3	+4.8
	50nm,0.3s						
KBK	**Karagaybulak**	**2.18**	**301**	⇑P	Pn	00 37 43.2	+2.9
	14nm,0.3s,SNR=16						
KBK				⇓S	Sn	00 38 14.7	+6.3
	35nm,0.3s						
UCH	**Uchtor**	**2.31**	**288**	⇑P	Pn	00 37 44.6	+2.4
	10.0nm,0.4s,SNR=18						
AAK	**Ala-Archa**	**2.46**	**297**	⇓P	Pn	00 37 47.7	+3.3
	6.2nm,0.3s,SNR=5.5						
AAK				⇓S	Sn	00 38 22.0	+6.4
	20nm,0.3s						
AAK	**Ala-Archa**	**2.46**	**297**	Pn	Pn	00 37 47.7	+3.3
	7.1nm,0.6s						
AAK				⇓Sn	Sn	00 38 21.3	+5.6
	35nm,0.8s						
KK31	**Karatay Array**	**5.39**	**289**	Pg	Pg	00 38 43.6	-6.3
	0.5nm,0.5s,baz=106,slow=16,SNR=12						
KK31				⇓Lg		00 39 57.7	
	3.9nm,0.8s,baz=105,slow=26,SNR=4.3						

*IDC **27** 00:40:23.1±8.0,12.11N×40.40E,mb3.6/5,mb1 3.8/5, mb1mx3.6/17,mbtmp3.7/5,Error ellipse: s-maj=153.8km s-min=48.8km az=16.0*
*DHMR **27** 00:40:24.8±2.4,12.70N×40.50E,h12km,240km,ML4.2*
*NEIC **27** 00:40:27.8±3.7,12.52N×40.71E,h10km,mb4.5/1, ML4.3(DHMR),Error ellipse: s-maj=67.5km s-min=12.0km az=196.0*
*CSEM **27** 00:40:27.8±0.9,12.52N×40.71E,h10km,mb4.6/1,Error ellipse: s-maj=34.7km s-min=7.5km az=179.0,After NEIC*
ISC 27 00:40:22.7±1.7,12.1N±0.2×40.54E±0.06,h10km,n16, σ1º22/25,mb3.8/5,2C-4D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
TRBA	**At Turbah**	**3.65**	**72**	*i* P	**Pn**	**00 41 22.3**	**+1.8**
TRBA				*i* S	**Sn**	**00 42 07.8**	**+3.7**
TRBA				AML	AML	00 42 24.0	
	comp=N,1µm,0.7s						
TRBA	**At Turbah**	**3.65**	**72**	⇓*i*P	**Pn**	**00 41 20.2**	**-0.3**
TRBA				*i* S	**Sn**	**00 42 07.1**	**+3.0**
UDYN	**Al 'Udayn**	**3.80**	**61**	⇑*i*P	**Pn**	**00 41 23.4**	**+0.8**
UDYN				*i* S	**Sn**	**00 42 09.2**	**+1.4**
UDYN				AML	AML	00 42 28.8	
	comp=Z,1µm,0.7s						
UDYN	**Al 'Udayn**	**3.80**	**61**	⇓*i*P	**Pn**	**00 41 22.1**	**-0.4**
UDYN				*i* S	**Sn**	**00 42 09.8**	**+2.0**
DHBB	**Dhamar BB**	**4.45**	**57**	*i* P	**Pn**	**00 41 31.4**	**-0.6**
DHBB				*i* S	**Sn**	**00 42 23.6**	**-0.9**
DHBB	**Dhamar BB**	**4.45**	**57**	⇑*i*P	**Pn**	**00 41 30.1**	**-1.8**
LBOS		**4.90**	**69**	*i* P	**Pn**	**00 41 37.0**	**-1.3**
LBOS				*i* S	**Sn**	**00 42 33.0**	**-2.6**
LBOS		**4.90**	**69**	⇓*i*P	**Pn**	**00 41 37.3**	**-0.9**
LBOS				*i* S	**Sn**	**00 42 36.6**	**+0.9**
BDHA	**Al Bayda'**	**5.22**	**69**	*i* P	**Pn**	**00 41 41.4**	**-1.4**
BDHA				*i* S	**Sn**	**00 42 41.2**	**-2.7**
BDHA	**Al Bayda'**	**5.22**	**69**	⇓*i*P	**Pn**	**00 41 41.7**	**-1.1**
BDHA				*i* S	**Sn**	**00 42 45.7**	**+1.9**
ASF	**Jabal al Asfar**	**20.22**	**351**	P	**P**	**00 44 59.7**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=105,slow=3.3,SNR=4.4						
BRTR	**Keskin Array B**	**28.14**	**349**	P	**P**	**00 46 17.4**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.5,baz=162,slow=7.8,SNR=5.5						
GERES	**GERESS Array B**	**42.84**	**334**	P	**P**	**00 48 22.5**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=124,slow=4.8,SNR=6.5						
ARU	**Ati**	**46.34**	**14**	P	**P**	**00 48 51.3**	**+0.7**
	comp=Z,6.0nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**47.24**	**24**	P	**P**	**00 48 58.7**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=225,slow=6.3,SNR=4.7						
MKAR	**Makanchi Array**	**49.22**	**37**	P	**P**	**00 49 13.9**	**+0.7**
	comp=Z,0.6nm,0.8s,mb3.7,baz=240,slow=12,SNR=3.4						

*DHMR **27** 00:42:11.0±0.4, 12.69N×40.56E,h2km,2km,ML3.4*
*IDC **27** 00:42:18.1±8.0, 12.03N×40.32E,mb3.6/5,mb1 3.7/5, mb1mx3.6/16,mbtmp3.6/5,MS3.8/2,Ms1 3.8/2, ms1mx3.3/18,Error ellipse: s-maj=154.7km s-min=53.1km az=18.0*
*CSEM **27** 00:42:19.0±0.7,11.93N×40.27E,h10km,mb4.2/2,Error ellipse: s-maj=30.2km s-min=20.4km az=141.0, After NEIC*
NEIC 27 00:42:18.9±4.1,11.93N×40.27E,h10km,mb4.2/2,3D, Error ellipse: s-maj=76.0km s-min=34.5km az=199.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
TRBA	**At Turbah**	**3.97**	**71**	⇓*e*P	Pn	00 43 10.0	-11
TRBA				*i* S	Sn	00 43 55.3	-13
TRBA				AML	AML	00 44 09.4	
	comp=E,146nm,0.5s						
TRBA	**At Turbah**	**3.97**	**71**	⇓*e*P	Pn	00 43 10.0	-11
TRBA				*i* S	Sn	00 43 55.3	-13
	comp=E,73nm,0.5s						
DHBB	**Dhamar BB**	**4.79**	**56**	*i* S	Sn	00 44 11.3	-18
LBOS		**5.22**	**68**	⇓*e*P	Pn	00 43 23.9	-15
LBOS				*i* S	Sn	00 44 20.5	-20
ASF	**Jabal al Asfar**	**20.39**	**352**	P	P	00 46 55.7	-3.0
	comp=E,3.0nm,1.1s,baz=30,slow=5.9,SNR=7.3						
MALT	**Malatya**	**26.33**	**357**	*e*P	P	00 47 55.7	-1.1
	comp=E,6.7nm,1.4s						
BRTR	**Keskin Array B**	**28.30**	**349**	P	P	00 48 12.6	-2.2
	comp=E,1.3nm,0.8s,baz=173,slow=10.0,SNR=7.4						
GNI	**Garni**	**28.38**	**7**	LR	LR	00 59 15.1	
	comp=E,149nm,20.1s,baz=310,slow=36						
KIV	**Kislovodsk**	**31.98**	**3**	*e*P	P	00 48 45.9	-1.6
	comp=E,4.2nm,1.0s						
AKASG	**Malin Array Be**	**39.71**	**349**	P	P	00 49 51.1	-2.0
	comp=E,0.2nm,0.4s,baz=176,slow=7.2,SNR=5.4						
GERES	**GERESS Array B**	**42.91**	**334**	P	P	00 50 18.0	-1.4
	comp=E,0.5nm,0.8s,baz=149,slow=7.8,SNR=4.2						
MDT	**Midelt**	**46.00**	**304**	LR	LR	01 12 53.7	
	comp=E,114nm,18.2s,baz=93,slow=40						
MKAR	**Makanchi Array**	**49.55**	**37**	P	P	00 51 09.9	-2.1
	comp=E,0.5nm,0.8s,baz=217,slow=7.2,SNR=2.6						

*CSEM **27** 00:56:28.7±0.1,37.76N×25.43W,h0km,ML3.2,Error ellipse: s-maj=5.1km s-min=1.7km az=5.0,After PDA*
*PDA **27** 00:56:28.7±1.4,37.76N×25.43W,h0km±1km,MD3.3, ML3.2,Error ellipse: s-maj=4.1km s-min=2.2km az=118.0*
SVSA 27 00:56:28.7±1.4,37.76N×25.43W,h0km±1km,MD3.3, ML3.2,Error ellipse: s-maj=4.1km s-min=2.2km az=118.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
VIF	**Vila Franca**	**0.02**	**203**	*i* P	Pg	00 56 30.1	+1.0
PCNG	**Congro**	**0.03**	**82**	*i* P	Pg	00 56 30.1	+0.9
MESC	**Monte Escuro**	**0.03**	**338**	*i* P	Pg	00 56 30.1	+0.7
LFA	**Lagoa do Fogo**	**0.04**	**283**	*i* P	Pg	00 56 30.4	+0.8
PRCH	**Ribeira Ch**	**0.05**	**229**	*i* P	Pg	00 56 30.5	+0.7
PRCH				*e*S	Sg	00 56 31.5	+1.0
PRCH	**Ribeira Ch**	**0.05**	**229**	*e*S	Sg	00 56 31.5	+1.0
FRA1	**Furnas**	**0.06**	**109**	*e*P	Pg	00 56 30.1	+0.2
PMAT	**Coroa da Mata**	**0.06**	**328**	*e*P	Pg	00 56 30.6	+0.7
CMLA	**Cha da Macela**	**0.07**	**271**	*e*P	Pg	00 56 29.4	-0.8
CMLA				*e*S	Sg	00 56 31.0	-0.2
CML	**Cha da Macela**	**0.09**	**275**	*e*P	Pg	00 56 31.4	+0.9
PFAD	**Fenais da Ajud**	**0.11**	**48**	*e*P	Pg	00 56 31.8	+0.8
MIRA	**Miradouro**	**0.12**	**79**	*e*P	Pg	00 56 31.2	+0.1
FAC	**Faja de Cima**	**0.17**	**273**	*e*P	Pg	00 56 33.4	+1.2
PDA	**Ponta Delgada**	**0.19**	**265**	*e*P	Pg	00 56 32.0	-0.4
PSET	**Sete Cidades**	**0.24**	**285**	*e*P	Pg	00 56 32.9	-0.6
PSET				*e*S	Sg	00 56 37.4	+0.8
	7µm,0.4s						
PSAN	**Santo Antonio**	**0.25**	**291**	*e*P	Pg	00 56 34.7	+1.0
PFET	**Feteiras**	**0.29**	**281**	*e*P	Pg	00 56 35.4	+0.9
SET2	**Ginetes**	**0.31**	**285**	*e*P	Pg	00 56 35.6	+0.7
SET4	**Mosteiros**	**0.31**	**291**	*e*P	Pg	00 56 35.7	+0.8
PFAV	**Pico das Favas**	**1.61**	**307**	*e*P	Pn	00 56 55.2	-3.3
PFAV				*e*S	Sb	00 57 14.7	-5.1
	68nm,0.4s						
RIB2	**Ribeirinha**	**1.65**	**304**	*e*P	Pn	00 56 55.1	-3.9
RIB2				*e*S	Sb	00 57 14.7	-6.1
	66nm,0.3s						
ADH	**Angra Heroismo**	**1.68**	**303**	*e*P	Pn	00 56 54.9	-4.6
ADH				*e*S	Sb	00 57 15.0	-6.8
PVNV	**Vila Nova**	**1.69**	**307**	*e*P	Pn	00 56 55.5	-4.1
PVNV				*e*S	Sb	00 57 16.2	-5.8
	40nm,0.3s						
PPAD	**Pico dos Padre**	**1.74**	**303**	*e*P	Pn	00 56 56.5	-3.8
PPAD				*e*S	Sn	00 57 17.3	-6.1
	34nm,0.4s						
ASBA	**Santa Barbara**	**1.77**	**303**	*e*P	Pn	00 56 57.0	-3.8
ASBA				*e*S	Sn	00 57 18.4	-6.0
	22nm,0.3s						
ROSA	**Rosais**	**2.41**	**294**	*e*P	Pn	00 57 05.5	-4.5
PICO	**Pico**	**2.47**	**288**	*e*P	Pn	00 57 06.7	-4.2
PICO				*e*S	Sn	00 57 36.0	-6.2
HOR	**Horta**	**2.64**	**288**	*e*S	Sn	00 57 39.1	-7.2
CALA	**Caldeira**	**2.71**	**289**	*e*P	Pn	00 57 09.5	-4.7
CALA				*e*S	Sn	00 57 41.5	-6.6

*CSEM **27** 01:04:56.4±0.1,37.27N×4.99W,h20km,ML2.6/3,Error ellipse: s-maj=3.2km s-min=1.3km az=175.0*
MDD 27 01:04:56.5±0.4,37.25N×4.97W,h21km±2km,mbLg1.8/11, Error ellipse: s-maj=4.0km s-min=2.6km az=156.0, PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
LIJA	**Lijar**	**0.49**	**225**	*i* P	Pb	01 05 06.5	+0.2
LIJA				*e*S	Sb	01 05 16.0	+3.0

ELUQ	**Luque**	**0.64**	**61**	Pg	Pb	01 05 08.0	-0.9
	1.9nm,0.2s,SNR=12						
ELUQ				Lg		01 05 17.6	
	7.0nm,0.2s,SNR=14						
EMIJ	**Mijas**	**0.70**	**167**	Pg	Pb	01 05 08.1	-1.8
	1.9nm,0.3s,SNR=7.7						
EMIJ				Lg		01 05 18.7	
	25nm,0.5s,SNR=9.7						
ESPR	**Espera**	**0.80**	**242**	Pg	Pb	01 05 12.2	+0.6
	2.5nm,0.3s,SNR=9.1						
ESPR				Lg		01 05 22.0	
	16nm,0.3s,SNR=4.6						
ESPR	**Espera**	**0.80**	**242**	Pg	Pb	01 05 12.2	+0.5
	2.5nm,0.3s,SNR=9.1						
ESPR				Lg		01 05 22.0	
	16nm,0.3s,SNR=4.6						
EJIF	**Jimena Fronter**	**0.89**	**207**	Pg	Pb	01 05 13.3	+0.2
	1.6nm,0.3s,SNR=6.3						
EADA	**Adamuz**	**0.97**	**19**	Pg	Pb	01 05 13.6	-0.8
	5.7nm,0.3s,SNR=50						
EADA				Lg		01 05 27.1	
	18nm,0.2s,SNR=16						
EADA	**Adamuz**	**0.97**	**19**	Pg	Pb	01 05 13.6	-0.8
	5.7nm,0.3s,SNR=50						
EADA				Lg		01 05 27.1	
	18nm,0.2s,SNR=16						
EQUE	**Quentar**	**1.22**	**92**	Pg	Pn	01 05 18.7	+0.1
	5.5nm,0.3s,SNR=21						
EQUE				Lg		01 05 35.3	
	13nm,0.4s,SNR=6.1						
EBAN	**Banos Encina**	**1.31**	**46**	Pg	Pn	01 05 18.9	-0.9
	1.7nm,0.2s,SNR=6.2						
EBAN				Lg		01 05 36.3	
	9.8nm,0.3s,SNR=12						
EMIN	**Mina Concepcio**	**1.45**	**291**	Pn	Pn	01 05 19.9	-1.8
	1.1nm,0.5s,SNR=16						
EMIN				Pg	Pn	01 05 21.5	-0.2
	1.9nm,0.6s,SNR=7.9						
EMIN				Sn	Sn	01 05 38.1	-2.2
	0.9nm,0.1s,SNR=7.9						
EMIN				Lg		01 05 41.0	
	2.8nm,0.2s,SNR=16						
EMIN	**Mina Concepcio**	**1.45**	**291**	Pn	Pn	01 05 19.9	-1.9
	1.1nm,0.5s,SNR=16						
EMIN	**Mina Concepcio**	**1.45**	**291**	Pg	Pn	01 05 21.5	-0.3
	1.9nm,0.6s,SNR=7.9						
EMIN				Sn	Sn	01 05 38.1	-2.2
	0.9nm,0.1s,SNR=7.9						
EMIN				Lg		01 05 41.0	
	2.8nm,0.2s,SNR=16						
EQES	**Quesada**	**1.61**	**69**	Pn	Pn	01 05 23.8	-0.3
	4.9nm,0.7s,SNR=11						
EQES				Lg		01 05 46.5	
	1.3nm,0.4s,SNR=15						
EQES	**Quesada**	**1.61**	**69**	Pn	Pn	01 05 23.8	-0.3
	4.9nm,0.7s,SNR=11						
EQES				Lg		01 05 46.5	
	1.3nm,0.4s,SNR=15						
EGRO	**El Granado**	**2.02**	**279**	Pn	Pn	01 05 27.9	-2.1
	7.6nm,0.5s,SNR=7.9						
EGRO				Pg	Pn	01 05 32.3	+2.3
	0.2nm,0.3s,SNR=7.9						
EGRO				Lg		01 05 58.2	
	2.2nm,0.2s,SNR=5.9						
EGRO	**El Granado**	**2.02**	**279**	Pn	Pn	01 05 27.9	-2.1
	7.6nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**2.02**	**279**	Pg	Pn	01 05 32.3	+2.3
	0.2nm,0.3s,SNR=7.9						
EGRO				Lg		01 05 58.2	
	2.2nm,0.2s,SNR=5.9						
EBAD	**Badajoz**	**2.20**	**314**	Pn	Pn	01 05 30.7	-1.9
	5.2nm,1.0s,SNR=7.6						
EBAD				Sn	Sn	01 05 56.6	-2.9
	0.4nm,0.2s,SNR=54						
EBAD				Lg		01 06 04.5	
	2.8nm,0.4s,SNR=5.5						
EBAD	**Badajoz**	**2.20**	**314**	Pn	Pn	01 05 30.7	-1.9
	5.2nm,1.0s,SNR=7.6						
EBAD				Sn	Sn	01 05 56.6	-2.9
	0.4nm,0.2s,SNR=54						
EBAD				Lg		01 06 04.5	
	2.8nm,0.4s,SNR=5.5						
ESDC	**Sonseca Array**	**2.55**	**18**	Pn	Pn	01 05 32.6	-4.9
	0.3nm,0.4s,baz=198,slow=16,SNR=6.7						
ESDC				Pg	Pn	01 05 40.9	+3.4
	0.2nm,0.3s,baz=197,slow=16,SNR=3.7						
ESDC				Lg		01 06 16.1	
	1.9nm,0.3s,baz=200,slow=28,SNR=9.1						
ESDC	**Sonseca Array**	**2.55**	**18**	Pn	Pn	01 05 32.6	-4.9
	0.3nm,0.4s,SNR=6.7						
ESDC	**Sonseca Array**	**2.55**	**18**	Pg	Pn	01 05 40.9	+3.4
	0.2nm,0.3s,SNR=3.7						
ESDC				Lg		01 06 16.1	
	1.9nm,0.3s,SNR=9.1						
ETOB	**Tobarra**	**3.04**	**62**	Pn	Pn	01 05 42.8	-1.8
	5.1nm,0.7s,SNR=7.9						
ETOB				Pg	Pn	01 05 50.2	+5.7
	3.5nm,0.8s,SNR=4.0						
ETOB				Sn	Sn	01 06 18.0	-2.7
	233nm,3.2s,SNR=7.9						
ETOB				Lg		01 06 30.9	
	15nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**3.04**	**62**	Pn	Pn	01 05 42.8	-1.8
	5.1nm,0.7s,SNR=7.9						
ETOB				Sn	Sn	01 06 18.0	-2.7
	233nm,3.2s,SNR=7.9						

DHMR 27 01:10:28.4±2.7, 12.63N×40.52E, h12km±169km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.56**	**80**	*i* S	Sn	01 12 11.6	+4.5
UDYN	**Al 'Udayn**	**3.61**	**68**	*i* S	Sn	01 12 12.9	+4.4
UDYN				AML	AML	01 12 31.0	
	comp=Z,292nm,0.6s						
DHBB	**Dhamar BB**	**4.23**	**62**	*i* P	Pn	01 11 35.6	+1.4
DHBB				*i* S	Sn	01 12 27.8	+3.6
LBOS		**4.77**	**75**	*i* P	Pn	01 11 40.2	-1.7
LBOS				*i* S	Sn	01 12 36.9	-0.9
BDHA	**Al Bayda'**	**5.09**	**74**	*i* S	Sn	01 12 44.7	-1.3

KNET 27 01:21:15.4±0.6, 42.83N×76.63E, h15km±2km, ml2.0, 7C-4D, Error ellipse: s-maj=3.9km s-min=2.3km az=63.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.65**	**206**	⇓P	Pb	01 21 28.2	+0.3
	12nm,0.1s,SNR=7.4						
ULHL				⇓S	Sb	01 21 38.1	+1.6
	69nm,0.2s						
TKM2	**Tokmak 2**	**0.76**	**277**	⇑P	Pb	01 21 30.5	+0.6
	6.1nm,0.1s,SNR=98						
TKM2				⇑S	Sb	01 21 42.1	+2.4
	99nm,0.1s						
KBK	**Karagaybulak**	**1.25**	**263**	P	Pb	01 21 39.5	+1.3
	6.5nm,0.1s,SNR=26						
KBK				⇓S	Sb	01 21 57.7	+3.9
	58nm,0.3s						
CHMS	**Chumysh**	**1.39**	**278**	⇑P	Pn	01 21 41.2	+0.9
	3.9nm,0.1s,SNR=15						
CHMS				⇓S	Sb	01 22 00.9	+3.1
	16nm,0.2s						
AAK	**Ala-Archa**	**1.58**	**264**	⇑P	Pn	01 21 45.0	+1.8
	5.4nm,0.2s,SNR=7.4						
AAK				⇑S	Sn	01 22 07.1	+3.7
	5.7nm,0.2s						
USP	**Ospenovka**	**1.62**	**286**	⇑P	Pn	01 21 45.0	+1.4
	6.8nm,0.1s,SNR=5.1						
USP				⇑S	Sn	01 22 07.3	+3.0
	26nm,0.2s						

*NNC **27** 01:22:54.4±4.2, 38.48N×69.36E, mpv4.0, Error ellipse: s-maj=33.0km s-min=30.0km az=14.0*
*MOS **27** 01:22:55.6±2.0, 38.37N×69.79E, h33km, mb4.4/4, Error ellipse: s-maj=11.7km s-min=7.1km az=90.5*
*NEIC **27** 01:22:57.3±0.5, 38.34N×69.99E, h35km, mb4.2/4, Error ellipse: s-maj=12.1km s-min=6.3km az=53.0*
*BJI **27** 01:22:59.1, 39.26N×69.98E, h19km, mb3.7, ML4.0*
*IDC **27** 01:23:02.7±6.8, 38.75N×69.99E, h69km±60km, mb3.6/7, mb1 3.8/9, mb1mx3.6/20, mbtmp3.9/9, ML3.4/2, Error ellipse: s-maj=45.0km s-min=19.9km az=22.0*

ISC 27 01:22:51.7±0.4, 38.26N±0.03×69.68E±0.06, h10km, n63, σ1§36/70, mb3.9/13, 10C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**4.78**	**157**	⇑P	**Pb**	**01 24 15.1**	**-0.2**
CEP				S	**Sb**	**01 25 14.0**	**+0.6**
KK31	**Karatay Array**	**4.88**	**7**	Pn	**Pn**	**01 24 07.3**	**+0.4**
	3.3nm,0.3s,baz=199,slow=15,SNR=56						
KK31				⇓Pg	**Pg**	**01 24 20.3**	**-8.9**
	30nm,0.7s,baz=190,slow=17,SNR=6.4						
KK31				⇓Sn	**Sn**	**01 25 03.7**	**-0.6**
	25nm,0.5s						
KK31				⇓Lg		01 25 21.1	
	62nm,0.6s,baz=191,slow=28,SNR=4.6						
KK31	**Karatay Array**	**4.88**	**7**	Pn	**Pn**	**01 24 07.3**	**+0.4**
KK31				⇓Pg	**Pg**	**01 24 20.3**	**-8.9**
KK31				Sn	**Sn**	**01 25 03.6**	**-0.6**
KK31				Lg		01 25 21.1	
AML	**Almayashu**	**4.94**	**37**	P	**Pn**	**01 24 07.9**	**+0.1**
	SNR=62						
KSH	**Kashi**	**5.07**	**74**	*e*P	**Pn**	**01 24 08.0**	**-1.6**
KSH				S	**Sn**	**01 25 09.3**	**+0.3**
KSH				Smax			
	comp=N,320nm,0.9s						
KSH				Smax			
	comp=E,590nm,1.3s						
EKS2	**Erkin-Say**	**5.40**	**34**	P	**Pn**	**01 24 16.8**	**+2.6**
	SNR=14						
UCH	**Uchtor**	**5.42**	**42**	P	**Pn**	**01 24 15.1**	**+0.5**
	SNR=30						
THW	**Thamme Wali**	**5.71**	**162**	⇓P	**Pn**	**01 24 26.1**	**+7.5**
AAK	**Ala-Archa**	**5.71**	**39**	P	**Pn**	**01 24 21.2**	**+2.6**
	SNR=17						
AAK	**Ala-Archa**	**5.71**	**39**	⇑Pn	**Pn**	**01 24 17.8**	**-0.8**
	comp=E,20nm,0.7s						
AAK				⇑Lg		01 25 52.5	
	comp=E,71nm,1.1s						
AAK	**Ala-Archa**	**5.71**	**39**	⇑Pn	**Pn**	**01 24 17.8**	**-0.8**
	comp=E,20nm,0.6s						
AAK				Lg		01 25 52.5	
KZA	**Kyzart**	**5.72**	**46**	P	**Pn**	**01 24 22.6**	**+3.8**
	SNR=7.3						
FRU	**Bishkek**	**5.92**	**38**	*e*PN	**Pn**	**01 24 25.0**	**+3.4**
FRU				*e*		01 24 41.0	
FRU				*e*S	**Sn**	**01 25 33.0**	**+2.7**
FRU				*i*		01 25 54.5	
FRU				pmax	pmax		
	comp=Z,90nm,1.9s						
FRU				pmax	pmax		
	comp=E,400nm,1.9s						
KBK	**Karagaybulak**	**5.95**	**41**	P	**Pn**	**01 24 22.9**	**+0.8**
	SNR=17						
CHMS	**Chumysh**	**6.11**	**38**	P	**Pn**	**01 24 27.1**	**+2.9**
	SNR=10						
USP	**Ospenovka**	**6.20**	**35**	P	**Pn**	**01 24 28.8**	**+3.2**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.48**	**42**	P	**Pn**	**01 24 28.8**	**-0.7**
	SNR=20						
JOSI	**Joshimath**	**11.20**	**130**	*ex*	x	01 31 35.6	
KHET	**Khetri**	**11.38**	**151**	*e*P	**P**	**01 25 38.5**	**+1.2**
KHET				*e*S	**S**	**01 27 33.4**	**-12**
KHET				*ex*	x	01 27 44.5	
NDI	**New Delhi**	**11.43**	**144**	*ex*	x	01 28 19.0	
KUDL	**Kundal**	**11.58**	**149**	*e*P	**P**	**01 25 39.9**	**-0.3**
KUDL				*e*S	**S**	**01 27 35.5**	**-15**
AJM	**Ajmer**	**12.47**	**159**	*ex*	x	01 27 37.9	
MK02	**Makanchi Array**	**12.60**	**44**	⇓P	**P**	**01 25 57.4**	**+3.6**
MK02				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**12.61**	**43**	⇓P	**P**	**01 25 57.4**	**+3.5**
	comp=Z,3.1nm,0.8s,baz=160,slow=17,SNR=6.0						
MK31	**Makanchi Array**	**12.61**	**43**	⇓P	**P**	**01 25 57.4**	**+3.4**
	comp=Z,3.1nm,0.8s						
MKAR	**Makanchi Array**	**12.61**	**43**	P	**P**	**01 25 52.0**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=232,slow=14,SNR=9.2						
AB31	**Akbulak array**	**13.04**	**331**	⇑P	**P**	**01 25 57.2**	**-2.4**
	comp=Z,2.5nm,0.4s,baz=138,slow=14,SNR=122						
AB31	**Akbulak array**	**13.04**	**331**	⇑P	**P**	**01 25 57.2**	**-2.4**
	comp=Z,2.5nm,0.4s						
AB31	**Akbulak array**	**13.04**	**331**	⇑P	**P**	**01 25 57.2**	**-2.4**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
VOSK	**Vostochnaya**	**14.49**	**3**	⇑P	**P**	**01 26 18.1**	**-0.5**
	comp=Z,3.5nm,1.0s						
VOSK	**Vostochnaya**	**14.49**	**3**	⇑P	**P**	**01 26 18.1**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVA0	**Borovoye Array**	**14.78**	**2**	P	**P**	**01 26 21.5**	**-0.8**
	comp=Z,1.1nm,1.2s,baz=165,slow=12,SNR=12						
BVA0	**Borovoye Array**	**14.78**	**2**	P	**P**	**01 26 21.5**	**-0.8**
	comp=Z,1.1nm,1.2s						
BVA0	**Borovoye Array**	**14.78**	**2**	P	**P**	**01 26 21.5**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BVAR	**Borovoye Array**	**14.78**	**2**	P	**P**	**01 26 20.0**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=162,slow=14,SNR=13						
BVAR				S	**S**	**01 28 57.2**	**-10**
	comp=Z,0.3nm,0.3s,baz=170,slow=16,SNR=3.5						
BRVK	**Borovoye**	**14.81**	**1**	*e*Pn	**P**	**01 26 21.2**	**-1.6**
	comp=Z,2.1nm,0.6s						
BRVK	**Borovoye**	**14.81**	**1**	*e*P	**P**	**01 26 21.2**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHKZ	**Chkalovo**	**15.43**	**2**	⇑P	**P**	**01 26 31.3**	**+0.4**
	comp=Z,7.4nm,1.6s						
KOLN	**Koldanda**	**15.66**	**128**	*e*P	**P**	**01 26 32.2**	**-1.9**
	comp=Z,50nm,1.1s						
GKN	**Gorkha**	**16.16**	**125**	*e*P	**P**	**01 26 40.1**	**-0.3**
	comp=Z,108nm,0.8s						
BHPL	**Bhopal**	**16.37**	**154**	*e*P	**P**	**01 26 47.9**	**+4.6**
KKN	**Kakani**	**16.72**	**124**	*e*P	**P**	**01 26 47.3**	**-0.3**
	comp=Z,29nm,0.7s						
DMN	**Daman**	**16.73**	**125**	*e*P	**P**	**01 26 46.1**	**-1.6**
	comp=Z,47nm,0.8s						
PKI	**Pulchoki**	**16.95**	**124**	*e*P	**P**	**01 26 49.8**	**-0.7**
	comp=Z,93nm,1.3s						
JIRN	**Jiri**	**17.40**	**123**	*e*P	**P**	**01 26 55.1**	**-1.1**
	comp=Z,29nm,0.5s						
BOK	**Bokaro**	**19.98**	**132**	*e*P	**P**	**01 27 29.1**	**+2.0**
BOK				AMb	AMB	01 27 32.0	
	comp=Z,14nm,0.5s						
ZEI	**Tsey**	**20.08**	**291**	*e*P	**P**	**01 27 28.0**	**0.0**
KIV	**Kislovodsk**	**21.07**	**294**	*e*P	**P**	**01 27 43.3**	**+5.0**
	comp=Z,10nm,1.0s,mb4.1						
KIV	**Kislovodsk**	**21.07**	**294**	*e*P	**P**	**01 27 43.3**	**+5.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.1						
GTA	**Gaotai**	**23.46**	**78**	P	**P**	**01 28 04.3**	**+2.3**
GTA				AP		01 28 08.8	
GTA				XP		01 28 12.0	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.7						
ZAK	**Zakamensk**	**26.69**	**52**	*e*P	**P**	**01 28 31.7**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BRTR	**Keskin Array B**	**27.93**	**284**	P	**P**	**01 28 48.6**	**+4.6**
	comp=Z,0.5nm,1.0s,mb3.1,baz=120,slow=12,SNR=2.3						
SONM	**Songino Array**	**28.26**	**58**	P	**P**	**01 28 46.1**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.3,baz=273,slow=6.6,SNR=3.9						
AKASG	**Malin Array Be**	**31.04**	**307**	P	**P**	**01 29 12.0**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.0,baz=80,slow=7.4,SNR=5.5						
JOF	**Joensuu**	**33.82**	**329**	*ep*	**P**	**01 29 37.2**	**+1.4**
	comp=Z,3.3nm,0.8s,mb4.3						
BOD	**Bodaibo**	**34.69**	**41**	*e*P	**P**	**01 29 40.2**	**-3.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**35.44**	**325**	P	**P**	**01 29 50.4**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.2,baz=121,slow=8.3,SNR=8.0						
ARCES	**ARCESS Array B**	**39.12**	**337**	P	**P**	**01 30 19.7**	**-0.9**
	comp=Z,2.1nm,0.8s,mb3.9,baz=60,slow=9.8,SNR=4.8						
NB2	**NORSAR Subarra**	**42.35**	**322**	P	**P**	**01 30 48.3**	**+1.2**
	comp=Z,2.4nm,0.6s,mb4.0,baz=95,slow=7.9						
NB2	**NORSAR Subarra**	**42.35**	**322**	P	**P**	**01 30 48.3**	**+1.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**42.35**	**322**	P	**P**	**01 30 47.1**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.0,baz=95,slow=8.3,SNR=8.4						
NAO01	**NORSAR Array S**	**42.49**	**322**	*e*P	**P**	**01 30 50.0**	**+1.7**
	comp=Z,4.9nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**83.81**	**121**	P	**P**	**01 35 24.4**	**+1.6**
	comp=Z,1.1nm,0.7s,mb4.1,baz=319,slow=4.8,SNR=14						

*NIED **27** 01:36:00, 36.00N×139.00E, h145km, Mw3.9 Best double couple: M0 6.83×10^14 NP1:φs91°, δ68°, λ-97°. NP2:φs289°, δ23°, λ-73°.*
*NEIC **27** 01:36:29.5±0.9, 35.89N×139.02E, h133km±5km, mb4.2/4, Error ellipse: s-maj=16.6km s-min=15.5km az=207.0*
*JMA **27** 01:36:30.4±0.1, 35.99N×139.01E, h134km±1km, M3.9*
*IDC **27** 01:36:30.3±0.6, 36.02N×138.78E, h133km±3km, mb3.6/11, mb1 3.8/12, mb1mx3.7/21, mbtmp4.0/12, Error ellipse: s-maj=24.4km s-min=9.2km az=70.0*

ISC 27 01:36:29.4±0.3, 36.02N±0.04×139.01E±0.06, h139km±2km, n36, σ0§85/50, mb3.7/13, 4C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JRY	**Ryogami san**	**0.09**	**267**	⇓P	**P**	**01 36 48.9**	**+0.5**
JRY				S	**S**	**01 37 02.9**	**+0.1**
JHU	**Hanno**	**0.28**	**127**	⇓P	**P**	**01 36 49.3**	**+0.3**
JHU				S	**S**	**01 37 03.7**	**-0.3**
JAG	**Ashikaga**	**0.54**	**42**	⇑P	**P**	**01 36 50.4**	**+0.2**
JAG				S	**S**	**01 37 05.2**	**-0.9**
JYN	**Shimob**	**0.64**	**216**	⇓P	**P**	**01 36 50.4**	**-0.4**
JYN				S	**S**	**01 37 06.5**	**-0.6**
JOD2	**Odawara 2**	**0.76**	**175**	⇓P	**P**	**01 36 51.2**	**-0.3**
JOD2				*e*S	**S**	**01 37 07.5**	**-0.9**
JKT	**Katashina**	**0.77**	**15**	⇑P	**P**	**01 36 52.4**	**+0.8**
JKT				S	**S**	**01 37 08.8**	**+0.2**
MJAR	**Matsushiro Arr**	**0.83**	**309**	P	**P**	**01 36 51.9**	**-0.1**
	42nm,0.3s,baz=153,slow=8.3,SNR=287						
MJAR				S	**S**	**01 37 07.5**	**-1.8**
	56nm,0.3s,baz=227,slow=21,SNR=33						
MAJO	**Matsushiro**	**0.83**	**309**	*e*Pn	**P**	**01 36 52.1**	**+0.2**
MAJO				*e*S	**S**	**01 37 08.4**	**-0.8**
MAT	**Matsushiro**	**0.83**	**309**	P	**P**	**01 36 52.0**	**0.0**
MAT				S	**S**	**01 37 08.5**	**-0.8**
MAT	**Matsushiro**	**0.83**	**309**	P	**P**	**01 36 52.1**	**+0.1**
MAT				S	**S**	**01 37 07.8**	**-1.5**
MAT	**Matsushiro**	**0.83**	**309**	*e*P	**P**	**01 36 52.0**	**0.0**
MAT				*e*S	**S**	**01 37 09.0**	**-0.3**
JIM2	**Oshima 3**	**1.35**	**165**	P	**P**	**01 36 56.9**	**+0.1**
JNS	**Sasagawa**	**1.81**	**8**	⇑P	**P**	**01 37 03.2**	**+1.2**
JGM	**Miyama**	**1.89**	**261**	⇓P	**P**	**01 37 03.4**	**+0.6**
JGM				S	**S**	**01 37 29.6**	**+1.2**
JSZ	**Suzu**	**1.94**	**318**	P	**P**	**01 37 04.1**	**+0.6**
JSD	**Sado**	**2.10**	**344**	⇑P	**P**	**01 37 06.3**	**+0.9**
JSD				S	**S**	**01 37 33.9**	**+0.9**
BSO1	**Boso 1**	**2.11**	**130**	P	**P**	**01 37 05.6**	**0.0**
BSO1				S	**S**	**01 37 32.8**	**-0.5**
JHJ	**Hachijo jima 2**	**2.97**	**167**	P	**P**	**01 37 17.8**	**+1.1**
	40nm,0.3s,baz=252,slow=20,SNR=3.1						
JHJ				S	**S**	**01 37 55.1**	**+2.5**
	21nm,0.3s,baz=68,slow=23,SNR=4.0						
SONM	**Songino Array**	**26.78**	**306**	PcP	PcP	01 45 17.9	+0.2
	0.3nm,0.5s,baz=142,slow=4.2,SNR=2.5						
MKAR	**Makanchi Array**	**43.02**	**303**	P	**P**	**01 44 15.7**	**-0.8**
	0.4nm,0.5s,mb3.3,baz=71,slow=12,SNR=5.5						
KURK	**Kurchatov**	**45.04**	**309**	*e*P	**P**	**01 44 31.9**	**-0.7**
	3.1nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**49.59**	**313**	*e*P	**P**	**01 45 09.6**	**+1.6**
	74nm,0.6s						
BVAR	**Borovoye Array**	**49.82**	**313**	P	**P**	**01 45 09.5**	**-0.3**
	0.4nm,0.4s,mb3.4,baz=81,slow=8.1,SNR=5.5						
ILAR	**Eielson Array**	**51.38**	**32**	P	**P**	**01 45 21.1**	**-0.3**
	0.9nm,0.7s,mb3.5,baz=283,slow=4.8,SNR=11						
WRA	**Warramunga Arr**	**55.83**	**185**	P	**P**	**01 45 52.1**	**-2.6**
	3.9nm,0.7s,mb4.3,baz=0.8,slow=7.7,SNR=20						
INK	**Inuvik**	**56.16**	**27**	P	**P**	**01 45 56.6**	**+0.2**
	1.9nm,0.8s,mb4.0,baz=292,slow=7.8,SNR=4.4						
INK	**Inuvik**	**56.16**	**27**	*e*P	**P**	**01 45 55.0**	**-1.5**
	3.1nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**64.25**	**339**	P	**P**	**01 46 50.6**	**-0.7**
	3.6nm,0.9s,mb4.2,baz=52,slow=6.8,SNR=5.5						
FINES	**FINESS Array B**	**68.80**	**332**	P	**P**	**01 47 19.4**	**-0.6**
	0.9nm,0.4s,mb3.8,baz=74,slow=6.4,SNR=13						
SUMG	**Summit**	**71.68**	**359**	P	**P**	**01 47 37.7**	**+0.5**
	4.9nm,0.9s,mb4.2						
AKASG	**Malin Array Be**	**73.90**	**321**	P	**P**	**01 47 49.6**	**-0.9**
	0.8nm,0.4s,mb3.8,baz=48,slow=5.9,SNR=8.7						
NB2	**NORSAR Subarra**	**74.35**	**336**	P	**P**	**01 47 52.8**	**-0.1**
	1.1nm,0.6s,mb3.8,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.35**	**336**	P	**P**	**01 47 53.0**	**+0.1**
	1.5nm,0.7s,mb3.8,baz=41,slow=5.9,SNR=4.3						
NOA	**NORSAR Array B**	**74.35**	**336**	P	**P**	**01 47 53.0**	**+0.1**
GERES	**GERESS Array B**	**82.53**	**327**	P	**P**	**01 48 37.9**	**+0.3**
	0.1nm,0.4s,mb2.9,baz=39,slow=6.3,SNR=4.8						
TXAR	**Lajitas Array**	**92.27**	**51**	P	**P**	**01 49 25.7**	**+0.8**
	0.2nm,0.6s,mb3.3,baz=329,slow=5.3,SNR=3.9						

*NEIC **27** 01:50:39.2±1.3, 15.31N×144.98E, h25km, mb4.4/2, Error ellipse: s-maj=56.1km s-min=8.9km az=85.0*
*IDC **27** 01:50:41.2±5.1, 15.24N×145.01E, h38km±44km, mb4.0/6, mb1 4.1/6, mb1mx3.8/16, mbtmp4.2/6, MS3.7/13, Ms1 3.7/13, ms1mx3.7/22, Error ellipse: s-maj=94.8km s-min=24.8km az=88.0*

ISC 27 01:50:39.4±1.5, 15.28N±0.09×144.8E±0.5, h33km, n21, σ0§76/12, mb4.2/8, MS3.7/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.68**	**177**	Pn	**Pn**	**01 51 07.1**	**0.0**
	58nm,0.3s,baz=328,slow=4.9,SNR=25						
GUMO				Sn	**Sn**	**01 51 27.7**	**0.0**
	67nm,0.3s,baz=33,slow=22,SNR=17						
GUMO

TKM2	**Tokmak 2**	**1.01**	**321**	P	Pb	02 22 05.7	+0.1
	31nm,0.2s,SNR=71						
TKM2				⇓S	Sb	02 22 20.7	+2.2
	101nm,0.1s						
KBK	**Karagaybulak**	**1.24**	**295**	⇑P	Pn	02 22 10.3	+1.2
	15nm,0.2s						
KBK				⇑S	Sb	02 22 28.4	+3.4
	113nm,0.2s						
UCH	**Uchtor**	**1.45**	**274**	⇑P	Pn	02 22 13.6	+1.4
	2.9nm,0.2s,SNR=8.0						
UCH				⇓S	Sn	02 22 34.4	+3.8
	30nm,0.2s						
CHMS	**Chumysh**	**1.53**	**305**	⇓P	Pn	02 22 14.6	+1.4
	16nm,0.2s,SNR=9.5						
CHMS				⇑S	Sn	02 22 36.3	+3.7
	48nm,0.2s						
AAK	**Ala-Archa**	**1.54**	**290**	⇑P	Pn	02 22 15.1	+1.7
	6.0nm,0.2s,SNR=9.4						
AAK				⇑S	Sn	02 22 36.4	+3.5
	40nm,0.3s						
AAK	**Ala-Archa**	**1.54**	**290**	⇓P	Pn	02 22 15.1	+1.6
	2.8nm,0.3s						
AAK				⇓S	Sn	02 22 36.4	+3.5
	16nm,0.5s						
USP	**Ospenovka**	**1.83**	**309**	⇓P	Pn	02 22 19.5	+1.9
	21nm,0.2s,SNR=27						
USP				⇓S	Sn	02 22 45.5	+5.1
	73nm,0.3s						
EKS2	**Erkin-Say**	**2.06**	**286**	⇓P	Pn	02 22 24.3	+3.5
	4.4nm,0.2s,SNR=18						
KK31	**Karatay Array**	**4.50**	**284**	⇑Pg	Pn	02 23 09.8	+14
	0.8nm,0.5s,baz=95,slow=15,SNR=8.1						
KK31				⇓Lg		02 24 08.4	
	2.0nm,0.4s,baz=99,slow=30,SNR=11						

NEIC ***27*** *02:27:48.9,31.46S×69.86W,h177km,MD3.4(GUC),After GUC.*

GUC 27 02:27:48.9±0.7,31.46S×69.86W,h177km±6km,MD3.4, ML3.5,6C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMCH	**Combarbala**	**1.01**	**286**	⇓*i*P		P	02 28 17.1	+0.5
CMCH				*i* S		S	02 28 38.1	+0.1
CMCH				AMP			02 28 40.0	
	comp=N,3μm,0.6s							
ILCH	**Illapel**	**1.13**	**261**	*i* P		P	02 28 17.8	+0.2
ILCH				*i* S		S	02 28 39.6	-0.1
ILCH				AMP			02 28 40.3	
	comp=N,736nm,0.7s							
JACH	**Jahuel**	**1.37**	**207**	⇑*i*P		P	02 28 20.2	+0.5
JACH				*i* S		S	02 28 43.7	+0.1
CHNG	**Los Chungos**	**1.46**	**253**	*i* S		S	02 28 44.8	-0.3
CHNG				AMP			02 28 54.1	
	comp=E,184nm,0.7s							
TLL	**Tololo Astrono**	**1.52**	**328**	⇑*i*P		P	02 28 21.9	+0.7
TLL				*i* S		S	02 28 46.5	+0.4
TLL				AMP			02 28 48.4	
	comp=N,623nm,0.5s							
MDZ	**Mendoza**	**1.66**	**149**	*i* P		P	02 28 17.5	-5.1
MDZ				*i* S		S	02 28 39.7	-8.9
ROCH	**El Roble**	**1.80**	**213**	⇑*i*P		P	02 28 24.6	+0.6
ROCH				*i* S		S	02 28 51.5	+0.5
FCH	**Farellones**	**1.90**	**191**	AMP			02 28 57.5	
	comp=E,157nm,0.2s							
CLCH	**Cerro Calan**	**2.02**	**196**	*i* P		P	02 28 26.6	+0.3
CLCH				*i* S		S	02 28 55.1	0.0
CLCH				AMP			02 28 57.9	
	comp=N,188nm,0.4s							
RCDM	**Rinconada Maip**	**2.18**	**201**	⇑*i*P		P	02 28 28.9	+0.7
RCDM				*i* S		S	02 28 58.9	+0.5
RCDM				AMP			02 28 59.4	
	comp=N,214nm,0.1s							
ANTU	**Antumapu**	**2.21**	**197**	AMP			02 29 03.3	
	comp=N,124nm,0.3s							
PCH	**Pirque**	**2.23**	**194**	⇑*i*P		P	02 28 29.0	+0.2
PCH				*i* S		S	02 28 59.4	0.0
TACH	**Talagante**	**2.37**	**202**	*i* P		P	02 28 30.6	+0.2
TACH				*i* S		S	02 29 02.1	-0.3
CHCH	**Chadas Angostu**	**2.56**	**195**	⇑*i*P		P	02 28 33.1	+0.4
CHCH				*i* S		S	02 29 06.4	+0.1
LNV	**Longovilo**	**2.81**	**207**	*i* P		P	02 28 35.5	-0.2
LNV				*i* S		S	02 29 11.0	-0.7
CICH	**Cipreses**	**2.89**	**189**	*i* P		P	02 28 36.8	+0.1
CICH				*i* S		S	02 29 13.9	+0.4
TRQA	**Tornquist**	**9.24**	**138**	*e*P		P	02 29 55.0	-4.4
	comp=N,4.7nm,0.6s							

NEIC ***27*** *02:38:57.8±9.6,1.65N×126.76E,h22km±70km,mb4.1/4, Error ellipse: s-maj=53.5km s-min=13.6km az=68.0*
IDC ***27*** *02:39:01.9±4.6,1.36N×126.09E,h50km±40km,mb3.8/5, mb1 4.0/6,mb1mx3.8/16,mbtmp4.1/6,ML4.4/1,Error ellipse: s-maj=90.4km s-min=13.8km az=69.0*

ISC 27 02:38:57.8±0.8,1.5N±0.2×126.4E±0.5,h33km,n13, σ0§42/13,mb4.2/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**15.37**	**157**	*e*P		Px	02 42 55.0	
	13nm,0.8s							
FITZ	**Fitzroy Crossi**	**19.51**	**182**	*e*P		P	**02 43 25.8**	**+0.6**
	2.7nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.51**	**182**	P		P	**02 43 24.7**	**-0.5**
	0.9nm,0.3s,baz=223,slow=4.2,SNR=12							
WRAB	**Tennant Creek**	**22.71**	**160**	*e*P		P	**02 43 58.0**	**-0.2**
	19nm,0.6s,mb4.7							
WRA	**Warramunga Arr**	**22.72**	**160**	P		P	**02 43 58.2**	**+0.1**
	12nm,0.5s,mb4.6,baz=338,slow=11,SNR=114							
WRA				S		S	**02 48 04.8**	**+4.9**
	0.6nm,0.6s,baz=326,slow=20,SNR=4.2							
WB2	**Warramunga Arr**	**22.72**	**160**	*e*P		P	**02 43 58.1**	**-0.1**
STKA	**Stephens Creek**	**36.22**	**158**	*e*P		P	**02 45 59.4**	**-0.3**
	3.0nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**36.22**	**158**	P		P	**02 45 59.4**	**-0.3**
	2.1nm,0.6s,mb4.2,baz=318,slow=7.8,SNR=4.0							
SONM	**Songino Array**	**49.27**	**342**	P		P	**02 47 45.9**	**+0.5**
	0.6nm,0.8s,mb3.6,baz=153,slow=9.1,SNR=3.6							
MKAR	**Makanchi Array**	**59.16**	**326**	P		P	**02 48 57.8**	**0.0**
	1.3nm,0.4s,mb4.3,baz=120,slow=7.7,SNR=20							
KURK	**Kurchatov**	**63.41**	**328**	*e*P		P	**02 49 25.6**	**-0.8**
BVAR	**Borovoye Array**	**68.97**	**328**	P		P	**02 50 01.9**	**+0.1**
	0.4nm,0.3s,mb3.8,baz=135,slow=4.1,SNR=3.9							
VNDA	**Vanda**	**81.29**	**173**	*e*P		P	**02 51 12.5**	**+0.7**
	1.1nm,0.6s,mb4.0							

BJI ***27*** *02:48:09.9,2.71N×95.70E,h22km,mB5.1,mb4.8,Ms4.5, Msz4.3*
NEIC ***27*** *02:48:11.9±0.5,2.68N×95.71E,mb4.7/10,Error ellipse: s-maj=12.7km s-min=6.0km az=46.0*
IDC ***27*** *02:48:11.9±1.6,2.74N×95.74E,h21km±5km,mb4.2/11, mb1 4.3/11,mb1mx4.1/18,mbtmp4.3/11,MS3.9/4, Ms1 3.9/4,ms1mx3.6/16,Error ellipse: s-maj=59.0km s-min=15.3km az=53.0*

ISC 27 02:48:10.6±0.6,2.69N±0.08×95.75E±0.07,h27km, h27km±2.0km:pP-P,n48,σ0§75/49,mb4.6/34,MS4.1/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.53**	**62**	*e*Pn		Pn	**02 49 33.8**	**+0.4**
IPM	**Ipoh**	**5.59**	**70**	P		Pn	**02 49 34.4**	**+0.1**
KGM	**Kluang**	**7.59**	**95**	P		Pn	**02 50 02.6**	**+0.2**
KSM	**Kuching**	**14.60**	**94**	*e*Pn		P	**02 51 43.6**	**+6.0**
KKM	**Kota Kinabalu**	**20.67**	**80**	P		P	**02 52 51.6**	**+0.2**
KKM	**Kota Kinabalu**	**20.67**	**80**	*e*P		P	**02 52 51.0**	**-0.4**
KMI	**Kunming**	**23.30**	**16**	P		P	**02 53 18.8**	**+1.2**
KMI				AP			02 53 29.0	
KMI				XP			02 53 32.8	
KMI				S		S	**02 57 29.0**	**+4.6**
KMI				XS			02 57 43.5	
KMI				AMB		AMB		
	comp=Z,22nm,1.0s,mb4.5							
KMI				AMB		AMB		
	comp=Z,276nm,4.3s							
KMI				LR		LR		
	comp=N,1μm,13.6s,MS4.5							
KMI				LR		LR		
	comp=E,648nm,14.1s,MS4.5							
KMI				LR		LR		
	comp=Z,606nm,14.7s,MS4.2							
KMI	**Kunming**	**23.30**	**16**	P		P	**02 53 18.8**	**+1.2**
KMI				*p*P			02 53 29.1	
KMI				*s*P			02 53 32.8	
KMI				S		S	**02 57 29.0**	**+4.6**
KMI				*s*S			02 57 43.4	
KMI				SS		SS	02 58 17.7	+6.4
KMI				LR		LR		
	comp=Z,610nm,14.7s,MS4.2							
JIRN	**Jiri**	**26.46**	**341**	*e*P		P	**02 53 48.4**	**+0.8**
	comp=Z,59nm,0.7s,mb5.2							
PKI	**Pulchoki**	**26.65**	**339**	*e*P		P	**02 53 49.6**	**+0.3**
	comp=Z,20nm,0.9s,mb4.6							
DMN	**Daman**	**26.79**	**339**	*e*P		P	**02 53 51.5**	**+0.8**
	comp=Z,18nm,0.8s,mb4.7							
KKN	**Kakani**	**26.89**	**339**	*e*P		P	**02 53 51.8**	**+0.2**
	comp=Z,88nm,1.3s,mb5.1							
LSA	**Lhasa**	**27.22**	**351**	*e*P		P	**02 53 55.7**	**+1.2**
	comp=Z,13nm,0.6s,mb4.6							
GKN	**Gorkha**	**27.32**	**338**	*e*P		P	**02 53 55.5**	**0.0**
	comp=Z,49nm,1.1s,mb5.0							
KOLN	**Koldanda**	**27.51**	**336**	*e*P		P	**02 53 57.4**	**+0.2**
	comp=Z,54nm,1.0s,mb5.1							
CD2	**Chengdu**	**29.07**	**14**	P		P	**02 54 10.0**	**-1.3**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
XAN	**Xi'an**	**33.53**	**20**	P		P	**02 54 48.8**	**-1.6**
XAN				AP		pP	02 54 57.0	-1.3
XAN				AMB		AMB		
	comp=Z,21nm,1.4s,mb4.9							
LZH	**Lanzhou**	**34.07**	**12**	*e*P		P	**02 54 54.5**	**-0.6**
LZH				AP		pP	02 55 03.0	0.0
LZH				XP		sP	02 55 07.8	+1.5
LZH				PP		PP	02 56 09.3	-0.2
LZH				AMB		AMB		
	comp=Z,54nm,1.4s,mb5.3							
LZH				AMB		AMB		
	comp=Z,213nm,5.7s							
LZH				LR		LR		
	comp=E,296nm,14.0s							
LZH				LR		LR		
	comp=Z,432nm,15.0s,MS4.3							
LZH	**Lanzhou**	**34.07**	**12**	*e*P		P	**02 54 54.5**	**-0.6**
	comp=Z,54nm,1.4s,mb5.3							
LZH				*p*P		pP	02 55 03.0	0.0
LZH				*s*P		sP	02 55 07.8	+1.5
LZH				PP		PP	02 56 09.2	-0.3
LZH				LR		LR		
	comp=Z,430nm,15.0s,MS4.3							
FITZ	**Fitzroy Crossi**	**35.97**	**126**	P		P	**02 55 11.2**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.4,baz=218,slow=6.2,SNR=3.0							
NJ2	**Nanjing**	**36.41**	**34**	*e*P		P	**02 55 16.0**	**+1.0**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
GTA	**Gaotai**	**36.74**	**5**	*e*P		P	**02 55 17.3**	**-0.5**
GTA				AP		pP	02 55 26.8	+1.1
GTA				XP		sP	02 55 31.0	+2.0
GTA				PP		PP	02 56 38.8	-4.4
GTA				S		S	**03 00 53.5**	**-5.7**
GTA				AMB		AMB		
	comp=Z,11nm,0.9s,mb4.7							
GTA				AMB		AMB		
	comp=Z,88nm,6.1s							
GTA				LR		LR		
	comp=N,144nm,18.2s,MS4.1							
GTA				LR		LR		
	comp=E,265nm,16.0s,MS4.1							
GTA				LR		LR		
	comp=Z,187nm,16.0s,MS4.0							
TIA	**Tai'an**	**38.77**	**28**	*e*P		P	**02 55 34.8**	**0.0**
HHC	**Hu-ho-hao-te**	**40.58**	**19**	*e*P		P	**02 55 50.8**	**+1.0**
HHC				AP		pP	02 56 00.5	+2.7
HHC				XP		sP	02 56 04.5	+3.4
HHC				PP		PP	02 57 27.8	+1.2
HHC				PCP		PcP	02 57 53.3	+1.0
HHC				PCS			03 01 41.5	
HHC				S		S	**03 01 56.0**	**-1.4**
HHC				XS			03 02 13.8	
HHC				SS		SS	03 04 53.3	+0.7
HHC				SCS		ScS	03 05 50.5	-1.0
HHC				AMB		AMB		
	comp=Z,21nm,1.1s,mb4.7							
HHC				AMB		AMB		
	comp=Z,128nm,4.0s							
HHC				LR		LR		
	comp=N,320nm,15.5s,MS4.4							
HHC				LR		LR		
	comp=E,183nm,10.7s,MS4.4							
HHC				LR		LR		
	comp=Z,276nm,15.5s,MS4.2							
WMQ	**Urumqi**	**41.58**	**351**	*e*P		P	**02 55 58.5**	**+0.5**
WMQ				AP		pP	02 56 08.5	+2.6
WMQ				XP		sP	02 56 12.3	+3.1
WMQ				PP		PP	02 57 40.0	+2.9
WMQ				*e*S		S	**03 02 13.0**	**+0.9**
WMQ				XS			03 02 30.0	
WMQ				AMB		AMB		
	comp=Z,12nm,1.6s,mb4.3							
WMQ				AMB		AMB		
	comp=Z,160nm,5.3s							
WMQ				LR		LR		
	comp=N,160nm,22.2s,MS4.1							
WMQ				LR		LR		
	comp=E,273nm,22.2s,MS4.1							
WMQ				LR		LR		
	comp=Z,152nm,21.2s,MS3.8							
WRA	**Warramunga Arr**	**44.05**	**122**	P		P	**02 56 18.2**	**-0.2**
	comp=Z,4.6nm,0.8s,mb4.3,baz=301,slow=9.0,SNR=26							
WRAB	**Tennant Creek**	**44.05**	**122**	*e*P		P	**02 56 17.8**	**-0.6**
	comp=Z,9.8nm,1.0s,mb4.5							
AAK	**Ala-Archa**	**44.07**	**337**	*e*P		P	**02 56 18.8**	**+0.5**
	comp=Z,7.0nm,1.1s,mb4.3							
MKAR	**Makanchi Array**	**45.47**	**347**	P		P	**02 56 29.3**	**-0.1**
	comp=Z,7.3nm,0.6s,mb4.7,baz=162,slow=8.0,SNR=41							
MKAR				*p*P		pP	02 56 35.2	-2.2
	comp=Z,13nm,1.1s,baz=162,slow=7.7,SNR=10							
MKAR				LR		LR	03 18 28.1	
	comp=Z,79nm,18.5s,MS3.7,baz=166,slow=40							
MKAR	**Makanchi Array**	**45.47**	**347**	P		P	**02 56 29.3**	**-0.1**
MKAR				*p*P		pP	02 56 35.2	-2.2
MKAR				LR		LR	03 18 28.1	
SONM	**Songino Array**	**45.90**	**10**	P		P	**02 56 32.2**	**-0.6**
	comp=Z,5.1nm,0.8s,mb4.5,baz=192,slow=8.1,SNR=28							
SONM				*p*P		pP	02 56 39.0	-1.9
	comp=Z,5.4nm,0.8s,baz=187,slow=8.1,SNR=16							
SONM				PcP		PcP	02 58 10.2	+0.1
	comp=Z,1.8nm,0.7s,baz=196,slow=3.3,SNR=4.6							
ULN	**Ulaanbaatar**	**46.05**	**11**	*e*P		P	**02 56 33.2**	**-0.8**
	comp=Z,5.5nm,0.9s,mb4.5							
CN2	**Changchun**	**48.67**	**29**	*e*P		P	**02 56 54.5**	**-0.1**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.0							
KURK	**Kurchatov**	**50.00**	**346**	*e*P		P	**02 57 04.1**	**-0.7**
	comp=Z,22nm,1.4s,mb5.0							
KURK				*e*pP		pP	02 57 10.9	-2.0
HIA	**Hailar**	**50.73**	**20**	*e*P		P	**02 57 10.7**	**+0.4**
	comp=Z,3.1nm,0.4s,mb4.6							
MDJ	**Mudanjiang**	**51.31**	**31**	P		P	**02 57 15.3**	**+0.5**
MDJ				AMB		AMB		
	comp=Z,5.0nm,0.6s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,65nm,4.9s							
MDJ				LR		LR		
	comp=N,28nm,24.6s							
MDJ				LR		LR		
	comp=E,83nm,17.9s							
MDJ				LR		LR		
	comp=Z,65nm,18.6s							
MJAR	**Matsushiro Arr**	**51.60**	**44**	LR		LR	03 21 46.6	
	comp=Z,83nm,19.0s,MS3.8,baz=240,slow=39							
ZAL	**Zalesovo**	**51.87**	**352**	P		P	**02 57 18.8**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.5,baz=301,slow=5.9,SNR=16							
ZAL				*p*P		pP	02 57 25.3	-1.7
	comp=Z,3.9nm,0.7s,baz=296,slow=7.1,SNR=4.7							
BVAR	**Borovoye Array**	**54.38**	**341**	P		P	**02 57 36.3**	**-1.2**
	comp=Z,4.2nm,0.7s,mb4.5,baz=144,slow=8.5,SNR=23							
BRVK	**Borovoye**	**54.45**	**341**	*e*P		P	**02 57 35.4**	**-2.5**
	comp=Z,4.2nm,1.1s,mb4.3							
CTA	**Charters Tower**	**54.46**	**117**	P		P	**02 57 38.8**	**+0.3**
	comp=Z,9.5nm,1.0s,mb4.7,baz=266,slow=5.3,SNR=7.3							
STKA	**Stephens Creek**	**55.42**	**132**	P		P	**02 57 46.1**	**+0.7**
	comp=Z,2.1nm,0.9s,mb4.2,baz=310,slow=8.3,SNR=3.6							
KMBO	**Kilima Mbogo**	**58.60**	**267**	*p*P		pP	02 58 14.2	-2.2
	comp=Z,1.2nm,0.8s,baz=45,slow=24,SNR=2.5							
KMBO				LR		LR	03 20 42.3	
	comp=Z,108nm,18.3s,MS4.0,baz=64,slow=33							
FINES	**FINESS Array B**	**78.02**	**333**	P		P	**03 00 07.9**	**-0.3**
	comp=Z,1.7nm,0.9s,mb4.0,baz=90,slow=3.8,SNR=3.5							
ARCES	**ARCESS Array B**	**80.66**	**340**	P		P	**03 00 22.6**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.1,baz=79,slow=6.2,SNR=3.5							
ARCES				LR		LR	03 41 40.3	
	comp=Z,99nm,19.9s,MS4.2,baz=257,slow=40							
GERES	**GERESS Array B**	**82.75**	**319**	P		P	**03 00 34.2**	**+0.6**
	comp=Z,0.3nm,0.3s,mb3.8,baz=100,slow=6.0,SNR=5.0							
TXAR	**Lajitas Array**	**143.12**	**29**	PKHKP			03 07 41.8	
	comp=Z,0.2nm,0.7s,baz=256,slow=3.7,SNR=3.3							
CPUP	**Villa Florida**	**145.07**	**225**	pPKPbc			03 07 54.8	
	comp=Z,3.1nm,0.9s,baz=223,slow=4.6,SNR=3.9							

IDC 27 03:11:52.1±1.6,0.63N×29.00W,mb3.8/5,mb1 4.0/5, mb1mx3.7/21,mbtmp3.8/5,MS3.3/2,Ms1 3.4/2, ms1mx3.0/23,Error ellipse: s-maj=66.6km s-min=26.0km az=156.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DBIC	**Dimbokro**	**24.82**	**75**	P		P	03 17 17.4	-0.1
	8.5nm,1.0s,baz=245,slow=11,SNR=3.9							
SIV	**San Ignacio**	**35.71**	**241**	P		P	03 18 51.8	-2.8
	0.6nm,0.8s,baz=62,slow=13,SNR=3.5							
CPUP	**Villa Florida**	**38.27**	**223**	LR		LR	03 34 51.1	
	comp=Z,63nm,20.7s,baz=87,slow=36							
LPAZ	**La Paz**	**42.11**	**245**	LR		LR	03 37 14.6	
	comp=Z,26nm,18.8s,baz=83,slow=36							
GERES	**GERESS Array B**	**60.42**	**31**	P		P	03 22 02.9	-2.8
	0.5nm,0.8s,baz=225,slow=7.5,SNR=4.1							
AKASG	**Malin Array Be**	**69.92**	**35**	P		P	03 23 04.3	-2.8
	1.7nm,0.6s,baz=244,slow=6.5,SNR=5.4							
TXAR	**Lajitas Array**	**76.34**	**300**	P		P	03 23 45.0	-0.3
	0.1nm,0.6s,baz=127,slow=6.3,SNR=4.8							

CASC 27 03:45:06.6±2.3,10.36N×86.18W,h5km±12km,MD3.7,6C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VCR	**Vista de Mar**	**0.59**	**113**	*e*P		Pg	03 45 19.0	+0.7
VCR				*e*S		Sg	03 45 28.8	+2.6
LIM1	**Limonal**	**0.97**	**70**	*i* P		Pb	03 45 24.4	-1.0
LIM1				*i* S		Sb	03 45 39.0	+0.6
SSNN	**San Juan del S**	**0.97**	**19**	⇑*e*P		Pb	03 45 25.5	-0.1
SSNN				*e*S		Sb	03 45 37.5	-1.0
JCR	**Jicaral**	**1.17**	**116**	⇑*e*P		Pb	03 45 27.4	-1.5
JCR				*e*S		Sb	03 45 42.4	-1.8
MADN	**Villa Maderas**	**1.22**	**31**	⇑*e*P		Pb	03 45 29.7	0.0
CONN	**Concepcion**	**1.31**	**24**	⇑*e*P		Pb	03 45 30.5	-0.8
TICN	**Ticuantepe**	**1.66**	**358**	*e*P		Pn	03 45 35.8	-0.9
CGA2	**Cerro Gallo 2**	**1.72**	**101**	⇑*e*P		Pn	03 45 37.6	+0.2
CGA2				*e*S		Sn	03 46 02.2	+2.1
MGAN	**Managua**	**1.77**	**358**	*e*P		Pn	03 45 38.4	+0.1
LAJ	**Bijagual**	**2.08**	**104**	⇑*e*P		Pn	03 45 37.3	-5.4
LAJ				*e*S		Sn	03 46 00.5	-8.8
BUS	**Buena Vista**	**2.51**	**108**	*e*P		Pn	03 45 47.9	-0.9

CSEM ***27*** *04:26:28.1,41.37N×43.90E,h9km,ML3.2,After NSSP*
NSSP ***27*** *04:26:28.1,41.37N×43.90E,h9km,ML3.2*
ISK ***27*** *04:26:33.4,41.30N×44.04E,h13km,ML3.8*

TIF 27 04:26:29.5,41.40N×44.03E,h10km±2km,7D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.40**	**272**	P		Pg	04 26 39.6	+1.9
AKH				S		Sg	04 26 45.3	+2.2
BKR	**Bakuriani**	**0.52**	**311**	P		Pg	04 26 40.1	+0.1
BKR				S		Sg	04 26 47.2	+0.3
TCHZ	**Tchakhmakh**	**0.56**	**206**	P		Pg	04 27 41.2	+60
TCHZ				S		Sg	04 27 48.7	+60
KAMZ	**Kamo**	**0.58**	**186**	⇓P		Pg	04 27 41.7	+61
KAMZ				S		Sg	04 27 50.6	+62
GYMZ	**Gyumri**	**0.61**	**194**	⇓P		Pg	04 27 42.1	+60
GYMZ				S		Sg	04 27 52.2	+62
HARI	**Harich**	**0.79**	**181**	⇓P		Pb	04 27 44.5	+60
HARI				S		Sb	04 27 56.1	+61
LERZ	**Lernakert**	**0.83**	**184**	⇓P		Pb	04 27 46.0	+60
LERZ				S		Sb	04 27 57.6	+61
NARZ	**Nor Artik**	**0.96**	**194**	⇓P		Pb	04 26 48.4	+0.6
NARZ				S		Sb	04 27 00.9	+0.5
AMBZ	**Amberd**	**1.03**	**170**	⇓P		Pb	04 27 44.8	+56
AMBZ				S		Sb	04 27 59.8	+58
KARS	**Kars**	**1.06**	**222**	PG		Pg	04 26 52.0	+1.3
KARS				SG		Sg	04 27 06.9	+2.1
ARUZ	**Aruch**	**1.12**	**177**	⇓P		Pb	04 27 46.0	+56
ARUZ				S		Sb	04 28 01.9	+57
ONI	**Oni**	**1.26**	**340**	P		Pb	04 26 54.5	+1.7
ONI				S		Sb	04 27 11.5	+2.5
GNI	**Garni**	**1.36**	**156**	PN		Pn	04 26 57.5	+2.8
GNI				SN		Sn	04 27 15.5	+2.6
BCHG	**Becho**	**1.96**	**327**	P		Pn	04 27 31.9	+29
CLDR	**Calderan**	**2.25**	**182**	*e*PN		Pn	04 27 10.3	+2.8
EZM	**Erzurum**	**2.52**	**235**	*e*PN		Pn	04 27 15.2	+4.0
GUMT	**Gumushane**	**3.57**	**256**	*e*PN		Pn	04 27 30.3	+4.1
PTK	**Pertek**	**4.34**	**236**	*e*PN		Pn	04 27 39.8	+2.6

IDC 27 04:32:11.4±11.0,16.88S×179.08W,h462km±128km, mb3.2/5,mb1 3.6/5,mb1mx3.4/12,mbtmp4.0/5,Error ellipse: s-maj=90.3km s-min=37.6km az=162.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.58**	**240**	*e*P		P	04 38 53.2	-1.2
	2.9nm,0.6s							
STKA	**Stephens Creek**	**38.58**	**240**	P		P	04 38 53.3	-1.1
	3.1nm,0.4s,baz=95,slow=9.9,SNR=9.8							
WB2	**Warramunga Arr**	**44.19**	**259**	*e*P		P	04 39 37.7	-1.9
WRA	**Warramunga Arr**	**44.20**	**259**	P		P	04 39 38.2	-1.5

3.5nm,0.6s,mb4.1,baz=74,slow=8.8,SNR=12
FINES FINESS Array B 84.91 335 P **P** 04 50 52.4 +0.4
2.7nm,0.5s,mb4.3,baz=67,slow=5.5,SNR=27
HFS Hagfors 90.39 338 P **P** 04 51 18.0 -0.3
1.8nm,0.7s,mb4.1,baz=63,slow=3.3,SNR=6.6
NOA NORSAR Array B 90.58 339 P **P** 04 51 19.3 +0.2
0.6nm,0.7s,mb3.7,baz=18,slow=4.2,SNR=2.6
LPAZ La Paz 148.17 88 PKPbc PKPdf 04 58 05.4 +6.9
0.6nm,0.6s,baz=327,slow=7.3,SNR=3.9
LPAZ La Paz 148.17 88 *e*PKPbc PKPdf 04 58 05.0 +6.5

NEIC ***27*** *04:56:18.3,36.18N×21.71E,h27km,MD3.8(ATH),After ATH.*
CSEM ***27*** *04:56:18.3,36.18N×21.71E,h27km,MD3.8/9,After ATH*
ATH 27 04:56:18.9,36.18N×21.71E,h35km±4km**,MD3.8**/9**,2D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.01**	**10**	⇓*i*PN		P	04 56 37.8	+1.0
ITM				*e*SN		S	04 56 52.0	+2.0
ITM	**Ithomi**	**1.01**	**10**	⇓*i*Pn		P	04 56 37.6	+0.8
ITM				*e*Sn		S	04 56 52.0	+2.0
KYTH	**Kithira**	**1.08**	**84**	*e*PN		P	04 56 39.5	+1.8
VLI	**Veliai**	**1.13**	**61**	*e*PN		P	04 56 39.9	+1.5
VLI				*e*SN		S	04 56 55.5	+2.6
RLS	**Riolos of Patr**	**1.88**	**354**	*e*PN		P	04 56 50.5	+1.3
VAM	**Vamos**	**2.17**	**110**	*e*PN		P	04 56 54.4	+1.1
VLS	**Valsamata**	**2.19**	**336**	*e*PN		P	04 56 55.2	+1.7
MGER	**Gerania Oros**	**2.19**	**34**	*e*PN		P	04 56 54.5	+0.9
LKR	**Lokris**	**2.67**	**22**	*e*PN		P	04 57 02.3	+1.8
EVR	**Evrytania**	**2.73**	**2**	*e*PN		P	04 57 03.0	+1.6
NEO	**Neokhori**	**3.34**	**21**	*e*PN		P	04 57 12.1	+2.0

LDG ***27*** *05:19:43.8±0.1,17.57S×167.96E,h10km,Mb4.1/1,Error ellipse: s-maj=17.2km s-min=2.3km az=99.0*
IDC ***27*** *05:19:43.3±1.4,17.59S×167.55E,mb4.1/7,mb1 4.2/8, mb1mx4.1/16,mbtmp4.1/8,ML3.6/1,MS3.3/3,Ms1 3.3/3, ms1mx3.2/18,Error ellipse: s-maj=32.7km s-min=27.4km az=78.0*
NEIC ***27*** *05:19:48.7±2.9,17.69S×167.56E,h40km±22km,mb4.2/4, Error ellipse: s-maj=26.3km s-min=13.1km az=218.0*
ISC 27 05:19:49.8±3.0**,17.9S**±0.1×**167.4E**±0.2**,h53**km±23km**, h46**km±5.5km**:pP-P,n44,**σ**0≤91/28,mb4.1/8,MS3.5/1,3C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.29**	**192**	*e*P		**P**	**05 20 53.5**	**-0.7**
DZM				*e*S		**S**	**05 21 42.6**	**-0.8**
DZM	**Mont Dzumac**	**4.29**	**192**	Pn		**P**	**05 20 53.7**	**-0.4**
	2.6nm,0.3s,baz=38,slow=21,SNR=28							
DZM				Sn		**S**	**05 21 44.4**	**+1.0**
	13nm,0.3s,baz=301,slow=21,SNR=11							
DZM				LR		LR	05 22 26.1	
	comp=Z,97nm,20.8s,baz=28,slow=36							
DZM	**Mont Dzumac**	**4.29**	**192**	*e*P		**P**	**05 20 53.5**	**-0.7**
DZM				*e*S		**S**	**05 21 42.6**	**-0.8**
NOUC	**Port Laguerre**	**4.34**	**193**	*e*P		**P**	**05 20 55.2**	**+0.3**
NOUC				*e*S		**S**	**05 21 45.3**	**+0.4**
NOUC	**Port Laguerre**	**4.34**	**193**	*e*P		**P**	**05 20 55.2**	**+0.2**
NOUC				*e*S		**S**	**05 21 45.3**	**+0.4**
HNR	**Honiara**	**11.05**	**318**	LR		LR	05 26 13.0	
	comp=Z,206nm,18.6s,baz=192,slow=36							
CTA	**Charters Tower**	**20.10**	**260**	P		**P**	**05 24 21.0**	**-0.8**
	4.5nm,0.8s,baz=81,slow=16,SNR=6.3							
CTAO	**Charters Tower**	**20.10**	**260**	*e*P		**P**	**05 24 21.5**	**-0.3**
	8.1nm,1.0s							
AFI	**Afiamalu**	**20.43**	**82**	LR		LR	05 30 11.5	
	comp=Z,183nm,18.3s,MS3.5,baz=106,slow=31							
URZ	**Urewera**	**22.04**	**159**	P		**P**	**05 24 41.9**	**+0.6**
	6.9nm,0.7s,mb4.2,baz=38,slow=3.8,SNR=4.2							
STKA	**Stephens Creek**	**27.15**	**234**	P		**P**	**05 25 31.8**	**+1.6**
	2.5nm,0.7s,mb3.9,baz=84,slow=10,SNR=4.9							
STKA	**Stephens Creek**	**27.15**	**234**	*e*P		**P**	**05 25 31.7**	**+1.5**
	10nm,1.0s,mb4.3							
STKA				*e*		pP	05 25 43.9	+0.4
WRA	**Warramunga Arr**	**31.30**	**261**	P		**P**	**05 26 05.4**	**-1.9**
	1.5nm,0.9s,mb3.8,baz=89,slow=8.2,SNR=7.9							
FITZ	**Fitzroy Crossi**	**39.64**	**263**	P		**P**	**05 27 19.2**	**+1.1**
	11nm,0.9s,mb4.6,baz=129,slow=3.6,SNR=7.9							
VNDA	**Vanda**	**59.76**	**181**	P		**P**	**05 29 50.1**	**-1.2**
	0.8nm,0.8s,mb3.8							
QSPA	**South Pole Qui**	**72.19**	**180**	*e*P		**P**	**05 31 11.3**	**+0.9**
	14nm,1.1s,mb4.8							
SONM	**Songino Array**	**85.06**	**324**	P		**P**	**05 32 21.8**	**+0.7**
	0.5nm,0.7s,mb3.8,baz=117,slow=3.2,SNR=3.4							
SONM	**Songino Array**	**85.06**	**324**	P		**P**	**05 32 21.8**	**+0.7**
SNAA	**Sanae**	**90.45**	**183**	*e*		**P**	**05 32 55.8**	**+9.4**
SNAA	**Sanae**	**90.45**	**183**	*e*		**P**	**05 32 59.1**	**+13**
SNAA	**Sanae**	**90.45**	**183**	*e*		**P**	**05 33 04.7**	**+18**
SNAA	**Sanae**	**90.45**	**183**	⇑*i*P		**P**	**05 32 46.3**	**-0.1**
SNAA				*e*			05 32 55.8	
SNAA				*e*		pP	05 32 59.1	-2.8
SNAA				*e*		pP	05 33 04.7	+2.8
VNA3	**Neumayer Olymp**	**91.11**	**181**	⇑*i*P		**P**	**05 32 49.1**	**-0.4**
VNA3				*e*			05 32 59.0	
VNA3				*e*		pP	05 33 02.6	-2.4
VNA3				*e*			05 33 09.7	
VNA2	**Neumayer--Watz**	**91.38**	**182**	⇑*i*P		**P**	**05 32 49.7**	**-1.0**
VNA2				*e*		pP	05 33 00.5	-5.7
VNA2				*e*		pP	05 33 04.2	-2.0
VNA2				*e*			05 33 11.0	
MKAR	**Makanchi Array**	**99.52**	**316**	P		**P**	**05 33 28.4**	**+0.1**
	0.2nm,0.4s,mb3.9,baz=124,slow=5.2,SNR=2.2							
ARCES	**ARCESS Array B**	**123.28**	**345**	PKP		PKPdf	05 38 39.2	-1.3
	4.0nm,0.9s,baz=63,slow=2.7,SNR=6.4							
CDF	**Champ du Feu**	**145.48**	**336**	*e*PKP1		PKPbc	05 39 21.5	-1.0
	10nm,0.6s							
HAU	**Haudompre**	**146.17**	**337**	*e*PKP1		PKPbc	05 39 23.5	-0.7
LOR	**Lormes**	**147.69**	**339**	*e*PKP1		PKPdf	05 39 27.7	+2.1
	6.5nm,0.7s							
SSF	**Saint Saulge**	**147.99**	**339**	*e*PKP1		PKPdf	05 39 28.2	+2.1
	8.3nm,0.7s							
LPL	**La Plagne**	**148.05**	**334**	*e*PKP1		PKPdf	05 39 29.5	+3.3
LPG	**La Plagne**	**148.06**	**334**	*e*PKP1		PKPdf	05 39 29.6	+3.4
BGF	**Bois d'Agland**	**148.65**	**339**	*e*PKP1		PKPdf	05 39 30.4	+3.3
MBDF	**Montbardon**	**148.66**	**333**	*e*PKP1		PKPdf	05 39 30.9	+3.7
ORIF	**Oris-en-Rattie**	**148.89**	**334**	*e*PKP1		PKPdf	05 39 31.6	+4.0
	16nm,0.9s							
SBF	**Sospel**	**149.04**	**331**	*e*PKP1		PKPdf	05 39 31.6	+3.7
PGF	**Pioggiola**	**149.27**	**328**	*e*PKP1		PKPdf	05 39 32.5	+4.2
	15nm,0.7s							
MFF	**Saint Martin d**	**149.53**	**343**	*e*PKP1		PKPdf	05 39 32.7	+4.1
FRF	**La Foret Royal**	**149.64**	**332**	*e*PKP1		PKPdf	05 39 33.0	+4.2
	7.3nm,0.7s							
SMRF	**Simiane la Rot**	**149.78**	**333**	*e*PKP1		PKPdf	05 39 33.8	+4.7
	7.7nm,0.6s							
LMR	**La Mourre**	**149.88**	**332**	*e*PKP1		PKPdf	05 39 33.7	+4.5
	7.9nm,0.7s							
LASF	**Ste Croix**	**150.40**	**336**	*e*PKP1		PKPdf	05 39 35.5	+5.5
	18nm,1.1s							
MTLF	**Montolieu**	**151.66**	**337**	*e*PKP1		PKPdf	05 39 37.6	+5.7
ETSF	**Etsaut**	**153.01**	**340**	*e*PKP1		PKPdf	05 39 41.0	+7.1
	8.9nm,0.7s							

BJI ***27*** *05:23:55.3,6.81S×148.29E,h57km,mB5.2,mb4.9,Ms4.7, Msz4.3*
IDC ***27*** *05:23:58.0±4.3,6.12S×147.75E,h18km±26km,mb4.7/9, mb1 4.9/12,mb1mx4.9/14,mbtmp4.8/12,ML4.2/3,MS4.3/13, Ms1 4.2/13,ms1mx4.2/15,Error ellipse: s-maj=28.5km s-min=13.9km az=89.0*
MOS ***27*** *05:23:59.2±1.1,6.15S×147.51E,h33km,mb5.1/12,Error ellipse: s-maj=15.4km s-min=7.3km az=93.0*
NEIC ***27*** *05:24:03.2±1.1,6.25S×147.61E,h57km±10km,mb4.9/21, Error ellipse: s-maj=9.1km s-min=5.4km az=77.0*
HRVD ***27*** *05:24:03.2±0.4,6.49S×147.73E,h36km±1km,MW5.0/44, Centroid moment Tensor Solution. LP body waves: s35,c46;Mantle waves: s44,c65; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.69±.21; Mθθ-3.77±.13; Mφφ0.07±.16; Mrθ1.08±.17; Mrφ0.19±.12; Mθr-1.11±.20; Best double couple: M₀4.205×10¹⁶ NP1:φs274°,δ37°,λ71°. NP2:φs117°,δ56°,λ104°. Principal axes: T 4.073, Plg75°, Azm68°; N .26, Plg11°, Azm289°; P -4.336, Plg10°, Azm197°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 05:24:01.6±0.3**,6.23S**±0.03×**147.59E**±0.07**,h58**km**,**
h58km±1.4km**:pP-P,n124,**σ**0≤95/104,mb4.9/36,MS4.2/19, 8C,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.19**	**188**	Pn		**P**	**05 24 49.6**	**-1.0**
	50nm,0.3s,baz=24,slow=5.3,SNR=52							
PMG				Sn		**S**	**05 25 28.4**	**+0.8**
	113nm,0.3s,baz=233,slow=23,SNR=3.1							
PMG	**Port Moresby**	**3.19**	**188**	*e*Pn		**P**	**05 24 49.4**	**-1.2**
PMG	**Port Moresby**	**3.19**	**188**	P		**P**	**05 24 49.6**	**-1.0**
PMG							05 25 28.4	
PMG				pmax		pmax		
	comp=Z,50nm,0.3s							
PMG				smax				
	comp=E,113nm,0.3s							
CTA	**Charters Tower**	**13.84**	**185**	*e*P		**P**	**05 27 16.5**	**-0.1**
	comp=E,14nm,0.8s							
CTA	**Charters Tower**	**13.84**	**185**	Pn		**P**	**05 27 16.5**	**-0.1**
	comp=E,1.3nm,0.3s,baz=6.9,slow=13,SNR=12							
CTA				LR		LR	05 32 05.1	
	comp=E,1μm,21.6s,baz=22,slow=35							
CTA	**Charters Tower**	**13.84**	**185**	*e*P		**P**	**05 27 16.5**	**-0.1**
CTA				pmax		pmax		
	comp=Z,14nm,0.8s							
CTAO	**Charters Tower**	**13.84**	**185**	*e*Pn		**P**	**05 27 16.2**	**-0.5**
KAKA	**Kakadu**	**16.26**	**246**	*e*P		**P**	**05 28 07.7**	**+20**
	comp=Z,25nm,0.4s							
WRAB	**Tennant Creek**	**18.74**	**222**	*e*P		**P**	**05 28 17.3**	**-1.1**
	comp=Z,70nm,0.8s							
WRAB	**Tennant Creek**	**18.74**	**222**	*e*P		**P**	**05 28 17.3**	**-1.0**
WRAB				pmax		pmax		
	comp=Z,70nm,0.8s							
WB2	**Warramunga Arr**	**18.74**	**222**	*e*P		**P**	**05 28 17.2**	**-1.2**
WRA	**Warramunga Arr**	**18.75**	**222**	P		**P**	**05 28 17.5**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=42,slow=12,SNR=67							
WRA				S		**S**	**05 31 54.2**	**+12**
	baz=32,slow=22,SNR=4.6							
WRA				PcP		PcP	05 32 45.0	+0.9
	comp=Z,0.1nm,0.3s,baz=26,slow=1.9,SNR=8.2							
WRA				ScP			05 36 19.1	
	comp=Z,0.2nm,0.3s,baz=45,slow=2.5,SNR=7.2							
GUMO	**Guam**	**19.87**	**352**	P		**P**	**05 28 31.3**	**+0.5**
	comp=Z,6.6nm,0.3s,baz=175,slow=13,SNR=9.0							
GUMO				LR		LR	05 34 30.0	
	comp=Z,1μm,21.4s,baz=167,slow=32							
GUMO	**Guam**	**19.87**	**352**	*e*P		**P**	**05 28 32.1**	**+1.3**
	comp=Z,92nm,0.9s							
GUMO	**Guam**	**19.87**	**352**	P		**P**	**05 28 31.3**	**+0.5**
GUMO				pmax		pmax		
	comp=Z,7.0nm,0.3s							
GUMO				MLR		MLR		
	comp=Z,1μm,21.4s							
ASPA	**Alice Springs**	**21.77**	**216**	*e*P		**P**	**05 28 50.5**	**+0.3**
ASPA				*e*S		**S**	**05 32 47.7**	**+5.3**
DZM	**Mont Dzumac**	**24.09**	**133**	P		**P**	**05 29 15.1**	**+2.2**
	comp=Z,6.6nm,0.7s,mb4.2,baz=56,slow=15,SNR=4.5							
ARMA	**Armidale**	**24.37**	**172**	*e*P		**P**	**05 29 16.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.45**	**239**	*e*P		**P**	**05 29 17.3**	**+0.8**
	comp=Z,78nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**24.45**	**239**	P		**P**	**05 29 18.0**	**+1.5**
	comp=Z,132nm,0.6s,mb5.5,baz=43,slow=6.5,SNR=96							
FITZ				LR		LR	05 40 36.1	
	comp=Z,1μm,18.1s,MS4.4,baz=76,slow=40							
STKA	**Stephens Creek**	**26.13**	**192**	*e*P		**P**	**05 29 31.3**	**-0.9**
	comp=Z,18nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**26.13**	**192**	P		**P**	**05 29 31.6**	**-0.6**
	comp=Z,20nm,0.6s,mb4.8,baz=4.0,slow=7.5,SNR=19							
STKA				LR		LR	05 40 17.3	
	comp=Z,802nm,19.8s,MS4.3,baz=21,slow=37							
FORT	**Forrest**	**30.54**	**214**	*e*P		**P**	**05 30 13.0**	**+1.1**
	comp=Z,34nm,0.6s,mb5.4							
MBWA	**Marble Bar**	**30.78**	**238**	*e*P		**P**	**05 30 14.2**	**+0.1**
	comp=Z,16nm,0.6s,mb5.0							
KLBR	**Kellerberrin**	**37.61**	**224**	*e*P		**P**	**05 31 12.7**	**+0.1**
	comp=Z,42nm,0.7s,mb5.3							
KSM	**Kuching**	**37.99**	**280**	*e*P		**P**	**05 31 17.2**	**+1.2**
RAO	**Raoul Island**	**39.79**	**129**	LR		LR	05 43 09.1	
	comp=Z,102nm,20.4s,MS3.7,baz=50,slow=29							
YHNB	**Yeheng**	**39.93**	**321**	P		**P**	**05 31 32.4**	**+0.4**
AFI	**Afiamalu**	**40.68**	**104**	LR		LR	05 46 00.0	
	comp=Z,207nm,19.9s,MS4.0,baz=306,slow=33							
URZ	**Urewera**	**41.63**	**144**	LR		LR	05 47 00.9	
	comp=Z,613nm,21.3s,MS4.5,baz=338,slow=33							
RPZ	**Rata Peaks**	**42.66**	**155**	P		**P**	**05 31 54.1**	**-0.1**
	comp=Z,9.5nm,0.6s,mb4.7,baz=299,slow=1.9,SNR=6.0							
RPZ				LR		LR	05 47 34.4	
	comp=Z,836nm,21.6s,MS4.6,baz=342,slow=33							
MJAR	**Matsushiro Arr**	**43.44**	**349**	P		**P**	**05 32 00.6**	**-0.1**
	comp=Z,21nm,0.9s,mb4.9,baz=168,slow=7.5,SNR=35							
MJAR				LR		LR	05 48 34.4	
	comp=Z,145nm,19.8s,MS3.9,baz=190,slow=34							
MAJO	**Matsushiro**	**43.44**	**349**	*e*P		**P**	**05 32 00.6**	**-0.1**
	comp=Z,23nm,0.8s,mb5.0							
MAJO	**Matsushiro**	**43.44**	**349**	*e*P		**P**	**05 32 00.6**	**-0.1**
MAJO				pmax		pmax		
	comp=Z,23nm,0.8s,mb5.0							
MAT	**Matsushiro**	**43.44**	**349**	P		**P**	**05 32 00.5**	**-0.2**
MAT	**Matsushiro**	**43.44**	**349**	*e*P		**P**	**05 32 01.0**	**+0.3**
	comp=Z,19nm,0.8s,mb4.9							
MAT	**Matsushiro**	**43.44**	**349**	*e*P		**P**	**05 32 01.0**	**+0.3**
MAT				pmax		pmax		
	comp=Z,19nm,0.8s,mb4.9							
SSE	**Sheshan**	**44.88**	**327**	P		**P**	**05 32 13.0**	**+0.6**
SSE				AP		pP	05 32 28.5	+1.0
SSE				XP		sP	05 32 35.8	+1.5
SSE				S		**S**	**05 38 48.8**	**+3.6**
SSE				XS			05 39 15.8	
SSE				SS		SS	05 42 13.3	+14
SSE				AMB		AMB		
	comp=Z,23nm,0.8s,mb5.1							
SSE				AMB		AMB		
	comp=Z,209nm,4.5s							
SSE				LR		LR		
	comp=N,120nm,24.1s,MS3.9							
SSE				LR		LR		
	comp=E,110nm,24.1s,MS3.9							
SSE				LR		LR		
	comp=Z,232nm,24.6s,MS4.0							
SSE	**Sheshan**	**44.88**	**327**	P		**P**	**05 32 13.1**	**+0.7**
	comp=Z,23nm,0.8s,mb5.1							
SSE				pP		pP	05 32 28.4	+0.9
SSE				sP		sP	05 32 35.7	+1.4
SSE				S		**S**	**05 38 48.8**	**+3.6**
SSE				sS			05 39 15.7	
SSE				SS		SS	05 42 13.3	+14
SSE				LR		LR		
	comp=Z,230nm,24.6s,MS4.0							
NJ2	**Nanjing**	**46.89**	**326**	*e*P		**P**	**05 32 30.0**	**+1.7**
NJ2				AP		pP	05 32 45.5	+2.1
NJ2				XP		sP	05 32 52.0	+1.8
NJ2				PCP		PcP	05 34 01.0	+0.3
NJ2				S		**S**	**05 39 15.0**	**+1.1**
NJ2				XS			05 39 40.0	
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,230nm,5.4s							
NJ2				LR		LR		
	comp=N,490nm,21.5s							
NJ2				LR		LR		
	comp=E,540nm,14.8s							
NJ2				LR		LR		
	comp=Z,340nm,18.7s,MS4.3							
KS15	**Wonju Array Si**	**47.17**	**339**	*e*P		**P**	**05 32 30.8**	**+0.4**
KULM	**Kulim**	**48.23**	**283**	*e*P		**P**	**05 32 39.7**	**+0.7**
WHN	**Wuhan**	**48.48**	**321**	*e*P		**P**	**05 32 42.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**53.12**	**356**	*e*P		**P**	**05 33 15.3**	**-0.4**
MDJ	**Mudanjiang**	**53.14**	**344**	P		**P**	**05 33 15.8**	**0.0**
MDJ				AP		pP	05 33 29.3	-2.0
MDJ				XP		sP	05 33 36.0	-1.9
MDJ				PCP		PcP	05 34 23.3	0.0
MDJ				PP		PP	05 35 16.0	-1.6
MDJ				PCS			05 38 22.0	
MDJ				S		**S**	**05 40 46.8**	**+6.5**
MDJ				XS			05 41 06.0	
MDJ				SS		SS	05 44 24.5	+4.9
MDJ				AMB		AMB		
	comp=Z,9.0nm,0.9s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,64nm,4.6s							
MDJ				LR		LR		
	comp=N,121nm,26.5s,MS3.9							
MDJ				LR		LR		
	comp=E,65nm,26.5s,MS3.9							
MDJ				LR		LR		
	comp=Z,216nm,25.1s,MS4.1							
KMI	**Kunming**	**53.59**	**307**	P		**P**	**05 33 18.5**	**-1.0**
KMI				S		**S**	**05 40 48.5**	**+1.7**
KMI				XS			05 41 19.8	
KMI				SS		SS	05 44 34.3	+7.1
KMI				AMB		AMB		
	comp=Z,12nm,1.1s,mb4.7							
KMI				AMB		AMB		
	comp=Z,323nm,3.5s							
KMI				LR		LR		
	comp=Z,147nm,27.7s,MS3.9							
KMI	**Kunming**	**53.59**	**307**	P		**P**	**05 33 18.5**	**-1.0**
	comp=Z,12nm,1.1s,mb4.7							
KMI				S		**S**	**05 40 48.4**	**+1.6**
KMI				sS			05 41 19.7	
KMI				SS		SS	05 44 34.2	+7.0
KMI				LR		LR		
	comp=Z,150nm,27.7s,MS3.9							
KMI	**Kunming**	**53.59**	**307**	P		**P**	**05 33 18.5**	**-1.0**
KMI				S		**S**	**05 40 48.4**	**+1.6**
KMI				SS		SS	05 44 34.2	+7.0
KMI				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.7							
KMI				MLR		MLR		
	comp=Z,150nm,27.7s,MS3.9							
CN2	**Changchun**	**53.66**	**340**	*e*P		**P**	**05 33 23.3**	**+3.6**
KLR	**Kul'dur**	**56.93**	**348**	*e*P		**P**	**05 33 39.0**	**-4.3**
HHC	**Hu-ho-hao-te**	**57.33**	**328**	*e*P		**P**	**05 33 45.5**	**-0.7**
HHC				AP		pP	05 34 02.0	+0.1
HHC				XP		sP	05 34 09.3	+0.8
HHC				PCP		PcP	05 34 38.5	-1.0
HHC				PP		PP	05 35 54.8	-0.6
HHC				S		**S**	**05 41 33.8**	**-2.5**
HHC				XS			05 42 02.3	
HHC				SCS		ScS	05 43 25.5	-1.0
HHC				AMB		AMB		
	comp=Z,17nm,0.9s,mb5.1							
HHC				AMB		AMB		
	comp=Z,96nm,5.7s							
HHC				LR		LR		
	comp=N,122nm,22.6s							
HHC				LR		LR		
	comp=E,209nm,16.7s							
HHC				LR		LR		
	comp=Z,214nm,22.6s,MS4.2							
LZH	**Lanzhou**	**58.76**	**319**	*e*P		**P**	**05 33 57.0**	**+0.8**
LZH				AP		pP	05 34 13.0	+1.1
LZH				XP		sP	05 34 16.5	-2.1
LZH				AMB		AMB		
	comp=Z,30nm,1.0s,mb5.3							
LZH				AMB		AMB		
	comp=Z,150nm,4.0s							
LZH				LR		LR		
	comp=E,385nm,16.0s							
LZH				LR		LR		
	comp=Z,542nm,17.5s,MS4.7							
LZH	**Lanzhou**	**58.76**	**319**	*e*P		**P**	**05 33 57.0**	**+0.8**
	comp=Z,30nm,1.0s,mb5.3							
LZH				pP		pP	05 34 13.0	+1.1
LZH				sP		sP	05 34 16.6	-2.0
LZH				PP		PP	05 36 16.0	+7.6
LZH				LR		LR		
	comp=Z,540nm,17.5s,MS4.7							
LZH	**Lanzhou**	**58.76**	**319**	*e*P		**P**	**05 33 57.0**	**+0.8**
LZH				*PP		pP	05 34 13.0	+1.1
LZH				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.3							
LZH				MLR		MLR		
	comp=Z,540nm,17.5s,MS4.7							
HIA	**Hailar**	**60.37**	**339**	*e*P		**P**	**05 34 06.7**	**-0.4**
	comp=Z,23nm,0.8s,mb5.3							
HIA	**Hailar**	**60.37**	**339**	*e*P		**P**	**05 34 06.7**	**-0.4**
HIA				pmax		pmax		
	comp=Z,23nm,0.8s							
PPT	**Papeete**	**62.27**	**106**	*e*S		**S**	**05 42 40.8**	**+0.6**
PPT				*e*LR		LR	05 52 42.4	
	comp=Z,154nm,24.5s							
TBI	**Tubuai**	**62.75**	**113**	*e*S		**S**	**05 42 47.0**	**+0.9**
TBI				*e*LR		LR	05 52 58.1	
	comp=Z,496nm,40.0s							
GTA	**Gaotai**	**63.29**	**320**	*e*P		**P**	**05 34 27.8**	**+1.0**
GTA				AP		pP	05 34 44.0	+1.3
GTA				XP		sP	05 34 51.0	+1.7
GTA				PCP		PcP	05 35 05.5	+2.2
GTA				PP		PP	05 36 49.3	+1.3
GTA				S		**S**	**05 42 53.5**	**+0.8**
GTA				SCS		ScS	05 44 11.5	+0.7
GTA				AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.7							
GTA				AMB		AMB		
	comp=Z,49nm,6.5s							
GTA				LR		LR		
	comp=N,120nm,11.5s,MS4.5							
GTA				LR		LR		
	comp=E,137nm,13.8s,MS4.5							
GTA				LR		LR		
	comp=Z,75nm,12.2s,MS4.1							
ULN	**Ulaanbaatar**	**64.58**	**331**	*e*P		**P**	**05 34 35.0**	**-0.1**
	comp=Z,9.8nm,0.8s,mb4.9							
ULN	**Ulaanbaatar**	**64.58**	**331**	*c* *i*P		**P**	**05 34 35.2**	**0.0**
LSA	**Lhasa**	**64.84**	**307**	*e*P		**P**	**05 34 39.2**	**+2.1**
	comp=Z,6.7nm,0.6s,mb4.8							
LSA	**Lhasa**	**64.84**	**307**	*e*P		**P**	**05 34 39.2**	**+2.1**
LSA				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.9							
SONM	**Songino Array**	**64.88**	**331**	P		**P**	**05 34 36.7**	**-0.4**
	comp=Z,6.6nm,0.9s,mb4.7,baz=144,slow=8.1,SNR=22							
SONM				LR		LR	06 02 13.8	
	comp=Z,272nm,20.9s,MS4.4,baz=53,slow=35							
CIT	**Chita**	**64.89**	**338**	*e*P		**P**	**05 34 36.5**

	comp=Z,0.3nm,0.5s,baz=315,slow=1.7,SNR=3.7								
MKAR					LR	LR	06 08 11.6		
	comp=Z,73nm,20.0s,MS4.0,baz=127,slow=34								
MKAR	**Makanchi Array**	**78.04**	**320**		P	**P**	**05 35 55.5**	**-0.3**	
MKAR					PKKPbc		05 54 55.4		
MKAR					LR	LR	06 08 11.6		
ZAL	**Zalesovo**	**79.52**	**328**		P	**P**	**05 36 02.8**	**-0.9**	
	comp=Z,2.5nm,0.6s,mb4.3,baz=7.8,slow=5.2,SNR=9.2								
NVS	**Novosibirsk**	**80.73**	**328**	*eP*		**P**	**05 36 06.1**	**-4.1**	
KURK	**Kurchatov**	**81.74**	**323**	*eP*		**P**	**05 36 15.2**	**-0.3**	
MAW	**Mawson**	**82.27**	**203**	*eP*		**P**	**05 36 18.0**	**+0.1**	
	comp=Z,4.8nm,0.9s,mb4.4								
MAW	**Mawson**	**82.27**	**203**		P	**P**	**05 36 18.2**	**+0.3**	
	comp=Z,7.7nm,1.0s,mb4.6,baz=58,slow=6.5,SNR=12								
MAW					LR	LR	06 13 09.5		
	comp=Z,216nm,18.6s,MS4.5,baz=65,slow=36								
MAW	**Mawson**	**82.27**	**203**		P	**P**	**05 36 18.2**	**+0.3**	
MAW					pmax	pmax			
	comp=Z,8.0nm,1.0s								
MAW					MLR	MLR			
	comp=Z,216nm,18.6s								
QSPA	**South Pole Qui**	**83.74**	**180**	⇑*i*	*P*	**P**	**05 36 25.9**	**+0.8**	
	comp=Z,19nm,0.9s,mb5.2								
ILAR	**Eielson Array**	**85.46**	**23**		P	**P**	**05 36 31.9**	**-2.0**	
	comp=Z,4.1nm,0.8s,mb4.6,baz=253,slow=4.6,SNR=29								
DAWY	**Dawson**	**88.23**	**25**	*eP*		**P**	**05 36 47.7**	**+0.3**	
INK	**Inuvik**	**91.65**	**21**	*eP*		**P**	**05 37 03.8**	**+0.4**	
	comp=Z,2.7nm,1.0s,mb4.5								
INK	**Inuvik**	**91.65**	**21**	*eP*		**P**	**05 37 03.8**	**+0.4**	
INK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
YKA	**Yellowknife Ar**	**99.10**	**28**	LR		LR	06 19 21.0		
	comp=Z,124nm,20.6s,MS4.4,baz=75,slow=34								
SNAA	**Sanae**	**99.87**	**189**	⇑*i*	*Pdif*	**P**	**05 37 40.3**	**-0.4**	
SNAA					*e*	pP	05 37 57.6	0.0	
SNAA					*e*		05 38 05.4		
SNAA					*e*		05 42 10.1		
SNAA					*e*		05 42 25.6		
VNA2	**Neumayer--Watz**	**101.21**	**188**	⇑*i*	*P*	P	05 37 46.6	-0.2	
VNA2					*e*		05 38 05.9		
VNA2					*e*		05 38 14.6		
VNA2					*e*		05 42 13.4		
VNA2					*e*		05 42 30.8		
VNA3	**Neumayer Olymp**	**101.23**	**187**	⇑*i*	*Pdif*	P	05 37 46.2	-0.6	
VNA3					*e*		05 38 03.3		
VNA3					*e*		05 38 12.7		
VNA3					*e*		05 42 13.7		
VNA1	**Neumayer--Stat**	**101.58**	**188**	⇑*i*	*Pdif*	P	05 37 49.4	+0.9	
VNA1					*e*		05 38 08.1		
VNA1					*e*		05 38 15.8		
PDAR	**Pinedale Array**	**103.64**	**48**		Pdiff	Pdif	05 37 57.6	-0.6	
	comp=Z,0.7nm,0.9s,baz=270,slow=1.5,SNR=5.8								
TXAR	**Lajitas Array**	**109.36**	**61**		PKKPbc		05 53 33.5		
	comp=Z,0.2nm,0.6s,baz=104,slow=5.2,SNR=4.0								
TXAR					PKKP	PKKP	05 53 46.9	+8.0	
	comp=Z,0.7nm,0.8s,baz=121,slow=7.3,SNR=7.7								
LSZ	**Lusaka**	**116.28**	**250**	*e*	PKPdf	PKPdf	05 42 41.8	+2.4	
CLL	**Collm**	**121.46**	**328**	⇑*i*	PKIKP	PKPdf	05 42 51.2	+2.5	
	comp=Z,logA/T=0.9								
PLCA	**Paso Flores**	**121.62**	**147**		PKP	PKPdf	05 42 51.2	+1.9	
	comp=Z,3.4nm,0.7s,baz=212,slow=2.7,SNR=12								
PLCA	**Paso Flores**	**121.62**	**147**	*e*	PKIKP	PKPdf	05 42 51.2	+1.9	
WCI	**Wyandotte Cave**	**121.87**	**49**	*e*	PKPdf	PKPdf	05 42 50.6	+0.8	
KHC	**Kasperske Hory**	**122.34**	**326**	*e*	PKPdf	PKPdf	05 42 51.4	+1.0	
GERES	**GERESS Array B**	**122.42**	**326**		PKP	PKPdf	05 42 51.6	+1.0	
	comp=Z,1.9nm,0.7s,baz=45,slow=1.9,SNR=7.7								
JTS	**JuntasAbangare**	**127.89**	**82**	*e*	PKPdf	PKPdf	05 43 03.7	+1.6	
TRQA	**Tornquist**	**128.06**	**150**	*e*	PKPdf	PKPdf	05 43 03.3	+1.5	
BNI	**Bardonecchia**	**128.53**	**325**	*e*	PKPdf	PKPdf	05 43 04.9	+2.4	
ROSC	**El Rosal**	**138.27**	**90**		PKP	PKPdf	05 43 24.3	+2.8	
	comp=Z,18nm,0.6s,baz=163,slow=2.0,SNR=19								
CPUP	**Villa Florida**	**139.61**	**144**		PKP	PKPdf	05 43 25.9	+2.3	
	comp=Z,7.5nm,0.8s,baz=206,slow=3.8,SNR=14								
CPUP	**Villa Florida**	**139.61**	**144**	*e*	PKIKP	PKPdf	05 43 26.0	+2.4	
SJG	**San Juan**	**145.04**	**67**	*e*	PKPdf	PKPdf	05 43 33.4	0.0	
KIC	**Kosan Boka**	**152.49**	**272**	*e*	PKIKP	PKPdf	05 43 54.9	+10	
	comp=Z,113nm,0.8s								
DBIC	**Dimbokro**	**152.61**	**272**		PKPbc	PKPdf	05 43 54.6	+9.1	
	comp=Z,14nm,0.7s,baz=80,slow=2.6,SNR=32								
DBIC					PKPab	PKPab	05 44 06.1	+0.3	
	comp=Z,14nm,0.8s,baz=103,slow=5.4,SNR=7.4								
DBIC	**Dimbokro**	**152.61**	**272**	*e*	PKPbc	PKPdf	05 43 54.8	+9.2	
DBIC				*e*	PKPab	PKPab	05 44 06.2	+0.4	
DBIC	**Dimbokro**	**152.61**	**272**		PKIKP	PKPdf	05 43 54.6	+9.0	
DBIC							05 44 06.1		
DBIC					pmax	pmax			
	comp=Z,14nm,0.7s								
DBIC					pmax	pmax			
	comp=Z,14nm,0.8s								
LIC	**Lamto**	**152.78**	**272**	*e*	PKIKP	PKPdf	05 43 55.4	+10	
	comp=Z,58nm,0.7s								
TIC	**Toumodi**	**152.78**	**272**	*e*	PKIKP	PKPdf	05 43 55.4	+10	
	comp=Z,65nm,0.8s								
BDFB	**Brasilia**	**153.34**	**145**		PKP	PKPdf	05 43 49.6	+3.1	
	comp=Z,3.8nm,0.7s,baz=228,slow=6.3,SNR=8.2								
BDFB					PKPbc	PKPdf	05 43 56.3	+10	
	comp=Z,32nm,0.8s,baz=228,slow=1.2,SNR=38								
BAO	**Brasilia Array**	**153.36**	**145**		PKPdf	PKPdf	05 43 49.0	+2.5	

*NEIC **27** 05:32:37.6±2.1, 36.15N×70.70E, h60km±34km, mb3.6/3, Error ellipse: s-maj=28.1km s-min=6.4km az=55.0*
*NNC **27** 05:32:46.9±2.5, 36.79N×70.94E, h137km±38km, mpv4.0, Error ellipse: s-maj=21.9km s-min=19.9km az=36.0*
ISC 27 05:32:35.2±3.7, 36.1N±0.1×70.6E±0.2, h45km±51km, n18, σ0§50/22, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**6.44**	**21**	P		**P**	**05 34 09.8**	**-0.1**
	SNR=58							
UCH	**Uchtor**	**6.79**	**25**	P		**P**	**05 34 14.8**	**0.0**
	SNR=20							
EKS2	**Erkin-Say**	**6.96**	**19**	P		**P**	**05 34 16.9**	**-0.2**
	SNR=16							
KK31	**Karatay Array**	**6.96**	**359**	⇓	*P*	**P**	**05 34 17.9**	**+0.7**
	17nm,0.5s,baz=182,slow=12,SNR=196							
KK31				⇓	*S*	**S**	**05 35 29.1**	**-6.8**
	23nm,0.7s,baz=183,slow=23,SNR=16							
AAK	**Ala-Archa**	**7.14**	**24**	⇑	*P*	**P**	**05 34 19.3**	**-0.5**
	3.9nm,0.7s							
AAK				⇑	*S*	**S**	**05 35 32.7**	**-7.8**
	6.5nm,0.5s							
AAK	**Ala-Archa**	**7.14**	**24**	*e*	Pn	**P**	**05 34 17.9**	**-1.8**
AAK				⇑	*P*		05 34 19.3	
AAK				*e*	Sn	**S**	**05 35 32.2**	**-8.2**
AAK				S		**S**	**05 35 32.6**	**-7.8**
USP	**Ospenovka**	**7.72**	**21**	P		**P**	**05 34 27.3**	**-0.4**
	SNR=7.0							
TKM2	**Tokmak 2**	**7.79**	**28**	P		**P**	**05 34 29.5**	**+0.9**
	SNR=11							
KOLN	**Koldanda**	**13.80**	**124**	*e*	*P*	**P**	**05 35 50.7**	**+0.6**
	8.4nm,0.4s							
GKN	**Gorkha**	**14.36**	**120**	*e*	*P*	**P**	**05 35 57.1**	**-0.4**
	11nm,0.3s							
DMN	**Daman**	**14.93**	**121**	*e*	*P*	**P**	**05 36 04.5**	**-0.4**
	10nm,0.4s							
PKI	**Pulchoki**	**15.17**	**120**	*e*	*P*	**P**	**05 36 08.1**	**+0.1**
	13nm,0.6s							
AB31	**Akbulak array**	**15.27**	**333**	⇓	*P*	**P**	**05 36 09.2**	**+0.1**
	1.4nm,0.3s,baz=149,slow=13,SNR=64							
JIRN	**Jiri**	**15.67**	**118**	*e*	*P*	**P**	**05 36 14.4**	**0.0**
	18nm,0.4s							
KURK	**Kurchatov**	**15.67**	**19**	*e*	*P*	**P**	**05 36 14.4**	**+0.1**
	2.7nm,0.8s							
AKTK	**Aktyubinsk**	**16.96**	**331**	⇓	*P*	**P**	**05 36 30.2**	**-0.3**
AKTO	**Aktyubinsk**	**16.96**	**331**	⇓	*P*	**P**	**05 36 30.2**	**-0.3**
	1.1nm,1.5s							
CHKZ	**Chkalovo**	**17.54**	**360**	Pn		**P**	**05 36 38.1**	**+0.3**
	4.2nm,0.8s							

*NEIC **27** 05:49:29.5, 62.74N×143.52W, h4km, ML2.9(AEIC), After AEIC.*
PGC 27 05:49:29.8, 62.72N×143.44W, h1km, ML3.1/2, ML2.9/17(AEIC), 233km northeast of Valdez, Ak Eastern Alaska., Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAX	**Paxson**	**0.96**	**286**	P		Pb	05 49 47.0	-2.0
PAX				S		Sg	05 49 59.6	-2.3
DOT	**Dot Lake**	**0.98**	**344**	P		Pb	05 49 48.1	-1.1
DOT				Trac				
SDG	**Sourdough**	**0.99**	**260**	P		Pb	05 49 47.7	-1.7
SDG				S		Sg	05 50 00.6	-2.1
TZL	**Tazlina**	**1.14**	**235**	P		Pb	05 49 50.8	-1.2
TZL				Trac				
TZL	**Tazlina**	**1.14**	**235**	P		Pb	05 49 50.8	-1.2
THY	**Trims Highway**	**1.27**	**305**	P		Pb	05 49 52.4	-1.8
THY				Trac				
GLB	**Gilahina Butte**	**1.29**	**188**	P		Pb	05 49 52.6	-1.9
KLU	**Klutina**	**1.69**	**225**	P		Pn	05 49 59.4	-1.3
KLU				Trac				
BALM	**Baldy**	**1.76**	**162**	P		Pn	05 50 00.9	-0.8
BMRM	**Bremner River**	**1.84**	**198**	P		Pn	05 50 01.6	-1.2
BMRM				Trac				
DIV	**Divide**	**1.94**	**216**	P		Pn	05 50 03.3	-0.9
DIV				Trac				
SCM	**Sheep Creek Mo**	**2.02**	**246**	P		Pn	05 50 04.6	-0.8
SCM				Trac				
CTGM	**Chitina Glacie**	**2.02**	**149**	P		Pn	05 50 05.3	-0.1
VLZ	**Valdez**	**2.10**	**222**	P		Pn	05 50 06.3	-0.1
DAWY	**Dawson**	**2.27**	**52**	Pn		Pn	05 50 07.2	-1.8
DAWY				Pg		Pg	05 50 10.6	-4.6
EYAK	**Cordova Ski Ar**	**2.44**	**208**	P		Pn	05 50 11.7	+0.4
FID	**Port Fidalgo**	**2.44**	**218**	P		Pn	05 50 11.9	+0.5
IL1	**Eielson Array**	**2.57**	**325**	P		Pn	05 50 11.1	-2.1
IL1				Trac				
WRH	**Wood River Hil**	**2.72**	**312**	P		Pn	05 50 14.0	-1.4
WRH				Trac				
MDM	**Murphy Dome**	**3.09**	**319**	P		Pn	05 50 18.1	-2.5
MDM				Trac				
HYT	**Haines Junctio**	**3.40**	**121**	Pn		Pn	05 50 22.9	-2.2
HYT				Pg		Pg	05 50 29.9	-7.8
HYT				Sg		Sg	05 51 15.8	-7.1
HYT				Trac			05 51 22.8	
	comp=Z,12nm,0.2s							
WHY	**Whitehorse**	**4.57**	**113**	Pn		Pn	05 50 39.7	-2.0
WHY				Pg		Pg	05 50 52.1	-8.9
WHY				Sg		Sg	05 51 52.0	-10
WHY				Trac			05 52 07.3	
	comp=Z,17nm,0.8s							
BM3	**Burnt Mountain**	**4.75**	**355**	P		Pn	05 50 41.9	-2.3
COLD	**Coldfoot**	**5.36**	**331**	P		Pn	05 50 50.6	-2.3
IM3	**Indian Mountai**	**5.55**	**311**	P		Pn	05 50 52.9	-2.6
INK	**Inuvik**	**6.96**	**32**	Pn		Pn	05 51 11.6	-3.8
INK				Sg		Sg	05 53 05.3	-16
INK				Trac			05 53 32.4	
	comp=Z,4.0nm,0.8s							
DLBC	**Dease Lake**	**7.87**	**117**	Sg		Sg	05 53 35.1	-17
FNBB	**Fort Nelson**	**10.67**	**102**	Pn		P	05 52 01.9	-4.8

IDC 27 06:24:14.2±11.0, 19.36S×178.23W, h539km±143km, mb3.1/3, mb1 3.6/3, mb1mx3.2/12, mbtmp4.0/3, 3C, Error ellipse: s-maj=225.5km s-min=39.4km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.55**	**261**	P		P	06 31 38.4	-1.4
	0.7nm,0.3s,baz=97,slow=7.3,SNR=59							
TXAR	**Lajitas Array**	**86.63**	**57**	P		P	06 36 01.1	-0.7
	0.8nm,0.6s,baz=219,slow=5.8,SNR=14							
PDAR	**Pinedale Array**	**88.29**	**43**	P		P	06 36 08.4	-0.8
	0.6nm,0.6s,baz=203,slow=2.4,SNR=6.1							
VNA3	**Neumayer Olymp**	**89.28**	**176**	⇑*i*		P	06 36 09.4	-3.8
VNA2	**Neumayer--Watz**	**89.72**	**177**	⇑*i*		P	06 36 11.7	-3.5
VNA1	**Neumayer--Stat**	**89.95**	**177**	⇑*i*		P	06 36 11.4	-4.9
ARCES	**ARCESS Array B**	**127.77**	**350**	PKP		PKPdf	06 42 16.6	-1.1
	6.1nm,1.0s,baz=27,slow=2.0,SNR=3.6							
GERES	**GERESS Array B**	**149.06**	**345**	PKPbc		PKPdf	06 43 02.1	+5.9
	0.5nm,0.2s,baz=45,slow=1.9,SNR=3.4							

*NNC **27** 06:45:00.8±9.8, 37.60N×73.49E, mpv3.8, Error ellipse: s-maj=82.5km s-min=66.2km az=142.0*
*NEIC **27** 06:45:07.7±1.8, 38.43N×76.77E, h10km, mb4.0/1, Error ellipse: s-maj=126.0km s-min=7.2km az=63.0*
ISC 27 06:44:56.9±0.8, 37.15N±0.06×73.5E±0.1, h33km, n18, σ1§04/22, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**4.98**	**2**	P		**P**	**06 46 10.3**	**-0.9**
	SNR=10.0							
UCH	**Uchtor**	**5.13**	**8**	P		**P**	**06 46 13.7**	**+0.3**
	SNR=65							
EKS2	**Erkin-Say**	**5.51**	**2**	P		**P**	**06 46 20.0**	**+1.3**
	SNR=7.4							
AAK	**Ala-Archa**	**5.53**	**8**	P		**P**	**06 46 18.9**	**-0.1**
	SNR=20							
AAK	**Ala-Archa**	**5.53**	**8**	⇓	*P*	**P**	**06 46 19.2**	**+0.2**
	15nm,0.6s							
AAK				⇑	*S*	**S**	**06 47 21.6**	**-0.7**
	54nm,1.2s							
AAK	**Ala-Archa**	**5.53**	**8**	*e*	Pn	**Pn**	**06 46 17.2**	**-1.9**
KBK	**Karagaybulak**	**5.61**	**11**	P		**P**	**06 46 21.1**	**+1.0**
	SNR=6.8							
TKM2	**Tokmak 2**	**5.98**	**15**	P		**P**	**06 46 25.9**	**+0.5**
	SNR=7.7							
KK31	**Karatay Array**	**6.37**	**340**	⇑	*P*	**P**	**06 46 29.3**	**-1.6**
	1.6nm,0.3s,baz=155,slow=13,SNR=4.3							
KK31				⇑	*S*	**S**	**06 47 38.5**	**-4.8**
	22nm,0.6s,baz=149,slow=26,SNR=4.7							
KOLN	**Koldanda**	**12.65**	**135**	*e*	*P*	**P**	**06 47 59.6**	**+2.3**
	5.5nm,0.4s							
KOLN				*e*	*S*	**S**	**06 50 17.4**	**-0.5**
GKN	**Gorkha**	**13.08**	**131**	*e*	*P*	**P**	**06 48 03.2**	**+0.2**
	14nm,0.4s							
KKN	**Kakani**	**13.63**	**130**	*e*	*P*	**P**	**06 48 09.5**	**-0.7**
DMN	**Daman**	**13.65**	**131**	*e*	*P*	**P**	**06 48 10.5**	**0.0**
JIRN	**Jiri**	**14.29**	**128**	*e*	*P*	**P**	**06 48 17.8**	**-1.0**
	17nm,0.5s							
JIRN				*e*	*S*	**S**	**06 50 52.2**	**-4.8**
AB31	**Akbulak array**	**15.59**	**325**	⇑	*P*	**P**	**06 48 35.5**	**-0.1**
	0.9nm,0.5s,baz=138,slow=12,SNR=24							
BVA0	**Borovoye Array**	**16.02**	**353**	⇑	*P*		**06 48 42.7**	**+1.6**
	1.7nm,1.1s,baz=168,slow=10,SNR=34							
BRVK	**Borovoye**	**16.07**	**353**	*e*	*P*	**P**	**06 48 42.9**	**+1.3**
	8.2nm,1.0s							
AKTO	**Aktyubinsk**	**17.31**	**325**	⇓	*P*	**P**	**06 48 56.8**	**-0.5**
	2.6nm,2.3s							

CASC 27 07:01:24.9±2.1, 12.52N×87.63W, h71km±38km, MD3.8, ML3.5, 8C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRIN	**San Cristobal**	**0.59**	**72**	*e*	*P*	P	07 01 40.1	+1.2
CRIN				*e*	*S*	S	07 01 50.5	+1.4
	comp=Z,3μm,0.1s							
LEON	**Leon**	**0.72**	**98**	⇑	*eP*	P	07 01 40.0	-0.2
TEL3	**Telica 3**	**0.77**	**86**	⇑	*eP*	P	07 01 41.1	+0.3
TEL3				*e*	*S*	S	07 01 52.9	+0.3
	comp=Z,1μm,0.2s							
CNCH	**Conchagua**	**0.78**	**345**	⇓	*eP*	P	07 02 05.1	+24
CNCH				*e*	*S*	S	07 02 17.9	+25
TELN	**Telica**	**0.78**	**84**	⇓	*eP*	P	07 01 41.4	+0.4
MIRN	**Miramar**	**0.90**	**95**	⇓	*eP*	P	07 01 42.4	+0.1
CNGN	**Cerro Negro**	**0.91**	**91**	⇓	*eP*	P	07 01 42.8	+0.3
COPN	**Copaltepe**	**1.06**	**108**	⇑	*eP*	P	07 01 44.2	-0.3
MOMJ	**Momotombo**	**1.07**	**96**	⇓	*eP*	P	07 01 44.6	0.0
MOMJ				*e*	*S*	S	07 01 58.7	-0.4
	comp=Z,332nm,0.2s							
BLLM	**Bellamira**	**1.10**	**327**	⇓	*eP*	P	07 02 09.3	+24
BLLM				*e*	*S*	S	07 02 23.9	+24
XAVN	**Gruta Xavier**	**1.32**	**106**	⇑	*eP*	P	07 01 47.9	-0.2
XAVN				*e*	*S*	S	07 02 03.9	-1.3
	comp=Z,816nm,0.2s							
MGAN	**Managua**	**1.40**	**105**	⇑	*eP*	P	07 01 48.9	-0.2
MGAN				*e*	*S*	S	07 02 06.2	-0.8
	comp=E,633nm,0.2s							
TICN	**Ticuantepe**	**1.45**	**109**	⇓	*eP*	P	07 01 49.5	-0.2
WILN	**Americas 2**	**1.45**	**104**	*e*	*P*	P	07 01 49.5	-0.3
WILN				*e*	*S*	S	07 02 07.6	-0.5
	comp=E,1μm,0.4s							
SNVI	**San Vicente**	**1.61**	**313**	*e*	*P*	S	07 02 16.3	+24
SNVI				*e*	*S*	S	07 02 35.9	+24
APON	**Apoyo**	**1.64**	**111**	⇑	*eP*	P	07 01 51.7	-0.6
LCBS	**La Ceiba**	**1.74**	**311**	⇓	*eP*	P	07 02 17.7	+24
LCBS				*e*	*S*	S	07 02 38.7	+24
LFRS	**El Faro**	**1.78**	**308**	⇑	*eP*	P	07 02 18.5	+24
LFRS				*e*	*S*	S	07 02 40.1	+24
BOQS	**Boqueron**	**2.02**	**307**	⇑	*eP*	P	07 02 22.0	+25
BOQS				*e*	*S*	S	07 02 46.2	+25
SSNN	**San Juan del S**	**2.12**	**125**	*e*	*P*	P	07 01 58.1	-0.9
CONN	**Concepcion**	**2.17**	**116**	*e*	*P*	P	07 01 58.8	-0.8
MADN	**Villa Maderas**	**2.33**	**118**	*e*	*P*	P	07 02 01.2	-0.6

WEL 27 07:14:26.4±0.3, 37.48S×176.48E, h190km±3km, ML3.7/11, 1D, Error ellipse: s-maj=4.2km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**0.93**	**147**	PN		P	07 14 55.0	+0.2
URZ				SN		S	07 15 16.3	-0.4
MWZ	**Matawai**	**1.19**	**136**	PN		P	07 14 56.8	-0.1
MWZ				SN		S	07 15 19.8	-0.6
MXZ	**Matakaoa Point**	**1.46**	**94**	PN		P	07 14 58.8	-0.4
PUZ	**Puketiti**	**1.53**	**113**	PN		P	07 14 59.4	-0.5
PUZ				SN		S	07 15 24.1	-1.5
BKZ	**Black Stump Fm**	**1.69**	**180**	PN		P	07 15 01.0	-0.3
KNZ	**Kokohu**	**1.80**	**149**	⇓	PN	P	07 15 02.5	-0.1
MOVZ	**Moawhango**	**2.01**	**196**	*e*	PN	P	07 15 04.3	-0.3
WAZ	**Wanganui**	**2.56**	**207**	PN		P	07 15 10.5	-0.3
PXZ	**Pawanui**	**2.57**	**173**	PN		P	07 15 10.1	-0.8
TSZ	**Takapari Road**	**2.61**	**189**	PN		P	07 15 10.2	-1.2
MRZ	**Mangatainoka R**	**3.25**	**192**	PN		P	07 15 16.7	-2.5
KIW	**Kapiti Island**	**3.59**	**199**	PN		P	07 15 21.1	-2.3
MTW	**Mount Morrison**	**3.75**	**191**	PN		P	07 15 22.4	-3.0
CAW	**Cannon Point**	**3.79**	**196**	PN		P	07 15 22.9	-2.9
TRWZ	**Traveller**	**3.96**	**189**	*e*	PN	P	07 15 25.2	-2.9
MSWZ	**Moikau Station**	**4.04**	**193**	PN		P	07 15 25.6	-3.4
TCW	**Tory Channel**	**4.10**	**204**	PN		P	07 15 26.8	-3.0
TUWZ	**Tuamarina**	**4.41**	**206**	PN		P	07 15 30.2	-3.5

*MOS **27** 07:57:41.3±0.7, 10.99S×164.03E, h10km, mb5.1/21, Error ellipse: s-maj=11.2km s-min=10.1km az=54.0*
*CSEM **27** 07:57:42.6, 10.92S×164.03E, h20km, mb5.5*
*BJI **27** 07:57:45.4, 10.54S×164.15E, h20km, mB5.1, mb4.8, Ms4.8, Msz4.4*
*HRVD **27** 07:57:45.2±0.3, 11.34S×164.16E, h19km±1km, MW5.2/60, Centroid moment Tensor Solution. LP body waves: s36,c60; Mantle waves: s60,c101; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.99±.27; Mθθ 1.59±.20; Mϕϕ 2.39±.21; Mrθ -5.00±.51; Mθϕ 4.05±.16; Mϕr 0.43±.39; Best double couple: M₀7.312×10¹⁶ NP1: ϕs192°, δ39°, λ-146°. NP2: ϕs75°, δ70°, λ-56°. Principal axes: T 7.051, Plg18°, Azm140°; N .512, Plg31°, Azm242°; P -7.573, Plg53°, Azm25°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **27** 07:57:45.2±7.5, 11.13S×164.16E, h28km±50km, mb4.6/15, mb1 4.7/19, mb1mx4.7/21, mbtmp4.8/19, ML5.3/3, MS4.2/24, Ms1 4.2/24, ms1mx4.2/28 Error ellipse: s-maj=20.4km s-min=15.7km az=80.0*
*NEIC **27** 07:57:45.1±2.3, 11.15S×164.17E, h29km±16km, mb4.9/33, Error ellipse: s-maj=6.9km s-min=6.0km az=59.0*
ISC 27 07:57:44.6±1.2, 11.18S±0.05×164.10E±0.05, h37km±9km, h39km±3.4km; pP-P, n149, σ0§92/131, mb4.8/56, MS4.3/32, 10C-1D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**4.44**	**293**	Pn		**P**	**07 58 52.1**	**+0.8**
	344nm,0.3s,baz=106,slow=16,SNR=62							
HNR				Sn		**S**	**07 59 43.8**	**+1.4**
	46nm,0.3s,baz=66,slow=19,SNR=3.1							
HNR				LR		LR	08 00 11.7	
	comp=Z,2μm,20.1s,baz=132,slow=33							
HNR	**Honiara**	**4.44**	**293**	⇑*i*	Pn	**P**	**07 58 52.0**	**+0.8**
HNR	**Honiara**	**4.44**	**293**	P		**P**	**07 58 52.1**	**+0.8**
HNR							07 59 43.8	
HNR				pmax		pmax		
	comp=Z,344nm,0.3s							
HNR				smax				
	comp=E,46nm,0.3s							
HNR				MLR		MLR		
	comp=Z,2μm,20.1s							
DZM	**Mont Dzumac**	**11.06**	**169**	*eP*		**P**	**08 00 20.3**	**-3.2**
DZM				*eS*		**S**	**08 02 17.0**	**-10**
DZM	**Mont Dzumac**	**11.06**	**169**	Pn		**P**	**08 00 20.7**	**-2.8**
	comp=Z,22nm,0.3s,baz=1.5,slow=12,SNR=130							
DZM				Sn		**S**	**08 02 17.7**	**-9.3**
	comp=Z,1.2nm,0.3s,baz=128,slow=19,SNR=4.3							
DZM

MJAR LR LR 08 28 21.0
comp=Z,222nm,18.4s,MS4.2,baz=170,slow=34
MAJO Matsushiro 53.36 334 *eP* **P 08 07 01.6 -1.3**
comp=Z,13nm,0.6s,mb5.0
MAJO Matsushiro 53.36 334 *eP* **P 08 07 01.6 -1.2**
MAJO pmax pmax
comp=Z,13nm,0.6s,mb5.0
MAT Matsushiro 53.36 334 P **P 08 07 01.6 -1.2**
MAT S **S 08 14 40.0 +9.5**
MAT Matsushiro 53.36 334 *eP* **P 08 07 02.0 -0.8**
comp=Z,14nm,0.8s,mb5.0
MAT *eS* **S 08 14 41.0 +10**
MAT Matsushiro 53.36 334 *eP* **P 08 07 02.0 -0.8**
MAT *eS* **S 08 14 41.0 +10**
MAT pmax pmax
comp=Z,14nm,0.8s,mb4.9
JNU Nakatsue 54.26 325 P **P 08 07 07.7 -1.7**
comp=Z,13nm,0.8s,mb4.9,baz=128,slow=7.9,SNR=6.2
JNU LR LR 08 27 44.5
comp=Z,85nm,18.9s,MS3.8,baz=143,slow=33
TAOE Nuku Hiva Isla 54.89 93 *eLR* LR 08 23 11.5
comp=Z,884nm,25.7s
ASAJ Asahikawa 58.40 342 P **P 08 07 39.1 +0.3**
comp=Z,32nm,0.8s,mb5.4,baz=207,slow=8.3,SNR=20
ASAJ LR LR 08 32 52.5
comp=Z,200nm,19.1s,MS4.2,baz=167,slow=36
ASAJ Asahikawa 58.40 342 P **P 08 07 39.2 +0.3**
ASAJ pmax pmax
comp=Z,32nm,0.8s
ASAJ MLR MLR
comp=Z,200nm,19.1s
SSE Sheshan 58.83 317 P **P 08 07 41.3 -0.8**
SSE S **S 08 15 43.5 +0.3**
SSE SS SS 08 19 39.0 +0.5
SSE AMB AMB
comp=Z,23nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,242nm,4.4s
SSE LR LR
comp=N,91nm,20.0s,MS4.2
SSE LR LR
comp=E,153nm,20.0s,MS4.2
SSE LR LR
comp=Z,196nm,20.0s,MS4.2
SSE Sheshan 58.83 317 P **P 08 07 41.2 -0.9**
comp=Z,23nm,0.8s,mb5.3
SSE pP pP 08 07 57.2 +4.1
SSE sP sP 08 08 04.0 +6.6
SSE S **S 08 15 43.4 +0.2**
SSE sS 08 16 10.9
SSE SS SS 08 19 39.0 +0.5
SSE LR LR
comp=Z,200nm,20.0s,MS4.2
RKT Rikitea 59.06 110 *eLQ* 08 22 54.2
RKT *eLR* LR 08 25 20.1
comp=Z,687nm,32.0s,baz=287
YSS Yuzh-Sakhalins 60.93 343 *eP* **P 08 07 55.9 -0.4**
YSS pmax pmax
comp=Z,30nm,1.1s,mb5.3
NJ2 Nanjing 60.99 316 *eP* **P 08 07 57.0 +0.1**
NJ2 PCP PcP 08 08 40.3 +0.6
NJ2 S **S 08 16 10.0 -1.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,230nm,4.4s
NJ2 LR LR
comp=N,340nm,22.2s,MS4.6
NJ2 LR LR
comp=E,390nm,26.0s,MS4.6
NJ2 LR LR
comp=Z,490nm,22.8s,MS4.6
MDJ Mudanjiang 63.72 333 P **P 08 08 15.0 +0.1**
MDJ PCP PcP 08 08 50.5 -0.1
MDJ PP PP 08 10 35.0 -1.9
MDJ S **S 08 16 45.3 +0.1**
MDJ SCS ScS 08 18 03.3 +1.7
MDJ SS SS 08 20 53.5 -1.4
MDJ AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,91nm,5.9s
MDJ LR LR
comp=N,99nm,26.4s,MS4.1
MDJ LR LR
comp=E,143nm,22.8s,MS4.1
MDJ LR LR
comp=Z,148nm,20.4s,MS4.2
PET Petropavlovsk 64.11 356 *eP* **P 08 08 17.0 -0.3**
PET *eS* **S 08 16 50.6 +0.7**
PET *eSS* SS 08 21 01.9 +1.2
PET pmax pmax
comp=Z,28nm,1.2s,mb5.2
PET smax
comp=N,200nm,26.7s
PET MLR MLR
comp=Z,100nm,18.0s,MS4.0
CN2 Changchun 65.03 330 *eP* **P 08 08 22.8 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
VNDA Vanda 66.34 181 *eP* **P 08 08 34.9 +3.6**
comp=Z,6.7nm,1.0s,mb4.6
VNDA *e* 08 08 43.0
KLR Kul'dur 66.55 338 *eP* **P 08 08 29.8 -3.2**
SBA Scott Base 66.68 179 *eP* **P 08 08 37.7 +4.2**
comp=Z,14nm,1.0s,mb5.0
SBA *e* pP 08 08 45.9 +1.3
GYA Guiyang 67.16 305 P **P 08 08 37.3 +0.1**
GYA PP PP 08 11 07.0 -0.1
GYA S S 08 17 25.0 -2.5
GYA PS PS 08 17 55.8 +0.4
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,70nm,3.9s
GYA LR LR
comp=N,270nm,18.0s,MS4.6
GYA LR LR
comp=E,190nm,18.4s,MS4.6
GYA LR LR
comp=Z,210nm,18.6s,MS4.4
KMI Kunming 69.81 302 P **P 08 08 54.0 +0.3**
KMI AP pP 08 09 07.8 +2.9
KMI PP PP 08 11 31.3 +1.1
KMI S S 08 17 54.5 -4.6
KMI SS SS 08 22 31.0 +1.4
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.7
KMI AMB AMB
comp=Z,292nm,3.7s
KMI LR LR
comp=Z,120nm,25.9s,MS4.0
KMI Kunming 69.81 302 P **P 08 08 54.0 +0.3**
comp=Z,8.0nm,0.8s,mb4.7
KMI pP pP 08 09 07.8 +2.9
KMI sP sP 08 09 14.3 +5.3
KMI PP PP 08 11 31.3 +1.1
KMI S S 08 17 54.5 -4.6
KMI sS 08 18 20.8
KMI SS SS 08 22 31.1 +1.5
KMI LR LR
comp=Z,120nm,25.9s,MS4.0
KMI Kunming 69.81 302 P **P 08 08 54.0 +0.3**
KMI *SP sP 08 09 14.3 +5.3
KMI 08 11 31.3
KMI S S 08 17 54.5 -4.6
KMI *SS 08 18 20.8
KMI SS SS 08 22 31.1 +1.5
KMI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KMI MLR MLR
comp=Z,120nm,25.9s,MS4.0
HHC Hu-ho-hao-te 70.89 320 *eP* **P 08 09 05.3 +5.3**
HHC PCP PcP 08 09 25.0 +4.4
HHC S S 08 18 19.5 +8.1
HHC AMB AMB
comp=Z,14nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,156nm,4.9s
HHC LR LR
comp=N,126nm,15.5s,MS4.6
HHC LR LR
comp=E,204nm,15.5s,MS4.6
HHC LR LR
comp=Z,173nm,17.8s,MS4.4

MA2 Magadan 71.33 353 *eP* **P 08 09 00.8 -1.5**
comp=Z,7.0nm,0.7s,mb4.7
MA2 Magadan 71.33 353 *eP* **P 08 09 00.8 -1.5**
MA2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
HIA Hailar 71.69 331 *eP* **P 08 09 04.0 -0.6**
comp=Z,12nm,0.9s,mb4.8
HIA Hailar 71.69 331 *eP* **P 08 09 04.1 -0.5**
HIA pmax pmax
comp=Z,12nm,0.9s
LZH Lanzhou 73.65 313 *eP* **P 08 09 15.8 -0.7**
LZH AP pP 08 09 29.3 +1.6
LZH XP sP 08 09 34.5 +2.7
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,72nm,4.0s
LZH Lanzhou 73.65 313 *eP* **P 08 09 15.8 -0.7**
comp=Z,15nm,1.0s,mb4.9
LZH pP pP 08 09 29.2 +1.5
LZH sP sP 08 09 34.5 +2.7
LZH Lanzhou 73.65 313 *eP* **P 08 09 15.8 -0.7**
LZH *SP sP 08 09 34.5 +2.7
LZH pmax pmax
comp=Z,15nm,1.0s,mb4.9
SEY Seymchan 74.44 354⇑ *iP* **P 08 09 19.5 -1.0**
ULN Ulaanbaatar 77.46 325 *eP* **P 08 09 38.2 +0.2**
comp=Z,10nm,0.8s,mb4.8
ULN Ulaanbaatar 77.46 325 *eP* **P 08 09 38.2 +0.2**
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
YAK Yakutsk 77.77 344 *eP* **P 08 09 38.6 -0.8**
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.8
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
SONM Songino Array 77.82 324 P **P 08 09 40.3 +0.3**
comp=E,5.6nm,0.8s,mb4.6,baz=143,slow=6.7,SNR=18
GTA Gaotai 77.99 314 *eP* **P 08 09 44.8 +3.7**
GTA S S 08 19 29.8 -0.9
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.3
GTA AMB AMB
comp=Z,111nm,6.1s
GTA LR LR
comp=N,156nm,11.1s,MS4.7
GTA LR LR
comp=E,127nm,12.2s,MS4.7
GTA LR LR
comp=Z,179nm,13.0s,MS4.6
QSPA South Pole Qui 78.83 180 *eP* **P 08 09 46.0 +1.1**
comp=Z,11nm,0.9s,mb4.8
BILL Bilibino 79.02 1 *eP* **P 08 09 46.3 +0.1**
comp=Z,32nm,0.8s,mb5.3
BILL Bilibino 79.02 1 *dP* **P 08 09 46.1 -0.1**
BILL pmax pmax
comp=Z,35nm,0.9s,mb5.3
BILL MLR MLR
comp=Z,100nm,21.0s,MS4.1
ZAK Zakamensk 80.89 326⇑ *eP* **P 08 09 56.1 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
COLA College 83.92 19 *eP* **P 08 10 11.6 -0.2**
comp=Z,66nm,1.1s,mb5.7
COLA College 83.92 19 *eP* **P 08 10 11.6 -0.2**
COLA pmax pmax
comp=Z,66nm,1.1s,mb5.7
MAW Mawson 83.99 202 *eP* **P 08 10 14.0 +1.9**
comp=Z,6.4nm,1.1s,mb4.7
MAW Mawson 83.99 202 P **P 08 10 12.5 +0.5**
comp=Z,4.3nm,1.0s,mb4.5,baz=91,slow=6.9,SNR=7.2
MAW LR LR 08 42 20.5
comp=Z,109nm,21.1s,MS4.2,baz=312,slow=32
MAW Mawson 83.99 202 *eP* **P 08 10 14.0 +1.9**
MAW pmax pmax
comp=Z,6.0nm,1.1s
ILAR Eielson Array 84.16 19 P **P 08 10 12.2 -0.7**
comp=Z,6.3nm,0.8s,mb4.8,baz=263,slow=5.4,SNR=56
ILAR LR LR 08 43 55.6
comp=Z,139nm,18.2s,MS4.4,baz=108,slow=33
YBH Yreka Blue Hor 85.14 46 P **P 08 10 18.9 +0.5**
comp=Z,6.3nm,1.0s,mb4.7,baz=268,slow=1.9,SNR=10
HUMO Hull Mountain 85.27 45 *eP* **P 08 10 19.7 +0.7**
comp=Z,9.1nm,1.1s,mb4.8
CMB Columbia Colle 85.66 50 *eP* **P 08 10 21.0 -0.1**
comp=Z,4.4nm,0.9s,mb4.7
CMB Columbia Colle 85.66 50 *eP* **P 08 10 21.0 -0.1**
CMB pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
TIXI Tiksi 85.92 349⇑ *iP* **P 08 10 21.9 +0.4**
TIXI pmax pmax
comp=Z,15nm,2.0s,mb4.9
DAWY Dawson 86.27 22 *eP* **P 08 10 24.1 +0.8**
MTUM Tungsten Hills 86.84 51 *eP* **P 08 10 27.0 +0.2**
MOD Modoc 86.90 46 *eP* **P 08 10 26.4 -0.6**
comp=Z,2.4nm,0.8s,mb4.5
MNV Mina 87.46 50 *eP* **P 08 10 30.1 +0.2**
comp=Z,6.0nm,0.9s,mb4.8
MNV *e* pP 08 10 39.6 -1.7
MNV Mina 87.46 50 *eP* **P 08 10 30.1 +0.3**
MNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
WMQ Urumqi 88.05 315 *eP* **P 08 10 32.5 0.0**
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,98nm,4.3s
WMQ LR LR
comp=N,242nm,22.9s,MS4.7
WMQ LR LR
comp=E,242nm,24.0s,MS4.7
WMQ LR LR
comp=Z,170nm,19.0s,MS4.5
WVOR Wild Horse Val 88.24 46 *eP* **P 08 10 34.1 +0.6**
comp=Z,8.9nm,1.1s,mb4.9
WVOR Wild Horse Val 88.24 46 *eP* **P 08 10 34.1 +0.6**
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
LDFC Landfair 88.94 54 *eP* **P 08 10 37.8 +0.8**
NEN Nelson 89.29 54 *eP* **P 08 10 38.7 +0.1**
ELK Elko 90.25 49 P **P 08 10 43.7 +0.7**
comp=Z,4.0nm,1.0s,mb4.7,baz=250,slow=3.3,SNR=16
ARUT Antelope Range 90.89 52 *eP* **P 08 10 46.6 +0.5**
NEW Newport 90.90 41 P **P 08 10 45.8 -0.1**
comp=Z,1.5nm,0.6s,mb4.5,baz=217,slow=7.3,SNR=5.2
NEW Newport 90.90 41 *eP* **P 08 10 45.8 -0.1**
comp=Z,2.1nm,0.8s,mb4.5
NEW Newport 90.90 41 *eP* **P 08 10 45.8 -0.1**
NEW pmax pmax
comp=Z,2.0nm,0.8s
TUC Tucson 91.82 58 *eP* **P 08 10 51.5 +0.9**
comp=Z,1.7nm,0.9s,mb4.4
TUC Tucson 91.82 58 *eP* **P 08 10 51.5 +1.0**
TUC pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
DUG Dugway 91.91 50 *eP* **P 08 10 50.9 +0.1**
comp=Z,2.2nm,1.0s,mb4.4
DUG Dugway 91.91 50 *eP* **P 08 10 50.9 +0.1**
DUG pmax pmax
comp=Z,2.0nm,1.0s,mb4.4
MSU Marysvale 92.02 51 *eP* **P 08 10 52.5 +1.2**
MKAR Makanchi Array 92.51 317 P **P 08 10 53.5 +0.2**
comp=Z,2.3nm,0.7s,mb4.7,baz=93,slow=6.8,SNR=15
MKAR LR LR 08 56 15.5
comp=Z,96nm,18.6s,MS4.3,baz=3.6,slow=38
MKAR Makanchi Array 92.51 317 P **P 08 10 53.5 +0.2**
MKAR LR LR 08 56 15.5
MKAR Makanchi Array 92.51 317⇑ *iP* **P 08 10 53.7 +0.4**
MKAR *e* 08 10 53.7
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MCMT McKenzie Canyo 92.92 45 *eP* **P 08 10 55.8 +0.5**
HWUT Hardware Ranch 93.14 48 *eP* **P 08 10 56.5 +0.1**
comp=Z,2.0nm,0.9s,mb4.5
DLMT Dillon 93.21 45 *eP* **P 08 10 57.3 +0.7**
RRI2 Red Ridge 93.68 47 *eP* **P 08 10 59.9 +1.1**
comp=Z,2.3nm,0.6s,mb4.8
TPAW Teton Pass 93.97 47 *eP* **P 08 11 00.4 +0.4**
comp=Z,1.8nm,0.8s,mb4.5
SNOW Snow King Moun 94.11 47 *eP* **P 08 11 01.1 +0.5**
comp=Z,3.7nm,1.1s,mb4.7
LOHW Long Hollow 94.24 47 *eP* **P 08 11 02.6 +1.4**
comp=Z,2.1nm,0.9s,mb4.6
PDAR Pinedale Array 94.83 48 P **P 08 11 04.7 +0.6**
comp=Z,1.6nm,0.9s,mb4.4,baz=270,slow=1.5,SNR=10
PDAR LR LR 08 48 53.3
comp=Z,115nm,18.6s,MS4.4,baz=124,slow=32
YKA Yellowknife Ar 95.83 27 LR LR 08 51 21.7
comp=Z,132nm,18.9s,MS4.4,baz=85,slow=34
ANMO Albuquerque 95.85 56 LR LR 08 50 01.4
comp=Z,139nm,18.4s,MS4.5,baz=246,slow=33
ANMO Albuquerque 95.85 56 *iP* **P 08 11 08.6 -0.2**
SNAA Sanae 96.88 184 LR LR 08 54 17.1
comp=Z,107nm,18.4s,MS4.4,baz=182,slow=35
SNAA Sanae 96.88 184⇑ *iP* **P 08 11 13.1 +0.4**
SNAA *e* pP 08 11 25.9 +1.7
SNAA *e* 08 11 30.2
SNAA *e* 08 11 34.3
SNAA *e* 08 15 45.7
TXAR Lajitas Array 97.31 62 P **P 08 11 16.0 +0.3**
comp=Z,0.3nm,0.7s,mb3.8,baz=225,slow=5.3,SNR=5.2
TXAR PKKPbc 08 27 56.5
comp=Z,0.3nm,0.6s,baz=104,slow=3.7,SNR=6.1
TXAR LR LR 08 53 50.0
comp=Z,160nm,18.4s,MS4.5,baz=300,slow=35
VNA3 Neumayer Olymp 97.66 182⇑ *iP* **P 08 11 15.6 -0.6**
VNA3 *e* pP 08 11 27.1 -0.7
VNA3 *e* 08 11 31.1
VNA3 *e* 08 15 48.6
VNA2 Neumayer--Watz 97.89 183⇑ *iP* **P 08 11 17.4 +0.2**
VNA2 *e* pP 08 11 29.1 +0.3
VNA2 *e* 08 11 33.0
VNA2 *e* 08 11 39.0
VNA2 *e* 08 15 51.2
VNA1 Neumayer--Stat 98.20 183⇑ *iP* **P 08 11 18.4 -0.2**
VNA1 *e* pP 08 11 30.1 -0.1
VNA1 *e* 08 11 34.2
VNA1 *e* 08 11 41.2
VNA1 *e* 08 15 55.2
ARCES ARCESS Array B 116.05 345 PKP PKPdf 08 16 24.2 +0.8
comp=Z,3.5nm,0.8s,baz=22,slow=6.5,SNR=4.6
LPAZ La Paz 121.57 117 PKP PKPdf 08 16 38.2 +2.9
comp=Z,2.3nm,0.7s,baz=280,slow=5.8,SNR=7.0
LPAZ La Paz 121.57 117 *e*PKIKP PKPdf 08 16 38.0 +2.7
ROSC El Rosal 121.88 91 PKP PKPdf 08 16 38.1 +2.1
comp=Z,2.5nm,0.4s,baz=93,slow=17,SNR=3.8
CPUP Villa Florida 125.12 133 PKP PKPdf 08 16 43.8 +1.7
comp=Z,4.5nm,0.8s,baz=191,slow=5.2,SNR=10
AKASG Malin Array Be 126.08 326 PKP PKPdf 08 16 44.1 +0.8
comp=Z,0.3nm,0.3s,baz=53,slow=2.0,SNR=7.0
SDV Santo Domingo 126.12 87 *e*PKPdf PKPdf 08 16 45.5 +1.3
CLL Collm 133.56 335 *e*PKIKP PKPdf 08 17 00.0 +2.5
GERES GERESS Array B 135.09 332 PKP PKPdf 08 17 02.0 +1.6
comp=Z,0.4nm,0.3s,baz=90,slow=2.7,SNR=6.1
BDFB Brasilia 138.52 129 PKP PKPdf 08 17 09.6 +2.1
comp=Z,3.9nm,0.7s,baz=99,slow=4.4,SNR=4.6
EJON La Jonquera 144.79 336 P PKPbc 08 17 17.5 -0.4
ESDC Sonseca Array 149.70 342 PKPbc PKPdf 08 17 32.7 +6.6
comp=Z,1.9nm,0.7s,baz=6.0,slow=3.1,SNR=8.3
ESDC Sonseca Array 149.70 342 P PKPdf 08 17 32.3 +6.3
EADA Adamuz 151.27 341 P PKPdf 08 17 34.0 +5.5
ECAB El Cabril 151.62 342 P PKPdf 08 17 36.7 +7.6
EMIN Mina Concepcio 152.26 344 P PKPdf 08 17 37.3 +7.3
EALB Alboran 152.73 337 P PKPdf 08 17 37.2 +6.5
ESPR Espera 152.86 342 P PKPdf 08 17 42.8 +12

NEIC ***27*** *08:07:10.1±5.6,19.18N×145.62E,h259km±54km, Error ellipse: s-maj=62.9km s-min=20.2km az=95.0*
IDC 27 08:07:10.2±6.9**,19.17N×145.69E,h261**km±69km**,mb3.4**/4**, mb1 3.6**/5**,mb1mx3.3**/17**,mbtmpg4.0**/5**,MS3.6**/1**,Ms1 3.6**/1**, ms1mx3.0**/18**,Error ellipse: s-maj=52.9km s-min=18.1km az=100.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.52**	**341**	P		P		08 11 07.3	-2.2
	0.4nm,0.3s,baz=160,slow=8.5,SNR=4.0								
HNR	**Honiara**	**31.70**	**152**	LR		LR		08 25 59.8	
	comp=Z,98nm,18.5s,baz=326,slow=36								
WRA	**Warramunga Arr**	**40.43**	**197**	P		P		08 14 23.6	-1.5
	0.6nm,0.6s,baz=21,slow=9.0,SNR=11								
ILAR	**Eielson Array**	**63.23**	**26**	P		P		08 17 10.8	-1.7
	0.9nm,0.5s,baz=258,slow=5.6,SNR=18								
ARCES	**ARCESS Array B**	**82.05**	**342**	P		P		08 19 01.5	-0.6
	3.9nm,1.1s,baz=51,slow=7.8,SNR=3.9								
FINES	**FINESS Array B**	**86.46**	**335**	P		P		08 19 22.6	-1.6
	1.0nm,0.7s,baz=63,slow=6.2,SNR=6.1								

SSNC ***27*** *08:36:51.3±4.1,18.80N×70.17W,h50km±999km,MD4.4, ML5.2*
RSPR ***27*** *08:36:52.8,19.94N×69.80W,h178km±11km,MD4.9/10, MD4.9/10*
BJI ***27*** *08:36:53.6,18.90N×70.30W,h85km,mB5.3*
MOS ***27*** *08:36:53.8±0.9,18.98N×70.22W,h86km,mb4.7/37,Error ellipse: s-maj=7.8km s-min=5.4km az=45.6*
NEIC ***27*** *08:36:54.6±0.2,18.85N×70.31W,mb4.7/55, MD4.9(RSPR),Error ellipse: s-maj=4.4km s-min=2.4km az=206.0*
IDC ***27*** *08:36:54.5±0.4,18.84N×70.26W,h85km±3km,mb4.1/19, mb1 4.3/22,mb1mx4.3/24,mbtmpg4.5/22,MS3.2/4, Ms1 3.2/4,ms1mx3.0/26,Error ellipse: s-maj=11.3km s-min=8.7km az=46.0*
LDG ***27*** *08:36:57.8±0.4,18.67N×69.95W,h128km,Mb4.7/25, Error ellipse: s-maj=19.5km s-min=11.0km az=63.0*
ISC 27 08:36:52.7±0.2**,18.81N**±0.04×**70.34W**±0.02**,h86**km±1.4km**:pP-P,n217,**σ**0§98**/234**,mb4.6**/70**,18C-4D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**3.08**	**96**⇑	*eP*		**P**		**08 37 41.3**	**+1.0**
AGPR				*eS*		**S**		**08 38 19.3**	**+3.2**
MPR	**Mayaguez**	**3.09**	**101**⇓	*eP*		**P**		**08 37 42.3**	**+1.8**
MPR				*eS*		**S**		**08 38 21.0**	**+4.5**
LSP	**Las Mesas**	**3.15**	**101**⇑	*eP*		**P**		**08 37 42.8**	**+1.5**
LSP				*eS*		**S**		**08 38 22.7**	**+4.8**
MGP	**Maguayo**	**3.19**	**104**⇑	*eP*		**P**		**08 37 42.8**	**+1.0**
MGP				*eS*		**S**		**08 38 25.2**	**+6.3**
CELP	**Cerrillos**	**3.64**	**101**⇑	*eP*		**P**		**08 37 49.3**	**+1.2**
CELP				*eS*		**S**		**08 38 33.6**	**+3.5**
MASC	**Masc**	**3.92**	**291**	*e*PN		**P**		**08 37 51.7**	**-0.2**
MASC				*e*SN		**S**		**08 38 35.6**	**-1.4**
	comp=N,26μm,0.3s								
	comp=E,22μm,0.3s								
SJG	**San Juan**	**4.03**	**99**	*eS*		**S**		**08 38 38.8**	**-1.0**
SJG	**San Juan**	**4.03**	**99**	P		**P**		**08 37 53.7**	**+0.2**
	comp=E,38nm,0.3s,baz=317,slow=6.0,SNR=57								
SJG				S		**S**		**08 38 37.3**	**-2.5**
	comp=E,66nm,0.3s,baz=259,slow=21,SNR=7.4								
SJG				LR		LR		08 39 22.9	
	comp=E,207nm,21.4s,baz=15,slow=37								
SJG	**San Juan**	**4.03**	**99**⇑	*eP*		**P**		**08 37 53.7**	**+0.1**
SJG				*e*Pn		**P**		**08 37 54.7**	**+1.2**
SJG				*eS*		**S**		**08 38 38.8**	**-1.0**
SJG	**San Juan**	**4.03**	**99**⇑	*eP*		**P**		**08 37 53.7**	**+0.2**
SJG				*eS*		**S**		**08 38 38.8**	**-1.1**
CPD	**Cerro la Pandu**	**4.27**	**100**⇓	*eP*		**P**		**08 37 57.0**	**+0.3**
CPD				*eS*		**S**		**08 38 45.8**	**+0.1**
CBYP	**Canovanas**	**4.28**	**96**⇑	*eP*		**P**		**08 37 56.1**	**-0.9**
CBYP				*eS*		**S**		**08 38 44.9**	**-1.2**
HUMP	**Col San Antoni**	**4.31**	**98**⇑	*eP*		**P**		**08 37 56.7**	**-0.6**
MTP	**Monte Pirata**	**4.59**	**98**⇑	*eP*		**P**		**08 38 00.4**	**-0.8**
MTP				*e*Pn		**P**		**08 38 00.8**	**-0.4**
MTP				*eS*		**S**		**08 38 52.5**	**-1.2**
MOAC	**Moa**	**4.73**	**294**	*eP*		**P**		**08 38 00.8**	**-2.3**
MOAC				*eS*		**S**		**08 38 53.7**	**-3.4**
	comp=N,14nm,0.2s								
	comp=E,19nm,0.3s								
RCC	**Rio Carpintero**	**5.19**	**284**	*eP*		**P**		**08 38 09.3**	**-0.2**
RCC				*eS*		**S**		**08 39 06.3**	**-2.4**
	comp=N,257μm,0.4s								
	comp=E,313μm,0.4s								
CDVI	**St. Croix**	**5.40**	**100**⇑	*eP*		**P**		**08 38 13.3**	**+1.1**
CDVI				*eS*		**S**		**08 39 13.7**	**0.0**
HLGC	**Holguin**	**5.77**	**292**	*e*PN		**P**		**08 38 16.0**	**-1.4**
HLGC				*e*SN		**S**		**08 39 14.9**	**-8.0**
	comp=N,39nm,0.3s								
	comp=E,40nm,0.3s								
LMGC	**Las Mercedes**	**6.42**	**282**	*eP*		**P**		**08 38 24.8**	**-1.5**
LMGC				*eS*		**S**		**08 39 33.3**	**-5.5**
	comp=N,11μm,0.4s								
	comp=E,10μm,1.1s								
CCCC	**Cccc**	**7.38**	**290**	*e*PN		**P**		**08 38 31.7**	**-8.0**
CCCC				*e*SN		**S**		**08 39 48.0**	**-14**

comp=N,3.0nm,0.3s
comp=E,2.9nm,0.2s
CPB Codrington 8.17 97 *e*P **P 08 38 48.6 -1.8**
LZG Guadaloupe-1 8.59 107 *e*P **P 08 38 56.4 +0.3**
BCG Bois Riant Cap 8.75 107 *e*P **P 08 38 58.4 +0.2**
TBG Guadaloupe-3 8.80 108 *e*P **P 08 38 57.7 -1.3**
MGG Marie-Galante 9.08 107 *e*P **P 08 39 02.4 -0.4**
DEG La Desirade 9.19 104 *e*P **P 08 39 02.6 -1.6**
SDV Santo Domingo 9.87 182 P **P 08 39 14.3 +0.7**
comp=E,12nm,0.3s,baz=31,slow=5.6,SNR=101
SDV S **S 08 40 58.2 -5.2**
comp=E,26nm,0.3s,baz=20,slow=21,SNR=15
SDV LR LR 08 43 22.9
comp=E,77nm,19.1s,baz=15,slow=39
SDV Santo Domingo 9.87 182 *e*Pn **P 08 39 14.0 +0.4**
comp=E,56nm,0.6s
SDV *e*Sn **S 08 40 57.0 -6.4**
ROSC El Rosal 14.41 196 P **P 08 40 16.5 +2.8**
comp=E,1.4nm,0.3s,baz=68,slow=5.3,SNR=10
ROSC S **S 08 42 50.0 -1.6**
comp=E,0.6nm,0.3s,baz=66,slow=19,SNR=2.8
JTS JuntasAbangare 16.48 241 P **P 08 40 45.3 +5.3**
comp=E,0.5nm,0.3s,baz=53,slow=10,SNR=9.1
JTS pP 08 41 04.9
comp=E,0.5nm,0.3s,baz=41,slow=10,SNR=7.6
JTS JuntasAbangare 16.48 241 *e*P **P 08 40 45.4 +5.5**
comp=E,30nm,1.3s
JTS *e* 08 41 03.4
JTS JuntasAbangare 16.48 241 P **P 08 40 45.3 +5.3**
JTS pmax pmax
comp=Z,1.0nm,0.3s
JTS pmax pmax
comp=Z,1.0nm,0.3s
BLA Blacksburg 20.35 336 *e*P **P 08 41 24.4 0.0**
comp=Z,29nm,0.8s
BLA Blacksburg 20.35 336 *e*P **P 08 41 24.4 0.0**
BLA pmax pmax
comp=Z,29nm,0.8s
ELN Prospectdale 20.50 336 *e*P **P 08 41 26.3 +0.4**
LRAL Lakeview Retre 20.58 317 *e*P **P 08 41 27.4 +0.6**
comp=Z,28nm,0.9s
LRAL *e* 08 41 55.8
CPCT Cooper Cave 20.79 326 *e*P **P 08 41 28.9 0.0**
CPCT *e*S **S 08 45 09.8 -1.2**
FWV Forest Hill 20.83 336 *e*P **P 08 41 29.2 0.0**
SWET Sewanee 21.40 323 *e*P **P 08 41 34.5 -0.5**
PLAL Pickwick Lake 22.52 319 *e*P **P 08 41 47.0 +1.0**
comp=Z,17nm,1.0s,mb4.3
PLAL *e*pP 08 42 06.0
WCI Wyandotte Cave 23.83 328 *e*P **P 08 42 00.1 +1.5**
comp=Z,3.0nm,0.4s,mb4.0
WCI Wyandotte Cave 23.83 328 *e*P **P 08 42 00.1 +1.5**
WCI pmax pmax
comp=Z,3.0nm,0.4s,mb4.0
GENY Geneseo 24.71 347 *e*P **P 08 42 05.8 -1.4**
LBNH Lisbon 25.39 357 *e*P **P 08 42 13.6 +0.1**
comp=Z,9.0nm,0.6s,mb4.4
LBNH Lisbon 25.39 357 *e*P **P 08 42 13.6 +0.1**
LBNH pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
CCM Cathedral Cave 26.46 321 *e*P **P 08 42 23.2 -0.3**
comp=Z,12nm,1.0s,mb4.3
CCM *e*pP pP 08 42 44.5 +1.5
CCM Cathedral Cave 26.46 321 *e*P **P 08 42 23.2 -0.3**
CCM *e**PP pP 08 42 44.5 +1.6
CCM pmax pmax
comp=Z,12nm,1.0s,mb4.3
SADO Sadowa 26.91 346 P **P 08 42 27.3 -0.2**
comp=Z,5.5nm,0.6s,mb4.2,baz=194,slow=4.2,SNR=3.0
TXAR Lajitas Array 32.08 295 P **P 08 43 14.2 +0.5**
comp=Z,0.3nm,0.5s,baz=116,slow=11,SNR=12
TXAR PcP PcP 08 46 01.6 +0.2
comp=Z,0.9nm,0.7s,baz=113,slow=3.0,SNR=9.2
TXAR pPcP 08 46 28.5
comp=Z,0.5nm,0.7s,baz=134,slow=4.1,SNR=4.0
CBKS Cedar Bluff 32.35 314 *e*P **P 08 43 16.0 +0.1**
comp=Z,20nm,1.1s,mb4.8
CBKS Cedar Bluff 32.35 314 *e*P **P 08 43 16.0 0.0**
CBKS pmax pmax
comp=Z,20nm,1.1s,mb4.8
MNTX Cornudas Mount 34.04 299 *e*P **P 08 43 31.0 +0.3**
comp=Z,4.6nm,1.2s,mb4.2
MNTX *e* pP 08 43 51.2 +0.3
LPAZ La Paz 34.95 176 P **P 08 43 41.0 +2.6**
comp=Z,1.4nm,0.5s,mb4.1,baz=322,slow=6.4,SNR=18
LPAZ LR LR 09 00 29.6
comp=Z,30nm,18.5s,baz=264,slow=40
LPAZ La Paz 34.95 176 *e*P **P 08 43 39.5 +1.1**
comp=Z,4.5nm,1.0s,mb4.2
LPAZ La Paz 34.95 176 P **P 08 43 41.1 +2.6**
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ MLR MLR
comp=Z,30nm,18.5s
SIV San Ignacio 35.77 165 P **P 08 43 44.8 -0.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=11,slow=11,SNR=12
ANMO Albuquerque 35.78 304 P **P 08 43 46.2 +0.8**
comp=Z,3.2nm,1.1s,mb4.2,baz=118,slow=7.7,SNR=9.6
ANMO pP pP 08 44 07.2 +1.3
comp=Z,4.5nm,1.1s,baz=116,slow=4.4,SNR=5.3
ANMO Albuquerque 35.78 304 *e*P **P 08 43 46.5 +1.1**
comp=Z,2.7nm,1.1s,mb4.1
ANMO *e*pP pP 08 44 06.7 +0.8
ANMO Albuquerque 35.78 304 *e*P **P 08 43 46.5 +1.1**
ANMO *e**PP pP 08 44 06.7 +0.8
ANMO pmax pmax
comp=Z,3.0nm,1.1s
SDCO Great Sand Dun 35.98 309 *e*P **P 08 43 47.8 +0.7**
comp=Z,4.8nm,0.9s,mb4.4
SDCO *e*pP pP 08 44 06.8 -0.7
SCHQ Schefferville 36.06 3 P **P 08 43 47.5 0.0**
comp=Z,26nm,0.8s,mb5.2,baz=186,slow=6.9,SNR=29
SCHQ Schefferville 36.06 3 *e*P **P 08 43 47.5 0.0**
comp=Z,41nm,0.9s,mb5.4
ULM Lac du Bonnet 37.40 333 P **P 08 43 58.0 -0.8**
comp=Z,8.7nm,0.9s,mb4.7,baz=140,slow=9.1,SNR=13
ULM Lac du Bonnet 37.40 333 *e*P **P 08 43 57.9 -0.9**
comp=Z,11nm,0.9s,mb4.8
DGMT Dagmar 40.30 325 *e*P **P 08 44 23.9 +1.0**
comp=Z,30nm,1.0s,mb5.1
DGMT *e*pP pP 08 44 45.1 +1.6
BDFB Brasilia 40.68 146 P **P 08 44 26.5 +0.2**
comp=Z,3.9nm,0.7s,mb4.4,baz=347,slow=8.5,SNR=6.2
PDAR Pinedale Array 40.78 315 P **P 08 44 27.1 +0.2**
comp=Z,1.2nm,0.7s,mb3.8,baz=115,slow=9.4,SNR=11
PDAR PcP PcP 08 46 26.4 -0.9
comp=Z,1.7nm,0.7s,baz=115,slow=5.2,SNR=8.7
HWUT Hardware Ranch 41.73 312 *e*P **P 08 44 35.3 +0.6**
comp=Z,6.3nm,1.1s,mb4.3
HWUT *e*pP pP 08 44 56.1 +0.6
LOHW Long Hollow 41.82 315 *e*P **P 08 44 36.4 +1.0**
comp=Z,14nm,1.2s,mb4.6
SNOW Snow King Moun 41.86 315 *e*P **P 08 44 36.8 +1.0**
comp=Z,6.8nm,1.0s,mb4.3
TPAW Teton Pass 42.00 315 *e*P **P 08 44 37.6 +0.7**
comp=Z,2.9nm,0.7s,mb4.1
DUG Dugway 42.17 310 *e*P **P 08 44 39.5 +1.2**
comp=Z,12nm,1.3s,mb4.5
DUG Dugway 42.17 310 *e*P **P 08 44 39.5 +1.2**
DUG pmax pmax
comp=Z,12nm,1.3s,mb4.5
RRI2 Red Ridge 42.20 315 *e*P **P 08 44 39.2 +0.7**
comp=Z,5.2nm,0.8s,mb4.3
RRI2 *e*pP pP 08 45 02.3 +3.1
BGU Big Grassy Mou 42.55 311 *e*P **P 08 44 42.7 +1.2**
QLMT Earthquake Lak 42.85 317 *e*P **P 08 44 45.4 +1.6**
MCMT McKenzie Canyo 43.78 316 *e*P **P 08 44 52.6 +1.2**
HRY Holter Researc 43.88 319 *e*P **P 08 44 53.0 +0.7**
CHMT Chamberlain Mo 44.85 319 *e*P **P 08 45 00.6 +0.6**
MNV Mina 45.74 306 *e*P **P 08 45 08.8 +1.7**
comp=Z,16nm,1.2s,mb4.6
MNV Mina 45.74 306 *e*P **P 08 45 08.8 +1.7**
MNV pmax pmax
comp=Z,16nm,1.2s,mb4.6
WVOR Wild Horse Val 47.00 311 *e*P **P 08 45 17.8 +0.7**
comp=Z,12nm,1.4s,mb4.5
WVOR Wild Horse Val 47.00 311 *e*P **P 08 45 17.8 +0.7**
WVOR pmax pmax
comp=Z,13nm,1.4s,mb4.5
EDM Edmonton 47.73 326 *e*P **P 08 45 22.5 -0.1**
NEW Newport 47.79 319 *e*P **P 08 45 23.0 -0.1**
comp=Z,17nm,1.0s,mb4.8
NEW *e*pP pP 08 45 43.0 -1.2
NEW Newport 47.79 319 *e*P **P 08 45 23.0 -0.1**
NEW *e**PP pP 08 45 43.0 -1.2
NEW pmax pmax
comp=Z,17nm,1.0s
CFAA Coronel Fontan 50.17 178 P **P 08 45 41.1 -0.6**
comp=Z,0.1nm,0.3s,baz=312,slow=9.7,SNR=3.7
CFAA pP pP 08 46 02.5 -0.4
comp=Z,1.7nm,0.9s,baz=349,slow=6.7,SNR=11
CFAA Coronel Fontan 50.17 178 P **P 08 45 41.1 -0.6**
CFAA pP pP 08 46 02.5 -0.4
YKA Yellowknife Ar 53.22 336 P **P 08 46 02.6 -1.6**
comp=Z,3.5nm,0.7s,mb4.5,baz=114,slow=7.2,SNR=5.8
YKA pP pP 08 46 24.3 -1.3
comp=Z,3.7nm,0.9s,baz=118,slow=7.7,SNR=4.5
YKA LR LR 09 09 44.6
comp=Z,64nm,18.9s,baz=60,slow=37
EVO Evora 57.05 56 *e*P **P 08 46 29.9 -2.3**
comp=Z,42nm,1.3s,mb5.0
DLBC Dease Lake 58.40 328 *e*P **P 08 46 41.3 0.0**
PLCA Paso Flores 59.24 180 pP pP 08 47 07.7 -1.6
comp=Z,4.1nm,1.0s,baz=8.8,slow=11,SNR=5.6
ESDC Sonseca Array 60.21 55 P **P 08 46 54.1 0.0**
comp=Z,4.2nm,0.6s,mb4.7,baz=276,slow=7.0,SNR=21
ESDC pP pP 08 47 15.8 -0.2
comp=Z,0.6nm,0.4s,baz=263,slow=6.7,SNR=3.0
ESDC sP sP 08 47 24.8 -1.0
comp=Z,6.3nm,0.7s,baz=276,slow=7.0,SNR=8.1
ESLA Sonseca Array 60.21 55 *e*P **P 08 46 52.9 -1.2**
comp=Z,6.2nm,1.3s,mb4.5
ESLA *e* 08 47 23.6
ROSF Rostrenen 60.98 45 *e*P **P 08 46 58.5 -0.7**
QUIF Quistinic 61.03 45 *e*P **P 08 46 58.8 -0.7**
SJPF Ste Jean 62.25 51 *e*P **P 08 47 07.7 -0.1**
comp=Z,37nm,0.8s,mb5.2
SJPF *e*pP pP 08 47 38.7 +8.9
SJPF Ste Jean 62.25 51 *e*P **P 08 47 07.7 -0.1**
SJPF *e**PP pP 08 47 38.7 +8.9
SJPF pmax pmax
comp=Z,19nm,0.8s,mb5.2
GRR Gorron 62.59 45 *e*P **P 08 47 09.2 -0.8**
ETSF Etsaut 62.74 51 *e*P **P 08 47 10.9 -0.2**
comp=Z,11nm,0.8s,mb4.5
ETSF Etsaut 62.74 51 *e*P **P 08 47 10.9 -0.2**
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
FLN La Foliniere 62.86 44 *e*P **P 08 47 11.1 -0.7**
MFF Saint Martin d 63.03 47 *e*P **P 08 47 12.4 -0.6**
comp=Z,47nm,0.8s,mb5.2
MFF *e*pP pP 08 47 43.3 +8.2
MFF Saint Martin d 63.03 47 *e*P **P 08 47 12.4 -0.6**
MFF *e**PP pP 08 47 43.3 +8.2
MFF pmax pmax
comp=Z,24nm,0.8s,mb5.2
LDF La Druitiere 63.09 44 *e*P **P 08 47 12.5 -0.8**
EPF Esparros 63.40 51 *e*P **P 08 47 15.3 -0.1**
comp=Z,34nm,0.8s,mb5.0
EPF *e*pP pP 08 47 46.4 +8.9
EPF Esparros 63.40 51 *e*P **P 08 47 15.3 -0.1**
EPF *e**PP pP 08 47 46.4 +8.9
EPF pmax pmax
comp=Z,17nm,0.8s,mb5.0
LFF La Frestale 63.65 49 *e*P **P 08 47 16.3 -0.8**
DAWY Dawson 64.10 333 *e*P **P 08 47 19.1 -0.5**
RJF Les Rejaudoux 64.20 48 *e*P **P 08 47 19.7 -0.9**
comp=Z,29nm,0.8s,mb4.8
RJF Les Rejaudoux 64.20 48 *e*P **P 08 47 19.7 -0.9**
RJF pmax pmax
comp=Z,15nm,0.8s,mb4.9
TIC Toumodi 64.55 92 *e*P **P 08 47 24.1 +0.7**
comp=Z,32nm,0.2s
CAF Calviac 64.59 49 *e*P **P 08 47 22.4 -0.7**
comp=Z,31nm,0.9s,mb4.8
CAF *e*pP pP 08 47 53.5 +8.2
CAF Calviac 64.59 49 *e*P **P 08 47 22.4 -0.7**
CAF *e**PP pP 08 47 53.5 +8.2
CAF pmax pmax
comp=Z,15nm,0.9s,mb4.8
TCF Toulx Ste Croi 64.66 47 *e*P **P 08 47 22.6 -1.0**
TCF *e*pP pP 08 47 53.7 +8.0
LIC Lamto 64.67 92 *e*P **P 08 47 22.5 -1.6**
comp=Z,8.1nm,0.6s,mb4.4
LIC Lamto 64.67 92 *e*P **P 08 47 23.1 -1.0**
comp=Z,92nm,2.1s,mb5.2
DBIC Dimbokro 64.69 91 P **P 08 47 23.4 -0.9**
comp=Z,8.3nm,0.8s,mb4.6,baz=288,slow=4.4,SNR=9.6
MTLF Montolieu 64.76 50 *e*P **P 08 47 23.6 -0.7**
comp=Z,28nm,1.0s,mb4.8
MTLF Montolieu 64.76 50 *e*P **P 08 47 23.6 -0.7**
MTLF pmax pmax
comp=Z,14nm,1.0s,mb4.8
KIC Kosan Boka 64.89 92 *e*P **P 08 47 24.5 -1.1**
comp=Z,85nm,1.3s,mb5.4
BGF Bois d'Agland 65.10 47 *e*P **P 08 47 25.4 -1.0**
comp=Z,15nm,0.6s,mb4.7
BGF *e*pP pP 08 47 56.4 +7.8
BGF Bois d'Agland 65.10 47 *e*P **P 08 47 25.4 -1.0**
BGF *e**PP pP 08 47 56.4 +7.8
BGF pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
AVF Avril sur Loir 65.44 46 *e*P **P 08 47 27.3 -1.3**
comp=Z,26nm,1.0s,mb4.7
AVF Avril sur Loir 65.44 46 *e*P **P 08 47 27.3 -1.3**
AVF pmax pmax
comp=Z,13nm,1.0s,mb4.7
SSF Saint Saulge 65.54 46 *e*P **P 08 47 27.9 -1.3**
LOR Lormes 65.77 46 *e*P **P 08 47 29.6 -1.1**
comp=Z,27nm,0.7s,mb4.9
LOR *e*pP pP 08 48 00.7 +7.8
LOR Lormes 65.77 46 *e*P **P 08 47 29.6 -1.1**
LOR *e**PP pP 08 48 00.7 +7.8
LOR pmax pmax
comp=Z,14nm,0.7s,mb4.9
SMF Signal de Mont 65.78 47 *e*P **P 08 47 29.7 -1.1**
comp=Z,21nm,0.8s,mb4.7
SMF Signal de Mont 65.78 47 *e*P **P 08 47 29.7 -1.1**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
LASF Ste Croix 65.91 49 *e*P **P 08 47 31.4 -0.2**
GIVF Givet 66.33 43 *e*P **P 08 47 33.3 -0.9**
VIVF Saint-Julien-l 66.45 49 *e*P **P 08 47 35.1 +0.1**
comp=Z,42nm,1.0s,mb4.9
VIVF *e*pP pP 08 48 06.2 +8.9
VIVF Saint-Julien-l 66.45 49 *e*P **P 08 47 35.1 +0.1**
VIVF *e**PP pP 08 48 06.2 +8.9
VIVF pmax pmax
comp=Z,21nm,1.0s,mb4.9
MEZF Maizieres J'vi 66.53 45 *e*P **P 08 47 34.9 -0.6**
comp=Z,62nm,0.6s,mb5.3
SMRF Simiane la Rot 67.16 49 *e*P **P 08 47 39.7 +0.2**
ORIF Oris-en-Rattie 67.30 48 *e*P **P 08 47 40.5 +0.1**
comp=Z,5.8nm,0.5s,mb4.3
ORIF Oris-en-Rattie 67.30 48 *e*P **P 08 47 40.5 +0.1**
ORIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
ILAR Eielson Array 67.42 333 P **P 08 47 39.8 -1.0**
comp=Z,3.1nm,0.9s,mb4.2,baz=104,slow=4.4,SNR=27
ILAR pP pP 08 48 03.0 -0.2
comp=Z,2.8nm,0.9s,baz=109,slow=4.9,SNR=7.8
HAU Haudompre 67.42 45 *e*P **P 08 47 40.1 -0.9**
HINF Hinteralfeld 67.77 45 *e*P **P 08 47 42.0 -1.2**
SET Setif 67.84 58 P pP 08 47 59.0 -7.2
LPL La Plagne 67.86 48 *e*P **P 08 47 44.0 +0.2**
comp=Z,25nm,0.7s,mb4.8
LPL La Plagne 67.86 48 *e*P **P 08 47 44.0 +0.2**
LPL pmax pmax
comp=Z,12nm,0.7s,mb4.8
LPG La Plagne 67.87 48 *e*P **P 08 47 44.2 +0.3**
comp=Z,14nm,0.7s,mb4.6
LPG La Plagne 67.87 48 *e*P **P 08 47 44.2 +0.3**
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LMR La Mourre 67.89 50 *e*P **P 08 47 43.3 -0.7**
comp=Z,18nm,1.0s,mb4.6
LMR La Mourre 67.89 50 *e*P **P 08 47 43.3 -0.7**
LMR pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MBDF Montbardon 67.95 49 *e*P **P 08 47 44.6 +0.2**
comp=Z,14nm,0.8s,mb4.5
MBDF Montbardon 67.95 49 *e*P **P 08 47 44.6 +0.2**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
FRF La Foret Royal 67.96 50 *e*P **P 08 47 43.8 -0.7**
comp=Z,9.3nm,0.7s,mb4.4
FRF La Foret Royal 67.96 50 *e*P **P 08 47 43.8 -0.7**
FRF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CDF Champ du Feu 68.01 45 *e*P **P 08 47 43.9 -0.8**
SBF Sospel 68.50 49 *e*P **P 08 47 47.3 -0.5**
comp=Z,18nm,0.7s,mb4.7
SBF Sospel 68.50 49 *e*P **P 08 47 47.3 -0.5**
SBF pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
TNS Taunus Mts 68.65 43 *e*P **P 08 47 48.9 +0.2**
comp=Z,6.0nm,0.7s,mb4.5
TNS Taunus Mts 68.65 43 *e*P **P 08 47 48.9 +0.2**
TNS pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
BFO Black Forest 68.72 45 *e*P **P 08 47 48.4 -0.7**
comp=Z,6.0nm,0.8s,mb4.5
BFO Black Forest 68.72 45 *e*P **P 08 47 48.4 -0.7**
BFO pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
BSEG Bad Segeberg 69.55 39 *e*P **P 08 47 54.2 +0.1**
NB2 NORSAR Subarra 69.65 31 P **P 08 47 54.7 +0.1**
comp=Z,6.4nm,0.8s,mb4.5,baz=274,slow=6.2
NB2 NORSAR Subarra 69.65 31 P **P 08 47 54.7 +0.1**
NB2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
NOA NORSAR Array B 69.65 31 P **P 08 47 54.5 -0.1**
comp=Z,5.0nm,0.8s,mb4.4,baz=274,slow=6.3,SNR=12
NOA pP pP 08 48 17.2 +0.1
comp=Z,2.0nm,0.7s,baz=274,slow=6.4,SNR=3.4
NOA sP sP 08 48 25.1 -1.2
comp=Z,4.2nm,0.9s,baz=273,slow=6.4,SNR=4.9
CLZ Clausthal 69.74 41 *e*P **P 08 47 55.6 +0.3**
comp=Z,9.0nm,0.8s,mb4.7
CLZ Clausthal 69.74 41 *e*P **P 08 47 55.6 +0.3**
CLZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
PGF Pioggiola 69.79 51 *e*P **P 08 47 55.0 -0.8**
comp=Z,21nm,1.0s,mb4.6
PGF *e*pP pP 08 48 26.3 +8.0
PGF Pioggiola 69.79 51 *e*P **P 08 47 55.0 -0.8**
PGF *e**PP pP 08 48 26.3 +8.0
PGF pmax pmax
comp=Z,11nm,1.0s,mb4.6
GRA1 Grafenberg Arr 70.49 43 *e*P **P 08 48 00.5 +0.7**
comp=Z,15nm,0.7s,mb4.9
GRF Grafenberg Arr 70.49 43 *e*P **P 08 48 00.5 +0.7**
comp=Z,15nm,0.7s,mb4.9
GRF Grafenberg Arr 70.49 43 *e*P **P 08 48 00.5 +0.7**
GRF pmax pmax
comp=Z,15nm,0.7s,mb4.9
GRF Grafenberg Arr 70.49 43 *e*P **P 08 48 00.5 +0.7**
GRF pmax pmax
comp=Z,15nm,0.7s,mb4.9
MOX Moxa 70.64 42 *i* P **P 08 48 01.1 +0.4**
MOX Moxa 70.64 42 *e*P **P 08 48 01.1 +0.4**
FUR Furstenfeldbru 70.70 45 *e*P **P 08 48 01.7 +0.6**
FUR pmax pmax
comp=Z,24nm,0.4s,mb5.4
WET Wettzell 71.63 43 *e*P **P 08 48 07.0 +0.3**
comp=Z,7.0nm,0.8s,mb4.5
WET Wettzell 71.63 43 *e*P **P 08 48 07.0 +0.3**
WET pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
BRG Berggiesshubel 72.07 41 *i* P **P 08 48 09.6 +0.3**
comp=Z,9.6nm,0.7s,mb4.7
BRG Berggiesshubel 72.07 41 *i* P **P 08 48 09.6 +0.3**
BRG pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KHC Kasperske Hory 72.08 43 *e*P **P 08 48 09.6 +0.2**
KHC x x 08 48 40.5
KHC Kasperske Hory 72.08 43 *e*P **P 08 48 09.6 +0.2**
KHC *e* 08 48 40.5
GEC2 GERESS Array S 72.20 44 *e*P **P 08 48 10.5 +0.4**
comp=Z,11nm,1.1s,mb4.6
GEC2 GERESS Array S 72.20 44 *e*P **P 08 48 10.5 +0.4**
GEC2 pmax pmax
comp=Z,11nm,1.1s,mb4.6
GERES GERESS Array B 72.20 44 P **P 08 48 10.3 +0.1**
comp=Z,5.7nm,0.9s,mb4.4,baz=270,slow=6.9,SNR=17
GERES sP sP 08 48 41.6 -0.3
comp=Z,1.4nm,0.7s,baz=252,slow=4.2,SNR=3.0
ROBS Robic 72.47 46 *i* P **P 08 48 11.6 -0.1**
PVCC Panska Ves 72.52 42 *e*P **P 08 48 12.5 +0.6**
PRU Pruhonice 72.58 42 *e*P **P 08 48 12.5 +0.2**
JAVS Javornik 72.91 47 *e*P **P 08 48 13.2 -1.1**
CEY Cerknica 73.18 47 *i* P **P 08 48 16.5 +0.6**
UPC Upice 73.43 42 *e*P **P 08 48 17.1 -0.1**
DPC Dobruska-Polom 73.65 42 *e*P **P 08 48 18.9 +0.3**
LEGS Legarje 73.76 46 *i* P **P 08 48 19.6 +0.4**
ZST Bratislava 74.54 44 *e*P **P 08 48 24.5 +0.7**
ARCES ARCESS Array B 74.57 21 P **P 08 48 23.6 +0.1**
comp=Z,4.1nm,0.7s,mb4.3,baz=288,slow=3.8,SNR=12
ARCES pP pP 08 48 45.5 -0.7
comp=Z,4.0nm,0.8s,baz=289,slow=4.3,SNR=2.6
ARCES sP sP 08 48 54.4 -1.1
comp=Z,4.0nm,0.6s,baz=295,slow=3.5,SNR=4.1
VYHS Vyhne 75.62 43 *i* P **P 08 48 30.7 +0.8**
OJC Ojcow 75.86 41 *e*P **P 08 48 32.4 +1.1**
FINES FINESS Array B 76.69 29 P **P 08 48 36.2 +0.6**
comp=Z,5.3nm,0.8s,mb4.3,baz=270,slow=3.6,SNR=14
FINES pP pP 08 48 58.1 -0.4
comp=Z,1.3nm,0.5s,baz=243,slow=4.3,SNR=2.5
FINES sP sP 08 49 07.5 -0.4
comp=Z,2.0nm,0.7s,baz=315,slow=2.7,SNR=2.9
KECS Kecovo 76.69 43 *e*P **P 08 48 37.4 +1.5**
STHS Stebnicka Huta 76.96 42 *e*P **P 08 48 39.4 +2.0**
VSU Vasula 77.80 32⇑ *i*P **P 08 48 41.1 -0.8**
KWP Kalwaria 77.83 42 *e*P **P 08 48 44.2 +2.0**
DRGR 78.56 44⇑P **P 08 48 46.6 +0.3**
PUL Pulkovo 79.17 30 *i* P **P 08 48 56.7 +7.3**
PUL pmax pmax
comp=Z,162nm,0.9s
PUL pmax pmax
comp=N,697nm,1.7s
PUL pmax pmax
comp=E,431nm,1.5s
BURAR Bucovina Array 79.98 43⇑P **P 08 48 55.9 +1.9**
BURAR Bucovina Array 79.98 43⇑P **P 08 48 55.9 +1.9**
MLR Muntele Rosu 81.09 45⇑P **P 08 49 02.2 +2.3**
AKASG Malin Array Be 81.53 39 P **P 08 49 02.6 +0.5**
comp=E,1.7nm,0.6s,mb4.1,baz=276,slow=4.4,SNR=8.4
OBN Obninsk 84.03 34⇓ *e*P **P 08 49 15.8 +1.1**
OBN *e* 08 54 28.8
OBN pmax pmax
comp=Z,34nm,1.4s,mb5.0
BILL Bilibino 84.21 342⇑ *e*P **P 08 49 16.4 +1.1**
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.7
BRTR Keskin Array B 88.42 48 P **P 08 49 37.5 +1.0**
comp=Z,2.3nm,0.7s,mb4.3,baz=276,slow=3.6,SNR=7.4
BRTR pP pP 08 50 00.0 0.0
comp=Z,1.0nm,0.7s,baz=328,slow=4.1,SNR=2.0
BRTR sP sP 08 50 09.1 +0.1
comp=Z,1.9nm,0.7s,baz=296,slow=3.7,SNR=4.0
TIXI Tiksi 88.82 354⇓ *i*P **P 08 49 38.8 +1.2**
TIXI pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
SEY Seymchan 91.91 342⇑ *i*P **P 08 49 54.5 +2.2**
ARU Arti 93.67 26 *e*P **P 08 49 50.8 -10**
AAK Ala-Archa 110.80 27⇑ *i*PKIKP PKPdf 08 55 23.5 +8.0
WMQ Urumqi 114.50 17 *e*PKP PKPdf 08 55 22.5 -0.3
CN2 Changchun 116.04 347 *e*PKP PKPdf 08 55 26.0 +0.2
LZH Lanzhou 125.13 6 *e*PKP PKPdf 08 55 43.5 -0.1
LZH XPKP 08 56 18.0
NJ2 Nanjing 128.67 350 *e*PKP PKPdf 08 55 50.3 -0.2

NEIC ***27*** *08:42:42.7, 24.26S×67.33W, h197km, mb3.5/1, MD3.3(GUC), After GUC.*

GUC 27 08:42:42.7±0.6, 24.26S×67.33W, h197km±8km, MD3.3, ML3.3, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.57**	**329**	*e*P	P	08 43 17.9	+0.8
SPCH				*i* S	S	08 43 45.5	+1.8
SPCH				AMP		08 43 46.1	
	comp=N,102nm,0.4s						
LVC	**Limon Verde**	**2.19**	**318**	AMP		08 43 56.5	
	comp=E,93nm,0.3s						
LVC	**Limon Verde**	**2.19**	**318**	*e*Pn	P	08 43 23.5	0.0
LVC				*e*Sn	S	08 43 55.1	+0.2
CEN1	**Los Morros**	**2.77**	**288**	*e*P	P	08 43 32.1	+2.1
CEN1				*i* S	S	08 44 09.1	+2.5
CEN1				AMP		08 44 12.1	
	comp=N,96nm,0.7s						
CPN1	**Cerro Paranal**	**2.83**	**262**⇓	*i*P	P	08 43 32.3	+1.6
CPN1				*i* S	S	08 44 10.2	+2.5
CPN1				AMP		08 44 14.4	
	comp=E,96nm,0.3s						

ANCH	**Antofagasta**	**2.88**	**281**	⇓*iP*		P		08 43 32.5	+1.2
ANCH				*i* S		S		08 44 10.0	+1.2
CRCH	**Chaqaral**	**3.63**	**234**	*i* S		S		08 44 26.8	+1.8
LPAZ	**La Paz**	**7.97**	**354**	Pn		P		08 44 36.1	-0.2
	comp=E,1.5nm,0.5s								

BJI ***27*** *08:46:18.1, 17.80S×175.00W,h187km,mB4.7,mb4.7*
NEIC ***27*** *08:46:18.2±1.0, 17.79S×175.02W,h187km±9km,mb4.6/19, Error ellipse: s-maj=11.4km s-min=6.3km az=131.0*
IDC ***27*** *08:46:23.1±0.8, 17.91S×175.09W,h228km±7km, mb4.1/9, mb1 4.3/10,mb1mx4.1/15,mbtmp4.7/10, Error ellipse: s-maj=19.9km s-min=10.9km az=113.0*

ISC 27 08:46:16.4±1.5, 17.80S±0.07×175.10W±0.08, h179km±13km, n104, σ0§88/59, mb4.6/34, **4C-10D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.02**	**40**	P		**P**	**08 47 31.4**	**+0.1**
	52nm,0.3s,baz=169,slow=1.8,SNR=83							
AFI				S		**S**	**08 48 23.9**	**-5.5**
	128nm,0.3s,baz=50,slow=21,SNR=10							
AFI	**Afiamalu**	**5.02**	**40**	*e*Pn		**P**	**08 47 31.5**	**+0.1**
AFI				*e*Sn		**S**	**08 48 23.7**	**-5.7**
DZM	**Mont Dzumac**	**17.86**	**253**	P		**P**	**08 50 15.4**	**+0.6**
	0.4nm,0.3s,baz=80,slow=18,SNR=5.8							
URZ	**Urewera**	**21.49**	**197**	P		**P**	**08 50 53.3**	**+1.7**
	15nm,0.3s,mb4.8,baz=352,slow=1.3,SNR=28							
URZ				S		**S**	**08 54 35.1**	**+1.3**
	5.7nm,0.7s,baz=143,slow=20,SNR=4.2							
RPZ	**Rata Peaks**	**28.36**	**201**	P		**P**	**08 51 54.5**	**-1.3**
	6.4nm,0.5s,mb4.6,baz=8.0,slow=5.1,SNR=5.7							
ARMA	**Armidale**	**32.73**	**241**	*e*P		**P**	**08 52 34.7**	**+0.4**
CNB	**Canberra Magne**	**36.01**	**234**	*e*P		**P**	**08 53 02.1**	**+0.1**
	23nm,1.4s,mb4.6							
CTA	**Charters Tower**	**36.57**	**260**	*e*P		**P**	**08 53 06.9**	**0.0**
	11nm,0.6s,mb4.7							
CTAO	**Charters Tower**	**36.57**	**260**	*e*P		**P**	**08 53 06.5**	**-0.4**
	15nm,0.8s,mb4.7							
TOO	**Toolangi**	**39.70**	**232**	*e*P		**P**	**08 53 32.8**	**+0.1**
	7.1nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**41.45**	**242**	*e*P		**P**	**08 53 47.8**	**+0.7**
	25nm,1.1s,mb4.8							
STKA	**Stephens Creek**	**41.45**	**242**	P		**P**	**08 53 47.8**	**+0.7**
	28nm,0.6s,mb5.0,baz=91,slow=9.4,SNR=80							
STKA	**Stephens Creek**	**41.45**	**242**	⇓*iP*		**P**	**08 53 47.8**	**+0.7**
WB2	**Warramunga Arr**	**47.73**	**259**	⇑*iP*		**P**	**08 54 36.7**	**-0.6**
WRAB	**Tennant Creek**	**47.74**	**259**	*e*P		**P**	**08 54 36.3**	**-1.0**
	29nm,0.6s,mb5.1							
WRA	**Warramunga Arr**	**47.74**	**259**	P		**P**	**08 54 36.6**	**-0.7**
	16nm,0.4s,mb5.0,baz=98,slow=7.3,SNR=515							
ASPA	**Alice Springs**	**47.85**	**254**	⇑*iP*		**P**	**08 54 38.3**	**+0.1**
KAKA	**Kakadu**	**50.73**	**268**	⇑*iP*		**P**	**08 55 19.1**	**+19**
	7.5nm,0.9s,mb4.3							
FORT	**Forrest**	**52.90**	**245**	*e*P		**P**	**08 55 15.0**	**-1.2**
	26nm,0.7s,mb5.1							
FITZ	**Fitzroy Crossi**	**56.15**	**260**	*e*P		**P**	**08 55 39.1**	**-0.8**
	19nm,0.6s,mb5.1							
VNDA	**Vanda**	**60.84**	**186**	*e*P		**P**	**08 56 11.5**	**-0.1**
	13nm,1.7s,mb4.5							
MBWA	**Marble Bar**	**61.15**	**255**	⇓*e*P		**P**	**08 56 13.3**	**-1.1**
	16nm,0.6s,mb5.0							
KLBR	**Kellerberrin**	**61.69**	**243**	*e*P		**P**	**08 56 15.9**	**-2.0**
	20nm,0.6s,mb5.1							
CASY	**Casey**	**67.56**	**205**	*e*P		**P**	**08 56 54.5**	**-0.7**
	10.0nm,0.8s,mb4.6							
MJAR	**Matsushiro Arr**	**69.75**	**321**	P		**P**	**08 57 08.7**	**-0.4**
	9.5nm,0.8s,mb4.6,baz=160,slow=6.7,SNR=28							
MAJO	**Matsushiro**	**69.75**	**321**	*e*P		**P**	**08 57 08.5**	**-0.6**
	5.3nm,0.6s,mb4.5							
MAT	**Matsushiro**	**69.75**	**321**	P		**P**	**08 57 08.4**	**-0.7**
MAT	**Matsushiro**	**69.75**	**321**	*e*P		**P**	**08 57 08.0**	**-1.1**
	11nm,0.9s,mb4.6							
KKM	**Kota Kinabalu**	**71.78**	**283**	*e*P		**P**	**08 57 21.4**	**-0.2**
YSS	**Yuzh-Sakhalins**	**74.78**	**332**	*e*P		**P**	**08 57 38.3**	**-0.2**
	18nm,0.9s,mb4.7							
KSM	**Kuching**	**75.80**	**276**	*e*P		**P**	**08 57 45.5**	**+0.6**
MDJ	**Mudanjiang**	**79.94**	**323**	P		**P**	**08 58 08.0**	**+1.1**
MDJ				AP		pP	08 58 52.3	+1.4
MDJ				XP		sP	08 59 11.5	+1.5
MDJ				S		S	09 07 58.5	+4.5
MDJ				AMB		AMB		
	comp=Z,6.0nm,0.7s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,70nm,4.8s							
MDJ				LR		LR		
	comp=N,25nm,21.0s							
MDJ				LR		LR		
	comp=Z,23nm,17.8s							
CN2	**Changchun**	**81.89**	**321**	*e*P		**P**	**08 58 18.3**	**+1.1**
CN2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.8							
HWUT	**Hardware Ranch**	**83.26**	**43**	P		**P**	**08 58 23.5**	**-0.7**
	comp=Z,1.3nm,0.6s,mb3.8							
TXAR	**Lajitas Array**	**83.30**	**56**	P		**P**	**08 58 25.2**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=219,slow=5.8,SNR=3.1							
TXAR				pP		pP	08 59 19.8	+11
	comp=Z,0.7nm,1.0s,baz=270,slow=2.5,SNR=4.4							
TPAW	**Teton Pass**	**84.61**	**41**	*e*P		**P**	**08 58 31.2**	**+0.3**
	comp=Z,1.8nm,0.8s,mb3.9							
MAW	**Mawson**	**85.01**	**199**	⇓*iP*		**P**	**08 58 32.6**	**+0.3**
	comp=Z,5.2nm,0.7s,mb4.4							
MAW	**Mawson**	**85.01**	**199**	P		**P**	**08 58 32.7**	**+0.4**
	comp=Z,5.6nm,0.6s,mb4.5,baz=140,slow=9.5,SNR=24							
ILAR	**Eielson Array**	**85.11**	**12**	P		**P**	**08 58 31.9**	**-1.0**
	comp=Z,2.5nm,0.6s,mb4.2,baz=226,slow=6.0,SNR=26							
ILAR				pP		pP	08 59 29.1	+12
	comp=Z,1.5nm,1.0s,baz=210,slow=7.4,SNR=3.8							
PDAR	**Pinedale Array**	**85.13**	**42**	P		**P**	**08 58 33.0**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.5,baz=225,slow=2.1,SNR=7.2							
PDAR				pP		pP	08 59 29.1	+11
	comp=Z,0.8nm,0.8s,baz=252,slow=2.9,SNR=4.6							
DAWY	**Dawson**	**86.14**	**15**	*e*P		**P**	**08 58 38.0**	**0.0**
KULM	**Kulim**	**86.14**	**277**	*e*P		**P**	**08 58 40.3**	**+1.1**
ENH	**Enshi**	**86.83**	**303**	*e*P		**P**	**08 58 43.6**	**+1.5**
	comp=Z,12nm,0.8s,mb4.8							
GYA	**Guiyang**	**87.73**	**299**	P		**P**	**08 58 53.0**	**+6.5**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
GYA				AMB		AMB		
	comp=Z,70nm,4.2s							
EDM	**Edmonton**	**88.38**	**32**	*e*P		**P**	**08 58 48.4**	**-0.5**
XAN	**Xi'an**	**88.72**	**306**	P		**P**	**08 58 52.5**	**+1.5**
XAN				AMB		AMB		
	comp=Z,12nm,1.3s,mb4.7							
HHC	**Hu-ho-hao-te**	**89.47**	**313**	*e*P		**P**	**08 58 56.0**	**+1.7**
HHC				AP		pP	08 59 43.0	+3.9
HHC				XP		sP	09 00 03.5	+5.2
HHC				PP		PP	09 02 33.3	+3.1
HHC				S		S	09 09 29.5	+2.7
HHC				XS			09 10 52.8	
HHC				PS		PS	09 11 04.5	+3.9
HHC				SS		SS	09 15 34.3	+4.0
HHC				AMB		AMB		
	comp=Z,22nm,0.9s,mb5.1							
HHC				AMB		AMB		
	comp=Z,140nm,4.4s							
HHC				LR		LR		
	comp=N,201nm,14.3s							
HHC				LR		LR		
	comp=E,135nm,13.1s							
HHC				LR		LR		
	comp=Z,91nm,15.5s							
KMI	**Kunming**	**90.60**	**296**	P		**P**	**08 59 02.0**	**+2.0**
KMI				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
SNAA	**Sanae**	**90.60**	**178**	⇓*iP*		**P**	**08 58 58.2**	**-0.7**
SNAA	**Sanae**	**90.60**	**178**	P		**P**	**08 58 58.7**	**-0.2**
	comp=Z,0.5nm,0.8s,mb3.6,baz=189,slow=5.1,SNR=12							
SNAA	**Sanae**	**90.60**	**178**	*e*P		**P**	**08 58 58.7**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.1							
VNA3	**Neumayer Olymp**	**90.62**	**175**	⇓*iP*		**P**	**08 58 58.7**	**-0.3**
INK	**Inuvik**	**90.98**	**14**	*e*P		**P**	**08 59 00.2**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.2							
VNA2	**Neumayer--Watz**	**91.09**	**176**	⇓*iP*		**P**	**08 59 01.3**	**+0.1**
VNA1	**Neumayer--Stat**	**91.30**	**176**	⇓*iP*		**P**	**08 59 02.8**	**+0.6**
LZH	**Lanzhou**	**93.33**	**307**	*e*P		**P**	**08 59 11.5**	**-0.9**
LZH				AP		pP	08 59 57.5	+0.2
LZH				XP		sP	09 00 19.5	+3.0
LZH				AMB		AMB		
	comp=Z,4.0nm,1.0s,mb4.5							
AAK	**Ala-Archa**	**116.75**	**309**	*e*PKPdf		PKPdf	09 04 38.7	-0.8
CHKZ	**Chkalovo**	**118.51**	**322**	*e*PKPdf		PKPdf	09 04 42.4	-0.2
ARCES	**ARCESS Array B**	**126.73**	**351**	PKP		PKPdf	09 04 58.3	+0.2
	comp=Z,1.9nm,0.5s,baz=352,slow=1.2,SNR=19							
FINES	**FINESS Array B**	**133.90**	**346**	PKP		PKPdf	09 05 12.5	+0.7
	comp=Z,1.6nm,0.6s,baz=63,slow=4.3,SNR=4.8							
KMBO	**Kilima Mbogo**	**143.01**	**243**	PKP		PKPdf	09 05 29.2	-0.4
	comp=Z,1.6nm,0.5s,baz=229,slow=5.9,SNR=6.6							
MALT	**Malatya**	**144.33**	**312**	*e*PKPdf		PKPdf	09 05 32.5	+1.3
HILS	**Ha'il**	**144.74**	**292**	P		PKPdf	09 05 33.9	+1.6
KWP	**Kalwaria**	**145.15**	**340**	*e*PKPdf		PKPdf	09 05 33.6	+1.3
CLL	**Collm**	**145.95**	**351**	⇓*i*PKP1		PKPbc	09 05 35.7	+1.0
UPC	**Upice**	**146.18**	**347**	*e*PKP		PKPdf	09 05 36.5	+2.5
DPC	**Dobruska-Polom**	**146.26**	**347**	*e*PKP		PKPdf	09 05 37.3	+3.2
PVCC	**Panska Ves**	**146.44**	**349**	*e*PKP		PKPdf	09 05 37.7	+3.3
CFR	**Carcaliu**	**146.51**	**330**	⇑P		PKPdf	09 05 37.7	+3.0
MORC	**Moravsky Berou**	**146.51**	**345**	*e*PKPbc		PKPbc	09 05 37.1	+1.0
VRI	**Vrincioaia**	**146.65**	**332**	⇓P		PKPdf	09 05 38.0	+3.1
MOX	**Moxa**	**146.80**	**352**	*i* P		PKPdf	09 05 38.5	+3.5
	comp=Z,logA/T=0.9							
BRTR	**Keskin Array B**	**146.89**	**317**	PKPbc		PKPbc	09 05 38.7	+1.4
	comp=Z,4.5nm,0.3s,baz=108,slow=4.6,SNR=18							
PRU	**Pruhonice**	**146.97**	**349**	*e*PKP		PKPdf	09 05 38.8	+3.5
NKC	**Novy Kostel**	**147.08**	**351**	*e*PKP		PKPdf	09 05 40.6	+5.1
VRAC	**Vranov**	**147.18**	**346**	PKPbc		PKPdf	09 05 39.8	+4.2
	comp=Z,2.9nm,0.4s,baz=40,slow=3.0,SNR=3.2							
KBRS	**Khaybar**	**147.19**	**290**	P		PKPdf	09 05 38.5	+2.1
MLR	**Muntele Rosu**	**147.29**	**332**	PKPbc		PKPdf	09 05 40.5	+4.5
	comp=Z,6.4nm,1.0s,baz=109,slow=17,SNR=4.3							
MLR	**Muntele Rosu**	**147.29**	**332**	⇓P		PKPdf	09 05 40.6	+4.6
GIVF	**Givet**	**147.78**	**0**	*e*PKP1		PKPdf	09 05 40.7	+4.1
ASF	**Jabal al Asfar**	**147.80**	**303**	PKPbc		PKPdf	09 05 42.0	+4.7
	comp=Z,6.6nm,0.8s,baz=248,slow=1.2,SNR=4.6							
BAIF	**Baives**	**147.82**	**1**	*e*PKP1		PKPdf	09 05 40.9	+4.2
KHC	**Kasperske Hory**	**147.97**	**349**	*e*PKP		PKPdf	09 05 41.7	+4.7
GERES	**GERESS Array B**	**148.22**	**349**	PKPbc		PKPdf	09 05 42.3	+4.9
	comp=Z,2.2nm,0.5s,baz=45,slow=1.9,SNR=19							
FLN	**La Foliniere**	**148.81**	**7**	*e*PKP1		PKPdf	09 05 42.9	+4.5
	comp=Z,38nm,0.8s							
LDF	**La Druitiere**	**149.02**	**6**	*e*PKP1		PKPdf	09 05 43.4	+4.7
GRR	**Gorron**	**149.13**	**7**	*e*PKP1		PKPdf	09 05 43.9	+5.0
	comp=Z,35nm,0.7s							
CDF	**Champ du Feu**	**149.41**	**357**	*e*PKP1		PKPdf	09 05 45.0	+5.7
JMQS	**Jabal Moqyreh**	**149.58**	**297**	P		PKPdf	09 05 46.0	+5.8
HAU	**Haudompre**	**149.85**	**358**	*e*PKP1		PKPdf	09 05 45.9	+5.9
	comp=Z,16nm,0.7s							
ALWS	**Ilw as Safayha**	**150.16**	**298**	P		PKPdf	09 05 47.5	+6.4
JMQS	**Jabal al Moall**	**150.16**	**298**	P		PKPdf	09 05 48.0	+7.0
HAQS	**Haql**	**150.34**	**298**	P		PKPdf	09 05 47.7	+6.3
BDAS	**Al Bad'**	**150.35**	**296**	P		PKPdf	09 05 48.4	+7.0
LOR	**Lormes**	**150.60**	**1**	*e*PKP1		PKPdf	09 05 47.7	+6.5
LJU	**Ljubljana**	**150.72**	**346**	*e*PKP		PKPdf	09 05 47.9	+6.5
SSF	**Saint Saulge**	**150.80**	**2**	*e*PKP1		PKPdf	09 05 48.3	+6.8
	comp=Z,21nm,0.9s							
DAVOX	**Davos**	**150.81**	**353**	PKPbc		PKPdf	09 05 49.0	+7.6
	comp=Z,18nm,0.7s,baz=197,slow=0.7,SNR=18							
VISS	**Visnje**	**150.88**	**346**	*e*PKP		PKPdf	09 05 48.6	+7.0
VISS				*e*			09 05 56.2	
CEY	**Cerknica**	**151.03**	**346**	*e*PKP		PKPdf	09 05 48.9	+7.0
CABF	**La Chapelle**	**151.25**	**358**	*e*PKP1		PKPdf	09 05 49.8	+7.6
	comp=Z,12nm,0.6s							
BGF	**Bois d'Agland**	**151.27**	**3**	*e*PKP1		PKPdf	09 05 49.3	+7.1
TCF	**Toulx Ste Croi**	**151.51**	**4**	*e*PKP1		PKPdf	09 05 49.4	+6.9
	comp=Z,14nm,0.8s							
MBDF	**Montbardon**	**153.11**	**357**	*e*PKP1		PKPdf	09 05 53.7	+8.8
	comp=Z,12nm,0.9s							

CSEM ***27*** *08:57:55.7±0.7, 12.06N×45.18E,h12km, ML4.1, Error ellipse: s-maj=19.4km s-min=8.9km az=19.0, After DHMR*

DHMR 27 08:57:55.7±0.7, 12.06N×45.18E, h13km±4km, ML4.1, 4C-3D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADEN	**Aden**	**0.74**	**345**	⇑*iP*		Pb	08 58 09.8	-0.1
ADEN				*i* S		Sb	08 58 20.0	+0.3
ADEN				AML		AML	08 58 27.6	
	comp=E,6μm,0.6s							
ADEN	**Aden**	**0.74**	**345**	⇑*iP*		Pb	08 58 09.8	-0.1
ADEN				*i* S		Sb	08 58 20.0	+0.3
	comp=E,3μm,0.6s							
TRBA	**At Turbah**	**1.56**	**318**	⇑*iP*		Pn	08 58 23.9	+0.5
TRBA				*i* S		Sb	08 58 45.7	+2.2
LBOS		**1.80**	**2**	⇓*iP*		Pn	08 58 27.7	+0.9
LBOS				*i* S		Sn	08 58 52.8	+3.1
BDHA	**Al Bayda'**	**1.94**	**11**	⇓*iP*		Pn	08 58 29.6	+0.8
BDHA				AML		AML	08 58 40.7	
	comp=N,2μm,0.6s							
BDHA				*i* S		Sn	08 58 56.7	+3.4
UDYN	**Al 'Udayn**	**2.23**	**328**	*i* P		Pn	08 58 34.0	+1.0
UDYN				*i* S		Sn	08 59 04.6	+3.9
DHBB	**Dhamar BB**	**2.61**	**343**	⇓*iP*		Pn	08 58 40.5	+2.0
MUKL	**Al Mukalla**	**4.46**	**57**	⇑*iP*		Pn	08 59 05.6	+0.9

NEIC ***27*** *09:54:30.0, 36.73N×27.27E,h10km, MD3.0(ATH), After ATH.*
HLW ***27*** *09:54:30.9, 36.34N×27.62E,h16km, Mb3.4*
CSEM ***27*** *09:54:30.6±0.1, 36.31N×27.64E,h40km, MD3.0, Error ellipse: s-maj=4.0km s-min=2.1km az=107.0*
ISK ***27*** *09:54:32.7, 36.42N×27.70E,h34km, MD3.0*
ATH ***27*** *09:54:32.2, 36.56N×27.58E,h71km±3km*

ISC 27 09:54:30.2±0.7, 36.49N±0.04×27.68E±0.05, h98km±7km, n23, σ1§03/38, 2C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARG	**Arkhangelos**	**0.46**	**127**	⇑*iP*		**P**	**09 54 46.4**	**+0.8**
ARG				*e*S		**S**	**09 54 56.7**	**-0.4**
BDRM	**Kayabasi**	**0.60**	**342**	*i* P		**P**	**09 54 47.5**	**+0.9**
BDRM				*i* S		**S**	**09 54 58.2**	**-0.8**
BODT	**Bodrum**	**0.64**	**333**	PG		**P**	**09 54 46.6**	**-0.4**
MLSB	**Milas**	**0.80**	**6**	*e*PG		**P**	**09 54 49.0**	**+0.4**
YER	**Yerkesik**	**0.80**	**37**	*e*PG		**P**	**09 54 49.3**	**+0.7**
DALT	**Dalyan (Mudla)**	**0.82**	**70**	PG		**P**	**09 54 48.7**	**-0.1**
DALT				SG		**S**	**09 54 59.6**	**-2.9**
KARP	**Karpathos**	**1.03**	**204**	*e*P		**P**	**09 54 52.3**	**+1.2**
KARP				*e*S		**S**	**09 55 07.2**	**+0.4**
AYDN	**Tasoluk**	**1.18**	**8**	*i* P		**P**	**09 53 59.9**	**+1.1**
AYDN				*i* S		**S**	**09 55 08.9**	**-0.8**
DNZL	**Cakiroluk**	**1.62**	**42**	*i* P		**P**	**09 54 59.2**	**+1.0**
DNZL				*i* S		**S**	**09 55 17.7**	**-1.3**
GOLH	**Golhisar**	**1.68**	**63**	*i* P		**P**	**09 54 59.6**	**+0.6**
GOLH				*i* S		**S**	**09 55 20.4**	**0.0**
SANT	**Santorini**	**1.79**	**267**	*e*Pn		**P**	**09 54 57.3**	**-3.1**
SANT	**Santorini**	**1.79**	**267**	*e*Pn		**P**	**09 54 57.3**	**-3.1**
ELL	**Elmali**	**1.81**	**81**	*e*PN		**P**	**09 55 01.7**	**+1.0**
NPS	**Neapolis**	**2.08**	**234**	*e*P		**P**	**09 55 05.5**	**+1.3**
NPS				*e*S		**S**	**09 55 30.0**	**+0.6**
XRY	**Khrisi**	**2.28**	**226**	*e*P		**P**	**09 55 09.0**	**+2.0**
GVD	**Gavdhos**	**3.36**	**242**	*e*Pn		**P**	**09 55 21.8**	**+0.1**
GVD				*e*Sn		**S**	**09 55 59.5**	**-1.3**
GVD	**Gavdhos**	**3.36**	**242**	*e*Pn		**P**	**09 55 21.8**	**0.0**
GVD				*e*Sn		**S**	**09 55 59.5**	**-1.3**
SLUM		**5.39**	**203**	⇑P		**P**	**09 55 48.4**	**-1.1**
SLUM				S		**S**	**09 56 44.5**	**-6.5**
HMAT	**Matruh**	**5.41**	**185**	⇓P		**P**	**09 55 48.6**	**-1.2**
HMAT				S		**S**	**09 56 45.3**	**-6.0**
SWA1		**7.40**	**193**	⇓P		**P**	**09 56 16.4**	**-0.8**
SWA1				S		**S**	**09 57 33.2**	**-6.9**
SWA1		**7.40**	**193**	P		**P**	**09 56 16.4**	**-0.8**
SWA1				S		**S**	**09 57 33.2**	**-6.9**
AMAG	**Maghara**	**7.44**	**140**	⇓P		**P**	**09 56 17.6**	**-0.1**
SWA2		**7.47**	**195**	⇓P		**P**	**09 56 16.9**	**-1.3**
SWA2				S		**S**	**09 57 34.9**	**-6.9**

DHMR 27 10:02:50.0±0.4, 12.56N×40.49E, h3km±29km, ML4.1, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRBA	**At Turbah**	**3.60**	**79**	*e*P		Pn	10 03 49.3	+1.5
TRBA				*i* S		Sn	10 04 35.8	+4.4
TRBA				AML		AML	10 04 49.1	
	comp=N,1μm,0.7s							
UDYN	**Al 'Udayn**	**3.67**	**67**	*i* S		Sn	10 04 37.6	+4.5
UDYN				AML		AML	10 04 56.0	
	comp=N,612nm,0.6s							
LBOS		**4.82**	**74**	*e*P		Pn	10 04 03.8	-1.4
LBOS				*i* S		Sn	10 05 01.3	-0.9
BDHA	**Al Bayda'**	**5.14**	**74**	*i* S		Sn	10 05 09.0	-1.4

BJI ***27*** *10:13:53.5, 12.03N×40.15E,h26km, mB5.1,mb4.8,Ms4.8, Msz4.4*
IDC ***27*** *10:13:56.6±1.0, 12.51N×40.58E,mb4.3/12,mb1 4.3/15, mb1mx4.2/21,mbtmp4.3/15,ML3.7/3,MS4.2/12,Ms1 4.2/12, ms1mx4.0/23,Error ellipse: s-maj=24.0km s-min=13.6km az=28.0*
MOS ***27*** *10:13:56.3±1.1, 12.54N×40.57E,h10km,mb4.9/13,Error ellipse: s-maj=13.3km s-min=6.7km az=94.4*
CSEM ***27*** *10:13:57.7±0.1, 12.70N×40.49E,h12km,mb4.6/20,Ms4.3, Error ellipse: s-maj=4.1km s-min=1.8km az=14.0*
NEIC ***27*** *10:13:58.3±0.4, 12.55N×40.56E,h10km,mb4.7/26, MS4.3/5,ML4.6(DHMR), Error ellipse: s-maj=9.5km s-min=6.3km az=202.0*
DHMR ***27*** *10:13:58.9±1.0, 12.67N×40.65E,h12km±57km,ML4.6*
SSN ***27*** *10:15:27.4±0.9, 13.21N×38.61E,h69km±999km,mb5.0*

ISC 27 10:13:56.7±0.4, 12.59N±0.06×40.59E±0.03, h10km, (h19km±6.4km:pP-P), n122, σ1§07/131, mb4.6/37, **MS4.3**/17, **14C-8D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.44**	**115**	Pn		**Pn**	**10 14 37.6**	**+0.3**
	110nm,0.3s,baz=57,slow=4.5,SNR=61							
ATD				Lg			10 15 12.9	
	36nm,0.3s,baz=285,slow=20,SNR=5.3							
TRBA	**At Turbah**	**3.49**	**79**	*e*P		**Pn**	**10 14 55.0**	**+2.7**
TRBA				*i* S		**Sn**	**10 15 38.4**	**+4.3**
TRBA				AML		AML	10 15 51.3	
	comp=N,3μm,0.7s							
TRBA	**At Turbah**	**3.49**	**79**	*e*P		**Pn**	**10 14 55.8**	**+3.5**
TRBA				*i* S		**Sn**	**10 15 38.4**	**+4.3**
TRBA	**At Turbah**	**3.49**	**79**	*e*P		**Pn**	**10 14 55.0**	**+2.7**
TRBA				*i* S		**Sn**	**10 15 38.4**	**+4.3**
	comp=N,2μm,0.7s							
UDYN	**Al 'Udayn**	**3.56**	**67**	*e*P		**Pn**	**10 14 55.2**	**+2.0**
UDYN				*i* S		**Sn**	**10 15 40.6**	**+4.8**
UDYN				AML		AML	10 16 04.1	
	comp=E,3μm,0.8s							
UDYN	**Al 'Udayn**	**3.56**	**67**	*e*P		**Pn**	**10 14 57.3**	**+4.1**
UDYN				*i* S		**Sn**	**10 15 40.6**	**+4.8**
ADEN	**Aden**	**4.29**	**87**	*e*P		**Pn**	**10 15 06.0**	**+2.4**
ADEN				*i* S		**Sn**	**10 15 57.3**	**+3.1**
ADEN	**Aden**	**4.29**	**87**	*e*P		**Pn**	**10 15 05.9**	**+2.3**
ADEN				*i* S		**Sn**	**10 15 57.3**	**+3.0**
LBOS		**4.71**	**74**	*e*P		**Pn**	**10 15 09.3**	**-0.2**
LBOS				*i* S		**Sn**	**10 16 04.1**	**-0.8**
BDHA	**Al Bayda'**	**5.03**	**74**	⇑*e*P		**Pn**	**10 15 13.7**	**-0.5**
BDHA				*i* S		**Sn**	**10 16 12.2**	**-1.0**
BDHA	**Al Bayda'**	**5.03**	**74**	⇑*e*P		**Pn**	**10 15 13.7**	**-0.4**
BDHA				*i* S		**Sn**	**10 16 12.1**	**-1.0**
KMBO	**Kilima Mbogo**	**14.03**	**194**	Pn		**P**	**10 17 17.1**	**-0.9**
	comp=E,0.1nm,0.3s,baz=231,slow=23,SNR=4.5							
KMBO				LR		LR	10 22 30.8	
	comp=E,717nm,19.6s,baz=308,slow=37							
ARQ	**Araqi**	**18.52**	**53**	⇑P		**P**	**10 18 15.4**	**0.0**
	SNR=7.8							
BSY	**Bisya**	**18.75**	**55**	⇓P		**P**	**10 18 18.1**	**0.0**
	SNR=13							
BSYO	**Bisya**	**18.78**	**55**	P		**P**	**10 18 18.1**	**-0.3**
	SNR=13							
ASHO	**Ashiyiah**	**18.93**	**48**	⇑P		**P**	**10 18 19.8**	**-0.5**
	SNR=17							
ASF	**J

BRG	**Berggiesshubel**	**43.91**	**336**	*e*P		**P**	**10 22 04.3**	**-1.0**
	comp=Z,142nm,2.9s,mb5.2								
BRG	**Berggiesshubel**	**43.91**	**336**	*e*P		**P**	**10 22 04.3**	**-1.0**
BRG				pmax	pmax				
	comp=Z,142nm,2.9s,mb5.2								
DMN	**Daman**	**44.14**	**63**	*e*P		**P**	**10 22 07.4**	**-0.1**
GRA1	**Grafenberg Arr**	**44.17**	**333**	*e*P		**P**	**10 22 06.2**	**-1.2**
	comp=Z,22nm,1.7s,mb4.6								
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P		**P**	**10 22 06.2**	**-1.2**
	comp=Z,22nm,1.7s,mb4.6								
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P		**P**	**10 22 06.2**	**-1.2**
GRF				pmax	pmax				
	comp=Z,22nm,1.7s,mb4.6								
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P		**P**	**10 22 06.2**	**-1.2**
GRF				pmax	pmax				
	comp=Z,22nm,1.7s,mb4.6								
KKN	**Kakani**	**44.33**	**63**	*e*P		**P**	**10 22 08.2**	**-0.8**
	comp=Z,64nm,1.3s,mb5.2								
PKI	**Pulchoki**	**44.40**	**63**	*e*P		**P**	**10 22 09.2**	**-0.4**
CLL	**Collm**	**44.62**	**336**	P		**P**	**10 22 09.0**	**-2.1**
CLL	**Collm**	**44.62**	**336**	*e*P		**P**	**10 22 14.0**	**+2.9**
MOX	**Moxa**	**44.70**	**334**	*i* P		**P**	**10 22 10.1**	**-1.6**
MOX	**Moxa**	**44.70**	**334**	*e*P		**P**	**10 22 10.1**	**-1.6**
JIRN	**Jiri**	**45.10**	**63**	*e*P		**P**	**10 22 15.0**	**-0.2**
	comp=Z,57nm,1.3s,mb5.2								
DBIC	**Dimbokro**	**45.15**	**267**	P		**P**	**10 22 15.1**	**-0.7**
	comp=Z,3.2nm,0.7s,mb4.3,baz=77,slow=10,SNR=8.0								
DBIC				LR	LR		10 40 00.3		
	comp=Z,283nm,18.0s,MS4.2,baz=67,slow=35								
DBIC	**Dimbokro**	**45.15**	**267**	*e*P		**P**	**10 22 14.6**	**-1.1**
	comp=Z,7.2nm,0.9s,mb4.5								
MDT	**Midelt**	**45.89**	**304**	P		**P**	**10 22 22.4**	**+1.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=114,slow=9.9,SNR=4.4								
ARU	**Arti**	**45.89**	**14**⇓	*i* P		**P**	**10 22 20.8**	**-0.3**
	comp=Z,16nm,1.0s,mb4.9								
ARU				*e*			10 24 08.6		
ARU				*e*PPP	PPP		10 24 46.3	-5.8	
ARU				*e*S	**S**		**10 29 03.3**	**-1.3**	
ARU	**Arti**	**45.89**	**14**⇓	*i* P		**P**	**10 22 20.8**	**-0.3**	
ARU				*e*			10 24 08.6		
ARU				*e*PPP	PPP		10 24 46.3	-5.8	
ARU				*e*S	**S**		**10 29 03.3**	**-1.3**	
ARU				pmax	pmax				
	comp=Z,16nm,1.0s,mb4.9								
ESDC	**Sonseca Array**	**47.58**	**313**	P		**P**	**10 22 34.2**	**-0.4**	
	comp=Z,3.1nm,0.8s,mb4.4,baz=112,slow=7.4,SNR=8.3								
MKAR	**Makanchi Array**	**48.84**	**37**	P		**P**	**10 22 44.3**	**+0.1**	
	comp=Z,4.2nm,1.0s,mb4.4,baz=233,slow=6.1,SNR=18								
MKAR				LR	LR		10 47 11.3		
	comp=Z,459nm,21.1s,MS4.4,baz=269,slow=41								
KURK	**Kurchatov**	**49.00**	**31**	*e*P		**P**	**10 22 45.9**	**+0.4**	
KURK				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.7								
WMQ	**Urumqi**	**50.92**	**43**	*e*P		**P**	**10 23 00.5**	**+0.3**	
WMQ				AP	pP		10 23 05.0	+1.7	
WMQ				PCP	PcP		10 24 17.0	+0.1	
WMQ				*e*S	**S**		**10 30 17.0**	**+1.6**	
WMQ				SCS	ScS		10 32 48.0	-0.1	
WMQ				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb4.8								
WMQ				AMB	AMB				
	comp=Z,194nm,5.6s								
WMQ				LR	LR				
	comp=N,572nm,20.0s,MS4.7								
WMQ				LR	LR				
	comp=E,369nm,20.0s,MS4.7								
WMQ				LR	LR				
	comp=Z,748nm,27.0s								
WMQ	**Urumqi**	**50.92**	**43**	*e*P		**P**	**10 23 00.5**	**+0.3**	
	comp=Z,10.0nm,0.9s,mb4.8								
WMQ				pP	pP		10 23 05.0	+1.7	
WMQ				PcP	PcP		10 24 17.0	+0.1	
WMQ				*e*S	**S**		**10 30 17.0**	**+1.6**	
WMQ				ScS	ScS		10 32 48.0	-0.1	
WMQ				LR	LR				
	comp=Z,750nm,27.0s,MS4.6								
WMQ	**Urumqi**	**50.92**	**43**	*e*P		**P**	**10 23 00.5**	**+0.3**	
	comp=Z,10.0nm,0.9s,mb4.8								
WMQ				pP	pP		10 23 05.0	+1.7	
WMQ				PcP	PcP		10 24 17.0	+0.1	
WMQ				*e*S	**S**		**10 30 17.0**	**+1.6**	
NB2	**NORSAR Subarra**	**52.90**	**343**	P		**P**	**10 23 14.0**	**-0.9**	
	comp=Z,1.6nm,0.8s,mb4.0,baz=141,slow=7.4								
NB2	**NORSAR Subarra**	**52.90**	**343**	P		**P**	**10 23 14.0**	**-0.9**	
NB2				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.1								
NOA	**NORSAR Array B**	**52.90**	**343**	P		**P**	**10 23 13.2**	**-1.7**	
	comp=Z,2.1nm,0.8s,mb4.1,baz=142,slow=7.3,SNR=4.1								
ARCES	**ARCESS Array B**	**57.70**	**354**	P		**P**	**10 23 48.4**	**-1.3**	
	comp=Z,2.5nm,0.9s,mb4.3,baz=104,slow=5.0,SNR=3.6								
KMI	**Kunming**	**59.67**	**68**	P		**P**	**10 24 02.3**	**-1.7**	
KMI				AP	pP		10 24 08.3	+1.2	
KMI				S	**S**		**10 32 12.5**	**-0.2**	
KMI				SS	SS		10 36 15.5	+5.7	
KMI				AMB	AMB				
	comp=Z,11nm,0.8s,mb4.9								
KMI				AMB	AMB				
	comp=Z,130nm,3.2s								
KMI				LR	LR				
	comp=N,241nm,17.2s,MS4.5								
KMI				LR	LR				
	comp=E,249nm,20.9s,MS4.5								
KMI				LR	LR				
	comp=Z,181nm,20.0s,MS4.2								
KMI	**Kunming**	**59.67**	**68**	P		**P**	**10 24 02.3**	**-1.7**	
	comp=Z,11nm,0.8s,mb4.9								
KMI				pP	pP		10 24 08.3	+1.2	
KMI				S	**S**		**10 32 12.5**	**-0.2**	
KMI				SS	SS		10 36 15.5	+5.7	
KMI				LR	LR				
	comp=Z,180nm,20.0s,MS4.2								
KMI	**Kunming**	**59.67**	**68**	pP	pP		10 24 08.3	+1.2	
KMI	**Kunming**	**59.67**	**68**	P	**P**		**10 24 02.2**	**-1.8**	
KMI				*PP	pP		10 24 08.2	+1.1	
KMI				S	**S**		**10 32 12.5**	**-0.2**	
KMI				SS	SS		10 36 15.5	+5.7	
KMI				pmax	pmax				
	comp=Z,11nm,0.8s,mb4.9								
KMI				MLR	MLR				
	comp=Z,180nm,20.0s,MS4.2								
LZH	**Lanzhou**	**61.12**	**56**	*e*P		**P**	**10 24 14.5**	**+0.8**	
LZH				AP	pP		10 24 17.5	+0.7	
LZH				AMB	AMB				
	comp=Z,13nm,1.0s,mb5.0								
LZH				AMB	AMB				
	comp=Z,53nm,4.0s								
LZH				LR	LR				
	comp=E,725nm,16.7s								
LZH				LR	LR				
	comp=Z,1μm,18.0s,MS5.0								
LZH	**Lanzhou**	**61.12**	**56**	*e*P		**P**	**10 24 14.5**	**+0.8**	
	comp=Z,13nm,1.0s,mb5.0								
LZH				pP	pP		10 24 17.5	+0.7	
LZH				LR	LR				
	comp=Z,1μm,18.0s,MS5.0								
LZH	**Lanzhou**	**61.12**	**56**	*e*P		**P**	**10 24 14.4**	**+0.7**	
LZH				*PP	pP		10 24 17.5	+0.7	
LZH				*SP	sP		10 24 19.4	+1.5	
LZH				pmax	pmax				
	comp=Z,13nm,1.0s,mb5.0								
LZH				MLR	MLR				
	comp=Z,1μm,18.0s,MS5.0								
SONM	**Songino Array**	**64.55**	**43**	P		**P**	**10 24 36.6**	**+0.3**	
	comp=Z,5.3nm,1.1s,mb4.5,baz=253,slow=7.1,SNR=12								
SONM				LR	LR		10 56 21.1		
	comp=Z,354nm,20.3s,MS4.5,baz=250,slow=39								
ULN	**Ulaanbaatar**	**65.00**	**43**	*i* P		**P**	**10 24 37.7**	**-1.5**	
BOD	**Bodaibo**	**70.60**	**33**	*e*P		**P**	**10 25 11.9**	**-2.2**	
	comp=Z,19nm,1.4s,mb4.8								
BOD	**Bodaibo**	**70.60**	**33**	*e*P		**P**	**10 25 11.9**	**-2.2**	
BOD				pmax	pmax				
	comp=Z,19nm,1.4s,mb4.8								
NJ2	**Nanjing**	**73.56**	**60**	*e*P		**P**	**10 25 32.0**	**-0.2**	
NJ2				AP	pP		10 25 42.0	+6.7	
NJ2				XP	sP		10 25 46.0	+10	
NJ2				PCP	PcP		10 25 48.3	-0.1	
NJ2				S	S		10 34 57.0	-3.8	
NJ2				XS			10 35 13.0		
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb4.9								
NJ2				AMB	AMB				
	comp=Z,260nm,4.1s								
NJ2				LR	LR				
	comp=N,330nm,18.2s,MS4.8								
NJ2				LR	LR				
	comp=E,290nm,18.0s,MS4.8								
NJ2				LR	LR				
	comp=Z,190nm,18.0s,MS4.4								
NJ2	**Nanjing**	**73.56**	**60**	*e*P		**P**	**10 25 32.0**	**-0.2**	
	comp=Z,10.0nm,0.6s,mb4.9								
NJ2				pP	pP		10 25 42.0	+6.7	
NJ2				sP	sP		10 25 46.0	+10	
NJ2				PcP	PcP		10 25 48.3	-0.1	
NJ2				S	S		10 34 57.0	-3.8	
NJ2				sS			10 35 13.0		
NJ2				LR	LR				
	comp=Z,190nm,18.0s,MS4.4								
SSE	**Sheshan**	**75.63**	**61**	P		**P**	**10 25 41.5**	**-2.6**	
SSE				AP	pP		10 25 50.8	+3.5	
SSE				XP	sP		10 25 54.5	+6.1	
SSE				S	S		10 35 22.3	-1.6	
SSE				XS			10 35 38.0		
SSE				SS	SS		10 40 15.0	-2.8	
SSE				AMB	AMB				
	comp=Z,28nm,0.7s,mb5.3								
SSE				AMB	AMB				
	comp=Z,218nm,4.4s								
SSE				LR	LR				
	comp=N,74nm,22.3s,MS4.0								
SSE				LR	LR				
	comp=E,59nm,22.3s,MS4.0								
SSE				LR	LR				
	comp=Z,84nm,19.2s,MS4.1								
SSE	**Sheshan**	**75.63**	**61**	P		**P**	**10 25 41.5**	**-2.6**	
	comp=Z,28nm,0.7s,mb5.3								
SSE				pP	pP		10 25 50.8	+3.5	
SSE				sP	sP		10 25 54.5	+6.1	
SSE				S	S		10 35 22.3	-1.6	
SSE				sS			10 35 38.0		
SSE				SS	SS		10 40 15.0	-2.8	
SSE				LR	LR				
	comp=Z,80nm,19.2s,MS4.0								
CN2	**Changchun**	**77.72**	**48**	*e*P		**P**	**10 25 55.3**	**-0.2**	
CN2				AMB	AMB				
	comp=Z,10.0nm,1.2s,mb4.6								
CN2	**Changchun**	**77.72**	**48**	*e*P		**P**	**10 25 55.3**	**-0.2**	
	comp=Z,10.0nm,1.2s,mb4.6								
MDJ	**Mudanjiang**	**80.57**	**46**	P		**P**	**10 26 10.0**	**-1.0**	
MDJ				PP	PP		10 29 12.5	-4.0	
MDJ				S	S		10 36 18.0	+1.5	
MDJ				AMB	AMB				
	comp=Z,5.0nm,0.6s,mb4.6								
MDJ				AMB	AMB				
	comp=Z,79nm,4.3s								
MDJ				LR	LR				
	comp=N,170nm,22.6s,MS4.4								
MDJ				LR	LR				
	comp=E,64nm,22.6s,MS4.4								
MDJ				LR	LR				
	comp=Z,104nm,20.9s,MS4.2								
MDJ	**Mudanjiang**	**80.57**	**46**	P		**P**	**10 26 10.0**	**-1.0**	
	comp=Z,5.0nm,0.6s,mb4.6								
MDJ				PP	PP		10 29 12.5	-4.0	
MDJ				S	S		10 36 18.0	+1.5	
MDJ				LR	LR				
	comp=Z,100nm,20.9s,MS4.1								
JNU	**Nakatsue**	**83.47**	**58**	LR		LR	11 07 42.2		
	comp=Z,95nm,18.2s,MS4.2,baz=270,slow=39								
SEY	**Seymchan**	**88.46**	**25**⇑	*e*P		**P**	**10 26 51.4**	**+1.2**	
MJAR	**Matsushiro Arr**	**88.61**	**53**	LR		LR	11 12 30.6		
	comp=Z,96nm,18.0s,MS4.3,baz=295,slow=40								
SNAA	**Sanae**	**88.92**	**193**	LR		LR	11 03 50.7		
	comp=Z,68nm,19.6s,MS4.1,baz=33,slow=34								
SNAA	**Sanae**	**88.92**	**193**⇑	*i*P		**P**	**10 26 53.8**	**+1.6**	
SNAA				*e*			10 27 03.0		
FITZ	**Fitzroy Crossi**	**89.24**	**109**	LR		LR	11 01 32.0		
	comp=Z,242nm,19.2s,MS4.6,baz=263,slow=32								
VNA2	**Neumayer--Watz**	**89.41**	**194**	*e*		**P**	**10 27 05.3**	**+11**	
VNA2	**Neumayer--Watz**	**89.41**	**194**⇑	*i*P		**P**	**10 26 56.0**	**+1.4**	
VNA2				*e*			10 27 05.3		
VNA1	**Neumayer--Stat**	**89.43**	**195**	*e*		**P**	**10 27 04.2**	**+10**	
VNA1	**Neumayer--Stat**	**89.43**	**195**⇑	*i*P		**P**	**10 26 56.1**	**+1.4**	
VNA1				*e*			10 27 04.2		
VNA3	**Neumayer Olymp**	**90.17**	**194**⇑	*i*P		**P**	**10 26 54.2**	**-3.9**	
VNA3				*e*			10 27 04.2		
BDFB	**Brasilia**	**92.02**	**255**	LR		LR	11 04 34.1		
	comp=Z,210nm,18.4s,MS4.6,baz=31,slow=33								

*IDC **27** 10:46:40.8±0.8,55.03S×130.10W,mb4.1/8,mb1 4.2/8, mb1mx4.2/13,mbtmp4.1/8,MS4.1/8,Ms1 4.0/8, ms1mx3.9/17,Error ellipse: s-maj=29.2km s-min=21.8km az=171.0*

*NEIC **27** 10:46:42.5±0.6,54.94S×129.99W,h10km,mb4.8/4,Error ellipse: s-maj=15.3km s-min=13.9km az=153.0*

ISC 27 10:46:40.5±0.7,54.9S±0.1×130.1W±0.2,h10km, (h6km±2.7km):pP-P),n35,σ0s96/28,mb4.3/11,MS4.1/8,4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SBA	**Scott Base**	**31.46**	**201**	P		**P**	**10 53 04.3**	**+0.5**
	15nm,1.5s,mb4.6							
PMSA	**Palmer Station**	**33.06**	**134**	*e*P		**P**	**10 53 17.5**	**-0.4**
	25nm,1.3s,mb5.0							
PMSA				*e*			10 53 33.4	
USHA	**Ushuaia**	**34.47**	**116**	P		**P**	**10 53 29.2**	**-0.9**
	9.2nm,0.9s,mb4.7,baz=349,slow=7.2,SNR=5.9							
USHA				LR		LR	11 02 15.2	
	comp=Z,108nm,21.5s,MS3.6,baz=233,slow=27							
QSPA	**South Pole Qui**	**35.28**	**180**	*e*P		**P**	**10 53 38.2**	**+1.3**
	19nm,1.2s,mb4.9							
PPT	**Papeete**	**40.15**	**330**	*e*S		**S**	**11 00 22.8**	**-1.7**
PPT				*e*LR		LR	11 04 51.7	
	599nm,27.0s,baz=170							
PPT	**Papeete**	**40.15**	**330**	LR		LR	11 06 44.0	
	comp=Z,189nm,18.7s,MS4.0,baz=159,slow=30							
PLCA	**Paso Flores**	**41.14**	**95**	P		**P**	**10 54 26.1**	**-0.1**
	2.9nm,1.1s,mb3.8,baz=236,slow=7.9,SNR=4.1							
VNA3	**Neumayer Olymp**	**47.33**	**158**	*e*		**P**	**10 55 15.9**	**+0.3**
VNA3	**Neumayer Olymp**	**47.33**	**158**	*e*		**P**	**10 55 20.9**	**+5.3**
VNA3	**Neumayer Olymp**	**47.33**	**158**	*e*		**P**	**10 55 27.9**	**+12**
VNA3	**Neumayer Olymp**	**47.33**	**158**⇑	*i*P		**P**	**10 55 14.4**	**-1.2**
VNA3				*e*		pP	10 55 15.9	-2.7
VNA3				*e*			10 55 20.9	
VNA3				*e*			10 55 27.9	
VNA2	**Neumayer--Watz**	**48.07**	**158**	*e*		**P**	**10 55 21.8**	**+0.5**
VNA2	**Neumayer--Watz**	**48.07**	**158**	*e*		**P**	**10 55 25.5**	**+4.2**
VNA2	**Neumayer--Watz**	**48.07**	**158**⇑	*i*P		**P**	**10 55 20.5**	**-0.8**
VNA2				*e*		pP	10 55 21.8	-2.5
VNA2				*e*		pP	10 55 25.5	+1.2
VNA1	**Neumayer--Stat**	**48.09**	**158**	*e*		**P**	**10 55 22.3**	**+0.8**
VNA1	**Neumayer--Stat**	**48.09**	**158**	*e*		**P**	**10 55 26.6**	**+5.1**
VNA1	**Neumayer--Stat**	**48.09**	**158**	*e*		**P**	**10 55 33.7**	**+12**
VNA1	**Neumayer--Stat**	**48.09**	**158**⇑	*i*P		**P**	**10 55 21.1**	**-0.4**
VNA1				*e*		pP	10 55 22.3	-2.2
VNA1				*e*			10 55 26.6	
VNA1				*e*			10 55 33.7	
SNAA	**Sanae**	**48.42**	**160**	*e*		**P**	**10 55 24.0**	**0.0**
SNAA	**Sanae**	**48.42**	**160**	*e*		**P**	**10 55 28.3**	**+4.3**
SNAA	**Sanae**	**48.42**	**160**	*e*		**P**	**10 55 35.7**	**+12**
SNAA	**Sanae**	**48.42**	**160**	P		**P**	**10 55 22.9**	**-1.1**
	0.9nm,0.6s,mb4.0,baz=247,slow=5.8,SNR=49							
SNAA	**Sanae**	**48.42**	**160**⇑	*i*P		**P**	**10 55 22.7**	**-1.3**
SNAA				*e*		pP	10 55 24.0	-3.1
SNAA				*e*			10 55 28.3	
SNAA				*e*			10 55 35.7	
MAW	**Mawson**	**57.44**	**186**	P		**P**	**10 56 30.2**	**-0.9**
	2.1nm,0.8s,mb4.2,baz=211,slow=9.1,SNR=4.6							
MAW				LR		LR	11 20 18.6	
	comp=Z,84nm,18.9s,MS3.9,baz=24,slow=35							
LPAZ	**La Paz**	**60.77**	**76**	P		**P**	**10 56 55.4**	**+0.6**
	2.7nm,0.8s,mb4.4,baz=199,slow=2.2,SNR=11							
LPAZ	**La Paz**	**60.77**	**76**	*e*P		**P**	**10 56 54.8**	**0.0**
	6.6nm,1.1s,mb4.7							
LPAZ				P			10 56 55.4	
LPAZ				*e*			10 57 04.9	
STKA	**Stephens Creek**	**63.68**	**252**	P		**P**	**10 57 14.3**	**+0.3**
	2.7nm,1.1s,mb4.2,baz=131,slow=13,SNR=3.0							
STKA				LR		LR	11 17 22.8	
	comp=Z,215nm,20.6s,MS4.3,baz=209,slow=29							
BDFB	**Brasilia**	**72.81**	**93**	LR		LR	11 26 43.7	
	comp=Z,85nm,19.6s,MS4.0,baz=30,slow=33							
WRA	**Warramunga Arr**	**77.06**	**254**	P		**P**	**10 58 34.8**	**-0.6**
	0.9nm,0.9s,mb3.7,baz=146,slow=5.1,SNR=9.1							
PMG	**Port Moresby**	**78.20**	**270**	LR		LR	11 25 43.1	
	comp=Z,108nm,18.6s,MS4.2,baz=182,slow=30							
FITZ	**Fitzroy Crossi**	**83.31**	**248**	LR		LR	11 30 50.5	
	comp=Z,216nm,18.7s,MS4.5,baz=92,slow=32							
TXAR	**Lajitas Array**	**86.91**	**23**	P		**P**	**10 59 28.8**	**+2.3**
	0.5nm,0.8s,mb3.8,baz=216,slow=7.8,SNR=4.3							
PDAR	**Pinedale Array**	**98.85**	**15**	LR		LR	11 36 01.6	
	comp=Z,123nm,19.4s,MS4.4,baz=301,slow=30							
ILAR	**Eielson Array**	**120.03**	**352**	PKP		PKPdf	11 05 31.1	-2.3
	0.8nm,0.9s,baz=215,slow=2.5,SNR=5.4							
SONM	**Songino Array**	**144.90**	**282**	PKP		PKPdf	11 06 18.0	-1.8
	1.5nm,0.8s,baz=136,slow=3.5,SNR=6.4							

*IDC **27** 11:10:42.0±4.5, 12.23N×40.24E,mb3.8/6,mb1 3.9/7, mb1mx3.8/17,mbtmp3.8/7,ML4.1/1,MS3.6/3,Ms1 3.6/3, ms1mx3.3/15,Error ellipse: s-maj=100.0km s-min=17.0km az=29.0*

*NEIC **27** 11:10:43.8±1.9, 12.24N×40.37E,h10km,mb4.5/1, ML4.1(DHMR),Error ellipse: s-maj=37.8km s-min=12.3km az=204.0*

*CSEM **27** 11:10:43.3±0.2, 12.58N×40.34E,h5km,mb4.5/1,Error ellipse: s-maj=6.3km s-min=2.8km az=15.0*

*DHMR **27** 11:10:45.1±0.4, 12.58N×40.47E,h17km±178km,ML4.0*

ISC 27 11:10:41.9±2.9, 12.3N±0.2×40.36E±0.06,h5km±24km,n21, σ0s90/26,mb3.9/7,MS3.6/2,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.56**	**108**	Pn		**Pn**	**11 11 24.9**	**0.0**
	34nm,0.3s,baz=288,slow=9.5,SNR=31							
ATD				Lg			11 12 06.8	
	12nm,0.3s,baz=54,slow=23,SNR=7.4							
TRBA	**At Turbah**	**3.78**	**76**	*i* P		**Pn**	**11 11 43.5**	**+1.4**
TRBA				*i* S		**Sn**	**11 12 28.6**	**+1.1**
TRBA				AML		AML	11 12 45.5	
	comp=Z,865nm,0.7s							
TRBA	**At Turbah**	**3.78**	**76**	*i* P		**Pn**	**11 11 40.9**	**-1.1**
TRBA				*i* S		**Sn**	**11 12 28.0**	**+0.6**
TRBA	**At Turbah**	**3.78**	**76**	*i* P		**Pn**	**11 11 43.5**	**+1.4**
TRBA				*i* S		**Sn**	**11 12 28.6**	**+1.1**
	comp=Z,433nm,0.7s							
UDYN	**Al 'Udayn**	**3.88**	**65**	*i* S		**Sn**	**11 12 30.5**	**+0.5**
UDYN				AML		AML	11 12 54.1	
	comp=N,459nm,0.7s							
DHBB	**Dhamar BB**	**4.51**	**60**	*e*P		**Pn**	**11 11 52.4**	**-0.2**
DHBB				*i* S		**Sn**	**11 12 45.1**	**-1.1**
DHBB	**Dhamar BB**	**4.51**	**60**	*i* P		**Pn**	**11 11 52.4**	**-0.2**
DHBB				*i* S		**Sn**	**11 12 47.4**	**+1.2**
LBOS		**5.01**	**72**	*i* P		**Pn**	**11 11 59.6**	**0.0**
LBOS				*i* S		**Sn**	**11 12 57.8**	**-0.9**
LBOS		**5.01**	**72**	*i* P		**Pn**	**11 11 58.4**	**-1.2**
LBOS				*i* S		**Sn**	**11 12 59.4**	**+0.8**
BDHA	**Al Bayda'**	**5.33**	**72**	*i* S		**Sn**	**11 13 05.3**	**-1.5**
KMBO	**Kilima Mbogo**	**13.72**	**193**	LR		LR	11 19 09.5	
	comp=N,191nm,21.5s,baz=102,slow=37							
MALT	**Malatya**	**25.94**	**357**	*e*P		**P**	**11 16 19.0**	**+2.1**
	comp=N,23nm,1.9s,mb4.4							
BRTR	**Keskin Array B**	**27.93**	**349**	P		**P**	**11 16 34.5**	**-0.6**
	comp=N,0.5nm,0.4s,mb3.5,baz=157,slow=16,SNR=4.0							
BRTR	**Keskin Array B**	**27.93**	**349**	P		**P**	**11 16 34.5**	**-0.7**
GNI	**Garni**	**27.98**	**7**	LR		LR	11 27 56.4	
	comp=N,84nm,18.5s,MS3.4,baz=7.2,slow=37							
AKASG	**Malin Array Be**	**39.34**	**349**	P		**P**	**11 18 13.2**	**-0.6**
	comp=N,0.3nm,0.2s,mb3.6,baz=174,slow=7.5,SNR=4.6							
GERES	**GERESS Array B**	**42.59**	**334**	P		**P**	**11 18 40.3**	**-0.2**
	comp=N,0.4nm,0.2s,mb3.7,baz=135,slow=9.4,SNR=5.7							
BVAR	**Borovoye Array**	**47.15**	**24**	P		**P**	**11 19 16.5**	**-0.6**
	comp=N,1.1nm,0.7s,mb3.9,baz=194,slow=6.1,SNR=5.3							
MKAR	**Makanchi Array**	**49.19**	**37**	P		**P**	**11 19 32.9**	**-0.1**
	comp=N,1.2nm,0.9s,mb3.9,baz=233,slow=6.1,SNR=9.4							
MKAR				LR		LR	11 44 21.6	
	comp=N,98nm,19.2s,MS3.8,baz=33,slow=41							
MKAR	**Makanchi Array**	**49.19**	**37**	P		**P**	**11 19 32.8**	**-0.2**
SONM	**Songino Array**	**64.90**	**43**	P		**P**	**11 21 25.1**	**+0.5**
	comp=N,1.1nm,0.8s,mb3.9,baz=236,slow=7.5,SNR=7.0							

*IDC **27** 11:16:24.5±0.8, 10.51S×111.88E,mb4.3/9,mb1 4.4/9, mb1mx4.3/14,mbtmp4.3/9,MS3.8/3,Ms1 3.8/3, ms1mx3.6/10,Error ellipse: s-maj=28.3km s-min=15.0km az=45.0*

*MOS **27** 11:16:24.2±1.2, 10.53S×111.90E,h10km,mb5.2/4,Error ellipse: s-maj=21.4km s-min=11.7km az=111.3*

*BJI **27** 11:16:25.7, 10.60S×111.90E,h10km,mB5.1,mb4.5*

*NEIC **27** 11:16:25.8±0.4, 10.59S×111.95E,h10km,mb4.8/7,Error ellipse: s-maj=14.3km s-min=6.2km az=53.0*

ISC 27 11:16:24.6±0.4,10.48S±0.07×111.94E±0.09,h10km, (h24km±5.9km:pP-P),n50,σ0s90/55,mb4.6/26,MS3.8/5, 3C-5D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**13.00**	**146**	*e*Pn		**P**	**11 19 27.0**	**-5.2**

PKI	Pulchoki	45.73	326	eP	P	11 24 48.5	+0.5
DMN	Daman	45.93	326	eP	P	11 24 49.2	-0.4
KKN	Kakani	45.97	326	eP	P	11 24 50.4	+0.4
GKN	Gorkha	46.49	326	eP	P	11 24 54.1	0.0
	comp=Z,24nm,0.8s,mb5.2						
KOLN	Koldanda	46.89	325	eP	P	11 24 57.2	0.0
	comp=Z,20nm,0.8s,mb5.1						
LZH	Lanzhou	46.94	351	eP	P	11 25 04.0	+6.6
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.3s						
MJAR	Matsushiro Arr	52.90	27	P	P	11 25 41.9	-1.3
	comp=Z,2.7nm,0.8s,mb4.2,baz=208,slow=6.7,SNR=5.4						
MJAR				LR	LR	11 50 48.6	
	comp=Z,67nm,19.4s,MS3.7,baz=280,slow=39						
ULN	Ulaanbaatar	58.24	356	⇑iP	P	11 26 21.6	+0.1
SONM	Songino Array	58.26	356	P	P	11 26 21.7	0.0
	comp=Z,3.4nm,1.0s,mb4.3,baz=175,slow=8.0,SNR=16						
WMQ	Urumqi	58.36	340	eP	P	11 26 23.0	+0.5
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.6						
MKAR	Makanchi Array	62.87	338	P	P	11 26 52.5	-0.6
	comp=Z,1.1nm,0.5s,mb4.3,baz=151,slow=7.9,SNR=14						
MKAR	Makanchi Array	62.87	338	i P	P	11 26 53.0	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	Ala-Archa	62.97	330	i P	P	11 26 52.8	-1.0
AAK				pmax	pmax		
	comp=Z,7.0nm,2.3s,mb4.4						
AAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
YSS	Yuzh-Sakhalins	63.45	23	⇓iP	P	11 26 56.6	-0.3
YSS				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.0						
MAW	Mawson	65.56	199	P	P	11 27 08.4	-1.9
	comp=Z,1.3nm,0.6s,mb4.1,baz=80,slow=8.3,SNR=3.1						
MAW				LR	LR	11 48 11.8	
	comp=Z,118nm,20.7s,MS4.1,baz=244,slow=29						
KURK	Kurchatov	67.47	338	⇓iP	P	11 27 21.5	-1.3
NVS	Novosibirsk	69.41	343	eP	P	11 27 33.3	-1.4
NVS				pmax	pmax		
	comp=Z,88nm,3.3s						
BVAR	Borovoye Array	72.50	335	P	P	11 27 52.9	-0.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=135,slow=8.4,SNR=9.6						
YAK	Yakutsk	73.60	9	⇓iP	P	11 27 59.5	-0.1
YAK				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.1						
SEY	Seymchan	79.53	18	⇑eP	P	11 28 33.8	+0.9
ARU	Arti	79.88	333	⇓iP	P	11 28 34.6	-0.3
ARU				e		11 31 36.0	
ARU				eS	S	11 38 36.1	-0.7
ARU				eSS	SS	11 43 45.8	-3.4
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
LBTB	Lobatse	82.36	246	P	P	11 28 49.3	+0.7
	comp=Z,2.7nm,0.8s,mb4.3,baz=101,slow=5.2,SNR=3.7						
TIXI	Tiksi	82.72	5	⇑eP	P	11 28 50.3	+0.8
BILL	Bilibino	87.23	18	P	P	11 29 16.0	+3.9
BILL				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.9						
BRTR	Keskin Array B	87.77	311	P	P	11 29 16.0	+0.6
	comp=Z,2.3nm,0.8s,mb4.4,baz=112,slow=6.7,SNR=8.3						
TXAR	Lajitas Array	141.84	55	PKhKP		11 35 54.8	
	comp=Z,0.7nm,0.9s,baz=225,slow=1.8,SNR=5.8						

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*CSEM **27** 11:26:43.3, 40.19N×21.53E, h12^{km}, MD3.5/3, After ATH*

ATH 27 11:26:43.3, 40.19N×21.53E, h12^{km}, MD3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZN	Kozani	0.22	58	ePG	Pg	11 26 47.8	-0.4
KZN				eSG	Sg	11 26 52.0	+0.6
EVR	Evrytania	1.29	170	ePB	Pb	11 27 07.7	+0.7
PLG	Polygyros	1.48	82	ePB	Pb	11 27 10.6	+0.4

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*NEIC **27** 11:31:42.8±0.9, 6.75N×93.14E, h30^{km}, mb4.4/1, Error ellipse: s-maj=20.6km s-min=12.6km az=35.0*

*IDC **27** 11:31:45.0±2.2, 7.67N×93.95E, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, MS3.8/3, Ms1 3.7/3, ms1mx3.4/20, Error ellipse: s-maj=86.2km s-min=26.9km az=58.0*

ISC 27 11:31:40.8±1.0**, 6.7N**±0.1×**93.2E**±0.1**, h30**^{km}**, n13, σ0^{s}98**/12**, mb4.1**/6**, MS3.8**/3**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	7.51	100	ePn	Pn	11 33 31.1	-0.1
KULM				eSn	Sn	11 34 49.5	-6.6
PKI	Pulchoki	22.04	341	eP	P	11 36 36.1	+1.3
DMN	Daman	22.18	341	eP	P	11 36 37.0	+0.8
GKN	Gorkha	22.70	340	eP	P	11 36 40.8	-0.6
	13nm,0.4s,mb4.7						
KKM	Kota Kinabalu	22.85	90	P	P	11 36 46.4	+3.4
KOLN	Koldanda	22.86	338	eP	P	11 36 43.4	+0.4
	77nm,1.5s,mb4.9						
DGAR	Diego Garcia	25.03	236	eP	P	11 37 04.0	-0.1
	2µm,1.8s						
DGAR				e		11 37 17.0	
MKAR	Makanchi Array	41.03	349	P	P	11 39 21.6	-1.5
	1.3nm,0.9s,mb3.6,baz=164,slow=8.8,SNR=7.8						
MKAR				LR	LR	12 00 27.0	
	comp=Z,61nm,18.5s,MS3.5,baz=15,slow=43						
SONM	Songino Array	42.49	13	P	P	11 39 34.2	-0.9
	0.6nm,0.3s,mb3.7,baz=207,slow=9.7,SNR=3.4						
WRA	Warramunga Arr	48.34	124	P	P	11 40 28.1	+6.1
	0.3nm,0.4s,mb3.7,baz=305,slow=8.5,SNR=13						
STKA	Stephens Creek	59.97	133	LR	LR	12 09 46.3	
	comp=Z,78nm,20.1s,MS3.8,baz=206,slow=38						
FINES	FINESS Array B	73.32	332	P	P	11 43 16.5	+5.2
	0.7nm,0.5s,mb3.9,baz=117,slow=6.2,SNR=4.7						
ARCES	ARCESS Array B	76.06	340	LR	LR	12 19 33.8	
	comp=Z,77nm,18.6s,MS4.0,baz=258,slow=38						

MAN 27 12:24:04.8, 9.17N×126.40E, h22^{km}, mb3.7, ML2.4, MS1.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.80	255	eP	Pb	12 24 19.6	-0.3
BUTP				eS	Sb	12 24 29.9	-0.3
SCPH	Surigao	1.09	304	eP	Pb	12 24 24.4	-0.4
SCPH				eS	Sb	12 24 38.4	-0.2
BUKP	Musuan	1.85	226	eP	Pn	12 24 35.6	-0.1
BUKP				eS	Sn	12 24 58.6	+0.1
BESP	Borongan	2.59	339	eP	Pn	12 24 45.9	-0.5

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*IDC **27** 12:49:34.1±5.1, 7.11S×128.74E, h89^{km}±45^{km}, mb4.0/5, mb1 4.2/7, mb1mx3.9/15, mbtmp4.4/7, Error ellipse: s-maj=36.0km s-min=30.6km az=63.0*

*NEIC **27** 12:49:35.3±2.5, 7.22S×128.69E, h90^{km}±26^{km}, mb4.5/5, Error ellipse: s-maj=21.3km s-min=14.7km az=218.0*

ISC 27 12:49:35.8±2.2**, 7.37S**±0.08×**128.60E**±0.10**, h112**^{km}±23^{km}**, n19, σ1^{s}21**/25**, mb4.3**/9**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.51	145	⇓iP	P	12 51 32.3	+22
	42nm,0.1s						
KAKA				eS	S	12 52 40.3	+16
FITZ	Fitzroy Crossi	11.05	195	eP	P	12 52 14.5	+2.9
	6.7nm,0.3s						
FITZ				eS	S	12 54 11.1	-2.4
FITZ	Fitzroy Crossi	11.05	195	P	P	12 52 13.5	+1.8
	5.1nm,0.3s,baz=12,slow=11,SNR=34						
FITZ				S	S	12 54 11.3	-2.1
	14nm,0.3s,baz=347,slow=17,SNR=7.0						
WRAB	Tennant Creek	13.67	157	ePn	P	12 52 45.7	-0.5
	13nm,0.5s						
WRAB				eSn	S	12 55 09.4	-6.1
WRA	Warramunga Arr	13.68	157	P	P	12 52 45.2	-1.0
	1.9nm,0.3s,baz=341,slow=13,SNR=67						
WRA				S	S	12 55 09.9	-5.8
	5.3nm,0.3s,baz=331,slow=22,SNR=16						
WB2	Warramunga Arr	13.68	157	eP	P	12 52 45.3	-0.9
WB2				eS	S	12 55 09.6	-6.2
ASPA	Alice Springs	16.98	163	eP	P	12 53 29.2	+1.4
ASPA				eS	S	12 56 30.6	-0.8
PMG	Port Moresby	18.47	98	P	P	12 53 45.9	+0.4
	1.2nm,0.3s,baz=266,slow=13,SNR=7.1						
KSM	Kuching	20.26	295	P	P	12 54 04.1	-0.4
CTA	Charters Tower	21.27	128	P	P	12 54 14.9	+0.3
	2.6nm,0.6s,mb3.8,baz=293,slow=13,SNR=4.1						
FORT	Forrest	23.29	181	eP	P	12 54 37.9	+3.6
	15nm,0.7s,mb4.4						
KLBR	Kellerberrin	26.14	201	eP	P	12 55 03.0	+1.7
	64nm,1.6s,mb4.8						
STKA	Stephens Creek	27.22	155	eP	P	12 55 12.1	+0.8
	2.3nm,0.9s,mb3.7						
STKA	Stephens Creek	27.22	155	P	P	12 55 11.1	-0.2
	1.3nm,0.5s,mb3.7,baz=346,slow=8.3,SNR=5.7						
NWAO	Narrogin (SRO)	27.53	201	P	P	12 55 14.9	+0.9
	7.2nm,0.3s,mb4.7,baz=41,slow=9.0,SNR=17						
LSA	Lhasa	51.52	317	eP	P	12 58 32.9	+0.5
	6.0nm,0.6s,mb4.8						
KURK	Kurchatov	72.12	329	eP	P	13 00 48.1	-1.7
	4.1nm,0.9s,mb4.3						
MAW	Mawson	74.10	201	P	P	13 01 02.1	+0.9
	3.6nm,0.5s,mb4.3,baz=86,slow=6.2,SNR=16						
BVAR	Borovoye Array	77.64	328	P	P	13 01 19.8	-1.5
	0.4nm,0.3s,mb3.6,baz=108,slow=4.7,SNR=5.2						

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*NEIC **27** 12:50:03.0±1.4, 23.64S×179.93W, h554^{km}±15^{km}, mb4.3/8, Error ellipse: s-maj=24.0km s-min=14.0km az=218.0*

*IDC **27** 12:50:03.9±1.9, 23.69S×179.99W, h562^{km}±24^{km}, mb3.8/7, mb1 4.0/10, mb1mx3.7/16, mbtmp4.8/10, Error ellipse: s-maj=34.0km s-min=14.5km az=3.0*

ISC 27 12:50:02.9±1.2**, 23.63S**±0.09×**180.0W**±0.1**, h562**^{km}±15^{km}**, n26, σ1^{s}20**/25**, mb4.1**/12**, 1C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	5.89	162	P	P	12 51 40.6	-1.2
	72nm,0.3s,baz=53,slow=22,SNR=3.6						
RAO				S	S	12 53 09.1	+8.6
	34nm,0.3s,baz=97,slow=23,SNR=2.6						
RAO	Raoul Island	5.89	162	eP	P	12 51 40.1	-1.8
	642nm,1.3s						
DZM	Mont Dzumac	12.61	274	P	P	12 52 49.2	+1.4
	0.4nm,0.3s,baz=110,slow=18,SNR=3.6						
URZ	Urewera	14.79	189	P	P	12 53 09.9	+0.3
	2.6nm,0.3s,baz=318,slow=2.7,SNR=11						
URZ				S	S	12 55 40.7	+0.6
	0.4nm,0.3s,baz=56,slow=21,SNR=5.0						
CTA	Charters Tower	31.49	270	⇓iP	P	12 55 41.2	+0.5
	13nm,0.6s,mb4.6						
CTA	Charters Tower	31.49	270	P	P	12 55 41.3	+0.6
	13nm,0.5s,mb4.7,baz=96,slow=10,SNR=17						
CTAO	Charters Tower	31.49	270	⇓eP	P	12 55 41.2	+0.5
	16nm,0.6s,mb4.7						
PMG	Port Moresby	34.42	289	P	P	12 56 05.4	0.0
	29nm,0.9s,mb4.8,baz=93,slow=6.3,SNR=5.1						
PMG	Port Moresby	34.42	289	⇓eP	P	12 56 04.9	-0.5
	38nm,0.9s,mb4.9						
WRA	Warramunga Arr	42.44	266	P	P	12 57 09.9	-0.5
	8.8nm,0.7s,mb4.4,baz=100,slow=8.0,SNR=4.7						
WRA				S	S	13 02 51.5	-1.0
	0.8nm,0.8s,baz=101,slow=14,SNR=3.1						
SBA	Scott Base	54.64	183	eP	P	12 58 38.9	-1.7
	5.5nm,0.9s,mb3.8						
VNDA	Vanda	54.65	185	eP	P	12 58 40.8	+0.2
	1.8nm,0.8s,mb3.4						
VNDA				ePcP	PcP	12 59 35.5	+0.7
VNDA				e		13 00 50.0	
RPN	Rapa Nui	63.16	110	P	P	12 59 37.3	-0.7
	38nm,0.7s,mb5.0,baz=60,slow=3.0,SNR=3.1						
QSPA	South Pole Qui	66.45	180	⇑iP	P	13 00 00.2	+2.3
	12nm,0.7s,mb4.5						
MJAR	Matsushiro Arr	71.68	326	P	P	13 00 28.6	-1.2
	1.6nm,0.7s,mb3.6,baz=158,slow=6.4,SNR=4.9						
MAW	Mawson	78.00	200	eP	P	13 01 02.2	-2.0
	8.7nm,1.1s,mb4.0						
CMB	Columbia Colle	83.00	43	P	P	13 01 31.0	+0.5
SNAA	Sanae	84.93	179		P	13 01 40.3	+1.0
SNAA	Sanae	84.93	179	eP	P	13 01 38.0	-1.3
	1.4nm,0.5s,mb3.8						
VNA3	Neumayer Olymp	85.14	177		P	13 01 43.3	+3.0
TXAR	Lajitas Array	90.28	58	P	P	13 02 06.6	+1.2
	1.2nm,0.7s,mb3.8,baz=207,slow=5.6,SNR=9.7						
PDAR	Pinedale Array	92.49	44	P	P	13 02 15.3	+0.1
	0.6nm,0.6s,mb3.8,baz=207,slow=3.3,SNR=4.9						
BVAR	Borovoye Array	120.25	319	PKP	PKPdf	13 07 50.8	+0.8
	0.4nm,0.4s,baz=225,slow=2.1,SNR=3.6						
ARCES	ARCESS Array B	131.63	348	PKP	PKPdf	13 08 11.1	-0.3
	3.3nm,0.9s,baz=135,slow=1.7,SNR=4.4						
FINES	FINESS Array B	138.20	342	PKP	PKPdf	13 08 25.1	+1.4
	0.7nm,0.8s,baz=117,slow=4.3,SNR=4.3						
AKASG	Malin Array Be	144.75	327	PKP	PKPdf	13 08 36.7	+1.3
	0.6nm,0.3s,baz=48,slow=4.3,SNR=4.3						

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*CSEM **27** 13:07:53.5, 28.09S×178.12W, h33^{km}, mb5.8*

*MOS **27** 13:08:10.5±0.9, 28.10S×178.40W, h180^{km}, mb5.2/19, Error ellipse: s-maj=12.7km s-min=10.3km az=92.6*

*IDC **27** 13:08:11.3±0.4, 28.25S×178.24W, h186^{km}±4^{km}, mb4.7/15, mb1 4.8/15, mb1mx4.7/16, mbtmp5.2/15, MS3.7/2, Ms1 3.7/2, ms1mx3.2/18, Error ellipse: s-maj=12.5km s-min=12.1km az=162.0*

*BJI **27** 13:08:12.9, 27.68S×177.60W, h211^{km}, mB5.2, mb5.3*

*NEIC **27** 13:08:13.9±0.1, 28.21S×178.41W, mb5.0/31, Error ellipse: s-maj=8.3km s-min=5.2km az=149.0*

*HRVD **27** 13:08:13.9±0.2, 28.27S×178.00W, h190^{km}±1^{km}, MW5.3/62, Centroid moment Tensor Solution. LP body waves: s50,c83; Mantle waves: s62,c119; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.69±.02; $M_{\theta\theta}$-0.08±.02; $M_{\phi\phi}$0.76±.02; $M_{r\theta}$-0.20±.02; $M_{\theta\phi}$0.24±.03; $M_{\phi r}$-0.58±.02; Best double couple: M_0.98×10^{17} NP1: ϕ_s191°, δ26°, λ-97°. NP2: ϕ_s18°, δ65°, λ-87°. Principal axes: T 1.05, Plg19°, Azm106°; N -.141, Plg3°, Azm197°; P -.909, Plg70°, Azm295°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 13:08:09.9±0.2**, 28.80S**±0.03×**178.23W**±0.05**, h194**^{km}±2.0^{km}**:pP-P, n505, σ1^{s}15**/176**, mb5.0**/56**, 52C-46D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.53	149	P	P	13 08 40.1	+3.4
	5µm,0.3s,baz=39,slow=2.4,SNR=322						
RAO				S	S	13 09 01.7	+4.2
	5µm,0.3s,baz=217,slow=20,SNR=7.4						
MXZ	Matakaoa Point	9.21	197	ePN	P	13 10 20.5	+0.8
MXZ				eSN	S	13 12 05.3	+4.1
PUZ	Puketiti	9.70	197	PN	P	13 10 23.9	-2.2
PUZ				eSN	S	13 12 15.6	+2.9
URZ	Urewera	10.20	201	P	P	13 10 32.2	-0.5
	0.8nm,0.3s,baz=9.2,slow=20,SNR=12						
URZ				S	S	13 12 29.4	+4.9
	27nm,0.3s,baz=250,slow=22,SNR=14						
URZ	Urewera	10.20	201	ePN	P	13 10 31.8	-0.8
URZ				eSN	S	13 12 23.2	-1.2
KNZ	Kokohu	10.75	197	ePN	P	13 10 39.0	-0.6
KNZ				eSN	S	13 12 37.5	+0.4
PXZ	Pawanui	11.91	199	ePN	P	13 10 51.1	-3.4
PXZ				SN	S	13 13 04.6	+0.5
TSZ	Takapari Road	12.21	202	PN	P	13 10 56.6	-1.7
MRZ	Mangatainoka R	12.88	202	PN	P	13 11 04.8	-2.0
MRZ				SN	S	13 13 23.7	-2.6
KIW	Kapiti Island	13.28	203	eSN	S	13 13 35.6	+0.1
TCW	Tory Channel	13.81	204	ePN	P	13 11 16.1	-2.5
TCW				eSN	S	13 13 47.0	-0.6
TUWZ	Tuamarina	14.13	205	ePN	P	13 11 20.8	-1.6
TUWZ				eSN	S	13 13 54.3	-0.4
NNZ	Nelson	14.16	207	ePN	P	13 11 21.5	-1.4
NNZ				eSN	S	13 13 56.7	+1.3
NNZ				SN	S	13 13 57.1	+1.7
THZ	Tophouse	14.81	207	ePN	P	13 11 28.8	-2.1
THZ				SN	S	13 14 12.5	+2.5
KHZ	Kahutara	15.13	204	ePN	P	13 11 32.1	-2.9
KHZ				eSN	S	13 14 18.0	+0.7
DZM	Mont Dzumac	15.37	292	eP	P	13 11 39.7	+1.6
DZM	Mont Dzumac	15.37	292	P	P	13 11 40.2	+2.1
	1.5nm,0.3s,baz=116,slow=15,SNR=14						
NOUC	Port Laguerre	15.47	292	eP	P	13 11 40.7	+1.4
NOUC	Port Laguerre	15.47	292	eP	P	13 11 40.7	+1.4
AFI	Afiamalu	15.98	23	P	P	13 11 33.4	-12
	6.4nm,0.3s,baz=41,slow=11,SNR=6.6						
AFI				S	S	13 14 14.0	-23
	13nm,0.3s,baz=72,slow=20,SNR=4.4						
AFI	Afiamalu	15.98	23	P	P	13 11 33.4	-12
AFI				S	S	13 14 14.0	-23
MQZ	McQueen's Vall	16.58	204	eSN	S	13 14 47.6	-2.1
RPZ	Rata Peaks	17.19	207	P	P	13 11 59.9	+0.3
	1.1nm,0.3s,baz=70,slow=4.2,SNR=6.5						
RPZ				S	S	13 15 05.2	+2.3
	5.5nm,0.3s,baz=145,slow=23,SNR=11						
RPZ	Rata Peaks	17.19	207	eSN	S	13 15 02.1	-0.8
TBI	Tubuai	26.37	85	eLQ		13 18 53.3	
CNB	Canberra Magne	28.14	248	eP	P	13 13 50.2	+4.2
	24nm,1.0s,mb4.8						
CNB				i PCP	pP	13 14 37.9	+13
PPT	Papeete	28.54	73	eS	S	13 18 18.0	-3.9
PPT				eLQ		13 19 52.1	
PPT				eLR	LR	13 20 42.8	
	626nm,30.0s						
PPT	Papeete	28.54	73	LR	LR	13 22 52.0	
	comp=Z,93nm,21.6s,baz=103,slow=31						
TOO	Toolangi	31.44	244	eP	P	13 14 18.2	+3.2
	8.8nm,0.5s,mb4.7						
TOO				i pP	pP	13 15 06.3	+11
TOO				i PCP	PcP	13 17 04.4	+0.9
TOO	Toolangi	31.44	244	eP	P	13 14 18.2	+3.2
TOO				i		13 17 04.4	
TOO				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.7						
CTA	Charters Tower	33.37	277	⇓iP	P	13 14 32.5	+0.7
	comp=Z,27nm,0.6s,mb5.0						
CTA				i PCP	PcP	13 17 09.8	+0.8
CTA	Charters Tower	33.37	277	P	P	13 14 32.5	+0.7
	comp=Z,39nm,0.6s,mb5.1,baz=105,slow=11,SNR=35						
CTA	Charters Tower	33.37	277	⇓iP	P	13 14 32.5	+0.7
CTA				i		13 17 09.8	
CTA				pmax	pmax		
	comp=Z,27nm,0.6s						
STKA	Stephens Creek	34.67	255	⇓iP	P	13 14 44.9	+2.1
	comp=Z,14nm,0.8s,mb4.5						
STKA				i pP	pP	13 15 30.5	+6.9
STKA				i		13 16 25.3	
STKA				i PCP	PcP	13 17 13.6	+1.0
STKA				i SCP		13 20 43.3	
STKA				i PCS		13 20 58.7	
STKA	Stephens Creek	34.67	255	P	P	13 14 44.9	+2.1
	comp=Z,15nm,0.7s,mb4.7,baz=95,slow=8.5,SNR=22						
STKA				PcP	PcP	13 17 14.3	+1.7
	comp=Z,9.5nm,0.8s,baz=90,slow=2.9,SNR=4.7						
STKA				ScP		13 20 42.0	
	comp=Z,7.4nm,0.8s,baz=74,slow=3.6,SNR=7.4						
PMG	Port Moresby	37.76	294	P	P	13 15 08.7	-0.2
	comp=Z,14nm,0.9s,mb4.5,baz=95,slow=12,SNR=3.2						
PMG				PcP	PcP	13 17 22.8	+0.9
	comp=Z,80nm,0.9s,baz=40,slow=5.4,SNR=12						
PMG	Port Moresby	37.76	294	P	P	13 15 08.7	-0.1
PMG						13 17 22.9	
RKT	Rikitea	39.14	92	eS	S	13 21 05.4	+0.2
RKT				eLQ		13 24 41.6	
RKT				eLR	LR	13 25 46.5	
	comp=Z,328nm,34.8s						
ASPA	Alice Springs	43.02	265	⇑iP	P	13 15 52.7	+0.8
ASPA				i PCP	PcP	13 17 39.7	+0.7
WB2	Warramunga Arr	43.85	271	⇓iP	P	13 15 58.4	-0.2
WB2				i		13 17 42.4	
WB2				i PCS		13 21 32.9	
WB2				eS	S	13 22 16.1	+2.0
WRA	Warramunga Arr	43.86	271	P	P	13 15 58.6	-0.1
	comp=Z,14nm,0.3s,mb4.8,baz=105,slow=7.8,SNR=335						
WRA				PcP	PcP	13 17 42.3	+0.4
	comp=Z,32nm,0.8s,baz=111,slow=3.3,SNR=20						
WRA				ScP		13 21 16.6	
	comp=Z,3.2nm,0.8s,baz=106,slow=4.3,SNR=7.4						
WRA				S	S	13 22 15.9	+1.6
	comp=Z,1.8nm,0.9s,baz=108,slow=13,SNR=3.4						
WRA	Warramunga Arr	43.86	271	P	P	13 15 58.6	-0.1
WRA						13 17 42.3	
WRA				S	S	13 22 15.9	+1.6
FORT	Forrest	46.28	254	⇑iP	P	13 16 18.1	+0.4
	comp=Z,66nm,0.6s,mb5.1						
FORT				i PCP	PcP	13 17 50.5	+0.3
KAKA	Kakadu	48.48	279	⇓iP	P	13 16 53.1	+18
	comp=Z,20nm,0.9s,mb4.4						
KAKA				i PCP	PcP	13 18 17.9	+20
FITZ	Fitzroy Crossi	52.18	269	⇓iP	P	13 17 02.5	-0.2
	comp=Z,88nm,0.9s,mb5.2						
FITZ				i PCP	pP	13 17 47.9	+1.6
KLBR	Kellerberrin	54.69	250	eP	P	13 17 20.8	-0.2
	comp=Z,43nm,0.9s,mb5.0						
NWAO	Narrogin (SRO)	54.78	248	P	P	13 17 22.3	+0.6
	comp=Z,20nm,1.0s,mb4.6,baz=135,slow=5.7,SNR=3.7						
MBWA	Marble Bar	56.21	263	eP	P	13 17 31.5	-0.5
	comp=Z,53nm,0.8s,mb5.1						
MBWA				epP	pP	13 18 17.7	+1.5
MBWA				e		13 18 27.4	
CASY	Casey	56.46	207	eP	P	13 17 35.8	+2.6
QSPA	South Pole Qui	61.30	180	eP	P	13 18 11.8	+5.4
	comp=Z,123nm,1.1s,mb5.5						
CBIJ	Chichi jima	67.30	322	P	P	13 18 42.6	-3.3
	comp=Z,202nm,1.0s,mb5.7,baz=302,slow=9.5,SNR=3.7						
MAW	Mawson	73.73	200	⇓iP	P	13 19 27.3	+3.6
	comp=Z,19nm,0.6s,mb4.9						
MAW	Mawson	73.73	200	P	P	13 19 27.3	+3.5
	comp=Z,46nm,1.1s,mb5.0,baz=116,slow=8.0,SNR=49						
MAW				PcP	PcP	13 19 41.6	+3.0
	comp=Z,32nm,0.8s,baz=145,slow=4.4,SNR=7.1						
MAW				LR	LR	13 53 24.1	
	comp=Z,89nm,20.3s,baz=249,slow=36						
MAW	Mawson	73.73	200	eP	P	13 19 27.1	+3.4
	comp=Z,36nm,0.8s,mb5.0						
MAW				e		13 19 41.7	
MAW	Mawson	73.73	200	P	P	13 19 27.3	+3.6
MAW						13 19 41.6	
MAW				pmax	pmax		
	comp=Z,46nm,1.1s						
MAW				pmax	pmax		
	comp=Z,32nm,0.8s						
MAW				MLR	MLR		
	comp=Z,89nm,20.3s						
KSM	Kuching	74.53	280	eP	P	13 19 28.7	-0.8
KSM				epP	pP	13 20 19.1	+3.0
JOW	Kunigami	75.44	312	P	P	13 19 32.4	-2.0
	comp=Z,30nm,0.9s,mb4.9,baz=170,slow=7.4,SNR=4.1						
MJAR	Matsushiro Arr	76.81	325	P	P	13 19 39.4	-2.3
	comp=Z,65nm,0.9s,mb5.3,baz=159,slow=5.5,SNR=111						
MAJO	Matsushiro	76.82	325	eP	P	13 19 39.7	-2.0
	comp=Z,92nm,0.9s,mb5.4						
MAJO				epP	pP	13 20 29.2	+0.6
MAJO	Matsushiro	76.82	325	eP	P	13 19 39.7	-2.1
MAJO				pmax	pmax		
	comp=Z,92nm,0.9s,mb5.4						
MAT	Matsushiro	76.82	325	P	P	13 19 39.4	-2.4
MAT	Matsushiro	76.82	325	eP	P	13 19 39.0	-2.8
	comp=Z,130nm,1.1s,mb5.5						
MAT	Matsushiro	76.82	325	eP	P	13 19 39.0	-2.8
MAT				pmax	pmax		
	comp=Z,130nm,1.1s,mb5.5						
JNU	Nakatsue	78.23	318	P	P	13 19 47.7	-1.9
	comp=Z,65nm,1.0s,mb5.2,baz=100,slow=6.3,SNR=24						
SYO	Syowa Base	78.62	193	⇑P	P	13 19 53.0	+2.0
SNAA	Sanae	79.76	179		P	13 20 06.3	+9.3
SNAA	Sanae	79.76	179	⇓iP	P	13 20 01.0	+4.0
SNAA				P		13 20 06.3	
VNA3	Neumayer Olymp	79.91	176	⇓iP	P	13 20 03.8	+6.0
VNA3	Neumayer Olymp	79.91	176	⇑i	P	13 20 09.1	+11
VNA3	Neumayer Olymp	79.91	176	S	S	13 29 54.1	+11
VNA2	Neumayer--Watz	80.34	177	⇓iP	P	13 20 06.4	+6.3
VNA2	Neumayer--Watz	80.34	177	⇑i	P	13 20 11.7	+12
VNA2	Neumayer--Watz	80.34	177	S	S	13 29 59.0	+11
MAIT	Maitri	80.45	183	eP	P	13 20 05.0	+4.3
NVL	N'lazarevskaya	80.46	183	⇑iP	P	13 20 02.3	+1.5
NVL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
VNA1	Neumayer--Stat	80.58	177	⇓iP	P	13 20 08.1	+6.7
VNA1	Neumayer--Stat	80.58	177		P	13 20 13.6	+12
ASAJ	Asahikawa	80.93	333	P	P	13 20 03.0	-0.7
	comp=Z,103nm,0.9s,mb5.5,baz=219,slow=8.0,SNR=52						
ASAJ	Asahikawa	80.93	333	P	P	13 20 03.1	-0.7
ASAJ				pmax	pmax		
	comp=Z,103nm,0.9s						
SSE	Sheshan	82.91	311	P	P	13 20 14.5	+0.3
SSE				XP	sP	13 21 28.0	+5.7
SSE				PP	PP	13 23 27.5	-1.4
SSE				S	S	13 30 15.0	+0.2
SSE				XS		13 31 44.5	
SSE				AMB	AMB		
	comp=Z,32nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,207nm,4.9s						
SSE				LR	LR		
	comp=N,88nm,20.0s						

SSE LR LR
comp=E,17nm,20.0s
SSE LR LR
comp=Z,59nm,22.9s
SSE Sheshan 82.91 311 P **P** **13 20 14.6 +0.4**
comp=Z,32nm,0.9s,mb5.0
SSE *s*P sP 13 21 27.9 +5.5
SSE PP PP 13 23 27.4 -1.5
SSE S S 13 30 15.0 +0.2
SSE ScS ScS 13 30 27.7 +1.2
SSE sS 13 31 44.5
SSE LR LR
comp=Z,60nm,22.9s
KS15 Wonju Array Si 83.01 320 *e*P **P** **13 20 13.9 -0.8**
YSS Yuzh-Sakhalins 83.22 334⇓ *i*P **P** **13 20 15.2 -0.3**
comp=Z,195nm,0.9s,mb5.8
YSS *e*pP pP 13 21 02.6 -0.6
YSS Yuzh-Sakhalins 83.22 334 *d i*P **P** **13 20 15.1 -0.4**
YSS *i* *PP pP 13 21 01.4 -1.8
YSS pmax pmax
comp=Z,294nm,1.3s,mb5.8
PLCA Paso Flores 83.75 133 P **P** **13 20 22.9 +4.6**
comp=Z,2.9nm,0.6s,mb4.2,baz=240,slow=5.4,SNR=12
PLCA pP pP 13 21 07.7 +1.7
comp=Z,6.8nm,1.1s,baz=224,slow=4.9,SNR=5.0
PET Petropavlovsk 83.93 346 *i* Pr 13 20 16.7
SAO San Andreas Ge 84.23 42 *e*P **P** **13 20 20.7 -0.1**
comp=Z,14nm,1.0s,mb4.7
SAO *e* pP 13 21 05.6 -3.0
SAO San Andreas Ge 84.23 42 *e*P **P** **13 20 20.7 -0.1**
SAO *e* pP 13 21 05.6 -3.0
SAO pmax pmax
comp=Z,14nm,1.0s,mb4.7
PTRM Twissleman Ran 84.23 44 *e*P **P** **13 20 21.1 +0.3**
LRV Little Rabbit 84.26 43 *e*P **P** **13 20 20.9 0.0**
NSHM Saint Helena R 84.75 41 *e*P **P** **13 20 23.3 0.0**
HOPS Hopland 84.81 40 *e*P **P** **13 20 23.9 +0.2**
comp=Z,47nm,1.2s,mb5.1
HOPS *e*pP pP 13 21 14.5 +3.1
VLA Vladivostok 84.97 326⇑ *i*P **P** **13 20 23.5 -0.8**
VLA Vladivostok 84.97 326 *c i*P **P** **13 20 23.8 -0.5**
VLA *e* pP 13 21 12.5 +0.4
VLA pmax pmax
comp=Z,67nm,0.8s,mb5.4
KCPM Cahto Peak 85.01 39 *e*P **P** **13 20 24.9 +0.3**
KCPM *e*pP pP 13 21 20.6 +8.2
NJ2 Nanjing 85.05 311 *e*P **P** **13 20 24.8 -0.2**
NJ2 AP pP 13 21 14.8 +2.0
NJ2 PP PP 13 23 47.0 +1.0
NJ2 PPP PPP 13 25 40.0 -3.3
NJ2 SKS SKS 13 30 23.0 -4.5
NJ2 S S 13 30 35.0 -1.0
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,260nm,4.2s
NJ2 LR LR
comp=N,210nm,23.6s
NJ2 LR LR
comp=E,240nm,21.8s
NJ2 LR LR
comp=Z,190nm,17.1s
KIPM Iron Peak 85.15 39 *e*P **P** **13 20 25.4 +0.1**
KIPM *e* pP 13 21 13.7 +0.6
PFO Pinyon Flat Ob 85.28 48 *e*P **P** **13 20 26.6 +0.5**
comp=Z,14nm,1.0s,mb4.6
PFO *e* pP 13 21 12.4 -1.5
PFO Pinyon Flat Ob 85.28 48 *e*P **P** **13 20 26.6 +0.5**
PFO *e* pP 13 21 12.4 -1.5
PFO pmax pmax
comp=Z,14nm,1.0s,mb4.7
ISA Isabella 85.31 45 *i*P **P** **13 20 26.3 +0.2**
comp=Z,2.1nm,0.3s,mb4.3
ISA *e* pP 13 21 12.7 -1.3
ISA Isabella 85.31 45 *i*P **P** **13 20 26.3 +0.1**
ISA *e* pP 13 21 12.7 -1.3
ISA pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
CMB Columbia Colle 85.71 42⇓ *i*P **P** **13 20 27.5 -0.6**
comp=Z,25nm,0.9s,mb5.0
CMB *e* pP 13 21 14.2 -1.7
CMB Columbia Colle 85.71 42⇓ *i*P **P** **13 20 27.5 -0.6**
CMB *e* pP 13 21 14.3 -1.7
CMB pmax pmax
comp=Z,25nm,0.9s,mb4.9
OHCM Honcut 85.95 41 *e*P **P** **13 20 28.9 -0.4**
GLA Glamis 85.99 49 *e*P **P** **13 20 30.3 +0.7**
WDC Whiskeytown Da 86.20 39 *e*P **P** **13 20 30.0 -0.4**
comp=Z,30nm,1.1s,mb4.9
WDC *e* pP 13 21 16.6 -1.8
WDC Whiskeytown Da 86.20 39 *e*P **P** **13 20 30.0 -0.4**
WDC *e* pP 13 21 16.6 -1.7
WDC pmax pmax
comp=Z,30nm,1.1s,mb4.9
MTUM Tungsten Hills 86.35 44 *e*P **P** **13 20 31.8 +0.6**
MTUM *e* pP 13 21 16.7 -2.5
YBH Yreka Blue Hor 86.90 38 *e*P **P** **13 20 33.8 +0.1**
comp=Z,5.7nm,0.9s,mb4.3
YBH Yreka Blue Hor 86.90 38 *e*P **P** **13 20 33.8 +0.1**
YBH pmax pmax
comp=Z,6.0nm,0.9s
LDFC Landfair 87.06 47⇓ *i*P **P** **13 20 35.6 +1.0**
MDJ Mudanjiang 87.19 326 P **P** **13 20 35.0 -0.1**
MDJ AP pP 13 21 24.0 +0.9
MDJ XP sP 13 21 45.8 +2.2
MDJ PP PP 13 23 59.5 -4.2
MDJ S S 13 30 56.3 +0.3
MDJ XS 13 32 19.8
MDJ AMB AMB
comp=Z,104nm,1.0s,mb5.5
MDJ AMB AMB
comp=Z,135nm,4.0s
MDJ LR LR
comp=N,62nm,35.1s
MDJ LR LR
comp=E,98nm,23.4s
MDJ LR LR
comp=Z,77nm,23.4s
WHN Wuhan 87.22 307⇑ P **P** **13 20 36.0 +0.4**
MNV Mina 87.30 43 *e*P **P** **13 20 35.5 -0.2**
comp=Z,14nm,1.0s,mb4.7
MNV *e* pP 13 21 21.7 -2.0
MNV Mina 87.30 43 *e*P **P** **13 20 35.5 -0.2**
MNV *e* pP 13 21 21.7 -2.0
MNV pmax pmax
comp=Z,14nm,1.0s,mb4.7
NEN Nelson 87.59 47 *i*P **P** **13 20 37.5 +0.4**
NEN *e* pP 13 21 23.7 -1.5
DL2 Dalian 87.64 317 P **P** **13 20 37.5 +0.2**
DL2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
TUC Tucson 88.27 51 *e*P **P** **13 20 41.2 +0.8**
comp=Z,51nm,1.6s,mb5.1
TUC *e* pP 13 21 27.7 -0.9
TUC Tucson 88.27 51 *e*P **P** **13 20 41.2 +0.7**
TUC *e* pP 13 21 27.7 -0.9
TUC pmax pmax
comp=Z,51nm,1.6s,mb5.1
MOD Modoc 88.34 39 *e*P **P** **13 20 40.1 -0.4**
comp=Z,6.1nm,0.8s,mb4.5
MPOR Mary's Peak 88.38 36 P **P** **13 20 41.3 +0.7**
SNY Shenyang 88.43 321⇓ P **P** **13 20 40.8 -0.2**
SNY AMB AMB
comp=Z,70nm,1.0s,mb5.5
SNY AMB AMB
comp=Z,140nm,8.1s
TIA Tai'an 88.73 313⇓ P **P** **13 20 42.8 +0.3**
TIA AMB AMB
comp=Z,158nm,1.2s,mb5.7
CN2 Changchun 88.75 323 *e*P **P** **13 20 42.0 -0.4**
CN2 *e*AP pP 13 21 32.0 +1.4
CN2 *e*S S 13 31 08.0 -2.5
CN2 AMB AMB
comp=Z,140nm,1.1s,mb5.7
CN2 AMB AMB
comp=Z,470nm,3.0s
KLR Kul'dur 89.55 330 *c i*P **P** **13 20 42.5 -3.6**
KLR *e* pP 13 21 31.7 -2.6
KLR pmax pmax
comp=Z,1300µm,1.6s
ARUT Antelope Range 89.78 46 P **P** **13 20 48.1 +0.7**
TDH Tom, Dick, Har 89.83 36 P **P** **13 20 47.4 -0.1**
VIPM Ingram Point 89.91 37 P **P** **13 20 48.2 +0.3**
OOW Octopus West 90.33 33 P **P** **13 20 50.7 +1.0**

TDL Tradedollar La 90.33 35 P **P** **13 20 50.3 +0.5**
GYA Guiyang 90.58 300 P **P** **13 20 56.3 +4.9**
GYA AP pP 13 21 47.3 +7.6
GYA XP sP 13 22 08.5 +8.2
GYA S S 13 31 34.8 +7.3
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,100nm,4.9s
GYA LR LR
comp=N,210nm,18.9s
GYA LR LR
comp=E,240nm,18.6s
GYA LR LR
comp=Z,270nm,19.2s
OSD Olympics--Snow 90.62 33 P **P** **13 20 51.8 +0.7**
MSU Marysvale 91.02 46 *e*P **P** **13 20 53.9 +0.8**
TXAR Lajitas Array 91.70 57 P **P** **13 20 56.9 +0.3**
comp=Z,0.6nm,0.3s,mb4.0,baz=225,slow=5.3,SNR=6.4
TXAR pP pP 13 21 43.4 -1.5
comp=Z,1.1nm,0.5s,baz=236,slow=4.5,SNR=3.4
MA2 Magadan 91.70 345 *i* Pr 13 20 53.9
TMUT Trail Mountain 92.09 46 *e*P **P** **13 20 58.8 +0.6**
TMUT *e* pP 13 21 46.7 +0.3
SRU San Rafael 92.41 46 *e*P **P** **13 20 59.4 -0.2**
comp=Z,14nm,1.1s,mb4.8
SRU *e* pP 13 21 47.9 -0.1
SRU San Rafael 92.41 46 *e*P **P** **13 20 59.4 -0.2**
SRU *e* pP 13 21 47.9 -0.1
SRU pmax pmax
comp=Z,14nm,1.1s,mb4.8
SPUT South Promonto 92.52 43 *e*P **P** **13 20 59.9 -0.2**
HVU Hansel Valley 92.60 43 *e*P **P** **13 21 00.7 +0.2**
comp=Z,30nm,1.3s,mb5.2
HVU *e* pP 13 21 46.7 -2.1
HVU Hansel Valley 92.60 43 *e*P **P** **13 21 00.7 +0.3**
HVU *e* pP 13 21 46.7 -2.1
HVU pmax pmax
comp=Z,30nm,1.3s,mb5.2
ANMO Albuquerque 92.74 51⇑ *e*P **P** **13 21 01.6 +0.4**
KMI Kunming 92.92 297 P **P** **13 21 03.8 +1.5**
KMI AMB AMB
comp=Z,18nm,1.7s,mb4.8
KMI Kunming 92.92 297 P **P** **13 21 03.7 +1.4**
comp=Z,18nm,1.7s,mb4.8
KMI pmax pmax
comp=Z,18nm,1.7s,mb4.8
KMI Kunming 92.92 297 P **P** **13 21 03.7 +1.4**
KMI pmax pmax
comp=Z,18nm,1.7s,mb4.8
XAN Xi'an 92.98 307 P **P** **13 21 03.0 +0.6**
XAN AMB AMB
comp=Z,32nm,1.3s,mb5.2
TCUT Toone Canyon 93.04 44 *e*P **P** **13 21 02.5 +0.1**
TCUT *e* pP 13 21 50.9 +0.1
PMR Palmer 93.10 13 P **P** **13 21 00.7 -1.5**
comp=Z,11nm,1.1s,mb4.8
PMR Palmer 93.10 13 P **P** **13 21 00.7 -1.5**
PMR pmax pmax
comp=Z,11nm,1.1s,mb4.8
PV01 Paradox Valley 93.10 48 *e*P **P** **13 21 02.9 +0.1**
SEY Seymchan 94.38 347 *i* Pr 13 21 06.5
SEY Seymchan 94.38 347 *e*P **P** **13 21 06.7 -1.2**
SEY *e* pP 13 21 50.3 -6.0
SEY *e* 13 33 14.0
SEY pmax pmax
comp=E,5.0nm,0.8s
SEY pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MCMT McKenzie Canyo 94.39 40 *e*P **P** **13 21 08.8 +0.4**
REDW Red Top Meadow 94.69 42 *e*P **P** **13 21 10.1 +0.2**
comp=Z,22nm,1.3s,mb5.1
REDW *e* pP 13 21 57.5 -0.7
SNOW Snow King Moun 94.80 42 *e*P **P** **13 21 10.8 +0.4**
comp=Z,18nm,0.9s,mb5.2
LVC Limon Verde 94.88 119 PKKPbc 13 38 07.0
comp=Z,4.4nm,0.8s,baz=18,slow=4.1,SNR=6.1
HHC Hu-ho-hao-te 94.98 314⇑ P **P** **13 21 12.3 +1.0**
HHC AP pP 13 22 03.8 +4.2
HHC XP sP 13 22 26.3 +6.2
HHC PP PP 13 25 05.5 +0.8
HHC SKS SKS 13 31 26.3 -0.4
HHC S S 13 32 03.0 -2.2
HHC XS 13 33 33.5
HHC PS PS 13 33 52.0 -0.9
HHC SS SS 13 38 35.5 -3.6
HHC AMB AMB
comp=Z,25nm,0.9s,mb5.3
HHC AMB AMB
comp=Z,177nm,5.5s
HHC LR LR
comp=N,109nm,15.5s
HHC LR LR
comp=E,114nm,15.5s
HHC LR LR
comp=Z,132nm,19.0s
PDAR Pinedale Array 95.12 44 P **P** **13 21 11.1 -0.8**
comp=Z,3.5nm,0.9s,mb4.5,baz=233,slow=2.9,SNR=22
PDAR pP pP 13 21 59.1 -1.1
comp=Z,2.1nm,1.0s,baz=225,slow=2.1,SNR=4.1
PDAR PKKPbc 13 38 08.2
comp=Z,2.8nm,0.7s,baz=85,slow=4.3,SNR=19
PDAR PKPPKP 13 46 22.1
comp=Z,1.1nm,1.0s,baz=90,slow=4.4,SNR=5.1
QLMT Earthquake Lak 95.20 41 *e*P **P** **13 21 13.4 +1.3**
QLMT *e* pP 13 22 01.1 +0.5
MENT Mentasta 95.47 15 *e*P **P** **13 21 12.5 -0.5**
ILAR Eielson Array 96.42 13 P **P** **13 21 15.2 -2.0**
comp=Z,2.3nm,0.7s,mb4.5,baz=222,slow=4.3,SNR=25
ILAR PKiKP 13 25 53.6
comp=Z,0.8nm,0.7s,baz=314,slow=3.6,SNR=8.8
ILAR PKKPbc 13 38 04.3
comp=Z,0.5nm,0.6s,baz=31,slow=2.9,SNR=6.5
BILL Bilibino 97.23 354⇑ *e*P **P** **13 21 19.5 -1.4**
BILL pmax pmax
comp=Z,22nm,1.9s,mb5.1
LZH Lanzhou 97.60 307 *e*P **P** **13 21 24.0 +0.7**
LZH AP pP 13 22 16.0 +4.3
LZH XP sP 13 22 37.0 +4.9
LZH PP PP 13 25 26.0 +0.3
LZH *e*S S 13 32 27.0 -0.6
LZH XS 13 33 56.0
LZH *e*SS SS 13 39 14.0 -1.7
LZH AMB AMB
comp=Z,36nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,130nm,4.0s
LZH Lanzhou 97.60 307 *e*P **P** **13 21 24.0 +0.7**
comp=Z,36nm,1.5s,mb5.5
LZH pP pP 13 22 16.0 +4.3
LZH sP sP 13 22 37.0 +4.9
LZH PP PP 13 25 26.0 +0.3
LZH *e*S S 13 32 27.0 -0.6
LZH sS 13 33 56.0
LZH *e*SS SS 13 39 14.0 -1.7
LZH Lanzhou 97.60 307 *e*P **P** **13 21 24.0 +0.7**
LZH 13 25 26.0
LZH *e*S S 13 32 27.0 -0.6
LZH *SS 13 33 56.0
LZH *e*SS SS 13 39 14.0 -1.7
LZH pmax pmax
comp=Z,36nm,1.5s,mb5.5
LPAZ La Paz 98.98 114 pP pP 13 22 19.9 +1.5
comp=Z,0.7nm,0.4s,baz=288,slow=6.4,SNR=2.7
LPAZ PKKPbc 13 37 56.2
comp=Z,1.1nm,0.6s,baz=32,slow=6.7,SNR=5.9
YAK Yakutsk 99.69 338 *e*P **P** **13 21 30.5 -1.7**
CIT Chita 100.11 324 *e*P P 13 21 35.0 +0.7
SONM Songino Array 101.82 318 P P 13 21 41.1 -0.9
comp=Z,3.0nm,0.9s,baz=153,slow=3.3,SNR=3.6
SONM PKKPbc 13 37 49.9
comp=Z,0.3nm,0.4s,baz=305,slow=3.2,SNR=4.1
YKA Yellowknife Ar 104.09 25 PKKPbc 13 37 42.3
comp=Z,5.2nm,0.8s,baz=41,slow=2.7,SNR=8.9
ZAK Zakamensk 104.83 320 *e*P Pdif 13 21 52.7 -2.5
ZAK pmax pmax
comp=Z,2.0nm,1.2s
PLAL Pickwick Lake 105.99 59 *e*PKPdf 13 26 11.3
PKI Pulchoki 107.88 292 *e*P 13 26 16.1
KKN Kakani 108.07 292 *e*P 13 26 16.5
comp=Z,18nm,0.9s
DMN Daman 108.14 292 *e*P 13 26 16.4
comp=Z,4.1nm,0.3s
GKN Gorkha 108.67 292 *e*P 13 26 16.9
KOLN Koldanda 109.43 292 *e*P 13 26 18.4
comp=Z,27nm,1.2s

WMQ Urumqi 112.07 309 *e*PKP PKPdf 13 26 23.0 +1.3
BDFB Brasilia 114.68 126 PKKPbc 13 37 06.5
comp=Z,4.2nm,0.7s,baz=130,slow=5.7,SNR=5.3
SUR Sutherland 116.52 198 PKPdf PKPdf 13 26 34.6 +3.9
MKAR Makanchi Array 116.58 311 PKP PKPdf 13 26 31.2 +0.7
comp=Z,13nm,0.8s,baz=70,slow=2.3,SNR=70
MKAR PKKPbc 13 37 02.3
comp=Z,0.7nm,0.7s,baz=270,slow=3.6,SNR=4.6
MKAR Makanchi Array 116.58 311 *i* PKIKP PKPdf 13 26 31.2 +0.7
ZAL Zalesovo 116.71 319 PKP PKPdf 13 26 30.8 +0.2
comp=Z,2.8nm,0.7s,baz=321,slow=2.9,SNR=17
NVS Novosibirsk 117.79 320 *e*PKIKP PKPdf 13 26 32.6 0.0
NVS pmax pmax
comp=Z,26nm,1.1s
KSH Kashi 119.24 301 *e*PKP PKPdf 13 26 38.3 +2.5
ULHL Ulahol 119.70 305 P PKPdf 13 26 38.7 +2.1
SNR=20
KURK Kurchatov 119.79 314 *e*PKPdf PKPdf 13 26 37.1 +0.5
KURK *e* 13 27 56.5
TKM2 Tokmak 2 120.31 305 P PKPdf 13 26 39.2 +1.4
SNR=16
KZA Kyzart 120.38 304 P PKPdf 13 26 40.6 +2.6
SNR=7.8
KBK Karagaybulak 120.72 305 P PKPdf 13 26 40.3 +1.7
SNR=7.8
CHMS Chumysh 120.94 305 P PKPdf 13 26 40.2 +1.2
SNR=15
UCH Uchtor 120.95 304 P PKPdf 13 26 41.5 +2.4
SNR=39
AAK Ala-Archa 121.05 305 P PKPdf 13 26 41.0 +1.7
SNR=9.9
AAK Ala-Archa 121.05 305 *e*PKIKP PKPdf 13 26 39.9 +0.6
USP Ospenovka 121.17 305 P PKPdf 13 26 40.8 +1.2
SNR=17
AML Almayashu 121.52 304 P PKPdf 13 26 42.4 +2.2
SNR=18
EKS2 Erkin-Say 121.57 305 P PKPdf 13 26 42.1 +1.8
SNR=16
LBTB Lobatse 121.80 206 *e*PKPdf PKPdf 13 26 45.0 +3.8
FRB Frobisher Bay 124.11 30 PKP PKPdf 13 26 44.8 +0.1
comp=Z,16nm,0.8s,baz=353,slow=1.7,SNR=8.8
BVAR Borovoye Array 125.11 317 PKP PKPdf 13 26 47.6 +0.8
comp=Z,9.4nm,0.4s,baz=90,slow=3.0,SNR=91
BVAR pPKP 13 27 37.5
comp=Z,5.1nm,0.9s,baz=90,slow=1.5,SNR=2.2
BRVK Borovoye 125.18 317 *e*PKPdf PKPdf 13 26 48.0 +1.1
SCHQ Schefferville 125.18 41 PKP PKPdf 13 26 46.9 0.0
comp=Z,11nm,0.9s,baz=259,slow=2.9,SNR=9.9
LSZ Lusaka 129.28 214 *e*PKPdf PKPdf 13 26 59.7 +3.9
SMDO Samad 129.45 277 P PKPdf 13 26 58.3 +2.3
SNR=19
BIDO Bidbid 129.53 278⇓ P PKPdf 13 26 58.3 +2.2
SNR=7.8
TSUM Tsumeb 129.89 200 *e*PKPdf PKPdf 13 27 00.8 +3.9
BSY Bisya 130.09 276 P PKPdf 13 26 58.9 +1.7
SNR=18
HOQ Hoqain 130.26 278⇑ P PKPdf 13 26 59.2 +1.7
SNR=7.4
RBK Rabkut 130.83 269⇑ P PKPdf 13 27 01.9 +3.2
SNR=9.4
ARQ Araqi 130.87 277⇓ P PKPdf 13 27 00.3 +1.7
SNR=7.0
WHFO Wadi Hawf 131.38 269⇑ P PKPdf 13 27 02.9 +3.1
SNR=13
ABTO Aybut 131.57 268⇓ P PKPdf 13 27 03.4 +3.3
SNR=15
ASHO Ashiyiah 131.69 278⇓ P PKPdf 13 27 02.2 +2.0
SNR=7.4
ARU Arti 131.72 321 *e*PKPdf PKPdf 13 27 00.5 +1.1
ARU Arti 131.72 321 *i* PKIKP PKPdf 13 27 00.2 +0.8
ARU *e* 13 29 19.6
ARU *e*SS SS 13 46 36.1 -6.1
BANOM Banah 131.84 280⇓ P PKPdf 13 27 02.6 +2.2
KMBO Kilima Mbogo 134.84 235 PKP PKPdf 13 27 10.2 +3.9
comp=Z,20nm,0.9s,baz=360,slow=2.3,SNR=18
KEV Kevo 136.52 348 *e*pkp PKPdf 13 27 01.7 -6.2
ARCES ARCESS Array B 136.99 348 PKhKP 13 26 58.9
comp=Z,1.4nm,0.5s,baz=36,slow=1.4,SNR=9.7
ARCES PKP PKPdf 13 27 09.1 +0.4
comp=Z,9.5nm,0.5s,baz=38,slow=1.4,SNR=32
ARCES ARCESS Array B 136.99 348 PKP PKPdf 13 27 09.1 +0.4
HASS Wahat al Ahsa' 137.37 277 P PKPdf 13 27 13.2 +2.6
RYDS Riyadh 139.76 274 P PKPdf 13 27 18.7 +3.6
RDF Al-Radifah 140.10 282 *e*P PKPdf 13 27 11.4 -4.2
RDF AMb AMB 13 27 21.6
comp=Z,275nm,0.7s
KAMS Al Khamasin 140.32 268 P PKPdf 13 27 19.0 +2.8
NAY Al-Naaiem 140.43 282 *e*P PKPdf 13 27 11.8 -4.3
NAY AMb AMB 13 27 19.8
comp=Z,56nm,1.2s
MIB Mutribah 140.44 283 *e*P PKPdf 13 27 11.9 -4.2
MIB AMb AMB 13 27 22.2
comp=Z,140nm,0.8s
JOF Joensuu 140.86 339 *e*pkp PKPdf 13 27 10.2 -5.6
comp=Z,2.9nm,0.5s
JOF Joensuu 140.86 339 *e*PKHKP 13 27 10.2
JOF pmax pmax
comp=Z,3.0nm,0.5s
MZLS Mizel 140.97 273 P PKPdf 13 27 19.9 +2.6
MOS Moscow 142.90 327 *e*PKHKP 13 27 15.8
KAF Kangasniemi 142.98 341 *e*pkp PKPdf 13 27 16.1 -3.4
comp=Z,1.7nm,0.4s,baz=52,slow=2.2
KAF Kangasniemi 142.98 341 *e*PKHKP 13 27 16.1
KAF pmax pmax
comp=Z,2.0nm,0.4s
TI2 Plekhanov 142.98 302⇑ *i*PKHKP 13 27 17.2
GNI Garni 143.13 299 *e*P PKPbc 13 27 18.7 -0.1
GNI Garni 143.13 299 PKP PKPdf 13 27 20.8 +0.3
comp=Z,12nm,0.7s,baz=350,slow=8.8,SNR=7.0
GNI Garni 143.13 299 *e*PKPdf PKPdf 13 27 20.5 +0.1
GNI Garni 143.13 299 PKIKP PKPdf 13 27 20.8 +0.4
GNI pmax pmax
comp=Z,12nm,0.7s
BHD Baghdad 143.40 288 *ex* x 13 27 17.0
FINES FINESS Array B 143.58 341 PKhKP 13 27 17.6
comp=Z,14nm,0.7s,baz=56,slow=4.2,SNR=46
OBN Obninsk 143.74 326 *i* Pr PKPdf 13 27 19.1 -1.9
OBN Obninsk 143.74 326 *d i*PKHKP 13 27 19.2
OBN pmax pmax
comp=Z,103nm,1.3s
CLDR Caldiran 143.84 298 *e*P PKPbc 13 27 21.5 +0.6
HKR Hakkari 144.04 295 P PKPbc 13 27 23.4 +1.9
HAKT HAKKARI 144.07 295 *i* P PKPbc 13 27 19.9 -1.7
KIV Kislovodsk 144.14 306 *e*PKPdf PKPdf 13 27 22.4 +0.3
KIV Kislovodsk 144.14 306⇓ *i*PKIKP PKPdf 13 27 22.2 +0.1
KIV *e*SS SS 13 49 02.4 -6.2
KIV *e*SSS SSS 13 54 27.1 -8.7
KIV pmax pmax
comp=N,69nm,1.2s
KIV pmax pmax
comp=Z,87nm,1.2s
KIV pmax pmax
comp=E,22nm,0.8s
DIGO Kars 144.15 300 *i* P PKPbc 13 27 18.0 -3.8
VORD Divnogorie 144.24 319 *e*PKIKP PKPdf 13 27 20.9 -1.1
VORD pmax pmax
comp=Z,80nm,1.3s
VORD pmax pmax
comp=E,60nm,0.9s
TVAN Van 144.27 297 *i* P PKPbc 13 27 19.9 -2.2
VANB Van 144.28 297 *e*P PKPbc 13 27 22.9 +0.7
MSL Mosul 144.58 293 *ex* x 13 27 44.5
HILS Ha'il 144.78 277 P PKPdf 13 27 26.4 +2.7
ARTV Artvin 145.15 302 *i* P PKPdf 13 27 21.9 -2.1
VSU Vasula 145.68 337 *d i*PKIKP PKPdf 13 27 25.4 +1.1
ERZM Erzurum 145.74 299 *i* P PKPdf 13 27 23.8 -1.2
EZM Erzurum 145.74 299 *e*P PKPdf 13 27 29.1 +4.1
BTMT Batman 145.79 296 P PKPdf 13 27 28.7 +3.5
BNGL BINGOL 146.00 298 *i* P PKPdf 13 27 24.7 -0.7
SOC Sochi 146.32 306 *e*PKIKP PKPdf 13 27 26.7 +0.9
SOC pmax pmax
comp=Z,130nm,0.6s
SOC pmax pmax
comp=N,18nm,0.9s
SOC pmax pmax
comp=E,19nm,1.0s
MARD Mardin 146.41 295 *i* P PKPdf 13 27 25.7 -0.5
BINT Bingol 146.52 298 P PKPdf 13 27 31.3 +5.0
KBRS Khaybar 146.63 274 P PKPdf 13 27 29.8 +3.0
MACK Trabzon 146.80 302 *i* P PKPdf 13 27 26.6 -0.1
DIY Diyarbakir 146.81 296 *e*P PKPdf 13 27 31.8 +4.9
GUMT Gumushane 147.09 301 P PKPdf 13 27 33.0 +5.8
NB2 NORSAR Subarra147.14 352 PKPabc PKPdf 13 27 29.3 +2.7
comp=E,186nm,1.4s,baz=12,slow=2.9
NB2 NORSAR Subarra147.14 352 PKPa 13 27 29.3

baz=12,slow=2.9
NOA NORSAR Array B 147.14 352 PKP PKPdf 13 27 27.5 +0.9
comp=E,8.0nm,0.6s,baz=142,slow=4.4,SNR=49
NOA PKPbc PKPdf 13 27 29.6 +3.0
comp=E,22nm,0.6s,baz=15,slow=4.4,SNR=50
KELT Kelkit 147.31 300 *i* P PKPdf 13 27 28.6 +1.0
PTK Pertek 147.37 298 P PKPdf 13 27 32.8 +5.1
NA001 NORSAR Array S 147.38 352 *e*PKPdf PKPdf 13 27 30.6 +3.6
YNBS Yanbu' al Bahr 147.38 271 P PKPdf 13 27 31.5 +3.4
ANN Anapa 147.59 309 ⇓ *i* PKP2 PKPab 13 27 32.3 -3.5
ANN pmax pmax
comp=Z,468nm,1.0s
ANN pmax pmax
comp=N,97nm,1.1s
ANN pmax pmax
comp=E,63nm,1.1s
HFS Hagfors 147.64 349 PKP PKPdf 13 27 28.3 +0.9
comp=E,53nm,0.7s,baz=162,slow=42,SNR=104
HFS PKPbc PKPdf 13 27 30.5 +3.0
comp=E,47nm,0.7s,baz=139,slow=14,SNR=102
ELZG Elazig 147.73 297 *i* P PKPdf 13 27 32.4 +4.1
IZAR Zarasai 147.88 334 *e*P PKPdf 13 27 32.4 +4.4
IZAR AMb AMB 13 27 34.4
comp=Z,69nm,1.1s
GRSN GIRESUNGRSN 147.93 302 *i* P PKPdf 13 27 30.5 +1.9
URFA Urfa 147.96 295 P PKPdf 13 27 33.9 +5.2
IDID Didziasalis 148.00 333 *e*P PKPdf 13 27 32.6 +4.4
IDID AMb AMB 13 27 34.6
comp=Z,42nm,1.2s
ISAL Salakas 148.06 334 *e*P PKPdf 13 27 32.7 +4.4
ISAL AMb AMB 13 27 34.8
comp=Z,42nm,1.1s
MNK Minsk 148.12 331 *e*PKP2 PKPab 13 27 33.0 -4.6
MALT Malatya 148.19 297 P PKPdf 13 27 34.8 +5.8
MALT Malatya 148.19 297 *e*PKIKP PKPdf 13 27 32.4 +3.3
MALT *e* 13 27 35.7
MYA Malataya 148.19 297 P PKPdf 13 27 35.9 +6.8
ATAB Bozova 148.37 295 *i* P PKPdf 13 27 34.3 +4.9
KONO Kongsberg 148.69 352 *i* PKHKP 13 27 29.3
QURS Qurayyt al Mil 149.21 284 P PKPdf 13 27 34.2 +3.3
GAZ Gaziantep 149.26 295 *e*P PKPdf 13 27 38.6 +7.7
TOKT Tokat 149.33 301 P PKPdf 13 27 37.8 +7.0
TBKS Tabuk 149.50 277 P PKPdf 13 27 34.6 +3.1
ASF Jabal al Asfar 149.62 285 PKP PKPdf 13 27 33.4 +1.9
comp=Z,6.9nm,0.3s,baz=130,slow=6.7,SNR=8.6
ASF PKPbc PKPdf 13 27 39.9 +8.3
comp=Z,149nm,0.9s,baz=356,slow=2.0,SNR=99
SIM Simferopol' 149.76 311 ⇓ *i* PKP2 PKPab 13 27 38.5 -6.1
SIM pmax pmax
comp=Z,128nm,0.8s
DBAS Duba 149.81 275 P PKPdf 13 27 34.6 +2.6
AKASG Malin Array Be 149.90 324 PKPbc PKPdf 13 27 36.3 +4.9
comp=Z,46nm,1.0s,baz=46,slow=3.6,SNR=25
AKASG PKPab PKPab 13 27 42.8 -2.2
comp=Z,81nm,0.8s,baz=46,slow=4.7,SNR=30
AKASG pPKPab 13 28 27.3
comp=Z,23nm,0.9s,baz=48,slow=2.6,SNR=2.6
AKASG Malin Array Be 149.90 324 PKHKP 13 27 36.3
AKASG 13 27 42.8
AKASG pmax pmax
comp=Z,46nm,1.0s
AKASG pmax pmax
comp=Z,81nm,0.8s
AKASG pmax pmax
comp=Z,23nm,0.9s
COBT Iskenderun 150.08 294 *i* P PKPdf 13 27 38.1 +6.0
JMQS Jabal Moqyreh 150.18 279 P PKPdf 13 27 35.6 +3.1
HTY Hatay 150.21 293 P PKPdf 13 27 40.4 +8.0
BOYT Boyabat 150.30 304 *i* P PKPdf 13 27 38.1 +5.8
KOZT Kozan 150.32 296 P PKPdf 13 27 40.3 +7.8
SUW Suwalki 150.36 334 *e*PKP PKPdf 13 27 38.5 +6.5
SUW *e* 13 27 44.2
BYBT Boyabat 150.38 304 P PKPdf 13 27 40.5 +8.1
CEYT Ceyhan 150.44 295 P PKPdf 13 27 40.9 +8.3
CTKT Corum 150.57 302 *i* P PKPdf 13 27 37.2 +4.4
MKRJ Makawir 150.66 284 P PKPdf 13 27 42.5 +9.3
KSDI Kefar Szold 150.70 287 P PKPdf 13 27 42.4 +9.2
BHL Bhannes 150.70 289 *e*P PKPdf 13 27 41.9 +8.8
BDAS Al Bad' 150.79 277 P PKPdf 13 27 36.3 +2.8
CORM Corum 150.79 302 *e*P PKPdf 13 27 40.7 +7.7
MMLI Mount Malkishu 150.88 286 P PKPdf 13 27 42.9 +9.4
MMLI Mount Malkishu 150.88 286 ⇓ P PKPdf 13 27 42.9 +9.4
JMOS Jabal al Moall 150.88 279 P PKPdf 13 27 36.0 +2.4
MMA0 Mount Meron ar 150.91 287 P PKPdf 13 27 42.7 +9.2
ALWS Ilw as Safayha 150.94 279 P PKPdf 13 27 36.3 +2.6
KARA Karaisali 150.96 296 P PKPdf 13 27 41.3 +7.9
ZFRI Zfri 150.98 282 P PKPdf 13 27 42.9 +9.2
ZFRI Zfri 150.98 282 ⇓ P PKPdf 13 27 42.9 +9.2
AQBJ Aqaba 151.00 280 P PKPdf 13 27 43.1 +9.4
TAYS Tayyib Ism 151.00 278 P PKPdf 13 27 36.5 +2.7
HAQS Haql 151.03 279 P PKPdf 13 27 36.4 +2.6
HRFI Mount Harif 151.05 281 P PKPdf 13 27 43.0 +9.2
HRFI Mount Harif 151.05 281 ⇓ P PKPdf 13 27 43.0 +9.2
EIL Elat 151.08 280 P PKPdf 13 27 43.1 +9.3
EIL Elat 151.08 280 ⇓ P PKPdf 13 27 43.1 +9.3
CDAG Cicekdag 151.10 301 *i* P PKPdf 13 27 36.2 +2.7
HNTI Hanita 151.10 287 P PKPdf 13 27 42.8 +9.0
HNTI Hanita 151.10 287 ⇓ P PKPdf 13 27 42.8 +9.0
PRNI Paran 151.11 281 P PKPdf 13 27 43.2 +9.3
PRNI Paran 151.11 281 ⇓ P PKPdf 13 27 43.2 +9.3
MBH Mount Berech 151.13 280 P PKPdf 13 27 43.5 +10
MBH Mount Berech 151.13 280 ⇓ P PKPdf 13 27 43.5 +10
SLTI Sal'it 151.20 285 P PKPdf 13 27 43.4 +9.5
SLTI Sal'it 151.20 285 ⇓ P PKPdf 13 27 43.4 +9.5
HAF Haifa 151.22 286 P PKPdf 13 27 43.0 +9.0
HAF Haifa 151.22 286 ⇓ P PKPdf 13 27 43.0 +9.0
OFRI 'Ofer 151.25 286 P PKPdf 13 27 43.1 +9.1
OFRI 'Ofer 151.25 286 ⇓ P PKPdf 13 27 43.1 +9.1
MASH Mash'abbe Sade 151.35 283 P PKPdf 13 27 43.6 +9.4
MASH Mash'abbe Sade 151.35 283 ⇓ P PKPdf 13 27 43.6 +9.4
BALT Daday 151.37 305 *i* P PKPdf 13 27 39.1 +5.2
MERS Mersin 151.43 295 P PKPdf 13 27 42.8 +8.6
CANT Cankiri 151.44 303 P PKPdf 13 27 42.8 +8.7
ELDT Eldivan 151.61 303 *i* P PKPdf 13 27 41.0 +6.7
BR131 Keskin Array S 151.63 301 *e*PKPdf PKPdf 13 27 33.7 -0.6
BRTR Keskin Array B 151.63 301 PKP PKPdf 13 27 36.0 +1.6
comp=Z,2.7nm,0.9s,baz=27,slow=2.8,SNR=6.6
BRTR PKPbc PKPdf 13 27 43.0 +8.7
comp=Z,91nm,1.0s,baz=117,slow=2.8,SNR=103
KAMT Kaman 151.65 300 P PKPdf 13 27 43.0 +8.6
KZIT Kziot 151.68 282 P PKPdf 13 27 44.4 +10
MUD Monsted U'grnd 151.86 351 *i* P PKPdf 13 27 42.3 +8.2
comp=Z,139nm,1.4s
MUD Monsted U'grnd 151.86 351 *i* PKIKP PKPdf 13 27 42.3 +8.2
MUD pmax pmax
comp=Z,140nm,1.4s
SAFT Safranbolu 151.95 304 P PKPdf 13 27 43.6 +8.8
PHNC Paralimni 152.00 291 P PKPdf 13 27 44.3 +9.2
BSD Bornholm Skovb 152.04 344 ⇑ *i* P PKPdf 13 27 42.7 +8.2
comp=Z,33nm,1.1s
BSD Bornholm Skovb 152.04 344 ⇑ *i* PKIKP PKPdf 13 27 42.7 +8.2
BSD pmax pmax
comp=Z,33nm,1.1s
COP Copenhagen 152.06 347 ⇑ *i* P PKPdf 13 27 43.1 +8.6
comp=Z,53nm,0.6s
COP Copenhagen 152.06 347 ⇑ *i* PKIKP PKPdf 13 27 43.1 +8.6
COP pmax pmax
comp=Z,53nm,0.6s
IKL Isikli 152.17 294 P PKPdf 13 27 44.0 +8.7
ANTO Ankara 152.23 302 *e*P PKPdf 13 27 43.6 +8.4
ANTO Ankara 152.23 302 PKPdf PKPdf 13 27 37.9 +2.6
ANTO *e*PKP PKPdf 13 27 44.6 +9.3
LOD Lodumlu 152.25 302 P PKPdf 13 27 44.7 +9.5
CSS Prodhromos 152.58 291 ⇓ P PKPdf 13 27 45.4 +10
comp=Z,1.8nm,0.8s
SGKT Sivrigoynuk 152.60 303 *i* P PKPdf 13 27 37.2 +1.5
ERMK Ermenek 152.74 295 *i* P PKPdf 13 27 41.0 +5.0
LEF Lefka 152.92 291 P PKPdf 13 27 46.2 +10
SZAC Souni-Zanaja 152.96 291 P PKPdf 13 27 46.6 +10
GKP Gorka Klasztor 153.03 339 *e*PKP PKPdf 13 27 45.4 +10
GKP *e* 13 27 56.5
KDHN Kadinhani 153.05 299 *i* P PKPdf 13 27 39.1 +2.7
KIZT Kizilcal 153.15 300 P PKPdf 13 27 46.3 +10
ALFC Alevga 153.16 292 P PKPdf 13 27 46.4 +10
comp=Z,1.6nm,0.7s
HENT Hendek 153.37 304 *i* P PKPdf 13 27 40.1 +3.3
ESKT Eskisehir 153.77 302 *e*P PKPdf 13 27 47.3 +10
ESKT Eskisehir 153.77 302 *i* P PKPdf 13 27 42.0 +4.6
KWP Kalwaria 153.78 328 *e*PKP PKPdf 13 27 47.1 +10
KWP *e* 13 28 00.2
KWP Kalwaria 153.78 328 *e*PKPdf PKPdf 13 27 38.9 +1.9
KWP *e* 13 27 46.9

BURAR Bucovina Array 153.86 322 ⇓ P PKPab 13 28 01.2 -0.5
VRI Vrincioaia 154.01 318 PKP2 PKPab 13 28 01.8 -0.6
KOLS Kolonicke sedl 154.47 328 *e*PKP PKPdf 13 27 41.5 +3.6
KOLS *e* 13 27 49.6
KOLS *e* 13 28 02.5
KOLS Kolonicke sedl 154.47 328 *e*PKIKP PKPdf 13 27 41.5 +3.6
KOLS *e* 13 28 02.5
TKTP Tekketepe 154.53 299 *i* P PKPdf 13 27 45.8 +7.4
STHS Stebnicka Huta 154.60 329 *e*PKP PKPdf 13 27 40.8 +2.7
STHS *e* 13 27 49.7
STHS *e* 13 28 03.5
STHS Stebnicka Huta 154.60 329 *e*PKIKP PKPdf 13 27 40.8 +2.7
STHS *e* 13 28 03.5
OJC Ojcow 154.61 332 *e*PKP PKPdf 13 27 39.9 +1.8
MLR Muntele Rosu 154.67 318 PKPbc PKPdf 13 27 48.8 +11
comp=Z,8.0nm,0.8s,baz=351,slow=4.6,SNR=6.2
MLR PKPab PKPab 13 28 04.4 -0.8
comp=Z,23nm,1.0s,baz=40,slow=2.4,SNR=6.2
MLR Muntele Rosu 154.67 318 ⇑ P PKPab 13 28 04.5 -0.7
MLR Muntele Rosu 154.67 318 PKIKP PKPdf 13 27 48.8 +10
MLR 13 28 04.4
MLR pmax pmax
comp=Z,8.0nm,0.8s
MLR pmax pmax
comp=Z,23nm,1.0s
UZH Uzhgorod 154.68 327 *e*PKIKP PKPdf 13 27 50.0 +12
ULDT Uludag 154.86 304 *i* P PKPdf 13 27 43.9 +5.2
VOIR 155.23 318 ⇓ P PKPab 13 28 07.7 +0.1
KSP Ksiaz 155.41 338 *e*PKP PKPdf 13 27 50.4 +11
KSP *e* 13 28 07.0
KSP Ksiaz 155.41 338 *e*PKIKP PKPdf 13 27 41.6 +2.5
OKC Ostrava-Krasne 155.57 334 ⇑ *e*PKPB PKPdf 13 27 51.5 +12
OKC *e*PKPAB PKPab 13 28 07.0 -1.9
KECS Kecovo 155.62 329 *i* PKP PKPab 13 28 07.6 -1.6
DRGR 155.70 323 ⇓ P PKPab 13 28 07.0 -2.6
DRGR 155.70 323 PKP2 PKPab 13 28 07.7 -1.9
UPC Upice 155.79 337 *e*PKPDF PKPdf 13 27 42.2 +2.6
UPC ⇑ *e*PKPB PKPdf 13 27 51.2 +12
UPC *e*PKPAB PKPab 13 28 07.9 -1.9
UPC Upice 155.79 337 *e*PKIKP PKPdf 13 27 42.2 +2.6
UPC *e* 13 28 07.9
DPC Dobruska-Polom 155.81 337 *e*PKPDF PKPdf 13 27 42.1 +2.4
DPC ⇑ *e*PKPB PKPdf 13 27 51.9 +12
DPC *e*PKPAB PKPab 13 28 08.9 -1.0
MORC Moravsky Berou 155.85 334 *e*PKPdf PKPdf 13 27 41.9 +2.1
MORC *e* 13 27 51.7
CLL Collm 155.99 343 *i* PKIKP PKPdf 13 27 41.4 +1.5
comp=Z,logA/T=1.3
CLL *i* 13 27 51.3
CLL *i* PKP2 PKPab 13 28 08.2 -2.4
CLL *e**PPKP2 13 28 58.0
CLZ Clausthal 156.10 347 *e*PKPdf PKPdf 13 27 42.5 +2.5
CLZ *e*PKPab PKPab 13 28 09.3 -1.8
BRG Berggiesshubel 156.12 341 *i* PKP PKPdf 13 27 42.4 +2.3
BRG *i* 13 27 52.0
BRG *i* 13 28 09.4
BRG Berggiesshubel 156.12 341 *i* PKIKP PKPdf 13 27 42.4 +2.3
BRG *i* 13 28 09.4
PVCC Panska Ves 156.23 339 *e*PKPDF PKPdf 13 27 42.4 +2.1
PVCC ⇑ *e*PKPB PKPdf 13 27 52.3 +12
PVCC *e*PKPAB PKPab 13 28 10.2 -1.5
PVCC Panska Ves 156.23 339 *e*PKIKP PKPdf 13 27 42.4 +2.1
PVCC *e* 13 28 10.2
PSZ Piszkesteto 156.31 329 PKPdf PKPdf 13 27 42.0 +1.6
PSZ *e*PKPab PKPab 13 28 11.0 -1.1
VYHS Vyhne 156.34 331 *i* PKP PKPab 13 28 10.8 -1.5
VRAC Vranov 156.59 335 PKP PKPdf 13 27 42.4 +1.6
comp=Z,1.4nm,0.4s,baz=256,slow=11,SNR=5.1
VRAC PKPbc PKPdf 13 27 53.3 +13
comp=Z,1.7nm,0.4s,baz=171,slow=2.2,SNR=4.5
VRAC PKPab PKPab 13 28 11.4 -1.9
comp=Z,40nm,0.9s,baz=41,slow=4.1,SNR=27
VRAC pPKPab 13 29 00.1
comp=Z,7.0nm,0.9s,baz=28,slow=7.4,SNR=1.9
VRAC Vranov 156.59 335 PKIKP PKPdf 13 27 42.4 +1.6
VRAC 13 28 11.4
LIC Lamto 156.64 163 *e*PKIKP PKPdf 13 27 44.3 +2.4
comp=Z,29nm,1.2s
LIC Lamto 156.64 163 *e*PKP1 PKPdf 13 27 44.9 +3.0
comp=Z,71nm,1.7s
PRU Pruhonice 156.72 339 *e*PKPDF PKPdf 13 27 42.6 +1.7
PRU *e*PKPAB PKPab 13 28 12.0 -1.8
KIC Kosan Boka 156.85 163 *e*PKP1 PKPdf 13 27 45.6 +3.4
comp=Z,60nm,1.1s
SMOL Smolenice 156.91 333 *e*PKP PKPab 13 28 13.8 -0.9
MOX Moxa 156.95 344 *e*PKP PKPdf 13 27 42.9 +1.7
MOX *e* 13 28 12.5
TREC Trest 157.00 337 *e*PKPAB PKPab 13 28 13.5 -1.5
TIC Toumodi 157.05 162 *e*PKP1 PKPdf 13 27 45.8 +3.4
comp=Z,70nm,1.1s
NKC Novy Kostel 157.11 342 *e*PKPAB PKPab 13 28 13.9 -1.6
DBIC Dimbokro 157.12 163 PKP PKPdf 13 27 46.1 +3.6
comp=Z,9.1nm,1.1s,baz=232,slow=23,SNR=4.5
DBIC PKPab PKPab 13 28 18.8 +2.2
comp=Z,10nm,0.9s,baz=164,slow=2.6,SNR=5.9
ZST Bratislava 157.29 333 *e*PKP PKPdf 13 27 44.5 +2.8
ZST *e* 13 28 15.1
KHC Kasperske Hory 157.77 339 *e*PKPDF PKPdf 13 27 44.7 +2.4
KHC ⇑ *e*PKPB PKPdf 13 27 55.2 +13
KHC *e*PKPAB PKPab 13 28 16.9 -1.5
VTS Vitosha 157.89 314 PKP2 PKPab 13 28 19.5 +0.4
GRA1 Grafenberg Arr 157.92 344 *e*PKPdf PKPdf 13 27 44.7 +2.2
GRA1 *e*PKPab PKPab 13 28 17.3 -1.7
GRF Grafenberg Arr 157.92 344 *e*PKP PKPdf 13 27 44.7 +2.2
WET Wettzell 157.97 340 *e*PKPdf PKPdf 13 27 44.7 +2.1
WET *e*PKPab PKPab 13 28 17.9 -1.3
GEC2 GERESS Array S 157.98 339 *e*PKPdf PKPdf 13 27 44.4 +1.8
GEC2 *e*PKPab PKPab 13 28 17.6 -1.7
GERES GERESS Array B 157.98 339 PKP PKPdf 13 27 43.5 +0.9
comp=Z,0.5nm,0.4s,baz=45,slow=1.9,SNR=10
GERES PKPbc PKPdf 13 27 55.7 +13
comp=Z,1.0nm,0.7s,baz=90,slow=1.3,SNR=6.7
GERES PKPab PKPab 13 28 17.7 -1.6
comp=Z,12nm,0.9s,baz=34,slow=4.8,SNR=26
TNS Taunus Mts 158.01 348 *e*PKP2 PKPab 13 28 17.1 -2.3
MOA Molln 158.65 336 ⇑ *i* P PKPdf 13 27 44.8 +1.3
comp=Z,6.8nm,1.1s
MOA *i* 13 28 20.9
comp=Z,624nm,5.8s
MOA Molln 158.65 336 ⇑ *i* P PKPdf 13 27 44.8 +1.3
comp=Z,6.8nm,1.1s
MOA Molln 158.65 336 ⇑ *i* X PKPab 13 28 20.9 -1.3
comp=Z,624nm,5.8s
ARSA Arzberg 158.69 334 ⇑ *i* P PKPdf 13 27 45.3 +1.8
comp=Z,2.5nm,0.7s
ARSA *i* 13 28 21.1
comp=Z,266nm,4.5s
ARSA Arzberg 158.69 334 ⇑ *i* P PKPdf 13 27 45.3 +1.7
comp=Z,2.5nm,0.7s
ARSA Arzberg 158.69 334 ⇑ *i* X PKPab 13 28 21.1 -1.3
comp=Z,266nm,4.5s
DIVS Divcibare 158.91 321 ⇑ *i* PKP PKPab 13 28 21.6 -1.8
SKO Skopje 159.33 315 *i* PKP PKPab 13 28 25.2 -0.1
comp=Z,0.1nm,1.2s
IDI Anoyia 159.38 294 PKP PKPdf 13 27 48.1 +3.4
comp=Z,11nm,1.0s,baz=244,slow=0.2,SNR=4.5
IDI PKPab PKPab 13 28 25.1 -0.7
comp=Z,14nm,0.9s,baz=62,slow=1.6,SNR=3.8
KBA Koelnbreinsper 159.64 337 ⇑ *i* P PKPdf 13 27 45.7 +1.1
comp=Z,11nm,1.5s
KBA *i* 13 28 25.7
comp=Z,217nm,3.5s
KBA Koelnbreinsper 159.64 337 ⇑ *i* P PKPdf 13 27 45.7 +1.1
comp=Z,11nm,1.5s
KBA Koelnbreinsper 159.64 337 ⇑ *i* X PKPab 13 28 25.7 -0.8
comp=Z,217nm,3.5s
OBKA Obir 159.68 334 ⇑ *i* P PKPdf 13 27 46.1 +1.4
comp=Z,5.0nm,1.3s
OBKA *i* 13 28 24.8
comp=Z,173nm,3.3s
OBKA Obir 159.68 334 ⇑ *i* P PKPdf 13 27 46.1 +1.4
comp=Z,5.0nm,1.3s
OBKA Obir 159.68 334 ⇑ *i* X PKPab 13 28 24.8 -1.9
comp=Z,173nm,3.3s
BFO Black Forest 159.85 347 *e*PKP2 PKPab 13 28 24.9 -2.4
WATA Walderalm 159.98 340 ⇓ *i* P PKPdf 13 27 46.9 +1.9
comp=Z,4.4nm,0.9s
WATA *i* 13 28 26.6
comp=Z,66nm,1.4s
WATA Walderalm 159.98 340 ⇓ *i* P PKPdf 13 27 46.9 +1.9
comp=Z,4.4nm,0.9s
WATA Walderalm 159.98 340 ⇓ *i* X PKPab 13 28 26.6 -1.3
comp=Z,66nm,1.4s
WTTA Wattenberg 160.03 340 ⇑ *i* P PKPdf 13 27 45.8 +0.8
comp=Z,4.8nm,0.9s
WTTA *i* 13 28 27.0
comp=Z,603nm,4.7s
WTTA Wattenberg 160.03 340 ⇑ *i* P PKPdf 13 27 45.8 +0.8
comp=Z,4.8nm,0.9s
WTTA Wattenberg 160.03 340 ⇑ *i* X PKPab 13 28 27.0 -1.1
comp=Z,603nm,4.7s
LJU Ljubljana 160.07 333 *e*PKPdf PKPdf 13 27 46.8 +1.7
LJU *i* PKPab PKPab 13 28 26.3 -2.1
MOTA Moosalm 160.11 341 ⇑ *i* P PKPdf 13 27 47.2 +2.1
comp=Z,4.7nm,0.9s
MOTA *i* 13 28 27.0
comp=Z,44nm,1.2s
MOTA Moosalm 160.11 341 ⇑ *i* P PKPdf 13 27 47.2 +2.1
comp=Z,4.7nm,0.9s
MOTA Moosalm 160.11 341 ⇓ *i* X PKPab 13 28 27.0 -1.5
comp=Z,44nm,1.2s
VISS Visnje 160.14 332 *e*PKPdf PKPdf 13 27 46.6 +1.4
VISS *i* PKPab PKPab 13 28 26.6 -2.1
SQTA Sankt Quirin 160.19 341 ⇑ *i* P PKPdf 13 27 44.4 -0.8
comp=Z,3.5nm,0.7s
SQTA *i* 13 28 27.6
comp=Z,29nm,1.1s
SQTA Sankt Quirin 160.19 341 ⇑ *i* P PKPdf 13 27 44.4 -0.7
comp=Z,3.5nm,0.7s
SQTA Sankt Quirin 160.19 341 ⇑ *i* X PKPab 13 28 27.6 -1.3
comp=Z,29nm,1.1s
CADS Cadrg 160.22 335 *i* PKPdf PKPdf 13 27 46.4 +1.2
CADS *e*PKPab PKPab 13 28 26.3 -2.8
DAVA Damuels 160.49 343 ⇑ *i* P PKPdf 13 27 49.1 +3.6
comp=Z,10.0nm,1.4s
DAVA *i* 13 28 28.6
comp=Z,938nm,5.1s
DAVA Damuels 160.49 343 ⇑ *i* P PKPdf 13 27 49.1 +3.6
comp=Z,10.0nm,1.4s
DAVA Damuels 160.49 343 ⇑ *i* X PKPab 13 28 28.6 -1.5
comp=Z,938nm,5.1s
DAVOX Davos 160.96 343 PKP PKPdf 13 27 48.0 +2.0
comp=Z,2.1nm,0.8s,baz=184,slow=20,SNR=3.8
DAVOX PKPab PKPab 13 28 31.1 -1.1
comp=Z,13nm,0.8s,baz=352,slow=4.6,SNR=11
LOR Lormes 161.49 356 *e*PKIKP PKPdf 13 27 48.3 +1.8
SSF Saint Saulge 161.72 356 *e*PKIKP PKPdf 13 27 48.7 +2.0
comp=Z,11nm,0.7s
CABF La Chapelle 161.90 350 *e*PKIKP PKPdf 13 27 49.2 +2.3
comp=Z,21nm,1.0s
AVF Avril sur Loir 162.00 356 *e*PKIKP PKPdf 13 27 48.5 +1.5
SMF Signal de Mont 162.11 355 *e*PKIKP PKPdf 13 27 48.8 +1.7
MFF Saint Martin d 162.16 4 *e*PKIKP PKPdf 13 27 49.1 +1.9
comp=Z,26nm,0.9s
BGF Bois d'Agland 162.25 358 *e*PKIKP PKPdf 13 27 49.3 +2.0
comp=Z,32nm,1.0s
TCF Toulx Ste Croi 162.54 359 *e*PKIKP PKPdf 13 27 49.4 +1.8
LPL La Plagne 162.86 348 *e*PKIKP PKPdf 13 27 50.3 +2.4
LPG La Plagne 162.87 348 *e*PKIKP PKPdf 13 27 50.4 +2.5
BNI Bardonecchia 163.32 348 PKPdf PKPdf 13 27 51.3 +2.9
RJF Les Rejaudoux 163.52 1 *e*PKIKP PKPdf 13 27 50.7 +2.1
ORIF Oris-en-Rattie 163.58 350 *e*PKIKP PKPdf 13 27 50.8 +2.2
MBDF Montbardon 163.61 347 *e*PKIKP PKPdf 13 27 50.6 +1.9
comp=Z,23nm,1.1s
STS Santiago 163.66 28 PKP PKPdf 13 27 51.4 +2.6
VIVF Saint-Julien-l 163.81 353 *e*PKIKP PKPdf 13 27 51.1 +2.2
comp=Z,53nm,1.3s
TIP Timpagrande 163.84 314 *e*PKPdf PKPdf 13 27 52.1 +3.0
CAF Calviac 163.90 359 *e*PKIKP PKPdf 13 27 51.2 +2.2
SMRF Simiane la Rot 164.55 350 *e*PKIKP PKPdf 13 27 52.0 +2.4
ERUA La Rua 164.64 26 PKP PKPdf 13 27 53.0 +3.3
LASF Ste Croix 164.66 354 *e*PKIKP PKPdf 13 27 51.8 +2.0
ELOB Lobios 164.71 29 PKP PKPdf 13 27 53.6 +3.7
FRF La Foret Royal 164.76 346 *e*PKIKP PKPdf 13 27 51.4 +1.5
LMR La Mourre 165.00 347 *e*PKIKP PKPdf 13 27 51.7 +1.6
PGF Pioggiola 165.09 339 *e*PKIKP PKPdf 13 27 51.5 +1.3
MTLF Montolieu 165.48 359 *e*PKIKP PKPdf 13 27 52.4 +1.9
EPF Esparros 165.75 4 *e*PKIKP PKPdf 13 27 53.1 +2.4
ETSF Etsaut 165.81 7 *e*PKIKP PKPdf 13 27 53.6 +2.8
MTE Manteigas 166.13 31 *e*PKPdf PKPdf 13 27 53.9 +2.8
PCBR Castelo Branco 166.61 32 *e*PKPdf PKPdf 13 27 54.2 +2.7
ERTA Horta de San J 167.81 5 PKP PKPdf 13 27 55.0 +2.8
ESDC Sonseca Array 168.16 22 PKP PKPdf 13 27 55.2 +2.7
comp=Z,1.4nm,0.6s,baz=341,slow=3.1,SNR=13
ESDC PKPab PKPab 13 29 02.5 -1.3
comp=Z,0.9nm,0.5s,baz=333,slow=4.6,SNR=7.8
ESDC Sonseca Array 168.16 22 PKP PKPdf 13 27 55.9 +3.4
EGRO El Granado 168.35 39 PKP PKPdf 13 27 56.7 +4.1
EMIN Mina Concepcio 168.61 36 PKP PKPdf 13 27 56.7 +3.9
ECAB El Cabril 168.98 31 PKP PKPdf 13 27 57.0 +4.0
ECHE Chera 169.00 11 PKP PKPdf 13 27 56.1 +3.1
ETOS Mallorca 169.03 356 PKP PKPdf 13 27 54.9 +1.9
EADA Adamuz 169.26 28 PKP PKPdf 13 27 55.9 +2.7
EVIA Vianos 169.56 19 PKP PKPdf 13 27 57.4 +4.0
EBAN Banos Encina 169.58 25 PKP PKPdf 13 27 57.0 +3.6
ETOB Tobarra 169.80 15 PKP PKPdf 13 27 57.4 +3.9
EQES Quesada 170.15 23 PKP PKPdf 13 27 56.7 +3.0
EHUE Huescar 170.30 21 PKP PKPdf 13 27 58.0 +4.2

CASC 27 13:10:27.2±1.5, 12.72N×88.34W, h39km±259km, MD3.5, 4C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
BLLM	**Bellamira**	**0.72**	**8**	*e*S	S		13 10 51.5	+0.5
CNCH	**Conchagua**	**0.74**	**42**	*e*P	P		13 10 41.5	+0.3
CNCH				*e*S	S		13 10 52.7	+1.2
SNVI	**San Vicente**	**1.01**	**331**	*e*P	P		13 10 45.3	+0.3
SNVI				*e*S	S		13 10 58.8	+0.4
SNVI				*e*S	S		13 10 58.8	+0.5
SNVI				*e*S	S		13 10 59.0	+0.7
LCBS	**La Ceiba**	**1.12**	**326** ⇓	*e*P	P		13 10 46.8	+0.3
LCBS				*e*S	S		13 11 01.1	0.0
LFRS	**El Faro**	**1.14**	**322** ⇓	*e*P	P		13 10 47.1	+0.2
LFRS				*e*S	S		13 11 01.2	-0.4
LBRS	**Las Brisas**	**1.22**	**326**	*e*P	P		13 10 48.2	+0.2
LBRS				*e*S	S		13 11 03.1	-0.6
CRIN	**San Cristobal**	**1.26**	**91** ⇓	*e*P	P		13 10 49.1	+0.5
CRIN				*e*S	S		13 11 05.9	+1.3
LFU	**La Fuente**	**1.27**	**324** ⇑	*e*P	P		13 10 49.5	+0.7
BOQS	**Boqueron**	**1.36**	**318** ⇓	*e*P	P		13 10 50.4	+0.2
BOQS				*e*S	S		13 11 08.3	+1.0
LEON	**Leon**	**1.44**	**102** ⇓	*e*P	P		13 10 50.0	-1.3
LEON				*e*S	S		13 11 08.8	-0.5
TEL3	**Telica 3**	**1.47**	**96**	*e*P	P		13 10 50.7	-0.9
TEL3				*e*S	S		13 11 09.7	-0.1
MIRN	**Miramar**	**1.61**	**100** ⇓	*e*P	P		13 10 53.2	-0.4
MIRN				*e*S	S		13 11 12.6	-0.8
CNGN	**Cerro Negro**	**1.61**	**98**	*e*P	P		13 10 53.9	+0.1
CNGN				*e*S	S		13 11 14.3	+0.8
MOMJ	**Momotombo**	**1.78**	**100**	*e*P	P		13 10 55.5	-0.6
COPN	**Copaltepe**	**1.79**	**107** ⇑	*e*P	P		13 10 55.3	-0.8
COPN				*e*S	S		13 11 17.0	-0.8
RBDL	**Robledal**	**1.91**	**317** ⇓	*e*P	P		13 10 58.2	+0.3
MGAN	**Managua**	**2.12**	**105**	*e*S	S		13 11 25.7	-0.6

DHMR 27 13:25:12.9±2.6, 12.70N×40.56E, h5km±163km, ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
TRBA	**At Turbah**	**3.51**	**81**	*i* P	Pn		13 26 10.8	+1.5
TRBA				*i* S	Sn		13 26 56.2	+4.4
TRBA				AML	AML		13 27 08.1	
	comp=N,1μm,0.6s							
UDYN	**Al 'Udayn**	**3.55**	**69**	*i* S	Sn		13 26 57.9	+5.0
UDYN				AML	AML		13 27 23.8	
	comp=N,500nm,0.7s							
DHBB	**Dhamar BB**	**4.17**	**63**	*i* P	Pn		13 26 19.8	+1.2
DHBB				*i* S	Sn		13 27 12.0	+3.5
LBOS		**4.72**	**75**	*e*P	Pn		13 26 25.2	-1.3
LBOS				*i* S	Sn		13 27 21.1	-1.2
BDHA	**Al Bayda'**	**5.04**	**75**	*i* S	Sn		13 27 29.4	-1.0

*JMA **27** 13:32:50.4±0.2, 24.08N×122.41E, h34km, M3.0*
*NEIC **27** 13:32:54.2±2.4, 23.95N×122.02E, h35km, Error ellipse: s-maj=50.7km s-min=13.9km az=78.0*

ISC 27 13:32:49.3±1.2, 24.0N±0.1×122.42E±0.04, h21km±10km, n10, σ0s51/18, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
YOJ	**Yonaguni jima**	**0

YHNB	**Yeheng**	**1.19**	**307**	*eP*	**Pn**	**13 33 10.8**	**-0.2**
YHNB				*eS*	**Sb**	**13 33 32.0**	**+6.0**
IRIF	**Iriomote-Funau**	**1.25**	**73**	P	**Pn**	**13 33 12.0**	**+0.2**
IRIF				*eS*	**Sb**	**13 33 28.0**	**+0.2**
HATJ	**Hateruma jima**	**1.27**	**85**	P	**Pn**	**13 33 12.3**	**+0.2**
HATJ				S	**Sn**	**13 33 29.0**	**+0.4**
TATO	**Taipei**	**1.32**	**320**	*eP*	**Pn**	**13 33 13.4**	**+0.6**
TATO				*eS*	**Sn**	**13 33 36.2**	**+6.3**
JKRS	**Kuro-shima**	**1.48**	**79**	P	**Pn**	**13 33 15.4**	**+0.4**
JKRS				S	**Sn**	**13 33 34.8**	**+1.0**
JIJ	**Ishigaki jima**	**1.62**	**75**	P	**Pn**	**13 33 16.9**	**-0.2**
JIJ				S	**Sn**	**13 33 37.0**	**-0.5**
JTJ	**Tarama**	**2.19**	**72**	P	**Pn**	**13 33 25.1**	**-0.1**
JTJ				*eS*	**Sn**	**13 33 50.8**	**-1.1**
KKM	**Kota Kinabalu**	**18.79**	**200**	P	**P**	**13 37 09.3**	**-0.6**
KKM				*e*		13 37 21.0	

NAO ***27*** *13:43:53.8±3.2, 71.61N×2.02W, ML2.4*
CSEM ***27*** *13:43:54.1±0.5, 71.54N×2.13W, h2km, ML2.5, Error ellipse: s-maj=14.3km s-min=5.1km az=69.0*

BER 27 13:43:57.6±5.3, 71.56N×2.19W, MD2.7, ML2.5, ML2.4(NAO), 1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**6.42**	**115**	*eP*	Pn	13 46 01.9	+26
TRO	**Tromso**	**7.28**	**95**	⇓*eP*	Pn	13 45 39.2	-8.6
TRO				*e*		13 45 45.2	
MELSS	**Ber_school_2**	**7.35**	**122**	*eP*	Pn	13 45 43.9	-4.9
MELSS				*eS*	Sn	13 46 59.5	-14
STOK	**Stokkvaagen**	**7.56**	**126**	*eP*	Pn	13 45 47.5	-4.3
STOK				*eS*	Sn	13 47 04.3	-15
STOK				AML	AML	13 47 11.4	
	comp=Z,5.6nm,0.7s						
STOK	**Stokkvaagen**	**7.56**	**126**	*eP*	Pn	13 45 47.5	-4.3
	SNR=47						
STOK				*eS*	Sn	13 47 04.3	-15
	comp=Z,5.6nm,0.7s,SNR=47						
MOR8	**Moi Rana**	**8.06**	**124**	*eP*	P	13 45 54.9	-3.8
MOR8				*eS*	Sn	13 47 18.4	-13
MOR8				AML	AML	13 47 23.1	
	comp=Z,6.6nm,0.6s						
MOR8	**Moi Rana**	**8.06**	**124**	*eP*	P	13 45 54.9	-3.8
	SNR=47						
MOR8				*eS*	Sn	13 47 18.4	-13
	comp=Z,6.6nm,0.6s,SNR=47						
SPA0	**Spitsbergen Ar**	**8.17**	**27**	Pn	P	13 45 51.7	-8.6
	baz=210,slow=16						
KBS	**Kingsbay**	**8.20**	**19**	Pn	P	13 45 51.3	-9.3
KBS				Sn	Sn	13 47 26.7	-8.4
KTK1	**Kautokeino**	**8.92**	**94**	*eP*	P	13 46 04.5	-6.3
ARA0	**ARCESS Array S**	**9.41**	**89**	Pn	P	13 46 08.6	-8.9
	baz=298,slow=12						
ARA0				Sn	Sn	13 47 46.9	-18
	baz=300,slow=22						
NB2	**NORSAR Subarra**	**11.81**	**147**	Pn	P	13 46 38.8	-11
HFS	**Hagfors**	**13.11**	**143**	P	P	13 47 05.0	-2.6
	baz=345,slow=16						
FIA0	**FINESS Array S**	**14.96**	**118**	P	P	13 47 27.3	-4.4
	baz=315,slow=14						

DHMR 27 13:50:22.2±2.4, 12.64N×40.52E, h12km±238km, ML4.4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.56**	**80**	*i* P	Pn	13 51 19.7	+1.3
TRBA				*i* S	Sn	13 52 05.0	+4.3
TRBA				AML	AML	13 52 16.8	
	comp=N,2μm,0.7s						
TRBA	**At Turbah**	**3.56**	**80**	*i* P	Pn	13 51 19.7	+1.3
TRBA				*i* S	Sn	13 52 05.1	+4.3
	comp=N,822nm,0.7s						
UDYN	**Al 'Udayn**	**3.61**	**68**	*i* P	Pn	13 51 20.9	+1.7
UDYN				*i* S	Sn	13 52 06.4	+4.3
UDYN				AML	AML	13 52 24.8	
	comp=Z,2μm,0.8s						
DHBB	**Dhamar BB**	**4.22**	**63**	*i* P	Pn	13 51 29.1	+1.2
DHBB				*i* S	Sn	13 52 21.2	+3.5
LBOS		**4.77**	**75**	*i* P	Pn	13 51 34.2	-1.4
LBOS				*i* S	Sn	13 52 30.4	-1.0
BDHA	**Al Bayda'**	**5.09**	**74**	*i* P	Pn	13 51 38.4	-1.8
BDHA				*i* S	Sn	13 52 38.3	-1.3

GUC 27 13:57:12.2±0.7, 24.00S×66.85W, h163km±23km, ML3.8, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.34**	**306**	⇑*iP*	P	13 57 53.4	+0.9
LVC				*i* S	S	13 58 25.4	+1.9
LVC				AMP		13 58 27.6	
	comp=E,161nm,0.6s						
CEN1	**Los Morros**	**3.13**	**281**	⇓*iP*	P	13 58 04.7	+2.4
CEN1				*i* S	S	13 58 43.9	+3.1
CEN1				AMP		13 58 46.7	
	comp=E,138nm,0.1s						
ANCH	**Antofagasta**	**3.27**	**275**	⇑*iP*	P	13 58 05.1	+0.9
ANCH				*i* S	S	13 58 44.8	+0.7
CPN1	**Cerro Paranal**	**3.30**	**258**	⇑*iP*	P	13 58 06.1	+1.6
CPN1				*i* S	S	13 58 47.5	+2.7
CPN1				AMP		13 58 49.7	
	comp=E,295nm,0.3s						
CRCH	**Chaqaral**	**4.14**	**235**	*i* S	S	13 59 05.6	+1.6
CDCH	**Caldera**	**4.72**	**229**	*i* S	S	13 59 19.1	+1.5

DHMR 27 14:00:43.0±2.6, 12.66N×40.49E, h12km±161km, ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.58**	**80**	*i* P	Pn	14 01 41.1	+1.5
TRBA				*i* S	Sn	14 02 26.5	+4.3
TRBA				AML	AML	14 02 41.0	
	comp=N,655nm,0.7s						
UDYN	**Al 'Udayn**	**3.62**	**69**	*i* S	Sn	14 02 27.9	+4.5
UDYN				AML	AML	14 02 45.5	
	comp=Z,746nm,0.7s						
DHBB	**Dhamar BB**	**4.24**	**63**	*i* P	Pn	14 01 50.0	+1.0
DHBB				*i* S	Sn	14 02 42.6	+3.6
LBOS		**4.79**	**75**	*i* P	Pn	14 01 55.6	-1.2
LBOS				*i* S	Sn	14 02 52.0	-0.9
BDHA	**Al Bayda'**	**5.11**	**75**	*i* S	Sn	14 02 59.6	-1.4

DHMR 27 14:05:11.0±0.3, 12.65N×40.51E, h12km±22km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.56**	**80**	*i* P	Pn	14 06 08.9	+1.6
TRBA				*i* S	Sn	14 06 54.0	+4.3
TRBA				AML	AML	14 07 09.6	
	comp=N,318nm,0.7s						
UDYN	**Al 'Udayn**	**3.61**	**68**	*i* S	Sn	14 06 55.6	+4.6
UDYN				AML	AML	14 07 14.4	
	comp=Z,400nm,0.8s						
DHBB	**Dhamar BB**	**4.23**	**63**	*i* S	Sn	14 07 10.2	+3.5
LBOS		**4.77**	**75**	*i* P	Pn	14 06 23.0	-1.5
LBOS				*i* S	Sn	14 07 19.3	-1.0

CSEM ***27*** *14:07:10.9±0.2, 57.58N×17.14E, h2km, ML2.6, Error ellipse: s-maj=6.3km s-min=2.6km az=150.0, Mining explosion.*
UPP ***27*** *14:07:13.5, 57.60N×16.94E, h0km, ML2.6, Mining explosion.*
HEL ***27*** *14:07:14.0±0.2, 57.58N×16.97E, ML2.0, ML2.6(UPP), Explosion*
IDC ***27*** *14:07:16.1±2.9, 57.68N×16.95E, mb1 3.3/3, mb1mx3.1/19, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=29.7km s-min=11.3km az=7.0*
NAO ***27*** *14:07:18.7±6.8, 57.86N×16.87E, h13km±41km, ML1.9*

ISC 27 14:07:11.9±0.7, 57.67N±0.06×17.10E±0.06, n30, σ1§25/44, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSTU	**Vaestervik**	**0.30**	**269**	*i* P	**Pg**	**14 07 18.2**	**+0.2**
VSTU				*i* S	**Sg**	**14 07 21.3**	**-0.7**
OSKU	**Oskarshamn**	**0.72**	**229**	*i* P	**Pg**	**14 07 25.0**	**-1.2**
GOTU	**Gotland**	**0.79**	**88**	*i* P	**Pg**	**14 07 29.6**	**+2.0**
VIKU	**Vikbolandet**	**0.86**	**346**	*eP*	**Pg**	**14 07 30.7**	**+1.5**
EKSU	**Eksjoe**	**0.97**	**265**	*i* P	**Pb**	**14 07 30.5**	**-0.8**
LNKU	**Linkoeping**	**1.02**	**304**	*eP*	**Pb**	**14 07 32.1**	**0.0**
NYNU	**Nynaeshamn**	**1.42**	**19**	*eP*	**Pb**	**14 07 41.5**	**+2.5**
ESKU	**Eskilstuna**	**1.61**	**347**	*eP*	**Pn**	**14 07 43.9**	**+2.1**
NRTU	**Norrtaelje**	**2.17**	**21**	*eP*	**Pn**	**14 07 53.8**	**+4.1**
NRTU				*eS*	**Sn**	**14 08 23.5**	**+5.8**
GRAU	**Graesoe**	**2.78**	**15**	*eP*	**Pn**	**14 08 01.9**	**+3.5**
HFS	**Hagfors**	**3.04**	**326**	Pn	**Pn**	**14 08 05.0**	**+2.8**
	baz=154,slow=14						
HFS				Lg		14 08 43.5	
	baz=142,slow=28						
NB2	**NORSAR Subarra**	**4.53**	**321**	Pn	**Pn**	**14 08 22.7**	**-0.6**
	baz=139,slow=16						
NB2				Lg		14 09 35.5	
	baz=136,slow=37						
NOA	**NORSAR Array B**	**4.53**	**321**	Pn	**Pn**	**14 08 23.8**	**+0.4**
	0.3nm,0.3s,baz=145,slow=12,SNR=2.3						
NOA				Sn	**Sn**	**14 09 16.8**	**-0.7**
	0.5nm,0.3s,baz=324,slow=20,SNR=2.4						
NOA				Lg		14 09 35.2	
	1.3nm,0.3s,baz=132,slow=18,SNR=4.1						
PVF	**Pernaja**	**5.36**	**54**	*eP*	**Pn**	**14 08 35.3**	**+0.3**
PVF				*eS*	**Sn**	**14 09 37.9**	**-0.5**
PVF				MSG		14 10 08.8	
	comp=Z,1.8nm,0.2s						
PVF	**Pernaja**	**5.36**	**54**	P	**Pn**	**14 08 35.3**	**+0.2**
PVF				S	**Sn**	**14 09 37.8**	**-0.6**
	comp=Z,1.8nm,0.2s						
FIA0	**FINESS Array S**	**5.93**	**47**	Pn	**Pn**	**14 08 44.8**	**+1.7**
	baz=225,slow=12						
FIA0				Sn	**Sn**	**14 09 52.4**	**-0.3**
	baz=241,slow=22						
FIA0				Lg		14 10 23.4	
	baz=247,slow=28						
FIA0	**FINESS Array S**	**5.93**	**47**	*eP*	**Pn**	**14 08 43.0**	**-0.1**
FIA0				*eS*	**Sn**	**14 09 51.9**	**-0.9**
FIA0				MSG		14 10 25.1	
	comp=Z,1.0nm,0.2s						
FIA0	**FINESS Array S**	**5.93**	**47**	P	**Pn**	**14 08 43.0**	**-0.1**
FIA0				S	**Sn**	**14 09 51.8**	**-0.9**
	comp=Z,1.0nm,0.2s						
FINES	**FINESS Array B**	**5.93**	**47**	Pn	**Pn**	**14 08 45.4**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=232,slow=16,SNR=14						
FINES				Sn	**Sn**	**14 09 54.0**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=233,slow=21,SNR=5.5						
FINES				Lg		14 10 24.3	
	comp=Z,0.7nm,0.3s,baz=237,slow=27,SNR=6.9						
KEF	**Keuruu**	**5.97**	**38**	*eP*	**Pn**	**14 08 44.1**	**+0.5**
KEF				MSG		14 10 26.4	
	comp=Z,0.9nm,0.2s						
KEF	**Keuruu**	**5.97**	**38**	P	**Pn**	**14 08 44.1**	**+0.4**
	comp=Z,0.9nm,0.2s						
VAF	**Ylistaro**	**6.06**	**25**	*eP*	**Pn**	**14 08 44.7**	**-0.3**
VAF				*eS*	**Sn**	**14 09 54.1**	**-1.9**
VAF				MSG		14 10 29.6	
	comp=Z,2.3nm,0.3s						
VAF	**Ylistaro**	**6.06**	**25**	P	**Pn**	**14 08 44.6**	**-0.3**
VJF	**Virojoki**	**6.11**	**57**	*eP*	**Pn**	**14 08 45.1**	**-0.6**
VJF				*eS*	**Sn**	**14 09 56.4**	**-0.8**
VJF				MSG		14 10 35.1	
	comp=Z,1.2nm,0.2s						
VJF	**Virojoki**	**6.11**	**57**	P	**Pn**	**14 08 45.0**	**-0.6**
VJF				S	**Sn**	**14 09 56.3**	**-0.9**
	comp=Z,1.2nm,0.2s						
KAF	**Kangasniemi**	**6.43**	**42**	*eP*	**Pn**	**14 08 50.7**	**+0.6**
KAF				*eS*	**Sn**	**14 10 04.0**	**-1.2**
KAF				MSG		14 10 41.4	
	comp=Z,0.5nm,0.2s						
SUF	**Sumiainen**	**6.78**	**38**	*eP*	**Pn**	**14 08 54.6**	**-0.5**
SUF				*eS*	**Sn**	**14 10 12.8**	**-1.3**
SUF				MSG		14 10 49.6	
	comp=Z,0.8nm,0.3s						
ARA0	**ARCESS Array S**	**12.47**	**14**	Pn	**P**	**14 10 09.4**	**-3.9**
	baz=194,slow=14						
ARA0	**ARCESS Array S**	**12.47**	**14**	Pn	**P**	**14 10 09.4**	**-3.9**
	SNR=0.5						
ARCES	**ARCESS Array B**	**12.47**	**14**	Pn	**P**	**14 10 09.6**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=10						

DHMR 27 14:20:33.0±2.5, 12.68N×40.44E, h2km±158km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.62**	**81**	*i* P	Pn	14 21 33.3	+2.0
TRBA				*i* S	Sn	14 22 19.4	+4.1
TRBA				AML	AML	14 22 30.7	
	comp=N,383nm,0.5s						
TRBA	**At Turbah**	**3.62**	**81**	*i* P	Pn	14 21 33.3	+2.0
TRBA				*i* S	Sn	14 22 19.4	+4.1
	comp=N,191nm,0.5s						
UDYN	**Al 'Udayn**	**3.66**	**69**	*i* P	Pn	14 21 33.4	+1.6
UDYN				*i* S	Sn	14 22 21.1	+4.9
UDYN				AML	AML	14 22 34.2	
	comp=N,304nm,0.5s						
DHBB	**Dhamar BB**	**4.28**	**63**	*i* P	Pn	14 21 41.4	+0.8
DHBB				*i* S	Sn	14 22 35.5	+3.7
LBOS		**4.83**	**75**	*i* P	Pn	14 21 47.2	-1.2
LBOS				*i* S	Sn	14 22 44.7	-1.1
BDHA	**Al Bayda'**	**5.15**	**75**	*i* S	Sn	14 22 52.7	-1.2

MAN 27 14:30:33.7, 10.36N×125.55E, h4km, mb3.7, ML2.4, MS1.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.58**	**186**	*eP*	Pg	14 30 45.2	-0.1
SCPH				*i* S	Sg	14 30 50.1	-3.0
MSLP	**Maasin**	**0.72**	**252**	*eP*	Pg	14 30 48.0	-0.1
MSLP				*eS*	Sg	14 30 56.2	-1.4
BUTP	**Butuan**	**1.39**	**177**	*eP*	Pb	14 30 58.6	-1.3
BUTP				*eS*	Sb	14 31 19.0	+1.2

NNC ***27*** *14:48:31.9±1.4, 38.59N×68.89E, h14km±7km, mpv3.6, Error ellipse: s-maj=10.7km s-min=9.1km az=161.0*
NEIC ***27*** *14:48:34.0±2.9, 38.41N×70.05E, h35km, mb4.1/2, Error ellipse: s-maj=51.3km s-min=13.9km az=161.0*
IDC ***27*** *14:48:40.7±15.0, 38.84N×70.29E, h76km±109km, mb3.7/1, mb1 3.6/4, mb1mx3.3/21, mbtmp3.7/4, ML3.1/2, Error ellipse: s-maj=167.6km s-min=78.0km az=178.0*

ISC 27 14:48:34.6±0.7, 38.57N±0.04×69.6E±0.1, h33km, n22, σ1§08/26, mb3.8/1, 6C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.58**	**8**	⇑Pn	**Pn**	**14 49 42.1**	**-1.2**
	1.1nm,0.3s,baz=198,slow=16,SNR=33						
KK31				⇑Pg	**P**	**14 49 57.5**	**+14**
	11nm,0.6s,baz=190,slow=16,SNR=5.4						
KK31				⇑Sn	**Sn**	**14 50 36.9**	**+0.8**
	5.7nm,0.5s,baz=204,slow=33,SNR=3.6						
KK31				⇓Lg		14 50 59.6	
	32nm,0.7s,baz=75,slow=19,SNR=5.1						
AML	**Almayashu**	**4.72**	**40**	P	**P**	**14 49 45.3**	**0.0**
	SNR=28						
CEP	**Cherat**	**5.08**	**158**	P	**P**	**14 49 51.0**	**+0.6**
CEP				S	**S**	**14 50 50.0**	**+1.2**
EKS2	**Erkin-Say**	**5.16**	**36**	P	**P**	**14 49 51.8**	**+0.3**
	SNR=6.6						
UCH	**Uchtor**	**5.22**	**44**	P	**P**	**14 49 51.8**	**-0.4**
	SNR=14						
AAK	**Ala-Archa**	**5.49**	**41**	P	**P**	**14 49 55.6**	**-0.5**
	SNR=11						
AAK	**Ala-Archa**	**5.49**	**41**	⇑Pn	**Pn**	**14 49 58.2**	**+2.0**
	7.0nm,0.6s						
AAK				⇑Sn	**Sn**	**14 51 07.2**	**+8.2**
	17nm,0.8s						
AAK	**Ala-Archa**	**5.49**	**41**	*e*Pn	**Pn**	**14 49 53.5**	**-2.8**
	8.2nm,0.6s						
THW	**Thamme Wali**	**6.02**	**163**	P	**P**	**14 50 02.0**	**-1.5**
TKM2	**Tokmak 2**	**6.27**	**44**	P	**P**	**14 50 03.8**	**-3.3**
	SNR=11						
DRP	**Derazinda**	**6.83**	**176**	P	**P**	**14 50 14.1**	**-0.9**
MK31	**Makanchi Array**	**12.41**	**44**	⇑P	**P**	**14 51 33.0**	**+1.4**
	1.3nm,0.8s,baz=224,slow=13,SNR=6.8						
MKAR	**Makanchi Array**	**12.41**	**44**	P	**P**	**14 51 26.6**	**-5.0**
	0.1nm,0.3s,baz=238,slow=13,SNR=8.8						
AB31	**Akbulak array**	**12.75**	**330**	⇓P	**P**	**14 51 29.3**	**-6.8**
	1.0nm,0.4s,baz=3.6,slow=28,SNR=31						
AKTO	**Aktyubinsk**	**14.45**	**329**	⇓P	**P**	**14 51 50.9**	**-7.4**
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**14.46**	**2**	P	**P**	**14 51 58.1**	**-0.5**
	0.2nm,0.3s,baz=174,slow=13,SNR=3.7						
ZAL	**Zalesovo**	**18.54**	**29**	P	**P**	**14 52 45.7**	**-4.7**
	0.3nm,0.3s,baz=246,slow=9.0,SNR=4.1						
ZAL	**Zalesovo**	**18.54**	**29**	P	**P**	**14 52 45.7**	**-4.7**
KIV	**Kislovodsk**	**20.91**	**294**	P	**P**	**14 53 16.9**	**+0.5**
	6.7nm,0.4s						
ARE0	**ARCESS Array S**	**38.82**	**337**	P	**P**	**14 55 53.3**	**-4.3**
NB2	**NORSAR Subarra**	**42.08**	**322**	P	**P**	**14 56 25.3**	**+0.8**
	1.5nm,0.8s,mb3.7,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**42.08**	**322**	P	**P**	**14 56 25.5**	**+1.0**
	2.1nm,0.8s,mb3.8,baz=96,slow=8.2,SNR=4.1						

SOF ***27*** *14:50:39.3, 44.70N×25.65E, h8km, MD3.1*
NEIC ***27*** *14:50:40.7, 44.62N×25.85E, h10km, MD3.6(BUC), ML3.4(BUC), After BUC.*
CSEM ***27*** *14:50:40.7±0.1, 44.68N×25.80E, h5km, MD3.6, Error ellipse: s-maj=2.0km s-min=1.6km az=31.0*
BUC ***27*** *14:50:41.2±0.6, 44.62N×25.76E, h16km±4km, MD3.5/6, Error ellipse: s-maj=6.5km s-min=3.4km az=35.0*

ISC 27 14:50:42.3±0.6, 44.61N±0.03×25.81E±0.03, h12km±5km, n37, σ1§17/60, 10C-15D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUC1	**Bucharest**	**0.31**	**149**	⇑*iP*	**Pg**	**14 50 48.8**	**0.0**
BUC1				*i* S	**Sg**	**14 50 54.3**	**+1.1**
BUC1	**Bucharest**	**0.31**	**149**	⇑P	**Pg**	**14 50 48.8**	**-0.1**
BUC1				S	**Sg**	**14 50 54.3**	**+1.2**
SULR		**0.33**	**78**	⇑*iP*	**Pg**	**14 50 48.5**	**-0.7**
SULR				*i* S	**Sg**	**14 50 54.7**	**+0.9**
ISR	**Istrita**	**0.73**	**45**	⇓P	**Pb**	**14 50 55.0**	**-1.4**
ISR	**Istrita**	**0.73**	**45**	⇓*iP*	**Pb**	**14 50 55.0**	**-1.4**
SNX	**Sinaia**	**0.77**	**344**	⇓*iP*	**Pb**	**14 50 55.8**	**-1.4**
SNX				*i* S	**Sb**	**14 51 07.3**	**-0.1**
SNX	**Sinaia**	**0.77**	**344**	⇓P	**Pb**	**14 50 55.8**	**-1.4**
SNX				S	**Sb**	**14 51 07.3**	**-0.1**
MTUR	**Matau**	**0.81**	**319**	⇑*iP*	**Pb**	**14 50 56.4**	**-1.5**
MTUR				*i* S	**Sb**	**14 51 10.7**	**+2.2**
MTUR	**Matau**	**0.81**	**319**	⇑P	**Pb**	**14 50 56.4**	**-1.5**
MTUR				S	**Sb**	**14 51 10.7**	**+2.2**
MLR	**Muntele Rosu**	**0.89**	**6**	⇑*iP*	**Pb**	**14 50 58.6**	**-0.5**
MLR				*i* S	**Sb**	**14 51 12.0**	**+1.4**
MLR	**Muntele Rosu**	**0.89**	**6**	⇑P	**Pb**	**14 50 58.6**	**-0.6**
MLR				S	**Sb**	**14 51 12.0**	**+1.4**
VOIR		**0.99**	**327**	⇓*iP*	**Pb**	**14 51 00.0**	**-0.9**
VOIR				*i* S	**Sb**	**14 51 14.1**	**+0.5**
VOIR		**0.99**	**327**	⇓P	**Pb**	**14 51 00.0**	**-0.8**
VOIR				S	**Sb**	**14 51 14.1**	**+0.5**
AMRR		**1.09**	**90**	⇑*iP*	**Pb**	**14 51 01.8**	**-0.8**
AMRR				*i* S	**Sb**	**14 51 17.4**	**+0.8**
SZH	**Strazhica**	**1.35**	**176**	*i* P	**Pn**	**14 51 08.0**	**+1.0**
PLOR	**Plostina**	**1.38**	**25**	⇑*iP*	**Pn**	**14 51 06.9**	**-0.5**
PLOR				*i* S	**Sb**	**14 51 26.1**	**+1.3**
VRI	**Vrincioaia**	**1.41**	**27**	⇓*iP*	**Pn**	**14 51 07.7**	**-0.3**
VRI				*i* S	**Sb**	**14 51 28.4**	**+2.4**
VRI	**Vrincioaia**	**1.41**	**27**	⇓P	**Pn**	**14 51 07.6**	**-0.3**
VRI				S	**Sb**	**14 51 28.4**	**+2.4**
VRI	**Vrincioaia**	**1.41**	**27**	⇓P	**Pn**	**14 51 07.6**	**-0.4**
PVL	**Pavlikeni**	**1.44**	**194**	*i* P	**Pn**	**14 51 10.5**	**+2.2**
CRAR	**CRAIOVA**	**1.47**	**259**	*i* S	**Sb**	**14 51 30.3**	**+2.8**
CFR	**Carcaliu**	**1.75**	**70**	⇑*iP*	**Pn**	**14 51 12.5**	**-0.2**
CFR				*i* S	**Sn**	**14 51 35.0**	**0.0**
CFR	**Carcaliu**	**1.75**	**70**	⇓P	**Pn**	**14 51 11.6**	**-1.1**
CFR				S	**Sn**	**14 51 34.8**	**-0.2**
CFR	**Carcaliu**	**1.75**	**70**	⇓*iP*	**Pn**	**14 51 11.6**	**-1.1**
CFR				*i* S	**Sn**	**14 51 34.8**	**-0.2**
PRD	**Provadia**	**1.82**	**140**	*i* P	**Pn**	**14 51 14.3**	**+0.5**
TIRR	**Tirgusor**	**1.87**	**94**	⇓*iP*	**Pn**	**14 51 14.0**	**-0.5**
TIRR				*i* S	**Sn**	**14 51 38.3**	**+0.2**
TIRR	**Tirgusor**	**1.87**	**94**	⇓P	**Pn**	**14 51 14.0**	**-0.5**
TIRR				S	**Sn**	**14 51 38.4**	**+0.3**
PSN	**Preselentsi**	**1.94**	**118**	*eP*	**Pn**	**14 51 16.0**	**+0.4**
TLCR		**2.21**	**74**	⇓*iP*	**Pn**	**14 51 18.4**	**-1.0**
TLCR				*i* S	**Sn**	**14 51 45.9**	**-0.9**
TLCR		**2.21**	**74**	⇓P	**Pn**	**14 51 18.4**	**-1.0**
TLCR				S	**Sn**	**14 51 45.9**	**-0.9**
PGB	**Panagyurishte**	**2.38**	**211**	*i* P	**Pn**	**14 51 26.0**	**+4.2**
VTS	**Vitosha**	**2.77**	**224**	*eP*	**Pn**	**14 51 26.0**	**-1.3**
VTS				*i* Pg	**Pg**	**14 51 32.0**	**-5.6**
KDZ	**Kurdzhali**	**2.97**	**186**	*eP*	**Pn**	**14 51 29.0**	**-1.3**
MMB	**Musomiste**	**3.38**	**208**	*i* P	**Pb**	**14 51 44.0**	**+2.1**
KKB	**Krupnik**	**3.39**	**217**	*eP*	**Pn**	**14 51 35.0**	**-1.2**
GRUS	**Gruza**	**3.73**	**261**	*e*Pn	**Pn**	**14 51 39.6**	**-1.4**
CSS	**Prodhromos**	**11.23**	**147**	P	**P**	**14 53 19.5**	**-6.3**

MAN 27 14:51:43.7, 9.51N×127.08E, h6km, mb4.0, ML2.8, MS2.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.53**	**250**	*eP*	Pn	14 52 06.5	-5.2
BUTP				*eS*	Sb	14 52 29.1	-2.7
SCPH	**Surigao**	**1.59**	**280**	*eP*	Pn	14 52 11.8	-0.7
SCPH				*eS*	Sb	14 52 33.6	+0.3
MSLP	**Maasin**	**2.27**	**286**	*eP*	Pn	14 52 23.9	+1.6
BUKP	**Musuan**	**2.57**	**231**	*eP*	Pn	14 52 26.2	-0.3
BUKP				*eS*	Sn	14 52 54.3	-4.1
BESP	**Borongan**	**2.63**	**322**	*eP*	Pn	14 52 27.0	-0.4

CSEM ***27*** *14:53:24.1±0.2, 37.80N×25.41W, ML2.7, Error ellipse: s-maj=7.9km s-min=4.4km az=174.0, After PDA*
PDA ***27*** *14:53:24.1±0.6, 37.80N×25.41W, MD2.6, ML2.7, Error ellipse: s-maj=1.2km s-min=1.1km az=23.0*

**SVSA 27 14:53:24.1±0.6, 37.80N×25.41W, MD2.6, ML2.7, Error ellipse: s-

KRVZ				S*	S	14 56 50.8	-0.1	
OTVZ	**Oturere**	**0.77**	**232**	⇑P*	P	14 56 38.8	0.0	
OTVZ				S*	S	14 56 51.0	-0.3	
WTVZ	**West Tongariro**	**0.79**	**238**	P*	P	14 56 38.8	-0.2	
NGZ	**Ngauruhoe**	**0.81**	**234**	⇑P*	P	14 56 39.4	+0.1	
CNZ	**Chateau**	**0.86**	**234**	P*	P	14 56 39.8	+0.1	
WPVZ	**Whakapapa**	**0.86**	**234**	P*	P	14 56 40.1	+0.2	
TWVZ	**Taurewa**	**0.87**	**244**	P*	P	14 56 39.6	-0.3	
TWVZ				S*	S	14 56 52.6	-0.8	
MOVZ	**Moawhango**	**0.89**	**217**	⇑P*	P	14 56 39.7	-0.4	
MOVZ				S*	S	14 56 52.5	-1.2	
FWVZ	**Far West T-bar**	**0.89**	**231**	P*	P	14 56 40.0	-0.1	
DRZ	**Dome Shelter**	**0.90**	**230**	P*	P	14 56 40.3	+0.1	
DRZ				S*	S	14 56 53.0	-0.9	
TRVZ	**Turoa**	**0.92**	**229**	P*	P	14 56 40.4	0.0	
MWZ	**Matawai**	**0.92**	**67**	⇓P*	P	14 56 40.2	-0.2	
KNZ	**Kokohu**	**1.01**	**109**	PN	P	14 56 41.9	+0.4	
KNZ				SN	S	14 56 56.6	+0.3	
MTVZ	**Mangateitei**	**1.02**	**228**	P*	P	14 56 41.6	-0.1	
HIZ	**Hauiti**	**1.26**	**278**	⇓PN	P	14 56 44.2	-0.5	
WIZ	**White Island**	**1.31**	**27**	P*	P	14 56 44.4	-1.0	
PXZ	**Pawanui**	**1.37**	**166**	⇑PN	P	14 56 45.3	-1.0	
PXZ				SN	S	14 57 03.0	-1.2	
VRZ	**Vera Road**	**1.38**	**251**	⇓P*	P	14 56 45.8	-0.6	
TSZ	**Takapari Road**	**1.41**	**195**	⇑PN	P	14 56 45.4	-1.3	
TSZ				SN	S	14 57 03.9	-1.2	
WAZ	**Wanganui**	**1.55**	**227**	⇓PN	P	14 56 48.1	-0.4	
PUZ	**Puketiti**	**1.56**	**67**	PN	P	14 56 47.8	-0.8	
PUZ				*e*SN	S	14 57 07.7	-0.6	
RAEZ	**Rainy Point**	**1.70**	**249**	PN	P	14 56 50.5	0.0	
MXZ	**Matakaoa Point**	**1.85**	**53**	PN	P	14 56 52.1	-0.4	
NEZ	**North Egmont**	**1.92**	**252**	PN	P	14 56 53.6	+0.2	
PKE	**Pukeiti**	**1.98**	**255**	PN	P	14 56 53.8	-0.4	
BFZ	**Birch Farm**	**1.99**	**184**	PN	P	14 56 51.9	-2.4	
KUZ	**Kuaotunu**	**2.03**	**343**	PN	P	14 56 54.0	-0.9	
NRZ	**Ngariki Road**	**2.06**	**251**	*e*PN	P	14 56 54.7	-0.6	
MRZ	**Mangatainoka R**	**2.07**	**199**	PN	P	14 56 52.9	-2.6	
NWEZ	**Newall Road**	**2.09**	**253**	*e*PN	P	14 56 54.5	-1.2	
KIW	**Kapiti Island**	**2.46**	**208**	PN	P	14 56 57.9	-3.1	

NIED ***27*** *15:01:00,42.80N×148.90E,h23km,Mw3.6 Best double couple: M₀2.85×10¹⁴ NP1:φs354°,δ89°,λ173°. NP2:φs84°, δ83°,λ1°.*
IDC ***27*** *15:01:17.9±1.5,42.07N×148.85E,mb3.9/7,mb1 4.0/8, mb1mx3.8/21,mbtmp3.9/8,ML4.0/1,Error ellipse: s-maj=48.1km s-min=26.6km az=77.0*
NEIC ***27*** *15:01:19.4±1.0,42.15N×149.04E,h10km,MG4.0(JMA), Error ellipse: s-maj=37.4km s-min=14.5km az=82.0*
ISC 27 15:01:18.3±5.6,42.1N±0.1×148.6E±0.2,h10km±36km,n10, σ0s87/11,mb4.0/8,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**4.83**	**297**	Pn	**Pn**	**15 02 32.1**	**-0.8**
	4.6nm,0.3s,baz=112,slow=11,SNR=28						
ASAJ				Sn	**Sn**	**15 03 29.4**	**-0.3**
	baz=243,slow=33,SNR=3.0						
YAK	**Yakutsk**	**22.95**	**337**	P	**P**	**15 06 23.8**	**+0.4**
	8.4nm,0.3s,mb4.7						
SONM	**Songino Array**	**30.12**	**296**	P	**P**	**15 07 32.4**	**+2.2**
	0.9nm,0.7s,mb3.6,baz=79,slow=7.3,SNR=2.1						
MKAR	**Makanchi Array**	**46.31**	**300**	P	**P**	**15 09 46.7**	**+0.9**
	0.3nm,0.5s,mb3.5,baz=80,slow=8.8,SNR=6.7						
ARCES	**ARCESS Array B**	**61.18**	**340**	P	**P**	**15 11 34.6**	**-0.3**
	2.4nm,1.1s,mb4.3,baz=27,slow=8.1,SNR=2.6						
WRAB	**Tennant Creek**	**63.09**	**195**	P	**P**	**15 11 48.8**	**+0.5**
WRA	**Warramunga Arr**	**63.10**	**195**	P	**P**	**15 11 47.3**	**-1.1**
	0.6nm,0.6s,mb3.9,baz=11,slow=6.8,SNR=9.7						
FINES	**FINESS Array B**	**66.84**	**334**	P	**P**	**15 12 10.9**	**-1.0**
	0.9nm,0.7s,mb3.9,baz=34,slow=6.9,SNR=5.0						
NOA	**NORSAR Array B**	**71.54**	**340**	P	**P**	**15 12 40.9**	**0.0**
	1.8nm,0.9s,mb4.0,baz=30,slow=5.2,SNR=3.0						
HFS	**Hagfors**	**71.64**	**338**	P	**P**	**15 12 41.3**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=22,slow=7.8,SNR=3.8						

NEIC ***27*** *15:39:58.4,32.25S×71.36W,h43km,MD4.1(GUC),After GUC.*
GUC 27 15:39:58.4±0.7,32.25S×71.36W,h43km±1km,MD4.1, ML3.6,10C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.38**	**342**	⇑*i*P	P	15 40 07.8	+0.1
CHNG				*i* S	S	15 40 14.7	+0.3
CHNG				AMP		15 40 14.9	
	comp=N,3μm,0.4s						
JACH	**Jahuel**	**0.78**	**124**	⇑*i*P	P	15 40 13.8	+0.7
JACH				*i* S	S	15 40 25.3	+1.5
ROCH	**El Roble**	**0.78**	**158**	⇑*i*P	P	15 40 13.8	+0.7
ROCH				*i* S	S	15 40 25.4	+1.5
IHA	**Instituto Hidr**	**0.81**	**197**	⇑*i*P	P	15 40 13.9	+0.4
IHA				*i* S	S	15 40 25.5	+0.9
LCCH	**Las Cruces**	**1.24**	**188**	⇑*i*P	P	15 40 20.0	+0.5
LCCH				*i* S	S	15 40 36.1	+0.7
RCDM	**Rinconada Maip**	**1.32**	**159**	*i* P	P	15 40 21.2	+0.3
RCDM				*i* S	S	15 40 38.9	+1.4
RCDM				AMP		15 40 47.0	
	comp=E,2μm,0.1s						
DSCH	**Colegio Aleman**	**1.33**	**150**	⇑*i*P	P	15 40 21.6	+0.7
DSCH				*i* S	S	15 40 39.0	+1.3
DSCH				AMP		15 40 40.5	
	comp=E,4μm,0.8s						
CLCH	**Cerro Calan**	**1.34**	**149**	⇓*i*P	P	15 40 21.7	+0.6
CLCH				*i* S	S	15 40 39.3	+1.3
CLCH				AMP		15 40 40.4	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**1.41**	**140**	⇓*i*P	P	15 40 22.6	+0.6
FCH				*i* S	S	15 40 41.7	+2.1
FCH				AMP		15 40 42.5	
	comp=E,1μm,0.2s						
TACH	**Talagante**	**1.45**	**166**	⇑*i*P	P	15 40 22.9	+0.3
TACH				*i* S	S	15 40 41.7	+1.1
ANTU	**Antumapu**	**1.46**	**155**	*e*P	P	15 40 23.0	+0.3
ANTU				*i* S	S	15 40 42.0	+1.3
ANTU				AMP		15 40 48.5	
	comp=N,1μm,0.2s						
PCH	**Pirque**	**1.54**	**153**	⇑*i*P	P	15 40 24.4	+0.4
PCH				*i* S	S	15 40 44.9	+1.8
CHCH	**Chadas Angostu**	**1.79**	**161**	*e*P	P	15 40 28.2	+0.8
CHCH				*i* S	S	15 40 50.4	+1.5
CACH	**El Canelo**	**1.97**	**161**	⇑*i*P	P	15 40 31.4	+1.4
TLL	**Tololo Astrono**	**2.13**	**13**	*e*P	P	15 40 33.1	+0.9
TLL				*i* S	S	15 40 59.1	+1.5
TLL				AMP		15 41 04.2	
	comp=N,946nm,0.4s						
CICH	**Cipreses**	**2.21**	**159**	⇑*i*P	P	15 40 34.6	+1.1
SFDO	**San Fernando**	**2.38**	**173**	*e*P	P	15 40 36.2	+0.4

WEL 27 15:40:10.8±0.4,38.93S×175.24E,h150km±3km,ML3.5/12, Error ellipse: s-maj=2.5km s-min=2.4km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOVZ	**Moawhango**	**0.62**	**140**	PN	P	15 40 33.2	-0.1
MOVZ				SN	S	15 40 49.5	-1.1
WAZ	**Wanganui**	**0.85**	**193**	PN	P	15 40 34.4	-0.2
WAZ				SN	S	15 40 52.2	-0.7
PKE	**Pukeiti**	**1.01**	**255**	PN	P	15 40 35.2	-0.7
TSZ	**Takapari Road**	**1.26**	**154**	PN	P	15 40 38.0	-0.3
TSZ				SN	S	15 40 57.5	-1.9
URZ	**Urewera**	**1.61**	**66**	PN	P	15 40 41.8	-0.2
URZ				SN	S	15 41 04.7	-1.2
PXZ	**Pawanui**	**1.67**	**132**	PN	P	15 40 42.5	-0.1
PXZ				SN	S	15 41 05.3	-1.7
MRZ	**Mangatainoka R**	**1.75**	**171**	PN	P	15 40 42.0	-1.5
MRZ				SN	S	15 41 04.2	-4.3
MWZ	**Matawai**	**1.89**	**72**	PN	P	15 40 45.0	0.0
KNZ	**Kokohu**	**1.90**	**93**	PN	P	15 40 45.2	0.0
KNZ				SN	S	15 41 09.9	-1.6
BFZ	**Birch Farm**	**1.91**	**156**	*e*PN	P	15 40 44.0	-1.2
KIW	**Kapiti Island**	**1.94**	**187**	PN	P	15 40 43.4	-2.2
CAW	**Cannon Point**	**2.18**	**183**	PN	P	15 40 46.1	-2.4
MTW	**Mount Morrison**	**2.23**	**175**	PN	P	15 40 46.7	-2.5
MRW	**Makara Radio**	**2.33**	**190**	PN	P	15 40 47.7	-2.8
TCW	**Tory Channel**	**2.40**	**198**	PN	P	15 40 48.1	-3.1
TCW				SN	S	15 41 16.1	-6.0
NNZ	**Nelson**	**2.69**	**211**	PN	P	15 40 51.1	-3.9
NNZ				SN	S	15 41 22.7	-6.0

NEIC ***27*** *15:43:44.4,27.88S×71.07W,h41km,MD3.8(GUC),After GUC.*
GUC 27 15:43:44.4±1.0,27.88S×71.07W,h41km±5km,MD3.8, ML3.6,1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.82**	**51**	*e*P	P	15 44 00.3	+0.7
CPCH				*i* S	S	15 44 11.6	+0.8
CPCH				AMP		15 44 19.6	
	comp=E,10μm,0.1s						
CDCH	**Caldera**	**0.83**	**15**	⇓*i*P	P	15 43 59.7	-0.1
CDCH				*i* S	S	15 44 11.7	+0.6
CDCH				AMP		15 44 12.9	
	comp=N,1μm,0.3s						
CRCH	**Chaqaral**	**1.58**	**15**	*e*P	P	15 44 11.2	+0.7
CRCH				*i* S	S	15 44 30.9	+1.0
CRCH				AMP		15 44 35.7	
	comp=N,435nm,0.1s						
TLL	**Tololo Astrono**	**2.29**	**174**	*e*P	P	15 44 21.4	+0.9
TLL				*i* S	S	15 44 49.1	+1.4
TLL				AMP		15 45 00.0	
	comp=N,682nm,0.4s						
CPN1	**Cerro Paranal**	**3.30**	**11**	*e*P	P	15 44 33.9	-1.0
CPN1				*i* S	S	15 45 11.9	-1.4
CPN1				AMP		15 45 30.1	
	comp=E,174nm,0.2s						

IDC 27 15:46:40.5±3.9,5.28N×94.92E,mb3.6/4,mb1 3.8/4, mb1mx3.6/17,mbtmp3.6/4,Error ellipse: s-maj=147.0km s-min=28.3km az=60.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**41.34**	**116**	*e*P	P	15 54 56.6	+27
	6.4nm,1.0s						
MKAR	**Makanchi Array**	**42.77**	**347**	P	P	15 54 39.6	-1.8
	0.4nm,0.5s,baz=165,slow=8.5,SNR=6.9						
SONM	**Songino Array**	**43.53**	**11**	P	P	15 54 46.0	-1.6
	0.2nm,0.4s,baz=202,slow=7.8,SNR=2.2						
WRA	**Warramunga Arr**	**46.15**	**124**	P	P	15 55 07.1	-1.8
	0.7nm,0.6s,baz=303,slow=9.2,SNR=6.8						
ZAL	**Zalesovo**	**49.21**	**352**	P	P	15 55 30.2	-2.1
	1.0nm,0.5s,baz=354,slow=4.1,SNR=4.6						

CSEM ***27*** *15:58:03.4, 12.08N×44.99E,h7km,ML3.5,After DHMR*
DHMR 27 15:58:03.4±0.9,12.08N×44.99E,h8km±5km,ML3.5,2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**0.69**	**360**	⇓*i*P	Pg	15 58 16.3	-1.0
ADEN				*i* S	Sg	15 58 26.4	-0.3
ADEN				AML	AML	15 58 33.8	
	comp=E,2μm,0.7s						
ADEN	**Aden**	**0.69**	**360**	⇓*i*P	Pg	15 58 16.3	-1.0
ADEN				*i* S	Sg	15 58 26.4	-0.2
	comp=E,943nm,0.7s						
TRBA	**At Turbah**	**1.43**	**324**	*i* P	Pn	15 58 29.9	+0.2
TRBA				*i* S	Sb	15 58 50.1	+2.0
TRBA				AML	AML	15 59 04.3	
	comp=E,727nm,0.7s						
LBOS		**1.80**	**8**	*i* P	Pn	15 58 35.8	+0.7
LBOS				*i* S	Sn	15 59 01.8	+3.4
BDHA	**Al Bayda'**	**1.97**	**17**	*i* P	Pn	15 58 38.4	+0.9
BDHA				*i* S	Sn	15 59 05.2	+2.6
BDHA	**Al Bayda'**	**1.97**	**17**	*i* P	Pn	15 58 38.4	+0.9
BDHA				*i* S	Sn	15 59 05.2	+2.6

WEL 27 16:07:25.3±0.1,39.17S×177.64E,h30km,ML3.7/11,4C, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNZ	**Kokohu**	**0.15**	**9**	⇑P*	Pb	16 07 31.2	+0.2
KNZ				S*	Sb	16 07 34.8	-0.1
KNZ				S*	Sb	16 07 35.1	+0.2
MWZ	**Matawai**	**0.84**	**354**	⇑PN	Pn	16 07 40.4	-0.7
MWZ				SN	Sn	16 07 52.0	-0.3
BKZ	**Black Stump Fm**	**0.90**	**270**	⇑PN	Pn	16 07 41.1	-0.9
BKZ				SN	Sn	16 07 53.3	-0.6
URZ	**Urewera**	**1.00**	**335**	⇑PN	Pn	16 07 42.5	-0.9
URZ				SN	Sn	16 07 55.5	-1.0
PUZ	**Puketiti**	**1.19**	**24**	PN	Pn	16 07 45.4	-0.8
HATZ	**Hinemaiaia**	**1.24**	**282**	PN	Pn	16 07 46.1	-0.8
EDRZ	**Edgecumbe**	**1.27**	**326**	PN	Pn	16 07 46.4	-0.9
TAZ	**Tarawera**	**1.29**	**316**	PN	Pn	16 07 46.8	-0.7
MOVZ	**Moawhango**	**1.49**	**260**	PN	Pn	16 07 49.8	-0.6
RATZ	**Rangitukua**	**1.49**	**281**	PN	Pn	16 07 49.3	-1.1
LIRZ	**Lichensteins R**	**1.52**	**319**	PN	Pn	16 07 49.4	-1.5
KRVZ	**Karewarewa**	**1.56**	**272**	*e*PN	Pn	16 07 50.6	-0.8
TSZ	**Takapari Road**	**1.58**	**235**	PN	Pn	16 07 50.3	-1.4
WTVZ	**West Tongariro**	**1.60**	**271**	*e*PN	Pn	16 07 51.3	-0.6
FWVZ	**Far West T-bar**	**1.63**	**266**	PN	Pn	16 07 51.5	-0.9
CNZ	**Chateau**	**1.63**	**268**	PN	Pn	16 07 51.6	-0.8
WPVZ	**Whakapapa**	**1.63**	**268**	PN	Pn	16 07 51.5	-0.9
TRVZ	**Turoa**	**1.63**	**265**	PN	Pn	16 07 51.7	-0.8
MXZ	**Matakaoa Point**	**1.68**	**18**	*e*PN	Pn	16 07 53.0	-0.1
BFZ	**Birch Farm**	**1.85**	**215**	PN	Pn	16 07 53.4	-2.2
BFZ				SN	Sn	16 08 16.1	-2.2
WAZ	**Wanganui**	**2.14**	**253**	PN	Pn	16 07 59.3	-0.5
HIZ	**Hauiti**	**2.27**	**286**	PN	Pn	16 07 60.0	-1.6
KIW	**Kapiti Island**	**2.70**	**230**	*e*PN	Pn	16 08 04.9	-2.8
CAW	**Cannon Point**	**2.77**	**225**	PN	Pn	16 08 05.6	-3.1
TCW	**Tory Channel**	**3.29**	**231**	*e*PN	Pn	16 08 12.5	-3.6

CSEM ***27*** *16:13:47.8±0.1,37.77N×25.41W,h2km,ML3.3,Error ellipse: s-maj=5.3km s-min=2.7km az=14.0,After PDA*
PDA ***27*** *16:13:47.8±1.2,37.77N×25.41W,h2km±1km,ML3.3,Error ellipse: s-maj=2.1km s-min=2.0km az=117.0*
SVSA 27 16:13:47.8±1.2,37.77N×25.41W,h2km±1km,ML3.3, Error ellipse: s-maj=2.1km s-min=2.0km az=117.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.01**	**96**	*i* P	Pg	16 13 48.8	+0.6
PCNG				*e*S	Sg	16 13 49.1	+0.7
PCNG	**Congro**	**0.01**	**96**	*e*S	Sg	16 13 49.1	+0.7
VIF	**Vila Franca**	**0.03**	**227**	*i* P	Pg	16 13 49.3	+0.8
VIF				*e*S	Sg	16 13 50.0	+1.0
VIF	**Vila Franca**	**0.03**	**227**	*e*S	Sg	16 13 50.0	+1.0
MESC	**Monte Escuro**	**0.04**	**310**	*e*P	Pg	16 13 49.6	+1.0
MESC				*e*S	Sg	16 13 50.0	+0.8
FRA1	**Furnas**	**0.05**	**122**	*e*P	Pg	16 13 49.4	+0.6
LFA	**Lagoa do Fogo**	**0.06**	**274**	*i* P	Pg	16 13 50.0	+1.0
PMAT	**Coroa da Mata**	**0.07**	**314**	*e*P	Pg	16 13 50.4	+1.2
PMAT				*e*S	Sg	16 13 51.4	+1.2
PRCH	**Ribeira Ch**	**0.07**	**235**	*e*P	Pg	16 13 50.2	+1.0
PRCH				*i* S	Sg	16 13 51.2	+1.0
CMLA	**Cha da Macela**	**0.09**	**267**	*e*P	Pg	16 13 49.4	-0.3
CMLA				*e*S	Sg	16 13 51.4	+0.5
PFAD	**Fenais da Ajud**	**0.10**	**44**	*i* P	Pg	16 13 50.6	+0.8
MIRA	**Miradouro**	**0.10**	**80**	*e*P	Pg	16 13 50.6	+0.7
CML	**Cha da Macela**	**0.11**	**272**	*e*P	Pg	16 13 51.0	+1.0
FAC	**Faja de Cima**	**0.19**	**272**	*e*P	Pg	16 13 53.4	+1.8
PDA	**Ponta Delgada**	**0.20**	**264**	*e*P	Pg	16 13 51.4	-0.5
PDA				*e*S	Sg	16 13 54.8	+0.2
PSET	**Sete Cidades**	**0.25**	**283**	*e*P	Pg	16 13 52.9	0.0
PSET				*e*S	Sg	16 13 57.4	+1.1
	6μm,0.4s						
PSAN	**Santo Antonio**	**0.27**	**288**	*e*P	Pg	16 13 54.5	+1.4
PFET	**Feteiras**	**0.31**	**279**	*e*P	Pg	16 13 54.7	+0.8
SET2	**Ginetes**	**0.33**	**284**	*i* P	Pg	16 13 55.6	+1.3
SET4	**Mosteiros**	**0.33**	**289**	*i* P	Pg	16 13 55.7	+1.4
PFAV	**Pico das Favas**	**1.62**	**306**	*e*P	Pn	16 14 15.4	-2.2
PFAV				*e*S	Sb	16 14 34.5	-4.5
	47nm,0.3s						
PSCM	**Serra do Cume**	**1.64**	**305**	*e*P	Pn	16 14 13.4	-4.4
PSCM				*e*S	Sb	16 14 33.0	-6.5
	108nm,0.4s						
RIB2	**Ribeirinha**	**1.66**	**304**	*e*P	Pn	16 14 13.4	-4.7
RIB2				*e*S	Sb	16 14 33.7	-6.4
	62nm,0.3s						
ADH	**Angra Heroismo**	**1.69**	**302**	*e*P	Pn	16 14 14.2	-4.4
ADH				*e*S	Sb	16 14 33.8	-7.2
PPAD	**Pico dos Padre**	**1.75**	**303**	*e*P	Pn	16 14 16.0	-3.4
PPAD				*e*S	Sn	16 14 37.0	-5.6
	55nm,0.5s						
ASBA	**Santa Barbara**	**1.78**	**303**	*e*P	Pn	16 14 16.7	-3.2
ASBA				*e*S	Sn	16 14 37.4	-6.1
	46nm,0.3s						
PMAN	**Manadas**	**2.28**	**293**	*e*S	Sn	16 14 49.3	-6.8
ROSA	**Rosais**	**2.42**	**294**	*e*P	Pn	16 14 25.4	-3.7
PICO	**Pico**	**2.49**	**288**	*e*P	Pn	16 14 25.8	-4.2
PICO				*e*S	Sn	16 14 54.3	-7.1
CALA	**Caldeira**	**2.72**	**288**	*e*P	Pn	16 14 29.2	-4.1
CALA				*e*S	Sn	16 15 00.9	-6.4

CSEM ***27*** *16:14:27.9±0.8,37.77N×25.42W,h0km±1km,ML2.9,Error ellipse: s-maj=1.1km s-min=1.0km az=88.0,After PDA*
PDA ***27*** *16:14:27.9±0.8,37.77N×25.42W,h0km±1km,ML2.9,Error ellipse: s-maj=1.1km s-min=1.0km az=88.0*
SVSA 27 16:14:27.9±0.8,37.77N×25.42W,h0km±1km,ML2.9, Error ellipse: s-maj=1.1km s-min=1.0km az=88.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.02**	**93**	*i* P	Pg	16 14 28.7	+0.4
PCNG				*e*S	Sg	16 14 29.4	+0.9
PCNG	**Congro**	**0.02**	**93**	*e*S	Sg	16 14 29.4	+0.9
VIF	**Vila Franca**	**0.03**	**217**	*i* P	Pg	16 14 29.2	+0.7
VIF				*e*S	Sg	16 14 30.2	+1.3
VIF	**Vila Franca**	**0.03**	**217**	*e*S	Sg	16 14 30.2	+1.3
MESC	**Monte Escuro**	**0.03**	**319**	*i* P	Pg	16 14 29.4	+0.8
MESC				*e*S	Sg	16 14 30.2	+1.2
MESC	**Monte Escuro**	**0.03**	**319**	*e*S	Sg	16 14 30.2	+1.2
LFA	**Lagoa do Fogo**	**0.05**	**275**	*i* P	Pg	16 14 29.6	+0.7
PRCH	**Ribeira Ch**	**0.06**	**231**	*e*P	Pg	16 14 29.9	+0.7
PRCH				*e*S	Sg	16 14 31.1	+1.1
PMAT	**Coroa da Mata**	**0.06**	**319**	*e*P	Pg	16 14 30.0	+0.8
PMAT				*e*S	Sg	16 14 31.4	+1.4
CMLA	**Cha da Macela**	**0.08**	**267**	*i* P	Pg	16 14 28.8	-0.8
CMLA				*e*S	Sg	16 14 30.5	-0.2
CMLA	**Cha da Macela**	**0.08**	**267**	*e*S	Sg	16 14 30.5	-0.2
CML	**Cha da Macela**	**0.10**	**272**	*e*P	Pg	16 14 30.7	+0.8
MIRA	**Miradouro**	**0.11**	**81**	*e*P	Pg	16 14 29.5	-0.6
MIRA				*e*S	Sg	16 14 31.6	0.0
FAC	**Faja de Cima**	**0.18**	**272**	erx		16 14 33.9	
FAC	**Faja de Cima**	**0.18**	**272**	*e-*		16 14 33.9	
PDA	**Ponta Delgada**	**0.20**	**264**	*e*P	Pg	16 14 35.2	+3.4
PDA				*e*S	Sg	16 14 39.3	+4.9
PSET	**Sete Cidades**	**0.25**	**283**	*e*P	Pg	16 14 34.0	+1.2
PSET				*e*S	Sg	16 14 38.2	+2.1
	931nm,0.3s						
PSAN	**Santo Antonio**	**0.26**	**289**	*e*P	Pg	16 14 34.1	+1.1
PFET	**Feteiras**	**0.30**	**280**	*e*P	Pg	16 14 34.6	+0.8

BJI ***27*** *16:19:05.4, 12.20N×40.11E,h25km,mB5.1,mb4.9,Ms4.4, Msz4.0*
DHMR ***27*** *16:19:06.0±2.8,12.67N×40.43E,h12km±177km,ML4.2*
IDC ***27*** *16:19:07.1±1.4,12.32N×40.64E,mb4.1/11,mb1 4.2/12, mb1mx4.1/19,mbtmp4.1/12,ML4.1/1,MS3.7/11,Ms1 3.7/11, ms1mx3.6/22,Error ellipse: s-maj=33.0km s-min=13.9km az=25.0*
MOS ***27*** *16:19:07.6±0.9,12.43N×40.59E,h10km,mb4.7/10,Error ellipse: s-maj=17.0km s-min=8.0km az=90.7*
NEIC ***27*** *16:19:08.7±0.6,12.34N×40.60E,h10km,mb4.6/7, ML4.3(DHMR),Error ellipse: s-maj=13.2km s-min=8.5km az=17.0*
CSEM ***27*** *16:19:09.4±0.1,12.30N×40.57E,h26km,mb4.6/11,Error ellipse: s-maj=4.3km s-min=2.7km az=177.0*
ISC 27 16:19:07.5±2.3,12.32N±0.09×40.58E±0.04,h14km±15km, h23km±3.3km:pP-P,n76,σ1s05/79,mb4.4/23,MS3.7/12, 5C-2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.35**	**109**	Pn	**Pn**	**16 19 46.3**	**+0.1**
	48nm,0.3s,baz=107,slow=4.5,SNR=39						
ATD				Lg		16 20 19.9	
	25nm,0.3s,baz=280,slow=23,SNR=18						
TRBA	**At Turbah**	**3.56**	**75**	*e*P	**Pn**	**16 20 04.9**	**+1.4**
TRBA				*i* S	**Sn**	**16 20 54.4**	**+8.6**
TRBA				AML	AML	16 21 03.9	
	comp=N,1μm,0.7s						
TRBA	**At Turbah**	**3.56**	**75**	*e*P	**Pn**	**16 20 04.9**	**+1.4**
TRBA				*i* S	**Sn**	**16 20 54.4**	**+8.6**
TRBA	**At Turbah**	**3.56**	**75**	*e*P	**Pn**	**16 20 04.9**	**+1.4**
TRBA				*i* S	**Sn**	**16 20 50.9**	**+5.1**
	comp=N,646nm,0.7s						
UDYN	**Al 'Udayn**	**3.68**	**63**	*i* S	**Sn**	**16 20 51.8**	**+3.1**
UDYN				AML	AML	16 21 11.5	
	comp=E,860nm,0.8s						
DHBB	**Dhamar BB**	**4.33**	**58**	*i* P	**Pn**	**16 20 13.7**	**-0.7**
DHBB				*i* S	**Sn**	**16 21 06.9**	**+1.8**
DHBB	**Dhamar BB**	**4.33**	**58**	*e*P	**Pn**	**16 20 13.3**	**-

GRF						pmax	pmax				
	comp=Z,10.0nm,1.4s,mb4.3										
DBIC	**Dimbokro**	**45.12**	**267**		P	**P**		**16 27 26.7**	**+1.1**		
	comp=Z,4.1nm,1.0s,mb4.2,baz=84,slow=9.2,SNR=3.3										
DBIC					LR	LR		16 45 36.8			
	comp=Z,87nm,20.7s,MS3.7,baz=57,slow=35										
DBIC	**Dimbokro**	**45.12**	**267**		P	**P**		**16 27 25.3**	**-0.3**		
	comp=Z,4.7nm,0.9s,mb4.3										
DBIC	**Dimbokro**	**45.12**	**267**		P	**P**		**16 27 25.3**	**-0.3**		
	comp=Z,4.7nm,0.9s,mb4.3										
DBIC	**Dimbokro**	**45.12**	**267**		P	**P**		**16 27 26.7**	**+1.1**		
DBIC					pmax	pmax					
	comp=Z,4.0nm,1.0s										
DBIC					MLR	MLR					
	comp=Z,87nm,20.7s										
ARU	**Arti**	**46.16**	**14**	*i* P		**P**		**16 27 33.6**	**+0.4**		
	comp=Z,10.0nm,1.1s,mb4.7										
ARU					eS	**S**		**16 34 16.7**	**-1.3**		
ARU	**Arti**	**46.16**	**14**	⇓*i* P		**P**		**16 27 33.6**	**+0.4**		
ARU				*e*				16 29 21.7			
ARU					eS	**S**		**16 34 16.7**	**-1.3**		
ARU					pmax	pmax					
	comp=Z,10.0nm,1.1s,mb4.7										
BVAR	**Borovoye Array**	**47.06**	**24**	P		**P**		**16 27 40.3**	**-0.1**		
	comp=Z,2.3nm,0.9s,mb4.1,baz=214,slow=11,SNR=9.6										
CHKZ	**Chkalovo**	**47.64**	**24**	*eP*		**P**		**16 27 44.3**	**-0.7**		
	comp=Z,5.5nm,0.9s,mb4.6										
CHKZ				*e*				16 27 52.6			
CHKZ	**Chkalovo**	**47.64**	**24**	*eP*		**P**		**16 27 44.3**	**-0.7**		
CHKZ				*e*				16 27 52.6			
CHKZ					pmax	pmax					
	comp=Z,5.0nm,0.9s,mb4.5										
ESDC	**Sonseca Array**	**47.75**	**313**		P	**P**		**16 27 46.1**	**0.0**		
	comp=Z,0.2nm,0.3s,mb3.7,baz=110,slow=6.4,SNR=5.7										
MKAR	**Makanchi Array**	**49.06**	**37**		P	**P**		**16 27 56.0**	**0.0**		
	comp=Z,4.2nm,1.1s,mb4.4,baz=233,slow=6.1,SNR=15										
MKAR					LR	LR		16 52 43.0			
	comp=Z,145nm,19.5s,MS4.0,baz=356,slow=41										
KURK	**Kurchatov**	**49.23**	**31**	*i* P		**P**		**16 27 57.5**	**+0.2**		
KURK	**Kurchatov**	**49.23**	**31**	*c i*P		**P**		**16 27 57.5**	**+0.2**		
NOA	**NORSAR Array B**	**53.15**	**343**		P	**P**		**16 28 26.1**	**-0.8**		
	comp=Z,6.7nm,1.2s,mb4.5,baz=139,slow=7.9,SNR=3.1										
NOA					LR	LR		16 51 03.6			
	comp=Z,34nm,19.0s,MS3.4,slow=36										
NOA	**NORSAR Array B**	**53.15**	**343**		P	**P**		**16 28 26.1**	**-0.8**		
NOA					LR	LR		16 51 03.6			
ZAL	**Zalesovo**	**54.19**	**31**		P	**P**		**16 28 34.2**	**-0.3**		
	comp=Z,1.1nm,0.4s,mb4.2,baz=217,slow=8.4,SNR=6.1										
GTA	**Gaotai**	**58.58**	**51**	*eP*		**P**		**16 29 06.0**	**-0.2**		
GTA					AP	pP		16 29 11.0	+0.3		
GTA					XP	sP		16 29 14.3	+2.0		
GTA					AMB	AMB					
	comp=Z,6.0nm,1.6s,mb4.4										
LZH	**Lanzhou**	**61.28**	**56**	*eP*		**P**		**16 29 25.0**	**+0.2**		
LZH					AP	pP		16 29 31.5	+2.2		
LZH					XP	sP		16 29 34.5	+3.5		
LZH					AMB	AMB					
	comp=Z,26nm,1.5s,mb5.1										
LZH	**Lanzhou**	**61.28**	**56**	*eP*		**P**		**16 29 25.0**	**+0.2**		
	comp=Z,26nm,1.5s,mb5.1										
LZH					pP	pP		16 29 31.5	+2.2		
LZH					sP	sP		16 29 34.5	+3.5		
LZH	**Lanzhou**	**61.28**	**56**	*eP*		**P**		**16 29 25.0**	**+0.2**		
LZH					*PP	pP		16 29 31.5	+2.2		
LZH					pmax	pmax					
	comp=Z,26nm,1.5s,mb5.1										
SONM	**Songino Array**	**64.76**	**43**		P	**P**		**16 29 47.5**	**-0.1**		
	comp=Z,2.4nm,1.2s,mb4.1,baz=252,slow=9.4,SNR=8.4										
SONM					LR	LR		17 01 43.6			
	comp=Z,122nm,19.7s,MS4.1,baz=208,slow=40										
ULN	**Ulaanbaatar**	**65.20**	**43**	*eP*		**P**		**16 29 50.1**	**-0.4**		
HHC	**Hu-ho-hao-te**	**67.68**	**51**	*eP*		**P**		**16 30 03.0**	**-3.5**		
HHC					AMB	AMB					
	comp=Z,15nm,0.4s,mb5.4										
WHN	**Wuhan**	**69.95**	**62**	*eP*		**P**		**16 30 20.3**	**-0.3**		
BOD	**Bodaibo**	**70.83**	**33**	*eP*		**P**		**16 30 24.2**	**-1.3**		
	comp=Z,6.0nm,1.5s,mb4.3										
BOD	**Bodaibo**	**70.83**	**33**	*eP*		**P**		**16 30 24.2**	**-1.3**		
BOD					pmax	pmax					
	comp=Z,6.0nm,1.5s,mb4.3										
NJ2	**Nanjing**	**73.70**	**60**	*eP*		**P**		**16 30 44.0**	**+1.0**		
NJ2					AP	pP		16 30 53.5	+5.9		
NJ2					XP	sP		16 30 56.5	+7.3		
NJ2					PCP	PcP		16 30 59.5	+0.4		
NJ2					S	S		16 40 10.0	-1.9		
NJ2					XS			16 40 24.0			
NJ2					AMB	AMB					
	comp=Z,10.0nm,0.6s,mb4.9										
NJ2					AMB	AMB					
	comp=Z,120nm,6.2s										
NJ2					LR	LR					
	comp=N,240nm,23.8s,MS4.6										
NJ2					LR	LR					
	comp=E,240nm,21.5s,MS4.6										
NJ2					LR	LR					
	comp=Z,140nm,20.6s,MS4.2										
SSE	**Sheshan**	**75.77**	**61**		P	**P**		**16 30 53.5**	**-1.5**		
SSE					AP	pP		16 31 03.0	+3.5		
SSE					S	S		16 40 32.5	-2.4		
SSE					XS			16 40 48.5			
SSE					SCS	ScS		16 41 04.3	-0.9		
SSE					AMB	AMB					
	comp=Z,28nm,0.8s,mb5.2										
SSE					AMB	AMB					
	comp=Z,174nm,4.1s										
SSE					LR	LR					
	comp=N,29nm,21.9s,MS3.8										
SSE					LR	LR					
	comp=E,44nm,21.9s,MS3.8										
SSE					LR	LR					
	comp=Z,33nm,17.1s,MS3.7										
SSE	**Sheshan**	**75.77**	**61**		P	**P**		**16 30 53.4**	**-1.6**		
	comp=Z,28nm,0.8s,mb5.2										
SSE					pP	pP		16 31 02.9	+3.4		
SSE					S	S		16 40 32.4	-2.5		
SSE					sS			16 40 48.4			
SSE					ScS	ScS		16 41 04.3	-0.9		
SSE					SS	SS		16 45 23.9	-5.8		
SSE					LR	LR					
	comp=Z,30nm,17.1s,MS3.7										
NWAO	**Narrogin (SRO)**	**85.69**	**125**		LR	LR		17 01 33.5			
	comp=Z,152nm,21.9s,MS4.3,baz=144,slow=30										
SNAA	**Sanae**	**88.65**	**193**		P	**P**		**16 32 04.3**	**+3.3**		
SNAA	**Sanae**	**88.65**	**193**	*i* P		**P**		**16 32 03.8**	**+2.8**		
SNAA	**Sanae**	**88.65**	**193**	*c i*P		**P**		**16 32 03.8**	**+2.8**		
VNA2	**Neumayer--Watz**	**89.15**	**194**			**P**		**16 32 09.6**	**+6.2**		
VNA2	**Neumayer--Watz**	**89.15**	**194**		P	**P**		**16 32 03.8**	**+0.4**		
VNA2					P	pP		16 32 09.6	+1.6		
BDFB	**Brasilia**	**91.93**	**255**		LR	LR		17 11 43.0			
	comp=Z,52nm,22.0s,MS3.9,baz=277,slow=34										

*CSEM **27** 16:19:40.9±2.3,37.76N×25.40W,h2km±10km,ML2.6, Error ellipse: s-maj=49.4km s-min=12.0km az=141.0,After PDA*
*PDA **27** 16:19:40.9±1.0,37.76N×25.40W,h2km±1km,MD2.4, ML2.6,Error ellipse: s-maj=2.0km s-min=1.5km az=140.0*
SVSA 27 16:19:40.9±1.0,37.76N×25.40W,h2km±1km,MD2.4, ML2.6,Error ellipse: s-maj=2.0km s-min=1.5km az=140.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**30**	*i* P		Pg	16 19 41.9	+0.7
PCNG					*e*S	Sg	16 19 42.5	+1.0
PCNG	**Congro**	**0.01**	**30**	*e*S		Sg	16 19 42.5	+1.0
VIF	**Vila Franca**	**0.03**	**244**	*i* P		Pg	16 19 42.3	+0.7
VIF				*e*S		Sg	16 19 43.1	+1.0
VIF	**Vila Franca**	**0.03**	**244**	*e*S		Sg	16 19 43.1	+1.0
FRA1	**Furnas**	**0.04**	**116**	*eP*		Pg	16 19 41.7	0.0
MESC	**Monte Escuro**	**0.05**	**313**	*i* P		Pg	16 19 42.5	+0.6
MESC				*i* S		Sg	16 19 43.8	+1.2
MESC	**Monte Escuro**	**0.05**	**313**	*i* S		Sg	16 19 43.8	+1.2
LFA	**Lagoa do Fogo**	**0.07**	**281**	*i* P		Pg	16 19 42.9	+0.6
PRCH	**Ribeira Ch**	**0.07**	**243**	*eP*		Pg	16 19 42.9	+0.6
PRCH				*i* S		Sg	16 19 44.3	+1.0
	4μm,0.2s							
PMAT	**Coroa da Mata**	**0.08**	**315**	*eP*		Pg	16 19 42.9	+0.4
PMAT				*i* S		Sg	16 19 44.5	+0.9
CMLA	**Cha da Macela**	**0.10**	**272**	*eP*		Pg	16 19 41.8	-1.1
CMLA				*e*S		Sg	16 19 43.7	-0.5
MIRA	**Miradouro**	**0.10**	**75**	*i* P		Pg	16 19 42.9	0.0
MIRA				*i* S		Sg	16 19 45.0	+0.7
PFAD	**Fenais da Ajud**	**0.10**	**38**	*i* P		Pg	16 19 43.5	+0.6
PFAD				*e*S		Sg	16 19 45.6	+1.3
PFAD	**Fenais da Ajud**	**0.10**	**38**	*e*S		Sg	16 19 45.6	+1.3
CML	**Cha da Macela**	**0.12**	**275**	*eP*		Pg	16 19 43.9	+0.7
FAC	**Faja de Cima**	**0.20**	**274**	*eP*		Pg	16 19 46.1	+1.2
PDA	**Ponta Delgada**	**0.21**	**266**	*eP*		Pg	16 19 44.6	-0.5
PDA				*e*S		Sg	16 19 48.1	+0.2
PSET	**Sete Cidades**	**0.26**	**284**	*eP*		Pg	16 19 45.2	-0.9
PSET				*e*S		Sg	16 19 49.4	-0.2
	335nm,0.3s							
PSAN	**Santo Antonio**	**0.27**	**290**	*eP*		Pg	16 19 47.5	+1.1
PFET	**Feteiras**	**0.31**	**281**	*eP*		Pg	16 19 47.7	+0.6
SET2	**Ginetes**	**0.33**	**285**	*eP*		Pg	16 19 48.1	+0.6
SET4	**Mosteiros**	**0.34**	**290**	*eP*		Pg	16 19 48.4	+0.8

*IDC **27** 16:26:37.5±1.9,0.22S×95.79E,mb4.0/7,mb1 4.1/7, mb1mx3.9/16,mbtmp4.0/7,Error ellipse: s-maj=78.3km s-min=26.2km az=51.0*
*NEIC **27** 16:26:43.5±1.1,0.17N×96.27E,h30km,mb4.2/1,Error ellipse: s-maj=24.8km s-min=20.3km az=34.0*
ISC 27 16:26:41.8±1.2,0.2N±0.2×96.3E±0.2,h30km,n11, σ1°01/11,mb4.0/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.65**	**41**	*e*Pn		**Pn**	**16 28 19.4**	**-0.7**
WRA	**Warramunga Arr**	**42.31**	**121**	P		**P**	**16 34 35.1**	**+0.1**
	0.5nm,0.7s,mb3.2,baz=302,slow=8.5,SNR=8.6							
MKAR	**Makanchi Array**	**47.37**	**347**	P		**P**	**16 35 21.1**	**+1.3**
	2.7nm,0.6s,mb4.5,baz=168,slow=9.1,SNR=33							
SONM	**Songino Array**	**48.22**	**9**	P		**P**	**16 35 23.4**	**+1.6**
	0.9nm,0.7s,mb3.9,baz=192,slow=9.6,SNR=6.2							
ULN	**Ulaanbaatar**	**48.36**	**10**	P		**P**	**16 35 22.5**	**-0.4**
ZAL	**Zalesovo**	**54.36**	**352**	P		**P**	**16 36 08.9**	**+0.9**
	3.8nm,0.4s,mb4.7,baz=318,slow=4.3,SNR=11							
BVAR	**Borovoye Array**	**56.87**	**342**	P		**P**	**16 36 25.1**	**-1.1**
	0.9nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=5.2							
CHKZ	**Chkalovo**	**57.36**	**342**	*eP*		**P**	**16 36 28.7**	**-1.0**
	1.4nm,0.6s,mb4.2							
AKASG	**Malin Array Be**	**75.47**	**323**	P		**P**	**16 38 23.6**	**-1.4**
	0.2nm,0.3s,mb3.6,baz=92,slow=4.9,SNR=5.5							
ARCES	**ARCESS Array B**	**83.14**	**340**	P		**P**	**16 39 06.7**	**+0.8**
	2.0nm,0.9s,mb4.2,baz=104,slow=3.7,SNR=4.9							
ARCES	**ARCESS Array B**	**83.14**	**340**	P		**P**	**16 39 06.7**	**+0.8**

*BJI **27** 16:27:00.3,40.41N×77.24E,h21km,ML3.5*
*NNC **27** 16:27:09.7±99.0,40.31N×76.44E,mpv3.3,Error ellipse: s-maj=797.5km s-min=375.7km az=124.0*
ISC 27 16:26:55.4±4.5,39.9N±0.2×77.7E±0.3,h10km,n10, σ0°94/11,1C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.42**	**254**	PG		**Pg**	**16 27 24.0**	**+0.2**
KSH				SG		**Sg**	**16 27 42.5**	**-0.2**
KSH				Smax				
	comp=N,970nm,0.3s							
KSH				Smax				
	comp=E,1μm,0.5s							
KZA	**Kyzart**	**2.85**	**320**	P		**Pn**	**16 27 40.9**	**-1.0**
	SNR=6.5							
UCH	**Uchtor**	**3.34**	**314**	P		**Pn**	**16 27 48.0**	**-0.8**
	SNR=12							
TKM2	**Tokmak 2**	**3.39**	**332**	P		**Pn**	**16 27 49.6**	**+0.1**
	SNR=9.0							
KBK	**Karagaybulak**	**3.44**	**323**	P		**Pn**	**16 27 51.7**	**+1.6**
	SNR=39							
AAK	**Ala-Archa**	**3.64**	**319**	P		**Pn**	**16 27 55.0**	**+2.0**
	SNR=26							
AML	**Almyashu**	**3.76**	**307**	P		**Pn**	**16 27 54.3**	**-0.5**
	SNR=8.0							
CHMS	**Chumysh**	**3.79**	**325**	P		**Pn**	**16 27 54.5**	**-0.8**
	SNR=5.8							
USP	**Ospenovka**	**4.12**	**325**	P		**Pn**	**16 27 59.0**	**-0.9**
	SNR=5.4							
KK31	**Karatay Array**	**6.28**	**303**	⇓Pg		**Pb**	**16 28 45.3**	**+0.7**
	comp=E,2.9nm,0.7s,baz=123,slow=16,SNR=8.8							
KK31				⇑Lg			16 29 56.3	
	comp=E,2.3nm,0.6s,baz=119,slow=26,SNR=4.6							

*CSEM **27** 16:28:06.5±0.1,37.76N×25.40W,h5km,ML2.8,Error ellipse: s-maj=3.5km s-min=2.1km az=177.0,After PDA*
*PDA **27** 16:28:06.5±0.6,37.76N×25.40W,h5km±1km,ML2.8,Error ellipse: s-maj=1.8km s-min=1.3km az=135.0*
SVSA 27 16:28:06.5±0.6,37.76N×25.40W,h5km±1km,ML2.8, Error ellipse: s-maj=1.8km s-min=1.3km az=135.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**25**	*e*P		Pg	16 28 07.7	+0.3
PCNG				*e*S		Sg	16 28 09.1	+1.1
	3μm,0.3s							
VIF	**Vila Franca**	**0.03**	**248**	*e*P		Pg	16 28 08.2	+0.6
VIF				*e*S		Sg	16 28 09.5	+1.2
FRA1	**Furnas**	**0.04**	**111**	*e*P		Pg	16 28 08.0	+0.3
MESC	**Monte Escuro**	**0.05**	**316**	*e*P		Pg	16 28 08.4	+0.6
MESC				*e*S		Sg	16 28 09.9	+1.2
PRCH	**Ribeira Ch**	**0.07**	**245**	*e*P		Pg	16 28 08.8	+0.7
PRCH				*e*S		Sg	16 28 10.1	+0.9
	4μm,0.3s							
PMAT	**Coroa da Mata**	**0.08**	**317**	*e*P		Pg	16 28 08.9	+0.6
PMAT				*e*S		Sg	16 28 10.5	+0.9
CMLA	**Cha da Macela**	**0.10**	**274**	*e*P		Pg	16 28 07.8	-0.8
CMLA				*e*S		Sg	16 28 09.6	-0.5
MIRA	**Miradouro**	**0.10**	**74**	*e*P		Pg	16 28 08.6	-0.1
MIRA				*e*S		Sg	16 28 10.8	+0.6
PFAD	**Fenais da Ajud**	**0.10**	**37**	*e*P		Pg	16 28 09.3	+0.6
PFAD				*e*S		Sg	16 28 11.3	+1.1
CML	**Cha da Macela**	**0.12**	**277**	*e*P		Pg	16 28 09.8	+0.8
FAC	**Faja de Cima**	**0.20**	**275**	*e*rx			16 28 12.7	
FAC	**Faja de Cima**	**0.20**	**275**	*e*-			16 28 12.7	
PDA	**Ponta Delgada**	**0.21**	**267**	*e*P		Pg	16 28 10.8	+0.1
PDA				*e*S		Sg	16 28 13.8	+0.2
PSAN	**Santo Antonio**	**0.27**	**290**	*e*rx			16 28 13.1	
SET2	**Ginetes**	**0.33**	**285**	*e*rx			16 28 13.6	
SET4	**Mosteiros**	**0.34**	**291**	*e*rx			16 28 13.8	

*CSEM **27** 16:28:35.2±0.2,37.77N×25.40W,h1km,ML3.1,Error ellipse: s-maj=8.3km s-min=3.1km az=24.0,After PDA*
*PDA **27** 16:28:35.2±1.4,37.77N×25.40W,h1km±1km,MD2.8, ML3.1,Error ellipse: s-maj=3.0km s-min=2.7km az=107.0*
SVSA 27 16:28:35.2±1.4,37.77N×25.40W,h1km±1km,MD2.8, ML3.1,Error ellipse: s-maj=3.0km s-min=2.7km az=107.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**80**	*i* P		Pg	16 28 36.2	+0.8
VIF	**Vila Franca**	**0.04**	**234**	*i* P		Pg	16 28 36.7	+0.8
FRA1	**Furnas**	**0.04**	**122**	*i* P		Pg	16 28 36.7	+0.6
MESC	**Monte Escuro**	**0.04**	**309**	*i* P		Pg	16 28 36.9	+0.8
LFA	**Lagoa do Fogo**	**0.06**	**276**	*i* P		Pg	16 28 37.2	+0.7
PRCH	**Ribeira Ch**	**0.07**	**238**	*e*P		Pg	16 28 37.3	+0.7
PRCH				*i* S		Sg	16 28 38.7	+1.1
PMAT	**Coroa da Mata**	**0.07**	**313**	*e*P		Pg	16 28 37.3	+0.6
PMAT				*i* S		Sg	16 28 38.7	+1.0
CMLA	**Cha da Macela**	**0.10**	**269**	*e*P		Pg	16 28 36.2	-0.9
CMLA				*e*S		Sg	16 28 38.5	+0.1
PFAD	**Fenais da Ajud**	**0.10**	**41**	*i* P		Pg	16 28 37.9	+0.8
MIRA	**Miradouro**	**0.10**	**79**	*i* P		Pg	16 28 37.9	+0.7
CML	**Cha da Macela**	**0.11**	**272**	*i* P		Pg	16 28 38.3	+0.8
FAC	**Faja de Cima**	**0.20**	**272**	*e*P		Pg	16 28 40.7	+1.6
PDA	**Ponta Delgada**	**0.21**	**265**	*e*P		Pg	16 28 39.0	-0.3
PDA				*e*S		Sg	16 28 42.8	+0.7
PSET	**Sete Cidades**	**0.26**	**283**	*e*P		Pg	16 28 40.1	-0.3
PSET				*e*S		Sg	16 28 44.7	+0.9
	4μm,0.3s							
PSAN	**Santo Antonio**	**0.27**	**288**	*e*P		Pg	16 28 41.7	+1.1
PFET	**Feteiras**	**0.31**	**280**	*e*P		Pg	16 28 42.1	+0.7
SET2	**Ginetes**	**0.33**	**284**	*e*P		Pg	16 28 42.7	+0.9
SET4	**Mosteiros**	**0.33**	**289**	*e*P		Pg	16 28 42.8	+1.0
PFAV	**Pico das Favas**	**1.63**	**306**	*e*P		Pn	16 29 01.9	-3.2
PFAV				*e*S		Sb	16 29 22.0	-4.7
	56nm,0.2s							
PSCM	**Serra do Cume**	**1.64**	**305**	*e*P		Pn	16 29 00.5	-4.9
PSCM				*e*S		Sb	16 29 20.8	-6.3
	134nm,0.4s							
RIB2	**Ribeirinha**	**1.66**	**304**	*e*P		Pn	16 29 01.6	-4.1
RIB2				*e*S		Sb	16 29 21.4	-6.3
ADH	**Angra Heroismo**	**1.69**	**302**	*i* P		Pn	16 29 01.4	-4.7
ADH				*i* S		Sb	16 29 22.2	-6.5
PVNV	**Vila Nova**	**1.70**	**306**	*e*S		Sb	16 29 23.1	-5.7
	36nm,0.3s							
PPAD	**Pico dos Padre**	**1.75**	**303**	*e*P		Pn	16 29 03.0	-4.0
PPAD				*e*S		Sn	16 29 24.0	-6.2
	44nm,0.3s							
PBIS	**Biscoitos**	**1.76**	**305**	*e*S		Sn	16 29 25.0	-5.5
ASBA	**Santa Barbara**	**1.79**	**303**	*e*S		Sn	16 29 25.9	-5.3
PMAN	**Manadas**	**2.29**	**293**	*e*P		Pn	16 29 09.5	-5.1
PMAN				*e*S		Sn	16 29 36.9	-6.9
ROSA	**Rosais**	**2.43**	**294**	*e*P		Pn	16 29 12.1	-4.5
ROSA				*e*S		Sn	16 29 41.0	-6.4
PICO	**Pico**	**2.49**	**288**	*e*P		Pn	16 29 13.3	-4.3
CALA	**Caldeira**	**2.72**	**288**	*e*P		Pn	16 29 16.8	-4.1

*CSEM **27** 16:30:49.4±0.2,37.76N×25.37W,h7km±1km,ML2.5,Error ellipse: s-maj=2.8km s-min=1.2km az=15.0*
*PDA **27** 16:30:50.0±0.8,37.75N×25.38W,h2km±1km,ML2.5,Error ellipse: s-maj=2.1km s-min=1.9km az=73.0*
SVSA 27 16:30:50.0±0.8,37.75N×25.38W,h2km±1km,ML2.5, Error ellipse: s-maj=2.1km s-min=1.9km az=73.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**328**	*e*P		Pg	16 30 51.2	+0.7
PCNG				*e*S		Sg	16 30 52.1	+1.2
	4μm,0.3s							
FRA1	**Furnas**	**0.02**	**113**	*e*P		Pg	16 30 51.1	+0.5
VIF	**Vila Franca**	**0.04**	**261**	*i* P		Pg	16 30 51.7	+0.7
VIF				*i* S		Sg	16 30 53.3	+1.7
MESC	**Monte Escuro**	**0.06**	**310**	*i* P		Pg	16 30 51.9	+0.6
MESC				*i* S		Sg	16 30 53.5	+1.3
PRCH	**Ribeira Ch**	**0.08**	**253**	*e*P		Pg	16 30 52.2	+0.6
PRCH				*e*S		Sg	16 30 53.7	+1.0
	2μm,0.3s							
LFA	**Lagoa do Fogo**	**0.08**	**285**	*e*P		Pg	16 30 52.3	+0.6
MIRA	**Miradouro**	**0.09**	**68**	*e*P		Pg	16 30 52.2	+0.4
MIRA				*e*S		Sg	16 30 54.5	+1.4
PMAT	**Coroa da Mata**	**0.09**	**313**	*e*P		Pg	16 30 52.4	+0.5
PMAT				*e*S		Sg	16 30 54.1	+0.9
PFAD	**Fenais da Ajud**	**0.10**	**29**	*i* P		Pg	16 30 52.8	+0.8
CMLA	**Cha da Macela**	**0.11**	**276**	*e*P		Pg	16 30 51.2	-1.1
CMLA				*e*S		Sg	16 30 53.5	-0.3
CML	**Cha da Macela**	**0.13**	**278**	*e*P		Pg	16 30 53.3	+0.7
FAC	**Faja de Cima**	**0.21**	**276**	*e*P		Pg	16 30 54.7	+0.4
PDA	**Ponta Delgada**	**0.22**	**269**	*e*P		Pg	16 30 53.1	-1.3
PDA				*e*S		Sg	16 30 57.1	-0.3
PSET	**Sete Cidades**	**0.28**	**285**	*e*P		Pg	16 30 54.7	-0.8
PSET				*e*S		Sg	16 30 59.3	+0.1
	267nm,0.3s							
PSAN	**Santo Antonio**	**0.29**	**290**	*e*P		Pg	16 30 56.4	+0.6
PFET	**Feteiras**	**0.33**	**282**	*e*P		Pg	16 30 57.1	+0.6
SET2	**Ginetes**	**0.35**	**285**	*e*P		Pg	16 30 57.4	+0.5

*CSEM **27** 16:34:09.6±2.4,37.76N×25.40W,h2km,ML2.7,Error ellipse: s-maj=55.4km s-min=19.4km az=92.0,After PDA*
*PDA **27** 16:34:09.6±1.1,37.76N×25.40W,h2km±1km,ML2.7,Error ellipse: s-maj=1.6km s-min=1.5km az=113.0*
SVSA 27 16:34:09.6±1.1,37.76N×25.40W,h2km±1km,ML2.7, Error ellipse: s-maj=1.6km s-min=1.5km az=113.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**54**	*i* P		Pg	16 34 10.4	+0.3
PCNG				*i* S		Sg	16 34 11.2	+0.8
PCNG	**Congro**	**0.01**	**54**	*i* S		Sg	16 34 11.2	+0.8
VIF	**Vila Franca**	**0.03**	**238**	*i* P		Pg	16 34 10.8	+0.4
VIF				*i* S		Sg	16 34 12.2	+1.3
VIF	**Vila Franca**	**0.03**	**238**	*i* S		Sg	16 34 12.2	+1.3
FRA1	**Furnas**	**0.04**	**119**	*eP*		Pg	16 34 10.3	-0.2
MESC	**Monte Escuro**	**0.04**	**312**	*i* P		Pg	16 34 11.0	+0.4
MESC				*i* S		Sg	16 34 12.6	+1.3
MESC	**Monte Escuro**	**0.04**	**312**	*i* S		Sg	16 34 12.6	+1.3
LFA	**Lagoa do Fogo**	**0.06**	**279**	*i* P		Pg	16 34 11.4	+0.4
PRCH	**Ribeira

GYA AMB AMB
comp=Z,70nm,0.8s,mb5.2
PKI Pulchoki 27.22 339 *e*P **P 16 58 04.1 +0.3**
comp=Z,60nm,0.9s,mb5.1
PKI Pulchoki 27.22 339 *e*P **P 16 58 04.1 +0.3**
PKI pmax pmax
comp=Z,30nm,0.9s,mb4.8
DMN Daman 27.37 338 *e*P **P 16 58 05.6 +0.5**
comp=Z,33nm,0.7s,mb5.0
KKN Kakani 27.47 339 *e*P **P 16 58 06.2 +0.2**
comp=Z,71nm,0.8s,mb5.3
LSA Lhasa 27.72 350⇑ *i*P **P 16 58 08.8 +0.5**
comp=Z,38nm,0.8s,mb5.1
LSA Lhasa 27.72 350⇑ *i*P **P 16 58 08.8 +0.6**
LSA pmax pmax
comp=Z,38nm,0.8s,mb5.1
GKN Gorkha 27.90 338 *e*P **P 16 58 10.3 +0.4**
comp=Z,84nm,0.8s,mb5.4
KOLN Koldanda 28.10 336 *e*P **P 16 58 12.3 +0.5**
comp=Z,53nm,0.7s,mb5.3
CD2 Chengdu 29.37 13 P **P 16 58 22.0 -1.1**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
ENH Enshi 30.56 23 *e*P **P 16 58 31.9 -1.7**
comp=Z,26nm,0.7s,mb5.2
ENH *e*pP pP 16 58 39.6 -1.9
WHN Wuhan 32.94 30 ⇓P **P 16 58 54.5 0.0**
WHN *e*S **S 17 04 14.0 +4.2**
WHN LR LR
comp=Z,1μm,20.0s,MS4.5
XAN Xi'an 33.76 19 P **P 16 59 00.5 -1.1**
XAN AMB AMB
comp=Z,111nm,0.8s,mb5.8
XAN LR LR
comp=N,43nm,11.0s,MS4.0
XAN LR LR
comp=E,177nm,13.6s,MS4.0
XAN LR LR
comp=Z,227nm,13.4s,MS4.1
LZH Lanzhou 34.38 11 *e*P **P 16 59 06.5 -0.5**
LZH AP pP 16 59 16.5 +1.6
LZH XP sP 16 59 21.0 +2.7
LZH AMB AMB
comp=Z,46nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,290nm,4.3s
LZH LR LR
comp=E,856nm,16.0s
LZH LR LR
comp=Z,1μm,17.3s,MS4.7
LZH Lanzhou 34.38 11 *e*P **P 16 59 06.4 -0.6**
comp=Z,46nm,1.0s,mb5.4
LZH pP pP 16 59 16.6 +1.7
LZH sP sP 16 59 20.9 +2.6
LZH LR LR
comp=Z,1μm,17.3s,MS4.7
LZH Lanzhou 34.38 11 *e*P **P 16 59 06.4 -0.6**
LZH *PP pP 16 59 16.6 +1.7
LZH *SP sP 16 59 20.9 +2.6
LZH pmax pmax
comp=Z,46nm,1.0s,mb5.4
LZH MLR MLR
comp=Z,1μm,17.3s,MS4.7
FITZ Fitzroy Crossi 35.31 126 *e*P **P 16 59 14.2 -0.9**
comp=Z,10nm,0.6s,mb4.9
FITZ Fitzroy Crossi 35.31 126 P **P 16 59 15.0 -0.1**
comp=Z,14nm,0.6s,mb5.0,baz=321,slow=3.4,SNR=17
NJ2 Nanjing 36.48 33 *e*P **P 16 59 25.5 +0.6**
NJ2 AP pP 16 59 35.3 +2.5
NJ2 XP sP 16 59 39.0 +2.8
NJ2 PP PP 17 00 49.5 +0.4
NJ2 S **S 17 05 03.0 -1.6**
NJ2 XS 17 05 19.0
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,370nm,4.2s
NJ2 LR LR
comp=N,560nm,13.6s,MS4.6
NJ2 LR LR
comp=E,500nm,14.0s,MS4.6
NJ2 LR LR
comp=Z,270nm,11.4s,MS4.3
SSE Sheshan 37.12 37 P **P 16 59 32.0 +1.8**
SSE PP PP 17 00 59.8 +2.5
SSE S **S 17 05 14.5 +0.2**
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,173nm,4.2s
SSE LR LR
comp=N,73nm,15.0s,MS3.8
SSE LR LR
comp=E,84nm,15.0s,MS3.8
SSE LR LR
comp=Z,84nm,16.3s,MS3.6
SSE Sheshan 37.12 37 P **P 16 59 32.0 +1.8**
comp=Z,32nm,0.7s,mb5.3
SSE pP pP 16 59 54.9 +17
SSE sP sP 17 00 06.7 +25
SSE PP PP 17 00 59.8 +2.5
SSE S **S 17 05 14.6 +0.3**
SSE sS 17 05 54.9
SSE LR LR
comp=Z,80nm,16.3s,MS3.6
GTA Gaotai 37.12 5 *e*P **P 16 59 29.8 -0.3**
GTA AP pP 16 59 37.5 -0.6
GTA XP sP 16 59 40.8 -0.6
GTA S **S 17 05 04.0 -10**
GTA AMB AMB
comp=Z,31nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,139nm,6.1s
GTA LR LR
comp=N,196nm,15.7s,MS4.2
GTA LR LR
comp=E,206nm,11.9s,MS4.2
GTA LR LR
comp=Z,217nm,16.4s,MS4.0
KAKA Kakadu 38.89 113 *e*P **P 17 00 03.6 +18**
comp=Z,15nm,0.6s,mb4.9
TIA Tai'an 38.91 27 *e*P **P 16 59 44.0 -1.2**
HHC Hu-ho-hao-te 40.83 18 *e*P **P 17 00 02.0 +1.0**
HHC AP pP 17 00 08.0 -1.0
HHC XP sP 17 00 15.0 +2.7
HHC PP PP 17 01 34.0 -4.3
HHC PCP PcP 17 02 06.3 +4.0
HHC PCS 17 05 54.5
HHC S **S 17 06 00.5 -10**
HHC AMB AMB
comp=Z,25nm,0.8s,mb4.9
HHC AMB AMB
comp=Z,99nm,5.1s
HHC LR LR
comp=N,249nm,10.7s
HHC LR LR
comp=E,337nm,16.6s
HHC LR LR
comp=Z,222nm,10.7s,MS4.3
WMQ Urumqi 42.08 351 *e*P **P 17 00 11.3 +0.1**
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,149nm,5.1s
WMQ LR LR
comp=N,194nm,19.6s,MS4.3
WMQ LR LR
comp=E,312nm,19.6s,MS4.3
WMQ LR LR
comp=Z,232nm,19.6s,MS4.1
DL2 Dalian 43.20 29 P **P 17 00 21.3 +0.8**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
WRA Warramunga Arr 43.40 122 P **P 17 00 22.7 +0.4**
comp=Z,6.1nm,0.8s,mb4.4,baz=302,slow=9.2,SNR=41
WRAB Tennant Creek 43.40 122 *e*P **P 17 00 22.8 +0.4**
comp=Z,12nm,0.8s,mb4.7
WRAB *e*pP pP 17 00 31.0 +0.7
WRAB Tennant Creek 43.40 122 *e*P **P 17 00 22.8 +0.5**
WRAB *e**PP pP 17 00 31.0 +0.7
WRAB pmax pmax
comp=Z,12nm,0.8s,mb4.7
WB2 Warramunga Arr 43.41 122⇑ *i*P **P 17 00 22.6 +0.2**
UCH Uchtor 44.31 337 P **P 17 00 30.8 +1.4**
SNR=19
TKM2 Tokmak 2 44.49 338 P **P 17 00 31.8 +0.9**
SNR=7.5
KBK Karagaybulak 44.50 338 P **P 17 00 32.1 +1.2**
SNR=12
AML Almayashu 44.55 336 *e*P **P 17 00 32.9 +1.4**
SNR=7.2
AAK Ala-Archa 44.66 337 *e*P **P 17 00 32.5 +0.3**
comp=Z,9.9nm,1.1s,mb4.5
AAK Ala-Archa 44.66 337 *d i*P **P 17 00 32.3 +0.1**
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.2
ASPA Alice Springs 44.78 127⇑ *i*P **P 17 00 33.9 +0.4**
EKS2 Erkin-Say 44.97 336 P **P 17 00 36.0 +1.3**
SNR=14
USP Ospenovka 45.20 338 P **P 17 00 37.3 +0.8**
SNR=14
MKAR Makanchi Array 45.99 347 P **P 17 00 42.8 0.0**
comp=Z,21nm,0.8s,mb5.1,baz=162,slow=7.9,SNR=146
SONM Songino Array 46.24 9 P **P 17 00 44.9 +0.2**
comp=Z,10nm,0.5s,mb5.1,baz=189,slow=9.3,SNR=87
SONM PcP PcP 17 02 20.8 +0.3
comp=Z,2.5nm,0.6s,baz=184,slow=3.7,SNR=5.2
SONM LR LR 17 22 41.4
comp=Z,222nm,18.6s,MS4.1,baz=17,slow=40
ULN Ulaanbaatar 46.38 10⇑ *i*P **P 17 00 45.8 0.0**
ZAK Zakamensk 48.32 6 *e*P **P 17 01 00.9 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CN2 Changchun 48.81 28 *e*P **P 17 01 04.5 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
KURK Kurchatov 50.53 346⇑ *e*P **P 17 01 17.6 -0.4**
comp=Z,7.8nm,0.9s,mb4.6
KURK *e*pP pP 17 01 24.0 -2.1
KURK Kurchatov 50.53 346⇑ *e*P **P 17 01 17.6 -0.4**
KURK *e*PP pP 17 01 24.0 -2.1
KURK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
HIA Hailar 50.96 20 *e*P **P 17 01 20.8 -0.4**
comp=Z,7.5nm,0.8s,mb4.7
HIA Hailar 50.96 20 *e*P **P 17 01 20.8 -0.4**
HIA pmax pmax
comp=Z,8.0nm,0.8s
MDJ Mudanjiang 51.42 30 P **P 17 01 22.5 -2.3**
MDJ AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
MDJ AMB AMB
comp=Z,88nm,5.2s
MDJ LR LR
comp=N,52nm,16.0s,MS3.9
MDJ LR LR
comp=E,77nm,16.4s,MS3.9
MDJ LR LR
comp=Z,99nm,16.4s,MS3.9
MJAR Matsushiro Arr 51.56 43 P **P 17 01 26.9 +0.9**
comp=Z,2.1nm,0.7s,mb4.2,baz=194,slow=6.4,SNR=5.6
MJAR LR LR 17 25 56.8
comp=Z,71nm,18.2s,MS3.7,baz=270,slow=39
ZAL Zalesovo 52.36 351 LR LR 17 28 55.4
OPO Ambohidratompo 52.51 245 P **P 17 01 34.2 +0.8**
comp=Z,4.8nm,1.1s,mb4.3,baz=83,slow=15,SNR=3.4
NVS Novosibirsk 53.48 351 *i* P **P 17 01 38.4 -1.6**
NVS pmax pmax
comp=Z,19nm,1.1s,mb4.9
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,19nm,1.3s
CTA Charters Tower 53.82 117 *e*P **P 17 01 42.8 -0.2**
comp=E,4.6nm,0.8s,mb4.5
CTA Charters Tower 53.82 117 *e*P **P 17 01 42.8 -0.2**
CTA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 54.77 132 *e*P **P 17 01 49.8 0.0**
comp=Z,4.3nm,0.7s,mb4.6
STKA Stephens Creek 54.77 132 P **P 17 01 50.3 +0.5**
comp=Z,3.2nm,0.7s,mb4.5,baz=312,slow=5.3,SNR=6.8
STKA LR LR 17 26 53.6
comp=Z,106nm,20.7s,MS3.9,baz=228,slow=38
BRVK Borovoye 55.01 341 *e*P **P 17 01 49.8 -1.5**
comp=Z,5.5nm,0.9s,mb4.6
BRVK Borovoye 55.01 341 *e*P **P 17 01 49.8 -1.5**
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CHKZ Chkalovo 55.43 342⇑ *i*P **P 17 01 53.4 -0.9**
comp=Z,18nm,0.7s,mb5.2
CHKZ Chkalovo 55.43 342⇑ *i*P **P 17 01 53.4 -0.9**
CHKZ pmax pmax
comp=Z,18nm,0.7s,mb5.2
KLR Kul'dur 55.75 27 *e*P **P 17 01 52.8 -3.9**
KLR MLR MLR
comp=E,400nm,13.0s
KLR MLR MLR
comp=Z,600nm,13.0s,MS4.9
BOD Bodaibo 57.15 11 *e*P **P 17 02 03.9 -2.7**
BOD pmax pmax
comp=Z,15nm,0.9s,mb5.0
CLNS Chul'man 59.02 18 *e*P **P 17 02 19.6 -0.1**
CLNS pmax pmax
comp=Z,15nm,0.7s,mb5.1
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.7s
KMBO Kilima Mbogo 59.08 267 P **P 17 02 20.2 -0.5**
comp=E,1.7nm,0.9s,mb4.1,baz=124,slow=6.9,SNR=3.8
YSS Yuzh-Sakhalins 60.02 35⇑ *i*P **P 17 02 25.8 -0.9**
YSS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 61.84 337⇓ *i*P **P 17 02 37.2 -1.8**
ARU *e* 17 03 13.8
ARU *e* 17 04 50.4
ARU *e*S **S 17 10 52.6 -6.4**
ARU *e*SS SS 17 14 58.0 -4.9
ARU pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
KIV Kislovodsk 62.89 319 *e*P **P 17 02 45.4 -0.7**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
KIV pmax pmax
comp=N,9.0nm,1.2s
KIV pmax pmax
comp=E,6.0nm,0.9s
ASF Jabal al Asfar 63.08 305 LR LR 17 32 27.2
comp=E,101nm,18.0s,MS4.0,baz=34,slow=38
YAK Yakutsk 64.68 17 *e*P **P 17 02 56.4 -1.2**
comp=E,49nm,0.8s,mb5.6
YAK Yakutsk 64.68 17 *e*P **P 17 02 56.5 -1.0**
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
BRTR Keskin Array B 67.70 312 P **P 17 03 15.9 -1.3**
comp=E,2.0nm,0.8s,mb4.2,baz=129,slow=6.7,SNR=6.8
OBN Obninsk 71.22 328 P **P 17 03 37.5 -1.0**
OBN 17 03 58.0
OBN pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PET Petropavlovsk 71.89 34⇑ *i*P **P 17 03 42.3 -0.3**
PET pmax pmax
comp=Z,33nm,1.3s,mb5.1
TIXI Tiksi 72.32 10*c i*P **P 17 03 43.8 -1.0**
TIXI pmax pmax
comp=Z,13nm,0.8s,mb4.9
SEY Seymchan 73.17 23*d i*P **P 17 03 50.0 +0.1**
AKASG Malin Array Be 73.84 322 P **P 17 03 52.8 -1.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=89,slow=5.3,SNR=6.8
FINES FINESS Array B 74.63 333 P **P 17 04 20.7 0.0**
comp=Z,4.4nm,0.7s,mb4.5,baz=96,slow=6.9,SNR=16
ARCES ARCESS Array B 81.22 340 P **P 17 04 35.2 +0.6**
comp=Z,5.2nm,0.7s,mb4.6,baz=98,slow=5.7,SNR=38
ARCES LR LR 17 46 19.1
comp=Z,109nm,18.2s,MS4.2,baz=355,slow=40
ARCES ARCESS Array B 81.22 340 P **P 17 04 35.2 +0.6**
ARCES LR LR 17 46 19.1
GERES GERESS Array B 83.40 319 P **P 17 04 47.2 +1.0**
comp=Z,2.0nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=14
NOA NORSAR Array B 85.62 331 LR LR 17 46 54.9
comp=Z,75nm,18.1s,MS4.1,baz=265,slow=38
TXAR Lajitas Array 143.25 30 PKP PKPdf 17 11 52.2 -5.0
comp=Z,0.4nm,0.4s,baz=244,slow=0.3,SNR=5.5

*NEIC **27** 16:52:24.0,52.79N×132.16W,h20km,ML3.7(PGC),After PGC.*
*IDC **27** 16:52:28.0±3.1,52.75N×131.86W,h23km±14km,mb3.5/1, mb1 3.9/5,mb1mx3.6/21,mbtmp3.6/5,ML3.9/3,MS3.1/4, Ms1 3.2/4,ms1mx2.7/27,Error ellipse: s-maj=29.3km s-min=12.7km az=48.0*

PGC 27 16:52:24.0,52.79N×132.16W,h20km,ML3.7/17,3D, 56km southwest of Sandspit, Bc West coast Moresby Island, British Columbia,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.33**	**130**	⇓P		Pb		16 52 30.6	-0.5
BNB				S		Sb		16 52 36.0	0.0
BNB				Trac				16 52 36.5	
	comp=Z,820μm,0.2s								
MOBC	**Moresby Island**	**0.44**	**21**	⇓P		Pb		16 52 32.2	-0.7
MOBC				S		Sb		16 52 38.9	-0.2
MOBC				Trac				16 52 40.1	
	comp=Z,1μm,0.1s								
VIB	**Van Inlet**	**0.52**	**334**	⇓P		Pb		16 52 33.6	-0.6
VIB				S		Sb		16 52 41.5	+0.2
VIB				Trac				16 52 41.9	
	comp=Z,1μm,0.1s								
BNAB	**Bonilla**	**1.16**	**52**	P		Pb		16 52 44.9	-0.3
BNAB				S		Sb		16 53 02.6	+2.8
BNAB				Trac				16 53 03.8	
	comp=Z,673nm,0.2s								
MASB	**Masset**	**1.23**	**4**	P		Pn		16 52 46.8	+0.5
MASB				S		Sb		16 53 04.9	+3.0
MASB				Trac				16 53 10.2	
	comp=Z,30nm,0.1s								
NDB	**Naden**	**1.26**	**339**	P		Pn		16 52 45.2	-1.5
NDB				S		Sb		16 53 01.7	-1.0
NDB				Trac				16 53 05.7	
	comp=Z,496nm,0.2s								
LIB	**Langara Island**	**1.56**	**340**	P		Pn		16 52 49.7	-1.3
LIB				S		Sn		16 53 09.8	-1.1
LIB				Trac				16 53 11.2	
	comp=Z,172nm,0.2s								
RUBB	**Prince Rupert**	**1.92**	**36**	Pn		Pn		16 52 55.7	-0.4
RUBB				Sg		Sn		16 53 24.6	+4.8
RUBB				Trac				16 53 25.6	
	comp=Z,978nm,0.2s								
BBB	**Bella Bella**	**2.55**	**102**	Pn		Pn		16 53 03.6	-1.6
	5.7nm,0.3s,baz=287,slow=11,SNR=42								
BBB				Pg		Pn		16 53 11.6	+6.4
	25nm,0.3s,baz=289,slow=16,SNR=33								
BBB				Sn		Sn		16 53 33.5	-2.4
	28nm,0.3s,baz=281,slow=19,SNR=6.2								
BBB				Lg				16 53 42.1	
	106nm,0.3s,baz=193,slow=23,SNR=26								
BBB	**Bella Bella**	**2.55**	**102**	Pn		Pn		16 53 03.5	-1.6
BBB				Pg		Pn		16 53 11.6	+6.4
BBB				Sn		Sn		16 53 33.0	-2.9
BBB				Sg		Sn		16 53 43.6	+7.7
BBB				Trac				16 53 46.0	
	comp=Z,282nm,0.2s								
BBB	**Bella Bella**	**2.55**	**102**	Pn		Pn		16 53 03.6	-1.6
BBB				Pg		Pn		16 53 11.6	+6.4
BBB				Sn		Sn		16 53 33.5	-2.4
BBB				Lg				16 53 42.1	
HOLB	**Holberg**	**3.30**	**129**	Pn		Pn		16 53 12.6	-3.3
HOLB				Sn		Sn		16 53 51.4	-3.7
HOLB				Trac				16 53 56.9	
	comp=Z,242nm,0.6s								
PHC	**Port Hardy**	**3.60**	**123**	Pn		Pn		16 53 17.1	-3.1
PHC				Sn		Sn		16 53 57.7	-4.9
PHC				Trac				16 54 02.8	
	comp=Z,149nm,0.6s								
PHC				Sg		Sn		16 54 17.1	+15
BPBC	**Brooks Peninsu**	**3.81**	**132**	Pn		Pn		16 53 21.0	-2.0
BPBC				Sn		Sn		16 54 06.2	-1.6
BPBC				Trac				16 54 12.8	
	comp=Z,132nm,0.3s								
MAYB	**Maynard**	**3.92**	**126**	Sn		Sn		16 54 10.1	-0.6
MAYB				Trac				16 54 19.0	
	comp=Z,86nm,0.5s								
EDB	**Eliza Dome**	**4.30**	**131**	Pn		Pn		16 53 28.5	-1.6
EDB				Sn		Sn		16 54 18.6	-1.8
EDB				Sg		Sn		16 54 35.5	+15
EDB				Trac				16 54 57.5	
	comp=Z,63nm,0.8s								
WOSB	**Woss**	**4.38**	**125**	Pn		Pn		16 53 29.8	-1.3
WOSB				Sn		Sn		16 54 17.6	-4.6
WOSB				Sg		Sn		16 54 41.3	+19
WOSB				Trac				16 54 58.1	
	comp=Z,39nm,0.5s								
NCRB	**Newcastle Ridg**	**4.50**	**120**	Pn		Pn		16 53 31.2	-1.6
NCRB				Sn		Sn		16 54 20.0	-5.2
NCRB				Trac				16 54 28.0	
	comp=Z,32nm,0.4s								
GDR	**Gold River**	**4.89**	**126**	Pn		Pn		16 53 37.4	-0.9
GDR				Sn		Sn		16 54 30.5	-4.6
GDR				Trac				16 55 08.0	
	comp=Z,45nm,0.6s								
CBB	**Campbell River**	**5.07**	**120**	Pn		Pn		16 53 41.1	+0.2
CBB				Sn		Sn		16 54 34.2	-5.5
CBB				Sg		Sn		16 54 58.4	+19
CBB				Trac				16 55 09.8	
	comp=Z,43nm,0.6s								
BTB	**Buttle Lake**	**5.34**	**126**	Pn		Pn		16 53 40.8	-3.9
BTB				Sn		Sn		16 54 42.3	-4.2
BTB				Trac				16 54 48.9	
	comp=Z,35nm,0.4s								
OZB	**Mount Ozzard**	**5.70**	**130**	Sn		Sn		16 54 50.1	-5.5
TXB	**Texada**	**5.76**	**119**	Pn		Pn		16 53 48.7	-1.9
TXB				Sn		Sn		16 54 55.2	-1.6
TXB				Trac				16 55 28.8	
	comp=Z,107nm,1.1s								
DLBC	**Dease Lake**	**5.79**	**11**	Pn		Pn		16 53 52.7	+1.7
	1.0nm,0.3s,baz=181,slow=20,SNR=6.7								
DLBC				Lg				16 55 24.4	
	0.7nm,0.3s,baz=339,slow=10,SNR=4.1								
DLBC				LR		LR		16 55 56.1	
	comp=Z,117nm,19.4s,baz=306,slow=36								
DLBC	**Dease Lake**	**5.79**	**11**	Pn		Pn		16 53 52.6	+1.6
DLBC				Sg		Sn		16 55 24.7	+27
DLBC				Trac				16 55 30.3	
	comp=Z,32nm,0.8s								
DLBC	**Dease Lake**	**5.79**	**11**	Pn		Pn		16 53 52.7	+1.7
DLBC				Lg				16 55 24.4	
DLBC				LR		LR		16 55 56.1	
MGB	**Mount Grey**	**6.06**	**126**	Pn		Pn		16 53 50.8	-4.1
MGB				Sn		Sn		16 54 57.7	-6.7
MGB				Trac				16 55 19.6	
	comp=Z,22nm,0.6s								
MGB				Sg		Sn		16 55 30.6	+26
SHB	**Sechelt**	**6.11**	**118**	Sg		Sn		16 55 32.5	+27
WSLR	**Whistler**	**6.36**	**111**	Sg		Sn		16 55 40.0	+28
WPB	**Watts Point**	**6.44**	**116**	Sg		Sn		16 55 44.2	+30
WPB				Trac				16 55 58.0	
	comp=Z,21nm,0.7s								
PFB	**Port Renfrew**	**6.47**	**128**	Sg		Sn		16 55 48.5	+34
BMBC	**Bull Mountain**	**6.70**	**57**	Pn		Pn		16 54 03.8	-0.2
BMBC				Sg		Sn		16 55 53.1	+33
BMBC				Trac				16 55 59.8	
	comp=Z,231nm,0.8s								
LLLB	**Lillooet**	**6.75**	**105**	Pn		Pn		16 54 01.7	-3.0
LLLB				Sg		Sn		16 55 55.9	+34
LLLB				Trac				16 56 14.8	
	comp=Z,20nm,0.7s								
FNBB	**Fort Nelson**	**7.99**	**36**	Sg		Sn		16 56 33.0	+40
MNB	**Mounoet Dainar**	**8.43**	**89**	Pn		P		16 54 26.2	-1.9
MNB				Sg		Sn		16 56 45.4	+42
PNT	**Penticton**	**8.63**	**109**	Sg		Sn		16 56 52.0	+43
YKA	**Yellowknife Ar**	**13.47**	**37**	Pn		P		16 55 35.3	-1.2
	0.1nm,0.3s,baz=229,slow=12,SNR=2.8								
YKA				LR		LR		17 00 23.9	
	comp=Z,58nm,20.0s,baz=270,slow=36								
YKA	**Yellowknife Ar**	**13.47**	**37**	Pn		P		16 55 35.3	-1.2
YKA				LR		LR		17 00 23.9	
ILAR	**Eielson Array**	**14.18**	**334**	Pn		P		16 55 52.5	+6.9
	0.0nm,0.3s,baz=148,slow=10,SNR=3.8								
ILAR	**Eielson Array**	**14.18**	**334**	Pn		P		16 55 52.5	+6.9
PDAR	**Pinedale Array**	**18.13**	**115**	Pn		P		16 56 39.8	+3.6
	0.2nm,0.3s,baz=311,slow=8.3,SNR=5.3								
TXAR	**Lajitas Array**	**31.43**	**127**	P		P		16 58 46.6	+0.6
	0.6nm,0.7s,baz=329,slow=7.3,SNR=4.6								
TXAR				pP		pP		16 58 53.8	+1.8
	0.9nm,0.7s,baz=332,slow=7.3,SNR=7.5								

*IDC **27** 17:14:39.0±1.3,38.73N×79.84E,mb3.6/5,mb1 3.9/7, mb1mx3.7/20,mbtmp3.7/7,ML3.4/2,MS3.5/2,Ms1 3.5/2, ms1mx3.1/17,Error ellipse: s-maj=33.0km s-min=23.8km az=52.0*

*BJI **27** 17:14:43.3,38.90N×80.02E,h15km,ML4.2*

*NNC **27** 17:15:19.9±12.0,41.52N×82.62E,mpv3.2,Error ellipse: s-maj=129.7km s-min=107.5km az=168.0*

ISC 27 17:14:44.6±2.2,39.0N±0.1×80.0E±0.1,h46km±19km,n12, σ0§88/13,mb3.5/5,MS4.2/1,2C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KSH	**Kashi**	**3.19**	**280**	*e*P	**P**		**17 15 32.3**	**-1.2**
KSH				S	**S**		**17 16 11.5**	**+0.8**
KSH				Smax				
	comp=N,890nm,0.4s							
KSH				Smax				
	comp=E,1μm,0.4s							
MK31	**Makanchi Array**	**7.95**	**11**	⇑Pn	**P**		**17 16 40.2**	**-0.1**
	comp=E,0.9nm,0.3s,baz=181,slow=12,SNR=95							
MK31				⇓Lg			17 18 07.7	
	comp=E,22nm,0.8s,baz=176,slow=24,SNR=9.8							
MKAR	**Makanchi Array**	**7.95**	**11**	Pn	**P**		**17 16 41.1**	**+0.8**
	comp=E,0.9nm,0.3s,baz=191,slow=12,SNR=54							
MKAR				Sn	**S**		**17 18 08.4**	**-1.5**
	comp=E,6.0nm,0.3s,baz=190,slow=28,SNR=14							
MKAR				LR	LR		17 20 39.7	
	comp=E,91nm,19.4s,baz=356,slow=44							
KURK	**Kurchatov**	**11.75**	**356**	⇑Pn	**P**		**17 17 38.9**	**+6.8**
	comp=E,2.9nm,1.0s							
ZAL	**Zalesovo**	**15.28**	**11**	Pn	**P**		**17 18 19.5**	**+1.0**
	comp=E,0.3nm,0.3s,baz=273,slow=13,SNR=3.1							
BVAR	**Borovoye Array**	**15.51**	**338**	Pn	**P**		**17 18 26.9**	**+5.4**
	comp=E,0.2nm,0.3s,baz=141,slow=9.5,SNR=5.4							
SONM	**Songino Array**	**21.00**	**57**	P	**P**		**17 19 27.4**	**+1.2**
	comp=E,1.5nm,0.9s,mb3.3,baz=253,slow=11,SNR=6.8							
FINES	**FINESS Array B**	**39.64**	**322**	P	**P**		**17 22 13.0**	**-0.1**
	comp=E,1.3nm,0.8s,mb3.7,baz=117,slow=13,SNR=4.5							
ARCES	**ARCESS Array B**	**41.76**	**335**	P	**P**		**17 22 30.8**	**+0.3**
	comp=E,1.1nm,0.7s,mb3.6,baz=100,slow=7.4,SNR=4.1							
ARCES				pP	pP		17 22 39.2	-3.9
	comp=E,1.3nm,0.8s,baz=100,slow=7.4,SNR=1.5							
GERES	**GERESS Array B**	**47.37**	**305**	P	**P**		**17 23 15.3**	**-0.3**
	comp=E,0.5nm,0.6s,mb3.6,baz=53,slow=6.7,SNR=4.5							
WRA	**Warramunga Arr**	**77.58**	**129**	P	**P**		**17 26 36.6**	**-1.0**
	comp=E,0.2nm,0.3s,mb3.5,baz=330,slow=5.5,SNR=13							
SCHQ	**Schefferville**	**82.31**	**341**	LR	LR		18 09 13.6	
	comp=E,95nm,19.7s,MS4.2,baz=89,slow=40							

*ROM **27** 18:02:43.5±0.2,43.94N×10.18E,h19km±4km,Md2.3/11, Ml2.0/5,Error ellipse: s-maj=3.5km s-min=2.2km az=70.0*

*NEIC **27** 18:02:43.5,43.94N×10.18E,h19km,MD2.3(ROM), ML2.5(LDG),ML2.1(GEN),After ROM.*

*LDG **27** 18:02:44.8±0.4,43.96N×10.17E,h10km,Ml2.5/5,Error ellipse: s-maj=8.0km s-min=4.6km az=61.0*

ISC 27 18:02:43.8±0.3,43.95N±0.03×10.12E±0.04,h18km±6km, n24,σ0§77/42,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
VINC	**Vinca**	**0.20**	**7**	P	**Pb**		**18 02 48.6**	**-0.1**
VINC				S	**Sb**		**18 02 51.4**	**-0.7**
MAIM		**0.27**	**97**	P	**Pb**		**18 02 49.4**	**-0.5**
MAIM				S	**Sb**		**18 02 52.6**	**-1.4**
VLC	**Villacollemand**	**0.29**	**42**	Pg	**Pb**		**18 02 49.9**	**-0.3**
VLC				Sg	**Sb**		**18 02 53.6**	**-0.9**
SARO	**Sassorosso**	**0.31**	**40**	P	**Pb**		**18 02 50.3**	**-0.2**
SARO				S	**Sb**		**18 02 54.5**	**-0.7**
BACM		**0.33**	**354**	P	**Pb**		**18 02 51.2**	**+0.3**
BACM				S	**Sb**		**18 02 55.8**	**0.0**
BDI	**Bagni Di Lucca**	**0.36**	**71**	Pg	**Pb**		**18 02 51.1**	**-0.3**
BDI				Sg	**Sb**		**18 02 55.7**	**-0.9**
	159nm,0.3s							
PII	**Pisa**	**0.37**	**127**	Pg	**Pb**		**18 02 51.6**	**+0.1**
PII				Sg	**Sb**		**18 02 56.2**	**-0.5**
	79nm,0.2s							
VALM		**0.41**	**13**	P	**Pb**		**18 02 52.5**	**+0.2**
VALM				S	**Sb**		**18 02 57.9**	**-0.1**
CODM		**0.49**	**336**	P	**Pb**		**18 02 54.0**	**+0.5**
CODM				S	**Sb**		**18 03 00.6**	**+0.6**
ERBM	**Eremo**	**0.52**	**24**	Pg	**Pb**		**18 02 54.8**	**+0.8**
ERBM				Sg	**Sb**		**18 03 02.1**	**+1.1**
GSCL	**Gusciola**	**0.53**	**40**	Pg	**Pb**		**18 02 54.7**	**+0.5**
GSCL				Sg	**Sb**		**18 03 02.2**	**+0.9**
	39nm,0.4s							
GROG	**Isola di Gorgo**	**0.55**	**198**	Pg	**Pb**		**18 02 55.5**	**+1.0**
GROG				Sg	**Sb**		**18 03 03.4**	**+1.6**
	59nm,0.2s							
GRAM		**0.55**	**356**	P	**Pb**		**18 02 55.1**	**+0.6**
GRAM				S	**Sb**		**18 03 02.2**	**+0.3**
PZZT	**Monte Pizzetto**	**0.57**	**71**	Pg	**Pb**		**18 02 54.9**	**+0.1**
	112nm,0.4s							
FNVD	**Fontana Vidola**	**0.76**	**73**	Pg	**Pb**		**18 02 57.1**	**-1.0**
	63nm,0.6s							
VMG	**Vicchio**	**1.03**	**89**	Pg	**Pb**		**18 03 03.1**	**+0.4**
	14nm,0.3s							
SFI	**Santa Sofia**	**1.25**	**91**	Pg	**Pn**		**18 03 07.0**	**+0.6**
	5.0nm,0.2s							
CRE	**Caprese Michel**	**1.36**	**103**	Pg	**Pn**		**18 03 09.1**	**+1.0**
	330nm,3.6s							
FIN	**Finale Ligure**	**1.40**	**281**	Pg	**Pn**		**18 03 10.0**	**+1.3**
	5.0nm,0.2s							
PGF	**Pioggiola**	**1.62**	**211**	*e*Pn	**Pn**		**18 03 12.2**	**+0.5**
PGF				*e*Sn	**Sn**		**18 03 32.0**	**-0.3**
	6.9nm,0.3s							
SBF	**Sospel**	**1.94**	**268**	*e*Pn	**Pn**		**18 03 16.9**	**+0.5**
SBF				*e*Sn	**Sn**		**18 03 40.1**	**-0.4**
	6.4nm,0.2s							
MBDF	**Montbardon**	**2.53**	**289**	*e*Pn	**Pn**		**18 03 24.3**	**-0.4**
MBDF				*e*Sn	**Sn**		**18 03 53.8**	**-1.5**
	4.5nm,0.4s							
FRF	**La Foret Royal**	**2.55**	**263**	*e*Pn	**Pn**		**18 03 25.1**	**+0.1**
FRF				*e*Sn	**Sn**		**18 03 54.6**	**-1.2**
	2.5nm,0.2s							
LMR	**La Mourre**	**2.69**	**258**	*e*Pn	**Pn**		**18 03 27.2**	**+0.1**
LMR				*e*Sn	**Sn**		**18 03 57.5**	**-2.0**
	1.9nm,0.2s							

*IDC **27** 18:21:43.2±0.7,10.52S×111.79E,mb4.5/10,mb1 4.6/11, mb1mx4.5/15,mbtmp4.5/11,ML4.4/1,MS3.8/10,Ms1 3.8/10, ms1mx3.7/17,Error ellipse: s-maj=28.8km s-min=13.5km az=47.0*

*MOS **27** 18:21:47.0±1.1,10.44S×111.86E,h33km,mb5.0/12,Error ellipse: s-maj=19.2km s-min=9.8km az=114.4*

*BJI **27** 18:21:48.2,10.50S×111.90E,h35km,mB5.2,mb4.7, Ms4.6,Msz4.1*

*NEIC **27** 18:21:48.3±0.5,10.52S×111.87E,mb4.7/13,Error ellipse: s-maj=20.2km s-min=7.7km az=46.0*

ISC 27 18:21:46.8±0.4,10.44S±0.08×111.91E±0.09,h32km, h32km±2.7km:pP-P,n71,σ1§03/71,mb4.7/35,MS3.9/14, 3C-2D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MBWA	**Marble Bar**	**13.05**	**146**	*e*Pn	**P**		**18 24 44.7**	**-7.9**
	13nm,0.4s							
MBWA				*e*Sn	S		18 26 55.0	-23
FITZ	**Fitzroy Crossi**	**15.33**	**121**	*e*P	**P**		**18 25 20.0**	**-2.7**
	7.4nm,0.4s							
FITZ				*e*S	**S**		**18 27 52.6**	**-19**
FITZ	**Fitzroy Crossi**	**15.33**	**121**	Pn	**P**		**18 25 20.6**	**-2.1**
	1.2nm,0.3s,baz=310,slow=4.0,SNR=15							
FITZ				Sn	**S**		**18 27 55.8**	**-16**
	1.8nm,0.3s,baz=170,slow=12,SNR=4.8							
NWAO	**Narrogin (SRO)**	**22.91**	**168**	LR	LR		18 34 57.8	
	comp=Z,344nm,20.8s,MS3.8,baz=86,slow=35							
WRA	**Warramunga Arr**	**23.60**	**116**	P	**P**		**18 26 56.2**	**+0.4**
	28nm,0.9s,mb4.7,baz=289,slow=11,SNR=88							
WRA				S	**S**		**18 31 14.1**	**+10**
	1.8nm,0.9s,baz=294,slow=24,SNR=5.2							
WRA	**Warramunga Arr**	**23.60**	**116**	P	**P**		**18 26 56.2**	**+0.3**
WRA				S	**S**		**18 31 14.2**	**+10**
WRAB	**Tennant Creek**	**23.60**	**116**	*e*P	**P**		**18 26 56.4**	**+0.5**
	41nm,1.0s,mb4.8							
WRAB	**Tennant Creek**	**23.60**	**116**	*e*P	**P**		**18 26 56.4**	**+0.5**
WRAB				pmax	pmax			
	comp=Z,41nm,1.0s,mb4.8							
WB2	**Warramunga Arr**	**23.61**	**116**	*e*P	**P**		**18 26 56.2**	**+0.2**
ASPA	**Alice Springs**	**24.76**	**125**	*e*P	**P**		**18 27 07.8**	**+0.7**
CTA	**Charters Tower**	**34.43**	**110**	*e*P	**P**		**18 28 35.1**	**+1.4**
	comp=Z,3.5nm,0.8s,mb4.3							
CTA	**Charters Tower**	**34.43**	**110**	*e*P	**P**		**18 28 35.1**	**+1.4**
CTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
STKA	**Stephens Creek**	**34.76**	**132**	*e*P	**P**		**18 28 36.3**	**-0.1**
	comp=Z,12nm,0.9s,mb4.8							
STKA	**Stephens Creek**	**34.76**	**132**	P	**P**		**18 28 36.5**	**+0.2**
	comp=Z,14nm,0.8s,mb4.9,baz=307,slow=8.4,SNR=18							
STKA				LR	LR		18 43 51.1	
	comp=Z,132nm,20.8s,MS3.7,baz=320,slow=38							
JOW	**Kunigami**	**40.31**	**23**	LR	LR		18 47 15.6	
	comp=Z,98nm,20.1s,MS3.7,baz=66,slow=38							
ENH	**Enshi**	**40.54**	**357**	*e*P	**P**		**18 29 25.1**	**+0.3**
	comp=Z,7.3nm,0.6s,mb4.5							
WHN	**Wuhan**	**40.81**	**3**	*e*P	**P**		**18 29 28.8**	**+1.7**
CD2	**Chengdu**	**41.85**	**349**	P	**P**		**18 29 38.8**	**+3.1**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.6							
SSE	**Sheshan**	**42.24**	**12**	P	**P**		**18 29 37.3**	**-1.6**
SSE				PP	PP		18 31 17.3	-2.3
SSE				S	**S**		**18 35 54.0**	**-2.9**
SSE				AMB	AMB			
	comp=Z,26nm,0.7s,mb5.0							
SSE				AMB	AMB			
	comp=Z,170nm,4.7s							
SSE	**Sheshan**	**42.24**	**12**	P	**P**		**18 29 37.2**	**-1.7**
	comp=Z,26nm,0.7s,mb5.0							
SSE				pP	pP		18 29 56.5	+7.9
SSE				PP	PP		18 31 17.2	-2.4
SSE				S	**S**		**18 35 54.0**	**-2.9**
SSE				sS			18 36 27.6	
SSE				LR	LR			
	comp=Z,70nm,24.8s,MS3.5							
NJ2	**Nanjing**	**42.77**	**9**	*e*P	**P**		**18 29 43.0**	**-0.2**
NJ2				PP	PP		18 31 28.0	+3.2
NJ2				S	**S**		**18 35 59.0**	**-5.6**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6							
NJ2				AMB	AMB			
	comp=Z,180nm,4.4s							
NJ2				LR	LR			
	comp=N,370nm,12.8s							
NJ2				LR	LR			
	comp=E,350nm,24.8s							
NJ2				LR	LR			
	comp=Z,270nm,24.8s							
XAN	**Xi'an**	**44.32**	**356**	P	**P**		**18 29 56.5**	**+0.7**
XAN				AMB	AMB			
	comp=Z,7.0nm,1.6s,mb4.1							
LSA	**Lhasa**	**44.63**	**334**	P	**P**		**18 30 00.5**	**+2.1**
LSA	**Lhasa**	**44.63**	**334**	*e*P	**P**		**18 29 59.1**	**+0.7**
	comp=Z,17nm,0.7s,mb5.0							
LSA	**Lhasa**	**44.63**	**334**	*e*P	**P**		**18 29 59.1**	**+0.7**
LSA				pmax	pmax			
	comp=Z,17nm,0.7s,mb5.0							
PKI	**Pulchoki**	**45.68**	**326**	*e*P	**P**		**18 30 05.6**	**-1.1**
	comp=Z,32nm,1.2s,mb5.1							
PKI	**Pulchoki**	**45.68**	**326**	*e*P	**P**		**18 30 05.6**	**-1.1**
PKI				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.8							
DMN	**Daman**	**45.88**	**326**	*e*P	**P**		**18 30 08.1**	**-0.1**
	comp=Z,30nm,0.7s,mb5.3							
KKN	**Kakani**	**45.92**	**326**	*e*P	**P**		**18 30 08.3**	**-0.3**
	comp=Z,17nm,1.0s,mb5.0							
GKN	**Gorkha**	**46.44**	**326**	*e*P	**P**		**18 30 12.3**	**-0.4**
	comp=Z,7.5nm,0.3s,mb5.1							
KOLN	**Koldanda**	**46.84**	**325**	*e*P	**P**		**18 30 15.4**	**-0.5**
	comp=Z,22nm,0.7s,mb5.2							
LZH	**Lanzhou**	**46.89**	**351**	*e*P	**P**		**18 30 18.0**	**+1.9**
LZH				AP	pP		18 30 28.5	+2.6
LZH				XP	sP		18 30 32.5	+2.6
LZH				AMB	AMB			
	comp=Z,30nm,1.4s,mb5.0							
LZH				AMB	AMB			
	comp=Z,240nm,6.2s							
LZH				LR	LR			
	comp=E,456nm,14.0s							
LZH				LR	LR			
	comp=Z,623nm,15.3s,MS4.7							
LZH	**Lanzhou**	**46.89**	**351**	*e*P	**P**		**18 30 18.0**	**+1.9**
	comp=Z,30nm,1.4s,mb5.0							
LZH				pP	pP		18 30 28.5	+2.6
LZH				sP	sP		18 30 32.4	+2.5
LZH				PcP	PP		18 32 18.5	+12
LZH				LR	LR			
	comp=Z,620nm,15.3s,MS4.7							
LZH	**Lanzhou**	**46.89**	**351**	*e*P	**P**		**18 30 18.0**	**+1.9**
LZH				*PP	pP		18 30 28.5	+2.6
LZH				*SP	sP		18 30 32.4	+2.5
LZH				pmax	pmax			
	comp=Z,30nm,1.4s,mb5.0							
LZH				MLR	MLR			
	comp=Z,620nm,15.3s,MS4.7							
JNU	**Nakatsue**	**46.94**	**22**	LR	LR		18 49 48.0	
	comp=Z,84nm,19.6s,MS3.7,baz=198,slow=36							
GTA	**Gaotai**	**50.85**	**348**	*e*P	**P**		**18 30 48.8**	**+2.1**
GTA				AP	pP		18 30 54.5	-2.1
GTA				AMB	AMB			
	comp=Z,5.0nm,2.2s,mb4.1							
GTA				AMB	AMB			
	comp=Z,155nm,7.2s							
GTA				LR	LR			
	comp=N,142nm,20.5s							
GTA				LR	LR			
	comp=E,179nm,26.6s							
GTA				LR	LR			
	comp=Z,211nm,22.1s,MS4.1							
MJAR	**Matsushiro Arr**	**52.88**	**27**	P	**P**		**18 31 01.1**	**-1.0**
	comp=Z,2.8nm,0.6s,mb4.4,baz=202,slow=8.9,SNR=7.4							
MJAR				LR	LR		18 57 50.2	
	comp=Z,47nm,18.0s,MS3.6,baz=240,slow=41							
ULN	**Ulaanbaatar**	**58.20**	**356**	*e*P	**P**		**18 31 40.1**	**-0.1**
	comp=Z,3.1nm,0.7s,mb4.5							
ULN	**Ulaanbaatar**	**58.20**	**356**	*d* P	**P**		**18 31 40.2**	**0.0**
SONM	**Songino Array**	**58.22**	**356**	P	**P**		**18 31 40.3**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.4,baz=178,slow=8.1,SNR=20							
SONM				LR	LR		18 57 35.6	
	comp=Z,106nm,18.4s,MS4.0,baz=323,slow=37							
MKAR	**Makanchi Array**	**62.82**	**338**	P	**P**		**18 32 11.2**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.6,baz=149,slow=7.8,SNR=71							
MKAR				LR	LR		19 02 17.6	
	comp=Z,88nm,18.1s,MS4.0,baz=179,slow=39							
AAK	**Ala-Archa**	**62.93**	**330**	*e*P	**P**		**18 32 10.5**	**-1.9**
	comp=Z,4.7nm,1.1s,mb4.5							
AAK	**Ala-Archa**	**62.93**	**330**	*e*P	**P**		**18 32 11.7**	**-0.7**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.5s,mb4.4							
AAK				MLR	MLR			
	comp=Z,100nm,20.0s,MS4.0							
YSS	**Yuzh-Sakhalins**	**63.42**	**23**	*c* P	**P**		**18 32 15.0**	**-0.7**
YSS				pmax	pmax			
	comp=Z,17nm,1.2s,mb5.0							
MAW	**Mawson**	**65.58**	**199**	P	**P**		**18 32 27.5**	**-1.8**
	comp=Z,1.3nm,0.6s,mb4.2,baz=47,slow=8.1,SNR=7.7							
KURK	**Kurchatov**	**67.43**	**338**	⇑*i* P	**P**		**18 32 41.3**	**-0.1**
BOD	**Bodaibo**	**68.03**	**1**	*e*P	**P**		**18 32 43.1**	**-2.0**
ZAL	**Zalesovo**	**68.12**	**343**	P	**P**		**18 32 45.3**	**-0.4**
	comp=Z,11nm,1.2s,mb4.7,baz=328,slow=5.5,SNR=14							
ZAL				LR	LR		19 05 54.2	
	comp=Z,99nm,18.1s,MS4.1,baz=317,slow=39							
ZAL	**Zalesovo**	**68.12**	**343**	*i* P	**P**		**18 32 45.7**	**0.0**
ZAL				pmax	pmax			
	comp=Z,11nm,1.3s							
NVS	**Novosibirsk**	**69.36**	**343**	*e*P	**P**		**18 32 45.5**	**-7.8**
ATD	**Arta Tunnel**	**72.01**	**286**	LR	LR		18 57 49.5	
	comp=Z,42nm,18.9s,MS3.7,baz=6.6,slow=30							
BVAR	**Borovoye Array**	**72.45**	**335**	P	**P**		**18 33 11.6**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.4,baz=140,slow=8.6,SNR=25							
CHKZ	**Chkalovo**	**72.84**	**336**	*e*P	**P**		**18 33 13.5**	**-0.7**
	comp=Z,89nm,0.6s,mb5.9							
CHKZ				*e*pP	pP		18 33 24.3	-0.1
CHKZ	**Chkalovo**	**72.84**	**336**	*e*P	**P**		**18 33 13.5**	**-0.7**
CHKZ				*e**PP	pP		18 33 24.3	-0.1
CHKZ				pmax	pmax			
	comp=Z,89nm,0.6s							
YAK	**Yakutsk**	**73.57**	**9**	*e*P	**P**		**18 33 17.9**	**-0.4**
	comp=Z,20nm,0.8s							
YAK				*e*pP	pP		18 33 28.4	0.0
YAK	**Yakutsk**	**73.57**	**9**	*e*P	**P**		**18 33 17.9**	**-0.4**
YAK				*e**PP	pP		18 33 28.5	0.0
YAK				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.1							
SEY	**Seymchan**	**79.50**	**18**	*c* P	**P**		**18 33 52.3**	**+0.7**
ARU	**Arti**	**79.83**	**333**	⇓*i* P	**P**		**18 33 53.4**	**-0.1**
ARU				*e*			18 36 55.7	
ARU				*e*PPP	PPP		18 38 43.8	-3.4
ARU				*e*S	S		18 43 51.0	-1.9
ARU				*e*SS	SS		18 49 02.5	-2.8
ARU				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
KIV	**Kislovodsk**	**82.67**	**317**	*e*P	**P**		**18 34 09.2**	**+0.6**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.6							
MALT	**Malatya**	**83.75**	**311**	*e*P	**P**		**18 34 15.3**	**+0.9**
	comp=Z,3.0nm,0.8s,mb4.5							
MALT				*e*pP	pP		18 34 26.3	+1.6
MALT	**Malatya**	**83.75**	**311**	*e*P	**P**		**18 34 15.3**	**+1.0**
MALT				*e**PP	pP		18 34 26.3	+1.6
MALT				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.5							
ANN	**Anapa**	**86.50**	**317**	*e*P	**P**		**18 34 32.9**	**+5.0**
ANN				pmax	pmax			
	comp=Z,108nm,2.2s,mb5.7							
SNAA	**Sanae**	**87.68**	**197**	*e*P	**P**		**18 34 33.8**	**+0.8**
BRTR	**Keskin Array B**	**87.72**	**311**	P	**P**		**18 34 34.4**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.7,baz=145,slow=7.2,SNR=8.6							
OBN	**Obninsk**	**90.24**	**326**	P	**P**		**18 34 46.4**	**+0.9**
OBN				pmax	pmax			
	comp=Z,17nm,1.4s,mb5.2							
AKASG	**Malin Array Be**	**93.39**	**321**	P	**P**		**18 34 59.2**	**-0.8**
	comp=Z,0.2nm,0.2s,mb4.1,baz=76,slow=5.5,SNR=4.6							
AKASG	**Malin Array Be**	**93.39**	**321**	P	**P**		**18 34 59.2**	**-0.8**
AKASG	**Malin Array Be**	**93.39**	**321**	*i* P	**P**		**18 35 00.3**	**+0.2**
ARCES	**ARCESS Array B**	**98.44**	**339**	LR	LR		19 21 42.7	
	comp=Z,113nm,18.2s,MS4.4,baz=266,slow=37							
YKA	**Yellowknife Ar**	**118.28**	**22**	PKP	PKPdf		18 40 32.5	-3.5
	comp=Z,0.6nm,0.6s,baz=310,slow=1.7,SNR=4.0							
TXAR	**Lajitas Array**	**141.85**	**55**	PKhKP			18 41 14.5	
	comp=Z,0.7nm,0.6s,baz=270,slow=2.5,SNR=4.6							

MAN 27 18:35:27.1,16.87N×120.17E,h11km,mb4.5,ML3.3, MS3.2,3C-3D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BOLP	**Bolinao**	**0.54**	**207**	*e*P	Pg		18 35 38.8	+0.6
BOLP				*e*S	Sg		18 35 47.2	+1.7
BCPH	**Baguio City Da**	**0.62**	**141**	⇓*i* P	Pb		18 35 39.1	-0.4
BCPH				*i* S	Sb		18 35 47.1	-0.9
ABRA	**Dolores**	**0.93**	**33**	*e*P	Pb		18 35 44.1	-0.8
ABRA				*e*S	Sb		18 35 59.4	+2.4
SCZP	**Santa Cruz**	**1.11**	**193**	*e*P	Pb		18 35 46.6	-1.3
SCZP				*e*S	Sb		18 36 01.2	-1.0
PCPH	**Palayan**	**1.57**	**145**	*e*P	Pn		18 36 02.0	+6.8
CAUP	**Cauayan**	**1.58**	**87**	*e*P	Pn		18 35 55.6	+0.3
CAUP				*e*S	Sb		18 36 18.0	+2.1
BALP	**Baler**	**1.75**	**129**	*e*P	Pn		18 35 56.6	-1.2
BALP				*e*S	Sn		18 36 20.3	+0.1
CVP	**Callao Caves**	**1.78**	**62**	⇓*e*P	Pn		18 35 57.5	-0.7
CVP				*e*S	Sn		18 36 25.0	+4.0
NBP	**Mount Natib**	**2.12**	**174**	⇑*e*P	Pn		18 36 01.3	-1.8
SGCP	**Mt. Cagua**	**2.25**	**52**	*e*P	Pn		18 36 03.7	-1.2
SGCP				*e*S	Sn		18 36 31.7	-1.2
POLP	**Polilio Island**	**2.72**	**141**	*e*P	Pn		18 36 11.7	+0.1
POLP				*e*S	Sn		18 36 43.8	-1.0
TGY	**Tagaytay City**	**2.84**	**165**	⇓*i* P	Pn		18 36 13.9	+0.6
TGY				*i* S	Sn		18 36 21.0	-27
LBPH	**Los Banos**	**2.87**	**160**	⇑*e*P	Pn		18 36 12.9	-0.8
LUBP	**Lubang**	**3.12**	**179**	*e*P	Pn		18 36 17.8	+0.6
LUBP				*e*S	Sn		18 36 52.6	-2.1
GQP	**Guinayangan**	**3.67**	**143**	⇑*i* P	Pn		18 35 25.1	-60
BOAC	**Boac**	**3.75**	**154**	*e*P	Pn		18 36 26.2	0.0
BBP	**Basco**	**3.94**	**25**	*e*P	Pn		18 36 29.1	+0.1
BBP				*e*S	Sn		18 37 12.4	-3.2
AUQP	**San Andres**	**4.27**	**145**	*e*P	Pn		18 36 32.1	-1.5
SJMP	**San Jose**	**4.47**	**168**	*e*P	Pn		18 36 36.0	-0.5
SJMP				*e*S	Sn		18 37 24.0	-5.2
BUSP	**Coron**	**4.83**	**180**	*e*P	Pn		18 36 39.8	-1.9
PVCP	**Virac**	**5.03**	**130**	*e*P	Pn		18 36 41.4	-3.0
ENPP	**El Nido**	**5.67**	**187**	*e*P	Pn		18 36 50.7	-2.8

*IDC **27** 18:38:33.5±2.4,2.21N×96.22E,mb4.0/6,mb1 4.1/6, mb1mx3.9/17,mbtmp4.0/6,Error ellipse: s-maj=98.0km s-min=27.6km az=55.0*

*NEIC **27** 18:38:34.9±0.9,1.78N×96.23E,h30km,mb4.2/5,Error ellipse: s-maj=19.4km s-min=11.3km az=210.0*

ISC 27 18:38:33.0±1.3,1.8N±0.2×96.2E±0.1,h30km,n17, σ0§64/17,mb4.2/14,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KULM	**Kulim**	**5.61**	**52**	*e*P	**Pn**		**18 39 56.8**	**+0.2**
PKI	**Pulchoki**	**27.65**	**339**	*e*P	**P**		**18 44 20.6**	**+0.2**
DMN	**Daman**	**27.79**	**338**	*e*P	**P**		**18 44 22.4**	**+0.7**
	13nm,1.1s,mb4.5							
KKN	**Kakani**	**27.89**	**339**

0.8nm,0.7s,mb3.7,baz=143,slow=7.0,SNR=3.8
YKA Yellowknife Ar 63.29 340 P **P** **20 00 53.2 +0.4**
WRA Warramunga Arr 150.45 241 PKPbc PKPdf 20 10 13.9 +7.3
0.2nm,0.5s,baz=108,slow=2.6,SNR=5.3

IDC 27 20:00:11.8±19.0, 18.09S×178.16W, h514km±210km, mb3.0/3, mb1 3.3/3, mb1mx3.1/12, mbtmp3.9/3, Error ellipse: s-maj=148.4km s-min=78.3km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.75**	**241**	P	P	20 06 51.5	-1.1
	4.3nm,1.1s,baz=69,slow=8.6,SNR=3.1						
WRA	**Warramunga Arr**	**44.83**	**260**	P	P	20 07 39.8	-1.3
	0.6nm,0.5s,baz=96,slow=7.8,SNR=38						
ILAR	**Eielson Array**	**86.01**	**13**	P	P	20 11 56.8	-1.0
	0.3nm,0.5s,baz=231,slow=4.3,SNR=4.7						
GERES	**GERESS Array B**	**147.84**	**345**	PKPbc	PKPdf	20 18 58.3	+4.0
	0.1nm,0.4s,baz=27,slow=3.0,SNR=3.9						

DHMR 27 20:01:46.1±1.0, 12.67N×40.59E, h12km±134km, ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.48**	**80**	*i* P	Pn	20 02 43.1	+1.9
TRBA				*i* S	Sn	20 03 27.2	+4.3
TRBA				AML	AML	20 03 42.8	
	comp=N,606nm,0.5s						
UDYN	**Al 'Udayn**	**3.53**	**68**	*i* S	Sn	20 03 28.1	+4.1
DHBB	**Dhamar BB**	**4.15**	**63**	*i* P	Pn	20 02 51.7	+0.9
DHBB				*i* S	Sn	20 03 43.9	+4.2
LBOS		**4.69**	**75**	*i* P	Pn	20 02 57.1	-1.4
LBOS				*i* S	Sn	20 03 52.7	-0.7

DHMR 27 20:06:22.0±2.7, 12.61N×40.51E, h13km±304km, ML4.0, 2C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.57**	**80**	*i* P	Pn	20 07 20.1	+1.7
TRBA				*i* S	Sn	20 08 05.2	+4.3
TRBA				AML	AML	20 08 18.6	
	comp=N,622nm,0.8s						
UDYN	**Al 'Udayn**	**3.63**	**68**	*i* S	Sn	20 08 06.9	+4.6
UDYN				AML	AML	20 08 23.1	
	comp=Z,817nm,0.8s						
DHBB	**Dhamar BB**	**4.25**	**62**↑	*e*P	Pn	20 07 29.3	+1.3
DHBB				*i* S	Sn	20 08 21.4	+3.4
LBOS		**4.78**	**74**↑	*i* P	Pn	20 07 33.7	-1.9
LBOS				*i* S	Sn	20 08 30.6	-1.0

IDC 27 20:08:24.3±2.6, 12.28N×40.60E, mb3.8/9, mb1 4.0/10, mb1mx4.0/19, mbtmp3.9/10, ML4.0/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/19, Error ellipse: s-maj=61.6km s-min=14.5km az=28.0
NEIC 27 20:08:25.6±1.0, 12.29N×40.55E, h10km, mb4.3/6, Error ellipse: s-maj=22.9km s-min=13.0km az=206.0
CSEM 27 20:08:25.6±0.2, 12.29N×40.55E, h10km, mb4.2/6, Error ellipse: s-maj=7.9km s-min=4.7km az=27.0, After NEIC
ISC 27 20:08:24.4±1.0, 12.4N±0.1×40.6E±0.1, h10km, n24, σ0s82/20, mb4.0/13, MS3.5/3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.39**	**110**	Pn	**Pn**	**20 09 04.1**	**-0.1**
	42nm,0.3s,baz=270,slow=13,SNR=12						
ATD				Lg		20 09 37.1	
	38nm,0.3s,baz=114,slow=23,SNR=8.4						
ATD	**Arta Tunnel**	**2.39**	**110**	Pn	**Pn**	**20 09 04.1**	**-0.1**
ATD				Lg		20 09 37.1	
KMBO	**Kilima Mbogo**	**13.79**	**194**	Lg		20 15 40.5	
	0.3nm,0.3s,baz=241,slow=23,SNR=3.1						
KMBO				LR	LR	20 16 54.0	
	comp=Z,153nm,19.5s,baz=106,slow=37						
ASF	**Jabal al Asfar**	**20.01**	**351**	P	**P**	**20 13 00.7**	**+0.5**
	1.2nm,0.4s,baz=46,slow=8.4,SNR=6.0						
MALT	**Malatya**	**25.92**	**356**	*e*P	**P**	**20 14 00.1**	**+1.5**
	6.3nm,1.2s,mb4.0						
GNI	**Garni**	**27.93**	**7**	LR	LR	20 24 57.1	
	comp=Z,62nm,18.5s,MS3.2,baz=157,slow=36						
BRTR	**Keskin Array B**	**27.94**	**349**	P	**P**	**20 14 17.1**	**+0.2**
	3.8nm,1.0s,mb4.0,baz=166,slow=10,SNR=11						
LSZ	**Lusaka**	**30.06**	**204**	LR	LR	20 26 50.1	
	comp=Z,132nm,18.9s,MS3.6,baz=8.8,slow=37						
MLR	**Muntele Rosu**	**35.29**	**342**	LR	LR	20 32 12.7	
	comp=Z,106nm,19.4s,MS3.6,baz=341,slow=40						
AKASG	**Malin Array Be**	**39.34**	**349**	P	**P**	**20 15 54.3**	**-1.3**
	0.2nm,0.2s,mb3.4,baz=171,slow=7.6,SNR=4.7						
KOLS	**Kolonicke sedl**	**39.50**	**341**	*e*P	**P**	**20 16 00.8**	**+4.0**
STHS	**Stebnicka Huta**	**40.25**	**340**	*e*P	**P**	**20 16 03.8**	**+0.8**
VRAC	**Vranov**	**41.83**	**337**	P	**P**	**20 16 15.8**	**-0.1**
	1.0nm,0.5s,mb3.8,baz=176,slow=5.5,SNR=3.6						
MORC	**Moravsky Berou**	**41.85**	**338**	P	**P**	**20 16 14.9**	**-1.2**
	2.2nm,1.0s,mb3.7						
GERES	**GERESS Array B**	**42.65**	**334**	P	**P**	**20 16 22.6**	**-0.1**
	2.0nm,1.0s,mb3.8,baz=141,slow=8.5,SNR=15						
GRA1	**Grafenberg Arr**	**44.37**	**333**	*e*P	**P**	**20 16 34.9**	**-1.8**
	5.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**44.37**	**333**	*e*P	**P**	**20 16 34.9**	**-1.8**
	5.0nm,1.1s,mb4.2						
CLL	**Collm**	**44.82**	**336**	P	**P**	**20 16 40.0**	**-0.3**
DBIC	**Dimbokro**	**45.10**	**267**	*e*P	**P**	**20 16 43.4**	**+0.4**
	13nm,1.3s,mb4.6						
CHKZ	**Chkalovo**	**47.62**	**24**	*e*P	**P**	**20 17 02.7**	**+0.3**
	4.3nm,1.3s,mb4.3						
ESDC	**Sonseca Array**	**47.71**	**313**	P	**P**	**20 17 04.3**	**+1.0**
	1.6nm,0.9s,mb4.0,baz=121,slow=8.6,SNR=4.9						
MKAR	**Makanchi Array**	**49.05**	**37**	P	**P**	**20 17 13.5**	**-0.1**
	1.5nm,1.0s,mb4.0,baz=236,slow=8.7,SNR=7.1						
ZAL	**Zalesovo**	**54.17**	**31**	P	**P**	**20 17 51.7**	**-0.3**
	0.6nm,0.4s,mb3.9,baz=234,slow=9.0,SNR=4.2						
SONM	**Songino Array**	**64.75**	**43**	P	**P**	**20 19 05.7**	**+0.5**
	2.7nm,1.4s,mb4.1,baz=270,slow=4.4,SNR=5.1						

CSEM 27 20:08:56.8±0.1, 37.77N×25.39W, h6km, ML2.6, Error ellipse: s-maj=4.3km s-min=2.5km az=7.0, After PDA
PDA 27 20:08:56.8±0.8, 37.77N×25.39W, h6km±3km, MD2.4, ML2.6, Error ellipse: s-maj=2.8km s-min=2.7km az=20.0
SVSA 27 20:08:56.8±0.8, 37.77N×25.39W, h6km±3km, MD2.4, ML2.6, Error ellipse: s-maj=2.8km s-min=2.7km az=20.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.00**	**256**	*i* P	Pg	20 09 58.3	+0.4
PCNG				*i* S	Sg	20 09 59.4	+0.8
PCNG	**Congro**	**0.00**	**256**	*i* S	Sg	20 09 59.4	+0.8
FRA1	**Furnas**	**0.04**	**133**	*e*P	Pg	20 08 58.7	+0.6
VIF	**Vila Franca**	**0.04**	**239**	*e*P	Pg	20 08 58.7	+0.5
VIF				*e*S	Sg	20 09 00.2	+1.0
	3μm,0.3s						
MESC	**Monte Escuro**	**0.05**	**300**	*e*P	Pg	20 08 58.7	+0.4
MESC				*i* S	Sg	20 09 00.4	+1.1
LFA	**Lagoa do Fogo**	**0.07**	**274**	*i* P	Pg	20 08 59.3	+0.7
PMAT	**Coroa da Mata**	**0.08**	**307**	*e*P	Pg	20 08 59.4	+0.7
PMAT				*e*S	Sg	20 09 00.8	+0.8
PRCH	**Ribeira Ch**	**0.08**	**241**	*e*P	Pg	20 08 59.4	+0.6
PRCH				*e*S	Sg	20 09 00.7	+0.6
	1μm,0.3s						
PFAD	**Fenais da Ajud**	**0.09**	**37**	*i* P	Pg	20 09 00.6	+1.7
MIRA	**Miradouro**	**0.09**	**79**	*e*P	Pg	20 08 59.9	+1.0
MIRA				*e*S	Sg	20 09 01.4	+1.1
CML	**Cha da Macela**	**0.12**	**271**	*e*P	Pg	20 08 59.6	+0.1
PDA	**Ponta Delgada**	**0.22**	**264**	*e*S	Sg	20 09 04.3	+0.1
PSET	**Sete Cidades**	**0.27**	**282**	*e*P	Pg	20 09 01.9	-0.3
PSET				*e*S	Sg	20 09 06.3	+0.4
	270nm,0.3s						

CSEM 27 20:21:34.2±0.2, 12.26N×40.55E, h2km, mb4.6/7, Error ellipse: s-maj=7.4km s-min=2.9km az=176.0
BJI 27 20:21:35.6, 12.18N×40.64E, h8km, mB5.1, mb4.6
DHMR 27 20:21:35.1±0.4, 12.60N×40.59E, h2km±26km, ML4.3
IDC 27 20:21:36.1±2.5, 12.25N×40.62E, mb3.7/11, mb1 3.9/12, mb1mx3.8/20, mbtmp3.8/12, ML4.1/1, MS3.8/10, Ms1 3.8/10, ms1mx3.7/19, Error ellipse: s-maj=58.7km s-min=14.1km az=28.0
NEIC 27 20:21:37.2±0.8, 12.22N×40.63E, h10km, mb4.7/7, ML4.4(DHMR), Error ellipse: s-maj=17.3km s-min=7.0km az=191.0
ISC 27 20:21:35.4±0.8, 12.2N±0.1×40.57E±0.04, h10km, n56, σ0s98/60, mb4.1/19, MS3.8/9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.33**	**107**	Pn	**Pn**	**20 22 15.3**	**+1.0**
	48nm,0.3s,baz=314,slow=3.7,SNR=28						
ATD				Lg		20 22 48.2	
	48nm,0.3s,baz=95,slow=23,SNR=17						
ATD	**Arta Tunnel**	**2.33**	**107**	Pn	**Pn**	**20 22 15.3**	**+1.0**
ATD				Lg		20 22 48.2	
TRBA	**At Turbah**	**3.61**	**73**	*e*P	**Pn**	**20 22 33.3**	**+0.8**
TRBA				*i* S	**Sn**	**20 23 18.7**	**+3.0**
TRBA				AML	AML	20 23 38.6	
	comp=N,1μm,0.7s						
TRBA	**At Turbah**	**3.61**	**73**	*e*P	**Pn**	**20 22 32.7**	**+0.2**
TRBA				*i* S	**Sn**	**20 23 19.5**	**+3.9**
TRBA	**At Turbah**	**3.61**	**73**	*e*P	**Pn**	**20 22 32.7**	**+0.1**
TRBA				*i* S	**Sn**	**20 23 18.7**	**+3.0**
	comp=N,676nm,0.7s						
UDYN	**Al 'Udayn**	**3.74**	**62**	*e*P	**Pn**	**20 22 34.3**	**-0.2**
UDYN				*i* S	**Sn**	**20 23 20.3**	**+1.1**
UDYN				AML	AML	20 23 38.8	
	comp=N,1μm,0.7s						
UDYN	**Al 'Udayn**	**3.74**	**62**	*e*P	**Pn**	**20 22 34.0**	**-0.5**
UDYN				*i* S	**Sn**	**20 23 22.2**	**+3.0**
DHBB	**Dhamar BB**	**4.40**	**57**	*e*P	**Pn**	**20 22 42.5**	**-1.3**
DHBB				*i* S	**Sn**	**20 23 35.5**	**-0.2**
DHBB	**Dhamar BB**	**4.40**	**57**	*e*P	**Pn**	**20 22 41.6**	**-2.2**
DHBB				*i* S	**Sn**	**20 23 36.2**	**+0.4**
DHBB	**Dhamar BB**	**4.40**	**57**	*e*P	**Pn**	**20 22 41.6**	**-2.2**
DHBB				*i* S	**Sn**	**20 23 36.2**	**+0.5**
LBOS		**4.85**	**70**	*e*P	**Pn**	**20 22 47.6**	**-2.6**
LBOS				*i* S	**Sn**	**20 23 44.0**	**-3.2**
LBOS		**4.85**	**70**	*e*P	**Pn**	**20 22 48.9**	**-1.4**
LBOS				*i* S	**Sn**	**20 23 48.7**	**+1.5**
BDHA	**Al Bayda'**	**5.18**	**70**	*e*P	**Pn**	**20 22 52.0**	**-2.8**
BDHA				*i* S	**Sn**	**20 23 52.0**	**-3.4**
BDHA	**Al Bayda'**	**5.18**	**70**	*e*P	**Pn**	**20 22 53.1**	**-1.7**
BDHA				*i* S	**Sn**	**20 23 56.4**	**+1.1**
BDHA	**Al Bayda'**	**5.18**	**70**	*e*P	**Pn**	**20 22 53.1**	**-1.7**
BDHA				*i* S	**Sn**	**20 23 56.4**	**+1.0**
KMBO	**Kilima Mbogo**	**13.65**	**194**	Lg		20 28 49.9	
	comp=N,0.1nm,0.3s,baz=86,slow=21,SNR=4.0						
KMBO				LR	LR	20 30 06.7	
	comp=N,345nm,21.9s,baz=166,slow=37						
ASF	**Jabal al Asfar**	**20.16**	**351**	P	**P**	**20 26 12.3**	**-0.4**
	comp=N,1.5nm,0.3s,baz=32,slow=6.9,SNR=11						
BHD	**Baghdad**	**21.25**	**9**	*ex*	x	20 26 20.5	
MSL	**Mosul**	**24.09**	**5**	*ex*	x	20 27 16.0	
MALT	**Malatya**	**26.07**	**356**	*e*P	**P**	**20 27 12.3**	**+1.4**
	comp=N,52nm,2.0s,mb4.7						
MALT	**Malatya**	**26.07**	**356**	*e*P	**P**	**20 27 12.3**	**+1.4**
	comp=N,52nm,2.0s,mb4.7						
IDI	**Anoyia**	**27.02**	**331**	LR	LR	20 37 23.6	
	comp=N,66nm,20.7s,MS3.2,baz=348,slow=35						
GNI	**Garni**	**28.08**	**7**	LR	LR	20 38 33.1	
	comp=N,109nm,19.2s,MS3.5,baz=348,slow=36						
BRTR	**Keskin Array B**	**28.09**	**349**	P	**P**	**20 27 29.7**	**+0.4**
	comp=N,1.2nm,0.7s,mb3.6,baz=164,slow=9.0,SNR=10						
AKASG	**Malin Array Be**	**39.49**	**349**	P	**P**	**20 29 07.0**	**-0.8**
	comp=N,0.2nm,0.3s,mb3.3,baz=180,slow=7.9,SNR=6.5						
AKASG	**Malin Array Be**	**39.49**	**349**	P	**P**	**20 29 07.0**	**-0.8**
CRES	**Cresnjev**	**39.72**	**332**	*e*P	**P**	**20 29 10.9**	**+1.2**
VOJS	**Vojsko**	**40.60**	**331**	*e*P	**P**	**20 29 17.0**	**+0.1**
VRAC	**Vranov**	**41.97**	**337**	P	**P**	**20 29 27.9**	**-0.2**
	comp=N,0.7nm,0.3s,mb3.7,baz=152,slow=20,SNR=5.2						
MORC	**Moravsky Berou**	**41.99**	**338**	*e*P	**P**	**20 29 27.7**	**-0.6**
	comp=N,12nm,1.7s,mb4.2						
MORC	**Moravsky Berou**	**41.99**	**338**	*e*P	**P**	**20 29 27.7**	**-0.6**
	comp=N,12nm,1.7s,mb4.2						
AAK	**Ala-Archa**	**42.23**	**38**	P	**P**	**20 29 31.2**	**+0.8**
	comp=N,15nm,1.8s,mb4.3						
AAK	**Ala-Archa**	**42.23**	**38**	P	**P**	**20 29 31.2**	**+0.8**
	comp=N,15nm,1.8s,mb4.3						
GERES	**GERESS Array B**	**42.79**	**334**	P	**P**	**20 29 34.6**	**-0.3**
	comp=N,0.4nm,0.5s,mb3.4,baz=135,slow=7.5,SNR=11						
BRG	**Berggiesshubel**	**44.25**	**336**	*e*P	**P**	**20 29 46.7**	**0.0**
	comp=N,24nm,1.9s,mb4.6						
BRG	**Berggiesshubel**	**44.25**	**336**	*e*P	**P**	**20 29 46.7**	**0.0**
	comp=N,24nm,1.9s,mb4.6						
CLL	**Collm**	**44.97**	**336**	P	**P**	**20 29 52.0**	**-0.5**
DBIC	**Dimbokro**	**45.10**	**267**	LR	LR	20 50 49.5	
	comp=N,104nm,18.3s,MS3.8,baz=76,slow=39						
DBIC	**Dimbokro**	**45.10**	**267**	P	**P**	**20 29 53.5**	**-0.5**
	comp=N,18nm,1.5s,mb4.7						
DBIC	**Dimbokro**	**45.10**	**267**	P	**P**	**20 29 53.5**	**-0.6**
	comp=N,18nm,1.5s,mb4.7						
MDT	**Midelt**	**46.09**	**304**	LR	LR	20 52 06.0	
	comp=N,136nm,21.8s,MS3.9,baz=88,slow=40						
BVAR	**Borovoye Array**	**47.17**	**24**	P	**P**	**20 30 10.1**	**+0.2**
	comp=N,0.6nm,0.7s,mb3.6,baz=239,slow=8.6,SNR=4.0						
CHKZ	**Chkalovo**	**47.75**	**24**	*e*P	**P**	**20 30 13.8**	**-0.6**
	comp=N,7.1nm,1.6s,mb4.5						
CHKZ	**Chkalovo**	**47.75**	**24**	*e*P	**P**	**20 30 13.8**	**-0.7**
	comp=N,7.1nm,1.6s,mb4.5						
ESDC	**Sonseca Array**	**47.82**	**313**	P	**P**	**20 30 16.5**	**+1.3**
	comp=N,0.1nm,0.4s,mb3.2,baz=132,slow=5.4,SNR=5.1						
MKAR	**Makanchi Array**	**49.16**	**37**	P	**P**	**20 30 25.1**	**-0.3**
	comp=N,0.9nm,0.8s,mb3.8,baz=231,slow=7.8,SNR=7.6						
MKAR				LR	LR	20 55 01.8	
	comp=N,164nm,20.6s,MS4.0,baz=75,slow=41						
MKAR	**Makanchi Array**	**49.16**	**37**	P	**P**	**20 30 25.0**	**-0.4**
LSA	**Lhasa**	**49.93**	**61**	*e*P	**P**	**20 30 31.3**	**-0.3**
	comp=N,23nm,1.9s,mb4.9						
LSA	**Lhasa**	**49.93**	**61**	*e*P	**P**	**20 30 31.3**	**-0.3**
	comp=N,23nm,1.9s,mb4.9						
NOA	**NORSAR Array B**	**53.26**	**343**	P	**P**	**20 30 56.1**	**-0.2**
	comp=N,0.8nm,0.8s,mb3.7,baz=51,slow=19,SNR=2.3						
NOA				LR	LR	20 55 31.8	
	comp=N,41nm,18.3s,MS3.5,baz=245,slow=38						
ZAL	**Zalesovo**	**54.29**	**31**	P	**P**	**20 31 04.0**	**+0.1**
	comp=N,0.7nm,0.4s,mb3.9,baz=210,slow=5.3,SNR=3.7						
GTA	**Gaotai**	**58.66**	**51**	*e*P	**P**	**20 31 35.8**	**+0.4**
GTA				AP	pP	20 31 43.3	+4.8
GTA				XP	sP	20 31 46.5	+6.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.8s,mb4.2						
SONM	**Songino Array**	**64.85**	**43**	P	**P**	**20 32 17.0**	**+0.1**
	comp=Z,2.2nm,1.2s,mb4.1,baz=252,slow=4.8,SNR=13						
SONM				LR	LR	21 04 25.5	
	comp=Z,177nm,19.7s,MS4.3,baz=251,slow=40						
HHC	**Hu-ho-hao-te**	**67.77**	**51**	*e*P	**P**	**20 32 36.8**	**+1.2**
HHC				AP	pP	20 32 47.3	+8.6
HHC				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,122nm,4.8s						
MJAR	**Matsushiro Arr**	**88.86**	**53**	LR	LR	21 16 17.4	
	comp=Z,76nm,18.2s,MS4.2,baz=295,slow=37						
BDFB	**Brasilia**	**91.89**	**255**	LR	LR	21 13 52.8	
	comp=Z,78nm,19.0s,MS4.2,baz=112,slow=34						

IDC 27 20:24:11.2±7.5, 0.28N×122.67E, h194km±78km, mb3.5/5, mb1 3.7/6, mb1mx3.5/15, mbtmp4.1/6, Error ellipse: s-maj=46.3km s-min=20.0km az=76.0
NEIC 27 20:24:14.0±6.6, 0.24N×122.68E, h225km±73km, mb3.9/5, Error ellipse: s-maj=23.0km s-min=14.2km az=47.0
ISC 27 20:24:10.2±0.6, 0.3N±0.1×122.7E±0.2, h200km, n17, σ0s87/17, mb4.1/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.50**	**171**	P	**P**	**20 28 12.5**	**-1.3**
	0.7nm,0.3s,baz=14,slow=11,SNR=10						
WRAB	**Tennant Creek**	**23.12**	**151**	*e*P	**P**	**20 29 00.7**	**+0.9**
	3.5nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**23.12**	**151**	P	**P**	**20 29 00.4**	**+0.6**
	1.4nm,0.5s,mb3.7,baz=336,slow=10.0,SNR=34						
MJAR	**Matsushiro Arr**	**38.84**	**20**	P	**P**	**20 31 17.5**	**-0.1**
	1.9nm,0.7s,mb3.7,baz=184,slow=9.0,SNR=5.2						
LSA	**Lhasa**	**41.92**	**317**	*e*P	**P**	**20 31 45.2**	**+2.3**
	8.7nm,0.6s,mb4.4						
PKI	**Pulchoki**	**44.87**	**310**	*e*P	**P**	**20 32 06.6**	**0.0**
	14nm,0.5s,mb4.5						
KKN	**Kakani**	**45.08**	**311**	*e*P	**P**	**20 32 08.3**	**+0.1**
	12nm,0.6s,mb4.4						
DMN	**Daman**	**45.12**	**310**	*e*P	**P**	**20 32 08.8**	**+0.2**
	14nm,0.6s,mb4.5						
GKN	**Gorkha**	**45.68**	**310**	*e*P	**P**	**20 32 13.0**	**0.0**
	30nm,0.6s,mb4.8						
KOLN	**Koldanda**	**46.36**	**309**	*e*P	**P**	**20 32 18.5**	**+0.2**
	30nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**49.30**	**346**	*e*P	**P**	**20 32 41.1**	**+0.4**
	1.2nm,0.6s,mb3.4						
SONM	**Songino Array**	**49.43**	**346**	P	**P**	**20 32 41.9**	**+0.3**
	2.8nm,0.6s,mb3.7,baz=164,slow=8.8,SNR=22						
SONM				PcP	PcP	20 34 00.8	-0.3
	0.7nm,0.5s,baz=175,slow=4.2,SNR=5.2						
MKAR	**Makanchi Array**	**58.20**	**328**	P	**P**	**20 33 44.9**	**-0.6**
	2.2nm,0.6s,mb4.0,baz=121,slow=8.7,SNR=21						
MKAR				pP	pP	20 34 24.3	-7.0
	0.7nm,0.5s,baz=125,slow=8.0,SNR=4.6						
MKAR				PcP	PcP	20 34 33.7	-0.8
	0.9nm,0.6s,baz=126,slow=4.8,SNR=5.3						
MKAR	**Makanchi Array**	**58.20**	**328**	P	**P**	**20 33 44.9**	**-0.6**
MKAR				pP	pP	20 34 24.3	-7.0
MKAR				PcP	PcP	20 34 33.7	-0.8
ZAL	**Zalesovo**	**61.92**	**336**	P	**P**	**20 34 09.3**	**-1.4**
	0.7nm,0.4s,mb3.7,baz=196,slow=1.6,SNR=4.4						
ZAL	**Zalesovo**	**61.92**	**336**	P	**P**	**20 34 09.3**	**-1.4**
CHKZ	**Chkalovo**	**68.30**	**330**	*e*P	**P**	**20 34 50.2**	**-1.3**
	0.9nm,0.7s,mb3.5						

WEL 27 20:26:20.9±0.2, 37.45S×176.66E, h201km±2km, ML3.6/11, 1C, Error ellipse: s-maj=3.8km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.89**	**156**	PN	P	20 26 50.1	-0.1
URZ				SN	S	20 27 12.5	-0.4
MWZ	**Matawai**	**1.12**	**143**	PN	P	20 26 51.8	-0.1
MWZ				SN	S	20 27 15.4	-0.5
PUZ	**Puketiti**	**1.41**	**117**	PN	P	20 26 53.7	-0.6
PUZ				SN	S	20 27 18.7	-1.4
BKZ	**Black Stump Fm**	**1.73**	**184**	PN	P	20 26 56.5	-0.6
BKZ				SN	S	20 27 24.4	-0.6
KNZ	**Kokohu**	**1.77**	**153**	PN	P	20 26 57.4	-0.2
KNZ				SN	S	20 27 25.5	-0.3
MOVZ	**Moawhango**	**2.09**	**200**	PN	P	20 26 59.9	-0.9
PXZ	**Pawanui**	**2.59**	**177**↑	PN	P	20 27 05.3	-1.0
PXZ				SN	S	20 27 40.5	-0.9
TSZ	**Takapari Road**	**2.67**	**192**	PN	P	20 27 05.9	-1.4
TSZ				SN	S	20 27 42.3	-0.8
MRZ	**Mangatainoka R**	**3.32**	**194**	PN	P	20 27 12.6	-2.4
KIW	**Kapiti Island**	**3.67**	**201**	*e*PN	P	20 27 16.3	-3.0

NEIC 27 20:44:40.9±1.0, 12.38N×40.40E, h10km, mb4.1/4, ML4.4(DHMR), Error ellipse: s-maj=21.6km s-min=9.5km az=192.0
IDC 27 20:44:40.1±1.5, 12.50N×40.50E, mb3.8/7, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, ML4.3/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/15, Error ellipse: s-maj=35.2km s-min=15.5km az=27.0
CSEM 27 20:44:40.4±0.1, 12.66N×40.36E, h10km, mb4.0/3, Error ellipse: s-maj=5.0km s-min=2.3km az=3.0
DHMR 27 20:44:42.3±0.4, 12.63N×40.53E, h17km±42km, ML4.4
SSN 27 20:48:45.1±0.3, 15.50N×32.62E, h0km
ISC 27 20:44:38.3±2.6, 12.5N±0.1×40.40E±0.05, h1km±19km, n32, σ1s91/41, mb4.0/10, MS3.8/4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.57**	**111**	Pn	**Pn**	**20 45 21.8**	**0.0**
	59nm,0.3s,baz=265,slow=19,SNR=34						
ATD				Lg		20 45 59.0	
	45nm,0.3s,baz=249,slow=22,SNR=7.5						
ATD	**Arta Tunnel**	**2.57**	**111**	Pn	**Pn**	**20 45 21.8**	**0.0**
ATD				Lg		20 45 59.0	
TRBA	**At Turbah**	**3.70**	**78**	*e*P	**Pn**	**20 45 39.5**	**+1.6**
TRBA				*i* S	**Sn**	**20 46 23.9**	**+1.2**
TRBA				AML	AML	20 46 44.7	
	comp=N,2μm,0.8s						
TRBA	**At Turbah**	**3.70**	**78**	*e*P	**Pn**	**20 45 38.9**	**+1.0**
TRBA				*e*S	**Sn**	**20 46 26.6**	**+3.9**
TRBA	**At Turbah**	**3.70**	**78**	*e*P	**Pn**	**20 45 39.5**	**+1.7**
TRBA				*i* S	**Sn**	**20 46 23.9**	**+1.2**
	comp=N,802nm,0.8s						
UDYN	**Al 'Udayn**	**3.78**	**66**	*i* P	**Pn**	**20 45 40.6**	**+1.7**
UDYN				*i* S	**Sn**	**20 46 25.8**	**+1.1**
UDYN	**Al 'Udayn**	**3.78**	**66**	*i* P	**Pn**	**20 45 42.4**	**+3.4**
UDYN				*e*		20 46 26.6	
UDYN				*i* S	**Sn**	**20 46 30.9**	**+6.1**
DHBB	**Dhamar BB**	**4.41**	**61**	*i* P	**Pn**	**20 45 48.5**	**+0.6**
DHBB				*i* S	**Sn**	**20 46 40.4**	**-0.3**
DHBB	**Dhamar BB**	**4.41**	**61**

ZAL	**Zalesovo**	**52.64**	**351**	P		**P**	**21 09 47.3**	**-0.3**
	2.7nm,0.5s,mb4.5,baz=309,slow=3.7,SNR=12							
CHKZ	**Chkalovo**	**55.72**	**342**	*e*P		**P**	**21 10 09.6**	**-0.5**
	1.4nm,0.6s,mb4.2							

IDC 27 21:15:38.4±0.9,**6.75N**×**72.94W,h165**km±13km,**mb3.0**/1, **mb1 3.5**/3,**mb1mx3.2**/21,**mbtmp3.7**/3,**Error ellipse: s-maj=51.5km s-min=7.8km az=132.0,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**216**	P	P	21 16 19.3	+0.5
	19nm,0.3s,baz=92,slow=5.5,SNR=50						
ROSC				S	S	21 16 50.3	+0.4
	29nm,0.3s,baz=101,slow=15,SNR=9.3						
SDV	**Santo Domingo**	**3.12**	**47**	P	P	21 16 29.0	+0.4
	10nm,0.3s,baz=8.9,slow=5.4,SNR=16						
SDV				S	S	21 17 06.8	-0.3
	15nm,0.3s,baz=254,slow=16,SNR=25						
TXAR	**Lajitas Array**	**36.65**	**312**	P	P	21 22 29.2	-1.6
	0.2nm,0.3s,baz=117,slow=8.1,SNR=2.6						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPdf	21 35 11.0	+5.4
	0.3nm,0.6s,baz=108,slow=2.8,SNR=7.0						
WRA				pPKPbc		21 35 53.4	
	0.4nm,0.9s,baz=106,slow=2.7,SNR=1.1						

DHMR 27 21:38:38.7±2.7,**12.66N**×**40.52E,h9**km±202km,**ML3.6,4D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.55**	**80**	ǁ*e*P	Pn	21 39 36.8	+1.6
TRBA				ǁ*i*S	Sn	21 40 22.1	+4.4
TRBA				AML	AML	21 40 35.9	
	comp=N,456nm,0.5s						
TRBA	**At Turbah**	**3.55**	**80**	ǁ*e*P	Pn	21 39 36.8	+1.6
TRBA				ǁ*i*S	Sn	21 40 22.1	+4.4
	comp=N,228nm,0.5s						
UDYN	**Al 'Udayn**	**3.60**	**68**	ǁ*e*P	Pn	21 39 37.6	+1.8
UDYN				ǁ*i*S	Sn	21 40 23.5	+4.6
UDYN				AML	AML	21 40 51.6	
	comp=E,152nm,0.7s						
DHBB	**Dhamar BB**	**4.21**	**63**	*i*S	Sn	21 40 38.1	+3.6
LBOS		**4.76**	**75**	ǁ*e*P	Pn	21 39 50.8	-1.5
LBOS				*i*S	Sn	21 40 47.3	-1.0

ISC 27 21:40:43.9±0.8,**39.25N**±0.03×**40.82E**±0.09,**h10**km,**n7,** σ0§**80**/12,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.39**	**139**	*i*P	**Pg**	**21 40 50.3**	**-1.6**
BNGL				*i*S	**Sg**	**21 40 57.7**	**+0.5**
EZM	**Erzurum**	**0.78**	**32**	PG	**Pg**	**21 40 59.6**	**0.0**
EZM				SG	**Sg**	**21 41 11.0**	**+1.0**
ERZM	**Erzurum**	**0.78**	**33**	*i*P	**Pb**	**21 40 57.8**	**-1.3**
ERZM				*i*S	**Sb**	**21 41 09.6**	**+0.1**
PTK	**Pertek**	**1.17**	**253**	*e*PN	**Pn**	**21 41 07.0**	**+0.7**
BTMT	**Batman**	**1.18**	**153**	*e*PN	**Pn**	**21 41 07.0**	**+0.6**
BEST	**Besiri**	**1.40**	**165**	*i*P	**Pn**	**21 41 09.1**	**-0.5**
BEST				*i*S	**Sb**	**21 41 28.4**	**+1.0**
MARD	**Mardin**	**1.93**	**181**	*i*P	**Pn**	**21 41 16.4**	**-0.7**
MARD				*i*S	**Sn**	**21 41 41.7**	**0.0**

ISC 27 21:44:11.4±0.8,**38.50N**±0.06×**31.46E**±0.05,**h10**km,**n6,** σ1§**01**/10,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.50**	**41**	*i*PG	**Pg**	**21 44 22.8**	**+1.2**
KIZT				*i*SG	**Sg**	**21 44 29.4**	**+1.0**
KDHN	**Kadinhani**	**0.52**	**88**	*i*P	**Pg**	**21 44 21.1**	**-0.8**
KDHN				*i*S	**Sg**	**21 44 28.4**	**-0.5**
TKTP	**Tekketepe**	**1.00**	**243**	*i*P	**Pb**	**21 44 28.9**	**-1.5**
TKTP				*i*S	**Sb**	**21 44 45.0**	**+1.5**
ESKT	**Eskisehir**	**1.12**	**335**	PN	**Pn**	**21 44 33.5**	**+0.4**
ESKT	**Eskisehir**	**1.12**	**335**	*i*P	**Pb**	**21 44 32.3**	**-0.1**
ESKT				*i*S	**Sb**	**21 44 45.4**	**-1.5**
ALT	**Altintas**	**1.19**	**298**	*e*PN	**Pn**	**21 44 34.3**	**+0.2**

DHMR 27 21:55:21.8±0.4,**12.67N**×**40.59E,h2**km±2km,**ML3.7, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.48**	**80**	*i*P	Pn	21 56 19.7	+1.6
TRBA				*i*S	Sn	21 57 05.0	+4.5
TRBA				AML	AML	21 57 19.6	
	comp=N,376nm,0.6s						
UDYN	**Al 'Udayn**	**3.53**	**68**	*e*P	Pn	21 56 20.7	+1.9
UDYN				*i*S	Sn	21 57 06.5	+4.7
UDYN				AML	AML	21 57 25.4	
	comp=N,265nm,0.6s						
LBOS		**4.69**	**75**	*e*P	Pn	21 56 33.9	-1.4
LBOS				*i*S	Sn	21 57 30.3	-0.8
LBOS		**4.69**	**75**	*e*P	Pn	21 56 33.8	-1.5
LBOS				*i*S	Sn	21 57 30.3	-0.8
BDHA	**Al Bayda'**	**5.01**	**74**	*i*S	Sn	21 57 37.8	-1.4

CNRM ***27*** *22:02:55.8,35.37N×5.53W,h30km,MD3.3*
IGIL ***27*** *22:02:56.1,35.20N×5.85W,h2km,ML2.6*
INMG ***27*** *22:02:58.6±1.3,35.24N×5.92W,h16km±19km,ML2.3, Error ellipse: s-maj=14.9km s-min=4.4km az=2.0*
NEIC ***27*** *22:02:58.6,35.36N×5.87W,ML2.3(LIS),MN2.6(MDD), After MDD.*
CSEM ***27*** *22:02:58.3±0.1,35.11N×5.67W,h40km,ML3.5/3,Error ellipse: s-maj=4.9km s-min=2.8km az=81.0*
MDD ***27*** *22:02:58.5±1.3,35.29N×5.93W,h7km±21km,mbLg2.6/14, Error ellipse: s-maj=28.0km s-min=5.9km az=7.0,PRXIMO*
LDG ***27*** *22:02:58.9±0.3,35.23N×5.89W,h10km,Ml3.1/4, Error ellipse: s-maj=5.7km s-min=3.0km az=5.0*

ISC 27 22:02:54.0±0.4,**35.21N**±0.03×**5.95W**±0.04,**h7**km,**n60,** σ1§**37**/110,**1C,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**1.65**	**35**	⇑P	**Pn**	**22 03 24.6**	**+0.9**
	2.4nm,0.1s,SNR=18						
EMIJ				S	**Sb**	**22 03 45.3**	**0.0**
	12nm,0.3s,SNR=7.9						
ESPR	**Espera**	**1.65**	**3**	P	**Pn**	**22 03 26.4**	**+2.8**
	1.5nm,0.1s,SNR=9.9						
ESPR				S	**Sb**	**22 03 45.9**	**+0.5**
	15nm,0.2s,SNR=7.4						
ESPR	**Espera**	**1.65**	**3**	P	**Pn**	**22 03 26.5**	**+2.9**
IFR	**Ifrane**	**1.82**	**158**	P	**Pn**	**22 03 26.0**	**-0.1**
IFR				S	**Sn**	**22 03 49.0**	**-0.6**
TZK	**Tazeka**	**1.84**	**127**	*i*P	**Pn**	**22 03 22.5**	**-3.8**
TZK				*i*S	**Sn**	**22 03 41.5**	**-8.5**
MIF	**Mishlifen**	**1.90**	**161**	*i*P	**Pn**	**22 03 25.0**	**-2.1**
MIF				*i*S	**Sn**	**22 03 48.0**	**-3.5**
CZD	**Col de Zad**	**2.30**	**161**	*i*P	**Pn**	**22 03 32.5**	**-0.4**
CZD				*i*S	**Sn**	**22 03 59.0**	**-2.8**
ELOJ	**Sierra Loja**	**2.42**	**36**	P	**Pn**	**22 03 37.9**	**+3.3**
	0.6nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**22 04 05.3**	**+0.6**
	1.3nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.42**	**36**	P	**Pn**	**22 03 37.8**	**+3.3**
ELOJ				S	**Sn**	**22 04 05.3**	**+0.6**
	1.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.62**	**347**	P	**Pn**	**22 03 38.9**	**+1.5**
	1.1nm,0.1s,SNR=18						
EMIN				S	**Sn**	**22 04 08.7**	**-1.1**
	2.9nm,0.1s,SNR=8.6						
EMIN	**Mina Concepcio**	**2.62**	**347**	P	**Pn**	**22 03 38.9**	**+1.5**
	1.1nm,0.1s,SNR=18						
EGRO	**El Granado**	**2.63**	**332**	P	**Pn**	**22 03 39.4**	**+1.8**
	5.3nm,0.1s,SNR=230						
EGRO				S	**Sn**	**22 04 09.9**	**-0.1**
	7.7nm,0.1s,SNR=11						
EGRO	**El Granado**	**2.63**	**332**	P	**Pn**	**22 03 39.4**	**+1.9**
	5.3nm,0.1s,SNR=230						
ELUQ	**Luque**	**2.71**	**30**	P	**Pn**	**22 03 41.0**	**+2.3**
	1.3nm,0.2s,SNR=7.4						
ELUQ				S	**Sn**	**22 04 12.0**	**-0.1**
	18nm,0.2s,SNR=25						
ECOG	**Cogollos-Vega**	**2.82**	**42**	P	**Pn**	**22 03 42.2**	**+1.9**
	1.0nm,0.1s,SNR=8.1						
ECOG				S	**Sn**	**22 04 15.8**	**+0.9**
	4.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.84**	**45**	P	**Pn**	**22 03 43.7**	**+3.1**
	0.2nm,0.1s,SNR=5.6						
EQUE				S	**Sn**	**22 04 16.6**	**+1.1**
	1.3nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.02**	**315**	*e*P	**Pn**	**22 03 44.3**	**+1.1**
MORF				*e*S	**Sn**	**22 04 19.0**	**-1.1**
MORF				*e*S	**Sn**	**22 04 19.0**	**-1.1**
MORF				AML	AML	22 04 20.1	
	comp=N,23nm,0.3s						
EADA	**Adamuz**	**3.15**	**20**	P	**Pn**	**22 03 46.0**	**+1.0**
	comp=N,0.4nm,0.0s,SNR=14						
EADA				S	**Sn**	**22 04 20.6**	**-2.6**
	comp=N,3.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.15**	**20**	P	**Pn**	**22 03 46.0**	**+1.0**
	comp=N,0.4nm,0.0s,SNR=14						
PBEJ	**Beja**	**3.20**	**332**	*e*Pn	**Pn**	**22 03 47.2**	**+1.4**
PBEJ				*e*Sn	**Sn**	**22 04 23.3**	**-1.3**
	comp=N,6.2nm,0.1s						
PBEJ	**Beja**	**3.20**	**332**	*e*Pn	**Pn**	**22 03 47.2**	**+1.4**
PBEJ				*e*Sn	**Sn**	**22 04 23.3**	**-1.3**
PBEJ	**Beja**	**3.20**	**332**	*e*Pn	**Pn**	**22 03 47.2**	**+1.4**
PBEJ				*e*Sn	**Sn**	**22 04 23.3**	**-1.3**
	comp=N,6.2nm,0.1s						
PTEO	**Sao Teotonio**	**3.23**	**317**	*e*Pn	**Pn**	**22 03 47.4**	**+1.3**
PTEO				*e*Sn	**Sn**	**22 04 24.6**	**-0.7**
	comp=N,6.7nm,0.2s						
PTEO	**Sao Teotonio**	**3.23**	**317**	Pn	**Pn**	**22 03 47.4**	**+1.3**
PTEO				Sn	**Sn**	**22 04 24.6**	**-0.7**
	comp=N,3.3nm,0.2s						
PTEO	**Sao Teotonio**	**3.23**	**317**	*e*Pn	**Pn**	**22 03 47.5**	**+1.3**
PTEO				*e*Sn	**Sn**	**22 04 24.6**	**-0.7**
PTEO	**Sao Teotonio**	**3.23**	**317**	*e*Pn	**Pn**	**22 03 47.5**	**+1.4**
PTEO				*e*Sn	**Sn**	**22 04 24.6**	**-0.7**
	comp=N,6.7nm,0.2s						
EBAN	**Banos Encina**	**3.42**	**30**	P	**Pn**	**22 03 49.9**	**+1.1**
	comp=N,4.2nm,0.1s,SNR=18						
EBAN				S	**Sn**	**22 04 27.2**	**-3.0**
	comp=N,5.0nm,0.1s,SNR=7.7						
EQES	**Quesada**	**3.47**	**41**	P	**Pn**	**22 03 50.6**	**+1.1**
	comp=N,0.6nm,0.1s,SNR=23						
EQES				S	**Sn**	**22 04 29.2**	**-2.2**
	comp=N,6.8nm,0.2s,SNR=8.0						
EQES	**Quesada**	**3.47**	**41**	P	**Pn**	**22 03 50.6**	**+1.0**
	comp=N,0.6nm,0.1s,SNR=23						
EQES				S	**Sn**	**22 04 29.2**	**-2.2**
	comp=N,6.8nm,0.2s,SNR=8.0						
EBAD	**Badajoz**	**3.64**	**347**	P	**Pn**	**22 03 53.2**	**+1.3**
	comp=N,3.6nm,0.1s,SNR=30						
EBAD				S	**Sn**	**22 04 34.2**	**-1.4**
	comp=N,4.2nm,0.1s,SNR=7.4						
EBAD	**Badajoz**	**3.64**	**347**	P	**Pn**	**22 03 53.2**	**+1.3**
	comp=N,3.6nm,0.1s,SNR=30						
EVO	**Evora**	**3.70**	**334**	*e*Pn	**Pn**	**22 03 54.4**	**+1.6**
EVO				*e*Sn	**Sn**	**22 04 35.7**	**-1.6**
	comp=N,9.9nm,0.2s						
EHUE	**Huescar**	**3.75**	**45**	P	**Pn**	**22 03 54.7**	**+1.2**
	comp=N,0.7nm,0.1s,SNR=15						
EHUE				S	**Sn**	**22 04 36.8**	**-1.7**
	comp=N,0.9nm,0.2s						
EVIA	**Vianos**	**4.39**	**38**	P	**Pn**	**22 04 02.7**	**0.0**
	comp=N,2.1nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**22 04 49.8**	**-5.0**
	SNR=7.9						
ESDC	**Sonseca Array**	**4.72**	**19**	P	**Pn**	**22 04 07.5**	**+0.2**
	comp=N,0.2nm,0.2s,baz=195,slow=12,SNR=7.2						
ESDC				S	**Sn**	**22 04 56.7**	**-6.4**
	comp=N,1.3nm,0.2s,baz=201,slow=23,SNR=9.8						
ESDC	**Sonseca Array**	**4.72**	**19**	P	**Pn**	**22 04 07.5**	**+0.1**
	comp=N,0.2nm,0.2s,SNR=7.2						
PCBR	**Castelo Branco**	**4.78**	**346**	*e*Pn	**Pn**	**22 04 09.4**	**+1.3**
PCBR				*e*Sn	**Sn**	**22 05 01.2**	**-3.2**
	comp=N,3.8nm,0.1s						
PCBR	**Castelo Branco**	**4.78**	**346**	*e*Pn	**Pn**	**22 04 09.4**	**+1.3**
PCBR				*e*Sn	**Sn**	**22 05 01.2**	**-3.3**
PCBR	**Castelo Branco**	**4.78**	**346**	*e*Pn	**Pn**	**22 04 09.4**	**+1.3**
PCBR				*e*Sn	**Sn**	**22 05 01.2**	**-3.2**
	comp=N,3.8nm,0.1s						
PTOM	**Tomar**	**4.81**	**337**	*e*Pn	**Pn**	**22 04 09.7**	**+1.1**
PTOM				*e*Sn	**Sn**	**22 05 02.5**	**-2.9**
PTOM	**Tomar**	**4.81**	**337**	*e*Pn	**Pn**	**22 04 09.7**	**+1.1**
PTOM				*e*Sn	**Sn**	**22 05 02.6**	**-2.8**
ETOB	**Tobarra**	**4.92**	**45**	P	**Pn**	**22 04 09.5**	**-0.6**
	comp=N,2.2nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**22 05 01.8**	**-6.1**
	comp=N,1.6nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.92**	**45**	P	**Pn**	**22 04 09.5**	**-0.6**
	comp=N,2.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**5.33**	**347**	*e*Pn	**Pn**	**22 04 16.8**	**+0.9**
MTE				*e*Sn	**Sn**	**22 05 14.6**	**-3.8**
MTE	**Manteigas**	**5.33**	**347**	*e*Pn	**Pn**	**22 04 16.8**	**+0.9**
MTE				*e*Sn	**Sn**	**22 05 14.6**	**-3.8**
PBRG	**Braganca**	**6.61**	**355**	*e*Pn	**Pn**	**22 04 34.2**	**+0.2**
PBRG				*e*Sn	**Sn**	**22 05 45.5**	**-4.9**
	comp=N,1.7nm,0.1s						
PBRG	**Braganca**	**6.61**	**355**	Pn	**Pn**	**22 04 34.2**	**+0.2**
PBRG				Sn	**Sn**	**22 05 45.5**	**-4.9**
	comp=N,0.9nm,0.1s						
PBRG	**Braganca**	**6.61**	**355**	*e*Pn	**Pn**	**22 04 34.2**	**+0.2**
PBRG				*e*Sn	**Sn**	**22 05 45.5**	**-4.9**
PCAB	**Cabril**	**6.69**	**347**	*e*Pn	**Pn**	**22 04 34.7**	**-0.4**
PCAB				*e*Sn	**Sn**	**22 05 47.4**	**-5.0**
PCAB	**Cabril**	**6.69**	**347**	*e*Pn	**Pn**	**22 04 34.7**	**-0.3**
PCAB				*e*Sn	**Sn**	**22 05 47.4**	**-5.0**
EMOS	**Mosqueruela**	**6.72**	**39**	P	**Pn**	**22 04 35.0**	**-0.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**22 05 45.2**	**-8.1**
	comp=N,0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**6.72**	**39**	P	**Pn**	**22 04 35.0**	**-0.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.75**	**355**	P	**Pn**	**22 04 36.4**	**+0.6**
	comp=N,0.7nm,0.1s,SNR=10						
ECAL				S	**Sn**	**22 05 47.7**	**-6.1**
	comp=N,2.1nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.75**	**355**	P	**Pn**	**22 04 36.4**	**+0.5**
	comp=N,0.7nm,0.1s,SNR=10						
ELOB	**Lobios**	**6.85**	**347**	P	**Pn**	**22 04 37.4**	**+0.1**
	comp=N,0.3nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**22 05 50.1**	**-6.2**
	comp=N,1.7nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**8.70**	**24**	*e*Pn	**P**	**22 05 03.3**	**+0.1**
SJPF				*e*Sn	**Sn**	**22 06 33.6**	**-9.0**
	comp=N,0.8nm,0.2s						
ETSF	**Etsaut**	**8.74**	**27**	*e*Pn	**P**	**22 05 03.4**	**-0.4**
ETSF				*e*Sn	**Sn**	**22 06 33.9**	**-10**
	comp=N,0.8nm,0.3s						
EPF	**Esparros**	**9.21**	**30**	*e*Pn	**P**	**22 05 09.2**	**-1.0**
EPF				*e*Sn	**Sn**	**22 06 46.0**	**-9.2**
	comp=N,0.8nm,0.3s						
QUIF	**Quistinic**	**12.86**	**8**	*e*Pn	**P**	**22 05 58.7**	**-1.2**
SGMF	**Saint Gilles**	**13.27**	**10**	*e*Pn	**P**	**22 06 03.4**	**-2.0**

NEIC ***27*** *22:33:09.2,38.62N×17.10E,h31km,ML3.7(ROM), After ROM.*
CSEM ***27*** *22:33:11.0±0.1,38.63N×17.11E,h40km,MD3.3/3, Error ellipse: s-maj=2.8km s-min=1.7km az=125.0*

ROM 27 22:33:09.2±0.5,**38.62N**×**17.10E,h31**km±5km,**Md3.3**/3, **Ml3.7**/17,**Error ellipse: s-maj=4.6km s-min=2.3km az=37.0,Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.57**	**291**	Pg	Pb	22 33 21.6	+0.8
GRI				Sg	Sb	22 33 31.5	+2.7
	3μm,0.4s						
TIP	**Timpagrande**	**0.62**	**334**	Pg	Pb	22 33 22.8	+1.2
TIP				Sg	Sb	22 33 32.5	+2.4
	3μm,0.5s						
SOI	**Samo**	**0.99**	**237**	Pg	Pn	22 33 29.6	+2.5
	140nm,0.8s						
TDS	**Terranova Siba**	**1.20**	**330**	Pg	Pn	22 33 32.2	+2.2
MTTG	**Motta San Giov**	**1.27**	**241**	Pg	Pn	22 33 33.3	+2.2
	769nm,0.6s						
MSRU	**Castanea**	**1.30**	**255**	Pg	Pn	22 33 32.9	+1.4
	2μm,0.7s						
ORI	**Oriolo Calabro**	**1.53**	**341**	Pg	Pn	22 33 36.8	+2.0
	959nm,0.4s						
VPL	**Vulcano Piano**	**1.68**	**262**	Pg	Pn	22 33 38.0	+1.1
	1μm,0.7s						
CUC	**Castrocucco**	**1.70**	**324**	Pg	Pn	22 33 38.3	+1.1
	694nm,0.8s						
LLI	**Lipari**	**1.70**	**265**	Pg	Pn	22 33 38.4	+1.2
	4μm,0.6s						
SLNA	**Salina**	**1.78**	**269**	Pg	Pn	22 33 39.5	+1.1
	320nm,0.3s						
LCI	**Lecce**	**1.88**	**24**	Pg	Pn	22 33 41.0	+1.2
	44nm,0.2s						
ESLN	**Serra La Nave**	**1.92**	**242**	Pg	Pn	22 33 41.3	+1.0
	1μm,1.0s						
MGR	**Morigerati**	**1.94**	**322**	Pg	Pn	22 33 41.8	+1.2
	72nm,0.4s						
LTRZ	**Laterza**	**2.00**	**354**	Pg	Pn	22 33 42.5	+1.1
AGST	**Augusta-Monte**	**2.01**	**228**	Pg	Pn	22 33 42.0	+0.3
	132nm,0.2s						
NOCI	**Noci**	**2.17**	**359**	Pg	Pn	22 33 44.0	+0.1
	184nm,0.5s						
SSY	**Sortino**	**2.17**	**228**	Pg	Pn	22 33 44.1	+0.1
	1μm,0.3s						
PE1	**Pezze di Greco**	**2.20**	**6**	*e*Pn	Pn	22 33 44.4	0.0
SG1	**Sgolgore (BA)**	**2.24**	**352**	*e*Pn	Pn	22 33 45.4	+0.4
BRT	**Bari-Castellan**	**2.26**	**2**	Pg	Pn	22 33 45.2	0.0
	75nm,0.2s						
AMUR	**Altamura**	**2.32**	**351**	Pg	Pn	22 33 46.6	+0.5
	78nm,0.8s						
KEK	**Kerkira**	**2.36**	**62**	*e*P	Pn	22 33 48.5	+1.8
KEK	**Kerkira**	**2.36**	**62**	Pg	Pn	22 33 48.6	+1.9
KEK				Sg	Sn	22 34 16.9	+2.0
	28nm,0.2s						
HVZN	**Vizzini**	**2.37**	**233**	Pg	Pn	22 33 47.4	+0.5
	658nm,0.6s						
SGO	**Sicignano**	**2.38**	**325**	Pg	Pn	22 33 48.2	+1.2
	59nm,0.6s						
HMDC	**Modica**	**2.48**	**229**	Pg	Pn	22 33 48.7	+0.4
	1μm,0.3s						
GIB	**Gibilmanna**	**2.50**	**256**	Pg	Pn	22 33 49.6	+0.9
	299nm,0.8s						
CDT	**Castel del Mon**	**2.54**	**346**	*e*Pn	Pn	22 33 49.7	+0.4
MCRV	**Calabrutti - M**	**2.63**	**326**	Pg	Pn	22 33 51.9	+1.4
	98nm,0.6s						
CSSN	**Cassano Irpino**	**2.75**	**325**	Pg	Pn	22 33 53.8	+1.5
	65nm,0.8s						
VLS	**Valsamata**	**2.77**	**98**	*e*P	Pn	22 33 55.0	+2.4
LKD	**Levkas**	**2.78**	**87**	*e*P	Pn	22 34 00.0	+7.4
USI	**Ustica**	**3.07**	**273**	Pg	Pn	22 33 56.5	-0.3
	29nm,0.2s						
JAN	**Janina**	**3.09**	**69**	*e*P	Pn	22 33 59.8	+2.7
MS1	**Monte Sant'Ang**	**3.21**	**344**	*e*Pn	Pn	22 33 59.9	+1.2
MEV	**Metsovon**	**3.41**	**69**	*e*P	Pn	22 34 06.7	+5.1
WDD	**Wield Dalam**	**3.43**	**218**	Pg	Pn	22 34 02.7	+0.8
	403nm,0.5s						
FG2	**Serracapriola**	**3.51**	**336**	Pg	Pn	22 34 03.6	+0.5
	38nm,0.2s						
EVR	**Evrytania**	**3.69**	**84**	*e*P	Pn	22 34 09.7	+4.1
CII	**Carovilli**	**3.77**	**326**	Pn	Pn	22 34 08.8	+2.1
CII	**Carovilli**	**3.77**	**326**	Pn	Pn	22 34 08.8	+2.1
ITM	**Ithomi**	**4.08**	**109**	*e*P	Pn	22 34 12.5	+1.4
AGG	**Agios Georgios**	**4.10**	**83**	*e*P	Pn	22 34 12.8	+1.4
LIT	**Litokhoron**	**4.43**	**69**	*e*P	Pn	22 34 17.5	+1.4
LKR	**Lokris**	**4.62**	**88**	*e*P	Pn	22 34 21.5	+2.8
SKO	**Skopje**	**4.71**	**43**	*e*Pn	Pn	22 34 30.0	+10
NEO	**Neokhori**	**4.82**	**80**	*e*P	Pn	22 34 23.8	+2.2
VLI	**Veliai**	**5.00**	**110**	*e*P	Pn	22 34 26.3	+2.1
NSAL	**Nisos Salamina**	**5.05**	**96**	*e*P	Pn	22 34 27.0	+2.1
PLG	**Polygyros**	**5.21**	**68**	*e*P	Pn	22 34 28.0	+0.9
ATH	**Athens Observa**	**5.24**	**95**	*e*P	Pn	22 34 30.5	+3.0
KYTH	**Kithira**	**5.26**	**114**	*e*P	Pn	22 34 31.2	+3.3
NVLJ	**Novalja**	**6.17**	**345**	*i*Pn	Pn	22 34 39.7	-1.0
NVLJ				*i*Sn	Sn	22 35 43.0	-7.9
NVLJ	**Novalja**	**6.17**	**345**	*i*Pn	Pn	22 34 39.6	-1.1
VAM	**Vamos**	**6.52**	**117**	*e*P	Pn	22 34 48.5	+2.9

PNSN ***27*** *22:46:17.2,47.69N×120.85W,h6km,MD2.6,Fault plane solution: NP1:ϕ♭85°,δ50°, NP2:ϕ♭342°,δ75°, Principal axes: T Plg40°,Azm295°; P Plg16°,Azm39°;*

PGC 27 22:46:17.3,47.72N×**120.88W,h1**km,**ML2.0**/11,**South of Glacier Peak, Washington., Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VGZ	**Gonzales**	**1.78**	**294**	Pn	Pn	22 46 48.2	-1.2
VGZ				Sn	Sn	22 47 11.2	-1.8
VGZ				Trac		22 47 12.4	
	comp=Z,18nm,0.3s						
PNT	**Penticton**	**1.81**	**27**	Pn	Pn	22 46 48.3	-1.5
PNT				Sg	Sg	22 47 13.8	-3.5
PNT				Trac		22 47 16.0	
	comp=Z,11nm,0.1s						
SNB	**Saturna Island**	**1.86**	**305**	Pn	Pn	22 46 50.5	-0.1
SNB				Sn	Sn	22 47 13.7	-1.3
SNB				Trac		22 47 19.8	
	comp=Z,4.0nm,0.2s						
PGC	**Sidney**	**1.96**	**299**	Pn	Pn	22 46 51.6	-0.3
PGC				Sn	Sn	22 47 16.4	-1.1
PGC				Trac		22 47 18.5	
	comp=Z,10.0nm,0.2s						
GOBB	**Galiano Island**	**2.14**	**306**	Pg	Pg	22 46 56.2	-3.9
GOBB				Sg	Sg	22 47 23.8	-4.9
GOBB				Trac		22 47 26.4	
	comp=Z,3.0nm,0.1s				

WRAB	**Tennant Creek**	**21.95**	**158**	*e*P		**P**	**22 57 48.4**	**-0.9**
WRAB				*e*S		**S**	**23 01 49.4**	**+2.0**
WRAB				pmax	pmax			
	comp=Z,235nm,1.0s,mb5.6							
WRA	**Warramunga Arr**	**21.95**	**158**	P	P	**P**	**22 57 48.6**	**-0.8**
	comp=Z,98nm,1.0s,mb5.2,baz=336,slow=11,SNR=68							
WRA				S	S	**S**	**23 01 46.2**	**-1.3**
	comp=Z,14nm,1.0s,baz=339,slow=16,SNR=9.9							
WB2	**Warramunga Arr**	**21.96**	**158**	*i*P		**P**	**22 57 48.6**	**-0.8**
MBWA	**Marble Bar**	**22.34**	**195**	*e*P		**P**	**22 57 53.7**	**+0.5**
	comp=Z,18nm,0.8s,mb4.6							
GUMO	**Guam**	**22.90**	**55**	P	P	**P**	**22 57 58.7**	**-0.2**
	comp=Z,34nm,0.2s,mb5.3,baz=12,slow=21,SNR=6.6							
PMG	**Port Moresby**	**23.40**	**115**	P	P	**P**	**22 58 04.4**	**+0.7**
	comp=Z,36nm,0.8s,mb4.8,baz=325,slow=4.1,SNR=8.5							
PMG	**Port Moresby**	**23.40**	**115**	*i* P		**P**	**22 58 04.5**	**+0.7**
ASPA	**Alice Springs**	**25.26**	**162**	*e*P		**P**	**22 58 22.4**	**+0.7**
ASPA				*e*S		**S**	**23 02 46.1**	**+0.6**
JOW	**Kunigami**	**26.29**	**5**	P		**P**	**22 58 32.4**	**+1.1**
	comp=Z,35nm,0.7s,mb5.0,baz=188,slow=8.1,SNR=8.0							
CTA	**Charters Tower**	**28.61**	**137**	*e*P		**P**	**22 58 58.2**	**+5.8**
	comp=Z,12nm,0.9s,mb4.6							
CTA	**Charters Tower**	**28.61**	**137**	P		**P**	**22 58 52.5**	**+0.1**
	comp=Z,4.2nm,0.9s,mb4.2,baz=321,slow=14,SNR=3.3							
CTA	**Charters Tower**	**28.61**	**137**	P		**P**	**22 58 52.5**	**+0.1**
CTA				*e*P			22 58 58.2	
CTAO	**Charters Tower**	**28.61**	**137**	*e*P		**P**	**22 58 52.1**	**-0.3**
	comp=Z,20nm,0.9s,mb4.8							
CTAO	**Charters Tower**	**28.61**	**137**	*e*P		**P**	**22 58 52.1**	**-0.3**
CTAO				pmax	pmax			
	comp=Z,20nm,0.9s,mb4.8							
NANT	**Nan**	**30.65**	**308**	P	P	**P**	**22 59 11.0**	**+0.3**
SSE	**Sheshan**	**30.75**	**352**	P	P	**P**	**22 59 10.5**	**-1.0**
SSE				S	S	**S**	**23 04 14.8**	**+0.6**
SSE				PCS			23 05 49.3	
SSE				AMB	AMB			
	comp=Z,27nm,0.8s,mb5.1							
SSE				AMB	AMB			
	comp=Z,140nm,3.8s							
SSE				LR	LR			
	comp=N,44nm,20.0s,MS3.9							
SSE				LR	LR			
	comp=E,244nm,20.0s,MS3.9							
SSE				LR	LR			
	comp=Z,117nm,25.0s,MS3.4							
SSE	**Sheshan**	**30.75**	**352**	P	P	**P**	**22 59 10.5**	**-1.0**
	comp=Z,27nm,0.8s,mb5.1							
SSE				pP	pP		22 59 19.0	+6.8
SSE				S	S	**S**	**23 04 14.8**	**+0.6**
SSE				sS			23 04 29.7	
SSE				PcS			23 05 49.3	
SSE				SS	SS		23 06 28.4	+33
SSE				LR	LR			
	comp=Z,120nm,25.0s,MS3.5							
NJ2	**Nanjing**	**32.07**	**349**	*e*P		**P**	**22 59 23.8**	**+0.7**
NJ2				S	S	**S**	**23 04 34.0**	**-0.8**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,220nm,3.9s							
NJ2				LR	LR			
	comp=N,400nm,19.3s							
NJ2				LR	LR			
	comp=E,570nm,29.6s							
NJ2				LR	LR			
	comp=Z,190nm,17.8s,MS3.8							
ENH	**Enshi**	**33.45**	**334**	*e*P		**P**	**22 59 34.8**	**-0.2**
	comp=Z,12nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**35.48**	**157**	⇑*i*P		**P**	**22 59 52.2**	**-0.4**
	comp=Z,22nm,0.6s,mb5.3							
STKA	**Stephens Creek**	**35.48**	**157**	P		**P**	**22 59 51.9**	**-0.7**
	comp=Z,33nm,0.8s,mb5.3,baz=329,slow=9.0,SNR=37							
STKA				PcP	PcP		23 02 21.7	-0.6
	comp=Z,3.3nm,0.5s,baz=326,slow=16,SNR=4.5							
MJAR	**Matsushiro Arr**	**37.65**	**16**	P		**P**	**23 00 10.4**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.3,baz=188,slow=8.3,SNR=11							
MJAR				LR	LR		23 14 44.7	
	comp=Z,106nm,20.5s,MS3.6,baz=205,slow=35							
LZH	**Lanzhou**	**40.88**	**332**	*e*P		**P**	**23 00 42.0**	**+4.4**
LZH				AMB	AMB			
	comp=Z,26nm,1.2s,mb4.7							
LZH	**Lanzhou**	**40.88**	**332**	*e*P		**P**	**23 00 42.0**	**+4.4**
	comp=Z,26nm,1.2s,mb4.7							
LZH				pP	pP		23 00 48.1	+10
LZH				sP	sP		23 00 51.0	+12
LZH	**Lanzhou**	**40.88**	**332**	*e*P		**P**	**23 00 42.0**	**+4.4**
LZH				*SP	sP		23 00 51.0	+12
LZH				pmax	pmax			
	comp=Z,26nm,1.2s,mb4.7							
SNY	**Shenyang**	**41.19**	**357**	⇓P		**P**	**23 00 41.0**	**+0.9**
SNY				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
SNY				AMB	AMB			
	comp=Z,130nm,5.6s							
SNY				LR	LR			
	comp=N,220nm,25.3s							
SNY				LR	LR			
	comp=Z,190nm,21.8s,MS3.9							
LSA	**Lhasa**	**43.98**	**315**	P	P	**P**	**23 01 05.0**	**+1.9**
LSA	**Lhasa**	**43.98**	**315**	*e*P		**P**	**23 01 04.4**	**+1.3**
	comp=Z,9.8nm,0.6s,mb4.7							
LSA	**Lhasa**	**43.98**	**315**	*e*P		**P**	**23 01 04.4**	**+1.3**
LSA				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.7							
MDJ	**Mudanjiang**	**44.06**	**4**	P	P	**P**	**23 01 04.5**	**+1.0**
MDJ				AMB	AMB			
	comp=Z,12nm,0.8s,mb4.7							
MDJ				AMB	AMB			
	comp=Z,89nm,4.4s							
MDJ				LR	LR			
	comp=N,46nm,25.6s							
MDJ				LR	LR			
	comp=E,135nm,33.5s							
MDJ				LR	LR			
	comp=Z,108nm,23.9s,MS3.7							
MDJ	**Mudanjiang**	**44.06**	**4**	*e*P		**P**	**23 01 04.1**	**+0.6**
	comp=Z,13nm,0.8s,mb4.7							
GTA	**Gaotai**	**45.45**	**332**	P	P	**P**	**23 01 18.8**	**+4.0**
GTA				S	S	**S**	**23 08 05.8**	**+9.4**
GTA				AMB	AMB			
	comp=Z,13nm,0.8s,mb4.8							
GTA				AMB	AMB			
	comp=Z,89nm,9.2s							
GTA				LR	LR			
	comp=N,168nm,16.0s,MS4.2							
GTA				LR	LR			
	comp=E,189nm,19.9s,MS4.2							
GTA				LR	LR			
	comp=Z,218nm,19.9s,MS4.1							
DZM	**Mont Dzumac**	**45.49**	**122**	P	P	**P**	**23 01 15.6**	**+0.3**
	comp=Z,10nm,1.0s,mb4.6,baz=294,slow=15,SNR=3.8							
ASAJ	**Asahikawa**	**45.92**	**17**	P	P	**P**	**23 01 19.2**	**+0.8**
	comp=Z,5.8nm,0.6s,mb4.7,baz=232,slow=9.1,SNR=3.4							
ASAJ	**Asahikawa**	**45.92**	**17**	P	P	**P**	**23 01 19.3**	**+0.8**
ASAJ				pmax	pmax			
	comp=Z,6.0nm,0.6s							
PKI	**Pulchoki**	**47.18**	**308**	*e*P		**P**	**23 01 27.3**	**-1.4**
	comp=Z,7.1nm,0.4s,mb4.9							
PKI	**Pulchoki**	**47.18**	**308**	*e*P		**P**	**23 01 27.3**	**-1.4**
PKI				pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.7							
KKN	**Kakani**	**47.39**	**308**	*e*P		**P**	**23 01 29.5**	**-0.8**
	comp=Z,14nm,0.7s,mb5.0							
DMN	**Daman**	**47.44**	**308**	*e*P		**P**	**23 01 30.2**	**-0.5**
	comp=Z,16nm,0.7s,mb5.0							
GKN	**Gorkha**	**47.99**	**308**	*e*P		**P**	**23 01 35.1**	**+0.1**
	comp=Z,9.6nm,0.4s,mb5.2							
KOLN	**Koldanda**	**48.70**	**308**	*e*P		**P**	**23 01 40.3**	**-0.2**
	comp=Z,37nm,0.6s,mb5.6							
KLR	**Kul'dur**	**48.81**	**5**	*e*P		**P**	**23 01 37.8**	**-3.2**
HIA	**Hailar**	**48.87**	**355**	*e*P		**P**	**23 01 42.4**	**+1.0**
	comp=Z,11nm,0.8s,mb4.9							
HIA	**Hailar**	**48.87**	**355**	*e*P		**P**	**23 01 42.4**	**+1.0**
HIA				pmax	pmax			
	comp=Z,11nm,0.8s							
HYB	**Hyderabad**	**49.45**	**293**	*i* P		**P**	**23 01 46.0**	**-0.3**
HYB	**Hyderabad**	**49.45**	**293**	*e*P		**P**	**23 01 46.0**	**-0.3**
ULN	**Ulaanbaatar**	**49.92**	**344**	*e*P		**P**	**23 01 50.0**	**+0.4**
	comp=Z,5.7nm,0.7s,mb4.7							
ULN	**Ulaanbaatar**	**49.92**	**344**	⇑*e*P		**P**	**23 01 49.7**	**+0.1**
SONM	**Songino Array**	**50.09**	**343**	P		**P**	**23 01 50.7**	**-0.2**
	comp=Z,4.8nm,0.9s,mb4.5,baz=156,slow=8.5,SNR=21							
ZAK	**Zakamensk**	**53.29**	**342**	*e*P		**P**	**23 02 16.9**	**+1.9**
ZAK				*e*			23 03 22.7	
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
WMQ	**Urumqi**	**54.89**	**327**	*e*P		**P**	**23 02 27.5**	**+0.7**
WMQ				PCP	PcP		23 03 22.0	-6.8
WMQ				*e*S		**S**	**23 10 18.0**	**+11**
WMQ				XS			23 10 37.0	
WMQ				AMB	AMB			
	comp=Z,14nm,0.7s,mb5.1							
WMQ				AMB	AMB			
	comp=Z,120nm,5.4s							
WMQ				LR	LR			
	comp=N,270nm,25.6s,MS4.4							
WMQ				LR	LR			
	comp=E,327nm,24.8s,MS4.4							
WMQ				LR	LR			
	comp=Z,371nm,21.2s,MS4.4							
BOD	**Bodaibo**	**57.92**	**353**	*e*P		**P**	**23 02 46.3**	**-2.0**
BOD				pmax	pmax			
	comp=Z,11nm,1.6s,mb4.6							
MKAR	**Makanchi Array**	**59.72**	**327**	P		**P**	**23 02 59.6**	**-1.4**
	comp=Z,3.6nm,0.5s,mb4.7,baz=122,slow=8.0,SNR=62							
MKAR				LR	LR		23 31 06.8	
	comp=Z,196nm,20.0s,MS4.2,baz=180,slow=38							
YAK	**Yakutsk**	**61.45**	**2**	*e*P		**P**	**23 03 12.1**	**-0.4**
	comp=Z,47nm,0.6s,mb5.8							
YAK	**Yakutsk**	**61.45**	**2**	*e*P		**P**	**23 03 11.5**	**-1.0**
YAK				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0							
YAK				pmax	pmax			
	comp=N,3.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.8							
MA2	**Magadan**	**62.04**	**14**	*ce*P		**P**	**23 03 16.3**	**-0.3**
MA2				*e*			23 07 05.1	
MA2				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.9							
AAK	**Ala-Archa**	**62.18**	**319**	*e*P		**P**	**23 03 17.3**	**-0.5**
	comp=Z,10nm,1.2s,mb4.8							
AAK	**Ala-Archa**	**62.18**	**319**	*e*P		**P**	**23 03 17.5**	**-0.2**
AAK				pmax	pmax			
	comp=Z,8.0nm,1.5s,mb4.6							
ZAL	**Zalesovo**	**63.07**	**334**	P		**P**	**23 03 23.9**	**+0.4**
	comp=Z,4.8nm,0.4s,mb5.0,baz=340,slow=6.0,SNR=13							
KURK	**Kurchatov**	**64.00**	**329**	*e*P		**P**	**23 03 27.8**	**-1.8**
	comp=Z,13nm,0.6s,mb5.2							
KURK	**Kurchatov**	**64.00**	**329**	⇑*i*P		**P**	**23 03 28.4**	**-1.2**
NVS	**Novosibirsk**	**64.36**	**334**	*e*P		**P**	**23 03 31.9**	**0.0**
NVS				pmax	pmax			
	comp=Z,16nm,1.0s,mb5.0							
NVS				pmax	pmax			
	comp=N,4.0nm,0.7s							
NVS				pmax	pmax			
	comp=E,4.0nm,0.4s							
SEY	**Seymchan**	**65.36**	**13**	⇑*e*P		**P**	**23 03 39.1**	**+0.8**
BVAR	**Borovoye Array**	**69.55**	**328**	P		**P**	**23 04 04.4**	**-0.4**
	comp=E,3.7nm,0.6s,mb4.5,baz=129,slow=9.5,SNR=16							
BRVK	**Borovoye**	**69.62**	**328**	*e*P		**P**	**23 04 04.6**	**-0.6**
	comp=E,8.1nm,0.9s,mb4.7							
BRVK	**Borovoye**	**69.62**	**328**	*e*P		**P**	**23 04 04.6**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
ARU	**Arti**	**77.19**	**328**	*e*P		**P**	**23 04 48.3**	**-1.1**
	comp=Z,17nm,0.8s,mb5.0							
ARU	**Arti**	**77.19**	**328**	⇓*i*P		**P**	**23 04 48.8**	**-0.6**
ARU				*e*			23 04 58.0	
ARU				*e*			23 07 44.0	
ARU				*e*S	S		23 14 39.2	+0.9
ARU				*e*SS	SS		23 19 40.2	+1.5
ARU				pmax	pmax			
	comp=Z,23nm,0.9s,mb5.1							
VNDA	**Vanda**	**80.35**	**173**	*e*P		**P**	**23 05 06.4**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.4							
VNDA	**Vanda**	**80.35**	**173**	*e*P		**P**	**23 05 06.4**	**+0.1**
VNDA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MAW	**Mawson**	**80.43**	**200**	P		**P**	**23 05 07.9**	**+1.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=58,slow=10,SNR=4.3							
KIV	**Kislovodsk**	**84.72**	**314**	*e*P		**P**	**23 05 24.0**	**-5.5**
KIV				pmax	pmax			
	comp=E,12nm,1.1s							
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.7							
KIV				MLR	MLR			
	comp=N,41nm,15.0s,MS4.2							
KIV				MLR	MLR			
	comp=E,52nm,15.0s,MS4.2							
KIV				MLR	MLR			
	comp=Z,65nm,15.0s,MS4.1							
VRHR	**Novokhopersk**	**85.97**	**321**	*e*P		**P**	**23 05 35.4**	**-0.1**
VRHR				pmax	pmax			
	comp=Z,20nm,0.7s,mb5.5							
VRHR				pmax	pmax			
	comp=N,8.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.8s							
MALT	**Malatya**	**87.66**	**308**	*e*P		**P**	**23 05 44.6**	**+0.5**
	comp=E,13nm,1.3s,mb5.0							
MALT	**Malatya**	**87.66**	**308**	*e*P		**P**	**23 05 44.6**	**+0.5**
MALT				pmax	pmax			
	comp=Z,13nm,1.3s,mb5.0							
ILAR	**Eielson Array**	**88.39**	**25**	P		**P**	**23 05 45.5**	**-1.4**
	comp=Z,1.0nm,0.7s,mb4.2,baz=243,slow=4.7,SNR=7.9							
ANN	**Anapa**	**88.52**	**315**	*e*P		**P**	**23 05 55.2**	**+7.2**
ANN				pmax	pmax			
	comp=Z,84nm,1.5s,mb5.8							
KMBO	**Kilima Mbogo**	**88.60**	**269**	P		**P**	**23 05 50.4**	**+1.3**
	comp=Z,6.1nm,1.1s,mb4.9,baz=44,slow=8.9,SNR=8.6							
OBN	**Obninsk**	**89.18**	**325**	⇓P		**P**	**23 05 51.0**	**+0.1**
OBN				*e*			23 06 01.2	
OBN				*e*			23 06 13.8	
OBN				pmax	pmax			
	comp=Z,18nm,1.8s,mb5.1							
OBN				MLR	MLR			
	comp=Z,100nm,20.0s,MS4.2							
QSPA	**South Pole Qui**	**90.42**	**180**	*e*P		**P**	**23 05 56.8**	**+0.6**
	comp=Z,6.7nm,0.9s,mb5.0							
BR131	**Keskin Array S**	**91.38**	**310**	*e*P		**P**	**23 06 03.1**	**+1.6**
	comp=Z,1.7nm,0.7s,mb4.5							
BRTR	**Keskin Array B**	**91.38**	**310**	P		**P**	**23 06 01.4**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.5,baz=135,slow=5.2,SNR=4.5							
ARCES	**ARCESS Array B**	**93.16**	**340**	P		**P**	**23 06 08.6**	**-0.4**
	comp=Z,2.5nm,0.9s,mb4.6,baz=90,slow=5.3,SNR=5.6							
AKASG	**Malin Array Be**	**93.82**	**321**	P		**P**	**23 06 11.6**	**-0.9**
	comp=Z,0.5nm,0.5s,mb4.2,baz=68,slow=6.0,SNR=2.8							
AKASG	**Malin Array Be**	**93.82**	**321**	P		**P**	**23 06 11.6**	**-0.9**
FINES	**FINESS Array B**	**94.24**	**332**	P		**P**	**23 06 14.5**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.5,baz=45,slow=2.7,SNR=9.2							
TXAR	**Lajitas Array**	**124.25**	**53**	PKP	PKPdf		23 11 55.7	-0.1
	comp=Z,1.2nm,0.7s,baz=236,slow=1.0,SNR=8.9							
CFAA	**Coronel Fontan**	**146.31**	**158**	PKPbc	PKPbc		23 12 37.0	+1.7
	comp=Z,1.5nm,0.6s,baz=218,slow=4.2,SNR=40							
JTS	**JuntasAbangare**	**147.55**	**70**	PKPbc	PKPdf		23 12 40.0	+1.2
	comp=Z,8.9nm,0.8s,baz=295,slow=22,SNR=8.5							
LVC	**Limon Verde**	**153.75**	**148**	PKP	PKPdf		23 12 48.4	+0.5
	comp=Z,1.2nm,0.7s,baz=182,slow=0.2,SNR=3.6							
LVC				PKPbc	PKPdf		23 12 57.4	+9.4
	comp=Z,4.0nm,0.6s,baz=221,slow=2.4,SNR=9.0							
LVC	**Limon Verde**	**153.75**	**148**	PKP	PKPdf		23 12 48.4	+0.5
LVC				PKPbc	PKPdf		23 12 57.4	+9.4
CPUP	**Villa Florida**	**154.13**	**173**	PKP	PKPdf		23 12 47.4	-1.0
	comp=Z,1.1nm,1.0s,baz=169,slow=5.2,SNR=2.0							
CPUP				PKPbc	PKPdf		23 12 57.8	+9.4
	comp=Z,1.6nm,0.7s,baz=0.6,slow=1.2,SNR=4.7							
LPAZ	**La Paz**	**159.12**	**139**	PKP	PKPdf		23 12 56.0	+0.9
	comp=Z,2.1nm,1.1s,baz=7.6,slow=9.0,SNR=4.8							
SDV	**Santo Domingo**	**161.13**	**60**	PKP	PKPdf		23 12 57.0	-0.3
	comp=Z,2.1nm,0.4s,baz=63,slow=3.1,SNR=3.0							
SIV	**San Ignacio**	**163.16**	**156**	PKP	PKPdf		23 12 59.3	+0.1
	comp=Z,0.7nm,0.7s,baz=230,slow=12,SNR=3.6							
SIV				PKPab	PKPab		23 13 49.1	-0.6
	comp=Z,2.5nm,0.6s,baz=220,slow=5.4,SNR=17							

NIED ***27*** *23:18:00,43.10N×146.80E,h41km,Mw4.1 Best double couple: M₀1.63×10¹⁵ NP1:φs41°,δ77°,λ85°. NP2:φs243°, δ13°,λ111°.*
JMA ***27*** *23:18:30.9±0.2,43.12N×146.80E,h51km±2km,M4.1*
SKHL ***27*** *23:18:30.0±0.9,43.15N×146.99E,h33km,mb4.8/3*
MOS ***27*** *23:18:30.4±1.2,43.04N×146.69E,h52km,mb4.5/9, Error ellipse: s-maj=17.5km s-min=10.1km az=111.0*
NEIC ***27*** *23:18:32.1±1.5,43.04N×146.70E,h52km±12km,mb4.1/5, Error ellipse: s-maj=14.0km s-min=10.0km az=97.0*
IDC ***27*** *23:18:33.7±3.2,43.12N×146.64E,h60km±28km,mb3.9/10, mb1 4.1/12,mb1mx3.9/22,mbtmp4.1/12,ML3.9/2,MS3.1/1, Ms1 3.1/1,ms1mx2.8/27,Error ellipse: s-maj=22.1km s-min=19.3km az=116.0*

ISC 27 23:18:30.8±1.0,43.15N±0.05×146.81E±0.08,h52km±7km, n64,σ0.93/66,mb4.2/16,2C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.81**	**286**	P	**P**	**23 18 46.3**	**+0.2**
NEM2				*e*S	**S**	**23 18 57.6**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.12**	**323**	*i* P	**P**	**23 18 50.3**	**-0.1**
YUK				AMB	AMB	23 18 52.0	
	880nm,0.4s						
YUK				AMB	AMB	23 18 52.0	
	520nm,0.4s						
YUK				AMB	AMB	23 18 52.0	
	4μm,0.4s						
YUK				*e*S	**S**	**23 19 05.0**	**0.0**
YUK				A		23 19 05.5	
	9μm,0.5s						
YUK				A		23 19 05.5	
	13μm,0.5s						
YUK				A		23 19 05.6	
	17μm,1.0s						
YUK				A		23 19 05.6	
	20μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.12**	**323**	*i* PN	**P**	**23 18 50.3**	**-0.1**
YUK				*e*S	**S**	**23 19 05.0**	**0.0**
YUK				pmax	pmax		
	comp=N,880nm,0.4s						
YUK				pmax	pmax		
	comp=E,520nm,0.4s						
YUK				pmax	pmax		
	comp=Z,4μm,0.4s						
YUK				smax			
	comp=N,9μm,0.5s						
YUK				smax			
	comp=E,13μm,0.5s						
YUK				smax			
	comp=N,17μm,1.0s						
YUK				smax			
	comp=E,20μm,1.0s						
JRA	**Rausu**	**1.46**	**303**	P	**P**	**23 18 55.6**	**+0.4**
JRA				*e*S	**S**	**23 19 13.8**	**+0.4**
JAK	**Akkeshi**	**1.55**	**265**	P	**P**	**23 18 56.5**	**-0.1**
JAK				*e*S	**S**	**23 19 15.3**	**-0.4**
JNK	**Nakash**	**1.58**	**287**	P	**P**	**23 18 56.8**	**-0.2**
JNK				*e*S	**S**	**23 19 16.1**	**-0.3**
JOB	**Onbets**	**2.19**	**265**	P	**P**	**23 19 05.6**	**0.0**
KUR	**Kuril'sk**	**2.22**	**20**	*e*P	**P**	**23 19 03.3**	**-2.7**
KUR				AMB	AMB	23 19 07.5	
	comp=E,90nm,0.8s						
KUR				AMB	AMB	23 19 07.5	
	comp=E,130nm,0.8s						
KUR				*e*S	**S**	**23 19 29.0**	**-3.2**
KUR				A		23 19 47.0	
	comp=E,260nm,0.7s						
KUR				A		23 19 47.0	
	comp=E,220nm,0.7s						
JAR	**Ashorobuto**	**2.22**	**275**	P	**P**	**23 19 06.2**	**+0.2**
JAR				*e*S	**S**	**23 19 32.9**	**+0.6**
JTKR	**Abashiri--Toko**	**2.26**	**292**	P	**P**	**23 19 07.4**	**+0.9**
JCH	**Churui**	**2.59**	**259**	P	**P**	**23 19 10.9**	**-0.3**
JCH				*e*S	**S**	**23 19 40.9**	**-0.6**
JMP	**Maruseppu**	**2.65**	**290**	P	**P**	**23 19 12.3**	**+0.2**
JEM	**Erimo**	**2.92**	**248**	P	**P**	**23 19 16.8**	**+0.8**
ERM	**Erimo**	**2.92**	**248**	*e*PN	**P**	**23 19 07.4**	**-8.6**
JKK2	**Kamakawa 2**	**3.04**	**285**	P	**P**	**23 19 18.5**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.11**	**255**	P	**P**	**23 19 18.4**	**-0.2**
ASAJ	**Asahikawa**	**3.20**	**289**	P	**P**	**23 19 21.0**	**+1.0**
	comp=E,12nm,0.3s,baz=100,slow=15,SNR=21						
ASAJ				LR	LR	23 20 49.7	
	comp=E,335nm,20.5s,baz=347,slow=44						
ASAJ	**Asahikawa**	**3.20**	**289**	PN	**P**	**23 19 21.0**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,335nm,20.5s						
YSS	**Yuzh-Sakhalins**	**4.76**	**324**	*e*P	**P**	**23 19 42.0**	**+0.1**
YSS				*e*S	**S**	**23 20 34.0**	**-2.5**
YSS				A		23 20 36.0	
	comp=Z,30nm,1.0s						
YSS				AMS	AMS	23 21 45.0	
	comp=Z,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**4.76**	**324**	Pn	**P**	**23 19 41.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.76**	**324**	*e*PN	**P**	**23 19 42.0**	**+0.1**
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
MJAR	**Matsushiro Arr**	**9.34**	**228**	P	**P**	**23 20 42.3**	**-3.1**
	comp=Z,1.0nm,0.3s,baz=29,slow=14,SNR=9.2						
MJAR	**Matsushiro Arr**	**9.34**	**228**	PN	**P**	**23 20 42.3**	**-3.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EKMR	**Ekimchan**	**13.55**	**322**	*e*P	**P**	**23 21 42.5**	**+0.6**
EKMR				AMB	AMB	23 21 43.5	
	comp=Z,3.0nm,0.5s						
SEY	**Seymchan**	**20.09**	**7**	*e*P	**P**	**23 23 02.6**	**+0.3**
ULN	**Ulaanbaatar**	**28.03**	**294**	*e*P	**P**	**23 24 19.1**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**28.03**	**294**	⇓*i*P	**P**	**23 24 19.2**	**+0.2**
SONM	**Songino Array**	**28.48**	**294**	P	**P**	**23 24 22.9**	**0.0**
	comp=Z,1.3nm,0.5s,mb3.8,baz=86,slow=8.3,SNR=14						
SONM	**Songino Array**	**28.48**	**294**	P	**P**	**23 24 22.9**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**29.90**	**349**	*

TXAR	**Lajitas Array**	**83.19**	**56**	P	**P**		**23 30 54.2**	**+1.4**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
SNAA	**Sanae**	**147.81**	**197**	PKPbc	PKPdf		23 38 10.6	+5.0	
	comp=Z,0.9nm,0.9s,baz=164,slow=1.2,SNR=8.7								
SNAA	**Sanae**	**147.81**	**197**	PKP2	PKPab		23 38 10.6	-2.6	
SNAA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
VNA2	**Neumayer--Watz**	**149.34**	**196**		PKPdf		23 38 18.6	+11	
VNA2	**Neumayer--Watz**	**149.34**	**196**		PKPdf		23 38 22.8	+15	
VNA2	**Neumayer--Watz**	**149.34**	**196**		PKPdf		23 38 32.7	+25	
VNA2	**Neumayer--Watz**	**149.34**	**196**		PKPdf		23 38 38.4	+30	
VNA2	**Neumayer--Watz**	**149.34**	**196**	PKPdf	PKPdf		23 38 16.5	+8.4	
VNA2				P			23 38 18.6		

DHMR 27 23:37:15.4±2.5, 12.65N×40.47E, h17km±299km, ML3.7, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.60**	**80**	*i* P	Pn	23 38 13.4	+1.7
TRBA				*i* S	Sn	23 38 58.5	+4.3
TRBA				AML	AML	23 39 13.8	
	comp=E,364nm,0.6s						
UDYN	**Al 'Udayn**	**3.64**	**69**	*i* P	Pn	23 38 14.2	+1.8
UDYN				*i* S	Sn	23 38 59.6	+4.1
UDYN				AML	AML	23 39 19.6	
	comp=E,234nm,0.5s						
DHBB	**Dhamar BB**	**4.26**	**63**	*i* P	Pn	23 38 22.3	+1.1
DHBB				*i* S	Sn	23 39 14.7	+3.6
LBOS		**4.80**	**75**⇑	*i* P	Pn	23 38 27.3	-1.6
LBOS				*i* S	Sn	23 39 23.8	-1.0
BDHA	**Al Bayda'**	**5.13**	**75**	*i* S	Sn	23 39 31.6	-1.4

*IDC **28** 00:21:21.5±1.9, 12.41N×40.44E, mb4.0/11, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, ML3.7/2, MS3.7/9, Ms1 3.7/9, ms1mx3.6/19, Error ellipse: s-maj=49.4km s-min=14.5km az=30.0*
*NEIC **28** 00:21:22.6±0.7, 12.32N×40.40E, h10km, mb4.7/19, ML3.9(DHMR), Error ellipse: s-maj=16.8km s-min=5.5km az=193.0*
*MOS **28** 00:21:22.2±0.8, 12.50N×40.35E, h10km, mb4.8/22, Error ellipse: s-maj=16.2km s-min=5.6km az=112.5*
*CSEM **28** 00:21:22.8±0.2, 12.61N×40.40E, h10km, mb4.6/19, Ms3.6, Error ellipse: s-maj=7.6km s-min=2.4km az=10.0*
*DHMR **28** 00:21:23.0±2.5, 12.71N×40.53E, h5km±153km, ML3.8*
ISC 28 00:21:20.7±2.2, 12.3N±0.1×40.39E±0.04, h7km±16km, n104, σ0§96/108, mb4.4/35, MS3.8/8, 7C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.54**	**108**	Pn	**Pn**	**00 22 03.5**	**+0.5**
	58nm,0.3s,baz=233,slow=22,SNR=60						
ATD				Lg		00 22 41.2	
	9.8nm,0.3s,baz=256,slow=24,SNR=3.9						
ATD	**Arta Tunnel**	**2.54**	**108**	Pn	**Pn**	**00 22 03.5**	**+0.5**
ATD				Lg		00 22 41.2	
TRBA	**At Turbah**	**3.74**	**76**	*i* P	**Pn**	**00 22 21.2**	**+1.1**
TRBA				*i* S	**Sn**	**00 23 06.9**	**+1.9**
TRBA				AML	AML	00 23 21.5	
	comp=N,752nm,0.7s						
TRBA	**At Turbah**	**3.74**	**76**⇑	*i* P	**Pn**	**00 22 21.2**	**+1.1**
TRBA				*i* S	**Sn**	**00 23 11.4**	**+6.4**
TRBA	**At Turbah**	**3.74**	**76**	*i* P	**Pn**	**00 22 21.2**	**+1.1**
TRBA				*i* S	**Sn**	**00 23 06.9**	**+1.9**
	comp=N,376nm,0.7s						
UDYN	**Al 'Udayn**	**3.84**	**65**	*i* P	**Pn**	**00 22 22.0**	**+0.5**
UDYN				*i* S	**Sn**	**00 23 07.9**	**+0.4**
UDYN				AML	AML	00 23 42.1	
	comp=E,225nm,0.9s						
UDYN	**Al 'Udayn**	**3.84**	**65**⇓	*i* P	**Pn**	**00 22 23.3**	**+1.8**
UDYN				*i* S	**Sn**	**00 23 15.1**	**+7.6**
DHBB	**Dhamar BB**	**4.48**	**60**	*i* P	**Pn**	**00 22 30.2**	**-0.3**
DHBB				*i* S	**Sn**	**00 23 22.5**	**-1.1**
DHBB	**Dhamar BB**	**4.48**	**60**⇓	*i* P	**Pn**	**00 22 29.7**	**-0.9**
DHBB				*i* S	**Sn**	**00 23 26.6**	**+3.0**
DHBB	**Dhamar BB**	**4.48**	**60**	*i* P	**Pn**	**00 22 30.2**	**-0.4**
DHBB				*i* S	**Sn**	**00 23 22.5**	**-1.1**
LBOS		**4.98**	**72**	*i* P	**Pn**	**00 22 35.3**	**-2.3**
LBOS				*i* S	**Sn**	**00 23 32.0**	**-4.1**
LBOS		**4.98**	**72**	*e*P	**Pn**	**00 22 36.3**	**-1.3**
LBOS				*i* S	**Sn**	**00 23 37.5**	**+1.4**
BDHA	**Al Bayda'**	**5.30**	**72**	*i* S	**Sn**	**00 23 39.6**	**-4.7**
KMBO	**Kilima Mbogo**	**13.74**	**193**	Lg		00 28 44.1	
	comp=E,0.1nm,0.3s,baz=78,slow=12,SNR=3.4						
KMBO				LR	LR	00 29 59.2	
	comp=E,322nm,21.1s,baz=95,slow=38						
ASF	**Jabal al Asfar**	**20.00**	**351**	P	**P**	**00 25 56.9**	**+0.2**
	comp=E,0.1nm,0.3s,baz=167,slow=3.9,SNR=4.4						
ASF				LR	LR	00 32 34.8	
	comp=E,162nm,19.4s,baz=131,slow=34						
BHD	**Baghdad**	**21.15**	**9**	*ex*	x	00 26 02.0	
MSL	**Mosul**	**23.97**	**5**	*ex*	x	00 27 01.0	
MALT	**Malatya**	**25.92**	**356**	*e*P	**P**	**00 26 55.4**	**+0.2**
	comp=E,33nm,1.6s,mb4.6						
MALT	**Malatya**	**25.92**	**356**	*e*P	**P**	**00 26 55.4**	**+0.2**
	comp=E,32nm,1.6s,mb4.6						
MALT	**Malatya**	**25.92**	**356**	*e*P	**P**	**00 26 55.4**	**+0.2**
MALT				pmax	pmax		
	comp=Z,33nm,1.6s,mb4.6						
BRTR	**Keskin Array B**	**27.92**	**349**	P	**P**	**00 27 13.7**	**+0.2**
	comp=Z,1.8nm,0.8s,mb3.7,baz=169,slow=13,SNR=10						
BR131	**Keskin Array S**	**27.92**	**349**	*e*P	**P**	**00 27 13.9**	**+0.4**
	comp=Z,21nm,1.5s,mb4.5						
BR131	**Keskin Array S**	**27.92**	**349**	*e*P	**P**	**00 27 13.9**	**+0.4**
	comp=Z,21nm,1.5s,mb4.5						
GNI	**Garni**	**27.96**	**7**	LR	LR	00 38 24.9	
	comp=Z,117nm,20.4s,MS3.5,baz=1.9,slow=37						
ANTO	**Ankara**	**28.23**	**348**	*e*P	**P**	**00 27 16.5**	**+0.2**
	comp=Z,8.8nm,1.0s,mb4.3						
ANTO	**Ankara**	**28.23**	**348**	*e*P	**P**	**00 27 16.5**	**+0.3**
	comp=Z,8.8nm,1.0s,mb4.3						
ANTO	**Ankara**	**28.23**	**348**	*e*P	**P**	**00 27 16.5**	**+0.3**
ANTO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
ZEI	**Tsey**	**30.47**	**5**	*e*P	**P**	**00 27 39.2**	**+2.9**
ZEI				*i* *PP	pP	00 27 46.9	+8.5
ZEI				*i*		00 28 33.7	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
MLR	**Muntele Rosu**	**35.25**	**342**	P	**P**	**00 28 18.9**	**+1.0**
	comp=Z,3.4nm,0.9s,mb4.3,baz=150,slow=12,SNR=4.2						
AQU	**L'Aquila**	**38.00**	**327**	*e*P	**P**	**00 28 41.7**	**+0.7**
	comp=Z,19nm,1.4s,mb4.6						
AQU	**L'Aquila**	**38.00**	**327**	*e*P	**P**	**00 28 41.7**	**+0.7**
AQU				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.6						
AKASG	**Malin Array Be**	**39.32**	**349**	P	**P**	**00 28 50.5**	**-1.6**
	comp=Z,3.3nm,0.9s,mb4.1,baz=171,slow=7.2,SNR=9.7						
AKASG	**Malin Array Be**	**39.32**	**349**	*i* P	**P**	**00 28 52.7**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PGF	**Pioggiola**	**40.58**	**324**	*e*P	**P**	**00 29 03.1**	**+0.6**
VRAC	**Vranov**	**41.77**	**337**	P	**P**	**00 29 11.7**	**-0.5**
	comp=Z,1.7nm,0.7s,mb3.8,baz=123,slow=12,SNR=4.6						
MORC	**Moravsky Berou**	**41.80**	**338**	P	**P**	**00 29 13.6**	**+1.2**
	comp=Z,3.6nm,1.1s,mb3.9						
MORC	**Moravsky Berou**	**41.80**	**338**	P	**P**	**00 29 13.6**	**+1.2**
	comp=Z,3.6nm,1.1s,mb3.9						
MORC	**Moravsky Berou**	**41.80**	**338**	P	**P**	**00 29 13.6**	**+1.2**
MORC				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
AAK	**Ala-Archa**	**42.23**	**38**	*e*P	**P**	**00 29 17.5**	**+1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
LMR	**La Mourre**	**42.51**	**323**	*e*P	**P**	**00 29 18.4**	**+0.1**
FRF	**La Foret Royal**	**42.56**	**323**	*e*P	**P**	**00 29 18.6**	**-0.2**
GERES	**GERESS Array B**	**42.59**	**334**	P	**P**	**00 29 17.8**	**-1.1**
	comp=Z,1.5nm,0.8s,mb3.8,baz=135,slow=7.5,SNR=14						
GERES				LR	LR	00 47 07.8	
	comp=Z,94nm,19.4s,MS3.7,baz=350,slow=36						
OBN	**Obninsk**	**42.77**	**357**⇑	*e*P	**P**	**00 29 19.2**	**-1.2**
OBN				*e*		00 30 59.9	
OBN				*e*		00 31 09.6	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.8						
KHC	**Kasperske Hory**	**42.86**	**334**	*e*P	**P**	**00 29 19.8**	**-1.3**
KHC	**Kasperske Hory**	**42.86**	**334**⇑	*e*P	**P**	**00 29 20.6**	**-0.5**
PRU	**Pruhonice**	**43.12**	**336**	*e*P	**P**	**00 29 23.0**	**-0.3**
MBDF	**Montbardon**	**43.19**	**325**	*e*P	**P**	**00 29 25.0**	**+1.1**
	comp=Z,34nm,1.2s,mb4.7						
MBDF	**Montbardon**	**43.19**	**325**	*e*P	**P**	**00 29 25.0**	**+1.1**
MBDF				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7						
MOS	**Moscow**	**43.35**	**358**	*e*P	**P**	**00 29 24.4**	**-0.6**
MOS				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.1						
SMRF	**Simiane la Rot**	**43.43**	**323**	*e*P	**P**	**00 29 26.3**	**+0.5**
LPG	**La Plagne**	**43.68**	**326**	*e*P	**P**	**00 29 27.3**	**-0.5**
	comp=Z,15nm,1.3s,mb4.3						
LPG	**La Plagne**	**43.68**	**326**	*e*P	**P**	**00 29 27.3**	**-0.5**
LPG				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
LPL	**La Plagne**	**43.70**	**326**	*e*P	**P**	**00 29 27.3**	**-0.7**
	comp=Z,42nm,1.7s,mb4.6						
LPL	**La Plagne**	**43.70**	**326**	*e*P	**P**	**00 29 27.3**	**-0.7**
LPL				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.6						
ORIF	**Oris-en-Rattie**	**43.81**	**324**	*e*P	**P**	**00 29 29.1**	**+0.2**
	comp=Z,56nm,1.8s,mb4.7						
ORIF	**Oris-en-Rattie**	**43.81**	**324**	*e*P	**P**	**00 29 29.1**	**+0.2**
ORIF				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.7						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**00 29 31.3**	**+0.5**
	comp=Z,14nm,1.4s,mb4.5						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**00 29 31.3**	**+0.5**
	comp=Z,14nm,1.4s,mb4.5						
BRG	**Berggiesshubel**	**44.05**	**336**	*i* P	**P**	**00 29 31.3**	**+0.5**
BRG				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.5						
GRA1	**Grafenberg Arr**	**44.30**	**333**	*e*P	**P**	**00 29 31.5**	**-1.3**
	comp=Z,7.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**44.30**	**333**	*e*P	**P**	**00 29 31.5**	**-1.3**
	comp=Z,7.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**44.30**	**333**	*e*P	**P**	**00 29 31.5**	**-1.3**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**44.30**	**333**	*e*P	**P**	**00 29 31.5**	**-1.3**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
VIVF	**Saint-Julien-l**	**44.47**	**324**	*e*P	**P**	**00 29 34.4**	**+0.1**
LASF	**Ste Croix**	**44.51**	**322**	*e*P	**P**	**00 29 34.8**	**+0.2**
	comp=Z,41nm,1.5s,mb4.7						
CABF	**La Chapelle**	**44.73**	**326**	*e*P	**P**	**00 29 35.7**	**-0.7**
HINF	**Hinteralfeld**	**45.10**	**328**	*e*P	**P**	**00 29 38.9**	**-0.4**
MTLF	**Montolieu**	**45.11**	**320**	*e*P	**P**	**00 29 40.0**	**+0.6**
CDF	**Champ du Feu**	**45.27**	**329**	*e*P	**P**	**00 29 40.3**	**-0.3**
HAU	**Haudompre**	**45.48**	**328**	*e*P	**P**	**00 29 41.9**	**-0.4**
SMF	**Signal de Mont**	**45.99**	**325**	*e*P	**P**	**00 29 45.7**	**-0.6**
CAF	**Calviac**	**46.04**	**322**	*e*P	**P**	**00 29 47.7**	**+0.9**
	comp=Z,42nm,1.6s,mb4.8						
CAF	**Calviac**	**46.04**	**322**	*e*P	**P**	**00 29 47.7**	**+0.9**
CAF				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.8						
EPF	**Esparros**	**46.14**	**319**	*e*P	**P**	**00 29 48.0**	**+0.5**
ARU	**Arti**	**46.18**	**14**⇑	*i*P	**P**	**00 29 48.5**	**+0.8**
ARU				*e*		00 31 19.4	
ARU				*e*		00 31 36.3	
ARU				*e*S	**S**	**00 36 34.6**	**+1.2**
ARU				pmax	pmax		
	comp=Z,11nm,1.9s,mb4.5						
LOR	**Lormes**	**46.35**	**326**	*e*P	**P**	**00 29 48.7**	**-0.4**
SSF	**Saint Saulge**	**46.42**	**326**	*e*P	**P**	**00 29 48.9**	**-0.8**
	comp=Z,6.1nm,1.1s,mb4.5						
SSF	**Saint Saulge**	**46.42**	**326**	*e*P	**P**	**00 29 48.9**	**-0.8**
SSF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BGF	**Bois d'Agland**	**46.50**	**325**	*e*P	**P**	**00 29 50.5**	**+0.2**
	comp=Z,20nm,1.1s,mb4.6						
BGF	**Bois d'Agland**	**46.50**	**325**	*e*P	**P**	**00 29 50.5**	**+0.2**
BGF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
ETSF	**Etsaut**	**46.65**	**319**	*e*P	**P**	**00 29 52.7**	**+1.1**
	comp=Z,30nm,1.4s,mb4.7						
ETSF	**Etsaut**	**46.65**	**319**	*e*P	**P**	**00 29 52.7**	**+1.1**
ETSF				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
LFF	**La Frestale**	**46.85**	**322**	*e*P	**P**	**00 29 53.3**	**+0.2**
	comp=Z,31nm,1.2s,mb4.8						
LFF	**La Frestale**	**46.85**	**322**	*e*P	**P**	**00 29 53.3**	**+0.2**
LFF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
SJPF	**Ste Jean**	**47.18**	**318**	*e*P	**P**	**00 29 57.3**	**+1.5**
	comp=Z,64nm,1.3s,mb5.1						
SJPF	**Ste Jean**	**47.18**	**318**	*e*P	**P**	**00 29 57.3**	**+1.5**
SJPF				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
GIVF	**Givet**	**47.59**	**330**	*e*P	**P**	**00 29 58.5**	**-0.5**
ESDC	**Sonseca Array**	**47.59**	**313**	P	**P**	**00 29 59.8**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=295,slow=37,SNR=3.5						
MKAR	**Makanchi Array**	**49.16**	**37**	LR	LR	00 54 59.1	
	comp=Z,69nm,18.7s,MS3.7,baz=182,slow=41						
KURK	**Kurchatov**	**49.31**	**31**	*e*P	**P**	**00 30 11.1**	**-1.1**
KURK	**Kurchatov**	**49.31**	**31**	*e*P	**P**	**00 30 11.1**	**-1.2**
KURK	**Kurchatov**	**49.31**	**31**⇑	*e*P	**P**	**00 30 12.2**	**-0.1**
FINES	**FINESS Array B**	**50.12**	**351**	P	**P**	**00 30 18.6**	**+0.3**
	comp=Z,2.5nm,1.0s,mb4.2,baz=150,slow=15,SNR=3.8						
FINES	**FINESS Array B**	**50.12**	**351**	P	**P**	**00 30 18.5**	**+0.2**
NOA	**NORSAR Array B**	**53.07**	**343**	P	**P**	**00 30 39.3**	**-1.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=141,slow=7.3,SNR=3.4						
NOA				LR	LR	00 55 43.4	
	comp=Z,55nm,19.2s,MS3.6,baz=285,slow=39						
ZAL	**Zalesovo**	**54.27**	**31**	P	**P**	**00 30 48.4**	**-1.1**
	comp=Z,1.3nm,0.3s,mb4.4,baz=229,slow=0.9,SNR=6.4						
ZAL				LR	LR	00 56 47.3	
	comp=Z,84nm,18.6s,MS3.8,baz=47,slow=39						
ZAL	**Zalesovo**	**54.27**	**31**⇑	*e*P	**P**	**00 30 49.9**	**+0.5**
ARCES	**ARCESS Array B**	**57.93**	**354**	P	**P**	**00 31 13.6**	**-2.0**
	comp=Z,2.6nm,0.9s,mb4.2,baz=225,slow=5.1,SNR=5.4						
SONM	**Songino Array**	**64.87**	**43**	P	**P**	**00 32 02.5**	**-0.2**
	comp=Z,1.4nm,0.9s,mb4.0,baz=262,slow=6.7,SNR=9.5						
SONM				LR	LR	01 03 47.9	
	comp=Z,90nm,19.2s,MS4.0,baz=186,slow=39						
ULN	**Ulaanbaatar**	**65.31**	**43**⇑	*e*P	**P**	**00 32 06.7**	**+1.1**
SSE	**Sheshan**	**75.93**	**61**	*e*P	**P**	**00 33 07.8**	**-2.4**
	comp=Z,25nm,0.7s,mb5.2						
MAW	**Mawson**	**81.38**	**171**	LR	LR	01 09 24.4	
	comp=Z,80nm,21.2s,MS4.0,baz=43,slow=35						
BILL	**Bilibino**	**91.07**	**18**	*e*P	**P**	**00 34 25.8**	**-0.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**125.96**	**321**	PKP	PKPdf	00 40 26.6	-0.4
	comp=Z,0.4nm,1.0s,slow=3.8,SNR=3.7						

*NIED **28** 00:33:00, 25.30N×125.80E, h11km, Mw3.7 Best double couple: M₀4.15×10¹⁴ NP1:φ₀s4°, δ65°, λ-83°. NP2:φ₀s169°, δ26°, λ-104°.*
JMA 28 00:33:23.4±0.1, 25.34N×125.83E, h26km±3km, M3.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.69**	**214**	P	Pb	00 33 36.4	-0.4
JOGS				S	Sb	00 33 46.2	+0.2
JMJ	**Miyako jima 2**	**0.71**	**223**	P	Pb	00 33 36.7	-0.4
JMJ				S	Sb	00 33 46.5	-0.1
JTJ	**Tarama**	**1.24**	**236**	P	Pn	00 33 44.6	-0.7
JTJ				S	Sn	00 34 01.4	+0.2
JKE	**Kume jima 2**	**1.31**	**41**	P	Pn	00 33 46.6	+0.3
JKE				S	Sn	00 34 03.7	+0.7
JAGN	**Aguni-jima**	**1.78**	**45**	P	Pn	00 33 54.1	+1.1
JAGN				*e*S	Sn	00 34 15.4	+0.4
JIJ	**Ishigaki jima**	**1.81**	**238**	P	Pn	00 33 53.2	-0.3
JIJ				S	Sn	00 34 15.0	-0.9
NAH1	**Naha**	**1.89**	**62**	P	Pn	00 33 57.1	+2.6
NAH1				S	Sn	00 34 19.9	+2.2
JJT2	**Tamagusuku 2**	**1.90**	**65**	P	Pn	00 33 58.2	+3.4
JJT2				*e*S	Sn	00 34 22.1	+3.9
JKRS	**Kuro-shima**	**1.99**	**237**	P	Pn	00 33 56.2	+0.2
JKRS				S	Sn	00 34 21.9	+1.7
IRIF	**Iriomote-Funau**	**2.15**	**243**	P	Pn	00 33 58.6	+0.2
IRIF				*e*S	Sn	00 34 25.0	+0.5
HATJ	**Hateruma jima**	**2.24**	**236**	P	Pn	00 34 01.1	+1.5
HATJ				*e*S	Sn	00 34 28.3	+1.6
JIH	**Iheya**	**2.56**	**48**	P	Pn	00 34 04.5	+0.4
JIH				*e*S	Sn	00 34 34.6	-0.1
JOW	**Kunigami**	**2.65**	**55**	P	Pn	00 34 06.0	+0.5
JOW				*e*S	Sn	00 34 37.1	-0.1
YOJ	**Yonaguni jima**	**2.71**	**252**	P	Pn	00 34 06.5	+0.2
YOJ				*e*S	Sn	00 34 38.0	-0.5
JTK	**Tokunoshima**	**3.71**	**48**	P	Pn	00 34 21.3	+0.8
JTK				*e*S	Sn	00 35 01.0	-2.8
JAM	**Amami Oshima**	**4.55**	**47**	P	Pn	00 34 31.8	-0.7
JMZ	**Minamidaito 2**	**4.89**	**83**	P	Pn	00 34 34.4	-2.9
JMZ				*e*S	Sn	00 35 29.3	-4.5

*IDC **28** 00:43:51.2±1.4, 10.42S×111.87E, mb4.3/7, mb1 4.4/8, mb1mx4.2/15, mbtmp4.3/8, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/16, Error ellipse: s-maj=75.9km s-min=18.7km az=47.0*
*NEIC **28** 00:43:57.0±0.8, 10.43S×111.98E, h40km, mb4.6/3, Error ellipse: s-maj=47.8km s-min=8.2km az=223.0*
ISC 28 00:43:55.0±1.1, 10.3S±0.3×112.1E±0.3, h33km, n21, σ0§90/19, mb4.6/12, MS3.3/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.26**	**122**	Pn	**P**	**00 47 28.1**	**-1.7**
	0.4nm,0.3s,baz=14,slow=9.4,SNR=4.3						
FITZ				Sn	**S**	**00 50 03.0**	**-15**
	0.4nm,0.3s,baz=330,slow=14,SNR=4.9						
FITZ				LR	LR	00 52 21.8	
	comp=Z,108nm,21.0s,baz=273,slow=33						
NWAO	**Narrogin (SRO)**	**23.01**	**169**	LR	LR	00 56 24.3	
	comp=Z,117nm,20.2s,MS3.3,baz=322,slow=33						
WRA	**Warramunga Arr**	**23.51**	**117**	P	**P**	**00 49 03.4**	**+0.3**
	8.5nm,0.9s,mb4.2,baz=288,slow=11,SNR=18						
WB2	**Warramunga Arr**	**23.52**	**117**	*e*P	**P**	**00 49 05.8**	**+2.6**
STKA	**Stephens Creek**	**34.72**	**133**	P	**P**	**00 50 44.8**	**+0.6**
	8.2nm,0.9s,mb4.7,baz=290,slow=9.8,SNR=6.3						
STKA	**Stephens Creek**	**34.72**	**133**	*e*P	**P**	**00 50 44.5**	**+0.4**
LSA	**Lhasa**	**44.59**	**334**	*e*P	**P**	**00 52 08.0**	**+1.9**
	5.0nm,0.5s,mb4.6						
JIRN	**Jiri**	**45.31**	**327**	*e*P	**P**	**00 52 12.2**	**+0.3**
	20nm,0.8s,mb5.0						
PKI	**Pulchoki**	**45.66**	**326**	*e*P	**P**	**00 52 14.7**	**0.0**
	13nm,0.9s,mb4.8						
DMN	**Daman**	**45.86**	**326**	*e*P	**P**	**00 52 16.2**	**0.0**
KKN	**Kakani**	**45.91**	**326**	*e*P	**P**	**00 52 16.4**	**-0.2**
GKN	**Gorkha**	**46.42**	**326**	*e*P	**P**	**00 52 20.3**	**-0.3**
	9.0nm,0.6s,mb4.9						
KOLN	**Koldanda**	**46.83**	**325**	*e*P	**P**	**00 52 23.7**	**-0.1**
	11nm,0.7s,mb4.9						
SONM	**Songino Array**	**58.10**	**355**	P	**P**	**00 53 47.9**	**+0.3**
	2.2nm,0.8s,mb4.3,baz=176,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**62.76**	**337**	P	**P**	**00 54 18.6**	**-0.8**
	1.5nm,0.5s,mb4.4,baz=148,slow=7.8,SNR=30						
ZAL	**Zalesovo**	**68.05**	**343**	P	**P**	**00 54 52.0**	**-1.1**
	1.4nm,0.4s,mb4.3,baz=340,slow=5.2,SNR=7.3						
BVAR	**Borovoye Array**	**72.40**	**335**	P	**P**	**00 55 19.3**	**-0.3**
	2.2nm,0.6s,mb4.2,baz=143,slow=7.4,SNR=13						
BR131	**Keskin Array S**	**87.76**	**311**	*e*P	**P**	**00 56 42.3**	**+0.2**
	2.3nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**87.76**	**311**	P	**P**	**00 56 41.9**	**-0.2**
	2.9nm,0.7s,mb4.6,baz=134,slow=7.0,SNR=14						
TXAR	**Lajitas Array**	**141.64**	**55**	PKhKP		01 03 21.2	
	0.6nm,0.8s,baz=225,slow=3.5,SNR=7.0						
TXAR	**Lajitas Array**	**141.64**	**55**	PKP		01 03 21.2	

*ATH **28** 00:48:09.5, 38.74N×25.28E, h40km±7km, MD3.2/4*
*NEIC **28** 00:48:09.4, 38.73N×25.28E, h40km, MD3.2(ATH), After ATH.*
*ISK **28** 00:48:10.2, 38.68N×25.17E, h35km, MD3.1*
*CSEM **28** 00:48:10.2±0.3, 38.72N×25.21E, h40km, MD3.2, Error ellipse: s-maj=7.9km s-min=4.4km az=93.0*
ISC 28 00:48:10.2±1.0, 38.71N±0.04×25.15E±0.08, h33km, n14, σ1§03/23, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**1.02**	**58**⇑	*i*P	**P**	**00 48 27.8**	**-0.5**
PRK				*e*S	**S**	**00 48 40.1**	**-1.5**
URLA	**Izmir**	**1.18**	**107**	*i* P	**P**	**00 48 28.2**	**-2.2**
URLA				*i* S	**S**	**00 48 40.5**	**-5.1**
LIA	**Limnos Island**	**1.19**	**1**	*e*P	**P**	**00 48 30.7**	**+0.1**
AYVA	**Ayvalik**	**1.34**	**63**	*i* P	**P**	**00 48 33.6**	**+0.9**
AYVA		

DHBB *i* S Sn 01 22 22.8 +3.9
LBOS **4.77 74** *e*P Pn 01 21 34.8 -1.5
LBOS *i* S Sn 01 22 31.1 -1.2
BDHA Al Bayda' **5.09 74** *e*P Pn 01 21 39.5 -1.3
BDHA *i* S Sn 01 22 39.2 -1.3

NEIC ***28*** *01:34:19.3, 32.90S×68.11W, h18km, ML4.0(GUC), After GUC.*

GUC 28 01:34:19.3±1.0, 32.90S×68.11W, h18km±17km, MD4.2, ML4.0, 1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**0.62**	**271**	*e*P			Pb	01 34 29.1	-2.2
MDZ				*i* S			Sb	01 34 43.0	+3.5
ZON	**Zonda**	**1.43**	**340**	*e*P			Pn	01 34 45.3	+0.7
ZON				*e*S			Sb	01 35 05.9	+2.9
FCH	**Farellones**	**1.88**	**256**	⇓*i*P			Pn	01 34 51.5	+0.5
FCH				*i* S			Sn	01 35 15.6	+1.2
FCH				AMP				01 35 17.5	
	comp=N,712nm,0.3s								
CLCH	**Cerro Calan**	**2.09**	**256**	*e*P			Pn	01 34 54.7	+0.6
CLCH				*e*S			Sn	01 35 21.3	+1.4
CLCH				AMP				01 35 27.8	
	comp=E,910nm,0.5s								
JACH	**Jahuel**	**2.10**	**275**	*e*P			Pn	01 34 54.8	+0.6
JACH				*i* S			Sn	01 35 21.6	+1.5
DSCH	**Colegio Aleman**	**2.12**	**256**	*e*P			Pn	01 34 54.9	+0.4
DSCH				*e*S			Sn	01 35 22.4	+1.8
DSCH				AMP				01 35 27.7	
	comp=N,924nm,0.4s								
PCH	**Pirque**	**2.14**	**250**	*e*P			Pn	01 34 56.1	+1.4
PEL	**Peldehue**	**2.18**	**263**	*e*P			Pn	01 34 56.0	+0.7
RCDM	**Rinconada Maip**	**2.33**	**255**	*e*P			Pn	01 34 58.9	+1.4
RCDM				*i* S			Sn	01 35 29.3	+3.3
CHCH	**Chadas Angostu**	**2.36**	**243**	*e*P			Pn	01 34 59.9	+1.9
TACH	**Talagante**	**2.48**	**252**	*e*P			Pn	01 35 01.5	+1.8
CMCH	**Combarbala**	**3.00**	**304**	*e*P			Pn	01 35 09.5	-0.5
CMCH				*i* S			Sn	01 35 43.5	+0.7
CMCH				AMP				01 35 52.5	
	comp=E,1μm,1.0s								
TLL	**Tololo Astrono**	**3.56**	**319**	*e*P			Pn	01 35 15.2	+0.1
TLL				*e*S			Sn	01 36 05.2	+8.0
TLL				AMP				01 36 15.5	
	comp=N,356nm,0.7s								
TRQA	**Tornquist**	**7.17**	**138**	*e*P			Pn	01 36 05.8	-0.3

CSEM ***28*** *01:47:03.1±0.0, 35.09N×27.25E, h5km, mb4.3/2, Mw3.7, Error ellipse: s-maj=1.6km s-min=0.8km az=57.0*
BJI ***28*** *01:47:05.4, 35.12N×26.82E, h38km, mB5.1, mb4.4*
HLW ***28*** *01:47:05.9, 35.25N×27.30E, h19km, Mb4.2*
MOS ***28*** *01:47:05.9±1.2, 35.07N×27.02E, h52km, mb4.4/24, Error ellipse: s-maj=6.1km s-min=2.8km az=114.3*
ATH ***28*** *01:47:06.9, 35.30N×27.01E, h29km, MD4.3/18, ML4.5*
NEIC ***28*** *01:47:06.7, 35.28N×27.02E, h29km, mb4.1/54, ML4.6(ISK), ML4.5(ATH), ML4.4(NIC), After ATH.*
ORF ***28*** *01:47:07.6, 35.09N×26.96E, h30km, mb3.9, ML4.6*
NIC ***28*** *01:47:08.0±0.2, 35.19N×27.14E, h41km, mb4.8, ML4.4, MW3.7*
THE ***28*** *01:47:10.5, 35.30N×27.04E, h20km, ML4.3*
IDC ***28*** *01:47:11.5±2.0, 35.39N×26.88E, h66km±20km, mb3.8/15, mb1 4.0/21, mb1mx3.9/29, mbtmp4.2/21, MS3.5/5, Ms1 3.5/5, ms1mx3.2/26, Error ellipse: s-maj=14.5km s-min=11.6km az=112.0*

ISC 28 01:47:04.2±0.1, 35.10N±0.01×27.03E±0.02, h29km, n369, σ1§38/418, mb4.1/42, MS3.5/4, 26C-22D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.46**	**14**	*e*PB			**Pb**	**01 47 13.9**	**-0.1**
KARP				*e*SB			**Sb**	**01 47 19.5**	**-1.2**
XRY	**Khrisi**	**1.11**	**259**	⇑*i*PN			**Pn**	**01 47 28.5**	**+4.4**
NPS	**Neapolis**	**1.17**	**278**	⇑*i*PN			**Pn**	**01 47 28.6**	**+3.7**
NPS				*e*SN			**Sn**	**01 47 43.7**	**+3.8**
NPS	**Neapolis**	**1.17**	**278**	⇑*i*PN			**Pn**	**01 47 28.7**	**+3.8**
NPS				*e*Sn			**Sn**	**01 47 43.7**	**+3.8**
ARG	**Arkhangelos**	**1.43**	**38**	*e*PN			**Pn**	**01 47 31.3**	**+2.7**
ARG				*e*SN			**Sn**	**01 47 48.7**	**+2.1**
NISR	**Nisiros**	**1.51**	**3**	*e*PN			**Pn**	**01 47 31.0**	**+1.2**
IDI	**Anoyia**	**1.76**	**277**	P			**Pn**	**01 47 37.7**	**+4.4**
	431nm,0.3s,baz=103,slow=14,SNR=345								
IDI				S			**Sn**	**01 48 02.6**	**+7.7**
	446nm,0.3s,baz=324,slow=14,SNR=11								
SANT	**Santorini**	**1.80**	**315**	*i* P			**Pn**	**01 47 36.1**	**+2.3**
SANT				*i* S			**Sn**	**01 47 56.6**	**+0.6**
SANT	**Santorini**	**1.80**	**315**	*e*P			**Pn**	**01 47 35.4**	**+1.5**
THR1	**Thera Island**	**1.80**	**315**	*e*Pb			**Pb**	**01 47 36.1**	**-0.2**
THR1				*e*Sb			**Sb**	**01 47 56.8**	**-1.9**
BODT	**Bodrum**	**1.97**	**7**	*i* PN			**Pn**	**01 47 38.2**	**+1.9**
BDRM	**Kayabasi**	**1.99**	**10**	*i* P			**Pn**	**01 47 37.8**	**+1.1**
BDRM				*i* S			**Sn**	**01 47 57.3**	**-3.5**
DALT	**Dalyan (Mudla)**	**2.12**	**38**	*i* PN			**Pn**	**01 47 40.8**	**+2.3**
YER	**Yerkesik**	**2.27**	**26**	*i* PN			**Pn**	**01 47 42.8**	**+2.1**
MLSB	**Milas**	**2.28**	**15**	*i* PN			**Pn**	**01 47 42.1**	**+1.4**
APE	**Apeiranthos**	**2.31**	**329**	*i* PN			**Pn**	**01 47 39.9**	**-1.3**
APE	**Apeiranthos**	**2.31**	**329**	*e*Pn			**Pn**	**01 47 42.5**	**+1.3**
APE	**Apeiranthos**	**2.31**	**329**	*d* iP			**Pn**	**01 47 42.3**	**+1.1**
VAM	**Vamos**	**2.33**	**278**	*e*PB			**Pb**	**01 47 45.6**	**+0.1**
KSL	**Kastellorizon**	**2.33**	**63**	*e*PN			**Pn**	**01 47 43.8**	**+2.3**
KSL	**Kastellorizon**	**2.33**	**63**	*e*Pn			**Pn**	**01 47 43.7**	**+2.2**
AKAS	**Kas**	**2.39**	**61**	*i* P			**Pn**	**01 47 42.5**	**+0.2**
AKAS				*i* S			**Sn**	**01 48 12.7**	**+1.8**
GVD	**Gavdhos**	**2.43**	**265**	*e*P			**Pn**	**01 47 47.7**	**+4.9**
GVD	**Gavdhos**	**2.43**	**265**	*e*P			**Pn**	**01 47 47.7**	**+4.8**
SMG	**Samos**	**2.61**	**357**	*e*PN			**Pn**	**01 47 46.2**	**+0.7**
AYDN	**Tasoluk**	**2.65**	**15**	*i* P			**Pn**	**01 47 45.7**	**+1.5**
AYDN				*i* S			**Sn**	**01 48 11.0**	**-6.6**
ELL	**Elmali**	**2.86**	**54**	PN			**Pn**	**01 47 51.1**	**+2.1**
GOLH	**Golhisar**	**2.96**	**43**	*i* P			**Pn**	**01 47 52.2**	**+1.7**
GOLH				*i* S			**Sn**	**01 48 23.3**	**-2.1**
DENT	**Denizli**	**3.11**	**31**	PN			**Pn**	**01 47 54.3**	**+1.8**
BLCB	**Balcova**	**3.28**	**0**	PN			**Pn**	**01 47 55.5**	**+0.5**
IZM	**Izmir**	**3.30**	**3**	PN			**Pn**	**01 47 56.0**	**+0.8**
ANTB	**Antalya**	**3.45**	**58**	PN			**Pn**	**01 47 58.2**	**+0.9**
KYTH	**Kithira**	**3.46**	**291**	*e*PN			**Pn**	**01 48 00.0**	**+2.5**
VLI	**Veliai**	**3.69**	**297**	*e*PN			**Pn**	**01 48 03.1**	**+2.3**
BCK	**Bucak**	**3.72**	**50**	PN			**Pn**	**01 48 02.3**	**+1.1**
KHL	**Karahalli**	**3.79**	**31**	*e*PN			**Pn**	**01 48 03.0**	**+0.7**
AKS	**Akhisar**	**3.83**	**9**	*e*PN			**Pn**	**01 48 03.6**	**+0.9**
SLUM		**3.90**	**203**	⇑P			**Pn**	**01 48 07.2**	**+3.3**
SLUM				S			**Sn**	**01 48 51.9**	**+2.7**
ATH	**Athens Observa**	**3.92**	**318**	*e*PN			**Pn**	**01 48 06.1**	**+2.1**
ATH				*e*SN			**Sn**	**01 48 57.9**	**-1.6**
ISP	**Isparta**	**3.92**	**45**	*e*PN			**Pn**	**01 48 05.1**	**+1.0**
ISP	**Isparta**	**3.92**	**45**	*e*P			**Pn**	**01 48 04.7**	**+0.6**
ISP	**Isparta**	**3.92**	**45**	*c* iP			**Pn**	**01 48 05.4**	**+1.3**
HMAT	**Matruh**	**3.99**	**179**	⇓P			**Pn**	**01 48 07.5**	**+2.4**
HMAT				S			**Sn**	**01 48 52.5**	**+1.0**
PRK	**Paraskevi**	**4.18**	**352**	*e*PN			**Pn**	**01 48 08.1**	**+0.3**
DABA	**Dabaa**	**4.21**	**165**	⇑P			**Pn**	**01 48 09.2**	**+0.9**
DABA				S			**Sn**	**01 48 56.3**	**-0.8**
PPCY	**Paphos**	**4.37**	**91**	P			**Pn**	**01 48 11.5**	**+1.0**
ALFC	**Alevga**	**4.57**	**88**	P			**Pn**	**01 48 14.0**	**+0.7**
	30nm,0.8s								
ALFC				S			**Sn**	**01 49 05.9**	**-0.2**
BALB	**Balikesir**	**4.58**	**8**	*e*PN			**Pn**	**01 48 13.5**	**0.0**
ITM	**Ithomi**	**4.62**	**298**	*e*PN			**Pn**	**01 48 16.9**	**+2.9**
ITM	**Ithomi**	**4.62**	**298**	*e*Pn			**Pn**	**01 48 17.2**	**+3.2**
ALT	**Altintas**	**4.66**	**31**	*e*PN			**Pn**	**01 48 15.1**	**+0.6**
DST	**Dursunbey**	**4.68**	**15**	*e*PN			**Pn**	**01 48 15.2**	**+0.4**
EZN	**Ezine**	**4.75**	**353**	*e*PN			**Pn**	**01 48 14.8**	**-1.1**
AOS	**Alonnisos**	**4.78**	**329**	*e*Pn			**Pn**	**01 48 17.1**	**+0.8**
AOS				*e*Sn			**Sn**	**01 49 09.7**	**-1.7**
LKR	**Lokris**	**4.79**	**319**	*e*PN			**Pn**	**01 48 18.3**	**+1.8**
LEF	**Lefka**	**4.81**	**88**	*e*PN			**Pn**	**01 48 14.3**	**-2.3**
SZAC	**Souni-Zanaja**	**4.83**	**92**	P			**Pn**	**01 48 17.8**	**+0.9**
SZAC				S			**Sn**	**01 49 12.8**	**+0.2**
CANB	**Canakkale**	**4.91**	**0**	*e*PN			**Pn**	**01 48 17.4**	**-0.8**
LIA	**Limnos Island**	**5.01**	**344**	*e*PN			**Pn**	**01 48 19.6**	**+0.1**
LOS	**Limnos**	**5.07**	**343**	*e*Pn			**Pn**	**01 48 20.8**	**+0.5**
LOS				*e*Sn			**Sn**	**01 49 17.0**	**-1.6**
MAMC	**Mammari**	**5.08**	**87**	P			**Pn**	**01 48 21.6**	**+1.2**
HBRG	**Burj al 'Arab**	**5.09**	**152**	⇓P			**Pn**	**01 48 20.9**	**+0.2**
HBRG				S			**Sn**	**01 49 15.9**	**-3.4**
ORLT	**Orhaneli**	**5.16**	**16**	*e*PN			**Pn**	**01 48 21.1**	**-0.5**
CSS	**Prodhromos**	**5.17**	**90**	P			**Pn**	**01 48 22.4**	**+0.6**
	8.3nm,1.1s								
CSS				S			**Sn**	**01 49 21.4**	**+0.1**
CSS	**Prodhromos**	**5.17**	**90**	*e*Pn			**Pn**	**01 48 18.6**	**-3.2**
CSS	**Prodhromos**	**5.17**	**90**	P			**Pn**	**01 48 22.4**	**+0.6**
	8.3nm,1.1s								
CSS				S			**Sn**	**01 49 21.4**	**+0.1**
NEO	**Neokhori**	**5.18**	**325**	*e*PN			**Pn**	**01 48 23.4**	**+1.5**
XOR	**Xorichti**	**5.24**	**325**	*e*Pn			**Pn**	**01 48 24.2**	**+1.4**
LPK	**Lapseki**	**5.27**	**358**	*e*PN			**Pn**	**01 48 21.9**	**-1.3**
EDP	**Edincik**	**5.28**	**7**	*e*PN			**Pn**	**01 48 22.0**	**-0.4**
BNT	**Bandirma**	**5.30**	**7**	*e*PN			**Pn**	**01 48 22.7**	**-0.8**
ESKT	**Eskisehir**	**5.36**	**34**	*e*PN			**Pn**	**01 48 24.8**	**+0.3**
KIZT	**Kizilcal**	**5.42**	**44**	*e*PN			**Pn**	**01 48 24.9**	**-0.3**
AGG	**Agios Georgios**	**5.42**	**318**	*e*Pn			**Pn**	**01 48 27.4**	**+2.1**
AGG				*e*Sn			**Sn**	**01 49 27.2**	**-0.4**
IKL	**Isikli**	**5.54**	**76**	*e*PN			**Pn**	**01 48 25.2**	**-1.7**
PHNC	**Paralimni**	**5.75**	**89**	P			**Pn**	**01 48 30.9**	**+1.0**
PHNC				S			**Sn**	**01 49 37.6**	**+1.9**
OUR	**Ouranopolis**	**5.76**	**336**	*e*Pn			**Pn**	**01 48 30.4**	**+0.4**
YLV	**Yalova**	**5.77**	**18**	*e*PN			**Pn**	**01 48 29.1**	**-1.1**
ALN	**Alexandroupoli**	**5.84**	**353**	*e*Pn			**Pn**	**01 48 31.3**	**+0.1**
ALN				*e*Sn			**Sn**	**01 49 34.8**	**-3.2**
SWA1		**5.92**	**191**	⇑P			**Pn**	**01 48 35.0**	**+2.6**
SWA1				S			**Sn**	**01 49 39.6**	**-0.5**
PLG	**Polygyros**	**5.98**	**333**	*e*PN			**Pn**	**01 48 33.6**	**+0.4**
SWA2		**5.99**	**193**	⇑P			**Pn**	**01 48 35.8**	**+2.5**
SWA2				S			**Sn**	**01 49 41.1**	**-0.6**
VLS	**Valsamata**	**6.02**	**303**	*e*PN			**Pn**	**01 48 36.0**	**+2.3**
LIT	**Litokhoron**	**6.16**	**326**	*e*Pn			**Pn**	**01 48 37.2**	**+1.5**
HMYD	**Mayadein**	**6.17**	**148**	⇓P			**Pn**	**01 48 35.9**	**-0.1**
HNAT	**Natroun**	**6.24**	**150**	P			**Pn**	**01 48 36.7**	**-0.1**
SQR		**6.28**	**145**	⇑P			**Pn**	**01 48 37.5**	**0.0**
MERS	**Mersin**	**6.33**	**72**	*e*PN			**Pn**	**01 48 35.6**	**-2.5**
THE	**Thessaloniki**	**6.39**	**331**	*e*Pn			**Pn**	**01 48 40.2**	**+1.2**
SOH	**Sokhos**	**6.41**	**334**	*e*Pn			**Pn**	**01 48 39.5**	**+0.3**
SOH				*e*Sn			**Sn**	**01 49 50.2**	**-1.9**
SOH	**Sokhos**	**6.41**	**334**	*e*Pn			**Pn**	**01 48 39.5**	**+0.3**
SOH				*e*Sn			**Sn**	**01 49 50.2**	**-2.0**
KOT	**Kottamia**	**6.56**	**140**	⇑P			**Pn**	**01 48 40.7**	**-0.6**
KOT				S			**Sn**	**01 49 50.0**	**-6.0**
MEV	**Metsovon**	**6.57**	**317**	*e*Pn			**Pn**	**01 48 44.9**	**+3.4**
SRS	**Serrai**	**6.59**	**337**	*e*Pn			**Pn**	**01 48 41.0**	**-0.8**
SRS				*e*Sn			**Sn**	**01 49 53.9**	**-2.8**
LOD	**Lodumlu**	**6.61**	**42**	*e*PN			**Pn**	**01 48 41.4**	**-0.7**
ANTO	**Ankara**	**6.61**	**42**	*e*P			**Pn**	**01 48 42.2**	**+0.1**
	21nm,0.5s								
ANTO	**Ankara**	**6.61**	**42**	*e*P			**Pn**	**01 48 42.2**	**+0.1**
	21nm,0.5s								
ANTO	**Ankara**	**6.61**	**42**	*e*P			**Pn**	**01 48 42.2**	**+0.1**
ANTO				pmax		pmax			
	comp=Z,21nm,0.5s								
KDZ	**Kurdzhali**	**6.66**	**350**	*e*P			**Pn**	**01 48 42.3**	**-0.5**
HSAF	**As Saff**	**6.67**	**144**	⇓P			**Pn**	**01 48 42.0**	**-0.9**
GLL	**Jalalah**	**6.78**	**143**	⇓P			**Pn**	**01 48 43.8**	**-0.7**
RZN	**Rozhen**	**6.83**	**345**	*i* P			**Pn**	**01 48 45.5**	**+0.4**
KAMT	**Kaman**	**6.83**	**49**	*e*PN			**Pn**	**01 48 43.7**	**-1.4**
AMAG	**Maghara**	**6.84**	**129**	⇓P			**Pn**	**01 48 43.5**	**-1.8**
KARA	**Karaisali**	**6.84**	**69**	*e*PN			**Pn**	**01 48 43.7**	**-1.6**
KNT	**Kendrikon**	**6.87**	**333**	*e*Pn			**Pn**	**01 48 47.2**	**+1.5**
KNT				*e*Sn			**Sn**	**01 50 02.8**	**-1.0**
GRG	**Griva**	**6.89**	**329**	*e*Pn			**Pn**	**01 48 47.4**	**+1.4**
GRG				*e*Sn			**Sn**	**01 50 01.7**	**-2.6**
IGT	**Igoumenitsa**	**6.93**	**312**	*e*Pn			**Pn**	**01 48 47.5**	**+0.9**
IGT				*e*Sn			**Sn**	**01 50 03.0**	**-2.2**
IGT	**Igoumenitsa**	**6.93**	**312**	*e*Pn			**Pn**	**01 48 47.5**	**+0.9**
IGT				*e*Sn			**Sn**	**01 50 03.0**	**-2.2**
AWBH			**6.94**	**166**	⇓P		**Pn**	**01 48 47.7**	**+0.9**
HRSH	**Kfar Ka'horesh**		**6.97**	**124**	⇑P		**Pn**	**01 48 45.3**	**-1.9**
RSH			**6.97**	**124**	P		**Pn**	**01 48 45.3**	**-1.9**
MMB	**Musomiste**		**6.98**	**339**	*i* P		**Pn**	**01 48 47.0**	**-0.3**
BR131	**Keskin Array S**	**7.00**	**47**	*e*P			**Pn**	**01 48 47.4**	**-0.2**
	comp=Z,4.1nm,0.5s								
BR131	**Keskin Array S**	**7.00**	**47**	*e*P			**Pn**	**01 48 47.4**	**-0.2**
	comp=Z,4.1nm,0.5s								
BRTR	**Keskin Array B**	**7.00**	**47**	P			**Pn**	**01 48 46.8**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=222,slow=14,SNR=17								
BRTR				S			**Sn**	**01 50 05.3**	**-1.7**
	comp=Z,2.5nm,0.3s,baz=216,slow=26,SNR=12								
DIM	**Dimitrovgrad**	**7.04**	**351**	*e*P			**Pn**	**01 48 48.0**	**-0.1**
HNTI	**Hanita**	**7.05**	**104**	Pn			**Pn**	**01 48 45.3**	**-3.0**
HNTI				Sn			**Sn**	**01 50 03.5**	**-4.8**
SUZ		**7.18**	**135**	⇑P			**Pn**	**01 48 49.1**	**-0.9**
FNA	**Florina**	**7.22**	**324**	*e*Pn			**Pn**	**01 48 52.8**	**+2.2**
FNA				*e*Sn			**Sn**	**01 50 10.2**	**-2.3**
FNA	**Florina**	**7.22**	**324**	*e*Pn			**Pn**	**01 48 52.8**	**+2.2**
FNA				*e*Sn			**Sn**	**01 50 10.1**	**-2.4**
BHL	**Bhannes**	**7.22**	**97**	Sn			**Sn**	**01 50 08.2**	**-4.3**
SLTI	**Sal'it**	**7.26**	**111**	Pn			**Pn**	**01 48 50.2**	**-1.0**
SLTI				Sn			**Sn**	**01 50 09.1**	**-4.5**
CEYT	**Ceyhan**	**7.32**	**72**	*e*PN			**Pn**	**01 48 49.0**	**-3.0**
HWQ	**Hawqa**	**7.39**	**94**	*e*Pn			**Pn**	**01 48 52.9**	**-0.1**
HWQ				Sn			**Sn**	**01 50 11.4**	**-5.5**
KSDI	**Kefar Szold**	**7.41**	**102**	Pn			**Pn**	**01 48 52.2**	**-1.0**
KKB	**Krupnik**	**7.43**	**337**	*i* P			**Pn**	**01 48 54.0**	**+0.4**
ZAF		**7.45**	**140**	⇓P			**Pn**	**01 48 52.6**	**-1.2**
KZIT	**Kziot**	**7.47**	**122**	Pn			**Pn**	**01 48 53.3**	**-0.8**
KZIT				Sn			**Sn**	**01 50 14.3**	**-4.4**
KZIT	**Kziot**	**7.47**	**122**	P			**Pn**	**01 48 53.2**	**-0.9**
KZIT				S			**Sn**	**01 50 14.3**	**-4.4**
HTY	**Hatay**	**7.49**	**80**	*e*PN			**Pn**	**01 48 50.5**	**-4.0**
KOZT	**Kozan**	**7.50**	**69**	*e*PN			**Pn**	**01 48 51.3**	**-3.2**
ZNM		**7.55**	**137**	⇑P			**Pn**	**01 48 55.0**	**-0.3**
MASH	**Mash'abbe Sade**	**7.69**	**120**	Pn			**Pn**	**01 48 56.7**	**-0.5**
PGB	**Panagyurishte**	**7.77**	**344**	*e*P			**Pn**	**01 48 58.0**	**-0.3**
HNKL	**Nakhl**	**7.81**	**129**	⇓P			**Pn**	**01 48 57.3**	**-1.6**
MZDA	**Masada**	**7.94**	**116**	Pn			**Pn**	**01 48 59.6**	**-1.1**
MZDA				Sn			**Sn**	**01 50 26.6**	**-3.9**
HFRF	**Wahat Farafira**	**8.00**	**172**	⇓P			**P**	**01 49 02.2**	**+0.7**
MKRJ	**Makawir**	**8.03**	**114**	Pn			**P**	**01 49 02.0**	**+0.1**
VTS	**Vitosha**	**8.05**	**339**	*i* P			**P**	**01 49 03.5**	**+1.2**
SKO	**Skopje**	**8.14**	**329**	*i* Pn			**P**	**01 49 05.1**	**+1.7**
PRNI	**Paran**	**8.22**	**123**	Pn			**P**	**01 49 03.2**	**-1.4**
GAZ	**Gaziantep**	**8.50**	**73**	*e*PN			**P**	**01 49 04.8**	**-3.7**
MBH	**Mount Berech**	**8.51**	**126**	Pn			**P**	**01 49 08.0**	**-0.6**
ASUT		**8.60**	**152**	⇑P			**P**	**01 49 09.3**	**-0.6**
EIL	**Elat**	**8.61**	**127**	Pn			**P**	**01 49 09.3**	**-0.7**
AQBJ	**Aqaba**	**8.64**	**126**	Pn			**P**	**01 49 10.1**	**-0.3**
ASF	**Jabal al Asfar**	**8.73**	**107**	P			**P**	**01 49 10.6**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=166,slow=9.1,SNR=8.5								
ASF				S			**Sn**	**01 50 49.9**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=298,slow=19,SNR=2.9								
HKAT	**Jabal Katrina**	**8.84**	**136**	⇓P			**P**	**01 49 11.8**	**-1.3**
NUB		**8.86**	**131**	⇓P			**P**	**01 49 11.7**	**-1.7**
TIP	**Timpagrande**	**9.15**	**299**	*e*P			**P**	**01 49 15.4**	**-2.0**
TIRR	**Tirgusor**	**9.41**	**6**	⇑P			**P**	**01 49 21.6**	**+0.6**
PE1	**Pezze di Greco**	**9.48**	**310**	*e*Pn			**P**	**01 49 19.3**	**-2.7**
MALT	**Malatya**	**9.70**	**67**	P			**P**	**01 49 27.2**	**+2.2**
	comp=Z,4.8nm,0.8s								
MALT	**Malatya**	**9.70**	**67**	P			**P**	**01 49 27.2**	**+2.2**
MALT				pmax		pmax			
	comp=Z,5.0nm,0.8s								
SG1	**Sgolgore (BA)**	**9.97**	**308**	*e*Pn			**P**	**01 49 27.0**	**-1.8**
CDT	**Castel del Mon**	**10.36**	**308**	*e*Pn			**P**	**01 49 31.4**	**-2.7**
MLR	**Muntele Rosu**	**10.41**	**356**	P			**P**	**01 49 33.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=218,slow=4.4,SNR=13								
MLR				S			**S**	**01 51 25.0**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=307,slow=23,SNR=1.8								
MLR	**Muntele Rosu**	**10.41**	**356**	⇓P			**P**	**01 49 36.6**	**+1.8**
MLR	**Muntele Rosu**	**10.41**	**356**	⇓P			**P**	**01 49 36.6**	**+1.8**
VOIR		**10.44**	**352**	⇑P			**P**	**01 49 35.8**	**+0.7**
VAE	**Valguarnera**	**10.46**	**287**	P			**P**	**01 49 34.2**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=278,slow=19,SNR=3.7								
VAE				S			**S**	**01 51 23.9**	**-8.7**
	comp=Z,3.3nm,0.3s,baz=258,slow=1.9,SNR=4.1								
DIVS	**Divcibare**	**10.49**	**331**	⇓*i*Pn			**P**	**01 49 36.3**	**+0.4**
MS1	**Monte Sant'Ang**	**10.91**	**310**	*e*Pn			**P**	**01 49 39.3**	**-2.3**
CII	**Carovilli**	**11.96**	**307**	*e*P			**P**	**01 49 58.2**	**+2.3**
	comp=Z,17nm,0.8s								
CII				*e*S			**S**	**01 52 00.6**	**-8.7**
CII	**Carovilli**	**11.96**	**307**	*e*P			**P**	**01 49 58.2**	**+2.3**
	comp=Z,17nm,0.8s								
DRGR		**12.13**	**346**	⇓P			**P**	**01 50 05.5**	**+7.5**
ANN	**Anapa**	**12.54**	**36**	*e*P			**P**	**01 50 08.3**	**+4.7**
ANN				*e*S			**S**	**01 52 28.8**	**+5.4**
ANN				pmax		pmax			
	comp=Z,20nm,0.7s								
BURAR	**Bucovina Array**	**12.58**	**354**	⇑P			**P**	**01 50 06.4**	**+2.3**
BURAR	**Bucovina Array**	**12.58**	**354**	⇑P			**P**	**01 50 06.4**	**+2.3**
CRES	**Cresnjev**	**13.85**	**324**	*e*Pn			**P**	**01 50 14.3**	**-6.6**
CRES				*e*Sn			**S**	**01 52 48.8**	**-5.8**
VISS	**Visnje**	**14.14**	**323**	*e*Pn			**P**	**01 50 22.3**	**-2.3**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**14.23**	**342**	*e*PN			**P**	**01 50 28.9**	**+3.1**
KOLS	**Kolonicke sedl**	**14.26**	**347**	*e*PN			**P**	**01 50 30.7**	**+4.4**
PERS	**Pernice**	**14.61**	**326**	*e*PN			**P**	**01 50 37.4**	**+6.6**
VYHS	**Vyhne**	**14.70**	**338**	*e*PN			**P**	**01 50 35.0**	**+3.1**
VSL	**Villasalto**	**14.71**	**293**	*e*P			**P**	**01 50 37.3**	**+5.1**
	comp=Z,9.5nm,0.8s								
KWP	**Kalwaria**	**14.87**	**349**	*e*P			**P**	**01 50 36.7**	**+2.6**
GNI	**Garni**	**14.91**	**65**	P			**P**	**01 50 38.3**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=4.8,slow=12,SNR=2.3								
GNI				LR			LR	01 57 49.3	
	comp=Z,110nm,19.4s,baz=290,slow=43								
GNI	**Garni**	**14.91**	**65**	P			**P**	**01 50 38.3**	**+3.5**
GNI				LR			LR	01 57 49.3	
STHS	**Stebnicka Huta**	**14.93**	**345**	*e*PN			**P**	**01 50 38.1**	**+3.2**
KIV	**Kislovodsk**	**14.96**	**49**	*e*P			**P**	**01 50 48.8**	**+13**
KIV	**Kislovodsk**	**14.96**	**49**	*e*P			**P**	**01 50 36.3**	**+1.0**
KIV				pmax		pmax			
	comp=N,9.0nm,0.9s								
KIV				pmax		pmax			
	comp=Z,8.0nm,0.9s								
KIV				MLR		MLR			
	comp=E,92nm,21.0s								
KIV	

CLL *i* 01 51 37.8
CLL *e* 01 51 44.0
CLL Collm 19.10 332 *i* P **P** **01 51 26.7 -0.6**
CLL pmax pmax
comp=Z,8.0nm,1.2s
SUW Suwalki 19.10 353 *e*P **P** **01 51 25.6 -1.7**
MOX Moxa 19.15 329 *i* P **P** **01 51 29.2 +1.4**
MOX Moxa 19.15 329 *e*P **P** **01 51 29.2 +1.4**
BFO Black Forest 19.16 319 *e*P **P** **01 51 26.9 -1.1**
comp=Z,6.0nm,0.8s
BFO Black Forest 19.16 319 *e*P **P** **01 51 26.9 -1.1**
BFO pmax pmax
comp=Z,6.0nm,0.8s
GKP Gorka Klasztor 19.44 342 *e*P **P** **01 51 29.4 -1.7**
LOMF Lomont 19.44 315 *e*P **P** **01 51 40.2 +9.0**
CABF La Chapelle 19.51 312 *e*P **P** **01 51 30.7 -1.3**
comp=Z,36nm,1.0s
CABF La Chapelle 19.51 312 *e*P **P** **01 51 30.7 -1.3**
CABF pmax pmax
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 19.65 306 *e*P **P** **01 51 32.7 -0.9**
comp=Z,25nm,0.9s
VIVF Saint-Julien-l 19.65 306 *e*P **P** **01 51 32.7 -0.9**
VIVF pmax pmax
comp=Z,13nm,0.9s
HINF Hinteralfeld 19.68 316 *e*P **P** **01 51 31.9 -2.0**
ECH Echery 19.73 318 *e*P **P** **01 51 48.2 +14**
CDF Champ du Feu 19.77 318 *e*P **P** **01 51 32.3 -2.6**
comp=Z,5.1nm,0.6s
CDF Champ du Feu 19.77 318 *e*P **P** **01 51 32.3 -2.6**
CDF pmax pmax
comp=Z,3.0nm,0.6s
LASF Ste Croix 19.93 304 *e*P **P** **01 51 35.5 -1.1**
comp=Z,17nm,1.0s
HAU Haudompre 20.07 316 *e*P **P** **01 51 36.6 -1.4**
comp=Z,12nm,0.5s
HAU Haudompre 20.07 316 *e*P **P** **01 51 36.6 -1.4**
HAU pmax pmax
comp=Z,6.0nm,0.5s
TNS Taunus Mts 20.29 324 *e*P **P** **01 51 39.1 -1.2**
comp=Z,19nm,0.9s
TNS Taunus Mts 20.29 324 *e*P **P** **01 51 39.1 -1.2**
TNS pmax pmax
comp=Z,19nm,0.9s
THEF They Montfort 20.39 316 *e*P **P** **01 51 54.2 +13**
LBL Lubilhac 20.73 306 *e*P **P** **01 51 42.8 -2.1**
PLDF La Plantade 20.77 309 *e*P **P** **01 51 46.1 +0.8**
MTLF Montolieu 20.85 301 *e*P **P** **01 51 44.6 -1.6**
SMF Signal de Mont 20.90 311 *e*P **P** **01 51 45.7 -1.0**
comp=Z,14nm,0.6s
SMF Signal de Mont 20.90 311 *e*P **P** **01 51 45.7 -1.0**
SMF pmax pmax
comp=Z,7.0nm,0.6s
EMIR Miracle 21.04 296 P **P** **01 51 46.2 -1.8**
comp=Z,7.4nm,0.7s,mb4.1
EMIR Miracle 21.04 296 P **P** **01 51 46.2 -1.9**
comp=Z,7.4nm,0.7s,mb4.1,SNR=5.6
MEZF Maizieres J'vi 21.06 316 *e*P **P** **01 51 47.1 -1.2**
comp=Z,12nm,0.5s,mb4.1
PYM Petit Puy Mans 21.08 308 *e*P **P** **01 51 48.6 +0.2**
OBN Obninsk 21.08 15 *i* P **P** **01 51 48.6 +0.2**
comp=Z,16nm,1.4s,mb4.2
OBN Obninsk 21.08 15 *i*P **P** **01 51 48.6 +0.2**
OBN *e* 01 52 06.7
OBN *eS* **S** **01 55 37.8 +1.3**
OBN pmax pmax
comp=Z,16nm,1.4s,mb4.2
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.3
LOR Lormes 21.17 312 *e*P **P** **01 51 47.9 -1.4**
comp=Z,16nm,0.7s,mb4.2
LOR Lormes 21.17 312 *e*P **P** **01 51 47.9 -1.4**
LOR pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
AVF Avril sur Loir 21.27 310 *e*P **P** **01 51 48.6 -1.8**
comp=Z,14nm,0.7s,mb4.1
AVF Avril sur Loir 21.27 310 *e*P **P** **01 51 48.6 -1.8**
AVF pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
EPOB Poblet 21.28 295 P **P** **01 51 49.3 -1.2**
comp=Z,9.1nm,0.6s,mb4.3,SNR=14
SSF Saint Saulge 21.29 311 *e*P **P** **01 51 49.1 -1.5**
comp=Z,18nm,0.8s,mb4.5
SSF Saint Saulge 21.29 311 *e*P **P** **01 51 49.1 -1.5**
SSF pmax pmax
comp=Z,18nm,0.8s,mb4.5
CAF Calviac 21.42 305 *e*P **P** **01 51 51.4 -0.5**
comp=Z,13nm,0.9s,mb4.0
CAF Calviac 21.42 305 *e*P **P** **01 51 51.4 -0.5**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb3.9
BGF Bois d'Agland 21.49 310 *e*P **P** **01 51 51.4 -1.2**
comp=Z,16nm,0.7s,mb4.2
BGF Bois d'Agland 21.49 310 *e*P **P** **01 51 51.4 -1.2**
BGF pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
ERTA Horta de San J 21.78 294 P **P** **01 51 55.5 0.0**
comp=Z,6.3nm,0.8s,mb4.1
ERTA Horta de San J 21.78 294 P **P** **01 51 55.5 -0.1**
comp=Z,6.3nm,0.8s,mb4.1,SNR=5.8
TCF Toulx Ste Croi 21.79 308 *e*P **P** **01 51 54.5 -1.1**
comp=Z,31nm,1.3s,mb4.3
TCF Toulx Ste Croi 21.79 308 *e*P **P** **01 51 54.5 -1.1**
TCF pmax pmax
comp=Z,16nm,1.3s,mb4.3
RJF Les Rejaudoux 21.91 305 *e*P **P** **01 51 56.0 -0.8**
comp=Z,27nm,1.0s,mb4.3
RJF Les Rejaudoux 21.91 305 *e*P **P** **01 51 56.0 -0.8**
RJF pmax pmax
comp=Z,14nm,1.0s,mb4.3
GIVF Givet 22.06 320 *e*P **P** **01 51 57.2 -1.1**
EPF Esparros 22.12 299 *e*P **P** **01 51 58.8 -0.1**
comp=Z,5.1nm,0.7s,mb3.8
EPF Esparros 22.12 299 *e*P **P** **01 51 58.8 -0.1**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
EBIE Bielsa 22.19 298 P **P** **01 51 59.8 +0.2**
comp=Z,3.8nm,0.6s,mb4.0,SNR=7.8
LFF La Frestale 22.32 304 *e*P **P** **01 52 00.2 -0.7**
comp=Z,48nm,1.2s,mb4.5
LFF La Frestale 22.32 304 *e*P **P** **01 52 00.2 -0.7**
LFF pmax pmax
comp=Z,24nm,1.2s,mb4.5
BAIF Baives 22.36 319 *e*P **P** **01 52 00.6 -0.7**
comp=Z,29nm,0.7s,mb4.5
BAIF Baives 22.36 319 *e*P **P** **01 52 00.6 -0.7**
BAIF pmax pmax
comp=Z,14nm,0.7s,mb4.5
ETSF Etsaut 22.74 298 *e*P **P** **01 52 04.4 -0.6**
comp=Z,4.4nm,0.5s,mb3.8
ETSF Etsaut 22.74 298 *e*P **P** **01 52 04.4 -0.6**
ETSF pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
SJPF Ste Jean 23.26 299 *e*P **P** **01 52 09.1 -1.0**
comp=Z,12nm,0.8s,mb4.1
SJPF Ste Jean 23.26 299 *e*P **P** **01 52 09.1 -1.0**
SJPF pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
VSU Vasula 23.37 360 *i* P **P** **01 52 12.5 +1.5**
MFF Saint Martin d 23.43 308 *e*P **P** **01 52 11.4 -0.3**
comp=Z,14nm,0.8s,mb4.1
MFF Saint Martin d 23.43 308 *e*P **P** **01 52 11.4 -0.3**
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
EVIA Vianos 23.84 287 P **P** **01 52 18.8 +3.1**
LDF La Druitiere 24.15 312 *e*P **P** **01 52 18.1 -0.6**
comp=Z,4.0nm,0.3s,mb4.0
EQES Quesada 24.31 285 P **P** **01 52 22.5 +2.1**
SNR=7.9
FLN La Foliniere 24.44 312 *e*P **P** **01 52 20.7 -0.8**
comp=Z,16nm,0.7s,mb4.3
FLN La Foliniere 24.44 312 *e*P **P** **01 52 20.7 -0.8**
FLN pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
GRR Gorron 24.52 311 *e*P **P** **01 52 21.7 -0.6**
comp=Z,10nm,0.5s,mb4.3
GRR Gorron 24.52 311 *e*P **P** **01 52 21.7 -0.6**
GRR pmax pmax
comp=Z,5.0nm,0.5s,mb4.3
ESDC Sonseca Array 24.98 290 P **P** **01 52 27.7 +0.9**
comp=Z,1.8nm,0.5s,mb3.8,baz=83,slow=10.0,SNR=18
ELUQ Luque 25.27 285 P **P** **01 52 32.0 +2.5**
SGMF Saint Gilles 25.53 310 *e*P **P** **01 52 31.3 -0.5**
EMIJ Mijas 25.76 283 P **P** **01 52 36.3 +2.2**
EMIJ Mijas 25.76 283 P **P** **01 52 36.3 +2.1**
SNR=7.9

QUIF Quistinic 25.80 309 *e*P **P** **01 52 33.6 -0.8**
ROSF Rostrenen 26.01 310 *e*P **P** **01 52 35.4 -0.9**
comp=Z,38nm,0.9s,mb4.6
ROSF Rostrenen 26.01 310 *e*P **P** **01 52 35.4 -0.9**
ROSF pmax pmax
comp=Z,19nm,0.9s,mb4.6
MDT Midelt 26.29 274 P **P** **01 52 39.8 +0.8**
comp=Z,3.1nm,0.8s,mb3.9,baz=92,slow=13,SNR=9.3
EJIF Jimena Fronter 26.33 282 P **P** **01 52 40.5 +1.1**
EJIF Jimena Fronter 26.33 282 P **P** **01 52 40.5 +1.1**
SNR=7.9
FINES FINESS Array B 26.37 359 P **P** **01 52 39.2 -0.3**
comp=Z,2.8nm,0.8s,mb3.9,baz=170,slow=12,SNR=5.8
HFS Hagfors 26.51 345 P **P** **01 52 38.5 -2.2**
comp=Z,2.5nm,0.8s,mb3.8,baz=140,slow=11,SNR=5.8
ESPR Espera 26.60 283 P **P** **01 52 44.0 +2.1**
KAF Kangasniemi 27.04 359 *e*p **P** **01 52 40.1 -5.5**
EMIN Mina Concepcio 27.16 286 P **P** **01 52 50.2 +3.2**
comp=Z,4.3nm,0.7s,mb4.1
ATD Arta Tunnel 27.52 145 P **P** **01 52 56.7 +6.3**
comp=Z,3.5nm,0.3s,mb4.5,baz=248,slow=19,SNR=5.5
NB2 NORSAR Subarra 27.87 344 P **P** **01 52 50.1 -3.1**
comp=Z,1.1nm,0.7s,mb3.6,baz=149,slow=9.3
NB2 NORSAR Subarra 27.87 344 P **P** **01 52 50.1 -3.1**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
NOA NORSAR Array B 27.87 344 P **P** **01 52 51.1 -2.1**
comp=Z,1.6nm,0.8s,mb3.7,baz=140,slow=6.5,SNR=5.0
JOF Joensuu 27.97 4 *ep* **P** **01 52 52.1 -2.0**
ARCES ARCESS Array B 34.50 359 P **P** **01 53 50.5 -1.0**
comp=Z,0.5nm,0.3s,mb3.9,baz=173,slow=8.4,SNR=20
KEV Kevo 34.71 360 *ep* **P** **01 53 52.3 -1.1**
BVAR Borovoye Array 35.29 46 P **P** **01 53 57.8 -0.6**
comp=Z,0.5nm,0.7s,mb3.5,baz=297,slow=3.3,SNR=3.5
AAK Ala-Archa 37.31 64 *e*P **P** **01 54 16.7 +1.1**
comp=Z,2.1nm,0.6s,mb4.1
AAK Ala-Archa 37.31 64 *e*P **P** **01 54 16.7 +1.1**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
KURK Kurchatov 40.03 51 *e*P **P** **01 54 37.4 -0.8**
comp=Z,3.5nm,0.8s,mb4.1
KURK Kurchatov 40.03 51 *e*P **P** **01 54 37.4 -0.8**
comp=Z,3.5nm,0.8s,mb4.1
KURK Kurchatov 40.03 51 *e*P **P** **01 54 37.4 -0.8**
KURK pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
DBIC Dimbokro 40.74 234 P **P** **01 54 45.5 +1.1**
comp=Z,2.9nm,0.7s,mb4.0,baz=48,slow=6.7,SNR=5.3
LIC Lamto 41.18 233 *e*P **P** **01 54 49.7 +1.7**
MKAR Makanchi Array 42.53 57 P **P** **01 54 59.9 +1.2**
comp=Z,4.1nm,0.5s,mb4.4,baz=277,slow=7.9,SNR=35
MKAR LR LR 02 12 58.9
comp=Z,48nm,18.3s,MS3.4,baz=355,slow=36
NVS Novosibirsk 43.05 45 *e*P **P** **01 55 03.7 +0.8**
ZAL Zalesovo 43.93 46 P **P** **01 55 10.4 +0.5**
comp=Z,2.1nm,0.3s,mb4.3,baz=214,slow=6.1,SNR=5.2
ZAL LR LR 02 15 25.3
comp=Z,74nm,19.4s,MS3.6,baz=16,slow=39
LSZ Lusaka 50.11 179 P **P** **01 56 01.7 +2.8**
comp=Z,1.8nm,0.9s,mb4.1,baz=8.8,slow=8.3,SNR=4.4
MATP Matopo 55.23 178 P **P** **01 56 39.6 +2.4**
comp=Z,2.1nm,0.6s,mb4.3,baz=24,slow=8.3,SNR=9.5
ZAK Zakamensk 55.64 49 *e*P **P** **01 56 41.4 +1.7**
ZAK *e* 01 57 44.1
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
SONM Songino Array 58.34 51 P **P** **01 56 59.4 +0.5**
comp=Z,1.6nm,0.4s,mb4.4,baz=284,slow=8.3,SNR=10
SONM Songino Array 58.34 51 P **P** **01 56 59.4 +0.5**
SONM pmax pmax
comp=Z,2.0nm,0.4s
BOD Bodaibo 59.56 38 *e*P **P** **01 57 06.0 -1.2**
SCHQ Schefferville 64.22 320 P **P** **01 57 38.0 -0.4**
comp=Z,3.0nm,0.5s,mb4.5,baz=31,slow=6.7,SNR=13
SSE Sheshan 75.93 62 *e*P **P** **01 58 51.3 +1.2**
SSE AP pP 01 59 00.0 +0.7
SSE XP sP 01 59 04.5 +2.1
SSE PP PP 02 01 41.0 -1.4
SSE S S 02 08 30.0 +0.5
SSE XS 02 08 47.3
SSE SCS ScS 02 09 02.5 +3.6
SSE AMB AMB
comp=Z,89nm,3.6s
BDFB Brasilia 87.10 249 LR LR 02 42 23.0
comp=Z,39nm,18.7s,MS3.8,baz=307,slow=38

NIED ***28*** *02:11:00,26.50N×129.80E,h5km,Mw4.3 Best double couple: M₀2.69×10¹⁵ NP1:φs42°, δ65°,λ-89°. NP2:φs219°, δ25°,λ-93°.*
BJI ***28*** *02:11:53.8,26.28N×129.69E,h13km,mB4.5,mb4.3, Ms4.2,Msz4.0*
IDC ***28*** *02:11:56.6±0.9,26.46N×129.60E,mb4.0/12,mb1 4.2/13, mb1mx4.1/21,mbtmp4.0/13,ML3.9/1,MS3.4/4,Ms1 3.4/4, ms1mx3.1/27,Error ellipse: s-maj=28.1km s-min=17.2km az=63.0*
NEIC ***28*** *02:11:57.6±4.3,26.46N×129.70E,h8km±26km,mb4.1/3, Error ellipse: s-maj=15.0km s-min=9.4km az=86.0*
JMA ***28*** *02:11:58.0,26.51N×129.75E,h58km,M3.7*
ISC 28 02:11:56.0±0.4,26.50N±0.03×129.71E±0.03,h10km,n35, σ0s93/44,mb4.0/16,MS3.9/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.33**	**285**	Pn	**Pn**		**02 12 21.2**	**+0.6**
	195nm,0.3s,baz=104,slow=16,SNR=124							
JOW				Sn	**Sn**		**02 12 37.6**	**-0.9**
	148nm,0.3s,baz=114,slow=28,SNR=28							
JOW	**Kunigami**	**1.33**	**285**	P	**Pb**		**02 12 21.1**	**+0.6**
JOW				S	**Sb**		**02 12 38.6**	**+1.2**
JTK	**Tokunoshima**	**1.45**	**332**	P	**Pn**		**02 12 22.7**	**+0.3**
JTK				S	**Sb**		**02 12 40.1**	**-0.9**
JMZ	**Minamidaito 2**	**1.52**	**116**	P	**Pn**		**02 12 23.0**	**-0.3**
JMZ				*e*S	**Sb**		**02 12 41.5**	**-1.4**
JIH	**Iheya**	**1.65**	**289**	P	**Pn**		**02 12 25.9**	**+0.7**
JIH				S	**Sn**		**02 12 46.3**	**-0.3**
JJT2	**Tamagusuku 2**	**1.80**	**259**	P	**Pn**		**02 12 28.0**	**+0.7**
JJT2				*e*S	**Sn**		**02 12 50.0**	**-0.4**
JZK	**Kikaishima**	**1.82**	**7**	*e*S	**Sn**		**02 12 52.3**	**+1.3**
NAH1	**Naha**	**1.84**	**261**	P	**Pn**		**02 12 28.5**	**+0.6**
NAH1				*e*S	**Sn**		**02 12 50.6**	**-0.8**
JAM	**Amami Oshima**	**1.91**	**357**	P	**Pn**		**02 12 28.7**	**-0.2**
JAM				*e*S	**Sn**		**02 12 51.8**	**-1.4**
JAGN	**Aguni-jima**	**2.21**	**273**	P	**Pn**		**02 12 33.8**	**+0.5**
JAGN				*e*S	**Sn**		**02 13 00.8**	**-0.2**
JKE	**Kume jima 2**	**2.63**	**267**	P	**Pn**		**02 12 38.7**	**-0.5**
JKE				*e*S	**Sn**		**02 13 09.4**	**-2.1**
JNN	**Nakanoshima**	**3.33**	**2**	P	**Pn**		**02 12 49.6**	**+0.4**
JNN				S	**Sn**		**02 13 26.8**	**-2.5**
JNU	**Nakatsue**	**6.68**	**8**	Pn	**Pn**		**02 13 36.6**	**0.0**
	2.3nm,0.3s,baz=135,slow=8.6,SNR=11							
JNU				LR	LR		02 16 24.9	
	comp=Z,82nm,20.8s,baz=334,slow=40							
TATO	**Taipei**	**7.57**	**260**	P	**Pn**		**02 13 48.9**	**-0.2**
GUMO	**Guam**	**19.15**	**129**	LR	LR		02 22 36.2	
	comp=Z,82nm,18.1s,baz=328,slow=33							
XAN	**Xi'an**	**19.45**	**298**	P	**P**		**02 16 23.8**	**-1.6**
XAN				AMB	AMB			
	comp=Z,20nm,1.5s							
HHC	**Hu-ho-hao-te**	**20.75**	**318**	*e*P	**P**		**02 16 33.8**	**-5.6**
HHC				AP			02 16 41.5	
HHC				XP			02 16 47.0	
HHC				AMB	AMB			
	comp=Z,7.0nm,0.8s							
HHC				AMB	AMB			
	comp=Z,93nm,4.0s							
HHC				LR	LR			
	comp=N,343nm,13.1s,MS4.0							
HHC				LR	LR			
	comp=E,236nm,10.7s,MS4.0							
HHC				LR	LR			
	comp=Z,283nm,11.9s,MS3.9							
GTA	**Gaotai**	**28.06**	**305**	*e*P	**P**		**02 17 48.0**	**-1.5**
GTA				AP	pP		02 17 52.5	0.0
GTA				XP	sP		02 17 55.0	+1.2
GTA				AMB	AMB			
	comp=Z,4.0nm,0.7s,mb4.2							
GTA				AMB	AMB			
	comp=Z,79nm,5.4s							
GTA				LR	LR			
	comp=N,207nm,13.4s,MS4.0							
GTA				LR	LR			
	comp=E,223nm,13.8s,MS4.0							
GTA				LR	LR			
	comp=Z,233nm,12.6s,MS4.0							
SONM	**Songino Array**	**28.07**	**325**	P	**P**		**02 17 51.0**	**+1.5**
	comp=Z,1.3nm,0.9s,mb3.6,baz=143,slow=11,SNR=7.0							
SONM				LR	LR		02 29 28.6	
	comp=Z,68nm,18.8s,MS3.3,baz=267,slow=38							
MKAR	**Makanchi Array**	**42.35**	**311**	P	**P**		**02 19 51.8**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.5,baz=120,slow=9.8,SNR=6.2							
ZAL	**Zalesovo**	**42.85**	**322**	P	**P**		**02 19 57.0**	**+1.3**
	comp=Z,1.3nm,0.4s,mb4.0,baz=5.8,slow=3.9,SNR=4.7							
FITZ	**Fitzroy Crossi**	**44.51**	**186**	P	**P**		**02 20 10.1**	**+0.5**
	comp=Z,5.3nm,0.9s,mb4.4,baz=315,slow=4.3,SNR=2.6							
KURK	**Kurchatov**	**45.54**	**316**	*e*P	**P**		**02 20 17.8**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.9							
WRAB	**Tennant Creek**	**46.37**	**174**	*e*P	**P**		**02 20 24.0**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**46.38**	**174**	P	**P**		**02 20 24.2**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=355,slow=8.5,SNR=8.4							
BVAR	**Borovoye Array**	**50.96**	**318**	P	**P**		**02 21 00.2**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=8.9,SNR=6.1							
BRVK	**Borovoye**	**51.03**	**318**	*e*P	**P**		**02 21 01.6**	**+1.5**
	comp=Z,2.1nm,1.0s,mb4.0							
ARCES	**ARCESS Array B**	**70.24**	**339**	P	**P**		**02 23 11.1**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=53,slow=6.1,SNR=3.8							
JOF	**Joensuu**	**70.45**	**331**	*ep*	**P**		**02 23 12.3**	**+0.2**
FINES	**FINESS Array B**	**73.28**	**331**	P	**P**		**02 23 29.2**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=68,slow=6.5,SNR=14							
AKASG	**Malin Array Be**	**76.19**	**320**	P	**P**		**02 23 45.2**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=56,slow=6.5,SNR=6.3							
BRTR	**Keskin Array B**	**77.92**	**308**	P	**P**		**02 23 56.4**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=121,slow=7.2,SNR=6.0							
NOA	**NORSAR Array B**	**79.66**	**334**	P	**P**		**02 24 04.5**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=50,slow=5.4,SNR=4.1							
GERES	**GERESS Array B**	**85.78**	**323**	P	**P**		**02 24 38.5**	**+1.9**
	comp=Z,0.4nm,0.6s,mb3.8,baz=90,slow=1.3,SNR=5.0							
ANMO	**Albuquerque**	**99.02**	**44**	LR	LR		03 02 10.5	
	comp=Z,82nm,21.9s,MS4.2,baz=281,slow=30							

NIED ***28*** *02:15:00,26.50N×129.70E,h5km,Mw4.1 Best double couple: M₀1.54×10¹⁵ NP1:φs51°, δ61°,λ-75°. NP2:φs201°, δ32°,λ-116°.*
BJI ***28*** *02:15:09.0,25.91N×129.71E,h30km,mb4.4*
IDC ***28*** *02:15:10.5±0.8,26.49N×129.63E,mb4.1/11,mb1 4.3/12, mb1mx4.1/21,mbtmp4.1/12,ML3.9/1,Error ellipse: s-maj=25.8km s-min=17.1km az=59.0*
NEIC ***28*** *02:15:11.3±4.8,26.52N×129.69E,h7km±29km,mb3.9/2, Error ellipse: s-maj=16.7km s-min=10.5km az=81.0*
JMA ***28*** *02:15:12.5±0.1,26.49N×129.73E,h45km,M3.9*
ISC 28 02:15:11.7±1.6,26.53N±0.03×129.70E±0.03,h24km±13km, n31,σ1s14/44,mb4.0/13,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.30**	**283**	Pn	**Pn**		**02 15 35.6**	**+0.9**
	312nm,0.3s,baz=111,slow=16,SNR=46							
JOW				Sn	**Sn**		**02 15 51.8**	**+0.2**
	303nm,0.3s,baz=114,slow=28,SNR=17							
JOW	**Kunigami**	**1.30**	**283**	P	**Pn**		**02 15 35.5**	**+0.7**
JOW				S	**Sn**		**02 15 51.8**	**+0.2**
JTK	**Tokunoshima**	**1.41**	**332**	P	**Pn**		**02 15 37.1**	**+0.8**
JTK				S	**Sn**		**02 15 52.4**	**-1.9**
JMZ	**Minamidaito 2**	**1.54**	**117**	P	**Pn**		**02 15 37.5**	**-0.7**
JMZ				*e*S	**Sn**		**02 15 55.3**	**-2.4**
JIH	**Iheya**	**1.62**	**288**	P	**Pn**		**02 15 40.2**	**+0.9**
JIH				S	**Sn**		**02 15 59.8**	**+0.1**
JZK	**Kikaishima**	**1.79**	**8**	P	**Pn**		**02 15 42.9**	**+1.2**
JZK				S	**Sn**		**02 16 05.2**	**+1.3**
JJT2	**Tamagusuku 2**	**1.79**	**258**	P	**Pn**		**02 15 42.4**	**+0.7**
JJT2				S	**Sn**		**02 16 03.8**	**-0.1**
NAH1	**Naha**	**1.83**	**260**	P	**Pn**		**02 15 42.8**	**+0.5**
NAH1				*e*S	**Sn**		**02 16 04.3**	**-0.6**
JAM	**Amami Oshima**	**1.87**	**358**	P	**Pn**		**02 15 43.1**	**+0.2**
JAM				*e*S	**Sn**		**02 16 05.2**	**-0.8**
JAGN	**Aguni-jima**	**2.20**	**272**	P	**Pn**		**02 15 48.1**	**+0.5**
JAGN				*e*S	**Sn**		**02 16 13.6**	**-0.7**
JKE	**Kume jima 2**	**2.62**	**266**	P	**Pn**		**02 15 53.0**	**-0.6**
JKE				*e*S	**Sn**		**02 16 22.2**	**-2.7**
JNN	**Nakanoshima**	**3.30**	**3**	P	**Pn**		**02 16 02.8**	**-0.4**
JNN				S	**Sn**		**02 16 39.7**	**-2.5**
JTJ	**Tarama**	**4.89**	**248**	P	**Pn**		**02 16 24.2**	**-1.6**
JTJ				S	**Sn**		**02 17 16.5**	**-5.8**
JIJ	**Ishigaki jima**	**5.46**	**248**	P	**Pn**		**02 16 36.4**	**+2.5**
JNU	**Nakatsue**	**6.64**	**9**	Pn	**Pn**		**02 16 49.6**	**-1.0**
	2.5nm,0.3s,baz=159,slow=16,SNR=9.3							
XAN	**Xi'an**	**19.42**	**298**	P	**P**		**02 19 37.8**	**-1.4**
XAN				AMB	AMB			
	comp=Z,19nm,1.1s							
GTA	**Gaotai**	**28.03**	**305**	*e*P	**P**		**02 21 02.3**	**-0.8**
GTA				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.3							
SONM	**Songino Array**	**28.03**	**325**	P	**P**		**02 21 04.3**	**+1.2**
	comp=Z,0.8nm,0.7s,mb3.5,baz=130,slow=9.5,SNR=5.4							
MKAR	**Makanchi Array**	**42.32**	**311**	P	**P**		**02 23 05.4**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.5,baz=96,slow=10,SNR=5.8							
FITZ	**Fitzroy Crossi**	**44.54**	**186**	P	**P**		**02 23 23.6**	**-0.2**
	comp=Z,4.5nm,0.7s,mb4.4,baz=21,slow=1.5,SNR=3.6							
WRAB	**Tennant Creek**	**46.41**	**174**	*e*P	**P**		**02 23 38.5**	**-0.1**
	comp=Z,3.3nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**46.42**	**174**	P	**P**		**02 23 38.7**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.2,baz=354,slow=8.4,SNR=17							
BVAR	**Borovoye Array**	**50.93**	**318**	P	**P**		**02 24 14.2**	**+1.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=77,slow=8.2,SNR=6.3							
BVAR				PcP	PcP		02 25 29.0	-0.6
	comp=Z,0.7nm,0.6s,baz=90,slow=3.0,SNR=3.8							
JOF	**Joensuu**	**70.41**	**331**	*ep*	**P**		**02 26 23.8**	**-1.8**
FINES	**FINESS Array B**	**73.24**	**331**	P	**P**		**02 26 43.1**	**+0.7**
	comp=Z,1.4nm,0.4s,mb4.2,baz=74,slow=6.0,SNR=18							
AKASG	**Malin Array Be**	**76.15**	**320**	P	**P**		**02 26 59.9**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=54,slow=6.9,SNR=6.5							
BRTR	**Keskin Array B**	**77.88**	**308**	P	**P**		**02 27 10.8**	**+1.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=96,slow=6.0,SNR=7.3							
NB2	**NORSAR Subarra**	**79.62**	**334**	P	**P**		**02 27 18.1**	**-0.2**
	comp=Z,0.2nm,0.7s,mb3.2,baz=57,slow=5.8							
NOA	**NORSAR Array B**	**79.62**	**334**	P	**P**		**02 27 19.0**	**+0.7**
	comp=Z,3.0nm,0.9s,mb4.2,baz=51,slow=5.6,SNR=4.5							
GERES	**GERESS Array B**	**85.75**	**323**	P	**P**		**02 27 51.9**	**+1.8**
	comp=Z,0.9nm,0.8s,mb4.1,baz=27,slow=3.0,SNR=6.3							
PDAR	**Pinedale Array**	**92.10**	**39**	P	**P**		**02 28 22.3**	**+1.9**
	comp=Z,0.5nm,0.9s,mb3.9,baz=326,slow=5.3,SNR=3.9							

IDC ***28*** *02:24:35.9±1.0,51.90N×171.33E,mb3.9/11,mb1 4.1/11, mb1mx3.9/23,mbtmp3.9/11,MS3.5/6,Ms1 3.4/6, ms1mx3.2/30,Error ellipse: s-maj=30.5km s-min=17.1km az=168.0*
NEIC ***28*** *02:24:37.4±0.8,51.95N×171.37E,h10km,mb4.0/2,Error ellipse: s-maj=23.3km s-min=9.2km az=173.0*
ISC 28 02:24:35.6±0.9,52.0N±0.2×171.3E±0.1,h10km,n20, σ0s76/16,mb3.9/13,MS3.4/6,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.88**	**65**	*e*P	**Pn**		**02 25 07.5**	**-0.6**
ASAJ	**Asahikawa**	**20.63**	**259**	LR	LR		02 37 27.6	
	comp=Z,46nm,18.7s,MS2.9,baz=153,slow=37							
KDAK	**Kodiak Island**	**21.38**	**60**	P	**P**		**02 29 24.9**	**-0.3**
	12nm,0.4s,mb4

1.6nm,0.9s,mb4.0,baz=16,slow=6.6,SNR=2.4
BVAR Borovoye Array 56.25 314 P **P 02 34 18.2 +0.3**
1.5nm,0.7s,mb4.1,baz=45,slow=6.3,SNR=8.4
BRVK Borovoye 56.28 315 P **P 02 34 17.8 -0.3**
1.1nm,0.7s,mb4.0
AAK Ala-Archa 61.56 304 P **P 02 34 54.3 -0.6**
SCHQ Schefferville 63.13 33 LR LR 03 06 11.6
comp=Z,99nm,18.9s,MS4.0,baz=20,slow=40
TXAR Lajitas Array 64.55 74 P **P 02 35 15.3 +0.4**
1.7nm,0.8s,mb4.1,baz=298,slow=4.4,SNR=20
WRA Warramunga Arr 78.55 215 P **P 02 36 37.9 -0.8**
0.7nm,0.7s,mb3.7,baz=31,slow=6.1,SNR=4.1

*ATH **28** 02:33:16.9, 38.79N×21.85E, h18km±1km, MD3.3/5*
*THE **28** 02:33:17.7, 38.71N×21.89E, h12km, ML2.9*
*NEIC **28** 02:33:17.0, 38.80N×21.86E, h18km, MD3.3(ATH), After ATH.*
*CSEM **28** 02:33:17.3±0.1, 38.73N×21.85E, h5km, MD3.3, Error ellipse: s-maj=2.0km s-min=1.6km az=176.0*
ISC 28 02:33:15.7±0.7, 38.72N±0.03×21.86E±0.03, h7km±5km, n19, σ0§88/32, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.20**	**348**	*e*PB		**Pb**		**02 33 20.7**	**-0.6**
EVR				*e*SB		**Sb**		**02 33 24.1**	**-0.8**
AGG	**Agios Georgios**	**0.48**	**50**	*e*Pg		**Pg**		**02 33 26.2**	**+0.8**
AGG				*e*Sg		**Sg**		**02 33 34.3**	**+2.6**
RLS	**Riolos of Patr**	**0.73**	**205**	*e*PN		**Pn**		**02 33 31.9**	**-0.3**
RLS				*e*SN		**Sn**		**02 33 43.3**	**-0.3**
RLS	**Riolos of Patr**	**0.73**	**205**	*e*Pb		**Pn**		**02 33 31.9**	**-0.3**
RLS				*e*Sn		**Sn**		**02 33 44.0**	**+0.4**
LKR	**Lokris**	**0.89**	**94**	*e*PN		**Pn**		**02 33 34.2**	**-0.3**
LKR				*e*SN		**Sn**		**02 33 46.7**	**-1.1**
LKD	**Levkas**	**0.95**	**270**	*e*Pg		**Pg**		**02 33 34.8**	**+0.2**
LKD				*e*Sg		**Sg**		**02 33 50.6**	**+3.3**
MEV	**Metsovon**	**1.17**	**335**	*e*Pg		**Pg**		**02 33 37.6**	**-1.6**
MEV				*e*Sg		**Sg**		**02 33 54.7**	**-0.1**
NEO	**Neokhori**	**1.21**	**61**	*e*PN		**Pn**		**02 33 39.8**	**+0.7**
NEO	**Neokhori**	**1.21**	**61**	*e*Pn		**Pn**		**02 33 39.9**	**+0.8**
JAN	**Janina**	**1.22**	**320**	*e*PN		**Pn**		**02 33 39.0**	**-0.2**
XOR	**Xorichti**	**1.22**	**58**	*e*Pg		**Pg**		**02 33 40.1**	**0.0**
XOR				*e*Sg		**Sg**		**02 33 56.2**	**-0.3**
IGT	**Igoumenitsa**	**1.44**	**305**	*e*Pg		**Pg**		**02 33 43.5**	**-1.0**
IGT				*e*Sg		**Sg**		**02 34 03.9**	**+0.1**
LIT	**Litokhoron**	**1.46**	**19**	*e*Pg		**Pg**		**02 33 43.3**	**-1.7**
LIT				*e*Sg		**Sg**		**02 34 04.3**	**-0.2**
KZN	**Kozani**	**1.59**	**358**	*e*PN		**Pn**		**02 33 45.3**	**+0.9**
AOS	**Alonnisos**	**1.64**	**73**	*e*Pb		**Pb**		**02 33 45.8**	**-0.1**
AOS				*e*Sb		**Sb**		**02 34 06.7**	**+0.1**
FNA	**Florina**	**2.10**	**350**	*e*Pn		**Pn**		**02 33 52.5**	**+0.8**
FNA				*e*Sn		**Sn**		**02 34 19.6**	**+1.3**
GRG	**Griva**	**2.27**	**10**	*e*Pn		**Pn**		**02 33 54.6**	**+0.4**
SOH	**Sokhos**	**2.40**	**28**	*e*Pn		**Pn**		**02 33 55.9**	**-0.1**
SOH				*e*Sn		**Sn**		**02 34 25.4**	**-0.5**
KNT	**Kendrikon**	**2.57**	**18**	*e*Pn		**Pn**		**02 33 59.2**	**+0.7**

WEL 28 02:34:03.1±0.5, 39.97S×173.68E, h228km±4km, ML3.5/9, Error ellipse: s-maj=4.4km s-min=4.3km az=0.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.86**	**167**	PN		P		02 34 35.3	+0.1
DUWZ				SN		S		02 34 59.7	-0.5
WAZ	**Wanganui**	**1.03**	**79**	PN		P		02 34 36.4	+0.2
WAZ				SN		S		02 35 01.6	-0.3
QRZ	**Quartz Range**	**1.23**	**225**	PN		P		02 34 36.7	-0.9
QRZ				SN		S		02 35 02.2	-2.2
NNZ	**Nelson**	**1.27**	**190**	PN		P		02 34 37.6	-0.4
NNZ				SN		S		02 35 03.8	-1.2
KIW	**Kapiti Island**	**1.30**	**134**	PN		P		02 34 37.8	-0.4
KIW				SN		S		02 35 03.6	-1.8
TCW	**Tory Channel**	**1.33**	**160**	PN		P		02 34 38.4	0.0
TCW				SN		S		02 35 04.4	-1.3
TUWZ	**Tuamarina**	**1.48**	**172**	PN		P		02 34 39.6	0.0
TUWZ				SN		S		02 35 06.7	-1.1
MRW	**Makara Radio**	**1.48**	**149**	*e*PN		P		02 34 39.0	-0.7
CAW	**Cannon Point**	**1.56**	**138**	PN		P		02 34 39.6	-0.6
CAW				SN		S		02 35 07.8	-1.1
MRZ	**Mangatainoka R**	**1.61**	**116**	*e*PN		P		02 34 40.1	-0.6
MRZ				SN		S		02 35 08.0	-1.8
MOVZ	**Moawhango**	**1.70**	**72**	PN		P		02 34 40.1	-1.3
MOVZ				SN		S		02 35 06.8	-4.2
MTW	**Mount Morrison**	**1.83**	**131**	PN		P		02 34 41.8	-0.8
THZ	**Tophouse**	**1.89**	**198**	PN		P		02 34 42.6	-0.5
DSZ	**Denniston Nort**	**2.28**	**218**	PN		P		02 34 45.7	-1.3
KHZ	**Kahutara**	**2.45**	**182**	PN		P		02 34 47.5	-1.3
LTZ	**Lake Taylor**	**3.01**	**200**	PN		P		02 34 53.2	-1.7
URZ	**Urewera**	**3.17**	**59**	PN		P		02 34 52.5	-4.2
MWZ	**Matawai**	**3.41**	**63**	PN		P		02 34 56.0	-3.5

DHMR 28 02:38:28.6±2.5, 12.58N×40.60E, h2km±156km, ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.48**	**79**	*i* P			Pn	02 39 26.6	+1.7
TRBA				*i* S			Sn	02 40 11.8	+4.5
TRBA				AML		AML		02 40 26.7	
	comp=N,1μm,0.7s								
UDYN	**Al 'Udayn**	**3.55**	**67**	*i* P			Pn	02 39 28.1	+2.2
UDYN				*i* S			Sn	02 40 13.6	+4.6
UDYN				AML		AML		02 40 36.2	
	comp=E,374nm,0.6s								
DHBB	**Dhamar BB**	**4.18**	**61**	*i* P			Pn	02 39 35.5	+0.7
DHBB				*i* S			Sn	02 40 28.7	+3.9
LBOS		**4.70**	**74**	*i* P			Pn	02 39 40.9	-1.3
LBOS				*i* S			Sn	02 40 37.2	-0.9
BDHA	**Al Bayda'**	**5.03**	**73**	*i* S			Sn	02 40 45.1	-1.2

CASC 28 03:11:33.8±2.0, 13.85N×91.32W, h28km±14km, MD3.8, 4C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.76**	**37⇓**	*e*P			Pb	03 11 49.1	+0.9
FUG				*e*S			Sb	03 11 58.9	+0.6
PCG	**Pacaya**	**0.88**	**51⇑**	*e*P			Pb	03 11 49.9	-0.5
PCG				*e*S			Sb	03 12 03.2	+1.5
IXG	**Ixpaco**	**0.90**	**69⇑**	*e*P			Pn	03 11 49.5	-1.1
IXG				*e*S			Sb	03 12 04.0	+1.8
TP2	**Tecpan 2**	**0.98**	**17⇓**	*e*P			Pn	03 11 53.0	+1.2
TP2				*e*S			Sb	03 12 07.4	+2.9
RBDL	**Robledal**	**1.60**	**80⇓**	*e*P			Pn	03 12 05.2	+4.5
RBDL				*e*S			Sn	03 12 26.4	+5.7
RTR	**El Retiro**	**1.62**	**88⇓**	*e*P			Pn	03 12 05.3	+4.3
RTR				*e*S			Sn	03 12 26.3	+5.2
SBLS	**San Blas**	**1.64**	**90⇓**	*e*P			Pn	03 12 05.1	+3.8
SBLS				*e*S			Sn	03 12 27.1	+5.3
BOQS	**Boqueron**	**1.98**	**93⇓**	*e*P			Pn	03 12 09.9	+3.8
BOQS				*e*S			Sn	03 12 35.3	+5.0
SNET	**Serv Nac Est T**	**2.03**	**94**	*e*P			Pn	03 12 03.3	-3.6
SNET				*e*S			Sn	03 12 28.6	-3.0
LFRS	**El Faro**	**2.20**	**95⇑**	*e*P			Pn	03 12 12.9	+3.6
LFRS				*e*S			Sn	03 12 39.6	+3.7
LCBS	**La Ceiba**	**2.28**	**94⇑**	*e*P			Pn	03 12 14.2	+3.8
LCBS				*e*S			Sn	03 12 42.0	+4.1

MAN 28 03:24:17.4, 12.54N×124.90E, h19km, mb3.5, ML2.2, MS1.6, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.24**	**262**	*e*P			Pb	03 24 24.1	+1.0
BESP	**Borongan**	**1.07**	**151**	*e*P			Pb	03 24 37.0	-0.2
BESP				*e*S			Sb	03 24 51.7	+1.0
PVCP	**Virac**	**1.27**	**325**	*e*P			Pn	03 24 39.2	-1.2
PVCP				*e*S			Sb	03 24 57.6	+1.0
PLP	**Palo**	**1.37**	**177**	*e*P			Pn	03 24 41.4	-0.5
PLP				*e*S			Sb	03 24 60.0	+0.6

*NEIC **28** 03:34:38.1±1.2, 15.02S×71.61W, h134km±15km, Error ellipse: s-maj=27.0km s-min=15.9km az=216.0*
*IDC **28** 03:34:39.0±7.7, 14.78S×71.49W, h149km±47km, mb3.5/2, mb1 3.4/4, mb1mx3.2/16, mbtmp3.7/4, Error ellipse: s-maj=75.3km s-min=37.1km az=141.0*
ISC 28 03:34:37.7±1.1, 15.15S±0.1×71.68W±0.09, h147km±13km, n8, σ0§97/10, mb3.7/2, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.41**	**173**	*i* P			**P**	**03 35 06.8**	**+0.4**
LPAZ	**La Paz**	**3.63**	**110**	P			**P**	**03 35 34.5**	**+0.6**
	2.6nm,0.3s,baz=312,slow=10,SNR=146								
LPAZ				S			**S**	**03 36 17.3**	**+0.4**
	0.8nm,0.3s,baz=201,slow=12,SNR=4.9								
LPAZ	**La Paz**	**3.63**	**110**	*e*P			**P**	**03 35 34.0**	**+0.1**
LPAZ				S			**S**	**03 36 17.3**	**+0.4**
NNA	**Nana**	**5.88**	**301**	*e*P			**P**	**03 36 03.5**	**-0.1**
	19nm,0.5s								
LVC	**Limon Verde**	**7.96**	**161**	*e*P			**P**	**03 36 29.4**	**-2.2**
	17nm,0.4s								
CPUP	**Villa Florida**	**17.47**	**132**	P			**P**	**03 38 33.5**	**-0.2**
	0.1nm,0.3s,baz=342,slow=11,SNR=5.1								
BDFB	**Brasilia**	**22.82**	**95**	P			**P**	**03 39 28.2**	**-0.6**
	2.1nm,0.5s,mb3.9,baz=247,slow=8.3,SNR=7.5								
PLCA	**Paso Flores**	**25.60**	**178**	P			**P**	**03 39 56.6**	**+1.6**
	0.7nm,0.4s,mb3.6,baz=6.6,slow=7.2,SNR=5.2								

*DHMR **28** 03:36:07.7±2.4, 12.65N×40.58E, h2km±120km, ML4.5*
*IDC **28** 03:36:09.3±0.9, 12.60N×40.54E, mb4.2/10, mb1 4.2/13, mb1mx4.2/19, mbtmp4.2/13, ML4.5/1, MS4.0/10, Ms1 4.0/10, ms1mx3.9/21, Error ellipse: s-maj=22.6km s-min=18.9km az=85.0*
*CSEM **28** 03:36:09.3±0.1, 12.69N×40.56E, h10km, mb4.4/10, Ms4.1, Error ellipse: s-maj=4.8km s-min=2.0km az=11.0*
*NEIC **28** 03:36:10.5±0.3, 12.55N×40.59E, h10km, mb4.4/11, ML4.7(DHMR), Error ellipse: s-maj=7.9km s-min=4.5km az=196.0*
ISC 28 03:36:08.9±0.4, 12.55N±0.06×40.52E±0.03, h10km, n87, σ0§87/92, mb4.4/23, MS4.2/8, 6C-5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.49**	**114**	Pn			**Pn**	**03 36 50.5**	**+0.3**
	106nm,0.3s,baz=237,slow=19,SNR=67								
TRBA	**At Turbah**	**3.57**	**79**	*i* P			**Pn**	**03 37 06.1**	**+0.6**
TRBA				*i* S			**Sn**	**03 37 50.8**	**+2.6**
TRBA				AML		AML		03 38 09.2	
	comp=N,4μm,0.6s								
TRBA	**At Turbah**	**3.57**	**79⇑**	*i* P			**Pn**	**03 37 05.0**	**-0.4**
TRBA				*i* S			**Sn**	**03 37 54.1**	**+5.9**
TRBA	**At Turbah**	**3.57**	**79⇑**	*i* P			**Pn**	**03 37 05.1**	**-0.4**
TRBA				*i* S			**Sn**	**03 37 50.8**	**+2.6**
	comp=N,2μm,0.6s								
UDYN	**Al 'Udayn**	**3.64**	**67⇑**	*i* P			**Pn**	**03 37 06.4**	**-0.1**
UDYN				*i* S			**Sn**	**03 37 52.9**	**+2.9**
UDYN				AML		AML		03 38 13.5	
	comp=N,2μm,0.6s								
UDYN	**Al 'Udayn**	**3.64**	**67⇑**	*i* P			**Pn**	**03 37 06.4**	**-0.1**
UDYN				*i* S			**Sn**	**03 37 57.9**	**+7.9**
DHBB	**Dhamar BB**	**4.26**	**62⇓**	*i* P			**Pn**	**03 37 14.8**	**-0.6**
DHBB				*i* S			**Sn**	**03 38 07.6**	**+1.9**
DHBB	**Dhamar BB**	**4.26**	**62⇓**	*i* P			**Pn**	**03 37 14.8**	**-0.6**
DHBB				*i* S			**Sn**	**03 38 11.6**	**+5.8**
ADEN	**Aden**	**4.36**	**87**	*i* P			**Pn**	**03 37 16.0**	**-0.8**
ADEN				*i* S			**Sn**	**03 38 10.0**	**+1.8**
ADEN	**Aden**	**4.36**	**87⇓**	*i* P			**Pn**	**03 37 14.4**	**-2.3**
ADEN				*i* S			**Sn**	**03 38 09.6**	**+1.4**
ADEN	**Aden**	**4.36**	**87**	*i* P			**Pn**	**03 37 16.0**	**-0.7**
ADEN				*i* S			**Sn**	**03 38 09.6**	**+1.4**
LBOS		**4.79**	**74**	*i* P			**Pn**	**03 37 20.2**	**-2.5**
LBOS				*i* S			**Sn**	**03 38 16.8**	**-2.2**
LBOS		**4.79**	**74⇓**	*i* P			**Pn**	**03 37 21.6**	**-1.2**
LBOS				*i* S			**Sn**	**03 38 22.8**	**+3.8**
BDHA	**Al Bayda'**	**5.11**	**73**	*i* P			**Pn**	**03 37 24.8**	**-2.6**
BDHA				*i* S			**Sn**	**03 38 23.7**	**-3.5**
BDHA	**Al Bayda'**	**5.11**	**73⇑**	*i* P			**Pn**	**03 37 25.3**	**-2.1**
BDHA				*i* S			**Sn**	**03 38 30.6**	**+3.4**
BDHA	**Al Bayda'**	**5.11**	**73⇑**	*i* P			**Pn**	**03 37 25.3**	**-2.1**
BDHA				*i* S			**Sn**	**03 38 23.7**	**-3.5**
KMBO	**Kilima Mbogo**	**13.97**	**194**	Pn			**P**	**03 39 29.3**	**-0.1**
	baz=28,slow=12,SNR=3.7								
KMBO				LR		LR		03 44 11.0	
	comp=N,228nm,20.4s,baz=170,slow=34								
ASF	**Jabal al Asfar**	**19.81**	**351**	P			**P**	**03 40 41.9**	**-0.6**
	baz=257,slow=14,SNR=4.7								
ASF				LR		LR		03 47 38.1	
	comp=N,158nm,18.8s,baz=173,slow=35								
BHD	**Baghdad**	**20.92**	**9**	*ex*			x	03 40 54.5	
MSL	**Mosul**	**23.75**	**5**	*ex*			x	03 41 47.0	
MALT	**Malatya**	**25.72**	**356**	*e*P			**P**	**03 41 43.4**	**+2.3**
	comp=N,17nm,1.3s,mb4.4								
IDI	**Anoyia**	**26.69**	**331**	LR		LR		03 52 17.7	
	comp=N,227nm,21.0s,MS3.7,baz=358,slow=36								
GNI	**Garni**	**27.74**	**7**	LR		LR		03 52 58.0	
	comp=N,161nm,18.8s,MS3.6,baz=3.3,slow=36								
BR131	**Keskin Array S**	**27.74**	**349**	*e*P			**P**	**03 42 00.1**	**+0.4**
	comp=N,0.9nm,0.4s,mb3.8								
BR131	**Keskin Array S**	**27.74**	**349**	*e*P			**P**	**03 42 00.1**	**+0.5**
	comp=N,0.9nm,0.4s,mb3.8								
BRTR	**Keskin Array B**	**27.74**	**349**	P			**P**	**03 42 00.8**	**+1.2**
	comp=N,3.6nm,0.9s,mb4.0,baz=180,slow=14,SNR=10.0								
MATP	**Matopo**	**34.84**	**200**	P			**P**	**03 43 04.0**	**+1.6**
	comp=N,5.4nm,1.1s,mb4.4,baz=27,slow=2.3,SNR=3.9								
AQU	**L'Aquila**	**37.89**	**327**	*e*P			**P**	**03 43 28.4**	**+0.5**
AQU	**L'Aquila**	**37.89**	**327**	*e*P			**P**	**03 43 28.4**	**+0.5**
AKASG	**Malin Array Be**	**39.14**	**349**	P			**P**	**03 43 37.6**	**-0.7**
	comp=N,2.7nm,0.8s,mb4.0,baz=168,slow=7.3,SNR=12								
KOLS	**Kolonicke sedl**	**39.30**	**341**	*e*pP			pP	03 43 42.6	0.0
KECS	**Kecovo**	**39.51**	**339**	*e*pP			pP	03 43 44.3	-0.1
KWP	**Kalwaria**	**39.78**	**342**	*e*P			**P**	**03 43 44.3**	**+0.7**
	comp=N,8.7nm,0.9s,mb4.5								
KWP	**Kalwaria**	**39.78**	**342**	*e*P			**P**	**03 43 44.3**	**+0.7**
	comp=N,8.7nm,0.9s,mb4.5								
VYHS	**Vyhne**	**40.11**	**338**	*e*P			**P**	**03 43 45.7**	**-0.7**
PGF	**Pioggiola**	**40.48**	**323**	*e*P			**P**	**03 43 50.2**	**+0.7**
ZST	**Bratislava**	**40.54**	**336**	*e*P			**P**	**03 43 50.8**	**+0.9**
TREC	**Trest**	**42.06**	**336**	*e*P			**P**	**03 44 03.7**	**+1.3**
GERES	**GERESS Array B**	**42.46**	**334**	P			**P**	**03 44 05.5**	**-0.2**
	comp=N,1.4nm,0.7s,mb3.7,baz=135,slow=7.5,SNR=13								
DPC	**Dobruska-Polom**	**42.58**	**337**	*e*P			**P**	**03 44 07.7**	**+1.1**
KHC	**Kasperske Hory**	**42.73**	**334**	*e*P			**P**	**03 44 07.2**	**-0.6**
UPC	**Upice**	**42.82**	**337**	*e*P			**P**	**03 44 08.0**	**-0.6**
KOLN	**Koldanda**	**42.94**	**63**	*e*P			**P**	**03 44 10.0**	**+0.1**
	comp=N,19nm,1.0s,mb4.8								
PRU	**Prunice**	**42.99**	**335**	*e*P			**P**	**03 44 09.9**	**0.0**
MBDF	**Montbardon**	**43.10**	**325**	*e*P			**P**	**03 44 11.9**	**+1.0**
	comp=N,20nm,1.0s,mb4.5								
SMRF	**Simiane la Rot**	**43.34**	**323**	*e*P			**P**	**03 44 13.5**	**+0.6**
LPG	**La Plagne**	**43.58**	**325**	*e*P			**P**	**03 44 14.2**	**-0.6**
LPL	**La Plagne**	**43.60**	**325**	*e*P			**P**	**03 44 14.2**	**-0.8**
ORIF	**Oris-en-Rattie**	**43.72**	**324**	*e*P			**P**	**03 44 16.1**	**+0.2**
	comp=N,12nm,0.9s,mb4.3								
GKN	**Gorkha**	**43.89**	**63**	*e*P			**P**	**03 44 17.1**	**-0.4**
BRG	**Berggiesshubel**	**43.92**	**336**	*e*P			**P**	**03 44 16.9**	**-0.6**
	comp=N,8.8nm,1.3s,mb4.3								
BRG	**Berggiesshubel**	**43.92**	**336**	*e*P			**P**	**03 44 16.9**	**-0.5**
	comp=N,8.8nm,1.3s,mb4.3								
NKC	**Novy Kostel**	**44.04**	**334**	*e*P			**P**	**03 44 19.0**	**+0.5**
GRA1	**Grafenberg Arr**	**44.17**	**333**	*e*P			**P**	**03 44 20.0**	**+0.4**
	comp=N,6.0nm,1.1s,mb4.2								
GRF	**Grafenberg Arr**	**44.17**	**333**	*e*P			**P**	**03 44 20.0**	**+0.4**
	comp=N,6.0nm,1.1s,mb4.2								
DMN	**Daman**	**44.22**	**63**	*e*P			**P**	**03 44 20.3**	**0.0**
	comp=N,26nm,1.0s,mb4.9								
VIVF	**Saint-Julien-l**	**44.38**	**323**	*e*P			**P**	**03 44 20.8**	**-0.5**
KKN	**Kakani**	**44.41**	**63**	*e*P			**P**	**03 44 21.7**	**-0.1**
	comp=N,20nm,0.8s,mb4.9								
LASF	**Ste Croix**	**44.42**	**322**	*e*P			**P**	**03 44 21.9**	**+0.2**
PKI	**Pulchoki**	**44.48**	**63**	*e*P			**P**	**03 44 22.3**	**-0.1**
	comp=N,15nm,0.9s,mb4.8								
CABF	**La Chapelle**	**44.63**	**326**	*e*P			**P**	**03 44 22.6**	**-0.7**
	comp=N,51nm,1.4s,mb4.8								
HINF	**Hinteralfeld**	**44.99**	**328**	*e*P			**P**	**03 44 25.9**	**-0.3**
MTLF	**Montolieu**	**45.03**	**320**	*e*P			**P**	**03 44 26.9**	**+0.3**
DBIC	**Dimbokro**	**45.07**	**267**	P			**P**	**03 44 26.4**	**-0.9**
	comp=N,5.8nm,1.1s,mb4.3,baz=54,slow=11,SNR=4.2								
DBIC				LR		LR		04 02 58.6	
	comp=N,331nm,18.1s,MS4.3,baz=75,slow=36								
CDF	**Champ du Feu**	**45.16**	**329**	*e*P			**P**	**03 44 27.4**	**-0.1**
JIRN	**Jiri**	**45.17**	**63**	*e*P			**P**	**03 44 27.7**	**-0.2**
	comp=N,21nm,1.0s,mb4.9								
HAU	**Haudompre**	**45.37**	**328**	*e*P			**P**	**03 44 28.9**	**-0.3**
CAF	**Calviac**	**45.96**	**322**	*e*P			**P**	**03 44 33.9**	**0.0**
LOR	**Lormes**	**46.25**	**326**	*e*P			**P**	**03 44 35.6**	**-0.5**
SSF	**Saint Saulge**	**46.32**	**325**	*e*P			**P**	**03 44 35.9**	**-0.8**
BGF	**Bois d'Agland**	**46.40**	**324**	*e*P			**P**	**03 44 37.3**	**-0.1**
RJF	**Les Rejaudoux**	**46.49**	**322**	*e*P			**P**	**03 44 38.0**	**-0.1**
ETSF	**Etsaut**	**46.58**	**318**	*e*P			**P**	**03 44 39.9**	**+1.1**
	comp=N,49nm,1.4s,mb5.0								
LFF	**La Frestale**	**46.77**	**321**	*e*P			**P**	**03 44 41.0**	**+0.7**
SJPF	**Ste Jean**	**47.11**	**318**	*e*P			**P**	**03 44 44.1**	**+1.1**
GIVF	**Givet**	**47.48**	**329**	*e*P			**P**	**03 44 45.4**	**-0.4**
ESDC	**Sonseca Array**	**47.55**	**313**	P			**P**	**03 44 46.5**	**0.0**
	comp=N,2.6nm,1.1s,mb4.2,baz=122,slow=8.2,SNR=6.2								
BAIF	**Baives**	**47.76**	**329**	*e*P			**P**	**03 44 47.4**	**-0.7**
MKAR	**Makanchi Array**	**48.91**	**37**	P			**P**	**03 44 56.8**	**-0.2**
	comp=N,2.9nm,0.9s,mb4.3,baz=243,slow=5.4,SNR=12								
MKAR				LR		LR		04 09 24.5	
	comp=N,463nm,21.5s,MS4.4,baz=183,slow=41								
FINES	**FINESS Array B**	**49.93**	**351**	P			**P**	**03 45 04.0**	**-0.6**
	comp=N,3.8nm,0.9s,mb4.4,baz=191,slow=14,SNR=5.9								
ARCES	**ARCESS Array B**	**57.73**	**354**	P			**P**	**03 46 00.9**	**-1.0**
	comp=N,1.8nm,0.8s,mb4.1,baz=225,slow=3.8,SNR=2.9								
ARCES	**ARCESS Array B**	**57.73**	**354**	P			**P**	**03 46 00.9**	**-1.1**
SONM	**Songino Array**	**64.63**	**43**	P			**P**	**03 46 48.4**	**-0.5**
	comp=N,2.7nm,0.9s,mb4.3,baz=258,slow=7.5,SNR=12								
SONM				LR		LR		04 19 31.6	
	comp=N,338nm,19.6s,MS4.5,baz=85,slow=40								
MAW	**Mawson**	**81.57**	**172**	LR		LR		04 22 25.8	
	comp=N,83nm,18.9s,MS4.1,baz=240,slow=34								
MJAR	**Matsushiro Arr**	**88.69**	**53**	LR		LR		04 34 24.2	
	comp=N,94nm,20.2s,MS4.2,baz=250,slow=39								
BDFB	**Brasilia**	**91.94**	**255**	LR		LR		04 26 46.7	
	comp=N,174nm,19.3s,MS4.5,baz=102,slow=33								
TXAR	**Lajitas Array**	**125.88**	**321**	PKP		PKPdf		03 55 13.9	-1.0
	comp=N,0.2nm,0.7s,baz=76,slow=3.7,SNR=3.7								

MAN 28 03:40:57.7, 12.61N×124.43E, h25km, mb3.5, ML2.2, MS1.7, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.25**	**112**	*e*P			Pb	03 41 05.5	+1.5
CNP				*e*S			Sb	03 41 13.0	+4.7
PVCP	**Virac**	**1.02**	**345**	*e*P			Pn	03 41 15.5	-1.1
PVCP				*e*S			Sb	03 41 30.6	+1.1
BESP	**Borongan**	**1.41**	**135**	*e*P			Pn	03 41 20.6	-1.4
PLP	**Palo**	**1.53**	**159**	*e*P			Pn	03 41 24.0	+0.2
PLP				*i* S			Sn	03 41 45.4	+2.4

SKHL 28 03:46:08.9±0.3, 53.46N×122.50E, h10km, mb3.7/5, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**1.79**	**304**	*e*Pn			Pn	03 46 40.2	0.0
TUP				*e*Pg			Pg	03 46 41.0	-3.7
TUP				AMB		AMB		03 46 41.2	
	48nm,0.2s								
TUP				*e*Sn			Sn	03 47 03.4	+0.3
TUP				*e*Sg			Sg	03 47 04.1	-4.4
TUP				A				03 47 04.7	
	427nm,0.4s								
KROS	**Kirovskiy**	**2.82**	**68**	*e*Pg			Pg	03 47 00.5	-4.7
KROS				AMB		AMB		03 47 02.2	
	6.0nm,0.5s								
KROS				*e*Sg			Sg	03 47 37.9	-4.8
KROS				A				03 47 45.0	
	41nm,0.6s								

FINES	**FINESS Array B**	**24.00**	**69**	P	**P**	**04 03 43.8**	**+1.7**
	2.3nm,0.8s,mb3.6,baz=315,slow=8.1,SNR=5.2						
CABF	**La Chapelle**	**24.06**	**116**	*eP*	**P**	**04 03 46.5**	**+3.7**
	83nm,1.6s,mb4.6						
ORIF	**Oris-en-Rattie**	**25.34**	**119**	*eP*	**P**	**04 03 55.8**	**+0.6**
KHC	**Kasperske Hory**	**25.43**	**103**	*eP*	**P**	**04 03 55.5**	**-0.5**
KHC				*pP*	*pP*	04 04 04.0	+5.1
KHC	**Kasperske Hory**	**25.43**	**103**	*eP*	**P**	**04 03 55.5**	**-0.5**
KHC				*e*		04 04 04.0	
DAVOX	**Davos**	**25.54**	**111**	LR	LR	04 13 11.4	
	comp=Z,140nm,21.2s,MS3.5,baz=287,slow=35						
GERES	**GERESS Array B**	**25.70**	**103**	P	**P**	**04 03 57.6**	**-0.9**
	0.1nm,0.3s,mb2.9,baz=315,slow=4.2,SNR=2.4						
GERES				LR	LR	04 13 51.2	
	comp=Z,194nm,18.8s,MS3.6,baz=93,slow=36						
MBDF	**Montbardon**	**25.86**	**118**	*eP*	**P**	**04 04 01.2**	**+1.2**
ESDC	**Sonseca Array**	**26.36**	**139**	P	**P**	**04 04 03.1**	**-1.7**
	1.7nm,0.8s,mb3.6,baz=345,slow=8.2,SNR=4.7						
VRAC	**Vranov**	**26.68**	**99**	LR	LR	04 14 18.6	
	comp=Z,132nm,20.6s,MS3.5,baz=355,slow=36						
AKASG	**Malin Array Be**	**31.58**	**86**	P	**P**	**04 04 50.9**	**-0.7**
	0.9nm,0.7s,mb3.7,baz=311,slow=8.8,SNR=5.0						
SADO	**Sadowa**	**34.91**	**265**	LR	LR	04 17 29.2	
	comp=Z,176nm,18.6s,MS3.8,baz=27,slow=33						
YKA	**Yellowknife Ar**	**37.92**	**311**	P	**P**	**04 05 47.6**	**+1.9**
	0.9nm,0.8s,mb3.6,baz=166,slow=34,SNR=4.2						
YKA				LR	LR	04 20 44.9	
	comp=Z,97nm,20.4s,MS3.6,baz=70,slow=35						
ULM	**Lac du Bonnet**	**38.62**	**285**	LR	LR	04 19 47.3	
	comp=Z,67nm,21.1s,MS3.4,baz=356,slow=33						
INK	**Inuvik**	**39.73**	**326**	LR	LR	04 22 46.2	
	comp=Z,88nm,20.4s,MS3.6,baz=6.3,slow=37						
ILAR	**Eielson Array**	**45.83**	**329**	P	**P**	**04 06 51.5**	**+1.3**
	0.5nm,0.8s,mb3.5,baz=41,slow=8.3,SNR=3.7						
ILAR				LR	LR	04 26 46.1	
	comp=Z,73nm,18.4s,MS3.7,baz=174,slow=37						
GNI	**Garni**	**46.68**	**84**	LR	LR	04 25 44.8	
	comp=Z,51nm,18.3s,MS3.5,baz=159,slow=35						
NEW	**Newport**	**49.30**	**298**	LR	LR	04 26 48.0	
	comp=Z,109nm,18.2s,MS3.9,baz=27,slow=34						
PDAR	**Pinedale Array**	**50.43**	**288**	P	**P**	**04 07 24.4**	**-1.8**
	1.6nm,0.8s,mb4.1,baz=45,slow=6.3,SNR=11						
PDAR				LR	LR	04 27 43.5	
	comp=Z,101nm,18.0s,MS3.9,baz=57,slow=35						
ELK	**Elko**	**54.56**	**291**	P	**P**	**04 07 57.4**	**+0.3**
	0.8nm,0.7s,mb3.9,baz=62,slow=5.8,SNR=5.7						
ELK				LR	LR	04 29 10.2	
	comp=Z,97nm,21.2s,MS3.8,baz=213,slow=34						
ANMO	**Albuquerque**	**55.39**	**280**	P	**P**	**04 08 00.8**	**-2.6**
	0.8nm,0.5s,mb4.0,baz=38,slow=13,SNR=2.8						
ANMO	**Albuquerque**	**55.39**	**280**	P	**P**	**04 08 00.8**	**-2.6**
ARUT	**Antelope Range**	**56.20**	**288**	*eP*	**P**	**04 08 10.7**	**+1.6**
YBH	**Yreka Blue Hor**	**56.91**	**297**	LR	LR	04 31 54.9	
	comp=Z,65nm,19.0s,MS3.8,baz=27,slow=35						
MKAR	**Makanchi Array**	**57.16**	**51**	P	**P**	**04 08 16.1**	**+0.2**
	1.7nm,0.7s,mb4.2,baz=339,slow=6.5,SNR=13						
TXAR	**Lajitas Array**	**58.80**	**274**	P	**P**	**04 08 27.6**	**0.0**
	0.4nm,0.7s,mb3.6,baz=62,slow=6.3,SNR=6.8						
SONM	**Songino Array**	**63.77**	**34**	P	**P**	**04 09 01.6**	**+0.9**
	0.7nm,0.8s,mb3.7,baz=326,slow=5.3,SNR=6.4						
MAW	**Mawson**	**144.45**	**139**	PKP	PKPdf	04 18 01.7	-3.1
	3.0nm,0.8s,baz=297,slow=4.9,SNR=9.4						

DHMR 28 04:01:11.4±2.5, 12.62N×40.49E, h15km±309km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.58**	**80**	*i* P	Pn	04 02 09.2	+1.5
TRBA				*i* S	Sn	04 02 54.4	+4.3
TRBA				AML	AML	04 03 06.5	
	comp=N,322nm,0.5s						
UDYN	**Al 'Udayn**	**3.64**	**68**	*i* P	Pn	04 02 10.2	+1.8
UDYN				*i* S	Sn	04 02 56.3	+4.8
UDYN				AML	AML	04 03 15.4	
	comp=E,219nm,0.5s						
DHBB	**Dhamar BB**	**4.25**	**63**	*i* P	Pn	04 02 18.7	+1.5
DHBB				*i* S	Sn	04 03 10.3	+3.1
LBOS		**4.79**	**74**	*i* P	Pn	04 02 23.1	-1.8
LBOS				*i* S	Sn	04 03 19.8	-1.0
BDHA	**Al Bayda'**	**5.12**	**74**	*i* S	Sn	04 03 27.7	-1.2

ISC 28 04:17:03.8±0.7, 37.99N±0.03×27.11E±0.05, h10km, n8, σ0§63/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.40**	**352**	*i* PG	**Pg**	**04 17 12.4**	**+0.4**
IZM	**Izmir**	**0.42**	**16**	*i* PG	**Pg**	**04 17 12.8**	**+0.3**
KDAG	**Bornova**	**0.43**	**17**	*i* P	**Pg**	**04 17 12.1**	**-0.5**
KDAG				*i* S	**Sg**	**04 17 18.2**	**-0.3**
URLA	**Izmir**	**0.55**	**313**	*i* P	**Pg**	**04 17 14.4**	**-0.5**
URLA				*i* S	**Sg**	**04 17 22.8**	**+0.4**
AYDN	**Tasoluk**	**0.69**	**118**	*i* P	**Pb**	**04 17 17.6**	**+0.1**
AYDN				*i* S	**Sb**	**04 17 26.3**	**-0.6**
BDRM	**Kayabasi**	**0.96**	**164**	*i* P	**Pb**	**04 17 21.6**	**-0.6**
BDRM				*i* S	**Sb**	**04 17 35.2**	**+0.5**
AKS	**Akhisar**	**1.05**	**32**	*e*PG	**Pg**	**04 17 23.8**	**-1.0**
AKS				*e*SG	**Sg**	**04 17 39.1**	**+0.3**
MANT	**Manisa**	**1.25**	**66**	*i* P	**Pb**	**04 17 28.6**	**+1.6**
MANT				*i* S	**Sb**	**04 17 42.9**	**0.0**

JMA 28 04:30:24.1±0.4, 33.26N×142.37E, h2km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO4	**Boso 4**	**2.41**	**316**	P	Pn	04 31 06.0	+0.8
BSO4				*e*S	Sn	04 31 36.2	+0.5
JHU	**Hanno**	**3.63**	**316**	*e*S	Sn	04 32 06.4	-0.2
JHO	**Hitachi**	**3.66**	**337**	*e*S	Sn	04 32 04.6	-2.6
JYN	**Shimob**	**3.87**	**306**	P	Pn	04 31 27.2	+1.2
JYN				*e*S	Sn	04 32 12.7	0.0
JAG	**Ashikaga**	**3.96**	**324**	*e*S	Sn	04 32 13.9	-1.1
JRY	**Ryogami san**	**3.97**	**315**	P	Pn	04 31 29.9	+2.6
JRY				*e*S	Sn	04 32 15.9	+0.8
JMM	**Marumori**	**4.77**	**345**	P	Pn	04 31 38.0	-0.7
JMM				*e*S	Sn	04 32 29.3	-6.2

JMA 28 05:00:49.6±0.2, 43.27N×146.71E, h54km±2km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.71**	**278**	P	P	05 01 03.8	+0.1
JRA	**Rausu**	**1.33**	**301**	P	P	05 01 12.3	-0.1
JRA				*e*S	S	05 01 29.0	-0.3
JNK	**Nakash**	**1.48**	**283**	P	P	05 01 13.9	-0.6
JNK				*e*S	S	05 01 32.6	-0.3
JAK	**Akkeshi**	**1.50**	**260**	P	P	05 01 14.5	-0.2
JAK				*e*S	S	05 01 33.0	-0.3
JOB	**Onbets**	**2.14**	**261**	P	P	05 01 23.7	+0.1
JOB				*e*S	S	05 01 49.2	+0.2
JAR	**Ashorobuto**	**2.15**	**272**	P	P	05 01 23.9	+0.1
JAR				*e*S	S	05 01 50.1	+0.9
JTKR	**Abashiri--Toko**	**2.15**	**290**	P	P	05 01 24.2	+0.4
JMP	**Maruseppu**	**2.54**	**288**	P	P	05 01 29.9	+0.5
JCH	**Churui**	**2.54**	**256**	P	P	05 01 28.9	-0.5
JCH				*e*S	S	05 01 57.7	-1.6

MAN 28 05:11:45.1, 10.01N×126.11E, h12km, mb4.5, ML3.4, MS3.2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.65**	**250**	*e*P	Pb	05 11 57.8	-0.1
SCPH				*e*S		08 12 08.4	
BUTP	**Butuan**	**1.14**	**205**	*e*P	Pb	05 12 05.6	-0.7
MSLP	**Maasin**	**1.24**	**276**	*e*P	Pb	05 12 07.7	-0.3
MSLP				*e*S	Sb	05 12 25.1	+1.3
BESP	**Borongan**	**1.71**	**337**	*e*P	Pn	05 12 14.4	-0.6
TBP	**Tagbilaran**	**2.24**	**262**	*e*P	Pn	05 12 22.2	-0.4
TBP				*e*S	Sn	05 12 50.8	+0.5
BUKP	**Musuan**	**2.36**	**206**	*e*P	Pn	05 12 20.7	-3.6
GUIM	**Jordan**	**3.52**	**280**	*e*P	Pn	05 12 40.5	-0.3

GUC 28 05:25:30.9±0.7, 32.68S×71.76W, h15km, MD3.7, ML2.4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.69**	**115**	⇑*i* P	Pb	05 25 44.2	0.0
ROCH				*i* S	Sb	05 25 53.4	+0.2
LCCH	**Las Cruces**	**0.81**	**169**	*i* P	Pb	05 25 45.2	-0.9
LCCH				*i* S	Sb	05 25 55.6	-0.9
JACH	**Jahuel**	**0.98**	**90**	*e*P	Pb	05 25 48.5	-0.7
JACH				*i* S	Sb	05 26 01.7	+0.1
RCDM	**Rinconada Maip**	**1.14**	**135**	⇓*i* P	Pb	05 25 50.8	-0.9
RCDM				*i* S	Sb	05 26 05.2	-0.9
RCDM				AMP		05 26 12.3	
	comp=E,144nm,0.5s						
TACH	**Talagante**	**1.19**	**145**	*e*P	Pb	05 25 51.5	-1.1
TACH				*i* S	Sb	05 26 06.5	-1.1
DSCH	**Colegio Aleman**	**1.23**	**126**	⇑*i* P	Pb	05 25 52.6	-0.8
DSCH				*i* S	Sb	05 26 08.5	-0.3
DSCH				AMP		05 26 09.9	
	comp=E,118nm,0.4s						
CLCH	**Cerro Calan**	**1.25**	**125**	*e*P	Pb	05 25 52.6	-1.1
CLCH				*i* S	Sb	05 26 09.2	-0.2
CLCH				AMP		05 26 16.2	
	comp=E,99nm,0.3s						
ANTU	**Antumapu**	**1.29**	**133**	*e*P	Pb	05 25 53.6	-0.8
ANTU				*i* S	Sb	05 26 10.3	-0.3
ANTU				AMP		05 26 15.6	
	comp=E,93nm,0.6s						
LNV	**Longovilo**	**1.30**	**167**	*i* P	Pb	05 25 52.6	-2.0
LNV				*i* S	Sb	05 26 09.7	-1.2
FSR	**Penalolen**	**1.30**	**128**	*e*P	Pb	05 25 53.8	-0.8
FSR				*i* S	Sb	05 26 10.9	0.0
FSR				AMP		05 26 18.8	
	comp=N,93nm,0.4s						
FCH	**Farellones**	**1.39**	**118**	*e*P	Pn	05 25 55.1	-0.8
FCH				*i* S	Sb	05 26 13.2	-0.3
FCH				AMP		05 26 13.7	
	comp=N,132nm,0.2s						
PCH	**Pirque**	**1.40**	**132**	*e*P	Pn	05 25 55.4	-0.6
PCH				*i* S	Sb	05 26 14.0	+0.2
CHCH	**Chadas Angostu**	**1.55**	**144**	*e*P	Pn	05 25 57.7	-0.6
CHCH				*i* S	Sn	05 26 17.4	-0.7
CMCH	**Combarbala**	**1.64**	**23**	*e*P	Pn	05 25 58.7	-0.7
CMCH				*i* S	Sn	05 26 20.1	-0.2
CMCH				AMP		05 26 24.7	
	comp=E,267nm,0.9s						

IDC 28 05:27:30.4±0.7, 44.33N×116.28W, mb1 3.7/6, mb1mx3.5/24, mbtmp3.5/6, ML3.4/6, Error ellipse: s-maj=12.5km s-min=6.0km az=77.0
NEIC 28 05:27:32.0±0.2, 44.58N×116.05W, h5km, MW3.8(SLM), Error ellipse: s-maj=3.6km s-min=2.9km az=182.0
NEIC Felt [IV] at Cascade. Also felt at Idaho City and Yellow Pine.

ISC 28 05:27:31.0±0.2, 44.51N±0.03×116.03W±0.03, h5km, n64, σ0§97/70, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BMO	**Blue Mountains**	**0.97**	**291**	*e*Pg	**Pg**	**05 27 50.2**	**-0.2**
BMO				*e*Pn	**Pn**	**05 27 51.7**	**+0.6**
BMO				*e*S	**Sb**	**05 28 04.3**	**+1.5**
LNOR	**Lincton Mounta**	**2.09**	**311**	P	**Pn**	**05 28 08.3**	**+1.2**
MCMT	**McKenzie Canyo**	**2.29**	**81**	*e*P	**Pn**	**05 28 09.5**	**-0.6**
DLMT	**Dillon**	**2.58**	**70**	*e*P	**Pn**	**05 28 13.4**	**-0.8**
MSO	**Missoula**	**2.74**	**32**	*e*P	**Pn**	**05 28 16.9**	**+0.4**
WVOR	**Wild Horse Val**	**2.81**	**223**	*e*P	**Pn**	**05 28 16.1**	**-1.3**
WVOR				*e*S	**Sn**	**05 28 54.3**	**+2.1**
WIW	**Wooded Island**	**2.98**	**311**	P	**Pn**	**05 28 20.5**	**+0.6**
H2OWA	**Water**	**3.04**	**309**	P	**Pn**	**05 28 21.1**	**+0.4**
CHMT	**Chamberlain Mo**	**3.09**	**38**	*e*P	**Pn**	**05 28 21.0**	**-0.4**
HAWA	**Hanford**	**3.10**	**309**	*e*P	**Pn**	**05 28 21.1**	**-0.4**
GBL	**Gable Mountain**	**3.18**	**312**	P	**Pn**	**05 28 23.8**	**+1.1**
VIPM	**Ingram Point**	**3.28**	**271**	P	**Pn**	**05 28 23.7**	**-0.4**
QLMT	**Earthquake Lak**	**3.30**	**83**	*e*P	**Pn**	**05 28 23.6**	**-0.8**
MDW	**Midway**	**3.35**	**310**	P	**Pn**	**05 28 26.0**	**+0.8**
CROR	**Criterion Ridg**	**3.56**	**279**	P	**Pn**	**05 28 27.9**	**-0.2**
RRI2	**Red Ridge**	**3.60**	**107**	*e*P	**Pn**	**05 28 29.4**	**+0.7**
YMR	**Madison River**	**3.62**	**86**	*e*P	**Pn**	**05 28 28.0**	**-1.0**
HVU	**Hansel Valley**	**3.63**	**138**	*e*P	**Pn**	**05 28 29.8**	**+0.8**
HRY	**Holter Researc**	**3.68**	**52**	*e*P	**Pn**	**05 28 27.2**	**-2.6**
IMW	**Indian Meadow**	**3.71**	**98**	*e*P	**Pn**	**05 28 30.6**	**+0.3**
YFT	**Old Faithful**	**3.72**	**89**	*e*P	**Pn**	**05 28 32.2**	**+1.8**
TPAW	**Teton Pass**	**3.81**	**104**	*e*Pn	**Pn**	**05 28 32.0**	**+0.4**
ELK	**Elko**	**3.81**	**171**	Pn	**Pn**	**05 28 31.6**	**-0.1**
	4.9nm,0.3s,baz=345,slow=13,SNR=46						
ELK				Pg	**Pg**	**05 28 34.6**	**-13**
	7.0nm,0.3s,baz=343,slow=16,SNR=56						
ELK				Lg		05 29 24.4	
	15nm,0.3s,baz=200,slow=19,SNR=24						
NEW	**Newport**	**3.83**	**349**	Pn	**Pn**	**05 28 32.8**	**+1.0**
	1.1nm,0.3s,baz=164,slow=12,SNR=8.4						
NEW				Pg	**Pg**	**05 28 41.8**	**-5.6**
	6.5nm,0.3s,baz=163,slow=15,SNR=17						
NEW				Sn	**Sn**	**05 29 18.0**	**+0.2**
	4.0nm,0.3s,baz=122,slow=13,SNR=4.0						
NEW				Lg		05 29 32.5	
	14nm,0.3s,baz=286,slow=19,SNR=12						
NEW	**Newport**	**3.83**	**349**	*e*Pn	**Pn**	**05 28 30.1**	**-1.7**
MOOW	**Moose Ponds**	**3.88**	**100**	*e*Pn	**Pn**	**05 28 32.9**	**+0.3**
REDW	**Red Top Meadow**	**3.92**	**105**	*e*Pn	**Pn**	**05 28 33.3**	**+0.1**
SNOW	**Snow King Moun**	**3.95**	**104**	*e*Pn	**Pn**	**05 28 34.7**	**+1.1**
AHID	**Auburn Hatcher**	**3.98**	**114**	*e*Pn	**Pn**	**05 28 35.0**	**+0.8**
LOHW	**Long Hollow**	**4.02**	**101**	*e*Pn	**Pn**	**05 28 35.1**	**+0.5**
LKWY	**Lake**	**4.03**	**87**	Pn	**Pn**	**05 28 34.2**	**-0.5**
MOD	**Modoc**	**4.07**	**232**	*e*Pn	**Pn**	**05 28 34.8**	**-0.5**
SPUT	**South Promonto**	**4.15**	**139**	*e*Pn	**Pn**	**05 28 37.8**	**+1.3**
BGU	**Big Grassy Mou**	**4.21**	**147**	*e*Pn	**Pn**	**05 28 38.5**	**+1.1**
HWUT	**Hardware Ranch**	**4.38**	**130**	*e*Pn	**Pn**	**05 28 40.0**	**+0.3**
GCMT	**Greycliff**	**4.68**	**72**	*e*Pn	**Pn**	**05 28 43.9**	**-0.1**
TCUT	**Toone Canyon**	**4.80**	**133**	Pn	**Pn**	**05 28 45.6**	**-0.2**
NOQ	**North Oquirrh**	**4.82**	**142**	*e*Pn	**Pn**	**05 28 46.0**	**+0.1**
DUG	**Dugway**	**4.93**	**150**	*e*Pn	**Pn**	**05 28 47.8**	**+0.2**
CTU	**Camp Tracy**	**4.96**	**139**	*e*Pn	**Pn**	**05 28 47.9**	**0.0**
PDAR	**Pinedale Array**	**5.01**	**108**	Pn	**Pn**	**05 28 52.0**	**+3.3**
	0.1nm,0.3s,baz=302,slow=12,SNR=5.6						
PDAR				Lg		05 30 09.2	
	0.3nm,0.3s,baz=300,slow=21,SNR=5.6						
HUMO	**Hull Mountain**	**5.38**	**252**	*e*Pn	**Pn**	**05 28 52.3**	**-1.6**
DAU	**Daniels Canyon**	**5.41**	**138**	Pn	**Pn**	**05 28 54.9**	**+0.5**
NLU	**North Lily Min**	**5.42**	**146**	Pn	**Pn**	**05 28 54.7**	**+0.2**
MPU	**Maple Canyon**	**5.55**	**143**	Pn	**Pn**	**05 28 57.3**	**+1.0**
YBH	**Yreka Blue Hor**	**5.62**	**243**	Pn	**Pn**	**05 28 54.6**	**-2.7**
	0.2nm,0.3s,baz=68,slow=16,SNR=3.7						
YBH	**Yreka Blue Hor**	**5.62**	**243**	*e*Pn	**Pn**	**05 28 55.7**	**-1.6**
BEKR	**Beckwourth**	**5.65**	**216**	*e*Pn	**Pn**	**05 28 57.4**	**-0.2**
WDC	**Whiskeytown Da**	**6.21**	**233**	Pn	**Pn**	**05 29 04.8**	**-0.8**
MNV	**Mina**	**6.28**	**195**	*e*Pn	**Pn**	**05 29 06.1**	**-0.5**
TMUT	**Trail Mountain**	**6.33**	**144**	Pn	**Pn**	**05 29 06.9**	**-0.4**
OHCM	**Honcut**	**6.58**	**220**	Pn	**Pn**	**05 29 08.3**	**-2.5**
MSU	**Marysvale**	**6.66**	**153**	Pn	**Pn**	**05 29 11.9**	**0.0**
KHMM	**Horse Mountain**	**6.74**	**240**	Pn	**Pn**	**05 29 14.2**	**+1.2**
SRU	**San Rafael**	**6.79**	**141**	*e*Pn	**Pn**	**05 29 13.4**	**-0.3**
ARUT	**Antelope Range**	**7.00**	**163**	Pn	**Pn**	**05 29 17.8**	**+1.1**
LAO	**LASA Array**	**7.22**	**69**	Pn	**Pn**	**05 29 18.6**	**-1.2**
CMB	**Columbia Colle**	**7.25**	**208**	Pn	**Pn**	**05 29 19.8**	**-0.5**
MTUM	**Tungsten Hills**	**7.41**	**196**	Pn	**Pn**	**05 29 22.2**	**-0.2**
PV01	**Paradox Valley**	**8.49**	**136**	Pn	**P**	**05 29 37.0**	**-0.5**
NEN	**Nelson**	**8.90**	**174**	Pn	**P**	**05 29 43.9**	**+0.7**
LDFC	**Landfair**	**9.45**	**175**	Pn	**P**	**05 29 49.0**	**-1.8**
YKA	**Yellowknife Ar**	**18.03**	**2**	P	**P**	**05 31 42.6**	**-1.1**
	0.1nm,0.3s,baz=187,slow=12,SNR=5.9						
TXAR	**Lajitas Array**	**18.06**	**143**	P	**P**	**05 31 42.0**	**-2.2**
	0.0nm,0.3s,baz=337,slow=9.5,SNR=5.2						

IDC 28 05:42:03.8±16.0, 5.72N×126.93E, h154km±153km, mb3.6/5, mb1 3.7/5, mb1mx3.4/16, mbtmp4.0/5, Error ellipse: s-maj=91.7km s-min=31.1km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.71**	**183**	P	P	05 47 01.4	-1.5
	5.7nm,1.0s,baz=349,slow=5.9,SNR=3.3						
WRA	**Warramunga Arr**	**26.52**	**164**	P	P	05 47 27.6	-1.6
	1.6nm,0.5s,baz=344,slow=10,SNR=9.4						
MKAR	**Makanchi Array**	**56.05**	**324**	P	P	05 51 26.8	-2.3
	0.9nm,0.5s,baz=121,slow=8.2,SNR=13						
ARCES	**ARCESS Array B**	**88.66**	**340**	P	P	05 54 38.5	-1.8
	1.9nm,0.9s,baz=79,slow=6.2,SNR=7.8						
BRTR	**Keskin Array B**	**88.91**	**310**	P	P	05 54 42.0	-0.2
	0.7nm,0.7s,baz=100,slow=8.8,SNR=2.9						

NEIC 28 06:04:20.9, 33.06S×70.14W, h114km, MD3.5(GUC), After GUC.

GUC 28 06:04:20.9±0.6, 33.06S×70.14W, h114km±2km, MD3.5, ML2.8, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.29**	**205**	*e*P	P	06 04 37.8	+0.6
FCH				*i* S	S	06 04 50.7	+1.2
FCH				AMP		06 04 55.9	
	comp=N,231nm,0.2s						
CLCH	**Cerro Calan**	**0.47**	**225**	*e*P	P	06 04 38.3	+0.1
CLCH				*i* S	S	06 04 51.8	+0.6
CLCH				AMP		06 04 53.4	
	comp=N,263nm,0.6s						
DSCH	**Colegio Aleman**	**0.49**	**227**	*e*P	P	06 04 38.6	+0.3
DSCH				*i* S	S	06 04 51.8	+0.4
DSCH				AMP		06 04 54.5	
	comp=N,405nm,0.5s						
FSR	**Penalolen**	**0.53**	**218**	*e*P	P	06 04 38.9	+0.3
FSR				*i* S	S	06 04 52.3	+0.5
FSR				AMP		06 04 53.8	
	comp=N,455nm,0.2s						
JACH	**Jahuel**	**0.54**	**315**	⇓*i* P	P	06 04 39.1	+0.5
JACH				*i* S	S	06 04 52.4	+0.4
SAN	**Santiago**	**0.58**	**228**	*e*P	P	06 04 38.8	-0.1
SAN				*i* S	S	06 04 52.7	+0.2
SJCH	**San Jose de Ma**	**0.60**	**197**	*e*P	P	06 04 38.6	-0.4
SJCH				*i* S	S	06 04 52.3	-0.5
PCH	**Pirque**	**0.64**	**209**	*i* P	P	06 04 39.9	+0.6
PCH				*i* S	S	06 04 54.2	+0.9
ANTU	**Antumapu**	**0.65**	**219**	*e*P	P	06 04 39.5	+0.1
ANTU				*i* S	S	06 04 53.7	+0.2
ANTU				AMP		06 04 55.0	
	comp=E,437nm,0.2s						
RCDM	**Rinconada Maip**	**0.70**	**232**	*e*P	P	06 04 40.1	+0.3
RCDM				*i* S	S	06 04 54.5	+0.3
RCDM				AMP		06 04 55.4	
	comp=E,2μm,0.2s						
ROCH	**El Roble**	**0.74**	**277**	⇓*i* P	P	06 04 40.4	+0.3
ROCH				*i* S	S	06 04 55.0	+0.3
TACH	**Talagante**	**0.89**	**228**	*e*P	P	06 04 41.4	-0.3
TACH				*i* S	S	06 04 57.1	-0.1
CHCH	**Chadas Angostu**	**0.97**	**206**	⇑*i* P	P	06 04 42.3	-0.2
CHCH				*i* S	S	06 04 58.7	+0.2
CACH	**El Canelo**	**1.12**	**200**	*e*P	P	06 04 44.6	+0.6
LCCH	**Las Cruces**	**1.27**	**251**	*e*P	P	06 04 45.6	-0.1
CHNG	**Los Chungos**	**1.64**	**315**	*e*P	P	06 04 50.1	0.0
CHNG				*i* S	S	06 05 11.7	-0.4
CHNG				AMP		06 05 14.4	
	comp=N,51nm,0.3s						
SFDO	**San Fernando**	**1.71**	**205**	⇑*i* P	P	06 04 50.6	-0.4
SFDO				*i* S	S	06 05 13.6	+0.1
CMCH	**Combarbala**	**2.02**	**339**	*e*P	P	06 04 54.6	-0.1
CMCH				*i* S	S	06 05 19.8	-0.5

IDC 28 06:22:43.1±1.1, 4.75N×95.05E, mb4.3/10, mb1 4.4/10, mb1mx4.2/18, mbtmp4.3/10, Error ellipse: s-maj=53.3km s-min=18.7km az=48.0
NEIC 28 06:22:47.4±0.7, 4.56N×94.93E, h30km, mb4.3/3, Error ellipse: s-maj=23.3km s-min=9.2km az=221.0

ISC 28 06:22:46.0±0.8, 4.5N±0.1×94.9E±0.1, h33km, n23, σ1§03/22, mb4.3/17, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.75**	**82**	*e*P	**P**	**06 24 11.2**	**+0.1**
JIRN	**Jiri**	**24.48**	**341**	*e*P	**P**	**06 28 04.5**	**+1.1**
	5.7nm,0.3s,mb4.5						
PKI	**Pulchoki**	**24.66**	**339**	*e*P	**P**	**06 28 06.3**	**+1.1**
DMN	**Daman**	**24.80**	**339**	*e*P	**P**	**06 28 08.2**	**+1.6**
KKN	**Kakani**	**24.91**	**339**	*e*P	**P**	**06 28 09.1**	**+1.5**
GKN	**Gorkha**	**25.33**	**338**	*e*P	**P**	**06 28 11.9**	**+0.3**
	8.2nm,0.4s,mb4.6						
KOLN	**Koldanda**	**25.52**	**336**	*e*P	**P**	**06 28 13.6**	**+0.2**
	18nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**37.71**	**127**	P	**P**	**06 30 00.6**	**+0.1**
	4.1nm,0.8s,mb4.2,baz=315,sl

MAN 28 06:27:44.4,17.33N×119.59E,mb4.0,ML2.7,MS2.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.99**	**161**	*eP*	Pb	06 28 04.0	-0.2
ABRA	**Dolores**	**1.12**	**73**	*eP*	Pb	06 28 04.9	-1.5
ABRA				*eS*	Sb	06 28 23.6	+2.2
SCZP	**Santa Cruz**	**1.57**	**168**	*eP*	Pn	06 28 12.9	-0.8
CVP	**Callao Caves**	**2.17**	**80**	*eP*	Pn	06 28 20.8	-1.4
CAUP	**Cauayan**	**2.17**	**100**	*eP*	Pn	06 28 22.8	+0.5
BALP	**Baler**	**2.48**	**129**	*eP*	Pn	06 28 27.0	+0.4

NEIC ***28*** *06:55:26.5,31.38S×71.60W,h30km,ML3.3(GUC),After GUC.*

GUC 28 06:55:26.5±0.7,31.38S×71.60W,h30km±2km,MD4.3, ML3.3,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.45**	**125**	⇑*iP*	Pb	06 55 36.3	+0.2
ILCH				*i* S	Sb	06 55 43.3	+0.6
ILCH				AMP		06 55 43.5	
	comp=E,3μm,0.1s						
CHNG	**Los Chungos**	**0.51**	**171**	⇑*iP*	Pb	06 55 36.9	-0.2
CHNG				*i* S	Sb	06 55 44.1	-0.2
CHNG				AMP		06 55 44.7	
	comp=N,1μm,0.3s						
CMCH	**Combarbala**	**0.55**	**68**	⇑*iP*	Pb	06 55 37.4	-0.3
CMCH				*i* S	Sb	06 55 45.9	+0.5
CMCH				AMP		06 55 47.0	
	comp=N,5μm,0.7s						
TLL	**Tololo Astrono**	**1.39**	**30**	⇓*iP*	Pn	06 55 51.3	+1.1
TLL				*i* S	Sn	06 56 09.4	+1.8
TLL				AMP		06 56 11.7	
	comp=N,1μm,0.6s						
JACH	**Jahuel**	**1.55**	**147**	*eP*	Pn	06 55 53.5	+0.9
DSCH	**Colegio Aleman**	**2.19**	**157**	*eP*	Pn	06 55 59.2	-2.5
DSCH				*i* S	Sn	06 56 26.2	-1.9
DSCH				AMP		06 56 40.8	
	comp=E,385nm,0.7s						
CLCH	**Cerro Calan**	**2.20**	**156**	*eP*	Pn	06 56 02.7	+0.9
CLCH				*i* S	Sn	06 56 29.8	+1.4
CLCH				AMP		06 56 41.2	
	comp=E,375nm,0.4s						
RCDM	**Rinconada Maip**	**2.21**	**163**	*eP*	Pn	06 56 02.3	+0.4
RCDM				AMP		06 56 40.5	
	comp=E,218nm,0.0s						
FCH	**Farellones**	**2.23**	**151**	⇑*iP*	Pn	06 56 03.4	+1.1
FCH				*i* S	Sn	06 56 32.0	+2.8
FCH				AMP		06 56 42.9	
	comp=N,159nm,0.2s						
TACH	**Talagante**	**2.33**	**166**	*eP*	Pn	06 56 04.2	+0.4
PCH	**Pirque**	**2.42**	**158**	*eP*	Pn	06 56 05.4	+0.5
PCH				*i* S	Sn	06 56 35.5	+1.7

ISK ***28*** *07:25:24.5,38.83N×25.54E,h39km,MD3.1*
ATH ***28*** *07:25:24.9,38.83N×25.64E,h34km±7km,MD3.3/4*
NEIC ***28*** *07:25:24.6,38.83N×25.62E,h30km,MD3.3(ATH), MD3.2(ISK),After ATH.*
CSEM ***28*** *07:25:25.9±0.2,38.84N×25.69E,h30km±1km,MD3.3, Error ellipse: s-maj=4.8km s-min=4.3km az=40.0*

ISC 28 07:25:24.8±0.9,38.81N±0.04×25.57E±0.06,h26km±9km, n19,σ0§85/26,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.69**	**51**	⇑*iPN*	Pn	**07 25 37.8**	**-1.1**
PRK				*eSN*	Sn	**07 25 48.0**	**-0.9**
URLA	**Izmir**	**0.92**	**119**	*iP*	Pb	**07 25 41.8**	**-0.2**
URLA				*i* S	Sb	**07 25 53.9**	**+0.1**
AYVA	**Ayvalik**	**1.00**	**60**	*i* P	Pn	**07 25 44.1**	**+0.8**
AYVA				*i* S	Sb	**07 25 57.0**	**+0.9**
LIA	**Limnos Island**	**1.13**	**345**	*ePN*	Pn	**07 25 46.0**	**+0.9**
EZN	**Ezine**	**1.17**	**30**	PN	Pn	**07 25 45.2**	**-0.5**
BLCB	**Balcova**	**1.23**	**110**	*ePN*	Pn	**07 25 46.0**	**-0.5**
IZM	**Izmir**	**1.39**	**107**	*ePN*	Pn	**07 25 49.2**	**+0.4**
IZM				*eSN*	Sn	**07 26 06.1**	**-0.3**
KDAG	**Bornova**	**1.39**	**107**	*i* P	Pn	**07 25 49.5**	**+0.6**
KDAG				*i* S	Sn	**07 26 05.8**	**-0.7**
SMG	**Samos**	**1.48**	**138**	*ePN*	Pn	**07 25 51.3**	**+1.1**
APE	**Apeiranthos**	**1.74**	**181**	*ePN*	Pn	**07 25 53.5**	**-0.4**
APE	**Apeiranthos**	**1.74**	**181**	*ePb*	Pb	**07 25 54.8**	**-1.2**
LPK	**Lapseki**	**1.81**	**30**	*ePN*	Pn	**07 25 53.9**	**-0.9**
BALB	**Balikesir**	**1.97**	**65**	*ePN*	Pn	**07 25 57.5**	**+0.3**
BTOK	**Tokmak**	**2.13**	**63**	*iP*	Pn	**07 25 59.9**	**+0.5**
BTOK				*i* S	Sn	**07 26 27.2**	**+1.9**
BDRM	**Kayabasi**	**2.29**	**139**	*iP*	Pn	**07 26 07.9**	**+6.2**
BDRM				*i* S	Sn	**07 26 39.5**	**+10**
RDO	**Rodhopi**	**2.33**	**359**	*ePN*	Pn	**07 26 02.5**	**+0.2**
MFT	**Murefte**	**2.37**	**33**	*ePN*	Pn	**07 26 01.3**	**-1.6**
BNT	**Bandirma**	**2.38**	**49**	*ePN*	Pn	**07 26 02.4**	**-0.6**
VLI	**Veliai**	**2.96**	**226**	*ePN*	Pn	**07 26 12.5**	**+1.3**

NEIC ***28*** *07:37:55.4,63.55N×147.87W,h3km,ML3.7(PMR), ML3.4(AEIC),After AEIC.*
IDC ***28*** *07:37:56.8±1.2,63.66N×147.83W,mb3.4/2,mb1 3.8/4, mb1mx3.6/19,mbtmp3.6/4,ML3.5/2,MS3.1/1,Ms1 3.1/1, ms1mx2.6/20,Error ellipse: s-maj=14.1km s-min=10.6km az=99.0*

ISC 28 07:37:54.9±0.2,63.56N±0.02×147.89W±0.05,h3km,n48, σ0§83/62,mb3.2/2,MS3.0/1,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	**Reindeer**	**0.46**	**251**	P	**Pg**	**07 38 03.7**	**-0.4**
RND				S	**Sg**	**07 38 09.8**	**-0.5**
MCK	**McKinley**	**0.50**	**291**	P	**Pg**	**07 38 05.0**	**+0.1**
MCK				S	**Sg**	**07 38 12.0**	**+0.4**
WRH	**Wood River Hil**	**0.92**	**354**	P	**Pb**	**07 38 13.4**	**+0.3**
BWN	**Browne**	**0.93**	**312**	P	**Pb**	**07 38 12.5**	**-0.8**
HDA	**Harding Lake**	**0.94**	**25**	P	**Pb**	**07 38 14.2**	**+0.6**
HDA				S	**Sb**	**07 38 26.5**	**+0.3**
THY	**Trims Highway**	**0.97**	**98**	P	**Pb**	**07 38 12.9**	**-1.1**
THY				S	**Sb**	**07 38 25.6**	**-1.4**
CCB	**Clear Creek Bu**	**1.09**	**2**	P	**Pb**	**07 38 16.4**	**+0.3**
CCB				S	**Sb**	**07 38 31.6**	**+1.1**
NEA	**Nenana**	**1.15**	**333**	P	**Pb**	**07 38 17.2**	**+0.2**
NEA				S	**Sb**	**07 38 33.2**	**+1.0**
PAX	**Paxson**	**1.24**	**117**	P	**Pb**	**07 38 17.0**	**-1.7**
IL1	**Eielson Array**	**1.29**	**19**	P	**Pb**	**07 38 19.5**	**0.0**
ILAR	**Eielson Array** 40nm,0.3s,baz=201,slow=16,SNR=888	**1.29**	**19**	Pg	**Pg**	**07 38 19.4**	**-1.3**
ILAR				Lg		07 38 37.3	
	128nm,0.3s,baz=201,slow=29,SNR=38						
COLA	**College**	**1.32**	**1**	P	**Pb**	**07 38 20.1**	**+0.1**
COLA				S	**Sb**	**07 38 38.5**	**+1.4**
KTH	**Kantishna Hill**	**1.36**	**271**	P	**Pb**	**07 38 20.1**	**-0.6**
KTH				S	**Sb**	**07 38 38.4**	**+0.1**
MDM	**Murphy Dome**	**1.41**	**354**	P	**Pn**	**07 38 21.4**	**-0.1**
MDM				S	**Sb**	**07 38 40.4**	**+0.5**
SDG	**Sourdough**	**1.49**	**133**	P	**Pn**	**07 38 21.6**	**-1.0**
CUT	**Chulitna**	**1.59**	**224**	P	**Pn**	**07 38 22.9**	**-1.2**
CUT				S	**Sb**	**07 38 45.0**	**-0.1**
SCM	**Sheep Creek Mo**	**1.75**	**171**	P	**Pn**	**07 38 25.6**	**-0.8**
SML	**Sawmill**	**1.77**	**187**	P	**Pn**	**07 38 26.0**	**-0.7**
TZL	**Tazlina**	**1.90**	**142**	P	**Pn**	**07 38 28.8**	**+0.3**
MENT	**Mentasta**	**1.99**	**106**	*eP*	**Pn**	**07 38 30.0**	**+0.2**
PMR	**Palmer**	**2.06**	**197**	*eP*	**Pn**	**07 38 30.8**	**0.0**
KLU	**Klutina**	**2.27**	**155**	P	**Pn**	**07 38 34.2**	**+0.4**
KLU				S	**Sn**	**07 39 02.4**	**-0.2**
CFI	**College Fiord**	**2.39**	**179**	P	**Pn**	**07 38 36.1**	**+0.5**
VLZ	**Valdez**	**2.54**	**163**	P	**Pn**	**07 38 38.0**	**+0.3**
RC01	**Rabbit Creek A**	**2.63**	**200**	P	**Pn**	**07 38 39.5**	**+0.6**
RC01				S	**Sn**	**07 39 11.6**	**-0.1**
DIV	**Divide**	**2.63**	**157**	P	**Pn**	**07 38 39.3**	**+0.3**
GLI	**Glacier Island**	**2.72**	**172**	P	**Pn**	**07 38 40.6**	**+0.4**
GLI				S	**Sn**	**07 39 14.8**	**+0.8**
PWL	**Port Wells**	**2.72**	**185**	P	**Pn**	**07 38 40.6**	**+0.4**
PWL				S	**Sn**	**07 39 15.1**	**+1.0**
STLK	**Strandline Lak**	**2.76**	**223**	P	**Pn**	**07 38 40.9**	**+0.1**
GLB	**Gilahina Butte**	**2.85**	**137**	P	**Pn**	**07 38 42.6**	**+0.5**
FID	**Port Fidalgo**	**2.90**	**166**	P	**Pn**	**07 38 44.3**	**+1.5**
BMRM	**Bremner River**	**3.02**	**148**	P	**Pn**	**07 38 45.2**	**+0.7**
SPU	**Mount Spurr**	**3.08**	**221**	P	**Pn**	**07 38 46.0**	**+0.6**
MPA	**Moose Pass**	**3.16**	**193**	P	**Pn**	**07 38 46.8**	**+0.3**
SLKM	**Skilak Lake**	**3.25**	**201**	*eP*	**Pn**	**07 38 48.6**	**+0.7**
IM05	**Indian Mountai**	**3.48**	**317**	P	**Pn**	**07 38 50.1**	**-1.0**
SEW	**Seward**	**3.55**	**193**	P	**Pn**	**07 38 52.7**	**+0.6**
BALM	**Baldy**	**3.62**	**132**	P	**Pn**	**07 38 54.1**	**+1.0**
TT01	**Tatalina**	**3.74**	**264**	P	**Pn**	**07 38 53.4**	**-1.3**
COLD	**Coldfoot**	**3.81**	**346**	P	**Pn**	**07 38 55.2**	**-0.5**
BM3	**Burnt Mountain**	**4.11**	**18**	P	**Pn**	**07 38 59.2**	**-0.8**
SVW2	**Sparrevohn**	**4.36**	**239**	*eP*	**Pn**	**07 39 02.0**	**-1.5**
KDAK	**Kodiak Island** 0.5nm,0.3s,baz=8.1,slow=17,SNR=2.6	**6.24**	**204**	Pn	**Pn**	**07 39 26.8**	**-3.4**
KDAK	**Kodiak Island**	**6.24**	**204**	Pn	**Pn**	**07 39 26.8**	**-3.4**
INK	**Inuvik** 0.7nm,0.3s,baz=243,slow=18,SNR=11	**7.55**	**45**	Pn	**Pn**	**07 39 46.0**	**-2.6**
INK				Sn	**Sn**	**07 41 09.0**	**-6.7**
	0.9nm,0.3s,baz=261,slow=14,SNR=6.6						
YBH	**Yreka Blue Hor** comp=Z,42nm,18.4s,MS3.0,baz=140,slow=34	**26.33**	**134**	LR	LR	07 52 53.2	
PDAR	**Pinedale Array** 0.6nm,0.8s,mb3.4,baz=326,slow=5.3,SNR=5.0	**30.28**	**115**	P	**P**	**07 44 10.1**	**+1.0**
TXAR	**Lajitas Array** 0.3nm,0.8s,mb3.1,baz=338,slow=7.1,SNR=4.1	**44.28**	**119**	P	**P**	**07 46 08.1**	**+0.9**

IDC ***28*** *07:43:15.7±5.6,11.77N×40.28E,mb3.9/8,mb1 4.0/8, mb1mx3.9/18,mbtmp3.9/8,MS3.8/5,Ms1 3.7/5, ms1mx3.4/23,Error ellipse: s-maj=112.3km s-min=38.8km az=23.0*
NEIC ***28*** *07:43:16.9±4.0,11.72N×40.29E,h10km,mb4.6/1,Error ellipse: s-maj=78.2km s-min=29.0km az=206.0*
CSEM ***28*** *07:43:18.5±0.3,12.40N×40.53E,h2km,ML4.3,Error ellipse: s-maj=13.8km s-min=3.7km az=4.0*
DHMR ***28*** *07:43:19.1±2.4,12.66N×40.60E,h2km±146km,ML4.3*
SSN ***28*** *07:46:45.4±1.3,15.11N×34.03E,h2km*

ISC 28 07:43:17.8±1.6,12.1N±0.2×40.66E±0.05,h10km,n20, σ1§31/22,mb3.9/8,MS4.0/4,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.57**	**71**	*i* P	**Pn**	**07 44 16.7**	**+2.2**
TRBA				*i* S	**Sn**	**07 45 02.2**	**+5.1**
TRBA				AML	AML	07 45 15.0	
	comp=E,2μm,0.8s						
TRBA	**At Turbah**	**3.57**	**71**	*i* P	**Pn**	**07 44 16.7**	**+2.2**
TRBA				*i* S	**Sn**	**07 45 02.2**	**+5.0**
	comp=E,881nm,0.8s						
UDYN	**Al 'Udayn**	**3.74**	**59**	*i* P	**Pn**	**07 44 17.8**	**+0.9**
UDYN				*i* S	**Sn**	**07 45 03.7**	**+2.1**
UDYN				AML	AML	07 45 24.8	
	comp=N,1μm,0.6s						
DHBB	**Dhamar BB**	**4.41**	**55**	*i* P	**Pn**	**07 44 26.2**	**-0.2**
DHBB				*i* S	**Sn**	**07 45 18.4**	**0.0**
LBOS		**4.83**	**68**	*i* P	**Pn**	**07 44 31.3**	**-1.0**
LBOS				*i* S	**Sn**	**07 45 27.3**	**-1.7**
BDHA	**Al Bayda'**	**5.15**	**68**	*i* P	**Pn**	**07 44 35.6**	**-1.2**
BDHA				*i* S	**Sn**	**07 45 35.3**	**-1.8**
KMBO	**Kilima Mbogo** comp=N,80nm,18.5s,baz=248,slow=37	**13.53**	**195**	LR	LR	07 51 20.5	
ASF	**Jabal al Asfar** comp=N,1.3nm,0.3s,baz=53,slow=3.2,SNR=5.0	**20.32**	**351**	P	**P**	**07 47 55.8**	**-1.1**
BHD	**Baghdad**	**21.39**	**9**	*ex*	x	07 48 01.5	
BHD				*ex*	x	07 53 34.0	
MALT	**Malatya** comp=N,19nm,1.4s,mb4.4	**26.23**	**356**	*eP*	**P**	**07 48 56.3**	**+1.6**
GNI	**Garni** comp=N,3.2nm,0.4s,mb4.3,baz=36,slow=22,SNR=3.0	**28.21**	**7**	P	**P**	**07 49 14.9**	**+2.0**
BRTR	**Keskin Array B** comp=N,2.4nm,1.0s,mb3.8,baz=174,slow=12,SNR=8.6	**28.25**	**349**	P	**P**	**07 49 11.9**	**-1.2**
BRTR	**Keskin Array B**	**28.25**	**349**	P	**P**	**07 49 11.9**	**-1.3**
AKASG	**Malin Array Be** comp=N,0.2nm,0.3s,mb3.4,baz=175,slow=7.2,SNR=4.8	**39.66**	**349**	P	**P**	**07 50 50.8**	**-0.7**
GERES	**GERESS Array B** comp=N,0.4nm,0.4s,mb3.5,baz=153,slow=9.0,SNR=8.5	**42.96**	**334**	P	**P**	**07 51 17.6**	**-1.0**
DBIC	**Dimbokro** comp=N,90nm,20.5s,MS3.7,baz=72,slow=36	**45.18**	**267**	LR	LR	08 09 47.3	
BVAR	**Borovoye Array** comp=N,0.3nm,0.4s,mb3.6,baz=221,slow=14,SNR=3.6	**47.27**	**24**	P	**P**	**07 51 52.8**	**-0.3**
MKAR	**Makanchi Array** comp=N,1.0nm,0.8s,mb3.9,baz=231,slow=7.8,SNR=5.5	**49.22**	**37**	P	**P**	**07 52 08.9**	**+0.6**
MKAR				LR	LR	08 17 28.2	
	comp=N,153nm,19.5s,MS4.0,baz=266,slow=41						
SONM	**Songino Array** comp=N,1.2nm,0.9s,mb3.9,baz=264,slow=7.4,SNR=6.6	**64.90**	**43**	P	**P**	**07 54 00.6**	**+1.0**
SONM				LR	LR	08 26 32.6	
	comp=N,108nm,18.3s,MS4.1,baz=356,slow=40						
BDFB	**Brasilia** comp=N,67nm,19.2s,MS4.1,baz=307,slow=33	**91.93**	**255**	LR	LR	08 32 57.2	

IDC 28 07:59:17.3±3.7,52.44N×35.38E,mb1 3.8/2, mb1mx3.4/16,mbtmp3.8/2,ML3.0/2,Error ellipse: s-maj=48.7km s-min=14.5km az=124.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be** 0.6nm,0.3s,baz=64,slow=15,SNR=2.6	**4.22**	**248**	Pn	Pn	08 00 20.9	-3.4
AKASG				Pg	Pg	08 00 31.5	-10
	1.5nm,0.3s,baz=59,slow=16,SNR=10						
AKASG				Sn	Sn	08 01 10.1	-4.9
	2.0nm,0.3s,baz=64,slow=23,SNR=4.5						
AKASG				Lg		08 01 29.6	
	2.9nm,0.3s,baz=63,slow=29,SNR=6.4						
FINES	**FINESS Array B** 0.2nm,0.3s,baz=144,slow=16,SNR=5.0	**10.35**	**334**	Pn	P	08 01 42.1	-7.8
ARCES	**ARCESS Array B** 0.5nm,0.3s,baz=160,slow=11,SNR=23	**17.76**	**349**	P	P	08 03 25.6	-1.6

CSEM ***28*** *08:16:08.0±0.5,38.74N×28.60W,h3km±8km,MD2.6,Error ellipse: s-maj=4.1km s-min=3.0km az=143.0,After PDA*
PDA ***28*** *08:16:08.0±0.5,38.74N×28.60W,h3km±8km,MD2.6,Error ellipse: s-maj=4.1km s-min=3.0km az=143.0*

SVSA 28 08:16:08.0±0.5,38.74N×28.60W,h3km±8km,MD2.6, Error ellipse: s-maj=4.1km s-min=3.0km az=143.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.17**	**206**	*eP*	Pg	08 16 11.1	-0.4
CALA				*eS*	Sg	08 16 13.8	-0.1
HOR	**Horta**	**0.21**	**185**	*eS*	Sg	08 16 14.5	-0.6
PICO	**Pico**	**0.28**	**150**	*eP*	Pg	08 16 13.3	-0.2
PICO				*eS*	Sg	08 16 16.7	-0.5
ROSA	**Rosais**	**0.28**	**94**	*eP*	Pg	08 16 13.1	-0.6
ROSA				*eS*	Sg	08 16 16.6	-0.9

NIED ***28*** *08:24:00,36.70N×141.20E,h41km,Mw3.8 Best double couple: Mo6.62×10^14 NP1:φs202°,δ80°,λ-83°. NP2: φs348°,δ13°,λ-124°.*
IDC ***28*** *08:24:00.2±1.1,36.54N×141.32E,mb3.9/6,mb1 4.0/8, mb1mx3.8/22,mbtmp3.9/8,ML3.5/2,MS2.7/1,Ms1 2.7/1, ms1mx2.4/28,Error ellipse: s-maj=24.1km s-min=21.1km az=142.0*
JMA ***28*** *08:24:06.2±0.1,36.70N×141.13E,h46km±1km,M3.7*
JMA Felt I J1.
NEIC ***28*** *08:24:07.2±2.2,36.56N×141.22E,h53km±19km, MG3.7(JMA),Error ellipse: s-maj=22.5km s-min=20.3km az=106.0*
NEIC Recorded [1 JMA] in Ibaraki and Tochigi Prefectures.

ISC 28 08:24:04.7±1.2,36.70N±0.05×141.29E±0.09,h43km±10km, n19,σ0§83/28,mb3.9/6,2C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.56**	**316**	⇓*iP*	**P**	**08 24 16.7**	**+0.3**
ONAJ				*eS*	**S**	**08 24 23.9**	**-0.9**
JHO	**Hitachi**	**0.58**	**262**	⇓*iP*	**P**	**08 24 16.7**	**+0.1**
JHO				*eS*	**S**	**08 24 24.0**	**-1.3**
JFK	**Kawauchi**	**0.75**	**334**	⇓*iP*	**P**	**08 24 19.4**	**+0.5**
JFK				*eS*	**S**	**08 24 28.9**	**-0.3**
JYT	**Yasato**	**1.00**	**242**	⇑*iP*	**P**	**08 24 22.5**	**+0.1**
JYT				*eS*	**S**	**08 24 34.4**	**-1.1**
JFT	**Otama**	**1.12**	**318**	⇓*iP*	**P**	**08 24 25.4**	**+1.3**
JFT				*eS*	**S**	**08 24 37.4**	**-1.2**
JMM	**Marumori**	**1.23**	**342**	⇓*iP*	**P**	**08 24 26.4**	**+0.7**
JMM				*eS*	**S**	**08 24 41.5**	**0.0**
MJAR	**Matsushiro Arr** 8.8nm,0.3s,baz=88,slow=16,SNR=45	**2.48**	**267**	Pn	**P**	**08 24 43.9**	**+0.3**
MJAR				Sn	**S**	**08 25 13.7**	**+0.8**
	9.3nm,0.3s,baz=100,slow=27,SNR=10						
MAJO	**Matsushiro**	**2.48**	**267**	⇑*eP*	**P**	**08 24 44.3**	**+0.7**
MAT	**Matsushiro**	**2.48**	**267**	P	**P**	**08 24 44.5**	**+0.9**
MAT				S	**S**	**08 25 13.6**	**+0.7**
MAT	**Matsushiro**	**2.48**	**267**	*eP*	**P**	**08 24 45.0**	**+1.4**
MAT				*eS*	**S**	**08 25 14.0**	**+1.1**
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=217,slow=15,SNR=3.6	**7.48**	**7**	Pn	**P**	**08 25 53.7**	**-0.2**
ASAJ				Sn	**S**	**08 27 17.9**	**-0.5**
	0.8nm,0.3s,baz=107,slow=19,SNR=3.0						
JNU	**Makatsue** comp=Z,48nm,20.0s,baz=53,slow=38	**9.26**	**250**	LR	LR	08 29 54.6	
SONM	**Songino Array** 2.9nm,0.7s,mb4.0,baz=114,slow=8.9,SNR=23	**27.89**	**305**	P	**P**	**08 29 52.0**	**-0.5**
MKAR	**Makanchi Array** 0.3nm,0.6s,mb3.2,baz=90,slow=8.6,SNR=3.2	**44.21**	**302**	P	**P**	**08 32 10.4**	**-0.8**
ILAR	**Eielson Array** 0.6nm,0.7s,mb3.7,baz=270,slow=5.1,SNR=5.4	**49.84**	**32**	P	**P**	**08 32 55.5**	**+0.5**
BVAR	**Borovoye Array** 0.7nm,0.5s,mb3.6,baz=80,slow=7.0,SNR=2.5	**50.73**	**312**	P	**P**	**08 33 03.0**	**+1.0**
INK	**Inuvik** 6.8nm,1.1s,mb4.6,baz=121,slow=7.2,SNR=2.9	**54.73**	**27**	P	**P**	**08 33 31.8**	**+0.1**
INK	**Inuvik**	**54.73**	**27**	P	**P**	**08 33 31.8**	**+0.1**
WRA	**Warramunga Arr** 1.1nm,0.7s,mb4.0,baz=6.1,slow=7.4,SNR=18	**56.71**	**188**	P	**P**	**08 33 44.5**	**-2.0**

CASC 28 08:43:05.8±3.4,11.41N×85.59W,h1km±10km,MD3.5, ML3.0,1C-2D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.06**	**93**	⇓*eP*	Pg	08 43 05.4	-1.5
CONN	**Concepcion**	**0.16**	**348**	⇓*eP*	Pg	08 43 08.5	-0.5
CONN				*eS*	Sg	08 43 13.4	+2.4
SSNN	**San Juan del S**	**0.28**	**244**	⇑*eP*	Pg	08 43 10.3	-1.1
SSNN				*i*		08 43 19.0	
	comp=Z,951nm,0.3s						
LIM1	**Limonal**	**0.78**	**155**	*i* P	Pg	08 43 22.9	+1.5
LIM1				*i* S	Sg	08 43 32.1	+0.3
XAVN	**Gruta Xavier**	**1.03**	**316**	*eP*	Pb	08 43 24.7	-1.3
VCR	**Vista de Mar**	**1.28**	**182**	*eP*	Pb	08 43 29.9	-0.4
VCR				*eS*	Sb	08 43 49.0	+1.9
CGA2	**Cerro Gallo 2**	**1.77**	**141**	*eP*	Pn	08 43 38.6	+0.8
CGA2				*eS*	Sn	08 44 00.7	-0.7
VPS2	**Volcan Poas 2**	**1.80**	**132**	*eP*	Pn	08 43 37.4	-0.8
BUS	**Buena Vista**	**2.58**	**135**	*eP*	Pn	08 43 49.0	-0.4
LIO	**Limon**	**2.88**	**119**	*eP*	Pn	08 43 52.8	-0.8

NEIC ***28*** *08:44:17.5±3.2,36.33N×70.80E,h199km±26km,mb3.6/4, Error ellipse: s-maj=33.3km s-min=17.2km az=195.0*
IDC ***28*** *08:44:19.2±13.0,36.40N×70.85E,h215km±127km, mb3.0/2,mb1 3.1/4,mb1mx2.9/19,mbtmp3.6/4,Error ellipse: s-maj=78.1km s-min=70.5km az=22.0*
NNC ***28*** *08:44:25.8±2.7,37.03N×70.88E,h219km±29km,mpv4.0, Error ellipse: s-maj=31.8km s-min=17.5km az=0.0*

ISC 28 08:44:21.0±2.0,36.8N±0.1×70.8E±0.2,h200km,n11, σ1§06/14,mb3.2/2,6C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 2.1nm,0.3s,baz=192,slow=14,SNR=56	**6.33**	**358**	⇑P	**P**	**08 45 54.6**	**+1.4**
KK31				⇑S	**S**	**08 47 03.9**	**-1.1**
	4.1nm,0.6s,baz=180,slow=22,SNR=5.6						
KK31	**Karatay Array** 2.1nm,0.3s	**6.33**	**358**	⇑P	**P**	**08 45 54.6**	**+1.4**
KK31				S	**S**	**08 47 03.9**	**-1.1**
AAK	**Ala-Archa** 13nm,0.4s	**6.51**	**25**	⇓P	**P**	**08 45 56.3**	**+0.7**
AAK				⇑S	**S**	**08 47 09.6**	**+0.3**
	5.2nm,0.6s						
MK31	**Makanchi Array** 0.8nm,0.7s,baz=208,slow=10,SNR=10	**13.16**	**37**	⇓P	**P**	**08 47 21.7**	**+0.4**
MK31	**Makanchi Array** 0.8nm,0.6s	**13.16**	**37**	⇓P	**P**	**08 47 21.7**	**+0.4**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=215,slow=13,SNR=8.2	**13.16**	**37**	P	**P**	**08 47 21.6**	**+0.3**
AB31	**Akbulak array** 1.0nm,0.7s,baz=148,slow=11,SNR=13	**14.77**	**331**	⇑P	**P**	**08 47 41.5**	**+0.3**
AB31	**Akbulak array** 1.0nm,0.6s	**14.77**	**331**	⇑P	**P**	**08 47 41.5**	**+0.3**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=158,slow=13,SNR=5.5	**16.25**	**359**	P	**P**	**08 47 58.7**	**-0.8**
SONM	**Songino Array** 0.3nm,0.4s,mb3.2,baz=270,slow=10,SNR=2.8	**28.31**	**56**	P	**P**	**08 49 54.6**	**-3.3**
WRA	**Warramunga Arr** 0.2nm,0.3s,mb3.2,baz=328,slow=4.9,SNR=9.4	**82.27**	**122**	P	**P**	**08 56 15.6**	**-5.8**

MAN 28 08:49:28.0,15.12N×122.21E,h17km,mb4.1,ML2.9, MS2.5,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.47**	**214**	*eP*	Pb	08 49 38.2	+0.8
POLP				*eS*	Sb	08 49 48.7	+4.8
PCPH	**Palayan**	**1.16**	**292**	⇑*iP*	Pb	08 49 48.4	-0.8
PCPH				*i* S	Sb	08 50 08.5	+4.7
BOAC	**Boac**	**1.69**	**192**	*eP*	Pn	08 49 57.0	-0.1
PVCP	**Virac**	**2.42**	**129**	*eP*	Pn	08 50 07.4	-0.2

IDC ***28*** *08:50:02.5±3.4,23.35S×179.91W,h545km±37km,mb3.5/9, mb1 3.6/11,mb1mx3.5/17,mbtmp4.4/11,Error ellipse: s-maj=23.8km s-min=19.9km az=

ms1mx3.5/17, Error ellipse: s-maj=41.8km s-min=17.4km az=70.0

*MOS **28** 08:55:23.8±1.4, 3.53S×128.61E, h33km, mb5.0/13, MS4.5/4, Error ellipse: s-maj=21.3km s-min=8.0km az=109.0*

*BJI **28** 08:55:27.5, 3.61S×129.56E, h86km, mB4.7, mb4.7, Ms4.6, Msz4.2*

*NEIC **28** 08:55:29.4±2.2, 3.55S×128.79E, h74km±23km, mb4.8/13, Error ellipse: s-maj=17.8km s-min=8.4km az=57.0*

NEIC Felt [IV] on Seram.

ISC 28 08:55:28.1±2.1, 3.61S±0.07×128.77E±0.09, h78km±21km, n64, σ1§16/63, mb4.6/31, 1C-2D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**9.75**	**158**	*eP*		Px	08 58 05.7	
	43nm,1.0s							
FITZ	**Fitzroy Crossi**	**14.73**	**192**	*eP*		**P**	**08 58 54.5**	**+0.8**
	24nm,0.9s							
FITZ	**Fitzroy Crossi**	**14.73**	**192**	Pn		**P**	**08 58 52.1**	**-1.6**
	0.4nm,0.3s,baz=17,slow=14,SNR=4.6							
FITZ				LR		LR	09 05 32.1	
	comp=Z,239nm,18.7s,baz=27,slow=41							
KKM	**Kota Kinabalu**	**15.78**	**307**	*eP*		**P**	**08 59 09.4**	**+2.2**
WRAB	**Tennant Creek**	**17.11**	**162**	*eP*		**P**	**08 59 24.7**	**+0.9**
	42nm,1.1s							
WRAB	**Tennant Creek**	**17.11**	**162**	*eP*		**P**	**08 59 24.7**	**+0.9**
WRAB				pmax		pmax		
	comp=Z,42nm,1.1s							
WRA	**Warramunga Arr**	**17.12**	**162**	P		**P**	**08 59 21.9**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=344,slow=12,SNR=34							
WB2	**Warramunga Arr**	**17.12**	**162**	*eP*		**P**	**08 59 23.2**	**-0.7**
KSM	**Kuching**	**19.13**	**285**	*eP*		**P**	**08 59 49.1**	**+1.3**
MBWA	**Marble Bar**	**19.54**	**206**	*eP*		**P**	**08 59 51.7**	**-0.4**
	comp=Z,23nm,1.0s							
CTA	**Charters Tower**	**23.64**	**135**	*eP*		**P**	**09 00 37.0**	**+3.8**
	comp=Z,7.8nm,0.9s,mb4.0							
CTA	**Charters Tower**	**23.64**	**135**	P		**P**	**09 00 34.9**	**+1.7**
	comp=Z,3.9nm,0.6s,mb3.9,baz=305,slow=11,SNR=5.9							
CTA	**Charters Tower**	**23.64**	**135**	P		**P**	**09 00 34.9**	**+1.7**
CTA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
CTAO	**Charters Tower**	**23.64**	**135**	*eP*		**P**	**09 00 35.9**	**+2.7**
	comp=Z,71nm,0.8s,mb5.0							
CTAO	**Charters Tower**	**23.64**	**135**	*eP*		**P**	**09 00 35.9**	**+2.7**
CTAO				pmax		pmax		
	comp=Z,71nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**30.60**	**158**	P		**P**	**09 01 38.6**	**+1.6**
	comp=Z,6.2nm,0.8s,mb4.4,baz=316,slow=11,SNR=4.3							
STKA				LR		LR	09 15 05.8	
	comp=Z,156nm,18.6s,baz=190,slow=38							
SSE	**Sheshan**	**35.26**	**349**	*eP*		**P**	**09 02 16.3**	**-1.0**
SSE				AMB		AMB		
	comp=Z,26nm,0.7s,mb5.2							
SSE				AMB		AMB		
	comp=Z,53nm,3.7s							
SSE				LR		LR		
	comp=N,78nm,29.2s							
SSE				LR		LR		
	comp=E,220nm,29.1s							
SSE				LR		LR		
	comp=Z,180nm,22.5s							
SSE	**Sheshan**	**35.26**	**349**	*eP*		**P**	**09 02 16.2**	**-1.1**
	comp=Z,26nm,0.7s,mb5.2							
SSE				LR		LR		
	comp=Z,180nm,22.5s							
NANT	**Nan**	**35.49**	**310**	P		**P**	**09 02 21.0**	**+1.7**
WHN	**Wuhan**	**36.65**	**339**	*eP*		**P**	**09 02 30.0**	**+1.0**
NJ2	**Nanjing**	**36.69**	**346**	*eP*		**P**	**09 02 30.5**	**+1.1**
NJ2				AP		pP	09 02 48.8	+0.5
NJ2				PP		PP	09 03 57.8	+1.8
NJ2				S		**S**	**09 08 08.0**	**+1.6**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.0							
NJ2				AMB		AMB		
	comp=Z,90nm,4.2s							
NJ2				LR		LR		
	comp=N,500nm,22.3s							
NJ2				LR		LR		
	comp=E,750nm,20.9s							
NJ2				LR		LR		
	comp=Z,280nm,24.0s							
CHG	**Chiang Mai**	**36.86**	**308**	⇑P		**P**	**09 02 34.3**	**+3.4**
	comp=Z,11nm,1.0s,mb4.7							
KMI	**Kunming**	**38.13**	**320**	P		**P**	**09 02 43.0**	**+1.5**
KMI				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.5							
KMI				AMB		AMB		
	comp=Z,64nm,4.8s							
KMI				LR		LR		
	comp=N,754nm,15.1s							
KMI				LR		LR		
	comp=E,487nm,15.1s							
KMI				LR		LR		
	comp=Z,474nm,14.0s							
KMI	**Kunming**	**38.13**	**320**	P		**P**	**09 02 42.9**	**+1.4**
KMI				*SP		pP	09 02 53.7	-6.7
KMI				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.5							
KMI				MLR		MLR		
	comp=Z,470nm,14.0s							
MJAR	**Matsushiro Arr**	**40.90**	**12**	P		**P**	**09 03 03.3**	**-1.0**
	comp=Z,9.6nm,0.8s,mb4.7,baz=184,slow=9.9,SNR=18							
MJAR				LR		LR	09 17 37.1	
	comp=Z,262nm,18.3s,baz=25,slow=33							
MAJO	**Matsushiro**	**40.90**	**12**	*eP*		**P**	**09 03 03.6**	**-0.6**
	comp=Z,17nm,0.8s,mb4.9							
MAJO	**Matsushiro**	**40.90**	**12**	*eP*		**P**	**09 03 03.6**	**-0.7**
MAJO				pmax		pmax		
	comp=Z,17nm,0.8s,mb4.9							
MAT	**Matsushiro**	**40.90**	**12**	P		**P**	**09 03 03.5**	**-0.8**
MAT	**Matsushiro**	**40.90**	**12**	*eP*		**P**	**09 03 04.0**	**-0.3**
MAT				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.7							
MAT				MLR		MLR		
	comp=Z,350nm,20.0s							
LZH	**Lanzhou**	**45.85**	**332**	*eP*		**P**	**09 03 49.5**	**+5.1**
LZH				AP		pP	09 04 02.8	-0.9
LZH				AMB		AMB		
	comp=Z,28nm,1.5s,mb4.8							
LZH				AMB		AMB		
	comp=Z,120nm,4.3s							
LZH				LR		LR		
	comp=E,610nm,12.7s							
LZH				LR		LR		
	comp=Z,970nm,13.9s							
LZH	**Lanzhou**	**45.85**	**332**	*eP*		**P**	**09 03 45.0**	**+0.6**
	comp=Z,15nm,1.0s,mb4.7							
LZH				pP		x	09 03 49.5	
LZH				pP		pP	09 04 02.7	-1.0
LZH				sP		sP	09 04 08.5	-4.1
LZH				LR		LR		
	comp=Z,970nm,13.9s							
LZH	**Lanzhou**	**45.85**	**332**	*eP*		**P**	**09 03 45.0**	**+0.6**
LZH				*PP		pP	09 04 02.7	-1.0
LZH				pmax		pmax		
	comp=Z,15nm,1.0s,mb4.7							
LZH				MLR		MLR		
	comp=Z,970nm,13.9s							
MDJ	**Mudanjiang**	**48.01**	**1**	P		**P**	**09 04 01.5**	**+0.3**
MDJ				AMB		AMB		
	comp=Z,8.0nm,1.2s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,68nm,7.0s							
MDJ				LR		LR		
	comp=N,114nm,17.9s							
MDJ				LR		LR		
	comp=E,236nm,22.3s							
MDJ				LR		LR		
	comp=Z,246nm,19.0s							
ASAJ	**Asahikawa**	**49.10**	**13**	P		**P**	**09 04 10.1**	**+0.4**
	comp=Z,6.6nm,0.9s,mb4.6,baz=238,slow=13,SNR=5.0							
ASAJ	**Asahikawa**	**49.10**	**13**	P		**P**	**09 04 10.1**	**+0.4**
ASAJ				pmax		pmax		
	comp=Z,7.0nm,0.9s							
GTA	**Gaotai**	**50.43**	**331**	*eP*		**P**	**09 04 19.8**	**-0.1**
GTA				AMB		AMB		
	comp=Z,4.0nm,1.4s,mb4.2							
GTA				AMB		AMB		
	comp=Z,24nm,4.2s							
GTA				LR		LR		
	comp=N,196nm,14.9s							
GTA				LR		LR		
	comp=E,206nm,14.1s							
GTA				LR		LR		
	comp=Z,206nm,12.6s							
JIRN	**Jiri**	**51.47**	**310**	*eP*		**P**	**09 04 26.4**	**-1.5**
	comp=Z,31nm,1.0s,mb5.3							
PKI	**Pulchoki**	**52.02**	**309**	*eP*		**P**	**09 04 30.8**	**-1.3**
KKN	**Kakani**	**52.23**	**310**	*eP*		**P**	**09 04 32.5**	**-1.1**
DMN	**Daman**	**52.27**	**309**	*eP*		**P**	**09 04 32.8**	**-1.2**
KLR	**Kul'dur**	**52.69**	**2**	*eP*		**P**	**09 04 33.7**	**-3.0**
GKN	**Gorkha**	**52.83**	**309**	*eP*		**P**	**09 04 37.1**	**-1.0**
	comp=Z,54nm,1.1s,mb5.5							
KOLN	**Koldanda**	**53.52**	**309**	*eP*		**P**	**09 04 42.4**	**-0.8**
	comp=Z,49nm,1.0s,mb5.5							
ULN	**Ulaanbaatar**	**54.68**	**342**	*eP*		**P**	**09 04 51.1**	**-0.3**
	comp=Z,8.0nm,1.0s,mb4.7							
ULN	**Ulaanbaatar**	**54.68**	**342**	*eP*		**P**	**09 04 51.1**	**-0.3**
ULN				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.7							
SONM	**Songino Array**	**54.86**	**342**	P		**P**	**09 04 51.6**	**-1.1**
	comp=Z,1.3nm,1.1s,mb3.9,baz=171,slow=7.9,SNR=6.9							
ZAK	**Zakamensk**	**58.08**	**341**	*eP*		**P**	**09 05 14.5**	**-1.1**
ZAK				*e*			09 06 07.4	
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.8							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
BOD	**Bodaibo**	**62.37**	**351**	*eP*		**P**	**09 05 43.3**	**-1.5**
BOD				pmax		pmax		
	comp=Z,3.0nm,1.4s,mb4.1							
MKAR	**Makanchi Array**	**64.74**	**327**	P		**P**	**09 05 59.7**	**-0.7**
	comp=Z,1.9nm,0.4s,mb4.3,baz=113,slow=8.2,SNR=19							
YAK	**Yakutsk**	**65.46**	**0**	*i* P		**P**	**09 06 06.5**	**+1.7**
AAK	**Ala-Archa**	**67.18**	**319**	⇓*eP*		**P**	**09 06 15.9**	**-0.1**
AAK				pmax		pmax		
	comp=Z,9.0nm,1.8s,mb4.3							
SEY	**Seymchan**	**68.73**	**11**	*eP*		**P**	**09 06 26.7**	**+1.4**
SEY				*e*			09 15 17.5	
SEY				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.7							
KURK	**Kurchatov**	**69.00**	**328**	*eP*		**P**	**09 06 26.6**	**-0.6**
	comp=Z,18nm,1.0s,mb4.8							
KURK	**Kurchatov**	**69.00**	**328**	*eP*		**P**	**09 06 26.6**	**-0.6**
KURK				pmax		pmax		
	comp=Z,18nm,1.0s,mb4.9							
BVAR	**Borovoye Array**	**74.56**	**328**	P		**P**	**09 06 59.7**	**-0.5**
	comp=Z,3.6nm,0.9s,mb4.1,baz=135,slow=6.3,SNR=12							
VNDA	**Vanda**	**75.94**	**173**	*eP*		**P**	**09 07 08.1**	**+0.4**
	comp=Z,2.5nm,1.0s,mb3.9							
VNDA	**Vanda**	**75.94**	**173**	*eP*		**P**	**09 07 08.1**	**+0.4**
VNDA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BILL	**Bilibino**	**76.12**	**14**	*eP*		**P**	**09 07 12.0**	**+3.2**
BILL				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.2							
SVE	**Sverdlovsk**	**81.25**	**329**	*eP*		**P**	**09 07 37.2**	**+0.2**
SVE				pmax		pmax		
	comp=Z,36μm,1.8s							
ARU	**Arti**	**82.20**	**328**	⇓*iP*		**P**	**09 07 42.7**	**+0.8**
ARU				*e*			09 10 49.8	
ARU				*eS*		S	09 17 54.0	+4.9
ARU				*eSS*		SS	09 23 13.4	-0.1
ARU				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.6							
ARU				MLR		MLR		
	comp=Z,200nm,16.0s							
ARU				MLR		MLR		
	comp=N,80nm,18.0s							
ARU				MLR		MLR		
	comp=E,80nm,15.0s							
ILAR	**Eielson Array**	**90.82**	**25**	P		**P**	**09 08 23.4**	**-0.3**
	comp=E,1.4nm,0.8s,mb4.1,baz=257,slow=4.8,SNR=12							
OBN	**Obninsk**	**94.20**	**325**	*eP*		**P**	**09 08 39.5**	**+0.1**
OBN				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.8							
ARCES	**ARCESS Array B**	**97.99**	**340**	P		**P**	**09 08 56.8**	**+0.5**
	comp=Z,3.1nm,1.0s,mb4.8,baz=101,slow=6.2,SNR=4.1							
TXAR	**Lajitas Array**	**124.18**	**57**	PKP		PKPdf	09 14 22.4	+3.9
	comp=Z,0.5nm,0.8s,baz=180,slow=2.5,SNR=4.5							

*NEIC **28** 09:02:37.7±2.2, 19.06N×121.12E, h1km±14km, mb4.5/9, Error ellipse: s-maj=6.4km s-min=5.2km az=103.0*

*IDC **28** 09:02:37.4±0.6, 19.08N×121.13E, mb4.4/17, mb1 4.5/19, mb1mx4.5/23, mbtmp4.4/19, ML3.8/2, MS4.1/4, Ms1 4.1/4, ms1mx3.6/20, Error ellipse: s-maj=22.8km s-min=14.5km az=78.0*

*BJI **28** 09:02:39.0, 19.03N×120.84E, h10km, mB4.7, mb4.5, ML4.1, Ms4.0, Msz3.8*

*MAN **28** 09:02:40.8, 19.28N×121.21E, h5km, mb4.9, ML3.8, MS3.8*

ISC 28 09:02:42.7±0.5, 19.32N±0.03×121.16E±0.06, h41km±6km, n69, σ1§07/71, mb4.4/27, MS4.1/6, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.37**	**142**	*eP*		**P**	**09 03 05.7**	**-0.1**
SGCP				*eS*		**S**	**09 03 23.1**	**+0.2**
ABRA	**Dolores**	**1.71**	**194**	*eP*		**P**	**09 03 09.6**	**-1.1**
CVP	**Callao Caves**	**1.73**	**158**	⇓*eP*		**P**	**09 03 10.0**	**-0.9**
CVP				*eS*		**S**	**09 03 30.0**	**-1.9**
CAUP	**Cauayan**	**2.45**	**165**	*eP*		**P**	**09 03 23.3**	**+2.2**
BCPH	**Baguio City Da**	**2.98**	**191**	⇓*iP*		**P**	**09 03 29.7**	**+1.1**
BCPH				*i* S		**S**	**09 04 04.9**	**+1.5**
BOLP	**Bolinao**	**3.15**	**202**	*eP*		**P**	**09 03 30.6**	**-0.5**
SCZP	**Santa Cruz**	**3.72**	**199**	*eP*		**P**	**09 03 39.4**	**+0.2**
PCPH	**Palayan**	**3.74**	**181**	⇓*eP*		**P**	**09 03 40.2**	**+0.7**
PCPH				*eS*		**S**	**09 04 26.4**	**+3.6**
POLP	**Polillo Island**	**4.63**	**171**	*eP*		**P**	**09 03 57.5**	**+5.4**
NACB	**Ninganchiao**	**4.85**	**5**	*eP*		**P**	**09 03 55.3**	**+0.2**
NACB				*eS*		**S**	**09 04 49.0**	**-1.7**
YHNB	**Yeheng**	**5.33**	**2**	*eP*		**P**	**09 04 02.2**	**+0.4**
YHNB				*eS*		**S**	**09 05 01.0**	**-1.8**
LUBP	**Lubang**	**5.62**	**189**	*eP*		**P**	**09 04 06.6**	**+0.6**
TATO	**Taipei**	**5.64**	**3**	*eP*		**P**	**09 04 07.2**	**+1.0**
GZH	**Guangzhou**	**8.19**	**299**	P		**P**	**09 04 35.3**	**-6.6**
GZH				Smax				
	comp=N,50nm,0.7s							
GZH				Smax				
	comp=E,59nm,0.8s							
JOW	**Kunigami**	**9.94**	**40**	Pn		**P**	**09 05 05.3**	**-0.7**
	comp=E,3.1nm,0.3s,baz=255,slow=11,SNR=5.3							
QIZ	**Qiongzhong**	**10.69**	**270**	*eP*		**P**	**09 05 10.5**	**-5.9**
QIZ				S		**S**	**09 07 02.5**	**-13**
QIZ				LR		LR		
	comp=N,827nm,17.7s							
QIZ				LR		LR		
	comp=Z,549nm,14.6s							
QIZ	**Qiongzhong**	**10.69**	**270**	*eP*		**P**	**09 05 09.3**	**-7.1**
KKM	**Kota Kinabalu**	**14.04**	**201**	P		**P**	**09 05 55.3**	**-5.9**
ENH	**Enshi**	**15.19**	**318**	*eP*		**P**	**09 06 16.3**	**+0.3**
	comp=Z,15nm,0.9s							
JNU	**Nakatsue**	**16.26**	**30**	Pn		**P**	**09 06 29.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=190,slow=12,SNR=3.0							
KS15	**Wonju Array Si**	**18.99**	**17**	*eP*		**P**	**09 07 03.6**	**+0.1**
CD2	**Chengdu**	**19.50**	**310**	P		**P**	**09 07 07.8**	**-1.4**
CD2				PP		PP	09 07 27.0	-0.4
CD2				PPP		PPP	09 07 35.0	-1.7
CD2				S		**S**	**09 10 46.5**	**+4.9**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.4s							
CD2				AMB		AMB		
	comp=Z,60nm,3.7s							
CD2				LR		LR		
	comp=N,250nm,13.2s							
CD2				LR		LR		
	comp=Z,210nm,18.0s							
LZH	**Lanzhou**	**22.61**	**321**	*eP*		**P**	**09 07 42.5**	**+1.5**
LZH				AP			09 07 51.0	
LZH				AMB		AMB		
	comp=Z,41nm,1.4s,mb4.7							
LZH				AMB		AMB		
	comp=Z,169nm,4.4s							
LZH				LR		LR		
	comp=E,610nm,12.7s							
LZH				LR		LR		
	comp=Z,970nm,13.9s,MS4.4							
LZH	**Lanzhou**	**22.61**	**321**	*eP*		**P**	**09 07 42.5**	**+1.5**
	comp=Z,41nm,1.4s,mb4.7							
LZH				pP			09 07 51.0	
LZH				sP			09 07 56.0	
LZH				LR		LR		
	comp=Z,970nm,13.9s,MS4.4							
MAT	**Matsushiro**	**22.77**	**38**	P		**P**	**09 07 44.8**	**+2.2**
MAT				S		**S**	**09 11 48.0**	**+3.8**
MAT	**Matsushiro**	**22.77**	**38**	P		**P**	**09 07 45.0**	**+2.4**
MJAR	**Matsushiro Arr**	**22.77**	**38**	P		**P**	**09 07 43.0**	**+0.4**
	comp=Z,2.0nm,0.6s,mb3.7,baz=214,slow=11,SNR=6.6							
KULM	**Kulim**	**24.36**	**238**	P		**P**	**09 07 56.2**	**-2.1**
KULM				*e*			09 08 07.0	
GTA	**Gaotai**	**27.20**	**322**	*eP*		**P**	**09 08 25.0**	**+0.3**
GTA				AP		pP	09 08 30.5	-5.2
GTA				XP		sP	09 08 33.5	-7.3
GTA				AMB		AMB		
	comp=Z,5.0nm,1.2s,mb3.9							
GTA				AMB		AMB		
	comp=Z,69nm,5.7s							
GTA				LR		LR		
	comp=N,197nm,15.7s,MS4.0							
GTA				LR		LR		
	comp=E,206nm,14.1s,MS4.0							
GTA				LR		LR		
	comp=Z,186nm,13.1s,MS3.8							
ASAJ	**Asahikawa**	**30.54**	**31**	P		**P**	**09 08 56.0**	**+1.5**
	comp=Z,5.5nm,0.7s,mb4.5,baz=339,slow=8.6,SNR=2.3							
ULN	**Ulaanbaatar**	**30.70**	**341**	*eP*		**P**	**09 08 56.8**	**+1.0**
	comp=Z,3.6nm,0.9s,mb4.2							
SONM	**Songino Array**	**30.87**	**340**	P		**P**	**09 08 58.0**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.3,baz=158,slow=9.8,SNR=21							
JIRN	**Jiri**	**33.04**	**291**	*eP*		**P**	**09 09 16.7**	**+0.2**
	comp=Z,25nm,1.0s,mb5.1							
PKI	**Pulchoki**	**33.71**	**291**	*eP*		**P**	**09 09 21.7**	**-0.6**
KKN	**Kakani**	**33.85**	**291**	*eP*		**P**	**09 09 23.0**	**-0.5**
DMN	**Daman**	**33.98**	**291**	*eP*		**P**	**09 09 24.1**	**-0.6**
	comp=Z,14nm,0.8s,mb4.9							
GKN	**Gorkha**	**34.44**	**292**	*eP*		**P**	**09 09 27.9**	**-0.7**
KOLN	**Koldanda**	**35.33**	**291**	*eP*		**P**	**09 09 35.8**	**-0.4**
	comp=Z,15nm,0.9s,mb4.9							
FITZ	**Fitzroy Crossi**	**37.45**	**173**	P		**P**	**09 09 49.5**	**-4.7**
	comp=Z,1.8nm,0.4s,mb4.2,slow=7.1,SNR=4.7							
WRAB	**Tennant Creek**	**41.10**	**161**	*eP*		**P**	**09 10 22.3**	**-2.1**
WRA	**Warramunga Arr**	**41.10**	**161**	P		**P**	**09 10 20.8**	**-3.7**
	comp=Z,1.3nm,0.4s,mb3.9,baz=341,slow=9.1,SNR=27							
WRA				PcP		PcP	09 12 23.7	-0.4
	comp=Z,1.3nm,0.7s,baz=345,slow=3.4,SNR=6.2							
WB2	**Warramunga Arr**	**41.11**	**161**	*eP*		**P**	**09 10 21.2**	**-3.3**
MKAR	**Makanchi Array**	**41.91**	**320**	P		**P**	**09 10 32.1**	**+1.3**
	comp=Z,9.1nm,0.8s,mb4.4,baz=113,slow=9.2,SNR=43							
KURK	**Kurchatov**	**45.87**	**323**	*eP*		**P**	**09 11 03.7**	**+0.9**
	comp=Z,17nm,0.9s,mb5.0							
HNR	**Honiara**	**47.72**	**123**	LR		LR	09 28 14.8	
	comp=Z,92nm,20.2s,MS3.7,baz=176,slow=32							
BVAR	**Borovoye Array**	**51.47**	**323**	P		**P**	**09 11 46.3**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=108,slow=9.4,SNR=12							
BVAR				PcP		PcP	09 12 59.2	-0.9
	comp=Z,1.7nm,0.6s,baz=108,slow=4.7,SNR=5.9							
BRVK	**Borovoye**	**51.54**	**323**	*eP*		**P**	**09 11 46.6**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**51.58**	**324**	*eP*		**P**	**09 11 47.3**	**+0.5**
	comp=Z,2.2nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**54.55**	**159**	P		**P**	**09 12 07.1**	**-2.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=340,slow=6.9,SNR=3.6							
STKA	**Stephens Creek**	**54.55**	**159**	P		**P**	**09 12 07.1**	**-2.1**
ARU	**Arti**	**59.01**	**325**	*eP*		**P**	**09 12 40.3**	**-0.2**
	comp=Z,14nm,0.6s,mb5.2							
KDAK	**Kodiak Island**	**71.90**	**34**	P		**P**	**09 14 03.6**	**+0.4**
	comp=Z,12nm,0.8s,mb4.8,baz=264,slow=9.2,SNR=4.9							
ILAR	**Eielson Array**	**73.54**	**27**	P		**P**	**09 14 12.1**	**-0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=276,slow=4.2,SNR=9.3							
ARCES	**ARCESS Array B**	**74.03**	**339**	P		**P**	**09 14 15.7**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=76,slow=8.2,SNR=15							
ARCES				LR		LR	09 50 31.0	
	comp=Z,148nm,18.3s,MS4.3,baz=251,slow=39							
FINES	**FINESS Array B**	**75.63**	**330**	P		**P**	**09 14 24.2**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.2,baz=127,slow=9.5,SNR=6.0							
FINES				LR		LR	09 49 45.5	
	comp=Z,106nm,19.6s,MS4.2,baz=30,slow=37							
AKASG	**Malin Array Be**	**76.49**	**319**	P		**P**	**09 14 29.4**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.9,baz=63,slow=5.9,SNR=4.1							
AKASG	**Malin Array Be**	**76.49**	**319**	P		**P**	**09 14 29.4**	**-0.6**
INK	**Inuvik**	**77.73**	**22**	P		**P**	**09 14 36.9**	**+0.3**
	comp=Z,5.1nm,0.8s,mb4.5,baz=352,slow=2.4,SNR=5.6							
NB2	**NORSAR Subarra**	**82.50**	**333**	P		**P**	**09 15 02.1**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=61,slow=5.3							
NOA	**NORSAR Array B**	**82.50**	**333**	P		**P**	**09 15 01.9**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=63,slow=5.2,SNR=5.3							
NOA				LR		LR	09 54 35.0	
	comp=Z,122nm,18.6s,MS4.3,baz=275,slow=38							
GERES	**GERESS Array B**	**86.57**	**321**	P		**P**	**09 15 23.6**	**+0.9**
	comp=Z,0.8nm,0.5s,mb4.2,baz=18,slow=4.2,SNR=7.5							
YKA	**Yellowknife Ar**	**87.45**	**23**	P		**P**	**09 15 27.9**	**+1.3**
	comp=Z,5.6nm,0.8s,mb4.9,baz=310,slow=4.5,SNR=12							
YKA	**Yellowknife Ar**	**87.45**	**23**	P		**P**	**09 15 27.9**	**+1.3**
TXAR	**Lajitas Array**	**115.13**	**43**	PKP		PKPdf	09 21 22.1	+2.0
	comp=Z,0.4nm,0.7s,baz=241,slow=1.1,SNR=7.2							
VNA2	**Neumayer--Watz**	**120.27**	**197**	⇑*i*		PKPdf	09 21 30.1	+1.0
VNA2	**Neumayer--Watz**	**120.27**	**197**	*e*		PKPdf	09 21 37.3	+8.2
VNA1	**Neumayer--Stat**	**120.66**	**197**	⇑*i*		PKPdf	09 21 31.3	+1.5
VNA3	**Neumayer Olymp**	**120.72**	**197**	⇑*i*		PKPdf	09 21 30.8	+0.9
VNA3	**Neumayer Olymp**	**120.72**	**197**	*e*		PKPdf	09 21 37.7	+7.8

*NIED **28** 09:09:00, 44.20N×149.40E, h20km, Mw4.4 Best double couple: M0 3.97×10^15 NP1:φs52°, δ61°, λ120°. NP2:φs182°, δ41°, λ48°.*

*SKHL **28** 09:09:11.8±0.7, 43.89N×149.69E, h35km±3km, mb4.7/2, Ms4.2/3*

*BJI **28** 09:09:16.8, 44.64N×149.67E, h46km, mB4.8, mb4.7, Ms4.3, Msz3.9*

*NEIC **28** 09:09:18.3±0.9, 44.00N×149.

YSS sP 09 10 57.0
YSS eS **Sn** **09 11 43.0 +3.1**
YSS A 09 11 47.0
comp=Z,40nm,0.8s
YSS A 09 11 47.0
comp=Z,50nm,0.8s
YSS Yuzh-Sakhalins 5.43 305 eP **Pn** **09 10 37.9 +2.1**
comp=Z,32nm,0.6s
YSS Yuzh-Sakhalins 5.43 305 ePN **Pn** **09 10 38.5 +2.7**
YSS eS **Sn** **09 11 43.0 +3.1**
YSS smax
comp=N,50nm,0.8s
YSS smax
comp=E,40nm,0.8s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=E,600nm,14.0s
UGL Uglegorsk 7.08 318 erx rx 09 11 25.3
UGL AMS AMS 09 14 17.0
comp=E,1μm,16.0s
UGL AMS AMS 09 14 17.0
comp=E,850nm,16.0s
UGL AMS AMS 09 14 17.0
comp=E,950nm,16.0s
SKR Severo-Kuril's 8.10 32 ePN **P** **09 11 10.0 -3.2**
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=N,60nm,0.6s
SKR pmax pmax
comp=E,60nm,0.6s
SKR pmax pmax
comp=Z,80nm,0.6s
TYV Tymovskoe 8.17 329 eP **P** **09 11 13.2 -0.9**
TYV AMB AMB 09 11 38.6
comp=Z,5.0nm,0.7s
TYV AMB AMB 09 11 38.6
comp=Z,7.0nm,0.7s
TYV AMB AMB 09 11 38.6
comp=Z,11nm,0.7s
TYV AMS AMS 09 15 14.0
comp=Z,700nm,14.0s
TYV AMS AMS 09 15 14.0
comp=Z,1μm,14.0s
OKH Okha 10.39 339 AMS AMS 09 17 32.8
comp=Z,500nm,14.0s
OKH AMS AMS 09 17 32.8
comp=Z,700nm,14.0s
NKL Nikolayevsk 10.74 331 eP **P** **09 11 51.0 +1.4**
MAJO Matsushiro 11.29 232 eP **P** **09 11 55.2 -2.0**
MJAR Matsushiro Arr 11.29 232 P **P** **09 11 55.1 -2.1**
comp=Z,0.5nm,0.3s,baz=25,slow=13,SNR=4.4
MJAR S **S** **09 14 05.2 -0.1**
comp=Z,0.3nm,0.3s,baz=187,slow=20,SNR=2.7
KLR Kul'dur 13.11 299 ePN **P** **09 12 26.3 +4.7**
MDJ Mudanjiang 14.11 279 P **P** **09 12 35.5 +0.7**
MDJ AMB AMB
comp=Z,12nm,0.8s
MDJ AMB AMB
comp=Z,77nm,4.7s
MDJ LR LR
comp=N,114nm,18.3s
MDJ LR LR
comp=E,236nm,21.0s
MDJ LR LR
comp=Z,246nm,19.2s
MDJ Mudanjiang 14.11 279 eP **P** **09 12 35.4 +0.6**
comp=Z,6.3nm,0.8s
MA2 Magadan 15.58 3 P **P** **09 12 55.6 +1.7**
comp=Z,4.9nm,0.6s
MA2 Magadan 15.58 3 P **P** **09 12 55.6 +1.7**
MA2 pmax pmax
comp=Z,5.0nm,0.6s
YASR Yasnyy 16.79 311 eP **P** **09 13 08.0 -1.3**
YASR AMB AMB 09 13 11.5
comp=Z,4.0nm,0.6s
BMKR Bomnak 17.00 316 eP **P** **09 13 12.1 +0.1**
BMKR AMB AMB 09 13 13.5
comp=Z,50nm,1.0s
ZEA Zeya 17.37 312 eP **P** **09 13 15.2 -1.5**
ZEA AMB AMB 09 13 16.8
comp=Z,30nm,1.0s
KS15 Wonju Array Si 17.48 255 eP **P** **09 13 20.2 +2.0**
JNU Nakatsue 18.02 239 LR LR 09 20 23.8
comp=Z,148nm,18.7s,baz=336,slow=37
SEY Seymchan 19.01 4⇑eP **P** **09 13 35.5 -1.4**
HIA Hailar 20.86 295 eP **P** **09 13 54.3 -3.1**
comp=Z,8.2nm,1.0s
HIA Hailar 20.86 295 eP **P** **09 13 54.3 -3.1**
HIA pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 21.37 334 eP **P** **09 13 59.0 -3.4**
SSE Sheshan 25.61 249 eP **P** **09 14 50.3 +6.3**
SSE S **S** **09 19 12.3 +1.8**
SSE SCS ScS 09 25 34.5 -8.3
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,74nm,3.5s
SSE LR LR
comp=N,209nm,19.3s,MS3.8
SSE LR LR
comp=E,155nm,19.4s,MS3.8
SSE LR LR
comp=Z,236nm,16.3s,MS3.8
BILL Bilibino 25.67 15 eP **P** **09 14 44.5 +0.3**
BILL *e* 09 18 20.8
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BILL MLR MLR
comp=Z,300nm,17.0s,MS3.9
BOD Bodaibo 25.81 315 eP **P** **09 14 41.5 -4.1**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
NJ2 Nanjing 26.64 254 eP **P** **09 14 59.0 +5.5**
NJ2 PP PP 09 15 48.8 +11
NJ2 S **S** **09 19 26.0 -1.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,70nm,9.4s
NJ2 LR LR
comp=N,630nm,17.3s,MS4.4
NJ2 LR LR
comp=E,700nm,20.9s,MS4.4
ULN Ulaanbaatar 29.34 293 eP **P** **09 15 17.6 -0.3**
comp=E,8.5nm,1.0s,mb4.5
ULN Ulaanbaatar 29.34 293 eP **P** **09 15 17.6 -0.3**
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
TIXI Tiksi 29.40 347 eP **P** **09 15 11.7 -6.5**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SONM Songino Array 29.78 293 P **P** **09 15 21.8 -0.1**
comp=Z,4.6nm,0.7s,mb4.4,baz=80,slow=8.2,SNR=30
GUMO Guam 30.59 188 LR LR 09 28 09.9
comp=Z,81nm,19.0s,MS3.4,baz=338,slow=37
LZH Lanzhou 35.30 273 eP **P** **09 16 10.8 +0.7**
LZH AP pP 09 16 24.0 +14
LZH XP sP 09 16 33.0 +23
LZH AMB AMB
comp=Z,51nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,290nm,4.2s
LZH LR LR
comp=N,405nm,11.2s
LZH LR LR
comp=Z,655nm,13.0s,MS4.6
LZH Lanzhou 35.30 273 eP **P** **09 16 10.7 +0.6**
comp=Z,51nm,1.0s,mb5.4
LZH pP pP 09 16 24.0 +14
LZH sP sP 09 16 33.0 +23
LZH LR LR
comp=Z,660nm,13.0s,MS4.6
LZH Lanzhou 35.30 273 eP **P** **09 16 10.7 +0.6**
LZH *PP pP 09 16 24.0 +14
LZH *SP sP 09 16 33.0 +23
LZH pmax pmax
comp=Z,51nm,1.0s,mb5.4
LZH MLR MLR
comp=Z,660nm,13.0s,MS4.6
GTA Gaotai 36.77 280 eP **P** **09 16 23.0 +0.6**
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,61nm,5.4s
GTA LR LR
comp=N,126nm,13.8s,MS4.0
GTA LR LR
comp=E,123nm,16.4s,MS4.0
GTA LR LR
comp=Z,149nm,15.3s,MS3.9
CD2 Chengdu 37.97 265 P **P** **09 16 32.8 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
ILAR Eielson Array 40.34 36 P **P** **09 16 52.1 +0.2**
comp=Z,0.4nm,0.4s,mb3.4,baz=264,slow=7.4,SNR=9.3
WMQ Urumqi 43.42 292 P **P** **09 17 18.3 +0.9**
WMQ AP pP 09 17 28.0 +10
WMQ XP sP 09 17 31.5 +14
WMQ AMB AMB
comp=Z,25nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,176nm,5.8s
WMQ LR LR
comp=N,338nm,18.2s,MS4.5
WMQ LR LR
comp=E,432nm,19.7s,MS4.5
WMQ LR LR
comp=Z,306nm,18.5s,MS4.2
INK Inuvik 45.37 31 P **P** **09 17 34.0 +1.3**
comp=Z,1.3nm,0.4s,mb4.2,baz=237,slow=6.3,SNR=6.0
INK Inuvik 45.37 31 eP **P** **09 17 34.7 +2.0**
INK Inuvik 45.37 31 P **P** **09 17 34.0 +1.3**
INK pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 45.81 298 P **P** **09 17 36.6 +0.1**
comp=Z,11nm,0.7s,mb5.0,baz=67,slow=9.2,SNR=34
KURK Kurchatov 46.64 304 eP **P** **09 17 42.3 -0.7**
comp=Z,6.4nm,0.5s,mb5.0
KURK Kurchatov 46.64 304 eP **P** **09 17 42.3 -0.7**
KURK pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
CHKZ Chkalovo 50.12 311 eP **P** **09 18 07.9 -2.2**
comp=Z,4.7nm,0.9s,mb4.4
CHKZ Chkalovo 50.12 311 eP **P** **09 18 07.9 -2.2**
CHKZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BVAR Borovoye Array 50.51 310 P **P** **09 18 12.8 -0.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=72,slow=9.4,SNR=9.5
BRVK Borovoye 50.55 310 P **P** **09 18 13.4 0.0**
comp=Z,2.2nm,0.8s,mb4.1
BRVK Borovoye 50.55 310 P **P** **09 18 13.4 +0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ULHL Ulahol 51.67 295 P **P** **09 18 22.6 +0.6**
SNR=13
TKM2 Tokmak 2 51.77 296 P **P** **09 18 23.5 +0.7**
SNR=9.0
USP Ospenovka 52.31 297 P **P** **09 18 27.1 +0.3**
SNR=11
JIRN Jiri 52.46 274 eP **P** **09 18 28.0 -0.1**
comp=Z,22nm,0.8s,mb5.1
AAK Ala-Archa 52.62 296 P **P** **09 18 29.4 +0.3**
SNR=5.0
AAK Ala-Archa 52.62 296 eP **P** **09 18 28.2 -0.9**
comp=Z,9.8nm,1.0s,mb4.7
AAK Ala-Archa 52.62 296 eP **P** **09 18 28.2 -0.9**
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KKN Kakani 53.04 275 eP **P** **09 18 32.7 +0.2**
comp=Z,24nm,0.7s,mb5.2
EKS2 Erkin-Say 53.07 297 P **P** **09 18 32.8 +0.3**
SNR=7.7
GKN Gorkha 53.37 275 eP **P** **09 18 34.6 -0.3**
comp=Z,38nm,1.0s,mb5.3
AML Almayashu 53.38 296 P **P** **09 18 35.7 +0.9**
SNR=5.8
KOLN Koldanda 54.26 276 eP **P** **09 18 40.9 -0.5**
comp=Z,23nm,0.9s,mb5.2
KKAR Karatay Array 54.94 299 *i* P **P** **09 18 45.6 -0.6**
KKAR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ARU Arti 55.18 317 ⇓*i* P **P** **09 18 46.1 -1.7**
ARU *e* 09 20 47.7
ARU eS **S** **09 26 17.4 -13**
ARU eSS SS 09 30 00.2 -14
ARU pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
AB31 Akbulak array 58.08 309 P **P** **09 19 07.7 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ARCES ARCESS Array B 59.50 340 P **P** **09 19 17.3 -0.9**
comp=Z,1.4nm,0.9s,mb4.0,baz=45,slow=8.6,SNR=5.9
EDM Edmonton 60.13 43 eP **P** **09 19 22.5 -0.2**
JOF Joensuu 62.54 333 ep **P** **09 19 37.6 -1.3**
comp=Z,6.3nm,0.5s,mb5.0
KAF Kangasniemi 64.73 334 ep **P** **09 19 51.7 -1.4**
comp=Z,9.4nm,1.0s,mb5.0,baz=40,slow=6.2
KAF Kangasniemi 64.73 334 eP **P** **09 19 51.7 -1.4**
KAF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
WRA Warramunga Arr 65.13 196 P **P** **09 19 55.4 -1.0**
comp=Z,1.1nm,0.8s,mb4.2,baz=18,slow=6.9,SNR=10
FINES FINESS Array B 65.31 334 P **P** **09 19 55.2 -1.6**
comp=Z,8.9nm,0.6s,mb5.2,baz=39,slow=7.7,SNR=37
OBN Obninsk 65.98 325⇓eP **P** **09 20 00.7 -0.6**
OBN *e* 09 20 35.7
OBN pmax pmax
comp=Z,21nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,100nm,12.0s,MS4.2
VSU Vasula 67.33 331 *i* P **P** **09 20 09.4 -0.4**
PDAR Pinedale Array 68.53 51 P **P** **09 20 17.7 +0.1**
comp=Z,0.5nm,0.8s,mb3.8,baz=315,slow=2.1,SNR=3.8
NB2 NORSAR Subarra 69.88 340 P **P** **09 20 24.4 -1.1**
comp=Z,17nm,0.9s,mb5.2,baz=32,slow=6.5
NB2 NORSAR Subarra 69.88 340 P **P** **09 20 24.4 -1.1**
baz=32,slow=6.5
NB2 NORSAR Subarra 69.88 340 P **P** **09 20 24.4 -1.1**
NB2 pmax pmax
comp=Z,17nm,0.9s,mb5.2
NOA NORSAR Array B 69.88 340 P **P** **09 20 24.9 -0.7**
comp=Z,11nm,0.8s,mb5.0,baz=32,slow=6.1,SNR=27
KIV Kislovodsk 70.71 313 *i* P **P** **09 20 32.3 +1.4**
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,300nm,23.0s,MS4.5
AKASG Malin Array Be 72.25 325 P **P** **09 20 39.4 -0.6**
comp=Z,3.6nm,0.6s,mb4.7,baz=38,slow=5.9,SNR=16
KIS Kishinev 75.24 322 eP **P** **09 21 03.0 +5.6**
ANMO Albuquerque 75.57 55 *i* P **P** **09 21 00.7 +1.1**
KWP Kalwaria 75.71 327 eP **P** **09 21 00.6 +0.6**
DPC Dobruska-Polom 77.46 331 eP **P** **09 21 10.5 +0.7**
CLL Collm 77.75 334 ⇑P **P** **09 21 11.2 -0.2**
comp=Z,logA/T=1.0,mb4.9
CLL *e**SP sP 09 21 26.0 +14
CLL Collm 77.75 334⇑*i* P **P** **09 21 11.2 -0.2**
comp=Z,11nm,1.0s,mb4.9
CLL *e* 09 21 26.0
CLL Collm 77.75 334⇑*i* P **P** **09 21 11.2 -0.2**
CLL *e* 09 21 26.0
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.9
VRAC Vranov 78.25 331 eP **P** **09 21 14.8 +0.6**
PRU Pruhonice 78.38 332 eP **P** **09 21 15.3 +0.4**
BRTR Keskin Array B 78.45 315 P **P** **09 21 15.1 -0.3**
comp=Z,1.5nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=5.0
BRTR Keskin Array B 78.45 315 P **P** **09 21 15.1 -0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 79.44 332 eP **P** **09 21 21.3 +0.6**
KHC Kasperske Hory 79.44 332⇓eP **P** **09 21 21.1 +0.4**
GERES GERESS Array B 79.64 332 P **P** **09 21 22.0 +0.2**
comp=Z,0.9nm,0.4s,mb4.0,baz=45,slow=3.8,SNR=9.4
GRA1 Grafenberg Arr 79.72 334 eP **P** **09 21 22.9 +0.7**
comp=Z,6.0nm,0.6s,mb4.7
GRF Grafenberg Arr 79.72 334 eP **P** **09 21 22.9 +0.7**
comp=Z,6.0nm,0.6s,mb4.7
GRF Grafenberg Arr 79.72 334 eP **P** **09 21 22.9 +0.7**
GRF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
GRF Grafenberg Arr 79.72 334 eP **P** **09 21 22.9 +0.7**
GRF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
TXAR Lajitas Array 81.20 58 P **P** **09 21 31.1 +0.7**
comp=Z,1.2nm,0.7s,mb4.0,baz=299,slow=3.7,SNR=17
TXAR Lajitas Array 81.20 58 P **P** **09 21 31.1 +0.7**
TXAR Lajitas Array 81.20 58 P **P** **09 21 31.1 +0.6**
CDF Champ du Feu 82.07 336 eP **P** **09 21 34.9 +0.3**
LDF La Druitiere 83.92 340 eP **P** **09 21 44.3 +0.3**
CABF La Chapelle 84.04 335 eP **P** **09 21 44.9 +0.2**
comp=Z,15nm,1.0s,mb4.9
CABF La Chapelle 84.04 335 eP **P** **09 21 44.9 +0.2**
CABF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
LOR Lormes 84.09 337 eP **P** **09 21 44.9 0.0**
SSF Saint Saulge 84.38 337 eP **P** **09 21 46.8 +0.4**
SMF Signal de Mont 84.67 337 eP **P** **09 21 47.9 +0.1**
AVF Avril sur Loir 84.67 337 eP **P** **09 21 48.0 +0.1**
LPL La Plagne 84.83 335 eP **P** **09 21 49.3 +0.6**
TCF Toulx Ste Croi 85.45 338 eP **P** **09 21 52.5 +0.8**
MBDF Montbardon 85.53 334 eP **P** **09 21 52.6 +0.4**
comp=Z,3.8nm,0.5s,mb4.5
MBDF Montbardon 85.53 334 eP **P** **09 21 52.6 +0.4**
MBDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
ORIF Oris-en-Rattie 85.63 335 eP **P** **09 21 53.0 +0.3**
comp=Z,7.2nm,0.7s,mb4.6
ORIF Oris-en-Rattie 85.63 335 eP **P** **09 21 53.0 +0.3**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
VIVF Saint-Julien-l 86.05 336 eP **P** **09 21 54.7 -0.1**
comp=Z,6.8nm,0.7s,mb4.6
VIVF Saint-Julien-l 86.05 336 eP **P** **09 21 54.7 -0.1**
VIVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
SBF Sospel 86.09 333 eP **P** **09 21 55.4 +0.4**
SMRF Simiane la Rot 86.58 335 eP **P** **09 21 57.3 -0.1**
FRF La Foret Royal 86.62 334 eP **P** **09 21 57.4 -0.2**
CAF Calviac 86.74 337 eP **P** **09 21 58.5 +0.3**
PGF Pioggiola 86.74 332 eP **P** **09 21 58.4 +0.2**
comp=Z,26nm,1.0s,mb5.1
PGF Pioggiola 86.74 332 eP **P** **09 21 58.4 +0.2**
PGF pmax pmax
comp=Z,13nm,1.0s,mb5.1
LMR La Mourre 86.86 334 eP **P** **09 21 58.7 -0.1**
comp=Z,15nm,0.9s,mb4.9
LMR La Mourre 86.86 334 eP **P** **09 21 58.7 -0.1**
LMR pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LASF Ste Croix 87.01 336 eP **P** **09 21 59.6 +0.1**
SNAA Sanae 149.19 197⇑*i* PKPdf 09 29 02.1 +4.0
SNAA Sanae 149.19 197 *e* PKPdf 09 29 10.3 +12
SNAA Sanae 149.19 197 *e* PKPdf 09 29 21.4 +23
SNAA Sanae 149.19 197 *e* PKPdf 09 29 26.9 +29
SNAA Sanae 149.19 197 *e* PKPdf 09 29 40.1 +42
VNA2 Neumayer--Watz 150.69 195⇑*i* PKPdf 09 29 06.1 +5.6
VNA2 Neumayer--Watz 150.69 195 *e* PKPdf 09 29 14.4 +14
VNA2 Neumayer--Watz 150.69 195 *e* PKPdf 09 29 25.6 +25
VNA2 Neumayer--Watz 150.69 195 *e* PKPdf 09 29 31.9 +31
VNA2 Neumayer--Watz 150.69 195 *e* PKPdf 09 29 45.7 +45
VNA3 Neumayer Olymp 150.84 194⇑*i* PKPdf 09 29 06.1 +5.4
VNA3 Neumayer Olymp 150.84 194 *e* PKPdf 09 29 16.1 +15
VNA3 Neumayer Olymp 150.84 194 *e* PKPdf 09 29 24.8 +24
VNA3 Neumayer Olymp 150.84 194 *e* PKPdf 09 29 30.6 +30
VNA3 Neumayer Olymp 150.84 194 *e* PKPdf 09 29 46.4 +46
VNA1 Neumayer--Stat 151.08 195⇑*i* PKPdf 09 29 04.6 +3.6
VNA1 Neumayer--Stat 151.08 195 *e* PKPdf 09 29 14.1 +13
VNA1 Neumayer--Stat 151.08 195 *e* PKPdf 09 29 23.2 +22
VNA1 Neumayer--Stat 151.08 195 *e* PKPdf 09 29 29.4 +28

NEIC ***28*** *09:54:21.8, 17.13N×99.61W, h33km, MD4.1(MEX), After MEX.*

MEX 28 09:54:21.9±1.1, 17.11N×99.60W, h32km±25km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.38**	**232**	*i*	P		Pb	09 54 29.5	-1.2
ACX				*i*	S		Sb	09 54 34.5	-2.2
CAIG	**El Cayaco**	**0.64**	**265**	*i*	P		Pb	09 54 32.5	-2.1
CAIG				*i*	S		Sb	09 54 41.2	-2.1
PLIG	**Platanillo**	**1.28**	**4**	*i*	P		Pn	09 54 42.0	-1.9
PLIG				*i*	S		Sn	09 54 58.4	-1.8
PNIG	**Pinotepa**	**1.58**	**116**	*i*	P		Pn	09 54 45.9	-2.3
PNIG				*i*	S		Sn	09 55 04.4	-3.3
YAIG	**Yautepec**	**1.82**	**16**	*i*	P		Pn	09 54 47.6	-4.0
YAIG				*i*	S		Sn	09 55 09.5	-4.3
ZIIG	**Zihuatanejo**	**1.85**	**286**	*i*	P		Pn	09 54 49.4	-2.6
ZIIG				*i*	S		Sn	09 55 12.2	-2.3
IIZ	**Mezontepec**	**2.10**	**9**	*e*	P		Pn	09 54 49.5	-6.1
PPM	**Popocatepetl**	**2.16**	**25**	*e*	P		Pn	09 54 52.5	-4.0
PPM				*i*	S		Sn	09 55 17.0	-5.4
VHO	**Vista Hermosa**	**2.74**	**90**	*i*	P		Pn	09 55 01.1	-3.8
VHO				*i*	S		Sn	09 55 34.6	-2.7
OXX	**Oaxaca**	**2.75**	**90**	*e*	P		Pn	09 55 05.0	0.0
OXX				*i*	S		Sn	09 55 41.0	+3.5
MOIG	**Morelia**	**2.97**	**330**	*e*	P		Pn	09 55 05.9	-2.1
MOIG				*i*	S		Sn	09 55 39.6	-3.3
MOIG	**Morelia**	**2.97**	**330**	*i*	P		Pn	09 55 07.2	-0.8
MOIG				*i*	S		Sn	09 55 39.6	-3.3
CMIG	**Matias Romero**	**4.51**	**90**	*e*	P		Pn	09 55 26.6	-3.4
CMIG				*i*	S		Sn	09 56 17.3	-4.7

NNC ***28*** *10:01:05.4±0.8, 47.39N×80.89E, h9km, 6km, mpv4.2, Error ellipse: s-maj=13.0km s-min=5.4km az=34.0*
MOS ***28*** *10:01:06.4±1.0, 47.44N×80.97E, h33km, mb4.5/4, Error ellipse: s-maj=9.5km s-min=7.0km az=95.4*
BJI ***28*** *10:01:07.2, 47.40N×81.28E, h18km, mB4.6, mb4.2, ML4.3, Ms4.1*
IDC ***28*** *10:01:07.2±0.6, 47.42N×81.10E, h23km±4km, mb3.8/8, mb1 3.9/10, mb1mx3.8/20, mbtmp3.9/10, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/26, Error ellipse: s-maj=26.0km s-min=7.2km az=38.0*
NEIC ***28*** *10:01:07.0±0.4, 47.36N×81.03E, mb4.4/3, Error ellipse: s-maj=9.9km s-min=5.6km az=210.0*

ISC 28 10:01:05.4±0.3, 47.50N±0.03×80.97E±0.04, h24km, h24km±.4km: pP-P, n57, σ1$05/72, mb4.1/12, 23C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK05	**Makanchi Array**	**1.14**	**127**	⇓	P		**Pn**	**10 01 26.7**	**+0.6**
	239nm,0.4s,baz=312,slow=16								
MK05				⇓	S		**Sb**	**10 01 41.2**	**+0.4**
	1μm,0.5s,baz=316,slow=27								
MK05	**Makanchi Array**	**1.14**	**127**	⇓	P		**Pn**	**10 01 26.7**	**+0.6**
MK05					S		**Sb**	**10 01 41.1**	**+0.4**
MKAR	**Makanchi Array**	**1.14**	**127**		Pg		**Pn**	**10 01 26.7**	**+0.6**
	157nm,0.3s,baz=311,slow=15,SNR=4520								
MKAR					Lg			10 01 41.2	
	765nm,0.3s,baz=314,slow=28,SNR=79								
MKAR	**Makanchi Array**	**1.14**	**127**		Pg		**Pn**	**10 01 26.7**	**+0.6**
MKAR					Lg			10 01 41.2	
MK02	**Makanchi Array**	**1.17**	**128**	⇓	PG		**Pn**	**10 01 26.7**	**+0.3**
MK02					S		**Sb**	**10 01 41.2**	**-0.3**
KURK	**Kurchatov**	**3.57**	**335**	⇑	Pn		**Pn**	**10 02 02.8**	**+2.1**
	50nm,0.5s								
KURK				⇑	Pg		**Pn**	**10 02 12.3**	**+12**
KURK				⇑	Lg			10 03 00.3	
	264nm,0.7s								
AAA	**Alma-Ata**	**5.09**	**215**	*e*	PN		**Pb**	**10 02 35.7**	**+2.2**
AAA					pmax	pmax			
	comp=Z,2.0nm,0.4s								
TKM2	**Tokmak 2**	**5.94**	**222**		P		**Pn**	**10 02 34.4**	**+0.1**
	SNR=29								
WMQ	**Urumqi**	**5.97**	**125**		P		**Pn**	**10 02 36.0**	**+1.3**
WMQ					S		**Sn**	**10 03 41.5**	**-1.7**
WMQ					Smax				
	comp=N,148nm,0.8s								
WMQ					Smax				
	comp=E,141nm,0.8s								
WMQ					LR	LR			
	comp=N,692nm,4.0s								
USP	**Ospenovka**	**6.22**	**229**		P		**Pn**	**10 02 38.0**	**-0.1**
	SNR=22								
ULHL	**Ulahol**	**6.23**	**214**		P		**Pn**	**10 02 39.8**	**+1.4**
	SNR=72								
CHMS	**Chumysh**	**6.28**	**227**		P		**Pn**	**10 02 39.5**	**+0.5**
	SNR=12								
KBK	**Karagaybulak**	**6.45**	**224**		P		**Pn**	**10 02 41.4**	**0.0**
	SNR=15								
FRU	**Bishkek**	**6.47**	**226**	*e*	PN		**Pn**	**10 02 41.0**	**-0.7**
FRU				*e*	S		**Sb**	**10 04 23.0**	**+8.1**
FRU					smax				
	comp=N,560nm,1.4s								
AAK	**Ala-Archa**	**6.68**	**226**		P		**Pn**	**10 02 44.4**	**-0.3**
	SNR=13								
AAK	**Ala-Archa**	**6.68**	**226**	⇓	Pn		**Pn**	**10 02 44.4**	**-0.3**

comp=N,21nm,0.6s
AAK ⇑Lg 10 04 32.3
comp=N,170nm,0.7s
AAK Ala-Archa 6.68 226 ⇓Pn **Pn 10 02 44.4 -0.3**
comp=N,21nm,0.6s
AAK Lg 10 04 32.3
UCH Uchtor 6.98 223 P **Pn 10 02 49.4 +0.5**
SNR=16
EKS2 Erkin-Say 7.02 229 P **Pn 10 02 49.4 -0.1**
SNR=13
AML Almayashu 7.45 227 P **Pn 10 02 55.9 +0.4**
SNR=10
NVS Novosibirsk 7.49 10 *e*P **Pn 10 02 58.4 +2.4**
NVS *e*S **Sn 10 04 20.8 -0.3**
VOSK Vostochnaya 8.28 313 ⇑Pn **P 10 03 08.3 +1.3**
comp=N,3.4nm,0.4s
VOSK ⇑Sn **Sn 10 04 39.5 -1.3**
comp=N,26nm,0.7s
VOSK ⇑Lg 10 05 27.5
comp=N,111nm,0.8s
KK31 Karatay Array 8.58 243 ⇑Pn **P 10 03 09.0 -2.2**
comp=N,4.1nm,0.4s,baz=62,slow=13,SNR=44
KK31 ⇓Lg 10 05 35.0
comp=N,30nm,0.5s,baz=52,slow=17,SNR=3.5
KK31 Karatay Array 8.58 243 ⇑Pn **P 10 03 09.0 -2.2**
comp=N,4.1nm,0.4s
KK31 Lg 10 05 35.0
KKAR Karatay Array 8.58 243 *e*P **P 10 03 09.1 -2.1**
BVA0 Borovoye Array 8.75 313 ⇑Pn **P 10 03 15.0 +1.5**
comp=N,0.7nm,0.4s,baz=124,slow=14,SNR=33
BVA0 ⇑Sn **Sn 10 04 51.4 -1.0**
comp=N,1.9nm,0.4s,baz=114,slow=22,SNR=6.6
BVA0 ⇑Lg 10 05 43.6
comp=N,22nm,1.4s,baz=135,slow=23,SNR=6.0
BVA0 Borovoye Array 8.75 313 ⇑Pn **P 10 03 15.0 +1.5**
comp=N,0.7nm,0.4s
BVA0 Sn **Sn 10 04 51.4 -1.0**
BVA0 Lg 10 05 43.6
BVAR Borovoye Array 8.75 313 Pn **P 10 03 14.2 +0.7**
comp=N,1.4nm,0.3s,baz=117,slow=15,SNR=14
BVAR Sn **Sn 10 04 48.7 -3.7**
comp=N,7.4nm,0.3s,baz=115,slow=21,SNR=7.0
BRVK Borovoye 8.82 313 *e*P **P 10 03 15.3 +0.8**
comp=N,5.4nm,0.6s
BRVK Borovoye 8.82 313 *e*P **P 10 03 15.3 +0.8**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
CHKZ Chkalovo 9.03 317 ⇑Pn **P 10 03 18.0 +0.5**
comp=Z,5.4nm,0.3s
CHKZ ⇑Sn **Sn 10 04 54.8 -4.6**
comp=Z,22nm,0.6s
CHKZ ⇑Lg 10 05 50.4
comp=Z,69nm,0.8s
CHKZ Chkalovo 9.03 317 ⇑Pn **P 10 03 18.0 +0.5**
CHKZ Sn **Sn 10 04 54.8 -4.7**
CHKZ Lg 10 05 50.4
SHRR Shira 9.09 36 *e*P **P 10 03 18.6 +0.3**
SHRR *e* 10 05 00.5
AB31 Akbulak array 14.08 285 ⇑Pn **P 10 04 23.4 -2.0**
comp=Z,1.8nm,0.5s,baz=103,slow=8.0,SNR=34
AB31 ⇑Lg 10 08 27.6
comp=Z,20nm,0.7s
AB31 Akbulak array 14.08 285 ⇑Pn **P 10 04 23.4 -2.0**
comp=Z,1.8nm,0.5s
AB31 Lg 10 08 27.6
ZAK Zakamensk 14.93 71 *e*P **P 10 04 35.8 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
AKTK Aktyubinsk 15.35 290 ⇑Pn **P 10 04 41.5 -0.4**
AKTK Sn **S 10 07 36.3 +4.6**
AKTK Lg 10 09 10.0
AKTO Aktyubinsk 15.35 290 ⇑Pn **P 10 04 41.5 -0.4**
comp=Z,0.6nm,0.6s
AKTO ⇑Sn **S 10 07 36.3 +4.6**
comp=Z,1.7nm,1.1s
AKTO ⇓Lg 10 09 10.0
comp=Z,4.8nm,1.1s
GTA Gaotai 15.86 114 *e*P **P 10 04 53.3 +4.6**
GTA AP 10 04 57.5
GTA XP 10 05 01.0
GTA AMB AMB
comp=Z,6.0nm,0.9s
SONM Songino Array 17.11 79 P **P 10 05 04.0 -0.4**
comp=Z,0.2nm,0.3s,baz=275,slow=11,SNR=8.7
SONM LR LR 10 11 49.7
comp=Z,63nm,18.4s,baz=218,slow=38
ULN Ulaanbaatar 17.55 79 *i* P **P 10 05 14.1 +4.3**
BOD Bodaibo 22.32 50 *e*P **P 10 06 02.4 -0.1**
BOD *e* 10 06 13.1
BOD pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
BOD pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
TIXI Tiksi 32.74 26 *e*P **P 10 07 36.0 -1.9**
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AKASG Malin Array Be 33.47 295 P **P 10 07 44.7 +0.2**
comp=Z,0.3nm,0.3s,mb3.7,baz=64,slow=9.0,SNR=4.0
ARCES ARCESS Array B 34.59 329 P **P 10 07 54.1 +0.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=108,slow=7.7,SNR=5.1
ARCES PcP PcP 10 10 27.4 -1.1
comp=Z,2.8nm,1.0s,baz=135,slow=3.4,SNR=5.3
BRTR Keskin Array B 34.69 275 P **P 10 07 55.4 +0.3**
comp=Z,0.3nm,0.3s,mb3.7,baz=58,slow=8.4,SNR=2.6
BRTR pP pP 10 08 03.0 +0.8
comp=Z,1.1nm,0.7s,baz=68,slow=6.7,SNR=3.9
SSE Sheshan 34.72 103 *e*P **P 10 07 55.0 -0.5**
SSE AMB AMB
comp=Z,24nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,53nm,5.6s
SSE Sheshan 34.72 103 *e*P **P 10 07 55.0 -0.5**
comp=Z,24nm,0.9s,mb5.1
HFS Hagfors 39.88 314 P **P 10 08 39.4 +0.8**
comp=Z,1.8nm,0.3s,mb4.3,baz=87,slow=9.5,SNR=18
HFS pP pP 10 08 46.5 +0.7
comp=Z,2.3nm,0.6s,baz=72,slow=9.4,SNR=3.1
NB2 NORSAR Subarra 40.87 316 P **P 10 08 46.9 +0.3**
comp=Z,1.7nm,0.5s,mb3.9,baz=77,slow=7.9
NB2 NORSAR Subarra 40.87 316 P **P 10 08 46.9 +0.3**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
NOA NORSAR Array B 40.87 316 P **P 10 08 47.3 +0.6**
comp=Z,1.3nm,0.4s,mb4.0,baz=76,slow=8.2,SNR=5.3
NOA pP pP 10 08 54.5 +0.7
comp=Z,1.7nm,0.4s,baz=77,slow=8.2,SNR=5.7
ILAR Eielson Array 62.03 21 P **P 10 11 25.1 -0.5**
comp=Z,1.8nm,0.8s,mb4.3,baz=315,slow=5.1,SNR=3.0
ILAR pP pP 10 11 32.5 -0.6
comp=Z,2.9nm,0.8s,baz=318,slow=5.0,SNR=3.4
WRAB Tennant Creek 82.44 130 P **P 10 13 25.1 -2.0**
comp=Z,3.2nm,1.0s,mb4.2
WRAB Tennant Creek 82.44 130 P **P 10 13 25.1 -2.0**
WRAB pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
WRA Warramunga Arr 82.45 130 P **P 10 13 26.1 -1.0**
comp=Z,0.9nm,0.8s,mb3.7,baz=336,slow=4.7,SNR=6.4
WRA pP pP 10 13 33.3 -1.4
comp=Z,0.7nm,0.7s,baz=337,slow=5.1,SNR=3.8
PDAR Pinedale Array 89.64 8 P **P 10 14 03.1 +1.0**
comp=Z,0.4nm,0.7s,mb3.9,baz=43,slow=1.9,SNR=3.9
PDAR pP pP 10 14 10.9 +1.1
comp=Z,0.7nm,0.7s,baz=34,slow=2.6,SNR=5.8

*LDG **28** 10:04:24.4±0.5, 15.20S×167.24E, h10km, Mb4.4/2, Error ellipse: s-maj=51.2km s-min=32.4km az=31.0*
*IDC **28** 10:04:36.2±4.9, 15.62S×167.80E, h123km±50km, mb3.5/5, mb1 3.7/6, mb1mx3.6/12, mbtmp4.0/6, Error ellipse: s-maj=42.8km s-min=28.4km az=141.0*
*NEIC **28** 10:04:38.9±1.8, 15.69S×167.79E, h150km±15km, mb4.4/2, Error ellipse: s-maj=19.7km s-min=14.8km az=74.0*
ISC 28 10:04:38.1±2.6, 15.8S±0.1×167.7E±0.2, h151km±22km, n46, σ1°08/28, mb3.8/7, 3C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**6.39**	**190**	***e*P**	**P**		**10 06 11.7**	**+0.8**
DZM				*e*S	**S**		**10 07 22.4**	**-0.6**
DZM	**Mont Dzumac**	**6.39**	**190**	P	**P**		**10 06 11.0**	**0.0**
	3.9nm,0.3s,baz=20,slow=12,SNR=52							
DZM				S	**S**		**10 07 23.3**	**+0.2**
	1.9nm,0.3s,baz=325,slow=19,SNR=3.9							
DZM	**Mont Dzumac**	**6.39**	**190**	***e*P**	**P**		**10 06 11.7**	**+0.8**
DZM				*e*S	**S**		**10 07 22.4**	**-0.6**
NOUC	**Port Laguerre**	**6.44**	**191**	***e*P**	**P**		**10 06 13.2**	**+1.6**
NOUC				*e*S	**S**		**10 07 22.7**	**-1.6**
NOUC	**Port Laguerre**	**6.44**	**191**	***e*P**	**P**		**10 06 13.2**	**+1.6**
NOUC				*e*S	**S**		**10 07 22.7**	**-1.7**
STKA	**Stephens Creek**	**28.63**	**231**	P	**P**		**10 10 23.4**	**+0.7**
	1.9nm,0.7s,mb3.9,baz=5.7,slow=10,SNR=3.3							
WRA	**Warramunga Arr**	**31.95**	**258**	P	**P**		**10 10 51.0**	**-1.1**
	0.4nm,0.7s,mb3.3,baz=84,slow=8.3,SNR=10							
FITZ	**Fitzroy Crossi**	**40.20**	**260**	⇓*i*P	**P**		**10 12 02.2**	**+0.7**
	3.8nm,0.4s,mb4.4							
FITZ	**Fitzroy Crossi**	**40.20**	**260**	P	**P**		**10 12 02.5**	**+1.0**
	baz=70,slow=6.1							
MJAR	**Matsushiro Arr**	**58.98**	**332**	P	**P**		**10 14 21.9**	**-2.4**
	1.5nm,0.9s,mb3.8,baz=130,slow=9.5,SNR=3.7							
ULN	**Ulaanbaatar**	**83.18**	**324**	***e*P**	**P**		**10 16 49.2**	**+0.6**
	5.5nm,0.9s,mb4.3							
SONM	**Songino Array**	**83.54**	**324**	P	**P**		**10 16 51.3**	**+0.8**
	1.8nm,0.7s,mb3.9,baz=135,slow=6.1,SNR=9.4							
ILAR	**Eielson Array**	**87.38**	**18**	P	**P**		**10 17 07.5**	**-1.4**
	0.3nm,0.6s,mb3.3,baz=240,slow=4.7,SNR=5.9							
SNAA	**Sanae**	**92.55**	**183**	*e*	**P**		**10 17 33.6**	**+0.6**
SNAA	**Sanae**	**92.55**	**183**	⇑*i*P	**P**		**10 17 33.0**	**0.0**
SNAA				*e*			10 17 33.6	
VNA3	**Neumayer Olymp**	**93.20**	**181**	*e*	**P**		**10 17 36.6**	**+0.7**
VNA3	**Neumayer Olymp**	**93.20**	**181**	*e*	**P**		**10 17 42.9**	**+7.0**
VNA3	**Neumayer Olymp**	**93.20**	**181**	⇑*i*P	**P**		**10 17 36.0**	**+0.1**
VNA3				*e*			10 17 36.6	
VNA3				*e*			10 17 42.9	
VNA2	**Neumayer--Watz**	**93.47**	**182**	*e*	**P**		**10 17 38.2**	**+1.0**
VNA2	**Neumayer--Watz**	**93.47**	**182**	*e*	**P**		**10 17 44.1**	**+6.9**
VNA2	**Neumayer--Watz**	**93.47**	**182**	*e*	pP		10 18 09.4	-6.3
VNA2	**Neumayer--Watz**	**93.47**	**182**	⇑*i*P	**P**		**10 17 37.6**	**+0.4**
VNA2				*e*			10 17 38.2	
VNA2				*e*			10 17 44.1	
VNA2				*e*			10 18 09.4	
VNA1	**Neumayer--Stat**	**93.77**	**181**	*e*	**P**		**10 17 45.3**	**+6.8**
VNA1	**Neumayer--Stat**	**93.77**	**181**	*e*	pP		10 18 08.3	-8.8
VNA1	**Neumayer--Stat**	**93.77**	**181**	P	**P**		**10 17 38.3**	**-0.2**
VNA1				*e*			10 17 45.3	
VNA1				*e*			10 18 08.3	
ARCES	**ARCESS Array B**	**121.33**	**345**	PKP	PKPdf		10 23 13.8	+0.8
	0.3nm,0.3s,baz=56,slow=2.2,SNR=9.1							
ARCES	**ARCESS Array B**	**121.33**	**345**	PKP	PKPdf		10 23 13.8	+0.8
CABF	**La Chapelle**	**145.61**	**337**	*e*PKP1	PKPbc		10 24 01.0	+1.8
FLN	**La Foliniere**	**145.68**	**346**	*e*PKP1	PKPbc		10 24 00.3	+1.0
LDF	**La Druitiere**	**145.75**	**346**	*e*PKP1	PKPbc		10 24 01.1	+1.6
LOR	**Lormes**	**145.82**	**340**	*e*PKP1	PKPbc		10 24 01.1	+1.4
	9.1nm,0.8s							
GRR	**Gorron**	**146.11**	**346**	*e*PKP1	PKPbc		10 24 01.7	+1.3
	11nm,0.6s							
SSF	**Saint Saulge**	**146.12**	**340**	*e*PKP1	PKPbc		10 24 02.2	+1.8
	7.6nm,0.6s							
LPL	**La Plagne**	**146.28**	**336**	*e*PKP1	PKPbc		10 24 03.1	+2.2
LPG	**La Plagne**	**146.28**	**336**	*e*PKP1	PKPbc		10 24 03.2	+2.3
	7.9nm,0.7s							
AVF	**Avril sur Loir**	**146.41**	**340**	*e*PKP1	PKPbc		10 24 03.9	+2.8
SGMF	**Saint Gilles**	**146.60**	**348**	*e*PKP1	PKPbc		10 24 03.1	+1.6
BGF	**Bois d'Agland**	**146.78**	**341**	*e*PKP1	PKPbc		10 24 03.9	+1.9
	6.8nm,0.6s							
QUIF	**Quistinic**	**147.05**	**349**	*e*PKP1	PKPdf		10 24 05.6	+4.9
ORIF	**Oris-en-Rattie**	**147.11**	**336**	*e*PKP1	PKPdf		10 24 05.2	+4.3
	3.3nm,0.5s							
TCF	**Toulx Ste Croi**	**147.22**	**341**	*e*PKP1	PKPdf		10 24 05.2	+4.1
	2.8nm,0.5s							
MFF	**Saint Martin d**	**147.60**	**344**	*e*PKP1	PKPdf		10 24 06.1	+4.4
	3.9nm,0.4s							
PGF	**Pioggiola**	**147.62**	**330**	*e*PKP1	PKPdf		10 24 06.4	+4.5
LMR	**La Mourre**	**148.15**	**333**	*e*PKP1	PKPdf		10 24 07.5	+4.8
	8.1nm,0.7s							
LASF	**Ste Croix**	**148.59**	**337**	*e*PKP1	PKPdf		10 24 09.2	+5.8
ETSF	**Etsaut**	**151.13**	**342**	*e*PKP1	PKPdf		10 24 15.6	+8.3
	6.3nm,0.7s							

GUC 28 10:07:25.2±0.8, 29.06S×70.64W, h98km±9km, ML3.7, 1C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TLL	**Tololo Astrono**	**1.12**	**187**	⇑*i*P		P	10 07 48.2	+1.0
TLL				*i* S		S	10 08 04.7	+1.2
TLL				AMP			10 08 06.8	
	comp=N,801nm,0.4s							
CPCH	**Copiapo**	**1.71**	**9**	⇓*i*P		P	10 07 54.5	+0.1
CPCH				*i* S		S	10 08 16.1	+0.1
CPCH				AMP			10 08 18.2	
	comp=E,6μm,0.1s							
CDCH	**Caldera**	**1.98**	**355**	*i* P		P	10 07 57.8	-0.1
CDCH				*i* S		S	10 08 21.5	-0.7
CMCH	**Combarbala**	**2.13**	**188**	⇓*i*P		P	10 07 59.7	-0.3
CMCH				*i* S		S	10 08 26.1	+0.3
CMCH				AMP			10 08 47.2	
	comp=E,320nm,0.4s							
FCH	**Farellones**	**4.27**	**176**	***e*P**		P	10 08 29.4	+0.1
FCH				*i* S		S	10 09 18.1	-0.1

*BER **28** 10:10:02.0±4.0, 59.28N×27.18E, ML2.2(NAO), Suspected explosion*
*NAO **28** 10:10:03.6±3.8, 59.34N×26.85E, ML2.2*
*IDC **28** 10:10:03.6±1.9, 59.36N×27.11E, mb1 3.2/4, mb1mx3.1/19, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=16.3km s-min=9.4km az=128.0*
HEL 28 10:10:04.8±0.4, 59.52N×27.46E, ML1.5, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VJF	**Virojoki**	**1.03**	**3**	***e*PN**	Pn		10 10 25.3	-1.0
VJF				*e*S	Sg		10 10 36.8	-2.2
PVF	**Pernaja**	**1.31**	**323**	***e*P**	Pb		10 10 27.9	-2.0
PVF				*e*S	Sb		10 10 44.6	-2.6
FIA0	**FINESS Array S**	**2.05**	**341**	Pn	Pn		10 10 40.1	-0.9
	baz=159,slow=16							
FIA0				Lg			10 11 10.6	
	baz=174,slow=28							
FIA0				Rg			10 11 25.4	
	baz=157,slow=37							
FIA0	**FINESS Array S**	**2.05**	**341**	***e*PG**	Pg		10 10 41.3	-4.4
FIA0				*e*S	Sn		10 11 06.7	-0.9
FINES	**FINESS Array B**	**2.05**	**341**	Pn	Pn		10 10 40.1	-0.9
	2.6nm,0.3s,baz=166,slow=16,SNR=15							
FINES				Sn	Sn		10 11 09.2	+1.6
	4.3nm,0.3s,baz=167,slow=24,SNR=12							
FINES				Lg			10 11 11.8	
	4.3nm,0.3s,baz=164,slow=32,SNR=13							
KAF	**Kangasniemi**	**2.67**	**348**	***e*P**	Pn		10 10 49.5	-0.2
KAF				*e*S	Sn		10 11 21.3	-1.9
KEF	**Keuruu**	**2.95**	**336**	***e*P**	Pn		10 10 53.3	-0.4
KEF				*e*SG	Sg		10 11 35.2	-7.7
KEF				MSG			10 11 38.1	
	comp=Z,1.1nm,0.1s							
SUF	**Sumiainen**	**3.28**	**349**	***e*P**	Pn		10 10 57.7	-0.7
SUF				*e*S	Sn		10 11 35.4	-3.3
JOF	**Joensuu**	**3.89**	**27**	***e*P**	Pn		10 11 05.7	-1.4
JOF				*e*S	Sn		10 11 49.9	-4.3
VAF	**Ylistaro**	**4.22**	**329**	*e*SG	Sg		10 12 14.7	-11
KJN	**Kajaani**	**4.59**	**1**	*e*S	Sn		10 12 07.2	-4.7
HFS	**Hagfors**	**6.97**	**281**	Pn	Pn		10 11 42.6	-8.0
	baz=114,slow=12							
HFS				Sn	Sn		10 12 57.3	-14
	baz=100,slow=28							
HFS				Lg			10 13 33.4	
	baz=78,slow=28							
HFS	**Hagfors**	**6.97**	**281**	Pn	Pn		10 11 42.6	-8.0
	comp=Z,0.0nm,0.3s,baz=108,slow=18,SNR=2.7							
HFS				Sn	Sn		10 12 57.6	-14
	comp=Z,0.0nm,0.3s,baz=102,slow=27,SNR=3.5							
HFS				Lg			10 13 36.5	
	comp=Z,0.2nm,0.3s,baz=93,slow=30,SNR=3.9							
NB2	**NORSAR Subarra**	**8.21**	**288**	Pn	P		10 11 59.4	-8.7
	baz=88,slow=14							
NOA	**NORSAR Array B**	**8.21**	**288**	Pn	P		10 11 59.1	-9.0
	comp=Z,0.3nm,0.3s,baz=90,slow=13,SNR=2.4							
NOA				Sn	Sn		10 13 26.8	-16
	comp=Z,0.2nm,0.3s,baz=76,slow=19,SNR=2.4							
NOA				Lg			10 14 16.1	
	comp=Z,0.4nm,0.3s,baz=81,slow=14,SNR=2.9							
ARA0	**ARCESS Array S**	**10.10**	**356**	Pn	P		10 12 28.8	-5.1
	baz=172,slow=14							
ARCES	**ARCESS Array B**	**10.10**	**356**	Pn	P		10 12 28.9	-5.0
	comp=Z,0.2nm,0.3s,baz=175,slow=15,SNR=6.5							
ARCES				Sn	S		10 14 18.4	-11
	comp=Z,0.1nm,0.3s,baz=175,slow=21,SNR=2.8							

*IDC **28** 10:14:01.8±1.0, 3.61S×130.98E, mb4.0/6, mb1 4.2/7, mb1mx4.1/13, mbtmp4.1/7, ML4.7/1, Error ellipse: s-maj=57.8km s-min=19.5km az=68.0*
*NEIC **28** 10:14:07.8±0.6, 3.68S×131.01E, h40km, mb4.0/6, Error ellipse: s-maj=21.0km s-min=11.5km az=72.0*
ISC 28 10:14:03.8±3.3, 3.83S±0.08×131.4E±0.2, h38km±32km, n16, σ1°03/20, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**15.27**	**201**	***e*P**		**P**	**10 17 39.2**	**+0.7**
	4.0nm,0.3s							
FITZ				*e*S		**S**	**10 20 25.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**15.27**	**201**	Pn	P	**P**	**10 17 38.4**	**-0.2**
	2.5nm,0.3s,baz=16,slow=9.9,SNR=24							
FITZ				Sn		**S**	**10 20 22.0**	**-4.8**
	0.2nm,0.3s,baz=177,slow=17,SNR=2.2							
WRAB	**Tennant Creek**	**16.27**	**170**	***e*P**		**P**	**10 17 51.1**	**-0.2**
	8.3nm,0.6s							
WRA	**Warramunga Arr**	**16.27**	**170**	Pn	P	**P**	**10 17 50.9**	**-0.5**
	0.3nm,0.3s,baz=348,slow=14,SNR=27							
WRA				Sn		**S**	**10 20 50.2**	**+0.1**
	0.4nm,0.3s,baz=348,slow=23,SNR=5.7							
WB2	**Warramunga Arr**	**16.27**	**170**	***e*P**		**P**	**10 17 51.9**	**+0.5**
WB2				*e*S		**S**	**10 20 49.7**	**-0.5**
MBWA	**Marble Bar**	**20.63**	**212**	***e*P**		**P**	**10 18 44.0**	**+1.3**
	5.1nm,0.6s							
CTA	**Charters Tower**	**21.70**	**139**	***e*P**		**P**	**10 18 59.4**	**+5.8**
	3.3nm,0.6s,mb3.9							
CTA	**Charters Tower**	**21.70**	**139**	P	P	**P**	**10 18 58.8**	**+5.3**
	3.7nm,0.6s,mb4.0,baz=332,slow=13,SNR=8.3							
CTAO	**Charters Tower**	**21.70**	**139**	***e*P**		**P**	**10 18 59.2**	**+5.6**
	3.9nm,0.7s,mb4.0							
STKA	**Stephens Creek**	**29.50**	**162**	P	P	**P**	**10 20 11.0**	**+4.1**
	2.5nm,0.6s,mb4.1,baz=349,slow=10,SNR=3.8							
STKA	**Stephens Creek**	**29.50**	**162**	P	P	**P**	**10 20 11.0**	**+4.1**
SONM	**Songino Array**	**55.92**	**340**	P	P	**P**	**10 23 40.6**	**+0.1**
	0.4nm,0.7s,mb3.6,baz=164,slow=6.2,SNR=4.9							
MKAR	**Makanchi Array**	**66.38**	**325**	P	P	**P**	**10 24 48.9**	**-2.3**
	1.3nm,0.6s,mb4.2,baz=141,slow=7.8,SNR=13							
KURK	**Kurchatov**	**70.58**	**328**	***e*P**		**P**	**10 25 17.3**	**+0.2**
	4.8nm,0.9s,mb4.4							
BVAR	**Borovoye Array**	**76.16**	**327**	P	P	**P**	**10 25 49.6**	**-0.1**
	1.1nm,0.6s,mb3.9,baz=127,slow=7.2,SNR=5.9							
MAW	**Mawson**	**78.39**	**201**	P	P	**P**	**10 26 04.9**	**+3.0**
	0.6nm,0.7s,mb3.7,baz=73,slow=5.2,SNR=7.6							

*NEIC **28** 10:14:18.2, 16.01N×97.24W, h27km, MD3.9(MEX), After MEX.*
MEX 28 10:14:18.3±0.7, 16.01N×97.24W, h25km±21km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PNIG	**Pinotepa**	**0.93**	**294**	*i* P		Pb	10 14 32.9	-2.7
PNIG				*i* S		Sb	10 14 44.4	-3.1
HUIG	**Huatulco**	**1.12**	**102**	*i* P		Pn	10 14 35.8	-2.8
HUIG				*i* S		Sb	10 14 48.6	-4.5
VHO	**Vista Hermosa**	**1.16**	**25**	*i* P		Pn	10 14 36.2	-3.0
VHO				*i* S		Sb	10 14 50.1	-4.2
OXX	**Oaxaca**	**1.17**	**25**	*i* P		Pn	10 14 36.5	-2.9
OXX				*i* S		Sb	10 14 51.0	-3.6
CMIG	**Matias Romero**	**2.50**	**64**	*i* P		Pn	10 14 56.3	-2.1
CMIG				*i* S		Sn	10 15 25.3	-3.2
PLIG	**Platanillo**	**3.20**	**318**	*i* P		Pn	10 15 05.8	-2.6
PLIG				*i* S		Sn	10 15 41.4	-4.8
PPM	**Popocatepetl**	**3.31**	**337**	***e*P**		Pn	10 15 12.0	+2.1
YAIG	**Yautepec**	**3.33**	**329**	*i* P		Pn	10 15 05.6	-4.4
YAIG				*i* S		Sn	10 15 44.3	-4.9

*NEIC **28** 10:27:13.5±1.0, 8.04S×74.47W, h143km±11km, mb4.5/8, Error ellipse: s-maj=12.7km s-min=7.1km az=69.0*
*IDC **28** 10:27:13.9±3.1, 7.93S×74.32W, h150km±31km, mb3.8/8, mb1 4.0/12, mb1mx3.9/19, mbtmp4.3/12, Error ellipse: s-maj=29.2km s-min=12.9km az=66.0*
ISC 28 10:27:13.0±1.2, 8.04S±0.07×74.5W±0.1, h156km±13km, n33, σ0°81/32, mb4.1/13, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NNA	**Nana**	**4.56**	**210**	***e*P**		**P**	**10 28 21.0**	**-0.6**
LPAZ	**La Paz**	**10.29**	**143**	P		**P**	**10 29 37.7**	**+0.1**
	2.3nm,0.3s,baz=318,slow=9.9,SNR=72							
LPAZ	**La Paz**	**10.29**	**143**	***e*P**		**P**	**10 29 37.2**	**-0.4**
	12nm,0.6s							
ROSC	**El Rosal**	**12.81**	**1**	P		**P**	**10 30 09.7**	**-0.7**
	1.1nm,0.3s,baz=98,slow=22,SNR=2.1							
SIV	**San Ignacio**	**15.32**	**122**	P		**P**	**10 30 42.1**	**-0.2**
	3.2nm,0.3s,baz=299,slow=13,SNR=45							
LVC	**Limon Verde**	**15.46**	**160**	P		**P**	**10 30 45.1**	**+1.1**
	0.9nm,0.3s,baz=332,slow=6.9,SNR=8.8							
LVC	**Limon Verde**	**15.46**	**160**	***e*P**		**P**	**10 30 44.8**	**+0.8**
	8.6nm,0.7s							
SDV	**Santo Domingo**	**17.24**	**13**	P		**P**	**10 31 06.8**	**+0.9**
	1.9nm,0.3s,baz=196,slow=12,SNR=7.9							
SDV	**Santo Domingo**	**17.24**	**13**	***e*P**		**P**	**10 31 06.9**	**+1.0**
	5.8nm,0.5s							
CFAA	**Coronel Fontan**	**24.16**	**167**	P		**P**	**10 32 17.1**	**+0.9**
	0.5nm,0.7s,mb3.2,baz=353,slow=10,SNR=12							
CPUP	**Villa Florida**	**24.44**	**140**	P		**P**	**10 32 18.1**	**-0.7**
	4.9nm,0.7s,mb4.2,baz=342,slow=12,SNR=13							
CPUP	**Villa Florida**	**24.44**	**140**	***e*P**		**P**	**10 32 18.0**	**-0.7**
	6.4nm,0.8s,mb4.2							
CPD	**Cerro la Pandu**	**27.26**	**18**	***e*P**		**P**	**10 32 46.8**	**+1.9**
PLCA	**Paso Flores**	**32.75**	**174**	P		**P**	**10 33 33.5**	**+0.3**
	1.3nm,0.5s,mb3.9,baz=325,slow=9.6,SNR=5.6							
ELN	**Prospectdale**	**45.41**	**353**	***e*P**		**P**	**10 35 18.5**	**+0.6**
TXAR	**Lajitas Array**	**46.58**	**324**	P		**P**	**10 35 27.6**	**+0.5**
	1.0nm,0.6s,mb3.6,baz=147,slow=9.0,SNR=18							
SMCO	**Snowmass**	**55.81**	**330**	***e*P**		**P**	**10 36 37.4**	**+1.1**
PV01	**Paradox Valley**	**55.84**	**328**	***e*P**		**P**	**10 36 37.0**	**+0.4**
SRU	**San Rafael**	**57.60**	**327**	***e*P**		**P**	**10 36 49.

Error ellipse: s-maj=62.5km s-min=19.9km az=170.0

ISC 28 11:04:01.7±1.7,39.1N±0.1×77.65E±0.08,h10km,n24,
σ1§08/21,mb3.9/4,10C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.36**	**287**	Op PG		**Pg**	**11 04 29.0**	**0.0**
KSH				SG		**Sg**	**11 04 47.0**	**-0.2**
KSH	comp=N,3μm,0.5s			Smax				
KSH	comp=E,2μm,0.4s			Smax				
ULHL	**Ulahol**	**3.30**	**341**	P		**Pb**	**11 04 59.0**	**-1.1**
KZA	SNR=7.4 **Kyzart**	**3.48**	**329**	P		**Pb**	**11 05 02.0**	**-1.0**
UCH	SNR=11 **Uchtor**	**3.92**	**323**	P		**Pn**	**11 05 04.2**	**+0.9**
KBK	SNR=5.6 **Karagaybulak**	**4.08**	**331**	P		**Pb**	**11 05 12.8**	**-0.7**
TKM2	SNR=17 **Tokmak 2**	**4.10**	**338**	P		**Pn**	**11 05 06.5**	**+0.5**
AAK	SNR=8.0 **Ala-Archa**	**4.25**	**327**	P		**Pn**	**11 05 08.8**	**+0.8**
AAK	SNR=8.3 **Ala-Archa**	**4.25**	**327**	⇑Pn		**Pn**	**11 05 08.8**	**+0.8**
AAK	comp=E,32nm,0.8s			⇑Pg		**Pg**	**11 05 15.6**	**-11**
AAK				⇑Lg			11 06 07.6	
AAK	comp=E,111nm,1.0s **Ala-Archa**	**4.25**	**327**	*e*P		**Pn**	**11 05 07.6**	**-0.4**
AML	**Almayashu**	**4.26**	**316**	P		**Pn**	**11 05 09.1**	**+1.0**
KK31	SNR=9.9 **Karatay Array**	**6.70**	**309**	⇑Pg		**Pb**	**11 06 00.3**	**+2.1**
KK31	comp=E,4.0nm,0.6s,baz=134,slow=16,SNR=17			⇑Lg			11 07 26.9	
MK31	comp=E,11nm,0.8s,baz=125,slow=18,SNR=4.4 **Makanchi Array**	**8.39**	**22**	⇑Pg		Px	11 06 40.8	
MK31	comp=E,4.5nm,1.1s,baz=206,slow=15,SNR=4.2			⇑Lg			11 08 20.5	
MKAR	comp=E,1.9nm,0.8s **Makanchi Array**	**8.39**	**22**	Pn		**P**	**11 06 08.0**	**+1.7**
MKAR	comp=E,0.0nm,0.3s,baz=202,slow=16,SNR=2.5			Lg			11 08 25.1	
MKAR	comp=E,0.1nm,0.3s,baz=218,slow=29,SNR=5.5 **Makanchi Array**	**8.39**	**22**	Pn		**P**	**11 06 08.0**	**+1.7**
MKAR				Lg			11 08 25.1	
KURK	**Kurchatov**	**11.62**	**3**	⇓Lg			11 09 59.6	
VOSK	comp=E,5.1nm,1.0s **Vostochnaya**	**14.37**	**343**	⇑Lg			11 11 24.2	
BVA0	comp=E,11nm,1.4s **Borovoye Array**	**14.78**	**343**	⇑Lg			11 11 41.2	
BVAR	comp=E,1.4nm,1.6s,baz=144,slow=31,SNR=3.6 **Borovoye Array**	**14.78**	**343**	Pn		**P**	**11 07 29.1**	**-3.4**
BVAR	comp=E,0.2nm,0.3s,baz=127,slow=7.2,SNR=2.6			Lg			11 11 42.0	
CHKZ	comp=E,0.1nm,0.3s,baz=159,slow=25,SNR=3.8 **Chkalovo**	**15.34**	**344**	⇑Lg			11 11 54.8	
FINES	comp=E,6.3nm,1.7s **FINESS Array B**	**38.43**	**323**	P		**P**	**11 11 23.8**	**-1.1**
ARCES	comp=E,1.0nm,0.4s,mb3.9,baz=113,slow=11,SNR=8.6 **ARCESS Array B**	**40.88**	**335**	P		**P**	**11 11 44.2**	**-0.8**
NB2	comp=E,3.1nm,0.9s,mb4.0,baz=100,slow=7.4,SNR=12 **NORSAR Subarra**	**45.55**	**321**	P		**P**	**11 12 21.7**	**-1.3**
NOA	comp=E,0.7nm,0.5s,mb3.9,baz=87,slow=7.9 **NORSAR Array B**	**45.55**	**321**	P		**P**	**11 12 22.1**	**-0.9**
GERES	comp=E,1.1nm,0.6s,mb4.0,baz=88,slow=8.0,SNR=3.0 **GERESS Array B**	**45.78**	**304**	P		**P**	**11 12 25.5**	**+0.5**
	comp=E,0.9nm,0.6s,mb3.9,baz=68,slow=7.2,SNR=5.9							

*NEIC **28** 11:17:35.1±2.4,29.44S×176.89W,h70km±15km,mb4.1/1,*
Error ellipse: s-maj=33.4km s-min=21.7km az=78.0
*IDC **28** 11:17:36.7±2.5,29.36S×177.16W,h72km±13km,mb4.0/2,*
mb1 4.2/3,mb1mx3.8/12,mbtmp4.3/3, Error ellipse:
s-maj=42.2km s-min=38.9km az=153.0

ISC 28 11:17:31.0±4.2,29.2S±0.1×176.7W±0.3,h63km±23km,n10,
σ1§76/7,mb4.3/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.08**	**269**	Op P		**P**	**11 17 52.4**	**+1.9**
RAO	571nm,0.3s,baz=58,slow=5.1,SNR=39			S		**S**	**11 18 03.9**	**-1.1**
URZ	5μm,0.3s,baz=72,slow=19,SNR=139 **Urewera**	**10.37**	**208**	P		**P**	**11 19 57.5**	**-1.9**
URZ	0.7nm,0.3s,baz=322,slow=22,SNR=5.6			S		**S**	**11 21 56.0**	**+1.0**
CTAO	0.8nm,0.3s,baz=320,slow=19,SNR=10 **Charters Tower**	**34.77**	**277**	*e*P		**P**	**11 24 18.8**	**+1.2**
WRA	1.8nm,0.7s,mb4.1 **Warramunga Arr**	**45.22**	**270**	P		**P**	**11 25 43.6**	**-0.4**
FITZ	1.8nm,0.6s,mb4.1,baz=110,slow=7.8,SNR=19 **Fitzroy Crossi**	**53.52**	**268**	P		**P**	**11 26 47.0**	**-0.7**
FINES	6.1nm,0.8s,mb4.6,baz=176,slow=8.9,SNR=5.6 **FINESS Array B**	**144.43**	**341**	PKP		PKPdf	11 37 01.7	+2.3
NB2	1.0nm,0.7s,baz=45,slow=2.7,SNR=5.1 **NORSAR Subarra**	**147.76**	**353**	PKPabc		PKPdf	11 37 12.4	+7.3
NB2	1.2nm,0.7s,baz=16,slow=3.1 **NORSAR Subarra**	**147.76**	**353**	PKPab		PKPab	11 37 12.4	-0.2
NOA	**NORSAR Array B**	**147.76**	**353**	PKPbc		PKPdf	11 37 12.5	+7.4
AKASG	1.3nm,0.7s,baz=11,slow=4.5,SNR=4.0 **Malin Array Be**	**151.04**	**325**	PKPbc		PKPdf	11 37 20.4	+10
	1.1nm,0.4s,baz=45,slow=3.1,SNR=6.4							

*BJI **28** 11:19:59.1,39.27N×140.26E,h160km,mB4.8,mb5.1*
*MOS **28** 11:19:59.1±0.8,39.51N×140.13E,h133km,mb4.9/67,*
Error ellipse: s-maj=7.8km s-min=4.3km az=103.4
*NIED **28** 11:20:00,39.30N×140.40E,h150km,Mw4.8 Best double*
couple: M₀1.96×10¹⁶ NP1:φ₈196°,δ75°,λ-94°. NP2:φ₈29°,
δ16°,λ-77°.
*NEIC **28** 11:20:01.4±0.1,39.32N×140.17E,mb4.8/93,*
MW4.8(NIED), Error ellipse: s-maj=3.9km s-min=2.6km
az=156.0
NEIC Recorded [2 JMA] in Akita, Aomori, Iwate and Miyagi; [1
JMA] in Fukushima and Yamagata Prefectures.
*JMA **28** 11:20:01.4±0.1,39.26N×140.36E,h150km±1km,M4.8*
Broadband fault plane solution: P waves. NP1:φ₈275°,
δ15°,λ168°. NP2:φ₈16°,δ87°,λ75°. Principal axes: T
Plg46°, Azm271°; N Plg15°, Azm17°; P Plg40°, Azm120°;
JMA Felt II J1.
*IDC **28** 11:20:01.4±0.4,39.29N×140.20E,h153km±3km,mb4.4/22,*
mb1 4.4/26,mb1mx4.4/28,mbtmp4.8/26,MS3.6/3,
Ms1 3.6/3,ms1mx3.2/19 Error ellipse: s-maj=11.5km
s-min=8.7km az=105.0

ISC 28 11:20:00.0±0.1,39.30N±0.02×140.17E±0.03,h151km,
h151km±.7km:pP-P,n372,σ0§96/371,mb4.8/137,35C-22D,
Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYW	**Yuwa**	**0.24**	**7**	Op ⇓P		**P**	**11 20 22.4**	**+1.5**
JYW				S		**S**	**11 20 38.4**	**+1.5**
JRG	**Rokugo**	**0.37**	**74**	⇑P		**P**	**11 20 22.0**	**+0.6**
JRG				S		**S**	**11 20 37.8**	**+0.1**
JYK	**Kaneyama**	**0.41**	**159**	⇑P		**P**	**11 20 22.2**	**+0.7**
JYK				S		**S**	**11 20 38.0**	**+0.1**
JYA	**Atsumi**	**0.79**	**207**	⇓P		**P**	**11 20 25.0**	**+1.5**
JYA				S		**S**	**11 20 42.6**	**+1.1**
JMK	**Ichinoseki**	**0.89**	**113**	⇑P		**P**	**11 20 24.1**	**0.0**
JMK				S		**S**	**11 20 41.5**	**-1.2**
JOM	**Ohasama**	**0.89**	**78**	⇑P		**P**	**11 20 24.5**	**+0.3**
JOM				S		**S**	**11 20 42.0**	**-0.7**
JAH	**Hinai**	**0.96**	**22**	⇓P		**P**	**11 20 26.2**	**+1.5**
JAH				S		**S**	**11 20 44.7**	**+1.0**
JOU	**Okura**	**1.01**	**157**	⇑P		**P**	**11 20 25.7**	**+0.7**
JOU				S		**S**	**11 20 44.7**	**+0.4**
JAW	**Awa shima**	**1.11**	**221**	⇓P		**P**	**11 20 27.8**	**+1.8**
JAW				S		**S**	**11 20 47.8**	**+1.8**
JANG	**Nango**	**1.49**	**43**	⇑P		**P**	**11 20 30.2**	**+0.3**
JANG				S		**S**	**11 20 51.5**	**-1.4**
JMM	**Marumori**	**1.51**	**161**	⇑P		**P**	**11 20 30.1**	**0.0**
JMM				S		**S**	**11 20 52.3**	**-0.9**
MAJO	**Matsushiro**	**3.16**	**210**	*e*P		**P**	**11 20 51.6**	**+1.4**
MAT	**Matsushiro**	**3.16**	**210**	P		**P**	**11 20 51.7**	**+1.6**
MAT				S		**S**	**11 21 26.0**	**-2.5**
MAT	**Matsushiro**	**3.16**	**210**	*e*P		**P**	**11 20 52.0**	**+1.9**
MAT				*e*S		**S**	**11 21 26.0**	**-2.5**
MJAR	**Matsushiro Arr**	**3.16**	**210**	P		**P**	**11 20 51.9**	**+1.7**
MJAR	20nm,0.3s,baz=20,slow=15,SNR=386			LR		LR	11 21 58.2	
MJAR	comp=Z,562nm,21.7s,baz=15,slow=37 **Matsushiro Arr**	**3.16**	**210**	P		**P**	**11 20 51.9**	**+1.7**
MJAR				LR		LR	11 21 58.2	
ASAJ	**Asahikawa**	**5.15**	**20**	P		**P**	**11 21 15.0**	**-1.2**
ASAJ	17nm,0.3s,baz=225,slow=15,SNR=106			S		**S**	**11 22 11.1**	**-4.1**
ASAJ	14nm,0.3s,baz=41,slow=19,SNR=5.7 **Asahikawa**	**5.15**	**20**	P		**P**	**11 21 15.0**	**-1.2**
ASAJ				S		**S**	**11 22 11.1**	**-4.1**
ASAJ	comp=Z,17nm,0.3s			pmax	pmax			
JHJ	**Hachijo jima 2**	**6.17**	**183**	P		**P**	**11 21 27.7**	**-2.2**
JHJ	comp=Z,77nm,0.3s,baz=240,slow=19,SNR=14			S		**S**	**11 22 34.0**	**-5.8**
VLA	comp=Z,133nm,0.3s,baz=17,slow=19,SNR=9.3 **Vladivostok**	**7.32**	**304**	*i* P		**P**	**11 21 46.9**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.88**	**13**	*e*P		**P**	**11 21 50.6**	**-2.2**
YSS	comp=Z,72nm,0.6s **Yuzh-Sakhalins**	**7.88**	**13**	⇑*e*P		**P**	**11 21 51.0**	**-1.8**
YSS				*e*S		**S**	**11 23 17.0**	**-3.8**
YSS	comp=Z,50nm,0.8s			pmax	pmax			
YSS	comp=N,90nm,1.0s			smax				
YSS	comp=E,100nm,1.0s			smax				
YSS	comp=Z,300nm,14.0s			MLR	MLR			
KUR	**Kuril'sk**	**8.23**	**41**	⇓*i* P		**P**	**11 21 52.5**	**-4.9**
KUR				*e*S		**S**	**11 23 20.0**	**-9.1**
KUR	comp=Z,200nm,0.8s			pmax	pmax			
KUR	comp=N,4μm,2.0s			smax				
KUR	comp=E,2μm,2.0s			smax				
KUR	comp=N,570nm,0.9s			smax				
KUR	comp=E,400nm,0.9s			smax				
MDJ	**Mudanjiang**	**9.50**	**307**	P		**P**	**11 22 16.0**	**+1.8**
MDJ	comp=Z,99nm,1.2s			AMB	AMB			
MDJ	comp=Z,165nm,3.5s			AMB	AMB			
MDJ	comp=N,214nm,22.9s			LR	LR			
MDJ	comp=E,193nm,22.5s			LR	LR			
MDJ	comp=Z,188nm,22.9s			LR	LR			
MDJ	**Mudanjiang**	**9.50**	**307**	*e*P		**P**	**11 22 15.8**	**+1.5**
JNU	comp=Z,127nm,1.1s **Nakatsue**	**9.71**	**233**	P		**P**	**11 22 17.4**	**+0.4**
KS15	comp=Z,0.9nm,0.3s,baz=113,slow=6.6,SNR=10.0 **Wonju Array Si**	**9.82**	**263**	*e*P		**P**	**11 22 20.2**	**+1.7**
INCN	**Inchon**	**10.78**	**265**	P		**P**	**11 22 32.8**	**+1.7**
KLR	**Kul'dur**	**11.61**	**332**	*e*P		**P**	**11 22 37.8**	**-4.1**
KLR				*e*			11 24 47.5	
KLR	comp=Z,500nm,13.0s			MLR	MLR			
CN2	**Changchun**	**11.91**	**297**	⇑P		**P**	**11 22 46.5**	**+0.7**
CN2	comp=Z,50nm,1.0s			AMB	AMB			
CBIJ	**Chichi jima**	**12.28**	**172**	P		**P**	**11 22 46.1**	**-4.5**
CBIJ	comp=Z,24nm,0.3s,baz=267,slow=18,SNR=12			S		**S**	**11 24 52.9**	**-12**
DL2	comp=Z,18nm,0.3s,baz=262,slow=23,SNR=4.6 **Dalian**	**14.41**	**274**	P		**P**	**11 23 19.5**	**+1.7**
DL2	comp=Z,80nm,1.1s			AMB	AMB			
JOW	**Kunigami**	**15.92**	**222**	P		**P**	**11 23 35.1**	**-1.6**
SSE	comp=Z,3.5nm,0.3s,baz=313,slow=8.1,SNR=7.8 **Sheshan**	**17.52**	**248**	*e*P		**P**	**11 23 57.3**	**+1.1**
SSE				S		**S**	**11 27 11.8**	**+7.7**
SSE	comp=Z,80nm,1.2s			AMB	AMB			
SSE	comp=Z,112nm,3.5s			AMB	AMB			
SSE	comp=N,237nm,19.7s			LR	LR			
SSE	comp=E,103nm,19.7s			LR	LR			
SSE	comp=Z,248nm,24.9s			LR	LR			
SSE	**Sheshan**	**17.52**	**248**	*e*P		**P**	**11 23 57.3**	**+1.1**
SSE	comp=Z,80nm,1.2s			S		**S**	**11 27 11.8**	**+7.7**
HIA	**Hailar**	**17.65**	**311**	*e*P		**P**	**11 23 54.7**	**-2.9**
HIA	comp=Z,22nm,0.8s **Hailar**	**17.65**	**311**	*e*P		**P**	**11 23 54.7**	**-2.9**
HIA	comp=Z,22nm,0.8s			pmax	pmax			
TIA	**Tai'an**	**18.47**	**268**	*e*P		**P**	**11 24 05.0**	**-1.7**
PET	**Petropavlovsk**	**18.69**	**37**	*e*P		**P**	**11 24 08.0**	**-1.0**
PET	comp=Z,10nm,0.3s **Petropavlovsk**	**18.69**	**37**	⇑*e*P		**P**	**11 24 08.1**	**-0.8**
NJ2	**Nanjing**	**18.74**	**254**	*e*P		**P**	**11 24 08.5**	**-1.1**
NJ2				S		**S**	**11 27 27.0**	**-3.0**
NJ2	comp=Z,30nm,0.9s			AMB	AMB			
NJ2	comp=Z,130nm,3.7s			AMB	AMB			
NJ2	comp=N,250nm,15.1s			LR	LR			
NJ2	comp=E,260nm,13.8s			LR	LR			
NJ2	comp=Z,140nm,14.2s			LR	LR			
CLNS	**Chul'man**	**20.22**	**335**	*e*P		**P**	**11 24 22.4**	**-2.3**
CLNS				*e*S		**S**	**11 27 57.8**	**-0.2**
CLNS				*e*			11 28 38.1	
CLNS	comp=Z,51nm,0.9s			pmax	pmax			
CLNS	comp=N,118nm,1.2s			pmax	pmax			
CLNS	comp=E,24nm,0.9s			pmax	pmax			
CLNS	comp=Z,470nm,0.9s			pmax	pmax			
CLNS	comp=N,67nm,1.0s			pmax	pmax			
CLNS	comp=E,52nm,0.9s			smax				
CLNS	comp=N,75nm,1.3s			smax				
CLNS	comp=Z,24nm,1.4s			smax				
CLNS	comp=E,27nm,1.0s			MLR	MLR			
CLNS	comp=N,70nm,12.0s			MLR	MLR			
CLNS	comp=E,100nm,12.0s			MLR	MLR			
MA2	comp=Z,100nm,12.0s **Magadan**	**21.38**	**15**	*e*P		**P**	**11 24 35.9**	**-0.4**
MA2	comp=Z,77nm,0.7s,mb5.1 **Magadan**	**21.38**	**15**	*d i*P		**P**	**11 24 35.6**	**-0.6**
MA2	comp=Z,27nm,0.4s,mb4.9			pmax	pmax			
YHNB	**Yeheng**	**21.54**	**233**	*e*P		**P**	**11 24 35.3**	**-2.7**
CIT	**Chita**	**22.39**	**313**	*e*P		**P**	**11 24 44.1**	**-2.0**
CIT				*e*			11 25 11.2	
CIT				*e*S		**S**	**11 28 37.0**	**-0.1**
CIT	comp=Z,103nm,1.3s,mb5.1			pmax	pmax			
WHN	**Wuhan**	**22.84**	**255**	*e*P		**P**	**11 24 51.5**	**+0.8**
YAK	**Yakutsk**	**23.65**	**348**	*e*P		**P**	**11 24 56.3**	**-1.8**
YAK	comp=Z,98nm,0.6s,mb5.5 **Yakutsk**	**23.65**	**348**	*e*P		**P**	**11 24 56.8**	**-1.3**
YAK				*e*S		**S**	**11 29 00.1**	**+1.7**
YAK				*e*			11 35 44.7	
YAK	comp=Z,66nm,1.0s,mb5.1			pmax	pmax			
YAK	comp=N,28nm,1.2s			pmax	pmax			
YAK	comp=E,12nm,1.1s			smax				
YAK	comp=N,24nm,1.1s			smax				
YAK	comp=Z,12nm,0.9s			smax				
YAK	comp=E,32nm,1.2s			smax				
SEY	**Seymchan**	**24.79**	**13**	*e*P		**P**	**11 25 09.4**	**+0.5**
SEY				*e*			11 25 54.8	
SEY				*e*			11 29 18.9	
SEY				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.2							
BOD	**Bodaibo**	**25.10**	**326**	*e*P		**P**	**11 25 10.8**	**-1.1**
BOD	comp=Z,32nm,0.9s,mb4.8			pmax	pmax			
ULN	**Ulaanbaatar**	**25.32**	**301**	*e*P		**P**	**11 25 13.6**	**-0.4**
ULN	comp=Z,64nm,1.1s,mb5.1 **Ulaanbaatar**	**25.32**	**301**	*e*P		**P**	**11 25 13.6**	**-0.4**
ULN	comp=Z,64nm,1.1s,mb5.1			pmax	pmax			
XAN	**Xi'an**	**25.54**	**268**	P		**P**	**11 25 14.3**	**-1.9**
XAN	comp=Z,67nm,0.7s,mb5.4			AMB	AMB			
SONM	**Songino Array**	**25.75**	**300**	P		**P**	**11 25 17.5**	**-0.5**
SONM	comp=Z,14nm,0.7s,mb4.7,baz=94,slow=8.8,SNR=55			ScP			11 32 08.7	
SONM	comp=Z,1.1nm,0.9s,baz=140,slow=2.7,SNR=6.5			LR		LR	11 35 42.3	
ENH	comp=Z,104nm,18.3s,baz=183,slow=36 **Enshi**	**26.66**	**260**	*e*P		**P**	**11 25 24.8**	**-1.8**
ZAK	comp=Z,34nm,0.5s,mb5.2 **Zakamensk**	**28.13**	**305**	*e*P		**P**	**11 25 38.6**	**-1.1**
ZAK				*e*			11 26 36.7	
ZAK	comp=Z,14nm,0.9s,mb4.7			pmax	pmax			
ZAK	comp=Z,3.0nm,0.8s,mb4.1			pmax	pmax			
LZH	**Lanzhou**	**28.80**	**275**	*e*P		**P**	**11 25 44.0**	**-1.8**
LZH	comp=Z,43nm,1.4s,mb5.0			AMB	AMB			
LZH	comp=Z,180nm,4.3s			AMB	AMB			
GYA	**Guiyang**	**30.73**	**256**	⇑*i*P		**P**	**11 26 01.8**	**-1.3**
GYA				S		**S**	**11 30 53.0**	**-0.5**
GYA	comp=Z,40nm,0.7s,mb5.3			AMB	AMB			
GYA	comp=Z,100nm,3.0s			AMB	AMB			
GYA	comp=N,480nm,16.2s			LR	LR			
GYA	comp=E,460nm,15.8s			LR	LR			
GYA	comp=Z,510nm,16.0s			LR	LR			
GTA	**Gaotai**	**31.02**	**283**	*e*P		**P**	**11 26 04.3**	**-1.2**
GTA				PCP		PcP	11 28 57.8	+0.2
GTA	comp=Z,9.0nm,1.0s,mb4.5			AMB	AMB			
GTA	comp=Z,92nm,5.7s			AMB	AMB			
GTA	comp=N,237nm,16.4s			LR	LR			
GTA	comp=E,161nm,13.4s			LR	LR			
GTA	comp=Z,121nm,13.4s			LR	LR			
BILL	**Bilibino**	**32.16**	**18**	*e*P		**P**	**11 26 13.9**	**-1.2**
BILL				*e*			11 27 24.6	
BILL				*e*			11 29 01.0	
BILL	comp=Z,7.0nm,1.0s,mb4.3			pmax	pmax			
BILL	comp=Z,100nm,16.0s			MLR	MLR			
TIXI	**Tiksi**	**32.93**	**353**	⇓*e*P		**P**	**11 26 20.2**	**-1.5**
TIXI	comp=Z,19nm,1.2s,mb4.7			pmax	pmax			
KMI	**Kunming**	**34.42**	**257**	P		**P**	**11 26 34.5**	**-0.3**
KMI				S		**S**	**11 31 45.0**	**-5.8**
KMI				SS		SS	11 34 05.5	-6.8
KMI	comp=Z,14nm,1.2s,mb4.6			AMB	AMB			
KMI	comp=Z,105nm,3.2s			AMB	AMB			
KMI	comp=N,138nm,17.7s			LR	LR			
KMI	comp=E,83nm,19.0s			LR	LR			
KMI	comp=Z,75nm,13.1s			LR	LR			
KMI	**Kunming**	**34.42**	**257**	P		**P**	**11 26 34.5**	**-0.3**
KMI				S		**S**	**11 31 44.9**	**-5.9**
KMI	comp=Z,14nm,1.2s,mb4.6			pmax	pmax			
KMI	comp=Z,80nm,13.1s			MLR	MLR			
WMQ	**Urumqi**	**38.98**	**294**	P		**P**	**11 27 14.3**	**+1.4**
WMQ	comp=Z,51nm,0.8s,mb5.2			AMB	AMB			
WMQ	comp=Z,179nm,4.0s			AMB	AMB			
NANT	**Nan**	**39.69**	**251**	⇑P		**P**	**11 27 19.5**	**+0.5**
CHRT	comp=Z,325nm,0.5s **Chiangrai**	**39.70**	**253**	⇑P		**P**	**11 27 20.0**	**+1.0**
NVS	comp=Z,342nm,1.0s **Novosibirsk**	**40.59**	**312**	*i* P		**P**	**11 27 25.6**	**-0.3**
NVS				pmax	pmax			
NVS	comp=N,5.0nm,0.6s			pmax	pmax			
NVS	comp=E,37nm,0.6s			pmax	pmax			
CHG	comp=Z,39nm,0.6s,mb5.2 **Chiang Mai**	**40.97**	**252**	⇑P		**P**	**11 27 30.0**	**+0.5**
LSA	comp=Z,23nm,0.8s,mb4.8 **Lhasa**	**41.09**	**272**	P		**P**	**11 27 32.5**	**+2.2**
LSA	**Lhasa**	**41.09**	**272**	*e*P		**P**	**11 27 32.5**	**+2.2**
LSA	comp=Z,17nm,0.6s,mb4.8 **Lhasa**	**41.09**	**272**	*e*P		**P**	**11 27 32.5**	**+2.2**
LSA	comp=Z,17nm,0.6s,mb4.8			pmax	pmax			
MKAR	**Makanchi Array**	**42.12**	**300**	P		**P**	**11 27 38.9**	**+0.4**
KURK	comp=Z,74nm,0.8s,mb5.4,baz=86,slow=9.3,SNR=384 **Kurchatov**	**43.79**	**306**	⇑*i*P		**P**	**11 27 52.0**	**0.0**
KURK	comp=Z,195nm,0.6s **Kurchatov**	**43.79**	**306**	⇑*i*P		**P**	**11 27 52.0**	**+0.1**
KURK	comp=Z,195nm,0.6s			pmax	pmax			
GUN	**Gumba**	**46.01**	**273**	*e*P		**P**	**11 28 10.7**	**+0.8**
KDAK	comp=Z,155nm,0.6s,mb5.8 **Kodiak Island**	**46.10**	**43**	P		**P**	**11 28 08.8**	**-1.4**
KKN	comp=Z,5.7nm,0.4s,mb4.5,baz=356,slow=1.2,SNR=5.9 **Kakani**	**46.53**	**273**	*e*P		**P**	**11 28 14.7**	**+0.7**
PKI	comp=Z,130nm,0.6s,mb5.8 **Pulchoki**	**46.54**	**273**	*e*P		**P**	**11 28 14.3**	**+0.2**
DMN	comp=Z,43nm,0.5s,mb5.3 **Daman**	**46.76**	**273**	*e*P		**P**	**11 28 16.3**	**+0.5**
GKN	comp=Z,51nm,0.6s,mb5.3 **Gorkha**	**46.93**	**274**	*e*P		**P**	**11 28 17.4**	**+0.3**
PMR	comp=Z,104nm,0.5s,mb5.7 **Palmer**	**47.42**	**38**	*e*P		**P**	**11 28 19.1**	**-1.4**
KOLN	**Koldanda**	**47.84**	**274**	*e*P		**P**	**11 28 24.8**	**+0.5**
CHKZ	comp=Z,73nm,0.6s,mb5.5 **Chkalovo**	**48.07**	**311**	⇑*i*P		**P**	**11 28 25.3**	**-0.3**
CHKZ	comp=Z,31nm,0.5s,mb5.2 **Chkalovo**	**48.07**	**311**	P		**P**	**11 28 25.4**	**-0.2**
CHKZ	comp=Z,14nm,0.6s,mb4.8			pmax	pmax			
ILAR	**Eielson Array**	**48.13**	**33**	P		**P**	**11 28 25.1**	**-0.9**
ILAR	comp=Z,8.1nm,0.9s,mb4.4,baz=272,slow=6.2,SNR=58			pP		pP	11 28 59.0	-1.1
BVA0	comp=Z,4.3nm,0.8s,baz=271,slow=6.5,SNR=3.8 **Borovoye Array**	**48.34**	**311**	*i* P		**P**	**11 28 27.9**	**+0.1**
BVA0	comp=Z,3.0nm,0.6s,mb4.1			pmax	pmax			
BRVK	**Borovoye**	**48.40**	**311**	⇑*i*P		**P**	**11 28 28.1**	**0.0**
BRVK	comp=Z,32nm,0.9s,mb5.0 **Borovoye**	**48.40**	**311**	*i*P		**P**	**11 28 28.1**	**-0.1**
BRVK	comp=Z,32nm,0.9s,mb5.0			pmax	pmax			
FRU	**Bishkek**	**48.43**	**296**	*e*P		**P**	**11 28 28.0**	**-0.6**
FRU	comp=Z,80nm,1.6s,mb5.1			pmax	pmax			
AAK	**Ala-Archa**	**48.58**	**296**	⇑*e*P		**P**	**11 28 29.0**	**-0.8**
AAK	comp=Z,20nm,0.8s,mb4.8 **Ala-Archa**	**48.58**	**296**	*c i*P		**P**	**11 28 29.3**	**-0.5**
AAK	comp=Z,28nm,1.0s,mb4.8			pmax	pmax			
JOSI	**Joshimath**	**49.64**	**279**	*ex*		x	11 28 00.7	
MENT	**Mentasta**	**49.75**	**36**	*e*P		**P**	**11 28 38.4**	**0.0**
KALG	**Kalgarh**	**50.75**	**279**	*e*P		**P**	**11 28 46.5**	**0.0**
KALG	comp=Z,125nm,0.5s			AML	AML		11 28 48.5	
KKAR	**Karatay Array**	**51.17**	**298**	*i* P		**P**	**11 28 49.1**	**-0.4**
KKAR	comp=Z,13nm,0.7s,mb4.7			pmax	pmax			
KAKA	**Kakadu**	**52.24**	**190**	⇓*i*P		**P**	**11 29 16.2**	**+18**
	comp=Z,15nm,0.6s,mb4.8							

NDI New Delhi 52.32 279 eP P 11 28 56.0 -2.3
NDI eP 11 28 57.6
AYAN Aya Nagar 52.49 278 eP P 11 28 58.4 -1.2
AYAN AMb AMB 11 28 59.7
comp=Z,26nm,0.8s,mb4.9
SONA Sohna 52.64 278 eP P 11 28 59.9 -0.7
SVE Sverdlovsk 52.81 317 eP P 11 29 01.6 +0.1
SVE e pP 11 29 35.8 -0.5
SVE e 11 30 11.0
SVE pmax pmax
comp=Z,140µm,1.0s
INK Inuvik 52.83 28 P P 11 29 01.0 -0.5
comp=Z,7.2nm,0.6s,mb4.6,baz=304,slow=5.6,SNR=13
KUDL Kundal 53.15 278 eP P 11 29 03.3 -1.0
KUDL AMb AMB 11 29 05.8
comp=Z,14nm,0.8s,mb4.8
KHET Khetri 53.70 279 ex x 11 28 59.2
KHET AMb AMB 11 29 10.7
comp=Z,14nm,0.5s,mb4.9
SOKR Solikamsk 53.95 321 ⇓iP P 11 29 09.6 -0.2
SOKR pmax pmax
comp=Z,20nm,1.0s,mb4.8
ARU Arti 54.03 317 eP P 11 29 09.9 -0.5
comp=Z,85nm,0.6s,mb5.7
ARU Arti 54.03 317 eP P 11 29 10.0 -0.4
ARU pmax pmax
comp=Z,85nm,0.6s,mb5.7
NGP Nagpur 54.82 270 eP P 11 29 15.1 -1.6
AKL Akola 56.65 270 eP P 11 29 24.7 -5.1
JASL Jaisalmer 58.04 280 eP P 11 29 36.2 -3.2
KBS Kingsbay 58.26 350⇑eP P 11 29 40.5 +0.2
FITZ Fitzroy Crossi 58.69 196 eP P 11 29 42.9 -1.2
comp=Z,8.1nm,1.1s,mb4.5
FITZ *i* pP 11 30 20.7 +1.1
FITZ Fitzroy Crossi 58.69 196 P P 11 29 42.6 -1.5
comp=Z,6.7nm,0.6s,mb4.6,baz=15,slow=8.5,SNR=7.7
FITZ pP pP 11 30 19.6 0.0
comp=Z,9.9nm,0.9s,baz=9.3,slow=9.9,SNR=3.4
WRAB Tennant Creek 59.17 186 eP P 11 29 45.2 -2.2
comp=Z,39nm,1.4s,mb5.0
WRAB e pP 11 30 20.2 -2.8
WRAB Tennant Creek 59.17 186 eP P 11 29 45.2 -2.2
WRAB e pP 11 30 20.2 -2.7
WRAB pmax pmax
comp=Z,39nm,1.4s,mb5.0
WB2 Warramunga Arr 59.18 186⇓iP P 11 29 45.1 -2.3
WB2 *i* pP 11 30 22.0 -1.0
WRA Warramunga Arr 59.18 186 P P 11 29 45.2 -2.2
comp=Z,6.6nm,0.5s,mb4.7,baz=5.8,slow=7.3,SNR=186
WRA pP pP 11 30 22.1 -0.9
comp=Z,14nm,1.0s,baz=6.5,slow=7.4,SNR=7.2
CTA Charters Tower 59.34 173 eP P 11 29 46.9 -1.7
comp=Z,3.4nm,1.1s,mb4.1
CTA Charters Tower 59.34 173 P P 11 29 47.1 -1.5
comp=Z,2.2nm,0.5s,mb4.2,baz=41,slow=6.5,SNR=6.4
CTA Charters Tower 59.34 173 eP P 11 29 46.9 -1.7
CTA pmax pmax
comp=Z,3.0nm,1.1s
APA Apatity 60.23 335⇑iP P 11 29 52.8 -1.1
APA pmax pmax
comp=Z,24nm,0.8s,mb5.1
KEV Kevo 60.98 339 ep P 11 29 57.1 -1.9
comp=Z,17nm,0.9s,mb4.9
KEV Kevo 60.98 339 eP P 11 29 57.1 -1.9
KEV pmax pmax
comp=Z,17nm,0.9s,mb4.9
ARCES ARCESS Array B 61.54 339 P P 11 30 01.8 -1.0
comp=Z,12nm,0.8s,mb4.8,baz=56,slow=7.9,SNR=43
YKA Yellowknife Ar 62.35 30 P P 11 30 06.7 -1.5
comp=Z,2.0nm,0.6s,mb4.2,baz=299,slow=6.2,SNR=4.2
YKA pP pP 11 30 44.9 +0.7
comp=Z,1.1nm,0.5s,baz=306,slow=3.7,SNR=2.8
DAG Danmarks Havn 63.44 355⇑iP P 11 30 14.3 -1.0
comp=Z,2.7nm,0.6s,mb4.2
JOF Joensuu 63.51 331 ep P 11 30 13.8 -2.0
comp=Z,10nm,0.6s,mb4.8
OBN Obninsk 65.71 322c iP P 11 30 29.3 -0.8
OBN *e**PP pP 11 31 06.8 +0.5
OBN *e* 11 32 55.0
OBN *e*S S 11 38 59.2 -3.0
OBN pmax pmax
comp=Z,29nm,0.6s,mb5.3
OBN MLR MLR
comp=Z,100nm,17.0s
DZM Mont Dzumac 65.81 153 P P 11 30 30.8 -0.5
comp=Z,4.4nm,0.7s,mb4.4,baz=116,slow=21,SNR=3.5
KAF Kangasniemi 65.85 332 ep P 11 30 28.7 -2.2
comp=Z,17nm,0.7s,mb5.0,baz=49,slow=6.1
KAF Kangasniemi 65.85 332 eP P 11 30 28.7 -2.2
KAF pmax pmax
comp=Z,17nm,0.7s,mb5.0
FINES FINESS Array B 66.36 331 P P 11 30 33.2 -1.0
comp=Z,26nm,0.7s,mb5.2,baz=56,slow=6.9,SNR=52
JCW Jim Creek 66.58 46 P P 11 30 35.6 -0.2
RPW Rockport 66.68 46 P P 11 30 35.8 -0.6
GSM Grass Mountain 67.20 47 P P 11 30 40.2 +0.5
GOF Gofitskoye 67.87 311 eP P 11 30 42.0 -1.9
GOF pmax pmax
comp=Z,88nm,0.7s,mb5.6
TBM Table Mountain 67.90 47 P P 11 30 43.8 -0.2
VSU Vasula 68.01 329 *i* P P 11 30 44.4 -0.1
EBG Ellensburg 68.06 47 P P 11 30 45.0 0.0
EDM Edmonton 68.18 38 eP P 11 30 45.0 -0.6
EPH Ephrata 68.36 46 P P 11 30 46.4 -0.4
SUMG Summit 68.42 360 eP P 11 30 46.9 +0.1
comp=Z,15nm,0.9s,mb4.7
SUMG epP pP 11 31 22.9 -0.4
BROR Big Rock Looko 68.46 50 P P 11 30 47.5 0.0
TI2 Plekhanov 68.69 307 *i* P P 11 30 45.2 -3.7
KIV Kislovodsk 68.70 310 eP P 11 30 49.1 +0.1
comp=Z,85nm,0.9s,mb5.5
KIV Kislovodsk 68.70 310 eP P 11 30 49.1 +0.1
KIV pmax pmax
comp=Z,85nm,0.9s,mb5.5
HBO Huckleberry Mo 68.78 50 P P 11 30 49.6 +0.2
HUMO Hull Mountain 69.09 52 eP P 11 30 51.5 +0.1
comp=Z,2.5nm,0.6s,mb4.1
NEW Newport 69.19 44 eP P 11 30 51.6 -0.3
comp=Z,23nm,1.2s,mb4.8
NEW Newport 69.19 44 eP P 11 30 51.6 -0.3
NEW pmax pmax
comp=Z,23nm,1.2s
KTRM Thompson Ridge 69.23 52 P P 11 30 52.8 +0.6
GNI Garni 69.58 305 *i* P P 11 30 57.5 +3.1
YBH Yreka Blue Hor 69.74 52 P P 11 30 55.1 -0.2
comp=Z,7.6nm,0.9s,mb4.4,baz=311,slow=4.0,SNR=15
YBH Yreka Blue Hor 69.74 52 eP P 11 30 55.5 +0.2
comp=Z,10nm,1.1s,mb4.5
YBH Yreka Blue Hor 69.74 52 eP P 11 30 55.5 +0.2
YBH pmax pmax
comp=Z,10.0nm,1.1s
WDC Whiskeytown Da 70.50 53 eP P 11 31 00.1 +0.1
comp=Z,23nm,1.5s,mb4.7
WDC Whiskeytown Da 70.50 53 eP P 11 31 00.1 +0.1
WDC pmax pmax
comp=Z,23nm,1.5s,mb4.7
SOC Sochi 70.67 311⇑iP P 11 30 59.4 -1.5
SOC *e* 11 31 23.5
SOC *e*PPP PPP 11 35 24.5 +2.1
SOC *e*S S 11 39 59.5 -1.7
SOC *e* 11 40 53.2
SOC *e*SS SS 11 44 37.1 -0.9
SOC pmax pmax
comp=N,10.0nm,0.8s
SOC pmax pmax
comp=Z,24nm,0.8s,mb5.0
SOC pmax pmax
comp=E,6.0nm,0.7s
LTIM Timbered Crate 70.81 52 P P 11 31 02.1 +0.3
STKA Stephens Creek 70.82 179 P P 11 31 00.8 -1.2
comp=E,3.0nm,0.5s,mb4.3,baz=333,slow=7.3,SNR=5.7
STKA Stephens Creek 70.82 179 P P 11 31 00.8 -1.2
LBCM Butte Creek Ri 71.09 52 P P 11 31 03.6 +0.1
MOD Modoc 71.11 51 eP P 11 31 03.3 -0.3
comp=E,6.1nm,0.7s,mb4.4
BMO Blue Mountains 71.11 47 eP P 11 31 02.8 -0.7
comp=E,7.8nm,0.8s,mb4.5
BMO *e* pP 11 31 39.8 -0.5
NB2 NORSAR Subarra 71.72 337 P P 11 31 06.1 -0.8
comp=E,23nm,0.8s,mb5.0,baz=40,slow=6.2
NB2 NORSAR Subarra 71.72 337 P P 11 31 06.1 -0.8
baz=40,slow=6.2
NB2 NORSAR Subarra 71.72 337 P P 11 31 06.1 -0.8
comp=E,23nm,0.8s,mb5.0
NB2 NORSAR Subarra 71.72 337 P P 11 31 06.1 -0.8
NB2 pmax pmax
comp=Z,23nm,0.8s,mb5.0
NOA NORSAR Array B 71.72 337 P P 11 31 06.4 -0.4
comp=Z,19nm,0.8s,mb4.9,baz=39,slow=6.0,SNR=51
NOA pP pP 11 31 43.4 -0.3
comp=Z,5.3nm,0.8s,baz=40,slow=6.1,SNR=3.4
MSO Missoula 71.78 44 eP P 11 31 07.3 -0.2
comp=Z,6.1nm,1.2s,mb4.2
MSO *e* pP 11 31 43.9 -0.4
WVOR Wild Horse Val 71.79 50 eP P 11 31 07.6 +0.1
comp=Z,22nm,1.3s,mb4.7
WVOR Wild Horse Val 71.79 50 eP P 11 31 07.6 0.0
WVOR pmax pmax
comp=Z,22nm,1.3s,mb4.7
OHCM Honcut 71.89 54 eP P 11 31 07.6 -0.6
AKASG Malin Array Be 71.92 321 P P 11 31 07.6 -0.6
comp=Z,17nm,0.6s,mb5.0,baz=46,slow=5.9,SNR=74
AKASG pP pP 11 31 45.4 +0.4
comp=Z,1.2nm,0.4s,baz=46,slow=6.9,SNR=1.8
AKASG Malin Array Be 71.92 321 P P 11 31 07.6 -0.6
AKASG pP pP 11 31 45.4 +0.4
CHMT Chamberlain Mo 72.09 44 eP P 11 31 07.7 -1.6
BEKR Beckwourth 72.28 53 eP P 11 31 10.3 -0.1
comp=Z,4.2nm,0.9s,mb4.2
HRY Holter Researc 72.98 43 eP P 11 31 14.3 -0.2
HRY *e* pP 11 31 51.3 -0.2
CMB Columbia Colle 73.35 54 eP P 11 31 16.8 0.0
comp=Z,41nm,1.4s,mb5.0
CMB Columbia Colle 73.35 54 eP P 11 31 16.8 0.0
CMB pmax pmax
comp=Z,41nm,1.4s,mb5.0
DLMT Dillon 73.42 45 eP P 11 31 17.6 +0.5
DLMT epP pP 11 31 54.2 +0.1
UMR Umm Al-Rimmam 73.71 295 eP P 11 31 17.9 -1.1
UMR AMb AMB 11 31 19.5
comp=Z,26nm,0.8s,mb5.0
MIB Mutribah 73.82 295 eP P 11 31 18.9 -0.8
MIB AMb AMB 11 31 20.1
comp=Z,46nm,0.9s,mb5.2
QRN Al-Qurain 74.04 294 eP P 11 31 20.4 -0.6
NAY Al-Naaiem 74.22 295 eP P 11 31 21.1 -0.9
NAY AMb AMB 11 31 22.3
comp=Z,22nm,0.8s,mb5.0
QLMT Earthquake Lak 74.40 45 eP P 11 31 23.1 +0.4
QLMT epP pP 11 32 00.1 +0.3
MNV Mina 74.51 53 eP P 11 31 23.5 0.0
comp=Z,19nm,1.4s,mb4.5
MNV Mina 74.51 53 eP P 11 31 23.5 0.0
MNV pmax pmax
comp=Z,19nm,1.4s,mb4.5
MALT Malatya 74.62 307 eP P 11 31 24.9 +0.8
comp=Z,16nm,1.1s,mb4.6
MALT Malatya 74.62 307 eP P 11 31 24.9 +0.8
MALT pmax pmax
comp=Z,16nm,1.1s,mb4.6
YMR Madison River 74.76 44 eP P 11 31 25.2 +0.5
comp=Z,53nm,1.9s,mb4.8
PTRM Twissleman Ran 74.90 56 eP P 11 31 25.8 0.0
PTRM epP pP 11 32 03.1 +0.2
MTUM Tungsten Hills 74.91 54 eP P 11 31 26.3 +0.5
LKWY Lake 75.13 44 eP P 11 31 29.3 +2.4
comp=Z,7.6nm,0.8s,mb4.4
LKWY epP pP 11 32 05.5 +1.4
LKWY Lake 75.13 44 eP P 11 31 29.3 +2.4
LKWY *e**PP pP 11 32 05.5 +1.4
LKWY pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
IMW Indian Meadow 75.27 45 eP P 11 31 28.6 +0.9
comp=Z,19nm,1.0s,mb4.7
IMW epP pP 11 32 06.0 +1.1
RRI2 Red Ridge 75.42 46 eP P 11 31 29.0 +0.5
comp=Z,34nm,1.4s,mb4.8
RRI2 epP pP 11 32 05.8 0.0
MOOW Moose Ponds 75.48 45 eP P 11 31 30.1 +1.3
comp=Z,15nm,1.2s,mb4.5
MOOW epP pP 11 32 06.1 0.0
TPAW Teton Pass 75.53 45 eP P 11 31 30.1 +1.0
comp=Z,20nm,1.3s,mb4.6
TPAW epP pP 11 32 07.7 +1.3
LOHW Long Hollow 75.64 45 eP P 11 31 30.1 +0.3
comp=Z,3.5nm,0.7s,mb4.1
LOHW epP pP 11 32 07.8 +0.8
REDW Red Top Meadow 75.67 45 eP P 11 31 30.5 +0.5
comp=Z,28nm,1.4s,mb4.7
KWP Kalwaria 75.73 323 eP P 11 31 31.0 +0.9
LAO LASA Array 75.90 41 eP P 11 31 30.9 -0.2
comp=Z,27nm,1.2s,mb4.8
LAO epP pP 11 32 09.4 +1.0
BURAR Bucovina Array 75.94 321 ⇑P P 11 31 31.8 +0.5
ISA Isabella 76.01 55 eP P 11 31 31.4 -0.6
comp=Z,2.3nm,0.8s,mb3.9
ISA epP pP 11 32 07.6 -1.7
ISA Isabella 76.01 55 eP P 11 31 31.4 -0.6
ISA *e**PP pP 11 32 07.6 -1.7
ISA pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
HWUT Hardware Ranch 76.42 47 eP P 11 31 34.3 +0.2
comp=Z,27nm,1.2s,mb4.8
HWUT epP pP 11 32 12.4 +1.0
KOLS Kolonicke sedl 76.42 323 eP P 11 31 33.8 -0.2
TIRR Tirgusor 76.45 317 ⇓P P 11 31 34.7 +0.4
STHS Stebnicka Huta 76.55 324 eP P 11 31 35.5 +0.8
STHS *e* 11 31 56.6
DUG Dugway 76.61 49 eP P 11 31 35.7 +0.4
comp=Z,17nm,1.1s,mb4.6
DUG epP pP 11 32 13.4 +0.8
DUG Dugway 76.61 49 eP P 11 31 35.7 +0.4
DUG *e**PP pP 11 32 13.4 +0.8
DUG pmax pmax
comp=Z,17nm,1.1s,mb4.6
OJC Ojcow 76.62 325⇑eP P 11 31 35.6 +0.5
BR131 Keskin Array S 76.63 311 eP P 11 31 35.6 +0.2
comp=Z,1.3nm,0.5s,mb3.8
BR131 epP pP 11 32 10.2 -2.5
BRTR Keskin Array B 76.63 311 P P 11 31 36.0 +0.6
comp=Z,4.4nm,0.8s,mb4.1,baz=104,slow=5.1,SNR=16
BRTR pP pP 11 32 12.4 -0.3
comp=Z,9.9nm,1.2s,baz=76,slow=5.1,SNR=3.7
BRTR PP PP 11 34 29.3 -1.5
comp=Z,3.6nm,1.1s,baz=72,slow=3.9,SNR=4.6
PDAR Pinedale Array 76.78 45 P P 11 31 36.2 +0.1
comp=Z,6.6nm,0.6s,mb4.5,baz=297,slow=2.0,SNR=77
PDAR pP pP 11 32 13.4 0.0
comp=Z,3.3nm,0.7s,baz=278,slow=2.6,SNR=4.5
TCUT Toone Canyon 76.82 47 eP P 11 31 37.1 +0.7
TCUT epP pP 11 32 13.9 +0.2
NIE Niedzica 76.97 324 eP P 11 31 38.4 +1.3
MLR Muntele Rosu 77.03 319 ⇑P P 11 31 38.6 +1.1
NLU North Lily Min 77.20 49 eP P 11 31 39.3 +0.7
NLU epP pP 11 32 13.8 -2.2
DAU Daniels Canyon 77.37 48 eP P 11 31 39.9 +0.4
DAU epP pP 11 32 16.4 -0.5
MPU Maple Canyon 77.42 48 eP P 11 31 40.3 +0.6
comp=Z,12nm,0.6s,mb4.7
MPU epP pP 11 32 16.1 -1.1
VOIR 77.53 319 ⇓P P 11 31 42.0 +1.8
KECS Kecovo 77.57 324 eP P 11 31 40.5 +0.1
BSEG Bad Segeberg 77.60 332 eP P 11 31 41.1 +0.6
OKC Ostrava-Krasne 77.63 326 eP P 11 31 40.8 +0.1
MORC Moravsky Berou 77.94 326 eP P 11 31 42.9 +0.5
comp=Z,18nm,0.9s,mb4.7
MORC Moravsky Berou 77.94 326 eP P 11 31 42.9 +0.5
MORC pmax pmax
comp=Z,18nm,0.9s,mb4.7
DPC Dobruska-Polom 78.03 327 eP P 11 31 43.7 +0.8
DPC epP pP 11 32 22.6 +2.3
UPC Upice 78.04 327 eP P 11 31 43.1 +0.2
UPC epP pP 11 32 21.9 +1.5
MSU Marysvale 78.08 50 eP P 11 31 44.2 +0.8
MSU epP pP 11 32 22.1 +1.2
ULM Lac du Bonnet 78.15 33 P P 11 31 42.5 -1.0
comp=Z,6.2nm,0.8s,mb4.3,baz=322,slow=7.0,SNR=6.7
NEN Nelson 78.31 53 eP P 11 31 45.2 +0.4
VYHS Vyhne 78.31 325 eP P 11 31 44.9 +0.4
VYHS *e*PP PP 11 34 39.7 -5.3
LDFC Landfair 78.51 54 eP P 11 31 46.3 +0.4
LDFC epP pP 11 32 23.6 +0.2
PVCC Panska Ves 78.62 328 eP P 11 31 46.8 +0.7
CLL Collm 78.65 329 ⇓P P 11 31 46.3 +0.1
comp=Z,logA/T=1.4,mb4.8
CLL Collm 78.65 329⇓iP P 11 31 46.3 +0.1
comp=Z,21nm,0.9s,mb4.8
CLL Collm 78.65 329⇓iP P 11 31 46.3 +0.1
CLL pmax pmax
comp=Z,21nm,0.9s,mb4.8
SRU San Rafael 78.66 48 eP P 11 31 46.8 +0.2
comp=Z,13nm,0.4s,mb4.9
SRU San Rafael 78.66 48 eP P 11 31 46.8 +0.3
SRU pmax pmax
comp=Z,13nm,0.4s,mb4.9
VRAC Vranov 78.70 326 eP P 11 31 47.3 +0.8
PRU Pruhonice 79.05 328 eP P 11 31 49.0 +0.6
PRU epP pP 11 32 26.4 +0.5
TREC Trest 79.18 327 eP P 11 31 49.8 +0.7
CLZ Clausthal 79.25 331 eP P 11 31 50.0 +0.6
comp=Z,20nm,1.0s,mb4.7
CLZ Clausthal 79.25 331 eP P 11 31 50.0 +0.6
CLZ pmax pmax
comp=Z,20nm,1.0s,mb4.7
NKC Novy Kostel 79.71 329 eP P 11 31 52.7 +0.7
MOX Moxa 79.72 330 *i* P P 11 31 52.1 +0.1
MOX Moxa 79.72 330 eP P 11 31 52.1 +0.1
PV10 Paradox Valley 80.01 48 eP P 11 31 55.0 +1.1
PV10 epP pP 11 32 32.2 +0.8
KHC Kasperske Hory 80.11 328 eP P 11 31 54.5 +0.4
KHC epP pP 11 32 31.5 -0.2
GEC2 GERESS Array S 80.28 327 eP P 11 31 55.1 0.0
comp=Z,8.0nm,0.9s,mb4.3
GEC2 GERESS Array S 80.28 327 eP P 11 31 55.1 0.0
GEC2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
GERES GERESS Array B 80.28 327 P P 11 31 55.5 +0.5
comp=Z,4.5nm,0.8s,mb4.2,baz=34,slow=4.8,SNR=28
GERES pP pP 11 32 33.0 +0.4
comp=Z,0.9nm,0.6s,baz=45,slow=1.9,SNR=2.6
GERES PP PP 11 34 58.8 -2.2
comp=Z,0.3nm,0.2s,baz=45,slow=9.4,SNR=4.0
WET Wettzell 80.39 328 eP P 11 31 55.9 +0.3
comp=Z,7.0nm,0.8s,mb4.3
WET Wettzell 80.39 328 eP P 11 31 55.9 +0.3
WET pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
PV01 Paradox Valley 80.44 48 eP P 11 31 56.3 +0.2
WUAZ Wupatki 80.54 52 eP P 11 31 57.6 +0.9
comp=Z,21nm,1.1s,mb4.7
WUAZ epP pP 11 32 34.2 -0.1
GRA1 Grafenberg Arr 80.63 329 eP P 11 31 57.6 +0.7
comp=Z,18nm,0.8s,mb4.8
GRA1 epP pP 11 32 35.9 +1.4
GRF Grafenberg Arr 80.63 329 eP P 11 31 57.6 +0.7
comp=Z,18nm,0.8s,mb4.8
GRF epP pP 11 32 35.9 +1.4
GRF Grafenberg Arr 80.63 329 eP P 11 31 57.6 +0.7
GRF *e**PP pP 11 32 35.9 +1.4
GRF pmax pmax
comp=Z,18nm,0.8s,mb4.8
GRF Grafenberg Arr 80.63 329 eP P 11 31 57.6 +0.7
GRF *e**PP pP 11 32 35.9 +1.4
GRF pmax pmax
comp=Z,18nm,0.8s,mb4.8
SMCO Snowmass 80.64 47 eP P 11 31 57.9 +0.7
ARSA Arzberg 80.72 325⇓iP P 11 31 58.3 +0.9
comp=Z,10nm,1.1s,mb4.4
ISCO Idaho Springs 80.97 45 eP P 11 31 59.6 +0.7
comp=Z,11nm,1.3s,mb4.3
ISCO epP pP 11 32 37.6 +1.1
ISCO Idaho Springs 80.97 45 eP P 11 31 59.6 +0.7
ISCO *e**PP pP 11 32 37.6 +1.0
ISCO pmax pmax
comp=Z,11nm,1.3s,mb4.3
TNS Taunus Mts 81.28 331 eP P 11 32 00.6 +0.3
comp=Z,17nm,1.2s,mb4.5
TNS Taunus Mts 81.28 331 eP P 11 32 00.6 +0.3
TNS pmax pmax
comp=Z,17nm,1.2s,mb4.5
PERS Pernice 81.37 325 eP P 11 32 01.3 +0.4
PERS *e* 11 32 19.9
PERS *e* pP 11 32 39.7 +1.1
OBKA Obir 81.72 325⇑iP P 11 32 03.7 +1.0
comp=Z,9.1nm,0.8s,mb4.5
KBA Koelnbreinsper 81.80 326⇑iP P 11 32 04.6 +1.5
comp=Z,3nm,1.1s,mb4.7
KBA Koelnbreinsper 81.80 326⇑iP P 11 32 04.6 +1.5
KBA pmax pmax
comp=Z,23nm,1.1s,mb4.7
FUR Furstenfeldbru 81.81 328 eP P 11 32 04.1 +1.0
comp=Z,36nm,0.7s,mb5.1
FUR Furstenfeldbru 81.81 328 eP P 11 32 04.1 +1.0
FUR pmax pmax
comp=Z,36nm,0.7s,mb5.1
SKO Skopje 81.83 319 *i* P P 11 32 04.0 +0.7
CRES Cresnjev 81.84 325 *i* P P 11 32 03.2 -0.1
VISS Visnje 82.14 325 eP P 11 32 04.8 0.0
VISS *e* pP 11 32 43.7 +1.1
WTTA Wattenberg 82.38 327⇑iP P 11 32 06.6 +0.5
comp=Z,12nm,0.8s,mb4.6
WTTA Wattenberg 82.38 327⇑iP P 11 32 06.6 +0.5
WTTA pmax pmax
comp=Z,12nm,0.8s,mb4.6
ROBS Robic 82.38 326 eP P 11 32 05.1 -1.0
ROBS *e* pP 11 32 43.9 0.0
VOJS Vojsko 82.38 325 eP P 11 32 06.3 +0.2
SDCO Great Sand Dun 82.47 47 eP P 11 32 07.4 +0.7
comp=Z,9.1nm,1.2s,mb4.3
SDCO epP pP 11 32 44.9 +0.4
MOTA Moosalm 82.54 328⇓iP P 11 32 07.5 +0.7
comp=Z,19nm,1.0s,mb4.8
MOTA Moosalm 82.54 328⇓iP P 11 32 07.5 +0.7
MOTA pmax pmax
comp=Z,19nm,1.0s,mb4.8
GIVF Givet 82.70 333 eP P 11 32 07.2 -0.4
BFO Black Forest 82.86 330 eP P 11 32 08.5 0.0
comp=Z,24nm,1.0s,mb4.9
BFO Black Forest 82.86 330 eP P 11 32 08.5 0.0
BFO pmax pmax
comp=Z,24nm,1.0s,mb4.9
BAIF Baives 82.95 333 eP P 11 32 08.6 -0.3
comp=Z,22nm,1.0s,mb4.6
BAIF Baives 82.95 333 eP P 11 32 08.6 -0.3
BAIF pmax pmax
comp=Z,11nm,1.0s,mb4.5
DAVA Damuels 83.08 328⇑iP P 11 32 10.2 +0.6
comp=Z,29nm,1.0s,mb5.0
CDF Champ du Feu 83.20 331 eP P 11 32 10.4 +0.2
comp=Z,28nm,1.1s,mb4.6
CDF Champ du Feu 83.20 331 eP P 11 32 10.4 +0.2
CDF pmax pmax
comp=Z,14nm,1.1s,mb4.6
SCHQ Schefferville 83.43 15 P P 11 32 11.3 +0.2
comp=Z,4.5nm,0.7s,mb4.3,baz=293,slow=4.5,SNR=6.2
SCHQ LR LR 12 15 34.7
comp=Z,76nm,18.2s,baz=292,slow=40
HINF Hinteralfeld 83.85 330 eP P 11 32 13.3 -0.1
ANMO Albuquerque 83.86 49 eP P 11 32 15.0 +1.2
comp=Z,15nm,1.1s,mb4.6
ANMO *e* pP 11 32 52.4 +0.7
ANMO Albuquerque 83.86 49 eP P 11 32 15.0 +1.2
ANMO *e* pP 11 32 52.4 +0.7
ANMO pmax pmax
comp=Z,15nm,1.1s
HAU Haudompre 83.88 331 eP P 11 32 13.5 0.0
CABF La Chapelle 85.14 330 eP P 11 32 20.0 +0.2
comp=Z,14nm,0.8s,mb4.4
CABF La Chapelle 85.14 330 eP P 11 32 20.0 +0.2
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LOR Lormes 85.43 332 eP P 11 32 21.3 +0.1
comp=Z,50nm,1.0s,mb4.9
LOR Lormes 85.43 332 eP P 11 32 21.3 +0.1
LOR pmax pmax
comp=Z,25nm,1.0s,mb4.9
FLN La Foliniere 85.65 335 eP P 11 32 22.3 0.0
comp=Z,51nm,1.1s,mb4.9
FLN La Foliniere 85.65 335 eP P 11 32 22.3 0.0
FLN pmax pmax
comp=Z,26nm,1.1s,mb4.9
LDF La Druitiere 85.68 335 eP P 11 32 22.4 0.0
comp=Z,19nm,0.7s,mb4.7
LDF La Druitiere 85.68 335 eP P 11 32 22.4 0.0
LDF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
SSF Saint Saulge 85.73 332 eP P 11 32 22.8 +0.1
comp=Z,30nm,0.9s,mb4.7
SSF Saint Saulge 85.73 332 eP P 11 32 22.8 +0.1
SSF pmax pmax
comp=Z,15nm,0.9s,mb4.7
LPL La Plagne 85.79 329 eP P 11 32 23.6 +0.5
comp=Z,24nm,0.9s,mb4.6
LPL La Plagne 85.79 329 eP P 11 32 23.6 +0.5

LPL pmax pmax
comp=Z,12nm,0.9s,mb4.6
LPG La Plagne 85.80 329 *e*P **P 11 32 23.8 +0.7**
SMF Signal de Mont 85.96 332 *e*P **P 11 32 23.9 0.0**
comp=Z,45nm,1.2s,mb4.8
SMF Signal de Mont 85.96 332 *e*P **P 11 32 23.9 0.0**
SMF pmax pmax
comp=Z,23nm,1.2s,mb4.8
AVF Avril sur Loir 86.02 332 *e*P **P 11 32 24.4 +0.3**
comp=Z,62nm,0.9s,mb5.1
AVF Avril sur Loir 86.02 332 *e*P **P 11 32 24.4 +0.3**
AVF pmax pmax
comp=Z,31nm,0.9s,mb5.0
GRR Gorron 86.10 335 *e*P **P 11 32 24.8 +0.3**
comp=Z,46nm,0.9s,mb4.9
GRR Gorron 86.10 335 *e*P **P 11 32 24.8 +0.3**
GRR pmax pmax
comp=Z,23nm,0.9s,mb4.9
BGF Bois d'Agland 86.40 332 *e*P **P 11 32 26.1 +0.1**
comp=Z,18nm,0.9s,mb4.5
BGF Bois d'Agland 86.40 332 *e*P **P 11 32 26.1 +0.1**
BGF pmax pmax
comp=Z,9,0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 86.62 329 *e*P **P 11 32 27.2 +0.1**
comp=Z,6.9nm,0.7s,mb4.3
ORIF Oris-en-Rattie 86.62 329 *e*P **P 11 32 27.2 +0.1**
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
SGMF Saint Gilles 86.76 336 *e*P **P 11 32 28.1 +0.4**
comp=Z,58nm,1.0s,mb5.1
SGMF Saint Gilles 86.76 336 *e*P **P 11 32 28.1 +0.4**
SGMF pmax pmax
comp=Z,29nm,1.0s,mb5.1
MNTX Cornudas Mount 86.78 51 *e*P **P 11 32 28.4 +0.2**
comp=Z,2.0nm,0.6s,mb4.1
MNTX *e*pP pP 11 33 06.3 -0.1
TCF Toulx Ste Croi 86.86 332 *e*P **P 11 32 27.8 -0.4**
comp=Z,40nm,1.2s,mb4.8
TCF Toulx Ste Croi 86.86 332 *e*P **P 11 32 27.8 -0.4**
TCF pmax pmax
comp=Z,20nm,1.2s,mb4.8
SBF Sospel 86.87 328 *e*P **P 11 32 29.2 +0.9**
ROSF Rostrenen 86.91 337 *e*P **P 11 32 28.4 0.0**
comp=Z,90nm,1.3s,mb5.1
ROSF Rostrenen 86.91 337 *e*P **P 11 32 28.4 0.0**
ROSF pmax pmax
comp=Z,45nm,1.3s,mb5.1
VIVF Saint-Julien-l 87.15 330 *e*P **P 11 32 29.7 +0.1**
QUIF Quistinic 87.25 336 *e*P **P 11 32 30.2 +0.2**
PGF Pioggiola 87.28 326 *e*P **P 11 32 30.3 0.0**
MFF Saint Martin d 87.42 334 *e*P **P 11 32 31.3 +0.4**
comp=Z,39nm,1.0s,mb4.9
MFF Saint Martin d 87.42 334 *e*P **P 11 32 31.3 +0.4**
MFF pmax pmax
comp=Z,20nm,1.0s,mb4.9
LMR La Mourre 87.68 328 *e*P **P 11 32 32.3 +0.1**
RJF Les Rejaudoux 87.95 332 *e*P **P 11 32 33.4 -0.1**
comp=Z,21nm,1.0s,mb4.6
RJF Les Rejaudoux 87.95 332 *e*P **P 11 32 33.4 -0.1**
RJF pmax pmax
comp=Z,11nm,1.0s,mb4.6
CAF Calviac 88.07 332 *e*P **P 11 32 35.0 +0.9**
comp=Z,22nm,1.0s,mb4.6
CAF Calviac 88.07 332 *e*P **P 11 32 35.0 +0.9**
CAF pmax pmax
comp=Z,11nm,1.0s,mb4.6
LASF Ste Croix 88.12 330 *e*P **P 11 32 34.2 -0.1**
LFF La Frestale 88.54 332 *e*P **P 11 32 36.8 +0.5**
MTLF Montolieu 89.37 331 *e*P **P 11 32 40.5 +0.3**
TXAR Lajitas Array 89.50 52 P **P 11 32 41.6 +0.4**
comp=Z,2.3nm,0.6s,mb4.3,baz=285,slow=3.1,SNR=71
TXAR pP pP 11 33 19.9 +0.3
comp=Z,1.1nm,0.6s,baz=296,slow=2.9,SNR=4.5
CCM Cathedral Cave 89.70 38 *e*P **P 11 32 42.2 +0.3**
comp=Z,14nm,1.1s,mb4.8
CCM *e*pP pP 11 33 19.1 -1.2
CCM Cathedral Cave 89.70 38 *e*P **P 11 32 42.2 +0.3**
CCM *e**P pP 11 33 19.1 -1.2
CCM pmax pmax
comp=Z,14nm,1.1s,mb4.8
ETSF Etsaut 90.78 332 *e*P **P 11 32 46.5 -0.3**
MAW Mawson 121.15 206 PKP PKPdf 11 38 34.6 +0.6
comp=Z,0.8nm,0.9s,baz=37,slow=5.1,SNR=7.1
DBIC Imbokiro 123.97 317 PKP PKPdf 11 38 41.7 +1.0
comp=Z,5.5nm,1.0s,slow=3.0,SNR=3.6
SNAA Sanae 142.60 198 *i*P PKPdf 11 39 10.2 -3.5
SNAA Sanae 142.60 198 *e* PKPdf 11 39 13.7 0.0
SNAA Sanae 142.60 198 *e* PKPdf 11 39 47.3 +34
SNAA Sanae 142.60 198 *e* PKPdf 11 39 50.5 +37
VNA2 Neumayer--Watz 144.20 198 *i*P PKPbc 11 39 16.3 +0.3
VNA2 Neumayer--Watz 144.20 198 *e* PKPbc 11 39 20.1 +4.1
VNA2 Neumayer--Watz 144.20 198 *e* PKPbc 11 39 55.0 +39
VNA2 Neumayer--Watz 144.20 198 *e* PKPbc 11 39 58.4 +42
VNA3 Neumayer Olymp 144.48 196 *i*P PKPbc 11 39 16.9 +0.1
VNA3 Neumayer Olymp 144.48 196 *e* PKPbc 11 39 21.2 +4.4
VNA3 Neumayer Olymp 144.48 196 *e* PKPbc 11 39 55.9 +39
VNA3 Neumayer Olymp 144.48 196 *e* PKPbc 11 39 59.0 +42
VNA1 Neumayer--Stat 144.59 198 *i*P PKPbc 11 39 17.9 +0.8
VNA1 Neumayer--Stat 144.59 198 *e* PKPbc 11 39 22.0 +4.9
VNA1 Neumayer--Stat 144.59 198 *e* PKPbc 11 39 57.5 +40
VNA1 Neumayer--Stat 144.59 198 *e* PKPbc 11 40 00.3 +43
LPAZ La Paz 146.30 55 PKPbc PKPbc 11 39 24.7 +1.7
comp=Z,4.1nm,0.3s,baz=18,slow=4.8,SNR=18
LPAZ pPKPbc 11 40 04.5
comp=Z,4.1nm,0.6s,baz=337,slow=4.5,SNR=3.7
LPAZ La Paz 146.30 55 *e*P PKPdf 11 39 24.4 +2.8
LPAZ *e*pP 11 40 02.8
LPAZ La Paz 146.30 55 PKP2 PKPab 11 39 24.7 -1.7
LPAZ pmax pmax
comp=Z,4.0nm,0.4s
LPAZ pmax pmax
comp=Z,4.0nm,0.6s
BDFB Brasilia 155.37 19 PKPab PKPab 11 40 02.9 -0.9
comp=Z,2.7nm,0.6s,baz=207,slow=2.3,SNR=3.7
BDFB Brasilia 155.37 19 PKP2 PKPab 11 40 02.9 -0.9
BDFB pmax pmax
comp=Z,3.0nm,0.6s
PLCA Paso Flores 156.48 103 PKPab PKPab 11 40 07.5 -0.4
comp=Z,1.2nm,0.7s,baz=261,slow=4.1,SNR=3.5
PLCA Paso Flores 156.48 103 PKP2 PKPab 11 40 07.6 -0.4
PLCA pmax pmax
comp=Z,1.0nm,0.7s
CPUP Villa Florida 160.46 54 PKPab PKPab 11 40 24.4 -1.1
comp=Z,0.7nm,0.3s,baz=139,slow=2.1,SNR=2.7
CPUP Villa Florida 160.46 54 PKP2 PKPab 11 40 24.4 -1.1
CPUP pmax pmax
comp=Z,1.0nm,0.4s

*NEIC **28** 11:39:05.8,31.86S×69.77W,h131km,MD3.6(GUC),After GUC.*
GUC 28 11:39:05.8±0.6,31.86S×69.77W,h131km±7km,MD3.6, ML2.8,3C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.98**	**72**	*i*P	P	11 39 29.3	+0.4
ZON				*e*S	S	11 39 43.9	-2.5
JACH	**Jahuel**	**1.08**	**220**	*i*P	P	11 39 30.1	+0.3
JACH				*i* S	S	11 39 48.8	+0.8
CHNG	**Los Chungos**	**1.47**	**269**	*e*P	P	11 39 34.0	0.0
CHNG				*i* S	S	11 39 55.0	-0.7
CHNG				AMP		11 40 03.0	
comp=E,67nm,0.6s							
FCH	**Farellones**	**1.53**	**196**	*i*P	P	11 39 35.3	+0.5
FCH				*i* S	S	11 39 57.5	+0.7
FCH				AMP		11 39 58.7	
comp=E,220nm,0.3s							
CLCH	**Cerro Calan**	**1.67**	**203**	*i*P	P	11 39 36.5	+0.2
CLCH				*e*S	S	11 39 59.4	-0.1
CLCH				AMP		11 40 01.1	
comp=N,171nm,0.6s							
RCDM	**Rinconada Maip**	**1.85**	**208**	*e*P	P	11 39 38.4	0.0
RCDM				*i* S	S	11 40 03.1	-0.1
PCH	**Pirque**	**1.87**	**199**	*i*P	P	11 39 39.1	+0.5
PCH				*i* S	S	11 40 04.1	+0.5
TLL	**Tololo Astrono**	**1.90**	**332**	*e*P	P	11 39 39.5	+0.5
TLL				*i* S	S	11 40 05.1	+0.7
TLL				AMP		11 40 08.7	
comp=N,84nm,0.2s							
CHCH	**Chadas Angostu**	**2.20**	**199**	*e*P	P	11 39 42.7	-0.1
CHCH				*i* S	S	11 40 10.8	-0.1
LCCH	**Las Cruces**	**2.21**	**223**	*i*P	P	11 39 42.7	-0.3

WEL 28 11:47:31.0±0.6,38.64S×180.00E,h33km,ML3.5/13, Error ellipse: s-maj=5.4km s-min=3.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.48**	**292**	PN	Pn	11 47 54.3	-1.4
PUZ				SN	Sn	11 48 12.0	-2.0
MXZ	**Matakaoa Point**	**1.71**	**308**	PN	Pn	11 47 58.3	-0.7
MXZ				SN	Sn	11 48 18.5	-1.4
KNZ	**Kokohu**	**1.85**	**257**	PN	Pn	11 47 60.0	-1.1
MWZ	**Matawai**	**1.96**	**278**	PN	Pn	11 48 01.5	-1.1
MWZ				SN	Sn	11 48 23.3	-3.0
URZ	**Urewera**	**2.30**	**279**	PN	Pn	11 48 05.8	-1.6
URZ				SN	Sn	11 48 33.1	-1.7
BKZ	**Black Stump Fm**	**2.78**	**258**	PN	Pn	11 48 13.1	-1.3
BKZ				SN	Sn	11 48 44.5	-2.7
PXZ	**Pawanui**	**2.80**	**239**	PN	Pn	11 48 12.2	-2.5
PXZ				SN	Sn	11 48 44.4	-3.2
TSZ	**Takapari Road**	**3.44**	**244**	PN	Pn	11 48 20.8	-2.8
TSZ				SN	Sn	11 48 59.6	-4.1
MRZ	**Mangatainoka R**	**3.96**	**238**	PN	Pn	11 48 27.1	-4.0
MRZ				SN	Sn	11 49 11.1	-5.9
MTW	**Mount Morrison**	**4.28**	**233**	PN	Pn	11 48 31.1	-4.5
MTW				SN	Sn	11 49 18.3	-6.6
CAW	**Cannon Point**	**4.52**	**235**	PN	Pn	11 48 34.5	-4.6
CAW				SN	Sn	11 49 24.8	-6.4
TCW	**Tory Channel**	**5.09**	**238**	PN	Pn	11 48 42.4	-4.7
QRZ	**Quartz Range**	**6.16**	**247**	*e*PN	Pn	11 48 56.6	-5.5
KHZ	**Kahutara**	**6.20**	**230**	PN	Pn	11 48 57.0	-5.7
KHZ				SN	Sn	11 50 03.4	-10
THZ	**Tophouse**	**6.26**	**238**	*e*PN	Pn	11 48 57.8	-5.8
MQZ	**McQueen's Vall**	**7.50**	**225**	*e*SN	Sn	11 50 31.6	-14

IDC 28 11:54:10.4±2.4,2.45N×97.29E,mb4.0/4,mb1 4.1/4, mb1mx3.8/15,mbtmp4.0/4,MS3.4/1,Ms1 3.4/1, ms1mx3.0/18,Error ellipse: s-maj=101.3km s-min=26.3km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.63**	**123**	P	P	12 02 08.7	-1.7
0.9nm,0.5s,baz=302,slow=9.1,SNR=14							
SONM	**Songino Array**	**45.89**	**9**	P	P	12 02 34.9	-1.5
1.5nm,0.7s,baz=190,slow=9.5,SNR=11							
SONM				LR	LR	12 24 11.7	
comp=Z,41nm,18.0s,baz=84,slow=39							
MKAR	**Makanchi Array**	**46.06**	**346**	P	P	12 02 35.8	-2.0
2.8nm,0.7s,baz=160,slow=7.9,SNR=28							
ARCES	**ARCESS Array B**	**81.40**	**340**	P	P	12 06 28.8	-1.4
0.6nm,0.4s,baz=98,slow=4.9,SNR=14							

DHMR 28 12:18:44.4±2.6,12.62N×40.51E,h12km±286km,ML3.6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.57**	**80**	*i* P	Pn	12 19 42.4	+1.6
TRBA				*i* S	Sn	12 20 27.5	+4.1
TRBA				AML	AML	12 20 40.8	
comp=N,218nm,0.7s							
DHBB	**Dhamar BB**	**4.24**	**62**	*i* P	Pn	12 19 51.4	+1.0
DHBB				*i* S	Sn	12 20 43.9	+3.5
LBOS		**4.78**	**74**	*i* P	Pn	12 19 56.7	-1.3
LBOS				*i* S	Sn	12 20 53.1	-0.9
BDHA	**Al Bayda'**	**5.11**	**74**	*i* P	Pn	12 20 00.9	-1.7
BDHA				*i* S	Sn	12 21 00.9	-1.3

MAN 28 12:22:33.7,10.18N×125.41E,h210km,mb4.1,ML2.9, MS2.6,1C,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.40**	**169**	*e*P	P	12 23 02.5	+0.5
SCPH				*e*S	S	12 23 21.7	-2.1
MSLP	**Maasin**	**0.55**	**266**	*e*P	P	12 23 02.8	+0.4
BESP	**Borongan**	**1.42**	**1**	*e*P	P	12 23 08.3	+0.3
BESP				*e*S	S	12 23 32.5	-1.9
BIPH	**Bislig**	**2.19**	**155**	*i*P	P	12 23 14.9	-0.5
BIPH				*e*S	S	12 23 46.5	-1.0
BUKP	**Musuan**	**2.31**	**189**	*e*P	P	12 23 16.9	+0.3
GUIM	**Jordan**	**2.81**	**279**	*e*P	P	12 23 23.9	+1.7
PAGZ	**Pagadian**	**3.06**	**221**	*e*P	P	12 23 24.8	-0.3
MATI	**Mati**	**3.32**	**165**	*e*P	P	12 23 28.1	-0.1

LDG 28 12:23:31.4±0.2,17.39S×167.08E,h10km,Mb4.1/2,Error ellipse: s-maj=31.5km s-min=5.1km az=91.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOUC	**Port Laguerre**	**4.74**	**189**	*e*P	Pn	12 24 41.2	-3.4
NOUC				*e*S	Sn	12 25 32.6	-7.8
SNAA	**Sanae**	**90.89**	**183**		P	12 36 31.7	-4.4
SNAA	**Sanae**	**90.89**	**183**		P	12 36 42.9	+6.8
VNA3	**Neumayer Olymp**	**91.56**	**181**		P	12 36 36.0	-3.2
VNA3	**Neumayer Olymp**	**91.56**	**181**		P	12 36 47.1	+7.9
VNA2	**Neumayer--Watz**	**91.83**	**182**		P	12 36 37.5	-2.9
CDF	**Champ du Feu**	**144.95**	**336**	*e*PKP1	PKPbc	12 43 08.0	-1.0
32nm,0.9s							
CABF	**La Chapelle**	**146.88**	**336**	*e*PKP1	PKPbc	12 43 14.1	+0.4
FLN	**La Foliniere**	**147.11**	**345**	*e*PKP1	PKPdf	12 43 13.4	-2.1
SSF	**Saint Saulge**	**147.46**	**339**	*e*PKP1	PKPdf	12 43 15.1	-1.0
9.7nm,0.7s							
LPL	**La Plagne**	**147.51**	**334**	*e*PKP1	PKPdf	12 43 15.9	-0.4
6.4nm,0.7s							
BGF	**Bois d'Agland**	**148.12**	**339**	*e*PKP1	PKPdf	12 43 16.8	-0.4
ORIF	**Oris-en-Rattie**	**148.35**	**334**	*e*PKP1	PKPdf	12 43 17.6	0.0
12nm,0.8s							
PGF	**Pioggiola**	**148.73**	**328**	*e*PKP1	PKPdf	12 43 18.6	+0.3
46nm,1.0s							
FRF	**La Foret Royal**	**149.10**	**332**	*e*PKP1	PKPdf	12 43 19.3	+0.4
SMRF	**Simiane la Rot**	**149.24**	**333**	*e*PKP1	PKPdf	12 43 20.2	+1.1
12nm,0.8s							
LMR	**La Mourre**	**149.34**	**332**	*e*PKP1	PKPdf	12 43 19.8	+0.5
LASF	**Ste Croix**	**149.87**	**336**	*e*PKP1	PKPdf	12 43 21.6	+1.5
5.9nm,0.6s							

*JMA **28** 12:25:32.9±0.3,28.72N×139.60E,h405km,M3.3*
*IDC **28** 12:25:32.9±0.9,28.72N×139.61E,h403km±20km,mb3.2/6, mb1 3.4/7,mb1mx3.1/19,mbtmp4.1/7,Error ellipse: s-maj=52.0km s-min=17.2km az=73.0*
ISC 28 12:25:32.1±0.8,28.72N±0.08×139.6E±0.4,h414km±20km, n12,σ0s48/15,mb3.4/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.78**	**125**	P	**P**	**12 26 35.2**	**+0.1**
50nm,0.3s,baz=286,slow=19,SNR=58							
CBIJ				S	**S**	**12 27 24.8**	**+0.1**
31nm,0.3s,baz=276,slow=21,SNR=12							
CBIJ	**Chichi jima**	**2.78**	**125**	P	**P**	**12 26 35.2**	**+0.1**
CBIJ				S	**S**	**12 27 23.8**	**-0.8**
JHHJ	**Haha-jima-NKT**	**3.07**	**132**	P	**P**	**12 26 37.7**	**+0.3**
JHHJ				S	**S**	**12 27 28.8**	**+0.1**
JRY	**Ryogami san**	**7.30**	**355**	P	**P**	**12 27 20.7**	**+0.3**
JYT	**Yasato**	**7.50**	**3**	*e*S	**S**	**12 28 48.7**	**-1.1**
JHO	**Hitachi**	**7.91**	**5**	*e*S	**S**	**12 28 58.7**	**+0.7**
SONM	**Songino Array**	**31.98**	**316**	P	**P**	**12 31 23.8**	**+0.5**
0.8nm,0.6s,mb3.2,baz=132,slow=7.0,SNR=7.7							
MKAR	**Makanchi Array**	**47.70**	**309**	P	**P**	**12 33 30.6**	**-0.3**
1.1nm,0.5s,mb3.4,baz=71,slow=11,SNR=9.6							
WRA	**Warramunga Arr**	**48.65**	**187**	P	**P**	**12 33 38.2**	**-0.3**
0.5nm,0.3s,mb3.4,baz=1.5,slow=7.7,SNR=26							
BVAR	**Borovoye Array**	**55.32**	**317**	P	**P**	**12 34 26.3**	**-0.5**
1.7nm,0.5s,mb3.5,baz=88,slow=8.2,SNR=9.0							
ARCES	**ARCESS Array B**	**71.26**	**340**	P	**P**	**12 36 09.3**	**+0.3**
0.4nm,0.5s,mb3.2,baz=72,slow=7.7,SNR=6.6							
FINES	**FINESS Array B**	**75.49**	**333**	P	**P**	**12 36 33.2**	**0.0**
0.6nm,0.4s,mb3.6,baz=72,slow=5.1,SNR=6.3							

NNC 28 12:54:03.5±6.1,37.37N×71.02E,h190km±75km,mpv3.3, 4C-1D,Error ellipse: s-maj=64.1km s-min=32.6km az=36.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.74**	**356**	P	P	12 55 26.2	-1.8
1.7nm,0.3s,baz=169,slow=11,SNR=49							
KK31				⇑S	S	12 56 34.0	+0.4
2.9nm,0.5s,baz=184,slow=14,SNR=14							
AAK	**Ala-Archa**	**5.90**	**26**	⇑P	P	12 55 27.4	-2.6
0.6nm,0.3s							
AAK				⇓S	S	12 56 37.8	+0.5
7.6nm,0.6s							
AB31	**Akbulak array**	**14.34**	**329**	⇑P	P	12 57 18.9	+0.1
0.3nm,0.4s,baz=162,slow=11,SNR=9.5							
AB31				⇑S	S	12 59 56.4	+3.2
0.2nm,0.3s							

NEIC 28 12:54:37.0±1.9,35.28S×178.63E,h230km±9km,Error ellipse: s-maj=24.7km s-min=20.7km az=195.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.29**	**186**	PN	P	12 55 19.3	-1.8
MXZ				SN	S	12 56 00.4	+5.2
MXZ	**Matakaoa Point**	**2.29**	**186**	*e*P	P	12 55 19.3	-1.8
PUZ	**Puketiti**	**2.80**	**186**	PN	P	12 55 25.1	-1.4
PUZ				SN	S	12 56 11.6	+6.7
PUZ	**Puketiti**	**2.80**	**186**	*e*P	P	12 55 25.1	-1.4
MWZ	**Matawai**	**3.18**	**196**	PN	P	12 55 30.5	-0.2
MWZ				SN	S	12 56 20.7	+8.3
MWZ	**Matawai**	**3.18**	**196**	*e*P	P	12 55 30.5	-0.2
MWZ				S	S	12 56 20.7	+8.3
URZ	**Urewera**	**3.22**	**202**	PN	P	12 55 31.1	-0.1
URZ				SN	S	12 56 22.5	+9.2
URZ	**Urewera**	**3.22**	**202**	*e*P	P	12 55 31.7	+0.5
WCZ	**Waipu Caves**	**3.56**	**258**	PN	P	12 55 33.5	-1.7
WCZ	**Waipu Caves**	**3.56**	**258**	P	P	12 55 33.5	-1.7
KNZ	**Kokohu**	**3.81**	**191**	PN	P	12 55 38.3	+0.1
KNZ				SN	S	12 56 34.4	+8.7
KNZ	**Kokohu**	**3.81**	**191**	*e*P	P	12 55 36.9	-1.3
BKZ	**Black Stump Fm**	**4.24**	**203**	PN	P	12 55 43.4	0.0
BKZ				SN	S	12 56 46.1	+11
BKZ	**Black Stump Fm**	**4.24**	**203**	*e*P	P	12 55 44.6	+1.2
NGZ	**Ngauruhoe**	**4.58**	**211**	PN	P	12 55 49.6	+2.0
NGZ	**Ngauruhoe**	**4.58**	**211**	P	P	12 55 49.6	+2.0
TUVZ	**Tukino**	**4.64**	**210**	PN	P	12 55 49.7	+1.4
WNVZ	**Wahianoa**	**4.71**	**210**	PN	P	12 55 50.5	+1.4
WNVZ	**Wahianoa**	**4.71**	**210**	P	P	12 55 50.5	+1.3
MOVZ	**Moawhango**	**4.72**	**208**	PN	P	12 55 49.8	+0.5
MOVZ				SN	S	12 56 55.5	+10
MOVZ	**Moawhango**	**4.72**	**208**	P	P	12 55 49.8	+0.6
MTVZ	**Mangateitei**	**4.81**	**211**	PN	P	12 55 52.6	+2.2
MTVZ				SN	S	12 57 00.7	+13
PXZ	**Pawanui**	**4.95**	**196**	PN	P	12 55 50.4	-1.7
PXZ				SN	S	12 56 57.6	+7.0
TSZ	**Takapari Road**	**5.22**	**203**	PN	P	12 55 56.0	+0.5
TSZ	**Takapari Road**	**5.22**	**203**	P	P	12 55 56.0	+0.5
WAZ	**Wanganui**	**5.33**	**212**	PN	P	12 55 57.8	+0.9
WAZ	**Wanganui**	**5.33**	**212**	*e*P	P	12 55 57.8	+0.9
BFZ	**Birch Farm**	**5.71**	**199**	PN	P	12 56 01.1	-0.7
BFZ				SN	S	12 57 15.7	+7.9
BFZ	**Birch Farm**	**5.71**	**199**	*e*P	P	12 56 00.8	-0.9
MRZ	**Mangatainoka R**	**5.89**	**203**	PN	P	12 56 02.1	-1.8
MRZ				SN	S	12 57 18.6	+6.8
MRZ	**Mangatainoka R**	**5.89**	**203**	*e*P	P	12 56 03.0	-1.0
KIW	**Kapiti Island**	**6.30**	**207**	PN	P	12 56 07.9	-1.3
KIW	**Kapiti Island**	**6.30**	**207**	P	P	12 56 07.9	-1.3
MTW	**Mount Morrison**	**6.37**	**202**	PN	P	12 56 08.7	-1.3
MTW	**Mount Morrison**	**6.37**	**202**	P	P	12 56 08.7	-1.3
CAW	**Cannon Point**	**6.46**	**205**	PN	P	12 56 09.1	-2.1
CAW				SN	S	12 57 32.0	+7.2
CAW	**Cannon Point**	**6.46**	**205**	P	P	12 56 09.1	-2.1
TRWZ	**Traveller**	**6.53**	**200**	PN	P	12 56 11.3	-0.9
PAWZ	**Paruwai Farm**	**6.59**	**202**	PN	P	12 56 11.7	-1.2
PAWZ	**Paruwai Farm**	**6.59**	**202**	P	P	12 56 11.7	-1.2
DUWZ	**D'Urville Isla**	**6.65**	**213**	PN	P	12 56 12.9	-0.8
MSWZ	**Moikau Station**	**6.68**	**202**	PN	P	12 56 12.8	-1.2
MRW	**Makara Radio**	**6.70**	**206**	PN	P	12 56 13.4	-0.9
WEL	**Wellington**	**6.72**	**206**	PN	P	12 56 13.6	-1.0
WEL	**Wellington**	**6.72**	**206**	P	P	12 56 13.6	-1.0
TCW	**Tory Channel**	**6.84**	**209**	PN	P	12 56 14.7	-1.4
TCW	**Tory Channel**	**6.84**	**209**	P	P	12 56 14.7	-1.4
TUWZ	**Tuamarina**	**7.16**	**210**	PN	P	12 56 18.9	-1.3
NNZ	**Nelson**	**7.23**	**213**	PN	P	12 56 19.5	-1.6
NNZ	**Nelson**	**7.23**	**213**	*e*P	P	12 56 19.8	-1.2
QRZ	**Quartz Range**	**7.34**	**219**	PN	P	12 56 22.1	-1.2
BSWZ	**Blackbirch Sta**	**7.43**	**209**	PN	P	12 56 22.3	-1.3
BSWZ	**Blackbirch Sta**	**7.43**	**209**	P	P	12 56 22.3	-1.3
THZ	**Tophouse**	**7.88**	**213**	PN	P	12 56 28.1	-1.3
THZ	**Tophouse**	**7.88**	**213**	*e*P	P	12 56 28.4	-1.0
KHZ	**Kahutara**	**8.16**	**208**	PN	P	12 56 30.5	-2.5
KHZ	**Kahutara**	**8.16**	**208**	*e*P	P	12 56 31.7	-1.3
LTZ	**Lake Taylor**	**8.98**	**212**	PN	P	12 56 42.0	-1.5
LTZ	**Lake Taylor**	**8.98**	**212**	*e*P	P	12 56 42.0	-1.5
MQZ	**McQueen's Vall**	**9.60**	**207**	*e*P	P	12 56 49.1	-2.3
ODZ	**Otahua Downs**	**11.50**	**210**	*e*P	P	12 57 14.5	-1.1

*IDC **28** 13:11:24.8±1.5,26.34N×129.80E,mb3.7/3,mb1 3.9/4, mb1mx3.6/18,mbtmp3.7/4,ML3.5/1,Error ellipse: s-maj=41.8km s-min=23.2km az=66.0*
*JMA **28** 13:11:27.2±0.1,26.48N×129.78E,h33km,M3.1*
ISC 28 13:11:27.6±2.3,26.50N±0.05×129.77E±0.04,h32km±20km, n15,σ0s97/21,mb3.5/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**1.38**	**284**	P	**Pn**	**13 11 51.4**	**+0.5**
42nm,0.3s,baz=116,slow=16,SNR=129							
JOW				Sn	**Sn**	**13 12 06.1**	**-2.0**
39nm,0.3s,baz=116,slow=18,SNR=7.9							
JOW	**Kunigami**	**1.38**	**284**	P	**Pn**	**13 11 51.2**	**+0.3**
JOW				*e*S	**Sn**	**13 12 08.2**	**+0.1**
JMZ	**Minamidaito 2**	**1.47**	**117**	P	**Pn**	**13 11 51.9**	**-0.3**
JMZ				*e*S	**Sn**	**13 12 10.8**	**+0.3**
JTK	**Tokunoshima**	**1.48**	**331**	P	**Pn**	**13 11 52.6**	**+0.3**
JIH	**Iheya**	**1.70**	**289**	P	**Pn**	**13 11 56.1**	**+0.6**
JIH				*e*S	**Sn**	**13 12 16.2**	**0.0**
JZK	**Kikaishima**	**1.82**	**6**	P	**Pn**	**13 11 58.2**	**+1.0**
JZK				*e*S	**Sn**	**13 12 20.5**	**+1.1**
JJT2	**Tamagusuku 2**	**1.85**	**259**	*e*S	**Sn**	**13 12 20.2**	**+0.1**
NAH1	**Naha**	**1.89**	**262**	*e*S	**Sn**	**13 12 21.1**	**0.0**
JAM	**Amami Oshima**	**1.91**	**356**	P	**Pn**	**13 11 58.4**	**-0.

ellipse: s-maj=7.8km s-min=4.4km az=166.0
*NEIC **28** 13:20:58.6±0.7,51.45N×16.08E,h5km,ML3.2(SZGRF), ML3.1(CLL),Error ellipse: s-maj=8.0km s-min=4.9km az=11.0*
*IDC **28** 13:20:58.3±0.9,51.48N×16.06E,mb1 3.4/5, mb1mx3.3/19,mbtmp3.2/5,ML3.1/5,Error ellipse: s-maj=12.2km s-min=7.0km az=122.0*
*PRU **28** 13:20:58.1,51.48N×16.08E,Felt In Harrachov*
*CSEM **28** 13:20:59.1±0.2,51.46N×16.07E,ML3.8/4,Error ellipse: s-maj=3.1km s-min=2.1km az=11.0*
*VIE **28** 13:20:59.9±0.4,51.31N×16.07E,mb2.6/3,ML3.3/3,Error ellipse: s-maj=3.2km s-min=2.3km az=42.0, Suspected Mining induced.*

WAR 28 13:20:58.3,51.51N×16.09E,h1km,ML3.1,2C,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		Pg	13 21 11.0	-0.9
KSP				*e*SG		Sg	13 21 20.0	-0.9
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		Pg	13 21 10.7	-1.2
KSP				*e*Sg		Sg	13 21 20.3	-0.6
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		Pg	13 21 10.7	-1.2
KSP				*e*Sg		Sg	13 21 19.7	-1.2
UPC	**Upice**	**1.00**	**183**	*e*PG		Pn	13 21 16.9	-2.4
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG		Pn	13 21 19.5	-2.2
DPC				*e*SG		Sn	13 21 34.5	-4.0
	104nm,0.2s							
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg		Pn	13 21 19.5	-2.2
DPC				*e*Sg		Sn	13 21 34.6	-3.9
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG		Pn	13 21 23.7	-0.9
PVCC	**Panska Ves**	**1.37**	**225**	*e*Pn		Pn	13 21 23.6	-1.0
PVCC	**Panska Ves**	**1.37**	**225**	Pg		Pn	13 21 23.7	-0.9
PVCC				*e*Sg		Sn	13 21 42.3	-1.4
BRG	**Berggiesshubel**	**1.49**	**246**	*e*Pg		Pn	13 21 25.7	-0.6
BRG				*e*Sg		Sn	13 21 45.5	-1.2
BRG	**Berggiesshubel**	**1.49**	**246**	Pg		Pn	13 21 25.8	-0.5
BRG				Sg		Sn	13 21 45.9	-0.9
BRG	**Berggiesshubel**	**1.49**	**246**	Pg		Pn	13 21 25.8	-0.5
BRG				Sg		Sn	13 21 45.5	-1.2
RUE	**Ruedersdorf**	**1.73**	**305**	P		Pn	13 21 30.5	+0.8
RUE				S		Sn	13 21 53.2	+0.5
RUE	**Ruedersdorf**	**1.73**	**305**	P		Pn	13 21 30.5	+0.8
RUE				S		Sn	13 21 53.2	+0.5
PRU	**Pruhonice**	**1.81**	**213**	*e*PG		Pg	13 21 30.6	-3.9
PRU				*e*SG		Sg	13 21 55.2	-3.4
FBE	**Freiberg**	**1.82**	**252**	Pn		Pn	13 21 30.3	-0.7
FBE				Sg		Sg	13 21 55.9	-2.9
CLL	**Collm**	**1.94**	**265**	*e*Pn		Pn	13 21 33.1	+0.4
CLL				*e*Sg		Sg	13 21 58.9	-4.0
CLL	**Collm**	**1.94**	**265**	*e*PN		Pn	13 21 31.0	-1.8
CLL				*i* PG		Pg	13 21 34.0	-3.1
CLL				*e*SN		Sn	13 21 53.0	-5.1
CLL				*i* SG		Sg	13 21 59.5	-3.5
CLL	**Collm**	**1.94**	**265**	*i* Pg		Pg	13 21 34.0	-3.1
CLL				Sg		Sg	13 21 58.9	-4.1
MORC	**Moravsky Berou**	**1.97**	**151**	*e*P		Pn	13 21 31.4	-1.7
MORC				*e*S		Sn	13 21 58.4	-0.3
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn		Pn	13 21 31.5	-1.6
MORC				*e*Sg		Sg	13 21 58.9	-4.9
	42nm,0.2s							
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*SG		Sg	13 22 04.0	-5.1
VRAC	**Vranov**	**2.23**	**171**	Pn		Pn	13 21 36.1	-0.8
	2.4nm,0.3s,baz=333,slow=12,SNR=12							
VRAC				Pg		Pg	13 21 39.4	-3.3
	3.7nm,0.3s,baz=339,slow=17,SNR=9.6							
VRAC				Sn		Sn	13 22 04.7	-0.7
	3.1nm,0.3s,baz=200,slow=11,SNR=4.7							
VRAC				Lg			13 22 07.3	
	7.0nm,0.3s,baz=78,slow=19,SNR=11							
VRAC	**Vranov**	**2.23**	**171**	*e*Pn		Pn	13 21 35.2	-1.6
VRAC				*e*Sg		Sg	13 22 08.0	-4.4
VRAC	**Vranov**	**2.23**	**171**	*e*Pn		Pn	13 21 35.2	-1.6
VRAC				*e*Sg		Sg	13 22 07.9	-4.5
	32nm,0.3s							
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn		Pn	13 21 38.7	-1.4
KRUC				*e*Sg		Sg	13 22 15.1	-5.0
	28nm,0.2s							
TANN	**Tannenbergstha**	**2.54**	**246**	*e*Pn		Pn	13 21 40.2	-1.2
TANN				*e*Sg		Sg	13 22 17.6	-5.3
WERD	**Werda**	**2.62**	**247**	*e*Pn		Pn	13 21 40.8	-1.6
WERD				*e*Sg		Sg	13 22 20.1	-5.2
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN		Pn	13 21 41.5	-1.2
NKC				*e*SG		Sg	13 22 21.7	-4.3
	114nm,0.3s							
OJC	**Ojcow**	**2.68**	**117**	*e*PG		Pg	13 21 48.0	-3.9
OJC				*e*SG		Sg	13 22 23.0	-4.6
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN		Pn	13 21 44.3	-1.8
KHC				*e*PG		Pg	13 21 50.7	-5.0
KHC				*e*SN		Sn	13 22 18.5	-3.3
KHC				*e*SG		Sg	13 22 27.9	-6.0
MOX	**Moxa**	**2.95**	**255**	*e*Pn		Pn	13 21 46.3	-0.9
MOX				*e*Sg		Sg	13 22 31.3	-5.2
MOX	**Moxa**	**2.95**	**255**	*e*Pg		Pg	13 21 53.8	-3.4
MOX				*e*Sg		Sg	13 22 32.2	-4.3
ROTZ	**Rotzenmuhle**	**3.02**	**236**	*e*Pn		Pn	13 21 47.2	-1.0
ROTZ				*e*Sg		Sg	13 22 32.8	-6.1
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn		Sg	13 21 47.8	-1.1
GEC2				*e*Sg		Sg	13 22 33.7	-7.0
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn		Pn	13 21 47.8	-1.2
GEC2				*e*Sg		Sg	13 22 33.7	-7.0
GERES	**GERESS Array B**	**3.08**	**211**	Pn		Pn	13 21 48.0	-0.9
	1.8nm,0.3s,baz=31,slow=13,SNR=11							
GERES				Pg		Pg	13 21 53.9	-5.8
	4.3nm,0.3s,baz=27,slow=15,SNR=14							
GERES				Sn		Sn	13 22 23.0	-3.9
	4.4nm,0.3s,baz=29,slow=24,SNR=5.3							
GERES				Lg			13 22 33.6	
	9.5nm,0.3s,baz=30,slow=26,SNR=12							
GERES	**GERESS Array B**	**3.08**	**211**	Pg		Pg	13 21 53.9	-5.8
SMOL	**Smolenice**	**3.12**	**163**	*e*SG		Sg	13 22 38.5	-3.7
WET	**Wettzell**	**3.14**	**222**	*e*Pn		Pn	13 21 48.2	-1.6
KOLL	**Kolacno**	**3.29**	**152**	*e*SG		Sg	13 22 42.7	-5.2
GRA1	**Grafenberg Arr**	**3.59**	**241**	*e*Pn		Pn	13 21 55.3	-1.0
GRA1				*e*Sg		Sg	13 22 52.2	-5.7
GRA1	**Grafenberg Arr**	**3.59**	**241**	Pn		Pn	13 21 55.3	-1.0
GRA1				Sg		Sg	13 22 52.2	-5.7
GRF	**Grafenberg Arr**	**3.59**	**241**	*e*Pn		Pn	13 21 55.3	-1.0
GRF				*e*Sg		Sg	13 22 52.2	-5.8
MOA	**Molln**	**3.85**	**199**	⇑ *i* Pn		Pn	13 21 57.8	-2.2
	comp=Z,5.0nm,0.2s							
MOA				⇑ *i* Sg		Sg	13 23 01.0	-5.5
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*Pn		Pn	13 22 00.8	+0.1
STHS				*e*SG		Sg	13 23 05.9	-2.4
DAVOX	**Davos**	**6.24**	**223**	Lg			13 24 13.1	
	0.3nm,0.3s,baz=320,slow=21,SNR=2.3							
AKASG	**Malin Array Be**	**8.31**	**90**	Pn		P	13 22 58.2	-4.6
	0.9nm,0.3s,baz=279,slow=12,SNR=4.1							
AKASG				Sn		Sn	13 24 24.7	-14
	1.3nm,0.3s,baz=312,slow=36,SNR=3.6							
AKASG				Lg			13 25 24.9	
	0.3nm,0.3s,baz=288,slow=28,SNR=2.8							
AKASG	**Malin Array Be**	**8.31**	**90**	Pn		P	13 22 58.2	-4.6
AKASG				Sn		Sn	13 24 24.7	-14
AKASG				Lg			13 25 24.9	
FINES	**FINESS Array B**	**11.37**	**25**	Pn		P	13 23 38.1	-6.7
	0.2nm,0.3s,baz=201,slow=12,SNR=3.5							
FINES				Sn		S	13 25 38.8	-15
	0.2nm,0.3s,baz=275,slow=15,SNR=3.1							
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn		P	13 25 11.4	-7.5
	0.1nm,0.3s,baz=194,slow=12,SNR=5.1							

IDC 28 13:23:05.9±4.6,2.42N×96.50E,mb3.5/3,mb1 3.6/3, mb1mx3.4/15,mbtmp3.5/3,Error ellipse: s-maj=175.6km s-min=29.6km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**43.27**	**123**	P		P	13 31 09.5	-1.8
	0.3nm,0.7s,baz=300,slow=9.0,SNR=3.4							
MKAR	**Makanchi Array**	**45.90**	**346**	P		P	13 31 30.1	-2.0
	1.2nm,0.8s,baz=162,slow=7.7,SNR=8.6							
SONM	**Songino Array**	**46.04**	**9**	P		P	13 31 31.6	-1.6
	0.3nm,0.6s,baz=194,slow=9.8,SNR=3.7							

*IDC **28** 13:35:41.8±0.6,9.10N×126.36E,mb4.3/12,mb1 4.4/12, mb1mx4.2/20,mbtmp4.3/12,MS3.6/8,Ms1 3.6/8, ms1mx3.4/24,Error ellipse: s-maj=38.1km s-min=13.4km az=74.0*
*NEIC **28** 13:35:49.3±1.9,9.05N×126.37E,h58km±18km,mb4.4/3, Error ellipse: s-maj=23.0km s-min=8.3km az=71.0*
*MAN **28** 13:35:50.4,9.00N×126.21E,h44km,mb4.8,ML3.7,MS3.7*

ISC 28 13:35:49.7±0.7,8.97N±0.04×126.25E±0.06,h81km±6km, n47,σ0§84/45,mb4.0/14,1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**0.62**	**270**	*e*P		P	**13 36 03.5**	**-1.3**
SCPH	**Surigao**	**1.10**	**317**	*e*P		P	**13 36 09.4**	**-0.8**
SCPH				*e*S		S	**13 36 25.4**	**-0.3**
BUKP	**Musuan**	**1.60**	**227**	*e*P		P	**13 36 17.3**	**+0.5**
CGP	**Cagayan de Oro**	**1.62**	**252**	⇑ *e*P		P	**13 36 16.8**	**-0.3**
CGP				*e*S		S	**13 36 36.8**	**-0.4**
MSLP	**Maasin**	**1.79**	**310**	*e*P		P	**13 36 20.3**	**+0.9**
DAV	**Davao City (W)**	**2.00**	**199**	P		P	**13 36 22.4**	**+0.2**
MATI	**Mati**	**2.01**	**180**	*e*P		P	**13 36 23.0**	**+0.7**
KCP	**Kidapawan**	**2.26**	**211**	⇓ *i* P		P	**13 36 26.0**	**+0.2**
KCP				*i* S		S	**13 36 53.0**	**+0.4**
TBP	**Tagbilaran**	**2.46**	**287**	⇓ *e*P		P	**13 36 27.9**	**-0.7**
TBP				*e*S		S	**13 36 57.2**	**-0.4**
PLP	**Palo**	**2.51**	**330**	*e*P		P	**13 36 30.5**	**+1.1**
PLP				*i* S		S	**13 37 02.8**	**+3.8**
BESP	**Borongan**	**2.73**	**343**	*e*P		P	**13 36 32.7**	**+0.2**
DCPH	**Dipolog City**	**2.89**	**263**	*i* P		P	**13 36 34.4**	**-0.2**
DCPH				*i* S		S	**13 37 07.5**	**-0.7**
PAGZ	**Pagadian**	**3.04**	**249**	*e*P		P	**13 36 37.7**	**+0.9**
IPIL	**Ipil**	**3.82**	**252**	*e*P		P	**13 36 51.3**	**+3.7**
CNP	**Catarman**	**3.85**	**336**	*e*P		P	**13 36 47.9**	**0.0**
GUIM	**Jordan**	**3.96**	**295**	*e*P		P	**13 36 49.5**	**0.0**
CUYO	**Cuyo Island**	**5.48**	**290**	*e*P		P	**13 37 10.9**	**+0.5**
ENPP	**El Nido**	**7.08**	**289**	*e*P		P	**13 37 33.5**	**+0.9**
JOW	**Kunigami**	**17.87**	**6**	LR		LR	13 45 26.3	
	comp=Z,221nm,19.2s,baz=322,slow=33							
GUMO	**Guam**	**18.83**	**74**	LR		LR	13 45 14.2	
	comp=Z,220nm,21.7s,baz=286,slow=31							
KAKA	**Kakadu**	**22.40**	**164**	*e*P		Px	13 41 02.3	
	11nm,0.6s							
JNU	**Nakatsue**	**24.41**	**9**	LR		LR	13 49 21.2	
	comp=Z,75nm,19.0s,baz=168,slow=34							
FITZ	**Fitzroy Crossi**	**26.91**	**181**	*e*P		P	**13 41 26.0**	**+0.6**
	11nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**26.91**	**181**	P		P	**13 41 26.0**	**+0.7**
	8.3nm,0.6s,mb4.4,baz=355,slow=14,SNR=31							
MJAR	**Matsushiro Arr**	**29.52**	**20**	P		P	**13 41 47.9**	**-0.8**
	1.0nm,0.7s,mb3.5,baz=192,slow=9.6,SNR=4.6							
MJAR				LR		LR	13 51 39.8	
	comp=Z,119nm,18.9s,baz=210,slow=33							
MJAR	**Matsushiro Arr**	**29.52**	**20**	P		P	**13 41 47.9**	**-0.8**
MJAR				LR		LR	13 51 39.8	
WRAB	**Tennant Creek**	**29.81**	**165**	*e*P		P	**13 41 50.3**	**-1.1**
	3.2nm,0.7s,mb4.1							
WRA	**Warramunga Arr**	**29.81**	**165**	P		P	**13 41 50.1**	**-1.4**
	0.5nm,0.2s,mb3.7,baz=285,slow=8.1,SNR=56							
WB2	**Warramunga Arr**	**29.82**	**165**	*e*P		P	**13 41 50.2**	**-1.3**
MBWA	**Marble Bar**	**30.62**	**192**	P		P	**13 41 55.4**	**-3.2**
CTA	**Charters Tower**	**34.95**	**146**	P		P	**13 42 36.0**	**-0.1**
	3.8nm,0.8s,mb4.3,baz=312,slow=12,SNR=5.5							
CTA				PcP		PcP	13 45 10.3	+3.0
	1.8nm,0.8s,baz=204,slow=11,SNR=2.6							
CTA	**Charters Tower**	**34.95**	**146**	P		P	**13 42 36.0**	**-0.1**
CTA				PcP		PcP	13 45 10.3	+3.0
CTAO	**Charters Tower**	**34.95**	**146**	*e*P		P	**13 42 37.1**	**+1.0**
	3.7nm,0.8s,mb4.3							
ASAJ	**Asahikawa**	**37.79**	**19**	LR		LR	13 56 40.6	
	comp=Z,78nm,21.8s,baz=175,slow=33							
HNR	**Honiara**	**38.21**	**118**	LR		LR	13 57 34.1	
	comp=Z,48nm,19.5s,baz=306,slow=34							
SONM	**Songino Array**	**42.22**	**340**	P		P	**13 43 36.0**	**-0.4**
	0.2nm,0.4s,mb3.2,baz=135,slow=41,SNR=3.2							
SONM				PcP		PcP	13 45 31.5	+1.8
	1.1nm,0.8s,baz=131,slow=2.7,SNR=4.3							
SONM				LR		LR	14 02 57.0	
	comp=Z,50nm,18.4s,baz=161,slow=39							
NWAO	**Narrogin (SRO)**	**42.54**	**191**	P		P	**13 43 41.8**	**+2.7**
	7.7nm,0.9s,mb4.5,baz=23,slow=7.7,SNR=4.2							
STKA	**Stephens Creek**	**43.19**	**161**	P		P	**13 43 44.6**	**+0.2**
	2.9nm,0.7s,mb4.2,baz=322,slow=7.4,SNR=4.1							
DZM	**Mont Dzumac**	**50.05**	**129**	LR		LR	14 02 00.1	
	comp=Z,202nm,21.8s,baz=9.0,slow=32							
MKAR	**Makanchi Array**	**53.05**	**323**	P		P	**13 45 00.4**	**-0.4**
	2.4nm,0.8s,mb4.3,baz=118,slow=7.8,SNR=18							
MKAR				PcP		PcP	13 46 09.2	+1.0
	1.2nm,0.7s,baz=102,slow=3.3,SNR=3.5							
KURK	**Kurchatov**	**57.12**	**326**	*e*P		P	**13 45 30.8**	**+0.6**
BVAR	**Borovoye Array**	**62.72**	**326**	P		P	**13 46 08.2**	**-0.2**
	1.3nm,0.8s,mb3.9,baz=135,slow=8.4,SNR=7.0							
RPZ	**Rota Peaks**	**66.32**	**146**	P		P	**13 46 32.6**	**+0.6**
	22nm,1.0s,mb5.0,baz=324,slow=17,SNR=4.4							
ILAR	**Eielson Array**	**80.61**	**26**	P		P	**13 47 54.5**	**-0.2**
	0.5nm,0.8s,mb3.4,baz=244,slow=5.7,SNR=4.4							
ARCES	**ARCESS Array B**	**85.40**	**340**	P		P	**13 48 19.8**	**+0.8**
	0.8nm,0.6s,mb3.8,baz=79,slow=6.2,SNR=6.8							
FINES	**FINESS Array B**	**87.02**	**332**	P		P	**13 48 27.1**	**0.0**
	1.3nm,0.6s,mb4.1,baz=56,slow=6.9,SNR=5.7							
PLCA	**Paso Flores**	**145.03**	**157**	PKPbc		PKPbc	13 55 20.3	+2.0
	4.7nm,0.8s,baz=218,slow=4.2,SNR=9.2							

*IDC **28** 13:43:08.0±0.8,10.50S×119.72E,mb4.4/8,mb1 4.5/9, mb1mx4.3/13,mbtmp4.5/9,ML4.9/1,MS3.7/3,Ms1 3.7/3, ms1mx3.4/16,Error ellipse: s-maj=34.7km s-min=17.4km az=64.0*
*MOS **28** 13:43:11.5±1.5,10.37S×120.15E,h33km,mb4.7/4,Error ellipse: s-maj=22.7km s-min=10.6km az=121.2*
*BJI **28** 13:43:13.5,10.42S×120.70E,h67km,mB5.1,mb4.5, Ms4.5,Msz4.4*
*NEIC **28** 13:43:15.7±1.3,10.41S×120.33E,h63km±14km,mb4.6/8, Error ellipse: s-maj=15.3km s-min=8.3km az=67.0*

ISC 28 13:43:12.8±1.8,10.45S±0.07×120.2E±0.1,h51km±18km, n48,σ0§93/54,mb4.7/24,MS3.7/3,2D,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**9.25**	**146**	*e*P		P	**13 45 26.2**	**-0.1**
	47nm,0.5s							
FITZ				*e*S		S	**13 47 02.5**	**-7.6**
FITZ	**Fitzroy Crossi**	**9.25**	**146**	Pn		P	**13 45 26.3**	**0.0**
	8.6nm,0.3s,baz=338,slow=5.7,SNR=42							
FITZ				Sn		S	**13 47 04.8**	**-5.3**
	31nm,0.3s,baz=183,slow=19,SNR=13							
MBWA	**Marble Bar**	**10.65**	**182**	*e*P		P	**13 45 45.6**	**0.0**
	17nm,0.7s							
MBWA				*e*pP			13 47 36.4	
KAKA	**Kakadu**	**12.20**	**102**	*e*P		P	**13 46 25.3**	**+19**
	22nm,0.5s							
KAKA				*e*S		S	**13 48 34.6**	**+13**
WRA	**Warramunga Arr**	**16.58**	**126**	Pn		P	**13 47 02.6**	**-0.8**
	1.2nm,0.3s,baz=304,slow=14,SNR=63							
WRA				Sn		S	**13 49 57.7**	**-7.3**
	1.8nm,0.3s,baz=249,slow=23,SNR=8.4							
WRAB	**Tennant Creek**	**16.58**	**126**	*e*P		P	**13 47 03.2**	**-0.2**
	28nm,0.7s							
WRAB	**Tennant Creek**	**16.58**	**126**	*i* P		P	**13 47 03.4**	**0.0**
WB2	**Warramunga Arr**	**16.59**	**126**	*e*P		P	**13 47 03.0**	**-0.5**
WB2				*e*S		S	**13 49 55.0**	**-10**
KKM	**Kota Kinabalu**	**16.86**	**346**	*e*P		P	**13 47 08.3**	**+1.3**
KLBR	**Kellerberrin**	**21.16**	**186**	*e*P		P	**13 48 00.2**	**+4.3**
	12nm,0.7s,mb4.3							
KLBR				*e*S		S	**13 51 43.3**	**0.0**
NWAO	**Narrogin (SRO)**	**22.53**	**187**	P		P	**13 48 13.1**	**+3.5**
	9.6nm,0.7s,mb4.3,baz=32,slow=9.7,SNR=6.5							
NWAO				S		S	**13 52 14.8**	**+6.2**
	19nm,0.9s,baz=248,slow=8.7,SNR=7.0							
CTA	**Charters Tower**	**26.86**	**114**	P		P	**13 48 54.9**	**+3.9**
	3.8nm,0.9s,mb3.9,baz=270,slow=16,SNR=5.9							
CTA				LR		LR	14 00 57.5	
	comp=Z,241nm,19.9s,MS3.8,baz=264,slow=39							
STKA	**Stephens Creek**	**29.09**	**140**	*e*P		P	**13 49 14.4**	**+3.5**
	6.2nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**29.09**	**140**	P		P	**13 49 13.3**	**+2.4**
	5.0nm,0.7s,mb4.4,baz=267,slow=6.3,SNR=6.2							
GUMO	**Guam**	**34.20**	**46**	LR		LR	14 02 46.5	
	comp=Z,103nm,19.2s,MS3.6,baz=260,slow=34							
CD2	**Chengdu**	**44.05**	**340**	P		P	**13 51 18.0**	**+0.3**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.4s,mb4.9							
LSA	**Lhasa**	**48.75**	**326**	P		P	**13 51 55.5**	**+0.7**
LSA	**Lhasa**	**48.75**	**326**	P		P	**13 51 56.3**	**+1.6**
	comp=Z,8.2nm,1.0s,mb4.7							
LSA	**Lhasa**	**48.75**	**326**	P		P	**13 51 56.3**	**+1.5**
LSA				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.7							

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUN	**Gumba**	**50.58**	**320**	*e*P		P	**13 52 08.9**	**+0.1**
	comp=Z,54nm,0.8s,mb5.5							
PKI	**Pulchoki**	**50.65**	**319**	*e*P		P	**13 52 09.0**	**-0.3**
	comp=Z,19nm,0.7s,mb5.1							
DMN	**Daman**	**50.87**	**319**	*e*P		P	**13 52 10.0**	**-1.0**
	comp=Z,41nm,1.0s,mb5.3							
KKN	**Kakani**	**50.88**	**319**	*e*P		P	**13 52 10.9**	**-0.2**
	comp=Z,24nm,0.8s,mb5.2							
GKN	**Gorkha**	**51.44**	**319**	*e*P		P	**13 52 15.1**	**-0.2**
	comp=Z,36nm,1.0s,mb5.3							
KOLN	**Koldanda**	**51.96**	**318**	*e*P		P	**13 52 18.7**	**-0.5**
	comp=Z,28nm,0.9s,mb5.2							
GTA	**Gaotai**	**53.10**	**340**	*e*P		P	**13 52 27.8**	**+0.1**
GTA				AMB		AMB		
	comp=Z,3.0nm,0.8s,mb4.3							
ASAJ	**Asahikawa**	**57.99**	**19**	P		P	**13 53 01.9**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.5,baz=265,slow=25,SNR=4.1							
ASAJ	**Asahikawa**	**57.99**	**19**	P		P	**13 53 01.9**	**-0.9**
ASAJ				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ULN	**Ulaanbaatar**	**59.22**	**350**	*e*P		P	**13 53 10.7**	**-0.5**
	comp=Z,8.2nm,1.1s,mb4.7							
ULN	**Ulaanbaatar**	**59.22**	**350**	*e*P		P	**13 53 10.7**	**-0.6**
ULN				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.7							
SONM	**Songino Array**	**59.31**	**349**	P		P	**13 53 11.7**	**-0.1**
	comp=Z,3.8nm,0.7s,mb4.5,baz=165,slow=8.5,SNR=28							
ZAK	**Zakamensk**	**62.35**	**348**	*e*P		P	**13 53 32.0**	**-0.5**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.2s,mb4.1							
MKAR	**Makanchi Array**	**66.28**	**333**	P		P	**13 53 57.4**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.4,baz=138,slow=7.6,SNR=26							
MKAR				LR		LR	14 24 39.7	
	comp=Z,48nm,20.6s,MS3.7,baz=359,slow=38							
AAK	**Ala-Archa**	**67.34**	**325**	*e*P		P	**13 54 04.1**	**-0.7**
	comp=Z,4.6nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**67.34**	**325**	⇓ *e*P		P	**13 54 04.7**	**-0.1**
BOD	**Bodaibo**	**68.22**	**356**	*e*P		P	**13 54 09.5**	**-0.5**
BOD				pmax		pmax		
	comp=Z,5.0nm,1.4s,mb4.3							
MAW	**Mawson**	**68.29**	**200**	P		P	**13 54 08.5**	**-1.8**
	comp=Z,1.8nm,0.3s,mb4.6,baz=355,slow=11,SNR=20							
KURK	**Kurchatov**	**70.81**	**333**	*i* P		P	**13 54 35.5**	**+9.5**
MA2	**Magadan**	**73.98**	**16**	*i* P		P	**13 54 51.2**	**+6.6**
BVAR	**Borovoye Array**	**76.12**	**332**	P		P	**13 54 57.1**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=143,slow=7.4,SNR=10							
CHKZ	**Chkalovo**	**76.44**	**332**	*e*P		P	**13 54 58.6**	**-0.1**
	comp=Z,45nm,0.6s,mb5.6							
CHKZ	**Chkalovo**	**76.44**	**332**	*e*P		P	**13 54 58.6**	**-0.1**
CHKZ				pmax		pmax		
	comp=Z,45nm,0.6s,mb5.6							
SEY	**Seymchan**	**77.26**	**14**	⇓ *e*P		P	**13 55 05.1**	**+1.9**
SNAA	**Sanae**	**89.92**	**195**			P	**13 56 14.1**	**+6.8**
SNAA	**Sanae**	**89.92**	**195**			P	**13 56 18.7**	**+11**
VNA2	**Neumayer--Watz**	**91.55**	**195**			P	**13 56 16.5**	**+1.5**
VNA2	**Neumayer--Watz**	**91.55**	**195**			P	**13 56 24.4**	**+9.4**
BRTR	**Keskin Array B**	**93.97**	**309**	P		P	**13 56 27.6**	**+0.9**
	comp=Z,1.8nm,0.9s,mb4.5,baz=63,slow=2.8,SNR=4.6							

ISC 28 13:48:11.0±0.8,38.86N±0.06×30.31E±0.05,h10km,n6, σ0§97/11,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ALT	**Altintas**	**0.25**	**323**	*i* PG		**Pg**	**13 48 15.6**	**-0.8**
**

CPUP					LR	LR	14 33 05.0		
	comp=Z,424nm,18.9s,MS4.3,baz=82,slow=32								
CPUP	**Villa Florida**	**37.93**	**87**	*eP*	**P**	**P**	**14 20 09.4**	**+0.1**	
SIV	**San Ignacio**	**40.35**	**71**	P	**P**	**P**	**14 20 29.1**	**-0.5**	
	5.3nm,1.2s,mb4.2,baz=243,slow=9.7,SNR=10.0								
SAML	**Samuel**	**43.39**	**61**	*eP*	**P**		**14 20 53.6**	**-0.9**	
	15nm,1.1s,mb4.7								
PPT	**Papeete**	**47.00**	**280**	*eS*	**S**		**14 28 22.0**	**+8.0**	
ROSC	**El Rosal**	**47.59**	**37**	P	**P**		**14 21 25.8**	**-2.3**	
	4.7nm,0.5s,mb4.8,baz=281,slow=23,SNR=2.3								
ROSC					LR	LR	14 37 39.9		
	comp=Z,636nm,21.9s,MS4.5,slow=31								
JTS	**JuntasAbangare**	**48.45**	**21**	P	**P**		**14 21 34.7**	**-0.1**	
	2.8nm,0.5s,mb4.5,baz=232,slow=19,SNR=2.1								
JTS	**JuntasAbangare**	**48.45**	**21**	P	**P**		**14 21 34.6**	**-0.1**	
BDFB	**Brasilia**	**50.79**	**81**	P	**P**		**14 21 52.9**	**+0.3**	
	5.3nm,0.9s,mb4.5,baz=121,slow=0.9,SNR=4.8								
BDFB					LR	LR	14 41 20.2		
	comp=Z,591nm,21.0s,MS4.6,baz=241,slow=34								
SDV	**Santo Domingo**	**52.88**	**38**	P	**P**		**14 22 07.3**	**-1.1**	
QSPA	**South Pole Qui**	**54.07**	**180**	*eP*	**P**		**14 22 16.4**	**+0.1**	
	10.0nm,0.7s,mb4.8								
VNA3	**Neumayer Olymp**	**56.51**	**157**		**P**		**14 22 33.1**	**-1.1**	
VNA3	**Neumayer Olymp**	**56.51**	**157**		**P**		**14 22 42.9**	**+8.7**	
VNA3	**Neumayer Olymp**	**56.51**	**157**		**P**		**14 22 47.4**	**+13**	
VNA2	**Neumayer--Watz**	**57.31**	**157**	⇓*i*	**P**		**14 22 38.8**	**-1.1**	
VNA2	**Neumayer--Watz**	**57.31**	**157**		**P**		**14 22 52.4**	**+13**	
SNAA	**Sanae**	**58.48**	**158**		**P**		**14 22 46.4**	**-1.6**	
SNAA	**Sanae**	**58.48**	**158**		**P**		**14 22 54.8**	**+6.8**	
SNAA	**Sanae**	**58.48**	**158**		**P**		**14 23 07.7**	**+20**	
SNAA	**Sanae**	**58.48**	**158**	P	**P**		**14 22 46.1**	**-1.9**	
	1.1nm,0.9s,mb3.9,baz=251,slow=5.3,SNR=17								
SNAA	**Sanae**	**58.48**	**158**	P	**P**		**14 22 46.4**	**-1.6**	
TXAR	**Lajitas Array**	**65.19**	**357**	P	**P**		**14 23 29.9**	**-3.8**	
	0.7nm,0.3s,mb4.2,baz=209,slow=44,SNR=2.9								
TXAR					LR	LR	14 46 30.5		
	comp=Z,115nm,19.7s,MS4.1,baz=125,slow=31								
MNTX	**Cornudas Mount**	**67.64**	**356**	*eP*	**P**		**14 23 49.0**	**-0.3**	
	2.6nm,1.0s,mb4.2								
SYO	**Syowa Base**	**71.09**	**166**	⇑P	**P**		**14 24 06.5**	**-3.3**	
SYO	**Syowa Base**	**71.09**	**166**	⇓pP	pP		14 24 09.8	-3.2	
SDCO	**Great Sand Dun**	**73.66**	**356**	*eP*	**P**		**14 24 26.9**	**+1.4**	
	8.2nm,1.6s,mb4.4								
SMCO	**Snowmass**	**75.18**	**355**	*eP*	**P**		**14 24 35.9**	**+1.6**	
MAW	**Mawson**	**75.81**	**174**	*eP*	**P**		**14 24 38.6**	**+1.3**	
	3.2nm,1.0s,mb4.2								
MAW	**Mawson**	**75.81**	**174**	P	**P**		**14 24 34.9**	**-2.4**	
	2.0nm,0.9s,mb4.0,baz=165,slow=9.6,SNR=4.4								
MAW					LR	LR	14 56 44.6		
	comp=Z,252nm,19.2s,MS4.5,baz=2.7,slow=35								
MAW	**Mawson**	**75.81**	**174**	*eP*	**P**		**14 24 38.6**	**+1.3**	
MAW					LR	LR	14 56 44.6		
MNV	**Mina**	**75.98**	**346**	*eP*	**P**		**14 24 37.5**	**-1.3**	
	15nm,1.1s,mb4.8								
CMB	**Columbia Colle**	**76.07**	**344**	*eP*	**P**		**14 24 40.2**	**+0.9**	
	6.3nm,0.8s,mb4.6								
DAU	**Daniels Canyon**	**76.82**	**352**	*eP*	**P**		**14 24 43.6**	**+0.1**	
BEKR	**Beckwourth**	**77.81**	**344**	*eP*	**P**		**14 24 49.6**	**+0.6**	
	19nm,1.5s,mb4.8								
PDAR	**Pinedale Array**	**78.97**	**353**	P	**P**		**14 24 54.4**	**-0.9**	
	2.0nm,0.8s,mb4.1,baz=135,slow=6.3,SNR=16								
PDAR					LR	LR	14 54 38.3		
	comp=Z,84nm,19.2s,MS4.1,baz=12,slow=32								
WDC	**Whiskeytown Da**	**78.99**	**343**	*eP*	**P**		**14 24 54.8**	**-0.6**	
	12nm,1.0s,mb4.8								
DZM	**Mont Dzumac**	**79.67**	**250**	LR	LR		14 51 50.5		
	comp=Z,221nm,20.0s,MS4.5,baz=197,slow=30								
MOD	**Modoc**	**79.75**	**345**	*eP*	**P**		**14 24 58.5**	**-1.0**	
	6.5nm,0.8s,mb4.6								
TPAW	**Teton Pass**	**79.82**	**352**	*eP*	**P**		**14 25 00.7**	**+0.7**	
	15nm,1.1s,mb4.8								
WVOR	**Wild Horse Val**	**79.94**	**346**	*eP*	**P**		**14 25 00.4**	**-0.2**	
	7.5nm,1.0s,mb4.6								
QLMT	**Earthquake Lak**	**81.20**	**352**	*eP*	**P**		**14 25 09.3**	**+2.1**	
MCMT	**McKenzie Canyo**	**81.36**	**351**	*eP*	**P**		**14 25 08.9**	**+0.9**	
CHMT	**Chamberlain Mo**	**83.47**	**351**	*eP*	**P**		**14 25 19.7**	**+0.9**	
HAWA	**Hanford**	**83.92**	**347**	*eP*	**P**		**14 25 22.1**	**+0.9**	
	1.8nm,1.4s,mb4.0								
STKA	**Stephens Creek**	**90.78**	**229**	LR	LR		14 57 55.6		
	comp=Z,348nm,21.8s,MS4.8,baz=299,slow=30								
SCHQ	**Schefferville**	**95.12**	**19**	LR	LR		15 04 51.5		
	comp=Z,353nm,18.1s,MS4.9,baz=238,slow=33								
CTA	**Charters Tower**	**95.72**	**240**	LR	LR		15 01 40.2		
	comp=Z,353nm,18.5s,MS4.9,baz=49,slow=31								
DBIC	**Dimbokro**	**98.45**	**88**	LR	LR		15 07 23.3		
	comp=Z,204nm,20.0s,MS4.6,baz=116,slow=33								
YKA	**Yellowknife Ar**	**98.95**	**353**	LR	LR		15 07 02.2		
	comp=Z,131nm,19.4s,MS4.4,baz=210,slow=33								
BR131	**Keskin Array S**	**143.96**	**70**	*e*PKPdf	PKPdf		14 32 26.9	-1.6	
BRTR	**Keskin Array B**	**143.96**	**70**	PKP	PKPdf		14 32 24.3	-4.2	
	4.1nm,0.8s,baz=216,slow=3.4,SNR=9.8								
MALT	**Malatya**	**147.41**	**74**	PKPdf	PKPdf		14 32 33.2	-1.2	
HIA	**Hailar**	**148.04**	**307**	*e*PKPdf	PKPdf		14 32 33.7	-1.3	
SONM	**Songino Array**	**156.97**	**309**	PKPbc	PKPdf		14 32 56.9	+9.0	
	1.1nm,0.9s,baz=56,slow=2.1,SNR=6.3								
MKAR	**Makanchi Array**	**160.15**	**350**	PKP	PKPdf		14 33 00.3	+0.7	
	0.1nm,0.4s,baz=315,slow=2.0,SNR=2.4								

*BJI **28** 14:36:41.1,2.70N×95.60E,h23km,mB4.9,mb4.7,Ms4.2, Msz3.8*
*NEIC **28** 14:36:45.1±0.8,2.69N×95.59E,mb4.6/8, Error ellipse: s-maj=17.6km s-min=8.6km az=216.0*
*IDC **28** 14:36:46.3±1.4,3.32N×96.68E,mb4.0/6,mb1 4.2/6, mb1mx4.0/15,mbtmp4.0/6,Error ellipse: s-maj=62.7km s-min=25.5km az=51.0*
ISC 28 14:36:47.0±3.6,2.7N±0.2×95.7E±0.2,h53km±28km, h18km±4.5km:pP-P,n31,σ0²86/32,mb4.5/21,MS3.9/2,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.56**	**63**	*e*P	**P**	**14 38 08.9**	**-0.3**
SNG	**Songkhla**	**6.60**	**48**	P	**P**	**14 38 23.5**	**-0.2**
KKTK	**Khon Kaen**	**15.23**	**27**	P	**P**	**14 40 24.0**	**+3.7**
KKM	**Kota Kinabalu**	**20.73**	**80**	*e*P	**P**	**14 41 26.0**	**+0.4**
KMI	**Kunming**	**23.27**	**16**	P	**P**	**14 41 52.8**	**+2.0**
KMI				AP		14 41 59.0	
KMI				XP		14 42 02.5	
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.2						
KMI				AMB	AMB		
	comp=Z,29nm,4.3s						
KMI				LR	LR		
	comp=N,258nm,11.5s,MS4.0						
KMI				LR	LR		
	comp=E,164nm,12.9s,MS4.0						
KMI				LR	LR		
	comp=Z,263nm,13.5s,MS3.9						
KMI	**Kunming**	**23.27**	**16**	P	**P**	**14 41 52.7**	**+1.9**
	comp=Z,11nm,1.1s,mb4.2						
KMI				pP		14 41 58.9	
KMI				sP		14 42 02.6	
KMI				PP	PP	14 42 16.3	-6.8
KMI				S	**S**	**14 45 44.0**	**-11**
KMI				sS		14 45 57.8	
KMI				SS	SS	14 46 22.7	-22
KMI				LR	LR		
	comp=Z,260nm,13.5s,MS3.9						
PKI	**Pulchoki**	**26.57**	**339**	*e*P	**P**	**14 42 23.0**	**+0.8**
DMN	**Daman**	**26.71**	**339**	*e*P	**P**	**14 42 24.2**	**+0.7**
	comp=Z,13nm,0.7s,mb4.6						
GUN	**Gumba**	**26.72**	**340**	*e*P	**P**	**14 42 23.3**	**-0.3**
	comp=Z,20nm,0.6s,mb4.8						
KKN	**Kakani**	**26.82**	**339**	*e*P	**P**	**14 42 24.2**	**-0.3**
	comp=Z,19nm,0.9s,mb4.6						
LSA	**Lhasa**	**27.15**	**351**	P	**P**	**14 42 28.8**	**+1.3**
LSA	**Lhasa**	**27.15**	**351**	*e*P	**P**	**14 42 27.1**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.4						
GKN	**Gorkha**	**27.24**	**338**	*e*P	**P**	**14 42 28.0**	**-0.4**
	comp=Z,28nm,0.9s,mb4.8						
KOLN	**Koldanda**	**27.43**	**336**	*e*P	**P**	**14 42 31.2**	**+1.1**
	comp=Z,22nm,0.9s,mb4.7						
ENH	**Enshi**	**30.34**	**24**	P	**P**	**14 42 54.8**	**-1.2**
XAN	**Xi'an**	**33.50**	**20**	P	**P**	**14 43 22.5**	**-1.1**
XAN				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
LZH	**Lanzhou**	**34.03**	**12**	*e*P	**P**	**14 43 27.0**	**-1.1**
LZH				AP	pP	14 43 35.0	-6.8
LZH				XP	sP	14 43 41.5	-7.0
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,71nm,4.0s						
LZH	**Lanzhou**	**34.03**	**12**	*e*P	**P**	**14 43 27.0**	**-1.1**
LZH				pP	pP	14 43 34.9	-6.9
LZH				sP	sP	14 43 41.4	-7.1
GTA	**Gaotai**	**36.69**	**5**	*e*P	**P**	**14 43 50.8**	**+0.1**
GTA				AP	pP	14 43 54.8	-10
GTA				XP	sP	14 43 58.0	-13
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.2						
HHC	**Hu-ho-hao-te**	**40.55**	**19**	*e*P	**P**	**14 44 24.5**	**+1.6**
HHC				AP	pP	14 44 32.5	-4.3
HHC				XP	sP	14 44 35.5	-7.6
HHC				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,80nm,3.6s						
HHC				LR	LR		
	comp=N,92nm,11.9s,MS4.2						
HHC				LR	LR		
	comp=E,183nm,13.1s,MS4.2						
HHC				LR	LR		
	comp=Z,85nm,15.5s,MS3.7						
WRA	**Warramunga Arr**	**44.13**	**122**	P	**P**	**14 44 52.5**	**+0.1**
	comp=Z,2.0nm,0.7s,mb3.9,baz=298,slow=9.4,SNR=14						
WRAB	**Tennant Creek**	**44.14**	**122**	*e*P	**P**	**14 44 52.7**	**+0.2**
	comp=Z,15nm,1.4s,mb4.5						
MKAR	**Makanchi Array**	**45.40**	**347**	P	**P**	**14 45 02.3**	**+0.1**
	comp=Z,5.8nm,0.8s,mb4.5,baz=164,slow=8.4,SNR=47						
SONM	**Songino Array**	**45.86**	**10**	P	**P**	**14 45 05.4**	**-0.5**
	comp=Z,2.7nm,0.9s,mb4.2,baz=191,slow=8.9,SNR=15						
SONM				PcP	PcP	14 46 43.7	+0.8
	comp=Z,1.1nm,0.8s,baz=200,slow=3.9,SNR=4.4						
ULN	**Ulaanbaatar**	**46.01**	**11**	*e*P	**P**	**14 45 07.3**	**+0.3**
	comp=Z,3.0nm,0.9s,mb4.2						
ULN				*e*pP	pP	14 45 14.2	-6.9
KURK	**Kurchatov**	**49.93**	**346**	*e*P	**P**	**14 45 37.3**	**-0.2**
	comp=Z,4.2nm,0.7s,mb4.6						
KURK				*e*pP	pP	14 45 44.3	-7.4
BRVK	**Borovoye**	**54.37**	**341**	P	**P**	**14 46 09.2**	**-1.5**
CHKZ	**Chkalovo**	**54.80**	**342**	*e*P	**P**	**14 46 13.1**	**-0.7**
	comp=Z,8.0nm,0.7s,mb4.9						
CHKZ				*e*pP	pP	14 46 19.5	-8.6
AKASG	**Malin Array Be**	**73.12**	**322**	P	**P**	**14 48 18.9**	**+5.2**
	comp=Z,2.0nm,0.9s,mb4.1,baz=91,slow=5.0,SNR=5.1						
ARCES	**ARCESS Array B**	**80.58**	**340**	P	**P**	**14 49 01.1**	**+6.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=3.6,SNR=8.2						
GERES	**GERESS Array B**	**82.66**	**319**	P	**P**	**14 49 13.7**	**+7.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=180,slow=1.3,SNR=6.6						

*NIED **28** 14:44:00,35.10N×139.60E,h35km,Mw3.5 Best double couple: M₀2.22×10¹⁴ NP1:φs76°,δ64°,λ92°. NP2:φs250°, δ26°,λ85°.*
*JMA **28** 14:44:06.6±0.1,35.06N×139.64E,h43km±1km,M3.4 Broadband fault plane solution: P waves. NP1:φs265°, δ25°,λ91°. NP2:φs84°,δ65°,λ90°. Principal axes: T Plg70°, Azm353°; N Plg0°, Azm84°; P Plg20°, Azm174°; JMA Felt II J1.*
ISC 28 14:44:07.4±0.7,35.03N±0.04×139.61E±0.05,h36km±9km, n11,σ0²60/19,4C-6D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	**Yokosk**	**0.20**	**13**	⇓P	**P**	**14 44 13.8**	**-0.4**
JYO				S	**S**	**14 44 19.0**	**+0.1**
TATJ	**Tateyama 2**	**0.23**	**90**	⇑P	**P**	**14 44 14.5**	**0.0**
TATJ				S	**S**	**14 44 20.1**	**+0.6**
JIM2	**Oshima 3**	**0.35**	**205**	⇑P	**P**	**14 44 15.8**	**-0.1**
JIM2				S	**S**	**14 44 22.1**	**+0.2**
JOD2	**Odawara 2**	**0.49**	**298**	⇓P	**P**	**14 44 17.2**	**-0.6**
JOD2				S	**S**	**14 44 24.3**	**-0.8**
JIZS	**Izushimoda**	**0.68**	**243**	⇑P	**P**	**14 44 20.6**	**+0.1**
JIZS				S	**S**	**14 44 30.3**	**+0.3**
BSO3	**Boso 3**	**0.77**	**107**	⇓P	**P**	**14 44 21.5**	**-0.3**
BSO3				S	**S**	**14 44 33.3**	**+0.9**
JYN	**Shimob**	**0.99**	**298**	⇓P	**P**	**14 44 24.7**	**-0.2**
JRY	**Ryogami san**	**1.14**	**330**	⇓P	**P**	**14 44 26.6**	**-0.4**
JRY				S	**S**	**14 44 41.8**	**+0.1**
SHZ3	**Shizuoka 3**	**1.15**	**272**	⇑P	**P**	**14 44 27.9**	**+0.7**
BSO1	**Boso 1**	**1.19**	**108**	⇓P	**P**	**14 44 26.3**	**-1.4**
MAT	**Matsushiro**	**1.89**	**323**	P	**P**	**14 44 38.1**	**+0.3**
MAT				S	**S**	**14 45 01.9**	**+1.2**

*NEIC **28** 15:15:38.7,32.78S×71.82W,h27km,ML3.1(GUC),After GUC.*
GUC 28 15:15:38.7±0.9,32.78S×71.82W,h27km±4km,MD3.9, ML3.1,8C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.29**	**148**	⇓*i*P	Pb	15 15 45.6	-0.1
IHA				*i* S	Sb	15 15 50.5	0.0
ROCH	**El Roble**	**0.71**	**106**	⇓*i*P	Pb	15 15 52.1	-0.3
LCCH	**Las Cruces**	**0.72**	**163**	⇑*i*P	Pb	15 15 52.2	-0.5
CHNG	**Los Chungos**	**0.94**	**17**	⇑*i*P	Pn	15 15 55.8	-0.4
CHNG				*i* S	Sb	15 16 08.4	+0.1
CHNG				AMP		15 16 09.1	
	comp=E,250nm,0.3s						
PEL	**Peldehue**	**1.02**	**111**	⇑*i*P	Pn	15 15 57.2	-0.2
JACH	**Jahuel**	**1.04**	**85**	⇑*i*P	Pn	15 15 57.0	-0.7
JACH				*i* S	Sb	15 16 11.4	+0.2
RCDM	**Rinconada Maip**	**1.11**	**130**	⇑*i*P	Pn	15 15 58.1	-0.5
RCDM				AMP		15 16 12.3	
	comp=E,451nm,0.1s						
TACH	**Talagante**	**1.14**	**140**	⇑*i*P	Pn	15 15 58.7	-0.5
TACH				*i* S	Sn	15 16 14.5	+0.5
DSCH	**Colegio Aleman**	**1.22**	**121**	AMP		15 16 22.1	
	comp=N,954nm,0.6s						
LNV	**Longovilo**	**1.22**	**164**	⇓*i*P	Pn	15 15 59.5	-0.7
LNV				*i* S	Sn	15 16 15.4	-0.5
CLCH	**Cerro Calan**	**1.24**	**120**	*e*P	Pn	15 16 01.0	+0.5
CLCH				*i* S	Sn	15 16 16.9	+0.4
CLCH				AMP		15 16 22.2	
	comp=E,630nm,0.4s						
CLCH				AMP		15 16 22.7	
	comp=E,717nm,0.4s						
ANTU	**Antumapu**	**1.27**	**129**	⇓*i*P	Pn	15 16 01.2	+0.3
ANTU				*e*S	Sn	15 16 17.6	+0.4
ANTU				AMP		15 16 24.1	
	comp=E,652nm,0.2s						
PCH	**Pirque**	**1.38**	**128**	*e*P	Pn	15 16 02.7	+0.2
PCH				*i* S	Sn	15 16 21.2	+1.2
FCH	**Farellones**	**1.40**	**113**	⇓*i*P	Pn	15 16 02.9	+0.1
FCH				*i* S	Sn	15 16 22.0	+1.6
FCH				AMP		15 16 25.1	
	comp=N,483nm,0.2s						
CHCH	**Chadas Angostu**	**1.51**	**140**	*i* P	Pn	15 16 04.9	+0.5
CHCH				*i* S	Sn	15 16 24.7	+1.4
CACH	**El Canelo**	**1.68**	**143**	⇓*i*P	Pn	15 16 08.1	+1.3
CACH				*i* S	Sn	15 16 30.0	+2.4
CMCH	**Combarbala**	**1.75**	**24**	*e*P	Pn	15 16 08.3	+0.5
CMCH				*i* S	Sn	15 16 30.1	+0.8
CMCH				AMP		15 16 35.1	
	comp=E,1μm,0.7s						
CICH	**Cipreses**	**1.93**	**143**	⇑*i*P	Pn	15 16 11.3	+0.9
CICH				*i* S	Sn	15 16 35.6	+1.6
SFDO	**San Fernando**	**1.95**	**160**	⇑*i*P	Pn	15 16 11.2	+0.6
SFDO				*i* S	Sn	15 16 36.9	+2.4
TLL	**Tololo Astrono**	**2.75**	**19**	⇓*i*P	Pn	15 16 22.3	+0.2
TLL				AMP		15 17 15.5	
	comp=N,212nm,0.7s						

*BNS **28** 15:21:01.7±0.5,49.29N×6.86E,h1km,ML2.8*
*STR **28** 15:21:02.3±0.2,49.32N×6.79E,h1km±1km,Ml3.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **28** 15:21:02.0,49.33N×6.84E,h1km,ML3.4(LDG), ML3.3(VIE),ML3.0(SZGRF),ML3.0(STR),ML2.9(LEDBW), After LEDBW.*
*LEDBW **28** 15:21:02.5±0.3,49.33N×6.84E,h1km,ML2.9,Error ellipse: s-maj=8.0km s-min=4.0km az=103.0*
*CSEM **28** 15:21:02.3±0.0,49.34N×6.83E,h2km,ML3.5/23,Error ellipse: s-maj=0.8km s-min=0.8km az=141.0*
*LDG **28** 15:21:02.5±0.1,49.33N×6.82E,h1km,Md3.5/2,Ml3.4/25, Error ellipse: s-maj=1.4km s-min=1.3km az=50.0, Suspected Mining induced.*
BGR 28 15:21:02.5±0.4,49.31N×6.78E,h1km,ML3.0/6,5C-6D, Error ellipse: s-maj=4.4km s-min=2.2km az=38.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.54**	**311**	*e*Pg	Pg	15 21 13.4	+0.1
	SNR=18						
WLF				*e*Sg	Sg	15 21 19.8	-0.7
	SNR=4.1						
WLF	**Walferdange**	**0.54**	**311**	*e*P	Pg	15 21 13.0	-0.3
LANF	**Langenberg**	**0.75**	**116**	Pg	Pg	15 21 15.8	-1.7
LANF	**Langenberg**	**0.75**	**116**	*e*Pg	Pg	15 21 16.0	-1.6
ABH	**Alteburg**	**0.76**	**41**	⇓*i*Pg	Pg	15 21 15.9	-1.8
ABH	**Alteburg**	**0.76**	**41**	Pg	Pg	15 21 15.9	-1.8
ABH				Sg	Sg	15 21 27.4	-0.4
KTD	**Kalmit**	**0.85**	**89**	Pg	Pg	15 21 18.3	-1.3
KTD	**Kalmit**	**0.85**	**89**	Pg	Pg	15 21 18.3	-1.3
KTD				Sg	Sg	15 21 30.3	-0.7
CDF	**Champ du Feu**	**0.96**	**160**	*e*Pg	Pg	15 21 20.0	-1.7
CDF				*e*Pn	Pn	15 21 21.0	-1.9
CDF				*e*Sg	Sg	15 21 32.7	-1.7
	299nm,0.2s						
CDF				*e*Sn	Sn	15 21 35.0	-2.4
	281nm,0.2s						
BGG	**Burgeitz**	**0.97**	**22**	*e*Pg	Pg	15 21 19.9	-1.9
BGG				*e*Sg	Sg	15 21 33.4	-1.3
	318nm,0.5s						
WLS	**Welschbruch**	**0.98**	**157**	Pg	Pg	15 21 21.2	-0.8
WLS				Sg	Sg	15 21 34.4	-0.6
WLS	**Welschbruch**	**0.98**	**157**	P	Pb	15 21 21.6	-0.3
RFYF	**Reffroy**	**1.10**	**232**	*e*Pg	Pg	15 21 24.0	-0.4
	baz=53						
RFYF				*e*Sg	Sg	15 21 38.2	-0.8
	152nm,0.2s						
ECH	**Echery**	**1.12**	**167**	Pg	Pg	15 21 23.8	-1.2
ECH				Sg	Sg	15 21 39.3	-0.7
ECH	**Echery**	**1.12**	**167**	P	Pb	15 21 24.1	-0.4
ECH	**Echery**	**1.12**	**167**	Pg	Pg	15 21 24.1	-0.9
ECH				Sg	Sg	15 21 39.3	-0.7
THEF	**They Montfort**	**1.21**	**206**	Pg	Pg	15 21 24.9	-1.7
THEF				Sg	Sg	15 21 41.9	-0.7
THEF	**They Montfort**	**1.21**	**206**	⇓*e*Pn	Pn	15 21 25.1	-1.3
THEF	**They Montfort**	**1.21**	**206**	Pn	Pn	15 21 25.1	-1.3
THEF				Sg	Sg	15 21 41.9	-0.7
SWS	**Schriesheim**	**1.27**	**81**	Pn	Pn	15 21 24.6	-2.8
LIBD	**Limburg**	**1.28**	**154**	P*	Pb	15 21 27.2	0.0
LIBD	**Limburg**	**1.28**	**154**	Pg	Pg	15 21 27.1	-1.1
LIBD				Sg	Sg	15 21 45.2	-0.1
STB	**Steinbach**	**1.28**	**2**	*e*Pg	Pg	15 21 25.6	-2.6
STB				*e*Sg	Sg	15 21 42.8	-2.5
	157nm,1.2s						
HAU	**Haudompre**	**1.34**	**192**	*e*Pn	Pn	15 21 26.6	-1.7
HAU				*e*Pg	Pg	15 21 27.8	-1.4
HAU				*e*Sg	Sg	15 21 43.9	-3.1
	191nm,0.3s						
TOD	**Tromm**	**1.35**	**77**	Pn	Pn	15 21 26.2	-2.4
TOD				Sg	Sg	15 21 45.4	-2.3
TOD	**Tromm**	**1.35**	**77**	P	Pb	15 21 26.2	-2.2
TOD				Sg	Sg	15 21 45.4	-2.2
TOD	**Tromm**	**1.35**	**77**	Pg	Pg	15 21 26.9	-2.7
TOD				Sg	Sg	15 21 45.4	-2.2
KLL	**Kalltalsperre**	**1.37**	**348**	*e*Pg	Pg	15 21 26.3	-3.6
KLL				*e*Sg	Sg	15 21 44.9	-3.2
MEZF	**Maizieres J'vi**	**1.40**	**235**	*e*Pn	Pn	15 21 27.8	-1.4
	baz=46						
MEZF				*e*Pg	Pg	15 21 28.9	-1.5
	baz=51						
MEZF				*e*Sg	Sg	15 21 47.8	-1.2
	51nm,0.2s						
MEZF	**Maizieres J'vi**	**1.40**	**235**	*e*Pg	Pg	15 21 28.9	-1.5
MEZF				*e*Sg	Sg	15 21 47.8	-1.2
	25nm,0.2s						
TNS	**Taunus Mts**	**1.42**	**49**	*e*Pg	Pg	15 21 28.7	-2.1
	SNR=28						
TNS				*e*Sg	Sg	15 21 47.3	-2.4
	SNR=3.9						
TNS	**Taunus Mts**	**1.42**	**49**	*e*Pg	Pg	15 21 28.7	-2.1
TNS				*e*Sg	Sg	15 21 47.3	-2.4
BFO	**Black Forest**	**1.42**	**133**	⇓*e*Pn	Pn	15 21 27.6	-2.0
BFO				*e*Pg	Pg	15 21 29.1	-1.7
	SNR=5.8						
BFO				*i* Sg	Sg	15 21 47.7	-2.1
BFO	**Black Forest**	**1.42**	**133**	⇓*e*P	Pb	15 21 27.6	-1.9
BFO				*i* S	Sb	15 21 47.7	-0.3
BFO	**Black Forest**	**1.42**	**133**	*e*Pn	Pn	15 21 27.7	-1.8
BFO				*e*Pg	Pg	15 21 29.2	-1.7
BFO				*e*Sg	Sg	15 21 47.7	-2.1
BFO	**Black Forest**	**1.42**	**133**	*e*Pg	Pg	15 21 29.2	-1.7
LBG	**Lerchenberg**	**1.48**	**115**	Pn	Pn	15 21 29.7	-0.6
LBG				Sg	Sg	15 21 48.8	-3.0
MOF	**Molkenrain**	**1.48**	**171**	Pg	Pg	15 21 30.

SSF				*e*Pg	Pg	15 22 01.0	-4.2
SSF				*e*Sn	Sn	15 22 27.6	-5.2
SSF				*e*Sg	Sg	15 22 41.6	-5.4
	29nm,0.4s						
SMF	**Signal de Mont**	**3.32**	**218**	*e*Pn	Pn	15 21 53.3	-3.3
SMF				*e*Sn	Sn	15 22 32.0	-5.3
SMF				*e*Sg	Sg	15 22 47.6	-5.4
	18nm,0.3s						
MOX	**Moxa**	**3.40**	**65**	*e*Pn	Pn	15 21 55.6	-2.1
	SNR=1.7						
MOX				*e*(Pg)	Pg	15 22 04.3	-6.0
	SNR=3.1						
MOX				*e*Sg	Sg	15 22 50.3	-5.3
	SNR=1.8						
MOX	**Moxa**	**3.40**	**65**	*i* P	Pn	15 21 55.6	-2.1
MOX				Pg	Pg	15 22 04.0	-6.3
MOX				Sg	Sg	15 22 50.0	-5.6
MOX	**Moxa**	**3.40**	**65**	*e*Pn	Pn	15 21 55.6	-2.1
MOX				*e*Pg	Pg	15 22 04.4	-5.9
MOX				*e*Sg	Sg	15 22 50.3	-5.3
MOX	**Moxa**	**3.40**	**65**	*e*Pg	Pg	15 22 04.4	-5.9
AVF	**Avril sur Loir**	**3.41**	**224**	*e*Pn	Pn	15 21 54.6	-3.4
AVF				*e*Sn	Sn	15 22 33.8	-5.8
AVF				*e*Sg	Sg	15 22 50.5	-5.6
	11nm,0.4s						
HYF	**Humbligny**	**3.44**	**235**	*e*Pn	Pn	15 21 56.3	-2.0
HYF				*e*Sg	Sg	15 22 51.3	-5.6
MOTA	**Moosalm**	**3.49**	**123**	⇓*i*PN	Pn	15 21 58.5	-0.6
MOTA				*i* SN	Sn	15 22 37.6	-4.1
ROTZ	**Rotzenmuhle**	**3.57**	**81**	*e*Sg	Sg	15 22 52.9	-8.4
SQTA	**Sankt Quirin**	**3.62**	**124**	⇓*i*PN	Pn	15 21 59.7	-1.3
SQTA				*i* SN	Sn	15 22 41.8	-3.2
WERD	**Werda**	**3.75**	**70**	*e*Sg	Sg	15 22 58.7	-8.7
LPL	**La Plagne**	**3.80**	**180**	*e*Pn	Pn	15 22 01.3	-2.1
LPL				*e*Sg	Sg	15 23 02.5	-6.4
	7.0nm,0.5s						
LPG	**La Plagne**	**3.81**	**180**	*e*Pn	Pn	15 22 01.8	-1.9
LPG				*e*Sn	Sn	15 22 44.7	-5.2
LPG				*e*Sg	Sg	15 23 02.7	-6.9
	9.0nm,0.6s						
BGF	**Bois d'Agland**	**3.82**	**225**	*e*Pn	Pn	15 22 00.0	-3.7
BGF				*e*Sn	Sn	15 22 44.2	-5.7
	52nm,0.4s						
WET	**Wettzell**	**4.00**	**90**	*e*Pn	Pn	15 22 04.0	-2.4
	SNR=4.8						
WET				*e*Sn	Sn	15 22 48.0	-6.6
	SNR=1.8						
WET	**Wettzell**	**4.00**	**90**	*e*Pn	Pn	15 22 04.0	-2.3
WET				*e*Sn	Sn	15 22 49.5	-5.1
TCF	**Toulx Ste Croi**	**4.32**	**227**	*e*Pn	Pn	15 22 08.5	-2.3
TCF				*e*Sn	Sn	15 22 57.2	-5.3
	6.3nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.44**	**188**	*e*Pn	Pn	15 22 09.5	-3.0
ORIF				*e*Pg	Pg	15 22 25.1	-6.0
ORIF				*e*Sg	Sg	15 23 22.3	-8.0
	8.0nm,0.4s						
CLL	**Collm**	**4.46**	**61**	*e*Pg	Pg	15 22 29.0	-2.6
CLL				*e*Sg	Sg	15 23 24.0	-7.1
GEC2	**GERESS Array S**	**4.58**	**93**	*e*Pn	Pn	15 22 11.8	-2.7
	SNR=12						
GEC2				*e*Sn	Sn	15 23 01.2	-7.9
	SNR=2.9						
GEC2	**GERESS Array S**	**4.58**	**93**	*e*Pn	Pn	15 22 11.8	-2.7
GEC2				*e*Sn	Sn	15 23 02.8	-6.3
MBDF	**Montbardon**	**4.59**	**180**	*e*Pn	Pn	15 22 11.2	-3.5
LDF	**La Druitiere**	**4.60**	**264**	*e*Pn	Pn	15 22 12.5	-2.4
LDF				*e*Pg	Pg	15 22 29.1	-5.3
LDF				*e*Sg	Sg	15 23 27.4	-8.4
	18nm,0.5s						
VIVF	**Saint-Julien-l**	**4.68**	**199**	*e*Pn	Pn	15 22 12.6	-3.4
FLN	**La Foliniere**	**4.81**	**266**	*e*Pn	Pn	15 22 14.5	-3.3
	baz=87						
FLN				*e*Sn	Sn	15 23 07.3	-7.7
	16nm,0.4s						
BRG	**Berggiesshubel**	**4.87**	**69**	Pg	Pg	15 22 32.0	-7.7
BRG				Sg	Sg	15 23 36.2	-8.5
BRG	**Berggiesshubel**	**4.87**	**69**	Pg	Pg	15 22 32.0	-7.8
BRG				Sg	Sg	15 23 36.2	-8.5
GRR	**Gorron**	**5.12**	**263**	*e*Pn	Pn	15 22 19.1	-3.2
GRR				*e*Sn	Sn	15 23 13.3	-10
	6.7nm,0.2s						
MFF	**Saint Martin d**	**5.38**	**242**	*e*Pn	Pn	15 22 22.2	-3.7
CAF	**Calviac**	**5.44**	**218**	*e*Pn	Pn	15 22 22.6	-4.1
LASF	**Ste Croix**	**5.61**	**202**	*e*Pn	Pn	15 22 24.8	-4.3
SGMF	**Saint Gilles**	**6.26**	**264**	*e*Pn	Pn	15 22 34.1	-4.2
SGMF				*e*Sn	Sn	15 23 40.9	-11
	6.6nm,0.5s						
ROSF	**Rostrenen**	**6.71**	**265**	*e*Pn	Pn	15 22 39.8	-4.8
ROSF				*e*Pg	Pg	15 23 06.8	-10

ECX 28 15:31:24.9±0.3, 31.35N×115.50W, h5km, MD3.3, ML3.5, 4C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECNX	**Esteban Cantu**	**0.99**	**288**	⇓*e*P	Pb	15 31 44.2	+0.2
ECNX				*e*S	Sb	15 31 59.4	+2.2
CPBX	**Cerro Prieto**	**1.08**	**9**	*e*P	Pb	15 31 43.6	-2.1
CPBX				*e*S	Sb	15 31 58.1	-1.8
PBX	**Punta Banda**	**1.12**	**291**	⇓*e*P	Pb	15 31 44.2	-2.1
PBX				*e*S	Sb	15 31 59.1	-1.8
PBX				⇑*e*		15 32 03.0	
	comp=E,846nm,0.9s						
PBX				⇑*e*		15 32 04.0	
	comp=N,645nm,1.1s						
ENX	**Ensenada**	**1.13**	**299**	⇓*e*P	Pb	15 31 44.4	-2.1
ENX				*e*S	Sb	15 31 59.5	-1.8
ENX				⇓*e*		15 32 03.3	
	comp=N,2μm,0.7s						
ENX				⇓*e*		15 32 04.7	
	comp=E,2μm,1.0s						
RMX	**La Rumorosa**	**1.34**	**339**	⇑*e*P	Pb	15 31 48.2	-1.9
RMX				*e*S	Sb	15 32 06.5	-1.1
CBX	**Cerro Bola**	**1.38**	**315**	⇑*e*P	Pb	15 31 48.9	-1.9
CBX				*e*S	Sb	15 32 07.4	-1.2

*NIED **28** 15:49:00, 36.70N×141.10E, h53km, Mw3.7 Best double couple: M0 4.12×10^14 NP1:φs 238°, δ 88°, λ -91°. NP2:φs 86°, δ 2°, λ -62°.*
*IDC **28** 15:49:16.0±2.8, 36.66N×141.39E, h45km±23km, mb3.3/3, mb1 3.6/6, mb1mx3.4/21, mbtmp3.7/6, ML3.3/3, Error ellipse: s-maj=39.2km s-min=14.9km az=87.0*
*JMA **28** 15:49:16.3±0.1, 36.70N×141.13E, h45km±1km, M3.5*
ISC 28 15:49:14.3±1.0, 36.69N±0.04×141.3E±0.1, h43km±11km, n14, σ0§92/22, mb3.5/3, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.59**	**314**	⇓P	**P**	**15 49 26.8**	**+0.4**
ONAJ				S	**S**	**15 49 34.0**	**-1.1**
JHO	**Hitachi**	**0.61**	**263**	⇓P	**P**	**15 49 26.7**	**0.0**
JHO				S	**S**	**15 49 34.0**	**-1.7**
JFK	**Kawauchi**	**0.77**	**332**	⇓P	**P**	**15 49 29.5**	**+0.7**
JFK				S	**S**	**15 49 38.7**	**-0.7**
JYT	**Yasato**	**1.02**	**244**	⇓P	**P**	**15 49 32.2**	**-0.2**
JFT	**Otama**	**1.15**	**316**	⇓P	**P**	**15 49 35.4**	**+1.3**
JFT				S	**S**	**15 49 48.8**	**-0.1**
JMM	**Marumori**	**1.25**	**340**	⇓P	**P**	**15 49 36.5**	**+0.9**
JMM				S	**S**	**15 49 51.5**	**-0.1**
JFY	**Yanaizu**	**1.48**	**299**	P	**P**	**15 49 39.6**	**+0.6**
MJAR	**Matsushiro Arr**	**2.51**	**268**	P	**P**	**15 49 54.1**	**+0.4**
	1.8nm,0.3s,baz=89,slow=15,SNR=16						
MJAR				S	**S**	**15 50 29.2**	**+5.9**
	11nm,0.3s,baz=214,slow=49,SNR=9.1						
MAT	**Matsushiro**	**2.52**	**268**	P	**P**	**15 49 54.5**	**+0.8**
MAT				S	**S**	**15 50 24.0**	**+0.7**
JHJ	**Hachijo jima 2**	**3.78**	**200**	P	**P**	**15 50 13.2**	**+1.5**
	20nm,0.3s,baz=75,slow=18,SNR=3.3						
JHJ				S	**S**	**15 50 54.7**	**-0.8**
	16nm,0.3s,baz=73,slow=22,SNR=4.1						
ASAJ	**Asahikawa**	**7.48**	**7**	P	**P**	**15 51 01.9**	**-1.6**
	0.4nm,0.3s,baz=144,slow=28,SNR=7.4						
SONM	**Songino Array**	**27.92**	**305**	P	**P**	**15 55 03.3**	**+1.0**
	1.2nm,0.7s,mb3.6,baz=104,slow=9.1,SNR=12						
MKAR	**Makanchi Array**	**44.24**	**302**	P	**P**	**15 57 20.4**	**-0.7**
	0.2nm,0.6s,mb3.0,baz=81,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**56.71**	**188**	P	**P**	**15 58 54.7**	**-1.4**
	0.4nm,0.5s,mb3.7,baz=5.6,slow=7.4,SNR=11						

*CSEM **28** 16:00:59.5±0.2, 37.78N×25.39W, ML2.7, Error ellipse: s-maj=6.7km s-min=4.3km az=156.0, After PDA*
*PDA **28** 16:00:59.5±0.8, 37.78N×25.39W, MD2.7, ML2.7, Error ellipse: s-maj=1.6km s-min=1.3km az=124.0*
SVSA 28 16:00:59.5±0.8, 37.78N×25.39W, MD2.7, ML2.7, Error ellipse: s-maj=1.6km s-min=1.3km az=124.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**203**	*i* P	Pg	16 01 00.1	+0.4
FRA1	**Furnas**	**0.04**	**143**	*i* P	Pg	16 01 01.3	+0.9
MESC	**Monte Escuro**	**0.05**	**289**	*e*P	Pg	16 01 01.2	+0.8
MESC				*e*S	Sg	16 01 02.7	+1.6
VIF	**Vila Franca**	**0.05**	**230**	*e*P	Pg	16 01 01.3	+0.8
VIF				*e*S	Sg	16 01 03.1	+1.9
	5μm,0.3s						
LFA	**Lagoa do Fogo**	**0.07**	**266**	*i* P	Pg	16 01 01.9	+0.9
PMAT	**Coroa da Mata**	**0.07**	**301**	*e*S	Sg	16 01 03.9	+1.9
PFAD	**Fenais da Ajud**	**0.08**	**41**	*e*P	Pg	16 01 02.4	+1.3
PRCH	**Ribeira Ch**	**0.09**	**235**	*e*S	Sg	16 01 04.4	+2.0
PRCH				*erx*		16 01 05.4	
MIRA	**Miradouro**	**0.09**	**85**	*i* P	Pg	16 01 02.4	+1.1
CMLA	**Cha da Macela**	**0.11**	**262**	*e*P	Pg	16 01 01.4	-0.2
CMLA				*i* S	Sg	16 01 04.7	+1.6
CML	**Cha da Macela**	**0.12**	**267**	*i* P	Pg	16 01 03.0	+1.0
FAC	**Faja de Cima**	**0.21**	**269**	*e*P	Pg	16 01 04.8	+1.2
PDA	**Ponta Delgada**	**0.22**	**262**	*e*P	Pg	16 01 04.5	+0.6
PDA				*e*S	Sg	16 01 08.0	+1.2
PSET	**Sete Cidades**	**0.27**	**280**	*e*P	Pg	16 01 05.2	+0.4
PSET				*e*S	Sg	16 01 10.7	+2.3
	708nm,0.2s						
PSAN	**Santo Antonio**	**0.28**	**285**	*e*P	Pg	16 01 06.2	+1.2
PFET	**Feteiras**	**0.32**	**277**	*e*P	Pg	16 01 06.7	+0.8
SET2	**Ginetes**	**0.34**	**281**	*e*P	Pg	16 01 06.9	+0.7
SET4	**Mosteiros**	**0.34**	**287**	*e*P	Pg	16 01 06.8	+0.6
PSBA	**Serra de Santa**	**1.81**	**304**	*erx*		16 01 41.7	
PICO	**Pico**	**2.50**	**288**	*erx*		16 01 58.0	

*IDC **28** 16:17:13.4±4.1, 12.03N×40.29E, mb4.0/9, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, ML3.6/1, MS3.9/11, Ms1 3.9/11, ms1mx3.7/25, Error ellipse: s-maj=89.3km s-min=15.6km az=25.0*
*NEIC **28** 16:17:14.5±2.1, 11.97N×40.33E, h10km, mb4.2/1, Error ellipse: s-maj=47.8km s-min=11.0km az=32.0*
*DHMR **28** 16:17:20.5±2.4, 12.65N×40.52E, h10km±150km, ML4.3*
ISC 28 16:17:13.7±1.1, 12.1N±0.1×40.27E±0.05, h10km, n27, σ1§07/23, mb4.0/9, MS3.9/10, 6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.58**	**102**	Pn	**Pn**	**16 17 55.2**	**-1.1**
	13nm,0.3s,baz=259,slow=22,SNR=15						
ATD				Lg		16 18 35.6	
	33nm,0.3s,baz=265,slow=21,SNR=8.0						
TRBA	**At Turbah**	**3.91**	**73**	⇓*e*P	**Pn**	**16 18 18.2**	**+3.0**
TRBA				*i* S	**Sn**	**16 19 03.5**	**+1.7**
TRBA				AML	AML	16 19 15.7	
	comp=N,2μm,0.6s						
TRBA	**At Turbah**	**3.91**	**73**	⇓*e*P	**Pn**	**16 18 18.2**	**+3.0**
TRBA				*i* S	**Sn**	**16 19 03.5**	**+1.7**
UDYN	**Al 'Udayn**	**4.05**	**62**	⇓*e*P	**Pn**	**16 18 19.2**	**+2.0**
UDYN				*i* S	**Sn**	**16 19 05.1**	**-0.1**
UDYN				AML	AML	16 19 25.3	
	comp=N,892nm,0.6s						
DHBB	**Dhamar BB**	**4.70**	**58**	⇓*e*P	**Pn**	**16 18 27.4**	**+1.0**
DHBB				*i* S	**Sn**	**16 19 19.7**	**-1.9**
LBOS		**5.16**	**70**	⇓*e*P	**Pn**	**16 18 32.5**	**-0.4**
LBOS				*i* S	**Sn**	**16 19 28.8**	**-4.5**
BDHA	**Al Bayda'**	**5.48**	**70**	⇓*e*P	**Pn**	**16 18 36.9**	**-0.6**
BDHA				*i* S	**Sn**	**16 19 36.6**	**-4.8**
KMBO	**Kilima Mbogo**	**13.48**	**193**	Lg		16 24 24.6	
	comp=N,0.1nm,0.3s,baz=225,slow=24,SNR=2.5						
KMBO				LR	LR	16 25 52.9	
	comp=N,365nm,20.5s,baz=68,slow=39						
ASF	**Jabal al Asfar**	**20.21**	**352**	P	**P**	**16 21 51.3**	**-0.4**
	comp=N,3.2nm,0.7s,baz=227,slow=4.9,SNR=2.6						
ASF				LR	LR	16 28 41.6	
	comp=N,82nm,18.1s,MS3.1,baz=237,slow=34						
MALT	**Malatya**	**26.15**	**357**	*e*P	**P**	**16 22 51.0**	**+1.0**
	comp=N,5.7nm,0.9s,mb4.1						
IDI	**Anoyia**	**26.97**	**331**	LR	LR	16 33 21.2	
	comp=N,55nm,19.9s,MS3.1,baz=48,slow=36						
BRTR	**Keskin Array B**	**28.13**	**349**	P	**P**	**16 23 07.7**	**-0.3**
	comp=N,3.9nm,1.0s,mb4.0,baz=180,slow=11,SNR=11						
GNI	**Garni**	**28.21**	**7**	LR	LR	16 34 06.7	
	comp=N,112nm,18.3s,MS3.5,baz=20,slow=36						
MATP	**Matopo**	**34.34**	**200**	LR	LR	16 39 01.6	
	comp=N,388nm,18.6s,MS4.2,baz=27,slow=38						
TSUM	**Tsumeb**	**38.31**	**216**	LR	LR	16 40 39.8	
	comp=N,1296nm,21.1s,MS4.1,baz=341,slow=37						
AKASG	**Malin Array Be**	**39.54**	**349**	P	**P**	**16 24 45.5**	**-0.9**
	comp=N,2.6nm,0.8s,mb4.0,baz=171,slow=7.3,SNR=9.2						
LBTB	**Lobatse**	**39.57**	**201**	LR	LR	16 41 04.2	
	comp=N,231nm,18.8s,MS4.0,baz=232,slow=36						
VRAC	**Vranov**	**41.95**	**337**	P	**P**	**16 25 06.9**	**+0.7**
	comp=N,3.6nm,0.5s,mb4.3,baz=223,slow=5.1,SNR=3.6						
GERES	**GERESS Array B**	**42.76**	**334**	P	**P**	**16 25 13.8**	**+0.9**
	comp=N,1.3nm,0.8s,mb3.7,baz=135,slow=9.4,SNR=12						
BVAR	**Borovoye Array**	**47.38**	**24**	P	**P**	**16 25 49.5**	**-0.4**
	comp=N,0.6nm,0.8s,mb3.6,baz=221,slow=15,SNR=4.2						
SUR	**Sutherland**	**47.99**	**202**	LR	LR	16 45 45.5	
	comp=N,144nm,19.8s,MS4.0,baz=57,slow=36						
MKAR	**Makanchi Array**	**49.41**	**37**	P	**P**	**16 26 05.5**	**-0.3**
	comp=N,1.7nm,0.9s,mb4.1,baz=231,slow=7.8,SNR=10						
NOA	**NORSAR Array B**	**53.27**	**343**	P	**P**	**16 26 34.2**	**-0.5**
	comp=N,2.1nm,0.8s,mb4.1,baz=142,slow=7.4,SNR=3.3						
SONM	**Songino Array**	**65.12**	**43**	P	**P**	**16 27 56.4**	**-0.6**
	comp=N,2.0nm,1.0s,mb4.1,baz=251,slow=5.6,SNR=12						
JNU	**Nakatsue**	**84.00**	**58**	LR	LR	17 07 13.2	
	comp=N,58nm,19.4s,MS4.0,baz=235,slow=36						
NWAO	**Narrogin (SRO)**	**85.82**	**125**	LR	LR	17 03 37.2	
	comp=N,145nm,20.0s,MS4.4,baz=12,slow=32						
FITZ	**Fitzroy Crossi**	**89.38**	**109**	LR	LR	17 02 35.7	
	comp=N,106nm,19.2s,MS4.3,baz=271,slow=30						

DHMR 28 16:23:52.7±2.9, 12.68N×40.62E, h2km±215km, ML3.8, 1C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.46**	**80**	*i* P	Pn	16 24 49.5	+0.9
TRBA				*i* S	Sn	16 25 35.8	+5.1
TRBA				AML	AML	16 25 49.4	
	comp=N,441nm,0.7s						
UDYN	**Al 'Udayn**	**3.51**	**68**	⇓*i*P	Pn	16 24 51.6	+2.3
UDYN				*i* S	Sn	16 25 36.3	+4.3
UDYN				AML	AML	16 25 54.2	
	comp=Z,395nm,0.7s						
DHBB	**Dhamar BB**	**4.12**	**62**	*i* P	Pn	16 24 59.9	+1.8
DHBB				*i* S	Sn	16 25 51.5	+3.8
LBOS		**4.67**	**75**	⇑*i*P	Pn	16 25 04.4	-1.4
LBOS				*i* S	Sn	16 26 00.5	-0.8

*IDC **28** 16:30:28.7±1.0, 16.02S×173.65W, mb4.2/6, mb1 4.4/7, mb1mx4.2/16, mbtmp4.2/7, Error ellipse: s-maj=57.7km s-min=19.2km az=133.0*
*NEIC **28** 16:30:30.9±6.1, 16.05S×173.63W, h14km±39km, mb4.2/1, Error ellipse: s-maj=33.0km s-min=11.2km az=134.0*
ISC 28 16:30:30.1±5.9, 16.0S±0.2×173.7W±0.2, h16km±44km, n9, σ0§28/9, mb4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.79**	**43**	Pn	**Pn**	**16 31 14.9**	**0.0**
	34nm,0.3s,baz=358,slow=20,SNR=48						
AFI				Sn	**Sn**	**16 31 42.5**	**-6.1**
	182nm,0.3s,baz=52,slow=23,SNR=8.4						
URZ	**Urewera**	**23.62**	**198**	P	**P**	**16 35 41.2**	**-0.1**
	3.3nm,0.3s,mb4.2,baz=20,slow=5.0,SNR=6.2						
STKA	**Stephens Creek**	**43.47**	**240**	P	**P**	**16 38 34.7**	**+0.4**
	5.4nm,0.8s,mb4.3,baz=165,slow=20,SNR=7.1						
WRAB	**Tennant Creek**	**49.39**	**257**	*e*P	**P**	**16 39 21.3**	**+0.1**
	1.2nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**49.40**	**257**	P	**P**	**16 39 21.0**	**-0.3**
	1.1nm,0.6s,mb4.1,baz=93,slow=6.8,SNR=5.1						
YBH	**Yreka Blue Hor**	**74.25**	**37**	P	**P**	**16 42 08.7**	**+0.5**
	1.9nm,0.7s,mb4.2,baz=207,slow=11,SNR=5.6						
PDAR	**Pinedale Array**	**82.90**	**42**	P	**P**	**16 42 55.1**	**-0.3**
	1.9nm,0.7s,mb4.2,baz=225,slow=2.6,SNR=15						
ILAR	**Eielson Array**	**83.06**	**11**	P	**P**	**16 42 55.6**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=226,slow=6.6,SNR=5.8						
ARCES	**ARCESS Array B**	**125.12**	**352**	PKP	PKPdf	16 49 30.0	-3.2
	1.6nm,0.9s,slow=1.2,SNR=5.4						

*BJI **28** 16:31:33.3, 12.20N×40.55E, h18km, mB5.3, mb4.9, Ms4.8, Msz4.5*
*DHMR **28** 16:31:33.1±2.2, 12.69N×40.54E, h3km±105km, ML4.9*
*IDC **28** 16:31:34.8±0.6, 12.43N×40.73E, mb4.6/20, mb1 4.7/22, mb1mx4.7/24, mbtmp4.6/22, ML3.8/2, MS4.3/13, Ms1 4.3/13, ms1mx4.2/16, Error ellipse: s-maj=15.9km s-min=10.8km az=53.0*
*MOS **28** 16:31:34.0±1.0, 12.43N×40.50E, h10km, mb5.3/58, Error ellipse: s-maj=7.9km s-min=3.2km az=109.5*
*STR **28** 16:31:35.9±0.0, 12.49N×40.50E, Mb5.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **28** 16:31:35.7±0.2, 12.44N×40.63E, h10km, mb5.1/84, ML5.0(DHMR), Error ellipse: s-maj=6.0km s-min=3.8km az=205.0*
*HRVD **28** 16:31:35.7±0.3, 12.53N×40.62E, h12km, MW5.1/58, Centroid moment Tensor Solution. LP body waves: s30,c42;Mantle waves: s58,c98; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.63±.12; Mθθ 1.23±.11; Mφφ 3.39±.13; Mrθ-1.59±.41; Mrφ-1.70±.10; Mθφ 0.90±.36; Best double couple: M0 4.826×10^16 NP1:φs 341°, δ 36°, λ -74°. NP2:φs 141°, δ 55°, λ -102°. Principal axes: T 4.593, Plg 10°, Azm 239°; N .457, Plg 10°, Azm 147°; P -5.06, Plg 76°, Azm 14°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **28** 16:31:37.3±0.1, 12.40N×40.63E, h33km, mb5.1/80, Ms4.0, Mw5.1 Error ellipse: s-maj=3.5km s-min=1.6km az=7.0*
ISC 28 16:31:33.4±1.6, 12.43N±0.04×40.62E±0.02, h6km±10km, h28km±3.3km: pP-P, n398, σ1§10/410, mb5.0/122, MS4.5/26, 29C-25D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.36**	**112**	Pn	**Pn**	**16 32 11.9**	**-1.4**
	105nm,0.3s,baz=279,slow=7.8,SNR=190						
ATD				LR	LR	16 32 43.6	
	comp=Z,3μm,18.8s,baz=307,slow=30						
ATD				Lg		16 32 45.0	
	121nm,0.3s,baz=74,slow=22,SNR=18						
TRBA	**At Turbah**	**3.50**	**76**	*e*P	**Pn**	**16 32 30.8**	**+1.2**
TRBA				*i* S	**Sn**	**16 33 17.6**	**+5.7**
TRBA				AML	AML	16 33 28.8	
	comp=Z,4μm,0.7s						
TRBA	**At Turbah**	**3.50**	**76**	*e*P	**Pn**	**16 32 31.5**	**+1.9**
TRBA				*i* S	**Sn**	**16 33 20.5**	**+8.6**
UDYN	**Al 'Udayn**	**3.60**	**65**	*i* P	**Pn**	**16 32 32.0**	**+1.1**
UDYN				*i* S	**Sn**	**16 33 18.0**	**+3.6**
UDYN				AML	AML	16 33 38.7	
	comp=Z,9μm,0.8s						
UDYN	**Al 'Udayn**	**3.60**	**65**	⇑*e*P	**Pn**	**16 32 31.7**	**+0.8**
UDYN				*i* S	**Sn**	**16 33 20.7**	**+6.4**
DHBB	**Dhamar BB**	**4.24**	**59**	*i* P	**Pn**	**16 32 40.7**	**+0.6**
DHBB				*i* S	**Sn**	**16 33 33.1**	**+2.5**
DHBB	**Dhamar BB**	**4.24**	**59**	*e*P	**Pn**	**16 32 39.5**	**-0.5**
DHBB				*i* S	**Sn**	**16 33 34.2**	**+3.7**
ADEN	**Aden**	**4.28**	**85**	*i* P	**Pn**	**16 32 41.8**	**+1.3**
ADEN				*i* S	**Sn**	**16 33 35.9**	**+4.5**
ADEN	**Aden**	**4.28**	**85**	*e*P	**Pn**	**16 32 41.5**	**+0.9**
ADEN				*i* S	**Sn**	**16 33 36.7**	**+5.4**
LBOS		**4.73**	**72**	⇑*e*P	**Pn**	**16 32 46.0**	**-1.0**
LBOS				*i* S	**Sn**	**16 33 42.0**	**-1.0**
LBOS		**4.73**	**72**	*e*P	**Pn**	**16 32 46.0**	**-1.0**
LBOS				*i* S	**Sn**	**16 33 47.8**	**+4.9**
BDHA	**Al Bayda'**	**5.06**	**72**	⇑*i*P	**Pn**	**16 32 50.5**	**-1.1**
BDHA				*i* S	**Sn**	**16 33 50.4**	**-0.8**
BDHA	**Al Bayda'**	**5.06**	**72**	*e*P	**Pn**	**16 32 50.9**	**-0.8**
BDHA				*i* S	**Sn**	**16 33 55.0**	**+3.8**
BDHA	**Al Bayda'**	**5.06**	**72**	*e*P	**Pn**	**16 32 50.9**	**-0.7**
BDHA				*i* S	**Sn**	**16 33 50.4**	**-0.8**
MUKL	**Al Mukalla**	**8.44**	**75**	⇓*i*P	**P**	**16 33 36.7**	**-2.4**
MUKL				*i* S	**Sn**	**16 35 13.4**	**-2.3**
MUKL	**Al Mukalla**	**8.44**	**75**	*e*P	**P**	**16 33 36.4**	**-2.7**
MUKL				*i* S	**Sn**	**16 35 17.4**	**+1.7**
KMBO	**Kilima Mbogo**	**13.87**	**194**	Pn	**P**	**16 34 52.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=39,slow=22,SNR=5.0						
KMBO				Lg		16 38 53.4	
	comp=Z,0.2nm,0.3s,baz=121,slow=16,SNR=5.8						
KMBO				LR	LR	16 40 03.6	
	comp=Z,2μm,21.9s,baz=99,slow=37						
NAY	**Al-Naaiem**	**17.84**	**19**	*e*P	**P**	**16 35 45.7**	**+1.8**
NAY				AMb	AMB	16 35 52.9	
	comp=Z,62nm,1.4s						
KBD	**Kabd**	**17.92**	**20**	*e*P	**P**	**16 35 46.9**	**+1.9**
KBD				AMb	AMB	16 35 54.4	
	comp=Z,523nm,1.4s						
**UM

BRTR Keskin Array B 27.88 348 P **P** **16 37 27.8 +1.8**
comp=Z,15nm,1.0s,mb4.6,baz=173,slow=10.0,SNR=48
BRTR PcP PcP 16 40 42.5 +0.3
comp=Z,1.5nm,0.9s,baz=166,slow=5.1,SNR=3.9
ANTO Ankara 28.19 347 *e*P **P** **16 37 30.5 +1.7**
comp=Z,62nm,1.1s,mb5.2
ANTO Ankara 28.19 347 *e*P **P** **16 37 30.5 +1.7**
comp=Z,62nm,1.1s,mb5.2
ANTO Ankara 28.19 347 *e*P **P** **16 37 30.5 +1.7**
ANTO pmax pmax
comp=Z,62nm,1.1s,mb5.2
ESKT Eskisehir 28.34 344 *i* P **P** **16 37 26.6 -3.5**
CTKT Corum 28.55 351 *i* P **P** **16 37 28.6 -3.5**
ELDT Eldivan 28.66 349 *i* P **P** **16 37 31.4 -1.6**
ARTV Artvin 28.67 2 *i* P **P** **16 37 29.5 -3.6**
SGKT Sivrigoynuk 29.03 346 *i* P **P** **16 37 33.4 -3.0**
BOYT Boyabat 29.31 351 *i* P **P** **16 37 32.4 -6.5**
TBLG Delisi 29.41 6 P **P** **16 37 41.6 +1.8**
TI2 Plekhanov 29.42 6⇓*i*P **P** **16 37 40.0 +0.1**
TI2 pmax pmax
comp=Z,60nm,1.0s,mb5.3
TI2 pmax pmax
comp=E,2µm,13.0s
LSZ Lusaka 30.15 204 P **P** **16 37 48.6 +2.0**
comp=E,1.2nm,0.7s,baz=30,slow=11,SNR=3.2
ZEI Tsey 30.36 5 *e*P **P** **16 37 49.4 +1.1**
comp=E,19nm,0.9s,mb4.8
ZEI Tsey 30.36 5 *e*P **P** **16 37 49.4 +1.1**
ZEI pmax pmax
comp=Z,19nm,0.9s,mb4.8
SOC Sochi 31.05 359 *i* P **P** **16 37 54.3 0.0**
SOC Sochi 31.05 359*d i*P **P** **16 37 54.3 0.0**
SOC *e*S **S** **16 42 55.7 -3.0**
SOC *e*SS SS 16 44 41.4 -1.2
SOC MLR MLR
comp=N,761nm,12.0s,MS4.6
SOC MLR MLR
comp=Z,560nm,12.0s,MS4.5
SOC MLR MLR
comp=E,122nm,10.0s,MS4.6
KIV Kislovodsk 31.47 3 *e*P **P** **16 37 59.0 +1.0**
comp=E,30nm,1.0s,mb5.1
KIV LR LR
comp=Z,180nm,19.0s,MS3.8
KIV Kislovodsk 31.47 3 *e*P **P** **16 37 59.0 +1.0**
comp=Z,30nm,1.0s,mb5.1
KIV Kislovodsk 31.47 3 *e*P **P** **16 37 59.3 +1.3**
KIV *e*S **S** **16 43 02.3 -2.8**
KIV pmax pmax
comp=Z,22nm,1.0s,mb4.9
KIV pmax pmax
comp=N,13nm,0.9s
KIV pmax pmax
comp=E,9.0nm,1.0s
KIV MLR MLR
comp=N,601nm,17.0s,MS4.4
KIV MLR MLR
comp=Z,736nm,17.0s,MS4.4
KIV MLR MLR
comp=E,334nm,15.0s,MS4.4
OPO Ambohidratompo 31.48 168 P **P** **16 38 00.3 +2.0**
comp=E,3.1nm,0.9s,mb4.1,baz=285,slow=5.0,SNR=4.0
GOF Gofitskoye 32.58 3 *e*P **P** **16 38 06.1 -1.6**
TIRR Tirgusor 33.59 344⇑P **P** **16 38 19.2 +2.7**
SKO Skopje 33.85 334 *i* P **P** **16 38 19.2 +0.4**
TIP Timpagrande 34.01 326 *e*P **P** **16 38 20.6 +0.4**
TIP Timpagrande 34.01 326 *e*P **P** **16 38 20.6 +0.4**
VAE Valguarnera 34.23 321 P **P** **16 38 24.3 +2.3**
comp=E,15nm,0.7s,mb5.0,baz=39,slow=2.8,SNR=6.3
VAE Valguarnera 34.23 321 P **P** **16 38 24.4 +2.3**
CFR Carcaliu 34.33 344⇓P **P** **16 38 22.7 -0.2**
MLR Muntele Rosu 35.24 342 P **P** **16 38 32.9 +2.2**
comp=E,17nm,0.9s,mb5.0,baz=106,slow=6.4,SNR=15
MLR Muntele Rosu 35.24 342⇓P **P** **16 38 32.3 +1.6**
VOIR 35.47 341⇑P **P** **16 38 33.8 +1.2**
KIS Kishinev 35.86 346 *e*P **P** **16 38 35.0 -1.0**
DIVS Divcibare 36.20 335⇑*i*P **P** **16 38 38.5 -0.2**
CII Carovilli 37.13 327 *e*P **P** **16 38 47.7 +1.1**
comp=E,42nm,1.2s,mb5.2
CII Carovilli 37.13 327 *e*P **P** **16 38 47.7 +1.1**
comp=E,42nm,1.2s,mb5.2
BURAR Bucovina Array 37.38 343⇑P **P** **16 38 50.1 +1.4**
BURAR Bucovina Array 37.38 343⇑P **P** **16 38 50.1 +1.5**
DRGR 37.43 340⇓P **P** **16 38 49.8 +0.7**
AQU L'Aquila 38.05 327 *e*P **P** **16 38 55.0 +0.6**
comp=E,96nm,1.4s,mb5.3
AQU L'Aquila 38.05 327 *e*P **P** **16 38 55.0 +0.6**
comp=E,96nm,1.4s,mb5.3
AQU L'Aquila 38.05 327 *e*P **P** **16 38 55.0 +0.6**
AQU pmax pmax
comp=Z,96nm,1.4s,mb5.3
PKS9 Tamasi 38.92 335⇑*e*P **P** **16 39 03.0 +1.4**
PKS8 Sarbogard 39.00 336⇑*e*P **P** **16 39 03.4 +1.1**
VOR Voronezh 39.21 359 *e*P **P** **16 39 05.2 +1.2**
comp=Z,120nm,1.8s,mb5.3
VOR Voronezh 39.21 359 *e*P **P** **16 39 05.2 +1.2**
VOR 16 40 38.0
VOR pmax pmax
comp=Z,120nm,1.8s,mb5.3
VOR pmax pmax
comp=N,90nm,1.7s
VOR pmax pmax
comp=E,70nm,1.7s
VOR pmax pmax
comp=Z,80nm,2.0s,mb5.1
VOR pmax pmax
comp=N,70nm,1.8s
VOR pmax pmax
comp=E,70nm,1.8s
AKASG Malin Array Be 39.29 349 P **P** **16 39 05.0 +0.4**
comp=E,9.4nm,0.8s,mb4.5,baz=172,slow=7.2,SNR=28
AKASG PcP PcP 16 41 13.6 -0.5
comp=E,2.1nm,0.9s,baz=162,slow=3.0,SNR=5.0
AKASG Malin Array Be 39.29 349 P **P** **16 39 05.0 +0.4**
AKASG PcP PcP 16 41 13.6 -0.5
AKASG Malin Array Be 39.29 349 PcP PcP 16 41 13.6 -0.4
PSZ Piszkesteto 39.39 338⇑*i*P **P** **16 39 06.7 +1.1**
KOLS Kolonicke sedl 39.45 341 *e*P **P** **16 39 07.2 +1.2**
PKSG 39.53 336⇑*e*P **P** **16 39 07.6 +0.9**
CRES Cresnjev 39.54 332 *e*P **P** **16 39 07.8 +0.9**
KECS Kecovo 39.66 339 *e*P **P** **16 39 08.4 +0.7**
DOBS Dobrina 39.78 333 *e*P **P** **16 39 09.8 +1.0**
KNDS Knezji Dol 39.82 331 *e*P **P** **16 39 09.8 +0.7**
KWP Kalwaria 39.93 342 *e*P **P** **16 39 11.5 +1.6**
KKAR Karatay Array 40.02 35 *i* P **P** **16 39 11.7 +0.9**
comp=E,42nm,1.6s,mb4.9
KKAR Karatay Array 40.02 35 *i* P **P** **16 39 11.7 +0.9**
KKAR pmax pmax
comp=Z,42nm,1.6s,mb4.9
AB31 Akbulak array 40.05 20 *i* P **P** **16 39 11.8 +0.8**
comp=Z,39nm,1.1s,mb5.0
AB31 Akbulak array 40.05 20 *i* P **P** **16 39 11.8 +0.8**
AB31 pmax pmax
comp=Z,39nm,1.1s,mb5.0
STHS Stebnicka Huta 40.20 340 *e*P **P** **16 39 13.4 +1.2**
VYHS Vyhne 40.26 338 *e*P **P** **16 39 13.2 +0.5**
PERS Pernice 40.31 333 *e*P **P** **16 39 14.2 +1.0**
PERS Pernice 40.31 333 *e*P **P** **16 39 14.1 +0.9**
CORF Corte 40.40 323 *e*P **P** **16 39 13.4 -0.5**
VOY Vojsko 40.42 331 *e*P **P** **16 39 15.2 +1.1**
OBKA Obir 40.47 332⇓*i*P **P** **16 39 16.0 +1.5**
comp=Z,182nm,2.1s,mb5.4
NIE Niedzica 40.51 340 *e*P **P** **16 39 16.2 +1.4**
ARSA Arzberg 40.60 334⇑*i*P **P** **16 39 16.6 +1.1**
comp=Z,133nm,2.3s,mb5.2
ARSA Arzberg 40.60 334 *i* P **P** **16 39 16.6 +1.0**
comp=Z,133nm,2.3s,mb5.2,SNR=22
PGF Pioggiola 40.64 324 *e*P **P** **16 39 14.6 -1.3**
comp=Z,50nm,1.2s,mb4.7
PGF Pioggiola 40.64 324 *e*P **P** **16 39 14.6 -1.3**
PGF pmax pmax
comp=Z,25nm,1.2s,mb4.7
ZST Bratislava 40.69 336 *e*P **P** **16 39 16.9 +0.7**
ROBS Robic 40.76 331 *e*P **P** **16 39 17.3 +0.4**
ROBS *e* 16 39 28.1
SMOL Smolenice 40.82 336 *e*P **P** **16 39 17.8 +0.5**
OJC Ojcow 41.37 340 *e*P **P** **16 39 22.1 +0.3**
KBA Koelnbreinsper 41.45 332⇓*i*P **P** **16 39 23.3 +0.8**
comp=Z,64nm,2.4s,mb4.8
KBA Koelnbreinsper 41.45 332⇓*i*P **P** **16 39 23.3 +0.8**
KBA pmax pmax
comp=Z,64nm,2.4s,mb4.8
MOA Molln 41.61 333⇑*i*P **P** **16 39 24.5 +0.7**
comp=Z,54nm,1.6s,mb4.9
MOA Molln 41.61 333 *i* P **P** **16 39 24.5 +0.7**
comp=Z,54nm,1.6s,mb4.9,SNR=13
OKC Ostrava-Krasne 41.63 338 *e*P **P** **16 39 24.4 +0.5**
VRAC Vranov 41.78 336 *e*P **P** **16 39 25.7 +0.5**
MORC Moravsky Berou 41.80 338 *e*P **P** **16 39 25.7 +0.4**
comp=Z,74nm,1.8s,mb5.0
MORC Moravsky Berou 41.80 338 *e*P **P** **16 39 25.7 +0.3**
comp=Z,74nm,1.8s,mb5.0
MORC Moravsky Berou 41.80 338 *e*P **P** **16 39 25.7 +0.3**
MORC pmax pmax
comp=Z,75nm,1.8s,mb5.0
AAK Ala-Archa 42.03 38 *e*P **P** **16 39 28.0 +0.7**
comp=Z,13nm,1.1s,mb4.5
AAK LR LR
comp=Z,395nm,21.0s,MS4.3
AAK Ala-Archa 42.03 38 *e*P **P** **16 39 28.0 +0.7**
comp=Z,13nm,1.1s,mb4.5
AAK Ala-Archa 42.03 38*d i*P **P** **16 39 28.2 +0.9**
AAK pmax pmax
comp=Z,32nm,2.1s,mb4.6
AAK MLR MLR
comp=Z,1µm,16.0s,MS4.9
TREC Trest 42.21 336 *e*P **P** **16 39 28.7 0.0**
FRU Bishkek 42.22 38 *e*P **P** **16 39 30.0 +1.1**
comp=Z,80nm,2.0s,mb5.0
FRU Bishkek 42.22 38 *e*P **P** **16 39 30.0 +1.1**
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.0
SBF Sospel 42.35 324 *e*P **P** **16 39 28.4 -1.6**
comp=Z,22nm,1.0s,mb4.4
SBF Sospel 42.35 324 *e*P **P** **16 39 28.4 -1.6**
SBF pmax pmax
comp=Z,11nm,1.0s,mb4.4
SAOF Saorge 42.36 324 *e*P **P** **16 39 28.6 -1.4**
WTTA Wattenberg 42.39 331⇓*i*P **P** **16 39 30.5 +0.3**
comp=Z,163nm,2.2s,mb5.3
WTTA Wattenberg 42.39 331⇓*i*P **P** **16 39 30.5 +0.3**
WTTA pmax pmax
comp=Z,163nm,2.2s,mb5.3
MVIF Mont Vial 42.53 324 *e*P **P** **16 39 32.3 +0.8**
TOUF Mont Tournerai 42.55 324 *e*P **P** **16 39 31.2 -0.4**
SQTA Sankt Quirin 42.56 330⇑*i*P **P** **16 39 32.4 +0.8**
comp=Z,24nm,1.2s,mb4.8
SQTA Sankt Quirin 42.56 330⇑*i*P **P** **16 39 32.4 +0.8**
SQTA pmax pmax
comp=Z,24nm,1.2s,mb4.8
LMR La Mourre 42.57 323 *e*P **P** **16 39 30.7 -1.1**
GEC2 GERESS Array S 42.61 334 *e*P **P** **16 39 32.4 +0.4**
comp=Z,51nm,1.3s,mb5.1
GEC2 *e*PP PP 16 41 10.3 -3.3
GEC2 GERESS Array S 42.61 334 *e*P **P** **16 39 32.4 +0.4**
comp=Z,51nm,1.3s,mb5.1
GEC2 GERESS Array S 42.61 334 *e*PP PP 16 41 10.3 -3.3
GEC2 GERESS Array S 42.61 334 *e*P **P** **16 39 32.4 +0.4**
GEC2 *e* 16 41 10.3
GEC2 pmax pmax
comp=Z,51nm,1.3s,mb5.1
GERES GERESS Array B 42.61 334 P **P** **16 39 32.0 0.0**
comp=Z,9.9nm,0.9s,mb4.6,baz=135,slow=7.5,SNR=59
GERES LR LR 16 58 11.1
comp=Z,172nm,18.3s,MS4.0,baz=0.1,slow=37
FRF La Foret Royal 42.63 323 *e*P **P** **16 39 30.8 -1.4**
comp=Z,44nm,1.3s,mb4.7
FRF La Foret Royal 42.63 323 *e*P **P** **16 39 30.8 -1.4**
FRF pmax pmax
comp=Z,22nm,1.3s,mb4.7
MOTA Moosalm 42.70 330⇑*i*P **P** **16 39 33.1 +0.3**
comp=Z,13nm,1.1s,mb4.6
MOTA Moosalm 42.70 330⇑*i*P **P** **16 39 33.1 +0.3**
MOTA pmax pmax
comp=Z,13nm,1.1s,mb4.6
OBN Obninsk 42.70 357 *e*P **P** **16 39 33.5 +0.9**
comp=Z,211nm,1.7s,mb5.6
OBN Obninsk 42.70 357 *i* P **P** **16 39 33.3 +0.6**
comp=Z,106nm,1.4s,mb5.4
OBN Obninsk 42.70 357*d i*P **P** **16 39 33.3 +0.6**
OBN *e* 16 41 15.8
OBN *e* 16 41 24.4
OBN *e*SS SS 16 49 06.7 +6.3
OBN pmax pmax
comp=Z,106nm,1.4s,mb5.4
OBN MLR MLR
comp=Z,200nm,14.0s,MS4.2
DPC Dobruska-Polom 42.73 337 *e*P **P** **16 39 33.0 +0.1**
KHC Kasperske Hory 42.88 334 *e*P **P** **16 39 33.8 -0.4**
KHC Kasperske Hory 42.88 334 *e*P **P** **16 39 33.9 -0.3**
KHC Kasperske Hory 42.88 334⇓*e*P **P** **16 39 33.9 -0.3**
KOLN Koldanda 42.92 63 *e*P **P** **16 39 34.6 -0.2**
comp=Z,246nm,1.9s,mb5.6
UPC Upice 42.97 337 *e*P **P** **16 39 34.7 -0.2**
KSP Ksiaz 43.14 338 *e*P **P** **16 39 37.1 +0.9**
KSP Ksiaz 43.14 338 *e*P **P** **16 39 37.0 +0.7**
PRU Pruhonice 43.14 335 *e*P **P** **16 39 36.0 -0.3**
WET Wettzell 43.19 333 *e*P **P** **16 39 36.5 -0.3**
comp=Z,23nm,1.2s,mb4.8
WET *e*PP PP 16 41 18.1 -1.3
WET Wettzell 43.19 333 *e*P **P** **16 39 36.5 -0.3**
comp=Z,23nm,1.2s,mb4.8
WET Wettzell 43.19 333 *e*PP PP 16 41 18.1 -1.3
WET Wettzell 43.19 333 *e*P **P** **16 39 36.5 -0.3**
WET *e* 16 41 18.1
WET pmax pmax
comp=Z,23nm,1.2s,mb4.8
FUR Furstenfeldbru 43.20 331 *e*P **P** **16 39 36.8 0.0**
comp=Z,24nm,0.6s,mb5.1
FUR Furstenfeldbru 43.20 331 *e*P **P** **16 39 36.8 0.0**
FUR pmax pmax
comp=Z,24nm,0.6s,mb5.1
MBDF Montbardon 43.26 325 *e*P **P** **16 39 37.3 0.0**
comp=Z,117nm,1.0s,mb5.3
MBDF Montbardon 43.26 325 *e*P **P** **16 39 37.3 0.0**
MBDF pmax pmax
comp=Z,58nm,1.0s,mb5.3
DAVA Damuels 43.26 329⇑*i*P **P** **16 39 37.5 +0.2**
comp=Z,148nm,2.4s,mb5.3
DAVA Damuels 43.26 329 *i* P **P** **16 39 37.5 +0.2**
comp=Z,148nm,2.4s,mb5.3,SNR=12
MOS Moscow 43.27 358 *i* P **P** **16 39 36.9 -0.4**
comp=Z,220nm,1.8s,mb5.6
MOS Moscow 43.27 358⇑*i*P **P** **16 39 36.9 -0.4**
MOS *e* 16 41 20.8
MOS *e*SS SS 16 49 28.6 +18
MOS pmax pmax
comp=Z,500nm,1.9s,mb5.9
MOS pmax pmax
comp=Z,220nm,1.8s,mb5.6
SMRF Simiane la Rot 43.50 323 *e*P **P** **16 39 38.9 -0.4**
PVCC Panska Ves 43.55 336 *e*P **P** **16 39 38.8 -0.8**
SUW Suwalki 43.72 345 *e*P **P** **16 39 41.3 +0.4**
LPG La Plagne 43.74 325 *e*P **P** **16 39 40.2 -1.0**
comp=Z,86nm,1.5s,mb5.0
LPG La Plagne 43.74 325 *e*P **P** **16 39 40.2 -1.0**
LPG pmax pmax
comp=Z,43nm,1.5s,mb5.0
LPL La Plagne 43.76 325 *e*P **P** **16 39 39.9 -1.5**
comp=Z,121nm,1.6s,mb5.1
LPL La Plagne 43.76 325 *e*P **P** **16 39 39.9 -1.5**
LPL pmax pmax
comp=Z,61nm,1.6s,mb5.1
GKN Gorkha 43.86 62 *e*P **P** **16 39 41.2 -1.3**
comp=Z,203nm,1.8s,mb5.5
ORIF Oris-en-Rattie 43.88 324 *e*P **P** **16 39 41.2 -1.1**
comp=Z,111nm,1.5s,mb5.1
ORIF *e*R
comp=Z,205nm,19.8s
BRG Berggiesshubel 44.07 336 *i* P **P** **16 39 43.5 -0.3**
comp=Z,38nm,1.5s,mb4.9
BRG Berggiesshubel 44.07 336 *i* P **P** **16 39 43.5 -0.3**
BRG pmax pmax
comp=Z,38nm,1.5s,mb4.9
DMN Daman 44.19 63 *e*P **P** **16 39 44.5 -0.7**
NKC Novy Kostel 44.20 334 *e*P **P** **16 39 44.3 -0.6**
EJON La Jonquera 44.30 320 P **P** **16 39 45.9 +0.1**
comp=Z,10nm,1.1s,mb4.5
EJON La Jonquera 44.30 320 P **P** **16 39 45.9 0.0**
comp=Z,10nm,1.1s,mb4.5,SNR=5.5
GRA1 Grafenberg Arr 44.33 333 *e*P **P** **16 39 45.7 -0.3**
comp=Z,25nm,1.1s,mb4.9
GRF Grafenberg Arr 44.33 333 *e*P **P** **16 39 45.7 -0.3**
comp=Z,25nm,1.1s,mb4.9
GRF Grafenberg Arr 44.33 333 *e*P **P** **16 39 45.7 -0.3**
GRF pmax pmax
comp=Z,25nm,1.1s,mb4.9
GRF Grafenberg Arr 44.33 333 *e*P **P** **16 39 45.7 -0.3**
GRF pmax pmax
comp=Z,25nm,1.1s,mb4.9
KKN Kakani 44.38 63 *e*P **P** **16 39 44.8 -1.9**
comp=Z,232nm,1.9s,mb5.6
PKI Pulchoki 44.45 63 *e*P **P** **16 39 46.0 -1.3**
VIVF Saint-Julien-l 44.54 323 *e*P **P** **16 39 46.5 -1.2**
FILF Fillols 44.57 320 *e*P **P** **16 39 49.4 +1.4**
LASF Ste Croix 44.58 322 *e*P **P** **16 39 46.9 -1.2**
comp=Z,62nm,1.2s,mb5.0
BBS Basel-Blauen 44.58 328 *e*P **P** **16 39 48.0 0.0**
BFO Black Forest 44.74 330 *e*P **P** **16 39 49.1 -0.2**
comp=Z,24nm,1.5s,mb4.8
BFO Black Forest 44.74 330 *e*P **P** **16 39 49.1 -0.2**
BFO pmax pmax
comp=Z,24nm,1.5s,mb4.8
CLL Collm 44.78 336⇓P **P** **16 39 48.5 -1.1**
comp=Z,logA/T=1.6,mb5.2
CLL *i* *SP sP 16 39 55.6 +3.3
CLL Collm 44.78 336⇓*i*P **P** **16 39 48.5 -1.1**
comp=Z,74nm,2.0s,mb5.2
CLL *i* 16 39 55.6
CLL Collm 44.78 336⇓*i*P **P** **16 39 48.5 -1.1**
CLL *i* 16 39 55.6
CLL pmax pmax
comp=Z,74nm,2.0s,mb5.2
CABF La Chapelle 44.79 326 *e*P **P** **16 39 49.1 -0.6**
comp=Z,57nm,0.9s,mb5.1
CABF La Chapelle 44.79 326 *e*P **P** **16 39 49.1 -0.6**
CABF pmax pmax
comp=Z,28nm,0.9s,mb5.1
MOX Moxa 44.86 334 *i* P **P** **16 39 50.1 -0.1**
comp=Z,logA/T=1.5,mb5.1
MOX Moxa 44.86 334 *e*P **P** **16 39 50.1 -0.1**
comp=Z,64nm,1.9s,mb5.1
MOX Moxa 44.86 334 *e*P **P** **16 39 50.1 -0.1**
MOX pmax pmax
comp=Z,64nm,1.9s,mb5.1
LOMF Lomont 44.86 328 *e*P **P** **16 39 50.6 +0.3**
EMIR Miracle 44.91 318 P **P** **16 39 50.9 +0.2**
comp=Z,9.8nm,0.7s,mb4.8
EMIR Miracle 44.91 318 P **P** **16 39 50.9 +0.1**
comp=Z,9.8nm,0.7s,mb4.8,SNR=6.3
GUN Gumba 44.92 63 *e*P **P** **16 39 48.7 -2.4**
EPOB Poblet 44.93 317 P **P** **16 39 51.1 +0.2**
comp=Z,10nm,0.8s,mb4.7
EPOB Poblet 44.93 317 P **P** **16 39 51.1 +0.1**
comp=Z,10nm,0.8s,mb4.7,SNR=9.0
MOF Molkenrain 45.02 328 *e*P **P** **16 39 51.8 +0.2**
EMUR La Murta 45.04 312 P **P** **16 39 52.6 +0.8**
comp=Z,15nm,1.0s,mb4.8
EMUR La Murta 45.04 312 P **P** **16 39 52.6 +0.8**
comp=Z,15nm,1.0s,mb4.8,SNR=5.3
HINF Hinteralfeld 45.15 328 *e*P **P** **16 39 51.3 -1.2**
DBIC Dimbokro 45.16 267 P **P** **16 39 53.0 -0.1**
comp=Z,14nm,0.9s,mb4.8,baz=69,slow=7.6,SNR=9.3
DBIC LR LR 16 58 03.6
comp=Z,576nm,18.6s,MS4.5,baz=69,slow=35
DBIC Dimbokro 45.16 267 *e*P **P** **16 39 52.6 -0.5**
comp=Z,119nm,1.9s,mb5.4
DBIC Dimbokro 45.16 267 *e*P **P** **16 39 52.6 -0.5**
comp=Z,119nm,1.9s,mb5.4
DBIC Dimbokro 45.16 267 *e*P **P** **16 39 52.6 -0.5**
DBIC pmax pmax
comp=Z,119nm,1.9s
MTLF Montolieu 45.19 320 *e*P **P** **16 39 51.9 -1.0**
ECH Echery 45.25 329 *e*P **P** **16 39 53.5 +0.2**
WLS Welschbruch 45.28 329 *e*P **P** **16 39 53.7 +0.1**
CDF Champ du Feu 45.32 329 *e*P **P** **16 39 52.7 -1.2**
comp=Z,48nm,1.2s,mb4.9
CDF Champ du Feu 45.32 329 *e*P **P** **16 39 52.7 -1.2**
CDF pmax pmax
comp=Z,24nm,1.2s,mb4.9
TOD Tromm 45.38 331 *e*P **P** **16 39 54.5 +0.2**
RUE Ruedersdorf 45.39 337 *e*P **P** **16 39 54.1 -0.3**
RUE Ruedersdorf 45.39 337 *e*P **P** **16 39 54.1 -0.3**
LIC Lamto 45.41 267 *e*P **P** **16 39 54.8 -0.3**
comp=Z,60nm,1.4s,mb5.2
LANF Langenberg 45.43 330 *e*P **P** **16 39 54.9 +0.1**
HAU Haudompre 45.53 328 *e*P **P** **16 39 54.2 -1.4**
HAU *e*R
comp=Z,188nm,18.5s
SALF Salau 45.54 319 *e*P **P** **16 39 57.3 +1.5**
ECHE Chera 45.55 314 P **P** **16 39 56.2 +0.3**
comp=Z,5.5nm,0.8s,mb4.5
ECHE Chera 45.55 314 P **P** **16 39 56.2 +0.4**
comp=Z,5.5nm,0.8s,mb4.5,SNR=6.1
ECHE Chera 45.55 314 P **P** **16 39 56.2 +0.4**
ECHE pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ETOB Tobarra 45.57 313 P **P** **16 39 56.1 0.0**
comp=Z,2.9nm,0.5s,mb4.5
ETOB Tobarra 45.57 313 P **P** **16 39 56.1 0.0**
comp=Z,2.9nm,0.5s,mb4.4,SNR=7.9
LBL Lubilhac 45.58 323 *e*P **P** **16 39 56.1 +0.1**
PLDF La Plantade 45.78 324 *e*P **P** **16 39 55.2 -2.4**
EGRA Graus 45.84 318 P **P** **16 39 58.1 +0.1**
comp=Z,3.5nm,0.6s,mb4.5
EGRA Graus 45.84 318 P **P** **16 39 58.1 0.0**
comp=Z,3.5nm,0.6s,mb4.4,SNR=5.7
THEF They Montfort 45.85 328 *e*P **P** **16 39 57.9 -0.2**
MELF Melles 45.87 319 *e*P **P** **16 39 59.8 +1.4**
TNS Taunus Mts 45.97 332 *e*P **P** **16 39 58.8 -0.2**
comp=Z,19nm,1.0s,mb5.0
TNS *e*PP PP 16 41 47.0 -0.2
TNS Taunus Mts 45.97 332 *e*P **P** **16 39 58.8 -0.2**
comp=Z,19nm,1.0s,mb5.0
TNS Taunus Mts 45.97 332 *e*PP PP 16 41 47.0 -0.2
TNS Taunus Mts 45.97 332 *e*P **P** **16 39 58.8 -0.2**
TNS *e* 16 41 47.0
TNS pmax pmax
comp=Z,19nm,1.0s,mb5.0
ARU Arti 46.05 14 *e*P **P** **16 40 00.2 +0.7**
comp=Z,56nm,1.0s,mb5.4
ARU Arti 46.05 14 *e*P **P** **16 40 00.2 +0.7**
comp=Z,56nm,1.0s,mb5.4
ARU Arti 46.05 14 *e*P **P** **16 40 00.1 +0.6**
ARU *e* 16 41 49.4
ARU *e*PPP PPP 16 42 37.1 +5.9
ARU *e*S **S** **16 46 40.1 -4.4**
ARU *e*SS SS 16 49 59.1 -2.5
ARU MLR MLR
comp=Z,600nm,17.0s,MS4.6
ARU MLR MLR
comp=N,400nm,19.0s,MS4.5
ARU MLR MLR
comp=E,300nm,18.0s,MS4.5
SMF Signal de Mont 46.05 325 *e*P **P** **16 39 57.9 -1.8**
comp=E,32nm,1.2s,mb4.8
SMF Signal de Mont 46.05 325 *e*P **P** **16 39 57.9 -1.8**
SMF pmax pmax
comp=Z,16nm,1.2s,mb4.8
AGO Saint Agoulin 46.11 324 *e*P **P** **16 40 00.1 -0.1**
CAF Calviac 46.12 322 *e*P **P** **16 39 59.8 -0.5**
comp=Z,87nm,1.7s,mb5.1
CAF Calviac 46.12 322 *e*P **P** **16 39 59.8 -0.5**
CAF pmax pmax
comp=Z,43nm,1.7s,mb5.1
ABH Alteburg 46.16 331 *e*P **P** **16 40 01.5 +1.0**
EBIE Bielsa 46.18 318 P **P** **16 40 00.5 -0.4**
comp=Z,9.7nm,0.7s,mb4.8
EBIE Bielsa 46.18 318 P **P** **16 40 00.4 -0.4**
comp=Z,9.7nm,0.7s,mb4.8,SNR=9.8
EPF Esparros 46.22 319 *e*P **P** **16 40 00.3 -0.8**
EVIA Vianos 46.26 312 P **P** **16 40 01.1 -0.3**
comp=Z,7.4nm,0.8s,mb4.7
EVIA Vianos 46.26 312 P **P** **16 40 01.1 -0.4**
comp=Z,7.4nm,0.8s,mb4.7,SNR=7.9
EVIA Vianos 46.26 312 P **P** **16 40 01.1 -0.4**
EVIA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
EQES Quesada 46.37 311 P **P** **16 40 02.6 +0.3**
comp=Z,12nm,0.9s,mb4.8,SNR=6.9
LOR Lormes 46.40 326 *e*P **P** **16 40 00.9 -1.6**
comp=Z,49nm,1.1s,mb5.1
LOR *e*R
comp=Z,180nm,21.8s
LOR Lormes 46.40 326 *e*P **P** **16 40 00.9 -1.6**
LOR pmax pmax
comp=Z,24nm,1.1s,mb5.0
LOR MLR MLR
comp=Z,180nm,21.8s,MS4.0
AVF Avril sur Loir 46.41 325 *e*P **P** **16 40 00.8 -1.7**
comp=Z,18nm,1.0s,mb4.7
AVF Avril sur Loir 46.41 325 *e*P **P** **16 40 00.8 -1.7**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SSF Saint Saulge 46.48 325 *e*P **P** **16 40 01.3 -1.8**
comp=Z,32nm,1.1s,mb4.8
SSF Saint Saulge 46.48 325 *e*P **P** **16 40 01.3 -1.8**

SSF pmax pmax
comp=Z,16nm,1.1s,mb4.9
MEZF Maizieres J'vi 46.51 328 *e*P **P 16 40 02.4 -0.9**
comp=Z,147nm,1.1s,mb5.5
BGF Bois d'Agland 46.56 324 *e*P **P 16 40 02.3 -1.4**
ERON Agron 46.64 310 P **P 16 40 05.5 +1.0**
comp=Z,8.3nm,0.6s,mb4.8
ERON Agron 46.64 310 P **P 16 40 05.5 +1.0**
comp=Z,8.3nm,0.6s,mb4.8,SNR=7.9
RJF Les Rejaudoux 46.65 322 *e*P **P 16 40 03.6 -0.8**
RJF *e*R
comp=Z,226nm,21.8s
REYF Montagne du Re 46.71 319 *e*P **P 16 40 05.6 +0.6**
ETSF Etsaut 46.74 318 *e*P **P 16 40 03.7 -1.5**
TCF Toulx Ste Croi 46.77 324 *e*P **P 16 40 04.2 -1.2**
SVE Sverdlovsk 46.91 15⇓ *e*P **P 16 40 07.0 +0.7**
SVE pmax pmax
comp=Z,140μm,1.8s
LFF La Frestale 46.92 321 *e*P **P 16 40 06.1 -0.5**
BRVK Borovoye 46.94 24 *e*P **P 16 40 07.0 +0.4**
comp=Z,11nm,1.4s,mb4.6
BRVK Borovoye 46.94 24 *e*P **P 16 40 07.0 +0.4**
comp=Z,11nm,1.4s,mb4.6
BRVK Borovoye 46.94 24 *e*P **P 16 40 07.0 +0.4**
BRVK pmax pmax
comp=Z,11nm,1.4s,mb4.6
ELOJ Sierra Loja 46.94 310 P **P 16 40 08.6 +1.7**
comp=Z,11nm,0.9s,mb4.8
ELOJ Sierra Loja 46.94 310 P **P 16 40 08.6 +1.7**
comp=Z,11nm,0.9s,mb4.8,SNR=15
ELOJ Sierra Loja 46.94 310 P **P 16 40 08.6 +1.7**
ELOJ pmax pmax
comp=Z,11nm,0.9s,mb4.8
BVA0 Borovoye Array 46.95 24 *i* P **P 16 40 07.0 +0.3**
BVA0 pmax pmax
comp=Z,18nm,2.4s,mb4.6
VSU Vasula 47.13 350⇑ *e*P **P 16 40 08.4 +0.3**
EMIJ Mijas 47.22 309 P **P 16 40 08.9 -0.2**
comp=Z,13nm,0.9s,mb4.8
EMIJ Mijas 47.22 309 P **P 16 40 08.9 -0.2**
comp=Z,13nm,0.9s,mb4.9,SNR=7.9
SJPF Ste Jean 47.27 318 *e*P **P 16 40 08.3 -1.1**
comp=Z,134nm,1.4s,mb5.4
SJPF Ste Jean 47.27 318 *e*P **P 16 40 08.3 -1.1**
SJPF pmax pmax
comp=Z,67nm,1.4s,mb5.4
HGN Heimansgroeve 47.52 331⇑ *e*P **P 16 40 11.9 +0.6**
comp=Z,42nm,1.9s,mb5.1
CHKZ Chkalovo 47.53 24 *e*P **P 16 40 11.0 -0.4**
comp=Z,50nm,1.8s,mb5.2
CHKZ Chkalovo 47.53 24 *e*P **P 16 40 11.0 -0.3**
comp=Z,50nm,1.8s,mb5.2
CHKZ Chkalovo 47.53 24 *e*P **P 16 40 11.0 -0.3**
CHKZ pmax pmax
comp=Z,50nm,1.8s,mb5.2
GIVF Givet 47.63 329 *e*P **P 16 40 10.6 -1.6**
ESDC Sonseca Array 47.70 313 P **P 16 40 13.5 +0.7**
comp=Z,6.6nm,0.9s,mb4.7,baz=116,slow=7.3,SNR=15
BSEG Bad Segeberg 47.84 336 *e*P **P 16 40 13.5 -0.3**
BAIF Baives 47.92 329 *e*P **P 16 40 12.7 -1.7**
WTSB Winterswijk 47.92 332⇑ *e*P **P 16 40 15.1 +0.7**
comp=Z,61nm,2.0s,mb5.3
ESPR Espera 48.14 309 P **P 16 40 15.7 -0.6**
comp=Z,24nm,1.3s,mb5.1
ESPR Espera 48.14 309 P **P 16 40 15.7 -0.7**
comp=Z,24nm,1.3s,mb5.1,SNR=6.5
MFF Saint Martin d 48.31 323 *e*P **P 16 40 15.8 -1.7**
SOKR Solikamsk 48.58 11⇑ *i*P **P 16 40 20.8 +1.4**
SOKR S **S 16 47 35.2 +15**
SOKR pmax pmax
comp=Z,80nm,2.1s,mb5.4
SOKR MLR MLR
comp=Z,520nm,19.0s,MS4.5
MKAR Makanchi Array 48.95 37 P **P 16 40 22.7 +0.2**
comp=Z,6.7nm,0.9s,mb4.7,baz=233,slow=6.1,SNR=30
MKAR LR LR 17 03 45.3
comp=Z,823nm,21.0s,MS4.7,baz=232,slow=40
MKAR Makanchi Array 48.95 37 P **P 16 40 22.7 +0.2**
MKAR LR LR 17 03 45.2
KURK Kurchatov 49.12 31 *e*P **P 16 40 24.2 +0.5**
comp=Z,15nm,1.1s,mb4.9
KURK Kurchatov 49.12 31 *e*P **P 16 40 24.2 +0.5**
comp=Z,15nm,1.1s,mb4.9
KURK Kurchatov 49.12 31 *d i*P **P 16 40 24.3 +0.6**
LDF La Druitiere 49.36 325 *e*P **P 16 40 23.5 -2.1**
EBAD Badajoz 49.61 311 P **P 16 40 26.7 -0.9**
comp=Z,12nm,1.0s,mb4.9
EBAD Badajoz 49.61 311 P **P 16 40 26.7 -0.9**
comp=Z,12nm,1.0s,mb4.9
FLN La Foliniere 49.65 325 *e*P **P 16 40 25.7 -2.1**
comp=Z,74nm,1.1s,mb5.3
FLN *e*R
comp=Z,179nm,19.2s
FLN La Foliniere 49.65 325 *e*P **P 16 40 25.7 -2.1**
FLN pmax pmax
comp=Z,37nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,180nm,19.3s,MS4.1
GRR Gorron 49.66 325 *e*P **P 16 40 25.9 -2.0**
comp=Z,28nm,0.9s,mb5.0
GRR Gorron 49.66 325 *e*P **P 16 40 25.9 -2.0**
GRR pmax pmax
comp=Z,14nm,0.9s,mb5.0
LSA Lhasa 49.78 62 P **P 16 40 30.3 +1.2**
LSA AP pP 16 40 38.0 +6.9
LSA XP sP 16 40 43.0 +11
LSA PCP PcP 16 41 43.8 -6.5
LSA PP PP 16 42 25.0 +0.4
LSA S **S 16 47 41.3 +3.7**
LSA SCS ScS 16 50 15.5 -2.8
LSA AMB AMB
comp=Z,20nm,2.0s,mb4.8
LSA AMB AMB
comp=Z,130nm,4.3s
LSA LR LR
comp=N,200nm,19.1s,MS4.4
LSA LR LR
comp=E,270nm,17.5s,MS4.4
LSA LR LR
comp=Z,290nm,15.9s,MS4.4
LSA Lhasa 49.78 62 *e*P **P 16 40 29.7 +0.6**
comp=Z,144nm,2.0s,mb5.7
LSA Lhasa 49.78 62 *e*P **P 16 40 29.7 +0.6**
LSA pmax pmax
comp=Z,144nm,2.0s,mb5.7
FINES FINESS Array B 50.07 351 P **P 16 40 30.2 -0.6**
comp=Z,9.0nm,1.0s,mb4.8,baz=146,slow=6.9,SNR=9.9
FINES FINESS Array B 50.07 351 *i* P **P 16 40 30.7 -0.1**
FINES pmax pmax
comp=Z,9.0nm,1.0s
SGMF Saint Gilles 50.57 324 *e*P **P 16 40 32.7 -2.1**
comp=Z,43nm,1.1s,mb5.0
SGMF Saint Gilles 50.57 324 *e*P **P 16 40 32.7 -2.1**
SGMF pmax pmax
comp=Z,22nm,1.1s,mb5.0
KAF Kangasniemi 50.67 351 *e*p **P 16 40 34.8 -0.6**
comp=Z,16nm,1.1s,mb4.8,baz=159,slow=7.6
KAF Kangasniemi 50.67 351 *e*P **P 16 40 34.8 -0.6**
KAF pmax pmax
comp=Z,16nm,1.1s,mb4.9
WMQ Urumqi 51.02 43⇓ *i*P **P 16 40 38.3 0.0**
WMQ AP pP 16 40 47.5 +7.2
WMQ XP sP 16 40 51.0 +10
WMQ SCS ScS 16 50 23.0 -3.5
WMQ AMB AMB
comp=Z,20nm,1.6s,mb4.8
WMQ AMB AMB
comp=Z,258nm,5.5s
WMQ LR LR
comp=N,769nm,14.5s,MS5.0
WMQ LR LR
comp=E,735nm,15.4s,MS5.0
WMQ LR LR
comp=Z,576nm,24.8s
ROSF Rostrenen 51.02 323 *e*P **P 16 40 35.8 -2.5**
KONO Kongsberg 52.46 341⇑ *e*P **P 16 40 50.8 +1.8**
NAO01 NORSAR Array S 53.00 342 *e*P **P 16 40 52.3 -0.6**
comp=Z,39nm,1.1s,mb5.2
NAO01 NORSAR Array S 53.00 342 *e*P **P 16 40 52.3 -0.7**
comp=Z,39nm,1.1s,mb5.2
NB2 NORSAR Subarra 53.06 343 P **P 16 40 52.0 -1.4**
comp=Z,40nm,1.2s,mb5.2,baz=141,slow=7.4
NB2 NORSAR Subarra 53.06 343 P **P 16 40 52.0 -1.4**
baz=141,slow=7.4
NB2 NORSAR Subarra 53.06 343 P **P 16 40 52.0 -1.4**
NB2 pmax pmax
comp=Z,40nm,1.2s,mb5.2
NOA NORSAR Array B 53.06 343 P **P 16 40 52.5 -1.0**
comp=Z,9.7nm,0.9s,mb4.7,baz=141,slow=7.3,SNR=12
NOA LR LR 17 02 30.6
comp=Z,109nm,21.4s,MS3.9,baz=135,slow=35
NVS Novosibirsk 53.83 29 *e*P **P 16 40 58.0 -1.1**
NVS pmax pmax
comp=Z,44nm,2.0s,mb5.0
NVS pmax pmax
comp=N,43nm,2.2s
NVS pmax pmax
comp=E,16nm,1.8s
ARCES ARCESS Array B 57.87 354 P **P 16 41 26.6 -1.5**
comp=E,5.5nm,0.9s,mb4.6,baz=166,slow=5.0,SNR=13
KEV Kevo 57.93 354 *ep* **P 16 41 26.8 -1.7**
comp=E,21nm,1.1s,mb5.1
KEV Kevo 57.93 354 *e*P **P 16 41 26.8 -1.7**
KEV pmax pmax
comp=Z,21nm,1.1s,mb5.1
GTA Gaotai 58.48 51 P **P 16 41 33.0 +0.2**
GTA PCP PcP 16 42 23.3 +0.1
GTA PP PP 16 43 45.0 +1.0
GTA AMB AMB
comp=Z,24nm,1.8s,mb4.9
GTA AMB AMB
comp=Z,221nm,5.4s
GTA LR LR
comp=N,442nm,17.2s
GTA LR LR
comp=E,355nm,26.4s
GTA LR LR
comp=Z,657nm,29.0s
KMI Kunming 59.71 68 P **P 16 41 41.3 -0.2**
KMI AP pP 16 41 51.3 +7.8
KMI XP sP 16 41 55.3 +11
KMI PP PP 16 43 59.3 +4.0
KMI AMB AMB
comp=Z,8.0nm,2.0s,mb4.4
KMI AMB AMB
comp=Z,186nm,4.6s
KMI LR LR
comp=N,146nm,22.2s,MS4.3
KMI LR LR
comp=E,197nm,20.5s,MS4.3
KMI LR LR
comp=Z,291nm,25.4s,MS4.3
KMI Kunming 59.71 68 P **P 16 41 41.3 -0.2**
KMI 16 43 59.3
KMI PPP PPP 16 45 25.8 +5.1
KMI S **S 16 50 07.1 +16**
KMI pmax pmax
comp=Z,8.0nm,2.0s,mb4.4
KMI MLR MLR
comp=Z,290nm,25.4s,MS4.3
LZH Lanzhou 61.20 56 *e*P **P 16 41 51.5 0.0**
LZH AMB AMB
comp=Z,87nm,1.7s,mb5.6
LZH AMB AMB
comp=Z,290nm,4.5s
LZH LR LR
comp=E,1μm,19.0s
LZH LR LR
comp=Z,1μm,20.0s,MS5.1
LZH Lanzhou 61.20 56 *e*P **P 16 41 51.4 -0.1**
LZH pmax pmax
comp=Z,87nm,1.7s,mb5.6
LZH MLR MLR
comp=Z,1μm,20.0s,MS5.1
ZAK Zakamensk 63.16 40 *e*P **P 16 42 03.9 -0.5**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.1
SONM Songino Array 64.66 43 P **P 16 42 14.7 +0.4**
comp=Z,5.0nm,0.9s,mb4.5,baz=250,slow=6.3,SNR=36
SONM LR LR 17 14 22.7
comp=Z,769nm,20.5s,MS4.9,baz=265,slow=40
ULN Ulaanbaatar 65.10 43 *e*P **P 16 42 16.7 -0.4**
comp=Z,29nm,1.8s,mb5.0
ULN LR LR
comp=Z,712nm,20.0s,MS4.9
ULN Ulaanbaatar 65.10 43 *d i*P **P 16 42 17.1 0.0**
XAN Xi'an 65.23 58 P **P 16 42 17.3 -0.9**
XAN AMB AMB
comp=Z,15nm,1.8s,mb4.7
ENH Enshi 65.68 62 *e*P **P 16 42 19.4 -1.8**
comp=Z,72nm,1.8s,mb5.4
ENH Enshi 65.68 62 *e*P **P 16 42 19.4 -1.7**
comp=Z,72nm,1.8s,mb5.4
HHC Hu-ho-hao-te 67.59 51 *i* P **P 16 42 34.3 +1.2**
HHC AP pP 16 42 38.3 +3.2
HHC XP sP 16 42 40.8 +4.9
HHC PCP PcP 16 43 00.8 +0.5
HHC PP PP 16 45 03.5 -0.5
HHC SCP 16 47 01.3
HHC S S 16 51 30.0 +1.2
HHC XS 16 51 38.5
HHC SCS ScS 16 52 28.3 0.0
HHC AMB AMB
comp=Z,34nm,1.4s,mb5.2
HHC AMB AMB
comp=Z,168nm,3.7s
HHC LR LR
comp=N,296nm,20.2s,MS4.6
HHC LR LR
comp=E,214nm,17.8s,MS4.6
HHC LR LR
comp=Z,324nm,23.8s
WHN Wuhan 69.87 62 *e*P **P 16 42 46.5 -0.9**
BOD Bodaibo 70.72 33 *e*P **P 16 42 51.4 -0.7**
BOD pmax pmax
comp=Z,18nm,1.8s,mb4.7
HIA Hailar 73.60 42 *e*P **P 16 43 09.9 +0.5**
comp=Z,132nm,2.3s,mb5.5
HIA Hailar 73.60 42 *e*P **P 16 43 09.9 +0.5**
comp=Z,132nm,2.3s,mb5.5
HIA Hailar 73.60 42 *e*P **P 16 43 09.9 +0.5**
HIA pmax pmax
comp=Z,132nm,2.3s
NJ2 Nanjing 73.62 60 *e*P **P 16 43 09.0 -0.8**
NJ2 PP PP 16 45 57.0 +1.2
NJ2 S S 16 52 29.0 -10
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,80nm,6.0s
NJ2 LR LR
comp=N,360nm,30.9s
NJ2 LR LR
comp=E,410nm,20.2s
NJ2 LR LR
comp=Z,440nm,36.2s
SUMG Summit 74.95 342 *e*P **P 16 43 17.0 +0.3**
comp=Z,22nm,1.0s,mb5.0
SUMG Summit 74.95 342 *e*P **P 16 43 17.0 +0.3**
comp=Z,22nm,1.0s,mb5.0
SSE Sheshan 75.69 61 *e*P **P 16 43 19.8 -2.0**
SSE PCP PcP 16 43 32.3 -2.6
SSE PP PP 16 46 10.5 -2.9
SSE S S 16 52 54.3 -8.0
SSE SCS ScS 16 53 25.3 -7.4
SSE AMB AMB
comp=Z,31nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,57nm,3.5s
SSE LR LR
comp=N,84nm,20.4s,MS4.5
SSE LR LR
comp=E,210nm,20.4s,MS4.5
SSE LR LR
comp=Z,229nm,16.7s,MS4.6
SSE Sheshan 75.69 61 *e*P **P 16 43 19.7 -2.1**
comp=Z,31nm,0.8s,mb5.3
SSE PcP PcP 16 43 32.2 -2.7
SSE pP pP 16 43 42.9 +19
SSE sP sP 16 43 53.0 +28
SSE PP PP 16 46 10.5 -2.9
SSE S S 16 52 54.2 -8.1
SSE ScS ScS 16 53 25.2 -7.5
SSE sS 16 53 34.3
SSE LR LR
comp=Z,230nm,16.7s,MS4.6
YAK Yakutsk 78.69 29⇑ *e*P **P 16 43 37.7 -0.1**
YAK pmax pmax
comp=Z,28nm,2.0s,mb4.8
MAW Mawson 81.43 172 P **P 16 43 54.4 +2.1**
comp=Z,1.5nm,1.0s,baz=317,slow=5.9,SNR=5.1
MAW LR LR 17 15 20.1
comp=Z,129nm,19.0s,MS4.3,baz=159,slow=32
KLR Kul'dur 81.44 42 *e*P **P 16 43 49.0 -3.7**
KLR pmax pmax
comp=Z,60nm,2.4s,mb5.1
KLR MLR MLR
comp=Z,700nm,13.0s,MS5.2
SEY Seymchan 88.60 25 *e*P **P 16 44 28.6 +0.4**
SEY pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
MJAR Matsushiro Arr 88.69 53 P **P 16 44 30.0 +0.7**
comp=Z,2.8nm,0.9s,mb4.6,baz=271,slow=5.1,SNR=7.6
MJAR LR LR 17 30 12.3
comp=Z,136nm,18.3s,MS4.4,baz=280,slow=40
SNAA Sanae 88.77 193 P **P 16 44 30.9 +2.1**
SNAA Sanae 88.77 193 *e*P **P 16 44 29.8 +0.9**
comp=Z,58nm,1.7s,mb5.6
SNAA Sanae 88.77 193 *e*P **P 16 44 29.8 +1.0**
comp=Z,58nm,1.7s,mb5.6
SNAA Sanae 88.77 193 *e*P **P 16 44 29.8 +1.0**
SNAA pmax pmax
comp=Z,58nm,1.7s
FITZ Fitzroy Crossi 89.16 109 P **P 16 44 31.7 -0.2**
comp=Z,29nm,1.1s,mb5.5,baz=296,slow=2.5,SNR=8.5
VNA2 Neumayer--Watz 89.26 194⇑ *i*P **P 16 44 32.9 +1.7**
VNA1 Neumayer--Stat 89.28 195 P **P 16 44 33.4 +2.1**
VNA3 Neumayer Olymp 90.02 194 P **P 16 44 37.1 +2.3**
BILL Bilibino 90.92 18 *e*P **P 16 44 39.4 +0.5**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
BDFB Brasilia 92.00 255 LR LR 17 24 07.8
comp=Z,343nm,18.8s,MS4.8,baz=108,slow=34
WRA Warramunga Arr 97.59 109 P **P 16 45 11.2 +0.6**
comp=Z,1.6nm,1.0s,mb4.5,baz=285,slow=3.7,SNR=5.3
WRA PP PP 16 49 08.1 -2.9
comp=Z,1.2nm,1.1s,baz=288,slow=8.4,SNR=5.2
ILAR Eielson Array 102.82 3 PP PP 16 49 48.5 -1.2
comp=Z,0.4nm,0.8s,slow=2.9,SNR=5.2
MNTX Cornudas Mount 125.35 324 *e*PKPdf PKPdf 16 50 37.5 -1.1
TXAR Lajitas Array 126.04 321 PKP PKPdf 16 50 39.8 -0.1
comp=Z,0.7nm,0.4s,slow=1.3,SNR=5.5

DHMR 28 16:53:36.0±2.7, 12.67N×40.48E, h12km±335km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.58**	**81**	*i* P		**P**	Pn	16 54 33.8	+1.2
TRBA				*i* S		Sn	Sn	16 55 19.8	+4.5
TRBA				AML		AML	AML	16 55 37.2	
	comp=N,336nm,0.6s								
UDYN	**Al 'Udayn**	**3.63**	**69**	*i* P		Pn	Pn	16 54 35.4	+2.1
UDYN				*i* S		Sn	Sn	16 55 20.6	+4.1
UDYN				AML		AML	AML	16 55 42.4	
	comp=Z,410nm,0.7s								
DHBB	**Dhamar BB**	**4.24**	**63**	*i* S		Sn		16 55 35.7	+3.6
LBOS		**4.79**	**75**	*i* P		Pn		16 54 48.2	-1.6
LBOS				*i* S		Sn		16 55 45.0	-0.9
BDHA	**Al Bayda'**	**5.12**	**75**	*i* S		Sn		16 55 52.6	-1.5

*CSEM **28** 17:13:38.6±0.1, 37.78N×25.40W, h12km, ML2.5, Error ellipse: s-maj=3.3km s-min=1.9km az=8.0*
*PDA **28** 17:13:39.8±0.7, 37.78N×25.40W, h4km±1km, MD2.3, ML2.5, Error ellipse: s-maj=1.6km s-min=1.5km az=72.0*
SVSA 28 17:13:39.8±0.7, 37.78N×25.40W, h4km±1km, MD2.3, ML2.5, Error ellipse: s-maj=1.6km s-min=1.5km az=72.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**180**	*e*P		Pg		17 13 40.9	+0.4
PCNG				*e*S		Sg		17 13 42.0	+1.0
PCNG	**Congro**	**0.01**	**180**	*e*P		Pg		17 13 40.9	+0.4
MESC	**Monte Escuro**	**0.04**	**290**	*e*P		Pg		17 13 41.2	+0.3
MESC				*e*S		Sg		17 13 42.7	+1.1
MESC	**Monte Escuro**	**0.04**	**290**	*e*P		Pg		17 13 41.2	+0.3
FRA1	**Furnas**	**0.05**	**139**	*e*P		Pg		17 13 41.4	+0.4
VIF	**Vila Franca**	**0.05**	**225**	*e*P		Pg		17 13 41.5	+0.5
VIF				*e*S		Sg		17 13 42.9	+1.1
	2μm,0.2s								
VIF	**Vila Franca**	**0.05**	**225**	*e*P		Pg		17 13 41.5	+0.5
LFA	**Lagoa do Fogo**	**0.07**	**265**	*e*P		Pg		17 13 41.8	+0.5
LFA	**Lagoa do Fogo**	**0.07**	**265**	*e*P		Pg		17 13 41.8	+0.5
PMAT	**Coroa da Mata**	**0.07**	**302**	*e*S		Sg		17 13 43.5	+1.1
	6.8nm,0.1s								
PFAD	**Fenais da Ajud**	**0.08**	**44**	*e*P		Pg		17 13 42.2	+0.6
PFAD	**Fenais da Ajud**	**0.08**	**44**	*e*P		Pg		17 13 42.2	+0.6
PRCH	**Ribeira Ch**	**0.08**	**233**	*e*S		Sg		17 13 43.8	+1.0
	1μm,0.3s								
MIRA	**Miradouro**	**0.09**	**86**	*e*P		Pg		17 13 42.5	+0.7
CML	**Cha da Macela**	**0.12**	**266**	*e*P		Pg		17 13 43.1	+0.8
FAC	**Faja de Cima**	**0.20**	**268**	*e*P		Pg		17 13 44.5	+0.6
PDA	**Ponta Delgada**	**0.21**	**261**	*e*P		Pg		17 13 44.5	+0.4
PSAN	**Santo Antonio**	**0.27**	**286**	*e*P		Pg		17 13 45.5	+0.2
SET2	**Ginetes**	**0.33**	**281**	*e*P		Pg		17 13 46.5	0.0
SET4	**Mosteiros**	**0.33**	**287**	*e*P		Pg		17 13 46.1	-0.4

*IDC **28** 17:41:41.4±1.6, 13.10N×90.45W, mb4.2/7, mb1 4.4/9, mb1mx4.1/22, mbtmp4.2/9, ML3.6/2, MS4.6/20, Ms1 4.6/20, ms1mx4.5/27, Error ellipse: s-maj=50.7km s-min=18.0km az=49.0*
*NEIC **28** 17:41:49.1±1.7, 13.07N×90.35W, h61km±18km, mb4.6/11, Error ellipse: s-maj=20.3km s-min=9.8km az=217.0*
*CASC **28** 17:41:53.3±1.2, 12.94N×90.93W, h12km±369km, MD4.4, mb4.6(NEIC)*
*SSS **28** 17:41:53.1, 12.92N×91.06W, h50km, MD4.4*
ISC 28 17:41:43.0±0.7, 12.6N±0.1×90.81W±0.10, h33km, n58, σ1°§19/41, mb4.5/15, MS4.6/20, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.71**	**41**	*e*P		**P**		**17 42 21.2**	**+10**
SNJE	**San Jose**	**1.71**	**43**	*e*P		**P**		**17 42 20.7**	**+10**
RBDL	**Robledal**	**1.85**	**36**	*e*P		**P**		**17 42 22.1**	**+9.3**
BOQS	**Boqueron**	**1.86**	**53**	*e*P		**P**		**17 42 23.6**	**+11**
LFRS	**El Faro**	**1.97**	**59**	*e*P		**P**		**17 42 25.6**	**+11**
LCBS	**La Ceiba**	**2.06**	**60**	*e*P		**P**		**17 42 26.6**	**+11**
BLLM	**Bellamira**	**2.63**	**71**	*e*P		**P**		**17 42 36.5**	**+12**
BLLM				*e*S		**S**		**17 43 09.2**	**+14**
JTS	**JuntasAbangare**	**6.18**	**111**	Pn		**Pn**		**17 43 14.0**	**-0.5**
	0.7nm,0.3s,baz=277,slow=12,SNR=4.0								
JTS	**JuntasAbangare**	**6.18**	**111**	Pn		**Pn**		**17 43 14.0**	**-0.5**
VHO	**Vista Hermosa**	**7.25**	**308**	*i* P		**P**		**17 43 20.3**	**-8.9**
UNM	**Universidad Na**	**10.46**	**311**	*e*P		**P**		**17 44 12.0**	**-1.8**
ZAIG	**Zacatecas**	**15.08**	**314**	*i* P		**P**		**17 45 20.2**	**+4.8**
SDV	**Santo Domingo**	**20.16**	**99**	P		**P**		**17 46 16.7**	**-0.7**
	0.4nm,0.3s,baz=309,slow=7.8,SNR=9.3								
SDV				LR		LR		17 54 23.6	
	comp=Z,880nm,21.5s,MS4.1,baz=303,slow=38								
LTX	**Lajitas**	**20.49**	**326**	*e*P		**P**		**17 46 20.2**	**-0.6**
	28nm,1.2s								
TXAR	**Lajitas Array**	**20.49**	**326**	P		**P**		**17 46 20.6**	**-0.2**
	13nm,1.1s,baz=150,slow=10,SNR=21								
LRAL	**Lakeview Retre**	**20.62**	**9**	*e*P		**P**		**17 46 20.8**	**-1.4**
	18nm,0.9s								
SWET	**Sewanee**	**22.93**	**10**	*e*P		**P**		**17 46 41.3**	**-4.1**
MNTX	**Cornudas Mount**	**23.25**	**327**	*e*P		**P**		**17 46 47.5**	**-1.0**
	24nm,1.1s,mb4.5								
CPCT	**Cooper Cave**	**23.44**	**13**	*e*P		**P**		**17 46 47.9**	**-2.3**
CCM	**Cathedral Cave**	**25.34**	**359**	*e*P		**P**		**17 47 04.7**	**-3.9**
	12nm,0.8s,mb4.5								
WCI	**Wyandotte Cave**	**25.83**	**8**	*e*P		**P**		**17 47 10.6**	**-2.6**
	29nm,0.8s,mb4.8								
TUC	**Tucson**	**26.84**	**320**	*e*P		**P**		**17 47 24.7**	**+2.1**
	9.8nm,1.3s,mb4.2								
WUAZ	**Wupatki**	**29.42**	**324**	*e*P		**P**		**17 47 47.0**	**+1.3**
	19nm,1.2s,mb4.7								
NEN	**Nelson**	**31.57**	**321**	P		**P**		**17 48 05.3**	**+0.5**
MSU	**Marysvale**	**32.04**	**327**	P		**P**		**17 48 08.6**	**-0.3**
SADO	**Sadowa**	**33.56**	**15**	P		**P**		**17 48 18.4**	**-3.7**
	7.3nm,0.9s,mb4.6,baz=233,slow=10,SNR=2.6								
SADO				LR		LR		18 03 38.3	
	comp=Z,2μm,21.8s,MS4.9,baz=263,slow=40								
PDAR	**Pinedale Array**	**34.16**	**335**	P		**P**		**17 48 27.2**	**+0.1**
	0.2nm,0.3s,mb3.5,baz=126,slow=7.8,SNR=4.6								
REDW	**Red Top Meadow**	**35.19**	**334**	*e*P		**P**		**17 48 36.6**	**+0.6**
	19nm,1.2s,mb4.9								
ELK	**Elko**	**35.28**	**327**	LR		LR		18 03 48.9	
	comp=Z,511nm,19.4s,MS4.3,baz=116,slow=38								
MNV	**Mina**	**35.38**	**321**	*e*P		**P**		**17 48 38.5**	**+0.7**

19nm,1.2s,mb4.9
LPAZ La Paz 36.43 141 LR LR 18 03 52.5
comp=Z,778nm,20.4s,MS4.5,baz=224,slow=36
QLMT Earthquake Lak 36.63 335 *eP* **P 17 48 49.8 +1.6**
MCMT McKenzie Canyo 37.22 334 *eP* **P 17 48 53.4 +0.3**
DLMT Dillon 37.54 335 *eP* **P 17 48 56.4 +0.5**
ULM Lac du Bonnet 37.76 355 P **P 17 48 53.5 -4.1**
9.6nm,1.1s,mb4.4,baz=173,slow=12,SNR=5.5
ULM LR LR 18 07 35.4
comp=Z,524nm,18.4s,MS4.4,baz=0.4,slow=42
WVOR Wild Horse Val 38.29 326 *eP* **P 17 49 02.2 +0.1**
29nm,1.6s,mb4.8
BMO Blue Mountains 39.30 330 *eP* **P 17 49 11.1 +0.6**
12nm,1.4s,mb4.5
YBH Yreka Blue Hor 40.17 322 LR LR 18 10 02.1
comp=Z,788nm,18.5s,MS4.6,baz=137,slow=42
SIV San Ignacio 40.90 133 P **P 17 49 25.3 +1.3**
4.2nm,1.0s,mb4.0,baz=300,slow=9.9,SNR=10
NEW Newport 41.75 334 LR LR 18 08 48.3
comp=Z,729nm,19.9s,MS4.5,baz=140,slow=39
SCHQ Schefferville 46.13 19 P **P 17 50 02.0 -3.9**
12nm,0.8s,mb4.9,baz=214,slow=4.8,SNR=4.6
SCHQ LR LR 18 09 38.6
comp=Z,834nm,21.2s,MS4.7,baz=246,slow=37
SCHQ Schefferville 46.13 19 P **P 17 50 02.0 -3.9**
SCHQ LR LR 18 09 38.6
BBB Bella Bella 49.53 331 LR LR 18 14 14.9
comp=Z,337nm,18.9s,MS4.4,baz=347,slow=40
CPUP Villa Florida 50.58 140 LR LR 18 14 09.8
comp=Z,393nm,18.2s,MS4.5,baz=157,slow=38
BDFB Brasilia 50.80 122 LR LR 18 14 33.3
comp=Z,689nm,18.8s,MS4.7,baz=311,slow=39
FRB Frobisher Bay 53.41 12 LR LR 18 14 02.1
comp=Z,2µm,21.2s,MS5.0,baz=264,slow=37
TAOE Nuku Hiva Isla 53.46 249 *eS* **S 17 58 28.8 -2.5**
TAOE *eLR* LR 18 05 56.2
3µm,26.0s
PLCA Paso Flores 56.29 162 LR LR 18 09 51.3
comp=Z,407nm,21.4s,MS4.5,baz=353,slow=30
INK Inuvik 62.09 343 LR LR 18 20 44.3
comp=Z,421nm,21.8s,MS4.6,baz=303,slow=38
ILAR Eielson Array 64.57 337 P **P 17 52 18.1 -0.8**
1.9nm,1.0s,mb4.1,baz=143,slow=4.5,SNR=6.6
PPT Papeete 65.31 244 LR LR 18 12 59.6
comp=Z,362nm,18.0s,MS4.6,baz=81,slow=28
DBIC Dimbokro 84.63 84 LR LR 18 27 02.9
comp=Z,197nm,20.3s,MS4.5,baz=276,slow=32
NOA NORSAR Array B 84.80 29 LR LR 18 29 03.8
comp=Z,247nm,19.7s,MS4.6,baz=290,slow=34
ARCES ARCESS Array B 87.08 18 LR LR 18 31 02.8
comp=Z,490nm,21.3s,MS4.9,baz=299,slow=34
GERES GERESS Array B 89.92 40 LR LR 18 30 28.8
comp=Z,298nm,20.8s,MS4.7,baz=288,slow=33
FINES FINESS Array B 91.25 25 LR LR 18 32 43.5
comp=Z,294nm,18.9s,MS4.8,baz=125,slow=34
HYB Hyderabad 148.37 20 *i* PKP PKPdf 18 01 25.0 +1.6
HYB Hyderabad 148.37 20 *eP* PKPdf 18 01 25.0 +1.6

CSEM ***28*** *17:52:22.6±0.1, 37.78N×25.40W, ML2.7, Error ellipse: s-maj=5.7km s-min=2.7km az=176.0, After PDA*
PDA ***28*** *17:52:22.6±1.0, 37.78N×25.40W, MD2.8, ML2.7, Error ellipse: s-maj=2.5km s-min=1.5km az=93.0*
SVSA 28 17:52:22.6±1.0, 37.78N×25.40W, MD2.8, ML2.7, Error ellipse: s-maj=2.5km s-min=1.5km az=93.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCNG	**Congro**	**0.01**	**169**	*eP*	Pg	17 52 23.0	+0.2
MESC	**Monte Escuro**	**0.04**	**296**	*eP*	Pg	17 52 24.1	+0.7
MESC				*eS*	Sg	17 52 25.8	+1.8
VIF	**Vila Franca**	**0.04**	**228**	*eP*	Pg	17 52 24.3	+0.8
VIF				*eS*	Sg	17 52 25.8	+1.7
FRA1	**Furnas**	**0.05**	**134**	*eP*	Pg	17 52 23.7	+0.2
FRA1				*eS*	Sg	17 52 25.3	+1.2
LFA	**Lagoa do Fogo**	**0.07**	**268**	*eP*	Pg	17 52 24.8	+0.9
PMAT	**Coroa da Mata**	**0.07**	**305**	*eP*	Pg	17 52 24.7	+0.7
PMAT				*eS*	Sg	17 52 26.6	+1.6
PRCH	**Ribeira Ch**	**0.08**	**234**	*eP*	Pg	17 52 24.9	+0.7
PRCH				*eS*	Sg	17 52 27.0	+1.7
	3µm,0.3s						
PFAD	**Fenais da Ajud**	**0.09**	**43**	*eP*	Pg	17 52 25.3	+1.0
MIRA	**Miradouro**	**0.10**	**84**	*eP*	Pg	17 52 24.9	+0.4
MIRA				*eS*	Sg	17 52 27.3	+1.5
CMLA	**Cha da Macela**	**0.10**	**264**	*eP*	Pg	17 52 23.8	-0.8
CMLA				*eS*	Sg	17 52 26.3	+0.3
CML	**Cha da Macela**	**0.12**	**268**	*eP*	Pg	17 52 26.4	+1.5
CML				*eS*	Sg	17 52 28.5	+2.0
FAC	**Faja de Cima**	**0.20**	**270**	*eP*	Pg	17 52 28.7	+1.8
PDA	**Ponta Delgada**	**0.21**	**262**	*eP*	Pg	17 52 27.0	+0.2
PDA				*eS*	Sg	17 52 32.0	+2.3
PSET	**Sete Cidades**	**0.26**	**281**	*eP*	Pg	17 52 27.4	-0.4
PSET				*eS*	Sg	17 52 33.2	+1.9
	628nm,0.4s						
PSAN	**Santo Antonio**	**0.27**	**286**	*eP*	Pg	17 52 29.2	+1.2
PFET	**Feteiras**	**0.31**	**278**	*eP*	Pg	17 52 30.0	+1.2
SET2	**Ginetes**	**0.33**	**282**	*eP*	Pg	17 52 30.2	+1.0

NEIC ***28*** *18:52:54.1, 17.87N×99.82W, h61km, MD3.6(MEX), After MEX.*
MEX 28 18:52:54.1±0.5, 17.88N×99.84W, h60km±4km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLIG	**Platanillo**	**0.60**	**32**	*i* P	P	18 53 05.8	-1.5
PLIG				*i* S	S	18 53 15.2	-1.8
CAIG	**El Cayaco**	**0.92**	**207**	*i* P	P	18 53 09.4	-1.9
CAIG				*i* S	S	18 53 22.2	-1.9
ACX	**Acapulco**	**1.01**	**184**	*i* P	P	18 53 10.8	-1.7
ACX				*i* S	S	18 53 24.5	-1.6
YAIG	**Yautepec**	**1.22**	**37**	*eP*	P	18 53 13.8	-1.6
YAIG				*i* S	S	18 53 29.3	-1.9
MOIG	**Morelia**	**2.20**	**325**	*i* P	P	18 53 28.3	-0.8
OXX	**Oaxaca**	**3.07**	**104**	*eP*	P	18 53 40.0	-1.4

THE ***28*** *18:59:19.1, 42.46N×21.30E, h10km, ML3.0*
BEO ***28*** *18:59:20.9±0.1, 42.38N×21.45E, h11km*
SOF ***28*** *18:59:21.6, 42.31N×21.54E, h14km, MD2.7*
CSEM ***28*** *18:59:21.9±0.1, 42.35N×21.58E, h2km, MD2.7, Error ellipse: s-maj=2.5km s-min=1.7km az=27.0*
NEIC ***28*** *18:59:23.0, 42.55N×21.33E, h9km, MD2.6(PDG), After PDG.*
PDG ***28*** *18:59:23.0±0.2, 42.55N×21.33E, h9km*
ISC 28 18:59:20.4±0.3, 42.40N±0.02×21.48E±0.03, h2km, n38, σ1§13/61, 10C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.43**	**184**	⇑*i* Pg	**Pg**	**18 59 28.7**	**-0.2**
SKO				*i* Sg	**Sg**	**18 59 34.3**	**-0.3**
SKO				Smax		18 59 36.0	
	comp=Z,0.8nm,0.3s						
BARS	**Barje**	**0.49**	**31**	⇓*i* Pg	**Pg**	**18 59 30.3**	**+0.1**
BARS				Sg	**Sg**	**18 59 37.7**	**+0.8**
PVY	**Plav**	**1.13**	**281**	⇑*i* Pg	**Pn**	**18 59 41.4**	**-1.7**
PVY				*e*Sg	**Sg**	**18 59 57.3**	**-0.7**
IVA	**Berane**	**1.26**	**293**	⇑*i* Pg	**Pn**	**18 59 43.7**	**-1.2**
IVA				*e*Sg	**Sg**	**19 00 01.2**	**-1.0**
VTS	**Vitosha**	**1.29**	**81**	*i* P	**Pb**	**18 59 46.5**	**+1.4**
KKB	**Krupnik**	**1.31**	**113**	*i* P	**Pb**	**18 59 46.0**	**+0.7**
QSH	**Qafa e Shtames**	**1.46**	**234**	*i* Pg	**Pg**	**18 59 50.5**	**+0.9**
GRUS	**Gruza**	**1.59**	**340**	*i* Pg	**Pn**	**18 59 50.5**	**+0.8**
GRUS				Sg	**Sn**	**19 00 08.8**	**-2.4**
GRG	**Griva**	**1.60**	**154**	*e*Pb	**Pb**	**18 59 49.5**	**-0.7**
GRG				*e*Sb	**Sg**	**19 00 13.8**	**+0.3**
GRG	**Griva**	**1.60**	**154**	*e*Pb	**Pb**	**18 59 49.5**	**-0.8**
TIR	**Tirane**	**1.60**	**229**	*e*Pg	**Sn**	**19 00 03.5**	**-7.7**
FNA	**Florina**	**1.61**	**183**	*e*Pb	**Pb**	**18 59 49.8**	**-0.8**
FNA				*e*Sb	**Sb**	**19 00 11.3**	**0.0**
KNT	**Kendrikon**	**1.63**	**139**	*e*Pb	**Pb**	**18 59 49.6**	**-1.2**
KNT				*e*Sb	**Sb**	**19 00 13.1**	**+1.3**
TTG	**Podgorica**	**1.64**	**272**	⇑*i* Pg	**Pn**	**18 59 50.7**	**+0.3**
TTG				*e*Sg	**Sg**	**19 00 14.3**	**-0.7**
ULC	**Ulcinj**	**1.71**	**256**	⇓*i* Pn	**Pn**	**18 59 53.5**	**+2.0**
ULC				*e*Sn	**Sn**	**19 00 16.9**	**+2.8**
NVSS	**Nova Varos 2**	**1.71**	**311**	⇑*i* Pg	**Pg**	**18 59 54.0**	**-0.5**
NVSS				Sg	**Sg**	**19 00 12.8**	**-4.6**
PLE	**Plievlja**	**1.79**	**302**	⇓*i* Pn	**Pn**	**18 59 52.6**	**+0.1**
PLE				*e*Sn	**Sn**	**19 00 16.5**	**+0.2**
MMB	**Musomiste**	**1.86**	**115**	*i* P	**Pn**	**18 59 53.5**	**-0.1**
NKY	**Niksic**	**1.88**	**284**	⇓*i* Pn	**Pn**	**18 59 54.0**	**+0.2**
NKY				*e*Sn	**Sn**	**19 00 19.1**	**+0.7**
SVIS	**Svilajnac**	**1.91**	**354**	⇑*i* Pn	**Pn**	**18 59 55.6**	**+1.4**
SVIS				Sn	**Sn**	**19 00 21.7**	**+2.5**
BUM	**Brajici-Budva**	**1.91**	**268**	⇑*i* Pn	**Pn**	**18 59 55.5**	**+1.1**
BUM				*e*Sn	**Sn**	**19 00 21.5**	**+2.2**
PGB	**Panagyurishte**	**2.00**	**85**	*i* P	**Pn**	**18 59 56.5**	**+1.0**
DIVS	**Divcibare**	**2.02**	**328**	⇑*i* Pn	**Pn**	**18 59 54.6**	**-1.2**
DIVS				Sn	**Sn**	**19 00 20.2**	**-1.8**
SRS	**Serrai**	**2.03**	**128**	*e*Pn	**Pn**	**18 59 55.5**	**-0.6**
SRS				*e*Sn	**Sn**	**19 00 25.2**	**+2.9**
UPM	**Unac-Piva**	**2.05**	**294**	⇑*i* Pn	**Pn**	**18 59 56.7**	**+0.4**
UPM				*e*Sn	**Sn**	**19 00 22.5**	**-0.4**
SOH	**Sokhos**	**2.11**	**138**	*e*Pn	**Pn**	**18 59 56.1**	**-1.0**
HCY	**Herceg Novi**	**2.21**	**272**	⇓*i* Pn	**Pn**	**18 59 59.0**	**+0.5**
HCY				*e*Sn	**Sn**	**19 00 28.1**	**+1.3**
HCY	**Herceg Novi**	**2.21**	**272**	⇓*i* Pn	**Pn**	**18 59 59.0**	**+0.5**
HCY				*e*Sn	**Sn**	**19 00 28.0**	**+1.3**
BRY	**Bratogost**	**2.22**	**284**	⇑*i* Pn	**Pn**	**18 59 59.5**	**+0.8**
BRY				*e*Sn	**Sn**	**19 00 27.6**	**+0.4**
LIT	**Litokhoron**	**2.42**	**161**	*e*Pn	**Pn**	**19 00 00.8**	**-0.7**
RZN	**Rozhen**	**2.51**	**105**	*i* P	**Pn**	**19 00 02.7**	**-0.2**
MEV	**Metsovon**	**2.62**	**184**	*e*Pn	**Pn**	**19 00 04.3**	**-0.1**
MEV				*e*Sn	**Sn**	**19 00 37.1**	**0.0**
OUR	**Ouranopolis**	**2.79**	**137**	*e*Pn	**Pn**	**19 00 06.1**	**-0.8**
IGT	**Igoumenitsa**	**2.99**	**197**	*e*Pn	**Pn**	**19 00 08.1**	**-1.6**
KDZ	**Kurdzhali**	**3.03**	**103**	P	**Pn**	**19 00 07.5**	**-2.7**
ALN	**Alexandroupoli**	**3.74**	**112**	*e*Pn	**Pn**	**19 00 19.2**	**-1.0**
ALN				*e*Sn	**Sn**	**19 01 09.3**	**+3.8**
ALN	**Alexandroupoli**	**3.74**	**112**	*e*Pn	**Pn**	**19 00 19.2**	**-1.1**
RHK1	**Bakonya**	**4.43**	**328**	⇓*i* P	**Pn**	**19 00 28.4**	**-1.8**

MDD 28 19:03:31.5±1.5, 37.07N×4.99W, h22km±18km, mb4.0/1, mbLg0.9/4, Error ellipse: s-maj=32.0km s-min=8.0km az=69.0, PRXIMO PROFUNDIDAD POBRE, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMIJ	**Mijas**	**0.53**	**161**	Pg	Pb	19 03 42.1	0.0
EMIJ	0.6nm,0.1s,SNR=4.0			Lg		19 03 48.9	
EADA	**Adamuz**	**1.15**	**17**	Pg	Pn	19 03 52.0	-0.4
EADA	0.8nm,0.2s,SNR=7.9			Lg		19 04 06.5	
EQUE	**Quentar**	**1.25**	**83**	Pg	Pn	19 03 54.3	+0.5
EQUE	1.2nm,0.1s,SNR=5.3			Lg		19 04 10.3	
EBAN	**Banos Encina**	**1.46**	**41**	Pn	Pn	19 03 54.3	-2.5
EBAN	0.3nm,0.2s,SNR=7.9			Sn	Sn	19 04 13.0	-2.5
EQES	**Quesada**	**1.70**	**64**	Lg		19 04 23.6	
	0.5nm,0.1s,SNR=5.0 1.7nm,0.3s,SNR=7.9						

ATH ***28*** *19:24:13.4, 38.62N×25.43E, h30km±2km, MD3.6/11, ML3.3*
NEIC ***28*** *19:24:13.5, 38.63N×25.43E, h30km, ML3.6(ISK), ML3.3(ATH), After ATH.*
CSEM ***28*** *19:24:13.2±0.1, 38.58N×25.44E, h2km, ML3.3, Error ellipse: s-maj=1.8km s-min=1.5km az=2.0*
ISK ***28*** *19:24:14.7, 38.64N×25.22E, h32km, ML3.6*
THE ***28*** *19:24:14.3, 38.63N×25.50E, h4km, ML3.3*
ISC 28 19:24:13.1±0.8, 38.62N±0.02×25.40E±0.02, h5km±5km, n57, σ1§03/76, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.92**	**47**	⇑*i* PN	**Pn**	**19 24 30.9**	**-1.7**
PRK				*e*SN	**Sn**	**19 24 44.3**	**-2.0**
URLA	**Izmir**	**0.98**	**105**	*i* P	**Pb**	**19 24 31.0**	**-1.1**
URLA				*i* S	**Sb**	**19 24 43.6**	**-1.5**
AYVA	**Ayvalik**	**1.22**	**55**	*i* P	**Pb**	**19 24 35.8**	**-0.5**
AYVA				*i* S	**Sb**	**19 24 52.3**	**+0.1**
LIA	**Limnos Island**	**1.28**	**353**	*e*PN	**Pn**	**19 24 36.8**	**-0.9**
LIA				*e*SN	**Sn**	**19 24 54.3**	**-1.2**
LIA	**Limnos Island**	**1.28**	**353**	*e*Pb	**Pb**	**19 24 36.5**	**-0.9**
LIA				*e*Sn	**Sn**	**19 24 54.3**	**-1.2**
AOS	**Alonnisos**	**1.30**	**295**	*e*Pg	**Pg**	**19 24 39.1**	**-0.1**
AOS				*e*Sg	**Sg**	**19 24 58.7**	**+2.2**
BLCB	**Balcova**	**1.31**	**100**	PN	**Pn**	**19 24 38.7**	**+0.6**
BLCB				SN	**Sn**	**19 24 56.8**	**+0.6**
LOS	**Limnos**	**1.33**	**349**	*e*Pg	**Pg**	**19 24 37.9**	**-1.8**
PTL	**Penteli**	**1.34**	**245**	*e*PN	**Pn**	**19 24 37.9**	**-0.6**
MPAR	**Parnis Oros**	**1.39**	**251**	*e*PN	**Pn**	**19 24 39.0**	**-0.2**
EZN	**Ezine**	**1.40**	**31**	PN	**Pn**	**19 24 39.0**	**-0.4**
SMG	**Samos**	**1.46**	**128**	*e*PB	**Pb**	**19 24 38.8**	**-1.6**
SMG				*e*SN	**Sn**	**19 24 58.2**	**-1.7**
SMG	**Samos**	**1.46**	**128**	*e*Pb	**Pb**	**19 24 38.8**	**-1.6**
SMG				*e*Sn	**Sn**	**19 24 59.3**	**-0.6**
ATH	**Athens Observa**	**1.48**	**244**	*e*PN	**Pn**	**19 24 41.3**	**+0.8**
ATH				*e*SN	**Sn**	**19 24 59.2**	**-1.1**
IZM	**Izmir**	**1.48**	**98**	PN	**Pn**	**19 24 41.2**	**+0.6**
KDAG	**Bornova**	**1.48**	**98**	*i* P	**Pn**	**19 24 40.0**	**-0.6**
KDAG				*i* S	**Sb**	**19 25 01.1**	**+1.2**
APE	**Apeiranthos**	**1.56**	**176**	PN	**Pn**	**19 24 40.9**	**-0.7**
APE	**Apeiranthos**	**1.56**	**176**	*e*PN	**Pn**	**19 24 40.9**	**-0.7**
APE				*e*SN	**Sn**	**19 25 01.2**	**-1.2**
NSAL	**Nisos Salamina**	**1.68**	**245**	*e*PN	**Pn**	**19 24 43.5**	**+0.1**
MGER	**Gerania Oros**	**1.80**	**250**	*e*PB	**Pb**	**19 24 45.2**	**-1.0**
NEO	**Neokhori**	**1.83**	**293**	*e*PN	**Pn**	**19 24 45.1**	**-0.4**
NEO	**Neokhori**	**1.83**	**293**	*e*Pb	**Pb**	**19 24 46.3**	**-0.4**
XOR	**Xorichti**	**1.87**	**294**	*e*Pb	**Pb**	**19 24 47.2**	**-0.3**
XOR				*e*Sb	**Sb**	**19 25 12.9**	**+1.8**
LKR	**Lokris**	**1.88**	**272**	*e*PN	**Pn**	**19 24 45.9**	**-0.3**
CANB	**Canakkale**	**1.90**	**42**	PN	**Pn**	**19 24 47.0**	**+0.5**
AKS	**Akhisar**	**1.91**	**82**	PN	**Pn**	**19 24 48.0**	**+1.4**
OUR	**Ouranopolis**	**2.03**	**328**	*e*Pn	**Pn**	**19 24 47.8**	**-0.6**
LPK	**Lapseki**	**2.04**	**31**	PN	**Pn**	**19 24 48.1**	**-0.4**
BODT	**Bodrum**	**2.17**	**135**	PN	**Pn**	**19 24 51.7**	**+1.2**
AYDN	**Tasoluk**	**2.18**	**115**	*i* P	**Pn**	**19 24 55.0**	**+4.4**
AYDN				*i* S	**Sn**	**19 25 20.2**	**+1.9**
BALB	**Balikesir**	**2.18**	**61**	PN	**Pn**	**19 24 51.8**	**+1.2**
BDRM	**Kayabasi**	**2.25**	**133**	*i* P	**Pn**	**19 24 53.1**	**+1.6**
BDRM				*i* S	**Sn**	**19 25 25.2**	**+5.3**
THR1	**Thera Island**	**2.25**	**179**	*e*Pn	**Pn**	**19 24 51.2**	**-0.4**
THR1				*e*Sn	**Sn**	**19 25 20.6**	**+0.5**
MLSB	**Milas**	**2.30**	**124**	*e*PN	**Pn**	**19 24 53.7**	**+1.4**
PLG	**Polygyros**	**2.31**	**320**	*e*Pb	**Pb**	**19 24 54.3**	**-0.7**
ALN	**Alexandroupoli**	**2.33**	**12**	*e*Pn	**Pn**	**19 24 51.9**	**-0.8**
ALN				*e*Sn	**Sn**	**19 25 22.3**	**+0.4**
RDO	**Rodhopi**	**2.52**	**2**	*e*PN	**Pn**	**19 24 53.9**	**-1.5**
EDC	**Edincik**	**2.57**	**47**	*e*PN	**Pn**	**19 24 56.3**	**+0.2**
MFT	**Murefte**	**2.60**	**33**	*e*PN	**Pn**	**19 24 55.6**	**-1.0**
MRMT	**Marmara Adasi**	**2.60**	**40**	*e*PN	**Pn**	**19 24 56.9**	**+0.3**
BNT	**Bandirma**	**2.61**	**48**	*e*PN	**Pn**	**19 24 57.4**	**+0.8**
LIT	**Litokhoron**	**2.69**	**304**	*e*Pn	**Pn**	**19 24 58.7**	**+0.8**
SOH	**Sokhos**	**2.70**	**325**	*e*Pn	**Pn**	**19 24 58.2**	**+0.2**
YER	**Yerkesik**	**2.72**	**122**	*e*PN	**Pn**	**19 24 59.2**	**+0.8**
VLI	**Veliai**	**2.73**	**227**	*e*PN	**Pn**	**19 24 57.5**	**-0.9**
SRS	**Serrai**	**2.85**	**331**	*e*Pn	**Sn**	**19 25 00.2**	**+0.1**
NVR	**Nevrokopi**	**2.97**	**337**	*e*PN	**Pn**	**19 25 01.9**	**+0.1**
ORLT	**Orhaneli**	**3.06**	**61**	*e*PN	**Pn**	**19 25 04.1**	**+0.9**
KNT	**Kendrikon**	**3.18**	**324**	*e*Pn	**Pn**	**19 25 05.9**	**+1.0**
GRG	**Griva**	**3.28**	**316**	*e*Pn	**Pn**	**19 25 07.0**	**+0.8**
GRG				*e*Sn	**Sn**	**19 25 45.3**	**-0.9**
VAM	**Vamos**	**3.35**	**197**	*e*PN	**Pn**	**19 25 07.2**	**-0.1**
NPS	**Neapolis**	**3.36**	**177**	*e*Pb	**Pb**	**19 25 10.0**	**-2.9**
MEV	**Metsovon**	**3.44**	**291**	*e*Pn	**Pn**	**19 25 09.5**	**+0.9**
MEV				*e*Sn	**Sn**	**19 25 52.3**	**+2.1**
BADT	**Buyukada**	**3.63**	**51**	*e*PN	**Pn**	**19 25 12.5**	**+1.3**
YLV	**Yalova**	**3.63**	**56**	*e*PN	**Pn**	**19 25 12.5**	**+1.3**
FNA	**Florina**	**3.78**	**306**	*e*Pn	**Pn**	**19 25 14.2**	**+0.9**
FNA	**Florina**	**3.78**	**306**	*e*Pn	**Pn**	**19 25 14.2**	**+0.9**

IDC ***28*** *19:46:23.3±1.3, 38.25N×69.67E, mb4.0/6, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.9/1, Error ellipse: s-maj=21.2km s-min=20.0km az=44.0*
NNC ***28*** *19:46:25.9±4.4, 38.64N×69.62E, mpv4.3, Error ellipse: s-maj=39.2km s-min=24.3km az=158.0*
MOS ***28*** *19:46:25.6±1.7, 38.39N×69.80E, h33km, mb4.2/6, Error ellipse: s-maj=12.5km s-min=6.8km az=95.6*

NEIC ***28*** *19:46:27.2±0.6, 38.23N×69.81E, h35km, mb4.0/3, Error ellipse: s-maj=14.4km s-min=6.1km az=47.0*
BJI ***28*** *19:46:32.7, 38.55N×70.42E, h35km, mB4.8, mb4.6, ML4.2*
ISC 28 19:46:28.1±0.3, 38.61N±0.03×69.65E±0.06, h33km, n65, σ1§45/75, mb3.9/11, 6C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.54**	**8**	⇓Pn	**Pn**	**19 47 38.1**	**+1.7**
KKAR	30nm,0.6s,baz=199,slow=15,SNR=126			pmax	pmax		
KK31				⇑Pg	**P**	**19 47 52.7**	**+16**
KK31	39nm,0.6s,baz=188,slow=18,SNR=13			⇑Lg		19 48 50.5	
KKAR	**Karatay Array**	**4.54**	**8**	*e*PN	**Pn**	**19 47 38.1**	**+1.7**
KKAR	comp=Z,10.0nm,0.4s			pmax	pmax		
AML	**Almayashu**	**4.68**	**40**	P	**P**	**19 47 39.0**	**+0.7**
	SNR=21						
KSH	**Kashi**	**5.01**	**78**	*e*P	**P**	**19 47 39.8**	**-3.1**
KSH	comp=N,560nm,1.2s			Smax			
KSH	comp=E,300nm,1.0s			Smax			
CEP	**Cherat**	**5.11**	**158**	P	**P**	**19 47 45.0**	**+0.6**
CEP				S	**S**	**19 48 45.0**	**+2.0**
EKS2	**Erkin-Say**	**5.12**	**37**	P	**P**	**19 47 47.7**	**+3.2**
	SNR=12						
UCH	**Uchtor**	**5.18**	**44**	P	**P**	**19 47 45.6**	**+0.3**
	SNR=28						
AAK	**Ala-Archa**	**5.46**	**41**	P	**P**	**19 47 49.4**	**+0.2**
	SNR=16						
AAK	**Ala-Archa**	**5.46**	**41**	⇓Pn	**Pn**	**19 47 49.3**	**0.0**
AAK	comp=E,40nm,1.0s			⇓Lg		19 49 16.2	
	comp=E,58nm,1.2s						
AAK	**Ala-Archa**	**5.46**	**41**	⇓Pn	**Pn**	**19 47 49.3**	**0.0**
AAK	comp=E,40nm,1.0s			Lg		19 49 16.2	
KZA	**Kyzart**	**5.51**	**49**	P	**P**	**19 47 54.0**	**+4.1**
	SNR=7.7						
FRU	**Bishkek**	**5.66**	**40**	*e*PN	**Pn**	**19 47 54.0**	**+1.8**
FRU				*e*		19 48 09.0	
KBK	**Karagaybulak**	**5.71**	**43**	P	**P**	**19 47 53.4**	**+0.7**
	SNR=13						
CHCP	**Chirah Chowk**	**5.74**	**148**	P	**P**	**19 47 55.5**	**+2.3**
CHMS	**Chumysh**	**5.85**	**40**	P	**P**	**19 47 56.6**	**+1.9**
	SNR=16						
USP	**Ospenovka**	**5.93**	**37**	P	**P**	**19 47 58.4**	**+2.6**
	SNR=7.7						
THW	**Thamme Wali**	**6.05**	**163**	⇓P	**P**	**19 47 56.8**	**-0.7**
THW				S	**S**	**19 49 07.0**	**+0.5**
TKM2	**Tokmak 2**	**6.24**	**44**	P	**P**	**19 48 00.1**	**-0.1**
	SNR=16						
SBDP	**Sheikh Budin**	**6.37**	**171**	P	**P**	**19 48 01.2**	**-0.8**
DRP	**Derazinda**	**6.86**	**176**	P	**P**	**19 48 08.6**	**-0.4**
KLP	**Kalpa**	**9.97**	**132**	*i* P	**P**	**19 48 49.6**	**-2.5**
KLP				*e*S	**S**	**19 50 29.2**	**-15**
KLP	comp=E,57nm,0.6s			AML	AML	19 50 49.8	
KLP	comp=N,49nm,0.6s			AML	AML	19 50 51.7	
KUDL	**Kundal**	**11.89**	**149**	*i* P	**P**	**19 49 12.2**	**-6.1**
KUDL				*ex*	x	19 51 22.5	
SONA	**Sohna**	**12.05**	**147**	*eP*	**P**	**19 49 10.1**	**-10**
MKAR	**Makanchi Array**	**12.37**	**45**	Pn	**P**	**19 49 23.0**	**-1.7**
	baz=226,slow=14,SNR=4.0						
MKAR	comp=N,0.1nm,0.3s,baz=234,slow=20,SNR=3.2			Lg		19 53 06.8	
MKAR	**Makanchi Array**	**12.37**	**45**	Pn	**P**	**19 49 23.0**	**-1.7**
MKAR				Lg		19 53 06.8	
AB31	**Akbulak array**	**12.72**	**330**	P	**P**	**19 49 27.5**	**-1.9**
	comp=N,2.8nm,0.5s,baz=142,slow=14,SNR=85						
AB31	comp=N,7.2nm,0.7s,baz=148,slow=24,SNR=5.5			⇓S	**S**	**19 51 45.2**	**-5.5**
AB31	**Akbulak array**	**12.72**	**330**	P	**P**	**19 49 27.5**	**-1.9**
	comp=N,2.8nm,0.4s						
AB31				S	**S**	**19 51 45.2**	**-5.5**
AB31	**Akbulak array**	**12.72**	**330**	P	**P**	**19 49 27.5**	**-1.8**
AB31				S	**S**	**19 51 45.2**	**-5.5**
AB31	comp=Z,3.0nm,0.4s			pmax	pmax		
AKTK	**Aktyubinsk**	**14.42**	**329**	⇑P	**P**	**19 49 52.6**	**+1.1**
AKTK				S	**S**	**19 52 29.5**	**-1.7**
AKTO	**Aktyubinsk**	**14.42**	**329**	⇑P	**P**	**19 49 52.6**	**+1.1**
	comp=Z,1.1nm,0.6s						
AKTO	comp=Z,0.9nm,0.8s			⇓S	**S**	**19 52 29.5**	**-1.7**
BVA0	**Borovoye Array**	**14.43**	**2**	⇑P	**P**	**19 49 50.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=160,slow=14,SNR=8.7						
BVA0	**Borovoye Array**	**14.43**	**2**	⇑P	**P**	**19 49 50.6**	**-1.1**
BVA0	comp=Z,1.0nm,0.6s

				pmax	pmax		
NB2							
	comp=Z,3.0nm,0.8s,mb4.0						
NOA	**NORSAR Array B**	**42.06**	**322**	P	**P**	**19 54 18.8**	**+0.9**
	comp=Z,3.8nm,0.8s,mb4.0,baz=95,slow=8.1,SNR=8.7						
WRA	**Warramunga Arr**	**84.01**	**121**	P	**P**	**19 58 55.2**	**-1.5**
	comp=Z,1.4nm,0.8s,mb4.2,baz=322,slow=4.6,SNR=16						

*CSEM **28** 19:58:25.2,33.66N×26.04E,h5km,MD3.7/3,After ATH*
ATH 28 19:58:32.6,34.09N×25.97E,h21km,MD3.7/3,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.81**	**344**		*e*PB	Pb	19 58 48.0	0.0
XRY	**Khrisi**	**0.81**	**344**		*e*Pn	Pn	19 58 47.7	-1.2
XRY					*e*Sb	Sb	19 59 06.0	+7.5
NPS	**Neapolis**	**1.21**	**346**		*e*Pg	Pn	19 58 55.7	+1.3
NPS					*e*Sb	Sb	19 59 19.0	+9.2
KARP	**Karpathos**	**1.75**	**34**		*e*PN	Pn	19 59 04.0	+1.7
VAM	**Vamos**	**1.96**	**313**		*e*PN	Pn	19 59 07.2	+1.9

*NIED **28** 20:20:00.44.20N×149.40E,h23km,Mw3.6 Best double couple: M0 3.06×10^14 NP1:φs51°,δ64°,λ132°. NP2:φs167°,δ48°,λ37°.*
IDC 28 20:20:21.7±2.1,44.86N×149.19E,mb3.7/4,mb1 3.8/5,mb1mx3.6/19,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=56.7km s-min=29.0km az=80.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Art**	**11.76**	**229**		Pn	P	20 23 10.6	-3.1
	0.4nm,0.3s,baz=53,slow=12,SNR=3.9							
SONM	**Songino Array**	**29.41**	**291**		P	P	20 26 26.8	-1.8
	0.5nm,0.6s,baz=98,slow=9.9,SNR=4.7							
MKAR	**Makanchi Array**	**45.37**	**297**		P	P	20 28 41.4	-1.8
	1.2nm,0.7s,baz=77,slow=8.7,SNR=9.1							
FINES	**FINESS Array B**	**64.54**	**334**		P	P	20 30 59.9	-2.1
	2.0nm,0.9s,baz=39,slow=8.9,SNR=6.7							
WRA	**Warramunga Arr**	**65.90**	**195**		P	P	20 31 09.2	-2.3
	0.2nm,0.7s,baz=16,slow=6.8,SNR=3.2							

NNC 28 20:24:37.0±1.0,36.71N×70.65E,h140km±16km,mpv3.4,3C-1D,Error ellipse: s-maj=12.6km s-min=10.1km az=109.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.39**	**359**		P	P	20 26 08.8	-1.1
	0.7nm,0.3s,baz=191,slow=16,SNR=14							
KK31					⇑S	S	20 27 21.0	-1.0
	0.4nm,0.4s,baz=177,slow=20,SNR=3.6							
AAK	**Ala-Archa**	**6.62**	**25**		⇑P	P	20 26 11.6	-1.3
	2.5nm,0.4s							
AAK					⇑S	S	20 27 27.1	-0.4
	2.2nm,0.6s							
AB31	**Akbulak array**	**14.77**	**331**		⇓P	P	20 27 58.8	-1.0
	0.1nm,0.3s,baz=156,slow=11,SNR=11							

*ISK **28** 20:55:06.3,36.23N×28.79E,h17km,MD3.1*
*ATH **28** 20:55:06.1,36.13N×28.91E,h25km,MD3.1/4*
*CSEM **28** 20:55:07.2±0.2,36.31N×28.87E,h25km±1km,MD3.1, Error ellipse: s-maj=3.8km s-min=3.0km az=127.0*
ISC 28 20:55:05.6±0.8,36.19N±0.04×28.86E±0.04,h6km±6km,n17,σ0§88/24,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.59**	**93**		*e*PN	**Pg**	**20 55 17.2**	**-0.1**
ARG	**Arkhangelos**	**0.59**	**273**		*e*PN	**Pg**	**20 55 19.0**	**+1.5**
AKAS	**Kas**	**0.61**	**85**		*i* P	**Pg**	**20 55 17.2**	**-0.5**
AKAS					*i* S	**Sg**	**20 55 26.4**	**+0.5**
DALT	**Dalyan (Mudla)**	**0.61**	**343**		*i* PG	**Pg**	**20 55 17.6**	**-0.1**
DALT					*i* SG	**Sg**	**20 55 26.0**	**0.0**
ELL	**Elmali**	**1.02**	**56**		*i* PG	**Pg**	**20 55 26.4**	**+0.5**
YER	**Yerkesik**	**1.05**	**334**		*i* PG	**Pg**	**20 55 26.1**	**-0.6**
YER					*i* SG	**Sg**	**20 55 40.4**	**-0.4**
GOLH	**Golhisar**	**1.19**	**28**		*i* P	**Pb**	**20 55 27.4**	**-0.8**
GOLH					*i* S	**Sb**	**20 55 44.0**	**+0.2**
MLSB	**Milas**	**1.41**	**322**		PN	**Pn**	**20 55 31.0**	**-0.9**
BDRM	**Kayabasi**	**1.44**	**308**		*i* P	**Pn**	**20 55 34.1**	**+1.8**
BDRM					*i* S	**Sb**	**20 55 51.0**	**+0.1**
DNZL	**Cakiroluk**	**1.51**	**6**		*i* P	**Pn**	**20 55 33.6**	**+0.3**
DNZL					*i* S	**Sb**	**20 55 54.3**	**+1.3**
KARP	**Karpathos**	**1.52**	**246**		*e*PN	**Pn**	**20 55 34.0**	**+0.5**
BODT	**Bodrum**	**1.52**	**306**		PN	**Pn**	**20 55 32.2**	**-1.3**
DENT	**Denizli**	**1.57**	**5**		PN	**Pn**	**20 55 33.5**	**-0.8**
AYDN	**Tasoluk**	**1.67**	**332**		*i* P	**Pn**	**20 55 37.4**	**+1.7**
AYDN					*i* S	**Sn**	**20 55 57.9**	**+0.3**
IZM	**Izmir**	**2.55**	**331**		*e*PN	**Pn**	**20 55 47.3**	**-0.9**
NPS	**Neapolis**	**2.80**	**252**		*e*PN	**Pn**	**20 55 51.1**	**-0.6**
AKS	**Akhisar**	**2.81**	**343**		*e*PN	**Pn**	**20 55 50.6**	**-1.4**

*PRU **28** 21:08:46.7,51.39N×16.19E*
*NEIC **28** 21:08:47.6±2.0,51.34N×16.17E,h5km,ML2.6(VIE),Error ellipse: s-maj=23.0km s-min=7.6km az=216.0*
*CSEM **28** 21:08:47.1±0.4,51.38N×16.17E,h0km±1km,ML2.7/2, Error ellipse: s-maj=6.5km s-min=3.8km az=20.0*
*VIE **28** 21:08:48.4±1.0,51.29N×16.09E,h8km,mb1.9/1,ML2.2/3, Error ellipse: s-maj=6.6km s-min=5.9km az=58.0, Suspected Mining induced.*
WAR 28 21:08:46.7,51.45N×16.17E,h1km,ML2.2,2C,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**		*e*PG	Pg	21 08 58.0	-0.9
KSP					*e*SG	Sg	21 09 06.0	-1.0
UPC	**Upice**	**0.94**	**186**		*e*PG	Pg	21 09 03.9	-1.7
DPC	**Dobruska-Polom**	**1.10**	**175**		*e*PG	Pg	21 09 06.6	-2.1
DPC					*e*SG	Sg	21 09 20.2	-3.2
	7.0nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**228**		*e*PG	Pg	21 09 11.9	-2.1
BRG	**Berggiesshubel**	**1.52**	**249**		Pg	Pg	21 09 14.6	-2.3
BRG					Sg	Sg	21 09 34.9	-2.2
PRU	**Pruhonice**	**1.79**	**216**		*e*PG	Pg	21 09 18.9	-3.5
PRU					*e*SG	Sg	21 09 42.5	-3.8
MORC	**Moravsky Berou**	**1.89**	**152**		*e*P	Pn	21 09 18.5	-1.8
MORC					*e*S	Sn	21 09 44.3	-0.8
MORC	**Moravsky Berou**	**1.89**	**152**		*e*Pn	Pn	21 09 18.5	-1.9
MORC					*e*Sg	Sg	21 09 44.5	-5.0
CLL	**Collm**	**1.99**	**267**		*e*PG	Pg	21 09 23.0	-3.4
CLL					*e*SG	Sg	21 09 49.0	-3.9
OKC	**Ostrava-Krasne**	**2.04**	**141**		*e*SG	Sg	21 09 49.8	-5.0
VRAC	**Vranov**	**2.16**	**173**		*e*Pn	Pn	21 09 23.2	-1.0
VRAC					*e*Sg	Sg	21 09 52.5	-6.0
TREC	**Trest**	**2.20**	**192**		*e*PG	Pg	21 09 26.3	-4.3
NKC	**Novy Kostel**	**2.65**	**244**		*e*PN	Pn	21 09 29.5	-1.8
NKC					*e*PG	Pg	21 09 35.9	-3.8
NKC					*e*SG	Sg	21 10 11.7	-3.3
NKC	**Novy Kostel**	**2.65**	**244**		Pg	Pg	21 09 35.9	-3.8
NKC					Sg	Sg	21 10 11.7	-3.3
KHC	**Kasperske Hory**	**2.85**	**217**		*e*PN	Pn	21 09 33.4	-0.8
KHC					*e*PG	Pg	21 09 38.4	-5.2
KHC					*e*SG	Sg	21 10 15.4	-6.2
KHC	**Kasperske Hory**	**2.85**	**217**		Pg	Pg	21 09 38.4	-5.2
KHC					Sg	Sg	21 10 15.4	-6.2
MOX	**Moxa**	**2.98**	**256**		*e*Pg	Pg	21 09 43.4	-2.9
MOX					*e*Sg	Sg	21 10 22.4	-3.6
MOA	**Molln**	**3.81**	**200**	⇑	*i*Pn	Pn	21 09 44.7	-3.1
MOA				⇑	*i*Sg	Sg	21 10 48.2	-5.2
	comp=Z,2.9nm,0.5s							

*BEO **28** 21:12:15.8±0.2,42.41N×21.40E,h12km±7km*
*THE **28** 21:12:25.9,40.03N×22.66E,h1km*
ISC 28 21:12:15.7±0.6,42.31N±0.03×21.73E±0.08,h12km,n7,σ0§81/12,1C-2D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.40**	**213**	⇑	*i*Pg	**Pg**	**21 12 24.3**	**+0.4**
SKO					*i* Sg	**Sg**	**21 12 30.1**	**+0.6**
SKO					Smax		21 12 31.0	
	comp=Z,0.1nm,0.3s							
BARS	**Barje**	**0.51**	**8**	⇓	*i*Pg	**Pg**	**21 12 25.8**	**-0.3**
BARS					Sg	**Sg**	**21 12 32.5**	**-0.6**
GRG	**Griva**	**1.44**	**159**		*e*Pg	**Pg**	**21 12 44.8**	**+0.2**
KNT	**Kendrikon**	**1.44**	**142**		*e*Pg	**Pg**	**21 12 45.5**	**+0.9**
KNT					*e*Sg	**Sg**	**21 13 04.3**	**+0.5**
FNA	**Florina**	**1.55**	**190**		*e*Pg	**Pg**	**21 12 45.8**	**-0.9**
FNA					*e*Sg	**Sg**	**21 13 06.3**	**-1.0**
SRS	**Serrai**	**1.83**	**130**		*e*Pg	**Pg**	**21 12 48.9**	**-3.5**
SVIS	**Svilajnac**	**2.02**	**350**	⇓	*i*Pn	**Pn**	**21 12 49.7**	**-0.3**
SVIS					Sn	**Sn**	**21 13 16.4**	**+1.1**

DHMR 28 21:23:46.6±0.6,12.65N×40.56E,h2km±2km,ML3.9,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.52**	**80**		*e*P	Pn	21 24 44.8	+1.4
TRBA					*i* S	Sn	21 25 30.7	+4.5
TRBA					AML	AML	21 25 45.0	
	comp=N,488nm,0.7s							
DHBB	**Dhamar BB**	**4.19**	**62**		*i* P	Pn	21 24 54.4	+1.4
DHBB					*i* S	Sn	21 25 46.6	+3.5
LBOS		**4.73**	**75**		*i* P	Pn	21 24 59.0	-1.6
LBOS					*i* S	Sn	21 25 56.0	-0.8
BDHA	**Al Bayda'**	**5.05**	**74**		*i* S	Sn	21 26 03.5	-1.4

DHMR 28 21:29:39.8±2.5,12.67N×40.55E,h6km±149km,ML4.3,4D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.52**	**80**	⇓	*e*P	Pn	21 30 37.8	+1.7
TRBA					*i* S	Sn	21 31 23.0	+4.4
TRBA					AML	AML	21 31 41.2	
	comp=N,2μm,0.7s							
UDYN	**Al 'Udayn**	**3.57**	**68**	⇓	*e*P	Pn	21 30 38.7	+1.9
UDYN					*i* S	Sn	21 31 24.6	+4.7
UDYN					AML	AML	21 31 47.7	
	comp=N,827nm,0.6s							
DHBB	**Dhamar BB**	**4.18**	**63**	⇓	*e*P	Pn	21 30 46.8	+1.2
DHBB					*i* S	Sn	21 31 39.1	+3.7
LBOS		**4.73**	**75**	⇓	*e*P	Pn	21 30 51.8	-1.5
LBOS					*i* S	Sn	21 31 48.2	-1.0
BDHA	**Al Bayda'**	**5.05**	**75**		*i* S	Sn	21 31 56.1	-1.3

*IDC **28** 22:48:14.9±1.0,13.46N×88.87W,mb4.0/8,mb1 4.3/8, mb1mx4.0/20,mbtmp4.1/8,MS3.2/2,Ms1 3.3/2, ms1mx2.8/27,Error ellipse: s-maj=48.1km s-min=18.9km az=56.0*
*NEIC **28** 22:48:16.4±0.7,13.48N×88.75W,h10km,MD4.8(SNET), Error ellipse: s-maj=29.2km s-min=13.1km az=42.0*
NEIC Felt [III] at San Salvador.
*CASC **28** 22:48:21.0±3.2,13.89N×88.95W,h92km±9km,MD4.4, ML4.4*
ISC 28 22:48:21.7±0.6,13.3N±0.1×89.22W±0.08,h73km±6km,n48,σ1§05/35,mb4.0/7,9C-13D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.40**	**22**	⇓	*i*P	Px	22 48 48.2	
LFRS					*e*S	Sx	22 48 57.5	
SNET	**Serv Nac Est T**	**0.43**	**358**	⇑	*i*P	Px	22 48 48.6	
SNET					*e*S	Sx	22 48 57.7	
SNET					*e*		22 48 57.9	
SNET					*i*		22 48 59.0	
	comp=Z,45μm,0.3s							
LCBS	**La Ceiba**	**0.46**	**30**	⇓	*i*P	Px	22 48 48.9	
LCBS					*e*S	Sx	22 48 60.0	
BOQS	**Boqueron**	**0.48**	**353**	⇓	*i*P	Px	22 48 49.4	
BOQS					*e*S	Sx	22 49 01.2	
LBRS	**Las Brisas**	**0.51**	**19**	⇓	*i*P	Px	22 48 50.0	
LBRS					*e*S	Sx	22 49 00.5	
SNVI	**San Vicente**	**0.52**	**46**	⇓	*i*P	Px	22 48 49.5	
SNVI					*e*S	Sx	22 48 59.7	
SBLS	**San Blas**	**0.70**	**326**	⇓	*i*P	Px	22 48 51.4	
SBLS					*e*S	Sx	22 49 04.6	
SNJE	**San Jose**	**0.72**	**328**	⇓	*i*P	Px	22 48 51.7	
SNJE					*e*S	Sx	22 49 04.5	
RTR	**El Retiro**	**0.77**	**327**	⇓	*i*P	Px	22 48 52.4	
RTR					*e*S	Sx	22 49 05.1	
VSM	**San Miguel**	**0.94**	**79**	⇓	*e*P	Px	22 48 55.3	
VSM					*e*S	Sx	22 49 08.4	
BLLM	**Bellamira**	**0.97**	**79**	⇓	*e*P	Px	22 48 55.4	
BLLM					*e*S	Sx	22 49 09.1	
CAHU	**Cacacuatique**	**1.11**	**62**	⇑	*e*P	Px	22 49 57.6	
CAHU					*e*S	Sx	22 49 10.9	
CNCH	**Conchagua**	**1.35**	**89**	⇑	*e*P	Px	22 49 00.4	
CNCH					*e*S	Sx	22 49 19.4	
IXG	**Ixpaco**	**1.51**	**308**	⇓	*e*P	**P**	**22 48 48.0**	**+0.6**
IXG					*e*S	**S**	**22 49 05.8**	**-0.6**
MRL	**Marmol**	**1.86**	**346**	⇓	*e*P	Px	22 48 54.9	
MRL					*e*S	Sx	22 49 02.1	
CRIN	**San Cristobal**	**2.18**	**104**	⇑	*e*P	**P**	**22 48 57.6**	**+1.1**
CRIN					*e*S	**S**	**22 49 23.2**	**+0.8**
TP2	**Tecpan 2**	**2.32**	**311**	⇓	*e*P	**P**	**22 49 00.2**	**+1.7**
TP2					*e*S	**S**	**22 49 24.1**	**-1.8**
TEL3	**Telica 3**	**2.41**	**106**	⇑	*e*P	**P**	**22 48 60.0**	**+0.2**
TEL3					*e*S	**S**	**22 49 28.4**	**+0.3**
TELN	**Telica**	**2.41**	**105**	⇑	*e*P	**P**	**22 48 60.0**	**+0.2**
LEON	**Leon**	**2.42**	**110**	⇑	*e*P	**P**	**22 48 59.0**	**-0.8**
CNGN	**Cerro Negro**	**2.57**	**107**		*e*P	**P**	**22 49 01.3**	**-0.7**
MIRN	**Miramar**	**2.57**	**108**	⇑	*e*P	**P**	**22 49 01.9**	**-0.2**
MOMJ	**Momotombo**	**2.74**	**107**		*e*P	**P**	**22 49 04.2**	**-0.2**
COPN	**Copaltepe**	**2.77**	**112**		*e*P	**P**	**22 49 03.9**	**-1.0**
XAVN	**Gruta Xavier**	**3.03**	**111**	⇑	*e*P	**P**	**22 49 08.3**	**-0.1**
MGAN	**Managua**	**3.10**	**110**		*e*P	**P**	**22 49 08.9**	**-0.5**
MGAN					*e*S	**S**	**22 49 47.8**	**+2.4**
MGAN					*i*		22 49 59.4	
	comp=N,608nm,0.5s							
TICN	**Ticuantepe**	**3.16**	**112**		*e*P	**P**	**22 49 09.9**	**-0.3**
PYTN	**Playitas**	**3.16**	**103**		*e*P	**P**	**22 49 10.4**	**+0.1**
SSNN	**San Juan del S**	**3.83**	**120**		*e*P	**P**	**22 49 19.4**	**-0.1**
CONN	**Concepcion**	**3.89**	**115**		*e*P	**P**	**22 49 20.0**	**-0.5**
MADN	**Villa Maderas**	**4.04**	**117**		*e*P	**P**	**22 49 20.7**	**-1.8**
CCIG	**Comitan**	**4.13**	**317**		*i* P	**P**	**22 49 21.1**	**-2.7**
CCIG					*i* S	**S**	**22 50 12.9**	**+1.7**
JTS	**JuntasAbangare**	**5.11**	**125**		Pn	**P**	**22 49 38.1**	**+0.7**
	comp=N,4.1nm,0.3s,baz=294,slow=23,SNR=5.0							
JTS					Lg		22 50 50.5	
	comp=N,7.7nm,0.3s,baz=241,slow=21,SNR=7.4							
OXX	**Oaxaca**	**8.19**	**299**		*e*P	**P**	**22 50 21.5**	**+1.6**
SDV	**Santo Domingo**	**18.75**	**101**		LR	LR	22 59 19.5	
	comp=N,63nm,20.0s,baz=347,slow=36							
TXAR	**Lajitas Array**	**20.88**	**322**		P	**P**	**22 53 00.1**	**+0.1**
	comp=N,2.6nm,0.5s,baz=135,slow=12,SNR=16							
PDAR	**Pinedale Array**	**34.27**	**333**		P	**P**	**22 55 04.5**	**+1.7**
	comp=N,1.0nm,0.7s,mb3.8,baz=123,slow=9.7,SNR=6.1							
LPAZ	**La Paz**	**36.00**	**144**		LR	LR	23 09 03.4	
	comp=N,43nm,20.5s,baz=345,slow=35							
ULM	**Lac du Bonnet**	**37.30**	**353**		P	**P**	**22 55 28.1**	**-0.1**
	comp=N,2.6nm,0.6s,mb4.4,baz=175,slow=11,SNR=5.0							
SIV	**San Ignacio**	**40.23**	**135**		P	**P**	**22 55 53.6**	**+0.6**
	comp=N,0.8nm,0.6s,mb3.7,baz=298,slow=10,SNR=5.6							
BDFB	**Brasilia**	**49.85**	**124**		P	**P**	**22 57 09.5**	**-0.3**
	comp=N,1.2nm,0.5s,mb4.1,baz=211,slow=5.9,SNR=2.7							
FRB	**Frobisher Bay**	**52.47**	**11**		P	**P**	**22 57 26.4**	**-2.6**
	comp=N,5.8nm,0.6s,mb4.8,baz=128,slow=2.7,SNR=5.8							
ILAR	**Eielson Array**	**64.60**	**336**		P	**P**	**22 58 52.8**	**-0.5**
	comp=N,0.7nm,0.6s,mb3.7,baz=170,slow=4.5,SNR=8.4							
ARCES	**ARCESS Array B**	**85.99**	**19**		P	**P**	**23 00 54.7**	**0.0**
	comp=N,1.7nm,1.0s,mb3.9,baz=278,slow=6.4,SNR=3.8							
ARCES	**ARCESS Array B**	**85.99**	**19**		P	**P**	**23 00 54.7**	**0.0**
SONM	**Songino Array**	**117.62**	**348**		PKP	PKPdf	23 07 00.6	+1.2
	comp=N,0.3nm,0.6s,baz=353,slow=1.9,SNR=3.5							
WRA	**Warramunga Arr**	**137.82**	**255**		PKP	PKPdf	23 07 42.2	+3.5
	comp=N,0.8nm,0.8s,baz=15,slow=0.8,SNR=4.7							
FITZ	**Fitzroy Crossi**	**146.13**	**257**		PKPbc	PKPbc	23 07 58.0	+3.4
	comp=N,4.4nm,0.5s,baz=155,slow=3.2,SNR=10							

IDC 28 22:51:11.7±11.0,21.10N×141.87E,h688km±136km, mb2.6/6,mb1 2.8/6,mb1mx2.7/18,mbtmp3.7/6,Error ellipse: s-maj=136.0km s-min=22.2km az=73.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.03**	**322**		P	P	22 57 43.6	-1.3
	0.5nm,1.0s,baz=153,slow=6.4,SNR=3.2							
WRA	**Warramunga Arr**	**41.45**	**191**		P	P	22 58 02.7	-1.6
	0.2nm,0.6s,baz=14,slow=9.2,SNR=3.8							
MKAR	**Makanchi Array**	**54.21**	**313**		P	P	22 59 36.0	-2.3
	0.2nm,0.5s,baz=91,slow=9.2,SNR=4.3							
BVAR	**Borovoye Array**	**62.33**	**320**		P	P	23 00 30.4	-1.6
	0.9nm,0.4s,baz=99,slow=7.5,SNR=10							
ARCES	**ARCESS Array B**	**79.10**	**341**		P	P	23 02 07.3	-1.3
	2.2nm,0.8s,baz=79,slow=9.2,SNR=7.2							
FINES	**FINESS Array B**	**83.19**	**334**		P	P	23 02 28.9	-0.5
	2.3nm,1.0s,baz=79,slow=7.1,SNR=6.6							

*GUC **28** 22:53:00.7±0.7,28.59S×67.31W,h140km,MD3.9,ML4.3*
*NEIC **28** 22:53:01.6±0.5,28.72S×67.08W,h126km±7km,mb3.9/3, Error ellipse: s-maj=8.9km s-min=5.7km az=107.0*
*IDC **28** 22:53:01.4±1.1,28.66S×67.05W,h122km±12km,mb3.5/5, mb1 3.6/10,mb1mx3.5/17,mbtmp3.8/10,Error ellipse: s-maj=19.8km s-min=10.3km az=94.0*
ISC 28 22:53:00.6±0.6,28.68S±0.04×67.17W±0.07,h134km±10km,n43,σ1§03/55,mb3.7/5,8C-1D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.06**	**197**		P	**P**	**22 53 50.3**	**+1.4**
CFAA					S	**S**	**22 54 26.3**	**+0.6**
	12nm,0.3s,baz=147,slow=20,SNR=25							
CFAA	**Coronel Fontan**	**3.06**	**197**		P	**P**	**22 53 50.3**	**+1.4**
CFAA					S	**S**	**22 54 26.3**	**+0.6**
ZON	**Zonda**	**3.14**	**204**	⇑	*i*P	**P**	**22 53 55.9**	**+5.9**
ZON					*e*S	**S**	**22 54 34.3**	**+6.7**
TLL	**Tololo Astrono**	**3.50**	**244**	⇑	*i*P	**P**	**22 53 56.1**	**+1.4**
TLL					*i* S	**S**	**22 54 35.6**	**-0.5**
TLL					AMP		22 54 40.7	
	comp=N,486nm,0.5s							
TLL	**Tololo Astrono**	**3.50**	**244**	⇑	*i*P	**P**	**22 53 56.1**	**+1.4**
TLL					*i* S	**S**	**22 54 37.4**	**+1.3**
CDCH	**Caldera**	**3.61**	**295**		*i* S	**S**	**22 54 34.7**	**-4.1**
CDCH					AMP		22 54 36.0	
	comp=E,198nm,0.4s							
CMCH	**Combarbala**	**4.15**	**232**		*e*P	**P**	**22 54 02.8**	**-0.6**
CMCH					*i* S	**S**	**22 54 50.6**	**-1.0**
CMCH	**Combarbala**	**4.15**	**232**		*i* P	**P**	**22 54 02.5**	**-0.8**
CMCH					*i* S	**S**	**22 54 51.1**	**-0.5**
MDZ	**Mendoza**	**4.43**	**199**		P	**P**	**22 54 06.2**	**-0.9**
CHNG	**Los Chungos**	**4.92**	**228**		*e*P	**P**	**22 54 12.2**	**-1.4**
CHNG					*i* S	**S**	**22 55 07.4**	**-2.6**
JACH	**Jahuel**	**4.96**	**216**	⇑	*i*P	**P**	**22 54 14.8**	**+0.6**
JACH	**Jahuel**	**4.96**	**216**	⇑	*i*P	**P**	**22 54 14.8**	**+0.6**
FCH	**Farellones**	**5.35**	**209**		*e*P	**P**	**22 54 21.1**	**+1.7**
FCH					*i* S	**S**	**22 55 21.4**	**+1.0**
ROCH	**El Roble**	**5.40**	**217**		*e*P	**P**	**22 54 19.7**	**-0.4**
PCH	**Pirque**	**5.69**	**209**		*e*P	**P**	**22 54 24.7**	**+0.7**
RCDM	**Rinconada Maip**	**5.71**	**212**		*i* P	**P**	**22 54 24.1**	**-0.2**
RCDM					*i* S	**S**	**22 55 27.9**	**-1.3**
RCDM	**Rinconada Maip**	**5.71**	**212**		*i* P	**P**	**22 54 24.3**	**0.0**
RCDM					*i* S	**S**	**22 55 28.6**	**-0.6**
TACH	**Talagante**	**5.91**	**212**	⇑	*i*P	**P**	**22 54 26.4**	**-0.5**
CHCH	**Chadas Angostu**	**6.02**	**209**		*e*P	**P**	**22 54 28.1**	**-0.3**
CHCH					*i* S	**S**	**22 55 35.4**	**-1.2**
CHCH	**Chadas Angostu**	**6.02**	**209**	⇑	*i*P	**P**	**22 54 28.3**	**-0.1**
CHCH					*i* S	**S**	**22 55 36.4**	**-0.2**
CACH	**El Canelo**	**6.16**	**208**		*i* P	**P**	**22 54 30.8**	**+0.5**
CACH	**El Canelo**	**6.16**	**208**	⇓	*i*P	**P**	**22 54 31.0**	**+0.7**
LVC	**Limon Verde**	**6.25**	**345**		P	**P**	**22 54 33.0**	**+1.5**
	comp=E,1.5nm,0.3s,baz=169,slow=7.7,SNR=16							
LVC					S	**S**	**22 55 41.2**	**-0.9**
	comp=E,1.0nm,0.3s,baz=275,slow=21,SNR=7.8							
LVC	**Limon Verde**	**6.25**	**345**		*e*P	**P**	**22 54 33.4**	**+1.9**
	comp=E,3.8nm,0.5s							
CICH	**Cipreses**	**6.27**	**205**	⇑	*i*P	**P**	**22 54 32.4**	**+0.6**
CPUP	**Villa Florida**	**9.05**	**77**		P	**P**	**22 55 08.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=278,slow=15,SNR=4.7							
CPUP	**Villa Florida**	**9.05**	**77**		*e*P	**P**	**22 55 07.9**	**-1.2**
TRQA	**Tornquist**	**10.30**	**156**		*e*P	**P**	**22 55 26.0**	**+0.2**
PLCA	**Paso Flores**	**12.34**	**192**		P	**P**	**22 55 52.4**	**-0.1**
	comp=E,0.1nm,0.3s,baz=348,slow=14,SNR=3.4							
PLCA	**Paso Flores**	**12.34**	**192**		*e*P	**P**	**22 55 51.7**	**-0.8**
LPAZ	**La Paz**	**12.37**	**356**		P	**P**	**22 55 54.0**	**+1.0**
	comp=E,0.3nm,0.3s,baz=201,slow=16,SNR=7.5							
LPAZ	**La Paz**	**12.37**	**356**		*e*P	**P**	**22 55 54.2**	**+1.2**
	comp=E,3.1nm,0.7s							
SIV	**San Ignacio**	**13.83**	**25**		P	**P**	**22 56 08.9**	**-3.0**
	comp=E,0.2nm,0.3s,baz=230,slow=10,SNR=4.0							
SAML	**Samuel**	**19

HAWA	**Hanford**	**3.06**	**308**	*e*P		Pn	23 21 34.4	-1.1
QLMT	**Earthquake Lak**	**3.29**	**84**	*e*P		Pn	23 21 36.9	-1.9
RRI2	**Red Ridge**	**3.62**	**108**	*e*P		Pn	23 21 42.4	-1.0
YMR	**Madison River**	**3.62**	**87**	*e*P		Pn	23 21 42.3	-1.2
HRY	**Holter Researc**	**3.63**	**53**	*e*P		Pn	23 21 42.2	-1.5
HVU	**Hansel Valley**	**3.67**	**139**	*e*P		Pn	23 21 44.5	+0.3
YFT	**Old Faithful**	**3.72**	**90**	Pn		Pn	23 21 43.7	-1.2
IMW	**Indian Meadow**	**3.72**	**99**	*e*P		Pn	23 21 43.7	-1.2
NEW	**Newport**	**3.76**	**349**	*e*Pn		Pn	23 21 44.9	-0.6
TPAW	**Teton Pass**	**3.82**	**105**	*e*Pn		Pn	23 21 45.6	-0.7
MOOW	**Moose Ponds**	**3.89**	**100**	*e*P		Pn	23 21 46.7	-0.7
REDW	**Red Top Meadow**	**3.93**	**106**	Pn		Pn	23 21 46.9	-1.0
SNOW	**Snow King Moun**	**3.96**	**105**	*e*P		Pn	23 21 47.0	-1.4
AHID	**Auburn Hatcher**	**4.01**	**115**	Pn		Pn	23 21 48.2	-0.8
LKWY	**Lake**	**4.02**	**88**	Pn		Pn	23 21 48.6	-0.6
LOHW	**Long Hollow**	**4.03**	**102**	*e*Pn		Pn	23 21 48.8	-0.5
MOD	**Modoc**	**4.11**	**231**	Pn		Pn	23 21 48.6	-1.9
SPUT	**South Promonto**	**4.19**	**140**	Pn		Pn	23 21 51.4	-0.3
DUG	**Dugway**	**4.99**	**150**	Pn		Pn	23 22 01.7	-1.2
HUMO	**Hull Mountain**	**5.40**	**251**	*e*Pn		Pn	23 22 05.8	-2.9
DAU	**Daniels Canyon**	**5.46**	**138**	Pn		Pn	23 22 09.4	-0.1
YBH	**Yreka Blue Hor**	**5.66**	**242**	Pn		Pn	23 22 10.1	-2.3
BEKR	**Beckwourth**	**5.70**	**216**	Pn		Pn	23 22 11.2	-1.7
MNV	**Mina**	**6.35**	**195**	Pn		Pn	23 22 20.3	-1.8

NEIC ***29*** *00:53:20.5±0.9, 3.87S×146.33E, h10km, mb4.9/4, Error ellipse: s-maj=21.6km s-min=16.0km az=94.0*
IDC ***29*** *00:53:23.2±1.7, 4.06S×146.20E, mb4.4/3, mb1 4.6/5, mb1mx4.1/11, mbtmp4.4/5, ML4.2/2, Error ellipse: s-maj=51.9km s-min=29.0km az=112.0*

ISC 29 00:53:32.5±1.2, 4.7S±0.1×146.1E±0.2, h100km, n14, σ1§48/18, mb4.4/5, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.80**	**168**	Pn	**P**	**00 54 44.3**	**+0.4**
	6.9nm,0.3s,baz=356,slow=5.4,SNR=22						
PMG				Sn	**S**	**00 55 29.9**	**-8.7**
	17nm,0.3s,baz=55,slow=9.0,SNR=11						
PMG	**Port Moresby**	**4.80**	**168**	Pn	**P**	**00 54 44.3**	**+0.4**
PMG				Sn	**S**	**00 55 29.9**	**-8.7**
PMG				*e*Sn	**S**	**00 55 30.4**	**-8.3**
KAKA	**Kakadu**	**15.70**	**239**	⇑*i*P	Px	00 57 39.5	
	30nm,0.6s						
WRAB	**Tennant Creek**	**19.01**	**216**	*e*P	**P**	**00 57 50.3**	**+1.2**
	17nm,0.6s						
WB2	**Warramunga Arr**	**19.02**	**216**	⇓*i*P	**P**	**00 57 51.0**	**+1.9**
WB2				*e*S	**S**	**01 01 13.2**	**-0.9**
WRA	**Warramunga Arr**	**19.03**	**216**	P	**P**	**00 57 51.1**	**+1.9**
	2.3nm,0.3s,baz=41,slow=12,SNR=39						
WRA				S	**S**	**01 01 13.1**	**-1.1**
	0.1nm,0.3s,baz=42,slow=21,SNR=3.6						
FITZ	**Fitzroy Crossi**	**24.07**	**235**	*e*P	**P**	**00 58 44.5**	**+4.8**
	23nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.07**	**235**	P	**P**	**00 58 44.8**	**+5.1**
	30nm,0.4s,mb4.9,baz=35,slow=7.7,SNR=52						
STKA	**Stephens Creek**	**27.39**	**188**	P	**P**	**00 59 17.2**	**+6.6**
	2.4nm,0.7s,mb3.8,baz=17,slow=13,SNR=4.8						
STKA	**Stephens Creek**	**27.39**	**188**	P	**P**	**00 59 17.2**	**+6.6**
STKA				*e*P		00 59 17.9	
MBWA	**Marble Bar**	**30.41**	**235**	P	**P**	**00 59 30.9**	**-6.8**
	36nm,1.6s,mb4.8						
KKM	**Kota Kinabalu**	**31.72**	**289**	*e*P	**P**	**00 59 45.3**	**-3.9**
TAU	**Tasmania Unive**	**38.08**	**179**	P	**P**	**01 00 40.5**	**-2.5**
	16nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**84.62**	**23**	P	**P**	**01 05 55.1**	**-0.6**
	0.6nm,0.9s,mb3.5,baz=252,slow=4.5,SNR=4.2						

IDC ***29*** *01:14:01.8±1.8, 43.92N×128.45W, mb3.5/4, mb1 3.7/8, mb1mx3.6/25, mbtmp3.6/8, ML3.8/3, MS3.7/13, Ms1 3.7/13, ms1mx3.6/22, Error ellipse: s-maj=50.2km s-min=15.6km az=33.0*
NEIC ***29*** *01:14:04.1±0.8, 43.94N×128.33W, h10km, mb4.2/5, Error ellipse: s-maj=10.4km s-min=7.0km az=63.0*

ISC 29 01:14:02.8±1.0, 43.97N±0.06×128.3W±0.1, h10km, n51, σ1§03/46, mb3.6/5, MS3.5/8, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.08**	**109**	*e*P	**Pn**	**01 14 50.6**	**-2.0**
RNO	**Roman Nose**	**3.29**	**89**	P	**Pn**	**01 14 55.2**	**-0.2**
MPOR	**Mary's Peak**	**3.45**	**79**	P	**Pn**	**01 14 57.4**	**-0.4**
COR	**Corvallis**	**3.63**	**79**	*e*P	**Pn**	**01 14 59.6**	**-0.8**
DBO	**Dodson Butte**	**3.77**	**101**	P	**Pn**	**01 15 02.0**	**-0.3**
HSO	**Harness Mounta**	**3.79**	**95**	P	**Pn**	**01 15 03.1**	**+0.4**
KMOR	**Kings Mountain**	**3.80**	**62**	P	**Pn**	**01 15 02.5**	**-0.3**
HUMO	**Hull Mountain**	**4.13**	**107**	*e*P	**Pn**	**01 15 06.6**	**-0.8**
BROR	**Big Rock Looko**	**4.22**	**84**	P	**Pn**	**01 15 08.7**	**0.0**
BBOR	**Butler Butte**	**4.23**	**103**	P	**Pn**	**01 15 08.8**	**0.0**
SSOR	**Sweet Springs**	**4.27**	**76**	P	**Pn**	**01 15 10.1**	**+0.7**
HBO	**Huckleberry Mo**	**4.32**	**90**	P	**Pn**	**01 15 10.0**	**-0.2**
IRO	**Indian Ridge**	**4.36**	**87**	P	**Pn**	**01 15 10.5**	**-0.2**
LVP	**Lakeview Peak**	**4.67**	**61**	P	**Pn**	**01 15 15.5**	**+0.4**
YBH	**Yreka Blue Hor**	**4.67**	**117**	Pn	**Pn**	**01 15 14.5**	**-0.7**
	0.5nm,0.3s,baz=311,slow=15,SNR=7.9						
YBH				Sn	**Sn**	**01 16 11.6**	**+1.5**
	0.1nm,0.3s,baz=153,slow=18,SNR=1.9						
YBH				LR	LR	01 17 05.3	
	comp=Z,2μm,20.6s,baz=332,slow=39						
YBH	**Yreka Blue Hor**	**4.67**	**117**	*e*P	**Pn**	**01 15 14.4**	**-0.8**
FL2	**Flat Top 2**	**4.76**	**60**	P	**Pn**	**01 15 17.5**	**+1.1**
TDH	**Tom, Dick, Har**	**4.83**	**72**	P	**Pn**	**01 15 17.9**	**+0.6**
VFP	**Flag Point**	**5.05**	**72**	P	**Pn**	**01 15 21.2**	**+0.7**
PGC	**Sidney**	**5.76**	**34**	P	**Pn**	**01 15 30.4**	**-0.1**
HAWA	**Hanford**	**6.65**	**66**	*e*P	**Pn**	**01 15 42.4**	**-0.6**
OHCM	**Honcut**	**6.88**	**130**	*e*P	**Pn**	**01 15 46.2**	**-0.2**
WVOR	**Wild Horse Val**	**7.22**	**99**	*e*P	**Pn**	**01 15 48.8**	**-2.3**
BMO	**Blue Mountains**	**7.92**	**80**	*e*P	**Pn**	**01 16 00.4**	**-0.4**
CMB	**Columbia Colle**	**8.42**	**132**	*e*P	**P**	**01 16 07.3**	**-0.4**
NEW	**Newport**	**8.87**	**57**	LR	LR	01 19 39.0	
	comp=Z,461nm,20.1s,baz=248,slow=38						
ELK	**Elko**	**10.18**	**104**	Pn	**P**	**01 16 33.4**	**+1.2**
	0.1nm,0.3s,baz=285,slow=13,SNR=11						
ELK				LR	LR	01 20 37.6	
	comp=Z,614nm,19.1s,baz=313,slow=38						
DUG	**Dugway**	**12.10**	**103**	*e*P	**P**	**01 16 56.5**	**-1.8**
HWUT	**Hardware Ranch**	**12.52**	**95**	P	**P**	**01 17 02.5**	**-1.2**
YFT	**Old Faithful**	**12.54**	**82**	P	**P**	**01 17 02.7**	**-1.4**
TPAW	**Teton Pass**	**12.56**	**86**	P	**P**	**01 17 04.1**	**-0.2**
NEN	**Nelson**	**13.25**	**124**	P	**P**	**01 17 15.3**	**+1.7**
MSU	**Marysvale**	**13.29**	**109**	P	**P**	**01 17 13.0**	**-1.1**
TMUT	**Trail Mountain**	**13.60**	**104**	P	**P**	**01 17 17.9**	**-0.3**
PDAR	**Pinedale Array**	**13.69**	**89**	Pn	**P**	**01 17 22.1**	**+2.8**
	0.1nm,0.3s,baz=293,slow=11,SNR=6.9						
PDAR				LR	LR	01 22 52.2	
	comp=Z,639nm,18.1s,baz=337,slow=38						
WUAZ	**Wupatki**	**15.49**	**117**	P	**P**	**01 17 44.6**	**+1.6**
	38nm,1.4s						
PV01	**Paradox Valley**	**15.96**	**105**	*e*P	**P**	**01 17 48.6**	**-0.5**
ISCO	**Idaho Springs**	**17.38**	**96**	*e*P	**P**	**01 18 07.3**	**+0.4**
	33nm,1.6s						
SDCO	**Great Sand Dun**	**18.30**	**102**	*e*P	**P**	**01 18 19.9**	**+1.5**
	6.2nm,0.7s						
ANMO	**Albuquerque**	**19.07**	**111**	P	**P**	**01 18 28.9**	**+1.1**
	baz=311,slow=10,SNR=9.2						
ANMO				LR	LR	01 26 17.7	
	comp=Z,592nm,19.7s,slow=38						
ANMO	**Albuquerque**	**19.07**	**111**	*e*P	**P**	**01 18 27.1**	**-0.7**
	20nm,1.6s						
YKA	**Yellowknife Ar**	**20.20**	**19**	LR	LR	01 26 26.7	
	comp=Z,69nm,21.7s,MS3.0,baz=250,slow=37						
MNTX	**Cornudas Mount**	**21.77**	**117**	*e*P	**P**	**01 18 57.3**	**+0.8**
	30nm,1.8s,mb4.4						
ULM	**Lac du Bonnet**	**22.82**	**63**	P	**P**	**01 19 08.2**	**+1.4**
	3.6nm,0.9s,mb3.8,baz=259,slow=14,SNR=2.9						
ULM				LR	LR	01 28 16.4	
	comp=Z,206nm,19.6s,MS3.6,baz=216,slow=37						
ILAR	**Eielson Array**	**23.31**	**340**	P	**P**	**01 19 12.4**	**+1.1**
	0.5nm,0.8s,mb3.0,baz=156,slow=9.5,SNR=5.4						
TXAR	**Lajitas Array**	**24.45**	**118**	P	**P**	**01 19 23.6**	**+0.8**
	0.6nm,0.8s,mb3.1,baz=307,slow=6.3,SNR=7.7						
TXAR				LR	LR	01 29 36.7	
	comp=Z,212nm,20.4s,MS3.6,baz=320,slow=38						
INK	**Inuvik**	**24.55**	**355**	LR	LR	01 28 53.1	
	comp=Z,64nm,18.2s,MS3.1,baz=75,slow=36						
SCHQ	**Schefferville**	**40.19**	**52**	LR	LR	01 36 36.5	
	comp=Z,85nm,21.7s,MS3.6,baz=309,slow=34						
ASAJ	**Asahikawa**	**60.79**	**304**	LR	LR	01 46 03.8	
	comp=Z,44nm,20.6s,MS3.6,baz=180,slow=32						
ROSC	**El Rosal**	**61.22**	**113**	LR	LR	01 50 14.7	
	comp=Z,48nm,21.4s,MS3.6,baz=342,slow=35						

SONM	**Songino Array**	**76.70**	**326**	P	**P**	**01 25 53.6**	**-1.8**
	1.5nm,1.0s,mb3.9,baz=56,slow=5.2,SNR=8.0						
SONM				LR	LR	01 59 33.3	
	comp=Z,76nm,19.8s,MS4.0,baz=7.7,slow=36						

TIF ***29*** *01:14:57.0, 42.13N×47.41E, h6km±1km*
IDC ***29*** *01:14:57.2±1.1, 42.23N×47.27E, mb3.9/6, mb1 4.0/10, mb1mx3.8/20, mbtmp3.9/10, ML4.2/2, MS3.1/1, Ms1 3.2/1, ms1mx2.4/23, Error ellipse: s-maj=22.1km s-min=14.3km az=122.0*
MOS ***29*** *01:14:57.0±1.4, 42.11N×47.43E, h12km, mb4.2/4, Error ellipse: s-maj=6.6km s-min=4.9km az=108.3*
MOS Felt (IV-V) at Kumuh, Akusha; (IV) at Gunib; (II) at Vachi, Charoda.
CSEM ***29*** *01:14:58.6±0.1, 42.23N×47.49E, h23km±1km, mb4.1/3, Error ellipse: s-maj=2.4km s-min=2.0km az=35.0*
NEIC ***29*** *01:15:00.5±0.4, 42.25N×47.24E, h25km, mb4.0/9, Error ellipse: s-maj=8.7km s-min=5.3km az=13.0*
NEIC Felt [V] at Akusha and Kumukh; [IV] at Gunib; [II] at Charoda and Vachi.
THR ***29*** *01:15:04.6±0.4, 41.70N×47.43E, h14km±5km, ML3.1*
NNC ***29*** *01:15:13.4±8.0, 42.57N×48.45E, h57km±67km, Error ellipse: s-maj=58.8km s-min=37.0km az=108.0*

ISC 29 01:14:58.3±0.3, 42.16N±0.02×47.50E±0.02, h13km±2km, n111, σ1§40/152, mb4.0/12, 9C-12D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URKR	**Urkarakh**	**0.10**	**88**	*i* Pg	**Pg**	**01 15 02.0**	**+0.5**
URKR				*e*Sg	**Sg**	**01 15 05.5**	**+1.9**
KMKR	**Kumukh**	**0.30**	**264**	PG	**Pg**	**01 15 02.5**	**-2.2**
KMKR				S	**Sg**	**01 15 06.0**	**-3.0**
SGKR	**Sergokala**	**0.32**	**22**	*i* PG	**Pg**	**01 15 05.0**	**-0.2**
SGKR				*i* S	**Sg**	**01 15 13.0**	**+3.2**
GNBR	**Gunib**	**0.46**	**300**	Pg	**Pg**	**01 15 09.0**	**+1.3**
GNBR				Sg	**Sg**	**01 15 14.4**	**+0.4**
MNSR	**Manas**	**0.56**	**17**	*i* PG	**Pg**	**01 15 11.2**	**+1.3**
MNSR				*e*S	**Sb**	**01 15 19.2**	**+2.0**
DRN	**Derbent**	**0.64**	**102**	*i* Pg	**Pg**	**01 15 11.7**	**+0.5**
	1μm,0.3s						
DRN				*i* Sg	**Sg**	**01 15 23.7**	**+3.8**
DRN	**Derbent**	**0.64**	**102**	⇓*i* PG	**Pg**	**01 15 11.7**	**+0.5**
DRN				*i* S	**Sg**	**01 15 23.7**	**+3.8**
DRN				pmax	pmax		
	comp=Z,1μm,0.3s						
XNZR	**Khunzakh**	**0.70**	**303**	*i* Pg	**Pg**	**01 15 11.6**	**-0.9**
XNZR				*e*Sg	**Sg**	**01 15 20.4**	**-1.5**
AKT	**Akhty**	**0.70**	**165**	⇑*i* PG	**Pg**	**01 15 09.3**	**-3.3**
AKT				*e*S	**Sb**	**01 15 15.3**	**-5.9**
BUJR	**Buynaksk**	**0.72**	**337**	*i* Pg	**Pg**	**01 15 13.0**	**+0.1**
	comp=Z,519nm,0.2s						
BUJR	**Buynaksk**	**0.72**	**337**	*i* PG	**Pg**	**01 15 13.0**	**+0.1**
BUJR				*e*S	**Sb**	**01 15 27.0**	**+5.3**
BUJR				pmax	pmax		
	comp=Z,519nm,0.2s						
KSMR	**Kasumkent**	**0.73**	**140**	*e*Sg	**Sg**	**01 15 24.0**	**+1.0**
KSMR	**Kasumkent**	**0.73**	**140**	⇓*i* PG	**Pg**	**01 15 11.2**	**-1.9**
KSMR				*e*S	**Sg**	**01 15 24.0**	**+1.0**
MAK	**Makhachkala**	**0.80**	**1**	⇓*i* PG	**Pg**	**01 15 17.7**	**+3.2**
MAK				*i*		01 15 30.3	
MAK				pmax	pmax		
	comp=Z,680nm,0.7s						
MAK				smax			
	comp=N,10μm,0.5s						
MAK				smax			
	comp=E,14μm,0.5s						
DBC	**Dubki**	**0.99**	**330**	*i* Pg	**Pg**	**01 15 15.5**	**-2.7**
	comp=E,723nm,0.2s						
DBC	**Dubki**	**0.99**	**330**	⇓*i* PG	**Pg**	**01 15 15.5**	**-2.7**
DBC				*e*S	**Sb**	**01 15 31.0**	**+1.5**
DBC				pmax	pmax		
	comp=Z,723nm,0.2s						
DGRG	**David-gareji**	**1.74**	**247**	P	**Pn**	**01 15 28.6**	**+0.1**
DGRG				S	**Sn**	**01 15 55.5**	**+4.9**
MTA	**Mtatsminda**	**2.07**	**258**	P	**Pn**	**01 15 33.6**	**+0.4**
MTA				S	**Sn**	**01 15 59.4**	**+0.4**
TI2	**Plekhanov**	**2.09**	**259**	⇓*i* P	**Pn**	**01 15 33.2**	**-0.4**
TI2				*i* S	**Sn**	**01 16 01.8**	**+2.2**
TI2	**Plekhanov**	**2.09**	**259**	⇑*i* PN	**Pn**	**01 15 33.2**	**-0.4**
GOR	**Gori**	**2.53**	**267**	P	**Pn**	**01 15 40.8**	**+1.1**
GOR				S	**Sg**	**01 16 24.2**	**+1.6**
ZEI	**Tsey**	**2.73**	**284**	*e*PN	**Pn**	**01 15 46.7**	**+4.0**
ZEI				*e*		01 16 23.5	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.1s						
ZEI				smax			
	comp=N,179nm,0.2s						
GNI	**Garni**	**2.89**	**227**	Pn	**Pn**	**01 15 46.8**	**+1.8**
	comp=N,21nm,0.3s,baz=317,slow=2.1,SNR=52						
GNI				Sn	**Sg**	**01 16 31.3**	**-3.4**
	comp=N,42nm,0.3s,baz=83,slow=3.5,SNR=6.6						
GNI	**Garni**	**2.89**	**227**	*e*P	**Pn**	**01 15 43.1**	**-1.9**
GNI				Sn	**Sg**	**01 16 31.3**	**-3.4**
GNI	**Garni**	**2.89**	**227**	*e*P	**Pn**	**01 15 43.1**	**-1.9**
GNI	**Garni**	**2.89**	**227**	Pn	**Pn**	**01 15 46.8**	**+1.8**
	comp=N,21nm,0.3s						
GNI	**Garni**	**2.89**	**227**	PN	**Pn**	**01 15 46.8**	**+1.8**
GNI						01 16 31.3	
GNI				pmax	pmax		
	comp=Z,21nm,0.3s						
BKR	**Bakuriani**	**3.01**	**263**	P	**Pn**	**01 15 45.7**	**-0.9**
BKR				S	**Sn**	**01 16 30.4**	**+7.6**
ONI	**Oni**	**3.03**	**279**	P	**Pn**	**01 15 48.8**	**+1.9**
ONI				S	**Sn**	**01 16 31.0**	**+7.7**
AKH	**Akhalkalaki**	**3.09**	**257**	P	**Pn**	**01 15 49.4**	**+1.7**
AKH				S	**Sn**	**01 16 33.7**	**+8.9**
GRMI	**Germi**	**3.36**	**175**	*e*PN	**Pn**	**01 15 52.5**	**+0.8**
GRMI				Sn	**Sn**	**01 16 27.5**	**-4.3**
GRMI				AML	AML	01 16 39.8	
	comp=N,87nm,0.7s						
GRMI	**Germi**	**3.36**	**175**	*e*Pn	**Pn**	**01 15 52.5**	**+0.8**
	SNR=52						
GRMI				Sn	**Sn**	**01 16 27.5**	**-4.3**
	comp=N,87nm,0.7s,SNR=52						
KUBR	**Kubataba**	**3.42**	**300**	*e*PN	**Pn**	**01 15 53.4**	**+1.0**
KUBR				S	**Pb**	**01 16 01.0**	**+2.7**
KUBR				*e*	**Sn**	**01 16 34.9**	**+1.8**
MAKU	**Maku**	**3.52**	**218**	*e*PN	**Pn**	**01 15 55.9**	**+1.9**
MAKU				*e*SG	**Sb**	**01 16 42.5**	**-0.7**
MAKU				AML	AML	01 16 47.8	
	comp=N,44nm,0.4s						
DIGO	**Kars**	**3.56**	**242**	*i* P	**Pn**	**01 15 55.5**	**+1.0**
DIGO				*i* S	**Sb**	**01 16 48.3**	**+4.1**
PYA	**Pyatigorsk**	**3.75**	**301**	*e*PN	**Pn**	**01 15 56.1**	**-1.1**
SHAR	**Shatzhatmas**	**3.88**	**296**	*e*PN	**Pn**	**01 15 59.0**	**0.0**
SHAR				S	**Sn**	**01 16 47.2**	**+2.3**
SHAR				*e*		01 16 51.7	
BEYR	**Belyy Ugol+**	**3.89**	**300**	*e*PN	**Pn**	**01 15 58.7**	**-0.5**
KIV	**Kislovodsk**	**3.95**	**299**	*e*Pn	**Pn**	**01 15 57.0**	**-3.0**
KIV	**Kislovodsk**	**3.95**	**299**	*e*Pn	**Pn**	**01 15 57.0**	**-3.1**
KIV	**Kislovodsk**	**3.95**	**299**	*e*PN	**Pn**	**01 15 59.9**	**-0.2**
KIV				*e*S	**Sn**	**01 16 46.5**	**-0.3**
KIV				pmax	pmax		
	comp=N,17nm,0.8s						
KIV				pmax	pmax		
	comp=E,19nm,0.8s						
KIV				pmax	pmax		
	comp=Z,22nm,0.8s						
GOF	**Gofitskoye**	**4.34**	**313**	⇓*i* PN	**Pn**	**01 16 05.4**	**-0.2**
GOF				*i* S	**Sn**	**01 16 57.4**	**+0.7**
GOF				pmax	pmax		
	comp=Z,80nm,0.8s						
GOF				smax			
	comp=E,220nm,0.7s						
ERZM	**Erzurum**	**5.15**	**246**	*i* P	**Pn**	**01 16 17.1**	**0.0**
SOC	**Sochi**	**5.89**	**287**	*e*P	**Pn**	**01 16 30.6**	**+3.1**
SOC				*e*		01 17 36.3	
SOC				pmax	pmax		
	comp=Z,23nm,1.2s						
SOC				pmax	pmax		
	comp=N,26nm,1.0s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.9s						
SOC				MLR	MLR		
	comp=Z,232nm,20.0s						
SOC				MLR	MLR		
	comp=N,180nm,12.0s						
SOC				MLR	MLR		
	comp=E,122nm,11.0s						
THKV	**Tehran--Karaj**	**6.77**	**156**	*e*PN	**Pn**	**01 16 40.6**	**+0.7**

SNGE	**Sanandaj**	**7.06**	**181**	*e*PN	**Pn**	**01 16 43.5**	**-0.5**
DAMV	**Damavand**	**7.40**	**150**	*e*PN	**Pn**	**01 16 49.2**	**+0.6**
ASAO	**Ashtian**	**7.86**	**165**	*e*PN	**Pn**	**01 16 54.9**	**-0.2**
VRHR	**Novokhopersk**	**9.80**	**338**	*e*P	**P**	**01 17 19.6**	**-2.4**
VRHR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
VRHR				pmax	pmax		
	comp=N,20nm,1.0s						
VRHR				pmax	pmax		
	comp=E,10.0nm,1.1s						
VRSR	**Storozhevoye**	**10.70**	**331**	*e*P	**P**	**01 17 33.0**	**-1.2**
	comp=E,20nm,1.1s						
VRSR	**Storozhevoye**	**10.70**	**331**	*e*P	**P**	**01 17 33.0**	**-1.2**
VRSR				*e*S	**S**	**01 19 29.8**	**-5.0**
VRSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,5.0nm,1.4s						
VRSR				smax			
	comp=N,20nm,1.1s						
VRSR				smax			
	comp=E,30nm,1.0s						
VRSR				smax			
	comp=Z,9.0nm,1.0s						
VRSR				MLR	MLR		
	comp=Z,560nm,20.0s						
VRSR				MLR	MLR		
	comp=N,130nm,23.0s						
VRSR				MLR	MLR		
	comp=E,90nm,19.0s						
AB31	**Akbulak array**	**11.22**	**47**	⇓P	**P**	**01 17 40.7**	**-0.7**
	comp=E,1.9nm,0.3s,baz=238,slow=14,SNR=73						
AB31				⇑S	**S**	**01 19 40.0**	**-7.6**
	comp=E,3.1nm,0.4s,baz=246,slow=23,SNR=4.6						
AB31	**Akbulak array**	**11.22**	**47**	*e*P	**P**	**01 17 40.6**	**-0.8**
	comp=E,1.0nm,0.3s						
AB31	**Akbulak array**	**11.22**	**47**	*e*P	**P**	**01 17 40.6**	**-0.8**
AB31				S	**S**	**01 19 41.9**	**-5.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	**Obninsk**	**14.81**	**335**	*e*Pn	**P**	**01 18 24.2**	**-4.8**
OBN	**Obninsk**	**14.81**	**335**	*e*Pn	**P**	**01 18 24.2**	**-4.8**
OBN	**Obninsk**	**14.81**	**335**	*de*P	**P**	**01 18 33.3**	**+4.3**
OBN				*e*S	**S**	**01 21 15.2**	**+1.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
AKASG	**Malin Array Be**	**15.19**	**310**	Pn	**P**	**01 18 26.1**	**-7.9**
	baz=118,slow=11,SNR=3.0						
AKASG	**Malin Array Be**	**15.19**	**310**	Pn	**P**	**01 18 26.0**	**-8.0**
ARU	**Arti**	**15.97**	**23**	*e*P	**P**	**01 18 42.4**	**-1.7**
ARU				*e*S	**S**	**01 21 40.5**	**-0.4**
KK31	**Karatay Array**	**16.96**	**79**	⇓P	**P**	**01 18 55.7**	**-1.0**
	comp=Z,6.2nm,0.7s,baz=286,slow=13						
KK31				⇓S	**S**	**01 21 56.0**	**-7.9**
	comp=Z,2.4nm,0.7s,baz=271,slow=23,SNR=7.3						
KKAR	**Karatay Array**	**16.96**	**79**	P	**P**	**01 18 56.0**	**-0.7**
	comp=Z,4.0nm,0.6s						
KKAR	**Karatay Array**	**16.96**	**79**	P	**P**	**01 18 56.0**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KWP	**Kalwaria**	**18.74**	**302**	*e*P	**P**	**01 19 16.6**	**-2.2**
	comp=Z,8.3nm,0.8s						
KWP	**Kalwaria**	**18.74**	**302**	*e*P	**P**	**01 19 16.6**	**-2.2**
	comp=Z,8.3nm,0.8s						
KWP	**Kalwaria**	**18.74**	**302**	*e*P	**P**	**01 19 16.6**	**-2.2**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRVK	**Borovoye**	**18.75**	**47**	*e*P	**P**	**01 19 17.5**	**-1.4**
	comp=Z,3.4nm,0.6s						
BRVK	**Borovoye**	**18.75**	**47**	*e*P	**P**	**01 19 17.5**	**-1.4**
	comp=Z,3.4nm,0.6s						
BRVK	**Borovoye**	**18.75**	**47**	*e*P	**P**	**01 19 17.5**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVA0	**Borovoye Array**	**18.79**	**47**	⇓P	**P**	**01 19 19.4**	**-0.1**
	comp=Z,0.7nm,0.8s						
BVA0				⇑S	**S**	**01 22 39.9**	**-5.6**
	comp=Z,0.7nm,0.9s,baz=233,slow=25,SNR=5.4						
BVA0	**Borovoye Array**	**18.79**	**47**	P	**P**	**01 19 21.6**	**+2.2**
BVAR	**Borovoye Array**	**18.79**	**47**	P	**P**	**01 19 19.4**	**0.0**
	comp=Z,1.0nm,0.3s,baz=240,slow=12,SNR=15						
IDI	**Anoyia**	**18.90**	**256**	P	**P**	**01 19 18.

comp=Z,6.0nm,0.4s,mb4.8
JIRN Jiri 34.56 102 *e*P **P 01 21 49.6 +1.0**
comp=Z,15nm,0.5s

*IDC **29** 01:19:17.6±2.0,51.66N×179.66E,mb3.8/9,mb1 4.0/10, mb1mx3.8/23,mbtmp3.9/10,ML4.0/1, Error ellipse: s-maj=54.7km s-min=20.6km az=5.0*
*NEIC **29** 01:19:23.6±1.5,51.67N×179.72E,h43km±14km, ML3.9(AEIC),Error ellipse: s-maj=27.1km s-min=13.5km az=182.0*
ISC 29 01:19:22.6±2.1,51.7N±0.3×179.7E±0.2,h49km±20km,n16, σ0§50/16,mb3.8/9,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**1.90**	**87**	P	**P**	**01 19 52.9**	**-0.3**
KIWB	**Kanaga Island**	**1.96**	**84**	P	**P**	**01 19 54.6**	**+0.6**
ETKA	**Kagalaska Isla**	**2.42**	**85**	P	**P**	**01 20 00.2**	**-0.4**
GSMY	**Great Sitkin M**	**2.65**	**81**	P	**P**	**01 20 04.1**	**+0.3**
ATKA	**Atka Island**	**3.81**	**80**	P	**P**	**01 20 20.1**	**-0.2**
KDAK	**Kodiak Island**	**17.04**	**58**	P	**P**	**01 23 18.4**	**0.0**
	0.6nm,0.3s,baz=304,slow=3.6,SNR=4.4						
KDAK	**Kodiak Island**	**17.04**	**58**	P	**P**	**01 23 18.4**	**0.0**
ILAR	**Eielson Array**	**21.58**	**40**	P	**P**	**01 24 09.9**	**+0.4**
	0.3nm,0.5s,mb3.0,baz=243,slow=8.1,SNR=4.7						
SONM	**Songino Array**	**46.66**	**296**	P	**P**	**01 27 40.5**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=65,slow=7.7,SNR=5.2						
PDAR	**Pinedale Array**	**47.10**	**72**	P	**P**	**01 27 50.8**	**-0.3**
	1.6nm,0.7s,mb4.0,baz=326,slow=3.8,SNR=9.4						
ARCES	**ARCESS Array B**	**57.60**	**350**	P	**P**	**01 29 08.7**	**-0.5**
	0.8nm,0.5s,mb4.0,baz=27,slow=8.1,SNR=8.9						
MKAR	**Makanchi Array**	**59.10**	**307**	P	**P**	**01 29 18.6**	**-1.2**
	0.6nm,0.5s,mb3.9,baz=52,slow=7.1,SNR=9.2						
TXAR	**Lajitas Array**	**59.52**	**80**	P	**P**	**01 29 23.4**	**+0.4**
	0.2nm,0.6s,mb3.4,baz=34,slow=5.2,SNR=5.6						
BVAR	**Borovoye Array**	**60.03**	**319**	P	**P**	**01 29 26.9**	**+0.7**
	1.0nm,0.6s,mb4.0,baz=50,slow=7.0,SNR=6.0						
NOA	**NORSAR Array B**	**67.23**	**354**	P	**P**	**01 30 13.2**	**+0.1**
	0.9nm,0.6s,mb4.0,baz=8.2,slow=6.1,SNR=3.1						
HFS	**Hagfors**	**67.95**	**352**	P	**P**	**01 30 17.3**	**-0.3**
	1.4nm,0.6s,mb4.2,baz=72,slow=4.7,SNR=4.4						

*BJI **29** 02:00:27.3,7.41S×121.06E,h594km,mB4.5,mb4.6*
*NEIC **29** 02:00:28.2±0.6,7.30S×120.74E,h567km±7km,mb4.5/21, Error ellipse: s-maj=10.9km s-min=4.5km az=61.0*
*IDC **29** 02:00:28.3±1.6,7.34S×120.75E,h561km±18km,mb3.6/9, mb1 3.8/11,mb1mx3.6/18,mbtmp4.7/11,Error ellipse: s-maj=19.7km s-min=10.1km az=58.0*
ISC 29 02:00:28.2±0.8,7.30S±0.06×120.75E±0.09,h584km±12km, n63,σ0§84/59,mb4.4/35,8C-1D,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.75**	**157**	⇑*i*P	**P**	**02 03 04.0**	**-0.5**
	80nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.75**	**157**	P	**P**	**02 03 04.0**	**-0.5**
	6.5nm,0.3s,baz=354,slow=6.9,SNR=117						
FITZ				S	**S**	**02 05 10.6**	**+0.6**
	baz=193,slow=14,SNR=3.4						
KAKA	**Kakadu**	**12.71**	**116**	⇑*i*P	**P**	**02 03 33.2**	**+19**
	88nm,0.6s						
KSM	**Kuching**	**13.58**	**310**	*e*P	**P**	**02 03 23.7**	**+0.9**
MBWA	**Marble Bar**	**13.81**	**184**	*e*Pn	**P**	**02 03 24.3**	**-0.7**
	9.3nm,0.8s						
MBWA				*e*		02 03 37.3	
KKM	**Kota Kinabalu**	**14.00**	**341**	*e*P	**P**	**02 03 27.4**	**+0.4**
WRA	**Warramunga Arr**	**18.21**	**135**	P	**P**	**02 04 07.7**	**+0.3**
	5.0nm,0.3s,baz=314,slow=11,SNR=184						
WRA				S	**S**	**02 07 03.4**	**-0.1**
	0.1nm,0.3s,baz=315,slow=18,SNR=5.3						
WRAB	**Tennant Creek**	**18.21**	**135**	*e*P	**P**	**02 04 07.5**	**+0.1**
	115nm,0.8s						
WB2	**Warramunga Arr**	**18.22**	**135**	⇑*i*P	**P**	**02 04 07.6**	**+0.2**
WB2				*e*S	**S**	**02 07 03.4**	**-0.3**
KULM	**Kulim**	**23.64**	**301**	*e*P	**P**	**02 04 51.5**	**-5.5**
SNG	**Songkhla**	**24.70**	**305**	P	**P**	**02 05 06.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**25.71**	**187**	P	**P**	**02 05 14.0**	**-1.2**
	8.7nm,0.8s,mb4.4,baz=14,slow=4.8,SNR=4.2						
CTA	**Charters Tower**	**27.80**	**120**	P	**P**	**02 05 33.7**	**+0.3**
	4.1nm,0.7s,mb4.2,baz=286,slow=13,SNR=5.0						
CTA	**Charters Tower**	**27.80**	**120**	P	**P**	**02 05 33.7**	**+0.3**
CTAO	**Charters Tower**	**27.80**	**120**	*e*P	**P**	**02 05 31.9**	**-1.6**
	5.9nm,0.8s,mb4.3						
QIZ	**Qiongzhong**	**28.28**	**338**	*e*P	**P**	**02 05 37.2**	**-0.4**
	54nm,1.4s,mb5.0						
KKTK	**Khon Kaen**	**29.43**	**323**	P	**P**	**02 05 47.0**	**-0.5**
STKA	**Stephens Creek**	**31.23**	**144**	⇑*i*P	**P**	**02 06 03.0**	**+0.3**
	8.1nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**31.23**	**144**	P	**P**	**02 06 03.0**	**+0.2**
	11nm,0.6s,mb4.7,baz=315,slow=9.5,SNR=34						
NANT	**Nan**	**32.61**	**323**	P	**P**	**02 06 16.5**	**+2.1**
CHG	**Chiang Mai**	**33.70**	**321**	⇑P	**P**	**02 06 24.2**	**+0.7**
	19nm,0.8s,mb4.8						
KMI	**Kunming**	**36.69**	**332**	P	**P**	**02 06 50.3**	**+2.2**
KMI				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
KMI	**Kunming**	**36.69**	**332**	P	**P**	**02 06 50.2**	**+2.1**
	comp=Z,20nm,0.9s,mb4.7						
KMI				pP		02 07 03.5	
ENH	**Enshi**	**38.89**	**344**	P	**P**	**02 07 04.9**	**-1.2**
	comp=Z,16nm,0.9s,mb4.5						
XAN	**Xi'an**	**42.61**	**345**	P	**P**	**02 07 35.3**	**-0.4**
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.6						
LSA	**Lhasa**	**46.51**	**324**	*e*P	**P**	**02 08 06.8**	**+1.0**
	comp=Z,28nm,0.6s,mb5.0						
JIRN	**Jiri**	**48.21**	**318**	*e*P	**P**	**02 08 18.7**	**-0.1**
	comp=Z,53nm,0.8s,mb5.1						
GUN	**Gumba**	**48.58**	**318**	*e*P	**P**	**02 08 21.4**	**-0.2**
	comp=Z,54nm,0.7s,mb5.1						
PKI	**Pulchoki**	**48.68**	**317**	*e*P	**P**	**02 08 21.6**	**-0.7**
	comp=Z,32nm,0.4s,mb5.1						
KKN	**Kakani**	**48.91**	**317**	*e*P	**P**	**02 08 23.3**	**-0.7**
	comp=Z,27nm,0.8s,mb4.7						
DMN	**Daman**	**48.91**	**317**	*e*P	**P**	**02 08 23.4**	**-0.6**
	comp=Z,19nm,0.5s,mb4.8						
GKN	**Gorkha**	**49.48**	**317**	*e*P	**P**	**02 08 27.1**	**-1.1**
	comp=Z,51nm,0.6s,mb5.2						
KOLN	**Koldanda**	**50.05**	**316**	*e*P	**P**	**02 08 31.5**	**-0.8**
	comp=Z,32nm,0.5s,mb5.0						
GTA	**Gaotai**	**50.36**	**339**	*e*P	**P**	**02 08 35.5**	**+1.1**
GTA				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**56.24**	**349**	*e*P	**P**	**02 09 15.6**	**-0.3**
	comp=Z,3.2nm,0.6s,mb3.7						
SONM	**Songino Array**	**56.34**	**348**	P	**P**	**02 09 16.6**	**+0.1**
	comp=Z,3.1nm,0.5s,mb3.8,baz=164,slow=8.4,SNR=25						
CASY	**Casey**	**59.31**	**185**	P	**P**	**02 09 34.8**	**-1.6**
	comp=Z,44nm,1.2s,mb4.5						
MKAR	**Makanchi Array**	**63.77**	**332**	P	**P**	**02 10 05.8**	**+0.3**
	comp=Z,13nm,0.6s,mb4.5,baz=139,slow=7.4,SNR=126						
AAK	**Ala-Archa**	**65.10**	**324**	*e*P	**P**	**02 10 13.6**	**-0.4**
	comp=Z,8.8nm,0.6s,mb4.4						
KURK	**Kurchatov**	**68.27**	**333**	*e*P	**P**	**02 10 32.0**	**-1.1**
	comp=Z,7.3nm,0.9s,mb4.1						
MAW	**Mawson**	**71.42**	**200**	P	**P**	**02 10 52.1**	**+0.7**
	comp=Z,4.4nm,0.8s,mb4.0,baz=62,slow=8.1,SNR=10.0						
OPO	**Ambohidratompo**	**72.17**	**253**	P	**P**	**02 10 56.8**	**+0.3**
	comp=Z,2.2nm,0.7s,mb3.8,baz=117,slow=4.5,SNR=4.0						
VNDA	**Vanda**	**73.39**	**171**	*e*P	**P**	**02 11 03.0**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**73.64**	**331**	P	**P**	**02 11 04.1**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.6,baz=72,slow=4.7,SNR=6.8						
CHKZ	**Chkalovo**	**73.93**	**332**	*e*P	**P**	**02 11 05.6**	**-0.2**
	comp=Z,2.7nm,0.5s,mb4.0						
SBA	**Scott Base**	**74.38**	**171**	*e*P	**P**	**02 11 09.2**	**+1.2**
	comp=Z,4.5nm,0.9s,mb4.0						
SYO	**Syowa Base**	**80.06**	**201**	⇓P	**P**	**02 11 37.6**	**-1.0**
ARU	**Arti**	**81.25**	**330**	P	**P**	**02 11 44.5**	**-0.5**
	comp=Z,3.4nm,1.0s,mb3.7						
QSPA	**South Pole Qui**	**82.68**	**180**	*e*P	**P**	**02 11 52.4**	**+0.6**
	comp=Z,11nm,1.1s,mb4.3						
KMBO	**Kilima Mbogo**	**83.41**	**270**	P	**P**	**02 11 58.2**	**+1.5**
	comp=Z,1.7nm,0.9s,mb3.6,baz=180,slow=10,SNR=4.7						
LSZ	**Lusaka**	**90.56**	**255**	*e*P	**P**	**02 12 31.3**	**+0.7**
	comp=Z,4.8nm,0.8s,mb4.5						
LBTB	**Lobatse**	**91.59**	**245**	*e*P	**P**	**02 12 32.1**	**-3.1**
	comp=Z,23nm,1.6s,mb5.0						
SNAA	**Sanae**	**93.09**	**195**	⇑*i*	**P**	**02 12 41.8**	**+0.9**
SNAA	**Sanae**	**93.09**	**195**	*e*P	**P**	**02 12 41.5**	**+0.6**
	comp=Z,2.7nm,0.8s,mb4.3						
VNA2	**Neumayer--Watz**	**94.72**	**195**	⇑*i*	**P**	**02 12 49.4**	**+1.1**
VNA1	**Neumayer--Stat**	**95.11**	**195**	⇑*i*	**P**	**02 12 49.9**	**-0.2**

TXAR	**Lajitas Array**	**132.86**	**56**	PKP	PKPdf	02 18 41.9	+3.7
	comp=Z,0.6nm,0.8s,baz=284,slow=1.2,SNR=6.9						
TXAR				SKPbc		02 21 15.8	
	comp=Z,0.3nm,0.7s,baz=263,slow=2.9,SNR=3.3						
TXAR	**Lajitas Array**	**132.86**	**56**	PKP	PKPdf	02 18 41.9	+3.7
TXAR				SKPbc		02 21 15.8	
CPCT	**Cooper Cave**	**143.64**	**36**	*e*PKPdf	PKPdf	02 18 58.4	+1.0
LRAL	**Lakeview Retre**	**143.70**	**41**	*e*PKPdf	PKPdf	02 18 58.8	+1.2
ELN	**Prospectdale**	**144.36**	**30**	*e*P	PKPdf	02 18 59.6	+1.0
CPUP	**Villa Florida**	**146.52**	**183**	PKPbc	PKPbc	02 19 07.3	+2.7
	comp=Z,6.0nm,0.7s,baz=184,slow=3.3,SNR=14						
LPAZ	**La Paz**	**154.97**	**159**	PKPab	PKPab	02 19 46.9	+1.1
	comp=Z,3.7nm,0.8s,baz=191,slow=3.6,SNR=11						

IDC 29 02:44:42.2±2.1,10.55S×111.75E,mb3.8/4,mb1 3.9/4, mb1mx3.7/12,mbtmp3.8/4,Error ellipse: s-maj=83.9km s-min=29.4km az=43.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.68**	**116**	P	P	02 49 55.9	-0.7
	2.3nm,0.9s,baz=288,slow=11,SNR=7.3						
SONM	**Songino Array**	**58.32**	**356**	P	P	02 54 39.1	-2.3
	0.7nm,0.7s,baz=176,slow=8.1,SNR=6.7						
MKAR	**Makanchi Array**	**62.87**	**338**	P	P	02 55 09.7	-2.6
	0.5nm,0.5s,baz=154,slow=8.6,SNR=4.4						
BRTR	**Keskin Array B**	**87.68**	**311**	P	P	02 57 33.5	-0.8
	0.4nm,0.6s,baz=135,slow=6.1,SNR=3.8						

*NEIC **29** 02:59:57.0,45.66N×26.52E,h133km,MD3.9(BUC),After BUC.*
*CSEM **29** 02:59:56.1±1.9,45.61N×26.52E,h142km±16km,MD3.9/4, Error ellipse: s-maj=17.6km s-min=9.0km az=16.0,After BUC*
BUC 29 02:59:54.8±1.1,45.70N×26.45E,h157km±8km,MD4.1/3, 15C-8D,Error ellipse: s-maj=7.6km s-min=6.0km az=344.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.20**	**42**	⇑*i*P	P	03 00 15.9	-0.4
PLOR				*i*	S	03 00 31.2	-1.5
VRI	**Vrincioaia**	**0.25**	**49**	⇑*i*P	P	03 00 16.2	-0.2
VRI				*i*	S	03 00 31.5	-1.5
VRI	**Vrincioaia**	**0.25**	**49**	⇑*i*P	P	03 00 16.3	-0.1
VRI				*i*	S	03 00 32.6	-0.4
VRI	**Vrincioaia**	**0.25**	**49**	⇑*i*P	P	03 00 16.3	-0.1
VRI				*i*	S	03 00 32.6	-0.4
MLR	**Muntele Rosu**	**0.41**	**240**	⇑*i*P	P	03 00 16.8	-0.2
MLR				*i*	S	03 00 32.4	-1.6
MLR	**Muntele Rosu**	**0.41**	**240**	⇑*i*P	P	03 00 16.8	-0.2
MLR				*i*	S	03 00 32.4	-1.6
BRD	**Bordesti**	**0.43**	**110**	⇓*i*P	P	03 00 16.8	-0.3
BRD				*i*	S	03 00 31.6	-2.6
BRD	**Bordesti**	**0.43**	**110**	⇓*i*P	P	03 00 16.8	-0.3
BRD				*i*	S	03 00 31.6	-2.5
PETR		**0.55**	**87**	⇑*i*P	P	03 00 17.8	+0.2
PETR				*i*	S	03 00 34.1	-1.0
ISR	**Istrita**	**0.58**	**174**	⇑*i*P	P	03 00 16.9	-0.9
ISR				*i*	S	03 00 32.3	-3.1
ISR	**Istrita**	**0.58**	**174**	⇑*i*P	P	03 00 16.9	-0.8
ISR				*i*	S	03 00 32.3	-3.1
GHRR		**0.76**	**61**	⇑*i*P	P	03 00 19.0	+0.3
GHRR				*i*	S	03 00 36.2	-0.9
ONCR	**Oncesti**	**0.95**	**36**	⇑*i*P	P	03 00 20.1	+0.1
ONCR				*i*	S	03 00 38.0	-1.4
VARR		**1.00**	**79**	⇑*i*P	P	03 00 20.6	+0.3
VARR				*i*	S	03 00 39.0	-1.0
VOIR		**1.02**	**256**	⇑*i*P	P	03 00 20.5	0.0
VOIR				*i*	S	03 00 37.7	-2.7
VOIR		**1.02**	**256**	⇑*i*P	P	03 00 20.5	0.0
VOIR				*i*	S	03 00 37.7	-2.7
SULR		**1.03**	**188**	⇓*i*P	P	03 00 20.9	+0.3
SULR				*i*	S	03 00 39.8	-0.7
CFR	**Carcaliu**	**1.29**	**113**	⇓*i*P	P	03 00 22.8	-0.3
CFR				*i*	S	03 00 43.1	-1.9
CFR	**Carcaliu**	**1.29**	**113**	⇑P	P	03 00 21.9	-1.3
CFR				S	S	03 00 41.8	-3.2
CFR	**Carcaliu**	**1.29**	**113**	P	P	03 00 21.9	-1.2
CFR				S	S	03 00 41.8	-3.2
BUC	**Bucharest**	**1.31**	**191**	*i* S	S	03 00 45.1	-0.2
BUC1	**Bucharest**	**1.39**	**193**	*i* S	S	03 00 45.1	-1.5
HARR	**Harsova**	**1.45**	**134**	⇓*i*P	P	03 00 23.6	-1.1
HARR				*i* S	S	03 00 44.5	-3.3
HARR	**Harsova**	**1.45**	**134**	⇓*i*P	P	03 00 23.6	-1.1
HARR				*i* S	S	03 00 44.5	-3.3
TLCR		**1.74**	**106**	*i* S	S	03 00 51.6	-1.6
TIRR	**Tirgusor**	**1.86**	**131**	⇓*i*P	P	03 00 29.0	-0.1
TIRR				*i* S	S	03 00 52.7	-2.8
TIRR	**Tirgusor**	**1.86**	**131**	⇓*i*P	P	03 00 29.0	-0.1
TIRR				*i* S	S	03 00 52.7	-2.8

*IDC **29** 03:13:41.1±1.3,7.14N×126.13E,mb4.3/5,mb1 4.4/5, mb1mx3.9/17,mbtmp4.2/5,Error ellipse: s-maj=91.5km s-min=22.2km az=70.0*
*NEIC **29** 03:13:46.6±0.9,6.92N×125.73E,h35km,mb4.9/1,Error ellipse: s-maj=87.3km s-min=16.7km az=70.0*
ISC 29 03:13:43.8±1.3,7.1N±0.3×126.1E±0.7,h33km,n10, σ1§32/8,mb4.3/6,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**20.62**	**162**	*e*P	Px	03 18 30.2	
	4.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.00**	**181**	P	**P**	**03 19 07.3**	**+1.0**
	2.5nm,0.5s,mb4.0,baz=8.6,slow=7.6,SNR=7.7						
WRAB	**Tennant Creek**	**28.02**	**163**	*e*P	**P**	**03 19 33.4**	**-0.9**
	13nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**28.03**	**163**	P	**P**	**03 19 33.1**	**-1.2**
	8.9nm,0.6s,mb4.6,baz=346,slow=11,SNR=58						
WB2	**Warramunga Arr**	**28.03**	**163**	*e*P	**P**	**03 19 33.5**	**-0.9**
STKA	**Stephens Creek**	**41.45**	**160**	P	**P**	**03 21 31.5**	**+2.2**
	2.1nm,0.4s,mb4.2,baz=354,slow=8.7,SNR=9.2						
MKAR	**Makanchi Array**	**54.49**	**324**	P	**P**	**03 23 09.3**	**-1.3**
	0.4nm,0.5s,mb3.6,baz=104,slow=12,SNR=5.4						
NOA	**NORSAR Array B**	**95.54**	**334**	P	**P**	**03 27 08.0**	**+1.5**
	1.6nm,0.8s,mb4.5,baz=9.6,slow=3.0,SNR=3.5						
NOA	**NORSAR Array B**	**95.54**	**334**	P	**P**	**03 27 08.0**	**+1.5**
SDV	**Santo Domingo**	**157.01**	**47**	PKP	PKPdf	03 33 41.4	+4.5
	3.0nm,0.3s,baz=259,slow=2.9,SNR=1.8						

JMA 29 03:15:59.8±0.3,26.40N×124.91E,h182km,M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**1.62**	**168**	P	P	03 16 33.8	+0.4
JMJ				*e*S	S	03 16 58.5	-0.9
JKE	**Kume jima 2**	**1.69**	**92**	P	P	03 16 34.1	0.0
JOGS	**Gusukube**	**1.69**	**165**	P	P	03 16 34.1	-0.1
JOGS				*e*S	S	03 16 59.9	-0.8
JTJ	**Tarama**	**1.76**	**186**	P	P	03 16 35.1	+0.2
JTJ				*e*S	S	03 17 00.5	-1.4
JAGN	**Aguni-jima**	**2.10**	**84**	P	P	03 16 38.0	-0.5
JAGN				S	S	03 17 06.0	-2.3
JIJ	**Ishigaki jima**	**2.14**	**199**	P	P	03 16 38.4	-0.6
JIJ				*e*S	S	03 17 06.4	-2.8
JKRS	**Kuro-shima**	**2.30**	**201**	P	P	03 16 40.3	-0.5
JKRS				*e*S	S	03 17 10.3	-2.1
IRIF	**Iriomote-Funau**	**2.32**	**208**	P	P	03 16 39.9	-1.1
IRIF				*e*S	S	03 17 11.2	-1.5
HATJ	**Hateruma jima**	**2.54**	**203**	P	P	03 16 42.4	-1.2
HATJ				*e*S	S	03 17 15.1	-2.2
JJT2	**Tamagusuku 2**	**2.56**	**95**	P	P	03 16 43.8	-0.1
JJT2				*e*S	S	03 17 15.4	-2.4
YOJ	**Yonaguni jima**	**2.58**	**222**	P	P	03 16 44.7	+0.6
YOJ				*e*S	S	03 17 18.9	+0.7
JIH	**Iheya**	**2.81**	**76**	P	P	03 16 46.0	-0.8
JIH				*e*S	S	03 17 18.9	-4.0
JOW	**Kunigami**	**3.04**	**81**	P	P	03 16 48.5	-1.1
JOW				*e*S	S	03 17 23.7	-4.3
JTK	**Tokunoshima**	**3.86**	**68**	P	P	03 16 57.9	-2.0
JTK				*e*S	S	03 17 40.1	-6.1
JAM	**Amami Oshima**	**4.63**	**63**	*e*S	S	03 17 57.6	-6.3
JMZ	**Minamidaito 2**	**5.70**	**94**	*e*S	S	03 18 21.6	-7.3

*CSEM **29** 03:16:47.9±0.8,38.69N×29.00W,h4km±5km,MD3.2,Error ellipse: s-maj=9.7km s-min=4.8km az=58.0*
*PDA **29** 03:16:47.9±0.8,38.69N×29.00W,h4km±5km,MD3.2,Error ellipse: s-maj=9.7km s-min=4.8km az=58.0*
SVSA 29 03:16:47.9±0.8,38.69N×29.00W,h4km±5km,MD3.2, Error ellipse: s-maj=9.7km s-min=4.8km az=58.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.19**	**124**	*e*S	Sg	03 16 54.3	-0.1
PTCA				*e*rx		03 16 55.1	
CALA	**Caldeira**	**0.26**	**115**	*e*S	Sg	03 16 55.5	-1.1
HOR	**Horta**	**0.33**	**120**	*e*P	Pg	03 16 54.3	-0.3
HOR				*e*S	Sg	03 16 58.4	-0.7
PCND	**Candelaria**	**0.48**	**118**	*e*S	Sg	03 17 02.6	-1.2
PICO	**Pico**	**0.49**	**113**	*e*P	Pg	03 16 56.3	-1.4
PICO				*e*S	Sg	03 17 03.1	-1.1
ROSA	**Rosais**	**0.59**	**87**	*e*P	Pg	03 16 57.9	-1.9
ROSA				*e*S	Sg	03 17 05.7	-2.0
PPAD	**Pico dos Padre**	**1.34**	**89**	*e*rx		03 16 44.1	
PFAV	**Pico das Favas**	**1.50**	**89**	*e*rx		03 16 41.8	

*NEIC **29** 03:34:47.5±0.7,3.32S×28.39E,h10km,mb3.9/2,Error ellipse: s-maj=20.2km s-min=11.7km az=114.0*
*IDC **29** 03:34:48.4±1.4,2.96S×28.58E,mb3.9/5,mb1 4.0/6, mb1mx3.8/17,mbtmp3.9/6,ML3.8/1,Error ellipse: s-maj=30.5km s-min=27.9km az=11.0*
ISC 29 03:34:45.4±0.8,3.4S±0.1×28.60E±0.09,h10km,n9, σ1§31/11,mb3.9/6,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**8.94**	**76**	Pn	**P**	**03 36 58.8**	**+1.3**
	1.1nm,0.3s,baz=237,slow=16,SNR=9.2						
KMBO				Sn	**Sn**	**03 38 37.8**	**-1.5**
	1.5nm,0.3s,baz=180,slow=23,SNR=6.7						
KMBO				Lg		03 39 28.5	
	2.2nm,0.3s,baz=178,slow=22,SNR=16						
LSZ	**Lusaka**	**11.81**	**182**	*e*Pn	**P**	**03 37 37.2**	**+0.2**
	6.3nm,0.5s						
LSZ				*e*Sn	**S**	**03 39 40.9**	**-9.1**
TSUM	**Tsumeb**	**19.04**	**214**	*e*P	**P**	**03 39 09.5**	**-0.8**
	3.1nm,0.6s						
LBTB	**Lobatse**	**21.69**	**187**	*e*P	**P**	**03 39 43.5**	**+5.0**
	4.9nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**43.16**	**6**	P	**P**	**03 42 48.1**	**+0.1**
	1.7nm,0.8s,mb3.8,baz=180,slow=11,SNR=6.7						
GERES	**GERESS Array B**	**53.62**	**349**	P	**P**	**03 44 07.2**	**-2.0**
	0.7nm,0.7s,mb3.7,baz=153,slow=6.0,SNR=6.3						
MAW	**Mawson**	**68.25**	**167**	P	**P**	**03 45 53.2**	**+5.0**
	2.0nm,0.7s,mb4.2,baz=311,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**68.69**	**36**	P	**P**	**03 45 52.0**	**+0.7**
	1.0nm,0.7s,mb3.8,baz=241,slow=5.6,SNR=6.9						
SONM	**Songino Array**	**84.34**	**41**	P	**P**	**03 47 21.9**	**+2.8**
	1.0nm,1.1s,mb3.9,baz=243,slow=3.3,SNR=3.9						

*NEIC **29** 04:56:47.6±2.0,51.52N×16.24E,h5km,ML3.0(VIE), ML2.7(SZGRF),Error ellipse: s-maj=19.6km s-min=6.6km az=211.0*
*CSEM **29** 04:56:49.8±0.2,51.44N×16.19E,h2km,ML3.0/2,Error ellipse: s-maj=3.9km s-min=1.7km az=21.0*
*PRU **29** 04:56:50.1,51.41N×16.18E*
*VIE **29** 04:56:50.8±0.5,51.29N×16.05E,h8km,mb2.0/1,ML2.5/3, Error ellipse: s-maj=3.3km s-min=2.9km az=57.0, Suspected Mining induced.*
WAR 29 04:56:50.1,51.45N×16.17E,h1km,ML2.5,2C,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*PG	Pg	04 57 01.0	-1.4
KSP				*e*SG	Sg	04 57 10.0	-0.5
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	Pg	04 57 01.3	-1.1
KSP				*e*Sg	Sg	04 57 09.6	-0.9
UPC	**Upice**	**0.95**	**186**	*e*PG	Pg	04 57 07.5	-1.6
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*PG	Pg	04 57 10.2	-2.0
DPC				*e*SG	Sg	04 57 24.2	-2.7
	38nm,0.6s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	Pg	04 57 15.8	-1.7
BRG	**Berggiesshubel**	**1.52**	**248**	Pg	Pg	04 57 18.1	-2.3
BRG				Sg

CLCH				*i* S	S	05 09 43.0	+0.8		
CLCH				AMP		05 09 43.8			
	comp=E,186nm,0.3s								
FCH	**Farellones**	**1.00**	**49**	*e*P	P	05 09 33.2	+0.3		
FCH				*i* S	S	05 09 47.6	+1.0		
FCH				AMP		05 09 49.1			
	comp=N,181nm,0.2s								
JACH	**Jahuel**	**1.40**	**21**	*i* P	P	05 09 38.6	+0.2		
JACH				*i* S	S	05 09 56.5	+0.4		

NNC 29 05:19:11.8±6.6, 38.72N×69.01E, h9km±18km, mpv3.1, 4C, Error ellipse: s-maj=50.1km s-min=38.1km az=-1.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KK31	**Karatay Array**	**4.52**	**14**	Pn	Pn	05	20 22.8	+0.7
	0.8nm,0.5s,baz=173,slow=11,SNR=13							
KK31				⇑Pg	Pg	05	20 35.5	-6.6
	1.9nm,0.5s,baz=192,slow=17,SNR=6.5							
KK31				Sn	Sn	05	21 18.7	+3.2
	baz=191,slow=24							
KK31				⇑Lg		05	21 34.9	
	6.2nm,0.5s,baz=194,slow=25							
AAK	**Ala-Archa**	**5.71**	**45**	Pn	Pn	05	20 35.0	-3.9
	1.6nm,0.5s							
AAK				Sn	Sn	05	21 46.7	+1.2
	7.5nm,1.2s							
AB31	**Akbulak array**	**12.38**	**331**	⇑Pn	P	05	22 13.1	+2.0
	0.2nm,0.3s,baz=220,slow=47,SNR=13							
AB31				⇑Sn	S	05	24 24.8	-5.4
	0.3nm,0.5s							

*NEIC **29** 05:20:06.1,36.67S×177.00E,h251km,MG3.8(WEL), After WEL.*

WEL 29 05:20:06.9±0.5, 36.82S×177.10E, h254km±5km, ML3.5/4, Error ellipse: s-maj=5.8km s-min=5.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MXZ	**Matakaoa Point**	**1.22**	**128**	PN	P	05	20 43.5	-0.4
MXZ				SN	S	05	21 12.4	-0.3
MXZ	**Matakaoa Point**	**1.22**	**128**	*e*P	P	05	20 43.6	-0.3
MXZ				S	S	05	21 12.4	-0.3
URZ	**Urewera**	**1.44**	**180**	PN	P	05	20 45.2	-0.3
URZ	**Urewera**	**1.44**	**180**	P	P	05	20 45.4	0.0
MWZ	**Matawai**	**1.55**	**167**	PN	P	05	20 46.2	-0.1
MWZ	**Matawai**	**1.55**	**167**	*e*P	P	05	20 46.4	+0.1
PUZ	**Puketiti**	**1.56**	**144**	PN	P	05	20 46.2	-0.2
PUZ				SN	S	05	21 15.7	-1.2
PUZ	**Puketiti**	**1.56**	**144**	P	P	05	20 46.2	-0.1
PUZ				S	S	05	21 16.7	-0.2
KNZ	**Kokohu**	**2.25**	**168**	PN	P	05	20 51.8	-0.5
TUVZ	**Tukino**	**2.70**	**205**	PN	P	05	20 56.9	+0.1
TUVZ	**Tukino**	**2.70**	**205**	P	P	05	20 57.0	+0.2
WNVZ	**Wahianoa**	**2.77**	**205**	PN	P	05	20 57.2	-0.4
WNVZ	**Wahianoa**	**2.77**	**205**	P	P	05	20 56.9	-0.7
PXZ	**Pawanui**	**3.21**	**183**	PN	P	05	21 01.4	-1.0
TCW	**Tory Channel**	**4.91**	**206**	SN	S	05	22 17.8	-3.1

*NEIC **29** 05:31:39.7±0.3,51.55N×16.19E,h5km,ML3.2(VIE), ML3.1(SZGRF),Error ellipse: s-maj=4.8km s-min=4.3km az=100.0*
*IPEC **29** 05:31:40.1±0.4,51.49N×16.17E,h0km±1km,ML2.5/4, Error ellipse: s-maj=2.3km s-min=1.5km az=29.0*
*BGR **29** 05:31:41.3±0.6,51.42N×16.11E,h1km,ML3.1/11,Error ellipse: s-maj=5.6km s-min=5.6km az=125.0*
*IDC **29** 05:31:41.5±0.7,51.50N×16.02E,mb1 3.4/7, mb1mx3.3/21,mbtmp3.3/7,ML3.2/7,Error ellipse: s-maj=13.9km s-min=7.1km az=101.0*
*WAR **29** 05:31:41.9,51.45N×16.08E,h1km,ML3.1,Mining Induced*
*PRU **29** 05:31:41.6,51.43N×16.08E*
*CSEM **29** 05:31:42.4±0.1,51.39N×16.06E,h0km,ML3.5/5,Error ellipse: s-maj=2.9km s-min=1.5km az=8.0*
*VIE **29** 05:31:44.0±0.6,51.31N×16.21E,h8km,mb2.6/3,ML3.1/3, Error ellipse: s-maj=4.5km s-min=3.8km az=82.0, Suspected Mining induced.*

ISC 29 05:31:39.4±0.4, 51.40N±0.02×16.07E±0.03, n65, σ1§42/119, 1C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KSP	**Ksiaz**	**0.58**	**166**	⇓*i* Pg	**Pg**	**05**	**31 53.3**	**+2.3**
KSP				⇓*e* SG	**Sg**	**05**	**32 02.3**	**+3.6**
KSP	**Ksiaz**	**0.58**	**166**	*e*Pg	**Pg**	**05**	**31 53.3**	**+2.4**
KSP				*e*Sg	**Sg**	**05**	**32 01.8**	**+3.2**
KSP	**Ksiaz**	**0.58**	**166**	⇓*i* Pg	**Pg**	**05**	**31 53.3**	**+2.3**
KSP				*e*Sg	**Sg**	**05**	**32 01.8**	**+3.1**
KSP				*e*		05	32 06.3	
KSP	**Ksiaz**	**0.58**	**166**	⇓*i* Pg	**Pg**	**05**	**31 53.3**	**+2.3**
KSP				*e*Sg	**Sg**	**05**	**32 00.9**	**+2.2**
UPC	**Upice**	**0.90**	**183**	*e*PG	**Pg**	**05**	**31 59.2**	**+1.8**
DPC	**Dobruska-Polom**	**1.07**	**171**	*e*PG	**Pg**	**05**	**32 02.0**	**+1.3**
DPC				*e*SG	**Sg**	**05**	**32 16.4**	**+1.5**
	47nm,0.2s							
PVCC	**Panska Ves**	**1.29**	**228**	*e*PG	**Pg**	**05**	**32 06.6**	**+1.3**
PVCC	**Panska Ves**	**1.29**	**228**	*e*Pg	**Pg**	**05**	**32 06.2**	**+0.9**
PVCC				*e*Sg	**Sg**	**05**	**32 23.8**	**+1.3**
BRG	**Berggiesshubel**	**1.44**	**249**	*e*Pg	**Pg**	**05**	**32 08.8**	**+0.6**
BRG				*e*Sg	**Sg**	**05**	**32 29.0**	**+1.5**
BRG	**Berggiesshubel**	**1.44**	**249**	Pn	**Pn**	**05**	**32 07.5**	**+0.7**
BRG				Pg	**Pg**	**05**	**32 09.0**	**+0.7**
BRG				Sg	**Sg**	**05**	**32 29.1**	**+1.7**
BRG	**Berggiesshubel**	**1.44**	**249**	Pn	**Pn**	**05**	**32 07.6**	**+0.7**
BRG	**Berggiesshubel**	**1.44**	**249**	Pg	**Pg**	**05**	**32 09.0**	**+0.7**
BRG				Sg	**Sg**	**05**	**32 29.0**	**+1.5**
PRU	**Pruhonice**	**1.72**	**215**	*e*PN	**Pn**	**05**	**32 11.8**	**+1.0**
PRU				*e*PG	**Pg**	**05**	**32 13.8**	**0.0**
PRU				*e*SG	**Sg**	**05**	**32 35.8**	**-0.9**
PRU	**Pruhonice**	**1.72**	**215**	Pg	**Pg**	**05**	**32 13.8**	**0.0**
PRU				Sg	**Sg**	**05**	**32 35.8**	**-0.9**
FBE	**Freiberg**	**1.78**	**255**	Pn	**Pn**	**05**	**32 14.0**	**+2.3**
FBE				Sg	**Sg**	**05**	**32 38.9**	**+0.2**
RUE	**Ruedersdorf**	**1.78**	**308**	*e*Pn	**Pn**	**05**	**32 14.3**	**+2.6**
RUE				*e*Sg	**Sg**	**05**	**32 38.1**	**-0.7**
RUE	**Ruedersdorf**	**1.78**	**308**	*e*Pn	**Pn**	**05**	**32 14.3**	**+2.6**
RUE				*e*Sg	**Sg**	**05**	**32 38.1**	**-0.7**
MORC	**Moravsky Berou**	**1.88**	**150**	*e*Pn	**Pn**	**05**	**32 13.3**	**+0.2**
MORC	**Moravsky Berou**	**1.88**	**150**	*e*Pn	**Pn**	**05**	**32 13.9**	**+0.8**
MORC				*e*Sg	**Sg**	**05**	**32 40.3**	**-1.7**
	24nm,0.2s							
RAC	**Raciborz**	**1.89**	**134**	*e*P	**Pn**	**05**	**32 17.0**	**+3.8**
RAC				*e*S	**Sn**	**05**	**32 41.0**	**+2.9**
CLL	**Collm**	**1.93**	**268**	*e*Pn	**Pn**	**05**	**32 14.0**	**+0.2**
CLL				*e*Sg	**Sg**	**05**	**32 43.4**	**-0.2**
CLL	**Collm**	**1.93**	**268**	*i* PN	**Pn**	**05**	**32 13.9**	**+0.1**
CLL				*i* PG	**Pg**	**05**	**32 17.0**	**-0.9**
CLL				*i* SG	**Sg**	**05**	**32 43.2**	**-0.4**
CLL	**Collm**	**1.93**	**268**	*i* Pg	**Pg**	**05**	**32 17.0**	**-0.9**
CLL				Sg	**Sg**	**05**	**32 43.4**	**-0.2**
OKC	**Ostrava-Krasne**	**2.05**	**139**	*e*PG	**Pg**	**05**	**32 19.1**	**-1.3**
OKC				*e*SG	**Sg**	**05**	**32 46.6**	**-1.1**
VRAC	**Vranov**	**2.12**	**171**	Pn	**Pn**	**05**	**32 18.5**	**+1.9**
	2.3nm,0.3s,baz=348,slow=17,SNR=12							
VRAC				Lg		05	32 51.6	
	6.2nm,0.3s,baz=70,slow=21,SNR=8.3							
VRAC	**Vranov**	**2.12**	**171**	*e*Pn	**Pn**	**05**	**32 18.2**	**+1.6**
VRAC				*e*Sg	**Sg**	**05**	**32 49.0**	**-1.1**
	16nm,0.2s							
TREC	**Trest**	**2.14**	**190**	*e*PG	**Pg**	**05**	**32 21.7**	**-0.5**
KRUC	**Moravsky**	**2.35**	**175**	*e*Pn	**Pn**	**05**	**32 21.2**	**+1.3**
KRUC				*e*Sg	**Sg**	**05**	**32 56.4**	**-1.4**
	16nm,0.3s							
TANN	**Tannenbergstha**	**2.49**	**248**	*e*Pn	**Pn**	**05**	**32 22.7**	**+0.9**
TANN				*e*Sg	**Sg**	**05**	**32 59.7**	**-2.7**
WERD	**Werda**	**2.57**	**250**	*e*Pn	**Pn**	**05**	**32 23.9**	**+0.9**
WERD				*e*Sg	**Sg**	**05**	**33 03.0**	**-2.0**
NKC	**Novy Kostel**	**2.58**	**244**	*e*PN	**Pn**	**05**	**32 24.1**	**+0.9**
NKC				*e*SG	**Sg**	**05**	**33 04.6**	**-0.8**
	36nm,0.2s							
OJC	**Ojcow**	**2.64**	**115**	*e*PN	**Pn**	**05**	**32 24.0**	**0.0**
OJC				*e*PG	**Pg**	**05**	**32 32.0**	**-0.2**
OJC				*e*SG	**Sg**	**05**	**33 07.0**	**-0.4**
OJC	**Ojcow**	**2.64**	**115**	*e*Pg	**Pg**	**05**	**32 32.4**	**+0.2**
OJC				*e*Sg	**Sg**	**05**	**33 07.1**	**-0.3**
KHC	**Kasperske Hory**	**2.78**	**216**	*e*PN	**Pn**	**05**	**32 27.2**	**+1.2**
KHC				*e*PG	**Pg**	**05**	**32 33.0**	**-2.0**
KHC				*e*SG	**Sg**	**05**	**33 10.6**	**-1.4**
KHC	**Kasperske Hory**	**2.78**	**216**	*e*Pg	**Pg**	**05**	**32 33.0**	**-2.0**
KHC				*e*Sg	**Sg**	**05**	**33 10.6**	**-1.4**
MOX	**Moxa**	**2.92**	**257**	*e*Pn	**Pn**	**05**	**32 28.5**	**+0.5**
MOX				*e*Sg	**Sg**	**05**	**33 14.8**	**-1.7**
MOX	**Moxa**	**2.92**	**257**	*i* P	**Pn**	**05**	**32 28.7**	**+0.8**
MOX				Pg	**Pg**	**05**	**32 36.0**	**-1.6**
MOX				Sg	**Sg**	**05**	**33 16.0**	**-0.5**
MOX	**Moxa**	**2.92**	**257**	*e*Pn	**Pn**	**05**	**32 28.7**	**+0.8**
MOX				*e*Pg	**Pg**	**05**	**32 36.5**	**-1.1**
MOX				*e*Sg	**Sg**	**05**	**33 15.6**	**-0.9**
MOX	**Moxa**	**2.92**	**257**	*e*Pg	**Pg**	**05**	**32 36.5**	**-1.1**
MOX				Sg	**Sg**	**05**	**33 14.8**	**-1.7**
ROTZ	**Rotzenmuhle**	**2.96**	**238**	*e*Pn	**Pn**	**05**	**32 29.4**	**+0.8**
ROTZ				*e*Sg	**Sg**	**05**	**33 16.0**	**-2.0**
GEC2	**GERESS Array S**	**2.98**	**212**	*e*Pn	**Pn**	**05**	**32 30.5**	**+1.6**
GEC2				*e*Sg	**Sg**	**05**	**33 17.1**	**-1.6**
GEC2	**GERESS Array S**	**2.98**	**212**	*e*Pn	**Pn**	**05**	**32 30.5**	**+1.6**
GEC2				*e*Sg	**Sg**	**05**	**33 17.1**	**-1.6**
GERES	**GERESS Array B**	**2.98**	**212**	Pn	**Pn**	**05**	**32 30.5**	**+1.7**
	1.3nm,0.3s,baz=31,slow=13,SNR=19							
GERES				Pg	**Pg**	**05**	**32 38.1**	**-0.8**
	5.0nm,0.3s,baz=29,slow=16,SNR=32							
GERES				Lg		05	33 20.6	
	6.7nm,0.3s,baz=30,slow=27,SNR=10							
GERES	**GERESS Array B**	**2.98**	**212**	Pg	**Pg**	**05**	**32 38.1**	**-0.8**
WET	**Wettzell**	**3.05**	**223**	*e*Pn	**Pn**	**05**	**32 30.6**	**+0.7**
WET	**Wettzell**	**3.05**	**223**	*e*Pn	**Pn**	**05**	**32 30.6**	**+0.7**
NIE	**Niedzica**	**3.36**	**125**	*e*P	**Pg**	**05**	**32 44.0**	**-2.5**
NIE				*e*S	**Sg**	**05**	**33 29.0**	**-2.3**
VYHS	**Vyhne**	**3.42**	**147**	*e*PN	**Pn**	**05**	**32 36.0**	**+1.0**
VYHS				*e*PG	**Pg**	**05**	**32 46.8**	**-0.8**
GRA1	**Grafenberg Arr**	**3.54**	**243**	*e*Pn	**Pn**	**05**	**32 37.7**	**+0.9**
GRA1				*e*Sg	**Sg**	**05**	**33 35.3**	**-1.9**
GRA1	**Grafenberg Arr**	**3.54**	**243**	Pn	**Pn**	**05**	**32 37.7**	**+0.9**
GRA1				Sg	**Sg**	**05**	**33 35.3**	**-1.9**
GRF	**Grafenberg Arr**	**3.54**	**243**	*e*Pn	**Pn**	**05**	**32 37.7**	**+0.9**
GRF				*e*Sg	**Sg**	**05**	**33 35.3**	**-1.9**
MOA	**Molln**	**3.75**	**199**	⇑*i* Pn	**Pn**	**05**	**32 40.9**	**+1.2**
MOA				⇓*i* Sg	**Sg**	**05**	**33 46.0**	**+1.8**
	comp=Z,21nm,0.6s							
BSD	**Bornholm Skovb**	**3.78**	**350**	*i* P	**Pn**	**05**	**32 37.8**	**-2.5**
BSD				*i* S	**Sn**	**05**	**33 19.8**	**-6.3**
STHS	**Stebnicka Huta**	**3.86**	**119**	*e*PN	**Pn**	**05**	**32 41.2**	**-0.1**
STHS				*e*PG	**Pg**	**05**	**32 54.4**	**-2.1**
KWP	**Kalwaria**	**4.59**	**110**	*e*P	**Pg**	**05**	**33 06.0**	**-5.1**
KWP				*e*S	**Sg**	**05**	**34 16.0**	**+3.8**
KWP	**Kalwaria**	**4.59**	**110**	*e*Pn	**Pg**	**05**	**33 05.8**	**-5.2**
KWP				*e*Pg	Px	05	33 29.5	
KWP				*e*Sg	**Sg**	**05**	**34 15.8**	**+3.6**
KWP	**Kalwaria**	**4.59**	**110**	*e*Pn	**Pn**	**05**	**32 47.5**	**-4.2**
KWP				*e*Pg	Px	05	33 29.5	
KWP				*e*Sg	**Sg**	**05**	**34 15.8**	**+3.6**
KWP	**Kalwaria**	**4.59**	**110**	*e*Pn	**Pn**	**05**	**32 47.5**	**-4.2**
DAVOX	**Davos**	**6.16**	**224**	Lg		05	34 56.8	
	0.3nm,0.3s,baz=211,slow=20,SNR=3.1							
AKASG	**Malin Array Be**	**8.32**	**90**	Pn	**P**	**05**	**33 40.8**	**-3.4**
	0.9nm,0.3s,baz=279,slow=12,SNR=4.9							
HFS	**Hagfors**	**8.85**	**352**	Pn	**P**	**05**	**33 46.9**	**-4.8**
	0.0nm,0.3s,baz=173,slow=15,SNR=4.0							
NOA	**NORSAR Array B**	**10.03**	**346**	Pn	**P**	**05**	**34 02.0**	**-5.7**
	0.1nm,0.3s,baz=149,slow=12,SNR=2.2							
FINES	**FINESS Array B**	**11.47**	**25**	Pn	**P**	**05**	**34 21.6**	**-5.8**
	0.3nm,0.3s,baz=206,slow=11,SNR=7.9							
VAE	**Valguarnera**	**13.97**	**185**	Pn	**P**	**05**	**35 04.8**	**+4.0**
	8.1nm,0.3s,baz=39,slow=8.1,SNR=5.4							
ARCES	**ARCESS Array B**	**18.73**	**10**	Pn	**P**	**05**	**35 55.3**	**-6.1**
	0.3nm,0.3s,baz=196,slow=13,SNR=10							

MEX 29 05:44:29.1±0.6, 17.03N×95.94W, h26km±26km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
OXX	**Oaxaca**	**0.75**	**274**	*i* P	Pb	05	44 41.0	-2.5
OXX				*i* S	Sb	05	44 51.0	-2.4
VHO	**Vista Hermosa**	**0.76**	**273**	*e*P	Pb	05	44 41.6	-2.1
VHO				*i* S	Sb	05	44 51.5	-2.2
CMIG	**Matias Romero**	**1.01**	**86**	*i* P	Pn	05	44 44.7	-3.0
CMIG				*i* S	Sb	05	44 57.7	-3.1
HUIG	**Huatulco**	**1.26**	**187**	*e*P	Pn	05	44 47.9	-3.5
HUIG				*i* S	Sn	05	45 03.7	-3.8
CCIG	**Comitan**	**3.72**	**101**	*i* P	Pn	05	45 28.4	+2.1
CCIG				*i* S	Sn	05	46 06.1	-3.6

MAN 29 05:45:13.1, 8.32N×126.71E, h9km, mb3.7, ML2.4, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BIPH	**Bislig**	**0.37**	**249**	⇑*i* P	Pg	05	45 22.8	+2.1
BIPH				*i* S	Sg	05	45 34.5	+8.7
BUTP	**Butuan**	**1.26**	**301**	*e*P	Pb	05	45 24.5	-12
MATI	**Mati**	**1.44**	**198**	*e*P	Pn	05	45 38.4	-1.0
BUKP	**Musuan**	**1.69**	**255**	*e*P	Pn	05	45 44.7	+1.7
MSLP	**Maasin**	**2.57**	**315**	*e*P	Pn	05	45 55.0	-0.7

*MAN **29** 05:46:45.6,8.62N×127.45E,h1km,mb4.6,ML3.5,MS3.4*
*IDC **29** 05:46:48.6±1.0,8.66N×126.97E,mb3.9/6,mb1 4.1/6, mb1mx3.9/18,mbtmp3.9/6,MS3.2/1,Ms1 3.2/1, ms1mx2.4/26,Error ellipse: s-maj=58.3km s-min=19.3km az=77.0*
*NEIC **29** 05:46:49.5±0.6,8.66N×126.96E,h10km,mb4.5/7,Error ellipse: s-maj=16.9km s-min=9.3km az=87.0*

ISC 29 05:46:46.8±0.6, 8.61N±0.05×127.32E±0.05, h10km, n37, σ1§35/43, mb4.2/15, 3C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BIPH	**Bislig**	**1.04**	**246**	⇑*i* P	**Pb**	**05**	**47 06.7**	**+0.1**
BIPH				*i* S	**Sb**	**05**	**47 17.7**	**-2.4**
BUTP	**Butuan**	**1.72**	**282**	*e*P	**Pn**	**05**	**47 17.0**	**-0.1**
BUTP				*e*S	**Sn**	**05**	**47 38.6**	**-0.7**
MATI	**Mati**	**1.97**	**213**	*e*P	**Pn**	**05**	**47 21.1**	**+0.5**
MATI				*e*S	**Sn**	**05**	**47 45.2**	**-0.4**
SCPH	**Surigao**	**2.15**	**303**	*e*P	**Pn**	**05**	**47 23.6**	**+0.3**
SCPH						05	47 53.9	
DAV	**Davao City (W)**	**2.31**	**229**	*e*Pn	**Pn**	**05**	**47 23.9**	**-1.6**
BUKP	**Musuan**	**2.35**	**252**	*e*P	**Pn**	**05**	**47 27.9**	**+1.7**
CGP	**Cagayan de Oro**	**2.61**	**267**	⇑*e*P	**Pn**	**05**	**47 31.8**	**+2.0**
CGP				*e*S	**Sn**	**05**	**48 02.1**	**+0.3**
KCP	**Kidapawan**	**2.73**	**234**	⇓*e*P	**Pn**	**05**	**47 37.3**	**+5.8**
MSLP	**Maasin**	**2.86**	**302**	*e*P	**Pn**	**05**	**47 35.3**	**+1.9**
CTBH	**Cotabato--PC H**	**3.35**	**246**	⇓*i* P	**Pn**	**05**	**47 41.7**	**+1.4**
PLP	**Palo**	**3.43**	**318**	*e*P	**Pn**	**05**	**47 43.0**	**+1.5**
TBP	**Tagbilaran**	**3.58**	**288**	*e*P	**Pn**	**05**	**47 44.6**	**+0.9**
TBP				*e*S	**Sg**	**05**	**48 56.6**	**+11**
LLP	**Lapu-Lapu**	**3.72**	**297**	⇓*e*P	**Pn**	**05**	**47 46.6**	**+1.0**
LLP				*i* S	**Sn**	**05**	**48 35.4**	**+5.4**
DCPH	**Dipolog City**	**3.93**	**270**	⇓*i* P	**Pn**	**05**	**47 51.6**	**+3.0**
DCPH				*i* S	**Sn**	**05**	**48 33.1**	**-2.2**
SNPH	**Sibulan**	**4.10**	**280**	*e*P	**Pn**	**05**	**47 53.0**	**+1.9**
RCP	**Roxas**	**5.38**	**303**	⇑*e*P	**Pn**	**05**	**48 09.8**	**+0.7**
GUMO	**Guam**	**17.91**	**72**	LR	LR	05	58 18.7	
	comp=Z,75nm,18.3s,baz=238,slow=38							
FITZ	**Fitzroy Crossi**	**26.60**	**184**	*e*P	**P**	**05**	**52 30.5**	**+3.1**
	6.8nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**26.60**	**184**	P	**P**	**05**	**52 30.6**	**+3.2**
	8.6nm,0.6s,mb4.5,baz=5.3,slow=8.3,SNR=17							
ENH	**Enshi**	**27.25**	**325**	*e*P	**P**	**05**	**52 31.8**	**-1.5**
	5.1nm,0.8s,mb4.1							
KS15	**Wonju Array Si**	**28.70**	**1**	P	**P**	**05**	**52 44.5**	**-1.9**
WRA	**Warramunga Arr**	**29.20**	**166**	P	**P**	**05**	**52 51.6**	**+0.5**
	0.7nm,0.7s,mb3.5,baz=346,slow=9.6,SNR=3.4							
MBWA	**Marble Bar**	**30.51**	**194**	P	**P**	**05**	**53 02.0**	**-0.6**
	17nm,1.2s,mb4.8							
ULN	**Ulaanbaatar**	**42.72**	**340**	P	**P**	**05**	**54 45.4**	**-0.4**
	17nm,2.1s,mb4.4							
SONM	**Songino Array**	**42.92**	**339**	P	**P**	**05**	**54 47.9**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=164,slow=10,SNR=3.0							
SONM	**Songino Array**	**42.92**	**339**	P	**P**	**05**	**54 47.9**	**+0.5**
JIRN	**Jiri**	**43.17**	**301**	*e*P	**P**	**05**	**54 48.6**	**-1.1**
	10nm,0.6s,mb4.7							
GUN	**Gumba**	**43.51**	**302**	*e*P	**P**	**05**	**54 51.3**	**-1.2**
	6.2nm,0.4s,mb4.7							
PKI	**Pulchoki**	**43.80**	**301**	*e*P	**P**	**05**	**54 53.5**	**-1.4**
GKN	**Gorkha**	**44.58**	**301**	*e*P	**P**	**05**	**55 00.5**	**-0.7**
	5.3nm,0.2s,mb4.9							
KOLN	**Koldanda**	**45.40**	**301**	*e*P	**P**	**05**	**55 06.0**	**-1.7**
	3.5nm,0.4s,mb4.5							
MKAR	**Makanchi Array**	**53.97**	**323**	P	**P**	**05**	**56 12.3**	**-0.8**
	0.8nm,0.5s,mb3.9,baz=122,slow=8.4,SNR=9.8							
MKAR	**Makanchi Array**	**53.97**	**323**	P	**P**	**05**	**56 12.3**	**-0.8**
KURK	**Kurchatov**	**58.01**	**326**	*e*P	**P**	**05**	**56 40.5**	**-1.6**
	4.1nm,0.8s,mb4.5							
BVAR	**Borovoye Array**	**63.61**	**326**	P	**P**	**05**	**57 19.3**	**-0.9**
	1.0nm,0.7s,mb4.0,baz=104,slow=6.1,SNR=4.6							
COLA	**College**	**80.06**	**26**	P	**P**	**05**	**58 59.6**	**+1.6**
	9.1nm,1.3s,mb4.5							
ILAR	**Eielson Array**	**80.47**	**26**	P	**P**	**05**	**59 03.4**	**+3.2**
	0.5nm,0.6s,mb3.6,baz=242,slow=5.3,SNR=7.2							

*CSEM **29** 05:54:33.9±0.1,51.51N×16.12E,h2km,ML3.9/17,Ms3.7, Error ellipse: s-maj=1.6km s-min=1.3km az=7.0*
*IPEC **29** 05:54:33.9±0.3,51.51N×16.21E,ML3.2/4,Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*
*BGR **29** 05:54:34.5±0.6,51.47N×16.15E,h1km,ML3.7/11,Error ellipse: s-maj=7.8km s-min=5.6km az=161.0*
*NEIC **29** 05:54:34.1±0.3,51.53N×16.07E,h5km,mb3.8/3, ML3.7(SZGRF),ML3.7(VIE),Error ellipse: s-maj=4.7km s-min=4.2km az=111.0*
*LDG **29** 05:54:34.9±0.2,51.44N×16.03E,h1km,Ml4.0/5,Error ellipse: s-maj=5.2km s-min=4.5km az=22.0,Suspected Mining induced.*
*IDC **29** 05:54:35.4±0.6,51.47N×15.96E,mb3.6/4,mb1 3.8/12, mb1mx3.7/23,mbtmp3.6/12,ML3.5/8,Error ellipse: s-maj=9.9km s-min=6.3km az=94.0*
*WAR **29** 05:54:35.8,51.45N×16.08E,h1km,ML3.5,Mining Induced*
*PRU **29** 05:54:35.0,51.47N×16.12E*
*VIE **29** 05:54:37.5±0.7,51.27N×16.00E,mb3.0/7,ML3.1/9, Ms3.7/1,Error ellipse: s-maj=4.6km s-min=3.5km az=14.0, Suspected Mining induced.*
*UPP **29** 05:54:39.4,51.75N×15.77E,h0km,ML3.1,Mining explosion.*

ISC 29 05:54:32.3±0.2, 51.44N±0.01×16.10E±0.02, n126, σ1§57/212, mb3.8/6, 15C-11D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KSP	**Ksiaz**	**0.61**	**168**	⇓*i* PG	**Pg**	**05**	**54 47.2**	**+2.7**
KSP				⇓*e* SG	**Sg**	**05**	**54 55.2**	**+2.5**
KSP	**Ksiaz**	**0.61**	**168**	*e*Pg	**Pg**	**05**	**54 47.2**	**+2.7**
KSP				*e*Sg	**Sg**	**05**	**54 55.9**	**+3.2**
KSP	**Ksiaz**	**0.61**	**168**	⇓*i* Pg	**Pg**	**05**	**54 47.2**	**+2.7**
KSP				*e*Sg	**Sg**	**05**	**54 55.0**	**+2.3**
KSP				*e*		05	55 00.5	
UPC	**Upice**	**0.94**	**183**	*e*PG	**Pg**	**05**	**54 53.1**	**+2.1**
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*PG	**Pg**	**05**	**54 56.0**	**+1.7**
DPC				*e*SG	**Sg**	**05**	**55 10.6**	**+1.6**
	348nm,0.5s							
DPC	**Dobruska-Polom**	**1.10**	**172**	Pg	**Pg**	**05**	**54 56.0**	**+1.7**
DPC				*e*Sg	**Sg**	**05**	**55 10.7**	**+1.7**
PVCC	**Panska Ves**	**1.33**	**227**	*e*PG	**Pg**	**05**	**55 00.2**	**+1.4**
PVCC	**Panska Ves**	**1.33**	**227**	*e*Pg	**Pg**	**05**	**55 00.1**	**+1.3**
PVCC				*e*Sg	**Sg**	**05**	**55 18.8**	**+2.2**
BRG	**Berggiesshubel**	**1.47**	**248**	*e*Pn	**Pn**	**05**	**55 01.5**	**+1.4**
BRG				*e*Sg	**Sg**	**05**	**55 23.3**	**+2.1**
BRG	**Berggiesshubel**	**1.47**	**248**	Pn	**Pn**	**05**	**55 01.4**	**+1.3**
BRG				Pg	**Pg**	**05**	**55 02.9**	**+1.3**
BRG				Sg	**Sg**	**05**	**55 23.2**	**+2.0**
BRG	**Berggiesshub

NIE				*e*S		**Sg**	**05 56 23.0**	**-1.6**
VYHS	**Vyhne**	**3.44**	**148**	*e*PN		**Pn**	**05 55 29.9**	**+1.7**
VYHS				*e*PG		**Pg**	**05 55 39.7**	**-1.3**
GRA1	**Grafenberg Arr**	**3.57**	**242**	*e*Pn		**Pn**	**05 55 31.6**	**+1.6**
GRA1				*e*Sg		**Sg**	**05 56 29.4**	**-1.6**
GRA1	**Grafenberg Arr**	**3.57**	**242**	Pn		**Pn**	**05 55 31.6**	**+1.6**
GRA1				Sg		**Sg**	**05 56 29.4**	**-1.6**
GRF	**Grafenberg Arr**	**3.57**	**242**	*e*Pn		**Pn**	**05 55 31.6**	**+1.6**
GRF				*e*Sg		**Sg**	**05 56 29.4**	**-1.6**
BSD	**Bornholm Skovb**	**3.75**	**350**	*i* P		**Pn**	**05 55 31.5**	**-1.1**
BSD				*i* S		**Sn**	**05 56 15.4**	**-2.7**
MOA	**Molln**	**3.79**	**199**	⇑*i*PN		**Pn**	**05 55 34.7**	**+1.5**
MOA				*i* Sg		**Sg**	**05 56 36.5**	**-1.9**
	105nm,0.9s							
MOA	**Molln**	**3.79**	**199**	⇑*i*Pn		**Pn**	**05 55 34.7**	**+1.5**
	SNR=19							
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*PN		**Pn**	**05 55 36.1**	**+1.8**
STHS				*e*PG		**Pg**	**05 55 48.4**	**-1.1**
KECS	**Kecovo**	**4.10**	**135**	*e*PN		**Pn**	**05 55 40.0**	**+2.4**
ARSA	**Arzberg**	**4.21**	**185**	⇑*i*PN		**Pn**	**05 55 41.7**	**+2.5**
ARSA				*i* SG		**Sg**	**05 56 50.7**	**-1.8**
	80nm,0.7s							
ARSA	**Arzberg**	**4.21**	**185**	⇑*i*Pn		**Pn**	**05 55 41.7**	**+2.5**
PSZ	**Piszkesteto**	**4.30**	**144**	*e*PN		**Pn**	**05 55 41.1**	**+0.6**
KWP	**Kalwaria**	**4.59**	**111**	*e*PN		**Pn**	**05 55 45.0**	**+0.4**
KWP				*e*PN		**Pg**	**05 56 04.0**	**+0.1**
KWP				*e*S		**Sg**	**05 57 04.0**	**-1.1**
KWP	**Kalwaria**	**4.59**	**111**	*e*Pn		**Pn**	**05 55 45.0**	**+0.4**
KWP				*e*Pg		**Pg**	**05 56 04.5**	**+0.6**
KWP				*e*Sg		**Sg**	**05 57 04.3**	**-0.8**
KOLS	**Kolonicke sedl**	**4.70**	**120**	*e*PN		**Pn**	**05 55 48.2**	**+2.1**
KBA	**Koelnbreinsper**	**4.72**	**203**	⇓*i*PN		**Pn**	**05 55 48.4**	**+1.9**
KBA				*i* SG		**Sg**	**05 57 06.3**	**-3.3**
	43nm,0.7s							
KBA	**Koelnbreinsper**	**4.72**	**203**	⇓*i*Pn		**Pn**	**05 55 48.4**	**+1.9**
OBKA	**Obir**	**5.04**	**192**	⇑*i*PG		**Pg**	**05 56 11.4**	**-1.5**
OBKA				*i* SG		**Sg**	**05 57 18.4**	**-1.7**
	19nm,0.7s							
OBKA	**Obir**	**5.04**	**192**	⇑*i*Pg		**Pg**	**05 56 11.4**	**-1.5**
	19nm,0.7s							
OBKA				*i* Sg		**Sg**	**05 57 18.4**	**-1.7**
WATA	**Walderalm**	**5.06**	**217**	⇑*i*PN		**Pn**	**05 55 53.4**	**+2.2**
WATA				*i* SG		**Sg**	**05 57 20.4**	**-0.3**
	18nm,0.5s							
WATA	**Walderalm**	**5.06**	**217**	⇑*i*Pn		**Pn**	**05 55 53.4**	**+2.2**
WATA	**Walderalm**	**5.06**	**217**	⇑*i*Pn		**Pn**	**05 55 53.4**	**+2.2**
	18nm,0.5s							
WATA				*i* Sg		**Sg**	**05 57 20.4**	**-0.3**
WTTA	**Wattenberg**	**5.10**	**217**	⇑*i*PN		**Pn**	**05 55 53.3**	**+1.6**
WTTA				*i* SG		**Sg**	**05 57 18.0**	**-3.9**
	16nm,0.6s							
WTTA	**Wattenberg**	**5.10**	**217**	⇑*i*Pn		**Pn**	**05 55 53.3**	**+1.6**
WTTA	**Wattenberg**	**5.10**	**217**	⇑*i*Pn		**Pn**	**05 55 53.3**	**+1.6**
	16nm,0.6s							
WTTA				*i* Sg		**Sg**	**05 57 18.0**	**-3.9**
MOTA	**Moosalm**	**5.24**	**220**	⇓*i*PN		**Pn**	**05 55 55.2**	**+1.5**
MOTA				*i* SG		**Sg**	**05 57 25.2**	**-1.4**
	49nm,0.9s							
MOTA	**Moosalm**	**5.24**	**220**	⇓*i*Pn		**Pn**	**05 55 55.2**	**+1.4**
MOTA	**Moosalm**	**5.24**	**220**	⇓*i*Pn		**Pn**	**05 55 55.2**	**+1.5**
	49nm,0.9s							
MOTA				*i* Sg		**Sg**	**05 57 25.2**	**-1.4**
SCE	**Schlegeis**	**5.26**	**215**	*e*Pn		**Pn**	**05 55 55.0**	**+0.9**
SQTA	**Sankt Quirin**	**5.30**	**219**	⇓*i*PN		**Pn**	**05 55 56.7**	**+2.1**
SQTA				*i* SG		**Sg**	**05 57 26.9**	**-1.7**
	8.0nm,0.3s							
SQTA	**Sankt Quirin**	**5.30**	**219**	⇓*i*PN		**Pn**	**05 55 56.7**	**+2.2**
SQTA	**Sankt Quirin**	**5.30**	**219**	⇓*i*Pn		**Pn**	**05 55 56.7**	**+2.1**
	8.0nm,0.3s							
SQTA				*i* Sg		**Sg**	**05 57 26.9**	**-1.7**
VXJU	**Vaexsjoe**	**5.53**	**353**	P		**Pn**	**05 55 56.6**	**-1.3**
CRES	**Cresnjev**	**5.64**	**185**	*i* Pn		**Pn**	**05 56 01.0**	**+1.7**
CRES				*e*			05 57 12.1	
VISS	**Visnje**	**5.70**	**189**	*e*Pn		**Pn**	**05 56 01.7**	**+1.4**
OSKU	**Oskarshamn**	**5.77**	**0**	P		**Pn**	**05 56 00.2**	**-1.0**
DAVA	**Damuels**	**5.81**	**227**	⇑*i*PN		**Pn**	**05 56 01.8**	**0.0**
DAVA				*i* SG		**Sg**	**05 57 42.2**	**-3.5**
	27nm,0.7s							
DAVA	**Damuels**	**5.81**	**227**	⇑*i*Pn		**Pn**	**05 56 01.8**	**0.0**
DAVA	**Damuels**	**5.81**	**227**	⇑*i*Pn		**Pn**	**05 56 01.8**	**0.0**
	27nm,0.7s							
DAVA				*i* Sg		**Sg**	**05 57 42.2**	**-3.5**
EKSU	**Eksjoe**	**6.16**	**356**	P		**Pn**	**05 56 06.2**	**-0.6**
DAVOX	**Davos**	**6.20**	**224**	Pn		**Pn**	**05 56 08.5**	**+1.3**
	0.9nm,0.3s,baz=1.7,slow=15,SNR=14							
DAVOX				Lg			05 57 52.6	
	0.8nm,0.3s,baz=49,slow=23,SNR=4.8							
VSTU	**Vaestervik**	**6.24**	**2**	P		**Pn**	**05 56 07.0**	**-0.9**
GOTU	**Gotland**	**6.42**	**12**	P		**Pn**	**05 56 09.2**	**-1.2**
CDF	**Champ du Feu**	**6.45**	**245**	*e*Pn		**Pn**	**05 56 09.5**	**-1.4**
CDF				*e*Sg		**Sg**	**05 57 55.5**	**-12**
	72nm,1.0s							
LNKU	**Linkoeping**	**6.81**	**357**	P		**Pn**	**05 56 14.1**	**-1.8**
HINF	**Hinteralfeld**	**7.01**	**242**	*e*Pn		**Pn**	**05 56 15.8**	**-3.0**
HINF				*e*Sg		**Sg**	**05 58 14.9**	**-11**
	48nm,0.9s							
VIKU	**Vikbolandet**	**7.08**	**3**	P		**Pn**	**05 56 18.4**	**-1.4**
HAU	**Haudompre**	**7.19**	**245**	*e*Pn		**Pn**	**05 56 19.4**	**-1.9**
HAU				*e*Sg		**Sg**	**05 58 19.6**	**-12**
	39nm,0.9s							
RFYF	**Reffroy**	**7.40**	**252**	*e*P		**Pn**	**05 56 26.1**	**+1.9**
BAIF	**Baives**	**7.67**	**264**	*e*Pn		**Pn**	**05 56 24.2**	**-3.8**
ESKU	**Eskilstuna**	**7.81**	**1**	P		**Pn**	**05 56 28.2**	**-1.7**
SFTF	**Sexfontaines**	**7.85**	**250**	*e*Pn		**Pn**	**05 56 27.1**	**-3.4**
CABF	**La Chapelle**	**8.16**	**238**	*e*Sg		**Sg**	**05 58 50.6**	**-13**
	66nm,1.0s							
AKASG	**Malin Array Be**	**8.30**	**90**	Pn		**P**	**05 56 34.8**	**-2.0**
	2.6nm,0.3s,baz=277,slow=12,SNR=12							
AKASG				Sn		**Sn**	**05 58 06.0**	**-6.5**
	1.8nm,0.3s,baz=279,slow=24,SNR=4.9							
AKASG				Lg			05 59 04.4	
	baz=271,slow=28,SNR=5.4							
HFS	**Hagfors**	**8.82**	**352**	Pn		**P**	**05 56 41.3**	**-2.7**
	0.1nm,0.3s,baz=166,slow=14,SNR=15							
HFS				Sn		**Sn**	**05 58 17.1**	**-8.2**
	0.1nm,0.3s,baz=151,slow=30,SNR=3.5							
OSTU	**Oestervaala**	**8.83**	**3**	P		**P**	**05 56 42.8**	**-1.3**
KONO	**Kongsberg**	**9.01**	**338**	P		**P**	**05 56 45.1**	**-1.5**
	14nm,0.9s							
LOR	**Lormes**	**9.01**	**247**	*e*Pn		**P**	**05 56 43.0**	**-3.6**
	baz=61							
MBDF	**Montbardon**	**9.16**	**226**	*e*P		**P**	**05 56 50.2**	**+1.4**
ORIF	**Oris-en-Rattie**	**9.44**	**230**	*e*Pn		**P**	**05 56 48.7**	**-3.8**
ORIF				*e*P			05 56 54.3	
ORIF	**Oris-en-Rattie**	**9.44**	**230**	*e*P		**P**	**05 56 54.3**	**+1.8**
SBF	**Sospel**	**9.57**	**221**	*e*Pn		**P**	**05 56 51.0**	**-3.2**
BGF	**Bois d'Agland**	**9.98**	**246**	*e*Pn		**P**	**05 56 56.5**	**-3.4**
NOA	**NORSAR Array B**	**9.99**	**346**	Pn		**P**	**05 56 56.3**	**-3.8**
	0.4nm,0.3s,baz=202,slow=12,SNR=2.8							
NOA				Sn		**Sn**	**05 58 44.8**	**-9.4**
	0.2nm,0.3s,baz=197,slow=17,SNR=2.1							
FINES	**FINESS Array B**	**11.43**	**25**	Pn		**P**	**05 57 15.6**	**-4.1**
	0.9nm,0.3s,baz=213,slow=11,SNR=22							
FINES				Sn		**S**	**05 59 18.6**	**-11**
	0.3nm,0.3s,baz=229,slow=22,SNR=5.3							
FINES	**FINESS Array B**	**11.43**	**25**	Pn		**P**	**05 57 15.6**	**-4.1**
FINES				Sn		**S**	**05 59 18.6**	**-11**
KAF	**Kangasniemi**	**12.05**	**24**	*ep*		**P**	**05 57 24.0**	**-4.2**
	4.6nm,1.0s							
ARCES	**ARCESS Array B**	**18.69**	**10**	Pn		**P**	**05 58 49.4**	**-4.3**
	0.4nm,0.3s,baz=192,slow=13,SNR=20							
KEV	**Kevo**	**19.08**	**12**	*ep*		**P**	**05 58 54.6**	**-3.8**
	2.9nm,0.8s							
ARU	**Arti**	**25.18**	**62**	*e*P		**P**	**06 00 01.7**	**+1.3**
	10nm,1.1s,mb4.5							
BVAR	**Borovoye Array**	**32.63**	**65**	P		**P**	**06 01 09.1**	**+1.6**
	0.4nm,0.4s,mb3.7,baz=315,slow=8.4,SNR=4.5							
KURK	**Kurchatov**	**38.22**	**66**	P		**P**	**06 01 51.9**	**-3.3**
	1.8nm,1.0s,mb3.8							
SONM	**Songino Array**	**54.96**	**55**	P		**P**	**06 04 07.7**	**+0.7**
	0.9nm,0.9s,mb3.8,baz=304,slow=11,SNR=6.3							
PDAR	**Pinedale Array**	**74.99**	**322**	P		**P**	**06 06 17.9**	**+1.1**
	0.4nm,0.8s,mb3.5,baz=112,slow=4.9,SNR=3.6							
PDAR	**Pinedale Array**	**74.99**	**322**	P		**P**	**06 06 17.9**	**+1.1**
TXAR	**Lajitas Array**	**83.75**	**310**	P		**P**	**06 07 07.0**	**+2.7**
	0.7nm,1.2s,mb3.8,baz=100,slow=5.5,SNR=3.0							

NSSP ***29*** *06:01:56.5, 39.03N×45.80E, h9km, ML3.3*
CSEM ***29*** *06:02:08.9±0.1, 39.31N×46.05E, h2km, ML3.6, Error ellipse: s-maj=3.5km s-min=1.9km az=21.0*
THR ***29*** *06:02:09.0±0.3, 39.56N×46.08E, h14km±3km, ML3.4*
TEH ***29*** *06:02:19.2, 38.70N×45.83E, h10km, Mn3.6*

NNC ***29*** *06:02:25.9±9.7, 39.38N×47.55E, h20km±92km, Error ellipse: s-maj=63.6km s-min=52.4km az=70.0*
MOS ***29*** *06:02:30.1±2.9, 40.15N×46.27E, h112km, mb3.9/4, Error ellipse: s-maj=17.6km s-min=13.9km az=85.4*

ISC 29 06:02:12.6±0.3, 39.10N±0.03×46.07E±0.03, h10km, n62, σ1$57/78, mb3.8/6, 7C-7D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMRD	**Marand**	**0.48**	**216**	Pg	**Pg**	**06 02 21.4**	**-1.0**
ISHB	**Shabestar**	**0.89**	**203**	Pg	**Pg**	**06 02 29.0**	**-1.5**
MAKU	**Maku**	**1.10**	**284**	*e*Pg	**Pg**	**06 02 29.6**	**-5.1**
MAKU				*e*PG	**Pg**	**06 02 29.7**	**-5.0**
IHSH	**Hashtroud**	**1.23**	**130**	Pn	**Sg**	**06 02 49.7**	**-3.9**
IAZR	**Azarshahr**	**1.42**	**183**	Pn	**Pn**	**06 02 39.1**	**+0.5**
GRMI	**Germi**	**1.45**	**101**	*e*PG	**Pg**	**06 02 38.5**	**-3.2**
GRMI				*e*SG	**Sg**	**06 02 59.8**	**-1.3**
GNI	**Garni**	**1.46**	**316**	*i* PN	**Pn**	**06 02 35.1**	**-4.1**
GNI				*i* SN	**Sn**	**06 02 52.9**	**-5.6**
GNI	**Garni**	**1.46**	**316**	*d i*P	**Sg**	**06 02 54.9**	**-6.5**
IBST	**Bostanabad**	**1.54**	**155**	Pn	**Pn**	**06 02 41.7**	**+1.4**
CLDR	**Caldiran**	**1.67**	**272**	PN	**Pn**	**06 02 38.8**	**-3.4**
ISRB	**Sarab**	**1.79**	**135**	Pn	**Pn**	**06 02 45.2**	**+1.3**
NPPZ	**NPP**	**1.83**	**306**	⇓P	**Pn**	**06 02 34.7**	**-10**
NPPZ				S	**Sn**	**06 02 57.4**	**-11**
AMBZ	**Amberd**	**1.90**	**313**	P	**Pn**	**06 02 36.0**	**-9.4**
AMBZ				S	**Sn**	**06 03 00.6**	**-8.9**
SEMD	**Semdilli**	**2.13**	**215**	PN	**Pn**	**06 02 49.4**	**+0.6**
VANB	**Van**	**2.15**	**257**	PN	**Pn**	**06 02 47.8**	**-1.3**
TVAN	**Van**	**2.16**	**255**	*i* P	**Pn**	**06 02 48.9**	**-0.3**
TVAN				*i* S	**Sg**	**06 03 28.3**	**+3.8**
VANT	**Van**	**2.19**	**253**	*e*PN	**Pn**	**06 02 50.2**	**+0.5**
HKR	**Hakkari**	**2.38**	**231**	*e*PN	**Pn**	**06 02 52.3**	**0.0**
DGRG	**David-gareji**	**2.41**	**347**	P	**Pn**	**06 02 51.7**	**-0.9**
DGRG				S	**Sn**	**06 03 17.9**	**-4.6**
HAKT	**HAKKARI**	**2.41**	**231**	*i* P	**Pn**	**06 02 54.1**	**+1.4**
HAKT				*i* S	**Sn**	**06 03 29.9**	**+7.3**
DIGO	**Kars**	**2.46**	**303**	*i* P	**Pn**	**06 02 51.3**	**-2.1**
DIGO				*i* S	**Sn**	**06 03 23.1**	**-0.6**
KARS	**Kars**	**2.74**	**304**	*e*PN	**Pn**	**06 02 54.2**	**-3.3**
MTA	**Mtatsminda**	**2.77**	**340**	P	**Pn**	**06 02 58.6**	**+0.7**
MTA				S	**Sn**	**06 03 34.6**	**+3.0**
TI2	**Plekhanov**	**2.81**	**339**	⇑*i*P	**Pn**	**06 02 58.0**	**-0.5**
TI2				*i* S	**Sn**	**06 03 35.0**	**+2.2**
TI2				pmax	pmax		
	comp=Z,170nm,0.4s						
TI2				pmax	pmax		
	comp=Z,1μm,0.5s						
TI2				smax			
	comp=E,2μm,0.6s						
TBLG	**Delisi**	**2.81**	**339**	P	**Pn**	**06 02 58.9**	**+0.3**
TBLG				S	**Sn**	**06 03 34.6**	**+1.7**
AKH	**Akhalkalaki**	**3.03**	**320**	P	**Pn**	**06 03 03.6**	**+2.0**
AKH				S	**Sn**	**06 03 42.1**	**+3.7**
GOR	**Gori**	**3.24**	**333**	P	**Pn**	**06 03 07.2**	**+2.6**
GOR				S	**Sn**	**06 03 48.8**	**+5.1**
SIRT	**Sirnak**	**3.27**	**242**	*e*PN	**Pn**	**06 03 04.7**	**-0.3**
MSL	**Mosul**	**3.67**	**221**	*ex*		06 03 39.5	
MSL				*ex*		06 04 02.0	
MSL				*ex*		06 04 35.5	
ERZM	**Erzurum**	**3.72**	**284**	*i* P	**Pn**	**06 03 18.3**	**+6.9**
EZM	**Erzurum**	**3.73**	**284**	*e*PN	**Pn**	**06 03 09.2**	**-2.3**
ARTV	**Artvin**	**3.79**	**305**	*i* P	**Pn**	**06 03 18.2**	**+5.8**
BEST	**Besiri**	**3.95**	**254**	*i* P	**Pn**	**06 03 22.2**	**+7.5**
ONI	**Oni**	**4.00**	**331**	P	**Pn**	**06 03 19.7**	**+4.3**
ONI				S	**Sn**	**06 04 11.2**	**+8.3**
IGZV	**Gazvin**	**4.26**	**128**	Pn	**Pn**	**06 03 22.6**	**+3.5**
IGZV	**Gazvin**	**4.26**	**128**	Sn	**Sn**	**06 04 09.2**	**-0.3**
MARD	**Mardin**	**4.53**	**248**	*i* P	**Pn**	**06 03 20.2**	**-2.7**
MARD				*i* S	**Sg**	**06 04 45.1**	**+1.6**
THKV	**Tehran--Karaj**	**4.97**	**128**	*e*PN	**Pn**	**06 03 29.7**	**+0.5**
PTK	**Pertek**	**5.21**	**270**	*e*PN	**Pn**	**06 03 30.1**	**-2.3**
KIV	**Kislovodsk**	**5.47**	**333**	*e*P	**Pn**	**06 03 44.8**	**+8.6**
KIV				pmax	pmax		
	comp=Z,14nm,0.7s						
KIV				MLR	MLR		
	comp=Z,45nm,14.0s						
ASAO	**Ashtian**	**5.54**	**144**	*e*PN	**Pn**	**06 03 38.7**	**+1.5**
ASAO				AML	AML	06 05 15.7	
	comp=N,8.9nm,0.7s						
DAMV	**Damavand**	**5.84**	**125**	*e*PN	**Pn**	**06 03 41.2**	**-0.2**
DAMV				AML	AML	06 05 33.2	
	comp=N,15nm,0.5s						
IQOM	**Qom**	**5.84**	**135**	Lg		06 05 16.4	
IDMV	**Damavand**	**5.91**	**125**	Pn	**Pn**	**06 03 45.9**	**+3.5**
IVRN	**Varamin**	**6.11**	**130**	Pn	**Pn**	**06 03 47.5**	**+2.4**
IFIR	**Firoozkooh**	**6.35**	**121**	Pn	**Pn**	**06 03 51.8**	**+3.3**
AKTO	**Aktyubinsk**	**14.13**	**33**	⇓P	**P**	**06 05 34.0**	**-0.9**
	comp=N,1.4nm,1.4s						
AKTO				⇓S	**S**	**06 08 00.1**	**-13**
	comp=N,3.6nm,3.1s						
AB31	**Akbulak array**	**14.20**	**40**	⇑P	**P**	**06 05 32.2**	**-3.5**
	comp=N,1.1nm,0.7s,baz=225,slow=12,SNR=6.2						
AB31				⇓S	**S**	**06 08 01.6**	**-13**
	comp=N,1.0nm,0.6s						
OBN	**Obninsk**	**17.25**	**341**	⇓*e*P	**P**	**06 06 10.6**	**-4.3**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KK31	**Karatay Array**	**18.83**	**70**	P	**P**	**06 06 30.7**	**-4.0**
	comp=Z,2.6nm,0.7s,baz=273,slow=12,SNR=22						
ARU	**Arti**	**19.21**	**21**	⇑*i*P	**P**	**06 06 38.7**	**-0.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**21.70**	**42**	*e*P	**P**	**06 07 03.8**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.8						
BVA0	**Borovoye Array**	**21.74**	**42**	P	**P**	**06 07 07.4**	**+1.6**
	comp=Z,0.8nm,0.8s,mb3.2,baz=229,slow=12,SNR=13						
AAK	**Ala-Archa**	**21.74**	**72**	⇑*e*P	**P**	**06 07 08.6**	**+2.6**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb3.9						
VOSK	**Vostochnaya**	**21.90**	**43**	⇓P	**P**	**06 07 05.5**	**-2.0**
	comp=Z,5.5nm,1.1s,mb3.9						
CHKZ	**Chkalovo**	**22.19**	**41**	P	**P**	**06 07 10.2**	**-0.1**
KHC	**Kasperske Hory**	**25.21**	**304**	*i* P	**P**	**06 07 42.3**	**+2.6**
KURK	**Kurchatov**	**25.60**	**52**	*i* P	**P**	**06 07 44.4**	**+1.0**
MK31	**Makanchi Array**	**27.42**	**62**	⇑P	**P**	**06 08 00.0**	**-0.1**
	comp=Z,1.7nm,0.7s,mb3.7,baz=264,slow=5.9,SNR=11						
MKAR	**Makanchi Array**	**27.42**	**62**	⇑*i*P	**P**	**06 08 00.9**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**44.07**	**58**	⇑*e*P	**P**	**06 10 22.6**	**+0.4**
BOD	**Bodaibo**	**46.60**	**43**	*e*P	**P**	**06 10 38.6**	**-3.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						

CSEM ***29*** *06:52:17.3±1.0, 39.43N×29.89W, h15km, ML2.5, Error ellipse: s-maj=22.5km s-min=5.3km az=48.0*
PDA ***29*** *06:52:17.3±1.0, 39.43N×29.89W, h15km, MD3.3, ML2.5, Error ellipse: s-maj=22.5km s-min=5.3km az=48.0*

SVSA 29 06:52:17.3±1.0, 39.43N×29.89W, h15km, MD3.3, ML2.5, Error ellipse: s-maj=22.5km s-min=5.3km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**1.20**	**134**	*e*P	Pb	06 52 36.0	-3.2
PTCA				*e*S	Sb	06 52 49.1	-5.2
	12nm,0.1s						
CALA	**Caldeira**	**1.26**	**132**	*e*P	Pb	06 52 35.9	-4.3
CALA				*e*S	Sb	06 52 50.5	-5.5
HOR	**Horta**	**1.33**	**132**	*ex*		06 52 36.9	
HOR	**Horta**	**1.33**	**132**	*e*P	Pn	06 52 36.9	-4.6
HOR				*e*S	Sb	06 52 51.6	-6.6
HOR	**Horta**	**1.33**	**132**	*e*P	Pn	06 52 36.9	-4.6
HOR				*e-*		06 52 36.9	
HOR				*e*S	Sb	06 52 51.6	-6.6
ROSA	**Rosais**	**1.47**	**118**	*e*P	Pn	06 52 39.0	-4.4
ROSA				*e*S	Sb	06 52 55.0	-7.1
PCND	**Candelaria**	**1.47**	**130**	*e*P	Pn	06 52 39.9	-3.5
PCND				*e*S	Sb	06 52 55.9	-6.3
	32nm,0.3s						
PICO	**Pico**	**1.47**	**129**	*e*P	Pn	06 52 39.1	-4.4
PICO				*e*S	Sb	06 52 55.5	-6.7
PBOI	**Pico dos Bois**	**1.54**	**129**	*e*P	Pn	06 52 40.8	-3.7
PBOI				*e*S	Sn	06 52 58.3	-6.0
	12nm,0.2s						

NIED ***29*** *07:14:00, 47.30N×154.00E, h23km, Mw4.1 Best double couple: M0 1.45×10^15 NP1:φs 44°, δ 71°, λ 155°. NP2:φs 143°, δ 66°, λ 21°.*
IDC ***29*** *07:14:48.6±0.9, 46.99N×153.85E, mb4.2/14, mb1 4.3/15, mb1mx4.3/21, mbtmp4.1/15, ML4.0/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/20, Error ellipse: s-maj=25.2km s-min=18.4km az=172.0*
BJI ***29*** *07:14:51.3, 47.24N×154.16E, h35km, mB4.6, mb4.9, Ms4.1, Ms3.7*
MOS ***29*** *07:14:51.8±1.4, 47.03N×153.98E, h35km, mb4.8/14, Error ellipse: s-maj=10.0km s-min=7.9km az=77.4*
NEIC ***29*** *07:14:53.0±3.5, 47.03N×153.98E, h29km±25km, mb4.7/15, Error ellipse: s-maj=15.3km s-min=8.9km az=135.0*

ISC 29 07:14:48.1±2.1, 46.95N±0.08×154.0E±0.1, h9km±13km, n99, σ1$28/102, mb4.6/40, MS3.6/7, 4C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.98**	**20**	*e*PN	**Pn**	**07 15 49.5**	**-1.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**4.61**	**250**	*e*PN	**Pn**	**07 16 00.5**	**+0.9**
KUR				*e*S	**Sn**	**07 16 58.5**	**+4.6**
KUR				pmax	pmax		
	comp=N,70nm,0.6s						
KUR				pmax	pmax		
	comp=E,70nm,0.6s						
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,160nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.43**	**246**	PN	**Pn**	**07 16 27.0**	**+1.7**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
PET	**Petropavlovsk**	**6.77**	**24**	*e*PN	**Pb**	**07 16 42.3**	**-3.6**
NEM2	**Nemuro 2**	**6.86**	**241**	P	**Pn**	**07 16 29.9**	**-1.5**
NEM2				*e*S	**Sn**	**07 17 42.9**	**-7.4**
JRA	**Rausu**	**6.94**	**247**	P	**Pn**	**07 16 33.9**	**+1.4**
JNK	**Nakash**	**7.37**	**246**	P	**Pn**	**07 16 38.9**	**+0.4**
JAK	**Akkeshi**	**7.70**	**242**	P	**Pn**	**07 16 41.5**	**-1.6**
JAK				*e*S	**Sn**	**07 18 04.7**	**-6.6**
JTKR	**Abashiri--Toko**	**7.70**	**251**	P	**Pn**	**07 16 43.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.71**	**274**	*e*Pn	**Pn**	**07 16 46.5**	**+3.2**
YSS	**Yuzh-Sakhalins**	**7.71**	**274**	*e*PN	**Pn**	**07 16 45.7**	**+2.5**
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
JAR	**Ashorobuto**	**8.11**	**247**	P	**P**	**07 16 48.2**	**-0.7**
JOB	**Onbets**	**8.28**	**244**	P	**P**	**07 16 50.5**	**-0.7**
JOB				*e*S	**Sn**	**07 18 17.6**	**-8.2**
ASAJ	**Asahikawa**	**8.50**	**255**	Pn	**P**	**07 16 55.5**	**+1.2**
	comp=E,2.9nm,0.3s,baz=89,slow=18,SNR=12						
ASAJ				LR	LR	07 19 46.0	
	comp=E,53nm,21.8s,baz=124,slow=35						
ASAJ	**Asahikawa**	**8.50**	**255**	P	**P**	**07 16 56.6**	**+2.3**
ASAJ	**Asahikawa**	**8.50**	**255**	PN	**P**	**07 16 55.5**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,53nm,21.8s						
JKK2	**Kamakawa 2**	**8.50**	**253**	P	**

LZH	**Lanzhou**	**38.50**	**272**	*e*P		**P**	07 22 14.0	+1.8	
	comp=Z,23nm,1.0s,mb4.9								
LZH				pP		pP	07 22 24.0	+9.0	
LZH				sP		sP	07 22 30.0	+14	
INK	**Inuvik**	**41.15**	**33**	P		**P**	**07 22 34.7**	**+0.9**	
	comp=Z,4.8nm,1.0s,mb4.1,baz=285,slow=1.4,SNR=3.3								
CD2	**Chengdu**	**41.51**	**266**	P		**P**	**07 22 38.0**	**+0.9**	
CD2				AMB		AMB			
	comp=Z,20nm,0.6s,mb4.9								
WMQ	**Urumqi**	**45.43**	**291**	*e*P		**P**	**07 23 10.0**	**+1.3**	
WMQ				AMB		AMB			
	comp=Z,7.0nm,0.6s,mb4.7								
WMQ				AMB		AMB			
	comp=Z,123nm,5.2s								
WMQ				LR		LR			
	comp=N,148nm,19.2s,MS4.3								
WMQ				LR		LR			
	comp=E,272nm,18.4s,MS4.3								
WMQ				LR		LR			
	comp=Z,108nm,18.4s,MS3.8								
KMI	**Kunming**	**45.89**	**260**	P		**P**	**07 23 12.3**	**-0.2**	
KMI				AMB		AMB			
	comp=Z,13nm,1.1s,mb4.8								
KMI	**Kunming**	**45.89**	**260**	P		**P**	**07 23 12.2**	**-0.3**	
	comp=Z,13nm,1.1s,mb4.8								
KMI	**Kunming**	**45.89**	**260**	P		**P**	**07 23 12.2**	**-0.3**	
KMI				pmax		pmax			
	comp=Z,13nm,1.1s,mb4.8								
MKAR	**Makanchi Array**	**47.40**	**298**	P		**P**	**07 23 23.1**	**-1.0**	
	comp=Z,1.4nm,0.5s,mb4.1,baz=66,slow=7.8,SNR=23								
MKAR				LR		LR	07 44 58.3		
	comp=Z,49nm,19.4s,MS3.5,baz=236,slow=38								
KURK	**Kurchatov**	**47.77**	**304**	*e*P		**P**	**07 23 25.0**	**-2.0**	
	comp=Z,9.9nm,0.8s,mb4.9								
KURK	**Kurchatov**	**47.77**	**304**	*d* iP		**P**	**07 23 25.8**	**-1.2**	
LSA	**Lhasa**	**50.88**	**274**	*e*P		**P**	**07 23 52.3**	**+1.1**	
	comp=Z,15nm,0.8s,mb5.0								
LSA	**Lhasa**	**50.88**	**274**	*e*P		**P**	**07 23 52.3**	**+1.1**	
LSA				pmax		pmax			
	comp=Z,15nm,0.8s,mb5.0								
BVAR	**Borovoye Array**	**51.21**	**310**	P		**P**	**07 23 52.4**	**-1.0**	
	comp=Z,2.4nm,0.4s,mb4.4,baz=51,slow=7.8,SNR=13								
BRVK	**Borovoye**	**51.25**	**310**	*e*P		**P**	**07 23 51.4**	**-2.3**	
	comp=Z,3.7nm,0.8s,mb4.4								
BRVK	**Borovoye**	**51.25**	**310**	*e*P		**P**	**07 23 51.4**	**-2.3**	
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
AAK	**Ala-Archa**	**54.30**	**297**	*e*P		**P**	**07 24 14.9**	**-1.7**	
	comp=Z,2.7nm,0.7s,mb4.3								
AAK	**Ala-Archa**	**54.30**	**297**	*i* P		**P**	**07 24 15.2**	**-1.4**	
AAK				pmax		pmax			
	comp=Z,4.0nm,1.3s,mb4.2								
ARU	**Arti**	**55.28**	**318**	*e*P		**P**	**07 24 21.8**	**-1.8**	
	comp=Z,8.6nm,0.4s,mb5.1								
ARU	**Arti**	**55.28**	**318**	*e*P		**P**	**07 24 21.8**	**-1.8**	
ARU				pmax		pmax			
	comp=Z,9.0nm,0.4s,mb5.2								
JIRN	**Jiri**	**55.55**	**275**	*e*P		**P**	**07 24 27.2**	**+1.3**	
	comp=Z,44nm,0.7s,mb5.6								
GUN	**Gumba**	**55.60**	**275**	*e*P		**P**	**07 24 27.1**	**+0.8**	
	comp=Z,16nm,0.5s,mb5.3								
KKN	**Kakani**	**56.08**	**276**	*e*P		**P**	**07 24 30.9**	**+1.1**	
	comp=Z,28nm,0.6s,mb5.5								
PKI	**Pulchoki**	**56.13**	**275**	*e*P		**P**	**07 24 30.8**	**+0.7**	
	comp=Z,30nm,0.9s,mb5.3								
DMN	**Daman**	**56.32**	**276**	*e*P		**P**	**07 24 32.5**	**+1.0**	
	comp=Z,72nm,0.9s,mb5.7								
GKN	**Gorkha**	**56.38**	**276**	*e*P		**P**	**07 24 32.8**	**+0.9**	
	comp=Z,65nm,0.7s,mb5.6								
KOLN	**Koldanda**	**57.24**	**277**	*e*P		**P**	**07 24 39.1**	**+1.0**	
	comp=Z,39nm,0.7s,mb5.5								
KEV	**Kevo**	**57.36**	**341**	*e*P		**P**	**07 24 34.7**	**-3.6**	
	comp=Z,2.2nm,0.7s,mb4.3								
KEV	**Kevo**	**57.36**	**341**	*e*P		**P**	**07 24 34.7**	**-3.6**	
KEV				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.3								
ARCES	**ARCESS Array B**	**57.86**	**341**	P		**P**	**07 24 40.3**	**-1.6**	
	comp=Z,1.3nm,0.7s,mb4.1,baz=33,slow=7.9,SNR=9.9								
CHMT	**Chamberlain Mo**	**59.47**	**53**	P		**P**	**07 24 47.8**	**-5.6**	
JOF	**Joensuu**	**61.42**	**334**	*ep*		**P**	**07 25 04.2**	**-2.3**	
	comp=Z,1.2nm,0.5s,mb4.3								
FINES	**FINESS Array B**	**64.12**	**335**	P		**P**	**07 25 23.6**	**-0.6**	
	comp=Z,2.1nm,0.6s,mb4.4,baz=38,slow=7.6,SNR=14								
FINES				LR		LR	07 57 33.6		
	comp=Z,75nm,19.2s,MS3.9,baz=351,slow=40								
PDAR	**Pinedale Array**	**64.13**	**54**	P		**P**	**07 25 25.6**	**+0.9**	
	comp=Z,0.6nm,0.8s,mb3.7,baz=342,slow=4.7,SNR=4.4								
NB2	**NORSAR Subarra**	**68.23**	**342**	P		**P**	**07 25 50.8**	**+0.3**	
	comp=Z,2.2nm,0.5s,mb4.4,baz=26,slow=6.2								
NB2	**NORSAR Subarra**	**68.23**	**342**	P		**P**	**07 25 50.8**	**+0.3**	
NB2				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb4.4								
NOA	**NORSAR Array B**	**68.23**	**342**	P		**P**	**07 25 50.5**	**0.0**	
	comp=Z,4.2nm,0.7s,mb4.6,baz=24,slow=6.2,SNR=8.6								
WRA	**Warramunga Arr**	**68.91**	**200**	P		**P**	**07 25 54.4**	**-1.0**	
	comp=Z,0.8nm,0.8s,mb3.7,baz=19,slow=6.8,SNR=4.8								
AKASG	**Malin Array Be**	**71.72**	**327**	P		**P**	**07 26 11.1**	**-0.8**	
	comp=Z,3.5nm,0.6s,mb4.5,baz=34,slow=6.1,SNR=22								
SOC	**Sochi**	**72.81**	**316**	*e*P		**P**	**07 26 17.6**	**-0.8**	
SOC				pmax		pmax			
	comp=Z,13nm,0.8s,mb4.9								
SOC				pmax		pmax			
	comp=N,4.0nm,0.6s								
SOC				pmax		pmax			
	comp=E,4.0nm,0.5s								
CLL	**Collm**	**76.53**	**336**	P		**P**	**07 26 40.7**	**+1.0**	
	comp=E,logA/T=1.2,mb4.9								
CLL	**Collm**	**76.53**	**336**	*i* P		**P**	**07 26 40.7**	**+1.0**	
	comp=E,18nm,1.1s,mb4.9								
CLL	**Collm**	**76.53**	**336**	*i* P		**P**	**07 26 40.7**	**+1.0**	
CLL				pmax		pmax			
	comp=Z,18nm,1.1s,mb4.9								
TXAR	**Lajitas Array**	**76.86**	**61**	P		**P**	**07 26 43.2**	**+1.2**	
	comp=Z,2.2nm,0.7s,mb4.2,baz=300,slow=5.1,SNR=30								
MALT	**Malatya**	**77.47**	**313**	*e*P		**P**	**07 26 47.4**	**+2.2**	
	comp=Z,2.0nm,0.4s,mb4.4								
MALT	**Malatya**	**77.47**	**313**	*e*P		**P**	**07 26 47.4**	**+2.3**	
MALT				pmax		pmax			
	comp=Z,2.0nm,0.4s,mb4.4								
KHC	**Kasperske Hory**	**78.32**	**335**	*e*P		**P**	**07 26 49.5**	**-0.1**	
GERES	**GERESS Array B**	**78.54**	**335**	P		**P**	**07 26 51.1**	**+0.2**	
	comp=Z,0.6nm,0.4s,mb3.9,baz=34,slow=4.8,SNR=8.7								
BRTR	**Keskin Array B**	**78.66**	**317**	P		**P**	**07 26 53.2**	**+1.5**	
	comp=Z,3.4nm,0.8s,mb4.3,baz=63,slow=5.5,SNR=13								
PLCA	**Paso Flores**	**147.61**	**95**	PKPbc		PKPdf	07 34 34.6	+2.1	
	comp=Z,1.4nm,0.7s,baz=260,slow=3.9,SNR=3.7								
SNAA	**Sanae**	**152.92**	**196**	⇑iPKPdf		PKPdf	07 34 45.2	+5.5	
SNAA				*e*			07 35 03.3		
SNAA				*e*			07 35 13.9		
SNAA				*e*			07 35 17.7		
VNA2	**Neumayer--Watz**	**154.35**	**194**	⇑*i*PKPdf		PKPdf	07 34 48.3	+6.6	
VNA2				*e*			07 35 04.1		
VNA2				*e*			07 35 14.5		
VNA2				*e*			07 35 18.6		
VNA3	**Neumayer Olymp**	**154.42**	**192**	⇑*i*PKPdf		PKPdf	07 34 45.8	+4.0	
VNA3				*e*			07 35 02.3		
VNA3				*e*			07 35 11.8		
VNA3				*e*			07 35 16.0		

*NEIC **29** 07:20:45.3, 33.92S×71.19W, h54km, MD3.7(GUC), After GUC.*

GUC 29 07:20:45.3±0.6, 33.92S×71.19W, h54km±3km, MD3.7, ML2.3, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNV	**Longovilo**	**0.18**	**259**	⇑*i*P		P	07 20 54.3	+0.4
LNV				*i* S		S	07 21 00.5	+0.3
TACH	**Talagante**	**0.34**	**39**	*e*P		P	07 20 55.3	+0.1
TACH				*i* S		S	07 21 03.1	+0.7
CHCH	**Chadas Angostu**	**0.45**	**92**	⇑*i*P		P	07 20 56.7	+0.4
CHCH				*i* S		S	07 21 05.1	+0.7
CACH	**El Canelo**	**0.53**	**112**	⇓*i*P		P	07 20 58.2	+1.0
CACH				*i* S		S	07 21 07.8	+1.9
RCDM	**Rinconada Maip**	**0.54**	**37**	*e*P		P	07 20 57.3	0.0
RCDM				*i* S		S	07 21 05.8	-0.2
RCDM				AMP			07 21 08.2	
	comp=E,423nm,0.1s							
LCCH	**Las Cruces**	**0.55**	**325**	⇓*i*P		P	07 20 57.2	-0.1
ANTU	**Antumapu**	**0.58**	**53**	⇓*i*P		P	07 20 58.3	+0.5
ANTU				*i* S		S	07 21 07.8	+0.8
ANTU				AMP			07 21 08.3	
	comp=E,297nm,0.2s							
PCH	**Pirque**	**0.64**	**62**	⇑*i*P		P	07 20 59.0	+0.4
PCH				*i* S		S	07 21 09.1	+0.8
SFDO	**San Fernando**	**0.71**	**168**	*e*P		P	07 20 59.8	+0.4
SFDO				*i* S		S	07 21 10.6	+0.8
DSCH	**Colegio Aleman**	**0.74**	**45**	*i* P		P	07 21 00.3	+0.6
DSCH				*i* S		S	07 21 11.6	+1.1
DSCH				AMP			07 21 12.8	
	comp=E,246nm,0.2s							
CICH	**Cipreses**	**0.75**	**122**	*e*P		P	07 21 00.5	+0.5
CLCH	**Cerro Calan**	**0.76**	**46**	⇓*i*P		P	07 21 00.6	+0.6
CLCH				*i* S		S	07 21 12.0	+1.0
CLCH				AMP			07 21 13.4	
	comp=E,182nm,0.1s							
FCH	**Farellones**	**0.96**	**52**	⇓*i*P		P	07 21 03.3	+0.5
FCH				*i* S		S	07 21 17.1	+1.4
FCH				AMP			07 21 17.5	
	comp=N,150nm,0.1s							
JACH	**Jahuel**	**1.33**	**22**	*i* P		P	07 21 08.2	0.0

*BJI **29** 07:26:31.4, 7.73S×156.89E, h100km, mB4.9, mb4.5*
*NEIC **29** 07:26:39.2±0.9, 7.07S×156.01E, h100km±8km, mb4.7/22, Error ellipse: s-maj=7.5km s-min=6.2km az=63.0*
*IDC **29** 07:26:39.7±1.9, 7.08S×156.02E, h100km±18km, mb4.4/9, mb1 4.4/13, mb1mx4.3/16, mbtmp4.7/13, MS3.5/7, Ms1 3.5/7, ms1mx3.2/22, Error ellipse: s-maj=15.5km s-min=12.7km az=19.0*

ISC 29 07:26:38.0±1.2, 7.09S±0.06×156.01E±0.05, h102km±11km, n82, σ0 92/62, mb4.7/37, 10C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**4.54**	**121**	P		**P**	**07 27 45.6**	**-0.3**
	22nm,0.3s,baz=204,slow=15,SNR=4.0							
HNR				S		**S**	**07 28 38.4**	**+0.6**
	42nm,0.3s,baz=232,slow=17,SNR=7.2							
HNR				LR		LR	07 29 26.2	
	comp=Z,371nm,19.8s,baz=188,slow=37							
HNR	**Honiara**	**4.54**	**121**	*e*Pn		**P**	**07 27 44.8**	**-1.0**
PMG	**Port Moresby**	**9.05**	**255**	P		**P**	**07 28 48.7**	**+1.4**
	6.2nm,0.3s,baz=68,slow=8.5,SNR=22							
PMG				S		**S**	**07 30 30.4**	**+2.3**
	1.1nm,0.3s,baz=87,slow=19,SNR=3.1							
PMG				LR		LR	07 31 52.2	
	comp=Z,350nm,20.9s,baz=33,slow=34							
PMG	**Port Moresby**	**9.05**	**255**	*e*Pn		**P**	**07 28 47.6**	**+0.3**
	75nm,0.8s							
PMG				*e*Sn		**S**	**07 30 28.1**	**-0.1**
CTA	**Charters Tower**	**16.02**	**215**	*e*P		**P**	**07 30 20.7**	**+2.1**
	8.4nm,1.0s							
CTA	**Charters Tower**	**16.02**	**215**	P		**P**	**07 30 20.5**	**+1.9**
	0.5nm,0.3s,baz=36,slow=13,SNR=12							
CTA				LR		LR	07 35 22.8	
	comp=Z,222nm,18.4s,baz=53,slow=33							
CTAO	**Charters Tower**	**16.02**	**215**	*e*P		**P**	**07 30 20.3**	**+1.7**
	6.6nm,0.7s							
DZM	**Mont Dzumac**	**17.98**	**147**	P		**P**	**07 30 42.6**	**-0.2**
	1.2nm,0.3s,baz=308,slow=12,SNR=13							
GUMO	**Guam**	**23.33**	**332**	LR		LR	07 39 20.9	
	comp=Z,42nm,20.8s,baz=125,slow=33							
KAKA	**Kakadu**	**23.87**	**255**	⇑*i*P		**P**	**07 32 02.9**	**+20**
	26nm,0.4s,mb4.9							
WRAB	**Tennant Creek**	**24.58**	**237**	*e*P		**P**	**07 31 49.5**	**-0.5**
	35nm,0.6s,mb5.0							
WB2	**Warramunga Arr**	**24.59**	**237**	⇑*i*P		**P**	**07 31 50.1**	**+0.1**
WRA	**Warramunga Arr**	**24.60**	**237**	P		**P**	**07 31 50.2**	**+0.1**
	26nm,0.7s,mb4.8,baz=62,slow=9.7,SNR=197							
STKA	**Stephens Creek**	**28.09**	**207**	P		**P**	**07 32 22.0**	**-0.3**
	3.9nm,0.7s,mb4.0,baz=48,slow=14,SNR=6.8							
STKA				LR		LR	07 42 43.4	
	comp=Z,195nm,21.2s,baz=293,slow=34							
STKA	**Stephens Creek**	**28.09**	**207**	P		**P**	**07 32 22.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**31.54**	**247**	⇑*i*P		**P**	**07 32 51.4**	**-1.5**
	20nm,0.6s,mb5.0							
FORT	**Forrest**	**35.22**	**224**	⇓*i*P		**P**	**07 33 23.6**	**-0.8**
	16nm,0.5s,mb5.1							
TAU	**Tasmania Unive**	**36.49**	**191**	*e*P		**P**	**07 33 34.4**	**-0.6**
MBWA	**Marble Bar**	**37.74**	**244**	*e*P		**P**	**07 33 44.3**	**-1.4**
	11nm,0.8s,mb4.7							
RPZ	**Rata Peaks**	**38.80**	**163**	P		**P**	**07 33 54.0**	**-0.3**
	20nm,0.7s,mb5.0,baz=341,slow=5.0,SNR=9.3							
KKM	**Kota Kinabalu**	**41.79**	**287**	*e*P		**P**	**07 34 18.5**	**-0.8**
KLBR	**Kellerberrin**	**43.20**	**231**	⇓*i*P		**P**	**07 34 29.8**	**-0.8**
	18nm,0.4s,mb5.2							
NWAO	**Narrogin (SRO)**	**44.19**	**229**	P		**P**	**07 34 37.6**	**-1.0**
	8.3nm,0.9s,mb4.5,baz=120,slow=8.4,SNR=6.3							
NWAO	**Narrogin (SRO)**	**44.19**	**229**	*e*P		**P**	**07 34 36.8**	**-1.8**
	8.3nm,0.7s,mb4.6							
KSM	**Kuching**	**46.38**	**279**	*e*P		**P**	**07 34 55.5**	**-0.7**
MJAR	**Matsushiro Arr**	**46.50**	**340**	P		**P**	**07 34 55.3**	**-1.6**
	1.6nm,0.6s,mb3.9,baz=154,slow=8.1,SNR=4.3							
MAJO	**Matsushiro**	**46.50**	**340**	*e*P		**P**	**07 34 55.7**	**-1.2**
	4.2nm,0.5s,mb4.4							
JNU	**Nakatsue**	**46.58**	**331**	P		**P**	**07 34 56.8**	**-0.7**
	7.4nm,0.8s,mb4.5,baz=121,slow=6.4,SNR=4.5							
QIZ	**Qiongzhong**	**52.37**	**301**	P		**P**	**07 35 41.9**	**-0.2**
	21nm,1.1s,mb5.1							
ASAJ	**Asahikawa**	**52.39**	**348**	LR		LR	07 53 07.8	
	comp=Z,37nm,21.7s,baz=346,slow=30							
NJ2	**Nanjing**	**52.63**	**320**	*e*P		**P**	**07 35 45.3**	**+1.4**
NJ2				AP		pP	07 36 07.3	-1.4
NJ2				XP		sP	07 36 20.0	0.0
NJ2				PP		PP	07 37 48.0	+3.0
NJ2				S		**S**	**07 43 04.0**	**+2.5**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,130nm,3.6s							
NJ2				LR		LR		
	comp=N,290nm,29.9s							
NJ2				LR		LR		
	comp=E,300nm,33.7s							
NJ2				LR		LR		
	comp=Z,170nm,21.3s							
KULM	**Kulim**	**56.59**	**281**	*e*P		**P**	**07 36 12.0**	**-1.0**
MDJ	**Mudanjiang**	**56.70**	**338**	P		**P**	**07 36 13.0**	**-0.3**
MDJ				AMB		AMB		
	comp=Z,4.0nm,1.2s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,52nm,4.7s							
CN2	**Changchun**	**57.71**	**334**	*e*P		**P**	**07 36 25.3**	**+5.0**
ENH	**Enshi**	**58.04**	**312**	*e*P		**P**	**07 36 21.5**	**-1.4**
	comp=Z,10nm,1.0s,mb4.8							
KMI	**Kunming**	**60.90**	**304**	P		**P**	**07 36 46.0**	**+3.4**
KMI				AMB		AMB		
	comp=Z,9.0nm,1.3s,mb4.6							
KMI	**Kunming**	**60.90**	**304**	P		**P**	**07 36 45.9**	**+3.3**
	comp=Z,9.0nm,1.3s,mb4.6							
HIA	**Hailar**	**64.43**	**335**	*e*P		**P**	**07 37 06.1**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.5							
ULN	**Ulaanbaatar**	**69.62**	**327**	*e*P		**P**	**07 37 39.1**	**+0.8**
	comp=Z,14nm,0.9s,mb4.8							
SONM	**Songino Array**	**69.96**	**327**	P		**P**	**07 37 41.1**	**+0.9**
	comp=Z,12nm,0.8s,mb4.8,baz=139,slow=6.8,SNR=65							
VNDA	**Vanda**	**70.46**	**179**	*e*P		**P**	**07 37 42.9**	**0.0**
	comp=Z,2.1nm,0.9s,mb4.0							
SBA	**Scott Base**	**70.95**	**178**	*e*P		**P**	**07 37 46.4**	**+0.6**
	comp=Z,8.4nm,1.2s,mb4.5							
JIRN	**Jiri**	**75.69**	**301**	*e*P		**P**	**07 38 15.0**	**+0.7**
	comp=Z,19nm,0.6s,mb5.0							
GUN	**Gumba**	**76.03**	**301**	*e*P		**P**	**07 38 17.0**	**+0.8**
	comp=Z,41nm,0.7s,mb5.2							
PKI	**Pulchoki**	**76.34**	**300**	*e*P		**P**	**07 38 18.2**	**+0.3**
	comp=Z,18nm,0.7s,mb4.9							
KKN	**Kakani**	**76.50**	**301**	*e*P		**P**	**07 38 19.4**	**+0.5**
	comp=Z,26nm,0.7s,mb5.1							
DMN	**Daman**	**76.61**	**300**	*e*P		**P**	**07 38 20.1**	**+0.6**
	comp=Z,61nm,0.9s,mb5.3							
GKN	**Gorkha**	**77.11**	**301**	*e*P		**P**	**07 38 22.6**	**+0.3**
	comp=Z,38nm,0.7s,mb5.3							
KOLN	**Koldanda**	**77.94**	**300**	*e*P		**P**	**07 38 27.1**	**+0.3**
	comp=Z,31nm,0.9s,mb5.0							
WMQ	**Urumqi**	**79.58**	**317**	*e*P		**P**	**07 38 36.0**	**+0.6**
WMQ				AMB		AMB		
	comp=Z,6.0nm,0.7s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,102nm,4.4s							
HYB	**Hyderabad**	**80.25**	**289**	*i* P		**P**	**07 38 39.0**	**-0.5**
QSPA	**South Pole Qui**	**82.89**	**180**	⇑*i*P		**P**	**07 38 53.4**	**+1.3**
	comp=Z,10.0nm,0.5s,mb4.9							
ILAR	**Eielson Array**	**83.09**	**21**	P		**P**	**07 38 53.6**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.4,baz=235,slow=6.3,SNR=7.5							
MKAR	**Makanchi Array**	**84.14**	**318**	P		**P**	**07 39 00.2**	**+1.2**
	comp=Z,9.7nm,0.7s,mb4.8,baz=100,slow=5.8,SNR=95							
MAW	**Mawson**	**84.70**	**203**	⇑*i*P		**P**	**07 39 02.3**	**+1.0**
	comp=Z,5.7nm,0.6s,mb4.7							
MAW	**Mawson**	**84.70**	**203**	P		**P**	**07 39 02.5**	**+1.2**
	comp=Z,11nm,0.9s,mb4.8,baz=97,slow=6.0,SNR=28							
MAW	**Mawson**	**84.70**	**203**	*e*P		**P**	**07 39 02.1**	**+0.8**
	comp=Z,11nm,1.0s,mb4.8							
KURK	**Kurchatov**	**87.53**	**322**	*e*P		**P**	**07 39 14.5**	**-1.0**
AAK	**Ala-Archa**	**88.55**	**313**	*e*P		**P**	**07 39 20.1**	**-0.5**
	comp=Z,3.2nm,0.6s,mb4.5							
BRVK	**Borovoye**	**93.04**	**323**	*e*P		**P**	**07 39 41.2**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.6							
PDAR	**Pinedale Array**	**98.02**	**48**	LR		LR	08 15 45.2	
	comp=Z,61nm,19.9s,baz=85,slow=30							
SNAA	**Sanae**	**100.17**	**187**	⇑*i*		P	07 40 14.5	+1.3
SNAA	**Sanae**	**100.17**	**187**	*e*		P	07 40 17.4	+4.2
SNAA	**Sanae**	**100.17**	**187**	*e*		P	07 40 22.2	+9.0
SNAA	**Sanae**	**100.17**	**187**	*e*Pdif		P	07 40 13.1	0.0
	comp=Z,1.1nm,0.8s							
VNA3	**Neumayer Olymp**	**101.25**	**185**	*e*		P	07 40 21.3	+3.3
VNA3	**Neumayer Olymp**	**101.25**	**185**	*e*		P	07 40 26.3	+8.3
VNA3	**Neumayer Olymp**	**101.25**	**185**	⇑*i*			07 44 42.9	
VNA3	**Neumayer Olymp**	**101.25**	**185**	*e*			07 44 45.6	
VNA3	**Neumayer Olymp**	**101.25**	**185**	⇑*i*P		P	07 40 17.9	-0.1
VNA3				*e*			07 40 21.3	
VNA3				*e*			07 40 26.3	
VNA2	**Neumayer--Watz**	**101.36**	**185**	*e*		P	07 40 21.9	+3.4
VNA2	**Neumayer--Watz**	**101.36**	**185**	*e*		P	07 40 27.0	+8.5
VNA2	**Neumayer--Watz**	**101.36**	**185**	⇑*i*			07 44 43.3	
VNA2	**Neumayer--Watz**	**101.36**	**185**	*e*			07 44 46.1	
VNA2	**Neumayer--Watz**	**101.36**	**185**	⇑*i*P		P	07 40 18.7	+0.2
VNA2				*e*			07 40 21.9	
VNA2				*e*			07 40 27.0	
AKASG	**Malin Array Be**	**118.20**	**325**	PKP		PKPdf	07 45 14.4	+1.3
	comp=Z,0.2nm,0.3s,baz=50,slow=2.1,SNR=5.9							
CFAA	**Coronel Fontan**	**122.87**	**135**	PKP		PKPdf	07 45 24.2	+1.6
	comp=Z,0.1nm,0.3s,baz=242,slow=2.6,SNR=3.6							
GERES	**GERESS Array B**	**127.65**	**329**	PKP		PKPdf	07 45 34.1	+2.6
	comp=Z,0.9nm,0.5s,slow=1.3,SNR=6.6							
BDFB	**Brasilia**	**147.19**	**134**	PKPbc		PKPdf	07 46 12.5	+4.6
	comp=Z,17nm,0.6s,baz=211,slow=3.1,SNR=28							
KIC	**Kosan Boka**	**160.87**	**269**	*e*PKIKP		PKPab	07 47 12.1	+0.1
	comp=Z,43nm,1.1s							
LIC	**Lamto**	**161.14**	**269**	*e*PKIKP		PKPab	07 47 11.9	-1.3
	comp=Z,41nm,1.5s							
TIC	**Toumodi**	**161.16**	**270**	*e*PKIKP		PKPab	07 47 12.3	-1.0
	comp=Z,25nm,0.2s							

CASC 29 08:17:47.6±3.6, 13.67N×89.07W, h114km±11km, MD3.8, ML3.5, 10C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LFRS	**El Faro**	**0.05**	**168**	⇑*e*P		P	08 18 03.5	0.0
LBRS	**Las Brisas**	**0.07**	**23**	⇑*e*P		P	08 18 05.3	+1.9
LBRS				*e*S		S	08 18 16.6	+1.5
LCBS	**La Ceiba**	**0.09**	**100**	⇑*e*P		P	08 18 04.1	+0.6
LCBS				*e*S		S	08 18 15.2	0.0
SNET	**Serv Nac Est T**	**0.16**	**275**	⇓*i*P		P	08 18 00.7	-2.8
SNET				⇓*e*P			08 18 04.0	
SNET				*e*S		S	08 18 14.3	-1.2
SNET				*i*			08 18 14.6	
	comp=Z,3μm,0.4s							
BOQS	**Boqueron**	**0.21**	**287**	⇑*e*P		P	08 18 04.9	+1.3
BOQS				*e*S		S	08 18 15.2	-0.5
SNVI	**San Vicente**	**0.23**	**105**	⇑*e*P		P	08 18 04.6	+0.9
SNVI				*e*S		S	08 18 15.2	-0.7
**

σ1§08/44, mb3.7/8, 9C-7D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.90	43⇑	eP	Pb	09 07 14.9	+0.3
VCR	Vista de Mar	0.97	121	eP	Pb	09 07 15.5	-0.2
VCR				eS	Sb	09 07 27.1	-1.1
LIM1	Limonal	1.20	86	i P	Pn	09 07 18.9	-0.3
LIM1				i S	Sb	09 07 35.3	+0.4
MADN	Villa Maderas	1.21	50⇑	eP	Pn	09 07 19.6	+0.3
CONN	Concepcion	1.25	42⇑	eP	Pn	09 07 19.9	-0.1
MASN	Masaya	1.39	13⇑	eP	Pn	09 07 22.3	+0.4
TICN	Ticuantepe	1.42	10⇑	eP	Pn	09 07 22.9	+0.5
XAVN	Gruta Xavier	1.52	6⇓	eP	Pn	09 07 24.0	+0.2
MGAN	Managua	1.53	8⇑	eP	Pn	09 07 23.7	-0.2
JTS	JuntasAbangare	1.54	102	Pn	Pn	09 07 23.5	-0.5
	40nm,0.3s,baz=307,slow=14,SNR=37						
JTS				Lg		09 07 51.9	
	48nm,0.3s,baz=289,slow=20,SNR=8.2						
COPN	Copaltepe	1.55	356⇓	eP	Pn	09 07 24.0	-0.2
MOMJ	Momotombo	1.77	358⇑	eP	Pn	09 07 26.7	-0.7
FORC	Fortuna	1.78	95	eP	Pn	09 07 27.8	+0.2
MIRN	Miramar	1.82	353⇓	eP	Pn	09 07 27.7	-0.3
LEON	Leon	1.82	347⇑	eP	Pn	09 07 27.8	-0.4
PYTN	Playitas	1.94	12⇓	eP	Pn	09 07 28.8	-1.1
TEL3	Telica 3	1.97	349	eP	Pn	09 07 29.7	-0.5
CGA2	Cerro Gallo 2	2.07	107	eP	Pn	09 07 31.7	0.0
VPS2	Volcan Poas 2	2.25	101	eP	Pn	09 07 35.0	+0.7
LAJ	Bijagual	2.44	108	eP	Pn	09 07 32.3	-4.6
SJS	Escuela Geolog	2.48	106⇑	iP	Pn	09 07 39.6	+2.0
URSC	Urasca	2.77	106	eP	Pn	09 07 42.4	+0.7
BUS	Buena Vista	2.88	111	eP	Pn	09 07 43.8	+0.5
CNCH	Conchagua	2.95	333⇓	eP	Pn	09 07 46.9	+2.6
BLLM	Bellamira	3.29	329	eS	Sn	09 08 26.9	-0.9
SNVI	San Vicente	3.76	322	eS	Sn	09 08 40.3	+0.6
LCBS	La Ceiba	3.88	321⇓	eP	Pn	09 07 59.7	+2.3
LCBS				eS	Sn	09 08 42.3	-0.5
LFRS	El Faro	3.91	320⇓	eP	Pn	09 08 00.4	+2.6
BOQS	Boqueron	4.13	319	eP	Pn	09 08 04.4	+3.4
SWET	Sewanee	24.48	1	eP	P	09 12 12.6	-3.8
TXAR	Lajitas Array	24.58	322	P	P	09 12 17.3	-0.1
	0.6nm,0.4s,mb3.5,baz=139,slow=9.6,SNR=14						
TXAR				PcP	PcP	09 15 57.6	+1.4
	0.4nm,0.8s,baz=129,slow=5.8,SNR=4.9						
CPCT	Cooper Cave	24.77	4	eP	P	09 12 14.4	-4.8
SAML	Samuel	30.26	129	P	P	09 13 07.8	-1.6
	1.4nm,0.8s,mb3.7						
SDCO	Great Sand Dun	31.96	331	eP	P	09 13 19.6	-4.6
	1.5nm,0.8s,mb3.9						
SIV	San Ignacio	36.49	136	P	P	09 14 06.7	+3.4
	1.3nm,0.8s,mb3.9,baz=316,slow=7.8,SNR=7.1						
PDAR	Pinedale Array	37.82	332	P	P	09 14 12.6	-1.7
	0.3nm,0.8s,mb3.0,baz=128,slow=10,SNR=4.1						
HWUT	Hardware Ranch	37.92	329	eP	P	09 14 13.9	-1.2
	1.4nm,0.6s,mb3.9						
RCBR	Riachuelo	52.94	106	P	P	09 16 08.8	-6.1
PLCA	Paso Flores	53.18	165	P	P	09 16 23.6	+7.3
	1.6nm,0.8s,mb4.0,baz=1.2,slow=4.3,SNR=3.9						
PLCA	Paso Flores	53.18	165	P	P	09 16 22.9	+6.6
	4.0nm,1.0s,mb4.3						
ILAR	Eielson Array	68.06	336	P	P	09 17 54.0	-3.3
	0.3nm,0.7s,mb3.4,baz=101,slow=4.5,SNR=4.1						
WRA	Warramunga Arr	139.65	252	PKP	PKPdf	09 26 28.8	-0.2
	0.4nm,0.7s,baz=93,slow=2.5,SNR=6.9						

*BJI **29** 09:17:36.3,50.62N×157.20E,h36km,mB4.9,mb5.0, Ms4.7,Msz4.4*
*KRSC **29** 09:17:36.8±1.2,50.30N×157.30E,h39km±7km,ML5.4*
*SKHL **29** 09:17:38.7±1.6,50.50N×157.17E,h40km±9km,mb5.7/5, mbh5.5/4,Ms4.6/5,msh5.2/6*
SKHL Felt (II-III) at Severo-Kurilsk.
*MOS **29** 09:17:38.3±0.9,50.53N×157.12E,h45km,mb5.4/65, MS4.6/23,Error ellipse: s-maj=7.2km s-min=3.9km az=95.0*
MOS Felt (II-III) at Severo-Kuril'sk.
*NEIC **29** 09:17:39.0±0.1,50.57N×157.15E,mb5.2/100,MS4.7/9, Error ellipse: s-maj=4.5km s-min=2.9km az=168.0*
NEIC Felt [III] at Severo-Kuril'sk.
*HRVD **29** 09:17:39.0±0.3,50.33N×157.57E,h41km±1km,MW5.2/56, Centroid moment Tensor Solution. LP body waves: s50,c86;Mantle waves: s56,c99; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.53±.24; Mθθ-3.27±.18; Mφφ-2.26±.16; Mrθ2.37±.19; Mθφ-3.55±.12; Mφr2.09±.15; Best double couple: M06.729×10^16 NP1:φs229°,δ31°,λ90°. NP2:φs49°,δ59°,λ90°. Principal axes: T 6.318, Plg76°, Azm318°; N .821, Plg0°, Azm49°; P -7.139, Plg14°, Azm139°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CRAAG **29** 09:17:39.8,50.61N×157.25E,Mb5.2*
*IDC **29** 09:17:42.4±3.3,50.60N×157.08E,h70km±30km,mb4.4/24, mb1 4.6/26,mb1mx4.6/27,mbtmp4.7/26,MS4.4/23, Ms1 4.4/23,ms1mx4.3/28,Error ellipse: s-maj=14.1km s-min=9.8km az=137.0*

ISC 29 09:17:36.7±0.2,50.36N±0.02×157.21E±0.03,h37km, h37km±1.3km:pP-P,n519,σ0§98/537,mb5.1/154,MS4.5/47, 120C-13D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.77	296	i P	P	09 17 52.0	+0.8
SKR				i P		09 17 52.0	
SKR				AMB	AMB	09 17 53.0	
	11μm,1.0s						
SKR				AMB	AMB	09 17 53.0	
	35μm,1.0s						
SKR				AMB	AMB	09 17 53.0	
	67μm,1.0s						
SKR				AMB	AMB	09 17 53.0	
	12μm,1.0s						
SKR				AMB	AMB	09 17 53.0	
	35μm,1.0s						
SKR				AMB	AMB	09 17 53.0	
	68μm,1.0s						
SKR				i S	S	09 18 02.0	+0.2
SKR				A		09 18 04.0	
	294μm,2.0s						
SKR				A		09 18 04.0	
	167μm,2.0s						
SKR	Severo-Kuril's	0.77	296	i P	P	09 17 52.0	+0.8
SKR				i S	S	09 18 02.0	+0.2
SKR	Severo-Kuril's	0.77	296	i⇓P	P	09 17 52.0	+0.8
SKR				i S	S	09 18 02.0	+0.2
SKR				pmax	pmax		
	comp=N,12μm,1.0s						
SKR				pmax	pmax		
	comp=E,35μm,1.0s						
SKR				pmax	pmax		
	comp=Z,68μm,1.0s						
SKR				smax			
	comp=N,294μm,2.0s						
SKR				smax			
	comp=E,167μm,2.0s						
PAU	Pauzhetka	1.14	347	i P	P	09 17 58.6	+2.2
PAU				i S	S	09 18 14.9	+3.7
PAU				Smax			
	comp=E,34μm,0.7s						
ALID	Alaid	1.18	297	i P	P	09 18 00.4	+3.5
MIPR	Malaya Ipel'ka	1.94	352	i P	P	09 18 10.6	+2.6
MIPR				eS	S	09 18 34.9	+3.5
RUS	Russkaya	2.23	21	P	P	09 18 11.9	-0.2
RUS				S	S	09 18 37.2	-1.6
RUS	Russkaya	2.23	21	i P	P	09 18 12.2	+0.1
RUS				i S	S	09 18 38.6	-0.1
GRL	Gorelyy	2.27	13	i P	P	09 18 13.5	+1.0
GRL				eS	S	09 18 40.5	+1.0
KRMR	Karymshinskiy	2.54	13	i P	P	09 18 17.8	+1.3
KRMR				i S	S	09 18 47.7	+1.1
APC	Apacha	2.57	359	i P	P	09 18 18.6	+1.6
APC				i S	S	09 18 49.0	+1.6
APC				Smax			
	comp=E,3μm,1.2s						
PET	Petropavlovsk	2.82	18	P	P	09 18 20.8	+0.3
PET				S	S	09 18 52.1	-1.5
PET	Petropavlovsk	2.82	18	eP	P	09 18 20.6	+0.1
PET	Petropavlovsk	2.82	18	i P	P	09 18 20.7	+0.2
PET				eS	S	09 18 53.2	-0.4
UGLR	Uglovaya	3.03	19	i P	P	09 18 24.4	+1.0
AVH	Avacha	3.06	17	i P	P	09 18 25.3	+1.3
AVH				i S	S	09 19 00.6	+0.8
KOK	Koryaka	3.07	16	i P	P	09 18 25.8	+1.7
SMAR	Somma	3.08	18	i P	P	09 18 25.0	+0.9
NLC	Nalytchevo	3.12	24	P	P	09 18 23.9	-0.8
NLC				S	S	09 18 58.1	-3.0
NLC	Nalytchevo	3.12	24	eP	P	09 18 24.0	-0.7
NLC				eS	S	09 19 00.7	-0.4
SPN	Mys Shipunski	3.26	31	P	P	09 18 26.8	+0.1
SPN				S	S	09 19 03.1	-1.6
SPN	Mys Shipunski	3.26	31	i P	P	09 18 27.0	+0.3
SPN				eS	S	09 19 05.3	+0.6
GNL	Ganaly	3.38	7	i P	P	09 18 30.0	+1.6
GNL				i S	S	09 19 08.7	+1.0
KII	Karymskiy	3.94	20	P	P	09 18 37.8	+1.5
KII				S	S	09 19 21.6	-0.3
KII	Karymskiy	3.94	20	i P	P	09 18 37.6	+1.3
KII				eS	S	09 19 21.6	-0.3
MKZ	Mys Kozlova	5.03	32	P	P	09 18 50.9	-1.0
MKZ				S	S	09 19 44.9	-4.7
MKZ	Mys Kozlova	5.03	32	eP	P	09 18 50.7	-1.2
MKZ				eS	S	09 19 47.7	-1.9
TUMR	Tumrok	5.25	19	i P	P	09 18 56.3	+1.5
ESO	Esso	5.65	9	i P	P	09 19 02.0	+1.5
ESO				i S	S	09 20 04.0	-1.1
KMNR	Kamenistaya	5.71	17	eP	P	09 19 02.9	+1.6
KPT	Kopyto	5.91	17	i P	P	09 19 04.9	+0.9
KOZ	Kozyrevsk	5.93	15	P	P	09 19 05.1	+0.7
KOZ	Kozyrevsk	5.93	15	eP	P	09 19 05.0	+0.6
KOZR	Kozyr	5.94	15	PN	P	09 19 05.1	+0.5
ZLN	Zelenaya	6.07	19	eP	P	09 19 07.4	+1.1
LGNR	Loginova	6.11	19	eP	P	09 19 08.7	+1.8
CIRR	Tsirk	6.15	19	eP	P	09 19 09.3	+1.8
SRDR	Sredinnyy	6.16	13	eP	P	09 19 08.4	+0.8
KRSR	Krestovskiy	6.21	18	eP	P	09 19 08.9	+0.6
KLY	Klyuchi	6.31	18	i P	P	09 19 11.2	+1.4
KBTR	Krutoberegovo	6.76	28	i P	P	09 19 15.0	-1.1
KBG	Krutoberegovo	6.76	27	i P	P	09 19 14.9	-1.3
BKI	Bering	7.20	44	i P	P	09 19 18.5	-3.7
BKI				i S	S	09 20 32.4	-11
BKI				Smax			
	comp=E,160nm,1.3s						
KUR	Kuril'sk	8.11	234	eP	P	09 19 36.8	+1.9
KUR				AMB	AMB	09 19 40.4	
	comp=E,800nm,2.0s						
KUR				AMB	AMB	09 19 40.4	
	comp=E,2μm,2.0s						
KUR				eS	S	09 21 06.9	+0.5
KUR				A		09 21 14.5	
	comp=E,340nm,0.7s						
KUR				A		09 21 14.5	
	comp=E,170nm,0.7s						
KUR				A		09 21 24.4	
	comp=E,4μm,2.0s						
KUR				A		09 21 24.4	
	comp=E,2μm,2.0s						
KUR				AMS	AMS	09 22 30.0	
	comp=E,3μm,18.0s						
KUR				AMS	AMS	09 22 30.0	
	comp=E,3μm,18.0s						
KUR				AMS	AMS	09 22 30.0	
	comp=E,4μm,18.0s						
KUR	Kuril'sk	8.11	234	ePN	P	09 19 36.8	+1.9
KUR				pmax	pmax		
	comp=N,2μm,2.0s						
KUR				pmax	pmax		
	comp=E,1μm,2.0s						
KUR				pmax	pmax		
	comp=Z,2μm,2.0s						
KUR				pmax	pmax		
	comp=N,190nm,1.0s						
KUR				pmax	pmax		
	comp=E,580nm,1.0s						
KUR				MLR	MLR		
	comp=N,4μm,20.0s						
KUR				MLR	MLR		
	comp=E,3μm,20.0s						
KUR				MLR	MLR		
	comp=Z,5μm,20.0s						
TYV	Tymovskoe	9.27	279	eP	P	09 19 51.8	+0.8
TYV				AMB	AMB	09 19 54.5	
	comp=Z,500nm,3.0s						
TYV				AMB	AMB	09 19 54.5	
	comp=Z,600nm,3.0s						
TYV				AMB	AMB	09 19 55.0	
	comp=Z,92nm,0.9s						
TYV				sP		09 20 06.5	
TYV				A		09 21 55.0	
	comp=Z,53nm,1.0s						
TYV				A		09 22 15.0	
	comp=Z,600nm,8.0s						
TYV				A		09 22 15.0	
	comp=Z,1μm,8.0s						
TYV				AMS	AMS	09 24 48.0	
	comp=Z,1μm,14.0s						
TYV				AMS	AMS	09 24 48.0	
	comp=Z,2μm,14.0s						
TYV				AMS	AMS	09 24 48.0	
	comp=Z,4μm,14.0s						
OKH	Okha	9.38	295	eP	P	09 19 51.1	-1.4
OKH				AMB	AMB	09 19 54.0	
	comp=Z,300nm,1.1s						
OKH				AMB	AMB	09 20 05.8	
	comp=Z,2μm,8.0s						
OKH				A		09 21 50.2	
	comp=Z,2μm,9.0s						
OKH				A		09 21 50.2	
	comp=Z,2μm,9.0s						
OKH	Okha	9.38	295	ePN	P	09 19 51.1	-1.4
OKH				eS	S	09 21 42.0	+4.2
OKH				pmax	pmax		
	comp=Z,2μm,8.0s						
OKH				smax			
	comp=E,2μm,9.0s						
UGL	Uglegorsk	9.90	268	eP	P	09 20 05.0	+5.5
UGL				eP		09 20 05.0	
UGL				AMB	AMB	09 20 06.0	
	comp=E,180nm,0.7s						
UGL				AMB	AMB	09 20 06.0	
	comp=E,93nm,0.7s						
UGL				AMB	AMB	09 20 06.0	
	comp=E,410nm,0.7s						
UGL				AMB	AMB	09 20 06.5	
	comp=E,800nm,1.6s						
UGL				A		09 22 24.0	
	comp=E,500nm,8.0s						
UGL				A		09 22 24.0	
	comp=E,1μm,8.0s						
UGL				A		09 22 24.0	
	comp=E,2μm,8.0s						
UGL				AMS	AMS	09 24 30.0	
	comp=E,2μm,15.0s						
UGL				AMS	AMS	09 24 30.0	
	comp=E,2μm,15.0s						
UGL	Uglegorsk	9.90	268	i⇑PN	P	09 20 05.0	+5.5
UGL				pmax	pmax		
	comp=N,180nm,0.7s						
UGL				pmax	pmax		
	comp=E,93nm,0.7s						
UGL				pmax	pmax		
	comp=Z,410nm,0.7s						
UGL				pmax	pmax		
	comp=Z,800nm,1.6s						
UGL				MLR	MLR		
	comp=E,2μm,15.0s						
UGL				MLR	MLR		
	comp=Z,2μm,15.0s						
UGL				MLR	MLR		
	comp=N,2μm,14.0s						
MA2	Magadan	9.95	341	eP	P	09 20 00.0	-0.1
	comp=N,63nm,0.8s						
MA2	Magadan	9.95	341	ePN	P	09 20 00.2	0.0
MA2				pmax	pmax		
	comp=Z,107nm,1.7s						
YUK	Yuzh-Kuril'sk	9.98	235	eP	P	09 20 06.7	+6.1
YUK				AMB	AMB	09 20 09.5	
	comp=Z,380nm,0.5s						
YUK				AMB	AMB	09 20 09.5	
	comp=Z,660nm,0.5s						
YUK				AMB	AMB	09 20 09.5	
	comp=Z,2μm,0.5s						
YUK				AMB	AMB	09 20 19.4	
	comp=Z,2μm,1.0s						
YUK				i S	S	09 21 53.1	+0.7
YUK				A		09 21 57.4	
	comp=Z,380nm,0.5s						
YUK				A		09 21 57.4	
	comp=Z,340nm,0.5s						
YUK				A		09 22 17.1	
	comp=Z,2μm,1.0s						
YUK	Yuzh-Kuril'sk	9.98	235	ePN	P	09 20 06.7	+6.1
YUK				pmax	pmax		
	comp=N,380nm,0.5s						
YUK				pmax	pmax		
	comp=E,660nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YSS	Yuzh-Sakhalins	10.15	256⇑	iP	P	09 20 07.2	+4.2
YSS				AMB	AMB	09 20 09.0	
	comp=Z,80nm,1.1s						
YSS				i sP		09 20 21.1	
YSS				AMB	AMB	09 20 22.7	
	comp=Z,140nm,1.2s						
YSS				eS	S	09 21 55.0	-1.8
YSS				AMS	AMS	09 23 37.0	
	comp=Z,1μm,19.0s						
YSS				AMS	AMS	09 23 37.0	
	comp=Z,2μm,19.0s						
YSS				AMS	AMS	09 23 37.0	
	comp=Z,2μm,19.0s						
YSS				erx	rx	09 27 18.0	
YSS	Yuzh-Sakhalins	10.15	256	ePN	P	09 20 07.2	+4.2
YSS				pmax	pmax		
	comp=Z,80nm,1.1s						
YSS				MLR	MLR		
	comp=Z,2μm,20.0s						
YSS				MLR	MLR		
	comp=N,1μm,18.0s						
YSS				MLR	MLR		
	comp=E,2μm,18.0s						
NKL	Nikolayevsk	10.62	292⇓	iP	P	09 20 10.0	+0.6
NKL				AMB	AMB	09 20 11.5	
	comp=E,500nm,2.0s						
NKL				AMB	AMB	09 20 11.5	
	comp=E,500nm,2.0s						
NKL				AMB	AMB	09 20 12.0	
	comp=E,170nm,1.0s						
NKL				AMB	AMB	09 20 12.0	
	comp=E,260nm,1.0s						
NKL				A		09 22 27.0	
	comp=E,500nm,9.0s						
NKL				A		09 22 27.0	
	comp=E,5μm,9.0s						
NKL				AMS	AMS	09 24 55.0	
	comp=E,1μm,19.0s						
NKL				AMS	AMS	09 24 55.0	
	comp=E,2μm,19.0s						
NKL				AMS	AMS	09 24 55.0	
	comp=E,3μm,19.0s						
ASAJ	Asahikawa	11.72	243	P	P	09 20 27.5	+3.1
	comp=E,3.4nm,0.3s,baz=76,slow=12,SNR=35						
ASAJ				LR	LR	09 24 56.2	
	comp=E,1μm,18.8s,baz=46,slow=37						
ASAJ	Asahikawa	11.72	243	PN	P	09 20 27.5	+3.1
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.8s						
SEY	Seymchan	12.88	350	ePN	P	09 20 42.1	+2.3
SEY				eS	S	09 23 11.4	+8.5
SEY				pmax	pmax		
	comp=Z,30nm,1.0s						
SEY				pmax	pmax		
	comp=E,20nm,1.1s						
KAMR	Kamenskoye	13.09	19	eP	P	09 20 42.4	-0.3
KLR	Kul'dur	16.46	276	eP	P	09 21 27.3	+1.1
KLR				MLR	MLR		
	comp=N,600nm,14.0s						
KLR				MLR	MLR		
	comp=E,2μm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
BILL	Bilibino	18.30	11⇓	eP	P	09 21 47.4	-1.8
BILL				pmax	pmax		
	comp=Z,27nm,1.0s						
BILL				MLR	MLR		
	comp=Z,2μm,24.0s						
ZEA	Zeya	18.67	292	eP	P	09 21 50.9	-2.9
ZEA				AMB	AMB	09 21 55.6	
	comp=Z,80nm,1.0s						
ZEA				AMB	AMB	09 21 55.6	
	comp=Z,90nm,1.0s						
ZEA				AMB	AMB	09 22 08.0	
	comp=Z,600nm,8.0s						
ZEA				AMB	AMB	09 22 08.0	
	comp=Z,600nm,8.0s						
ZEA				eS	S	09 25 24.5	+7.3
ZEA				A		09 25 35.0	
	comp=Z,500nm,9.0s						
ZEA				A		09 25 35.0	
	comp=Z,400nm,9.0s						
VLA	Vladivostok	18.74	257	eP	P	09 21 57.7	+2.9
YAK	Yakutsk	19.09	318⇑	iP	P	09 21 56.9	-1.8
YAK				eS	S	09 25 26.5	-0.1
YAK				pmax	pmax		
	comp=Z,175nm,0.9s						
YAK				pmax	pmax		
	comp=N,30nm,1.1s						
YAK				pmax	pmax		
	comp=E,59nm,1.0s						
YAK				smax			
	comp=N,18nm,1.3s						
YAK				smax			
	comp=E,26nm,1.0s						
YAK				MLR	MLR		
	comp=Z,1μm,22.0s						
YAK				MLR	MLR		
	comp=N,430nm,18.0s						
YAK				MLR	MLR		
	comp=E,990nm,21.0s						
MAT	Matsushiro	19.44	232	P	P	09 22 04.1	+1.3
MAT				S	S	09 25 41.0	+6.3
MAT	Matsushiro	19.44	232	eP	P	09 22 04.0	+1.2
	comp=E,71nm,1.0s						
MAT				eS	S	09 25 51.0	+16
MAT	Matsushiro	19.44	232	eP	P	09 22 04.0	+1.2
MAT				pmax	pmax		
	comp=Z,71nm,1.0s						
MJAR	Matsushiro Arr	19.44	232	P	P	09 22 04.2	+1.5
	comp=Z,1.4nm,0.3s,baz=29,slow=10,SNR=84						
MJAR				LR	LR	09 30 01.7	
	comp=Z,787nm,21.5s,baz=60,slow=38						
MJAR	Matsushiro Arr	19.44	232	P	P	09 22 04.2	+1.5
MJAR				LR	LR	09 30 01.7	
MDJ	Mudanjiang	19.46	264	P	P	09 22 01.5	-1.5
MDJ				AP		09 22 09.5	
MDJ				XP		09 22 13.8	
MDJ				S	S	09 25 38.0	+2.8
MDJ				XS		09 25 52.3	
MDJ				PCP	PcP	09 26 22.3	-0.5
MDJ				SCP		09 29 56.5	
MDJ				PCS		09 30 00.0	
MDJ				SCS	ScS	09 33 38.5	+3.4
MDJ				AMB	AMB		
	comp=Z,24nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,82nm,3.5s						
MDJ				LR	LR		
	comp=N,1μm,21.6s						
MDJ				LR	LR		
	comp=E,1μm,22.4s						
MDJ				LR	LR		
	comp=Z,1μm,17.4s						
CLNS	Chul'man	20.11	301	eP	P	09 22 09.8	0.0
CLNS				eS	S	09 25 52.9	+4.2
CLNS				pmax	pmax		
	comp=N,34nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,116nm,0.8s						
CLNS				pmax	pmax		
	comp=E,70nm,0.9s						
CLNS				smax			
	comp=N,38nm,0.9s						
CLNS				smax			
	comp=Z,26nm,1.5s						
CLNS				smax			
	comp=E,34nm,1.2s						

CLNS MLR MLR
comp=E,2µm,22.0s,MS4.4
CLNS MLR MLR
comp=N,2µm,26.0s,MS4.5
CLNS MLR MLR
comp=E,2µm,23.0s,MS4.5
JHJ Hachijo jima 2 21.49 223 LR LR 09 29 56.7
comp=E,481nm,19.7s,MS3.9,baz=83,slow=34
CN2 Changchun 22.48 265 *eP* **P** **09 22 32.3 -1.6**
CN2 *eXP* 09 22 46.0
CN2 *eS* **S** **09 26 33.0 -0.5**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,100nm,5.0s
CN2 LR LR
comp=N,2µm,21.0s,MS4.5
CN2 LR LR
comp=E,1µm,21.0s,MS4.5
CN2 LR LR
comp=Z,1µm,21.0s,MS4.3
TIXI Tiksi 24.92 339 *eP* **P** **09 22 54.4 -2.9**
TIXI *e**PP 09 23 05.3
TIXI *e**SP 09 23 10.4
TIXI *eS* **S** **09 27 09.5 -6.0**
TIXI pmax pmax
comp=Z,17nm,0.9s,mb4.6
TIXI MLR MLR
comp=Z,2µm,15.0s,MS4.6
CBIJ Chichi jima 25.92 212 LR LR 09 32 07.3
comp=Z,323nm,20.6s,MS3.8,baz=15,slow=33
JNU Nakatsue 25.92 238 P **P** **09 23 08.8 +1.6**
comp=Z,151nm,0.9s,mb5.5,baz=40,slow=10,SNR=46
JNU LR LR 09 33 56.1
comp=Z,294nm,20.7s,MS3.8,baz=47,slow=38
BOD Bodaibo 26.03 303 *eP* **P** **09 23 06.7 -1.2**
BOD pmax pmax
comp=Z,27nm,1.1s,mb4.7
CIT Chita 27.11 291 *eP* **P** **09 23 18.1 +0.2**
CIT *e* pP 09 23 28.2 +0.2
CIT *e* 09 24 09.0
CIT pmax pmax
comp=Z,41nm,1.9s,mb4.6
TTA Tatalina 27.93 45 *eP* **P** **09 23 24.7 -0.5**
SVW2 Sparrevohn 28.04 49 *eP* **P** **09 23 26.0 -0.2**
KDAK Kodiak Island 29.77 56 P **P** **09 23 41.6 0.0**
comp=Z,11nm,1.0s,mb4.5,baz=197,slow=12,SNR=6.0
COLA College 31.62 42 *eP* **P** **09 23 57.1 -0.9**
ILAR Eielson Array 32.04 42 P **P** **09 23 59.5 -2.1**
comp=Z,5.2nm,0.9s,mb4.3,baz=264,slow=6.3,SNR=33
ILAR LR LR 09 38 12.5
comp=Z,293nm,20.4s,MS4.0,baz=283,slow=38
JOW Kunigami 32.26 234 LR LR 09 37 01.4
comp=Z,654nm,21.8s,MS4.3,baz=338,slow=36
ULN Ulaanbaatar 32.43 285*d* *i*P **P** **09 24 05.2 0.0**
SONM Songino Array 32.85 286 P **P** **09 24 08.9 0.0**
comp=Z,1.9nm,0.4s,mb4.4,baz=71,slow=8.4,SNR=12
SONM PcP PcP 09 26 52.6 -0.5
comp=Z,5.6nm,1.0s,baz=90,slow=1.5,SNR=4.1
SONM LR LR 09 38 26.5
comp=Z,1µm,20.6s,MS4.5,baz=67,slow=38
HHC Hu-ho-hao-te 32.86 271 *eP* **P** **09 24 08.8 -0.2**
HHC AP pP 09 24 18.3 -1.1
HHC XP sP 09 24 22.5 -1.6
HHC PP PP 09 25 17.3 -2.1
HHC PCP PcP 09 26 55.3 +2.0
HHC S **S** **09 29 20.3 -2.6**
HHC XS 09 29 35.5
HHC SCP 09 30 36.5
HHC PCS 09 30 38.8
HHC AMB AMB
comp=Z,122nm,4.2s
HHC LR LR
comp=N,432nm,18.5s,MS4.5
HHC LR LR
comp=E,657nm,18.5s,MS4.5
HHC LR LR
comp=Z,968nm,16.4s,MS4.6
SSE Sheshan 32.96 248 P **P** **09 24 11.3 +1.3**
SSE AP pP 09 24 22.3 +1.9
SSE XP sP 09 24 27.8 +2.7
SSE PP PP 09 25 26.0 +5.1
SSE S **S** **09 29 25.5 +1.0**
SSE XS 09 29 44.5
SSE AMB AMB
comp=Z,52nm,0.9s,mb5.5
SSE AMB AMB
comp=Z,78nm,6.4s
SSE LR LR
comp=N,153nm,25.2s,MS3.8
SSE LR LR
comp=E,215nm,25.2s,MS3.8
SSE LR LR
comp=Z,264nm,21.5s,MS3.9
SSE Sheshan 32.96 248 P **P** **09 24 11.2 +1.2**
comp=Z,52nm,0.9s,mb5.5
SSE pP pP 09 24 22.2 +1.8
SSE sP sP 09 24 27.8 +2.7
SSE PP PP 09 25 25.9 +5.0
SSE S **S** **09 29 25.6 +1.1**
SSE sS 09 29 44.5
SSE SS SS 09 31 47.2 +22
SSE LR LR
comp=Z,260nm,21.5s,MS3.9
MENT Mentasta 33.54 45 *eP* **P** **09 24 17.0 +2.3**
NJ2 Nanjing 33.69 252 *eP* **P** **09 24 15.5 -0.8**
NJ2 AP pP 09 24 30.5 +3.8
NJ2 PP PP 09 25 29.8 +0.2
NJ2 S **S** **09 29 34.0 -1.8**
NJ2 XS 09 29 50.0
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,70nm,4.7s
NJ2 LR LR
comp=N,980nm,19.3s,MS4.7
NJ2 LR LR
comp=E,1µm,23.0s,MS4.7
NJ2 LR LR
comp=Z,570nm,22.8s,MS4.2
ZAK Zakamensk 33.76 291 *eP* **P** **09 24 16.6 -0.1**
ZAK *e* 09 26 55.5
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
MOY Mondy 34.65 294 *eP* **P** **09 24 25.0 +0.6**
MOY pmax pmax
comp=Z,19nm,1.2s,mb4.9
INK Inuvik 37.14 35 P **P** **09 24 44.9 -0.4**
comp=Z,19nm,0.5s,mb5.1,baz=296,slow=6.4,SNR=46
INK LR LR 09 40 50.0
comp=Z,509nm,21.7s,MS4.3,baz=10,slow=38
INK Inuvik 37.14 35 *eP* **P** **09 24 42.7 -2.6**
comp=Z,14nm,0.6s,mb5.0
INK *ep*P pP 09 24 56.1 +0.3
INK Inuvik 37.14 35 *eP* **P** **09 24 42.7 -2.6**
INK *e**PP pP 09 24 56.1 +0.4
INK pmax pmax
comp=Z,14nm,0.6s
WHN Wuhan 37.50 255 ⇑P **P** **09 24 49.5 +0.8**
GUMO Guam 38.02 200 LR LR 09 37 19.0
comp=Z,153nm,21.3s,MS3.8,baz=268,slow=31
XAN Xi'an 38.58 264 P **P** **09 24 56.5 -1.1**
XAN AP pP 09 25 07.3 -0.8
XAN AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
QZH Quanzhou 39.07 244 P **P** **09 25 03.0 +1.2**
QZH S **S** **09 31 01.8 +3.4**
QZH AMB AMB
comp=Z,90nm,1.0s,mb5.5
QZH LR LR
comp=Z,520nm,24.4s,MS4.3
LZH Lanzhou 40.54 270 *eP* **P** **09 25 15.0 +1.1**
LZH AP pP 09 25 26.8 +2.3
LZH XP sP 09 25 33.0 +4.0
LZH PCP PcP 09 27 16.5 0.0
LZH AMB AMB
comp=Z,76nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,164nm,4.0s
LZH LR LR
comp=E,1µm,14.0s
LZH LR LR
comp=Z,2µm,14.9s,MS5.0
LZH Lanzhou 40.54 270 *eP* **P** **09 25 15.1 +1.2**
comp=Z,76nm,1.2s,mb5.2
LZH pP pP 09 25 26.7 +2.2
LZH sP sP 09 25 33.0 +4.0
LZH PcP PcP 09 27 16.5 0.0
LZH LR LR
comp=Z,2µm,14.9s,MS5.0
LZH Lanzhou 40.54 270 *eP* **P** **09 25 15.1 +1.2**
LZH *PP pP 09 25 26.7 +2.2
LZH *SP sP 09 25 33.0 +4.0
LZH 09 27 16.5
LZH pmax pmax
comp=Z,76nm,1.2s,mb5.2
LZH MLR MLR
comp=Z,2µm,14.9s,MS5.0
GTA Gaotai 41.15 277 *eP* **P** **09 25 20.0 +1.1**
GTA AP pP 09 25 29.8 +0.3
GTA XP sP 09 25 33.8 -0.2
GTA PP PP 09 26 57.0 0.0
GTA S **S** **09 31 20.5 -9.0**
GTA XS 09 31 44.3
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,108nm,4.2s
GTA LR LR
comp=N,641nm,15.3s,MS4.7
GTA LR LR
comp=E,605nm,17.6s,MS4.7
GTA LR LR
comp=Z,784nm,16.4s,MS4.7
NVS Novosibirsk 43.23 306 *i* P **P** **09 25 33.7 -1.9**
NVS *i* 09 27 19.6
NVS pmax pmax
comp=Z,56nm,1.1s,mb5.2
NVS pmax pmax
comp=N,23nm,0.9s
NVS pmax pmax
comp=E,40nm,1.0s
GZH Guangzhou 43.56 248 P **P** **09 25 35.5 -3.2**
GZH LR LR
comp=N,407nm,17.9s,MS4.5
GZH LR LR
comp=E,195nm,15.2s,MS4.5
GZH LR LR
comp=Z,439nm,21.2s
CD2 Chengdu 43.92 265 P **P** **09 25 37.5 -4.0**
CD2 PP PP 09 27 21.5 -4.0
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,90nm,7.2s
CD2 LR LR
comp=E,260nm,18.0s
CD2 LR LR
comp=Z,260nm,20.4s,MS4.1
GYA Guiyang 45.16 257⇑ *i*P **P** **09 25 52.3 +0.8**
GYA AP pP 09 26 02.5 +0.3
GYA XP sP 09 26 06.8 +0.2
GYA S **S** **09 32 25.5 -2.4**
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,110nm,3.2s
GYA LR LR
comp=N,480nm,17.2s,MS4.6
GYA LR LR
comp=E,450nm,17.0s,MS4.6
GYA LR LR
comp=Z,430nm,17.6s,MS4.4
WMQ Urumqi 46.20 290⇓ *i*P **P** **09 26 00.3 +0.7**
WMQ AP pP 09 26 10.0 -0.2
WMQ XP sP 09 26 14.0 -0.7
WMQ PCP PcP 09 27 36.0 +0.6
WMQ S **S** **09 32 42.0 -0.6**
WMQ XS 09 32 58.5
WMQ AMB AMB
comp=Z,26nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,246nm,7.6s
WMQ LR LR
comp=N,625nm,16.0s,MS4.8
WMQ LR LR
comp=E,708nm,16.8s,MS4.8
WMQ LR LR
comp=Z,713nm,24.4s
YKA Yellowknife Ar 46.41 40 P **P** **09 26 00.6 -0.3**
comp=Z,8.8nm,0.9s,mb4.7,baz=291,slow=7.9,SNR=9.4
YKA LR LR 09 46 33.4
comp=Z,309nm,21.2s,MS4.2,baz=290,slow=37
YKA Yellowknife Ar 46.41 40 P **P** **09 26 00.6 -0.3**
YKA LR LR 09 46 33.4
TGY Tagaytay City 46.61 232 LR LR 09 42 56.1
comp=Z,3.8nm,20.5s,baz=274,slow=32
KURK Kurchatov 47.68 303⇑ *i*P **P** **09 26 09.5 -1.6**
comp=Z,22nm,0.5s,mb5.4
KURK Kurchatov 47.68 303*c* *i*P **P** **09 26 10.0 -1.1**
MKAR Makanchi Array 47.74 296 P **P** **09 26 10.8 -0.9**
comp=Z,7.3nm,0.3s,mb5.1,baz=59,slow=6.7,SNR=118
MKAR LR LR 09 46 59.0
comp=Z,1µm,21.0s,MS4.8,baz=12,slow=37
MKAR Makanchi Array 47.74 296 P **P** **09 26 10.8 -0.9**
MKAR LR LR 09 46 59.0
KMI Kunming 48.57 260 P **P** **09 26 19.5 +1.1**
KMI AP pP 09 26 24.8 -4.2
KMI PP PP 09 28 13.0 +1.9
KMI PPP PPP 09 29 00.3 -3.6
KMI S **S** **09 33 22.8 +6.4**
KMI XS 09 33 31.0
KMI SS SS 09 36 46.0 +4.2
KMI SSS SSS 09 38 14.3 +12
KMI AMB AMB
comp=Z,34nm,1.0s,mb5.3
KMI AMB AMB
comp=Z,210nm,3.9s
KMI LR LR
comp=N,486nm,18.2s,MS4.6
KMI LR LR
comp=E,327nm,17.6s,MS4.6
KMI LR LR
comp=Z,357nm,20.8s,MS4.3
KMI Kunming 48.57 260 P **P** **09 26 19.4 +1.0**
comp=Z,34nm,1.0s,mb5.3
KMI pP pP 09 26 24.7 -4.3
KMI sP sP 09 26 27.5 -6.0
KMI PP PP 09 28 13.0 +1.9
KMI PPP PPP 09 29 00.2 -3.7
KMI S **S** **09 33 22.7 +6.3**
KMI sS 09 33 30.9
KMI SS SS 09 36 46.1 +4.3
KMI SSS SSS 09 38 14.2 +12
KMI LR LR
comp=Z,360nm,20.8s,MS4.3
KMI Kunming 48.57 260 P **P** **09 26 19.4 +1.0**
KMI *SP sP 09 26 27.5 -6.0
KMI 09 28 13.0
KMI PPP PPP 09 29 00.2 -3.7
KMI S **S** **09 33 22.7 +6.3**
KMI *SS 09 33 30.9
KMI SS SS 09 36 46.1 +4.3
KMI pmax pmax
comp=Z,34nm,1.0s,mb5.3
KMI MLR MLR
comp=Z,360nm,20.8s,MS4.3
QIZ Qiongzhong 48.75 248⇑ *i*P **P** **09 26 22.3 +2.5**
QIZ S **S** **09 33 26.8 +7.8**
QIZ AMB AMB
comp=Z,37nm,1.2s,mb5.3
QIZ LR LR
comp=N,296nm,19.1s,MS4.4
QIZ LR LR
comp=E,280nm,20.4s,MS4.4
QIZ LR LR
comp=Z,313nm,18.3s,MS4.3
CHKZ Chkalovo 50.22 309 P **P** **09 26 28.5 -2.2**
CHKZ pmax pmax
comp=Z,37nm,1.1s,mb5.3
VOSK Vostochnaya 50.57 308 P **P** **09 26 31.1 -2.2**
VOSK pmax pmax
comp=Z,15nm,1.0s,mb4.9
BVA0 Borovoye Array 50.70 309 *i* P **P** **09 26 32.5 -1.8**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BRVK Borovoye 50.73 309⇑ *e*P **P** **09 26 32.5 -2.1**
comp=Z,16nm,0.9s,mb5.0
BRVK Borovoye 50.73 309 P **P** **09 26 32.8 -1.8**
BRVK pmax pmax
comp=Z,16nm,0.9s,mb5.0
EDM Edmonton 51.88 50⇑ *i*P **P** **09 26 42.1 -1.1**
EDM *ep*P pP 09 26 55.1 +1.2
NEW Newport 52.87 57 P **P** **09 26 50.0 -0.7**
comp=Z,1.8nm,0.8s,baz=302,slow=9.7,SNR=3.4
YBH Yreka Blue Hor 53.71 66 P **P** **09 26 56.9 -0.1**
comp=Z,6.3nm,1.0s,mb4.5,baz=163,slow=1.5,SNR=6.4
YBH Yreka Blue Hor 53.71 66 *eP* **P** **09 26 57.2 +0.2**
comp=Z,9.6nm,1.0s,mb4.7
YBH *ep*P pP 09 27 08.6 +0.7
YBH Yreka Blue Hor 53.71 66 *eP* **P** **09 26 57.2 +0.2**
YBH *e**PP pP 09 27 08.6 +0.8
YBH pmax pmax
comp=Z,10.0nm,1.0s
TKM2 Tokmak 2 53.87 296 P **P** **09 26 57.5 -0.7**
SNR=6.6
ARU Arti 54.20 317⇑ *eP* **P** **09 26 57.6 -2.8**
comp=Z,21nm,0.4s,mb5.4
ARU *ep*P pP 09 27 07.8 -3.4
ARU Arti 54.20 317⇑ *i*P **P** **09 26 57.8 -2.6**
ARU *e*PPP PPP 09 30 07.3 -7.1
ARU *eS* **S** **09 34 32.4 -0.9**
ARU *eSS* SS 09 38 14.5 -0.3
ARU pmax pmax
comp=Z,27nm,0.9s,mb5.2
ARU MLR MLR
comp=E,400nm,19.0s,MS4.7
ARU MLR MLR
comp=Z,700nm,19.0s,MS4.7
ARU MLR MLR
comp=N,400nm,18.5s,MS4.7
CHRT Chiangrai 54.27 258⇑P **P** **09 27 03.0 +1.6**
comp=N,303nm,0.9s,mb6.2
USP Ospenovka 54.28 297 P **P** **09 27 00.5 -0.7**
SNR=16
KBK Karagaybulak 54.41 296 P **P** **09 27 01.6 -0.5**
SNR=7.0
FRU Bishkek 54.49 296 P **P** **09 27 01.0 -1.7**
FRU *e* 09 27 19.6
NANT Nan 54.49 256⇑P **P** **09 27 04.0 +0.9**
comp=N,588nm,0.4s
WDC Whiskeytown Da 54.53 67 *eP* **P** **09 27 03.0 -0.1**
comp=N,10nm,1.3s,mb4.7
WDC *ep*P pP 09 27 12.9 -1.0
WDC Whiskeytown Da 54.53 67 *eP* **P** **09 27 03.0 -0.1**
WDC *e**PP pP 09 27 12.9 -1.0
WDC pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
AAK Ala-Archa 54.68 296 P **P** **09 27 03.4 -0.7**
SNR=8.3
AAK Ala-Archa 54.68 296⇑ *i*P **P** **09 27 00.7 -3.4**
comp=Z,20nm,1.1s,mb5.0
AAK Ala-Archa 54.68 296 P **P** **09 27 02.4 -1.7**
AAK pmax pmax
comp=Z,20nm,1.1s,mb5.1
BMO Blue Mountains 54.86 60 *eP* **P** **09 27 05.0 -0.3**
comp=Z,18nm,1.5s,mb4.9
MOD Modoc 55.01 65 *eP* **P** **09 27 06.7 +0.1**
comp=Z,28nm,1.1s,mb5.2
MOD *ep*P pP 09 27 18.4 +1.1
KKTK Khon Kaen 55.05 252 P **P** **09 27 06.5 -0.7**
comp=Z,617nm,0.4s
EKS2 Erkin-Say 55.08 297 P **P** **09 27 06.4 -0.6**
SNR=13
ARCES ARCESS Array B 55.32 341 P **P** **09 27 04.9 -3.5**
comp=Z,5.3nm,0.9s,mb4.6,baz=47,slow=7.1,SNR=14
ARCES PcP PcP 09 28 07.8 -0.8
comp=Z,4.2nm,0.9s,baz=53,slow=4.5,SNR=4.4
ARCES LR LR 09 56 14.7
comp=Z,664nm,19.4s,MS4.7,baz=54,slow=42
ARCES ARCESS Array B 55.32 341 P **P** **09 27 04.9 -3.5**
ARCES PcP PcP 09 28 07.8 -0.8
ARCES LR LR 09 56 14.7
AML Almayashu 55.46 296 P **P** **09 27 09.4 -0.3**
SNR=7.8
CHG Chiang Mai 55.58 258⇑P **P** **09 27 12.4 +1.5**
comp=Z,138nm,0.8s,mb6.0
WVOR Wild Horse Val 55.63 63 *eP* **P** **09 27 10.8 -0.2**
comp=Z,26nm,1.2s,mb5.1
WVOR *ep*P pP 09 27 21.0 -0.9
WVOR Wild Horse Val 55.63 63 *eP* **P** **09 27 10.8 -0.2**
WVOR *e**PP pP 09 27 21.0 -0.9
WVOR pmax pmax
comp=Z,26nm,1.2s,mb5.1
CHMT Chamberlain Mo 55.77 56 *eP* **P** **09 27 11.2 -0.7**
CHMT *ep*P pP 09 27 19.6 -3.2
KSH Kashi 55.80 292 *eP* **P** **09 27 12.3 +0.1**
KSH *eAP* pP 09 27 22.3 -0.8
KSH *eXP* sP 09 27 26.5 -0.9
KSH *ePCP* PcP 09 28 12.3 +1.5
KSH *ePP* PP 09 29 18.0 -0.3
KSH *ePPP* PPP 09 30 33.0 -0.8
KSH *eSCP* 09 32 07.0
KSH *ePCS* 09 32 12.0
KSH *eS* **S** **09 34 53.3 -1.6**
KSH *eXS* 09 35 10.0
KSH *eSCS* ScS 09 36 55.5 +0.7
KSH SS SS 09 38 37.0 -3.6
KSH AMB AMB
comp=Z,320nm,5.0s
KSH LR LR
comp=N,480nm,4.6s
KSH LR LR
comp=E,600nm,6.8s
OHCM Honcut 55.95 68 *eP* **P** **09 27 12.8 -0.6**
OHCM *ep*P pP 09 27 22.3 -1.9
KKAR Karatay Array 56.64 299 *i* P **P** **09 27 16.5 -1.8**
KKAR pmax pmax
comp=Z,11nm,0.9s,mb4.9
HRY Holter Researc 56.65 55 *eP* **P** **09 27 18.4 +0.2**
HRY *ep*P pP 09 27 30.4 +1.3
SUMG Summit 56.88 6 *eP* **P** **09 27 18.7 -0.9**
comp=Z,95nm,0.9s,mb5.8
NST Nakhon Sawan 57.21 254 P **P** **09 27 22.0 -0.7**
JIRN Jiri 57.36 275 *eP* **P** **09 27 23.8 +0.2**
comp=Z,44nm,0.8s,mb5.5
GUN Gumba 57.38 276 *eP* **P** **09 27 23.6 -0.1**
KKN Kakani 57.85 276 *eP* **P** **09 27 27.1 +0.1**
comp=Z,50nm,0.9s,mb5.5
PKI Pulchoki 57.92 276 *eP* **P** **09 27 27.6 +0.1**
QLMT Earthquake Lak 58.08 57 *eP* **P** **09 27 28.6 +0.2**
DMN Daman 58.09 276 *eP* **P** **09 27 28.0 -0.6**
comp=Z,88nm,0.9s,mb5.8
GKN Gorkha 58.11 276 *eP* **P** **09 27 28.8 0.0**
comp=Z,124nm,1.0s,mb5.9
AB31 Akbulak array 58.20 310 *eP* **P** **09 27 26.9 -2.2**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
YMR Madison River 58.44 57 *eP* **P** **09 27 31.0 +0.2**
comp=Z,39nm,1.6s,mb5.2
YMR *ep*P pP 09 27 43.6 +1.8
MNV Mina 58.51 66 *eP* **P** **09 27 31.1 -0.3**
comp=Z,14nm,1.4s,mb4.8
MNV Mina 58.51 66 P **P** **09 27 31.4 0.0**
MNV pmax pmax
comp=Z,15nm,1.4s,mb4.8
KOLN Koldanda 58.93 277 *eP* **P** **09 27 34.5 -0.1**
comp=Z,52nm,0.9s,mb5.6
IMW Indian Meadow 58.96 57 *eP* **P** **09 27 35.2 +0.7**
comp=Z,20nm,1.2s,mb5.0
IMW *ep*P pP 09 27 44.8 -0.7
RRI2 Red Ridge 59.12 58⇑ *eP* **P** **09 27 36.2 +0.5**
comp=Z,16nm,0.9s,mb5.0
RRI2 *ep*P pP 09 27 45.2 -1.3
MOOW Moose Ponds 59.16 58 *eP* **P** **09 27 36.3 +0.4**
comp=Z,9.8nm,1.2s,mb4.7
TPAW Teton Pass 59.23 58 *eP* **P** **09 27 36.8 +0.4**
comp=Z,47nm,1.5s,mb5.3
TPAW *ep*P pP 09 27 49.2 +1.9
LOHW Long Hollow 59.33 58 *eP* **P** **09 27 37.4 +0.3**
comp=Z,21nm,1.3s,mb5.0
SNOW Snow King Moun 59.35 58 *eP* **P** **09 27 38.3 +1.0**
comp=Z,32nm,1.3s,mb5.2
SNOW *ep*P pP 09 27 49.2 +1.1
REDW Red Top Meadow 59.37 58 *eP* **P** **09 27 37.7 +0.4**
comp=Z,37nm,1.4s,mb5.2
LAO LASA Array 59.57 52⇑ *i*P **P** **09 27 38.5 -0.2**
comp=Z,28nm,1.0s,mb5.2
HNR Honiara 59.58 177 LR LR 09 50 06.3
comp=Z,402nm,20.3s,MS4.5,baz=11,slow=32
KLP Kalpa 59.71 284 *eP* **P** **09 27 37.9 -2.0**
NNT Nongplab 59.83 252 P **P** **09 27 42.8 +1.9**
HWUT Hardware Ranch 60.15 60 *eP* **P** **09 27 42.1 -0.7**
comp=Z,9.2nm,1.0s,mb4.8
HWUT *ep*P pP 09 27 53.9 +0.3

BOK Bokaro 60.27 272 AMb AMB 09 30 27.8
comp=Z,56nm,1.8s,mb5.3

DUG Dugway 60.41 62 *eP* **P 09 27 44.2 -0.3**
comp=Z,25nm,1.4s,mb5.0
DUG *epP* pP 09 27 55.3 -0.2
DUG Dugway 60.41 62 *eP* **P 09 27 44.2 -0.3**
DUG *e*PP* pP 09 27 55.3 -0.1
DUG pmax pmax
comp=Z,25nm,1.4s,mb5.0

PDAR Pinedale Array 60.47 58 P **P 09 27 44.8 -0.1**
comp=Z,7.1nm,0.8s,mb4.7,baz=310,slow=2.9,SNR=52

DAU Daniels Canyon 61.13 61 *eP* **P 09 27 49.9 +0.4**
DAU *epP* pP 09 28 01.2 +0.8

KAF Kangasniemi 61.28 336 *ep* **P 09 27 46.5 -3.7**
comp=Z,2.4nm,0.5s,mb4.6,baz=32,slow=6.4

KAF Kangasniemi 61.28 336 *eP* **P 09 27 46.5 -3.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5

ARUT Antelope Range 61.69 64 *eP* **P 09 27 53.3 +0.1**
ARUT *epP* pP 09 28 02.2 -1.9

FINES FINESS Array B 61.90 336 P **P 09 27 51.2 -3.1**
comp=Z,2.7nm,0.4s,mb4.8,baz=40,slow=7.2,SNR=34
FINES LR LR 09 57 58.1
comp=Z,476nm,19.9s,MS4.7,baz=199,slow=39

FINES FINESS Array B 61.90 336 *i* P **P 09 27 52.2 -2.1**
FINES pmax pmax
comp=Z,3.0nm,0.4s

MSU Marysvale 61.91 63 *eP* **P 09 27 54.7 0.0**
MSU *epP* pP 09 28 07.4 +1.7

ASOR Ausora 61.93 282 *eP* **P 09 27 55.0 +0.1**

ULM Lac du Bonnet 62.02 44 P **P 09 27 54.0 -1.2**
comp=Z,2.0nm,0.6s,mb4.5,baz=288,slow=8.1,SNR=5.4
ULM LR LR 09 55 59.1
comp=Z,176nm,20.9s,MS4.2,baz=312,slow=37

NEN Nelson 62.34 67 *eP* **P 09 27 56.9 -0.7**

SRU San Rafael 62.44 61⇑ *iP* **P 09 27 57.9 -0.3**
comp=Z,15nm,0.9s,mb5.1

SRU San Rafael 62.44 61 P **P 09 27 58.2 0.0**

AYAN Aya Nagar 62.52 282 *eP* **P 09 27 56.4 -2.5**
AYAN AMb AMB 09 27 59.9
comp=Z,16nm,0.9s,mb5.2

RTK Rohtak 62.58 283 *eP* **P 09 27 56.6 -2.7**

SONA Sohna 62.71 282 *eP* **P 09 27 59.0 -1.2**

KSM Kuching 62.80 235 *eP* **P 09 28 02.5 +1.5**

KUDL Kundal 63.16 282 *eP* **P 09 28 01.1 -2.1**
KUDL AMb AMB 09 28 03.4
comp=Z,30nm,0.4s,mb5.8

SNG Songkhla 63.56 248 P **P 09 28 08.0 +2.0**

KHET Khetri 63.64 283 *eP* **P 09 28 05.3 -1.0**

PV10 Paradox Valley 63.78 61 *eP* **P 09 28 07.6 +0.6**
PV10 *epP* pP 09 28 17.5 -0.5

OBN Obninsk 63.84 327⇓ *eP* **P 09 28 05.0 -2.1**
OBN *e*PP* pP 09 28 24.2 +6.1
OBN *e* 09 30 26.0
OBN *eSS* SS 09 40 44.3 -3.8
OBN pmax pmax
comp=Z,23nm,0.7s,mb5.3
OBN MLR MLR
comp=Z,500nm,22.0s,MS4.7

BLSP Bilaspur 63.86 274 *eP* **P 09 28 07.4 -0.4**
BLSP AMb AMB 09 28 08.3
comp=Z,50nm,1.2s,mb5.4

PV01 Paradox Valley 64.21 61 *eP* **P 09 28 09.2 -0.6**
PV01 *epP* pP 09 28 21.1 +0.2

ISCO Idaho Springs 64.66 58 *eP* **P 09 28 12.9 +0.2**
comp=Z,21nm,1.2s,mb5.0

ISCO Idaho Springs 64.66 58 *eP* **P 09 28 12.9 +0.2**
ISCO pmax pmax
comp=Z,21nm,1.2s,mb5.0

KULM Kulim 65.05 246 *eP* **P 09 28 16.9 +1.3**

AJM Ajmer 65.49 282 *i* P **P 09 28 18.0 -0.3**

NB2 NORSAR Subarra 65.65 343 P **P 09 28 16.3 -2.4**
comp=Z,6.7nm,0.7s,mb4.8,baz=23,slow=6.5

NB2 NORSAR Subarra 65.65 343 P **P 09 28 16.3 -2.4**
NB2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8

NOA NORSAR Array B 65.65 343 P **P 09 28 17.3 -1.4**
comp=Z,3.6nm,0.6s,mb4.6,baz=22,slow=6.4,SNR=13
NOA LR LR 10 02 05.5
comp=Z,349nm,18.4s,MS4.6,baz=25,slow=41

NOA NORSAR Array B 65.65 343 P **P 09 28 17.3 -1.4**
NOA LR LR 10 02 05.5

VRSR Storozhevoye 65.94 323 *eP* **P 09 28 18.2 -2.5**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s

BHPL Bhopal 66.06 278 *eP* **P 09 28 21.6 -0.4**
BHPL AMb AMB 09 28 22.7
comp=Z,86nm,0.8s,mb5.8

VIS Vishakhapatnam 66.31 269 *ex* x 09 28 18.4
VIS AMb AMB 09 28 25.8
comp=Z,66nm,1.4s,mb5.5

KAKA Kakadu 66.44 206 *eP* **P 09 28 44.5 +20**
comp=Z,22nm,0.9s,mb5.2

TUC Tucson 67.08 67 *eP* **P 09 28 28.0 -0.2**
comp=Z,6.2nm,1.2s,mb4.5

TUC Tucson 67.08 67 P **P 09 28 28.3 +0.1**
TUC pmax pmax
comp=Z,6.0nm,1.2s,mb4.5

JASL Jaisalmer 67.50 285 *eP* **P 09 28 29.9 -1.1**

ANMO Albuquerque 67.67 62 P **P 09 28 32.0 +0.1**
comp=Z,2.4nm,0.8s,mb4.3,baz=313,slow=6.3,SNR=9.9

ANMO Albuquerque 67.67 62 *eP* **P 09 28 32.0 +0.1**
comp=Z,7.2nm,1.1s,mb4.6
ANMO *epP* pP 09 28 43.4 +0.3

ANMO Albuquerque 67.67 62 *eP* **P 09 28 32.0 +0.1**
ANMO *e*PP* pP 09 28 43.4 +0.3
ANMO pmax pmax
comp=Z,7.0nm,1.1s

SCHQ Schefferville 68.91 26 P **P 09 28 38.5 -0.8**
comp=Z,8.2nm,0.4s,mb5.0,baz=345,slow=6.0,SNR=27
SCHQ LR LR 10 02 15.4
comp=Z,184nm,18.2s,MS4.4,baz=298,slow=39

SCHQ Schefferville 68.91 26 *eP* **P 09 28 38.5 -0.7**
comp=Z,11nm,0.5s,mb5.0

HYB Hyderabad 69.59 273⇑ *iP* **P 09 28 44.0 -0.1**
comp=Z,80nm,1.0s,mb5.6

HYB Hyderabad 69.59 273⇑ *eP* **P 09 28 44.0 -0.1**
comp=Z,80nm,1.0s,mb5.6

HYB Hyderabad 69.59 273⇑ *eP* **P 09 28 44.0 -0.1**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.6

KSU1 Kansas State U 69.91 53 *eP* **P 09 28 43.4 -2.3**

AKASG Malin Array Be 70.01 328 P **P 09 28 43.5 -2.5**
comp=Z,5.7nm,0.5s,mb4.7,baz=33,slow=6.4,SNR=19

KIV Kislovodsk 70.18 316 *eP* **P 09 28 45.0 -2.2**
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.8
KIV MLR MLR
comp=N,283nm,21.0s,MS4.5
KIV MLR MLR
comp=E,131nm,21.0s,MS4.5
KIV MLR MLR
comp=Z,319nm,21.0s,MS4.5

CTA Charters Tower 70.80 191⇑ *iP* **P 09 28 51.7 +0.3**
comp=Z,8.0nm,1.1s,mb4.6

CTA Charters Tower 70.80 191 P **P 09 28 51.6 +0.2**
comp=Z,9.2nm,0.9s,mb4.7,baz=7.0,slow=5.7,SNR=11

CTA Charters Tower 70.80 191⇑ *iP* **P 09 28 51.7 +0.3**
CTA pmax pmax
comp=Z,8.0nm,1.1s

TBLG Delisi 70.98 313 P **P 09 28 51.2 -0.9**

POO Poona 71.77 277 *eP* **P 09 28 56.4 -0.8**

GNI Garni 72.21 312 *eP* **P 09 29 00.6 +1.1**
comp=Z,12nm,0.6s,mb5.0

GNI Garni 72.21 312 *c iP* **P 09 28 59.7 +0.3**
GNI pmax pmax
comp=Z,34nm,1.7s
GNI MLR MLR
comp=Z,300nm,21.0s

BSEG Bad Segeberg 72.42 340 *eP* **P 09 28 59.1 -1.4**

KAD Karad 72.46 276 *ex* x 09 28 57.7
KAD AMb AMB 09 29 02.7
comp=Z,127nm,0.9s,mb5.8

WRAB Tennant Creek 72.84 202 *eP* **P 09 29 03.7 +0.2**
comp=Z,46nm,1.3s,mb5.2

WRAB Tennant Creek 72.84 202 *eP* **P 09 29 04.3 +0.8**

WB2 Warramunga Arr 72.84 202⇑ *iP* **P 09 29 04.0 +0.4**

WRA Warramunga Arr 72.85 202 P **P 09 29 04.1 +0.5**
comp=Z,12nm,1.1s,mb4.8,baz=18,slow=6.3,SNR=58

KWP Kalwaria 73.06 331 *eP* **P 09 29 04.4 +0.2**

LTX Lajitas 73.41 64 *eP* **P 09 29 06.9 +0.2**
comp=Z,16nm,0.9s,mb4.9
LTX *epP* pP 09 29 18.1 +0.2

LTX Lajitas 73.41 64 *eP* **P 09 29 06.9 +0.2**
LTX *e*PP* pP 09 29 18.1 +0.3
LTX pmax pmax
comp=Z,15nm,0.9s,mb4.9

TXAR Lajitas Array 73.41 64 P **P 09 29 07.2 +0.5**
comp=Z,7.0nm,0.5s,mb4.8,baz=292,slow=4.9,SNR=80

OJC Ojcow 73.41 333 *eP* **P 09 29 06.2 -0.1**

FITZ Fitzroy Crossi 73.62 211⇑ *iP* **P 09 29 09.4 +1.2**
comp=Z,27nm,0.9s,mb5.2

FITZ Fitzroy Crossi 73.62 211 P **P 09 29 09.5 +1.4**
comp=Z,36nm,0.9s,mb5.3,baz=20,slow=4.8,SNR=21

STHS Stebnicka Huta 73.70 332 *eP* **P 09 29 07.5 -0.5**

KOLS Kolonicke sedl 73.81 331 *epP* pP 09 29 21.1 +1.4

BURAR Bucovina Array 74.01 328⇑ P **P 09 29 09.2 -0.6**

BURAR Bucovina Array 74.01 328⇑ P **P 09 29 09.2 -0.6**

UPC Upice 74.20 335 *eP* **P 09 29 10.1 -0.8**

CLL Collm 74.24 338⇓ *iP* **P 09 29 10.4 -0.7**
comp=Z,logA/T=1.3,mb5.0

CLL Collm 74.24 338⇓ *iP* **P 09 29 10.4 -0.7**
comp=Z,23nm,1.2s,mb5.0
CLL LR LR
comp=Z,500nm,19.2s,MS4.8

CLL Collm 74.24 338⇓ *iP* **P 09 29 10.4 -0.7**
CLL pmax pmax
comp=Z,23nm,1.2s,mb5.0
CLL MLR MLR
comp=Z,500nm,19.2s,MS4.8

DPC Dobruska-Polom 74.27 335 *eP* **P 09 29 11.1 -0.1**
DPC *epP* pP 09 29 20.0 -2.4

CLZ Clausthal 74.36 339 *eP* **P 09 29 11.6 -0.2**
comp=Z,32nm,1.3s,mb5.1

CLZ Clausthal 74.36 339 *eP* **P 09 29 11.6 -0.2**
CLZ pmax pmax
comp=Z,32nm,1.3s,mb5.1

BRG Berggiesshubel 74.41 337 *i* P **P 09 29 11.5 -0.5**
comp=Z,8.6nm,1.1s,mb4.6
BRG *i* pP 09 29 23.3 +0.1
BRG LR LR
comp=Z,680nm,15.2s,MS5.1

BRG Berggiesshubel 74.41 337 *i* P **P 09 29 11.5 -0.5**
BRG *i* pP 09 29 23.3 +0.1
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BRG MLR MLR
comp=Z,680nm,15.2s,MS5.1

MORC Moravsky Berou 74.45 334 *eP* **P 09 29 12.0 -0.3**
comp=Z,5.4nm,0.9s,mb4.5

MORC Moravsky Berou 74.45 334 *eP* **P 09 29 12.0 -0.3**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4

KECS Kecovo 74.75 332 *eP* **P 09 29 13.1 -1.0**

PRU Pruhonice 75.07 336 *eP* **P 09 29 15.7 -0.2**
PRU AMS AMS 10 07 40.0
comp=Z,700nm,16.3s

VRAC Vranov 75.14 335 *eP* **P 09 29 15.8 -0.5**

MOX Moxa 75.19 338 *i* P **P 09 29 16.1 -0.4**
MOX L 10 08 01.0

MOX Moxa 75.19 338 *eP* **P 09 29 16.1 -0.4**
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.4

PARMO Parma 75.23 50 *eP* **P 09 29 16.5 -0.6**
PARMO *e* 09 29 35.5

VYHS Vyhne 75.24 333 *eP* **P 09 29 16.7 -0.2**

DMUB Kingscourt 75.26 350⇑ *iP* **P 09 29 16.6 -0.3**

NKC Novy Kostel 75.37 337 *eP* **P 09 29 17.1 -0.5**

PSZ Piszkesteto 75.44 332 *eP* **P 09 29 17.7 -0.3**
comp=Z,25nm,1.4s,mb5.0

PSZ Piszkesteto 75.44 332 *eP* **P 09 29 17.7 -0.3**
PSZ pmax pmax
comp=Z,25nm,1.4s,mb5.0

TREC Trest 75.45 335 *eP* **P 09 29 17.8 -0.3**

DRGR 75.56 330⇓ P **P 09 29 17.6 -1.1**

MLR Muntele Rosu 75.61 327⇓ P **P 09 29 19.5 +0.5**

WCI Wyandotte Cave 75.63 47 *eP* **P 09 29 18.7 -0.6**
comp=Z,28nm,1.3s,mb5.0

WCI Wyandotte Cave 75.63 47 P **P 09 29 19.0 -0.4**
WCI pmax pmax
comp=Z,28nm,1.2s,mb5.1

DLF Lyons Farm 75.82 350⇑ *iP* **P 09 29 19.8 -0.3**

DCN Croghan 75.85 350⇑ *iP* **P 09 29 19.9 -0.4**

VOIR 75.96 327⇑ P **P 09 29 21.9 +0.8**

MSL Mosul 76.06 311 *ex* x 09 29 42.0

KHC Kasperske Hory 76.10 336 *eP* **P 09 29 21.8 0.0**
KHC *ex* x 09 29 41.7
KHC AMS AMS 10 07 00.0
comp=Z,700nm,17.8s

GRA1 Grafenberg Arr 76.17 338 *eP* **P 09 29 22.2 +0.1**
comp=Z,28nm,1.0s,mb5.2
GRA1 LR LR
comp=Z,400nm,19.8s,MS4.7

GRF Grafenberg Arr 76.17 338 *eP* **P 09 29 22.2 +0.1**
comp=Z,28nm,1.0s,mb5.2
GRF LR LR
comp=Z,400nm,19.8s,MS4.7

GRF Grafenberg Arr 76.17 338 *eP* **P 09 29 22.2 +0.1**
GRF pmax pmax
comp=Z,28nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,400nm,19.8s,MS4.7

GRF Grafenberg Arr 76.17 338 *eP* **P 09 29 22.2 +0.1**
GRF pmax pmax
comp=Z,28nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,400nm,19.8s,MS4.7

WET Wettzell 76.27 337 *eP* **P 09 29 22.9 +0.2**
comp=Z,15nm,1.0s,mb4.9

WET Wettzell 76.27 337 *eP* **P 09 29 22.9 +0.2**
WET pmax pmax
comp=Z,15nm,1.0s,mb4.9

TNS Taunus Mts 76.31 340 *eP* **P 09 29 22.7 -0.2**
comp=Z,12nm,1.0s,mb4.8

TNS Taunus Mts 76.31 340 *eP* **P 09 29 22.7 -0.2**
TNS pmax pmax
comp=Z,12nm,1.0s,mb4.8

HGN Heimansgroeve 76.33 342 *eP* **P 09 29 22.3 -0.7**
comp=Z,37nm,1.5s,mb5.1

GERES GERESS Array B 76.33 336 P **P 09 29 22.9 -0.2**
comp=Z,1.9nm,0.4s,mb4.4,baz=30,slow=6.1,SNR=18

MALT Malatya 76.62 315 *eP* **P 09 29 24.6 -0.4**
comp=Z,15nm,1.0s,mb4.9

MALT Malatya 76.62 315 *eP* **P 09 29 24.6 -0.4**
MALT pmax pmax
comp=Z,15nm,1.0s,mb4.9

TOD Tromm 76.81 340 *eP* **P 09 29 25.2 -0.6**

BANOM Banah 77.02 295 P **P 09 29 27.8 +0.4**
SNR=11

MOA Molln 77.10 335⇑ *iP* **P 09 29 27.1 -0.4**
comp=Z,6.7nm,1.2s,mb4.5

GIVF Givet 77.18 342⇑ *iP* **P 09 29 27.4 -0.5**
comp=Z,46nm,1.0s,mb5.1

GIVF Givet 77.18 342⇑ *iP* **P 09 29 27.4 -0.5**
GIVF pmax pmax
comp=Z,23nm,1.0s,mb5.1

ARSA Arzberg 77.31 334⇑ *iP* **P 09 29 28.8 +0.1**
comp=Z,8.6nm,1.1s,mb4.6

BAIF Baives 77.34 343⇑ *iP* **P 09 29 28.4 -0.3**
comp=Z,32nm,0.9s,mb5.0

BAIF Baives 77.34 343⇑ *iP* **P 09 29 28.4 -0.3**
BAIF pmax pmax
comp=Z,16nm,0.9s,mb5.0

BR131 Keskin Array S 77.55 319 *eP* **P 09 29 28.6 -1.6**
comp=Z,2.4nm,0.6s,mb4.3

BRTR Keskin Array B 77.55 319 P **P 09 29 29.4 -0.7**
comp=Z,4.7nm,0.8s,mb4.5,baz=90,slow=1.2,SNR=17

BIDO Bidbid 77.77 292 P **P 09 29 32.6 +0.9**
SNR=7.0

BHD Baghdad 77.82 308 *ex* x 09 29 28.5

WBK Wadi Bani Khal 77.95 291 P **P 09 29 33.9 +1.2**
SNR=11

GROS Grobnik 78.04 334 *eP* **P 09 29 32.3 -0.4**

KBA Koelnbreinsper 78.06 336⇑ *iP* **P 09 29 33.3 +0.6**
comp=Z,31nm,0.8s,mb5.3

KBA Koelnbreinsper 78.06 336⇑ *iP* **P 09 29 33.3 +0.6**
KBA pmax pmax
comp=Z,31nm,0.8s,mb5.3

ASHO Ashiyiah 78.10 294 P **P 09 29 33.5 +0.1**
SNR=32

BFO Black Forest 78.12 339 *eP* **P 09 29 32.5 -0.6**
comp=Z,15nm,1.1s,mb4.8

BFO Black Forest 78.12 339 *eP* **P 09 29 32.5 -0.6**
BFO pmax pmax
comp=Z,15nm,1.1s,mb4.8

SMDO Samad 78.16 292 P **P 09 29 34.4 +0.6**
SNR=14

HOQ Hoqain 78.20 293 P **P 09 29 34.3 +0.3**
SNR=18

SWET Sewanee 78.24 48 *eP* **P 09 29 31.8 -2.3**

WLS Welschbruch 78.25 340 *eP* **P 09 29 33.4 -0.4**

OBKA Obir 78.26 335⇑ *iP* **P 09 29 33.9 0.0**
comp=Z,11nm,1.0s,mb4.7

CDF Champ du Feu 78.27 340⇑ *iP* **P 09 29 33.6 -0.3**
comp=Z,57nm,1.1s,mb5.1

CDF Champ du Feu 78.27 340⇑ *iP* **P 09 29 33.6 -0.3**
CDF pmax pmax
comp=Z,28nm,1.1s,mb5.1

WTTA Wattenberg 78.33 337⇑ *iP* **P 09 29 34.3 +0.1**
comp=Z,37nm,1.3s,mb5.2

WTTA Wattenberg 78.33 337⇑ *iP* **P 09 29 34.3 +0.1**
WTTA pmax pmax
comp=Z,37nm,1.3s,mb5.2

MOTA Moosalm 78.38 337⇑ *iP* **P 09 29 34.8 +0.3**
comp=Z,27nm,1.1s,mb5.1

MOTA Moosalm 78.38 337⇑ *iP* **P 09 29 34.8 +0.3**
MOTA pmax pmax
comp=Z,27nm,1.1s,mb5.1

SQTA Sankt Quirin 78.47 337⇑ *iP* **P 09 29 35.2 +0.2**
comp=Z,25nm,1.2s,mb5.0

SQTA Sankt Quirin 78.47 337⇑ *iP* **P 09 29 35.2 +0.2**
comp=Z,25nm,1.2s,mb5.0

SQTA Sankt Quirin 78.47 337⇑ *iP* **P 09 29 35.2 +0.2**
SQTA pmax pmax
comp=Z,25nm,1.2s,mb5.0

ECH Echery 78.48 340 *eP* **P 09 29 34.5 -0.6**

LEGS Legarje 78.56 334 *eP* **P 09 29 34.7 -0.8**

FELD Feldberg 78.62 339 *eP* **P 09 29 35.3 -0.5**

JMDO Jabal Madar 78.66 291 P **P 09 29 37.0 +0.5**
SNR=49

MEZF Maizieres J'vi 78.66 342⇑ *iP* **P 09 29 36.0 0.0**
comp=Z,40nm,0.6s,mb5.2

THEF They Montfort 78.72 341 *eP* **P 09 29 36.2 -0.2**

DAVA Damuels 78.73 338⇑ *iP* **P 09 29 36.5 0.0**
comp=Z,26nm,1.1s,mb5.1

MOF Molkenrain 78.83 340 *eP* **P 09 29 36.6 -0.4**

ARQ Araqi 78.86 293 P **P 09 29 37.9 +0.3**
SNR=29

HAU Haudompre 78.86 341⇑ *iP* **P 09 29 36.7 -0.4**
comp=Z,25nm,0.7s,mb5.0
HAU *eR*
comp=Z,268nm,18.2s

HAU Haudompre 78.86 341⇑ *iP* **P 09 29 36.7 -0.4**
HAU pmax pmax
comp=Z,12nm,0.7s,mb4.9
HAU MLR MLR
comp=Z,270nm,18.3s,MS4.6

BSY Bisya 78.91 292 P **P 09 29 38.3 +0.3**
SNR=80

HINF Hinteralfeld 78.93 340⇑ *iP* **P 09 29 36.9 -0.6**
comp=Z,12nm,0.7s,mb4.6

HINF Hinteralfeld 78.93 340⇑ *iP* **P 09 29 36.9 -0.6**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6

CEY Cerknica 79.00 334 *i* P **P 09 29 37.2 -0.8**

MIB Mutribah 79.02 304 *eP* **P 09 29 38.2 -0.2**
MIB AMb AMB 09 29 40.1
comp=Z,293nm,0.6s

BLA Blacksburg 79.13 43 *eP* **P 09 29 38.7 -0.2**
comp=Z,6.4nm,0.8s,mb4.6

BLA Blacksburg 79.13 43 P **P 09 29 38.9 0.0**
BLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6

KBD Kabd 79.32 303 *eP* **P 09 29 40.0 -0.1**
KBD AMb AMB 09 29 42.1
comp=Z,536nm,0.8s

LOMF Lomont 79.38 340 *eP* **P 09 29 39.7 -0.3**

FLN La Foliniere 79.42 345⇑ *iP* **P 09 29 39.9 -0.3**
comp=Z,203nm,1.2s,mb5.6
FLN *eR*
comp=Z,248nm,22.5s

FLN La Foliniere 79.42 345⇑ *iP* **P 09 29 39.9 -0.3**
FLN pmax pmax
comp=Z,101nm,1.2s,mb5.6
FLN MLR MLR
comp=Z,250nm,22.5s,MS4.5

NAY Al-Naaiem 79.51 303 *eP* **P 09 29 40.7 -0.4**
NAY AMb AMB 09 29 41.9
comp=Z,144nm,0.9s,mb5.9

LDF La Druitiere 79.53 345⇑ *iP* **P 09 29 40.3 -0.5**
comp=Z,28nm,0.7s,mb5.0

LDF La Druitiere 79.53 345⇑ *iP* **P 09 29 40.3 -0.5**
LDF pmax pmax
comp=Z,14nm,0.6s,mb5.1

QRN Al-Qurain 79.54 303 *eP* **P 09 29 41.1 -0.2**
QRN AMb AMB 09 29 42.3
comp=Z,210nm,0.9s,mb6.1

RDF Al-Radifah 79.60 303 *eP* **P 09 29 41.5 -0.1**
RDF AMb AMB 09 29 43.7
comp=Z,423nm,0.8s

GRR Gorron 79.84 345⇑ *iP* **P 09 29 42.5 0.0**
comp=Z,189nm,1.1s,mb5.6

GRR Gorron 79.84 345⇑ *iP* **P 09 29 42.5 0.0**
GRR pmax pmax
comp=Z,95nm,1.1s,mb5.6

LOR Lormes 80.07 342⇑ *iP* **P 09 29 43.5 -0.2**
comp=Z,48nm,0.7s,mb5.2
LOR *eR*
comp=Z,409nm,21.0s

LOR Lormes 80.07 342⇑ *iP* **P 09 29 43.5 -0.2**
LOR pmax pmax
comp=Z,24nm,0.7s,mb5.2
LOR MLR MLR
comp=Z,410nm,21.0s,MS4.8

CABF La Chapelle 80.24 340⇑ *iP* **P 09 29 44.8 +0.2**
comp=Z,49nm,1.0s,mb5.1

CABF La Chapelle 80.24 340⇑ *iP* **P 09 29 44.8 +0.2**
CABF pmax pmax
comp=Z,25nm,1.0s,mb5.1

SGMF Saint Gilles 80.24 346⇑ *iP* **P 09 29 44.7 +0.1**
comp=Z,144nm,1.1s,mb5.5

SGMF Saint Gilles 80.24 346⇑ *iP* **P 09 29 44.7 +0.1**
SGMF pmax pmax
comp=Z,72nm,1.1s,mb5.5

SKO Skopje 80.25 328 *i* P **P 09 29 44.4 -0.4**
SKO *i* 09 29 48.0

ROSF Rostrenen 80.27 347⇑ *iP* **P 09 29 44.8 +0.1**
comp=Z,133nm,1.1s,mb5.5

ROSF Rostrenen 80.27 347⇑ *iP* **P 09 29 44.8 +0.1**
ROSF pmax pmax
comp=Z,66nm,1.1s,mb5.5

HYF Humbligny 80.31 343⇑ *iP* **P 09 29 45.3 +0.3**

SSF Saint Saulge 80.34 342⇑ *iP* **P 09 29 45.0 -0.2**
comp=Z,25nm,0.7s,mb5.0

SSF Saint Saulge 80.34 342⇑ *iP* **P 09 29 45.0 -0.2**
SSF pmax pmax
comp=Z,13nm,0.7s,mb5.0

AVF Avril sur Loir 80.63 342⇑ *iP* **P 09 29 46.8 +0.1**
comp=Z,127nm,1.1s,mb5.4

AVF Avril sur Loir 80.63 342⇑ *iP* **P 09 29 46.8 +0.1**
AVF pmax pmax
comp=Z,63nm,1.1s,mb5.5

QUIF Quistinic 80.66 347⇑ *iP* **P 09 29 47.0 +0.2**

SMF Signal de Mont 80.67 342⇑ *iP* **P 09 29 46.8 -0.1**
comp=Z,174nm,1.4s,mb5.5

SMF Signal de Mont 80.67 342⇑ *iP* **P 09 29 46.8 -0.1**
SMF pmax pmax
comp=Z,87nm,1.4s,mb5.5

ORX Oropa 80.74 339 P **P 09 29 47.0 -0.3**

TRAV 80.91 339 P **P 09 29 47.6 -0.6**

BGF Bois d'Agland 80.95 342⇑ *iP* **P 09 29 48.4 0.0**
comp=Z,38nm,0.6s,mb5.2

BGF Bois d'Agland 80.95 342⇑ *iP* **P 09 29 48.4 0.0**
BGF pmax pmax
comp=Z,19nm,0.6s,mb5.2

LSD Ceresole Reale 81.09 339 P **P 09 29 50.3 +1.1**

LPL La Plagne 81.14 339⇑ *iP* **P 09 29 50.4 +1.0**
comp=Z,62nm,0.7s,mb5.3

LPL La Plagne 81.14 339⇑ *iP* **P 09 29 50.4 +1.0**
LPL pmax pmax
comp=Z,31nm,0.7s,mb5.3

LPG La Plagne 81.15 339⇑ *iP* **P 09 29 50.6 +1.1**
comp=Z,72nm,0.7s,mb5.4

LPG La Plagne 81.15 339⇑ *iP* **P 09 29 50.6 +1.1**
LPG pmax pmax
comp=Z,36nm,0.7s,mb5.4

GRAM 81.31 337 P **P 09 29 49.9 -0.4**

TCF Toulx Ste Croi 81.33 343⇑ *iP* **P 09 29 50.8 +0.4**
comp=Z,79nm,1.0s,mb5.3

TCF Toulx Ste Croi 81.33 343⇑ *iP* **P 09 29 50.8 +0.4**
TCF pmax pmax
comp=Z,40nm,1.0s,mb5.3

HASS Wahat al Ahsa' 81.35 299 P **P 09 29 50.6 -0.4**

RSP	Reno Superiore	81.36	339	P		P	09 29 50.5	0.0	
PLDF	La Plantade	81.36	342	*e*P		P	09 29 51.2	+0.6	
AGO	Saint Agoulin	81.38	342	*e*P		P	09 29 51.5	+0.8	
CODM		81.45	337	P		P	09 29 50.5	-0.6	
MFF	Saint Martin d	81.46	344⇑	*i*P		P	09 29 51.5	+0.5	
	comp=Z,121nm,1.1s,mb5.4								
MFF	Saint Martin d	81.46	344⇑	*i*P		P	09 29 51.5	+0.5	
MFF				pmax	pmax				
	comp=Z,60nm,1.1s,mb5.4								
LCHF	La Chataignera	81.49	345	*e*P		P	09 29 52.2	+1.0	
BACM		81.50	337	P		P	09 29 51.0	-0.3	
SARO	Sassoroso	81.51	337	P		P	09 29 51.6	+0.2	
FENE	Fenestrelle	81.52	339	P		P	09 29 51.0	-0.4	
GDM	Grand'Maison	81.57	340	*e*P		P	09 29 52.7	+1.0	
BNI	Bardonecchia	81.59	339	*e*P		P	09 29 51.8	+0.1	
	comp=Z,28nm,1.0s,mb5.1								
BNI	Bardonecchia	81.59	339	*e*P		P	09 29 51.8	0.0	
BNI				pmax	pmax				
	comp=Z,28nm,1.0s,mb5.2								
VINC	Vinca	81.61	337	P		P	09 29 51.8	-0.1	
GRN	Grenoble	81.61	340	*e*P		P	09 29 52.7	+0.8	
PCP	Pian Castagno	81.63	338	P		P	09 29 52.0	-0.1	
BHB	Bricherasio	81.65	339	P		P	09 29 51.3	-0.8	
RRL	Cesana Torines	81.69	339	P		P	09 29 52.9	+0.6	
PYM	Petit Puy Mans	81.70	342	*e*P		P	09 29 52.8	+0.5	
MAIM		81.74	336	P		P	09 29 51.0	-1.6	
MBDF	Montbardon	81.87	339⇑	*i*P		P	09 29 53.6	+0.4	
ORIF	Oris-en-Rattie	81.89	340⇑	*i*P		P	09 29 54.2	+0.9	
	comp=Z,61nm,1.0s,mb5.2								
ORIF				*e*R					
	comp=Z,327nm,19.0s								
FIN	Finale Ligure	82.03	338	P		P	09 29 53.4	-0.6	
ROB	Roburent	82.03	338	P		P	09 29 53.5	-0.5	
SURF	Saint Ours	82.10	339	*e*P		P	09 29 55.4	+1.0	
KSDI	Kefar Szold	82.11	314	P		P	09 29 55.2	+0.5	
LBL	Lubilhac	82.15	342	*e*P		P	09 29 55.1	+0.5	
RORO		82.15	338	P		P	09 29 52.8	-1.9	
ENR	Entracque	82.20	339	P		P	09 29 53.7	-1.2	
STV2	Anna di Valdie	82.20	339	P		P	09 29 53.1	-1.9	
STV	Sta Anna Valdi	82.20	339	P		P	09 29 53.8	-1.2	
PPT	Papeete	82.21	130	LR	LR		10 01 19.6		
	comp=Z,263nm,19.2s,MS4.6,baz=326,slow=32								
VIVF	Saint-Julien-l	82.21	341⇑	*i*P		P	09 29 55.7	+0.7	
	comp=Z,71nm,1.1s,mb5.2								
VIVF	Saint-Julien-l	82.21	341⇑	*i*P		P	09 29 55.7	+0.7	
VIVF				pmax	pmax				
	comp=Z,36nm,1.1s,mb5.2								
MONE	Monesi	82.26	338	P		P	09 29 53.9	-1.3	
RAO	Raoul Island	82.27	158	LR	LR		10 03 45.1		
	comp=Z,130nm,19.9s,MS4.3,baz=348,slow=34								
SAOF	Saorge	82.39	338	*e*P		P	09 29 55.9	0.0	
AQU	L'Aquila	82.40	334	*e*P		P	09 29 55.6	-0.4	
	comp=Z,50nm,1.0s,mb5.4								
AQU	L'Aquila	82.40	334	*e*P		P	09 29 55.6	-0.4	
AQU				pmax	pmax				
	comp=Z,50nm,1.0s,mb5.4								
RJF	Les Rejaudoux	82.41	343⇑	*i*P		P	09 29 56.6	+0.6	
	comp=Z,92nm,1.1s,mb5.3								
RJF				*e*R					
	comp=Z,535nm,20.2s								
RJF	Les Rejaudoux	82.41	343⇑	*i*P		P	09 29 56.6	+0.6	
RJF				pmax	pmax				
	comp=Z,46nm,1.1s,mb5.3								
RJF				MLR	MLR				
	comp=Z,540nm,20.3s,MS4.9								
AUTN	L'Aution	82.42	339	*e*P		P	09 29 55.9	-0.1	
TOUF	Mont Tournerai	82.44	339	*e*P		P	09 29 56.1	-0.1	
NEGI	Negi	82.49	338	P		P	09 29 55.0	-1.4	
SBF	Sospel	82.54	338⇑	*i*P		P	09 29 56.5	-0.2	
	comp=Z,37nm,0.7s,mb5.2								
SBF	Sospel	82.54	338⇑	*i*P		P	09 29 56.5	-0.2	
SBF				pmax	pmax				
	comp=Z,18nm,0.7s,mb5.2								
REVF	Revere	82.67	338	*e*P		P	09 29 57.2	-0.1	
CAF	Calviac	82.67	342⇑	*i*P		P	09 29 58.3	+1.0	
	comp=Z,105nm,1.1s,mb5.5								
CAF	Calviac	82.67	342⇑	*i*P		P	09 29 58.3	+1.0	
CAF				pmax	pmax				
	comp=Z,52nm,1.1s,mb5.5								
CII	Carovilli	82.72	333	*e*P		P	09 29 57.7	0.0	
	comp=Z,26nm,1.1s,mb5.2								
CALN	Calern	82.77	339	*e*P		P	09 29 58.0	+0.1	
MMLI	Mount Malkishu	82.84	314	P		P	09 29 59.3	+0.8	
SMRF	Simiane la Rot	82.86	340⇑	*i*P		P	09 29 59.3	+1.0	
	comp=Z,72nm,1.2s,mb5.3								
LFF	La Frestale	82.91	343⇑	*i*P		P	09 29 59.4	+0.9	
	comp=Z,181nm,1.2s,mb5.7								
LFF	La Frestale	82.91	343⇑	*i*P		P	09 29 59.4	+0.9	
LFF				pmax	pmax				
	comp=Z,90nm,1.2s,mb5.7								
FRF	La Foret Royal	83.01	339⇑	*i*P		P	09 29 58.9	-0.2	
	comp=Z,30nm,0.8s,mb5.1								
FRF	La Foret Royal	83.01	339⇑	*i*P		P	09 29 58.9	-0.2	
FRF				pmax	pmax				
	comp=Z,15nm,0.8s,mb5.1								
STKA	Stephens Creek	83.03	193	*e*P		P	09 30 00.5	+1.1	
	comp=Z,5.1nm,1.4s,mb4.4								
STKA	Stephens Creek	83.03	193	P		P	09 30 00.8	+1.4	
	comp=Z,3.8nm,0.9s,mb4.4,baz=331,slow=6.7,SNR=3.4								
STKA				LR		LR	10 05 44.6		
	comp=Z,249nm,19.0s,MS4.6,baz=26,slow=35								
TAVF	Tavernes	83.09	339	*e*P		P	09 29 59.9	+0.4	
PRAF	Pradon	83.11	340	*e*P		P	09 30 00.7	+1.1	
LASF	Ste Croix	83.13	341⇑	*i*P		P	09 30 00.5	+0.8	
	comp=Z,74nm,1.4s,mb5.2								
PUYF	Puyloubier	83.25	340	*e*P		P	09 30 00.9	+0.6	
LMR	La Mourre	83.25	339⇑	*i*P		P	09 30 00.5	+0.2	
	comp=Z,101nm,1.0s,mb5.5								
LMR	La Mourre	83.25	339⇑	*i*P		P	09 30 00.5	+0.2	
LMR				pmax	pmax				
	comp=Z,50nm,1.0s,mb5.5								
PGF	Pioggiola	83.40	337⇑	*i*P		P	09 30 01.2	+0.1	
	comp=Z,44nm,0.8s,mb5.2								
PGF	Pioggiola	83.40	337⇑	*i*P		P	09 30 01.2	+0.1	
PGF				pmax	pmax				
	comp=Z,22nm,0.8s,mb5.2								
BERF	Bertagne	83.46	339	*e*P		P	09 30 02.2	+0.8	
MKRJ	Makawir	83.48	313	P		P	09 30 02.5	+0.8	
MZDA	Masada	83.81	313	P		P	09 30 03.9	+0.5	
HILS	Ha'il	83.87	306	P		P	09 30 04.5	+0.7	
MTLF	Montolieu	84.17	342⇑	*i*P		P	09 30 05.7	+0.8	
	comp=Z,71nm,1.3s,mb5.3								
MTLF	Montolieu	84.17	342⇑	*i*P		P	09 30 05.7	+0.8	
MTLF				pmax	pmax				
	comp=Z,35nm,1.3s,mb5.3								
TIP	Timpagrande	84.31	330	*e*P		P	09 30 05.3	-0.4	
MASH	Mash'abbe Sade	84.35	313	P		P	09 30 06.4	+0.3	
ZFRI	Zfri	84.53	313	P		P	09 30 07.5	+0.5	
KZIT	Kziot	84.60	313	P		P	09 30 07.7	+0.3	
MZLS	Mizel	84.75	302	P		P	09 30 08.6	+0.4	
PRNI	Paran	84.78	313	P		P	09 30 08.9	+0.6	
EPF	Esparros	84.83	343⇑	*i*P		P	09 30 08.7	+0.5	
SJPF	Ste Jean	85.03	344⇑	*i*P		P	09 30 10.4	+1.2	
ETSF	Etsaut	85.12	344⇑	*i*P		P	09 30 10.8	+1.2	
AQBJ	Aqaba	85.28	312	P		P	09 30 11.5	+0.7	
MBH	Mount Berech	85.29	312	P		P	09 30 11.4	+0.6	
EIL	Elat	85.38	312	P		P	09 30 11.6	+0.4	
JMQS	Jabal Moqyreh	85.59	311	P		P	09 30 13.2	+0.9	
ALWS	Ilw as Safayha	85.62	312	P		P	09 30 13.0	+0.6	
JMOS	Jabal al Moail	85.72	312	P		P	09 30 13.5	+0.6	
TBKS	Tabuk	85.81	310	P		P	09 30 14.4	+1.0	
HAQS	Haql	85.90	312	P		P	09 30 14.4	+0.6	
AFFS	'Afif	86.03	303	P		P	09 30 15.1	+0.6	
VSL	Villasalto	86.17	336	*e*P		P	09 30 14.7	-0.1	
	comp=Z,56nm,1.0s,mb5.8								
BDAS	Al Bad'	86.34	312	P		P	09 30 16.7	+0.8	
YNBS	Yanbu' al Bahr	88.31	307	P		P	09 30 26.0	+0.5	
ESDC	Sonseca Array	88.83	346	P		P	09 30 27.6	-0.1	
	comp=Z,5.4nm,0.8s,mb4.9,baz=4.6,slow=4.1,SNR=17								
CMAH	Djebel Manchou	89.38	336	P		P	09 30 32.0	+1.6	
ABSA	Djebel Ababsia	89.70	336	P		P	09 30 32.5	+0.6	
CKFL	Kef-Lekhel	89.78	337	P		P	09 30 33.0	+0.7	
URZ	Urewera	89.96	164	LR	LR		10 04 23.6		
	comp=Z,265nm,19.9s,MS4.7,baz=346,slow=31								
CASM	Ain Smara	89.97	337	P		P	09 30 33.5	+0.3	
BLJS	Baljurashi	90.06	302	P		P	09 30 34.4	+0.5	
CKHR	Kef el Ahmar	90.44	337	P		P	09 30 35.5	+0.1	
RPZ	Rata Peaks	94.46	170	LR	LR		10 07 35.3		
	comp=Z,548nm,19.5s,MS5.0,baz=22,slow=32								
DBIC	Dimbokro	121.12	339	PKP	PKPdf		09 36 27.2	+1.3	
	comp=Z,3.4nm,0.5s,baz=348,slow=4.2,SNR=11								
TIC	Toumodi	121.18	339	*e*PKIKP	PKPdf		09 36 27.2	+1.2	
	comp=Z,12nm,0.2s								
KIC	Kosan Boka	121.39	339	*e*PKIKP	PKPdf		09 36 27.6	+1.2	
	comp=Z,61nm,1.2s								
LIC	Lamto	121.59	339	*e*PKIKP	PKPdf		09 36 27.8	+1.0	
	comp=Z,48nm,1.7s								
SBA	Scott Base	128.07	177	*e*P	Pdif		09 33 34.2	+13	
SBA				*e*			09 33 38.9		
LPAZ	La Paz	130.27	64	PKP	PKPdf		09 36 45.1	+1.7	
	comp=Z,1.1nm,0.7s,baz=354,slow=7.2,SNR=7.1								
QSPA	South Pole Qui	140.09	180	*e*P	PKPdf		09 36 54.5	-5.5	
CPUP	Villa Florida	144.32	61	PKP	PKPdf		09 37 07.9	-0.8	
	comp=Z,7.4nm,1.0s,baz=346,slow=3.2,SNR=7.3								
SYO	Syowa Base	145.42	214	⇓X			09 37 09.5		
SYO	Syowa Base	145.42	214	⇓P	PKPdf		09 37 25.3	+16	
PLCA	Paso Flores	145.73	92	PKPbc	PKPbc		09 37 12.8	+1.3	
	comp=Z,7.1nm,0.8s,baz=285,slow=4.0,SNR=18								
SNAA	Sanae	156.77	196	*e*	PKPdf		09 37 58.0	+32	
SNAA	Sanae	156.77	196	PKPab	PKPab		09 37 57.7	-0.5	
	comp=Z,2.5nm,1.1s,baz=148,slow=5.7,SNR=8.0								
SNAA	Sanae	156.77	196⇑	*i*PKPdf	PKPdf		09 37 27.8	+1.6	
SNAA				*e*			09 37 40.4		
SNAA				*e*			09 37 44.3		
SNAA				PKPab	PKPab		09 37 57.7	-0.5	
SNAA				*e*			09 37 58.0		
SNAA				*e*			09 38 09.6		
SNAA				*e*			09 38 15.5		
VNA2	Neumayer--Watz	158.16	194⇑	*i*PKPdf	PKPdf		09 37 31.1	+3.1	
VNA2				*e*			09 37 43.6		
VNA2				*e*			09 37 46.4		
VNA2				*e*			09 38 04.3		
VNA2				*e*			09 38 15.9		
VNA2				*e*			09 38 21.2		
VNA3	Neumayer Olymp	158.19	191⇑	*i*PKPdf	PKPdf		09 37 29.5	+1.5	
VNA3				*e*			09 37 40.8		
VNA3				*e*			09 37 44.7		
VNA3				*e*			09 38 03.8		
VNA3				*e*			09 38 15.9		
VNA3				*e*			09 38 21.1		
VNA1	Neumayer--Stat	158.54	193⇑	*i*PKPdf	PKPdf		09 37 33.2	+4.7	
VNA1				*e*			09 38 07.0		
VNA1				*e*			09 38 17.8		

IDC ***29*** *09:23:52.2±2.7,52.62N×160.51E,mb3.8/4,mb1 4.0/4, mb1mx3.6/19,mbtmp3.8/4,Error ellipse: s-maj=93.3km s-min=30.4km az=100.0*
KRSC ***29*** *09:23:57.2±0.4,52.51N×160.08E,h12km±2km,ML4.3 MOS* ***29*** *09:23:58.8±1.2,52.55N×160.00E,h48km,mb4.1/4, Error ellipse: s-maj=24.4km s-min=9.2km az=85.6*

ISC 29 09:23:57.2±0.9,52.47N±0.03×160.23E±0.06,h20km±5km, n46,σ0°87/77,mb3.9/4,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.64	349	P	Pb	09 24 09.8	+0.3
SPN				S	Sb	09 24 18.5	+0.6
SPN	Mys Shipunski	0.64	349	*i* P	Pb	09 24 09.9	+0.4
SPN				*i* S	Sb	09 24 18.8	+0.9
NLC	Nalytchevo	0.88	323	P	Pb	09 24 13.7	+0.1
NLC				S	Sb	09 24 25.1	+0.1
NLC	Nalytchevo	0.88	323	*i* P	Pb	09 24 13.6	0.0
NLC				*i* S	Sb	09 24 25.3	+0.3
RUS	Russkaya	1.05	268	P	Pb	09 24 15.5	-1.1
RUS				S	Sb	09 24 28.6	-1.3
RUS	Russkaya	1.05	268	*i* P	Pb	09 24 15.6	-1.0
RUS				*i* S	Sb	09 24 29.2	-0.7
PET	Petropavlovsk	1.11	300	P	Pb	09 24 16.4	-1.1
PET				S	Sb	09 24 30.0	-1.5
PET	Petropavlovsk	1.11	300	*i* P	Pb	09 24 16.3	-1.2
PET				*e*S	Sb	09 24 30.0	-1.5
UGLR	Uglovaya	1.13	311	*i* P	Pb	09 24 17.6	-0.2
SMAR	Somma	1.17	313	*e*P	Pn	09 24 18.4	-0.2
AVH	Avacha	1.20	312	*e*P	Pn	09 24 18.7	-0.3
AVH				*e*S	Sb	09 24 34.5	+0.2
KOK	Koryaka	1.27	311	*e*P	Pn	09 24 19.6	-0.4
GRL	Gorelyy	1.32	274	*i* P	Pn	09 24 21.4	+0.7
GRL				*e*S	Sb	09 24 39.3	+1.6
KRMR	Karymshinskiy	1.33	286	*e*P	Pn	09 24 19.8	-1.0
KRMR				*e*S	Sb	09 24 36.5	-1.4
KII	Karymskiy	1.63	344	*i* P	Pn	09 24 24.9	-0.3
KII				*e*S	Sn	09 24 45.4	-0.4
GNL	Ganaly	1.85	312	*i* P	Pn	09 24 28.6	+0.4
GNL				*e*S	Sn	09 24 51.6	+0.5
APC	Apacha	1.93	285	*i* P	Pn	09 24 29.8	+0.5
APC				*i* S	Sn	09 24 53.5	+0.3
APC				Smax			
	390nm,0.9s						
MIPR	Malaya Ipel'ka	2.14	266	*e*P	Pn	09 24 32.9	+0.5
MIPR				*e*S	Sn	09 24 59.0	+0.4
MKZ	Mys Kozlova	2.27	23	P	Pn	09 24 34.6	+0.3
MKZ				S	Sn	09 25 01.3	-0.6
MKZ	Mys Kozlova	2.27	23	*e*P	Pn	09 24 34.8	+0.5
MKZ				*e*S	Sn	09 25 02.2	+0.3
PAU	Pauzhetka	2.34	246	*e*P	Pn	09 24 36.0	+0.6
PAU				*e*S	Sn	09 25 04.3	+0.5
PAU				Smax			
	360nm,0.6s						
TUMR	Tumrok	2.81	359	*e*P	Pn	09 24 42.8	+0.7
TUMR				*e*S	Sn	09 25 16.5	+0.7
SKR	Severo-Kuril's	3.13	237	*e*PN	Pn	09 24 47.5	+0.9
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KMNR	Kamenistaya	3.29	0	*e*P	Pn	09 24 49.8	+1.0
KMNR				*e*S	Sn	09 25 27.8	+0.1
ALID	Alaid	3.33	243	*e*P	Pn	09 24 49.3	-0.1
KPT	Kopyto	3.50	360	*e*P	Pn	09 24 53.0	+1.2
KPT				*e*S	Sn	09 25 33.9	+0.8
ZLN	Zelenaya	3.57	5	*e*P	Pn	09 24 52.7	0.0
ZLN				*e*S	Sn	09 25 33.7	-1.1
ESO	Esso	3.57	346	*i* P	Pn	09 24 53.1	+0.3
KOZ	Kozyrevsk	3.60	357	P	Pn	09 24 54.1	+0.9
KOZ				S	Sn	09 25 34.9	-0.7
KOZ	Kozyrevsk	3.60	357	*e*P	Pn	09 24 54.0	+0.8
KOZ				*e*S	Sn	09 25 35.4	-0.2
KOZR	Kozyr	3.60	357	PN	Pn	09 24 54.1	+0.8
KOZR				S	Sn	09 25 34.9	-0.8
KRSR	Krestovskiy	3.76	3	*e*P	Pn	09 24 56.7	+1.3
KRSR				*e*S	Sn	09 25 39.9	+0.3
KLY	Klyuchi	3.85	3	P	Pn	09 24 57.9	+1.1
KLY				S	Sn	09 25 41.7	-0.4
KLY	Klyuchi	3.85	3	*e*P	Pn	09 24 58.2	+1.4
KLY				*e*S	Sn	09 25 43.0	+0.9
SRDR	Sredinnyy	3.86	356	*e*P	Pn	09 24 57.0	+0.1
SRDR				*e*S	Sn	09 25 41.0	-1.3
KBTR	Krutoberegovo	4.04	21	P	Pn	09 24 59.7	+0.3
KBTR				S	Sn	09 25 44.8	-1.9
KBTR	Krutoberegovo	4.04	21	*e*P	Pn	09 25 00.0	+0.6
KBTR				*e*S	Sn	09 25 45.6	-1.1
BKI	Bering	4.36	49	*e*S	Sn	09 25 52.6	-2.3
MJAR	Matsushiro Arr	22.23	233	P	P	09 28 53.0	-1.0
	comp=Z,1.8nm,0.8s,mb3.6,baz=18,slow=12,SNR=4.4						
MJAR	Matsushiro Arr	22.23	233	P	P	09 28 53.0	-1.0
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	60.72	337	P	P	09 34 04.5	-4.5
	comp=Z,1.7nm,1.0s,mb4.1,baz=27,slow=6.2,SNR=5.0						
FINES	FINESS Array B	60.72	337	P	P	09 34 04.5	-4.5
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	Malin Array Be	69.19	329	P	P	09 34 59.9	-3.9
	comp=Z,0.9nm,0.3s,mb4.1,baz=31,slow=6.6,SNR=4.2						
AKASG	Malin Array Be	69.19	329	P	P	09 34 59.9	-3.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	Warramunga Arr	75.55	205	P	P	09 35 39.4	-2.6
	comp=Z,0.8nm,0.9s,mb3.6,baz=20,slow=6.0,SNR=5.4						
WRA	Warramunga Arr	75.55	205	P	P	09 35 39.4	-2.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						

GUC 29 09:35:28.7±0.7,34.14S×70.43W,h11km±7km,MD3.5, ML2.1,4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	El Canelo	0.15	280⇓	*i*P	Pg	09 35 32.1	-0.2
CACH				*i* S	Sg	09 35 34.2	-0.4
CICH	Cipreses	0.18	178⇓	*i*P	Pg	09 35 32.7	-0.1
CICH				*i* S	Sg	09 35 35.3	-0.2
CHCH	Chadas Angostu	0.28	318⇓	*i*P	Pg	09 35 34.7	+0.1
CHCH				*i* S	Sg	09 35 38.6	-0.1
RCDM	Rinconada Maip	0.72	334	*i* P	Pb	09 35 42.0	-0.8
RCDM				*i* S	Sb	09 35 52.2	-0.3
RCDM				AMP		09 35 52.9	
	comp=E,179nm,0.1s						
FCH	Farellones	0.82	8⇓	*i*P	Pb	09 35 44.9	+0.4
FCH				*i* S	Sb	09 35 56.3	+1.1
LNV	Longovilo	0.84	283	*i* P	Pb	09 35 43.9	-0.9

NEIC ***29*** *09:45:14.4,46.29N×2.67E,h16km,ML2.8(LDG), ML2.8(STR),After LDG.*
CSEM ***29*** *09:45:14.3±0.0,46.30N×2.67E,h15km,ML2.8/23,Error ellipse: s-maj=0.9km s-min=0.7km az=117.0*
STR ***29*** *09:45:15.3±0.5,46.25N×2.68E,h5km±1km,Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 29 09:45:14.4±0.0,46.29N×2.67E,h16km,Md2.9/4,Ml2.8/24, Error ellipse: s-maj=0.8km s-min=0.6km az=121.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGF	Bois d'Agland	0.29	25	*e*Pg	Pb	09 45 21.0	+0.2
BGF				*e*Sg	Sb	09 45 25.4	+0.3
	551nm,0.3s						
TCF	Toulx Ste Croi	0.32	269	*e*Pg	Pb	09 45 21.3	+0.1
TCF				*e*Sg	Sb	09 45 26.3	+0.5
	181nm,0.2s						
AGO	Saint Agoulin	0.40	127	Pg	Pb	09 45 22.9	+0.2
AGO				Sg	Sb	09 45 28.2	-0.1
PYM	Petit Puy Mans	0.59	156	Pg	Pb	09 45 26.3	+0.4
AVF	Avril sur Loir	0.69	43	*e*Pg	Pb	09 45 27.5	0.0
AVF				*e*Sg	Sb	09 45 36.4	-0.1
	92nm,0.3s						
PLDF	La Plantade	0.74	116	Pg	Pb	09 45 28.8	+0.4
PLDF				Sg	Sb	09 45 38.4	+0.4
SMF	Signal de Mont	0.88	66	*e*Pn	Pn	09 45 30.8	-1.3
SMF				*e*Pg	Pb	09 45 31.1	+0.2
SMF				*e*Sg	Sb	09 45 41.9	-0.3
	61nm,0.2s						
FRNF	Fournols	0.91	185	Pg	Pb	09 45 31.8	+0.5
FRNF				Sg	Sb	09 45 43.3	+0.3
SSF	Saint Saulge	0.96	37	*e*Pn	Pn	09 45 32.2	-1.0
SSF				*e*Sg	Sb	09 45 43.9	-0.6
	13nm,0.2s						
HYF	Humbligny	0.97	359	*e*Sg	Sb	09 45 45.3	+0.4
COLF	Collangettes	1.06	137	Pg	Pb	09 45 34.4	+0.6
LBL	Lubilhac	1.14	159	Pg	Pb	09 45 35.8	+0.6
LOR	Lormes	1.27	40	*e*Pn	Pn	09 45 36.1	-1.5
	baz=223						
LOR				*e*Pg	Pb	09 45 37.8	+0.3
	baz=221						
LOR				*e*Sn	Sn	09 45 51.8	-2.6
LOR				*e*Sg	Sb	09 45 53.8	+0.3
	30nm,0.2s						
LOR	Lormes	1.27	40	*e*Pg	Pb	09 45 37.8	+0.3
LOR				*e*Sn	Sn	09 45 51.8	-2.6
LOR				*e*Sg	Sb	09 45 53.8	+0.3
	15nm,0.2s						
RJF	Les Rejaudoux	1.27	220	*e*Pn	Pn	09 45 36.4	-1.3
RJF				*e*Pg	Pb	09 45 38.0	+0.4
RJF				*e*Sn	Sn	09 45 51.7	-2.8
RJF				*e*Sg	Sb	09 45 55.0	+1.4
	54nm,0.5s						
CAF	Calviac	1.43	197	*e*Pn	Pn	09 45 38.3	-1.6
CAF				*e*Pg	Pn	09 45 40.9	+1.0
CAF				*e*Sn	Sn	09 45 55.7	-2.7
CAF				*e*Sg	Sb	09 45 59.4	+1.3
	54nm,0.3s						
LFF	La Frestale	1.91	226	*e*Pn	Pn	09 45 44.5	-2.3
LFF				*e*Pg	Pn	09 45 49.5	+2.7
LFF				*e*Sn	Sn	09 46 06.8	-3.9
LFF				*e*Sg	Sn	09 46 14.7	+4.0
	19nm,0.3s						
MFF	Saint Martin d	1.97	280	*e*Pn	Pn	09 45 45.7	-1.9
MFF				*e*Pg	Pn	09 45 50.4	+2.8
MFF				*e*Sn	Sn	09 46 08.4	-3.7
MFF				*e*Sg	Sn	09 46 16.3	+4.2
	16nm,0.2s						
VIVF	Saint-Julien-l	2.01	135	*e*Pn	Pn	09 45 46.4	-1.8
VIVF				*e*Pg	Pn	09 45 52.2	+4.0
VIVF				*e*Sn	Sn	09 46 09.1	-4.1
VIVF				*e*Sg	Sn	09 46 17.2	+4.0
	7.8nm,0.2s						
LASF	Ste Croix	2.37	159	*e*Pn	Pn	09 45 51.6	-1.8
LASF				*e*Pg	Pn	09 45 58.7	+5.3
LASF				*e*Sg	Sn	09 46 28.3	+6.0
	5.3nm,0.3s						
CAB

MWZ	**Matawai**	**6.91**	**210**	*e*P	**P**	**10 01 36.2**	**+0.5**
URZ	**Urewera**	**7.03**	**212**	Pn	**Pn**	**10 01 38.1**	**+0.5**
	8.0nm,0.3s,baz=292,slow=1.3,SNR=54						
URZ				Sn	**Sn**	**10 02 57.7**	**+0.5**
	20nm,0.3s,baz=144,slow=23,SNR=15						
URZ	**Urewera**	**7.03**	**212**	*e*PN	**Pn**	**10 01 37.3**	**-0.3**
URZ				SN	**Sn**	**10 02 55.7**	**-1.5**
URZ	**Urewera**	**7.03**	**212**	*e*P	**P**	**10 01 37.9**	**+0.5**
WCZ	**Waipu Caves**	**7.16**	**238**	*e*PN	**Pn**	**10 01 43.5**	**+4.0**
WCZ	**Waipu Caves**	**7.16**	**238**	*e*P	**P**	**10 01 43.8**	**+4.5**
OUZ	**Omahuta**	**7.43**	**245**	PN	**Pn**	**10 01 47.9**	**+4.6**
OUZ	**Omahuta**	**7.43**	**245**	P	**P**	**10 01 48.4**	**+5.4**
KNZ	**Kokohu**	**7.44**	**206**	*e*PN	**Pn**	**10 01 42.8**	**-0.5**
KNZ	**Kokohu**	**7.44**	**206**	*e*P	**P**	**10 01 42.9**	**-0.3**
BKZ	**Black Stump Fm**	**8.05**	**211**	*e*PN	**Pn**	**10 01 50.9**	**-0.9**
BKZ				SN	**Sn**	**10 03 19.8**	**-2.8**
BKZ	**Black Stump Fm**	**8.05**	**211**	*e*P	**P**	**10 01 51.2**	**-0.4**
CNZ	**Chateau**	**8.51**	**215**	P	**P**	**10 01 59.7**	**+1.7**
MOVZ	**Moawhango**	**8.58**	**214**	*e*PN	**P**	**10 01 59.4**	**+0.5**
MOVZ	**Moawhango**	**8.58**	**214**	P	**P**	**10 01 59.6**	**+0.7**
WNVZ	**Wahianoa**	**8.59**	**214**	*e*PN	**P**	**10 01 58.9**	**-0.2**
WNVZ	**Wahianoa**	**8.59**	**214**	P	**P**	**10 01 59.8**	**+0.7**
PXZ	**Pawanui**	**8.63**	**206**	*e*PN	**P**	**10 01 56.6**	**-3.1**
PXZ				SN	**Sn**	**10 03 30.4**	**-6.7**
TSZ	**Takapari Road**	**9.02**	**210**	*e*PN	**P**	**10 02 03.7**	**-1.3**
TSZ	**Takapari Road**	**9.02**	**210**	*e*P	**P**	**10 02 03.9**	**-1.1**
WAZ	**Wanganui**	**9.22**	**215**	PN	**P**	**10 02 07.6**	**-0.2**
WAZ	**Wanganui**	**9.22**	**215**	*e*P	**P**	**10 02 08.5**	**+0.7**
BFZ	**Birch Farm**	**9.43**	**207**	*e*PN	**P**	**10 02 08.9**	**-1.8**
BFZ				SN	**Sn**	**10 03 51.1**	**-5.7**
BFZ	**Birch Farm**	**9.43**	**207**	*e*P	**P**	**10 02 09.1**	**-1.6**
MRZ	**Mangatainoka R**	**9.68**	**210**	*e*PN	**P**	**10 02 10.4**	**-3.7**
MRZ				SN	**Sn**	**10 03 56.1**	**-6.9**
MRZ	**Mangatainoka R**	**9.68**	**210**	*e*P	**P**	**10 02 11.6**	**-2.6**
KIW	**Kapiti Island**	**10.13**	**211**	*e*PN	**P**	**10 02 16.9**	**-3.5**
KIW	**Kapiti Island**	**10.13**	**211**	P	**P**	**10 02 16.9**	**-3.5**
CAW	**Cannon Point**	**10.26**	**210**	*e*PN	**P**	**10 02 18.1**	**-4.1**
CAW	**Cannon Point**	**10.26**	**210**	P	**P**	**10 02 18.6**	**-3.6**
MRW	**Makara Radio**	**10.52**	**211**	SN	**S**	**10 04 15.9**	**-7.7**
TCW	**Tory Channel**	**10.70**	**212**	*e*PN	**P**	**10 02 23.8**	**-4.4**
TCW	**Tory Channel**	**10.70**	**212**	P	**P**	**10 02 24.7**	**-3.5**
NNZ	**Nelson**	**11.12**	**215**	*e*PN	**P**	**10 02 29.3**	**-4.6**
NNZ				SN	**S**	**10 04 29.3**	**-8.9**
NNZ	**Nelson**	**11.12**	**215**	*e*P	**P**	**10 02 30.3**	**-3.7**
QRZ	**Quartz Range**	**11.27**	**219**	*e*PN	**P**	**10 02 31.1**	**-4.9**
QRZ	**Quartz Range**	**11.27**	**219**	*e*P	**P**	**10 02 32.1**	**-3.8**
BSWZ	**Blackbirch Sta**	**11.28**	**212**	*e*PN	**P**	**10 02 31.3**	**-4.8**
BSWZ	**Blackbirch Sta**	**11.28**	**212**	P	**P**	**10 02 31.4**	**-4.7**
THZ	**Tophouse**	**11.77**	**215**	*e*PN	**P**	**10 02 38.6**	**-4.1**
THZ				SN	**S**	**10 04 44.0**	**-10**
THZ	**Tophouse**	**11.77**	**215**	*e*P	**P**	**10 02 38.9**	**-3.8**
KHZ	**Kahutara**	**11.99**	**211**	*e*PN	**P**	**10 02 41.3**	**-4.4**
KHZ	**Kahutara**	**11.99**	**211**	*e*P	**P**	**10 02 40.2**	**-5.5**
DSZ	**Denniston Nort**	**12.31**	**218**	SN	**S**	**10 04 55.7**	**-11**
LTZ	**Lake Taylor**	**12.85**	**213**	*e*PN	**P**	**10 02 51.5**	**-5.8**
LTZ				SN	**S**	**10 05 06.5**	**-14**
LTZ	**Lake Taylor**	**12.85**	**213**	*e*P	**P**	**10 02 52.1**	**-5.2**
MQZ	**McQueen's Vall**	**13.42**	**210**	SN	**S**	**10 05 19.5**	**-14**
RPZ	**Rata Peaks**	**14.14**	**214**	Pn	**P**	**10 03 10.2**	**-3.9**
	0.4nm,0.3s,baz=107,slow=11,SNR=4.7						
RPZ				Sn	**S**	**10 05 39.0**	**-12**
	2.5nm,0.3s,baz=58,slow=18,SNR=13						
RPZ	**Rata Peaks**	**14.14**	**214**	SN	**S**	**10 05 36.5**	**-14**
ODZ	**Otahua Downs**	**15.35**	**211**	SN	**S**	**10 06 06.1**	**-13**
CTA	**Charters Tower**	**34.05**	**282**	P	**P**	**10 06 38.1**	**+0.6**
	1.7nm,0.4s,mb4.3,baz=137,slow=9.9,SNR=8.6						
CTAO	**Charters Tower**	**34.05**	**282**	*e*P	**P**	**10 06 36.6**	**-0.9**
	1.9nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**44.08**	**274**	⇓*i*P	**P**	**10 08 01.2**	**+0.2**
WRAB	**Tennant Creek**	**44.08**	**274**	*e*P	**P**	**10 08 01.0**	**-0.1**
	15nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**44.09**	**274**	P	**P**	**10 08 01.3**	**+0.2**
	14nm,0.6s,mb4.8,baz=114,slow=7.9,SNR=275						
KAKA	**Kakadu**	**49.18**	**282**	⇑*i*P	**P**	**10 09 00.6**	**+19**
	6.9nm,0.6s,mb4.9						
CASY	**Casey**	**53.34**	**209**	*e*P	**P**	**10 09 10.2**	**-1.9**
	25nm,1.3s,mb5.0						
QSPA	**South Pole Qui**	**57.73**	**180**	*e*P	**P**	**10 09 50.0**	**+6.4**
	13nm,0.7s,mb5.1						
QSPA				*e*		10 09 55.2	
SNAA	**Sanae**	**76.18**	**178**	⇑*i*	**P**	**10 11 48.9**	**+8.8**
SNAA	**Sanae**	**76.18**	**178**	*e*	**P**	**10 11 50.5**	**+10**
SNAA	**Sanae**	**76.18**	**178**	*e*	**P**	**10 11 51.4**	**+11**
SNAA	**Sanae**	**76.18**	**178**	*e*	**P**	**10 11 54.0**	**+14**
SNAA	**Sanae**	**76.18**	**178**	*e*	**P**	**10 11 55.4**	**+15**
SNAA	**Sanae**	**76.18**	**178**	*e*	**P**	**10 11 57.3**	**+17**
SNAA	**Sanae**	**76.18**	**178**	*e*P	**P**	**10 11 46.0**	**+5.9**
	4.3nm,0.8s,mb4.4						
SNAA				*e*		10 11 50.5	
SNAA				*e*		10 11 51.4	
SNAA				*e*		10 11 54.0	
SNAA				*e*	pP	10 11 55.4	+5.0
SNAA				*e*	pP	10 11 57.3	+6.9
VNA3	**Neumayer Olymp**	**76.34**	**176**	*e*	**P**	**10 11 52.2**	**+11**
VNA3	**Neumayer Olymp**	**76.34**	**176**	*e*	**P**	**10 11 53.6**	**+13**
VNA3	**Neumayer Olymp**	**76.34**	**176**	*e*	**P**	**10 11 55.0**	**+14**
VNA3	**Neumayer Olymp**	**76.34**	**176**	*e*	**P**	**10 11 56.5**	**+16**
VNA3	**Neumayer Olymp**	**76.34**	**176**	*e*	**P**	**10 11 58.5**	**+18**
VNA3	**Neumayer Olymp**	**76.34**	**176**	⇑*i*P	**P**	**10 11 50.3**	**+9.3**
VNA3				*e*		10 11 52.2	
VNA3				*e*		10 11 53.6	
VNA3				*e*		10 11 55.0	
VNA3				*e*		10 11 56.5	
VNA3				*e*		10 11 58.5	
VNA2	**Neumayer--Watz**	**76.77**	**177**	*e*	**P**	**10 11 54.7**	**+11**
VNA2	**Neumayer--Watz**	**76.77**	**177**	*e*	**P**	**10 11 55.9**	**+12**
VNA2	**Neumayer--Watz**	**76.77**	**177**	*e*	**P**	**10 11 57.7**	**+14**
VNA2	**Neumayer--Watz**	**76.77**	**177**	*e*	**P**	**10 11 59.1**	**+16**
VNA2	**Neumayer--Watz**	**76.77**	**177**	*e*	**P**	**10 12 01.1**	**+18**
VNA2	**Neumayer--Watz**	**76.77**	**177**	⇑*i*P	**P**	**10 11 52.9**	**+9.5**
VNA2				*e*		10 11 54.7	
VNA2				*e*		10 11 55.9	
VNA2				*e*		10 11 57.7	
VNA2				*e*		10 11 59.1	
VNA2				*e*		10 12 01.1	
VNA1	**Neumayer--Stat**	**77.00**	**177**	*e*	**P**	**10 11 56.3**	**+12**
VNA1	**Neumayer--Stat**	**77.00**	**177**	*e*	**P**	**10 11 57.7**	**+13**
VNA1	**Neumayer--Stat**	**77.00**	**177**	*e*	**P**	**10 11 59.1**	**+14**
VNA1	**Neumayer--Stat**	**77.00**	**177**	*e*	**P**	**10 12 00.3**	**+16**
VNA1	**Neumayer--Stat**	**77.00**	**177**	*e*	**P**	**10 12 02.3**	**+18**
VNA1	**Neumayer--Stat**	**77.00**	**177**	⇑*i*P	**P**	**10 11 54.6**	**+10**
VNA1				*e*		10 11 56.3	
VNA1				*e*		10 11 57.7	
VNA1				*e*		10 11 59.1	
VNA1				*e*		10 12 00.3	
VNA1				*e*		10 12 02.3	
ARCES	**ARCESS Array B**	**140.50**	**347**	PKP	PKPdf	10 19 24.1	+4.7
	5.2nm,1.2s,baz=90,slow=1.2,SNR=4.6						
FINES	**FINESS Array B**	**146.96**	**339**	PKPbc	PKPbc	10 19 35.4	+3.2
	1.1nm,0.4s,baz=34,slow=4.9,SNR=11						

GUC 29 10:08:56.4±0.5, 22.19S×68.75W, h113km±4km, ML3.5, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.44**	**199**	⇑*i*P	P	10 09 14.0	+0.6
LVC				*i* S	S	10 09 27.6	+1.4
LVC				AMP		10 09 28.2	
	comp=N,1μm,0.2s						
SPCH	**San Pedro de A**	**0.88**	**144**	⇓*i*P	P	10 09 17.4	+0.5
SPCH				*i* S	S	10 09 33.9	+1.6
SPCH				AMP		10 09 34.4	
	comp=N,2μm,0.4s						
CEN1	**Los Morros**	**1.79**	**228**	⇓*i*P	P	10 09 30.7	+3.3
CEN1				*i* S	S	10 09 56.2	+5.6
CEN1				AMP		10 09 59.6	
	comp=N,178nm,0.2s						
ANCH	**Antofagasta**	**2.13**	**226**	⇓*i*P	P	10 09 31.9	+0.2
ANCH				*i* S	S	10 09 58.8	+0.5
ANCH				AMP		10 10 00.2	
	comp=N,504nm,0.1s						
CPN1	**Cerro Paranal**	**2.86**	**212**	*e*P	P	10 09 40.2	-1.3
CPN1				*i* S	S	10 10 14.9	-0.7
CPN1				AMP		10 10 16.1	
	comp=E,182nm,0.5s						

NIED 29 10:30:00,38.80N×141.60E,h80km,Mw3.8 Best double couple: M0 5.88×10^14 NP1:φs 201°,δ59°,λ124°. NP2: φs 329°,δ45°,λ47°.

JMA 29 10:30:37.5,38.83N×141.58E,h75km±1km,M3.6 Broadband fault plane solution: P waves. NP1:φs 333°, δ40°,λ44°. NP2:φs 207°,δ63°,λ121°. Principal axes: T Plg59°, Azm162°; N Plg28°, Azm12°; P Plg13°, Azm275°;

JMA Felt I J1.

IDC 29 10:30:37.2±2.5,38.85N×141.62E,h74km±23km,mb3.6/5, mb1 3.8/7,mb1mx3.6/20,mbtmp3.9/7 Error ellipse: s-maj=27.3km s-min=15.4km az=113.0

NEIC 29 10:30:40.1±1.4,38.72N×141.54E,h104km±14km,mb4.4/5, Error ellipse: s-maj=15.5km s-min=14.7km az=213.0

NEIC Recorded [1 JMA] in Iwate and Miyagi Prefectures.

ISC 29 10:30:36.2±0.5, 38.82N±0.03×141.67E±0.07, h80km±3km, n31,σ0s 96/44, mb4.0/10, 6C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.26**	**359**	⇑P	**P**	**10 30 49.0**	**+0.7**
OFUJ				S	**S**	**10 30 57.3**	**-0.1**
JMK	**Ichinoseki**	**0.38**	**290**	⇑P	**P**	**10 30 49.2**	**+0.2**
JMK				S	**S**	**10 30 57.7**	**-1.0**
JIO	**Ouri**	**0.45**	**215**	⇑P	**P**	**10 30 50.1**	**+0.5**
JIO				S	**S**	**10 30 59.0**	**-0.7**
JOM	**Ohasama**	**0.71**	**335**	⇑P	**P**	**10 30 52.6**	**+0.4**
JOM				S	**S**	**10 31 03.6**	**-0.5**
JOU	**Okura**	**0.92**	**240**	⇓P	**P**	**10 30 54.8**	**+0.4**
JOU				S	**S**	**10 31 07.8**	**-0.3**
JYK	**Kaneyama**	**1.03**	**276**	⇓P	**P**	**10 30 56.0**	**+0.2**
JYK				*e*S	**S**	**10 31 09.7**	**-0.9**
JMM	**Marumori**	**1.18**	**216**	⇓P	**P**	**10 30 57.7**	**0.0**
JMM				*e*S	**S**	**10 31 13.2**	**-0.7**
JYS	**Shirataka**	**1.40**	**245**	⇓P	**P**	**10 31 00.9**	**+0.2**
JYS				*e*S	**S**	**10 31 19.4**	**+0.6**
JYA	**Atsumi**	**1.55**	**262**	⇓P	**P**	**10 31 02.7**	**0.0**
JYA				S	**S**	**10 31 22.2**	**0.0**
JANG	**Nango**	**1.55**	**356**	⇑P	**P**	**10 31 02.8**	**+0.1**
JANG				*e*S	**S**	**10 31 23.2**	**+1.0**
JAH	**Hinai**	**1.58**	**330**	⇑P	**P**	**10 31 03.8**	**+0.7**
JAH				*e*S	**S**	**10 31 23.7**	**+0.8**
JFK	**Kawauchi**	**1.59**	**204**	⇓P	**P**	**10 31 03.4**	**+0.3**
JFK				S	**S**	**10 31 22.7**	**-0.3**
MJAR	**Matsushiro Arr**	**3.57**	**231**	P	**P**	**10 31 31.7**	**+1.1**
	4.5nm,0.3s,baz=38,slow=12,SNR=71						
MJAR	**Matsushiro Arr**	**3.57**	**231**	P	**P**	**10 31 31.7**	**+1.1**
MAJO	**Matsushiro**	**3.57**	**231**	*e*Pn	**P**	**10 31 31.0**	**+0.5**
MAT	**Matsushiro**	**3.57**	**231**	P	**P**	**10 31 31.7**	**+1.2**
MAT				S	**S**	**10 32 17.5**	**+5.7**
ASAJ	**Asahikawa**	**5.33**	**7**	P	**P**	**10 31 53.4**	**-1.4**
	2.2nm,0.3s,baz=233,slow=10,SNR=13						
ASAJ				S	**S**	**10 32 53.4**	**-2.2**
	1.5nm,0.3s,baz=260,slow=32,SNR=3.9						
KS15	**Wonju Array Si**	**10.95**	**267**	*e*P	**P**	**10 33 12.8**	**+1.2**
SONM	**Songino Array**	**27.00**	**301**	P	**P**	**10 36 11.5**	**-0.7**
	0.5nm,0.5s,mb3.3,baz=93,slow=8.8,SNR=5.8						
ENH	**Enshi**	**27.74**	**262**	P	**P**	**10 36 17.9**	**-1.2**
	8.0nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**43.37**	**301**	P	**P**	**10 38 31.8**	**-0.1**
	4.3nm,0.7s,mb4.3,baz=86,slow=9.9,SNR=29						
KURK	**Kurchatov**	**45.01**	**307**	*e*P	**P**	**10 38 44.2**	**-0.8**
	7.9nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**47.88**	**33**	P	**P**	**10 39 08.2**	**+0.8**
	0.5nm,0.7s,mb3.5,baz=270,slow=5.8,SNR=6.6						
WRAB	**Tennant Creek**	**58.85**	**188**	P	**P**	**10 40 26.5**	**-2.2**
	2.5nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**58.86**	**188**	P	**P**	**10 40 27.3**	**-1.6**
	2.5nm,0.6s,mb4.4,baz=5.9,slow=7.2,SNR=62						
DUG	**Dugway**	**76.03**	**50**	*e*P	**P**	**10 42 14.7**	**-1.5**
	1.9nm,0.9s,mb3.8						
PDAR	**Pinedale Array**	**76.27**	**46**	P	**P**	**10 42 19.0**	**+1.5**
	0.4nm,0.6s,mb3.3,baz=256,slow=3.6,SNR=4.9						
PV10	**Paradox Valley**	**79.44**	**49**	*e*P	**P**	**10 42 37.3**	**+2.2**
PV10				*e*pP	pP	10 42 58.2	+1.5
PV01	**Paradox Valley**	**79.88**	**49**	P	**P**	**10 42 33.3**	**-4.1**
ANMO	**Albuquerque**	**83.28**	**50**	P	**P**	**10 42 56.3**	**+1.2**
	5.5nm,1.5s,mb4.2						
LPAZ	**La Paz**	**145.59**	**58**	*e*PKPdf	PKPdf	10 50 08.7	+3.3

IDC 29 11:33:49.6±1.6,5.22N×94.28E,mb4.1/6,mb1 4.3/6, mb1mx3.9/17,mbtmp4.1/6,Error ellipse: s-maj=89.7km s-min=24.8km az=49.0

NEIC 29 11:33:54.0±0.7,5.14N×94.25E,h30km,mb4.5/3,Error ellipse: s-maj=24.5km s-min=8.2km az=224.0

ISC 29 11:33:52.2±0.9, 5.1N±0.2×94.3E±0.2, h30km, n17, σ0s 97/17, mb4.3/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.34**	**88**	*e*Pn	**Pn**	**11 35 26.0**	**-0.2**
JIRN	**Jiri**	**23.70**	**342**	*e*P	**P**	**11 39 03.4**	**+0.9**
PKI	**Pulchoki**	**23.87**	**340**	*e*P	**P**	**11 39 06.9**	**+2.7**
GUN	**Gumba**	**24.03**	**341**	*e*P	**P**	**11 39 06.0**	**+0.2**
GKN	**Gorkha**	**24.53**	**339**	*e*P	**P**	**11 39 09.8**	**-0.9**
	6.4nm,0.3s,mb4.6						
LSA	**Lhasa**	**24.62**	**353**	P	**P**	**11 39 12.2**	**+0.7**
KOLN	**Koldanda**	**24.71**	**337**	*e*P	**P**	**11 39 13.2**	**+0.8**
	7.1nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**42.79**	**348**	P	**P**	**11 41 48.4**	**-0.5**
	4.9nm,0.5s,mb4.5,baz=168,slow=7.6,SNR=57						
WRA	**Warramunga Arr**	**46.59**	**124**	P	**P**	**11 42 20.1**	**+0.4**
	2.0nm,0.7s,mb4.2,baz=303,slow=9.4,SNR=20						
WRAB	**Tennant Creek**	**46.60**	**124**	*e*P	**P**	**11 42 20.0**	**+0.2**
	5.7nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**46.60**	**124**	*e*P	**P**	**11 42 19.8**	**0.0**
KURK	**Kurchatov**	**47.30**	**346**	*e*P	**P**	**11 42 24.1**	**-0.8**
	1.9nm,0.4s,mb4.4						
BVAR	**Borovoye Array**	**51.63**	**342**	P	**P**	**11 42 57.2**	**-0.9**
	1.3nm,0.6s,mb4.0,baz=141,slow=9.5,SNR=6.3						
CHKZ	**Chkalovo**	**52.12**	**342**	*e*P	**P**	**11 43 00.3**	**-1.5**
	3.8nm,0.6s,mb4.5						
AKASG	**Malin Array Be**	**70.39**	**322**	P	**P**	**11 45 03.8**	**-1.7**
	0.5nm,0.3s,mb3.9,baz=89,slow=6.2,SNR=5.5						
ARCES	**ARCESS Array B**	**77.89**	**340**	P	**P**	**11 45 48.8**	**+0.4**
	5.5nm,1.2s,mb4.4,baz=100,slow=7.4,SNR=5.7						
GERES	**GERESS Array B**	**79.96**	**319**	P	**P**	**11 46 01.4**	**+1.2**
	0.7nm,0.4s,mb3.9,baz=90,slow=5.3,SNR=8.4						

BJI 29 11:52:12.3,12.00N×40.00E,h10km,mB5.1,mb4.8,Ms4.8, Msz4.4

DHMR 29 11:52:16.4±2.3,12.66N×40.51E,h12km±208km,mb5.1, ML4.8

MOS 29 11:52:17.7±1.0,12.43N×40.53E,h10km,mb5.0/41,Error ellipse: s-maj=10.6km s-min=4.4km az=108.4

IDC 29 11:52:18.4±0.8,12.41N×40.67E,mb4.5/16,mb1 4.6/19, mb1mx4.5/23,mbtmp4.4/19,ML4.0/3,MS4.3/15,Ms1 4.3/15, ms1mx4.2/21,Error ellipse: s-maj=19.0km s-min=12.3km az=41.0

CSEM 29 11:52:18.4±0.1,12.46N×40.61E,h13km,mb4.8/43,Ms4.0, Error ellipse: s-maj=2.4km s-min=1.8km az=3.0

NEIC 29 11:52:19.4±0.4,12.42N×40.58E,h10km,mb4.8/59, MS4.0/3,Error ellipse: s-maj=8.5km s-min=6.6km az=221.0

ISC 29 11:52:18.0±0.3, 12.35N±0.05×40.54E±0.03, h15km, h15km±2.6km: pP-P, n256, σ1s 17/259, mb4.7/77, MS4.4/27, 19C-5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.40**	**110**	Pn	**Pn**	**11 52 57.2**	**-0.3**
	132nm,0.3s,baz=263,slow=6.7,SNR=129						
ATD				Lg		11 53 30.3	
	79nm,0.3s,baz=238,slow=22,SNR=25						
TRBA	**At Turbah**	**3.59**	**75**	*i*P	**Pn**	**11 53 14.3**	**-0.2**
TRBA				*i* S	**Sn**	**11 53 59.8**	**+2.7**
TRBA				AML	AML	11 54 18.8	
	comp=N,7μm,0.7s						
TRBA	**At Turbah**	**3.59**	**75**	*i*P	**Pn**	**11 53 14.3**	**-0.2**
TRBA				*i* S	**Sn**	**11 53 59.8**	**+2.7**
	comp=N,3μm,0.7s						
UDYN	**Al 'Udayn**	**3.70**	**64**	*i*P	**Pn**	**11 53 14.8**	**-1.3**
UDYN				*i* S	**Sn**	**11 54 01.0**	**+1.2**
UDYN				AML	AML	11 54 22.2	
	comp=N,4μm,0.8s						
DHBB	**Dhamar BB**	**4.35**	**59**	*i*P	**Pn**	**11 53 23.3**	**-1.9**
DHBB				*i* S	**Sn**	**11 54 15.2**	**-1.0**
ADEN	**Aden**	**4.36**	**84**	*i*P	**Pn**	**11 53 24.7**	**-0.6**
ADEN				AMb	AMB	11 53 26.2	
	comp=Z,263nm,1.6s						
ADEN				*i* S	**Sn**	**11 54 17.7**	**+1.3**
ADEN	**Aden**	**4.36**	**84**	*i*P	**Pn**	**11 53 24.7**	**-0.6**
	comp=Z,131nm,1.6s						
ADEN				*i* S	**Sn**	**11 54 17.7**	**+1.3**
LBOS		**4.83**	**71**	*i*P	**Pn**	**11 53 28.7**	**-3.3**
LBOS				*i* S	**Sn**	**11 54 24.7**	**-3.7**
BDHA	**Al Bayda'**	**5.16**	**71**	*i*P	**Pn**	**11 53 32.8**	**-3.8**
BDHA				*i* S	**Sn**	**11 54 32.7**	**-3.8**
BLJS	**Baljurashi**	**7.56**	**8**	P	**Pn**	**11 54 11.7**	**+1.3**
ABTO	**Aybut**	**13.29**	**66**	⇑P	**P**	**11 55 34.6**	**+5.7**
KMBO	**Kilima Mbogo**	**13.78**	**194**	Pn	**P**	**11 55 37.8**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=11,slow=14,SNR=4.7						
KMBO				Lg		11 59 37.5	
	comp=Z,0.1nm,0.3s,baz=94,slow=21,SNR=3.3						
KMBO				LR	LR	12 00 49.1	
	comp=Z,2μm,21.8s,baz=280,slow=37						
WHFO	**Wadi Hawf**	**13.92**	**65**	⇓P	**P**	**11 55 40.3**	**+3.1**
HILS	**Ha'il**	**15.00**	**4**	P	**P**	**11 55 58.4**	**+6.9**
HASS	**Wahat al Ahsa'**	**15.43**	**33**	P	**P**	**11 55 59.0**	**+2.1**
TBKS	**Tabuk**	**16.23**	**347**	P	**P**	**11 56 09.6**	**+2.3**
BDAS	**Al Bad'**	**16.79**	**343**	P	**P**	**11 56 18.6**	**+4.3**
HAQS	**Haql**	**17.43**	**343**	P	**P**	**11 56 27.6**	**+5.3**
JMOS	**Jabal al Moall**	**17.48**	**344**	P	**P**	**11 56 27.8**	**+4.7**
BSY	**Bisya**	**18.93**	**55**	P	**P**	**11 56 42.1**	**+1.2**
	SNR=11						
BSYO	**Bisya**	**18.96**	**55**	P	**P**	**11 56 42.1**	**+0.8**
	SNR=11						
ASHO	**Ashiyiah**	**19.13**	**48**	⇓P	**P**	**11 56 42.3**	**-1.0**
	SNR=7.5						
JMDO	**Jabal Madar**	**19.48**	**57**	⇑P	**P**	**11 56 46.1**	**-1.3**
	SNR=6.7						
SMDO	**Samad**	**19.77**	**55**	P	**P**	**11 56 50.6**	**0.0**
	SNR=7.0						
ASF	**Jabal al Asfar**	**20.01**	**351**	P	**P**	**11 56 53.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=24,slow=4.9,SNR=8.3						
ASF				LR	LR	12 03 38.9	
	comp=Z,506nm,21.4s,MS3.8,baz=226,slow=34						
WBK	**Wadi Bani Khal**	**20.30**	**57**	P	**P**	**11 56 56.6**	**+0.3**
	SNR=7.0						
BHD	**Baghdad**	**21.12**	**9**	*ex*	x	11 57 06.0	
BHD				*ex*	x	12 01 11.0	
MSL	**Mosul**	**23.95**	**5**	*ex*	x	11 57 58.0	
MSL				*ex*	x	12 02 18.0	
MALT	**Malatya**	**25.93**	**356**	*e*P	**P**	**11 57 53.5**	**+2.0**
	comp=Z,19nm,1.0s,mb4.6						
MALT	**Malatya**	**25.93**	**356**	*e*P	**P**	**11 57 53.5**	**+2.0**
	comp=Z,19nm,1.0s,mb4.6						
MALT	**Malatya**	**25.93**	**356**	*e*P	**P**	**11 57 53.5**	**+2.0**
MALT				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.6						
IDI	**Anoyia**	**26.88**	**331**	LR	LR	12 09 07.3	
	comp=Z,287nm,19.7s,MS3.8,baz=357,slow=38						
GNI	**Garni**	**27.94**	**7**	LR	LR	12 09 15.0	
	comp=Z,566nm,20.3s,MS4.2,baz=356,slow=36						
GNI	**Garni**	**27.94**	**7**	*e*P	**P**	**11 58 11.9**	**+2.0**
	comp=Z,21nm,0.8s,mb4.8						
GNI	**Garni**	**27.94**	**7**	*e*P	**P**	**11 58 11.6**	**+1.7**
	comp=Z,500nm,16.0s						
GNI	**Garni**	**27.94**	**7**	*e*P	**P**	**11 58 11.6**	**+1.7**
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
GNI				MLR	MLR		
	comp=Z,500nm,16.0s						
BR131	**Keskin Array S**	**27.94**	**349**	*e*P	**P**	**11 58 11.1**	**+1.2**
	comp=Z,7.1nm,0.8s,mb4.3						
BR131	**Keskin Array S**	**27.94**	**349**	*e*P	**P**	**11 58 11.1**	**+1.2**
	comp=Z,7.1nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**27.94**	**349**	P	**P**	**11 58 11.4**	**+1.5**
	comp=Z,10.0nm,0.9s,mb4.5,baz=173,slow=10.0,SNR=32						
BRTR	**Keskin Array B**	**27.94**	**349**	P	**P**	**11 58 11.4**	**+1.5**
ANTO	**Ankara**	**28.25**	**347**	*e*P	**P**	**11 58 14.2**	**+1.5**
	comp=Z,19nm,0.8s,mb4.8		

AAK Ala-Archa 42.14 38 *e*P **P 12 00 11.9 +0.4**
comp=Z,1µm,18.0s
AAK Ala-Archa 42.14 38 *e*P **P 12 00 11.9 +0.4**
AAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
AAK MLR MLR
comp=Z,1µm,18.0s,MS4.7
LMR La Mourre 42.59 323 *e*P **P 12 00 14.7 -0.5**
comp=Z,67nm,1.4s,mb4.9
LMR La Mourre 42.59 323 *e*P **P 12 00 14.7 -0.5**
LMR pmax pmax
comp=Z,33nm,1.4s,mb4.9
GERES GERESS Array B 42.65 334 P **P 12 00 16.1 +0.5**
comp=Z,6.3nm,0.9s,mb4.3,baz=135,slow=7.5,SNR=29
DPC Dobruska-Polom 42.77 337 *e*P **P 12 00 16.6 0.0**
OBN Obninsk 42.78 357 *e*P **P 12 00 16.0 -0.6**
comp=Z,91nm,2.0s,mb5.2
OBN Obninsk 42.78 357 *e*P **P 12 00 16.0 -0.6**
comp=Z,91nm,2.0s,mb5.2
KHC Kasperske Hory 42.92 334 *e*P **P 12 00 17.3 -0.5**
DAVOX Davos 42.94 329 P **P 12 00 19.4 +1.3**
comp=Z,3.1nm,0.7s,mb4.2,baz=118,slow=7.7,SNR=4.7
UPC Upice 43.02 337 *e*P **P 12 00 19.1 +0.5**
PRU Pruhonice 43.18 336 *e*P **P 12 00 19.8 -0.1**
MBDF Montbardon 43.28 325 *e*P **P 12 00 21.2 +0.4**
comp=Z,33nm,0.8s,mb4.8
MBDF Montbardon 43.28 325 *e*P **P 12 00 21.2 +0.4**
MBDF pmax pmax
comp=Z,16nm,0.8s,mb4.8
DAVA Damuels 43.29 330⇑ *i*P **P 12 00 21.3 +0.4**
comp=Z,11nm,0.7s,mb4.7
MOS Moscow 43.35 358 *e*P **P 12 00 20.0 -1.2**
PVCC Panska Ves 43.59 336 *e*P **P 12 00 23.2 -0.1**
LPG La Plagne 43.76 326 *e*P **P 12 00 23.4 -1.3**
SUW Suwalki 43.78 345 *e*P **P 12 00 24.9 +0.2**
LPL La Plagne 43.78 326 *e*P **P 12 00 23.5 -1.4**
comp=Z,14nm,0.9s,mb4.4
LPL La Plagne 43.78 326 *e*P **P 12 00 23.5 -1.4**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
ORIF Oris-en-Rattie 43.90 324 *e*P **P 12 00 25.3 -0.5**
ORIF *e*R
comp=Z,236nm,19.0s
BRG Berggiesshubel 44.11 336 *e*P **P 12 00 27.2 -0.2**
comp=Z,6.5nm,1.1s,mb4.3
BRG Berggiesshubel 44.11 336 *e*P **P 12 00 27.3 -0.2**
comp=Z,7.0nm,1.1s,mb4.3
BRG Berggiesshubel 44.11 336 *e*P **P 12 00 27.3 -0.2**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
GRA1 Grafenberg Arr 44.37 333 *e*P **P 12 00 29.0 -0.6**
comp=Z,10.0nm,0.9s,mb4.5
GRF Grafenberg Arr 44.37 333 *e*P **P 12 00 29.0 -0.6**
comp=Z,10.0nm,0.9s,mb4.5
GRF Grafenberg Arr 44.37 333 *e*P **P 12 00 29.0 -0.6**
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
GRF Grafenberg Arr 44.37 333 *e*P **P 12 00 29.0 -0.6**
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 44.55 324 *e*P **P 12 00 30.4 -0.8**
LASF Ste Croix 44.59 322 *e*P **P 12 00 30.7 -0.8**
comp=Z,27nm,1.1s,mb4.7
CART Cartagena 44.76 312 P **P 12 00 29.2 -3.8**
comp=Z,11nm,0.7s,mb4.8
CABF La Chapelle 44.81 326 *e*P **P 12 00 31.8 -1.4**
comp=Z,38nm,1.2s,mb4.8
CABF La Chapelle 44.81 326 *e*P **P 12 00 31.8 -1.4**
CABF pmax pmax
comp=Z,19nm,1.2s,mb4.8
CLL Collm 44.82 336 P **P 12 00 31.9 -1.3**
comp=Z,logA/T=1.0,mb4.6
CLL *i* *PP pP 12 00 34.7 -3.0
CLL *i* *SP sP 12 00 36.9 -2.6
CLL Collm 44.82 336 *i* P **P 12 00 31.9 -1.3**
comp=Z,11nm,1.0s,mb4.6
CLL *i* pP pP 12 00 34.7 -3.0
CLL Collm 44.82 336 *i* P **P 12 00 31.9 -1.3**
CLL *i* *PP pP 12 00 34.7 -3.0
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.6
MOX Moxa 44.90 334 *e*P **P 12 00 34.0 +0.2**
EPOB Poblet 44.94 317 P **P 12 00 36.4 +2.0**
comp=Z,16nm,1.1s,mb4.8
EPOB Poblet 44.94 317 P **P 12 00 36.4 +2.1**
comp=Z,16nm,1.1s,mb4.8,SNR=4.0
EMUR La Murta 45.03 312 P **P 12 00 35.5 +0.4**
comp=Z,17nm,0.7s,mb5.0
EMUR La Murta 45.03 312 P **P 12 00 35.5 +0.4**
comp=Z,17nm,0.7s,mb5.0,SNR=7.9
DBIC Dimbokro 45.08 267 P **P 12 00 36.8 +1.0**
comp=Z,4.6nm,0.7s,mb4.4,baz=76,slow=4.8,SNR=6.2
DBIC LR LR 12 18 48.3
comp=Z,531nm,19.6s,MS4.5,baz=69,slow=35
DBIC Dimbokro 45.08 267 *e*P **P 12 00 36.5 +0.7**
comp=Z,9.1nm,0.9s,mb4.6
DBIC Dimbokro 45.08 267 *e*P **P 12 00 36.5 +0.7**
comp=Z,9.1nm,0.9s,mb4.6
DBIC Dimbokro 45.08 267 *e*P **P 12 00 36.5 +0.7**
DBIC pmax pmax
comp=Z,9.0nm,0.9s
HINF Hinteralfeld 45.17 328 *e*P **P 12 00 35.0 -1.1**
MTLF Montolieu 45.20 320 *e*P **P 12 00 35.7 -0.6**
CDF Champ du Feu 45.35 329 *e*P **P 12 00 36.5 -0.9**
comp=Z,14nm,0.9s,mb4.5
CDF Champ du Feu 45.35 329 *e*P **P 12 00 36.5 -0.9**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
RUE Ruedersdorf 45.43 337 P **P 12 00 34.4 -3.7**
HAU Haudompre 45.55 328 *e*P **P 12 00 38.1 -1.0**
HAU *e*R
comp=Z,160nm,19.2s
EHUE Huescar 46.01 311 P **P 12 00 45.0 +2.2**
comp=Z,8.0nm,1.3s,mb4.5
EHUE Huescar 46.01 311 P **P 12 00 45.0 +2.2**
comp=Z,8.0nm,1.3s,mb4.5,SNR=7.9
EHUE Huescar 46.01 311 P **P 12 00 45.0 +2.2**
EHUE pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
SMF Signal de Mont 46.07 325 *e*P **P 12 00 41.9 -1.3**
comp=Z,22nm,1.1s,mb4.7
SMF Signal de Mont 46.07 325 *e*P **P 12 00 41.9 -1.3**
SMF pmax pmax
comp=Z,11nm,1.1s,mb4.7
ARU Arti 46.14 14 *e*P **P 12 00 42.8 -0.8**
comp=Z,29nm,1.2s,mb5.1
ARU Arti 46.14 14 *e*P **P 12 00 42.8 -0.8**
comp=Z,29nm,1.2s,mb5.1
ARU Arti 46.14 14⇑ *i*P **P 12 00 43.8 +0.2**
ARU *e* 12 02 32.2
ARU *e*PPP PPP 12 03 11.6 -4.4
ARU *e*S **S 12 07 29.7 +1.5**
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.0
ARU MLR MLR
comp=N,300nm,18.0s,MS4.4
ARU MLR MLR
comp=E,300nm,18.0s,MS4.4
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.5
EBIE Bielsa 46.19 319 P **P 12 00 42.7 -1.5**
comp=Z,11nm,1.0s,mb4.7
EBIE Bielsa 46.19 319 P **P 12 00 42.7 -1.5**
comp=Z,11nm,1.0s,mb4.7,SNR=4.0
EPF Esparros 46.23 319 *e*P **P 12 00 43.9 -0.6**
EQES Quesada 46.36 311 P **P 12 00 44.8 -0.8**
comp=Z,7.3nm,0.8s,mb4.7
EQES Quesada 46.36 311 P **P 12 00 44.8 -0.8**
comp=Z,7.3nm,0.8s,mb4.7,SNR=7.9
LOR Lormes 46.43 326 *e*P **P 12 00 44.8 -1.2**
comp=Z,14nm,0.9s,mb4.6
LOR *e*R
comp=Z,128nm,21.2s
LOR Lormes 46.43 326 *e*P **P 12 00 44.8 -1.2**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LOR MLR MLR
comp=Z,130nm,21.3s,MS3.9
AVF Avril sur Loir 46.43 325 *e*P **P 12 00 44.7 -1.3**
comp=Z,9.5nm,0.9s,mb4.4
AVF Avril sur Loir 46.43 325 *e*P **P 12 00 44.7 -1.3**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SSF Saint Saulge 46.50 325 *e*P **P 12 00 45.2 -1.3**
comp=Z,9.8nm,0.9s,mb4.4
SSF Saint Saulge 46.50 325 *e*P **P 12 00 45.2 -1.3**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MEZF Maizieres J'vi 46.54 328 *e*P **P 12 00 46.4 -0.4**
BGF Bois d'Agland 46.58 324 *e*P **P 12 00 46.6 -0.6**
comp=Z,51nm,1.2s,mb5.0
BGF Bois d'Agland 46.58 324 *e*P **P 12 00 46.6 -0.6**
BGF pmax pmax
comp=Z,26nm,1.2s,mb5.0
ETSF Etsaut 46.75 318 *e*P **P 12 00 49.3 +0.7**
comp=Z,16nm,0.9s,mb4.7
ETSF Etsaut 46.75 318 *e*P **P 12 00 49.3 +0.7**
ETSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LFF La Frestale 46.94 322 *e*P **P 12 00 50.2 +0.2**
comp=Z,34nm,0.8s,mb5.0
LFF La Frestale 46.94 322 *e*P **P 12 00 50.2 +0.2**
LFF pmax pmax
comp=Z,17nm,0.8s,mb5.0
BRVK Borovoye 47.04 24 *e*P **P 12 00 50.2 -0.5**
comp=Z,3.3nm,0.9s,mb4.3
BRVK Borovoye 47.04 24 *e*P **P 12 00 50.2 -0.5**
comp=Z,3.3nm,0.9s,mb4.3
BRVK Borovoye 47.04 24 *e*P **P 12 00 50.3 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 47.05 24 P **P 12 00 51.8 +0.9**
comp=Z,3.8nm,0.9s,mb4.3,baz=211,slow=8.6,SNR=9.5
EMIJ Mijas 47.21 309 P **P 12 00 46.6 -5.7**
comp=Z,18nm,1.2s,mb4.9
SJPF Ste Jean 47.28 318 *e*P **P 12 00 53.2 +0.4**
comp=Z,34nm,1.1s,mb4.9
SJPF Ste Jean 47.28 318 *e*P **P 12 00 53.2 +0.4**
SJPF pmax pmax
comp=Z,17nm,1.1s,mb4.9
CHKZ Chkalovo 47.63 24 *e*P **P 12 00 55.1 -0.3**
comp=Z,12nm,1.3s,mb4.8
CHKZ Chkalovo 47.63 24 *e*P **P 12 00 55.1 -0.3**
comp=Z,12nm,1.3s,mb4.8
CHKZ Chkalovo 47.63 24 *e*P **P 12 00 55.1 -0.3**
CHKZ pmax pmax
comp=Z,12nm,1.3s,mb4.8
GIVF Givet 47.67 329 *e*P **P 12 00 54.5 -1.2**
ESDC Sonseca Array 47.70 313 P **P 12 00 57.8 +1.7**
comp=Z,3.3nm,0.9s,mb4.3,baz=112,slow=7.6,SNR=6.0
ESDC Sonseca Array 47.70 313 P **P 12 00 56.6 +0.4**
comp=Z,4.2nm,1.6s,mb4.2
ESDC Sonseca Array 47.70 313 P **P 12 00 56.6 +0.4**
comp=Z,4.2nm,1.6s,mb4.2
BAIF Baives 47.95 329 *e*P **P 12 00 56.6 -1.3**
ESPR Espera 48.13 309 P **P 12 00 59.3 -0.3**
comp=Z,40nm,1.5s,mb5.2
ESPR Espera 48.13 309 P **P 12 00 59.3 -0.3**
comp=Z,40nm,1.5s,mb5.2
SFS San Fernando 48.28 308 P **P 12 00 57.9 -2.8**
comp=Z,198nm,1.0s
SFS San Fernando 48.28 308 P **P 12 00 57.9 -2.8**
SFS pmax pmax
comp=Z,198nm,1.0s
MFF Saint Martin d 48.33 323 *e*P **P 12 00 59.7 -1.3**
MKAR Makanchi Array 49.06 37 P **P 12 01 05.9 -0.6**
comp=Z,5.4nm,0.9s,mb4.6,baz=233,slow=6.1,SNR=20
MKAR LR LR 12 24 28.9
comp=Z,739nm,21.2s,MS4.7,baz=215,slow=40
KURK Kurchatov 49.23 31 *e*P **P 12 01 07.9 +0.1**
comp=Z,4.6nm,1.0s,mb4.5
KURK Kurchatov 49.23 31⇑ *e*P **P 12 01 07.8 0.0**
FLN La Foliniere 49.67 325 *e*P **P 12 01 09.6 -1.7**
comp=Z,45nm,1.1s,mb5.1
FLN *e*R
comp=Z,155nm,17.5s
FLN La Foliniere 49.67 325 *e*P **P 12 01 09.6 -1.7**
FLN pmax pmax
comp=Z,23nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,160nm,17.5s,MS4.1
LSA Lhasa 49.89 62 *e*P **P 12 01 11.8 -1.4**
comp=Z,22nm,1.3s,mb5.0
LSA Lhasa 49.89 62 *e*P **P 12 01 11.8 -1.4**
comp=Z,22nm,1.3s,mb5.0
LSA Lhasa 49.89 62 *e*P **P 12 01 11.8 -1.4**
LSA pmax pmax
comp=Z,22nm,1.3s,mb5.0
FINES FINESS Array B 50.13 351 P **P 12 01 13.7 -0.9**
comp=Z,7.7nm,1.1s,mb4.7,baz=172,slow=14,SNR=4.7
ROSF Rostrenen 51.04 324 *e*P **P 12 01 20.0 -1.7**
comp=Z,27nm,1.0s,mb4.8
ROSF Rostrenen 51.04 324 *e*P **P 12 01 20.0 -1.7**
ROSF pmax pmax
comp=Z,14nm,1.0s,mb4.8
WMQ Urumqi 51.13 43 *e*P **P 12 01 21.5 -0.9**
WMQ XP sP 12 01 28.0 -0.7
WMQ PCP PcP 12 02 38.0 -0.2
WMQ PCS 12 06 33.0
WMQ *e*S **S 12 08 38.0 -0.2**
WMQ SCS ScS 12 11 09.0 -0.5
WMQ AMB AMB
comp=Z,9.0nm,1.3s,mb4.5
WMQ AMB AMB
comp=Z,119nm,3.6s
WMQ LR LR
comp=Z,602nm,26.8s,MS4.5
NAO01 NORSAR Array S 53.05 342 P **P 12 01 34.7 -2.0**
comp=Z,11nm,0.9s,mb4.8
NAO01 NORSAR Array S 53.05 342 P **P 12 01 34.7 -1.9**
comp=Z,11nm,0.9s,mb4.8
NB2 NORSAR Subarra 53.11 343 P **P 12 01 35.8 -1.3**
comp=Z,8.2nm,0.9s,mb4.7,baz=142,slow=7.4
NB2 NORSAR Subarra 53.11 343 P **P 12 01 35.8 -1.3**
NB2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NOA NORSAR Array B 53.11 343 P **P 12 01 36.5 -0.6**
comp=Z,5.7nm,0.8s,mb4.5,baz=142,slow=7.4,SNR=10
NOA LR LR 12 26 49.1
comp=Z,102nm,20.3s,MS3.9,baz=160,slow=39
NVS Novosibirsk 53.93 29 *e*P **P 12 01 41.2 -1.9**
ARCES ARCESS Array B 57.94 354 P **P 12 02 11.6 -0.2**
comp=Z,4.0nm,1.0s,mb4.4,baz=225,slow=1.7,SNR=5.7
GTA Gaotai 58.59 51 *e*P **P 12 02 16.8 0.0**
GTA AP pP 12 02 21.3 -0.1
GTA XP sP 12 02 24.5 +1.4
GTA PP PP 12 04 26.3 -2.0
GTA S **S 12 10 12.3 -6.2**
GTA SCS ScS 12 12 00.8 -1.8
GTA AMB AMB
comp=Z,7.0nm,1.6s,mb4.4
GTA AMB AMB
comp=Z,95nm,5.0s
GTA LR LR
comp=N,379nm,16.4s
GTA LR LR
comp=E,397nm,27.1s
GTA LR LR
comp=Z,720nm,28.7s
KMI Kunming 59.81 68 P **P 12 02 25.0 -0.4**
KMI AP pP 12 02 30.3 +0.2
KMI XP sP 12 02 33.0 +1.2
KMI PP PP 12 04 37.8 -1.7
KMI PPP PPP 12 05 55.5 -10
KMI S **S 12 10 36.8 +2.3**
KMI XS 12 10 45.5
KMI SS SS 12 14 36.5 +4.5
KMI SSS SSS 12 17 11.8 +10
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,62nm,3.6s
KMI LR LR
comp=N,170nm,24.6s,MS4.3
KMI LR LR
comp=E,218nm,21.5s,MS4.3
KMI LR LR
comp=Z,291nm,22.5s,MS4.4
KMI Kunming 59.81 68 P **P 12 02 25.1 -0.3**
comp=Z,8.0nm,1.0s,mb4.7
KMI pP pP 12 02 30.2 +0.1
KMI sP sP 12 02 33.1 +1.3
KMI PP PP 12 04 37.8 -1.7
KMI PPP PPP 12 05 55.5 -10
KMI S **S 12 10 36.8 +2.3**
KMI sS 12 10 45.5
KMI SS SS 12 14 36.4 +4.4
KMI SSS SSS 12 17 11.8 +10
KMI LR LR
comp=Z,290nm,22.5s,MS4.4
KMI Kunming 59.81 68 P **P 12 02 25.1 -0.3**
KMI *PP pP 12 02 30.2 +0.1
KMI *SP sP 12 02 33.1 +1.3
KMI 12 04 37.8
KMI S **S 12 10 36.8 +2.3**
KMI *SS 12 10 45.5
KMI SS SS 12 14 36.4 +4.4
KMI pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KMI MLR MLR
comp=Z,290nm,22.5s,MS4.4
LZH Lanzhou 61.30 56 *e*P **P 12 02 35.5 +0.1**
LZH AP pP 12 02 42.3 +2.2
LZH XP sP 12 02 45.5 +3.8
LZH AMB AMB
comp=Z,39nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,184nm,4.8s
LZH Lanzhou 61.30 56 *e*P **P 12 02 35.6 +0.2**
comp=Z,39nm,1.5s,mb5.3
LZH pP pP 12 02 42.3 +2.2
LZH sP sP 12 02 45.5 +3.8
LZH LR LR
comp=Z,970nm,16.8s,MS5.0
LZH Lanzhou 61.30 56 *e*P **P 12 02 35.6 +0.2**
LZH *PP pP 12 02 42.3 +2.2
LZH pmax pmax
comp=Z,39nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,970nm,16.8s,MS5.0
GYA Guiyang 63.34 67⇓ *i*P **P 12 02 48.5 -0.6**
GYA AP pP 12 02 52.8 -1.0
GYA XP sP 12 02 56.0 +0.6
GYA PP PP 12 05 09.0 -1.2
GYA S **S 12 11 18.0 -1.2**
GYA PS PS 12 11 38.0 -1.6
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,80nm,3.4s
GYA LR LR
comp=N,270nm,18.6s,MS4.6
GYA LR LR
comp=E,240nm,18.4s,MS4.6
GYA LR LR
comp=Z,230nm,18.2s,MS4.4
SONM Songino Array 64.77 43 P **P 12 02 58.2 0.0**
comp=Z,3.1nm,1.0s,mb4.3,baz=250,slow=6.9,SNR=17
SONM LR LR 12 34 56.2
comp=Z,730nm,20.3s,MS4.9,baz=263,slow=40
ULN Ulaanbaatar 65.21 43 P **P 12 02 58.6 -2.4**
ULN Ulaanbaatar 65.21 43 *e*P **P 12 03 01.1 0.0**
HHC Hu-ho-hao-te 67.70 51 *e*P **P 12 03 18.0 +1.0**
HHC AP pP 12 03 22.5 +0.8
HHC XP sP 12 03 24.8 +1.4
HHC PCP PcP 12 03 42.3 -1.7
HHC PP PP 12 05 48.3 0.0
HHC SCP 12 07 46.0
HHC PCS 12 07 47.3
HHC S S 12 12 13.8 +1.4
HHC XS 12 12 22.0
HHC SCS ScS 12 13 12.0 +0.6
HHC AMB AMB
comp=Z,12nm,0.9s,mb4.9
HHC AMB AMB
comp=Z,185nm,4.5s
HHC LR LR
comp=N,189nm,16.7s,MS4.6
HHC LR LR
comp=E,217nm,16.7s,MS4.6
HHC LR LR
comp=Z,287nm,23.8s
NJ2 Nanjing 73.72 60 *e*P **P 12 03 50.8 -2.8**
NJ2 AP pP 12 04 01.0 +2.7
NJ2 XP sP 12 04 05.3 +5.3
NJ2 PP PP 12 06 38.0 -2.0
NJ2 S S 12 13 17.0 -5.6
NJ2 XS 12 13 34.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,60nm,5.3s
NJ2 LR LR
comp=Z,160nm,22.2s,MS4.3
SUMG Summit 75.00 342 *e*P **P 12 04 01.2 +1.0**
comp=Z,16nm,1.1s,mb4.8
SSE Sheshan 75.79 61 P **P 12 04 05.3 -0.3**
SSE XP sP 12 04 09.8 -2.1
SSE S S 12 13 44.5 -1.1
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,83nm,4.8s
SSE LR LR
comp=N,47nm,20.5s,MS4.2
SSE LR LR
comp=E,114nm,20.5s,MS4.2
SSE LR LR
comp=Z,128nm,20.3s,MS4.2
SSE Sheshan 75.79 61 P **P 12 04 05.2 -0.4**
comp=Z,31nm,0.7s,mb5.3
SSE sP sP 12 04 09.7 -2.2
SSE S S 12 13 44.5 -1.1
SSE sS 12 13 50.2
SSE SS SS 12 18 33.8 -6.8
SSE LR LR
comp=Z,130nm,20.3s,MS4.2
CN2 Changchun 77.92 48 *e*P **P 12 04 17.0 -0.1**
MDJ Mudanjiang 80.78 46 P **P 12 04 31.5 -1.1**
MDJ AP pP 12 04 34.8 -2.5
MDJ XP sP 12 04 36.0 -2.9
MDJ PP PP 12 07 34.3 -4.6
MDJ S S 12 14 39.0 +0.5
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
MDJ AMB AMB
comp=Z,77nm,3.8s
MDJ LR LR
comp=N,262nm,21.8s,MS4.6
MDJ LR LR
comp=E,78nm,19.6s,MS4.6
MDJ LR LR
comp=Z,141nm,18.5s,MS4.3
MAW Mawson 81.37 172 P **P 12 04 37.1 +1.9**
comp=Z,1.7nm,1.0s,mb3.9,baz=333,slow=12,SNR=3.8
MAW LR LR 12 36 50.0
comp=Z,164nm,18.4s,MS4.4,baz=157,slow=33
MAW Mawson 81.37 172 *e*P **P 12 04 36.9 +1.7**
comp=Z,6.5nm,1.3s,mb4.4
MAW Mawson 81.37 172 *e*P **P 12 04 36.9 +1.7**
MAW pmax pmax
comp=Z,6.0nm,1.3s
JOW Kunigami 82.53 64 LR LR 12 42 43.0
comp=Z,143nm,20.3s,MS4.3,baz=110,slow=37
JNU Nakatsue 83.64 58 LR LR 12 42 58.6
comp=Z,147nm,21.2s,MS4.3,baz=41,slow=36
SNAA Sanae 88.67 193⇑ *i*P **P 12 05 07.7 -3.9**
SNAA Sanae 88.67 193 *e* **P 12 05 09.9 -1.7**
SNAA Sanae 88.67 193 *e* **P 12 05 13.0 +1.4**
SNAA Sanae 88.67 193 *e* **P 12 05 16.2 +4.6**
SNAA Sanae 88.67 193 *e*P **P 12 05 08.5 -3.1**
comp=Z,23nm,1.8s,mb5.2
SNAA Sanae 88.67 193 *e*P **P 12 05 08.5 -3.1**
SNAA pmax pmax
comp=Z,23nm,1.8s
MJAR Matsushiro Arr 88.80 53 LR LR 12 50 56.6
comp=Z,165nm,19.0s,MS4.5,baz=285,slow=40
VNA2 Neumayer--Watz 89.17 194 *e* **P 12 05 17.0 +3.1**
VNA2 Neumayer--Watz 89.17 194 *e* **P 12 05 20.0 +6.1**
VNA2 Neumayer--Watz 89.17 194⇑ *i*P **P 12 05 09.2 -4.7**
VNA2 *e* 12 05 17.0
VNA2 *e* 12 05 20.0
VNA1 Neumayer--Stat 89.19 195 *e* **P 12 05 17.3 +3.2**
VNA1 Neumayer--Stat 89.19 195 *e* **P 12 05 20.2 +6.2**
VNA1 Neumayer--Stat 89.19 195⇑ *i*P **P 12 05 09.3 -4.8**
VNA1 *e* 12 05 17.3
VNA1 *e* 12 05 20.2
FITZ Fitzroy Crossi 89.21 109 *e*P **P 12 05 16.9 +1.6**
comp=Z,15nm,1.2s,mb5.2
FITZ Fitzroy Crossi 89.21 109 P **P 12 05 17.0 +1.7**
comp=Z,15nm,1.0s,mb5.2,baz=348,slow=1.6,SNR=5.3
FITZ LR LR 12 41 17.8
comp=Z,336nm,19.0s,MS4.8,baz=262,slow=33
SCHQ Schefferville 89.74 326 LR LR 12 44 52.2
comp=Z,90nm,19.8s,MS4.2,baz=54,slow=35
VNA3 Neumayer Olymp 89.93 194 *e* **P 12 05 17.6 +0.1**
VNA3 Neumayer Olymp 89.93 194 *e* **P 12 05 20.5 +3.0**

VNA3	**Neumayer Olymp**	**89.93**	**194**	⇑*i*P	**P**	**12 05 09.4**	**-8.1**
VNA3				*e*		12 05 17.6	
VNA3				*e*		12 05 20.5	
BILL	**Bilibino**	**91.02**	**18**	*e*P	**P**	**12 05 21.9**	**-0.7**
BILL				pmax	pmax		
	comp=Z,17μm,1.7s						
BILL				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.2						
BDFB	**Brasilia**		**91.90 255**	LR	LR	12 44 52.7	
	comp=Z,316nm,18.5s,MS4.8,baz=106,slow=34						
TXAR	**Lajitas Array**	**126.05**	**321**	PKP	PKPdf	12 11 24.5	+0.4
	comp=Z,0.5nm,0.8s,baz=90,slow=1.3,SNR=3.6						
TBI	**Tubuai**	**165.51**	**140**	*e*LR	LR	13 10 03.9	
	comp=Z,147nm,28.5s						
RKT	**Rikitea**	**168.47**	**201**	*e*LR	LR	13 11 28.4	
	comp=Z,149nm,26.8s						
PPT	**Papeete**	**168.93**	**119**	*e*LR	LR	13 11 29.2	
	comp=Z,217nm,27.2s						
TAOE	**Nuku Hiva Isla**	**176.46**	**11**	*e*LR	LR	13 14 05.9	
	comp=Z,458nm,38.2s						

GUC 29 11:57:10.0±0.8, 24.89S×68.94W, h122km±25km, ML3.5, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**1.35**	**281**	*i* P	P	11 57 37.5	+1.1
CPN1				*i* S	S	11 57 57.5	+1.2
CPN1				AMP		11 57 59.3	
	comp=N,626nm,0.5s						
ANCH	**Antofagasta**	**1.80**	**312**	⇓*i*P	P	11 57 42.8	+1.3
ANCH				*i* S	S	11 58 06.5	+1.1
ANCH				AMP		11 58 09.0	
	comp=N,744nm,0.1s						
CEN1	**Los Morros**	**1.88**	**322**	*e*P	P	11 57 43.4	+0.8
CEN1				*i* S	S	11 58 07.8	+0.6
CEN1				AMP		11 58 09.8	
	comp=E,486nm,0.4s						
SPCH	**San Pedro de A**	**2.09**	**19**	*e*P	P	11 57 45.8	+0.7
SPCH				*i* S	S	11 58 13.5	+1.7
SPCH				AMP		11 58 15.3	
	comp=E,470nm,0.3s						
LVC	**Limon Verde**	**2.27**	**1**	⇑*i*P	P	11 57 48.1	+0.6
LVC				*i* S	S	11 57 18.7	+1.9
LVC				AMP		11 58 21.9	
	comp=E,127nm,0.3s						

DHMR 29 11:59:42.1±2.5, 12.68N×40.55E, h2km±12km, ML3.8, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.52**	**81**	*i* P	Pn	12 00 40.4	+1.5
TRBA				*i* S	Sn	12 01 26.2	+4.5
TRBA				AML	AML	12 01 38.0	
	comp=E,577nm,0.6s						
UDYN	**Al 'Udayn**	**3.56**	**69**	*i* P	Pn	12 00 41.4	+1.8
UDYN				*i* S	Sn	12 01 27.7	+4.9
UDYN				AML	AML	12 01 48.8	
	comp=E,276nm,0.6s						
DHBB	**Dhamar BB**	**4.18**	**63**	*i* P	Pn	12 00 49.9	+1.5
DHBB				*i* S	Sn	12 01 41.8	+3.4
LBOS		**4.72**	**75**	⇑*i*P	Pn	12 00 54.4	-1.6
LBOS				*i* S	Sn	12 01 51.1	-1.1
BDHA	**Al Bayda'**	**5.05**	**75**	*i* S	Sn	12 01 59.4	-1.0

*NEIC **29** 12:11:35.3±1.7, 50.47N×18.78E, h5km, MG2.6(WAR), Error ellipse: s-maj=23.9km s-min=8.5km az=180.0*
*PRU **29** 12:11:35.5, 50.45N×18.85E*
WAR 29 12:11:35.7, 50.37N×18.91E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.59**	**104**	*e*PG	Pg	12 11 47.0	-0.4
OJC				*e*SG	Sg	12 11 56.0	+0.8
OKC	**Ostrava-Krasne**	**0.72**	**223**	*e*PG	Pg	12 11 49.7	-0.4
OKC				*e*SG	Sg	12 11 59.9	+0.1
MORC	**Moravsky Berou**	**1.06**	**237**	*e*Pg	Pg	12 11 54.9	-1.9
MORC				*e*Sg	Sg	12 12 07.8	-3.2
NIE	**Niedzica**	**1.31**	**136**	*e*PG	Pg	12 12 02.0	+0.1
NIE				*e*SG	Sg	12 12 20.0	+0.7
DPC	**Dobruska-Polom**	**1.66**	**270**	*e*PG	Pg	12 12 05.0	-3.8
DPC				*e*SG	Sg	12 12 26.8	-4.1
	6.1nm,0.2s						
KSP	**Ksiaz**	**1.74**	**287**	*e*PG	Pg	12 12 07.0	-3.4
KSP				*e*SG	Sg	12 12 30.0	-3.5
STHS	**Stebnicka Huta**	**1.78**	**121**	*e*PN	Pn	12 12 09.8	+1.9
STHS				*e*SN	Sn	12 12 35.9	+4.3
VRAC	**Vranov**	**1.84**	**236**	*e*Pn	Pn	12 12 08.7	0.0
VRAC				*e*Sg	Sg	12 12 33.0	-3.9
UPC	**Upice**	**1.86**	**276**	*e*SG	Sg	12 12 33.6	-4.0
VYHS	**Vyhne**	**1.87**	**182**	*e*PN	Pn	12 12 08.1	-1.1
VYHS				*e*SN	Sn	12 12 33.9	0.0
KECS	**Kecovo**	**2.15**	**151**	*e*PN	Pn	12 12 14.8	+1.7
KECS				*e*SN	Sn	12 12 42.3	+1.5
PRU	**Pruhonice**	**2.83**	**264**	*e*SG	Sg	12 13 04.4	-5.7
KHC	**Kasperske Hory**	**3.67**	**252**	*ex*	x	12 13 16.5	
KHC				*e*SG	Sg	12 13 31.2	-6.8
CLL	**Collm**	**3.86**	**286**	*e*SG	Sg	12 13 44.0	-0.3

KRSC 29 12:16:45.9±0.7, 49.24N×157.85E, h52km±33km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**2.20**	**319**	*e*P	P	12 17 21.3	+0.4
ALID				*e*S	S	12 17 46.5	-0.4
PAU	**Pauzhetka**	**2.33**	**344**	*i* P	P	12 17 23.4	+0.8
PAU				*e*S	S	12 17 50.3	+0.2
MIPR	**Malaya Ipel'ka**	**3.12**	**348**	*e*P	P	12 17 35.0	+1.2
RUS	**Russkaya**	**3.23**	**7**	*e*P	P	12 17 36.1	+0.7
RUS				*e*S	S	12 18 12.5	-0.3
GRL	**Gorelyy**	**3.32**	**2**	*e*P	P	12 17 37.3	+0.6
GRL				*e*S	S	12 18 14.5	-0.7
APC	**Apacha**	**3.72**	**354**	*e*P	P	12 17 42.8	+0.5
PET	**Petropavlovsk**	**3.82**	**7**	*e*P	P	12 17 44.4	+0.6
PET				*e*S	S	12 18 26.8	-1.1
UGLR	**Uglovaya**	**4.02**	**8**	*i* P	P	12 17 47.8	+1.2
NLC	**Nalytchevo**	**4.05**	**13**	*e*P	P	12 17 47.1	+0.2
NLC				*e*S	S	12 18 31.6	-2.0
AVH	**Avacha**	**4.07**	**8**	*e*P	P	12 17 47.9	+0.7
AVH				*e*S	S	12 18 33.0	-1.1
SMAR	**Somma**	**4.07**	**8**	*e*P	P	12 17 49.4	+2.1
KOK	**Koryaka**	**4.09**	**7**	*e*P	P	12 17 48.1	+0.6
SPN	**Mys Shipunski**	**4.10**	**19**	*i* P	P	12 17 48.0	+0.3
SPN				*i* S	S	12 18 34.1	-0.7
GNL	**Ganaly**	**4.46**	**1**	*e*P	P	12 17 52.9	+0.1
GNL				*e*S	S	12 18 41.8	-2.2
MKZ	**Mys Kozlova**	**5.84**	**23**	*i* P	P	12 18 11.9	-0.1
KMNR	**Kamenistaya**	**6.69**	**12**	*e*P	P	12 18 24.0	+0.1
KBTR	**Krutoberegovo**	**7.60**	**21**	*e*P	P	12 18 36.3	-0.3

JMA 29 12:25:45.0±0.4, 33.70N×142.47E, h55km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.56**	**308**	P	P	12 26 10.7	-0.3
BSO1				*e*S	S	12 26 30.5	+0.3
BSO2	**Boso 2**	**1.77**	**307**	*e*S	S	12 26 35.6	+0.5
BSO3	**Boso 3**	**1.96**	**305**	P	P	12 26 17.1	+0.6
BSO3				*e*S	S	12 26 41.7	+1.8
BSO4	**Boso 4**	**2.18**	**307**	P	P	12 26 20.4	+0.7
BSO4				*e*S	S	12 26 46.8	+1.3
JHJ2	**Mitsune**	**2.30**	**256**	P	P	12 26 21.9	+0.6
JHJ2				*e*S	S	12 26 48.6	+0.2
JIM2	**Oshima 2**	**2.71**	**293**	P	P	12 26 27.0	-0.3
JIM2				*e*S	S	12 26 57.2	-1.8
JOD2	**Odawara 2**	**3.20**	**300**	P	P	12 26 33.4	-0.7
JOD2				*e*S	S	12 27 09.6	-1.6
JAG	**Ashikaga**	**3.68**	**319**	P	P	12 26 40.9	+0.1
JYN	**Shimob**	**3.70**	**300**	P	P	12 26 41.8	+0.6
JYN				*e*S	S	12 27 22.5	-1.4
JRY	**Ryogami san**	**3.73**	**309**	P	P	12 26 42.4	+0.8
JRY				*e*S	S	12 27 25.4	+0.6
JMM	**Marumori**	**4.38**	**342**	P	P	12 26 49.3	-1.3
JMM				*e*S	S	12 27 36.5	-4.4
MAT	**Matsushiro**	**4.50**	**310**	*e*S	S	12 27 43.8	-0.2
JMK	**Ichinoseki**	**5.34**	**349**	P	P	12 27 03.0	-1.0
JMK				*e*S	S	12 27 58.5	-6.5

*NEIC **29** 12:53:30.3±1.0, 10.17S×161.13E, h69km±9km, mb4.6/10, Error ellipse: s-maj=10.6km s-min=8.4km az=101.0*
*IDC **29** 12:53:31.2±2.1, 10.19S×161.09E, h71km±16km, mb4.0/7, mb1 4.1/9, mb1mx4.0/15, mbtmp4.3/9, MS3.5/4, Ms1 3.5/4, ms1mx3.1/23, Error ellipse: s-maj=22.8km s-min=15.7km az=80.0*
ISC 29 12:53:29.9±1.3, 10.20S±0.07×161.08E±0.10, h79km±10km, n25, σ0$77/27, mb4.3/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**		**1.35 304**	P	**P**	**12 53 53.5**	**-0.3**
	184nm,0.3s,baz=151,slow=4.1,SNR=90						
HNR				S	**S**	**12 54 11.7**	**+0.2**
	675nm,0.3s,baz=18,slow=19,SNR=30						
DZM	**Mont Dzumac**		**12.88 157**	*e*P	**P**	**12 56 30.7**	**-0.6**
DZM				*e*S	**S**	**12 58 45.6**	**-7.5**
DZM	**Mont Dzumac**		**12.88 157**	P	**P**	**12 56 32.6**	**+1.3**
	1.7nm,0.3s,baz=11,slow=19,SNR=52						
DZM				S	**S**	**12 58 52.5**	**-0.6**
	0.3nm,0.3s,baz=252,slow=20,SNR=3.1						
DZM				LR	LR	13 00 43.3	
	comp=Z,322nm,18.9s,baz=200,slow=34						
CTA	**Charters Tower**		**17.35 234**	*e*P	**P**	**12 57 28.7**	**+0.2**
	7.0nm,0.8s						
CTA	**Charters Tower**		**17.35 234**	P	**P**	**12 57 28.6**	**+0.1**
	0.2nm,0.3s,baz=34,slow=18,SNR=2.4						
CTA				LR	LR	13 03 23.2	
	comp=Z,200nm,18.7s,baz=315,slow=34						
CTAO	**Charters Tower**		**17.35 234**	*e*P	**P**	**12 57 28.6**	**+0.1**
	8.3nm,0.8s						
GUMO	**Guam**		**28.59 325**	LR	LR	13 09 44.3	
	comp=Z,107nm,21.2s,baz=157,slow=34						
FITZ	**Fitzroy Crossi**		**35.20 253**	*e*P	**P**	**13 00 18.5**	**-0.2**
	9.6nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**		**35.20 253**	P	**P**	**13 00 18.6**	**-0.1**
	3.6nm,0.5s,mb4.5,baz=43,slow=6.4,SNR=7.0						
MBWA	**Marble Bar**		**41.16 250**	*e*P	**P**	**13 01 08.8**	**+0.5**
	11nm,1.0s,mb4.6						
NWAO	**Narrogin (SRO)**		**46.19 234**	*e*P	**P**	**13 01 43.4**	**-5.5**
	43nm,1.4s,mb5.0						
MAJO	**Matsushiro**		**51.23 336**	P	**P**	**13 02 26.1**	**-1.8**
	26nm,1.8s,mb5.0						
HIA	**Hailar**		**69.44 332**	P	**P**	**13 04 30.2**	**-1.5**
	6.3nm,0.9s,mb4.5						
MA2	**Magadan**		**70.03 354**	*e*P	**P**	**13 04 38.7**	**+3.6**
	8.6nm,0.9s,mb4.6						
SONM	**Songino Array**		**75.32 325**	P	**P**	**13 05 07.3**	**+0.9**
	3.4nm,0.6s,mb4.2,baz=141,slow=5.5,SNR=12						
KDAK	**Kodiak Island**		**77.55 23**	P	**P**	**13 05 19.1**	**+0.4**
	17nm,1.0s,mb4.7,baz=81,slow=3.8,SNR=3.6						
QSPA	**South Pole Qui**		**79.80 180**	*e*P	**P**	**13 05 29.9**	**-0.8**
	6.5nm,1.2s,mb4.3						
COLA	**College**		**83.97 20**	*e*P	**P**	**13 05 52.1**	**-0.3**
	3.3nm,0.7s,mb4.3						
ILAR	**Eielson Array**		**84.22 20**	P	**P**	**13 05 54.6**	**+0.9**
	1.3nm,0.7s,mb3.8,baz=243,slow=5.6,SNR=18						
DAWY	**Dawson**		**86.47 22**	*e*P	**P**	**13 06 05.2**	**+0.4**
MKAR	**Makanchi Array**		**89.79 318**	P	**P**	**13 06 21.2**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=89,slow=7.6,SNR=4.3						

*NEIC **29** 13:03:05.5±1.9, 5.39S×154.23E, h146km±17km, mb4.7/4, Error ellipse: s-maj=13.0km s-min=12.0km az=65.0*
*IDC **29** 13:03:05.4±3.9, 5.37S×154.21E, h146km±35km, mb3.6/8, mb1 3.8/9, mb1mx3.8/13, mbtmp4.1/9, Error ellipse: s-maj=23.8km s-min=21.2km az=80.0*
ISC 29 13:03:05.0±3.2, 5.4S±0.1×154.2E±0.1, h154km±28km, n17, σ0$74/19, mb3.9/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**		**8.02 240**	P	**P**	**13 05 00.7**	**+1.1**
	5.3nm,0.3s,baz=64,slow=5.6,SNR=23						
PMG				S	**S**	**13 06 28.4**	**-0.5**
	0.8nm,0.3s,baz=288,slow=20,SNR=2.6						
PMG	**Port Moresby**		**8.02 240**	*e*Pn	**P**	**13 04 59.8**	**+0.3**
PMG				S	**S**	**13 06 28.4**	**-0.5**
DZM	**Mont Dzumac**		**20.38 146**	P	**P**	**13 07 30.8**	**-0.6**
	4.3nm,0.9s,baz=215,slow=16,SNR=5.2						
KAKA	**Kakadu**		**22.65 250**	*e*P	**P**	**13 08 13.9**	**+20**
	3.7nm,0.4s,mb4.2						
WRAB	**Tennant Creek**		**24.10 231**	*e*P	**P**	**13 08 08.5**	**+0.7**
	18nm,0.8s,mb4.7						
WRA	**Warramunga Arr**		**24.11 231**	P	**P**	**13 08 08.8**	**+1.0**
	6.6nm,0.7s,mb4.3,baz=53,slow=9.5,SNR=91						
STKA	**Stephens Creek**		**28.85 203**	P	**P**	**13 08 49.8**	**-1.5**
	0.8nm,0.5s,mb3.7,baz=12,slow=14,SNR=4.0						
FITZ	**Fitzroy Crossi**		**30.60 243**	*e*P	**P**	**13 09 06.0**	**-0.9**
	9.2nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**		**30.60 243**	P	**P**	**13 09 06.2**	**-0.6**
	9.9nm,0.5s,mb4.8,baz=60,slow=4.2,SNR=16						
MBWA	**Marble Bar**		**36.88 242**	*e*P	**P**	**13 09 54.5**	**-6.0**
	16nm,1.1s,mb4.5						
KSM	**Kuching**		**44.35 278**	*e*P	**P**	**13 11 02.2**	**+0.2**
SONM	**Songino Array**		**67.57 327**	P	**P**	**13 13 46.4**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=135,slow=6.1,SNR=2.3						
MKAR	**Makanchi Array**		**81.69 319**	P	**P**	**13 15 06.8**	**-0.8**
	0.3nm,0.6s,mb3.1,baz=90,slow=5.8,SNR=3.0						
COLA	**College**		**81.90 21**	P	**P**	**13 15 08.8**	**+0.5**
ILAR	**Eielson Array**		**82.20 22**	P	**P**	**13 15 09.8**	**0.0**
	0.3nm,0.6s,mb3.1,baz=244,slow=5.6,SNR=10						
QSPA	**South Pole Qui**		**84.56 180**	*e*P	**P**	**13 15 22.1**	**+0.7**
	1.8nm,0.8s,mb3.9						
MAW	**Mawson**		**85.54 203**	P	**P**	**13 15 27.4**	**+0.8**
	1.6nm,0.5s,mb4.0,baz=110,slow=7.2,SNR=8.7						

*IDC **29** 13:21:25.5±0.6, 16.98S×172.66W, mb4.4/12, mb1 4.6/12, mb1mx4.5/17, mbtmp4.4/12, MS4.1/12, Ms1 4.1/12, ms1mx4.0/18, Error ellipse: s-maj=26.1km s-min=13.3km az=120.0*
*BJI **29** 13:21:30.0, 16.30S×172.11W, h30km, mB5.3, mb5.0, Ms4.8, Msz4.5*
*NEIC **29** 13:21:30.4±0.3, 16.93S×172.71W, mb4.8/22, MS4.9/1, Error ellipse: s-maj=11.3km s-min=7.0km az=126.0*
*MOS **29** 13:21:30.0±2.1, 17.05S×172.68W, h33km, mb5.0/18, MS4.6/4, Error ellipse: s-maj=17.1km s-min=12.1km az=76.0*
*HRVD **29** 13:21:30.4±0.7, 17.04S×172.08W, h16km±1km, MW4.9/42, Centroid moment Tensor Solution. LP body waves: s19,c25;Mantle waves: s42,c60; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.96±.28; $M_{\theta\theta}$-1.73±.27; $M_{\phi\phi}$-1.24±.20; $M_{r\theta}$1.42±.74; $M_{\theta\phi}$-1.18±.14; $M_{r\phi}$0.20±.56; Best double couple: $M_0$3.157×10^{16} NP1:ϕ_s221°,δ34°,λ71°. NP2:ϕ_s63°,δ58°,λ102°. Principal axes: T 3.36, Plg74°, Azm6°; N -.416, Plg10°, Azm237°; P -2.954, Plg12°, Azm144°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 29 13:21:28.9±0.3, 16.98S±0.06×172.69W±0.08, h32km, h32km±1.1km:pP-P, n118, σ1$25/85, mb4.7/35, MS4.3/19, 5C-2D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**		**3.18 16**	Pn	**Pn**	**13 22 10.2**	**-7.8**
	14nm,0.3s,baz=345,slow=3.1,SNR=17						
AFI				Sn	**Sn**	**13 22 42.4**	**-13**
	72nm,0.3s,baz=8.5,slow=19,SNR=10						
AFI				LR	LR	13 23 21.9	
	comp=Z,2μm,19.2s,baz=108,slow=37						
AFI	**Afiamalu**		**3.18 16**	*e*Pn	**Pn**	**13 22 09.2**	**-8.7**
RAO	**Raoul Island**		**13.12 201**	Pn	**P**	**13 24 33.9**	**-1.9**
	112nm,0.3s,baz=48,slow=19,SNR=4.6						
RAO				Sn	**S**	**13 26 53.9**	**-7.7**
	47nm,0.3s,baz=90,slow=20,SNR=3.2						
RAO	**Raoul Island**		**13.12 201**	*e*P	**P**	**13 24 33.9**	**-1.9**
DZM	**Mont Dzumac**		**20.30 252**	P	**P**	**13 26 02.1**	**-3.0**
	6.2nm,0.8s,baz=77,slow=19,SNR=3.3						
DZM				LR	LR	13 31 11.8	
	comp=Z,190nm,18.6s,MS3.5,baz=234,slow=29						
OUZ	**Omahuta**		**21.90 211**	*e*PN	**P**	**13 26 20.2**	**-1.0**
PPT	**Papeete**		**22.07 95**	*e*LQ		13 30 05.1	
PPT				*e*LR	LR	13 30 56.7	
	1μm,28.5s						
PPT	**Papeete**		**22.07 95**	LR	LR	13 33 15.9	
	comp=Z,462nm,19.8s,MS3.9,baz=48,slow=32						
KUZ	**Kuaotunu**		**22.20 205**	PN	**P**	**13 26 24.6**	**+0.4**
PUZ	**Puketiti**		**22.47 199**	*e*PN	**P**	**13 26 32.3**	**+5.5**
TBI	**Tubuai**		**22.69 110**	*e*LQ		13 30 24.0	
TBI				*e*LR	LR	13 31 17.3	
	1μm,29.5s,baz=284						
URZ	**Urewera**		**23.01 201**	P	**P**	**13 26 32.7**	**+0.5**
	38nm,0.9s,mb4.8,baz=25,slow=8.2,SNR=14						
URZ				S	**S**	**13 30 44.5**	**+8.3**
	17nm,1.2s,baz=168,slow=16,SNR=6.0						
HNR	**Honiara**		**27.66 282**	LR	LR	13 36 34.0	
	comp=Z,1μm,21.1s,MS4.5,baz=130,slow=33						
WVZ	**Waitaha Valley**		**29.59 205**	*e*PN	**P**	**13 27 39.0**	**+5.7**
RKT	**Rikitea**		**35.88 106**	*e*LR	LR	13 37 23.1	
	668nm,28.2s,baz=279						
CTA	**Charters Tower**		**38.99 259**	*e*P	**P**	**13 28 53.0**	**-1.3**
	3.4nm,0.8s,mb4.1						
CTA	**Charters Tower**		**38.99 259**	*e*P	**P**	**13 28 53.0**	**-1.3**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CTAO	**Charters Tower**		**38.99 259**	*e*P	**P**	**13 28 48.8**	**-5.5**
	comp=Z,6.7nm,1.1s,mb4.3						
CTAO	**Charters Tower**		**38.99 259**	*e*P	**P**	**13 28 48.8**	**-5.5**
CTAO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
STKA	**Stephens Creek**		**43.87 242**	*e*P	**P**	**13 29 33.2**	**-1.0**
	comp=Z,7.5nm,1.0s,mb4.4						
STKA	**Stephens Creek**		**43.87 242**	P	**P**	**13 29 32.8**	**-1.4**
	comp=Z,11nm,1.2s,mb4.4,baz=105,slow=12,SNR=5.0						
STKA				LR	LR	13 46 22.1	
	comp=Z,280nm,19.0s,MS4.2,baz=32,slow=34						
WB2	**Warramunga Arr**		**50.16 258**	*e*P	**P**	**13 30 22.6**	**-1.2**
WRAB	**Tennant Creek**		**50.16 258**	*e*P	**P**	**13 30 22.3**	**-1.5**
	comp=Z,36nm,1.4s,mb5.2						
WRAB	**Tennant Creek**		**50.16 258**	P	**P**	**13 30 22.5**	**-1.3**
WRA	**Warramunga Arr**		**50.17 258**	P	**P**	**13 30 22.5**	**-1.3**
	comp=Z,4.8nm,1.0s,mb4.5,baz=97,slow=7.1,SNR=29						
SBA	**Scott Base**		**61.74 185**	*e*P	**P**	**13 31 46.4**	**+0.2**
	comp=Z,13nm,1.0s,mb5.0						
SBA				*e*pP	pP	13 31 57.0	+0.7
SBA	**Scott Base**		**61.74 185**	*e*P	**P**	**13 31 46.4**	**+0.1**
SBA				*e**PP	pP	13 31 57.0	+0.7
SBA				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
VNDA	**Vanda**		**61.88 186**	*e*P	**P**	**13 31 47.8**	**+0.5**
	comp=Z,7.1nm,1.0s,mb4.8						
VNDA				*e*pP	pP	13 31 58.6	+1.3
VNDA	**Vanda**		**61.88 186**	*e*P	**P**	**13 31 47.8**	**+0.6**
VNDA				*e**PP	pP	13 31 58.6	+1.3
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MBWA	**Marble Bar**		**63.59 254**	P	**P**	**13 31 57.2**	**-2.2**
	comp=Z,33nm,1.5s,mb5.1						
MJAR	**Matsushiro Arr**		**70.58 320**	P	**P**	**13 32 42.9**	**-0.3**
	comp=Z,1.9nm,0.9s,mb4.0,baz=156,slow=6.0,SNR=4.1						
MJAR				LR	LR	14 05 10.2	
	comp=Z,78nm,18.1s,MS4.0,baz=130,slow=37						
MJAR	**Matsushiro Arr**		**70.58 320**	P	**P**	**13 32 42.9**	**-0.3**
MJAR				LR	LR	14 05 10.2	
QSPA	**South Pole Qui**		**73.07 180**	⇓*i*P	**P**	**13 32 58.0**	**+0.8**
	comp=Z,12nm,1.0s,mb4.8						
CMB	**Columbia Colle**	**73.50**	**41**	*e*P	**P**	**13 32 58.5**	**-2.0**
	comp=Z,7.2nm,1.1s,mb4.5						
CMB	**Columbia Colle**	**73.50**	**41**	*e*P	**P**	**13 32 58.5**	**-2.0**
CMB				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
YBH	**Yreka Blue Hor**	**74.45**	**37**	P	**P**	**13 33 05.2**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.3,baz=77,slow=3.7,SNR=7.9						
YSS	**Yuzh-Sakhalins**	**75.19**	**330**	*e*P	**P**	**13 33 10.6**	**+0.5**
	comp=Z,23nm,1.0s,mb5.1						
YSS				*e*pP	pP	13 33 20.9	+0.7
YSS	**Yuzh-Sakhalins**	**75.19**	**330**	*e*P	**P**	**13 33 10.6**	**+0.5**
YSS				*e**PP	pP	13 33 20.9	+0.6
YSS				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
KSM	**Kuching**		**78.01 275**	*e*P	**P**	**13 33 27.9**	**+1.3**
VLA	**Vladivostok**		**78.46 322**	*e*P	**P**	**13 33 28.1**	**-0.3**
VLA				pmax	pmax		
	comp=Z,1μm,1.7s						
SSE	**Sheshan**		**79.45 307**	P	**P**	**13 33 35.3**	**+1.2**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,53nm,4.2s						
SSE	**Sheshan**		**79.45 307**	P	**P**	**13 33 35.2**	**+1.1**
	comp=Z,27nm,0.7s,mb5.3						
BMO	**Blue Mountains**	**79.47**	**37**	*e*P	**P**	**13 33 32.4**	**-1.5**
	comp=Z,10nm,1.4s,mb4.6						
BMO				*e*pP	pP	13 33 42.1	-2.0
BMO	**Blue Mountains**	**79.47**	**37**	*e*P	**P**	**13 33 32.4**	**-1.5**
BMO				*e**PP	pP	13 33 42.1	-2.0
BMO				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
MDJ	**Mudanjiang**		**80.69 322**	P	**P**	**13 33 41.0**	**+0.6**
MDJ				AP	pP	13 33 50.5	-0.1
MDJ				XP	sP	13 33 54.3	+0.3
MDJ				PP	PP	13 36 45.5	-0.8
MDJ				S	S	13 43 48.0	+3.8
MDJ				XS		13 44 03.8	
MDJ				SCS	ScS	13 44 05.5	+4.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,72nm,3.9s						
MDJ				LR	LR		
	comp=N,35nm,27.6s,MS3.9						
MDJ				LR	LR

COLA	**College**	**83.78**	**10**	*e*P		**P**	**13 33 54.6**	**-1.3**	
	comp=Z,20nm,1.1s,mb5.2								
COLA				*e*pP		pP	13 34 05.0	-1.3	
COLA	**College**	**83.78**	**10**	*e*P		**P**	**13 33 54.7**	**-1.2**	
COLA				*e**PP		pP	13 34 05.0	-1.3	
COLA				pmax		pmax			
	comp=Z,20nm,1.1s,mb5.2								
ILAR	**Eielson Array**	**83.86**	**11**	P		**P**	**13 33 55.4**	**-0.9**	
	comp=Z,1.6nm,0.9s,mb4.2,baz=217,slow=5.0,SNR=12								
BILL	**Bilibino**	**86.16 352**⇓		*e*P		**P**	**13 34 08.0**	**+0.3**	
BILL				*e*S		S	13 44 37.9	-0.5	
BILL				pmax		pmax			
	comp=Z,8.0nm,1.2s,mb4.8								
MAW	**Mawson**	**86.52 198**		*e*P		**P**	**13 34 10.2**	**+0.7**	
	comp=Z,3.6nm,0.8s,mb4.7								
MAW	**Mawson**	**86.52 198**		P		**P**	**13 34 10.9**	**+1.4**	
	comp=Z,7.3nm,1.1s,mb4.8,baz=107,slow=7.2,SNR=9.5								
MAW				LR		LR	14 12 31.6		
	comp=Z,213nm,18.6s,MS4.6,baz=242,slow=35								
MAW	**Mawson**	**86.52 198**		*e*P		**P**	**13 34 10.2**	**+0.7**	
MAW				pmax		pmax			
	comp=Z,4.0nm,0.8s								
PLCA	**Paso Flores**	**87.95 132**		P		**P**	**13 34 17.6**	**+0.6**	
	comp=Z,4.1nm,1.1s,mb4.6,baz=246,slow=2.5,SNR=5.2								
PLCA				LR		LR	14 03 58.4		
	comp=Z,117nm,19.3s,MS4.3,baz=82,slow=29								
PLCA	**Paso Flores**	**87.95 132**		*e*P		**P**	**13 34 17.2**	**+0.2**	
	comp=Z,4.3nm,0.9s,mb4.7								
PLCA				*e*pP		pP	13 34 27.0	-0.4	
PLCA	**Paso Flores**	**87.95 132**		*e*P		**P**	**13 34 17.2**	**+0.1**	
PLCA				*e**PP		pP	13 34 27.0	-0.4	
PLCA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ENH	**Enshi**	**88.34 302**		*e*P		**P**	**13 34 21.2**	**+2.0**	
	comp=Z,74nm,1.6s,mb5.7								
GYA	**Guiyang**	**89.39 298**⇑		*i*P		**P**	**13 34 27.0**	**+2.7**	
GYA				AP		pP	13 34 36.5	+1.9	
GYA				XP		sP	13 34 40.3	+2.4	
GYA				PP		PP	13 38 01.5	+3.8	
GYA				SKS		SKS	13 44 51.5	-7.1	
GYA				S		S	13 45 12.3	+2.6	
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb5.1								
GYA				AMB		AMB			
	comp=Z,70nm,4.0s								
GYA				LR		LR			
	comp=N,190nm,18.6s,MS4.7								
GYA				LR		LR			
	comp=E,210nm,18.7s,MS4.7								
GYA				LR		LR			
	comp=Z,170nm,19.0s,MS4.5								
HHC	**Hu-ho-hao-te**	**90.60 313**		*e*P		**P**	**13 34 33.8**	**+4.3**	
HHC				AP		pP	13 34 44.3	+4.4	
HHC				XP		sP	13 34 48.3	+5.1	
HHC				SKS		SKS	13 44 55.3	-10	
HHC				S		S	13 45 27.5	+7.1	
HHC				XS			13 45 45.3		
HHC				AMB		AMB			
	comp=Z,14nm,1.0s,mb5.2								
HHC				AMB		AMB			
	comp=Z,106nm,3.5s								
HHC				LR		LR			
	comp=N,152nm,17.8s,MS4.6								
HHC				LR		LR			
	comp=E,151nm,19.0s,MS4.6								
HHC				LR		LR			
	comp=Z,79nm,14.3s,MS4.3								
VNA3	**Neumayer Olymp**	**91.23 175**		P		**P**	**13 34 32.5**	**+0.8**	
VNA3	**Neumayer Olymp**	**91.23 175**				pP	13 34 42.8	+0.7	
VNA3	**Neumayer Olymp**	**91.23 175**				sP	13 34 47.6	+2.2	
SNAA	**Sanae**	**91.30 177**		P		**P**	**13 34 32.5**	**+0.5**	
SNAA	**Sanae**	**91.30 177**				**P**	**13 34 34.4**	**+2.4**	
SNAA	**Sanae**	**91.30 177**				pP	13 34 42.2	-0.2	
SNAA	**Sanae**	**91.30 177**				sP	13 34 47.2	+1.5	
SNAA	**Sanae**	**91.30 177**		*e*P		**P**	**13 34 32.4**	**+0.3**	
	comp=Z,3.8nm,1.1s,mb4.6								
SNAA				*e*pP		pP	13 34 42.2	-0.2	
SNAA	**Sanae**	**91.30 177**		*e*P		**P**	**13 34 32.4**	**+0.4**	
SNAA				*e**PP		pP	13 34 42.2	-0.2	
SNAA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
VNA2	**Neumayer--Watz**	**91.73 175**⇑		*i*P		**P**	**13 34 35.5**	**+1.5**	
VNA2	**Neumayer--Watz**	**91.73 175**⇑		*i*		**P**	**13 34 36.7**	**+2.7**	
VNA2	**Neumayer--Watz**	**91.73 175**⇑		*i*		pP	13 34 45.5	+1.1	
VNA2	**Neumayer--Watz**	**91.73 175**				sP	13 34 47.9	+0.2	
VNA1	**Neumayer--Stat**	**91.92 175**		P		**P**	**13 34 36.5**	**+1.6**	
VNA1	**Neumayer--Stat**	**91.92 175**				pP	13 34 47.0	+1.7	
KMI	**Kunming**	**92.32 295**		P		**P**	**13 34 41.5**	**+3.7**	
KMI				AP		pP	13 34 54.3	+6.1	
KMI				XP		sP	13 34 58.0	+6.5	
KMI				PP		PP	13 38 22.3	+1.1	
KMI				S		S	13 45 38.8	+2.8	
KMI				XS			13 45 55.5		
KMI				AMB		AMB			
	comp=Z,10.0nm,1.4s,mb5.0								
KMI				AMB		AMB			
	comp=Z,138nm,4.4s								
KMI				LR		LR			
	comp=N,96nm,17.4s,MS4.6								
KMI				LR		LR			
	comp=E,166nm,17.4s,MS4.6								
KMI				LR		LR			
	comp=Z,158nm,17.4s,MS4.5								
KMI	**Kunming**	**92.32 295**		P		**P**	**13 34 41.4**	**+3.6**	
	comp=Z,10.0nm,1.4s,mb5.0								
KMI				pP		pP	13 34 54.3	+6.1	
KMI				sP		sP	13 34 57.9	+6.4	
KMI				PP		PP	13 38 22.2	+1.0	
KMI				S		S	13 45 38.8	+2.8	
KMI				sS			13 45 55.6		
KMI				SS		SS	13 51 41.8	-8.8	
KMI				SSS		SSS	13 55 14.2	-15	
KMI				LR		LR			
	comp=Z,160nm,17.4s,MS4.5								
KMI	**Kunming**	**92.32 295**		P		**P**	**13 34 41.4**	**+3.6**	
KMI				*PP		pP	13 34 54.3	+6.1	
KMI							13 38 22.2		
KMI				S		S	13 45 38.8	+2.8	
KMI				pmax		pmax			
	comp=Z,10.0nm,1.4s,mb5.0								
KMI				MLR		MLR			
	comp=Z,160nm,17.4s,MS4.5								
LZH	**Lanzhou**	**94.71 306**		*e*P		**P**	**13 34 52.5**	**+3.9**	
LZH				AP		pP	13 35 03.0	+4.1	
LZH				XP		sP	13 35 07.5	+5.3	
LZH				*e*S		S	13 45 59.0	+2.7	
LZH				XS			13 46 16.5		
LZH				SS		SS	13 52 29.5	+5.1	
LZH				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb5.2								
LZH				AMB		AMB			
	comp=Z,60nm,4.5s								
LZH				LR		LR			
	comp=E,265nm,18.5s								
LZH				LR		LR			
	comp=Z,420nm,19.6s,MS4.9								
LZH	**Lanzhou**	**94.71 306**		*e*P		**P**	**13 34 52.5**	**+3.9**	
	comp=Z,10.0nm,1.0s,mb5.2								
LZH				pP		pP	13 35 03.0	+4.1	
LZH				sP		sP	13 35 07.4	+5.2	
LZH				SKKS			13 45 24.0		
LZH				*e*S		S	13 45 59.0	+2.7	
LZH				sS			13 46 16.5		
LZH				SS		SS	13 52 29.5	+5.1	
LZH				LR		LR			
	comp=Z,420nm,19.6s,MS4.9								
LZH	**Lanzhou**	**94.71 306**		*e*P		**P**	**13 34 52.5**	**+3.9**	
LZH				*PP		pP	13 35 03.0	+4.1	
LZH				*SP		sP	13 35 07.4	+5.2	
LZH							13 45 24.0		
LZH				*e*S		S	13 45 59.0	+2.7	
LZH				SS		SS	13 52 29.5	+5.1	
LZH				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb5.2								
LZH				MLR		MLR			
	comp=Z,420nm,19.6s,MS4.9								
SONM	**Songino Array**	**96.47 318**		P		**P**	**13 34 58.3**	**+2.0**	
	comp=Z,0.5nm,0.8s,mb4.0,baz=104,slow=5.9,SNR=3.2								
SONM				LR		LR	14 20 06.9		
	comp=Z,57nm,18.1s,MS4.1,baz=163,slow=36								
TIXI	**Tiksi**	**96.70 344**		*e*P		**P**	**13 34 59.0**	**+2.2**	
TIXI				pmax		pmax			
	comp=Z,8.0nm,1.3s,mb5.0								
TIXI				MLR		MLR			
	comp=Z,200nm,22.0s,MS4.5								
LPAZ	**La Paz**	**98.63 110**		LR		LR	14 09 36.9		
	comp=Z,62nm,19.7s,MS4.1,baz=272,slow=29								
ROSC	**El Rosal**	**99.38 88**		LR		LR	14 09 36.7		
	comp=Z,39nm,19.1s,MS3.9,baz=196,slow=29								
WMQ	**Urumqi**	**108.42 311**		*e*PKP			13 39 57.5		
KURK	**Kurchatov**	**114.78 318**		*i* PKIKP		PKPdf	13 40 14.9	+3.4	
AAK	**Ala-Archa**	**118.02 310**		*i* PKIKP		PKPdf	13 40 11.5	-6.5	
AAK				MLR		MLR			
	comp=Z,100nm,18.0s,MS4.5								
OBN	**Obninsk**	**135.83 336**⇑		*i*PKIKP		PKPdf	13 40 46.7	-5.0	
OBN				*e*			13 43 28.2		
OBN				pmax		pmax			
	comp=Z,4.0nm,1.2s								
KIV	**Kislovodsk**	**139.85 320**		*i* PKIKP		PKPdf	13 41 08.6	+9.2	
KIV				pmax		pmax			
	comp=N,12nm,1.2s								
KIV				pmax		pmax			
	comp=Z,12nm,1.2s								
KIV				pmax		pmax			
	comp=E,11nm,1.1s								
OJC	**Ojcow**	**145.35 346**		*e*PKP		PKPdf	13 41 05.9	-2.8	
KMBO	**Kilima Mbogo**	**145.43 242**		PKPbc		PKPbc	13 41 08.5	+3.2	
	comp=E,14nm,1.1s,baz=98,slow=3.1,SNR=14								
CLL	**Collm**	**145.46 354**		*e*PKIKP		PKPdf	13 41 05.0	-3.9	
	comp=E,logA/T=1.1								
CLL				*e**PPKP			13 41 15.0		
CLL				*e*			13 41 20.0		
CLL	**Collm**	**145.46 354**		*e*PKP		PKPdf	13 41 05.0	-3.9	
CLL				*e*pPKP			13 41 17.0		
BRG	**Berggiesshubel**	**145.78 353**		*e*PKP		PKPdf	13 41 08.8	-0.6	
UPC	**Upice**	**145.83 350**		*e*PKP		PKPdf	13 41 07.4	-2.2	
UPC				*ex*		x	13 41 26.8		
DPC	**Dobruska-Polom**	**145.93 350**		*e*PKP		PKPdf	13 41 05.1	-4.6	
OKC	**Ostrava-Krasne**	**146.08 347**		*e*PKP		PKPdf	13 41 08.7	-1.3	
MORC	**Moravsky Berou**	**146.26 348**		*e*PKPdf		PKPdf	13 41 06.3	-4.0	
PRU	**Pruhonice**	**146.56 352**		*e*PKP		PKPdf	13 41 09.0	-1.8	
GRA1	**Grafenberg Arr**	**147.22 355**		*e*PKP		PKPdf	13 41 13.5	+1.6	
GRF	**Grafenberg Arr**	**147.22 355**		*e*PKP		PKPdf	13 41 13.5	+1.6	
KHC	**Kasperske Hory**	**147.53 352**		*e*PKP		PKPdf	13 41 12.2	-0.2	
KHC				*e*pPKP			13 41 26.3		
GERES	**GERESS Array B**	**147.80 352**		PKPbc		PKPdf	13 41 12.3	-0.6	
	comp=E,0.9nm,0.7s,baz=108,slow=4.2,SNR=7.3								
BR131	**Keskin Array S**	**147.81 320**		*e*PKPbc		PKPdf	13 41 12.9	-0.3	
BRTR	**Keskin Array B**	**147.81 320**		PKPbc		PKPdf	13 41 13.3	+0.1	
	comp=E,6.1nm,1.0s,baz=135,slow=1.7,SNR=9.7								

*BJI **29** 13:45:35.5,21.10S×68.70W,h98km,mB4.8*
*NEIC **29** 13:45:36.5±0.6,21.13S×68.66W,h98km±7km, mb4.3/6, Error ellipse: s-maj=9.6km s-min=7.6km az=91.0*
*GUC **29** 13:45:37.9±0.6,21.42S×69.16W,h134km±10km,ML4.1*
*IDC **29** 13:45:39.5±0.9,21.31S×68.48W,h112km±7km, mb4.4/3, mb1 4.2/7, mb1mx3.9/15, mbtmp4.5/7, MS3.0/1, Ms1 3.0/1, ms1mx2.4/16, Error ellipse: s-maj=30.9km s-min=9.5km az=112.0*

ISC 29 13:45:36.0±0.6, 21.13S±0.05×68.65W±0.07, h109km±7km, n39,σ1°§18/41, mb4.7/8, 1C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.49**	**189**	P		P	**P**	**13 46 04.4**	**+1.3**
	65nm,0.3s,baz=12,slow=10,SNR=740								
LVC				S		S	**S**	**13 46 24.3**	**+0.9**
	350nm,0.3s,baz=299,slow=23,SNR=79								
LVC	**Limon Verde**	**1.49**	**189**⇓	*i*P		P	**P**	**13 46 04.4**	**+1.3**
LVC				*i* S		S	**S**	**13 46 24.3**	**+0.9**
LVC				AMP				13 46 29.6	
	comp=E,3µm,0.5s								
LVC	**Limon Verde**	**1.49**	**189**	*e*Pn		P	**P**	**13 46 04.1**	**+1.0**
LVC				*e*Sn		S	**S**	**13 46 23.7**	**+0.2**
SPCH	**San Pedro de A**	**1.81**	**167**⇓	*i*P		P	**P**	**13 46 10.2**	**+3.2**
SPCH				*i* S		S	**S**	**13 46 34.9**	**+4.6**
SPCH				AMP				13 46 59.0	
	comp=N,2µm,0.7s								
CEN1	**Los Morros**	**2.67**	**212**	*e*P		P	**P**	**13 46 19.6**	**+1.2**
CEN1				*i* S		S	**S**	**13 46 50.3**	**-0.1**
CEN1				AMP				13 46 59.7	
	comp=N,1µm,0.4s								
ANCH	**Antofagasta**	**3.02**	**212**	*e*P		P	**P**	**13 46 21.5**	**-1.6**
ANCH				*i* S		S	**S**	**13 46 53.7**	**-5.1**
CPN1	**Cerro Paranal**	**3.84**	**205**⇑	*i*P		P	**P**	**13 46 32.1**	**-2.1**
CPN1				*i* S		S	**S**	**13 47 12.8**	**-5.9**
LPAZ	**La Paz**	**4.84**	**6**	P		P	**P**	**13 46 52.1**	**+4.2**
	comp=N,3.3nm,0.3s,baz=186,slow=7.5,SNR=35								
LPAZ	**La Paz**	**4.84**	**6**	*e*Pn		P	**P**	**13 46 51.6**	**+3.6**
ARE	**Arequipa**	**5.37**	**329**	*e*P		P	**P**	**13 46 54.0**	**-1.1**
SIV	**San Ignacio**	**8.81**	**56**	P		P	**P**	**13 47 41.9**	**0.0**
	comp=N,12nm,0.3s,baz=251,slow=11,SNR=184								
SIV				S		S	**S**	**13 49 13.8**	**-6.3**
	baz=145,slow=22,SNR=4.1								
CFAA	**Coronel Fontan**	**10.44**	**178**	P		P	**P**	**13 47 59.3**	**-4.4**
	comp=N,0.1nm,0.3s,baz=354,slow=14,SNR=4.0								
CFAA				S		S	**S**	**13 49 48.3**	**-11**
	comp=N,0.3nm,0.3s,baz=194,slow=12,SNR=4.2								
CPUP	**Villa Florida**	**11.58**	**119**	P		P	**P**	**13 48 17.4**	**-1.5**
	comp=N,0.3nm,0.3s,baz=320,slow=15,SNR=6.5								
CPUP	**Villa Florida**	**11.58**	**119**	*e*P		P	**P**	**13 48 18.1**	**-0.9**
	comp=N,5.3nm,0.9s								
NNA	**Nana**	**12.01**	**318**	P		P	**P**	**13 48 25.5**	**+0.8**
SAML	**Samuel**	**13.21**	**24**	*e*P		P	**P**	**13 48 39.1**	**-1.3**
	comp=N,1.8nm,0.6s								
TRQA	**Tornquist**	**17.82**	**163**	*e*P		P	**P**	**13 49 37.4**	**-1.0**
	comp=N,10.0nm,1.1s								
PLCA	**Paso Flores**	**19.61**	**184**	P		P	**P**	**13 49 57.6**	**-0.3**
	comp=N,0.5nm,0.3s,baz=5.2,slow=10,SNR=17								
PLCA	**Paso Flores**	**19.61**	**184**	*e*P		P	**P**	**13 49 56.5**	**-1.5**
	comp=N,11nm,0.8s								
BDFB	**Brasilia**	**20.32**	**78**	P		P	**P**	**13 50 06.7**	**+1.2**
	comp=N,22nm,0.4s,baz=256,slow=11,SNR=21								
BDFB				LR		LR		13 58 29.1	
	comp=N,49nm,20.6s,baz=294,slow=38								
BAO	**Brasilia Array**	**20.34**	**78**	P		P	**P**	**13 50 05.2**	**-0.5**
DWPF	**Disney**	**50.49**	**345**	P		P	**P**	**13 54 26.6**	**+1.6**
	comp=N,20nm,0.7s,mb5.2								
SWET	**Sewanee**	**58.39**	**343**	P		P	**P**	**13 55 20.2**	**-2.2**
LIC	**Lamto**	**68.05**	**74**	*e*P		P	**P**	**13 56 26.4**	**+0.1**
	comp=N,54nm,1.6s,mb5.1								
SDCO	**Great Sand Dun**	**68.06**	**329**	P		P	**P**	**13 56 26.2**	**+0.2**
	comp=N,24nm,1.1s,mb3.9								
TIC	**Toumodi**	**68.24**	**73**	*e*P		P	**P**	**13 56 27.5**	**+0.1**
KIC	**Kosan Boka**	**68.36**	**74**	*e*P		P	**P**	**13 56 28.5**	**+0.3**
	comp=N,46nm,0.9s,mb5.3								
DBIC	**Dimbokro**	**68.39**	**73**	P		P	**P**	**13 56 28.8**	**+0.4**
	comp=N,12nm,0.8s,mb4.8,baz=209,slow=8.2,SNR=12								
DBIC	**Dimbokro**	**68.39**	**73**	P		P	**P**	**13 56 28.8**	**+0.4**
VIF	**Vila Franca**	**71.28**	**35**	*e*S		S		14 05 41.3	-11
PCNG	**Congro**	**71.32**	**35**	*e*S		S		14 05 42.0	-11
	comp=N,91nm,0.2s								
SBA	**Scott Base**	**76.23**	**190**	P		P	**P**	**13 57 14.7**	**+1.2**
	comp=N,26nm,1.8s,mb4.7								
TSUM	**Tsumeb**	**79.91**	**107**	*e*P		P	**P**	**13 57 34.1**	**-0.7**
	comp=N,6.3nm,1.0s,mb4.4								
MAW	**Mawson**	**84.61**	**163**	P		P	**P**	**13 57 59.4**	**+1.5**
	comp=N,2.1nm,1.1s,mb4.0,baz=225,slow=2.9,SNR=6.3								
WRA	**Warramunga Arr**	**133.39**	**210**	PKP		PKPdf		14 04 41.8	+1.7
	comp=N,0.9nm,0.8s,baz=162,slow=1.8,SNR=16								
WRA				pPKP				14 05 12.9	
	comp=N,0.5nm,0.7s,baz=152,slow=1.6,SNR=2.9								
MKAR	**Makanchi Array**	**145.19**	**36**	PKPbc		PKPbc		14 05 03.6	+2.6
	comp=N,2.7nm,0.9s,baz=297,slow=2.7,SNR=13								
MKAR				pPKPbc				14 05 33.9	
	comp=N,2.5nm,0.7s,baz=322,slow=3.1,SNR=7.6								
MKAR				sPKPbc				14 05 46.3	
	comp=N,1.8nm,0.7s,baz=326,slow=4.4,SNR=4.2								
WMQ	**Urumqi**	**150.03**	**36**	*e*PKP		PKPdf		14 05 10.0	+1.5
MDJ	**Mudanjiang**	**152.15**	**331**	PKP		PKPdf		14 05 13.0	+1.3
CN2	**Changchun**	**154.53**	**336**	*e*PKP		PKPdf		14 05 18.8	+3.8

NEIC 29 13:50:15.9±0.2, 44.50N×116.00W, h5km, ML3.7, MW3.8(SLM), Error ellipse: s-maj=4.8km s-min=2.4km az=195.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BMO	**Blue Mountains**	**1.00**	**291**	*e*Pg		Pg		13 50 34.3	-1.5
BMO				*e*Pn		Pn		13 50 35.8	-0.6
BMO				*e*S		Sb		13 50 46.5	-2.1
LNOR	**Lincton Mounta**	**2.12**	**311**	P		Pn		13 50 52.4	-0.1
MCMT	**McKenzie Canyo**	**2.27**	**81**	*e*P		Pn		13 50 53.7	-0.9
DLMT	**Dillon**	**2.56**	**69**	*e*P		Pn		13 50 57.9	-0.9
MSO	**Missoula**	**2.74**	**31**	*e*P		Pn		13 51 00.6	-0.7
WVOR	**Wild Horse Val**	**2.82**	**224**	*e*Pn		Pn		13 51 02.3	-0.2
WIW	**Wooded Island**	**3.01**	**311**	P		Pn		13 51 04.4	-0.8
CHMT	**Chamberlain Mo**	**3.09**	**38**	*e*P		Pn		13 51 05.1	-1.2
HAWA	**Hanford**	**3.13**	**308**	*e*P		Pn		13 51 05.4	-1.4
GBL	**Gable Mountain**	**3.21**	**312**	P		Pn		13 51 07.3	-0.7
QLMT	**Earthquake Lak**	**3.27**	**83**	*e*P		Pn		13 51 08.2	-0.8
BOZ	**Bozeman (W)**	**3.30**	**68**	*e*P		Pn		13 51 08.2	-1.1
VIPM	**Ingram Point**	**3.31**	**272**	P		Pn		13 51 08.2	-1.2
GBB	**Gable Butte**	**3.31**	**311**	P		Pn		13 51 08.6	-0.8
RRI2	**Red Ridge**	**3.57**	**107**	*e*P		Pn		13 51 11.9	-1.2
CROR	**Criterion Ridg**	**3.59**	**279**	P		Pn		13 51 12.4	-1.0
HVU	**Hansel Valley**	**3.60**	**138**	*e*Pn		Pn		13 51 13.0	-0.5
YMR	**Madison River**	**3.60**	**86**	*e*P		Pn		13 51 12.9	-0.6
HRY	**Holter Researc**	**3.67**	**51**	*e*P		Pn		13 51 12.7	-1.8
MXC	**Moxie City**	**3.67**	**306**	P		Pn		13 51 14.2	-0.3
IMW	**Indian Meadow**	**3.69**	**98**	*e*P		Pn		13 51 13.9	-0.8
YFT	**Old Faithful**	**3.69**	**89**	Pn		Pn		13 51 14.5	-0.4
TPAW	**Teton Pass**	**3.78**	**104**	Pn		Pn		13 51 15.3	-0.7
NEW	**Newport**	**3.84**	**349**	*e*Pn		Pn		13 51 15.3	-1.8
MOOW	**Moose Ponds**	**3.85**	**99**	*e*Pn		Pn		13 51 16.0	-1.2
REDW	**Red Top Meadow**	**3.89**	**105**	*e*Pn		Pn		13 51 16.6	-1.1
SNOW	**Snow King Moun**	**3.92**	**104**	Pn		Pn		13 51 17.3	-0.8
AHID	**Auburn Hatcher**	**3.95**	**114**	Pn		Pn		13 51 18.5	-0.1
SAW	**Saint Andrews**	**3.98**	**325**	P		Pn		13 51 17.6	-1.4
LOHW	**Long Hollow**	**3.99**	**101**	*e*Pn		Pn		13 51 19.1	+0.1
LKWY	**Lake**	**4.00**	**87**	Pn		Pn		13 51 17.9	-1.3
MOD	**Modoc**	**4.08**	**232**	*e*Pn		Pn		13 51 17.5	-2.9
SPUT	**South Promonto**	**4.12**	**140**	Pn		Pn		13 51 20.3	-0.6
TBM	**Table Mountain**	**4.18**	**311**	P		Pn		13 51 21.2	-0.6
BGU	**Big Grassy Mou**	**4.19**	**148**	Pn		Pn		13 51 20.5	-1.4
LTY	**Liberty**	**4.27**	**312**	P		Pn		13 51 21.9	-1.2
HWUT	**Hardware Ranch**	**4.35**	**130**	Pn		Pn		13 51 23.7	-0.4
TCUT	**Toone Canyon**	**4.78**	**133**	Pn		Pn		13 51 30.5	+0.3
DUG	**Dugway**	**4.91**	**150**	Pn		Pn		13 51 30.2	-1.9
CTU	**Camp Tracy**	**4.93**	**139**	Pn		Pn		13 51 32.5	+0.1
DAU	**Daniels Canyon**	**5.38**	**138**	Pn		Pn		13 51 36.5	-2.4
NLU	**North Lily Min**	**5.39**	**146**	Pn		Pn		13 51 38.1	-0.9
YBH	**Yreka Blue Hor**	**5.64**	**243**	Pn		Pn		13 51 41.5	-1.0
BEKR	**Beckwourth**	**5.65**	**216**	Pn		Pn		13 51 40.6	-1.9
WDC	**Whiskeytown Da**	**6.22**	**233**	Pn		Pn		13 51 50.9	+0.3
KEBM	**Edson Butte**	**6.26**	**258**	Pn		Pn		13 51 51.7	+0.5
MNV	**Mina**	**6.28**	**196**	*e*Pn		Pn		13 51 48.0	-3.4
TMUT	**Trail Mountain**	**6.31**	**144**	Pn		Pn		13 51 54.6	+2.7
OHCM	**Honcut**	**6.58**	**220**	Pn		Pn		13 51 57.8	+2.0
MSU	**Marysvale**	**6.63**	**153**	Pn		Pn		13 51 55.4	-1.1
KHMM	**Horse Mountain**	**6.75**	**240**	Pn		Pn		13 51 59.5	+1.4
ARUT	**Antelope Range**	**6.98**	**163**	Pn		Pn		13 52 01.1	-0.2
MTUM	**Tungsten Hills**	**7.40**	**196**	Pn		Pn		13 52 08.5	+1.3

*KISR **29** 14:10:52.8±0.4,31.65N×49.65E,h33km,ML2.5*
*CSEM **29** 14:10:53.5±0.1,31.64N×49.68E,h20km,ML2.6,Error ellipse: s-maj=2.1km s-min=1.4km az=117.0*
*THR **29** 14:10:54.2±0.8,31.77N×49.72E,h14km±11km,ML2.6*

ISC 29 14:10:52.9±1.9, 31.62N±0.05×49.64E±0.08, h8km±12km, n7,σ0°§19/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.87**	**305**	*e*PG		**Pg**		**14 11 10.1**	**-0.2**
SHGR				*e*SG		**Sg**		**14 11 22.1**	**+0.1**
SHGR				AML		AML		14 11 25.0	
	comp=N,184nm,0.5s								
MIB	**Mutribah**	**2.68**	**228**	*e*P		**Pn**		**14 11 37.0**	**-0.2**
MIB				*e*S		**Sn**		**14 12 10.4**	**+0.2**
MIB				AML		AML		14 12 15.8	
	comp=Z,27nm,0.4s								
NASN	**Na'in**	**2.93**	**65**	*e*PN		**Pn**		**14 11 40.7**	**+0.1**
ASAO	**Ashtian**	**2.94**	**6**	*e*PN		**Pn**		**14 11 41.2**	**+0.

WEL 29 14:48:35.3±0.3, 36.66S×177.42E, h217$^{km}_{\pm 2}$, ML4.6/18, 7C-1D, Error ellipse: s-maj=3.6km s-min=3.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**1.13**	**236**	PN	P	14 49 07.6	-0.3
MXZ	**Matakaoa Point**	**1.15**	**142**	PN	P	14 49 10.0	+2.0
MXZ				SN	S	14 49 32.6	-0.9
MXZ	**Matakaoa Point**	**1.15**	**142**	P	P	14 49 10.2	+2.1
KUZ	**Kuaotunu**	**1.37**	**266**	PN	P	14 49 09.2	-0.6
KUZ				SN	S	14 49 35.2	-1.3
KUZ				SN	S	14 49 35.4	-1.1
KUZ	**Kuaotunu**	**1.37**	**266**	P	P	14 49 09.2	-0.6
MARZ	**Manawahe**	**1.46**	**204**	PN	P	14 49 10.5	-0.1
MARZ	**Manawahe**	**1.46**	**204**	P	P	14 49 10.5	0.0
EDRZ	**Edgecumbe**	**1.55**	**200**	PN	P	14 49 11.1	-0.2
EDRZ	**Edgecumbe**	**1.55**	**200**	P	P	14 49 11.2	-0.1
PUZ	**Puketiti**	**1.56**	**155**	PN	P	14 49 12.9	+1.5
PUZ	**Puketiti**	**1.56**	**155**	P	P	14 49 12.9	+1.5
LIRZ	**Lichensteins R**	**1.58**	**211**	PN	P	14 49 11.2	-0.3
LIRZ	**Lichensteins R**	**1.58**	**211**	P	P	14 49 11.5	-0.1
URZ	**Urewera**	**1.62**	**189**	⇑PN	P	14 49 11.2	-0.7
URZ				SN	S	14 49 39.8	-0.4
URZ	**Urewera**	**1.62**	**189**	P	P	14 49 11.2	-0.7
MWZ	**Matawai**	**1.68**	**177**	PN	P	14 49 12.3	-0.1
MWZ				SN	S	14 49 40.5	-0.7
MWZ	**Matawai**	**1.68**	**177**	P	P	14 49 12.5	0.0
MWZ				S	S	14 49 40.5	-0.6
TAZ	**Tarawera**	**1.73**	**205**	PN	P	14 49 12.4	-0.5
TAZ	**Tarawera**	**1.73**	**205**	P	P	14 49 12.7	-0.2
UTU	**Utuhina**	**1.81**	**212**	PN	P	14 49 13.2	-0.4
UTU	**Utuhina**	**1.81**	**212**	P	P	14 49 13.4	-0.2
PATZ	**Paeroa**	**1.96**	**208**	PN	P	14 49 14.2	-0.7
PATZ	**Paeroa**	**1.96**	**208**	P	P	14 49 14.4	-0.6
MTAZ	**Motutapu**	**2.02**	**266**	PN	P	14 49 14.9	-0.8
MTAZ	**Motutapu**	**2.02**	**266**	P	P	14 49 14.9	-0.8
OTAZ	**Otara**	**2.02**	**261**	PN	P	14 49 14.7	-1.0
OTAZ	**Otara**	**2.02**	**261**	P	P	14 49 14.9	-0.8
KAAZ	**Kauri Point**	**2.19**	**265**	PN	P	14 49 16.2	-1.2
KAAZ	**Kauri Point**	**2.19**	**265**	P	P	14 49 16.4	-1.0
WTAZ	**Waiatarua**	**2.30**	**262**	PN	P	14 49 17.1	-1.5
WTAZ	**Waiatarua**	**2.30**	**262**	P	P	14 49 17.2	-1.4
WHTZ	**Whakaora**	**2.32**	**210**	*e*PN	P	14 49 17.3	-1.5
WHTZ	**Whakaora**	**2.32**	**210**	P	P	14 49 17.6	-1.2
KNZ	**Kokohu**	**2.37**	**175**	PN	P	14 49 18.4	-0.9
KNZ	**Kokohu**	**2.37**	**175**	P	P	14 49 18.5	-0.8
WATZ	**Wairara**	**2.45**	**213**	PN	P	14 49 18.2	-2.0
WATZ	**Wairara**	**2.45**	**213**	P	P	14 49 18.3	-1.9
HATZ	**Hinemaiaia**	**2.47**	**205**	PN	P	14 49 18.1	-2.2
HATZ	**Hinemaiaia**	**2.47**	**205**	P	P	14 49 18.1	-2.3
RATZ	**Rangitukua**	**2.57**	**210**	PN	P	14 49 19.3	-2.1
RATZ	**Rangitukua**	**2.57**	**210**	P	P	14 49 19.3	-2.1
WCZ	**Waipu Caves**	**2.59**	**285**	⇓PN	P	14 49 20.3	-1.4
WCZ	**Waipu Caves**	**2.59**	**285**	*e*P	P	14 49 20.3	-1.3
BKZ	**Black Stump Fm**	**2.61**	**196**	⇑PN	P	14 49 19.3	-2.6
BKZ	**Black Stump Fm**	**2.61**	**196**	P	P	14 49 19.4	-2.5
RITZ	**Rihia Road**	**2.63**	**208**	PN	P	14 49 20.1	-2.0
KATZ	**Kakaramea**	**2.69**	**210**	PN	P	14 49 20.4	-2.4
KATZ	**Kakaramea**	**2.69**	**210**	P	P	14 49 20.5	-2.3
HIZ	**Hauiti**	**2.76**	**227**	PN	P	14 49 21.5	-2.0
HIZ	**Hauiti**	**2.76**	**227**	P	P	14 49 21.6	-1.9
KRVZ	**Karewarewa**	**2.81**	**209**	PN	P	14 49 21.7	-2.5
OTVZ	**Oturere**	**2.86**	**208**	⇑PN	P	14 49 22.2	-2.5
TWVZ	**Taurewa**	**2.88**	**212**	PN	P	14 49 22.5	-2.4
TWVZ	**Taurewa**	**2.88**	**212**	P	P	14 49 22.3	-2.6
NGZ	**Ngauruhoe**	**2.90**	**209**	PN	P	14 49 22.3	-2.8
NGZ	**Ngauruhoe**	**2.90**	**209**	P	P	14 49 22.8	-2.3
CNZ	**Chateau**	**2.94**	**210**	PN	P	14 49 23.0	-2.6
CNZ	**Chateau**	**2.94**	**210**	P	P	14 49 23.1	-2.5
WPVZ	**Whakapapa**	**2.95**	**210**	PN	P	14 49 23.2	-2.4
WPVZ	**Whakapapa**	**2.95**	**210**	P	P	14 49 23.3	-2.4
TUVZ	**Tukino**	**2.96**	**208**	PN	P	14 49 23.0	-2.8
TUVZ	**Tukino**	**2.96**	**208**	P	P	14 49 23.1	-2.7
FWVZ	**Far West T-bar**	**2.99**	**209**	PN	P	14 49 23.4	-2.8
FWVZ	**Far West T-bar**	**2.99**	**209**	P	P	14 49 23.5	-2.6
DRZ	**Dome Shelter**	**3.00**	**209**	*e*PN	P	14 49 24.5	-1.8
DRZ	**Dome Shelter**	**3.00**	**209**	P	P	14 49 24.2	-2.1
TRVZ	**Turoa**	**3.03**	**209**	PN	P	14 49 23.8	-2.8
WNVZ	**Wahianoa**	**3.03**	**208**	⇑PN	P	14 49 23.7	-3.0
WNVZ	**Wahianoa**	**3.03**	**208**	P	P	14 49 23.7	-3.0
MOVZ	**Moawhango**	**3.05**	**205**	PN	P	14 49 23.3	-3.5
MOVZ	**Moawhango**	**3.05**	**205**	P	P	14 49 23.3	-3.5
PKVZ	**Pokaka**	**3.10**	**211**	PN	P	14 49 24.4	-3.0
MTVZ	**Mangateitei**	**3.13**	**209**	PN	P	14 49 24.7	-3.1
VRZ	**Vera Road**	**3.24**	**220**	⇑PN	P	14 49 26.7	-2.5
VRZ	**Vera Road**	**3.24**	**220**	P	P	14 49 26.7	-2.4
PXZ	**Pawanui**	**3.40**	**187**	⇑PN	P	14 49 27.7	-3.3
RAEZ	**Rainy Point**	**3.55**	**221**	PN	P	14 49 30.6	-2.2
RAEZ	**Rainy Point**	**3.55**	**221**	P	P	14 49 28.2	-4.7
TSZ	**Takapari Road**	**3.59**	**198**	PN	P	14 49 30.7	-4.2
WAZ	**Wanganui**	**3.64**	**211**	PN	P	14 49 29.8	-4.1
WAZ	**Wanganui**	**3.64**	**211**	P	P	14 49 30.0	-3.9
NEZ	**North Egmont**	**3.70**	**224**	PN	P	14 49 32.6	-2.1
NEZ	**North Egmont**	**3.70**	**224**	P	P	14 49 32.6	-2.1
PKE	**Pukeiti**	**3.71**	**226**	PN	P	14 49 32.4	-2.4
PKE	**Pukeiti**	**3.71**	**226**	P	P	14 49 32.7	-2.1
NWEZ	**Newall Road**	**3.84**	**226**	PN	P	14 49 34.0	-2.2
NRZ	**Ngariki Road**	**3.84**	**225**	PN	P	14 49 34.1	-2.2
NRZ	**Ngariki Road**	**3.84**	**225**	*e*P	P	14 49 34.0	-2.3
BFZ	**Birch Farm**	**4.12**	**193**	PN	P	14 49 34.9	-4.9
BFZ	**Birch Farm**	**4.12**	**193**	*e*P	P	14 49 35.5	-4.3
MRZ	**Mangatainoka R**	**4.25**	**199**	⇑PN	P	14 49 36.0	-5.4
MRZ	**Mangatainoka R**	**4.25**	**199**	P	P	14 49 36.0	-5.4
KIW	**Kapiti Island**	**4.64**	**204**	PN	P	14 49 39.9	-6.2
KIW	**Kapiti Island**	**4.64**	**204**	P	P	14 49 40.3	-5.9
MTW	**Mount Morrison**	**4.74**	**198**	PN	P	14 49 41.3	-6.2
MTW	**Mount Morrison**	**4.74**	**198**	P	P	14 49 41.4	-6.1
CAW	**Cannon Point**	**4.81**	**202**	PN	P	14 49 42.0	-6.4
CAW	**Cannon Point**	**4.81**	**202**	P	P	14 49 42.0	-6.4
TRWZ	**Traveller**	**4.92**	**195**	PN	P	14 49 43.9	-5.9
DUWZ	**D'Urville Isla**	**4.96**	**212**	PN	P	14 49 43.6	-6.7
PAWZ	**Paruwai Farm**	**4.97**	**198**	PN	P	14 49 44.0	-6.3
PAWZ	**Paruwai Farm**	**4.97**	**198**	P	P	14 49 44.1	-6.2
MRW	**Makara Radio**	**5.04**	**204**	PN	P	14 49 44.3	-6.9
MRW	**Makara Radio**	**5.04**	**204**	P	P	14 49 44.7	-6.5
MSWZ	**Moikau Station**	**5.04**	**199**	PN	P	14 49 44.7	-6.6
MSWZ	**Moikau Station**	**5.04**	**199**	P	P	14 49 44.9	-6.4
WEL	**Wellington**	**5.06**	**203**	PN	P	14 49 45.2	-6.3
WEL	**Wellington**	**5.06**	**203**	P	P	14 49 45.2	-6.4
BHW	**Baring Head**	**5.14**	**202**	PN	P	14 49 45.6	-6.9
BHW	**Baring Head**	**5.14**	**202**	P	P	14 49 45.8	-6.8
TCW	**Tory Channel**	**5.17**	**207**	PN	P	14 49 45.8	-7.1
TCW	**Tory Channel**	**5.17**	**207**	P	P	14 49 46.2	-6.7
TUWZ	**Tuamarina**	**5.48**	**209**	PN	P	14 49 49.7	-7.2
NNZ	**Nelson**	**5.54**	**213**	PN	P	14 49 50.0	-7.6
NNZ	**Nelson**	**5.54**	**213**	P	P	14 49 50.1	-7.5
QRZ	**Quartz Range**	**5.65**	**221**	PN	P	14 49 51.7	-7.4
QRZ	**Quartz Range**	**5.65**	**221**	*e*P	P	14 49 51.6	-7.5
BSWZ	**Blackbirch Sta**	**5.75**	**208**	*e*PN	P	14 49 53.5	-6.8
BSWZ	**Blackbirch Sta**	**5.75**	**208**	P	P	14 49 53.5	-6.8
THZ	**Tophouse**	**6.19**	**213**	PN	P	14 49 58.1	-7.8
KHZ	**Kahutara**	**6.49**	**206**	PN	P	14 50 02.4	-7.4
KHZ	**Kahutara**	**6.49**	**206**	P	P	14 50 01.9	-7.9
DSZ	**Denniston Nort**	**6.70**	**219**	PN	P	14 50 03.6	-8.9
DSZ	**Denniston Nort**	**6.70**	**219**	*e*P	P	14 50 03.8	-8.7
LTZ	**Lake Taylor**	**7.29**	**211**	PN	P	14 50 11.7	-8.4
LTZ	**Lake Taylor**	**7.29**	**211**	*e*P	P	14 50 11.8	-8.3
CRLZ	**Canterbury Las**	**7.83**	**207**	PN	P	14 50 18.3	-8.7
CRLZ	**Canterbury Las**	**7.83**	**207**	*e*P	P	14 50 18.6	-8.5
MQZ	**McQueen's Vall**	**7.93**	**206**	PN	P	14 50 19.4	-9.0
MQZ	**McQueen's Vall**	**7.93**	**206**	P	P	14 50 19.6	-8.8
WVZ	**Waitaha Valley**	**8.22**	**217**	PN	P	14 50 23.0	-9.1
WVZ	**Waitaha Valley**	**8.22**	**217**	*e*P	P	14 50 23.4	-8.5
RPZ	**Rata Peaks**	**8.57**	**213**	PN	P	14 50 27.5	-9.1
RPZ	**Rata Peaks**	**8.57**	**213**	*e*P	P	14 50 28.1	-8.6
FOZ	**Fox Glacier**	**9.09**	**218**	*e*PN	P	14 50 32.9	-10
FOZ	**Fox Glacier**	**9.09**	**218**	*e*P	P	14 50 33.2	-10
LBZ	**Lake Benmore**	**9.48**	**213**	PN	P	14 50 39.7	-8.7
LBZ	**Lake Benmore**	**9.48**	**213**	*e*P	P	14 50 39.9	-8.5
ODZ	**Otahua Downs**	**9.82**	**209**	*e*PN	P	14 50 44.2	-8.6
ODZ	**Otahua Downs**	**9.82**	**209**	*e*P	P	14 50 45.1	-7.7
JCZ	**Jackson Bay**	**9.93**	**219**	PN	P	14 50 44.9	-9.2
JCZ	**Jackson Bay**	**9.93**	**219**	*e*P	P	14 50 45.0	-9.1
WKZ	**Wanaka**	**10.35**	**215**	PN	P	14 50 49.8	-10
WKZ	**Wanaka**	**10.35**	**215**	*e*P	P	14 50 50.0	-10
EAZ	**Earnscleugh**	**10.53**	**213**	PN	P	14 50 52.4	-10
EAZ	**Earnscleugh**	**10.53**	**213**	*e*P	P	14 50 52.7	-9.2
MSZ	**Milford Sound**	**10.77**	**219**	*e*PN	P	14 50 56.4	-8.6
MSZ	**Milford Sound**	**10.77**	**219**	*e*P	P	14 50 55.9	-9.0
TUZ	**Tuapeka**	**10.98**	**210**	*e*PN	P	14 50 59.6	-7.9
TUZ	**Tuapeka**	**10.98**	**210**	*e*P	P	14 51 00.0	-7.6
MLZ	**Mavora Lakes**	**11.14**	**216**	*e*PN	P	14 51 01.0	-8.6
MLZ	**Mavora Lakes**	**11.14**	**216**	*e*P	P	14 51 01.8	-7.8
QSPA	**South Pole Qui**	**53.47**	**180**	*e*P	P	14 57 31.7	-2.8

*CSEM **29** 14:49:15.9±0.6, 38.56N×28.60W, h5$^{km}_{\pm 8}$, MD2.8, Error ellipse: s-maj=3.6km s-min=2.2km az=39.0, After PDA*
*PDA **29** 14:49:15.9±0.6, 38.56N×28.60W, h5$^{km}_{\pm 8}$, MD2.8, Error ellipse: s-maj=3.6km s-min=2.2km az=39.0*

SVSA 29 14:49:15.9±0.6, 38.56N×28.60W, h5$^{km}_{\pm 8}$, MD2.8, Error ellipse: s-maj=3.6km s-min=2.2km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.04**	**219**	*e*S	Sg	14 49 17.7	-0.2
CALA	**Caldeira**	**0.09**	**284**	*e*P	Pg	14 49 17.6	-0.2
CALA				*e*S	Sg	14 49 19.3	+0.2
PCND	**Candelaria**	**0.14**	**131**	*e*S	Sg	14 49 22.6	+1.9
PICO	**Pico**	**0.15**	**114**	*e*P	Pg	14 49 18.6	-0.3
PICO				*e*S	Sg	14 49 21.0	0.0
PTCA	**Ponta do Capel**	**0.16**	**279**	*e*S	Sg	14 49 22.5	+1.1
ROSA	**Rosais**	**0.32**	**60**	*e*P	Pg	14 49 21.8	-0.5
ROSA				*e*S	Sg	14 49 25.8	-0.8

CASC 29 14:49:55.6±1.6, 10.57N×86.44W, h18$^{km}_{\pm 7}$, MD4.0, ML3.5, 10C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.91**	**119**	*e*P	Pb	14 50 12.0	-0.6
SSNN	**San Juan del S**	**0.92**	**39**⇑	*e*P	Pb	14 50 13.1	+0.4
SSNN				*e*P		14 50 13.1	
LIM1	**Limonal**	**1.18**	**84**	*i* P	Pb	14 50 16.4	-0.7
LIM1				*i* S	Sb	14 50 31.2	-0.7
MADN	**Villa Maderas**	**1.22**	**47**⇑	*e*P	Pb	14 50 17.9	+0.1
CONN	**Concepcion**	**1.27**	**39**⇑	*e*P	Pn	14 50 18.2	-0.4
MASN	**Masaya**	**1.44**	**11**	*e*P	Pn	14 50 21.1	+0.1
TICN	**Ticuantepe**	**1.47**	**8**⇑	*e*P	Pn	14 50 21.0	-0.4
JCR	**Jicaral**	**1.49**	**119**	*e*P	Pn	14 50 20.6	-1.1
XAVN	**Gruta Xavier**	**1.57**	**4**⇑	*e*P	Pn	14 50 22.5	-0.4
MGAN	**Managua**	**1.58**	**7**⇓	*e*P	Pn	14 50 22.3	-0.7
MGAN				*e*S	Sn	14 50 43.8	+0.7
MGAN				*i*		14 51 04.6	
	comp=N,622nm,0.5s						
COPN	**Copaltepe**	**1.61**	**355**⇓	*e*P	Pn	14 50 22.2	-1.2
APYN	**Apoyeque**	**1.66**	**3**⇓	*e*P	Pn	14 50 23.5	-0.6
FORC	**Fortuna**	**1.75**	**93**	*e*P	Pn	14 50 25.4	0.0
MOMJ	**Momotombo**	**1.83**	**357**⇑	*e*P	Pn	14 50 25.4	-1.1
MIRN	**Miramar**	**1.88**	**352**⇑	*e*P	Pn	14 50 26.0	-1.2
LEON	**Leon**	**1.89**	**347**⇑	*e*P	Pn	14 50 25.9	-1.5
PYTN	**Playitas**	**1.99**	**11**⇑	*e*P	Pn	14 50 28.0	-0.9
CGA2	**Cerro Gallo 2**	**2.02**	**106**	*e*P	Pn	14 50 29.2	+0.2
TEL3	**Telica 3**	**2.03**	**349**⇑	*e*P	Pn	14 50 28.4	-1.0
TEL3				*i*		14 51 00.9	
	comp=Z,596nm,0.3s						
VPS2	**Volcan Poas 2**	**2.21**	**100**	*e*P	Pn	14 50 32.4	+0.4
LAJ	**Bijagual**	**2.39**	**107**	*e*P	Pn	14 50 29.2	-5.4
SJS	**Escuela Geolog**	**2.43**	**105**	*e*S	Sn	14 51 04.5	-0.3
URSC	**Urasca**	**2.72**	**105**	*e*P	Pn	14 50 39.5	+0.1
BUS	**Buena Vista**	**2.83**	**111**	*e*P	Pn	14 50 41.0	+0.1

DHMR 29 15:17:10.4±2.4, 12.67N×40.56E, h3$^{km}_{\pm 146}$, ML4.1, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.51**	**80**	*i* P	Pn	15 18 08.6	+1.6
TRBA				*i* S	Sn	15 18 53.9	+4.4
TRBA				AML	AML	15 19 14.4	
	comp=N,1μm,0.6s						
UDYN	**Al 'Udayn**	**3.56**	**68**	*i* P	Pn	15 18 09.4	+1.8
UDYN				*i* S	Sn	15 18 55.5	+4.7
UDYN				AML	AML	15 19 26.5	
	comp=Z,785nm,0.8s						
DHBB	**Dhamar BB**	**4.17**	**63**	*i* P	Pn	15 18 17.3	+0.8
DHBB				*i* S	Sn	15 19 10.2	+3.7
LBOS		**4.72**	**75**	*i* P	Pn	15 18 22.8	-1.3
LBOS				*i* S	Sn	15 19 19.2	-0.9
BDHA	**Al Bayda'**	**5.04**	**75**	*i* P	Pn	15 18 27.3	-1.5
BDHA				*i* S	Sn	15 19 27.1	-1.3

*NEIC **29** 15:31:17.8, 16.49N×96.02W, h76km, mb3.9/4, MD4.5(MEX), After MEX.*
*MEX **29** 15:31:17.8±0.9, 16.50N×95.98W, h72$^{km}_{\pm 10}$, MD4.5*

ISC 29 15:31:15.9±0.5, 16.52N±0.05×96.01W±0.03, h75$^{km}_{\pm 5}$, n18, σ0^{s}95/28, mb4.0/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.75**	**187**	*i* P	**P**	**15 31 32.1**	**+0.2**
HUIG				*i* S	**S**	**15 31 43.2**	**-0.6**
OXX	**Oaxaca**	**0.89**	**309**	*i* P	**P**	**15 31 34.5**	**+1.1**
OXX				*i* S	**S**	**15 31 47.0**	**+0.5**
VHO	**Vista Hermosa**	**0.89**	**308**	*i* P	**P**	**15 31 34.6**	**+1.2**
VHO				*i* S	**S**	**15 31 47.0**	**+0.5**
CMIG	**Matias Romero**	**1.22**	**62**	*i* P	**P**	**15 31 37.5**	**-0.2**
CMIG				*i* S	**S**	**15 31 52.2**	**-1.8**
PNIG	**Pinotepa**	**2.04**	**267**	*i* P	**P**	**15 31 49.0**	**+0.2**
PNIG				*i* S	**S**	**15 32 11.5**	**-1.5**
TUIG	**Tuzandepetl**	**2.14**	**45**	*i* P	**P**	**15 31 50.4**	**+0.2**
TUIG				*i* S	**S**	**15 32 15.5**	**0.0**
PPM	**Popocatepetl**	**3.56**	**316**	*i* P	**P**	**15 32 10.5**	**+0.5**
CCIG	**Comitan**	**3.72**	**93**	*i* P	**P**	**15 32 12.7**	**+0.4**
CCIG				*i* S	**S**	**15 32 56.3**	**+1.0**
YAIG	**Yautepec**	**3.73**	**309**	*i* P	**P**	**15 32 12.6**	**+0.1**
YAIG				*i* S	**S**	**15 32 54.1**	**-1.4**
ACX	**Acapulco**	**3.76**	**276**	*i* P	**P**	**15 32 11.5**	**-1.4**
PLIG	**Platanillo**	**3.82**	**300**	*e*P	**P**	**15 32 13.0**	**-0.7**
PLIG				*i* S	**S**	**15 32 57.3**	**-0.4**
CAIG	**El Cayaco**	**4.11**	**278**	*i* P	**P**	**15 32 17.9**	**+0.1**
CAIG				*i* S	**S**	**15 33 06.7**	**+1.7**
ANMO	**Albuquerque** 3.4nm,0.7s	**20.60**	**335**	*e*P	**P**	**15 35 52.9**	**+1.7**
SDCO	**Great Sand Dun** 2.6nm,0.8s,mb3.6	**22.74**	**340**	*e*P	**P**	**15 36 15.9**	**+3.5**
WCI	**Wyandotte Cave** 21nm,0.8s,mb4.5	**23.25**	**20**	*e*P	**P**	**15 36 16.9**	**-0.5**
FWV	**Forest Hill**	**24.90**	**30**	*e*P	**P**	**15 36 32.3**	**-1.0**
SAML	**Samuel** 1.9nm,0.9s,mb3.9	**41.17**	**126**	P	**P**	**15 38 55.5**	**+0.8**
BORG	**Borgarnes** 182nm,1.6s	**68.66**	**26**	*e*P	**P**	**15 42 11.9**	**-1.1**

*BJI **29** 15:34:30.3, 10.74S×162.76E, h61km, mB5.1, mb4.9*
*MOS **29** 15:34:30.1±1.5, 10.79S×162.11E, h46km, mb5.2/14, Error ellipse: s-maj=10.4km s-min=9.6km az=106.6*
*NEIC **29** 15:34:33.1±1.3, 10.91S×162.03E, h62km±11km, mb5.0/27, Error ellipse: s-maj=10.6km s-min=8.2km az=94.0*
*IDC **29** 15:34:33.7±2.8, 10.97S×161.98E, h62km±25km, mb4.2/10, mb1 4.4/13, mb1mx4.4/17, mbtmp4.6/13, ML4.2/3, MS5.2/1, Ms1 5.2/1, ms1mx3.8/23, Error ellipse: s-maj=24.5km s-min=18.4km az=102.0*

ISC 29 15:34:32.4±1.6, 10.94S±0.06×162.05E±0.08, h69$^{km}_{\pm 13}$, n85, σ1^{s}19/91, mb4.7/42, 1C-7D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.55**	**306**	P	**P**	**15 35 12.7**	**+0.2**
	333nm,0.3s,baz=155,slow=5.8,SNR=221						
HNR				S	**S**	**15 35 47.1**	**+4.7**
	648nm,0.3s,baz=165,slow=20,SNR=11						
HNR	**Honiara**	**2.55**	**306**	*e*Pn	**P**	**15 35 12.2**	**-0.3**
HNR				*e*Sn	**S**	**15 35 45.9**	**+3.5**
HNR				S	**S**	**15 35 47.1**	**+4.7**
HNR	**Honiara**	**2.55**	**306**	*e*P	**P**	**15 35 12.2**	**-0.3**
HNR				S	**S**	**15 35 47.1**	**+4.7**
DZM	**Mont Dzumac**	**11.84**	**160**	*e*P	**P**	**15 37 18.2**	**-2.2**
DZM				*e*S	**S**	**15 39 21.3**	**-10**
DZM	**Mont Dzumac**	**11.84**	**160**	P	**P**	**15 37 18.2**	**-2.2**
	6.6nm,0.3s,baz=25,slow=18,SNR=115						
DZM				S	**S**	**15 39 23.3**	**-8.3**
	0.9nm,0.3s,baz=58,slow=19,SNR=3.0						
DZM	**Mont Dzumac**	**11.84**	**160**	*e*P	**P**	**15 37 18.2**	**-2.2**
DZM				*e*S	**S**	**15 39 21.2**	**-10**
PMG	**Port Moresby**	**14.73**	**275**	P	**P**	**15 37 59.1**	**+0.6**
	0.5nm,0.3s,baz=111,slow=5.5,SNR=12						
PMG	**Port Moresby** 77nm,1.0s	**14.73**	**275**	*e*P	**P**	**15 37 58.9**	**+0.4**
PMG	**Port Moresby**	**14.73**	**275**	*e*P	**P**	**15 37 58.9**	**+0.4**
PMG				pmax	pmax		
	comp=Z,77nm,1.0s						
CTA	**Charters Tower**	**17.71**	**237**	⇓*i*P	**P**	**15 38 38.4**	**+2.3**
	comp=Z,83nm,1.1s						
CTA	**Charters Tower**	**17.71**	**237**	P	**P**	**15 38 38.8**	**+2.7**
	comp=Z,2.1nm,0.3s,baz=68,slow=13,SNR=49						
CTA	**Charters Tower**	**17.71**	**237**	⇓*i*P	**P**	**15 38 38.4**	**+2.3**
CTA				pmax	pmax		
	comp=Z,83nm,1.1s						
CTAO	**Charters Tower**	**17.71**	**237**	*e*P	**P**	**15 38 38.4**	**+2.4**
	comp=Z,158nm,1.1s						
CTAO	**Charters Tower**	**17.71**	**237**	*e*P	**P**	**15 38 38.4**	**+2.3**
CTAO				pmax	pmax		
	comp=Z,158nm,1.1s						
WRAB	**Tennant Creek**	**28.12**	**248**	*e*P	**P**	**15 40 18.5**	**-1.6**
	comp=Z,21nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**28.12**	**248**	*e*P	**P**	**15 40 19.8**	**-0.4**
WB2	**Warramunga Arr**	**28.12**	**248**	⇓*i*P	**P**	**15 40 19.7**	**-0.5**
STKA	**Stephens Creek**	**28.12**	**219**	⇓*i*P	**P**	**15 40 20.4**	**+0.3**
	comp=Z,6.1nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**28.12**	**219**	P	**P**	**15 40 19.1**	**-1.0**
	comp=Z,7.7nm,0.7s,mb4.3,baz=27,slow=9.4,SNR=18						
WRA	**Warramunga Arr**	**28.13**	**248**	P	**P**	**15 40 19.9**	**-0.4**
	comp=Z,6.4nm,0.7s,mb4.3,baz=76,slow=9.0,SNR=50						
KAKA	**Kakadu**	**29.02**	**264**	⇓*i*P	**P**	**15 40 47.5**	**+19**
	comp=Z,22nm,0.5s,mb5.0						
GUMO	**Guam**	**29.74**	**325**	P	**P**	**15 40 31.1**	**-3.5**
	comp=Z,124nm,1.4s,mb5.3						
GUMO	**Guam**	**29.74**	**325**	P	**P**	**15 40 31.2**	**-3.4**
GUMO				pmax	pmax		
	comp=Z,124nm,1.4s,mb5.3						
TOO	**Toolangi**	**30.41**	**207**	*e*P	**P**	**15 40 41.9**	**+1.5**
	comp=Z,8.1nm,0.6s,mb4.5						
TOO	**Toolangi**	**30.41**	**207**	*e*P	**P**	**15 40 41.9**	**+1.5**
TOO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**35.91**	**254**	⇓*i*P	**P**	**15 41 27.6**	**-0.5**
	comp=Z,31nm,0.5s,mb5.5						
FORT	**Forrest**	**37.17**	**233**	⇑*i*P	**P**	**15 41 39.5**	**+0.9**
	comp=Z,64nm,0.7s,mb5.7						
MBWA	**Marble Bar**	**41.80**	**251**	*e*P	**P**	**15 42 17.3**	**+0.3**
	comp=Z,57nm,1.0s,mb5.3						
KLBR	**Kellerberrin**	**45.72**	**236**	⇓*i*P	**P**	**15 42 48.7**	**+0.1**
	comp=Z,36nm,1.2s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.53**	**235**	*e*P	**P**	**15 42 55.3**	**+0.3**
	comp=Z,28nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.53**	**235**	*e*P	**P**	**15 42 55.3**	**+0.

KKN	**Kakani**	**83.58**	**300**	*e*P		**P**	**15 46 54.0**	**-0.9**
DMN	**Daman**	**83.68**	**300**	*e*P		**P**	**15 46 55.4**	**0.0**
	comp=Z,25nm,1.1s,mb5.0							
GKN	**Gorkha**	**84.19**	**300**	*e*P		**P**	**15 46 57.6**	**-0.4**
	comp=Z,12nm,0.8s,mb4.8							
COLA	**College**	**84.35**	**19**	*e*P		**P**	**15 46 57.0**	**-0.9**
	comp=Z,15nm,0.9s,mb4.8							
COLA				*e*			15 47 07.1	
COLA	**College**	**84.35**	**19**	*e*P		**P**	**15 46 57.0**	**-0.9**
COLA				*e*			15 47 07.1	
COLA				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.8							
ILAR	**Eielson Array**	**84.60**	**20**	P		**P**	**15 46 59.8**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=240,slow=5.3,SNR=18							
KOLN	**Koldanda**	**85.01**	**299**	*e*P		**P**	**15 47 01.6**	**-0.5**
	comp=Z,9.1nm,0.9s,mb4.7							
TIXI	**Tiksi**	**85.33**	**350**	*e*P		**P**	**15 47 03.8**	**+1.2**
TIXI				pmax	pmax			
	comp=Z,16nm,1.7s,mb4.7							
YBH	**Yreka Blue Hor**	**86.44**	**46**	P		**P**	**15 47 10.7**	**+2.0**
	comp=Z,2.9nm,0.9s,mb4.2,baz=273,slow=8.4,SNR=5.3							
DAWY	**Dawson**	**86.80**	**22**	*e*P		**P**	**15 47 12.3**	**+2.3**
DAWY				*e*			15 47 21.4	
MKAR	**Makanchi Array**	**90.97**	**317**	P		**P**	**15 47 29.6**	**-0.5**
	comp=Z,1.1nm,0.7s,mb4.1,baz=99,slow=6.0,SNR=9.7							
ELK	**Elko**	**91.60**	**49**	P		**P**	**15 47 35.0**	**+1.7**
	comp=Z,1.7nm,0.7s,mb4.4,baz=248,slow=6.2,SNR=6.3							

*BJI **29** 15:42:16.3, 20.00S×177.80W, h514km, mB4.5, mb4.5*
*NEIC **29** 15:42:16.3±1.0, 19.98S×177.79W, h515km±11km, mb4.4/18, Error ellipse: s-maj=15.1km s-min=8.1km az=144.0*
*IDC **29** 15:42:17.3±1.9, 20.13S×177.69W, h529km±22km, mb3.7/11, mb1 3.9/13, mb1mx3.7/19, mbtmp4.6/13, Error ellipse: s-maj=22.6km s-min=12.7km az=148.0*

ISC 29 15:42:14.4±1.0, 20.00S±0.10×177.80W±0.09, h501km±12km, n71, σ1§00/41, mb4.2/27, 1C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**8.36**	**44**	P		**P**	**15 44 17.2**	**+1.4**
	15nm,0.3s,baz=225,slow=1.4,SNR=18							
AFI				S		**S**	**15 45 51.8**	**-0.3**
	17nm,0.3s,baz=202,slow=23,SNR=12							
AFI	**Afiamalu**	**8.36**	**44**	*e*Pn		**P**	**15 44 16.7**	**+0.9**
	46nm,0.4s							
AFI				*e*Sn		**S**	**15 45 50.4**	**-1.7**
DZM	**Mont Dzumac**	**14.86**	**259**	P		**P**	**15 45 29.9**	**+6.4**
	0.9nm,0.3s,baz=98,slow=22,SNR=9.5							
URZ	**Urewera**	**18.72**	**193**	P		**P**	**15 46 01.2**	**-0.2**
	5.2nm,0.3s,baz=320,slow=3.7,SNR=38							
RPZ	**Rata Peaks**	**25.42**	**199**	P		**P**	**15 47 01.7**	**-1.2**
	6.4nm,0.5s,mb4.3,baz=18,slow=6.6,SNR=7.3							
CTA	**Charters Tower**	**33.73**	**264**	P		**P**	**15 48 16.1**	**+1.3**
	13nm,0.5s,mb4.6,baz=98,slow=10,SNR=37							
CTAO	**Charters Tower**	**33.73**	**264**	*e*P		**P**	**15 48 16.0**	**+1.2**
	12nm,0.5s,mb4.6							
PMG	**Port Moresby**	**35.42**	**282**	P		**P**	**15 48 30.4**	**+1.4**
	7.0nm,0.8s,mb4.2,baz=71,slow=3.8,SNR=3.9							
PMG	**Port Moresby**	**35.42**	**282**	*e*P		**P**	**15 48 29.0**	**0.0**
	16nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**38.18**	**244**	P		**P**	**15 48 52.7**	**+1.3**
	3.3nm,1.0s,mb3.7,baz=29,slow=6.7,SNR=4.0							
STKA	**Stephens Creek**	**38.18**	**244**	*e*P		**P**	**15 48 52.2**	**+0.7**
WB2	**Warramunga Arr**	**44.85**	**262**	⇓*i*P		**P**	**15 49 44.5**	**-0.4**
WRAB	**Tennant Creek**	**44.85**	**262**	*e*P		**P**	**15 49 44.5**	**-0.4**
	15nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**44.86**	**262**	P		**P**	**15 49 44.7**	**-0.3**
	7.7nm,0.5s,mb4.3,baz=97,slow=7.9,SNR=293							
WRA				PcP		PcP	15 51 14.9	-1.7
	1.3nm,0.7s,baz=94,slow=3.3,SNR=5.6							
FORT	**Forrest**	**49.67**	**246**	⇑*i*P		**P**	**15 50 20.8**	**-0.6**
	17nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.28**	**262**	⇓*i*P		**P**	**15 50 47.4**	**-0.5**
	5.3nm,0.4s,mb4.2							
FITZ	**Fitzroy Crossi**	**53.28**	**262**	P		**P**	**15 50 47.6**	**-0.3**
	6.8nm,0.5s,mb4.2,baz=142,slow=3.6							
MBWA	**Marble Bar**	**58.15**	**257**	*e*P		**P**	**15 51 20.4**	**-1.2**
	8.9nm,0.7s,mb4.2							
SBA	**Scott Base**	**58.38**	**184**	*e*P		**P**	**15 51 23.7**	**+1.3**
	3.1nm,0.8s,mb3.7							
YSS	**Yuzh-Sakhalins**	**75.54**	**333**	*e*P		**P**	**15 53 08.0**	**-0.2**
	15nm,0.9s,mb4.5							
CMB	**Columbia Colle**	**78.97**	**43**	*e*P		**P**	**15 53 26.9**	**0.0**
	4.2nm,0.9s,mb4.0							
YBH	**Yreka Blue Hor**	**79.78**	**39**	P		**P**	**15 53 31.7**	**+0.8**
	4.2nm,0.8s,mb4.0,baz=148,slow=5.9							
MDJ	**Mudanjiang**	**80.22**	**325**	P		**P**	**15 53 34.5**	**+1.3**
MDJ				AMB		AMB		
	comp=Z,11nm,0.8s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,48nm,4.4s							
MDJ	**Mudanjiang**	**80.22**	**325**	*e*P		**P**	**15 53 33.3**	**+0.1**
	comp=Z,15nm,1.0s,mb4.5							
PMSA	**Palmer Station**	**81.67**	**157**	*e*P		**P**	**15 53 48.2**	**+8.0**
	comp=Z,7.5nm,0.8s,mb4.3							
CN2	**Changchun**	**82.03**	**322**	*e*P		**P**	**15 53 44.8**	**+2.4**
WVOR	**Wild Horse Val**	**82.63**	**40**	*e*P		**P**	**15 53 45.8**	**+0.3**
	comp=Z,8.0nm,1.1s,mb4.2							
MA2	**Magadan**	**83.36**	**344**	*e*P		**P**	**15 53 47.9**	**-0.9**
	comp=Z,22nm,1.2s,mb4.6							
ELK	**Elko**	**83.79**	**43**	P		**P**	**15 53 51.8**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.2,baz=205,slow=6.9,SNR=4.0							
ENH	**Enshi**	**85.92**	**304**	*e*P		**P**	**15 54 01.0**	**-1.0**
	comp=Z,20nm,1.2s,mb4.6							
SRU	**San Rafael**	**86.04**	**46**	*e*P		**P**	**15 53 57.6**	**-4.7**
	comp=Z,10nm,1.2s,mb4.3							
TXAR	**Lajitas Array**	**86.63**	**57**	P		**P**	**15 54 06.5**	**+1.1**
	comp=Z,0.8nm,0.3s,mb3.9,baz=225,slow=7.1,SNR=6.2							
ANMO	**Albuquerque**	**86.94**	**51**	P		**P**	**15 54 04.9**	**-1.8**
	comp=Z,2.6nm,1.0s,mb3.9							
MCMT	**McKenzie Canyo**	**87.45**	**40**	*e*P		**P**	**15 54 09.8**	**+0.9**
COLA	**College**	**87.68**	**12**	*e*P		**P**	**15 54 08.5**	**-1.0**
	comp=Z,4.0nm,0.6s,mb4.3							
ILAR	**Eielson Array**	**87.79**	**13**	P		**P**	**15 54 08.8**	**-1.1**
	comp=Z,2.2nm,0.7s,mb4.0,baz=224,slow=5.6,SNR=20							
PDAR	**Pinedale Array**	**88.47**	**43**	P		**P**	**15 54 13.8**	**0.0**
	comp=Z,1.5nm,0.6s,mb3.9,baz=200,slow=2.7,SNR=11							
KMI	**Kunming**	**89.30**	**297**	P		**P**	**15 54 19.5**	**+1.5**
KMI				AMB		AMB		
	comp=Z,8.0nm,0.9s,mb4.5							
LZH	**Lanzhou**	**92.62**	**307**	*e*P		**P**	**15 54 32.0**	**-1.1**
LZH				AP		pP	15 56 28.5	+2.5
LZH				XP		sP	15 57 20.3	+4.5
LZH				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.7							
MKAR	**Makanchi Array**	**111.00**	**314**	PKiKP			15 59 49.3	
	comp=Z,0.8nm,0.6s,baz=175,slow=0.7,SNR=8.3							
ARCES	**ARCESS Array B**	**128.47**	**350**	PKP		PKPdf	16 00 22.0	-1.1
	comp=Z,2.1nm,0.6s,baz=12,slow=1.5,SNR=18							
NB2	**NORSAR Subarra**	**138.51**	**353**	PKPabc		PKPdf	16 00 43.5	+1.5
	comp=Z,1.6nm,0.7s,baz=15,slow=4.0							
NOA	**NORSAR Array B**	**138.51**	**353**	PKP		PKPdf	16 00 43.7	+1.7
	comp=Z,1.4nm,0.8s,baz=16,slow=4.1,SNR=3.5							
AKASG	**Malin Array Be**	**142.67**	**332**	PKhKP			16 00 45.5	
	comp=Z,3.3nm,0.4s,baz=42,slow=4.5,SNR=33							
BSEG	**Bad Segeberg**	**145.56**	**352**	*e*PKPbc		PKPbc	16 00 56.5	+0.9
BR131	**Keskin Array S**	**146.65**	**313**	*e*PKPdf		PKPdf	16 00 59.5	+2.8
BRTR	**Keskin Array B**	**146.65**	**313**	PKPbc		PKPbc	16 00 59.7	+1.0
	comp=Z,4.2nm,0.7s,baz=136,slow=5.1,SNR=15							
STHS	**Stebnicka Huta**	**146.94**	**337**	*e*PKP		PKPdf	16 01 00.0	+3.2
KOLS	**Kolonicke sedl**	**146.94**	**335**	*e*PKP		PKPdf	16 01 00.8	+4.0
KSP	**Ksiaz**	**147.27**	**343**	*e*P		PKPdf	16 01 01.5	+4.2
CLZ	**Clausthal**	**147.59**	**351**	*e*PKPbc		PKPdf	16 01 02.3	+4.5
CLL	**Collm**	**147.62**	**347**	⇓*i*PKP1		PKPdf	16 01 02.0	+4.2
CLL				*i* PKP2		PKPab	16 01 05.8	-1.9
UPC	**Upice**	**147.65**	**343**	*e*PKPbc		PKPdf	16 01 02.5	+4.6
UPC				*e*PKPab		PKPab	16 01 06.9	-1.0
DPC	**Dobruska-Polom**	**147.71**	**343**	*e*PKPbc		PKPdf	16 01 02.9	+4.9
DPC				*e*PKPab		PKPab	16 01 07.3	-0.8
BRG	**Berggiesshubel**	**147.83**	**346**	*i* P		PKPdf	16 01 02.9	+4.7
BRG				*i*			16 01 07.1	
KECS	**Kecovo**	**147.99**	**337**	*e*P		PKPdf	16 01 03.3	+4.8
KECS				*e*			16 04 42.9	
PVCC	**Panska Ves**	**148.00**	**345**	*e*PKPbc		PKPdf	16 01 03.3	+4.8
PRU	**Pruhonice**	**148.51**	**345**	*e*PKPbc		PKPdf	16 01 04.3	+5.0
PRU				*e*PKPab		PKPab	16 01 10.0	-1.3
MOX	**Moxa**	**148.53**	**348**	*i* P		PKPdf	16 01 04.6	+5.3
MOX	**Moxa**	**148.53**	**348**	*e*PKP		PKPdf	16 01 04.6	+5.3
VYHS	**Vyhne**	**148.57**	**339**	*e*PKP		PKPdf	16 01 04.1	+4.6
NKC	**Novy Kostel**	**148.76**	**347**	*e*PKPbc		PKPdf	16 01 05.1	+5.4
TREC	**Trest**	**148.90**	**343**	*e*PKPbc		PKPdf	16 01 05.0	+5.0
SMOL	**Smolenice**	**149.02**	**340**	*e*PKP		PKPdf	16 01 06.7	+6.5
TNS	**Taunus Mts**	**149.44**	**352**	*e*PKPbc		PKPdf	16 01 07.0	+6.2
GRA1	**Grafenberg Arr**	**149.52**	**348**	*e*PKPbc		PKPdf	16 01 06.9	+6.0
GRF	**Grafenberg Arr**	**149.52**	**348**	*e*PKP		PKPdf	16 01 06.9	+6.0
KHC	**Kasperske Hory**	**149.54**	**345**	*e*PKPbc		PKPdf	16 01 07.0	+6.0
KHC				*e*PKPab		PKPab	16 01 14.6	-1.0
GEC2	**GERESS Array S**	**149.78**	**345**	*e*PKPbc		PKPdf	16 01 07.5	+6.1
GERES	**GERESS Array B**	**149.78**	**345**	PKPbc		PKPdf	16 01 07.4	+6.0
	comp=Z,5.9nm,0.8s,baz=45,slow=3.8,SNR=24							
BFO	**Black Forest**	**151.31**	**351**	*e*PKPbc		PKPdf	16 01 10.9	+7.2

*NNC **29** 15:43:04.7±6.1, 36.71N×70.32E, h101km±167km, mpv3.5, Error ellipse: s-maj=64.3km s-min=55.7km az=110.0*

ISC 29 15:43:03.5±2.2, 36.7N±0.1×70.3E±0.2, h100km, n8, σ0§30/10, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**6.00**	**25**	P		**P**	**15 44 31.8**	**+0.6**
	SNR=31							
KK31	**Karatay Array**	**6.38**	**1**	P		**P**	**15 44 36.4**	**-0.1**
	0.9nm,0.3s,baz=171,slow=9.7,SNR=50							
KK31				⇑S		**S**	**15 45 48.3**	**-0.2**
	1.6nm,0.5s							
UCH	**Uchtor**	**6.38**	**29**	P		**P**	**15 44 36.7**	**+0.2**
	SNR=16							
EKS2	**Erkin-Say**	**6.51**	**23**	P		**P**	**15 44 38.3**	**+0.1**
	SNR=9.1							
KZA	**Kyzart**	**6.57**	**34**	P		**P**	**15 44 38.9**	**-0.2**
	SNR=7.6							
AAK	**Ala-Archa**	**6.73**	**27**	⇓P		**P**	**15 44 40.9**	**-0.3**
	2.3nm,0.5s							
AAK				⇓S		**S**	**15 45 57.1**	**+0.2**
	3.1nm,0.5s							
TKM2	**Tokmak 2**	**7.40**	**32**	P		**P**	**15 44 50.0**	**-0.5**
	SNR=8.0							
AB31	**Akbulak array**	**14.64**	**332**	P		**P**	**15 46 26.6**	**+0.2**
	0.5nm,0.4s,baz=150,slow=13,SNR=11							

CASC 29 15:45:35.2±1.8, 10.65N×86.43W, h35km±999km, MD3.5, 5C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SSNN	**San Juan del S**	**0.85**	**42**	⇑*e*P		P	15 45 50.7	-0.1
MADN	**Villa Maderas**	**1.16**	**50**	⇑*e*P		P	15 45 55.5	+0.3
CONN	**Concepcion**	**1.20**	**41**	⇑*e*P		P	15 45 54.5	-1.2
COPN	**Copaltepe**	**1.52**	**354**	⇑*e*P		P	15 45 59.9	-0.5
JCR	**Jicaral**	**1.53**	**121**	⇑*e*P		P	15 45 59.4	-1.0
JCR				*e*S		S	15 46 17.5	-1.8
LAJ	**Bijagual**	**2.41**	**109**	*e*P		P	15 46 08.4	-4.7
URSC	**Urasca**	**2.74**	**107**	⇓*e*P		P	15 46 18.1	+0.4

*ORF **29** 15:50:05.8, 14.43S×158.30E, h30km, mb6.0*
*IDC **29** 15:50:20.5±0.3, 5.38S×151.88E, mb5.7/25, mb1 5.7/26, mb1mx5.7/27, mbtmp5.7/26, ML4.6/2, MS6.5/20, Ms1 6.5/20, ms1mx6.5/22, Error ellipse: s-maj=11.1km s-min=10.1km az=52.0*
*BJI **29** 15:50:22.4, 5.24S×152.55E, h40km, mB6.6, mb5.8, Ms6.7, Msz6.5*
*BGS **29** 15:50:24.1, 5.44S×151.84E, h25km*
*HRVD **29** 15:50:24.0±0.1, 5.69S×152.08E, h30km, MW6.6/72, Centroid moment Tensor Solution. LP body waves: s72,c189;Mantle waves: s71,c329; Half duration: 5s0 Moment tensor: Scale 10^19^Nm; Mrr0.75±.00; Mθθ-0.62±.00; Mϕϕ-0.13±.00; Mrθ0.60±.01; Mrϕ-0.34±.00; Mθϕ0.37±.01; Best double couple: M0 1.041×10^19^ NP1: ϕs247°, δ24°, λ97°. NP2:ϕs59°, δ66°, λ87°. Principal axes: T 1.023, Plg69°, Azm324°; N .037, Plg3°, Azm61°; P -1.059, Plg21°, Azm152°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **29** 15:50:24.0±0.1, 5.44S×151.84E, h25km, mb5.9/90, ME6.0, MS6.6/131, MW6.5 Error ellipse: s-maj=4.1km s-min=3.5km az=146.0 Broadband fault plane solution: P waves. NP1:ϕs60°, δ80°, λ90°. NP2:ϕs240°, δ10°, λ90°. Principal axes: T Plg55°, Azm330°; N Plg0°, Azm0°; P Plg35°, Azm150°; Moment Tensor Solution. s35 Moment tensor: Scale 10^18^ Nm; Mrr4.65; Mθθ-4.48; Mϕϕ-0.17; Mrθ4.81; Mrϕ-1.40; Mθϕ2.94; Best double couple: M0 7.4×10^18^ NP1:ϕs265°, δ21°, λ112°. NP2:ϕs62°, δ70°, λ82°. Principal axes: T 7.37, Plg64°, Azm319°; N .05, Plg8°, Azm65°; P -7.42, Plg25°, Azm158°; Two events about 2.5 seconds apart. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC Felt in parts of eastern New Britain.
*MOS **29** 15:50:25.3±0.9, 5.17S×151.75E, h33km, mb6.2/54, MS6.7/59 Error ellipse: s-maj=8.2km s-min=6.0km az=95.8*

ISC 29 15:50:24.5±0.1, 5.43S±0.02×151.83E±0.02, h36km, h36km±2.3km: pP-P, n974, σ1§07/434, mb5.9/150, MS6.6/184, 186C-44D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.09**	**229**	Pn		**P**	**15 51 55.3**	**+1.0**
	93nm,0.3s,baz=60,slow=7.4,SNR=215							
PMG				Sn		**S**	**15 53 04.5**	**+0.8**
	321nm,0.3s,slow=19,SNR=5.6							
PMG	**Port Moresby**	**6.09**	**229**	⇓*e*Pn		**P**	**15 51 54.8**	**+0.4**
	6µm,1.0s							
PMG	**Port Moresby**	**6.09**	**229**	*d iP*		**P**	**15 51 55.4**	**+1.1**
HNR	**Honiara**	**8.97**	**117**	Pn		**P**	**15 52 30.7**	**-3.9**
	14nm,0.3s,baz=242,slow=1.5,SNR=33							
HNR				Sn		**S**	**15 54 15.4**	**-0.1**
	baz=215,slow=19,SNR=1.9							
HNR	**Honiara**	**8.97**	**117**	⇓*e*Pn		**P**	**15 52 30.8**	**-3.7**
	1µm,0.8s							
HNR	**Honiara**	**8.97**	**117**	⇓*e*P		**P**	**15 52 30.8**	**-3.8**
HNR				pmax	pmax			
	comp=Z,1µm,0.8s							
CTA	**Charters Tower**	**15.54**	**200**	⇓*i*P		**P**	**15 54 02.8**	**0.0**
	comp=Z,155nm,1.8s							
CTA				eS		S	15 57 15.0	+21
CTA	**Charters Tower**	**15.54**	**200**	Pn		**P**	**15 54 02.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=21,slow=13,SNR=24							
CTA				Sn		**S**	**15 57 01.3**	**+7.2**
	baz=38,slow=19,SNR=1.8							
CTA	**Charters Tower**	**15.54**	**200**	⇓*i*P		**P**	**15 54 02.8**	**0.0**
CTA				pmax	pmax			
	comp=Z,155nm,1.8s							
CTAO	**Charters Tower**	**15.54**	**200**	⇓*e*P		**P**	**15 53 59.8**	**-3.0**
	comp=Z,309nm,1.0s							
CTAO	**Charters Tower**	**15.54**	**200**	⇓*e*P		**P**	**15 53 59.8**	**-3.0**
CTAO				pmax	pmax			
	comp=Z,309nm,1.0s							
GUMO	**Guam**	**20.12**	**340**	P		**P**	**15 54 57.3**	**-1.0**
	comp=Z,1µm,0.9s,baz=169,slow=6.9,SNR=41							
GUMO				LR	LR		16 01 29.9	
	comp=Z,44µm,20.4s,MS5.8,baz=218,slow=33							
GUMO	**Guam**	**20.12**	**340**	⇑*e*P		**P**	**15 54 58.4**	**+0.1**
	comp=Z,3µm,1.1s							
GUMO				LR	LR			
	comp=Z,69µm,19.0s,MS6.0							
GUMO	**Guam**	**20.12**	**340**	⇑*e*P		**P**	**15 54 58.4**	**+0.1**
GUMO				pmax	pmax			
	comp=Z,3µm,1.1s							
GUMO				MLR	MLR			
	comp=Z,69µm,19.0s,MS6.0							
KAKA	**Kakadu**	**20.46**	**248**	⇑*i*P		**P**	**15 55 21.1**	**+19**
	comp=Z,1µm,0.5s							
KWAJ	**Kwajalein Atol**	**21.15**	**48**	⇑*i*P		**P**	**15 55 07.2**	**-1.7**
	comp=Z,1µm,1.1s,mb6.2							
KWAJ				LR	LR			
	comp=Z,30µm,19.0s,MS5.7							
DZM	**Mont Dzumac**	**21.76**	**141**	*e*P		**P**	**15 55 11.9**	**-3.1**
DZM	**Mont Dzumac**	**21.76**	**141**	P		**P**	**15 55 13.4**	**-1.5**
	comp=Z,88nm,0.8s,mb5.2,baz=341,slow=12,SNR=30							
WRAB	**Tennant Creek**	**22.29**	**228**	⇑*e*P		**P**	**15 55 21.1**	**+0.9**
	comp=Z,1µm,0.8s,mb6.4							
WRAB				LR	LR			
	comp=Z,54µm,20.0s,MS6.0							
WRAB	**Tennant Creek**	**22.29**	**228**	⇑*e*P		**P**	**15 55 21.1**	**+0.9**
WRAB				pmax	pmax			
	comp=Z,1µm,0.8s,mb6.4							
WRAB				MLR	MLR			
	comp=Z,54µm,20.0s,MS6.0							
WB2	**Warramunga Arr**	**22.30**	**228**	⇑*i*P		**P**	**15 55 21.2**	**+0.9**
WB2				*e*S		**S**	**15 59 25.9**	**+7.5**
WRA	**Warramunga Arr**	**22.31**	**228**	P		**P**	**15 55 21.1**	**+0.7**
	comp=Z,285nm,0.9s,mb5.7,baz=54,slow=10,SNR=200							
WRA				S		**S**	**15 59 23.5**	**+5.0**
	comp=Z,283nm,1.1s,baz=55,slow=19,SNR=6.7							
STKA	**Stephens Creek**	**28.00**	**199**	⇑*i*P		**P**	**15 56 13.3**	**-1.0**
	comp=Z,156nm,0.9s,mb5.6							
STKA				*e*S		**S**	**16 00 53.2**	**-1.3**
STKA	**Stephens Creek**	**28.00**	**199**	P		**P**	**15 56 13.3**	**-1.0**
	comp=Z,204nm,1.1s,mb5.7,baz=360,slow=8.5,SNR=51							
STKA				S		**S**	**16 00 55.4**	**+0.9**
	comp=Z,34nm,1.0s,baz=21,slow=17,SNR=2.0							
STKA				LR	LR		16 07 27.3	
	comp=Z,153µm,19.4s,MS6.6,baz=19,slow=37							
RIV	**Riverview**	**28.26**	**181**	*e*P		**P**	**15 56 19.5**	**+2.9**
MATI	**Mati**	**28.33**	**295**	*e*P		**P**	**15 56 17.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**28.51**	**242**	⇑*i*P		**P**	**15 56 18.3**	**-0.7**
	comp=Z,646nm,0.9s,mb6.6							
FITZ				*e*S		**S**	**16 01 03.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.51**	**242**	P		**P**	**15 56 18.9**	**-0.1**
	comp=Z,982nm,0.7s,mb6.6,baz=65,slow=4.9,SNR=178							
FITZ				S		**S**	**16 01 10.6**	**+7.7**
	comp=Z,144nm,0.9s,baz=70,slow=12,SNR=2.5							
WAKE	**Wake Island**	**28.57**	**30**	PFAKE			15 56 30.0	+10
WAKE				LR	LR			
	comp=Z,88µm,22.0s,MS6.3							
BIPH	**Bislig**	**28.78**	**298**	⇑*i*P		**P**	**15 56 20.7**	**-0.8**
BIPH				*e*S		**S**	**16 01 22.0**	**+15**
DAV	**Davao City (W)**	**28.99**	**295**	*e*P		**P**	**15 56 24.0**	**+0.7**
DAV	**Davao City (W)**	**28.99**	**295**	PFAKE			15 56 30.0	+6.7
DAV				LR	LR			
	comp=Z,57µm,19.0s,MS6.2							
BUKP	**Musuan**	**29.80**	**296**	*e*P		**P**	**15 56 31.2**	**+0.7**
CNB	**Canberra Magne**	**29.82**	**184**	*e*P		**P**	**15 56 30.7**	**+0.2**
	comp=Z,187nm,1.1s,mb5.7							
CTBH	**Cotabato--PC H**	**30.26**	**294**	⇑*e*P		**P**	**15 56 34.7**	**+0.1**
MSLP	**Maasin**	**31.00**	**300**	*e*P		**P**	**15 56 41.1**	**-0.1**
PAGZ	**Pagadian**	**31.30**	**295**	*e*P		**P**	**15 56 44.5**	**+0.7**
DCPH	**Dipolog City**	**31.63**	**296**	*e*P		**P**	**15 56 49.8**	**+3.1**
TBP	**Tagbilaran**	**31.66**	**298**	*e*P		**P**	**15 56 46.6**	**-0.5**
LLP	**Lapu-Lapu**	**31.86**	**299**	⇓*e*P		**P**	**15 56 49.1**	**+0.3**
IPIL	**Ipil**	**32.01**	**294**	*e*P		**P**	**15 56 51.0**	**+1.0**
CNP	**Catarman**	**32.36**	**304**	*e*P		**P**	**15 56 53.0**	**-0.1**
TOO	**Toolangi**	**32.51**	**189**	⇑*i*P		**P**	**15 56 56.4**	**+2.2**
	comp=Z,69nm,1.0s,mb5.5							
TOO				*e*S		**S**	**16 02 07.3**	**+1.6**
TOO	**Toolangi**	**32.51**	**189**	⇑*i*P		**P**	**15 56 56.4**	**+2.2**
TOO				*e*S		**S**	**16 02 07.3**	**+1.6**
TOO				pmax	pmax			
	comp=Z,69nm,1.0s,mb5.5							
GUIM	**Jordan**	**33.20**	**299**	*e*P		**P**	**15 57 00.4**	**-0.1**
PVCP	**Virac**	**33.35**	**305**	*e*P		**P**	**15 57 02.2**	**+0.5**
RCP	**Roxas**	**33.50**	**300**	⇓*e*P		**P**	**15 57 03.0**	**0.0**
CBIJ	**Chichi jima**	**33.66**	**344**	P		**P**	**15 57 03.6**	**-0.6**
	comp=Z,193nm,0.7s,mb6.1,baz=124,slow=8.9,SNR=7.9							
FORT	**Forrest**	**33.69**	**219**	⇑*i*P		**P**	**15 57 03.8**	**-0.7**
	comp=Z,321nm,0.7s,mb6.4							
FORT				*e*S		**S**	**16 02 22.2**	**-1.9**
KALP	**Kalibo**	**33.91**	**300**	*e*P		**P**	**15 57 11.7**	**+5.2**
AUQP	**San Andres**	**34.43**	**303**	*e*P		**P**	**15 57 13.5**	**+2.5**
OTRP	**Odiongan**	**34.51**	**301**	*e*P		**P**	**15 57 12.7**	**+1.1**
CUYO	**Cuyo Island**	**34.68**	**298**	*e*P		**P**	**15 57 13.5**	**+0.4**
MBWA	**Marble Bar**	**34.82**	**240**	⇑*e*P		**P**	**15 57 13.6**	**-0.7**
	comp=Z,678nm,1.2s,mb6.5							
MBWA				LR	LR			
	comp=Z,45µm,22.0s,MS6.2							
GQP	**Guinayangan**	**34.92**	**304**	⇑*e*P		**P**	**15 57 16.2**	**+1.0**
BOAC	**Boac**	**35.20**	**302**	*e*P		**P**	**15 57 18.3**	**+0.7**
TSM	**Tawau**	**35.27**	**285**	P		**P**	**15 57 16.6**	**-1.5**
POLP	**Polillo Island**	**35.77**	**304**	*e*P		**P**	**15 57 22.7**	**+0.2**
OUZ	**Omahuta**	**35.80**	**149**	*e*PN		**P**	**15 57 22.4**	**-0.1**
BUSP	**Coron**	**35.91**	**299**	*e*P		**P**	**15 57

NWAO Narrogin (SRO) 42.26 225⇑ *e*P **P** **15 58 13.7 -2.6**
NWAO pmax pmax
comp=Z,139nm,1.1s
NWAO MLR MLR
comp=Z,101μm,20.0s
EAZ Earnscleugh 42.48 162 *e*PN **P** **15 58 19.4 +1.5**
ODZ Otahua Downs 42.74 160 *e*PN **P** **15 58 18.6 -1.5**
TUZ Tuapeka 43.23 162 PN **P** **15 58 22.6 -1.4**
MJAR Matsushiro Arr 43.66 344 P **P** **15 58 24.8 -2.9**
comp=Z,48nm,0.9s,mb5.2,baz=165,slow=9.0,SNR=43
MJAR PcP PcP 16 00 14.6 -0.5
comp=Z,12nm,0.7s,baz=164,slow=3.5,SNR=4.0
MJAR ScP 16 04 04.6
comp=Z,14nm,1.0s,baz=175,slow=4.6,SNR=7.0
MJAR LR LR 16 14 36.5
comp=Z,48μm,21.9s,MS6.4,baz=175,slow=33
MAJO Matsushiro 43.66 344⇑ *e*P **P** **15 58 23.3 -4.4**
comp=Z,75nm,0.8s,mb5.5
MAJO *e*PP PP 16 00 05.6 -5.5
MAJO ScP 16 04 03.0
MAJO LR LR
comp=Z,47μm,21.0s,MS6.4
MAJO Matsushiro 43.66 344 P **P** **15 58 24.9 -2.8**
MAJO pmax pmax
comp=Z,75nm,0.9s,mb5.4
MAT Matsushiro 43.66 344 P **P** **15 58 24.7 -3.0**
MAT S **S** **16 05 03.0 +8.4**
MAT Matsushiro 43.66 344 *e*P **P** **15 58 25.0 -2.7**
comp=Z,51nm,1.0s,mb5.2
MAT *e*S **S** **16 05 08.0 +13**
MAT Matsushiro 43.66 344 *e*P **P** **15 58 25.0 -2.7**
MAT pmax pmax
comp=Z,51nm,1.0s,mb5.2
QZH Quanzhou 44.24 314⇑ *i*P **P** **15 58 33.3 +0.8**
QZH S **S** **16 05 09.0 +5.9**
QZH AMB AMB
comp=Z,840nm,0.8s,mb6.5
QZH AMB AMB
comp=Z,12μm,11.3s
QZH LR LR
comp=N,77μm,19.3s,MS6.9
QZH LR LR
comp=E,117μm,18.5s,MS6.9
QZH LR LR
comp=Z,122μm,20.0s,MS6.8
MIDW Midway 44.73 40 PFAKE 15 58 50.0 +14
MIDW LR LR
comp=Z,20μm,20.0s,MS6.0
HKC Hong Kong 46.02 308⇑ *i*P **P** **15 58 50.0 +3.2**
HKC S **S** **16 05 24.0 -4.7**
SSE Sheshan 46.65 323 P **P** **15 58 51.5 -0.1**
SSE AP pP 15 59 03.0 +1.0
SSE XP sP 15 59 07.8 +1.3
SSE PcP PcP 16 00 22.0 -3.4
SSE PP PP 16 00 41.5 +0.4
SSE S **S** **16 05 40.5 +3.0**
SSE XS 16 05 58.0
SSE AMB AMB
comp=Z,8μm,10.6s
SSE LR LR
comp=N,32μm,22.8s,MS6.4
SSE LR LR
comp=E,42μm,22.8s,MS6.4
SSE LR LR
comp=Z,59μm,21.1s,MS6.5
SSE Sheshan 46.65 323 P **P** **15 58 51.6 0.0**
comp=Z,41nm,2.6s,mb4.9
SSE pP pP 15 59 03.0 +1.0
SSE sP sP 15 59 07.8 +1.3
SSE PcP PcP 16 00 21.9 -3.5
SSE PP PP 16 00 41.4 +0.3
SSE S **S** **16 05 40.6 +3.1**
SSE sS 16 05 58.0
SSE SS SS 16 09 07.1 +11
SSE LR LR
comp=Z,59μm,21.1s,MS6.5
GZH Guangzhou 47.09 309 P **P** **15 58 57.0 +1.9**
GZH S **S** **16 05 56.0 +12**
GZH AMB AMB
comp=Z,149nm,1.0s,mb5.9
GZH LR LR
comp=N,22μm,22.4s,MS6.5
GZH LR LR
comp=E,46μm,20.5s,MS6.5
GZH LR LR
comp=Z,98μm,23.0s,MS6.7
QIZ Qiongzhong 47.97 302 ⇑P **P** **15 59 03.5 +1.4**
QIZ XP sP 15 59 17.5 +0.5
QIZ PP PP 16 00 58.5 +5.1
QIZ S **S** **16 05 57.8 +1.5**
QIZ XS 16 06 19.8
QIZ SS SS 16 09 26.8 +6.9
QIZ AMB AMB
comp=Z,112nm,1.1s,mb5.8
QIZ AMB AMB
comp=Z,9μm,11.7s
QIZ LR LR
comp=N,22μm,22.3s,MS6.3
QIZ LR LR
comp=E,32μm,22.3s,MS6.3
QIZ LR LR
comp=Z,67μm,22.7s,MS6.6
QIZ Qiongzhong 47.97 302⇑ *i*P **P** **15 59 02.9 +0.8**
comp=Z,167nm,1.1s,mb6.0
KS15 Wonju Array Si 48.14 334⇑ *e*P **P** **15 59 02.4 -0.8**
INCN Inchon 48.73 333⇑ *e*P **P** **15 59 07.6 -0.2**
comp=Z,592nm,1.3s,mb6.5
INCN LR LR
comp=Z,49μm,19.0s,MS6.5
NJ2 Nanjing 48.74 322 *e*P **P** **15 59 08.0 +0.1**
NJ2 AP pP 15 59 18.0 -0.3
NJ2 XP sP 15 59 21.8 -0.9
NJ2 PP PP 16 01 01.0 +0.1
NJ2 S **S** **16 06 17.0 +10**
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,8μm,10.4s
NJ2 LR LR
comp=N,154μm,20.2s,MS7.1
NJ2 LR LR
comp=E,116μm,21.0s,MS7.1
NJ2 LR LR
comp=Z,76μm,20.8s,MS6.7
KGM Kluang 49.02 277 P **P** **15 59 10.6 +0.4**
RAR Rarotonga 49.41 113 P **P** **15 59 12.4 -0.8**
comp=Z,22nm,0.8s,mb5.2
ASAJ Asahikawa 50.02 351 P **P** **15 59 16.4 -1.1**
comp=Z,85nm,0.8s,mb5.8
WHN Wuhan 50.65 317 ⇑P **P** **15 59 22.8 +0.2**
WHN LR LR
comp=N,17μm,20.0s,MS6.9
WHN LR LR
comp=E,127μm,20.2s,MS6.9
WHN LR LR
comp=Z,161μm,21.7s,MS7.0
UBT Ubonrachathani 50.72 295 ⇑P **P** **15 59 23.5 +0.2**
VLA Vladivostok 51.59 341 *e*P **P** **15 59 27.0 -2.5**
IPM Ipoh 51.71 280 P **P** **15 59 30.5 -0.2**
KULM Kulim 52.21 281⇑ *i*P **P** **15 59 32.9 -1.5**
KULM *e*ScP 16 04 41.5
DL2 Dalian 52.23 330⇑ *i*P **P** **15 59 33.0 -1.3**
DL2 XP sP 15 59 49.0 -0.2
DL2 PP PP 16 01 36.3 +2.6
DL2 S **S** **16 06 56.0 +0.8**
DL2 XS 16 07 11.8
DL2 AMB AMB
comp=Z,80nm,1.1s,mb5.6
DL2 AMB AMB
comp=Z,5μm,9.8s
DL2 LR LR
comp=N,19μm,22.1s,MS6.2
DL2 LR LR
comp=E,15μm,22.6s,MS6.2
DL2 LR LR
comp=Z,30μm,22.1s,MS6.3
SNG Songkhla 52.62 283 P **P** **15 59 37.0 -0.6**
comp=Z,92nm,0.8s,mb5.8
TIA Tai'an 52.66 325 ⇑P **P** **15 59 36.3 -1.3**
TIA S **S** **16 07 10.0 +8.9**
TIA AMB AMB
comp=Z,45nm,0.8s,mb5.5
TIA AMB AMB
comp=Z,4μm,13.0s
TIA LR LR
comp=N,33μm,18.0s,MS6.5
TIA LR LR
comp=E,14μm,15.0s,MS6.5
YSS Yuzh-Sakhalins 52.77 352⇑ *e*P **P** **15 59 35.2 -3.1**
comp=E,62nm,0.9s,mb5.5
YSS LR LR
comp=Z,27μm,22.0s,MS6.2
YSS Yuzh-Sakhalins 52.77 352 *ce*P **P** **15 59 36.0 -2.3**
YSS *e**SP sP 15 59 51.0 -2.2
YSS *e* 16 01 32.0
YSS *e*PPP PPP 16 02 46.0 +1.3
YSS *e*S **S** **16 07 13.0 +11**
YSS *e*SS SS 16 10 31.0 -9.3
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.5
YSS pmax pmax
comp=N,4μm,12.0s
YSS pmax pmax
comp=Z,5μm,12.0s
YSS MLR MLR
comp=E,12μm,17.0s,MS6.2
YSS MLR MLR
comp=Z,14μm,17.0s,MS6.1
YSS MLR MLR
comp=N,17μm,18.0s,MS6.2
SNY Shenyang 53.63 334 ⇑P **P** **15 59 43.5 -1.3**
SNY AMB AMB
comp=Z,30nm,2.9s
SNY LR LR
comp=N,15μm,22.5s,MS6.2
SNY LR LR
comp=E,19μm,21.0s,MS6.2
SNY LR LR
comp=Z,34μm,27.3s
MDJ Mudanjiang 53.68 340 P **P** **15 59 43.8 -1.2**
MDJ AP pP 15 59 55.5 -0.2
MDJ XP sP 16 00 00.0 0.0
MDJ PCP PcP 16 00 48.8 -2.1
MDJ PP PP 16 01 49.0 +1.5
MDJ SCP 16 04 44.0
MDJ PCS 16 04 48.0
MDJ AMB AMB
comp=Z,35nm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,7μm,10.6s
MDJ LR LR
comp=N,25μm,19.7s,MS6.3
MDJ LR LR
comp=E,7μm,19.7s,MS6.3
MDJ LR LR
comp=Z,33μm,22.1s,MS6.3
MDJ Mudanjiang 53.68 340⇑ *e*P **P** **15 59 42.8 -2.2**
comp=Z,61nm,0.9s,mb5.5
ENH Enshi 53.89 314⇑ *i*P **P** **15 59 46.1 -0.7**
comp=Z,291nm,1.0s,mb6.2
GYA Guiyang 54.02 308⇑ *i*P **P** **15 59 47.0 -0.8**
GYA AP pP 15 59 57.0 -1.4
GYA XP sP 16 00 01.5 -1.2
GYA PP PP 16 01 52.3 +1.6
GYA S **S** **16 07 27.8 +8.2**
GYA AMB AMB
comp=Z,9μm,14.4s
GYA LR LR
comp=N,30μm,19.8s,MS6.5
GYA LR LR
comp=E,26μm,19.5s,MS6.5
GYA LR LR
comp=Z,41μm,19.5s,MS6.5
CN2 Changchun 54.49 337 ⇑P **P** **15 59 49.0 -2.0**
CN2 *e*AP pP 16 00 04.0 +2.3
CN2 *e*S **S** **16 07 27.0 +1.3**
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
CN2 AMB AMB
comp=Z,1μm,6.0s
CN2 LR LR
comp=N,40μm,18.0s,MS6.6
CN2 LR LR
comp=E,20μm,18.0s,MS6.6
CN2 LR LR
comp=Z,33μm,19.0s,MS6.4
NNT Nongplab 54.78 289 P **P** **15 59 53.0 -0.5**
NST Nakhon Sawan 55.31 293 ⇓P **P** **15 59 57.7 +0.4**
comp=Z,75nm,0.9s,mb5.7
NANT Nan 55.83 297 ⇑P **P** **16 00 00.0 -1.0**
comp=Z,1μm,0.4s
KIP Kipapa 55.93 60 *e*P **P** **16 00 00.8 -0.9**
comp=Z,521nm,1.5s,mb6.3
KIP LR LR
comp=Z,25μm,22.0s,MS6.3
KIP Kipapa 55.93 60 P **P** **16 00 01.6 -0.1**
KIP pmax pmax
comp=Z,520nm,1.5s,mb6.3
SKR Severo-Kuril's 56.01 3 *e*P **P** **15 59 57.0 -4.9**
SKR *e*S **S** **16 07 49.0 +3.0**
SKR pmax pmax
comp=Z,50nm,0.5s,mb5.8
SKR pmax pmax
comp=N,90nm,1.0s
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=N,6μm,16.0s
SKR pmax pmax
comp=E,3μm,16.0s
SKR pmax pmax
comp=Z,9μm,16.0s
SKR MLR MLR
comp=N,25μm,18.0s,MS6.6
SKR MLR MLR
comp=E,32μm,18.0s,MS6.6
SKR MLR MLR
comp=Z,48μm,18.0s,MS6.6
XAN Xi'an 56.42 317 P **P** **16 00 03.8 -1.3**
XAN AP pP 16 00 14.0 -1.8
XAN PP PP 16 02 12.5 +0.2
XAN S **S** **16 07 55.5 +3.8**
XAN AMB AMB
comp=Z,88nm,1.0s,mb5.7
XAN LR LR
comp=N,20μm,21.7s,MS6.5
XAN LR LR
comp=E,32μm,20.3s,MS6.5
XAN LR LR
comp=Z,64μm,19.8s,MS6.7
TIY Taiyuan 56.44 323 ⇑P **P** **16 00 01.0 -4.2**
TIY S **S** **16 07 55.0 +3.1**
TIY LR LR
comp=N,51μm,19.0s
KMI Kunming 56.55 305 P **P** **16 00 07.0 +0.9**
KMI AP pP 16 00 18.0 +1.2
KMI XP sP 16 00 22.5 +1.5
KMI PCP PcP 16 01 03.0 +0.7
KMI PP PP 16 02 11.8 -1.7
KMI S **S** **16 07 59.0 +5.5**
KMI XS 16 08 18.0
KMI AMB AMB
comp=Z,103nm,1.2s,mb5.7
KMI AMB AMB
comp=Z,5μm,9.8s
KMI LR LR
comp=N,18μm,18.6s,MS6.4
KMI LR LR
comp=E,20μm,19.6s,MS6.4
KMI LR LR
comp=Z,28μm,19.6s,MS6.4
KMI Kunming 56.55 305 P **P** **16 00 07.1 +1.0**
comp=Z,103nm,1.2s,mb5.7
KMI pP pP 16 00 18.0 +1.2
KMI sP sP 16 00 22.4 +1.4
KMI PcP PcP 16 01 03.0 +0.7
KMI PP PP 16 02 11.8 -1.7
KMI S **S** **16 07 58.9 +5.4**
KMI sS 16 08 18.1
KMI SS SS 16 11 53.0 +11
KMI SSS SSS 16 14 14.0 +21
KMI LR LR
comp=Z,28μm,19.6s,MS6.4
KMI Kunming 56.55 305 P **P** **16 00 07.1 +1.0**
KMI *PP pP 16 00 18.0 +1.2
KMI *SP sP 16 00 22.4 +1.4
KMI 16 01 03.0
KMI 16 02 11.8
KMI S **S** **16 07 58.9 +5.4**
KMI pmax pmax
comp=Z,103nm,1.2s,mb5.7
KMI MLR MLR
comp=Z,28μm,19.6s,MS6.4
CHRT Chiangrai 57.01 298 ⇑P **P** **16 00 10.0 +0.5**
comp=Z,834nm,0.8s,mb6.8
KLR Kul'dur 57.18 344⇓ *e*P **P** **16 00 05.5 -4.8**
KLR *e*S **S** **16 08 15.0 +13**
KLR pmax pmax
comp=Z,210nm,2.8s,mb5.7
KLR pmax pmax
comp=N,2μm,16.5s
KLR pmax pmax
comp=E,2μm,16.5s
KLR pmax pmax
comp=Z,6μm,16.5s
KLR MLR MLR
comp=N,11μm,18.0s
KLR MLR MLR
comp=Z,17μm,18.0s,MS6.2
HKL Haleakala 57.19 61 *e*P **P** **16 00 09.9 -0.8**
CHG Chiang Mai 57.40 296 ⇑P **P** **16 00 12.6 +0.4**
comp=Z,108nm,1.2s,mb5.8
POHA Pohakuloa 57.49 63 *e*P **P** **16 00 10.3 -2.5**
comp=Z,1μm,1.1s,mb6.8
POHA LR LR
comp=Z,308μm,20.0s,MS7.4
CD2 Chengdu 58.42 311⇑ *i*P **P** **16 00 19.8 +0.6**
CD2 PP PP 16 02 32.5 +2.2
CD2 AMB AMB
comp=Z,120nm,0.7s,mb6.0
CD2 LR LR
comp=E,28μm,21.6s
CD2 LR LR
comp=Z,41μm,19.2s,MS6.6
PPT Papeete 58.46 107 *e*P **P** **16 00 20.5 +0.9**
comp=Z,244nm,1.5s,mb6.0
PPT Papeete 58.46 107 *e*SS SS 16 12 16.5 +3.7
*e*LQ 16 15 03.2
PPT *e*LR LR 16 17 31.7
comp=Z,27μm,22.2s,baz=274
PPT Papeete 58.46 107 LR LR 16 20 35.2
comp=Z,17μm,21.5s,MS6.1,baz=275,slow=31
PAE Paea 58.46 107 *e*P **P** **16 00 20.3 +0.7**
comp=Z,408nm,1.5s,mb6.2
PET Petropavlovsk 58.52 5⇑ *e*P **P** **16 00 15.6 -4.1**
comp=Z,83nm,0.9s,mb5.8
PET LR LR
comp=Z,29μm,22.0s,MS6.3
PET Petropavlovsk 58.52 5*c i*P **P** **16 00 16.1 -3.5**
PET *e* 16 02 36.1
PET pmax pmax
comp=Z,49nm,0.7s,mb5.7
PET pmax pmax
comp=Z,7μm,17.5s
PET pmax pmax
comp=Z,10μm,19.2s
PET pmax pmax
comp=Z,4μm,18.5s
PET pmax pmax
comp=Z,4μm,13.2s
PET MLR MLR
comp=Z,13μm,19.0s,MS6.1
TVO Taravao 58.78 107 *e*P **P** **16 00 22.7 +0.8**
comp=Z,1μm,1.6s,mb6.8
HHC Hu-ho-hao-te 59.00 325⇑ *i*P **P** **16 00 23.0 -0.2**
HHC AP pP 16 00 30.5 -3.4
HHC PCP PcP 16 01 12.0 +0.4
HHC PP PP 16 02 34.5 -0.9
HHC SCP 16 05 09.3
HHC PCS 16 05 11.5
HHC S **S** **16 08 25.5 +0.1**
HHC SCS ScS 16 10 07.8 +1.3
HHC SS SS 16 12 19.8 -1.4
HHC AMB AMB
comp=Z,99nm,0.4s,mb6.2
HHC AMB AMB
comp=Z,7μm,9.3s
HHC LR LR
comp=N,39μm,19.0s,MS6.6
HHC LR LR
comp=E,29μm,20.2s,MS6.6
HHC LR LR
comp=Z,66μm,19.0s,MS6.8
TBI Tubuai 59.18 114 *e*LQ 16 15 34.5
TBI Tubuai 59.18 114 *e*P **P** **16 00 25.0 +0.4**
comp=Z,659nm,1.3s,mb6.5
TBI Tubuai 59.18 114 *e*SS SS 16 12 25.7 +1.6
TBI *e*LR LR 16 17 50.7
comp=Z,78μm,31.5s,baz=283
MEH Mehetia 59.91 107 *e*P **P** **16 00 30.3 +0.6**
comp=Z,164nm,1.0s,mb6.0
PMOR Pomariorio Ree 59.92 104 *e*P **P** **16 00 30.3 +0.5**
comp=Z,750nm,1.4s,mb6.5
SMY Shemya 60.94 15 PFAKE 16 00 50.0 +14
SMY LR LR
comp=Z,104μm,22.0s,MS6.9
LZH Lanzhou 61.02 317 ⇑P **P** **16 00 37.5 +0.5**
LZH AP pP 16 00 47.5 -0.3
LZH XP sP 16 00 51.5 -0.5
LZH PCP PcP 16 01 19.8 +0.1
LZH PP PP 16 02 54.0 +0.4
LZH PPP PPP 16 04 23.0 +1.3
LZH SCP 16 05 18.0
LZH PCS 16 05 23.8
LZH S **S** **16 08 54.0 +2.6**
LZH XS 16 09 13.0
LZH SS SS 16 12 53.0 +0.5
LZH AMB AMB
comp=Z,766nm,1.5s,mb6.6
LZH AMB AMB
comp=Z,5μm,6.8s
LZH LR LR
comp=E,48μm,18.6s
LZH LR LR
comp=Z,66μm,20.3s,MS6.8
LZH Lanzhou 61.02 317 ⇑P **P** **16 00 37.6 +0.6**
comp=Z,766nm,1.5s,mb6.6
LZH pP pP 16 00 47.4 -0.4
LZH sP sP 16 00 51.5 -0.5
LZH PcP PcP 16 01 19.8 +0.1
LZH PP PP 16 02 54.0 +0.4
LZH PPP PPP 16 04 23.0 +1.3
LZH ScP 16 05 17.9
LZH PcS 16 05 23.7
LZH S **S** **16 08 54.0 +2.6**
LZH sS 16 09 13.0
LZH SS SS 16 12 53.0 +0.5
LZH LR LR
comp=Z,66μm,20.3s,MS6.8
LZH Lanzhou 61.02 317 ⇑P **P** **16 00 37.6 +0.6**
LZH *PP pP 16 00 47.4 -0.4
LZH *SP sP 16 00 51.5 -0.5
LZH 16 01 19.8
LZH 16 02 54.0
LZH PPP PPP 16 04 23.0 +1.3
LZH S **S** **16 08 54.0 +2.6**
LZH *SS 16 09 13.0
LZH SS SS 16 12 53.0 +0.5
LZH pmax pmax
comp=Z,766nm,1.5s,mb6.6
LZH MLR MLR
comp=Z,66μm,20.3s,MS6.8
HIA Hailar 61.22 337⇑ *i*P **P** **16 00 36.6 -1.5**
comp=Z,143nm,1.1s,mb6.0
HIA Hailar 61.22 337⇑ *i*P **P** **16 00 36.7 -1.5**
HIA pmax pmax
comp=Z,143nm,1.1s
DRV Dumont d'Urvil 61.68 185 P **P** **16 00 44.0 +3.0**
DRV S **S** **16 09 18.0 +19**
DRV L 16 16 00.0
IMP Imphal 63.79 301 *e*P **P** **16 00 54.0 -1.7**
MA2 Magadan 64.81 359⇓ *e*P **P** **16 00 58.9 -2.8**
comp=Z,47nm,0.7s,mb5.6
MA2 LR LR
comp=Z,27μm,22.0s,MS6.4
MA2 Magadan 64.81 359 P **P** **16 01 01.5 -0.2**
MA2 pmax pmax
comp=Z,47nm,0.7s,mb5.6
GTA Gaotai 65.47 318 P **P** **16 01 06.3 0.0**
GTA AP pP 16 01 16.5 -0.8
GTA XP sP 16 01 20.5 -0.8
GTA PP PP 16 03 35.0 +2.3
GTA PPP PPP 16 05 09.3 +2.1
GTA SCP 16 05 36.0
GTA PCS 16 05 39.8

GTA S S 16 09 52.8 +5.9
GTA XS 16 10 10.8
GTA SCS ScS 16 10 57.5 +2.4
GTA AMB AMB
comp=Z,7μm,9.5s
GTA LR LR
comp=N,20μm,19.8s,MS6.5
GTA LR LR
comp=E,26μm,20.2s,MS6.5
GTA LR LR
comp=Z,35μm,21.3s,MS6.5
SHL Shillong 65.80 301 *e*P **P 16 01 08.3 -0.4**
SHL *ex* x 16 09 58.3
CLNS Chul'man 65.84 344 *e*P **P 16 01 07.3 -1.1**
CLNS *e* 16 01 38.3
CLNS *e*S S 16 09 50.4 -0.8
CLNS *e* 16 10 58.9
CLNS pmax pmax
comp=Z,110nm,0.8s,mb5.9
CLNS pmax pmax
comp=N,37nm,0.7s
CLNS pmax pmax
comp=E,26nm,0.6s
CLNS smax
comp=N,4μm,11.2s
CLNS smax
comp=Z,4μm,13.0s
CLNS smax
comp=E,2μm,10.7s
CIT Chita 65.86 335⇑ *i*P **P 16 01 08.0 -0.6**
CIT *e* 16 01 14.0
CIT *e* 16 01 22.0
CIT *e* 16 01 43.4
CIT *e* 16 09 56.8
CIT pmax pmax
comp=Z,217nm,2.5s,mb5.7
ULN Ulaanbaatar 66.03 329⇑ *i*P **P 16 01 09.5 -0.2**
comp=Z,78nm,0.8s,mb5.8
ULN LR LR
comp=Z,46μm,21.0s,MS6.7
ULN Ulaanbaatar 66.03 329⇑ *i*P **P 16 01 09.5 -0.2**
ULN pmax pmax
comp=Z,78nm,0.8s,mb5.8
ULN MLR MLR
comp=Z,46μm,21.0s,MS6.7
SONM Songino Array 66.35 328 P **P 16 01 11.9 +0.2**
comp=Z,60nm,0.6s,mb5.8,baz=148,slow=4.5,SNR=320
SONM LR LR 16 28 57.1
comp=Z,51μm,21.4s,MS6.7,baz=137,slow=35
SONM PKP2bc 16 29 50.5
comp=Z,8.2nm,0.9s,baz=282,slow=2.0,SNR=16
SONM Songino Array 66.35 328 P **P 16 01 11.9 +0.2**
SONM LR LR 16 28 57.0
SONM ⇑ *e* 16 29 50.5
CASY Casey 67.13 197 *e*P **P 16 01 16.5 +0.1**
TAOE Nuku Hiva Isla 67.50 97 *e*SS SS 16 14 37.0 +2.8
TAOE *e*LR LR 16 21 44.2
comp=Z,42μm,23.5s
LSA Lhasa 67.80 305 P **P 16 01 22.0 +0.7**
LSA AP pP 16 01 36.0 +3.8
LSA XP sP 16 01 42.0 +5.8
LSA PCP PcP 16 01 44.3 -3.5
LSA PP PP 16 03 59.0 +6.1
LSA S S 16 10 15.0 -0.3
LSA AMB AMB
comp=Z,190nm,0.8s,mb6.2
LSA AMB AMB
comp=Z,7μm,13.5s
LSA LR LR
comp=N,9μm,34.7s
LSA LR LR
comp=E,11μm,20.9s
LSA LR LR
comp=E,10μm,26.1s
LSA Lhasa 67.80 305⇑ *i*P **P 16 01 21.6 +0.3**
comp=Z,140nm,0.8s,mb6.0
LSA Lhasa 67.80 305⇑ *i*P **P 16 01 21.6 +0.3**
LSA pmax pmax
comp=Z,140nm,0.8s,mb6.0
CAL Calcutta 67.99 297 *i* P **P 16 01 22.6 +0.1**
CAL *i* x x 16 10 42.2
SEY Seymchan 68.17 0 *i* P **P 16 01 20.9 -2.1**
SEY *e* 16 01 45.5
SEY *e*S S 16 10 11.8 -7.3
SEY *e* 16 11 09.1
SEY *e*SS SS 16 14 42.6 -1.0
SEY pmax pmax
comp=Z,40nm,1.2s,mb5.3
SEY pmax pmax
comp=E,10.0nm,0.9s
SEY smax
comp=N,12μm,15.9s
SEY smax
comp=E,24μm,22.6s
YAK Yakutsk 69.40 349⇑ *i*P **P 16 01 28.5 -2.1**
comp=E,122nm,0.8s,mb5.9
YAK LR LR
comp=Z,21μm,19.0s,MS6.4
YAK Yakutsk 69.40 349 P **P 16 01 28.8 -1.8**
YAK pmax pmax
comp=Z,120nm,0.8s,mb5.9
ZAK Zakamensk 69.53 329 *e*P **P 16 01 31.4 -0.2**
ZAK pmax pmax
comp=Z,134nm,0.8s,mb5.9
BOD Bodaibo 70.04 340 *e*P **P 16 01 32.8 -1.7**
BOD pmax pmax
comp=Z,502nm,1.2s,mb6.3
IRK Irkutsk 70.19 331 *e*P **P 16 01 34.7 -0.8**
IRK *e* 16 11 04.6
IRK pmax pmax
comp=Z,237nm,3.8s
BOK Bokaro 70.49 297 *e*P **P 16 01 38.2 +0.4**
BOK AMb AMB 16 01 47.8
comp=Z,124nm,1.2s,mb5.7
BOK AMS AMS 16 31 03.5
comp=Z,18μm,17.8s,MS6.4
VIS Vishakhapatnam 71.38 291 *e*P **P 16 01 43.3 0.0**
VIS AMb AMB 16 01 48.6
comp=Z,198nm,1.0s,mb6.0
VIS AMS AMS 16 30 37.2
comp=Z,13μm,26.3s,MS6.1
MOY Mondy 71.46 329 *e*P **P 16 01 43.8 +0.6**
MOY pmax pmax
comp=Z,310nm,2.6s,mb5.8
GUN Gumba 71.63 302⇑ *i*P **P 16 01 45.2 +0.6**
comp=Z,523nm,0.7s,mb6.6
PKI Pulchoki 71.93 301⇑ *i*P **P 16 01 46.5 +0.1**
comp=Z,286nm,1.0s,mb6.2
KKN Kakani 72.10 301⇑ *i*P **P 16 01 47.6 +0.2**
comp=Z,281nm,0.8s,mb6.3
DMN Daman 72.20 301⇑ *i*P **P 16 01 48.4 +0.4**
comp=Z,527nm,0.8s,mb6.5
SDPT Sand Point 72.21 26 *e*P **P 16 01 46.5 -1.1**
VNDA Vanda 72.24 178 *e*P **P 16 01 46.7 -0.7**
comp=Z,98nm,1.1s,mb5.7
VNDA LR LR
comp=Z,30μm,20.0s,MS6.6
VNDA Vanda 72.24 178 P **P 16 01 47.3 -0.1**
VNDA pmax pmax
comp=Z,98nm,1.0s
RKT Rikitea 72.44 112 *e*P **P 16 01 50.0 +0.5**
comp=Z,237nm,1.1s,mb6.0
RKT Rikitea 72.44 112 *e*SS SS 16 15 50.9 +0.4
RKT *e*LQ 16 21 05.4
RKT *e*LR LR 16 23 59.8
comp=Z,63μm,30.2s,baz=280
GKN Gorkha 72.71 301⇑ *i*P **P 16 01 51.0 -0.1**
comp=Z,454nm,0.8s,mb6.4
SBA Scott Base 72.80 177 *e*P **P 16 01 51.1 +0.4**
comp=Z,310nm,1.6s,mb6.0
SBA LR LR
comp=Z,13μm,19.0s,MS6.2
SBA Scott Base 72.80 177 P **P 16 01 51.2 +0.5**
SBA pmax pmax
comp=Z,310nm,1.5s,mb6.0
MIR Mirnyy 72.99 201 *e*P **P 16 01 55.0 +2.9**
MIR *i* 16 04 45.0
MIR *e*S S 16 11 22.0 +6.8
MIR pmax pmax
comp=E,3μm,15.0s
MIR smax
comp=E,9μm,14.0s
MIR MLR MLR
comp=N,29μm,20.0s,MS6.7
MIR MLR MLR
comp=E,31μm,20.0s,MS6.7
MIR MLR MLR
comp=Z,96μm,20.0s,MS7.1
BLSP Bilaspur 73.44 295 *e*P **P 16 01 54.9 -0.6**
BLSP AMb AMB 16 02 04.5
comp=Z,152nm,1.2s,mb5.8
KOLN Koldanda 73.53 301⇑ *i*P **P 16 01 55.9 -0.1**
comp=Z,369nm,0.8s,mb6.4
BILL Bilibino 74.01 6⇑ *e*P **P 16 01 54.4 -3.5**
comp=Z,53nm,0.8s,mb5.5
BILL LR LR
comp=Z,20μm,22.0s,MS6.4
BILL Bilibino 74.01 6*c**e*P **P 16 01 56.2 -1.7**
BILL *i* S S 16 11 33.0 +6.5
BILL pmax pmax
comp=Z,52nm,0.9s,mb5.5
WMQ Urumqi 75.56 318⇑ *i*P **P 16 02 07.5 +0.2**
WMQ AP pP 16 02 18.0 -0.3
WMQ XP sP 16 02 22.0 -0.3
WMQ PP PP 16 04 59.5 +0.7
WMQ PPP PPP 16 06 45.0 0.0
WMQ S S 16 11 45.0 +0.8
WMQ SKS SKS 16 12 11.0 +1.7
WMQ PS PS 16 12 27.0 +1.2
WMQ SS SS 16 16 40.0 +1.9
WMQ AMB AMB
comp=Z,139nm,1.3s,mb5.7
WMQ AMB AMB
comp=Z,6μm,6.6s
WMQ LR LR
comp=N,23μm,18.6s,MS6.7
WMQ LR LR
comp=E,22μm,18.6s,MS6.7
WMQ LR LR
comp=Z,21μm,26.4s
HYB Hyderabad 75.79 289⇑ *i*P **P 16 02 08.5 -0.7**
comp=Z,140nm,1.0s,mb5.8
HYB *e*PcP PcP 16 02 23.0 +1.0
HYB *e* 16 02 32.5
HYB *e*PP PP 16 05 02.0 +0.8
HYB *e*S S 16 11 46.0 -1.3
HYB LR LR 16 40 18.0
comp=Z,27nm,20.0s
HYB Hyderabad 75.79 289⇑ *e*P **P 16 02 08.5 -0.7**
comp=Z,140nm,1.0s,mb5.8
HYB *e*S S 16 11 44.0 -3.3
HYB Hyderabad 75.79 289⇑ *e*P **P 16 02 08.5 -0.7**
HYB *e*S S 16 11 44.0 -3.3
HYB pmax pmax
comp=Z,140nm,1.0s,mb5.8
PTH Pithoragarh 76.85 302 *e*P **P 16 02 15.0 0.0**
KDAK Kodiak Island 77.17 27 P **P 16 02 16.2 0.0**
comp=Z,105nm,1.1s,mb5.7,baz=186,slow=2.8,SNR=17
KDAK LR LR 16 31 07.9
comp=Z,16μm,20.9s,MS6.3,baz=215,slow=32
KDAK Kodiak Island 77.17 27 *e*P **P 16 02 15.6 -0.6**
comp=Z,115nm,0.8s,mb5.9
KDAK LR LR
comp=Z,6μm,22.0s,MS5.8
SVW2 Sparrevohn 77.78 23 *e*P **P 16 02 19.2 -0.3**
AKL Akola 77.82 292 *e*P **P 16 02 17.3 -3.2**
AKL *i* x x 16 11 21.7
BHPL Bhopal 77.92 295 *e*P **P 16 02 20.5 -0.5**
BHPL AMb AMB 16 02 24.6
comp=Z,100nm,0.7s,mb5.8
BHPL AMS AMS 16 34 42.1
comp=Z,10μm,18.6s,MS6.2
TIXI Tiksi 78.40 353⇑ *i*P **P 16 02 20.3 -2.4**
TIXI LR LR
comp=Z,21μm,19.0s,MS6.5
TIXI Tiksi 78.40 353*c* *i*P **P 16 02 19.0 -3.7**
TIXI *e* 16 05 14.6
TIXI *e*S S 16 12 10.9 -3.6
TIXI *e*SS SS 16 17 13.5 -7.1
TIXI pmax pmax
comp=Z,48nm,1.2s,mb5.3
MNGI Mangalore 78.62 284 *e*P **P 16 02 24.7 -0.3**
MNGI *e*S S 16 12 21.6 +3.6
comp=Z,20μm,19.6s
TTA Tatalina 78.71 22 *e*P **P 16 02 24.6 0.0**
comp=Z,166nm,1.1s,mb5.9
TTA Tatalina 78.71 22 *e*P **P 16 02 24.6 +0.1**
TTA pmax pmax
comp=Z,166nm,1.1s,mb5.9
DGAR Diego Garcia 78.81 264 *e*P **P 16 02 26.0 -0.1**
comp=Z,336nm,0.9s,mb6.3
DGAR LR LR
comp=Z,3μm,20.0s,MS5.7
DGAR Diego Garcia 78.81 264 P **P 16 02 26.5 +0.4**
DGAR pmax pmax
comp=Z,340nm,1.0s,mb6.2
NDI New Delhi 79.21 300 *e*P **P 16 02 26.0 -2.0**
NDI *ex* x 16 12 36.0
SONA Sohna 79.24 300 *e*P **P 16 02 26.2 -2.0**
SONA AMb AMB 16 02 28.5
comp=Z,131nm,0.8s,mb5.9
SPU Mount Spurr 79.24 24 *e*P **P 16 02 24.8 -2.7**
AYAN Aya Nagar 79.25 300 *e*P **P 16 02 26.6 -1.6**
AYAN AMb AMB 16 02 28.7
comp=Z,145nm,1.0s,mb5.9
SLKM Skilak Lake 79.65 25 *e*P **P 16 02 29.0 -0.7**
SLKM Skilak Lake 79.65 25 P **P 16 02 29.2 -0.5**
KUDL Kundal 79.73 300 *e*P **P 16 02 29.3 -1.5**
KUDL AMb AMB 16 02 31.6
comp=Z,71nm,0.8s,mb5.7
KAD Karad 79.89 289 AMS AMS 16 33 45.6
comp=Z,9μm,18.1s,MS6.2
MKAR Makanchi Array 80.17 319 P **P 16 02 32.7 -0.1**
comp=Z,45nm,0.8s,mb5.4,baz=110,slow=5.6,SNR=236
MKAR S S 16 12 44.5 +11
comp=Z,0.4nm,0.6s,baz=108,slow=7.7,SNR=3.3
MKAR PKKPbc 16 21 17.1
comp=Z,3.7nm,1.0s,baz=286,slow=2.1,SNR=6.9
MKAR PKPPKP 16 29 22.8
comp=Z,1.6nm,0.9s,baz=288,slow=3.8,SNR=5.8
MKAR LR LR 16 38 20.4
comp=Z,32μm,18.9s,MS6.7,baz=96,slow=36
MKAR Makanchi Array 80.17 319 P **P 16 02 32.7 -0.1**
MKAR S S 16 12 44.5 +11
MKAR PKKPbc 16 21 17.1
MKAR P'P' 16 29 22.8
MKAR LR LR 16 38 20.4
KHET Khetri 80.31 300 *e*P **P 16 02 33.1 -0.8**
KHET AMb AMB 16 02 34.8
comp=Z,146nm,0.5s,mb6.2
PMR Palmer 80.66 25⇑ *e*P **P 16 02 33.6 -1.4**
comp=Z,109nm,0.9s,mb5.8
PMR LR LR
comp=Z,26μm,20.0s,MS6.6
PMR Palmer 80.66 25⇑ *e*P **P 16 02 33.6 -1.5**
PMR pmax pmax
comp=Z,109nm,0.9s,mb5.8
PMR MLR MLR
comp=Z,26μm,20.0s,MS6.6
AJM Ajmer 81.02 298 *i* P **P 16 02 36.0 -1.7**
NVS Novosibirsk 82.33 327⇑ *i*P **P 16 02 43.6 -0.3**
NVS *e* 16 07 42.1
NVS *e*S S 16 12 51.4 -4.3
NVS pmax pmax
comp=Z,491nm,2.4s,mb6.0
NVS pmax pmax
comp=N,146nm,2.2s
NVS pmax pmax
comp=E,293nm,2.5s
NVS smax
comp=N,1μm,4.3s
NVS smax
comp=E,1μm,3.6s
KSH Kashi 82.61 311⇑ *i*P **P 16 02 47.5 +1.8**
KSH *e*AP pP 16 02 58.0 +1.2
KSH *e*XP sP 16 03 00.8 +0.1
KSH *e*PP PP 16 06 00.8 +3.4
KSH PPP PPP 16 07 51.5 +1.4
KSH S S 16 13 01.0 +2.1
KSH SKS SKS 16 13 02.3 +2.5
KSH *e*XS 16 13 18.3
KSH *e*SS SS 16 18 27.0 +2.5
KSH AMB AMB
comp=Z,8μm,6.7s
KSH LR LR
comp=N,10μm,16.3s,MS6.8
KSH LR LR
comp=E,32μm,18.1s,MS6.8
COLA College 82.79 22⇑ *i*P **P 16 02 44.4 -1.7**
comp=E,131nm,0.8s,mb6.0
COLA LR LR
comp=Z,23μm,20.0s,MS6.5
COLA College 82.79 22 P **P 16 02 44.6 -1.5**
COLA pmax pmax
comp=Z,130nm,0.8s,mb6.0
ILAR Eielson Array 83.10 22 P **P 16 02 46.2 -1.4**
comp=Z,74nm,0.9s,mb5.7,baz=251,slow=5.4,SNR=270
ILAR S S 16 13 01.5 -1.8
comp=Z,3.0nm,1.0s,baz=236,slow=7.9,SNR=6.9
ILAR PKKPbc 16 21 12.6
comp=Z,1.7nm,0.7s,baz=356,slow=2.2,SNR=7.3
ILAR LR LR 16 37 36.9
comp=Z,29μm,20.1s,MS6.7,baz=180,slow=34
MENT Mentasta 83.52 25 *e*P **P 16 02 50.1 +0.3**
KURK Kurchatov 83.67 322⇑ *i*P **P 16 02 49.5 -1.3**
comp=Z,240nm,1.1s,mb6.2
KURK LR LR
comp=Z,7μm,20.0s,MS6.0
KURK Kurchatov 83.67 322 P **P 16 02 49.6 -1.2**
KURK pmax pmax
comp=Z,240nm,1.1s,mb6.2
TKM2 Tokmak 2 83.67 314 P **P 16 02 52.0 +0.9**
SNR=38
KZA Kyzart 83.73 313 P **P 16 02 53.5 +2.1**
SNR=85
KBK Karagaybulak 84.08 314 P **P 16 02 54.1 +1.0**
SNR=55
CHMS Chumysh 84.30 314 P **P 16 02 54.9 +0.7**
SNR=70
UCH Uchtor 84.30 313 P **P 16 02 55.7 +1.4**
SNR=110
FRU Bishkek 84.36 314⇑ *i*P **P 16 02 54.0 -0.5**
FRU S S 16 13 14.0 -2.3
FRU pmax pmax
comp=Z,720nm,2.2s,mb6.4
AAK Ala-Archa 84.40 314 P **P 16 02 55.8 +1.1**
SNR=57
AAK Ala-Archa 84.40 314⇑ *i*P **P 16 02 53.8 -1.0**
comp=Z,98nm,0.9s,mb5.9
AAK LR LR
comp=Z,8μm,20.0s,MS6.1
AAK Ala-Archa 84.40 314*c* *i*P **P 16 02 54.6 -0.1**
AAK pmax pmax
comp=Z,133nm,1.3s,mb5.9
AAK MLR MLR
comp=Z,37μm,21.0s,MS6.7
QSPA South Pole Qui 84.53 180 *e*P **P 16 02 54.5 -0.1**
QSPA LR LR
comp=Z,20μm,22.0s,MS6.5
USP Ospenovka 84.53 314 P **P 16 02 55.8 +0.4**
SNR=105
MAW Mawson 84.62 203⇓ *i*P **P 16 02 55.3 +0.1**
comp=Z,129nm,1.8s,mb5.8
MAW Mawson 84.62 203 P **P 16 02 55.8 +0.6**
comp=Z,40nm,0.7s,mb5.6,baz=82,slow=5.6,SNR=65
MAW S S 16 13 17.4 -0.9
comp=Z,0.3nm,0.3s,baz=302,slow=7.5,SNR=2.0
MAW PKKPbc 16 21 05.6
comp=Z,5.0nm,0.8s,baz=274,slow=6.1,SNR=10.0
MAW LR LR 16 37 30.9
comp=Z,48μm,21.7s,MS6.8,baz=83,slow=33
MAW Mawson 84.62 203 P **P 16 02 55.5 +0.3**
MAW pmax pmax
comp=Z,780nm,1.7s
AML Almayashu 84.87 313 P **P 16 02 59.1 +2.0**
SNR=7.5
EKS2 Erkin-Say 84.92 314 P **P 16 02 58.7 +1.4**
SNR=118
BHUJ Bhuj 84.97 294 *e*P **P 16 02 57.5 -0.5**
BHUJ AMb AMB 16 03 07.6
comp=Z,166nm,1.0s,mb6.1
SIT Sitka 85.31 32 *e*P **P 16 02 57.7 -1.2**
comp=Z,325nm,1.2s,mb6.3
SIT LR LR
comp=Z,62μm,19.0s,MS7.0
SIT Sitka 85.31 32 P **P 16 03 00.3 +1.4**
SIT pmax pmax
comp=Z,320nm,1.2s,mb6.3
CRAG Craig 86.04 33 *e*P **P 16 03 09.5 +7.0**
KKAR Karatay Array 87.36 314 *i* P **P 16 03 09.3 0.0**
KKAR pmax pmax
comp=Z,88nm,1.0s,mb5.9
BBB Bella Bella 88.18 37 P **P 16 03 13.7 +0.7**
comp=Z,39nm,0.9s,mb5.6,baz=76,slow=0.8,SNR=5.4
BBB LR LR 16 38 22.6
comp=Z,20μm,20.3s,MS6.5,baz=346,slow=33
BBB Bella Bella 88.18 37 P **P 16 03 13.7 +0.7**
BBB LR LR 16 38 22.6
DLBC Dease Lake 88.42 31 P **P 16 03 15.2 +1.3**
comp=Z,130nm,1.1s,mb6.1,baz=258,slow=4.5,SNR=60
DLBC LR LR 16 37 07.4
comp=Z,47μm,20.4s,MS6.9,baz=310,slow=32
DLBC Dease Lake 88.42 31⇑ *e*P **P 16 03 14.3 +0.4**
KBO Bosley Butte 89.13 48⇑ *e*P **P 16 03 17.8 0.0**
KEBM Edson Butte 89.15 47⇑ *e*P **P 16 03 18.7 +0.9**
CHKZ Chkalovo 89.15 324 P **P 16 03 16.0 -1.5**
CHKZ pmax pmax
comp=Z,44nm,0.8s,mb5.8
BVA0 Borovoye Array 89.17 323 *i* P **P 16 03 16.7 -0.9**
BVA0 pmax pmax
comp=Z,11nm,0.8s,mb5.2
BRVK Borovoye 89.24 323⇑ *i*P **P 16 03 16.7 -1.3**
comp=Z,47nm,0.8s,mb5.9
BRVK LR LR
comp=Z,4μm,21.0s,MS5.8
BRVK Borovoye 89.24 323⇑ *i*P **P 16 03 16.7 -1.3**
BRVK pmax pmax
comp=Z,47nm,0.8s,mb5.9
BRVK MLR MLR
comp=Z,4μm,21.0s,MS5.8
KCPM Cahto Peak 89.27 50⇑ *e*P **P 16 03 18.9 +0.4**
KHMM Horse Mountain 89.32 49⇑ *e*P **P 16 03 19.8 +1.2**
KIPM Iron Peak 89.37 50 *e*P **P 16 03 18.5 -0.4**
INK Inuvik 89.39 21 P **P 16 03 18.1 -0.2**
comp=Z,47nm,1.2s,mb5.7,baz=232,slow=7.0,SNR=18
INK LR LR 16 47 08.6
comp=Z,18μm,18.4s,MS6.5,baz=244,slow=38
INK Inuvik 89.39 21⇑ *i*P **P 16 03 17.6 -0.8**
comp=Z,182nm,1.3s,mb6.2
INK Inuvik 89.39 21 P **P 16 03 18.4 +0.1**
INK pmax pmax
comp=Z,180nm,1.2s
HOPS Hopland 89.58 51 *e*P **P 16 03 19.2 -0.7**
comp=Z,102nm,1.3s,mb6.0
HOPS LR LR
comp=Z,35μm,19.0s,MS6.8
NSHM Saint Helena R 89.88 51 *e*P **P 16 03 22.4 +1.1**
OOW Octopus West 89.94 42 P **P 16 03 22.7 +1.3**
COR Corvallis 90.12 45⇑ *i*P **P 16 03 23.0 +0.7**
comp=Z,290nm,1.5s,mb6.4
COR LR LR
comp=Z,8μm,20.0s,MS6.2
COR Corvallis 90.12 45⇑ *i*P **P 16 03 23.0 +0.7**
COR pmax pmax
comp=Z,290nm,1.5s,mb6.4
COR MLR MLR
comp=Z,8μm,20.0s,MS6.2
WDC Whiskeytown Da 90.18 49⇑ *e*P **P 16 03 22.9 +0.2**
comp=Z,109nm,1.4s,mb6.0
WDC LR LR
comp=Z,31μm,20.0s,MS6.7
WDC Whiskeytown Da 90.18 49 P **P 16 03 23.4 +0.7**
WDC pmax pmax
comp=Z,110nm,1.3s,mb6.0
YBH Yreka Blue Hor 90.19 48 P **P 16 03 23.7 +1.0**
comp=Z,127nm,1.3s,mb6.1,baz=207,slow=1.8,SNR=45
YBH LR LR 16 36 27.3
comp=Z,25μm,21.7s,MS6.6,baz=253,slow=31
YBH Yreka Blue Hor 90.19 48⇑ *i*P **P 16 03 23.4 +0.7**
comp=Z,198nm,1.4s,mb6.2
YBH LR LR
comp=Z,26μm,22.0s,MS6.6
YBH Yreka Blue Hor 90.19 48⇑ *i*P **P 16 03 23.4 +0.7**
YBH pmax pmax
comp=Z,198nm,1.4s
YBH MLR MLR
comp=Z,26μm,22.0s
LHEM Herd Peak 90.54 48 P **P 16 03 25.7 +1.3**
PGC Sidney 90.55 41⇓ *e*P **P 16 03 21.2 -3.1**
comp=Z,202nm,1.0s,mb6.4
SAO San Andreas Ge 90.59 53 *e*P **P 16 03 24.5 -0.2**
comp=Z,143nm,1.8s,mb6.0
SAO LR LR
comp=Z,28μm,21.0s,MS6.7
SAO San Andreas Ge 90.59 53 *e*P **P 16 03 24.5 -0.2**
SAO pmax pmax
comp=Z,143nm,1.8s,mb6.0
SAO MLR MLR

comp=Z,28µm,21.0s,MS6.7
HBO Huckleberry Mo 90.73 46 P **P 16 03 25.8 +0.6**
IRO Indian Ridge 90.80 46 P **P 16 03 26.1 +0.5**
OHCM Honcut 90.84 51 *e*P **P 16 03 25.3 -0.6**
LRV Little Rabbit 90.90 54 *e*P **P 16 03 27.9 +1.7**
FRIS Frissel Point 90.93 46 P **P 16 03 26.8 +0.7**
HOG Hogback Mounta 91.00 48 P **P 16 03 27.9 +1.3**
WIFE Three Sisters- 91.12 46 P **P 16 03 26.9 -0.2**
PTRM Twissleman Ran 91.47 55 *e*P **P 16 03 30.0 +1.1**
CMB Columbia Colle 91.56 52⇑*i*P **P 16 03 29.4 +0.2**
comp=Z,89nm,1.4s,mb5.9
CMB LR LR
comp=Z,45µm,20.0s,MS6.9
CMB Columbia Colle 91.56 52 P **P 16 03 30.3 +1.1**
CMB pmax pmax
comp=Z,89nm,1.4s,mb5.9
BEKR Beckwourth 91.76 50⇑*i*P **P 16 03 30.3 +0.2**
comp=Z,68nm,1.2s,mb5.8
SNCC San Nicolas Is 91.81 57 PFAKE 16 03 40.0 +10
SNCC LR LR
comp=Z,26µm,19.0s,MS6.7
MOD Modoc 92.00 48⇑*i*P **P 16 03 31.3 +0.2**
comp=Z,171nm,1.3s,mb6.2
MOD LR LR
comp=Z,29µm,20.0s,MS6.7
PAHR Pah Rah Range 92.50 51⇑*i*P **P 16 03 34.0 +0.6**
comp=Z,70nm,1.3s,mb5.8
NLW Nelson Butte 92.55 42 P **P 16 03 34.1 +0.6**
SYO Syowa Base 92.75 200⇓P **P 16 03 32.4 -1.6**
SYO Syowa Base 92.75 200⇓PcP PcP 16 03 34.2 -0.6
SYO Syowa Base 92.75 200⇑sP sP 16 03 44.5 -4.4
ISA Isabella 92.88 55 PFAKE 16 03 50.0 +15
ISA LR LR
comp=Z,6µm,20.0s,MS6.0
MTUM Tungsten Hills 92.94 53 *e*P **P 16 03 36.5 +0.9**
HAWA Hanford 92.95 44⇑*i*P **P 16 03 35.8 +0.4**
comp=Z,14nm,1.4s,mb5.2
HAWA LR LR
comp=Z,2µm,22.0s,MS5.6
MWC Mount Wilson 93.11 56⇑*i*P **P 16 03 37.5 +1.0**
WVOR Wild Horse Val 93.28 48⇑*i*P **P 16 03 37.4 +0.5**
comp=Z,230nm,1.4s,mb6.4
WVOR LR LR
comp=Z,36µm,22.0s,MS6.8
WVOR Wild Horse Val 93.28 48⇑*i*P **P 16 03 37.4 +0.4**
WVOR pmax pmax
comp=Z,230nm,1.4s,mb6.4
WVOR MLR MLR
comp=Z,36µm,22.0s,MS6.8
MNV Mina 93.35 52⇑*i*P **P 16 03 37.9 +0.5**
comp=Z,103nm,1.2s,mb6.1
MNV *e*PP PP 16 07 20.8 -3.6
MNV LR LR
comp=Z,36µm,20.0s,MS6.8
MNV Mina 93.35 52⇑*i*P **P 16 03 37.9 +0.5**
MNV *e* 16 07 20.8
MNV pmax pmax
comp=Z,103nm,1.2s,mb6.1
MNV MLR MLR
comp=Z,36µm,20.0s,MS6.8
OD2 Odessa Site #2 93.59 43 P **P 16 03 38.6 +0.3**
BAR Barrett 94.15 58⇑*e*P **P 16 03 41.7 +0.5**
PFO Pinyon Flat Ob 94.39 57⇑*i*P **P 16 03 43.2 +1.0**
comp=Z,70nm,1.1s,mb6.0
PFO LR LR
comp=Z,5µm,21.0s,MS6.0
PFO Pinyon Flat Ob 94.39 57⇑*i*P **P 16 03 43.2 +0.9**
PFO pmax pmax
comp=Z,70nm,1.1s,mb6.0
PFO MLR MLR
comp=Z,5µm,21.0s,MS6.0
BMO Blue Mountains 94.40 46⇑*i*P **P 16 03 42.2 +0.2**
comp=Z,175nm,1.4s,mb6.3
BMO *e*PP PP 16 07 39.4 +7.2
BMO LR LR
comp=Z,27µm,21.0s,MS6.7
BMO Blue Mountains 94.40 46⇑*i*P **P 16 03 42.2 +0.2**
BMO pmax pmax
comp=Z,175nm,1.4s,mb6.3
BMO MLR MLR
comp=Z,27µm,21.0s,MS6.7
NEW Newport 94.71 42 P **P 16 03 43.4 +0.1**
comp=Z,28nm,0.9s,mb5.7,baz=250,slow=2.6,SNR=36
NEW LR LR 16 42 27.9
comp=Z,36µm,19.2s,MS6.8,baz=268,slow=33
NEW Newport 94.71 42⇑*e*P **P 16 03 42.4 -0.9**
comp=Z,107nm,1.2s,mb6.2
NEW LR LR
comp=Z,37µm,19.0s,MS6.9
NEW Newport 94.71 42⇑*e*P **P 16 03 42.4 -0.9**
NEW pmax pmax
comp=Z,107nm,1.2s
NEW MLR MLR
comp=Z,37µm,19.0s
AB31 Akbulak array 95.31 319 *i*P **P 16 03 44.3 -1.8**
AB31 pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
RPN Rapa Nui 95.37 118 PFAKE 16 04 00.0 +13
RPN LR LR
comp=Z,4µm,22.0s,MS5.9
LDFC Landfair 95.59 55⇑*e*P **P 16 03 48.7 +1.1**
ELK Elko 95.73 50 P **P 16 03 49.0 +0.8**
comp=Z,7.9nm,0.7s,mb5.3,baz=240,slow=2.7,SNR=32
NEN Nelson 95.83 55 *e*P **P 16 03 50.0 +1.3**
MSEY Mahe Island 95.87 265 PFAKE 16 04 00.0 +11
MSEY LR LR
comp=Z,2µm,20.0s,MS5.7
VAN Vannovskaya 96.24 307 *e*P **P 16 03 52.0 +1.5**
BSMT Bassoo Peak 96.26 43 P **P 16 03 50.8 +0.4**
ARU Arti 96.30 326⇑*i*P **P 16 03 47.9 -2.4**
comp=Z,30nm,1.0s,mb5.7
ARU LR LR
comp=Z,18µm,22.0s,MS6.5
ARU Arti 96.30 326⇓*i*P **P 16 03 47.3 -3.0**
ARU *i* 16 07 40.0
ARU *e*S 16 14 20.8
ARU *e*SP SP 16 16 22.6 -6.5
ARU *e*PS PS 16 16 32.1 -2.1
ARU *i* SS SS 16 21 35.7 -5.4
ARU pmax pmax
comp=Z,34nm,1.1s,mb5.7
ARU MLR MLR
comp=N,6µm,22.0s,MS7.0
ARU MLR MLR
comp=E,50µm,22.0s,MS7.0
ARU MLR MLR
comp=Z,73µm,22.0s,MS7.1
YKW3 Yellowknife Ar 96.43 28⇑*e*P **P 16 03 50.8 0.0**
YKA Yellowknife Ar 96.43 28 P **P 16 03 50.9 +0.1**
comp=Z,8.2nm,0.7s,mb5.3,baz=272,slow=4.7,SNR=20
YKA LR LR 16 43 46.3
comp=Z,19µm,21.1s,MS6.6,baz=275,slow=33
YKA Yellowknife Ar 96.43 28 P **P 16 03 50.9 +0.1**
YKA LR LR 16 43 46.3
MSO Missoula 96.82 44 *e*P **P 16 03 51.3 -1.7**
comp=Z,13nm,1.2s,mb5.2
MSO LR LR
comp=Z,16µm,22.0s,MS6.5
ARUT Antelope Range 97.03 53 *e*P **P 16 03 55.6 +1.4**
EDM Edmonton 97.20 37⇑*i*P **P 16 03 55.1 +0.5**
SOKR Solikamsk 97.21 329⇑*i*P **P 16 03 53.5 -0.9**
SOKR 16 07 52.1
SOKR 16 14 32.6
SOKR PS PS 16 16 41.2 -2.6
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,22µm,20.0s,MS6.6
CHMT Chamberlain Mo 97.29 44 *e*P **P 16 03 55.0 -0.1**
CHMT *e*PP PP 16 07 56.3 +1.6
BGU Big Grassy Mou 97.41 50⇑*e*P **P 16 03 55.6 -0.2**
DUG Dugway 97.56 50⇑*i*P **P 16 03 56.7 +0.2**
comp=Z,56nm,1.4s,mb5.9
DUG LR LR
comp=Z,22µm,19.0s,MS6.7
DUG Dugway 97.56 50⇑*i*P **P 16 03 56.7 +0.2**
DUG pmax pmax
comp=Z,56nm,1.4s,mb5.9
DUG MLR MLR
comp=Z,22µm,19.0s,MS6.7
MCMT McKenzie Canyo 97.57 46 *e*P **P 16 03 56.7 +0.3**
HVU Hansel Valley 97.61 49⇑*i*P **P 16 03 57.2 +0.5**
comp=Z,52nm,1.1s,mb6.0
HVU Hansel Valley 97.61 49⇑*i*P **P 16 03 57.2 +0.5**
HVU pmax pmax
comp=Z,52nm,1.1s,mb6.0
DLMT Dillon 97.75 45⇑*e*P **P 16 03 56.9 -0.3**
MSU Marysvale 98.04 52 *e*P **P 16 03 59.0 +0.3**
MSU *e*PP PP 16 08 00.2 -0.6
NOQ North Oquirrh 98.10 50 *e*P **P 16 03 58.5 -0.4**
NLU North Lily Min 98.13 51⇑*e*P **P 16 03 59.8 +0.7**
HRY Holter Researc 98.27 44 *e*P **P 16 03 59.0 -0.5**
BOZ Bozeman (W) 98.43 45⇑*e*P **P 16 04 00.3 0.0**
comp=Z,23nm,0.9s,mb5.7
BOZ LR LR
comp=Z,27µm,22.0s,MS6.7
BOZ Bozeman (W) 98.43 45⇑*e*P **P 16 04 00.3 0.0**
BOZ pmax pmax
comp=Z,23nm,0.9s,mb5.7
BOZ MLR MLR
comp=Z,27µm,22.0s,MS6.7
MPU Maple Canyon 98.47 50⇑*e*P **P 16 04 00.9 +0.3**
comp=Z,50nm,1.3s,mb5.9
HWUT Hardware Ranch 98.51 49⇑*e*P **P 16 04 00.4 -0.3**
comp=Z,13nm,0.8s,mb5.5
HWUT *e*PP PP 16 07 57.1 -6.9
HWUT LR LR
comp=Z,28µm,19.0s,MS6.8
QLMT Earthquake Lak 98.58 46 *e*P **P 16 04 02.1 +1.1**
TCUT Toone Canyon 98.64 49 *e*P **P 16 04 01.7 +0.4**
WUAZ Wupatki 98.65 55⇑*e*P **P 16 04 02.9 +1.3**
comp=Z,55nm,1.3s,mb5.9
WUAZ LR LR
comp=Z,21µm,20.0s,MS6.6
RRI2 Red Ridge 98.68 47⇑*i*P **P 16 04 02.2 +0.7**
comp=Z,23nm,0.8s,mb5.8
RRI2 *e*PP PP 16 08 01.2 -4.0
DAU Daniels Canyon 98.75 50 *e*P **P 16 04 02.0 +0.1**
DAU Daniels Canyon 98.75 50 P **P 16 04 03.1 +1.2**
TMUT Trail Mountain 98.80 51⇑*i*P **P 16 04 03.2 +1.1**
AHID Auburn Hatcher 98.85 48⇑*e*P **P 16 04 02.3 +0.1**
comp=Z,14nm,0.9s,mb5.5
AHID LR LR
comp=Z,30µm,19.0s,MS6.8
YMR Madison River 98.91 46⇑*i*P **P 16 04 03.3 +0.8**
comp=Z,43nm,1.0s,mb5.9
TPAW Teton Pass 98.95 47 *e*P **P 16 04 02.7 0.0**
comp=Z,14nm,0.6s,mb5.7
IMW Indian Meadow 98.95 47 *e*P **P 16 04 03.3 +0.7**
comp=Z,31nm,1.1s,mb5.8
IMW *e*PP PP 16 08 02.1 -4.9
YFT Old Faithful 99.01 46⇑*i*P **P 16 04 04.8 +1.9**
REDW Red Top Meadow 99.02 47⇑*i*P **P 16 04 03.5 +0.5**
comp=Z,39nm,1.2s,mb5.8
REDW *e*PP PP 16 07 56.1 -11
SNOW Snow King Moun 99.09 47 *e*P **P 16 04 03.6 +0.3**
MOOW Moose Ponds 99.09 47⇑*i*P **P 16 04 03.8 +0.5**
comp=Z,11nm,0.9s,mb5.4
MOOW *e*PP PP 16 08 08.9 +0.7
TUC Tucson 99.11 58⇑*e*P **P 16 04 05.6 +1.9**
comp=Z,6.6nm,0.9s,mb5.2
TUC LR LR
comp=Z,20µm,19.0s,MS6.6
TUC Tucson 99.11 58⇑*e*P **P 16 04 05.6 +1.9**
TUC pmax pmax
comp=Z,7.0nm,0.9s,mb5.2
TUC MLR MLR
comp=Z,20µm,19.0s,MS6.6
LOHW Long Hollow 99.20 47⇑*e*P **P 16 04 04.2 +0.4**
comp=Z,63nm,1.8s,mb5.8
LKWY Lake 99.32 46⇑*e*P **P 16 04 05.9 +1.6**
comp=Z,30nm,1.1s,mb5.7
LKWY LR LR
comp=Z,58µm,19.0s,MS7.1
LKWY Lake 99.32 46⇑*e*P **P 16 04 05.9 +1.6**
LKWY pmax pmax
comp=Z,30nm,1.1s,mb5.7
LKWY MLR MLR
comp=Z,58µm,19.0s,MS7.1
SRU San Rafael 99.33 51⇑*e*P **P 16 04 04.8 +0.3**
comp=Z,18nm,0.9s,mb5.6
SRU San Rafael 99.33 51⇑*e*P **P 16 04 04.9 +0.4**
SRU pmax pmax
comp=Z,18nm,0.9s,mb5.6
NVL N'lazarevskaya 99.44 192 *e*P **P 16 04 09.0 +4.7**
NVL *e*S PP 16 08 09.2 -1.1
PDAR Pinedale Array 99.98 48 P **P 16 04 07.2 -0.3**
comp=Z,8.2nm,0.8s,mb5.2,baz=243,slow=3.3,SNR=64
PDAR PP PP 16 08 12.3 -3.0
comp=Z,4.2nm,1.1s,baz=270,slow=5.9,SNR=4.3
PDAR PKKP PKKP 16 20 31.1 +8.0
comp=Z,1.9nm,0.8s,baz=90,slow=4.4,SNR=5.6
PDAR LR LR 16 48 28.0
comp=Z,25µm,18.4s,MS6.8,baz=271,slow=35
SNAA Sanae 101.27 188 PKKPbc 16 20 22.1
comp=Z,3.6nm,0.8s,baz=289,slow=0.9,SNR=24
SMCO Snowmass 102.09 51⇑*e*Pdif Pdif 16 04 17.9 +0.9
LAO LASA Array 102.13 44 *e*Pdif Pdif 16 04 17.4 +0.4
comp=Z,50nm,0.9s
LAO LR LR
comp=Z,22µm,20.0s,MS6.7
VNA3 Neumayer Olymp 102.50 186 P Pdif 16 04 21.8 +3.7
VNA3 Neumayer Olymp 102.50 186 Pdif 16 04 29.5 +11
VNA3 Neumayer Olymp 102.50 186 Pdif 16 04 33.9 +16
VNA3 Neumayer Olymp 102.50 186 PP 16 08 42.0 +8.2
VNA3 Neumayer Olymp 102.50 186 16 08 55.4
VNA2 Neumayer--Watz 102.55 187 P Pdif 16 04 22.7 +4.4
VNA2 Neumayer--Watz 102.55 187 Pdif 16 04 28.2 +10
VNA2 Neumayer--Watz 102.55 187 Pdif 16 04 33.8 +16
VNA2 Neumayer--Watz 102.55 187 PP 16 08 39.7 +5.5
VNA2 Neumayer--Watz 102.55 187 16 08 49.6
ANMO Albuquerque 102.68 56 P Pdif 16 04 21.3 +1.6
comp=Z,3.2nm,1.0s,baz=284,slow=5.0,SNR=7.7
ANMO PP PP 16 08 37.4 +1.3
comp=Z,3.8nm,1.0s,baz=298,slow=6.0,SNR=4.3
ANMO Albuquerque 102.68 56⇑*e*Pdif Pdif 16 04 21.0 +1.3
comp=Z,9.2nm,1.2s
ANMO LR LR
comp=Z,12µm,19.0s,MS6.4
ANMO Albuquerque 102.68 56⇑*e*P Pdif 16 04 21.0 +1.3
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ANMO MLR MLR
comp=Z,12µm,19.0s
VNA1 Neumayer--Stat 102.91 187 P Pdif 16 04 28.2 +8.3
VNA1 Neumayer--Stat 102.91 187 Pdif 16 04 35.5 +16
VNA1 Neumayer--Stat 102.91 187 PP 16 08 36.9 -0.1
ISCO Idaho Springs 103.10 51 *e*P Pdif 16 04 22.4 +0.9
comp=Z,38nm,1.5s
ISCO *e*PP PP 16 08 32.7 -6.5
ISCO LR LR
comp=Z,37µm,22.0s,MS6.9
ISCO Idaho Springs 103.10 51 *e*P Pdif 16 04 22.4 +1.0
ISCO *e* 16 08 32.7
ISCO pmax pmax
comp=Z,38nm,1.5s
ISCO MLR MLR
comp=Z,37µm,22.0s,MS6.9
DGMT Dagmar 103.31 42⇑*e*Pdif Pdif 16 04 22.0 -0.1
comp=Z,92nm,1.3s
DGMT LR LR
comp=Z,17µm,20.0s,MS6.6
SDCO Great Sand Dun 103.32 53⇑*i*Pdif Pdif 16 04 23.5 +1.0
comp=Z,30nm,1.5s
SDCO LR LR
comp=Z,30µm,21.0s,MS6.8
MNTX Cornudas Mount 103.71 59 *e*Pdif Pdif 16 04 26.9 +2.6
comp=Z,11nm,1.1s
MNTX LR LR
comp=Z,24µm,19.0s,MS6.7
KBS Kingsbay 103.86 353 *e*P Pdif 16 04 25.8 +1.9
KBS *e*PP PP 16 08 39.4 -4.2
KBS *e* 16 17 54.9
KBS *e*SS SS 16 23 29.8 +4.2
KBS Kingsbay 103.86 353 *e*P Pdif 16 04 25.8 +1.9
KBS MLR MLR
comp=Z,13µm,20.0s,MS6.4
MAK Makhachkala 104.17 313*c i*P Pdif 16 04 30.0 +4.0
MAK *e* 16 08 50.0
MAK *i* 16 15 05.0
MAK pmax pmax
comp=Z,2µm,9.0s
MAK MLR MLR
comp=Z,9µm,18.0s,MS6.3
MAK MLR MLR
comp=N,21µm,19.0s,MS6.8
MAK MLR MLR
comp=E,16µm,19.0s,MS6.8
PECR Pechory 104.31 327 *e*P Pdif 16 04 26.0 -0.3
PECR *e* 16 15 07.6
PECR pmax pmax
comp=Z,900nm,6.0s
PECR MLR MLR
comp=Z,47µm,21.0s,MS7.0
PECR MLR MLR
comp=N,9µm,19.0s,MS6.7
PECR MLR MLR
comp=E,19µm,20.0s,MS6.7
LVZ Lovozero 105.02 340 *i*P Pdif 16 04 30.7 +1.5
LVZ *i* 16 08 57.1
LVZ *i*PPP PPP 16 11 05.2 -1.9
LVZ *i*SP SP 16 18 02.7 +2.9
LVZ *i*SS SS 16 23 46.7 +4.8
LVZ pmax pmax
comp=Z,1µm,19.1s
LVZ pmax pmax
comp=E,269nm,13.8s
LVZ pmax pmax
comp=Z,2µm,5.3s
LVZ pmax pmax
comp=N,1µm,5.6s
LVZ pmax pmax
comp=E,758nm,5.1s
LVZ MLR MLR
comp=Z,16µm,20.0s,MS6.5
LVZ MLR MLR
comp=N,11µm,21.0s,MS6.6
LVZ MLR MLR
comp=E,15µm,25.0s,MS6.6
PMSA Palmer Station 105.11 165 PFAKE 16 09 00.0
PMSA LR LR
comp=Z,10µm,19.0s,MS6.4
LTX Lajitas 105.28 61 PFAKE 16 09 00.0
LTX LR LR
comp=Z,35µm,20.0s,MS6.9
TXAR Lajitas Array 105.28 61 Pdiff Pdif 16 04 33.9 +2.6
comp=Z,0.5nm,0.3s,baz=315,slow=57,SNR=2.4
TXAR PKiKP 16 08 46.5
comp=Z,2.1nm,0.8s,baz=270,slow=5.5,SNR=3.5
TXAR PKKPab 16 20 29.9
comp=Z,9.3nm,0.8s,baz=112,slow=6.7,SNR=13
APA Apatity 105.59 339⇑*i*P Pdif 16 04 33.6 +1.9
APA *i* 16 08 50.0
APA *e*PPP PPP 16 11 11.0 -1.2
APA *i* 16 15 15.0
APA *e* 16 16 14.0
APA *i*PS PS 16 18 00.0 -10
APA pmax pmax
comp=Z,18nm,1.2s
APA pmax pmax
comp=N,1µm,20.0s
APA pmax pmax
comp=E,2µm,20.0s
APA MLR MLR
comp=Z,19µm,21.0s,MS6.6
BJO Bjornoya 105.78 348 *e*P Pdif 16 04 35.3 +2.9
BJO *e* 16 08 50.8
BJO *i* 16 18 06.8
BJO *i* 16 23 58.7
BJO AMS AMS 16 52 58.7
comp=Z,23µm,20.2s,MS6.7
BJO1 Bjornoya 105.82 348 *e*P Pdif 16 04 35.3 +2.7
BJO1 *e* 16 18 08.6
TI2 Plekhanov 106.34 312 *e*P Pdif 16 04 35.0 -0.6
TI2 *e*S SKS 16 15 12.6 +1.1
GNI Garni 106.54 310 PFAKE 16 09 00.0
GNI LR LR
comp=Z,9µm,21.0s,MS6.3
KEV Kevo 106.62 343 *e*pkp PP 16 08 46.0 -19
comp=Z,6.7nm,0.9s
KEV Kevo 106.62 343 *e*PKP PP 16 08 46.0 -19
KEV LR LR
comp=Z,13µm,20.0s,MS6.5
ZEI Tsey 106.82 313 *e*P Pdif 16 04 52.8 +15
VRHR Novokhopersk 106.85 322 *e*P Pdif 16 04 24.2 -13
VRHR *e* 16 09 02.3
VRHR *e* 16 15 15.5
VRHR *e*PS PS 16 18 18.5 -4.3
VRHR *e*SS SS 16 24 26.2 +19
VRHR pmax pmax
comp=Z,990nm,16.8s
VRHR pmax pmax
comp=N,270nm,19.5s
VRHR pmax pmax
comp=E,330nm,14.1s
VRHR pmax pmax
comp=Z,3µm,14.4s
VRHR pmax pmax
comp=N,610nm,16.6s
VRHR pmax pmax
comp=E,2µm,15.4s
VRHR MLR MLR
comp=E,7µm,20.0s,MS6.4
VRHR MLR MLR
comp=Z,11µm,20.0s,MS6.4
VRHR MLR MLR
comp=N,6µm,17.0s,MS6.4
ONI Oni 107.18 313 P Pdif 16 04 38.3 -1.0
ONI S PP 16 09 10.7 +1.0
ARCES ARCESS Array B 107.19 343 Pdiff Pdif 16 04 38.4 -0.3
comp=N,3.3nm,0.8s,baz=56,slow=4.4,SNR=6.6
ARCES PKiKP 16 08 47.8
comp=N,6.4nm,0.6s,baz=84,slow=1.2,SNR=14
ARCES PKKPbc 16 20 09.4
comp=N,2.1nm,0.9s,baz=243,slow=2.7,SNR=3.8
KIV Kislovodsk 107.51 314 PFAKE 16 09 00.0
KIV LR LR
comp=Z,5µm,20.0s,MS6.0
KIV Kislovodsk 107.51 314*ce*P Pdif 16 04 37.4 -3.3
KIV *e* 16 09 06.3
KIV *i* 16 15 22.4
KIV *e*PS PS 16 18 30.0 +0.4
KIV *e*SS SS 16 24 15.6 -0.7
KIV pmax pmax
comp=Z,10.0nm,1.1s
DIGO Kars 107.54 311 *i*P PP 16 09 11.1 -1.2
BHD Baghdad 107.55 303 *ex* x 16 04 38.0
BHD *i* x x 16 09 08.0
BHD *ex* x 16 15 30.0
HAKT HAKKARI 107.65 308 *i*P 16 08 55.8
CBKS Cedar Bluff 107.73 51 PFAKE 16 09 00.0
CBKS LR LR
comp=Z,29µm,20.0s,MS6.8
ULM Lac du Bonnet 108.33 39 Pdiff Pdif 16 04 45.3 +1.1
comp=Z,3.9nm,0.7s,baz=308,slow=9.0,SNR=5.1
ULM PKiKP 16 08 50.5
comp=Z,5.4nm,0.7s,baz=271,slow=1.8,SNR=5.2
ULM Lac du Bonnet 108.33 39 Pdif Pdif 16 04 45.3 +1.1
ULM PKPdf 16 08 50.5
ULM LR LR
comp=Z,25µm,22.0s,MS6.7
JOF Joensuu 108.36 335 *ep* Pdif 16 04 42.4 -1.6
comp=Z,6.6nm,1.0s
ARTV Artvin 108.51 312 *i*P 16 09 14.0
OBN Obninsk 108.73 327 PFAKE 16 09 00.0
OBN LR LR
comp=Z,11µm,22.0s,MS6.4
TRO Tromso 108.99 344 *e*P Pdif 16 04 47.5 +0.9
TRO *e*PP PP 16 09 17.0 -5.7
TRO *e*SKSa 16 15 22.9
TRO *i* 16 18 36.1
TRO *e*SS SS 16 24 35.0 -0.5
TRO *i* 16 29 12.8
TRO AMS AMS 16 58 06.5
comp=Z,10µm,27.6s,MS6.2
TRO Tromso 108.99 344 *e*P Pdif 16 04 47.5 +0.9
TRO LR LR
comp=Z,10043µm,27.6s
ERZM Erzurum 109.14 310 *i*P 16 08 49.1
BNGL BINGOL 109.45 309 *i*P PP 16 09 25.5 -1.2
BEST Besiri 109.52 308 *i*P 16 08 46.2
SOC Sochi 109.69 314 *e*P Pdif 16 04 45.5 -4.8
SOC *e* 16 09 28.7
SOC *e*PS PS 16 18 52.1 +1.7
MARD Mardin 109.99 308 *i*P PP 16 09 16.9 -14
MACK Trabzon 110.16 312 *i*P 16 09 20.7
KELT Kelkit 110.69 311 *i*P 16 09 19.7
KAF Kangasniemi 110.80 336 *e*pkp PKPdf 16 08 53.6 +0.3
comp=Z,6.6nm,0.7s
BLJS Baljurashi 110.84 289 P PKPdf 16 08 57.8 +3.4
ANN Anapa 111.03 316 *e*P Pdif 16 04 53.8 -2.4
ANN *e* 16 15 38.8
ANN *e*PS PS 16 18 57.7 -6.0
ANN *e*SP SP 16 18 58.4 -1.0

ANN				*e*S			16 20 10.3		
ANN				*e*			16 20 10.7		
ANN				MLR	MLR				
	comp=Z,12µm,21.0s,MS6.5								
ELZG	**Elazig**	**111.20**	**309**	*i* P		PKPdf	16 08 54.8	+0.1	
FINES	**FINESS Array B**	**111.22**	**335**	Pdiff		Pdif	16 04 57.9	+1.2	
	comp=Z,2.2nm,0.7s,baz=90,slow=1.9,SNR=11								
FINES				PKIKP			16 08 55.4		
	comp=Z,5.5nm,0.7s,baz=82,slow=3.9,SNR=10								
FINES				PKKPbc			16 19 51.9		
	comp=Z,2.1nm,0.9s,baz=135,slow=24,SNR=2.4								
EYMN	**Ely**	**111.72**	**40**	*e*PKPdf		PKPdf	16 08 56.9	+1.4	
EYMN				LR	LR				
	comp=Z,18µm,20.0s,MS6.7								
ATAB	**Bozova**	**111.92**	**308**	*i* P		PP	16 09 40.8	-3.2	
SIM	**Simferopol'**	**113.27**	**317**	*e*P		Pdif	16 05 08.5	+2.5	
SIM				*e*			16 09 53.8		
SIM				*e*			16 19 27.0		
SIM				pmax	pmax				
	comp=Z,3µm,14.6s								
SIM				MLR	MLR				
	comp=Z,17µm,20.0s,MS6.6								
MIAR	**Mount Ida**	**113.27**	**55**	PFAKE			16 09 10.0	+11	
MIAR				LR	LR				
	comp=Z,76nm,20.0s								
JMIC	**Jan Mayen**	**113.34**	**353**	*e*		PP	16 09 53.2	-0.9	
JMIC				AMS	AMS		16 53 43.4		
	comp=Z,4µm,23.4s,MS6.0								
BOYT	**Boyabat**	**113.65**	**313**	*i* P		PKPdf	16 08 56.7	-2.7	
MNK	**Minsk**	**113.65**	**328**	*e*PKIKP		PKPdf	16 09 00.0	+0.9	
COBT	**Iskenderun**	**113.70**	**307**	*i* P		PKPdf	16 08 52.0	-7.7	
CTKT	**Corum**	**113.92**	**312**	*i* P		PKPdf	16 08 53.9	-6.1	
AVNT	**Avonos**	**114.31**	**310**	*i* P		PKPdf	16 09 00.6	-0.3	
KMBO	**Kilima Mbogo**	**114.34**	**266**	PKP		PKPdf	16 09 02.1	+0.6	
	comp=Z,3.9nm,1.0s,baz=64,slow=8.4,SNR=5.0								
AKASG	**Malin Array Be**	**114.44**	**324**	PKP		PKPdf	16 09 01.2	+0.4	
	comp=Z,7.4nm,0.6s,baz=63,slow=2.3,SNR=23								
NSS	**Namsos**	**114.45**	**342**	*e*PP		PP	16 09 57.3	-4.8	
NSS				*i*			16 19 40.6		
NSS				*e*			16 26 12.3		
NSS				AMS	AMS		17 01 22.1		
	comp=Z,23µm,20.4s,MS6.8								
BHL	**Bhannes**	**114.68**	**305**	*e*P		PP	16 09 51.4	-13	
BALT	**Daday**	**114.72**	**313**	*i* P		PKPdf	16 08 52.9	-8.7	
FRB	**Frobisher Bay**	**114.93**		PKP		PKPdf	16 09 04.0	+2.6	
	comp=Z,30nm,1.0s,baz=9.1,slow=8.8,SNR=3.8								
BR131	**Keskin Array S**	**115.00**	**311**	*e*PKPdf		PKPdf	16 09 02.6	+0.4	
BR131				LR	LR				
	comp=Z,5µm,21.0s,MS6.1								
BRTR	**Keskin Array B**	**115.00**	**311**	PKP		PKPdf	16 09 02.5	+0.4	
	comp=Z,7.9nm,0.8s,baz=117,slow=2.8,SNR=18								
BRTR				PKKPbc			16 19 42.6		
	comp=Z,1.9nm,0.9s,baz=217,slow=4.3,SNR=3.6								
ANTO	**Ankara**	**115.59**	**312**	*e*PKPdf		PKPdf	16 09 04.4	+1.1	
ANTO				LR	LR				
	comp=Z,6µm,21.0s,MS6.2								
SGKT	**Sivrigoynuk**	**115.95**	**313**	*i* P		PKPdf	16 08 59.6	-4.3	
BDAS	**Al Bad'**	**116.04**	**299**	P		PKPdf	16 09 06.1	+1.7	
HAQS	**Haql**	**116.09**	**300**	P		PKPdf	16 09 06.9	+2.3	
KIS	**Kishinev**	**116.09**	**320**	*e*P		Pdif	16 05 23.0	+4.6	
KIS				*i*			16 10 10.0		
KIS				*i*			16 16 12.0		
KIS				*i*			16 19 50.0		
KIS				pmax	pmax				
	comp=Z,3µm,16.0s								
KIS				pmax	pmax				
	comp=Z,4µm,20.0s								
KIS				MLR	MLR				
	comp=N,12µm,20.0s,MS6.8								
KIS				MLR	MLR				
	comp=E,21µm,20.0s,MS6.8								
KIS				MLR	MLR				
	comp=Z,25µm,20.0s,MS6.8								
KIS				MLR	MLR				
	comp=Z,22µm,20.0s								
SUW	**Suwalki**	**116.29**	**329**	*e*PKiKP			16 09 05.9		
SUW				*e*SKS	SKS		16 15 56.6	+5.2	
SUW				*e*PS	PS		16 20 02.0	+9.1	
SUW				*e*SS	SS		16 26 31.2	+18	
SUW				MLR	MLR		16 59 41.8		
	comp=Z,30µm,20.2s,MS6.9								
SUW	**Suwalki**	**116.29**	**329**	*e*P		PKPdf	16 09 04.8	+0.6	
SUW				*e*PKPdf		PKPdf	16 09 05.9	+1.6	
SUW				*e*SKS		SKS	16 15 56.6	+5.2	
SUW				*e*PS		PS	16 20 02.0	+9.2	
SUW				*e*SS		SS	16 26 31.2	+19	
SUW	**Suwalki**	**116.29**	**329**	*e*PKIKP		PKPdf	16 09 04.8	+0.5	
SUW				*e*			16 15 56.6		
SUW				*e*SS		SS	16 26 31.2	+19	
ERMK	**Ermenek**	**116.30**	**308**	*i* P		PKPdf	16 09 02.5	-2.2	
CSS	**Prodhromos**	**116.35**	**306**	*e*PKPdf		PKPdf	16 09 05.4	+0.6	
SFJD	**Kangerlussuaq**	**116.62**	**10**	⇓*i*P		PKPdf	16 09 05.7	+1.1	
	comp=Z,17nm,1.0s								
SFJD				*i*			16 09 21.8		
SFJD	**Kangerlussuaq**	**116.62**	**10**	⇓*i*P		PKPdf	16 09 05.7	+1.1	
SFJD				*i*			16 09 21.8		
SFJD				*i* S	PS		16 19 56.2	+0.7	
SFJD				LR	LR				
	comp=Z,11µm,24.0s,MS6.4								
HENT	**Hendek**	**116.72**	**313**	*i* P		PKPdf	16 08 58.7	-6.8	
HFS	**Hagfors**	**116.91**	**338**	PKKPbc			16 19 33.4		
	comp=Z,6.4nm,0.9s,baz=225,slow=14,SNR=3.6								
ESKT	**Eskisehir**	**117.13**	**312**	*i* P		PKPdf	16 08 58.7	-7.6	
NB2	**NORSAR Subarra1**	**117.17**	**340**	PKPdf		PKPdf	16 09 05.8	0.0	
	comp=Z,5.3nm,0.7s,baz=45,slow=1.9								
NB2	**NORSAR Subarra1**	**117.17**	**340**	PKPd			16 09 05.8		
	baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.17**	**340**	PKP		PKPdf	16 09 06.6	+0.8	
	comp=Z,8.4nm,0.7s,baz=48,slow=1.9,SNR=22								
NOA				PKKPbc			16 19 35.1		
	comp=Z,3.2nm,0.8s,baz=226,slow=3.7,SNR=7.6								
CFR	**Carcaliu**	**117.20**	**319**	⇓P		PKPdf	16 09 06.7	+0.5	
TIRR	**Tirgusor**	**117.28**	**318**	⇑P		PKPdf	16 09 08.5	+2.1	
BORA	**Eskisehir**	**117.32**	**312**	*i* P		PP	16 10 18.2	-4.6	
NAO01	**NORSAR Array S**	**117.42**	**340**	*e*PKPdf		PKPdf	16 09 07.6	+1.3	
NAO01				LR	LR				
	comp=Z,22µm,20.0s,MS6.8								
HARR	**Harsova**	**117.52**	**318**	⇓P		PKPdf	16 09 08.2	+1.4	
PLAL	**Pickwick Lake**	**117.62**	**53**	*e*PKPdf		PKPdf	16 09 07.0	-0.3	
PLAL				LR	LR				
	comp=Z,19µm,19.0s,MS6.7								
EFI	**East Falkland**	**117.64**	**159**	PFAKE			16 09 20.0	+13	
EFI				LR	LR				
	comp=Z,6µm,20.0s,MS6.2								
BLO	**Bloomington**	**117.72**	**48**	*e*PKPdf		PKPdf	16 09 06.9	-0.5	
BLO	**Bloomington**	**117.72**	**48**	PKIKP		PKPdf	16 09 09.2	+1.8	
LVV	**L'vov**	**117.83**	**325**	*i* PKIKP		PKPdf	16 09 08.0	+0.7	
LVV				*e*PP			16 16 17.0		
ISP	**Isparta**	**117.85**	**310**	*e*PKPdf		PKPdf	16 09 06.6	-1.0	
ISP	**Isparta**	**117.85**	**310**	PKIKP		PKPdf	16 09 08.5	+0.9	
TKTP	**Tekketepe**	**117.94**	**310**	*i* P		PKPdf	16 09 02.5	-5.3	
BURAR	**Bucovina Array**	**118.10**	**322**	⇓P		PKPdf	16 09 10.8	+2.9	
BURAR	**Bucovina Array**	**118.10**	**322**	⇓P		PKPdf	16 09 10.8	+2.9	
WCI	**Wyandotte Cave**	**118.16**	**49**	*e*PKPdf		PKPdf	16 09 08.6	+0.3	
WCI				LR	LR				
	comp=Z,4µm,20.0s,MS6.0								
ULDT	**Uludag**	**118.21**	**313**	*i* P		PKPdf	16 09 04.4	-3.9	
WAR	**Warsaw**	**118.31**	**328**	*e*PKiKP			16 09 15.5		
WAR				*e*PS		PS	16 20 22.5	+11	
WAR				*e*SS		SS	16 27 25.3	+46	
WAR				MLR		MLR	16 59 24.6		
	comp=Z,35µm,22.8s,MS6.9								
WAR	**Warsaw**	**118.31**	**328**	*e*PKPdf		PKPdf	16 09 15.5	+7.3	
WAR				*e*PS		PS	16 20 22.5	+11	
WAR				*e*SS		SS	16 27 25.3	+46	
WAR				LR	LR				
	comp=Z,35µm,22.8s,MS6.9								
WAR	**Warsaw**	**118.31**	**328**	*e*PKIKP		PKPdf	16 09 15.5	+7.3	
WAR				MLR	MLR				
	comp=Z,35µm,22.8s,MS6.9								
MLR	**Muntele Rosu**	**118.51**	**320**	PKKPbc			16 19 31.7		
	comp=Z,7.2nm,0.9s,baz=137,slow=17,SNR=8.2								
MLR	**Muntele Rosu**	**118.51**	**320**	⇑P		PKPdf	16 09 09.7	+0.9	
MLR	**Muntele Rosu**	**118.51**	**320**	⇑P			16 19 32.1		
MLR	**Muntele Rosu**	**118.51**	**320**	⇑P		PKPdf	16 09 09.7	+1.0	
MLR	**Muntele Rosu**	**118.51**	**320**	PKIKP		PKPdf	16 09 10.2	+1.4	
KWP	**Kalwaria**	**118.68**	**325**	*e*PKP		PKPdf	16 09 10.6	+1.6	
KWP				*e*SKS		SKS	16 16 08.7	+8.5	
KWP				*e*PS		PS	16 20 20.5	+6.0	
KWP				*e*SS		SS	16 27 34.8	+51	
KWP				MLR		MLR	16 58 37.0		
	comp=Z,37µm,24.3s,MS6.9								
KWP	**Kalwaria**	**118.68**	**325**	*e*PKP		PKPdf	16 09 10.6	+1.6	
KWP				*e*SKS		SKS	16 16 08.7	+8.6	
KWP				*e*PS		PS	16 20 20.5	+6.1	
KWP				*e*SS		SS	16 27 34.8	+51	
KWP	**Kalwaria**	**118.68**	**325**	*e*PKIKP		PKPdf	16 09 10.6	+1.6	
KWP				*e*PS		PS	16 20 20.5	+6.1	
KONO	**Kongsberg**	**118.73**	**339**	*e*P		Pdif	16 05 30.8	+1.1	
KONO				*e*PP		PP	16 10 32.1	0.0	
KONO				*e*			16 20 23.1		
KONO	**Kongsberg**	**118.73**	**339**	*e*P		Pdif	16 05 30.8	+1.1	
KONO				*e*PKPdf		PKPdf	16 09 05.3	-3.6	
KONO				LR		LR			
	comp=Z,15µm,20.0s,MS6.6								
KONO	**Kongsberg**	**118.73**	**339**	*e*P		Pdif	16 05 30.8	+1.1	
KONO				MLR		MLR			
	comp=Z,15µm,20.0s,MS6.6								
GOLH	**Golhisar**	**118.75**	**310**	*i* P		PP	16 10 20.1	-13	
LRAL	**Lakeview Retre**	**118.94**	**55**	*e*PKPdf		PKPdf	16 09 10.4	+0.5	
LRAL				LR		LR			
	comp=Z,18µm,20.0s,MS6.7								
DNZL	**Cakiroluk**	**119.01**	**310**	*i* P		PKPdf	16 09 09.2	-0.7	
VOIR		**119.11**	**320**	⇓P		PKPdf	16 09 13.3	+3.3	
SWET	**Sewanee**	**119.26**	**53**	*e*PKPdf		PKPdf	16 09 08.7	-1.8	
KOLS	**Kolonicke sedl**	**119.26**	**324**	*i* PKP		PKPdf	16 09 12.0	+1.8	
UZH	**Uzhgorod**	**119.40**	**324**	*i* PKIKP		PKPdf	16 09 13.0	+2.6	
UZH				*e*			16 16 24.0		
UZH				*e*PS		PS	16 20 15.0	-5.9	
UZH				MLR		MLR			
	comp=Z,8µm,22.5s,MS6.3								
BER	**Bergen**	**119.60**	**342**	*e*PP		PP	16 10 35.5	-2.1	
BER				*e*SKSa			16 16 05.2		
BER				*i*			16 20 16.1		
BER				*e*			16 27 27.8		
BER				AMS		AMS	17 03 55.1		
	comp=Z,26µm,20.7s,MS6.8								
STHS	**Stebnicka Huta**	**119.62**	**325**	*i* PKP		PKPdf	16 09 12.5	+1.6	
STHS				*e*PP		PP	16 10 36.6	-1.4	
LBTB	**Lobatse**	**119.63**	**237**	*e*PKPdf		PKPdf	16 09 11.7	+0.2	
LBTB				LR		LR			
	comp=Z,13µm,19.0s,MS6.6								
BSD	**Bornholm Skovb**	**119.65**	**333**	*i* P		PKPdf	16 09 13.9	+3.1	
	comp=Z,49nm,0.6s								
GKP	**Gorka Klasztor**	**119.67**	**331**	*e*PKP		PKPdf	16 09 16.7	+5.8	
GKP				*e*PP		PP	16 10 40.0	+1.8	
GKP				*e*PS		PS	16 20 25.6	+2.3	
GKP				MLR		MLR	17 02 55.5		
	comp=Z,34µm,20.3s,MS7.0								
PLCA	**Paso Flores**	**119.85**	**144**	PKP		PKPdf	16 09 12.9	+1.4	
	comp=Z,5.2nm,0.6s,baz=221,slow=4.6,SNR=11								
PLCA				PKKPbc			16 19 22.9		
	comp=Z,6.2nm,0.8s,baz=51,slow=3.7,SNR=15								
PLCA	**Paso Flores**	**119.85**	**144**	*e*PKIKP		PKPdf	16 09 12.1	+0.6	
PLCA				MLR		MLR			
	comp=Z,11µm,20.0s								
ACSO	**Alum Creek Sta**	**119.98**	**46**	*e*PKPdf		PKPdf	16 09 11.2	-0.6	
ACSO				LR		LR			
	comp=Z,9µm,19.0s,MS6.5								
DRGR		**120.00**	**322**	⇓P		PKPdf	16 09 12.0	+0.3	
OJC	**Ojcow**	**120.02**	**327**	*e*PKPdf		PKPdf	16 09 12.7	+1.1	
OJC				*e*PP		PP	16 10 25.8	-15	
OJC				*e*SKSdf			16 16 25.1		
OJC				⇑*e*SKKSa			16 17 31.1		
OJC				*e*SP		SP	16 20 24.2	+2.0	
OJC				*e*SS		SS	16 27 04.1	+2.9	
OJC				MLR		MLR	17 00 56.5		
	comp=Z,38µm,22.2s,MS7.0								
OJC	**Ojcow**	**120.02**	**327**	*e*PKIKP		PKPdf	16 09 12.7	+1.1	
OJC				*e*			16 16 25.1		
OJC				*e*SP		SP	16 20 24.2	+2.0	
OJC				*e*SS		SS	16 27 04.1	+2.9	
OJC				MLR		MLR			
	comp=Z,38µm,22.2s,MS7.0								
KDAG	**Bornova**	**120.13**	**312**	*i* P		PKPdf	16 09 10.2	-2.0	
NIE	**Niedzica**	**120.15**	**326**	*e*PKP		PKPdf	16 09 13.9	+2.0	
ALN	**Alexandroupoli**	**120.18**	**315**	*e*P		PKPdf	16 09 12.3	+0.2	
SUR	**Sutherland**	**120.18**	**228**	PFAKE			16 09 30.0	+18	
SUR				LR		LR			
	comp=Z,7µm,20.0s,MS6.3								
CPCT	**Cooper Cave**	**120.31**	**52**	*e*PKPdf		PKPdf	16 09 12.8	+0.2	
LSZ	**Lusaka**	**120.51**	**249**	*e*PKPdf		PKPdf	16 09 15.1	+1.7	
LSZ				LR		LR			
	comp=Z,16µm,20.0s,MS6.7								
KECS	**Kecovo**	**120.52**	**325**	*e*PKP		PKPdf	16 09 13.5	+0.9	
URLA	**Izmir**	**120.64**	**312**	*i* P		PKPdf	16 09 11.1	-2.0	
RZN	**Rozhen**	**120.82**	**316**	*i* P		PKPdf	16 09 14.0	+0.6	
SADO	**Sadowa**	**120.83**	**40**	PKP		PKPdf	16 09 14.1	+0.8	
	comp=Z,27nm,0.8s,baz=319,slow=2.4,SNR=7.3								
RAC	**Raciborz**	**120.97**	**327**	*e*PKPdf		PKPdf	16 09 15.8	+2.4	
RAC				*e*PP		PP	16 10 48.6	+1.6	
RAC				LME			17 01 29.5		
	comp=Z,42µm,21.1s								
RAC				MLR		MLR	17 01 44.5		
	comp=Z,36µm,21.1s,MS7.0								
RAC				LMN			17 02 19.0		
	comp=Z,15µm,19.8s								
OKC	**Ostrava-Krasne**	**121.13**	**327**	*e*PKPdf		PKPdf	16 09 14.9	+1.2	
OKC				*e*PP		PP	16 10 48.1	0.0	
OKC				*e*SP		SP	16 20 35.5	+3.4	
OKC				AMS		AMS	17 01 50.0		
	comp=Z,25µm,20.8s								
PSZ	**Piszkesteto**	**121.14**	**324**	⇑*i*		PKPdf	16 09 15.1	+1.3	
PSZ	**Piszkesteto**	**121.14**	**324**	PKIKP		PKPdf	16 09 15.0	+1.2	
LOS	**Limnos**	**121.21**	**314**	*e*P		PKPdf	16 09 14.9	+0.8	
ERPA	**Erie**	**121.38**	**43**	PFAKE			16 09 30.0	+16	
ERPA				LR		LR			
	comp=Z,18µm,20.0s,MS6.7								
VYHS	**Vyhne**	**121.46**	**325**	*e*PKP		PKPdf	16 09 15.5	+1.1	
VYHS				*e*PP		PP	16 10 43.2	-7.3	
MORC	**Moravsky Berou**	**121.49**	**327**	*e*PKPdf		PKPdf	16 09 15.0	+0.5	
VTS	**Vitosha**	**121.49**	**317**	*i* P		PKPdf	16 09 16.5	+1.9	
VTS	**Vitosha**	**121.49**	**317**	PKIKP		PKPdf	16 09 16.2	+1.6	
MMB	**Musomiste**	**121.54**	**316**	*i* P		PKPdf	16 09 15.2	+0.5	
KSP	**Ksiaz**	**121.55**	**329**	*e*PKP		PKPdf	16 09 16.7	+2.2	
KSP				*e*SKSdf			16 16 23.9		
KSP				*e*PS		PS	16 20 40.9	+0.7	
KSP				*e*SS		SS	16 27 35.2	+14	
KSP				MLR		MLR	17 02 12.6		
	comp=Z,64µm,22.1s,MS7.2								
KSP	**Ksiaz**	**121.55**	**329**	*e*Pdif		Pdif	16 05 46.0	+3.7	
KSP				*e*PKP		PKPdf	16 09 16.1	+1.6	
KSP				*ep*PKP			16 09 26.9		
KSP				*e*PP		PP	16 10 50.0	-1.1	
KSP				*e*SKKS			16 17 47.0		
KSP				*e*SP		SP	16 20 32.0	-3.9	
KSP				*e*PPS		PPS	16 22 03.0	-3.6	
KSP				*e*SS		SS	16 27 25.0	+3.9	
KSP				LR		LR			
	comp=Z,74µm,22.1s,MS7.3								
KSP	**Ksiaz**	**121.55**	**329**	*e*PKIKP		PKPdf	16 09 16.1	+1.6	
KSP				*e*			16 09 26.9		
KSP				*e*			16 10 50.0		
KSP				*e*SP		SP	16 20 32.0	-3.9	
KSP				*e*PPS		PPS	16 22 03.0	-3.6	
KSP				*e*SS		SS	16 27 25.0	+3.9	
KSP				MLR		MLR			
	comp=Z,74µm,22.1s,MS7.3								
GOGA	**Godfrey**	**121.71**	**54**	*e*PKPdf		PKPdf	16 09 15.9	+0.6	
GOGA	**Godfrey**	**121.71**	**54**	PKIKP		PKPdf	16 09 16.9	+1.6	
SCHQ	**Schefferville**	**121.77**	**25**	PKP		PKPdf	16 09 15.9	+1.0	
	comp=Z,7.8nm,0.7s,baz=342,slow=3.8,SNR=4.1								
SCHQ				PKKPbc			16 19 15.4		
	comp=Z,13nm,0.8s,baz=182,slow=9.1,SNR=6.4								
SCHQ	**Schefferville**	**121.77**	**25**	PKP		PKPdf	16 09 15.9	+1.0	
SCHQ				PKKPbc			16 19 15.4		
SCHQ				LR		LR			
	comp=Z,29µm,22.0s,MS6.9								
DPC	**Dobruska-Polom**	**121.82**	**328**	*e*PKPdf		PKPdf	16 09 16.5	+1.5	
DPC				*ep*PKP			16 09 27.7		
DPC				*e*PP		PP	16 10 43.1	-10	
DPC				*e*SP		SP	16 20 39.4	+1.1	
DPC				AMS		AMS	17 01 30.0		
	comp=Z,38µm,22.6s								
DPC	**Dobruska-Polom**	**121.82**	**328**	*e*PKIKP		PKPdf	16 09 16.5	+1.5	
DPC				*e*			16 09 27.7		
DPC				*e*			16 20 39.4		
DPC				MLR		MLR			
	comp=Z,38µm,22.6s,MS7.0								
RUE	**Ruedersdorf**	**121.82**	**331**	*e*PKPdf		PKPdf	16 09 14.2	-0.8	
OUR	**Ouranopolis**	**121.84**	**315**	*e*P		PKPdf	16 09 15.6	+0.2	
KKB	**Krupnik**	**121.87**	**317**	*i* P		PKPdf	16 09 16.5	+1.1	
UPC	**Upice**	**121.89**	**328**	*e*PKPdf		PKPdf	16 09 16.9	+1.7	
UPC				*ep*PKP			16 09 28.3		
SANT	**Santorini**	**122.14**	**310**	*e*PKPdf		PKPdf	16 09 15.8	-0.2	
SRO1	**Iza**	**122.18**	**325**	*e*PKP		PKPdf	16 09 17.6	+1.8	
PAIG	**Paliouri**	**122.21**	**314**	*e*P		PKPdf	16 09 16.1	-0.1	
VRAC	**Vranov**	**122.26**	**327**	*e*PKP		PKPdf	16 09 17.3	+1.3	
KNT	**Kendrikon**	**122.28**	**316**	*e*P		PKPdf	16 09 16.2	0.0	
PKSG		**122.29**	**324**	⇓*e*P		PKPdf	16 09 17.2	+1.1	
BEO	**Belgrade**	**122.31**	**321**	⇑*i*PKP		PKPdf	16 09 17.1	+1.0	
BARS	**Barje**	**122.32**	**318**	⇑*i*PKP		PKPdf	16 09 16.9	+0.7	
AOS	**Alonnisos**	**122.35**	**313**	*e*P		PKPdf	16 09 16.6	+0.1	
NPS	**Neapolis**	**122.38**	**309**	*e*P		PKPdf	16 09 18.5	+2.0	
PKS8	**Sarbogard**	**122.38**	**324**	⇓*e*P		PKPdf	16 09 17.5	+1.2	
XRY	**Khrisi**	**122.43**	**308**	*e*P		PKPdf	16 09 14.0	-2.7	
BSEG	**Bad Segeberg**	**122.46**	**334**	*e*PKPdf		PKPdf	16 09 17.8	+1.6	
BSEG				*e*PP		PP	16 10 48.2	-9.1	
FWV	**Forest Hill**	**122.48**	**48**	*e*PKPdf		PKPdf	16 09 16.7	0.0	
GENY	**Geneseo**	**122.57**	**42**	*e*PKPdf		PKPdf	16 09 17.1	+0.3	
GRUS	**Gruza**	**122.57**	**320**	*i* PKP		PKPdf	16 09 17.8	+1.1	
ZST	**Bratislava**	**122.59**	**326**	*e*PKP		PKPdf	16 09 18.0	+1.3	
ZST				*e*PP		PP	16 10 56.3	-2.2	
ZST				*e*SKSDF			16 16 35.1		
PVCC	**Panska Ves**	**122.62**	**329**	*e*PKPdf		PKPdf	16 09 18.0	+1.4	
PVCC				*e*PP		PP	16 11 00.3	+1.7	
PVCC				*e*SP		SP	16 20 48.2	+2.6	
PVCC				AMS		AMS	17 03 30.0		
	comp=Z,21µm,19.9s								
ELN	**Prospectdale**	**122.65**	**49**	*e*PKPdf		PKPdf	16 09 17.5	+0.4	
GRG	**Griva**	**122.71**	**316**	*e*P		PKPdf	16 09 16.4	-0.6	
BRG	**Berggiesshubel**	**122.73**	**330**	*i* Pdif		Pdif	16 05 52.0	+4.5	
BRG				*i* PKP		PKPdf	16 09 18.3	+1.5	
BRG				*e*			16 09 29.6		
BRG				PP		PP	16 11 02.0	+2.6	
BRG				SKS		SKS	16 16 24.0	+10	
BRG				PS		PS	16 20 53.0	+2.1	
BRG				*e*			16 22 23.0		
BRG				SS		SS	16 28 01.0	+25	
BRG				LR		LR			
	comp=Z,26µm,21.3s,MS6.8								
PKSM	**Moragy**	**122.74**	**323**	⇓*i*P		PKPdf	16 09 18.4	+1.4	
PKSM	**Moragy**	**122.74**	**323**	PKIKP		PKPdf	16 09 18.2	+1.2	
PKS9	**Tamasi**	**122.77**	**324**	⇓*e*P		PKPdf	16 09 18.4	+1.4	
XOR	**Xorichti**	**122.78**	**314**	*e*P		PKPdf	16 09 17.5	+0.2	
TREC	**Trest**	**122.87**	**327**	*e*PKPdf		PKPdf	16 09 18.3	+1.1	
TREC				*e*PP		PP	16 11 01.3	+1.0	
TREC				AMS		AMS	17 02 30.0		
BLA	**Blacksburg**	**122.90**	**49**	*e*PKPdf		PKPdf	16 09 17.8	+0.2	
BLA				LR		LR			
	comp=Z,33µm,21.0s,MS7.0								
CLL	**Collm**	**122.93**	**331**	*e*PDif		Pdif	16 05 53.0	+4.6	
CLL				*i* PKIKP		PKPdf	16 09 18.3	+1.1	
CLL				*i*			16 09 29.4		
CLL				*e*PP		PP	16 11 02.0	+1.3	
CLL				*e*PPP		PPP	16 13 39.0	+1.3	
CLL				*e*			16 16 17.0		
CLL				*e*			16 18 01.0		
CLL				*e*PKKP		PKKP	16 19 14.0	-27	
CLL				*e*			16 19 57.0		
CLL				*e*SP		SP	16 20 47.0	-1.3	
CLL				*e*PS		PS	16 20 52.0	-0.7	
CLL				*e*PPS		PPS	16 22 22.0	+0.8	
CLL				*e*SKKP			16 23 16.0		
CLL				*e*SS		SS	16 27 51.0	+12	

BINY LR LR
comp=Z,27µm,20.0s,MS6.9
UPM Unac-Piva 124.05 320 *e*PKP PKPdf 16 09 20.6 +1.0
GEC2 GERESS Array S 124.08 328 *e*PKPdf PKPdf 16 09 20.6 +1.1
GEC2 *e*PP PP 16 10 59.7 -9.1
GEC2 *e*PS PS 16 20 58.4 -3.7
GEC2 GERESS Array S 124.08 328 *e*PKIKP PKPdf 16 09 20.6 +1.1
GEC2 *e*PS PS 16 20 58.4 -3.7
GERES GERESS Array B 124.08 328 PKP PKPdf 16 09 20.6 +1.1
comp=Z,16nm,0.6s,baz=45,slow=1.9,SNR=57
GERES PKKPbc 16 19 08.9
comp=Z,1.9nm,0.8s,baz=225,slow=1.9,SNR=5.8
NKY Niksic 124.18 319‖ *i*PKP PKPdf 16 09 20.9 +1.1
TTG Podgorica 124.19 319‖ *i*PKP PKPdf 16 09 20.8 +0.9
FRNY Flat Rock 124.28 38 *e*PKPdf PKPdf 16 09 20.4 +0.5
JAN Janina 124.32 315 *e*P PKPdf 16 09 22.0 +1.8
WET Wettzell 124.33 329 *e*PKPdf PKPdf 16 09 21.4 +1.4
WET *e*PP PP 16 11 01.6 -8.7
WET *e*PS PS 16 21 00.1 -4.2
WET Wettzell 124.33 329 *e*PKIKP PKPdf 16 09 21.4 +1.4
WET *e*PS PS 16 21 00.1 -4.2
MOA Molln 124.36 327‖ *i*P PKPdf 16 09 20.5 +0.4
comp=Z,275nm,3.7s
MVH1 Achvaich 124.40 345 *e*P PKPdf 16 09 20.4 +0.6
ULC Ulcinj 124.41 318‖ *i*PKP PKPdf 16 09 21.4 +1.1
BRY Bratogost 124.43 320‖ *i*PKP PKPdf 16 09 20.8 +0.5
NHSC New Hope 124.43 53 PFAKE 16 09 30.0 +9.4
NHSC LR LR
comp=Z,21µm,20.0s,MS6.8
MCD Coleburn Disti 124.44 344 *e*P PKPdf 16 09 20.4 +0.5
GROS Grobnik 124.46 325 *e*PKPdf PKPdf 16 09 21.1 +0.8
GROS *ep*PKPdf 16 09 32.6
BUM Brajici-Budva 124.48 319‖ *i*PKP PKPdf 16 09 21.6 +1.1
ITM Ithomi 124.52 312 *e*P PKPdf 16 09 21.5 +0.8
MME1 Meikle Cairn 124.59 344 *e*P PKPdf 16 09 20.5 +0.3
HCY Herceg Novi 124.68 319‖ *i*PKP PKPdf 16 09 21.6 +0.7
MIV Mineville/With 124.70 39 *e*PKPdf PKPdf 16 09 21.6 +0.7
IGT Igoumenitsa 124.74 315 *e*P PKPdf 16 09 21.9 +0.9
DWPF Disney 124.76 60 *e*PKPdf PKPdf 16 09 22.6 +1.2
DWPF LR LR
comp=Z,4µm,22.0s,MS6.0
MVL Millersville 124.76 44 *e*PKPdf PKPdf 16 09 21.8 +0.8
CBN Corbin 124.78 47 PFAKE 16 09 30.0 +8.9
CBN LR LR
comp=Z,23µm,20.0s,MS6.8
GRA1 Grafenberg Arr 124.83 330 *e*PKPdf PKPdf 16 09 21.8 +0.9
GRA1 *e*PP PP 16 11 04.6 -8.7
GRA1 *e*PS PS 16 21 05.0 -3.8
GRA1 LR LR
comp=Z,31µm,21.1s,MS6.9
GRF Grafenberg Arr 124.83 330 *e*PKP PKPdf 16 09 21.8 +0.9
GRF *e*PP PP 16 11 04.6 -8.7
GRF *e*PS PS 16 21 05.0 -3.8
GRF LR LR
comp=Z,31µm,21.1s,MS6.9
GRF Grafenberg Arr 124.83 330 *e*PKIKP PKPdf 16 09 21.8 +0.9
GRF *e*PS PS 16 21 05.0 -3.8
GRF MLR MLR
comp=Z,31µm,21.1s,MS6.9
GRF Grafenberg Arr 124.83 330 *e*PKIKP PKPdf 16 09 21.8 +0.9
GRF *e*PS PS 16 21 05.0 -3.8
GRF MLR MLR
comp=Z,31µm,21.1s,MS6.9
LEGS Legarje 124.85 324 *e*PKPdf PKPdf 16 09 21.9 +0.8
LKD Levkas 124.85 314 *e*P PKPdf 16 09 22.1 +0.9
MDO Dochfour 124.87 345 *e*P PKPdf 16 09 21.3 +0.6
ACCN Adirondack Com 124.97 39 *e*PKPdf PKPdf 16 09 21.4 +0.1
OBKA Obir 124.97 325⇑ *i*P PKPdf 16 09 21.6 +0.3
comp=Z,314nm,3.5s
KEK Kerkira 125.03 316 *e*P PKPdf 16 09 22.5 +0.9
VLS Valsamata 125.11 314 *e*P PKPdf 16 09 19.8 -2.0
VISS Visnje 125.20 324 *i* PKPdf PKPdf 16 09 22.8 +1.0
VISS *e*PS PS 16 21 14.6 +2.3
LJU Ljubljana 125.25 325 *e*Pdiff Pdif 16 06 02.7 +3.9
LJU *e*PKPdf PKPdf 16 09 22.9 +1.1
LJU *ep*PKPdf 16 09 34.6
LJU *e*PP PP 16 11 00.5 -16
LJU *e*PPP PPP 16 14 10.5 +14
LJU *e*SKSac 16 16 44.6
LJU *e*SKKSac 16 18 17.0
LJU *e*PS PS 16 21 13.9 +1.2
LJU *e*SKKPdf 16 22 44.2
LJU *e* 16 23 52.3
LJU *e* 16 29 00.9
KBA Koelnbreinsper 125.32 326⇑ *i*P PKPdf 16 09 22.4 +0.5
comp=Z,352nm,4.3s
LBNH Lisbon 125.61 38 *e*PKPdf PKPdf 16 09 23.2 +0.6
LBNH LR LR
comp=Z,27µm,21.0s,MS6.9
VOY Vojsko 125.62 325 *e*PKPdf PKPdf 16 09 23.2 +0.7
VOY *e* 16 09 28.4
VOY *e* 16 10 16.3
HNH Hanover 125.67 38 *e*PKPdf PKPdf 16 09 23.7 +1.0
KAR1 Arisaig 125.71 345 *e*P PKPdf 16 09 23.3 +1.0
MDZ Mendoza 125.76 137 *e*P PKPdf 16 09 27.4 +4.2
MDZ *e* 16 09 56.4
FUR Furstenfeldbru 125.77 328 *e*PKPdf PKPdf 16 09 23.9 +1.2
FUR *e*PP PP 16 11 11.1 -8.6
FUR *e*PS PS 16 21 13.2 -4.1
FUR Furstenfeldbru 125.77 328 *e*PKIKP PKPdf 16 09 23.9 +1.2
FUR *e*PS PS 16 21 13.2 -4.1
TNS Taunus Mts 125.83 332 *e*PKPdf PKPdf 16 09 24.3 +1.5
TNS *e*PP PP 16 11 11.1 -9.0
TNS *e*PS PS 16 21 11.6 -6.2
TNS Taunus Mts 125.83 332 *e*PKIKP PKPdf 16 09 24.3 +1.5
TNS *e*PS PS 16 21 11.6 -6.2
SIND Sindeldorf 125.86 330⇑ *e*P PKPdf 16 09 24.0 +1.1
EAB Aberfoyle 125.95 344 *e*P PKPdf 16 09 24.2 +1.3
EAB AMb AMB 16 09 30.6
comp=Z,78nm,2.1s
PAL Palisades 125.97 42 *e*PKPdf PKPdf 16 09 23.4 +0.1
PAL Palisades 125.97 42 PKIKP PKPdf 16 09 25.0 +1.7
EAU Auchinoon 126.00 343 *e*P PKPdf 16 09 23.9 +1.0
EAU AMb AMB 16 09 27.9
comp=Z,146nm,1.9s
CPNY Central Park 126.03 42 *e*PKPdf PKPdf 16 09 25.1 +1.6
HDH Heidenheim 126.06 329 *e*P PKPdf 16 09 24.6 +1.3
TOD Tromm 126.08 331 *e*P PKPdf 16 09 24.4 +1.1
TOD Tromm 126.08 331 PKIKP PKPdf 16 09 24.1 +0.8
WATA Walderalm 126.13 327⇑ *i*P PKPdf 16 09 24.5 +1.0
comp=Z,117nm,1.7s
WTTA Wattenberg 126.14 327⇑ *i*P PKPdf 16 09 24.7 +1.2
comp=Z,785nm,3.8s
SWS Schriesheim 126.21 331 *e*P PKPdf 16 09 24.6 +1.0
MOTA Moosalm 126.38 328⇑ *i*P PKPdf 16 09 24.9 +0.9
comp=Z,54nm,1.0s
ESK Eskdalemuir 126.38 343 PFAKE 16 09 40.0 +16
ESK LR LR
comp=Z,3µm,19.0s,MS6.0
SQTA Sankt Quirin 126.40 328⇑ *i*P PKPdf 16 09 25.1 +1.1
comp=Z,114nm,1.6s
STU Stuttgart 126.44 330 *e*PKPdf PKPdf 16 09 25.0 +0.9
PQI Presque Isle 126.48 33 PFAKE 16 09 40.0 +16
PQI LR LR
comp=Z,150µm,19.0s
ABH Alteburg 126.49 332 *e*P PKPdf 16 09 25.8 +1.7
ABH Alteburg 126.49 332 PKP PKPdf 16 09 25.6 +1.5
TRQA Tornquist 126.53 147 *e*PKPdf PKPdf 16 09 24.6 +0.1
TRQA LR LR
comp=Z,12µm,20.0s,MS6.5
BUCH Bad Urach 126.58 330 *e*P PKPdf 16 09 25.2 +0.9
HGN Heimansgroeve 126.60 334 *e*PKP PKPdf 16 09 25.1 +0.8
comp=Z,51nm,1.1s
HGN *ex* x 16 09 35.8
KTD Kalmit 126.62 331 *e*P PKPdf 16 09 25.8 +1.4
UBR Uberruh 126.69 329⇑ *e*P PKPdf 16 09 25.4 +0.8
LBG Lerchenberg 126.71 330⇑ *e*P PKPdf 16 09 25.6 +1.0
HRV Harvard--Oak R 126.75 39 *e*PKPdf PKPdf 16 09 25.4 +0.6
HRV LR LR
comp=Z,14µm,21.0s,MS6.6
WVL Waterville 126.79 36 PFAKE 16 09 40.0 +15
WVL LR LR
comp=Z,90µm,20.0s,MS7.4
GUT Gutenstein 126.94 329⇑ *e*P PKPdf 16 09 26.0 +0.9
WES Weston 126.96 39 PFAKE 16 09 40.0 +15
WES LR LR
comp=Z,33µm,19.0s,MS7.0
LANF Langenberg 126.98 331 PKP PKPdf 16 09 26.5 +1.4
DAVA Damuels 127.06 328⇑ *i*P PKPdf 16 09 26.6 +1.3
comp=Z,454nm,2.5s
SPAK Spaichingen 127.09 330 *e*P PKPdf 16 09 26.4 +1.1
BFO Black Forest 127.17 330 *e*PKPdf PKPdf 16 09 26.1 +0.6
BFO *e*PP PP 16 11 20.5 -8.0
BFO *e*SSS SSS 16 33 02.5 -13
WLF Walferdange 127.28 333 *e*PKPdf PKPdf 16 09 25.8 +0.1
TIP Timpagrande 127.38 316 *e*PKPdf PKPdf 16 09 26.7 +0.6
LHO Holmfirth 127.45 341 *e*P PKPdf 16 09 26.2 +0.3
LHO AMb AMB 16 09 35.2
comp=Z,80nm,1.6s
GIVF Givet 127.57 334 *e*PKIKP PKPdf 16 09 27.0 +0.8
WLS Welschbruch 127.59 331 PKP PKPdf 16 09 27.1 +0.8
KIZ Kirchzarten 127.62 330‖ *e*P PKPdf 16 09 27.2 +0.8
CDF Champ du Feu 127.63 331 *e*PKIKP PKPdf 16 09 26.5 +0.1
FELD Feldberg 127.63 330 *e*P PKPdf 16 09 27.3 +0.9
LIBD Limburg 127.65 330 *e*P PKPdf 16 09 27.0 +0.6
CII Carovilli 127.74 320 *e*PKPdf PKPdf 16 09 26.9 +0.1
ECH Echery 127.82 331 PKP PKPdf 16 09 27.3 +0.6
WIM Isle of Man 127.82 343 *e*P PKPdf 16 09 27.2 +0.6
WIM AMb AMB 16 09 29.8
comp=Z,130nm,1.6s
BAIF Baives 127.87 334 *e*PKIKP PKPdf 16 09 27.7 +0.9
comp=Z,46nm,0.9s
KWE Weaver Farm 127.88 340 *e*P PKPdf 16 09 27.8 +1.1
AQU L'Aquila 127.97 321 *e*PKPdf PKPdf 16 09 28.7 +1.5
EMMW East Machias 127.98 35 PFAKE 16 09 40.0 +13
EMMW LR LR
comp=Z,97µm,20.0s,MS7.5
MOF Molkenrain 128.08 330 PKP PKPdf 16 09 28.4 +1.2
BBS Basel-Blauen 128.16 330 *e*P PKPdf 16 09 28.3 +0.9
BBS Basel-Blauen 128.16 330 PKIKP PKPdf 16 09 28.0 +0.6
HINF Hinteralfeld 128.24 330 *e*PKIKP PKPdf 16 09 27.9 +0.3
comp=Z,38nm,0.6s
WPM1 Penmaenmawr 128.35 342 *e*P PKPdf 16 09 28.6 +1.0
WPM1 AMb AMB 16 09 30.9
comp=Z,128nm,1.4s
HAU Haudompre 128.36 331 *e*PKIKP PKPdf 16 09 28.2 +0.4
comp=Z,103nm,1.1s
HAU *eR*
comp=Z,19µm,21.2s
MENF Mencas 128.36 336 PKP PKPdf 16 09 28.7 +1.0
THEF They Montfort 128.38 331 PKP PKPdf 16 09 28.9 +1.1
SBD1 Bryn Du 128.45 341 *e*P PKPdf 16 09 28.8 +1.0
SBD1 AMb AMB 16 09 36.8
comp=Z,83nm,1.5s
WCB1 Church Bay 128.45 342 *e*P PKPdf 16 09 28.1 +0.3
WLF1 Llynfaes 128.48 342 *e*P PKPdf 16 09 28.6 +0.8
WLF1 AMb AMB 16 09 31.0
comp=Z,79nm,1.7s
LOMF Lomont 128.57 330 PKP PKPdf 16 09 29.1 +0.9
NNA Nana 128.60 110 *e*PKPdf PKPdf 16 09 30.3 +1.2
NNA LR LR
comp=Z,2µm,21.0s,MS5.8
MEZF Maizieres J'vi 128.62 332 *e*PKIKP PKPdf 16 09 29.1 +0.8
HLM1 Long Mynd 128.65 340 *e*P PKPdf 16 09 28.8 +0.6
HLM1 AMb AMB 16 09 31.6
comp=Z,86nm,1.5s
DMUB Kingscourt 128.67 344 *e*P PKPdf 16 09 28.4 +0.2
TSUM Tsumeb 128.74 240 *e*PKPdf PKPdf 16 09 30.9 +1.7
TSUM *e*SKP 16 12 50.2
TSUM LR LR
comp=Z,13µm,20.0s,MS6.6
YRE Yr Eifl 128.75 342 *e*P PKPdf 16 09 29.3 +1.0
SSP1 Stoney Pound 128.81 341 *e*P PKPdf 16 09 29.2 +0.7
DLF Lyons Farm 129.10 343 *e*P PKPdf 16 09 30.0 +1.0
MCH1 Michaelchurch 129.12 340 *e*P PKPdf 16 09 29.5 +0.4
HTR Trewern Hill 129.15 340 *e*P PKPdf 16 09 29.7 +0.5
HTR AMb AMB 16 09 38.5
comp=Z,139nm,1.5s
DCN Croghan 129.27 344 *e*P PKPdf 16 09 29.9 +0.6
HGH Gray Hill 129.36 340 *e*P PKPdf 16 09 30.4 +0.9
HGH AMb AMB 16 09 32.7
comp=Z,223nm,1.4s
CABF La Chapelle 129.45 330 *e*PKIKP PKPdf 16 09 31.1 +1.2
CCCC Cccc 129.49 67 *e*P PKPdf 16 09 31.7 +1.1
HSA Swansea 129.72 341 *e*P PKPdf 16 09 31.0 +0.8
LPL La Plagne 129.87 328 *e*PKIKP PKPdf 16 09 31.9 +1.2
comp=Z,27nm,0.6s
LPG La Plagne 129.87 328 *e*PKIKP PKPdf 16 09 31.9 +1.2
comp=Z,133nm,1.1s
LOR Lormes 130.07 332 *e*PKIKP PKPdf 16 09 31.8 +0.8
comp=Z,112nm,1.3s
LOR *eR*
comp=Z,29µm,22.5s
HEX Exmoor 130.18 340 *e*P PKPdf 16 09 31.2 0.0
BNI Bardonecchia 130.20 328 *e*PKPdf PKPdf 16 09 30.9 -0.4
BNI *e*SKP 16 12 52.6
BNI Bardonecchia 130.20 328 PKIKP PKPdf 16 09 31.9 +0.5
MBDF Montbardon 130.37 328 *e*PKIKP PKPdf 16 09 32.4 +0.7
comp=Z,24nm,0.7s
SSF Saint Saulge 130.38 332 *e*PKIKP PKPdf 16 09 32.6 +1.0
comp=Z,103nm,1.2s
SAOF Saorge 130.43 326 PKP PKPdf 16 09 32.5 +0.7
AUTN L'Aution 130.50 326 PKP PKPdf 16 09 32.8 +0.9
PGF Pioggiola 130.51 324 *e*PKIKP PKPdf 16 09 32.6 +0.6
SMF Signal de Mont 130.53 331 *e*PKIKP PKPdf 16 09 32.7 +0.8
SBF Sospel 130.58 326 *e*PKIKP PKPdf 16 09 32.5 +0.4
TOUF Mont Tournerai 130.58 327 PKP PKPdf 16 09 33.4 +1.3
HYF Humbligny 130.63 333 *e*PKIKP PKPdf 16 09 33.3 +1.2
AVF Avril sur Loir 130.65 332 *e*PKIKP PKPdf 16 09 32.5 +0.3
comp=Z,23nm,0.8s
ORIF Oris-en-Rattie 130.71 328 *e*PKIKP PKPdf 16 09 33.2 +0.9
comp=Z,55nm,0.7s
ORIF *eR*
comp=Z,54µm,21.5s
LDF La Druitiere 130.82 336 *e*PKIKP PKPdf 16 09 33.3 +0.9
comp=Z,165nm,1.6s
FLN La Foliniere 130.83 336 *e*PKIKP PKPdf 16 09 33.1 +0.7
FLN *eR*
comp=Z,34µm,22.8s
LPA La Plata 131.05 147 *ce*PKP PKPdf 16 09 32.0 -1.3
LPA *ep*PKP 16 09 40.0
LPA *e*PKS PKS 16 12 59.0 -10
LPA *e*SKP 16 13 03.0
LPA SKIKP 16 13 08.0
LPA SKKS 16 18 42.0
LPA *e*SS SS 16 29 22.0 +2.0
comp=Z,10µm,18.0s
BGF Bois d'Agland 131.06 332 *e*PKIKP PKPdf 16 09 33.9 +1.0
PLDF La Plantade 131.12 331 PKP PKPdf 16 09 34.0 +0.9
FRF La Foret Royal 131.21 327 *e*PKIKP PKPdf 16 09 34.0 +0.7
comp=Z,348nm,1.7s
GRR Gorron 131.28 336 *e*PKIKP PKPdf 16 09 34.2 +0.9
comp=Z,200nm,1.5s
LVC Limon Verde 131.38 127 *e*PKPpre 16 09 31.0
LVC *e*PKPdf PKPdf 16 09 36.7 +2.5
LVC *e*SKP 16 13 01.8
LVC LR LR
comp=Z,16µm,20.0s,MS6.7
VIVF Saint-Julien-l 131.38 329 *e*PKIKP PKPdf 16 09 34.5 +0.9
comp=Z,94nm,1.2s
COLF Collangettes 131.41 330 PKP PKPdf 16 09 35.5 +1.9
LMR La Mourre 131.43 326 *e*PKIKP PKPdf 16 09 34.3 +0.6
comp=Z,378nm,1.6s
TAVF Tavernes 131.49 327 PKP PKPdf 16 09 35.3 +1.5
SMRF Simiane la Rot 131.51 328 *e*PKIKP PKPdf 16 09 35.1 +1.2
comp=Z,249nm,1.4s
VILF Villemus 131.52 327 PKP PKPdf 16 09 35.6 +1.7
TCF Toulx Ste Croi 131.56 332 *e*PKIKP PKPdf 16 09 34.9 +1.0
comp=Z,94nm,1.1s
PYM Petit Puy Mans 131.57 331 PKP PKPdf 16 09 35.1 +1.2
PUYF Puyloubier 131.74 327 PKP PKPdf 16 09 36.0 +1.7
LBL Lubilhac 131.83 330 PKP PKPdf 16 09 34.5 +0.1
PRAF Pradon 131.84 328 PKP PKPdf 16 09 36.0 +1.5
ARE Arequipa 131.95 118 P PKPdf 16 09 39.0 +3.6
FRNF Fournols 132.05 331 PKP PKPdf 16 09 36.7 +1.8
SGMF Saint Gilles 132.06 337 *e*PKIKP PKPdf 16 09 35.5 +0.7
comp=Z,41nm,0.6s
VSL Villasalto 132.09 321 *e*PKPdf PKPdf 16 09 36.4 +1.3
VSL *e*SKP 16 13 00.0
ROSF Rostrenen 132.27 338 *e*PKIKP PKPdf 16 09 36.0 +0.8
comp=Z,60nm,1.1s
LASF Ste Croix 132.34 329 *e*PKIKP PKPdf 16 09 36.4 +0.9
MFF Saint Martin d 132.38 334 *e*PKIKP PKPdf 16 09 36.3 +0.8
comp=Z,99nm,1.3s
QUIF Quistinic 132.57 337 *e*PKIKP PKPdf 16 09 36.5 +0.7
RJF Les Rejaudoux 132.61 332 *e*PKIKP PKPdf 16 09 37.2 +1.3
RJF *eR*
comp=Z,27µm,22.0s
CAF Calviac 132.63 331 *e*PKIKP PKPdf 16 09 37.5 +1.5
comp=Z,202nm,1.8s
MTLF Montolieu 133.70 329 *e*PKIKP PKPdf 16 09 39.2 +1.1
comp=Z,46nm,1.0s
EJON La Jonquera 133.99 328 PKP PKPdf 16 09 43.0 +4.4
ROSC El Rosal 134.03 89 PKP PKPdf 16 09 41.7 +2.3
comp=Z,32nm,0.7s,baz=254,slow=18,SNR=8.1
ROSC SKPbc 16 13 10.5
comp=Z,5.2nm,0.4s,baz=103,slow=19,SNR=3.6
EPF Esparros 134.87 330 *e*PKIKP PKPdf 16 09 41.6 +1.4
LPAZ La Paz 134.96 119 PKhKP 16 09 31.4
comp=Z,1.1nm,0.7s,baz=312,slow=1.7,SNR=4.8
LPAZ PKP PKPdf 16 09 44.3 +3.3
comp=Z,17nm,0.8s,baz=334,slow=1.7,SNR=15
LPAZ La Paz 134.96 119 *e*PKPpre 16 09 30.9
LPAZ PKP PKPdf 16 09 44.3 +3.3
LPAZ *e*PKPdf PKPdf 16 09 46.3 +5.2
LPAZ *e*SKP 16 13 13.3
LPAZ LR LR
comp=Z,9µm,21.0s,MS6.5
LPAZ La Paz 134.96 119 *e*PKHKP 16 09 30.9
LPAZ 16 09 44.3
LPAZ MLR MLR
comp=Z,9µm,21.0s
LABF Labassere 134.99 331 PKP PKPdf 16 09 42.0 +1.6
EMIR Miracle 135.08 328 PKP PKPdf 16 09 44.0 +3.4
VIEF Viey 135.13 331 PKP PKPdf 16 09 43.5 +2.8
REYF Montagne du Re 135.19 331 PKP PKPdf 16 09 43.0 +2.2
TRIS Tristan da Cun 135.20 198 PFAKE 16 09 50.0 +9.0
TRIS LR LR
comp=Z,14µm,19.0s,MS6.7
EBIE Bielsa 135.22 330 PKP PKPdf 16 09 42.5 +1.7
ETSF Etsaut 135.40 331 *e*PKIKP PKPdf 16 09 41.6 +0.4
EGRA Graus 135.50 330 PKP PKPdf 16 09 45.1 +3.8
LARF Larrau 135.50 331 PKP PKPdf 16 09 41.7 +0.4
SJPF Ste Jean 135.56 332 *e*PKIKP PKPdf 16 09 42.1 +0.7
comp=Z,55nm,1.1s
EPOB Poblet 135.72 328 PKP PKPdf 16 09 44.8 +3.0
ESAC San Caprasio 136.24 330 PKP PKPdf 16 09 46.0 +3.2
ERTA Horta de San J 136.39 328 PKP PKPdf 16 09 43.6 +0.6
ELAN Lanestosa 136.48 334 PKP PKPdf 16 09 43.9 +0.8
BBSR BB Station 136.64 47 PFAKE 16 10 00.0 +16
BBSR LR LR
comp=Z,18µm,20.0s,MS6.8
EARI Arriondas 137.18 335 PKP PKPdf 16 09 47.1 +2.7
EIBI Ibiza 137.21 326 PKP PKPdf 16 09 38.0 -6.6
EMOS Mosqueruela 137.24 328 PKP PKPdf 16 09 43.3 -1.4
CPUP Villa Florida 137.62 140 PKhKP 16 09 39.2
comp=Z,3.9nm,0.8s,baz=241,slow=4.7,SNR=8.2
CPUP PKP PKPdf 16 09 48.7 +3.0
comp=Z,17nm,0.9s,baz=267,slow=1.9,SNR=13
CPUP Villa Florida 137.62 140 *e*PKPpre 16 09 38.2
CPUP *e*PKPdf PKPdf 16 09 47.6 +1.9
CPUP PKP PKPdf 16 09 48.7 +3.0
CPUP LR LR
comp=Z,10µm,20.0s,MS6.5
CPUP Villa Florida 137.62 140 *e*PKHKP 16 09 38.2
CPUP *e* 16 09 47.6
CPUP MLR MLR
comp=Z,10µm,20.0s
SDV Santo Domingo 137.74 83 SKPbc 16 13 22.5
comp=Z,33nm,1.0s,baz=48,slow=22,SNR=7.1
SDV Santo Domingo 137.74 83 *e*PKPpre 16 09 39.5
SDV *e*PKPdf PKPdf 16 09 47.8 +1.6
SDV *e*SKP 16 13 22.1
SDV LR LR
comp=Z,6µm,22.0s,MS6.3
EPON Pontenova 137.94 337 PKP PKPdf 16 09 47.5 +1.7
ECHE Chera 138.07 328 PKP PKPdf 16 09 49.0 +2.8
STS Santiago 138.85 338 PKP PKPdf 16 09 49.9 +2.5
ECAL Calabor 138.94 335 PKP PKPdf 16 09 50.1 +2.4
PBRG Braganca 139.06 335 *e*PKPdf PKPdf 16 09 40.0 -7.9
PBRG Braganca 139.06 335 *e*PP PP 16 12 43.5 -1.3
ETOB Tobarra 139.07 328 PKP PKPdf 16 09 45.9 -2.1
EMUR La Murta 139.48 327 PKP PKPdf 16 09 44.7 -4.0
ESDC Sonseca Array 139.52 331 PKhKP 16 09 42.0
comp=Z,5.7nm,0.8s,baz=36,slow=3.0,SNR=18
ESDC PKP PKPdf 16 09 51.5 +2.8
comp=Z,2.7nm,0.6s,baz=32,slow=2.1,SNR=9.9
ESDC PP PP 16 12 47.9 +0.2
comp=Z,8.8nm,0.7s,baz=32,slow=6.4,SNR=6.4
ESDC SKPbc 16 13 25.7
comp=Z,12nm,1.1s,baz=19,slow=3.7,SNR=5.5
ESDC Sonseca Array 139.52 331 PKP PKPdf 16 09 42.0 -6.7
ESDC PKP PKPdf 16 09 45.2 -3.6
ESDC PKP PKPdf 16 09 51.5 +2.8
ESDC PP PP 16 12 47.9 +0.2
ESDC SKPbc 16 13 25.7
ESLA Sonseca Array 139.52 331 *e*PKPpre 16 09 42.2
ESLA *e*PP PP 16 12 43.7 -3.9
ESLA *e*SKP 16 13 24.6
ESLA LR LR
comp=Z,111µm,22.0s,MS7.6
ELOB Lobios 139.54 337 PKP PKPdf 16 09 48.5 -0.3
EVIA Vianos 139.57 328 PKP PKPdf 16 09 42.4 -6.5
EHUE Huescar 140.23 328 PKP PKPdf 16 09 44.1 -6.1
EQES Quesada 140.50 328 PKP PKPdf 16 09 44.8 -5.8
MTE Manteigas 140.56 335 *e*PKPdf PKPdf 16 09 51.9 +1.2
MTE Manteigas 140.56 335 *e*PP PP 16 12 55.8 +1.9
MTE Manteigas 140.56 335 *e*SS SS 16 31 56.6 +43
MTE Manteigas 140.56 335 *e*PKPpre 16 09 45.6
EBAN Banos Encina 140.59 329 PKP PKPdf 16 09 46.6 -4.2
SJG San Juan 140.84 68 PKP PKPdf 16 09 52.5 +0.7
comp=Z,70nm,0.8s,baz=344,slow=19
SJG SKPbc 16 13 30.6
comp=Z,15nm,0.7s,baz=306,slow=19,SNR=2.7
SJG San Juan 140.84 68 *e*PKPpre 16 09 43.0
SJG PKP PKPdf 16 09 52.5 +0.7
SJG *e*PKPdf PKPdf 16 09 53.0 +1.2
SJG SKPbc 16 13 30.6
SJG *e*SKP 16 13 33.5
SJG LR LR
comp=Z,10µm,21.0s,MS6.5
SJG San Juan 140.84 68 PKIKP PKPdf 16 09 50.8 -1.0
EADA Adamuz 140.99 330 PKP PKPdf 16 09 46.1 -5.4
PCBR Castelo Branco 141.00 334 *e*PKPdf PKPdf 16 09 49.4 -2.1
CPD Cerro la Pandu 141.07 68 *e*PKPpre 16 09 49.9
CPD *e*PKPdf PKPdf 16 09 54.6 +2.4
CPD *e*SKP 16 13 27.1
ELUQ Luque 141.30 329 PKP PKPdf 16 09 48.2 -3.9
MTP Monte Pirata 141.39 68 *e*PKPpre 16 09 45.9
MTP *e*PKPdf PKPdf 16 09 55.1 +2.4
EBON Agron 141.47 328 PKP PKPdf 16 09 49.0 -3.3
ECAB El Cabril 141.48 331 PKP PKPdf 16 09 47.6 -4.7
EGUA Guajares 141.48 328 PKP PKPdf 16 09 48.8 -3.6
ELOJ Sierra Loja 141.55 328 PKP PKPdf 16 09 48.2 -4.3
PTOM Tomar 141.58 335 *e*PKPdf PKPdf 16 09 49.6 -2.9
EBAD Badajoz 141.68 333 PKP PKPdf 16 09 48.9 -3.7
EALB Alboran 141.85 326 PKP PKPdf 16 09 47.1 -5.9
SAML Samuel 142.28 112 *e*PKPpre 16 09 50.9
SAML *e*PKPdf PKPdf 16 09 56.0 +1.6
SAML LR LR
comp=Z,11µm,22.0s,MS6.6
EMIJ Mijas 142.32 328 PKP PKPdf 16 09 49.7 -4.1
EMIN Mina Concepcio 142.32 332 PKP PKPdf 16 09 50.6 -3.2
ESPR Espera 142.64 330 PKP PKPdf 16 09 50.5 -3.8
PBEJ Beja 142.66 333 *e*PKPdf PKPdf 16 09 53.7 -0.7
EJIF Jimena Fronter 142.76 329 PKP PKPdf 16 09 52.1 -2.5
EGRO El Granado 142.89 332 PKP PKPdf 16 09 53.6 -1.2
PTEO Sao Teotonio 143.44 334 *e*PKPdf PKPdf 16 09 55.9 +0.2
SKI Saint Kitts 144.18 68 *e*P PKPbc 16 09 57.0 +0.1
SKTB Turtle Beach 144.32 68 *e*P PKPbc 16 09 57.6 +0.3
NVRH Round Hill, Ne 144.35 68 *e*P PKPbc 16 09 57.1 -0.2
CPB Codrington 144.94 67 *e*P PKPdf 16 09 59.8 +0.9
BPA Boggy Peak 145.07 68⇑ *i*P PKPdf 16 09 60.0 +0.9
LZG Guadaloupe-1 145.37 69 *e*P PKPdf 16 09 60.0 +0.3
DOG Dongo Capester 145.55 70‖ *e*P PKPdf 16 10 00.6 +0.7
TBG Guadaloupe-3 145.56 70‖ *e*P PKPdf 16 10 01.2 +1.3
BBL Barber's Block 145.80 70 *e*P PKPdf 16 10 01.4 +1.0
MGG Marie-Galante 145.85 70 *e*P PKPdf 16 10 01.6 +1.2
MDN Morne-Daniel 145.92 71 *e*P PKPdf 16 10 02.1 +1.5
DSHT Scott's Head 145.97 71 *e*P PKPdf 16 10 02.3 +1.6
DEG La Desirade 146.00 69‖ *e*P PKPdf 16 10 01.2 +0.5
GRW Mount Saint Ca 146.26 76 *e* PKPdf 16 10 05.4 +4.2
FDF Fort de France 146.28 72‖ *e*P PKPdf 16 10 04.1 +2.9
SVB Belmont 146.47 74 *e*P PKPdf 16 10 01.9 +0.3
CRM Caravelle 146.50 71‖ *e*P PKPdf 16 10 04.2 +2.6
STGR Santa Cruz 146.50 360 *e*PKP PKPdf 16 10 06.0 +5.0
PVIA Vitoria 146.52 360 *e*PKP PKPdf 16 10 05.8 +4.8
SSV Crater Summit 146.52 74 *e*P PKPdf 16 10 04.8 +3.1
PGRA Graciosa 146.56 360 *e*PKP PKPdf 16 10 05.1 +4.0
MVM Montagne Vaucl 146.56 72‖ *e*P PKPdf 16 10 04.9 +3.2
PLUZ Luz 146.56 1 *e*PKP PKPdf 16 10 06.0 +4.9
SLB Belfond 146.57 73 *e*P PKPdf 16 10 02.5 +0.8
BHS Barnard House 146.59 74 *e*P PKPdf 16 10 04.4 +2.7
TPP Pointe-a-Pierr 146.69 80 *e*P PKPdf 16 10 07.4 +5.4
TRN Trinidad (W) 146.70 79 *e*P PKPdf 16 10 05.2 +3.2
PSBA Serra de Santa 146.81 359 *e*PKP PKPdf 16 10 05.8 +4.3
PVNV Vila Nova 146.81 359 *e*PKP PKPdf 16 10 06.8 +5.3
PBIS Biscoitos 146.81 359 *e*PKP PKPdf 16 10 06.9 +5.4

ASBA	**Santa Barbara**	**146.86**	**359**	*e*PKP	PKPdf	16 10 06.9	+5.3
PFAV	**Pico das Favas**	**146.86**	**358**	*e*PKP	PKPdf	16 10 07.1	+5.5
ROSA	**Rosais**	**146.87**	**0**	*e*PKP	PKPdf	16 10 05.8	+4.2
PPAD	**Pico dos Padre**	**146.88**	**359**	*e*PKP	PKPdf	16 10 07.2	+5.6
RIB2	**Ribeirinha**	**146.90**	**359**	*e*PKP	PKPdf	16 10 07.0	+5.3
PAMA	**Santo Amaro**	**146.91**	**0**	*e*PKP	PKPdf	16 10 07.3	+5.6
ADH	**Angra Heroismo**	**146.92**	**359**	*e*PKP	PKPdf	16 10 06.4	+4.7
ADH	**Angra Heroismo**	**146.92**	**359**	*e*PKP	PKPdf	16 10 15.0	+13
ADH	**Angra Heroismo**	**146.92**	**359**	*e*PP	PP	16 13 45.0	+13
ADH	**Angra Heroismo**	**146.92**	**359**	*e*SS	SS	16 32 35.0	+8.5
ADH	**Angra Heroismo**	**146.92**	**359**	*i* LR	LR	17 00 14.0	
PMAN	**Manadas**	**146.95**	**360**	*e*PKP	PKPdf	16 10 07.0	+5.3
PTCA	**Ponta do Capel**	**147.00**	**1**	*e*PKP	PKPdf	16 10 06.7	+4.9
CALA	**Caldeira**	**147.00**	**1**	*e*PKP	PKPdf	16 10 06.7	+4.9
TBH	**Brigand Hill**	**147.05**	**79**	*e*P	PKPdf	16 10 08.3	+5.7
PICO	**Pico**	**147.08**	**0**	*e*PKP	PKPdf	16 10 06.7	+4.7
PCND	**Candelaria**	**147.12**	**0**	*e*PKP	PKPdf	16 10 07.6	+5.6
PBOI	**Pico dos Bois**	**147.15**	**0**	*e*PKP	PKPdf	16 10 07.7	+5.6
TPR	**Prospect**	**147.25**	**78**	*e*P	PKPdf	16 10 07.5	+4.6
BOT	**Bacolet**	**147.31**	**78**	*e*	PKPdf	16 10 07.5	+4.5
PMAT	**Coroa da Mata**	**147.67**	**356**	*e*PKP	PKPdf	16 10 12.1	+9.2
LFA	**Lagoa do Fogo**	**147.72**	**356**	*e*PKP	PKPdf	16 10 10.3	+7.3
CMLA	**Cha da Macela**	**147.73**	**356**	PFAKE		16 10 20.0	+17
CMLA				LR	LR		
	comp=Z,9µm,21.0s,MS6.5						
VIF	**Vila Franca**	**147.74**	**356**	*e*PKP	PKPdf	16 10 09.7	+6.7
CAM4	**Nova Friburgo**	**148.99**	**153**	*e*P	PKPdf	16 10 07.9	+2.4
CAM4				*i*		16 10 12.2	
CAM4				*i*		16 10 14.8	
CAM4				*i*		16 10 19.0	
CAM4				*i*		16 10 23.7	
CAM4				*i*		16 10 27.9	
CAM4				*i*		16 10 36.3	
BDFB	**Brasilia**	**151.28**	**137**	PKP	PKPdf	16 10 11.4	+2.3
	comp=Z,67nm,0.8s,baz=243,slow=1.1,SNR=11						
BDFB				PKPbc	PKPdf	16 10 17.3	+8.2
	comp=Z,87nm,0.8s,baz=310,slow=1.1,SNR=33						
BAO	**Brasilia Array**	**151.30**	**137**	PKPdf	PKPdf	16 10 12.0	+2.8
EFAM	**Famara**	**152.66**	**331**	PKP	PKPdf	16 10 19.9	+9.1
CFTV	**Fuerteventura**	**153.53**	**331**	PKP	PKPdf	16 10 13.8	+1.7
EOSO	**Osorio**	**154.49**	**333**	PKP	PKPdf	16 10 18.2	+4.8
CCAN	**Las Canadas**	**154.82**	**335**	PKP	PKPdf	16 10 25.3	+12
KIC	**Kosan Boka**	**156.68**	**273**	*e*PKP1	PKPdf	16 10 18.0	+1.3
	comp=Z,1µm,1.2s						
DBIC	**Dimbokro**	**156.79**	**274**	PKP	PKPdf	16 10 18.3	+1.5
	comp=Z,14nm,0.9s,baz=180,slow=2.1,SNR=9.1						
DBIC				PKPab	PKPab	16 10 47.3	-1.7
	comp=Z,39nm,0.8s,baz=38,slow=2.1,SNR=6.4						
DBIC	**Dimbokro**	**156.79**	**274**	*e*PKIKP	PKPdf	16 10 18.0	+1.2
DBIC				*e*		16 10 30.4	
DBIC				MLR	MLR		
	comp=Z,15µm,21.0s						
TIC	**Toumodi**	**156.95**	**274**	*e*PKP1	PKPdf	16 10 17.1	0.0
	comp=Z,320nm,0.9s						
LIC	**Lamto**	**156.97**	**273**	*e*PKIKP	PKPdf	16 10 16.9	-0.2
	comp=Z,102nm,0.8s						
LIC	**Lamto**	**156.97**	**273**	*e*PKP1	PKPdf	16 10 18.3	+1.2
	comp=Z,317nm,1.0s						
RCBR	**Riachuelo**	**166.41**	**145**	*e*PKPdf	PKPdf	16 10 28.0	+1.1

NIED ***29*** *15:51:00,37.90N×142.30E,h23km,Mw3.6 Best double couple: M₀2.71×10¹⁴ NP1:φ₈217°,δ60°,λ108°. NP2:φ₈4°, δ35°,λ62°.*
JMA ***29*** *15:51:00.4±0.2,37.90N×142.34E,h39km±2km,M3.7*
IDC ***29*** *15:51:00.3±2.1,38.36N×142.33E,mb3.5/2,mb1 3.5/3, mb1mx3.4/19,mbtmp3.4/3,ML3.2/1,MS5.0/1,Ms1 5.0/1, ms1mx4.5/35,Error ellipse: s-maj=44.7km s-min=29.5km az=57.0*
NEIC ***29*** *15:51:04.2±1.1,38.35N×142.26E,h35km,mb4.5/2, MW3.6(NIED),Error ellipse: s-maj=24.9km s-min=12.2km az=131.0*

ISC 29 15:51:00.6±1.3,37.98N±0.07×142.43E±0.10,h39km±12km, n22,σ1§23/30,mb3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.97**	**300**	P	**P**	**15 51 17.9**	**-0.1**
JIO				*e*S	**S**	**15 51 30.4**	**-0.4**
JMM	**Marumori**	**1.29**	**266**	P	**P**	**15 51 21.6**	**-0.9**
JMM				*e*S	**S**	**15 51 36.5**	**-2.5**
JMK	**Ichinoseki**	**1.36**	**316**	P	**P**	**15 51 23.9**	**+0.4**
JFK	**Kawauchi**	**1.37**	**244**	P	**P**	**15 51 22.0**	**-1.7**
JFK				S	**S**	**15 51 37.7**	**-3.2**
JOU	**Okura**	**1.44**	**286**	P	**P**	**15 51 24.9**	**+0.2**
JOU				*e*S	**S**	**15 51 42.2**	**-0.4**
JFT	**Otama**	**1.72**	**255**	P	**P**	**15 51 28.3**	**-0.3**
JFT				S	**S**	**15 51 48.5**	**-1.0**
JOM	**Ohasama**	**1.74**	**330**	P	**P**	**15 51 29.8**	**+0.9**
JYK	**Kaneyama**	**1.88**	**301**	P	**P**	**15 51 31.5**	**+0.7**
JYS	**Shirataka**	**1.88**	**278**	P	**P**	**15 51 31.0**	**+0.1**
JYS				*e*S	**S**	**15 51 54.1**	**+0.6**
JYA	**Atsumi**	**2.22**	**287**	P	**P**	**15 51 36.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.66**	**248**	Pn	**P**	**15 51 58.5**	**+2.3**
	1.7nm,0.3s,baz=60,slow=10,SNR=13						
MJAR				Sn	**S**	**15 52 46.5**	**+7.9**
	2.1nm,0.3s,baz=64,slow=11,SNR=4.8						
MAJO	**Matsushiro**	**3.66**	**248**	*e*Pn	**P**	**15 51 57.8**	**+1.6**
MAT	**Matsushiro**	**3.66**	**248**	P	**P**	**15 51 56.3**	**+0.1**
MAT				*S*	**S**	**15 52 41.6**	**+2.9**
MAT	**Matsushiro**	**3.66**	**248**	*e*P	**P**	**15 51 58.0**	**+1.8**
MAT				*e*S	**S**	**15 52 48.0**	**+9.3**
CBIJ	**Chichi jima**	**10.85**	**181**	LR	LR	15 57 29.7	
	comp=Z,8µm,20.8s,baz=57,slow=35						
PET	**Petropavlovsk**	**18.79**	**32**	*e*P	**P**	**15 55 15.9**	**-3.2**
	43nm,1.2s						
MA2	**Magadan**	**22.27**	**11**	*e*P	**P**	**15 55 54.7**	**-0.8**
	23nm,1.2s,mb4.5						
SONM	**Songino Array**	**27.95**	**302**	P	**P**	**15 56 50.2**	**+0.9**
	0.3nm,0.5s,mb3.2,baz=104,slow=7.6,SNR=4.4						
SJMP	**San Jose**	**31.73**	**222**	*e*P	**P**	**15 57 19.9**	**-3.3**
MKAR	**Makanchi Array**	**44.31**	**301**	P	**P**	**15 59 09.4**	**+1.2**
	0.5nm,0.7s,mb3.4,baz=87,slow=9.9,SNR=3.7						
KURK	**Kurchatov**	**45.99**	**308**	*e*P	**P**	**15 59 20.4**	**-1.2**
PMG	**Port Moresby**	**47.34**	**174**	P	**P**	**15 59 39.0**	**+6.3**
	31nm,0.5s						

IDC 29 16:06:47.4±6.4,5.24S×151.12E,h94km±64km,mb3.5/4, mb1 3.8/5,mb1mx3.7/10,mbtmp4.0/5,ML3.5/1,Error ellipse: s-maj=66.4km s-min=46.6km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.71**	**223**	P	P	16 08 09.9	-1.2
	8.0nm,0.3s,baz=19,slow=8.2,SNR=6.4						
WRA	**Warramunga Arr**	**21.91**	**227**	P	P	16 11 33.1	-1.2
	2.5nm,0.6s,baz=53,slow=10,SNR=6.3						
SONM	**Songino Array**	**65.82**	**329**	P	P	16 17 23.0	-2.0
	0.6nm,0.6s,baz=143,slow=5.3,SNR=5.7						
MKAR	**Makanchi Array**	**79.56**	**319**	P	P	16 18 44.5	-1.3
	0.5nm,0.8s,baz=100,slow=5.3,SNR=5.1						
ILAR	**Eielson Array**	**83.20**	**22**	P	P	16 19 03.0	-1.4
	1.0nm,0.6s,baz=245,slow=5.5,SNR=8.8						

IDC 29 16:07:32.7±5.8,5.61S×151.86E,h90km±52km,mb3.6/5, mb1 3.8/6,mb1mx3.7/11,mbtmp4.0/6,ML3.4/1,Error ellipse: s-maj=66.3km s-min=33.2km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.00**	**231**	P	P	16 08 58.8	-1.6
	6.5nm,0.3s,baz=49,slow=8.3,SNR=3.1						
PMG				S	S	16 10 07.0	-1.4
	6.5nm,0.3s,baz=283,slow=23,SNR=3.6						
WRA	**Warramunga Arr**	**22.21**	**229**	P	P	16 12 22.0	-0.8
	2.9nm,0.6s,baz=53,slow=9.7,SNR=4.9						
FITZ	**Fitzroy Crossi**	**28.46**	**242**	P	P	16 13 19.6	-1.9
	4.1nm,0.4s,baz=38,slow=6.6,SNR=2.9						
SONM	**Songino Array**	**66.51**	**328**	P	P	16 18 13.8	-1.2
	0.3nm,0.5s,baz=135,slow=8.2,SNR=3.0						
MKAR	**Makanchi Array**	**80.32**	**319**	P	P	16 19 33.0	-2.5
	0.2nm,0.6s,baz=112,slow=7.8,SNR=2.5						
ILAR	**Eielson Array**	**83.25**	**22**	P	P	16 19 49.1	-1.2
	0.4nm,0.7s,baz=248,slow=4.1,SNR=2.4						

NEIC ***29*** *16:12:47.0±0.9,5.56S×151.85E,h25km,mb4.5/5,Error ellipse: s-maj=26.2km s-min=12.5km az=117.0*

IDC ***29*** *16:12:50.9±6.1,5.69S×152.04E,h66km±53km,mb3.7/6, mb1 3.9/7,mb1mx3.8/11,mbtmp4.0/7,ML3.5/1,Error ellipse: s-maj=50.2km s-min=28.6km az=105.0*

ISC 29 16:12:49.4±4.3,5.6S±0.1×151.9E±0.2,h59km±34km,n16, σ1§01/16,mb4.1/10,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.03**	**230**	P	**P**	**16 14 18.9**	**+0.9**
	7.1nm,0.3s,baz=39,slow=9.9,SNR=17						
PMG	**Port Moresby**	**6.03**	**230**	*e*Pn	**P**	**16 14 17.8**	**-0.2**
	54nm,0.8s						
KAKA	**Kakadu**	**20.43**	**248**	*i*P	**P**	**16 17 43.0**	**+19**
	12nm,0.5s						
WRAB	**Tennant Creek**	**22.23**	**228**	*e*P	**P**	**16 17 43.9**	**+1.4**
	14nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**22.23**	**228**	*e*P	**P**	**16 17 42.7**	**+0.2**
WRA	**Warramunga Arr**	**22.24**	**228**	P	**P**	**16 17 42.5**	**-0.2**
	6.8nm,0.7s,mb4.2,baz=52,slow=9.8,SNR=24						
STKA	**Stephens Creek**	**27.90**	**199**	P	**P**	**16 18 34.0**	**-2.1**
	2.4nm,0.7s,mb3.9,baz=18,slow=9.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**28.47**	**242**	*e*P	**P**	**16 18 41.4**	**0.0**
	12nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**28.47**	**242**	P	**P**	**16 18 40.6**	**-0.8**
	6.9nm,0.6s,mb4.5,baz=45,slow=3.2,SNR=9.9						
MBWA	**Marble Bar**	**34.78**	**240**	P	**P**	**16 19 36.5**	**-0.1**
	11nm,1.2s,mb4.7						
KSM	**Kuching**	**42.07**	**278**	P	**P**	**16 20 36.0**	**-1.5**
SONM	**Songino Array**	**66.46**	**328**	P	**P**	**16 23 34.4**	**-0.5**
	0.4nm,0.7s,mb3.6,baz=145,slow=5.2,SNR=3.8						
MKAR	**Makanchi Array**	**80.27**	**319**	P	**P**	**16 24 56.8**	**+1.2**
	0.2nm,0.5s,mb3.3,baz=93,slow=6.6,SNR=3.4						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**16 25 09.7**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=243,slow=6.0,SNR=4.3						
QSPA	**South Pole Qui**	**84.42**	**180**	*e*P	**P**	**16 25 17.3**	**+1.1**
	2.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**89.34**	**323**	P	**P**	**16 25 41.7**	**+1.0**
	1.1nm,0.5s,mb4.4						

IDC 29 16:13:03.8±6.2,5.57S×151.78E,h80km±54km,mb3.7/6, mb1 3.9/7,mb1mx3.8/11,mbtmp4.1/7,ML3.4/1,Error ellipse: s-maj=48.4km s-min=30.2km az=98.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.96**	**230**	P	P	16 14 29.3	-1.8
	6.1nm,0.3s,baz=32,slow=18,SNR=8.9						
PMG				S	S	16 15 37.6	-1.1
	11nm,0.3s,baz=127,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**22.18**	**228**	P	P	16 17 53.3	-1.1
	2.8nm,0.4s,baz=51,slow=10,SNR=12						
STKA	**Stephens Creek**	**27.86**	**199**	P	P	16 18 45.5	-2.6
	2.6nm,0.7s,baz=27,slow=14,SNR=4.7						
SONM	**Songino Array**	**66.43**	**328**	P	P	16 23 45.3	-1.5
	1.2nm,0.6s,baz=146,slow=5.5,SNR=8.6						
MKAR	**Makanchi Array**	**80.23**	**319**	P	P	16 25 06.6	-0.8
	0.7nm,0.9s,baz=100,slow=6.5,SNR=5.1						
ILAR	**Eielson Array**	**83.25**	**22**	P	P	16 25 20.9	-1.6
	1.1nm,0.6s,baz=244,slow=5.5,SNR=11						
BVAR	**Borovoye Array**	**89.24**	**323**	P	P	16 25 50.3	-1.8
	1.1nm,0.7s,baz=117,slow=9.7,SNR=5.1						

BJI ***29*** *16:22:25.7,5.45S×152.24E,h28km,mB5.0,mb4.8*
NEIC ***29*** *16:22:25.5±0.5,5.64S×151.95E,h25km,mb4.7/11,Error ellipse: s-maj=13.7km s-min=9.6km az=100.0*
IDC ***29*** *16:22:29.2±3.2,5.71S×152.05E,h62km±29km,mb4.2/12, mb1 4.3/14,mb1mx4.3/17,mbtmp4.6/14,ML3.4/2,Error ellipse: s-maj=18.8km s-min=16.0km az=70.0*

ISC 29 16:22:28.4±2.1,5.73S±0.07×152.04E±0.09,h66km±18km, h31km±5.0km:pP-P,n39,σ1§13/39,mb4.5/22,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.06**	**233**	P	**P**	**16 23 56.5**	**-0.8**
	8.1nm,0.3s,baz=45,slow=8.8,SNR=19						
PMG				S	**S**	**16 25 06.1**	**+0.1**
	5.2nm,0.3s,baz=59,slow=18,SNR=5.6						
PMG	**Port Moresby**	**6.06**	**233**	*e*Pn	**P**	**16 23 55.9**	**-1.4**
	96nm,0.8s						
CTA	**Charters Tower**	**15.34**	**201**	P	P	**16 26 04.1**	**+1.7**
	0.1nm,0.3s,baz=45,slow=18,SNR=2.7						
CTAO	**Charters Tower**	**15.34**	**201**	*e*P	**P**	**16 26 06.9**	**+4.5**
	6.4nm,0.9s						
GUMO	**Guam**	**20.47**	**340**	P	P	**16 27 03.3**	**+0.1**
	32nm,0.6s,baz=166,slow=12,SNR=4.4						
GUMO	**Guam**	**20.47**	**340**	P	**P**	**16 27 03.9**	**+0.7**
	44nm,0.9s						
KAKA	**Kakadu**	**20.54**	**249**	*i*P	**P**	**16 27 21.6**	**+18**
	12nm,0.4s						
DZM	**Mont Dzumac**	**21.40**	**141**	P	**P**	**16 27 12.9**	**+0.3**
	5.5nm,0.6s,mb4.1,baz=95,slow=21,SNR=7.2						
WRAB	**Tennant Creek**	**22.25**	**229**	*e*P	**P**	**16 27 20.9**	**-0.1**
	50nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**22.25**	**229**	*e*P	**P**	**16 27 22.7**	**+1.6**
WRA	**Warramunga Arr**	**22.26**	**229**	P	**P**	**16 27 20.3**	**-0.9**
	19nm,0.7s,mb4.5,baz=53,slow=9.8,SNR=58						
WRA				PcP	PcP	16 31 13.5	-3.0
	1.6nm,1.1s,baz=28,slow=2.0,SNR=2.8						
STKA	**Stephens Creek**	**27.79**	**199**	*e*P	**P**	**16 28 14.8**	**+1.4**
	2.5nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.79**	**199**	P	**P**	**16 28 13.3**	**-0.1**
	3.8nm,0.7s,mb4.0,baz=32,slow=12,SNR=8.9						
FITZ	**Fitzroy Crossi**	**28.55**	**242**	*e*P	**P**	**16 28 19.0**	**-1.4**
	28nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**28.55**	**242**	P	**P**	**16 28 19.0**	**-1.4**
	28nm,0.6s,mb5.0,baz=36,slow=7.8,SNR=9.9						
MBWA	**Marble Bar**	**34.85**	**241**	*e*P	**P**	**16 29 14.0**	**-1.4**
	8.1nm,0.7s,mb4.7						
AFI	**Afiamalu**	**36.53**	**106**	P	**P**	**16 29 27.7**	**-2.0**
	25nm,0.6s,mb5.3,baz=256,slow=19,SNR=2.7						
YHNB	**Yeheng**	**42.47**	**317**	P	**P**	**16 30 19.6**	**+0.6**
JNU	**Nakatsue**	**43.55**	**334**	P	**P**	**16 30 27.3**	**-0.3**
	3.7nm,0.6s,mb4.3,baz=153,slow=4.5,SNR=5.9						
NJ2	**Nanjing**	**49.09**	**322**	*e*P	**P**	**16 31 12.0**	**+0.7**
NJ2				AP	pP	16 31 24.5	-3.7
NJ2				XP	sP	16 31 26.3	-9.3
NJ2				PP	PP	16 33 07.0	+1.4
NJ2				S	**S**	**16 38 15.0**	**+4.8**
NJ2				XS		16 38 33.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MDJ	**Mudanjiang**	**54.02**	**340**	P	**P**	**16 31 49.3**	**+1.0**
MDJ				AP	pP	16 31 57.8	-7.6
MDJ				XP	sP	16 32 02.3	-11
MDJ				PCP	PcP	16 32 53.5	+1.0
MDJ				PP	PP	16 33 51.0	-0.7
MDJ				SCP		16 36 49.3	
MDJ				PCS		16 36 53.0	
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,4µm,13.5s						
CN2	**Changchun**	**54.84**	**337**	*e*P	**P**	**16 31 56.0**	**+1.8**
KMI	**Kunming**	**56.88**	**305**	P	**P**	**16 32 13.0**	**+3.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.3						
HHC	**Hu-ho-hao-te**	**59.36**	**325**	*e*P	**P**	**16 32 24.5**	**-1.7**
HHC				AP	pP	16 32 32.0	-12
HHC				XP	sP	16 32 35.3	-16
HHC				PP	PP	16 34 36.0	-3.7
HHC				PCS		16 37 17.8	
HHC				S	**S**	**16 40 26.8**	**-1.3**
HHC				SCS	ScS	16 42 09.0	+2.5
HHC				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.2						
LZH	**Lanzhou**	**61.37**	**317**	*e*P	**P**	**16 32 42.5**	**+2.5**
LZH				AP	pP	16 32 53.3	-4.2
LZH				XP	sP	16 32 57.8	-7.2
LZH				PP	PP	16 35 00.3	+2.4
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,90nm,4.3s						
LZH	**Lanzhou**	**61.37**	**317**	*e*P	**P**	**16 32 42.6**	**+2.6**
	comp=Z,18nm,1.2s,mb5.0						
LZH				pP	pP	16 32 53.2	-4.2
LZH				sP	sP	16 32 57.8	-7.2
LZH				PP	PP	16 35 00.2	+2.3
SONM	**Songino Array**	**66.70**	**328**	P	**P**	**16 33 13.5**	**-1.2**
	comp=Z,2.4nm,0.5s,mb4.3,baz=146,slow=5.5,SNR=15						
WMQ	**Urumqi**	**75.91**	**318**	*e*P	**P**	**16 34 10.5**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	**80.52**	**319**	P	**P**	**16 34 34.2**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.5,baz=99,slow=7.8,SNR=6.4						
ILAR	**Eielson Array**	**83.30**	**22**	P	**P**	**16 34 48.6**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.1,baz=248,slow=5.0,SNR=15						
KURK	**Kurchatov**	**84.03**	**322**	*e*P	**P**	**16 34 52.9**	**-0.2**
	comp=Z,4.1nm,1.1s,mb4.2						
QSPA	**South Pole Qui**	**84.24**	**180**	*e*P	**P**	**16 34 54.5**	**+1.0**
	comp=Z,6.9nm,0.9s,mb4.5						
MAW	**Mawson**	**84.42**	**203**	P	**P**	**16 34 55.8**	**+1.2**
	comp=Z,1.1nm,0.7s,mb3.8,baz=79,slow=5.0,SNR=4.3						
MAW	**Mawson**	**84.42**	**203**	*e*P	**P**	**16 34 55.9**	**+1.3**
	comp=Z,4.1nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**84.75**	**314**	*e*P	**P**	**16 34 56.8**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**89.53**	**323**	P	**P**	**16 35 18.7**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.3,baz=104,slow=6.1,SNR=9.3						
GERES	**GERESS Array B**	**124.44**	**328**	PKP	PKPdf	16 41 22.5	+2.2
	comp=Z,0.6nm,0.5s,baz=180,slow=1.3,SNR=5.3						
MDT	**Midelt**	**145.36**	**324**	PKPbc	PKPbc	16 42 01.5	+1.5
	comp=Z,0.9nm,0.7s,baz=37,slow=5.1,SNR=2.9						
BDFB	**Brasilia**	**150.93**	**137**	PKPbc	PKPdf	16 42 17.1	+8.3
	comp=Z,4.8nm,0.7s,baz=2.8,slow=0.5,SNR=6.2						

BJI ***29*** *16:29:39.2,5.78S×152.53E,h39km,mB5.2,mb4.4,Ms5.0, Msz4.8*
NEIC ***29*** *16:29:39.2±1.6,5.80S×152.37E,h25km,mb4.7/9,Error ellipse: s-maj=39.6km s-min=11.4km az=107.0*
IDC ***29*** *16:29:44.4±5.6,5.58S×151.97E,h44km±47km,mb4.1/7, mb1 4.3/8,mb1mx4.1/13,mbtmp4.4/8,ML3.5/1,Error ellipse: s-maj=50.9km s-min=26.9km az=109.0*

ISC 29 16:29:44.7±3.8,5.6S±0.1×151.8E±0.2,h57km±29km,n29, σ0§74/29,mb4.5/16,1C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.99**	**230**	P	**P**	**16 31 13.7**	**+0.8**
	7.9nm,0.3s,baz=46,slow=10,SNR=23						
PMG				S	**S**	**16 32 20.0**	**-1.0**
	5.5nm,0.3s,baz=144,slow=19,SNR=3.4						
PMG	**Port Moresby**	**5.99**	**230**	*e*Pn	**P**	**16 31 13.3**	**+0.4**
CTAO	**Charters Tower**	**15.41**	**200**	*e*P	**P**	**16 33 11.9**	**-8.3**
	9.7nm,1.2s						
KAKA	**Kakadu**	**20.40**	**248**	*i*P	**P**	**16 34 38.6**	**+19**
	26nm,0.5s						
WRAB	**Tennant Creek**	**22.20**	**228**	*e*P	**P**	**16 34 37.9**	**+0.3**
	20nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**22.20**	**228**	*e*P	**P**	**16 34 38.4**	**+0.7**
WRA	**Warramunga Arr**	**22.21**	**228**	P	**P**	**16 34 38.3**	**+0.5**
	11nm,0.7s,mb4.4,baz=52,slow=9.8,SNR=53						
STKA	**Stephens Creek**	**27.87**	**199**	P	**P**	**16 35 21.0**	**-10**
FITZ	**Fitzroy Crossi**	**28.44**	**242**	*i*P	**P**	**16 35 36.3**	**-0.3**
	20nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**28.44**	**242**	P	**P**	**16 35 36.4**	**-0.2**
	13nm,0.3s,mb5.0,baz=50,slow=5.3,SNR=35						
MBWA	**Marble Bar**	**34.75**	**240**	*e*P	**P**	**16 36 30.4**	**-1.4**
	15nm,1.1s,mb4.8						
MEEK	**Meekatharra**	**37.97**	**233**	*e*P	**P**	**16 36 59.2**	**+0.4**
MEEK				*i*		16 37 03.4	
MEEK	**Meekatharra**	**37.97**	**233**	*e*P	**P**	**16 36 59.2**	**+0.4**
	9.2nm,0.6s,mb4.7						
MEEK				*i*		16 37 03.4	
KSM	**Kuching**	**42.05**	**278**	P	**P**	**16 37 32.7**	**-0.2**
MDJ	**Mudanjiang**	**53.81**	**340**	P	**P**	**16 39 04.3**	**+0.3**
MDJ				AP	pP	16 39 13.8	-5.5
MDJ				XP	sP	16 39 16.8	-9.0
MDJ				PCP	PcP	16 40 07.5	-1.6
MDJ				PP	PP	16 41 06.3	-0.6
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,4µm,14.5s						
ENH	**Enshi**	**53.98**	**314**	P	**P**	**16 38 59.3**	**-6.1**
	comp=Z,6.9nm,0.4s,mb4.9						
CN2	**Changchun**	**54.61**	**337**	*e*P	**P**	**16 39 09.0**	**-0.9**
KMI	**Kunming**	**56.62**	**305**	P	**P**	**16 39 26.0**	**+1.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
KMI	**Kunming**	**56.62**	**305**	P	**P**	**16 39 26.1**	**+1.5**
	comp=Z,6.0nm,0.7s,mb4.7						

CTAO Charters Tower 15.55 201 *e*P P 16 37 18.0 +0.2
CTAO pmax pmax
comp=Z,39nm,1.1s
GUMO Guam 20.24 340 P P 16 38 14.0 +0.1
comp=Z,146nm,0.9s,baz=166,slow=7.9,SNR=12
GUMO Guam 20.24 340 *e*P P 16 38 15.7 +1.9
comp=Z,359nm,1.1s
GUMO Guam 20.24 340 P P 16 38 14.0 +0.1
GUMO pmax pmax
comp=Z,146nm,0.9s
KAKA Kakadu 20.59 248⇑ *i*P P 16 38 35.9 +18
comp=Z,71nm,0.6s
DZM Mont Dzumac 21.60 141 *e*P P 16 38 27.8 +0.1
DZM Mont Dzumac 21.60 141 P P 16 38 27.8 +0.1
comp=Z,31nm,1.0s,mb4.7,baz=335,slow=13,SNR=10
WRAB Tennant Creek 22.38 229 *e*P P 16 38 35.2 -0.2
comp=Z,2.3nm,3.0s
WRAB Tennant Creek 22.38 229 *e*P P 16 38 35.5 +0.1
WB2 Warramunga Arr 22.39 229⇑ *i*P P 16 38 35.4 0.0
WB2 *i* S S 16 42 40.6 +7.7
WRA Warramunga Arr 22.39 229 P P 16 38 35.2 -0.3
comp=Z,23nm,0.6s,mb4.8,baz=53,slow=9.9,SNR=45
WRA PcP PcP 16 42 30.7 +0.5
comp=Z,3.2nm,0.6s,baz=42,slow=1.9,SNR=5.0
WRA S S 16 42 39.4 +6.4
comp=Z,11nm,1.1s,baz=55,slow=20,SNR=6.2
WRA ScP 16 46 04.3
comp=Z,6.2nm,1.2s,baz=33,slow=2.7,SNR=5.7
STKA Stephens Creek 28.00 199 *e*P P 16 39 27.3 -1.2
comp=Z,12nm,0.8s,mb4.6
STKA Stephens Creek 28.00 199 P P 16 39 27.5 -1.0
comp=Z,13nm,0.8s,mb4.6,baz=18,slow=10,SNR=13
FITZ Fitzroy Crossi 28.64 242⇑ *i*P P 16 39 33.1 -1.2
comp=Z,45nm,0.5s,mb5.5
FITZ Fitzroy Crossi 28.64 242 P P 16 39 32.8 -1.4
comp=Z,30nm,0.5s,mb5.2,baz=87,slow=3.4,SNR=16
FORT Forrest 33.75 219 *e*P P 16 40 18.0 -1.1
comp=Z,23nm,0.7s,mb5.2
MBWA Marble Bar 34.94 240 *e*P P 16 40 28.1 -1.2
comp=Z,14nm,0.8s,mb4.9
AFI Afiamalu 36.62 106 LR LR 16 52 22.7
comp=Z,4μm,18.1s,MS5.3,baz=155,slow=31
JOW Kunigami 39.50 326 P P 16 41 08.2 +0.7
comp=Z,66nm,0.7s,mb5.5,baz=156,slow=11,SNR=11
NACB Ninganchiao 41.81 316 P P 16 41 26.4 -0.3
KSM Kuching 42.22 278 *e*P P 16 41 28.7 -1.5
YHNB Yeheng 42.28 316 *e*P P 16 41 31.3 +0.7
JNU Nakatsue 43.32 334 P P 16 41 38.0 -1.0
comp=Z,19nm,0.8s,mb4.9,baz=119,slow=11,SNR=5.1
MJAR Matsushiro Arr 43.77 344 P P 16 41 42.0 -0.5
comp=Z,4.2nm,0.9s,mb4.2,baz=168,slow=9.0,SNR=8.0
MAJO Matsushiro 43.77 344 *e*P P 16 41 41.7 -0.9
comp=Z,10nm,0.7s,mb4.7
MAJO Matsushiro 43.77 344 *e*P P 16 41 41.7 -0.9
MAJO pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
MAT Matsushiro 43.77 344 P P 16 41 42.9 +0.3
MAT Matsushiro 43.77 344 *e*P P 16 41 43.0 +0.4
SSE Sheshan 46.80 323 P P 16 42 08.0 +1.2
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,4μm,11.8s
SSE Sheshan 46.80 323 P P 16 42 08.1 +1.3
comp=Z,22nm,0.8s,mb5.1
QIZ Qiongzhong 48.15 302 *e*P P 16 42 19.0 +1.6
KS15 Wonju Array Si 48.27 334 P P 16 42 18.7 +0.5
NJ2 Nanjing 48.89 322 *e*P P 16 42 23.5 +0.5
NJ2 AP pP 16 42 32.5 -5.0
NJ2 XP sP 16 42 36.3 -7.6
NJ2 PP PP 16 44 17.0 +0.3
NJ2 S S 16 49 25.0 +3.5
NJ2 XS 16 49 42.0
NJ2 AMB AMB
comp=Z,2μm,6.0s
NJ2 LR LR
comp=Z,3μm,12.6s,MS5.5
WHN Wuhan 50.81 317 ⇓P P 16 42 41.3 +3.5
MDJ Mudanjiang 53.80 340 P P 16 43 00.3 +0.4
MDJ AP pP 16 43 09.3 -5.3
MDJ XP sP 16 43 13.3 -7.6
MDJ PCP PcP 16 44 04.3 -0.8
MDJ PP PP 16 45 01.5 -1.2
MDJ SCP 16 48 00.0
MDJ PCS 16 48 04.0
MDJ S S 16 50 35.3 +6.6
MDJ XS 16 50 50.8
MDJ SCS ScS 16 52 46.8 +6.0
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,2μm,14.7s
MDJ LR LR
comp=N,2μm,20.5s,MS5.3
MDJ LR LR
comp=E,2μm,19.3s,MS5.3
MDJ LR LR
comp=Z,2μm,18.1s,MS5.3
ENH Enshi 54.05 314 *e*P P 16 43 01.0 -0.9
comp=Z,16nm,0.8s,mb5.0
CN2 Changchun 54.61 337 *e*P P 16 43 08.0 +2.2
XAN Xi'an 56.58 317 P P 16 43 19.0 -1.2
XAN AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
KMI Kunming 56.72 305 P P 16 43 21.8 +0.5
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
KMI Kunming 56.72 305 P P 16 43 21.7 +0.4
comp=Z,8.0nm,0.9s,mb4.8
KMI Kunming 56.72 305 P P 16 43 21.7 +0.4
KMI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KLR Kul'dur 57.29 344 *e*P P 16 43 20.2 -4.8
HHC Hu-ho-hao-te 59.15 325 *e*P P 16 43 40.5 +2.4
HHC AP pP 16 43 47.3 -5.7
HHC XP sP 16 43 51.3 -8.0
HHC PCP PcP 16 44 27.8 +1.9
HHC PP PP 16 45 53.3 +2.3
HHC XS 16 51 58.3
HHC SCS ScS 16 53 24.3 +4.9
HHC SS SS 16 55 43.0 +6.8
HHC AMB AMB
comp=Z,15nm,0.8s,mb5.1
HHC LR LR
comp=N,2μm,14.3s,MS5.5
HHC LR LR
comp=E,2μm,16.6s,MS5.5
HHC LR LR
comp=Z,2μm,6.0s
LZH Lanzhou 61.18 316 *e*P P 16 43 52.0 0.0
LZH AP pP 16 44 02.0 -5.0
LZH XP sP 16 44 06.0 -7.3
LZH PP PP 16 46 09.3 0.0
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,73nm,4.0s
LZH Lanzhou 61.18 316 *e*P P 16 43 52.0 0.0
comp=Z,15nm,1.0s,mb5.1
LZH pP pP 16 44 02.0 -5.0
LZH sP sP 16 44 06.0 -7.3
LZH PP PP 16 46 09.2 -0.1
LZH Lanzhou 61.18 316 *e*P P 16 43 52.0 0.0
LZH *SP sP 16 44 06.0 -7.3
LZH 16 46 09.2
LZH pmax pmax
comp=Z,15nm,1.0s,mb5.1
HIA Hailar 61.34 337 P P 16 43 50.4 -2.6
comp=Z,4.8nm,0.6s,mb4.8
HIA Hailar 61.34 337 P P 16 43 50.4 -2.5
HIA pmax pmax
comp=Z,5.0nm,0.6s
MA2 Magadan 64.87 359 P P 16 44 14.6 -1.4
comp=Z,27nm,1.3s,mb5.1
MA2 Magadan 64.87 359 P P 16 44 14.6 -1.4
MA2 pmax pmax
comp=Z,27nm,1.3s,mb5.1
GTA Gaotai 65.63 318 *e*P P 16 44 21.5 +0.2
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb4.7
ULN Ulaanbaatar 66.17 329 *e*P P 16 44 24.3 -0.2
comp=Z,10nm,0.9s,mb4.8
ULN Ulaanbaatar 66.17 329 *e*P P 16 44 24.3 -0.2
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8

SONM Songino Array 66.49 328 P P 16 44 26.2 -0.3
comp=Z,5.8nm,0.5s,mb4.8,baz=149,slow=4.9,SNR=53
LSA Lhasa 67.98 305 P P 16 44 36.3 +0.1
LSA Lhasa 67.98 305 *e*P P 16 44 36.3 +0.1
comp=Z,9.3nm,0.6s,mb5.0
LSA Lhasa 67.98 305 *e*P P 16 44 36.3 +0.1
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
YAK Yakutsk 69.50 349 *e*P P 16 44 46.2 +1.2
YAK pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
ZAK Zakamensk 69.67 329 *e*P P 16 44 45.9 -0.4
ZAK pmax pmax
comp=Z,15nm,0.8s,mb5.0
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BOD Bodaibo 70.16 339 *e*P P 16 44 46.8 -2.3
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
GUN Gumba 71.80 302 *e*P P 16 44 59.3 -0.2
comp=Z,37nm,0.6s,mb5.5
PKI Pulchoki 72.11 301 *e*P P 16 45 00.6 -0.7
VNDA Vanda 72.17 178 *e*P P 16 45 01.2 +0.3
comp=Z,5.3nm,0.9s,mb4.5
VNDA *e* 16 45 08.3
VNDA Vanda 72.17 178 *e*P P 16 45 01.2 +0.3
VNDA pmax pmax
comp=Z,5.0nm,0.9s
KKN Kakani 72.28 301 *e*P P 16 45 02.1 -0.3
comp=Z,20nm,0.5s,mb5.3
DMN Daman 72.38 301 *e*P P 16 45 02.9 0.0
comp=Z,38nm,0.8s,mb5.4
SBA Scott Base 72.73 177 *e*P P 16 45 05.5 +1.3
comp=Z,5.8nm,1.0s,mb4.5
SBA Scott Base 72.73 177 *e*P P 16 45 05.5 +1.3
SBA pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GKN Gorkha 72.88 301 *e*P P 16 45 05.6 -0.4
comp=Z,34nm,0.8s,mb5.3
MIR Mirnyy 73.00 201*c i*P P 16 45 07.0 +1.1
MIR pmax pmax
comp=Z,29nm,1.4s,mb5.0
KOLN Koldanda 73.70 301 *e*P P 16 45 10.2 -0.6
comp=Z,29nm,0.7s,mb5.3
BILL Bilibino 74.05 6 *e*P P 16 45 13.4 +1.4
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
WMQ Urumqi 75.72 318 *e*P P 16 45 22.8 +0.7
WMQ AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,87nm,4.0s
TTA Tatalina 78.70 22 *e*P P 16 45 36.3 -2.0
comp=Z,7.0nm,0.9s,mb4.6
TTA Tatalina 78.70 22 *e*P P 16 45 36.3 -2.0
TTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SLKM Skilak Lake 79.63 25 *e*P P 16 45 43.5 +0.1
MKAR Makanchi Array 80.33 319 P P 16 45 46.9 -0.5
comp=Z,3.0nm,0.7s,mb4.3,baz=101,slow=6.8,SNR=17
NVS Novosibirsk 82.48 327 *e*P P 16 45 56.9 -1.5
COLA College 82.79 22 *e*P P 16 45 58.7 -1.2
comp=Z,7.5nm,0.7s,mb4.8
COLA College 82.79 22 *e*P P 16 45 59.2 -0.6
ILAR Eielson Array 83.10 22 P P 16 46 00.6 -0.8
comp=Z,2.9nm,0.6s,mb4.5,baz=248,slow=5.3,SNR=38
KURK Kurchatov 83.83 322 *e*P P 16 46 04.7 -0.7
comp=Z,12nm,0.9s,mb5.0
KURK Kurchatov 83.83 322 *e*P P 16 46 04.7 -0.7
KURK pmax pmax
comp=Z,12nm,0.9s,mb5.0
KZA Kyzart 83.90 313 P P 16 46 07.8 +1.8
SNR=7.2
UCH Uchtor 84.47 313 P P 16 46 10.5 +1.7
SNR=7.2
QSPA South Pole Qui 84.47 180⇑ *i*P P 16 46 09.4 +1.4
comp=Z,11nm,1.0s,mb4.9
AAK Ala-Archa 84.57 314 *e*P P 16 46 08.9 -0.4
comp=Z,7.0nm,0.8s,mb4.8
AAK Ala-Archa 84.57 314 *e*P P 16 46 09.1 -0.2
AAK pmax pmax
comp=Z,14nm,1.7s,mb4.8
MAW Mawson 84.63 203 P P 16 46 09.5 +0.4
comp=Z,3.5nm,0.6s,mb4.6,baz=82,slow=7.1,SNR=14
MAW Mawson 84.63 203 *e*P P 16 46 09.4 +0.4
comp=Z,6.2nm,0.9s,mb4.7
MAW Mawson 84.63 203 *e*P P 16 46 09.5 +0.5
MAW pmax pmax
comp=Z,6.0nm,0.9s
USP Ospenovka 84.70 314 P P 16 46 10.8 +0.8
SNR=7.1
AML Almayashu 85.04 313 P P 16 46 13.3 +1.6
SNR=15
EKS2 Erkin-Say 85.09 314 P P 16 46 13.0 +1.1
SNR=5.8
BVAR Borovoye Array 89.32 323 P P 16 46 31.1 -1.0
comp=Z,7.5nm,0.7s,mb5.1,baz=103,slow=5.2,SNR=29
INK Inuvik 89.38 21 P P 16 46 32.6 +0.6
comp=Z,4.4nm,0.9s,mb4.8,baz=254,slow=6.6,SNR=5.7
BRVK Borovoye 89.39 323 *e*P P 16 46 31.4 -1.0
comp=Z,3.3nm,0.8s,mb4.7
BRVK Borovoye 89.39 323 *e*P P 16 46 31.4 -1.0
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
SYO Syowa Base 92.75 199 ⇓P P 16 46 46.6 -1.1
ARU Arti 96.45 326⇓ *i*P P 16 47 04.0 -0.7
ARU *e* PP 16 50 58.2 -3.4
ARU *eS* SKS 16 57 32.9 -2.5
ARU pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
PDAR Pinedale Array 99.90 48 P P 16 47 21.6 +0.8
comp=Z,1.2nm,0.7s,mb4.5,baz=160,slow=1.1,SNR=9.4
NOA NORSAR Array B 117.29 340 PKP PKPdf 16 52 20.9 +1.3
comp=Z,0.9nm,0.8s,baz=47,slow=1.8,SNR=2.9
CLL Collm 123.07 331 *e*PKIKP PKPdf 16 52 32.0 +0.9
comp=Z,logA/T=0.9
CLL *e* 16 52 43.0
KHC Kasperske Hory 124.12 328 *e*PKPdf PKPdf 16 52 34.0 +0.8
GERES GERESS Array B 124.22 328 PKP PKPdf 16 52 35.5 +2.1
comp=Z,2.0nm,0.5s,baz=76,slow=1.6,SNR=19
DAVOX Davos 127.53 328 PKP PKPdf 16 52 42.7 +2.9
comp=Z,4.6nm,0.6s,baz=272,slow=3.4,SNR=7.3
LPAZ La Paz 134.78 119 PKP PKPdf 16 52 57.7 +3.4
comp=Z,1.4nm,1.0s,baz=268,slow=2.0,SNR=4.5
BDFB Brasilia 151.12 137 PKPbc PKPdf 16 53 30.0 +7.4
comp=Z,4.1nm,0.8s,baz=91,slow=2.3,SNR=4.4

BJI **29** *16:50:45.5,5.30S×151.70E,h25km,mB5.0,mb4.7,Ms5.5, Msz5.1*
NEIC **29** *16:50:45.5±0.4,5.32S×151.72E,h25km,mb4.9/18,Error ellipse: s-maj=12.5km s-min=7.2km az=93.0*
IDC **29** *16:50:52.4±2.3,5.49S×151.74E,h89km±19km,mb4.3/10, mb1 4.4/12,mb1mx4.3/15,mbtmp4.6/12,Error ellipse: s-maj=19.6km s-min=12.2km az=119.0*
ISC 29 16:50:44.3±0.5,5.39S±0.05×151.87E±0.08,h29km, h29km±2.6km:pP-P,n56,σ1s03/56,mb4.8/33,MS5.2/2, 1C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.15**	**229**	P		**16 52 17.4**	**+1.9**
	6.8nm,0.3s,baz=39,slow=10,SNR=27						
PMG				S		**16 53 26.6**	**+0.9**
	14nm,0.3s,baz=150,slow=23,SNR=15						
PMG	**Port Moresby**	**6.15**	**229**	*e*Pn		**16 52 18.8**	**+3.2**
	93nm,0.6s						
CTA	**Charters Tower**	**15.60**	**200**	P		**16 54 25.9**	**+1.9**
	0.2nm,0.3s,baz=59,slow=18,SNR=3.5						
CTAO	**Charters Tower**	**15.60**	**200**	*e*P		**16 54 23.3**	**-0.7**
	3.1nm,0.7s						
GUMO	**Guam**	**20.10**	**340**	P		**16 55 18.6**	**-0.1**
	70nm,1.0s,baz=180,slow=20,SNR=4.1						
GUMO	**Guam**	**20.10**	**340**	*e*P		**16 55 20.2**	**+1.5**
	84nm,0.9s						
KAKA	**Kakadu**	**20.51**	**248**⇑	*i*P		**16 55 41.7**	**+19**
	38nm,0.5s						
DZM	**Mont Dzumac**	**21.76**	**141**	P		**16 55 37.0**	**+1.4**
	4.4nm,0.7s,mb4.0,baz=97,slow=18,SNR=3.0						
WRAB	**Tennant Creek**	**22.35**	**228**	*e*P		**16 55 41.5**	**0.0**
	48nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**22.36**	**228**⇓	*i*P		**16 55 41.8**	**+0.2**
WRA	**Warramunga Arr**	**22.36**	**228**	P		**16 55 41.6**	**-0.1**
	31nm,0.7s,mb4.9,baz=53,slow=10.0,SNR=87						
WRA				S		**16 59 40.5**	**-0.2**
	5.3nm,0.7s,baz=52,slow=17,SNR=7.1						
STKA	**Stephens Creek**	**28.05**	**199**	P		**16 56 34.3**	**-1.1**
	3.6nm,0.7s,mb4.1,baz=6.8,slow=7.0,SNR=10						
STKA	**Stephens Creek**	**28.05**	**199**	*e*P		**16 56 34.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**28.57**	**242**⇓	*i*P		**16 56 39.4**	**-0.7**
	49nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**28.57**	**242**	P		**16 56 39.3**	**-0.9**
	42nm,0.6s,mb5.3,baz=62,slow=4.3,SNR=56						
FORT	**Forrest**	**33.75**	**219**⇓	*i*P		**16 57 24.5**	**-1.2**
	22nm,0.6s,mb5.3						
MBWA	**Marble Bar**	**34.88**	**240**	*e*P		**16 57 33.6**	**-1.9**
	11nm,0.8s,mb4.8						
TAU	**Tasmania Unive**	**37.58**	**185**	P		**16 57 58.3**	**+0.2**
	37nm,1.1s,mb5.0						
QIZ	**Qiongzhong**	**47.98**	**302**	*e*P		**16 59 21.6**	**-1.3**
	28nm,1.3s,mb5.1						
KS15	**Wonju Array Si**	**48.12**	**334**	*e*P		**16 59 16.7**	**-7.1**
NJ2	**Nanjing**	**48.73**	**322**	*e*P		**16 59 30.5**	**+2.0**
NJ2				AP	pP	16 59 41.5	+4.1
NJ2				XP	sP	16 59 44.5	+3.6
NJ2				PP	PP	17 01 24.0	+2.5
NJ2				S	S	**17 06 29.0**	**+0.8**
NJ2				XS		17 06 46.0	
NJ2				LR	LR		
	comp=N,340nm,13.5s,MS5.1						
NJ2				LR	LR		
	comp=E,1μm,12.3s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,13.4s,MS5.0						
MDJ	**Mudanjiang**	**53.66**	**340**	P	P	**17 00 06.0**	**+0.4**
MDJ				AP	pP	17 00 15.0	+0.5
MDJ				XP	sP	17 00 18.8	+0.8
MDJ				PCP	PcP	17 01 11.3	-0.3
MDJ				PP	PP	17 02 07.0	-0.9
MDJ				SCP		17 05 06.8	
MDJ				PCS		17 05 10.5	
MDJ				S	S	**17 07 40.0**	**+4.3**
MDJ				XS		17 07 55.0	
MDJ				SCS	ScS	17 09 53.0	+3.6
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,2μm,14.5s						
MDJ				LR	LR		
	comp=N,1μm,31.8s						
MDJ				LR	LR		
	comp=E,653nm,22.0s						
MDJ				LR	LR		
	comp=Z,1μm,19.6s						
ENH	**Enshi**	**53.89**	**314**	*e*P	P	**17 00 06.6**	**-0.8**
	comp=Z,15nm,1.1s,mb4.8						
CN2	**Changchun**	**54.47**	**337**	*e*P	P	**17 00 15.0**	**+3.5**
KMI	**Kunming**	**56.56**	**305**	P	P	**17 00 28.5**	**+1.6**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
KMI	**Kunming**	**56.56**	**305**	P	P	**17 00 28.6**	**+1.7**
	comp=Z,6.0nm,0.9s,mb4.6						
HHC	**Hu-ho-hao-te**	**58.99**	**325**	*e*P	P	**17 00 45.5**	**+1.7**
HHC				AP	pP	17 00 54.3	+1.4
HHC				XP	sP	17 00 56.5	+0.3
HHC				PCP	PcP	17 01 35.0	+2.6
HHC				PP	PP	17 02 57.3	+1.3
HHC				S	S	**17 08 48.0**	**+1.4**
HHC				XS		17 09 01.0	
HHC				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.2						
HHC				LR	LR		
	comp=N,1μm,15.5s,MS5.3						
HHC				LR	LR		
	comp=E,1μm,14.3s,MS5.3						
HHC				LR	LR		
	comp=Z,2μm,20.2s						
LZH	**Lanzhou**	**61.02**	**316**	*e*P	P	**17 01 00.5**	**+2.8**
LZH				AP	pP	17 01 10.8	+3.9
LZH				XP	sP	17 01 15.5	+5.4
LZH				PP	PP	17 03 18.0	+3.7
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,73nm,4.0s						
LZH	**Lanzhou**	**61.02**	**316**	*e*P	P	**17 01 00.5**	**+2.8**
	comp=Z,15nm,1.0s,mb5.1						
LZH				pP	pP	17 01 10.7	+3.8
LZH				sP	sP	17 01 15.5	+5.4
LZH				PP	PP	17 03 18.0	+3.7
GTA	**Gaotai**	**65.47**	**318**	*e*P	P	**17 01 27.5**	**+0.4**
GTA				AP	pP	17 01 32.0	-4.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**66.01**	**329**	*e*P	P	**17 01 30.0**	**-0.4**
	comp=Z,5.5nm,1.0s,mb4.5						
SONM	**Songino Array**	**66.34**	**328**	P	P	**17 01 32.6**	**+0.1**
	comp=Z,3.2nm,0.6s,mb4.5,baz=147,slow=4.6,SNR=31						
LSA	**Lhasa**	**67.81**	**305**	P	P	**17 01 42.0**	**-0.2**
LSA	**Lhasa**	**67.81**	**305**	*e*P	P	**17 01 41.8**	**-0.4**
	comp=Z,7.4nm,0.8s,mb4.8						
GUN	**Gumba**	**71.64**	**302**	*e*P	P	**17 02 05.3**	**-0.3**
	comp=Z,25nm,0.7s,mb5.3						
PKI	**Pulchoki**	**71.94**	**301**	*e*P	P	**17 02 06.7**	**-0.7**
	comp=Z,17nm,1.0s,mb4.9						
KKN	**Kakani**	**72.11**	**301**	*e*P	P	**17 02 08.0**	**-0.4**
	comp=Z,18nm,0.8s,mb5.1						
DMN	**Daman**	**72.21**	**301**	*e*P	P	**17 02 08.7**	**-0.3**
	comp=Z,24nm,0.8s,mb5.2						
GKN	**Gorkha**	**72.72**	**301**	*e*P	P	**17 02 11.3**	**-0.8**
	comp=Z,20nm,0.8s,mb5.1						
SBA	**Scott Base**	**72.84**	**177**	*e*P	P	**17 02 12.3**	**+0.5**
	comp=Z,4.2nm,1.0s,mb4.3						
KOLN	**Koldanda**	**73.54**	**301**	*e*P	P	**17 02 16.2**	**-0.7**
	comp=Z,20nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**80.17**	**319**	P	P	**17 02 52.9**	**-0.5**
	comp=Z,2.4nm,0.9s,mb4.1,baz=111,slow=6.0,SNR=15						
MKAR	**Makanchi Array**	**80.17**	**319**	P	P	**17 02 52.9**	**-0.6**
ILAR	**Eielson Array**	**83.05**	**22**	P	P	**17 03 07.5**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=248,slow=5.4,SNR=14						
KURK	**Kurchatov**	**83.67**	**322**	*e*P	P	**17 03 10.2**	**-1.4**
	comp=Z,6.5nm,1.2s,mb4.6						
AAK	**Ala-Archa**	**84.40**	**314**	*e*P	P	**17 03 15.0**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**84.57**	**180**⇓	*i*P	P	**17 03 16.1**	**+0.5**
	comp=Z,6.2nm,0.8s,mb4.8						
MAW	**Mawson**	**84.67**	**203**	P	P	**17 03 16.4**	**+0.1**
	comp=Z,3.7nm,0.6s,mb4.7,baz=101,slow=5.2,SNR=14						
MAW	**Mawson**	**84.67**	**203**	*e*P	P	**17 03 16.1**	**-0.2**
	comp=Z,6.8nm,0.8s,mb4.8						
MAW				*e*	pP	17 03 24.8	-0.9
BVAR	**Borovoye Array**	**89.16**	**323**	P	P	**17 03 37.2**	**-1.3**
	comp=Z,2.6nm,0.7s,mb4.7,baz=120,slow=6.5,SNR=14						
PDAR	**Pinedale Array**	**99.93**	**48**	P	P	**17 04 28.3**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.4,baz=225,slow=2.1,SNR=7.7						
NOA	**NORSAR Array B**	**117.15**	**340**	PKP	PKPdf	17 09 27.7	-3.8
	comp=Z,1.3nm,0.8s,baz=69,slow=4.6,SNR=3.5						
CLL	**Collm**	**122.92**	**331**	*e*PKP	PKPdf	17 09 36.0	-6.9
GERES	**GERESS Array B**	**124.07**	**328**	PKP	PKPdf	17 09 41.6	-3.7
	comp=Z,1.1nm,0.5s,baz=45,slow=1.9,SNR=11						
SDV	**Santo Domingo**	**137.70**	**83**	*e*PKPdf	PKPdf	17 10 08.8	-3.2
BDFB	**Brasilia**	**151.28**	**137**	PKPbc	PKPdf	17 10 35.9	+0.9
	comp=Z,4.9nm,0.6s,baz=188,slow=2.4,SNR=7.6						

IDC 29 16:54:32.6±2.5,5.47S×151.97E,mb3.9/5,mb1 4.1/5, mb1mx4.0/11,mbtmp4.0/5,Error ellipse: s-maj=80.6km s-min=33.9km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.38**	**228**	P	P	16 59 32.6	-1.5
	5.6nm,0.9s,baz=53,slow=9.8,SNR=7.0						
SONM	**Songino Array**	**66.45**	**328**	P	P	17 05 24.0	-2.0
	0.9nm,0.7s,baz=148,slow=6.3,SNR=7.0						
MKAR	**Makanchi Array**	**80.29**	**319**	P	P	17 06 45.7	-1.3
	1.0nm,0.9s,baz=101,slow=7.3,SNR=4.3						
ILAR	**Eielson Array**	**83.09**	**22**	P	P	17 07 00.1	-1.1
	0.5nm,0.6s,baz=250,slow=6.0,SNR=4.9						
BVAR	**Borovoye Array**	**89.28**	**323**	P	P	17 07 30.4	-1.5
	1.0nm,0.7s,baz=90,slow=7.4,SNR=5.0						

CSEM **29** *16:57:05.8±0.7,37.53N×14.19W,h40km,mb3.8/7,Error ellipse: s-maj=13.4km s-min=11.2km az=25.0*
MDD 29 16:57:01.7±3.3,37.31N×14.52W,mb3.8/8,Error ellipse: s-maj=30.4km s-min=24.2km az=37.0,PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**4.62**	**85**	*e*P	Pn	16 58 11.5	-2.9
PTEO				*e*S	Sn	16 59 02.8	-6.7
	6.4nm,0.2s						
PTEO	**Sao Teotonio**	**4.62**	**85**	*e*P	Pn	16 58 11.5	-2.9
PTEO				*e*S	Sn	16 59 02.8	-6.7
	6.4nm,0.2s						
PBEJ	**Beja**	**5.32**	**80**	*e*S	Sn	16 59 20.1	-7.2
EGRO	**El Granado**	**5.60**	**86**	P	Pn	16 58 25.8	-2.5
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 59 26.3	-8.1
	1.4nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.60**	**86**	P	Pn	16 58 25.8	-2.5
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 59 26.3	-8.0
	1.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.10**	**74**	P	Pn	16 58 32.0	-3.3
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 59 37.5	-9.2
	2.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.10**	**74**	P	Pn	16 58 32.0	-3.3
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 59 37.5	-9.2
	2.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.25**	**83**	P	Pn	16 58 33.6	-3.8
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	16 59 41.7	-8.8
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.25**	**83**	P	Pn	16 58 33.6	-3.8
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	16 59 41.7	-8.9
	0.4nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**6.67**	**47**	*e*S	Sn	16 59 51.8	-9.2
ELOB	**Lobios**	**6.75**	**46**	P	Pn	16 58 40.8	-3.7
	0.5nm,0.2s,SNR=7.9						
ELOB				S	Sn	16 59 53.1	-10
	0.5nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.75**	**46**	P	Pn	16 58 40.8	-3.6
	0.5nm,0.2s,SNR=7.9						
ELOB				S	Sn	16 59 53.1	-10
	0.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.05**	**35**	P	Pn	16 58 45.5	-3.2
	0.8nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**7.25**	**81**	P	Pn	16 58 47.4	-4.2
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	17 00 05.2	-11
	0.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**7.25**	**81**	P	Pn	16 58 47.4	-4.2
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	17 00 05.2	-10
	0.4nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.58**	**50**	P	Pn	16 58 51.5	-4.6
	1.4nm,0.2s,SNR=5.3						
ECAL				S	Sn	17 00 13.7	-10
	2.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.58**	**50**	P	Pn	16 58 51.5	-4.6
	1.4nm,0.2s,SNR=5.3						
ECAL				S	Sn	17 00 13.7	-10
	2.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**7.92**	**81**	P	Pn	16 58 56.5	-4.4
	0.6nm,0.2s,SNR=5.1						
EADA				S	Sn	17 00 22.3	-10
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.92**	**81**	P	Pn	16 58 56.5	-4.4
	0.6nm,0.2s,SNR=5.1						
EADA				S	Sn	17 00 22.3	-10
	0.4nm,0.2s,SNR=7.9						

IDC 29 17:03:35.9±6.2, 5.60S×151.97E, h66km±56km, mb3.5/4, mb1 3.7/5, mb1mx3.5/12, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=72.3km s-min=34.1km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.09**	**231**	P	P	17 05 03.8	-1.4
	1.9nm,0.3s,baz=46,slow=7.6,SNR=9.9						
PMG				S	S	17 06 12.1	-2.2
	1.9nm,0.3s,baz=121,slow=18,SNR=3.6						
WRA	**Warramunga Arr**	**22.30**	**229**	P	P	17 08 27.8	-1.2
	1.0nm,0.5s,baz=52,slow=9.8,SNR=12						
FITZ	**Fitzroy Crossi**	**28.56**	**242**	P	P	17 09 26.0	-1.9
	2.7nm,0.5s,baz=76,slow=4.1,SNR=5.0						
SONM	**Songino Array**	**66.57**	**328**	P	P	17 14 19.5	-1.8
	0.4nm,0.5s,baz=149,slow=5.5,SNR=5.8						
ILAR	**Eielson Array**	**83.21**	**22**	P	P	17 15 54.5	-1.6
	0.3nm,0.6s,baz=252,slow=5.7,SNR=3.2						

IDC 29 17:07:33.8±6.4, 5.61S×151.91E, h62km±58km, mb3.7/5, mb1 4.0/6, mb1mx3.8/11, mbtmp4.1/6, ML2.8/1, Error ellipse: s-maj=68.4km s-min=34.6km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.03**	**231**	P	P	17 09 01.5	-0.9
	1.7nm,0.3s,baz=33,slow=10,SNR=4.5						
PMG				S	S	17 10 07.6	-3.3
	baz=150,slow=20,SNR=2.9						
KAKA	**Kakadu**	**20.46**	**248**	*e*P	P	17 12 26.6	+18
	5.1nm,0.5s						
WB2	**Warramunga Arr**	**22.23**	**229**	*e*P	P	17 12 26.5	-0.1
WRA	**Warramunga Arr**	**22.24**	**229**	P	P	17 12 26.6	0.0
	3.5nm,0.8s,baz=54,slow=9.8,SNR=19						
FITZ	**Fitzroy Crossi**	**28.49**	**242**	P	P	17 13 23.2	-2.4
	4.6nm,0.5s,baz=49,slow=6.5,SNR=8.4						
SONM	**Songino Array**	**66.53**	**328**	P	P	17 18 17.7	-1.6
	0.7nm,0.5s,baz=137,slow=4.8,SNR=7.7						
MKAR	**Makanchi Array**	**80.35**	**319**	P	P	17 19 38.2	-1.8
	1.5nm,1.1s,baz=91,slow=5.8,SNR=4.1						
ILAR	**Eielson Array**	**83.24**	**22**	P	P	17 19 52.8	-1.8
	0.5nm,0.6s,baz=260,slow=4.0,SNR=7.3						

IDC 29 17:20:48.4±2.4, 5.36S×151.95E, mb4.1/4, mb1 4.4/4, mb1mx4.0/11, mbtmp4.1/4, 2D, Error ellipse: s-maj=81.0km s-min=26.6km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**20.60**	**248**	*e*P	P	17 25 49.3	+17
	9.1nm,0.5s						
WB2	**Warramunga Arr**	**22.43**	**228**	⇓*i*P	P	17 25 49.2	-1.2
WRA	**Warramunga Arr**	**22.44**	**228**	P	P	17 25 49.3	-1.2
	6.8nm,0.7s,baz=53,slow=9.9,SNR=52						
FITZ	**Fitzroy Crossi**	**28.65**	**242**	⇓*i*P	P	17 26 46.8	-2.3
	5.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.65**	**242**	P	P	17 26 46.9	-2.3
	9.2nm,0.7s,baz=65,slow=4.8,SNR=14						
SONM	**Songino Array**	**66.35**	**328**	P	P	17 31 39.2	-1.9
	0.4nm,0.6s,baz=142,slow=6.3,SNR=3.3						
ILAR	**Eielson Array**	**83.00**	**22**	P	P	17 33 15.3	-1.2
	0.5nm,0.5s,baz=247,slow=6.9,SNR=5.5						

*IDC **29** 17:52:53.6±1.0,21.08N×120.27E, mb3.7/7, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, Error ellipse: s-maj=37.3km s-min=22.9km az=72.0*

*JMA **29** 17:52:58.2±0.5,21.27N×120.71E, M3.8*

*NEIC **29** 17:53:00.3±1.3,21.16N×120.52E, h49km±12km, mb4.3/3, Error ellipse: s-maj=16.5km s-min=11.6km az=120.0*

ISC 29 17:52:58.8±1.2, 21.16N±0.09×120.50E±0.08, h51km±12km, n24, σ0.982/28, mb3.8/10, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.17**	**18**	*e*Pn	**P**	**17 53 47.2**	**-0.3**
YHNB	**Yeheng**	**3.59**	**13**	*e*P	**P**	**17 53 52.0**	**-1.4**
TATO	**Taipei**	**3.91**	**13**	*e*Pn	**P**	**17 53 58.1**	**+0.2**
YOJ	**Yonaguni jima**	**4.02**	**35**	P	**P**	**17 54 00.2**	**+0.7**
YOJ				*e*S	**S**	**17 54 46.1**	**+0.2**
HATJ	**Hateruma jima**	**4.20**	**46**	*e*S	**S**	**17 54 50.1**	**-0.3**
IRIF	**Iriomote-Funau**	**4.35**	**43**	P	**P**	**17 54 04.2**	**+0.1**
IRIF				*e*S	**S**	**17 54 55.0**	**+1.0**
JKRS	**Kuro-shima**	**4.46**	**46**	P	**P**	**17 54 06.7**	**+1.0**
JKRS				*e*S	**S**	**17 54 55.7**	**-1.2**
JIJ	**Ishigaki jima**	**4.63**	**46**	P	**P**	**17 54 08.1**	**0.0**
JIJ				S	**S**	**17 54 59.9**	**-1.4**
JTJ	**Tarama**	**5.20**	**47**	P	**P**	**17 54 16.8**	**+0.8**
JTJ				*e*S	**S**	**17 55 15.5**	**+0.1**
QIZ	**Qiongzhong**	**10.24**	**260**	*e*P	**P**	**17 55 26.1**	**+0.2**
MJAR	**Matsushiro Arr**	**21.75**	**41**	P	**P**	**17 57 50.0**	**+2.3**
	3.2nm,0.7s,mb3.9,baz=230,slow=9.4,SNR=11						
MJAR	**Matsushiro Arr**	**21.75**	**41**	P	**P**	**17 57 50.0**	**+2.3**
SONM	**Songino Array**	**28.95**	**340**	P	**P**	**17 58 54.6**	**-0.8**
	0.5nm,0.7s,mb3.3,baz=155,slow=7.7,SNR=5.6						
MKAR	**Makanchi Array**	**40.13**	**319**	P	**P**	**18 00 30.8**	**-0.5**
	0.5nm,0.9s,mb3.3,baz=124,slow=8.7,SNR=3.5						
MKAR	**Makanchi Array**	**40.13**	**319**	P	**P**	**18 00 30.8**	**-0.5**
YAK	**Yakutsk**	**41.34**	**7**	*e*P	**P**	**18 00 40.6**	**-0.4**
	6.5nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**43.02**	**161**	*e*P	**P**	**18 00 54.4**	**-0.9**
	13nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**43.03**	**161**	P	**P**	**18 00 54.9**	**-0.5**
	1.9nm,0.9s,mb3.8,baz=343,slow=8.9,SNR=8.3						
WRA				PcP	PcP	18 02 45.7	+0.2
	0.4nm,0.5s,baz=344,slow=3.2,SNR=5.7						
BRVK	**Borovoye**	**49.72**	**323**	*e*P	**P**	**18 01 53.3**	**+5.5**
	1.0nm,0.8s,mb3.9						
ILAR	**Eielson Array**	**72.19**	**27**	P	**P**	**18 04 20.4**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=290,slow=5.4,SNR=5.0						
FINES	**FINESS Array B**	**73.74**	**330**	P	**P**	**18 04 28.9**	**0.0**
	0.5nm,0.5s,mb3.7,baz=68,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**73.74**	**330**	P	**P**	**18 04 28.9**	**0.0**
GERES	**GERESS Array B**	**84.77**	**321**	P	**P**	**18 05 29.8**	**+0.9**
	0.2nm,0.4s,mb3.6,baz=56,slow=4.8,SNR=4.3						
LFA	**Lagoa do Fogo**	**113.22**	**331**	*e*P	Pdif	18 07 38.7	+0.3

*MOS **29** 18:12:23.4±0.8, 5.33N×94.60E, h35km, mb5.4/67, Error ellipse: s-maj=8.5km s-min=4.2km az=121.1*

*BJI **29** 18:12:24.2, 5.11N×94.51E, h54km, mB5.4, mb5.4, Ms5.0, Msz4.8*

*NEIC **29** 18:12:26.4±0.1, 5.22N×94.52E, mb5.2/85, MS4.4/1, Error ellipse: s-maj=4.6km s-min=3.1km az=214.0*

*IDC **29** 18:12:26.9±0.4, 5.25N×94.58E, h51km±3km, mb4.7/26, mb1 4.7/26, mb1mx4.7/27, mbtmp4.9/26, MS5.0/1, Ms1 5.0/1, ms1mx3.7/36, Error ellipse: s-maj=11.9km s-min=7.7km az=53.0*

ISC 29 18:12:24.8±0.2, 5.21N±0.03×94.57E±0.03, h47km, h47km±8km: pP-P, n392, σ0.99/404, mb5.2/149, MS4.9/14, 57C-23D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.59**	**51**	P	**P**	**18 13 40.0**	**+6.5**
	4μm,1.0s						
KULM	**Kulim**	**6.06**	**89**	⇑*i*Pn	**P**	**18 13 55.2**	**+1.2**
SNG	**Songkhla**	**6.32**	**72**	P	**P**	**18 13 59.0**	**+1.2**
IPM	**Ipoh**	**6.47**	**95**	P	**P**	**18 14 01.0**	**+1.3**
NNT	**Nongplab**	**8.93**	**34**	P	**P**	**18 14 35.5**	**+1.6**
KGM	**Kluang**	**9.29**	**110**	P	**P**	**18 14 39.5**	**+0.5**
NST	**Nakhon Sawan**	**11.74**	**27**	P	**P**	**18 15 14.6**	**+2.2**
KKTK	**Khon Kaen**	**13.71**	**36**	PG	**P**	**18 15 42.0**	**+3.4**
CHG	**Chiang Mai**	**14.18**	**17**	P	**P**	**18 15 47.2**	**+2.5**
	73nm,1.0s						
UBT	**Ubonrachathani**	**14.32**	**45**	P	**P**	**18 15 56.5**	**+10**
NANT	**Nan**	**14.77**	**23**	P	**P**	**18 15 56.0**	**+3.5**
	500nm,0.4s						
CHRT	**Chiangrai**	**15.43**	**19**	⇑P	**P**	**18 16 02.0**	**+1.0**
	816nm,1.1s						
KSM	**Kuching**	**16.14**	**103**	*e*P	**P**	**18 16 11.3**	**+1.1**
VIS	**Vishakhapatnam**	**16.59**	**319**	*e*P	**P**	**18 16 15.7**	**-0.1**
VIS				AMb	AMB	18 16 18.0	
	comp=Z,107nm,0.4s						
VIS				*ex*	x	18 19 06.6	
VIS				AML	AML	18 19 12.0	
	comp=N,141nm,0.8s						
VIS				AML	AML	18 19 13.3	
	comp=E,123nm,0.4s						
HYB	**Hyderabad**	**19.82**	**309**	*i* P	**P**	**18 16 54.0**	**-0.4**
HYB				*e*		18 17 08.5	
HYB				*e*		18 20 15.0	
HYB				*e*S	**S**	**18 20 22.0**	**-7.9**
HYB	**Hyderabad**	**19.82**	**309**	*e*P	**P**	**18 16 54.0**	**-0.4**
HYB				*e*		18 20 22.0	
HYB				*e*S	**S**	**18 20 35.0**	**+5.1**
HYB	**Hyderabad**	**19.82**	**309**	*e*P	**P**	**18 16 54.0**	**-0.4**
HYB				*e*S	**S**	**18 20 35.0**	**+5.1**
QIZ	**Qiongzhong**	**20.26**	**46**	⇑P	**P**	**18 17 00.0**	**+0.9**
QIZ				S	**S**	**18 20 34.5**	**-4.3**
QIZ				AMB	AMB		
	comp=Z,47nm,1.1s						
QIZ				LR	LR		
	comp=N,2μm,17.5s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,14.5s,MS4.6						
QIZ				LR	LR		
	comp=Z,2μm,18.6s,MS4.4						
QIZ	**Qiongzhong**	**20.26**	**46**	⇑*i*P	**P**	**18 16 59.9**	**+0.8**
	comp=Z,200nm,1.4s						
BOK	**Bokaro**	**20.28**	**336**	*e*P	**P**	**18 16 59.0**	**-0.3**
BOK				AMb	AMB	18 17 02.6	
	comp=Z,256nm,1.4s						
BOK				*ex*	**S**	**18 20 36.6**	**-2.5**
BLSP	**Bilaspur**	**20.68**	**326**	*e*P	**P**	**18 17 04.0**	**+0.6**
BLSP				AMb	AMB	18 17 09.9	
	comp=Z,120nm,1.4s						
BLSP				*ex*	**S**	**18 20 46.3**	**-0.5**
BLSP				AML	AML	18 21 20.2	
	comp=E,81nm,0.9s						
BLSP				AML	AML	18 21 20.2	
	comp=N,61nm,0.4s						
KMI	**Kunming**	**21.30**	**21**	P	**P**	**18 17 11.5**	**+1.9**
KMI				AP		18 17 22.5	
KMI				XP		18 17 30.0	
KMI				PP	PP	18 17 36.5	+2.3
KMI				PPP	PPP	18 17 47.0	+3.2
KMI				S	**S**	**18 21 01.0**	**+2.6**
KMI				XS		18 21 20.5	
KMI				AMB	AMB		
	comp=Z,56nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,266nm,3.1s						
KMI				LR	LR		
	comp=N,991nm,19.4s,MS4.4						
KMI				LR	LR		
	comp=E,950nm,18.0s,MS4.4						
KMI				LR	LR		
	comp=Z,1μm,19.4s,MS4.4						
KMI	**Kunming**	**21.30**	**21**	P	**P**	**18 17 11.4**	**+1.8**
	comp=Z,56nm,1.3s,mb4.7						
KMI				pP		18 17 22.4	
KMI				sP		18 17 29.9	
KMI				PP	PP	18 17 36.4	+2.2
KMI				PPP	PPP	18 17 46.9	+3.1
KMI				S	**S**	**18 21 00.9**	**+2.5**
KMI				sS		18 21 20.4	
KMI				SS	SS	18 21 45.5	+11
KMI				LR	LR		
	comp=Z,1μm,19.4s,MS4.4						
KMI	**Kunming**	**21.30**	**21**	P	**P**	**18 17 11.4**	**+1.8**
KMI				*e*		18 17 22.4	
KMI				*e*		18 17 29.9	
KMI				PP	PP	18 17 36.4	+2.2
KMI				S	**S**	**18 21 00.9**	**+2.5**
KMI				*e*		18 21 20.4	
KMI				SS	SS	18 21 45.5	+11
KKM	**Kota Kinabalu**	**21.56**	**87**	P	**P**	**18 17 15.0**	**+2.7**
KKM	**Kota Kinabalu**	**21.56**	**87**	*e*P	**P**	**18 17 14.5**	**+2.2**
PKI	**Pulchoki**	**23.88**	**340**	*e*P	**P**	**18 17 34.8**	**-0.3**
	comp=Z,91nm,0.6s,mb5.4						
DMN	**Daman**	**24.02**	**339**	*e*P	**P**	**18 17 36.3**	**-0.2**
	comp=Z,103nm,0.7s,mb5.4						
GUN	**Gumba**	**24.04**	**341**	*e*P	**P**	**18 17 36.1**	**-0.5**
	comp=Z,290nm,0.7s,mb5.8						
GYA	**Guiyang**	**24.08**	**27**	⇑*i*P	**P**	**18 17 37.8**	**+0.8**
GYA				AP		18 17 49.5	
GYA				XP		18 17 54.8	
GYA				PP	PP	18 18 13.5	+1.0
GYA				S	**S**	**18 21 50.0**	**+1.6**
GYA				XS		18 22 09.3	
GYA				SS	SS	18 22 45.0	+2.7
GYA				AMB	AMB		
	comp=Z,240nm,0.8s,mb5.7						
GYA				AMB	AMB		
	comp=Z,480nm,3.2s						
GYA				LR	LR		
	comp=N,2μm,16.2s,MS4.7						
GYA				LR	LR		
	comp=E,1μm,17.1s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,18.0s,MS4.4						
KKN	**Kakani**	**24.13**	**340**	*e*P	**P**	**18 17 37.0**	**-0.5**
	comp=Z,205nm,0.9s,mb5.6						
POO	**Poona**	**24.17**	**305**	*e*P	**P**	**18 17 40.6**	**+2.6**
POO				*ex*	x	18 22 01.0	
BHPL	**Bhopal**	**24.39**	**319**	*e*P	**P**	**18 17 44.0**	**+3.9**
BHPL				AMb	AMB	18 17 46.8	
	comp=Z,36nm,0.7s,mb4.9						
BHPL				*e*S	**S**	**18 22 00.4**	**+6.8**
GKN	**Gorkha**	**24.55**	**338**	*e*P	**P**	**18 17 41.8**	**+0.2**
	comp=Z,354nm,0.8s,mb6.0						
LSA	**Lhasa**	**24.57**	**353**	P	**P**	**18 17 41.8**	**0.0**
LSA				S	**S**	**18 21 57.0**	**+0.3**
LSA				AMB	AMB		
	comp=Z,110nm,0.9s,mb5.4						
LSA				LR	LR		
	comp=E,770nm,18.2s						
LSA				LR	LR		
	comp=Z,2μm,24.6s						
LSA	**Lhasa**	**24.57**	**353**	⇑*e*P	**P**	**18 17 41.6**	**-0.2**
	comp=Z,80nm,0.5s,mb5.5						
KOLN	**Koldanda**	**24.74**	**336**	*e*P	**P**	**18 17 43.8**	**+0.3**
	comp=Z,211nm,0.6s,mb5.9						
CD2	**Chengdu**	**26.99**	**18**	P	**P**	**18 18 03.5**	**-0.8**
CD2				AP	pP	18 18 15.3	-1.1
CD2				PP	PP	18 18 50.5	-0.7
CD2				PPP	PPP	18 19 02.8	-0.5
CD2				S	**S**	**18 22 36.0**	**-0.6**
CD2				SS	SS	18 23 52.0	-0.7
CD2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.2						
CD2				LR	LR		
	comp=N,460nm,19.2s						
CD2				LR	LR		
	comp=Z,530nm,21.6s,MS4.1						
TGY	**Tagaytay City**	**27.43**	**69**	P	**P**	**18 18 09.4**	**+0.9**
	comp=Z,113nm,0.3s,mb5.8,baz=270,slow=4.0,SNR=11						
PTH	**Pithoragarh**	**27.75**	**332**	*e*P	**P**	**18 18 10.0**	**-1.3**
KALP	**Kalibo**	**28.20**	**75**	*e*P	**P**	**18 18 18.3**	**+2.8**
AJM	**Ajmer**	**28.45**	**320**	*e*P	**P**	**18 18 15.0**	**-2.6**
RCP	**Roxas**	**28.57**	**75**	*e*P	**P**	**18 18 19.9**	**+1.1**
ENH	**Enshi**	**28.62**	**28**	⇑*i*P	**P**	**18 18 17.6**	**-1.5**
	comp=Z,54nm,0.7s,mb5.4						
QZH	**Quanzhou**	**30.27**	**47**	⇓*i*P	**P**	**18 18 35.0**	**+1.1**
QZH				S	**S**	**18 23 35.5**	**+6.4**
QZH				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.4						
QZH				LR	LR		
	comp=N,3μm,15.4s,MS5.2						
QZH				LR	LR		
	comp=E,2μm,15.4s,MS5.2						
QZH				LR	LR		
	comp=Z,5μm,20.0s,MS5.1						
WHN	**Wuhan**	**31.34**	**34**	⇑P	**P**	**18 18 43.0**	**-0.2**
XAN	**Xi'an**	**31.63**	**23**	P	**P**	**18 18 44.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,225nm,0.7s,mb6.1						
LZH	**Lanzhou**	**31.89**	**14**	*e*P	**P**	**18 18 47.0**	**-1.0**
LZH				AP	pP	18 18 59.8	-0.6
LZH				XP	sP	18 19 05.0	-1.3
LZH				PCP	PcP	18 21 35.8	-2.0
LZH				*e*S	**S**	**18 23 55.0**	**+0.6**
LZH				XS		18 24 16.0	
LZH				SCP		18 25 18.5	
LZH				*e*SS	SS	18 25 50.0	+2.0
LZH				SCS	ScS	18 29 15.0	+1.9
LZH				AMB	AMB		
	comp=Z,86nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,350nm,5.5s						
LZH				LR	LR		
	comp=E,4μm,16.5s						
LZH				LR	LR		
	comp=Z,5μm,17.6s,MS5.3						
LZH	**Lanzhou**	**31.89**	**14**	*e*P	**P**	**18 18 46.9**	**-1.1**
	comp=Z,86nm,1.0s,mb5.5						
LZH				pP	pP	18 18 59.8	-0.6
LZH				sP	sP	18 19 05.0	-1.3
LZH				PcP	PcP	18 21 35.8	-2.0
LZH				*e*S	**S**	**18 23 55.0**	**+0.6**
LZH				sS		18 24 16.0	
LZH				ScP		18 25 18.4	
LZH				*e*SS	SS	18 25 50.0	+2.0
LZH				ScS	ScS	18 29 15.1	+2.0
LZH				LR	LR		
	comp=Z,5μm,17.6s,MS5.3						
LZH	**Lanzhou**	**31.89**	**14**	*e*P	**P**	**18 18 46.9**	**-1.1**
LZH				*PP	pP	18 18 59.8	-0.6
LZH						18 21 35.8	
LZH				*e*S	**S**	**18 23 55.0**	**+0.6**
LZH				*SS		18 24 16.0	
LZH				*e*SS	SS	18 25 50.0	+2.0
LZH						18 29 15.1	
LZH				pmax	pmax		
	comp=Z,86nm,1.0s,mb5.5						
LZH				MLR	MLR		
	comp=Z,5μm,17.6s,MS5.3						
YHNB	**Yeheng**	**32.21**	**50**	*e*P	**P**	**18 18 50.8**	**-0.1**
YHNB				*e*pP	pP	18 19 05.3	+2.0
GTA	**Gaotai**	**34.37**	**7**	⇑P	**P**	**18 19 09.0**	**-0.5**
GTA				AP	pP	18 19 21.3	-0.6
GTA				XP	sP	18 19 26.5	-1.3
GTA				PP	PP	18 20 22.5	-3.4
GTA				S	**S**	**18 24 30.0**	**-3.0**
GTA				SCP		18 25 27.0	
GTA				PCS		18 25 31.3	
GTA				SCS	ScS	18 29 26.5	+0.6
GTA				AMB	AMB		
	comp=Z,95nm,0.9s,mb5.7						
GTA				AMB	AMB		
	comp=Z,320nm,4.6s						
GTA				LR	LR		
	comp=N,1μm,19.5s,MS4.8						
GTA				LR	LR		
	comp=E,966nm,20.6s,MS4.8						
GTA				LR	LR		
	comp=Z,2μm,20.6s,MS4.8						
NJ2	**Nanjing**	**35.06**	**37**	*e*P	**P**	**18 19 16.0**	**+0.6**
NJ2				AP	pP	18 19 28.3	+0.4
NJ2				XP	sP	18 19 33.5	-0.3
NJ2				PP	PP	18 20 35.8	+0.9
NJ2				S	**S**	**18 24 48.0**	**+4.3**
NJ2				XS		18 25 08.0	
NJ2				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,200nm,9.9s						
NJ2				LR	LR		
	comp=N,3μm,24.2s						
NJ2				LR	LR		
	comp=E,2μm,15.5s						
NJ2				LR	LR		
	comp=Z,3μm,15.9s						
SSE	**Sheshan**	**35.89**	**41**	P	**P**	**18 19 23.5**	**+1.0**
SSE				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,295nm,11.3s						
SSE	**Sheshan**	**35.89**	**41**	P	**P**	**18 19 23.6**	**+1.1**
	comp=Z,51nm,0.7s,mb5.6						
MBWA	**Marble Bar**	**36.00**	**138**	*e*P	**P**	**18 19 21.4**	**-2.1**
	comp=Z,20nm,1.3s,mb4.9						
MBWA				*e*pP	pP	18 19 34.0	-2.0
KSH	**Kashi**	**38.06**	**336**	P	**P**	**18 19 42.0**	**+1.4**
KS

HHC PCP PcP 18 22 00.0 +2.6
HHC S **S** **18 25 36.5 -1.5**
HHC PCS 18 25 47.8
HHC SCS ScS 18 29 52.0 +2.6
HHC AMB AMB
comp=Z,55nm,0.9s,mb5.3
HHC AMB AMB
comp=Z,536nm,3.9s
HHC LR LR
comp=N,2μm,20.2s,MS5.0
HHC LR LR
comp=E,1μm,16.6s,MS5.0
HHC LR LR
comp=Z,3μm,19.0s,MS5.1
JOW Kunigami 38.67 53 P **P** **18 19 45.9 +0.1**
comp=Z,51nm,0.8s,mb5.3,baz=245,slow=5.0,SNR=8.5
WMQ Urumqi 38.93 352⇑ *i*P **P** **18 19 48.3 +0.6**
WMQ AP pP 18 20 00.5 +0.2
WMQ XP sP 18 20 06.0 -0.1
WMQ PP PP 18 21 23.0 +1.7
WMQ S **S** **18 25 43.0 +0.4**
WMQ SS SS 18 28 27.0 -0.6
WMQ AMB AMB
comp=Z,84nm,0.7s,mb5.6
WMQ AMB AMB
comp=Z,937nm,4.2s
WMQ LR LR
comp=N,2μm,19.0s,MS5.0
WMQ LR LR
comp=E,1μm,17.8s,MS5.0
WMQ LR LR
comp=Z,2μm,29.6s
JMDO Jabal Madar 39.15 299⇑P **P** **18 19 51.8 +2.1**
SMDO Samad 39.44 300⇓P **P** **18 19 54.4 +2.3**
BIDO Bidbid 39.54 301 P **P** **18 19 55.5 +2.5**
SNR=7.8
BSY Bisya 40.06 299⇓P **P** **18 19 59.8 +2.5**
KZA Kyzart 40.54 338 P **P** **18 20 02.0 +0.8**
SNR=6.9
ARQ Araqi 40.85 300⇓P **P** **18 20 06.0 +2.2**
UCH Uchtor 40.95 337 P **P** **18 20 05.3 +0.7**
SNR=49
TKM2 Tokmak 2 41.14 339 P **P** **18 20 06.3 +0.3**
SNR=32
KBK Karagaybulak 41.15 338 P **P** **18 20 07.2 +1.1**
SNR=116
AML Almayashu 41.19 336 P **P** **18 20 07.6 +1.1**
SNR=14
AAK Ala-Archa 41.30 337 P **P** **18 20 08.9 +1.5**
SNR=24
AAK Ala-Archa 41.30 337 *e*P **P** **18 20 07.5 +0.1**
comp=Z,25nm,0.7s,mb5.0
AAK Ala-Archa 41.30 337⇑ *e*P **P** **18 20 06.9 -0.5**
AAK pmax pmax
comp=Z,18nm,0.6s,mb4.9
RBK Rabkut 41.31 291⇑P **P** **18 20 09.5 +1.7**
FRU Bishkek 41.43 338 *e*P **P** **18 20 07.0 -1.4**
FRU *e* pP 18 20 16.4 -4.7
CHMS Chumysh 41.52 338 P **P** **18 20 09.5 +0.3**
SNR=12
DL2 Dalian 41.55 32 P **P** **18 20 11.0 +1.5**
DL2 AP pP 18 20 19.8 -2.4
DL2 XP sP 18 20 24.0 -3.8
DL2 *e*S **S** **18 26 26.5 +4.7**
DL2 AMB AMB
comp=Z,70nm,0.8s,mb5.3
DL2 LR LR
comp=N,580nm,17.0s,MS4.7
DL2 LR LR
comp=E,600nm,18.7s,MS4.6
DL2 LR LR
comp=Z,670nm,15.2s,MS4.6
EKS2 Erkin-Say 41.61 337 P **P** **18 20 10.8 +0.8**
SNR=26
KAKA Kakadu 41.63 116⇓ *i*P **P** **18 20 29.0 +18**
comp=Z,30nm,0.8s,mb5.0
ASHO Ashiyiah 41.72 302 P **P** **18 20 13.1 +2.0**
SNR=6.2
WHFO Wadi Hawf 41.80 291 P **P** **18 20 13.0 +1.1**
SNR=16
USP Ospenovka 41.84 338 P **P** **18 20 12.2 +0.4**
SNR=39
ABTO Aybut 42.13 290⇓P **P** **18 20 15.8 +1.2**
KLBR Kellerberrin 42.76 150 *e*P **P** **18 20 19.5 -0.1**
comp=Z,75nm,1.4s,mb5.2
MKAR Makanchi Array 42.76 348 P **P** **18 20 19.4 +0.1**
comp=Z,77nm,0.7s,mb5.5,baz=163,slow=8.0,SNR=335
MKAR pP pP 18 20 32.2 +0.1
comp=Z,33nm,0.6s,baz=162,slow=7.4,SNR=8.4
MKAR S **S** **18 26 40.3 +0.8**
comp=Z,0.7nm,0.9s,baz=174,slow=14,SNR=2.6
KKAR Karatay Array 43.32 334 *e*P **P** **18 20 24.0 0.0**
KKAR pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
NWAO Narrogin (SRO) 43.61 152 P **P** **18 20 26.1 -0.4**
comp=Z,6.6nm,0.7s,mb4.5,baz=315,slow=7.1,SNR=3.2
NWAO pP pP 18 20 40.1 +0.9
comp=Z,26nm,1.0s,baz=309,slow=7.1,SNR=4.2
NWAO Narrogin (SRO) 43.61 152 *e*P **P** **18 20 25.0 -1.5**
comp=Z,22nm,0.8s,mb4.9
NWAO *e*pP pP 18 20 37.3 -1.8
NWAO Narrogin (SRO) 43.61 152 P **P** **18 20 26.1 -0.4**
NWAO *e*PP pP 18 20 40.1 +0.9
NWAO pmax pmax
comp=Z,7.0nm,0.7s
NWAO pmax pmax
comp=Z,27nm,1.0s
SONM Songino Array 43.66 12 P **P** **18 20 26.2 -0.5**
comp=Z,38nm,0.8s,mb5.2,baz=190,slow=8.1,SNR=293
SONM pP pP 18 20 39.6 +0.2
comp=Z,25nm,0.9s,baz=196,slow=9.3,SNR=12
SONM PcP PcP 18 22 13.5 -0.3
comp=Z,16nm,0.6s,baz=193,slow=3.8,SNR=17
SONM ScP 18 26 01.3
comp=Z,3.9nm,0.9s,baz=193,slow=3.6,SNR=8.0
JNU Nakatsue 43.74 46 P **P** **18 20 27.4 -0.1**
comp=Z,30nm,0.8s,mb5.1,baz=211,slow=6.3,SNR=21
ULN Ulaanbaatar 43.82 12 *e*P **P** **18 20 27.1 -0.9**
comp=Z,26nm,0.7s,mb5.1
ULN *e*pP pP 18 20 40.2 -0.5
ULN *e*PcP PcP 18 22 13.1 -1.3
ULN *e*ScP 18 26 00.6
ULN Ulaanbaatar 43.82 12 *e*P **P** **18 20 27.1 -0.9**
ULN *e*PP pP 18 20 40.2 -0.5
ULN *e* 18 22 13.1
ULN pmax pmax
comp=Z,26nm,0.7s,mb5.1
SNY Shenyang 44.69 31⇑P **P** **18 20 35.0 -0.1**
SNY AMB AMB
comp=Z,40nm,0.5s,mb5.5
ZAK Zakamensk 45.61 8⇓ *e*P **P** **18 20 41.2 -1.0**
ZAK *e* 18 22 12.8
ZAK *e* 18 22 28.7
ZAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ZAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ZAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
WRA Warramunga Arr 46.41 124 P **P** **18 20 48.7 -0.3**
comp=Z,50nm,0.7s,mb5.6,baz=303,slow=9.2,SNR=423
WRA pP pP 18 21 02.8 +1.1
comp=Z,175nm,0.9s,baz=303,slow=9.2,SNR=23
WRA S **S** **18 27 30.8 -1.7**
comp=Z,1.1nm,0.8s,baz=297,slow=16,SNR=5.1
WRAB Tennant Creek 46.41 124⇑ *i*P **P** **18 20 48.8 -0.1**
comp=Z,227nm,0.8s,mb6.2
WRAB *e*pP pP 18 21 02.3 +0.5
WRAB Tennant Creek 46.41 124⇑ *i*P **P** **18 20 48.8 -0.2**
WRAB *e*PP pP 18 21 02.3 +0.6
WRAB pmax pmax
comp=Z,227nm,0.8s,mb6.2
WB2 Warramunga Arr 46.42 124⇑ *i*P **P** **18 20 48.8 -0.2**
WB2 *i* pP 18 21 03.9 +2.1
WB2 *e*S **S** **18 27 31.2 -1.4**
CN2 Changchun 47.07 31⇑P **P** **18 20 53.5 -0.3**
CN2 *e*S **S** **18 27 42.0 +0.5**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
CN2 AMB AMB
comp=Z,600nm,5.0s
KURK Kurchatov 47.28 346⇑ *i*P **P** **18 20 55.4 0.0**
comp=Z,73nm,0.8s,mb5.7
KURK Kurchatov 47.28 346⇑ *i*P **P** **18 20 55.4 0.0**
KURK pmax pmax
comp=Z,73nm,0.8s,mb5.7

IRK Irkutsk 47.56 8 *e*P **P** **18 20 56.6 -1.0**
IRK *e* 18 22 51.4
IRK pmax pmax
comp=Z,53nm,2.6s,mb5.1
FORT Forrest 48.02 140 *e*P **P** **18 21 02.3 +0.8**
comp=Z,60nm,0.9s,mb5.6
HIA Hailar 48.81 22⇑ *i*P **P** **18 21 06.7 -0.6**
comp=Z,23nm,0.6s,mb5.4
HIA *e*pP pP 18 21 19.6 -0.4
HIA Hailar 48.81 22⇑ *i*P **P** **18 21 06.7 -0.6**
HIA *e**PP pP 18 21 19.6 -0.5
HIA pmax pmax
comp=Z,23nm,0.6s
CIT Chita 49.24 15 *e*P **P** **18 21 09.9 -0.7**
CIT *e* pP 18 21 23.3 -0.1
CIT *e* 18 22 33.0
CIT pmax pmax
comp=Z,71nm,2.3s,mb5.3
MDJ Mudanjiang 49.79 32 P **P** **18 21 15.3 +0.4**
MDJ AP pP 18 21 27.0 -0.7
MDJ XP sP 18 21 31.5 -1.7
MDJ AMB AMB
comp=Z,33nm,1.3s,mb5.2
MDJ AMB AMB
comp=Z,219nm,4.7s
MDJ Mudanjiang 49.79 32⇑ *e*P **P** **18 21 14.4 -0.5**
comp=Z,47nm,1.2s,mb5.4
QRN Al-Qurain 49.95 303 *e*P **P** **18 21 16.9 +0.6**
QRN AMb AMB 18 21 33.2
comp=Z,46nm,0.6s,mb5.7
VLA Vladivostok 50.11 35 *i* P **P** **18 21 15.1 -2.3**
VLA pmax pmax
comp=Z,4μm,2.5s
RDF Al-Radifah 50.31 304 *e*P **P** **18 21 19.1 0.0**
RDF AMb AMB 18 21 37.2
comp=Z,64nm,0.7s,mb5.7
NVS Novosibirsk 50.32 352⇑ *i*P **P** **18 21 18.1 -0.8**
NVS *i* *PP pP 18 21 29.8 -1.9
NVS *e*S **S** **18 28 26.9 0.0**
NVS *e* 18 30 59.4
NVS pmax pmax
comp=Z,62nm,0.9s,mb5.6
NVS pmax pmax
comp=N,67nm,1.2s
NVS pmax pmax
comp=E,22nm,0.7s
NVS smax
comp=N,27nm,2.1s
NVS smax
comp=E,44nm,1.9s
MAJO Matsushiro 50.66 46 *e*P **P** **18 21 20.4 -1.3**
comp=E,6.3nm,0.6s,mb4.7
MAJO Matsushiro 50.66 46 *e*P **P** **18 21 20.4 -1.3**
MAJO pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MAT Matsushiro 50.66 46 P **P** **18 21 21.6 -0.1**
MAT Matsushiro 50.66 46 *e*P **P** **18 21 22.0 +0.3**
comp=Z,25nm,1.2s,mb5.0
MAT Matsushiro 50.66 46 *e*P **P** **18 21 22.0 +0.3**
MAT pmax pmax
comp=Z,25nm,1.2s,mb5.0
MJAR Matsushiro Arr 50.66 46 P **P** **18 21 21.5 -0.2**
comp=Z,7.5nm,0.7s,mb4.7,baz=249,slow=8.2,SNR=21
MJAR PcP PcP 18 22 38.1 -0.7
comp=Z,5.6nm,1.0s,baz=244,slow=3.6,SNR=4.2
MJAR ScP 18 26 30.4
comp=Z,4.4nm,1.1s,baz=233,slow=3.6,SNR=7.4
NAY Al-Naaiem 50.67 304 *e*P **P** **18 21 21.6 -0.2**
NAY AMb AMB 18 21 39.8
comp=Z,32nm,0.6s,mb5.4
MIB Mutribah 50.77 305 *e*P **P** **18 21 23.1 +0.5**
MIB AMb AMB 18 21 41.4
comp=Z,72nm,0.7s,mb5.7
KAMS Al Khamasin 50.79 292 P **P** **18 21 23.4 +0.5**
MZLS Mizel 50.98 297 P **P** **18 21 25.2 +1.0**
BVA0 Borovoye Array 51.63 342 *i* P **P** **18 21 27.9 -0.9**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BVAR Borovoye Array 51.63 342 P **P** **18 21 27.6 -1.2**
comp=Z,15nm,0.5s,mb5.2,baz=141,slow=10,SNR=88
BVAR S **S** **18 28 45.7 +0.8**
comp=Z,2.4nm,0.9s,baz=135,slow=13,SNR=5.6
BRVK Borovoye 51.69 342⇑ *i*P **P** **18 21 28.2 -1.0**
comp=Z,17nm,0.5s,mb5.2
BRVK Borovoye 51.69 342⇑ *i*P **P** **18 21 28.2 -1.0**
BRVK pmax pmax
comp=Z,17nm,0.5s,mb5.2
CHKZ Chkalovo 52.12 342 *e*P **P** **18 21 31.8 -0.6**
comp=Z,80nm,0.7s,mb5.8
CHKZ *e*pP pP 18 21 43.8 -1.5
CHKZ Chkalovo 52.12 342 *e*P **P** **18 21 31.8 -0.6**
CHKZ *e**PP pP 18 21 43.8 -1.5
CHKZ pmax pmax
comp=Z,80nm,0.7s,mb5.8
OPO Ambohidratompo 52.33 242 P **P** **18 21 34.7 +0.3**
comp=Z,3.7nm,0.6s,mb4.5,baz=68,slow=9.2,SNR=14
AB31 Akbulak array 52.76 332 *i* P **P** **18 21 36.5 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
AFFS 'Afif 52.92 296 P **P** **18 21 39.4 +0.5**
BLJS Baljurashi 53.49 291 P **P** **18 21 43.9 +0.8**
KLR Kul'dur 53.96 29 *e*P **P** **18 21 42.7 -3.5**
PMG Port Moresby 54.39 105 P **P** **18 21 49.2 -0.6**
comp=Z,22nm,0.6s,mb5.3,baz=346,slow=4.9,SNR=13
PMG Port Moresby 54.39 105 *e*P **P** **18 21 48.5 -1.2**
comp=Z,31nm,0.7s,mb5.3
PMG Port Moresby 54.39 105⇑ *e*P **P** **18 21 49.6 -0.2**
BOD Bodaibo 54.63 13 *e*P **P** **18 21 48.9 -2.1**
BOD *e* pP 18 22 00.6 -3.4
BOD pmax pmax
comp=Z,38nm,1.1s,mb5.3
BOD pmax pmax
comp=Z,41nm,1.0s,mb5.4
HILS Ha'il 54.76 300 P **P** **18 21 53.6 +1.3**
GNI Garni 56.60 315⇑ *e*P **P** **18 22 04.4 -1.1**
comp=Z,21nm,0.8s,mb5.2
GNI *e*pP pP 18 22 18.1 -0.5
GNI Garni 56.60 315⇑ *e*P **P** **18 22 04.4 -1.0**
GNI *e**PP pP 18 22 18.1 -0.4
GNI pmax pmax
comp=Z,21nm,0.8s
CTA Charters Tower 56.67 118 *e*P **P** **18 22 05.2 -0.9**
comp=Z,5.9nm,0.6s,mb4.8
CTA *i* pP 18 22 19.5 +0.2
CTA Charters Tower 56.67 118 P **P** **18 22 04.5 -1.6**
comp=Z,9.3nm,0.9s,mb4.8,baz=286,slow=10,SNR=12
CTA Charters Tower 56.67 118 *e*P **P** **18 22 05.2 -0.9**
CTA *i* pP 18 22 19.5 +0.2
CTA pmax pmax
comp=Z,6.0nm,0.6s
CTAO Charters Tower 56.67 118 *e*P **P** **18 22 04.8 -1.4**
comp=Z,33nm,1.1s,mb5.3
CTAO Charters Tower 56.67 118 *e*P **P** **18 22 04.8 -1.3**
CTAO pmax pmax
comp=Z,33nm,1.1s,mb5.3
ASAJ Asahikawa 57.16 40 P **P** **18 22 09.1 -0.2**
comp=Z,11nm,0.6s,mb5.1,baz=260,slow=8.1,SNR=20
ASAJ Asahikawa 57.16 40 P **P** **18 22 09.1 -0.2**
ASAJ pmax pmax
comp=Z,11nm,0.6s
TI2 Plekhanov 57.26 317 *e*P **P** **18 22 08.0 -2.1**
KMBO Kilima Mbogo 57.59 265 P **P** **18 22 13.4 +0.6**
comp=Z,20nm,0.9s,mb5.2,baz=61,slow=11,SNR=45
KMBO LR LR 18 41 36.8
comp=Z,1μm,19.9s,MS5.0,baz=276,slow=30
STKA Stephens Creek 57.99 133 *e*P **P** **18 22 14.7 -0.6**
comp=Z,8.8nm,0.8s,mb4.8
STKA *i* pP 18 22 27.9 -0.5
STKA Stephens Creek 57.99 133 P **P** **18 22 15.0 -0.3**
comp=Z,5.4nm,0.8s,mb4.6,baz=294,slow=6.5,SNR=7.1
STKA Stephens Creek 57.99 133 *e*P **P** **18 22 14.6 -0.7**
ARU Arti 58.49 337 *e*P **P** **18 22 16.7 -1.7**
comp=Z,37nm,0.9s,mb5.4
ARU *e*pP pP 18 22 29.4 -2.3
ARU Arti 58.49 337⇓ *i*P **P** **18 22 17.0 -1.5**
ARU *e* 18 24 24.0
ARU *e*S **S** **18 30 17.2 +0.5**
ARU *e*SS SS 18 34 09.9 -1.3
ARU pmax pmax
comp=Z,37nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 58.63 37 *e*P **P** **18 22 18.9 -0.6**
comp=Z,50nm,1.0s,mb5.5
YSS *e*pP pP 18 22 30.0 -2.7
YSS Yuzh-Sakhalins 58.63 37 *e*P **P** **18 22 19.0 -0.6**
YSS *e**PP pP 18 22 30.0 -2.7
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
TBKS Tabuk 59.47 300 P **P** **18 22 26.3 +0.6**
KIV Kislovodsk 59.57 319 *e*P **P** **18 22 24.2 -1.9**
comp=Z,30nm,0.9s,mb5.3
KIV *e*pP pP 18 22 37.0 -2.3
KIV Kislovodsk 59.57 319 *e*P **P** **18 22 24.3 -1.8**
KIV *e**PP pP 18 22 37.0 -2.3
KIV pmax pmax
comp=Z,30nm,0.9s,mb5.3
GOF Gofitskoye 59.82 320 *e*P **P** **18 22 38.6 +11**
BDAS Al Bad' 60.77 300 P **P** **18 22 34.7 +0.2**
JMOS Jabal al Moall 60.90 300 P **P** **18 22 36.2 +0.8**
HAQS Haql 61.03 300 P **P** **18 22 36.9 +0.6**
SOC Sochi 61.40 317 *e*P **P** **18 22 35.7 -2.9**
SOC *e*S **S** **18 30 55.3 +1.0**
SOC *e* 18 32 16.3
SOC *e*SS SS 18 35 01.6 +4.6
SOC pmax pmax
comp=Z,24nm,0.8s,mb5.4
SOC pmax pmax
comp=N,16nm,0.9s
SOC pmax pmax
comp=E,17nm,0.9s
SOKR Solikamsk 61.42 339⇓ *i*P **P** **18 22 37.5 -1.0**
SOKR pmax pmax
comp=Z,20nm,0.7s,mb5.4
YAK Yakutsk 62.38 18 *e*P **P** **18 22 42.7 -2.2**
comp=Z,54nm,0.8s,mb5.7
YAK Yakutsk 62.38 18*c* *i*P **P** **18 22 42.8 -2.1**
YAK pmax pmax
comp=Z,62nm,1.1s,mb5.7
VRHR Novokhopersk 63.35 326 *e*P **P** **18 22 49.4 -2.1**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.7
VRHR pmax pmax
comp=E,10.0nm,0.8s
ANN Anapa 63.38 318 *e*P **P** **18 22 46.1 -5.6**
ANN pmax pmax
comp=Z,29nm,1.3s,mb5.2
BR131 Keskin Array S 64.49 312 *e*P **P** **18 22 56.3 -2.8**
comp=Z,12nm,0.8s,mb5.0
BRTR Keskin Array B 64.49 312 P **P** **18 22 57.5 -1.5**
comp=Z,6.7nm,0.8s,mb4.7,baz=126,slow=6.9,SNR=26
PECR Pechory 64.66 332 *e*P **P** **18 22 58.6 -1.3**
VRSR Storozhevoye 64.78 325 *i* P **P** **18 22 58.2 -2.6**
VRSR *e**PP pP 18 23 07.9 -6.2
VRSR *e**SP sP 18 23 12.2 -7.2
VRSR pmax pmax
comp=Z,20nm,1.1s,mb5.1
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,30nm,0.9s
VRSR MLR MLR
comp=Z,550nm,18.0s,MS4.8
VRSR MLR MLR
comp=N,490nm,19.0s,MS5.1
VRSR MLR MLR
comp=E,1μm,19.0s,MS5.1
VOR Voronezh 65.00 326 P **P** **18 23 01.0 -1.2**
VOR *e**PP pP 18 23 09.0 -6.5
VOR pmax pmax
comp=E,20nm,1.3s
VOR pmax pmax
comp=Z,40nm,1.3s,mb5.3
ISP Isparta 66.42 309 *e*P **P** **18 23 10.8 -0.7**
comp=Z,47nm,1.0s,mb5.5
ISP Isparta 66.42 309 *e*P **P** **18 23 10.8 -0.7**
ISP pmax pmax
comp=Z,47nm,1.0s,mb5.5
MOS Moscow 67.56 329 *e*P **P** **18 23 17.7 -0.6**
MOS *e* 18 23 25.3
OBN Obninsk 67.85 328 *e*P **P** **18 23 17.4 -2.8**
comp=Z,21nm,0.5s,mb5.4
OBN Obninsk 67.85 328*c* *i*P **P** **18 23 18.7 -1.4**
OBN *e* 18 25 50.3
OBN *e*S S 18 32 05.8 -7.7
OBN pmax pmax
comp=Z,21nm,0.6s,mb5.3
OBN MLR MLR
comp=Z,1μm,22.0s,MS5.0
SKR Severo-Kuril's 68.19 37 *e*P **P** **18 23 19.7 -2.7**
SKR *e* pP 18 23 37.0 +1.1
SKR pmax pmax
comp=Z,120nm,0.8s,mb6.0
SKR pmax pmax
comp=Z,3μm,14.0s
LSZ Lusaka 68.81 252 *e*P **P** **18 23 26.4 -0.4**
comp=Z,49nm,1.4s,mb5.2
LSZ Lusaka 68.81 252 *e*P **P** **18 23 26.4 -0.4**
LSZ pmax pmax
comp=Z,49nm,1.4s,mb5.2
MA2 Magadan 68.92 27*ce*P **P** **18 23 26.0 -0.8**
MA2 *e* 18 25 57.9
MA2 *e* 18 27 37.8
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
TIRR Tirgusor 69.43 316⇓P **P** **18 23 29.3 -0.8**
TIRR Tirgusor 69.43 316 *e*P **P** **18 23 28.7 -1.4**
TIXI Tiksi 69.75 11⇑ *e*P **P** **18 23 30.2 -1.4**
TIXI pmax pmax
comp=Z,50nm,1.2s,mb5.3
PET Petropavlovsk 70.44 35⇑ *e*P **P** **18 23 35.1 -1.0**
PET pmax pmax
comp=Z,21nm,1.0s,mb5.0
AKASG Malin Array Be 70.50 322 P **P** **18 23 34.5 -2.0**
comp=Z,8.7nm,0.4s,mb5.0,baz=86,slow=6.0,SNR=54
VRI Vrincioaia 70.91 317⇓P **P** **18 23 38.9 -0.2**
MLR Muntele Rosu 71.37 316⇓P **P** **18 23 41.3 -0.5**
RZN Rozhen 71.53 312 *e*P **P** **18 23 52.0 +9.1**
MIR Mirnyy 71.60 181 *e*P **P** **18 23 44.0 +1.2**
MIR pmax pmax
comp=Z,29nm,1.4s,mb5.0
VOIR 71.97 316⇑P **P** **18 23 43.1 -2.3**
MMB Musomiste 72.25 312 *e*P **P** **18 23 50.0 +2.9**
CASY Casey 72.25 173 *e*P **P** **18 23 45.4 -1.3**
comp=Z,89nm,1.6s,mb5.5
BURAR Bucovina Array 72.30 318⇑P **P** **18 23 47.4 +0.1**
BURAR Bucovina Array 72.30 318⇑P **P** **18 23 47.4 +0.1**
KKB Krupnik 72.77 312 *e*P **P** **18 23 49.0 -1.3**
VTS Vitosha 72.79 313 *e*P **P** **18 23 49.9 -0.5**
IDID Didziasalis 73.21 326 *e*P **P** **18 23 51.6 -0.9**
IDID AMb AMB 18 24 06.9
comp=Z,16nm,1.0s,mb4.9
LBTB Lobatse 73.36 242 *e*P **P** **18 23 54.0 -0.1**
comp=Z,34nm,0.9s,mb5.3
LBTB *e* 18 24 01.6
LBTB *e*pP pP 18 24 07.0 -0.6
LBTB Lobatse 73.36 242 *e*P **P** **18 23 54.0 -0.1**
LBTB *e* 18 24 01.6
LBTB *e**PP pP 18 24 07.0 -0.6
LBTB pmax pmax
comp=Z,34nm,0.9s,mb5.3
JOF Joensuu 73.42 335 *ep* **P** **18 23 52.3 -1.3**
comp=Z,6.8nm,0.7s,mb4.7
IZAR Zarasai 73.59 327 *e*P **P** **18 23 54.2 -0.6**
IZAR AMb AMB 18 24 09.2
comp=Z,12nm,1.2s,mb4.7
ISAL Salakas 73.61 327 *e*P **P** **18 23 54.1 -0.8**
ISAL AMb AMB 18 24 09.4
comp=Z,9.2nm,0.9s,mb4.7
DRGR 73.82 317⇓P **P** **18 23 55.1 -1.2**
SKO Skopje 74.00 312 *e*P **P** **18 23 56.0 -1.5**
SKO *i* pP 18 24 05.5 -5.5
VSU Vasula 74.08 330⇑ *e*P **P** **18 23 56.7 -0.9**
KWP Kalwaria 74.33 320 *e*P **P** **18 23 59.1 -0.1**
KWP Kalwaria 74.33 320 *e*P **P** **18 23 58.8 -0.4**
comp=Z,50nm,0.6s,mb5.6
KWP *e*pP pP 18 24 12.3 -0.4
KWP Kalwaria 74.33 320 *e*P **P** **18 23 58.8 -0.4**
KWP *e**PP pP 18 24 12.3 -0.4
KWP pmax pmax
comp=Z,50nm,0.6s,mb5.6
APA Apatity 74.47 340 *i* pP 18 24 08.6 -4.6
APA MLR MLR
comp=Z,4μm,21.0s,MS5.7
APA MLR MLR
comp=Z,2μm,19.0s
KOLS Kolonicke sedl 74.48 319 *e*P **P** **18 24 00.2 +0.1**
KOLS *e* pP 18 24 12.7 -0.9
SUW Suwalki 74.90 325 *e*P **P** **18 24 01.3 -1.1**

SUW Suwalki 74.90 325 *e*P **P** **18 24 00.8 -1.6**
comp=Z,96nm,0.9s,mb5.7
SUW epP pP 18 24 15.0 -0.9
SUW Suwalki 74.90 325 *e*P **P** **18 24 00.8 -1.6**
SUW *e**PP pP 18 24 15.0 -1.0
SUW pmax pmax
comp=Z,96nm,0.9s,mb5.7
STHS Stebnicka Huta 75.23 320 *e*P **P** **18 24 04.6 +0.2**
STHS *e* pP 18 24 15.2 -2.7
FINES FINESS Array B 75.25 332 P **P** **18 24 03.5 -0.8**
comp=Z,5.4nm,0.6s,mb4.7,baz=96,slow=5.3,SNR=48
FINES pP pP 18 24 18.8 +1.0
comp=Z,6.1nm,0.4s,baz=110,slow=6.4,SNR=5.8
DZM Mont Dzumac 75.31 114 P **P** **18 24 06.1 +0.7**
comp=Z,9.6nm,1.0s,mb4.7,baz=311,slow=19,SNR=3.0
DZM pP pP 18 24 20.8 +1.9
comp=Z,20nm,0.9s,baz=353,slow=12,SNR=6.6
KAF Kangasniemi 75.34 333 *e*p **P** **18 24 03.5 -1.3**
comp=Z,5.8nm,0.5s,mb4.8,baz=105,slow=5.4
KAF Kangasniemi 75.34 333 *e*P **P** **18 24 03.5 -1.3**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KECS Kecovo 75.58 319 *i* P **P** **18 24 06.0 -0.4**
KECS epP pP 18 24 19.8 -0.2
NIE Niedzica 75.83 320 *e*P **P** **18 24 08.5 +0.7**
PSZ Piszkesteto 75.89 318 *e*P **P** **18 24 07.2 -1.0**
comp=Z,29nm,1.1s,mb5.1
PSZ epP pP 18 24 19.9 -1.9
PSZ Piszkesteto 75.89 318 *e*P **P** **18 24 07.2 -1.0**
PSZ *e**PP pP 18 24 19.9 -1.8
PSZ pmax pmax
comp=Z,29nm,1.1s,mb5.1
MAW Mawson 76.03 192⇓*i*P **P** **18 24 09.3 +0.7**
comp=Z,2.5nm,0.6s,mb4.3
MAW *i* pP 18 24 24.4 +2.2
MAW Mawson 76.03 192 P **P** **18 24 09.1 +0.5**
comp=Z,3.9nm,0.6s,mb4.5,baz=24,slow=6.5,SNR=23
MAW pP pP 18 24 24.5 +2.3
comp=Z,9.8nm,0.8s,baz=355,slow=8.5,SNR=9.2
MAW Mawson 76.03 192 *e*P **P** **18 24 09.1 +0.5**
comp=Z,12nm,0.8s,mb4.9
MAW Mawson 76.03 192 *e*P **P** **18 24 09.1 +0.5**
MAW pmax pmax
comp=Z,12nm,0.8s
OJC Ojcow 76.28 320 *e*P **P** **18 24 10.2 -0.1**
PKSM Moragy 76.52 316⇑*i*P **P** **18 24 11.1 -0.7**
PKS8 Sarbogard 76.57 317⇑*e*P **P** **18 24 13.0 +0.9**
VYHS Vyhne 76.66 319 *e*P **P** **18 24 12.1 -0.5**
VYHS epP pP 18 24 25.7 -0.5
TIP Timpagrande 77.28 309 P **P** **18 24 15.8 -0.4**
OKC Ostrava-Krasne 77.28 320 *e*P **P** **18 24 16.0 0.0**
OKC epP pP 18 24 29.7 +0.1
KEV Kevo 77.47 341 *e*p **P** **18 24 16.8 +0.1**
MORC Moravsky Berou 77.66 320 *e*P **P** **18 24 17.9 -0.2**
comp=Z,33nm,1.1s,mb5.2
MORC Moravsky Berou 77.66 320 *e*P **P** **18 24 17.9 -0.2**
MORC pmax pmax
comp=Z,33nm,1.1s,mb5.2
ZST Bratislava 77.78 318 *e*P **P** **18 24 18.8 0.0**
ZST epP pP 18 24 32.5 +0.1
ARCES ARCESS Array B 77.90 340 P **P** **18 24 18.8 -0.2**
comp=Z,2.5nm,0.4s,mb4.5,baz=95,slow=5.6,SNR=57
VRAC Vranov 78.23 319 *e*P **P** **18 24 21.1 -0.1**
GKP Gorka Klasztor 78.27 323 *e*P **P** **18 24 21.1 -0.2**
BILL Bilibino 78.39 21*d i*P **P** **18 24 21.4 -0.3**
BILL pmax pmax
comp=Z,16nm,1.3s,mb4.8
DPC Dobruska-Polom 78.50 320 *e*P **P** **18 24 23.1 +0.4**
DPC epP pP 18 24 37.1 +0.8
KSP Ksiaz 78.57 321 *e*P **P** **18 24 23.4 +0.3**
KSP Ksiaz 78.57 321 *e*P **P** **18 24 23.3 +0.2**
KSP *e**PP pP 18 24 36.8 +0.1
DOBS Dobrina 78.71 316 *e*P **P** **18 24 23.5 -0.4**
UPC Upice 78.72 320 *e*P **P** **18 24 24.1 +0.2**
ARSA Arzberg 78.75 317⇓*i*P **P** **18 24 24.3 +0.1**
comp=Z,12nm,0.8s,mb4.9
ARSA Arzberg 78.75 317⇓*i*X pP 18 24 38.5 +0.7
comp=Z,42nm,1.2s
TREC Trest 78.95 319 *e*P **P** **18 24 25.3 +0.1**
PERS Pernice 78.99 316 *e*P **P** **18 24 25.5 +0.1**
PERS *e* pP 18 24 38.9 -0.2
LJU Ljubljana 79.35 316 *e*P **P** **18 24 28.5 +1.0**
LJU *e* pP 18 24 41.6 +0.5
PRU Pruhonice 79.61 320 *e*P **P** **18 24 28.8 0.0**
PRU epP pP 18 24 42.1 -0.3
PVCC Panska Ves 79.64 320 *e*P **P** **18 24 29.3 +0.4**
PVCC epP pP 18 24 44.1 +1.5
MOA Molln 79.65 318⇓*i*P **P** **18 24 29.0 0.0**
comp=Z,14nm,1.1s,mb4.8
VOY Vojsko 79.79 316 *e* P **P** **18 24 32.7 +2.9**
VOY *e* 18 24 39.5
VOY *e* pP 18 24 43.6 +0.1
BSD Bornholm Skovb 79.83 325 *i* P **P** **18 24 29.0 -0.8**
comp=Z,42nm,0.8s,mb5.4
BSD *i* 18 24 37.3
BSD Bornholm Skovb 79.83 325 *i* P **P** **18 24 29.0 -0.8**
BSD *i* 18 24 37.3
BSD pmax pmax
comp=Z,42nm,0.8s,mb5.4
AQU L'Aquila 79.98 312 *e*P **P** **18 24 31.2 +0.3**
comp=Z,35nm,0.9s,mb5.3
AQU epP pP 18 24 44.9 +0.3
AQU L'Aquila 79.98 312 *e*P **P** **18 24 31.2 +0.3**
AQU *e**PP pP 18 24 44.9 +0.3
AQU pmax pmax
comp=Z,35nm,0.9s,mb5.3
BRG Berggiesshubel 80.06 321⇑*i*P **P** **18 24 31.4 +0.2**
comp=Z,11nm,0.6s,mb5.0
BRG *e* pP 18 24 45.4 +0.6
BRG Berggiesshubel 80.06 321⇑*i*P **P** **18 24 31.4 +0.2**
BRG *e* pP 18 24 45.4 +0.6
BRG pmax pmax
comp=Z,11nm,0.6s,mb5.0
GERES GERESS Array B 80.08 319 P **P** **18 24 31.6 +0.2**
comp=Z,15nm,0.6s,mb5.1,baz=111,slow=4.8,SNR=115
GERES pP pP 18 24 45.5 +0.5
comp=Z,31nm,1.0s,baz=90,slow=5.3,SNR=12
KHC Kasperske Hory 80.18 319 *e*P **P** **18 24 31.5 -0.3**
KHC epP pP 18 24 45.5 0.0
RUE Ruedersdorf 80.28 322 *e*P **P** **18 24 32.1 -0.2**
comp=Z,33nm,0.6s,mb5.4
CLL Collm 80.68 321 P **P** **18 24 34.0 -0.4**
comp=Z,logA/T=1.3,mb5.0
CLL *e*PCP PcP 18 24 40.0 -1.4
CLL *e**PP pP 18 24 48.0 -0.1
CLL *i* 18 24 55.7
CLL *e*PP PP 18 27 38.0 -2.4
CLL Collm 80.68 321 *e*P **P** **18 24 34.0 -0.4**
comp=Z,24nm,1.2s,mb5.0
CLL epP pP 18 24 48.0 -0.1
CLL Collm 80.68 321 *e*P **P** **18 24 34.0 -0.4**
CLL *e**PP pP 18 24 48.0 -0.1
CLL pmax pmax
comp=Z,24nm,1.2s,mb5.0
NKC Novy Kostel 80.97 320 *e*P **P** **18 24 36.1 +0.1**
NKC epP pP 18 24 50.1 +0.4
WTTA Wattenberg 81.40 317⇑*i*P **P** **18 24 37.9 -0.4**
comp=Z,24nm,0.9s,mb5.1
WTTA Wattenberg 81.40 317 *i* P **P** **18 24 37.9 -0.4**
comp=Z,24nm,0.9s,mb5.1,SNR=11
WTTA Wattenberg 81.40 317⇑*i*X pP 18 24 51.8 -0.2
comp=Z,48nm,1.1s
WTTA Wattenberg 81.40 317⇑*i*P **P** **18 24 37.9 -0.4**
WTTA pmax pmax
comp=Z,24nm,0.9s,mb5.1
WATA Walderalm 81.44 317⇑*i*P **P** **18 24 37.9 -0.6**
comp=Z,11nm,1.0s,mb4.7
WATA Walderalm 81.44 317⇓*i*X pP 18 24 51.0 -1.2
comp=Z,22nm,1.1s
WATA Walderalm 81.44 317⇑*i*P **P** **18 24 37.9 -0.6**
WATA pmax pmax
comp=Z,11nm,1.0s,mb4.7
MOX Moxa 81.52 320 *i* P **P** **18 24 38.9 0.0**
comp=Z,logA/T=1.4,mb5.1
MOX pP pP 18 24 54.0 +1.4
MOX Moxa 81.52 320 *e*P **P** **18 24 38.9 0.0**
comp=Z,47nm,1.9s,mb5.1
MOX Moxa 81.52 320 *e*P **P** **18 24 38.9 0.0**
MOX pmax pmax
comp=Z,47nm,1.9s,mb5.1
SQTA Sankt Quirin 81.69 317⇑*i*P **P** **18 24 39.5 -0.3**
comp=Z,20nm,1.1s,mb5.1
SQTA Sankt Quirin 81.69 317⇓*i*X pP 18 24 53.5 -0.1
comp=Z,20nm,0.9s
SQTA pmax pmax
comp=Z,20nm,1.1s,mb5.0
GRA1 Grafenberg Arr 81.75 319 *e*P **P** **18 24 40.6 +0.6**
comp=Z,24nm,1.1s,mb5.0
GRA1 epP pP 18 24 54.5 +0.7
GRF Grafenberg Arr 81.75 319 *e*P **P** **18 24 40.6 +0.6**
comp=Z,24nm,1.1s,mb5.0
GRF epP pP 18 24 54.5 +0.7
GRF Grafenberg Arr 81.75 319 *e*P **P** **18 24 40.6 +0.6**
GRF *e**PP pP 18 24 54.5 +0.7
GRF pmax pmax
comp=Z,24nm,1.1s,mb5.0
GRF Grafenberg Arr 81.75 319 *e*P **P** **18 24 40.6 +0.6**
GRF *e**PP pP 18 24 54.5 +0.7
GRF pmax pmax
comp=Z,24nm,1.1s,mb5.0
MOTA Moosalm 81.76 317⇑*i*P **P** **18 24 39.6 -0.6**
comp=Z,19nm,1.0s,mb5.0
MOTA Moosalm 81.76 317⇑*i*X pP 18 24 53.2 -0.7
comp=Z,38nm,1.1s
MOTA Moosalm 81.76 317⇑*i*P **P** **18 24 39.6 -0.6**
MOTA pmax pmax
comp=Z,19nm,1.0s,mb5.0
NB2 NORSAR Subarra 82.25 331 P **P** **18 24 41.5 -0.9**
comp=Z,1.4nm,0.6s,mb4.1,baz=97,slow=5.3
NB2 NORSAR Subarra 82.25 331 P **P** **18 24 41.5 -0.9**
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 82.25 331 P **P** **18 24 41.7 -0.7**
comp=Z,3.5nm,0.9s,mb4.3,baz=95,slow=5.4,SNR=5.4
NOA pP pP 18 24 55.9 -0.2
comp=Z,3.2nm,0.8s,baz=94,slow=5.7,SNR=4.5
DAVA Damuels 82.59 317⇑*i*P **P** **18 24 44.7 +0.2**
comp=Z,19nm,0.6s,mb5.3
DAVA Damuels 82.59 317⇓*i*X pP 18 24 58.9 +0.7
comp=Z,48nm,1.1s
SYO Syowa Base 83.00 197 ⇑P **P** **18 24 45.7 -0.4**
SYO Syowa Base 83.00 197 ⇑PcP PcP 18 24 49.8 -1.3
SYO Syowa Base 83.00 197 ⇓pP pP 18 25 01.0 +1.1
PGF Poggiola 83.24 312 *e*P **P** **18 24 48.0 +0.2**
TOD Tromso 83.31 319 *e*P **P** **18 24 49.5 +1.4**
FELD Feldberg 83.86 317 *e*P **P** **18 24 51.6 +0.7**
LANF Langenberg 83.97 319 *e*P **P** **18 24 51.6 +0.2**
CDF Champ du Feu 84.34 318 *e*P **P** **18 24 53.0 -0.3**
comp=Z,8.4nm,0.6s,mb4.8
CDF Champ du Feu 84.34 318 *e*P **P** **18 24 53.0 -0.3**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
SBF Sospel 84.36 313 *e*P **P** **18 24 53.6 +0.1**
comp=Z,60nm,0.8s,mb5.5
SBF Sospel 84.36 313 *e*P **P** **18 24 53.6 +0.1**
SBF pmax pmax
comp=Z,30nm,0.8s,mb5.5
ECH Echery 84.42 318 *e*P **P** **18 24 55.1 +1.4**
HINF Hinteralfeld 84.64 317 *e*P **P** **18 24 54.1 -0.7**
comp=Z,5.9nm,0.5s,mb4.7
HINF Hinteralfeld 84.64 317 *e*P **P** **18 24 54.1 -0.7**
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
LPG La Plagne 84.79 315 *e*P **P** **18 24 56.1 +0.5**
comp=Z,22nm,0.6s,mb5.2
LPG La Plagne 84.79 315 *e*P **P** **18 24 56.1 +0.5**
LPG pmax pmax
comp=Z,11nm,0.6s,mb5.2
LPL La Plagne 84.80 315 *e*P **P** **18 24 56.0 +0.3**
comp=Z,29nm,0.7s,mb5.2
LPL La Plagne 84.80 315 *e*P **P** **18 24 56.0 +0.3**
LPL pmax pmax
comp=Z,14nm,0.7s,mb5.2
MBDF Montbardon 84.80 314 *e*P **P** **18 24 55.2 -0.5**
BNI Bardonecchia 84.86 315 *e*P **P** **18 24 56.3 +0.3**
comp=Z,24nm,0.9s,mb5.3
BNI Bardonecchia 84.86 315 *e*P **P** **18 24 56.3 +0.4**
BNI pmax pmax
comp=Z,24nm,0.9s,mb5.3
FRF La Foret Royal 84.94 313 *e*P **P** **18 24 56.6 +0.2**
comp=Z,27nm,0.6s,mb5.2
FRF La Foret Royal 84.94 313 *e*P **P** **18 24 56.6 +0.2**
FRF pmax pmax
comp=Z,13nm,0.6s,mb5.2
HAU Haudompre 84.97 318 *e*P **P** **18 24 56.2 -0.2**
comp=Z,22nm,0.6s,mb5.2
HAU Haudompre 84.97 318 *e*P **P** **18 24 56.2 -0.2**
HAU pmax pmax
comp=Z,11nm,0.6s,mb5.2
LMR La Mourre 85.05 313 *e*P **P** **18 24 57.0 +0.1**
comp=Z,15nm,0.6s,mb5.0
LMR La Mourre 85.05 313 *e*P **P** **18 24 57.0 +0.1**
LMR pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
CABF La Chapelle 85.20 316 *e*P **P** **18 24 58.0 +0.4**
comp=Z,14nm,0.6s,mb5.0
CABF La Chapelle 85.20 316 *e*P **P** **18 24 58.0 +0.4**
CABF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
THEF They Montfort 85.20 318 *e*P **P** **18 24 57.0 -0.6**
ORIF Oris-en-Rattie 85.43 315 *e*P **P** **18 24 59.2 +0.4**
comp=Z,7.2nm,0.5s,mb4.8
ORIF Oris-en-Rattie 85.43 315 *e*P **P** **18 24 59.2 +0.4**
ORIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
SMRF Simiane la Rot 85.69 314 *e*P **P** **18 25 00.8 +0.7**
comp=Z,15nm,0.7s,mb5.1
MEZF Maizieres J'vi 85.81 318 *e*P **P** **18 25 00.4 -0.2**
comp=Z,7.3nm,0.4s,mb4.9
GIVF Givet 85.88 320 *e*P **P** **18 25 01.0 +0.2**
BAIF Baives 86.28 320 *e*P **P** **18 25 03.2 +0.4**
comp=Z,24nm,0.7s,mb5.2
BAIF Baives 86.28 320 *e*P **P** **18 25 03.2 +0.4**
BAIF pmax pmax
comp=Z,12nm,0.7s,mb5.2
VIVF Saint-Julien-l 86.29 315 *e*P **P** **18 25 03.3 +0.3**
LOR Lormes 86.69 317 *e*P **P** **18 25 04.9 0.0**
comp=Z,12nm,0.5s,mb5.1
LOR Lormes 86.69 317 *e*P **P** **18 25 04.9 0.0**
LOR pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
SMF Signal de Mont 86.75 316 *e*P **P** **18 25 05.1 -0.1**
comp=Z,13nm,0.5s,mb5.1
SMF Signal de Mont 86.75 316 *e*P **P** **18 25 05.1 -0.1**
SMF pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
LASF Ste Croix 86.92 314 *e*P **P** **18 25 06.7 +0.6**
SSF Saint Saulge 86.95 317 *e*P **P** **18 25 06.1 -0.1**
comp=Z,3.9nm,0.5s,mb4.6
SSF Saint Saulge 86.95 317 *e*P **P** **18 25 06.1 -0.1**
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
PLDF La Plantade 86.95 316 *e*P **P** **18 25 06.8 +0.6**
AVF Avril sur Loir 87.07 317 *e*P **P** **18 25 06.8 0.0**
LBL Lubilhac 87.27 315 *e*P **P** **18 25 06.7 -1.1**
AGO Saint Agoulin 87.28 316 *e*P **P** **18 25 07.9 +0.1**
URZ Urewera 87.36 129 P **P** **18 25 07.6 -0.8**
comp=Z,8.0nm,0.8s,mb5.0,baz=59,slow=14,SNR=5.1
PYM Petit Puy Mans 87.39 316 *e*P **P** **18 25 08.9 +0.5**
BGF Bois d'Agland 87.44 316 *e*P **P** **18 25 08.9 +0.3**
HYF Humbligny 87.52 317 *e*P **P** **18 25 09.5 +0.6**
TCF Toulx Ste Croi 87.90 316 *e*P **P** **18 25 11.0 +0.2**
comp=Z,3.5nm,0.5s,mb4.6
TCF Toulx Ste Croi 87.90 316 *e*P **P** **18 25 11.0 +0.2**
TCF pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
CAF Calviac 88.13 315 *e*P **P** **18 25 12.5 +0.6**
comp=Z,1.3nm,0.2s,mb4.5
CAF Calviac 88.13 315 *e*P **P** **18 25 12.5 +0.6**
CAF pmax pmax
comp=Z,1.0nm,0.2s,mb4.7
MTLF Montolieu 88.17 313 *e*P **P** **18 25 12.6 +0.5**
comp=Z,8.3nm,0.7s,mb4.8
MTLF Montolieu 88.17 313 *e*P **P** **18 25 12.6 +0.5**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
RJF Les Rejaudoux 88.48 315 *e*P **P** **18 25 14.2 +0.6**
comp=Z,5.2nm,0.4s,mb4.8
RJF Les Rejaudoux 88.48 315 *e*P **P** **18 25 14.2 +0.6**
RJF pmax pmax
comp=Z,3.0nm,0.4s,mb4.9
LFF La Frestale 89.06 315 *e*P **P** **18 25 16.7 +0.3**
LDF La Druitiere 89.23 319 *e*P **P** **18 25 17.3 +0.3**
comp=Z,39nm,1.1s,mb5.3
LDF La Druitiere 89.23 319 *e*P **P** **18 25 17.3 +0.3**
LDF pmax pmax
comp=Z,19nm,1.1s,mb5.3
FLN La Foliniere 89.45 319 *e*P **P** **18 25 18.3 +0.2**
comp=Z,28nm,0.7s,mb5.4
FLN La Foliniere 89.45 319 *e*P **P** **18 25 18.3 +0.2**
FLN pmax pmax
comp=Z,14nm,0.7s,mb5.4
MFF Saint Martin d 89.49 317 *e*P **P** **18 25 18.5 +0.2**
comp=Z,7.7nm,0.6s,mb4.9
MFF Saint Martin d 89.49 317 *e*P **P** **18 25 18.5 +0.2**
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
EPF Esparros 89.57 313 *e*P **P** **18 25 19.4 +0.6**
GRR Gorron 89.74 318 *e*P **P** **18 25 20.1 +0.7**
ETSF Etsaut 90.24 313 *e*P **P** **18 25 22.9 +1.0**
comp=Z,4.1nm,0.6s,mb4.6
ETSF Etsaut 90.24 313 *e*P **P** **18 25 22.9 +1.0**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
VNDA Vanda 90.25 168 *e*P **P** **18 25 21.7 +0.5**
comp=Z,18nm,1.3s,mb5.2
VNDA epP pP 18 25 36.2 +1.0
VNDA Vanda 90.25 168 *e*P **P** **18 25 21.7 +0.5**
VNDA *e**PP pP 18 25 36.3 +1.1
VNDA pmax pmax
comp=Z,19nm,1.3s
SJPF Ste Jean 90.70 313 *e*P **P** **18 25 24.8 +0.7**
SGMF Saint Gilles 90.88 318 *e*P **P** **18 25 25.0 +0.2**
QUIF Quistinic 91.34 318 *e*P **P** **18 25 27.2 +0.3**
comp=Z,10nm,0.5s,mb5.1
QUIF Quistinic 91.34 318 *e*P **P** **18 25 27.2 +0.3**
QUIF pmax pmax
comp=Z,5.0nm,0.5s,mb5.1
ROSF Rostrenen 91.34 319 *e*P **P** **18 25 27.2 +0.3**
SBA Scott Base 91.36 168 *e*P **P** **18 25 28.0 +1.6**
comp=Z,10nm,0.8s,mb5.2
SBA Scott Base 91.36 168 *e*P **P** **18 25 28.0 +1.6**
SBA pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
ESDC Sonseca Array 93.25 310 P **P** **18 25 36.0 +0.1**
comp=Z,1.0nm,0.5s,mb4.5,baz=60,slow=3.7,SNR=5.4
ESDC pP pP 18 25 51.2 +1.3
comp=Z,2.7nm,0.7s,baz=57,slow=4.7,SNR=7.0
ILAR Eielson Array 97.03 22 P **P** **18 25 52.5 0.0**
comp=Z,0.9nm,0.6s,mb4.4,baz=308,slow=4.4,SNR=15
ILAR pP pP 18 26 06.4 -0.1
comp=Z,1.9nm,0.7s,baz=281,slow=3.9,SNR=8.7
ULM Lac du Bonnet 124.03 8 PKP PKPdf 18 31 18.9 +0.6
comp=Z,2.7nm,0.7s,baz=275,slow=12,SNR=4.0
PDAR Pinedale Array 127.47 22 PKP PKPdf 18 31 26.5 +1.4
comp=Z,1.5nm,0.6s,baz=72,slow=1.7,SNR=14
ANMO Albuquerque 135.41 25⇑*i*PKIKP PKPdf 18 31 48.4 +8.1
TXAR Lajitas Array 141.44 26 PKhKP 18 31 46.3
comp=Z,2.1nm,0.5s,baz=209,slow=1.4,SNR=10
TXAR SKPbc 18 35 25.9
comp=Z,0.5nm,0.3s,baz=333,slow=2.8,SNR=4.0
TXAR Lajitas Array 141.44 26 PKP PKPdf 18 31 46.3 -5.2
TXAR SKPbc 18 35 25.9
PLCA Paso Flores 142.19 199 PKP PKPdf 18 31 55.4 +3.0
comp=Z,2.5nm,0.8s,baz=122,slow=4.3,SNR=3.7
CPUP Villa Florida 145.91 229 PKPbc PKPbc 18 32 01.2 +1.0
comp=Z,7.9nm,0.7s,baz=138,slow=4.8,SNR=18
CPUP Villa Florida 145.91 229 *e*PKIKP PKPdf 18 31 59.3 0.0
LPAZ La Paz 159.77 236 PKP PKPdf 18 32 22.6 +3.3
comp=Z,1.2nm,0.7s,baz=95,slow=2.6,SNR=4.4
LPAZ La Paz 159.77 236 *e*PKIKP PKPdf 18 32 21.7 +2.4

BJI ***29*** *18:23:23.2,5.55S×152.61E,h45km,mB6.0,mb5.7,Ms6.1, Msz5.9*

NEIC ***29*** *18:23:26.0±0.1,5.56S×151.87E,h28km,mb5.8/71,ME5.3, MS6.0/125,MW6.1,Error ellipse: s-maj=5.4km s-min=4.5km az=126.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*70°,*δ*80°,*λ*90°. NP2:*ϕ_s*250°,*δ*10°,*λ*90°. Principal axes: T Plg55°, Azm340°; N Plg0°, Azm0°; P Plg35°, Azm160°; Moment Tensor Solution. s16 Moment tensor: Scale 10*^{18} *Nm; Mrr1.31; Mθθ-0.75; Mφφ-0.55; Mrθ0.75; Mθφ-0.78; Mφr-0.04; Best double couple: M*$_0$*1.6×10*^{18} *NP1:*ϕ_s*210°,*δ*37°,*λ*58°. NP2:*ϕ_s*68°,*δ*59°,*λ*112°. Principal axes: T 1.59, Plg68°, Azm22°; N -.04, Plg19°, Azm236°; P -1.55, Plg11°, Azm142°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt in parts of eastern New Britain.

HRVD ***29*** *18:23:26.0±0.1,5.74S×152.15E,h27km,MW6.2/70, Centroid moment Tensor Solution. LP body waves: s70,c164;Mantle waves: s68,c170; Half duration: 2s9 Moment tensor: Scale 10*^{18}*Nm; Mrr1.46±.02; Mθθ-1.48±.01; Mφφ0.02±.02; Mrθ1.46±.03; Mθφ-0.37±.01; Mφr0.45±.04; Best double couple: M*$_0$*2.15×10*^{18} *NP1:*ϕ_s*260°,*δ*22°,*λ*96°. NP2:*ϕ_s*74°,*δ*68°,*λ*88°. Principal axes: T 2.099, Plg67°, Azm340°; N .111, Plg2°, Azm75°; P -2.202, Plg23°, Azm166°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***29*** *18:23:26.7±1.6,5.40S×151.77E,h35km,mb6.1/39, MS5.9/48 Error ellipse: s-maj=8.5km s-min=6.1km az=98.7*

IDC ***29*** *18:23:27.1±1.6,5.54S×151.86E,h37km±12km,mb5.2/16, mb1 5.3/18,mb1mx5.2/19,mbtmp5.4/18,ML3.9/2,MS5.9/24, Ms1 5.9/24,ms1mx5.9/26,Error ellipse: s-maj=11.1km s-min=8.8km az=93.0*

ISC 29 18:23:25.0±0.2,**5.57S**±0.03×**151.84E**±0.03,**h32km, h32km±.8km:pP-P,n695,**σ**1s12/334,mb5.7**/124,**MS6.0**/157, **46C-21D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.01**	**230**	Pn	**Pn**	**18 24 54.7**	**+0.7**
	28nm,0.3s,baz=42,slow=9.3,SNR=73						
PMG				Sn	**Sn**	**18 26 04.1**	**+1.6**
	60nm,0.3s,baz=47,slow=19,SNR=2.8						
PMG	**Port Moresby**	**6.01**	**230**⇓*e*	Pn	**Pn**	**18 24 54.2**	**+0.1**
	965nm,0.6s						
PMG				*e*Sn	**Sn**	**18 26 01.4**	**-1.1**
PMG	**Port Moresby**	**6.01**	**230**⇓*e*	P	**Pn**	**18 24 54.2**	**+0.1**
PMG				*e*		18 26 01.4	
PMG				pmax	pmax		
	comp=Z,965nm,0.6s						
CTA	**Charters Tower**	**15.42**	**200**	*e*P	**P**	**18 27 03.0**	**+0.9**
	comp=Z,47nm,0.8s						
CTA				*e*S	**S**	**18 29 57.4**	**+5.1**
CTA	**Charters Tower**	**15.42**	**200**	Pn	**P**	**18 27 01.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=13,slow=13,SNR=7.7						
CTA				LR	LR	18 32 22.9	
	comp=Z,47µm,20.8s,baz=250,slow=35						
CTA	**Charters Tower**	**15.42**	**200**	*e*P	**P**	**18 27 03.0**	**+0.9**
CTA				*e*S	**S**	**18 29 57.4**	**+5.1**
CTA				pmax	pmax		
	comp=Z,47nm,0.8s						
CTAO	**Charters Tower**	**15.42**	**200**	*e*P	**P**	**18 26 59.5**	**-2.6**
GUMO	**Guam**	**20.25**	**340**	P	**P**	**18 28 00.5**	**-0.1**
	comp=Z,2µm,1.1s,baz=167,slow=7.8,SNR=54						
GUMO				LR	LR	18 34 29.0	
	comp=Z,10µm,21.1s,MS5.2,baz=326,slow=33						
GUMO	**Guam**	**20.25**	**340**	*e*P	**P**	**18 28 01.6**	**+1.0**
	comp=Z,3µm,1.2s						
GUMO				LR	LR		
	comp=Z,17µm,19.0s,MS5.4						
GUMO	**Guam**	**20.25**	**340**	*e*P	**P**	**18 28 01.6**	**+1.0**
GUMO				pmax	pmax		
	comp=Z,3µm,1.2s						
GUMO				MLR	MLR		
	comp=Z,17µm,19.0s,MS5.4						
KAKA	**Kakadu**	**20.42**	**248**⇑*i*P		**P**	**18 28 21.0**	**+19**
	comp=Z,967nm,0.6s						
KAKA				*e*S	S	18 32 08.3	+24
KWAJ	**Kwajalein Atol**	**21.24**	**48**	*e*P	**P**	**18 28 07.0**	**-3.7**
	comp=Z,368nm,1.0s,mb5.7						
KWAJ				LR	LR		
	comp=Z,13µm,19.0s,MS5.3						
DZM	**Mont Dzumac**	**21.65**	**141**	*e*P	**P**	**18 28 13.3**	**-1.5**
DZM	**Mont Dzumac**	**21.65**	**141**	P	**P**	**18 28 13.9**	**-1.0**
	comp=Z,76nm,0.8s,mb5.2,baz=326,slow=15,SNR=21						
DZM				S	**S**	**18 32 12.3**	**+4.6**
	comp=Z,5.0nm,0.8s,baz=122,slow=19,SNR=1.7						
WRAB	**Tennant Creek**	**22.21**	**228**	*e*P	**P**	**18 28 20.1**	**-0.3**
	comp=Z,342nm,0.8s,mb5.8						
WRAB				LR	LR		
	comp=Z,10µm,20.0s,MS5.2						
WRAB	**Tennant Creek**	**22.21**	**228**	*e*P	**P**	**18 28 20.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,342nm,0.8s,mb5.8						
WRAB				MLR	MLR		
	comp=Z,10µm,20.0s,MS5.2						
WB2	**Warramunga Arr**	**22.21**	**228**⇓*i*P		**P**	**18 28 20.7**	**+0.2**

WB2 eS S 18 32 26.1 +8.0
WRA Warramunga Arr 22.22 228 P P 18 28 20.4 -0.2
comp=Z,35nm,0.6s,mb5.0,baz=53,slow=9.9,SNR=40
WRA S S 18 32 23.4 +5.1
comp=Z,79nm,1.2s,baz=54,slow=18,SNR=9.2
WRA ScP 18 35 53.0
comp=Z,27nm,1.2s,baz=45,slow=2.6,SNR=7.3
STKA Stephens Creek 27.88 199 eP P 18 29 12.8 -1.3
comp=Z,44nm,0.8s,mb5.1
STKA eS S 18 33 54.2 +0.5
STKA Stephens Creek 27.88 199 P P 18 29 13.1 -1.0
comp=Z,26nm,0.8s,mb4.9,baz=24,slow=12,SNR=21
STKA ScP 18 36 09.3
comp=Z,24nm,1.2s,baz=88,slow=6.6,SNR=4.8
STKA LR LR 18 40 54.2
comp=Z,27µm,18.1s,MS5.9,baz=21,slow=38
MATI Mati 28.39 296 eP P 18 29 18.0 -0.9
FITZ Fitzroy Crossi 28.46 242 eP P 18 29 18.7 -0.7
comp=Z,670nm,1.3s,mb6.1
FITZ eS S 18 33 57.8 -5.4
FITZ Fitzroy Crossi 28.46 242 P P 18 29 18.8 -0.6
comp=Z,228nm,0.8s,mb5.9,baz=57,slow=4.3,SNR=56
FITZ S S 18 34 04.8 +1.6
comp=Z,57nm,1.0s,baz=180,slow=20,SNR=1.8
WAKE Wake Island 28.68 30 PFAKE 18 29 30.0 +8.6
WAKE LR LR
comp=Z,27µm,22.0s,MS5.8
BIPH Bislig 28.85 298⇓ eP P 18 29 21.4 -1.6
BIPH iS S 18 34 20.5 +11
DAV Davao City (W) 29.06 295 eP P 18 29 28.0 +3.1
DAV Davao City (W) 29.06 295 eP P 18 29 22.2 -2.7
DAV LR LR
comp=Z,10µm,19.0s,MS5.5
CNB Canberra Magne 29.69 184 eP P 18 29 29.0 -1.4
comp=Z,68nm,1.3s,mb5.2
BUTP Butuan 29.86 299 eP P 18 29 33.3 +1.2
BUKP Musuan 29.86 296 eP P 18 29 32.5 +0.3
SCPH Surigao 30.36 300 eP P 18 29 38.7 +2.3
SCPH 18 29 41.1
MSLP Maasin 31.07 300 eP P 18 29 42.0 -0.7
PAGZ Pagadian 31.36 295 eP P 18 29 47.0 +1.7
TBP Tagbilaran 31.73 298 eP P 18 29 46.3 -2.2
LLP Lapu-Lapu 31.93 300 eP P 18 29 51.5 +1.2
IPIL Ipil 32.07 294 eP P 18 29 52.2 +0.7
CNP Catarman 32.44 304 eP P 18 29 55.7 +1.0
GUIM Jordan 33.27 299 eP P 18 30 01.1 -0.9
PVCP Virac 33.44 305 eP P 18 30 03.6 +0.3
RCP Roxas 33.58 300⇑ eP P 18 30 05.9 +1.3
FORT Forrest 33.59 219 eP P 18 30 03.6 -1.0
comp=Z,171nm,0.8s,mb6.0
CBIJ Chichi jima 33.78 344 P P 18 30 05.2 -1.2
comp=Z,136nm,0.8s,mb5.9,baz=291,slow=17,SNR=4.5
CBIJ LR LR 18 42 20.1
comp=Z,15µm,21.8s,MS5.7,baz=341,slow=34
KALP Kalibo 33.98 300⇓ eP P 18 30 11.5 +3.4
AUQP San Andres 34.51 303 eP P 18 30 16.3 +3.6
CUYO Cuyo Island 34.75 298 eP P 18 30 15.4 +0.7
MBWA Marble Bar 34.76 240⇑ iP P 18 30 14.9 +0.1
comp=Z,357nm,1.4s,mb6.1
MBWA LR LR
comp=Z,15µm,20.0s,MS5.7
GQP Guinayangan 35.00 304 eP P 18 30 17.5 +0.6
comp=Z,216µm,25.0s
BOAC Boac 35.27 303 eP P 18 30 20.1 +0.9
TSM Tawau 35.31 285 P P 18 30 19.6 +0.1
SJMP San Jose 35.40 301 eP P 18 30 21.4 +1.2
POLP Polillo Island 35.85 305 eP P 18 30 23.7 -0.4
BUSP Coron 35.98 299 eP P 18 30 25.6 +0.4
ENPP El Nido 36.31 297 eP P 18 30 28.6 +0.7
PPR Puerto Princes 36.34 295 eP P 18 30 30.0 +1.8
TGY Tagaytay City 36.36 303 P P 18 30 29.0 +0.7
comp=Z,597nm,0.8s,mb6.6,baz=291,slow=4.5,SNR=28
TGY LR LR 18 45 47.3
comp=Z,55nm,18.2s,baz=115,slow=37
BALP Baler 36.69 306 eP P 18 30 31.6 +0.5
LUBP Lubang 36.76 302 eP P 18 30 31.6 -0.1
AFI Afiamalu 36.76 106 LR LR 18 44 10.1
comp=Z,8µm,19.7s,MS5.5,baz=277,slow=34
AFI Afiamalu 36.76 106 PFAKE 18 30 40.0 +8.3
AFI LR LR
comp=Z,8µm,20.0s,MS5.5
BATP Bataraza 36.81 293 eP P 18 30 33.4 +1.2
PCPH Palayan 36.98 305 eP P 18 30 33.3 -0.3
RAO Raoul Island 37.03 133 LR LR 18 43 49.0
comp=Z,17µm,19.8s,MS5.8,baz=105,slow=33
RAO Raoul Island 37.03 133 P P 18 30 34.1 +0.2
RAO LR LR
comp=Z,17µm,20.0s,MS5.8
CAUP Cauayan 37.16 308 eP P 18 30 36.2 +1.2
KKM Kota Kinabalu 37.39 287 P P 18 30 35.6 -1.4
KKM Kota Kinabalu 37.39 287 eP P 18 30 37.0 -0.1
KKM ePcP PcP 18 32 55.8 -0.1
TAU Tasmania Unive 37.40 185 eP P 18 30 35.4 -1.4
comp=Z,186nm,1.4s,mb5.7
TAU LR LR
comp=Z,7µm,21.0s,MS5.4
TAU Tasmania Unive 37.40 185 eP P 18 30 35.4 -1.5
TAU pmax pmax
comp=Z,186nm,1.4s,mb5.7
TAU MLR MLR
comp=Z,7µm,21.0s,MS5.4
CVP Callao Caves 37.59 309⇓ eP P 18 30 39.0 +0.4
comp=Z,24µm,1.0s
SCZP Santa Cruz 38.06 304 eP P 18 30 42.4 -0.3
BOLP Bolinao 38.38 305 eP P 18 30 44.3 -1.1
ABRA Dolores 38.43 308 eP P 18 30 45.3 -0.4
BBP Basco 39.11 312 eP P 18 30 52.9 +1.5
JOW Kunigami 39.47 326 LR LR 18 44 19.9
comp=Z,23µm,20.9s,MS6.0,baz=141,slow=32
URZ Urewera 39.83 148 P P 18 30 58.2 +1.0
comp=Z,6.4nm,0.5s,baz=131,slow=3.7,SNR=8.7
URZ LR LR 18 45 43.1
comp=Z,24µm,19.1s,MS6.0,baz=148,slow=34
JHJ Hachijo jima 2 40.14 344 LR LR 18 44 42.4
comp=Z,12µm,19.3s,MS5.8,baz=183,slow=32
KLBR Kellerberrin 41.09 227 eP P 18 31 09.0 +1.4
comp=Z,146nm,0.9s,mb5.6
RPZ Rata Peaks 41.59 159 P P 18 31 11.6 -0.1
comp=Z,69nm,1.2s,mb5.2,baz=4.4,slow=8.0,SNR=7.3
RPZ LR LR 18 46 10.7
comp=Z,33µm,21.9s,MS6.2,baz=322,slow=33
NACB Ninganchiao 41.74 316⇑ eP P 18 31 13.8 +0.6
KSM Kuching 42.06 278⇑ eP P 18 31 15.9 0.0
NWAO Narrogin (SRO) 42.17 225 P P 18 31 17.6 +1.0
comp=Z,23nm,1.1s,mb4.7,baz=102,slow=9.7,SNR=2.8
NWAO LR LR 18 50 08.5
comp=Z,21µm,18.4s,MS6.1,baz=48,slow=38
NWAO Narrogin (SRO) 42.17 225 eP P 18 31 16.0 -0.6
comp=Z,29nm,0.8s,mb5.0
NWAO LR LR
comp=Z,18µm,22.0s,MS5.9
NWAO Narrogin (SRO) 42.17 225 eP P 18 31 16.0 -0.5
NWAO pmax pmax
comp=Z,29nm,0.8s
NWAO MLR MLR
comp=Z,18µm,22.0s
YHNB Yeheng 42.22 317 eP P 18 31 16.9 -0.1
TATO Taipei 42.35 317⇑ iP P 18 31 19.0 +0.9
comp=Z,203nm,1.0s,mb5.7
TATO LR LR
comp=Z,29µm,20.0s,MS6.2
JNU Nakatsue 43.31 334 P P 18 31 24.9 -1.0
comp=Z,90nm,0.9s,mb5.5,baz=134,slow=12,SNR=25
JNU LR LR 18 47 55.1
comp=Z,7µm,22.0s,MS5.5,baz=327,slow=34
MJAR Matsushiro Arr 43.79 344 P P 18 31 27.0 -2.7
comp=Z,23nm,1.0s,mb4.9,baz=169,slow=8.7,SNR=21
MJAR PcP PcP 18 33 15.4 -1.0
comp=Z,41nm,1.0s,baz=161,slow=3.7,SNR=11
MJAR ScP 18 37 05.3
comp=Z,15nm,1.0s,baz=168,slow=5.1,SNR=12
MJAR LR LR 18 48 50.4
comp=Z,10µm,19.5s,MS5.8,baz=175,slow=35
MAJO Matsushiro 43.79 344 eP P 18 31 25.7 -3.9
comp=Z,63nm,1.0s,mb5.3
MAJO LR LR
comp=Z,11µm,20.0s,MS5.8
MAJO Matsushiro 43.79 344 eP P 18 31 25.7 -4.0
MAJO pmax pmax
comp=Z,63nm,1.0s,mb5.3
MAJO MLR MLR
comp=Z,11µm,20.0s,MS5.8
MAT Matsushiro 43.79 344 P P 18 31 26.7 -3.0
MAT S S 18 38 05.0 +7.4
MAT Matsushiro 43.79 344 eP P 18 31 27.0 -2.7

MAT pmax pmax
comp=Z,18nm,1.0s,mb4.8
MAT MLR MLR
comp=Z,11µm,20.0s,MS5.8
QZH Quanzhou 44.33 315⇑ iP P 18 31 33.8 -0.4
QZH S S 18 38 03.0 -2.7
QZH AMB AMB
comp=Z,560nm,1.0s,mb6.2
QZH AMB AMB
comp=Z,3µm,9.6s
QZH LR LR
comp=N,16µm,18.0s,MS6.3
QZH LR LR
comp=E,30µm,19.5s,MS6.3
QZH LR LR
comp=Z,28µm,20.0s,MS6.2
MIDW Midway 44.83 40 PFAKE 18 31 50.0 +12
MIDW LR LR
comp=Z,9µm,19.0s,MS5.7
SSE Sheshan 46.76 323 P P 18 31 55.0 +1.6
SSE XP sP 18 32 11.3 +4.1
SSE PCP PcP 18 33 27.5 +0.7
SSE PP PP 18 33 42.8 -0.2
SSE S S 18 38 43.0 +2.6
SSE XS 18 39 03.5
SSE AMB AMB
comp=Z,44nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,2µm,7.8s
SSE LR LR
comp=N,8µm,20.9s,MS5.8
SSE LR LR
comp=E,10µm,20.9s,MS5.8
SSE LR LR
comp=Z,16µm,19.9s,MS6.0
SSE Sheshan 46.76 323 P P 18 31 55.0 +1.6
comp=Z,44nm,0.8s,mb5.4
SSE sP sP 18 32 11.3 +4.1
SSE PcP PcP 18 33 27.5 +0.7
SSE PP PP 18 33 42.7 -0.3
SSE S S 18 38 43.0 +2.6
SSE sS 18 39 03.5
SSE ScS ScS 18 41 46.6 +3.8
SSE SS SS 18 42 11.5 +12
SSE LR LR
comp=Z,16µm,19.9s,MS6.0
GZH Guangzhou 47.17 309 P P 18 31 59.0 +2.2
GZH S S 18 38 56.3 +10
GZH AMB AMB
comp=Z,170nm,1.1s,mb5.9
ERM Erimo 48.01 351 PFAKE 18 32 10.0 +6.9
ERM LR LR
comp=Z,1.0nm,20.0s
QIZ Qiongzhong 48.04 302⇑ P P 18 32 05.0 +1.4
QIZ AP pP 18 32 15.5 +2.0
QIZ PP PP 18 33 58.8 +3.8
QIZ S S 18 39 00.0 +1.4
QIZ AMB AMB
comp=Z,132nm,1.2s,mb5.8
QIZ AMB AMB
comp=Z,1µm,11.0s
QIZ LR LR
comp=E,8µm,21.2s
QIZ LR LR
comp=Z,14µm,21.7s,MS5.9
QIZ Qiongzhong 48.04 302 eP P 18 32 04.7 +1.0
comp=Z,177nm,1.1s,mb6.0
KS15 Wonju Array Si 48.27 334⇑ eP P 18 32 02.7 -2.4
NJ2 Nanjing 48.84 322 eP P 18 32 11.5 +1.8
NJ2 AP pP 18 32 22.0 +2.4
NJ2 XP sP 18 32 24.5 +1.1
NJ2 PP PP 18 34 04.5 +1.6
NJ2 S S 18 39 12.0 +2.3
NJ2 XS 18 39 29.0
NJ2 AMB AMB
comp=Z,70nm,1.2s,mb5.6
NJ2 AMB AMB
comp=Z,1µm,7.8s
NJ2 LR LR
comp=N,33µm,20.3s,MS6.4
NJ2 LR LR
comp=E,24µm,19.8s,MS6.4
NJ2 LR LR
comp=Z,17µm,20.0s,MS6.0
INCN Inchon 48.85 333 eP P 18 32 09.6 0.0
comp=Z,259nm,1.1s,mb6.2
INCN LR LR
comp=Z,10µm,19.0s,MS5.8
KGM Kluang 49.04 277 P P 18 32 11.0 -0.4
RAR Rarotonga 49.35 113 PFAKE 18 32 30.0 +16
RAR LR LR
comp=Z,1.0nm,22.0s
ASAJ Asahikawa 50.15 351 LR LR 18 48 48.1
comp=Z,8µm,21.8s,MS5.7,baz=187,slow=30
WHN Wuhan 50.75 317⇑ P P 18 32 25.0 +0.7
WHN LR LR
comp=N,3µm,19.3s,MS6.3
WHN LR LR
comp=E,31µm,21.8s,MS6.3
WHN LR LR
comp=Z,35µm,21.1s,MS6.4
VLA Vladivostok 51.72 341 eP P 18 32 31.4 -0.1
IPM Ipoh 51.74 280 P P 18 32 31.1 -0.8
KULM Kulim 52.24 281 eP P 18 32 34.8 -1.0
KULM ePcP PcP 18 33 47.1 +0.2
KULM eScP 18 37 42.2
DL2 Dalian 52.35 330⇑ iP P 18 32 36.8 +0.5
DL2 XP sP 18 32 51.5 +1.5
DL2 PP PP 18 34 32.8 -3.0
DL2 S S 18 40 01.0 +3.0
DL2 AMB AMB
comp=Z,80nm,1.0s,mb5.6
DL2 AMB AMB
comp=Z,1µm,8.0s
DL2 LR LR
comp=N,4µm,21.9s,MS5.5
DL2 LR LR
comp=E,3µm,23.2s,MS5.5
DL2 LR LR
comp=Z,6µm,22.4s,MS5.6
YSS Yuzh-Sakhalins 52.91 352 eP P 18 32 37.9 -2.4
comp=Z,43nm,1.0s,mb5.3
YSS ePcP PcP 18 33 48.5 -0.5
YSS LR LR
comp=Z,7µm,22.0s,MS5.7
YSS Yuzh-Sakhalins 52.91 352 eP P 18 32 37.9 -2.4
YSS e 18 33 48.5
YSS pmax pmax
comp=Z,43nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,7µm,22.0s,MS5.7
KKTK Khon Kaen 53.14 295 P P 18 32 42.0 -0.4
MDJ Mudanjiang 53.81 340 P P 18 32 46.5 -0.4
MDJ AP pP 18 32 54.8 -2.1
MDJ XP sP 18 32 59.5 -1.2
MDJ PCP PcP 18 33 51.5 -0.9
MDJ PP PP 18 34 48.8 -0.7
MDJ SCP 18 37 47.3
MDJ PCS 18 37 50.5
MDJ S S 18 40 22.3 +4.6
MDJ XS 18 40 36.3
MDJ AMB AMB
comp=Z,43nm,1.0s,mb5.3
MDJ AMB AMB
comp=Z,2µm,10.7s
MDJ LR LR
comp=N,3µm,35.3s
MDJ LR LR
comp=E,5µm,22.9s
MDJ LR LR
comp=Z,7µm,23.9s
MDJ Mudanjiang 53.81 340 eP P 18 32 44.5 -2.5
comp=Z,40nm,0.9s,mb5.3
ENH Enshi 53.98 314 eP P 18 32 47.9 -0.5
comp=Z,376nm,1.1s,mb6.2
CN2 Changchun 54.61 337⇑ P P 18 32 51.5 -1.4
CN2 eXP sP 18 33 06.0 -0.6
CN2 eS S 18 40 29.0 +0.4
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,900nm,6.0s
CN2 LR LR
comp=N,9µm,17.0s,MS6.0
CN2 LR LR
comp=E,5µm,17.0s,MS6.0
CN2 LR LR
comp=Z,8µm,18.0s,MS5.8
NST Nakhon Sawan 55.37 293 P P 18 32 59.4 +0.7
NANT Nan 55.89 297 P P 18 33 03.0 +0.5
comp=Z,912nm,0.4s
KIP Kipapa 55.99 60⇑ eP P 18 33 03.0 -0.1
KIP LR LR
comp=Z,9µm,22.0s,MS5.8
SKR Severo-Kuril's 56.14 3 eP P 18 33 03.7 -0.2
SKR e 18 33 20.5
SKR pmax pmax
comp=Z,180nm,1.0s,mb6.1
SKR MLR MLR
comp=N,8µm,16.0s,MS5.9
SKR MLR MLR
comp=E,3µm,16.0s,MS5.9
SKR MLR MLR
comp=Z,13µm,16.0s,MS6.1
SKR Severo-Kuril's 56.14 3 S P 18 32 58.0 -5.9
XAN Xi'an 56.52 317 P P 18 33 06.0 -0.8
XAN S S 18 40 58.5 +4.3
XAN AMB AMB
comp=Z,135nm,1.1s,mb5.9
XAN LR LR
comp=N,2µm,17.6s,MS5.5
XAN LR LR
comp=E,3µm,15.8s,MS5.5
XAN LR LR
comp=Z,5µm,16.4s,MS5.7
KMI Kunming 56.63 305 P P 18 33 08.5 +0.8
KMI AP pP 18 33 19.0 +1.3
KMI XP sP 18 33 23.0 +1.5
KMI PP PP 18 35 15.5 +0.4
KMI S S 18 40 59.0 +3.3
KMI XS 18 41 16.8
KMI SS SS 18 44 51.8 +7.6
KMI SSS SSS 18 46 53.3 -2.6
KMI AMB AMB
comp=Z,148nm,1.0s,mb6.0
KMI AMB AMB
comp=Z,2µm,9.1s
KMI LR LR
comp=N,4µm,18.2s,MS5.7
KMI LR LR
comp=E,4µm,19.1s,MS5.7
KMI LR LR
comp=Z,6µm,26.8s
KMI Kunming 56.63 305 P P 18 33 08.6 +0.9
comp=Z,148nm,1.0s,mb6.0
KMI pP pP 18 33 18.9 +1.2
KMI sP sP 18 33 22.9 +1.4
KMI PP PP 18 35 15.5 +0.4
KMI PPP PPP 18 36 35.0 +1.4
KMI ScP 18 38 03.2
KMI S S 18 40 59.0 +3.3
KMI sS 18 41 16.8
KMI SS SS 18 44 51.7 +7.5
KMI SSS SSS 18 46 53.3 -2.6
KMI LR LR
comp=Z,6µm,26.8s,MS5.5
KMI Kunming 56.63 305 P P 18 33 08.6 +0.9
KMI *PP pP 18 33 18.9 +1.2
KMI *SP sP 18 33 22.9 +1.4
KMI 18 35 15.5
KMI PPP PPP 18 36 35.0 +1.4
KMI S S 18 40 59.0 +3.3
KMI *SS 18 41 16.8
KMI SSS SSS 18 46 53.3 -2.6
KMI pmax pmax
comp=Z,148nm,1.0s,mb6.0
KMI MLR MLR
comp=Z,6µm,26.8s,MS5.5
CHRT Chiangrai 57.08 298⇓ P P 18 33 11.0 0.0
comp=Z,753nm,0.8s,mb6.8
KLR Kul'dur 57.31 344 eP P 18 33 06.8 -5.4
KLR eS S 18 41 14.5 +10
KLR smax
comp=N,4µm,11.5s
KLR smax
comp=E,2µm,11.5s
KLR MLR MLR
comp=Z,3µm,17.0s,MS5.5
KLR MLR MLR
comp=N,3µm,17.0s
CHG Chiang Mai 57.46 296⇑ P P 18 33 12.5 -1.2
comp=N,149nm,1.2s,mb5.9
POHA Pohakuloa 57.54 63 PFAKE 18 33 30.0 +16
POHA LR LR
comp=Z,93µm,19.0s,MS6.9
PPT Papeete 58.41 107 eLQ 18 48 02.0
PPT eLR LR 18 50 27.5
comp=Z,6µm,22.5s,baz=279
PPT Papeete 58.41 107 LR LR 18 53 31.6
comp=Z,4µm,21.3s,MS5.5,baz=277,slow=31
CD2 Chengdu 58.51 311⇓ iP P 18 33 20.5 -0.4
CD2 PP PP 18 35 36.0 +4.0
CD2 AMB AMB
comp=Z,100nm,0.8s,mb5.9
CD2 AMB AMB
comp=Z,1µm,14.4s
CD2 LR LR
comp=E,6µm,21.4s
CD2 LR LR
comp=Z,10µm,20.4s,MS5.9
PET Petropavlovsk 58.65 5 iPr 18 33 20.5
PET LR LR
comp=Z,7µm,22.0s,MS5.8
PET Petropavlovsk 58.65 5 eP P 18 33 21.1 -0.4
PET eS S 18 41 27.3 +5.4
PET pmax pmax
comp=Z,129nm,0.9s,mb6.0
PET smax
comp=N,6µm,17.1s
PET smax
comp=N,13µm,31.7s
PET MLR MLR
comp=Z,4µm,20.0s,MS5.6
PET MLR MLR
comp=Z,5µm,19.0s
HHC Hu-ho-hao-te 59.12 325 eP P 18 33 24.5 -0.4
HHC PCP PcP 18 34 14.0 +1.0
HHC PP PP 18 35 36.0 -1.3
HHC SCP 18 38 09.3
HHC S S 18 41 26.8 -1.3
HHC SCS ScS 18 43 08.5 -0.1
HHC SS SS 18 45 21.8 -2.3
HHC AMB AMB
comp=Z,137nm,0.8s,mb6.0
HHC AMB AMB
comp=Z,1µm,4.4s
HHC LR LR
comp=N,10µm,19.0s,MS6.0
HHC LR LR
comp=E,6µm,21.4s,MS6.0
HHC LR LR
comp=Z,16µm,19.0s,MS6.2
TBI Tubuai 59.12 114 eLQ 18 48 32.4
TBI Tubuai 59.12 114 eP P 18 33 25.8 +0.6
comp=Z,279nm,1.1s,mb6.2
TBI Tubuai 59.12 114 eSS SS 18 45 22.5 -1.9
TBI eLR LR 18 50 47.4
comp=Z,10µm,32.0s,baz=278
PMOR Pomariorio Ree 59.88 104 eP P 18 33 31.3 +0.8
comp=Z,141nm,1.1s,mb5.9
SMY Shemya 61.07 15 PFAKE 18 33 50.0 +12
SMY LR LR
comp=Z,31µm,21.0s,MS6.4
LZH Lanzhou 61.12 317 eP P 18 33 38.0 -0.7
LZH AP pP 18 33 48.0 -0.8
LZH XP sP 18 33 52.0 -0.4
LZH PCP PcP 18 34 20.0 -1.1
LZH PP PP 18 35 54.0 -1.4
LZH SCP 18 38 17.0
LZH PCS 18 38 20.8
LZH S S 18 41 55.0 +1.1
LZH XS 18 42 13.0
LZH SS SS 18 45 55.3 0.0
LZH AMB AMB
comp=Z,227nm,1.2s,mb6.2
LZH AMB AMB
comp=Z,2µm,6.2s
LZH LR LR
comp=E,13µm,18.3s
LZH LR LR

comp=Z,17µm,19.2s,MS6.2
LZH Lanzhou 61.12 317 *e*P **P** **18 33 38.0 -0.7**
comp=Z,227nm,1.2s,mb6.2
LZH pP pP 18 33 48.0 -0.8
LZH sP sP 18 33 51.9 -0.5
LZH PcP PcP 18 34 20.0 -1.1
LZH PP PP 18 35 54.0 -1.4
LZH ScP 18 38 17.1
LZH PcS 18 38 20.7
LZH S **S** **18 41 55.0 +1.1**
LZH sS 18 42 13.0
LZH SS SS 18 45 55.3 0.0
LZH LR LR
comp=Z,17µm,19.2s,MS6.2
LZH Lanzhou 61.12 317 *e*P **P** **18 33 38.0 -0.7**
LZH *PP pP 18 33 48.0 -0.8
LZH *SP sP 18 33 51.9 -0.5
LZH 18 34 20.0
LZH 18 35 54.0
LZH S **S** **18 41 55.0 +1.1**
LZH *SS 18 42 13.0
LZH SS SS 18 45 55.3 0.0
LZH pmax pmax
comp=Z,227nm,1.2s,mb6.2
LZH MLR MLR
comp=Z,17µm,19.2s,MS6.2
HIA Hailar 61.34 337 *e*P **P** **18 33 37.3 -2.7**
comp=Z,64nm,0.9s,mb5.8
HIA Hailar 61.34 337 *e*P **P** **18 33 37.3 -2.7**
HIA pmax pmax
comp=Z,64nm,0.9s
MA2 Magadan 64.94 359 *e*P **P** **18 34 01.1 -2.5**
comp=Z,59nm,1.0s,mb5.6
MA2 LR LR
comp=Z,7µm,22.0s,MS5.8
MA2 Magadan 64.94 359 *e*P **P** **18 34 03.6 0.0**
MA2 *e* 18 34 40.0
MA2 *e*S **S** **18 42 33.6 -7.7**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
GTA Gaotai 65.57 318 *e*P **P** **18 34 08.3 +0.3**
GTA AP pP 18 34 18.3 +0.2
GTA XP sP 18 34 22.3 +0.5
GTA SCS ScS 18 43 58.5 +1.3
GTA AMB AMB
comp=Z,22nm,1.0s,mb5.1
GTA AMB AMB
comp=Z,1µm,8.4s
GTA LR LR
comp=N,3µm,23.7s,MS5.7
GTA LR LR
comp=E,5µm,23.7s,MS5.7
GTA LR LR
comp=Z,6µm,26.0s,MS5.7
SHL Shillong 65.87 301 *e*P **P** **18 34 09.0 -1.2**
CLNS Chul'man 65.97 344 *e*P **P** **18 34 02.7 -7.5**
CLNS *e* 18 34 35.8
CLNS *e*S S 18 42 47.1 -7.0
CLNS *e*PS PS 18 43 08.0 -12
CLNS *e* 18 44 05.2
CLNS pmax pmax
comp=Z,24nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,21nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,11nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS smax
comp=N,2µm,11.7s
CLNS smax
comp=Z,1µm,13.2s
CLNS smax
comp=E,1µm,13.3s
CLNS MLR MLR
comp=Z,6µm,18.0s,MS5.8
CLNS MLR MLR
comp=N,6µm,19.0s,MS5.9
CLNS MLR MLR
comp=E,4µm,20.0s,MS5.9
CIT Chita 65.98 335 *e*P **P** **18 34 09.7 -0.7**
CIT *e* 18 34 26.5
CIT *e* 18 34 39.1
CIT *e* 18 43 11.7
CIT pmax pmax
comp=Z,184nm,1.2s,mb6.0
ULN Ulaanbaatar 66.14 329⇑ *e*P **P** **18 34 10.4 -1.1**
comp=Z,112nm,0.9s,mb5.9
ULN LR LR
comp=Z,10µm,20.0s,MS6.0
ULN Ulaanbaatar 66.14 329⇑ *e*P **P** **18 34 10.4 -1.1**
ULN pmax pmax
comp=Z,112nm,0.9s,mb5.9
ULN MLR MLR
comp=Z,10µm,20.0s,MS6.0
SONM Songino Array 66.46 328 P **P** **18 34 12.8 -0.8**
comp=Z,136nm,1.0s,mb5.9,baz=133,slow=5.9,SNR=128
SONM LR LR 19 01 57.2
comp=Z,13µm,21.2s,MS6.1,baz=137,slow=35
CASY Casey 67.01 197 *e*P **P** **18 34 17.2 +0.5**
CASY Casey 67.01 197 *e*P **P** **18 34 14.8 -1.9**
comp=Z,45nm,1.2s,mb5.4
TAOE Nuku Hiva Isla 67.48 97 *e*LR LR 18 54 41.5
comp=Z,11µm,23.0s
LSA Lhasa 67.89 305 *e*P **P** **18 34 22.7 -0.2**
comp=Z,183nm,0.9s,mb6.1
LSA Lhasa 67.89 305 *e*P **P** **18 34 22.7 -0.2**
LSA pmax pmax
comp=Z,183nm,0.9s,mb6.1
CAL Calcutta 68.05 297 *e*x x 18 34 18.5
CAL *e*S S 18 43 19.8 +0.1
SEY Seymchan 68.31 0 *e*P **P** **18 34 24.3 -0.6**
SEY *e* 18 34 48.7
SEY pmax pmax
comp=Z,20nm,1.0s,mb5.1
YAK Yakutsk 69.53 349 *e*P **P** **18 34 31.8 -0.7**
comp=Z,74nm,0.9s,mb5.6
YAK LR LR
comp=Z,5µm,19.0s,MS5.8
YAK Yakutsk 69.53 349 *e*P **P** **18 34 30.1 -2.4**
YAK *e*PP pP 18 34 40.4 -2.2
YAK *e* 18 34 53.6
YAK *e*PPP PPP 18 38 41.5 -5.8
YAK *e*S S 18 43 41.4 +4.8
YAK *e*SS 18 43 58.9
YAK *e* 18 44 30.4
YAK pmax pmax
comp=Z,18nm,1.1s,mb4.9
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax
comp=N,972nm,14.8s
YAK smax
comp=E,1µm,19.1s
YAK MLR MLR
comp=N,2µm,17.0s,MS5.5
YAK MLR MLR
comp=E,1µm,17.0s,MS5.5
YAK MLR MLR
comp=Z,2µm,17.0s,MS5.5
ZAK Zakamensk 69.65 329⇑ *i*P **P** **18 34 33.0 -0.4**
ZAK pmax pmax
comp=Z,167nm,0.9s,mb6.0
ZAK pmax pmax
comp=Z,3.0nm,0.9s
BOD Bodaibo 70.17 340 *e*P **P** **18 34 34.2 -2.2**
BOD pmax pmax
comp=Z,34nm,1.1s,mb5.2
IRK Irkutsk 70.31 331 *e*P **P** **18 34 36.1 -1.3**
IRK pmax pmax
comp=Z,142nm,1.4s,mb5.7
BOK Bokaro 70.56 297 *e*P **P** **18 34 39.9 +0.5**
BOK AMb AMB 18 34 44.9
comp=Z,112nm,1.1s,mb5.7
MOY Mondy 71.58 329 *e*P **P** **18 34 45.0 0.0**
MOY pmax pmax
comp=Z,148nm,1.3s,mb5.8
GUN Gumba 71.70 302 *e*P **P** **18 34 45.7 -0.5**
comp=Z,413nm,0.8s,mb6.4
PKI Pulchoki 72.00 301 *e*P **P** **18 34 47.3 -0.7**
comp=Z,304nm,1.1s,mb6.2
VNDA Vanda 72.11 178 *e*P **P** **18 34 46.9 -0.9**
comp=Z,37nm,1.3s,mb5.2
VNDA LR LR
comp=Z,5µm,20.0s,MS5.8
VNDA Vanda 72.11 178 *e*P **P** **18 34 46.9 -0.9**
VNDA pmax pmax
comp=Z,37nm,1.3s
VNDA MLR MLR
comp=Z,5µm,20.0s
KKN Kakani 72.17 301 *e*P **P** **18 34 48.4 -0.6**
comp=Z,296nm,0.9s,mb6.2
DMN Daman 72.27 301 *e*P **P** **18 34 49.2 -0.4**
comp=Z,598nm,1.0s,mb6.5
SDPT Sand Point 72.32 26 *e*P **P** **18 34 47.8 -1.6**
RKT Rikitea 72.38 112 *e*P **P** **18 34 50.6 +0.3**
comp=Z,142nm,1.1s,mb5.8
RKT Rikitea 72.38 112 *e*SS SS 18 48 47.3 -3.5
RKT *e*LQ 18 54 03.1
RKT *e*LR LR 18 56 55.5
comp=Z,9µm,26.5s,baz=280
SBA Scott Base 72.67 177 *e*P **P** **18 34 51.2 +0.1**
comp=Z,28nm,1.1s,mb5.1
SBA LR LR
comp=Z,3µm,21.0s,MS5.6
SBA Scott Base 72.67 177 *e*P **P** **18 34 51.2 +0.1**
SBA pmax pmax
comp=Z,28nm,1.1s,mb5.1
SBA MLR MLR
comp=Z,3µm,21.0s,MS5.6
GKN Gorkha 72.78 301 *e*P **P** **18 34 52.0 -0.7**
comp=Z,564nm,1.0s,mb6.4
MIR Mirnyy 72.87 201 *e*P **P** **18 34 53.0 +0.6**
MIR pmax pmax
comp=Z,225nm,2.0s,mb5.8
MIR MLR MLR
comp=N,5µm,18.0s,MS6.0
MIR MLR MLR
comp=E,5µm,18.0s,MS6.0
MIR MLR MLR
comp=Z,15µm,18.0s,MS6.3
BLSP Bilaspur 73.50 295 *e*P **P** **18 34 56.8 -0.2**
BLSP AMb AMB 18 35 00.9
comp=Z,106nm,1.2s,mb5.6
KOLN Koldanda 73.60 301 *e*P **P** **18 34 56.5 -1.0**
comp=Z,362nm,0.9s,mb6.3
CHGN Chignik 73.83 26 *e*P **P** **18 34 56.7 -1.5**
BILL Bilibino 74.14 6 *e*P **P** **18 34 57.7 -2.0**
comp=Z,53nm,0.8s,mb5.5
BILL LR LR
comp=Z,4µm,21.0s,MS5.7
BILL Bilibino 74.14 6⇓ *e*P **P** **18 34 59.2 -0.6**
BILL pmax pmax
comp=Z,50nm,1.0s,mb5.4
BILL MLR MLR
comp=Z,3µm,23.0s,MS5.6
WMQ Urumqi 75.66 318⇓ *i*P **P** **18 35 08.5 -0.5**
WMQ AP pP 18 35 19.0 -0.2
WMQ XP sP 18 35 23.0 +0.2
WMQ PP PP 18 38 00.0 -0.6
WMQ PPP PPP 18 39 46.0 -0.9
WMQ S S 18 44 46.0 -0.6
WMQ SCS ScS 18 45 17.0 +0.3
WMQ AMB AMB
comp=Z,144nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,767nm,5.4s
WMQ LR LR
comp=N,5µm,19.0s,MS6.0
WMQ LR LR
comp=E,5µm,18.9s,MS6.0
WMQ LR LR
comp=Z,5µm,20.0s,MS5.8
HYB Hyderabad 75.84 289 *i* P **P** **18 35 11.0 +0.5**
comp=Z,120nm,1.0s,mb5.8
HYB *e*S S 18 44 48.0 -1.1
HYB LR LR 19 13 20.0
comp=Z,4.2nm,20.0s
HYB Hyderabad 75.84 289 *e*P **P** **18 35 11.0 +0.5**
comp=Z,120nm,1.0s,mb5.8
HYB *e*S S 18 44 48.0 -1.1
HYB Hyderabad 75.84 289 *e*P **P** **18 35 11.0 +0.5**
HYB *e*S S 18 44 48.0 -1.1
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.8
KDAK Kodiak Island 77.29 27 *e*P **P** **18 35 16.9 -0.9**
comp=Z,260nm,1.0s,mb6.1
KDAK LR LR
comp=Z,1µm,21.0s,MS5.3
SVW2 Sparrevohn 77.90 23 *e*P **P** **18 35 20.9 -0.2**
BHPL Bhopal 77.98 295 *e*P **P** **18 35 22.6 +0.3**
BHPL AMb AMB 18 35 26.3
comp=Z,46nm,0.9s,mb5.4
TIXI Tiksi 78.53 353 *e*P **P** **18 35 24.6 +0.2**
TIXI LR LR
comp=Z,5µm,19.0s,MS5.8
TIXI Tiksi 78.53 353 *e*P **P** **18 35 20.2 -4.2**
TIXI *e* 18 38 20.0
TIXI *e*S S 18 45 23.1 +6.0
TIXI *e*SSS SSS 18 53 41.3 -1.0
TIXI pmax pmax
comp=Z,23nm,1.2s,mb5.0
TIXI MLR MLR
comp=Z,5µm,18.0s,MS5.9
DGAR Diego Garcia 78.81 264 *e*P **P** **18 35 26.9 -0.1**
comp=Z,220nm,0.9s,mb6.1
DGAR LR LR
comp=Z,832nm,20.0s,MS5.1
DGAR Diego Garcia 78.81 264 *e*P **P** **18 35 26.9 -0.1**
DGAR pmax pmax
comp=Z,220nm,0.9s,mb6.1
DGAR MLR MLR
comp=Z,832nm,20.0s,MS5.1
TTA Tatalina 78.83 22 *e*P **P** **18 35 25.7 -0.5**
comp=Z,310nm,1.0s,mb6.2
TTA Tatalina 78.83 22 *e*P **P** **18 35 25.7 -0.5**
TTA pmax pmax
comp=Z,310nm,1.0s,mb6.2
NDI New Delhi 79.29 300 *e*P **P** **18 35 27.0 -2.4**
MKAR Makanchi Array 80.27 319 P **P** **18 35 34.2 -0.1**
comp=Z,63nm,0.9s,mb5.5,baz=104,slow=5.0,SNR=121
POO Poona 80.44 290 *e*P **P** **18 35 36.7 +1.0**
POO AMb AMB 18 35 39.7
comp=Z,79nm,1.0s,mb5.6
PMR Palmer 80.77 25 *e*P **P** **18 35 35.2 -1.4**
comp=Z,370nm,1.1s,mb6.2
PMR LR LR
comp=Z,7µm,20.0s,MS6.0
PMR Palmer 80.77 25 *e*P **P** **18 35 35.2 -1.4**
PMR pmax pmax
comp=Z,370nm,1.1s,mb6.2
PMR MLR MLR
comp=Z,7µm,20.0s,MS6.0
AJM Ajmer 81.08 298 *i* P **P** **18 35 38.0 -1.0**
NVS Novosibirsk 82.45 327 *i* P **P** **18 35 44.6 -0.9**
NVS *e*S S 18 45 57.6 -0.6
NVS *e*PS PS 18 46 56.5 +3.6
NVS pmax pmax
comp=Z,87nm,1.2s,mb5.6
NVS pmax pmax
comp=N,33nm,1.4s
NVS pmax pmax
comp=E,50nm,1.2s
NVS smax
comp=E,55nm,2.3s
KSH Kashi 82.71 311 P **P** **18 35 49.8 +2.6**
KSH AP pP 18 36 00.0 +2.5
KSH *e*XP sP 18 36 03.8 +2.9
KSH PP PP 18 39 02.0 +2.9
KSH PPP PPP 18 40 54.5 +2.7
KSH S S 18 46 04.5 +3.3
KSH XS 18 46 22.0
KSH *e*SS SS 18 51 31.8 +4.7
KSH AMB AMB
comp=Z,3µm,8.4s
KSH LR LR
comp=N,4µm,15.8s,MS6.2
KSH LR LR
comp=E,7µm,16.6s,MS6.2
COLA College 82.91 22 *e*P **P** **18 35 45.4 -2.3**
comp=E,166nm,0.9s,mb6.1
COLA LR LR
comp=Z,7µm,20.0s,MS6.0
COLA College 82.91 22 *e*P **P** **18 35 45.4 -2.3**
COLA pmax pmax
comp=Z,166nm,0.9s,mb6.1
COLA MLR MLR
comp=Z,7µm,20.0s,MS6.0
ULHL Ulahol 83.15 314 P **P** **18 35 47.4 -2.0**
SNR=17
ILAR Eielson Array 83.22 22 P **P** **18 35 47.8 -1.5**
comp=Z,95nm,0.8s,mb5.9,baz=251,slow=5.2,SNR=166
ILAR S S 18 46 04.3 -1.6
comp=Z,1.1nm,0.9s,baz=249,slow=12,SNR=6.2
ILAR PKKPbc 18 54 10.7
comp=Z,0.8nm,1.0s,baz=45,slow=2.6,SNR=3.6
ILAR LR LR 19 11 14.4
comp=Z,9µm,19.6s,MS6.1,baz=3.0,slow=34
MENT Mentasta 83.64 25 *e*P **P** **18 35 46.9 -4.5**
TKM2 Tokmak 2 83.77 314 P **P** **18 35 53.8 +1.3**
SNR=91
KURK Kurchatov 83.78 322⇑ *e*P **P** **18 35 50.6 -1.8**
comp=Z,216nm,1.1s,mb6.2
KURK LR LR
comp=Z,2µm,19.0s,MS5.5
KURK Kurchatov 83.78 322⇑ *e*P **P** **18 35 50.6 -1.8**
KURK pmax pmax
comp=Z,215nm,1.1s,mb6.2
KURK MLR MLR
comp=Z,2µm,19.0s,MS5.5
KZA Kyzart 83.83 313 P **P** **18 35 55.3 +2.5**
SNR=127
KBK Karagaybulak 84.17 314 P **P** **18 35 55.9 +1.3**
SNR=122
CHMS Chumysh 84.39 314 P **P** **18 35 56.7 +1.0**
SNR=176
UCH Uchtor 84.39 313 P **P** **18 35 58.0 +2.3**
SNR=215
QSPA South Pole Qui 84.40 180 *e*P **P** **18 35 54.2 -0.7**
FRU Bishkek 84.45 314 *e*P **P** **18 35 55.2 -0.8**
FRU pmax pmax
comp=Z,370nm,1.6s,mb6.3
AAK Ala-Archa 84.50 314 P **P** **18 35 57.7 +1.4**
SNR=110
AAK Ala-Archa 84.50 314 *e*P **P** **18 35 54.9 -1.4**
comp=Z,173nm,1.1s,mb6.1
AAK LR LR
comp=Z,2µm,20.0s,MS5.5
AAK Ala-Archa 84.50 314⇑ *e*P **P** **18 35 56.5 +0.3**
AAK pmax pmax
comp=Z,227nm,1.4s,mb6.1
AAK MLR MLR
comp=Z,9µm,25.0s,MS6.1
MAW Mawson 84.50 203 *e*P **P** **18 35 56.3 +0.6**
comp=Z,49nm,1.6s,mb5.4
MAW Mawson 84.50 203 P **P** **18 35 56.1 +0.4**
comp=Z,17nm,0.6s,mb5.3,baz=95,slow=7.7,SNR=29
MAW PKKPbc 18 54 06.5
comp=Z,3.4nm,0.9s,baz=259,slow=6.1,SNR=7.3
MAW LR LR 19 10 28.7
comp=Z,8µm,21.4s,MS6.1,baz=82,slow=33
MAW Mawson 84.50 203 *e*P **P** **18 35 55.2 -0.5**
MAW pmax pmax
comp=Z,74nm,1.2s
MAW MLR MLR
comp=Z,14µm,22.0s
USP Ospenovka 84.63 314 P **P** **18 35 58.0 +1.1**
SNR=171
AML Almayashu 84.97 313 P **P** **18 35 59.7 +1.2**
SNR=484
EKS2 Erkin-Say 85.02 314 P **P** **18 36 00.5 +1.7**
SNR=341
BHUJ Bhuj 85.03 294 *e*P **P** **18 35 59.3 0.0**
BHUJ AMb AMB 18 36 04.7
comp=Z,161nm,1.4s,mb6.0
SIT Sitka 85.42 32 *e*P **P** **18 36 00.9 +0.5**
comp=Z,253nm,1.0s,mb6.3
SIT LR LR
comp=Z,24µm,19.0s,MS6.6
SIT Sitka 85.42 32 *e*P **P** **18 36 00.9 +0.4**
SIT pmax pmax
comp=Z,253nm,1.0s,mb6.3
SIT MLR MLR
comp=Z,24µm,19.0s,MS6.6
KKAR Karatay Array 87.46 314 *i* P **P** **18 36 11.7 +0.9**
KKAR pmax pmax
comp=Z,248nm,1.3s,mb6.3
BBB Bella Bella 88.28 37 LR LR 19 10 59.7
comp=Z,5µm,19.8s,MS6.0,baz=276,slow=32
DLBC Dease Lake 88.53 31 LR LR 19 10 15.8
comp=Z,15µm,20.0s,MS6.4,baz=310,slow=32
DLBC Dease Lake 88.53 31 *e*P **P** **18 36 16.3 +0.7**
KEBM Edson Butte 89.23 47 *e*P **P** **18 36 20.0 +0.7**
CHKZ Chkalovo 89.26 324 P **P** **18 36 16.7 -2.5**
CHKZ pmax pmax
comp=Z,79nm,1.4s,mb5.8
BVA0 Borovoye Array 89.28 323 *i* P **P** **18 36 17.7 -1.6**
BVA0 pmax pmax
comp=Z,18nm,1.4s,mb5.2
BVAR Borovoye Array 89.28 323 P **P** **18 36 17.5 -1.7**
comp=Z,22nm,0.7s,mb5.6,baz=108,slow=4.7,SNR=71
BRVK Borovoye 89.35 323 *e*P **P** **18 36 17.4 -2.2**
comp=Z,44nm,1.1s,mb5.7
BRVK LR LR
comp=Z,888nm,21.0s,MS5.2
BRVK Borovoye 89.35 323 *e*P **P** **18 36 17.4 -2.2**
BRVK pmax pmax
comp=Z,44nm,1.1s,mb5.7
BRVK MLR MLR
comp=Z,888nm,21.0s,MS5.2
KCPM Cahto Peak 89.35 50 *e*P **P** **18 36 21.5 +1.5**
KRMB Red Mountain 89.36 48 *e*P **P** **18 36 20.4 +0.4**
KHMM Horse Mountain 89.40 49 *e*P **P** **18 36 21.5 +1.3**
KIPM Iron Peak 89.45 50 *e*P **P** **18 36 19.3 -1.1**
INK Inuvik 89.51 21 LR LR 19 18 25.4
comp=Z,6µm,19.0s,MS6.0,baz=238,slow=37
INK Inuvik 89.51 21 *e*P **P** **18 36 19.2 -0.8**
comp=Z,88nm,1.0s,mb6.0
INK Inuvik 89.51 21 *e*P **P** **18 36 19.2 -0.8**
INK pmax pmax
comp=Z,88nm,1.0s
HOPS Hopland 89.65 51 *e*P **P** **18 36 24.4 +3.0**
comp=Z,51nm,1.2s,mb5.7
HOPS LR LR
comp=Z,15µm,20.0s,MS6.4
MPOR Mary's Peak 90.02 45 P **P** **18 36 24.0 +1.0**
HUMO Hull Mountain 90.20 47 *e*P **P** **18 36 23.3 -0.5**
comp=Z,121nm,1.1s,mb6.1
COR Corvallis 90.21 45 *e*P **P** **18 36 23.9 +0.1**
comp=Z,67nm,1.0s,mb5.9
COR LR LR
comp=Z,3µm,20.0s,MS5.8
COR Corvallis 90.21 45 *e*P **P** **18 36 23.9 +0.1**
COR pmax pmax
comp=Z,67nm,1.0s,mb5.9
COR MLR MLR
comp=Z,3µm,20.0s,MS5.8
WDC Whiskeytown Da 90.26 49 *e*P **P** **18 36 24.4 +0.3**
comp=Z,30nm,1.1s,mb5.5
WDC LR LR
comp=Z,12µm,21.0s,MS6.3
WDC Whiskeytown Da 90.26 49 *e*P **P** **18 36 24.5 +0.3**
WDC pmax pmax
comp=Z,30nm,1.1s,mb5.5
WDC MLR MLR
comp=Z,12µm,21.0s,MS6.3
YBH Yreka Blue Hor 90.28 48 LR LR 19 09 24.2
comp=Z,10µm,21.6s,MS6.2,baz=250,slow=31
YBH Yreka Blue Hor 90.28 48 *e*P **P** **18 36 24.9 +0.7**
comp=Z,75nm,1.1s,mb5.9
YBH LR LR
comp=Z,10µm,22.0s,MS6.2
YBH Yreka Blue Hor 90.28 48 *e*P **P** **18 36 24.9 +0.7**
YBH pmax pmax
comp=Z,75nm,1.1s
YBH MLR MLR
comp=Z,10µm,22.0s
LHEM Herd Peak 90.63 48 P **P** **18 36 27.6 +1.8**
PGC Sidney 90.64 41 *e*P **P** **18 36 26.1 +0.4**
comp=Z,157nm,1.0s,mb6.3
SAO San Andreas Ge 90.66 53 PFAKE 18 36 40.0 +14
SAO LR LR
comp=Z,10µm,21.0s,MS6.2
OHCM Honcut 90.92 51 *e*P **P** **18 36 27.6 +0.3**
LRV Little Rabbit 90.97 54 *e*P **P** **18 36 29.0 +1.5**
HOG Hogback Mounta 91.08 48 P **P** **18 36 30.2 +2.3**

PTRM	Twissleman Ran	91.54	55	eP		P	18 36 30.5	+0.3	
CMB	Columbia Colle	91.64	52	eP		P	18 36 30.9	+0.4	
	comp=Z,46nm,1.3s,mb5.7								
CMB				LR	LR				
	comp=Z,17μm,19.0s,MS6.5								
CMB	Columbia Colle	91.64	52	eP		P	18 36 30.9	+0.3	
CMB				pmax	pmax				
	comp=Z,46nm,1.3s,mb5.7								
CMB				MLR	MLR				
	comp=Z,17μm,19.0s,MS6.5								
BEKR	Beckwourth	91.84	50	eP		P	18 36 31.8	+0.4	
	comp=Z,37nm,1.1s,mb5.6								
SNCC	San Nicolas Is	91.88	57	PFAKE			18 36 40.0	+8.2	
SNCC				LR	LR				
	comp=Z,9μm,19.0s,MS6.2								
CROR	Criterion Ridg	91.89	45	P		P	18 36 31.9	+0.3	
MOD	Modoc	92.08	48⇑	eP		P	18 36 31.9	-0.6	
	comp=Z,111nm,1.1s,mb6.1								
MOD				LR	LR				
	comp=Z,10μm,20.0s,MS6.3								
PAHR	Pah Rah Range	92.57	51	eP		P	18 36 33.8	-1.0	
	comp=Z,28nm,1.1s,mb5.6								
ETW	Entiat	92.60	43	P		P	18 36 35.2	+0.4	
SYO	Syowa Base	92.63	200	⇑P		P	18 36 32.0	-2.4	
SYO	Syowa Base	92.63	200	⇓pP		pP	18 36 41.5	-3.3	
WTV	Waterville	92.87	43	P		P	18 36 36.2	+0.3	
ISA	Isabella	92.95	55	PFAKE			18 36 50.0	+13	
ISA				LR	LR				
	comp=Z,2μm,19.0s,MS5.6								
MTUM	Tungsten Hills	93.02	53	eP		P	18 36 38.0	+1.1	
HAWA	Hanford	93.04	44	eP		P	18 36 36.7	-0.1	
	comp=Z,6.2nm,1.2s,mb4.9								
HAWA				LR	LR				
	comp=Z,711nm,20.0s,MS5.1								
MWC	Mount Wilson	93.18	56	eP		P	18 36 38.5	+0.8	
WVOR	Wild Horse Val	93.36	48⇑	eP		P	18 36 37.7	-0.7	
	comp=Z,79nm,1.1s,mb6.1								
WVOR				LR	LR				
	comp=Z,13μm,22.0s,MS6.3								
WVOR	Wild Horse Val	93.36	48⇑	eP		P	18 36 37.7	-0.7	
WVOR				pmax	pmax				
	comp=Z,79nm,1.1s,mb6.1								
WVOR				MLR	MLR				
	comp=Z,13μm,22.0s,MS6.3								
MNV	Mina	93.42	52⇑	iP		P	18 36 38.6	-0.2	
	comp=Z,77nm,1.2s,mb6.0								
MNV				LR	LR				
	comp=Z,13μm,20.0s,MS6.4								
MNV	Mina	93.42	52⇑	iP		P	18 36 38.6	-0.2	
MNV				pmax	pmax				
	comp=Z,77nm,1.2s,mb6.0								
MNV				MLR	MLR				
	comp=Z,13μm,20.0s,MS6.4								
PFO	Pinyon Flat Ob	94.46	57	PFAKE			18 37 00.0	+16	
PFO				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
BMO	Blue Mountains	94.49	46⇑	eP		P	18 36 42.3	-1.2	
	comp=Z,72nm,1.2s,mb6.0								
BMO				LR	LR				
	comp=Z,11μm,21.0s,MS6.3								
BMO	Blue Mountains	94.49	46⇑	eP		P	18 36 42.3	-1.2	
BMO				pmax	pmax				
	comp=Z,72nm,1.2s,mb6.0								
BMO				MLR	MLR				
	comp=Z,11μm,21.0s,MS6.3								
WBK	Wadi Bani Khal	94.75	292	P		P	18 36 46.8	+1.6	
	SNR=9.2								
NEW	Newport	94.80	42	LR		LR	19 15 15.8		
	comp=Z,12μm,19.2s,MS6.4,baz=265,slow=33								
NEW	Newport	94.80	42	eP		P	18 36 44.0	-0.9	
	comp=Z,58nm,1.1s,mb5.9								
NEW				LR	LR				
	comp=Z,12μm,19.0s,MS6.4								
NEW	Newport	94.80	42	eP		P	18 36 44.0	-0.8	
NEW				pmax	pmax				
	comp=Z,58nm,1.1s								
NEW				MLR	MLR				
	comp=Z,12μm,19.0s								
RPN	Rapa Nui	95.30	118	PFAKE			18 37 00.0	+12	
RPN				LR	LR				
	comp=Z,909nm,22.0s,MS5.2								
AB31	Akbulak array	95.41	319	iP		P	18 36 45.9	-1.7	
AB31				pmax	pmax				
	comp=Z,20nm,1.1s,mb5.5								
BIDO	Bidbid	95.59	293	⇑P		P	18 36 50.1	+1.1	
	SNR=7.5								
LDFC	Landfair	95.66	55	eP		P	18 36 49.1	0.0	
ELK	Elko	95.81	50	LR		LR	19 15 55.6		
	comp=Z,10μm,19.4s,MS6.3,baz=319,slow=33								
MSEY	Mahe Island	95.86	265	PFAKE			18 37 00.0	+9.5	
MSEY				LR	LR				
	comp=Z,476nm,20.0s,MS5.0								
NEN	Nelson	95.90	55	eP		P	18 36 51.3	+1.1	
HOQ	Hoqain	96.34	293	⇑P		P	18 36 53.4	+0.9	
ARU	Arti	96.41	326	eP		P	18 36 49.9	-2.1	
	comp=Z,30nm,1.0s,mb5.7								
ARU				LR	LR				
	comp=Z,4μm,22.0s,MS5.9								
ARU	Arti	96.41	326⇑	iP		P	18 36 50.4	-1.6	
ARU				e			18 40 45.0		
ARU				eS			18 47 24.3		
ARU				eSP		SP	18 49 29.1	-2.6	
ARU				ePS		PS	18 49 39.2	+2.9	
ARU				eSS		SS	18 54 47.0	+3.1	
ARU				pmax	pmax				
	comp=Z,27nm,1.0s,mb5.6								
ARU				MLR	MLR				
	comp=Z,16μm,22.0s,MS6.5								
ARU				MLR	MLR				
	comp=N,2μm,19.0s,MS6.3								
ARU				MLR	MLR				
	comp=E,10μm,22.0s,MS6.3								
YKW3	Yellowknife Ar	96.54	28	eP		P	18 36 51.9	-0.6	
YKA	Yellowknife Ar	96.55	28	P		P	18 36 52.3	-0.2	
	comp=E,19nm,0.8s,mb5.6,baz=270,slow=4.5,SNR=27								
MSO	Missoula	96.91	44	eP		P	18 36 56.4	+1.9	
	comp=E,8.2nm,1.1s,mb5.1								
MSO				LR	LR				
	comp=Z,6μm,22.0s,MS6.0								
ARQ	Araqi	97.05	293	⇑P		P	18 36 54.2	-1.5	
	SNR=5.8								
ARUT	Antelope Range	97.11	53	eP		P	18 36 56.8	+1.2	
EDM	Edmonton	97.31	37⇓	eP		P	18 36 55.9	-0.2	
CHMT	Chamberlain Mo	97.38	44	eP		P	18 36 55.8	-0.9	
ASHO	Ashiyiah	97.54	294	⇓P		P	18 36 57.8	-0.1	
	SNR=7.5								
DUG	Dugway	97.64	50	PFAKE			18 37 10.0	+12	
DUG				LR	LR				
	comp=Z,8μm,20.0s,MS6.2								
MCMT	McKenzie Canyo	97.66	46	eP		P	18 36 58.0	+0.1	
HVU	Hansel Valley	97.69	49	eP		P	18 36 59.1	+1.0	
	comp=Z,48nm,1.1s,mb5.9								
HVU	Hansel Valley	97.69	49	eP		P	18 36 59.1	+1.0	
HVU				pmax	pmax				
	comp=Z,48nm,1.1s,mb5.9								
DLMT	Dillon	97.84	45	eP		P	18 36 59.1	+0.4	
SPUT	South Promonto	97.93	49	eP		P	18 36 59.6	+0.4	
MSU	Marysvale	98.11	52	eP		P	18 36 59.6	-0.6	
BOZ	Bozeman (W)	98.52	45	eP		P	18 37 02.0	+0.2	
	comp=Z,19nm,1.0s,mb5.6								
BOZ				LR	LR				
	comp=Z,9μm,22.0s,MS6.2								
BOZ	Bozeman (W)	98.52	45	eP		P	18 37 02.0	+0.3	
BOZ				pmax	pmax				
	comp=Z,19nm,1.0s,mb5.6								
BOZ				MLR	MLR				
	comp=Z,9μm,22.0s,MS6.2								
HWUT	Hardware Ranch	98.60	49	PFAKE			18 37 10.0	+7.8	
HWUT				LR	LR				
	comp=Z,9μm,19.0s,MS6.3								
QLMT	Earthquake Lak	98.67	46	eP		P	18 37 03.0	+0.5	
QLMT				ePP		PP	18 40 58.8	-7.2	
TCUT	Toone Canyon	98.72	49	eP		P	18 37 04.5	+1.8	
WUAZ	Wupatki	98.72	55	eP		P	18 37 04.4	+1.5	
	comp=Z,17nm,1.0s,mb5.5								
WUAZ				LR	LR				
	comp=Z,6μm,20.0s,MS6.1								
RRI2	Red Ridge	98.77	47	eP		P	18 37 02.5	-0.4	
	comp=Z,30nm,1.0s,mb5.8								
DAU	Daniels Canyon	98.83	50	eP		P	18 37 04.7	+1.4	
DAU				e			18 37 13.1		
TMUT	Trail Mountain	98.87	51	eP		P	18 37 04.5	+1.0	
AHID	Auburn Hatcher	98.93	48	eP		P	18 37 02.6	-1.1	
	comp=Z,37nm,1.1s,mb5.8								
AHID				LR	LR				
	comp=Z,13μm,19.0s,MS6.4								
YMR	Madison River	99.00	46	eP		P	18 37 05.0	+1.1	
	comp=Z,21nm,1.0s,mb5.6								
TPAW	Teton Pass	99.03	47	eP		P	18 37 04.6	+0.4	
	comp=Z,24nm,1.0s,mb5.7								
IMW	Indian Meadow	99.03	47	eP		P	18 37 04.3	+0.2	
	comp=Z,17nm,1.0s,mb5.5								
YFT	Old Faithful	99.10	46	eP		P	18 37 06.5	+2.0	
TUC	Tucson	99.18	58	PFAKE			18 37 20.0	+15	
TUC				LR	LR				
	comp=Z,9μm,19.0s,MS6.3								
MOOW	Moose Ponds	99.18	47	eP		P	18 37 04.7	-0.1	
	comp=Z,16nm,1.1s,mb5.5								
SRU	San Rafael	99.41	51	eP		P	18 37 07.1	+1.1	
	comp=Z,16nm,1.1s,mb5.5								
SRU	San Rafael	99.41	51	eP		P	18 37 07.1	+1.1	
SRU				pmax	pmax				
	comp=Z,16nm,1.1s,mb5.5								
LKWY	Lake	99.41	46	PFAKE			18 37 20.0	+14	
LKWY				LR	LR				
	comp=Z,18μm,20.0s,MS6.6								
GCMT	Greycliff	99.89	45	ePdif		P	18 37 08.8	+0.8	
PDAR	Pinedale Array	100.07	48	P		P	18 37 08.8	-0.2	
	comp=Z,17nm,1.0s,baz=270,slow=1.5,SNR=44								
PDAR				PP	PP		18 41 14.1	-2.8	
	comp=Z,4.3nm,1.1s,baz=270,slow=5.9,SNR=5.5								
PDAR				PKKP	PKKP		18 53 34.6	+10	
	comp=Z,1.6nm,0.9s,baz=117,slow=3.3,SNR=7.5								
SMCO	Snowmass	102.16	51	ePdif		Pdif	18 37 19.0	+0.7	
LAO	LASA Array	102.22	44	PFAKE			18 37 30.0	+12	
LAO				LR	LR				
	comp=Z,8μm,19.0s,MS6.3								
VNA3	Neumayer Olymp	102.37	186	P		Pdif	18 37 21.7	+3.2	
VNA3	Neumayer Olymp	102.37	186			Pdif	18 37 27.8	+9.3	
VNA3	Neumayer Olymp	102.37	186			Pdif	18 37 34.8	+16	
VNA3	Neumayer Olymp	102.37	186				18 41 37.5		
VNA3	Neumayer Olymp	102.37	186				18 41 51.6		
VNA2	Neumayer--Watz	102.42	187	P		Pdif	18 37 21.8	+3.1	
VNA2	Neumayer--Watz	102.42	187			Pdif	18 37 27.3	+8.6	
VNA2	Neumayer--Watz	102.42	187			Pdif	18 37 33.9	+15	
VNA2	Neumayer--Watz	102.42	187				18 41 32.0		
VNA2	Neumayer--Watz	102.42	187				18 41 43.4		
ANMO	Albuquerque	102.75	56	PFAKE			18 37 30.0	+9.0	
ANMO				LR	LR				
	comp=Z,3μm,20.0s,MS5.8								
ISCO	Idaho Springs	103.18	51	PFAKE			18 37 30.0	+7.2	
ISCO				LR	LR				
	comp=Z,11μm,19.0s,MS6.4								
SDCO	Great Sand Dun	103.39	53	PFAKE			18 37 40.0	+16	
SDCO				LR	LR				
	comp=Z,11μm,20.0s,MS6.4								
DGMT	Dagmar	103.40	42	PFAKE			18 37 40.0	+16	
DGMT				LR	LR				
	comp=Z,5μm,20.0s,MS6.1								
MNTX	Cornudas Mount	103.77	59	PFAKE			18 37 40.0	+14	
MNTX				LR	LR				
	comp=Z,9μm,19.0s,MS6.3								
KBS	Kingsbay	103.99	353	PFAKE			18 37 40.0	+15	
KBS				LR	LR				
	comp=Z,4μm,22.0s,MS5.9								
PECR	Pechory	104.43	327	eP		Pdif	18 37 28.4	+0.6	
PECR				MLR	MLR				
	comp=Z,11μm,21.0s,MS6.3								
PECR				MLR	MLR				
	comp=N,3μm,20.0s,MS6.1								
PECR				MLR	MLR				
	comp=E,4μm,20.0s,MS6.1								
PMSA	Palmer Station	104.98	165	PFAKE			18 37 40.0	+10	
PMSA				LR	LR				
	comp=Z,3μm,20.0s,MS5.8								
LTX	Lajitas	105.34	61	PFAKE			18 42 00.0		
LTX				LR	LR				
	comp=Z,10μm,20.0s,MS6.4								
TXAR	Lajitas Array	105.34	61	PP	PP		18 41 49.0	-8.0	
	comp=Z,1.1nm,0.7s,baz=236,slow=4.5,SNR=4.6								
TXAR				PKKP	PKKP		18 53 30.5	+15	
	comp=Z,2.8nm,0.7s,baz=104,slow=5.2,SNR=11								
GNI	Garni	106.63	310	ePKPdf			18 41 50.0		
GNI				LR	LR				
	comp=Z,2μm,19.0s,MS5.7								
KEV	Kevo	106.75	343	PFAKE			18 42 00.0		
KEV				LR	LR				
	comp=Z,4μm,20.0s,MS5.9								
ARCES	ARCESS Array B	107.31	343	Pdiff		Pdif	18 37 40.5	+0.3	
	comp=Z,2.3nm,0.8s,baz=45,slow=7.7,SNR=4.8								
ARCES				PKIKP			18 41 49.4		
	comp=Z,3.2nm,0.8s,baz=108,slow=2.1,SNR=9.8								
KIV	Kislovodsk	107.61	314	PFAKE			18 42 00.0		
KIV				LR	LR				
	comp=Z,914nm,20.0s,MS5.3								
CBKS	Cedar Bluff	107.81	51	PFAKE			18 42 00.0		
CBKS				LR	LR				
	comp=Z,11μm,20.0s,MS6.4								
ULM	Lac du Bonnet	108.43	39	PFAKE			18 42 00.0		
ULM				LR	LR				
	comp=Z,8μm,19.0s,MS6.3								
JOF	Joensuu	108.48	335	ep		Pdif	18 37 45.7	+0.2	
	comp=Z,4.6nm,0.9s								
JOF	Joensuu	108.48	335	ep			18 41 50.4		
	comp=Z,5.8nm,1.0s								
OBN	Obninsk	108.84	327	PFAKE			18 42 00.0		
OBN				LR	LR				
	comp=Z,2μm,20.0s,MS5.6								
OBN	Obninsk	108.84	327⇑	eP		Pdif	18 37 47.4	+0.1	
OBN				eS		SKS	18 48 28.5	-3.9	
OBN				iPS		PS	18 51 35.9	-6.8	
OBN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
OBN				MLR	MLR				
	comp=Z,8μm,22.0s,MS6.3								
HILS	Ha'il	110.33	297	P		PKPdf	18 41 57.5	-2.1	
BLJS	Baljurashi	110.89	289	P		PKPdf	18 42 00.6	-0.2	
KAF	Kangasniemi	110.92	336	ep		PKPdf	18 41 55.1	-4.8	
	comp=Z,4.4nm,0.8s								
ANN	Anapa	111.13	316	iPKIKP		PKPdf	18 41 49.1	-12	
ANN				ePPP		PPP	18 45 01.5	+1.1	
ANN				e			18 48 35.5		
ANN				ePS		PS	18 51 59.9	-5.6	
ANN				eSP		SP	18 52 04.6	+3.0	
ANN				e			18 53 11.4		
ANN				pmax	pmax				
	comp=Z,524nm,7.4s								
FINES	FINESS Array B	111.35	335	Pdiff		Pdif	18 37 57.6	-0.5	
	comp=Z,2.1nm,0.7s,baz=90,slow=9.5,SNR=7.6								
FINES				PKiKP			18 41 57.8		
	comp=Z,3.7nm,0.8s,baz=72,slow=2.3,SNR=9.6								
EYMN	Ely	111.82	40	PFAKE			18 42 10.0	+8.1	
EYMN				LR	LR				
	comp=Z,4μm,20.0s,MS6.0								
ASF	Jabal al Asfar	114.02	303	PKP		PKPdf	18 42 04.4	-2.4	
	comp=Z,2.5nm,0.7s,baz=351,slow=10,SNR=3.7								
AKASG	Malin Array Be	114.55	324	PKP		PKPdf	18 42 04.7	-2.6	
	comp=Z,2.9nm,0.5s,baz=62,slow=2.6,SNR=14								
AKASG				PP	PP		18 43 00.6	-3.4	
	comp=Z,5.3nm,0.9s,baz=56,slow=7.3,SNR=7.6								
TBKS	Tabuk	114.87	298	P		PKPdf	18 42 07.0	-1.5	
BR131	Keskin Array S	115.09	311	ePKPdf		PKPdf	18 42 04.5	-4.1	
BR131				LR	LR				
	comp=Z,832nm,20.0s,MS5.3								
BRTR	Keskin Array B	115.09	311	PKP		PKPdf	18 42 04.6	-4.0	
	comp=Z,4.5nm,0.9s,baz=153,slow=2.8,SNR=14								
ANTO	Ankara	115.69	312	ePKPdf		PKPdf	18 42 03.9	-5.9	
ANTO				LR	LR				
	comp=Z,2μm,22.0s,MS5.6								
ALWS	Ilw as Safayha	116.01	300	P		PKPdf	18 42 07.4	-3.2	
BDAS	Al Bad'	116.11	299	P		PKPdf	18 42 09.1	-1.8	
HAQS	Haql	116.17	300	P		PKPdf	18 42 09.3	-1.7	
SUW	Suwalki	116.41	329	ePKP		PKPdf	18 42 07.7	-3.1	
SUW	Suwalki	116.41	329	ePKPdf		PKPdf	18 42 04.0	-6.8	
SUW				ePKP		PKPdf	18 42 07.7	-3.1	
HFS	Hagfors	117.03	338	PKP		PKPdf	18 42 08.3	-3.6	
	comp=Z,1.3nm,0.4s,baz=243,slow=6.4,SNR=5.9								
NB2	NORSAR Subarra	117.30	340	PKPdf		PKPdf	18 42 07.8	-4.5	
	comp=Z,4.0nm,0.8s,baz=45,slow=1.9								
NB2	NORSAR Subarra	117.30	340	PKPd			18 42 07.8		
	baz=44,slow=1.9								
NOA	NORSAR Array B	117.30	340	PKP		PKPdf	18 42 07.8	-4.5	
	comp=Z,3.8nm,0.7s,baz=48,slow=1.9,SNR=11								
TIRR	Tirgusor	117.38	318	⇑P		PKPdf	18 42 06.6	-6.3	
EFI	East Falkland	117.51	160	PFAKE			18 42 20.0	+7.0	
EFI				LR	LR				
	comp=Z,1μm,22.0s,MS5.4								
NAO01	NORSAR Array S	117.55	340	PFAKE			18 42 20.0	+7.2	
NAO01				LR	LR				
	comp=Z,7μm,19.0s,MS6.3								
PLAL	Pickwick Lake	117.69	53	PFAKE			18 42 20.0	+6.3	
PLAL				LR	LR				
	comp=Z,6μm,19.0s,MS6.2								
ISP	Isparta	117.94	310	ePKP		PKPdf	18 42 10.8	-3.4	
ISP	Isparta	117.94	310	iPKIKP		PKPdf	18 42 10.7	-3.5	
BURAR	Bucovina Array	118.21	322	⇓P		PKPdf	18 42 14.3	-0.1	
BURAR	Bucovina Array	118.21	322	⇓P		PKPdf	18 42 14.3	-0.2	
WCI	Wyandotte Cave	118.24	49	ePKPdf		PKPdf	18 42 09.8	-4.9	
WCI				LR	LR				
	comp=Z,982nm,19.0s,MS5.5								
MLR	Muntele Rosu	118.62	320	PKP		PKPdf	18 42 12.4	-2.9	
	comp=Z,9.3nm,1.0s,baz=267,slow=2.6								
MLR	Muntele Rosu	118.62	320	⇓P		PKPdf	18 42 12.1	-3.2	
MLR	Muntele Rosu	118.62	320	⇓P		PKPdf	18 42 12.1	-3.2	
MLR	Muntele Rosu	118.62	320	PKIKP		PKPdf	18 42 11.8	-3.5	
KWP	Kalwaria	118.79	325	ePKP		PKPdf	18 42 13.2	-2.3	
KONO	Kongsberg	118.86	339	PFAKE			18 42 20.0	+4.6	
KONO				LR	LR				
	comp=Z,4μm,19.0s,MS6.0								
LRAL	Lakeview Retre	119.01	55	PFAKE			18 42 20.0	+3.6	
LRAL				LR	LR				
	comp=Z,7μm,20.0s,MS6.3								
SWET	Sewanee	119.34	53	ePKPdf		PKPdf	18 42 10.5	-6.5	
KOLS	Kolonicke sedl	119.38	324	ePKP		PKPdf	18 42 13.3	-3.4	
LBTB	Lobatse	119.56	237	ePKPdf		PKPdf	18 42 13.8	-3.8	
LBTB				LR	LR				
	comp=Z,3μm,19.0s,MS5.9								
STHS	Stebnicka Huta	119.73	325	ePKP		PKPdf	18 42 14.9	-2.4	
PLCA	Paso Flores	119.74	144	PKP		PKPdf	18 42 14.1	-3.5	
	comp=Z,1.3nm,0.5s,baz=188,slow=4.7,SNR=2.7								
PLCA	Paso Flores	119.74	144	PKIKP		PKPdf	18 42 14.1	-3.5	
PLCA				MLR	MLR				
	comp=Z,2μm,19.0s								
GKP	Gorka Klasztor	119.79	330	ePKP		PKPdf	18 42 15.6	-1.8	
ACSO	Alum Creek Sta	120.07	46	ePKPdf		PKPdf	18 42 12.7	-5.5	
ACSO				LR	LR				
	comp=Z,3μm,19.0s,MS6.0								
SUR	Sutherland	120.10	228	PFAKE			18 42 30.0	+12	
SUR				LR	LR				
	comp=Z,1μm,20.0s,MS5.6								
DRGR		120.11	322	⇑P		PKPdf	18 42 13.6	-4.5	
OJC	Ojcow	120.13	327	ePKPdf		PKPdf	18 42 15.0	-3.1	
NIE	Niedzica	120.26	326	ePKP		PKPdf	18 42 16.4	-2.0	
ALN	Alexandroupoli	120.27	315	eP		PKPdf	18 42 16.0	-2.7	
LSZ	Lusaka	120.47	249	ePKPdf		PKPdf	18 42 15.8	-3.7	
LSZ				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
KECS	Kecovo	120.63	325	ePKP		PKPdf	18 42 15.0	-4.2	
MBAR	Mbarara	120.87	266	PFAKE			18 42 30.0	+10	
MBAR				LR	LR				
	comp=Z,1.0nm,22.0s								
RZN	Rozhen	120.92	316	eP		PKPdf	18 42 16.0	-3.9	
LIKS	Likavka	121.13	326	e		PKPdf	18 42 21.8	+1.7	
OKC	Ostrava-Krasne	121.24	327	ePKPdf		PKPdf	18 42 17.2	-3.1	
OKC				eSP		SP	18 53 34.0	-0.4	
OKC				AMS	AMS		19 35 00.0		
	comp=Z,6μm,21.0s								
PSZ	Piszkesteto	121.25	324⇑	ePKP/D			18 42 16.8		
PSZ	Piszkesteto	121.25	324	ePKIKP		PKPdf	18 42 16.2	-4.2	
LOS	Limnos	121.31	314	eP		PKPdf	18 42 17.8	-2.9	
ERPA	Erie	121.47	43	PFAKE			18 42 30.0	+9.1	
ERPA				LR	LR				
	comp=Z,5μm,19.0s,MS6.2								
VYHS	Vyhne	121.57	325	ePKP		PKPdf	18 42 16.8	-4.2	
VTS	Vitosha	121.59	317	eP		PKPdf	18 42 17.9	-3.3	
VTS	Vitosha	121.59	317	PKIKP		PKPdf	18 42 17.3	-3.9	
MORC	Moravsky Berou	121.60	327	ePKPdf		PKPdf	18 42 16.6	-4.4	
MMB	Musomiste	121.64	316	eP		PKPdf	18 42 17.0	-4.3	
KSP	Ksiaz	121.67	329	ePKP		PKPdf	18 42 19.6	-1.5	
KSP	Ksiaz	121.67	329	ePKP		PKPdf	18 42 17.9	-3.2	
KSP				ePKS		PKS	18 46 06.0	+14	
KSP				eSP		SP	18 53 38.0	-0.2	
KSP				ePPS		PPS	18 55 01.0	-7.6	
KSP				eSS		SS	19 00 36.0	+12	
KSP				LR	LR				
	comp=Z,16μm,22.5s,MS6.6								
KSP	Ksiaz	121.67	329	ePKIKP		PKPdf	18 42 17.9	-3.2	
KSP				eSP		SP	18 53 38.0	-0.2	
KSP				ePPS		PPS	18 55 01.0	-7.6	
KSP				eSS		SS	19 00 36.0	+12	
KSP				MLR	MLR				
	comp=Z,16μm,22.5s,MS6.6								
SCHQ	Schefferville	121.88	25	PKP		PKPdf	18 42 18.5	-2.9	
	comp=Z,3.6nm,0.6s,baz=308,slow=5.5,SNR=4.7								
SCHQ	Schefferville	121.88	25	PKP		PKPdf	18 42 18.5	-2.9	
SCHQ				LR	LR				
	comp=Z,9μm,21.0s,MS6.4								
DPC	Dobruska-Polom	121.93	328	ePKPdf		PKPdf	18 42 17.9	-3.7	
DPC				eSP		SP	18 53 43.0	+2.4	
DPC				AMS	AMS		19 34 30.0		
	comp=Z,8μm,22.4s								
OUR	Ouranopolis	121.94	315	eP		PKPdf	18 42 16.6	-5.3	
KKB	Krupnik	121.97	317

CLL				MLR	MLR			
	comp=Z,7µm,20.1s,MS6.3							
PRU	**Pruhonice**	**123.08**	**329**	*e*PKPdf	PKPdf	18 42 19.1	-4.7	
PRU				*e*SP	SP	18 53 51.3	+0.4	
PRU				AMS	AMS	19 37 40.0		
	comp=Z,5µm,19.7s							
LIT	**Litokhoron**	**123.09**	**315**	*e*P	PKPdf	18 42 19.7	-4.4	
RHK1	**Bakonya**	**123.25**	**323**ǁ	*e*P	PKPdf	18 42 22.4	-1.9	
JSC	**Jenkinsville**	**123.29**	**52**	*e*PKPdf	PKPdf	18 42 20.9	-3.8	
FNA	**Florina**	**123.59**	**316**	*e*P	PKPdf	18 42 19.4	-5.7	
JTS	**JuntasAbangare**	**123.61**	**81**	PFAKE		18 42 30.0	+4.3	
JTS				LR	LR			
	comp=Z,757nm,22.0s,MS5.3							
AGG	**Agios Georgios**	**123.62**	**314**	*e*P	PKPdf	18 42 19.3	-5.9	
GVD	**Gavdhos**	**123.78**	**309**	*e*PKPdf	PKPdf	18 42 20.2	-5.5	
CLZ	**Clausthal**	**123.96**	**332**	*e*PKPdf	PKPdf	18 42 23.2	-2.3	
NKC	**Novy Kostel**	**124.00**	**330**	*e*PKPdf	PKPdf	18 42 22.0	-3.6	
NKC				AMS	AMS	19 37 50.0		
	comp=Z,7µm,20.9s							
KHC	**Kasperske Hory**	**124.09**	**328**	*e*PKPdf	PKPdf	18 42 21.9	-3.9	
KHC				pPKP		18 42 29.0		
KHC				*e*SP	SP	18 54 01.0	+1.9	
KHC				AMS	AMS	19 36 30.0		
	comp=Z,7µm,20.0s							
KHC	**Kasperske Hory**	**124.09**	**328**	*e*PKIKP	PKPdf	18 42 21.9	-3.9	
KHC				*e*		18 42 29.0		
KHC				*e*		18 54 01.0		
KHC				MLR	MLR			
	comp=Z,7µm,20.0s,MS6.3							
MEV	**Metsovon**	**124.10**	**315**	*e*P	PKPdf	18 42 23.0	-3.1	
ARSA	**Arzberg**	**124.12**	**325**⇑	*i*P	PKPdf	18 42 21.6	-4.3	
	comp=Z,13nm,1.4s							
BINY	**Binghamton**	**124.13**	**42**	PFAKE		18 42 30.0	+3.9	
BINY				LR	LR			
	comp=Z,7µm,20.0s,MS6.3							
MOX	**Moxa**	**124.15**	**331**	*i* P	PKPdf	18 42 23.1	-2.8	
	comp=Z,logA/T=1.3							
MOX				*e*		18 54 11.0		
MOX				L		19 38 34.0		
MOX	**Moxa**	**124.15**	**331**	*e*PKP	PKPdf	18 42 23.1	-2.8	
MOX				*e*SKSP		18 54 11.0		
MOX				LR	LR			
	comp=Z,5µm,22.0s,MS6.1							
MOX	**Moxa**	**124.15**	**331**	*e*PKIKP	PKPdf	18 42 23.1	-2.8	
MOX				MLR	MLR			
	comp=Z,5µm,22.0s,MS6.1							
GEC2	**GERESS Array S**	**124.20**	**328**	*e*PKPdf	PKPdf	18 42 23.4	-2.6	
GERES	**GERESS Array B**	**124.20**	**328**	PKP	PKPdf	18 42 22.2	-3.9	
	comp=Z,15nm,0.6s,baz=70,slow=1.6,SNR=55							
FRNY	**Flat Rock**	**124.38**	**38**	*e*PKPdf	PKPdf	18 42 21.3	-5.2	
NCB	**Newcomb**	**124.42**	**39**	*e*PKPdf	PKPdf	18 42 20.9	-5.7	
NCB				LR	LR			
	comp=Z,5µm,20.0s,MS6.2							
WET	**Wettzell**	**124.45**	**328**	*e*PKPdf	PKPdf	18 42 23.8	-2.7	
MOA	**Molln**	**124.48**	**327**⇑	*i*P	PKPdf	18 42 22.2	-4.4	
	comp=Z,15nm,1.3s							
GROS	**Grobnik**	**124.57**	**325**	*e*PKPdf	PKPdf	18 42 23.4	-3.5	
MIV	**Mineville/With**	**124.80**	**39**	*e*PKPdf	PKPdf	18 42 22.8	-4.6	
DWPF	**Disney**	**124.82**	**60**	PFAKE		18 42 40.0	+12	
DWPF				LR	LR			
	comp=Z,1µm,21.0s,MS5.6							
IGT	**Igoumenitsa**	**124.83**	**315**	*e*P	PKPdf	18 42 21.1	-6.5	
MVL	**Millersville**	**124.85**	**44**	*e*PKPdf	PKPdf	18 42 24.6	-3.0	
CBN	**Corbin**	**124.86**	**47**	PFAKE		18 42 40.0	+12	
CBN				LR	LR			
	comp=Z,8µm,20.0s,MS6.4							
LKD	**Levkas**	**124.95**	**314**	*e*P	PKPdf	18 42 26.0	-1.8	
GRA1	**Grafenberg Arr**	**124.95**	**330**	*e*PKPdf	PKPdf	18 42 24.9	-2.6	
GRF	**Grafenberg Arr**	**124.95**	**330**	*e*PKP	PKPdf	18 42 24.9	-2.6	
OBKA	**Obir**	**125.09**	**325**⇑	*i*P	PKPdf	18 42 25.6	-2.2	
	comp=Z,36nm,1.5s							
VISS	**Visnje**	**125.31**	**324**	*e*PKPdf	PKPdf	18 42 25.6	-2.7	
LJU	**Ljubljana**	**125.36**	**325**	*e*PKPdf	PKPdf	18 42 24.5	-3.8	
LJU				*e*PP	PP	18 44 16.7	-1.2	
LJU				*e*		18 54 12.2		
LJU				*e*		18 56 56.1		
KBA	**Koelnbreinsper**	**125.44**	**326**⇑	*i*P	PKPdf	18 42 25.0	-3.5	
	comp=Z,34nm,1.0s							
LBNH	**Lisbon**	**125.71**	**38**	PFAKE		18 42 40.0	+11	
LBNH				LR	LR			
	comp=Z,9µm,21.0s,MS6.4							
VOY	**Vojsko**	**125.73**	**325**	*e*PKPdf	PKPdf	18 42 25.8	-3.3	
HNH	**Hanover**	**125.77**	**38**	*e*PKPdf	PKPdf	18 42 22.4	-6.8	
FUR	**Furstenfeldbru**	**125.89**	**328**	*e*PKPdf	PKPdf	18 42 27.0	-2.3	
TNS	**Taunus Mts**	**125.95**	**332**	*e*PKPdf	PKPdf	18 42 27.4	-2.0	
TOD	**Tromm**	**126.20**	**331**	PKP	PKPdf	18 42 27.5	-2.3	
WATA	**Walderalm**	**126.24**	**327**ǁ	*i*P	PKPdf	18 42 26.6	-3.4	
	comp=Z,41nm,1.3s							
WTTA	**Wattenberg**	**126.26**	**327**⇑	*i*P	PKPdf	18 42 26.2	-3.8	
	comp=Z,105nm,1.4s							
WTTA	**Wattenberg**	**126.26**	**327**	*i* P	PKPdf	18 42 26.2	-3.8	
	comp=Z,105nm,1.4s,SNR=17							
TRQA	**Tornquist**	**126.42**	**147**	PFAKE		18 42 40.0	+9.4	
TRQA				LR	LR			
	comp=Z,2µm,20.0s,MS5.9							
MOTA	**Mooosalm**	**126.49**	**328**⇑	*i*P	PKPdf	18 42 26.4	-4.1	
	comp=Z,48nm,1.4s							
ESK	**Eskdalemuir**	**126.51**	**343**	PFAKE		18 42 40.0	+10	
ESK				LR	LR			
	comp=Z,1µm,22.0s,MS5.5							
SQTA	**Sankt Quirin**	**126.51**	**327**⇑	*i*P	PKPdf	18 42 26.7	-3.8	
	comp=Z,52nm,1.4s							
STU	**Stuttgart**	**126.56**	**330**	*e*PKPdf	PKPdf	18 42 26.4	-4.1	
PQI	**Presque Isle**	**126.59**	**33**	PFAKE		18 42 40.0	+9.3	
PQI				LR	LR			
	comp=Z,41µm,19.0s							
ABH	**Altenburg**	**126.61**	**332**	PKP	PKPdf	18 42 29.1	-1.5	
HGN	**Heimansgroeve**	**126.72**	**334**	*e*PKP	PKPdf	18 42 24.7	-6.1	
	comp=Z,48nm,1.1s							
HRV	**Harvard--Oak R**	**126.84**	**39**	PFAKE		18 42 40.0	+8.7	
HRV				LR	LR			
	comp=Z,5µm,19.0s,MS6.2							
WVL	**Waterville**	**126.89**	**36**	PFAKE		18 42 40.0	+8.7	
WVL				LR	LR			
	comp=Z,19µm,19.0s,MS6.8							
WES	**Weston**	**127.06**	**39**	PFAKE		18 42 40.0	+8.3	
WES				LR	LR			
	comp=Z,9µm,19.0s,MS6.5							
LANF	**Langenberg**	**127.10**	**331**	PKP	PKPdf	18 42 30.1	-1.5	
DAVA	**Damuels**	**127.17**	**328**⇑	*i*P	PKPdf	18 42 29.3	-2.5	
	comp=Z,31nm,0.7s							
BFO	**Black Forest**	**127.28**	**330**	*e*PKPdf	PKPdf	18 42 28.9	-3.1	
WLF	**Walferdange**	**127.41**	**333**	*e*PKPdf	PKPdf	18 42 27.6	-4.6	
TIP	**Timpagrande**	**127.48**	**316**	*e*PKPdf	PKPdf	18 42 28.5	-4.2	
GIVF	**Givet**	**127.69**	**334**	*e*PKIKP	PKPdf	18 42 29.0	-3.7	
	comp=Z,52nm,0.8s							
CDF	**Champ du Feu**	**127.75**	**331**	*e*PKIKP	PKPdf	18 42 28.8	-4.1	
CII	**Carovilli**	**127.84**	**320**	*e*PKPdf	PKPdf	18 42 29.2	-4.1	
ECH	**Echery**	**127.94**	**331**	PKP	PKPdf	18 42 29.7	-3.6	
BAIF	**Baives**	**127.99**	**334**	*e*PKIKP	PKPdf	18 42 29.6	-3.7	
	comp=Z,50nm,1.1s							
AQU	**L'Aquila**	**128.08**	**321**	*e*PKPdf	PKPdf	18 42 29.5	-4.2	
EMMW	**East Machias**	**128.08**	**35**	PFAKE		18 42 40.0	+6.3	
EMMW				LR	LR			
	comp=Z,26µm,20.0s,MS6.9							
MOF	**Molkenrain**	**128.20**	**330**	PKP	PKPdf	18 42 31.7	-2.1	
HINF	**Hinteralfeld**	**128.36**	**330**	*e*PKIKP	PKPdf	18 42 30.0	-4.1	
	comp=Z,83nm,1.2s							
HAU	**Haudompre**	**128.48**	**331**	*e*PKIKP	PKPdf	18 42 30.2	-4.1	
	comp=Z,52nm,1.0s							
THEF	**They Montfort**	**128.50**	**331**	PKP	PKPdf	18 42 31.2	-3.2	
NNA	**Nana**	**128.55**	**110**	PFAKE		18 42 40.0	+4.7	
NNA				LR	LR			
	comp=Z,455nm,21.0s,MS5.1							
TSUM	**Tsumeb**	**128.68**	**240**	*e*PKPdf	PKPdf	18 42 31.4	-4.1	
TSUM				LR	LR			
	comp=Z,3µm,19.0s,MS6.0							
LOMF	**Lomont**	**128.69**	**330**	PKP	PKPdf	18 42 32.7	-2.1	
MEZF	**Maizieres J'vi**	**128.74**	**332**	*e*PKIKP	PKPdf	18 42 31.4	-3.4	
DMUB	**Kingscourt**	**128.80**	**344**	*e*P	PKPdf	18 42 32.0	-2.8	
DLF	**Lyons Farm**	**129.23**	**343**	*e*P	PKPdf	18 42 33.0	-2.6	
DCN	**Croghan**	**129.40**	**344**	*e*P	PKPdf	18 42 33.0	-2.9	
CABF	**La Chapelle**	**129.57**	**330**	*e*PKIKP	PKPdf	18 42 33.2	-3.2	
	comp=Z,155nm,1.4s							
LPL	**La Plagne**	**129.98**	**328**	*e*PKIKP	PKPdf	18 42 35.2	-2.1	
	comp=Z,29nm,0.7s							
LPG	**La Plagne**	**129.98**	**328**	*e*PKIKP	PKPdf	18 42 35.2	-2.1	
	comp=Z,34nm,0.8s							
LOR	**Lormes**	**130.19**	**332**	*e*PKIKP	PKPdf	18 42 35.2	-2.4	
	comp=Z,101nm,1.3s							
BNI	**Bardonecchia**	**130.32**	**328**	*e*PKPdf	PKPdf	18 42 35.4	-2.5	
MBDF	**Montbardon**	**130.49**	**328**	*e*PKIKP	PKPdf	18 42 36.2	-2.0	
	comp=Z,12nm,0.5s							
SSF	**Saint Saulge**	**130.50**	**332**	*e*PKIKP	PKPdf	18 42 35.9	-2.3	
	comp=Z,50nm,1.0s							
SAOF	**Saorge**	**130.54**	**326**	PKP	PKPdf	18 42 38.4	0.0	
PGF	**Pioggiola**	**130.62**	**324**	*e*PKIKP	PKPdf	18 42 35.9	-2.7	
	comp=Z,131nm,1.0s							
SURF	**Saint Ours**	**130.63**	**327**	PKP	PKPdf	18 42 36.5	-2.0	
SMF	**Signal de Mont**	**130.65**	**331**	*e*PKIKP	PKPdf	18 42 36.1	-2.4	
	comp=Z,94nm,1.3s							
GRN	**Grenoble**	**130.68**	**329**	PKP	PKPdf	18 42 37.1	-1.5	
SBF	**Gaspel**	**130.69**	**326**	*e*PKIKP	PKPdf	18 42 35.7	-3.0	
TOUF	**Mont Tournerai**	**130.69**	**327**	PKP	PKPdf	18 42 38.4	-0.3	
AVF	**Avril sur Loir**	**130.77**	**332**	*e*PKIKP	PKPdf	18 42 36.1	-2.6	
	comp=Z,34nm,1.3s							
ORIF	**Oris-en-Rattie**	**130.83**	**328**	*e*PKIKP	PKPdf	18 42 36.4	-2.5	
	comp=Z,28nm,0.6s							
LDF	**La Druitiere**	**130.94**	**336**	*e*PKIKP	PKPdf	18 42 36.3	-2.7	
	comp=Z,73nm,1.1s							
FLN	**La Foliniere**	**130.96**	**336**	*e*PKIKP	PKPdf	18 42 36.4	-2.6	
	comp=Z,139nm,1.2s							
BGF	**Bois d'Agland**	**131.18**	**332**	*e*PKIKP	PKPdf	18 42 37.3	-2.2	
	comp=Z,44nm,0.8s							
PLDF	**La Plantade**	**131.24**	**331**	PKP	PKPdf	18 42 38.7	-0.9	
LVC	**Limon Verde**	**131.29**	**127**	PFAKE		18 42 50.0	+10	
LVC				LR	LR			
	comp=Z,3µm,20.0s,MS6.0							
FRF	**La Foret Royal**	**131.32**	**326**	*e*PKIKP	PKPdf	18 42 37.1	-2.8	
	comp=Z,68nm,1.1s							
GRR	**Gorron**	**131.41**	**336**	*e*PKIKP	PKPdf	18 42 37.5	-2.4	
	comp=Z,161nm,1.4s							
AGO	**Saint Agoulin**	**131.41**	**331**	PKP	PKPdf	18 42 38.5	-1.5	
VIVF	**Saint-Julien-l**	**131.50**	**329**	*e*PKIKP	PKPdf	18 42 37.5	-2.7	
	comp=Z,111nm,1.4s							
LMR	**La Mourre**	**131.54**	**326**	*e*PKIKP	PKPdf	18 42 37.9	-2.4	
	comp=Z,94nm,1.2s							
SMRF	**Simiane la Rot**	**131.63**	**328**	*e*PKIKP	PKPdf	18 42 38.5	-1.9	
	comp=Z,116nm,1.2s							
TCF	**Toulx Ste Croi**	**131.68**	**332**	*e*PKIKP	PKPdf	18 42 38.2	-2.3	
	comp=Z,40nm,0.8s							
PYM	**Petit Puy Mans**	**131.69**	**331**	PKP	PKPdf	18 42 39.2	-1.3	
LBL	**Lubilhac**	**131.95**	**330**	PKP	PKPdf	18 42 40.1	-0.9	
SGMF	**Saint Gilles**	**132.19**	**337**	*e*PKIKP	PKPdf	18 42 38.6	-2.8	
	comp=Z,26nm,0.7s							
VSL	**Villasalto**	**132.20**	**320**	*e*PKPdf	PKPdf	18 42 35.1	-6.6	
ROSF	**Rostrenen**	**132.40**	**338**	*e*PKIKP	PKPdf	18 42 39.2	-2.6	
	comp=Z,117nm,1.4s							
LASF	**Ste Croix**	**132.46**	**329**	*e*PKIKP	PKPdf	18 42 39.7	-2.3	
	comp=Z,55nm,1.0s							
MFF	**Saint Martin d**	**132.50**	**334**	*e*PKIKP	PKPdf	18 42 39.7	-2.3	
	comp=Z,31nm,0.8s							
RJF	**Les Rejaudoux**	**132.73**	**332**	*e*PKIKP	PKPdf	18 42 39.6	-2.9	
CAF	**Calviac**	**132.75**	**331**	*e*PKIKP	PKPdf	18 42 40.5	-2.0	
	comp=Z,70nm,1.4s							
LFF	**La Frestale**	**133.37**	**332**	*e*PKIKP	PKPdf	18 42 41.4	-2.3	
MTLF	**Montolieu**	**133.82**	**329**	*e*PKIKP	PKPdf	18 42 42.7	-1.8	
	comp=Z,15nm,0.8s							
ROSC	**El Rosal**	**134.03**	**89**	PKP	PKPdf	18 42 41.7	-4.0	
	comp=Z,6.6nm,0.4s,baz=101,slow=22,SNR=4.1							
LPAZ	**La Paz**	**134.89**	**119**	PKP	PKPdf	18 42 43.3	-4.0	
	comp=Z,3.6nm,0.7s,baz=217,slow=6.8,SNR=12							
LPAZ	**La Paz**	**134.89**	**119**	*e*PKIKP	PKPdf	18 42 41.0	-6.2	
LPAZ				MLR	MLR			
	comp=Z,2µm,22.0s							
EPF	**Esparros**	**134.99**	**330**	*e*PKIKP	PKPdf	18 42 44.5	-2.2	
	comp=Z,20nm,0.9s							
TRIS	**Tristan da Cun**	**135.08**	**198**	PFAKE		18 42 50.0	+2.9	
TRIS				LR	LR			
	comp=Z,3µm,19.0s,MS6.0							
EMIR	**Miracle**	**135.20**	**328**	PKP	PKPdf	18 42 41.2	-5.9	
EBIE	**Bielsa**	**135.34**	**330**	PKP	PKPdf	18 42 47.7	+0.3	
ETSF	**Etsaut**	**135.52**	**331**	*e*PKIKP	PKPdf	18 42 45.8	-1.9	
	comp=Z,68nm,1.0s							
EGRA	**Graus**	**135.61**	**330**	PKP	PKPdf	18 42 48.0	+0.2	
SJPF	**Ste Jean**	**135.68**	**332**	*e*PKIKP	PKPdf	18 42 45.8	-2.2	
	comp=Z,23nm,0.8s							
EPOB	**Poblet**	**135.83**	**328**	PKP	PKPdf	18 42 46.1	-2.2	
ERTA	**Horta de San J**	**136.51**	**328**	PKP	PKPdf	18 42 46.4	-3.1	
BBSR	**BB Station**	**136.73**	**47**	PFAKE		18 43 00.0	+10	
BBSR				LR	LR			
	comp=Z,7µm,19.0s,MS6.4							
EIBI	**Ibiza**	**137.32**	**326**	PKP	PKPdf	18 42 44.7	-6.4	
EMOS	**Mosqueruela**	**137.36**	**328**	PKP	PKPdf	18 42 48.6	-2.6	
CPUP	**Villa Florida**	**137.52**	**140**	*e*PKPpre		18 42 36.0		
CPUP				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
SDV	**Santo Domingo**	**137.75**	**83**	*e*PKPdf		18 42 35.9		
SDV				*e*PKPdf	PKPdf	18 42 49.0	-3.5	
SDV				LR	LR			
	comp=Z,1µm,20.0s,MS5.7							
ECHE	**Chera**	**138.18**	**328**	PKP	PKPdf	18 42 45.1	-7.6	
STS	**Santiago**	**138.98**	**338**	PKP	PKPdf	18 42 53.2	-0.8	
ETOB	**Tobarra**	**139.18**	**328**	PKP	PKPdf	18 42 49.6	-4.9	
ESDC	**Sonseca Array**	**139.64**	**331**	PKhKP		18 42 43.3		
	comp=Z,5.6nm,0.9s,baz=23,slow=2.8,SNR=14							
ESDC				PP	PP	18 45 45.3	-4.0	
	comp=Z,7.9nm,0.9s,baz=34,slow=6.8,SNR=9.8							
ESDC	**Sonseca Array**	**139.64**	**331**	PKP		18 42 44.2		
ESLA	**Sonseca Array**	**139.64**	**331**	*e*PKPpre		18 42 38.0		
ESLA				LR	LR			
	comp=Z,22µm,21.0s,MS6.9							
EVIA	**Vianos**	**139.69**	**328**	PKP	PKPdf	18 42 48.2	-7.2	
EHUE	**Huescar**	**140.35**	**328**	PKP	PKPdf	18 42 47.2	-9.5	
EQES	**Quesada**	**140.61**	**328**	PKP	PKPdf	18 42 47.7	-9.5	
MTE	**Manteigas**	**140.68**	**335**	*e*PKPdf		18 42 46.0		
MTE	**Manteigas**	**140.68**	**335**	*e*PKPpre		18 42 44.4		
EBAN	**Banos Encina**	**140.71**	**329**	PKP	PKPdf	18 42 49.7	-7.6	
SJG	**San Juan**	**140.88**	**68**	*e*PKPdf	PKPdf	18 42 52.5	-5.7	
SJG				LR	LR			
	comp=Z,2µm,20.0s,MS6.0							
EADA	**Adamuz**	**141.11**	**330**	PKP		18 42 48.1		
CPD	**Cerro la Pandu**	**141.12**	**68**	*e*PKPpre		18 42 45.2		
CPD				*e*PKPdf	PKPdf	18 42 54.5	-4.2	
PCBR	**Castelo Branco**	**141.12**	**334**	*e*PKPdf	PKPdf	18 42 50.6	-7.4	
ELUQ	**Luque**	**141.41**	**329**	PKP	PKPdf	18 42 51.4	-7.2	
MTP	**Monte Pirata**	**141.43**	**68**	*e*PKPpre		18 42 46.2		
MTP				*e*PKPdf	PKPdf	18 42 56.4	-2.7	
ERON	**Agron**	**141.58**	**328**	PKP	PKPdf	18 42 49.3	-10	
EGUA	**Guajares**	**141.59**	**327**	PKP	PKPdf	18 42 50.4	-8.5	
ELOJ	**Sierra Loja**	**141.67**	**328**	PKP	PKPdf	18 42 50.9	-8.1	
PTOM	**Tomar**	**141.70**	**335**	*e*PKPdf	PKPdf	18 42 52.5	-6.5	
EBAD	**Badajoz**	**141.80**	**333**	PKP	PKPdf	18 42 51.2	-8.0	
EALB	**Alboran**	**141.96**	**326**	PKP	PKPdf	18 42 51.4	-8.2	
SAML	**Samuel**	**142.23**	**112**	*e*PKPpre		18 42 49.5		
SAML				LR	LR			
	comp=Z,2µm,22.0s,MS5.9							
EMIJ	**Mijas**	**142.44**	**328**	PKP	PKPdf	18 42 51.3	-9.0	
EMIN	**Mina Concepcio**	**142.44**	**332**	PKP	PKPdf	18 42 51.7	-8.7	
ESPR	**Espera**	**142.75**	**330**	PKP	PKPdf	18 42 53.2	-7.6	
PBEJ	**Beja**	**142.78**	**333**	*e*PKPdf	PKPdf	18 42 53.4	-7.5	
EGRO	**El Granado**	**143.01**	**332**	PKP	PKPdf	18 42 54.9	-6.4	
PTEO	**Sao Teotonio**	**143.56**	**334**	*e*PKPdf	PKPdf	18 42 57.2	-5.0	
CPB	**Codrington**	**144.98**	**67**	*e*P	PKPbc	18 43 01.2	+1.0	
CPB	**Codrington**	**144.98**	**67**	*e*P	PKPbc	18 43 01.3	+1.2	
BPA	**Boggy Peak**	**145.11**	**68**	*e*	PKPbc	18 42 56.4	-4.1	
BPA	**Boggy Peak**	**145.11**	**68**	*e*	PKPbc	18 43 01.1	+0.6	
BPA	**Boggy Peak**	**145.11**	**68**	*e*P	PKPbc	18 43 01.3	+0.8	
LZG	**Guadaloupe-1**	**145.41**	**70**	*e*P	PKPbc	18 43 00.1	-1.1	
DOG	**Dongo Capester**	**145.59**	**70**	*e*P	PKPbc	18 43 01.3	-0.4	
TBG	**Guadaloupe-3**	**145.60**	**70**	*e*P	PKPbc	18 43 01.8	+0.1	
BBL	**Barber's Block**	**145.84**	**71**	*e*P	PKPbc	18 43 03.1	+0.8	
MGG	**Marie-Galante**	**145.89**	**70**	*e*P	PKPbc	18 43 02.7	+0.3	
DEG	**La Desirade**	**146.04**	**69**	*e*P	PKPbc	18 43 02.6	-0.1	
FDF	**Fort de France**	**146.32**	**72**⇑	*i*P	PKPbc	18 43 06.8	+3.3	
STGR	**Santa Cruz**	**146.64**	**360**	*e*PKP	PKPdf	18 43 07.5	0.0	
PVIA	**Vila Nova**	**146.65**	**360**	*e*PKP	PKPdf	18 43 07.5	-0.1	
PGRA	**Graciosa**	**146.69**	**360**	*e*PKP	PKPdf	18 43 06.9	-0.7	
PLUZ	**Luz**	**146.69**	**1**	*e*PKP	PKPdf	18 43 07.7	+0.1	
TPP	**Pointe-a-Pierr**	**146.71**	**80**	*e*P	PKPbc	18 43 05.2	+0.8	
TRN	**Trinidad (W)**	**146.72**	**79**	*e*P	PKPbc	18 43 05.7	+1.3	
PSBA	**Serra de Santa**	**146.94**	**359**	*e*PKP	PKPdf	18 43 08.1	0.0	
PVNV	**Vila Nova**	**146.94**	**359**	*e*PKP	PKPdf	18 43 08.9	+0.8	
PBIS	**Biscoitos**	**146.94**	**359**	*e*PKP	PKPdf	18 43 06.5	-1.6	
ASBA	**Santa Barbara**	**146.99**	**359**	*e*PKP	PKPdf	18 43 08.2	+0.1	
PFAV	**Pico das Favas**	**146.99**	**358**	*e*PKP	PKPdf	18 43 09.0	+0.9	
ROSA	**Rosais**	**147.00**	**0**	*e*PKP	PKPdf	18 43 07.0	-1.2	
PSCM	**Serra do Cume**	**147.00**	**359**	*e*PKP	PKPdf	18 43 07.1	-1.1	
PPAD	**Pico dos Padre**	**147.01**	**359**	*e*PKP	PKPdf	18 43 07.9	-0.3	
RIB2	**Ribeirinha**	**147.03**	**359**	*e*PKP	PKPdf	18 43 07.8	-0.4	
PAMA	**Santo Amaro**	**147.04**	**0**	*e*PKP	PKPdf	18 43 08.5	+0.3	
ADH	**Angra Heroismo**	**147.05**	**359**	*e*PKP	PKPdf	18 43 07.9	-0.3	
TBH	**Brigand Hill**	**147.07**	**79**	*e*P	PKPbc	18 43 08.9	-0.1	
PMAN	**Manadas**	**147.08**	**360**	*e*PKP	PKPdf	18 43 08.6	+0.3	
PTCA	**Ponta do Capel**	**147.13**	**1**	*e*PKP	PKPdf	18 43 10.1	+1.7	
CALA	**Caldeira**	**147.13**	**1**	*e*PKP	PKPdf	18 43 08.4	0.0	
PICO	**Pico**	**147.22**	**0**	*e*PKP	PKPdf	18 43 08.4	-0.1	
PCND	**Candelaria**	**147.25**	**0**	*e*PKP	PKPdf	18 43 09.3	+0.7	
TPR	**Prospect**	**147.27**	**78**	*e*P	PKPdf	18 43 07.5	-1.8	
PBOI	**Pico dos Bois**	**147.28**	**0**	*e*PKP	PKPdf	18 43 09.1	+0.5	
BOT	**Bacolet**	**147.33**	**78**	*e*	PKPdf	18 43 08.7	-0.6	
PFAD	**Fenais da Ajud**	**147.77**	**356**	*e*PKP	PKPdf	18 43 10.1	+0.7	
PSET	**Sete Cidades**	**147.81**	**356**	*e*PKP	PKPdf	18 43 09.5	0.0	
PCNG	**Congro**	**147.85**	**356**	*e*PKP	PKPdf	18 43 11.8	+2.3	
LFA	**Lagoa do Fogo**	**147.85**	**356**	*e*PKP	PKPdf	18 43 12.3	+2.8	
CML	**Cha da Macela**	**147.86**	**356**	*e*PKP	PKPdf	18 43 11.9	+2.3	
CMLA	**Cha da Macela**	**147.86**	**356**	PFAKE		18 43 20.0	+10	
CMLA				LR	LR			
	comp=Z,4µm,20.0s,MS6.2							
PRCH	**Ribeira Ch**	**147.89**	**356**	*e*PKP	PKPdf	18 43 13.0	+3.4	
CAM4	**Nova Friburgo**	**148.87**	**154**	(P)	PKPdf	18 43 11.2	-0.5	
CAM4				*i*		18 43 15.4		
CAM4				*i*		18 43 18.9		
CAM4				*i*		18 43 21.6		
CAM4				*i*		18 43 26.8		
BDFB	**Brasilia**	**151.18**	**137**	PKPbc	PKPdf	18 43 17.9	+2.5	
	comp=Z,16nm,0.9s,baz=248,slow=1.1,SNR=10							
BAO	**Brasilia Array**	**151.20**	**137**	PKPdf	PKPdf	18 43 12.5	-2.9	
KIC	**Kosan Boka**	**156.69**	**273**	*e*P	PKPdf	18 43 18.9	-4.1	
	comp=Z,87nm,0.9s							
DBIC	**Dimbokro**	**156.80**	**274**	PKP	PKPdf	18 43 20.0	-3.2	
	comp=Z,10nm,1.1s,baz=332,slow=4.6,SNR=3.4							
DBIC	**Dimbokro**	**156.80**	**274**	*e*PKIKP	PKPdf	18 43 19.1	-4.1	
DBIC				MLR	MLR			
	com

KMI AMB AMB
comp=Z,4.0nm,1.2s,mb4.3
KMI Kunming 56.32 305 P **P** **18 49 49.6 -0.3**
comp=Z,4.0nm,1.2s,mb4.3
HHC Hu-ho-hao-te 58.86 325 *e*P **P** **18 50 08.0 +0.5**
HHC AP pP 18 50 15.8 -13
HHC XP sP 18 50 19.0 -19
HHC PP PP 18 52 18.5 -1.7
HHC S **S** **18 58 15.5 +11**
HHC XS 18 58 31.0
HHC AMB AMB
comp=Z,16nm,0.7s,mb5.2
HHC LR LR
comp=N,2μm,14.3s
HHC LR LR
comp=E,1μm,13.1s
HHC LR LR
comp=Z,1μm,14.3s
LZH Lanzhou 60.83 317 *e*P **P** **18 50 22.5 +1.4**
LZH AP pP 18 50 32.5 -10
LZH XP sP 18 50 36.8 -15
LZH PP PP 18 52 39.8 +1.7
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,73nm,4.0s
LZH Lanzhou 60.83 317 *e*P **P** **18 50 22.6 +1.5**
comp=Z,15nm,1.0s,mb5.0
LZH pP pP 18 50 32.5 -10
LZH sP sP 18 50 36.8 -15
LZH PP PP 18 52 39.8 +1.7
HIA Hailar 61.13 337 *e*P **P** **18 50 21.9 -1.0**
comp=Z,7.7nm,1.0s,mb4.7
ULN Ulaanbaatar 65.90 329 *e*P **P** **18 50 54.6 +0.4**
comp=Z,5.0nm,0.9s,mb4.3
SONM Songino Array 66.22 329 P **P** **18 50 56.6 +0.3**
comp=Z,3.8nm,0.7s,mb4.4,baz=144,slow=4.6,SNR=28
LSA Lhasa 67.58 305 *e*P **P** **18 51 03.9 -1.2**
comp=Z,3.5nm,0.8s,mb4.2
GUN Gumba 71.39 302 *e*P **P** **18 51 28.5 +0.1**
KKN Kakani 71.86 301 *e*P **P** **18 51 30.9 -0.4**
DMN Daman 71.96 301 *e*P **P** **18 51 31.0 -0.8**
comp=Z,15nm,0.9s,mb4.8
GKN Gorkha 72.47 301 *e*P **P** **18 51 34.7 -0.1**
comp=Z,20nm,1.1s,mb4.9
KOLN Koldanda 73.29 301 *e*P **P** **18 51 39.6 -0.1**
comp=Z,11nm,0.8s,mb4.8
WMQ Urumqi 75.38 318 *e*P **P** **18 51 52.5 +1.1**
WMQ AMB AMB
comp=Z,7.0nm,1.3s,mb4.2
MKAR Makanchi Array 80.00 319 P **P** **18 52 17.3 +0.4**
comp=Z,2.7nm,0.9s,mb4.1,baz=100,slow=5.6,SNR=14
ILAR Eielson Array 83.24 22 P **P** **18 52 32.2 -1.2**
comp=Z,2.0nm,0.6s,mb4.1,baz=246,slow=5.1,SNR=22
KURK Kurchatov 83.52 322 *e*P **P** **18 52 34.8 -0.2**
comp=Z,9.0nm,1.0s,mb4.5
AAK Ala-Archa 84.21 314 *e*P **P** **18 52 39.6 +0.9**
comp=Z,2.8nm,0.8s,mb4.1
QSPA South Pole Qui 84.50 180 *e*P **P** **18 52 38.7 -0.6**
comp=Z,3.9nm,0.8s,mb4.4
BVAR Borovoye Array 89.02 323 P **P** **18 53 02.1 +0.3**
comp=Z,4.5nm,0.8s,mb4.6,baz=108,slow=4.7,SNR=22
BRVK Borovoye 89.08 323 *e*P **P** **18 53 02.2 +0.1**
comp=Z,3.5nm,0.8s,mb4.4
SYO Syowa Base 92.63 200 ⇑P **P** **18 53 19.3 +1.1**
BMO Blue Mountains 94.63 46 *e*P **P** **18 53 27.5 -0.4**
comp=Z,1.9nm,1.1s,mb4.4
CLL Collm 122.81 330 *e*PKIKP PKPdf 18 59 03.0 +1.5
GERES GERESS Array B 123.95 328 PKP PKPdf 18 59 05.4 +1.6
comp=Z,1.5nm,0.8s,baz=45,slow=1.9,SNR=9.4
BDFB Brasilia 151.46 138 PKPbc PKPdf 19 00 00.5 +6.5
comp=Z,7.0nm,0.7s,baz=228,slow=2.6,SNR=7.6

NEIC 29 18:49:00.9, 40.81N×126.11W, h5km, mb3.2/1, MD3.1(NCEDC)**, After NCEDC., Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.81**	**87**	*e*P	Pn	18 49 30.8	-2.2
KRMB	**Red Mountain**	**1.81**	**66**	*e*P	Pn	18 49 30.4	-2.6
KCPM	**Cahto Peak**	**2.24**	**119**	*e*P	Pn	18 49 36.9	-2.3
KIPM	**Iron Peak**	**2.25**	**116**	*e*P	Pn	18 49 37.4	-1.8
KTRM	**Thompson Ridge**	**2.33**	**61**	P	Pn	18 49 38.4	-2.1
KEBM	**Edson Butte**	**2.45**	**32**	P	Pn	18 49 37.8	-4.3
YBH	**Yreka Blue Hor**	**2.72**	**69**	P	Pn	18 49 44.8	-1.2
WDC	**Whiskeytown Da**	**2.73**	**94**	*e*P	Pn	18 49 42.9	-3.2
HUMO	**Hull Mountain**	**2.97**	**52**	*e*P	Pn	18 49 46.8	-2.7
LHEM	**Herd Peak**	**3.05**	**73**	P	Pn	18 49 50.1	-0.6
DBO	**Dodson Butte**	**3.15**	**42**	P	Pn	18 49 48.9	-3.2
BUOR	**Burton Butte**	**3.25**	**62**	P	Pn	18 49 53.4	-0.2
VSP	**Spence Mountai**	**3.48**	**63**	P	Pn	18 49 55.9	-0.9
HSO	**Harness Mounta**	**3.52**	**39**	P	Pn	18 49 53.9	-3.5
HOG	**Hogback Mounta**	**3.60**	**65**	P	Pn	18 49 57.8	-0.8
IRO	**Indian Ridge**	**4.28**	**41**	P	Pn	18 50 05.4	-2.8
BEKR	**Beckwourth**	**4.50**	**100**	*e*P	Pn	18 50 09.0	-2.3
MOD	**Modoc**	**4.51**	**74**	P	Pn	18 50 09.7	-1.7
FRIS	**Frissel Point**	**4.51**	**40**	P	Pn	18 50 08.5	-3.0
WVOR	**Wild Horse Val**	**5.83**	**71**	*e*P	Pn	18 50 26.7	-3.5
BMO	**Blue Mountains**	**7.63**	**55**	*e*P	Pn	18 50 52.4	-3.0
SDCO	**Great Sand Dun** 2.0nm,1.0s	**16.25**	**94**	P	P	18 52 49.7	-1.7

*BJI **29** 18:51:12.5, 5.49S×152.32E, h38km, mB5.8, mb5.4, Ms5.5, Msz5.2*
*NEIC **29** 18:51:14.4±0.1, 5.48S×151.81E, h25km, mb5.6/49, MS5.1/2, Error ellipse: s-maj=4.5km s-min=3.7km az=137.0*
*HRVD **29** 18:51:14.4±0.6, 5.72S×152.08E, h33km±1km, MW5.7/59, Centroid moment Tensor Solution. LP body waves: s27,c33;Mantle waves: s59,c97; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_rr3.79±.27; $M_{\theta\theta}$-2.95±.15; $M_{\phi\phi}$-0.84±.15; $M_{r\theta}$1.39±.16; $M_{\theta\phi}$-0.74±.10; $M_{\phi r}$0.66±.23; Best double couple: M_o3.81×10^{17} NP1: ϕ_s255°, δ33°, λ94°. NP2:ϕ_s70°, δ57°, λ87°. Principal axes: T 4.117, Plg78°, Azm331°; N -.619, Plg2°, Azm71°; P -3.502, Plg12°, Azm162°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **29** 18:51:15.3±0.9, 5.34S×151.76E, h33km, mb5.8/30, MS5.4/4 Error ellipse: s-maj=9.6km s-min=7.1km az=90.4*
*IDC **29** 18:51:17.1±1.8, 5.47S×151.87E, h44km±15km, mb5.1/21, mb1 5.2/23, mb1mx5.2/24, mbtmp5.3/23, ML4.3/2, MS5.3/8, Ms1 5.3/8, ms1mx4.8/25, Error ellipse: s-maj=16.0km s-min=9.9km az=120.0*

ISC 29 18:51:14.4±0.2, 5.46S±0.04×151.82E±0.04, h32km, h32km±1.4km: pP-P, n349, σ1§02/228, mb5.5/94, MS5.3/20, 37C-11D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 44nm,0.3s,baz=49,slow=10,SNR=74	**6.06**	**229**	P	**Pn**	**18 52 46.0**	**+1.8**
PMG	33nm,0.3s,baz=352,slow=23,SNR=7.6			S	**Sn**	**18 53 55.7**	**+2.5**
PMG	**Port Moresby** 756nm,0.9s	**6.06**	**229**	*e*Pn	**Pn**	**18 52 44.8**	**+0.6**
PMG	**Port Moresby**	**6.06**	**229**	P	**Pn**	**18 52 46.0**	**+1.8**
PMG				S	**Sn**	**18 53 55.7**	**+2.5**
PMG				pmax	pmax		
	comp=Z,44nm,0.3s						
PMG				smax			
	comp=N,33nm,0.3s						
CTA	**Charters Tower** comp=N,17nm,0.9s	**15.51**	**200**	⇓*i*P	**P**	**18 54 57.5**	**+4.8**
CTA	**Charters Tower** comp=N,0.7nm,0.3s,baz=30,slow=12,SNR=4.1	**15.51**	**200**	P	**P**	**18 54 52.4**	**-0.3**
CTA				LR	LR	19 00 29.6	
	comp=N,12μm,18.7s,baz=20,slow=36						
CTAO	**Charters Tower** comp=N,22nm,0.8s	**15.51**	**200**	*e*P	**P**	**18 54 51.8**	**-0.9**
CTAO	**Charters Tower**	**15.51**	**200**	*e*P	**P**	**18 54 51.8**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,22nm,0.8s						
GUMO	**Guam** comp=Z,683nm,1.0s,baz=174,slow=7.3,SNR=33	**20.14**	**340**	P	**P**	**18 55 50.0**	**+1.2**
GUMO	**Guam** comp=Z,1μm,1.3s	**20.14**	**340**	*e*P	**P**	**18 55 49.7**	**+0.9**
GUMO	**Guam**	**20.14**	**340**	*e*P	**P**	**18 55 49.7**	**+0.8**
GUMO				pmax	pmax		
	comp=Z,1μm,1.3s						

KAKA Kakadu 20.44 248 ⇑*i*P **P** **18 56 11.3 +19**
comp=Z,197nm,0.6s
KAKA *e*S S 18 59 54.5 +21
DZM Mont Dzumac 21.75 141 *e*P **P** **18 56 03.6 -1.6**
DZM Mont Dzumac 21.75 141 P **P** **18 56 03.8 -1.3**
comp=Z,14nm,1.0s,baz=17,slow=8.4,SNR=7.4
DZM Mont Dzumac 21.75 141 *e*P **P** **18 56 03.6 -1.6**
WRAB Tennant Creek 22.26 228 *e*P **P** **18 56 10.3 0.0**
comp=Z,246nm,0.8s,mb5.7
WRAB *e*S **S** **19 00 05.2 -3.2**
WRAB Tennant Creek 22.26 228 *e*P **P** **18 56 10.3 0.0**
WRAB *e*S **S** **19 00 05.2 -3.2**
WRAB pmax pmax
comp=Z,246nm,0.8s,mb5.7
WB2 Warramunga Arr 22.27 228 *e*P **P** **18 56 10.8 +0.4**
WB2 *e*S **S** **19 00 12.5 +4.0**
WRA Warramunga Arr 22.28 228 P **P** **18 56 11.9 +1.4**
comp=Z,36nm,0.7s,mb4.9,baz=53,slow=9.4,SNR=83
WRA S **S** **19 00 13.4 +4.8**
comp=Z,42nm,1.2s,baz=56,slow=19,SNR=9.1
WRA ScP 19 03 40.7
comp=Z,9.3nm,1.1s,baz=44,slow=2.3,SNR=9.1
STKA Stephens Creek 27.97 199 *e*P **P** **18 57 03.2 -1.1**
comp=Z,6.9nm,0.6s,mb4.5
STKA Stephens Creek 27.97 199 P **P** **18 57 03.0 -1.3**
comp=Z,10nm,0.8s,mb4.5,baz=359,slow=9.4,SNR=14
FITZ Fitzroy Crossi 28.49 242 ⇑*i*P **P** **18 57 08.6 -0.5**
comp=Z,193nm,1.0s,mb5.7
FITZ Fitzroy Crossi 28.49 242 P **P** **18 57 08.7 -0.4**
comp=Z,242nm,0.9s,mb5.8,baz=55,slow=4.8,SNR=72
DAV Davao City (W) 28.99 295 P **P** **18 57 12.2 -1.5**
RCP Roxas 33.51 300 ⇓*e*P **P** **18 57 54.8 +1.4**
FORT Forrest 33.66 219 *e*P **P** **18 57 54.0 -0.6**
comp=Z,61nm,0.7s,mb5.6
MBWA Marble Bar 34.80 240 *e*P **P** **18 58 03.0 -1.4**
comp=Z,230nm,1.5s,mb5.9
KKM Kota Kinabalu 37.34 287 P **P** **18 58 25.6 -0.3**
CVP Callao Caves 37.51 308 ⇓*e*P **P** **18 58 28.0 +0.7**
comp=Z,10μm,1.0s
JOW Kunigami 39.37 326 P **P** **18 58 43.7 +0.8**
comp=Z,108nm,1.0s,mb5.5,baz=128,slow=13,SNR=8.8
URZ Urewera 39.92 148 LR LR 19 13 12.1
comp=Z,3μm,18.9s,MS5.2,baz=231,slow=33
KLBR Kellerberrin 41.15 227 *e*P **P** **18 58 57.9 +0.5**
comp=Z,73nm,1.0s,mb5.3
NACB Ninganchiao 41.66 316 *e*P **P** **18 59 02.4 +0.6**
RPZ Rata Peaks 41.70 159 LR LR 19 15 10.9
comp=Z,4μm,18.0s,MS5.4,baz=327,slow=34
KSM Kuching 42.03 278 *e*P **P** **18 59 02.6 -2.4**
YHNB Yeheng 42.13 317 *e*P **P** **18 59 07.0 +1.3**
TATO Taipei 42.26 317 *e*P **P** **18 59 06.8 +0.1**
comp=Z,46nm,0.9s,mb5.1
JNU Nakatsue 43.21 334 P **P** **18 59 13.6 -0.8**
comp=Z,38nm,0.9s,mb5.1,baz=152,slow=7.3,SNR=21
MJAR Matsushiro Arr 43.68 344 P **P** **18 59 15.8 -2.4**
comp=Z,8.6nm,1.0s,mb4.5,baz=166,slow=9.1,SNR=13
MJAR PcP PcP 19 01 04.4 -1.1
comp=Z,11nm,0.9s,baz=170,slow=3.7,SNR=8.8
MJAR ScP 19 04 54.4
comp=Z,7.5nm,1.0s,baz=170,slow=5.2,SNR=8.3
MJAR LR LR 19 14 12.3
comp=Z,3μm,20.6s,MS5.2,baz=175,slow=32
MJAR Matsushiro Arr 43.68 344 P **P** **18 59 15.8 -2.4**
MJAR PcP PcP 19 01 04.4 -1.1
MJAR ScP 19 04 54.4
MJAR LR LR 19 14 12.3
MAJO Matsushiro 43.68 344 *e*P **P** **18 59 14.8 -3.4**
comp=Z,48nm,1.4s,mb5.0
MAJO Matsushiro 43.68 344 *e*P **P** **18 59 14.8 -3.4**
MAJO pmax pmax
comp=Z,48nm,1.4s,mb5.0
MAT Matsushiro 43.68 344 P **P** **18 59 15.3 -2.9**
MAT Matsushiro 43.68 344 *e*P **P** **18 59 15.0 -3.2**
comp=Z,15nm,1.0s,mb4.7
MAT Matsushiro 43.68 344 *e*P **P** **18 59 15.0 -3.2**
MAT pmax pmax
comp=Z,15nm,1.0s,mb4.7
QZH Quanzhou 44.25 315 P **P** **18 59 22.8 -0.1**
QZH AMB AMB
comp=Z,260nm,0.9s,mb6.0
SSE Sheshan 46.67 323 P **P** **18 59 43.8 +1.8**
SSE AMB AMB
comp=Z,31nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,2μm,11.1s
SSE Sheshan 46.67 323 P **P** **18 59 43.7 +1.7**
comp=Z,31nm,0.8s,mb5.3
QIZ Qiongzhong 47.97 302 ⇑P **P** **18 59 53.3 +0.8**
QIZ *e*S **S** **19 06 48.8 +1.8**
QIZ AMB AMB
comp=Z,50nm,1.3s,mb5.4
QIZ LR LR
comp=N,2μm,17.6s
QIZ LR LR
comp=Z,2μm,23.4s
QIZ Qiongzhong 47.97 302 *e*P **P** **18 59 53.3 +0.8**
comp=Z,62nm,1.2s,mb5.5
KS15 Wonju Array Si 48.16 334 *e*P **P** **18 59 51.7 -2.0**
INCN Inchon 48.75 333 *e*P **P** **18 59 58.1 -0.1**
comp=Z,144nm,1.3s,mb5.8
NJ2 Nanjing 48.75 322 *e*P **P** **19 00 00.0 +1.7**
NJ2 AP pP 19 00 10.0 +1.8
NJ2 XP sP 19 00 14.0 +1.9
NJ2 PP PP 19 01 53.0 +1.7
NJ2 S **S** **19 06 59.0 +1.2**
NJ2 XS 19 07 16.0
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
NJ2 LR LR
comp=N,4μm,16.6s,MS5.7
NJ2 LR LR
comp=E,5μm,17.0s,MS5.7
NJ2 LR LR
comp=Z,2μm,17.6s,MS5.2
WHN Wuhan 50.66 317 ⇑P **P** **19 00 13.5 +0.5**
KULM Kulim 52.20 281 *e*P **P** **19 00 23.4 -1.4**
YSS Yuzh-Sakhalins 52.80 352 P **P** **19 00 42.3 +13**
KKTK Khon Kaen 53.08 295 P **P** **19 00 30.5 -0.9**
MDJ Mudanjiang 53.70 340 P **P** **19 00 36.5 +1.0**
MDJ AP pP 19 00 45.8 +0.3
MDJ XP sP 19 00 49.3 0.0
MDJ PCP PcP 19 01 41.0 -0.4
MDJ PP PP 19 02 37.3 -0.6
MDJ SCP 19 05 37.3
MDJ PCS 19 05 41.3
MDJ S **S** **19 08 09.5 +3.8**
MDJ XS 19 08 25.8
MDJ AMB AMB
comp=Z,14nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,939nm,12.4s
MDJ LR LR
comp=N,917nm,14.7s,MS5.2
MDJ LR LR
comp=E,2μm,17.9s,MS5.2
MDJ LR LR
comp=Z,2μm,14.7s,MS5.3
ENH Enshi 53.90 314 ⇑*i*P **P** **19 00 36.7 -0.5**
comp=Z,195nm,1.2s,mb5.9
ENH *e*ScP 19 05 36.8
GYA Guiyang 54.02 308 ⇑*i*P **P** **19 00 38.5 +0.4**
GYA AP pP 19 00 49.0 +0.9
GYA XP sP 19 00 53.5 +1.6
GYA S **S** **19 08 10.5 +0.2**
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,1μm,18.6s,MS5.1
GYA LR LR
comp=E,970nm,18.9s,MS5.1
GYA LR LR
comp=Z,1μm,20.0s,MS5.0
CN2 Changchun 54.51 337 *e*P **P** **19 00 39.5 -2.0**
CN2 *e*XP sP 19 00 55.0 -0.2
CN2 *e*S **S** **19 08 17.0 +0.5**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,500nm,5.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.4
CN2 LR LR
comp=E,2μm,17.0s,MS5.4
CN2 LR LR
comp=Z,2μm,18.0s,MS5.1
NST Nakhon Sawan 55.31 293 P **P** **19 00 47.2 -0.5**
NANT Nan 55.83 297 P **P** **19 00 52.0 +0.6**
comp=Z,212nm,0.5s,mb6.4
XAN Xi'an 56.43 317 P **P** **19 00 54.5 -1.1**
XAN AP pP 19 01 10.3 +4.8
XAN AMB AMB
comp=Z,56nm,1.2s,mb5.5
KMI Kunming 56.55 305 P **P** **19 00 57.5 +1.0**
KMI AP pP 19 01 08.0 +1.5
KMI XP sP 19 01 11.0 +0.7
KMI PP PP 19 03 05.8 +2.0
KMI AMB AMB
comp=Z,54nm,1.2s,mb5.5
KMI LR LR
comp=N,785nm,17.2s,MS5.2
KMI LR LR
comp=E,1μm,19.1s,MS5.2
KMI LR LR
comp=Z,774nm,19.1s,MS4.8
KMI Kunming 56.55 305 P **P** **19 00 57.4 +0.9**
comp=Z,54nm,1.2s,mb5.5
KMI pP pP 19 01 08.0 +1.5
KMI sP sP 19 01 11.1 +0.8
KMI PP PP 19 03 05.8 +2.0
KMI ScP 19 05 51.8
KMI LR LR
comp=Z,770nm,19.1s,MS4.8
KMI Kunming 56.55 305 P **P** **19 00 57.4 +0.9**
KMI *PP pP 19 01 08.0 +1.5
KMI *SP sP 19 01 11.1 +0.8
KMI 19 03 05.8
KMI pmax pmax
comp=Z,54nm,1.2s,mb5.5
KMI MLR MLR
comp=Z,770nm,19.1s,MS4.8
CHRT Chiangrai 57.01 298 ⇑P **P** **19 01 00.0 +0.1**
comp=Z,234nm,1.0s,mb6.2
KLR Kul'dur 57.21 344 *e*P **P** **19 00 55.8 -5.1**
CD2 Chengdu 58.43 311 P **P** **19 01 09.3 -0.4**
CD2 PP PP 19 03 20.5 -0.2
CD2 PPP PPP 19 04 44.8 +0.5
CD2 S **S** **19 09 09.3 +0.6**
CD2 SS SS 19 13 03.8 +1.1
CD2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
HHC Hu-ho-hao-te 59.02 325 ⇑P **P** **19 01 13.5 -0.1**
HHC AP pP 19 01 21.0 -2.7
HHC XP sP 19 01 24.3 -3.1
HHC PCP PcP 19 02 02.5 +0.5
HHC SCP 19 06 01.0
HHC PCS 19 06 03.0
HHC S **S** **19 09 16.0 -0.3**
HHC SCS ScS 19 10 57.3 +0.1
HHC SS SS 19 13 10.5 -1.5
HHC AMB AMB
comp=Z,66nm,1.2s,mb5.5
HHC AMB AMB
comp=Z,7μm,3.3s
HHC LR LR
comp=N,1μm,17.8s,MS5.3
HHC LR LR
comp=E,1μm,15.5s,MS5.3
HHC LR LR
comp=Z,2μm,16.6s,MS5.2
LZH Lanzhou 61.03 317 ⇑P **P** **19 01 28.0 +0.6**
LZH AP pP 19 01 38.5 +0.9
LZH XP sP 19 01 43.5 +2.3
LZH PCP PcP 19 02 10.5 +0.4
LZH PP PP 19 03 45.0 +1.0
LZH SCP 19 06 09.0
LZH PCS 19 06 14.0
LZH *e*S **S** **19 09 44.0 +1.9**
LZH XS 19 10 02.0
LZH SS SS 19 13 45.0 +1.8
LZH AMB AMB
comp=Z,114nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,750nm,5.8s
LZH LR LR
comp=E,3μm,17.5s
LZH LR LR
comp=Z,3μm,18.6s,MS5.5
LZH Lanzhou 61.03 317 ⇑P **P** **19 01 27.9 +0.5**
comp=Z,114nm,1.0s,mb6.0
LZH pP pP 19 01 38.5 +0.9
LZH sP sP 19 01 43.5 +2.3
LZH PcP PcP 19 02 10.6 +0.5
LZH PP PP 19 03 45.0 +1.0
LZH ScP 19 06 08.9
LZH PcS 19 06 13.9
LZH *e*S **S** **19 09 44.0 +1.9**
LZH sS 19 10 02.0
LZH SS SS 19 13 45.0 +1.8
LZH LR LR
comp=Z,3μm,18.6s,MS5.5
LZH Lanzhou 61.03 317 ⇑P **P** **19 01 27.9 +0.5**
LZH *PP pP 19 01 38.5 +0.9
LZH *SP sP 19 01 43.5 +2.3
LZH 19 02 10.6
LZH 19 03 45.0
LZH *e*S **S** **19 09 44.0 +1.9**
LZH *SS 19 10 02.0
LZH SS SS 19 13 45.0 +1.8
LZH pmax pmax
comp=Z,114nm,1.0s,mb6.0
LZH MLR MLR
comp=Z,3μm,18.6s,MS5.5
MA2 Magadan 64.84 359 *e*P **P** **19 01 50.0 -2.3**
MA2 Magadan 64.84 359 *e*P **P** **19 01 50.9 -1.4**
MA2 pmax pmax
comp=Z,30nm,1.5s,mb5.1
GTA Gaotai 65.48 318 ⇑P **P** **19 01 57.0 +0.2**
GTA AP pP 19 02 07.5 +0.6
GTA XP sP 19 02 11.8 +1.2
GTA PCP PcP 19 02 28.0 -0.3
GTA PP PP 19 04 25.0 +1.9
GTA SCS ScS 19 11 47.0 +1.1
GTA AMB AMB
comp=Z,37nm,1.1s,mb5.3
GTA AMB AMB
comp=Z,4μm,9.9s
GTA LR LR
comp=N,1μm,19.5s,MS5.2
GTA LR LR
comp=E,1μm,19.5s,MS5.2
GTA LR LR
comp=Z,1μm,19.5s,MS5.1
CLNS Chul'man 65.87 344 *e*P **P** **19 01 55.8 -3.1**
CLNS pmax pmax
comp=Z,16nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CIT Chita 65.88 335 *e*P **P** **19 01 58.8 -0.3**
CIT pmax pmax
comp=Z,98nm,2.4s,mb5.4
ULN Ulaanbaatar 66.04 329 ⇑*e*P **P** **19 02 00.5 +0.2**
comp=Z,56nm,1.0s,mb5.5
ULN Ulaanbaatar 66.04 329 ⇑*i*P **P** **19 02 00.1 -0.1**
SONM Songino Array 66.37 328 P **P** **19 02 02.3 0.0**
comp=Z,47nm,0.9s,mb5.5,baz=142,slow=4.0,SNR=162
LSA Lhasa 67.81 305 *e*P **P** **19 02 12.3 +0.5**
comp=Z,72nm,1.1s,mb5.6
LSA Lhasa 67.81 305 *e*P **P** **19 02 12.3 +0.5**
LSA pmax pmax
comp=Z,72nm,1.1s,mb5.6
YAK Yakutsk 69.43 349 *e*P **P** **19 02 18.1 -3.1**
comp=Z,23nm,0.8s,mb5.2
YAK Yakutsk 69.43 349 ⇓*i*P **P** **19 02 19.9 -1.3**
YAK pmax pmax
comp=Z,35nm,1.7s,mb5.0
YAK MLR MLR
comp=Z,1μm,17.0s,MS5.1
ZAK Zakamensk 69.55 329 ⇑*i*P **P** **19 02 22.0 -0.2**
ZAK pmax pmax
comp=Z,61nm,0.9s,mb5.5
BOD Bodaibo 70.06 340 *e*P **P** **19 02 22.8 -2.3**
BOD pmax pmax
comp=Z,17nm,1.2s,mb4.8
IRK Irkutsk 70.21 331 *e*P **P** **19 02 25.0 -1.1**
IRK pmax pmax

comp=Z,67nm,1.1s,mb5.5
BOK Bokaro 70.49 297 *e*P **P** **19 02 28.8 +0.4**
BOK AMb AMB 19 02 32.1
comp=Z,57nm,1.0s,mb5.5
VIS Vishakhapatnam 71.38 291 *e*P **P** **19 02 34.4 +0.6**
VIS AMb AMB 19 02 36.6
comp=Z,78nm,1.4s,mb5.4
MOY Mondy 71.48 329 *e*P **P** **19 02 34.0 +0.2**
MOY pmax pmax
comp=Z,77nm,1.3s,mb5.5
GUN Gumba 71.63 302⇑ *i*P **P** **19 02 35.3 +0.1**
comp=Z,147nm,1.0s,mb5.9
PKI Pulchoki 71.93 301⇑ *i*P **P** **19 02 36.7 -0.3**
comp=Z,176nm,1.4s,mb5.8
KKN Kakani 72.10 301⇑ *i*P **P** **19 02 37.7 -0.3**
comp=Z,110nm,1.1s,mb5.7
DMN Daman 72.20 301⇑ *i*P **P** **19 02 38.7 +0.1**
comp=Z,223nm,1.1s,mb6.0
VNDA Vanda 72.21 178 *e*P **P** **19 02 37.3 -0.6**
comp=Z,20nm,1.2s,mb4.9
VNDA Vanda 72.21 178 *e*P **P** **19 02 37.3 -0.5**
VNDA pmax pmax
comp=Z,20nm,1.2s
GKN Gorkha 72.71 301⇑ *i*P **P** **19 02 41.1 -0.6**
comp=Z,215nm,1.1s,mb6.0
SBA Scott Base 72.77 177 *e*P **P** **19 02 40.6 -0.5**
comp=Z,16nm,1.2s,mb4.8
SBA Scott Base 72.77 177 *e*P **P** **19 02 40.6 -0.5**
SBA pmax pmax
comp=Z,16nm,1.2s,mb4.8
MIR Mirnyy 72.96 201 *e*P **P** **19 02 42.0 -0.3**
MIR pmax pmax
comp=Z,80nm,1.6s,mb5.4
BLSP Bilaspur 73.44 295 *e*P **P** **19 02 45.5 -0.5**
BLSP AMb AMB 19 02 48.2
comp=Z,63nm,1.6s,mb5.3
KOLN Koldanda 73.53 301⇑ *i*P **P** **19 02 45.9 -0.5**
comp=Z,128nm,1.0s,mb5.8
CHGN Chignik 73.74 26 *e*P **P** **19 02 46.2 -0.9**
BILL Bilibino 74.04 6 *e*P **P** **19 02 47.2 -1.3**
comp=Z,52nm,1.5s,mb5.2
BILL Bilibino 74.04 6 *e*P **P** **19 02 47.8 -0.7**
BILL pmax pmax
comp=Z,16nm,0.8s,mb5.0
WMQ Urumqi 75.57 318⇑ *i*P **P** **19 02 57.8 0.0**
WMQ AP pP 19 03 08.0 -0.1
WMQ XP sP 19 03 12.0 +0.4
WMQ PP PP 19 05 49.0 -0.2
WMQ S S 19 12 35.0 0.0
WMQ SCS ScS 19 13 08.0 +2.7
WMQ SS SS 19 17 28.0 -0.8
WMQ AMB AMB
comp=Z,64nm,1.3s,mb5.4
WMQ AMB AMB
comp=Z,562nm,6.4s
WMQ LR LR
comp=N,1μm,19.8s,MS5.3
WMQ LR LR
comp=E,865nm,17.6s,MS5.3
WMQ LR LR
comp=Z,993nm,22.3s,MS5.1
HYB Hyderabad 75.79 289 *i*P **P** **19 02 59.0 -0.6**
comp=Z,60nm,1.0s,mb5.5
HYB Hyderabad 75.79 289 *e*P **P** **19 02 59.0 -0.6**
comp=Z,60nm,1.0s,mb5.5
HYB Hyderabad 75.79 289 *e*P **P** **19 02 59.0 -0.6**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.5
KDAK Kodiak Island 77.20 27 *e*P **P** **19 03 06.2 -0.5**
comp=Z,122nm,1.0s,mb5.8
SVW2 Sparrevohn 77.81 23 *e*P **P** **19 03 10.4 +0.4**
BHPL Bhopal 77.92 295 *e*P **P** **19 03 10.0 -1.3**
BHPL AMb AMB 19 03 14.5
comp=Z,36nm,1.2s,mb5.2
TIXI Tiksi 78.42 353 *e*P **P** **19 03 12.9 -0.3**
TIXI pmax pmax
comp=Z,12nm,1.1s,mb4.7
TTA Tatalina 78.74 22 *e*P **P** **19 03 14.4 -0.6**
comp=Z,136nm,1.1s,mb5.8
TTA Tatalina 78.74 22 *e*P **P** **19 03 14.4 -0.6**
TTA pmax pmax
comp=Z,136nm,1.1s,mb5.8
DGAR Diego Garcia 78.80 264 *e*P **P** **19 03 16.6 +0.2**
SPU Mount Spurr 79.27 24⇓ *e*P **P** **19 03 16.7 -1.3**
SLKM Skilak Lake 79.68 25 *e*P **P** **19 03 19.5 -0.7**
SLKM Skilak Lake 79.68 25 P **P** **19 03 19.7 -0.5**
MKAR Makanchi Array 80.18 319 P **P** **19 03 22.8 -0.4**
comp=Z,34nm,0.9s,mb5.3,baz=101,slow=6.2,SNR=70
POO Poona 80.39 290 *e*P **P** **19 03 24.6 -0.2**
PMR Palmer 80.69 25 *e*P **P** **19 03 24.5 -1.0**
comp=Z,114nm,1.1s,mb5.7
PMR Palmer 80.69 25 *e*P **P** **19 03 24.5 -1.0**
PMR pmax pmax
comp=Z,114nm,1.1s,mb5.7
AJM Ajmer 81.02 298 *i*P **P** **19 03 27.0 -1.0**
NVS Novosibirsk 82.35 327 *i*P **P** **19 03 32.7 -1.6**
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,37nm,1.4s
NVS pmax pmax
comp=Z,44nm,1.4s,mb5.2
KSH Kashi 82.62 311⇑ *i*P **P** **19 03 38.3 +2.2**
KSH AP pP 19 03 48.8 +2.3
KSH *e*XP sP 19 03 52.5 +2.6
KSH S S 19 13 52.5 +2.8
KSH SKS SKS 19 13 54.8 -4.7
KSH XS 19 14 08.8
KSH SS SS 19 19 18.5 +3.3
KSH AMB AMB
comp=Z,470nm,3.0s
COLA College 82.82 22⇑ *i*P **P** **19 03 34.9 -1.7**
comp=Z,123nm,1.3s,mb5.8
COLA *e* 19 03 47.3
COLA College 82.82 22⇑ *i*P **P** **19 03 34.9 -1.7**
COLA *e* 19 03 47.3
COLA pmax pmax
comp=Z,123nm,1.3s,mb5.8
ULHL Ulahol 83.06 314 P **P** **19 03 39.8 +1.5**
SNR=8.3
ILAR Eielson Array 83.14 22 P **P** **19 03 36.4 -1.9**
comp=Z,31nm,0.8s,mb5.4,baz=251,slow=5.1,SNR=198
ILAR LR LR 19 38 52.7
comp=Z,1μm,19.7s,MS5.3,baz=81,slow=34
MENT Mentasta 83.56 25 *e*P **P** **19 03 40.9 +0.5**
TKM2 Tokmak 2 83.68 314 P **P** **19 03 42.7 +1.2**
SNR=17
KURK Kurchatov 83.69 322⇑ *i*P **P** **19 03 41.1 -0.2**
comp=Z,100nm,1.1s,mb5.9
KURK Kurchatov 83.69 322⇑ *i*P **P** **19 03 41.1 -0.2**
KURK pmax pmax
comp=Z,100nm,1.1s,mb5.9
KZA Kyzart 83.74 313 P **P** **19 03 43.7 +1.9**
SNR=29
KBK Karagaybulak 84.09 314 P **P** **19 03 44.5 +0.9**
SNR=25
CHMS Chumysh 84.31 314 P **P** **19 03 45.1 +0.5**
SNR=52
UCH Uchtor 84.31 313 P **P** **19 03 46.4 +1.8**
SNR=59
FRU Bishkek 84.37 314 *i*P **P** **19 03 44.4 -0.5**
FRU pmax pmax
comp=Z,170nm,1.6s,mb5.9
AAK Ala-Archa 84.41 314 P **P** **19 03 46.6 +1.4**
SNR=40
AAK Ala-Archa 84.41 314 *e*P **P** **19 03 44.1 -1.0**
comp=Z,92nm,1.1s,mb5.8
AAK Ala-Archa 84.41 314*c* *i*P **P** **19 03 44.6 -0.6**
AAK pmax pmax
comp=Z,94nm,1.3s,mb5.8
AAK MLR MLR
comp=Z,300nm,25.0s,MS4.6
QSPA South Pole Qui 84.50 180 *e*P **P** **19 03 44.6 -0.2**
comp=Z,22nm,1.2s,mb5.2
USP Ospenovka 84.55 314 P **P** **19 03 45.9 +0.1**
SNR=75
MAW Mawson 84.59 203 P **P** **19 03 45.2 -0.3**
comp=Z,6.5nm,1.0s,mb4.7,baz=69,slow=6.7,SNR=10
MAW LR LR 19 39 10.2
comp=Z,2μm,18.3s,MS5.5,baz=41,slow=34
MAW Mawson 84.59 203 *e*P **P** **19 03 45.3 -0.2**
comp=Z,30nm,1.2s,mb5.3
MAW Mawson 84.59 203 P **P** **19 03 45.4 -0.1**
MAW pmax pmax
comp=Z,29nm,1.1s
AML Almayashu 84.88 313 P **P** **19 03 49.2 +1.7**
SNR=175
EKS2 Erkin-Say 84.93 314 P **P** **19 03 48.8 +1.1**
SNR=109
BHUJ Bhuj 84.97 294 *e*P **P** **19 03 48.2 -0.2**
BHUJ AMb AMB 19 03 52.0
comp=Z,47nm,0.7s,mb5.8
BBB Bella Bella 88.21 37 P **P** **19 04 03.0 -0.6**
comp=Z,23nm,0.9s,mb5.4,baz=252,slow=8.9,SNR=3.2
DLBC Dease Lake 88.45 31 P **P** **19 04 05.7 +1.1**
comp=Z,106nm,1.1s,mb6.0,baz=250,slow=5.2,SNR=61
DLBC Dease Lake 88.45 31 *e*P **P** **19 04 05.5 +1.0**
CHKZ Chkalovo 89.17 324 *e*P **P** **19 04 06.3 -1.8**
comp=Z,32nm,1.1s,mb5.6
CHKZ Chkalovo 89.17 324 *e*P **P** **19 04 06.3 -1.8**
CHKZ pmax pmax
comp=Z,32nm,1.1s,mb5.6
BVAR Borovoye Array 89.18 323 P **P** **19 04 07.0 -1.2**
comp=Z,17nm,0.9s,mb5.4,baz=108,slow=4.7,SNR=52
BRVK Borovoye 89.25 323 *e*P **P** **19 04 07.2 -1.3**
comp=Z,21nm,1.1s,mb5.4
BRVK Borovoye 89.25 323 P **P** **19 04 07.3 -1.2**
BRVK pmax pmax
comp=Z,21nm,1.1s,mb5.4
KRMB Red Mountain 89.30 48 *e*P **P** **19 04 10.6 +1.6**
KHMM Horse Mountain 89.35 49 *e*P **P** **19 04 10.4 +1.1**
INK Inuvik 89.42 21 P **P** **19 04 08.3 -0.7**
comp=Z,27nm,1.1s,mb5.5,baz=246,slow=4.8
INK Inuvik 89.42 21 *e*P **P** **19 04 07.4 -1.6**
comp=Z,215nm,1.8s,mb6.2
INK Inuvik 89.42 21 P **P** **19 04 09.0 0.0**
INK pmax pmax
comp=Z,220nm,1.8s
MPOR Mary's Peak 89.96 45 P **P** **19 04 13.3 +1.3**
HUMO Hull Mountain 90.15 47 *e*P **P** **19 04 13.5 +0.5**
comp=Z,77nm,1.1s,mb5.9
WDC Whiskeytown Da 90.21 49 *e*P **P** **19 04 13.9 +0.7**
comp=Z,27nm,1.4s,mb5.4
WDC Whiskeytown Da 90.21 49 *e*P **P** **19 04 14.0 +0.7**
WDC pmax pmax
comp=Z,27nm,1.4s,mb5.4
YBH Yreka Blue Hor 90.22 48 P **P** **19 04 13.7 +0.4**
comp=Z,40nm,1.2s,mb5.6,baz=196,slow=1.2,SNR=29
YBH LR LR 19 36 16.1
comp=Z,2μm,19.7s,MS5.6,baz=1.5,slow=30
YBH Yreka Blue Hor 90.22 48 *e*P **P** **19 04 14.0 +0.7**
comp=Z,60nm,1.3s,mb5.8
YBH Yreka Blue Hor 90.22 48 P **P** **19 04 13.7 +0.4**
YBH pmax pmax
comp=Z,40nm,1.2s
YBH MLR MLR
comp=Z,2μm,19.7s
BBOR Butler Butte 90.38 47 P **P** **19 04 14.9 +0.8**
LHEM Herd Peak 90.57 48 P **P** **19 04 15.9 +1.0**
BUOR Burton Butte 90.63 48 P **P** **19 04 16.1 +0.9**
BROR Big Rock Looko 90.72 46 P **P** **19 04 16.1 +0.5**
OHCM Honcut 90.87 51 P **P** **19 04 16.6 +0.2**
FRIS Frissel Point 90.96 46 P **P** **19 04 17.0 +0.4**
CMB Columbia Colle 91.59 52 *e*P **P** **19 04 19.5 -0.2**
comp=Z,47nm,1.5s,mb5.6
CMB Columbia Colle 91.59 52 P **P** **19 04 20.4 +0.7**
CMB pmax pmax
comp=Z,47nm,1.4s,mb5.6
BEKR Beckwourth 91.79 50 *e*P **P** **19 04 21.1 +0.5**
comp=Z,53nm,1.5s,mb5.6
MOD Modoc 92.03 48⇑ *e*P **P** **19 04 22.1 +0.5**
comp=Z,81nm,1.3s,mb5.9
SYO Syowa Base 92.72 200⇑ P **P** **19 04 22.5 -1.7**
SYO Syowa Base 92.72 200⇑ X 19 04 28.5
MTUM Tungsten Hills 92.97 53 *e*P **P** **19 04 27.3 +1.2**
HAWA Hanford 92.98 44⇑ *e*P **P** **19 04 25.9 0.0**
comp=Z,6.6nm,1.4s,mb4.9
EPH Ephrata 93.02 43 P **P** **19 04 26.6 +0.6**
GBL Gable Mountain 93.05 44 P **P** **19 04 26.5 +0.4**
MWC Mount Wilson 93.14 56 *e*P **P** **19 04 27.8 +0.9**
WVOR Wild Horse Val 93.31 48⇑ *e*P **P** **19 04 28.0 +0.5**
comp=Z,83nm,1.4s,mb6.0
WVOR Wild Horse Val 93.31 48⇑ *e*P **P** **19 04 28.0 +0.5**
WVOR pmax pmax
comp=Z,83nm,1.4s,mb6.0
MNV Mina 93.38 52 *e*P **P** **19 04 28.6 +0.7**
comp=Z,70nm,1.4s,mb5.9
MNV Mina 93.38 52 *e*P **P** **19 04 28.6 +0.7**
MNV pmax pmax
comp=Z,70nm,1.4s,mb5.9
OD2 Odessa Site #2 93.62 43 P **P** **19 04 29.3 +0.5**
BMO Blue Mountains 94.43 46 P **P** **19 04 32.4 -0.2**
comp=Z,81nm,1.4s,mb6.0
BMO Blue Mountains 94.43 46 *e*P **P** **19 04 32.4 -0.2**
BMO pmax pmax
comp=Z,81nm,1.4s,mb6.0
NEW Newport 94.74 42 P **P** **19 04 34.0 +0.1**
comp=Z,20nm,1.1s,mb5.5,baz=242,slow=2.1,SNR=17
NEW Newport 94.74 42 *e*P **P** **19 04 34.2 +0.3**
comp=Z,63nm,1.5s,mb5.8
NEW Newport 94.74 42 P **P** **19 04 34.4 +0.5**
NEW pmax pmax
comp=Z,63nm,1.4s
ELK Elko 95.75 50 P **P** **19 04 39.1 +0.3**
comp=Z,5.0nm,1.1s,mb4.9,baz=256,slow=3.5,SNR=15
NEN Nelson 95.86 55 *e*P **P** **19 04 39.9 +0.5**
ARU Arti 96.32 326 *e*P **P** **19 04 39.3 -1.7**
comp=Z,3.5nm,0.4s,mb5.1
ARU Arti 96.32 326⇑ *i*P **P** **19 04 39.0 -2.0**
ARU *e* 19 08 31.8
ARU *e*S 19 15 11.2
ARU *e*SS SS 19 22 23.8 -8.1
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.6
ARU MLR MLR
comp=N,800nm,18.0s,MS5.5
ARU MLR MLR
comp=E,1μm,20.0s,MS5.5
YKW3 Yellowknife Ar 96.46 28 *e*P **P** **19 04 41.1 -0.3**
YKA Yellowknife Ar 96.46 28 P **P** **19 04 41.4 0.0**
comp=E,11nm,0.8s,mb5.3,baz=273,slow=4.4,SNR=24
ARUT Antelope Range 97.06 53 *e*P **P** **19 04 46.3 +1.5**
EDM Edmonton 97.23 37 *e*P **P** **19 04 45.8 +0.7**
CHMT Chamberlain Mo 97.32 44 *e*P **P** **19 04 45.0 -0.7**
MCMT McKenzie Canyo 97.60 46 *e*P **P** **19 04 48.0 +0.9**
HVU Hansel Valley 97.64 49 *e*P **P** **19 04 47.4 +0.2**
comp=E,20nm,1.1s,mb5.6
HVU Hansel Valley 97.64 49 P **P** **19 04 48.1 +0.8**
SPUT South Promonto 97.88 49 P **P** **19 04 46.7 -1.7**
MSU Marysvale 98.06 52 *e*P **P** **19 04 49.8 +0.5**
WUAZ Wupatki 98.68 55 *e*P **P** **19 04 53.7 +1.6**
comp=E,14nm,1.2s,mb5.4
SRU San Rafael 99.36 51 *e*P **P** **19 04 55.1 0.0**
comp=E,5.0nm,0.7s,mb5.2
SRU San Rafael 99.36 51 P **P** **19 04 55.8 +0.7**
PDAR Pinedale Array 100.01 48 P **P** 19 04 58.1 +0.1
comp=E,6.1nm,0.8s,baz=315,slow=2.1,SNR=6.2
PDAR PP PP 19 09 01.4 -4.4
comp=E,1.6nm,1.0s,baz=297,slow=6.6,SNR=3.7
PDAR LR LR 19 44 57.8
comp=E,2μm,18.2s,MS5.6,baz=337,slow=32
ISCO Idaho Springs 103.13 51 P Pdif 19 05 12.7 +0.8
ISCO pmax pmax
comp=Z,7.0nm,0.9s
TXAR Lajitas Array 105.30 61 PP PP 19 09 41.1 -5.1
comp=Z,0.3nm,0.2s,baz=252,slow=7.9,SNR=3.8
ARCES ARCESS Array B 107.21 343 PKiKP 19 09 37.8
comp=Z,1.3nm,0.8s,baz=8.1,slow=8.6,SNR=6.0
OBN Obninsk 108.75 327⇑ *e*P Pdif 19 05 31.2 -5.0
OBN *e* 19 10 07.4
OBN pmax pmax
comp=Z,21nm,1.7s
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.5
FINES FINESS Array B 111.24 335 PKiKP 19 09 46.4
comp=Z,1.4nm,0.7s,baz=315,slow=2.7,SNR=4.9
AKASG Malin Array Be 114.46 324 PKP PKPdf 19 09 52.8 -3.6
comp=Z,1.2nm,0.6s,baz=60,slow=2.1,SNR=10
AKASG PP PP 19 10 49.3 -3.4
comp=Z,0.3nm,0.3s,baz=56,slow=7.5,SNR=8.5
BRTR Keskin Array B 115.01 311 PKP PKPdf 19 09 53.5 -4.3
comp=Z,1.6nm,0.8s,baz=162,slow=3.9,SNR=7.9
BRTR PP PP 19 10 53.4 -3.5
comp=Z,1.7nm,0.9s,baz=100,slow=7.5,SNR=4.4
NB2 NORSAR Subarra117.19 340 PKPdf PKPdf 19 09 56.9 -4.6
comp=Z,1.0nm,0.8s,baz=45,slow=1.9
NOA NORSAR Array B117.19 340 PKP PKPdf 19 09 56.9 -4.6
comp=Z,1.7nm,0.8s,baz=47,slow=1.9,SNR=3.9
BURAR Bucovina Array 118.11 322 ⇓P PKPdf 19 10 02.1 -1.5
BURAR Bucovina Array 118.11 322 ⇓P PKPdf 19 10 02.1 -1.5
WCI Wyandotte Cave 118.19 49 PKIKP PKPdf 19 09 52.0 -12
MLR Müntele Rosu 118.53 320 ⇓P PKPdf 19 09 51.3 -13
KOLS Kolonicke sedl 119.28 324 *e*PKP PKPdf 19 10 02.2 -3.7
STHS Stebnicka Huta 119.64 325 *e*PKP PKPdf 19 10 03.2 -3.3
PLCA Paso Flores 119.83 144 PKP PKPdf 19 10 02.9 -4.2
comp=Z,2.8nm,1.0s,baz=222,slow=3.3,SNR=2.9
DRGR 120.01 322⇑ P PKPdf 19 10 02.4 -4.9
OJC Ojcow 120.04 327 *e*PKPdf PKPdf 19 10 03.6 -3.7
NIE Niedzica 120.16 326 *e*PKP PKPdf 19 10 04.3 -3.3
SADO Sadowa 120.86 40 PKP PKPdf 19 10 05.0 -4.1
comp=Z,11nm,0.8s,baz=340,slow=6.9,SNR=3.0
OKC Ostrava-Krasne 121.14 327 *e*PKPdf PKPdf 19 10 05.4 -4.1
VYHS Vyhne 121.47 325 *e*PKP PKPdf 19 10 05.2 -5.0
DPC Dobruska-Polom 121.83 328 *e*PKPdf PKPdf 19 10 05.7 -5.1
UPC Upice 121.91 328 *e*PKPdf PKPdf 19 10 07.0 -3.9
VRAC Vranov 122.28 327 *e*PKP PKPdf 19 10 07.1 -4.6
BSEG Bad Segeberg 122.47 334 *e*PKPdf PKPdf 19 10 08.2 -3.7
ZST Bratislava 122.61 326 *e*PKP PKPdf 19 10 07.7 -4.6
PVCC Panska Ves 122.64 329 *e*PKPdf PKPdf 19 10 07.0 -5.3
BRG Berggiesshubel 122.75 330 *i*PKP PKPdf 19 10 08.8 -3.7
PKSM Moragy 122.76 323⇓ *i*P PKPdf 19 10 08.4 -4.2
TREC Trest 122.88 327 *e*PKPdf PKPdf 19 10 09.0 -3.8
IDI Anoyia 122.94 309 PKP PKPdf 19 10 09.3 -4.0
comp=Z,20nm,1.0s,baz=119,slow=5.2,SNR=8.9
CLL Collm 122.95 330⇓ *i*PKIKP PKPdf 19 10 08.9 -4.0
comp=Z,logA/T=1.2
CLL *i* *PPKP 19 10 16.4
CLL *i* 19 10 20.9
CLL *e*PP PP 19 11 46.0 -5.2
CLL Collm 122.95 330⇓ *i*PKIKP PKPdf 19 10 08.9 -4.0
CLL *i* 19 10 20.9
DIVS Divcibare 122.95 320⇑ *i*PKP PKPdf 19 10 07.7 -5.4
SKO Skopje 122.95 317 *i*PKP PKPdf 19 10 09.0 -4.1
PRU Pruhonice 122.98 329 *e*PKPdf PKPdf 19 10 08.9 -4.1
JTS JuntasAbangare 123.62 81 PKP PKPdf 19 10 10.5 -4.6
comp=Z,2.6nm,0.4s,baz=284,slow=12,SNR=2.8
CLZ Clausthal 123.86 332 *e*PKPdf PKPdf 19 10 11.3 -3.4
NKC Novy Kostel 123.90 330 *e*PKPdf PKPdf 19 10 10.7 -4.1
KHC Kasperske Hory 123.99 328 *e*PKPdf PKPdf 19 10 10.9 -4.1
MOX Moxa 124.05 331 *i*P PKPdf 19 10 11.6 -3.5
comp=Z,logA/T=1.2
MOX Moxa 124.05 331 *e*PKIKP PKPdf 19 10 11.6 -3.5
GEC2 GERESS Array S 124.10 328 *e*PKPdf PKPdf 19 10 10.9 -4.3
GERES GERESS Array B 124.10 328 PKP PKPdf 19 10 11.2 -4.0
comp=Z,4.7nm,0.6s,baz=77,slow=1.4,SNR=29
WET Wettzell 124.35 329 *e*PKPdf PKPdf 19 10 11.3 -4.4
GROS Grobnik 124.47 325 *e*PKPdf PKPdf 19 10 11.1 -5.0
GRA1 Grafenberg Arr 124.85 330 *e*PKPdf PKPdf 19 10 12.4 -4.3
GRF Grafenberg Arr 124.85 330 *e*PKP PKPdf 19 10 12.4 -4.3
VISS Visnje 125.22 324 *e*PKPdf PKPdf 19 10 12.7 -4.8
FUR Furstenfeldbru 125.79 328 *e*PKPdf PKPdf 19 10 15.2 -3.3
TOD Tromm 126.10 331 PKP PKPdf 19 10 15.2 -3.8
LANF Langenberg 127.00 331 PKP PKPdf 19 10 17.4 -3.4
BFO Black Forest 127.18 330 *e*PKPdf PKPdf 19 10 16.6 -4.6
GIVF Givet 127.59 334 *e*PKIKP PKPdf 19 10 17.5 -4.4
CDF Champ du Feu 127.65 331 *e*PKIKP PKPdf 19 10 17.4 -4.7
comp=Z,39nm,1.5s
ECH Echery 127.84 331 PKP PKPdf 19 10 16.9 -5.6
BAIF Baives 127.89 334 *e*PKIKP PKPdf 19 10 18.3 -4.2
comp=Z,49nm,1.4s
MOF Molkenrain 128.10 330 PKP PKPdf 19 10 18.5 -4.5
HINF Hinteralfeld 128.26 330 *e*PKIKP PKPdf 19 10 18.6 -4.7
comp=Z,117nm,1.6s
HAU Haudompre 128.38 331 *e*PKIKP PKPdf 19 10 18.9 -4.6
comp=Z,81nm,1.5s
THEF They Montfort 128.40 331 PKP PKPdf 19 10 18.2 -5.3
LOMF Lomont 128.59 330 PKP PKPdf 19 10 20.0 -3.9
MEZF Maizieres J'vi 128.64 332 *e*PKIKP PKPdf 19 10 20.0 -4.0
comp=Z,218nm,1.7s
TSUM Tsumeb 128.71 240 *e*PKP PKPdf 19 10 20.7 -4.2
CABF La Chapelle 129.47 330 *e*PKIKP PKPdf 19 10 21.7 -3.9
comp=Z,192nm,1.8s
LPL La Plagne 129.88 328 *e*PKIKP PKPdf 19 10 22.5 -3.9
comp=Z,46nm,1.4s
LPG La Plagne 129.88 328 *e*PKIKP PKPdf 19 10 22.7 -3.7
comp=Z,11nm,0.8s
LOR Lormes 130.09 332 *e*PKIKP PKPdf 19 10 22.6 -4.2
comp=Z,109nm,1.7s
BNI Bardonecchia 130.22 328 PKIKP PKPdf 19 10 24.2 -2.9
MBDF Montbardon 130.39 328 *e*PKIKP PKPdf 19 10 22.7 -4.7
SSF Saint Saulge 130.40 332 *e*PKIKP PKPdf 19 10 23.3 -4.1
comp=Z,88nm,1.7s
PGF Pioggiola 130.53 324 *e*PKIKP PKPdf 19 10 23.3 -4.5
comp=Z,81nm,1.2s
SMF Signal de Mont 130.54 331 *e*PKIKP PKPdf 19 10 23.4 -4.3
comp=Z,136nm,1.8s
AVF Avril sur Loir 130.67 332 *e*PKIKP PKPdf 19 10 23.5 -4.4
comp=Z,26nm,1.3s
ORIF Oris-en-Rattie 130.73 328 *e*PKIKP PKPdf 19 10 23.8 -4.3
comp=Z,16nm,0.8s
LDF La Druitiere 130.84 336 *e*PKIKP PKPdf 19 10 24.0 -4.2
comp=Z,68nm,1.5s
FLN La Foliniere 130.85 336 *e*PKIKP PKPdf 19 10 23.9 -4.3
comp=Z,128nm,1.6s
BGF Bois d'Agland 131.08 332 *e*PKIKP PKPdf 19 10 24.6 -4.1
comp=Z,16nm,0.7s
PLDF La Plantade 131.14 331 PKP PKPdf 19 10 24.6 -4.2
FRF La Foret Royal 131.22 326 *e*PKIKP PKPdf 19 10 24.7 -4.3
GRR Gorron 131.30 336 *e*PKIKP PKPdf 19 10 25.0 -4.1
comp=Z,81nm,1.4s
AGO Saint Agoulin 131.31 331 PKP PKPdf 19 10 24.8 -4.3
VIVF Saint-Julien-l 131.40 329 *e*PKIKP PKPdf 19 10 25.0 -4.3
LMR La Mourre 131.45 326 *e*PKIKP PKPdf 19 10 25.3 -4.2
comp=Z,126nm,1.5s
TCF Toulx Ste Croi 131.58 332 *e*PKIKP PKPdf 19 10 25.5 -4.1
comp=Z,29nm,1.2s
PYM Petit Puy Mans 131.59 331 PKP PKPdf 19 10 27.3 -2.4
LBL Lubilhac 131.85 330 PKP PKPdf 19 10 26.9 -3.3
SGMF Saint Gilles 132.08 337 *e*PKIKP PKPdf 19 10 26.1 -4.4
ROSF Rostrenen 132.29 338 *e*PKIKP PKPdf 19 10 26.5 -4.4
comp=Z,55nm,1.3s
LASF Ste Croix 132.36 329 *e*PKIKP PKPdf 19 10 26.9 -4.3
MFF Saint Martin d 132.40 334 *e*PKIKP PKPdf 19 10 26.9 -4.3
RJF Les Rejaudoux 132.63 332 *e*PKIKP PKPdf 19 10 28.1 -3.6
CAF Calviac 132.65 331 *e*PKIKP PKPdf 19 10 28.1 -3.6
EPF Esparros 134.88 330 *e*PKIKP PKPdf 19 10 32.4 -3.5
LPAZ La Paz 134.96 119 PKP PKPdf 19 10 33.7 -3.0
comp=Z,3.0nm,0.8s,baz=287,slow=0.6,SNR=12
LPAZ La Paz 134.96 119 *e*PKPpre 19 10 30.2
LPAZ PP PKPdf 19 10 33.7 -3.0
LPAZ La Paz 134.96 119 PKIKP PKPdf 19 10 33.0 -3.7
EBIE Bielsa 135.24 330 PKP PKPdf 19 10 33.5 -3.0
EPOB Poblet 135.73 328 PKP PKPdf 19 10 32.9 -4.6
ERTA Horta de San J 136.41 328 PKP PKPdf 19 10 36.2 -2.5
EMOS Mosqueruela 137.26 328 PKP PKPdf 19 10 32.0 -8.4
CPUP Villa Florida 137.61 140 PKP PKPdf 19 10 38.0 -3.4
comp=Z,4.4nm,0.9s,baz=158,slow=6.3,SNR=6.1
SDV Santo Domingo 137.76 83 *e*PKPdf PKPdf 19 10 37.9 -4.0
SDV *e*SKP 19 14 11.4
EMUR La Murta 139.50 326 PKP PKPdf 19 10 38.4 -6.1
ESDC Sonseca Array 139.54 331 PP PP 19 13 33.8 -4.3
comp=Z,3.5nm,0.9s,baz=30,slow=7.2,SNR=6.9
ESDC Sonseca Array 139.54 331 PKP PKPdf 19 10 31.9 -13
EVIA Vianos 139.59 328 PKP PKPdf 19 10 32.1 -13
EHUE Huescar 140.25 328 PKP PKPdf 19 10 34.5 -11
EQES Quesada 140.51 328 PKP PKPdf 19 10 32.3 -14
EBAN Banos Encina 140.61 329 PKP PKPdf 19 10 35.3 -11
SJG San Juan 140.86 68 PKP PKPdf 19 10 42.2 -5.3
comp=Z,7.8nm,0.3s,baz=316,slow=16,SNR=7.2
EADA Adamuz 141.01 330 PKP PKPdf 19 10 31.7 -16
CPD Cerro la Pandu 141.09 68 *e*PKPpre 19 10 34.7
CPD *e*SKP 19 14 20.9
ELUQ Luque 141.32 329 PKP PKPdf 19 10 36.9 -11
ERON Agron 141.49 328 PKP PKPdf 19 10 37.5 -11
EGUA Guajares 141.50 328 PKP PKPdf 19 10 37.2 -11
ELOJ Sierra Loja 141.57 328 PKP PKPdf 19 10 38.4 -10
EBAD Badajoz 141.70 333 PKP PKPdf 19 10 38.6 -10
SAML Samuel 142.28 112 *e*PKPpre 19 10 40.3
EMIJ Mijas 142.34 328 PKP PKPdf 19 10 39.0 -11
EMIN Mina Concepcio 142.34 332 PKP PKPdf 19 10 38.4 -11
ESPR Espera 142.66 330 PKP PKPdf 19 10 40.8 -9.3
EJIF Jimena Fronter 142.78 329 PKP PKPdf 19 10 39.4 -11
EGRO El Granado 142.91 332 PKP PKPdf 19 10 40.6 -10
BDFB Brasilia 151.27 137 PKP PKPdf 19 11 01.1 -3.8
comp=Z,10.0nm,1.0s,baz=169,slow=3.1,SNR=4.9
BDFB PKPbc PKPdf 19 11 07.0 +2.2
comp=Z,25nm,1.0s,baz=277,slow=2.6,SNR=15
BAO Brasilia Array 151.29 137 P PKPdf 19 11 06.5 +1.6
KIC Kosan Boka 156.67 273 *e*PKP1 PKPab 19 11 38.1 -0.7
comp=Z,333nm,1.3s
DBIC Dimbokro 156.78 274 PKP PKPdf 19 11 09.1 -3.4
comp=Z,6.0nm,1.0s,baz=267,slow=1.7,SNR=3.6
DBIC PKPab PKPab 19 11 38.9 -0.4

comp=Z,16nm,0.9s,baz=88,slow=6.2,SNR=7.5
DBIC Dimbokro 156.78 274 *e*PKPdf PKPdf 19 11 08.5 -4.1
DBIC PKP PKPdf 19 11 09.1 -3.4
DBIC PKPab PKPab 19 11 38.9 -0.4
TIC Toumodi 156.94 274 *e*PKP1 PKPab 19 11 38.9 -1.0
comp=Z,208nm,1.2s
LIC Lamto 156.96 273 *e*PKIKP PKPdf 19 11 07.4 -5.4
comp=Z,34nm,1.2s
LIC Lamto 156.96 273 *e*PKP1 PKPab 19 11 38.9 -1.1
comp=Z,153nm,1.6s

BJI **29** *19:12:36.6,5.64S×151.98E,h36km,mB5.6,mb4.9,Ms5.3, Msz5.0*
NEIC **29** *19:12:38.0±0.2,5.49S×151.71E,h25km,mb5.2/26,Error ellipse: s-maj=7.1km s-min=4.4km az=101.0*
MOS **29** *19:12:37.6±1.4,5.41S×151.79E,h33km,mb5.3/22,Error ellipse: s-maj=12.0km s-min=8.0km az=86.6*
HRVD **29** *19:12:38.0±0.9,5.76S×152.08E,h33km±1km,MW5.4/34, Centroid moment Tensor Solution. LP body waves: s22,c24;Mantle waves: s34,c46; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr 1.35±.18; Mθθ -1.03±.10; Mφφ -0.31±.10; Mrθ 0.69±.10; Mrφ -0.23±.05; Mθφ -0.33±.13; Best double couple: M0 1.423×10^17 NP1: φs 244°,δ 33°,λ 66°. NP2: φs 92°,δ 60°,λ 105°. Principal axes: T 1.609, Plg 71°, Azm 36°; N -.37, Plg 13°, Azm 264°; P -1.237, Plg 14°, Azm 171°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC **29** *19:12:40.9±1.9,5.54S×151.81E,h48km±17km,mb4.6/15, mb1 4.7/17,mb1mx4.7/19,mbtmp4.9/17,ML3.8/2,MS4.8/7, Ms1 4.8/7,ms1mx4.6/18 Error ellipse: s-maj=18.0km s-min=10.6km az=122.0*
ISC 29 19:12:36.7±0.3,5.47S±0.04×151.88E±0.06,h28km, h28km±1.7km;pP-P,n130,σ1s16/124,mb5.0/56,MS4.9/12, 5C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.09**	**230**	P	**Pn**	**19 14 08.4**	**+1.0**
	23nm,0.3s,baz=39,slow=8.6,SNR=71						
PMG				S	**Sn**	**19 15 17.5**	**+0.5**
	89nm,0.3s,baz=99,slow=20,SNR=6.6						
PMG	**Port Moresby**	**6.09**	**230**	*e*Pn	**Pn**	**19 14 08.0**	**+0.6**
	744nm,1.0s						
PMG	**Port Moresby**	**6.09**	**230**	P	**Pn**	**19 14 08.4**	**+1.0**
PMG				S	**Sn**	**19 15 17.5**	**+0.6**
PMG				pmax	pmax		
	comp=Z,23nm,0.3s						
PMG				smax			
	comp=N,89nm,0.3s						
CTA	**Charters Tower**	**15.52**	**200**	*e*P	**P**	**19 16 16.9**	**+1.3**
	comp=N,17nm,0.8s						
CTA	**Charters Tower**	**15.52**	**200**	P	**P**	**19 16 15.2**	**-0.3**
	comp=N,0.2nm,0.3s,baz=42,slow=14,SNR=5.0						
CTA				LR	LR	19 21 40.2	
	comp=N,3μm,19.7s,baz=21,slow=35						
CTA	**Charters Tower**	**15.52**	**200**	*e*P	**P**	**19 16 16.9**	**+1.3**
CTA				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**15.52**	**200**	*e*P	**P**	**19 16 14.6**	**-1.0**
	comp=Z,54nm,1.1s						
CTAO	**Charters Tower**	**15.52**	**200**	*e*P	**P**	**19 16 14.6**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,54nm,1.1s						
GUMO	**Guam**	**20.18**	**340**	P	**P**	**19 17 12.9**	**+0.9**
	comp=Z,178nm,1.1s,baz=170,slow=7.1,SNR=7.1						
GUMO				LR	LR	19 23 07.8	
	comp=Z,2μm,21.6s,MS4.3,baz=76,slow=31						
GUMO	**Guam**	**20.18**	**340**	*e*P	**P**	**19 17 12.7**	**+0.6**
	comp=Z,377nm,1.3s						
GUMO	**Guam**	**20.18**	**340**	*e*P	**P**	**19 17 12.7**	**+0.6**
GUMO				pmax	pmax		
	comp=Z,377nm,1.3s						
KAKA	**Kakadu**	**20.48**	**248**	⇑*i*P	**P**	**19 17 34.1**	**+19**
	comp=Z,95nm,0.6s						
KAKA				*e*S	**S**	**19 21 17.1**	**+19**
DZM	**Mont Dzumac**	**21.70**	**141**	P	**P**	**19 17 27.6**	**0.0**
	comp=Z,18nm,1.0s,mb4.5,baz=40,slow=13,SNR=5.2						
DZM				LR	LR	19 23 56.5	
	comp=Z,3μm,20.3s,MS4.8,baz=279,slow=31						
WRAB	**Tennant Creek**	**22.30**	**228**	*e*P	**P**	**19 17 33.4**	**-0.1**
	comp=Z,186nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**22.30**	**228**	*e*P	**P**	**19 17 33.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,186nm,0.9s,mb5.5						
WB2	**Warramunga Arr**	**22.30**	**228**	*e*P	**P**	**19 17 33.8**	**+0.2**
WB2				*e*S	**S**	**19 21 35.0**	**+2.7**
WRA	**Warramunga Arr**	**22.31**	**228**	P	**P**	**19 17 33.7**	**0.0**
	comp=Z,30nm,1.0s,mb4.7,baz=52,slow=9.5,SNR=16						
WRA				S	**S**	**19 21 35.4**	**+2.9**
	comp=Z,30nm,1.1s,baz=54,slow=19,SNR=12						
WRA				ScP		19 25 04.9	
	comp=Z,4.5nm,1.0s,baz=43,slow=3.0,SNR=5.5						
STKA	**Stephens Creek**	**27.98**	**199**	*e*P	**P**	**19 18 25.6**	**-1.6**
	comp=Z,14nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**27.98**	**199**	P	**P**	**19 18 26.0**	**-1.3**
	comp=Z,11nm,0.8s,mb4.6,baz=9.7,slow=7.9,SNR=16						
STKA				LR	LR	19 28 54.1	
	comp=Z,2μm,18.9s,MS4.7,baz=271,slow=35						
STKA	**Stephens Creek**	**27.98**	**199**	*e*P	**P**	**19 18 25.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**28.53**	**242**	*e*P	**P**	**19 18 31.4**	**-1.0**
	comp=Z,102nm,1.0s,mb5.5						
FITZ	**Fitzroy Crossi**	**28.53**	**242**	P	**P**	**19 18 31.7**	**-0.7**
	comp=Z,195nm,1.0s,mb5.8,baz=58,slow=4.3,SNR=30						
FORT	**Forrest**	**33.69**	**219**	*e*P	**P**	**19 19 16.5**	**-1.2**
	comp=Z,24nm,0.6s,mb5.3						
MBWA	**Marble Bar**	**34.84**	**240**	*e*P	**P**	**19 19 24.6**	**-3.1**
	comp=Z,44nm,1.0s,mb5.3						
TAU	**Tasmania Unive**	**37.50**	**186**	*e*P	**P**	**19 19 49.5**	**-0.5**
	comp=Z,45nm,1.3s,mb5.1						
TAU	**Tasmania Unive**	**37.50**	**186**	*e*P	**P**	**19 19 49.5**	**-0.4**
TAU				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.1						
URZ	**Urewera**	**39.89**	**148**	LR	LR	19 34 33.4	
	comp=Z,1μm,18.6s,MS4.8,baz=317,slow=33						
KLBR	**Kellerberrin**	**41.18**	**227**	*e*P	**P**	**19 20 19.1**	**-1.5**
	comp=Z,40nm,1.0s,mb5.0						
RPZ	**Rata Peaks**	**41.67**	**159**	P	**P**	**19 20 23.3**	**-1.2**
	comp=Z,18nm,0.8s,mb4.7,baz=13,slow=18,SNR=4.3						
RPZ				LR	LR	19 36 01.4	
	comp=Z,3μm,18.1s,MS5.1,baz=281,slow=34						
YHNB	**Yeheng**	**42.18**	**317**	*e*P	**P**	**19 20 29.6**	**+0.7**
MJAR	**Matsushiro Arr**	**43.71**	**344**	P	**P**	**19 20 39.5**	**-1.8**
	comp=Z,2.4nm,0.9s,mb3.9,baz=176,slow=6.8,SNR=4.7						
MJAR				PcP	PcP	19 22 27.7	-0.8
	comp=Z,3.7nm,1.0s,baz=186,slow=4.0,SNR=5.7						
MJAR				LR	LR	19 37 52.3	
	comp=Z,1μm,18.3s,MS4.8,baz=130,slow=35						
MAJO	**Matsushiro**	**43.71**	**344**	*e*P	**P**	**19 20 38.5**	**-2.8**
	comp=Z,32nm,1.8s,mb4.8						
MAJO	**Matsushiro**	**43.71**	**344**	*e*P	**P**	**19 20 38.5**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,32nm,1.8s,mb4.8						
SSE	**Sheshan**	**46.71**	**323**	P	**P**	**19 21 05.0**	**-0.3**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,194nm,7.7s						
SSE	**Sheshan**	**46.71**	**323**	P	**P**	**19 21 04.9**	**-0.4**
	comp=Z,10.0nm,0.7s,mb4.8						
QIZ	**Qiongzhong**	**48.02**	**302**	*e*P	**P**	**19 21 17.8**	**+2.0**
NJ2	**Nanjing**	**48.79**	**322**	*e*P	**P**	**19 21 21.3**	**-0.3**
NJ2				AP	pP	19 21 33.8	+3.6
NJ2				XP	sP	19 21 39.0	+5.4
NJ2				PP	PP	19 23 15.5	+0.8
NJ2				S	**S**	**19 28 20.0**	**-1.7**
NJ2				XS		19 28 40.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
NJ2				LR	LR		
	comp=N,2μm,19.6s,MS5.3						
NJ2				LR	LR		
	comp=E,2μm,18.6s,MS5.3						
NJ2				LR	LR		
	comp=Z,1μm,17.4s,MS5.0						
WHN	**Wuhan**	**50.71**	**317**	*e*P	**P**	**19 21 36.5**	**+0.2**
MDJ	**Mudanjiang**	**53.73**	**340**	P	**P**	**19 21 59.8**	**+1.1**
MDJ				AP	pP	19 22 09.0	+1.6
MDJ				XP	sP	19 22 12.8	+2.1
MDJ				PCP	PcP	19 23 04.8	+0.3
MDJ				PP	PP	19 24 01.3	+0.1
MDJ				SCP		19 27 00.3	
MDJ				PCS		19 27 04.3	
MDJ				S	**S**	**19 29 34.3**	**+4.9**
MDJ				XS		19 29 50.0	
				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,512nm,13.0s						
MDJ				LR	LR		
	comp=N,578nm,16.2s,MS4.9						
MDJ				LR	LR		
	comp=E,759nm,16.2s,MS4.9						
MDJ				LR	LR		
	comp=Z,1μm,14.8s,MS5.0						
ENH	**Enshi**	**53.94**	**314**	*e*P	**P**	**19 21 59.5**	**-0.9**
	comp=Z,57nm,1.3s,mb5.3						
CN2	**Changchun**	**54.54**	**337**	*e*P	**P**	**19 22 06.5**	**+1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
XAN	**Xi'an**	**56.48**	**317**	P	**P**	**19 22 18.0**	**-0.8**
XAN				AP	pP	19 22 25.3	-2.3
XAN				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.9						
KMI	**Kunming**	**56.60**	**305**	P	**P**	**19 22 20.5**	**+0.7**
KMI				AP	pP	19 22 28.0	-0.6
KMI				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.8						
KMI	**Kunming**	**56.60**	**305**	P	**P**	**19 22 20.4**	**+0.6**
	comp=Z,14nm,1.3s,mb4.8						
KMI				pP	pP	19 22 28.1	-0.5
KMI	**Kunming**	**56.60**	**305**	P	**P**	**19 22 20.4**	**+0.6**
KMI				*PP	pP	19 22 28.1	-0.5
KMI				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
CD2	**Chengdu**	**58.48**	**311**	*e*P	**P**	**19 22 32.3**	**-0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
HHC	**Hu-ho-hao-te**	**59.06**	**325**	*e*P	**P**	**19 22 35.8**	**-1.1**
HHC				AP	pP	19 22 43.3	-2.4
HHC				PCP	PcP	19 23 25.8	+0.6
HHC				PP	PP	19 24 46.5	-2.7
HHC				SCP		19 27 21.8	
HHC				PCS		19 27 24.8	
HHC				S	**S**	**19 30 38.3**	**-1.8**
HHC				SCS	ScS	19 32 19.8	-1.2
HHC				SS	SS	19 34 33.0	-2.9
HHC				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.2						
HHC				AMB	AMB		
	comp=Z,710nm,4.4s						
HHC				LR	LR		
	comp=N,394nm,16.7s,MS5.0						
HHC				LR	LR		
	comp=E,691nm,13.1s,MS5.0						
HHC				LR	LR		
	comp=Z,964nm,15.5s,MS5.0						
LZH	**Lanzhou**	**61.07**	**317**	*e*P	**P**	**19 22 51.0**	**+0.3**
LZH				AP	pP	19 23 00.8	+1.2
LZH				XP	sP	19 23 04.0	+1.2
LZH				PCP	PcP	19 23 34.0	+0.7
LZH				SCP		19 27 30.5	
LZH				PCS		19 27 34.5	
LZH				*eS	**S**	**19 31 07.0**	**+1.0**
LZH				XS		19 31 25.0	
LZH				SS	SS	19 35 08.0	+0.7
LZH				AMB	AMB		
	comp=Z,34nm,1.2s,mb5.3						
LZH				AMB	AMB		
	comp=Z,183nm,6.0s						
LZH				LR	LR		
	comp=E,1μm,15.6s						
LZH				LR	LR		
	comp=Z,2μm,17.0s,MS5.2						
LZH	**Lanzhou**	**61.07**	**317**	*e*P	**P**	**19 22 51.0**	**+0.3**
LZH				*PP	pP	19 23 00.8	+1.2
LZH				*SP	sP	19 23 04.0	+1.2
LZH						19 23 33.9	
LZH				*eS	**S**	**19 31 07.0**	**+1.0**
LZH				*SS		19 31 25.0	
LZH				SS	SS	19 35 08.0	+0.7
LZH				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.3						
LZH				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.2						
HIA	**Hailar**	**61.27**	**337**	*e*P	**P**	**19 22 51.0**	**-0.8**
MA2	**Magadan**	**64.85**	**359**	*e*P	**P**	**19 23 13.8**	**-1.5**
	comp=Z,80nm,1.6s,mb5.5						
MA2	**Magadan**	**64.85**	**359**	*e*P	**P**	**19 23 13.8**	**-1.5**
MA2				pmax	pmax		
	comp=Z,81nm,1.6s,mb5.5						
GTA	**Gaotai**	**65.53**	**318**	*e*P	**P**	**19 23 20.0**	**-0.1**
GTA				AP	pP	19 23 27.8	-1.1
GTA				XP	sP	19 23 30.8	-1.3
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
CIT	**Chita**	**65.91**	**335**	*e*P	**P**	**19 23 18.2**	**-4.1**
CIT				*e*		19 23 52.2	
ULN	**Ulaanbaatar**	**66.08**	**329**	*e*P	**P**	**19 23 23.1**	**-0.3**
	comp=Z,15nm,1.0s,mb5.0						
ULN	**Ulaanbaatar**	**66.08**	**329**	*e*P	**P**	**19 23 23.1**	**-0.3**
ULN				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
SONM	**Songino Array**	**66.41**	**328**	P	**P**	**19 23 25.2**	**-0.3**
	comp=Z,69nm,1.4s,mb5.5,baz=141,slow=4.7,SNR=49						
LSA	**Lhasa**	**67.86**	**305**	*e*P	**P**	**19 23 35.3**	**+0.2**
	comp=Z,16nm,1.1s,mb5.0						
LSA	**Lhasa**	**67.86**	**305**	*e*P	**P**	**19 23 35.3**	**+0.2**
LSA				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
ZAK	**Zakamensk**	**69.59**	**329**	⇑*i*P	**P**	**19 23 45.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
BOD	**Bodaibo**	**70.09**	**340**	*e*P	**P**	**19 23 46.7**	**-1.6**
BOD				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.2						
MOY	**Mondy**	**71.52**	**329**	*e*P	**P**	**19 23 57.6**	**+0.6**
MOY				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
GUN	**Gumba**	**71.68**	**302**	*e*P	**P**	**19 23 58.3**	**-0.1**
	comp=Z,24nm,0.8s,mb5.2						
PKI	**Pulchoki**	**71.99**	**301**	*e*P	**P**	**19 24 00.0**	**-0.2**
KKN	**Kakani**	**72.16**	**301**	*e*P	**P**	**19 24 01.0**	**-0.3**
	comp=Z,24nm,1.1s,mb5.0						
VNDA	**Vanda**	**72.20**	**178**	*e*P	**P**	**19 23 58.7**	**-2.0**
	comp=Z,5.0nm,1.0s,mb4.4						
VNDA				*e*	pP	19 24 07.1	-2.6
VNDA	**Vanda**	**72.20**	**178**	*e*P	**P**	**19 23 58.7**	**-2.0**
VNDA				*e*	pP	19 24 07.1	-2.5
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DMN	**Daman**	**72.25**	**301**	*e*P	**P**	**19 24 01.7**	**-0.1**
	comp=Z,44nm,1.0s,mb5.3						
GKN	**Gorkha**	**72.76**	**301**	*e*P	**P**	**19 24 04.3**	**-0.6**
	comp=Z,52nm,1.2s,mb5.3						
MIR	**Mirnyy**	**72.97**	**201**	*e*P	**P**	**19 24 08.0**	**+2.7**
MIR				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
KOLN	**Koldanda**	**73.58**	**301**	*e*P	**P**	**19 24 09.0**	**-0.7**
	comp=Z,43nm,1.3s,mb5.2						
BILL	**Bilibino**	**74.04**	**6**	*e*P	**P**	**19 24 04.5**	**-7.0**
BILL				pmax	pmax		
	comp=Z,26nm,2.4s,mb4.7						
WMQ	**Urumqi**	**75.61**	**318**	⇓*i*P	**P**	**19 24 21.5**	**+0.4**
WMQ				AP	pP	19 24 32.0	+2.0
WMQ				XP	sP	19 24 36.0	+2.9
WMQ				PP	PP	19 27 13.0	+0.4
WMQ				*eS	S	19 33 59.0	+0.2
WMQ				XS		19 34 16.0	
WMQ				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,323nm,5.2s						
WMQ				LR	LR		
	comp=N,575nm,13.8s,MS5.2						
WMQ				LR	LR		
	comp=E,544nm,13.2s,MS5.2						
WMQ				LR	LR		
	comp=Z,498nm,18.3s						
HYB	**Hyderabad**	**75.84**	**289**	*i* P	**P**	**19 24 22.0**	**-0.9**
HYB	**Hyderabad**	**75.84**	**289**	*e*P	**P**	**19 24 22.0**	**-0.9**
KDAK	**Kodiak Island**	**77.19**	**27**	P	**P**	**19 24 30.4**	**+0.8**
	comp=Z,19nm,1.0s,mb5.0,baz=121,slow=6.4,SNR=3.6						
KDAK	**Kodiak Island**	**77.19**	**27**	P	**P**	**19 24 30.4**	**+0.8**
TTA	**Tatalina**	**78.73**	**22**	*e*P	**P**	**19 24 38.7**	**+0.8**
	comp=Z,25nm,1.3s,mb5.0						
TTA	**Tatalina**	**78.73**	**22**	*e*P	**P**	**19 24 38.7**	**+0.8**
TTA				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
SLKM	**Skilak Lake**	**79.66**	**25**	*e*P	**P**	**19 24 43.3**	**+0.2**
MKAR	**Makanchi Array**	**80.23**	**319**	P	**P**	**19 24 46.0**	**-0.3**
	comp=Z,8.0nm,1.0s,mb4.6,baz=100,slow=7.4,SNR=39						
PMR	**Palmer**	**80.67**	**25**	*e*P	**P**	**19 24 54.2**	**+5.7**
NVS	**Novosibirsk**	**82.39**	**327**	*e*P	**P**	**19 24 56.2**	**-1.3**
NVS				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
NVS				pmax	pmax		
	comp=N,8.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,11nm,1.4s						
KSH	**Kashi**	**82.67**	**311**	*e*P	**P**	**19 25 01.5**	**+2.2**
KSH				*e*AP	pP	19 25 12.0	+3.6
KSH				*e*XP	sP	19 25 15.5	+4.1
KSH				PP	PP	19 28 13.5	+2.4
KSH				PPP	PPP	19 30 06.5	+2.7
KSH				S	S	19 35 15.8	+2.2
KSH				*eXS		19 35 33.8	
KSH				SS	SS	19 40 42.3	+3.0
KSH				AMB	AMB		
	comp=Z,440nm,5.6s						
KSH				LR	LR		
	comp=N,710nm,11.2s						
KSH				LR	LR		
	comp=E,700nm,6.4s						
COLA	**College**	**82.81**	**22**	*e*P	**P**	**19 24 57.8**	**-1.7**
ILAR	**Eielson Array**	**83.12**	**22**	P	**P**	**19 25 00.4**	**-0.7**
	comp=E,2.2nm,0.6s,mb4.4,baz=246,slow=5.4,SNR=29						
KURK	**Kurchatov**	**83.73**	**322**	*e*P	**P**	**19 25 03.7**	**-0.8**
	comp=E,36nm,1.3s,mb5.3						
KURK	**Kurchatov**	**83.73**	**322**	*c*P	**P**	**19 25 04.0**	**-0.5**
TKM2	**Tokmak 2**	**83.73**	**314**	P	**P**	**19 24 59.2**	**-5.5**
	SNR=5.6						
KZA	**Kyzart**	**83.79**	**313**	P	**P**	**19 25 07.3**	**+2.3**
	SNR=18						
KBK	**Karagaybulak**	**84.14**	**314**	P	**P**	**19 25 07.8**	**+1.0**
	SNR=9.6						
CHMS	**Chumysh**	**84.35**	**314**	P	**P**	**19 25 08.8**	**+1.0**
	SNR=13						
UCH	**Uchtor**	**84.36**	**313**	P	**P**	**19 25 09.5**	**+1.6**
	SNR=22						
AAK	**Ala-Archa**	**84.46**	**314**	P	**P**	**19 25 09.3**	**+0.9**
	SNR=10						
AAK	**Ala-Archa**	**84.46**	**314**	*e*P	**P**	**19 25 07.7**	**-0.7**
	comp=E,20nm,1.1s,mb5.2						
AAK	**Ala-Archa**	**84.46**	**314**	*e*P	**P**	**19 25 08.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.0						
AAK				MLR	MLR		
	comp=Z,800nm,21.0s,MS5.1						
QSPA	**South Pole Qui**	**84.49**	**180**	*e*P	**P**	**19 25 07.5**	**-0.2**
	comp=Z,19nm,1.0s,mb5.2						
USP	**Ospenovka**	**84.59**	**314**	P	**P**	**19 25 10.2**	**+1.2**
	SNR=21						
MAW	**Mawson**	**84.60**	**203**	P	**P**	**19 25 08.3**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.2,baz=135,slow=8.3,SNR=5.1						
MAW	**Mawson**	**84.60**	**203**	*e*P	**P**	**19 25 08.2**	**-0.3**
	comp=Z,15nm,1.2s,mb5.0						
MAW				*e*	pP	19 25 15.9	-1.7
MAW	**Mawson**	**84.60**	**203**	*e*P	**P**	**19 25 08.2**	**-0.3**
MAW				*e*	pP	19 25 15.9	-1.7
MAW				pmax	pmax		
	comp=Z,15nm,1.2s						
AML	**Almayashu**	**84.93**	**313**	P	**P**	**19 25 12.4**	**+1.7**
	SNR=47						
EKS2	**Erkin-Say**	**84.98**	**314**	P	**P**	**19 25 12.2**	**+1.3**
	SNR=30						
DLBC	**Dease Lake**	**88.43**	**31**	P	**P**	**19 25 29.8**	**+2.3**
	comp=Z,21nm,1.1s,mb5.3,baz=243,slow=6.6,SNR=13						
BRVK	**Borovoye**	**89.29**	**323**	*e*P	**P**	**19 25 29.9**	**-1.7**
	comp=Z,7.1nm,1.1s,mb4.9						
BRVK	**Borovoye**	**89.29**	**323**	*e*P	**P**	**19 25 29.9**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9						
INK	**Inuvik**	**89.41**	**21**	P	**P**	**19 25 31.9**	**+0.1**
	comp=Z,7.0nm,1.1s,mb4.9,baz=295,slow=5.2,SNR=3.1						
YBH	**Yreka Blue Hor**	**90.19**	**48**	P	**P**	**19 25 37.9**	**+1.7**
	comp=Z,6.1nm,1.0s,mb4.9,baz=170,slow=2.4,SNR=6.5						
SYO	**Syowa Base**	**92.73**	**200**	⇑P	**P**	**19 25 48.5**	**+1.3**
MNV	**Mina**	**93.34**	**52**	*e*P	**P**	**19 25 52.4**	**+1.7**
	comp=Z,17nm,1.4s,mb5.3						
MNV	**Mina**	**93.34**	**52**	*e*P	**P**	**19 25 52.4**	**+1.7**
MNV				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.3						
NEW	**Newport**	**94.71**	**42**	P	**P**	**19 25 58.1**	**+1.3**
	comp=Z,2.3nm,0.4s,mb4.9,baz=56,slow=23,SNR=4.7						
ARU	**Arti**	**96.36**	**326**	*e*P	**P**	**19 26 02.3**	**-1.8**
ARU	**Arti**	**96.36**	**326**	⇑*i*P	**P**	**19 26 02.0**	**-2.1**
ARU				*e*		19 29 56.2	
ARU				*e*PPP	PPP	19 32 04.3	-1.3
ARU				*e*S		19 36 36.1	
ARU				*e*SP	SP	19 38 35.0	-8.9
ARU				*e*PS	PS	19 38 45.4	-2.5
ARU				*e*SS	SS	19 43 56.2	+0.4
ARU				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.9						
PDAR	**Pinedale Array**	**99.98**	**48**	P	**P**	**19 26 20.9**	**+0.1**
	comp=Z,1.6nm,1.0s,mb4.4,baz=270,slow=1.5,SNR=5.8						
SNAA	**Sanae**	**101.24**	**188**	*e*P	P	19 26 30.9	+5.1
ARCES	**ARCESS Array B**	**107.24**	**343**	PKiKP		19 31 02.3	
	comp=Z,2.6nm,0.9s,baz=14,slow=5.0,SNR=5.4						
BRTR	**Keskin Array B**	**115.06**	**311**	PKP	PKPdf	19 31 16.8	-3.8
	comp=Z,0.5nm,0.5s,baz=90,slow=4.9,SNR=3.6						
BRG	**Berggiesshubel**	**122.79**	**330**	P	PKPdf	19 31 32.4	-2.8
BRG	**Berggiesshubel**	**122.79**	**330**	*e*PKIKP	PKPdf	19 31 32.3	-2.9
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLL	**Collm**	**122.99**	**331**	*e*PKIKP	PKPdf	19 31 33.0	-2.6
CLL				*e*		19 31 42.0	
SKO	**Skopje**	**123.00**	**317**	*e*PKP	PKPdf	19 31 31.0	-4.8
MOX	**Moxa**	**124.08**	**331**	*e*P	PKPdf	19 31 36.0	-1.8
GERES	**GERESS Array B**	**124.14**	**328**	PKP	PKPdf	19 31 34.8	-3.2
	comp=Z,1.1nm,0.4s,baz=70,slow=1.1,SNR=21						
LPL	**La Plagne**	**129.92**	**328**	*e*PKIKP	PKPdf	19 31 41.9	-7.2
LPG	**La Plagne**	**129.92**	**328**	*e*PKIKP	PKPdf	19 31 42.1	-7.0
	comp=Z,18nm,1.2s						
LOR	**Lormes**	**130.12**	**332**	*e*PKIKP	PKPdf	19 31 42.3	-7.2
LPAZ	**La Paz**	**134.90**	**119**	PKP	PKPdf	19 31 57.3	-

PPT				*e*LR	LR	20 14 24.4		
	2µm,24.8s,baz=147							
PPT	**Papeete**	**41.60 308**		LR	LR	20 15 49.3		
	comp=Z,1µm,18.8s,baz=146,slow=29							
TAOE	**Nuku Hiva Isla**	**45.08 326**	*e*LR		LR	20 16 11.6		
	5µm,27.1s							
URZ	**Urewera**	**47.90 257**		LR	LR	20 18 35.8		
	comp=Z,808nm,19.7s,baz=21,slow=29							
RPZ	**Rata Peaks**	**48.56 247**		LR	LR	20 19 04.6		
	comp=Z,941nm,20.6s,baz=41,slow=29							
CPUP	**Villa Florida**	**50.43 85**		P	P	20 04 26.2	-2.8	
	3.8nm,0.9s,baz=240,slow=14,SNR=3.8							
SNAA	**Sanae**	**50.51 158**		P	P	20 04 28.5	-0.6	
	0.5nm,1.1s,baz=225,slow=10.0,SNR=3.5							
LPAZ	**La Paz**	**50.92 67**		P	P	20 04 31.9	-1.0	
	3.3nm,0.9s,baz=201,slow=7.2,SNR=9.6							
MAW	**Mawson**	**63.35 180**		P	P	20 05 57.3	-3.1	
	0.7nm,0.3s,baz=180,slow=9.1,SNR=3.8							
TXAR	**Lajitas Array**	**79.15 11**		P	P	20 07 35.1	-0.6	
	0.3nm,0.3s,baz=180,slow=5.4,SNR=4.8							
CTA	**Charters Tower**	**79.76 251**		LR	LR	20 37 24.7		
	comp=Z,427nm,19.7s,baz=355,slow=32							
PDAR	**Pinedale Array**	**91.94 5**		P	P	20 08 37.1	-1.9	
	0.4nm,0.8s,baz=207,slow=6.0,SNR=5.0							
VYHS	**Vyhne**	**150.78 74**	*e*		PKPdf	20 15 21.8	+4.5	
SONM	**Songino Array**	**152.06 283**		PKPbc	PKPdf	20 15 24.0	+4.7	
	1.0nm,0.9s,baz=126,slow=2.1,SNR=3.7							
BRTR	**Keskin Array B**	**156.58 103**		PKPab	PKPab	20 15 53.5	-1.8	
	5.5nm,1.1s,baz=198,slow=4.5,SNR=14							

BJI ***29*** *19:56:17.1,5.40S×151.80E,h25km,mB5.4,mb4.7,Ms5.0,Msz4.6*

NEIC ***29*** *19:56:17.1±0.2,5.45S×151.77E,h25km,mb4.9/29,MS5.0/1,Error ellipse: s-maj=7.3km s-min=4.9km az=112.0*

HRVD ***29*** *19:56:17.1±1.1,5.31S×151.65E,h21km±2km,MW5.3/25, Centroid moment Tensor Solution. LP body waves: s11,c14;Mantle waves: s25,c31; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr1.03±.15; Mθθ-0.67±.09; Mϕϕ-0.36±.08; Mrθ0.32±.14; Mθϕ-0.19±.06; Mϕr-0.29±.16; Best double couple: M0.966×10^17 NP1: ϕs233°, δ41°, λ67°. NP2:ϕs83°, δ53°, λ109°. Principal axes: T 1.153, Plg74°, Azm48°; N -.378, Plg15°, Azm251°; P -.778, Plg6°, Azm159°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***29*** *19:56:22.5±2.4,5.49S×151.72E,h66km±21km,mb4.4/10, mb1 4.5/12,mb1mx4.4/15,mbtmp4.7/12 Error ellipse: s-maj=18.7km s-min=11.7km az=119.0*

ISC 29 19:56:18.7±1.9,5.47S±0.06×151.80E±0.08,h47km±16km, h28km±4.8km:pP-P,n94,σ0s98/77,mb4.8/42,MS4.7/4,2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMG	**Port Moresby**	**6.04**	**229**	P		**P**	**19 57 48.3**	**+0.6**
	17nm,0.3s,baz=36,slow=9.2,SNR=61							
PMG				S		**S**	**19 58 56.1**	**-0.4**
	28nm,0.3s,baz=294,slow=20,SNR=9.2							
PMG	**Port Moresby**	**6.04**	**229**	*e*Pn		**P**	**19 57 47.9**	**+0.2**
	340nm,0.9s							
CTA	**Charters Tower**	**15.50**	**200**	*e*P		**P**	**20 00 00.9**	**+5.0**
	8.3nm,0.8s							
CTA	**Charters Tower**	**15.50**	**200**	P		**P**	**19 59 57.4**	**+1.5**
	0.3nm,0.3s,baz=30,slow=13,SNR=15							
CTAO	**Charters Tower**	**15.50**	**200**	*e*P		**P**	**19 59 56.2**	**+0.4**
	11nm,0.8s							
GUMO	**Guam**	**20.14**	**340**	P		**P**	**20 00 52.1**	**+0.4**
	68nm,1.0s,baz=163,slow=6.0,SNR=5.1							
GUMO	**Guam**	**20.14**	**340**	*e*P		**P**	**20 00 51.4**	**-0.3**
	159nm,1.0s							
KAKA	**Kakadu**	**20.41**	**248**	↑*i*P		**P**	**20 01 13.5**	**+19**
	74nm,0.5s							
DZM	**Mont Dzumac**	**21.76**	**141**	P		**P**	**20 01 09.6**	**+1.5**
	6.4nm,0.6s,mb4.3,baz=345,slow=16,SNR=11							
WRAB	**Tennant Creek**	**22.25**	**228**	*e*P		**P**	**20 01 13.2**	**+0.2**
	71nm,0.7s,mb5.2							
WB2	**Warramunga Arr**	**22.25**	**228**	*e*P		**P**	**20 01 13.4**	**+0.4**
WRA	**Warramunga Arr**	**22.26**	**228**	P		**P**	**20 01 13.7**	**+0.6**
	44nm,0.7s,mb5.0,baz=53,slow=9.9,SNR=113							
WRA				S		**S**	**20 05 14.5**	**+4.4**
	12nm,1.2s,baz=57,slow=20,SNR=6.2							
STKA	**Stephens Creek**	**27.96**	**199**	P		**P**	**20 02 07.7**	**+0.6**
	9.0nm,1.1s,mb4.3							
STKA	**Stephens Creek**	**27.96**	**199**	P		**P**	**20 02 05.2**	**-1.9**
	6.4nm,0.9s,mb4.2,baz=21,slow=9.3,SNR=6.5							
FITZ	**Fitzroy Crossi**	**28.47**	**242**	↑*i*P		**P**	**20 02 11.0**	**-0.8**
	58nm,0.9s,mb5.2							
FITZ	**Fitzroy Crossi**	**28.47**	**242**	P		**P**	**20 02 11.1**	**-0.7**
	146nm,1.1s,mb5.5,baz=50,slow=4.5,SNR=84							
FORT	**Forrest**	**33.65**	**219**	*e*P		**P**	**20 02 56.4**	**-0.8**
	22nm,0.7s,mb5.2							
MBWA	**Marble Bar**	**34.78**	**240**	*e*P		**P**	**20 03 05.8**	**-1.2**
	8.2nm,0.5s,mb4.9							
KKM	**Kota Kinabalu**	**37.32**	**287**	*e*P		**P**	**20 03 28.5**	**-0.1**
KLBR	**Kellerberrin**	**41.13**	**227**	*e*P		**P**	**20 03 58.9**	**-1.1**
	38nm,1.2s,mb4.9							
KSM	**Kuching**	**42.01**	**278**	*e*P		**P**	**20 04 06.4**	**-1.1**
YHNB	**Yeheng**	**42.12**	**317**	*e*P		**P**	**20 04 08.0**	**-0.3**
NWAO	**Narrogin (SRO)**	**42.21**	**225**	P		**P**	**20 04 11.7**	**+2.7**
	42nm,1.4s,mb4.9							
JNU	**Nakatsue**	**43.20**	**334**	P		**P**	**20 04 16.3**	**-0.8**
	11nm,0.9s,mb4.6,baz=212,slow=16,SNR=4.1							
MAJO	**Matsushiro**	**43.68**	**344**	P		**P**	**20 04 19.9**	**-1.0**
	6.6nm,1.0s,mb4.3							
QIZ	**Qiongzhong**	**47.96**	**302**	P		**P**	**20 04 56.0**	**+1.0**
QIZ	**Qiongzhong**	**47.96**	**302**	P		**P**	**20 04 55.6**	**+0.6**
	26nm,1.2s,mb5.1							
NJ2	**Nanjing**	**48.74**	**322**	*e*P		**P**	**20 05 03.0**	**+2.1**
NJ2				AP		pP	20 05 13.5	-0.4
NJ2				XP		sP	20 05 17.3	-2.1
NJ2				LR		LR		
	comp=N,2µm,16.4s,MS5.3							
NJ2				LR		LR		
	comp=E,1µm,14.4s,MS5.3							
NJ2				LR		LR		
	comp=Z,1µm,15.4s,MS5.0							
MDJ	**Mudanjiang**	**53.70**	**340**	P		**P**	**20 05 39.3**	**+1.1**
MDJ				AMB		AMB		
	comp=Z,5.0nm,1.1s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,394nm,14.1s							
MDJ				LR		LR		
	comp=N,174nm,23.1s,MS4.3							
MDJ				LR		LR		
	comp=E,221nm,22.0s,MS4.3							
MDJ				LR		LR		
	comp=Z,210nm,23.1s,MS4.1							
ENH	**Enshi**	**53.88**	**314**	*e*P		**P**	**20 05 39.4**	**-0.4**
	comp=Z,22nm,1.2s,mb5.0							
CN2	**Changchun**	**54.50**	**337**	*e*P		**P**	**20 05 47.0**	**+2.9**
XAN	**Xi'an**	**56.42**	**317**	P		**P**	**20 05 56.8**	**-1.3**
XAN				AP		pP	20 06 08.0	-3.4
XAN				AMB		AMB		
	comp=Z,8.0nm,0.9s,mb4.8							
KMI	**Kunming**	**56.54**	**305**	P		**P**	**20 05 59.0**	**0.0**
KMI				AMB		AMB		
	comp=Z,8.0nm,1.0s,mb4.7							
KMI	**Kunming**	**56.54**	**305**	P		**P**	**20 05 59.1**	**+0.1**
	comp=Z,8.0nm,1.0s,mb4.7							
HHC	**Hu-ho-hao-te**	**59.01**	**325**	*e*P		**P**	**20 06 15.8**	**-0.4**
HHC				AP		pP	20 06 23.3	-6.2
HHC				XP		sP	20 06 26.5	-8.5
HHC				PCP		PcP	20 07 04.0	-0.5
HHC				PP		PP	20 08 27.0	-1.7
HHC				AMB		AMB		
	comp=Z,16nm,0.8s,mb5.1							
HHC				AMB		AMB		
	comp=Z,324nm,4.8s							
HHC				LR		LR		
	comp=N,291nm,17.8s,MS4.6							
HHC				LR		LR		
	comp=E,307nm,16.6s,MS4.6							
HHC				LR		LR		
	comp=Z,277nm,17.8s,MS4.4							
LZH	**Lanzhou**	**61.02**	**317**	*e*P		**P**	**20 06 30.5**	**+0.5**
LZH				AP		pP	20 06 39.5	-3.9
LZH				XP		sP	20 06 44.0	-4.9
LZH				PP		PP	20 08 47.5	+0.7
LZH				AMB		AMB		
	comp=Z,22nm,1.0s,mb5.2							
LZH				AMB		AMB		
	comp=Z,110nm,5.7s							
LZH				LR		LR		
	comp=E,675nm,16.9s							
LZH				LR		LR		
	comp=Z,969nm,18.0s,MS5.0							
LZH	**Lanzhou**	**61.02**	**317**	*e*P		**P**	**20 06 30.5**	**+0.5**
	comp=Z,22nm,1.0s,mb5.2							
LZH				pP		pP	20 06 39.5	-3.9
LZH				sP		sP	20 06 44.0	-4.9
LZH				PP		PP	20 08 47.6	+0.8
LZH				*e*S		**S**	**20 14 44.0**	**+0.6**
LZH				sS			20 15 04.0	
LZH				SS		SS	20 18 40.0	-4.8
LZH				LR		LR		
	comp=Z,970nm,18.0s,MS5.0							
HIA	**Hailar**	**61.23**	**337**	*e*P		**P**	**20 06 29.6**	**-1.7**
	comp=Z,5.7nm,1.0s,mb4.7							
GTA	**Gaotai**	**65.47**	**318**	*e*P		**P**	**20 06 59.5**	**+0.2**
GTA				AP		pP	20 07 04.3	-8.6
GTA				AMB		AMB		
	comp=Z,5.0nm,1.1s,mb4.5							
ULN	**Ulaanbaatar**	**66.04**	**329**	*e*P		**P**	**20 07 02.7**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.8							
SONM	**Songino Array**	**66.36**	**328**	P		**P**	**20 07 04.7**	**-0.1**
	comp=Z,7.2nm,0.6s,mb4.9,baz=146,slow=5.3,SNR=79							
LSA	**Lhasa**	**67.80**	**305**	*e*P		**P**	**20 07 14.7**	**+0.5**
	comp=Z,11nm,1.0s,mb4.8							
GUN	**Gumba**	**71.61**	**302**	*e*P		**P**	**20 07 37.6**	**+0.1**
	comp=Z,28nm,0.8s,mb5.3							
PKI	**Pulchoki**	**71.92**	**301**	*e*P		**P**	**20 07 38.8**	**-0.5**
KKN	**Kakani**	**72.09**	**301**	*e*P		**P**	**20 07 40.0**	**-0.3**
	comp=Z,19nm,0.9s,mb5.0							
DMN	**Daman**	**72.19**	**301**	*e*P		**P**	**20 07 40.9**	**0.0**
	comp=Z,36nm,1.0s,mb5.3							
VNDA	**Vanda**	**72.21**	**178**	P		**P**	**20 07 38.1**	**-2.1**
	comp=Z,4.1nm,0.9s,mb4.4							
GKN	**Gorkha**	**72.69**	**301**	*e*P		**P**	**20 07 43.5**	**-0.5**
	comp=Z,30nm,0.9s,mb5.2							
KOLN	**Koldanda**	**73.52**	**301**	*e*P		**P**	**20 07 48.3**	**-0.5**
	comp=Z,20nm,0.8s,mb5.1							
WMQ	**Urumqi**	**75.56**	**318**	P		**P**	**20 08 00.8**	**+0.5**
WMQ				AMB		AMB		
	comp=Z,11nm,1.1s,mb4.7							
WMQ				AMB		AMB		
	comp=Z,144nm,4.2s							
KDAK	**Kodiak Island**	**77.22**	**27**	P		**P**	**20 08 09.6**	**+0.2**
	comp=Z,18nm,1.1s,mb4.9,baz=246,slow=20,SNR=3.0							
SLKM	**Skilak Lake**	**79.69**	**25**	*e*P		**P**	**20 08 22.7**	**-0.2**
MKAR	**Makanchi Array**	**80.17**	**319**	P		**P**	**20 08 25.7**	**0.0**
	comp=Z,4.5nm,0.9s,mb4.4,baz=106,slow=6.0,SNR=26							
MCK	**McKinley**	**81.86**	**23**	*e*P		**P**	**20 08 32.9**	**-1.3**
	comp=Z,5.6nm,0.9s,mb4.5							
COLA	**College**	**82.83**	**22**	*e*P		**P**	**20 08 38.1**	**-1.1**
	comp=Z,8.2nm,0.8s,mb4.8							
ILAR	**Eielson Array**	**83.15**	**22**	P		**P**	**20 08 40.0**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.4,baz=250,slow=5.3,SNR=23							
TKM2	**Tokmak 2**	**83.67**	**314**	P		**P**	**20 08 45.1**	**+1.1**
	SNR=6.8							
KURK	**Kurchatov**	**83.68**	**322**	*e*P		**P**	**20 08 43.0**	**-0.7**
	comp=Z,13nm,1.1s,mb5.0							
KZA	**Kyzl**	**83.73**	**313**	P		**P**	**20 08 45.9**	**+1.6**
	SNR=13							
KBK	**Karagaybulak**	**84.08**	**314**	P		**P**	**20 08 47.2**	**+1.2**
	SNR=6.8							
CHMS	**Chumysh**	**84.29**	**314**	P		**P**	**20 08 47.9**	**+0.8**
	SNR=7.4							
UCH	**Uchtor**	**84.30**	**313**	P		**P**	**20 08 48.6**	**+1.5**
	SNR=13							
AAK	**Ala-Archa**	**84.40**	**314**	P		**P**	**20 08 48.7**	**+1.1**
	SNR=6.2							
AAK	**Ala-Archa**	**84.40**	**314**	*e*P		**P**	**20 08 46.9**	**-0.7**
	comp=Z,7.1nm,0.9s,mb4.8							
QSPA	**South Pole Qui**	**84.50**	**180**	*e*P		**P**	**20 08 47.5**	**+0.2**
	comp=Z,7.1nm,0.8s,mb4.8							
USP	**Ospenovka**	**84.53**	**314**	P		**P**	**20 08 48.9**	**+0.7**
	SNR=11							
MAW	**Mawson**	**84.58**	**203**	P		**P**	**20 08 48.2**	**+0.3**
	comp=Z,1.9nm,0.5s,mb4.5,baz=98,slow=5.0,SNR=13							
MAW	**Mawson**	**84.58**	**203**	*e*P		**P**	**20 08 48.0**	**+0.1**
	comp=Z,3.4nm,0.7s,mb4.6							
AML	**Almayashu**	**84.87**	**313**	P		**P**	**20 08 51.4**	**+1.4**
	SNR=29							
EKS2	**Erkin-Say**	**84.92**	**314**	P		**P**	**20 08 51.2**	**+1.0**
	SNR=15							
CHKZ	**Chkalovo**	**89.16**	**324**	*e*P		**P**	**20 09 08.5**	**-1.9**
	comp=Z,4.0nm,0.7s,mb4.9							
BRVK	**Borovoye**	**89.24**	**323**	*e*P		**P**	**20 09 09.4**	**-1.5**
	comp=Z,4.6nm,1.0s,mb4.8							
BMO	**Blue Mountains**	**94.45**	**46**	*e*P		**P**	**20 09 35.5**	**+0.4**
	comp=Z,5.4nm,1.3s,mb4.8							
ARU	**Arti**	**96.31**	**326**	*e*P		**P**	**20 09 42.8**	**-0.4**
PDAR	**Pinedale Array**	**100.03**	**48**	P		P	20 10 00.8	+0.3
	comp=Z,2.1nm,0.8s,baz=278,slow=2.3,SNR=14							
AKASG	**Malin Array Be**	**114.45**	**324**	PKP		PKPdf	20 14 54.3	+0.7
	comp=Z,0.3nm,0.3s,baz=62,slow=2.6,SNR=6.6							
NB2	**NORSAR Subarra**	**117.19**	**340**	PKPdf		PKPdf	20 14 59.2	+0.6
	comp=Z,2.4nm,1.1s,baz=45,slow=1.9							
NOA	**NORSAR Array B**	**117.19**	**340**	PKP		PKPdf	20 14 58.8	+0.2
	comp=Z,1.2nm,0.8s,baz=43,slow=2.2,SNR=3.7							
MATP	**Matopo**	**118.67**	**243**	PKP		PKPdf	20 15 03.8	+1.3
	comp=Z,0.8nm,0.5s,baz=78,slow=9.4,SNR=4.4							
PLCA	**Paso Flores**	**119.84**	**144**	PKP		PKPdf	20 15 06.1	+1.8
	comp=Z,1.0nm,0.7s,baz=297,slow=4.5,SNR=3.0							
PLCA	**Paso Flores**	**119.84**	**144**	PKP		PKPdf	20 15 06.1	+1.8
LSZ	**Lusaka**	**120.47**	**249**	PKP		PKPdf	20 15 08.1	+2.0
	comp=Z,0.9nm,0.5s,baz=137,slow=3.5,SNR=5.3							
BRG	**Berggiesshubel**	**122.74**	**330**	*e*P		PKPdf	20 15 16.0	+6.3
IDI	**Anoyia**	**122.92**	**309**	PKP		PKPdf	20 15 12.3	+1.9
	comp=Z,5.7nm,0.7s,baz=21,slow=9.3,SNR=6.2							
CLL	**Collm**	**122.94**	**330**	*e*PKIKP		PKPdf	20 15 11.0	+1.0
KHC	**Kasperske Hory**	**123.98**	**328**	*e*PKPdf		PKPdf	20 15 13.5	+1.4
GERES	**GERESS Array B**	**124.09**	**328**	PKP		PKPdf	20 15 13.8	+1.5
	comp=Z,1.4nm,0.5s,baz=70,slow=1.8,SNR=17							
CFAA	**Coronel Fontan**	**126.94**	**137**	PKP		PKPdf	20 15 19.7	+1.4
	comp=Z,0.2nm,0.3s,baz=279,slow=6.2,SNR=4.3							
CFAA	**Coronel Fontan**	**126.94**	**137**	PKP		PKPdf	20 15 19.7	+1.4
LPAZ	**La Paz**	**134.97**	**119**	PKP		PKPdf	20 15 36.8	+3.0
	comp=Z,1.4nm,0.7s,baz=264,slow=4.6,SNR=7.5							
SDV	**Santo Domingo**	**137.78**	**83**	PKP		PKPdf	20 15 41.0	+1.9
	comp=Z,13nm,0.7s,baz=295,slow=3.3,SNR=6.7							
BDFB	**Brasilia**	**151.28**	**137**	PKPbc		PKPdf	20 16 10.0	+8.1
	comp=Z,8.9nm,0.8s,baz=180,slow=2.7,SNR=3.7							
BAO	**Brasilia Array**	**151.30**	**137**	PKPdf		PKPdf	20 16 10.0	+8.0
DBIC	**Dimbokro**	**156.75**	**274**	PKPab		PKPab	20 16 40.8	-0.9
	comp=Z,3.3nm,0.9s,baz=90,slow=8.5,SNR=4.1							

BJI ***29*** *19:58:44.2,5.89S×151.92E,h46km,mB5.3,mb4.7,Ms4.8, Msz4.7*

NEIC ***29*** *19:58:44.6±0.5,5.48S×151.74E,h25km,mb4.6/18,Error ellipse: s-maj=13.0km s-min=9.6km az=96.0*

IDC ***29*** *19:58:49.5±3.6,5.55S×151.87E,h67km±32km,mb4.3/11, mb1 4.4/12,mb1mx4.4/14,mbtmp4.6/12,ML3.7/1, Error ellipse: s-maj=25.6km s-min=16.0km az=91.0*

ISC 29 19:58:48.6±2.4,5.58S±0.07×151.87E±0.09,h76km±21km, n54,σ0s88/49,mb4.5/29,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMG	**Port Moresby**	**6.03**	**231**	P		**P**	**20 00 16.9**	**0.0**
	11nm,0.3s,baz=58,slow=9.5,SNR=2.7							
PMG				S		**S**	**20 01 25.5**	**+0.2**
	14nm,0.3s,baz=328,slow=21,SNR=3.6							
PMG	**Port Moresby**	**6.03**	**231**	*e*Pn		**P**	**20 00 16.7**	**-0.3**
	203nm,0.9s							
CTA	**Charters Tower**	**15.43**	**200**	*e*P		**P**	**20 02 28.1**	**+4.9**
	4.1nm,0.6s							
CTA	**Charters Tower**	**15.43**	**200**	P		**P**	**20 02 27.2**	**+4.0**
	0.4nm,0.3s,baz=24,slow=12,SNR=5.1							
CTAO	**Charters Tower**	**15.43**	**200**	*e*P		**P**	**20 02 27.6**	**+4.5**
	8.7nm,0.9s							
GUMO	**Guam**	**20.27**	**340**	P		**P**	**20 03 21.0**	**+0.6**
	77nm,0.9s,baz=168,slow=8.0,SNR=5.0							
GUMO	**Guam**	**20.27**	**340**	*e*P		**P**	**20 03 17.4**	**-3.1**
	80nm,0.9s							
KAKA	**Kakadu**	**20.44**	**248**	*e*P		**P**	**20 03 40.8**	**+19**
	31nm,0.5s							
DZM	**Mont Dzumac**	**21.62**	**141**	P		**P**	**20 03 34.4**	**+0.4**
	4.6nm,0.6s,mb4.0,baz=42,slow=7.1,SNR=5.6							
WRAB	**Tennant Creek**	**22.23**	**228**	*e*P		**P**	**20 03 39.1**	**-0.9**
WB2	**Warramunga Arr**	**22.23**	**228**	*e*P		**P**	**20 03 40.5**	**+0.4**
WRA	**Warramunga Arr**	**22.24**	**228**	P		**P**	**20 03 40.2**	**0.0**
	19nm,0.6s,mb4.6,baz=51,slow=9.8,SNR=7.7							
STKA	**Stephens Creek**	**27.88**	**199**	*e*P		**P**	**20 04 33.4**	**-0.1**
	4.7nm,0.9s,mb4.0							
STKA	**Stephens Creek**	**27.88**	**199**	P		**P**	**20 04 33.2**	**-0.3**
	4.7nm,0.7s,mb4.2,baz=29,slow=12,SNR=4.0							
FITZ	**Fitzroy Crossi**	**28.48**	**242**	*e*P		**P**	**20 04 38.1**	**-0.9**
	22nm,0.5s,mb5.0							
FITZ	**Fitzroy Crossi**	**28.48**	**242**	P		**P**	**20 04 38.3**	**-0.7**
	40nm,0.6s,mb5.1,baz=22,slow=9.4,SNR=4.3							
MBWA	**Marble Bar**	**34.79**	**241**	*e*P		**P**	**20 05 34.4**	**+0.3**
	10.0nm,0.7s,mb4.8							
KKM	**Kota Kinabalu**	**37.42**	**287**	P		**P**	**20 05 56.4**	**0.0**
YHNB	**Yeheng**	**42.25**	**317**	*e*P		**P**	**20 06 37.4**	**+1.2**
JNU	**Nakatsue**	**43.34**	**334**	P		**P**	**20 06 45.4**	**+0.3**
	8.2nm,0.8s,mb4.5,baz=208,slow=12,SNR=4.7							
MJAR	**Matsushiro Arr**	**43.81**	**344**	P		**P**	**20 06 48.2**	**-0.6**
	3.5nm,0.9s,mb4.1,baz=164,slow=8.7,SNR=5.7							
MAJO	**Matsushiro**	**43.81**	**344**	P		**P**	**20 06 47.1**	**-1.7**
	13nm,1.2s,mb4.5							
QIZ	**Qiongzhong**	**48.08**	**302**	*e*P		**P**	**20 07 22.6**	**-0.2**
	3.5nm,0.6s,mb4.4							
NJ2	**Nanjing**	**48.87**	**322**	*e*P		**P**	**20 07 30.0**	**+1.3**
NJ2				AP		pP	20 07 40.5	-7.3
NJ2				XP		sP	20 07 45.3	-11
NJ2				PP		PP	20 09 23.0	+0.3
NJ2				LR		LR		
	comp=N,1µm,17.4s							
NJ2				LR		LR		
	comp=E,560nm,14.5s							
NJ2				LR		LR		
	comp=Z,1µm,17.6s							
MDJ	**Mudanjiang**	**53.83**	**340**	P		**P**	**20 08 06.5**	**+0.6**
MDJ				AP		pP	20 08 15.3	-10
MDJ				XP		sP	20 08 19.5	-14
MDJ				PCP		PcP	20 09 11.0	+0.4
MDJ				PP		PP	20 10 08.0	-1.1
MDJ				AMB		AMB		
	comp=Z,9.0nm,1.5s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,146nm,4.1s							
MDJ				LR		LR		
	comp=N,123nm,16.5s							
MDJ				LR		LR		
	comp=E,147nm,33.1s							
MDJ				LR		LR		
	comp=Z,199nm,23.1s							
ENH	**Enshi**	**54.01**	**314**	*e*P		**P**	**20 08 07.9**	**+0.4**
	comp=Z,9.3nm,0.9s,mb4.8							
CN2	**Changchun**	**54.63**	**337**	*e*P		**P**	**20 08 14.0**	**+2.2**
KMI	**Kunming**	**56.66**	**305**	P		**P**	**20 08 28.5**	**+1.8**
KMI				AMB		AMB		
	comp=Z,8.0nm,0.7s,mb4.9							
KMI	**Kunming**	**56.66**	**305**	P		**P**	**20 08 28.4**	**+1.7**
	comp=Z,8.0nm,0.7s,mb4.9							
HKL	**Haleakala**	**57.22**	**61**	P		**P**	**20 08 30.1**	**-0.6**
HHC	**Hu-ho-hao-te**	**59.14**	**325**	*e*P		**P**	**20 08 44.0**	**+0.2**
HHC				PCP		PcP	20 09 33.0	+1.7
HHC				AMB		AMB		
	comp=Z,11nm,0.5s,mb5.1							
HHC				AMB		AMB		
	comp=Z,138nm,5.4s							
HHC				LR		LR		
	comp=N,168nm,16.7s							
HHC				LR		LR		
	comp=E,297nm,15.5s							
HHC				LR		LR		
	comp=Z,421nm,11.9s							
HIA	**Hailar**	**61.37**	**337**	P		**P**	**20 08 58.6**	**-0.2**
	comp=Z,7.8nm,1.0s,mb4.7							
ULN	**Ulaanbaatar**	**66.17**	**329**	P		**P**	**20 09 28.3**	**-1.9**
	comp=Z,4.8nm,1.0s,mb4.3							
SONM	**Songino Array**	**66.49**	**328**	P		**P**	**20 09 31.5**	**-0.8**
	comp=Z,3.5nm,0.6s,mb4.4,baz=140,slow=4.9,SNR=9.7							
GUN	**Gumba**	**71.73**	**302**	*e*P		**P**	**20 10 04.8**	**0.0**
	comp=Z,11nm,0.7s,mb4.8							
KKN	**Kakani**	**72.21**	**301**	*e*P		**P**	**20 10 07.0**	**-0.7**
	comp=Z,7.4nm,0.7s,mb4.6							
DMN	**Daman**	**72.31**	**301**	*e*P		**P**	**20 10 07.9**	**-0.3**
	comp=Z,12nm,0.8s,mb4.8							
RKT	**Rikitea**	**72.35**	**112**	*e*LR		LR	20 09 12.9	
	comp=Z,3µm,27.0s,baz=154							
GKN	**Gorkha**	**72.81**	**301**	*e*P		**P**	**20 10 09.8**	**-1.5**
	comp=Z,10nm,0.8s,mb4.7							
KOLN	**Koldanda**	**73.64**	**301**	*e*P		**P**	**20 10 15.5**	**-0.6**
	comp=Z,10nm,0.7s,mb4.7							
WMQ	**Urumqi**	**75.69**	**318**	*e*P		**P**	**20

WRA ScP 20 13 15.8
comp=Z,2.2nm,1.0s,baz=46,slow=2.4,SNR=5.5
STKA Stephens Creek 28.03 199 *eP* **P 20 06 39.6 -0.9**
comp=Z,8.8nm,1.1s,mb4.3
STKA Stephens Creek 28.03 199 P **P 20 06 39.8 -0.7**
comp=Z,4.0nm,0.7s,mb4.2,baz=84,slow=6.1,SNR=3.6
FITZ Fitzroy Crossi 28.55 242 ⇑*iP* **P 20 06 44.4 -0.9**
comp=Z,68nm,0.8s,mb5.4
FITZ Fitzroy Crossi 28.55 242 P **P 20 06 44.3 -1.0**
comp=Z,114nm,0.8s,mb5.6,baz=86,slow=3.9,SNR=12
FORT Forrest 33.73 219 *eP* **P 20 07 29.7 -1.1**
comp=Z,20nm,0.6s,mb5.2
MBWA Marble Bar 34.86 240 *eP* **P 20 07 39.0 -1.6**
comp=Z,21nm,0.9s,mb5.1
AFI Afiamalu 36.79 106 LR LR 20 19 04.3
comp=Z,336nm,21.8s,MS4.1,baz=136,slow=30
KKM Kota Kinabalu 37.36 287 *eP* **P 20 07 59.6 -2.2**
NACB Ninganchiao 41.65 316 *eP* **P 20 08 37.3 0.0**
KSM Kuching 42.06 278 *eP* **P 20 08 37.0 -3.9**
YHNB Yeheng 42.12 317 *eP* **P 20 08 41.7 +0.4**
JNU Nakatsue 43.18 334 P **P 20 08 47.9 -1.9**
comp=Z,7.6nm,0.8s,mb4.5,baz=156,slow=16,SNR=5.0
MJAR Matsushiro Arr 43.64 344 P **P 20 08 51.3 -2.2**
comp=Z,2.2nm,0.8s,mb3.9,baz=167,slow=9.5,SNR=3.7
MAJO Matsushiro 43.64 344 P **P 20 08 49.1 -4.4**
comp=Z,12nm,1.0s,mb4.6
MAJO Matsushiro 43.64 344 P **P 20 08 49.1 -4.4**
MAJO pmax pmax
comp=Z,12nm,1.0s,mb4.6
SSE Sheshan 46.65 323 P **P 20 09 17.8 +0.2**
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,364nm,11.7s
SSE Sheshan 46.65 323 P **P 20 09 17.8 +0.2**
comp=Z,31nm,0.7s,mb5.3
QIZ Qiongzhong 47.98 302 P **P 20 09 29.0 +0.8**
NJ2 Nanjing 48.73 322 *eP* **P 20 09 36.0 +2.2**
NJ2 AP pP 20 09 46.0 +2.5
NJ2 XP sP 20 09 50.0 +2.8
NJ2 PP PP 20 11 28.5 +1.7
NJ2 S **S 20 16 35.0 +1.7**
NJ2 XS 20 16 51.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,160nm,8.0s
NJ2 LR LR
comp=N,870nm,17.6s,MS4.9
NJ2 LR LR
comp=E,900nm,20.7s,MS4.9
NJ2 LR LR
comp=Z,410nm,18.6s,MS4.5
WHN Wuhan 50.65 317 *eP* **P 20 09 49.0 +0.4**
KULM Kulim 52.23 281 *eP* **P 20 09 57.4 -3.3**
YSS Yuzh-Sakhalins 52.75 352 P **P 20 10 14.0 +10**
MDJ Mudanjiang 53.66 340 P **P 20 10 11.8 +0.9**
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,286nm,8.4s
ENH Enshi 53.89 314 *eP* **P 20 10 12.5 -0.3**
comp=Z,27nm,1.1s,mb5.1
GYA Guiyang 54.02 308 ⇑*iP* **P 20 10 14.0 +0.2**
GYA AP pP 20 10 23.8 +0.4
GYA PP PP 20 12 16.5 -0.2
GYA S **S 20 17 45.0 -1.0**
GYA PS PS 20 18 00.0 -0.8
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,90nm,3.6s
GYA LR LR
comp=N,340nm,18.4s,MS4.6
GYA LR LR
comp=E,380nm,18.6s,MS4.6
GYA LR LR
comp=Z,290nm,18.9s,MS4.4
CN2 Changchun 54.47 337 *eP* **P 20 10 18.0 +1.1**
NANT Nan 55.84 297 P **P 20 10 27.0 -0.1**
XAN Xi'an 56.42 317 P **P 20 10 30.5 -0.6**
XAN AMB AMB
comp=Z,11nm,1.1s,mb4.8
KMI Kunming 56.55 305 P **P 20 10 32.8 +0.6**
KMI AP pP 20 10 42.8 +0.9
KMI XP sP 20 10 46.8 +1.2
KMI S **S 20 18 21.8 +2.0**
KMI AMB AMB
comp=Z,13nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,71nm,3.9s
KMI LR LR
comp=Z,179nm,33.2s,MS3.9
KMI Kunming 56.55 305 P **P 20 10 32.8 +0.6**
comp=Z,13nm,1.1s,mb4.9
KMI pP pP 20 10 42.7 +0.8
KMI sP sP 20 10 46.7 +1.1
KMI S **S 20 18 21.7 +1.9**
KMI LR LR
comp=Z,180nm,33.2s,MS3.9
KMI Kunming 56.55 305 P **P 20 10 32.8 +0.6**
KMI *PP pP 20 10 42.7 +0.8
KMI *SP sP 20 10 46.7 +1.1
KMI S **S 20 18 21.7 +1.9**
KMI pmax pmax
comp=Z,13nm,1.1s,mb4.9
KMI MLR MLR
comp=Z,180nm,33.2s,MS3.9
CHG Chiang Mai 57.41 296 P **P 20 10 38.4 +0.1**
CD2 Chengdu 58.42 311 P **P 20 10 45.0 -0.3**
CD2 PP PP 20 12 56.0 -0.3
CD2 PPP PPP 20 14 20.0 +0.1
CD2 S **S 20 18 44.0 -0.4**
CD2 SS SS 20 22 38.0 -0.4
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
HHC Hu-ho-hao-te 59.00 325 *eP* **P 20 10 48.0 -1.2**
HHC PCP PcP 20 11 37.0 -0.6
HHC PP PP 20 12 59.5 -1.8
HHC SCP 20 15 36.5
HHC S **S 20 18 50.3 -1.5**
HHC SCS ScS 20 20 32.3 -0.6
HHC SS SS 20 22 45.8 -1.6
HHC AMB AMB
comp=Z,25nm,0.6s,mb5.4
HHC AMB AMB
comp=Z,214nm,4.9s
HHC LR LR
comp=N,286nm,17.8s,MS4.6
HHC LR LR
comp=E,239nm,14.3s,MS4.6
HHC LR LR
comp=Z,326nm,16.6s,MS4.5
TBI Tubuai 59.17 114 *eLQ* 20 10 45.3
TBI *eLR* LR 20 12 12.9
comp=Z,2µm,26.0s,baz=144
LZH Lanzhou 61.02 317 *eP* **P 20 11 03.5 +0.5**
LZH AP pP 20 11 12.0 -0.9
LZH XP sP 20 11 16.0 -0.4
LZH PP PP 20 13 20.8 +1.3
LZH *eS **S 20 19 18.0 +0.3**
LZH XS 20 19 35.0
LZH SS SS 20 23 20.5 +1.7
LZH AMB AMB
comp=Z,31nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,199nm,5.8s
LZH LR LR
comp=E,649nm,15.5s
LZH LR LR
comp=Z,1µm,16.8s,MS5.0
LZH Lanzhou 61.02 317 *eP* **P 20 11 03.6 +0.6**
comp=Z,31nm,1.0s,mb5.4
LZH pP pP 20 11 12.0 -0.9
LZH sP sP 20 11 16.0 -0.4
LZH PP PP 20 13 20.8 +1.3
LZH *eS **S 20 19 18.0 +0.3**
LZH sS 20 19 35.0
LZH SS SS 20 23 20.4 +1.6
LZH LR LR
comp=Z,1µm,16.8s,MS5.0
LZH Lanzhou 61.02 317 *eP* **P 20 11 03.6 +0.6**
LZH *PP pP 20 11 12.0 -0.9
LZH *SP sP 20 11 16.0 -0.4
LZH 20 13 20.8
LZH *eS **S 20 19 18.0 +0.3**
LZH *SS 20 19 35.0
LZH SS SS 20 23 20.4 +1.6
LZH pmax pmax
comp=Z,31nm,1.0s,mb5.4
LZH MLR MLR
comp=Z,1µm,16.8s,MS5.0
GTA Gaotai 65.47 318 *eP* **P 20 11 33.0 +0.6**
GTA AP pP 20 11 43.5 +1.2
GTA XP sP 20 11 47.5 +1.7
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,197nm,4.6s
GTA LR LR
comp=N,250nm,19.5s,MS4.7
GTA LR LR
comp=E,327nm,17.2s,MS4.7
GTA LR LR
comp=Z,321nm,16.8s,MS4.6
ULN Ulaanbaatar 66.02 329 *eP* **P 20 11 35.7 0.0**
comp=Z,7.6nm,0.7s,mb4.8
ULN Ulaanbaatar 66.02 329 *eP* **P 20 11 35.7 -0.1**
ULN pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
SONM Songino Array 66.34 328 P **P 20 11 38.1 +0.3**
comp=Z,11nm,0.6s,mb5.1,baz=146,slow=5.3,SNR=57
LSA Lhasa 67.81 305 *eP* **P 20 11 47.9 +0.4**
comp=Z,12nm,0.9s,mb4.9
LSA Lhasa 67.81 305 *eP* **P 20 11 47.9 +0.4**
LSA pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK Yakutsk 69.38 349 P **P 20 11 54.4 -2.2**
comp=Z,22nm,1.3s,mb4.9
YAK Yakutsk 69.38 349 P **P 20 11 54.4 -2.2**
YAK pmax pmax
comp=Z,21nm,1.3s,mb4.9
ZAK Zakamensk 69.53 329 ⇑*iP* **P 20 11 57.7 0.0**
ZAK pmax pmax
comp=Z,17nm,0.8s,mb5.0
GUN Gumba 71.63 302 *eP* **P 20 12 11.1 +0.2**
comp=Z,54nm,0.8s,mb5.5
PKI Pulchoki 71.94 301 *eP* **P 20 12 12.2 -0.5**
comp=Z,39nm,1.1s,mb5.3
KKN Kakani 72.11 301 *eP* **P 20 12 13.4 -0.3**
comp=Z,32nm,0.8s,mb5.3
DMN Daman 72.21 301 *eP* **P 20 12 14.3 0.0**
comp=Z,60nm,0.9s,mb5.5
VNDA Vanda 72.26 178 *eP* **P 20 12 13.0 -0.8**
comp=Z,4.0nm,1.0s,mb4.3
VNDA *e* pP 20 12 21.9 -1.8
VNDA Vanda 72.26 178 *eP* **P 20 12 13.0 -0.8**
VNDA *e* pP 20 12 21.9 -1.8
VNDA pmax pmax
comp=Z,4.0nm,1.0s
GKN Gorkha 72.72 301 *eP* **P 20 12 16.6 -0.8**
comp=Z,54nm,1.0s,mb5.5
KOLN Koldanda 73.54 301 *eP* **P 20 12 21.7 -0.5**
comp=Z,40nm,0.9s,mb5.4
BILL Bilibino 73.98 6⇓*eP* **P 20 12 24.2 +0.3**
BILL pmax pmax
comp=Z,21nm,2.5s,mb4.6
BILL MLR MLR
comp=Z,300nm,20.0s,MS4.6
WMQ Urumqi 75.55 318⇓*iP* **P 20 12 34.0 +0.5**
WMQ AP pP 20 12 44.0 +0.6
WMQ XP sP 20 12 48.0 +1.2
WMQ PP PP 20 15 25.0 +0.2
WMQ *eS S 20 22 11.0 +0.4
WMQ AMB AMB
comp=Z,12nm,1.3s,mb4.7
WMQ AMB AMB
comp=Z,125nm,5.1s
WMQ LR LR
comp=N,247nm,18.7s,MS4.6
WMQ LR LR
comp=E,221nm,21.6s,MS4.6
WMQ LR LR
comp=Z,363nm,28.3s
HYB Hyderabad 75.81 289 *iP* **P 20 12 34.5 -0.9**
HYB Hyderabad 75.81 289 *eP* **P 20 12 34.5 -0.9**
MKAR Makanchi Array 80.17 319 P **P 20 12 58.8 0.0**
comp=Z,7.7nm,0.9s,mb4.6,baz=101,slow=6.2,SNR=24
SML Sawmill 81.06 25 *eP* **P 20 13 04.0 +0.8**
MCK McKinley 81.78 23 *eP* **P 20 13 06.0 -0.9**
comp=Z,11nm,1.0s,mb4.7
MCK McKinley 81.78 23 *eP* **P 20 13 06.0 -0.9**
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.7
NVS Novosibirsk 82.33 327 *iP* **P 20 13 08.1 -1.8**
NVS pmax pmax
comp=N,8.0nm,1.8s
NVS pmax pmax
comp=E,9.0nm,1.7s
KSH Kashi 82.62 311 *eP* **P 20 13 13.5 +1.8**
KSH AP pP 20 13 24.0 +2.2
KSH *eXP sP 20 13 28.0 +2.9
KSH PP PP 20 16 25.0 +1.6
KSH *ePPP PPP 20 18 17.8 +1.8
KSH S S 20 23 26.8 +1.4
KSH *eSKS SKS 20 23 28.0 -7.1
KSH XS 20 23 44.5
KSH SS SS 20 28 52.5 +1.6
KSH AMB AMB
comp=Z,370nm,3.8s
KSH LR LR
comp=N,330nm,5.1s
KSH LR LR
comp=E,220nm,4.8s
COLA College 82.76 22 P **P 20 13 11.0 -0.9**
comp=E,7.0nm,0.7s,mb4.8
COLA College 82.76 22 P **P 20 13 11.0 -0.9**
COLA pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ILAR Eielson Array 83.07 22 P **P 20 13 13.4 -0.1**
comp=Z,4.8nm,0.7s,mb4.7,baz=244,slow=5.1,SNR=21
KURK Kurchatov 83.67 322 *eP* **P 20 13 16.1 -0.8**
comp=Z,29nm,1.2s,mb5.3
KURK Kurchatov 83.67 322 *eP* **P 20 13 16.5 -0.4**
TKM2 Tokmak 2 83.67 314 P **P 20 13 17.8 +0.6**
SNR=9.5
KZA Kyzart 83.73 313 P **P 20 13 19.3 +1.9**
SNR=18
KBK Karagaybulak 84.08 314 P **P 20 13 19.8 +0.6**
SNR=9.5
CHMS Chumysh 84.30 314 P **P 20 13 20.8 +0.5**
SNR=9.1
UCH Uchtor 84.30 313 P **P 20 13 22.2 +1.9**
SNR=19
FRU Bishkek 84.36 314 P **P 20 13 20.6 0.0**
FRU *e* pP 20 13 31.2 +0.5
AAK Ala-Archa 84.40 314 P **P 20 13 21.7 +0.9**
SNR=11
AAK Ala-Archa 84.40 314 *eP* **P 20 13 20.5 -0.3**
comp=Z,24nm,1.2s,mb5.2
AAK Ala-Archa 84.40 314 *eP* **P 20 13 20.9 +0.1**
AAK pmax pmax
comp=Z,17nm,1.3s,mb5.0
AAK MLR MLR
comp=Z,600nm,21.0s,MS5.0
USP Ospenovka 84.54 314 P **P 20 13 22.6 +1.1**
SNR=20
QSPA South Pole Qui 84.56 180⇑*iP* **P 20 13 21.5 +0.7**
comp=Z,8.2nm,1.0s,mb4.8
MAW Mawson 84.65 203 P **P 20 13 21.7 +0.2**
comp=Z,3.2nm,0.6s,mb4.6,baz=80,slow=6.0,SNR=12
MAW Mawson 84.65 203 *eP* **P 20 13 21.0 -0.5**
comp=Z,9.4nm,1.0s,mb4.9
MAW Mawson 84.65 203 P **P 20 13 21.7 +0.2**
MAW pmax pmax
comp=Z,3.0nm,0.6s
AML Almayashu 84.88 313 P **P 20 13 25.3 +2.1**
SNR=55
EKS2 Erkin-Say 84.92 314 P **P 20 13 24.6 +1.2**
SNR=28
CHKZ Chkalovo 89.14 324 *eP* **P 20 13 41.7 -2.0**
comp=Z,6.1nm,0.8s,mb5.0
CHKZ Chkalovo 89.14 324 *eP* **P 20 13 41.7 -2.0**
CHKZ pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
BVAR Borovoye Array 89.16 323 P **P 20 13 43.0 -0.8**
comp=Z,12nm,1.0s,mb5.2,baz=124,slow=5.3,SNR=24
BRVK Borovoye 89.23 323 *eP* **P 20 13 41.9 -2.2**
comp=Z,5.7nm,1.0s,mb4.9
BRVK Borovoye 89.23 323 *eP* **P 20 13 41.9 -2.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
SYO Syowa Base 92.79 200 ⇑P **P 20 14 04.0 +3.8**
SYO Syowa Base 92.79 200 ⇓pP pP 20 14 07.8 -2.5
WVOR Wild Horse Val 93.24 48 *eP* **P 20 14 03.7 +0.9**
comp=Z,4.0nm,0.8s,mb4.9
WVOR Wild Horse Val 93.24 48 *eP* **P 20 14 03.7 +0.8**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
ARU Arti 96.29 326 *eP* **P 20 14 13.9 -2.6**
comp=Z,3.4nm,0.7s,mb4.9
ARU Arti 96.29 326⇓*iP* **P 20 14 16.2 -0.3**
ARU *e* 20 18 10.4
ARU *eS 20 24 50.0
ARU *eSS SS 20 32 05.2 -2.1
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
EDM Edmonton 97.17 37 *eP* **P 20 14 21.1 +0.6**
TPAW Teton Pass 98.91 47 *eP* **P 20 14 29.6 +1.0**
comp=Z,8.3nm,1.1s,mb5.2
PDAR Pinedale Array 99.95 48 P **P 20 14 34.2 +0.8**
comp=Z,3.7nm,0.8s,mb4.8,baz=274,slow=2.2,SNR=23
ARCES ARCESS Array B 107.17 343 PKiKP 20 19 12.5
comp=Z,2.7nm,1.0s,slow=2.4,SNR=4.9
FINES FINESS Array B 111.21 335 PKiKP 20 19 23.1
comp=Z,0.9nm,0.6s,SNR=3.8
AKASG Malin Array Be 114.44 324 PKP PKPdf 20 19 27.4 -4.6
comp=Z,2.5nm,0.7s,baz=60,slow=2.5,SNR=9.5
AKASG Malin Array Be 114.44 324 PKP PKPdf 20 19 27.4 -4.6
BRTR Keskin Array B 115.00 311 PKP PKPdf 20 19 29.4 -4.0
comp=Z,1.1nm,0.6s,baz=121,slow=1.8,SNR=4.8
NOA NORSAR Array B 117.16 340 PKP PKPdf 20 19 31.9 -5.1
comp=Z,0.7nm,0.7s,baz=51,slow=2.3,SNR=3.3
KWP Kalwaria 118.68 325 *e*PKP PKPdf 20 19 36.9 -3.4
MATP Matopo 118.75 243 PKP PKPdf 20 19 37.3 -3.8
comp=Z,1.4nm,0.6s,baz=168,slow=7.4,SNR=6.2
KOLS Kolonicke sedl 119.26 324 *e*PKP PKPdf 20 19 38.3 -3.1
KOLS *e* 20 19 55.0
STHS Stebnicka Huta 119.61 325 *e*PKP PKPdf 20 19 39.1 -3.0
LBTB Lobatse 119.67 237 *eP* Pdif 20 15 55.7 -5.0
PLCA Paso Flores 119.85 144 PKP PKPdf 20 19 40.0 -2.8
comp=Z,2.3nm,0.7s,baz=248,slow=3.5,SNR=4.8
LSZ Lusaka 120.55 249 PKP PKPdf 20 19 40.9 -3.8
comp=Z,0.7nm,0.4s,baz=198,slow=4.8,SNR=3.7
LSZ Lusaka 120.55 249 *e*PKIKP PKPdf 20 19 40.0 -4.7
DPC Dobruska-Polom 121.81 328 *e*PKIKP PKPdf 20 19 42.9 -3.5
PVCC Panska Ves 122.61 329 *e*PKIKP PKPdf 20 19 43.2 -4.7
BRG Berggiesshubel 122.72 330 *i* PKPdf 20 19 44.5 -3.5
TREC Trest 122.86 327 *e*PKPdf PKPdf 20 19 44.3 -4.1
CLL Collm 122.92 331 ⇑*i*PKIKP PKPdf 20 19 44.6 -3.8
comp=Z,logA/T=0.9
CLL *i* *PPKP 20 19 53.6
IDI Anoyia 122.93 309 PKP PKPdf 20 19 45.5 -3.4
comp=Z,15nm,1.1s,baz=97,slow=2.7,SNR=7.5
SKO Skopje 122.94 317 *i* PKP PKPdf 20 19 44.5 -4.2
PRU Pruhonice 122.95 329 *e*PKIKP PKPdf 20 19 44.8 -3.7
KHC Kasperske Hory 123.97 328 *e*PKIKP PKPdf 20 19 46.9 -3.7
GERES GERESS Array B 124.07 328 PKP PKPdf 20 19 47.2 -3.6
comp=Z,3.5nm,0.6s,baz=78,slow=1.4,SNR=36
GRA1 Grafenberg Arr 124.83 330 *e*PKP PKPdf 20 19 48.7 -3.5
GRF Grafenberg Arr 124.83 330 *e*PKP PKPdf 20 19 48.7 -3.5
GIVF Givet 127.56 334 *e*PKIKP PKPdf 20 19 54.4 -3.1
HINF Hinteralfeld 128.23 331 *e*PKIKP PKPdf 20 19 55.0 -3.8
comp=Z,16nm,1.0s
HAU Haudompre 128.35 331 *e*PKIKP PKPdf 20 19 55.3 -3.8
TSUM Tsumeb 128.77 240 *e*PKPdf PKPdf 20 19 57.5 -3.1
LPL La Plagne 129.86 328 *e*PKIKP PKPdf 20 19 58.4 -3.6
comp=Z,5.2nm,0.6s
LPG La Plagne 129.86 328 *e*PKIKP PKPdf 20 19 58.4 -3.6
comp=Z,5.7nm,0.7s
LOR Lormes 130.06 332 *e*PKIKP PKPdf 20 19 58.9 -3.4
comp=Z,14nm,0.9s
SSF Saint Saulge 130.37 332 *e*PKIKP PKPdf 20 19 59.4 -3.5
comp=Z,8.1nm,0.8s
AVF Avril sur Loir 130.64 332 *e*PKIKP PKPdf 20 20 00.3 -3.2
ORIF Oris-en-Rattie 130.71 328 *e*PKIKP PKPdf 20 20 00.3 -3.3
comp=Z,11nm,0.8s
FLN La Foliniere 130.82 336 *e*PKIKP PKPdf 20 20 00.6 -3.1
BGF Bois d'Agland 131.05 332 *e*PKIKP PKPdf 20 20 01.0 -3.2
comp=Z,9.2nm,0.6s
TCF Toulx Ste Croi 131.55 332 *e*PKIKP PKPdf 20 20 01.4 -3.8
comp=Z,16nm,0.9s
SGMF Saint Gilles 132.05 337 *e*PKIKP PKPdf 20 20 03.9 -2.2
MFF Saint Martin d 132.37 334 *e*PKIKP PKPdf 20 20 04.1 -2.7
RJF Les Rejaudoux 132.60 332 *e*PKIKP PKPdf 20 20 04.8 -2.4
comp=Z,7.0nm,0.8s
LPAZ La Paz 134.95 119 PKP PKPdf 20 20 10.3 -2.0
comp=Z,2.7nm,0.8s,baz=324,slow=1.6,SNR=10
ETSF Etsaut 135.39 331 *e*PKIKP PKPdf 20 20 09.4 -3.1
comp=Z,12nm,0.8s
SJPF Ste Jean 135.55 332 *e*PKIKP PKPdf 20 20 10.5 -2.2
CPUP Villa Florida 137.62 140 PKP PKPdf 20 20 14.7 -2.3
comp=Z,3.0nm,0.8s,baz=196,slow=3.6,SNR=5.5
SIV San Ignacio 141.09 124 PKP PKPdf 20 20 18.8 -4.8
comp=Z,2.8nm,0.9s,baz=196,slow=0.6,SNR=4.7
BDFB Brasilia 151.28 137 PKPbc PKPdf 20 20 42.7 +2.3
comp=Z,15nm,0.8s,baz=202,slow=1.9,SNR=14
BDFB PKPab PKPab 20 20 52.0 +0.4
comp=Z,11nm,0.8s,baz=182,slow=5.0,SNR=7.6
BAO Brasilia Array 151.30 137 PKPdf PKPdf 20 20 43.0 +2.5
KIC Kosan Boka 156.70 274 *eP* PKPab 20 21 12.1 -2.5
comp=Z,52nm,0.9s
DBIC Dimbokro 156.81 274 PKPbc PKPdf 20 20 55.0 +6.8
comp=Z,5.0nm,1.0s,baz=72,slow=6.4,SNR=3.0
DBIC PKPab PKPab 20 21 14.9 -0.2
comp=Z,7.3nm,1.0s,baz=60,slow=8.4,SNR=4.6
TIC Toumodi 156.97 274 *eP* PKPab 20 21 13.8 -2.0
comp=Z,16nm,0.2s
LIC Lamto 156.99 273 *e*PKIKP PKPdf 20 20 43.7 -4.8
comp=Z,18nm,0.9s
LIC Lamto 156.99 273 *eP* PKPab 20 21 14.7 -1.2
comp=Z,54nm,1.3s

MEX 29 20:30:29.3±0.6, 16.10N×97.60W, h27km±73km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.58**	**300**	*i* P	P	Pb	20 30 38.8	-2.1
PNIG				*i* S	S	Sb	20 30 47.0	-1.9
VHO	**Vista Hermosa**	**1.27**	**41**	*i* P	P	Pn	20 30 49.3	-2.3
VHO				*i* S	S	Sn	20 31 04.3	-3.7
OXX	**Oaxaca**	**1.29**	**41**	*i* P	P	Pn	20 30 49.5	-2.3
OXX				*i* S	S	Sn	20 31 04.0	-4.3
CMIG	**Matias Romero**	**2.78**	**69**	*eP*	P	Pn	20 31 09.5	-3.7
CMIG				*i* S	S	Sn	20 31 42.5	-3.8

IDC 29 20:30:58.0±6.2, 5.58S×151.95E, h56km±54km, mb3.8/5, mb1 4.0/6, mb1mx3.9/12, mbtmp4.1/6, ML3.2/1, Error ellipse: s-maj=59.6km s-min=32.5km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**231**	P	P	P	20 32 27.0	-0.5
	3.4nm,0.3s,baz=45,slow=10.0,SNR=8.3							
PMG				S	S	S	20 33 34.3	-2.3
	12nm,0.3s,baz=128,slow=24,SNR=8.7							
KAKA	**Kakadu**	**20.51**	**248**	*eP*	P	P	20 35 50.8	+17
	14nm,0.4s							
WB2	**Warramunga Arr**	**22.29**	**229**	*eP*	P	P	20 35 50.4	-1.5
WRA	**Warramunga Arr**	**22.30**	**229**	P	P	P	20 35 50.3	-1.7
	1.8nm,0.5s,baz=54,slow=10.0,SNR=16							
FITZ	**Fitzroy Crossi**	**28.55**	**242**	*eP*	P	P	20 36 48.2	-2.7
	7.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**28.55**	**242**	P	P	P	20 36 48.1	-2.7
	7.1nm,0.4s,baz=30,slow=6.5,SNR=21							
SONM	**Songino Array**	**66.53**	**328**	P	P	P	20 41 42.6	-1.6
	1.1nm,0.6s,baz=144,slow=5.3,SNR=12							
MKAR	**Makanchi Array**	**80.36**	**319**	P	P	P	20 43 03.5	-1.5
	0.3nm,0.6s,baz=98,slow=7.0,SNR=6.1							
ILAR	**Eielson Array**	**83.20**	**22**	P	P	P	20 43 16.9	-2.3
	1.0nm,0.7s,baz=247,slow=5.1,SNR=8.2							
GERES	**GERESS Array B**	**124.27**	**328**	PKP	PKPdf		20 49 52.0	+1.2
	0.4nm,0.5s,baz=45,slow=1.9,SNR=6.0							

NNC 29 20:42:28.3±5.7, 37.76N×72.00E, h164km±156km, mpv2.9, 3C-2D, Error ellipse: s-maj=97.2km s-min=56.4km az=62.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.23**	**21**	⇑P	P	P	20 43 45.0	-0.7
	1.1nm,0.3s							

AAK ⇑S S 20 44 45.8 +0.1
6.6nm,1.0s
KK31 Karatay Array 5.46 348 ⇓P P 20 43 47.8 -0.9
0.3nm,0.3s,baz=156,slow=12,SNR=18
KK31 ⇑S S 20 44 49.6 -1.6
7.6nm,0.4s,baz=156,slow=23,SNR=45
AB31 Akbulak array 14.42 327 P P 20 45 44.7 -0.9
0.4nm,0.4s,baz=167,slow=10,SNR=17
AB31 ⇓S S 20 48 15.6 -5.9
0.3nm,0.5s,baz=161,slow=22,SNR=4.8

*DHMR **29** 20:49:09.4±1.2, 12.51N×40.43E, h12km±118km, ML4.0*
*IDC **29** 20:49:11.9±1.8, 12.19N×40.30E, mb3.7/7, mb1 4.0/9, mb1mx3.8/19, mbtmp3.8/9, ML4.2/2, Error ellipse: s-maj=38.4km s-min=16.0km az=31.0*
*NEIC **29** 20:49:12.8±1.0, 12.15N×40.74E, h10km, mb4.0/2, ML4.2(DHMR), Error ellipse: s-maj=18.2km s-min=14.7km az=168.0*
*CSEM **29** 20:49:13.8±0.1, 12.38N×40.68E, h20km, mb4.0/2, Error ellipse: s-maj=4.5km s-min=3.4km az=135.0*
ISC 29 20:49:11.0±0.8, 12.14N±0.09×40.56E±0.06, h10km, n24, σ1℘25/34, mb3.7/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.32**	**105**	Pn		**Pn**	**20 49 55.1**	**+5.2**
	58nm,0.3s,baz=83,slow=8.5,SNR=104							
ATD				Lg			20 50 34.4	
	24nm,0.3s,baz=287,slow=23,SNR=6.4							
TRBA	**At Turbah**	**3.64**	**72**	*i* P		**Pn**	**20 50 08.1**	**-0.6**
TRBA				*i* S		**Sn**	**20 50 55.5**	**+3.3**
TRBA				AML		AML	20 51 17.8	
	comp=N,698nm,0.7s							
TRBA	**At Turbah**	**3.64**	**72**	*i* P		**Pn**	**20 50 07.9**	**-0.8**
TRBA				*i* S		**Sn**	**20 50 57.3**	**+5.1**
UDYN	**Al 'Udayn**	**3.79**	**61**	*i* P		**Pn**	**20 50 10.4**	**-0.4**
UDYN				*i* S		**Sn**	**20 50 56.8**	**+0.8**
UDYN				AML		AML	20 51 17.4	
	comp=N,624nm,0.7s							
UDYN	**Al 'Udayn**	**3.79**	**61**	*i* P		**Pn**	**20 50 09.3**	**-1.5**
UDYN				*i* S		**Sn**	**20 51 00.6**	**+4.6**
DHBB	**Dhamar BB**	**4.45**	**57**	*i* P		**Pn**	**20 50 18.5**	**-1.6**
DHBB				*i* S		**Sn**	**20 51 11.9**	**-0.7**
DHBB	**Dhamar BB**	**4.45**	**57**	*i* P		**Pn**	**20 50 15.8**	**-4.3**
DHBB				*i* S		**Sn**	**20 51 12.7**	**+0.1**
LBOS		**4.89**	**69**	*i* P		**Pn**	**20 50 23.6**	**-2.8**
LBOS				*i* S		**Sn**	**20 51 21.0**	**-2.8**
LBOS		**4.89**	**69**	*i* P		**Pn**	**20 50 22.5**	**-3.9**
LBOS				*i* S		**Sn**	**20 51 25.1**	**+1.4**
BDHA	**Al Bayda'**	**5.21**	**69**	*i* P		**Pn**	**20 50 26.9**	**-4.1**
BDHA				*i* S		**Sn**	**20 51 28.6**	**-3.4**
BDHA	**Al Bayda'**	**5.21**	**69**	*i* P		**Pn**	**20 50 26.8**	**-4.2**
BDHA				*i* S		**Sn**	**20 51 33.0**	**+1.1**
KMBO	**Kilima Mbogo**	**13.58**	**194**	Pn		**P**	**20 52 26.4**	**-0.1**
	comp=N,1.0nm,0.3s,baz=64,slow=15,SNR=4.0							
MBAR	**Mbarara**	**15.97**	**218**	P		**P**	**20 52 49.9**	**-7.8**
ASF	**Jabal al Asfar**	**20.22**	**351**	P		**P**	**20 53 48.3**	**-0.8**
	comp=N,2.4nm,0.8s,baz=202,slow=5.4,SNR=2.5							
BRTR	**Keskin Array B**	**28.15**	**349**	P		**P**	**20 55 06.2**	**+0.7**
	comp=N,1.0nm,0.7s,mb3.5,baz=180,slow=8.6,SNR=4.8							
MLR	**Muntele Rosu**	**35.50**	**342**	P		**P**	**20 56 10.6**	**+0.6**
	comp=N,1.0nm,0.8s,mb3.8,baz=278,slow=10,SNR=3.1							
AKASG	**Malin Array Be**	**39.56**	**349**	P		**P**	**20 56 43.4**	**-0.6**
	comp=N,0.2nm,0.2s,mb3.5,baz=176,slow=7.3,SNR=5.0							
AAK	**Ala-Archa**	**42.29**	**38**	*eP*		**P**	**20 57 08.8**	**+2.2**
	comp=N,5.8nm,1.2s,mb4.1							
AAK	**Ala-Archa**	**42.29**	**38**	*eP*		**P**	**20 57 08.8**	**+2.2**
GERES	**GERESS Array B**	**42.84**	**334**	P		**P**	**20 57 09.4**	**-1.6**
	comp=N,0.6nm,0.7s,mb3.4,baz=135,slow=3.8,SNR=5.2							
CHKZ	**Chkalovo**	**47.82**	**24**	*eP*		**P**	**20 57 51.5**	**+0.9**
	comp=N,0.8nm,0.8s,mb3.8							
MKAR	**Makanchi Array**	**49.22**	**37**	P		**P**	**20 58 01.6**	**0.0**
	comp=N,0.6nm,0.8s,mb3.7,baz=225,slow=3.4,SNR=4.5							
SONM	**Songino Array**	**64.91**	**43**	P		**P**	**20 59 54.5**	**+1.6**
	comp=N,0.7nm,0.8s,mb3.7,baz=259,slow=6.4,SNR=6.5							
SONM	**Songino Array**	**64.91**	**43**	P		**P**	**20 59 54.5**	**+1.6**

*NEIC **29** 21:09:41.0±0.7, 23.93S×66.61W, h186km±12km, mb4.3/2, Error ellipse: s-maj=16.9km s-min=8.6km az=116.0*
*IDC **29** 21:09:40.4±1.3, 23.96S×66.51W, h174km±18km, mb3.3/2, mb1 3.5/7, mb1mx3.4/16, mbtmp4.0/7, Error ellipse: s-maj=22.5km s-min=13.4km az=95.0*
*GUC **29** 21:09:42.8±0.8, 23.95S×67.10W, h220km, ML4.2*
ISC 29 21:09:40.4±0.7, 23.98S±0.04×66.9W±0.1, h235km±16km, n22, σ1℘20/33, mb3.7/3, 3C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.31**	**306**	P		**P**	**21 10 25.7**	**+0.7**
	29nm,0.3s,baz=122,slow=9.5,SNR=179							
LVC				S		**S**	**21 10 58.0**	**-1.5**
	56nm,0.3s,baz=260,slow=23,SNR=14							
LVC	**Limon Verde**	**2.31**	**306**	⇑*i* P		**P**	**21 10 25.6**	**+0.7**
LVC				*i* S		**S**	**21 10 58.4**	**-1.1**
LVC				AMP			21 11 00.5	
	comp=E,681nm,0.2s							
LVC	**Limon Verde**	**2.31**	**306**	P		**P**	**21 10 25.7**	**+0.7**
LVC				*e*S		**S**	**21 10 54.0**	**-5.5**
LVC				S		**S**	**21 10 58.0**	**-1.5**
CEN1	**Los Morros**	**3.09**	**280**	⇓*i* P		**P**	**21 10 35.1**	**+1.6**
CEN1				*i* S		**S**	**21 11 15.2**	**+0.7**
CEN1				AMP			21 11 17.3	
	comp=E,298nm,0.5s							
ANCH	**Antofagasta**	**3.24**	**275**	⇑*i* P		**P**	**21 10 36.3**	**+1.2**
ANCH				*i* S		**S**	**21 11 16.2**	**-1.3**
CPN1	**Cerro Paranal**	**3.27**	**258**	⇑*i* P		**P**	**21 10 37.0**	**+1.5**
CPN1				*i* S		**S**	**21 11 18.4**	**+0.2**
CRCH	**Chaqaral**	**4.12**	**234**	⇓*i* P		**P**	**21 10 46.5**	**+1.0**
CRCH				*i* S		**S**	**21 11 35.4**	**-0.7**
CDCH	**Caldera**	**4.70**	**228**	⇓*i* P		**P**	**21 10 52.7**	**0.0**
CDCH				*i* S		**S**	**21 11 47.4**	**-1.4**
CFAA	**Coronel Fontan**	**7.69**	**189**	P		**P**	**21 11 31.5**	**+1.1**
	comp=E,0.3nm,0.3s,baz=358,slow=13,SNR=30							
CFAA				S		**S**	**21 12 54.8**	**-1.7**
	comp=E,0.9nm,0.3s,baz=153,slow=17,SNR=17							
CFAA	**Coronel Fontan**	**7.69**	**189**	P		**P**	**21 11 31.5**	**+1.1**
CFAA				S		**S**	**21 12 54.8**	**-1.7**
LPAZ	**La Paz**	**7.75**	**351**	P		**P**	**21 11 32.0**	**+0.9**
	comp=E,0.8nm,0.3s,baz=164,slow=4.0,SNR=7.3							
LPAZ				S		**S**	**21 12 57.6**	**-0.2**
	comp=E,0.4nm,0.3s,baz=204,slow=19,SNR=4.3							
LPAZ	**La Paz**	**7.75**	**351**	*e*Pn		**P**	**21 11 31.4**	**+0.3**
LPAZ				S		**S**	**21 12 57.6**	**-0.2**
SIV	**San Ignacio**	**9.65**	**36**	P		**P**	**21 11 52.9**	**-2.7**
	comp=E,2.8nm,0.3s,baz=216,slow=12,SNR=54							
SAML	**Samuel**	**15.37**	**14**	*eP*		**P**	**21 13 05.8**	**-1.2**
	comp=E,10nm,0.8s							
PLCA	**Paso Flores**	**16.98**	**190**	P		**P**	**21 13 19.5**	**-6.0**
BDFB	**Brasilia**	**19.59**	**68**	P		**P**	**21 13 52.4**	**-0.1**
	comp=E,0.7nm,0.3s,baz=247,slow=12,SNR=9.6							
BAO	**Brasilia Array**	**19.61**	**68**	P		**P**	**21 13 54.0**	**+1.3**
SDV	**Santo Domingo**	**32.87**	**353**	P		**P**	**21 15 52.5**	**-2.0**
	comp=E,5.2nm,0.7s,mb4.2							
SNAA	**Sanae**	**59.33**	**161**	P		**P**	**21 19 24.0**	**+4.6**
	comp=E,0.3nm,0.7s,mb3.0,baz=286,slow=7.4,SNR=4.2							
DBIC	**Dimbokro**	**67.70**	**71**	P		**P**	**21 20 15.7**	**+0.9**
	comp=E,1.6nm,0.6s,mb3.8,baz=230,slow=7.9,SNR=3.7							
WRA	**Warramunga Arr**	**131.69**	**207**	PKP		PKPdf	21 28 32.9	+6.8
	comp=E,0.2nm,0.5s,baz=154,slow=1.9,SNR=4.8							
MKAR	**Makanchi Array**	**146.45**	**40**	PKPbc		PKPbc	21 28 59.9	+6.5
	comp=E,0.3nm,0.6s,baz=320,slow=2.6,SNR=5.2							

*NEIC **29** 21:14:05.8±0.8, 5.62S×152.17E, h25km, mb4.5/5, Error ellipse: s-maj=26.4km s-min=12.6km az=120.0*
*IDC **29** 21:14:12.1±5.8, 5.61S×152.04E, h71km±49km, mb3.8/7, mb1 4.0/8, mb1mx3.9/12, mbtmp4.2/8, ML3.5/1, Error ellipse: s-maj=46.7km s-min=25.5km az=104.0*
ISC 29 21:14:09.0±4.3, 5.6S±0.1×152.2E±0.2, h63km±34km, n17, σ0℘72/19, mb4.2/11, 3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.20**	**233**	P		**P**	**21 15 39.9**	**-0.1**
	7.3nm,0.3s,baz=54,slow=9.3,SNR=18							
PMG				S		**S**	**21 16 50.6**	**+0.2**
	7.3nm,0.3s,baz=300,slow=21,SNR=9.2							
PMG	**Port Moresby**	**6.20**	**233**	*e*Pn		**P**	**21 15 39.7**	**-0.4**
PMG				S		**S**	**21 16 50.6**	**+0.2**
KAKA	**Kakadu**	**20.68**	**249**	⇓*i* P		**P**	**21 19 04.3**	**+18**
	20nm,0.6s							
WRAB	**Tennant Creek**	**22.39**	**229**	*e*P		**P**	**21 19 03.8**	**+0.5**
	38nm,1.1s,mb4.7							
WB2	**Warramunga Arr**	**22.40**	**229**	⇓*i* P		**P**	**21 19 03.9**	**+0.5**
WRA	**Warramunga Arr**	**22.41**	**229**	P		**P**	**21 19 04.1**	**+0.6**
	11nm,0.7s,mb4.4,baz=52,slow=9.8,SNR=86							
STKA	**Stephens Creek**	**27.91**	**199**	P		**P**	**21 19 55.7**	**+0.2**
	2.8nm,0.8s,mb4.0,baz=24,slow=13,SNR=8.1							
STKA	**Stephens Creek**	**27.91**	**199**	*eP*		**P**	**21 19 55.5**	**0.0**
FITZ	**Fitzroy Crossi**	**28.70**	**242**	⇓*i* P		**P**	**21 20 01.7**	**-0.9**
	11nm,0.9s,mb4.6							
FITZ	**Fitzroy Crossi**	**28.70**	**242**	P		**P**	**21 20 01.7**	**-0.9**
	10nm,0.6s,mb4.7,baz=86,slow=4.5,SNR=20							
MBWA	**Marble Bar**	**35.00**	**241**	P		**P**	**21 20 56.6**	**-1.0**
	28nm,1.6s,mb5.0							
SONM	**Songino Array**	**66.68**	**328**	P		**P**	**21 24 55.1**	**-0.4**
	0.5nm,0.6s,mb3.8,baz=146,slow=5.0,SNR=4.9							
VNDA	**Vanda**	**72.03**	**178**	P		**P**	**21 25 26.3**	**-1.4**
	1.1nm,0.8s,mb3.8							
MKAR	**Makanchi Array**	**80.53**	**319**	P		**P**	**21 26 16.6**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=106,slow=5.1,SNR=3.3							
ILAR	**Eielson Array**	**83.17**	**22**	P		**P**	**21 26 30.2**	**+0.9**
	0.7nm,0.6s,mb3.8,baz=252,slow=5.6,SNR=7.9							
KURK	**Kurchatov**	**84.02**	**322**	P		**P**	**21 26 33.3**	**-0.6**
	1.4nm,0.8s,mb4.1							
MAW	**Mawson**	**84.56**	**203**	P		**P**	**21 26 37.2**	**+1.0**
	0.6nm,0.5s,mb4.0,baz=350,slow=6.1,SNR=3.2							

IDC 29 21:15:23.4±2.6, 7.72N×93.40E, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=107.3km s-min=27.4km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.08**	**348**	P		P	21 23 00.9	-1.4
	0.6nm,0.4s,baz=166,slow=7.7,SNR=15							
SONM	**Songino Array**	**41.48**	**13**	P		P	21 23 12.0	-1.8
	0.3nm,0.4s,baz=225,slow=2.0,SNR=4.3							
WRA	**Warramunga Arr**	**48.77**	**125**	P		P	21 24 10.6	-1.8
	1.6nm,0.5s,baz=304,slow=8.7,SNR=23							
PDAR	**Pinedale Array**	**125.57**	**21**	PKP		PKPdf	21 34 27.0	-2.1
	0.6nm,0.8s,baz=27,slow=3.3,SNR=5.9							
TXAR	**Lajitas Array**	**139.66**	**23**	PKP		PKPdf	21 34 52.9	-2.9
	0.6nm,0.3s,baz=338,slow=1.9,SNR=3.0							

IDC 29 21:19:57.2±3.9, 12.23N×142.57E, h156km±50km, mb3.4/5, mb1 3.6/6, mb1mx3.4/17, mbtmp3.9/6, Error ellipse: s-maj=76.7km s-min=24.3km az=88.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.62**	**59**	P		P	21 20 39.9	-0.6
	34nm,0.3s,baz=200,slow=9.2,SNR=41							
GUMO				S		S	21 21 18.5	+4.7
	38nm,0.3s,baz=260,slow=23,SNR=3.4							
WRA	**Warramunga Arr**	**32.98**	**194**	P		P	21 26 17.5	-2.1
	0.8nm,0.8s,baz=16,slow=9.7,SNR=5.9							
SONM	**Songino Array**	**46.59**	**327**	P		P	21 28 09.8	-1.4
	0.3nm,0.7s,baz=147,slow=7.3,SNR=4.6							
MKAR	**Makanchi Array**	**60.92**	**317**	P		P	21 29 53.5	-2.3
	1.1nm,0.8s,baz=93,slow=8.4,SNR=7.8							
ARCES	**ARCESS Array B**	**87.67**	**342**	P		P	21 32 27.9	-0.7
	1.9nm,1.0s,baz=51,slow=7.8,SNR=3.6							
FINES	**FINESS Array B**	**91.43**	**335**	P		P	21 32 45.0	-1.5
	0.6nm,0.6s,baz=56,slow=5.0,SNR=4.6							

*CSEM **29** 21:50:27.7±0.1, 35.09N×33.71E, h65km±1km, Mw3.5, Error ellipse: s-maj=1.7km s-min=1.2km az=78.0*
*ISK **29** 21:50:28.9, 35.10N×33.77E, h70km, MD3.7*
*NEIC **29** 21:50:30.6, 35.13N×33.74E, h46km, MD3.7(ISK), After NIC.*
*HLW **29** 21:50:30.0, 35.00N×33.71E, h20km, Mb3.6*
*NIC **29** 21:50:30.6±0.3, 35.13N×33.74E, h46km, ML3.8, MW3.5*
*IDC **29** 21:50:30.6±1.6, 34.92N×33.54E, h72km±31km, mb3.2/3, mb1 3.5/7, mb1mx3.3/20, mbtmp3.7/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/14, Error ellipse: s-maj=30.0km s-min=12.5km az=32.0*
*GRAL **29** 21:50:30.7±1.6, 35.09N×33.80E, h53km±11km, MD3.6*
*GII **29** 21:50:31.6±0.3, 34.78N×33.89E, h10km±30km, ML3.2/11, Mw3.4/8*
ISC 29 21:50:28.8±0.2, 35.03N±0.01×33.77E±0.03, h68km±4km, n105, σ0℘85/145, mb3.6/2, 15C-19D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.22**	**97**	⇓P		**P**	**21 50 39.2**	**-0.1**
PHNC	**Paralimni**	**0.22**	**97**	⇓*i* P		**P**	**21 50 39.2**	**-0.1**
PHNC	**Paralimni**	**0.22**	**97**	*i* Pg		**P**	**21 50 39.2**	**-0.1**
CSS	**Prodhromos**	**0.37**	**259**	⇓P		**P**	**21 50 39.9**	**-0.5**
	32nm,0.3s							
CSS				S		**S**	**21 50 47.7**	**-1.3**
CSS	**Prodhromos**	**0.37**	**259**	⇓*i* P		**S**	**21 50 39.9**	**-0.5**
CSS				S		**S**	**21 50 47.7**	**-1.3**
CSS	**Prodhromos**	**0.37**	**259**	*i* Pg		**P**	**21 50 39.9**	**-0.5**
CSS				*i* Sg		**S**	**21 50 47.7**	**-1.3**
MAMC	**Mammari**	**0.47**	**287**	⇓P		**P**	**21 50 41.4**	**+0.1**
MAMC	**Mammari**	**0.47**	**287**	⇓*i* P		**P**	**21 50 41.4**	**+0.1**
MAMC	**Mammari**	**0.47**	**287**	*i* Pg		**P**	**21 50 41.4**	**+0.1**
LEF	**Lefka**	**0.73**	**277**	*i* PG		**P**	**21 50 44.7**	**+0.7**
LEF				*i* SG		**S**	**21 50 56.2**	**+0.7**
SZAC	**Souni-Zanaja**	**0.78**	**250**	⇓P		**P**	**21 50 45.9**	**+1.2**
SZAC				S		**S**	**21 50 57.5**	**+1.0**
SZAC	**Souni-Zanaja**	**0.78**	**250**	⇓*i* P		**P**	**21 50 45.9**	**+1.2**
SZAC				S		**S**	**21 50 57.5**	**+1.0**
SZAC	**Souni-Zanaja**	**0.78**	**250**	*i* Pg		**P**	**21 50 45.9**	**+1.2**
SZAC				*i* Sg		**S**	**21 50 57.5**	**+1.0**
ALFC	**Alevga**	**0.97**	**278**	⇓P		**P**	**21 50 47.2**	**+0.1**
	56nm,0.2s							
ALFC				S		**S**	**21 51 00.1**	**-0.6**
ALFC	**Alevga**	**0.97**	**278**	⇓*e*P		**P**	**21 50 47.2**	**+0.1**
ALFC				S		**S**	**21 51 00.1**	**-0.6**
ALFC	**Alevga**	**0.97**	**278**	*e*Pg		**P**	**21 50 47.2**	**+0.1**
ALFC				*e*Sg		**S**	**21 51 00.1**	**-0.6**
PPCY	**Paphos**	**1.18**	**263**	⇓P		**P**	**21 50 50.8**	**+1.0**
PPCY	**Paphos**	**1.18**	**263**	⇓*i* P		**P**	**21 50 50.8**	**+1.0**
PPCY	**Paphos**	**1.18**	**263**	*i* Pg		**P**	**21 50 50.8**	**+1.0**
AKMC	**Akamas**	**1.18**	**270**	*e*Pg		**P**	**21 50 50.5**	**+0.6**
IKL	**Isikli**	**1.21**	**357**	*i* PN		**P**	**21 50 50.3**	**+0.1**
IKL				*i* SN		**S**	**21 51 05.2**	**-1.0**
MEST	**Erdemli**	**1.58**	**11**	*i* P		**P**	**21 50 52.6**	**-2.7**
MEST				*i* S		**S**	**21 51 11.9**	**-3.0**
ERMK	**Ermenek**	**1.75**	**337**	*i* P		**P**	**21 50 57.8**	**+0.1**
ERMK				*i* S		**S**	**21 51 18.5**	**-0.5**
BHL	**Bhannes**	**1.92**	**125**	*e*Pg		**P**	**21 51 00.0**	**+0.1**
BHL				*e*Sg		**S**	**21 51 21.6**	**-1.3**
MERS	**Mersin**	**1.93**	**18**	PN		**P**	**21 51 00.5**	**+0.4**
HWQ	**Hawqa**	**1.94**	**112**	*e*Pg		**P**	**21 51 01.3**	**+1.0**
HWQ				*e*Sg		**S**	**21 51 24.2**	**+0.7**
MATL	**Matirih**	**2.01**	**140**	*e*Pg		**P**	**21 51 01.4**	**+0.2**
HTY	**Hatay**	**2.21**	**60**	*i* PN		**P**	**21 51 04.6**	**+0.5**
HNTI	**Hanita**	**2.27**	**149**	Pn		**P**	**21 51 05.4**	**+0.5**
HNTI				Sn		**S**	**21 51 31.3**	**-0.3**
KSDI	**Kefar Szold**	**2.41**	**139**	Pn		**P**	**21 51 07.8**	**+0.9**
KSDI				Sn		**S**	**21 51 35.5**	**+0.3**
MMA0	**Mount Meron ar**	**2.42**	**146**	Pn		**P**	**21 51 07.6**	**+0.5**
MMA0				Sn		**S**	**21 51 35.9**	**+0.3**
KARA	**Karaisali**	**2.46**	**25**	PN		**P**	**21 51 07.3**	**-0.2**
KARA	**Karaisali**	**2.46**	**25**	*e*Pn		**P**	**21 51 07.3**	**-0.2**
HAF	**Haifa**	**2.48**	**155**	Pn		**P**	**21 51 08.0**	**+0.2**
HAF				Sn		**S**	**21 51 36.7**	**-0.2**
COBT	**Iskenderun**	**2.51**	**53**	*i* P		**P**	**21 51 07.6**	**-0.7**
COBT				*i* S		**S**	**21 51 36.0**	**-1.7**
CEYT	**Ceyhan**	**2.54**	**38**	PN		**P**	**21 51 08.3**	**-0.5**
OFRI	**'Ofer**	**2.61**	**157**	Pn		**P**	**21 51 09.9**	**+0.2**
MMLI	**Mount Malkishu**	**2.93**	**152**	Pn		**P**	**21 51 15.2**	**+1.0**
KOZT	**Kozan**	**2.96**	**34**	PN		**P**	**21 51 13.9**	**-0.6**
SLTI	**Sal'it**	**2.98**	**159**	Pn		**P**	**21 51 14.8**	**0.0**
SLTI				Sn		**S**	**21 51 49.3**	**-0.2**
SLTI	**Sal'it**	**2.98**	**159**	Pn		**P**	**21 51 14.8**	**-0.1**
SLTI				Sn		**S**	**21 51 49.3**	**-0.2**
GAZ	**Gaziantep**	**3.51**	**52**	PN		**P**	**21 51 22.3**	**-0.1**
ELL	**Elmali**	**3.57**	**300**	*e*PN		**P**	**21 51 23.4**	**+0.2**
KAHT	**Ahir Dag**	**3.61**	**43**	*i* P		**P**	**21 51 24.2**	**+0.6**
KDHN	**Kadinhani**	**3.73**	**340**	*i* P		**P**	**21 51 24.7**	**-0.7**
KDHN				*i* S		**S**	**21 52 23.6**	**+15**
MKRJ	**Makawir**	**3.81**	**155**	Pn		**P**	**21 51 27.8**	**+1.4**
AVNT	**Avonos**	**3.84**	**13**	*i* P		**P**	**21 51 27.3**	**+0.3**
GZT	**Gaziantep**	**3.85**	**52**	*i* P		**P**	**21 51 26.3**	**-0.7**
ISP	**Isparta**	**3.85**	**318**	P		**P**	**21 51 28.5**	**+1.5**
ASF	**Jabal al Asfar**	**3.86**	**137**	P		**P**	**21 51 29.1**	**+1.9**
	4.4nm,0.3s,baz=270,slow=9.1,SNR=47							
ASF				S		**S**	**21 52 13.7**	**+2.0**
	14nm,0.3s,baz=173,slow=23,SNR=14							
MZDA	**Masada**	**3.94**	**160**	Pn		**P**	**21 51 29.5**	**+1.1**
MZDA				Sn		**S**	**21 52 13.4**	**-0.4**
GOLH	**Golhisar**	**4.06**	**304**	*i* P		**P**	**21 51 31.4**	**+1.5**
GOLH				*i* S		**S**	**21 52 26.0**	**+9.4**
HRSH	**Kfar Ka'horesh**	**4.06**	**181**	⇓P		**P**	**21 51 30.0**	**0.0**
HRSH				S		**S**	**21 52 13.5**	**-3.2**
RSH		**4.06**	**181**	P		**P**	**21 51 30.0**	**0.0**
RSH				S		**S**	**21 52 13.5**	**-3.1**
TKTP	**Tekketepe**	**4.09**	**318**	*i* P		**P**	**21 51 30.3**	**-0.1**
TKTP				*i* S		**S**	**21 52 18.2**	**+0.7**
MASH	**Mash'abbe Sade**	**4.11**	**168**	Pn		**P**	**21 51 31.5**	**+0.8**
MASH				Sn		**S**	**21 52 17.0**	**-0.9**
KIZT	**Kizilcal**	**4.13**	**339**	PN		**P**	**21 51 31.2**	**+0.2**
KZIT	**Kziot**	**4.15**	**173**	Pn		**P**	**21 51 31.9**	**+0.7**
KZIT				Sn		**S**	**21 52 18.6**	**-0.2**
KAMT	**Kaman**	**4.33**	**359**	PN		**P**	**21 51 33.9**	**+0.1**
AMAG	**Maghara**	**4.40**	**186**	⇑P		**P**	**21 51 34.4**	**-0.4**
AMAG				S		**S**	**21 52 21.7**	**-3.5**
CDAG	**Cicekdag**	**4.61**	**6**	*i* P		**P**	**21 51 37.8**	**+0.1**
DNZL	**Cakiroluk**	**4.64**	**306**	*eP*		**P**	**21 51 39.9**	**+1.8**
BR131	**Keskin Array S**	**4.69**	**359**	*e*Pn		**P**	**21 51 38.9**	**+0.1**
BR131	**Keskin Array S**	**4.69**	**359**	*e*Pn		**P**	**21 51 38.8**	**+0.1**
BRTR	**Keskin Array B**	**4.69**	**359**	P		**P**	**21 51 39.9**	**+1.1**
	0.6nm,0.3s,baz=187,slow=15,SNR=13							
BRTR	**Keskin Array B**	**4.69**	**359**	P		**P**	**21 51 39.8**	**+1.1**
URFA	**Urfa**	**4.74**	**58**	PN		**P**	**21 51 38.9**	**-0.5**
PRNI	**Paran**	**4.78**	**167**	Pn		**P**	**21 51 40.5**	**+0.4**
PRNI				Sn		**S**	**21 52 33.9**	**-0.7**
YER	**Yerkesik**	**4.92**	**297**	PN		**P**	**21 51 41.5**	**-0.4**
ESKT	**Eskisehir**	**5.05**	**333**	PN		**P**	**21 51 43.2**	**-0.5**
ESKT	**Eskisehir**	**5.05**	**333**	*i* P		**P**	**21 51 41.2**	**-2.5**
HNKL	**Nakhl**	**5.09**	**178**	⇑P		**P**	**21 51 44.5**	**+0.2**
HNKL				S		**S**	**21 52 38.3**	**-4.1**
SUZ		**5.24**	**189**	⇑P		**P**	**21 51 46.4**	**+0.1**
SUZ				S		**S**	**21 52 41.0**	**-5.0**
HHAG	**Hagoal**	**5.26**	**196**	⇓P		**P**	**21 51 46.0**	**-0.6**
MBH	**Mount Berech**	**5.31**	**169**	Pn		**P**	**21 51 48.2**	**+0.9**
MBH				Sn		**S**	**21 52 47.8**	**-0.1**
KOT	**Kottamia**	**5.35**	**198**	⇑P		**P**	**21 51 47.1**	**-0.7**
AQBJ	**Aqaba**	**5.40**	**168**	Pn		**P**	**21 51 49.5**	**+1.0**
AQBJ				Sn		**S**	**21 52 50.1**	**+0.1**
MANT	**Manisa**	**5.42**	**311**	*eP*		**P**	**21 51 48.5**	**-0.4**
EIL	**Elat**	**5.44**	**169**	Pn		**P**	**21 51 49.3**	**+0.2**
EIL				Sn		**S**	**21 52 50.8**	**-0.2**
BODT	**Bodrum**	**5.61**	**293**	*e*PN		**P**	**21 51 51.0**	**-0.5**
CTKT	**Corum**	**5.64**	**8**	*i* P		**P**	**21 51 52.4**	**+0.5**
ZNM		**5.69**	**188**	⇓P		**P**	**21 51 52.2**	**-0.3**
GLL	**Jalalah**	**5.71**	**198**	⇑P		**P**	**21 51 52.1**	**-0.7**
HSAF	**As Saff**	**5.71**	**200**	⇓P		**P**	**21 51 52.1**	**-0.7**
AYT	**Al 'Ayyat**	**5.75**	**203**	⇓P		**P**	**21 51 53.2**	**-0.2**
HBST	**Basata**	**5.85**	**172**	⇓P		**P**	**21 51 55.2**	**+0.3**
NUB		**6.03**

DZM	**Mont Dzumac**	**40.55**	**146**	P		**P**	**22 11 50.7**	**+1.5**
	comp=Z,26nm,0.6s,mb5.0,baz=347,slow=7.6,SNR=34							
DZM	**Mont Dzumac**	**40.55**	**146**	*e*P		**P**	**22 11 49.6**	**+0.4**
LZH	**Lanzhou**	**43.05**	**311**	*e*P		**P**	**22 12 11.0**	**+1.4**
LZH				AP	pP		22 12 20.0	-4.5
LZH				XP	sP		22 12 24.0	-7.4
LZH				AMB	AMB			
	comp=Z,27nm,1.4s,mb4.8							
LZH				AMB	AMB			
	comp=Z,120nm,4.5s							
LZH				LR	LR			
	comp=E,296nm,13.5s							
LZH				LR	LR			
	comp=Z,432nm,14.8s,MS4.5							
LZH	**Lanzhou**	**43.05**	**311**	*e*P		**P**	**22 12 11.0**	**+1.4**
LZH				*SP	sP		22 12 24.0	-7.4
LZH				pmax	pmax			
	comp=Z,27nm,1.4s,mb4.8							
LZH				MLR	MLR			
	comp=Z,430nm,14.8s,MS4.5							
STKA	**Stephens Creek**	**43.45**	**182**	⇑*i*P		**P**	**22 12 12.3**	**-0.6**
	comp=Z,4.3nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**43.45**	**182**	P		**P**	**22 12 12.5**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.1,baz=341,slow=7.8,SNR=8.6							
STKA				LR	LR		22 31 07.0	
	comp=Z,125nm,19.6s,MS3.8,baz=24,slow=37							
STKA	**Stephens Creek**	**43.45**	**182**	*e*P		**P**	**22 12 11.7**	**-1.2**
ULN	**Ulaanbaatar**	**47.05**	**327**	*e*P		**P**	**22 12 41.8**	**+0.4**
	comp=Z,6.3nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**47.05**	**327**	*e*P		**P**	**22 12 41.8**	**+0.4**
ULN				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
CLNS	**Chul'man**	**47.16**	**346**	*e*P		**P**	**22 12 42.3**	**+0.2**
CLNS				pmax	pmax			
	comp=N,19nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,32nm,0.8s,mb5.3							
CLNS				pmax	pmax			
	comp=E,6.0nm,0.6s							
GTA	**Gaotai**	**47.30**	**313**	*e*P		**P**	**22 12 44.0**	**+0.5**
GTA				AP	pP		22 12 56.5	-2.1
GTA				XP	sP		22 13 01.5	-3.7
GTA				AMB	AMB			
	comp=Z,12nm,1.3s,mb4.7							
SONM	**Songino Array**	**47.39**	**327**	P		**P**	**22 12 44.6**	**+0.6**
	comp=Z,3.4nm,0.5s,mb4.5,baz=144,slow=6.3,SNR=39							
SONM				LR	LR		22 31 57.6	
	comp=Z,97nm,18.8s,MS3.8,baz=180,slow=35							
ZAK	**Zakamensk**	**50.54**	**328**	⇑*i*P		**P**	**22 13 08.6**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9							
ZAK				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
BOD	**Bodaibo**	**51.09**	**340**	*e*P		**P**	**22 13 11.8**	**-0.5**
BOD				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.0							
YAK	**Yakutsk**	**51.13**	**352**	*e*P		**P**	**22 13 11.5**	**-1.1**
	comp=Z,62nm,0.8s,mb5.6							
YAK	**Yakutsk**	**51.13**	**352**	*e*P		**P**	**22 13 11.5**	**-1.1**
YAK				pmax	pmax			
	comp=Z,62nm,0.8s,mb5.6							
LSA	**Lhasa**	**51.54**	**299**	*e*P		**P**	**22 13 17.2**	**+1.1**
	comp=Z,7.6nm,0.7s,mb4.7							
LSA	**Lhasa**	**51.54**	**299**	*e*P		**P**	**22 13 17.2**	**+1.1**
LSA				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8							
BOK	**Bokaro**	**55.70**	**291**	*e*P		**P**	**22 13 47.6**	**+0.8**
BOK				AMb	AMB		22 13 48.7	
	comp=Z,28nm,0.8s,mb5.3							
GUN	**Gumba**	**55.93**	**296**	*e*P		**P**	**22 13 49.1**	**+0.7**
	comp=Z,87nm,0.8s,mb5.8							
PKI	**Pulchoki**	**56.32**	**295**	*e*P		**P**	**22 13 50.8**	**-0.4**
	comp=Z,28nm,0.8s,mb5.3							
KKN	**Kakani**	**56.45**	**296**	*e*P		**P**	**22 13 52.2**	**0.0**
	comp=Z,47nm,0.9s,mb5.5							
DMN	**Daman**	**56.59**	**295**	*e*P		**P**	**22 13 53.4**	**+0.2**
	comp=Z,53nm,0.9s,mb5.6							
GKN	**Gorkha**	**57.03**	**296**	*e*P		**P**	**22 13 56.3**	**0.0**
	comp=Z,75nm,1.0s,mb5.7							
WMQ	**Urumqi**	**57.34**	**315**	⇑*i*P		**P**	**22 13 59.0**	**+0.7**
WMQ				AP	pP		22 14 06.5	-7.3
WMQ				*e*S		**S**	**22 21 55.0**	**+6.5**
WMQ				XS			22 22 08.0	
WMQ				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.2							
WMQ				AMB	AMB			
	comp=Z,137nm,6.0s							
WMQ				LR	LR			
	comp=N,156nm,19.2s,MS4.3							
WMQ				LR	LR			
	comp=E,134nm,17.8s,MS4.3							
WMQ				LR	LR			
	comp=Z,142nm,18.2s,MS4.1							
KOLN	**Koldanda**	**57.93**	**295**	*e*P		**P**	**22 14 02.9**	**+0.2**
	comp=Z,56nm,0.9s,mb5.6							
RPZ	**Rata Peaks**	**60.73**	**157**	P		**P**	**22 14 22.1**	**+0.4**
	comp=Z,11nm,0.6s,mb5.2,baz=297,slow=4.5,SNR=4.3							
MKAR	**Makanchi Array**	**61.78**	**317**	P		**P**	**22 14 29.1**	**+0.4**
	comp=Z,8.9nm,0.7s,mb5.0,baz=95,slow=8.6,SNR=57							
HYB	**Hyderabad**	**62.73**	**284**	*i* P		**P**	**22 14 35.5**	**0.0**
HYB	**Hyderabad**	**62.73**	**284**	*e*P		**P**	**22 14 35.5**	**0.0**
AGRA	**Agra**	**62.94**	**295**	*e*P		**P**	**22 14 35.2**	**-1.6**
AGRA				AMb	AMB		22 14 36.8	
	comp=Z,43nm,0.4s,mb5.9							
NVS	**Novosibirsk**	**63.41**	**326**	*i* P		**P**	**22 14 38.6**	**-0.9**
NVS				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.2							
NVS				pmax	pmax			
	comp=N,9.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,19nm,1.1s							
BHPL	**Bhopal**	**63.46**	**290**	*e*P		**P**	**22 14 40.0**	**-0.2**
BHPL				AMb	AMB		22 14 41.0	
	comp=Z,17nm,0.7s,mb5.3							
AYAN	**Aya Nagar**	**63.67**	**296**	*e*P		**P**	**22 14 39.9**	**-1.7**
AYAN				AMb	AMB		22 14 41.5	
	comp=Z,12nm,0.7s,mb5.0							
SONA	**Sohna**	**63.71**	**296**	*e*P		**P**	**22 14 40.4**	**-1.4**
SONA				AMb	AMB		22 14 43.4	
	comp=Z,12nm,0.5s,mb5.2							
KUDL	**Kundal**	**64.23**	**296**	*e*P		**P**	**22 14 44.2**	**-1.0**
KHET	**Khetri**	**64.83**	**296**	*e*P		**P**	**22 14 48.3**	**-0.9**
KURK	**Kurchatov**	**65.03**	**321**	*e*P		**P**	**22 14 49.9**	**-0.2**
	comp=Z,56nm,0.8s,mb5.6							
KURK				*e*			22 15 14.0	
KURK	**Kurchatov**	**65.03**	**321**	*e*P		**P**	**22 14 49.9**	**-0.1**
KURK				*e*			22 15 14.0	
KURK				pmax	pmax			
	comp=Z,55nm,0.8s,mb5.6							
KSH	**Kashi**	**65.18**	**308**	*e*P		**P**	**22 14 53.3**	**+2.1**
KSH				*e*XP	sP		22 15 09.5	-4.0
KSH				AMB	AMB			
	comp=Z,70nm,1.4s,mb5.5							
KZA	**Kyzart**	**65.97**	**311**	P		**P**	**22 14 58.1**	**+1.8**
	SNR=9.9							
KBK	**Karagaybulak**	**66.25**	**311**	P		**P**	**22 14 58.7**	**+0.7**
	SNR=8.4							
CHMS	**Chumysh**	**66.43**	**312**	P		**P**	**22 14 59.6**	**+0.4**
	SNR=8.1							
UCH	**Uchtor**	**66.53**	**311**	P		**P**	**22 15 01.6**	**+1.8**
	SNR=19							
AAK	**Ala-Archa**	**66.58**	**311**	*e*P		**P**	**22 14 59.3**	**-0.8**
	comp=Z,3.4nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**66.58**	**311**	*e*P		**P**	**22 14 59.3**	**-0.8**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
USP	**Ospenovka**	**66.64**	**312**	P		**P**	**22 15 00.8**	**+0.4**
	SNR=5.2							
EKS2	**Erkin-Say**	**67.11**	**311**	P		**P**	**22 15 04.3**	**+0.9**
	SNR=7.6							
AML	**Almayashu**	**67.13**	**311**	P		**P**	**22 15 05.1**	**+1.5**
	SNR=12							
PMR	**Palmer**	**69.06**	**28**	*e*P		**P**	**22 15 19.5**	**+4.4**
	comp=Z,7.4nm,0.6s,mb4.8							
PMR	**Palmer**	**69.06**	**28**	*e*P		**P**	**22 15 19.5**	**+4.3**
PMR				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8							
KKAR	**Karatay Array**	**69.54**	**312**	*i* P		**P**	**22 15 18.8**	**+0.3**
KKAR				pmax	pmax			
	comp=Z,26nm,1.1s,mb5.1							
CHKZ	**Chkalovo**	**70.38**	**323**	*e*P		**P**	**22 15 23.0**	**-0.4**
	comp=Z,20nm,0.7s,mb5.2							
CHKZ	**Chkalovo**	**70.38**	**323**	*e*P		**P**	**22 15 23.0**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,20nm,0.7s,mb5.2							
BVA0	**Borovoye Array**	**70.44**	**322**	*i* P		**P**	**22 15 24.2**	**+0.5**
BVA0				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
BRVK	**Borovoye**	**70.50**	**322**	*e*P		**P**	**22 15 24.2**	**+0.1**
	comp=Z,34nm,0.8s,mb5.3							
BRVK				*e*			22 15 48.8	
BRVK	**Borovoye**	**70.50**	**322**	*e*P		**P**	**22 15 24.2**	**+0.1**
BRVK				*e*			22 15 48.8	
BRVK				pmax	pmax			
	comp=Z,34nm,0.8s,mb5.3							
ILAR	**Eielson Array**	**70.81**	**25**	P		**P**	**22 15 24.6**	**-1.2**
	comp=Z,6.3nm,0.7s,mb4.7,baz=251,slow=5.7,SNR=52							
INK	**Inuvik**	**76.58**	**22**	P		**P**	**22 15 58.6**	**-0.7**
	comp=Z,7.3nm,1.0s,mb4.6							
INK	**Inuvik**	**76.58**	**22**	P		**P**	**22 15 58.6**	**-0.7**
INK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
AB31	**Akbulak array**	**76.89**	**318**	*i* P		**P**	**22 16 01.6**	**+0.2**
AB31				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.8							
ARU	**Arti**	**77.41**	**325**	*e*P		**P**	**22 16 03.9**	**-0.2**
	comp=Z,28nm,0.8s,mb5.2							
ARU				*e*	pP		22 16 15.5	-4.8
ARU	**Arti**	**77.41**	**325**	*e*P		**P**	**22 16 03.9**	**-0.2**
ARU				*e*	pP		22 16 15.5	-4.8
ARU				pmax	pmax			
	comp=Z,27nm,0.8s,mb5.2							
YKA	**Yellowknife Ar**	**85.12**	**27**	P		**P**	**22 16 45.6**	**+1.2**
	comp=Z,4.4nm,0.8s,mb4.7,baz=285,slow=5.7,SNR=6.6							
RES	**Resolute Bay**	**86.63**	**13**	*e*P		**P**	**22 16 53.1**	**+1.6**
	comp=Z,16nm,0.7s,mb5.3							
RES	**Resolute Bay**	**86.63**	**13**	*e*P		**P**	**22 16 53.1**	**+1.5**
RES				pmax	pmax			
	comp=Z,16nm,0.7s,mb5.4							
NEW	**Newport**	**87.54**	**41**	*e*P		**P**	**22 16 58.1**	**+1.5**
	comp=Z,5.6nm,0.9s,mb4.8							
NEW	**Newport**	**87.54**	**41**	*e*P		**P**	**22 16 58.1**	**+1.6**
NEW				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BMO	**Blue Mountains**	**88.29**	**45**	*e*P		**P**	**22 17 01.3**	**+1.1**
	comp=Z,5.2nm,0.9s,mb4.8							
BMO	**Blue Mountains**	**88.29**	**45**	*e*P		**P**	**22 17 01.3**	**+1.1**
BMO				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.7							
ARCES	**ARCESS Array B**	**88.34**	**342**	P		**P**	**22 17 00.5**	**+0.7**
	comp=Z,2.0nm,0.5s,mb4.6,baz=66,slow=6.3,SNR=22							
JOF	**Joensuu**	**89.30**	**335**	*ep*		**P**	**22 17 03.3**	**-1.3**
	comp=Z,4.7nm,0.6s,mb5.0							
KAF	**Kangasniemi**	**91.74**	**335**	*ep*		**P**	**22 17 15.0**	**-1.0**
	comp=Z,1.9nm,0.5s,mb4.7							
KAF	**Kangasniemi**	**91.74**	**335**	*e*P		**P**	**22 17 15.0**	**-1.0**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.7							
FINES	**FINESS Array B**	**92.16**	**335**	P		**P**	**22 17 17.4**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.6,baz=64,slow=4.8,SNR=28							
HFS	**Hagfors**	**97.88**	**337**	P		**P**	**22 17 43.8**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.5,baz=59,slow=8.6,SNR=4.9							
NOA	**NORSAR Array B**	**98.19**	**339**	P		**P**	**22 17 44.9**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.5,baz=50,slow=4.7,SNR=3.0							
DBIC	**Dimbokro**	**143.46**	**299**	PKP	PKPdf		22 23 42.2	-0.6
	comp=Z,2.9nm,0.6s,baz=51,slow=2.6,SNR=6.6							

GEN ***29*** *22:42:51.6, 44.04N×11.64E, h1km, ML2.0*
VIE ***29*** *22:42:51.3±1.1, 43.86N×11.61E, h10km, mb2.5/1, ML2.6/3, Error ellipse: s-maj=8.9km s-min=4.5km az=163.0*
CSEM ***29*** *22:42:52.9±0.1, 44.04N×11.44E, h10km, ML3.2/1, Error ellipse: s-maj=2.1km s-min=0.9km az=30.0*
ROM ***29*** *22:42:53.5±0.1, 44.01N×11.42E, h2km, Md2.6/13, Ml2.2/5, Error ellipse: s-maj=2.9km s-min=1.2km az=27.0*

ISC 29 22:42:54.3±0.4**, 44.04N**±0.03×**11.45E**±0.03**, h9**km±4km**, n27**, σ0**82**/46**, 4C-2D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VMG	**Vicchio**	**0.10**	**138**	Pg		**Pg**	**22 42 56.3**	**-0.5**
VMG				Sg		**Sg**	**22 42 58.6**	**+0.1**
PGD	**Poggio Sodo**	**0.25**	**129**	Pg		**Pg**	**22 42 59.0**	**-0.5**
PGD				Sg		**Sg**	**22 43 03.7**	**+0.7**
	61nm,1.7s							
FNVD	**Fontana Vidola**	**0.27**	**299**	Pg		**Pg**	**22 42 59.2**	**-0.8**
FNVD				Sg		**Sg**	**22 43 04.1**	**+0.3**
	896nm,0.4s							
SFI	**Santa Sofia**	**0.31**	**114**	Pg		**Pg**	**22 42 59.9**	**-0.8**
SFI				Sg		**Sg**	**22 43 05.5**	**+0.5**
	27nm,0.2s							
PZZT	**Monte Pizzetto**	**0.44**	**283**	Pg		**Pg**	**22 43 02.3**	**-0.9**
PZZT				Sg		**Sg**	**22 43 09.6**	**+0.5**
	353nm,0.3s							
ZCCA	**Zocca**	**0.47**	**313**	Pg		**Pg**	**22 43 04.1**	**+0.3**
	22nm,1.3s							
CRE	**Caprese Michel**	**0.55**	**139**	Pg		**Pg**	**22 43 06.9**	**+1.5**
CSNT	**Castellina Chi**	**0.57**	**192**	Pg		**Pg**	**22 43 05.8**	**-0.1**
CSNT				Sg		**Sg**	**22 43 14.6**	**+1.0**
	209nm,0.5s							
BDI	**Bagni Di Lucca**	**0.62**	**273**	Pg		**Pg**	**22 43 06.8**	**0.0**
BDI				Sg		**Sg**	**22 43 15.8**	**+0.7**
	204nm,0.6s							
GSCL	**Gusciola**	**0.70**	**297**	Pg		**Pg**	**22 43 09.1**	**+0.8**
MAIM		**0.71**	**260**	P		**Pb**	**22 43 07.4**	**-1.0**
MAIM				S		**Sb**	**22 43 18.2**	**+0.3**
PII	**Pisa**	**0.74**	**245**	Pg		**Pg**	**22 43 08.7**	**-0.5**
PII				Sg		**Sg**	**22 43 20.2**	**+1.1**
	71nm,0.2s							
SARO	**Sassorosso**	**0.77**	**282**	P		**Pb**	**22 43 08.6**	**-0.9**
SARO				S		**Sb**	**22 43 20.3**	**+0.4**
VALM		**0.92**	**290**	P		**Pb**	**22 43 11.2**	**-0.9**
VALM				S		**Sb**	**22 43 24.7**	**+0.4**
VINC	**Vinca**	**0.94**	**277**	P		**Pb**	**22 43 11.7**	**-0.7**
VINC				S		**Sb**	**22 43 25.3**	**+0.4**
GRFL	**Gerfalco**	**0.95**	**202**	Pg		**Pg**	**22 43 13.5**	**+0.1**
BACM		**1.02**	**284**	P		**Pb**	**22 43 13.0**	**-0.8**
BACM				S		**Sb**	**22 43 27.6**	**+0.4**
GRAM		**1.10**	**295**	P		**Pb**	**22 43 14.4**	**-0.7**
GRAM				S		**Sb**	**22 43 29.6**	**+0.3**
ARV	**Arcevia**	**1.20**	**116**	Pg		**Pg**	**22 43 18.2**	**-0.2**
CODM		**1.21**	**288**	P		**Pb**	**22 43 16.3**	**-0.6**
CODM				S		**Sb**	**22 43 32.8**	**+0.3**
SC2M	**Scurtabr**	**1.43**	**286**	P		**Pn**	**22 43 19.3**	**-1.3**
SC2M				S		**Sb**	**22 43 38.1**	**-0.8**
SQTA	**Sankt Quirin**	**3.19**	**357**	⇓*i*PN		**Pn**	**22 43 45.6**	**-0.1**
SQTA				*i* SN		**Sn**	**22 44 25.9**	**+1.5**
SQTA	**Sankt Quirin**	**3.19**	**357**	⇓*i*Pn		**Pn**	**22 43 45.6**	**-0.2**
MOTA	**Moosalm**	**3.32**	**356**	⇑*i*PN		**Pn**	**22 43 46.6**	**-1.0**
MOTA				*i* SN		**Sn**	**22 44 28.9**	**+1.3**
MOTA	**Moosalm**	**3.32**	**356**	⇑*i*Pn		**Pn**	**22 43 46.6**	**-1.0**
DAVA	**Damuels**	**3.44**	**342**	⇑*i*PN		**Pn**	**22 43 47.4**	**-1.8**
DAVA				*i* SN		**Sn**	**22 44 32.7**	**+2.2**
DAVA	**Damuels**	**3.44**	**342**	⇑*i*Pn		**Pn**	**22 43 47.4**	**-1.8**

LDG ***29*** *22:52:25.1±0.3, 20.25S×169.15E, h10km, Mb5.1/4, Ms4.2/6, Error ellipse: s-maj=34.1km s-min=13.4km az=8.0*
BJI ***29*** *22:52:27.6, 20.40S×169.30E, h39km, mB5.2, mb4.9, Ms5.0, Ms2.4.8*
CSEM ***29*** *22:52:28.6, 20.93S×169.02E, h33km, mb5.6*
NEIC ***29*** *22:52:29.6±0.2, 20.39S×169.34E, mb5.0/22, MS4.6/4, Error ellipse: s-maj=9.1km s-min=7.9km az=85.0*
HRVD ***29*** *22:52:29.6±0.8, 20.59S×169.17E, h47km±3km, MW5.0/20, Centroid moment Tensor Solution. LP body waves: s20,c22;Mantle waves: s19,c26; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.90±.38; Mθθ0.25±.28; Mφφ-3.15±.24; Mrθ-0.24±.30; Mθφ0.39±.29; Mφr1.09±.26; Best double couple: M○3.246×10^16 NP1:φs176°, δ35°, λ94°. NP2:φs351°, δ55°, λ87°. Principal axes: T 3.101, Plg80°, Azm250°; N .287, Plg2°, Azm353°; P -3.39, Plg10°, Azm83°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***29*** *22:52:30.5±2.5, 20.33S×169.37E, h47km±21km, mb4.5/13, mb1 4.6/15, mb1mx4.6/19, mbtmp4.7/15, ML4.4/2, MS4.0/13, Ms1 4.0/13, ms1mx3.8/24 Error ellipse: s-maj=19.8km s-min=18.6km az=74.0*
ORF ***29*** *22:52:50.7, 14.43S×158.30E, h30km, mb5.7*

ISC 29 22:52:27.8±0.3**, 20.44S**±0.05×**169.30E**±0.07**, h36**km**, h36**km±1.9km**:pP-P, n188,** σ1**9**02**/73, mb4.9**/37**, MS4.1**/15**,**

20C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.12**	**238**	*e*P		**P**	**22 53 16.4**	**+0.7**
DZM				*e*S		**S**	**22 53 49.3**	**-3.0**
DZM	**Mont Dzumac**	**3.12**	**238**	P		**P**	**22 53 17.0**	**+1.2**
	51nm,0.3s,baz=63,slow=16,SNR=354							
DZM				S		**S**	**22 53 51.7**	**-0.6**
	105nm,0.3s,baz=130,slow=22,SNR=12							
RAO	**Raoul Island**	**14.54**	**130**	LR		LR	23 00 04.4	
	comp=Z,475nm,20.6s,baz=107,slow=31							
URZ	**Urewera**	**19.00**	**161**	P		**P**	**22 56 49.7**	**+0.4**
	1.1nm,0.3s,baz=348,slow=5.7,SNR=9.8							
URZ				LR		LR	23 02 27.4	
	comp=Z,440nm,21.8s,baz=328,slow=31							
AFI	**Afiamalu**	**19.20**	**73**	LR		LR	23 03 17.2	
	comp=Z,143nm,18.1s,baz=29,slow=34							
PUZ	**Puketiti**	**19.21**	**158**	PN		**P**	**22 56 52.2**	**+0.7**
CTA	**Charters Tower**	**21.62**	**267**	⇑*i*P		**P**	**22 57 19.0**	**+2.1**
	11nm,0.6s,mb4.5							
CTA	**Charters Tower**	**21.62**	**267**	P		**P**	**22 57 19.1**	**+2.3**
	15nm,0.7s,mb4.6,baz=95,slow=11,SNR=21							
CTA				LR		LR	23 05 06.1	
	comp=Z,486nm,19.9s,MS3.9,baz=75,slow=35							
CTAO	**Charters Tower**	**21.62**	**267**	*e*P		**P**	**22 57 18.8**	**+1.9**
	15nm,0.7s,mb4.5							
RPZ	**Rata Peaks**	**23.25**	**177**	P		**P**	**22 57 36.0**	**+3.1**
	12nm,0.5s,mb4.6,baz=344,slow=9.9,SNR=5.3							
RPZ				LR		LR	23 05 29.3	
	comp=Z,743nm,19.7s,MS4.1,baz=287,slow=33							
PMG	**Port Moresby**	**24.01**	**294**	P		**P**	**22 57 41.9**	**+1.5**
	34nm,0.9s,mb4.8,baz=114,slow=7.7,SNR=8.5							
PMG				LR		LR	23 05 31.0	
	comp=Z,274nm,18.1s,MS3.8,baz=328,slow=32							
STKA	**Stephens Creek**	**27.27**	**240**	⇑*i*P		**P**	**22 58 11.8**	**+0.8**
	8.5nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**27.27**	**240**	P		**P**	**22 58 11.5**	**+0.5**
	6.2nm,0.6s,mb4.3,baz=34,slow=7.8,SNR=15							
STKA				PcP		PcP	23 01 29.2	-1.3
	5.6nm,0.9s,baz=292,slow=1.0,SNR=4.1							
STKA				LR		LR	23 08 06.7	
	comp=Z,390nm,21.6s,MS3.9,baz=276,slow=34							
WB2	**Warramunga Arr**	**32.77**	**265**	⇑*i*P		**P**	**22 58 58.6**	**-1.3**
WRAB	**Tennant Creek**	**32.77**	**265**	*e*P		**P**	**22 58 58.4**	**-1.5**
	18nm,1.1s,mb4.9							
WRA	**Warramunga Arr**	**32.78**	**265**	P		**P**	**22 58 58.8**	**-1.2**
	3.3nm,0.5s,mb4.5,baz=94,slow=8.5,SNR=101							
WRA				PcP		PcP	23 01 43.6	-1.1
	1.6nm,0.7s,baz=92,slow=3.0,SNR=5.6							
TBI	**Tubuai**	**38.29**	**102**	*e*LR		LR	23 10 22.6	
	293nm,26.8s							
PPT	**Papeete**	**38.92**	**93**	*e*LQ			23 09 00.7	
PPT				*e*LR		LR	23 10 38.7	
	524nm,27.8s							
PPT	**Papeete**	**38.92**	**93**	LR		LR	23 12 55.7	
	comp=Z,76nm,20.0s,MS3.5,baz=229,slow=32							
FITZ	**Fitzroy Crossi**	**41.19**	**266**	⇑*i*P		**P**	**23 00 11.5**	**+0.6**
	13nm,0.6s,mb4.7							
FITZ				*i*		pP	23 00 23.3	+2.0
FITZ	**Fitzroy Crossi**	**41.19**	**266**	P		**P**	**23 00 11.6**	**+0.7**
	17nm,0.5s,mb4.9,baz=137,slow=5.6,SNR=31							
FITZ				LR		LR	23 15 51.9	
	comp=Z,287nm,18.3s,MS4.2,baz=98,slow=34							
GUMO	**Guam**	**41.48**	**323**	LR		LR	23 16 14.4	
	comp=Z,67nm,18.3s,MS3.5,baz=97,slow=34							
MBWA	**Marble Bar**	**46.19**	**260**	*e*P		**P**	**23 00 51.0**	**-0.3**
	20nm,1.0s,mb5.0							
MBWA				*ep*P		pP	23 01 01.6	-0.3
KLBR	**Kellerberrin**	**47.26**	**245**	*e*P		**P**	**23 00 58.8**	**-0.8**
	11nm,0.5s,mb5.0							
NWAO	**Narrogin (SRO)**	**47.72**	**244**	*e*P		**P**	**23 01 00.4**	**-2.9**
	22nm,0.9s,mb5.2							
RKT	**Rikitea**	**51.56**	**104**	*e*LR		LR	23 16 32.0	
	180nm,28.5s							
VNDA	**Vanda**	**57.24**	**182**	*e*P		**P**	**23 02 12.5**	**-1.2**
	9.3nm,1.2s,mb4.7							
SBA	**Scott Base**	**57.47**	**181**	*e*P		**P**	**23 02 15.0**	**-0.2**
	28nm,1.0s,mb5.2							
KKM	**Kota Kinabalu**	**58.41**	**291**	P		**P**	**23 02 22.7**	**+0.1**
CASY	**Casey**	**59.05**	**204**	*e*P		**P**	**23 02 17.5**	**-8.9**
	8.7nm,0.7s,mb4.9							
CASY				*e*			23 02 24.6	
KSM	**Kuching**	**61.70**	**283**	*e*P		**P**	**23 02 44.7**	**-0.5**
KSM				*ep*P		pP	23 02 56.3	+0.4
MJAR	**Matsushiro Arr**	**63.84**	**332**	P		**P**	**23 02 57.8**	**-1.3**
	12nm,1.0s,mb4.9,baz=169,slow=6.5,SNR=17							
MAJO	**Matsushiro**	**63.84**	**332**	*e*P		**P**	**23 02 57.0**	**-2.1**
	22nm,1.1s,mb5.1							
MAT	**Matsushiro**	**63.84**	**332**	P		**P**	**23 02 57.5**	**-1.6**
MAT	**Matsushiro**	**

LZH	**Lanzhou**	**83.57**	**312**	*e*P	**P**	**23 04 55.5**	**+1.6**
LZH				AP	pP	23 05 08.0	+2.9
LZH				XP	sP	23 05 12.0	+3.1
LZH				PP	PP	23 08 10.3	+1.9
LZH				*e*S	S	23 15 15.0	+3.1
LZH				XS		23 15 35.0	
LZH				*e*SS	SS	23 20 42.0	+0.4
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,190nm,7.7s						
LZH				LR	LR		
	comp=E,332nm,17.5s						
LZH				LR	LR		
	comp=Z,492nm,18.8s,MS4.9						
LZH	**Lanzhou**	**83.57**	**312**	*e*P	**P**	**23 04 55.5**	**+1.6**
	comp=Z,32nm,1.4s,mb5.3						
LZH				pP	pP	23 05 07.9	+2.8
LZH				sP	sP	23 05 12.1	+3.2
LZH				PP	PP	23 08 10.3	+1.9
LZH				*e*S	S	23 15 15.0	+3.1
LZH				sS		23 15 35.0	
LZH				*e*SS	SS	23 20 42.0	+0.4
LZH				LR	LR		
	comp=Z,490nm,18.8s,MS4.9						
SYO	**Syowa Base**	**83.80**	**196**	ǁP	**P**	**23 04 51.0**	**-3.3**
SYO	**Syowa Base**	**83.80**	**196**	ǁPcP	PcP	23 04 57.0	-1.7
SYO	**Syowa Base**	**83.80**	**196**	ǁpP	pP	23 05 04.6	-0.8
KDAK	**Kodiak Island**	**84.14**	**19**	P	**P**	**23 04 56.0**	**-0.2**
	comp=Z,9.8nm,0.9s,mb4.9,baz=243,slow=4.5,SNR=4.2						
PMSA	**Palmer Station**	**85.77**	**160**	*e*P	**P**	**23 05 03.9**	**-0.3**
	comp=Z,9.1nm,0.9s,mb5.0						
MAIT	**Maitri**	**87.68**	**187**	*e*P	**P**	**23 05 13.3**	**-0.1**
SNAA	**Sanae**	**87.97**	**182**	*e*P	**P**	**23 05 14.1**	**-0.6**
	comp=Z,12nm,1.0s,mb5.1						
SNAA				*e*pP	pP	23 05 25.6	-0.3
GTA	**Gaotai**	**87.99**	**313**	*e*P	**P**	**23 05 15.8**	**+0.2**
GTA				AP	pP	23 05 25.0	-1.8
GTA				XP	sP	23 05 29.5	-1.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.6						
YAK	**Yakutsk**	**88.03**	**342**	P	**P**	**23 05 14.5**	**-0.7**
YBH	**Yreka Blue Hor**	**88.12**	**44**	P	**P**	**23 05 16.1**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.6,baz=170,slow=5.1,SNR=6.2						
YBH				LR	LR	23 34 50.4	
	comp=Z,135nm,21.9s,MS4.3,baz=338,slow=29						
SONM	**Songino Array**	**88.21**	**323**	P	**P**	**23 05 17.0**	**+0.6**
	comp=Z,7.1nm,0.9s,mb4.9,baz=130,slow=4.7,SNR=48						
VNA3	**Neumayer Olymp**	**88.56**	**180**		**P**	**23 05 17.6**	**+0.1**
VNA3	**Neumayer Olymp**	**88.56**	**180**		**P**	**23 05 30.2**	**+13**
VNA3	**Neumayer Olymp**	**88.56**	**180**		**P**	**23 05 34.2**	**+17**
VNA2	**Neumayer--Watz**	**88.85**	**181**		**P**	**23 05 19.2**	**+0.3**
VNA2	**Neumayer--Watz**	**88.85**	**181**		**P**	**23 05 31.6**	**+13**
VNA2	**Neumayer--Watz**	**88.85**	**181**		**P**	**23 05 36.2**	**+17**
VNA1	**Neumayer--Stat**	**89.14**	**181**		**P**	**23 05 20.6**	**+0.3**
VNA1	**Neumayer--Stat**	**89.14**	**181**		**P**	**23 05 33.4**	**+13**
LSA	**Lhasa**	**90.20**	**302**	*e*P	**P**	**23 05 26.9**	**+0.6**
ILAR	**Eielson Array**	**91.36**	**17**	P	**P**	**23 05 28.4**	**-2.4**
	comp=Z,0.7nm,0.6s,mb4.2,baz=230,slow=5.1,SNR=7.1						
DLBC	**Dease Lake**	**93.08**	**27**	P	**P**	**23 05 38.8**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.8,baz=194,slow=4.2,SNR=4.4						
PKI	**Pulchoki**	**94.08**	**298**	*e*P	**P**	**23 05 44.4**	**+0.2**
KKN	**Kakani**	**94.27**	**298**	*e*P	**P**	**23 05 45.4**	**+0.4**
	comp=Z,14nm,0.9s,mb5.4						
DMN	**Daman**	**94.35**	**298**	*e*P	**P**	**23 05 45.9**	**+0.5**
	comp=Z,13nm,0.6s,mb5.5						
GKN	**Gorkha**	**94.88**	**298**	*e*P	**P**	**23 05 47.6**	**-0.2**
KOLN	**Koldanda**	**95.66**	**297**	*e*P	**P**	**23 05 51.0**	**-0.3**
TXAR	**Lajitas Array**	**97.29**	**62**	LR	LR	23 41 14.5	
	comp=Z,83nm,19.3s,MS4.2,baz=230,slow=30						
WMQ	**Urumqi**	**98.07**	**314**	*e*P	**P**	**23 06 03.0**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,88nm,4.0s						
WMQ				LR	LR		
	comp=N,56nm,19.8s,MS4.3						
WMQ				LR	LR		
	comp=E,87nm,23.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,101nm,19.9s,MS4.3						
MKAR	**Makanchi Array**	**102.63**	**315**	P	Pdif	23 06 22.7	+0.3
	comp=Z,0.5nm,0.6s,baz=101,slow=4.9,SNR=4.4						
MKAR				PP	PP	23 10 47.9	+9.3
	comp=Z,1.2nm,1.0s,baz=101,slow=6.2,SNR=5.2						
MKAR	**Makanchi Array**	**102.63**	**315**	P	Pdif	23 06 22.7	+0.3
MKAR				PP	PP	23 10 47.9	+9.3
ARCES	**ARCESS Array B**	**126.24**	**345**	PKP	PKPdf	23 11 26.3	0.0
	comp=Z,2.2nm,0.5s,baz=61,slow=1.6,SNR=30						
KMBO	**Kilima Mbogo**	**128.40**	**251**	PKP	PKPdf	23 11 33.7	+1.7
	comp=Z,0.5nm,0.8s,baz=20,slow=4.7,SNR=4.1						
KMBO	**Kilima Mbogo**	**128.40**	**251**	PKP	PKPdf	23 11 33.7	+1.7
BDFB	**Brasilia**	**128.73**	**132**	PKP	PKPdf	23 11 32.5	0.0
	comp=Z,3.8nm,0.7s,baz=241,slow=3.2,SNR=5.0						
JOF	**Joensuu**	**128.87**	**337**	*e*p	PKPdf	23 11 31.2	-0.3
	comp=Z,2.9nm,0.7s						
KAF	**Kangasniemi**	**131.19**	**338**	*e*p	PKPdf	23 11 35.1	-0.8
	comp=Z,1.5nm,0.5s						
FINES	**FINESS Array B**	**131.71**	**337**	PKP	PKPdf	23 11 36.2	-0.7
	comp=Z,3.1nm,1.1s,baz=61,slow=1.5,SNR=11						
FINES				SKPbc		23 14 58.4	
	comp=Z,0.7nm,0.6s,slow=1.9,SNR=4.9						
FINES	**FINESS Array B**	**131.71**	**337**	PKP	PKPdf	23 11 36.2	-0.7
FINES				SKPbc		23 14 58.4	
NB2	**NORSAR Subarra**	**136.61**	**345**	PKPdf	PKPdf	23 11 39.9	-6.2
	comp=Z,2.3nm,1.1s,baz=45,slow=1.9						
NOA	**NORSAR Array B**	**136.61**	**345**	PKP	PKPdf	23 11 46.4	+0.4
	comp=Z,1.3nm,0.8s,baz=32,slow=1.8,SNR=3.3						
NOA	**NORSAR Array B**	**136.61**	**345**	PKP	PKPdf	23 11 46.4	+0.4
BRTR	**Keskin Array B**	**137.58**	**307**	PKP	PKPdf	23 11 49.5	+1.0
	comp=Z,0.9nm,0.8s,baz=117,slow=2.8,SNR=5.2						
KOLS	**Kolonicke sedl**	**141.24**	**325**	*e*	PKPdf	23 11 52.8	-1.9
STHS	**Stebnicka Huta**	**141.50**	**326**	*e*PKP	PKPdf	23 11 54.1	-1.1
KECS	**Kecovo**	**142.46**	**326**	*e*	PKPdf	23 11 52.3	-4.5
OKC	**Ostrava-Krasne**	**142.79**	**329**	*e*PKP	PKPdf	23 11 56.6	-0.7
BSEG	**Bad Segeberg**	**142.90**	**339**	*e*PKPbc	PKPdf	23 11 54.9	-2.5
DPC	**Dobruska-Polom**	**143.30**	**331**	*e*PKP	PKPdf	23 11 56.6	-1.6
VYHS	**Vyhne**	**143.32**	**327**	*e*PKP	PKPdf	23 11 57.5	-0.8
UPC	**Upice**	**143.33**	**331**	*e*PKP	PKPdf	23 11 56.5	-1.7
PVCC	**Panska Ves**	**143.95**	**332**	*e*PKP	PKPdf	23 11 58.4	-0.9
BRG	**Berggiesshubel**	**143.97**	**333**	*i* P	PKPbc	23 11 58.4	-0.1
BRG				*i*		23 12 10.7	
CLL	**Collm**	**144.02**	**335**	⇑*i*PKIKP	PKPdf	23 11 58.4	-1.0
	comp=Z,logA/T=1.5						
CLL				*e*		23 12 03.0	
CLL				*i* *PPKP		23 12 10.6	
CLL				*e*		23 12 17.0	
CLL	**Collm**	**144.02**	**335**	⇑*i*PKP	PKPdf	23 11 58.4	-1.0
CLL				*i* pPKP		23 12 10.6	
SRO1	**Iza**	**144.09**	**326**	*e*PKP	PKPdf	23 11 58.4	-1.2
PRU	**Pruhonice**	**144.36**	**332**	*e*PKP	PKPdf	23 11 59.5	-0.6
PRU				*e*pPKP		23 12 10.7	
ZST	**Bratislava**	**144.39**	**328**	*e*PKP	PKPdf	23 12 01.0	+0.8
SVIS	**Svilajnac**	**144.41**	**319**	⇑*i*PKP	PKPdf	23 11 59.8	-0.5
PKS8	**Sarbogard**	**144.41**	**325**	⇑*i*P	PKPbc	23 11 59.8	-0.1
TREC	**Trest**	**144.43**	**330**	*e*PKP	PKPdf	23 11 59.8	-0.4
TREC				*e*pPKP		23 12 12.5	
CLZ	**Clausthal**	**144.61**	**337**	*e*PKPbc	PKPbc	23 12 00.7	+0.5
PKSM	**Moragy**	**144.83**	**324**	⇑*i*P	PKPdf	23 12 01.5	+0.5
SOP	**Sopron**	**145.01**	**327**	⇑*i*PKP/F		23 12 02.3	
NKC	**Novy Kostel**	**145.07**	**334**	*e*pPKP		23 12 18.8	
MOX	**Moxa**	**145.09**	**335**	*i* P	PKPdf	23 12 02.0	+0.7
	comp=Z,logA/T=1.7						
MOX				pPKP		23 12 14.0	
MOX	**Moxa**	**145.09**	**335**	*e*P	PKPdf	23 12 02.0	+0.7
MOX				*e*		23 12 14.4	
DIVS	**Divcibare**	**145.26**	**320**	⇑*i*PKP	PKPdf	23 12 02.2	+0.4
KHC	**Kasperske Hory**	**145.41**	**332**	*e*PKP	PKPdf	23 12 03.0	+1.1
KHC				*e*pPKP		23 12 15.4	
SKO	**Skopje**	**145.43**	**316**	⇑*i*P	PKPdf	23 12 03.6	+1.4
SKO				*i*		23 12 16.0	
GERES	**GERESS Array B**	**145.57**	**331**	PKPbc	PKPbc	23 12 03.8	+0.9
	comp=Z,26nm,0.8s,baz=35,slow=2.6,SNR=178						
WET	**Wettzell**	**145.72**	**332**	*e*PKPbc	PKPbc	23 12 04.3	+1.1
ARSA	**Arzberg**	**145.82**	**328**	⇑*i*P	PKPdf	23 12 05.0	+2.3
	comp=Z,116nm,2.1s						
GRA1	**Grafenberg Arr**	**146.00**	**334**	*e*PKPbc	PKPbc	23 12 04.9	+1.0
GRA1				*e*pPKPbc		23 12 18.0	
GRF	**Grafenberg Arr**	**146.00**	**334**	*e*PKP	PKPdf	23 12 04.9	+2.0
GRF				pPKPbc		23 12 18.0	
MOA	**Molln**	**146.02**	**329**	⇑*i*P	PKPdf	23 12 05.1	+2.1
	comp=Z,153nm,3.9s						
MOA	**Molln**	**146.02**	**329**	*i* P	PKPdf	23 12 05.1	+2.1
	comp=Z,153nm,3.9s,SNR=14						
PERS	**Pernice**	**146.44**	**327**	*i* PKP	PKPdf	23 12 05.9	+2.1
DMUB	**Kingscourt**	**146.47**	**356**	*e*P	PKPdf	23 12 05.0	+1.4
TNS	**Taunus Mts**	**146.63**	**337**	*e*PKPbc	PKPbc	23 12 06.9	+1.6
TNS				*ep*PKPbc		23 12 19.3	
GCIS	**Gornji Cirnik**	**146.68**	**326**	*e*PKP	PKPdf	23 12 07.1	+2.9
TOD	**Tromm**	**147.01**	**336**	PKP	PKPdf	23 12 07.6	+3.0
DCN	**Croghan**	**147.05**	**356**	*e*P	PKPdf	23 12 07.0	+2.4
LJU	**Ljubljana**	**147.14**	**327**	*e*PKP	PKPdf	23 12 08.2	+3.2
ABH	**Alteburg**	**147.24**	**338**	PKP	PKPdf	23 12 08.5	+3.5
STU	**Stuttgart**	**147.53**	**335**	*e*PKPbc	PKPdf	23 12 09.3	+3.8
WATA	**Walderalm**	**147.65**	**331**	⇑*i*P	PKPdf	23 12 09.2	+3.5
	comp=Z,8.2nm,1.1s						
WATA	**Walderalm**	**147.65**	**331**	*i* P	PKPdf	23 12 09.2	+3.5
	comp=Z,8.2nm,1.1s,SNR=5.9						
WTTA	**Wattenberg**	**147.67**	**331**	⇑*i*P	PKPdf	23 12 09.5	+3.7
	comp=Z,38nm,1.4s						
WTTA	**Wattenberg**	**147.67**	**331**	*i* P	PKPdf	23 12 09.5	+3.8
	comp=Z,38nm,1.4s,SNR=6.9						
MOTA	**Moosalm**	**147.85**	**332**	⇑*i*P	PKPdf	23 12 09.9	+3.9
	comp=Z,24nm,1.1s						
LANF	**Langenberg**	**147.90**	**337**	PKP	PKPdf	23 12 10.2	+4.1
SQTA	**Sankt Quirin**	**147.90**	**331**	⇑*i*P	PKPdf	23 12 10.2	+4.1
	comp=Z,19nm,1.0s						
SQTA	**Sankt Quirin**	**147.90**	**331**	*i* P	PKPdf	23 12 10.2	+4.1
	comp=Z,19nm,1.0s,SNR=19						
WLF	**Walferdange**	**147.90**	**339**	*e*PKPbc	PKPdf	23 12 10.5	+4.4
GIVF	**Givet**	**147.94**	**341**	*e*PKP1	PKPdf	23 12 10.1	+4.0
	comp=Z,79nm,1.0s						
BAIF	**Baives**	**148.16**	**342**	*e*PKP1	PKPdf	23 12 10.7	+4.3
	comp=Z,94nm,1.2s						
BFO	**Black Forest**	**148.23**	**336**	*e*PKPbc	PKPdf	23 12 10.8	+4.2
DAVA	**Damuels**	**148.43**	**333**	⇓*i*P	PKPdf	23 12 11.6	+4.6
	comp=Z,74nm,1.7s						
WLS	**Welschbruch**	**148.53**	**337**	PKP	PKPdf	23 12 11.5	+4.4
CDF	**Champ du Feu**	**148.56**	**337**	*e*PKP1	PKPdf	23 12 11.5	+4.4
	comp=Z,40nm,1.1s						
FELD	**Feldberg**	**148.73**	**335**	PKP	PKPdf	23 12 11.8	+4.4
ECH	**Echery**	**148.77**	**337**	PKP	PKPdf	23 12 12.0	+4.5
THEF	**They Montfort**	**149.18**	**338**	PKP	PKPdf	23 12 13.3	+5.1
HINF	**Hinteralfeld**	**149.22**	**337**	*e*PKP1	PKPdf	23 12 13.1	+4.9
	comp=Z,11nm,0.7s						
HAU	**Haudompre**	**149.24**	**337**	*e*PKP1	PKPdf	23 12 13.3	+5.0
	comp=Z,41nm,0.9s						
HAU				*e*R			
	comp=Z,61nm,19.2s						
MEZF	**Maizieres J'vi**	**149.27**	**339**	*e*PKP1	PKPdf	23 12 13.8	+5.5
	comp=Z,105nm,1.1s						
LOMF	**Lomont**	**149.61**	**336**	PKP	PKPdf	23 12 14.3	+5.4
TIP	**Timpagrande**	**149.91**	**314**	*e*PKPbc	PKPdf	23 12 15.4	+5.8
CABF	**La Chapelle**	**150.51**	**336**	*e*PKP1	PKPdf	23 12 16.6	+6.3
	comp=Z,28nm,0.7s						
FLN	**La Foliniere**	**150.57**	**346**	*e*PKP1	PKPdf	23 12 15.7	+5.4
	comp=Z,36nm,0.8s						
FLN				*e*R			
	comp=Z,102nm,21.2s						
LDF	**La Druitiere**	**150.65**	**346**	*e*PKP1	PKPdf	23 12 16.1	+5.7
	comp=Z,16nm,0.8s						
LOR	**Lormes**	**150.74**	**339**	*e*PKP1	PKPdf	23 12 16.9	+6.3
	comp=Z,36nm,1.0s						
LOR				*e*R			
	comp=Z,108nm,19.2s						
GRR	**Gorron**	**151.01**	**346**	*e*PKP1	PKPdf	23 12 17.1	+6.1
	comp=Z,16nm,0.6s						
SSF	**Saint Saulge**	**151.03**	**340**	*e*PKP1	PKPdf	23 12 17.7	+6.7
	comp=Z,28nm,0.9s						
LPL	**La Plagne**	**151.16**	**334**	*e*PKP1	PKPdf	23 12 18.5	+7.2
	comp=Z,15nm,0.7s						
LPG	**La Plagne**	**151.16**	**334**	*e*PKP1	PKPdf	23 12 18.6	+7.3
	comp=Z,17nm,0.7s						
SMF	**Signal de Mont**	**151.29**	**339**	*e*PKP1	PKPdf	23 12 18.4	+7.0
AVF	**Avril sur Loir**	**151.32**	**340**	*e*PKP1	PKPdf	23 12 18.3	+6.8
SGMF	**Saint Gilles**	**151.48**	**349**	*e*PKP1	PKPdf	23 12 18.1	+6.4
ROSF	**Rostrenen**	**151.53**	**350**	*e*PKP1	PKPdf	23 12 18.1	+6.4
	comp=Z,22nm,0.8s						
BNI	**Bardonecchia**	**151.56**	**334**	*e*PKPbc	PKPdf	23 12 18.5	+6.6
BGF	**Bois d'Agland**	**151.69**	**340**	*e*PKP1	PKPdf	23 12 19.3	+7.3
	comp=Z,14nm,0.6s						
MBDF	**Montbardon**	**151.78**	**333**	*e*PKP1	PKPdf	23 12 19.3	+7.1
	comp=Z,8.4nm,0.6s						
QUIF	**Quistinic**	**151.92**	**349**	*e*PKP1	PKPdf	23 12 19.2	+6.9
ORIF	**Oris-en-Rattie**	**151.99**	**334**	*e*PKP1	PKPdf	23 12 20.0	+7.4
	comp=Z,17nm,0.6s						
ORIF				*e*R			
	comp=Z,71nm,19.2s						
TCF	**Toulx Ste Croi**	**152.13**	**341**	*e*PKP1	PKPdf	23 12 20.0	+7.3
PGF	**Pioggiola**	**152.42**	**327**	*e*PKP1	PKPdf	23 12 21.0	+7.8
	comp=Z,70nm,0.9s						
MFF	**Saint Martin d**	**152.51**	**344**	*e*PKP1	PKPdf	23 12 20.7	+7.5
	comp=Z,13nm,0.7s						
VIVF	**Saint-Julien-l**	**152.52**	**336**	*e*PKP1	PKPdf	23 12 21.1	+7.8
FRF	**La Foret Royal**	**152.76**	**332**	*e*PKP1	PKPdf	23 12 21.3	+7.6
SMRF	**Simiane la Rot**	**152.89**	**334**	*e*PKP1	PKPdf	23 12 22.3	+8.4
LMR	**La Mourre**	**153.00**	**332**	*e*PKP1	PKPdf	23 12 21.9	+7.9
CAF	**Calviac**	**153.39**	**339**	*e*PKP1	PKPdf	23 12 23.2	+8.7
LASF	**Ste Croix**	**153.49**	**336**	*e*PKP1	PKPdf	23 12 23.4	+8.7
LFF	**La Frestale**	**153.79**	**341**	*e*PKP1	PKPdf	23 12 23.9	+8.8

NEIC ***29*** *23:03:59.7±1.1,5.50S×151.67E,h25km,mb4.4/4,Error ellipse: s-maj=34.8km s-min=14.7km az=117.0*
IDC ***29*** *23:04:05.9±5.8,5.37S×151.44E,h70km±55km,mb3.7/5, mb1 4.0/6,mb1mx3.9/11,mbtmp4.1/6,ML3.5/1,Error ellipse: s-maj=68.8km s-min=33.5km az=129.0*

ISC 29 23:04:02.1±4.5,5.5S±0.1×151.8E±0.2,h64km±36km,n15, σ0s93/17,mb4.1/8,3C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.03**	**230**	P		**P**		**23 05 30.1**	**-0.5**
	9.1nm,0.3s,baz=42,slow=13,SNR=15								
PMG				S			**S**	**23 06 40.6**	**+1.5**
	4.0nm,0.3s,baz=270,slow=20,SNR=3.1								
PMG	**Port Moresby**	**6.03**	**230**	*e*Pn		**P**		**23 05 29.5**	**-1.1**
PMG				S			**S**	**23 06 40.6**	**+1.5**
KAKA	**Kakadu**	**20.43**	**248**	⇑*i*P		**P**		**23 08 55.3**	**+19**
	6.7nm,0.4s								
WRAB	**Tennant Creek**	**22.23**	**228**	*e*P		**P**		**23 08 54.1**	**-0.6**
	20nm,1.1s,mb4.5								
WB2	**Warramunga Arr**	**22.24**	**228**	⇑*i*P		**P**		**23 08 54.7**	**0.0**
WRA	**Warramunga Arr**	**22.25**	**228**	P		**P**		**23 08 54.8**	**0.0**
	5.9nm,0.7s,mb4.1,baz=52,slow=9.9,SNR=58								
STKA	**Stephens Creek**	**27.92**	**199**	P		**P**		**23 09 48.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**28.47**	**242**	⇑*i*P		**P**		**23 09 52.5**	**-1.0**
	7.0nm,0.5s,mb4.5								
FITZ	**Fitzroy Crossi**	**28.47**	**242**	P		**P**		**23 09 52.4**	**-1.1**
	4.3nm,0.4s,mb4.4,baz=40,slow=6.2,SNR=13								
KULM	**Kulim**	**52.22**	**281**	P		**P**		**23 13 02.6**	**-6.6**
SONM	**Songino Array**	**66.42**	**328**	P		**P**		**23 14 45.5**	**-1.2**
	0.4nm,0.5s,mb3.7,baz=144,slow=4.6,SNR=3.7								
MKAR	**Makanchi Array**	**80.23**	**319**	P		**P**		**23 16 07.3**	**-0.2**
	0.5nm,0.9s,mb3.5,baz=135,slow=6.1,SNR=4.0								
ILAR	**Eielson Array**	**83.19**	**22**	P		**P**		**23 16 24.4**	**+2.0**
	0.7nm,0.6s,mb3.9,baz=251,slow=5.6,SNR=9.9								
QSPA	**South Pole Qui**	**84.44**	**180**	P		**P**		**23 16 28.4**	**0.0**
	2.1nm,0.8s,mb4.3								
BRVK	**Borovoye**	**89.31**	**323**	P		**P**		**23 16 53.5**	**+1.0**
	0.9nm,0.8s,mb4.2								

NEIC ***29*** *23:10:44.9,10.24N×60.76W,h128km,MD3.5(TRN),After TRN.*

TRN 29 23:10:44.9,10.24N×60.76W,h129km,MD3.5,1C, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.39**	**309**	*e*P		P		23 11 03.8	+0.4
TBH				*e*S		S		23 11 16.9	-0.6
TPP	**Pointe-a-Pierr**	**0.69**	**277**	*e*P		P		23 11 04.8	-0.4
TRN	**Trinidad (W)**	**0.75**	**303**	*e*P		P		23 11 05.7	0.0
BOT	**Bacolet**	**0.93**	**3**	*e*P		P		23 11 06.7	-0.5
TPR	**Prospect**	**0.94**	**359**	*e*P		P		23 11 07.4	0.0
GRW	**Mount Saint Ca**	**2.11**	**335**	⇑*e*P		P		23 11 20.5	-0.1
GRW				*e*S		S		23 11 46.1	-1.7

DHMR 29 23:12:07.6±0.7,12.61N×40.54E,h2km±4km,ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.54**	**80**	*i* P		Pn		23 13 06.5	+1.7
TRBA				*i* S		Sn		23 13 52.0	+4.3
TRBA				AML	AML			23 14 06.6	
	comp=N,326nm,0.8s								
UDYN	**Al 'Udayn**	**3.60**	**68**	*i* P		Pn		23 13 07.0	+1.5
UDYN				*i* S		Sn		23 13 54.2	+5.0
UDYN				AML	AML			23 14 11.3	
	comp=E,246nm,0.7s								
DHBB	**Dhamar BB**	**4.22**	**62**	*i* P		Pn		23 13 15.7	+1.3
DHBB				*i* S		Sn		23 14 08.3	+3.4
LBOS		**4.75**	**74**	*i* S		Sn		23 14 17.4	-1.0

CSEM ***29*** *23:13:55.2±0.1,37.76N×25.40W,h5km,ML2.5,Error ellipse: s-maj=4.3km s-min=2.9km az=6.0,After PDA*
PDA ***29*** *23:13:55.2±0.9,37.76N×25.40W,h5km±1km,MD2.6, ML2.5,Error ellipse: s-maj=2.3km s-min=2.3km az=136.0*

SVSA 29 23:13:55.2±0.9,37.76N×25.40W,h5km±1km,MD2.6, ML2.5,Error ellipse: s-maj=2.3km s-min=2.3km az=136.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCNG	**Congo**	**0.01**	**58**	*i* P		P		23 13 56.6	+0.5
PCNG				*e*S		S		23 13 57.7	+1.0
PCNG	**Congo**	**0.01**	**58**	*e*S		S		23 13 57.7	+1.0
VIF	**Vila Franca**	**0.03**	**237**	*i* P		P		23 13 56.9	+0.6
VIF				*e*S		S		23 13 58.2	+1.1
	5μm,0.3s								
VIF	**Vila Franca**	**0.03**	**237**	*e*S		S		23 13 58.2	+1.1
FRA1	**Furnas**	**0.04**	**118**	*e*P		P		23 13 57.0	+0.6
MESC	**Monte Escuro**	**0.04**	**312**	*i* P		P		23 13 57.2	+0.7
MESC				*e*S		S		23 13 58.6	+1.3
MESC	**Monte Escuro**	**0.04**	**312**	*e*S		S		23 13 58.6	+1.3
LFA	**Lagoa do Fogo**	**0.06**	**279**	*i* P		P		23 13 57.6	+0.8
PRCH	**Ribeira Ch**	**0.07**	**240**	*i* P		P		23 13 57.3	+0.4
PRCH				*e*S		S		23 13 58.8	+0.8
	3μm,0.2s								
PRCH	**Ribeira Ch**	**0.07**	**240**	*e*S		S		23 13 58.8	+0.8
PMAT	**Coroa da Mata**	**0.07**	**315**	*e*P		P		23 13 57.6	+0.7
PMAT				*e*S		S		23 13 58.9	+0.8
	5.3nm,0.2s								
CMLA	**Cha da Macela**	**0.10**	**270**	*e*P		P		23 13 56.1	-1.2
CMLA				*e*S		S		23 13 57.9	-0.8
PFAD	**Fenais da Ajud**	**0.10**	**40**	*e*P		P		23 13 58.0	+0.6
MIRA	**Miradouro**	**0.10**	**77**	*e*P		P		23 13 57.6	+0.2
MIRA				*e*S		S		23 13 59.6	+0.7
CML	**Cha da Macela**	**0.11**	**274**	*e*P		P		23 13 57.9	+0.3
FAC	**Faja de Cima**	**0.20**	**273**	*e*P		P		23 13 59.7	+0.5
PDA	**Ponta Delgada**	**0.21**	**266**	*e*P		P		23 14 06.2	+6.8
PDA				*e*S		S		23 14 09.9	+7.7
PSET	**Sete Cidades**	**0.26**	**284**	*i* P		P		23 14 00.0	-0.4
PSET				*e*S		S		23 14 04.4	+0.5
	412nm,0.2s								
PSET	**Sete Cidades**	**0.26**	**284**	*e*S		S		23 14 04.4	+0.5
PSAN	**Santo Antonio**	**0.27**	**289**	*e*P		P		23 14 01.1	+0.4
SET2	**Ginetes**	**0.33**	**284**	*e*P		P		23 14 02.0	+0.2
PSCM	**Serra do Cume**	**1.64**	**305**	*e*P		Pn		23 14 20.4	-4.5
PSCM				*e*S	

JWY	**Kouya**	**1.57**	**258**	P	**P**	**23 30 02.3**	**+0.7**
JWY				*e*S	**S**	**23 30 36.6**	**-0.7**
JIM2	**Oshima 3**	**1.65**	**83**	P	**P**	**23 30 02.7**	**+0.6**
JWZ	**Kozaga**	**1.76**	**235**	P	**P**	**23 30 03.0**	**+0.1**
JWZ				*e*S	**S**	**23 30 39.0**	**-0.5**
JWT	**Wachi**	**1.83**	**294**	P	**P**	**23 30 03.7**	**+0.3**
JWT				S	**S**	**23 30 39.4**	**-1.1**
JRY	**Ryogami san**	**1.89**	**39**	P	**P**	**23 30 04.7**	**+0.9**
JRY				*e*S	**S**	**23 30 40.6**	**-0.6**
MJAR	**Matsushiro Arr**	**2.09**	**17**	P	**P**	**23 30 05.8**	**+0.5**
	20nm,0.3s,baz=194,slow=9.2,SNR=204						
MJAR				S	**S**	**23 30 43.3**	**-0.5**
	baz=194,slow=14,SNR=6.2						
MAJO	**Matsushiro**	**2.09**	**17**	*e*Pn	**P**	**23 30 05.5**	**+0.2**
MAT	**Matsushiro**	**2.09**	**17**	P	**P**	**23 30 05.7**	**+0.4**
MAT				S	**S**	**23 30 43.0**	**-0.8**
MAT	**Matsushiro**	**2.09**	**17**	P	**P**	**23 30 05.7**	**+0.4**
MAT				S	**S**	**23 30 43.6**	**-0.2**
MAT	**Matsushiro**	**2.09**	**17**	*e*P	**P**	**23 30 06.0**	**+0.7**
MAT				*e*S	**S**	**23 30 43.0**	**-0.8**
JAG	**Ashikaga**	**2.49**	**41**	P	**P**	**23 30 08.2**	**-0.5**
JSZ	**Suzu**	**2.90**	**359**	P	**P**	**23 30 12.6**	**+0.2**
BSO1	**Boso 1**	**2.92**	**87**	P	**P**	**23 30 11.6**	**-0.9**
BSO1				*e*S	**S**	**23 30 56.5**	**-0.2**
JHS	**Saijyo**	**3.59**	**278**	P	**P**	**23 30 19.9**	**+0.6**
JHS				*e*S	**S**	**23 31 08.7**	**-0.2**
ASAJ	**Asahikawa**	**10.35**	**21**	P	**P**	**23 31 38.7**	**-0.4**
	2.4nm,0.3s,baz=200,slow=11,SNR=4.2						
YSS	**Yuzh-Sakhalins**	**13.03**	**16**	P	**P**	**23 32 10.3**	**-1.4**
HIA	**Hailar**	**19.68**	**324**	*e*P	**P**	**23 33 21.3**	**-1.5**
	7.0nm,0.6s						
SONM	**Songino Array**	**26.67**	**309**	P	**P**	**23 34 29.6**	**+1.4**
	1.8nm,0.5s,mb3.8,baz=107,slow=8.4,SNR=19						
MKAR	**Makanchi Array**	**42.76**	**304**	P	**P**	**23 36 45.1**	**+1.0**
	2.2nm,0.6s,mb3.5,baz=89,slow=10.0,SNR=22						
PMG	**Port Moresby**	**44.67**	**166**	P	**P**	**23 36 58.6**	**-1.1**
	4.8nm,0.5s,mb4.0,baz=198,slow=6.4,SNR=3.1						
BRVK	**Borovoye**	**49.95**	**313**	*e*P	**P**	**23 37 39.4**	**-0.5**
	0.8nm,0.7s,mb3.2						
FITZ	**Fitzroy Crossi**	**53.55**	**194**	P	**P**	**23 38 06.8**	**+0.1**
	4.3nm,0.7s,mb3.9,baz=10,slow=8.9,SNR=4.4						
WRAB	**Tennant Creek**	**54.26**	**184**	*e*P	**P**	**23 38 10.8**	**-0.9**
	3.2nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**54.27**	**184**	P	**P**	**23 38 11.3**	**-0.5**
	2.3nm,0.4s,mb3.9,baz=360,slow=7.6,SNR=54						
ARU	**Arti**	**56.10**	**319**	P	**P**	**23 38 23.5**	**-0.9**
	5.0nm,1.1s,mb3.9						
MBWA	**Marble Bar**	**57.90**	**200**	P	**P**	**23 38 33.7**	**-3.7**
ARCES	**ARCESS Array B**	**65.17**	**339**	P	**P**	**23 39 25.2**	**+0.6**
	1.9nm,0.7s,mb3.8,baz=63,slow=8.1,SNR=8.9						
STKA	**Stephens Creek**	**66.19**	**176**	P	**P**	**23 39 31.9**	**+0.2**
	2.1nm,0.9s,mb3.9,baz=348,slow=5.7,SNR=3.3						
STKA	**Stephens Creek**	**66.19**	**176**	P	**P**	**23 39 32.0**	**+0.4**
JOF	**Joensuu**	**66.62**	**331**	*e*p	**P**	**23 39 34.0**	**+0.2**
	0.4nm,0.4s,mb3.5						
KAF	**Kangasniemi**	**69.01**	**332**	*e*p	**P**	**23 39 47.1**	**-1.5**
	0.9nm,0.5s,mb3.8						
FINES	**FINESS Array B**	**69.48**	**331**	P	**P**	**23 39 52.2**	**+0.7**
	1.3nm,0.6s,mb3.8,baz=76,slow=5.7,SNR=11						
AKASG	**Malin Array Be**	**74.25**	**321**	P	**P**	**23 40 20.2**	**+0.4**
	0.8nm,0.4s,mb3.7,baz=51,slow=5.8,SNR=5.1						
NB2	**NORSAR Subarra**	**75.19**	**336**	P	**P**	**23 40 25.7**	**+0.7**
	0.1nm,0.6s,mb2.6,baz=50,slow=5.6						
NOA	**NORSAR Array B**	**75.19**	**336**	P	**P**	**23 40 25.7**	**+0.7**
	1.3nm,0.9s,mb3.6,baz=43,slow=5.5,SNR=3.7						
GERES	**GERESS Array B**	**83.06**	**326**	P	**P**	**23 41 08.1**	**+1.0**
	0.5nm,0.6s,mb3.5,slow=4.0,SNR=5.2						

ISC 29 23:33:05.9±0.7, 38.68N±0.05×31.24E±0.05, h10km, n6, σ0s76/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.54**	**68**	*i* PG	**Pg**	**23 33 17.5**	**+0.7**
KDHN	**Kadinhani**	**0.70**	**103**	*i* P	**Pb**	**23 33 18.7**	**-1.1**
KDHN				*i* S	**Sb**	**23 33 29.1**	**-0.1**
ESKT	**Eskisehir**	**0.90**	**340**	*e*PG	**Pg**	**23 33 24.0**	**+0.2**
ESKT	**Eskisehir**	**0.90**	**340**	*i* P	**Pb**	**23 33 23.8**	**+0.8**
ESKT				*i* S	**Sb**	**23 33 35.2**	**+0.4**
ALT	**Altintas**	**0.96**	**294**	PG	**Pg**	**23 33 24.0**	**-1.2**
ALT				SG	**Sg**	**23 33 37.4**	**-0.7**
TKTP	**Tekketepe**	**0.96**	**229**	*i* P	**Pb**	**23 33 23.9**	**-0.3**
TKTP				*i* S	**Sb**	**23 33 38.0**	**+1.2**

NNC 29 23:42:25.0±16.0, 38.89N×72.52E, h247km±174km, mpv3.3,4C, Error ellipse: s-maj=196.6km s-min=159.5km az=20.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.03**	**21**	⇑P	P	23 43 28.3	-1.3
	1.2nm,0.4s						
AAK				⇑S	S	23 44 21.9	+2.2
	11nm,0.8s						
KK31	**Karatay Array**	**4.47**	**341**	P	P	23 43 34.1	-0.7
	4.8nm,0.3s,baz=154,slow=11,SNR=193						
KK31				⇑S	S	23 44 31.4	+2.2
	1.2nm,0.2s,baz=136,slow=15,SNR=11						
AB31	**Akbulak array**	**13.73**	**323**	P	P	23 45 33.8	+3.0
	0.3nm,0.3s,baz=132,slow=14,SNR=22						
AB31				⇑S	S	23 48 00.4	+2.5
	1.4nm,1.0s						

*NEIC **29** 23:48:04.5±9.8, 10.73S×164.19E, h27km±69km, mb4.5/5, Error ellipse: s-maj=34.0km s-min=19.8km az=182.0*
*IDC **29** 23:48:06.8±7.5, 10.855S×164.26E, h46km±80km, mb4.0/4, mb1 4.3/6, mb1mx4.0/13, mbtmp4.4/6, ML4.6/2, MS3.6/3, Ms1 3.5/3, ms1mx3.1/17, Error ellipse: s-maj=57.2km s-min=29.8km az=153.0*

ISC 29 23:48:03.0±1.0, 10.89S±0.10×164.1E±0.1, h27km, n17, σ1s05/18, mb4.4/8, MS3.6/2, 2C-1D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.33**	**169**	*e*P	**P**	**23 50 46.7**	**+0.2**
DZM				*e*S	**S**	**23 52 38.9**	**-14**
DZM	**Mont Dzumac**	**11.33**	**169**	P	**P**	**23 50 46.3**	**-0.2**
	2.1nm,0.3s,baz=323,slow=15,SNR=19						
DZM				S	**S**	**23 52 51.6**	**-1.6**
	0.7nm,0.3s,baz=307,slow=20,SNR=4.2						
CTA	**Charters Tower**	**19.49**	**240**	⇓*i*P	**P**	**23 52 32.8**	**+1.6**
	14nm,0.8s						
CTA	**Charters Tower**	**19.49**	**240**	P	**P**	**23 52 32.8**	**+1.6**
	1.6nm,0.3s,baz=69,slow=12,SNR=33						
CTA				LR	LR	23 58 23.6	
	comp=Z,114nm,19.0s,baz=226,slow=31						
CTAO	**Charters Tower**	**19.49**	**240**	*e*P	**P**	**23 52 32.6**	**+1.4**
	20nm,0.8s						
STKA	**Stephens Creek**	**29.49**	**222**	*e*P	**P**	**23 54 09.4**	**+2.0**
	3.7nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**29.49**	**222**	P	**P**	**23 54 08.6**	**+1.2**
	5.4nm,0.8s,mb4.3,baz=34,slow=12,SNR=8.2						
STKA				LR	LR	00 05 46.4	
	comp=Z,44nm,18.9s,MS3.1,baz=206,slow=36						
STKA	**Stephens Creek**	**29.49**	**222**	*e*P	**P**	**23 54 08.2**	**+0.8**
WRAB	**Tennant Creek**	**30.05**	**249**	*e*P	**P**	**23 54 11.5**	**-1.0**
	13nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**30.05**	**249**	*e*P	**P**	**23 54 11.5**	**-1.0**
WRA	**Warramunga Arr**	**30.06**	**249**	P	**P**	**23 54 11.9**	**-0.6**
	2.3nm,0.4s,mb4.3,baz=80,slow=9.3,SNR=25						
KAKA	**Kakadu**	**31.07**	**263**	⇑*i*P	**P**	**23 54 39.7**	**+18**
	5.3nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**37.90**	**255**	⇑*i*P	**P**	**23 55 19.5**	**-0.5**
	16nm,1.0s,mb4.7						
QSPA	**South Pole Qui**	**79.11**	**180**	P	**P**	**00 00 08.2**	**+1.9**
	6.5nm,1.3s,mb4.4						
ILAR	**Eielson Array**	**83.88**	**19**	P	**P**	**00 00 31.1**	**-0.3**
	1.9nm,1.0s,mb4.2,baz=218,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	**92.34**	**317**	P	**P**	**00 01 12.2**	**-0.2**
	0.4nm,0.8s,mb3.8,baz=104,slow=5.0,SNR=4.0						
YKA	**Yellowknife Ar**	**95.56**	**27**	LR	LR	00 41 10.5	
	comp=Z,75nm,19.0s,MS4.2,baz=160,slow=33						

*STR **30** 01:01:25.7±0.2, 42.90N×0.88E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **30** 01:01:25.7, 42.90N×0.88E, h5km, ML2.9(LDG), ML2.6(STR), MN2.3(MDD), After STR.*
*CSEM **30** 01:01:25.7±0.0, 42.79N×0.83E, h4km, ML2.9/16, Error ellipse: s-maj=0.7km s-min=0.7km az=20.0*

*LDG **30** 01:01:26.0±0.1, 42.81N×0.83E, h5km, Md3.0/1, Ml2.9/15, Error ellipse: s-maj=1.1km s-min=0.7km az=176.0*

MDD 30 01:01:25.9±0.2, 42.78N×0.83E, h9km±2km, mbLg2.3/21, 1C-2D, Error ellipse: s-maj=2.0km s-min=1.4km az=22.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.11**	**332**	Pg	Pg	01 01 28.8	+0.2
MELF				Sg	Sg	01 01 31.3	+0.9
MELF	**Melles**	**0.11**	**332**	P	Pg	01 01 28.0	-0.6
MELF				S	Sg	01 01 31.1	+0.7
SALF	**Salau**	**0.27**	**94**	Pg	Pg	01 01 31.5	0.0
SALF				Sg	Sg	01 01 34.9	-0.3
SALF	**Salau**	**0.27**	**94**	P	Pg	01 01 31.4	-0.1
SALF				S	Sg	01 01 35.1	-0.1
EPF	**Esparros**	**0.44**	**305**	*e*Pg	Pg	01 01 34.0	-0.8
EPF				*e*Sg	Sg	01 01 39.5	-1.3
	188nm,0.2s						
CSOR	**Sort**	**0.46**	**151**	Pg	Pg	01 01 34.3	-1.0
CSOR				Lg		01 01 40.9	
	24nm,0.1s						
CSOR	**Sort**	**0.46**	**151**	Pg	Pg	01 01 34.3	-0.9
CSOR				Sg	Sg	01 01 40.9	-0.6
CSOR	**Sort**	**0.46**	**151**	Pg	Pg	01 01 34.3	-1.0
CSOR				Sg	Sg	01 01 40.9	-0.6
EBIE	**Bielsa**	**0.51**	**260**	⇓Pg	Pg	01 01 35.4	-0.9
	8.9nm,0.1s,SNR=18						
EBIE				Lg		01 01 42.0	
	99nm,0.1s,SNR=7.5						
EBIE	**Bielsa**	**0.51**	**260**	Pg	Pg	01 01 35.4	-0.9
	8.9nm,0.1s,SNR=18						
GRBF	**Gourbit**	**0.53**	**83**	Pg	Pg	01 01 35.7	-0.8
GRBF				Lg		01 01 42.8	
GRBF	**Gourbit**	**0.53**	**83**	Pg	Pg	01 01 35.8	-0.7
GRBF				Sg	Sg	01 01 42.9	-0.7
GRBF	**Gourbit**	**0.53**	**83**	Pg	Pg	01 01 35.8	-0.7
GRBF				Sg	Sg	01 01 42.9	-0.7
VIEF	**Viey**	**0.60**	**280**	Pg	Pg	01 01 37.1	-0.9
VIEF				Sg	Sg	01 01 45.6	-0.5
VIEF	**Viey**	**0.60**	**280**	P	Pg	01 01 37.3	-0.7
VIEF				S	Sg	01 01 45.4	-0.7
LABF	**Labassere**	**0.62**	**296**	Pg	Pg	01 01 37.5	-0.8
LABF				Sg	Sg	01 01 45.4	-1.2
LABF	**Labassere**	**0.62**	**296**	P	Pg	01 01 37.4	-0.9
LABF				S	Sg	01 01 45.7	-0.9
CORG	**Organya**	**0.66**	**146**	Pg	Pg	01 01 38.1	-1.0
CORG				Lg		01 01 46.9	
	4.0nm,0.1s						
CORG	**Organya**	**0.66**	**146**	Pg	Pg	01 01 38.2	-0.9
CORG				Sg	Sg	01 01 47.0	-0.9
CORG	**Organya**	**0.66**	**146**	Pg	Pg	01 01 38.2	-0.9
CORG				Sg	Sg	01 01 47.0	-0.9
EGRA	**Graus**	**0.69**	**213**	Pg	Pg	01 01 38.9	-1.0
	9.9nm,0.1s,SNR=9.3						
EGRA				Lg		01 01 47.0	
	11nm,0.1s,SNR=6.3						
CAVN	**Les Avellanes**	**0.90**	**184**	Pg	Pg	01 01 42.2	-1.7
CAVN				Lg		01 01 54.9	
	70nm,0.1s						
CAVN	**Les Avellanes**	**0.90**	**184**	Pg	Pg	01 01 42.3	-1.6
CAVN				Sg	Sg	01 01 54.9	-1.0
CAVN	**Les Avellanes**	**0.90**	**184**	Pg	Pg	01 01 42.3	-1.6
CAVN				Sg	Sg	01 01 54.9	-1.0
CLLI	**Llivia**	**0.90**	**109**	Pg	Pg	01 01 42.5	-1.4
CLLI				Lg		01 01 54.5	
	4.3nm,0.1s						
CLLI	**Llivia**	**0.90**	**109**	Pg	Pg	01 01 42.6	-1.3
CLLI				Sg	Sg	01 01 54.6	-1.3
CLLI	**Llivia**	**0.90**	**109**	Pg	Pg	01 01 42.6	-1.3
CLLI				Sg	Sg	01 01 54.6	-1.3
REYF	**Montagne du Re**	**0.94**	**288**	Pg	Pg	01 01 44.0	-0.8
REYF	**Montagne du Re**	**0.94**	**288**	S	Sb	01 01 55.7	-0.6
VALF	**Valcebollere**	**0.95**	**113**	Pg	Pg	01 01 43.8	-1.2
VALF				Sg	Sg	01 01 57.5	-0.3
VALF	**Valcebollere**	**0.95**	**113**	P	Pb	01 01 43.7	-0.5
VALF				S	Sb	01 01 57.2	+0.5
EMIR	**Miracle**	**1.01**	**149**	⇓Pg	Pg	01 01 44.8	-1.3
	4.5nm,0.1s,SNR=18						
EMIR				Lg		01 01 58.1	
	30nm,0.2s,SNR=8.7						
EMIR	**Miracle**	**1.01**	**149**	Pg	Pg	01 01 44.8	-1.3
	4.5nm,0.1s,SNR=18						
ETSF	**Etsaut**	**1.03**	**277**	*e*Pg	Pg	01 01 44.7	-1.8
ETSF				*e*Sg	Sg	01 01 58.0	-2.2
	38nm,0.2s						
CBRU	**Bruguera**	**1.11**	**116**	Pg	Pg	01 01 46.8	-1.4
CBRU				Lg		01 02 01.6	
	13nm,0.2s						
CBRU	**Bruguera**	**1.11**	**116**	Pg	Pg	01 01 46.9	-1.3
CBRU				Sg	Sg	01 02 01.7	-1.4
CBRU	**Bruguera**	**1.11**	**116**	Pg	Pg	01 01 46.9	-1.3
CBRU				Sg	Sg	01 02 01.7	-1.4
MTLF	**Montolieu**	**1.16**	**61**	*e*Pg	Pg	01 01 47.5	-1.7
MTLF				*e*Sg	Sg	01 02 02.2	-2.5
	31nm,0.2s						
ATE	**Arette**	**1.16**	**286**	Pg	Pg	01 01 48.6	-0.6
ATE				Sg	Sg	01 02 03.1	-1.7
ATE	**Arette**	**1.16**	**286**	P	Pb	01 01 47.6	-0.1
ATE				S	Sb	01 02 03.2	+0.4
ESAC	**San Caprasio**	**1.43**	**223**	Pg	Pg	01 01 52.7	-1.7
	69nm,0.3s,SNR=36						
ESAC				Lg		01 02 11.6	
	305nm,0.3s,SNR=34						
ESAC	**San Caprasio**	**1.43**	**223**	Pg	Pg	01 01 52.7	-1.8
	69nm,0.3s,SNR=36						
EPOB	**Poblet**	**1.44**	**172**	Pg	Pg	01 01 52.0	-2.7
	6.0nm,0.1s,SNR=34						
EPOB				Lg		01 02 10.9	
	40nm,0.2s,SNR=23						
EPOB	**Poblet**	**1.44**	**172**	Pg	Pg	01 01 52.0	-2.6
	6.0nm,0.1s,SNR=34						
SJPF	**Ste Jean**	**1.54**	**283**	*e*Pg	Pg	01 01 54.9	-1.9
SJPF				*e*Sn	Sn	01 02 11.9	-2.2
SJPF				*e*Sg	Sg	01 02 14.7	-2.7
	20nm,0.2s						
EJON	**La Jonquera**	**1.56**	**102**	Pg	Pg	01 01 54.9	-2.1
	1.2nm,0.1s,SNR=7.9						
EJON				Lg		01 02 15.2	
	6.5nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**1.56**	**102**	Pg	Pg	01 01 54.9	-2.1
	1.2nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**1.57**	**130**	Pg	Pg	01 01 54.5	-2.7
CFON				Lg		01 02 15.5	
	75nm,0.3s						
CFON	**Fontmartina**	**1.57**	**130**	Pg	Pg	01 01 54.5	-2.7
CFON				Sg	Sg	01 02 15.5	-2.6
CFON	**Fontmartina**	**1.57**	**130**	Pg	Pg	01 01 54.5	-2.7
CFON				Sg	Sg	01 02 15.5	-2.6
IPRE	**Itoiz**	**1.61**	**272**	Lg		01 02 17.8	
	7.7nm,0.3s,SNR=4.8						
IUSE	**Utxeti**	**1.75**	**276**	Pg	Pg	01 02 00.1	-0.9
	2.7nm,0.1s,SNR=5.0						
IUSE				Lg		01 02 22.8	
	9.2nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**1.75**	**276**	Pg	Pg	01 02 00.1	-0.9
	2.7nm,0.1s,SNR=5.0						
EALK	**Alkurruntz**	**1.77**	**285**	Pg	Pg	01 01 60.0	-1.3
	11nm,0.3s,SNR=7.9						
EALK				Lg		01 02 21.6	
	20nm,0.3s,SNR=7.9						
EARA	**Aranguren**	**1.77**	**271**	Pg	Pg	01 02 00.2	-1.1
	3.8nm,0.2s,SNR=7.9						
EARA				Lg		01 02 24.4	
	15nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**1.86**	**192**	⇑Pg	Pg	01 01 59.9	-3.1
	4.2nm,0.1s,SNR=18						
ERTA				Sn	Sn	01 02 19.5	-2.5
	8.6nm,0.3s,SNR=31						
ERTA				Lg		01 02 24.0	
	44nm,0.5s,SNR=10						
ERTA	**Horta de San J**	**1.86**	**192**	Pg	Pg	01 01 59.9	-3.1
	4.2nm,0.1s,SNR=18						
ERTA				Sn	Sn	01 02 19.5	-2.5
	8.6nm,0.3s,SNR=31						
LFF	**La Frestale**	**2.16**	**358**	*e*Pn	Pn	01 02 00.5	-2.1
LFF				*e*Pg	Pg	01 02 05.4	-3.7
LFF				*e*Sg	Sg	01 02 33.1	-4.8
	26nm,0.3s						
LFF	**La Frestale**	**2.16**	**358**	*e*Pn	Pn	01 02 00.5	-2.1
LFF				*e*Sg	Sg	01 02 33.1	-4.8
	13nm,0.3s						
CAF	**Calviac**	**2.33**	**22**	*e*Pn	Pn	01 02 02.9	-2.0
CAF				*e*Pg	Pg	01 02 08.6	-3.8
CAF				*e*Sn	Sn	01 02 29.5	-4.4
CAF				*e*Sg	Sg	01 02 38.1	-5.3
	11nm,0.2s						
LASF	**Ste Croix**	**2.56**	**59**	*e*Pn	Pn	01 02 06.3	-2.0
LASF				*e*Pg	Pg	01 02 13.0	-4.0
LASF				*e*Sn	Sn	01 02 35.3	-4.6
LASF				*e*Sg	Sg	01 02 45.7	-5.5
	10nm,0.4s						
RJF	**Les Rejaudoux**	**2.57**	**11**	*e*Pn	Pn	01 02 06.1	-2.4
RJF				*e*Pg	Pg	01 02 13.1	-4.2
RJF				*e*Sn	Sn	01 02 35.1	-5.1
RJF				*e*Sg	Sg	01 02 45.9	-5.7
	6.8nm,0.2s						
EMOS	**Mosqueruela**	**2.60**	**202**	Pn	Pn	01 02 08.2	-0.7
	0.0nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	01 02 13.0	-4.9
	5.9nm,0.4s,SNR=15						
EMOS				Lg		01 02 47.1	
	6.9nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.60**	**202**	Pn	Pn	01 02 08.2	-0.7
	SNR=7.9						
EMOS	**Mosqueruela**	**2.60**	**202**	Pg	Pg	01 02 13.0	-4.9
	5.9nm,0.4s,SNR=15						
LBL	**Lubilhac**	**3.01**	**35**	Pn	Pn	01 02 11.5	-3.2
ELAN	**Lanestosa**	**3.16**	**280**	Pn	Pn	01 02 16.4	-0.4
	0.1nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	01 02 51.6	-3.4
	4.8nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**3.16**	**280**	Pn	Pn	01 02 16.4	-0.4
ELAN				Sn	Sn	01 02 54.4	-0.6
ELAN	**Lanestosa**	**3.16**	**280**	Pn	Pn	01 02 16.4	-0.4
	0.1nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	01 02 54.4	-0.7
	4.8nm,0.4s,SNR=7.9						
ECHE	**Chera**	**3.46**	**204**	Pg	Pg	01 02 28.5	-6.5
	1.8nm,0.4s,SNR=4.0						
ECHE				Lg		01 03 14.8	
	1.1nm,0.2s,SNR=4.0						
VIVF	**Saint-Julien-l**	**3.47**	**52**	*e*Pn	Pn	01 02 18.5	-2.8
VIVF				*e*Pg	Pg	01 02 28.0	-7.2
VIVF				*e*Sg	Sg	01 03 13.7	-7.8
	5.3nm,0.4s						
TCF	**Toulx Ste Croi**	**3.65**	**15**	*e*Pn	Pn	01 02 20.9	-2.8
TCF				*e*Pg	Pg	01 02 32.2	-6.5
TCF				*e*Sn	Sn	01 03 01.6	-5.8
TCF				*e*Sg	Sg	01 03 19.4	-7.9
	12nm,0.6s						
EIBI	**Ibiza**	**3.77**	**174**	Pn	Pn	01 02 24.7	-0.8
	0.4nm,0.2s,SNR=4.0						
EIBI				Pg	Pg	01 02 34.7	-6.4
	2.0nm,0.3s,SNR=4.0						
EIBI				Sn	Sn	01 03 04.4	-6.0
	0.3nm,0.3s,SNR=7.9						
EIBI				Lg		01 03 22.1	
	1.0nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**3.77**	**174**	Pn	Pn	01 02 24.7	-0.7
EIBI				Pg	Pg	01 02 34.7	-6.4
EIBI				Sn	Sn	01 03 04.4	-6.0
EIBI				Lg		01 03 17.7	
EIBI	**Ibiza**	**3.77**	**174**	Pn	Pn	01 02 24.7	-0.8
	0.4nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**3.77**	**174**	Pg	Pg	01 02 34.7	-6.4
	2.0nm,0.3s,SNR=4.0						
EIBI				Sn	Sn	01 03 04.4	-6.1
	0.3nm,0.3s,SNR=7.9						
MFF	**Saint Martin d**	**3.89**	**350**	*e*Pn	Pn	01 02 24.4	-2.7
MFF				*e*Sn	Sn	01 03 06.7	-6.7
MFF				*e*Sg	Sg	01 03 27.0	-8.3
	3.7nm,0.3s						
BGF	**Bois d'Agland**	**4.04**	**20**	*e*Pn	Pn	01 02 26.0	-3.4
BGF				*e*Pg	Pg	01 02 40.3	-6.3
BGF				*e*Sn	Sn	01 03 10.2	-7.2
BGF				*e*Sg	Sg	01 03 32.3	-8.3
	27nm,0.4s						
AVF	**Avril sur Loir**	**4.40**	**23**	*e*Pg	Pg	01 02 46.8	-6.9
AVF				*e*Sg	Sg	01 03 42.9	-9.4
	1.9nm,0.3s						
SMF	**Signal de Mont**	**4.42**	**28**	*e*Pn	Pn	01 02 31.0	-3.8
SMF				*e*Pg	Pg	01 02 47.4	-6.8
SMF				*e*Sg	Sg	01 03 43.8	-9.4
	2.5nm,0.3s						
EARI	**Arriondas**	**4.46**	**279**	Pn	Pn	01 02 34.2	-1.1
	0.1nm,0.3s,SNR=7.9						
EARI				Sn	Sn	01 03 21.9	-6.0
	SNR=7.9						
EARI	**Arriondas**	**4.46**	**279**	Pn	Pn	01 02 35.2	0.0
EARI				Sn	Sn	01 03 25.1	-2.8
EARI	**Arriondas**	**4.46**	**279**	Pn	Pn	01 02 35.2	-0.1
	0.1nm,0.3s,SNR=7.9						
EARI				Sn	Sn	01 03 25.1	-2.8
	SNR=7.9						
ETOB	**Tobarra**	**4.51**	**204**	Pn	Pn	01 02 35.0	-1.0
	0.3nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.51**	**204**	Pn	Pn	01 02 35.0	-1.0
	0.3nm,0.2s,SNR=4.0						
ESDC	**Sonseca Array**	**4.76**	**231**	Pn

ARCES	**ARCESS Array B**	**74.42**	**340**	P		**P**	**01 32 18.6**	**-2.2**
	1.9nm,0.8s,mb4.0,baz=102,slow=7.2,SNR=10							
GERES	**GERESS Array B**	**76.71**	**318**	P		**P**	**01 32 35.4**	**+1.0**
	0.5nm,0.5s,mb3.7,baz=104,slow=5.5,SNR=4.7							
NB2	**NORSAR Subarra**	**78.75**	**331**	P		**P**	**01 32 43.7**	**-1.7**
	2.6nm,1.0s,mb4.1,baz=91,slow=5.0							
NOA	**NORSAR Array B**	**78.75**	**331**	P		**P**	**01 32 43.8**	**-1.6**
	0.8nm,0.8s,mb3.7,baz=111,slow=6.2,SNR=3.6							

*CSEM **30** 01:25:50.5±0.1, 37.79N×25.39W, ML2.5, After PDA*
*PDA **30** 01:25:50.5±0.9, 37.79N×25.39W, MD2.9, ML2.5, Error ellipse: s-maj=2.0km s-min=1.6km az=97.0*
SVSA 30 01:25:50.5±0.9, 37.79N×25.39W, MD2.9, ML2.5, Error ellipse: s-maj=2.0km s-min=1.6km az=97.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCNG	**Congro**	**0.02**	**196**	*i* P		Pg	01 25 51.5	+0.6
MESC	**Monte Escuro**	**0.04**	**278**	*i* P		Pg	01 25 52.1	+0.7
MESC				*e*S		Sg	01 25 53.8	+1.8
MESC	**Monte Escuro**	**0.04**	**278**	*e*S		Sg	01 25 53.8	+1.8
FRA1	**Furnas**	**0.05**	**150**	*e*P		Pg	01 25 52.5	+1.0
VIF	**Vila Franca**	**0.06**	**224**	*i* P		Pg	01 25 52.6	+0.9
VIF				*e*S		Sg	01 25 54.6	+2.2
	2μm,0.4s							
VIF	**Vila Franca**	**0.06**	**224**	*e*S		Sg	01 25 54.6	+2.2
PMAT	**Coroa da Mata**	**0.07**	**294**	*e*P		Pg	01 25 52.8	+0.9
PMAT				*e*S		Sg	01 25 54.9	+2.0
	6.3nm,0.2s							
PFAD	**Fenais da Ajud**	**0.07**	**45**	*e*P		Pg	01 25 53.0	+1.0
LFA	**Lagoa do Fogo**	**0.08**	**259**	*i* P		Pg	01 25 52.9	+0.9
MIRA	**Miradouro**	**0.09**	**91**	*e*P		Pg	01 25 52.8	+0.6
MIRA				*e*S		Sg	01 25 55.4	+2.0
PRCH	**Ribeira Ch**	**0.09**	**231**	*e*P		Pg	01 25 53.2	+0.8
PRCH				*e*S		Sg	01 25 55.4	+1.8
	958nm,0.3s							
CMLA	**Cha da Macela**	**0.11**	**258**	*e*P		Pg	01 25 53.2	+0.5
CMLA				*e*S		Sg	01 25 55.4	+1.2
CML	**Cha da Macela**	**0.12**	**263**	*e*P		Pg	01 25 53.4	+0.4
CML				*e*S		Sg	01 25 56.4	+1.7
FAC	**Faja de Cima**	**0.21**	**266**	*e*P		Pg	01 25 55.2	+0.6
PDA	**Ponta Delgada**	**0.22**	**260**	*e*S		Sg	01 26 05.3	+7.4
PSET	**Sete Cidades**	**0.27**	**278**	*e*P		Pg	01 25 55.4	-0.4
PSAN	**Santo Antonio**	**0.27**	**284**	*e*P		Pg	01 25 55.9	-0.1
PFET	**Feteiras**	**0.32**	**276**	*e*P		Pg	01 25 57.0	+0.2
SET2	**Ginetes**	**0.34**	**280**	*e*P		Pg	01 25 57.2	0.0

*NEIC **30** 01:30:55.0±0.6, 5.54S×151.95E, h25km, mb4.6/6, Error ellipse: s-maj=23.2km s-min=9.6km az=125.0*
*IDC **30** 01:31:01.9±2.9, 5.67S×151.80E, h81km±23km, mb3.8/5, mb1 4.0/6, mb1mx4.0/9, mbtmp4.2/6, MS4.0/14, Ms1 4.0/14, ms1mx3.8/20, Error ellipse: s-maj=33.3km s-min=14.1km az=126.0*
ISC 30 01:30:55.5±2.2, 5.5S±0.1×151.8E±0.2, h37km±18km, n32, σ1℘18/21, mb4.4/14, MS4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**6.08**	**230**	P		**P**	**01 32 27.7**	**+2.4**
	9.6nm,0.3s,baz=49,slow=7.2,SNR=16							
PMG				S		**S**	**01 33 33.2**	**-1.4**
	7.6nm,0.3s,baz=11,slow=19,SNR=12							
PMG				LR		LR	01 34 15.9	
	comp=Z,294nm,20.7s,baz=33,slow=33							
CTA	**Charters Tower**	**15.53**	**200**	LR		LR	01 39 49.8	
	comp=Z,507nm,20.0s,baz=33,slow=34							
GUMO	**Guam**	**20.14**	**340**	LR		LR	01 41 46.9	
	comp=Z,192nm,19.8s,MS3.5,baz=202,slow=32							
KAKA	**Kakadu**	**20.46**	**248**	*e*P		Px	01 35 50.9	
	17nm,0.3s							
DZM	**Mont Dzumac**	**21.74**	**141**	LR		LR	01 41 27.1	
	comp=Z,119nm,19.4s,MS3.3,baz=203,slow=29							
WRAB	**Tennant Creek**	**22.29**	**228**	*e*P		**P**	**01 35 51.7**	**+0.6**
	10nm,0.6s,mb4.4							
WB2	**Warramunga Arr**	**22.29**	**228**	*e*P		**P**	**01 35 50.5**	**-0.7**
WB2				*e*S		**S**	**01 39 50.3**	**+1.1**
WRA	**Warramunga Arr**	**22.30**	**228**	P		**P**	**01 35 52.0**	**+0.8**
	8.0nm,0.8s,mb4.2,baz=52,slow=9.9,SNR=28							
WRA				S		**S**	**01 39 50.8**	**+1.4**
	4.1nm,1.1s,baz=51,slow=20,SNR=5.1							
STKA	**Stephens Creek**	**27.99**	**199**	P		**P**	**01 36 42.5**	**-2.7**
	1.7nm,0.8s,mb3.8,baz=356,slow=15,SNR=3.7							
STKA				LR		LR	01 48 20.5	
	comp=Z,256nm,19.6s,MS3.8,baz=21,slow=37							
STKA	**Stephens Creek**	**27.99**	**199**	P		**P**	**01 36 42.5**	**-2.7**
STKA				LR		LR	01 48 20.5	
FITZ	**Fitzroy Crossi**	**28.51**	**242**	*e*P		**P**	**01 36 48.4**	**-1.6**
	18nm,0.3s,mb5.3							
FITZ	**Fitzroy Crossi**	**28.51**	**242**	P		**P**	**01 36 48.7**	**-1.3**
	27nm,0.3s,mb5.4,baz=79,slow=5.1,SNR=39							
MBWA	**Marble Bar**	**34.82**	**240**	*e*P		**P**	**01 37 46.7**	**+1.5**
	23nm,1.1s,mb5.0							
JOW	**Kunigami**	**39.38**	**326**	LR		LR	01 51 57.9	
	comp=Z,318nm,18.6s,MS4.2,baz=117,slow=32							
URZ	**Urewera**	**39.92**	**148**	LR		LR	01 53 12.6	
	comp=Z,365nm,18.2s,MS4.3,baz=187,slow=34							
JHJ	**Hachijo jima 2**	**40.03**	**344**	LR		LR	01 51 52.0	
	comp=Z,150nm,21.1s,MS3.8,baz=277,slow=31							
RPZ	**Rata Peaks**	**41.70**	**159**	LR		LR	01 53 15.9	
	comp=Z,620nm,18.1s,MS4.5,baz=332,slow=32							
MJAR	**Matsushiro Arr**	**43.68**	**344**	LR		LR	01 56 09.2	
	comp=Z,152nm,19.8s,MS3.9,baz=210,slow=34							
SONM	**Songino Array**	**66.37**	**329**	P		**P**	**01 41 43.2**	**+0.4**
	2.4nm,0.5s,mb4.5,baz=139,slow=5.0,SNR=16							
SONM				LR		LR	02 11 05.3	
	comp=Z,112nm,19.2s,MS4.1,baz=172,slow=36							
MKAR	**Makanchi Array**	**80.19**	**319**	P		**P**	**01 43 04.1**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=101,slow=6.2,SNR=14							
MKAR				LR		LR	02 17 23.8	
	comp=Z,67nm,18.1s,MS4.0,slow=35							
ILAR	**Eielson Array**	**83.12**	**22**	P		**P**	**01 43 19.1**	**+0.5**
	0.8nm,0.5s,mb4.0,baz=246,slow=5.6,SNR=12							
KURK	**Kurchatov**	**83.69**	**322**	*e*P		**P**	**01 43 21.8**	**-0.1**
	9.0nm,1.2s,mb4.8							
AAK	**Ala-Archa**	**84.42**	**314**	*e*P		**P**	**01 43 25.0**	**-0.7**
	9.2nm,1.5s,mb4.7							
MAW	**Mawson**	**84.61**	**203**	LR		LR	02 17 45.3	
	comp=Z,109nm,18.0s,MS4.3,baz=212,slow=33							
CHKZ	**Chkalovo**	**89.17**	**324**	*e*P		**P**	**01 43 47.7**	**-0.9**
	1.2nm,0.5s,mb4.5							
BRVK	**Borovoye**	**89.26**	**323**	*e*P		**P**	**01 43 48.0**	**-1.0**
	0.9nm,0.6s,mb4.3							
NEW	**Newport**	**94.72**	**42**	*e*P		**P**	**01 44 14.2**	**-0.1**
	2.9nm,1.0s,mb4.7							
YKA	**Yellowknife Ar**	**96.44**	**28**	LR		LR	02 21 57.5	
	comp=Z,130nm,21.4s,MS4.4,baz=225,slow=32							
PDAR	**Pinedale Array**	**99.99**	**48**	P		**P**	**01 44 39.8**	**+1.4**
	0.8nm,1.0s,mb4.1,baz=304,slow=3.3,SNR=5.2							
GERES	**GERESS Array B**	**124.10**	**328**	PKP		PKPdf	01 49 52.1	+1.6
	0.5nm,0.5s,baz=18,slow=1.4,SNR=8.4							
BDFB	**Brasilia**	**151.26**	**137**	PKPbc		PKPdf	01 50 46.6	+6.5
	3.3nm,0.8s,baz=143,slow=5.4,SNR=4.6							
DBIC	**Dimbokro**	**156.80**	**274**	PKPab		PKPab	01 51 19.1	-0.8
	4.1nm,0.8s,baz=45,slow=1.4,SNR=3.3							

*NEIC **30** 01:37:15.7±9.2, 5.53S×151.79E, h75km±36km, mb4.3/4, Error ellipse: s-maj=194.8km s-min=22.2km az=110.0*
*IDC **30** 01:37:17.1±8.2, 5.61S×151.70E, h83km±56km, mb3.9/4, mb1 4.1/5, mb1mx3.9/11, mbtmp4.2/5, ML2.9/1, Error ellipse: s-maj=110.8km s-min=35.7km az=114.0*
ISC 30 01:37:16.0±5.4, 5.3S±0.3×151.4E±0.5, h73km±37km, n11, σ0℘66/12, mb4.0/7, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.85**	**226**	P		**P**	**01 38 41.7**	**-0.2**
	2.1nm,0.3s,baz=40,slow=8.6,SNR=6.8							
PMG				S		**S**	**01 39 48.5**	**+0.1**
	2.2nm,0.3s,baz=89,slow=18,SNR=4.1							
KAKA	**Kakadu**	**20.11**	**247**	*e*P		**P**	**01 42 05.3**	**+19**
	9.4nm,0.5s							
WRAB	**Tennant Creek**	**22.05**	**227**	*e*P		**P**	**01 42 06.9**	**+0.8**
	4.8nm,0.6s,mb4.0							
WB2	**Warramunga Arr**	**22.06**	**227**	*e*P		**P**	**01 42 06.9**	**+0.8**
WRA	**Warramunga Arr**	**22.07**	**227**	P		**P**	**01 42 05.4**	**-0.8**
	2.9nm,0.6s,mb3.8,baz=53,slow=9.7,SNR=21							
FITZ	**Fitzroy Crossi**	**28.19**	**241**	⇓*i*P		**P**	**01 43 02.9**	**-1.2**
	16nm,0.9s,mb4.6							
FITZ	**Fitzroy Crossi**	**28.19**	**241**	P		**P**	**01 43 03.4**	**-0.8**
	19nm,0.8s,mb4.6,baz=108,slow=5.2,SNR=12							
SONM	**Songino Array**	**66.03**	**329**	P		**P**	**01 47 57.7**	**+0.5**
	1.3nm,0.7s,mb3.9,baz=144,slow=4.9,SNR=8.7							
MKAR	**Makanchi Array**	**79.81**	**319**	P		**P**	**01 49 18.7**	**+0.6**
	1.1nm,1.0s,mb3.6,baz=108,slow=7.7,SNR=4.7							
KURK	**Kurchatov**	**83.33**	**322**	*e*P		**P**	**01 49 36.1**	**-0.1**
	5.8nm,1.5s,mb4.2							
CHKZ	**Chkalovo**	**88.81**	**324**	*e*P		**P**	**01 50 02.2**	**-0.8**
	1.1nm,0.9s,mb3.9							

*NEIC **30** 02:11:49.8±1.7, 5.69S×152.16E, h25km, mb3.9/1, Error ellipse: s-maj=66.8km s-min=14.6km az=126.0*
IDC 30 02:11:55.9±6.1, 5.78S×152.06E, h78km±52km, mb3.6/4, mb1 3.9/5, mb1mx3.7/11, mbtmp4.0/5, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/16, Error ellipse: s-maj=79.5km s-min=33.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**6.04**	**233**	P		P	02 13 23.0	-1.3
	2.6nm,0.3s,baz=38,slow=6.8,SNR=12							
PMG				S		S	02 14 31.1	-1.7
	1.3nm,0.3s,baz=120,slow=17,SNR=3.8							
DZM	**Mont Dzumac**	**21.35**	**141**	LR		LR	02 22 48.2	
	comp=Z,79nm,20.9s,baz=10,slow=31							
WRAB	**Tennant Creek**	**22.23**	**229**	*e*P		P	02 16 47.5	+0.3
	3.5nm,0.7s							
WRA	**Warramunga Arr**	**22.24**	**229**	P		P	02 16 46.0	-1.2
	2.0nm,0.9s,baz=55,slow=10,SNR=10							
FITZ	**Fitzroy Crossi**	**28.54**	**242**	P		P	02 17 44.8	-1.8
	4.3nm,0.5s,baz=48,slow=4.8,SNR=8.5							
SONM	**Songino Array**	**66.76**	**328**	P		P	02 22 38.9	-2.2
	0.3nm,0.5s,baz=135,slow=6.1,SNR=2.4							
ILAR	**Eielson Array**	**83.34**	**22**	P		P	02 24 14.1	-1.2
	0.9nm,0.8s,baz=258,slow=5.0,SNR=5.3							

*IDC **30** 02:27:24.9±2.7, 24.13S×179.47E, h476km±28km, mb3.7/4, mb1 4.0/4, mb1mx3.5/11, mbtmp4.6/4, Error ellipse: s-maj=87.5km s-min=21.4km az=166.0*
*NEIC **30** 02:27:29.4±5.7, 25.11S×179.63E, h545km±63km, mb4.4/5, Error ellipse: s-maj=31.5km s-min=24.3km az=78.0*
ISC 30 02:27:25.9±3.7, 25.0S±0.3×179.7E±0.2, h517km±43km, n18, σ0℘57/16, mb4.3/8, 3C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**31.20**	**272**	⇓*i*P		**P**	**02 33 04.9**	**+0.9**
	7.9nm,0.3s,mb4.7							
CTAO	**Charters Tower**	**31.20**	**272**	*e*P		**P**	**02 33 04.8**	**+0.8**
	10nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**34.04**	**250**	⇓*i*P		**P**	**02 33 28.6**	**+0.8**
	2.3nm,0.4s,mb4.1							
STKA	**Stephens Creek**	**34.04**	**250**	P		**P**	**02 33 28.7**	**+0.9**
	2.6nm,0.4s,mb4.1,baz=103,slow=10,SNR=12							
WB2	**Warramunga Arr**	**42.04**	**267**	⇓*i*P		**P**	**02 34 32.9**	**-0.3**
WRAB	**Tennant Creek**	**42.04**	**268**	*e*P		**P**	**02 34 32.8**	**-0.4**
	27nm,1.3s,mb4.6							
WRA	**Warramunga Arr**	**42.05**	**267**	P		**P**	**02 34 33.1**	**-0.2**
	6.3nm,0.3s,mb4.6,baz=99,slow=6.9,SNR=120							
WRA				ScP			02 39 22.1	
	1.1nm,0.9s,baz=101,slow=3.7,SNR=6.9							
WRA				S		**S**	**02 40 16.2**	**+0.6**
	0.7nm,0.9s,baz=101,slow=14,SNR=4.5							
KAKA	**Kakadu**	**46.13**	**276**	*e*P		**P**	**02 35 24.0**	**+19**
	2.1nm,0.2s,mb4.3							
FITZ	**Fitzroy Crossi**	**50.46**	**267**	*e*P		**P**	**02 35 37.5**	**-0.2**
	8.9nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**50.46**	**267**	P		**P**	**02 35 37.6**	**-0.1**
	13nm,0.6s,mb4.5,baz=125,slow=5.1,SNR=27							
MBWA	**Marble Bar**	**54.90**	**261**	*e*P		**P**	**02 36 08.2**	**-1.3**
	3.4nm,0.3s,mb4.0							
VNA3	**Neumayer Olymp**	**83.77**	**177**	⇑*i*		**P**	**02 39 00.8**	**+0.2**
VNA2	**Neumayer--Watz**	**84.19**	**178**	⇑*i*		**P**	**02 39 02.8**	**+0.2**
VNA1	**Neumayer--Stat**	**84.43**	**177**	⇑*i*		**P**	**02 39 03.5**	**-0.3**
TXAR	**Lajitas Array**	**91.27**	**58**	P		**P**	**02 39 37.3**	**+0.3**
	0.4nm,0.7s,mb3.5,baz=225,slow=5.3,SNR=4.6							
ARCES	**ARCESS Array B**	**132.92**	**348**	SKPbc			02 48 23.7	
	1.8nm,1.0s,baz=346,slow=3.7,SNR=4.2							
FINES	**FINESS Array B**	**139.41**	**341**	SKPbc			02 48 43.3	
	3.0nm,1.2s,baz=27,slow=4.3,SNR=5.6							
AKASG	**Malin Array Be**	**145.74**	**326**	PKP		PKPdf	02 46 06.5	+1.9
	0.5nm,0.3s,baz=43,slow=4.5,SNR=6.2							

NNC 30 02:30:51.8±6.3, 36.66N×71.03E, h136km±138km, mpv3.3, 4C-1D, Error ellipse: s-maj=59.4km s-min=53.9km az=54.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**6.45**	**357**	⇑P		P	02 32 25.0	-0.5
	1.3nm,0.3s,baz=177,slow=12,SNR=46							
KK31				⇑S		S	02 33 38.1	-0.2
	0.4nm,0.3s,baz=40,slow=50,SNR=5.0							
AAK	**Ala-Archa**	**6.54**	**23**	⇑P		P	02 32 24.8	-1.9
	0.6nm,0.3s							
AAK				⇑S		S	02 33 39.9	-0.5
	1.1nm,0.4s							
AB31	**Akbulak array**	**14.96**	**331**	P		P	02 34 17.2	+0.1
	0.4nm,0.5s,baz=142,slow=13,SNR=15							
AB31				⇓S		S	02 37 00.2	+0.9
	0.5nm,0.7s							

*MAN **30** 02:58:56.0, 15.35N×121.96E, mb4.9, ML3.9, MS3.9*
*NEIC **30** 02:58:58.2±0.8, 15.35N×122.29E, h35km, mb4.0/2, Error ellipse: s-maj=22.0km s-min=11.4km az=91.0*
*IDC **30** 02:58:59.1±7.0, 15.37N×122.32E, h43km±67km, mb3.6/5, mb1 3.7/5, mb1mx3.4/17, mbtmp3.8/5, Error ellipse: s-maj=49.9km s-min=24.8km az=61.0*
ISC 30 02:58:56.0±1.0, 15.42N±0.03×122.07E±0.05, h19km±7km, n25, σ1℘20/34, mb3.9/7, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BALP	**Baler**	**0.58**	**304**	*e*P		**Pb**	**02 59 07.2**	**0.0**
POLP	**Polilio Island**	**0.70**	**191**	*e*P		**Pb**	**02 59 07.9**	**-1.5**
POLP				*e*S		**Sb**	**02 59 17.8**	**-0.8**
PCPH	**Palayan**	**0.95**	**279**	*e*P		**Pb**	**02 59 13.0**	**-0.7**
PCPH				*e*S		**Sb**	**02 59 26.0**	**+0.1**
QVPH	**Quezon City--P**	**1.25**	**232**	⇓*e*P		**Pn**	**02 59 17.6**	**-1.0**
QVPH				*e*S		**Sb**	**02 59 34.4**	**+0.1**
LBPH	**Los Banos**	**1.53**	**215**	⇓*e*P		**Pn**	**02 59 21.7**	**-0.9**
LBPH				*e*S		**Sn**	**02 59 42.6**	**+0.5**
CAUP	**Cauayan**	**1.53**	**351**	*e*P		**Pn**	**02 59 24.3**	**+1.6**
GQP	**Guinayangan**	**1.55**	**167**	*e*P		**Pn**	**02 59 23.2**	**+0.3**
GQP				*e*S		**Sn**	**02 59 44.7**	**+2.0**
TGY	**Tagaytay City**	**1.71**	**220**	P		**Pn**	**02 59 26.8**	**+1.6**
	283nm,0.3s,baz=40,slow=2.2,SNR=29							
TGY				S		**Sn**	**02 59 51.0**	**+4.3**
	385nm,0.3s,baz=329,slow=23,SNR=12							
TGY	**Tagaytay City**	**1.71**	**220**	⇑*i*P		**Pn**	**02 59 22.7**	**-2.6**
TGY				*i* S		**Sn**	**02 59 45.7**	**-1.1**
BCPH	**Baguio City Da**	**1.73**	**304**	⇓*i*P		**Pn**	**02 59 26.8**	**+1.4**
NBP	**Mount Natib**	**1.74**	**247**	⇑*e*P		**Pn**	**02 59 26.0**	**+0.3**
NBP				*e*S		**Sn**	**02 59 49.2**	**+1.8**
BOAC	**Boac**	**1.96**	**187**	*e*P		**Pn**	**02 59 30.5**	**+1.6**
BOAC				*e*S		**Sn**	**02 59 58.9**	**+5.7**
SCZP	**Santa Cruz**	**2.11**	**280**	*e*P		**Pn**	**02 59 31.1**	**0.0**
BOLP	**Bolinao**	**2.29**	**295**	*e*P		**Pn**	**02 59 34.2**	**+0.7**
LUBP	**Lubang**	**2.44**	**227**	*e*P		**Pn**	**02 59 35.4**	**-0.3**
ABRA	**Dolores**	**2.57**	**330**	*e*P		**Pn**	**02 59 39.8**	**+2.2**
PVCP	**Virac**	**2.71**	**132**	*e*P		**Pn**	**02 59 41.6**	**+2.1**
WRA	**Warramunga Arr**	**37.15**	**161**	P		**P**	**03 06 04.9**	**-2.9**
	0.3nm,0.3s,mb3.6,baz=328,slow=11,SNR=7.1							
MKAR	**Makanchi Array**	**45.47**	**322**	P		**P**	**03 07 15.8**	**0.0**
	1.5nm,0.8s,mb3.9,baz=118,slow=9.2,SNR=11							
KURK	**Kurchatov**	**49.53**	**325**	*e*P		**P**	**03 07 46.9**	**-0.5**
	6.2nm,0.2s							
BVAR	**Borovoye Array**	**55.12**	**325**	P		**P**	**03 08 28.5**	**-0.8**
	0.4nm,0.3s,mb3.9,baz=101,slow=7.6,SNR=4.3							
BRVK	**Borovoye**	**55.20**	**325**	*e*P		**P**	**03 08 28.6**	**-1.3**
	1.0nm,0.6s,mb4.0							
CHKZ	**Chkalovo**	**55.26**	**326**	*e*P		**P**	**03 08 29.1**	**-1.1**
	0.9nm,0.5s,mb4.1							
ARCES	**ARCESS Array B**	**77.96**	**339**	P		**P**	**03 10 53.5**	**-0.7**
	1.8nm,0.9s,mb4.0,baz=61,slow=9.3,SNR=4.1							
FINES	**FINESS Array B**	**79.44**	**331**	P		**P**	**03 11 00.8**	**-1.6**
	0.9nm,0.8s,mb3.8,baz=45,slow=9.8,SNR=4.0							

MAN 30 03:13:52.5, 14.99N×121.57E, h68km, mb3.6, ML2.3, MS1.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
POLP	**Polilio Island**	**0.44**	**126**	*e*P		P	03 14 05.9	+1.2
POLP				*e*S		S	03 14 17.0	+3.3
BALP	**Baler**	**0.75**	**0**	*e*P		P	03 14 10.2	+2.2
GQP	**Guinayangan**	**1.37**	**142**	⇓*e*P		P	03 14 16.5	+0.3
GQP				*e*S		S	03 14 35.2	+1.5
CAUP	**Cauayan**	**1.96**	**7**	*e*P		P	03 14 22.6	-1.6

*NNC **30** 03:30:06.4±5.1, 38.47N×69.19E, mpv4.2, Error ellipse: s-maj=43.5km s-min=32.1km az=13.0*
*IDC **30** 03:30:07.0±1.4, 38.29N×69.80E, mb4.1/8, mb1 4.2/10, mb1mx4.0/21, mbtmp4.1/10, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=27.4km s-min=19.7km az=168.0*
*MOS **30** 03:30:12.7±1.9, 38.74N×69.78E, h33km, mb4.6/6, Error ellipse: s-maj=12.1km s-min=7.1km az=95.2*
*NEIC **30** 03:30:13.2±1.0, 38.52N×69.86E, h35km, mb4.1/3, Error ellipse: s-maj=20.7km s-min=10.6km az=162.0*
ISC 30 03:30:08.2±0.4, 38.57N±0.04×69.87E±0.06, h10km, n64, σ1℘66/70, mb4.2/13, MS3.1/2, 10C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**4.56**	**6**	Pn		**Pn**	**03 31 21.1**	**+2.1**
	8.7nm,0.5s,baz=202,slow=16,SNR=118							
KK31				⇓Pg		**Pg**	**03 31 37.5**	**-1.8**
	20nm,0.5s,baz=193,slow=20,SNR=9.0							
KK31				⇑Lg			03 32 34.3	
	57nm,0.5s,baz=192,slow=34,SNR=6.0							
KKAR	**Karatay Array**	**4.56**	**6**	*e*PN		**Pn**	**03 31 21.0**	**+2.1**
KKAR							03 32 12.0	
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.1s							
KKAR				pmax		pmax		
	comp=Z,13nm,0.3s							
AML	**Almayashu**	**4.61**	**38**	P		**Pn**	**03 31 24.4**	**+4.8**
	SNR=75							
CEP	**Cherat**	**5.01**	**160**	P		**Pn**	**03 31 27.9**	**+2.6**
CEP				S		**Sn**	**03 32 28.0**	**+4.0**
EKS2	**Erkin-Say**	**5.06**	**35**	P		**Pn**	**03 31 31.5**	**+5.5**
	SNR=14							
UCH	**Uchtor**	**5.10**	**43**	P		**Pn**	**03 31 29.8**	**+3.3**
	SNR=11							
AAK	**Ala-Archa**	**5.38**	**39**	P		**Pn**	**03 31 34.7**	**+4.2**
	SNR=29							
AAK	**Ala-Archa**	**5.38**	**39**	⇓P		**Pn**	**03 31 32.3**	**+1.9**
	comp=Z,24nm,0.6s							
AAK	**Ala-Archa**	**5.38**	**39**	*e*Pn		**Pn**	**03 31 33.1**	**+2.7**
	comp=Z,32nm,0.6s							
AAK	**Ala-Archa**	**5.38**	**39**	PN		**Pn**	**03 31 32.3**	**+1.8**
AAK							03 32 51.5	
AAK				pmax		pmax		
	comp=Z,13nm,0.6s							
AAK				pmax		pmax		
	comp=Z,89nm,1.0s							
KZA	**Kyzart**	**5.41**	**48**	P		**Pn**	**03 31 33.4**	**+2.5**
	SNR=6.5							
FRU	**Bishkek**	**5.59**	**39**	*e*PN		**Pn**	**03 31 39.0**	**+5.6**
FRU				*e*S		**Sn**	**03 32 46.0**	**+7.6**
FRU				pmax		pmax		
	comp=Z,120nm,1.1s							
FRU				smax				
	comp=E,440nm,1.4s							
CHCP	**Chirah Chowk**	**5.62**	**150**	P		**Pn**	**03 31 43.0**	**+9.2**
KBK	**Karagaybulak**	**5.63**	**42**	P		**Pn**	**03 31 36.8**	**+2.8**
	SNR=9.3							
CHMS	**Chumysh**	**5.78**	**38**	P		**Pn**	**03 31 41.0**	**+5.0**
	SNR=24							
USP	**Ospenovka**	**5.86**	**35**	P		**Pn**	**03 31 42.0**	**+4.7**
	SNR=5.1							
THW	**Thamme Wali**	**5.96**	**165**	⇑P		**Pn**	**03 31 39.8**	**+1.2**
TKM2	**Tokmak 2**	**6.15**	**43**	P		**Pn**	**03 31 43.1**	**+1.7**
	SNR=27							
SBDP	**Sheikh Budin**	**6.30**	**173**	P		**Pn**	**03 31 45.4**	**+1.9**
KHET	**Khetri**	**11.58**	**153**	*e*P		**P**	**03 32 51.8**	**-4.8**
KHET				*i* S		**S**	**03 34 54.3**	**-13**
KHET				AML		AML	03 35 20.3	
	comp=E,12nm,0.3s							
KHET				AML		AML	03 35 20.6	
	comp=N,16nm,0.2s							
KUDL	**Kundal**	**11.77**	**150**	*e*P		**P**	**03 32 56.6**	**-2.5**
KUDL				*ex*		x	03 34 56

VRSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
SONM Songino Array 27.97 59 LR LR 03 48 53.7
comp=Z,38nm,18.3s,MS3.0,baz=68,slow=40
AKASG Malin Array Be 30.97 306 P **P 03 36 26.6 -0.9**
comp=Z,2.7nm,0.6s,mb4.2,baz=82,slow=6.7,SNR=15
MLR Muntele Rosu 33.02 296 ⇑P **P 03 36 47.4 +1.9**
BURAR Bucovina Array 33.44 300 ⇑P **P 03 36 49.6 +0.5**
BURAR Bucovina Array 33.44 300 ⇑P **P 03 36 49.6 +0.5**
BOD Bodaibo 34.36 41 *e*P **P 03 36 54.9 -2.1**
BOD pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
DRGR 35.18 299 ⇓P **P 03 37 04.1 0.0**
FINES FINESS Array B 35.27 325 P **P 03 37 04.4 -0.3**
comp=Z,2.2nm,0.5s,mb4.4,baz=116,slow=9.1,SNR=23
ARCES ARCESS Array B 38.90 337 P **P 03 37 35.1 -0.1**
comp=Z,2.6nm,0.5s,mb4.2,baz=109,slow=7.3,SNR=34
ARCES LR LR 03 53 35.0
comp=Z,37nm,18.3s,MS3.2,baz=137,slow=36
GERES GERESS Array B 41.02 303 P **P 03 37 53.6 +0.7**
comp=Z,0.3nm,0.5s,mb3.2,baz=74,slow=7.1,SNR=2.8
GERES GERESS Array B 41.02 303 P **P 03 37 53.7 +0.8**
NB2 NORSAR Subarra 42.20 322 P **P 03 38 01.9 -0.4**
comp=Z,6.3nm,0.7s,mb4.3,baz=95,slow=7.9
NB2 NORSAR Subarra 42.20 322 P **P 03 38 01.9 -0.4**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
NOA NORSAR Array B 42.20 322 P **P 03 38 02.1 -0.2**
comp=Z,5.7nm,0.7s,mb4.3,baz=96,slow=8.2,SNR=20
ESDC Sonseca Array 55.72 296 P **P 03 39 46.2 -0.8**
comp=Z,0.4nm,0.5s,mb3.7,baz=56,slow=7.3,SNR=5.6
INK Inuvik 72.01 9 P **P 03 41 33.1 -0.4**
comp=Z,7.1nm,1.1s,mb4.5,baz=335,slow=8.6,SNR=4.2
WRA Warramunga Arr 83.84 121 P **P 03 42 38.2 -1.3**
comp=Z,0.4nm,0.7s,mb3.7,baz=322,slow=4.6,SNR=5.2

*IDC **30** 03:59:32.4±0.8, 14.68N×54.92E, mb4.0/16, mb1 4.2/16, mb1mx4.1/23, mbtmp4.0/16, MS3.6/8, Ms1 3.6/8, ms1mx3.4/25, Error ellipse: s-maj=22.4km s-min=16.2km az=108.0*
*BJI **30** 03:59:33.0, 14.70N×54.80E, h10km, mb4.7*
*NEIC **30** 03:59:34.1±0.5, 14.71N×54.82E, h10km, mb4.6/12, Error ellipse: s-maj=12.0km s-min=9.2km az=121.0*
*CSEM **30** 03:59:36.4±0.1, 14.89N×54.68E, h30km, mb4.5/11, Error ellipse: s-maj=4.2km s-min=3.9km az=44.0*
*OMAN **30** 03:59:37.5, 14.94N×54.74E, h30km, Error ellipse: s-maj=769.7km s-min=16.6km az=339.0*
ISC 30 03:59:33.1±0.5, 14.84N±0.05×54.75E±0.08, h10km, n53, σ0§97/47, mb4.2/29, MS3.5/7, 6C-5D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBK	**Rabkut**	**2.70**	**349**	⇑P	**Pn**	**04 00 17.4**	**0.0**
	SNR=22						
RBK				⇓S	**Sn**	**04 00 49.3**	**-1.1**
ABTO	**Aybut**	**2.86**	**331**	⇓P	**Pn**	**04 00 20.0**	**+0.3**
	SNR=15						
ABTO				⇓S	**Sn**	**04 00 53.3**	**-1.3**
WHFO	**Wadi Hawf**	**3.20**	**343**	⇑P	**Pn**	**04 00 25.1**	**+0.6**
	SNR=15						
ATD	**Arta Tunnel**	**12.05**	**256**	LR	LR	04 05 54.3	
	comp=Z,518nm,21.0s,baz=85,slow=31						
KMBO	**Kilima Mbogo**	**23.49**	**229**	P	**P**	**04 04 46.0**	**+1.9**
	2.7nm,1.0s,mb3.6,baz=39,slow=14,SNR=5.4						
KMBO				LR	LR	04 14 15.7	
	comp=Z,170nm,18.2s,MS3.5,baz=195,slow=38						
KMBO	**Kilima Mbogo**	**23.49**	**229**	P	**P**	**04 04 46.0**	**+1.8**
ASF	**Jabal al Asfar**	**23.72**	**320**	P	**P**	**04 04 47.6**	**+1.4**
	2.2nm,0.3s,mb4.0,baz=354,slow=7.0,SNR=4.6						
GNI	**Garni**	**26.69**	**343**	*e*P	pP	04 05 20.9	+3.7
	13nm,0.8s						
BRTR	**Keskin Array B**	**30.93**	**327**	P	**P**	**04 05 54.2**	**+1.9**
	0.6nm,0.5s,mb3.7,baz=119,slow=13,SNR=3.7						
BRTR	**Keskin Array B**	**30.93**	**327**	P	**P**	**04 05 54.2**	**+1.8**
AAK	**Ala-Archa**	**32.49**	**28**	*e*P	**P**	**04 06 06.8**	**+0.8**
	3.3nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**32.49**	**28**	*e*P	**P**	**04 06 06.8**	**+0.8**
	3.3nm,0.9s,mb4.2						
IDI	**Anoyia**	**33.64**	**313**	LR	LR	04 22 55.2	
	comp=Z,24nm,19.6s,MS2.9,baz=98,slow=41						
VRI	**Vrincioaia**	**38.87**	**328**	⇓P	**P**	**04 07 01.0**	**+0.7**
VRI	**Vrincioaia**	**38.87**	**328**	⇓P	**P**	**04 07 01.0**	**+0.7**
MLR	**Muntele Rosu**	**39.01**	**327**	P	**P**	**04 07 04.6**	**+3.0**
	1.8nm,0.6s,mb4.0,baz=155,slow=19,SNR=4.4						
MLR	**Muntele Rosu**	**39.01**	**327**	⇑P	**P**	**04 07 05.5**	**+4.0**
MLR	**Muntele Rosu**	**39.01**	**327**	⇑P	**P**	**04 07 05.5**	**+3.9**
MKAR	**Makanchi Array**	**39.27**	**30**	P	**P**	**04 07 04.0**	**+0.3**
	1.3nm,0.5s,mb3.9,baz=214,slow=8.1,SNR=14						
MKAR				PcP	PcP	04 09 11.7	-1.5
	0.4nm,0.6s,baz=180,slow=1.4,SNR=3.4						
MKAR				LR	LR	04 25 05.6	
	comp=Z,62nm,19.1s,MS3.5,baz=78,slow=39						
BVAR	**Borovoye Array**	**40.08**	**15**	P	**P**	**04 07 10.4**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=233,slow=7.2,SNR=3.7						
KURK	**Kurchatov**	**40.65**	**23**	*e*P	**P**	**04 07 16.6**	**+1.6**
	2.6nm,1.0s,mb3.8						
KURK	**Kurchatov**	**40.65**	**23**	*e*P	**P**	**04 07 16.6**	**+1.6**
	2.6nm,1.0s,mb3.8						
CHKZ	**Chkalovo**	**40.71**	**14**	*e*P	**P**	**04 07 15.7**	**+0.3**
	6.5nm,1.3s,mb4.1						
CHKZ	**Chkalovo**	**40.71**	**14**	*e*P	**P**	**04 07 15.7**	**+0.3**
	6.4nm,1.3s,mb4.1						
BURAR	**Bucovina Array**	**40.82**	**329**	⇑P	pP	04 07 23.7	+4.2
BURAR	**Bucovina Array**	**40.82**	**329**	⇑P	pP	04 07 23.7	+4.3
AKASG	**Malin Array Be**	**41.29**	**335**	P	**P**	**04 07 19.6**	**-0.7**
	0.4nm,0.4s,mb3.4,baz=140,slow=7.7,SNR=9.7						
AKASG	**Malin Array Be**	**41.29**	**335**	P	**P**	**04 07 19.5**	**-0.7**
MATP	**Matopo**	**43.52**	**217**	P	**P**	**04 07 36.9**	**-2.0**
	2.3nm,0.7s,mb4.0,baz=42,slow=9.1,SNR=4.7						
GERES	**GERESS Array B**	**47.71**	**324**	P	**P**	**04 08 12.8**	**+0.9**
	0.8nm,0.7s,mb3.8,baz=127,slow=6.7,SNR=4.5						
LBTB	**Lobatse**	**48.76**	**216**	P	**P**	**04 08 19.9**	**-0.5**
	7.2nm,0.9s,mb4.7,baz=35,slow=6.9,SNR=9.6						
DAVOX	**Davos**	**49.01**	**320**	LR	LR	04 30 48.0	
	comp=Z,45nm,19.2s,MS3.5,baz=266,slow=38						
MBDF	**Montbardon**	**50.21**	**316**	*e*P	**P**	**04 08 31.6**	**+0.4**
	24nm,1.3s,mb4.8						
LPG	**La Plagne**	**50.50**	**317**	*e*P	**P**	**04 08 33.7**	**+0.3**
	26nm,1.3s,mb4.8						
LPL	**La Plagne**	**50.52**	**317**	*e*P	**P**	**04 08 33.8**	**+0.2**
	12nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**50.88**	**343**	P	**P**	**04 08 36.0**	**-0.1**
	1.7nm,0.6s,mb4.2,baz=166,slow=7.9,SNR=7.0						
FINES				LR	LR	04 33 23.9	
	comp=Z,63nm,18.6s,MS3.7,baz=148,slow=40						
CDF	**Champ du Feu**	**51.29**	**321**	*e*P	**P**	**04 08 39.3**	**-0.1**
	9.1nm,0.9s,mb4.4						
CABF	**La Chapelle**	**51.34**	**318**	*e*P	**P**	**04 08 41.0**	**+1.2**
XAN	**Xi'an**	**52.27**	**58**	P	**P**	**04 08 46.3**	**-0.7**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
SMF	**Signal de Mont**	**52.80**	**318**	*e*P	**P**	**04 08 50.2**	**-0.6**
LOR	**Lormes**	**53.00**	**319**	*e*P	**P**	**04 08 50.8**	**-1.5**
	comp=Z,45nm,1.4s,mb4.9						
SSF	**Saint Saulge**	**53.16**	**318**	*e*P	**P**	**04 08 53.1**	**-0.3**
	comp=Z,8.6nm,1.1s,mb4.6						
BGF	**Bois d'Agland**	**53.42**	**317**	*e*P	**P**	**04 08 54.0**	**-1.4**
	comp=Z,16nm,0.9s,mb4.7						
SONM	**Songino Array**	**53.67**	**41**	P	**P**	**04 08 56.9**	**-0.3**
	comp=Z,2.2nm,0.9s,mb4.1,baz=247,slow=7.0,SNR=9.9						
RJF	**Les Rejaudoux**	**53.92**	**316**	*e*P	**P**	**04 08 58.9**	**-0.2**
HFS	**Hagfors**	**54.17**	**336**	P	**P**	**04 09 01.3**	**+0.6**
	comp=Z,3.3nm,0.8s,mb4.3,baz=126,slow=12,SNR=3.5						
SJPF	**Ste Jean**	**55.28**	**312**	*e*P	**P**	**04 09 09.1**	**0.0**
	comp=Z,48nm,1.4s,mb5.0						
NOA	**NORSAR Array B**	**55.70**	**336**	LR	LR	04 36 14.4	
	comp=Z,64nm,18.4s,MS3.7,baz=180,slow=39						
ESDC	**Sonseca Array**	**56.67**	**308**	P	**P**	**04 09 18.4**	**-0.8**
	comp=Z,1.3nm,0.8s,mb4.0,baz=87,slow=6.1,SNR=4.9						
ARCES	**ARCESS Array B**	**57.65**	**348**	P	**P**	**04 09 24.8**	**-0.8**
	comp=Z,3.6nm,0.8s,mb4.4,baz=153,slow=8.1,SNR=16						
ARCES				LR	LR	04 35 26.8	
	comp=Z,80nm,18.1s,MS3.9,baz=248,slow=37						
CN2	**Changchun**	**65.98**	**48**	*e*P	**P**	**04 10 22.0**	**+0.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**85.52**	**112**	P	**P**	**04 12 10.9**	**-2.4**
	comp=Z,1.3nm,0.8s,mb4.2,baz=295,slow=4.3,SNR=7.1						
PDAR	**Pinedale Array**	**120.89**	**347**	PKP	PKPdf	04 18 26.8	-2.4
	comp=Z,0.3nm,0.6s,baz=72,slow=4.7,SNR=3.5						

*BGR **30** 04:01:56.7±0.6, 51.39N×16.15E, h1km, ML3.0/13, Error ellipse: s-maj=8.9km s-min=5.6km az=169.0*
*PRU **30** 04:01:56.8, 51.47N×16.06E*
*IPEC **30** 04:01:56.9±0.3, 51.48N×16.11E, h8km±1km, ML2.2/3, Error ellipse: s-maj=2.1km s-min=0.7km az=30.0*
*NEIC **30** 04:01:57.2±1.1, 51.43N×15.99E, h5km, ML3.1(VIE), ML3.0(SZGRF), ML2.8(FUR), Error ellipse: s-maj=12.2km s-min=5.9km az=202.0*
*CSEM **30** 04:01:57.5±0.1, 51.43N×16.02E, ML3.2/4, Error ellipse: s-maj=2.3km s-min=1.2km az=18.0*
*WAR **30** 04:01:57.0, 51.49N×16.06E, h1km, ML2.9, Mining Induced*
ISC 30 04:01:55.0±0.5, 51.42N±0.03×16.04E±0.02, n52, σ1§32/95, 2C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**164**	⇓*i*P*g*	**Pg**	**04 02 09.2**	**+2.2**
KSP				⇓*e*S*g*	**Sg**	**04 02 18.2**	**+3.2**
KSP	**Ksiaz**	**0.60**	**164**	*e*P*g*	**Pg**	**04 02 09.0**	**+2.0**
KSP				*e*S*g*	**Sg**	**04 02 18.6**	**+3.6**
KSP	**Ksiaz**	**0.60**	**164**	⇓*i*P*g*	**Pg**	**04 02 09.2**	**+2.2**
KSP				*e*S*g*	**Sg**	**04 02 18.4**	**+3.4**
KSP	**Ksiaz**	**0.60**	**164**	⇓*i*P*g*	**Pg**	**04 02 09.2**	**+2.2**
KSP				*e*S*g*	**Sg**	**04 02 17.2**	**+2.2**
UPC	**Upice**	**0.92**	**181**	*e*P*G*	**Pg**	**04 02 15.1**	**+1.8**
UPC	**Upice**	**0.92**	**181**	*e*P*g*	**Pg**	**04 02 15.2**	**+1.9**
DPC	**Dobruska-Polom**	**1.09**	**170**	*e*P*G*	**Pg**	**04 02 17.8**	**+1.1**
DPC				*e*S*G*	**Sg**	**04 02 32.9**	**+1.7**
PVCC	**Panska Ves**	**1.29**	**227**	*e*P*G*	**Pg**	**04 02 21.6**	**+0.9**
PVCC	**Panska Ves**	**1.29**	**227**	*e*P*n*	**Pn**	**04 02 22.1**	**+1.9**
PVCC				*e*S*g*	**Sg**	**04 02 40.3**	**+2.4**
BRG	**Berggiesshubel**	**1.43**	**248**	*e*P*g*	**Pg**	**04 02 24.1**	**+0.6**
BRG				*e*S*g*	**Sg**	**04 02 44.1**	**+1.6**
BRG	**Berggiesshubel**	**1.43**	**248**	P*n*	**Pn**	**04 02 23.8**	**+1.6**
BRG				P*g*	**Pg**	**04 02 24.2**	**+0.7**
BRG				S*g*	**Sg**	**04 02 44.1**	**+1.6**
BRG	**Berggiesshubel**	**1.43**	**248**	P*g*	**Pg**	**04 02 24.2**	**+0.7**
BRG				*e*S*g*	**Sg**	**04 02 43.8**	**+1.3**
PRU	**Pruhonice**	**1.72**	**214**	*e*P*N*	**Pn**	**04 02 27.1**	**+0.7**
PRU				*e*P*G*	**Pg**	**04 02 29.1**	**-0.2**
PRU				*e*S*G*	**Sg**	**04 02 52.4**	**+0.1**
PRU	**Pruhonice**	**1.72**	**214**	*e*P*g*	**Pg**	**04 02 29.1**	**-0.2**
PRU				*e*S*g*	**Sg**	**04 02 52.4**	**+0.1**
FBE	**Freiberg**	**1.76**	**255**	P*g*	**Pg**	**04 02 29.9**	**-0.2**
FBE				S*g*	**Sg**	**04 02 53.6**	**0.0**
CLL	**Collm**	**1.91**	**268**	*e*P*N*	**Pn**	**04 02 29.0**	**0.0**
CLL				*e*P*G*	**Pg**	**04 02 32.0**	**-1.0**
CLL				*i* S*G*	**Sg**	**04 02 56.4**	**-2.0**
CLL	**Collm**	**1.91**	**268**	P	**Sn**	**04 02 53.4**	**-0.7**
	logA/T=1.5						
CLL	**Collm**	**1.91**	**268**	*e*P*g*	**Pg**	**04 02 32.0**	**-1.0**
CLL				*e*S*g*	**Sg**	**04 02 57.3**	**-1.1**
MORC	**Moravsky Berou**	**1.91**	**149**	*e*P*n*	**Pn**	**04 02 29.7**	**+0.6**
MORC				*e*S*g*	**Sg**	**04 02 59.0**	**+0.5**
MORC	**Moravsky Berou**	**1.91**	**149**	*e*P*n*	**Pn**	**04 02 30.0**	**+1.0**
MORC				*e*S*g*	**Sg**	**04 02 58.3**	**-0.1**
	16nm,0.3s						
OKC	**Ostrava-Krasne**	**2.08**	**139**	*e*S*g*	**Sg**	**04 03 02.3**	**-1.9**
VRAC	**Vranov**	**2.15**	**170**	*e*P*n*	**Pn**	**04 02 34.0**	**+1.5**
VRAC				*e*S*g*	**Sg**	**04 03 05.9**	**-0.5**
VRAC	**Vranov**	**2.15**	**170**	*e*P*n*	**Pn**	**04 02 33.9**	**+1.4**
VRAC				*e*S*g*	**Sg**	**04 03 05.8**	**-0.6**
	13nm,0.2s						
TREC	**Trest**	**2.16**	**190**	*e*P*G*	**Pg**	**04 02 37.5**	**-0.6**
KRUC	**Moravsky**	**2.37**	**174**	*e*P*n*	**Pn**	**04 02 37.6**	**+1.9**
KRUC	**Moravsky**	**2.37**	**174**	*e*P*g*	**Pg**	**04 02 41.6**	**-0.8**
KRUC				*e*S*g*	**Sg**	**04 03 13.5**	**-0.5**
	13nm,0.4s						
TANN	**Tannenbergstha**	**2.48**	**247**	*e*P*n*	**Pn**	**04 02 37.9**	**+0.7**
TANN				*e*S*g*	**Sg**	**04 03 16.5**	**-0.9**
WERD	**Werda**	**2.55**	**249**	*e*P*n*	**Pn**	**04 02 39.2**	**+0.9**
WERD				*e*S*g*	**Sg**	**04 03 18.2**	**-1.8**
NKC	**Novy Kostel**	**2.57**	**244**	*e*P*N*	**Pn**	**04 02 39.8**	**+1.3**
NKC				*e*S*G*	**Sg**	**04 03 19.5**	**-1.0**
NKC	**Novy Kostel**	**2.57**	**244**	*e*P*n*	**Pn**	**04 02 39.7**	**+1.2**
NKC				*e*S*g*	**Sg**	**04 03 19.5**	**-1.0**
GUNZ	**Gunzen**	**2.57**	**247**	*e*P*n*	**Pn**	**04 02 39.6**	**+1.0**
GUNZ				*e*S*g*	**Sg**	**04 03 19.5**	**-1.2**
OJC	**Ojcow**	**2.67**	**115**	*e*P*G*	**Pg**	**04 02 47.0**	**-1.3**
OJC				*e*S*N*	**Sn**	**04 03 11.0**	**-2.6**
OJC				*e*S*G*	**Sg**	**04 03 22.0**	**-2.0**
NEUB	**Neuenburg**	**2.68**	**267**	*e*P*g*	**Pg**	**04 02 46.7**	**-1.8**
NEUB				*e*S*g*	**Sg**	**04 03 25.4**	**+1.2**
KHC	**Kasperske Hory**	**2.78**	**215**	*e*P*N*	**Pn**	**04 02 42.5**	**+0.9**
KHC				*e*P*G*	**Pg**	**04 02 48.7**	**-1.8**
KHC				*e*S*N*	**Sn**	**04 03 17.5**	**+1.1**
KHC				*e*S*G*	**Sg**	**04 03 26.1**	**-1.5**
MOX	**Moxa**	**2.90**	**256**	P*g*	**Pg**	**04 02 52.0**	**-0.8**
MOX				S*g*	**Sg**	**04 03 31.0**	**-0.4**
MOX	**Moxa**	**2.90**	**256**	*e*P*g*	**Pg**	**04 02 51.0**	**-1.8**
MOX				*e*S*g*	**Sg**	**04 03 29.0**	**-2.4**
ROTZ	**Rotzenmuhle**	**2.95**	**237**	*e*P*n*	**Pn**	**04 02 45.1**	**+1.1**
NOTT	**Nottersdorf**	**2.97**	**239**	*e*P*n*	**Pn**	**04 02 45.0**	**+0.7**
NOTT				*e*S*g*	**Sg**	**04 03 31.7**	**-2.1**
GEC2	**GERESS Array S**	**2.98**	**211**	*e*P*n*	**Pn**	**04 02 45.9**	**+1.4**
WET	**Wettzell**	**3.05**	**223**	*e*P*n*	**Pn**	**04 02 45.9**	**+0.6**
WET				*e*S*g*	**Sg**	**04 03 34.7**	**-1.8**
WET	**Wettzell**	**3.05**	**223**	*e*P*n*	**Pn**	**04 02 45.9**	**+0.5**
WET				*e*S*g*	**Sg**	**04 03 34.7**	**-1.8**
NIE	**Niedzica**	**3.39**	**125**	*e*P	**Pg**	**04 03 00.0**	**-2.7**
NIE				*e*S	**Sg**	**04 03 46.0**	**-1.9**
VYHS	**Vyhne**	**3.44**	**147**	*e*S*G*	**Sg**	**04 03 51.0**	**+1.4**
GRA1	**Grafenberg Arr**	**3.52**	**242**	S*g*	**Sg**	**04 03 51.2**	**-1.1**
GRF	**Grafenberg Arr**	**3.52**	**242**	*e*S*g*	**Sg**	**04 03 51.2**	**-1.1**
CLZ	**Clausthal**	**3.55**	**279**	*e*P*n*	**Pn**	**04 02 53.1**	**+0.5**
MOA	**Molln**	**3.76**	**199**	⇓*i*P*N*	**Pn**	**04 02 56.5**	**+1.1**
MOA				*i* S*G*	**Sg**	**04 03 59.6**	**-0.4**
	8.4nm,0.5s						
MOA	**Molln**	**3.76**	**199**	⇓*i*P*n*	**Pn**	**04 02 56.5**	**+1.1**
STHS	**Stebnicka Huta**	**3.89**	**119**	*e*P*N*	**Pn**	**04 02 58.8**	**+1.5**
STHS				*e*P*G*	**Pg**	**04 03 11.0**	**-1.6**
STHS				*e*S*G*	**Sg**	**04 04 03.6**	**-0.8**
KECS	**Kecovo**	**4.11**	**134**	*e*P*G*	**Pg**	**04 03 15.2**	**-1.9**
ARSA	**Arzberg**	**4.19**	**185**	⇑*i*P*N*	**Pn**	**04 03 02.4**	**+0.8**
ARSA				*i* S*G*	**Sg**	**04 04 10.4**	**-4.0**
	6.6nm,0.4s						
ARSA	**Arzberg**	**4.19**	**185**	⇑*i*P*n*	**Pn**	**04 03 02.4**	**+0.9**

*NEIC **30** 04:21:17.7, 32.26S×71.92W, h22km, ML3.9(GUC), After GUC.*
GUC 30 04:21:17.7±0.8, 32.26S×71.92W, h22km±5km, MD4.1, ML3.9, 9C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.52**	**44**	⇓*i*P	Pb	04 21 28.2	+0.1
CHNG				*i* S	Sb	04 21 35.8	+0.5
CHNG				AMP		04 21 36.8	
	comp=E,5μm,0.3s						
IHA	**Instituto Hidr**	**0.80**	**163**	⇑*i*P	Pb	04 21 31.6	-1.1
IHA				*i* S	Sb	04 21 43.6	+0.5
ILCH	**Illapel**	**0.90**	**46**	⇑*i*P	Pb	04 21 34.0	-0.5
ILCH				*i* S	Sb	04 21 46.0	0.0
ILCH				AMP		04 21 50.6	
	comp=N,4μm,0.2s						
JACH	**Jahuel**	**1.20**	**111**	⇓*i*P	Pn	04 21 38.3	-1.0
JACH				*i* S	Sb	04 21 53.7	-1.0
LCCH	**Las Cruces**	**1.24**	**166**	⇓*i*P	Pn	04 21 39.0	-1.0
LCCH				*i* S	Sb	04 21 55.5	-0.5
CMCH	**Combarbala**	**1.34**	**36**	⇑*i*P	Pn	04 21 41.0	-0.4
CMCH				*i* S	Sn	04 21 58.6	0.0
CMCH				AMP		04 22 05.7	
	comp=N,9μm,0.8s						
PEL	**Peldehue**	**1.36**	**130**	⇓*i*P	Pn	04 21 41.1	-0.5
PEL				*i* S	Sn	04 21 59.8	+0.6
RCDM	**Rinconada Maip**	**1.54**	**143**	*e*P	Pn	04 21 43.9	-0.3
RCDM				*i* S	Sn	04 22 04.0	+0.3
RCDM				AMP		04 22 06.0	
	comp=N,3μm,0.1s						
SAN	**Santiago**	**1.59**	**138**	⇓*i*P	Pn	04 21 45.0	+0.1
SAN				*i* S	Sn	04 22 05.4	+0.4
SAN				AMP		04 22 08.7	
	comp=N,3μm,0.5s						
DSCH	**Colegio Aleman**	**1.61**	**135**	*e*P	Pn	04 21 45.5	+0.3
DSCH				*i* S	Sn	04 22 06.0	+0.7
DSCH				AMP		04 22 12.8	
	comp=E,4μm,0.5s						
TACH	**Talagante**	**1.61**	**149**	⇓*i*P	Pn	04 21 45.0	-0.3
CLCH	**Cerro Calan**	**1.62**	**134**	⇓*i*P	Pn	04 21 45.3	-0.1
CLCH				*i* S	Sn	04 22 06.2	+0.4
CLCH				AMP		04 22 11.9	
	comp=E,2μm,0.6s						
CLCH				AMP		04 22 12.5	
	comp=E,3μm,0.6s						
FSR	**Penalolen**	**1.69**	**136**	⇑*i*P	Pn	04 21 46.8	+0.5
FSR				*i* S	Sn	04 22 08.5	+1.1
FSR				AMP		04 22 14.3	
	comp=E,2μm,0.6s						
ANTU	**Antumapu**	**1.69**	**141**	*e*P	Pn	04 21 47.0	+0.5
ANTU				*e*S	Sn	04 22 08.3	+0.7
ANTU				AMP		04 22 14.2	
	comp=N,2μm,0.4s						
FCH	**Farellones**	**1.74**	**128**	⇓*i*P	Pn	04 21 47.6	+0.5
FCH				*i* S	Sn	04 22 09.9	+1.3
FCH				AMP		04 22 13.5	
	comp=E,2μm,0.2s						
LNV	**Longovilo**	**1.74**	**166**	*i* P	Pn	04 21 46.0	-1.1
LNV				*i* S	Sn	04 22 08.4	-0.4
PCH	**Pirque**	**1.80**	**139**	⇑*i*P	Pn	04 21 48.5	+0.6
PCH				*i* S	Sn	04 22 11.5	+1.3
SJCH	**San Jose de Ma**	**1.91**	**137**	*e*P	Pn	04 21 48.7	-0.7
SJCH				*i* S	Sn	04 22 13.2	+0.3
SJCH				AMP		04 22 20.0	
	comp=N,823nm,0.5s						
CHCH	**Chadas Angostu**	**1.98**	**148**	⇑*i*P	Pn	04 21 51.0	+0.6
CHCH				*i* S	Sn	04 22 17.4	+2.7
CACH	**El Canelo**	**2.16**	**149**	⇑*i*P	Pn	04 21 54.3	+1.3
CACH				*i* S	Sn	04 22 22.5	+3.2
TLL	**Tololo Astrono**	**2.30**	**25**	⇑*i*P	Pn	04 21 55.7	+0.6
TLL				AMP		04 22 35.1	
	comp=N,3μm,0.6s						
CICH	**Cipreses**	**2.41**	**149**	⇑*i*P	Pn	04 21 57.3	+0.7

*IDC **30** 04:32:53.3±8.0, 5.53S×152.30E, h52km±74km, mb3.6/3, mb1 4.0/4, mb1mx3.7/11, mbtmp4.1/4, ML4.0/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/18, Error ellipse: s-maj=83.2km s-min=35.8km az=117.0*
ISC 30 04:32:50.8±5.0, 5.6S±0.3×152.4E±0.3, h44km±41km, n8, σ0§98/7, mb3.9/4, MS4.0/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.39**	**233**	P	**P**	**04 34 24.8**	**-0.1**
	20nm,0.3s,baz=52,slow=10,SNR=25						
PMG				S	**S**	**04 35 37.5**	**0.0**
	11nm,0.3s,baz=281,slow=23,SNR=6.6						
KAKA	**Kakadu**	**20.88**	**249**	*e*P	Px	04 37 49.5	
	16nm,0.5s						
WB2	**Warramunga Arr**	**22.58**	**229**	*e*P	**P**	**04 37 49.4**	**+0.6**
WRA	**Warramunga Arr**	**22.59**	**229**	P	**P**	**04 37 49.9**	**+1.0**
	1.6nm,0.6s,mb3.6,baz=54,slow=10,SNR=9.2						
STKA	**Stephens Creek**	**28.02**	**200**	P	**P**	**04 38 39.6**	**-0.5**
	1.4nm,0.8s,mb3.6,slow=7.1,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.90**	**242**	*e*P	**P**	**04 38 46.6**	**-1.3**
	5.2nm,0.4s,mb4.6						
RAO	**Raoul Island**	**36.65**	**133**	LR	LR	04 50 38.3	
	comp=Z,256nm,21.3s,MS4.0,baz=95,slow=29						
ILAR	**Eielson Array**	**83.05**	**22**	P	**P**	**04 45 12.9**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=241,slow=5.5,SNR=8.5						

*BJI **30** 04:39:50.9, 0.61S×97.76E, h30km, mB5.0, mb4.7, Ms4.9, Msz4.5*
*IDC **30** 04:39:50.7±0.6, 0.09N×97.64E, mb4.7/16, mb1 4.8/16, mb1mx4.7/17, mbtmp4.7/16, MS4.1/12, Ms1 4.1/12, ms1mx3.9/19, Error ellipse: s-maj=24.8km s-min=13.9km az=47.0*
*NEIC **30** 04:39:57.4±0.3, 0.24N×98.01E, h30km, mb5.1/36, Error ellipse: s-maj=12.7km s-min=8.2km az=55.0*
*MOS **30** 04:39:57.0±1.2, 0.31N×98.02E, h33km, mb5.2/35, Error ellipse: s-maj=13.6km s-min=6.8km az=118.0*
*HRVD **30** 04:39:57.4±1.6, 0.38N×97.94E, h12km, MW4.8/33, Centroid moment Tensor Solution. LP body waves:

comp=Z,30nm,0.8s,mb5.1
KOLN Koldanda 30.54 335 *e*P **P 04 46 07.1 -3.2**
comp=Z,19nm,0.7s,mb5.0
ENH Enshi 31.79 19 *e*P **P 04 46 20.7 -0.6**
comp=Z,44nm,1.2s,mb5.2
ENH *e* 04 46 36.3
FITZ Fitzroy Crossi 32.88 125 *e*P **P 04 46 25.7 -5.2**
comp=Z,21nm,0.9s,mb5.1
FITZ Fitzroy Crossi 32.88 125 P **P 04 46 26.6 -4.3**
comp=Z,29nm,0.9s,mb5.2,baz=324,slow=3.5,SNR=13
FITZ LR LR 05 01 18.0
comp=Z,765nm,20.0s,MS4.4,baz=279,slow=39
WHN Wuhan 33.91 26 ⇑P **P 04 46 42.3 +2.6**
LZH Lanzhou 36.03 8 *e*P **P 04 47 00.5 +2.7**
LZH AP pP 04 47 13.0 +5.5
LZH XP sP 04 47 16.5 +4.7
LZH AMB AMB
comp=Z,46nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,180nm,5.1s
LZH LR LR
comp=E,2μm,18.0s
LZH LR LR
comp=Z,3μm,19.0s,MS5.1
LZH Lanzhou 36.03 8 *e*P **P 04 47 00.5 +2.7**
comp=Z,46nm,1.2s,mb5.3
LZH pP pP 04 47 12.9 +5.4
LZH sP sP 04 47 16.5 +4.7
LZH LR LR
comp=Z,3μm,19.0s,MS5.1
LZH Lanzhou 36.03 8 *e*P **P 04 47 00.5 +2.7**
LZH *PP pP 04 47 12.9 +5.4
LZH pmax pmax
comp=Z,46nm,1.2s,mb5.3
LZH MLR MLR
comp=Z,3μm,19.0s,MS5.1
NJ2 Nanjing 37.29 30 *e*P **P 04 47 08.8 +0.4**
NJ2 AP pP 04 47 19.3 +1.1
NJ2 XP sP 04 47 21.5 -0.9
NJ2 PP PP 04 48 38.0 +1.7
NJ2 S **S** **04 52 55.0 +1.8**
NJ2 XS 04 53 12.0
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,130nm,5.7s
NJ2 LR LR
comp=N,360nm,23.9s,MS4.4
NJ2 LR LR
comp=E,610nm,26.7s,MS4.4
NJ2 LR LR
comp=Z,230nm,25.9s,MS3.9
SSE Sheshan 37.78 34 *e*P **P 04 47 12.3 -0.2**
SSE AP pP 04 47 20.8 -1.5
SSE XP sP 04 47 25.5 -1.0
SSE PP PP 04 48 40.0 -2.1
SSE PCP PcP 04 49 25.3 -4.1
SSE S **S** **04 53 05.3 +4.7**
SSE XS 04 53 22.0
SSE SCS ScS 04 57 20.8 +0.4
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,64nm,4.5s
SSE LR LR
comp=N,1μm,16.7s,MS4.9
SSE LR LR
comp=E,1μm,16.8s,MS4.9
SSE LR LR
comp=Z,501nm,14.5s,MS4.5
SSE Sheshan 37.78 34 *e*P **P 04 47 12.2 -0.3**
comp=Z,38nm,0.7s,mb5.2
SSE pP pP 04 47 20.7 -1.6
SSE sP sP 04 47 25.5 -1.0
SSE PP PP 04 48 39.9 -2.2
SSE PcP PcP 04 49 25.3 -4.1
SSE S **S** **04 53 05.2 +4.6**
SSE sS 04 53 22.0
SSE ScS ScS 04 57 20.7 +0.3
SSE LR LR
comp=Z,500nm,14.5s,MS4.5
GTA Gaotai 38.96 2 *e*P **P 04 47 24.0 +1.7**
GTA AP pP 04 47 31.3 -0.7
GTA XP sP 04 47 36.0 -0.3
GTA AMB AMB
comp=Z,11nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,67nm,4.6s
GTA LR LR
comp=N,424nm,20.6s,MS4.6
GTA LR LR
comp=E,766nm,16.4s,MS4.6
GTA LR LR
comp=Z,436nm,18.7s,MS4.3
WRA Warramunga Arr 41.01 122 P **P 04 47 35.3 -4.2**
comp=Z,9.4nm,0.7s,mb4.5,baz=301,slow=8.8,SNR=23
WRAB Tennant Creek 41.02 121 *e*P **P 04 47 36.5 -3.0**
WB2 Warramunga Arr 41.02 122 *e*P **P 04 47 35.1 -4.4**
FORT Forrest 42.17 140 *e*P **P 04 47 50.1 +1.1**
comp=Z,24nm,0.8s,mb4.9
HHC Hu-ho-hao-te 42.23 16 *e*P **P 04 47 52.3 +3.0**
HHC AP pP 04 48 02.3 +3.1
HHC XP sP 04 48 06.0 +2.7
HHC PP PP 04 49 33.3 +3.3
HHC PCP PcP 04 49 45.0 +1.4
HHC SCP 04 53 31.0
HHC PCS 04 53 35.3
HHC S **S** **04 54 13.0 +5.8**
HHC XS 04 54 28.0
HHC SS SS 04 57 17.0 +6.8
HHC SCS ScS 04 57 49.0 +2.5
HHC AMB AMB
comp=Z,14nm,1.3s,mb4.4
HHC AMB AMB
comp=Z,82nm,3.6s
HHC LR LR
comp=N,221nm,10.7s,MS5.0
HHC LR LR
comp=E,1μm,14.3s,MS5.0
HHC LR LR
comp=Z,469nm,13.1s,MS4.5
WMQ Urumqi 44.27 349⇑ *i*P **P 04 48 07.8 +2.0**
WMQ AP pP 04 48 17.5 +1.8
WMQ XP sP 04 48 22.0 +2.2
WMQ AMB AMB
comp=Z,17nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,133nm,5.1s
WMQ LR LR
comp=N,370nm,21.5s,MS4.5
WMQ LR LR
comp=E,609nm,21.4s,MS4.5
WMQ LR LR
comp=Z,374nm,25.5s,MS4.2
AAK Ala-Archa 47.08 336 *e*P **P 04 48 29.2 +1.1**
comp=Z,7.8nm,1.1s,mb4.5
AAK Ala-Archa 47.08 336 *e*P **P 04 48 29.3 +1.2**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AAK MLR MLR
comp=Z,100nm,23.0s,MS3.7
FRU Bishkek 47.20 337 *e*P **P 04 48 28.5 -0.5**
SNY Shenyang 47.41 26 ⇑P **P 04 48 31.5 +0.8**
SNY S **S** **04 55 17.8 -3.9**
SNY AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
SNY AMB AMB
comp=Z,140nm,3.9s
SNY LR LR
comp=N,780nm,18.0s,MS4.8
SNY LR LR
comp=E,520nm,15.7s,MS4.8
SNY LR LR
comp=Z,550nm,18.6s,MS4.5
SONM Songino Array 47.92 8 P **P 04 48 33.3 -1.4**
comp=Z,11nm,1.0s,mb4.8,baz=192,slow=8.5,SNR=32
SONM PcP PcP 04 50 00.9 -2.3
comp=Z,5.4nm,1.0s,baz=157,slow=2.0,SNR=4.3
SONM LR LR 05 11 30.6
comp=Z,351nm,19.2s,MS4.3,baz=1.8,slow=39
MKAR Makanchi Array 48.26 346 P **P 04 48 34.6 -2.8**
comp=Z,17nm,0.8s,mb5.1,baz=156,slow=7.9,SNR=33
MKAR LR LR 05 11 46.4
comp=Z,194nm,19.0s,MS4.1,baz=2.4,slow=40
GUMO Guam 48.38 72 LR LR 05 11 26.0

comp=Z,64nm,18.2s,MS3.6,baz=245,slow=39
CN2 Changchun 49.81 26 *e*P **P 04 48 50.3 +1.0**
ZAK Zakamensk 50.10 5 *e*P **P 04 48 51.3 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CTA Charters Tower 51.52 116 P **P 04 49 00.2 -2.4**
comp=Z,6.3nm,0.8s,mb4.6,baz=314,slow=7.2,SNR=5.0
CTAO Charters Tower 51.52 116 *e*P **P 04 49 02.4 -0.2**
comp=Z,75nm,1.9s,mb5.3
CTAO Charters Tower 51.52 116 *e*P **P 04 49 02.4 -0.2**
CTAO pmax pmax
comp=Z,75nm,1.9s,mb5.3
MJAR Matsushiro Arr 51.91 41 P **P 04 49 04.1 -1.2**
comp=Z,4.9nm,1.1s,mb4.3,baz=225,slow=7.0,SNR=6.3
MJAR PcP PcP 04 50 16.9 -1.0
comp=Z,4.9nm,1.1s,baz=235,slow=4.3,SNR=4.7
MJAR LR LR 05 14 47.1
comp=Z,191nm,19.5s,MS4.1,baz=240,slow=40
STKA Stephens Creek 52.27 132 *e*P **P 04 49 03.6 -4.5**
comp=Z,11nm,1.0s,mb4.8
STKA Stephens Creek 52.27 132 P **P 04 49 03.9 -4.2**
comp=Z,11nm,0.7s,mb4.9,baz=301,slow=8.5,SNR=10
STKA LR LR 05 13 01.4
comp=Z,449nm,19.2s,MS4.5,baz=107,slow=38
KURK Kurchatov 52.82 345 *e*P **P 04 49 08.9 -3.0**
comp=Z,32nm,1.0s,mb5.2
KURK Kurchatov 52.82 345⇑ *e*P **P 04 49 09.0 -2.9**
NVS Novosibirsk 55.66 350 *i* P **P 04 49 29.0 -3.7**
NVS pmax pmax
comp=N,16nm,1.0s
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,24nm,1.0s,mb5.2
KLR Kul'dur 56.76 26 *e*P **P 04 49 38.0 -2.7**
KLR MLR MLR
comp=N,600nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.1
BVAR Borovoye Array 57.30 341 P **P 04 49 40.4 -4.1**
comp=Z,6.6nm,0.9s,mb4.7,baz=143,slow=7.4,SNR=24
BRVK Borovoye 57.37 341 *e*P **P 04 49 41.8 -3.1**
comp=Z,7.1nm,1.0s,mb4.7
BRVK Borovoye 57.37 341 *e*P **P 04 49 41.8 -3.1**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CHKZ Chkalovo 57.78 341 *e*P **P 04 49 46.4 -1.4**
comp=Z,21nm,1.0s,mb5.1
CHKZ Chkalovo 57.78 341 *e*P **P 04 49 46.4 -1.4**
CHKZ pmax pmax
comp=Z,21nm,1.0s,mb5.1
BOD Bodaibo 58.77 10 *e*P **P 04 49 51.8 -2.8**
BOD pmax pmax
comp=Z,16nm,1.3s,mb4.9
KMBO Kilima Mbogo 60.62 269 P **P 04 50 03.6 -4.3**
comp=Z,5.7nm,1.0s,mb4.7,baz=66,slow=8.1,SNR=12
KMBO LR LR 05 11 03.3
comp=Z,164nm,18.2s,MS4.2,baz=94,slow=31
YSS Yuzh-Sakhalins 60.72 34 *e*P **P 04 50 09.3 +1.1**
comp=Z,66nm,1.2s,mb5.6
YSS Yuzh-Sakhalins 60.72 34⇑ *i*P **P 04 50 09.0 +0.8**
YSS pmax pmax
comp=Z,70nm,1.1s,mb5.7
GNI Garni 62.39 316 LR LR 05 19 28.6
comp=Z,54nm,19.1s,MS3.7,baz=345,slow=38
GNI Garni 62.39 316 *e*P **P 04 50 19.3 -0.2**
GNI pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 64.26 337⇓ *i*P **P 04 50 31.2 -0.4**
ARU *e* 04 52 53.6
ARU *e*S **S** **04 59 09.9 +4.5**
ARU *e*SS SS 05 03 22.8 +6.2
ARU pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
KIV Kislovodsk 65.41 319 *d i*P **P 04 50 39.2 0.0**
KIV *e* 04 51 07.3
KIV *e*S S 04 59 22.7 +3.0
KIV pmax pmax
comp=Z,22nm,1.2s,mb5.1
YAK Yakutsk 66.09 16 *e*P **P 04 50 43.3 0.0**
YAK pmax pmax
comp=Z,56nm,1.3s,mb5.4
MIR Mirnyy 66.80 182 *e*P **P 04 50 48.0 +0.3**
MIR pmax pmax
comp=Z,24nm,1.4s,mb5.0
SOKR Solikamsk 67.15 339⇓ *i*P **P 04 50 50.3 +0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOC Sochi 67.22 318⇑ *i*P **P 04 50 47.1 -3.6**
SOC *e* 04 51 04.6
SOC *e* 04 53 20.8
SOC *e*PPP PPP 04 54 57.4 -0.3
SOC *e*S S 04 59 41.5 -0.1
SOC pmax pmax
comp=Z,31nm,1.1s,mb5.2
SOC pmax pmax
comp=N,32nm,0.9s
SOC pmax pmax
comp=E,14nm,1.1s
BR131 Keskin Array S 70.19 312 *e*P **P 04 51 08.1 -1.1**
comp=E,1.6nm,0.6s,mb4.1
BRTR Keskin Array B 70.19 312 P **P 04 51 05.0 -4.1**
comp=E,2.9nm,0.8s,mb4.2,baz=135,slow=7.0,SNR=13
BRTR Keskin Array B 70.19 312 P **P 04 51 05.1 -4.1**
MAW Mawson 72.00 193 P **P 04 51 15.1 -4.4**
comp=E,5.4nm,0.8s,mb4.5,baz=33,slow=9.1,SNR=2.5
MAW LR LR 05 18 45.8
comp=E,130nm,18.9s,MS4.2,baz=244,slow=33
PET Petropavlovsk 72.61 34 *e*P **P 04 51 23.0 -0.4**
comp=E,39nm,1.3s,mb5.2
PET Petropavlovsk 72.61 34 *e*P **P 04 51 24.3 +0.9**
PET pmax pmax
comp=Z,34nm,1.2s,mb5.2
PET MLR MLR
comp=Z,100nm,18.0s,MS4.1
OBN Obninsk 73.72 328⇑ *e*P **P 04 51 30.2 +0.3**
OBN *e* 04 54 15.2
OBN *e*S S 05 00 58.3 +1.1
OBN pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TIXI Tiksi 73.95 10⇑ *e*P **P 04 51 31.0 +0.1**
TIXI pmax pmax
comp=Z,23nm,1.3s,mb5.0
LBTB Lobatse 74.08 244 *e*P **P 04 51 31.3 -1.3**
comp=Z,3.6nm,0.9s,mb4.3
LBTB Lobatse 74.08 244 *e*P **P 04 51 31.3 -1.3**
LBTB pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SEY Seymchan 74.33 23 *e*P **P 04 51 34.8 +1.6**
TIRR Tirgusor 75.22 316⇓P **P 04 51 37.4 -1.4**
AKASG Malin Array Be 76.36 322 P **P 04 51 40.9 -4.3**
comp=Z,8.1nm,0.9s,mb4.7,baz=89,slow=4.8,SNR=20
AKASG Malin Array Be 76.36 322 *i* P **P 04 51 43.2 -2.0**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
MLR Muntele Rosu 77.16 317⇑P **P 04 51 49.9 +0.1**
BURAR Bucovina Array 78.12 319⇑P **P 04 51 55.9 +0.8**
SYO Syowa Base 79.36 198⇑P **P 04 52 00.1 -1.3**
DRGR 79.63 318⇓P **P 04 52 03.1 -0.2**
KWP Kalwaria 80.17 320 *e*P **P 04 52 06.7 +0.6**
KOLS Kolonicke sedl 80.32 320 *e*P **P 04 52 07.4 +0.5**
SUW Suwalki 80.78 325 *e*P **P 04 52 09.0 -0.2**
STHS Stebnicka Huta 81.07 320 *e*P **P 04 52 11.2 +0.3**
FINES FINESS Array B 81.09 332 P **P 04 52 07.8 -3.0**
comp=Z,3.3nm,0.8s,mb4.3,baz=104,slow=7.9,SNR=8.2
FINES LR LR 05 31 13.7
comp=Z,102nm,20.0s,MS4.2,baz=330,slow=38
FINES FINESS Array B 81.09 332 *i* P **P 04 52 11.3 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 81.41 319 *e*P **P 04 52 12.4 -0.3**
BILL Bilibino 81.76 21 *e*P **P 04 52 13.6 -0.5**
BILL *e* 04 55 25.2
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.5
OJC Ojcow 82.13 321 *e*P **P 04 52 17.0 +0.6**
MORC Moravsky Berou 83.50 320 *e*P **P 04 52 23.7 +0.3**
comp=Z,6.0nm,1.1s,mb4.6
MORC Moravsky Berou 83.50 320 *e*P **P 04 52 23.7 +0.3**
MORC pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
ARCES ARCESS Array B 83.59 340 P **P 04 52 22.0 -1.4**
comp=Z,5.6nm,0.9s,mb4.7,baz=101,slow=4.5,SNR=15
ARCES LR LR 05 32 12.6

comp=Z,121nm,19.7s,MS4.3,baz=76,slow=38
DPC Dobruska-Polom 84.35 320 *e*P **P 04 52 28.4 +0.7**
UPC Upice 84.57 321 *e*P **P 04 52 30.0 +1.2**
PERS Pernice 84.78 317 *e*P **P 04 52 31.0 +1.1**
VNDA Vanda 84.82 169 *e*P **P 04 52 29.2 -0.4**
comp=Z,8.5nm,1.5s,mb4.7
VNDA Vanda 84.82 169 *e*P **P 04 52 29.2 -0.3**
VNDA pmax pmax
comp=Z,9.0nm,1.5s
VISS Visnje 84.90 316 *e*P **P 04 52 31.4 +0.9**
PVCC Panska Ves 85.49 321 *e*P **P 04 52 34.6 +1.3**
ROBS Robic 85.86 316 *e*P **P 04 52 35.7 +0.5**
GERES GERESS Array B 85.91 319 P **P 04 52 33.1 -2.3**
comp=Z,4.5nm,0.9s,mb4.7,baz=108,slow=4.2,SNR=19
KHC Kasperske Hory 86.02 319 *e*P **P 04 52 36.7 +0.8**
GRA1 Grafenberg Arr 87.58 320 *e*P **P 04 52 44.4 +0.8**
comp=Z,6.0nm,1.0s,mb4.8
GRF Grafenberg Arr 87.58 320 *e*P **P 04 52 44.4 +0.8**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
NB2 NORSAR Subarra 88.10 331 P **P 04 52 46.0 +0.2**
comp=Z,4.5nm,1.0s,mb4.7,baz=97,slow=4.8
NB2 NORSAR Subarra 88.10 331 P **P 04 52 46.0 +0.2**
NB2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
NOA NORSAR Array B 88.10 331 P **P 04 52 43.1 -2.6**
comp=Z,3.2nm,1.0s,mb4.5,baz=93,slow=4.8,SNR=5.2
NOA LR LR 05 35 57.3
comp=Z,78nm,18.4s,MS4.2,baz=90,slow=38
PGF Pioggiola 88.95 312 *e*P **P 04 52 51.2 +0.9**
comp=Z,94nm,1.3s,mb5.7
PGF Pioggiola 88.95 312 *e*P **P 04 52 51.2 +0.9**
PGF pmax pmax
comp=Z,47nm,1.3s,mb5.7
NVL N'lazarevskaya 88.97 199 *e*P **P 04 52 50.2 +0.5**
NVL *e*PP pP 04 52 59.0 -1.3
NVL pmax pmax
comp=Z,2.0nm,1.1s,mb4.4
SBF Sospel 90.09 314 *e*P **P 04 52 56.2 +0.6**
CDF Champ du Feu 90.16 318 *e*P **P 04 52 56.3 +0.5**
QSPA South Pole Qui 90.25 180⇑ *i*P **P 04 52 56.3 +0.7**
comp=Z,6.8nm,1.0s,mb4.9
HINF Hinterafeld 90.45 318 *e*P **P 04 52 58.0 +0.8**
MBDF Montbardon 90.56 315 *e*P **P 04 52 58.5 +0.7**
comp=Z,17nm,1.1s,mb5.0
MBDF Montbardon 90.56 315 *e*P **P 04 52 58.5 +0.7**
MBDF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
LPG La Plagne 90.56 315 *e*P **P 04 52 58.7 +0.9**
comp=Z,24nm,1.0s,mb5.2
LPG La Plagne 90.56 315 *e*P **P 04 52 58.7 +0.9**
LPG pmax pmax
comp=Z,12nm,1.0s,mb5.2
LPL La Plagne 90.57 315 *e*P **P 04 52 58.7 +0.8**
comp=Z,22nm,0.9s,mb5.2
LPL La Plagne 90.57 315 *e*P **P 04 52 58.7 +0.8**
LPL pmax pmax
comp=Z,11nm,0.9s,mb5.2
HAU Haudompre 90.79 318 *e*P **P 04 52 59.2 +0.4**
comp=Z,24nm,1.0s,mb5.2
HAU *e*R
comp=Z,116nm,20.8s
HAU Haudompre 90.79 318 *e*P **P 04 52 59.2 +0.4**
HAU pmax pmax
comp=Z,12nm,1.0s,mb5.2
HAU MLR MLR
comp=Z,120nm,20.8s,MS4.3
CABF La Chapelle 91.00 316 *e*P **P 04 53 00.7 +0.9**
comp=Z,16nm,0.9s,mb5.0
CABF La Chapelle 91.00 316 *e*P **P 04 53 00.7 +0.9**
CABF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
BAIF Baives 92.12 320 *e*P **P 04 53 06.1 +1.2**
comp=Z,17nm,0.9s,mb5.1
BAIF Baives 92.12 320 *e*P **P 04 53 06.1 +1.2**
BAIF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LOR Lormes 92.50 317 *e*P **P 04 53 07.3 +0.6**
comp=Z,20nm,1.0s,mb5.1
LOR *e*R
comp=Z,87nm,21.0s
LOR Lormes 92.50 317 *e*P **P 04 53 07.3 +0.6**
LOR pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
LOR MLR MLR
comp=Z,90nm,21.0s,MS4.2
SMF Signal de Mont 92.54 317 *e*P **P 04 53 07.4 +0.5**
comp=Z,18nm,1.0s,mb5.2
SMF Signal de Mont 92.54 317 *e*P **P 04 53 07.4 +0.5**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
AVF Avril sur Loir 92.87 317 *e*P **P 04 53 08.9 +0.5**
comp=Z,14nm,1.1s,mb5.0
AVF Avril sur Loir 92.87 317 *e*P **P 04 53 08.9 +0.5**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
BGF Bois d'Agland 93.23 316 *e*P **P 04 53 09.6 -0.5**
SNAA Sanae 93.65 198 *e*P **P 04 53 11.0 -0.4**
comp=Z,2.3nm,1.1s,mb4.5
SNAA Sanae 93.65 198 *e*P **P 04 53 11.0 -0.4**
SNAA pmax pmax
comp=Z,2.0nm,1.1s
CAF Calviac 93.90 315 *e*P **P 04 53 14.2 +1.1**
comp=Z,37nm,1.4s,mb5.3
CAF Calviac 93.90 315 *e*P **P 04 53 14.2 +1.1**
CAF pmax pmax
comp=Z,18nm,1.4s,mb5.3
SJPF Ste Jean 96.43 313 *e*P **P 04 53 24.4 -0.3**
comp=Z,28nm,1.3s,mb5.2
SJPF Ste Jean 96.43 313 *e*P **P 04 53 24.4 -0.3**
SJPF pmax pmax
comp=Z,14nm,1.3s,mb5.2
ROSF Rostrenen 97.17 319 *e*P **P 04 53 28.0 0.0**
comp=Z,79nm,1.3s,mb5.7
ROSF Rostrenen 97.17 319 *e*P **P 04 53 28.0 0.0**
ROSF pmax pmax
comp=Z,40nm,1.3s,mb5.7
PDAR Pinedale Array 130.55 26 PKP PKPdf 04 59 04.7 -0.9
comp=Z,1.3nm,1.1s,baz=243,slow=2.0,SNR=3.5
MNTX Cornudas Mount 141.31 33 *e*PKPdf PKPdf 04 59 26.6 +0.9
UALR University of 143.82 14 *e*PKPdf PKPdf 04 59 29.6 -0.3
LTX Lajitas 144.07 33 *e*PKPdf PKPdf 04 59 32.0 +1.5
TXAR Lajitas Array 144.07 33 PKP PKPdf 04 59 28.6 -1.9
comp=Z,7.0nm,1.1s,baz=270,slow=2.5,SNR=30
PLAL Pickwick Lake 144.46 8 *e*PKPdf PKPdf 04 59 30.2 -0.8
CPUP Villa Florida 144.77 221 PKP PKPdf 04 59 29.3 -2.5
comp=Z,33nm,0.9s,baz=136,slow=4.2,SNR=35
CPUP Villa Florida 144.77 221 *e*PKHKP 04 59 29.1
CPUP *e* 04 59 32.2
LRAL Lakeview Retre 146.53 7 *e*PKPdf PKPdf 04 59 35.5 +0.9
LVC Limon Verde 154.36 209 *e*PKPbc PKPdf 04 59 55.4 +8.6

IDC 30 04:44:47.9±6.0, 5.43S×147.51E, h75km±56km, mb3.9/4, mb1 4.1/6, mb1mx3.9/12, mbtmp4.2/6, ML3.8/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/16, Error ellipse: s-maj=40.0km s-min=26.6km az=4.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.97**	**185**	P	P	04 45 45.3	-2.5
	8.2nm,0.3s,baz=355,slow=7.1,SNR=15						
PMG				S	S	04 46 33.4	0.0
	6.1nm,0.3s,baz=299,slow=0.5,SNR=4.9						
PMG				LR	LR	04 47 33.4	
	comp=Z,342nm,19.3s,baz=40,slow=42						
CTA	**Charters Tower**	**14.63**	**185**	LR	LR	04 53 17.0	
	comp=Z,12nm,19.2s,baz=224,slow=35						
WB2	**Warramunga Arr**	**19.29**	**220**	*e*P	P	04 49 07.3	-2.2
WRA	**Warramunga Arr**	**19.30**	**220**	P	P	04 49 06.3	-3.3
	0.8nm,0.3s,baz=41,slow=12,SNR=18						
DZM	**Mont Dzumac**	**24.69**	**134**	P	P	04 50 02.0	-1.4
	6.6nm,0.6s,baz=321,slow=6.5,SNR=12						
DZM				LR	LR	04 58 08.0	
	comp=Z,120nm,18.7s,baz=23,slow=32						
FITZ	**Fitzroy Crossi**	**24.80**	**238**	*e*P	P	04 50 02.6	-1.9
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.80**	**238**	P	P	04 50 02.7	-1.9
	18nm,0.6s,baz=48,slow=5.0,SNR=35						
MKAR	**Makanchi Array**	**77.38**	**320**	P	P	04 56 36.2	-0.2
	0.4nm,0.7s,baz=124,slow=5.2,SNR=3.3						
ILAR	**Eielson Array**	**84.76**	**23**	P	P	04 57 13.1	-1.6
	0.4nm,0.7s,baz=262,slow=5.6,SNR=3.3						

*CSEM **30** 04:46:13.7±0.4, 38.62N×28.57W, h13km±5km, MD2.9,*

Error ellipse: s-maj=2.2km s-min=2.1km az=40.0, After PDA
*PDA **30** 04:46:13.7±0.4, 38.62N×28.57W, h13km±5km, MD2.9, Error ellipse: s-maj=2.2km s-min=2.1km az=40.0*

SVSA 30 04:46:13.7±0.4, 38.62N×28.57W, h13km±5km, MD2.9, Error ellipse: s-maj=2.2km s-min=2.1km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOR	**Horta**	**0.11**	**206**	*e*S	Sg	04 46 18.3	-0.6
CALA	**Caldeira**	**0.11**	**248**	*i* P	Pg	04 46 16.6	-0.3
CALA				*e*S	Sg	04 46 18.9	-0.2
CALA	**Caldeira**	**0.11**	**248**	*e*S	Sg	04 46 18.9	-0.2
PICO	**Pico**	**0.17**	**137**	*e*P	Pg	04 46 17.3	-0.5
PICO				*e*S	Sg	04 46 20.0	-0.5
PCND	**Candelaria**	**0.17**	**151**	*e*P	Pg	04 46 16.1	-1.8
PCND				*e*S	Sg	04 46 22.1	+1.4
ROSA	**Rosais**	**0.28**	**69**	*e*P	Pg	04 46 18.8	-0.9
ROSA				*e*S	Sg	04 46 22.5	-1.2

*NEIC **30** 04:57:45.5±0.5, 50.19N×19.04E, h5km, ML2.7(VIE), Error ellipse: s-maj=6.7km s-min=4.9km az=192.0*
*PRU **30** 04:57:46.4, 50.11N×19.06E*
*CSEM **30** 04:57:46.6±0.1, 50.12N×19.08E, h1km±1km, ML3.1/3, Error ellipse: s-maj=4.0km s-min=1.7km az=13.0*
*IPEC **30** 04:57:46.4±0.1, 50.14N×19.06E, h5km±1km, ML2.4/3, Error ellipse: s-maj=2.2km s-min=0.7km az=167.0*
*VIE **30** 04:57:49.2±0.5, 49.91N×18.92E, mb2.3/2, ML2.6/3, Error ellipse: s-maj=3.7km s-min=3.1km az=169.0, Suspected Mining induced.*
*IDC **30** 04:57:50.1±4.1, 50.15N×18.80E, h12km±22km, mb1 3.4/3, mb1mx3.2/16, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=47.6km s-min=13.6km az=128.0*

WAR 30 04:57:46.8, 50.08N×19.12E, h0km, ML2.6, 2C-3D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.46**	**72**	⇓*i*PG	Pg	04 57 55.3	-0.6
OJC				⇓*i*SG	Sg	04 58 02.2	+0.2
OJC	**Ojcow**	**0.46**	**72**	*i* PG	Pg	04 57 55.3	-0.6
OJC				*e*Sg	Sg	04 58 02.2	+0.2
OKC	**Ostrava-Krasne**	**0.68**	**249**	*e*Pg	Pg	04 57 59.1	-1.2
OKC				*e*Sg	Sg	04 58 08.5	-0.8
NIE	**Niedzica**	**1.02**	**130**	⇓*e*Pg	Pg	04 58 05.9	-1.2
NIE				*e*Sg	Sg	04 58 21.9	+1.3
LIKS	**Likavka**	**1.03**	**181**	*e*PN	Pn	04 58 06.6	-1.7
LIKS				*e*SN	Sn	04 58 20.4	-3.2
MORC	**Moravsky Berou**	**1.07**	**254**	*e*Pg	Pn	04 58 05.7	-3.1
MORC				*e*Sg	Sn	04 58 19.6	-4.8
MORC	**Moravsky Berou**	**1.07**	**254**	*e*Pg	Pn	04 58 05.7	-3.1
MORC				*e*Sg	Sn	04 58 19.6	-4.9
STHS	**Stebnicka Huta**	**1.53**	**115**	*e*PN	Pn	04 58 16.0	+0.6
STHS				*e*SN	Sn	04 58 38.0	+1.8
JAVC	**Velka Javorina**	**1.55**	**218**	*e*Pn	Pn	04 58 14.8	-0.9
KOLL	**Kolacno**	**1.57**	**198**	*e*PN	Pn	04 58 15.1	-1.0
KOLL				*e*SN	Sn	04 58 36.6	-0.8
VYHS	**Vyhne**	**1.60**	**187**	*e*PN	Pn	04 58 14.7	-1.7
VYHS				*e*SN	Sn	04 58 35.7	-2.3
VYHS	**Vyhne**	**1.60**	**187**	*e*Pn	Pn	04 58 14.9	-1.5
VYHS				*e*Sn	Sn	04 58 35.7	-2.3
VRAC	**Vranov**	**1.81**	**246**	Pn	Pn	04 58 18.9	-0.6
	4.7nm,0.3s,baz=63,slow=14,SNR=13						
VRAC				Lg		04 58 43.8	
	5.8nm,0.3s,baz=159,slow=21,SNR=11						
VRAC	**Vranov**	**1.81**	**246**	*e*Pn	Pb	04 58 18.6	-2.0
VRAC				*e*Sg	Sb	04 58 42.7	-1.1
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*PG	Pb	04 58 17.7	-3.0
DPC				*e*SG	Sb	04 58 42.0	-2.0
	44nm,0.6s						
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*Pn	Pn	04 58 17.6	-2.0
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*Pg	Pb	04 58 17.7	-3.0
DPC				Sg	Sb	04 58 42.0	-2.0
	44nm,0.6s						
KECS	**Kecovo**	**1.83**	**150**	*e*PN	Pn	04 58 18.1	-1.6
KECS				*e*SN	Sn	04 58 43.3	-0.6
KSP	**Ksiaz**	**1.96**	**294**	*e*PG	Pb	04 58 22.0	-1.1
KSP				*e*SG	Sb	04 58 49.0	+0.9
KSP	**Ksiaz**	**1.96**	**294**	*e*Pn	Pn	04 58 19.6	-2.0
KSP				*e*Pg	Pg	04 58 22.9	-3.1
KSP	**Ksiaz**	**1.96**	**294**	*e*Pn	Pn	04 58 19.6	-2.0
KSP				*e*Pg	Pg	04 58 22.6	-3.4
KSP				*e*Sg	Sg	04 58 48.5	-3.7
KSP	**Ksiaz**	**1.96**	**294**	*e*Pg	Pg	04 58 22.6	-3.4
KSP				*e*Sg	Sg	04 58 48.5	-3.7
UPC	**Upice**	**2.04**	**283**	*e*PG	Pg	04 58 22.5	-5.1
UPC				*e*SG	Sg	04 58 50.3	-4.5
KRUC	**Moravsky**	**2.05**	**241**	*e*Pn	Pn	04 58 22.6	-0.2
KRUC				*e*Sg	Sg	04 58 49.9	-5.1
	18nm,0.5s						
PSZ	**Piszkesteto**	**2.22**	**167**	*e*PB	Pb	04 58 28.6	+1.1
PSZ	**Piszkesteto**	**2.22**	**167**	*e*Pn	Pn	04 58 25.1	-0.2
PSZ				*e*Pg	Pg	04 58 30.2	-1.0
PSZ	**Piszkesteto**	**2.22**	**167**	*e*Pn	Pn	04 58 25.1	-0.2
PSZ	**Piszkesteto**	**2.22**	**167**	*e*P	Pn	04 58 28.6	+3.3
PSZ	**Piszkesteto**	**2.22**	**167**	*e*Pg	Pg	04 58 30.2	-0.9
KOLS	**Kolonicke sedl**	**2.35**	**118**	*e*PN	Pn	04 58 30.8	+3.6
PRU	**Pruhonice**	**2.96**	**270**	*e*PG	Pg	04 58 39.9	-5.9
PRU				*e*SG	Sg	04 59 18.5	-6.7
BRG	**Berggiesshubel**	**3.40**	**285**	Pg	Pg	04 58 50.2	-4.5
BRG				Sg	Sg	04 59 33.4	-6.7
BRG	**Berggiesshubel**	**3.40**	**285**	Pg	Pg	04 58 50.2	-4.6
BRG				Sg	Sg	04 59 33.4	-6.7
KHC	**Kasperske Hory**	**3.73**	**257**	*e*PN	Pn	04 58 43.0	-3.8
KHC				*e*PG	Pg	04 58 53.8	-7.5
KHC				*e*SG	Sg	04 59 45.4	-5.6
KHC				*ex*	x	04 59 54.0	
GERES	**GERESS Array B**	**3.75**	**253**	Pn	Pn	04 58 44.7	-2.4
	0.1nm,0.3s,baz=54,slow=13,SNR=3.3						
GERES				Pg	Pg	04 58 54.4	-7.2
	0.7nm,0.3s,baz=66,slow=17,SNR=12						
GERES				Lg		04 59 41.0	
	1.0nm,0.3s,baz=68,slow=22,SNR=4.7						
GERES	**GERESS Array B**	**3.75**	**253**	Pg	Pg	04 58 54.4	-7.2
MOA	**Molln**	**3.90**	**237**	⇑*i*Pn	Pn	04 58 47.4	-1.9
MOA				⇑*i*Sg	Sg	04 59 51.4	-5.3
	comp=Z,7.8nm,0.7s						
CLL	**Collm**	**4.08**	**290**	*e*SG	Sg	04 59 57.0	-5.7
MOX	**Moxa**	**4.84**	**280**	Sg	Sg	05 00 24.0	-3.9
FINES	**FINESS Array B**	**12.04**	**16**	Pn	P	05 00 35.1	-7.3
	0.2nm,0.3s,baz=198,slow=12,SNR=5.4						
ARCES	**ARCESS Array B**	**19.76**	**7**	Pn	P	05 02 16.2	-4.5
	0.1nm,0.3s,baz=191,slow=15,SNR=2.0						

*NEIC **30** 04:58:30.9±1.9, 24.96S×179.83E, h494km±19km, mb4.2/4, Error ellipse: s-maj=22.8km s-min=12.4km az=45.0*
*IDC **30** 04:58:31.3±2.2, 24.97S×179.75E, h493km±23km, mb3.5/6, mb1 3.6/8, mb1mx3.5/14, mbtmp4.4/8, Error ellipse: s-maj=28.1km s-min=19.0km az=1.0*

ISC 30 04:58:30.8±2.2, 24.9S±0.1×179.7E±0.1, h504km±23km, n26, σ0^{8}5/25, mb3.9/9, 5C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.52**	**280**	P	**P**	**05 01 16.2**	**+0.5**
	0.2nm,0.3s,baz=115,slow=14,SNR=4.0						
URZ	**Urewera**	**13.54**	**189**	P	**P**	**05 01 24.3**	**-1.9**
	1.5nm,0.3s,baz=54,slow=3.1,SNR=7.1						
URZ				S	**S**	**05 03 48.8**	**+1.3**
	0.4nm,0.3s,baz=265,slow=22,SNR=9.2						
CTA	**Charters Tower**	**31.26**	**272**	P	**P**	**05 04 11.3**	**+1.2**
	4.4nm,0.3s,mb4.4,baz=92,slow=12,SNR=4.7						
CTA	**Charters Tower**	**31.26**	**272**	P	**P**	**05 04 11.3**	**+1.2**
CTAO	**Charters Tower**	**31.26**	**272**	*e*P	**P**	**05 04 11.4**	**+1.3**
	4.9nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**34.16**	**249**	P	**P**	**05 04 33.6**	**-0.8**
	1.7nm,0.8s,mb3.5,baz=117,slow=9.0,SNR=3.4						
WB2	**Warramunga Arr**	**42.11**	**267**	⇑*i*P	**P**	**05 05 39.4**	**-0.1**
WRAB	**Tennant Creek**	**42.11**	**267**	*e*P	**P**	**05 05 39.3**	**-0.2**
	3.0nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**42.12**	**267**	P	**P**	**05 05 39.7**	**+0.1**
	3.0nm,0.3s,mb4.2,baz=100,slow=6.8,SNR=73						
WRA				ScP		05 10 28.3	
	1.6nm,1.3s,baz=99,slow=3.8,SNR=5.3						
WRA				S	**S**	**05 11 22.3**	**-0.7**
	0.5nm,0.8s,baz=101,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**50.53**	**266**	P	**P**	**05 06 43.7**	**-0.4**
	2.4nm,0.4s,mb3.9,baz=207,slow=1.7,SNR=8.7						
QSPA	**South Pole Qui**	**65.22**	**180**	*e*P	**P**	**05 08 22.7**	**-0.2**
	5.8nm,0.8s,mb4.3						
MAW	**Mawson**	**76.77**	**201**	P	**P**	**05 09 30.7**	**+0.3**
	0.7nm,0.4s,mb3.5,baz=108,slow=6.4,SNR=6.4						
SNAA	**Sanae**	**83.71**	**179**	⇑*i*	**P**	**05 10 05.3**	**-1.0**
SNAA	**Sanae**	**83.71**	**179**	*e*	**P**	**05 10 10.8**	**+4.5**
SNAA	**Sanae**	**83.71**	**179**	*e*P	**P**	**05 10 05.2**	**-1.1**
	0.9nm,0.6s,mb3.5						
VNA3	**Neumayer Olymp**	**83.93**	**177**	*e*	**P**	**05 10 12.4**	**+5.0**
VNA3	**Neumayer Olymp**	**83.93**	**177**	⇑*i*P	**P**	**05 10 06.8**	**-0.6**
VNA3				*e*		05 10 12.4	
VNA2	**Neumayer--Watz**	**84.34**	**178**	*e*	**P**	**05 10 14.5**	**+5.1**
VNA2	**Neumayer--Watz**	**84.34**	**178**	⇑*i*P	**P**	**05 10 09.0**	**-0.4**
VNA2				*e*		05 10 14.5	
VNA1	**Neumayer--Stat**	**84.58**	**177**	*e*	**P**	**05 10 17.2**	**+6.6**
VNA1	**Neumayer--Stat**	**84.58**	**177**	⇑*i*P	**P**	**05 10 12.3**	**+1.7**
VNA1				*e*		05 10 17.2	
TXAR	**Lajitas Array**	**91.14**	**58**	P	**P**	**05 10 43.0**	**+0.6**
	0.7nm,0.7s,mb3.7,baz=218,slow=7.0,SNR=9.2						
TXAR	**Lajitas Array**	**91.14**	**58**	P	**P**	**05 10 43.0**	**+0.6**
ARCES	**ARCESS Array B**	**132.78**	**348**	PKP	PKPdf	05 16 48.6	+1.4
	2.3nm,0.8s,baz=180,slow=1.2,SNR=5.9						
FINES	**FINESS Array B**	**139.28**	**341**	PKhKP		05 16 53.0	
	0.6nm,0.7s,baz=56,slow=6.9,SNR=3.4						
FINES				SKPbc		05 19 49.4	
	2.9nm,0.9s,baz=333,slow=4.3,SNR=5.1						
AKASG	**Malin Array Be**	**145.65**	**326**	PKPbc	PKPbc	05 17 12.9	+1.0
	0.7nm,0.4s,baz=46,slow=3.9,SNR=5.1						

*DHMR **30** 05:05:08.2±2.6, 12.66N×40.52E, h9km±161km, ML3.8*

ISC 30 05:05:04.2±3.2, 12.6N±0.3×40.2E±0.2, h9km, n5, σ0^{9}9/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.88**	**81**	*i* P	**Pn**	**05 06 06.1**	**+0.6**
TRBA				*i* S	**Sn**	**05 06 51.7**	**-0.1**
TRBA				AML	AML	05 07 06.3	
	comp=E,424nm,0.6s						
UDYN	**Al 'Udayn**	**3.92**	**70**	*i* P	**Pn**	**05 06 07.2**	**+1.2**
UDYN				*i* S	**Sn**	**05 06 53.3**	**+0.5**
UDYN				AML	AML	05 07 12.9	
	comp=Z,371nm,0.6s						
DHBB	**Dhamar BB**	**4.53**	**64**	*i* S	**Sn**	**05 07 07.6**	**-0.5**
LBOS		**5.09**	**75**	*i* P	**Pn**	**05 06 20.6**	**-2.0**
LBOS				*i* S	**Sn**	**05 07 16.8**	**-5.5**
BDHA	**Al Bayda'**	**5.41**	**75**	*i* S	**Sn**	**05 07 25.0**	**-5.4**

*ISK **30** 05:24:31.7, 37.57N×35.21E, h24km, MD3.5*
*CSEM **30** 05:24:31.7, 37.57N×35.21E, h24km, MD3.5, After ISK*

ISC 30 05:24:31.9±0.6, 37.65N±0.03×35.17E±0.04, h18km±9km, n17, σ1^{9}21/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARA	**Karaisali**	**0.40**	**193**	PG	**Pb**	**05 24 39.1**	**-1.1**
KARA				SG	**Sb**	**05 24 45.8**	**0.0**
KOZT	**Kozan**	**0.55**	**108**	PG	**Pb**	**05 24 42.2**	**-0.5**
KOZT				SG	**Sb**	**05 24 50.5**	**+0.4**
CEYT	**Ceyhan**	**0.79**	**144**	PG	**Pb**	**05 24 45.8**	**-1.0**
MERS	**Mersin**	**0.94**	**214**	PG	**Pb**	**05 24 48.4**	**-0.9**
AVNT	**Avonos**	**1.15**	**348**	*i* P	**Pb**	**05 24 50.3**	**-2.7**
AVNT				*i* S	**Sb**	**05 25 06.7**	**-0.7**
BNN	**Bunyan**	**1.31**	**24**	PN	**Pn**	**05 24 55.7**	**+0.2**
MEST	**Erdemli**	**1.34**	**218**	*i* P	**Pn**	**05 24 53.5**	**-2.5**
MEST				*i* S	**Sb**	**05 25 15.2**	**+2.2**
KAHT	**Ahir Dag**	**1.35**	**90**	*i* P	**Pb**	**05 24 57.9**	**+1.5**
KAHT				*i* S	**Sb**	**05 25 19.6**	**+6.3**
COBT	**Iskenderun**	**1.43**	**142**	*i* P	**Pb**	**05 24 57.5**	**+0.3**
COBT				*i* S	**Sb**	**05 25 17.9**	**+2.4**
HTY	**Hatay**	**1.71**	**153**	PN	**Pn**	**05 25 00.0**	**-1.3**
IKL	**Isikli**	**1.85**	**221**	PN	**Pn**	**05 25 02.2**	**-1.0**
KAMT	**Kaman**	**2.06**	**327**	PN	**Pn**	**05 25 07.2**	**+1.0**
CDAG	**Cicekdag**	**2.06**	**343**	*i* P	**Pn**	**05 25 06.3**	**0.0**
CDAG				*i* S	**Sn**	**05 25 32.8**	**+1.0**
ERMK	**Ermenek**	**2.07**	**241**	*i* P	**Pb**	**05 25 08.0**	**-0.6**
ERMK				*i* S	**Sb**	**05 25 36.2**	**+2.3**
CORM	**Corum**	**2.56**	**351**	PN	**Pn**	**05 25 14.4**	**+1.0**
KIZT	**Kizilcal**	**2.86**	**296**	PN	**Pn**	**05 25 18.4**	**+0.7**
PTK	**Pertek**	**3.55**	**68**	*e*PN	**Pn**	**05 25 27.0**	**-0.4**

*IDC **30** 05:27:24.3±5.9, 5.99S×152.60E, h62km±57km, mb3.5/6, mb1 3.8/7, mb1mx3.7/13, mbtmp3.9/7, ML3.1/1, Error ellipse: s-maj=36.9km s-min=28.7km az=6.0*
*NEIC **30** 05:27:28.0±0.9, 6.18S×152.61E, h100km, mb4.0/2, Error ellipse: s-maj=21.2km s-min=16.4km az=137.0*

ISC 30 05:27:26.6±0.9, 6.3S±0.1×152.5E±0.1, h100km, n11, σ1^{8}47/12, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.14**	**239**	P	**P**	**05 28 56.5**	**+0.2**
	2.8nm,0.3s,baz=70,slow=7.7,SNR=5.2						
PMG				S	**S**	**05 30 03.9**	**-1.8**
	5.3nm,0.3s,baz=295,slow=22,SNR=6.8						
PMG	**Port Moresby**	**6.14**	**239**	*e*Pn	**P**	**05 28 56.9**	**+0.7**
PMG				*e*Sn	**S**	**05 30 04.4**	**-1.3**
DZM	**Mont Dzumac**	**20.71**	**141**	P	**P**	**05 31 59.6**	**-1.3**
	3.9nm,0.7s,baz=9.6,slow=4.6,SNR=5.2						
KAKA	**Kakadu**	**20.78**	**251**	*e*P	Px	05 32 20.1	
	6.5nm,0.4s						
WRAB	**Tennant Creek**	**22.25**	**231**	P	**P**	**05 32 19.0**	**+2.7**
	2.6nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**22.27**	**231**	P	**P**	**05 32 19.9**	**+3.5**
	1.5nm,0.6s,mb3.5,baz=51,slow=9.6,SNR=18						
FITZ	**Fitzroy Crossi**	**28.71**	**243**	*e*P	**P**	**05 33 17.4**	**+0.6**
	9.7nm,1.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**28.71**	**243**	P	**P**	**05 33 17.7**	**+0.9**
	3.8nm,0.4s,mb4.3,baz=39,slow=8.0,SNR=16						
SONM	**Songino Array**	**67.39**	**328**	P	**P**	**05 38 11.6**	**-1.9**
	0.9nm,0.6s,mb3.8,baz=148,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**81.22**	**319**	P	**P**	**05 39 32.6**	**-0.4**
	0.2nm,0.6s,mb3.1,baz=121,slow=8.4,SNR=2.8						
ILAR	**Eielson Array**	**83.62**	**22**	P	**P**	**05 39 46.0**	**+1.1**
	0.3nm,0.7s,mb3.3,baz=242,slow=6.0,SNR=5.0						

IGQ 30 05:33:34.9, 3.47S×78.22W, h12km±5km, mb4.2, 2C-4D, Error ellipse: s-maj=23.5km s-min=5.3km az=172.2, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARRY	**Arrayan**	**1.96**	**353**	⇑P	Pn	05 34 09.4	+1.1
ARRY				S	Sn	05 34 34.5	+1.5
IGUA	**Igualata**	**2.01**	**348**	P	Pn	05 34 12.3	+3.2
IGUA				S	Sn	05 34 39.0	+4.7
ULBA	**Ulba**	**2.01**	**355**	⇑P	Pn	05 34 10.7	+1.5
ULBA				S	Sn	05 34 36.5	+2.1
CUSU	**Cusua**	**2.03**	**353**	⇓P	Pn	05 34 10.7	+1.4
CUSU				S	Sn	05 34 37.6	+2.8
JUIV	**Juive**	**2.04**	**353**	P	Pn	05 34 12.9	+3.3
JUIV				S	Sn	05 34 38.3	+3.1
RUN5	**Runtun**	**2.05**	**354**	P	Pn	05 34 11.3	+1.7
RUN5				S	Sn	05 34 37.7	+2.4
PISA	**Pisayambo**	**2.40**	**356**	⇓P	Pn	05 34 17.6	+3.0
PISA				S	Sn	05 34 47.8	+3.6
QIL1	**Quilotoa**	**2.70**	**345**	P	Pn	05 34 25.6	+6.7
TAMB	**Tambo**	**2.76**	**357**	P	Pn	05 34 23.1	+3.3
TAMB				S	Sn	05 34 57.6	+4.3
CAMI	**Rancho Maria**	**2.79**	**354**	⇓P	Pn	05 34 24.6	+4.4
CAMI				S	Sn	05 35 01.0	+7.0
VC1	**Cotopaxi 1**	**2.81**	**356**	⇓P	Pn	05 34 24.2	+3.7
VC1				S	Sn	05 35 00.4	+5.8
NAS1	**Nasa**	**2.83**	**355**	P	Pn	05 34 24.9	+4.1
NAS1				S	Sn	05 35 01.7	+6.7
ANTI	**Antisana**	**3.00**	**1**	P	Pn	05 34 24.9	+1.7
ANTI				S	Sn	05 35 03.7	+4.3
JUA2	**San Juan 2**	**3.25**	**353**	P	Pn	05 35 31.9	+5.1
JUA2				S	Sn	05 35 14.4	+8.6
GGP	**Refugio Guagua**	**3.29**	**354**	P	Pn	05 34 33.9	+6.5
PINO	**Pino**	**3.31**	**353**	P	Pn	05 34 33.5	+5.9
YANA	**Yana**	**3.34**	**354**	P	Pn	05 34 33.8	+5.7
YANA				S	Sn	05 35 16.8	+8.6
ECOPE	**Copete-Rev Vol**	**3.39**	**10**	P	Pn	05 34 31.6	+2.8
ECOPE				S	Sn	05 35 14.2	+4.8
CAYR	**Refugio Cayamb**	**3.46**	**4**	P	Pn	05 34 35.7	+5.9
CAYR				S	Sn	05 35 18.5	+7.3
JOR1	**San Jorge 1**	**3.47**	**353**	P	Pn	05 34 32.6	+2.7
ANGU	**Angureal**	**3.50**	**4**	P	Pn	05 34 34.1	+3.9

GUC 30 05:36:39.0±0.6, 33.23S×72.09W, h12km±14km, MD3.5, ML2.0, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.50**	**119**	⇑*i*P	Pg	05 36 49.2	+0.1
LCCH				*i* S	Sg	05 36 56.5	+0.6
LNV	**Longovilo**	**0.92**	**142**	*e*P	Pb	05 36 55.8	-0.6
LNV				*i* S	Sb	05 37 08.1	-0.2
ROCH	**El Roble**	**0.94**	**74**	*e*P	Pb	05 36 56.3	-0.5
TACH	**Talagante**	**1.05**	**114**	⇑*i*P	Pb	05 36 58.1	-0.6
TACH				*i* S	Sb	05 37 11.8	-0.4
RCDM	**Rinconada Maip**	**1.10**	**104**	⇓*i*P	Pb	05 36 58.6	-1.0
RCDM				*i* S	Sb	05 37 13.6	-0.2
RCDM				AMP		05 37 16.4	
	comp=N,84nm,0.2s						
JACH	**Jahuel**	**1.37**	**67**	*i* P	Pn	05 37 03.1	-1.0
JACH				*i* S	Sb	05 37 21.8	+0.2
CHCH	**Chadas Angostu**	**1.39**	**121**	*e*P	Pn	05 37 03.1	-1.2
CHCH				*i* S	Sb	05 37 22.1	+0.1
FCH	**Farellones**	**1.51**	**94**	⇓*i*P	Pn	05 37 05.6	-0.5
FCH				*i* S	Sb	05 37 25.0	-0.5
FCH				AMP		05 37 30.4	
	comp=N,40nm,0.4s						
CACH	**El Canelo**	**1.52**	**126**	*e*P	Pn	05 37 06.3	0.0
CACH				*i* S	Sb	05 37 27.5	+1.6

GUC 30 05:40:50.4±0.7, 32.75S×72.91W, h18km±5km, MD3.6, ML2.5, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**1.34**	**123**	⇓*i*P	Pn	05 41 13.6	-0.8
LCCH				*i* S	Sb	05 41 31.4	+0.1
TACH	**Talagante**	**1.88**	**119**	⇓*i*P	Pn	05 41 21.9	-0.3
TACH				*i* S	Sn	05 41 45.9	+0.3
RCDM	**Rinconada Maip**	**1.91**	**113**	⇓*i*P	Pn	05 41 22.6	0.0
RCDM				*i* S	Sn	05 41 48.7	+2.3
RCDM				AMP		05 41 52.2	
	comp=E,60nm,0.2s						
JACH	**Jahuel**	**1.96**	**89**	*i* S	Sn	05 41 48.5	+1.0
PCH	**Pirque**	**2.19**	**114**	*i* S	Sn	05 41 55.5	+2.1
CHCH	**Chadas Angostu**	**2.23**	**122**	*i* S	Sn	05 41 56.8	+2.4
FCH	**Farellones**	**2.28**	**105**	*i* S	Sn	05 41 58.4	+2.8
CACH	**El Canelo**	**2.36**	**126**	*i* S	Sn	05 42 00.5	+2.6
CICH	**Cipreses**	**2.60**	**128**	*i* S	Sn	05 42 04.8	+0.9

*NEIC **30** 05:50:13.3±0.9, 31.67S×67.11W, h10km, mb4.5/1, ML4.2(GUC), Error ellipse: s-maj=12.3km s-min=9.9km az=78.0*

GUC 30 05:50:15.1±0.7, 31.62S×67.47W, h5km, MD4.1, ML4.2, 2C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDZ	**Mendoza**	**1.72**	**222**	*e*P	Pn	05 50 47.5	+1.5
MDZ				*i* S	Sn	05 51 12.3	+3.7
MDZ				*i*		05 51 16.3	
JACH	**Jahuel**	**2.85**	**247**	*e*P	Pn	05 51 02.6	+0.4
FCH	**Farellones**	**2.93**	**234**	⇓*i*P	Pn	05 51 04.0	+0.7
FCH				*i* S	Sn	05 51 41.9	+2.5
FCH				AMP		05 51 44.2	
	comp=E,425nm,0.4s						
CMCH	**Combarbala**	**3.05**	**277**	⇓*i*P	Pn	05 51 05.4	+0.4
CMCH				*i* S	Sn	05 51 43.3	+0.9
CMCH				AMP		05 51 46.2	
	comp=E,2μm,0.9s						
PEL	**Peldehue**	**3.12**	**240**	*i* S	Sn	05 51 45.1	+1.1
CLCH	**Cerro Calan**	**3.14**	**235**	⇓*i*P	Pn	05 51 06.2	0.0
CLCH				*i* S	Sn	05 51 45.5	+0.9
CLCH				AMP		05 51 48.3	
	comp=E,569nm,0.3s						
ILCH	**Illapel**	**3.16**	**269**	*i* S	Sn	05 51 45.2	+0.2
ILCH				AMP		05 51 49.0	
	comp=E,577nm,0.6s						
DSCH	**Colegio Aleman**	**3.17**	**235**	*i* S	Sn	05 51 46.0	+0.8
DSCH				AMP		05 51 48.8	
	comp=E,495nm,0.4s						
FSR	**Penalolen**	**3.18**	**233**	AMP		05 51 52.2	
	comp=E,273nm,0.5s						
TLL	**Tololo Astrono**	**3.21**	**296**	⇑*i*P	Pn	05 51 08.4	+1.1
TLL				*i* S	Sn	05 51 48.1	+1.7
TLL				AMP		05

BMKR					AMB	AMB	06 21 30.6	
	20nm,0.5s							
BMKR					AMB	AMB	06 21 30.6	
	39nm,0.5s							
BMKR					*e*Sn	Sn	06 22 00.5	-2.9
BMKR					*e*Sg	Sg	06 22 16.7	-7.6
BMKR					A		06 22 21.0	
	368nm,0.8s							
BMKR					A		06 22 21.0	
	582nm,0.8s							
BMKR					A		06 22 21.0	
	469nm,0.8s							
NKL	**Nikolayevsk**	**3.82**	**85**	*e*Pn	Pn	06 21 20.0	-0.8	
NKL				⇑*i*Pg	Pg	06 21 30.0	-7.0	
NKL				AMB	AMB	06 21 31.2		
	120nm,0.5s							
NKL				pPg		06 21 33.2		
NKL				*e*Sg	Sg	06 22 20.8	-7.1	
NKL				A		06 22 25.9		
	536nm,0.9s							
NKL				A		06 22 25.9		
	400nm,0.9s							
YASR	**Yasnyy**	**3.86**	**277**	*e*Pn	Pn	06 21 19.9	-1.4	
YASR				sPn		06 21 24.4		
YASR				*e*Pg	Pg	06 21 30.9	-6.8	
YASR				AMB	AMB	06 21 35.9		
	20nm,0.5s							
YASR				AMB	AMB	06 21 35.9		
	60nm,0.5s							
YASR				AMB	AMB	06 21 35.9		
	50nm,0.5s							
YASR				*e*Sn	Sn	06 22 06.4	-0.8	
YASR				*i* Sg	Sg	06 22 22.0	-7.2	
YASR				A		06 22 32.1		
	330nm,0.5s							
YASR				A		06 22 32.1		
	420nm,0.5s							
KLR	**Kul'dur**	**4.08**	**205**	*e*Pn	Pn	06 21 26.0	+1.5	
KLR				*e*rx	rx	06 21 36.2		
KLR				*e*Sg	Sg	06 22 29.6	-7.0	
ZEA	**Zeya**	**4.33**	**283**	*e*Pn	Pn	06 21 27.7	-0.4	
ZEA				*e*Pg	Pg	06 21 39.0	-8.2	
ZEA				AMB	AMB	06 21 40.8		
	54nm,0.7s							
ZEA				AMB	AMB	06 21 40.8		
	56nm,0.7s							
ZEA				sPg		06 21 43.8		
ZEA				*e*Sn	Sn	06 22 15.9	-3.3	
ZEA				*e*Sg	Sg	06 22 36.5	-8.4	
ZEA				A		06 22 37.5		
	300nm,0.5s							
ZEA				A		06 22 38.1		
	310nm,0.6s							
ZEA				A		06 22 38.1		
	160nm,0.6s							
ZEA				AMS	AMS	06 22 58.0		
	600nm,4.0s							
ZEA				AMS	AMS	06 22 58.0		
	800nm,4.0s							
ZEA				AMS	AMS	06 22 58.0		
	500nm,4.0s							
KROS	**Kirovskiy**	**4.63**	**292**	*e*Pn	Pn	06 21 31.3	-1.0	
KROS				sPn		06 21 35.9		
KROS				*e*rx	rx	06 21 40.2		
KROS				*e*Pg	Pg	06 21 49.5	-7.7	
KROS				AMB	AMB	06 21 49.9		
	23nm,0.5s							
KROS				AMB	AMB	06 21 49.9		
	32nm,0.5s							
KROS				*e*Sg	Sg	06 22 44.7	-10	
KROS				A		06 22 46.5		
	62nm,0.6s							
KROS				A		06 22 46.5		
	130nm,0.6s							
TYV	**Tymovskoe**	**5.55**	**109**	*e*Sg	Sg	06 23 15.0	-10	
TYV				A		06 23 31.0		
	56nm,0.7s							
TYV				AMS	AMS	06 24 36.0		
	500nm,7.0s							
UGL	**Uglegorsk**	**6.22**	**126**	*e*Sg	Sg	06 23 35.0	-13	
TEY	**Ternei**	**8.07**	**169**	*e*Sg	Sg	06 24 35.0	-14	
TEY				A		06 24 54.1		
	47nm,0.9s							
SONM	**Songino Array**	**18.49**	**265**	P	P	06 24 42.7	+4.4	
	0.1nm,0.3s,baz=60,slow=12,SNR=4.2							
MKAR	**Makanchi Array**	**33.48**	**281**	P	P	06 27 04.2	+2.4	
	1.0nm,0.3s,baz=64,slow=8.1,SNR=18							
ILAR	**Eielson Array**	**39.65**	**41**	P	P	06 27 55.9	+2.2	
	0.7nm,0.5s,baz=283,slow=6.8,SNR=9.9							
FINES	**FINESS Array B**	**52.62**	**325**	P	P	06 29 38.0	+1.9	
	1.0nm,0.8s,baz=45,slow=11,SNR=4.6							
WRA	**Warramunga Arr**	**72.59**	**180**	P	P	06 31 50.7	+0.9	
	0.9nm,0.7s,baz=356,slow=6.8,SNR=9.6							

*NEIC **30** 06:24:57.0±0.4,51.55N×16.14E,h5km,ML3.1(VIE), ML3.0(SZGRF),ML2.9(FUR), Error ellipse: s-maj=4.7km s-min=4.5km az=101.0*
*IDC **30** 06:24:57.9±0.8,51.37N×16.29E,mb1 3.4/5, mb1mx3.4/19,mbtmp3.3/5,ML3.0/4, Error ellipse: s-maj=17.6km s-min=7.4km az=99.0*
*BGR **30** 06:24:58.3±0.6,51.41N×16.14E,h1km,ML3.0/13, Error ellipse: s-maj=7.8km s-min=4.4km az=170.0*
*PRU **30** 06:24:58.9,51.41N×16.10E*
*IPEC **30** 06:24:58.7±0.3,51.43N×16.19E,h8km±1km,ML2.2/3, Error ellipse: s-maj=2.2km s-min=0.8km az=31.0*
*WAR **30** 06:24:59.0,51.46N×16.08E,h1km,ML2.9,Mining Induced*
*CSEM **30** 06:24:59.5±0.2,51.40N×16.09E,h0km,ML3.2/4, Error ellipse: s-maj=2.9km s-min=1.8km az=12.0*
*VIE **30** 06:25:00.3±0.3,51.27N×16.19E,mb2.5/3,ML2.8/3,Error ellipse: s-maj=2.5km s-min=2.1km az=81.0,Suspected Mining induced.*

ISC 30 06:24:57.3±0.6,51.35N±0.03×16.05E±0.03,n57,σ1°29/99, 1C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.53**	**163**	⇓*i*Pg	**Pg**	**06 25 10.5**	**+2.6**
KSP				⇓*e*SG	**Sg**	**06 25 19.5**	**+4.5**
KSP	**Ksiaz**	**0.53**	**163**	*e*Pg	**Pg**	**06 25 10.4**	**+2.5**
KSP				*e*Sg	**Sg**	**06 25 19.1**	**+4.1**
KSP	**Ksiaz**	**0.53**	**163**	⇓*i*Pg	**Pg**	**06 25 10.5**	**+2.6**
KSP				*e*Sg	**Sg**	**06 25 18.7**	**+3.7**
KSP	**Ksiaz**	**0.53**	**163**	*e*Pg	**Pg**	**06 25 10.4**	**+2.5**
KSP				*e*Sg	**Sg**	**06 25 18.7**	**+3.7**
UPC	**Upice**	**0.85**	**182**	*e*PG	**Pg**	**06 25 16.2**	**+2.0**
UPC	**Upice**	**0.85**	**182**	*e*Pg	**Pg**	**06 25 16.4**	**+2.2**
DPC	**Dobruska-Polom**	**1.02**	**170**	*e*PG	**Pg**	**06 25 19.2**	**+1.6**
DPC				*e*SG	**Sg**	**06 25 33.5**	**+2.3**
	48nm,0.4s						
PVCC	**Panska Ves**	**1.25**	**229**	*e*PG	**Pg**	**06 25 23.5**	**+1.2**
PVCC	**Panska Ves**	**1.25**	**229**	Pg	**Pg**	**06 25 23.5**	**+1.2**
PVCC				*e*Sg	**Sg**	**06 25 42.2**	**+3.3**
BRG	**Berggiesshubel**	**1.41**	**251**	*e*Pg	**Pg**	**06 25 25.9**	**+0.4**
BRG				*e*Sg	**Sg**	**06 25 46.3**	**+1.9**
BRG	**Berggiesshubel**	**1.41**	**251**	Pn	**Pn**	**06 25 25.2**	**+0.9**
BRG				Pg	**Pg**	**06 25 26.0**	**+0.5**
BRG				Sg	**Sg**	**06 25 45.9**	**+1.6**
BRG	**Berggiesshubel**	**1.41**	**251**	Pn	**Pn**	**06 25 25.2**	**+0.9**
BRG	**Berggiesshubel**	**1.41**	**251**	Pg	**Pg**	**06 25 26.0**	**+0.5**
BRG				Sg	**Sg**	**06 25 46.3**	**+1.9**
PRU	**Pruhonice**	**1.67**	**216**	*e*PN	**Pn**	**06 25 29.0**	**+1.0**
PRU				*e*PG	**Pg**	**06 25 30.9**	**+0.3**
PRU				*e*SG	**Sg**	**06 25 52.8**	**-0.1**
PRU	**Pruhonice**	**1.67**	**216**	*e*Pg	**Pg**	**06 25 30.9**	**+0.3**
PRU				*e*Sg	**Sg**	**06 25 52.8**	**-0.1**
FBE	**Freiberg**	**1.75**	**257**	Pg	**Pg**	**06 25 31.8**	**-0.5**
FBE				Sg	**Sg**	**06 25 56.1**	**+0.4**
MORC	**Moravsky Berou**	**1.84**	**148**	*e*Pn	**Pn**	**06 25 30.6**	**+0.1**
MORC				*e*Sn	**Sn**	**06 25 53.8**	**-1.0**
MORC	**Moravsky Berou**	**1.84**	**148**	*e*Pn	**Pn**	**06 25 30.6**	**+0.2**
MORC				*e*Sn	**Sn**	**06 25 53.8**	**-1.0**
MORC				*e*Sg	**Sg**	**06 25 55.5**	**-3.1**
CLL	**Collm**	**1.92**	**270**	*e*Pn	**Pn**	**06 25 31.1**	**-0.4**
CLL				*e*Sg	**Sg**	**06 26 00.9**	**-0.2**
CLL	**Collm**	**1.92**	**270**	*i* PN	**Pn**	**06 25 31.1**	**-0.4**
CLL				*e*PG	**Pg**	**06 25 34.0**	**-1.5**
CLL				*e*SG	**Sg**	**06 26 00.0**	**-1.0**
CLL	**Collm**	**1.92**	**270**	*e*Pg	**Pg**	**06 25 34.0**	**-1.5**
CLL				Sg	**Sg**	**06 26 00.9**	**-0.1**

OKC	**Ostrava-Krasne**	**2.02**	**138**	*e*PG	**Pg**	**06 25 36.7**	**-0.9**	
OKC				*e*SG	**Sg**	**06 26 03.7**	**-0.8**	
VRAC	**Vranov**	**2.08**	**170**	Pg	**Pg**	**06 25 35.2**	**-3.5**	
	2.5nm,0.3s,baz=339,slow=17,SNR=10							
VRAC				Lg		06 26 05.2		
	4.2nm,0.3s,baz=67,slow=22,SNR=4.1							
VRAC	**Vranov**	**2.08**	**170**	*e*Pn	**Pn**	**06 25 35.3**	**+1.5**	
VRAC				*e*Sg	**Sg**	**06 26 05.9**	**-0.5**	
VRAC	**Vranov**	**2.08**	**170**	*e*Pn	**Pn**	**06 25 35.2**	**+1.4**	
VRAC				*e*Sg	**Sg**	**06 26 05.9**	**-0.5**	
	16nm,0.3s							
KRUC	**Moravsky**	**2.30**	**174**	*e*Pn	**Pn**	**06 25 39.1**	**+2.0**	
KRUC	**Moravsky**	**2.30**	**174**	*e*Pg	**Pg**	**06 25 42.4**	**-0.9**	
KRUC				*e*Sg	**Sg**	**06 26 13.9**	**-0.1**	
	12nm,0.4s							
TANN	**Tannenbergstha**	**2.46**	**249**	*e*Pn	**Pn**	**06 25 40.0**	**+0.7**	
TANN				*e*Sg	**Sg**	**06 26 17.9**	**-1.4**	
WERD	**Werda**	**2.54**	**251**	*e*Pn	**Pn**	**06 25 41.0**	**+0.6**	
WERD				*e*Sg	**Sg**	**06 26 20.5**	**-1.3**	
NKC	**Novy Kostel**	**2.55**	**245**	*e*Pn	**Pn**	**06 25 41.3**	**+0.7**	
NKC	**Novy Kostel**	**2.55**	**245**	*e*Pg	**Pg**	**06 25 48.1**	**-0.1**	
NKC				Sg	**Sg**	**06 26 22.1**	**0.0**	
GUNZ	**Gunzen**	**2.56**	**249**	*e*Pn	**Pn**	**06 25 41.9**	**+1.2**	
GUNZ				*e*Sg	**Sg**	**06 26 20.9**	**-1.5**	
OJC	**Ojcow**	**2.63**	**114**	*e*PG	**Pg**	**06 25 47.0**	**-2.9**	
OJC				*e*SG	**Sg**	**06 26 23.0**	**-2.0**	
NEUB	**Neuenburg**	**2.69**	**269**	*e*Sg	**Sg**	**06 26 25.8**	**-1.1**	
KHC	**Kasperske Hory**	**2.73**	**217**	*e*PN	**Pn**	**06 25 44.3**	**+1.1**	
KHC				*e*PG	**Pg**	**06 25 50.3**	**-1.6**	
KHC				*e*SN	**Sn**	**06 26 18.0**	**+0.6**	
KHC				*e*SG	**Sg**	**06 26 26.9**	**-1.4**	
MOX	**Moxa**	**2.89**	**258**	*e*Pn	**Pn**	**06 25 46.5**	**+1.1**	
MOX				*e*Sg	**Sg**	**06 26 33.5**	**-0.1**	
MOX	**Moxa**	**2.89**	**258**	*e*Pg	**Pg**	**06 25 53.6**	**-1.4**	
MOX				*e*Sg	**Sg**	**06 26 33.3**	**-0.3**	
MOX	**Moxa**	**2.89**	**258**	*e*Pg	**Pg**	**06 25 53.6**	**-1.4**	
MOX				*e*Sg	**Sg**	**06 26 32.4**	**-1.2**	
ROTZ	**Rotzenmuhle**	**2.92**	**239**	*e*Pn	**Pn**	**06 25 47.0**	**+1.1**	
ROTZ				*e*Sg	**Sg**	**06 26 33.2**	**-1.4**	
GEC2	**GERESS Array S**	**2.93**	**212**	*e*Pn	**Pn**	**06 25 48.0**	**+2.0**	
GEC2				*e*Sg	**Sg**	**06 26 33.9**	**-1.0**	
GEC2	**GERESS Array S**	**2.93**	**212**	*e*Pn	**Pn**	**06 25 48.0**	**+2.0**	
GEC2				*e*Sg	**Sg**	**06 26 33.9**	**-1.0**	
GERES	**GERESS Array B**	**2.93**	**212**	Pn	**Pn**	**06 25 47.9**	**+1.9**	
	0.9nm,0.3s,baz=33,slow=12,SNR=16							
GERES				Pg	**Pg**	**06 25 54.0**	**-1.8**	
	4.5nm,0.3s,baz=31,slow=17,SNR=44							
GERES				Lg		06 26 34.2		
	3.8nm,0.3s,baz=31,slow=26,SNR=7.7							
GERES	**GERESS Array B**	**2.93**	**212**	Pg	**Pg**	**06 25 54.0**	**-1.8**	
NOTT	**Nottersdorf**	**2.94**	**240**	*e*Pn	**Pn**	**06 25 47.0**	**+0.8**	
NOTT				*e*Sg	**Sg**	**06 26 33.7**	**-1.6**	
WET	**Wettzell**	**3.01**	**224**	*e*Pn	**Pn**	**06 25 48.0**	**+0.9**	
WET	**Wettzell**	**3.01**	**224**	*e*Pn	**Pn**	**06 25 48.0**	**+0.9**	
GRA1	**Grafenberg Arr**	**3.50**	**244**	*e*Pn	**Pn**	**06 25 54.6**	**+0.5**	
GRA1	**Grafenberg Arr**	**3.50**	**244**	Pn	**Pn**	**06 25 54.6**	**+0.5**	
GRF	**Grafenberg Arr**	**3.50**	**244**	*e*Pn	**Pn**	**06 25 54.6**	**+0.5**	
MOA	**Molln**	**3.69**	**199**	⇑*i*Pn	**Pn**	**06 25 58.1**	**+1.2**	
MOA				⇓*i*Sg	**Sg**	**06 27 00.5**	**+0.3**	
	comp=Z,8.5nm,0.5s							
STHS	**Stebnicka Huta**	**3.84**	**118**	*e*PG	**Pg**	**06 26 13.0**	**-1.1**	
AKASG	**Malin Array Be**	**8.33**	**89**	Pn	**P**	**06 26 58.4**	**-3.8**	
	0.9nm,0.3s,baz=279,slow=12,SNR=5.0							
AKASG	**Malin Array Be**	**8.33**	**89**	Pn	**P**	**06 26 58.4**	**-3.8**	
HFS	**Hagfors**	**8.90**	**352**	Pn	**P**	**06 27 04.0**	**-6.1**	
	0.0nm,0.3s,baz=215,slow=18,SNR=3.1							
NOA	**NORSAR Array B**	**10.07**	**346**	Pn	**P**	**06 27 19.7**	**-6.5**	
	0.1nm,0.3s,baz=199,slow=12,SNR=2.2							
FINES	**FINESS Array B**	**11.52**	**25**	Pn	**P**	**06 27 39.6**	**-6.3**	
	0.3nm,0.3s,baz=210,slow=11,SNR=9.4							
ARCES	**ARCESS Array B**	**18.79**	**10**	Pn	**P**	**06 29 12.6**	**-7.3**	
	0.2nm,0.3s,baz=198,slow=11,SNR=6.8							

*NEIC **30** 07:12:59.1±1.8,5.13S×151.60E,h25km,mb4.1/2, Error ellipse: s-maj=78.5km s-min=15.1km az=124.0*
*IDC **30** 07:13:04.4±5.9,5.33S×151.70E,h76km±55km,mb3.7/4, mb1 3.9/5,mb1mx3.7/11,mbtmp4.0/5,ML2.7/1, Error ellipse: s-maj=80.6km s-min=33.7km az=134.0*

ISC 30 07:13:00.6±4.7,5.1S±0.4×151.5E±0.5,h43km±40km,n10, σ0°88/12,mb3.9/5,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.08**	**224**	P	**P**	**07 14 31.6**	**+1.3**
	1.3nm,0.3s,baz=20,slow=12,SNR=3.1						
PMG				S	**S**	**07 15 40.1**	**+0.5**
	4.5nm,0.3s,baz=136,slow=20,SNR=4.4						
PMG	**Port Moresby**	**6.08**	**224**	Pn	**P**	**07 14 29.6**	**-0.7**
PMG				*e*Sn	**S**	**07 15 38.3**	**-1.3**
KAKA	**Kakadu**	**20.27**	**247**	⇓*i*P	**P**	**07 17 55.2**	**+20**
	11nm,0.6s						
WRAB	**Tennant Creek**	**22.28**	**227**	*e*P	**P**	**07 17 56.7**	**+1.0**
	3.0nm,0.7s,mb3.8						
WB2	**Warramunga Arr**	**22.29**	**227**	*e*P	**P**	**07 17 56.7**	**+1.0**
WRA	**Warramunga Arr**	**22.30**	**227**	P	**P**	**07 17 55.1**	**-0.8**
	1.9nm,0.8s,mb3.6,baz=52,slow=9.7,SNR=17						
FITZ	**Fitzroy Crossi**	**28.38**	**241**	*e*P	**P**	**07 18 52.3**	**-1.0**
	2.6nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**28.38**	**241**	P	**P**	**07 18 52.4**	**-0.9**
	2.6nm,0.4s,mb4.3,baz=14,slow=3.9,SNR=7.1						
MKAR	**Makanchi Array**	**79.64**	**319**	P	**P**	**07 25 05.9**	**+0.6**
	1.1nm,0.3s,mb4.2,baz=117,slow=3.2,SNR=8.7						
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**07 25 21.2**	**-0.7**
	0.3nm,0.6s,mb3.5,baz=248,slow=5.2,SNR=9.6						

GUC 30 07:32:27.0±0.6,28.60S×70.25W,h89km±23km,ML3.6, 1C-2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.24**	**356**	⇓*i*P	P	07 32 49.8	0.0
CPCH				*i* S	S	07 33 06.8	0.0
CPCH				AMP		07 33 10.0	
	comp=N,7μm,0.1s						
LSCH	**La Serena**	**1.57**	**213**	AMP		07 36 44.1	
	comp=N,549nm,0.3s						
CDCH	**Caldera**	**1.60**	**341**	⇑*i*P	P	07 32 51.6	-2.8
CDCH				*i* S	S	07 33 12.3	-2.3
CDCH				AMP		07 33 17.1	
	comp=E,287nm,0.2s						
TLL	**Tololo Astrono**	**1.64**	**197**	⇓*i*P	P	07 32 55.7	+0.7
TLL				*i* S	S	07 33 17.0	+1.5
TLL				AMP		07 33 18.9	
	comp=N,719nm,0.5s						
CMCH	**Combarbala**	**2.65**	**194**	*i* P	P	07 33 08.1	-0.7
CMCH				*e*S	S	07 33 39.7	-0.2
CMCH				AMP		07 33 48.2	
	comp=N,574nm,0.5s						

*CSEM **30** 08:06:52.7±0.1,37.08N×27.80E,h5km,MD3.3, Error ellipse: s-maj=3.1km s-min=2.1km az=11.0*
*ISK **30** 08:06:53.1,37.05N×27.78E,h10km,MD3.3*
*ATH **30** 08:06:55.6,36.80N×27.78E,h32km,MD3.2/3*

ISC 30 08:06:53.2±0.6,36.97N±0.03×27.76E±0.03,h9km±4km, n21,σ1°09/32,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.27**	**292**	*i* P	**Pg**	**08 06 59.3**	**+0.4**
BDRM				*i* S	**Sg**	**08 07 04.3**	**+1.6**
MLSB	**Milas**	**0.33**	**3**	PG	**Pg**	**08 06 59.3**	**-0.6**
BODT	**Bodrum**	**0.37**	**285**	PG	**Pg**	**08 07 00.5**	**-0.3**
BODT				SG	**Sg**	**08 07 06.9**	**+1.0**
YER	**Yerkesik**	**0.45**	**68**	PG	**Pg**	**08 07 01.0**	**-1.4**
NISR	**Nisiros**	**0.62**	**235**	*e*PN	**Pn**	**08 07 07.5**	**-0.3**
NISR				*e*SN	**Sn**	**08 07 16.2**	**-1.6**
AYDN	**Tasoluk**	**0.70**	**8**	*i* P	**Pb**	**08 07 06.1**	**-1.0**
AYDN				*i* S	**Sg**	**08 07 15.3**	**-1.4**
DALT	**Dalyan (Mudla)**	**0.73**	**105**	PG	**Pg**	**08 07 07.5**	**-0.4**
DALT				SG	**Sg**	**08 07 19.3**	**+1.6**
ARG	**Arkhangelos**	**0.80**	**158**	*e*PN	**Pn**	**08 07 09.0**	**-1.5**
DNZL	**Cakiroluk**	**1.26**	**54**	*i* P	**Pb**	**08 07 16.4**	**-0.3**
DNZL				*i* S	**Sb**	**08 07 32.3**	**-0.4**
DENT	**Denizli**	**1.28**	**52**	PN	**Pn**	**08 07 16.3**	**-1.1**
GOLH	**Golhisar**	**1.47**	**79**	*i* P	**Pn**	**08 07 21.2**	**+1.3**
GOLH				*i* S	**Sb**	**08 07 42.5**	**+3.6**
IZM	**Izmir**	**1.48**	**345**	PN	**Pn**	**08 07 19.3**	**-0.9**
KDAG	**Bornova**	**1.49**	**345**	*i* P	**Pn**	**08 07 20.6**	**+0.4**
KDAG				*i* S	**Sb**	**08 07 39.4**	**-0.1**
KARP	**Karpathos**	**1.50**	**199**	*e*PN	**Pn**	**08 07 20.0**	**-0.4**

BLCB	**Balcova**	**1.53**	**338**	*e*PN	**Pn**	**08 07 20.4**	**-0.4**	
MANT	**Manisa**	**1.65**	**22**	*i* P	**Pn**	**08 07 23.2**	**+0.6**	
MANT				*i* S	**Sn**	**08 07 45.8**	**+1.8**	
AKAS	**Kas**	**1.66**	**116**	*i* P	**Pn**	**08 07 24.5**	**+1.8**	
AKAS				*i* S	**Sn**	**08 07 51.4**	**+7.2**	
URLA	**Izmir**	**1.67**	**327**	*i* P	**Pn**	**08 07 22.4**	**-0.5**	
URLA				*i* S	**Sn**	**08 07 47.4**	**+2.9**	
ELL	**Elmali**	**1.74**	**97**	PN	**Pn**	**08 07 24.6**	**+0.7**	
APE	**Apeiranthos**	**1.79**	**274**	*e*PN	**Pn**	**08 07 25.0**	**+0.5**	
AKS	**Akhisar**	**1.91**	**1**	*e*PN	**Pn**	**08 07 25.3**	**-1.0**	

*NAO **30** 08:20:12.0±4.3,62.13N×35.65E,ML2.4*

HEL 30 08:20:08.8±0.1,61.54N×35.97E,ML2.5,Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOF	**Joensuu**	**2.58**	**304**	*e*P	Pn	08 20 51.9	-0.7
JOF				*e*S	Sn	08 21 23.1	-1.9
KAF	**Kangasniemi**	**4.62**	**281**	*e*P	Pn	08 21 20.1	-1.4
KAF				*e*S	Sn	08 22 13.1	-3.6
FIA0	**FINESS Array S**	**4.74**	**273**	Pn	Pn	08 21 21.4	-1.9
	baz=84,slow=9.3						
FIA0				Sn	Sn	08 22 15.8	-4.1
	baz=65,slow=22						
FIA0				Lg		08 22 36.6	
	baz=76,slow=28						
FIA0	**FINESS Array S**	**4.74**	**273**	*e*S	Sn	08 22 15.1	-4.7
FIA0				*e*SG	Sg	08 22 34.8	-12
SUF	**Sumiainen**	**4.76**	**289**	*e*P	Pn	08 21 22.8	-0.7
SUF				MSG		08 22 36.4	
	comp=Z,9.9nm,0.3s						
PVF	**Pernaja**	**5.02**	**263**	*e*S	Sn	08 22 21.4	-5.3
KEF	**Keuruu**	**5.29**	**282**	*e*P	Pn	08 21 29.3	-1.8
KEF				MSG		08 22 48.8	
	comp=Z,3.4nm,0.3s						
APA0	**Apatity Array**	**6.22**	**349**	Pn	Pn	08 21 35.9	-8.2
APA0				Lg		08 23 08.6	
	baz=161,slow=37						
ARA0	**ARCESS Array S**	**9.11**	**336**	Pn	P	08 22 15.6	-8.9
	baz=148,slow=14						
ARA0				Sn	Sn	08 23 51.8	-17
	baz=154,slow=28						
ARA0				Lg		08 24 37.9	
	baz=137,slow=37						

*CSEM **30** 09:15:22.5±0.3,26.86N×53.74E,h10km,ML3.2, Error ellipse: s-maj=12.8km s-min=8.2km az=169.0*

THR 30 09:15:27.8±0.5,27.21N×53.89E,h14km±7km,ML3.2, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.34**	**323**	*e*PG	Pg	09 15 52.6	-2.0
GHIR				*e*SG	Sg	09 16 10.5	-1.9
GHIR				AML	AML	09 16 21.4	
	comp=N,464nm,0.5s						
BNDS	**Bandar-Abbas**	**2.04**	**84**	*e*PG	Pg	09 16 04.9	-3.7
BNDS				AML	AML	09 16 57.9	
	comp=N,179nm,0.7s						
KRBR	**Kerman**	**3.74**	**42**	*e*PN	Pn	09 16 27.6	+1.2
KRBR				AML	AML	09 17 44.5	
	comp=N,25nm,0.5s						
HASS	**Wahat al Ahsa'**	**4.27**	**243**	P	Pn	09 16 25.5	-8.5
AFFS	**'Afif**	**10.36**	**254**	S	S	09 19 37.5	-19
HILS	**Ha'il**	**10.76**	**274**	P	P	09 17 54.2	-10

DHMR 30 09:18:01.4±2.5,12.66N×40.49E,h12km±330km,ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.58**	**80**	*i* P	Pn	09 18 59.5	+1.6
TRBA				*i* S	Sn	09 19 44.8	+4.2
TRBA				AML	AML	09 19 58.7	
	comp=N,570nm,0.5s						
UDYN	**Al 'Udayn**	**3.62**	**69**	*i* P	Pn	09 19 00.2	+1.6
UDYN				*i* S	Sn	09 19 46.3	+4.6
UDYN				AML	AML	09 20 07.2	
	comp=Z,288nm,0.6s						
DHBB	**Dhamar BB**	**4.24**	**63**	*i* P	Pn	09 19 08.6	+1.2
DHBB				*i* S	Sn	09 20 00.9	+3.6
LBOS		**4.79**	**75**	*i* P	Pn	09 19 13.9	-1.1
LBOS				*i* S	Sn	09 20 10.3	-0.8
BDHA	**Al Bayda'**	**5.11**	**75**	*i* S	Sn	09 20 18.1	-1.2

MAN 30 09:35:51.3,10.84N×125.93E,h149km,mb4.4,ML3.2, MS3.0,Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.98**	**289**	*e*P	P	09 36 15.3	-0.7
PLP				*e*S	S	09 36 35.5	+0.6
SCPH	**Surigao**	**1.14**	**202**	*e*P	P	09 36 17.9	+0.5
SCPH				*e*S	S	09 36 37.9	+0.3
MSLP	**Maasin**	**1.26**	**236**	*e*P	P	09 36 22.3	+3.6
MSLP				*e*S	S	09 36 38.2	-1.6
CNP	**Catarman**	**2.07**	**323**	*e*P	P	09 36 27.3	-0.3
PVCP	**Virac**	**3.24**	**328**	*e*P	P	09 36 43.0	+0.5

*BER **30** 09:52:00.7±2.5,59.36N×27.10E,ML2.1(NAO), Suspected explosion*
*NAO **30** 09:52:01.3±2.8,59

20nm,0.6s
DZM Mont Dzumac 21.54 141 P P 10 07 38.4 -0.2
8.8nm,0.8s,mb4.2,baz=318,slow=14,SNR=3.9
DZM LR LR 10 14 08.3
comp=Z,299nm,21.8s,MS3.6,baz=194,slow=31
WRAB Tennant Creek 22.52 229 *eP* **P 10 07 50.5 +2.0**
20nm,0.6s,mb4.7
WB2 Warramunga Arr 22.52 229 *eP* **P 10 07 49.0 +0.4**
WRA Warramunga Arr 22.53 229 P **P 10 07 49.0 +0.3**
9.5nm,0.6s,mb4.4,baz=54,slow=9.8,SNR=109
STKA Stephens Creek 28.08 199 P **P 10 08 38.4 -2.5**
4.1nm,0.8s,mb4.1,baz=52,slow=16,SNR=7.3
FITZ Fitzroy Crossi 28.79 242 *iP* **P 10 08 46.8 -0.5**
10nm,0.7s,mb4.7
FITZ Fitzroy Crossi 28.79 242 P **P 10 08 47.0 -0.4**
7.5nm,0.6s,mb4.6,baz=92,slow=2.1,SNR=16
MBWA Marble Bar 35.09 241 P **P 10 09 41.9 -0.5**
3.9nm,0.7s,mb4.5
MJAR Matsushiro Arr 43.77 344 LR LR 10 26 25.1
comp=Z,122nm,21.6s,MS3.8,baz=200,slow=32
SONM Songino Array 66.54 328 P **P 10 13 38.7 +0.1**
1.2nm,0.8s,mb4.0,baz=146,slow=5.3,SNR=5.8
VNDA Vanda 72.20 178 *eP* **P 10 14 13.9 +1.1**
1.2nm,0.7s,mb3.9
MKAR Makanchi Array 80.40 319 P **P 10 15 00.1 +0.6**
1.2nm,0.9s,mb3.6,baz=108,slow=3.8,SNR=7.4
COLA College 82.69 22 *eP* **P 10 15 10.8 -0.2**
13nm,1.1s,mb4.9
ILAR Eielson Array 83.00 22 P **P 10 15 12.4 -0.2**
5.3nm,1.0s,mb4.5,baz=257,slow=5.1,SNR=34
PDAR Pinedale Array 99.76 48 P **P 10 16 30.9 -0.9**
0.4nm,0.8s,mb3.9,baz=333,slow=6.0,SNR=2.7

CASC ***30*** *10:29:24.7±2.2,7.98N×83.80W,h13km,MD4.5, mb5.2(NEIC)*
BJI ***30*** *10:29:27.6,8.30N×83.70W,h15km,mB5.5,Ms5.1,Msz4.7*
NEIC ***30*** *10:29:27.7±0.1,8.33N×83.73W,mb5.2/129, MD4.9(CASC),Error ellipse: s-maj=4.3km s-min=2.5km az=215.0*
NEIC Felt at Buenos Aires and Golfito.
HRVD ***30*** *10:29:27.7±0.3,8.28N×83.74W,h18km,MW5.0/55, Centroid moment Tensor Solution. LP body waves: s41,c63;Mantle waves: s55,c86; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.60±.17; Mθθ-2.27±.10; Mφφ-1.34±.14; Mrθ0.79±.23; Mθφ2.10±.08; Mφr0.34±.32; Best double couple: M0:3.883×10^16 NP1:ϕs321°,δ43°, λ108°. NP2:ϕs117°,δ49°,λ74°. Principal axes: T:3.789, Plg77°, Azm322°; N:.178, Plg12°, Azm128°; P:-3.977, Plg3°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***30*** *10:29:29.3±0.8,8.40N×83.73W,h35km,mb5.4/68 Error ellipse: s-maj=6.4km s-min=4.9km az=96.4*
IDC ***30*** *10:29:31.5±2.1,8.40N×83.75W,h42km±19km,mb4.4/18, mb1 4.6/22,mb1mx4.6/25,mbtmp4.7/22,ML3.6/1,MS4.1/12, Ms1 4.1/12,ms1mx4.0/20,Error ellipse: s-maj=19.6km s-min=10.4km az=62.0*

ISC 30 10:29:29.3±0.5,8.36N±0.04×83.76W±0.03,h37km±4km, h20km±7.4km:pP-P,n440,σ0s85/391,mb5.0/144,MS4.2/20, 66C-20D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACR	**Cerro Adams**	**0.66**	**63**	*eP*		**P**	**10 29 41.4**	**-0.7**
BRU2	**Volcan**	**1.14**	**67**	*iP*		**P**	**10 29 49.4**	**+0.4**
BRU2				*eS*		**S**	**10 30 06.7**	**+3.0**
BUS	**Buena Vista**	**1.19**	**0**	*eP*		**P**	**10 29 49.7**	**0.0**
BUS	**Buena Vista**	**1.19**	**0**	*eP*		**P**	**10 29 49.6**	**-0.1**
LAJ	**Bijagual**	**1.54**	**347**	*eP*		**P**	**10 29 53.4**	**-1.4**
SJS	**Escuela Geolog**	**1.60**	**350**	*eP*		**P**	**10 29 55.6**	**0.0**
SJS				*eS*		**S**	**10 30 24.7**	**+9.4**
LIO	**Limon**	**1.79**	**23**	*eP*		**P**	**10 29 59.2**	**+0.9**
LIO	**Limon**	**1.79**	**23**	*eP*		**P**	**10 29 58.9**	**+0.7**
CGA2	**Cerro Gallo 2**	**1.79**	**337**	*eP*		**P**	**10 30 00.4**	**+2.1**
VPS2	**Volcan Poas 2**	**1.88**	**346**	*eP*		**P**	**10 29 59.8**	**+0.2**
VPS2	**Volcan Poas 2**	**1.88**	**346**	*eP*		**P**	**10 29 59.8**	**+0.1**
JCR	**Jicaral**	**2.00**	**318**	*eP*		**P**	**10 29 59.7**	**-1.5**
JCR	**Jicaral**	**2.00**	**318**	*eP*		**P**	**10 29 59.5**	**-1.7**
JTS	**JuntasAbangare**	**2.26**	**329**	P		**P**	**10 30 06.0**	**+1.1**
	890nm,0.3s,baz=134,slow=11,SNR=978							
JTS				S		**S**	**10 30 31.5**	**-0.3**
	321nm,0.3s,baz=236,slow=22,SNR=9.5							
JTS				LR		LR	10 31 05.4	
	comp=Z,6μm,21.9s,baz=288,slow=42							
JTS	**JuntasAbangare**	**2.26**	**329**	*eP*		**P**	**10 30 03.2**	**-1.8**
JTS	**JuntasAbangare**	**2.26**	**329**	P		**P**	**10 30 06.0**	**+1.1**
JTS				S		**S**	**10 30 31.5**	**-0.3**
JTS				pmax		pmax		
	comp=Z,890nm,0.3s							
JTS				smax				
	comp=N,321nm,0.3s							
JTS				MLR		MLR		
	comp=Z,6μm,22.0s							
FORC	**Fortuna**	**2.29**	**337**	*eP*		**P**	**10 30 07.5**	**+2.1**
FORC	**Fortuna**	**2.29**	**337**	*eP*		**P**	**10 30 07.5**	**+2.2**
VCR	**Vista de Mar**	**2.55**	**314**	*eP*		**P**	**10 30 08.2**	**-1.0**
VCR	**Vista de Mar**	**2.55**	**314**	*eP*		**P**	**10 30 08.2**	**-1.0**
LIM1	**Limonal**	**2.76**	**328**	*eP*		**P**	**10 30 13.0**	**+0.8**
MADN	**Villa Maderas**	**3.50**	**330**	*eP*		**P**	**10 30 23.0**	**+0.3**
SSNN	**San Juan del S**	**3.57**	**325**	*eP*		**P**	**10 30 24.0**	**+0.4**
CONN	**Concepcion**	**3.68**	**330**	*eP*		**P**	**10 30 24.9**	**-0.4**
APON	**Apoyo**	**4.21**	**327**	*eP*		**P**	**10 30 32.9**	**+0.2**
TICN	**Ticuantepe**	**4.39**	**327**	*eP*		**P**	**10 30 35.4**	**0.0**
WILN	**Americas 2**	**4.47**	**328**	*eP*		**P**	**10 30 36.6**	**+0.1**
MGAN	**Managua**	**4.49**	**327**	*eP*		**P**	**10 30 36.9**	**+0.1**
MGAN				*eS*		**S**	**10 31 33.4**	**+4.9**
XAVN	**Gruta Xavier**	**4.54**	**326**	*eP*		**P**	**10 30 37.3**	**-0.1**
APYN	**Apoyeque**	**4.62**	**327**	*eP*		**P**	**10 30 38.4**	**-0.2**
COPN	**Copaltepe**	**4.71**	**324**	*eP*		**P**	**10 30 40.1**	**+0.2**
PYTN	**Playitas**	**4.73**	**332**	*eP*		**P**	**10 30 39.9**	**-0.2**
MOMJ	**Momotombo**	**4.87**	**326**	*eP*		**P**	**10 30 41.9**	**-0.1**
MIRN	**Miramar**	**4.99**	**325**	*eP*		**P**	**10 30 44.0**	**+0.2**
CNGN	**Cerro Negro**	**5.03**	**325**	*eP*		**P**	**10 30 44.1**	**-0.3**
LEON	**Leon**	**5.08**	**323**	*eP*		**P**	**10 30 45.0**	**0.0**
TEL3	**Telica 3**	**5.17**	**324**	*eP*		**P**	**10 30 46.1**	**-0.2**
TELN	**Telica**	**5.19**	**325**	*eP*		**P**	**10 30 47.4**	**+0.8**
CRIN	**San Cristobal**	**5.40**	**323**	*eP*		**P**	**10 30 50.2**	**+0.7**
ROSC	**El Rosal**	**9.99**	**110**	P		**P**	**10 31 54.5**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=87,slow=21,SNR=9.4							
CCIG	**Comitan**	**11.36**	**315**	*iP*		**P**	**10 32 11.1**	**-1.0**
SDV	**Santo Domingo**	**12.99**	**87**	P		**P**	**10 32 34.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=291,slow=10,SNR=7.6							
SDV				LR		LR	10 38 04.4	
	comp=Z,1μm,20.9s,baz=246,slow=40							
SDV	**Santo Domingo**	**12.99**	**87**	*eP*		**P**	**10 32 33.9**	**-0.2**
	comp=Z,49nm,0.9s							
LMGC	**Las Mercedes**	**13.35**	**29**	*eP*		**P**	**10 32 37.5**	**-1.3**
RCC	**Rio Carpintero**	**13.96**	**33**	*eP*		**P**	**10 32 47.2**	**+0.4**
CCCC	**Cccc**	**14.02**	**24**	*eP*		**P**	**10 32 51.4**	**+3.7**
HLGC	**Holguin**	**14.51**	**30**	*eP*		**P**	**10 32 56.0**	**+1.9**
OXX	**Oaxaca**	**15.33**	**306**	*eP*		**P**	**10 33 02.0**	**-2.7**
VHO	**Vista Hermosa**	**15.33**	**306**	*iP*		**P**	**10 33 03.9**	**-0.9**
PNIG	**Pinotepa**	**16.14**	**301**	*iP*		**P**	**10 33 19.2**	**+4.0**
ACX	**Acapulco**	**17.88**	**300**	*eP*		**P**	**10 33 37.0**	**0.0**
PPM	**Popocatepetl**	**17.93**	**308**	*eP*		**P**	**10 33 40.0**	**+2.4**
CAIG	**El Cayaco**	**18.26**	**300**	*iP*			10 33 51.7	
UNM	**Universidad Na**	**18.50**	**308**	*eP*		**P**	**10 33 43.0**	**-1.8**
SJG	**San Juan**	**19.68**	**59**	P		**P**	**10 33 57.8**	**-0.4**
	comp=Z,2.9nm,0.3s,baz=341,slow=18,SNR=7.7							
SJG				LR		LR	10 41 34.7	
	comp=Z,874nm,18.8s,baz=234,slow=37							
SJG	**San Juan**	**19.68**	**59**	*eP*		**P**	**10 33 58.1**	**-0.1**
	comp=Z,56nm,0.9s							
SJG	**San Juan**	**19.68**	**59**	P		**P**	**10 33 57.8**	**-0.4**
SJG				pmax		pmax		
	comp=Z,3.0nm,0.3s							
SJG				MLR		MLR		
	comp=Z,874nm,18.8s							
DWPF	**Disney**	**19.77**	**6**	P		**P**	**10 33 56.2**	**-3.0**
	comp=Z,56nm,0.9s							
CPD	**Cerro la Pandu**	**19.84**	**59**	*eP*		**P**	**10 34 00.0**	**0.0**
MTP	**Monte Pirata**	**20.17**	**59**	*eP*		**P**	**10 34 02.9**	**-0.6**
MOIG	**Morelia**	**20.29**	**306**	*iP*		**P**	**10 34 05.1**	**+0.4**
NNA	**Nana**	**21.35**	**161**	*eP*		**P**	**10 34 14.4**	**-1.2**
	comp=Z,119nm,1.3s,mb5.1							
NNA				LR		LR		
	comp=Z,154nm,20.0s,MS3.4							
SFJM	**Santa Fe**	**22.20**	**305**	*eP*		**P**	**10 34 25.0**	**+1.0**
ZAIG	**Zacatecas**	**23.06**	**311**	*iP*		**P**	**10 34 34.7**	**+2.1**
LRAL	**Lakeview Retre**	**24.74**	**353**	*eP*		**P**	**10 34 49.0**	**+0.2**
	comp=Z,223nm,1.4s,mb5.5							
CSU	**Charleston Sou**	**24.75**	**7**	*eP*		**P**	**10 34 49.8**	**+0.8**
GOGA	**Godfrey**	**24.94**	**1**	*eP*		**P**	**10 34 51.0**	**+0.2**
	comp=Z,106nm,1.1s,mb5.3							
GOGA	**Godfrey**	**24.94**	**1**	*eP*		**P**	**10 34 51.0**	**+0.3**
GOGA				pmax		pmax		
	comp=Z,106nm,1.1s,mb5.3							
JSC	**Jenkinsville**	**25.91**	**5**	*eP*		**P**	**10 34 59.9**	**+0.1**
OXF	**Oxford**	**26.55**	**350**	*eP*		**P**	**10 35 03.9**	**-1.8**
	comp=Z,39nm,1.0s,mb4.9							
OXF	**Oxford**	**26.55**	**350**	*eP*		**P**	**10 35 03.9**	**-1.8**
OXF				pmax		pmax		
	comp=Z,39nm,1.0s,mb4.9							
SAML	**Samuel**	**26.75**	**130**	*eP*		**P**	**10 35 05.9**	**-1.9**
	comp=Z,21nm,0.7s,mb4.8							
PLAL	**Pickwick Lake**	**26.80**	**352**	*eP*		**P**	**10 35 06.3**	**-1.7**
	comp=Z,26nm,1.1s,mb4.7							
SWET	**Sewanee**	**26.81**	**356**	*eP*		**P**	**10 35 06.1**	**-2.0**
CPCT	**Cooper Cave**	**26.98**	**359**	*eP*		**P**	**10 35 09.3**	**-0.4**
ARE	**Arequipa**	**27.48**	**154**	P		**P**	**10 35 15.0**	**+0.5**
HALT	**Halls**	**27.90**	**350**	*eP*		**P**	**10 35 17.1**	**-0.9**
LTX	**Lajitas**	**28.02**	**321**	*eP*		**P**	**10 35 19.2**	**0.0**
	comp=Z,17nm,1.2s,mb4.5							
LTX				LR		LR		
	comp=Z,314nm,20.0s,MS3.9							
LTX	**Lajitas**	**28.02**	**321**	*eP*		**P**	**10 35 19.3**	**0.0**
LTX				pmax		pmax		
	comp=Z,17nm,1.2s,mb4.5							
LTX				MLR		MLR		
	comp=Z,310nm,20.0s,MS3.9							
TXAR	**Lajitas Array**	**28.02**	**321**	P		**P**	**10 35 19.4**	**+0.1**
	comp=Z,5.6nm,1.0s,mb4.2,baz=142,slow=8.1,SNR=36							
TXAR				PcP		PcP	10 38 34.3	+0.6
	comp=Z,2.0nm,0.9s,baz=149,slow=7.3,SNR=6.2							
TXAR				LR		LR	10 48 04.7	
	comp=Z,146nm,20.0s,MS3.6,baz=110,slow=40							
TXAR	**Lajitas Array**	**28.02**	**321**	P		**P**	**10 35 19.4**	**+0.1**
TXAR				PcP		PcP	10 38 34.3	+0.6
TXAR				LR		LR	10 48 04.7	
UTMT	**University of**	**28.25**	**351**	P		**P**	**10 35 20.6**	**-0.6**
	comp=Z,220nm,0.2s							
PARMO	**Parma**	**28.70**	**350**	*eP*		**P**	**10 35 24.4**	**-0.8**
ELN	**Prospectdale**	**28.87**	**5**	*eP*		**P**	**10 35 25.9**	**-0.8**
BLA	**Blacksburg**	**28.89**	**6**	*eP*		**P**	**10 35 26.6**	**-0.2**
	comp=Z,7.1nm,0.8s,mb4.5							
BLA	**Blacksburg**	**28.89**	**6**	*eP*		**P**	**10 35 26.6**	**-0.3**
BLA				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.4							
LPAZ	**La Paz**	**28.96**	**148**	P		**P**	**10 35 28.0**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=341,slow=9.6,SNR=6.7							
LPAZ				LR		LR	10 47 47.2	
	comp=Z,464nm,20.3s,MS4.1,baz=86,slow=38							
LPAZ	**La Paz**	**28.96**	**148**	*eP*		**P**	**10 35 27.0**	**-0.7**
	comp=Z,12nm,1.4s,mb4.4							
LPAZ				LR		LR		
	comp=Z,590nm,21.0s,MS4.2							
LPAZ	**La Paz**	**28.96**	**148**	P		**P**	**10 35 28.0**	**+0.3**
LPAZ				pmax		pmax		
	comp=Z,2.0nm,0.8s							
LPAZ				MLR		MLR		
	comp=Z,464nm,20.3s							
FWV	**Forest Hill**	**29.22**	**5**	*eP*		**P**	**10 35 29.5**	**-0.3**
WMOK	**Wichita Mounta**	**29.66**	**334**	*eP*		**P**	**10 35 31.9**	**-1.9**
	comp=Z,6.6nm,1.1s,mb4.3							
WMOK	**Wichita Mounta**	**29.66**	**334**	*eP*		**P**	**10 35 31.9**	**-1.9**
WMOK				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.3							
WCI	**Wyandotte Cave**	**29.83**	**356**	*eP*		**P**	**10 35 33.8**	**-1.5**
	comp=Z,90nm,0.9s,mb5.5							
WCI	**Wyandotte Cave**	**29.83**	**356**	*eP*		**P**	**10 35 33.8**	**-1.5**
WCI				pmax		pmax		
	comp=Z,90nm,0.9s,mb5.5							
SLM	**Saint Louis**	**30.71**	**350**	*eP*		**P**	**10 35 42.0**	**-1.1**
MNTX	**Cornudas Mount**	**30.73**	**322**	*eP*		**P**	**10 35 42.3**	**-1.1**
	comp=Z,18nm,1.4s,mb4.7							
BLO	**Bloomington**	**30.78**	**356**	*eP*		**P**	**10 35 42.2**	**-1.6**
	comp=Z,62nm,0.8s,mb5.5							
BLO	**Bloomington**	**30.78**	**356**	*eP*		**P**	**10 35 42.2**	**-1.5**
BLO				pmax		pmax		
	comp=Z,62nm,0.8s,mb5.5							
ACSO	**Alum Creek Sta**	**31.75**	**1**	*eP*		**P**	**10 35 51.3**	**-1.0**
	comp=Z,30nm,0.9s,mb5.1							
KSU1	**Kansas State U**	**32.72**	**341**	*eP*		**P**	**10 35 58.4**	**-2.3**
CBKS	**Cedar Bluff**	**33.56**	**337**	*eP*		**P**	**10 36 06.9**	**-1.0**
	comp=Z,5.6nm,0.6s,mb4.7							
CBKS	**Cedar Bluff**	**33.56**	**337**	*eP*		**P**	**10 36 06.9**	**-1.1**
CBKS				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
ANMO	**Albuquerque**	**33.67**	**325**	*eP*		**P**	**10 36 08.8**	**-0.2**
	comp=Z,8.6nm,1.0s,mb4.6							
ANMO	**Albuquerque**	**33.67**	**325**	*eP*		**P**	**10 36 08.8**	**-0.2**
ANMO				pmax		pmax		
	comp=Z,9.0nm,1.0s							
LVC	**Limon Verde**	**34.04**	**155**	P		**P**	**10 36 12.8**	**+0.6**
	comp=Z,111nm,1.0s,mb4.7,baz=339,slow=6.8,SNR=5.7							
LVC	**Limon Verde**	**34.04**	**155**	*eP*		**P**	**10 36 13.0**	**+0.7**
	comp=Z,32nm,1.4s,mb5.0							
TUC	**Tucson**	**34.59**	**317**	*eP*		**P**	**10 36 17.5**	**+0.5**
	comp=Z,43nm,1.5s,mb5.2							
TUC	**Tucson**	**34.59**	**317**	*eP*		**P**	**10 36 17.5**	**+0.6**
TUC				pmax		pmax		
	comp=Z,43nm,1.5s,mb5.2							
SDCO	**Great Sand Dun**	**35.25**	**329**	*eP*		**P**	**10 36 22.3**	**-0.3**
	comp=Z,21nm,1.1s,mb5.0							
SADO	**Sadowa**	**36.50**	**6**	P		**P**	**10 36 32.0**	**-0.9**
	comp=Z,9.2nm,0.7s,mb4.8,baz=179,slow=7.8,SNR=4.9							
ISCO	**Idaho Springs**	**36.91**	**331**	*eP*		**P**	**10 36 35.9**	**-0.6**
	comp=Z,7.7nm,1.1s,mb4.5							
ISCO	**Idaho Springs**	**36.91**	**331**	*eP*		**P**	**10 36 35.9**	**-0.6**
ISCO				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.5							
SMCO	**Snowmass**	**37.09**	**329**	*eP*		**P**	**10 36 38.4**	**+0.4**
MSNY	**Massena**	**37.31**	**10**	*eP*		**P**	**10 36 39.4**	**-0.4**
BAR	**Barrett**	**38.91**	**313**	*eP*		**P**	**10 36 54.2**	**+1.0**
SRU	**San Rafael**	**38.92**	**326**	*eP*		**P**	**10 36 53.3**	**+0.1**
	comp=Z,35nm,1.1s,mb5.0							
SRU	**San Rafael**	**38.92**	**326**	*eP*		**P**	**10 36 53.3**	**+0.1**
SRU				pmax		pmax		
	comp=Z,35nm,1.1s,mb5.0							
LDFC	**Landfair**	**39.13**	**317**	*eP*		**P**	**10 36 57.3**	**+2.3**
PFO	**Pinyon Flat Ob**	**39.24**	**315**	*eP*		**P**	**10 36 57.2**	**+1.2**
	comp=Z,20nm,0.9s,mb4.8							
PFO	**Pinyon Flat Ob**	**39.24**	**315**	*eP*		**P**	**10 36 57.2**	**+1.2**
PFO				pmax		pmax		
	comp=Z,20nm,0.9s,mb4.8							
NEN	**Nelson**	**39.29**	**318**	*eP*		**P**	**10 36 57.2**	**+0.9**
MSU	**Marysvale**	**39.44**	**324**	*eP*		**P**	**10 36 58.6**	**+1.0**
ARUT	**Antelope Range**	**39.72**	**322**	*eP*		**P**	**10 37 01.1**	**+1.2**
DAU	**Daniels Canyon**	**40.23**	**327**	*eP*		**P**	**10 37 04.8**	**+0.7**
NLU	**North Lily Min**	**40.36**	**326**	*eP*		**P**	**10 37 06.0**	**+0.7**
CTU	**Camp Tracy**	**40.70**	**327**	*eP*		**P**	**10 37 08.6**	**+0.6**
	comp=Z,28nm,1.2s,mb4.8							
TCUT	**Toone Canyon**	**40.81**	**328**	*eP*		**P**	**10 37 10.1**	**+1.1**
NOQ	**North Oquirrh**	**40.87**	**326**	*eP*		**P**	**10 37 10.5**	**+1.1**
	comp=Z,33nm,1.0s,mb4.9							
DUG	**Dugway**	**40.94**	**325**	*eP*		**P**	**10 37 10.9**	**+0.8**
	comp=Z,19nm,1.3s,mb4.6							
DUG	**Dugway**	**40.94**	**325**	*eP*		**P**	**10 37 10.9**	**+0.9**
DUG				pmax		pmax		
	comp=Z,19nm,1.3s,mb4.6							
PDAR	**Pinedale Array**	**41.09**	**331**	P		**P**	**10 37 10.4**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=128,slow=8.9,SNR=17							
PDAR				PcP		PcP	10 39 10.9	-0.1
	comp=Z,3.4nm,1.0s,baz=117,slow=4.0,SNR=7.7							
HWUT	**Hardware Ranch**	**41.25**	**328**	*eP*		**P**	**10 37 12.2**	**-0.3**
	comp=Z,29nm,1.0s,mb4.9							
SPUT	**South Promonto**	**41.51**	**327**	*eP*		**P**	**10 37 14.8**	**+0.1**
ISA	**Isabella**	**41.74**	**316**	*eP*		**P**	**10 37 17.9**	**+1.2**
	comp=Z,17nm,1.7s,mb4.4							
ISA	**Isabella**	**41.74**	**316**	*eP*		**P**	**10 37 17.9**	**+1.2**
ISA				pmax		pmax		
	comp=Z,17nm,1.7s,mb4.4							
HVU	**Hansel Valley**	**42.01**	**327**	*eP*		**P**	**10 37 18.7**	**-0.1**
	comp=Z,9.7nm,0.9s,mb4.4							
HVU	**Hansel Valley**	**42.01**	**327**	*eP*		**P**	**10 37 18.7**	**-0.1**
HVU				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.5							
REDW	**Red Top Meadow**	**42.16**	**330**	*eP*		**P**	**10 37 19.5**	**-0.5**
	comp=Z,25nm,1.2s,mb4.7							
SNOW	**Snow King Moun**	**42.19**	**331**	*eP*		**P**	**10 37 20.3**	**0.0**
	comp=Z,21nm,1.0s,mb4.7							
LOHW	**Long Hollow**	**42.23**	**331**	*eP*		**P**	**10 37 20.1**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.1							
TPAW	**Teton Pass**	**42.30**	**330**	*eP*		**P**	**10 37 21.1**	**-0.1**
	comp=Z,8.7nm,0.8s,mb4.4							
RRI2	**Red Ridge**	**42.38**	**330**	*eP*		**P**	**10 37 22.1**	**+0.2**
	comp=Z,8.3nm,0.8s,mb4.4							
MOOW	**Moose Ponds**	**42.40**	**331**	*eP*		**P**	**10 37 21.7**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.1							
CFAA	**Coronel Fontan**	**42.42**	**160**	P		**P**	**10 37 21.6**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=330,slow=5.8,SNR=9.2							
IMW	**Indian Meadow**	**42.60**	**331**	*eP*		**P**	**10 37 23.1**	**-0.5**
	comp=Z,7.3nm,0.7s,mb4.5							
BDFB	**Brasilia**	**42.69**	**124**	P		**P**	**10 37 24.1**	**-0.6**
	comp=Z,8.2nm,0.6s,mb4.6,baz=298,slow=9.9,SNR=8.2							
BAO	**Brasilia Array**	**42.70**	**124**	P		**P**	**10 37 25.0**	**+0.2**
MTUM	**Tungsten Hills**	**42.72**	**318**	*eP*		**P**	**10 37 25.1**	**+0.4**
PTRM	**Twissleman Ran**	**42.95**	**315**	*eP*		**P**	**10 37 28.1**	**+1.4**
ULM	**Lac du Bonnet**	**42.96**	**349**	P		**P**	**10 37 24.3**	**-2.2**
	comp=Z,28nm,1.1s,mb4.9,baz=166,slow=7.2,SNR=18							
ULM				PcP		PcP	10 39 16.3	-0.8
	comp=Z,9.3nm,0.9s,baz=132,slow=2.9,SNR=3.7							
ULM	**Lac du Bonnet**	**42.96**	**349**	*eP*		**P**	**10 37 23.1**	**-3.4**
	comp=Z,49nm,1.0s,mb5.2							
ULM				*e*PcP		PcP	10 39 16.5	-0.6
YFT	**Old Faithful**	**42.97**	**331**	*eP*		**P**	**10 37 27.6**	**+0.9**
CPUP	**Villa Florida**	**42.98**	**144**	P		**P**	**10 37 25.0**	**-2.0**
	comp=Z,2.2nm,0.9s,baz=351,slow=11,SNR=3.6							
CPUP	**Villa Florida**	**42.98**	**144**	*eP*		**P**	**10 37 25.4**	**-1.6**
	comp=Z,2.0nm,0.5s,mb4.1							
CPUP	**Villa Florida**	**42.98**	**144**	*eP*		**P**	**10 37 25.4**	**-1.6**
CPUP				pmax		pmax		
	comp=Z,2.0nm,0.5s							
MNV	**Mina**	**43.06**	**319**	*eP*		**P**	**10 37 28.6**	**+1.1**
	comp=Z,59nm,1.1s,mb5.2							
MNV	**Mina**	**43.06**	**319**	*eP*		**P**	**10 37 28.6**	**+1.1**
MNV				pmax		pmax		
	comp=Z,59nm,1.1s,mb5.2							
YMR	**Madison River**	**43.19**	**332**	*eP*		**P**	**10 37 28.7**	**+0.2**
	comp=Z,17nm,1.1s,mb4.7							
QLMT	**Earthquake Lak**	**43.53**	**331**	*eP*		**P**	**10 37 31.1**	**-0.1**
DGMT	**Dagmar**	**43.55**	**340**	*eP*		**P**	**10 37 30.1**	**-1.2**
	comp=Z,20nm,1.1s,mb4.8							
MCMT	**McKenzie Canyo**	**44.21**	**330**	*eP*		**P**	**10 37 37.2**	**+0.5**
BOZ	**Bozeman (W)**	**44.23**	**332**	*eP*		**P**	**10 37 36.3**	**-0.5**
	comp=Z,16nm,1.0s,mb4.7							
BOZ	**Bozeman (W)**	**44.23**	**332**	*eP*		**P**	**10 37 36.3**	**-0.6**
BOZ				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.7							
CMB	**Columbia Colle**	**44.30**	**318**	*eP*		**P**	**10 37 38.1**	**+0.5**
	comp=Z,23nm,1.3s,mb4.8							
CMB	**Columbia Colle**	**44.30**	**318**	*eP*		**P**	**10 37 38.1**	**+0.6**
CMB				pmax		pmax		
	comp=Z,23nm,1.3s,mb4.8							
DLMT	**Dillon**	**44.48**	**331**	*eP*		**P**	**10 37 38.9**	**0.0**
OHCM	**Honcut**	**45.72**	**318**	*eP*		**P**	**10 37 49.3**	**+0.4**
WVOR	**Wild Horse Val**	**45.73**	**324**	*eP*		**P**	**10 37 49.2**	**+0.3**
	comp=Z,188nm,1.3s,mb5.9							
WVOR	**Wild Horse Val**	**45.73**	**324**	*eP*		**P**	**10 37 49.2**	**+0.3**
WVOR				pmax		pmax		
	comp=Z,188nm,1.3s,mb5.9							
NSHM	**Saint Helena R**	**46.05**	**317**	*eP*		**P**	**10 37 51.7**	**+0.2**
MOD	**Modoc**	**46.41**	**322**	*eP*		**P**	**10 37 53.9**	**-0.3**
	comp=Z,42nm,1.3s,mb5.2							
BMO	**Blue Mountains**	**46.52**	**327**	*eP*		**P**	**10 37 53.8**	**-1.3**
	comp=Z,17nm,1.1

ECAL	Calabor	74.82	49	P	P	10 41 07.1	-0.7
	comp=Z,54nm,1.3s,mb5.3						
ESPR	Espera	75.37	54	P	P	10 41 11.0	-0.2
	comp=Z,28nm,0.8s,mb5.2						
EJIF	Jimena Fronter	75.68	55	P	P	10 41 13.9	+1.0
	comp=Z,12nm,0.8s,mb4.9						
EJIF	Jimena Fronter	75.68	55	P	P	10 41 13.9	+1.0
EJIF				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
ECAB	El Cabril	75.73	53	P	P	10 41 12.8	-0.3
	comp=Z,113nm,1.7s,mb5.5						
EARI	Arriondas	75.99	48	P	P	10 41 11.0	-3.5
	comp=Z,95nm,1.6s,mb5.5						
EMIJ	Mijas	76.24	54	P	P	10 41 15.9	-0.2
	comp=Z,44nm,1.1s,mb5.3						
EADA	Adamuz	76.39	53	P	P	10 41 16.8	-0.1
	comp=Z,70nm,1.8s,mb5.3						
ELOJ	Sierra Loja	76.74	54	P	P	10 41 19.8	+0.9
	comp=Z,11nm,0.8s,mb4.8						
ELOJ	Sierra Loja	76.74	54	P	P	10 41 19.8	+0.9
ELOJ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
ESDC	Sonseca Array	76.88	51	P	P	10 41 19.9	+0.3
	comp=Z,23nm,0.8s,mb5.2,baz=277,slow=5.5,SNR=65						
ESDC	Sonseca Array	76.88	51	P	P	10 41 19.6	0.0
	comp=Z,32nm,0.8s,mb5.3						
ESLA	Sonseca Array	76.88	51	eP	P	10 41 19.4	-0.2
	comp=Z,7.8nm,0.9s,mb4.6						
ERON	Agron	77.02	54	P	P	10 41 20.4	0.0
	comp=Z,2.9nm,0.3s,mb4.7						
EBAN	Banos Encina	77.02	53	P	P	10 41 21.2	+0.7
	comp=Z,9.1nm,0.6s,mb4.9						
EBAN	Banos Encina	77.02	53	P	P	10 41 21.2	+0.7
EBAN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
ECOG	Cogollos-Vega	77.20	54	P	P	10 41 23.1	+1.6
	comp=Z,15nm,1.0s,mb4.9						
ECOG	Cogollos-Vega	77.20	54	P	P	10 41 23.1	+1.6
ECOG				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ELAN	Lanestosa	77.29	48	P	P	10 41 21.6	-0.2
	comp=Z,72nm,1.3s,mb5.5						
ROSF	Rostrenen	77.49	42	eP	P	10 41 22.5	-0.3
	comp=Z,88nm,1.3s,mb5.2						
ROSF	Rostrenen	77.49	42	eP	P	10 41 22.5	-0.3
ROSF				pmax	pmax		
	comp=Z,44nm,1.3s,mb5.2						
QUIF	Quistinic	77.55	43	⇑iP	P	10 41 22.8	-0.4
	comp=Z,100nm,1.2s,mb5.3						
QUIF	Quistinic	77.55	43	⇑iP	P	10 41 22.8	-0.4
QUIF				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
EQES	Quesada	77.59	53	P	P	10 41 24.1	+0.5
	comp=Z,48nm,1.0s,mb5.4						
TIC	Toumodi	77.96	85	eP	P	10 41 26.4	+0.3
	comp=Z,219nm,1.3s,mb5.9						
SGMF	Saint Gilles	77.96	42	⇑iP	P	10 41 24.9	-0.5
	comp=Z,103nm,1.4s,mb5.3						
SGMF	Saint Gilles	77.96	42	⇑iP	P	10 41 24.9	-0.5
SGMF				pmax	pmax		
	comp=Z,51nm,1.4s,mb5.3						
ECRI	Cripan	77.97	48	P	P	10 41 26.0	+0.4
	comp=Z,8.6nm,0.4s,mb5.0						
ECRI	Cripan	77.97	48	P	P	10 41 26.0	+0.4
ECRI				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.0						
EHUE	Huescar	77.97	53	P	P	10 41 26.2	+0.5
	comp=Z,38nm,1.2s,mb5.2						
EHUE	Huescar	77.97	53	P	P	10 41 26.2	+0.5
EHUE				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
LIC	Lamto	78.01	85	eP	P	10 41 26.7	+0.3
	comp=Z,122nm,0.9s,mb5.8						
EVIA	Vianos	78.02	52	P	P	10 41 26.5	+0.6
	comp=Z,7.2nm,0.6s,mb4.8						
EVIA	Vianos	78.02	52	P	P	10 41 26.5	+0.5
EVIA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
DBIC	Dimbokro	78.12	85	P	P	10 41 27.4	+0.3
	comp=Z,17nm,0.8s,mb5.0,baz=273,slow=7.1,SNR=16						
DBIC	Dimbokro	78.12	85	eP	P	10 41 26.7	-0.3
	comp=Z,27nm,0.9s,mb5.2						
DBIC	Dimbokro	78.12	85	P	P	10 41 27.4	+0.4
DBIC				pmax	pmax		
	comp=Z,17nm,0.9s						
KIC	Kosan Boka	78.27	85	eP	P	10 41 28.1	+0.3
	comp=Z,164nm,0.9s,mb5.9						
ETOB	Tobarra	78.77	52	P	P	10 41 30.8	+0.7
	comp=Z,74nm,1.0s,mb5.6						
SJPF	Ste Jean	78.90	48	⇑iP	P	10 41 31.2	+0.5
	comp=Z,102nm,1.2s,mb5.3						
SJPF	Ste Jean	78.90	48	⇑iP	P	10 41 31.2	+0.5
SJPF				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.3						
LARF	Larrau	79.08	48	eP	P	10 41 32.5	+0.8
GRR	Gorron	79.10	42	⇑iP	P	10 41 31.4	-0.3
	comp=Z,80nm,1.1s,mb5.3						
GRR	Gorron	79.10	42	⇑iP	P	10 41 31.4	-0.3
GRR				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
ECHE	Chera	79.19	51	P	P	10 41 33.0	+0.6
	comp=Z,1.5nm,0.3s,mb4.4						
ECHE	Chera	79.19	51	P	P	10 41 33.0	+0.6
ECHE				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
FLN	La Foliniere	79.35	42	⇑iP	P	10 41 32.8	-0.2
	comp=Z,132nm,1.4s,mb5.4						
FLN				eR			
	comp=Z,159nm,18.5s						
FLN	La Foliniere	79.35	42	⇑iP	P	10 41 32.8	-0.2
FLN				pmax	pmax		
	comp=Z,66nm,1.4s,mb5.4						
FLN				MLR	MLR		
	comp=Z,160nm,18.5s,MS4.4						
ETSF	Etsaut	79.40	48	eP	P	10 41 33.9	+0.5
	comp=Z,20nm,0.9s,mb4.7						
ETSF	Etsaut	79.40	48	eP	P	10 41 33.9	+0.5
ETSF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ESAC	San Caprasio	79.50	49	P	P	10 41 34.4	+0.4
	comp=Z,195nm,1.2s,mb5.9						
EMOS	Mosqueruela	79.54	51	P	P	10 41 34.5	+0.3
	comp=Z,185nm,2.3s,mb5.6						
LDF	La Druitiere	79.59	42	⇑iP	P	10 41 34.0	-0.3
	comp=Z,102nm,1.2s,mb5.3						
LDF	La Druitiere	79.59	42	⇑iP	P	10 41 34.0	-0.3
LDF				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.3						
MFF	Saint Martin d	79.60	44	⇑iP	P	10 41 34.2	-0.3
	comp=Z,65nm,1.1s,mb5.2						
MFF	Saint Martin d	79.60	44	⇑iP	P	10 41 34.2	-0.3
MFF				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2						
EBIE	Bielsa	79.92	48	P	P	10 41 35.9	-0.3
	comp=Z,33nm,1.0s,mb5.2						
EPF	Esparros	80.05	48	⇑iP	P	10 41 37.3	+0.4
	comp=Z,68nm,1.1s,mb5.2						
EPF	Esparros	80.05	48	⇑iP	P	10 41 37.3	+0.4
EPF				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.2						
EGRA	Graus	80.07	49	P	P	10 41 38.3	+1.3
	comp=Z,41nm,1.2s,mb5.2						
ERTA	Horta de San J	80.13	50	P	P	10 41 37.4	0.0
	comp=Z,149nm,1.6s,mb5.7						
LFF	La Frestale	80.27	46	eP	P	10 41 38.0	-0.1
SALF	Salau	80.69	48	eP	P	10 41 41.4	+1.1
RJF	Les Rejaudoux	80.81	45	⇑iP	P	10 41 40.7	-0.2
	comp=Z,62nm,1.2s,mb5.1						
RJF				eR			
	comp=Z,129nm,19.0s						
RJF	Les Rejaudoux	80.81	45	⇑iP	P	10 41 40.7	-0.2
RJF				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1						
RJF				MLR	MLR		
	comp=Z,130nm,19.0s,MS4.3						
EMIR	Miracle	80.98	49	P	P	10 41 42.3	+0.4
	comp=Z,54nm,0.9s,mb5.5						
CAF	Calviac	81.21	46	eP	P	10 41 42.9	-0.1
	comp=Z,88nm,1.4s,mb5.2						
CAF	Calviac	81.21	46	eP	P	10 41 42.9	-0.1
CAF				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.2						
TCF	Toulx Ste Croi	81.24	44	⇑iP	P	10 41 42.7	-0.5
	comp=Z,30nm,1.1s,mb4.8						
TCF	Toulx Ste Croi	81.24	44	⇑iP	P	10 41 42.7	-0.5
TCF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
MTLF	Montolieu	81.41	47	⇑iP	P	10 41 44.0	-0.1
	comp=Z,69nm,1.2s,mb5.2						
MTLF	Montolieu	81.41	47	⇑iP	P	10 41 44.0	-0.1
MTLF				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
BGF	Bois d'Agland	81.67	44	⇑iP	P	10 41 44.8	-0.6
	comp=Z,48nm,1.1s,mb5.0						
BGF	Bois d'Agland	81.67	44	⇑iP	P	10 41 44.8	-0.6
BGF				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
PYM	Petit Puy Mans	81.83	45	eP	P	10 41 46.6	+0.4
EJON	La Jonquera	81.96	48	P	P	10 41 46.9	-0.1
	comp=Z,35nm,0.7s,mb5.4						
AVF	Avril sur Loir	82.00	44	⇑iP	P	10 41 46.3	-0.8
	comp=Z,19nm,1.0s,mb4.7						
AVF	Avril sur Loir	82.00	44	⇑iP	P	10 41 46.3	-0.8
AVF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
LBL	Lubilhac	82.03	45	eP	P	10 41 47.0	-0.3
SSF	Saint Saulge	82.09	44	⇑iP	P	10 41 46.7	-0.8
	comp=Z,54nm,1.4s,mb5.0						
SSF	Saint Saulge	82.09	44	⇑iP	P	10 41 46.7	-0.8
SSF				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
LOR	Lormes	82.32	43	⇑iP	P	10 41 48.0	-0.7
	comp=Z,19nm,1.0s,mb4.7						
LOR				eR			
	comp=Z,175nm,17.0s						
LOR	Lormes	82.32	43	⇑iP	P	10 41 48.0	-0.7
LOR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
LOR				MLR	MLR		
	comp=Z,180nm,17.0s,MS4.5						
SMF	Signal de Mont	82.35	44	⇑iP	P	10 41 48.1	-0.8
	comp=Z,24nm,1.0s,mb4.8						
SMF	Signal de Mont	82.35	44	⇑iP	P	10 41 48.1	-0.8
SMF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
BAIF	Baives	82.36	41	eP	P	10 41 48.3	-0.5
LASF	Ste Croix	82.55	47	⇑iP	P	10 41 50.5	+0.6
	comp=Z,95nm,1.5s,mb5.3						
GIVF	Givet	82.75	40	eP	P	10 41 50.6	-0.2
	comp=Z,68nm,1.3s,mb5.2						
GIVF	Givet	82.75	40	eP	P	10 41 50.6	-0.2
GIVF				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
MEZF	Maizieres J'vi	83.02	42	⇑iP	P	10 41 52.0	-0.3
	comp=Z,32nm,1.0s,mb5.0						
VIVF	Saint-Julien-l	83.07	46	eP	P	10 41 53.2	+0.6
	comp=Z,79nm,1.2s,mb5.3						
VIVF	Saint-Julien-l	83.07	46	eP	P	10 41 53.2	+0.6
VIVF				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.3						
WLF	Walferdange	83.64	41	eP	P	10 41 55.8	+0.4
	comp=Z,26nm,1.0s,mb5.3						
WLF	Walferdange	83.64	41	eP	P	10 41 55.8	+0.4
WLF				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.3						
CABF	La Chapelle	83.89	44	⇑iP	P	10 41 56.8	+0.1
	comp=Z,42nm,1.2s,mb5.1						
CABF	La Chapelle	83.89	44	⇑iP	P	10 41 56.8	+0.1
CABF				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.1						
ORIF	Oris-en-Rattie	83.92	46	eP	P	10 41 57.7	+0.8
	comp=Z,62nm,1.3s,mb5.3						
ORIF				eR			
	comp=Z,137nm,23.0s						
HAU	Haudompre	83.93	42	⇑iP	P	10 41 56.5	-0.4
	comp=Z,28nm,1.1s,mb5.0						
HAU				eR			
	comp=Z,124nm,22.0s						
HAU	Haudompre	83.93	42	⇑iP	P	10 41 56.5	-0.4
HAU				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0						
HAU				MLR	MLR		
	comp=Z,120nm,22.0s,MS4.2						
HINF	Hinteralfeld	84.29	43	eP	P	10 41 58.3	-0.4
	comp=Z,23nm,1.0s,mb5.0						
HINF	Hinteralfeld	84.29	43	eP	P	10 41 58.3	-0.4
HINF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
LOMF	Lomont	84.32	43	eP	P	10 42 00.1	+1.2
ECH	Echery	84.45	42	eP	P	10 41 59.1	-0.4
LPL	La Plagne	84.45	45	eP	P	10 42 00.2	+0.6
LPG	La Plagne	84.47	45	eP	P	10 42 00.6	+0.9
	comp=Z,36nm,1.3s,mb5.0						
LPG	La Plagne	84.47	45	eP	P	10 42 00.6	+0.9
LPG				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.0						
MOF	Molkenrain	84.47	43	eP	P	10 42 00.3	+0.7
CDF	Champ du Feu	84.51	42	eP	P	10 41 59.6	-0.2
	comp=Z,54nm,1.4s,mb5.2						
CDF	Champ du Feu	84.51	42	eP	P	10 41 59.6	-0.2
CDF				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2						
ABH	Alteburg	84.52	41	eP	P	10 41 58.0	-1.8
LMR	La Mourre	84.53	47	eP	P	10 42 00.3	+0.3
MBDF	Montbardon	84.57	46	eP	P	10 42 00.8	+0.6
FRF	La Foret Royal	84.61	47	eP	P	10 42 00.4	0.0
LANF	Langenberg	84.79	41	eP	P	10 42 01.0	-0.2
SBF	Sospel	85.14	47	eP	P	10 42 03.3	+0.2
	comp=Z,115nm,1.3s,mb5.5						
SBF	Sospel	85.14	47	eP	P	10 42 03.3	+0.2
SBF				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.5						
NB2	NORSAR Subarra	85.16	29	P	P	10 42 03.1	+0.4
	comp=Z,3.7nm,0.8s,mb4.6,baz=278,slow=4.8						
NB2	NORSAR Subarra	85.16	29	P	P	10 42 03.1	+0.4
NB2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
NOA	NORSAR Array B	85.16	29	P	P	10 42 03.0	+0.3
	comp=Z,5.2nm,0.8s,mb4.7,baz=277,slow=4.7,SNR=16						
NOA				LR	LR	11 18 08.0	
	comp=Z,58nm,18.7s,MS4.0,baz=290,slow=34						
DAVA	Damuels	86.39	43	⇓iP	P	10 42 10.2	+1.1
	comp=Z,34nm,1.1s,mb5.5						
PGF	Pioggiola	86.44	48	eP	P	10 42 09.6	+0.1
	comp=Z,112nm,1.2s,mb5.7						
PGF	Pioggiola	86.44	48	eP	P	10 42 09.6	+0.1
PGF				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.7						
GRA1	Grafenberg Arr	86.91	40	eP	P	10 42 12.2	+0.6
	comp=Z,9.0nm,1.2s,mb4.9						
GRA1				epP	pP	10 42 17.2	-5.9
GRF	Grafenberg Arr	86.91	40	eP	P	10 42 12.2	+0.6
GRF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
WTTA	Wattenberg	87.57	43	⇑iP	P	10 42 16.3	+1.4
	comp=Z,16nm,1.2s,mb5.1						
WTTA	Wattenberg	87.57	43	⇑iP	P	10 42 16.3	+1.4
WTTA				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.1						
NKC	Novy Kostel	87.60	40	eP	P	10 42 15.1	+0.2
NKC				epP	pP	10 42 20.3	-6.1
CLL	Collm	87.75	39	P	P	10 42 15.8	+0.2
	comp=Z,logA/T=1.5,mb5.5						
CLL				i *PP	pP	10 42 20.7	-6.4
CLL	Collm	87.75	39	i P	P	10 42 15.8	+0.2
	comp=Z,51nm,1.7s,mb5.5						
CLL				i pP	pP	10 42 20.7	-6.4
CLL	Collm	87.75	39	i P	P	10 42 15.8	+0.2
CLL				pmax	pmax		
	comp=Z,51nm,1.7s,mb5.5						
BRG	Berggiesshubel	88.42	39	eP	P	10 42 19.4	+0.6
	comp=Z,21nm,1.6s,mb5.1						
BRG	Berggiesshubel	88.42	39	eP	P	10 42 19.4	+0.6
BRG				pmax	pmax		
	comp=Z,21nm,1.6s,mb5.1						
KHC	Kasperske Hory	88.52	41	eP	P	10 42 19.9	+0.6
GERES	GERESS Array B	88.65	41	P	P	10 42 20.0	0.0
	comp=Z,3.4nm,1.0s,mb4.6,baz=270,slow=2.7,SNR=15						
GERES				LR	LR	11 15 54.1	
	comp=Z,169nm,21.4s,MS4.4,baz=226,slow=31						
KBA	Koelnbreinsper	88.75	43	⇓iP	P	10 42 22.5	+2.0
	comp=Z,30nm,0.9s,mb5.6						
KBA	Koelnbreinsper	88.75	43	⇓iP	P	10 42 22.5	+2.0
KBA				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.6						
ARCES	ARCESS Array B	88.84	19	LR	LR	11 18 44.6	
	comp=Z,106nm,20.3s,MS4.2,baz=254,slow=33						
PRU	Pruhonice	88.97	40	eP	P	10 42 22.1	+0.7
BILL	Bilibino	89.62	339	eP	P	10 42 25.4	+1.3
	comp=Z,9.6nm,0.4s,mb5.5						
BILL	Bilibino	89.62	339	eP	P	10 42 25.4	+1.3
BILL				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.5						
UPC	Upice	89.78	39	eP	P	10 42 25.7	+0.4
DPC	Dobruska-Polom	90.01	39	eP	P	10 42 27.3	+1.0
DPC				epP	pP	10 42 32.3	-5.6
VRAC	Vranov	90.42	40	eP	P	10 42 29.0	+0.7
FINES	FINESS Array B	91.99	27	P	P	10 42 33.9	-1.4
	comp=Z,4.3nm,0.9s,mb4.8,baz=243,slow=6.2,SNR=7.4						
FINES				LR	LR	11 22 07.4	
	comp=Z,73nm,19.1s,MS4.1,baz=340,slow=34						
FINES	FINESS Array B	91.99	27	P	P	10 42 33.9	-1.4
FINES				LR	LR	11 22 07.3	
FINES	FINESS Array B	91.99	27	i P	P	10 42 35.0	-0.3
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNA3	Neumayer Olymp	92.80	162	e	PcP	10 42 43.4	+3.8
VNA3	Neumayer Olymp	92.80	162	e	pP	10 42 47.3	-3.1
VNA3	Neumayer Olymp	92.80	162	e	sP	10 42 51.4	-2.8
VNA3	Neumayer Olymp	92.80	162	⇑iP	P	10 42 38.4	-0.4
VNA3				e	pP	10 42 47.3	-3.1
VNA3				e	pP	10 42 51.4	+1.0
VNA1	Neumayer--Stat	93.07	161	e	PcP	10 42 45.2	+4.4
VNA1	Neumayer--Stat	93.07	161	e	pP	10 42 49.2	-2.4
VNA1	Neumayer--Stat	93.07	161	e	sP	10 42 54.2	-1.2
VNA1	Neumayer--Stat	93.07	161	⇑iP	P	10 42 40.3	+0.3
VNA1				e	pP	10 42 49.2	-2.4
VNA1				e	pP	10 42 54.2	+2.6
KECS	Kecovo	93.11	40	eP	P	10 42 40.3	-0.4
VSU	Vasula	93.40	30	⇑eP	P	10 42 41.7	-0.1
VNA2	Neumayer--Watz	93.42	161	e	PcP	10 42 46.2	+3.8
VNA2	Neumayer--Watz	93.42	161	e	pP	10 42 50.2	-3.0
VNA2	Neumayer--Watz	93.42	161	e	sP	10 42 54.2	-2.8
VNA2	Neumayer--Watz	93.42	161	⇑iP	P	10 42 41.1	-0.5
VNA2				e	pP	10 42 50.2	-3.0
VNA2				e	pP	10 42 54.2	+1.0
KOLS	Kolonicke sedl	94.11	39	epP	pP	10 42 51.8	-5.0
PUL	Pulkovo	94.58	28	⇑iP	P	10 42 46.3	-0.8
SNAA	Sanae	95.02	162	e	PcP	10 42 53.4	+3.9
SNAA	Sanae	95.02	162	e	pP	10 42 57.4	-3.1
SNAA	Sanae	95.02	162	e	sP	10 43 01.8	-2.5
SNAA	Sanae	95.02	162	⇑iP	P	10 42 48.4	-0.5
SNAA				e	pP	10 42 57.4	-3.1
SNAA				e	pP	10 43 01.8	+1.3
SEY	Seymchan	97.11	337	eP	P	10 43 00.4	+1.8
SEY	Seymchan	97.11	337	eP	P	10 43 00.3	+1.7
TIXI	Tiksi	97.30	350	⇓iP	P	10 42 59.9	+0.6
PET	Petropavlovsk	99.31	327	i P	P	10 43 10.7	+1.9
PET				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb5.0						
OBN	Obninsk	99.73	30	eP	P	10 43 10.9	+0.3
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.4						
SYO	Syowa Base	109.31	161	⇓P	Pdif	10 43 47.5	-5.2
BRVK	Borovoye	114.96	17	⇑ePKP	PKPdf	10 48 08.8	+2.4
KURK	Kurchatov	119.22	13	ePKPdf	PKPdf	10 48 15.6	+0.9
MDJ	Mudanjiang	119.29	333	PKP	PKPdf	10 48 15.3	+0.3
MDJ				LR	LR		
	comp=N,41nm,20.9s,MS4.2						
MDJ				LR	LR		
	comp=E,50nm,22.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,49nm,19.3s,MS4.2						
CN2	Changchun	121.72	335	ePKP	PKPdf	10 48 20.3	+0.6
SONM	Songino Array	123.34	352	PKP	PKPdf	10 48 23.8	+1.0
	comp=Z,2.2nm,0.8s,baz=311,slow=1.6,SNR=6.7						
MKAR	Makanchi Array	123.71	11	PKP	PKPdf	10 48 23.6	+0.1
	comp=Z,1.8nm,0.8s,slow=2.4,SNR=12						
AAK	Ala-Archa	125.51	20	ePKPdf	PKPdf	10 48 28.4	+1.4
AAK	Ala-Archa	125.51	20	⇑iPKIKP	PKPdf	10 48 27.9	+0.8
WMQ	Urumqi	127.50	8	ePKP	PKPdf	10 48 32.0	+1.1
WMQ				ePP	PP	10 50 37.0	+1.4
WMQ				PKS	PKS	10 52 07.0	+0.5
WMQ				PP	PP		
	comp=Z,101nm,6.0s						
WMQ				LR	LR		
	comp=N,200nm,25.0s,MS4.8						
WMQ				LR	LR		
	comp=E,145nm,28.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,161nm,25.0s,MS4.6						
CTA	Charters Tower	130.31	251	PKP	PKPdf	10 48 38.0	+1.2
	comp=Z,4.4nm,0.9s,baz=8.7,slow=1.3,SNR=4.9						
CTAO	Charters Tower	130.31	251	ePKPdf	PKPdf	10 48 38.2	+1.3
STKA	Stephens Creek	131.87	234	PKP	PKPdf	10 48 42.3	+2.7
	comp=Z,3.4nm,0.9s,baz=160,slow=7.7,SNR=4.0						
STKA	Stephens Creek	131.87	234	ePKPdf	PKPdf	10 48 40.3	+0.8
GTA	Gaotai	132.36	356	PKP	PKPdf	10 48 42.3	+2.0
GTA				PP	PP	10 51 10.3	+2.9
JOW	Kunigami	133.22	319	PKP	PKPdf	10 48 45.5	+3.2
	comp=Z,28nm,0.8s,baz=90,slow=4.0,SNR=2.2						
SSE	Sheshan	134.07	330	ePKP	PKPdf	10 48 43.0	-0.7
SSE	Sheshan	134.07	330	eP	PKPdf	10 48 43.1	-0.6
NJ2	Nanjing	134.38	333	ePKP	PKPdf	10 48 44.0	-0.3
NJ2				PP	PP	10 51 21.0	+0.2
NJ2				PKS	PKS	10 52 20.0	+0.5
NJ2				PPP	PPP	10 54 16.0	-0.6
NJ2				SKS	SKS	10 55 49.0	-0.6
NJ2				PP	PP		
	comp=Z,160nm,6.4s						
NJ2				LR	LR		
	comp=Z,270nm,20.0s,MS5.0						
LZH	Lanzhou	135.22	351	ePKP	PKPdf	10 48 46.0	+0.3
LZH				sPKP		10 48 59.9	
ENH	Enshi	139.54	342	ePKPdf	PKPdf	10 48 55.0	+1.3
WB2	Warramunga Arr	141.39	249	eP	PKPdf	10 48 53.4	-4.0
WRAB	Tennant Creek	141.39	249	ePKPpre		10 48 53.4	
WRAB				ePKPdf	PKPdf	10 48 58.5	+1.1
WRAB	Tennant Creek	141.39	249	i PKIKP	PKPdf	10 48 58.3	+0.9
WRA	Warramunga Arr	141.40	249	PKhKP		10 48 53.3	
	comp=Z,3.5nm,0.9s,baz=100,slow=3.0,SNR=18						
WRA				PKP	PKPdf	10 48 58.4	+1.0
	comp=Z,7.0nm,0.8s,baz=98,slow=2.7,SNR=27						
LSA	Lhasa	141.85	7	ePKPdf	PKPdf	10 49 00.5	+2.6
GYA	Guiyang	143.95	344	⇓iPKP	PKPdf	10 49 01.5	-0.1
KAKA	Kakadu	144.17	260	⇓iP	tx	10 49 21.7	
	comp=Z,21nm,1.0s						
KMI	Kunming	146.13	349	PKP	PKPdf	10 49 07.5	+2.1
KMI				APKP		10 49 16.5	
KMI				PP	PP	10 52 30.5	-2.0
KMI				LR	LR		
	comp=N,50nm,35.9s,MS4.4						
KMI				LR	LR		
	comp=E,87nm,32.6s,MS4.4						
KMI				LR	LR		
	comp=Z,59nm,27.2s						
KMI	Kunming	146.13	349	PKP	PKPdf	10 49 07.4	+2.0
KMI				pPKP		10 49 16.5	
KMI				PP	PP	10 52 30.4	-2.1
KMI				LR	LR		
	comp=Z,60nm,27.2s,MS4.2						
NWAO	Narrogin (SRO)	148.77	216	PKPbc	PKPdf	10 49 14.1	+4.6
	comp=Z,63nm,1.1s,baz=167,slow=8.2,SNR=5.7						
HYB	Hyderabad	149.00	34	i PKP	PKPdf	10 49 10.0	-0.3
HYB	Hyderabad	149.00	34	eP	PKPdf	10 49 10.0	-0.3
KLBR	Kellerberrin	149.41	218	eP	PKPdf	10 49 16.1	+5.5
	comp=Z,67nm,1.1s						
QIZ	Qiongzhong	149.66	334	ePKPbc	PKPdf	10 49 18.4	+7.1
FITZ	Fitzroy Crossi	149.83	248	⇑iP	PKPdf	10 49 17.8	+6.2
	comp=Z,53nm,0.9s						
FITZ	Fitzroy Crossi	149.83	248	PKPbc	PKPdf	10 49 17.9	+6.3
	comp=Z,67nm,0.9s,baz=154,slow=1.5,SNR=32						
NANT	Nan	152.66	351	P	PKPdf	10 49 23.0	+7.2
	comp=Z,72nm,1.0s						
CHG	Chiang Mai	152.87	354	⇑P	PKPdf	10 49 24.4	+8.3

*NEIC **30** 10:36:54.4±0.5, 5.41S×151.88E, h25km, mb4.6/7, Error ellipse: s-maj=11.6km s-min=7.7km az=106.0*

*IDC **30** 10:36:57.2±4.8, 5.41S×152.07E, h54km±44km, mb4.1/7, mb1 4.3/9, mb1mx4.2/14, mbtmp4.4/9, ML3.8/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/13, Error ellipse: s-maj=26.6km s-min=25.1km az=26.0*

ISC 30 10:36:55.1±3.7**, 5.4S**±0.1×**152.0E**±0.1**, h46**km±33km**, n23,** σ0§77/25**, mb4.5**/14**, MS3.6**/1**, 2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.23	230	P	P	10 38 27.7	+1.0
	7.2nm,0.3s,baz=50,slow=6.6,SNR=22						
PMG				S	S	10 39 37.9	+0.4
	15nm,0.3s,baz=94,slow=18,SNR=5.4						
PMG	Port Moresby	6.23	230	ePn	P	10 38 25.3	-1.5
PMG				eSn	S	10 39 35.5	-2.0

CTA	Charters Tower	15.63	200	P	P	10 40 36.2	+2.3	
	0.4nm,0.3s,baz=26,slow=11,SNR=11							
CTAO	Charters Tower	15.63	200	eP	P	10 40 38.3	+4.4	
	7.3nm,0.8s							
KAKA	Kakadu	20.62	248	eP	Px	10 41 52.5		
	35nm,0.5s							
DZM	Mont Dzumac	21.68	141	P	P	10 41 44.0	+0.2	
	7.0nm,0.7s,mb4.2,baz=346,slow=17,SNR=3.8							
DZM				LR	LR	10 48 36.1		
	comp=Z,236nm,19.5s,MS3.6,baz=18,slow=32							
WRAB	Tennant Creek	22.43	228	eP	P	10 41 52.0	+0.7	
	18nm,0.8s,mb4.6							
WB2	Warramunga Arr	22.44	228	⇓iP	P	10 41 51.8	+0.5	
WB2				eS	S	10 45 55.3	+5.5	
WRA	Warramunga Arr	22.45	228	P	P	10 41 52.2	+0.7	
	4.6nm,0.5s,mb4.2,baz=53,slow=9.7,SNR=76							
WRA				PcP	PcP	10 45 45.3	-0.6	
	1.7nm,0.8s,baz=38,slow=1.8,SNR=6.3							
STKA	Stephens Creek	28.08	199	P	P	10 42 43.1	-1.5	
	2.5nm,1.1s,mb3.8,baz=31,slow=17,SNR=2.3							
FITZ	Fitzroy Crossi	28.67	242	⇓iP	P	10 42 49.6	-0.4	
	9.2nm,0.4s,mb4.9							
FITZ	Fitzroy Crossi	28.67	242	P	P	10 42 49.7	-0.4	
	11nm,0.5s,mb4.9,baz=68,slow=5.3,SNR=17							
MBWA	Marble Bar	34.98	240	eP	P	10 43 44.8	-0.3	
	4.3nm,0.6s,mb4.6							
SONM	Songino Array	66.41	328	P	P	10 47 42.0	+0.3	
	1.3nm,0.7s,mb4.1,baz=139,slow=4.6,SNR=6.6							
GUN	Gumba	71.75	302	eP	P	10 48 15.2	+0.4	
	22nm,0.7s,mb5.2							
KKN	Kakani	72.23	301	eP	P	10 48 17.7	+0.1	
DMN	Daman	72.33	301	eP	P	10 48 18.4	+0.2	
	23nm,0.8s,mb5.2							
GKN	Gorkha	72.83	301	eP	P	10 48 21.3	0.0	
KOLN	Koldanda	73.66	301	eP	P	10 48 26.1	0.0	
	14nm,0.8s,mb4.9							
MKAR	Makanchi Array	80.26	319	P	P	10 49 03.1	+0.4	
	1.5nm,0.8s,mb4.0,baz=124,slow=4.4,SNR=5.7							
ILAR	Eielson Array	83.02	22	P	P	10 49 15.3	-1.3	
	6.5nm,0.7s,mb4.8,baz=247,slow=5.5,SNR=112							
KURK	Kurchatov	83.75	322	eP	P	10 49 20.8	+0.2	
	5.2nm,1.2s,mb4.5							
AAK	Ala-Archa	84.50	314	eP	P	10 49 24.2	-0.4	
	2.4nm,0.9s,mb4.3							

DHMR 30 10:59:37.1±2.6, 12.67N×40.55E, h6km±161km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRBA	At Turbah	3.52	81	*i* P		Pn	11 00 35.0	+1.4
TRBA				*i* S		Sn	11 01 20.5	+4.4
TRBA				AML		AML	11 01 33.8	
	comp=E,349nm,0.8s							
UDYN	Al 'Udayn	3.57	68	*i* P		Pn	11 00 36.0	+1.8
UDYN				*i* S		Sn	11 01 22.0	+4.7
UDYN				AML		AML	11 01 43.6	
	comp=N,230nm,0.7s							
DHBB	Dhamar BB	4.18	63	*i* S		Sn	11 01 36.4	+3.6
LBOS		4.73	75	*i* P		Pn	11 00 49.4	-1.3
LBOS				*i* S		Sn	11 01 45.5	-1.2
BDHA	Al Bayda'	5.05	75	*i* S		Sn	11 01 53.7	-1.1

*IDC **30** 11:24:23.0±0.7, 2.84N×31.18W, mb4.1/18, mb1 4.2/18, mb1mx4.2/24, mbtmp4.1/18, MS3.9/14, Ms1 3.9/14, ms1mx3.9/20, Error ellipse: s-maj=26.6km s-min=12.7km az=144.0*
*NEIC **30** 11:24:25.3±0.3, 2.89N×31.25W, h10km, mb4.7/14, Error ellipse: s-maj=11.9km s-min=8.0km az=133.0*
ISC 30 11:24:23.3±0.3, 2.84N±0.08×31.17W±0.06, h10km, n59, σ1§13/54, mb4.3/31, MS4.0/14, 4C-1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RCBR	Riachuelo	9.82	209	ePn		P	11 26 44.8	-2.9
BDFB	Brasilia	24.80	222	P		P	11 29 45.7	-1.3
	2.8nm,0.6s,mb3.9,baz=62,slow=11,SNR=3.7							
BDFB				LR		LR	11 38 28.5	
	comp=Z,315nm,21.5s,MS3.8,baz=54,slow=34							
LIC	Lamto	26.27	82	eP		P	11 29 59.8	-1.2
	60nm,1.3s,mb5.0							
TIC	Toumodi	26.33	81	eP		P	11 30 01.9	+0.4
	40nm,0.9s,mb5.0							
DBIC	Dimbokro	26.49	81	P		P	11 30 01.8	-1.2
	6.5nm,1.0s,mb4.1,baz=238,slow=14,SNR=4.3							
DBIC				LR		LR	11 38 31.5	
	comp=Z,420nm,19.2s,MS4.0,baz=247,slow=32							
DBIC	Dimbokro	26.49	81	P		P	11 30 02.8	-0.2
	12nm,1.0s,mb4.4							
KIC	Kosan Boka	26.57	81	eP		P	11 30 02.9	-0.8
	116nm,1.4s,mb5.2							
SAML	Samuel	33.99	250	eP		P	11 31 08.7	-0.9
	29nm,1.8s,mb4.9							
SIV	San Ignacio	34.99	237	P		P	11 31 17.2	-0.9
	1.5nm,0.8s,mb4.0,baz=84,slow=9.0,SNR=7.1							
CPUP	Villa Florida	38.48	219	P		P	11 31 48.4	+0.9
	1.4nm,0.7s,mb3.8,baz=54,slow=8.7,SNR=2.2							
CPUP				LR		LR	11 47 04.0	
	comp=Z,237nm,20.1s,MS4.0,baz=251,slow=35							
CPUP	Villa Florida	38.48	219	P		P	11 31 48.4	+0.9
CPUP				LR		LR	11 47 04.0	
MDT	Midelt	38.85	37	P		P	11 31 52.1	+1.5
	4.7nm,1.1s,mb4.1,baz=235,slow=12,SNR=5.0							
SDV	Santo Domingo	39.69	280	P		P	11 31 57.4	-0.3
	9.6nm,0.9s,mb4.5,baz=79,slow=4.9,SNR=12							
SDV	Santo Domingo	39.69	280	eP		P	11 31 57.4	-0.3
	13nm,1.0s,mb4.6							
LPAZ	La Paz	41.17	241	P		P	11 32 09.2	-0.6
	1.3nm,0.8s,mb3.6,baz=90,slow=9.0,SNR=5.7							
LPAZ				LR		LR	11 48 56.2	
	comp=Z,391nm,19.6s,MS4.3,baz=101,slow=36							
LPAZ	La Paz	41.17	241	eP		P	11 32 12.8	+3.0
	10nm,1.5s,mb4.2							
ROSC	El Rosal	43.10	274	P		P	11 32 25.8	-0.1
	7.3nm,0.6s,mb4.6,baz=270,slow=20,SNR=7.0							
ROSC				LR		LR	11 49 54.1	
	comp=Z,216nm,19.6s,MS4.0,baz=195,slow=36							
ESDC	Sonseca Array	44.21	30	P		P	11 32 34.7	+0.2
	2.4nm,0.8s,mb4.0,baz=227,slow=7.9,SNR=9.0							
ESLA	Sonseca Array	44.21	30	eP		P	11 32 35.2	+0.7
	2.3nm,1.2s,mb3.8							
PLCA	Paso Flores	56.31	215	LR		LR	11 57 01.0	
	comp=Z,150nm,21.9s,MS4.0,baz=46,slow=35							
GERES	GERESS Array B	59.70	33	P		P	11 34 29.3	-1.2
	0.5nm,0.3s,mb4.0,baz=243,slow=6.6,SNR=4.7							
GERES				LR		LR	11 59 53.0	
	comp=Z,58nm,18.8s,MS3.7,baz=36,slow=36							
LSZ	Lusaka	61.42	109	eP		P	11 34 43.7	+1.2
	17nm,1.5s,mb5.0							
LBTB	Lobatse	61.58	120	eP		P	11 34 44.0	+0.4
	18nm,1.3s,mb5.0							
NB2	NORSAR Subarra	66.30	21	P		P	11 35 13.2	-0.7
	21nm,1.4s,mb5.0,baz=227,slow=6.5							
NOA	NORSAR Array B	66.30	21	P		P	11 35 13.1	-0.8
	3.2nm,1.0s,mb4.3,baz=230,slow=6.3,SNR=3.5							
NOA				LR		LR	12 03 08.4	
	comp=Z,47nm,18.7s,MS3.7,baz=240,slow=35							
KMBO	Kilima Mbogo	68.51	92	LR		LR	12 01 18.8	
	comp=Z,106nm,19.2s,MS4.1,baz=90,slow=32							
BRTR	Keskin Array B	68.95	48	P		P	11 35 30.7	-0.3
	2.5nm,1.1s,mb4.0,baz=236,slow=4.5,SNR=5.1							
AKASG	Malin Array Be	69.41	36	P		P	11 35 32.1	-1.4
	0.3nm,0.3s,mb3.7,baz=248,slow=7.2,SNR=16							
FINES	FINESS Array B	72.38	25	P		P	11 35 50.4	-0.9
	3.9nm,1.1s,mb4.3,baz=246,slow=14,SNR=5.3							
FINES				LR		LR	12 06 52.9	
	comp=Z,53nm,18.2s,MS3.9,baz=349,slow=35							
TXAR	Lajitas Array	73.36	300	P		P	11 35 57.6	-0.2
	1.0nm,0.8s,mb3.8,baz=111,slow=4.7,SNR=13							
TXAR				LR		LR	12 11 20.7	
	comp=Z,49nm,18.5s,MS3.8,baz=185,slow=38							
VNA1	Neumayer--Stat	74.91	172	*e*		P	11 36 15.8	+10
VNA1	Neumayer--Stat	74.91	172	*e*		P	11 36 19.3	+13
VNA1	Neumayer--Stat	74.91	172	*e*		P	11 36 24.0	+18
VNA1	Neumayer--Stat	74.91	172	⇑*i*P		P	11 36 07.9	+2.0
VNA1				*e*			11 36 15.8	
VNA1				*e*			11 36 19.3	
VNA1				*e*			11 36 24.0	
MNTX	Cornudas Mount	75.09	302	eP		P	11 36 06.2	-1.4
	1.5nm,0.8s,mb4.0							
VNA3	Neumayer Olymp	75.28	173	*e*		P	11 36 16.7	+8.7
VNA3	Neumayer Olymp	75.28	173	*e*		P	11 36 19.9	+12
VNA3	Neumayer Olymp	75.28	173	*e*		P	11 36 24.7	+17
VNA3	Neumayer Olymp	75.28	173	⇑*i*P		P	11 36 09.5	+1.5
VNA3				*e*			11 36 16.7	
VNA3				*e*			11 36 19.9	
VNA3				*e*			11 36 24.7	
VNA2	Neumayer--Watz	75.28	172	*e*		P	11 36 16.9	+8.9
VNA2	Neumayer--Watz	75.28	172	*e*		P	11 36 20.3	+12
VNA2	Neumayer--Watz	75.28	172	*e*		P	11 36 24.6	+17
VNA2	Neumayer--Watz	75.28	172	⇑*i*P		P	11 36 09.8	+1.8
VNA2				*e*			11 36 16.9	
VNA2				*e*			11 36 20.3	
VNA2				*e*			11 36 24.6	
ARCES	ARCESS Array B	76.17	18	P		P	11 36 12.5	-0.6
	2.1nm,0.7s,mb4.2,baz=315,slow=6.4,SNR=2.3							
ARCES				LR		LR	12 03 20.3	
	comp=Z,60nm,21.5s,MS3.9,baz=246,slow=31							
SNAA	Sanae	76.61	171	⇑*i*		P	11 36 17.0	+1.5
SNAA	Sanae	76.61	171	*e*		P	11 36 24.2	+8.7
SNAA	Sanae	76.61	171	*e*		P	11 36 27.0	+11
SNAA	Sanae	76.61	171	*e*		P	11 36 32.1	+17
SNAA	Sanae	76.61	171	eP		P	11 36 16.6	+1.1
	12nm,1.4s,mb4.6							
SNAA				*e*			11 36 24.2	
SNAA				*e*			11 36 27.0	
SNAA				*e*			11 36 32.1	
PDAR	Pinedale Array	79.55	313	P		P	11 36 32.4	+0.2
	0.4nm,0.6s,mb3.5,baz=53,slow=4.5,SNR=2.7							
PDAR				LR		LR	12 05 41.6	
	comp=Z,92nm,20.6s,MS4.1,baz=89,slow=31							
TUC	Tucson	79.71	302	eP		P	11 36 34.9	+1.6
	24nm,2.3s,mb4.7							
HWUT	Hardware Ranch	80.94	312	eP		P	11 36 40.7	+1.1
	3.3nm,0.9s,mb4.3							
YKA	Yellowknife Ar	84.46	332	LR		LR	12 11 12.0	
	comp=Z,73nm,19.1s,MS4.1,baz=345,slow=33							
SYO	Syowa Base	85.83	160	⇓P		P	11 37 04.2	+0.2
WVOR	Wild Horse Val	86.23	312	eP		P	11 37 09.0	+2.4
	1.6nm,0.6s,mb4.4							
BRVK	Borovoye	94.62	36	eP		P	11 37 48.8	+3.2
	8.0nm,1.0s,mb5.1							
ILAR	Eielson Array	98.12	337	P		P	11 38 00.9	-0.4
	0.5nm,1.1s,mb4.0,baz=55,slow=3.9,SNR=4.1							
MBWA	Marble Bar	146.33	125	ePKPbc		PKPbc	11 44 07.2	+1.9
WRA	Warramunga Arr	157.88	141	PKPab		PKPab	11 44 55.6	-0.8
	1.6nm,1.1s,baz=212,slow=2.3,SNR=5.1							

*NEIC **30** 11:24:57.7±0.6, 17.67N×145.74E, h232km±6km, mb4.1/4, Error ellipse: s-maj=21.6km s-min=10.5km az=81.0*
*IDC **30** 11:25:06.1±26.0, 17.61N×145.71E, h319km±290km, mb3.3/4, mb1 3.6/4, mb1mx3.3/15, mbtmp4.0/4, Error ellipse: s-maj=45.1km s-min=26.2km az=61.0*
ISC 30 11:24:56.7±0.9, 17.7N±0.1×145.8E±0.2, h238km±8km, n14, σ0§66/16, mb3.9/8, 1C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SARN	Sarigan	0.94	179	⇓*i*P		P	11 25 31.0	+0.8
ANA2	Anatahan	1.30	182	eP		P	11 25 33.6	+0.9
ANA2				eS		S	11 26 05.6	+5.0
SAPN	Saipan	2.42	180	⇑eP		P	11 25 42.2	-0.4
SAPN				eS		S	11 26 16.9	-1.4
YHNB	Yeheng	23.76	291	eP		P	11 29 49.0	-0.1
ENH	Enshi	35.29	298	eP		P	11 31 30.9	+0.1
	4.7nm,0.4s,mb4.4							
WRAB	Tennant Creek	38.99	197	eP		P	11 32 02.5	+0.7
	4.3nm,0.5s,mb4.2							
WB2	Warramunga Arr	39.00	197	eP		P	11 32 02.3	+0.4
WRA	Warramunga Arr	39.00	197	P		P	11 32 02.2	+0.3
	2.1nm,0.5s,mb3.9,baz=17,slow=8.8,SNR=30							
SONM	Songino Array	43.99	322	P		P	11 32 42.8	+0.6
	0.9nm,0.6s,mb3.3,baz=134,slow=9.5,SNR=5.2							
MKAR	Makanchi Array	59.23	314	P		P	11 34 34.7	-0.3
	1.1nm,0.6s,mb3.7,baz=88,slow=8.5,SNR=8.4							
MKAR	Makanchi Array	59.23	314	P		P	11 34 34.7	-0.3
KURK	Kurchatov	62.08	318	eP		P	11 34 53.0	-1.1
	1.7nm,0.6s,mb3.9							
ILAR	Eielson Array	64.56	26	P		P	11 35 09.7	-0.3
	1.1nm,0.5s,mb3.7,baz=247,slow=6.0,SNR=31							
BRVK	Borovoye	67.38	321	eP		P	11 35 27.8	-0.2
	1.7nm,0.5s,mb3.9							

*NEIC **30** 11:26:59.4, 39.71S×174.21E, h149km, MG3.8(WEL), After WEL.*
WEL 30 11:27:01.0±0.3, 39.76S×174.27E, h133km±3km, ML3.6/9, 7C, Error ellipse: s-maj=2.4km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WAZ	Wanganui	0.55	90	PN		P	11 27 21.4	+0.5
WAZ				eSN		S	11 27 36.3	+0.3
WAZ				eSN		S	11 27 36.8	+0.8
WAZ	Wanganui	0.55	90	P		P	11 27 21.4	+0.5
WAZ				S		S	11 27 38.0	+2.0
PKE	Pukeiti	0.60	339	ePN		P	11 27 20.9	-0.3
PKE				eSN		S	11 27 36.2	-0.4
VRZ	Vera Road	0.74	31	PN		P	11 27 21.6	-0.5
VRZ				SN		S	11 27 37.5	-0.8
VRZ	Vera Road	0.74	31	P		P	11 27 21.6	-0.5
VRZ				S		S	11 27 37.5	-0.7
MTVZ	Mangateitei	1.00	69	PN		P	11 27 23.9	-0.5
DUWZ	D'Urville Isla	1.08	194	PN		P	11 27 25.0	-0.1
TRVZ	Turoa	1.09	66	PN		P	11 27 25.1	-0.2
DRZ	Dome Shelter	1.11	65	PN		P	11 27 25.8	+0.3
DRZ	Dome Shelter	1.11	65	P		P	11 27 26.0	+0.5
FWVZ	Far West T-bar	1.11	64	PN		P	11 27 25.1	-0.4
FWVZ				SN		S	11 27 43.1	-1.0
FWVZ	Far West T-bar	1.11	64	P		P	11 27 25.1	-0.4
WPVZ	Whakapapa	1.13	61	PN		P	11 27 25.6	-0.1
WPVZ	Whakapapa	1.13	61	P		P	11 27 25.3	-0.4
TWVZ	Taurewa	1.14	53	PN		P	11 27 25.0	-0.7
TWVZ	Taurewa	1.14	53	P		P	11 27 25.0	-0.7
CNZ	Chateau	1.14	61	PN		P	11 27 25.2	-0.5
CNZ	Chateau	1.14	61	P		P	11 27 25.3	-0.4
MOVZ	Moawhango	1.20	74	PN		P	11 27 25.7	-0.1
KIW	Kapiti Island	1.21	156	⇑PN		P	11 27 26.4	-0.1
KIW				SN		S	11 27 43.6	-2.2
KIW	Kapiti Island	1.21	156	P		P	11 27 26.4	-0.1
OTVZ	Oturere	1.23	62	PN		P	11 27 26.4	-0.3
KRVZ	Karewarewa	1.25	59	PN		P	11 27 26.2	-0.8
HIZ	Hauiti	1.32	20	PN		P	11 27 26.6	-1.2
HIZ	Hauiti	1.32	20	P		P	11 27 26.6	-1.2
TSZ	Takapari Road	1.34	104	⇑PN		P	11 27 27.5	-0.4
TSZ				SN		S	11 27 45.4	-3.1
TSZ	Takapari Road	1.34	104	P		P	11 27 27.5	-0.4
MRZ	Mangatainoka R	1.35	132	PN		P	11 27 27.9	-0.1
MRZ				SN		S	11 27 46.5	-2.3
MRZ	Mangatainoka R	1.35	132	P		P	11 27 27.9	-0.2
KATZ	Kakaramea	1.35	55	PN		P	11 27 27.6	-0.5
KATZ	Kakaramea	1.35	55	P		P	11 27 27.6	-0.5
TCW	Tory Channel	1.45	180	PN		P	11 27 29.0	-0.2
TCW				SN		S	11 27 48.5	-2.2
TCW	Tory Channel	1.45	180	P		P	11 27 29.0	-0.2
RATZ	Rangitukua	1.47	53	PN		P	11 27 29.1	-0.2
RATZ	Rangitukua	1.47	53	P		P	11 27 29.1	-0.2
CAW	Cannon Point	1.48	156	⇑PN		P	11 27 29.4	-0.1
CAW				eSN		S	11 27 49.0	-2.3
CAW	Cannon Point	1.48	156	P		P	11 27 29.3	-0.2
MRW	Makara Radio	1.51	168	⇑PN		P	11 27 29.6	-0.1
MRW				SN		S	11 27 49.2	-2.6
MRW	Makara Radio	1.51	168	P		P	11 27 29.6	-0.2
WATZ	Wairara	1.55	48	PN		P	11 27 29.7	-0.5
WATZ	Wairara	1.55	48	P		P	11 27 29.7	-0.5
WATZ				S		S	11 27 38.3	-14
WEL	Wellington	1.57	166	PN		P	11 27 30.1	-0.5
WEL	Wellington	1.57	166	P		P	11 27 30.2	-0.3
NNZ	Nelson	1.61	205	⇑PN		P	11 27 30.3	-0.6
NNZ				SN		S	11 27 52.0	-1.8
MTW	Mount Morrison	1.69	146	ePN		P	11 27 30.4	-1.4
MTW	Mount Morrison	1.69	146	P		P	11 27 30.7	-1.1
TUWZ	Tuamarina	1.69	188	PN		P	11 27 31.1	-0.8
QRZ	Quartz Range	1.71	231	PN		P	11 27 30.8	-1.2
QRZ	Quartz Range	1.71	231	P		P	11 27 30.8	-1.2
BHW	Baring Head	1.71	165	PN		P	11 27 31.5	-0.6
BHW	Baring Head	1.71	165	P		P	11 27 31.5	-0.6
MSWZ	Moikau Station	1.82	156	⇑PN		P	11 27 32.8	-0.5
MSWZ	Moikau Station	1.82	156	P		P	11 27 32.8	-0.5
BKZ	Black Stump Fm	1.82	72	ePN		P	11 27 31.6	-1.7
BKZ	Black Stump Fm	1.82	72	P		P	11 27 32.0	-1.4
TRWZ	Traveller	1.96	147	PN		P	11 27 34.3	-0.7
BSWZ	Blackbirch Sta	1.98	189	PN		P	11 27 34.7	-0.5
BSWZ	Blackbirch Sta	1.98	189	P		P	11 27 34.8	-0.4
PXZ	Pawanui	2.01	99	PN		P	11 27 34.9	-0.8
URZ	Urewera	2.67	57	PN		P	11 27 41.4	-2.8
URZ	Urewera	2.67	57	eP		P	11 27 41.6	-2.6
KHZ	Kahutara	2.71	191	⇑PN		P	11 27 43.3	-1.5
KHZ	Kahutara	2.71	191	P		P	11 27 43.3	-1.5
DSZ	Denniston Nort	2.73	223	PN		P	11 27 43.1	-1.9
DSZ	Denniston Nort	2.73	223	eP		P	11 27 43.1	-1.9
KNZ	Kokohu	2.74	76	PN		P	11 27 43.0	-2.1
KNZ	Kokohu	2.74	76	P		P	11 27 42.9	-2.2
MWZ	Matawai	2.91	62	eP		P	11 27 44.6	-2.7
PUZ	Puketiti	3.54	63	P		P	11 27 52.1	-3.5
MQZ	McQueen's Vall	4.13	197	eP		P	11 27 59.1	-4.4
ODZ	Otahua Downs	5.92	206	eP		P	11 28 22.0	-5.5

*IDC **30** 11:54:49.0±1.6, 10.55S×111.77E, mb3.8/5, mb1 4.0/6, mb1mx3.8/13, mbtmp3.8/6, ML3.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/21, Error ellipse: s-maj=74.2km s-min=21.7km az=46.0*
*NEIC **30** 11:54:53.9±1.0, 10.82S×111.73E, h40km, mb4.0/1, Error ellipse: s-maj=52.7km s-min=12.5km az=50.0*
ISC 30 11:54:51.3±1.1, 10.8S±0.3×111.7E±0.3, h33km, n9, σ1§25/10, mb3.9/6, MS3.9/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBWA	Marble Bar	12.86	144	ePn		P	11 57 52.4	-2.2
FITZ	Fitzroy Crossi	15.32	120	Pn		P	11 58 26.3	-0.6
	0.1nm,0.3s,baz=224,slow=2.6,SNR=2.7							
FITZ				Sn		S	12 01 02.4	-14
	0.3nm,0.3s,baz=206,slow=17,SNR=3.9							
WRA	Warramunga Arr	23.62	115	P		P	12 00 01.8	+1.4
	1.8nm,0.9s,mb3.5,baz=288,slow=11,SNR=7.4							
STKA	Stephens Creek	34.66	132	P		P	12 01 41.7	+1.8
	1.0nm,0.6s,mb3.9,baz=297,slow=11,SNR=4.0							
SONM	Songino Array	58.57	356	P		P	12 04 46.3	-0.9
	0.4nm,0.6s,mb3.6,baz=180,slow=8.6,SNR=3.3							
SONM				LR		LR	12 34 32.2	
	comp=Z,76nm,18.5s,MS3.9,baz=65,slow=41							
MKAR	Makanchi Array	63.08	338	P		P	12 05 17.0	-0.8
	0.5nm,0.5s,mb3.9,baz=141,slow=7.5,SNR=6.9							
MKAR	Makanchi Array	63.08	338	P		P	12 05 17.0	-0.8
CHKZ	Chkalovo	73.09	336	eP		P	12 06 19.8	-0.2
	1.4nm,0.8s,mb3.9							
BRTR	Keskin Array B	87.81	311	P		P	12 07 39.9	+1.3
	1.0nm,0.7s,mb4.2,baz=146,slow=5.2,SNR=4.7							

*SKHL **30** 11:55:24.9±0.3, 44.36N×148.36E, h47km±12km, mb4.8/2*
*JMA **30** 11:55:26.1±0.2, 43.98N×147.93E, M4.4*
ISC 30 11:55:25.6±1.4, 44.39N±0.07×148.2E±0.1, h47km, n14, σ1§19/24, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	Kuril'sk	0.87	347	⇓*i*P		P	11 55 40.5	-1.1
KUR				AMB		AMB	11 55 41.0	
	110nm,0.5s							
KUR				AMB		AMB	11 55 41.0	
	330nm,0.5s							
KUR				eS		S	11 55 52.0	-1.5
KUR				A			11 55 55.0	
	570nm,0.5s							
KUR				A			11 55 55.0	
	760nm,0.5s							
YUK	Yuzh-Kuril'sk	1.68	259	eP		P	11 55 53.5	+0.3
YUK				AMB		AMB	11 55 55.2	
	760nm,0.3s							
YUK				*i* S		S	11 56 15.2	+1.5
YUK				A			11 56 20.0	
	2μm,1.0s							
YUK				A			11 56 20.0	
	2μm,0.3s							
YUK				A			11 56 20.0	
	950nm,0.3s							
NEM2	Nemuro 2	2.02	240	P		P	11 55 57.2	-0.7
NEM2				eS		S	11 56 20.1	-1.9
JRA	Rausu	2.23	259	P		P	11 56 02.1	+1.2
JRA				eS		S	11 56 28.6	+1.3
JNK	Nakash	2.60	253	P		P	11 56 06.6	+0.3
JNK				eS		S	11 56 36.6	-0.3
JAK	Akkeshi	2.87	242	P		P	11 56 09.4	-0.6
JAK				eS		S	11 56 41.5	-2.0
JTKR	Abashiri--Toko	3.08	264	P		P	11 56 15.2	+2.1
JAR	Ashorobuto	3.35	253	P		P	11 56 18.0	+1.1
JAR				eS		S	11 56 55.9	+0.1
JOB	Onbets	3.47	246	P		P	11 56 18.7	+0.2
JOB				eS		S	11

*IDC **30** 12:46:09.9±0.9,0.52N×123.87E,mb4.0/5,mb1 4.3/6, mb1mx4.1/14,mbtmp4.1/6,ML4.8/1, Error ellipse: s-maj=76.6km s-min=18.2km az=69.0*

*NEIC **30** 12:46:31.7±3.2,0.03N×123.51E,h206km±35km,mb4.4/3, Error ellipse: s-maj=61.2km s-min=8.8km az=64.0*

ISC 30 12:46:33.1±3.4,0.1S±0.2×123.2E±0.4,h236km±38km,n13, σ0§72/13,mb3.9/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.27**	**311**	*e*Pn		**P**		**12 48 43.8**	**+0.4**
KAKA	**Kakadu**	**15.52**	**144**	*e*P		**P**		**12 50 18.2**	**+17**
	15nm,0.6s								
FITZ	**Fitzroy Crossi**	**18.07**	**173**	*e*P		**P**		**12 50 28.3**	**-1.3**
	4.6nm,0.3s								
FITZ	**Fitzroy Crossi**	**18.07**	**173**	P		**P**		**12 50 28.4**	**-1.2**
	2.2nm,0.3s,baz=2.3,slow=11,SNR=32								
WRAB	**Tennant Creek**	**22.54**	**152**	*e*P		**P**		**12 51 14.0**	**-0.2**
	4.9nm,0.5s,mb4.3								
WRA	**Warramunga Arr**	**22.54**	**152**	P		**P**		**12 51 13.9**	**-0.3**
	3.1nm,0.5s,mb4.1,baz=334,slow=10.0,SNR=116								
WRA				PcP		PcP		12 55 07.7	+6.6
	0.1nm,0.5s,baz=352,slow=1.9,SNR=3.1								
WB2	**Warramunga Arr**	**22.55**	**152**	*e*P		**P**		**12 51 14.1**	**-0.2**
ASPA	**Alice Springs**	**25.64**	**157**	*e*P		**P**		**12 51 44.3**	**+1.3**
STKA	**Stephens Creek**	**36.08**	**153**	P		**P**		**12 53 14.9**	**+0.7**
	1.8nm,0.6s,mb3.8,baz=334,slow=8.7,SNR=7.0								
SONM	**Songino Array**	**49.92**	**345**	P		**P**		**12 55 03.5**	**-1.2**
	1.3nm,0.5s,mb3.5,baz=160,slow=9.1,SNR=6.8								
MKAR	**Makanchi Array**	**58.80**	**328**	P		**P**		**12 56 09.3**	**+0.5**
	1.2nm,0.4s,mb3.9,baz=118,slow=8.8,SNR=17								
MKAR				PcP		PcP		12 56 56.5	+0.8
	0.4nm,0.6s,baz=108,slow=3.8,SNR=3.7								
KURK	**Kurchatov**	**63.16**	**330**	*e*P		**P**		**12 56 37.8**	**-0.1**
	4.5nm,0.5s,mb4.3								
ILAR	**Eielson Array**	**90.02**	**25**	P		**P**		**12 59 06.9**	**+0.2**
	0.3nm,0.5s,mb3.4,baz=253,slow=4.0,SNR=5.1								

*NEIC **30** 12:50:52.3±0.7,5.36S×151.74E,h25km,mb4.5/2,Error ellipse: s-maj=16.9km s-min=10.9km az=107.0*

*IDC **30** 12:50:54.8±4.9,5.45S×151.74E,h44km±48km,mb3.9/7, mb1 4.1/9,mb1mx4.0/13,mbtmp4.2/9,ML3.4/2,MS4.2/1, Ms1 4.2/1,ms1mx3.1/16,Error ellipse: s-maj=30.8km s-min=25.5km az=22.0*

ISC 30 12:50:54.3±3.7,5.5S±0.1×151.7E±0.1,h54km±32km,n18, σ0§79/18,mb4.1/9,MS4.1/1,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.95**	**229**	P		**P**		**12 52 22.8**	**+0.9**
	5.8nm,0.3s,baz=55,slow=8.0,SNR=23								
PMG				S		**S**		**12 53 28.2**	**-1.4**
	1.5nm,0.3s,baz=198,slow=20,SNR=2.7								
CTA	**Charters Tower**	**15.46**	**200**	P		**P**		**12 54 30.2**	**-0.2**
	0.1nm,0.3s,baz=32,slow=13,SNR=2.2								
CTAO	**Charters Tower**	**15.46**	**200**	*e*Pn		**P**		**12 54 31.1**	**+0.6**
KAKA	**Kakadu**	**20.31**	**248**	*e*P		**P**		**12 55 46.4**	**+18**
	17nm,0.6s								
DZM	**Mont Dzumac**	**21.81**	**141**	P		**P**		**12 55 42.8**	**-0.8**
	3.6nm,0.6s,mb4.0,baz=329,slow=12,SNR=4.5								
WRAB	**Tennant Creek**	**22.16**	**228**	*e*P		**P**		**12 55 48.8**	**+1.7**
	20nm,0.8s,mb4.6								
WB2	**Warramunga Arr**	**22.16**	**228**	*e*P		**P**		**12 55 46.9**	**-0.2**
WRA	**Warramunga Arr**	**22.17**	**228**	P		**P**		**12 55 47.2**	**-0.1**
	2.8nm,0.5s,mb3.9,baz=52,slow=9.7,SNR=28								
ASPA	**Alice Springs**	**24.91**	**222**	*e*P		**P**		**12 56 13.7**	**-0.3**
STKA	**Stephens Creek**	**27.91**	**199**	P		**P**		**12 56 42.8**	**+1.2**
	1.9nm,0.8s,mb3.8,baz=25,slow=12,SNR=3.1								
FITZ	**Fitzroy Crossi**	**28.37**	**242**	*e*P		**P**		**12 56 45.7**	**-0.1**
	27nm,0.9s,mb4.9								
FITZ	**Fitzroy Crossi**	**28.37**	**242**	P		**P**		**12 56 45.1**	**-0.7**
	11nm,0.4s,mb4.8,baz=52,slow=7.0,SNR=24								
RPZ	**Rata Peaks**	**41.73**	**159**	LR		LR		13 12 48.8	
	comp=Z,265nm,18.8s,MS4.1,baz=306,slow=32								
SONM	**Songino Array**	**66.32**	**328**	P		**P**		**13 01 39.4**	**+0.1**
	1.3nm,0.5s,mb4.2,baz=136,slow=5.6,SNR=7.6								
MKAR	**Makanchi Array**	**80.11**	**319**	P		**P**		**13 03 00.2**	**0.0**
	1.1nm,0.9s,mb3.8,baz=101,slow=6.2,SNR=7.4								
MKAR	**Makanchi Array**	**80.11**	**319**	P		**P**		**13 03 00.2**	**0.0**
ILAR	**Eielson Array**	**83.20**	**22**	P		**P**		**13 03 15.0**	**-0.8**
	0.5nm,0.6s,mb3.7,baz=241,slow=4.8,SNR=4.3								
AAK	**Ala-Archa**	**84.33**	**314**	*e*P		**P**		**13 03 22.1**	**0.0**
	1.6nm,0.8s,mb4.2								

*BJI **30** 12:54:12.0,5.59S×152.20E,h41km,mB5.2,mb4.8,Ms4.8, Msz4.6*

*NEIC **30** 12:54:13.5±0.2,5.52S×151.69E,h25km,mb5.0/33, MS4.5/2,Error ellipse: s-maj=8.9km s-min=6.3km az=94.0*

*HRVD **30** 12:54:13.5±0.5,5.81S×151.94E,h28km±1km,MW5.1/51, Centroid moment Tensor Solution. LP body waves: s34,c49;Mantle waves: s51,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.72±.22; $M_{\theta\theta}$-2.67±.15; $M_{\phi\phi}$-0.05±.14; $M_{r\theta}$3.53±.31; $M_{\theta\phi}$-0.50±.12; $M_{r\phi}$2.23±.35; Best double couple: $M_0$4.991×10^{16} NP1:ϕ_s274°,δ19°, λ121°. NP2:ϕ_s62°,δ74°,λ80°. Principal axes: T 5.105, Plg60°, Azm318°; N -.23, Plg10°, Azm65°; P -4.876, Plg28°, Azm160°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*CSEM **30** 12:54:13.5,5.44S×151.89E,h40km,mb5.5*

*MOS **30** 12:54:14.2±1.5,5.38S×151.62E,h33km,mb5.1/25,Error ellipse: s-maj=11.5km s-min=7.1km az=90.5*

*IDC **30** 12:54:17.6±2.6,5.62S×151.78E,h59km±23km,mb4.5/13, mb1 4.7/15,mb1mx4.7/17,mbtmp4.8/15,ML4.1/2,MS4.3/11, Ms1 4.3/11,ms1mx4.2/14,Error ellipse: s-maj=18.1km s-min=11.7km az=126.0*

ISC 30 12:54:12.7±0.2,5.53S±0.03×151.83E±0.05,h33km, h33km±1.5km:pP-P,n181,σ1§17/160,mb4.9/64,MS4.5/24, 8C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.02**	**230**	P		**Pn**		**12 55 44.2**	**+2.2**
	38nm,0.3s,baz=42,slow=9.2,SNR=42								
PMG				S		**Sn**		**12 56 50.4**	**-0.1**
	17nm,0.3s,baz=29,slow=10.0,SNR=2.8								
PMG				LR		LR		12 57 42.7	
	comp=Z,970nm,21.3s,baz=36,slow=34								
PMG	**Port Moresby**	**6.02**	**230**	*e*Pn		**Pn**		**12 55 43.6**	**+1.6**
PMG	**Port Moresby**	**6.02**	**230**	P		**Pn**		**12 55 44.2**	**+2.2**
PMG				S		**Sn**		**12 56 50.4**	**-0.2**
PMG				pmax		pmax			
	comp=Z,38nm,0.3s								
PMG				smax					
	comp=N,17nm,0.3s								
PMG				MLR		MLR			
	comp=Z,970nm,21.3s								
CTA	**Charters Tower**	**15.45**	**200**	*e*P		**P**		**12 57 55.7**	**+5.4**
	comp=Z,14nm,0.8s								
CTA	**Charters Tower**	**15.45**	**200**	P		**P**		**12 57 52.9**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=27,slow=12,SNR=19								
CTA				LR		LR		13 03 05.2	
	comp=Z,1μm,21.1s,baz=26,slow=34								
CTAO	**Charters Tower**	**15.45**	**200**	P		**P**		**12 57 49.3**	**-0.9**
	comp=Z,90nm,1.5s								
CTAO	**Charters Tower**	**15.45**	**200**	P		**P**		**12 57 49.3**	**-1.0**
CTAO				pmax		pmax			
	comp=Z,90nm,1.5s								
GUMO	**Guam**	**20.21**	**340**	*e*P		**P**		**12 58 47.0**	**-0.9**
	comp=Z,287nm,1.0s								
GUMO	**Guam**	**20.21**	**340**	*e*P		**P**		**12 58 47.0**	**-0.9**
GUMO				pmax		pmax			
	comp=Z,287nm,1.0s								
KAKA	**Kakadu**	**20.42**	**248**	*e*P		**P**		**12 59 09.1**	**+19**
	comp=Z,88nm,0.6s								
KAKA				*e*S		**S**		**13 02 51.0**	**+19**
NOUC	**Port Laguerre**	**21.62**	**141**	*e*P		**P**		**12 59 00.9**	**-1.4**
NOUC	**Port Laguerre**	**21.62**	**141**	*e*P		**P**		**12 59 00.9**	**-1.4**
DZM	**Mont Dzumac**	**21.69**	**141**	P		**P**		**12 59 02.6**	**-0.4**
	comp=Z,27nm,0.8s,mb4.7,baz=337,slow=12,SNR=14								
WRAB	**Tennant Creek**	**22.23**	**228**	*e*P		**P**		**12 59 08.2**	**-0.1**
	comp=Z,70nm,0.6s,mb5.3								
WRAB	**Tennant Creek**	**22.23**	**228**	*e*P		**P**		**12 59 08.6**	**+0.3**
WB2	**Warramunga Arr**	**22.23**	**228**	*e*P		**P**		**12 59 08.1**	**-0.3**
WB2				*e*S		**S**		**13 03 08.6**	**+2.5**
WRA	**Warramunga Arr**	**22.24**	**228**	P		**P**		**12 59 08.4**	**0.0**
	comp=Z,69nm,1.0s,mb5.0,baz=54,slow=10.0,SNR=68								
WRA				S		**S**		**13 03 10.1**	**+3.8**
	comp=Z,20nm,1.2s,baz=54,slow=18,SNR=8.2								
WRA				ScP				13 06 41.1	
	comp=Z,5.1nm,0.9s,baz=46,slow=2.8,SNR=8.8								
ARMA	**Armidale**	**24.76**	**180**	⇑*i*P		**P**		**12 59 34.1**	**+1.1**
ASPA	**Alice Springs**	**24.96**	**222**	⇑*i*P		**P**		**12 59 35.4**	**+0.4**
STKA	**Stephens Creek**	**27.91**	**199**	*e*P		**P**		**12 59 59.9**	**-2.2**
	comp=Z,16nm,1.2s,mb4.5								
STKA	**Stephens Creek**	**27.91**	**199**	P		**P**		**12 59 59.9**	**-2.2**
	comp=Z,6.7nm,0.7s,mb4.4,baz=351,slow=8.2,SNR=14								
STKA				LR		LR		13 11 45.5	
	comp=Z,713nm,18.0s,MS4.3,baz=22,slow=38								
FITZ	**Fitzroy Crossi**	**28.46**	**242**	*e*P		**P**		**13 00 06.9**	**-0.3**
	comp=Z,152nm,0.9s,mb5.6								
FITZ	**Fitzroy Crossi**	**28.46**	**242**	P		**P**		**13 00 06.9**	**-0.3**
	comp=Z,187nm,0.8s,mb5.8,baz=52,slow=5.4,SNR=31								
CNB	**Canberra Magne**	**29.73**	**184**	*e*P		**P**		**13 00 18.0**	**-0.4**
	comp=Z,32nm,1.2s,mb4.9								
FORT	**Forest**	**33.62**	**219**	⇑*i*P		**P**		**13 00 51.7**	**-0.8**
	comp=Z,21nm,0.5s,mb5.3								
MBWA	**Marble Bar**	**34.77**	**240**	*e*P		**P**		**13 01 00.2**	**-2.4**
	comp=Z,82nm,1.2s,mb5.5								
TAU	**Tasmania Unive**	**37.44**	**185**	*e*P		**P**		**13 01 25.4**	**+0.5**
	comp=Z,44nm,1.0s,mb5.2								
TAU	**Tasmania Unive**	**37.44**	**185**	*e*P		**P**		**13 01 25.4**	**+0.5**
TAU				pmax		pmax			
	comp=Z,44nm,1.0s,mb5.2								
JOW	**Kunigami**	**39.43**	**326**	LR		LR		13 15 06.5	
	comp=Z,851nm,19.7s,MS4.6,baz=154,slow=32								
NACB	**Ninganchiao**	**41.71**	**316**	*e*P		**P**		**13 01 59.1**	**-1.5**
KSM	**Kuching**	**42.05**	**278**	P		**P**		**13 02 00.3**	**-3.1**
YHNB	**Yeheng**	**42.19**	**317**	*e*P		**P**		**13 02 04.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**42.19**	**225**	LR		LR		13 21 18.2	
	comp=Z,469nm,20.1s,MS4.4,baz=204,slow=38								
MJAR	**Matsushiro Arr**	**43.75**	**344**	P		**P**		**13 02 18.3**	**+1.3**
	comp=Z,5.5nm,0.9s,mb4.3,baz=170,slow=9.2,SNR=5.2								
MJAR				PcP		PcP		13 04 03.6	-0.4
	comp=Z,3.6nm,1.1s,baz=151,slow=5.4,SNR=4.5								
MJAR				ScP				13 07 53.4	
	comp=Z,2.6nm,0.9s,baz=170,slow=5.0,SNR=5.4								
MJAR				LR		LR		13 19 39.1	
	comp=Z,356nm,19.4s,MS4.3,baz=205,slow=35								
MAJO	**Matsushiro**	**43.75**	**344**	*e*P		**P**		**13 02 15.0**	**-2.1**
	comp=Z,5.7nm,0.6s,mb4.5								
MAJO	**Matsushiro**	**43.75**	**344**	*e*P		**P**		**13 02 15.0**	**-2.1**
MAJO				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.5								
MAT	**Matsushiro**	**43.75**	**344**	P		**P**		**13 02 15.1**	**-2.0**
MAT				S		**S**		**13 08 41.6**	**-3.1**
MAT	**Matsushiro**	**43.75**	**344**	*e*P		**P**		**13 02 15.0**	**-2.1**
	comp=Z,5.2nm,0.8s,mb4.3								
MAT				*e*S		**S**		**13 08 42.0**	**-2.7**
MAT	**Matsushiro**	**43.75**	**344**	*e*P		**P**		**13 02 15.0**	**-2.1**
MAT				*e*S		**S**		**13 08 42.0**	**-2.7**
MAT				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.3								
QZH	**Quanzhou**	**44.30**	**315**	⇓*i*P		**P**		**13 02 23.0**	**+1.3**
QZH				S		**S**		**13 08 55.3**	**+2.4**
QZH				AMB		AMB			
	comp=Z,90nm,0.9s,mb5.5								
QZH				LR		LR			
	comp=Z,960nm,19.6s,MS4.7								
SSE	**Sheshan**	**46.73**	**323**	*e*P		**P**		**13 02 40.3**	**-0.5**
SSE				AP		pP		13 02 52.3	+1.6
SSE				XP		sP		13 02 56.5	+1.8
SSE				PCP		PcP		13 04 11.8	-2.6
SSE				PP		PP		13 04 30.5	+0.1
SSE				S		**S**		**13 09 28.5**	**+0.9**
SSE				XS				13 09 46.0	
SSE				SCS		ScS		13 12 32.3	+2.0
SSE				AMB		AMB			
	comp=Z,14nm,1.4s,mb4.7								
SSE				AMB		AMB			
	comp=Z,148nm,3.9s								
SSE				LR		LR			
	comp=N,344nm,21.6s,MS4.5								
SSE				LR		LR			
	comp=E,499nm,21.7s,MS4.5								
SSE				LR		LR			
	comp=Z,686nm,20.8s,MS4.6								
SSE	**Sheshan**	**46.73**	**323**	*e*P		**P**		**13 02 40.2**	**-0.6**
	comp=Z,14nm,1.4s,mb4.7								
SSE				pP		pP		13 02 52.3	+1.6
SSE				sP		sP		13 02 56.5	+1.8
SSE				PcP		PcP		13 04 11.8	-2.6
SSE				PP		PP		13 04 30.4	0.0
SSE				S		**S**		**13 09 28.6**	**+1.0**
SSE				sS				13 09 45.9	
SSE				ScS		ScS		13 12 32.2	+1.9
SSE				LR		LR			
	comp=Z,690nm,20.8s,MS4.6								
QIZ	**Qiongzhong**	**48.01**	**302**	*e*P		**P**		**13 02 52.0**	**+0.9**
NJ2	**Nanjing**	**48.81**	**322**	*e*P		**P**		**13 02 58.0**	**+0.9**
NJ2				AP		pP		13 03 08.5	+1.5
NJ2				XP		sP		13 03 11.0	+0.1
NJ2				PP		PP		13 04 50.5	+0.3
NJ2				S		**S**		**13 09 57.0**	**+0.1**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
NJ2				AMB		AMB			
	comp=Z,110nm,6.2s								
NJ2				LR		LR			
	comp=N,1μm,18.6s,MS5.0								
NJ2				LR		LR			
	comp=E,1μm,20.4s,MS5.0								
NJ2				LR		LR			
	comp=Z,570nm,17.2s,MS4.6								
WHN	**Wuhan**	**50.72**	**317**	⇑P		**P**		**13 03 13.3**	**+1.5**
YSS	**Yuzh-Sakhalins**	**52.87**	**352**	⇓*i*P		**P**		**13 03 25.9**	**-1.8**
YSS				pmax		pmax			
	comp=Z,79nm,2.5s,mb5.2								
MDJ	**Mudanjiang**	**53.77**	**340**	P		**P**		**13 03 34.3**	**-0.1**
MDJ				AP		pP		13 03 43.3	-1.0
MDJ				XP		sP		13 03 47.0	-1.2
MDJ				PCP		PcP		13 04 39.3	-0.7
MDJ				PP		PP		13 05 35.5	-1.4
MDJ				SCP				13 08 35.0	
MDJ				PCS				13 08 38.8	
MDJ				S		**S**		**13 11 07.5**	**+2.6**
MDJ				XS				13 11 23.5	
MDJ				SCS		ScS		13 13 20.5	+2.8
MDJ				AMB		AMB			
	comp=Z,11nm,0.9s,mb4.8								
MDJ				AMB		AMB			
	comp=Z,162nm,3.7s								
MDJ				LR		LR			
	comp=N,158nm,21.3s,MS4.1								
MDJ				LR		LR			
	comp=E,70nm,23.9s,MS4.1								
MDJ				LR		LR			
	comp=Z,239nm,22.6s,MS4.2								
ENH	**Enshi**	**53.95**	**314**	*e*P		**P**		**13 03 34.5**	**-1.4**
	comp=Z,39nm,1.2s,mb5.2								
GYA	**Guiyang**	**54.07**	**308**	P		**P**		**13 03 37.3**	**+0.5**
GYA				AP		pP		13 03 47.8	+1.0
GYA				PP		PP		13 05 39.5	-0.3
GYA				S		**S**		**13 11 09.0**	**-0.3**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.8								
GYA				AMB		AMB			
	comp=Z,420nm,6.4s								
GYA				LR		LR			
	comp=N,310nm,18.4s,MS4.6								
GYA				LR		LR			
	comp=E,370nm,18.6s,MS4.6								
GYA				LR		LR			
	comp=Z,360nm,18.9s,MS4.5								
CN2	**Changchun**	**54.57**	**337**	*e*P		**P**		**13 03 41.0**	**+0.7**
CN2				*e*S		**S**		**13 11 18.0**	**+2.3**
CN2				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.8								
CN2				AMB		AMB			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,290nm,14.0s,MS4.6								
CN2				LR		LR			
	comp=E,280nm,14.0s,MS4.6								
CN2				LR		LR			
	comp=Z,310nm,14.0s,MS4.5								
NANT	**Nan**	**55.87**	**297**	P		**P**		**13 03 48.0**	**-2.0**
XAN	**Xi'an**	**56.49**	**317**	P		**P**		**13 03 53.0**	**-1.3**
XAN				AMB		AMB			
	comp=Z,12nm,1.3s,mb4.8								
KMI	**Kunming**	**56.60**	**305**	P		**P**		**13 03 55.3**	**+0.1**
KMI				AP		pP		13 04 05.5	+0.3
KMI				XP		sP		13 04 09.5	+0.5
KMI				PCP		PcP		13 04 51.5	+0.4
KMI				PP		PP		13 06 02.0	-0.6
KMI				PPP		PPP		13 07 20.0	-0.9
KMI				S		**S**		**13 11 42.5**	**-0.5**
KMI				SCS		ScS		13 13 38.5	+0.4
KMI				SS		SS		13 15 29.0	-2.4
KMI				SSS		SSS		13 17 41.5	-1.4
KMI				AMB		AMB			
	comp=Z,12nm,1.2s,mb4.8								
KMI				AMB		AMB			
	comp=Z,105nm,6.3s								
KMI				LR		LR			
	comp=N,242nm,15.4s,MS4.5								
KMI				LR		LR			
	comp=E,223nm,18.2s,MS4.5								
KMI				LR		LR			
	comp=Z,314nm,18.6s,MS4.4								
KMI	**Kunming**	**56.60**	**305**	P		**P**		**13 03 55.2**	**0.0**
	comp=Z,12nm,1.2s,mb4.8								
KMI				pP		pP		13 04 05.4	+0.2
KMI				sP		sP		13 04 09.6	+0.6
KMI				PcP		PcP		13 04 51.5	+0.4
KMI				PP		PP		13 06 02.1	-0.5
KMI				PPP		PPP		13 07 20.1	-0.8
KMI				S		**S**		**13 11 42.5**	**-0.5**
KMI				PS		PS		13 11 58.8	-0.7
KMI				sS				13 11 59.9	
KMI				ScS		ScS		13 13 38.5	+0.4
KMI				SS		SS		13 15 29.0	-2.4
KMI				SSS		SSS		13 17 41.4	-1.5
KMI				LR		LR			
	comp=Z,310nm,18.6s,MS4.4								
KMI	**Kunming**	**56.60**	**305**	P		**P**		**13 03 55.2**	**0.0**
KMI				*PP		pP		13 04 05.4	+0.2
KMI				*SP		sP		13 04 09.6	+0.6
KMI								13 04 51.5	
KMI								13 06 02.1	
KMI				PPP		PPP		13 07 20.1	-0.8
KMI				S		**S**		**13 11 42.5**	**-0.5**
KMI				PS		PS		13 11 58.8	-0.7
KMI				*SS				13 11 59.9	
KMI								13 13 38.5	
KMI				SS		SS		13 15 29.0	-2.4
KMI				SSS		SSS		13 17 41.4	-1.5
KMI				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.8								
KMI				MLR		MLR			
	comp=Z,310nm,18.6s,MS4.4								
CHG	**Chiang Mai**	**57.43**	**296**	P		**P**		**13 04 01.5**	**+0.3**
PPT	**Papeete**	**58.43**	**107**	*e*S		**S**		**13 12 05.4**	**-1.8**
PPT				*e*LQ				13 18 50.2	
PPT				*e*LR		LR		13 21 18.4	
	comp=Z,134nm,23.2s								
PPT	**Papeete**	**58.43**	**107**	LR		LR		13 22 59.4	
	comp=Z,115nm,19.9s,MS4.0,baz=334,slow=30								
CD2	**Chengdu**	**58.48**	**311**	P		**P**		**13 04 08.5**	**+0.1**
CD2				PP		PP		13 06 18.5	-1.0
CD2				PPP		PPP		13 07 41.8	-1.4
CD2				S		**S**		**13 12 04.0**	**-3.7**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
CD2				LR		LR			
	comp=E,250nm,19.2s								
CD2				LR		LR			
	comp=Z,310nm,21.6s,MS4.4								
PET	**Petropavlovsk**	**58.62**	**5**	*e*P		**P**		**13 04 09.9**	**+0.9**
PET				*e*				13 06 22.7	
PET				*e*S		**S**		**13 12 14.9**	**+5.7**
PET				pmax		pmax			
	comp=Z,100nm,19.3s								
PET				pmax		pmax			
	comp=Z,100nm,16.8s								
PET				MLR		MLR			
	comp=Z,100nm,17.0s,MS4.0								
HHC	**Hu-ho-hao-te**	**59.08**	**325**	*e*P		**P**		**13 04 12.5**	**+0.1**
HHC				AP		pP		13 04 20.3	-2.2
HHC				PCP		PcP		13 05 01.8	+1.2
HHC				PP		PP		13 06 24.3	-0.4
HHC				PCS				13 08 59.0	
HHC				S		**S**		**13 12 14.0**	**-1.4**
HHC				PS		PS		13 12 31.8	-2.3
HHC				SCS		ScS		13 13 57.0	+1.0
HHC				SS		SS		13 16 10.3	-0.9
HHC				AMB		AMB			
	comp=Z,26nm,0.9s,mb5.3								
HHC				AMB		AMB			
	comp=Z,156nm,4.9s								
HHC				LR		LR			
	comp=N,266nm,19.0s								
HHC				LR		LR			
	comp=E,316nm,9.5s								
HHC				LR		LR			
	comp=Z,458nm,17.8s,MS4.7								
TBI	**Tubuai**	**59.15**	**114**	*e*LR		LR		13 21 39.4	
	comp=Z,491nm,35.0s								
LZH	**Lanzhou**	**61.08**	**317**	*e*P		**P**		**13 04 26.3**	**+0.1**
LZH				AP		pP		13 04 35.5	-0.8
LZH				XP		sP		13 04 40.5	+0.5
LZH				PCP		PcP		13 05 09.5	+0.8
LZH				PP		PP		13 06 42.0	-0.8
LZH				SCP				13 09 06.0	
LZH				*eS		**S**		**13 12 39.0**	**-2.1**
LZH				XS				13 12 58.0	
LZH				*eSS		SS		13 16 41.0	-1.4
LZH				AMB		AMB			
	comp=Z,26nm,1.2s,mb5.2								
LZH				AMB		AMB			
	comp=Z,110nm,4.1s								
LZH				LR		LR			
	comp=E,470nm,15.0s								
LZH				LR		LR			
	comp=Z,850nm,16.1s,MS5.0								
LZH	**Lanzhou**	**61.08**	**317**	*e*P		**P**		**13 04 26.3**	**+0.1**
	comp=Z,26nm,1.2s,mb5.2								
LZH				pP		pP		13 04 35.5	-0.8

comp=Z,18nm,1.3s,mb5.0
LSA Lhasa 67.85 305 *e*P **P** **13 05 08.3 -2.1**
LSA pmax pmax
comp=Z,18nm,1.3s,mb4.9
SEY Seymchan 68.27 0 *i* P **P** **13 05 11.6 -0.8**
YAK Yakutsk 69.50 349 P **P** **13 05 14.9 -5.0**
comp=Z,9.3nm,0.6s,mb4.9
YAK Yakutsk 69.50 349 *e*P **P** **13 05 21.0 +1.0**
YAK pmax pmax
comp=Z,18nm,1.1s,mb4.9
ZAK Zakamensk 69.61 329⇑ *i*P **P** **13 05 20.9 0.0**
ZAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
BOD Bodaibo 70.13 340 *e*P **P** **13 05 21.2 -2.7**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GUN Gumba 71.67 302 *e*P **P** **13 05 33.8 0.0**
comp=Z,28nm,0.6s,mb5.3
PKI Pulchoki 71.97 301 *e*P **P** **13 05 35.2 -0.4**
comp=Z,85nm,1.6s,mb5.4
VNDA Vanda 72.14 178 *e*P **P** **13 05 35.2 -0.6**
comp=Z,5.0nm,1.0s,mb4.4
VNDA Vanda 72.14 178 *e*P **P** **13 05 35.2 -0.6**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
KKN Kakani 72.14 301 *e*P **P** **13 05 36.4 -0.2**
comp=Z,23nm,0.8s,mb5.1
DMN Daman 72.24 301 *e*P **P** **13 05 37.1 -0.1**
comp=Z,49nm,0.9s,mb5.4
RKT Rikitea 72.41 112 *e*LR LR 13 27 46.5
comp=Z,354nm,29.5s
SBA Scott Base 72.71 177 *e*P **P** **13 05 40.2 +1.2**
comp=Z,31nm,1.8s,mb4.9
SBA Scott Base 72.71 177 *e*P **P** **13 05 40.3 +1.3**
SBA pmax pmax
comp=Z,31nm,1.8s,mb4.9
GKN Gorkha 72.75 301 *e*P **P** **13 05 39.7 -0.5**
comp=Z,40nm,0.9s,mb5.3
MIR Mirnyy 72.90 201 *c i*P **P** **13 05 41.6 +1.3**
MIR pmax pmax
comp=Z,25nm,1.0s,mb5.1
KOLN Koldanda 73.57 301 *e*P **P** **13 05 44.6 -0.4**
comp=Z,22nm,0.8s,mb5.2
BILL Bilibino 74.10 6 *e*P **P** **13 05 46.5 -0.8**
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.4
WMQ Urumqi 75.62 318 P **P** **13 05 56.5 0.0**
WMQ AP pP 13 06 07.0 +0.2
WMQ XP sP 13 06 11.0 +0.7
WMQ PP PP 13 08 49.0 +1.0
WMQ *e*S S 13 15 33.0 -0.9
WMQ XS 13 15 51.0
WMQ SS SS 13 20 28.0 0.0
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,181nm,4.0s
WMQ LR LR
comp=N,284nm,24.4s,MS4.5
WMQ LR LR
comp=E,207nm,27.0s,MS4.5
WMQ LR LR
comp=Z,275nm,26.2s,MS4.4
HYB Hyderabad 75.82 289 *i* P **P** **13 05 58.0 -0.1**
HYB Hyderabad 75.82 289 *e*P **P** **13 05 58.0 -0.1**
TIXI Tiksi 78.49 353 *e*P **P** **13 06 10.8 -1.1**
TIXI pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
TTA Tatalina 78.80 22 *e*P **P** **13 06 14.2 +0.5**
comp=Z,17nm,1.3s,mb4.8
TTA Tatalina 78.80 22 *e*P **P** **13 06 14.2 +0.5**
TTA pmax pmax
comp=Z,17nm,1.3s,mb4.8
SLKM Skilak Lake 79.73 25 *e*P **P** **13 06 18.7 -0.1**
MKAR Makanchi Array 80.24 319 P **P** **13 06 22.2 +0.4**
comp=Z,9.2nm,0.9s,mb4.7,baz=101,slow=6.2,SNR=42
MKAR LR LR 13 40 33.8
comp=Z,203nm,20.1s,MS4.5,baz=95,slow=35
NVS Novosibirsk 82.41 327 *e*P **P** **13 06 31.9 -1.1**
KSH Kashi 82.67 311 *e*P **P** **13 06 36.5 +1.8**
KSH *e*AP pP 13 06 47.3 +2.2
KSH *e*XP sP 13 06 50.8 +2.3
KSH *e*PP PP 13 09 48.5 +2.0
KSH *e*PPP PPP 13 11 42.5 +3.3
KSH S S 13 16 50.3 +1.8
KSH SKS SKS 13 16 51.5 -6.7
KSH XS 13 17 08.5
KSH *e*SS SS 13 22 17.3 +3.0
KSH AMB AMB
comp=Z,240nm,4.6s
COLA College 82.88 22 *e*P **P** **13 06 35.0 -0.3**
comp=Z,8.4nm,0.9s,mb4.8
COLA College 82.88 22 *e*P **P** **13 06 35.0 -0.3**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ULHL Ulahol 83.11 314 P **P** **13 06 38.4 +1.5**
SNR=7.5
ILAR Eielson Array 83.19 22 P **P** **13 06 36.4 -0.5**
comp=Z,2.8nm,0.7s,mb4.4,baz=246,slow=4.9,SNR=25
TKM2 Tokmak 2 83.74 314 *e*P **P** **13 06 41.3 +1.2**
SNR=8.1
KURK Kurchatov 83.75 322 *e*P **P** **13 06 39.7 -0.2**
comp=Z,24nm,1.1s,mb5.2
KURK Kurchatov 83.75 322 *e*P **P** **13 06 39.7 -0.3**
KURK pmax pmax
comp=Z,24nm,1.1s,mb5.2
KZA Kyzart 83.79 313 P **P** **13 06 42.9 +2.5**
SNR=5.0
CHMS Chumysh 84.36 314 P **P** **13 06 44.1 +0.9**
SNR=11
UCH Uchtor 84.36 313 P **P** **13 06 45.5 +2.2**
SNR=23
FRU Bishkek 84.42 314 *e*P **P** **13 06 45.0 +1.4**
QSPA South Pole Qui 84.44 180⇑ *i*P **P** **13 06 43.9 +1.1**
comp=Z,13nm,1.0s,mb5.0
AAK Ala-Archa 84.46 314 P **P** **13 06 45.4 +1.6**
SNR=8.1
AAK Ala-Archa 84.46 314 *e*P **P** **13 06 43.6 -0.2**
comp=Z,16nm,1.1s,mb5.0
AAK Ala-Archa 84.46 314 *e*P **P** **13 06 43.6 -0.2**
AAK pmax pmax
comp=Z,16nm,1.1s,mb5.1
MAW Mawson 84.53 203 P **P** **13 06 43.8 +0.3**
comp=Z,3.0nm,0.7s,mb4.6,baz=101,slow=5.7,SNR=10.0
MAW LR LR 13 41 00.9
comp=Z,308nm,21.7s,MS4.7,baz=69,slow=33
USP Ospenovka 84.60 314 P **P** **13 06 45.1 +0.6**
SNR=11
AML Almayashu 84.93 313 P **P** **13 06 47.9 +1.8**
SNR=42
EKS2 Erkin-Say 84.98 314 P **P** **13 06 47.6 +1.2**
SNR=27
KKAR Karatay Array 87.42 314 P **P** **13 06 58.7 +0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.3
DLBC Dease Lake 88.50 31 P **P** **13 07 04.4 +1.3**
comp=Z,14nm,1.1s,mb5.2,baz=259,slow=5.6,SNR=10
CHKZ Chkalovo 89.22 324 *e*P **P** **13 07 04.2 -2.5**
comp=Z,10nm,1.0s,mb5.1
CHKZ Chkalovo 89.22 324 P **P** **13 07 05.1 -1.6**
CHKZ pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
BVA0 Borovoye Array 89.24 323 P **P** **13 07 05.5 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.4
BVAR Borovoye Array 89.24 323 P **P** **13 07 06.0 -0.8**
comp=Z,8.4nm,0.8s,mb5.1,baz=108,slow=4.7,SNR=30
BRVK Borovoye 89.31 323 *e*P **P** **13 07 05.6 -1.5**
comp=Z,8.6nm,1.0s,mb5.0
BRVK Borovoye 89.31 323 *e*P **P** **13 07 05.6 -1.5**
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
INK Inuvik 89.48 21 P **P** **13 07 08.2 +0.6**
comp=Z,6.8nm,1.1s,mb4.9,baz=307,slow=1.2,SNR=3.2
INK Inuvik 89.48 21 *e*P **P** **13 07 08.2 +0.7**
comp=Z,14nm,1.4s,mb5.1
INK Inuvik 89.48 21 *e*P **P** **13 07 08.2 +0.6**
INK pmax pmax
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 90.26 48 P **P** **13 07 13.4 +1.6**
comp=Z,4.3nm,1.0s,mb4.7,baz=197,slow=1.6,SNR=7.6
SYO Syowa Base 92.66 200 ⇓P **P** **13 07 20.0 -2.2**
SYO Syowa Base 92.66 200 ⇓PcP PcP 13 07 24.5 +1.4
WVOR Wild Horse Val 93.35 48 *e*P **P** **13 07 27.7 +1.7**
comp=Z,10nm,1.2s,mb5.1
WVOR Wild Horse Val 93.35 48 *e*P **P** **13 07 27.7 +1.7**
WVOR pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
NEW Newport 94.78 42 P **P** **13 07 32.8 +0.3**
comp=Z,5.5nm,0.9s,mb5.0,baz=239,slow=4.4,SNR=5.9
NEW Newport 94.78 42 *e*P **P** **13 07 32.7 +0.2**
comp=Z,4.1nm,0.8s,mb4.9
NEW Newport 94.78 42 P **P** **13 07 32.8 +0.3**
NEW pmax pmax
comp=Z,6.0nm,0.9s
AB31 Akbulak array 95.38 319 P **P** **13 07 34.4 -0.8**
NEN Nelson 95.89 55 *e*P **P** **13 07 39.1 +1.2**
ARU Arti 96.38 326⇑ *i*P **P** **13 07 39.3 -0.3**
ARU *e* 13 11 32.8
ARU *e*S 13 18 10.2
ARU *e*SS SS 13 25 27.7 -3.4
ARU pmax pmax
comp=Z,7.0nm,1.5s,mb4.9
ARU MLR MLR
comp=Z,400nm,21.0s,MS4.9
ARU MLR MLR
comp=N,40nm,20.0s,MS4.8
ARU MLR MLR
comp=E,300nm,22.0s,MS4.8
YKA Yellowknife Ar 96.52 28 LR LR 13 45 16.4
comp=E,228nm,20.1s,MS4.7,baz=270,slow=32
EDM Edmonton 97.28 37 *e*P **P** **13 07 44.6 +0.9**
PDAR Pinedale Array 100.05 48 P P 13 07 57.0 +0.4
comp=E,1.5nm,0.8s,baz=264,slow=2.7,SNR=11
SNAA Sanae 101.18 188 P PP 13 12 08.4 -4.3
SNAA Sanae 101.18 188 13 12 26.8
SNAA Sanae 101.18 188 13 12 35.7
SNAA Sanae 101.18 188 13 12 40.5
VNA3 Neumayer Olymp 102.41 186 P PP 13 12 21.2 -0.5
VNA3 Neumayer Olymp 102.41 186 13 12 38.7
VNA3 Neumayer Olymp 102.41 186 13 12 42.3
VNA2 Neumayer--Watz 102.45 187 P PP 13 12 18.1 -3.9
VNA2 Neumayer--Watz 102.45 187 13 12 28.5
VNA2 Neumayer--Watz 102.45 187 13 12 38.5
TXAR Lajitas Array 105.33 61 Pdiff Pdif 13 08 19.5 -0.7
comp=E,0.3nm,0.3s,baz=256,slow=5.1,SNR=4.1
BRTR Keskin Array B 115.06 311 PKP PKPdf 13 12 52.2 -4.1
comp=E,0.9nm,0.8s,slow=1.2,SNR=3.6
SKO Skopje 123.01 317 *e*PKP PKPdf 13 13 07.5 -4.1
CLL Collm 123.01 330 *i* PKIKP PKPdf 13 13 07.9 -3.5
comp=E,logA/T=0.7
KHC Kasperske Hory 124.05 328 *e*PKPdf PKPdf 13 13 10.4 -3.1
KHC Kasperske Hory 124.05 328 *i* PKIKP PKPdf 13 13 10.5 -3.0
GERES GERESS Array B 124.16 328 PKP PKPdf 13 13 10.3 -3.4
comp=E,2.5nm,0.7s,baz=45,slow=1.9,SNR=17
GRA1 Grafenberg Arr 124.91 330 *e*PKP PKPdf 13 13 12.6 -2.5
GRF Grafenberg Arr 124.91 330 *e*PKIKP PKPdf 13 13 12.6 -2.5
DAVOX Davos 127.46 328 PKP PKPdf 13 13 16.9 -3.2
comp=E,3.7nm,0.7s,baz=357,slow=3.6,SNR=3.1
LPL La Plagne 129.94 328 *e*PKIKP PKPdf 13 13 23.1 -1.8
comp=E,2.5nm,0.3s
LPG La Plagne 129.95 328 *e*PKIKP PKPdf 13 13 23.2 -1.7
LOR Lormes 130.15 332 *e*PKIKP PKPdf 13 13 23.2 -2.1
MBDF Montbardon 130.45 328 *e*PKIKP PKPdf 13 13 23.7 -2.2
SSF Saint Saulge 130.47 332 *e*PKIKP PKPdf 13 13 23.9 -2.0
SMF Signal de Mont 130.61 331 *e*PKIKP PKPdf 13 13 24.1 -2.0
ORIF Oris-en-Rattie 130.79 328 *e*PKIKP PKPdf 13 13 24.3 -2.2
VIVF Saint-Julien-l 131.46 329 *e*PKIKP PKPdf 13 13 25.8 -2.0
TCF Toulx Ste Croi 131.64 332 *e*PKIKP PKPdf 13 13 26.1 -2.0
MFF Saint Martin d 132.47 334 *e*PKIKP PKPdf 13 13 27.6 -2.1
CAF Calviac 132.71 331 *e*PKIKP PKPdf 13 13 29.0 -1.2
LPAZ La Paz 134.92 119 PKP PKPdf 13 13 33.4 -1.6
comp=E,1.5nm,0.8s,baz=51,slow=0.5,SNR=5.7
LPAZ La Paz 134.92 119 *e*PKPdf PKPdf 13 13 33.5 -1.5
LPAZ La Paz 134.92 119 PKIKP PKPdf 13 13 33.4 -1.6
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
SDV Santo Domingo 137.76 83 *e*PKPdf PKPdf 13 13 37.1 -3.2
BDFB Brasilia 151.22 137 PKPbc PKPdf 13 14 06.1 +3.0
comp=Z,10nm,0.8s,baz=219,slow=4.0,SNR=14
BDFB PKPab PKPab 13 14 13.7 -0.3
comp=Z,14nm,0.8s,baz=177,slow=1.2,SNR=13
DBIC Dimbokro 156.79 274 PKPab PKPab 13 14 37.5 -0.1
comp=Z,3.6nm,0.7s,baz=34,slow=4.4,SNR=4.9

*MDD **30** 13:03:07.3±2.2,36.70N×11.19W,h69km±77km, mb3.8/9, Error ellipse: s-maj=21.7km s-min=14.4km az=65.0, PRXIMO*
INMG 30 13:03:08.2±0.9, 36.77N×11.03W, h10km, ML2.4, Error ellipse: s-maj=6.2km s-min=3.9km az=79.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.99**	**67**	*e*Pn	Pn	13 03 40.1	-2.3
PTEO				*e*Sn	Sn	13 04 03.9	-3.7
	20nm,0.1s						
PTEO	**Sao Teotonio**	**1.99**	**67**	Pn	Pn	13 03 40.1	-2.3
PTEO				Sn	Sn	13 04 03.9	-3.7
	10nm,0.1s						
PLOU	**Loures**	**2.58**	**35**	*e*Pn	Pn	13 03 47.9	-2.9
PLOU				*e*Sn	Sn	13 04 18.3	-4.2
	15nm,0.2s						
PLOU	**Loures**	**2.58**	**35**	Pn	Pn	13 03 47.9	-2.9
PLOU				Sn	Sn	13 04 18.3	-4.2
	7.6nm,0.2s						
PBEJ	**Beja**	**2.81**	**63**	*e*Sn	Sn	13 04 23.1	-5.2
	7.5nm,0.1s						
PBEJ	**Beja**	**2.81**	**63**	Sn	Sn	13 04 23.1	-5.2
	3.8nm,0.1s						
EGRO	**El Granado**	**2.93**	**74**	P	Pn	13 03 53.5	-2.3
EGRO	1.1nm,0.1s,SNR=8.6			S	Sn	13 04 26.8	-4.6
	7.3nm,0.1s,SNR=12						
PTOM	**Tomar**	**3.51**	**35**	*e*Sn	Sn	13 04 40.4	-5.6
	8.0nm,0.1s						
PTOM	**Tomar**	**3.51**	**35**	Sn	Sn	13 04 40.4	-5.6
	4.0nm,0.1s						
EMIN	**Mina Concepcio**	**3.61**	**73**	P	Pn	13 04 01.9	-3.5
	1.0nm,0.1s,SNR=20						
EMIN				S	Sn	13 04 42.7	-6.0
	5.0nm,0.1s,SNR=22						
EBAD	**Badajoz**	**3.75**	**57**	P	Pn	13 04 04.1	-3.3
	1.2nm,0.1s,SNR=8.3						
EBAD				S	Sn	13 04 45.9	-6.1
	16nm,0.2s,SNR=10.0						
PCBR	**Castelo Branco**	**4.14**	**41**	*e*Sn	Sn	13 04 55.2	-6.9
	4.1nm,0.2s						
PCBR	**Castelo Branco**	**4.14**	**41**	Sn	Sn	13 04 55.2	-6.9
	2.0nm,0.2s						
ESPR	**Espera**	**4.15**	**87**	P	Pn	13 04 09.4	-3.7
	12nm,0.1s,SNR=18						
ESPR				S	Sn	13 04 55.4	-6.9
	22nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**4.53**	**36**	*e*Sn	Sn	13 05 04.3	-7.7
ECAB	**El Cabril**	**4.65**	**72**	P	Pn	13 04 16.2	-4.0
	2.1nm,0.2s,SNR=21						
ECAB				S	Sn	13 05 06.7	-8.2
	3.0nm,0.1s						
EADA	**Adamuz**	**5.32**	**73**	P	Pn	13 04 25.6	-4.0
	1.7nm,0.1s,SNR=13						
EADA				S	Sn	13 05 22.8	-8.8
	3.2nm,0.1s						
PCAB	**Cabril**	**5.45**	**24**	*e*Pn	Pn	13 04 26.4	-5.1
PCAB				*e*Sn	Sn	13 05 26.4	-8.7
	5.8nm,0.1s						
PCAB	**Cabril**	**5.45**	**24**	Pn	Pn	13 04 26.4	-5.1
PCAB				Sn	Sn	13 05 26.4	-8.7
	2.9nm,0.1s						
ELOB	**Lobios**	**5.58**	**23**	P	Pn	13 04 28.9	-4.5
	0.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	13 05 27.3	-11
	4.7nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**5.92**	**74**	P	Pn	13 04 33.3	-4.9
	2.7nm,0.2s,SNR=7.9						
EBAN				S	Sn	13 05 37.8	-9.2
	1.4nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.02**	**32**	*e*Sn	Sn	13 05 39.5	-10
EQUE	**Quentar**	**6.09**	**84**	P	Pn	13 04 36.1	-4.4
	1.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.14**	**31**	S	Sn	13 05 42.6	-10
	3.3nm,0.2s,SNR=7.9						

*NEIC **30** 13:41:14.3±0.7, 17.14S×70.05W, h131km±7km, mb3.9/4, Error ellipse: s-maj=12.5km s-min=9.3km az=209.0*
*IDC **30** 13:41:14.5±1.8, 17.32S×69.98W, h135km±14km, mb3.8/4, mb1 4.0/7, mb1mx3.7/16, mbtmp4.3/7, Error ellipse: s-maj=26.7km s-min=11.4km az=109.0*
ISC 30 13:41:13.7±0.6, 17.09S±0.09×70.05W±0.06, h149km±6km, n22, σ1s19/25, mb4.3/9, 2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.52**	**294**⇑	*i*P	**P**	**13 41 43.9**	**+0.1**
ARE				*i* S	**S**	**13 42 07.0**	**+0.1**
LPAZ	**La Paz**	**2.00**	**67**	P	**P**	**13 41 50.8**	**+1.6**
	53nm,0.3s,baz=266,slow=8.8,SNR=741						
LPAZ				S	**S**	**13 42 17.3**	**+0.9**
	38nm,0.3s,baz=157,slow=24,SNR=25						
LPAZ	**La Paz**	**2.00**	**67**⇑	*i*Pn	**P**	**13 41 50.7**	**+1.5**
LPAZ				*e*Sn	**S**	**13 42 16.9**	**+0.4**
LVC	**Limon Verde**	**5.60**	**169**	P	**P**	**13 42 34.0**	**-1.9**
	3.3nm,0.3s,baz=330,slow=10,SNR=25						
LVC				S	**S**	**13 43 31.7**	**-7.9**
	7.0nm,0.3s,baz=265,slow=23,SNR=17						
LVC	**Limon Verde**	**5.60**	**169**	*e*Pn	**P**	**13 42 34.2**	**-1.7**
LVC				*e*Sn	**S**	**13 43 32.0**	**-7.7**
NNA	**Nana**	**8.31**	**307**	*e*Pn	**P**	**13 43 11.2**	**-1.0**
	19nm,0.4s						
SIV	**San Ignacio**	**8.68**	**84**	P	**P**	**13 43 15.9**	**-1.2**
	19nm,0.3s,baz=272,slow=10,SNR=185						
SAML	**Samuel**	**10.50**	**40**	*e*Pn	**P**	**13 43 38.3**	**-3.0**
	5.0nm,0.8s						
BDFB	**Brasilia**	**21.19**	**89**	P	**P**	**13 45 50.1**	**+1.5**
	5.6nm,0.5s,mb4.1,baz=274,slow=12,SNR=6.3						
PLCA	**Paso Flores**	**23.56**	**181**	P	**P**	**13 46 12.7**	**+1.1**
	3.3nm,0.8s,mb3.9,baz=360,slow=24,SNR=9.1						
PLCA	**Paso Flores**	**23.56**	**181**	*e*P	**P**	**13 46 12.6**	**+1.0**
	1.6nm,0.5s,mb3.8						
TXAR	**Lajitas Array**	**56.42**	**325**	P	**P**	**13 50 42.8**	**+0.6**
	0.4nm,0.4s,mb3.6,baz=153,slow=8.8,SNR=3.9						
SDCO	**Great Sand Dun**	**63.93**	**329**	*e*P	**P**	**13 51 34.3**	**+1.2**
	1.1nm,0.7s,mb3.8						
VNA2	**Neumayer--Watz**	**65.15**	**161**		**P**	**13 51 42.2**	**+1.7**
SNAA	**Sanae**	**66.78**	**161**		**P**	**13 51 51.2**	**+0.4**
SNAA	**Sanae**	**66.78**	**161**	*e*P	**P**	**13 51 51.0**	**+0.2**
	1.2nm,0.6s,mb3.9						
LIC	**Lamto**	**68.28**	**76**	*e*P	**P**	**13 51 59.1**	**-2.0**
	55nm,1.7s,mb5.0						
TIC	**Toumodi**	**68.44**	**76**	*e*P	**P**	**13 52 01.6**	**-0.5**
	12nm,0.2s,mb5.2						
KIC	**Kosan Boka**	**68.59**	**76**	*e*P	**P**	**13 52 02.3**	**-0.7**
	23nm,0.5s,mb5.2						
DBIC	**Dimbokro**	**68.60**	**76**	P	**P**	**13 52 02.6**	**-0.5**
	6.9nm,0.6s,mb4.5,baz=213,slow=6.0,SNR=17						
WRA	**Warramunga Arr**	**136.09**	**214**	PKP	PKPdf	14 00 21.0	+3.1
	0.3nm,0.7s,baz=137,slow=1.5,SNR=5.3						
SONM	**Songino Array**	**149.20**	**5**	PKPbc	PKPdf	14 00 47.4	+7.4
	0.6nm,0.5s,baz=338,slow=2.2,SNR=4.0						

*NEIC **30** 13:49:51.6±3.6, 5.64S×152.28E, h55km±27km, mb4.0/2, Error ellipse: s-maj=60.7km s-min=20.4km az=120.0*
*IDC **30** 13:49:51.3±6.2, 5.70S×152.28E, h56km±56km, mb3.6/5, mb1 3.9/6, mb1mx3.8/12, mbtmp4.0/6, ML3.3/1, MS3.2/3, Ms1 3.2/3, ms1mx3.0/13, Error ellipse: s-maj=65.0km s-min=33.3km az=133.0*
ISC 30 13:49:50.3±4.7, 5.6S±0.2×152.1E±0.3, h51km±37km, n12, σ0s73/12, mb3.8/6, MS3.3/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.23**	**232**	P	**P**	**13 51 22.0**	**+0.2**
	4.5nm,0.3s,baz=56,slow=7.3,SNR=15						
PMG				S	**S**	**13 52 32.2**	**-0.4**
	6.1nm,0.3s,baz=126,slow=22,SNR=8.9						
PMG				LR	LR	13 53 28.3	
	comp=Z,101nm,18.6s,baz=167,slow=35						
KAKA	**Kakadu**	**20.67**	**249**	*e*P	**P**	**13 54 45.2**	**+17**
	6.2nm,0.6s						
DZM	**Mont Dzumac**	**21.50**	**141**	LR	LR	14 00 11.9	
	comp=Z,88nm,20.4s,MS3.1,baz=209,slow=29						
WRAB	**Tennant Creek**	**22.42**	**229**	*e*P	**P**	**13 54 47.6**	**+1.7**
	2.6nm,0.6s,mb3.8						
WB2	**Warramunga Arr**	**22.43**	**229**	*e*P	**P**	**13 54 46.7**	**+0.7**
WRA	**Warramunga Arr**	**22.44**	**229**	P	**P**	**13 54 45.7**	**-0.4**
	1.7nm,0.7s,mb3.6,baz=55,slow=10,SNR=23						
ASPA	**Alice Springs**	**25.14**	**222**	*e*P	**P**	**13 55 11.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**28.70**	**242**	*e*P	**P**	**13 55 44.6**	**-0.4**
	2.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**28.70**	**242**	P	**P**	**13 55 44.2**	**-0.8**
	3.8nm,0.5s,mb4.4,baz=50,slow=5.2,SNR=11						
SONM	**Songino Array**	**66.59**	**328**	P	**P**	**14 00 37.3**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=135,slow=6.1,SNR=4.4						
SONM				LR	LR	14 29 45.3	
	comp=Z,25nm,18.4s,MS3.5,baz=245,slow=36						
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**	**14 01 58.6**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=90,slow=4.3,SNR=2.5						
ILAR	**Eielson Array**	**83.11**	**22**	P	**P**	**14 02 11.2**	**-0.4**
	1.2nm,0.6s,mb4.1,baz=247,slow=5.2,SNR=22						

GUC 30 13:54:18.5±0.8, 33.74S×71.87W, h25km±11km, MD3.5, ML2.2, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.36**	**44**⇑	*i*P	Pb	13 54 26.0	-0.4
LCCH				*i* S	Sb	13 54 32.6	+0.8
LNV	**Longovilo**	**0.44**	**120**⇓	*i*P	Pb	13 54 27.0	-0.7
LNV				*i* S	Sb	13 54 34.5	+0.5
TACH	**Talagante**	**0.78**	**84**	*i* S	Sb	13 54 43.1	-0.5
RCDM	**Rinconada Maip**	**0.92**	**75**	AMP		13 54 49.9	
	comp=N,89nm,0.1s						
CHCH	**Chadas Angostu**	**1.03**	**101**	*e*P	Pn	13 54 36.8	-0.8
CHCH				*i* S	Sb	13 54 50.9	+0.2
CACH	**El Canelo**	**1.12**	**110**	*i*P	Pn	13 54 39.6	+0.8
CACH				*i* S	Sb	13 54 55.0	+1.6
PCH	**Pirque**	**1.14**	**85**⇓	*i*P	Pn	13 54 38.5	-0.6
PCH				*i* S	Sb	13 54 54.1	+0.4
CICH	**Cipreses**	**1.34**	**116**⇓	*i*P	Pn	13 54 42.0	+0.2
FCH	**Farellones**	**1.38**	**73**⇓	*i*P	Pn	13 54 42.7	+0.2
FCH				⇑*i*P		13 54 43.4	
FCH				*i* S	Sn	13 55 01.2	+1.1
FCH				*i* S	Sn	13 55 03.0	+3.0
FCH				AMP		13 55 03.9	
	comp=N,102nm,0.3s						
JACH	**Jahuel**	**1.50**	**46**⇓	*i*P	Pn	13 54 44.8	+0.6

ISC 30 13:54:27.6±0.8, 38.30N±0.06×38.30E±0.07, h10km, n7, σ1s45/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.57**	**70**	*i*P	**Pg**	**13 54 38.4**	**-0.7**
ELZG				*i* S	**Sg**	**13 54 48.6**	**+1.7**
ATAB	**Bozova**	**0.83**	**180**	*i*P	**Pb**	**13 54 44.5**	**+0.8**
ATAB				*i* S	**Sb**	**13 54 54.8**	**+0.1**
URFA	**Urfa**	**0.95**	**154**	*e*PG	**Pg**	**13 54 44.9**	**-1.8**
PTK	**Pertek**	**1.04**	**55**	*e*PG	**Pg**	**13 54 46.6**	**-1.8**
PTK				*e*SG	**Sg**	**13 55 03.5**	**+1.3**
GZT	**Gaziantep**	**1.11**	**212**	*i*P	**Pb**	**13 54 47.9**	**-0.6**
GZT				*i* S	**Sb**	**13 55 04.1**	**+1.4**
KAHT	**Ahir Dag**	**1.31**	**240**	*i*P	**Pb**	**13 54 50.1**	**-1.7**
KAHT				*i* S	**Sb**	**13 55 10.7**	**+2.0**
GAZ	**Gaziantep**	**1.42**	**218**	*e*PG	**Pg**	**13 54 52.7**	**-3.3**

IGQ 30 14:05:43.0, 0.73S×78.76W, h23km±1km, mb4.1, 5C-13D, Error ellipse: s-maj=0.9km s-min=0.5km az=4.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QIL1	**Quilotoa**	**0.21**	**235**	⇓P	Pb	14 05 49.1	+0.5
CAMI	**Rancho Maria**	**0.26**	**79**	⇓P	Pb	14 05 49.8	+0.4
NAS1	**Nasa**	**0.30**	**72**	⇓P	Pb	14 05 50.6	+0.7
VC1	**Cotopaxi 1**	**0.37**	**77**	⇓P	Pb	14 05 51.8	+0.8
TAMB	**Tambo**	**0.40**	**85**	⇓P	Pb	14 05 51.9	+0.5
PISA	**Pisayambo**	**0.50**	**131**	⇓P	Pb	14 05 53.7	+0.6
JUA2	**San Juan 2**	**0.53**	**17**	⇑P	Pb	14 05 54.6	+0.9
TERV	**Terraza Guagua**	**0.57**	**16**	⇑P	Pb	14 05 55.3	+1.0
GGP	**Refugio Guagua**	**0.57**	**17**	⇓P	Pb	14 05 55.1	+0.8
PINO	**Pino**	**0.59**	**15**	⇑P	Pb	14 05 55.5	+1.0
YANA	**Yana**	**0.63**	**18**	⇓P	Pb

CUSU				S	Sb	14 06 08.4	+0.8	
IGUA	**Igualata**	**0.77**	**171**	P	Pb	14 05 58.8	+1.2	
ULBA	**Ulba**	**0.80**	**154**	P	Pb	14 05 58.6	+0.5	
ARRY	**Arrayan**	**0.83**	**158**	⇑P	Pb	14 05 58.9	+0.2	
PATA	**Patacocha**	**0.84**	**157**	P	Pb	14 06 00.1	+1.3	
CAYR	**Refugio Cayamb**	**1.06**	**46**	⇓P	Pb	14 06 03.7	+1.2	
CAYR				S	Sb	14 06 18.4	+2.5	
ANGU	**Angureal**	**1.08**	**45**	⇓P	Pn	14 06 03.9	+1.1	
LAV3	**Lava3-Reventad**	**1.29**	**61**	P	Pn	14 06 01.5	-4.3	
ECOPE	**Copete-Rev Vol**	**1.30**	**62**	P	Pn	14 06 08.1	+2.2	
ECOPE				S	Sn	14 06 25.6	+2.9	
JAMA	**Jama**	**1.52**	**288**	P	Pn	14 06 09.8	+0.7	

*NEIC **30** 14:16:06.3, 32.29S×71.75W, h7km, ML2.7(GUC), After GUC.*

GUC 30 14:16:06.3±0.8, 32.29S×71.75W, h7km±4km, MD3.6, ML2.7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.46**	**27**	⇓*i*P	Pg	14 16 15.4	-0.1
CHNG				*i* S	Sg	14 16 23.1	+1.4
CHNG				AMP		14 16 23.4	
	comp=N,376nm,0.5s						
JACH	**Jahuel**	**1.05**	**112**	⇑*i*P	Pb	14 16 25.5	-0.9
JACH				*i* S	Sb	14 16 40.8	+0.6
LCCH	**Las Cruces**	**1.19**	**173**	*i* P	Pb	14 16 26.8	-2.0
LCCH				*i* S	Sb	14 16 43.0	-1.3
RCDM	**Rinconada Maip**	**1.43**	**147**	*e*P	Pn	14 16 31.6	-1.2
RCDM				*i* S	Sb	14 16 51.4	+0.1
RCDM				AMP		14 16 53.1	
	comp=E,297nm,0.1s						
TACH	**Talagante**	**1.52**	**154**	⇑*i*P	Pn	14 16 33.1	-1.0
FCH	**Farellones**	**1.60**	**131**	*e*P	Pn	14 16 34.9	-0.4
FCH				*i* S	Sb	14 16 56.7	+0.4
FCH				AMP		14 16 58.9	
	comp=E,126nm,0.2s						
PCH	**Pirque**	**1.68**	**142**	*i* S	Sn	14 16 59.2	+0.7
LNV	**Longovilo**	**1.68**	**170**	⇓*i*P	Pn	14 16 35.9	-0.5
LNV				*i* S	Sn	14 16 58.1	-0.3
CHCH	**Chadas Angostu**	**1.88**	**151**	⇓*i*P	Pn	14 16 38.7	-0.5
CHCH				*i* S	Sn	14 17 03.9	+0.6
TLL	**Tololo Astrono**	**2.27**	**21**	*i* S	Sn	14 17 15.3	+2.0
TLL				AMP		14 17 21.7	
	comp=E,179nm,0.3s						
CICH	**Cipreses**	**2.31**	**152**	⇑*i*P	Pn	14 16 46.2	+0.9

GUC 30 14:30:55.5±1.1, 25.54S×70.56W, h48km±8km, ML3.5, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRCH	**Chaqaral**	**0.80**	**184**	⇓*i*P	P	14 31 11.3	+0.7
CRCH				*i* S	S	14 31 22.0	+0.3
CRCH				AMP		14 31 23.2	
	comp=E,3μm,0.3s						
CPN1	**Cerro Paranal**	**0.93**	**9**	⇓*i*P	P	14 31 13.6	+1.3
CPN1				*i* S	S	14 31 26.5	+1.7
CPN1				AMP		14 31 29.9	
	comp=E,2μm,0.3s						
CDCH	**Caldera**	**1.54**	**189**	AMP		14 31 38.4	
	comp=E,374nm,0.1s						
CPCH	**Copiapo**	**1.82**	**174**	*e*P	P	14 31 25.2	+0.2
CPCH				*i* S	S	14 31 47.3	+0.5
CPCH				AMP		14 31 51.4	
	comp=E,5μm,0.1s						
ANCH	**Antofagasta**	**1.86**	**4**	⇑*i*P	P	14 31 25.5	0.0
ANCH				*e*S	S	14 31 47.6	-0.3
CEN1	**Los Morros**	**2.17**	**9**	*e*P	P	14 31 26.9	-3.1
CEN1				AMP		14 32 03.3	
	comp=E,217nm,0.6s						
LVC	**Limon Verde**	**3.28**	**28**	*e*P	P	14 31 46.7	+0.9
LVC				AMP		14 32 46.9	
	comp=N,164nm,0.5s						

*IDC **30** 14:37:04.3±0.7, 10.50S×111.88E, mb4.5/9, mb1 4.5/10, mb1mx4.5/14, mbtmp4.5/10, ML4.3/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/15, Error ellipse: s-maj=26.5km s-min=14.4km az=50.0*

*BJI **30** 14:37:07.2, 10.89S×112.24E, h56km, mB5.1, mb4.7, Ms4.5, Msz4.1*

*MOS **30** 14:37:07.5±1.0, 10.47S×111.84E, h33km, mb4.7/19, Error ellipse: s-maj=17.1km s-min=9.0km az=115.7*

*NEIC **30** 14:37:09.5±0.3, 10.51S×111.85E, mb4.7/19, Error ellipse: s-maj=12.2km s-min=5.8km az=53.0*

ISC 30 14:37:07.6±0.3, 10.46S±0.06×111.88E±0.08, h33km, (h37km±4.0km: pP-P), n72, σ1§04/76, mb4.6/42, MS3.7/5, 3C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**11.43**	**306**	P	**P**	**14 39 48.3**	**-3.4**
	84nm,0.9s						
MBWA	**Marble Bar**	**13.04**	**146**	*e*Pn	**P**	**14 40 06.2**	**-7.0**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.34**	**121**	*e*P	**P**	**14 40 41.6**	**-1.8**
	12nm,0.9s						
FITZ				*e*S	**S**	**14 43 15.5**	**-17**
FITZ	**Fitzroy Crossi**	**15.34**	**121**	Pn	**P**	**14 40 41.0**	**-2.4**
	1.1nm,0.3s,baz=328,slow=7.5,SNR=20						
FITZ				Sn	**S**	**14 43 15.2**	**-17**
	1.6nm,0.3s,baz=169,slow=14,SNR=6.4						
NWAO	**Narrogin (SRO)**	**22.90**	**168**	P	**P**	**14 42 09.6**	**0.0**
	24nm,1.1s,mb4.6,baz=359,slow=16,SNR=2.9						
NWAO				S	**S**	**14 46 10.4**	**-2.3**
	5.0nm,0.5s,baz=289,slow=17,SNR=3.4						
NWAO				LR	LR	14 49 10.9	
	comp=Z,286nm,21.7s,MS3.7,baz=345,slow=32						
NWAO	**Narrogin (SRO)**	**22.90**	**168**	P	**P**	**14 42 09.6**	**-0.1**
NWAO				S	**S**	**14 46 10.4**	**-2.3**
NWAO				LR	LR	14 49 10.9	
WRA	**Warramunga Arr**	**23.61**	**116**	P	**P**	**14 42 17.1**	**+0.5**
	18nm,0.9s,mb4.5,baz=289,slow=11,SNR=68						
WRA				S	**S**	**14 46 33.3**	**+7.9**
	0.9nm,0.8s,baz=282,slow=25,SNR=4.2						
WRAB	**Tennant Creek**	**23.61**	**116**	*e*P	**P**	**14 42 17.4**	**+0.7**
	23nm,0.9s,mb4.6						
WRAB				*e*pP		14 42 27.7	
WRAB	**Tennant Creek**	**23.61**	**116**	*e*P	**P**	**14 42 17.4**	**+0.7**
WRAB				*e**PP		14 42 27.7	
WRAB				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.6						
WB2	**Warramunga Arr**	**23.62**	**116**	*e*P	**P**	**14 42 17.3**	**+0.6**
ASPA	**Alice Springs**	**24.76**	**125**	*e*P	**P**	**14 42 28.5**	**+0.7**
FORT	**Forrest**	**25.20**	**146**	*e*P	**P**	**14 42 32.3**	**+0.4**
	comp=Z,38nm,0.9s,mb4.9						
FORT				*e*S	**S**	**14 47 03.7**	**+11**
CTA	**Charters Tower**	**34.45**	**110**	*e*P	**P**	**14 43 56.3**	**+1.8**
	comp=Z,4.0nm,0.9s,mb4.3						
CTA	**Charters Tower**	**34.45**	**110**	*e*P	**P**	**14 43 56.3**	**+1.8**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTAO	**Charters Tower**	**34.45**	**110**	*e*P	**P**	**14 43 55.1**	**+0.6**
	comp=Z,4.8nm,0.8s,mb4.5						
CTAO				*e*pP	pP	14 44 05.5	+1.3
CTAO	**Charters Tower**	**34.45**	**110**	*e*P	**P**	**14 43 55.1**	**+0.6**
CTAO				*e**PP	pP	14 44 05.5	+1.3
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**34.76**	**132**	⇑*i*P	**P**	**14 43 57.5**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**34.76**	**132**	P	**P**	**14 43 57.6**	**+0.6**
	comp=Z,12nm,0.8s,mb4.9,baz=309,slow=7.8,SNR=24						
STKA				LR	LR	14 57 19.6	
	comp=Z,98nm,21.2s,MS3.5,baz=211,slow=35						
KMI	**Kunming**	**36.47**	**346**	P	**P**	**14 44 15.5**	**+3.8**
KMI				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
KMI				MLR	MLR		
	comp=Z,80nm,17.4s,MS3.6						
GYA	**Guiyang**	**37.05**	**352**	P	**P**	**14 44 19.0**	**+2.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
SSE	**Sheshan**	**42.27**	**12**	*e*P	**P**	**14 44 59.5**	**-0.4**
SSE				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.5						
SSE				AMB	AMB		
	comp=Z,127nm,4.9s						
SSE	**Sheshan**	**42.27**	**12**	*e*P	**P**	**14 44 59.4**	**-0.5**
	comp=Z,16nm,1.4s,mb4.5						

NJ2	**Nanjing**	**42.79**	**9**	*e*P	**P**	**14 45 02.0**	**-2.1**
NJ2				PP	PP	14 46 46.5	+0.6
NJ2				S	**S**	**14 51 25.0**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,130nm,3.6s						
NJ2				LR	LR		
	comp=N,300nm,26.3s,MS4.2						
NJ2				LR	LR		
	comp=E,210nm,22.0s,MS4.2						
NJ2				LR	LR		
	comp=Z,300nm,25.0s,MS4.1						
XAN	**Xi'an**	**44.34**	**356**	P	**P**	**14 45 15.5**	**-1.1**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**44.65**	**334**	*e*P	**P**	**14 45 21.0**	**+1.8**
	comp=Z,7.9nm,0.7s,mb4.7						
LSA	**Lhasa**	**44.65**	**334**	*e*P	**P**	**14 45 21.0**	**+1.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
PKI	**Pulchoki**	**45.69**	**326**	*e*P	**P**	**14 45 27.4**	**-0.1**
GUN	**Gumba**	**45.70**	**327**	*e*P	**P**	**14 45 27.9**	**+0.3**
	comp=Z,32nm,0.8s,mb5.3						
DMN	**Daman**	**45.88**	**326**	*e*P	**P**	**14 45 28.0**	**-1.1**
	comp=Z,30nm,0.9s,mb5.2						
KKN	**Kakani**	**45.93**	**326**	*e*P	**P**	**14 45 29.4**	**0.0**
	comp=Z,20nm,0.9s,mb5.0						
GKN	**Gorkha**	**46.45**	**326**	*e*P	**P**	**14 45 33.4**	**-0.1**
	comp=Z,28nm,1.0s,mb5.2						
KOLN	**Koldanda**	**46.85**	**325**	*e*P	**P**	**14 45 36.5**	**-0.1**
	comp=Z,24nm,1.1s,mb5.0						
LZH	**Lanzhou**	**46.91**	**351**	*e*P	**P**	**14 45 38.5**	**+1.5**
LZH				AP	pP	14 45 48.0	+1.1
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.4s						
GTA	**Gaotai**	**50.87**	**348**	*e*P	**P**	**14 46 09.0**	**+1.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
MJAR	**Matsushiro Arr**	**52.91**	**27**	P	**P**	**14 46 21.8**	**-1.1**
	comp=Z,5.1nm,1.0s,mb4.4,baz=198,slow=8.3,SNR=8.4						
SONM	**Songino Array**	**58.24**	**356**	P	**P**	**14 47 01.3**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.4,baz=180,slow=10,SNR=11						
MKAR	**Makanchi Array**	**62.83**	**338**	P	**P**	**14 47 32.5**	**+0.1**
	comp=Z,2.3nm,0.5s,mb4.5,baz=144,slow=7.4,SNR=32						
MKAR				LR	LR	15 21 17.9	
	comp=Z,30nm,18.3s,MS3.5,baz=118,slow=42						
AAK	**Ala-Archa**	**62.93**	**330**	*e*P	**P**	**14 47 32.6**	**-0.6**
	comp=Z,0.7nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**62.93**	**330**	⇑*i*P	**P**	**14 47 32.7**	**-0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.5						
YSS	**Yuzh-Sakhalins**	**63.45**	**23**	*e*P	**P**	**14 47 35.0**	**-1.6**
YSS				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.4						
MAW	**Mawson**	**65.55**	**199**	P	**P**	**14 47 48.1**	**-1.7**
	comp=Z,2.1nm,0.8s,mb4.2,baz=355,slow=8.1,SNR=4.6						
KURK	**Kurchatov**	**67.44**	**338**	*e*P	**P**	**14 48 01.9**	**-0.2**
	comp=Z,6.8nm,0.8s,mb4.7						
KURK	**Kurchatov**	**67.44**	**338**	*e*P	**P**	**14 48 01.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
NVS	**Novosibirsk**	**69.38**	**343**	*e*P	**P**	**14 48 13.0**	**-1.0**
NVS				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
NVS				pmax	pmax		
	comp=N,8.0nm,1.4s						
VNDA	**Vanda**	**71.72**	**170**	*e*P	**P**	**14 48 27.2**	**-0.6**
	comp=N,2.0nm,0.9s,mb4.0						
VNDA	**Vanda**	**71.72**	**170**	*e*P	**P**	**14 48 27.2**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VOSK	**Vostochnaya**	**72.00**	**335**	P	**P**	**14 48 29.4**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BVA0	**Borovoye Array**	**72.47**	**335**	*i* P	**P**	**14 48 32.9**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**72.85**	**336**	*e*P	**P**	**14 48 35.4**	**+0.5**
	comp=Z,24nm,1.4s,mb4.9						
CHKZ	**Chkalovo**	**72.85**	**336**	P	**P**	**14 48 35.0**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
YAK	**Yakutsk**	**73.59**	**9**	*e*P	**P**	**14 48 39.5**	**+0.4**
	comp=Z,41nm,1.0s,mb5.3						
YAK	**Yakutsk**	**73.59**	**9**	*e*P	**P**	**14 48 39.5**	**+0.4**
YAK				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.3						
AB31	**Akbulak array**	**74.87**	**328**	*i* P	**P**	**14 48 47.0**	**+0.3**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
SEY	**Seymchan**	**79.53**	**18**	*e*P	**P**	**14 49 13.5**	**+1.0**
ARU	**Arti**	**79.84**	**333**	⇓*i*P	**P**	**14 49 14.8**	**+0.5**
ARU				*e*		14 52 16.1	
ARU				*e*S	S	14 59 10.7	-3.0
ARU				*e*SS	SS	15 04 19.8	-6.3
ARU				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.2						
LSZ	**Lusaka**	**81.29**	**256**	*e*P	**P**	**14 49 22.3**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.3						
LSZ	**Lusaka**	**81.29**	**256**	*e*P	**P**	**14 49 22.3**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KIV	**Kislovodsk**	**82.67**	**317**	*d* iP	**P**	**14 49 29.6**	**+0.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
TIXI	**Tiksi**	**82.71**	**5**	*e*P	**P**	**14 49 28.0**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
BILL	**Bilibino**	**87.23**	**18**	*e*P	**P**	**14 49 50.1**	**-1.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.3						
SNAA	**Sanae**	**87.65**	**197**	P	**P**	**14 49 53.9**	**+0.4**
SNAA	**Sanae**	**87.65**	**197**	*e*P	**P**	**14 49 53.8**	**+0.3**
	comp=Z,3.6nm,1.0s,mb4.6						
SNAA	**Sanae**	**87.65**	**197**	*e*P	**P**	**14 49 53.8**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BR131	**Keskin Array S**	**87.72**	**311**	*e*P	**P**	**14 49 55.4**	**+0.8**
	comp=Z,3.7nm,0.8s,mb4.7						
BR131				*e*pP	pP	14 50 05.2	+0.1
BRTR	**Keskin Array B**	**87.72**	**311**	P	**P**	**14 49 55.8**	**+1.2**
	comp=Z,5.7nm,0.8s,mb4.9,baz=130,slow=6.4,SNR=19						
VNA2	**Neumayer--Watz**	**89.30**	**197**	P	**P**	**14 50 03.6**	**+2.2**
OBN	**Obninsk**	**90.25**	**326**	⇓*i*P	**P**	**14 50 06.9**	**+0.8**
OBN				*i* *PP	pP	14 50 21.3	+4.6
OBN				*e*		14 53 40.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.3						
AKASG	**Malin Array Be**	**93.40**	**321**	P	**P**	**14 50 19.9**	**-0.9**
	comp=Z,0.3nm,0.4s,mb4.1,baz=83,slow=4.7,SNR=4.4						
VSU	**Vasula**	**96.30**	**328**	⇑*i*P	**P**	**14 50 34.5**	**+0.8**
TXAR	**Lajitas Array**	**141.88**	**55**	PKhKP		14 56 34.9	
	comp=Z,0.6nm,0.3s,baz=270,slow=3.8,SNR=6.2						
CCM	**Cathedral Cave**	**145.57**	**33**	*e*PKPbc	PKPbc	14 56 46.1	+2.6
CCM				*ep*PKPdf		14 56 56.3	
BDFB	**Brasilia**	**147.31**	**218**	PKPbc	PKPdf	14 56 51.0	+4.7
	comp=Z,2.8nm,0.7s,baz=212,slow=2.1,SNR=4.6						

NEIC 30 14:59:36.4±0.3, 44.57N×116.05W, h5km, ML3.5, Error ellipse: s-maj=4.0km s-min=3.5km az=165.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BMO	**Blue Mountains**	**0.94**	**288**	*e*P	Pb	14 59 54.5	-0.2
MCMT	**McKenzie Canyo**	**2.30**	**83**	*e*Pn	Pn	15 00 13.7	-1.7
DLMT	**Dillon**	**2.58**	**71**	Pn	Pn	15 00 19.5	+0.1
MSO	**Missoula**	**2.70**	**32**	Pn	Pn	15 00 20.6	-0.6
WVOR	**Wild Horse Val**	**2.85**	**222**	*e*Pn	Pn	15 00 22.3	-1.0
HAWA	**Hanford**	**3.05**	**308**	*e*P	Pn	15 00 25.5	-0.7
CHMT	**Chamberlain Mo**	**3.05**	**39**	*e*Pn	Pn	15 00 24.3	-1.9
QLMT	**Earthquake Lak**	**3.31**	**84**	Pn	Pn	15 00 27.8	-2.1
BOZ	**Bozeman (W)**	**3.31**	**70**	Pn	Pn	15 00 28.1	-1.8
RRI2	**Red Ridge**	**3.63**	**108**	*e*Pn	Pn	15 00 34.8	+0.4
YMR	**Madison River**	**3.63**	**87**	Pn	Pn	15 00 33.5	-0.9
HRY	**Holter Researc**	**3.65**	**53**	Pn	Pn	15 00 33.7	-1.1
HVU	**Hansel Valley**	**3.68**	**138**	*e*Pn	Pn	15 00 34.1	-1.0
YFT	**Old Faithful**	**3.73**	**90**	Pn	Pn	15 00 34.7	-1.2
IMW	**Indian Meadow**	**3.74**	**99**	*e*Pn	Pn	15 00 35.9	0.0
NEW	**Newport**	**3.77**	**349**	Pn	Pn	15 00 36.0	-0.4
TPAW	**Teton Pass**	**3.83**	**105**	*e*Pn	Pn	15 00 37.4	0.0
MOOW	**Moose Ponds**	**3.91**	**100**	Pn	Pn	15 00 37.8	-0.6
REDW	**Red Top Meadow**	**3.94**	**106**	*e*Pn	Pn	15 00 38.3	-0.6
SNOW	**Snow King Moun**	**3.98**	**104**	Pn	Pn	15 00 38.2	-1.1
AHID	**Auburn Hatcher**	**4.02**	**115**	Pn	Pn	15 00 39.0	-1.0
LKWY	**Lake**	**4.04**	**88**	Pn	Pn	15 00 38.6	-1.6
LOHW	**Long Hollow**	**4.04**	**102**	Pn	Pn	15 00 38.9	-1.3
MOD	**Modoc**	**4.10**	**231**	*e*Pn	Pn	15 00 39.1	-1.9
SPUT	**South Promonto**	**4.20**	**140**	Pn	Pn	15 00 41.4	-1.2
BGU	**Big Grassy Mou**	**4.27**	**148**	Pn	Pn	15 00 42.3	-1.2
HWUT	**Hardware Ranch**	**4.42**	**131**	*e*Pn	Pn	15 00 43.9	-1.8
TCUT	**Toone Canyon**	**4.86**	**134**	*e*Pn	Pn	15 00 50.0	-1.9
DUG	**Dugway**	**4.99**	**150**	Pn	Pn	15 00 51.6	-2.1
DAU	**Daniels Canyon**	**5.46**	**138**	Pn	Pn	15 00 58.2	-2.2
NLU	**North Lily Min**	**5.48**	**146**	Pn	Pn	15 00 59.5	-1.1
BEKR	**Beckwourth**	**5.69**	**216**	*e*Pn	Pn	15 01 01.8	-1.8
MNV	**Mina**	**6.33**	**195**	Pn	Pn	15 01 10.1	-2.6
ARUT	**Antelope Range**	**7.06**	**163**	Pn	Pn	15 01 19.7	-3.2
MTUM	**Tungsten Hills**	**7.46**	**196**	Pn	Pn	15 01 26.4	-2.1

*IDC **30** 15:10:34.9±1.9, 24.23N×122.90E, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=151.6km s-min=25.5km az=65.0*

*NEIC **30** 15:10:36.4±1.2, 24.15N×122.90E, h10km, Error ellipse: s-maj=27.2km s-min=17.2km az=220.0*

*JMA **30** 15:10:40.8±0.1, 24.22N×122.59E, h46km±3km, M3.5*

ISC 30 15:10:41.1±0.7, 24.1N±0.1×122.61E±0.04, h52km±8km, n16, σ0§93/22, mb3.5/4, MS3.2/1, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.49**	**48**	P	**P**	**15 10 51.2**	**-1.2**
YOJ				*e*S	**S**	**15 10 58.6**	**-1.9**
NACB	**Ninganchiao**	**0.93**	**273**	⇑*i*Pn	**P**	**15 10 57.8**	**-0.2**
IRIF	**Iriomote-Funau**	**1.04**	**79**	P	**P**	**15 10 59.0**	**-0.6**
IRIF				*e*S	**S**	**15 11 13.3**	**-0.1**
HATJ	**Hateruma jima**	**1.09**	**94**	P	**P**	**15 11 00.5**	**+0.2**
HATJ				*e*S	**S**	**15 11 14.9**	**+0.2**
YHNB	**Yeheng**	**1.25**	**296**	⇑*i*Pn	**P**	**15 11 03.7**	**+1.2**
JKRS	**Kuro-shima**	**1.28**	**85**	P	**P**	**15 11 03.0**	**0.0**
JKRS				*e*S	**S**	**15 11 19.6**	**+0.3**
TATO	**Taipei**	**1.32**	**310**	*e*Pn	**P**	**15 11 05.5**	**+1.8**
JIJ	**Ishigaki jima**	**1.42**	**80**	P	**P**	**15 11 04.5**	**-0.5**
JIJ				*e*S	**S**	**15 11 22.8**	**+0.1**
JTJ	**Tarama**	**1.97**	**75**	P	**P**	**15 11 13.0**	**+0.3**
JTJ				*e*S	**S**	**15 11 36.7**	**+0.5**
JMJ	**Miyako jima 2**	**2.54**	**74**	P	**P**	**15 11 22.9**	**+2.2**
JMJ				*e*S	**S**	**15 11 51.8**	**+1.3**
JKE	**Kume jima 2**	**4.37**	**59**	P	**P**	**15 11 45.7**	**-0.9**
JNU	**Nakatsue**	**11.52**	**37**	LR	LR	15 17 49.9	
	comp=Z,47nm,20.6s,baz=181,slow=38						
SONM	**Songino Array**	**26.94**	**335**	P	**P**	**15 16 18.4**	**-1.0**
	0.5nm,0.4s,mb3.4,baz=148,slow=14,SNR=2.5						
SONM				LR	LR	15 28 09.1	
	comp=Z,68nm,19.9s,MS3.2,baz=60,slow=39						
MKAR	**Makanchi Array**	**39.28**	**315**	P	**P**	**15 18 06.5**	**+0.1**
	0.3nm,0.4s,mb3.4,baz=102,slow=9.4,SNR=9.1						
WRA	**Warramunga Arr**	**45.27**	**164**	P	**P**	**15 18 54.6**	**-1.0**
	0.6nm,0.6s,mb3.6,baz=346,slow=9.1,SNR=8.4						
FINES	**FINESS Array B**	**72.14**	**330**	P	**P**	**15 22 01.1**	**-0.6**
	0.2nm,0.3s,mb3.5,baz=68,slow=7.5,SNR=1.6						

*NEIC **30** 15:21:47.3±6.1, 47.20N×152.40E, h35km, mb4.0/2, Error ellipse: s-maj=146.0km s-min=41.5km az=161.0*

*MOS **30** 15:21:58.8±0.8, 48.05N×151.80E, h105km, mb4.0/2, Error ellipse: s-maj=26.9km s-min=20.7km az=90.1*

*IDC **30** 15:22:03.0±7.7, 47.74N×151.71E, h139km±90km, mb3.5/6, mb1 3.5/7, mb1mx3.3/20, mbtmp3.9/7, Error ellipse: s-maj=154.9km s-min=68.1km az=156.0*

ISC 30 15:21:55.3±1.2, 47.5N±0.3×151.9E±0.4, h96km±23km, n28, σ1§21/35, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.20**	**40**	*e*PN	**P**	**15 22 57.0**	**-1.5**
SKR				*e*	**S**	**15 23 42.6**	**-4.2**
JRA	**Rausu**	**5.95**	**235**	P	**P**	**15 23 25.5**	**+3.2**
NEM2	**Nemuro 2**	**6.00**	**228**	P	**P**	**15 23 22.9**	**-0.2**
NEM2				*e*S	**S**	**15 24 37.5**	**-3.6**
JNK	**Nakash**	**6.39**	**235**	P	**P**	**15 23 31.0**	**+2.4**
JAK	**Akkeshi**	**6.80**	**231**	P	**P**	**15 23 34.0**	**-0.2**
JAK				*e*S	**S**	**15 24 46.7**	**-4.0**
JAR	**Ashorobuto**	**7.11**	**236**	P	**P**	**15 23 39.7**	**+1.2**
JOB	**Onbets**	**7.33**	**234**	P	**P**	**15 23 42.4**	**+1.0**
JOB				*e*S	**S**	**15 25 01.0**	**-2.7**
ASAJ	**Asahikawa**	**7.34**	**246**	P	**P**	**15 23 47.1**	**+5.6**
	0.5nm,0.3s,baz=77,slow=15,SNR=4.3						
ASAJ	**Asahikawa**	**7.34**	**246**	PN

LCCH	Las Cruces	3.92 245	*e*P	P	15 27 53.0	-1.7
LNV	Longovilo	4.01 238	⇑*i*P	P	15 27 54.2	-1.6
TRQA	Tornquist	7.54 146	*e*Pn	P	15 28 40.3	-2.3

*IDC **30** 15:39:42.1±8.0,19.66S×177.92W,h613km±94km, mb3.2/4, mb1 3.4/5,mb1mx3.2/14,mbtmp4.2/5,Error ellipse: s-maj=93.1km s-min=47.9km az=151.0*
*NEIC **30** 15:39:44.4±5.3,19.69S×178.00W,h642km±62km, mb3.8/2, Error ellipse: s-maj=91.6km s-min=35.7km az=155.0*

ISC 30 15:39:46.3±5.0,19.6S±0.8×178.2W±0.5,h686km±59km, n10,σ0°21/9,mb3.7/5,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.55 258**		P	**P**	**15 42 49.1**	**-0.1**
	0.6nm,0.3s,baz=92,slow=17,SNR=6.9						
CTA	**Charters Tower**	**33.39 263**		P	**P**	**15 45 34.5**	**+0.5**
	5.7nm,0.5s,mb4.4,baz=95,slow=9.7,SNR=13						
CTAO	**Charters Tower**	**33.39 263**		*e*P	**P**	**15 45 34.3**	**+0.4**
	1.3nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**38.01 243**		P	**P**	**15 46 11.7**	**0.0**
	1.5nm,0.5s,mb3.7,baz=94,slow=12,SNR=8.7						
WB2	**Warramunga Arr**	**44.52 261**	⇓	*i*P	**P**	**15 47 02.6**	**-0.3**
WRAB	**Tennant Creek**	**44.52 261**		*e*P	**P**	**15 47 02.7**	**-0.2**
	1.8nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**44.53 261**		P	**P**	**15 47 02.9**	**-0.1**
	1.3nm,0.4s,mb3.6,baz=98,slow=7.1,SNR=120						
ASPA	**Alice Springs**	**44.54 256**	⇓	*i*P	**P**	**15 47 03.1**	**+0.1**
PDAR	**Pinedale Array**	**88.43 43**		P	**P**	**15 51 29.6**	**0.0**
	0.5nm,0.5s,mb3.4,baz=180,slow=2.7,SNR=4.4						
GERES	**GERESS Array B**	**149.26 345**		PKPbc	PKPdf	15 58 23.5	+8.9
	0.6nm,0.7s,baz=27,slow=3.0,SNR=4.7						

MAN 30 15:43:13.9,8.60N×126.99E,mb4.3,ML3.1,MS2.9,1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.74 236**	⇑	*i*P	Pg	15 43 30.1	+1.3
BIPH				*e*S	Sg	15 43 42.2	+3.6
BUTP	**Butuan**	**1.40 285**		*e*P	Pb	15 43 40.3	-0.3
MATI	**Mati**	**1.79 204**		*e*P	Pn	15 43 45.8	-0.6
SCPH	**Surigao**	**1.89 309**		*e*P	Pn	15 43 47.2	-0.5
SCPH				*e*S	Sn	15 44 12.5	-0.1
BUKP	**Musuan**	**2.03 250**		*e*P	Pn	15 43 52.4	+2.6
BUKP				*e*S	Sn	15 44 16.0	-0.3

IDC 30 16:08:05.9±4.2,5.32N×94.72E,mb3.6/3,mb1 3.7/3, mb1mx3.5/16,mbtmp3.6/3,Error ellipse: s-maj=157.2km s-min=29.1km az=60.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.69 347**		P	P	16 16 04.3	-1.9
	0.9nm,0.5s,baz=160,slow=8.5,SNR=10						
SONM	**Songino Array**	**43.52 11**		P	P	16 16 11.4	-1.5
	0.5nm,0.4s,baz=214,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**46.34 124**		P	P	16 16 34.0	-1.8
	0.3nm,0.3s,baz=303,slow=9.1,SNR=8.8						

GUC 30 16:43:30.3±0.4,32.72S×71.71W,h6km±2km,MD3.5, ML2.3,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.64 113**		*i*P	Pg	16 43 43.9	+0.8
ROCH				*e*S	Sg	16 43 53.7	+2.0
LCCH	**Las Cruces**	**0.76 171**	⇓	*i*P	Pb	16 43 45.1	-0.4
JACH	**Jahuel**	**0.94 88**	⇑	*i*P	Pb	16 43 48.1	-0.5
JACH				*i*S	Sb	16 44 02.1	+0.9
RCDM	**Rinconada Maip**	**1.08 136**		AMP		16 44 10.8	
	comp=N,134nm,0.1s						
LNV	**Longovilo**	**1.26 169**		*e*P	Pb	16 43 52.8	-1.3
LNV				*i*S	Sb	16 44 10.3	0.0
FCH	**Farellones**	**1.34 117**		*i*P	Pb	16 43 54.9	-0.5
FCH			⇓	*i*P		16 43 55.1	
FCH				*i*S	Sb	16 44 13.8	+1.1
FCH				AMP		16 44 16.9	
	comp=N,96nm,0.1s						
PCH	**Pirque**	**1.35 132**		*e*P	Pb	16 43 55.5	-0.1
CHCH	**Chadas Angostu**	**1.50 144**		*e*S	Sb	16 44 17.3	-0.1

*IDC **30** 16:51:47.0±2.9,5.58S×154.57E,h109km±24km,mb4.3/7, mb1 4.5/9,mb1mx4.4/13,mbtmp4.8/9,MS2.8/1,Ms1 2.8/1, ms1mx2.6/11,Error ellipse: s-maj=23.9km s-min=18.0km az=96.0*
*BJI **30** 16:51:49.8,5.70S×154.40E,h145km,mB5.1,mb4.8*
*NEIC **30** 16:51:50.8±1.6,5.67S×154.45E,h145km±14km,mb4.5/19, Error ellipse: s-maj=10.5km s-min=7.7km az=55.0*

ISC 30 16:51:50.3±2.5,5.71S±0.08×154.47E±0.09,h156km±21km, n47,σ0°79/47,mb4.5/27,6C-2D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.12 243**		P	**P**	**16 53 46.1**	**-0.2**
	68nm,0.3s,baz=59,slow=6.6,SNR=125						
PMG				S	**S**	**16 55 18.0**	**+1.2**
	17nm,0.3s,baz=155,slow=22,SNR=8.4						
PMG				LR	LR	16 56 34.7	
	comp=Z,58nm,18.7s,baz=62,slow=35						
PMG	**Port Moresby**	**8.12 243**		*e*Pn	**P**	**16 53 45.7**	**-0.6**
	238nm,0.6s						
PMG				*e*Sn	**S**	**16 55 09.4**	**-7.3**
CTA	**Charters Tower**	**16.37 208**		*e*P	**P**	**16 55 34.2**	**+1.6**
	6.9nm,0.6s						
CTA	**Charters Tower**	**16.37 208**		P	**P**	**16 55 34.3**	**+1.7**
	0.6nm,0.3s,baz=32,slow=13,SNR=14						
CTAO	**Charters Tower**	**16.37 208**		*e*P	**P**	**16 55 33.7**	**+1.1**
	10nm,0.8s						
NOUC	**Port Laguerre**	**19.91 146**		*e*P	**P**	**16 56 09.9**	**-1.9**
NOUC	**Port Laguerre**	**19.91 146**		*e*P	**P**	**16 56 09.9**	**-1.9**
DZM	**Mont Dzumac**	**19.97 146**		P	**P**	**16 56 12.7**	**+0.3**
	11nm,0.6s,baz=332,slow=14,SNR=19						
KAKA	**Kakadu**	**22.81 251**	⇓	*i*P	**P**	**16 57 00.3**	**+20**
	15nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**24.13 232**		*e*P	**P**	**16 56 53.5**	**+0.2**
	50nm,0.7s,mb5.2						
WB2	**Warramunga Arr**	**24.14 232**	⇑	*i*P	**P**	**16 56 53.9**	**+0.6**
WRA	**Warramunga Arr**	**24.15 232**		P	**P**	**16 56 53.8**	**+0.5**
	29nm,0.7s,mb4.9,baz=55,slow=9.6,SNR=193						
WRA				ScP		17 04 02.8	
	0.3nm,0.7s,baz=46,slow=2.5,SNR=4.7						
ASPA	**Alice Springs**	**26.66 226**	⇑	*i*P	**P**	**16 57 16.2**	**-0.4**
STKA	**Stephens Creek**	**28.68 203**	⇑	*i*P	**P**	**16 57 34.1**	**-0.8**
	4.2nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**28.68 203**		P	**P**	**16 57 34.1**	**-0.8**
	6.2nm,0.5s,mb4.6,baz=11,slow=9.2,SNR=27						
FITZ	**Fitzroy Crossi**	**30.72 244**	⇑	*i*P	**P**	**16 57 51.6**	**-1.4**
	21nm,0.6s,mb5.0						
FORT	**Forrest**	**35.17 222**	⇓	*i*P	**P**	**16 58 30.8**	**-0.4**
	32nm,0.6s,mb5.1						
MBWA	**Marble Bar**	**36.99 242**		*e*P	**P**	**16 58 45.4**	**-1.1**
	5.8nm,0.7s,mb4.3						
KLBR	**Kellerberrin**	**42.92 229**		*e*P	**P**	**16 59 34.5**	**-0.9**
	106nm,1.8s,mb5.2						
KSM	**Kuching**	**44.67 278**		*e*P	**P**	**16 59 49.3**	**-0.4**
KULM	**Kulim**	**54.83 281**		*e*P	**P**	**17 01 05.3**	**-1.6**
ENH	**Enshi**	**55.99 312**		*e*P	**P**	**17 01 14.3**	**-0.8**
	6.1nm,0.8s,mb4.5						
KMI	**Kunming**	**58.87 304**		P	**P**	**17 01 35.8**	**+0.5**
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,99nm,6.7s						
KMI	**Kunming**	**58.87 304**		P	**P**	**17 01 35.7**	**+0.4**
	comp=Z,11nm,0.9s,mb4.7						
KMI				pP	pP	17 02 18.4	+6.4
GTA	**Gaotai**	**67.45 317**		*e*P	**P**	**17 02 32.0**	**+0.5**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5						
CASY	**Casey**	**67.64 198**		*e*P	**P**	**17 02 32.3**	**+0.1**
	comp=Z,5.9nm,0.9s,mb4.3						
SONM	**Songino Array**	**67.98 327**		P	**P**	**17 02 34.7**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.1,baz=146,slow=7.1,SNR=18						
LSA	**Lhasa**	**70.12 304**		*e*P	**P**	**17 02 49.1**	**+1.1**
	comp=Z,4.1nm,0.6s,mb4.3						
VNDA	**Vanda**	**71.87 178**		*e*P	**P**	**17 02 58.5**	**+0.8**
	comp=Z,4.5nm,0.9s,mb4.2						
GUN	**Gumba**	**74.01 301**		*e*P	**P**	**17 03 11.4**	**+0.4**
	comp=Z,18nm,0.9s,mb4.8						
PKI	**Pulchoki**	**74.32 301**		*e*P	**P**	**17 03 13.1**	**+0.3**
KKN	**Kakani**	**74.49 301**		*e*P	**P**	**17 03 13.8**	**0.0**
	comp=Z,6.9nm,0.6s,mb4.5						
DMN	**Daman**	**74.59 301**		*e*P	**P**	**17 03 14.8**	**+0.4**
	comp=Z,20nm,0.8s,mb4.8						
GKN	**Gorkha**	**75.09 301**		*e*P	**P**	**17 03 17.2**	**0.0**
	comp=Z,16nm,0.7s,mb4.7						
KOLN	**Koldanda**	**75.92 300**		*e*P	**P**	**17 03 21.9**	**0.0**
	comp=Z,13nm,0.8s,mb4.6						
SLKM	**Skilak Lake**	**78.80 25**		*e*P	**P**	**17 03 37.9**	**+0.9**
MKAR	**Makanchi Array**	**82.10 319**		P	**P**	**17 03 55.0**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.0,baz=100,slow=6.1,SNR=25						
ILAR	**Eielson Array**	**82.38 22**		P	**P**	**17 03 55.4**	**-0.5**
	comp=Z,2.9nm,0.7s,mb4.0,baz=243,slow=5.7,SNR=26						
QSPA	**South Pole Qui**	**84.25 180**		*e*P	**P**	**17 04 06.4**	**+1.4**
	comp=Z,11nm,0.9s,mb4.6						
MAW	**Mawson**	**85.37 203**		P	**P**	**17 04 12.2**	**+1.5**
	comp=Z,12nm,0.7s,mb4.7,baz=91,slow=7.0,SNR=36						
MAW	**Mawson**	**85.37 203**		*e*P	**P**	**17 04 12.1**	**+1.3**
	comp=Z,11nm,0.7s,mb4.7						
KURK	**Kurchatov**	**85.50 322**		*e*P	**P**	**17 04 11.3**	**-0.5**
	comp=Z,1.2nm,0.4s,mb4.0						
CHKZ	**Chkalovo**	**90.92 324**		P	**P**	**17 04 37.1**	**-0.4**
	comp=Z,0.7nm,0.4s,mb4.0						
BRVK	**Borovoye**	**91.03 323**		*e*P	**P**	**17 04 38.0**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.2						
SYO	**Syowa Base**	**93.36 199**	⇑	P	**P**	**17 04 47.7**	**-0.6**
SYO	**Syowa Base**	**93.36 199**	⇑	PcP	PcP	17 04 47.7	-1.2
GERES	**GERESS Array B**	**125.69 329**		PKP	PKPdf	17 10 36.6	+3.2
	comp=Z,0.5nm,0.7s,baz=90,slow=2.7,SNR=4.4						

GUC 30 17:12:57.2±0.8,27.38S×71.22W,h45km±5km,ML3.6, 1C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.46 49**	⇓	*i*P	P	17 13 07.6	-0.1
CDCH				*i*S	S	17 13 15.9	+0.8
CDCH				AMP		17 13 16.6	
	comp=N,3μm,0.5s						
CPCH	**Copiapo**	**0.77 88**	⇓	*i*P	P	17 13 11.9	+0.2
CPCH				*i*S	S	17 13 23.6	+1.2
CPCH				AMP		17 13 24.7	
	comp=E,16μm,0.1s						
CRCH	**Chaqaral**	**1.16 27**	⇑	*i*P	P	17 13 18.0	+0.7
CRCH				*i*S	S	17 13 32.7	+0.5
CRCH				AMP		17 13 39.6	
	comp=N,963nm,0.3s						
TLL	**Tololo Astrono**	**2.80 173**	⇓	*i*P	P	17 13 40.8	+0.2
TLL				AMP		17 14 28.4	
	comp=E,390nm,0.8s						
CPN1	**Cerro Paranal**	**2.84 15**		*i*P	P	17 13 40.2	-1.0
CPN1				*i*S	S	17 14 12.7	-1.7
CPN1				AMP		17 14 33.9	
	comp=E,120nm,0.3s						

*NEIC **30** 17:54:14.1±0.8,5.25S×151.67E,h25km,mb4.2/2,Error ellipse: s-maj=27.0km s-min=10.6km az=117.0*
*IDC **30** 17:54:19.1±5.4,5.42S×151.61E,h68km±47km,mb3.8/6, mb1 4.0/8,mb1mx3.9/12,mbtmp4.1/8,ML3.2/2,MS3.2/2, Ms1 3.2/2,ms1mx2.8/12,Error ellipse: s-maj=40.7km s-min=27.7km az=106.0*

ISC 30 17:54:17.6±3.8,5.3S±0.2×151.5E±0.2,h61km±32km,n18, σ0°94/16,mb4.0/8,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.92 226**		P	**P**	**17 55 45.0**	**+0.5**
	3.0nm,0.3s,baz=32,slow=9.3,SNR=14						
PMG				S	**S**	**17 56 50.6**	**-1.3**
	2.4nm,0.3s,baz=126,slow=22,SNR=3.8						
CTA	**Charters Tower**	**15.54 199**		P	**P**	**17 57 55.0**	**+0.5**
	0.1nm,0.3s,baz=14,slow=14,SNR=4.0						
CTA				LR	LR	18 02 50.3	
	comp=Z,85nm,20.3s,baz=309,slow=33						
CTA	**Charters Tower**	**15.54 199**		P	**P**	**17 57 55.0**	**+0.5**
CTA				LR	LR	18 02 50.4	
KAKA	**Kakadu**	**20.20 247**	⇓	*i*P	**P**	**17 59 09.2**	**+19**
	9.9nm,0.6s						
DZM	**Mont Dzumac**	**22.05 140**		LR	LR	18 05 23.7	
	comp=Z,67nm,21.6s,baz=225,slow=30						
WRAB	**Tennant Creek**	**22.12 227**		*e*P	**P**	**17 59 10.2**	**+0.9**
	4.0nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**22.13 227**		*e*P	**P**	**17 59 10.6**	**+1.2**
WRA	**Warramunga Arr**	**22.14 227**		P	**P**	**17 59 09.2**	**-0.3**
	3.7nm,0.6s,mb4.0,baz=52,slow=10.0,SNR=42						
ASPA	**Alice Springs**	**24.90 221**		*e*P	**P**	**17 59 37.8**	**+1.3**
STKA	**Stephens Creek**	**28.00 198**		P	**P**	**18 00 04.0**	**-1.1**
	1.8nm,0.9s,mb3.7,baz=36,slow=11,SNR=2.6						
FITZ	**Fitzroy Crossi**	**28.28 241**		*e*P	**P**	**18 00 06.6**	**-1.0**
	11nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**28.28 241**		P	**P**	**18 00 06.3**	**-1.2**
	12nm,0.7s,mb4.7,baz=55,slow=4.9,SNR=28						
SONM	**Songino Array**	**66.08 329**		P	**P**	**18 05 00.9**	**+0.5**
	0.8nm,0.3s,mb4.2,baz=143,slow=5.9,SNR=7.0						
MKAR	**Makanchi Array**	**79.87 319**		P	**P**	**18 06 21.7**	**+0.3**
	0.4nm,0.5s,mb3.6,baz=98,slow=7.0,SNR=6.9						
ILAR	**Eielson Array**	**83.13 22**		P	**P**	**18 06 36.2**	**-1.7**
	0.5nm,0.6s,mb3.7,baz=264,slow=5.2,SNR=5.3						
AAK	**Ala-Archa**	**84.08 314**		*e*P	**P**	**18 06 43.3**	**0.0**
	1.4nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**100.15 48**		P	P	18 07 57.5	-0.8
	0.8nm,1.0s,baz=270,slow=3.6,SNR=3.8						
GERES	**GERESS Array B**	**123.81 328**		PKP	PKPdf	18 13 09.3	+0.4
	0.8nm,0.6s,baz=45,slow=1.9,SNR=8.9						

*NEIC **30** 18:00:02.6,38.37S×175.97E,h159km,MG4.1(WEL), After WEL.*

WEL 30 18:00:01.9±0.3,38.34S×175.97E,h164km±2km,ML4.0/7, 3C-3D,Error ellipse: s-maj=2.8km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.84 209**		PN	P	18 00 27.0	0.0
TWVZ				SN	S	18 00 46.3	-0.2
TWVZ	**Taurewa**	**0.84 209**		P	P	18 00 27.0	-0.1
URZ	**Urewera**	**0.91 85**		PN	P	18 00 26.9	-0.6
URZ				SN	S	18 00 46.4	-0.9
URZ	**Urewera**	**0.91 85**		P	P	18 00 26.9	-0.6
CNZ	**Chateau**	**0.92 201**		PN	P	18 00 27.7	+0.1
CNZ	**Chateau**	**0.92 201**		P	P	18 00 27.7	+0.1
BKZ	**Black Stump Fm**	**0.92 154**		PN	P	18 00 27.8	+0.2
BKZ				SN	S	18 00 46.9	-0.6
BKZ	**Black Stump Fm**	**0.92 154**		P	P	18 00 27.8	+0.2
FWVZ	**Far West T-bar**	**0.97 199**		PN	P	18 00 28.0	+0.1
FWVZ	**Far West T-bar**	**0.97 199**		P	P	18 00 28.1	+0.2
PKVZ	**Pokaka**	**1.06 207**		PN	P	18 00 28.6	-0.1
MOVZ	**Moawhango**	**1.08 189**	⇑	PN	P	18 00 28.6	-0.3
MOVZ				SN	S	18 00 48.3	-1.3
MOVZ	**Moawhango**	**1.08 189**		P	P	18 00 28.6	-0.2
MOVZ				S	S	18 00 48.0	-1.7
VRZ	**Vera Road**	**1.23 230**	⇑	PN	P	18 00 29.9	-0.3
VRZ				SN	S	18 00 52.6	+0.5
VRZ	**Vera Road**	**1.23 230**		*e*P	P	18 00 29.9	-0.3
MWZ	**Matawai**	**1.23 90**	⇓	PN	P	18 00 30.0	-0.3
MWZ				SN	S	18 00 52.1	-0.1
MWZ	**Matawai**	**1.23 90**		P	P	18 00 30.0	-0.2
KNZ	**Kokohu**	**1.50 117**	⇓	PN	P	18 00 32.9	0.0
KNZ				SN	S	18 00 56.2	-0.7
KNZ	**Kokohu**	**1.50 117**		P	P	18 00 32.9	0.0
WAZ	**Wanganui**	**1.60 208**		PN	P	18 00 33.2	-0.7
WAZ	**Wanganui**	**1.60 208**		P	P	18 00 33.3	-0.7
TSZ	**Takapari Road**	**1.72 180**		PN	P	18 00 34.4	-0.7
TSZ				SN	S	18 00 58.5	-2.2
TSZ	**Takapari Road**	**1.72 180**		P	P	18 00 34.4	-0.7
PUZ	**Puketiti**	**1.82 82**	⇓	PN	P	18 00 35.6	-0.7
PUZ				SN	S	18 01 00.7	-2.1
PUZ	**Puketiti**	**1.82 82**		P	P	18 00 35.6	-0.7
PXZ	**Pawanui**	**1.83 158**		PN	P	18 00 36.0	-0.3
MXZ	**Matakaoa Point**	**2.01 68**	⇑	PN	P	18 00 37.9	-0.4
MXZ	**Matakaoa Point**	**2.01 68**		P	P	18 00 37.9	-0.4
MRZ	**Mangatainoka R**	**2.34 187**		PN	P	18 00 40.3	-2.0
BFZ	**Birch Farm**	**2.35 175**		P	P	18 00 40.5	-1.9
KIW	**Kapiti Island**	**2.65 198**		PN	P	18 00 43.3	-2.7
KIW	**Kapiti Island**	**2.65 198**		P	P	18 00 43.3	-2.7
CAW	**Cannon Point**	**2.85 194**		P	P	18 00 45.7	-2.9
MRW	**Makara Radio**	**3.04 198**		P	P	18 00 47.8	-3.2
MSWZ	**Moikau Station**	**3.12 190**		P	P	18 00 48.7	-3.3
TCW	**Tory Channel**	**3.15 204**		P	P	18 00 49.0	-3.3
BHW	**Baring Head**	**3.18 195**		P	P	18 00 49.1	-3.6
NNZ	**Nelson**	**3.50 214**		*e*P	P	18 00 52.8	-4.0
QRZ	**Quartz Range**	**3.63 226**		*e*P	P	18 00 54.3	-4.3
BSWZ	**Blackbirch Sta**	**3.73 205**		P	P	18 00 55.9	-3.9
THZ	**Tophouse**	**4.15 214**		*e*P	P	18 01 01.2	-4.0
KHZ	**Kahutara**	**4.47 204**		P	P	18 01 05.1	-4.3
MQZ	**McQueen's Vall**	**5.92 204**		*e*P	P	18 01 22.0	-6.4
ODZ	**Otahua Downs**	**7.79 209**		*e*P	P	18 01 47.3	-6.0

MAN 30 19:24:08.0,12.19N×124.02E,h41km,mb3.5,ML2.2, MS1.7,Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.70 63**		*e*P	P	19 24 21.3	-0.3
PLP	**Palo**	**1.39 137**		*e*P	P	19 24 30.8	-0.5
PLP				*i*S	S	19 24 50.3	+1.7
BESP	**Borongan**	**1.51 113**		*e*P	P	19 24 32.6	-0.4
AUQP	**San Andres**	**1.73 311**		*e*P	P	19 24 38.9	+2.7
GUIM	**Jordan**	**2.09 222**		*e*P	P	19 24 41.4	+0.1
GUIM				*e*S	S	19 25 08.3	+2.0
BUSP	**Coron**	**3.74 268**		*e*P	P	19 25 04.8	0.0

MAN 30 19:25:53.7,8.17N×126.05E,h34km,mb3.9,ML2.7,MS2.3, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.31 88**	⇓	*e*P	P	19 26 01.8	+0.2
BIPH				*i*S	S	19 26 07.0	-0.3
BUTP	**Butuan**	**0.90 332**		*e*P	P	19 26 07.1	-2.8
BUKP	**Musuan**	**1.02 253**		*e*P	P	19 26 11.3	-0.4
BUKP				*e*S	S	19 26 28.1	+3.0
MATI	**Mati**	**1.24 170**		*e*P	P	19 26 14.8	+0.1
SCPH	**Surigao**	**1.69 341**		*e*P	P	19 26 21.3	0.0
SCPH				*e*S	S	19 26 41.0	-1.0
RCP	**Roxas**	**4.68 316**	⇑	*e*P		19 24 49.5	
PVCP	**Virac**	**5.70 341**		*e*P		19 24 32.7	

*ATH **30** 19:36:43.9,38.57N×21.57E,h18km±2km,MD3.0/8*
*NEIC **30** 19:36:44.4,38.55N×21.61E,h15km,MD3.0(ATH),After ATH.*
*CSEM **30** 19:36:44.8±0.1,38.55N×21.66E,h2km,MD3.0,Error ellipse: s-maj=3.2km s-min=1.9km az=114.0*
*THE **30** 19:36:46.1,38.39N×21.74E,h20km,ML3.6*

ISC 30 19:36:44.7±0.4,38.56N±0.03×21.60E±0.05,h10km,n23, σ1°8/14/35,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.39 25**		*e*PB	**Pb**	**19 36 52.1**	**-1.2**
EVR				*e*SB	**Sb**	**19 36 58.5**	**-0.6**
RLS	**Riolos of Patr**	**0.51 192**		*e*PN	**Pg**	**19 36 54.7**	**-0.4**
RLS	**Riolos of Patr**	**0.51 192**		*e*Pn	**Pg**	**19 36 54.8**	**-0.3**
AGG	**Agios Georgios**	**0.74 51**		*e*Pg	**Pg**	**19 37 02.4**	**+2.9**
VLS	**Valsamata**	**0.88 245**		*e*Pb	**Pb**	**19 37 00.5**	**-1.1**
VLS				*e*Sn	**Sn**	**19 37 14.1**	**-1.7**
LKR	**Lokris**	**1.10 85**		*e*PB	**Pb**	**19 37 04.6**	**-0.9**
JAN	**Janina**	**1.24 332**		*e*Pn	**Pn**	**19 37 08.7**	**+0.6**
JAN				*e*Sn	**Sn**	**19 37 25.5**	**+0.5**
MEV	**Metsovon**	**1.26 347**		*e*Pg	**Pg**	**19 37 11.1**	**+1.2**
IGT	**Igoumenitsa**	**1.38 315**		*e*Pg	**Pg**	**19 37 11.4**	**-1.0**
ITM	**Ithomi**	**1.40 169**		*e*Pn	**Pn**	**19 37 10.9**	**+0.4**
ITM				*e*Sn	**Sn**	**19 37 30.6**	**+1.5**
NEO	**Neokhori**	**1.47 59**		*e*PN	**Pn**	**19 37 11.4**	**-0.1**
XOR	**Xorichti**	**1.48 57**		*e*Pg	**Pg**	**19 37 11.5**	**-2.8**
XOR				*e*Sg	**Sg**	**19 37 29.5**	**-4.7**
NSAL	**Nisos Salamina**	**1.61 113**		*e*Pn	**Pn**	**19 37 15.0**	**+1.6**
LIT	**Litokhoron**	**1.69 24**		*e*Pb	**Pb**	**19 37 14.5**	**-1.0**
LIT				*e*Sb	**Sb**	**19 37 36.6**	**0.0**
KZN	**Kozani**	**1.75 4**		*e*PN	**Pn**	**19 37 16.1**	**+0.7**
PAIG	**Paliouri**	**2.12 49**		*e*Pn	**Pn**	**19 37 20.4**	**-0.3**
PAIG				*e*Sn	**Sn**	**19 37 45.8**	**-1.5**
VLI	**Veliai**	**2.12 150**		*e*PN	**Pn**	**19 37 21.9**	**+1.1**
FNA	**Florina**	**2.23 356**		*e*Pn	**Pn**	**19 37 23.6**	**+1.4**
FNA				*e*Sn	**Sn**	**19 37 52.9**	**+2.8**
GRG	**Griva**	**2.47 14**		*e*Pn	**Pn**	**19 37 25.6**	**-0.2**
GRG				*e*Sn	**Sn**	**19 37 58.5**	**+2.2**
GRG	**Griva**	**2.47 14**		*e*Pn	**Pn**	**19 37 25.5**	**-0.3**
OUR	**Ouranopolis**	**2.56 45**		*e*Pn	**Pn**	**19 37 26.3**	**-0.8**
OUR				*e*Sn	**Sn**	**19 37 58.6**	**+0.1**
SOH	**Sokhos**	**2.63 30**		*e*Pn	**Pn**	**19 37 27.3**	**-0.8**
SOH				*e*Sn	**Sn**	**19 38 03.5**	**+0.1**

PAIG				*e*Sg	**Sg**	**20 50 41.2**	**+0.2**
THE	**Thessaloniki**	**0.55**	**290**	*e*Pg	**Pg**	**20 50 34.6**	**+0.1**
THE				*e*Sg	**Sg**	**20 50 41.5**	**-0.5**
SRS	**Serrai**	**0.67**	**357**	*e*Pg	**Pg**	**20 50 36.8**	**-0.2**
SRS				*e*Sg	**Sg**	**20 50 46.5**	**+0.5**
KNT	**Kendrikon**	**0.91**	**322**	*e*Pg	**Pg**	**20 50 41.2**	**-0.6**
KNT				*e*Sg	**Sg**	**20 50 54.1**	**+0.1**
NVR	**Nevrokopi**	**0.92**	**10**	*e*PN	**Pn**	**20 50 41.6**	**-0.5**
NVR				*e*SN	**Sn**	**20 50 56.6**	**+1.4**
LIT	**Litokhoron**	**0.95**	**249**	*e*Pg	**Pg**	**20 50 42.7**	**+0.2**
LIT				*e*Sg	**Sg**	**20 50 56.2**	**+1.1**
XOR	**Xorichti**	**1.13**	**198**	*e*Pg	**Pg**	**20 50 46.2**	**+0.1**
XOR				*e*Sg	**Sg**	**20 51 02.0**	**+0.7**
XOR	**Xorichti**	**1.13**	**198**	*e*Pg	**Pg**	**20 50 46.2**	**+0.1**
XOR				*e*Sg	**Sg**	**20 51 02.0**	**+0.7**
NEO	**Neokhori**	**1.18**	**196**	*e*PN	**Pn**	**20 50 42.5**	**-3.3**
LOS	**Limnos**	**1.21**	**114**	*e*Pg	**Pg**	**20 50 46.6**	**-1.1**
AOS	**Alonnisos**	**1.29**	**172**	*e*Pg	**Pg**	**20 50 47.7**	**-1.5**
LIA	**Limnos Island**	**1.30**	**114**	*e*PN	**Pn**	**20 50 47.6**	**+0.1**
RDO	**Rodhopi**	**1.60**	**63**	*e*PN	**Pn**	**20 50 51.8**	**0.0**
ALN	**Alexandroupoli**	**1.88**	**75**	*e*Pb	**Pb**	**20 50 55.8**	**-1.5**
ALN				*e*Sb	**Sb**	**20 51 21.8**	**+1.0**

NEIC ***30*** *21:02:11.6, 16.78N×94.40W, h108km, MD3.9(MEX), After MEX.*

MEX 30 21:02:11.1±1.1, 16.81N×94.40W, h120km±11km, MD3.9, 3C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.54**	**301**	*i* P	P	21 02 28.2	-1.2
CMIG				*i* S	S	21 02 41.4	-1.9
TUIG	**Tuzandepetl**	**1.22**	**359**	⇓*i* P	P	21 02 33.8	-2.0
TUIG				*i* S	S	21 02 51.7	-2.5
HUIG	**Huatulco**	**1.94**	**238**	⇑*i* P	P	21 02 41.0	-3.2
HUIG				*i* S	S	21 03 06.9	-2.4
CCIG	**Comitan**	**2.23**	**103**	⇑*i* P	P	21 02 47.2	-0.8
CCIG				*i* S	S	21 03 14.5	-1.4
OXX	**Oaxaca**	**2.24**	**277**	*e*P	P	21 02 47.0	-1.2
OXX				*i* S	S	21 03 14.0	-2.2
VHO	**Vista Hermosa**	**2.25**	**277**	⇑*i* P	P	21 02 47.6	-0.7
VHO				*i* S	S	21 03 14.2	-2.2
PPM	**Popocatepetl**	**4.61**	**300**	*e*P	P	21 03 20.0	+0.1

HLW ***30*** *21:06:17.2, 36.77N×27.04E, h33km, Mb3.8*
CSEM ***30*** *21:06:19.0±0.1, 36.63N×27.02E, h150km, MD3.4, Error ellipse: s-maj=3.9km s-min=2.9km az=54.0*
ISK ***30*** *21:06:20.8, 36.70N×26.98E, h133km, MD3.3*
ATH ***30*** *21:06:21.7, 36.78N×26.72E, h18km±4km, MD3.4/7*
NEIC ***30*** *21:06:21.8, 36.78N×26.73E, h20km, MD3.4(ATH), After ATH.*

ISC 30 21:06:19.1±0.7, 36.55N±0.04×27.03E±0.07, h153km±9km, n23, σ1§31/31, 5C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.56**	**24**	*i* PG	**P**	**21 06 40.1**	**-1.5**
ARG	**Arkhangelos**	**0.94**	**110**	*e*PN	**P**	**21 06 45.7**	**+1.8**
ARG				*e*SN	**S**	**21 07 03.4**	**+0.4**
MLSB	**Milas**	**0.96**	**39**	PG	**P**	**21 06 43.6**	**-0.4**
MLSB				SG	**S**	**21 06 59.7**	**-3.5**
KARP	**Karpathos**	**1.00**	**174**	*e*PN	**P**	**21 06 46.1**	**+1.7**
YER	**Yerkesik**	**1.16**	**59**	PN	**P**	**21 06 46.7**	**+0.8**
APE	**Apeiranthos**	**1.31**	**294**	PN	**P**	**21 06 46.9**	**-0.4**
DALT	**Dalyan (Mudla)**	**1.31**	**80**	PN	**P**	**21 06 47.5**	**+0.2**
NPS	**Neapolis**	**1.72**	**222**	*e*PN	**P**	**21 06 53.1**	**+1.5**
BLCB	**Balcova**	**1.83**	**0**	PN	**P**	**21 06 51.7**	**-1.2**
IZM	**Izmir**	**1.86**	**6**	PN	**P**	**21 06 52.2**	**-0.9**
XRY	**Khrisi**	**1.99**	**213**	*e*PB	**P**	**21 06 57.0**	**+2.4**
XRY	**Khrisi**	**1.99**	**213**	*e*Pb	**P**	**21 06 56.7**	**+2.1**
AKS	**Akhisar**	**2.41**	**15**	PN	**P**	**21 06 58.9**	**-0.9**
VAM	**Vamos**	**2.56**	**244**	*e*PN	**P**	**21 07 02.9**	**+1.2**
VAM				*e*SN	**S**	**21 07 34.2**	**-0.2**
PRK	**Paraskevi**	**2.76**	**348**	*e*PN	**P**	**21 07 03.7**	**-0.5**
VLI	**Veliai**	**3.30**	**274**	*e*PN	**P**	**21 07 11.6**	**+0.5**
SLUM		**5.26**	**197**	⇑P	**P**	**21 07 36.5**	**-0.4**
SLUM				S	**S**	**21 08 34.5**	**-2.6**
HMAT	**Matruh**	**5.44**	**179**	⇑*e*P	**P**	**21 07 39.5**	**+0.2**
HMAT				S	**S**	**21 08 39.6**	**-1.7**
DABA	**Dabaa**	**5.62**	**169**	⇓*e*P	**P**	**21 07 41.9**	**+0.3**
DABA				S	**S**	**21 08 43.2**	**-2.4**
SWA1		**7.35**	**189**	⇓*e*P	**P**	**21 08 05.6**	**+0.8**
SWA1				S	**S**	**21 09 25.3**	**-1.8**
SWA2		**7.40**	**191**	⇑*e*P	**P**	**21 08 06.3**	**+0.8**
SWA2				S	**S**	**21 09 26.3**	**-2.1**
GLL	**Jalalah**	**7.98**	**149**	⇑P	**P**	**21 08 14.4**	**+1.2**
HFRF	**Wahat Farafira**	**9.43**	**173**	⇑P	**P**	**21 08 34.7**	**+2.3**

ROM ***30*** *21:19:00.3±0.1, 43.79N×12.43E, h17km±1km, MI3.2/16, Error ellipse: s-maj=1.8km s-min=1.1km az=147.0*
CSEM ***30*** *21:19:00.2±0.0, 43.81N×12.47E, h12km, ML3.2/5, Error ellipse: s-maj=1.1km s-min=0.8km az=32.0*
NEIC ***30*** *21:19:01.6±0.5, 43.85N×12.43E, h10km, ML3.6(SZGRF), ML3.4(STR), ML3.2(LDG), Error ellipse: s-maj=6.6km s-min=3.6km az=145.0*
LDG ***30*** *21:19:02.5±0.1, 43.78N×12.49E, h10km, MI3.2/12, Error ellipse: s-maj=5.4km s-min=2.9km az=41.0*
STR ***30*** *21:19:10.5±1.2, 44.19N×11.95E, h10km±1km, MI3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 30 21:19:01.2±0.3, 43.82N±0.02×12.40E±0.02, h21km±3km, n100, σ1§10/143, 10C-6D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSM	**Repubblica di**	**0.11**	**20**	⇑*i* Pg	**Pb**	**21 19 04.6**	**-0.8**
RSM				Sg	**Sb**	**21 19 08.5**	**+0.3**
	19µm,1.1s						
FSSB	**Fossombrone**	**0.30**	**115**	⇓*i* Pg	**Pb**	**21 19 06.4**	**-1.6**
	245nm,0.3s						
BADI	**Badiali**	**0.33**	**199**	⇑*i* Pg	**Pb**	**21 19 07.6**	**-0.8**
BADI				Sg	**Sb**	**21 19 13.3**	**0.0**
	6µm,0.3s						
CRE	**Caprese Michel**	**0.38**	**238**	Pg	**Pb**	**21 19 08.6**	**-0.6**
CRE				Sg	**Sb**	**21 19 15.2**	**+0.5**
	1µm,0.5s						
SFI	**Santa Sofia**	**0.41**	**282**	⇓*e*Pg	**Pb**	**21 19 09.3**	**-0.3**
SFI				Sg	**Sb**	**21 19 16.5**	**+1.1**
	648nm,0.5s						
PGD	**Poggio Sodo**	**0.49**	**276**	⇓*e*Pg	**Pb**	**21 19 10.9**	**-0.1**
ARV	**Arcevia**	**0.51**	**129**	Pg	**Pb**	**21 19 10.1**	**-1.3**
ARVD	**Arcevia**	**0.51**	**129**	Pg	**Pb**	**21 19 10.1**	**-1.3**
ARVD				Sg	**Sb**	**21 19 18.4**	**0.0**
	1µm,0.2s						
BRSN	**Barisano**	**0.52**	**334**	Pg	**Pb**	**21 19 12.2**	**+0.7**
	515nm,0.5s						
MURB	**Monte Urbino**	**0.57**	**171**	Pg	**Pb**	**21 19 11.6**	**-0.7**
MURB				Sg	**Sb**	**21 19 20.5**	**+0.6**
	13µm,0.3s						
VMG	**Vicchio**	**0.63**	**283**	⇑*i* Pg	**Pb**	**21 19 13.5**	**+0.1**
SNTG	**Esanatoglia**	**0.69**	**145**	⇓*e*Pg	**Pb**	**21 19 13.4**	**-1.0**
CING	**Cingoli**	**0.73**	**127**	Pg	**Pb**	**21 19 14.3**	**-0.8**
	551nm,0.4s						
CSNT	**Castellina Chi**	**0.88**	**247**	Pg	**Pb**	**21 19 18.9**	**+1.3**
	240nm,0.4s						
AOI	**Ancona**	**0.92**	**107**	Pg	**Pb**	**21 19 18.1**	**-0.1**
	587nm,0.4s						
FNVD	**Fontana Vidola**	**0.98**	**291**	Pg	**Pb**	**21 19 19.9**	**+0.6**
	318nm,0.5s						
SACS	**San Casciano d**	**1.04**	**200**	Pg	**Pb**	**21 19 19.9**	**-0.4**
	457nm,0.8s						
NRCA	**Norcia**	**1.12**	**152**	Pg	**Pb**	**21 19 20.8**	**-0.9**
PZZT	**Monte Pizzetto**	**1.15**	**286**	Pg	**Pb**	**21 19 22.8**	**+0.6**
	225nm,0.6s						
ZCCA	**Zocca**	**1.15**	**298**	Pg	**Pb**	**21 19 24.4**	**+2.2**
	100nm,0.6s						
ARCI	**Arcidosso**	**1.18**	**215**	Pg	**Pn**	**21 19 23.0**	**+0.3**
	288nm,1.1s						
GRFL	**Gerfalco**	**1.23**	**237**	Pg	**Pn**	**21 19 24.2**	**+0.8**
	34nm,0.6s						
LNSS	**Leonessa**	**1.31**	**159**	Pg	**Pn**	**21 19 25.2**	**+0.7**
	492nm,0.6s						
BDI	**Bagni Di Lucca**	**1.32**	**281**	Pg	**Pn**	**21 19 26.2**	**+1.5**
	147nm,0.7s						
PII	**Pisa**	**1.36**	**266**	Pg	**Pn**	**21 19 26.1**	**+0.9**
	98nm,0.5s						
MAIM		**1.38**	**274**	P	**Pn**	**21 19 26.1**	**+0.6**
MAIM		**1.38**	**274**	P	**Pn**	**21 19 26.1**	**+0.6**
GSCL	**Gusciola**	**1.41**	**293**	Pg	**Pn**	**21 19 28.7**	**+2.8**
	183nm,1.2s						
MNS	**Montasola**	**1.45**	**172**	Pg	**Pn**	**21 19 26.9**	**+0.3**
	115nm,0.5s						
SARO	**Sassorosso**	**1.48**	**285**	P	**Pn**	**21 19 27.9**	**+0.9**
SARO				S	**Sn**	**21 19 49.6**	**+3.7**
SARO	**Sassorosso**	**1.48**	**285**	P	**Pn**	**21 19 27.9**	**+0.9**
SARO	**Sassorosso**	**1.48**	**285**	P	**Pn**	**21 19 27.9**	**+0.9**
SARO				S	**Sn**	**21 19 49.6**	**+3.7**
SARO				S	**Sn**	**21 19 49.6**	**+3.7**
CAMP	**Campotosto**	**1.48**	**150**	Pg	**Pn**	**21 19 27.4**	**+0.4**
	268nm,0.6s						
TERO	**Teramo**	**1.49**	**143**	Pg	**Pn**	**21 19 27.8**	**+0.7**
	415nm,0.4s						
VLC	**Villacollemand**	**1.49**	**284**	*e*Pn	**Pn**	**21 19 29.0**	**+1.9**
VLC	**Villacollemand**	**1.49**	**284**	*e*Pn	**Pn**	**21 19 29.0**	**+1.9**
VALM		**1.64**	**289**	P	**Pn**	**21 19 30.9**	**+1.7**
VALM		**1.64**	**289**	P	**Pn**	**21 19 30.9**	**+1.7**
AQU	**L'Aquila**	**1.64**	**153**	Pg	**Pn**	**21 19 31.2**	**+1.9**
	182nm,0.5s						
AQU	**L'Aquila**	**1.64**	**153**	*e*Pn	**Pn**	**21 19 30.8**	**+1.5**
AQU	**L'Aquila**	**1.64**	**153**	*e*Pn	**Pn**	**21 19 30.8**	**+1.5**
AQU	**L'Aquila**	**1.64**	**153**	Pg	**Pn**	**21 19 31.2**	**+1.9**
	182nm,0.5s						
VINC	**Vinca**	**1.65**	**282**	P	**Pn**	**21 19 30.3**	**+0.9**
VINC	**Vinca**	**1.65**	**282**	P	**Pn**	**21 19 30.3**	**+0.9**
VINC	**Vinca**	**1.65**	**282**	P	**Pn**	**21 19 30.3**	**+0.9**
BACM		**1.74**	**286**	P	**Pn**	**21 19 31.9**	**+1.3**
GRAM		**1.81**	**293**	P	**Pn**	**21 19 33.9**	**+2.3**
CODM		**1.92**	**288**	P	**Pn**	**21 19 34.8**	**+1.6**
CODM		**1.92**	**288**	P	**Pn**	**21 19 34.8**	**+1.6**
NVLJ	**Novalja**	**1.93**	**67**	*i* Pn	**Pn**	**21 19 33.9**	**+0.5**
NVLJ				*i* Sn	**Sn**	**21 19 58.2**	**+1.0**
NVLJ	**Novalja**	**1.93**	**67**	*i* Pn	**Pn**	**21 19 33.8**	**+0.5**
NVLJ				*i* Sn	**Sn**	**21 19 58.2**	**+1.0**
SC2M	**Scurtabr**	**2.14**	**287**	P	**Pn**	**21 19 37.7**	**+1.3**
KNDS	**Knezji Dol**	**2.21**	**39**	*i* Pn	**Pn**	**21 19 37.6**	**+0.2**
VOY	**Vojsko**	**2.45**	**25**	*e*Pn	**Pn**	**21 19 40.8**	**0.0**
VOY				*e*Sn	**Sn**	**21 20 10.4**	**-0.1**
VISS	**Visnje**	**2.63**	**40**	*e*Pn	**Pn**	**21 19 43.7**	**+0.3**
VISS				*e*Sn	**Sn**	**21 20 17.3**	**+2.2**
LJU	**Ljubljana**	**2.69**	**34**	*e*Pn	**Pn**	**21 19 44.7**	**+0.5**
LJU				*e*Sn	**Sn**	**21 20 18.1**	**+1.6**
GORS	**Gorjuse**	**2.74**	**24**	*e*Pn	**Pn**	**21 19 44.8**	**-0.1**
GORS				*e*Sn	**Sn**	**21 20 18.9**	**+1.1**
PGF	**Pioggiola**	**2.79**	**244**	*e*Pn	**Pn**	**21 19 46.0**	**+0.3**
PGF				*e*Sn	**Sn**	**21 20 18.3**	**-0.8**
	18nm,0.5s						
OBKA	**Obir**	**3.09**	**29**	⇓*i* PN	**Pn**	**21 19 50.3**	**+0.4**
OBKA				*i* SN	**Sn**	**21 20 25.2**	**-1.4**
OBKA	**Obir**	**3.09**	**29**	⇓*i* PN	**Pn**	**21 19 50.3**	**+0.4**
WTTA	**Wattenberg**	**3.48**	**351**	⇑*i* PN	**Pn**	**21 19 56.1**	**+0.6**
WTTA				*i* SN	**Sn**	**21 20 36.9**	**+0.3**
SQTA	**Sankt Quirin**	**3.50**	**347**	⇑*i* PN	**Pn**	**21 19 56.2**	**+0.5**
SQTA				*i* SN	**Sn**	**21 20 37.5**	**+0.5**
SAOF	**Saorge**	**3.50**	**274**	P	**Pn**	**21 19 58.1**	**+2.3**
WATA	**Walderalm**	**3.56**	**351**	⇑*i* PN	**Pn**	**21 19 56.7**	**+0.1**
WATA				*i* SN	**Sn**	**21 20 38.7**	**+0.2**
SBF	**Sospel**	**3.59**	**272**	*e*Pn	**Pn**	**21 19 57.0**	**0.0**
SBF				*e*Sn	**Sn**	**21 20 38.0**	**-1.3**
	28nm,0.5s						
MOTA	**Moosalm**	**3.64**	**346**	⇑*i* PN	**Pn**	**21 19 57.4**	**-0.3**
MOTA				*i* SN	**Sn**	**21 20 40.4**	**-0.1**
TOUF	**Mont Tournerai**	**3.73**	**275**	P	**Pn**	**21 20 02.4**	**+3.5**
DAVA	**Damuels**	**3.89**	**334**	⇑*i* PN	**Pn**	**21 20 01.7**	**+0.4**
DAVA				*i* SN	**Sn**	**21 20 47.7**	**+0.8**
ARSA	**Arzberg**	**4.07**	**32**	⇑*i* PN	**Pn**	**21 20 03.1**	**-0.8**
ARSA				*i* SN	**Sn**	**21 20 51.2**	**-0.3**
MBDF	**Montbardon**	**4.14**	**285**	*e*Pn	**Pn**	**21 20 05.9**	**+1.0**
FRF	**La Foret Royal**	**4.18**	**268**	*e*Pn	**Pn**	**21 20 04.8**	**-0.6**
FRF				*e*Sn	**Sn**	**21 20 51.1**	**-3.1**
	21nm,0.7s						
MOA	**Molln**	**4.23**	**17**	⇑*i* PN	**Pn**	**21 20 06.5**	**+0.3**
MOA				*i* SN	**Sn**	**21 20 53.8**	**-1.8**
MOA	**Molln**	**4.23**	**17**	*i* Pn	**Pn**	**21 20 06.5**	**+0.3**
	SNR=7.9						
LMR	**La Mourre**	**4.31**	**266**	*e*Pn	**Pn**	**21 20 06.7**	**-0.5**
LMR				*e*Sn	**Sn**	**21 20 55.3**	**-2.2**
LPG	**La Plagne**	**4.36**	**295**	*e*Pn	**Pn**	**21 20 07.8**	**-0.2**
LPG				*e*Sn	**Sn**	**21 20 56.9**	**-2.0**
	16nm,0.7s						
LPL	**La Plagne**	**4.38**	**295**	*e*Pn	**Pn**	**21 20 08.0**	**-0.3**
LPL				*e*Sn	**Sn**	**21 20 57.1**	**-2.2**
	20nm,0.8s						
ORIF	**Oris-en-Rattie**	**4.80**	**285**	*e*Pn	**Pn**	**21 20 15.9**	**+1.7**
ORIF				*e*Sn	**Sn**	**21 21 07.1**	**-2.8**
	18nm,0.7s						
SMRF	**Simiane la Rot**	**4.93**	**274**	*e*Pn	**Pn**	**21 20 16.8**	**+0.7**
GEC2	**GERESS Array S**	**5.10**	**10**	*e*Pn	**Pn**	**21 20 17.9**	**-0.6**
GEC2				*e*Sn	**Sn**	**21 21 12.2**	**-5.4**
CABF	**La Chapelle**	**5.26**	**304**	*e*Pn	**Pn**	**21 20 20.5**	**-0.2**
CABF				*e*Sn	**Sn**	**21 21 18.0**	**-3.4**
	7.5nm,0.6s						
WET	**Wettzell**	**5.33**	**3**	*e*Pn	**Pn**	**21 20 20.2**	**-1.5**
WET				*e*Sn	**Sn**	**21 21 18.6**	**-4.7**
KHC	**Kasperske Hory**	**5.37**	**8**	*e*PN	**Pn**	**21 21 0.-1**	**-1.3**
KHC				PG	**Pn**	**21 20 41.5**	**+19**
KHC				*e*SN	**Sn**	**21 21 21.0**	**-3.3**
KHC				*ex*	x	21 21 38.5	
KHC				SG	Sn	21 21 54.0	+30
KHC	**Kasperske Hory**	**5.37**	**8**	*e*Pn	**Pn**	**21 20 21.0**	**-1.3**
KHC				*e*		21 20 41.5	
KHC				*e*Sn	**Sn**	**21 21 21.0**	**-3.3**
KHC				*e*		21 21 38.5	
KHC				*e*		21 21 54.0	
MOF	**Molkenrain**	**5.45**	**319**	P	**Pn**	**21 20 22.9**	**-0.5**
HINF	**Hinteralfeld**	**5.56**	**318**	*e*Pn	**Pn**	**21 20 23.9**	**-1.1**
HINF				*e*Sn	**Sn**	**21 21 24.7**	**-4.4**
	4.8nm,0.3s						
VIVF	**Saint-Julien-l**	**5.64**	**283**	*e*Pn	**Pn**	**21 20 27.0**	**+1.0**
ECH	**Echery**	**5.71**	**322**	P	**Pn**	**21 20 26.5**	**-0.5**
WLS	**Welschbruch**	**5.78**	**324**	P	**Pn**	**21 20 27.4**	**-0.6**
CDF	**Champ du Feu**	**5.81**	**324**	*e*Pn	**Pn**	**21 20 27.4**	**-1.0**
CDF				*e*Sn	**Sn**	**21 21 30.8**	**-4.4**
	2.2nm,0.3s						
HAU	**Haudompre**	**5.94**	**317**	*e*Pn	**Pn**	**21 20 29.2**	**-1.1**
HAU				*e*Sn	**Sn**	**21 21 33.7**	**-4.8**
	19nm,0.4s						
LASF	**Ste Croix**	**6.17**	**275**	*e*Pn	**Pn**	**21 20 32.5**	**-1.1**
THEF	**They Montfort**	**6.27**	**317**	P	**Pn**	**21 20 34.4**	**-0.5**
SMF	**Signal de Mont**	**6.67**	**298**	*e*Pn	**Pn**	**21 20 38.9**	**-1.6**
SMF				*e*Sn	**Sn**	**21 21 51.6**	**-5.1**
	5.2nm,0.4s						
MOX	**Moxa**	**6.84**	**356**	*i* P	**Pn**	**21 20 38.2**	**-4.9**
MOX				*i* S	**Sn**	**21 21 54.0**	**-7.2**
MOX	**Moxa**	**6.84**	**356**	*e*Pn	**Pn**	**21 20 38.2**	**-4.9**
MOX				*e*Sn	**Sn**	**21 21 54.3**	**-6.9**
LOR	**Lormes**	**6.91**	**303**	*e*Pn	**Pn**	**21 20 43.0**	**-1.0**
AVF	**Avril sur Loir**	**7.03**	**298**	*e*Pn	**Pn**	**21 20 43.6**	**-2.1**
SSF	**Saint Saulge**	**7.04**	**300**	*e*Pn	**Pn**	**21 20 44.5**	**-1.3**
BGF	**Bois d'Agland**	**7.28**	**295**	*e*Pn	**Pn**	**21 20 47.9**	**-1.2**
BGF				*e*Sn	**Sn**	**21 22 06.6**	**-5.4**
	10nm,0.6s						
MTLF	**Montolieu**	**7.41**	**270**	*e*Pn	**Pn**	**21 20 49.8**	**-1.1**

IDC ***30*** *21:48:25.6±2.2, 2.66N×126.68E, h53km±35km, mb4.0/7, mb1 4.1/7, mb1mx3.8/15, mbtmp4.2/7, Error ellipse: s-maj=102.6km s-min=13.9km az=71.0*
NEIC ***30*** *21:48:29.2±1.5, 2.62N×126.63E, h88km±13km, mb4.4/9, Error ellipse: s-maj=15.5km s-min=5.0km az=62.0*

ISC 30 21:48:25.6±2.2, 2.67N±0.09×126.6E±0.2, h67km±20km, n29, σ0§66/31, mb4.4/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**6.50**	**322**	*e*P	**P**	**21 49 59.5**	**-1.2**
KKM	**Kota Kinabalu**	**10.92**	**288**	Pn	**P**	**21 51 02.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**20.67**	**183**	*e*P	**P**	**21 53 01.6**	**-0.8**
	7.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.67**	**183**	P	**P**	**21 53 01.4**	**-1.0**
	10nm,0.7s,baz=19,slow=8.4,SNR=11						
YHNB	**Yeheng**	**22.45**	**347**	*e*P	**P**	**21 53 21.2**	**+1.1**
WRAB	**Tennant Creek**	**23.70**	**162**	*e*P	**P**	**21 53 33.2**	**+0.8**
	8.0nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**23.71**	**162**	P	**P**	**21 53 32.2**	**-0.2**
	2.5nm,0.3s,mb4.0,baz=334,slow=11,SNR=34						
WRA				S	**S**	**21 57 45.0**	**+5.5**
	1.0nm,0.8s,baz=335,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**23.71**	**162**	P	**P**	**21 53 32.2**	**-0.2**
WRA				S	**S**	**21 57 45.0**	**+5.5**
WB2	**Warramunga Arr**	**23.71**	**162**	*e*P	**P**	**21 53 32.7**	**+0.2**
KULM	**Kulim**	**26.06**	**277**	*e*P	**P**	**21 53 55.1**	**+0.2**
ASPA	**Alice Springs**	**27.12**	**165**	*e*P	**P**	**21 54 04.9**	**+0.3**
ENH	**Enshi**	**31.90**	**331**	*e*P	**P**	**21 54 47.0**	**0.0**
	2.7nm,0.3s,mb4.5						
STKA	**Stephens Creek**	**37.18**	**159**	*e*P	**P**	**21 55 31.7**	**-0.4**
	2.8nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**37.18**	**159**	P	**P**	**21 55 31.7**	**-0.5**
	3.7nm,0.7s,mb4.4,baz=327,slow=7.6,SNR=6.5						
LZH	**Lanzhou**	**39.37**	**330**	*e*P	**P**	**21 55 50.8**	**+0.5**
	18nm,1.2s,mb4.8						
LZH				pP	pP	21 56 01.0	-6.0
LZH				sP	sP	21 56 05.0	-10
LSA	**Lhasa**	**43.08**	**312**	*e*P	**P**	**21 56 22.1**	**+1.1**
	2.9nm,0.4s,mb4.4						
GUN	**Gumba**	**46.28**	**307**	*e*P	**P**	**21 56 46.4**	**-0.2**
	12nm,0.6s,mb4.8						
PKI	**Pulchoki**	**46.51**	**306**	*e*P	**P**	**21 56 48.1**	**-0.4**
KKN	**Kakani**	**46.71**	**306**	*e*P	**P**	**21 56 49.5**	**-0.5**
	20nm,1.1s,mb4.7						
DMN	**Daman**	**46.77**	**306**	*e*P	**P**	**21 56 50.3**	**-0.2**
	16nm,1.1s,mb4.7						
GKN	**Gorkha**	**47.31**	**306**	*e*P	**P**	**21 56 54.2**	**-0.6**
	22nm,1.2s,mb4.8						
KOLN	**Koldanda**	**48.06**	**306**	*e*P	**P**	**21 57 00.3**	**-0.3**
	15nm,0.7s,mb4.9						
SONM	**Songino Array**	**48.27**	**342**	P	**P**	**21 57 01.9**	**0.0**
	1.2nm,0.6s,mb3.9,baz=158,slow=9.6,SNR=7.2						
MKAR	**Makanchi Array**	**58.37**	**326**	P	**P**	**21 58 15.7**	**-0.7**
	1.2nm,0.4s,mb4.3,baz=118,slow=7.0,SNR=25						
KURK	**Kurchatov**	**62.58**	**328**	*e*P	**P**	**21 58 44.4**	**-0.7**
	5.1nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**68.33**	**328**	*e*P	**P**	**21 59 21.6**	**-0.2**
	0.9nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**91.40**	**340**	P	**P**	**22 01 26.1**	**+0.9**
	1.9nm,0.8s,mb4.3,baz=114,slow=8.9,SNR=2.4						
FINES	**FINESS Array B**	**92.72**	**332**	P	**P**	**22 01 31.2**	**-0.2**
	1.4nm,1.0s,mb4.2,baz=63,slow=3.1,SNR=3.4						
FINES	**FINESS Array B**	**92.72**	**332**	P	**P**	**22 01 31.2**	**-0.2**

MAN 30 21:48:40.7, 12.89N×125.64E, h24km, mb4.6, ML3.4, MS3.3, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.03**	**249**	*e*P	Pb	21 48 59.1	-0.6
CNP				*e*S	Sb	21 49 13.9	+1.1
BESP	**Borongan**	**1.30**	**189**	*e*P	Pn	21 49 03.0	-0.6
PVCP	**Virac**	**1.61**	**296**	*e*P	Pn	21 49 07.6	-0.5
PVCP				*e*S	Sn	21 49 27.6	-0.7
PLP	**Palo**	**1.83**	**201**	*e*P	Pn	21 49 11.1	-0.2
PLP				*i* S	Sn	21 49 34.5	+0.5
MSLP	**Maasin**	**2.84**	**196**	*e*P	Pn	21 49 31.2	+5.5
GUIM	**Jordan**	**3.74**	**233**	*e*P	Pn	21 49 38.0	-0.5

BJI ***30*** *22:02:39.1, 6.16S×151.79E, h47km, mB5.1, mb4.8*
NEIC ***30*** *22:02:41.8±2.2, 5.67S×152.56E, h63km±20km, mb4.6/10, Error ellipse: s-maj=13.8km s-min=13.2km az=46.0*
IDC ***30*** *22:02:42.8±4.9, 5.71S×152.59E, h72km±46km, mb4.1/9, mb1 4.2/11, mb1mx4.1/15, mbtmp4.4/11, ML3.4/2, MS3.7/3, Ms1 3.7/3, ms1mx3.4/11, Error ellipse: s-maj=27.9km s-min=25.1km az=16.0*

ISC 30 22:02:33.8±4.6, 5.58S±0.09×152.7E±0.1, h9km±29km, n38, σ1§06/38, mb4.5/18, MS3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.65**	**235**

	52nm,0.3s,baz=43,slow=5.8,SNR=116							
PMG				S	**S**	**22 28 03.9**	**+0.5**	
	48nm,0.3s,baz=40,slow=10,SNR=5.5							
KAKA	**Kakadu**	**17.44**	**250**	*e*P	Px	22 30 58.0		
	3.4nm,0.4s							
WRAB	**Tennant Creek**	**19.32**	**227**	*e*P	**P**	**22 31 00.8**	**-1.8**	
	11nm,0.7s							
WB2	**Warramunga Arr**	**19.32**	**227**	*e*P	**P**	**22 31 01.0**	**-1.7**	
WRA	**Warramunga Arr**	**19.33**	**227**	P	**P**	**22 31 01.3**	**-1.5**	
	2.3nm,0.3s,baz=52,slow=11,SNR=64							
WRA				S	**S**	**22 34 36.7**	**+3.4**	
	baz=39,slow=19,SNR=5.1							
ASPA	**Alice Springs**	**22.16**	**220**	*e*P	**P**	**22 31 31.8**	**-0.2**	
FITZ	**Fitzroy Crossi**	**25.46**	**242**	*e*P	**P**	**22 32 04.2**	**+0.1**	
	60nm,0.3s,mb5.6							
FITZ	**Fitzroy Crossi**	**25.46**	**242**	P	**P**	**22 32 04.3**	**+0.2**	
	78nm,0.4s,mb5.6,baz=46,slow=5.2,SNR=298							
STKA	**Stephens Creek**	**25.78**	**195**	P	**P**	**22 32 08.0**	**+1.0**	
	1.2nm,0.5s,mb3.6,baz=9.2,slow=9.2,SNR=6.3							
STKA	**Stephens Creek**	**25.78**	**195**	P	**P**	**22 32 08.0**	**+1.0**	
MKAR	**Makanchi Array**	**79.61**	**320**	P	**P**	**22 38 44.1**	**+1.5**	
	0.2nm,0.4s,mb3.4,baz=102,slow=7.9,SNR=4.7							

DHMR 30 22:28:26.6±0.3,**12.66N**×**40.53E**,**h7**km±15km,**ML4.0, 4D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.54**	**80**	⇓*e*P		Pn	22 29 24.6	+1.5
TRBA				*i* S		Sn	22 30 10.1	+4.4
TRBA				AML		AML	22 30 25.7	
	comp=N,745nm,0.6s							
UDYN	**Al 'Udayn**	**3.59**	**68**	⇓*e*P		Pn	22 29 25.6	+1.7
UDYN				*i* S		Sn	22 30 11.6	+4.6
UDYN				AML		AML	22 30 32.5	
	comp=N,691nm,0.6s							
DHBB	**Dhamar BB**	**4.21**	**63**	⇓*e*P		Pn	22 29 33.8	+1.2
DHBB				*i* S		Sn	22 30 26.1	+3.5
LBOS		**4.75**	**75**	⇓*e*P		Pn	22 29 38.8	-1.5
LBOS				*i* S		Sn	22 30 35.3	-1.1
BDHA	**Al Bayda'**	**5.07**	**74**	*i* S		Sn	22 30 43.2	-1.3

IDC ***30*** *23:08:23.0*±*1.9, 19.83S*×*177.79W, h515*km±*24*km*, mb3.3/3, mb1 3.6/5, mb1mx3.3/15, mbtmp4.4/5, Error ellipse: s-maj=36.4km s-min=18.0km az=141.0*

NEIC ***30*** *23:08:24.0*±*1.0, 19.83S*×*177.88W, h527*km±*12*km*, mb3.9/2, Error ellipse: s-maj=17.1km s-min=12.4km az=143.0*

ISC 30 23:08:22.0±1.5,**19.8S**±0.2×**177.9W**±0.1,**h10**km±23km, **n17,**σ**0**◦**64/13,mb3.7/5,3C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.30**	**46**	P		**P**	**23 10 24.3**	**+1.5**
	3.8nm,0.3s,baz=38,slow=4.7,SNR=4.8							
AFI				S		**S**	**23 11 57.7**	**-1.1**
	5.3nm,0.3s,baz=105,slow=22,SNR=3.1							
AFI	**Afiamalu**	**8.30**	**46**	P		**P**	**23 10 24.3**	**+1.5**
AFI				S		**S**	**23 11 57.7**	**-1.1**
URZ	**Urewera**	**18.90**	**192**	P		**P**	**23 12 10.1**	**-0.2**
	2.1nm,0.3s,baz=33,slow=18,SNR=11							
WRAB	**Tennant Creek**	**44.76**	**261**	*e*P		**P**	**23 15 51.1**	**0.0**
	1.8nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**44.77**	**261**	P		**P**	**23 15 51.4**	**+0.2**
	0.7nm,0.3s,mb3.6,baz=97,slow=7.4,SNR=9.3							
FITZ	**Fitzroy Crossi**	**53.19**	**262**	P		**P**	**23 16 54.2**	**+0.2**
	4.0nm,0.7s,mb3.8,baz=279,slow=0.6,SNR=6.6							
MBWA	**Marble Bar**	**58.07**	**257**	*e*P		**P**	**23 17 27.1**	**-0.8**
	3.3nm,0.6s,mb3.7							
TXAR	**Lajitas Array**	**86.62**	**57**	P		**P**	**23 20 12.5**	**+0.4**
	0.8nm,0.7s,mb3.5,baz=233,slow=6.3,SNR=4.3							
VNA3	**Neumayer Olymp**	**88.84**	**176**	⇑*i*		**P**	**23 20 21.4**	**-0.1**
VNA2	**Neumayer--Watz**	**89.28**	**177**	⇑*i*		**P**	**23 20 23.9**	**+0.3**
VNA1	**Neumayer--Stat**	**89.51**	**177**	⇑*i*		**P**	**23 20 24.3**	**-0.3**
FINES	**FINESS Array B**	**135.11**	**344**	PKP		PKPdf	23 26 42.6	+0.2
	0.7nm,0.8s,baz=117,slow=4.3,SNR=3.8							
AKASG	**Malin Array Be**	**142.43**	**332**	PKhKP			23 26 52.3	
	0.6nm,0.3s,baz=35,slow=3.4,SNR=4.8							
BRTR	**Keskin Array B**	**146.41**	**313**	PKPbc		PKPbc	23 27 05.8	+1.0
	1.0nm,0.6s,baz=104,slow=3.7,SNR=4.5							
CLL	**Collm**	**147.39**	**347**	*i* PKP1		PKPdf	23 27 08.1	+4.0
KHC	**Kasperske Hory**	**149.30**	**345**	*e*PKPbc		PKPdf	23 27 13.0	+5.8
GERES	**GERESS Array B**	**149.54**	**345**	PKPbc		PKPdf	23 27 13.5	+5.9
	1.1nm,0.7s,baz=45,slow=1.9,SNR=11							

CASC 30 23:10:50.6±1.9,**10.53N**×**87.02W,h35**km±999km,**MD4.1, ML3.7,8C-8D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.38**	**56**	⇑*e*P		P	23 11 13.5	-0.2
SSNN				*e*S		S	23 11 32.7	+1.8
VCR	**Vista de Mar**	**1.42**	**106**	*e*P		P	23 11 13.2	-1.2
VCR				*e*S		S	23 11 30.4	-1.6
APON	**Apoyo**	**1.67**	**34**	*e*P		P	23 11 17.6	-0.3
TICN	**Ticuantepe**	**1.69**	**27**	*e*P		P	23 11 17.5	-0.6
COPN	**Copaltepe**	**1.70**	**14**	⇓*e*P		P	23 11 17.9	-0.4
COPN				*e*S		S	23 11 39.0	0.0
MADN	**Villa Maderas**	**1.70**	**59**	⇑*e*P		P	23 11 18.4	+0.1
CONN	**Concepcion**	**1.71**	**53**	*e*P		P	23 11 18.2	-0.3
LIM1	**Limonal**	**1.74**	**84**	⇑*e*P		P	23 11 18.5	-0.4
LIM1				*e*S		S	23 11 40.5	+0.3
MGAN	**Managua**	**1.78**	**25**	⇓*e*P		P	23 11 19.1	-0.3
MGAN				*e*S		S	23 11 41.0	-0.1
	comp=N,915nm,0.4s							
WILN	**Americas 2**	**1.82**	**27**	*e*S		S	23 11 41.4	-0.6
APYN	**Apoyeque**	**1.82**	**21**	⇑*e*P		P	23 11 19.7	-0.3
LEON	**Leon**	**1.88**	**4**	⇑*e*P		P	23 11 20.5	-0.4
LEON				*e*S		S	23 11 43.1	-0.5
MIRN	**Miramar**	**1.93**	**9**	⇓*e*P		P	23 11 21.0	-0.5
MIRN				*e*S		S	23 11 44.1	-0.6
MOMJ	**Momotombo**	**1.93**	**14**	⇑*e*P		P	23 11 20.9	-0.7
MOMJ				*e*S		S	23 11 45.0	+0.2
CNGN	**Cerro Negro**	**1.99**	**9**	⇓*e*P		P	23 11 21.9	-0.5
JCR	**Jicaral**	**1.99**	**110**	*e*P		P	23 11 21.6	-0.8
JCR				*e*S		S	23 11 45.0	-1.4
TEL3	**Telica 3**	**2.04**	**5**	⇑*e*P		P	23 11 22.6	-0.6
TELN	**Telica**	**2.07**	**5**	*e*P		P	23 11 23.2	-0.5
CRIN	**San Cristobal**	**2.16**	**359**	⇓*e*P		P	23 11 24.7	-0.2
PYTN	**Playitas**	**2.21**	**25**	⇓*e*P		P	23 11 24.9	-0.7
CGA2	**Cerro Gallo 2**	**2.56**	**101**	⇓*e*P		P	23 11 31.5	+0.9
CGA2				*e*S		S	23 12 00.6	-0.3
VPS2	**Volcan Poas 2**	**2.76**	**97**	*e*P		P	23 11 33.7	+0.2
LAJ	**Bijagual**	**2.92**	**103**	⇑*e*P		P	23 11 31.1	-4.7
LAJ				*e*S		S	23 12 01.6	-8.5
BUS	**Buena Vista**	**3.35**	**106**	⇓*e*P		P	23 11 42.6	+0.7
BUS				*e*S		S	23 12 20.4	-0.5

BJI ***30*** *23:15:17.0, 5.74S*×*152.24E, h40km, mB5.8, mb5.4, Ms5.8, Msz5.6*

NEIC ***30*** *23:15:19.7*±*0.1, 5.67S*×*151.68E, h25km, mb5.5/67, ME5.2, MS5.7/121, MW5.8, Error ellipse: s-maj=4.2km s-min=3.3km az=119.0 Broadband fault plane solution: P waves. NP1:*φ*s70°,δ80°,λ90°. NP2:*φ*s250°,δ10°,λ90°. Principal axes: T Plg55°, Azm340°; N Plg0°, Azm0°; P Plg35°, Azm160°; Moment Tensor Solution. s14 Moment tensor: Scale 10*^{17} *Nm; Mrr5.36; M*φφ*-7.68; M*θφ*2.31; Mrθ0.63; M*θφ*-2.22; Mθr1.72; Best double couple: M*$_o$*7.2×10*^{17} *NP1:*φ*s282°,δ46°,λ125°. NP2:*φ*s56°,δ54°, λ59°. Principal axes: T 6.14, Plg65°, Azm266°; N 2.08, Plg25°, Azm76°; P -8.22, Plg4°, Azm167°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

HRVD ***30*** *23:15:19.7*±*0.2, 5.78S*×*151.91E, h24km, MW5.8/64, Centroid moment Tensor Solution. LP body waves: s64,c145;Mantle waves: s58,c139; Half duration: 2s 0 Moment tensor: Scale 10*^{17}*Nm; Mrr3.93*±*.10; M*θφ*-3.89*±*.07; M*φφ*-0.04*±*.09; Mrθ4.99*±*.13; M*θφ*-1.78*±*.07; M*φφ*2.76*±*.15; Best double couple: M*$_o$*7.121×10*^{17} *NP1: *φ*s257°,δ19°,λ104°. NP2:*φ*s62°,δ72°,λ85°. Principal axes: T 6.822, Plg63°, Azm325°; N .594, Plg4°, Azm64°; P -7.42, Plg27°, Azm156°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***30*** *23:15:20.6*±*0.9, 5.53S*×*151.52E, h33km, mb5.7/33, MS5.7/34 Error ellipse: s-maj=8.8km s-min=6.1km az=91.8*

IDC ***30*** *23:15:25.2*±*1.6, 5.73S*×*151.72E, h71km*±*13km, mb5.1/19, mb1 5.1/21, mb1mx5.1/22, mbtmp5.4/21, MS5.6/18, Ms1 5.6/18, ms1mx5.6/21, Error ellipse: s-maj=11.9km s-min=8.4km az=123.0*

ISC 30 23:15:19.2±0.1,**5.63S**±0.03×**151.62E**±0.03,**h31**km, **h31**km±1.2km:**pP-P,n612,**σ**1**◦**06**/303,**mb5.5**/119,**MS5.7**/154, **48C-20D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.80**	**229**	P		**Pn**	**23 16 47.9**	**+2.5**
	43nm,0.3s,baz=42,slow=9.2,SNR=168							
PMG				S		**Sn**	**23 17 54.0**	**+2.4**
	83nm,0.3s,baz=69,slow=13,SNR=3.2							
PMG				LR		LR	23 18 20.3	
	comp=Z,4μm,20.4s,baz=38,slow=30							
PMG	**Port Moresby**	**5.80**	**229**	⇓*e*P		**Pn**	**23 16 47.2**	**+1.8**
	3μm,0.9s							
PMG	**Port Moresby**	**5.80**	**229**	P		**Pn**	**23 16 47.9**	**+2.5**
PMG				S		**Sn**	**23 17 54.0**	**+2.4**
PMG				pmax		pmax		
	comp=Z,43nm,0.3s							
PMG				smax				
	comp=E,83nm,0.3s							
PMG				MLR		MLR		
	comp=Z,4μm,20.4s							
CTA	**Charters Tower**	**15.29**	**199**	*e*P		**P**	**23 18 55.3**	**+0.6**
	comp=Z,61nm,0.8s							
CTA				*e*S		**S**	**23 21 50.5**	**+7.1**
CTA	**Charters Tower**	**15.29**	**199**	P		**P**	**23 18 55.8**	**+1.1**
	comp=Z,2.1nm,0.3s,baz=27,slow=13,SNR=10							
CTA				S		**S**	**23 21 50.4**	**+6.9**
	comp=Z,0.4nm,0.3s,baz=294,slow=15,SNR=2.2							
CTA	**Charters Tower**	**15.29**	**199**	P		**P**	**23 18 55.8**	**+1.1**
CTA				S		**S**	**23 21 50.4**	**+7.0**
CTA				pmax		pmax		
	comp=Z,2.0nm,0.3s							
CTAO	**Charters Tower**	**15.29**	**199**	*e*P		**P**	**23 18 54.3**	**-0.4**
	comp=Z,156nm,1.0s							
CTAO	**Charters Tower**	**15.29**	**199**	*e*P		**P**	**23 18 54.3**	**-0.4**
CTAO				pmax		pmax		
	comp=Z,156nm,1.0s							
KAKA	**Kakadu**	**20.19**	**248**	⇓*i*P		**P**	**23 20 14.3**	**+20**
	comp=Z,576nm,0.6s							
KAKA				*e*S		S	23 23 58.9	+25
GUMO	**Guam**	**20.24**	**341**	*e*P		**P**	**23 19 55.2**	**+0.3**
	comp=Z,1μm,1.0s							
GUMO				LR		LR		
	comp=Z,6μm,20.0s,MS5.0							
GUMO	**Guam**	**20.24**	**341**	*e*P		**P**	**23 19 55.2**	**+0.3**
GUMO				pmax		pmax		
	comp=Z,1μm,1.0s							
GUMO				MLR		MLR		
	comp=Z,6μm,20.0s,MS5.0							
KWAJ	**Kwajalein Atol**	**21.45**	**48**	PFAKE			23 20 20.0	+13
KWAJ				LR		LR		
	comp=Z,5μm,19.0s,MS4.9							
DZM	**Mont Dzumac**	**21.74**	**140**	*e*P		**P**	**23 20 06.9**	**-3.2**
DZM	**Mont Dzumac**	**21.74**	**140**	P		**P**	**23 20 08.1**	**-2.0**
	comp=Z,78nm,0.9s,mb5.1,baz=355,slow=9.1,SNR=40							
WRAB	**Tennant Creek**	**22.00**	**228**	*e*P		**P**	**23 20 13.1**	**+0.3**
	comp=Z,474nm,0.8s,mb6.0							
WRAB				LR		LR		
	comp=Z,3μm,20.0s,MS4.8							
WRAB	**Tennant Creek**	**22.00**	**228**	*d*P		**P**	**23 20 13.2**	**+0.4**
WB2	**Warramunga Arr**	**22.01**	**228**	⇓*i*P		**P**	**23 20 13.4**	**+0.6**
WB2				*e*S		**S**	**23 24 14.4**	**+5.6**
WRA	**Warramunga Arr**	**22.02**	**228**	P		**P**	**23 20 13.5**	**+0.6**
	comp=Z,312nm,0.9s,mb5.8,baz=53,slow=9.8,SNR=133							
WRA				S		**S**	**23 24 16.7**	**+7.8**
	comp=Z,122nm,1.2s,baz=54,slow=18,SNR=9.2							
WRA				ScP			23 27 48.2	
	comp=Z,16nm,0.9s,baz=47,slow=2.6,SNR=6.5							
ARMA	**Armidale**	**24.66**	**180**	*e*P		**P**	**23 20 38.8**	**+0.1**
ARMA				*e*S		**S**	**23 24 58.3**	**+3.1**
ASPA	**Alice Springs**	**24.75**	**222**	*e*P		**P**	**23 20 40.5**	**+0.9**
STKA	**Stephens Creek**	**27.74**	**199**	*e*P		**P**	**23 21 05.8**	**-1.5**
	comp=Z,64nm,1.2s,mb5.1							
STKA				*e*S		**S**	**23 25 46.2**	**+0.1**
STKA	**Stephens Creek**	**27.74**	**199**	P		**P**	**23 21 06.4**	**-0.9**
	comp=Z,38nm,0.6s,mb5.2,baz=30,slow=13,SNR=62							
STKA				S		**S**	**23 25 40.6**	**-5.4**
	comp=Z,5.7nm,0.9s,baz=88,slow=24,SNR=1.7							
STKA				LR		LR	23 32 22.8	
	comp=Z,13μm,18.4s,MS5.5,baz=16,slow=37							
RIV	**Riverview**	**28.06**	**181**	*e*P		**P**	**23 21 09.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**28.23**	**242**	*e*P		**P**	**23 21 11.8**	**0.0**
	comp=Z,542nm,0.6s,mb6.4							
FITZ				*e*S		**S**	**23 26 04.5**	**+10**
FITZ	**Fitzroy Crossi**	**28.23**	**242**	P		**P**	**23 21 11.9**	**+0.1**
	comp=Z,679nm,0.7s,mb6.4,baz=50,slow=5.5,SNR=176							
FITZ				S		**S**	**23 25 52.0**	**-2.0**
	comp=Z,43nm,1.0s,baz=125,slow=3.4,SNR=1.3							
WAKE	**Wake Island**	**28.85**	**31**	PFAKE			23 21 30.0	+13
WAKE				LR		LR		
	comp=Z,14μm,21.0s,MS5.5							
DAV	**Davao City (W)**	**28.89**	**296**	PFAKE			23 21 30.0	+12
DAV				LR		LR		
	comp=Z,6μm,22.0s,MS5.2							
CNB	**Canberra Magne**	**29.61**	**184**	*e*P		**P**	**23 21 23.0**	**-1.1**
	comp=Z,68nm,1.1s,mb5.3							
TOO	**Toolangi**	**32.28**	**189**	*e*P		**P**	**23 21 45.5**	**-2.0**
	comp=Z,24nm,1.4s,mb4.8							
TOO	**Toolangi**	**32.28**	**189**	*e*P		**P**	**23 21 45.5**	**-2.0**
TOO				pmax		pmax		
	comp=Z,24nm,1.4s,mb4.8							
FORT	**Forrest**	**33.40**	**219**	*e*P		**P**	**23 21 56.6**	**-0.8**
	comp=Z,210nm,0.7s,mb6.2							
CBIJ	**Chichi jima**	**33.79**	**345**	P		**P**	**23 22 00.7**	**-0.1**
	comp=Z,111nm,0.6s,mb6.0,baz=300,slow=14,SNR=4.5							
CBIJ				LR		LR	23 34 51.2	
	comp=Z,8μm,20.6s,MS5.4,baz=155,slow=34							
MBWA	**Marble Bar**	**34.54**	**240**	⇑*i*P		**P**	**23 22 07.5**	**+0.3**
	comp=Z,297nm,0.9s,mb6.2							
MBWA				LR		LR		
	comp=Z,8μm,19.0s,MS5.5							
TGY	**Tagaytay City**	**36.21**	**303**	P		**P**	**23 22 23.3**	**+1.8**
	comp=Z,381nm,0.7s,mb6.4,baz=307,slow=3.6,SNR=20							
TGY				LR		LR	23 34 18.0	
	comp=Z,34nm,21.2s,baz=113,slow=31							
AFI	**Afiamalu**	**36.95**	**106**	P		**P**	**23 22 25.8**	**-2.0**
	comp=Z,36nm,0.9s,mb5.2,baz=140,slow=8.0,SNR=3.8							
AFI				LR		LR	23 36 47.0	
	comp=Z,6μm,18.4s,MS5.4,baz=283,slow=35							
RAO	**Raoul Island**	**37.15**	**133**	LR		LR	23 35 42.8	
	comp=Z,15μm,19.9s,MS5.8,baz=108,slow=33							
RAO	**Raoul Island**	**37.15**	**133**	PFAKE			23 22 40.0	+11
RAO				LR		LR		
	comp=Z,15μm,20.0s,MS5.8							
KKM	**Kota Kinabalu**	**37.20**	**288**	*e*P		**P**	**23 22 30.0**	**+0.2**
TAU	**Tasmania Unive**	**37.32**	**185**	⇓*i*P		**P**	**23 22 30.6**	**0.0**
	comp=Z,195nm,1.3s,mb5.8							
TAU				LR		LR		
	comp=Z,4μm,21.0s,MS5.2							
TAU	**Tasmania Unive**	**37.32**	**185**	P		**P**	**23 22 31.1**	**+0.6**
TAU				pmax		pmax		
	comp=Z,200nm,1.2s,mb5.8							
TAU				MLR		MLR		
	comp=Z,4μm,21.0s,MS5.2							
JOW	**Kunigami**	**39.40**	**326**	LR		LR	23 36 14.2	
	comp=Z,15μm,21.1s,MS5.8,baz=319,slow=32							
URZ	**Urewera**	**39.88**	**148**	P		**P**	**23 22 50.7**	**-1.3**
	comp=Z,13nm,0.5s,mb4.9,baz=280,slow=6.2,SNR=9.9							
URZ				LR		LR	23 37 36.1	
	comp=Z,14μm,19.2s,MS5.8,baz=332,slow=34							
JHJ	**Hachijo jima 2**	**40.14**	**345**	LR		LR	23 36 40.6	
	comp=Z,6μm,21.3s,MS5.4,baz=198,slow=32							
KLBR	**Kellerberrin**	**40.88**	**227**	*e*P		**P**	**23 23 00.1**	**-0.2**
	comp=Z,69nm,0.8s,mb5.3							
RPZ	**Rata Peaks**	**41.61**	**159**	P		**P**	**23 23 05.2**	**-1.0**
	comp=Z,46nm,0.8s,mb5.2,baz=192,slow=1.4,SNR=9.5							
RPZ				LR		LR	23 38 21.9	
	comp=Z,22μm,20.5s,MS6.0,baz=328,slow=33							
NACB	**Ninganchiao**	**41.64**	**317**	*e*P		**P**	**23 23 08.0**	**+1.3**
KSM	**Kuching**	**41.86**	**279**	*e*P		**P**	**23 23 08.8**	**+0.2**
KSM				*e*ScP			23 28 52.4	
NWAO	**Narrogin (SRO)**	**41.97**	**225**	P		**P**	**23 23 08.7**	**-0.6**
	comp=Z,25nm,1.1s,mb4.8,baz=57,slow=4.8,SNR=3.2							
NWAO				PP		PP	23 24 49.0	-0.5
	comp=Z,46nm,1.1s,baz=61,slow=13,SNR=3.3							
NWAO				LR		LR	23 43 16.0	
	comp=Z,13μm,18.2s,MS5.8,baz=50,slow=40							
NWAO	**Narrogin (SRO)**	**41.97**	**225**	*e*P		**P**	**23 23 08.9**	**-0.3**
	comp=Z,145nm,1.5s,mb5.4							
NWAO				LR		LR		
	comp=Z,7μm,20.0s,MS5.5							
NWAO	**Narrogin (SRO)**	**41.97**	**225**	P		**P**	**23 23 08.7**	**-0.6**
NWAO				P		P	23 24 49.0	
NWAO				pmax		pmax		
	comp=Z,25nm,1.1s							
NWAO				pmax		pmax		
	comp=Z,46nm,1.1s							
NWAO				MLR		MLR		
	comp=Z,13μm,18.2s							
YHNB	**Yeheng**	**42.12**	**317**	*e*P		**P**	**23 23 11.9**	**+1.3**
TATO	**Taipei**	**42.25**	**317**	PFAKE			23 23 20.0	+8.3
TATO				LR		LR		
	comp=Z,12μm,20.0s,MS5.8							
JNU	**Nakatsue**	**43.28**	**334**	P		**P**	**23 23 19.6**	**-0.4**
	comp=Z,23nm,0.7s,mb5.0,baz=139,slow=8.2,SNR=14							
JNU				LR		LR	23 40 10.5	
	comp=Z,3μm,18.7s,MS5.2,baz=328,slow=34							
MJAR	**Matsushiro Arr**	**43.79**	**344**	P		**P**	**23 23 22.2**	**-1.9**
	comp=Z,13nm,0.7s,mb4.8,baz=166,slow=9.6,SNR=23							
MJAR				PcP		PcP	23 25 10.2	-0.7
	comp=Z,11nm,0.9s,baz=169,slow=3.8,SNR=5.6							
MJAR				ScP			23 28 59.4	
	comp=Z,8.0nm,1.0s,baz=167,slow=4.4,SNR=12							
MJAR				LR		LR	23 40 46.9	
	comp=Z,6μm,19.4s,MS5.5,baz=170,slow=35							
MAJO	**Matsushiro**	**43.80**	**344**	*e*P		**P**	**23 23 23.5**	**-0.6**
	comp=Z,29nm,0.8s,mb5.1							
MAJO				*e*PcP		PcP	23 25 10.3	-0.6
MAJO				*e*ScP			23 28 58.9	
MAJO				LR		LR		
	comp=Z,7μm,20.0s,MS5.6							
MAJO	**Matsushiro**	**43.80**	**344**	*e*P		**P**	**23 23 23.5**	**-0.6**
MAJO				*e*			23 25 10.3	
MAJO				pmax		pmax		
	comp=Z,29nm,0.8s,mb5.1							
MAJO				MLR		MLR		
	comp=Z,7μm,20.0s,MS5.6							
MAT	**Matsushiro**	**43.80**	**344**	P		**P**	**23 23 21.5**	**-2.6**
MAT				S		**S**	**23 29 49.0**	**-3.2**
MAT	**Matsushiro**	**43.80**	**344**	*e*P		**P**	**23 23 22.0**	**-2.1**
	comp=Z,17nm,0.9s,mb4.8							
MAT				*e*S		**S**	**23 29 49.0**	**-3.2**
MAT				LR		LR		
	comp=Z,7μm,19.0s,MS5.6							
MAT	**Matsushiro**	**43.80**	**344**	*e*P		**P**	**23 23 22.0**	**-2.1**
MAT				*e*S		**S**	**23 29 49.0**	**-3.2**
MAT				pmax		pmax		
	comp=Z,17nm,0.9s,mb4.8							
MAT				MLR		MLR		
	comp=Z,7μm,19.0s,MS5.6							
QZH	**Quanzhou**	**44.23**	**315**	⇑*i*P		**P**	**23 23 29.0**	**+1.2**
QZH				S		**S**	**23 30 04.5**	**+5.9**
QZH				AMB		AMB		
	comp=Z,290nm,0.6s,mb6.2							
QZH				AMB		AMB		
	comp=Z,2μm,6.4s							
QZH				LR		LR		
	comp=N,8μm,18.0s,MS5.8							
QZH				LR		LR		
	comp=E,7μm,15.1s,MS5.8							
MIDW	**Midway**	**45.02**	**40**	PFAKE			23 23 50.0	+16
MIDW				LR		LR		
	comp=Z,4μm,19.0s,MS5.4							
HKC	**Hong Kong**	**45.98**	**308**	P		**P**	**23 23 44.0**	**+2.3**
SSE	**Sheshan**	**46.69**	**323**	⇑P		**P**	**23 23 47.3**	**+0.1**
SSE				AP		pP	23 23 58.8	+2.2
SSE				XP		sP	23 24 03.3	+2.8
SSE				PCP		PcP	23 25 21.3	+0.3
SSE				PP		PP	23 25 39.5	+2.8
SSE				S		**S**	**23 30 37.0**	**+3.2**
SSE				XS			23 30 56.0	
SSE				SCS		ScS	23 33 38.8	+1.9
SSE				AMB		AMB		
	comp=Z,28nm,1.4s,mb5.0							
SSE				AMB		AMB		
	comp=Z,915nm,12.0s							
SSE				LR		LR		
	comp=N,6μm,22.3s,MS5.7							
SSE				LR		LR		
	comp=E,7μm,22.2s,MS5.7							
SSE				LR		LR		
	comp=Z,10μm,20.3s,MS5.8							
SSE	**Sheshan**	**46.69**	**323**	⇑P		**P**	**23 23 47.2**	**0.0**
	comp=Z,28nm,1.4s,mb5.0							
SSE				pP		pP	23 23 58.7	+2.1
SSE				sP		sP	23 24 03.2	+2.7
SSE				PcP		PcP	23 25 21.2	+0.2
SSE				PP		PP	23 25 39.5	+2.8
SSE				S		**S**	**23 30 37.1**	**+3.3**
SSE				sS			23 30 56.1	
SSE				ScS		ScS	23 33 38.7	+1.8
SSE				SS		SS	23 34 09.9	+17
SSE				LR		LR		
	comp=Z,10μm,20.3s,MS5.8							
QIZ	**Qiongzhong**	**47.89**	**302**	⇓P		**P**	**23 23 58.5**	**+1.6**
QIZ				S		**S**	**23

MDJ	**Mudanjiang**	**53.80**	**341**	P	**P**	**23 24 41.5**	**+0.2**
MDJ				AP	pP	23 24 50.3	-0.5
MDJ				XP	sP	23 24 54.0	-0.5
MDJ				PCP	PcP	23 25 46.0	-0.8
MDJ				PP	PP	23 26 42.5	-1.3
MDJ				SCP		23 29 42.3	
MDJ				PCS		23 29 46.0	
MDJ				S	**S**	**23 32 16.5**	**+4.4**
MDJ				XS		23 32 31.3	
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,912nm,7.3s						
MDJ				LR	LR		
	comp=N,3μm,24.2s,MS5.3						
MDJ				LR	LR		
	comp=E,1μm,19.7s,MS5.3						
MDJ				LR	LR		
	comp=Z,4μm,22.7s,MS5.4						
MDJ	**Mudanjiang**	**53.80**	**341**	*e*P	**P**	**23 24 39.8**	**-1.5**
	comp=Z,20nm,1.0s,mb5.0						
ENH	**Enshi**	**53.87**	**314**	⇑*i*P	**P**	**23 24 41.5**	**-0.5**
	comp=Z,141nm,1.2s,mb5.8						
ENH				*e*ScP		23 29 41.6	
GYA	**Guiyang**	**53.98**	**308**	⇑*i*P	**P**	**23 24 43.5**	**+0.7**
GYA				AP	pP	23 24 53.8	+1.5
GYA				XP	sP	23 24 58.5	+2.5
GYA				PP	PP	23 26 46.0	+0.3
GYA				S	**S**	**23 32 21.5**	**+6.7**
GYA				SS	SS	23 35 56.3	+0.6
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
GYA				AMB	AMB		
	comp=Z,920nm,9.9s						
GYA				LR	LR		
	comp=N,2μm,20.1s,MS5.5						
GYA				LR	LR		
	comp=E,3μm,20.4s,MS5.5						
GYA				LR	LR		
	comp=Z,5μm,19.5s,MS5.6						
NST	**Nakhon Sawan**	**55.19**	**293**	⇑P	**P**	**23 24 52.5**	**+0.6**
	comp=Z,50nm,0.5s,mb5.8						
NANT	**Nan**	**55.73**	**297**	⇓P	**P**	**23 24 54.0**	**-1.7**
	comp=Z,225nm,1.0s,mb6.2						
KIP	**Kipapa**	**56.22**	**60**	PFAKE		23 25 10.0	+11
KIP				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
SKR	**Severo-Kuril's**	**56.22**	**3**	*e*P	**P**	**23 24 50.0**	**-8.8**
SKR				*e*		23 27 10.0	
SKR				*e*PPP	PPP	23 28 18.0	-4.4
SKR				*e*S	**S**	**23 33 02.0**	**+17**
SKR				pmax	pmax		
	comp=Z,6μm,10.0s						
SKR				smax			
	comp=N,3μm,14.0s						
SKR				smax			
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=N,6μm,18.0s,MS5.8						
SKR				MLR	MLR		
	comp=E,5μm,18.0s,MS5.8						
SKR				MLR	MLR		
	comp=Z,6μm,18.0s,MS5.7						
XAN	**Xi'an**	**56.42**	**317**	P	**P**	**23 24 59.5**	**-1.0**
XAN				S	**S**	**23 32 42.0**	**-5.4**
XAN				AMB	AMB		
	comp=Z,49nm,1.3s,mb5.4						
XAN				LR	LR		
	comp=N,2μm,20.6s						
XAN				LR	LR		
	comp=Z,6μm,20.3s,MS5.7						
KMI	**Kunming**	**56.49**	**305**	⇑P	**P**	**23 25 02.0**	**+0.9**
KMI				AP	pP	23 25 10.5	-0.2
KMI				XP	sP	23 25 14.0	-0.3
KMI				PCP	PcP	23 25 58.5	+1.1
KMI				PP	PP	23 27 04.5	-3.8
KMI				PPP	PPP	23 28 18.5	-7.7
KMI				S	**S**	**23 32 50.5**	**+2.1**
KMI				SCS	ScS	23 34 46.3	+2.1
KMI				SS	SS	23 36 37.8	+1.5
KMI				AMB	AMB		
	comp=Z,50nm,1.4s,mb5.3						
KMI				AMB	AMB		
	comp=Z,765nm,13.5s						
KMI				LR	LR		
	comp=N,2μm,20.7s,MS5.6						
KMI				LR	LR		
	comp=E,4μm,19.6s,MS5.6						
KMI				LR	LR		
	comp=Z,5μm,22.3s,MS5.6						
KMI	**Kunming**	**56.49**	**305**	⇑P	**P**	**23 25 02.1**	**+1.0**
	comp=Z,50nm,1.4s,mb5.3						
KMI				pP	pP	23 25 10.6	-0.1
KMI				sP	sP	23 25 14.0	-0.3
KMI				PcP	PcP	23 25 58.4	+1.0
KMI				PP	PP	23 27 04.6	-3.7
KMI				PPP	PPP	23 28 18.6	-7.6
KMI				S	**S**	**23 32 50.5**	**+2.1**
KMI				sS		23 33 05.0	
KMI				ScS	ScS	23 34 46.2	+2.0
KMI				SS	SS	23 36 37.8	+1.5
KMI				LR	LR		
	comp=Z,5μm,22.3s,MS5.6						
KMI	**Kunming**	**56.49**	**305**	⇑P	**P**	**23 25 02.1**	**+1.0**
KMI				*PP	pP	23 25 10.6	-0.1
KMI				*SP	sP	23 25 14.0	-0.3
KMI						23 25 58.4	
KMI						23 27 04.6	
KMI				PPP	PPP	23 28 18.6	-7.6
KMI				S	**S**	**23 32 50.5**	**+2.1**
KMI				*SS		23 33 05.0	
KMI						23 34 46.2	
KMI				SS	SS	23 36 37.8	+1.5
KMI				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.3						
KMI				MLR	MLR		
	comp=Z,5μm,22.3s,MS5.6						
CHRT	**Chiangrai**	**56.92**	**298**	⇑P	**P**	**23 25 05.0**	**+0.8**
	comp=Z,324nm,0.7s,mb6.5						
CHG	**Chiang Mai**	**57.29**	**296**	⇑P	**P**	**23 25 07.2**	**+0.3**
	comp=Z,47nm,1.2s,mb5.4						
POHA	**Pohakuloa**	**57.77**	**63**	PFAKE		23 25 20.0	+10
POHA				LR	LR		
	comp=Z,41μm,20.0s,MS6.5						
CD2	**Chengdu**	**58.40**	**312**	P	**P**	**23 25 14.3**	**-0.2**
CD2				PP	PP	23 27 27.0	+1.6
CD2				PPP	PPP	23 28 51.3	+2.4
CD2				S	**S**	**23 33 16.0**	**+2.6**
CD2				PS	PS	23 33 37.8	+6.5
CD2				SS	SS	23 37 13.3	+6.0
CD2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.7						
CD2				LR	LR		
	comp=E,3μm,21.6s						
CD2				LR	LR		
	comp=Z,4μm,21.6s,MS5.5						
PPT	**Papeete**	**58.60**	**107**	*e*P	**P**	**23 25 16.5**	**+0.5**
	comp=Z,136nm,1.5s,mb5.8						
PPT	**Papeete**	**58.60**	**107**	*e*S	**S**	**23 33 15.3**	**-1.0**
PPT				*e*LQ		23 40 01.0	
PPT				*e*LR	LR	23 42 28.9	
	comp=Z,2μm,23.2s,baz=277						
PPT	**Papeete**	**58.60**	**107**	LR	LR	23 47 21.9	
	comp=Z,1μm,19.1s,MS5.1,baz=273,slow=33						
PAE	**Paea**	**58.60**	**107**	*e*P	**P**	**23 25 15.9**	**-0.2**
	comp=Z,306nm,1.4s,mb6.1						
PET	**Petropavlovsk**	**58.74**	**5**	PFAKE		23 25 30.0	+13
PET				LR	LR		
	comp=Z,4μm,22.0s,MS5.5						
PET	**Petropavlovsk**	**58.74**	**5**	*c i*P	**P**	**23 25 14.0**	**-2.5**
PET				*e*		23 27 21.2	
PET				*e*S	**S**	**23 33 13.9**	**-3.7**
PET				*e*PS	PS	23 33 27.3	-8.4
PET				*e*SS	SS	23 37 06.2	-6.3
PET				pmax	pmax		
	comp=Z,800nm,13.2s						
PET				pmax	pmax		
	comp=Z,800nm,21.6s						
PET				pmax	pmax		
	comp=Z,600nm,14.2s						
PET				pmax	pmax		
	comp=Z,800nm,15.9s						
PET				smax			
	comp=N,800nm,19.4s						
PET				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.4						
PET				MLR	MLR		
	comp=Z,3μm,20.0s						
TVO	**Taravao**	**58.92**	**107**	*e*P	**P**	**23 25 18.6**	**+0.3**
	comp=Z,395nm,1.2s,mb6.3						
HHC	**Hu-ho-hao-te**	**59.05**	**325**	⇑P	**P**	**23 25 18.3**	**-0.6**
HHC				AP	pP	23 25 26.0	-2.6
HHC				PCP	PcP	23 26 07.5	+0.3
HHC				SCP		23 30 04.5	
HHC				PCS		23 30 07.0	
HHC				S	**S**	**23 33 20.5**	**-1.3**
HHC				SCS	ScS	23 35 01.8	-0.8
HHC				SS	SS	23 37 15.0	-2.6
HHC				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.5						
HHC				AMB	AMB		
	comp=Z,709nm,3.6s						
HHC				LR	LR		
	comp=N,3μm,18.6s,MS5.5						
HHC				LR	LR		
	comp=E,2μm,16.3s,MS5.5						
HHC				LR	LR		
	comp=Z,4μm,28.5s						
TBI	**Tubuai**	**59.29**	**114**	*e*LQ		23 40 29.7	
TBI	**Tubuai**	**59.29**	**114**	*e*P	**P**	**23 25 20.3**	**-0.5**
	comp=Z,169nm,1.1s,mb6.0						
TBI	**Tubuai**	**59.29**	**114**	*e*S	**S**	**23 33 25.1**	**-0.1**
TBI				*e*SS	SS	23 37 17.2	-4.3
TBI				*e*LR	LR	23 42 47.0	
	comp=Z,7μm,34.5s,baz=294						
PMOR	**Pomariorio Ree**	**60.08**	**104**	*e*P	**P**	**23 25 26.3**	**0.0**
	comp=Z,494nm,1.3s,mb6.4						
LZH	**Lanzhou**	**61.02**	**317**	*e*P	**P**	**23 25 32.5**	**+0.1**
LZH				AP	pP	23 25 42.5	+0.4
LZH				XP	sP	23 25 46.5	+0.9
LZH				PCP	PcP	23 26 15.0	-0.1
LZH				PP	PP	23 27 49.3	+0.4
LZH				SCP		23 30 11.5	
LZH				PCS		23 30 14.5	
LZH				S	**S**	**23 33 48.0**	**+0.9**
LZH				XS		23 34 06.3	
LZH				SCS	ScS	23 35 19.0	+1.7
LZH				AMB	AMB		
	comp=Z,95nm,1.4s,mb5.7						
LZH				AMB	AMB		
	comp=Z,780nm,6.5s						
LZH				LR	LR		
	comp=N,4μm,15.2s						
LZH				LR	LR		
	comp=Z,7μm,17.7s,MS5.9						
LZH	**Lanzhou**	**61.02**	**317**	*e*P	**P**	**23 25 32.6**	**+0.2**
	comp=Z,95nm,1.4s,mb5.7						
LZH				pP	pP	23 25 42.5	+0.4
LZH				sP	sP	23 25 46.4	+0.8
LZH				PcP	PcP	23 26 15.0	-0.1
LZH				PP	PP	23 27 49.3	+0.4
LZH				ScP		23 30 11.5	
LZH				PcS		23 30 14.5	
LZH				S	**S**	**23 33 48.0**	**+0.9**
LZH				sS		23 34 06.2	
LZH				ScS	ScS	23 35 19.0	+1.7
LZH				SS	SS	23 37 46.0	-2.2
LZH				LR	LR		
	comp=Z,7μm,17.7s,MS5.9						
LZH	**Lanzhou**	**61.02**	**317**	*e*P	**P**	**23 25 32.6**	**+0.2**
LZH				*PP	pP	23 25 42.5	+0.4
LZH				*SP	sP	23 25 46.4	+0.8
LZH						23 26 15.0	
LZH						23 27 49.3	
LZH				S	**S**	**23 33 48.0**	**+0.9**
LZH				*SS		23 34 06.2	
LZH						23 35 19.0	
LZH				SS	SS	23 37 46.0	-2.2
LZH				pmax	pmax		
	comp=Z,95nm,1.4s,mb5.7						
LZH				MLR	MLR		
	comp=Z,7μm,17.7s,MS5.9						
SMY	**Shemya**	**61.19**	**15**	PFAKE		23 25 40.0	+6.6
SMY				LR	LR		
	comp=Z,14μm,20.0s,MS6.1						
HIA	**Hailar**	**61.32**	**337**	*e*P	**P**	**23 25 32.5**	**-1.7**
	comp=Z,43nm,1.0s,mb5.5						
HIA	**Hailar**	**61.32**	**337**	⇑*i*P	**P**	**23 25 32.7**	**-1.6**
DRV	**Dumont d'Urvil**	**61.46**	**185**	P	**P**	**23 25 38.0**	**+3.0**
DRV				S	**S**	**23 33 57.0**	**+4.7**
DRV				L		23 40 00.0	
MA2	**Magadan**	**65.01**	**360**	*e*P	**P**	**23 25 58.4**	**0.0**
	comp=Z,49nm,0.8s,mb5.6						
MA2				LR	LR		
	comp=Z,5μm,22.0s,MS5.7						
MA2	**Magadan**	**65.01**	**360**	*e*P	**P**	**23 25 50.9**	**-7.5**
MA2				*e*		23 34 41.7	
MA2				*e*		23 38 50.6	
GTA	**Gaotai**	**65.47**	**318**	*e*P	**P**	**23 26 01.5**	**-0.3**
GTA				AP	pP	23 26 11.8	+0.2
GTA				XP	sP	23 26 15.8	+0.7
GTA				PP	PP	23 28 29.0	+0.9
GTA				SCP		23 30 31.0	
GTA				PCS		23 30 39.0	
GTA				S	S	23 34 43.3	+0.5
GTA				XS		23 35 01.5	
GTA				SS	SS	23 39 01.5	+3.4
GTA				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.1						
GTA				AMB	AMB		
	comp=Z,599nm,6.9s						
GTA				LR	LR		
	comp=N,2μm,19.1s,MS5.7						
GTA				LR	LR		
	comp=E,4μm,21.0s,MS5.7						
GTA				LR	LR		
	comp=Z,5μm,21.0s,MS5.7						
SHL	**Shillong**	**65.72**	**301**	*e*P	**P**	**23 26 04.2**	**+0.6**
SHL				*e*S	S	23 34 50.0	+3.9
CIT	**Chita**	**65.95**	**335**	*e*P	**P**	**23 26 04.6**	**0.0**
CIT				pmax	pmax		
	comp=Z,79nm,1.4s,mb5.5						
CLNS	**Chul'man**	**65.98**	**344**	*e*P	**P**	**23 26 03.1**	**-1.6**
SONM	**Songino Array**	**66.41**	**329**	P	**P**	**23 26 07.1**	**-0.5**
	comp=Z,23nm,0.5s,mb5.4,baz=146,slow=5.2,SNR=190						
SONM				LR	LR	23 53 51.3	
	comp=Z,5μm,20.6s,MS5.8,baz=145,slow=35						
SONM				PKP2bc		23 54 38.6	
	comp=Z,2.1nm,1.0s,baz=269,slow=3.3,SNR=5.8						
SONM	**Songino Array**	**66.41**	**329**	P	**P**	**23 26 07.1**	**-0.5**
SONM				LR	LR	23 53 51.3	
SONM				⇑*e*		23 54 38.6	
CASY	**Casey**	**66.88**	**197**	*e*P	**P**	**23 26 09.1**	**-1.2**
CASY				*e*S	S	23 34 57.2	-2.2
LSA	**Lhasa**	**67.75**	**305**	P	**P**	**23 26 15.0**	**-1.4**
LSA				AP	pP	23 26 24.5	-1.7
LSA				PCP	PcP	23 26 37.3	-5.7
LSA				PP	PP	23 28 48.3	+0.6
LSA				S	S	23 35 08.5	-1.9
LSA				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
LSA				LR	LR		
	comp=N,980nm,19.6s,MS5.3						
LSA				LR	LR		
	comp=E,2μm,22.7s,MS5.3						
LSA				LR	LR		
	comp=Z,2μm,22.7s,MS5.3						
LSA	**Lhasa**	**67.75**	**305**	*e*P	**P**	**23 26 16.9**	**+0.5**
	comp=Z,26nm,0.7s,mb5.4						
LSA	**Lhasa**	**67.75**	**305**	*e*P	**P**	**23 26 16.9**	**+0.5**
LSA				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.4						
CAL	**Calcutta**	**67.89**	**297**	*ex*	x	23 35 30.8	
SEY	**Seymchan**	**68.38**	**0**	⇑*e*P	**P**	**23 26 19.4**	**-0.4**
SEY	**Seymchan**	**68.38**	**0**	*e*P	**P**	**23 26 22.9**	**+3.1**
SEY				*e*		23 35 16.4	
UNV	**Unalaska Valle**	**68.87**	**25**	*e*P	**P**	**23 26 22.5**	**-0.4**
UNV				LR	LR		
	comp=Z,12μm,20.0s,MS6.1						
YAK	**Yakutsk**	**69.56**	**349**	*e*P	**P**	**23 26 24.8**	**-2.3**
	comp=Z,57nm,0.6s,mb5.7						
YAK				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
YAK	**Yakutsk**	**69.56**	**349**	*e*P	**P**	**23 26 27.0**	**0.0**
YAK				*e**PP	pP	23 26 36.1	-0.7
YAK				*e*		23 26 47.1	
YAK				*e*		23 28 58.1	
YAK				*e*PPP	PPP	23 30 42.4	+0.4
YAK				*e*S	S	23 35 33.9	+2.5
YAK				*e**SS		23 35 52.0	
YAK				*e*		23 36 25.6	
YAK				*e*SS	SS	23 39 56.1	-4.8
YAK				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				smax			
	comp=N,3.0nm,0.8s						
YAK				smax			
	comp=E,3.0nm,1.2s						
ZAK	**Zakamensk**	**69.60**	**329**	⇑*i*P	**P**	**23 26 26.5**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.4						
BOD	**Bodaibo**	**70.15**	**340**	*e*P	**P**	**23 26 28.1**	**-2.6**
BOD				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
IRK	**Irkutsk**	**70.26**	**331**	*e*P	**P**	**23 26 30.4**	**-1.1**
IRK				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.3						
VIS	**Vishakhapatnam**	**71.25**	**291**	*e*P	**P**	**23 26 38.0**	**-0.1**
VIS				AMb	AMB	23 26 41.1	
	comp=Z,114nm,1.5s,mb5.6						
MOY	**Mondy**	**71.52**	**329**	*e*P	**P**	**23 26 38.7**	**-0.4**
MOY				pmax	pmax		
	comp=Z,87nm,1.4s,mb5.5						
GUN	**Gumba**	**71.55**	**302**	*e*P	**P**	**23 26 40.2**	**+0.5**
	comp=Z,66nm,0.6s,mb5.7						
PKI	**Pulchoki**	**71.85**	**301**	*e*P	**P**	**23 26 41.7**	**+0.2**
	comp=Z,213nm,1.3s,mb5.9						
KKN	**Kakani**	**72.02**	**301**	*e*P	**P**	**23 26 42.6**	**+0.1**
	comp=Z,44nm,0.6s,mb5.5						
VNDA	**Vanda**	**72.05**	**178**	⇓*i*P	**P**	**23 26 40.5**	**-1.4**
	comp=Z,29nm,0.9s,mb5.2						
VNDA				LR	LR		
	comp=Z,3μm,20.0s,MS5.6						
VNDA	**Vanda**	**72.05**	**178**	P	**P**	**23 26 41.3**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,29nm,0.9s						
VNDA				MLR	MLR		
	comp=Z,3μm,20.0s						
DMN	**Daman**	**72.12**	**301**	*e*P	**P**	**23 26 43.7**	**+0.6**
	comp=Z,278nm,1.2s,mb6.1						
RKT	**Rikitea**	**72.56**	**112**	*e*S	S	23 36 06.8	-0.1
RKT				*e*SS	SS	23 40 42.5	-5.8
RKT				*e*LQ		23 46 00.2	
RKT				*e*LR	LR	23 48 53.7	
	comp=Z,6μm,30.0s,baz=279						
SBA	**Scott Base**	**72.61**	**177**	*e*P	**P**	**23 26 45.5**	**+0.3**
	comp=Z,142nm,1.7s,mb5.6						
SBA				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
SBA	**Scott Base**	**72.61**	**177**	*e*P	**P**	**23 26 45.5**	**+0.3**
SBA				pmax	pmax		
	comp=Z,142nm,1.7s,mb5.6						
SBA				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.3						
GKN	**Gorkha**	**72.63**	**301**	*e*P	**P**	**23 26 46.1**	**-0.1**
	comp=Z,109nm,0.8s,mb5.9						
MIR	**Mirnyy**	**72.73**	**201**	*e*P	**P**	**23 26 47.0**	**+1.0**
MIR				pmax	pmax		
	comp=Z,990nm,8.0s						
MIR				MLR	MLR		
	comp=N,3μm,20.0s,MS5.7						
MIR				MLR	MLR		
	comp=E,3μm,20.0s,MS5.7						
MIR				MLR	MLR		
	comp=Z,7μm,20.0s,MS5.9						
KOLN	**Koldanda**	**73.45**	**301**	*e*P	**P**	**23 26 50.9**	**-0.1**
	comp=Z,66nm,0.7s,mb5.7						
BILL	**Bilibino**	**74.23**	**6**	*e*P	**P**	**23 26 54.8**	**+0.1**
	comp=Z,33nm,0.8s,mb5.3						
BILL				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
BILL	**Bilibino**	**74.23**	**6**	P	**P**	**23 26 54.9**	**+0.2**
BILL				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.3						
BILL				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.5						
WMQ	**Urumqi**	**75.56**	**318**	⇑*i*P	**P**	**23 27 02.8**	**0.0**
WMQ				AP	pP	23 27 13.0	+0.3
WMQ				XP	sP	23 27 17.0	+0.9
WMQ				PP	PP	23 29 54.0	-0.2
WMQ				PPP	PPP	23 31 40.5	+0.2
WMQ				S	S	23 36 40.0	-0.1
WMQ				XS		23 36 57.0	
WMQ				PS	PS	23 37 21.0	0.0
WMQ				SS	SS	23 41 34.0	+0.1
WMQ				AMB	AMB		
	comp=Z,54nm,1.4s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,555nm,6.6s						
WMQ				LR	LR		
	comp=N,3μm,21.4s,MS5.6						
WMQ				LR	LR		
	comp=E,1μm,18.0s,MS5.6						
WMQ				LR	LR		
	comp=Z,2μm,24.9s						
HYB	**Hyderabad**	**75.66**	**289**	⇓*i*P	**P**	**23 27 03.5**	**-0.4**
	comp=Z,121nm,1.2s,mb5.7						
HYB				*e*	pP	23 27 12.0	-1.7
HYB				*e*		23 27 18.0	
HYB				*e*S	S	23 36 40.0	-1.6
HYB				*e*ScS	ScS	23 37 18.0	+6.2
HYB	**Hyderabad**	**75.66**	**289**	⇓*e*P	**P**	**23 27 03.5**	**-0.4**
	comp=Z,121nm,1.2s,mb5.7						
HYB				*e*S	S	23 36 36.0	-5.6
HYB	**Hyderabad**	**75.66**	**289**	⇓*e*P	**P**	**23 27 03.5**	**-0.4**
HYB				*e*S	S	23 36 36.0	-5.6
HYB				pmax	pmax		
	comp=Z,121nm,1.2s,mb5.7						
TNA	**Tin City**	**76.92**	**16**	PFAKE		23 27 20.0	+10
TNA				LR	LR		
	comp=Z,5μm,20.0s,MS5.8						
PTCN	**Pitcairn Islan**	**77.04**	**114**	PFAKE		23 27 20.0	+8.5
PTCN				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
KDAK	**Kodiak Island**	**77.45**	**27**	P	**P**	**23 27 12.9**	**-0.2**
	comp=Z,16nm,0.6s,mb5.1,baz=240,slow=2.6,SNR=7.4						
KDAK	**Kodiak Island**	**77.45**	**27**	P	**P**	**23 27 12.9**	**-0.2**
KDAK				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
AKL	**Akola**	**77.70**	**293**	⇑*i*P	**P**	**23 27 12.2**	**-3.0**
KALG	**Kalgarh**	**78.01**	**302**	*e*P	**P**	**23 27 15.1**	**-1.7**
SVW2	**Sparrevohn**	**78.05**	**23**	*e*P	**P**	**23 27 16.9**	**+0.6**
AGRA	**Agra**	**78.19**	**299**	*e*P	**P**	**23 27 16.8**	**-1.0**
TIXI	**Tiksi**	**78.57**	**353**	⇑*e*P	**P**	**23 27 16.9**	**-2.1**
TIXI				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
TIXI	**Tiksi**	**78.57**	**353**	*e*P	**P**	**23 27 15.4**	**-3.6**
TIXI				*e*S	S	23 37 06.1	-6.0
TIXI				*e*SS	SS	23 42 13.8	-5.1
TIXI				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.4						
TTA	**Tatalina**	**78.97**	**22**	*e*P	**P**	**23 27 21.5**	**+0.1**
NDI	**New Delhi**	**79.13**	**300**	*e*P	**P**	**23 27 21.3**	**-1.7**
SONA	**Sohna**	**79.15**	**300**	*e*P	**P**	**23 27 21.1**	**-2.0**
AYAN	**Aya Nagar**	**79.17**	**300**	*e*P	**P**	**23 27 21.4**	**-1.8**
SPU	**Mount Spurr**	**79.51**	**24**	*e*P	**P**	**23 27 24.0**	**-0.3**
KKR	**Kurukshetra**	**79.75**	**302**	*e*P	**P**	**23 27 25.1**	**-1.2**
KAD	**Karad**	**79.75**	**289**	*e*P	**P**	**23 27 25.1**	**-1.4**
KAD				AMb	AMB	23 27 28.8	
	comp=Z,142nm,1.4s,mb5.7						
SLKM	**Skilak Lake**	**79.92**	**25**	*e*P	**P**	**23 27 26.0**	**-0.5**
MKAR	**Makanchi Array**	**80.18**	**319**	P	**P**	**23 27 28.4**	**+0.2**
	comp=Z,10nm,0.6s,mb4.9,baz=97,slow=7.6,SNR=100						
MKAR				PKKPbc		23 46 10.8	
	comp=Z,1.0nm,0.8s,baz=333,slow=2.7,SNR=5.4						
MKAR				PKPPKP		23 54 16.7	
	comp=Z,0.9nm,0.9s,baz=326,slow=4.4,SNR=5.0						
MKAR				LR	LR	00 03 05.1	
	comp=Z,3μm,19.4s,MS5.7,baz=101,slow=36						
MKAR	**Makanchi Array**	**80.18**	**319**	P	**P**	**23 27 28.4**	**+0.2**
MKAR				PKKPbc		23 46 10.8	
MKAR				P'P'		23 54 16.7	

MKAR LR LR 00 03 05.1
KHET Khetri 80.22 300 *e*P **P 23 27 27.2 -1.6**
POO Poona 80.26 290 *e*P **P 23 27 27.6 -1.6**
POO AMb AMB 23 27 31.5
comp=Z,92nm,1.5s,mb5.5
FIB Fire Island 80.28 25 PFAKE 23 27 40.0 +12
FIB LR LR
comp=Z,3μm,22.0s,MS5.6
AJM Ajmer 80.92 298 *i* P **P 23 27 31.0 -1.6**
PMR Palmer 80.93 25 *e*P **P 23 27 31.5 -0.3**
comp=Z,21nm,0.8s,mb5.1
PMR LR LR
comp=Z,3μm,20.0s,MS5.7
PMR Palmer 80.93 25 *e*P **P 23 27 31.5 -0.3**
PMR pmax pmax
comp=Z,21nm,0.8s,mb5.1
PMR MLR MLR
comp=Z,3μm,20.0s,MS5.7
SML Sawmill 81.36 25 *e*P **P 23 27 34.5 +0.3**
MCK McKinley 82.08 23 *e*P **P 23 27 37.5 -0.3**
comp=Z,54nm,1.1s,mb5.4
MCK LR LR
comp=Z,3μm,20.0s,MS5.6
MCK McKinley 82.08 23 *e*P **P 23 27 37.5 -0.3**
MCK pmax pmax
comp=Z,54nm,1.1s,mb5.4
MCK MLR MLR
comp=Z,3μm,20.0s,MS5.6
DIV Divide 82.13 26 *e*P **P 23 27 38.5 +0.4**
comp=Z,177nm,1.0s,mb6.0
DIV LR LR
comp=Z,8μm,20.0s,MS6.0
NVS Novosibirsk 82.39 327⇑ *i*P **P 23 27 37.5 -2.1**
NVS pmax pmax
comp=N,30nm,1.5s
NVS pmax pmax
comp=E,56nm,1.5s
NVS pmax pmax
comp=Z,64nm,1.5s,mb5.3
KSH Kashi 82.58 311 P **P 23 27 42.5 +1.6**
KSH AP pP 23 27 52.8 +1.9
KSH *e*XP sP 23 27 57.0 +2.8
KSH *e*PP PP 23 30 54.0 +1.5
KSH PPP PPP 23 32 47.0 +1.9
KSH S S 23 37 55.5 +1.0
KSH XS 23 38 14.0
KSH SS SS 23 43 22.0 +2.2
KSH AMB AMB
comp=Z,1μm,5.8s
KSH LR LR
comp=N,2μm,13.2s,MS5.9
KSH LR LR
comp=E,3μm,14.4s,MS5.9
ULHL Ulahol 83.04 314 P **P 23 27 44.6 +1.4**
SNR=5.2
THY Trims Highway 83.18 24 *e*P **P 23 27 44.3 +0.8**
ILAR Eielson Array 83.37 22 P **P 23 27 42.6 -1.8**
comp=E,15nm,0.6s,mb5.2,baz=251,slow=5.0,SNR=98
ILAR S S 23 37 58.1 -3.7
comp=E,0.8nm,1.0s,baz=265,slow=8.0,SNR=4.1
TKM2 Tokmak 2 83.66 314 P **P 23 27 47.0 +0.5**
SNR=34
KURK Kurchatov 83.70 322⇑ *i*P **P 23 27 45.4 -1.1**
comp=E,119nm,1.3s,mb5.9
KURK LR LR
comp=Z,839nm,20.0s,MS5.1
KURK Kurchatov 83.70 322 P **P 23 27 45.5 -0.9**
KURK pmax pmax
comp=Z,77nm,1.4s,mb5.6
KZA Kyzart 83.71 313 P **P 23 27 48.7 +2.0**
SNR=24
KBK Karagaybulak 84.06 314 P **P 23 27 49.7 +1.2**
SNR=21
UCH Uchtor 84.28 313 P **P 23 27 50.8 +1.2**
SNR=60
CHMS Chumysh 84.28 314 P **P 23 27 50.5 +0.9**
SNR=40
JASL Jaisalmer 84.29 298 *e*P **P 23 27 48.2 -1.8**
QSPA South Pole Qui 84.33 180 *e*P **P 23 27 49.2 +0.2**
comp=Z,85nm,1.1s,mb5.8
FRU Bishkek 84.34 314 *e*P **P 23 27 50.8 +0.9**
FRU pmax pmax
comp=Z,60nm,1.7s,mb5.5
MAW Mawson 84.35 203 *e*P **P 23 27 48.3 -1.0**
comp=Z,22nm,1.2s,mb5.2
MAW Mawson 84.35 203 P **P 23 27 49.3 0.0**
comp=Z,19nm,0.9s,mb5.2,baz=87,slow=6.4,SNR=46
MAW LR LR 00 02 29.4
comp=Z,5μm,21.1s,MS5.8,baz=82,slow=34
AAK Ala-Archa 84.39 314 P **P 23 27 50.8 +0.7**
SNR=31
AAK Ala-Archa 84.39 314⇑ *i*P **P 23 27 49.5 -0.6**
comp=Z,87nm,1.4s,mb5.7
AAK LR LR
comp=Z,714nm,20.0s,MS5.0
AAK Ala-Archa 84.39 314 P **P 23 27 49.8 -0.3**
AAK pmax pmax
comp=Z,87nm,1.4s,mb5.7
AAK MLR MLR
comp=Z,710nm,20.0s,MS5.0
USP Ospenovka 84.52 314 P **P 23 27 51.8 +1.0**
SNR=57
AML Almayashu 84.85 313 P **P 23 27 53.9 +1.4**
SNR=153
EKS2 Erkin-Say 84.91 314 P **P 23 27 53.6 +0.9**
SNR=95
SIT Sitka 85.59 32 PFAKE 23 28 10.0 +14
SIT LR LR
comp=Z,10μm,20.0s,MS6.2
KKAR Karatay Array 87.35 314 P **P 23 28 03.9 -0.8**
KKAR pmax pmax
comp=Z,49nm,1.1s,mb5.7
DLBC Dease Lake 88.70 31 LR LR 00 01 14.5
comp=Z,7μm,20.8s,MS6.1,slow=31
DLBC Dease Lake 88.70 31 *e*P **P 23 28 11.9 +1.1**
VOSK Vostochnaya 88.79 323 P **P 23 28 09.4 -2.0**
VOSK pmax pmax
comp=Z,63nm,1.5s,mb5.7
CHKZ Chkalovo 89.19 324 *e*P **P 23 28 11.7 -1.5**
BVA0 Borovoye Array 89.20 323 P **P 23 28 11.2 -2.1**
BVA0 pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
BRVK Borovoye 89.27 323 *e*P **P 23 28 12.5 -1.2**
comp=Z,35nm,1.1s,mb5.6
BRVK LR LR
comp=Z,494nm,22.0s,MS4.9
BRVK Borovoye 89.27 323 P **P 23 28 12.8 -0.8**
BRVK pmax pmax
comp=Z,35nm,1.1s,mb5.6
BRVK MLR MLR
comp=Z,490nm,22.0s,MS4.9
KHMM Horse Mountain 89.61 49 *e*P **P 23 28 15.7 +0.2**
INK Inuvik 89.65 21 *e*P **P 23 28 15.2 +0.1**
comp=Z,27nm,1.1s,mb5.5
INK Inuvik 89.65 21 P **P 23 28 15.5 +0.4**
INK pmax pmax
comp=Z,27nm,1.1s
HOPS Hopland 89.87 51 PFAKE 23 28 30.0 +13
HOPS LR LR
comp=Z,6μm,20.0s,MS6.0
OTR Olympics--Tyee 90.17 42 P **P 23 28 19.6 +1.6**
HUMO Hull Mountain 90.41 47⇑ *i*P **P 23 28 19.7 +0.5**
comp=Z,72nm,1.2s,mb5.9
HUMO LR LR
comp=Z,4μm,19.0s,MS5.9
COR Corvallis 90.41 45 PFAKE 23 28 30.0 +11
COR LR LR
comp=Z,6μm,20.0s,MS6.0
HSO Harness Mounta 90.43 46 P **P 23 28 20.2 +0.9**
WDC Whiskeytown Da 90.47 49 PFAKE 23 28 30.0 +10
WDC LR LR
comp=Z,5μm,20.0s,MS6.0
YBH Yreka Blue Hor 90.48 48 P **P 23 28 20.1 +0.5**
comp=Z,51nm,1.2s,mb5.7,baz=171,slow=3.6,SNR=29
YBH Yreka Blue Hor 90.48 48 *e*P **P 23 28 19.4 -0.2**
comp=Z,70nm,1.3s,mb5.8
YBH LR LR
comp=Z,5μm,20.0s,MS6.0
YBH Yreka Blue Hor 90.48 48 P **P 23 28 20.1 +0.5**
YBH pmax pmax
comp=Z,51nm,1.2s
STW Striped Peak 90.63 42 P **P 23 28 21.4 +1.4**
BBOR Butler Butte 90.65 47 P **P 23 28 21.1 +0.8**
PGC Sidney 90.84 41 *e*P **P 23 28 21.3 +0.3**
comp=Z,112nm,1.0s,mb6.2
SAO San Andreas Ge 90.88 53 PFAKE 23 28 30.0 +8.5
SAO LR LR
comp=Z,4μm,20.0s,MS5.9
HDW Hoodsport 90.97 42 P **P 23 28 22.2 +0.6**
TDL Tradedollar La 91.39 44 P **P 23 28 24.5 +0.9**
JCW Jim Creek 91.79 42 P **P 23 28 26.0 +0.6**
VFP Flag Point 91.80 45 P **P 23 28 25.7 +0.2**
CMB Columbia Colle 91.85 52 *e*P **P 23 28 26.1 +0.1**
comp=Z,46nm,1.3s,mb5.7
CMB LR LR
comp=Z,7μm,20.0s,MS6.1
CMB Columbia Colle 91.85 52 P **P 23 28 26.6 +0.6**
CMB pmax pmax
comp=Z,46nm,1.3s,mb5.7
CMB MLR MLR
comp=Z,7μm,20.0s,MS6.1
BEKR Beckwourth 92.05 50 *e*P **P 23 28 26.9 +0.1**
comp=Z,40nm,1.3s,mb5.6
MOD Modoc 92.29 48 *e*P **P 23 28 28.2 +0.3**
comp=Z,86nm,1.3s,mb5.9
MOD LR LR
comp=Z,6μm,20.0s,MS6.0
SYO Syowa Base 92.50 200‖ P **P 23 28 26.8 -1.4**
SYO Syowa Base 92.50 200‖ PcP PcP 23 28 28.3 -0.8
ISA Isabella 93.17 55 PFAKE 23 28 40.0 +7.9
ISA LR LR
comp=Z,708nm,19.0s,MS5.1
GBB Gable Butte 93.19 44 P **P 23 28 32.5 +0.6**
MTUM Tungsten Hills 93.23 53 *e*P **P 23 28 32.8 +0.5**
HAWA Hanford 93.24 44 *e*P **P 23 28 32.2 0.0**
comp=Z,5.1nm,1.4s,mb4.8
HAWA LR LR
comp=Z,302nm,21.0s,MS4.7
EPH Ephrata 93.28 43 P **P 23 28 32.5 +0.3**
H2OWA Water 93.32 44 P **P 23 28 33.2 +0.7**
MWC Mount Wilson 93.40 56⇑ *i*P **P 23 28 33.9 +0.7**
WVOR Wild Horse Val 93.57 48⇑ *i*P **P 23 28 34.1 +0.4**
comp=Z,79nm,1.4s,mb6.0
WVOR LR LR
comp=Z,6μm,20.0s,MS6.1
WVOR Wild Horse Val 93.57 48⇑ *i*P **P 23 28 34.1 +0.4**
WVOR pmax pmax
comp=Z,79nm,1.4s,mb6.0
WVOR MLR MLR
comp=Z,6μm,20.0s,MS6.1
MNV Mina 93.64 52⇑ *i*P **P 23 28 34.6 +0.4**
comp=Z,56nm,1.2s,mb5.9
MNV LR LR
comp=Z,6μm,20.0s,MS6.0
MNV Mina 93.64 52⇑ *i*P **P 23 28 34.6 +0.4**
MNV pmax pmax
comp=Z,56nm,1.2s,mb5.9
MNV MLR MLR
comp=Z,6μm,20.0s,MS6.0
OD2 Odessa Site #2 93.88 43 P **P 23 28 35.4 +0.4**
BAR Barrett 94.44 58 *e*P **P 23 28 38.5 +0.5**
PFO Pinyon Flat Ob 94.68 57 *e*P **P 23 28 39.6 +0.5**
comp=Z,20nm,1.1s,mb5.5
PFO LR LR
comp=Z,650nm,22.0s,MS5.0
PFO Pinyon Flat Ob 94.68 57 P **P 23 28 39.8 +0.7**
PFO pmax pmax
comp=Z,20nm,1.1s,mb5.5
BMO Blue Mountains 94.69 46⇑ *i*P **P 23 28 38.5 -0.4**
comp=Z,65nm,1.4s,mb5.9
BMO LR LR
comp=Z,4μm,20.0s,MS5.9
BMO Blue Mountains 94.69 46⇑ *i*P **P 23 28 38.5 -0.4**
BMO pmax pmax
comp=Z,65nm,1.4s,mb5.9
BMO MLR MLR
comp=Z,4μm,20.0s,MS5.9
NEW Newport 95.00 42 P **P 23 28 40.2 0.0**
comp=Z,20nm,0.9s,mb5.5,baz=285,slow=3.6,SNR=15
NEW Newport 95.00 42⇑ *e*P **P 23 28 39.9 -0.2**
comp=Z,50nm,1.4s,mb5.8
NEW LR LR
comp=Z,6μm,19.0s,MS6.1
NEW Newport 95.00 42 P **P 23 28 40.2 0.0**
NEW pmax pmax
comp=Z,20nm,1.0s
AB31 Akbulak array 95.32 319 *i* P **P 23 28 38.8 -2.8**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
MSEY Mahe Island 95.64 265 PFAKE 23 29 00.0 +16
MSEY LR LR
comp=Z,268nm,19.0s,MS4.7
LDFC Landfair 95.88 55⇑ *i*P **P 23 28 45.1 +0.6**
ELK Elko 96.02 50 P **P 23 28 45.4 +0.3**
comp=Z,6.9nm,1.1s,mb5.0,baz=217,slow=2.9,SNR=12
NEN Nelson 96.12 55 *e*P **P 23 28 46.0 +0.3**
ARU Arti 96.35 326 *e*P **P 23 28 44.0 -2.2**
comp=Z,21nm,1.0s,mb5.5
ARU LR LR
comp=Z,2μm,21.0s,MS5.6
ARU Arti 96.35 326⇑ *i*P **P 23 28 44.6 -1.5**
ARU *e* 23 32 37.5
ARU *e*PPP PPP 23 34 43.5 -4.1
ARU *e*S 23 39 17.6
ARU *e*PS PS 23 41 26.9 -3.1
ARU *e*SS SS 23 46 40.3 +2.8
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,8μm,21.0s,MS6.2
ARU MLR MLR
comp=N,1μm,20.0s,MS6.1
ARU MLR MLR
comp=E,6μm,22.0s,MS6.1
YKW3 Yellowknife Ar 96.70 28 *e*P **P 23 28 47.8 +0.2**
YKA Yellowknife Ar 96.71 28 P **P 23 28 47.9 +0.3**
comp=E,4.2nm,0.6s,mb5.1,baz=267,slow=4.7,SNR=22
YKA PKKPbc 23 45 29.7
comp=E,1.1nm,0.8s,baz=90,slow=3.1,SNR=3.7
YKA LR LR 00 06 25.0
comp=E,3μm,21.9s,MS5.7,baz=280,slow=32
YKA Yellowknife Ar 96.71 28 P **P 23 28 47.9 +0.3**
YKA PKKPbc 23 45 29.7
YKA LR LR 00 06 25.0
MSO Missoula 97.11 44 PFAKE 23 29 00.0 +10
MSO LR LR
comp=Z,3μm,22.0s,MS5.7
EDM Edmonton 97.49 37 *e*P **P 23 28 51.6 +0.2**
EDM Edmonton 97.49 37 P **P 23 28 52.2 +0.8**
CHMT Chamberlain Mo 97.58 44 *e*P **P 23 28 51.7 -0.3**
DUG Dugway 97.85 50 *e*P **P 23 28 53.7 +0.4**
comp=Z,8.7nm,1.1s,mb5.2
DUG LR LR
comp=Z,3μm,20.0s,MS5.8
DUG Dugway 97.85 50 P **P 23 28 53.9 +0.6**
DUG pmax pmax
comp=Z,9.0nm,1.1s,mb5.2
MCMT McKenzie Canyo 97.86 46 *e*P **P 23 28 53.4 +0.1**
HVU Hansel Valley 97.90 49 *e*P **P 23 28 53.9 +0.4**
comp=Z,24nm,1.1s,mb5.6
HVU Hansel Valley 97.90 49 P **P 23 28 54.4 +0.9**
MSU Marysvale 98.33 52 *e*P **P 23 28 56.8 +1.3**
BOZ Bozeman (W) 98.72 45 *e*P **P 23 28 57.0 0.0**
comp=Z,10nm,1.1s,mb5.3
BOZ LR LR
comp=Z,4μm,22.0s,MS5.9
BOZ Bozeman (W) 98.72 45 P **P 23 28 57.4 +0.3**
BOZ pmax pmax
comp=Z,10.0nm,1.1s,mb5.3
HWUT Hardware Ranch 98.81 49 *e*P **P 23 28 57.0 -0.6**
comp=Z,6.7nm,0.9s,mb5.2
HWUT LR LR
comp=Z,3μm,19.0s,MS5.8
WUAZ Wupatki 98.94 55 *e*Pdif **P 23 28 59.7 +1.3**
comp=Z,17nm,1.2s,mb5.5
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.7
RRI2 Red Ridge 98.97 47 *e*Pdif **P 23 28 58.6 +0.4**
comp=Z,13nm,0.9s,mb5.5
TMUT Trail Mountain 99.09 51 *e*Pdif **P 23 29 00.1 +1.1**
AHID Auburn Hatcher 99.14 48 *e*Pdif **P 23 28 59.4 +0.4**
comp=Z,16nm,1.1s,mb5.5
AHID LR LR
comp=Z,5μm,20.0s,MS6.0
TPAW Teton Pass 99.24 47 *e*Pdif **P 23 28 59.9 +0.4**
comp=Z,17nm,1.1s,mb5.5
IMW Indian Meadow 99.24 47 *e*Pdif **P 23 29 00.1 +0.7**
comp=Z,13nm,1.2s,mb5.3
YFT Old Faithful 99.30 46 *e*Pdif **P 23 29 01.1 +1.3**
SNOW Snow King Moun 99.38 47 *e*Pdif **P 23 29 00.9 +0.8**
comp=Z,16nm,1.1s,mb5.5
MOOW Moose Ponds 99.38 47 *e*Pdif **P 23 29 00.1 0.0**
comp=Z,9.2nm,1.1s,mb5.2
TUC Tucson 99.40 58 *e*Pdif **P 23 29 01.7 +1.2**
comp=Z,7.2nm,1.4s,mb5.0
TUC LR LR
comp=Z,3μm,19.0s,MS5.8
TUC Tucson 99.40 58 *e*P **P 23 29 01.7 +1.2**
TUC pmax pmax
comp=Z,7.0nm,1.4s,mb5.0
TUC MLR MLR
comp=Z,3μm,19.0s,MS5.8
LOHW Long Hollow 99.49 47 *e*Pdif **P 23 29 00.8 +0.2**
comp=Z,11nm,1.3s,mb5.2
LKWY Lake 99.61 46 PFAKE 23 29 10.0 +8.8
LKWY LR LR
comp=Z,8μm,20.0s,MS6.2
SRU San Rafael 99.62 51 *e*Pdif **P 23 29 01.5 +0.2**
comp=Z,7.0nm,0.9s,mb5.1
SRU San Rafael 99.62 51 P **P 23 29 01.9 +0.5**
PDAR Pinedale Array 100.28 48 P P 23 29 04.1 -0.2
comp=Z,10nm,1.1s,baz=270,slow=3.0,SNR=25
SNAA Sanae 101.05 188 P P 23 29 05.9 -1.2
SNAA Sanae 101.05 188 P 23 29 16.8 +10
SNAA Sanae 101.05 188 P 23 29 21.5 +14
SNAA Sanae 101.05 188 PP 23 33 14.9 -3.6
SNAA Sanae 101.05 188 23 33 31.0
SNAA Sanae 101.05 188 23 33 44.0
SNAA Sanae 101.05 188 23 33 47.5
SNAA Sanae 101.05 188 P P 23 29 06.1 -1.0
comp=Z,0.8nm,1.1s,baz=131,slow=2.8,SNR=7.5
SNAA PP PP 23 33 12.9 -5.5
comp=Z,5.3nm,1.2s,baz=173,slow=12,SNR=7.4
SNAA Sanae 101.05 188 *e*Pdif P 23 29 06.4 -0.7
SNAA Sanae 101.05 188 P P 23 29 06.1 -1.0
SNAA pmax pmax
comp=Z,1.0nm,1.1s
SNAA pmax pmax
comp=Z,5.0nm,1.2s
VNA3 Neumayer Olymp 102.28 186 P Pdif 23 29 12.6 +0.1
VNA3 Neumayer Olymp 102.28 186 Pdif 23 29 23.7 +11
VNA3 Neumayer Olymp 102.28 186 Pdif 23 29 27.3 +15
VNA3 Neumayer Olymp 102.28 186 PP 23 33 25.5 -1.9
VNA3 Neumayer Olymp 102.28 186 23 33 35.8
VNA3 Neumayer Olymp 102.28 186 23 33 46.2
VNA2 Neumayer--Watz 102.32 187 P Pdif 23 29 19.3 +6.6
VNA2 Neumayer--Watz 102.32 187 Pdif 23 29 26.4 +14
VNA2 Neumayer--Watz 102.32 187 PP 23 33 25.7 -2.0
VNA2 Neumayer--Watz 102.32 187 23 33 40.8
VNA2 Neumayer--Watz 102.32 187 23 33 49.6
SMCO Snowmass 102.38 51 *e*Pdif Pdif 23 29 14.4 +0.7
LAO LASA Array 102.42 44 PFAKE 23 29 30.0 +16
LAO LR LR
comp=Z,4μm,19.0s,MS5.9
ANMO Albuquerque 102.97 56 PFAKE 23 29 30.0 +14
ANMO LR LR
comp=Z,1μm,19.0s,MS5.4
ISCO Idaho Springs 103.39 51 PFAKE 23 29 30.0 +12
ISCO LR LR
comp=Z,5μm,20.0s,MS6.0
DGMT Dagmar 103.60 42 PFAKE 23 29 30.0 +11
DGMT LR LR
comp=Z,3μm,20.0s,MS5.9
SDCO Great Sand Dun 103.61 53 *e*Pdif Pdif 23 29 19.6 +0.4
comp=Z,4.6nm,1.1s
SDCO LR LR
comp=Z,5μm,20.0s,MS6.1
MNTX Cornudas Mount 103.99 59 PFAKE 23 29 30.0 +9.0
MNTX LR LR
comp=Z,3μm,19.0s,MS5.8
KBS Kingsbay 104.03 353 PFAKE 23 29 30.0 +10
KBS LR LR
comp=Z,2μm,19.0s,MS5.6
PECR Pechory 104.36 327 *e*P Pdif 23 29 20.8 -1.2
PECR MLR MLR
comp=N,2μm,20.0s,MS5.9
PECR MLR MLR
comp=Z,6μm,20.0s,MS6.1
PECR MLR MLR
comp=E,3μm,19.0s,MS5.9
PMSA Palmer Station 104.97 165 PFAKE 23 29 40.0 +16
PMSA LR LR
comp=Z,2μm,21.0s,MS5.6
LTX Lajitas 105.56 61 PFAKE 23 33 50.0
LTX LR LR
comp=Z,4μm,19.0s,MS5.9
TXAR Lajitas Array 105.56 61 Pdiff Pdif 23 29 30.1 +2.2
comp=Z,0.8nm,1.1s,baz=333,slow=5.6,SNR=4.0
TXAR PKIKP 23 33 42.1
comp=Z,0.6nm,0.8s,baz=165,slow=2.5,SNR=5.0
TXAR PKKPbc 23 45 07.5
comp=Z,0.6nm,0.7s,baz=126,slow=6.2,SNR=6.1
TXAR PKKPab 23 45 23.9
comp=Z,1.5nm,0.8s,baz=104,slow=3.0,SNR=4.5
GNI Garni 106.50 310 PFAKE 23 33 50.0
GNI LR LR
comp=Z,1μm,21.0s,MS5.5
KEV Kevo 106.75 343 PFAKE 23 33 50.0
KEV LR LR
comp=Z,2μm,21.0s,MS5.7
ZEI Tsey 106.80 313 *e*P Pdif 23 29 35.0 +2.0
ZEI *i* 23 34 01.5
ARCES ARCESS Array B 107.31 343 PKiKP 23 33 43.1
comp=Z,3.2nm,0.6s,baz=306,slow=0.7,SNR=19
KIV Kislovodsk 107.50 314 PFAKE 23 34 00.0
KIV LR LR
comp=Z,577nm,21.0s,MS5.1
KIV Kislovodsk 107.50 314 *e*P Pdif 23 29 35.4 -0.7
KIV pmax pmax
comp=Z,10.0nm,1.1s
HAKT HAKKARI 107.61 308 *i* P PP 23 34 06.0 -2.1
CBKS Cedar Bluff 108.03 51 PFAKE 23 34 00.0
CBKS LR LR
comp=Z,5μm,20.0s,MS6.1
JOF Joensuu 108.46 335 *ep* Pdif 23 29 38.2 -1.6
comp=Z,13nm,2.1s
ULM Lac du Bonnet 108.62 39 PFAKE 23 34 00.0
ULM LR LR
comp=Z,4μm,21.0s,MS5.9
OBN Obninsk 108.78 327 PFAKE 23 34 00.0
OBN LR LR
comp=Z,1μm,20.0s,MS5.5
OBN Obninsk 108.78 327 *e*P Pdif 23 29 40.2 -1.2
OBN pmax pmax
comp=Z,8.0nm,1.3s
OBN MLR MLR
comp=Z,4μm,18.0s,MS6.0
WMOK Wichita Mounta 109.28 55 *e*PKP 23 33 48.4
WMOK LR LR
comp=Z,2μm,20.0s,MS5.6
KAF Kangasniemi 110.89 336 *ep* Pdif 23 29 49.8 -0.8
comp=Z,5.2nm,1.4s
ANN Anapa 111.03 316 *i* PKIKP PKPdf 23 33 53.3 -1.5
ANN *e* 23 34 31.8
ANN *e*SP SP 23 43 58.4 +3.2
FINES FINESS Array B 111.32 335 Pdiff Pdif 23 29 51.6 -0.9
comp=Z,1.4nm,0.6s,baz=63,slow=4.3,SNR=8.0
FINES PKiKP 23 33 52.1
comp=Z,3.7nm,0.7s,baz=96,slow=2.7,SNR=14
EYMN Ely 112.01 40 PFAKE 23 34 00.0 +3.4
EYMN LR LR
comp=Z,3μm,20.0s,MS5.9
GZT Gaziantep 112.47 308 *i* P PKPdf 23 33 53.7 -4.1
CTKT Corum 113.90 312 *i* P PKPdf 23 33 56.2 -4.4
AVNT Avonos 114.28 310 *i* P PKPdf 23 33 57.5 -3.9
AKASG Malin Array Be 114.48 324 PKP PKPdf 23 33 57.3 -4.2
comp=Z,5.1nm,0.7s,baz=65,slow=2.2,SNR=17
AKASG PKKPbc 23 44 35.9
comp=Z,0.2nm,0.2s,baz=251,slow=4.1,SNR=5.1
BALT Daday 114.70 313 *i* P PKPdf 23 33 56.0 -6.1
CCM Cathedral Cave 114.72 51 PFAKE 23 34 10.0 +7.8
CCM LR LR
comp=Z,777nm,20.0s,MS5.3
ELDT Eldivan 114.94 312 *i* P PKPdf 23 33 56.0 -6.6
BR131 Keskin Array S 114.97 311 *e*PKP PKPdf 23 33 58.7 -4.0
BR131 LR LR
comp=Z,677nm,19.0s,MS5.3
BRTR Keskin Array B 114.97 311 PKP PKPdf 23 33 58.1 -4.5
comp=Z,2.7nm,0.7s,baz=135,slow=5.2,SNR=14
BRTR PKKPbc 23 44 35.0
comp=Z,0.9nm,0.7s,baz=225,slow=3.5,SNR=5.6
ANTO Ankara 115.57 312 *e*PKP PKPdf 23 33 59.9 -3.9
ANTO LR LR
comp=Z,1μm,22.0s,MS5.4
SGKT Sivrigoynuk 115.93 313 *i* P PKPdf 23 33 59.4 -5.2
ERMK Ermenek 116.26 308 *i* P PKPdf 23 34 00.3 -5.0
CSS Prodhromos 116.30 306 *e*PKPdf PKPdf 23 34 01.3 -4.1

SUW	**Suwalki**	**116.35**	**329**	*e*PKP	PKPdf	23 34 01.1	-4.0	
SUW				MLR	MLR	00 24 24.7		
	comp=Z,5µm,21.5s,MS6.1							
HENT	**Hendek**	**116.70**	**313**	*i* P	PKPdf	23 34 00.9	-5.1	
OXF	**Oxford**	**116.94**	**54**	PFAKE		23 34 10.0	+3.4	
OXF				LR	LR			
	comp=Z,2µm,19.0s,MS5.8							
ESKT	**Eskisehir**	**117.11**	**312**	*i* P	PKPdf	23 34 01.5	-5.4	
CFR	**Carcaliu**	**117.21**	**318**	⇑P	PKPdf	23 34 02.3	-4.6	
TIRR	**Tirgusor**	**117.28**	**318**	⇑P	PKPdf	23 34 03.5	-3.5	
NB2	**NORSAR Subarra**	**117.29**	**340**	PKPdf	PKPdf	23 34 02.4	-4.2	
	comp=Z,3.7nm,0.6s,baz=45,slow=1.9							
NB2	**NORSAR Subarra**	**117.29**	**340**	PKPd		23 34 02.4		
	baz=45,slow=1.9							
NOA	**NORSAR Array B**	**117.29**	**340**	PKP	PKPdf	23 34 02.2	-4.4	
	comp=Z,4.1nm,0.6s,baz=48,slow=1.9,SNR=16							
EFI	**East Falkland**	**117.52**	**160**	PFAKE		23 34 10.0	+2.7	
EFI				LR	LR			
	comp=Z,638nm,19.0s,MS5.3							
NAO01	**NORSAR Array S**	**117.54**	**340**	PFAKE		23 34 10.0	+2.9	
NAO01				LR	LR			
	comp=Z,4µm,20.0s,MS6.0							
VRI	**Vrincioaia**	**117.88**	**320**	⇑P	PKPdf	23 34 04.6	-3.5	
PLAL	**Pickwick Lake**	**117.91**	**53**	PFAKE		23 34 20.0	+12	
PLAL				LR	LR			
	comp=Z,2µm,20.0s,MS5.7							
TKTP	**Tekketepe**	**117.91**	**310**	*i* P	PKPdf	23 33 56.7	-12	
BURAR	**Bucovina Array**	**118.13**	**322**	⇑P	PKPdf	23 34 06.7	-1.9	
ULDT	**Uludag**	**118.19**	**313**	*i* P	PKPdf	23 34 03.0	-5.9	
PRD	**Provadia**	**118.41**	**317**	*e*P	PKPdf	23 34 05.9	-3.4	
WCI	**Wyandotte Cave**	**118.45**	**49**	PFAKE		23 34 20.0	+11	
WCI				LR	LR			
	comp=Z,697nm,20.0s,MS5.3							
MLR	**Muntele Rosu**	**118.53**	**319**	⇓P	PKPdf	23 34 05.6	-3.8	
KWP	**Kalwaria**	**118.72**	**325**	*e*PKP	PKPdf	23 34 06.0	-3.7	
KWP				MLR	MLR	00 23 33.9		
	comp=Z,4µm,24.5s,MS6.0							
KONO	**Kongsberg**	**118.84**	**339**	PFAKE		23 34 20.0	+10	
KONO				LR	LR			
	comp=Z,3µm,20.0s,MS5.9							
BTOK	**Tokmak**	**119.11**	**313**	*i* P	PKPdf	23 34 06.1	-4.7	
LRAL	**Lakeview Retre**	**119.23**	**55**	PFAKE		23 34 20.0	+8.9	
LRAL				LR	LR			
	comp=Z,3µm,20.0s,MS6.0							
KOLS	**Kolonicke sedl**	**119.30**	**324**	*i* PKP	PKPdf	23 34 07.5	-3.3	
LBTB	**Lobatse**	**119.34**	**237**	*e*PKPdf	PKPdf	23 34 07.5	-4.0	
LBTB				LR	LR			
	comp=Z,1µm,19.0s,MS5.6							
STHS	**Stebnicka Huta**	**119.66**	**325**	*i* PKP	PKPdf	23 34 08.3	-3.2	
STHS				*e*		23 34 22.1		
GKP	**Gorka Klasztor**	**119.74**	**330**	*e*PKP	PKPdf	23 34 08.4	-3.2	
GKP				MLR	MLR	00 27 30.8		
	comp=Z,4µm,20.1s,MS6.0							
PLCA	**Paso Flores**	**119.81**	**144**	PKP	PKPdf	23 34 08.5	-3.6	
	comp=Z,6.0nm,0.9s,baz=29,slow=1.2,SNR=6.5							
PLCA	**Paso Flores**	**119.81**	**144**	PKIKP	PKPdf	23 34 08.5	-3.5	
PLCA				MLR	MLR			
	comp=Z,2µm,20.0s							
SUR	**Sutherland**	**119.89**	**228**	PFAKE		23 34 20.0	+7.6	
SUR				LR	LR			
	comp=Z,660nm,19.0s,MS5.3							
OJC	**Ojcow**	**120.07**	**326**	*e*PKPdf	PKPdf	23 34 08.8	-3.5	
KDAG	**Bornova**	**120.10**	**311**	*i* P	PKPdf	23 34 07.6	-5.1	
ALN	**Alexandroupoli**	**120.17**	**315**	*e*P	PKPdf	23 34 08.4	-4.3	
LSZ	**Lusaka**	**120.24**	**249**	*e*PKPdf	PKPdf	23 34 09.9	-3.5	
LSZ				LR	LR			
	comp=Z,2µm,20.0s,MS5.6							
ACSO	**Alum Creek Sta**	**120.27**	**46**	PFAKE		23 34 20.0	+7.0	
ACSO				LR	LR			
	comp=Z,1µm,20.0s,MS5.5							
KDZ	**Kurdzhali**	**120.34**	**316**	*i* P	PKPdf	23 34 09.5	-3.6	
KECS	**Kecovo**	**120.56**	**324**	*i* PKP	PKPdf	23 34 09.5	-3.8	
URLA	**Izmir**	**120.62**	**312**	*i* P	PKPdf	23 34 07.7	-6.0	
RZN	**Rozhen**	**120.81**	**316**	*i* P	PKPdf	23 34 10.0	-4.0	
PGB	**Panagyurishte**	**120.86**	**317**	*i* P	PKPdf	23 34 09.8	-4.3	
SADO	**Sadowa**	**121.12**	**40**	PKP	PKPdf	23 34 10.0	-4.6	
	comp=Z,3.4nm,0.5s,baz=56,slow=1.9,SNR=7.2							
OKC	**Ostrava-Krasne**	**121.18**	**327**	*e*PKPdf	PKPdf	23 34 10.6	-3.9	
OKC				AMS	AMS	00 26 10.0		
	comp=Z,3µm,23.8s							
PSZ	**Piszkesteto**	**121.18**	**324**	*e*PKPdf	PKPdf	23 34 10.8	-3.8	
VTS	**Vitosha**	**121.49**	**317**	*i* P	PKPdf	23 34 11.5	-3.8	
VTS	**Vitosha**	**121.49**	**317**	PKIKP	PKPdf	23 34 11.1	-4.2	
VYHS	**Vyhne**	**121.50**	**325**	*e*PKP	PKPdf	23 34 11.1	-4.0	
MMB	**Musomiste**	**121.53**	**316**	*i* P	PKPdf	23 34 10.5	-4.9	
MORC	**Moravsky Berou**	**121.54**	**327**	*e*PKPdf	PKPdf	23 34 11.2	-4.0	
KSP	**Ksiaz**	**121.61**	**328**	*e*PKP	PKPdf	23 34 12.2	-3.0	
KSP				MLR	MLR	00 26 53.3		
	comp=Z,8µm,22.0s,MS6.3							
KSP	**Ksiaz**	**121.61**	**328**	*e*PKIKP	PKPdf	23 34 11.5	-3.8	
KSP				*e*		23 35 48.0		
KSP				*e*SP	SP	23 45 39.0	+6.7	
KSP				*e*SS	SS	23 52 20.0	+2.3	
KSP				MLR	MLR			
	comp=Z,9µm,22.0s,MS6.4							
ERPA	**Erie**	**121.67**	**43**	PFAKE		23 34 20.0	+4.4	
ERPA				LR	LR			
	comp=Z,4µm,19.0s,MS6.0							
KKB	**Krupnik**	**121.87**	**317**	*i* P	PKPdf	23 34 12.0	-4.0	
DPC	**Dobruska-Polom**	**121.87**	**328**	*e*PKPdf	PKPdf	23 34 12.1	-3.7	
DPC				*ep*PKP		23 34 18.8		
DPC				AMS	AMS	00 28 00.0		
	comp=Z,5µm,23.2s							
UPC	**Upice**	**121.95**	**328**	*e*PKPdf	PKPdf	23 34 12.4	-3.5	
SCHQ	**Schefferville**	**122.04**	**25**	PFAKE		23 34 20.0	+4.0	
SCHQ				LR	LR			
	comp=Z,6µm,21.0s,MS6.2							
SVIS	**Svilajnac**	**122.08**	**320**	⇑*i*PKP	PKPdf	23 34 12.0	-4.4	
THR1	**Thera Island**	**122.11**	**310**	*e*P	PKPdf	23 34 06.6	-10	
KNT	**Kendrikon**	**122.28**	**316**	*e*P	PKPdf	23 34 12.0	-4.8	
VRAC	**Vranov**	**122.31**	**327**	*e*PKP	PKPdf	23 34 13.4	-3.3	
BSEG	**Bad Segeberg**	**122.54**	**334**	*e*PKP	PKPdf	23 34 13.8	-3.2	
BSEG				*e*PP	PP	23 35 55.9	+2.6	
ZST	**Bratislava**	**122.64**	**325**	*e*PKP	PKPdf	23 34 14.2	-3.1	
PVCC	**Panska Ves**	**122.69**	**329**	*e*PKPdf	PKPdf	23 34 13.7	-3.6	
PVCC				AMS	AMS	00 28 10.0		
	comp=Z,3µm,21.4s							
MCWV	**Mont Chateau**	**122.73**	**46**	PFAKE		23 34 30.0	+12	
MCWV				LR	LR			
	comp=Z,3µm,20.0s,MS6.0							
XOR	**Xorichti**	**122.76**	**314**	*e*P	PKPdf	23 34 13.4	-4.4	
FWV	**Forest Hill**	**122.77**	**48**	*e*PKPdf	PKPdf	23 34 12.8	-5.0	
PKSM	**Moragy**	**122.77**	**323**	P	PKPdf	23 34 13.8	-3.8	
BRG	**Berggiesshubel**	**122.80**	**330**	*i* PKP	PKPdf	23 34 13.6	-3.9	
BRG				PP	PP	23 35 52.0	-3.2	
BRG				*e*		23 37 49.0		
BRG				SP	SP	23 45 47.0	+4.0	
BRG				SS	SS	23 52 40.0	+6.9	
BRG				LR	LR			
	comp=Z,4µm,18.2s,MS6.1							
BRG	**Berggiesshubel**	**122.80**	**330**	*i* PKIKP	PKPdf	23 34 13.6	-3.9	
BRG						23 35 52.0		
BRG				SP	SP	23 45 47.0	+4.0	
BRG				MLR	MLR			
	comp=Z,4µm,18.2s,MS6.1							
TREC	**Trest**	**122.92**	**327**	*e*PKPdf	PKPdf	23 34 13.6	-4.2	
TREC				*ep*PKP		23 34 18.9		
SKO	**Skopje**	**122.94**	**317**	*i* PKP	PKPdf	23 34 14.1	-3.9	
DIVS	**Divcibare**	**122.95**	**320**	⇑*i*PKP	PKPdf	23 34 13.2	-4.8	
CLL	**Collm**	**123.00**	**330**	⇓*i*PKIKP	PKPdf	23 34 14.1	-3.8	
	comp=Z,logA/T=1.3							
CLL				*i* *PPKP		23 34 21.3		
CLL				*i*		23 35 05.5		
CLL				*e*PP	PP	23 35 54.0	-2.6	
CLL				*e*PS	PS	23 45 48.0	-0.6	
CLL				*e*PPS	PPS	23 47 18.0	+0.8	
CLL				*e*		23 53 12.0		
CLL				*e*SSS	SSS	23 57 30.0	+20	
CLL	**Collm**	**123.00**	**330**	⇓*i*PKIKP	PKPdf	23 34 14.1	-3.8	
CLL				*i*		23 34 21.3		
CLL				MLR	MLR			
	comp=Z,4µm,19.6s,MS6.0							
PRU	**Pruhonice**	**123.02**	**328**	*e*PKPdf	PKPdf	23 34 14.2	-3.8	
PRU				*ep*PKP		23 34 21.0		
PRU				AMS	AMS	00 27 50.0		
	comp=Z,4µm,22.8s							
RHK1	**Bakonya**	**123.17**	**323**	⇓*i*P	PKPdf	23 34 15.2	-3.2	
BLA	**Blacksburg**	**123.19**	**49**	*e*PKPdf	PKPdf	23 34 14.1	-4.6	
BLA				LR	LR			
	comp=Z,4µm,20.0s,MS6.1							
BLA	**Blacksburg**	**123.19**	**49**	PKIKP	PKPdf	23 34 14.3	-4.4	
FNA	**Florina**	**123.48**	**316**	*e*P	PKPdf	23 34 14.6	-4.6	
JSC	**Jenkinsville**	**123.50**	**52**	*e*PKPdf	PKPdf	23 34 15.2	-4.1	
GVD	**Gavdhos**	**123.65**	**308**	*e*PKPdf	PKPdf	23 34 16.0	-3.7	
JTS	**JuntasAbangare**	**123.84**	**81**	PKP	PKPdf	23 34 15.8	-4.6	
	comp=Z,4.9nm,0.5s,baz=327,slow=18,SNR=4.8							
JTS	**JuntasAbangare**	**123.84**	**81**	*e*PKIKP	PKPdf	23 34 16.2	-4.3	
JTS				MLR	MLR			
	comp=Z,430nm,22.0s							
CLZ	**Clausthal**	**123.92**	**332**	*e*PKP	PKPdf	23 34 16.8	-2.9	
NKC	**Novy Kostel**	**123.94**	**330**	*e*PKPdf	PKPdf	23 34 16.2	-3.6	
NKC				*ep*PKP		23 34 22.8		
NKC				AMS	AMS	00 27 20.0		
	comp=Z,4µm,24.8s							
KHC	**Kasperske Hory**	**124.03**	**328**	*e*PKPdf	PKPdf	23 34 16.2	-3.8	
KHC				*ep*PKP		23 34 23.3		
KHC				AMS	AMS	00 28 20.0		
	comp=Z,4µm,22.4s							
ARSA	**Arzberg**	**124.05**	**325**	⇑*i*P	PKPdf	23 34 15.8	-4.3	
	comp=Z,11nm,1.1s							
MOX	**Moxa**	**124.10**	**330**	*i* P	PKPdf	23 34 15.8	-4.3	
	comp=Z,logA/T=1.4							
MOX	**Moxa**	**124.10**	**330**	*e*PKIKP	PKPdf	23 34 15.8	-4.3	
GEC2	**GERESS Array S**	**124.14**	**328**	*e*PKP	PKPdf	23 34 16.8	-3.4	
GERES	**GERESS Array B**	**124.14**	**328**	PKP	PKPdf	23 34 16.4	-3.8	
	comp=Z,11nm,0.6s,baz=75,slow=1.6,SNR=129							
GERES				PKKPbc		23 44 01.6		
	comp=Z,0.2nm,0.5s,baz=243,slow=3.0,SNR=3.9							
WET	**Wettzell**	**124.39**	**328**	*e*PKP	PKPdf	23 34 17.4	-3.3	
WET				*e*PP	PP	23 36 03.5	-2.5	
MOA	**Molln**	**124.41**	**326**	⇑*i*P	PKPdf	23 34 17.1	-3.7	
	comp=Z,8.8nm,0.8s							
MOA	**Molln**	**124.41**	**326**	*i* P	PKPdf	23 34 17.1	-3.7	
	comp=Z,8.8nm,0.8s,SNR=7.0							
NCB	**Newcomb**	**124.61**	**39**	PFAKE		23 34 30.0	+8.7	
NCB				LR	LR			
	comp=Z,3µm,19.0s,MS5.9							
IGT	**Igoumenitsa**	**124.73**	**315**	*e*P	PKPdf	23 34 18.0	-3.6	
GRA1	**Grafenberg Arr**	**124.90**	**330**	*e*PKP	PKPdf	23 34 17.2	-4.5	
GRA1				*e*PP	PP	23 36 07.8	-1.2	
GRF	**Grafenberg Arr**	**124.90**	**330**	*e*PKIKP	PKPdf	23 34 17.2	-4.5	
GRF				*e*		23 36 07.8		
DWPF	**Disney**	**125.04**	**60**	PFAKE		23 34 30.0	+7.4	
DWPF				LR	LR			
	comp=Z,546nm,21.0s,MS5.2							
CBN	**Corbin**	**125.07**	**47**	PFAKE		23 34 30.0	+7.6	
CBN				LR	LR			
	comp=Z,4µm,20.0s,MS6.1							
LJU	**Ljubljana**	**125.29**	**324**	*e*P	PKPdf	23 34 18.8	-3.7	
KBA	**Koelnbreinsper**	**125.37**	**326**	⇑*i*P	PKPdf	23 34 18.0	-4.7	
	comp=Z,20nm,1.2s							
WTSB	**Winterswijk**	**125.44**	**334**	*e*PKP	PKPdf	23 34 19.2	-3.5	
	comp=Z,30nm,0.8s							
FUR	**Furstenfeldbru**	**125.83**	**328**	*e*PKP	PKPdf	23 34 20.0	-3.5	
FUR				*e*PP	PP	23 36 10.2	-5.3	
LBNH	**Lisbon**	**125.89**	**38**	PFAKE		23 34 30.0	+6.3	
LBNH				LR	LR			
	comp=Z,6µm,21.0s,MS6.2							
TNS	**Taunus Mts**	**125.91**	**332**	*e*PKP	PKPdf	23 34 20.5	-3.1	
HNH	**Hanover**	**125.96**	**38**	*e*PKPdf	PKPdf	23 34 19.9	-4.0	
TOD	**Tromm**	**126.15**	**331**	PKP	PKPdf	23 34 20.3	-3.8	
WATA	**Walderalm**	**126.18**	**327**	⇑*i*P	PKPdf	23 34 19.8	-4.4	
	comp=Z,44nm,1.5s							
WTTA	**Wattenberg**	**126.19**	**327**	⇑*i*P	PKPdf	23 34 20.3	-3.9	
	comp=Z,50nm,1.0s							
PAL	**Palisades**	**126.26**	**42**	*e*PKPdf	PKPdf	23 34 20.5	-4.0	
MOTA	**Moosalm**	**126.43**	**327**	⇑*i*P	PKPdf	23 34 20.5	-4.2	
	comp=Z,23nm,1.0s							
SQTA	**Sankt Quirin**	**126.45**	**327**	⇓*i*P	PKPdf	23 34 20.9	-3.8	
	comp=Z,5.5nm,1.6s							
TRQA	**Tornquist**	**126.48**	**147**	*e*PKPdf	PKPdf	23 34 20.6	-4.4	
TRQA				LR	LR			
	comp=Z,1µm,20.0s,MS5.5							
ESK	**Eskdalemuir**	**126.50**	**342**	*e*PKPdf	PKPdf	23 34 21.4	-3.1	
ESK				LR	LR			
	comp=Z,613nm,19.0s,MS5.3							
STU	**Stuttgart**	**126.51**	**330**	*e*PKPdf	PKPdf	23 34 21.0	-3.8	
STU	**Stuttgart**	**126.51**	**330**	PKIKP	PKPdf	23 34 21.1	-3.7	
ABH	**Alteburg**	**126.56**	**332**	PKP	PKPdf	23 34 21.4	-3.4	
HGN	**Heimansgroeve**	**126.68**	**333**	*e*PKP	PKPdf	23 34 19.9	-5.1	
	comp=Z,33nm,1.6s							
PQI	**Presque Isle**	**126.76**	**33**	PFAKE		23 34 30.0	+4.7	
PQI				LR	LR			
	comp=Z,15µm,20.0s,MS6.7							
HRV	**Harvard--Oak R**	**127.04**	**39**	PFAKE		23 34 30.0	+4.0	
HRV				LR	LR			
	comp=Z,2µm,19.0s,MS5.9							
WVL	**Waterville**	**127.07**	**36**	PFAKE		23 34 30.0	+4.0	
WVL				LR	LR			
	comp=Z,11µm,21.0s,MS6.5							
DAVA	**Damuels**	**127.12**	**328**	⇑*i*P	PKPdf	23 34 22.2	-3.8	
	comp=Z,21nm,0.8s							
BFO	**Black Forest**	**127.23**	**330**	*e*PKP	PKPdf	23 34 22.3	-3.9	
WES	**Weston**	**127.25**	**39**	PFAKE		23 34 30.0	+3.6	
WES				LR	LR			
	comp=Z,3µm,20.0s,MS6.0							
WLF	**Walferdange**	**127.36**	**332**	*e*PKPdf	PKPdf	23 34 23.2	-3.2	
TIP	**Timpagrande**	**127.37**	**316**	*e*PKPdf	PKPdf	23 34 23.6	-3.2	
GIVF	**Givet**	**127.65**	**334**	*e*PKIKP	PKPdf	23 34 22.7	-4.3	
WLS	**Welschbruch**	**127.66**	**331**	PKP	PKPdf	23 34 22.9	-4.1	
CDF	**Champ du Feu**	**127.70**	**331**	*e*PKIKP	PKPdf	23 34 22.3	-4.8	
	comp=Z,24nm,1.1s							
FELD	**Feldberg**	**127.70**	**330**	PKP	PKPdf	23 34 22.9	-4.2	
ECH	**Echery**	**127.89**	**330**	PKP	PKPdf	23 34 24.2	-3.3	
BAIF	**Baives**	**127.95**	**334**	*e*PKIKP	PKPdf	23 34 23.2	-4.4	
	comp=Z,23nm,0.9s							
AQU	**L'Aquila**	**127.99**	**321**	*e*PKPdf	PKPdf	23 34 25.4	-2.4	
MOF	**Molkenrain**	**128.15**	**330**	PKP	PKPdf	23 34 23.7	-4.3	
BBS	**Basel-Blauen**	**128.22**	**330**	PKP	PKPdf	23 34 23.0	-5.2	
EMMW	**East Machias**	**128.26**	**35**	PFAKE		23 34 40.0	+12	
EMMW				LR	LR			
	comp=Z,11µm,20.0s,MS6.5							
HINF	**Hinteralfeld**	**128.31**	**330**	*e*PKIKP	PKPdf	23 34 23.4	-4.9	
	comp=Z,79nm,1.2s							
HAU	**Haudompre**	**128.43**	**331**	*e*PKIKP	PKPdf	23 34 23.8	-4.7	
	comp=Z,37nm,0.7s							
HAU				*e*R				
	comp=Z,3µm,20.0s							
THEF	**They Montfort**	**128.45**	**331**	PKP	PKPdf	23 34 23.5	-5.1	
TSUM	**Tsumeb**	**128.46**	**240**	*e*PKPdf	PKPdf	23 34 25.6	-3.8	
TSUM				LR	LR			
	comp=Z,1µm,19.0s,MS5.7							
LOMF	**Lomont**	**128.64**	**330**	PKP	PKPdf	23 34 24.2	-4.8	
MEZF	**Maizieres J'vi**	**128.70**	**332**	*e*PKIKP	PKPdf	23 34 24.9	-4.1	
	comp=Z,42nm,0.7s							
NNA	**Nana**	**128.73**	**110**	PFAKE		23 34 40.0	+10	
NNA				LR	LR			
	comp=Z,233nm,20.0s,MS4.9							
CABF	**La Chapelle**	**129.52**	**330**	*e*PKIKP	PKPdf	23 34 26.6	-4.1	
	comp=Z,92nm,1.2s							
LPL	**La Plagne**	**129.92**	**328**	*e*PKIKP	PKPdf	23 34 27.2	-4.3	
	comp=Z,19nm,0.6s							
LPG	**La Plagne**	**129.93**	**328**	*e*PKIKP	PKPdf	23 34 27.4	-4.1	
	comp=Z,24nm,0.7s							
LOR	**Lormes**	**130.14**	**332**	*e*PKIKP	PKPdf	23 34 27.4	-4.4	
	comp=Z,22nm,0.8s							
LOR				*e*R				
	comp=Z,4µm,21.5s							
BNI	**Bardonecchia**	**130.26**	**328**	*e*PKPdf	PKPdf	23 34 29.0	-3.2	
BNI				*e*SKPab		23 37 48.5		
MBDF	**Montbardon**	**130.43**	**327**	*e*PKIKP	PKPdf	23 34 27.9	-4.5	
	comp=Z,20nm,0.8s							
SSF	**Saint Saulge**	**130.46**	**332**	*e*PKIKP	PKPdf	23 34 28.1	-4.3	
	comp=Z,34nm,1.0s							
PGF	**Pioggiola**	**130.55**	**324**	*e*PKIKP	PKPdf	23 34 28.1	-4.6	
	comp=Z,63nm,0.8s							
SURF	**Saint Ours**	**130.56**	**327**	PKP	PKPdf	23 34 29.4	-3.3	
SMF	**Signal de Mont**	**130.60**	**331**	*e*PKIKP	PKPdf	23 34 28.2	-4.5	
	comp=Z,50nm,1.1s							
GRN	**Grenoble**	**130.62**	**329**	PKP	PKPdf	23 34 29.4	-3.4	
SBF	**Sospel**	**130.62**	**326**	*e*PKIKP	PKPdf	23 34 27.9	-4.9	
HYF	**Humbligny**	**130.71**	**332**	*e*PKIKP	PKPdf	23 34 28.9	-4.0	
AVF	**Avril sur Loir**	**130.73**	**332**	*e*PKIKP	PKPdf	23 34 28.4	-4.5	
	comp=Z,6.9nm,0.6s							
ORIF	**Oris-en-Rattie**	**130.77**	**328**	*e*PKIKP	PKPdf	23 34 28.5	-4.6	
	comp=Z,27nm,0.7s							
ORIF				*e*R				
	comp=Z,7µm,22.5s							
LDF	**La Druitiere**	**130.91**	**335**	*e*PKIKP	PKPdf	23 34 29.5	-3.7	
	comp=Z,15nm,0.6s							
FLN	**La Foliniere**	**130.93**	**336**	*e*PKIKP	PKPdf	23 34 29.1	-4.2	
	comp=Z,39nm,0.6s							
FLN				*e*R				
	comp=Z,2µm,20.5s							
BGF	**Bois d'Agland**	**131.14**	**332**	*e*PKIKP	PKPdf	23 34 29.4	-4.3	
	comp=Z,26nm,0.7s							
PLDF	**La Plantade**	**131.19**	**331**	PKP	PKPdf	23 34 31.6	-2.2	
FRF	**La Foret Royal**	**131.26**	**326**	*e*PKIKP	PKPdf	23 34 29.3	-4.8	
AGO	**Saint Agoulin**	**131.37**	**331**	PKP	PKPdf	23 34 31.6	-2.6	
GRR	**Gorron**	**131.38**	**336**	*e*PKIKP	PKPdf	23 34 29.9	-4.2	
	comp=Z,26nm,0.5s							
LVC	**Limon Verde**	**131.43**	**127**	*e*PKPdf	PKPdf	23 34 32.3	-2.6	
VIVF	**Saint-Julien-l**	**131.44**	**329**	*e*PKIKP	PKPdf	23 34 30.2	-4.2	
	comp=Z,28nm,1.0s							
LMR	**La Mourre**	**131.48**	**326**	*e*PKIKP	PKPdf	23 34 30.0	-4.5	
SMRF	**Simiane la Rot**	**131.56**	**327**	*e*PKIKP	PKPdf	23 34 30.4	-4.2	
	comp=Z,82nm,1.2s							
TCF	**Toulx Ste Croi**	**131.63**	**332**	*e*PKIKP	PKPdf	23 34 30.7	-4.0	
	comp=Z,31nm,0.7s							
LBL	**Lubilhac**	**131.90**	**330**	PKP	PKPdf	23 34 32.5	-2.7	
SGMF	**Saint Gilles**	**132.16**	**337**	*e*PKIKP	PKPdf	23 34 31.3	-4.3	
	comp=Z,34nm,0.5s							
ROSF	**Rostrenen**	**132.37**	**337**	*e*PKIKP	PKPdf	23 34 31.1	-4.9	
LASF	**Ste Croix**	**132.40**	**329**	*e*PKIKP	PKPdf	23 34 32.0	-4.2	
	comp=Z,39nm,1.0s							
MFF	**Saint Martin d**	**132.47**	**334**	*e*PKIKP	PKPdf	23 34 32.1	-4.2	
	comp=Z,38nm,1.0s							
QUIF	**Quistinic**	**132.68**	**337**	*e*PKIKP	PKPdf	23 34 32.4	-4.2	
RJF	**Les Rejaudoux**	**132.69**	**331**	*e*PKIKP	PKPdf	23 34 33.0	-3.7	
	comp=Z,17nm,0.8s							
RJF				*e*R				
	comp=Z,3µm,22.8s							
CAF	**Calviac**	**132.70**	**331**	*e*PKIKP	PKPdf	23 34 33.1	-3.7	
	comp=Z,20nm,1.0s							
LFF	**La Frestale**	**133.33**	**332**	*e*PKIKP	PKPdf	23 34 34.3	-3.6	
MTLF	**Montolieu**	**133.76**	**329**	*e*PKIKP	PKPdf	23 34 34.7	-4.0	
	comp=Z,11nm,0.8s							
ROSC	**El Rosal**	**134.25**	**89**	PKP	PKPdf	23 34 36.5	-4.0	
	comp=Z,8.2nm,0.4s,baz=80,slow=18,SNR=7.8							
EPF	**Esparros**	**134.94**	**330**	*e*PKIKP	PKPdf	23 34 37.4	-3.6	
	comp=Z,7.5nm,0.5s							
LPAZ	**La Paz**	**135.05**	**120**	PKP	PKPdf	23 34 39.2	-2.6	
	comp=Z,12nm,0.9s,baz=350,slow=1.3,SNR=20							
LPAZ	**La Paz**	**135.05**	**120**	*e*PKPdf	PKPdf	23 34 38.9	-3.0	
LPAZ				*e*SKPab		23 38 10.8		
LPAZ				LR	LR			
	comp=Z,884nm,22.0s,MS5.4							
LPAZ	**La Paz**	**135.05**	**120**	*e*PKIKP	PKPdf	23 34 38.9	-2.9	
LPAZ				MLR	MLR			
	comp=Z,880nm,22.0s							
EBIE	**Bielsa**	**135.29**	**330**	PKP	PKPdf	23 34 39.8	-1.9	
ETSF	**Etsaut**	**135.47**	**331**	*e*PKIKP	PKPdf	23 34 38.4	-3.5	
	comp=Z,30nm,0.8s							
EGRA	**Graus**	**135.56**	**329**	PKP	PKPdf	23 34 40.9	-1.2	
SJPF	**Ste Jean**	**135.63**	**331**	*e*PKIKP	PKPdf	23 34 39.0	-3.2	
	comp=Z,34nm,1.0s							
EPOB	**Poblet**	**135.77**	**328**	PKP	PKPdf	23 34 39.5	-3.1	
ESAC	**San Caprasio**	**136.31**	**330**	PKP	PKPdf	23 34 41.2

6.4nm,0.7s,mb4.2,baz=2.4,slow=14,SNR=7.1
WRAB Tennant Creek 22.14 228 *e*P **P 23 30 49.0 -0.1**
21nm,0.8s,mb4.6
WB2 Warramunga Arr 22.14 228 *e*P **P 23 30 49.2 0.0**
WRA Warramunga Arr 22.15 228 P **P 23 30 50.0 +0.8**
12nm,0.8s,mb4.4,baz=52,slow=9.9,SNR=18
ASPA Alice Springs 24.87 222 *e*P **P 23 31 15.8 0.0**
FITZ Fitzroy Crossi 28.39 242 *e*P **P 23 31 45.7 -2.5**
13nm,0.4s,mb4.9
FITZ Fitzroy Crossi 28.39 242 P **P 23 31 45.5 -2.7**
14nm,0.6s,mb4.7,baz=142,slow=4.4,SNR=5.5
SONM Songino Array 66.48 328 P **P 23 36 43.0 +0.3**
0.6nm,0.5s,mb3.9,baz=117,slow=6.4,SNR=5.4
MKAR Makanchi Array 80.28 319 P **P 23 38 05.1 +1.7**
0.2nm,0.5s,mb3.3,baz=99,slow=8.4,SNR=3.1
ILAR Eielson Array 83.29 22 P **P 23 38 17.3 -1.3**
1.1nm,0.6s,mb4.0,baz=239,slow=5.6,SNR=8.6
BDFB Brasilia 151.18 137 PKPbc PKPdf 23 45 45.8 +6.9
3.3nm,0.8s,baz=5.1,slow=2.8,SNR=3.5

*NEIC **30** 23:28:15.8±0.6,5.42S×151.74E,h25km,mb3.9/2,Error ellipse: s-maj=16.4km s-min=11.8km az=119.0*
*IDC **30** 23:28:18.4±4.7,5.46S×151.75E,h44km±44km,mb3.9/6, mb1 4.1/7,mb1mx4.0/11,mbtmp4.2/7,ML3.5/1,Error ellipse: s-maj=30.0km s-min=25.4km az=14.0*
ISC 30 23:28:17.8±4.1,5.5S±0.2×151.7E±0.1,h53km±36km,n12, σ0s83/11,mb4.2/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.95 229**		P		**P**		**23 29 46.0**	**+0.6**
	7.3nm,0.3s,baz=52,slon=12,SNR=6.6								
PMG				S		**S**		**23 30 51.9**	**-1.2**
	13nm,0.3s,baz=241,slow=20,SNR=6.4								
CTAO	**Charters Tower**	**15.45 200**		P		**P**		**23 31 57.9**	**+4.0**
	2.1nm,0.7s								
DZM	**Mont Dzumac**	**21.80 141**		P		**P**		**23 33 06.7**	**-0.4**
	6.7nm,0.6s,mb4.3,baz=118,slow=18,SNR=12								
WRAB	**Tennant Creek**	**22.16 228**		*e*P		**P**		**23 33 11.2**	**+0.6**
	7.7nm,0.6s,mb4.3								
WRA	**Warramunga Arr**	**22.17 228**		P		**P**		**23 33 12.3**	**+1.5**
	4.4nm,0.5s,mb4.1,baz=52,slow=10,SNR=9.1								
STKA	**Stephens Creek**	**27.91 199**		P		**P**		**23 34 05.2**	**+0.1**
	2.1nm,0.7s,mb3.9,baz=29,slow=10,SNR=3.0								
FITZ	**Fitzroy Crossi**	**28.37 242**		P		**P**		**23 34 08.4**	**-0.9**
	23nm,0.4s,mb5.2,baz=39,slow=5.9,SNR=13								
SONM	**Songino Array**	**66.32 328**		P		**P**		**23 39 03.1**	**+0.1**
	1.2nm,0.6s,mb4.1,baz=141,slow=5.0,SNR=7.2								
MKAR	**Makanchi Array**	**80.12 319**		P		**P**		**23 40 24.1**	**+0.2**
	1.1nm,0.8s,mb3.6,baz=96,slow=7.7,SNR=5.5								
ILAR	**Eielson Array**	**83.21 22**		P		**P**		**23 40 38.5**	**-0.9**
	1.3nm,0.7s,mb4.0,baz=244,slow=5.2,SNR=5.8								
GERES	**GERESS Array B**	**124.06 328**		PKP		PKPdf		23 47 12.4	+1.8
	0.6nm,0.5s,baz=90,slow=1.3,SNR=7.0								
DBIC	**Dimbokro**	**156.66 274**		PKPab		PKPab		23 48 39.0	-0.6
	1.7nm,0.8s,baz=67,slow=9.8,SNR=4.2								

*BJI **30** 23:29:44.5,5.60S×151.70E,h25km,mB5.5,mb4.8*
*NEIC **30** 23:29:44.6±0.3,5.59S×151.66E,h25km,mb4.8/17,Error ellipse: s-maj=10.7km s-min=6.3km az=90.0*
*IDC **30** 23:29:49.1±2.7,5.66S×151.79E,h60km±23km,mb4.3/9, mb1 4.6/11,mb1mx4.5/13,mbtmp4.7/11,ML4.3/2,MS4.5/2, Ms1 4.5/2,ms1mx3.9/20,Error ellipse: s-maj=18.5km s-min=12.6km az=114.0*
ISC 30 23:29:49.7±2.6,5.66S±0.06×151.7E±0.1,h83km±22km, n60,σ0s78/51,mb4.7/27,3C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.83 230**		P		**P**		**23 31 15.8**	**+0.5**
	69nm,0.3s,baz=42,slow=11,SNR=19								
PMG				S		**S**		**23 32 21.1**	**-0.4**
	22nm,0.3s,baz=129,slow=21,SNR=3.3								
PMG				LR		LR		23 33 38.5	
	comp=Z,3μm,18.8s,baz=291,slow=39								
PMG	**Port Moresby**	**5.83 230**		*e*Pn		**P**		**23 31 09.9**	**-5.4**
	636nm,0.8s								
CTA	**Charters Tower**	**15.29 200**		*e*P		**P**		**23 33 26.2**	**+4.1**
	16nm,0.8s								
CTA	**Charters Tower**	**15.29 200**		P		**P**		**23 33 22.9**	**+0.8**
	0.6nm,0.3s,baz=23,slow=13,SNR=17								
CTA	**Charters Tower**	**15.29 200**		P		**P**		**23 33 22.9**	**+0.8**
CTAO	**Charters Tower**	**15.29 200**		*e*Pn		**P**		**23 33 18.8**	**-3.3**
	13nm,0.7s								
CTAO				*e*P				23 33 25.6	
KAKA	**Kakadu**	**20.25 248**		⇓*i*P		**P**		**23 34 39.9**	**+19**
	119nm,0.5s								
GUMO	**Guam**	**20.29 341**		*e*P		**P**		**23 34 20.2**	**-0.9**
	352nm,1.7s								
DZM	**Mont Dzumac**	**21.68 140**		P		**P**		**23 34 34.0**	**-1.1**
	14nm,0.6s,mb4.5,baz=326,slow=13,SNR=11								
WRAB	**Tennant Creek**	**22.04 228**		*e*P		**P**		**23 34 38.7**	**+0.1**
WB2	**Warramunga Arr**	**22.04 228**		*e*P		**P**		**23 34 38.7**	**0.0**
WRA	**Warramunga Arr**	**22.05 228**		P		**P**		**23 34 39.0**	**+0.1**
	98nm,0.8s,mb5.2,baz=53,slow=10.0,SNR=44								
WRA				S		**S**		**23 38 41.4**	**+10**
	2.1nm,0.9s,baz=58,slow=20,SNR=4.6								
ARMA	**Armidale**	**24.63 180**		⇑*i*P		**P**		**23 35 04.8**	**+0.9**
ASPA	**Alice Springs**	**24.78 222**		*e*P		**P**		**23 35 05.9**	**+0.6**
STKA	**Stephens Creek**	**27.74 199**		*e*P		**P**		**23 35 31.3**	**-1.4**
	14nm,0.9s,mb4.5								
STKA	**Stephens Creek**	**27.74 199**		P		**P**		**23 35 32.0**	**-0.7**
	7.1nm,0.5s,mb4.4,baz=6.7,slow=8.9,SNR=15								
FITZ	**Fitzroy Crossi**	**28.28 242**		⇓*i*P		**P**		**23 35 37.3**	**-0.3**
	146nm,0.6s,mb5.7								
FITZ	**Fitzroy Crossi**	**28.28 242**		P		**P**		**23 35 37.3**	**-0.3**
	119nm,0.6s,mb5.6,baz=52,slow=4.5,SNR=34								
FORT	**Forrest**	**33.43 219**		⇓*i*P		**P**		**23 36 22.1**	**-0.7**
	48nm,0.5s,mb5.6								
FORT				*e*				23 36 33.5	
CBIJ	**Chichi jima**	**33.84 345**		LR		LR		23 49 50.4	
	comp=Z,1μm,18.3s,baz=169,slow=36								
MBWA	**Marble Bar**	**34.59 240**		*e*P		**P**		**23 36 32.5**	**-0.3**
	38nm,0.6s,mb5.4								
TGY	**Tagaytay City**	**36.29 303**		P		**P**		**23 36 47.4**	**+0.1**
	137nm,0.4s,baz=111,slow=12,SNR=3.2								
TAU	**Tasmania Unive**	**37.30 185**		*e*P		**P**		**23 36 56.0**	**+0.6**
	38nm,1.0s,mb5.3								
KLBR	**Kellerberrin**	**40.92 227**		*e*P		**P**		**23 37 24.8**	**-0.7**
	15nm,0.5s,mb5.1								
YHNB	**Yeheng**	**42.19 317**		P		**P**		**23 37 37.6**	**+1.5**
JNU	**Nakatsue**	**43.33 334**		P		**P**		**23 37 46.4**	**+1.0**
	7.5nm,0.7s,mb4.5,baz=104,slow=18,SNR=6.4								
MJAR	**Matsushiro Arr**	**43.84 344**		P		**P**		**23 37 50.2**	**+0.8**
	2.5nm,0.6s,mb4.1,baz=166,slow=10,SNR=8.4								
KMI	**Kunming**	**56.56 305**		P		**P**		**23 39 29.3**	**+3.0**
KMI				AMB		AMB			
	comp=Z,7.0nm,0.8s,mb4.7								
KMI	**Kunming**	**56.56 305**		P		**P**		**23 39 29.2**	**+2.9**
	comp=Z,7.0nm,0.8s,mb4.7								
HHC	**Hu-ho-hao-te**	**59.11 325**		*e*P		**P**		**23 39 43.5**	**-0.4**
HHC				AP		pP		23 39 51.0	-14
HHC				XP		sP		23 39 54.3	-20
HHC				PCP		PcP		23 40 31.5	0.0
HHC				PP		PP		23 41 55.3	-1.8
HHC				AMB		AMB			
	comp=Z,14nm,0.8s,mb5.0								
HHC				AMB		AMB			
	comp=Z,507nm,4.2s								
SONM	**Songino Array**	**66.47 329**		P		**P**		**23 40 32.6**	**+0.1**
	comp=Z,2.2nm,0.5s,mb4.3,baz=142,slow=5.3,SNR=11								
CASY	**Casey**	**66.88 197**		⇓*i*P		**P**		**23 40 34.6**	**-0.2**
GUN	**Gumba**	**71.62 302**		*e*P		**P**		**23 41 04.6**	**+0.1**
	comp=Z,16nm,0.6s,mb5.0								
PKI	**Pulchoki**	**71.92 301**		*e*P		**P**		**23 41 06.1**	**-0.2**
VNDA	**Vanda**	**72.02 178**		*e*P		**P**		**23 41 06.2**	**+0.1**
	comp=Z,9.1nm,1.3s,mb4.5								
KKN	**Kakani**	**72.10 301**		*e*P		**P**		**23 41 07.2**	**-0.1**
	comp=Z,6.8nm,0.6s,mb4.7								
DMN	**Daman**	**72.19 301**		*e*P		**P**		**23 41 08.1**	**+0.2**
SBA	**Scott Base**	**72.59 177**		*e*P		**P**		**23 41 10.4**	**+1.1**
	comp=Z,6.1nm,1.0s,mb4.4								
GKN	**Gorkha**	**72.70 301**		*e*P		**P**		**23 41 10.7**	**-0.3**
	comp=Z,10nm,0.7s,mb4.8								
KOLN	**Koldanda**	**73.52 301**		*e*P		**P**		**23 41 15.5**	**-0.2**
	comp=Z,11nm,0.7s,mb4.7								
MKAR	**Makanchi Array**	**80.25 319**		P		**P**		**23 41 53.1**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.0,baz=112,slow=6.5,SNR=6.9								
ILAR	**Eielson Array**	**83.36 22**		P		**P**		**23 42 08.2**	**-0.5**
	comp=Z,4.3nm,0.6s,mb4.5,baz=243,slow=5.3,SNR=12								
KURK	**Kurchatov**	**83.76 322**		*e*P		**P**		**23 42 10.5**	**-0.4**
	comp=Z,6.2nm,1.1s,mb4.3								
QSPA	**South Pole Qui**	**84.31 180**		*e*P		**P**		**23 42 14.1**	**+1.0**
	comp=Z,11nm,0.8s,mb4.8								
MAW	**Mawson**	**84.36 203**		*e*P		**P**		**23 42 14.5**	**+0.9**
	comp=Z,3.6nm,0.6s,mb4.4								
MAW	**Mawson**	**84.36 203**		P		**P**		**23 42 15.1**	**+1.5**
	comp=Z,6.5nm,0.8s,mb4.5,baz=94,slow=6.1,SNR=16								
AAK	**Ala-Archa**	**84.45 314**		*e*P		**P**		**23 42 14.3**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.2								
CHKZ	**Chkalovo**	**89.25 324**		*e*P		**P**		**23 42 36.3**	**-1.2**
	comp=Z,4.3nm,0.8s,mb4.5								
BRVK	**Borovoye**	**89.33 323**		*e*P		**P**		**23 42 36.7**	**-1.3**
	comp=Z,1.7nm,0.8s,mb4.1								
SYO	**Syowa Base**	**92.50 200**		⇑P		**P**		**23 42 51.5**	**-0.8**
SYO	**Syowa Base**	**92.50 200**		⇑PcP		PcP		23 42 55.0	+1.8
PDAR	**Pinedale Array**	**100.24 48**		P		P		23 43 27.9	-0.2
	comp=Z,0.7nm,0.7s,baz=270,slow=3.0,SNR=4.1								
KHC	**Kasperske Hory**	**124.09 328**		*e*PKPdf		PKPdf		23 48 41.0	+2.2
GERES	**GERESS Array B**	**124.19 328**		PKP		PKPdf		23 48 41.2	+2.2
	comp=Z,2.1nm,0.8s,baz=45,slow=1.9,SNR=13								
EKA	**Eskdalemuir Ar**	**126.52 342**		PKP		PKPdf		23 48 46.4	+3.1
	comp=Z,6.7nm,1.2s,baz=22,slow=3.1,SNR=3.8								
LPAZ	**La Paz**	**134.97 120**		PKP		PKPdf		23 49 04.1	+3.8
	comp=Z,2.1nm,0.9s,baz=36,slow=10,SNR=6.4								
CPUP	**Villa Florida**	**137.54 140**		PKP		PKPdf		23 49 08.0	+3.1
	comp=Z,2.4nm,0.8s,baz=28,slow=4.7,SNR=5.0								
BDFB	**Brasilia**	**151.21 138**		PKPbc		PKPdf		23 49 36.9	+8.6
	comp=Z,14nm,0.7s,baz=244,slow=2.0,SNR=22								
BAO	**Brasilia Array**	**151.23 138**		P		PKPdf		23 49 32.0	+3.7
DBIC	**Dimbokro**	**156.66 274**		PKPab		PKPab		23 50 08.2	+0.2
	comp=Z,4.6nm,0.6s,baz=47,slow=5.6,SNR=9.1								

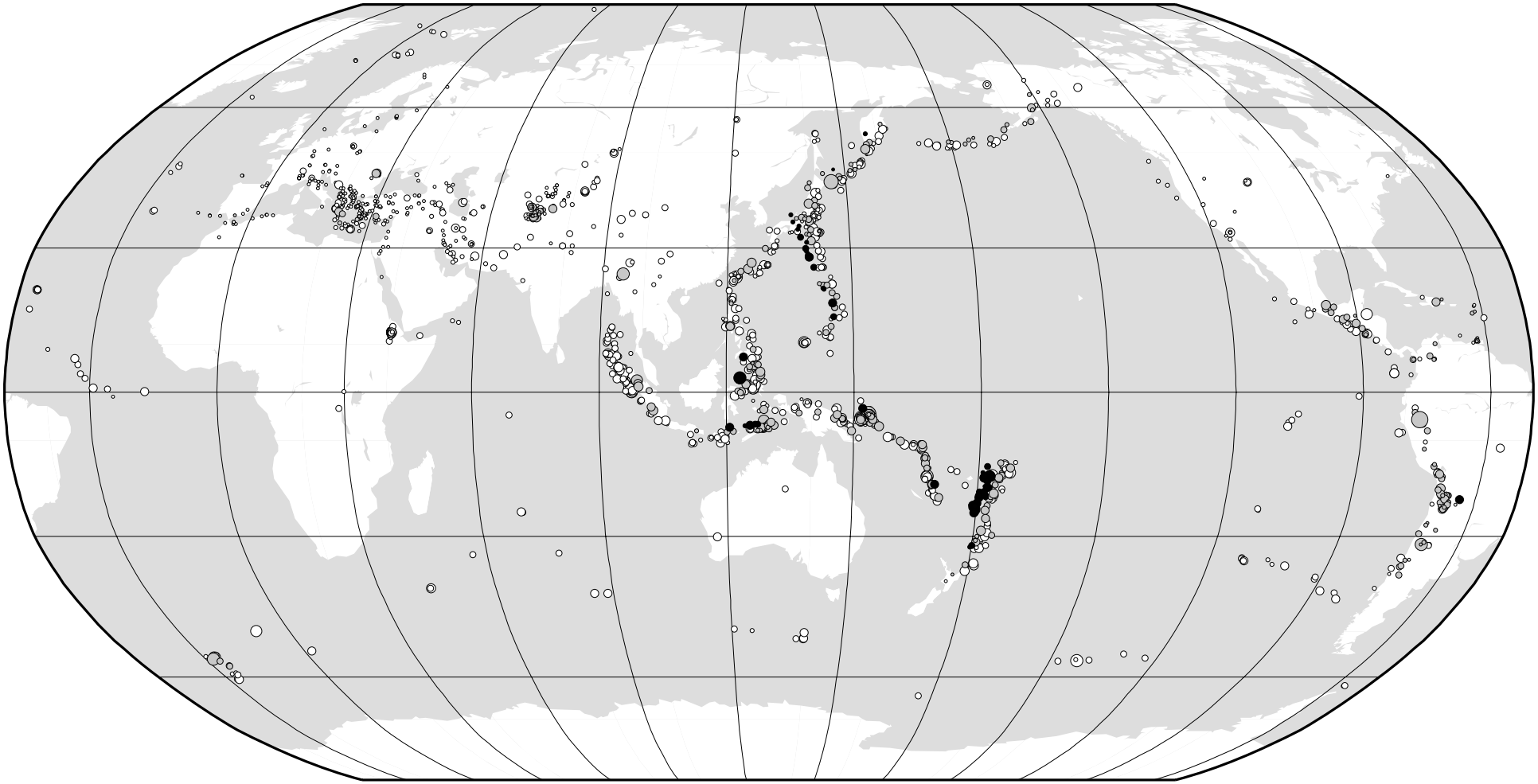
*BJI **30** 23:35:00.8,5.13S×152.25E,h26km,mB5.6,mb4.8,Ms5.5, Msz5.1*
*NEIC **30** 23:35:03.0±0.1,5.54S×151.72E,h25km,mb5.0/23,Error ellipse: s-maj=6.0km s-min=4.7km az=111.0*
*MOS **30** 23:35:04.5±0.8,5.19S×151.55E,h33km,mb5.1/18,Error ellipse: s-maj=11.4km s-min=8.4km az=90.8*
*IDC **30** 23:35:07.8±2.5,5.56S×151.75E,h65km±21km,mb4.4/14, mb1 4.5/16,mb1mx4.5/17,mbtmp4.7/16,MS4.5/3, Ms1 4.5/3,ms1mx4.3/15,Error ellipse: s-maj=17.4km s-min=11.2km az=118.0*
ISC 30 23:35:05.3±1.7,5.53S±0.05×151.72E±0.06,h55km±14km, h24km±2.4km:pP-P,n175,σ0s95/112,mb4.9/55,MS4.8/7, 2C-3D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.94 229**		P		**P**		**23 36 34.2**	**+1.6**
	9.2nm,0.3s,baz=32,slon=12,SNR=13								
PMG				S		**S**		**23 37 40.4**	**+0.3**
	23nm,0.3s,baz=164,slow=16,SNR=7.7								
PMG	**Port Moresby**	**5.94 229**		*e*Pn		**P**		**23 36 32.5**	**-0.1**
	187nm,0.6s								
PMG	**Port Moresby**	**5.94 229**		P		**P**		**23 36 34.2**	**+1.6**
PMG				S		**S**		**23 37 40.4**	**+0.2**
PMG				pmax		pmax			
	comp=Z,9.0nm,0.3s								
PMG				smax					
	comp=E,23nm,0.3s								
CTA	**Charters Tower**	**15.41 200**		*e*P		**P**		**23 38 45.2**	**+4.4**
	comp=E,5.2nm,0.6s								
CTA	**Charters Tower**	**15.41 200**		P		**P**		**23 38 41.8**	**+1.0**
	comp=E,0.3nm,0.3s,baz=22,slow=15,SNR=6.0								
CTA	**Charters Tower**	**15.41 200**		*e*P		**P**		**23 38 45.2**	**+4.4**
CTA				pmax		pmax			
	comp=Z,5.0nm,0.6s								
CTAO	**Charters Tower**	**15.41 200**		*e*P		**P**		**23 38 45.0**	**+4.2**
	comp=Z,7.5nm,0.8s								
CTAO	**Charters Tower**	**15.41 200**		*e*P		**P**		**23 38 45.1**	**+4.3**
CTAO				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GUMO	**Guam**	**20.18 340**		*e*P		**P**		**23 39 38.8**	**+0.8**
	comp=Z,464nm,1.3s								
GUMO	**Guam**	**20.18 340**		*e*P		**P**		**23 39 38.8**	**+0.8**
GUMO				pmax		pmax			
	comp=Z,464nm,1.3s								
KAKA	**Kakadu**	**20.32 248**		*e*P		**P**		**23 39 58.3**	**+19**
	comp=Z,100nm,0.6s								
KAKA				*e*S		S		23 43 43.6	+24
DZM	**Mont Dzumac**	**21.75 140**		P		**P**		**23 39 52.8**	**-1.2**
	comp=Z,4.6nm,0.6s,mb4.1,baz=1.7,slow=13,SNR=7.2								
DZM				LR		LR		23 47 23.5	
	comp=Z,3μm,18.4s,MS4.7,baz=236,slow=34								
WRAB	**Tennant Creek**	**22.14 228**		*e*P		**P**		**23 39 60.0**	**+2.2**
WRAB	**Tennant Creek**	**22.14 228**		*e*P		**P**		**23 39 59.4**	**+1.6**
WB2	**Warramunga Arr**	**22.14 228**		*e*P		**P**		**23 39 57.8**	**0.0**
WB2				*e*S		**S**		**23 43 53.9**	**+0.6**
WRA	**Warramunga Arr**	**22.15 228**		P		**P**		**23 39 58.8**	**+0.9**
	comp=Z,19nm,0.6s,mb4.7,baz=52,slow=10,SNR=27								
WRA				S		**S**		**23 43 58.8**	**+5.3**
	comp=Z,18nm,1.2s,baz=53,slow=18,SNR=8.4								
WRA				ScP				23 47 31.3	
	comp=Z,1.5nm,0.8s,baz=48,slow=2.8,SNR=7.1								
ASPA	**Alice Springs**	**24.89 222**		*e*P		**P**		**23 40 25.3**	**+0.7**
STKA	**Stephens Creek**	**27.87 199**		*e*P		**P**		**23 40 50.6**	**-1.5**
	comp=Z,4.5nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**27.87 199**		P		**P**		**23 40 51.1**	**-0.9**
	comp=Z,2.8nm,0.5s,mb4.2,baz=42,slow=11,SNR=8.4								
FITZ	**Fitzroy Crossi**	**28.36 242**		*e*P		**P**		**23 40 55.7**	**-0.9**
	comp=Z,128nm,0.7s,mb5.7								
FITZ	**Fitzroy Crossi**	**28.36 242**		P		**P**		**23 40 56.2**	**-0.5**
	comp=Z,192nm,0.7s,mb5.8,baz=79,slow=4.1,SNR=25								
FORT	**Forrest**	**33.54 219**		*e*P		**P**		**23 41 40.4**	**-1.7**
	comp=Z,24nm,0.6s,mb5.3								
MBWA	**Marble Bar**	**34.67 240**		*e*P		**P**		**23 41 50.4**	**-1.5**
	comp=Z,40nm,0.9s,mb5.3								
TGY	**Tagaytay City**	**36.24 303**		P		**P**		**23 42 05.1**	**-0.1**
	comp=Z,69nm,0.4s,mb6.0,baz=112,slow=5.4,SNR=4.2								
AFI	**Afiamalu**	**36.89 106**		LR		LR		23 52 47.3	
	comp=Z,437nm,20.9s,MS4.2,baz=277,slow=29								
RAO	**Raoul Island**	**37.15 133**		LR		LR		23 52 39.1	
	comp=Z,422nm,21.3s,MS4.2,baz=131,slow=28								
JOW	**Kunigami**	**39.37 326**		P		**P**		**23 42 32.8**	**+1.5**
	comp=Z,14nm,0.6s,mb4.9,baz=135,slow=13,SNR=4.5								
KLBR	**Kellerberrin**	**41.02 227**		*e*P		**P**		**23 42 49.0**	**+4.1**
	comp=Z,16nm,0.7s,mb4.8								
NACB	**Ninganchiao**	**41.64 316**		*e*P		**P**		**23 42 50.0**	**-0.1**
YHNB	**Yeheng**	**42.11 317**		*e*P		**P**		**23 42 55.2**	**+1.2**
JNU	**Nakatsue**	**43.23 334**		P		**P**		**23 43 02.9**	**-0.2**
	comp=Z,8.9nm,0.8s,mb4.5,baz=152,slow=23,SNR=5.4								
MJAR	**Matsushiro Arr**	**43.72 344**		P		**P**		**23 43 04.7**	**-2.3**
	comp=Z,4.1nm,0.9s,mb4.2,baz=169,slow=8.8,SNR=6.2								
MJAR				PcP		PcP		23 44 52.8	-0.9
	comp=Z,1.9nm,0.6s,baz=193,slow=3.3,SNR=4.2								
NJ2	**Nanjing**	**48.74 322**		*e*P		**P**		**23 43 45.0**	**-1.7**
NJ2				PP		PP		23 45 36.8	-3.3
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb5.0								
NJ2				LR		LR			
	comp=N,2μm,15.8s,MS5.5								
NJ2				LR		LR			
	comp=E,2μm,13.8s,MS5.5								
NJ2				LR		LR			
	comp=Z,1μm,14.6s,MS5.0								
ENH	**Enshi**	**53.87 314**		*e*P		**P**		**23 44 24.7**	**-0.7**
	comp=Z,28nm,1.1s,mb5.1								
GYA	**Guiyang**	**53.99 308**		P		**P**		**23 44 26.8**	**+0.5**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
NANT	**Nan**	**55.77 297**		P		**P**		**23 44 38.0**	**-1.3**
XAN	**Xi'an**	**56.42 317**		P		**P**		**23 44 42.5**	**-1.3**
XAN				AP		pP		23 44 50.0	-8.7
XAN				AMB		AMB			
	comp=Z,13nm,1.3s,mb4.8								
KMI	**Kunming**	**56.51 305**		P		**P**		**23 44 45.5**	**+0.9**
KMI				AMB		AMB			
	comp=Z,13nm,1.1s,mb4.9								
KMI	**Kunming**	**56.51 305**		P		**P**		**23 44 45.4**	**+0.8**
	comp=Z,13nm,1.1s,mb4.9								
KMI				pP		pP		23 45 04.6	+5.2
KMI	**Kunming**	**56.51 305**		P		**P**		**23 44 45.4**	**+0.8**
KMI				pmax		pmax			
	comp=Z,13nm,1.1s,mb4.9								
CHG	**Chiang Mai**	**57.34 296**		P		**P**		**23 44 50.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**59.02 325**		*e*P		**P**		**23 45 01.8**	**-0.1**
HHC				AP		pP		23 45 09.3	-7.6
HHC				XP		sP		23 45 13.3	-10
HHC				PCP		PcP		23 45 50.8	+0.7
HHC				PP		PP		23 47 13.8	-0.8
HHC				PCS				23 49 51.5	
HHC				S		**S**		**23 53 04.5**	**+1.8**
HHC				XS				23 53 16.5	
HHC				PS		PS		23 53 21.0	-4.1
HHC				SCS		ScS		23 54 45.5	+2.3
HHC				SS		SS		23 56 58.8	-0.2
HHC				AMB		AMB			
	comp=Z,19nm,0.8s,mb5.2								
HHC				LR		LR			
	comp=N,745nm,16.7s,MS5.0								
HHC				LR		LR			
	comp=E,581nm,13.1s,MS5.0								
HHC				LR		LR			
	comp=Z,959nm,14.3s,MS5.1								
LZH	**Lanzhou**	**61.01 317**		*e*P		**P**		**23 45 15.5**	**-0.2**
LZH				AP		pP		23 45 23.8	-6.9
LZH				XP		sP		23 45 28.0	-9.0
LZH				AMB		AMB			
	comp=Z,25nm,1.0s,mb5.3								
LZH				AMB		AMB			
	comp=Z,120nm,4.0s								
LZH				LR		LR			
	comp=N,2μm,15.2s								
LZH				LR		LR			
	comp=Z,2μm,16.4s,MS5.4								
HIA	**Hailar**	**61.27 337**		*e*P		**P**		**23 45 15.9**	**-1.2**
	comp=Z,9.6nm,0.7s,mb5.0								
HIA	**Hailar**	**61.27 337**		*e*P		**P**		**23 45 16.0**	**-1.2**
HIA				pmax		pmax			
	comp=Z,10.0nm,0.7s								
GTA	**Gaotai**	**65.47 318**		*e*P		**P**		**23 45 45.5**	**+0.5**
GTA				AP		pP		23 45 53.0	-7.2
GTA				XP		sP		23 45 56.5	-10
GTA				AMB		AMB			
	comp=Z,8.0nm,1.0s,mb4.7								
SONM	**Songino Array**	**66.37 328**		P		**P**		**23 45 50.4**	**-0.2**
	comp=Z,9.4nm,0.7s,mb5.0,baz=146,slow=5.5,SNR=49								
CASY	**Casey**	**67.00 197**		*e*P		**P**		**23 45 53.0**	**-1.2**
	comp=Z,2.0nm,0.6s,mb4.3								
LSA	**Lhasa**	**67.77 305**		*e*P		**P**		**23 46 00.3**	**+0.6**
	comp=Z,5.6nm,0.6s,mb4.8								
LSA	**Lhasa**	**67.77 305**		P		**P**		**23 46 00.3**	**+0.6**
LSA				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.8								
SEY	**Seymchan**	**68.27 0**		*e*P		**P**		**23 46 07.3**	**+5.0**
YAK	**Yakutsk**	**69.48 349**		*e*P		**P**		**23 46 10.4**	**+0.7**
YAK				pmax		pmax			
	comp=Z,24nm,1.3s,mb5.0								
ZAK	**Zakamensk**	**69.56 329**		*e*P		**P**		**23 46 10.0**	**-0.4**
ZAK				pmax		pmax			
	comp=Z,17nm,0.9s,mb5.0								
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
GUN	**Gumba**	**71.58 302**		*e*P		**P**		**23 46 23.1**	**+0.1**
	comp=Z,16nm,0.5s,mb5.2								
PKI	**Pulchoki**	**71.88 301**		*e*P		**P**		**23 46 24.6**	**-0.2**
KKN	**Kakani**	**72.06 301**		*e*P		**P**		**23 46 25.5**	**-0.3**
	comp=Z,44nm,1.3s,mb5.2								
VNDA	**Vanda**	**72.14 178**		P		**P**		**23 46 25.2**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.3								
VNDA	**Vanda**	**72.14 178**		P		**P**		**23 46 25.2**	**-0.3**
VNDA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
DMN	**Daman**	**72.15 301**		*e*P		**P**		**23 46 26.5**	**+0.1**
	comp=Z,42nm,1.0s,mb5.3								
GKN	**Gorkha**	**72.66 301**		*e*P		**P**		**23 46 29.0**	**-0.5**
	comp=Z,48nm,1.1s,mb5.3								
SBA	**Scott Base**	**72.71 177**		*e*P		**P**		**23 46 35.6**	**+6.8**
	comp=Z,7.0nm,1.2s,mb4.5								
SBA	**Scott Base**	**72.71 177**		*e*P		**P**		**23 46 35.6**	**+6.8**
SBA				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.5								
MIR	**Mirnyy**	**72.86 201**		*e*P		**P**		**23 46 36.0**	**+6.2**
MIR				pmax		pmax			
	comp=Z,34nm,1.4s,mb5.1								
KOLN	**Koldanda**	**73.48 301**		*e*P		**P**		**23 46 33.7**	**-0.6**
	comp=Z,20nm,0.8s,mb5.1

comp=Z,15nm,1.3s,mb5.3

NEW	**Newport**	**94.86**	**42**	P	**P**	**23 48 22.2**	**-0.3**
	comp=Z,6.1nm,1.0s,mb5.0,baz=215,slow=2.0,SNR=5.9						
NEW	**Newport**	**94.86**	**42**	*e*P	**P**	**23 48 22.8**	**+0.3**
	comp=Z,5.9nm,1.0s,mb5.0						
NEW	**Newport**	**94.86**	**42**	*e*P	**P**	**23 48 22.8**	**+0.3**
NEW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AB31	**Akbulak array**	**95.31**	**319**	P	**P**	**23 48 23.5**	**-1.1**
LDFC	**Landfair**	**95.74**	**55**	*e*P	**P**	**23 48 27.0**	**+0.1**
ARU	**Arti**	**96.32**	**326**	ǁ/P	**P**	**23 48 27.1**	**-1.8**
ARU				*e*		23 52 19.6	
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
YKA	**Yellowknife Ar**	**96.57**	**28**	P	**P**	**23 48 30.5**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.5,baz=270,slow=5.0,SNR=7.0						
EDM	**Edmonton**	**97.35**	**37**	*e*P	**P**	**23 48 34.0**	**+0.2**
PDAR	**Pinedale Array**	**100.14**	**48**	P	P	23 48 46.9	+0.3
	comp=Z,3.0nm,1.0s,baz=270,slow=3.0,SNR=10						
KEV	**Kevo**	**106.68**	**343**	*ep*		23 53 22.2	
ARCES	**ARCESS Array B**	**107.25**	**343**	PKiKP		23 53 26.4	
	comp=Z,1.5nm,0.7s,baz=34,slow=3.3,SNR=7.8						
ARCES	**ARCESS Array B**	**107.25**	**343**	PKPdf		23 53 26.4	
JOF	**Joensuu**	**108.41**	**335**	*ep*		23 53 30.3	
	comp=Z,11nm,2.2s						
OBN	**Obninsk**	**108.75**	**327**	*e*P	Pdif	23 49 23.2	-1.2
OBN				*e*		00 00 03.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KAF	**Kangasniemi**	**110.84**	**336**	*ep*	PKPdf	23 53 34.0	+2.2
	comp=Z,3.4nm,1.0s						
FINES	**FINESS Array B**	**111.27**	**335**	PKiKP		23 53 35.4	
	comp=Z,0.9nm,0.7s,baz=117,slow=3.1,SNR=4.3						
AKASG	**Malin Array Be**	**114.45**	**324**	PKP	PKPdf	23 53 40.1	+0.9
	comp=Z,2.0nm,0.6s,baz=62,slow=2.5,SNR=8.5						
BRTR	**Keskin Array B**	**114.98**	**311**	PKP	PKPdf	23 53 40.6	+0.1
	comp=Z,1.3nm,0.9s,baz=90,slow=1.2,SNR=6.1						
NB2	**NORSAR Subarra**	**117.23**	**340**	PKPdf	PKPdf	23 53 47.6	+3.4
	comp=Z,1.8nm,0.8s,baz=45,slow=1.9						
KWP	**Kalwaria**	**118.70**	**325**	*e*PKP	PKPdf	23 53 49.4	+2.0
BSEG	**Bad Segeberg**	**122.50**	**334**	*e*PKPdf	PKPdf	23 53 56.8	+2.1
PVCC	**Panska Ves**	**122.65**	**329**	*e*PKPdf	PKPdf	23 53 56.8	+1.8
BRG	**Berggiesshubel**	**122.76**	**330**	ǁ*e*P	PKPdf	23 53 57.0	+1.8
TREC	**Trest**	**122.89**	**327**	*e*PKPdf	PKPdf	23 53 57.1	+1.6
CLL	**Collm**	**122.96**	**330**	ǁ/PKIKP	PKPdf	23 53 57.0	+1.4
	comp=Z,logA/T=1.0						
PRU	**Pruhonice**	**122.98**	**328**	*e*PKPdf	PKPdf	23 53 56.9	+1.2
NKC	**Novy Kostel**	**123.91**	**330**	*e*PKPdf	PKPdf	23 53 58.8	+1.3
KHC	**Kasperske Hory**	**124.00**	**328**	*e*PKPdf	PKPdf	23 53 59.1	+1.4
GEC2	**GERESS Array S**	**124.11**	**328**	*e*PKPdf	PKPdf	23 53 59.8	+1.9
GERES	**GERESS Array B**	**124.11**	**328**	PKP	PKPdf	23 53 59.6	+1.6
	comp=Z,3.9nm,0.6s,baz=75,slow=1.4,SNR=42						
GRA1	**Grafenberg Arr**	**124.86**	**330**	*e*PKPdf	PKPdf	23 54 01.0	+1.6
GRF	**Grafenberg Arr**	**124.86**	**330**	*e*PKIKP	PKPdf	23 54 01.0	+1.6
EKA	**Eskdalemuir Ar**	**126.41**	**342**	PKP	PKPdf	23 54 03.5	+1.3
	comp=Z,1.0nm,0.5s,baz=14,slow=2.5,SNR=8.9						
GIVF	**Givet**	**127.61**	**334**	*e*PKIKP	PKPdf	23 54 06.2	+1.6
CDF	**Champ du Feu**	**127.66**	**331**	*e*PKIKP	PKPdf	23 54 06.7	+1.9
BAIF	**Baives**	**127.91**	**334**	*e*PKIKP	PKPdf	23 54 06.9	+1.7
HINF	**Hinteralfeld**	**128.27**	**330**	*e*PKIKP	PKPdf	23 54 07.4	+1.4
	comp=Z,12nm,0.9s						
MEZF	**Maizieres J'vi**	**128.66**	**332**	*e*PKIKP	PKPdf	23 54 08.3	+1.6
	comp=Z,73nm,1.4s						
CABF	**La Chapelle**	**129.48**	**330**	*e*PKIKP	PKPdf	23 54 09.9	+1.6
	comp=Z,13nm,0.9s						
LPL	**La Plagne**	**129.89**	**328**	*e*PKIKP	PKPdf	23 54 11.0	+1.9
	comp=Z,5.7nm,0.8s						
LPG	**La Plagne**	**129.89**	**328**	*e*PKIKP	PKPdf	23 54 11.1	+2.0
	comp=Z,5.6nm,0.7s						
LOR	**Lormes**	**130.10**	**332**	*e*PKIKP	PKPdf	23 54 10.5	+1.0
MBDF	**Montbardon**	**130.39**	**327**	*e*PKIKP	PKPdf	23 54 12.6	+2.5
	comp=Z,10nm,0.9s						
SSF	**Saint Saulge**	**130.42**	**332**	*e*PKIKP	PKPdf	23 54 11.2	+1.1
	comp=Z,15nm,1.0s						
PGF	**Pioggiola**	**130.53**	**324**	*e*PKIKP	PKPdf	23 54 11.7	+1.3
	comp=Z,12nm,0.7s						
SMF	**Signal de Mont**	**130.56**	**331**	*e*PKIKP	PKPdf	23 54 11.8	+1.4
	comp=Z,11nm,1.0s						
SBF	**Sospel**	**130.59**	**326**	*e*PKIKP	PKPdf	23 54 12.2	+1.7
AVF	**Avril sur Loir**	**130.69**	**332**	*e*PKIKP	PKPdf	23 54 11.7	+1.1
ORIF	**Oris-en-Rattie**	**130.74**	**328**	*e*PKIKP	PKPdf	23 54 12.5	+1.7
	comp=Z,10nm,0.7s						
LDF	**La Druitiere**	**130.86**	**336**	*e*PKIKP	PKPdf	23 54 12.6	+1.7
	comp=Z,6.1nm,0.7s						
FLN	**La Foliniere**	**130.88**	**336**	*e*PKIKP	PKPdf	23 54 12.8	+1.9
	comp=Z,92nm,1.4s						
BGF	**Bois d'Agland**	**131.09**	**332**	*e*PKIKP	PKPdf	23 54 12.9	+1.5
	comp=Z,18nm,0.9s						
FRF	**La Foret Royal**	**131.23**	**326**	*e*PKIKP	PKPdf	23 54 13.1	+1.4
GRR	**Gorron**	**131.33**	**336**	*e*PKIKP	PKPdf	23 54 14.3	+2.5
VIVF	**Saint-Julien-l**	**131.41**	**329**	*e*PKIKP	PKPdf	23 54 13.7	+1.7
	comp=Z,9.7nm,0.9s						
LMR	**La Mourre**	**131.45**	**326**	*e*PKIKP	PKPdf	23 54 13.6	+1.4
SMRF	**Simiane la Rot**	**131.53**	**327**	*e*PKIKP	PKPdf	23 54 13.7	+1.4
TCF	**Toulx Ste Croi**	**131.59**	**332**	*e*PKIKP	PKPdf	23 54 13.6	+1.3
	comp=Z,7.0nm,0.7s						
SGMF	**Saint Gilles**	**132.11**	**337**	*e*PKIKP	PKPdf	23 54 14.9	+1.6
	comp=Z,13nm,0.8s						
ROSF	**Rostrenen**	**132.32**	**338**	*e*PKIKP	PKPdf	23 54 15.3	+1.6
LASF	**Ste Croix**	**132.37**	**329**	*e*PKIKP	PKPdf	23 54 16.0	+2.1
	comp=Z,19nm,0.9s						
MTLF	**Montolieu**	**133.73**	**329**	*e*PKIKP	PKPdf	23 54 18.1	+1.6
LPAZ	**La Paz**	**135.01**	**119**	PKP	PKPdf	23 54 21.6	+2.1
	comp=Z,0.8nm,0.6s,baz=307,slow=7.0,SNR=4.3						
ETSF	**Etsaut**	**135.44**	**331**	*e*PKIKP	PKPdf	23 54 21.2	+1.6
	comp=Z,5.6nm,0.7s						
SJPF	**Ste Jean**	**135.59**	**332**	*e*PKIKP	PKPdf	23 54 21.2	+1.3
SDV	**Santo Domingo**	**137.87**	**83**	*e*PKPdf	PKPdf	23 54 26.8	+2.0
BDFB	**Brasilia**	**151.29**	**137**	PKPbc	PKPdf	23 54 55.3	+7.8
	comp=Z,8.4nm,0.6s,baz=280,slow=2.0,SNR=14						
BAO	**Brasilia Array**	**151.31**	**137**	P	PKPdf	23 54 55.0	+7.4
KIC	**Kosan Boka**	**156.57**	**273**	*e*PKP1	PKPab	23 55 26.3	-0.2
	comp=Z,37nm,0.6s						
DBIC	**Dimbokro**	**156.68**	**274**	PKPbc	PKPdf	23 55 07.4	+12
	comp=Z,3.5nm,0.8s,baz=79,slow=5.5,SNR=4.0						
DBIC				PKPab	PKPab	23 55 26.4	-0.6
	comp=Z,6.0nm,0.6s,baz=92,slow=5.1,SNR=13						
TIC	**Toumodi**	**156.84**	**274**	*e*PKP1	PKPab	23 55 27.4	-0.3
	comp=Z,14nm,0.5s						
LIC	**Lamto**	**156.86**	**273**	*e*PKP1	PKPab	23 55 27.1	-0.7
	comp=Z,57nm,1.3s						

ISC Computed Locations for September 2005



Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

1848 Events